ANALYTICAL REPORT

Job Number: 160-24924-1

Job Description: Sharpe Army Depot - Task 16

For:
Ahtna Engineering Services LLC
296 12th Street
Marina, CA 93933

Attention: Rachel Kerr

Rhonda Ridenhower

Approved for release.
Rhonda E Ridenhower
Manager of Project Management
10/26/2017 2:50 PM

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10/26/2017

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. Pursuant to NELAP, this report shall not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager.

Louisiana Lab Certification ID (Non-Potable, Solid/Haz. Material): 106151
Florida Lab Certification ID (Drinking Water): E87689.

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Definitions/Glossary

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
Q	One or more quality control criteria failed.

GC Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
J	Estimated: The analyte was positively identified; the quantitation is an estimation

Metals

Qualifier	Qualifier Description
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U	Undetected at the Limit of Detection.

General Chemistry

Qualifier	Qualifier Description
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: Ahtna Engineering Services LLC

Project: Sharpe Army Depot - Task 16

Report Number: 160-24924-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt
Manual Integrations were performed only when necessary and are in compliance with the laboratory's standard operating procedure. Detailed information can be found in the raw data section of the level IV report.

The following clean-up methods for Organic analyses may have been used on the samples in this data set. Specific methods employed are documented on the batch extraction logs:

Method 3600C: Cleanup
Method 3620C: Florisil Cleanup
Method 3630C: Silica Gel Cleanup
Method 3640A: Gel-Permeation Cleanup
Method 3650B: Acid-Base Partition Cleanup
Method 3660B: Sulfur Cleanup
Method 3665A: Sulfuric Acid/Permanganate Cleanup

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT
The samples were received on 10/7/2017 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 17 coolers at receipt time were 0.3º C, 1.1º C, 1.2º C, 1.3º C, 1.5º C, 1.5º C, 1.6º C, 1.7º C, 1.7º C, 1.8º C, 2.2º C, 2.7º C, 2.8º C, 3.1º C, 3.6º C, 4.4º C and 5.3º

VOLATILE ORGANIC COMPOUNDS (GC MS)
Samples SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS04NS (160-24924-3), SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS05DS (160-24924-5), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS01NS (160-24924-7), SHAD041DP022SS02NS (160-24924-8), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS01NS (160-24924-13), SHAD041DP013SS02NS (160-24924-14), SHAD041DP013SS03NS (160-24924-15), SHAD041DP013SS04NS (160-24924-16), SHAD041DP013SS05NS (160-24924-17), SHAD041DP013SS05DS (160-24924-18) and SHAD041DP013SS06NS (160-24924-19) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C_DoD5. The samples were prepared on 10/16/2017, 10/17/2017 and 10/19/2017 and analyzed on 10/16/2017, 10/17/2017,

10/18/2017 and 10/19/2017.

Samples TB-100617-7 (160-24924-20), TB-100617-8 (160-24924-21), TB-100617-9 (160-24924-22) and TB-100617-10 (160-24924-23) were analyzed for Volatile Organic Compounds by GC/MS in accordance with EPA SW-846 Method 8260C_DoD5. The samples were analyzed on 10/09/2017.

Surrogate Toluene-d8 (Surr) recovery for the following sample was outside the upper control limit: TB-100617-7 (160-24924-20). This sample did not contain any target analytes; therefore, re-analysis was not performed.

A matrix spike/matrix spike duplicate (MS/MSD) was not performed with analytical batch 160-331094. The only associated sample is Trip Blanks; an LCS/LCSD was performed to demonstrate accuracy and precision.(MB 160-331094/8)

Surrogate 4-Bromofluorobenzene (Surr) recovery for the following samples were outside the upper control limit: SHAD041DP026SS03NS (160-24924-2) and SHAD041DP022SS03NS (160-24924-9). This sample did not contain any target analytes; therefore, re-analysis was not performed.

Internal standard (ISTD) and surrogate responses for the following samples were outside control limits: SHAD041DP026SS02NS (160-24924-1) and SHAD041DP022SS02NS (160-24924-8). The samples were re-analyzed with concurring results, and the original set of data has been reported.

The time-stamp on this sample is incorrect. The analytical sequence began at 16:13 on 10/16/2017 and ended at 01:03 on 10/17/2017. The sample in question injected at 3 minutes after midnight on 10/17 but the time stamp gives an injection date 24 hours earlier (10/16). All other time-stamps in this sequence are correct. The time-stamp discrepancy when an injection occurs in proximity of a date change may be due to slight differences in the clocks of the data collection computer and the processing computer. IT is investigating the problem.SHAD041DP026SS05DS (160-24924-5). analytical batch 160-332154

The continuing calibration verification (CCV) associated with batch 160-332247 recovered outside acceptance criteria, low biased, for Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.(CCV 160-332247/4)

Surrogate 4-Bromofluorobenzene (Surr) recovery for the following samples were outside the upper control limit: SHAD041DP013SS02NS (160-24924-14) and SHAD041DP013SS03NS (160-24924-15). The samples did not contain any target analytes associated with the affected surrogate; therefore, re-analysis was not performed.

Internal standard (ISTD) and surrogate responses for the following sample were outside control limits: SHAD041DP013SS01NS (160-24924-13). The sample was re-analyzed with concurring results, and the original set of data has been reported.

Internal standard (ISTD) and surrogate responses for the following sample were outside control limits: SHAD041DP022SS01NS (160-24924-7). The sample is a re-analysis which concurs with the original analysis. The re-analysis is reported because of improved QC recovery. All of the re-analyses are within holding time.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SEMIVOLATILE ORGANIC COMPOUNDS (SIM)

Samples SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS04NS (160-24924-3), SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS05DS (160-24924-5), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS01NS (160-24924-7), SHAD041DP022SS02NS (160-24924-8), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS01NS (160-24924-13), SHAD041DP013SS02NS (160-24924-14), SHAD041DP013SS03NS (160-24924-15), SHAD041DP013SS04NS (160-24924-16), SHAD041DP013SS05NS (160-24924-17), SHAD041DP013SS05DS (160-24924-18) and SHAD041DP013SS06NS (160-24924-19) were analyzed for semivolatile organic compounds (SIM) in accordance with EPA SW-846 Method 8270C SIM DoD. The samples were prepared on 10/19/2017 and analyzed on 10/21/2017 and 10/23/2017.

The following samples were analyzed at a dilution due to the nature of the sample matrix: SHAD041DP022SS01NS (160-24924-7) and SHAD041DP013SS01NS (160-24924-13). The sample extracts were dark and oily which analyzed undiluted has historically caused instrumentation problems. The reporting limit has been adjusted for the dilutions.

The following samples were diluted due to the nature of the sample matrix: SHAD041DP026SS02NS (160-24924-1) and SHAD041DP022SS02NS (160-24924-8). The sample extracts were brown which analyzed undiluted has historically caused instrumentation problems. The reporting limits has been adjusted for the dilutions.

Internal standard (ISTD) response for the following sample was outside control limits: SHAD041DP013SS04NS (160-24924-16). The samples were re-analyzed with concurring results, and the re-analysis with better IS response will be reported. Results are provided with this narrative.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

POLYCHLORINATED BIPHENYLS (PCBS) BY GAS CHROMATOGRAPHY

Samples SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS04NS (160-24924-3),

SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS05DS (160-24924-5), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS01NS (160-24924-7), SHAD041DP022SS02NS (160-24924-8), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS01NS (160-24924-13), SHAD041DP013SS02NS (160-24924-14), SHAD041DP013SS03NS (160-24924-15), SHAD041DP013SS04NS (160-24924-16), SHAD041DP013SS05NS (160-24924-17), SHAD041DP013SS05DS (160-24924-18) and SHAD041DP013SS06NS (160-24924-19) were analyzed for Polychlorinated Biphenyls (PCBs) by Gas Chromatography in accordance with EPA SW-846 Method 8082 DOD. The samples were prepared on 10/18/2017 and analyzed on 10/21/2017.

The Internal Standard eluted outside the retention time window on the primary and secondary column for the following samples: (CCVIS 160-333051/3). This retention time shift was taken into account when reviewing the samples for target compounds.

EPA Method 8082/8082A requires a minimum of 3 peaks to be used for PCB quantitation. Due to the presence of matrix interferences in the following samples, only 4 peaks were used for quantitation. No further action is required

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)

Samples SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS04NS (160-24924-3), SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS05DS (160-24924-5), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS01NS (160-24924-7), SHAD041DP022SS02NS (160-24924-8), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS01NS (160-24924-13), SHAD041DP013SS02NS (160-24924-14), SHAD041DP013SS03NS (160-24924-15), SHAD041DP013SS04NS (160-24924-16), SHAD041DP013SS05NS (160-24924-17), SHAD041DP013SS05DS (160-24924-18) and SHAD041DP013SS06NS (160-24924-19) were analyzed for ICP in accordance with EPA SW-846 Method 6010C. The samples were prepared on 10/16/2017 and analyzed on 10/18/2017.

The following samples were diluted due to the abundance of non-target analytes. Samples are high in salts which can cause instrument and QC failures when ran at a lesser dilution: SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS04NS (160-24924-3), SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS05DS (160-24924-5), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS01NS (160-24924-7), SHAD041DP022SS02NS (160-24924-8), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS03NS (160-24924-9[MS]), SHAD041DP022SS03NS (160-24924-9[MSD]), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS01NS (160-24924-13), SHAD041DP013SS02NS (160-24924-14), SHAD041DP013SS03NS (160-24924-15), SHAD041DP013SS04NS (160-24924-16), SHAD041DP013SS05NS (160-24924-17), SHAD041DP013SS05DS (160-24924-18), SHAD041DP013SS06NS (160-24924-19), (160-24924-E-9-A PDS) and (160-24924-E-9-A SD ^). Elevated reporting limits (RLs) are provided.

The MS (MSD) recovery and precision for Chromium is outside the established QC limits. The MS/MSD is a multiple element spiking solution. Most other elements in the spiking solution are either within acceptable criteria, have concentrations that are four times greater than the spiked amount, or have acceptable precision. This indicates potential matrix interference in the sample. Method performance is demonstrated by acceptable LCS recovery. No further action is required. SHAD041DP022SS03NS (160-24924-9[MS]) and SHAD041DP022SS03NS (160-24924-9[MSD])

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HEXAVALENT CHROMIUM

Samples SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS04NS (160-24924-3), SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS05DS (160-24924-5), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS01NS (160-24924-7), SHAD041DP022SS02NS (160-24924-8), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS01NS (160-24924-13), SHAD041DP013SS02NS (160-24924-14), SHAD041DP013SS03NS (160-24924-15), SHAD041DP013SS04NS (160-24924-16), SHAD041DP013SS05NS (160-24924-17), SHAD041DP013SS05DS (160-24924-18) and SHAD041DP013SS06NS (160-24924-19) were analyzed for hexavalent chromium in accordance with EPA SW-846 Method 7196A_DoD5. The samples were prepared on 10/18/2017 and 10/19/2017 and analyzed on 10/19/2017 and 10/20/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS04NS (160-24924-3), SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS05DS (160-24924-5), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS01NS (160-24924-7), SHAD041DP022SS02NS (160-24924-8), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS01NS (160-24924-13), SHAD041DP013SS02NS (160-24924-14), SHAD041DP013SS03NS (160-24924-15), SHAD041DP013SS04NS (160-24924-16), SHAD041DP013SS05NS (160-24924-17), SHAD041DP013SS05DS (160-24924-18) and SHAD041DP013SS06NS (160-24924-19) were analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 10/08/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client Sample ID: SHAD041DP026SS02NS — Lab Sample ID: 160-24924-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	5.1	J D	33	3.2	ug/Kg	5	☼	8270D SIM	Total/NA
Benzo[a]anthracene	13	J D	33	6.8	ug/Kg	5	☼	8270D SIM	Total/NA
Benzo[a]pyrene	11	J D	33	4.2	ug/Kg	5	☼	8270D SIM	Total/NA
Benzo[b]fluoranthene	19	J D	33	5.3	ug/Kg	5	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	13	J D	33	5.7	ug/Kg	5	☼	8270D SIM	Total/NA
Chrysene	14	J D	33	6.7	ug/Kg	5	☼	8270D SIM	Total/NA
Fluoranthene	19	J D	33	7.6	ug/Kg	5	☼	8270D SIM	Total/NA
Phenanthrene	20	J D	33	14	ug/Kg	5	☼	8270D SIM	Total/NA
Pyrene	24	J D	33	7.3	ug/Kg	5	☼	8270D SIM	Total/NA
Chromium	19	D	4.6	1.2	mg/Kg	5	☼	6010C	Total/NA
Lead	380	D	4.6	1.2	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	4.1		0.40	0.10	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP026SS03NS — Lab Sample ID: 160-24924-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.71	J	7.4	0.59	ug/Kg	1	☼	8270D SIM	Total/NA
Chromium	14	D	5.3	1.3	mg/Kg	5	☼	6010C	Total/NA
Lead	34	D	5.3	1.3	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.40	J	0.45	0.11	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP026SS04NS — Lab Sample ID: 160-24924-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	9.7	D	5.3	1.3	mg/Kg	5	☼	6010C	Total/NA
Lead	2.4	J D	5.3	1.3	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.34	J	0.44	0.11	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP026SS05NS — Lab Sample ID: 160-24924-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	14	D	5.4	1.4	mg/Kg	5	☼	6010C	Total/NA
Lead	7.2	D	5.4	1.4	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	1.2		0.50	0.12	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP026SS05DS — Lab Sample ID: 160-24924-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	15	D	6.3	1.6	mg/Kg	5	☼	6010C	Total/NA
Lead	8.9	D	6.3	1.6	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	1.1		0.53	0.13	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP026SS06NS — Lab Sample ID: 160-24924-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	18	D	5.6	1.4	mg/Kg	5	☼	6010C	Total/NA
Lead	5.5	J D	5.6	1.4	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.39	J	0.44	0.11	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP022SS01NS — Lab Sample ID: 160-24924-7

This Detection Summary does not include radiochemical test results.

Client Sample ID: SHAD041DP022SS01NS (Continued) Lab Sample ID: 160-24924-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	17	J D	66	13	ug/Kg	10	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	21	J D	66	11	ug/Kg	10	☼	8270D SIM	Total/NA
Benzo[k]fluoranthene	15	J D	66	11	ug/Kg	10	☼	8270D SIM	Total/NA
PCB-1260	12	J	33	9.9	ug/Kg	1	☼	8082A	Total/NA
Chromium	52	D	4.5	1.1	mg/Kg	5	☼	6010C	Total/NA
Lead	260	D	4.5	1.1	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	8.0		0.38	0.095	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP022SS02NS Lab Sample ID: 160-24924-8

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	13	J D	33	5.3	ug/Kg	5	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	14	J D	33	5.6	ug/Kg	5	☼	8270D SIM	Total/NA
Chromium	20	D	4.6	1.1	mg/Kg	5	☼	6010C	Total/NA
Lead	320	D	4.6	1.1	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	1.1		0.39	0.098	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP022SS03NS Lab Sample ID: 160-24924-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	1.5	J	6.7	1.1	ug/Kg	1	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	1.9	J	6.7	1.1	ug/Kg	1	☼	8270D SIM	Total/NA
Chromium	12	D J	4.3	1.1	mg/Kg	5	☼	6010C	Total/NA
Lead	39	D	4.3	1.1	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.45		0.40	0.10	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP022SS04NS Lab Sample ID: 160-24924-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	11	D	5.2	1.3	mg/Kg	5	☼	6010C	Total/NA
Lead	1.4	J D	5.2	1.3	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.46		0.46	0.11	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP022SS05NS Lab Sample ID: 160-24924-11

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	9.4	D	5.1	1.3	mg/Kg	5	☼	6010C	Total/NA
Lead	2.6	J D	5.1	1.3	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	1.0		0.45	0.11	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP022SS06NS Lab Sample ID: 160-24924-12

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	19	D	5.2	1.3	mg/Kg	5	☼	6010C	Total/NA
Lead	4.8	J D	5.2	1.3	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.23	J	0.44	0.11	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP013SS01NS Lab Sample ID: 160-24924-13

Detection Summary

Client Sample ID: SHAD041DP013SS01NS (Continued) Lab Sample ID: 160-24924-13

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.88	J Q	4.3	0.26	ug/Kg	1	☼	8260C DOD	Total/NA
Xylenes, Total	4.9	J Q	8.6	0.74	ug/Kg	1	☼	8260C DOD	Total/NA
Benzo[g,h,i]perylene	31	J D	66	11	ug/Kg	10	☼	8270D SIM	Total/NA
Chromium	13	D	4.7	1.2	mg/Kg	5	☼	6010C	Total/NA
Lead	22	D	4.7	1.2	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.82		0.40	0.099	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP013SS02NS Lab Sample ID: 160-24924-14

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	1.9	J	6.9	1.1	ug/Kg	1	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	1.5	J	6.9	1.2	ug/Kg	1	☼	8270D SIM	Total/NA
Chromium	9.4	D	4.5	1.1	mg/Kg	5	☼	6010C	Total/NA
Lead	1.7	J D	4.5	1.1	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.32	J	0.42	0.11	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP013SS03NS Lab Sample ID: 160-24924-15

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	15	D	5.2	1.3	mg/Kg	5	☼	6010C	Total/NA
Lead	3.4	J D	5.2	1.3	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.28	J	0.44	0.11	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP013SS04NS Lab Sample ID: 160-24924-16

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	9.8	D	5.2	1.3	mg/Kg	5	☼	6010C	Total/NA
Lead	1.6	J D	5.2	1.3	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.52		0.47	0.12	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP013SS05NS Lab Sample ID: 160-24924-17

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	17	D	5.7	1.4	mg/Kg	5	☼	6010C	Total/NA
Lead	6.3	D	5.7	1.4	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.57		0.51	0.13	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP013SS05DS Lab Sample ID: 160-24924-18

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	17	D	5.9	1.5	mg/Kg	5	☼	6010C	Total/NA
Lead	7.2	D	5.9	1.5	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.86		0.47	0.12	mg/Kg	1	☼	7196A	Total/NA

Client Sample ID: SHAD041DP013SS06NS Lab Sample ID: 160-24924-19

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Chromium	15	D	5.5	1.4	mg/Kg	5	☼	6010C	Total/NA
Lead	4.4	J D	5.5	1.4	mg/Kg	5	☼	6010C	Total/NA
Chromium(VI)	0.24	J	0.47	0.12	mg/Kg	1	☼	7196A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TB-100617-7 Lab Sample ID: 160-24924-20

No Detections.

Client Sample ID: TB-100617-8 Lab Sample ID: 160-24924-21

No Detections.

Client Sample ID: TB-100617-9 Lab Sample ID: 160-24924-22

No Detections.

Client Sample ID: TB-100617-10 Lab Sample ID: 160-24924-23

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-1

Client Sample ID: SHAD041DP026SS02NS

Date Collected: 10/05/17 16:04
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-1

Matrix: Solid
Percent Solids: 98.6

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.89	U	4.4	0.38	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
1,1,2,2-Tetrachloroethane	0.89	U Q	4.4	0.36	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
1,1,2-Trichloroethane	0.89	U Q	4.4	0.51	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
1,1-Dichloroethane	0.89	U	4.4	0.35	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
1,1-Dichloroethene	4.4	U	4.4	1.4	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
1,2-Dichlorobenzene	0.89	U Q	4.4	0.25	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
1,2-Dichloroethane	0.89	U	4.4	0.77	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
1,2-Dichloropropane	0.89	U	4.4	0.34	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
1,4-Dichlorobenzene	0.89	U Q	4.4	0.53	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Benzene	0.89	U	4.4	0.22	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Bromodichloromethane	0.89	U	4.4	0.22	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Bromoform	0.89	U Q	4.4	0.32	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Carbon tetrachloride	0.89	U	4.4	0.45	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Chlorodibromomethane	0.89	U Q	4.4	0.36	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Chloroform	0.89	U	4.4	0.33	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Chloromethane	4.4	U	8.9	0.58	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
cis-1,2-Dichloroethene	0.89	U	4.4	0.53	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
cis-1,3-Dichloropropene	0.89	U	4.4	0.53	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Ethylbenzene	0.89	U Q	4.4	0.26	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Methylene Chloride	4.4	U	8.9	1.4	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Tetrachloroethene	0.89	U Q	4.4	0.29	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Toluene	0.89	U Q	4.4	0.62	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
trans-1,2-Dichloroethene	0.89	U	4.4	0.84	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
trans-1,3-Dichloropropene	0.89	U Q	4.4	0.31	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Trichloroethene	0.89	U	4.4	0.34	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Vinyl chloride	0.89	U	8.9	0.38	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1
Xylenes, Total	4.4	U Q	8.9	0.76	ug/Kg	☼	10/16/17 16:59	10/16/17 22:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*71 - 136*	*10/16/17 16:59*	*10/16/17 22:24*	*1*
4-Bromofluorobenzene (Surr)	*133*	*Q*	*79 - 119*	*10/16/17 16:59*	*10/16/17 22:24*	*1*
Dibromofluoromethane (Surr)	*106*		*78 - 119*	*10/16/17 16:59*	*10/16/17 22:24*	*1*
Toluene-d8 (Surr)	*122*	*Q*	*85 - 116*	*10/16/17 16:59*	*10/16/17 22:24*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	17	U	33	14	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
2-Methylnaphthalene	17	U	33	2.7	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Acenaphthene	17	U	33	5.7	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Acenaphthylene	17	U	33	4.0	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Anthracene	**5.1**	**J D**	33	3.2	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Benzo[a]anthracene	**13**	**J D**	33	6.8	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Benzo[a]pyrene	**11**	**J D**	33	4.2	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Benzo[b]fluoranthene	**19**	**J D**	33	5.3	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Benzo[g,h,i]perylene	**13**	**J D**	33	5.7	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Benzo[k]fluoranthene	17	U	33	5.7	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Chrysene	**14**	**J D**	33	6.7	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Dibenz(a,h)anthracene	17	U	33	16	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Fluoranthene	**19**	**J D**	33	7.6	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Fluorene	17	U	33	5.4	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5

Client Sample ID: SHAD041DP026SS02NS

Lab Sample ID: 160-24924-1
Date Collected: 10/05/17 16:04
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 98.6

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	17	U	33	11	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Naphthalene	17	U	33	5.1	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Phenanthrene	**20**	**J D**	33	14	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5
Pyrene	**24**	**J D**	33	7.3	ug/Kg	☼	10/19/17 11:07	10/21/17 20:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*82*		*46 - 115*	*10/19/17 11:07*	*10/21/17 20:07*	*5*
Nitrobenzene-d5 (Surr)	*83*		*44 - 125*	*10/19/17 11:07*	*10/21/17 20:07*	*5*
Terphenyl-d14 (Surr)	*91*		*58 - 133*	*10/19/17 11:07*	*10/21/17 20:07*	*5*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	16	U	33	9.7	ug/Kg	☼	10/18/17 09:00	10/21/17 13:45	1
PCB-1221	16	U	33	9.7	ug/Kg	☼	10/18/17 09:00	10/21/17 13:45	1
PCB-1232	16	U	33	9.7	ug/Kg	☼	10/18/17 09:00	10/21/17 13:45	1
PCB-1242	16	U	33	9.7	ug/Kg	☼	10/18/17 09:00	10/21/17 13:45	1
PCB-1248	16	U	33	11	ug/Kg	☼	10/18/17 09:00	10/21/17 13:45	1
PCB-1254	16	U	33	13	ug/Kg	☼	10/18/17 09:00	10/21/17 13:45	1
PCB-1260	10	U	33	10	ug/Kg	☼	10/18/17 09:00	10/21/17 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*105*		*44 - 150*	*10/18/17 09:00*	*10/21/17 13:45*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**19**	**D**	4.6	1.2	mg/Kg	☼	10/16/17 11:52	10/18/17 17:55	5
Lead	**380**	**D**	4.6	1.2	mg/Kg	☼	10/16/17 11:52	10/18/17 17:55	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**4.1**		0.40	0.10	mg/Kg	☼	10/18/17 06:45	10/19/17 09:33	1

Client Sample ID: SHAD041DP026SS03NS

Lab Sample ID: 160-24924-2
Date Collected: 10/05/17 16:11
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 87.9

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.3	U	6.4	0.55	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
1,1,2,2-Tetrachloroethane	1.3	U Q	6.4	0.51	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
1,1,2-Trichloroethane	1.3	U	6.4	0.73	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
1,1-Dichloroethane	1.3	U	6.4	0.50	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
1,1-Dichloroethene	6.4	U	6.4	2.0	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
1,2-Dichlorobenzene	1.3	U Q	6.4	0.36	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
1,2-Dichloroethane	1.3	U	6.4	1.1	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
1,2-Dichloropropane	1.3	U	6.4	0.49	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
1,4-Dichlorobenzene	1.3	U Q	6.4	0.76	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Benzene	1.3	U	6.4	0.32	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Bromodichloromethane	1.3	U	6.4	0.32	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Bromoform	1.3	U	6.4	0.47	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Carbon tetrachloride	1.3	U	6.4	0.65	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1

Client Sample ID: SHAD041DP026SS03NS

Lab Sample ID: 160-24924-2

Date Collected: 10/05/17 16:11
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 87.9

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorodibromomethane	1.3	U	6.4	0.52	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Chloroform	1.3	U	6.4	0.48	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Chloromethane	6.4	U	13	0.83	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
cis-1,2-Dichloroethene	1.3	U	6.4	0.76	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
cis-1,3-Dichloropropene	1.3	U	6.4	0.76	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Ethylbenzene	1.3	U	6.4	0.38	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Methylene Chloride	6.4	U	13	2.0	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Tetrachloroethene	1.3	U	6.4	0.41	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Toluene	1.3	U	6.4	0.89	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
trans-1,2-Dichloroethene	1.3	U	6.4	1.2	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
trans-1,3-Dichloropropene	1.3	U	6.4	0.44	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Trichloroethene	1.3	U	6.4	0.49	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Vinyl chloride	1.3	U	13	0.54	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1
Xylenes, Total	6.4	U	13	1.1	ug/Kg	☼	10/16/17 16:59	10/16/17 22:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*71 - 136*	*10/16/17 16:59*	*10/16/17 22:48*	*1*
4-Bromofluorobenzene (Surr)	*121*	*Q*	*79 - 119*	*10/16/17 16:59*	*10/16/17 22:48*	*1*
Dibromofluoromethane (Surr)	*97*		*78 - 119*	*10/16/17 16:59*	*10/16/17 22:48*	*1*
Toluene-d8 (Surr)	*112*		*85 - 116*	*10/16/17 16:59*	*10/16/17 22:48*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.8	U	7.4	3.2	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
2-Methylnaphthalene	**0.71**	**J**	7.4	0.59	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Acenaphthene	3.8	U	7.4	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Acenaphthylene	3.8	U	7.4	0.90	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Anthracene	3.8	U	7.4	0.71	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Benzo[a]anthracene	3.8	U	7.4	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Benzo[a]pyrene	3.8	U	7.4	0.94	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Benzo[b]fluoranthene	3.8	U	7.4	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Benzo[g,h,i]perylene	3.8	U	7.4	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Benzo[k]fluoranthene	3.8	U	7.4	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Chrysene	3.8	U	7.4	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Dibenz(a,h)anthracene	3.8	U	7.4	3.5	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Fluoranthene	3.8	U	7.4	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Fluorene	3.8	U	7.4	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Indeno[1,2,3-cd]pyrene	3.8	U	7.4	2.4	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Naphthalene	3.8	U	7.4	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Phenanthrene	3.8	U	7.4	3.0	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1
Pyrene	3.8	U	7.4	1.6	ug/Kg	☼	10/19/17 11:07	10/21/17 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*78*		*46 - 115*	*10/19/17 11:07*	*10/21/17 13:42*	*1*
Nitrobenzene-d5 (Surr)	*79*		*44 - 125*	*10/19/17 11:07*	*10/21/17 13:42*	*1*
Terphenyl-d14 (Surr)	*92*		*58 - 133*	*10/19/17 11:07*	*10/21/17 13:42*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 14:06	1

Client Sample ID: SHAD041DP026SS03NS

Lab Sample ID: 160-24924-2
Date Collected: 10/05/17 16:11
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 87.9

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 14:06	1
PCB-1232	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 14:06	1
PCB-1242	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 14:06	1
PCB-1248	18	U	37	12	ug/Kg	☼	10/18/17 09:00	10/21/17 14:06	1
PCB-1254	18	U	37	15	ug/Kg	☼	10/18/17 09:00	10/21/17 14:06	1
PCB-1260	11	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*82*		*44 - 150*	*10/18/17 09:00*	*10/21/17 14:06*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**14**	**D**	5.3	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 18:00	5
Lead	**34**	**D**	5.3	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 18:00	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.40**	**J**	0.45	0.11	mg/Kg	☼	10/18/17 06:45	10/19/17 09:33	1

Client Sample ID: SHAD041DP026SS04NS

Lab Sample ID: 160-24924-3
Date Collected: 10/05/17 16:15
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 90.4

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.82	U	4.1	0.36	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
1,1,2,2-Tetrachloroethane	0.82	U	4.1	0.33	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
1,1,2-Trichloroethane	0.82	U	4.1	0.47	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
1,1-Dichloroethane	0.82	U	4.1	0.32	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
1,1-Dichloroethene	4.1	U	4.1	1.3	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
1,2-Dichlorobenzene	0.82	U	4.1	0.23	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
1,2-Dichloroethane	0.82	U	4.1	0.72	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
1,2-Dichloropropane	0.82	U	4.1	0.32	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
1,4-Dichlorobenzene	0.82	U	4.1	0.49	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Benzene	0.82	U	4.1	0.21	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Bromodichloromethane	0.82	U	4.1	0.21	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Bromoform	0.82	U	4.1	0.30	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Carbon tetrachloride	0.82	U	4.1	0.42	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Chlorodibromomethane	0.82	U	4.1	0.33	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Chloroform	0.82	U	4.1	0.31	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Chloromethane	4.1	U	8.2	0.54	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
cis-1,2-Dichloroethene	0.82	U	4.1	0.49	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
cis-1,3-Dichloropropene	0.82	U	4.1	0.49	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Ethylbenzene	0.82	U	4.1	0.25	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Methylene Chloride	4.1	U	8.2	1.3	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Tetrachloroethene	0.82	U	4.1	0.27	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Toluene	0.82	U	4.1	0.58	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
trans-1,2-Dichloroethene	0.82	U	4.1	0.78	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
trans-1,3-Dichloropropene	0.82	U	4.1	0.29	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Trichloroethene	0.82	U	4.1	0.32	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1

Client Sample Results

Client Sample ID: SHAD041DP026SS04NS

Lab Sample ID: 160-24924-3

Date Collected: 10/05/17 16:15
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 90.4

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.82	U	8.2	0.35	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1
Xylenes, Total	4.1	U	8.2	0.70	ug/Kg	☼	10/19/17 16:19	10/19/17 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*71 - 136*	*10/19/17 16:19*	*10/19/17 18:20*	*1*
4-Bromofluorobenzene (Surr)	*98*		*79 - 119*	*10/19/17 16:19*	*10/19/17 18:20*	*1*
Dibromofluoromethane (Surr)	*101*		*78 - 119*	*10/19/17 16:19*	*10/19/17 18:20*	*1*
Toluene-d8 (Surr)	*103*		*85 - 116*	*10/19/17 16:19*	*10/19/17 18:20*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.7	U	7.3	3.2	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
2-Methylnaphthalene	3.7	U	7.3	0.58	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Acenaphthene	3.7	U	7.3	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Acenaphthylene	3.7	U	7.3	0.87	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Anthracene	3.7	U	7.3	0.70	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Benzo[a]anthracene	3.7	U	7.3	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Benzo[a]pyrene	3.7	U	7.3	0.92	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Benzo[b]fluoranthene	3.7	U	7.3	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Benzo[g,h,i]perylene	3.7	U	7.3	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Benzo[k]fluoranthene	3.7	U	7.3	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Chrysene	3.7	U	7.3	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Dibenz(a,h)anthracene	3.7	U	7.3	3.4	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Fluoranthene	3.7	U	7.3	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Fluorene	3.7	U	7.3	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Indeno[1,2,3-cd]pyrene	3.7	U	7.3	2.3	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Naphthalene	3.7	U	7.3	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Phenanthrene	3.7	U	7.3	3.0	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1
Pyrene	3.7	U	7.3	1.6	ug/Kg	☼	10/19/17 11:07	10/21/17 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*80*		*46 - 115*	*10/19/17 11:07*	*10/21/17 14:05*	*1*
Nitrobenzene-d5 (Surr)	*79*		*44 - 125*	*10/19/17 11:07*	*10/21/17 14:05*	*1*
Terphenyl-d14 (Surr)	*95*		*58 - 133*	*10/19/17 11:07*	*10/21/17 14:05*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	18	U	36	11	ug/Kg	☼	10/18/17 09:00	10/21/17 14:27	1
PCB-1221	18	U	36	11	ug/Kg	☼	10/18/17 09:00	10/21/17 14:27	1
PCB-1232	18	U	36	11	ug/Kg	☼	10/18/17 09:00	10/21/17 14:27	1
PCB-1242	18	U	36	11	ug/Kg	☼	10/18/17 09:00	10/21/17 14:27	1
PCB-1248	18	U	36	12	ug/Kg	☼	10/18/17 09:00	10/21/17 14:27	1
PCB-1254	18	U	36	14	ug/Kg	☼	10/18/17 09:00	10/21/17 14:27	1
PCB-1260	11	U	36	11	ug/Kg	☼	10/18/17 09:00	10/21/17 14:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*101*		*44 - 150*	*10/18/17 09:00*	*10/21/17 14:27*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**9.7**	**D**	5.3	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 18:04	5

Client Sample ID: SHAD041DP026SS04NS

Lab Sample ID: 160-24924-3
Date Collected: 10/05/17 16:15
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 90.4

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**2.4**	**J D**	5.3	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 18:04	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.34**	**J**	0.44	0.11	mg/Kg	☼	10/18/17 06:45	10/19/17 09:33	1

Client Sample ID: SHAD041DP026SS05NS

Lab Sample ID: 160-24924-4
Date Collected: 10/05/17 16:22
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 79.9

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1	U	5.7	0.49	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
1,1,2,2-Tetrachloroethane	1.1	U	5.7	0.46	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
1,1,2-Trichloroethane	1.1	U	5.7	0.66	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
1,1-Dichloroethane	1.1	U	5.7	0.45	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
1,1-Dichloroethene	5.7	U	5.7	1.8	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
1,2-Dichlorobenzene	1.1	U	5.7	0.32	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
1,2-Dichloroethane	1.1	U	5.7	0.99	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
1,2-Dichloropropane	1.1	U	5.7	0.44	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
1,4-Dichlorobenzene	1.1	U	5.7	0.69	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Benzene	1.1	U	5.7	0.29	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Bromodichloromethane	1.1	U	5.7	0.29	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Bromoform	1.1	U	5.7	0.42	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Carbon tetrachloride	1.1	U	5.7	0.59	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Chlorodibromomethane	1.1	U	5.7	0.47	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Chloroform	1.1	U	5.7	0.43	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Chloromethane	5.7	U	11	0.74	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
cis-1,2-Dichloroethene	1.1	U	5.7	0.68	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
cis-1,3-Dichloropropene	1.1	U	5.7	0.68	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Ethylbenzene	1.1	U	5.7	0.34	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Methylene Chloride	5.7	U	11	1.8	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Tetrachloroethene	1.1	U	5.7	0.37	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Toluene	1.1	U	5.7	0.80	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
trans-1,2-Dichloroethene	1.1	U	5.7	1.1	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
trans-1,3-Dichloropropene	1.1	U	5.7	0.40	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Trichloroethene	1.1	U	5.7	0.44	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Vinyl chloride	1.1	U	11	0.49	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1
Xylenes, Total	5.7	U	11	0.98	ug/Kg	☼	10/16/17 16:59	10/16/17 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*71 - 136*	*10/16/17 16:59*	*10/16/17 23:38*	*1*
4-Bromofluorobenzene (Surr)	*111*		*79 - 119*	*10/16/17 16:59*	*10/16/17 23:38*	*1*
Dibromofluoromethane (Surr)	*97*		*78 - 119*	*10/16/17 16:59*	*10/16/17 23:38*	*1*
Toluene-d8 (Surr)	*108*		*85 - 116*	*10/16/17 16:59*	*10/16/17 23:38*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	4.1	U	8.1	3.5	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
2-Methylnaphthalene	4.1	U	8.1	0.65	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1

Client Sample ID: SHAD041DP026SS05NS Lab Sample ID: 160-24924-4

Date Collected: 10/05/17 16:22 **Matrix: Solid**

Date Received: 10/07/17 08:50 **Percent Solids: 79.9**

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	4.1	U	8.1	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Acenaphthylene	4.1	U	8.1	0.98	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Anthracene	4.1	U	8.1	0.78	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Benzo[a]anthracene	4.1	U	8.1	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Benzo[a]pyrene	4.1	U	8.1	1.0	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Benzo[b]fluoranthene	4.1	U	8.1	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Benzo[g,h,i]perylene	4.1	U	8.1	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Benzo[k]fluoranthene	4.1	U	8.1	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Chrysene	4.1	U	8.1	1.6	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Dibenz(a,h)anthracene	4.1	U	8.1	3.9	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Fluoranthene	4.1	U	8.1	1.9	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Fluorene	4.1	U	8.1	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Indeno[1,2,3-cd]pyrene	4.1	U	8.1	2.6	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Naphthalene	4.1	U	8.1	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Phenanthrene	4.1	U	8.1	3.3	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1
Pyrene	4.1	U	8.1	1.8	ug/Kg	☼	10/19/17 11:07	10/21/17 14:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*79*		*46 - 115*	*10/19/17 11:07*	*10/21/17 14:28*	*1*
Nitrobenzene-d5 (Surr)	*78*		*44 - 125*	*10/19/17 11:07*	*10/21/17 14:28*	*1*
Terphenyl-d14 (Surr)	*96*		*58 - 133*	*10/19/17 11:07*	*10/21/17 14:28*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	20	U	41	12	ug/Kg	☼	10/18/17 09:00	10/21/17 14:48	1
PCB-1221	20	U	41	12	ug/Kg	☼	10/18/17 09:00	10/21/17 14:48	1
PCB-1232	20	U	41	12	ug/Kg	☼	10/18/17 09:00	10/21/17 14:48	1
PCB-1242	20	U	41	12	ug/Kg	☼	10/18/17 09:00	10/21/17 14:48	1
PCB-1248	20	U	41	13	ug/Kg	☼	10/18/17 09:00	10/21/17 14:48	1
PCB-1254	20	U	41	16	ug/Kg	☼	10/18/17 09:00	10/21/17 14:48	1
PCB-1260	12	U	41	12	ug/Kg	☼	10/18/17 09:00	10/21/17 14:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*85*		*44 - 150*	*10/18/17 09:00*	*10/21/17 14:48*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**14**	**D**	5.4	1.4	mg/Kg	☼	10/16/17 11:52	10/18/17 18:22	5
Lead	**7.2**	**D**	5.4	1.4	mg/Kg	☼	10/16/17 11:52	10/18/17 18:22	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**1.2**		0.50	0.12	mg/Kg	☼	10/18/17 06:45	10/19/17 09:33	1

Client Sample ID: SHAD041DP026SS05DS Lab Sample ID: 160-24924-5

Date Collected: 10/05/17 16:26 **Matrix: Solid**

Date Received: 10/07/17 08:50 **Percent Solids: 73.5**

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.2	U	6.0	0.51	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1

Client Sample ID: SHAD041DP026SS05DS
Date Collected: 10/05/17 16:26
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-5
Matrix: Solid
Percent Solids: 73.5

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	1.2	U	6.0	0.48	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
1,1,2-Trichloroethane	1.2	U	6.0	0.68	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
1,1-Dichloroethane	1.2	U	6.0	0.47	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
1,1-Dichloroethene	6.0	U	6.0	1.9	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
1,2-Dichlorobenzene	1.2	U	6.0	0.34	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
1,2-Dichloroethane	1.2	U	6.0	1.0	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
1,2-Dichloropropane	1.2	U	6.0	0.46	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
1,4-Dichlorobenzene	1.2	U	6.0	0.72	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Benzene	1.2	U	6.0	0.30	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Bromodichloromethane	1.2	U	6.0	0.30	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Bromoform	1.2	U	6.0	0.44	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Carbon tetrachloride	1.2	U	6.0	0.61	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Chlorodibromomethane	1.2	U	6.0	0.48	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Chloroform	1.2	U	6.0	0.45	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Chloromethane	6.0	U	12	0.78	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
cis-1,2-Dichloroethene	1.2	U	6.0	0.71	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
cis-1,3-Dichloropropene	1.2	U	6.0	0.71	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Ethylbenzene	1.2	U	6.0	0.36	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Methylene Chloride	6.0	U	12	1.9	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Tetrachloroethene	1.2	U	6.0	0.38	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Toluene	1.2	U	6.0	0.84	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
trans-1,2-Dichloroethene	1.2	U	6.0	1.1	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
trans-1,3-Dichloropropene	1.2	U	6.0	0.42	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Trichloroethene	1.2	U	6.0	0.46	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Vinyl chloride	1.2	U	12	0.51	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1
Xylenes, Total	6.0	U	12	1.0	ug/Kg	☼	10/16/17 16:59	10/16/17 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*71 - 136*	*10/16/17 16:59*	*10/16/17 00:03*	*1*
4-Bromofluorobenzene (Surr)	*112*		*79 - 119*	*10/16/17 16:59*	*10/16/17 00:03*	*1*
Dibromofluoromethane (Surr)	*100*		*78 - 119*	*10/16/17 16:59*	*10/16/17 00:03*	*1*
Toluene-d8 (Surr)	*113*		*85 - 116*	*10/16/17 16:59*	*10/16/17 00:03*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	4.5	U	8.9	3.9	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
2-Methylnaphthalene	4.5	U	8.9	0.71	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Acenaphthene	4.5	U	8.9	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Acenaphthylene	4.5	U	8.9	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Anthracene	4.5	U	8.9	0.86	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Benzo[a]anthracene	4.5	U	8.9	1.8	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Benzo[a]pyrene	4.5	U	8.9	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Benzo[b]fluoranthene	4.5	U	8.9	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Benzo[g,h,i]perylene	4.5	U	8.9	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Benzo[k]fluoranthene	4.5	U	8.9	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Chrysene	4.5	U	8.9	1.8	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Dibenz(a,h)anthracene	4.5	U	8.9	4.2	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Fluoranthene	4.5	U	8.9	2.0	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Fluorene	4.5	U	8.9	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Indeno[1,2,3-cd]pyrene	4.5	U	8.9	2.9	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1

Client Sample ID: SHAD041DP026SS05DS

Lab Sample ID: 160-24924-5
Date Collected: 10/05/17 16:26
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 73.5

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	4.5	U	8.9	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Phenanthrene	4.5	U	8.9	3.6	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1
Pyrene	4.5	U	8.9	1.9	ug/Kg	☼	10/19/17 11:07	10/21/17 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*83*		*46 - 115*	*10/19/17 11:07*	*10/21/17 14:51*	*1*
Nitrobenzene-d5 (Surr)	*86*		*44 - 125*	*10/19/17 11:07*	*10/21/17 14:51*	*1*
Terphenyl-d14 (Surr)	*97*		*58 - 133*	*10/19/17 11:07*	*10/21/17 14:51*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	22	U	44	13	ug/Kg	☼	10/18/17 09:00	10/21/17 15:09	1
PCB-1221	22	U	44	13	ug/Kg	☼	10/18/17 09:00	10/21/17 15:09	1
PCB-1232	22	U	44	13	ug/Kg	☼	10/18/17 09:00	10/21/17 15:09	1
PCB-1242	22	U	44	13	ug/Kg	☼	10/18/17 09:00	10/21/17 15:09	1
PCB-1248	22	U	44	14	ug/Kg	☼	10/18/17 09:00	10/21/17 15:09	1
PCB-1254	22	U	44	18	ug/Kg	☼	10/18/17 09:00	10/21/17 15:09	1
PCB-1260	13	U	44	13	ug/Kg	☼	10/18/17 09:00	10/21/17 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*89*		*44 - 150*	*10/18/17 09:00*	*10/21/17 15:09*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**15**	**D**	6.3	1.6	mg/Kg	☼	10/16/17 11:52	10/18/17 18:26	5
Lead	**8.9**	**D**	6.3	1.6	mg/Kg	☼	10/16/17 11:52	10/18/17 18:26	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**1.1**		0.53	0.13	mg/Kg	☼	10/18/17 06:45	10/19/17 09:33	1

Client Sample ID: SHAD041DP026SS06NS

Lab Sample ID: 160-24924-6
Date Collected: 10/05/17 16:31
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 86.1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1	U	5.4	0.47	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
1,1,2,2-Tetrachloroethane	1.1	U	5.4	0.43	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
1,1,2-Trichloroethane	1.1	U	5.4	0.62	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
1,1-Dichloroethane	1.1	U	5.4	0.42	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
1,1-Dichloroethene	5.4	U	5.4	1.7	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
1,2-Dichlorobenzene	1.1	U	5.4	0.31	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
1,2-Dichloroethane	1.1	U	5.4	0.94	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
1,2-Dichloropropane	1.1	U	5.4	0.41	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
1,4-Dichlorobenzene	1.1	U	5.4	0.65	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Benzene	1.1	U	5.4	0.27	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Bromodichloromethane	1.1	U	5.4	0.28	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Bromoform	1.1	U	5.4	0.40	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Carbon tetrachloride	1.1	U	5.4	0.56	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Chlorodibromomethane	1.1	U	5.4	0.44	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1

Client Sample ID: SHAD041DP026SS06NS

Lab Sample ID: 160-24924-6

Date Collected: 10/05/17 16:31
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 86.1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	1.1	U	5.4	0.41	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Chloromethane	5.4	U	11	0.70	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
cis-1,2-Dichloroethene	1.1	U	5.4	0.65	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
cis-1,3-Dichloropropene	1.1	U	5.4	0.64	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Ethylbenzene	1.1	U	5.4	0.32	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Methylene Chloride	5.4	U	11	1.7	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Tetrachloroethene	1.1	U	5.4	0.35	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Toluene	1.1	U	5.4	0.76	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
trans-1,2-Dichloroethene	1.1	U	5.4	1.0	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
trans-1,3-Dichloropropene	1.1	U	5.4	0.38	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Trichloroethene	1.1	U	5.4	0.42	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Vinyl chloride	1.1	U	11	0.46	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1
Xylenes, Total	5.4	U	11	0.92	ug/Kg	☼	10/16/17 16:59	10/17/17 00:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*71 - 136*	*10/16/17 16:59*	*10/17/17 00:27*	*1*
4-Bromofluorobenzene (Surr)	*107*		*79 - 119*	*10/16/17 16:59*	*10/17/17 00:27*	*1*
Dibromofluoromethane (Surr)	*95*		*78 - 119*	*10/16/17 16:59*	*10/17/17 00:27*	*1*
Toluene-d8 (Surr)	*108*		*85 - 116*	*10/16/17 16:59*	*10/17/17 00:27*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.8	U	7.6	3.3	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
2-Methylnaphthalene	3.8	U	7.6	0.60	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Acenaphthene	3.8	U	7.6	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Acenaphthylene	3.8	U	7.6	0.91	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Anthracene	3.8	U	7.6	0.73	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Benzo[a]anthracene	3.8	U	7.6	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Benzo[a]pyrene	3.8	U	7.6	0.96	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Benzo[b]fluoranthene	3.8	U	7.6	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Benzo[g,h,i]perylene	3.8	U	7.6	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Benzo[k]fluoranthene	3.8	U	7.6	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Chrysene	3.8	U	7.6	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Dibenz(a,h)anthracene	3.8	U	7.6	3.6	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Fluoranthene	3.8	U	7.6	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Fluorene	3.8	U	7.6	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Indeno[1,2,3-cd]pyrene	3.8	U	7.6	2.4	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Naphthalene	3.8	U	7.6	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Phenanthrene	3.8	U	7.6	3.1	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1
Pyrene	3.8	U	7.6	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*81*		*46 - 115*	*10/19/17 11:07*	*10/21/17 15:13*	*1*
Nitrobenzene-d5 (Surr)	*85*		*44 - 125*	*10/19/17 11:07*	*10/21/17 15:13*	*1*
Terphenyl-d14 (Surr)	*92*		*58 - 133*	*10/19/17 11:07*	*10/21/17 15:13*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	19	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 15:30	1
PCB-1221	19	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 15:30	1

Client Sample ID: SHAD041DP026SS06NS
Lab Sample ID: 160-24924-6

Date Collected: 10/05/17 16:31
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 86.1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1232	19	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 15:30	1
PCB-1242	19	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 15:30	1
PCB-1248	19	U	38	12	ug/Kg	☼	10/18/17 09:00	10/21/17 15:30	1
PCB-1254	19	U	38	15	ug/Kg	☼	10/18/17 09:00	10/21/17 15:30	1
PCB-1260	12	U	38	12	ug/Kg	☼	10/18/17 09:00	10/21/17 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*97*		*44 - 150*	*10/18/17 09:00*	*10/21/17 15:30*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**18**	**D**	5.6	1.4	mg/Kg	☼	10/16/17 11:52	10/18/17 18:31	5
Lead	**5.5**	**J D**	5.6	1.4	mg/Kg	☼	10/16/17 11:52	10/18/17 18:31	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.39**	**J**	0.44	0.11	mg/Kg	☼	10/18/17 06:45	10/19/17 09:33	1

Client Sample ID: SHAD041DP022SS01NS
Lab Sample ID: 160-24924-7

Date Collected: 10/05/17 16:45
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 99.7

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.91	U Q	4.5	0.39	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
1,1,2,2-Tetrachloroethane	0.91	U Q	4.5	0.36	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
1,1,2-Trichloroethane	0.91	U Q	4.5	0.52	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
1,1-Dichloroethane	0.91	U Q	4.5	0.36	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
1,1-Dichloroethene	4.5	U Q	4.5	1.5	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
1,2-Dichlorobenzene	0.91	U Q	4.5	0.26	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
1,2-Dichloroethane	0.91	U Q	4.5	0.79	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
1,2-Dichloropropane	0.91	U Q	4.5	0.35	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
1,4-Dichlorobenzene	0.91	U Q	4.5	0.54	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Benzene	0.91	U Q	4.5	0.23	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Bromodichloromethane	0.91	U Q	4.5	0.23	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Bromoform	0.91	U Q	4.5	0.33	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Carbon tetrachloride	0.91	U Q	4.5	0.47	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Chlorodibromomethane	0.91	U Q	4.5	0.37	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Chloroform	0.91	U Q	4.5	0.34	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Chloromethane	4.5	U Q	9.1	0.59	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
cis-1,2-Dichloroethene	0.91	U Q	4.5	0.54	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
cis-1,3-Dichloropropene	0.91	U Q	4.5	0.54	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Ethylbenzene	0.91	U Q	4.5	0.27	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Methylene Chloride	4.5	U Q	9.1	1.4	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Tetrachloroethene	0.91	U Q	4.5	0.29	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Toluene	0.91	U Q	4.5	0.64	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
trans-1,2-Dichloroethene	0.91	U Q	4.5	0.86	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
trans-1,3-Dichloropropene	0.91	U Q	4.5	0.32	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Trichloroethene	0.91	U Q	4.5	0.35	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1
Vinyl chloride	0.91	U Q	9.1	0.39	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1

Client Sample ID: SHAD041DP022SS01NS

Lab Sample ID: 160-24924-7

Date Collected: 10/05/17 16:45
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 99.7

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	4.5	U Q	9.1	0.78	ug/Kg	☼	10/17/17 15:12	10/18/17 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*	*Q*	*71 - 136*	*10/17/17 15:12*	*10/18/17 00:52*	*1*
4-Bromofluorobenzene (Surr)	*48*	*Q*	*79 - 119*	*10/17/17 15:12*	*10/18/17 00:52*	*1*
Dibromofluoromethane (Surr)	*78*	*Q*	*78 - 119*	*10/17/17 15:12*	*10/18/17 00:52*	*1*
Toluene-d8 (Surr)	*60*	*Q*	*85 - 116*	*10/17/17 15:12*	*10/18/17 00:52*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	33	U	66	29	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
2-Methylnaphthalene	33	U	66	5.2	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Acenaphthene	33	U	66	11	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Acenaphthylene	33	U	66	7.9	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Anthracene	33	U	66	6.3	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Benzo[a]anthracene	**17**	**J D**	66	13	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Benzo[a]pyrene	33	U	66	8.3	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Benzo[b]fluoranthene	33	U	66	10	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Benzo[g,h,i]perylene	**21**	**J D**	66	11	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Benzo[k]fluoranthene	**15**	**J D**	66	11	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Chrysene	33	U	66	13	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Dibenz(a,h)anthracene	33	U	66	31	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Fluoranthene	33	U	66	15	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Fluorene	33	U	66	11	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Indeno[1,2,3-cd]pyrene	33	U	66	21	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Naphthalene	33	U	66	10	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Phenanthrene	33	U	66	27	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10
Pyrene	33	U	66	14	ug/Kg	☼	10/19/17 11:07	10/21/17 20:52	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*76*		*46 - 115*	*10/19/17 11:07*	*10/21/17 20:52*	*10*
Nitrobenzene-d5 (Surr)	*76*		*44 - 125*	*10/19/17 11:07*	*10/21/17 20:52*	*10*
Terphenyl-d14 (Surr)	*84*		*58 - 133*	*10/19/17 11:07*	*10/21/17 20:52*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	16	U	33	9.5	ug/Kg	☼	10/18/17 09:00	10/21/17 15:50	1
PCB-1221	16	U	33	9.5	ug/Kg	☼	10/18/17 09:00	10/21/17 15:50	1
PCB-1232	16	U	33	9.5	ug/Kg	☼	10/18/17 09:00	10/21/17 15:50	1
PCB-1242	16	U	33	9.5	ug/Kg	☼	10/18/17 09:00	10/21/17 15:50	1
PCB-1248	16	U	33	11	ug/Kg	☼	10/18/17 09:00	10/21/17 15:50	1
PCB-1254	16	U	33	13	ug/Kg	☼	10/18/17 09:00	10/21/17 15:50	1
PCB-1260	**12**	**J**	33	9.9	ug/Kg	☼	10/18/17 09:00	10/21/17 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*87*		*44 - 150*	*10/18/17 09:00*	*10/21/17 15:50*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**52**	**D**	4.5	1.1	mg/Kg	☼	10/16/17 11:52	10/18/17 18:35	5
Lead	**260**	**D**	4.5	1.1	mg/Kg	☼	10/16/17 11:52	10/18/17 18:35	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**8.0**		0.38	0.095	mg/Kg	☼	10/18/17 06:45	10/19/17 09:33	1

Client Sample ID: SHAD041DP022SS02NS

Lab Sample ID: 160-24924-8

Date Collected: 10/05/17 16:55
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 99.0

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.94	U Q	4.7	0.41	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
1,1,2,2-Tetrachloroethane	0.94	U Q	4.7	0.38	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
1,1,2-Trichloroethane	0.94	U Q	4.7	0.54	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
1,1-Dichloroethane	0.94	U Q	4.7	0.37	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
1,1-Dichloroethene	4.7	U Q	4.7	1.5	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
1,2-Dichlorobenzene	0.94	U Q	4.7	0.27	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
1,2-Dichloroethane	0.94	U Q	4.7	0.82	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
1,2-Dichloropropane	0.94	U Q	4.7	0.36	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
1,4-Dichlorobenzene	0.94	U Q	4.7	0.57	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Benzene	0.94	U Q	4.7	0.24	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Bromodichloromethane	0.94	U Q	4.7	0.24	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Bromoform	0.94	U Q	4.7	0.35	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Carbon tetrachloride	0.94	U Q	4.7	0.48	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Chlorodibromomethane	0.94	U Q	4.7	0.38	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Chloroform	0.94	U Q	4.7	0.36	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Chloromethane	4.7	U Q	9.4	0.61	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
cis-1,2-Dichloroethene	0.94	U Q	4.7	0.56	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
cis-1,3-Dichloropropene	0.94	U Q	4.7	0.56	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Ethylbenzene	0.94	U Q	4.7	0.28	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Methylene Chloride	4.7	U Q	9.4	1.5	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Tetrachloroethene	0.94	U Q	4.7	0.30	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Toluene	0.94	U Q	4.7	0.66	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
trans-1,2-Dichloroethene	0.94	U Q	4.7	0.89	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
trans-1,3-Dichloropropene	0.94	U Q	4.7	0.33	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Trichloroethene	0.94	U Q	4.7	0.36	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Vinyl chloride	0.94	U Q	9.4	0.40	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1
Xylenes, Total	4.7	U Q	9.4	0.81	ug/Kg	☼	10/16/17 16:59	10/17/17 01:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*152*	*Q*	*71 - 136*	*10/16/17 16:59*	*10/17/17 01:17*	*1*
4-Bromofluorobenzene (Surr)	*234*	*Q*	*79 - 119*	*10/16/17 16:59*	*10/17/17 01:17*	*1*
Dibromofluoromethane (Surr)	*145*	*Q*	*78 - 119*	*10/16/17 16:59*	*10/17/17 01:17*	*1*
Toluene-d8 (Surr)	*196*	*Q*	*85 - 116*	*10/16/17 16:59*	*10/17/17 01:17*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	17	U	33	14	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
2-Methylnaphthalene	17	U	33	2.6	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Acenaphthene	17	U	33	5.7	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Acenaphthylene	17	U	33	4.0	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Anthracene	17	U	33	3.2	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Benzo[a]anthracene	17	U	33	6.7	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Benzo[a]pyrene	17	U	33	4.2	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Benzo[b]fluoranthene	**13**	**J D**	33	5.3	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Benzo[g,h,i]perylene	**14**	**J D**	33	5.6	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Benzo[k]fluoranthene	17	U	33	5.7	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5

Client Sample ID: SHAD041DP022SS02NS

Date Collected: 10/05/17 16:55
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-8

Matrix: Solid
Percent Solids: 99.0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	17	U	33	6.6	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Dibenz(a,h)anthracene	17	U	33	16	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Fluoranthene	17	U	33	7.6	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Fluorene	17	U	33	5.4	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Indeno[1,2,3-cd]pyrene	17	U	33	11	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Naphthalene	17	U	33	5.1	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Phenanthrene	17	U	33	14	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5
Pyrene	17	U	33	7.2	ug/Kg	☼	10/19/17 11:07	10/21/17 20:30	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*78*		*46 - 115*	*10/19/17 11:07*	*10/21/17 20:30*	*5*
Nitrobenzene-d5 (Surr)	*75*		*44 - 125*	*10/19/17 11:07*	*10/21/17 20:30*	*5*
Terphenyl-d14 (Surr)	*90*		*58 - 133*	*10/19/17 11:07*	*10/21/17 20:30*	*5*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	16	U	33	9.7	ug/Kg	☼	10/18/17 09:00	10/21/17 16:11	1
PCB-1221	16	U	33	9.7	ug/Kg	☼	10/18/17 09:00	10/21/17 16:11	1
PCB-1232	16	U	33	9.7	ug/Kg	☼	10/18/17 09:00	10/21/17 16:11	1
PCB-1242	16	U	33	9.7	ug/Kg	☼	10/18/17 09:00	10/21/17 16:11	1
PCB-1248	16	U	33	11	ug/Kg	☼	10/18/17 09:00	10/21/17 16:11	1
PCB-1254	16	U	33	13	ug/Kg	☼	10/18/17 09:00	10/21/17 16:11	1
PCB-1260	10	U	33	10	ug/Kg	☼	10/18/17 09:00	10/21/17 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*96*		*44 - 150*	*10/18/17 09:00*	*10/21/17 16:11*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**20**	**D**	4.6	1.1	mg/Kg	☼	10/16/17 11:52	10/18/17 18:40	5
Lead	**320**	**D**	4.6	1.1	mg/Kg	☼	10/16/17 11:52	10/18/17 18:40	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**1.1**		0.39	0.098	mg/Kg	☼	10/19/17 08:15	10/20/17 08:43	1

Client Sample ID: SHAD041DP022SS03NS

Date Collected: 10/05/17 16:59
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-9

Matrix: Solid
Percent Solids: 98.0

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.92	U	4.6	0.40	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
1,1,2,2-Tetrachloroethane	0.92	U Q	4.6	0.37	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
1,1,2-Trichloroethane	0.92	U	4.6	0.53	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
1,1-Dichloroethane	0.92	U	4.6	0.36	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
1,1-Dichloroethene	4.6	U	4.6	1.5	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
1,2-Dichlorobenzene	0.92	U Q	4.6	0.26	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
1,2-Dichloroethane	0.92	U	4.6	0.80	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
1,2-Dichloropropane	0.92	U	4.6	0.35	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
1,4-Dichlorobenzene	0.92	U Q	4.6	0.55	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1

Client Sample ID: SHAD041DP022SS03NS

Lab Sample ID: 160-24924-9

Date Collected: 10/05/17 16:59
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 98.0

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.92	U	4.6	0.23	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Bromodichloromethane	0.92	U	4.6	0.23	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Bromoform	0.92	U	4.6	0.34	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Carbon tetrachloride	0.92	U	4.6	0.47	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Chlorodibromomethane	0.92	U	4.6	0.38	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Chloroform	0.92	U	4.6	0.35	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Chloromethane	4.6	U	9.2	0.60	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
cis-1,2-Dichloroethene	0.92	U	4.6	0.55	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
cis-1,3-Dichloropropene	0.92	U	4.6	0.55	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Ethylbenzene	0.92	U	4.6	0.28	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Methylene Chloride	4.6	U	9.2	1.5	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Tetrachloroethene	0.92	U	4.6	0.30	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Toluene	0.92	U	4.6	0.65	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
trans-1,2-Dichloroethene	0.92	U	4.6	0.87	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
trans-1,3-Dichloropropene	0.92	U	4.6	0.32	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Trichloroethene	0.92	U	4.6	0.36	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Vinyl chloride	0.92	U	9.2	0.40	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1
Xylenes, Total	4.6	U	9.2	0.79	ug/Kg	☼	10/16/17 16:59	10/16/17 20:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*71 - 136*	*10/16/17 16:59*	*10/16/17 20:37*	*1*
4-Bromofluorobenzene (Surr)	*122*	*Q*	*79 - 119*	*10/16/17 16:59*	*10/16/17 20:37*	*1*
Dibromofluoromethane (Surr)	*97*		*78 - 119*	*10/16/17 16:59*	*10/16/17 20:37*	*1*
Toluene-d8 (Surr)	*113*		*85 - 116*	*10/16/17 16:59*	*10/16/17 20:37*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.4	U	6.7	2.9	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
2-Methylnaphthalene	3.4	U	6.7	0.53	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Acenaphthene	3.4	U	6.7	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Acenaphthylene	3.4	U	6.7	0.81	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Anthracene	3.4	U	6.7	0.64	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Benzo[a]anthracene	3.4	U	6.7	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Benzo[a]pyrene	3.4	U	6.7	0.85	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Benzo[b]fluoranthene	**1.5**	**J**	6.7	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Benzo[g,h,i]perylene	**1.9**	**J**	6.7	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Benzo[k]fluoranthene	3.4	U	6.7	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Chrysene	3.4	U	6.7	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Dibenz(a,h)anthracene	3.4	U	6.7	3.2	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Fluoranthene	3.4	U	6.7	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Fluorene	3.4	U	6.7	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Indeno[1,2,3-cd]pyrene	3.4	U	6.7	2.2	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Naphthalene	3.4	U	6.7	1.0	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Phenanthrene	3.4	U	6.7	2.7	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1
Pyrene	3.4	U	6.7	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 15:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*85*		*46 - 115*	*10/19/17 11:07*	*10/21/17 15:36*	*1*
Nitrobenzene-d5 (Surr)	*86*		*44 - 125*	*10/19/17 11:07*	*10/21/17 15:36*	*1*
Terphenyl-d14 (Surr)	*96*		*58 - 133*	*10/19/17 11:07*	*10/21/17 15:36*	*1*

Client Sample ID: SHAD041DP022SS03NS

Lab Sample ID: 160-24924-9

Date Collected: 10/05/17 16:59
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 98.0

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	16	U	34	9.8	ug/Kg	☼	10/18/17 09:00	10/21/17 16:53	1
PCB-1221	16	U	34	9.8	ug/Kg	☼	10/18/17 09:00	10/21/17 16:53	1
PCB-1232	16	U	34	9.8	ug/Kg	☼	10/18/17 09:00	10/21/17 16:53	1
PCB-1242	16	U	34	9.8	ug/Kg	☼	10/18/17 09:00	10/21/17 16:53	1
PCB-1248	16	U	34	11	ug/Kg	☼	10/18/17 09:00	10/21/17 16:53	1
PCB-1254	16	U	34	13	ug/Kg	☼	10/18/17 09:00	10/21/17 16:53	1
PCB-1260	10	U	34	10	ug/Kg	☼	10/18/17 09:00	10/21/17 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*90*		*44 - 150*	*10/18/17 09:00*	*10/21/17 16:53*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**12**	**D J**	4.3	1.1	mg/Kg	☼	10/16/17 11:52	10/18/17 18:44	5
Lead	**39**	**D**	4.3	1.1	mg/Kg	☼	10/16/17 11:52	10/18/17 18:44	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.45**		0.40	0.10	mg/Kg	☼	10/19/17 08:15	10/20/17 08:43	1

Client Sample ID: SHAD041DP022SS04NS

Lab Sample ID: 160-24924-10

Date Collected: 10/05/17 17:10
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 86.3

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1	U	5.5	0.47	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
1,1,2,2-Tetrachloroethane	1.1	U	5.5	0.44	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
1,1,2-Trichloroethane	1.1	U	5.5	0.63	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
1,1-Dichloroethane	1.1	U	5.5	0.43	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
1,1-Dichloroethene	5.5	U	5.5	1.8	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
1,2-Dichlorobenzene	1.1	U	5.5	0.31	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
1,2-Dichloroethane	1.1	U	5.5	0.95	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
1,2-Dichloropropane	1.1	U	5.5	0.42	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
1,4-Dichlorobenzene	1.1	U	5.5	0.66	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Benzene	1.1	U	5.5	0.28	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Bromodichloromethane	1.1	U	5.5	0.28	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Bromoform	1.1	U	5.5	0.40	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Carbon tetrachloride	1.1	U	5.5	0.56	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Chlorodibromomethane	1.1	U	5.5	0.44	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Chloroform	1.1	U	5.5	0.41	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Chloromethane	5.5	U	11	0.71	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
cis-1,2-Dichloroethene	1.1	U	5.5	0.65	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
cis-1,3-Dichloropropene	1.1	U	5.5	0.65	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Ethylbenzene	1.1	U	5.5	0.33	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Methylene Chloride	5.5	U	11	1.7	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Tetrachloroethene	1.1	U	5.5	0.35	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Toluene	1.1	U	5.5	0.77	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
trans-1,2-Dichloroethene	1.1	U	5.5	1.0	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
trans-1,3-Dichloropropene	1.1	U	5.5	0.38	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1

Client Sample ID: SHAD041DP022SS04NS

Lab Sample ID: 160-24924-10

Date Collected: 10/05/17 17:10
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 86.3

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.1	U	5.5	0.42	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Vinyl chloride	1.1	U	11	0.47	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1
Xylenes, Total	5.5	U	11	0.93	ug/Kg	☼	10/16/17 16:59	10/17/17 01:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*71 - 136*	*10/16/17 16:59*	*10/17/17 01:41*	*1*
4-Bromofluorobenzene (Surr)	*109*		*79 - 119*	*10/16/17 16:59*	*10/17/17 01:41*	*1*
Dibromofluoromethane (Surr)	*98*		*78 - 119*	*10/16/17 16:59*	*10/17/17 01:41*	*1*
Toluene-d8 (Surr)	*109*		*85 - 116*	*10/16/17 16:59*	*10/17/17 01:41*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.8	U	7.6	3.3	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
2-Methylnaphthalene	3.8	U	7.6	0.60	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Acenaphthene	3.8	U	7.6	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Acenaphthylene	3.8	U	7.6	0.91	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Anthracene	3.8	U	7.6	0.73	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Benzo[a]anthracene	3.8	U	7.6	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Benzo[a]pyrene	3.8	U	7.6	0.96	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Benzo[b]fluoranthene	3.8	U	7.6	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Benzo[g,h,i]perylene	3.8	U	7.6	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Benzo[k]fluoranthene	3.8	U	7.6	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Chrysene	3.8	U	7.6	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Dibenz(a,h)anthracene	3.8	U	7.6	3.6	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Fluoranthene	3.8	U	7.6	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Fluorene	3.8	U	7.6	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Indeno[1,2,3-cd]pyrene	3.8	U	7.6	2.4	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Naphthalene	3.8	U	7.6	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Phenanthrene	3.8	U	7.6	3.1	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1
Pyrene	3.8	U	7.6	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*80*		*46 - 115*	*10/19/17 11:07*	*10/21/17 16:43*	*1*
Nitrobenzene-d5 (Surr)	*81*		*44 - 125*	*10/19/17 11:07*	*10/21/17 16:43*	*1*
Terphenyl-d14 (Surr)	*91*		*58 - 133*	*10/19/17 11:07*	*10/21/17 16:43*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	18	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 17:56	1
PCB-1221	18	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 17:56	1
PCB-1232	18	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 17:56	1
PCB-1242	18	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 17:56	1
PCB-1248	18	U	38	12	ug/Kg	☼	10/18/17 09:00	10/21/17 17:56	1
PCB-1254	18	U	38	15	ug/Kg	☼	10/18/17 09:00	10/21/17 17:56	1
PCB-1260	12	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*105*		*44 - 150*	*10/18/17 09:00*	*10/21/17 17:56*	*1*

Client Sample ID: SHAD041DP022SS04NS

Lab Sample ID: 160-24924-10

Date Collected: 10/05/17 17:10
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 86.3

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**11**	**D**	5.2	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 19:19	5
Lead	**1.4**	**J D**	5.2	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 19:19	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.46**		0.46	0.11	mg/Kg	☼	10/19/17 08:15	10/20/17 08:43	1

Client Sample ID: SHAD041DP022SS05NS

Lab Sample ID: 160-24924-11

Date Collected: 10/05/17 17:15
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 87.9

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1	U	5.4	0.47	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
1,1,2,2-Tetrachloroethane	1.1	U	5.4	0.44	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
1,1,2-Trichloroethane	1.1	U	5.4	0.62	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
1,1-Dichloroethane	1.1	U	5.4	0.43	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
1,1-Dichloroethene	5.4	U	5.4	1.8	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
1,2-Dichlorobenzene	1.1	U	5.4	0.31	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
1,2-Dichloroethane	1.1	U	5.4	0.94	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
1,2-Dichloropropane	1.1	U	5.4	0.42	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
1,4-Dichlorobenzene	1.1	U	5.4	0.65	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Benzene	1.1	U	5.4	0.28	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Bromodichloromethane	1.1	U	5.4	0.28	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Bromoform	1.1	U	5.4	0.40	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Carbon tetrachloride	1.1	U	5.4	0.56	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Chlorodibromomethane	1.1	U	5.4	0.44	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Chloroform	1.1	U	5.4	0.41	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Chloromethane	5.4	U	11	0.71	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
cis-1,2-Dichloroethene	1.1	U	5.4	0.65	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
cis-1,3-Dichloropropene	1.1	U	5.4	0.65	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Ethylbenzene	1.1	U	5.4	0.33	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Methylene Chloride	5.4	U	11	1.7	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Tetrachloroethene	1.1	U	5.4	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Toluene	1.1	U	5.4	0.76	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
trans-1,2-Dichloroethene	1.1	U	5.4	1.0	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
trans-1,3-Dichloropropene	1.1	U	5.4	0.38	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Trichloroethene	1.1	U	5.4	0.42	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Vinyl chloride	1.1	U Q	11	0.47	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1
Xylenes, Total	5.4	U	11	0.93	ug/Kg	☼	10/17/17 15:13	10/17/17 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*71 - 136*	*10/17/17 15:13*	*10/17/17 17:38*	*1*
4-Bromofluorobenzene (Surr)	*110*		*79 - 119*	*10/17/17 15:13*	*10/17/17 17:38*	*1*
Dibromofluoromethane (Surr)	*93*		*78 - 119*	*10/17/17 15:13*	*10/17/17 17:38*	*1*
Toluene-d8 (Surr)	*107*		*85 - 116*	*10/17/17 15:13*	*10/17/17 17:38*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.8	U	7.5	3.3	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1

Client Sample ID: SHAD041DP022SS05NS

Lab Sample ID: 160-24924-11

Date Collected: 10/05/17 17:15
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 87.9

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	3.8	U	7.5	0.60	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Acenaphthene	3.8	U	7.5	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Acenaphthylene	3.8	U	7.5	0.90	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Anthracene	3.8	U	7.5	0.72	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Benzo[a]anthracene	3.8	U	7.5	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Benzo[a]pyrene	3.8	U	7.5	0.95	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Benzo[b]fluoranthene	3.8	U	7.5	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Benzo[g,h,i]perylene	3.8	U	7.5	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Benzo[k]fluoranthene	3.8	U	7.5	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Chrysene	3.8	U	7.5	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Dibenz(a,h)anthracene	3.8	U	7.5	3.6	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Fluoranthene	3.8	U	7.5	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Fluorene	3.8	U	7.5	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Indeno[1,2,3-cd]pyrene	3.8	U	7.5	2.4	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Naphthalene	3.8	U	7.5	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Phenanthrene	3.8	U	7.5	3.1	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1
Pyrene	3.8	U	7.5	1.6	ug/Kg	☼	10/19/17 11:07	10/21/17 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*81*		*46 - 115*	*10/19/17 11:07*	*10/21/17 17:06*	*1*
Nitrobenzene-d5 (Surr)	*82*		*44 - 125*	*10/19/17 11:07*	*10/21/17 17:06*	*1*
Terphenyl-d14 (Surr)	*95*		*58 - 133*	*10/19/17 11:07*	*10/21/17 17:06*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:17	1
PCB-1221	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:17	1
PCB-1232	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:17	1
PCB-1242	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:17	1
PCB-1248	18	U	37	12	ug/Kg	☼	10/18/17 09:00	10/21/17 18:17	1
PCB-1254	18	U	37	15	ug/Kg	☼	10/18/17 09:00	10/21/17 18:17	1
PCB-1260	11	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*91*		*44 - 150*	*10/18/17 09:00*	*10/21/17 18:17*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**9.4**	**D**	5.1	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 19:24	5
Lead	**2.6**	**J D**	5.1	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 19:24	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**1.0**		0.45	0.11	mg/Kg	☼	10/19/17 08:15	10/20/17 08:43	1

Client Sample ID: SHAD041DP022SS06NS **Lab Sample ID: 160-24924-12**
Date Collected: 10/05/17 17:23 **Matrix: Solid**
Date Received: 10/07/17 08:50 **Percent Solids: 89.2**

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1	U	5.7	0.49	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
1,1,2,2-Tetrachloroethane	1.1	U	5.7	0.46	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
1,1,2-Trichloroethane	1.1	U	5.7	0.65	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
1,1-Dichloroethane	1.1	U	5.7	0.45	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
1,1-Dichloroethene	5.7	U	5.7	1.8	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
1,2-Dichlorobenzene	1.1	U	5.7	0.32	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
1,2-Dichloroethane	1.1	U	5.7	0.99	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
1,2-Dichloropropane	1.1	U	5.7	0.44	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
1,4-Dichlorobenzene	1.1	U	5.7	0.68	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Benzene	1.1	U	5.7	0.29	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Bromodichloromethane	1.1	U	5.7	0.29	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Bromoform	1.1	U	5.7	0.42	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Carbon tetrachloride	1.1	U	5.7	0.58	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Chlorodibromomethane	1.1	U	5.7	0.46	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Chloroform	1.1	U	5.7	0.43	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Chloromethane	5.7	U	11	0.74	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
cis-1,2-Dichloroethene	1.1	U	5.7	0.68	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
cis-1,3-Dichloropropene	1.1	U	5.7	0.68	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Ethylbenzene	1.1	U	5.7	0.34	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Methylene Chloride	5.7	U	11	1.8	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Tetrachloroethene	1.1	U	5.7	0.37	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Toluene	1.1	U	5.7	0.80	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
trans-1,2-Dichloroethene	1.1	U	5.7	1.1	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
trans-1,3-Dichloropropene	1.1	U	5.7	0.40	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Trichloroethene	1.1	U	5.7	0.44	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Vinyl chloride	1.1	U Q	11	0.49	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1
Xylenes, Total	5.7	U	11	0.97	ug/Kg	☼	10/17/17 15:13	10/17/17 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*71 - 136*	*10/17/17 15:13*	*10/17/17 18:02*	*1*
4-Bromofluorobenzene (Surr)	*108*		*79 - 119*	*10/17/17 15:13*	*10/17/17 18:02*	*1*
Dibromofluoromethane (Surr)	*96*		*78 - 119*	*10/17/17 15:13*	*10/17/17 18:02*	*1*
Toluene-d8 (Surr)	*108*		*85 - 116*	*10/17/17 15:13*	*10/17/17 18:02*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.7	U	7.3	3.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
2-Methylnaphthalene	3.7	U	7.3	0.58	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Acenaphthene	3.7	U	7.3	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Acenaphthylene	3.7	U	7.3	0.88	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Anthracene	3.7	U	7.3	0.70	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Benzo[a]anthracene	3.7	U	7.3	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Benzo[a]pyrene	3.7	U	7.3	0.92	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Benzo[b]fluoranthene	3.7	U	7.3	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Benzo[g,h,i]perylene	3.7	U	7.3	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Benzo[k]fluoranthene	3.7	U	7.3	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Chrysene	3.7	U	7.3	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Dibenz(a,h)anthracene	3.7	U	7.3	3.5	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Fluoranthene	3.7	U	7.3	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Fluorene	3.7	U	7.3	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1

Client Sample ID: SHAD041DP022SS06NS

Lab Sample ID: 160-24924-12

Date Collected: 10/05/17 17:23
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 89.2

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	3.7	U	7.3	2.3	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Naphthalene	3.7	U	7.3	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Phenanthrene	3.7	U	7.3	3.0	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1
Pyrene	3.7	U	7.3	1.6	ug/Kg	☼	10/19/17 11:07	10/21/17 17:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*81*		*46 - 115*	*10/19/17 11:07*	*10/21/17 17:29*	*1*
Nitrobenzene-d5 (Surr)	*80*		*44 - 125*	*10/19/17 11:07*	*10/21/17 17:29*	*1*
Terphenyl-d14 (Surr)	*93*		*58 - 133*	*10/19/17 11:07*	*10/21/17 17:29*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:38	1
PCB-1221	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:38	1
PCB-1232	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:38	1
PCB-1242	18	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:38	1
PCB-1248	18	U	37	12	ug/Kg	☼	10/18/17 09:00	10/21/17 18:38	1
PCB-1254	18	U	37	15	ug/Kg	☼	10/18/17 09:00	10/21/17 18:38	1
PCB-1260	11	U	37	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*88*		*44 - 150*	*10/18/17 09:00*	*10/21/17 18:38*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**19**	**D**	5.2	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 19:28	5
Lead	**4.8**	**J D**	5.2	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 19:28	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.23**	**J**	0.44	0.11	mg/Kg	☼	10/19/17 08:15	10/20/17 08:43	1

Client Sample ID: SHAD041DP013SS01NS

Lab Sample ID: 160-24924-13

Date Collected: 10/05/17 14:23
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 99.5

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.86	U	4.3	0.37	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
1,1,2,2-Tetrachloroethane	0.86	U Q	4.3	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
1,1,2-Trichloroethane	0.86	U Q	4.3	0.49	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
1,1-Dichloroethane	0.86	U	4.3	0.34	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
1,1-Dichloroethene	4.3	U	4.3	1.4	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
1,2-Dichlorobenzene	0.86	U Q	4.3	0.24	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
1,2-Dichloroethane	0.86	U	4.3	0.75	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
1,2-Dichloropropane	0.86	U	4.3	0.33	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
1,4-Dichlorobenzene	0.86	U Q	4.3	0.52	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Benzene	0.86	U	4.3	0.22	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Bromodichloromethane	0.86	U	4.3	0.22	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Bromoform	0.86	U Q	4.3	0.32	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Carbon tetrachloride	0.86	U	4.3	0.44	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1

Client Sample ID: SHAD041DP013SS01NS

Date Collected: 10/05/17 14:23
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-13

Matrix: Solid
Percent Solids: 99.5

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorodibromomethane	0.86	U Q	4.3	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Chloroform	0.86	U	4.3	0.32	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Chloromethane	4.3	U	8.6	0.56	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
cis-1,2-Dichloroethene	0.86	U	4.3	0.51	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
cis-1,3-Dichloropropene	0.86	U	4.3	0.51	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Ethylbenzene	**0.88**	**J Q**	4.3	0.26	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Methylene Chloride	4.3	U	8.6	1.4	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Tetrachloroethene	0.86	U Q	4.3	0.28	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Toluene	0.86	U Q	4.3	0.60	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
trans-1,2-Dichloroethene	0.86	U	4.3	0.81	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
trans-1,3-Dichloropropene	0.86	U Q	4.3	0.30	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Trichloroethene	0.86	U	4.3	0.33	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Vinyl chloride	0.86	U Q	8.6	0.37	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1
Xylenes, Total	**4.9**	**J Q**	8.6	0.74	ug/Kg	☼	10/17/17 15:13	10/17/17 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*71 - 136*	*10/17/17 15:13*	*10/17/17 18:33*	*1*
4-Bromofluorobenzene (Surr)	*153*	*Q*	*79 - 119*	*10/17/17 15:13*	*10/17/17 18:33*	*1*
Dibromofluoromethane (Surr)	*96*		*78 - 119*	*10/17/17 15:13*	*10/17/17 18:33*	*1*
Toluene-d8 (Surr)	*117*	*Q*	*85 - 116*	*10/17/17 15:13*	*10/17/17 18:33*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	33	U	66	29	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
2-Methylnaphthalene	33	U	66	5.3	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Acenaphthene	33	U	66	11	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Acenaphthylene	33	U	66	8.0	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Anthracene	33	U	66	6.4	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Benzo[a]anthracene	33	U	66	13	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Benzo[a]pyrene	33	U	66	8.4	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Benzo[b]fluoranthene	33	U	66	11	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Benzo[g,h,i]perylene	**31**	**J D**	66	11	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Benzo[k]fluoranthene	33	U	66	11	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Chrysene	33	U	66	13	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Dibenz(a,h)anthracene	33	U	66	31	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Fluoranthene	33	U	66	15	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Fluorene	33	U	66	11	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Indeno[1,2,3-cd]pyrene	33	U	66	21	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Naphthalene	33	U	66	10	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Phenanthrene	33	U	66	27	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10
Pyrene	33	U	66	14	ug/Kg	☼	10/19/17 11:07	10/21/17 21:15	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*79*		*46 - 115*	*10/19/17 11:07*	*10/21/17 21:15*	*10*
Nitrobenzene-d5 (Surr)	*84*		*44 - 125*	*10/19/17 11:07*	*10/21/17 21:15*	*10*
Terphenyl-d14 (Surr)	*83*		*58 - 133*	*10/19/17 11:07*	*10/21/17 21:15*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	16	U	33	9.6	ug/Kg	☼	10/18/17 09:00	10/21/17 18:59	1

Client Sample ID: SHAD041DP013SS01NS

Lab Sample ID: 160-24924-13

Date Collected: 10/05/17 14:23
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 99.5

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	16	U	33	9.6	ug/Kg	☼	10/18/17 09:00	10/21/17 18:59	1
PCB-1232	16	U	33	9.6	ug/Kg	☼	10/18/17 09:00	10/21/17 18:59	1
PCB-1242	16	U	33	9.6	ug/Kg	☼	10/18/17 09:00	10/21/17 18:59	1
PCB-1248	16	U	33	11	ug/Kg	☼	10/18/17 09:00	10/21/17 18:59	1
PCB-1254	16	U	33	13	ug/Kg	☼	10/18/17 09:00	10/21/17 18:59	1
PCB-1260	10	U	33	10	ug/Kg	☼	10/18/17 09:00	10/21/17 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*96*		*44 - 150*	*10/18/17 09:00*	*10/21/17 18:59*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**13**	**D**	4.7	1.2	mg/Kg	☼	10/16/17 11:52	10/18/17 19:33	5
Lead	**22**	**D**	4.7	1.2	mg/Kg	☼	10/16/17 11:52	10/18/17 19:33	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.82**		0.40	0.099	mg/Kg	☼	10/19/17 08:15	10/20/17 08:43	1

Client Sample ID: SHAD041DP013SS02NS

Lab Sample ID: 160-24924-14

Date Collected: 10/05/17 14:34
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 94.5

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.92	U	4.6	0.40	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
1,1,2,2-Tetrachloroethane	0.92	U Q	4.6	0.37	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
1,1,2-Trichloroethane	0.92	U	4.6	0.53	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
1,1-Dichloroethane	0.92	U	4.6	0.36	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
1,1-Dichloroethene	4.6	U	4.6	1.5	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
1,2-Dichlorobenzene	0.92	U Q	4.6	0.26	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
1,2-Dichloroethane	0.92	U	4.6	0.80	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
1,2-Dichloropropane	0.92	U	4.6	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
1,4-Dichlorobenzene	0.92	U Q	4.6	0.55	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Benzene	0.92	U	4.6	0.23	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Bromodichloromethane	0.92	U	4.6	0.23	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Bromoform	0.92	U	4.6	0.34	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Carbon tetrachloride	0.92	U	4.6	0.47	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Chlorodibromomethane	0.92	U	4.6	0.37	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Chloroform	0.92	U	4.6	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Chloromethane	4.6	U	9.2	0.60	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
cis-1,2-Dichloroethene	0.92	U	4.6	0.55	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
cis-1,3-Dichloropropene	0.92	U	4.6	0.55	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Ethylbenzene	0.92	U	4.6	0.28	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Methylene Chloride	4.6	U	9.2	1.5	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Tetrachloroethene	0.92	U	4.6	0.30	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Toluene	0.92	U	4.6	0.64	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
trans-1,2-Dichloroethene	0.92	U	4.6	0.87	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
trans-1,3-Dichloropropene	0.92	U	4.6	0.32	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Trichloroethene	0.92	U	4.6	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1

Client Sample ID: SHAD041DP013SS02NS
Lab Sample ID: 160-24924-14

Date Collected: 10/05/17 14:34
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 94.5

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.92	U Q	9.2	0.39	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1
Xylenes, Total	4.6	U	9.2	0.79	ug/Kg	☼	10/17/17 15:13	10/17/17 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*71 - 136*	*10/17/17 15:13*	*10/17/17 18:59*	*1*
4-Bromofluorobenzene (Surr)	*120*	*Q*	*79 - 119*	*10/17/17 15:13*	*10/17/17 18:59*	*1*
Dibromofluoromethane (Surr)	*100*		*78 - 119*	*10/17/17 15:13*	*10/17/17 18:59*	*1*
Toluene-d8 (Surr)	*112*		*85 - 116*	*10/17/17 15:13*	*10/17/17 18:59*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.5	U	6.9	3.0	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
2-Methylnaphthalene	3.5	U	6.9	0.55	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Acenaphthene	3.5	U	6.9	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Acenaphthylene	3.5	U	6.9	0.83	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Anthracene	3.5	U	6.9	0.66	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Benzo[a]anthracene	3.5	U	6.9	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Benzo[a]pyrene	3.5	U	6.9	0.88	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Benzo[b]fluoranthene	**1.9**	**J**	6.9	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Benzo[g,h,i]perylene	**1.5**	**J**	6.9	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Benzo[k]fluoranthene	3.5	U	6.9	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Chrysene	3.5	U	6.9	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Dibenz(a,h)anthracene	3.5	U	6.9	3.3	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Fluoranthene	3.5	U	6.9	1.6	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Fluorene	3.5	U	6.9	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Indeno[1,2,3-cd]pyrene	3.5	U	6.9	2.2	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Naphthalene	3.5	U	6.9	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Phenanthrene	3.5	U	6.9	2.8	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1
Pyrene	3.5	U	6.9	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*79*		*46 - 115*	*10/19/17 11:07*	*10/21/17 17:51*	*1*
Nitrobenzene-d5 (Surr)	*76*		*44 - 125*	*10/19/17 11:07*	*10/21/17 17:51*	*1*
Terphenyl-d14 (Surr)	*91*		*58 - 133*	*10/19/17 11:07*	*10/21/17 17:51*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	17	U	35	10	ug/Kg	☼	10/18/17 09:00	10/21/17 19:20	1
PCB-1221	17	U	35	10	ug/Kg	☼	10/18/17 09:00	10/21/17 19:20	1
PCB-1232	17	U	35	10	ug/Kg	☼	10/18/17 09:00	10/21/17 19:20	1
PCB-1242	17	U	35	10	ug/Kg	☼	10/18/17 09:00	10/21/17 19:20	1
PCB-1248	17	U	35	11	ug/Kg	☼	10/18/17 09:00	10/21/17 19:20	1
PCB-1254	17	U	35	14	ug/Kg	☼	10/18/17 09:00	10/21/17 19:20	1
PCB-1260	11	U	35	10	ug/Kg	☼	10/18/17 09:00	10/21/17 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*83*		*44 - 150*	*10/18/17 09:00*	*10/21/17 19:20*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**9.4**	**D**	4.5	1.1	mg/Kg	☼	10/16/17 11:52	10/18/17 19:37	5

Client Sample ID: SHAD041DP013SS02NS

Lab Sample ID: 160-24924-14

Date Collected: 10/05/17 14:34
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 94.5

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**1.7**	**J D**	4.5	1.1	mg/Kg	☼	10/16/17 11:52	10/18/17 19:37	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.32**	**J**	0.42	0.11	mg/Kg	☼	10/19/17 08:15	10/20/17 08:43	1

Client Sample ID: SHAD041DP013SS03NS

Lab Sample ID: 160-24924-15

Date Collected: 10/05/17 14:44
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 86.6

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.43	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
1,1,2,2-Tetrachloroethane	1.0	U Q	5.0	0.40	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
1,1-Dichloroethene	5.0	U	5.0	1.6	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
1,2-Dichlorobenzene	1.0	U Q	5.0	0.28	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
1,2-Dichloroethane	1.0	U	5.0	0.86	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
1,2-Dichloropropane	1.0	U	5.0	0.38	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
1,4-Dichlorobenzene	1.0	U Q	5.0	0.60	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Benzene	1.0	U	5.0	0.25	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Bromodichloromethane	1.0	U	5.0	0.25	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Bromoform	1.0	U	5.0	0.36	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Carbon tetrachloride	1.0	U	5.0	0.51	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Chlorodibromomethane	1.0	U	5.0	0.40	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Chloroform	1.0	U	5.0	0.37	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Chloromethane	5.0	U	10	0.65	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.59	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.59	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Ethylbenzene	1.0	U	5.0	0.30	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Methylene Chloride	5.0	U	10	1.6	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Tetrachloroethene	1.0	U	5.0	0.32	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Toluene	1.0	U	5.0	0.70	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.94	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Trichloroethene	1.0	U	5.0	0.38	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Vinyl chloride	1.0	U Q	10	0.43	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1
Xylenes, Total	5.0	U	10	0.85	ug/Kg	☼	10/17/17 15:13	10/17/17 19:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*71 - 136*	*10/17/17 15:13*	*10/17/17 19:24*	*1*
4-Bromofluorobenzene (Surr)	*121*	*Q*	*79 - 119*	*10/17/17 15:13*	*10/17/17 19:24*	*1*
Dibromofluoromethane (Surr)	*102*		*78 - 119*	*10/17/17 15:13*	*10/17/17 19:24*	*1*
Toluene-d8 (Surr)	*115*		*85 - 116*	*10/17/17 15:13*	*10/17/17 19:24*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.8	U	7.6	3.3	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
2-Methylnaphthalene	3.8	U	7.6	0.60	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1

Client Sample ID: SHAD041DP013SS03NS

Lab Sample ID: 160-24924-15

Date Collected: 10/05/17 14:44
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 86.6

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	3.8	U	7.6	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Acenaphthylene	3.8	U	7.6	0.91	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Anthracene	3.8	U	7.6	0.73	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Benzo[a]anthracene	3.8	U	7.6	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Benzo[a]pyrene	3.8	U	7.6	0.96	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Benzo[b]fluoranthene	3.8	U	7.6	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Benzo[g,h,i]perylene	3.8	U	7.6	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Benzo[k]fluoranthene	3.8	U	7.6	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Chrysene	3.8	U	7.6	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Dibenz(a,h)anthracene	3.8	U	7.6	3.6	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Fluoranthene	3.8	U	7.6	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Fluorene	3.8	U	7.6	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Indeno[1,2,3-cd]pyrene	3.8	U	7.6	2.4	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Naphthalene	3.8	U	7.6	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Phenanthrene	3.8	U	7.6	3.1	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1
Pyrene	3.8	U	7.6	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*84*		*46 - 115*	*10/19/17 11:07*	*10/21/17 18:14*	*1*
Nitrobenzene-d5 (Surr)	*84*		*44 - 125*	*10/19/17 11:07*	*10/21/17 18:14*	*1*
Terphenyl-d14 (Surr)	*93*		*58 - 133*	*10/19/17 11:07*	*10/21/17 18:14*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	18	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 19:41	1
PCB-1221	18	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 19:41	1
PCB-1232	18	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 19:41	1
PCB-1242	18	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 19:41	1
PCB-1248	18	U	38	12	ug/Kg	☼	10/18/17 09:00	10/21/17 19:41	1
PCB-1254	18	U	38	15	ug/Kg	☼	10/18/17 09:00	10/21/17 19:41	1
PCB-1260	12	U	38	11	ug/Kg	☼	10/18/17 09:00	10/21/17 19:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*90*		*44 - 150*	*10/18/17 09:00*	*10/21/17 19:41*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**15**	**D**	5.2	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 19:42	5
Lead	**3.4**	**J D**	5.2	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 19:42	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.28**	**J**	0.44	0.11	mg/Kg	☼	10/19/17 08:15	10/20/17 08:43	1

Client Sample ID: SHAD041DP013SS04NS

Lab Sample ID: 160-24924-16

Date Collected: 10/05/17 15:06
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 84.8

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.87	U	4.4	0.38	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1

Client Sample ID: SHAD041DP013SS04NS

Date Collected: 10/05/17 15:06
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-16

Matrix: Solid
Percent Solids: 84.8

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.87	U	4.4	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
1,1,2-Trichloroethane	0.87	U	4.4	0.50	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
1,1-Dichloroethane	0.87	U	4.4	0.34	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
1,1-Dichloroethene	4.4	U	4.4	1.4	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
1,2-Dichlorobenzene	0.87	U	4.4	0.25	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
1,2-Dichloroethane	0.87	U	4.4	0.76	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
1,2-Dichloropropane	0.87	U	4.4	0.33	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
1,4-Dichlorobenzene	0.87	U	4.4	0.52	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Benzene	0.87	U	4.4	0.22	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Bromodichloromethane	0.87	U	4.4	0.22	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Bromoform	0.87	U	4.4	0.32	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Carbon tetrachloride	0.87	U	4.4	0.45	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Chlorodibromomethane	0.87	U	4.4	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Chloroform	0.87	U	4.4	0.33	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Chloromethane	4.4	U	8.7	0.57	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
cis-1,2-Dichloroethene	0.87	U	4.4	0.52	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
cis-1,3-Dichloropropene	0.87	U	4.4	0.52	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Ethylbenzene	0.87	U	4.4	0.26	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Methylene Chloride	4.4	U	8.7	1.4	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Tetrachloroethene	0.87	U	4.4	0.28	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Toluene	0.87	U	4.4	0.61	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
trans-1,2-Dichloroethene	0.87	U	4.4	0.82	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
trans-1,3-Dichloropropene	0.87	U	4.4	0.30	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Trichloroethene	0.87	U	4.4	0.34	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Vinyl chloride	0.87	U Q	8.7	0.37	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1
Xylenes, Total	4.4	U	8.7	0.74	ug/Kg	☼	10/17/17 15:13	10/17/17 19:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*71 - 136*	*10/17/17 15:13*	*10/17/17 19:48*	*1*
4-Bromofluorobenzene (Surr)	*107*		*79 - 119*	*10/17/17 15:13*	*10/17/17 19:48*	*1*
Dibromofluoromethane (Surr)	*96*		*78 - 119*	*10/17/17 15:13*	*10/17/17 19:48*	*1*
Toluene-d8 (Surr)	*105*		*85 - 116*	*10/17/17 15:13*	*10/17/17 19:48*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.9	U Q	7.8	3.4	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
2-Methylnaphthalene	3.9	U Q	7.8	0.62	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Acenaphthene	3.9	U Q	7.8	1.3	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Acenaphthylene	3.9	U Q	7.8	0.94	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Anthracene	3.9	U Q	7.8	0.75	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Benzo[a]anthracene	3.9	U Q	7.8	1.6	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Benzo[a]pyrene	3.9	U Q	7.8	0.98	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Benzo[b]fluoranthene	3.9	U Q	7.8	1.2	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Benzo[g,h,i]perylene	3.9	U Q	7.8	1.3	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Benzo[k]fluoranthene	3.9	U Q	7.8	1.3	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Chrysene	3.9	U Q	7.8	1.6	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Dibenz(a,h)anthracene	3.9	U Q	7.8	3.7	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Fluoranthene	3.9	U Q	7.8	1.8	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Fluorene	3.9	U Q	7.8	1.3	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Indeno[1,2,3-cd]pyrene	3.9	U Q	7.8	2.5	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1

Client Sample ID: SHAD041DP013SS04NS

Lab Sample ID: 160-24924-16

Date Collected: 10/05/17 15:06
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 84.8

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	3.9	U Q	7.8	1.2	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Phenanthrene	3.9	U Q	7.8	3.2	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1
Pyrene	3.9	U Q	7.8	1.7	ug/Kg	☼	10/19/17 11:07	10/23/17 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*79*	*Q*	*46 - 115*	*10/19/17 11:07*	*10/23/17 18:10*	*1*
Nitrobenzene-d5 (Surr)	*110*	*Q*	*44 - 125*	*10/19/17 11:07*	*10/23/17 18:10*	*1*
Terphenyl-d14 (Surr)	*93*	*Q*	*58 - 133*	*10/19/17 11:07*	*10/23/17 18:10*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	19	U	39	11	ug/Kg	☼	10/18/17 09:00	10/21/17 20:02	1
PCB-1221	19	U	39	11	ug/Kg	☼	10/18/17 09:00	10/21/17 20:02	1
PCB-1232	19	U	39	11	ug/Kg	☼	10/18/17 09:00	10/21/17 20:02	1
PCB-1242	19	U	39	11	ug/Kg	☼	10/18/17 09:00	10/21/17 20:02	1
PCB-1248	19	U	39	13	ug/Kg	☼	10/18/17 09:00	10/21/17 20:02	1
PCB-1254	19	U	39	15	ug/Kg	☼	10/18/17 09:00	10/21/17 20:02	1
PCB-1260	12	U	39	12	ug/Kg	☼	10/18/17 09:00	10/21/17 20:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*95*		*44 - 150*	*10/18/17 09:00*	*10/21/17 20:02*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**9.8**	**D**	5.2	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 19:46	5
Lead	**1.6**	**J D**	5.2	1.3	mg/Kg	☼	10/16/17 11:52	10/18/17 19:46	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.52**		0.47	0.12	mg/Kg	☼	10/19/17 08:15	10/20/17 08:45	1

Client Sample ID: SHAD041DP013SS05NS

Lab Sample ID: 160-24924-17

Date Collected: 10/05/17 15:10
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 76.0

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.2	U	5.9	0.50	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
1,1,2,2-Tetrachloroethane	1.2	U	5.9	0.47	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
1,1,2-Trichloroethane	1.2	U	5.9	0.67	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
1,1-Dichloroethane	1.2	U	5.9	0.46	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
1,1-Dichloroethene	5.9	U	5.9	1.9	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
1,2-Dichlorobenzene	1.2	U	5.9	0.33	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
1,2-Dichloroethane	1.2	U	5.9	1.0	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
1,2-Dichloropropane	1.2	U	5.9	0.45	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
1,4-Dichlorobenzene	1.2	U	5.9	0.70	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Benzene	1.2	U	5.9	0.30	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Bromodichloromethane	1.2	U	5.9	0.30	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Bromoform	1.2	U	5.9	0.43	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Carbon tetrachloride	1.2	U	5.9	0.60	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Chlorodibromomethane	1.2	U	5.9	0.48	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1

Client Sample ID: SHAD041DP013SS05NS

Lab Sample ID: 160-24924-17

Date Collected: 10/05/17 15:10
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 76.0

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	1.2	U	5.9	0.44	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Chloromethane	5.9	U	12	0.76	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
cis-1,2-Dichloroethene	1.2	U	5.9	0.70	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
cis-1,3-Dichloropropene	1.2	U	5.9	0.70	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Ethylbenzene	1.2	U	5.9	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Methylene Chloride	5.9	U	12	1.8	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Tetrachloroethene	1.2	U	5.9	0.38	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Toluene	1.2	U	5.9	0.82	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
trans-1,2-Dichloroethene	1.2	U	5.9	1.1	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
trans-1,3-Dichloropropene	1.2	U	5.9	0.41	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Trichloroethene	1.2	U	5.9	0.45	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Vinyl chloride	1.2	U Q	12	0.50	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1
Xylenes, Total	5.9	U	12	1.0	ug/Kg	☼	10/17/17 15:13	10/17/17 20:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*71 - 136*	*10/17/17 15:13*	*10/17/17 20:13*	*1*
4-Bromofluorobenzene (Surr)	*115*		*79 - 119*	*10/17/17 15:13*	*10/17/17 20:13*	*1*
Dibromofluoromethane (Surr)	*93*		*78 - 119*	*10/17/17 15:13*	*10/17/17 20:13*	*1*
Toluene-d8 (Surr)	*107*		*85 - 116*	*10/17/17 15:13*	*10/17/17 20:13*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	4.4	U	8.6	3.8	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
2-Methylnaphthalene	4.4	U	8.6	0.69	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Acenaphthene	4.4	U	8.6	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Acenaphthylene	4.4	U	8.6	1.0	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Anthracene	4.4	U	8.6	0.83	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Benzo[a]anthracene	4.4	U	8.6	1.8	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Benzo[a]pyrene	4.4	U	8.6	1.1	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Benzo[b]fluoranthene	4.4	U	8.6	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Benzo[g,h,i]perylene	4.4	U	8.6	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Benzo[k]fluoranthene	4.4	U	8.6	1.5	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Chrysene	4.4	U	8.6	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Dibenz(a,h)anthracene	4.4	U	8.6	4.1	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Fluoranthene	4.4	U	8.6	2.0	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Fluorene	4.4	U	8.6	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Indeno[1,2,3-cd]pyrene	4.4	U	8.6	2.8	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Naphthalene	4.4	U	8.6	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Phenanthrene	4.4	U	8.6	3.5	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1
Pyrene	4.4	U	8.6	1.9	ug/Kg	☼	10/19/17 11:07	10/21/17 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*77*		*46 - 115*	*10/19/17 11:07*	*10/21/17 19:00*	*1*
Nitrobenzene-d5 (Surr)	*78*		*44 - 125*	*10/19/17 11:07*	*10/21/17 19:00*	*1*
Terphenyl-d14 (Surr)	*94*		*58 - 133*	*10/19/17 11:07*	*10/21/17 19:00*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	21	U	43	12	ug/Kg	☼	10/18/17 09:00	10/21/17 20:44	1
PCB-1221	21	U	43	12	ug/Kg	☼	10/18/17 09:00	10/21/17 20:44	1

Client Sample ID: SHAD041DP013SS05NS

Lab Sample ID: 160-24924-17

Date Collected: 10/05/17 15:10
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 76.0

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1232	21	U	43	12	ug/Kg	☼	10/18/17 09:00	10/21/17 20:44	1
PCB-1242	21	U	43	12	ug/Kg	☼	10/18/17 09:00	10/21/17 20:44	1
PCB-1248	21	U	43	14	ug/Kg	☼	10/18/17 09:00	10/21/17 20:44	1
PCB-1254	21	U	43	17	ug/Kg	☼	10/18/17 09:00	10/21/17 20:44	1
PCB-1260	13	U	43	13	ug/Kg	☼	10/18/17 09:00	10/21/17 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*91*		*44 - 150*	*10/18/17 09:00*	*10/21/17 20:44*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**17**	**D**	5.7	1.4	mg/Kg	☼	10/16/17 11:52	10/18/17 19:51	5
Lead	**6.3**	**D**	5.7	1.4	mg/Kg	☼	10/16/17 11:52	10/18/17 19:51	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.57**		0.51	0.13	mg/Kg	☼	10/19/17 08:15	10/20/17 08:45	1

Client Sample ID: SHAD041DP013SS05DS

Lab Sample ID: 160-24924-18

Date Collected: 10/05/17 15:15
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 80.2

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1	U	5.3	0.46	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
1,1,2,2-Tetrachloroethane	1.1	U	5.3	0.43	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
1,1,2-Trichloroethane	1.1	U	5.3	0.61	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
1,1-Dichloroethane	1.1	U	5.3	0.42	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
1,1-Dichloroethene	5.3	U	5.3	1.7	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
1,2-Dichlorobenzene	1.1	U	5.3	0.30	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
1,2-Dichloroethane	1.1	U	5.3	0.92	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
1,2-Dichloropropane	1.1	U	5.3	0.41	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
1,4-Dichlorobenzene	1.1	U	5.3	0.64	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Benzene	1.1	U	5.3	0.27	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Bromodichloromethane	1.1	U	5.3	0.27	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Bromoform	1.1	U	5.3	0.39	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Carbon tetrachloride	1.1	U	5.3	0.55	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Chlorodibromomethane	1.1	U	5.3	0.43	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Chloroform	1.1	U	5.3	0.40	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Chloromethane	5.3	U	11	0.69	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
cis-1,2-Dichloroethene	1.1	U	5.3	0.63	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
cis-1,3-Dichloropropene	1.1	U	5.3	0.63	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Ethylbenzene	1.1	U	5.3	0.32	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Methylene Chloride	5.3	U	11	1.7	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Tetrachloroethene	1.1	U	5.3	0.34	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Toluene	1.1	U	5.3	0.74	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
trans-1,2-Dichloroethene	1.1	U	5.3	1.0	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
trans-1,3-Dichloropropene	1.1	U	5.3	0.37	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Trichloroethene	1.1	U	5.3	0.41	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1
Vinyl chloride	1.1	U Q	11	0.45	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1

Client Sample ID: SHAD041DP013SS05DS

Lab Sample ID: 160-24924-18

Date Collected: 10/05/17 15:15
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 80.2

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	5.3	U	11	0.91	ug/Kg	☼	10/17/17 15:13	10/17/17 20:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*71 - 136*	*10/17/17 15:13*	*10/17/17 20:39*	*1*
4-Bromofluorobenzene (Surr)	*106*		*79 - 119*	*10/17/17 15:13*	*10/17/17 20:39*	*1*
Dibromofluoromethane (Surr)	*95*		*78 - 119*	*10/17/17 15:13*	*10/17/17 20:39*	*1*
Toluene-d8 (Surr)	*107*		*85 - 116*	*10/17/17 15:13*	*10/17/17 20:39*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	4.1	U	8.1	3.5	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
2-Methylnaphthalene	4.1	U	8.1	0.65	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Acenaphthene	4.1	U	8.1	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Acenaphthylene	4.1	U	8.1	0.98	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Anthracene	4.1	U	8.1	0.78	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Benzo[a]anthracene	4.1	U	8.1	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Benzo[a]pyrene	4.1	U	8.1	1.0	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Benzo[b]fluoranthene	4.1	U	8.1	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Benzo[g,h,i]perylene	4.1	U	8.1	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Benzo[k]fluoranthene	4.1	U	8.1	1.4	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Chrysene	4.1	U	8.1	1.6	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Dibenz(a,h)anthracene	4.1	U	8.1	3.9	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Fluoranthene	4.1	U	8.1	1.9	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Fluorene	4.1	U	8.1	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Indeno[1,2,3-cd]pyrene	4.1	U	8.1	2.6	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Naphthalene	4.1	U	8.1	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Phenanthrene	4.1	U	8.1	3.3	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1
Pyrene	4.1	U	8.1	1.8	ug/Kg	☼	10/19/17 11:07	10/21/17 19:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*80*		*46 - 115*	*10/19/17 11:07*	*10/21/17 19:22*	*1*
Nitrobenzene-d5 (Surr)	*82*		*44 - 125*	*10/19/17 11:07*	*10/21/17 19:22*	*1*
Terphenyl-d14 (Surr)	*95*		*58 - 133*	*10/19/17 11:07*	*10/21/17 19:22*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	20	U	41	12	ug/Kg	☼	10/18/17 09:00	10/21/17 21:05	1
PCB-1221	20	U	41	12	ug/Kg	☼	10/18/17 09:00	10/21/17 21:05	1
PCB-1232	20	U	41	12	ug/Kg	☼	10/18/17 09:00	10/21/17 21:05	1
PCB-1242	20	U	41	12	ug/Kg	☼	10/18/17 09:00	10/21/17 21:05	1
PCB-1248	20	U	41	13	ug/Kg	☼	10/18/17 09:00	10/21/17 21:05	1
PCB-1254	20	U	41	16	ug/Kg	☼	10/18/17 09:00	10/21/17 21:05	1
PCB-1260	12	U	41	12	ug/Kg	☼	10/18/17 09:00	10/21/17 21:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*82*		*44 - 150*	*10/18/17 09:00*	*10/21/17 21:05*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**17**	**D**	5.9	1.5	mg/Kg	☼	10/16/17 11:52	10/18/17 19:55	5
Lead	**7.2**	**D**	5.9	1.5	mg/Kg	☼	10/16/17 11:52	10/18/17 19:55	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.86**		0.47	0.12	mg/Kg	☼	10/19/17 08:15	10/20/17 08:45	1

Client Sample ID: SHAD041DP013SS06NS

Date Collected: 10/05/17 15:18
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-19

Matrix: Solid
Percent Solids: 83.8

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1	U	5.5	0.47	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
1,1,2,2-Tetrachloroethane	1.1	U	5.5	0.44	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
1,1,2-Trichloroethane	1.1	U	5.5	0.63	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
1,1-Dichloroethane	1.1	U	5.5	0.43	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
1,1-Dichloroethene	5.5	U	5.5	1.8	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
1,2-Dichlorobenzene	1.1	U	5.5	0.31	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
1,2-Dichloroethane	1.1	U	5.5	0.95	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
1,2-Dichloropropane	1.1	U	5.5	0.42	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
1,4-Dichlorobenzene	1.1	U	5.5	0.66	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Benzene	1.1	U	5.5	0.28	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Bromodichloromethane	1.1	U	5.5	0.28	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Bromoform	1.1	U	5.5	0.40	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Carbon tetrachloride	1.1	U	5.5	0.56	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Chlorodibromomethane	1.1	U	5.5	0.45	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Chloroform	1.1	U	5.5	0.41	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Chloromethane	5.5	U	11	0.71	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
cis-1,2-Dichloroethene	1.1	U	5.5	0.66	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
cis-1,3-Dichloropropene	1.1	U	5.5	0.65	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Ethylbenzene	1.1	U	5.5	0.33	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Methylene Chloride	5.5	U	11	1.7	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Tetrachloroethene	1.1	U	5.5	0.35	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Toluene	1.1	U	5.5	0.77	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
trans-1,2-Dichloroethene	1.1	U	5.5	1.0	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
trans-1,3-Dichloropropene	1.1	U	5.5	0.38	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Trichloroethene	1.1	U	5.5	0.42	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Vinyl chloride	1.1	U Q	11	0.47	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1
Xylenes, Total	5.5	U	11	0.94	ug/Kg	☼	10/17/17 15:13	10/17/17 21:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*71 - 136*	*10/17/17 15:13*	*10/17/17 21:04*	*1*
4-Bromofluorobenzene (Surr)	*106*		*79 - 119*	*10/17/17 15:13*	*10/17/17 21:04*	*1*
Dibromofluoromethane (Surr)	*96*		*78 - 119*	*10/17/17 15:13*	*10/17/17 21:04*	*1*
Toluene-d8 (Surr)	*106*		*85 - 116*	*10/17/17 15:13*	*10/17/17 21:04*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.9	U	7.8	3.4	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
2-Methylnaphthalene	3.9	U	7.8	0.62	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Acenaphthene	3.9	U	7.8	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Acenaphthylene	3.9	U	7.8	0.94	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Anthracene	3.9	U	7.8	0.75	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Benzo[a]anthracene	3.9	U	7.8	1.6	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Benzo[a]pyrene	3.9	U	7.8	0.99	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Benzo[b]fluoranthene	3.9	U	7.8	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Benzo[g,h,i]perylene	3.9	U	7.8	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Benzo[k]fluoranthene	3.9	U	7.8	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1

Client Sample ID: SHAD041DP013SS06NS

Lab Sample ID: 160-24924-19

Date Collected: 10/05/17 15:18
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 83.8

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	3.9	U	7.8	1.6	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Dibenz(a,h)anthracene	3.9	U	7.8	3.7	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Fluoranthene	3.9	U	7.8	1.8	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Fluorene	3.9	U	7.8	1.3	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Indeno[1,2,3-cd]pyrene	3.9	U	7.8	2.5	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Naphthalene	3.9	U	7.8	1.2	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Phenanthrene	3.9	U	7.8	3.2	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1
Pyrene	3.9	U	7.8	1.7	ug/Kg	☼	10/19/17 11:07	10/21/17 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*86*		*46 - 115*	*10/19/17 11:07*	*10/21/17 19:45*	*1*
Nitrobenzene-d5 (Surr)	*85*		*44 - 125*	*10/19/17 11:07*	*10/21/17 19:45*	*1*
Terphenyl-d14 (Surr)	*105*		*58 - 133*	*10/19/17 11:07*	*10/21/17 19:45*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	19	U	39	11	ug/Kg	☼	10/18/17 09:00	10/21/17 21:26	1
PCB-1221	19	U	39	11	ug/Kg	☼	10/18/17 09:00	10/21/17 21:26	1
PCB-1232	19	U	39	11	ug/Kg	☼	10/18/17 09:00	10/21/17 21:26	1
PCB-1242	19	U	39	11	ug/Kg	☼	10/18/17 09:00	10/21/17 21:26	1
PCB-1248	19	U	39	13	ug/Kg	☼	10/18/17 09:00	10/21/17 21:26	1
PCB-1254	19	U	39	16	ug/Kg	☼	10/18/17 09:00	10/21/17 21:26	1
PCB-1260	12	U	39	12	ug/Kg	☼	10/18/17 09:00	10/21/17 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*92*		*44 - 150*	*10/18/17 09:00*	*10/21/17 21:26*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**15**	**D**	5.5	1.4	mg/Kg	☼	10/16/17 11:52	10/18/17 20:00	5
Lead	**4.4**	**J D**	5.5	1.4	mg/Kg	☼	10/16/17 11:52	10/18/17 20:00	5

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium(VI)	**0.24**	**J**	0.47	0.12	mg/Kg	☼	10/19/17 08:15	10/20/17 08:45	1

Client Sample ID: TB-100617-7

Lab Sample ID: 160-24924-20

Date Collected: 10/06/17 13:03
Matrix: Water
Date Received: 10/07/17 08:50

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			10/09/17 22:20	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			10/09/17 22:20	1
1,1,2-Trichloroethane	1.0	U Q	5.0	0.57	ug/L			10/09/17 22:20	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			10/09/17 22:20	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			10/09/17 22:20	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			10/09/17 22:20	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			10/09/17 22:20	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			10/09/17 22:20	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			10/09/17 22:20	1

Client Sample ID: TB-100617-7

Lab Sample ID: 160-24924-20

Date Collected: 10/06/17 13:03
Date Received: 10/07/17 08:50

Matrix: Water

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	5.0	0.25	ug/L			10/09/17 22:20	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			10/09/17 22:20	1
Bromoform	1.0	U Q	5.0	0.37	ug/L			10/09/17 22:20	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			10/09/17 22:20	1
Chlorodibromomethane	1.0	U Q	5.0	0.33	ug/L			10/09/17 22:20	1
Chloroform	1.0	U	5.0	0.15	ug/L			10/09/17 22:20	1
Chloromethane	2.0	U	10	0.55	ug/L			10/09/17 22:20	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			10/09/17 22:20	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			10/09/17 22:20	1
Ethylbenzene	1.0	U Q	5.0	0.30	ug/L			10/09/17 22:20	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			10/09/17 22:20	1
Tetrachloroethene	1.0	U Q	5.0	0.28	ug/L			10/09/17 22:20	1
Toluene	1.0	U Q	5.0	1.0	ug/L			10/09/17 22:20	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			10/09/17 22:20	1
trans-1,3-Dichloropropene	1.0	U Q	5.0	0.35	ug/L			10/09/17 22:20	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			10/09/17 22:20	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			10/09/17 22:20	1
Xylenes, Total	5.0	U Q	10	0.85	ug/L			10/09/17 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*81 - 118*		*10/09/17 22:20*	*1*
4-Bromofluorobenzene (Surr)	*108*		*85 - 114*		*10/09/17 22:20*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 119*		*10/09/17 22:20*	*1*
Toluene-d8 (Surr)	*113*	*Q*	*89 - 112*		*10/09/17 22:20*	*1*

Client Sample ID: TB-100617-8

Lab Sample ID: 160-24924-21

Date Collected: 10/06/17 13:03
Date Received: 10/07/17 08:50

Matrix: Water

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			10/09/17 22:45	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			10/09/17 22:45	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			10/09/17 22:45	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			10/09/17 22:45	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			10/09/17 22:45	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			10/09/17 22:45	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			10/09/17 22:45	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			10/09/17 22:45	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			10/09/17 22:45	1
Benzene	1.0	U	5.0	0.25	ug/L			10/09/17 22:45	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			10/09/17 22:45	1
Bromoform	1.0	U	5.0	0.37	ug/L			10/09/17 22:45	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			10/09/17 22:45	1
Chlorodibromomethane	1.0	U	5.0	0.33	ug/L			10/09/17 22:45	1
Chloroform	1.0	U	5.0	0.15	ug/L			10/09/17 22:45	1
Chloromethane	2.0	U	10	0.55	ug/L			10/09/17 22:45	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			10/09/17 22:45	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			10/09/17 22:45	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			10/09/17 22:45	1

Client Sample ID: TB-100617-8

Lab Sample ID: 160-24924-21

Date Collected: 10/06/17 13:03
Date Received: 10/07/17 08:50

Matrix: Water

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	5.0	U	7.5	1.7	ug/L			10/09/17 22:45	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			10/09/17 22:45	1
Toluene	1.0	U	5.0	1.0	ug/L			10/09/17 22:45	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			10/09/17 22:45	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			10/09/17 22:45	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			10/09/17 22:45	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			10/09/17 22:45	1
Xylenes, Total	5.0	U	10	0.85	ug/L			10/09/17 22:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 118*		*10/09/17 22:45*	*1*
4-Bromofluorobenzene (Surr)	*109*		*85 - 114*		*10/09/17 22:45*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 119*		*10/09/17 22:45*	*1*
Toluene-d8 (Surr)	*111*		*89 - 112*		*10/09/17 22:45*	*1*

Client Sample ID: TB-100617-9

Lab Sample ID: 160-24924-22

Date Collected: 10/06/17 13:03
Date Received: 10/07/17 08:50

Matrix: Water

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			10/09/17 23:11	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			10/09/17 23:11	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			10/09/17 23:11	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			10/09/17 23:11	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			10/09/17 23:11	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			10/09/17 23:11	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			10/09/17 23:11	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			10/09/17 23:11	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			10/09/17 23:11	1
Benzene	1.0	U	5.0	0.25	ug/L			10/09/17 23:11	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			10/09/17 23:11	1
Bromoform	1.0	U	5.0	0.37	ug/L			10/09/17 23:11	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			10/09/17 23:11	1
Chlorodibromomethane	1.0	U	5.0	0.33	ug/L			10/09/17 23:11	1
Chloroform	1.0	U	5.0	0.15	ug/L			10/09/17 23:11	1
Chloromethane	2.0	U	10	0.55	ug/L			10/09/17 23:11	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			10/09/17 23:11	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			10/09/17 23:11	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			10/09/17 23:11	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			10/09/17 23:11	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			10/09/17 23:11	1
Toluene	1.0	U	5.0	1.0	ug/L			10/09/17 23:11	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			10/09/17 23:11	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			10/09/17 23:11	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			10/09/17 23:11	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			10/09/17 23:11	1
Xylenes, Total	5.0	U	10	0.85	ug/L			10/09/17 23:11	1

Client Sample ID: TB-100617-9

Lab Sample ID: 160-24924-22

Date Collected: 10/06/17 13:03
Matrix: Water
Date Received: 10/07/17 08:50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*81 - 118*		*10/09/17 23:11*	*1*
4-Bromofluorobenzene (Surr)	*108*		*85 - 114*		*10/09/17 23:11*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 119*		*10/09/17 23:11*	*1*
Toluene-d8 (Surr)	*109*		*89 - 112*		*10/09/17 23:11*	*1*

Client Sample ID: TB-100617-10

Lab Sample ID: 160-24924-23

Date Collected: 10/06/17 13:03
Matrix: Water
Date Received: 10/07/17 08:50

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			10/09/17 23:36	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			10/09/17 23:36	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			10/09/17 23:36	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			10/09/17 23:36	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			10/09/17 23:36	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			10/09/17 23:36	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			10/09/17 23:36	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			10/09/17 23:36	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			10/09/17 23:36	1
Benzene	1.0	U	5.0	0.25	ug/L			10/09/17 23:36	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			10/09/17 23:36	1
Bromoform	1.0	U	5.0	0.37	ug/L			10/09/17 23:36	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			10/09/17 23:36	1
Chlorodibromomethane	1.0	U	5.0	0.33	ug/L			10/09/17 23:36	1
Chloroform	1.0	U	5.0	0.15	ug/L			10/09/17 23:36	1
Chloromethane	2.0	U	10	0.55	ug/L			10/09/17 23:36	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			10/09/17 23:36	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			10/09/17 23:36	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			10/09/17 23:36	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			10/09/17 23:36	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			10/09/17 23:36	1
Toluene	1.0	U	5.0	1.0	ug/L			10/09/17 23:36	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			10/09/17 23:36	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			10/09/17 23:36	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			10/09/17 23:36	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			10/09/17 23:36	1
Xylenes, Total	5.0	U	10	0.85	ug/L			10/09/17 23:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*81 - 118*		*10/09/17 23:36*	*1*
4-Bromofluorobenzene (Surr)	*110*		*85 - 114*		*10/09/17 23:36*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 119*		*10/09/17 23:36*	*1*
Toluene-d8 (Surr)	*107*		*89 - 112*		*10/09/17 23:36*	*1*

Default Detection Limits

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Analyte	LOQ	DL	Units	Method
1,1,1-Trichloroethane	5.0	0.29	ug/L	8260C DOD
1,1,2,2-Tetrachloroethane	5.0	0.43	ug/L	8260C DOD
1,1,2-Trichloroethane	5.0	0.57	ug/L	8260C DOD
1,1-Dichloroethane	5.0	0.39	ug/L	8260C DOD
1,1-Dichloroethene	5.0	0.37	ug/L	8260C DOD
1,2-Dichlorobenzene	5.0	0.28	ug/L	8260C DOD
1,2-Dichloroethane	5.0	0.37	ug/L	8260C DOD
1,2-Dichloropropane	5.0	0.32	ug/L	8260C DOD
1,4-Dichlorobenzene	5.0	0.35	ug/L	8260C DOD
Benzene	5.0	0.25	ug/L	8260C DOD
Bromodichloromethane	5.0	0.25	ug/L	8260C DOD
Bromoform	5.0	0.37	ug/L	8260C DOD
Carbon tetrachloride	5.0	0.36	ug/L	8260C DOD
Chlorodibromomethane	5.0	0.33	ug/L	8260C DOD
Chloroform	5.0	0.15	ug/L	8260C DOD
Chloromethane	10	0.55	ug/L	8260C DOD
cis-1,2-Dichloroethene	5.0	0.16	ug/L	8260C DOD
cis-1,3-Dichloropropene	5.0	0.34	ug/L	8260C DOD
Ethylbenzene	5.0	0.30	ug/L	8260C DOD
Methylene Chloride	7.5	1.7	ug/L	8260C DOD
Tetrachloroethene	5.0	0.28	ug/L	8260C DOD
Toluene	5.0	1.0	ug/L	8260C DOD
trans-1,2-Dichloroethene	5.0	0.18	ug/L	8260C DOD
trans-1,3-Dichloropropene	5.0	0.35	ug/L	8260C DOD
Trichloroethene	5.0	0.29	ug/L	8260C DOD
Vinyl chloride	5.0	0.43	ug/L	8260C DOD
Xylenes, Total	10	0.85	ug/L	8260C DOD

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Prep: 5035

Analyte	LOQ	DL	Units	Method
1,1,1-Trichloroethane	5.0	0.43	ug/Kg	8260C DOD
1,1,2,2-Tetrachloroethane	5.0	0.40	ug/Kg	8260C DOD
1,1,2-Trichloroethane	5.0	0.57	ug/Kg	8260C DOD
1,1-Dichloroethane	5.0	0.39	ug/Kg	8260C DOD
1,1-Dichloroethene	5.0	1.6	ug/Kg	8260C DOD
1,2-Dichlorobenzene	5.0	0.28	ug/Kg	8260C DOD
1,2-Dichloroethane	5.0	0.87	ug/Kg	8260C DOD
1,2-Dichloropropane	5.0	0.38	ug/Kg	8260C DOD
1,4-Dichlorobenzene	5.0	0.60	ug/Kg	8260C DOD
Benzene	5.0	0.25	ug/Kg	8260C DOD
Bromodichloromethane	5.0	0.25	ug/Kg	8260C DOD
Bromoform	5.0	0.37	ug/Kg	8260C DOD
Carbon tetrachloride	5.0	0.51	ug/Kg	8260C DOD
Chlorodibromomethane	5.0	0.41	ug/Kg	8260C DOD
Chloroform	5.0	0.38	ug/Kg	8260C DOD
Chloromethane	10	0.65	ug/Kg	8260C DOD
cis-1,2-Dichloroethene	5.0	0.60	ug/Kg	8260C DOD
cis-1,3-Dichloropropene	5.0	0.60	ug/Kg	8260C DOD
Ethylbenzene	5.0	0.30	ug/Kg	8260C DOD
Methylene Chloride	10	1.6	ug/Kg	8260C DOD

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Prep: 5035

Analyte	LOQ	DL	Units	Method
Tetrachloroethene	5.0	0.32	ug/Kg	8260C DOD
Toluene	5.0	0.70	ug/Kg	8260C DOD
trans-1,2-Dichloroethene	5.0	0.94	ug/Kg	8260C DOD
trans-1,3-Dichloropropene	5.0	0.35	ug/Kg	8260C DOD
Trichloroethene	5.0	0.39	ug/Kg	8260C DOD
Vinyl chloride	10	0.43	ug/Kg	8260C DOD
Xylenes, Total	10	0.85	ug/Kg	8260C DOD

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Prep: 3550C

Analyte	LOQ	DL	Units	Method
1-Methylnaphthalene	6.6	2.9	ug/Kg	8270D SIM
2-Methylnaphthalene	6.6	0.53	ug/Kg	8270D SIM
Acenaphthene	6.6	1.1	ug/Kg	8270D SIM
Acenaphthylene	6.6	0.80	ug/Kg	8270D SIM
Anthracene	6.6	0.63	ug/Kg	8270D SIM
Benzo[a]anthracene	6.6	1.3	ug/Kg	8270D SIM
Benzo[a]pyrene	6.6	0.84	ug/Kg	8270D SIM
Benzo[b]fluoranthene	6.6	1.1	ug/Kg	8270D SIM
Benzo[g,h,i]perylene	6.6	1.1	ug/Kg	8270D SIM
Benzo[k]fluoranthene	6.6	1.1	ug/Kg	8270D SIM
Chrysene	6.6	1.3	ug/Kg	8270D SIM
Dibenz(a,h)anthracene	6.6	3.1	ug/Kg	8270D SIM
Fluoranthene	6.6	1.5	ug/Kg	8270D SIM
Fluorene	6.6	1.1	ug/Kg	8270D SIM
Indeno[1,2,3-cd]pyrene	6.6	2.1	ug/Kg	8270D SIM
Naphthalene	6.6	1.0	ug/Kg	8270D SIM
Phenanthrene	6.6	2.7	ug/Kg	8270D SIM
Pyrene	6.6	1.4	ug/Kg	8270D SIM

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Prep: 3550C

Analyte	LOQ	DL	Units	Method
PCB-1016	33	9.6	ug/Kg	8082A
PCB-1221	33	9.6	ug/Kg	8082A
PCB-1232	33	9.6	ug/Kg	8082A
PCB-1242	33	9.6	ug/Kg	8082A
PCB-1248	33	11	ug/Kg	8082A
PCB-1254	33	13	ug/Kg	8082A
PCB-1260	33	10	ug/Kg	8082A

Method: 6010C - Metals (ICP)

Prep: 3050B

Analyte	LOQ	DL	Units	Method
Chromium	1.0	0.25	mg/Kg	6010C
Lead	1.0	0.25	mg/Kg	6010C

General Chemistry

Prep: 3060A

Default Detection Limits

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-1

General Chemistry

Prep: 3060A

Analyte	LOQ	DL	Units	Method
Chromium(VI)	0.40	0.10	mg/Kg	7196A

Surrogate Summary

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	**Client Sample ID**	(71-136)	(79-119)	(78-119)	(85-116)
160-24924-1	SHAD041DP026SS02NS	110	133 Q	106	122 Q
160-24924-2	SHAD041DP026SS03NS	102	121 Q	97	112
160-24924-3 - RA	SHAD041DP026SS04NS	104	98	101	103
160-24924-4	SHAD041DP026SS05NS	98	111	97	108
160-24924-5	SHAD041DP026SS05DS	104	112	100	113
160-24924-6	SHAD041DP026SS06NS	98	107	95	108
160-24924-7 - RA	SHAD041DP022SS01NS	89 Q	48 Q	78 Q	60 Q
160-24924-8	SHAD041DP022SS02NS	152 Q	234 Q	145 Q	196 Q
160-24924-9	SHAD041DP022SS03NS	98	122 Q	97	113
160-24924-9 MS	SHAD041DP022SS03NS	103	112	99	112
160-24924-9 MSD	SHAD041DP022SS03NS	79	88	82	94
160-24924-10	SHAD041DP022SS04NS	103	109	98	109
160-24924-11	SHAD041DP022SS05NS	90	110	93	107
160-24924-12	SHAD041DP022SS06NS	95	108	96	108
160-24924-13	SHAD041DP013SS01NS	96	153 Q	96	117 Q
160-24924-14	SHAD041DP013SS02NS	104	120 Q	100	112
160-24924-15	SHAD041DP013SS03NS	111	121 Q	102	115
160-24924-16	SHAD041DP013SS04NS	103	107	96	105
160-24924-17	SHAD041DP013SS05NS	94	115	93	107
160-24924-18	SHAD041DP013SS05DS	100	106	95	107
160-24924-19	SHAD041DP013SS06NS	101	106	96	106
LCS 160-332159/2-A	Lab Control Sample	92	106	96	104
LCS 160-332262/2-A	Lab Control Sample	97	109	94	104
LCS 160-332265/2-A	Lab Control Sample	91	103	96	102
LCS 160-332822/2-A	Lab Control Sample	99	103	94	103
LCSD 160-332159/3-A	Lab Control Sample Dup	93	106	99	106
LCSD 160-332262/3-A	Lab Control Sample Dup	100	111	98	106
LCSD 160-332265/3-A	Lab Control Sample Dup	88	106	96	102
LCSD 160-332822/3-A	Lab Control Sample Dup	102	105	97	102
MB 160-332159/1-A	Method Blank	98	113	100	108
MB 160-332262/1-A	Method Blank	106	99	103	103
MB 160-332265/1-A	Method Blank	93	112	97	105
MB 160-332822/1-A	Method Blank	110	99	104	105

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	**Client Sample ID**	(81-118)	(85-114)	(80-119)	(89-112)
160-24924-20	TB-100617-7	107	108	105	113 Q
160-24924-21	TB-100617-8	102	109	101	111
160-24924-22	TB-100617-9	100	108	100	109

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DCE (81-118)	BFB (85-114)	DBFM (80-119)	TOL (89-112)
160-24924-23	TB-100617-10	100	110	98	107
LCS 160-331094/5	Lab Control Sample	97	108	100	106
LCSD 160-331094/6	Lab Control Sample Dup	96	106	101	106
MB 160-331094/8	Method Blank	95	107	96	104

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	FBP (46-115)	NBZ (44-125)	TPH (58-133)
160-24924-1	SHAD041DP026SS02NS	82	83	91
160-24924-2	SHAD041DP026SS03NS	78	79	92
160-24924-3	SHAD041DP026SS04NS	80	79	95
160-24924-4	SHAD041DP026SS05NS	79	78	96
160-24924-5	SHAD041DP026SS05DS	83	86	97
160-24924-6	SHAD041DP026SS06NS	81	85	92
160-24924-7	SHAD041DP022SS01NS	76	76	84
160-24924-8	SHAD041DP022SS02NS	78	75	90
160-24924-9	SHAD041DP022SS03NS	85	86	96
160-24924-9 MS	SHAD041DP022SS03NS	84	83	92
160-24924-9 MSD	SHAD041DP022SS03NS	85	85	93
160-24924-10	SHAD041DP022SS04NS	80	81	91
160-24924-11	SHAD041DP022SS05NS	81	82	95
160-24924-12	SHAD041DP022SS06NS	81	80	93
160-24924-13	SHAD041DP013SS01NS	79	84	83
160-24924-14	SHAD041DP013SS02NS	79	76	91
160-24924-15	SHAD041DP013SS03NS	84	84	93
160-24924-16	SHAD041DP013SS04NS	79 Q	110 Q	93 Q
160-24924-17	SHAD041DP013SS05NS	77	78	94
160-24924-18	SHAD041DP013SS05DS	80	82	95
160-24924-19	SHAD041DP013SS06NS	86	85	105
LCS 160-332664/2-A	Lab Control Sample	83	80	98
MB 160-332664/1-A	Method Blank	82	89	102

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Surrogate Summary

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB2 (44-150)
160-24924-1	SHAD041DP026SS02NS	105
160-24924-2	SHAD041DP026SS03NS	82
160-24924-3	SHAD041DP026SS04NS	101
160-24924-4	SHAD041DP026SS05NS	85
160-24924-5	SHAD041DP026SS05DS	89
160-24924-6	SHAD041DP026SS06NS	97
160-24924-7	SHAD041DP022SS01NS	87
160-24924-8	SHAD041DP022SS02NS	96
160-24924-9	SHAD041DP022SS03NS	90
160-24924-9 MS	SHAD041DP022SS03NS	90
160-24924-9 MSD	SHAD041DP022SS03NS	90
160-24924-10	SHAD041DP022SS04NS	105
160-24924-11	SHAD041DP022SS05NS	91
160-24924-12	SHAD041DP022SS06NS	88
160-24924-13	SHAD041DP013SS01NS	96
160-24924-14	SHAD041DP013SS02NS	83
160-24924-15	SHAD041DP013SS03NS	90
160-24924-16	SHAD041DP013SS04NS	95
160-24924-17	SHAD041DP013SS05NS	91
160-24924-18	SHAD041DP013SS05DS	82
160-24924-19	SHAD041DP013SS06NS	92
LCS 160-332430/2-A	Lab Control Sample	95
MB 160-332430/1-A	Method Blank	104

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

QC Sample Results

Method: 8260C DOD - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 160-331094/8
Matrix: Water
Analysis Batch: 331094

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	8	U.0	0.29	3g/L			10/09/1u 21:0U	1
1,1,2,2-Tetrachloroethane	2.0	8	U.0	0.4K	3g/L			10/09/1u 21:0U	1
1,1,2-Trichloroethane	1.0	8	U.0	0.Uu	3g/L			10/09/1u 21:0U	1
1,1-Dichloroethane	1.0	8	U.0	0.K9	3g/L			10/09/1u 21:0U	1
1,1-Dichloroethene	1.0	8	U.0	0.Ku	3g/L			10/09/1u 21:0U	1
1,2-Dichloroben5ene	2.0	8	U.0	0.27	3g/L			10/09/1u 21:0U	1
1,2-Dichloroethane	1.0	8	U.0	0.Ku	3g/L			10/09/1u 21:0U	1
1,2-Dichloropropane	1.0	8	U.0	0.K2	3g/L			10/09/1u 21:0U	1
1,4-Dichloroben5ene	2.0	8	U.0	0.KU	3g/L			10/09/1u 21:0U	1
Qen5ene	1.0	8	U.0	0.2U	3g/L			10/09/1u 21:0U	1
Qromozichloromethane	2.0	8	U.0	0.2U	3g/L			10/09/1u 21:0U	1
QromoBorm	1.0	8	U.0	0.Ku	3g/L			10/09/1u 21:0U	1
Carbon tetrachlorize	1.0	8	U.0	0.K6	3g/L			10/09/1u 21:0U	1
Chlorozibromomethane	1.0	8	U.0	0.KK	3g/L			10/09/1u 21:0U	1
ChloroBorm	1.0	8	U.0	0.1U	3g/L			10/09/1u 21:0U	1
Chloromethane	2.0	8	10	0.UU	3g/L			10/09/1u 21:0U	1
cis-1,2-Dichloroethene	1.0	8	U.0	0.16	3g/L			10/09/1u 21:0U	1
cis-1,K-Dichloropropene	1.0	8	U.0	0.K4	3g/L			10/09/1u 21:0U	1
Ethylben5ene	1.0	8	U.0	0.K0	3g/L			10/09/1u 21:0U	1
d ethylene Chlorize	U.0	8	u.U	1.u	3g/L			10/09/1u 21:0U	1
Tetrachloroethene	1.0	8	U.0	0.27	3g/L			10/09/1u 21:0U	1
Tol3ene	1.0	8	U.0	1.0	3g/L			10/09/1u 21:0U	1
trans-1,2-Dichloroethene	1.0	8	U.0	0.17	3g/L			10/09/1u 21:0U	1
trans-1,K-Dichloropropene	1.0	8	U.0	0.KU	3g/L			10/09/1u 21:0U	1
Trichloroethene	1.0	8	U.0	0.29	3g/L			10/09/1u 21:0U	1
f inyl chlorize	1.0	8	U.0	0.4K	3g/L			10/09/1u 21:0U	1
Mylenes, Total	U.0	8	10	0.7U	3g/L			10/09/1u 21:0U	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*81 - 118*		*10/09/17 21:05*	*1*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*		*10/09/17 21:05*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 119*		*10/09/17 21:05*	*1*
Toluene-d8 (Surr)	*104*		*89 - 112*		*10/09/17 21:05*	*1*

Lab Sample ID: LCS 160-331094/5
Matrix: Water
Analysis Batch: 331094

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	U0.0	49.1		3g/L		97	u4 - 1K1
1,1,2,2-Tetrachloroethane	U0.0	49.7		3g/L		100	u1 - 121
1,1,2-Trichloroethane	U0.0	U0.1		3g/L		100	70 - 119
1,1-Dichloroethane	U0.0	49.0		3g/L		97	uu - 12U
1,1-Dichloroethene	U0.0	49.2		3g/L		97	u1 - 1K1
1,2-Dichloroben5ene	U0.0	U1.6		3g/L		10K	70 - 119
1,2-Dichloroethane	U0.0	49.0		3g/L		97	uK - 127
1,2-Dichloropropane	U0.0	U0.4		3g/L		101	u7 - 122
1,4-Dichloroben5ene	U0.0	U0.K		3g/L		101	u9 - 117

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 160-331094/5
Matrix: Water
Analysis Batch: 331094

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Qen5ene	U0.0	49.9		3g/L		100	u9 - 120
Qromozichloromethane	U0.0	49.K		3g/L		99	u9 - 12U
QromoBorm	U0.0	4u.7		3g/L		96	66 - 1K0
Carbon tetrachlorize	U0.0	49.9		3g/L		100	u2 - 1K6
Chlorozibromomethane	U0.0	UK.U		3g/L		10u	u4 - 126
ChloroBorm	U0.0	49.4		3g/L		99	u9 - 124
Chloromethane	U0.0	42.K		3g/L		7U	U0 - 1K9
cis-1,2-Dichloroethene	U0.0	U0.U		3g/L		101	u7 - 12K
cis-1,K-Dichloropropene	U0.0	U2.7		3g/L		106	uU - 124
Ethylben5ene	U0.0	4u.0		3g/L		94	u9 - 121
d ethylene Chlorize	U0.0	47.K		3g/L		9u	u4 - 124
Tetrachloroethene	U0.0	UK.0		3g/L		106	u4 - 129
Tol3ene	U0.0	U2.6		3g/L		10U	70 - 121
trans-1,2-Dichloroethene	U0.0	49.1		3g/L		97	uU - 124
trans-1,K-Dichloropropene	U0.0	UK.4		3g/L		10u	uK - 12u
Trichloroethene	U0.0	47.U		3g/L		9u	u9 - 12K
f inyl chlorize	U0.0	K6.7		3g/L		u4	U7 - 1Ku
Mylenes, Total	100	107		3g/L		107	u9 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*81 - 118*
4-Bromofluorobenzene (Surr)	*108*		*85 - 114*
Dibromofluoromethane (Surr)	*100*		*80 - 119*
Toluene-d8 (Surr)	*106*		*89 - 112*

Lab Sample ID: LCSD 160-331094/6
Matrix: Water
Analysis Batch: 331094

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	U0.0	49.2		3g/L		97	u4 - 1K1	0	20
1,1,2,2-Tetrachloroethane	U0.0	49.4		3g/L		99	u1 - 121	1	20
1,1,2-Trichloroethane	U0.0	U0.1		3g/L		100	70 - 119	0	20
1,1-Dichloroethane	U0.0	47.7		3g/L		97	uu - 12U	0	20
1,1-Dichloroethene	U0.0	U0.7		3g/L		102	u1 - 1K1	K	20
1,2-Dichloroben5ene	U0.0	U0.7		3g/L		102	70 - 119	2	20
1,2-Dichloroethane	U0.0	4u.u		3g/L		9U	uK - 127	K	20
1,2-Dichloropropane	U0.0	U0.2		3g/L		100	u7 - 122	0	20
1,4-Dichloroben5ene	U0.0	49.U		3g/L		99	u9 - 117	2	20
Qen5ene	U0.0	U0.1		3g/L		100	u9 - 120	0	20
Qromozichloromethane	U0.0	49.u		3g/L		99	u9 - 12U	1	20
QromoBorm	U0.0	4u.u		3g/L		9U	66 - 1K0	0	20
Carbon tetrachlorize	U0.0	U0.K		3g/L		101	u2 - 1K6	1	20
Chlorozibromomethane	U0.0	U2.U		3g/L		10U	u4 - 126	2	20
ChloroBorm	U0.0	49.0		3g/L		97	u9 - 124	1	20
Chloromethane	U0.0	40.9		3g/L		72	U0 - 1K9	4	20
cis-1,2-Dichloroethene	U0.0	U1.0		3g/L		102	u7 - 12K	1	20
cis-1,K-Dichloropropene	U0.0	U1.6		3g/L		10K	uU - 124	2	20

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 160-331094/6
Matrix: Water
Analysis Batch: 331094

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylben5ene	U0.0	46.2		3g/L		92	u9 - 121	2	20
d ethylene Chlorize	U0.0	47.4		3g/L		9u	u4 - 124	0	20
Tetrachloroethene	U0.0	UK.U		3g/L		10u	u4 - 129	1	20
Tol3ene	U0.0	U2.1		3g/L		104	70 - 121	1	20
trans-1,2-Dichloroethene	U0.0	49.7		3g/L		100	uU - 124	1	20
trans-1,K-Dichloropropene	U0.0	U2.0		3g/L		104	uK - 12u	K	20
Trichloroethene	U0.0	47.2		3g/L		96	u9 - 12K	1	20
f inyl chlorize	U0.0	KU.4		3g/L		u1	U7 - 1Ku	4	20
Mylenes, Total	100	10u		3g/L		10u	u9 - 121	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*81 - 118*
4-Bromofluorobenzene (Surr)	*106*		*85 - 114*
Dibromofluoromethane (Surr)	*101*		*80 - 119*
Toluene-d8 (Surr)	*106*		*89 - 112*

Lab Sample ID: MB 160-332159/1-A
Matrix: Solid
Analysis Batch: 332154

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332159

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	8	U.0	0.4K	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
1,1,2,2-Tetrachloroethane	1.0	8	U.0	0.40	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
1,1,2-Trichloroethane	1.0	8	U.0	0.Uu	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
1,1-Dichloroethane	1.0	8	U.0	0.K9	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
1,1-Dichloroethene	U.0	8	U.0	1.6	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
1,2-Dichloroben5ene	1.0	8	U.0	0.27	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
1,2-Dichloroethane	1.0	8	U.0	0.7u	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
1,2-Dichloropropane	1.0	8	U.0	0.K7	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
1,4-Dichloroben5ene	1.0	8	U.0	0.60	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
Qen5ene	1.0	8	U.0	0.2U	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
Qromozichloromethane	1.0	8	U.0	0.2U	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
QromoBrm	1.0	8	U.0	0.Ku	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
Carbon tetrachlorize	1.0	8	U.0	0.U1	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
Chlorozibromomethane	1.0	8	U.0	0.41	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
ChloroBrm	1.0	8	U.0	0.K7	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
Chloromethane	U.0	8	10	0.6U	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
cis-1,2-Dichloroethene	1.0	8	U.0	0.60	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
cis-1,K-Dichloropropene	1.0	8	U.0	0.60	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
Ethylben5ene	1.0	8	U.0	0.K0	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
d ethylene Chlorize	U.0	8	10	1.6	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
Tetrachloroethene	1.0	8	U.0	0.K2	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
Tol3ene	1.0	8	U.0	0.u0	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
trans-1,2-Dichloroethene	1.0	8	U.0	0.94	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
trans-1,K-Dichloropropene	1.0	8	U.0	0.KU	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
Trichloroethene	1.0	8	U.0	0.K9	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
f inyl chlorize	1.0	8	10	0.4K	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1
Mylenes, Total	U.0	8	10	0.7U	3g/Vg		10/16/1u 16:U9	10/16/1u 17:KK	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*71 - 136*	*10/16/17 16:59*	*10/16/17 18:33*	*1*
4-Bromofluorobenzene (Surr)	*113*		*79 - 119*	*10/16/17 16:59*	*10/16/17 18:33*	*1*
Dibromofluoromethane (Surr)	*100*		*78 - 119*	*10/16/17 16:59*	*10/16/17 18:33*	*1*
Toluene-d8 (Surr)	*108*		*85 - 116*	*10/16/17 16:59*	*10/16/17 18:33*	*1*

Lab Sample ID: LCS 160-332159/2-A
Matrix: Solid
Analysis Batch: 332154

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332159

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	U0.0	U0.0		3g/Vg		100	uK - 1K0
1,1,2,2-Tetrachloroethane	U0.0	47.6		3g/Vg		9u	u0 - 124
1,1,2-Trichloroethane	U0.0	4u.9		3g/Vg		96	u7 - 121
1,1-Dichloroethane	U0.0	47.9		3g/Vg		97	u6 - 12U
1,1-Dichloroethene	U0.0	U0.6		3g/Vg		101	u0 - 1K1
1,2-Dichloroben5ene	U0.0	49.u		3g/Vg		99	u7 - 121
1,2-Dichloroethane	U0.0	46.6		3g/Vg		9K	uK - 127
1,2-Dichloropropane	U0.0	47.7		3g/Vg		97	u6 - 12K
1,4-Dichloroben5ene	U0.0	49.U		3g/Vg		99	uU - 120
Qen5ene	U0.0	49.6		3g/Vg		99	uu - 121
Qromozichloromethane	U0.0	4u.7		3g/Vg		96	uU - 12u
QromoBrm	U0.0	4U.2		3g/Vg		90	6u - 1K2
Carbon tetrachlorize	U0.0	U1.K		3g/Vg		10K	u0 - 1KU
Chlorozibromomethane	U0.0	U1.1		3g/Vg		102	u4 - 126
ChloroBrm	U0.0	47.4		3g/Vg		9u	u7 - 12K
Chloromethane	U0.0	4U.0		3g/Vg		90	U0 - 1K6
cis-1,2-Dichloroethene	U0.0	U0.K		3g/Vg		101	uu - 12K
cis-1,K-Dichloropropene	U0.0	U0.u		3g/Vg		101	u4 - 126
Ethylben5ene	U0.0	47.1		3g/Vg		96	u6 - 122
d ethylene Chlorize	U0.0	4u.2		3g/Vg		94	u0 - 127
Tetrachloroethene	U0.0	U2.u		3g/Vg		10U	uK - 127
Tol3ene	U0.0	U2.K		3g/Vg		10U	uu - 121
trans-1,2-Dichloroethene	U0.0	U0.2		3g/Vg		100	u4 - 12U
trans-1,K-Dichloropropene	U0.0	U0.2		3g/Vg		100	u1 - 1K0
Trichloroethene	U0.0	47.7		3g/Vg		97	uu - 12K
f inyl chlorize	U0.0	K7.7		3g/Vg		u7	U6 - 1KU
Mylenes, Total	100	107		3g/Vg		107	u7 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*71 - 136*
4-Bromofluorobenzene (Surr)	*106*		*79 - 119*
Dibromofluoromethane (Surr)	*96*		*78 - 119*
Toluene-d8 (Surr)	*104*		*85 - 116*

Lab Sample ID: LCSD 160-332159/3-A
Matrix: Solid
Analysis Batch: 332154

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 332159

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	U0.0	U0.2		3g/Vg		100	uK - 1K0	0	20
1,1,2,2-Tetrachloroethane	U0.0	47.2		3g/Vg		96	u0 - 124	1	20
1,1,2-Trichloroethane	U0.0	47.1		3g/Vg		96	u7 - 121	0	20
1,1-Dichloroethane	U0.0	49.6		3g/Vg		99	u6 - 12U	1	20

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 160-332159/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 332154 **Prep Batch: 332159**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	U0.0	U1.6		3g/Vg		10K	u0 - 1K1	2	20
1,2-Dichloroben5ene	U0.0	U1.u		3g/Vg		10K	u7 - 121	4	20
1,2-Dichloroethane	U0.0	46.1		3g/Vg		92	uK - 127	1	20
1,2-Dichloropropane	U0.0	47.6		3g/Vg		9u	u6 - 12K	0	20
1,4-Dichloroben5ene	U0.0	U0.U		3g/Vg		101	uU - 120	2	20
Qen5ene	U0.0	U0.4		3g/Vg		101	uu - 121	2	20
Qromozichloromethane	U0.0	4u.7		3g/Vg		96	uU - 12u	0	20
QromoBorm	U0.0	4u.1		3g/Vg		94	6u - 1K2	4	20
Carbon tetrachlorize	U0.0	U1.1		3g/Vg		102	u0 - 1KU	0	20
Chlorozibromomethane	U0.0	U1.U		3g/Vg		10K	u4 - 126	1	20
ChloroBorm	U0.0	47.9		3g/Vg		97	u7 - 12K	1	20
Chloromethane	U0.0	44.1		3g/Vg		77	U0 - 1K6	2	20
cis-1,2-Dichloroethene	U0.0	U1.u		3g/Vg		10K	uu - 12K	K	20
cis-1,K-Dichloropropene	U0.0	49.7		3g/Vg		100	u4 - 126	2	20
Ethylben5ene	U0.0	47.4		3g/Vg		9u	u6 - 122	0	20
d ethylene Chlorize	U0.0	47.K		3g/Vg		9u	u0 - 127	2	20
Tetrachloroethene	U0.0	UK.6		3g/Vg		10u	uK - 127	2	20
Tol3ene	U0.0	U2.K		3g/Vg		10U	uu - 121	0	20
trans-1,2-Dichloroethene	U0.0	U0.U		3g/Vg		101	u4 - 12U	1	20
trans-1,K-Dichloropropene	U0.0	U0.U		3g/Vg		101	u1 - 1K0	1	20
Trichloroethene	U0.0	47.0		3g/Vg		96	uu - 12K	2	20
f inyl chlorize	U0.0	Ku.K		3g/Vg		uU	U6 - 1KU	4	20
Mylenes, Total	100	109		3g/Vg		109	u7 - 124	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*71 - 136*
4-Bromofluorobenzene (Surr)	*106*		*79 - 119*
Dibromofluoromethane (Surr)	*99*		*78 - 119*
Toluene-d8 (Surr)	*106*		*85 - 116*

Lab Sample ID: 160-24924-9 MS **Client Sample ID: SHAD041DP022SS03NS**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 332154 **Prep Batch: 332159**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	0.92	8	42.6	42.6		3g/Vg	☼	100	uK - 1K0
1,1,2,2-Tetrachloroethane	0.92	8 X	42.6	4u.u		3g/Vg	☼	112	u0 - 124
1,1,2-Trichloroethane	0.92	8	42.6	44.0		3g/Vg	☼	10K	u7 - 121
1,1-Dichloroethane	0.92	8	42.6	41.6		3g/Vg	☼	97	u6 - 12U
1,1-Dichloroethene	4.6	8	42.6	41.4		3g/Vg	☼	9u	u0 - 1K1
1,2-Dichloroben5ene	0.92	8 X	42.6	4U.U		3g/Vg	☼	10u	u7 - 121
1,2-Dichloroethane	0.92	8	42.6	4K.2		3g/Vg	☼	101	uK - 127
1,2-Dichloropropane	0.92	8	42.6	42.0		3g/Vg	☼	99	u6 - 12K
1,4-Dichloroben5ene	0.92	8 X	42.6	44.7		3g/Vg	☼	10U	uU - 120
Qen5ene	0.92	8	42.6	42.6		3g/Vg	☼	100	uu - 121
Qromozichloromethane	0.92	8	42.6	42.6		3g/Vg	☼	100	uU - 12u
QromoBorm	0.92	8	42.6	44.2		3g/Vg	☼	104	6u - 1K2
Carbon tetrachlorize	0.92	8	42.6	4K.2		3g/Vg	☼	101	u0 - 1KU

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Analysis Batch: 332154

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 332159

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorozibromomethane	0.92	8	42.6	46.6		3g/Vg	☼	110	u4 - 126
ChloroBorm	0.92	8	42.6	42.U		3g/Vg	☼	100	u7 - 12K
Chloromethane	4.6	8	42.6	K9.u		3g/Vg	☼	9K	U0 - 1K6
cis-1,2-Dichloroethene	0.92	8	42.6	42.4		3g/Vg	☼	100	uu - 12K
cis-1,K-Dichloropropene	0.92	8	42.6	4K.4		3g/Vg	☼	102	u4 - 126
Ethylben5ene	0.92	8	42.6	44.1		3g/Vg	☼	104	u6 - 122
d ethylene Chlorize	4.6	8	42.6	K9.9		3g/Vg	☼	94	u0 - 127
Tetrachloroethene	0.92	8	42.6	46.1		3g/Vg	☼	107	uK - 127
Tol3ene	0.92	8	42.6	46.U		3g/Vg	☼	109	uu - 121
trans-1,2-Dichloroethene	0.92	8	42.6	41.U		3g/Vg	☼	97	u4 - 12U
trans-1,K-Dichloropropene	0.92	8	42.6	4U.6		3g/Vg	☼	10u	u1 - 1K0
Trichloroethene	0.92	8	42.6	40.9		3g/Vg	☼	96	uu - 12K
f inyl chlorize	0.92	8	42.6	K9.2		3g/Vg	☼	92	U6 - 1KU
Mylenes, Total	4.6	8	7U.1	9K.7		3g/Vg	☼	110	u7 - 124

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*71 - 136*
4-Bromofluorobenzene (Surr)	*112*		*79 - 119*
Dibromofluoromethane (Surr)	*99*		*78 - 119*
Toluene-d8 (Surr)	*112*		*85 - 116*

Lab Sample ID: 160-24924-9 MSD
Matrix: Solid
Analysis Batch: 332154

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 332159

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.92	8	46.K	44.6		3g/Vg	☼	96	uK - 1K0	U	20
1,1,2,2-Tetrachloroethane	0.92	8 X	46.K	U1.4		3g/Vg	☼	111	u0 - 124	u	20
1,1,2-Trichloroethane	0.92	8	46.K	46.4		3g/Vg	☼	100	u7 - 121	U	20
1,1-Dichloroethane	0.92	8	46.K	4K.U		3g/Vg	☼	94	u6 - 12U	U	20
1,1-Dichloroethene	4.6	8	46.K	4K.u		3g/Vg	☼	94	u0 - 1K1	6	20
1,2-Dichloroben5ene	0.92	8 X	46.K	4u.0		3g/Vg	☼	101	u7 - 121	K	20
1,2-Dichloroethane	0.92	8	46.K	44.7		3g/Vg	☼	9u	uK - 127	4	20
1,2-Dichloropropane	0.92	8	46.K	4U.1		3g/Vg	☼	9u	u6 - 12K	u	20
1,4-Dichloroben5ene	0.92	8 X	46.K	4u.4		3g/Vg	☼	102	uU - 120	6	20
Qen5ene	0.92	8	46.K	44.9		3g/Vg	☼	9u	uu - 121	U	20
Qromozichloromethane	0.92	8	46.K	4U.9		3g/Vg	☼	99	uU - 12u	7	20
QromoBorm	0.92	8	46.K	U0.0		3g/Vg	☼	107	6u - 1K2	12	20
Carbon tetrachlorize	0.92	8	46.K	44.6		3g/Vg	☼	96	u0 - 1KU	K	20
Chlorozibromomethane	0.92	8	46.K	49.2		3g/Vg	☼	106	u4 - 126	U	20
ChloroBorm	0.92	8	46.K	44.2		3g/Vg	☼	9U	u7 - 12K	4	20
Chloromethane	4.6	8	46.K	42.1		3g/Vg	☼	91	U0 - 1K6	6	20
cis-1,2-Dichloroethene	0.92	8	46.K	4K.K		3g/Vg	☼	9K	uu - 12K	2	20
cis-1,K-Dichloropropene	0.92	8	46.K	47.u		3g/Vg	☼	10U	u4 - 126	11	20
Ethylben5ene	0.92	8	46.K	4U.2		3g/Vg	☼	97	u6 - 122	2	20
d ethylene Chlorize	4.6	8	46.K	41.9		3g/Vg	☼	90	u0 - 127	U	20
Tetrachloroethene	0.92	8	46.K	4u.2		3g/Vg	☼	102	uK - 127	2	20
Tol3ene	0.92	8	46.K	4u.7		3g/Vg	☼	10K	uu - 121	K	20

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 160-24924-9 MSD

Client Sample ID: SHAD041DP022SS03NS
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 332154
Prep Batch: 332159

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	0.92	8	46.K	4K.0		3g/Vg	☼	9K	u4 - 12U	4	20
trans-1,K-Dichloropropene	0.92	8	46.K	U0.U		3g/Vg	☼	109	u1 - 1K0	10	20
Trichloroethene	0.92	8	46.K	4K.6		3g/Vg	☼	94	uu - 12K	6	20
f inyl chlorize	0.92	8	46.K	K9.0		3g/Vg	☼	74	U6 - 1KU	0	20
Mylenes, Total	4.6	8	92.u	96.4		3g/Vg	☼	104	u7 - 124	K	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*79*		*71 - 136*
4-Bromofluorobenzene (Surr)	*88*		*79 - 119*
Dibromofluoromethane (Surr)	*82*		*78 - 119*
Toluene-d8 (Surr)	*94*		*85 - 116*

Lab Sample ID: MB 160-332262/1-A

Client Sample ID: Method Blank
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 332246
Prep Batch: 332262

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	8	U.0	0.4K	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
1,1,2,2-Tetrachloroethane	1.0	8	U.0	0.40	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
1,1,2-Trichloroethane	1.0	8	U.0	0.Uu	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
1,1-Dichloroethane	1.0	8	U.0	0.K9	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
1,1-Dichloroethene	U.0	8	U.0	1.6	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
1,2-Dichloroben5ene	1.0	8	U.0	0.27	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
1,2-Dichloroethane	1.0	8	U.0	0.7u	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
1,2-Dichloropropane	1.0	8	U.0	0.K7	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
1,4-Dichloroben5ene	1.0	8	U.0	0.60	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
Qen5ene	1.0	8	U.0	0.2U	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
Qromozichloromethane	1.0	8	U.0	0.2U	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
QromoBorm	1.0	8	U.0	0.Ku	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
Carbon tetrachlorize	1.0	8	U.0	0.U1	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
Chlorozibromomethane	1.0	8	U.0	0.41	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
ChloroBorm	1.0	8	U.0	0.K7	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
Chloromethane	U.0	8	10	0.6U	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
cis-1,2-Dichloroethene	1.0	8	U.0	0.60	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
cis-1,K-Dichloropropene	1.0	8	U.0	0.60	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
Ethylben5ene	1.0	8	U.0	0.K0	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
d ethylene Chlorize	U.0	8	10	1.6	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
Tetrachloroethene	1.0	8	U.0	0.K2	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
Tol3ene	1.0	8	U.0	0.u0	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
trans-1,2-Dichloroethene	1.0	8	U.0	0.94	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
trans-1,K-Dichloropropene	1.0	8	U.0	0.KU	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
Trichloroethene	1.0	8	U.0	0.K9	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
f inyl chlorize	1.0	8	10	0.4K	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1
Mylenes, Total	U.0	8	10	0.7U	3g/Vg		10/1u/1u 1U:12	10/1u/1u 1u:U6	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*71 - 136*	*10/17/17 15:12*	*10/17/17 17:56*	*1*

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 160-332262/1-A
Matrix: Solid
Analysis Batch: 332246

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332262

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*79 - 119*	*10/17/17 15:12*	*10/17/17 17:56*	*1*
Dibromofluoromethane (Surr)	*103*		*78 - 119*	*10/17/17 15:12*	*10/17/17 17:56*	*1*
Toluene-d8 (Surr)	*103*		*85 - 116*	*10/17/17 15:12*	*10/17/17 17:56*	*1*

Lab Sample ID: LCS 160-332262/2-A
Matrix: Solid
Analysis Batch: 332246

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332262

Analyte	**Spike Added**	**LCS Result**	**LCS Qualifier**	**Unit**	**D**	**%Rec**	**%Rec. Limits**
1,1,1-Trichloroethane	U0.0	U2.4		3g/Vg		10U	uK - 1K0
1,1,2,2-Tetrachloroethane	U0.0	4u.u		3g/Vg		9U	u0 - 124
1,1,2-Trichloroethane	U0.0	47.U		3g/Vg		9u	u7 - 121
1,1-Dichloroethane	U0.0	U2.U		3g/Vg		10U	u6 - 12U
1,1-Dichloroethene	U0.0	U2.1		3g/Vg		104	u0 - 1K1
1,2-Dichloroben5ene	U0.0	47.7		3g/Vg		97	u7 - 121
1,2-Dichloroethane	U0.0	U0.1		3g/Vg		100	uK - 127
1,2-Dichloropropane	U0.0	UK.6		3g/Vg		10u	u6 - 12K
1,4-Dichloroben5ene	U0.0	49.1		3g/Vg		97	uU - 120
Qen5ene	U0.0	49.K		3g/Vg		99	uu - 121
Qromozichloromethane	U0.0	U0.9		3g/Vg		102	uU - 12u
QromoBorm	U0.0	U2.2		3g/Vg		104	6u - 1K2
Carbon tetrachlorize	U0.0	U2.0		3g/Vg		104	u0 - 1KU
Chlorozibromomethane	U0.0	49.2		3g/Vg		97	u4 - 126
ChloroBorm	U0.0	49.7		3g/Vg		100	u7 - 12K
Chloromethane	U0.0	U9.K		3g/Vg		119	U0 - 1K6
cis-1,2-Dichloroethene	U0.0	U2.K		3g/Vg		10U	uu - 12K
cis-1,K-Dichloropropene	U0.0	46.u		3g/Vg		9K	u4 - 126
Ethylben5ene	U0.0	UK.0		3g/Vg		106	u6 - 122
d ethylene Chlorize	U0.0	U0.2		3g/Vg		100	u0 - 127
Tetrachloroethene	U0.0	U1.2		3g/Vg		102	uK - 127
Tol3ene	U0.0	U1.0		3g/Vg		102	uu - 121
trans-1,2-Dichloroethene	U0.0	U0.7		3g/Vg		102	u4 - 12U
trans-1,K-Dichloropropene	U0.0	47.4		3g/Vg		9u	u1 - 1K0
Trichloroethene	U0.0	47.4		3g/Vg		9u	uu - 12K
f inyl chlorize	U0.0	U2.K		3g/Vg		10U	U6 - 1KU

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*71 - 136*
4-Bromofluorobenzene (Surr)	*109*		*79 - 119*
Dibromofluoromethane (Surr)	*94*		*78 - 119*
Toluene-d8 (Surr)	*104*		*85 - 116*

Lab Sample ID: LCSD 160-332262/3-A
Matrix: Solid
Analysis Batch: 332246

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 332262

Analyte	**Spike Added**	**LCSD Result**	**LCSD Qualifier**	**Unit**	**D**	**%Rec**	**%Rec. Limits**	**RPD**	**RPD Limit**
1,1,1-Trichloroethane	U0.0	U4.2		3g/Vg		107	uK - 1K0	K	20

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 160-332262/3-A
Matrix: Solid
Analysis Batch: 332246

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 332262

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2,2-Tetrachloroethane	U0.0	49.K		3g/Vg		99	u0 - 124	K	20
1,1,2-Trichloroethane	U0.0	49.2		3g/Vg		97	u7 - 121	1	20
1,1-Dichloroethane	U0.0	UK.K		3g/Vg		10u	u6 - 12U	2	20
1,1-Dichloroethene	U0.0	U2.6		3g/Vg		10U	u0 - 1K1	1	20
1,2-Dichloroben5ene	U0.0	U1.2		3g/Vg		102	u7 - 121	U	20
1,2-Dichloroethane	U0.0	U1.u		3g/Vg		10K	uK - 127	K	20
1,2-Dichloropropane	U0.0	U4.7		3g/Vg		110	u6 - 12K	2	20
1,4-Dichloroben5ene	U0.0	U0.7		3g/Vg		102	uU - 120	K	20
Qen5ene	U0.0	U0.K		3g/Vg		101	uu - 121	2	20
Qromozichloromethane	U0.0	U2.2		3g/Vg		104	uU - 12u	K	20
QromoBorm	U0.0	UK.4		3g/Vg		10u	6u - 1K2	2	20
Carbon tetrachlorize	U0.0	UK.u		3g/Vg		10u	u0 - 1KU	K	20
Chlorozibromomethane	U0.0	U1.4		3g/Vg		10K	u4 - 126	4	20
ChloroBorm	U0.0	U0.U		3g/Vg		101	u7 - 12K	1	20
Chloromethane	U0.0	60.K		3g/Vg		121	U0 - 1K6	2	20
cis-1,2-Dichloroethene	U0.0	U2.6		3g/Vg		10U	uu - 12K	0	20
cis-1,K-Dichloropropene	U0.0	47.1		3g/Vg		96	u4 - 126	K	20
Ethylben5ene	U0.0	UU.0		3g/Vg		110	u6 - 122	4	20
d ethylene Chlorize	U0.0	U0.7		3g/Vg		102	u0 - 127	1	20
Tetrachloroethene	U0.0	U2.2		3g/Vg		104	uK - 127	2	20
Tol3ene	U0.0	U1.6		3g/Vg		10K	uu - 121	1	20
trans-1,2-Dichloroethene	U0.0	U1.2		3g/Vg		102	u4 - 12U	1	20
trans-1,K-Dichloropropene	U0.0	U0.1		3g/Vg		100	u1 - 1K0	4	20
Trichloroethene	U0.0	49.9		3g/Vg		100	uu - 12K	K	20
f inyl chlorize	U0.0	U2.0		3g/Vg		104	U6 - 1KU	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*71 - 136*
4-Bromofluorobenzene (Surr)	*111*		*79 - 119*
Dibromofluoromethane (Surr)	*98*		*78 - 119*
Toluene-d8 (Surr)	*106*		*85 - 116*

Lab Sample ID: MB 160-332265/1-A
Matrix: Solid
Analysis Batch: 332247

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332265

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	8	U.0	0.4K	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
1,1,2,2-Tetrachloroethane	1.0	8	U.0	0.40	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
1,1,2-Trichloroethane	1.0	8	U.0	0.Uu	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
1,1-Dichloroethane	1.0	8	U.0	0.K9	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
1,1-Dichloroethene	U.0	8	U.0	1.6	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
1,2-Dichloroben5ene	1.0	8	U.0	0.27	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
1,2-Dichloroethane	1.0	8	U.0	0.7u	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
1,2-Dichloropropane	1.0	8	U.0	0.K7	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
1,4-Dichloroben5ene	1.0	8	U.0	0.60	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
Qen5ene	1.0	8	U.0	0.2U	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
Qromozichloromethane	1.0	8	U.0	0.2U	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 160-332265/1-A
Matrix: Solid
Analysis Batch: 332247

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332265

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
QromoBorm	1.0	8	U.0	0.Ku	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
Carbon tetrachlorize	1.0	8	U.0	0.U1	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
Chlorozibromomethane	1.0	8	U.0	0.41	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
ChloroBorm	1.0	8	U.0	0.K7	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
Chloromethane	U.0	8	10	0.6U	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
cis-1,2-Dichloroethene	1.0	8	U.0	0.60	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
cis-1,K-Dichloropropene	1.0	8	U.0	0.60	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
Ethylben5ene	1.0	8	U.0	0.K0	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
d ethylene Chlorize	U.0	8	10	1.6	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
Tetrachloroethene	1.0	8	U.0	0.K2	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
Tol3ene	1.0	8	U.0	0.u0	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
trans-1,2-Dichloroethene	1.0	8	U.0	0.94	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
trans-1,K-Dichloropropene	1.0	8	U.0	0.KU	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
Trichloroethene	1.0	8	U.0	0.K9	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
f inyl chlorize	1.0	8	10	0.4K	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1
Mylenes, Total	U.0	8	10	0.7U	3g/Vg		10/1u/1u 1U:1K	10/1u/1u 1u:1K	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*71 - 136*	*10/17/17 15:13*	*10/17/17 17:13*	*1*
4-Bromofluorobenzene (Surr)	*112*		*79 - 119*	*10/17/17 15:13*	*10/17/17 17:13*	*1*
Dibromofluoromethane (Surr)	*97*		*78 - 119*	*10/17/17 15:13*	*10/17/17 17:13*	*1*
Toluene-d8 (Surr)	*105*		*85 - 116*	*10/17/17 15:13*	*10/17/17 17:13*	*1*

Lab Sample ID: LCS 160-332265/2-A
Matrix: Solid
Analysis Batch: 332247

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	U0.0	4u.1		3g/Vg		94	uK - 1K0
1,1,2,2-Tetrachloroethane	U0.0	46.4		3g/Vg		9K	u0 - 124
1,1,2-Trichloroethane	U0.0	46.9		3g/Vg		94	u7 - 121
1,1-Dichloroethane	U0.0	4U.9		3g/Vg		92	u6 - 12U
1,1-Dichloroethene	U0.0	4u.6		3g/Vg		9U	u0 - 1K1
1,2-Dichloroben5ene	U0.0	49.K		3g/Vg		99	u7 - 121
1,2-Dichloroethane	U0.0	4K.6		3g/Vg		7u	uK - 127
1,2-Dichloropropane	U0.0	4u.0		3g/Vg		94	u6 - 12K
1,4-Dichloroben5ene	U0.0	47.U		3g/Vg		9u	uU - 120
Qen5ene	U0.0	4u.9		3g/Vg		96	uu - 121
Qromozichloromethane	U0.0	46.9		3g/Vg		94	uU - 12u
QromoBorm	U0.0	46.K		3g/Vg		9K	6u - 1K2
Carbon tetrachlorize	U0.0	47.2		3g/Vg		96	u0 - 1KU
Chlorozibromomethane	U0.0	U1.1		3g/Vg		102	u4 - 126
ChloroBorm	U0.0	46.7		3g/Vg		94	u7 - 12K
Chloromethane	U0.0	41.4		3g/Vg		7K	U0 - 1K6
cis-1,2-Dichloroethene	U0.0	4u.9		3g/Vg		96	uu - 12K
cis-1,K-Dichloropropene	U0.0	49.K		3g/Vg		99	u4 - 126
Ethylben5ene	U0.0	46.6		3g/Vg		9K	u6 - 122
d ethylene Chlorize	U0.0	4U.u		3g/Vg		91	u0 - 127

QC Sample Results

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-1

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 160-332265/2-A
Matrix: Solid
Analysis Batch: 332247

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	U0.0	U2.K		3g/Vg		10U	uK - 127
Tol3ene	U0.0	U0.2		3g/Vg		100	uu - 121
trans-1,2-Dichloroethene	U0.0	4u.6		3g/Vg		9U	u4 - 12U
trans-1,K-Dichloropropene	U0.0	47.9		3g/Vg		97	u1 - 1K0
Trichloroethene	U0.0	46.2		3g/Vg		92	uu - 12K
f inyl chlorize	U0.0	KU.6		3g/Vg		u1	U6 - 1KU
Mylenes, Total	100	10K		3g/Vg		10K	u7 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*71 - 136*
4-Bromofluorobenzene (Surr)	*103*		*79 - 119*
Dibromofluoromethane (Surr)	*96*		*78 - 119*
Toluene-d8 (Surr)	*102*		*85 - 116*

Lab Sample ID: LCSD 160-332265/3-A
Matrix: Solid
Analysis Batch: 332247

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 332265

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	U0.0	46.4		3g/Vg		9K	uK - 1K0	1	20
1,1,2,2-Tetrachloroethane	U0.0	4u.K		3g/Vg		9U	u0 - 124	2	20
1,1,2-Trichloroethane	U0.0	4u.6		3g/Vg		9U	u7 - 121	1	20
1,1-Dichloroethane	U0.0	4U.K		3g/Vg		91	u6 - 12U	1	20
1,1-Dichloroethene	U0.0	4u.7		3g/Vg		96	u0 - 1K1	0	20
1,2-Dichloroben5ene	U0.0	49.9		3g/Vg		100	u7 - 121	1	20
1,2-Dichloroethane	U0.0	42.7		3g/Vg		76	uK - 127	2	20
1,2-Dichloropropane	U0.0	46.2		3g/Vg		92	u6 - 12K	2	20
1,4-Dichloroben5ene	U0.0	47.K		3g/Vg		9u	uU - 120	0	20
Qen5ene	U0.0	4u.4		3g/Vg		9U	uu - 121	1	20
Qromozichloromethane	U0.0	4U.9		3g/Vg		92	uU - 12u	2	20
QromoBorm	U0.0	49.0		3g/Vg		97	6u - 1K2	6	20
Carbon tetrachlorize	U0.0	4u.K		3g/Vg		9U	u0 - 1KU	2	20
Chlorozibromomethane	U0.0	U0.u		3g/Vg		101	u4 - 126	1	20
ChloroBorm	U0.0	46.0		3g/Vg		92	u7 - 12K	2	20
Chloromethane	U0.0	K9.7		3g/Vg		70	U0 - 1K6	4	20
cis-1,2-Dichloroethene	U0.0	47.U		3g/Vg		9u	uu - 12K	1	20
cis-1,K-Dichloropropene	U0.0	47.0		3g/Vg		96	u4 - 126	K	20
Ethylben5ene	U0.0	4U.2		3g/Vg		90	u6 - 122	K	20
d ethylene Chlorize	U0.0	4U.0		3g/Vg		90	u0 - 127	1	20
Tetrachloroethene	U0.0	UK.0		3g/Vg		106	uK - 127	1	20
Tol3ene	U0.0	49.U		3g/Vg		99	uu - 121	1	20
trans-1,2-Dichloroethene	U0.0	4u.6		3g/Vg		9U	u4 - 12U	0	20
trans-1,K-Dichloropropene	U0.0	47.2		3g/Vg		96	u1 - 1K0	1	20
Trichloroethene	U0.0	46.1		3g/Vg		92	uu - 12K	0	20
f inyl chlorize	U0.0	KK.6		3g/Vg		6u	U6 - 1KU	6	20
Mylenes, Total	100	102		3g/Vg		102	u7 - 124	1	20

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 160-332265/3-A
Matrix: Solid
Analysis Batch: 332247

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 332265

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*71 - 136*
4-Bromofluorobenzene (Surr)	*106*		*79 - 119*
Dibromofluoromethane (Surr)	*96*		*78 - 119*
Toluene-d8 (Surr)	*102*		*85 - 116*

Lab Sample ID: MB 160-332822/1-A
Matrix: Solid
Analysis Batch: 332817

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332822

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	8	U.0	0.4K	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
1,1,2,2-Tetrachloroethane	1.0	8	U.0	0.40	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
1,1,2-Trichloroethane	1.0	8	U.0	0.Uu	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
1,1-Dichloroethane	1.0	8	U.0	0.K9	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
1,1-Dichloroethene	U.0	8	U.0	1.6	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
1,2-Dichloroben5ene	1.0	8	U.0	0.27	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
1,2-Dichloroethane	1.0	8	U.0	0.7u	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
1,2-Dichloropropane	1.0	8	U.0	0.K7	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
1,4-Dichloroben5ene	1.0	8	U.0	0.60	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
Qen5ene	1.0	8	U.0	0.2U	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
Qromozichloromethane	1.0	8	U.0	0.2U	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
QromoBorm	1.0	8	U.0	0.Ku	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
Carbon tetrachlorize	1.0	8	U.0	0.U1	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
Chlorozibromomethane	1.0	8	U.0	0.41	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
ChloroBorm	1.0	8	U.0	0.K7	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
Chloromethane	U.0	8	10	0.6U	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
cis-1,2-Dichloroethene	1.0	8	U.0	0.60	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
cis-1,K-Dichloropropene	1.0	8	U.0	0.60	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
Ethylben5ene	1.0	8	U.0	0.K0	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
d ethylene Chlorize	U.0	8	10	1.6	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
Tetrachloroethene	1.0	8	U.0	0.K2	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
Tol3ene	1.0	8	U.0	0.u0	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
trans-1,2-Dichloroethene	1.0	8	U.0	0.94	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
trans-1,K-Dichloropropene	1.0	8	U.0	0.KU	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
Trichloroethene	1.0	8	U.0	0.K9	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
f inyl chlorize	1.0	8	10	0.4K	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1
Mylenes, Total	U.0	8	10	0.7U	3g/Vg		10/19/1u 16:19	10/19/1u 1u:U6	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*71 - 136*	*10/19/17 16:19*	*10/19/17 17:56*	*1*
4-Bromofluorobenzene (Surr)	*99*		*79 - 119*	*10/19/17 16:19*	*10/19/17 17:56*	*1*
Dibromofluoromethane (Surr)	*104*		*78 - 119*	*10/19/17 16:19*	*10/19/17 17:56*	*1*
Toluene-d8 (Surr)	*105*		*85 - 116*	*10/19/17 16:19*	*10/19/17 17:56*	*1*

QC Sample Results

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 160-332822/2-A
Matrix: Solid
Analysis Batch: 332817

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332822

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	U0.0	U4.u		3g/Vg		109	uK - 1K0
1,1,2,2-Tetrachloroethane	U0.0	4u.7		3g/Vg		96	u0 - 124
1,1,2-Trichloroethane	U0.0	49.K		3g/Vg		99	u7 - 121
1,1-Dichloroethane	U0.0	U4.1		3g/Vg		107	u6 - 12U
1,1-Dichloroethene	U0.0	U4.U		3g/Vg		109	u0 - 1K1
1,2-Dichloroben5ene	U0.0	U0.K		3g/Vg		101	u7 - 121
1,2-Dichloroethane	U0.0	UK.1		3g/Vg		106	uK - 127
1,2-Dichloropropane	U0.0	U4.K		3g/Vg		109	u6 - 12K
1,4-Dichloroben5ene	U0.0	U1.4		3g/Vg		10K	uU - 120
Qen5ene	U0.0	U1.9		3g/Vg		104	uu - 121
Qromozichloromethane	U0.0	UK.0		3g/Vg		106	uU - 12u
QromoBorm	U0.0	U2.4		3g/Vg		10U	6u - 1K2
Carbon tetrachlorize	U0.0	U4.1		3g/Vg		107	u0 - 1KU
Chlorozibromomethane	U0.0	U0.U		3g/Vg		101	u4 - 126
ChloroBorm	U0.0	U1.9		3g/Vg		104	u7 - 12K
Chloromethane	U0.0	U7.6		3g/Vg		11u	U0 - 1K6
cis-1,2-Dichloroethene	U0.0	UK.6		3g/Vg		10u	uu - 12K
cis-1,K-Dichloropropene	U0.0	4u.u		3g/Vg		9U	u4 - 126
Ethylben5ene	U0.0	Uu.2		3g/Vg		114	u6 - 122
d ethylene Chlorize	U0.0	U1.u		3g/Vg		10K	u0 - 127
Tetrachloroethene	U0.0	U2.7		3g/Vg		106	uK - 127
Tol3ene	U0.0	UK.K		3g/Vg		10u	uu - 121
trans-1,2-Dichloroethene	U0.0	U2.7		3g/Vg		106	u4 - 12U
trans-1,K-Dichloropropene	U0.0	49.7		3g/Vg		100	u1 - 1K0
Trichloroethene	U0.0	U1.u		3g/Vg		10K	uu - 12K
f inyl chlorize	U0.0	U2.6		3g/Vg		10U	U6 - 1KU

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*71 - 136*
4-Bromofluorobenzene (Surr)	*103*		*79 - 119*
Dibromofluoromethane (Surr)	*94*		*78 - 119*
Toluene-d8 (Surr)	*103*		*85 - 116*

Lab Sample ID: LCSD 160-332822/3-A
Matrix: Solid
Analysis Batch: 332817

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 332822

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	U0.0	U4.K		3g/Vg		109	uK - 1K0	1	20
1,1,2,2-Tetrachloroethane	U0.0	U0.u		3g/Vg		101	u0 - 124	6	20
1,1,2-Trichloroethane	U0.0	U1.2		3g/Vg		102	u7 - 121	4	20
1,1-Dichloroethane	U0.0	UK.6		3g/Vg		10u	u6 - 12U	1	20
1,1-Dichloroethene	U0.0	U2.9		3g/Vg		106	u0 - 1K1	K	20
1,2-Dichloroben5ene	U0.0	U1.1		3g/Vg		102	u7 - 121	2	20
1,2-Dichloroethane	U0.0	U4.7		3g/Vg		110	uK - 127	K	20
1,2-Dichloropropane	U0.0	UU.0		3g/Vg		110	u6 - 12K	1	20
1,4-Dichloroben5ene	U0.0	U0.u		3g/Vg		101	uU - 120	1	20
Qen5ene	U0.0	U0.9		3g/Vg		102	uu - 121	2	20

Method: 8260C DOD - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 160-332822/3-A
Matrix: Solid
Analysis Batch: 332817

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 332822

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Qromozichloromethane	U0.0	UK.u		3g/Vg		10u	uU - 12u	1	20
QromoBorm	U0.0	UK.1		3g/Vg		106	6u - 1K2	1	20
Carbon tetrachlorize	U0.0	U4.0		3g/Vg		107	u0 - 1KU	0	20
Chlorozibromomethane	U0.0	U1.9		3g/Vg		104	u4 - 126	K	20
ChloroBorm	U0.0	U1.7		3g/Vg		104	u7 - 12K	0	20
Chloromethane	U0.0	Uu.4		3g/Vg		11U	U0 - 1K6	2	20
cis-1,2-Dichloroethene	U0.0	UK.4		3g/Vg		10u	uu - 12K	0	20
cis-1,K-Dichloropropene	U0.0	47.2		3g/Vg		96	u4 - 126	1	20
Ethylben5ene	U0.0	U6.2		3g/Vg		112	u6 - 122	2	20
d ethylene Chlorize	U0.0	U1.1		3g/Vg		102	u0 - 127	1	20
Tetrachloroethene	U0.0	U2.4		3g/Vg		10U	uK - 127	1	20
Tol3ene	U0.0	U1.9		3g/Vg		104	uu - 121	K	20
trans-1,2-Dichloroethene	U0.0	U1.u		3g/Vg		10K	u4 - 12U	2	20
trans-1,K-Dichloropropene	U0.0	49.7		3g/Vg		100	u1 - 1K0	0	20
Trichloroethene	U0.0	U0.U		3g/Vg		101	uu - 12K	2	20
f inyl chlorize	U0.0	U0.7		3g/Vg		102	U6 - 1KU	K	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*71 - 136*
4-Bromofluorobenzene (Surr)	*105*		*79 - 119*
Dibromofluoromethane (Surr)	*97*		*78 - 119*
Toluene-d8 (Surr)	*102*		*85 - 116*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 160-332664/1-A
Matrix: Solid
Analysis Batch: 333047

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332664

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-d ethylnaphthalene	K.K	8	6.6	2.9	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
2-d ethylnaphthalene	K.K	8	6.6	0.UK	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Acenaphthene	K.K	8	6.6	1.1	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Acenaphthylene	K.K	8	6.6	0.70	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Anthracene	K.K	8	6.6	0.6K	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Qen5o[a]anthracene	K.K	8	6.6	1.K	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Qen5o[a]pyrene	K.K	8	6.6	0.74	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Qen5o[b]Bl3oranthene	K.K	8	6.6	1.1	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Qen5o[g,h,i]perylene	K.K	8	6.6	1.1	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Qen5o[k]Bl3oranthene	K.K	8	6.6	1.1	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Chrysene	K.K	8	6.6	1.K	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Diben5(a,h)anthracene	K.K	8	6.6	K.1	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Fl3oranthene	K.K	8	6.6	1.U	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Fl3orene	K.K	8	6.6	1.1	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Inzeno[1,2,K-cz]pyrene	K.K	8	6.6	2.1	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Naphthalene	K.K	8	6.6	1.0	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Phenanthrene	K.K	8	6.6	2.u	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1
Pyrene	K.K	8	6.6	1.4	3g/Vg		10/19/1u 11:0u	10/21/1u 12:Uu	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	*82*		*46 - 115*	*10/19/17 11:07*	*10/21/17 12:57*	*1*
Nitrobenzene-d5 (Surr)	*89*		*44 - 125*	*10/19/17 11:07*	*10/21/17 12:57*	*1*
Terphenyl-d14 (Surr)	*102*		*58 - 133*	*10/19/17 11:07*	*10/21/17 12:57*	*1*

Lab Sample ID: LCS 160-332664/2-A
Matrix: Solid
Analysis Batch: 333047

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332664

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-d ethylnaphthalene	KK.K	26.6		3g/Vg		70	4K - 111
2-d ethylnaphthalene	KK.K	26.4		3g/Vg		u9	K9 - 114
Acenaphthene	KK.K	2U.4		3g/Vg		u6	44 - 111
Acenaphthylene	KK.K	2U.2		3g/Vg		u6	K9 - 116
Anthracene	KK.K	26.4		3g/Vg		u9	U0 - 114
Qen5o[a]anthracene	KK.K	27.4		3g/Vg		7U	U4 - 122
Qen5o[a]pyrene	KK.K	2u.0		3g/Vg		71	U0 - 12U
Qen5o[b]Bl3oranthene	KK.K	27.4		3g/Vg		7U	UK - 127
Qen5o[g,h,i]perylene	KK.K	K1.7		3g/Vg		9U	49 - 12u
Qen5o[k]Bl3oranthene	KK.K	26.0		3g/Vg		u7	U6 - 12K
Chrysene	KK.K	2u.u		3g/Vg		7K	Uu - 117
Diben5(a,h)anthracene	KK.K	2u.7		3g/Vg		7K	U0 - 129
Fl3oranthene	KK.K	27.6		3g/Vg		76	UU - 119
Fl3orene	KK.K	2U.6		3g/Vg		uu	4u - 114
Inzeno[1,2,K-cz]pyrene	KK.K	27.u		3g/Vg		76	49 - 1K0
Naphthalene	KK.K	26.4		3g/Vg		u9	K7 - 111
Phenanthrene	KK.K	29.1		3g/Vg		7u	49 - 11K
Pyrene	KK.K	27.9		3g/Vg		7u	UU - 11u

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	*83*		*46 - 115*
Nitrobenzene-d5 (Surr)	*80*		*44 - 125*
Terphenyl-d14 (Surr)	*98*		*58 - 133*

Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Analysis Batch: 333047

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 332664

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-d ethylnaphthalene	K.4	8	KK.9	26.K		3g/Vg	☼	u7	4K - 111
2-d ethylnaphthalene	K.4	8	KK.9	2U.7		3g/Vg	☼	u6	K9 - 114
Acenaphthene	K.4	8	KK.9	24.9		3g/Vg	☼	uK	44 - 111
Acenaphthylene	K.4	8	KK.9	26.6		3g/Vg	☼	u7	K9 - 116
Anthracene	K.4	8	KK.9	2U.U		3g/Vg	☼	uU	U0 - 114
Qen5o[a]anthracene	K.4	8	KK.9	26.U		3g/Vg	☼	u7	U4 - 122
Qen5o[a]pyrene	K.4	8	KK.9	2U.6		3g/Vg	☼	u6	U0 - 12U
Qen5o[b]Bl3oranthene	1.U	J	KK.9	26.1		3g/Vg	☼	uK	UK - 127
Qen5o[g,h,i]perylene	1.9	J	KK.9	2u.2		3g/Vg	☼	uU	49 - 12u
Qen5o[k]Bl3oranthene	K.4	8	KK.9	27.9		3g/Vg	☼	7U	U6 - 12K
Chrysene	K.4	8	KK.9	2u.u		3g/Vg	☼	72	Uu - 117
Diben5(a,h)anthracene	K.4	8	KK.9	26.4		3g/Vg	☼	u7	U0 - 129
Fl3oranthene	K.4	8	KK.9	2u.K		3g/Vg	☼	71	UU - 119
Fl3orene	K.4	8	KK.9	2U.U		3g/Vg	☼	uU	4u - 114
Inzeno[1,2,K-cz]pyrene	K.4	8	KK.9	2u.1		3g/Vg	☼	70	49 - 1K0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 160-24924-9 MS

Client Sample ID: SHAD041DP022SS03NS
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 333047
Prep Batch: 332664

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Naphthalene	K4	8	KK9	2U7		3g/Vg	☼	u6	K7 - 111		
Phenanthrene	K4	8	KK9	29.0		3g/Vg	☼	76	49 - 11K		
Pyrene	K4	8	KK9	2u.2		3g/Vg	☼	70	UU - 11u		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*84*		*46 - 115*
Nitrobenzene-d5 (Surr)	*83*		*44 - 125*
Terphenyl-d14 (Surr)	*92*		*58 - 133*

Lab Sample ID: 160-24924-9 MSD

Client Sample ID: SHAD041DP022SS03NS
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 333047
Prep Batch: 332664

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-d ethylnaphthalene	K4	8	KK.U	26.K		3g/Vg	☼	u7	4K - 111	0	20
2-d ethylnaphthalene	K4	8	KK.U	26.6		3g/Vg	☼	u9	K9 - 114	K	20
Acenaphthene	K4	8	KK.U	2U.K		3g/Vg	☼	u6	44 - 111	2	20
Acenaphthylene	K4	8	KK.U	26.9		3g/Vg	☼	70	K9 - 116	1	20
Anthracene	K4	8	KK.U	26.7		3g/Vg	☼	70	U0 - 114	U	20
Qen5o[a]anthracene	K4	8	KK.U	2u.2		3g/Vg	☼	71	U4 - 122	K	20
Qen5o[a]pyrene	K4	8	KK.U	26.7		3g/Vg	☼	70	U0 - 12U	4	20
Qen5o[b]B3oranthene	1.U	J	KK.U	26.u		3g/Vg	☼	uU	UK - 127	2	20
Qen5o[g,h,i]perylene	1.9	J	KK.U	2u.7		3g/Vg	☼	uu	49 - 12u	2	20
Qen5o[k]B3oranthene	K4	8	KK.U	K0.2		3g/Vg	☼	90	U6 - 12K	U	20
Chrysene	K4	8	KK.U	2u.6		3g/Vg	☼	72	Uu - 117	0	20
Diben5(a,h)anthracene	K4	8	KK.U	27.1		3g/Vg	☼	74	U0 - 129	6	20
Fl3oranthene	K4	8	KK.U	2u.u		3g/Vg	☼	7K	UU - 119	1	20
Fl3orene	K4	8	KK.U	26.1		3g/Vg	☼	u7	4u - 114	K	20
Inzeno[1,2,K-cz]pyrene	K4	8	KK.U	27.U		3g/Vg	☼	7U	49 - 1K0	U	20
Naphthalene	K4	8	KK.U	26.K		3g/Vg	☼	u9	K7 - 111	2	20
Phenanthrene	K4	8	KK.U	29.u		3g/Vg	☼	79	49 - 11K	2	20
Pyrene	K4	8	KK.U	2u.4		3g/Vg	☼	72	UU - 11u	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*85*		*46 - 115*
Nitrobenzene-d5 (Surr)	*85*		*44 - 125*
Terphenyl-d14 (Surr)	*93*		*58 - 133*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 160-332430/1-A

Client Sample ID: Method Blank
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 333051
Prep Batch: 332430

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCQ-1016	16	8	KK	9.6	3g/Vg		10/17/1u 09:00	10/21/1u 1K:0K	1
PCQ-1221	16	8	KK	9.6	3g/Vg		10/17/1u 09:00	10/21/1u 1K:0K	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 160-332430/1-A
Matrix: Solid
Analysis Batch: 333051

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332430

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCQ-12K2	16	8	KK	9.6	3g/Vg		10/17/1u 09:00	10/21/1u 1K:0K	1
PCQ-1242	16	8	KK	9.6	3g/Vg		10/17/1u 09:00	10/21/1u 1K:0K	1
PCQ-1247	16	8	KK	11	3g/Vg		10/17/1u 09:00	10/21/1u 1K:0K	1
PCQ-12U4	16	8	KK	1K	3g/Vg		10/17/1u 09:00	10/21/1u 1K:0K	1
PCQ-1260	10	8	KK	10	3g/Vg		10/17/1u 09:00	10/21/1u 1K:0K	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*104*		*44 - 150*	*10/18/17 09:00*	*10/21/17 13:03*	*1*

Lab Sample ID: LCS 160-332430/2-A
Matrix: Solid
Analysis Batch: 333051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332430

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCQ-1016	16u	161		3g/Vg		9u	4u - 1K4
PCQ-1260	16u	16K		3g/Vg		97	UK - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*95*		*44 - 150*

Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Analysis Batch: 333051

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 332430

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCQ-1016	16	8	1u0	164		3g/Vg	☼	96	4u - 1K4
PCQ-1260	10	8	1u0	1U9		3g/Vg	☼	94	UK - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*90*		*44 - 150*

Lab Sample ID: 160-24924-9 MSD
Matrix: Solid
Analysis Batch: 333051

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 332430

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCQ-1016	16	8	169	166		3g/Vg	☼	97	4u - 1K4	2	K0
PCQ-1260	10	8	169	1Uu		3g/Vg	☼	92	UK - 140	2	K0

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*90*		*44 - 150*

QC Sample Results

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-332120/1-A
Matrix: Solid
Analysis Batch: 332586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332120

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromi3m	0.uK	8	0.97	0.24	mg/Vg		10/16/1u 11:U2	10/17/1u 1u:46	1
Leaz	0.uK	8	0.97	0.24	mg/Vg		10/16/1u 11:U2	10/17/1u 1u:46	1

Lab Sample ID: LCS 160-332120/2-A
Matrix: Solid
Analysis Batch: 332586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromi3m	79.0	76.7		mg/Vg		97	7U - 11K
Leaz	79.0	79.U		mg/Vg		101	71 - 112

Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Analysis Batch: 332586

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 332120

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromi3m	12	D J	97.0	16U	D J	mg/Vg	☼	1Uu	7U - 11K
Leaz	K9	D	97.0	1Ku	D	mg/Vg	☼	100	71 - 112

Lab Sample ID: 160-24924-9 MSD
Matrix: Solid
Analysis Batch: 332586

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 332120

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromi3m	12	D J	90.1	100	D J	mg/Vg	☼	97	7U - 11K	49	20
Leaz	K9	D	90.1	12K	D	mg/Vg	☼	94	71 - 112	10	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 160-332230/1-A
Matrix: Solid
Analysis Batch: 332648

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332230

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromi3m(f I)	0.19	8	0.K9	0.09u	mg/Vg		10/17/1u 06:4U	10/19/1u 09:KK	1

Lab Sample ID: LCS 160-332230/2-A
Matrix: Solid
Analysis Batch: 332648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332230

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromi3m(f I)	K7.1	Ku.1	D	mg/Vg		9u	74 - 110

Lab Sample ID: 160-24922-F-26-B MS
Matrix: Solid
Analysis Batch: 332648

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 332230

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromi3m(f I)	0.K0	J	47.7	46.7	D	mg/Vg	☼	9U	uU - 12U

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 160-24922-F-26-C MSD
Matrix: Solid
Analysis Batch: 332648

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 332230

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromi3m(f I)	0.K0	J	49.K	4u.u	D	mg/Vg	☼	96	uU- 12U	2	20

Lab Sample ID: 160-24922-F-26-D MSI
Matrix: Solid
Analysis Batch: 332648

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 332230

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Chromi3m(f I)	0.K0	J	97.1	U1.6	D	mg/Vg	☼	U2	20.4 - 110

Lab Sample ID: MB 160-332594/1-A
Matrix: Solid
Analysis Batch: 332863

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332594

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromi3m(f I)	0.19	8	0.K7	0.096	mg/Vg		10/19/1u 07:1U	10/20/1u 07:4K	1

Lab Sample ID: LCS 160-332594/2-A
Matrix: Solid
Analysis Batch: 332863

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332594

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromi3m(f I)	40.0	K9.4	D	mg/Vg		99	74 - 110

Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Analysis Batch: 332863

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 332594

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromi3m(f I)	0.4U		40.2	K6.6	D	mg/Vg	☼	90	uU- 12U

Lab Sample ID: 160-24924-9 MSD
Matrix: Solid
Analysis Batch: 332863

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 332594

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromi3m(f I)	0.4U		40.2	Ku.2	D	mg/Vg	☼	91	uU- 12U	1	20

Lab Sample ID: 160-24924-9 MSI
Matrix: Solid
Analysis Batch: 332863

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 332594

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Chromi3m(f I)	0.4U		74.U	40.7	D	mg/Vg	☼	47	20.4 - 110

QC Association Summary

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-1

GC/MS VOA

Analysis Batch: 331094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-20	TB-100617-7	Total/NA	Water	8260C DOD	
160-24924-21	TB-100617-8	Total/NA	Water	8260C DOD	
160-24924-22	TB-100617-9	Total/NA	Water	8260C DOD	
160-24924-23	TB-100617-10	Total/NA	Water	8260C DOD	
MB 160-331094/8	Method Blank	Total/NA	Water	8260C DOD	
LCS 160-331094/5	Lab Control Sample	Total/NA	Water	8260C DOD	
LCSD 160-331094/6	Lab Control Sample Dup	Total/NA	Water	8260C DOD	

Analysis Batch: 332154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	8260C DOD	332159
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	8260C DOD	332159
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	8260C DOD	332159
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	8260C DOD	332159
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	8260C DOD	332159
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	8260C DOD	332159
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	8260C DOD	332159
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	8260C DOD	332159
MB 160-332159/1-A	Method Blank	Total/NA	Solid	8260C DOD	332159
LCS 160-332159/2-A	Lab Control Sample	Total/NA	Solid	8260C DOD	332159
LCSD 160-332159/3-A	Lab Control Sample Dup	Total/NA	Solid	8260C DOD	332159
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	8260C DOD	332159
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	8260C DOD	332159

Prep Batch: 332159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	5035	
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	5035	
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	5035	
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	5035	
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	5035	
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	5035	
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	5035	
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	5035	
MB 160-332159/1-A	Method Blank	Total/NA	Solid	5035	
LCS 160-332159/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 160-332159/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	5035	
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	5035	

Analysis Batch: 332246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-7 - RA	SHAD041DP022SS01NS	Total/NA	Solid	8260C DOD	332262
MB 160-332262/1-A	Method Blank	Total/NA	Solid	8260C DOD	332262
LCS 160-332262/2-A	Lab Control Sample	Total/NA	Solid	8260C DOD	332262
LCSD 160-332262/3-A	Lab Control Sample Dup	Total/NA	Solid	8260C DOD	332262

Analysis Batch: 332247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	8260C DOD	332265
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	8260C DOD	332265

GC/MS VOA (Continued)

Analysis Batch: 332247 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	8260C DOD	332265
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	8260C DOD	332265
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	8260C DOD	332265
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	8260C DOD	332265
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	8260C DOD	332265
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	8260C DOD	332265
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	8260C DOD	332265
MB 160-332265/1-A	Method Blank	Total/NA	Solid	8260C DOD	332265
LCS 160-332265/2-A	Lab Control Sample	Total/NA	Solid	8260C DOD	332265
LCSD 160-332265/3-A	Lab Control Sample Dup	Total/NA	Solid	8260C DOD	332265

Prep Batch: 332262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-7 - RA	SHAD041DP022SS01NS	Total/NA	Solid	5035	
MB 160-332262/1-A	Method Blank	Total/NA	Solid	5035	
LCS 160-332262/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 160-332262/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 332265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	5035	
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	5035	
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	5035	
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	5035	
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	5035	
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	5035	
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	5035	
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	5035	
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	5035	
MB 160-332265/1-A	Method Blank	Total/NA	Solid	5035	
LCS 160-332265/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 160-332265/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 332817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-3 - RA	SHAD041DP026SS04NS	Total/NA	Solid	8260C DOD	332822
MB 160-332822/1-A	Method Blank	Total/NA	Solid	8260C DOD	332822
LCS 160-332822/2-A	Lab Control Sample	Total/NA	Solid	8260C DOD	332822
LCSD 160-332822/3-A	Lab Control Sample Dup	Total/NA	Solid	8260C DOD	332822

Prep Batch: 332822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-3 - RA	SHAD041DP026SS04NS	Total/NA	Solid	5035	
MB 160-332822/1-A	Method Blank	Total/NA	Solid	5035	
LCS 160-332822/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 160-332822/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 332664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	3550C	
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	3550C	
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	3550C	
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	3550C	
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	3550C	
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	3550C	
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	3550C	
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	3550C	
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	3550C	
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	3550C	
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	3550C	
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	3550C	
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	3550C	
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	3550C	
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	3550C	
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	3550C	
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	3550C	
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	3550C	
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	3550C	
MB 160-332664/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 160-332664/2-A	Lab Control Sample	Total/NA	Solid	3550C	
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	3550C	
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	3550C	

Analysis Batch: 333047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	8270D SIM	332664
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	8270D SIM	332664
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	8270D SIM	332664
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	8270D SIM	332664
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	8270D SIM	332664
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	8270D SIM	332664
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	8270D SIM	332664
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	8270D SIM	332664
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	8270D SIM	332664
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	8270D SIM	332664
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	8270D SIM	332664
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	8270D SIM	332664
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	8270D SIM	332664
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	8270D SIM	332664
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	8270D SIM	332664
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	8270D SIM	332664
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	8270D SIM	332664
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	8270D SIM	332664
MB 160-332664/1-A	Method Blank	Total/NA	Solid	8270D SIM	332664
LCS 160-332664/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	332664
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	8270D SIM	332664
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	8270D SIM	332664

GC/MS Semi VOA (Continued)

Analysis Batch: 333184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	8270D SIM	332664

GC Semi VOA

Prep Batch: 332430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	3550C	
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	3550C	
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	3550C	
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	3550C	
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	3550C	
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	3550C	
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	3550C	
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	3550C	
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	3550C	
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	3550C	
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	3550C	
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	3550C	
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	3550C	
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	3550C	
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	3550C	
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	3550C	
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	3550C	
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	3550C	
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	3550C	
MB 160-332430/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 160-332430/2-A	Lab Control Sample	Total/NA	Solid	3550C	
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	3550C	
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	3550C	

Analysis Batch: 333051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	8082A	332430
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	8082A	332430
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	8082A	332430
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	8082A	332430
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	8082A	332430
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	8082A	332430
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	8082A	332430
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	8082A	332430
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	8082A	332430
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	8082A	332430
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	8082A	332430
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	8082A	332430
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	8082A	332430
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	8082A	332430
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	8082A	332430
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	8082A	332430
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	8082A	332430
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	8082A	332430

GC Semi VOA (Continued)

Analysis Batch: 333051 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	8082A	332430
MB 160-332430/1-A	Method Blank	Total/NA	Solid	8082A	332430
LCS 160-332430/2-A	Lab Control Sample	Total/NA	Solid	8082A	332430
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	8082A	332430
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	8082A	332430

Metals

Prep Batch: 332120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	3050B	
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	3050B	
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	3050B	
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	3050B	
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	3050B	
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	3050B	
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	3050B	
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	3050B	
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	3050B	
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	3050B	
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	3050B	
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	3050B	
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	3050B	
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	3050B	
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	3050B	
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	3050B	
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	3050B	
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	3050B	
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	3050B	
MB 160-332120/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 160-332120/2-A	Lab Control Sample	Total/NA	Solid	3050B	
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	3050B	
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	3050B	

Analysis Batch: 332586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	6010C	332120
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	6010C	332120
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	6010C	332120
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	6010C	332120
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	6010C	332120
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	6010C	332120
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	6010C	332120
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	6010C	332120
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	6010C	332120
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	6010C	332120
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	6010C	332120
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	6010C	332120
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	6010C	332120
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	6010C	332120

Metals (Continued)

Analysis Batch: 332586 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	6010C	332120
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	6010C	332120
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	6010C	332120
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	6010C	332120
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	6010C	332120
MB 160-332120/1-A	Method Blank	Total/NA	Solid	6010C	332120
LCS 160-332120/2-A	Lab Control Sample	Total/NA	Solid	6010C	332120
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	6010C	332120
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	6010C	332120

General Chemistry

Analysis Batch: 330807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	Moisture	
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	Moisture	
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	Moisture	
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	Moisture	
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	Moisture	
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	Moisture	
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	Moisture	
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	Moisture	
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	Moisture	
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	Moisture	
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	Moisture	
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	Moisture	
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	Moisture	
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	Moisture	
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	Moisture	
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	Moisture	
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	Moisture	
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	Moisture	
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	Moisture	
160-24922-D-19 DU	Duplicate	Total/NA	Solid	Moisture	

Prep Batch: 332230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	3060A	
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	3060A	
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	3060A	
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	3060A	
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	3060A	
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	3060A	
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	3060A	
MB 160-332230/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 160-332230/2-A	Lab Control Sample	Total/NA	Solid	3060A	
160-24922-F-26-B MS	Matrix Spike	Total/NA	Solid	3060A	
160-24922-F-26-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3060A	
160-24922-F-26-D MSI	Matrix Spike	Total/NA	Solid	3060A	

General Chemistry (Continued)

Prep Batch: 332594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	3060A	
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	3060A	
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	3060A	
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	3060A	
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	3060A	
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	3060A	
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	3060A	
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	3060A	
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	3060A	
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	3060A	
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	3060A	
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	3060A	
MB 160-332594/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 160-332594/2-A	Lab Control Sample	Total/NA	Solid	3060A	
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	3060A	
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	3060A	
160-24924-9 MSI	SHAD041DP022SS03NS	Total/NA	Solid	3060A	

Analysis Batch: 332648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	7196A	332230
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	7196A	332230
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	7196A	332230
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	7196A	332230
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	7196A	332230
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	7196A	332230
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	7196A	332230
MB 160-332230/1-A	Method Blank	Total/NA	Solid	7196A	332230
LCS 160-332230/2-A	Lab Control Sample	Total/NA	Solid	7196A	332230
160-24922-F-26-B MS	Matrix Spike	Total/NA	Solid	7196A	332230
160-24922-F-26-C MSD	Matrix Spike Duplicate	Total/NA	Solid	7196A	332230
160-24922-F-26-D MSI	Matrix Spike	Total/NA	Solid	7196A	332230

Analysis Batch: 332863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	7196A	332594
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	7196A	332594
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	7196A	332594
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	7196A	332594
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	7196A	332594
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	7196A	332594
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	7196A	332594
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	7196A	332594
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	7196A	332594
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	7196A	332594
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	7196A	332594
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	7196A	332594
MB 160-332594/1-A	Method Blank	Total/NA	Solid	7196A	332594
LCS 160-332594/2-A	Lab Control Sample	Total/NA	Solid	7196A	332594
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	7196A	332594
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	7196A	332594

General Chemistry (Continued)

Analysis Batch: 332863 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-9 MSI	SHAD041DP022SS03NS	Total/NA	Solid	7196A	332594

Client Sample ID: SHAD041DP026SS02NS

Lab Sample ID: 160-24924-1

Date Collected: 10/05/17 16:04
Matrix: Solid
Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP026SS02NS

Lab Sample ID: 160-24924-1

Date Collected: 10/05/17 16:04
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 98.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332159	10/16/17 16:59	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332154	10/16/17 22:24	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		5	333047	10/21/17 20:07	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 13:45	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 17:55	LKP	TAL SL
Total/NA	Prep	3060A			332230	10/18/17 06:45	NPV	TAL SL
Total/NA	Analysis	7196A		1	332648	10/19/17 09:33	NPV	TAL SL

Client Sample ID: SHAD041DP026SS03NS

Lab Sample ID: 160-24924-2

Date Collected: 10/05/17 16:11
Matrix: Solid
Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP026SS03NS

Lab Sample ID: 160-24924-2

Date Collected: 10/05/17 16:11
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332159	10/16/17 16:59	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332154	10/16/17 22:48	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 13:42	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 14:06	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 18:00	LKP	TAL SL
Total/NA	Prep	3060A			332230	10/18/17 06:45	NPV	TAL SL
Total/NA	Analysis	7196A		1	332648	10/19/17 09:33	NPV	TAL SL

Client Sample ID: SHAD041DP026SS04NS

Lab Sample ID: 160-24924-3

Date Collected: 10/05/17 16:15
Matrix: Solid
Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP026SS04NS

Lab Sample ID: 160-24924-3

Date Collected: 10/05/17 16:15
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	RA		332822	10/19/17 16:19	JDH	TAL SL
Total/NA	Analysis	8260C DOD	RA	1	332817	10/19/17 18:20	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 14:05	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 14:27	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 18:04	LKP	TAL SL
Total/NA	Prep	3060A			332230	10/18/17 06:45	NPV	TAL SL
Total/NA	Analysis	7196A		1	332648	10/19/17 09:33	NPV	TAL SL

Client Sample ID: SHAD041DP026SS05NS

Lab Sample ID: 160-24924-4

Date Collected: 10/05/17 16:22
Matrix: Solid
Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP026SS05NS

Lab Sample ID: 160-24924-4

Date Collected: 10/05/17 16:22
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332159	10/16/17 16:59	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332154	10/16/17 23:38	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 14:28	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 14:48	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 18:22	LKP	TAL SL
Total/NA	Prep	3060A			332230	10/18/17 06:45	NPV	TAL SL
Total/NA	Analysis	7196A		1	332648	10/19/17 09:33	NPV	TAL SL

Client Sample ID: SHAD041DP026SS05DS

Lab Sample ID: 160-24924-5

Date Collected: 10/05/17 16:26
Matrix: Solid
Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP026SS05DS

Lab Sample ID: 160-24924-5

Date Collected: 10/05/17 16:26
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 73.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	332154	10/16/17 00:03	JDH	TAL SL
Total/NA	Prep	5035			332159	10/16/17 16:59	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 14:51	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 15:09	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 18:26	LKP	TAL SL
Total/NA	Prep	3060A			332230	10/18/17 06:45	NPV	TAL SL
Total/NA	Analysis	7196A		1	332648	10/19/17 09:33	NPV	TAL SL

Client Sample ID: SHAD041DP026SS06NS

Lab Sample ID: 160-24924-6

Date Collected: 10/05/17 16:31
Matrix: Solid
Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP026SS06NS

Lab Sample ID: 160-24924-6

Date Collected: 10/05/17 16:31
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332159	10/16/17 16:59	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332154	10/17/17 00:27	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 15:13	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 15:30	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 18:31	LKP	TAL SL
Total/NA	Prep	3060A			332230	10/18/17 06:45	NPV	TAL SL
Total/NA	Analysis	7196A		1	332648	10/19/17 09:33	NPV	TAL SL

Client Sample ID: SHAD041DP022SS01NS Lab Sample ID: 160-24924-7

Date Collected: 10/05/17 16:45 **Matrix: Solid**

Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP022SS01NS Lab Sample ID: 160-24924-7

Date Collected: 10/05/17 16:45 **Matrix: Solid**

Date Received: 10/07/17 08:50 **Percent Solids: 99.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	RA		332262	10/17/17 15:12	JDH	TAL SL
Total/NA	Analysis	8260C DOD	RA	1	332246	10/18/17 00:52	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		10	333047	10/21/17 20:52	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 15:50	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 18:35	LKP	TAL SL
Total/NA	Prep	3060A			332230	10/18/17 06:45	NPV	TAL SL
Total/NA	Analysis	7196A		1	332648	10/19/17 09:33	NPV	TAL SL

Client Sample ID: SHAD041DP022SS02NS Lab Sample ID: 160-24924-8

Date Collected: 10/05/17 16:55 **Matrix: Solid**

Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP022SS02NS Lab Sample ID: 160-24924-8

Date Collected: 10/05/17 16:55 **Matrix: Solid**

Date Received: 10/07/17 08:50 **Percent Solids: 99.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332159	10/16/17 16:59	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332154	10/17/17 01:17	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		5	333047	10/21/17 20:30	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 16:11	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 18:40	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:43	NPV	TAL SL

Client Sample ID: SHAD041DP022SS03NS

Date Collected: 10/05/17 16:59
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP022SS03NS

Date Collected: 10/05/17 16:59
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-9
Matrix: Solid
Percent Solids: 98.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332159	10/16/17 16:59	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332154	10/16/17 20:37	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 15:36	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 16:53	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 18:44	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:43	NPV	TAL SL

Client Sample ID: SHAD041DP022SS04NS

Date Collected: 10/05/17 17:10
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP022SS04NS

Date Collected: 10/05/17 17:10
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-10
Matrix: Solid
Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332159	10/16/17 16:59	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332154	10/17/17 01:41	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 16:43	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 17:56	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 19:19	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:43	NPV	TAL SL

Client Sample ID: SHAD041DP022SS05NS
Date Collected: 10/05/17 17:15
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP022SS05NS
Date Collected: 10/05/17 17:15
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-11
Matrix: Solid
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332265	10/17/17 15:13	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332247	10/17/17 17:38	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 17:06	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 18:17	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 19:24	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:43	NPV	TAL SL

Client Sample ID: SHAD041DP022SS06NS
Date Collected: 10/05/17 17:23
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP022SS06NS
Date Collected: 10/05/17 17:23
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-12
Matrix: Solid
Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332265	10/17/17 15:13	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332247	10/17/17 18:02	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 17:29	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 18:38	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 19:28	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:43	NPV	TAL SL

Client Sample ID: SHAD041DP013SS01NS
Date Collected: 10/05/17 14:23
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP013SS01NS
Date Collected: 10/05/17 14:23
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-13
Matrix: Solid
Percent Solids: 99.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332265	10/17/17 15:13	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332247	10/17/17 18:33	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		10	333047	10/21/17 21:15	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 18:59	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 19:33	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:43	NPV	TAL SL

Client Sample ID: SHAD041DP013SS02NS
Date Collected: 10/05/17 14:34
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP013SS02NS
Date Collected: 10/05/17 14:34
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-14
Matrix: Solid
Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332265	10/17/17 15:13	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332247	10/17/17 18:59	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 17:51	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 19:20	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 19:37	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:43	NPV	TAL SL

Client Sample ID: SHAD041DP013SS03NS

Lab Sample ID: 160-24924-15

Date Collected: 10/05/17 14:44
Date Received: 10/07/17 08:50

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP013SS03NS

Lab Sample ID: 160-24924-15

Date Collected: 10/05/17 14:44
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332265	10/17/17 15:13	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332247	10/17/17 19:24	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 18:14	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 19:41	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 19:42	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:43	NPV	TAL SL

Client Sample ID: SHAD041DP013SS04NS

Lab Sample ID: 160-24924-16

Date Collected: 10/05/17 15:06
Date Received: 10/07/17 08:50

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP013SS04NS

Lab Sample ID: 160-24924-16

Date Collected: 10/05/17 15:06
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332265	10/17/17 15:13	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332247	10/17/17 19:48	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333184	10/23/17 18:10	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 20:02	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 19:46	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:45	NPV	TAL SL

Client Sample ID: SHAD041DP013SS05NS
Lab Sample ID: 160-24924-17
Date Collected: 10/05/17 15:10
Matrix: Solid
Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP013SS05NS
Lab Sample ID: 160-24924-17
Date Collected: 10/05/17 15:10
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 76.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332265	10/17/17 15:13	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332247	10/17/17 20:13	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 19:00	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 20:44	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 19:51	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:45	NPV	TAL SL

Client Sample ID: SHAD041DP013SS05DS
Lab Sample ID: 160-24924-18
Date Collected: 10/05/17 15:15
Matrix: Solid
Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP013SS05DS
Lab Sample ID: 160-24924-18
Date Collected: 10/05/17 15:15
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 80.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332265	10/17/17 15:13	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332247	10/17/17 20:39	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 19:22	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 21:05	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 19:55	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:45	NPV	TAL SL

Client Sample ID: SHAD041DP013SS06NS

Lab Sample ID: 160-24924-19

Date Collected: 10/05/17 15:18
Date Received: 10/07/17 08:50

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330807	10/08/17 14:21	SDB	TAL SL

Client Sample ID: SHAD041DP013SS06NS

Lab Sample ID: 160-24924-19

Date Collected: 10/05/17 15:18
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			332265	10/17/17 15:13	JDH	TAL SL
Total/NA	Analysis	8260C DOD		1	332247	10/17/17 21:04	JDH	TAL SL
Total/NA	Prep	3550C			332664	10/19/17 11:07	KRS	TAL SL
Total/NA	Analysis	8270D SIM		1	333047	10/21/17 19:45	DEK	TAL SL
Total/NA	Prep	3550C			332430	10/18/17 09:00	KRS	TAL SL
Total/NA	Analysis	8082A		1	333051	10/21/17 21:26	DEK	TAL SL
Total/NA	Prep	3050B			332120	10/16/17 11:52	LAM	TAL SL
Total/NA	Analysis	6010C		5	332586	10/18/17 20:00	LKP	TAL SL
Total/NA	Prep	3060A			332594	10/19/17 08:15	NPV	TAL SL
Total/NA	Analysis	7196A		1	332863	10/20/17 08:45	NPV	TAL SL

Client Sample ID: TB-100617-7

Lab Sample ID: 160-24924-20

Date Collected: 10/06/17 13:03
Date Received: 10/07/17 08:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	331094	10/09/17 22:20	JDH	TAL SL

Client Sample ID: TB-100617-8

Lab Sample ID: 160-24924-21

Date Collected: 10/06/17 13:03
Date Received: 10/07/17 08:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	331094	10/09/17 22:45	JDH	TAL SL

Client Sample ID: TB-100617-9

Lab Sample ID: 160-24924-22

Date Collected: 10/06/17 13:03
Date Received: 10/07/17 08:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	331094	10/09/17 23:11	JDH	TAL SL

Client Sample ID: TB-100617-10

Lab Sample ID: 160-24924-23

Date Collected: 10/06/17 13:03

Matrix: Water

Date Received: 10/07/17 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	331094	10/09/17 23:36	JDH	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-1

Laboratory: TestAmerica St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
L-A-B	DoD ELAP		L2305	04-06-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8270D SIM	3550C	Solid	1-Methylnaphthalene
8270D SIM	3550C	Solid	2-Methylnaphthalene
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SL
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7196A	Chromium, Hexavalent	SW846	TAL SL
Moisture	Percent Moisture	EPA	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-24924-1	SHAD041DP026SS02NS	Solid	10/05/17 16:04	10/07/17 08:50
160-24924-2	SHAD041DP026SS03NS	Solid	10/05/17 16:11	10/07/17 08:50
160-24924-3	SHAD041DP026SS04NS	Solid	10/05/17 16:15	10/07/17 08:50
160-24924-4	SHAD041DP026SS05NS	Solid	10/05/17 16:22	10/07/17 08:50
160-24924-5	SHAD041DP026SS05DS	Solid	10/05/17 16:26	10/07/17 08:50
160-24924-6	SHAD041DP026SS06NS	Solid	10/05/17 16:31	10/07/17 08:50
160-24924-7	SHAD041DP022SS01NS	Solid	10/05/17 16:45	10/07/17 08:50
160-24924-8	SHAD041DP022SS02NS	Solid	10/05/17 16:55	10/07/17 08:50
160-24924-9	SHAD041DP022SS03NS	Solid	10/05/17 16:59	10/07/17 08:50
160-24924-10	SHAD041DP022SS04NS	Solid	10/05/17 17:10	10/07/17 08:50
160-24924-11	SHAD041DP022SS05NS	Solid	10/05/17 17:15	10/07/17 08:50
160-24924-12	SHAD041DP022SS06NS	Solid	10/05/17 17:23	10/07/17 08:50
160-24924-13	SHAD041DP013SS01NS	Solid	10/05/17 14:23	10/07/17 08:50
160-24924-14	SHAD041DP013SS02NS	Solid	10/05/17 14:34	10/07/17 08:50
160-24924-15	SHAD041DP013SS03NS	Solid	10/05/17 14:44	10/07/17 08:50
160-24924-16	SHAD041DP013SS04NS	Solid	10/05/17 15:06	10/07/17 08:50
160-24924-17	SHAD041DP013SS05NS	Solid	10/05/17 15:10	10/07/17 08:50
160-24924-18	SHAD041DP013SS05DS	Solid	10/05/17 15:15	10/07/17 08:50
160-24924-19	SHAD041DP013SS06NS	Solid	10/05/17 15:18	10/07/17 08:50
160-24924-20	TB-100617-7	Water	10/06/17 13:03	10/07/17 08:50
160-24924-21	TB-100617-8	Water	10/06/17 13:03	10/07/17 08:50
160-24924-22	TB-100617-9	Water	10/06/17 13:03	10/07/17 08:50
160-24924-23	TB-100617-10	Water	10/06/17 13:03	10/07/17 08:50

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSF Analysis Batch Number: 329944

Lab Sample ID: IC 160-329944/5 Client Sample ID:

Date Analyzed: 10/02/17 21:52 Lab File ID: FICL2850.D GC Column: RTX-VMS40 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.16	Split Peak	hannj	10/03/17 16:34
Trichlorofluoromethane	4.31	Split Peak	hannj	10/03/17 16:35
Ethanol	4.98	Split Peak	hannj	10/03/17 16:35

Lab Sample ID: IC 160-329944/6 Client Sample ID:

Date Analyzed: 10/02/17 22:17 Lab File ID: FICL2851.D GC Column: RTX-VMS40 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.26	Split Peak	hannj	10/03/17 16:37
Ethanol	5.00	Peak Tail	hannj	10/03/17 16:38

Lab Sample ID: IC 160-329944/7 Client Sample ID:

Date Analyzed: 10/02/17 22:42 Lab File ID: FICL2852.D GC Column: RTX-VMS40 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.31	Split Peak	hannj	10/03/17 16:57
Ethanol	5.00	Peak Tail	hannj	10/03/17 16:58

Lab Sample ID: ICIS 160-329944/8 Client Sample ID:

Date Analyzed: 10/02/17 23:06 Lab File ID: FICL2853.D GC Column: RTX-VMS40 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.16	Peak Tail	hannj	10/03/17 16:11
Trichlorofluoromethane	4.26	Split Peak	hannj	10/03/17 16:12
Ethanol	4.99	Peak Tail	hannj	10/03/17 16:12

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSF   Analysis Batch Number: 329944

Lab Sample ID: IC 160-329944/9   Client Sample ID:

Date Analyzed: 10/02/17 23:31   Lab File ID: FICL2854.D   GC Column: RTX-VMS40   ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.31	Split Peak	hannj	10/03/17 17:00
Ethanol	5.00	Peak Tail	hannj	10/03/17 17:00

Lab Sample ID: IC 160-329944/10   Client Sample ID:

Date Analyzed: 10/02/17 23:55   Lab File ID: FICL2855.D   GC Column: RTX-VMS40   ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.31	Split Peak	hannj	10/08/17 21:03
Ethanol	4.99	Peak Tail	hannj	10/08/17 21:03

Lab Sample ID: ICV 160-329944/13   Client Sample ID:

Date Analyzed: 10/03/17 01:09   Lab File ID: FICV2858.D   GC Column: RTX-VMS40   ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.17	Peak Tail	hannj	10/08/17 22:06
Trichlorofluoromethane	4.31	Split Peak	hannj	10/08/17 22:06
Ethanol	4.98	Split Peak	hannj	10/08/17 22:06

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSF Analysis Batch Number: 331094

Lab Sample ID: CCV 160-331094/4 Client Sample ID:

Date Analyzed: 10/09/17 19:12 Lab File ID: FCCV2894.D GC Column: RTX-VMS40 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.32	Split Peak	hannj	10/11/17 22:38
Ethanol	4.98	Peak Tail	hannj	10/11/17 22:39

Lab Sample ID: CCVC 160-331094/26 Client Sample ID:

Date Analyzed: 10/10/17 04:37 Lab File ID: FCCV2916.D GC Column: RTX-VMS40 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.16	Peak Tail	hannj	10/11/17 22:53
Trichlorofluoromethane	4.31	Split Peak	hannj	10/11/17 22:54
Ethanol	4.98	Peak Tail	hannj	10/11/17 22:54
Iodomethane	5.33	Split Peak	hannj	10/11/17 22:54

8260C DOD

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSF Analysis Batch Number: 332154

Lab Sample ID: CCV 160-332154/3 Client Sample ID:

Date Analyzed: 10/16/17 16:37 Lab File ID: FCCV3032.D GC Column: RTX-VMS40 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.31	Split Peak	hannj	10/18/17 21:58

Lab Sample ID: CCVC 160-332154/25 Client Sample ID:

Date Analyzed: 10/17/17 02:06 Lab File ID: FCCV3054.D GC Column: RTX-VMS40 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.16	Peak Tail	hannj	10/18/17 22:08
Trichlorofluoromethane	4.26	Split Peak	hannj	10/18/17 22:08

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSF Analysis Batch Number: 332247

Lab Sample ID: CCV 160-332247/4 Client Sample ID:

Date Analyzed: 10/17/17 15:17 Lab File ID: FCCV3058.D GC Column: RTX-VMS40 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.31	Split Peak	hannj	10/19/17 23:53
Ethanol	4.97	Peak Tail	hannj	10/19/17 23:53

Lab Sample ID: CCVC 160-332247/25 Client Sample ID:

Date Analyzed: 10/18/17 00:49 Lab File ID: FCCV3079.D GC Column: RTX-VMS40 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.31	Split Peak	hannj	10/19/17 23:59
Ethanol	4.97	Peak Tail	hannj	10/19/17 23:59

8260C DOD

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSX Analysis Batch Number: 327349

Lab Sample ID: IC 160-327349/5 Client Sample ID:

Date Analyzed: 09/14/17 23:45 Lab File ID: XICL8776.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dibromo-3-Chloropropane	15.27	Missed Peak	hannj	09/18/17 16:48

Lab Sample ID: IC 160-327349/6 Client Sample ID:

Date Analyzed: 09/15/17 00:10 Lab File ID: XICL8777.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	9.51	Missed Peak	hannj	09/18/17 16:53

Lab Sample ID: IC 160-327349/7 Client Sample ID:

Date Analyzed: 09/15/17 00:35 Lab File ID: XICL8778.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	9.50	Missed Peak	hannj	09/18/17 16:54

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: SMSI Analysis Batch Number: 333184

Lab Sample ID: CCV 160-333184/4 Client Sample ID:

Date Analyzed: 10/23/17 10:22 Lab File ID: I4893.D GC Column: RXI5SiiMS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Indeno[1,2,3-cd]pyrene	13.06	Baseline	lorej	10/23/17 17:15

8270D SIM

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
0.1 ppm PAH_00023	12/03/17	10/19/17	MeCl2, Lot 173141	1 mL	20 ppm PAH_00017	5 uL	1-Methylnaphthalene	0.1 ppm
							2-Methylnaphthalene	0.1 ppm
							Acenaphthene	0.1 ppm
							Acenaphthylene	0.1 ppm
							Anthracene	0.1 ppm
							Benzo[a]anthracene	0.1 ppm
							Benzo[a]pyrene	0.1 ppm
							Benzo[b]fluoranthene	0.1 ppm
							Benzo[g,h,i]perylene	0.1 ppm
							Benzo[k]fluoranthene	0.1 ppm
							Chrysene	0.1 ppm
							Dibenz(a,h)anthracene	0.1 ppm
							Fluoranthene	0.1 ppm
							Fluorene	0.1 ppm
							Indeno[1,2,3-cd]pyrene	0.1 ppm
							Naphthalene	0.1 ppm
							Phenanthrene	0.1 ppm
							Pyrene	0.1 ppm
							2-Fluorobiphenyl (Surr)	0.1 ppm
							Nitrobenzene-d5 (Surr)	0.1 ppm
							Terphenyl-d14 (Surr)	0.1 ppm
					80 ppm I Std_00085	50 uL	1,4-Dichlorobenzene-d4	4 ppm
							Acenaphthene-d10	4 ppm
							Chrysene-d12	4 ppm
							Naphthalene-d8	4 ppm
							Perylene-d12	4 ppm
							Phenanthrene-d10	4 ppm
.20 ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	200ppm PAH_00017	1 mL	1-Methylnaphthalene	20 ppm
							2-Methylnaphthalene	20 ppm
							Acenaphthene	20 ppm
							Acenaphthylene	20 ppm
							Anthracene	20 ppm
							Benzo[a]anthracene	20 ppm
							Benzo[a]pyrene	20 ppm
							Benzo[b]fluoranthene	20 ppm
							Benzo[g,h,i]perylene	20 ppm
							Benzo[k]fluoranthene	20 ppm
							Chrysene	20 ppm
							Dibenz(a,h)anthracene	20 ppm
							Fluoranthene	20 ppm
							Fluorene	20 ppm
							Indeno[1,2,3-cd]pyrene	20 ppm
							Naphthalene	20 ppm
							Phenanthrene	20 ppm
							Pyrene	20 ppm
					8270 Surr Std_00083	0.04 mL	2-Fluorobiphenyl (Surr)	20 ppm
							Nitrobenzene-d5 (Surr)	20 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent Reagent ID	Parent Reagent Volume Added	Analyte	Concentration
							Terphenyl-d14 (Surr)	20 ppm
..200ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	Cal Mix 5_00020	1 mL	1-Methylnaphthalene	200 ppm
							2-Methylnaphthalene	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Chrysene	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Naphthalene	200 ppm
							Phenanthrene	200 ppm
							Pyrene	200 ppm
...Cal Mix 5_00020	06/26/18		Restek, Lot A0113665		(Purchased Reagent)		1-Methylnaphthalene	2000 ppm
							2-Methylnaphthalene	2000 ppm
							Acenaphthene	2000 ppm
							Acenaphthylene	2000 ppm
							Anthracene	2000 ppm
							Benzo[a]anthracene	2000 ppm
							Benzo[a]pyrene	2000 ppm
							Benzo[b]fluoranthene	2000 ppm
							Benzo[g,h,i]perylene	2000 ppm
							Benzo[k]fluoranthene	2000 ppm
							Chrysene	2000 ppm
							Dibenz(a,h)anthracene	2000 ppm
							Fluoranthene	2000 ppm
							Fluorene	2000 ppm
							Indeno[1,2,3-cd]pyrene	2000 ppm
							Naphthalene	2000 ppm
							Phenanthrene	2000 ppm
							Pyrene	2000 ppm
..8270 Surr Std_00083	06/26/18		Restek, Lot A0103960		(Purchased Reagent)		2-Fluorobiphenyl (Surr)	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm
.80 ppm I Std_00085	01/05/18	07/05/17	MeCl2, Lot 0000173141	2.5 mL	Internal Std_00018	0.1 mL	1,4-Dichlorobenzene-d4	80 ppm
							Acenaphthene-d10	80 ppm
							Chrysene-d12	80 ppm
							Naphthalene-d8	80 ppm
							Perylene-d12	80 ppm
							Phenanthrene-d10	80 ppm
..Internal Std_00018	07/05/18		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ppm
							Acenaphthene-d10	2000 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene-d12	2000 ppm
							Naphthalene-d8	2000 ppm
							Perylene-d12	2000 ppm
							Phenanthrene-d10	2000 ppm
0.2 ppm PAH_00023	12/26/17	10/19/17	MeCl2, Lot 173141	1 mL	20 ppm PAH_00017	10 uL	1-Methylnaphthalene	0.2 ppm
							2-Methylnaphthalene	0.2 ppm
							Acenaphthene	0.2 ppm
							Acenaphthylene	0.2 ppm
							Anthracene	0.2 ppm
							Benzo[a]anthracene	0.2 ppm
							Benzo[a]pyrene	0.2 ppm
							Benzo[b]fluoranthene	0.2 ppm
							Benzo[g,h,i]perylene	0.2 ppm
							Benzo[k]fluoranthene	0.2 ppm
							Chrysene	0.2 ppm
							Dibenz(a,h)anthracene	0.2 ppm
							Fluoranthene	0.2 ppm
							Fluorene	0.2 ppm
							Indeno[1,2,3-cd]pyrene	0.2 ppm
							Naphthalene	0.2 ppm
							Phenanthrene	0.2 ppm
							Pyrene	0.2 ppm
							2-Fluorobiphenyl (Surr)	0.2 ppm
							Nitrobenzene-d5 (Surr)	0.2 ppm
							Terphenyl-d14 (Surr)	0.2 ppm
					80 ppm I Std_00085	50 uL	1,4-Dichlorobenzene-d4	4 ppm
							Acenaphthene-d10	4 ppm
							Chrysene-d12	4 ppm
							Naphthalene-d8	4 ppm
							Perylene-d12	4 ppm
							Phenanthrene-d10	4 ppm
.20 ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	200ppm PAH_00017	1 mL	1-Methylnaphthalene	20 ppm
							2-Methylnaphthalene	20 ppm
							Acenaphthene	20 ppm
							Acenaphthylene	20 ppm
							Anthracene	20 ppm
							Benzo[a]anthracene	20 ppm
							Benzo[a]pyrene	20 ppm
							Benzo[b]fluoranthene	20 ppm
							Benzo[g,h,i]perylene	20 ppm
							Benzo[k]fluoranthene	20 ppm
							Chrysene	20 ppm
							Dibenz(a,h)anthracene	20 ppm
							Fluoranthene	20 ppm
							Fluorene	20 ppm
							Indeno[1,2,3-cd]pyrene	20 ppm
							Naphthalene	20 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	20 ppm
							Pyrene	20 ppm
					8270 Surr Std_00083	0.04 mL	2-Fluorobiphenyl (Surr)	20 ppm
							Nitrobenzene-d5 (Surr)	20 ppm
							Terphenyl-d14 (Surr)	20 ppm
..200ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	Cal Mix 5_00020	1 mL	1-Methylnaphthalene	200 ppm
							2-Methylnaphthalene	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Chrysene	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Naphthalene	200 ppm
							Phenanthrene	200 ppm
							Pyrene	200 ppm
...Cal Mix 5_00020	06/26/18		Restek, Lot A0113665		(Purchased Reagent)		1-Methylnaphthalene	2000 ppm
							2-Methylnaphthalene	2000 ppm
							Acenaphthene	2000 ppm
							Acenaphthylene	2000 ppm
							Anthracene	2000 ppm
							Benzo[a]anthracene	2000 ppm
							Benzo[a]pyrene	2000 ppm
							Benzo[b]fluoranthene	2000 ppm
							Benzo[g,h,i]perylene	2000 ppm
							Benzo[k]fluoranthene	2000 ppm
							Chrysene	2000 ppm
							Dibenz(a,h)anthracene	2000 ppm
							Fluoranthene	2000 ppm
							Fluorene	2000 ppm
							Indeno[1,2,3-cd]pyrene	2000 ppm
							Naphthalene	2000 ppm
							Phenanthrene	2000 ppm
							Pyrene	2000 ppm
..8270 Surr Std_00083	06/26/18		Restek, Lot A0103960		(Purchased Reagent)		2-Fluorobiphenyl (Surr)	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm
.80 ppm I Std_00085	01/05/18	07/05/17	MeCl2, Lot 0000173141	2.5 mL	Internal Std_00018	0.1 mL	1,4-Dichlorobenzene-d4	80 ppm
							Acenaphthene-d10	80 ppm
							Chrysene-d12	80 ppm
							Naphthalene-d8	80 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perylene-d12	80 ppm
							Phenanthrene-d10	80 ppm
..Internal Std_00018	07/05/18		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ppm
							Acenaphthene-d10	2000 ppm
							Chrysene-d12	2000 ppm
							Naphthalene-d8	2000 ppm
							Perylene-d12	2000 ppm
							Phenanthrene-d10	2000 ppm
0.5 ppm PAH_00023	12/26/17	10/19/17	MeCl2, Lot 173141	1 mL	20 ppm PAH_00017	25 uL	1-Methylnaphthalene	0.5 ppm
							2-Methylnaphthalene	0.5 ppm
							Acenaphthene	0.5 ppm
							Acenaphthylene	0.5 ppm
							Anthracene	0.5 ppm
							Benzo[a]anthracene	0.5 ppm
							Benzo[a]pyrene	0.5 ppm
							Benzo[b]fluoranthene	0.5 ppm
							Benzo[g,h,i]perylene	0.5 ppm
							Benzo[k]fluoranthene	0.5 ppm
							Chrysene	0.5 ppm
							Dibenz(a,h)anthracene	0.5 ppm
							Fluoranthene	0.5 ppm
							Fluorene	0.5 ppm
							Indeno[1,2,3-cd]pyrene	0.5 ppm
							Naphthalene	0.5 ppm
							Phenanthrene	0.5 ppm
							Pyrene	0.5 ppm
							2-Fluorobiphenyl (Surr)	0.5 ppm
							Nitrobenzene-d5 (Surr)	0.5 ppm
							Terphenyl-d14 (Surr)	0.5 ppm
					80 ppm I Std_00085	50 uL	1,4-Dichlorobenzene-d4	4 ppm
							Acenaphthene-d10	4 ppm
							Chrysene-d12	4 ppm
							Naphthalene-d8	4 ppm
							Perylene-d12	4 ppm
							Phenanthrene-d10	4 ppm
.20 ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	200ppm PAH_00017	1 mL	1-Methylnaphthalene	20 ppm
							2-Methylnaphthalene	20 ppm
							Acenaphthene	20 ppm
							Acenaphthylene	20 ppm
							Anthracene	20 ppm
							Benzo[a]anthracene	20 ppm
							Benzo[a]pyrene	20 ppm
							Benzo[b]fluoranthene	20 ppm
							Benzo[g,h,i]perylene	20 ppm
							Benzo[k]fluoranthene	20 ppm
							Chrysene	20 ppm
							Dibenz(a,h)anthracene	20 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoranthene	20 ppm
							Fluorene	20 ppm
							Indeno[1,2,3-cd]pyrene	20 ppm
							Naphthalene	20 ppm
							Phenanthrene	20 ppm
							Pyrene	20 ppm
					8270 Surr Std_00083	0.04 mL	2-Fluorobiphenyl (Surr)	20 ppm
							Nitrobenzene-d5 (Surr)	20 ppm
							Terphenyl-d14 (Surr)	20 ppm
..200ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	Cal Mix 5_00020	1 mL	1-Methylnaphthalene	200 ppm
							2-Methylnaphthalene	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Chrysene	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Naphthalene	200 ppm
							Phenanthrene	200 ppm
							Pyrene	200 ppm
...Cal Mix 5_00020	06/26/18		Restek, Lot A0113665		(Purchased Reagent)		1-Methylnaphthalene	2000 ppm
							2-Methylnaphthalene	2000 ppm
							Acenaphthene	2000 ppm
							Acenaphthylene	2000 ppm
							Anthracene	2000 ppm
							Benzo[a]anthracene	2000 ppm
							Benzo[a]pyrene	2000 ppm
							Benzo[b]fluoranthene	2000 ppm
							Benzo[g,h,i]perylene	2000 ppm
							Benzo[k]fluoranthene	2000 ppm
							Chrysene	2000 ppm
							Dibenz(a,h)anthracene	2000 ppm
							Fluoranthene	2000 ppm
							Fluorene	2000 ppm
							Indeno[1,2,3-cd]pyrene	2000 ppm
							Naphthalene	2000 ppm
							Phenanthrene	2000 ppm
							Pyrene	2000 ppm
..8270 Surr Std_00083	06/26/18		Restek, Lot A0103960		(Purchased Reagent)		2-Fluorobiphenyl (Surr)	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.80 ppm I Std_00085	01/05/18	07/05/17	MeCl2, Lot 0000173141	2.5 mL	Internal Std_00018	0.1 mL	1,4-Dichlorobenzene-d4	80 ppm
							Acenaphthene-d10	80 ppm
							Chrysene-d12	80 ppm
							Naphthalene-d8	80 ppm
							Perylene-d12	80 ppm
							Phenanthrene-d10	80 ppm
..Internal Std_00018	07/05/18	Restek, Lot A0112833			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ppm
							Acenaphthene-d10	2000 ppm
							Chrysene-d12	2000 ppm
							Naphthalene-d8	2000 ppm
							Perylene-d12	2000 ppm
							Phenanthrene-d10	2000 ppm
1 ppm PAH Spk_00017	10/26/17	04/26/17	Methanol, Lot 1133117	250 mL	200ppm PAH_00016	1.25 mL	1-Methylnaphthalene	1 ppm
							2-Methylnaphthalene	1 ppm
							Acenaphthene	1 ppm
							Acenaphthylene	1 ppm
							Anthracene	1 ppm
							Benzo[a]anthracene	1 ppm
							Benzo[a]pyrene	1 ppm
							Benzo[b]fluoranthene	1 ppm
							Benzo[g,h,i]perylene	1 ppm
							Benzo[k]fluoranthene	1 ppm
							Chrysene	1 ppm
							Dibenz(a,h)anthracene	1 ppm
							Fluoranthene	1 ppm
							Fluorene	1 ppm
							Indeno[1,2,3-cd]pyrene	1 ppm
							Naphthalene	1 ppm
							Phenanthrene	1 ppm
							Pyrene	1 ppm
.200ppm PAH_00016	10/26/17	04/26/17	MeCl2, Lot 1151706	10 mL	Cal Mix 5_00015	1 mL	1-Methylnaphthalene	200 ppm
							2-Methylnaphthalene	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Chrysene	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Naphthalene	200 ppm
							Phenanthrene	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	200 ppm
..Cal Mix 5_00015	10/26/17		Restek, Lot A0111195		(Purchased Reagent)		1-Methylnaphthalene	2000 ppm
							2-Methylnaphthalene	2000 ppm
							Acenaphthene	2000 ppm
							Acenaphthylene	2000 ppm
							Anthracene	2000 ppm
							Benzo[a]anthracene	2000 ppm
							Benzo[a]pyrene	2000 ppm
							Benzo[b]fluoranthene	2000 ppm
							Benzo[g,h,i]perylene	2000 ppm
							Benzo[k]fluoranthene	2000 ppm
							Chrysene	2000 ppm
							Dibenz(a,h)anthracene	2000 ppm
							Fluoranthene	2000 ppm
							Fluorene	2000 ppm
							Indeno[1,2,3-cd]pyrene	2000 ppm
							Naphthalene	2000 ppm
							Phenanthrene	2000 ppm
							Pyrene	2000 ppm
1 ppm PAH_00145	12/26/17	10/19/17	MeCl2, Lot 173141	1 mL	20 ppm PAH_00017	50 uL	1-Methylnaphthalene	1 ppm
							2-Methylnaphthalene	1 ppm
							Acenaphthene	1 ppm
							Acenaphthylene	1 ppm
							Anthracene	1 ppm
							Benzo[a]anthracene	1 ppm
							Benzo[a]pyrene	1 ppm
							Benzo[b]fluoranthene	1 ppm
							Benzo[g,h,i]perylene	1 ppm
							Benzo[k]fluoranthene	1 ppm
							Chrysene	1 ppm
							Dibenz(a,h)anthracene	1 ppm
							Fluoranthene	1 ppm
							Fluorene	1 ppm
							Indeno[1,2,3-cd]pyrene	1 ppm
							Naphthalene	1 ppm
							Phenanthrene	1 ppm
							Pyrene	1 ppm
							2-Fluorobiphenyl (Surr)	1 ppm
							Nitrobenzene-d5 (Surr)	1 ppm
							Terphenyl-d14 (Surr)	1 ppm
					80 ppm I Std_00085	50 uL	1,4-Dichlorobenzene-d4	4 ppm
							Acenaphthene-d10	4 ppm
							Chrysene-d12	4 ppm
							Naphthalene-d8	4 ppm
							Perylene-d12	4 ppm
							Phenanthrene-d10	4 ppm
.20 ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	200ppm PAH_00017	1 mL	1-Methylnaphthalene	20 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylnaphthalene	20 ppm
							Acenaphthene	20 ppm
							Acenaphthylene	20 ppm
							Anthracene	20 ppm
							Benzo[a]anthracene	20 ppm
							Benzo[a]pyrene	20 ppm
							Benzo[b]fluoranthene	20 ppm
							Benzo[g,h,i]perylene	20 ppm
							Benzo[k]fluoranthene	20 ppm
							Chrysene	20 ppm
							Dibenz(a,h)anthracene	20 ppm
							Fluoranthene	20 ppm
							Fluorene	20 ppm
							Indeno[1,2,3-cd]pyrene	20 ppm
							Naphthalene	20 ppm
							Phenanthrene	20 ppm
							Pyrene	20 ppm
					8270 Surr Std_00083	0.04 mL	2-Fluorobiphenyl (Surr)	20 ppm
							Nitrobenzene-d5 (Surr)	20 ppm
							Terphenyl-d14 (Surr)	20 ppm
..200ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	Cal Mix 5_00020	1 mL	1-Methylnaphthalene	200 ppm
							2-Methylnaphthalene	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Chrysene	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Naphthalene	200 ppm
							Phenanthrene	200 ppm
							Pyrene	200 ppm
...Cal Mix 5_00020	06/26/18		Restek, Lot A0113665		(Purchased Reagent)		1-Methylnaphthalene	2000 ppm
							2-Methylnaphthalene	2000 ppm
							Acenaphthene	2000 ppm
							Acenaphthylene	2000 ppm
							Anthracene	2000 ppm
							Benzo[a]anthracene	2000 ppm
							Benzo[a]pyrene	2000 ppm
							Benzo[b]fluoranthene	2000 ppm
							Benzo[g,h,i]perylene	2000 ppm
							Benzo[k]fluoranthene	2000 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene	2000 ppm
							Dibenz(a,h)anthracene	2000 ppm
							Fluoranthene	2000 ppm
							Fluorene	2000 ppm
							Indeno[1,2,3-cd]pyrene	2000 ppm
							Naphthalene	2000 ppm
							Phenanthrene	2000 ppm
							Pyrene	2000 ppm
..8270 Surr Std_00083	06/26/18		Restek, Lot A0103960		(Purchased Reagent)		2-Fluorobiphenyl (Surr)	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm
.80 ppm I Std_00085	01/05/18	07/05/17	MeCl2, Lot 0000173141	2.5 mL	Internal Std_00018	0.1 mL	1,4-Dichlorobenzene-d4	80 ppm
							Acenaphthene-d10	80 ppm
							Chrysene-d12	80 ppm
							Naphthalene-d8	80 ppm
							Perylene-d12	80 ppm
							Phenanthrene-d10	80 ppm
..Internal Std_00018	07/05/18		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ppm
							Acenaphthene-d10	2000 ppm
							Chrysene-d12	2000 ppm
							Naphthalene-d8	2000 ppm
							Perylene-d12	2000 ppm
							Phenanthrene-d10	2000 ppm
1 ppm PAH_00146	12/26/17	10/19/17	MeCl2, Lot 173141	1 mL	80 ppm I Std_00085	50 uL	1,4-Dichlorobenzene-d4	4 ppm
							Acenaphthene-d10	4 ppm
							Chrysene-d12	4 ppm
							Naphthalene-d8	4 ppm
							Perylene-d12	4 ppm
							Phenanthrene-d10	4 ppm
.80 ppm I Std_00085	01/05/18	07/05/17	MeCl2, Lot 0000173141	2.5 mL	Internal Std_00018	0.1 mL	1,4-Dichlorobenzene-d4	80 ppm
							Acenaphthene-d10	80 ppm
							Chrysene-d12	80 ppm
							Naphthalene-d8	80 ppm
							Perylene-d12	80 ppm
							Phenanthrene-d10	80 ppm
..Internal Std_00018	07/05/18		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ppm
							Acenaphthene-d10	2000 ppm
							Chrysene-d12	2000 ppm
							Naphthalene-d8	2000 ppm
							Perylene-d12	2000 ppm
							Phenanthrene-d10	2000 ppm
1 ppm PAH_00146	12/26/17	10/19/17	MeCl2, Lot 173141	1 mL	20 ppm PAH_00017	50 uL	1-Methylnaphthalene	1 ppm
							2-Methylnaphthalene	1 ppm
							Acenaphthene	1 ppm
							Acenaphthylene	1 ppm
							Anthracene	1 ppm
							Benzo[a]anthracene	1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	1 ppm
							Benzo[b]fluoranthene	1 ppm
							Benzo[g,h,i]perylene	1 ppm
							Benzo[k]fluoranthene	1 ppm
							Chrysene	1 ppm
							Dibenz(a,h)anthracene	1 ppm
							Fluoranthene	1 ppm
							Fluorene	1 ppm
							Indeno[1,2,3-cd]pyrene	1 ppm
							Naphthalene	1 ppm
							Phenanthrene	1 ppm
							Pyrene	1 ppm
							2-Fluorobiphenyl (Surr)	1 ppm
							Nitrobenzene-d5 (Surr)	1 ppm
							Terphenyl-d14 (Surr)	1 ppm
.20 ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	200ppm PAH_00017	1 mL	1-Methylnaphthalene	20 ppm
							2-Methylnaphthalene	20 ppm
							Acenaphthene	20 ppm
							Acenaphthylene	20 ppm
							Anthracene	20 ppm
							Benzo[a]anthracene	20 ppm
							Benzo[a]pyrene	20 ppm
							Benzo[b]fluoranthene	20 ppm
							Benzo[g,h,i]perylene	20 ppm
							Benzo[k]fluoranthene	20 ppm
							Chrysene	20 ppm
							Dibenz(a,h)anthracene	20 ppm
							Fluoranthene	20 ppm
							Fluorene	20 ppm
							Indeno[1,2,3-cd]pyrene	20 ppm
							Naphthalene	20 ppm
							Phenanthrene	20 ppm
							Pyrene	20 ppm
					8270 Surr Std_00083	0.04 mL	2-Fluorobiphenyl (Surr)	20 ppm
							Nitrobenzene-d5 (Surr)	20 ppm
							Terphenyl-d14 (Surr)	20 ppm
..200ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	Cal Mix 5_00020	1 mL	1-Methylnaphthalene	200 ppm
							2-Methylnaphthalene	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Chrysene	200 ppm
							Dibenz(a,h)anthracene	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Naphthalene	200 ppm
							Phenanthrene	200 ppm
							Pyrene	200 ppm
...Cal Mix 5_00020	06/26/18		Restek, Lot A0113665		(Purchased Reagent)		1-Methylnaphthalene	2000 ppm
							2-Methylnaphthalene	2000 ppm
							Acenaphthene	2000 ppm
							Acenaphthylene	2000 ppm
							Anthracene	2000 ppm
							Benzo[a]anthracene	2000 ppm
							Benzo[a]pyrene	2000 ppm
							Benzo[b]fluoranthene	2000 ppm
							Benzo[g,h,i]perylene	2000 ppm
							Benzo[k]fluoranthene	2000 ppm
							Chrysene	2000 ppm
							Dibenz(a,h)anthracene	2000 ppm
							Fluoranthene	2000 ppm
							Fluorene	2000 ppm
							Indeno[1,2,3-cd]pyrene	2000 ppm
							Naphthalene	2000 ppm
							Phenanthrene	2000 ppm
							Pyrene	2000 ppm
..8270 Surr Std_00083	06/26/18		Restek, Lot A0103960		(Purchased Reagent)		2-Fluorobiphenyl (Surr)	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm
1 ppm PAHI_00037	12/26/17	10/19/17	MeCl2, Lot 173141	1 mL	80 ppm I Std_00085	50 uL	1,4-Dichlorobenzene-d4	4 ppm
							Acenaphthene-d10	4 ppm
							Chrysene-d12	4 ppm
							Naphthalene-d8	4 ppm
							Perylene-d12	4 ppm
							Phenanthrene-d10	4 ppm
.80 ppm I Std_00085	01/05/18	07/05/17	MeCl2, Lot 0000173141	2.5 mL	Internal Std_00018	0.1 mL	1,4-Dichlorobenzene-d4	80 ppm
							Acenaphthene-d10	80 ppm
							Chrysene-d12	80 ppm
							Naphthalene-d8	80 ppm
							Perylene-d12	80 ppm
							Phenanthrene-d10	80 ppm
..Internal Std_00018	07/05/18		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ppm
							Acenaphthene-d10	2000 ppm
							Chrysene-d12	2000 ppm
							Naphthalene-d8	2000 ppm
							Perylene-d12	2000 ppm
							Phenanthrene-d10	2000 ppm
1 ppm PAHI_00037	12/26/17	10/19/17	MeCl2, Lot 173141	1 mL	20 ppm PAHI_00016	50 uL	1-Methylnaphthalene	1 ppm
							2-Methylnaphthalene	1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene	1 ppm
							Acenaphthylene	1 ppm
							Anthracene	1 ppm
							Benzo[a]anthracene	1 ppm
							Benzo[a]pyrene	1 ppm
							Benzo[b]fluoranthene	1 ppm
							Benzo[g,h,i]perylene	1 ppm
							Benzo[k]fluoranthene	1 ppm
							Chrysene	1 ppm
							Dibenz(a,h)anthracene	1 ppm
							Fluoranthene	1 ppm
							Fluorene	1 ppm
							Indeno[1,2,3-cd]pyrene	1 ppm
							Naphthalene	1 ppm
							Phenanthrene	1 ppm
							Pyrene	1 ppm
							2-Fluorobiphenyl (Surr)	1 ppm
							Nitrobenzene-d5 (Surr)	1 ppm
							Terphenyl-d14 (Surr)	1 ppm
.20 ppm PAHI_00016	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	200 ppm PAHI_00008	1 mL	1-Methylnaphthalene	20 ppm
							2-Methylnaphthalene	20 ppm
							Acenaphthene	20 ppm
							Acenaphthylene	20 ppm
							Anthracene	20 ppm
							Benzo[a]anthracene	20 ppm
							Benzo[a]pyrene	20 ppm
							Benzo[b]fluoranthene	20 ppm
							Benzo[g,h,i]perylene	20 ppm
							Benzo[k]fluoranthene	20 ppm
							Chrysene	20 ppm
							Dibenz(a,h)anthracene	20 ppm
							Fluoranthene	20 ppm
							Fluorene	20 ppm
							Indeno[1,2,3-cd]pyrene	20 ppm
							Naphthalene	20 ppm
							Phenanthrene	20 ppm
							Pyrene	20 ppm
					8270 Surr Std_00083	0.04 mL	2-Fluorobiphenyl (Surr)	20 ppm
							Nitrobenzene-d5 (Surr)	20 ppm
							Terphenyl-d14 (Surr)	20 ppm
..200 ppm PAHI_00008	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	Cal Mix 5_sec_00009	1 mL	1-Methylnaphthalene	200 ppm
							2-Methylnaphthalene	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Chrysene	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Naphthalene	200 ppm
							Phenanthrene	200 ppm
							Pyrene	200 ppm
...Cal Mix 5_sec_00009	06/26/18		Restek, Lot A093990		(Purchased Reagent)		1-Methylnaphthalene	2000 ppm
							2-Methylnaphthalene	2000 ppm
							Acenaphthene	2000 ppm
							Acenaphthylene	2000 ppm
							Anthracene	2000 ppm
							Benzo[a]anthracene	2000 ppm
							Benzo[a]pyrene	2000 ppm
							Benzo[b]fluoranthene	2000 ppm
							Benzo[g,h,i]perylene	2000 ppm
							Benzo[k]fluoranthene	2000 ppm
							Chrysene	2000 ppm
							Dibenz(a,h)anthracene	2000 ppm
							Fluoranthene	2000 ppm
							Fluorene	2000 ppm
							Indeno[1,2,3-cd]pyrene	2000 ppm
							Naphthalene	2000 ppm
							Phenanthrene	2000 ppm
							Pyrene	2000 ppm
..8270 Surr Std_00083	06/26/18		Restek, Lot A0103960		(Purchased Reagent)		2-Fluorobiphenyl (Surr)	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm
10 ppm PAH_00023	12/26/17	10/19/17	MeCl2, Lot 173141	1 mL	20 ppm PAH_00017	500 uL	1-Methylnaphthalene	10 ppm
							2-Methylnaphthalene	10 ppm
							Acenaphthene	10 ppm
							Acenaphthylene	10 ppm
							Anthracene	10 ppm
							Benzo[a]anthracene	10 ppm
							Benzo[a]pyrene	10 ppm
							Benzo[b]fluoranthene	10 ppm
							Benzo[g,h,i]perylene	10 ppm
							Benzo[k]fluoranthene	10 ppm
							Chrysene	10 ppm
							Dibenz(a,h)anthracene	10 ppm
							Fluoranthene	10 ppm
							Fluorene	10 ppm
							Indeno[1,2,3-cd]pyrene	10 ppm
							Naphthalene	10 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	10 ppm
							Pyrene	10 ppm
							2-Fluorobiphenyl (Surr)	10 ppm
							Nitrobenzene-d5 (Surr)	10 ppm
							Terphenyl-d14 (Surr)	10 ppm
					80 ppm I Std_00085	50 uL	1,4-Dichlorobenzene-d4	4 ppm
							Acenaphthene-d10	4 ppm
							Chrysene-d12	4 ppm
							Naphthalene-d8	4 ppm
							Perylene-d12	4 ppm
							Phenanthrene-d10	4 ppm
.20 ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	200ppm PAH_00017	1 mL	1-Methylnaphthalene	20 ppm
							2-Methylnaphthalene	20 ppm
							Acenaphthene	20 ppm
							Acenaphthylene	20 ppm
							Anthracene	20 ppm
							Benzo[a]anthracene	20 ppm
							Benzo[a]pyrene	20 ppm
							Benzo[b]fluoranthene	20 ppm
							Benzo[g,h,i]perylene	20 ppm
							Benzo[k]fluoranthene	20 ppm
							Chrysene	20 ppm
							Dibenz(a,h)anthracene	20 ppm
							Fluoranthene	20 ppm
							Fluorene	20 ppm
							Indeno[1,2,3-cd]pyrene	20 ppm
							Naphthalene	20 ppm
							Phenanthrene	20 ppm
							Pyrene	20 ppm
					8270 Surr Std_00083	0.04 mL	2-Fluorobiphenyl (Surr)	20 ppm
							Nitrobenzene-d5 (Surr)	20 ppm
							Terphenyl-d14 (Surr)	20 ppm
..200ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	Cal Mix 5_00020	1 mL	1-Methylnaphthalene	200 ppm
							2-Methylnaphthalene	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Chrysene	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Naphthalene	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	200 ppm
							Pyrene	200 ppm
...Cal Mix 5_00020	06/26/18		Restek, Lot A0113665		(Purchased Reagent)		1-Methylnaphthalene	2000 ppm
							2-Methylnaphthalene	2000 ppm
							Acenaphthene	2000 ppm
							Acenaphthylene	2000 ppm
							Anthracene	2000 ppm
							Benzo[a]anthracene	2000 ppm
							Benzo[a]pyrene	2000 ppm
							Benzo[b]fluoranthene	2000 ppm
							Benzo[g,h,i]perylene	2000 ppm
							Benzo[k]fluoranthene	2000 ppm
							Chrysene	2000 ppm
							Dibenz(a,h)anthracene	2000 ppm
							Fluoranthene	2000 ppm
							Fluorene	2000 ppm
							Indeno[1,2,3-cd]pyrene	2000 ppm
							Naphthalene	2000 ppm
							Phenanthrene	2000 ppm
							Pyrene	2000 ppm
..8270 Surr Std_00083	06/26/18		Restek, Lot A0103960		(Purchased Reagent)		2-Fluorobiphenyl (Surr)	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm
.80 ppm I Std_00085	01/05/18	07/05/17	MeCl2, Lot 0000173141	2.5 mL	Internal Std_00018	0.1 mL	1,4-Dichlorobenzene-d4	80 ppm
							Acenaphthene-d10	80 ppm
							Chrysene-d12	80 ppm
							Naphthalene-d8	80 ppm
							Perylene-d12	80 ppm
							Phenanthrene-d10	80 ppm
..Internal Std_00018	07/05/18		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ppm
							Acenaphthene-d10	2000 ppm
							Chrysene-d12	2000 ppm
							Naphthalene-d8	2000 ppm
							Perylene-d12	2000 ppm
							Phenanthrene-d10	2000 ppm
1016/1260 Cal_00015	01/01/18	08/30/17	Hexane, Lot 0000173853	25 mL	8082SurrDeca_00026	5 uL	DCB Decachlorobiphenyl (Surr)	0.2 ug/mL
					Ar 16/60_00007	100 uL	PCB-1016 Peak 1	4 ug/mL
							PCB-1016 Peak 2	4 ug/mL
							PCB-1016 Peak 3	4 ug/mL
							PCB-1016 Peak 4	4 ug/mL
							PCB-1016 Peak 5	4 ug/mL
							PCB-1260 Peak 1	4 ug/mL
							PCB-1260 Peak 2	4 ug/mL
							PCB-1260 Peak 3	4 ug/mL
							PCB-1260 Peak 4	4 ug/mL
							PCB-1260 Peak 5	4 ug/mL
.8082SurrDeca_00026	01/01/18		Ultra Scientific, Lot CC-4355		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.Ar 16/60_00007	02/28/22		Restek, Lot A0115663		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
1016/1260 Cal_00015	01/01/18	08/30/17	Hexane, Lot 0000173853	25 mL	Ar 16/60_00007	100 uL	PCB-1016	4 ug/mL
							PCB-1260	4 ug/mL
.Ar 16/60_00007	02/28/22		Restek, Lot A0115663		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
1016/1260 ICV_00013	01/01/18	07/20/17	Hexane, Lot 0000173853	25 mL	8082SurrDeca_00026	5 uL	DCB Decachlorobiphenyl (Surr)	0.2 ug/mL
					Ar 16/60.sec_00006	100 uL	PCB-1016	4 ug/mL
							PCB-1260	4 ug/mL
.8082SurrDeca_00026	01/01/18		Ultra Scientific, Lot CC-4355		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	1000 ug/mL
.Ar 16/60.sec_00006	07/20/18		Restek, Lot A0114674		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
1221/1254 CAL_00005	01/01/18	07/20/17	Hexane, Lot 0000173853	25 mL	AR 21/54_00004	100 uL	PCB-1221 Peak 1	4.032 ug/mL
							PCB-1221 Peak 2	4.032 ug/mL
							PCB-1221 Peak 3	4.032 ug/mL
							PCB-1254 Peak 1	4.032 ug/mL
							PCB-1254 Peak 2	4.032 ug/mL
							PCB-1254 Peak 3	4.032 ug/mL
							PCB-1254 Peak 4	4.032 ug/mL
							PCB-1254 Peak 5	4.032 ug/mL
.AR 21/54_00004	01/19/18		Restek, Lot A0110124		(Purchased Reagent)		PCB-1221 Peak 1	1008 ug/mL
							PCB-1221 Peak 2	1008 ug/mL
							PCB-1221 Peak 3	1008 ug/mL
							PCB-1254 Peak 1	1008 ug/mL
							PCB-1254 Peak 2	1008 ug/mL
							PCB-1254 Peak 3	1008 ug/mL
							PCB-1254 Peak 4	1008 ug/mL
							PCB-1254 Peak 5	1008 ug/mL
1221/1254 ICV_00004	01/01/18	07/20/17	Hexane, Lot 0000173853	25 mL	8082SurrDeca_00026	5 uL	DCB Decachlorobiphenyl (Surr)	0.2 ug/mL
					Ar 21/54.sec_00005	100 uL	PCB-1221	4.032 ug/mL
							PCB-1254	3.984 ug/mL
.8082SurrDeca_00026	01/01/18		Ultra Scientific, Lot CC-4355		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	1000 ug/mL
.Ar 21/54.sec_00005	01/19/18		Restek, Lot A0112340		(Purchased Reagent)		PCB-1221	1008 ug/mL
							PCB-1254	996 ug/mL
1232/1262 CAL_00004	01/01/18	07/20/17	Hexane, Lot 0000173583	25 mL	Ar 32/62_00004	100 uL	PCB-1232 Peak 1	4 ug/mL
							PCB-1232 Peak 2	4 ug/mL
							PCB-1232 Peak 3	4 ug/mL
							PCB-1232 Peak 4	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent: Reagent ID	Parent Reagent: Volume Added	Analyte	Concentration
							PCB-1232 Peak 5	4 ug/mL
							PCB-1262 Peak 1	4 ug/mL
							PCB-1262 Peak 2	4 ug/mL
							PCB-1262 Peak 3	4 ug/mL
							PCB-1262 Peak 4	4 ug/mL
							PCB-1262 Peak 5	4 ug/mL
.Ar 32/62_00004	01/19/18		Resek, Lot A0110127		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
1242/1268 CAL_00005	01/01/18	07/20/17	Hexane, Lot 0000173853	25 mL	Ar 42/68_00005	100 uL	PCB-1242 Peak 1	4 ug/mL
							PCB-1242 Peak 2	4 ug/mL
							PCB-1242 Peak 3	4 ug/mL
							PCB-1242 Peak 4	4 ug/mL
							PCB-1242 Peak 5	4 ug/mL
							PCB-1268 Peak 1	4.016 ug/mL
							PCB-1268 Peak 2	4.016 ug/mL
							PCB-1268 Peak 3	4.016 ug/mL
							PCB-1268 Peak 4	4.016 ug/mL
							PCB-1268 Peak 5	4.016 ug/mL
.Ar 42/68_00005	01/20/18		Restek, Lot A0109391		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1004 ug/mL
							PCB-1268 Peak 2	1004 ug/mL
							PCB-1268 Peak 3	1004 ug/mL
							PCB-1268 Peak 4	1004 ug/mL
							PCB-1268 Peak 5	1004 ug/mL
1248 Cal Std_00014	01/01/18	07/20/17	Hexane, Lot 0000173853	25 mL	Ar 1248_00007	100 uL	PCB-1248 Peak 1	4.0128 ug/mL
							PCB-1248 Peak 2	4.0128 ug/mL
							PCB-1248 Peak 3	4.0128 ug/mL
							PCB-1248 Peak 4	4.0128 ug/mL
							PCB-1248 Peak 5	4.0128 ug/mL
.Ar 1248_00007	01/19/18		Restek, Lot A0110957		(Purchased Reagent)		PCB-1248 Peak 1	1003.2 ug/mL
							PCB-1248 Peak 2	1003.2 ug/mL
							PCB-1248 Peak 3	1003.2 ug/mL
							PCB-1248 Peak 4	1003.2 ug/mL
							PCB-1248 Peak 5	1003.2 ug/mL
150ppmBNASurr_00047	11/29/17	08/29/17	Methanol, Lot 1203004	250 mL	8270 Surr Std_00100	5 mL	2,4,6-Tribromophenol	150 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorobiphenyl (Surr)	150 ppm
							2-Fluorophenol	150 ppm
							Nitrobenzene-d5 (Surr)	150 ppm
							Phenol-d5	150 ppm
							Terphenyl-d14 (Surr)	150 ppm
					8270 Surr Std_00101	2.5 mL	2,4,6-Tribromophenol	150 ppm
							2-Fluorobiphenyl (Surr)	150 ppm
							2-Fluorophenol	150 ppm
							Nitrobenzene-d5 (Surr)	150 ppm
							Phenol-d5	150 ppm
							Terphenyl-d14 (Surr)	150 ppm
.8270 Surr Std_00100	11/29/17		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol	5000 ppm
							2-Fluorobiphenyl (Surr)	5000 ppm
							2-Fluorophenol	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Phenol-d5	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm
.8270 Surr Std_00101	11/29/17		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol	5000 ppm
							2-Fluorobiphenyl (Surr)	5000 ppm
							2-Fluorophenol	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Phenol-d5	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm
2 ppm PAH_00022	12/26/17	10/19/17	MeCl2, Lot 173141	1 mL	20 ppm PAH_00017	100 uL	1-Methylnaphthalene	2 ppm
							2-Methylnaphthalene	2 ppm
							Acenaphthene	2 ppm
							Acenaphthylene	2 ppm
							Anthracene	2 ppm
							Benzo[a]anthracene	2 ppm
							Benzo[a]pyrene	2 ppm
							Benzo[b]fluoranthene	2 ppm
							Benzo[g,h,i]perylene	2 ppm
							Benzo[k]fluoranthene	2 ppm
							Chrysene	2 ppm
							Dibenz(a,h)anthracene	2 ppm
							Fluoranthene	2 ppm
							Fluorene	2 ppm
							Indeno[1,2,3-cd]pyrene	2 ppm
							Naphthalene	2 ppm
							Phenanthrene	2 ppm
							Pyrene	2 ppm
							2-Fluorobiphenyl (Surr)	2 ppm
							Nitrobenzene-d5 (Surr)	2 ppm
							Terphenyl-d14 (Surr)	2 ppm
					80 ppm I Std_00085	50 uL	1,4-Dichlorobenzene-d4	4 ppm
							Acenaphthene-d10	4 ppm
							Chrysene-d12	4 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene-d8	4 ppm
							Perylene-d12	4 ppm
							Phenanthrene-d10	4 ppm
.20 ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	200ppm PAH_00017	1 mL	1-Methylnaphthalene	20 ppm
							2-Methylnaphthalene	20 ppm
							Acenaphthene	20 ppm
							Acenaphthylene	20 ppm
							Anthracene	20 ppm
							Benzo[a]anthracene	20 ppm
							Benzo[a]pyrene	20 ppm
							Benzo[b]fluoranthene	20 ppm
							Benzo[g,h,i]perylene	20 ppm
							Benzo[k]fluoranthene	20 ppm
							Chrysene	20 ppm
							Dibenz(a,h)anthracene	20 ppm
							Fluoranthene	20 ppm
							Fluorene	20 ppm
							Indeno[1,2,3-cd]pyrene	20 ppm
							Naphthalene	20 ppm
							Phenanthrene	20 ppm
							Pyrene	20 ppm
					8270 Surr Std_00083	0.04 mL	2-Fluorobiphenyl (Surr)	20 ppm
							Nitrobenzene-d5 (Surr)	20 ppm
							Terphenyl-d14 (Surr)	20 ppm
..200ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	Cal Mix 5_00020	1 mL	1-Methylnaphthalene	200 ppm
							2-Methylnaphthalene	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Chrysene	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Naphthalene	200 ppm
							Phenanthrene	200 ppm
							Pyrene	200 ppm
...Cal Mix 5_00020	06/26/18		Restek, Lot A0113665		(Purchased Reagent)		1-Methylnaphthalene	2000 ppm
							2-Methylnaphthalene	2000 ppm
							Acenaphthene	2000 ppm
							Acenaphthylene	2000 ppm
							Anthracene	2000 ppm
							Benzo[a]anthracene	2000 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	2000 ppm
							Benzo[b]fluoranthene	2000 ppm
							Benzo[g,h,i]perylene	2000 ppm
							Benzo[k]fluoranthene	2000 ppm
							Chrysene	2000 ppm
							Dibenz(a,h)anthracene	2000 ppm
							Fluoranthene	2000 ppm
							Fluorene	2000 ppm
							Indeno[1,2,3-cd]pyrene	2000 ppm
							Naphthalene	2000 ppm
							Phenanthrene	2000 ppm
							Pyrene	2000 ppm
..8270 Surr Std_00083	06/26/18		Restek, Lot A0103960		(Purchased Reagent)		2-Fluorobiphenyl (Surr)	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm
.80 ppm I Std_00085	01/05/18	07/05/17	MeCl2, Lot 0000173141	2.5 mL	Internal Std_00018	0.1 mL	1,4-Dichlorobenzene-d4	80 ppm
							Acenaphthene-d10	80 ppm
							Chrysene-d12	80 ppm
							Naphthalene-d8	80 ppm
							Perylene-d12	80 ppm
							Phenanthrene-d10	80 ppm
..Internal Std_00018	07/05/18		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ppm
							Acenaphthene-d10	2000 ppm
							Chrysene-d12	2000 ppm
							Naphthalene-d8	2000 ppm
							Perylene-d12	2000 ppm
							Phenanthrene-d10	2000 ppm
5 ppm PAH_00022	12/26/17	10/19/17	MeCl2, Lot 173141	1 mL	20 ppm PAH_00017	250 uL	1-Methylnaphthalene	5 ppm
							2-Methylnaphthalene	5 ppm
							Acenaphthene	5 ppm
							Acenaphthylene	5 ppm
							Anthracene	5 ppm
							Benzo[a]anthracene	5 ppm
							Benzo[a]pyrene	5 ppm
							Benzo[b]fluoranthene	5 ppm
							Benzo[g,h,i]perylene	5 ppm
							Benzo[k]fluoranthene	5 ppm
							Chrysene	5 ppm
							Dibenz(a,h)anthracene	5 ppm
							Fluoranthene	5 ppm
							Fluorene	5 ppm
							Indeno[1,2,3-cd]pyrene	5 ppm
							Naphthalene	5 ppm
							Phenanthrene	5 ppm
							Pyrene	5 ppm
							2-Fluorobiphenyl (Surr)	5 ppm
							Nitrobenzene-d5 (Surr)	5 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Terphenyl-d14 (Surr)	5 ppm
					80 ppm I Std_00085	50 uL	1,4-Dichlorobenzene-d4	4 ppm
							Acenaphthene-d10	4 ppm
							Chrysene-d12	4 ppm
							Naphthalene-d8	4 ppm
							Perylene-d12	4 ppm
							Phenanthrene-d10	4 ppm
.20 ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	200ppm PAH_00017	1 mL	1-Methylnaphthalene	20 ppm
							2-Methylnaphthalene	20 ppm
							Acenaphthene	20 ppm
							Acenaphthylene	20 ppm
							Anthracene	20 ppm
							Benzo[a]anthracene	20 ppm
							Benzo[a]pyrene	20 ppm
							Benzo[b]fluoranthene	20 ppm
							Benzo[g,h,i]perylene	20 ppm
							Benzo[k]fluoranthene	20 ppm
							Chrysene	20 ppm
							Dibenz(a,h)anthracene	20 ppm
							Fluoranthene	20 ppm
							Fluorene	20 ppm
							Indeno[1,2,3-cd]pyrene	20 ppm
							Naphthalene	20 ppm
							Phenanthrene	20 ppm
							Pyrene	20 ppm
					8270 Surr Std_00083	0.04 mL	2-Fluorobiphenyl (Surr)	20 ppm
							Nitrobenzene-d5 (Surr)	20 ppm
							Terphenyl-d14 (Surr)	20 ppm
..200ppm PAH_00017	12/26/17	06/26/17	MeCl2, Lot 173141	10 mL	Cal Mix 5_00020	1 mL	1-Methylnaphthalene	200 ppm
							2-Methylnaphthalene	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Chrysene	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Naphthalene	200 ppm
							Phenanthrene	200 ppm
							Pyrene	200 ppm
...Cal Mix 5_00020	06/26/18		Restek, Lot A0113665		(Purchased Reagent)		1-Methylnaphthalene	2000 ppm
							2-Methylnaphthalene	2000 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene	2000 ppm
							Acenaphthylene	2000 ppm
							Anthracene	2000 ppm
							Benzo[a]anthracene	2000 ppm
							Benzo[a]pyrene	2000 ppm
							Benzo[b]fluoranthene	2000 ppm
							Benzo[g,h,i]perylene	2000 ppm
							Benzo[k]fluoranthene	2000 ppm
							Chrysene	2000 ppm
							Dibenz(a,h)anthracene	2000 ppm
							Fluoranthene	2000 ppm
							Fluorene	2000 ppm
							Indeno[1,2,3-cd]pyrene	2000 ppm
							Naphthalene	2000 ppm
							Phenanthrene	2000 ppm
							Pyrene	2000 ppm
..8270 Surr Std_00083	06/26/18		Restek, Lot A0103960		(Purchased Reagent)		2-Fluorobiphenyl (Surr)	5000 ppm
							Nitrobenzene-d5 (Surr)	5000 ppm
							Terphenyl-d14 (Surr)	5000 ppm
.80 ppm I Std_00085	01/05/18	07/05/17	MeCl2, Lot 0000173141	2.5 mL	Internal Std_00018	0.1 mL	1,4-Dichlorobenzene-d4	80 ppm
							Acenaphthene-d10	80 ppm
							Chrysene-d12	80 ppm
							Naphthalene-d8	80 ppm
							Perylene-d12	80 ppm
							Phenanthrene-d10	80 ppm
..Internal Std_00018	07/05/18		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ppm
							Acenaphthene-d10	2000 ppm
							Chrysene-d12	2000 ppm
							Naphthalene-d8	2000 ppm
							Perylene-d12	2000 ppm
							Phenanthrene-d10	2000 ppm

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent ID	Volume Added	Analyte	Concentration
50 ppm Tuning_00033							1,4-Dichlorobenzene-d4	
							4,4'-DDD	
							4,4'-DDE	
							Acenaphthene-d10	
							Chrysene-d12	
							Naphthalene-d8	
							Perylene-d12	
							Phenanthrene-d10	
					GCMS Tune Mix_00014	0.5 mL	4,4'-DDT	50 ppm
							Benzidine_T	50 ppm
							DFTPP	50 ppm
							Pentachlorophenol_T	50 ppm
.GCMS Tune Mix_00014	12/18/17		Restek, Lot A0117997		(Purchased Reagent)		4,4'-DDT	1000 ppm
							Benzidine_T	1000 ppm
							DFTPP	1000 ppm
							Pentachlorophenol_T	1000 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
80 ppm I Std_00084	01/05/18	07/05/17	MeCl2, Lot 0000173141	2.5 mL	Internal Std_00018	0.1 mL	1,4-Dichlorobenzene-d4	80 ppm
							Acenaphthene-d10	80 ppm
							Chrysene-d12	80 ppm
							Naphthalene-d8	80 ppm
							Perylene-d12	80 ppm
							Phenanthrene-d10	80 ppm
.Internal Std_00018	07/05/18	Restek, Lot A0112833			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ppm
							Acenaphthene-d10	2000 ppm
							Chrysene-d12	2000 ppm
							Naphthalene-d8	2000 ppm
							Perylene-d12	2000 ppm
							Phenanthrene-d10	2000 ppm
8082_IS_1ppm_00012	01/20/18	07/20/17	Hexane, Lot 0000173853	50 mL	8081 IS Std_00004	0.05 mL	1-Bromo-2-nitrobenzene	1 ug/mL
.8081 IS Std_00004	07/20/18	Restek, Lot A0125986			(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
8082_IS_1ppm_00013	04/11/18	10/11/17	Hexane, Lot 0000173853	50 mL	8081 IS Std_00005	0.05 mL	1-Bromo-2-nitrobenzene	1 ug/mL
.8081 IS Std_00005	10/11/18	Restek, Lot A0125986			(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
8260 NewWkMix_00236	09/17/17	09/10/17	Methanol, Lot DP837	10 mL	8260_2_CLEVE_00056	100 uL	2-Chloroethyl vinyl ether	25 ug/mL
					8260Custom1_00056	125 uL	1,2-Dichloro-1,1,2,2-tetrafluoroethane	25 ug/mL
							n-Nonyl Aldehyde	25 ug/mL
					8260Cyclohexa_00056	100 uL	Cyclohexanone	250 ug/mL
					8260Gases_00225	100 uL	Bromomethane	25 ug/mL
							Butadiene	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Dichlorofluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					8260Ketones_00056	20 uL	2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
					8260MegaMix_00056	100 uL	1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,1-Dichloropropene	25 ug/mL
							1,2,3-Trichlorobenzene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,2-Dibromo-3-Chloropropane	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,3-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							1,4-Dioxane	500 ug/mL
							2,2-Dichloropropane	25 ug/mL
							2-Chlorotoluene	25 ug/mL
							2-Methyl-2-propanol	250 ug/mL
							3-Chloro-1-propene	25 ug/mL
							4-Chlorotoluene	25 ug/mL
							4-Isopropyltoluene	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromobenzene	25 ug/mL
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chlorobromomethane	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Cyclohexane	25 ug/mL
							Dibromomethane	25 ug/mL
							Ethyl ether	25 ug/mL
							Ethyl methacrylate	25 ug/mL
							Ethylbenzene	25 ug/mL
							Ethylene Dibromide	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Hexane	25 ug/mL
							Iodomethane	25 ug/mL
							Isobutyl alcohol	625 ug/mL
							Isopropylbenzene	25 ug/mL
							m-Xylene & p-Xylene	25 ug/mL
							Methyl acetate	125 ug/mL
							Methyl tert-butyl ether	25 ug/mL
							Methylcyclohexane	25 ug/mL
							Methylene Chloride	25 ug/mL
							n-Butylbenzene	25 ug/mL
							n-Heptane	25 ug/mL
							N-Propylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							o-Xylene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							sec-Butylbenzene	25 ug/mL
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Tetrahydrofuran	50 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							trans-1,4-Dichloro-2-butene	25 ug/mL
							Trichloroethene	25 ug/mL
					8260VinAcetat_00059	50 uL	Vinyl acetate	25 ug/mL
					Acrolein_00051	62.5 uL	Acrolein	125 ug/mL
					Adds(A) 2016_00019	100 uL	1,2,3-Trimethylbenzene	25 ug/mL
							1,3,5-Trichlorobenzene	25 ug/mL
							1-Chlorohexane	25 ug/mL
							2-Chloro-1,3-butadiene	25 ug/mL
							2-Nitropropane	50 ug/mL
							Benzyl chloride	25 ug/mL
							Isooctane	25 ug/mL
							Isopropyl alcohol	250 ug/mL
							Methacrylonitrile	250 ug/mL
							n-Butanol	625 ug/mL
					Adds(B) 2016_00019	100 uL	Ethyl acetate	50 ug/mL
							Ethyl acrylate	25 ug/mL
							Methyl methacrylate	50 ug/mL
							n-Butyl acetate	25 ug/mL
					Ethanol P_00007	100 uL	Ethanol	1000 ug/mL
					Polar Add._00048	100 uL	Acetonitrile	250 ug/mL
							Isopropyl ether	25 ug/mL
							Propionitrile	250 ug/mL
							Tert-amyl methyl ether	25 ug/mL
							Tert-butyl ethyl ether	25 ug/mL
.8260_2_CLEVE_00056	09/19/17		Restek, Lot A0123891		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.8260Custom1_00056	09/19/17		Accustandard, Lot 215101095-02		(Purchased Reagent)		1,2-Dichloro-1,1,2,2-tetrafluoroethane	2000 ug/mL
							n-Nonyl Aldehyde	2000 ug/mL
.8260Cyclohexa_00056	09/19/17		Restek, Lot A0118487		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.8260Gases_00225	09/17/17		Restek, Lot A0124278		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Butadiene	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.8260Ketones_00056	09/19/17		Restek, Lot A0123890		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acetone	12500 ug/mL
.8260MegaMix_00056	09/19/17		Restek, Lot A0123711		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	12500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.8260VinAcetat_00059	10/10/17		Restek, Lot A0127538		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.Acrolein_00051	09/19/17		Restek, Lot A0126387		(Purchased Reagent)		Acrolein	20000 ug/mL
.Adds(A) 2016_00019	10/03/17		Restek, Lot A0123685		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							1-Chlorohexane	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Benzyl chloride	2500 ug/mL
							Isooctane	2500 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.Adds(B) 2016_00019	10/03/17		Restek, Lot A0123728		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Ethyl acrylate	2500 ug/mL
							Methyl methacrylate	5000 ug/mL
							n-Butyl acetate	2500 ug/mL
.Ethanol P_00007	09/27/17		Restek, Lot A0123787		(Purchased Reagent)		Ethanol	100000 ug/mL
.Polar Add._00048	09/19/17		Restek, Lot A0123796		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
8260 NewWkMix_00239	10/08/17	10/01/17	Methanol, Lot DS435	10 mL	8260_2_CLEVE_00057	100 uL	2-Chloroethyl vinyl ether	25 ug/mL
					8260Custom1_00057	125 uL	1,2-Dichloro-1,1,2,2-tetrafluoroethane	25 ug/mL
							n-Nonyl Aldehyde	25 ug/mL
					8260Cyclohexa_00057	100 uL	Cyclohexanone	250 ug/mL
					8260Gases_00228	100 uL	Bromomethane	25 ug/mL
							Butadiene	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Dichlorofluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					8260Ketones_00057	20 uL	2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
					8260MegaMix_00057	100 uL	1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,1-Dichloropropene	25 ug/mL
							1,2,3-Trichlorobenzene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,2-Dibromo-3-Chloropropane	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,3-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							1,4-Dioxane	500 ug/mL
							2,2-Dichloropropane	25 ug/mL
							2-Chlorotoluene	25 ug/mL
							2-Methyl-2-propanol	250 ug/mL
							3-Chloro-1-propene	25 ug/mL
							4-Chlorotoluene	25 ug/mL
							4-Isopropyltoluene	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromobenzene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chlorobromomethane	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Cyclohexane	25 ug/mL
							Dibromomethane	25 ug/mL
							Ethyl ether	25 ug/mL
							Ethyl methacrylate	25 ug/mL
							Ethylbenzene	25 ug/mL
							Ethylene Dibromide	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Hexane	25 ug/mL
							Iodomethane	25 ug/mL
							Isobutyl alcohol	625 ug/mL
							Isopropylbenzene	25 ug/mL
							m-Xylene & p-Xylene	25 ug/mL
							Methyl acetate	125 ug/mL
							Methyl tert-butyl ether	25 ug/mL
							Methylcyclohexane	25 ug/mL
							Methylene Chloride	25 ug/mL
							n-Butylbenzene	25 ug/mL
							n-Heptane	25 ug/mL
							N-Propylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							o-Xylene	25 ug/mL
							sec-Butylbenzene	25 ug/mL
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Tetrahydrofuran	50 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							trans-1,4-Dichloro-2-butene	25 ug/mL
							Trichloroethene	25 ug/mL
					8260VinAcetat_00059	50 uL	Vinyl acetate	25 ug/mL
					Acrolein_00053	62.5 uL	Acrolein	125 ug/mL
					Adds(A) 2016_00020	100 uL	1,2,3-Trimethylbenzene	25 ug/mL
							1,3,5-Trichlorobenzene	25 ug/mL
							1-Chlorohexane	25 ug/mL
							2-Chloro-1,3-butadiene	25 ug/mL
							2-Nitropropane	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent Reagent ID	Parent Reagent Volume Added	Analyte	Concentration
							Benzyl chloride	25 ug/mL
							Isooctane	25 ug/mL
							Isopropyl alcohol	250 ug/mL
							Methacrylonitrile	250 ug/mL
							n-Butanol	625 ug/mL
					Adds(B) 2016_00020	100 uL	Ethyl acetate	50 ug/mL
							Ethyl acrylate	25 ug/mL
							Methyl methacrylate	50 ug/mL
							n-Butyl acetate	25 ug/mL
					Ethanol P_00008	100 uL	Ethanol	1000 ug/mL
					Polar Add._00049	100 uL	Acetonitrile	250 ug/mL
							Isopropyl ether	25 ug/mL
							Propionitrile	250 ug/mL
							Tert-amyl methyl ether	25 ug/mL
							Tert-butyl ethyl ether	25 ug/mL
.8260_2_CLEVE_00057	10/17/17		Restek, Lot A0123891		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.8260Custom1_00057	10/17/17		Accustandard, Lot 215101095-02		(Purchased Reagent)		1,2-Dichloro-1,1,2,2-tetrafluoroethane	2000 ug/mL
							n-Nonyl Aldehyde	2000 ug/mL
.8260Cyclohexa_00057	10/17/17		Restek, Lot A0118487		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.8260Gases_00228	10/08/17		Restek, Lot A0124278		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Butadiene	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.8260Ketones_00057	10/17/17		Restek, Lot A0123890		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.8260MegaMix_00057	10/17/17		Restek, Lot A0123711		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	12500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.8260VinAcetat_00059	10/10/17		Restek, Lot A0127538		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.Acrolein_00053	11/01/17		Restek, Lot A0127476		(Purchased Reagent)		Acrolein	20000 ug/mL
.Adds(A) 2016_00020	11/01/17		Restek, Lot A0123685		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							1-Chlorohexane	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Benzyl chloride	2500 ug/mL
							Isooctane	2500 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.Adds(B) 2016_00020	11/01/17		Restek, Lot A0123728		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Ethyl acrylate	2500 ug/mL
							Methyl methacrylate	5000 ug/mL
							n-Butyl acetate	2500 ug/mL
.Ethanol P_00008	10/24/17		Restek, Lot A0123787		(Purchased Reagent)		Ethanol	100000 ug/mL
.Polar Add._00049	10/17/17		Restek, Lot A0123796		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
8260 NewWkMix_00241	10/15/17	10/08/17	Methanol, Lot DS435	10 mL	8260Gases_00229	100 uL	Chloromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					8260MegaMix_00057	100 uL	1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							Benzene	25 ug/mL
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Ethylbenzene	25 ug/mL
							Methylene Chloride	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
.8260Gases_00229	10/15/17		Restek, Lot A0124278		(Purchased Reagent)		Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.8260MegaMix_00057	10/17/17		Restek, Lot A0123711		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Benzene	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
8260 NewWkMix_00242	10/22/17	10/15/17	Methanol, Lot DS435	10 mL	8260Gases_00230	100 uL	Chloromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					8260MegaMix_00058	100 uL	1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							Benzene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Ethylbenzene	25 ug/mL
							Methylene Chloride	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
.8260Gases_00230	10/22/17		Restek, Lot A0124278		(Purchased Reagent)		Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.8260MegaMix_00058	11/15/17		Restek, Lot A0123711		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Benzene	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
8260 Surr 25_00079	10/10/17	09/10/17	Methanol, Lot DP837	25 mL	8260_Surr_00051	250 uL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.8260_Surr_00051	10/10/17		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toluene-d8 (Surr)	2500 ug/mL
8260 Surr 25_00080	11/10/17	10/10/17	Methanol, Lot DS435	25 mL	8260_Surr_00052	250 uL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.8260_Surr_00052	11/10/17		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
8260_Surr_00051	10/10/17		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
8260NewHiWrk_00213	09/17/17	09/10/17	Methanol, Lot DP837	1 mL	8260_2_CLEVE_00056	50 uL	2-Chloroethyl vinyl ether	125 ug/mL
					8260Custom1_00056	62.5 uL	1,2-Dichloro-1,1,2,2-tetrafluoroethane	125 ug/mL
							n-Nonyl Aldehyde	125 ug/mL
					8260Cyclohexa_00056	50 uL	Cyclohexanone	1250 ug/mL
					8260Gases_00225	50 uL	Bromomethane	125 ug/mL
							Butadiene	125 ug/mL
							Chloroethane	125 ug/mL
							Chloromethane	125 ug/mL
							Dichlorodifluoromethane	125 ug/mL
							Dichlorofluoromethane	125 ug/mL
							Trichlorofluoromethane	125 ug/mL
							Vinyl chloride	125 ug/mL
					8260Ketones_00056	10 uL	2-Butanone (MEK)	125 ug/mL
							2-Hexanone	125 ug/mL
							4-Methyl-2-pentanone (MIBK)	125 ug/mL
							Acetone	125 ug/mL
					8260MegaMix_00056	50 uL	1,1,1,2-Tetrachloroethane	125 ug/mL
							1,1,1-Trichloroethane	125 ug/mL
							1,1,2,2-Tetrachloroethane	125 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	125 ug/mL
							1,1,2-Trichloroethane	125 ug/mL
							1,1-Dichloroethane	125 ug/mL
							1,1-Dichloroethene	125 ug/mL
							1,1-Dichloropropene	125 ug/mL
							1,2,3-Trichlorobenzene	125 ug/mL
							1,2,3-Trichloropropane	125 ug/mL
							1,2,4-Trichlorobenzene	125 ug/mL
							1,2,4-Trimethylbenzene	125 ug/mL
							1,2-Dibromo-3-Chloropropane	125 ug/mL
							1,2-Dichlorobenzene	125 ug/mL
							1,2-Dichloroethane	125 ug/mL
							1,2-Dichloropropane	125 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3,5-Trimethylbenzene	125 ug/mL
							1,3-Dichlorobenzene	125 ug/mL
							1,3-Dichloropropane	125 ug/mL
							1,4-Dichlorobenzene	125 ug/mL
							1,4-Dioxane	2500 ug/mL
							2,2-Dichloropropane	125 ug/mL
							2-Chlorotoluene	125 ug/mL
							2-Methyl-2-propanol	1250 ug/mL
							3-Chloro-1-propene	125 ug/mL
							4-Chlorotoluene	125 ug/mL
							4-Isopropyltoluene	125 ug/mL
							Acrylonitrile	1250 ug/mL
							Benzene	125 ug/mL
							Bromobenzene	125 ug/mL
							Bromodichloromethane	125 ug/mL
							Bromoform	125 ug/mL
							Carbon disulfide	125 ug/mL
							Carbon tetrachloride	125 ug/mL
							Chlorobenzene	125 ug/mL
							Chlorobromomethane	125 ug/mL
							Chlorodibromomethane	125 ug/mL
							Chloroform	125 ug/mL
							cis-1,2-Dichloroethene	125 ug/mL
							cis-1,3-Dichloropropene	125 ug/mL
							Cyclohexane	125 ug/mL
							Dibromomethane	125 ug/mL
							Ethyl ether	125 ug/mL
							Ethyl methacrylate	125 ug/mL
							Ethylbenzene	125 ug/mL
							Ethylene Dibromide	125 ug/mL
							Hexachlorobutadiene	125 ug/mL
							Hexane	125 ug/mL
							Iodomethane	125 ug/mL
							Isobutyl alcohol	3125 ug/mL
							Isopropylbenzene	125 ug/mL
							m-Xylene & p-Xylene	125 ug/mL
							Methyl acetate	625 ug/mL
							Methyl tert-butyl ether	125 ug/mL
							Methylcyclohexane	125 ug/mL
							Methylene Chloride	125 ug/mL
							n-Butylbenzene	125 ug/mL
							n-Heptane	125 ug/mL
							N-Propylbenzene	125 ug/mL
							Naphthalene	125 ug/mL
							o-Xylene	125 ug/mL
							sec-Butylbenzene	125 ug/mL
							Styrene	125 ug/mL
							tert-Butylbenzene	125 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloroethene	125 ug/mL
							Tetrahydrofuran	250 ug/mL
							Toluene	125 ug/mL
							trans-1,2-Dichloroethene	125 ug/mL
							trans-1,3-Dichloropropene	125 ug/mL
							trans-1,4-Dichloro-2-butene	125 ug/mL
							Trichloroethene	125 ug/mL
					8260VinAcetat_00059	25 uL	Vinyl acetate	125 ug/mL
					Acrolein_00051	31.25 uL	Acrolein	625 ug/mL
					Adds(A) 2016_00019	50 uL	1,2,3-Trimethylbenzene	125 ug/mL
							1,3,5-Trichlorobenzene	125 ug/mL
							1-Chlorohexane	125 ug/mL
							2-Chloro-1,3-butadiene	125 ug/mL
							2-Nitropropane	250 ug/mL
							Benzyl chloride	125 ug/mL
							Isooctane	125 ug/mL
							Isopropyl alcohol	1250 ug/mL
							Methacrylonitrile	1250 ug/mL
							n-Butanol	3125 ug/mL
					Adds(B) 2016_00019	50 uL	Ethyl acetate	250 ug/mL
							Ethyl acrylate	125 ug/mL
							Methyl methacrylate	250 ug/mL
							n-Butyl acetate	125 ug/mL
					Ethanol P_00007	50 uL	Ethanol	5000 ug/mL
					Polar Add._00048	50 uL	Acetonitrile	1250 ug/mL
							Isopropyl ether	125 ug/mL
							Propionitrile	1250 ug/mL
							Tert-amyl methyl ether	125 ug/mL
							Tert-butyl ethyl ether	125 ug/mL
.8260_2_CLEVE_00056	09/19/17		Restek, Lot A0123891		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.8260Custom1_00056	09/19/17		Accustandard, Lot 215101095-02		(Purchased Reagent)		1,2-Dichloro-1,1,2,2-tetrafluoroethane	2000 ug/mL
							n-Nonyl Aldehyde	2000 ug/mL
.8260Cyclohexa_00056	09/19/17		Restek, Lot A0118487		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.8260Gases_00225	09/17/17		Restek, Lot A0124278		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Butadiene	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.8260Ketones_00056	09/19/17		Restek, Lot A0123890		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.8260MegaMix_00056	09/19/17		Restek, Lot A0123711		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	12500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.8260VinAcetat_00059	10/10/17		Restek, Lot A0127538		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.Acrolein_00051	09/19/17		Restek, Lot A0126387		(Purchased Reagent)		Acrolein	20000 ug/mL
.Adds(A) 2016_00019	10/03/17		Restek, Lot A0123685		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							1-Chlorohexane	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Benzyl chloride	2500 ug/mL
							Isooctane	2500 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.Adds(B) 2016_00019	10/03/17		Restek, Lot A0123728		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Ethyl acrylate	2500 ug/mL
							Methyl methacrylate	5000 ug/mL
							n-Butyl acetate	2500 ug/mL
.Ethanol P_00007	09/27/17		Restek, Lot A0123787		(Purchased Reagent)		Ethanol	100000 ug/mL
.Polar Add._00048	09/19/17		Restek, Lot A0123796		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
8260NewHiWrk_00216	10/08/17	10/01/17	Methanol, Lot DS435	1 mL	8260_2_CLEVE_00057	50 uL	2-Chloroethyl vinyl ether	125 ug/mL
					8260Custom1_00057	62.5 uL	1,2-Dichloro-1,1,2,2-tetrafluoroethane	125 ug/mL
							n-Nonyl Aldehyde	125 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					8260Cyclohexa_00057	50 uL	Cyclohexanone	1250 ug/mL
					8260Gases_00228	50 uL	Bromomethane	125 ug/mL
							Butadiene	125 ug/mL
							Chloroethane	125 ug/mL
							Chloromethane	125 ug/mL
							Dichlorodifluoromethane	125 ug/mL
							Dichlorofluoromethane	125 ug/mL
							Trichlorofluoromethane	125 ug/mL
							Vinyl chloride	125 ug/mL
					8260Ketones_00057	10 uL	2-Butanone (MEK)	125 ug/mL
							2-Hexanone	125 ug/mL
							4-Methyl-2-pentanone (MIBK)	125 ug/mL
							Acetone	125 ug/mL
					8260MegaMix_00057	50 uL	1,1,1,2-Tetrachloroethane	125 ug/mL
							1,1,1-Trichloroethane	125 ug/mL
							1,1,2,2-Tetrachloroethane	125 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	125 ug/mL
							1,1,2-Trichloroethane	125 ug/mL
							1,1-Dichloroethane	125 ug/mL
							1,1-Dichloroethene	125 ug/mL
							1,1-Dichloropropene	125 ug/mL
							1,2,3-Trichlorobenzene	125 ug/mL
							1,2,3-Trichloropropane	125 ug/mL
							1,2,4-Trichlorobenzene	125 ug/mL
							1,2,4-Trimethylbenzene	125 ug/mL
							1,2-Dibromo-3-Chloropropane	125 ug/mL
							1,2-Dichlorobenzene	125 ug/mL
							1,2-Dichloroethane	125 ug/mL
							1,2-Dichloropropane	125 ug/mL
							1,3,5-Trimethylbenzene	125 ug/mL
							1,3-Dichlorobenzene	125 ug/mL
							1,3-Dichloropropane	125 ug/mL
							1,4-Dichlorobenzene	125 ug/mL
							1,4-Dioxane	2500 ug/mL
							2,2-Dichloropropane	125 ug/mL
							2-Chlorotoluene	125 ug/mL
							2-Methyl-2-propanol	1250 ug/mL
							3-Chloro-1-propene	125 ug/mL
							4-Chlorotoluene	125 ug/mL
							4-Isopropyltoluene	125 ug/mL
							Acrylonitrile	1250 ug/mL
							Benzene	125 ug/mL
							Bromobenzene	125 ug/mL
							Bromodichloromethane	125 ug/mL
							Bromoform	125 ug/mL
							Carbon disulfide	125 ug/mL
							Carbon tetrachloride	125 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlorobenzene	125 ug/mL
							Chlorobromomethane	125 ug/mL
							Chlorodibromomethane	125 ug/mL
							Chloroform	125 ug/mL
							cis-1,2-Dichloroethene	125 ug/mL
							cis-1,3-Dichloropropene	125 ug/mL
							Cyclohexane	125 ug/mL
							Dibromomethane	125 ug/mL
							Ethyl ether	125 ug/mL
							Ethyl methacrylate	125 ug/mL
							Ethylbenzene	125 ug/mL
							Ethylene Dibromide	125 ug/mL
							Hexachlorobutadiene	125 ug/mL
							Hexane	125 ug/mL
							Iodomethane	125 ug/mL
							Isobutyl alcohol	3125 ug/mL
							Isopropylbenzene	125 ug/mL
							m-Xylene & p-Xylene	125 ug/mL
							Methyl acetate	625 ug/mL
							Methyl tert-butyl ether	125 ug/mL
							Methylcyclohexane	125 ug/mL
							Methylene Chloride	125 ug/mL
							n-Butylbenzene	125 ug/mL
							n-Heptane	125 ug/mL
							N-Propylbenzene	125 ug/mL
							Naphthalene	125 ug/mL
							o-Xylene	125 ug/mL
							sec-Butylbenzene	125 ug/mL
							Styrene	125 ug/mL
							tert-Butylbenzene	125 ug/mL
							Tetrachloroethene	125 ug/mL
							Tetrahydrofuran	250 ug/mL
							Toluene	125 ug/mL
							trans-1,2-Dichloroethene	125 ug/mL
							trans-1,3-Dichloropropene	125 ug/mL
							trans-1,4-Dichloro-2-butene	125 ug/mL
							Trichloroethene	125 ug/mL
					8260VinAcetat_00059	25 uL	Vinyl acetate	125 ug/mL
					Acrolein_00053	31.25 uL	Acrolein	625 ug/mL
					Adds(A)_2016_00020	50 uL	1,2,3-Trimethylbenzene	125 ug/mL
							1,3,5-Trichlorobenzene	125 ug/mL
							1-Chlorohexane	125 ug/mL
							2-Chloro-1,3-butadiene	125 ug/mL
							2-Nitropropane	250 ug/mL
							Benzyl chloride	125 ug/mL
							Isooctane	125 ug/mL
							Isopropyl alcohol	1250 ug/mL
							Methacrylonitrile	1250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Butanol	3125 ug/mL
					Adds(B) 2016_00020	50 uL	Ethyl acetate	250 ug/mL
							Ethyl acrylate	125 ug/mL
							Methyl methacrylate	250 ug/mL
							n-Butyl acetate	125 ug/mL
					Ethanol P_00008	50 uL	Ethanol	5000 ug/mL
					Polar Add._00049	50 uL	Acetonitrile	1250 ug/mL
							Isopropyl ether	125 ug/mL
							Propionitrile	1250 ug/mL
							Tert-amyl methyl ether	125 ug/mL
							Tert-butyl ethyl ether	125 ug/mL
.8260_2_CLEVE_00057	10/17/17		Restek, Lot A0123891		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.8260Custom1_00057	10/17/17		Accustandard, Lot 215101095-02		(Purchased Reagent)		1,2-Dichloro-1,1,2,2-tetrafluoroethane	2000 ug/mL
							n-Nonyl Aldehyde	2000 ug/mL
.8260Cyclohexa_00057	10/17/17		Restek, Lot A0118487		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.8260Gases_00228	10/08/17		Restek, Lot A0124278		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Butadiene	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.8260Ketones_00057	10/17/17		Restek, Lot A0123890		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.8260MegaMix_00057	10/17/17		Restek, Lot A0123711		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	12500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.8260VinAcetat_00059	10/10/17		Restek, Lot A0127538		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.Acrolein_00053	11/01/17		Restek, Lot A0127476		(Purchased Reagent)		Acrolein	20000 ug/mL
.Adds(A) 2016_00020	11/01/17		Restek, Lot A0123685		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							1-Chlorohexane	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Benzyl chloride	2500 ug/mL
							Isooctane	2500 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.Adds(B) 2016_00020	11/01/17		Restek, Lot A0123728		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Ethyl acrylate	2500 ug/mL
							Methyl methacrylate	5000 ug/mL
							n-Butyl acetate	2500 ug/mL
.Ethanol P_00008	10/24/17		Restek, Lot A0123787		(Purchased Reagent)		Ethanol	100000 ug/mL
.Polar Add._00049	10/17/17		Restek, Lot A0123796		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
8260NewICVMix_00227	09/17/17	09/10/17	Methanol, Lot DP837	5 mL	8260GasesSS_00226	50 uL	Chloromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					8260MegaMixSS_00055	50 uL	1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							Benzene	25 ug/mL
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Ethylbenzene	25 ug/mL
							Methylene Chloride	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
.8260GasesSS_00226	09/17/17		Restek, Lot A0124116		(Purchased Reagent)		Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.8260MegaMixSS_00055	09/19/17		Restek, Lot A0123775		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Benzene	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
8260NewICVMix_00230	10/08/17	10/01/17	Methanol, Lot DS435	5 mL	8260GasesSS_00229	50 uL	Chloromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					8260MegaMixSS_00056	50 uL	1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							Benzene	25 ug/mL
							Bromodichloromethane	25 ug/mL
							Bromoform	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorodibromomethane	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Ethylbenzene	25 ug/mL
							Methylene Chloride	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
.8260GasesSS_00229	10/08/17		Restek, Lot A0124116		(Purchased Reagent)		Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.8260MegaMixSS_00056	10/17/17		Restek, Lot A0123775		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Benzene	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
BFB_00074							1,2-Dichloroethene, Total	
							BFB	25 ug/mL
							Tentatively Identified Compound	
							Trihalomethanes, Total	
							Xylenes, Total	
BFB_00075							1,2-Dichloroethene, Total	
							BFB	25 ug/mL
							Tentatively Identified Compound	
							Trihalomethanes, Total	

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Xylenes, Total	
Cr6 100ppmCal_00060	11/01/17	05/01/17	DI Water, Lot 050117	100 mL	Cr6 1000ppmCa_00012	10 mL	Chromium(VI)	100.132 mg/L
							Potassium Dichromate	28042.7 mg/L
.Cr6 1000ppmCa_00012	05/01/18	05/01/17	DI Water, Lot 050117	500 mL	K Dichromate_00004	1.4163 g	Chromium(VI)	1001.32 mg/L
							Potassium Dichromate	280427 mg/L
..K Dichromate_00004	05/03/22		Sigma-Aldrich, Lot MKBV0900V		(Purchased Reagent)		Chromium(VI)	0.3535 g/g
							Potassium Dichromate	99 g/g
Cr6 5ppm Cal_00205	10/24/17	10/17/17	DI Water, Lot 101717	100 mL	Cr6 100ppmCal_00060	5 mL	Chromium(VI)	5.00662 mg/L
.Cr6 100ppmCal_00060	11/01/17	05/01/17	DI Water, Lot 050117	100 mL	Cr6 1000ppmCa_00012	10 mL	Chromium(VI)	100.132 mg/L
..Cr6 1000ppmCa_00012	05/01/18	05/01/17	DI Water, Lot 050117	500 mL	K Dichromate_00004	1.4163 g	Chromium(VI)	1001.32 mg/L
...K Dichromate_00004	05/03/22		Sigma-Aldrich, Lot MKBV0900V		(Purchased Reagent)		Chromium(VI)	0.3535 g/g
Cr6 5ppm QC_00201	10/24/17	10/17/17	DI Water, Lot 101717	100 mL	Cr6 100ppmQC_00055	5 mL	Chromium(VI)	5.00344 mg/L
.Cr6 100ppmQC_00055	11/02/17	05/02/17	DI Water, Lot 050217	100 mL	Cr6 1000ppmQC_00014	10 mL	Chromium(VI)	100.069 mg/L
..Cr6 1000ppmQC_00014	05/02/18	05/02/17	DI Water, Lot 050217	500 mL	K-Dichromate_00002	1.4154 g	Chromium(VI)	1000.69 mg/L
...K-Dichromate_00002	05/31/20		Fisher, Lot 153492		(Purchased Reagent)		Chromium(VI)	0.3535 g/g
Cr6 ERA soil_00010	07/30/19		Phenova, Lot 7065-05		(Purchased Reagent)		Chromium(VI)	200 mg/Kg
I.S. Working_00153	10/08/17	09/08/17	Methanol, Lot DP837	25 mL	8260 IS(2014)_00044	250 uL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene	25 ug/mL
.8260 IS(2014)_00044	10/08/17		Restek, Lot A0123516		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
							Fluorobenzene	2500 ug/mL
I.S. Working_00154	11/04/17	10/04/17	Methanol, Lot DS435	25 mL	8260 IS(2014)_00045	250 uL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene	25 ug/mL
.8260 IS(2014)_00045	11/04/17		Restek, Lot A0123516		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
							Fluorobenzene	2500 ug/mL
ICP CAL1/LLC_00136	04/12/18	10/12/17	5% HCl/5%HN03, Lot 1297853	1000 mL	ICP LLC B_00004	5 mL	Chromium	0.01 ug/mL
							Lead	0.01 ug/mL
.ICP LLC B_00004	09/05/18		INORGANIC VENTURES, Lot M2-MEB661170		(Purchased Reagent)		Chromium	2 mg/L
							Lead	2 mg/L
ICP CAL2/CCV_00129	04/17/18	10/17/17	5% HCl/5@HN03, Lot 1297853	1000 mL	ICP CAL A_00004	5 mL	Chromium	5 ug/mL
							Lead	5 ug/mL
.ICP CAL A_00004	09/05/18		INORGANIC VENTURES, Lot M2-MEB661171		(Purchased Reagent)		Chromium	1000 mg/L
							Lead	1000 mg/L
ICP ICSA_00014	03/12/18	09/12/17	5% HCl/5%HN03, Lot 1272452	1000 mL	ICP ICSA A_00002	5 mL	Al	100 ug/mL
.ICP ICSA A_00002	03/28/18		INORGANIC VENTURES, Lot M2-MEB656663		(Purchased Reagent)		Al	20000 mg/L
ICP ICSAB_00012	03/12/18	09/12/17	5% HCl/5%HN03, Lot 1236675	1000 mL	ICP ICSAB A_00002	5 mL	Chromium	2.5 ug/mL
							Lead	2.5 ug/mL
.ICP ICSAB A_00002	03/28/18		INORGANIC VENTURES, Lot M2-MEB656661		(Purchased Reagent)		Chromium	500 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Lead	500 mg/L
ICP ICV_00330	10/19/17	10/18/17	5% HCl/5@HN03, Lot 1297853	100 mL	ICP ICV 3_00003	0.5 mL	Chromium	5 ug/mL
							Lead	5 ug/mL
.ICP ICV 3_00003	02/28/18		SPEX, Lot 41-091CR		(Purchased Reagent)		Chromium	1000 ug/mL
							Lead	1000 ug/mL
ICP LLC B_00004	09/05/18		INORGANIC VENTURES, Lot M2-MEB661170		(Purchased Reagent)		Chromium	2 mg/L
							Lead	2 mg/L
MPREP1_00012	08/16/18		Inorganic Ventures, Lot M2-MEB660630		(Purchased Reagent)		Ag	39.99 mg/L
							Al	2000 mg/L
							As	200 mg/L
							B	40 mg/L
							Ba	200 mg/L
							Be	20 mg/L
							Bi	200 mg/L
							Ca	2000 mg/L
							Cd	199.9 mg/L
							Chromium	200 mg/L
							Co	200 mg/L
							Cu	200 mg/L
							Fe	2000 mg/L
							K	2000 mg/L
							Lead	200 mg/L
							Li	20 mg/L
							Mg	2000 mg/L
							Mn	200 mg/L
							Na	2000 mg/L
							Ni	200 mg/L
							P	200 mg/L
							Se	100 mg/L
							Sm	200 mg/L
							Sr	200 mg/L
							Sulfur	2000 mg/L
							Th	200.3 mg/L
							Tl	39.99 mg/L
							U	200 mg/L
							V	200 mg/L
							Zn	200 mg/L
MPREP2_00010	08/16/18		Inorganic Ventures, Lot M2-MEB654648		(Purchased Reagent)		Mo	100 mg/L
							Sb	100 mg/L
							Si	1000 mg/L
							Sn	200 mg/L
							Ti	200 mg/L
							W	200 mg/L
							Zr	200 mg/L
PCB Surr_00014	01/01/18	07/17/17	Hexane, Lot 1194745	500 mL	8082SurrDeca_00025	200 uL	DCB Decachlorobiphenyl (Surr)	0.4016 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.8082SurrDeca_00025	01/01/18		Ultra Scientific, Lot CC-4355		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	1004 ug/mL
PCB_Spike_00020	12/19/17	06/19/17	Hexane, Lot 1194745	250 mL	8082 Spike_00025	1.25 mL	PCB-1016	10 ug/mL
							PCB-1260	10 ug/mL
					8082 Spike_00026	1.25 mL	PCB-1016	10 ug/mL
							PCB-1260	10 ug/mL
.8082 Spike_00025	12/19/17		Restek, Lot A0116282		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
.8082 Spike_00026	12/19/17		Restek, Lot A0116282		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL

Reagent

8082 Spike_00025

recieved by CS 6/29/16 # 943125 - 943129

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.
This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039
Lot No.: A0116282
Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL
Pkg Amt: > 1 mL
Expiration Date : April 30, 2022
Storage: 25°C nominal
Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Aroclor 1016			1,009.0	µg/mL	+/-	5.8800	µg/mL	Gravimetric
	CAS #	12674-11-2	(Lot W-125-01)			+/-	31.9716	µg/mL	Unstressed
	Purity	----%				+/-	41.7696	µg/mL	Stressed
2	Aroclor 1260			1,004.6	µg/mL	+/-	5.8543	µg/mL	Gravimetric
	CAS #	11096-82-5	(Lot W-129-06)			+/-	31.8322	µg/mL	Unstressed
	Purity	----%				+/-	41.5875	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

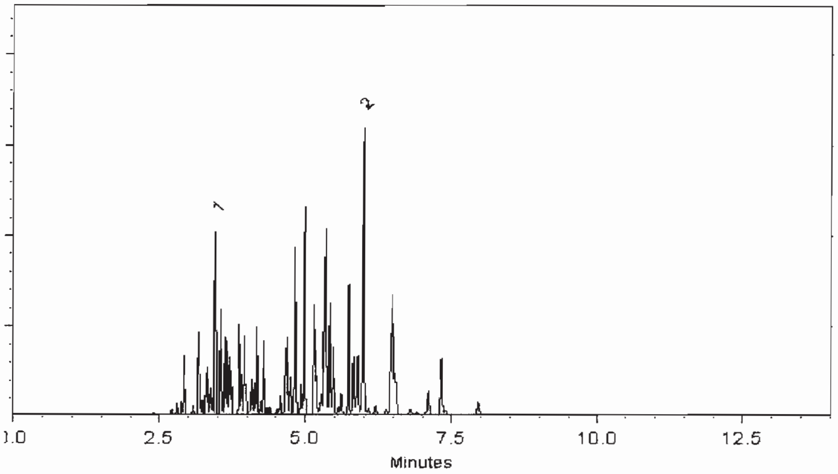
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham
Cheryl Graham - Mix Technician

Date Mixed: 04-Jan-2016 **Balance:** B442140311

Jennifer L Pollino
Jennifer L. Pollino - QC Analyst

Date Passed: 06-Jan-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8082 Spike_00026

recieved by CS 6/29/16 # 943125 - 943129

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039 **Lot No.:** A0116282

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Aroclor 1016			1,009.0	µg/mL	+/-	5.8800	µg/mL	Gravimetric
	CAS #	12674-11-2	(Lot W-125-01)			+/-	31.9716	µg/mL	Unstressed
	Purity	----%				+/-	41.7696	µg/mL	Stressed
2	Aroclor 1260			1,004.6	µg/mL	+/-	5.8543	µg/mL	Gravimetric
	CAS #	11096-82-5	(Lot W-129-06)			+/-	31.8322	µg/mL	Unstressed
	Purity	----%				+/-	41.5875	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

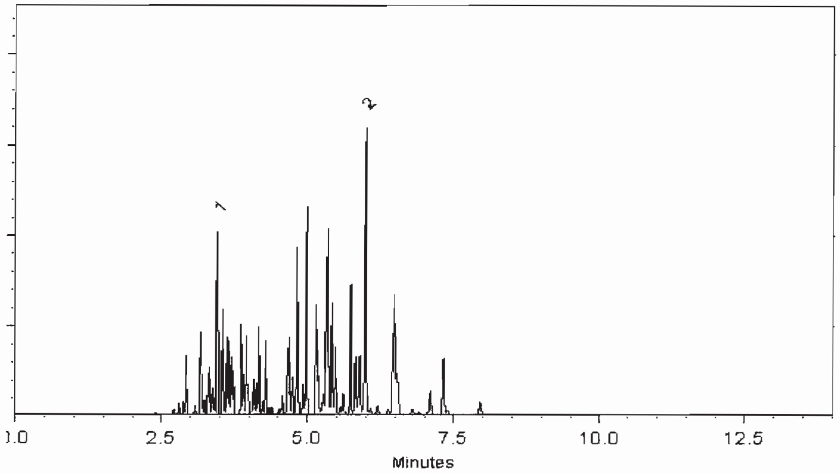
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham
Cheryl Graham - Mix Technician

Date Mixed: 04-Jan-2016 **Balance:** B442140311

Jennifer L Pollino
Jennifer L. Pollino - QC Analyst

Date Passed: 06-Jan-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8082SurrDeca_00025

recieved by CS
2/18/15

ID# 563892 - 563903

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

Decachlorobiphenyl Solution

Product Number: PPS-150 **Page:** 1 of 1

Lot Number: CK-4355 **Lot Issue Date:** 11-Feb-2014 **Expiration Date:** 31-Jan-2018

This certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	999.5 ± 5.0 µg/mL

Matrix: toluene

Storage: Store at Room Temperature (15-30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

A2LA ACCREDITED

ISO 17025
Accredited
A2LA
Cert. No. 0851-01

ISO 9001
Registered
TUV USA, Inc.
Cert. No. 09-1009

William J. Leahy
Quality Assurance Manager
10/26/2017

Reagent

8082SurrDeca_00026

riceived by CS
2/18/15

ID# 563892 - 563903

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

Decachlorobiphenyl Solution

Product Number: PPS-150
Page: 1 of 1
Lot Number: CK-4355
Lot Issue Date: 11-Feb-2014
Expiration Date: 31-Jan-2018

This certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	999.5 ± 5.0 µg/mL

Matrix: toluene

Storage: Store at Room Temperature (15-30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ACCREDITED

ISO 17025
Accredited
A2LA
Cert. No. 0851-01

ISO 9001
Registered
TUV USA, Inc.
Cert. No. 09-1009

William J. Leahy
Quality Assurance Manager
10/26/2017

Reagent

8260_2_CLEVE_00057

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CERTIFIED REFERENCE MATERIAL

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Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569723 **Lot No.:** A0123891

Description : 8260 List 1 / Std #4 2-CEVE (2015)

8260 List 1 / Std #4 2-CEVE (2015) 2,500 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

REC'D 9-11-17
JDH
1276960-962

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Chloroethyl vinyl ether		2,503.5 µg/mL	+/- 14.5556	µg/mL	Gravimetric
	CAS #	110-75-8 (Lot MKBS6526V)		+/- 53.6004	µg/mL	Unstressed
	Purity	98%		+/- 55.1587	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

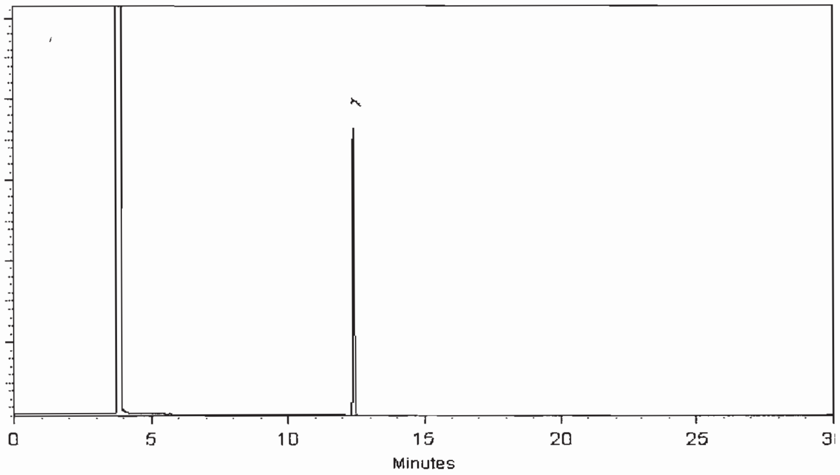
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis
Cathleen Soltis - Mix Technician

Date Mixed: 03-Jan-2017 **Balance:** 1125113331

Jennifer L Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 05-Jan-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8260Custom1_00056

125 Market Street
New Haven, CT 06513
USA

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Fax (203)786-5287
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CERTIFICATE OF ANALYSIS

Catalog No: S-26138
Description: Custom VOC Standard
Lot: 215101095-02
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

REC'D 7-19-17
JDH

Date Certified: Jun 20, 2017
Expiration: Jul 20, 2018
Sample Size: 1 mL
Components: 2
Storage Condition: Refrig (0-5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Signal Word: Danger

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Freon 114	76-14-2	99.0	2013	1993
Nonanal	124-19-6	100.0	2004	2004

1256224
1256225
1256226
1256227

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. This value is the expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By:
Larry Decker, Organic QC Manager

Page 1 of 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

QR-QRG/INO-001
Rev. 4/17

CERTIFICATION REPORT

1. **Quality Documentation:** This certificate is designed in accordance with ISO Guide 31 (Reference Materials - Contents of Certificates and Labels) and ISO Guide 35 (Reference Materials – General and Statistical Principles for Certification).

2. **Quality Standards:**

   ISO Guide 34 - General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 - General Requirements for the Competence of Testing and Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 - Quality Management System - Requirements Eagle Registrations Certificate Number 3774

3. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use.

4. **Raw Materials:** Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.

5. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

6. **Homogeneity Assessment:** Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements, and ISO Guide 35. This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

7. **Stability Assessment:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.

8. **Analytical Quality Control:** Products are tested by validated analytical methods specified in the manufacturer's quality system.

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_m = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$. The expanded uncertainty, U_{CRM} assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. The U_{CRM} for organic products is ±5%, the U_{CRM} for inorganic products is ±2%.

10. **Warranties:** The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.

11. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

8260Custom1_00057

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New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: S-26138
Description: Custom VOC Standard
Lot: 215101095-02
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

REC'D 7-19-17
JDH

Signal Word: Danger

Date Certified: Jun 20, 2017
Expiration: Jul 20, 2018
Sample Size: 1 mL
Components: 2
Storage Condition: Refrig (0-5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component	**CAS #**	**Purity %** (GC/FID)	**Prepared Concentration¹** (µg/mL)	**Certified Analyte Concentration²** (µg/mL)
Freon 114	76-14-2	99.0	2013	1993
Nonanal	124-19-6	100.0	2004	2004

1256224
1256225
1256226
1256227

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

¹ All weights are traceable through NIST, Test No. 822-275872-11

² Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. This value is the expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By:
Larry Decker, Organic QC Manager

Page 1 of 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

CERTIFICATION REPORT

1. **Quality Documentation:** This certificate is designed in accordance with ISO Guide 31 (Reference Materials - Contents of Certificates and Labels) and ISO Guide 35 (Reference Materials – General and Statistical Principles for Certification).

2. **Quality Standards:**

   ISO Guide 34 - General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 - General Requirements for the Competence of Testing and Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 - Quality Management System - Requirements Eagle Registrations Certificate Number 3774

3. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use.

4. **Raw Materials:** Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.

5. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

6. **Homogeneity Assessment:** Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements, and ISO Guide 35. This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

7. **Stability Assessment:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.

8. **Analytical Quality Control:** Products are tested by validated analytical methods specified in the manufacturer's quality system.

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_m = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$. The expanded uncertainty, U_{CRM} assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. The U_{CRM} for organic products is ±5%, the U_{CRM} for inorganic products is ±2%.

10. **Warranties:** The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.

11. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

8260Cyclohexa_00057

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Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569727 **Lot No.:** A0118487

Description : 8260 List 2/ Std #3 Cyclohexanone (2015)

8260 List 2/ Std #3 Cyclohexanone (2015) 25,000 µg/ml, Water, 1 ml/ampul

REC'D 9-11-17
JDt
1276966-968

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Cyclohexanone			25,000.4	µg/mL	+/-	146.3826	µg/mL	Gravimetric
	CAS #	108-94-1	(Lot MKBN5282V)			+/-	1,508.4819	µg/mL	Unstressed
	Purity	99%				+/-	1,512.0629	µg/mL	Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

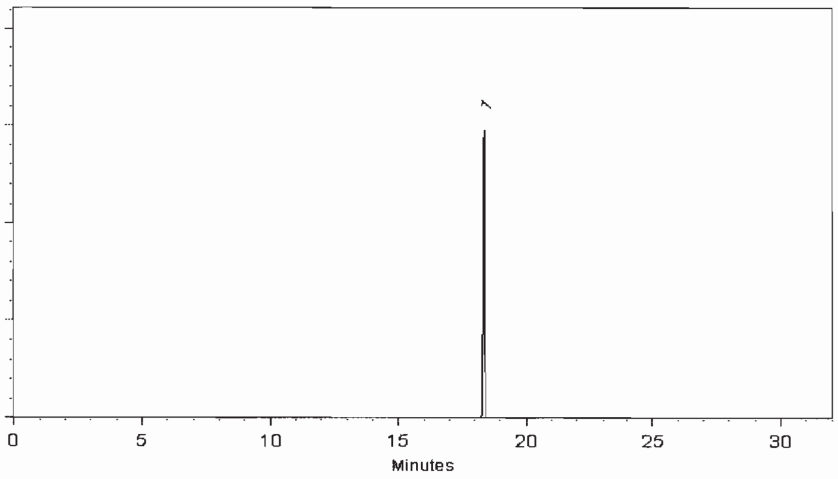
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Joseph Jaglowski - Mix Technician **Date Mixed:** 31-Mar-2016 **Balance:** B442140311

Jodi E. Breon

Jodi E. Breon - QA Analyst **Date Passed:** 04-Apr-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8260Ketones_00057

RESTEK

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0123890

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500 µg/ml, P&T Methanol/Water (90:10), 1 ml/ampul

REC'D 9-11-17
JDH
1276954 - 956

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acetone **CAS #** **Purity**	 67-64-1 99%	 (Lot SHBH0922V)	12,517.5 µg/mL	+/- 72.7778 +/- 755.2362 +/- 757.0293	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** **Purity**	 78-93-3 99%	 (Lot SHBF2461V)	12,521.8 µg/mL	+/- 72.8025 +/- 755.4927 +/- 757.2863	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** **Purity**	 108-10-1 99%	 (Lot SHBG3630V)	12,519.8 µg/mL	+/- 72.7909 +/- 755.3720 +/- 757.1654	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** **Purity**	 591-78-6 99%	 (Lot MKBW0198V)	12,508.5 µg/mL	+/- 72.7255 +/- 754.6932 +/- 756.4850	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
Solvent:	P&T Methanol/Water (90:10) **CAS #** **Purity**	 67-56-1/7732-18-5 99%					

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

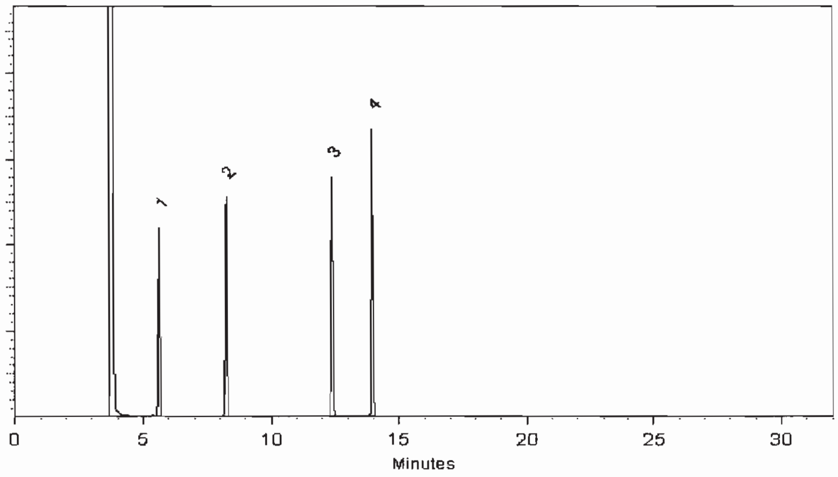
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician **Date Mixed:** 03-Jan-2017 **Balance:** B251644995

Jennifer L Pollino
Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 05-Jan-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8260MegaMix_00057

RESTEK®

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

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Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992 **Lot No.:** A0123711

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1250-62500 µg/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2018 **Storage:** 0°C or colder

REC'D 9-11-17
JDH
1276948-950

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Diethyl ether (ethyl ether)			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	60-29-7	(Lot SHBG1462V)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113)			2,505.1	µg/mL	+/-	14.5650	µg/mL	Gravimetric
	CAS #	76-13-1	(Lot 00009482)			+/-	151.1453	µg/mL	Unstressed
	Purity	99%				+/-	151.5041	µg/mL	Stressed
3	1,1-dichloroethene			2,511.5	µg/mL	+/-	14.6021	µg/mL	Gravimetric
	CAS #	75-35-4	(Lot SHBG8609V)			+/-	151.5299	µg/mL	Unstressed
	Purity	99%				+/-	151.8897	µg/mL	Stressed
4	tert-Butanol (TBA)			25,001.8	µg/mL	+/-	145.3547	µg/mL	Gravimetric
	CAS #	75-65-0	(Lot SHBF0688V)			+/-	1,508.4656	µg/mL	Unstressed
	Purity	99%				+/-	1,512.0470	µg/mL	Stressed
5	Methyl acetate			5,000.5	µg/mL	+/-	29.0733	µg/mL	Gravimetric
	CAS #	79-20-9	(Lot SHBG4345V)			+/-	301.7023	µg/mL	Unstressed
	Purity	99%				+/-	302.4186	µg/mL	Stressed
6	Iodomethane (methyl iodide)			2,502.9	µg/mL	+/-	14.5519	µg/mL	Gravimetric
	CAS #	74-88-4	(Lot SHBF2149V)			+/-	151.0095	µg/mL	Unstressed
	Purity	99%				+/-	151.3681	µg/mL	Stressed
7	Allyl chloride (3-chloropropene)			2,517.1	µg/mL	+/-	14.6348	µg/mL	Gravimetric
	CAS #	107-05-1	(Lot SHBF8133V)			+/-	151.8693	µg/mL	Unstressed
	Purity	99%				+/-	152.2299	µg/mL	Stressed

8	Methylene chloride (dichloromethane)			2,502.1	μg/mL	+/-	14.5476	μg/mL	Gravimetric
	CAS #	75-09-2	(Lot SHBH2578V)			+/-	150.9643	μg/mL	Unstressed
	Purity	99%				+/-	151.3227	μg/mL	Stressed
9	Carbon disulfide			2,501.4	μg/mL	+/-	14.5432	μg/mL	Gravimetric
	CAS #	75-15-0	(Lot S20A856)			+/-	150.9190	μg/mL	Unstressed
	Purity	99%				+/-	151.2773	μg/mL	Stressed
10	Acrylonitrile			25,001.3	μg/mL	+/-	145.3518	μg/mL	Gravimetric
	CAS #	107-13-1	(Lot T07B2030)			+/-	1,508.4355	μg/mL	Unstressed
	Purity	99%				+/-	1,512.0167	μg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)			2,505.3	μg/mL	+/-	14.5657	μg/mL	Gravimetric
	CAS #	1634-04-4	(Lot SHBG2655V)			+/-	151.1528	μg/mL	Unstressed
	Purity	99%				+/-	151.5117	μg/mL	Stressed
12	cis-1,2-Dichloroethene			2,500.5	μg/mL	+/-	14.5379	μg/mL	Gravimetric
	CAS #	156-59-2	(Lot MKBV2831V)			+/-	150.8644	μg/mL	Unstressed
	Purity	98%				+/-	151.2226	μg/mL	Stressed
13	n-Hexane (C6)			2,503.8	μg/mL	+/-	14.5570	μg/mL	Gravimetric
	CAS #	110-54-3	(Lot SHBG2674V)			+/-	151.0623	μg/mL	Unstressed
	Purity	99%				+/-	151.4210	μg/mL	Stressed
14	1,1-Dichloroethane			2,500.4	μg/mL	+/-	14.5374	μg/mL	Gravimetric
	CAS #	75-34-3	(Lot 00008621)			+/-	150.8587	μg/mL	Unstressed
	Purity	99%				+/-	151.2169	μg/mL	Stressed
15	2,2-Dichloropropane			2,501.0	μg/mL	+/-	14.5408	μg/mL	Gravimetric
	CAS #	594-20-7	(Lot BCBR0622V)			+/-	150.8940	μg/mL	Unstressed
	Purity	98%				+/-	151.2522	μg/mL	Stressed
16	trans-1,2-Dichloroethene			2,503.8	μg/mL	+/-	14.5570	μg/mL	Gravimetric
	CAS #	156-60-5	(Lot 09431AEV)			+/-	151.0623	μg/mL	Unstressed
	Purity	99%				+/-	151.4210	μg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)			62,512.5	μg/mL	+/-	363.4341	μg/mL	Gravimetric
	CAS #	78-83-1	(Lot SHBG8201V)			+/-	3,771.6543	μg/mL	Unstressed
	Purity	99%				+/-	3,780.6088	μg/mL	Stressed
18	chloroform			2,501.9	μg/mL	+/-	14.5461	μg/mL	Gravimetric
	CAS #	67-66-3	(Lot MKBV2089V)			+/-	150.9492	μg/mL	Unstressed
	Purity	99%				+/-	151.3076	μg/mL	Stressed
19	Bromochloromethane			2,503.3	μg/mL	+/-	14.5541	μg/mL	Gravimetric
	CAS #	74-97-5	(Lot 00004559)			+/-	151.0322	μg/mL	Unstressed
	Purity	99%				+/-	151.3907	μg/mL	Stressed
20	Tetrahydrofuran			5,001.3	μg/mL	+/-	29.0777	μg/mL	Gravimetric
	CAS #	109-99-9	(Lot SHBG2910V)			+/-	301.7476	μg/mL	Unstressed
	Purity	99%				+/-	302.4640	μg/mL	Stressed
21	1,1,1-trichloroethane			2,500.3	μg/mL	+/-	14.5367	μg/mL	Gravimetric
	CAS #	71-55-6	(Lot B15W12061)			+/-	150.8512	μg/mL	Unstressed
	Purity	99%				+/-	151.2093	μg/mL	Stressed
22	Cyclohexane			2,502.0	μg/mL	+/-	14.5468	μg/mL	Gravimetric
	CAS #	110-82-7	(Lot MKBX4768V)			+/-	150.9567	μg/mL	Unstressed
	Purity	99%				+/-	151.3151	μg/mL	Stressed
23	1,1-Dichloropropene			2,500.5	μg/mL	+/-	14.5381	μg/mL	Gravimetric
	CAS #	563-58-6	(Lot 160727JLM)			+/-	150.8662	μg/mL	Unstressed
	Purity	99%				+/-	151.2244	μg/mL	Stressed

24	carbon tetrachloride			2,503.3	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS #	56-23-5	(Lot SHBG1763V)			+/-	151.0322	µg/mL	Unstressed
	Purity	99%				+/-	151.3907	µg/mL	Stressed
25	n-Heptane (C7)			2,505.5	µg/mL	+/-	14.5672	µg/mL	Gravimetric
	CAS #	142-82-5	(Lot SHBG6171V)			+/-	151.1679	µg/mL	Unstressed
	Purity	99%				+/-	151.5268	µg/mL	Stressed
26	1,2-Dichloroethane			2,504.8	µg/mL	+/-	14.5628	µg/mL	Gravimetric
	CAS #	107-06-2	(Lot SHBF9313V)			+/-	151.1227	µg/mL	Unstressed
	Purity	99%				+/-	151.4815	µg/mL	Stressed
27	Benzene			2,506.9	µg/mL	+/-	14.5752	µg/mL	Gravimetric
	CAS #	71-43-2	(Lot SHBH2056V)			+/-	151.2509	µg/mL	Unstressed
	Purity	99%				+/-	151.6100	µg/mL	Stressed
28	Trichloroethene			2,502.4	µg/mL	+/-	14.5490	µg/mL	Gravimetric
	CAS #	79-01-6	(Lot SHBH1955V)			+/-	150.9794	µg/mL	Unstressed
	Purity	99%				+/-	151.3378	µg/mL	Stressed
29	Methylcyclohexane			2,500.3	µg/mL	+/-	14.5372	µg/mL	Gravimetric
	CAS #	108-87-2	(Lot SHBG0634V)			+/-	150.8570	µg/mL	Unstressed
	Purity	98%				+/-	151.2152	µg/mL	Stressed
30	1,2-Dichloropropane			2,503.0	µg/mL	+/-	14.5527	µg/mL	Gravimetric
	CAS #	78-87-5	(Lot 01113D0V)			+/-	151.0171	µg/mL	Unstressed
	Purity	99%				+/-	151.3756	µg/mL	Stressed
31	1,4-Dioxane			50,011.4	µg/mL	+/-	290.7552	µg/mL	Gravimetric
	CAS #	123-91-1	(Lot SHBH2584V)			+/-	3,017.4064	µg/mL	Unstressed
	Purity	99%				+/-	3,024.5702	µg/mL	Stressed
32	Dibromomethane			2,501.9	µg/mL	+/-	14.5465	µg/mL	Gravimetric
	CAS #	74-95-3	(Lot 10183283)			+/-	150.9531	µg/mL	Unstressed
	Purity	98%				+/-	151.3115	µg/mL	Stressed
33	cis-1,3-Dichloropropene			2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS #	10061-01-5	(Lot 22622)			+/-	150.8964	µg/mL	Unstressed
	Purity	99%				+/-	151.2547	µg/mL	Stressed
34	Toluene			2,504.3	µg/mL	+/-	14.5599	µg/mL	Gravimetric
	CAS #	108-88-3	(Lot SHBH1932V)			+/-	151.0925	µg/mL	Unstressed
	Purity	99%				+/-	151.4512	µg/mL	Stressed
35	Ethyl methacrylate			2,506.9	µg/mL	+/-	14.5752	µg/mL	Gravimetric
	CAS #	97-63-2	(Lot SHBD9190V)			+/-	151.2509	µg/mL	Unstressed
	Purity	99%				+/-	151.6100	µg/mL	Stressed
36	trans-1,3-Dichloropropene			2,503.6	µg/mL	+/-	14.5563	µg/mL	Gravimetric
	CAS #	10061-02-6	(Lot C584177)			+/-	151.0548	µg/mL	Unstressed
	Purity	99%				+/-	151.4134	µg/mL	Stressed
37	1,1,2-Trichloroethane			2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS #	79-00-5	(Lot FGB01)			+/-	150.8964	µg/mL	Unstressed
	Purity	99%				+/-	151.2547	µg/mL	Stressed
38	1,3-Dichloropropane			2,503.5	µg/mL	+/-	14.5556	µg/mL	Gravimetric
	CAS #	142-28-9	(Lot BCBG2162V)			+/-	151.0472	µg/mL	Unstressed
	Purity	99%				+/-	151.4059	µg/mL	Stressed
39	Tetrachloroethene			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	127-18-4	(Lot SHBD9374V)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed

40	dibromochloromethane			2,500.2	µg/mL	+/-	14.5365	µg/mL	Gravimetric
	CAS #	124-48-1	(Lot MKBW3597V)			+/-	150.8497	µg/mL	Unstressed
	Purity	98%				+/-	151.2078	µg/mL	Stressed
41	1,2-Dibromoethane (EDB)			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	106-93-4	(Lot BCBH3877V)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
42	Chlorobenzene			2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS #	108-90-7	(Lot SHBF0505V)			+/-	150.8436	µg/mL	Unstressed
	Purity	99%				+/-	151.2017	µg/mL	Stressed
43	m-Xylene			1,250.3	µg/mL	+/-	7.2691	µg/mL	Gravimetric
	CAS #	108-38-3	(Lot SHBG4347V)			+/-	75.4331	µg/mL	Unstressed
	Purity	99%				+/-	75.6122	µg/mL	Stressed
44	p-Xylene			1,251.3	µg/mL	+/-	7.2749	µg/mL	Gravimetric
	CAS #	106-42-3	(Lot SHBG3928V)			+/-	75.4935	µg/mL	Unstressed
	Purity	99%				+/-	75.6727	µg/mL	Stressed
45	Ethylbenzene			2,503.3	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS #	100-41-4	(Lot SHBG5920V)			+/-	151.0322	µg/mL	Unstressed
	Purity	99%				+/-	151.3907	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane			2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS #	630-20-6	(Lot MKBS3769V)			+/-	150.8512	µg/mL	Unstressed
	Purity	99%				+/-	151.2093	µg/mL	Stressed
47	o-Xylene			2,504.9	µg/mL	+/-	14.5636	µg/mL	Gravimetric
	CAS #	95-47-6	(Lot SHBH3432V)			+/-	151.1302	µg/mL	Unstressed
	Purity	99%				+/-	151.4890	µg/mL	Stressed
48	Styrene			2,506.3	µg/mL	+/-	14.5716	µg/mL	Gravimetric
	CAS #	100-42-5	(Lot MKBS7097V)			+/-	151.2132	µg/mL	Unstressed
	Purity	99%				+/-	151.5722	µg/mL	Stressed
49	Isopropylbenzene (cumene)			2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
	CAS #	98-82-8	(Lot 10185056)			+/-	150.9341	µg/mL	Unstressed
	Purity	99%				+/-	151.2925	µg/mL	Stressed
50	bromoform			2,502.9	µg/mL	+/-	14.5519	µg/mL	Gravimetric
	CAS #	75-25-2	(Lot SHBD8459V)			+/-	151.0095	µg/mL	Unstressed
	Purity	99%				+/-	151.3681	µg/mL	Stressed
51	bromodichloromethane			2,506.8	µg/mL	+/-	14.5750	µg/mL	Gravimetric
	CAS #	75-27-4	(Lot MKBW5506V)			+/-	151.2490	µg/mL	Unstressed
	Purity	97%				+/-	151.6081	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	79-34-5	(Lot CFA4D)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
53	1,2,3-Trichloropropane			2,508.5	µg/mL	+/-	14.5846	µg/mL	Gravimetric
	CAS #	96-18-4	(Lot BCBH8722V)			+/-	151.3489	µg/mL	Unstressed
	Purity	99%				+/-	151.7082	µg/mL	Stressed
54	trans-1,4-dichloro-2-butene			2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS #	110-57-6	(Lot MKBP6041V)			+/-	150.8817	µg/mL	Unstressed
	Purity	95%				+/-	151.2399	µg/mL	Stressed
55	n-Propylbenzene			2,501.9	µg/mL	+/-	14.5461	µg/mL	Gravimetric
	CAS #	103-65-1	(Lot MKBJ0332V)			+/-	150.9492	µg/mL	Unstressed
	Purity	99%				+/-	151.3076	µg/mL	Stressed

56	Bromobenzene			2,507.0	µg/mL	+/-	14.5759	µg/mL	Gravimetric
	CAS #	108-86-1	(Lot MKBD4032V)			+/-	151.2584	µg/mL	Unstressed
	Purity	99%				+/-	151.6175	µg/mL	Stressed
57	1,3,5-Trimethylbenzene			2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS #	108-67-8	(Lot BCBQ2165V)			+/-	150.9040	µg/mL	Unstressed
	Purity	99%				+/-	151.2622	µg/mL	Stressed
58	2-Chlorotoluene			2,500.6	µg/mL	+/-	14.5388	µg/mL	Gravimetric
	CAS #	95-49-8	(Lot MKBW5554V)			+/-	150.8738	µg/mL	Unstressed
	Purity	99%				+/-	151.2320	µg/mL	Stressed
59	4-Chlorotoluene			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	106-43-4	(Lot MKBL7753V)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
60	tert-Butylbenzene			2,507.0	µg/mL	+/-	14.5759	µg/mL	Gravimetric
	CAS #	98-06-6	(Lot S52237V)			+/-	151.2584	µg/mL	Unstressed
	Purity	99%				+/-	151.6175	µg/mL	Stressed
61	1,2,4-Trimethylbenzene			2,500.8	µg/mL	+/-	14.5401	µg/mL	Gravimetric
	CAS #	95-63-6	(Lot MKBJ6229V)			+/-	150.8866	µg/mL	Unstressed
	Purity	98%				+/-	151.2448	µg/mL	Stressed
62	sec-Butylbenzene			2,505.4	µg/mL	+/-	14.5665	µg/mL	Gravimetric
	CAS #	135-98-8	(Lot MKBR9260V)			+/-	151.1604	µg/mL	Unstressed
	Purity	99%				+/-	151.5193	µg/mL	Stressed
63	p-Isopropyltoluene (p-Cymene)			2,503.8	µg/mL	+/-	14.5570	µg/mL	Gravimetric
	CAS #	99-87-6	(Lot MKBS2604V)			+/-	151.0623	µg/mL	Unstressed
	Purity	99%				+/-	151.4210	µg/mL	Stressed
64	1,3-Dichlorobenzene			2,503.9	µg/mL	+/-	14.5577	µg/mL	Gravimetric
	CAS #	541-73-1	(Lot BCBM5751V)			+/-	151.0699	µg/mL	Unstressed
	Purity	99%				+/-	151.4285	µg/mL	Stressed
65	1,4-Dichlorobenzene			2,509.9	µg/mL	+/-	14.5926	µg/mL	Gravimetric
	CAS #	106-46-7	(Lot MKBS1350V)			+/-	151.4319	µg/mL	Unstressed
	Purity	99%				+/-	151.7914	µg/mL	Stressed
66	n-Butylbenzene			2,503.3	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS #	104-51-8	(Lot 09418JJV)			+/-	151.0322	µg/mL	Unstressed
	Purity	99%				+/-	151.3907	µg/mL	Stressed
67	1,2-Dichlorobenzene			2,503.8	µg/mL	+/-	14.5570	µg/mL	Gravimetric
	CAS #	95-50-1	(Lot SHBD7331V)			+/-	151.0623	µg/mL	Unstressed
	Purity	99%				+/-	151.4210	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane			2,505.0	µg/mL	+/-	14.5643	µg/mL	Gravimetric
	CAS #	96-12-8	(Lot FBL01)			+/-	151.1378	µg/mL	Unstressed
	Purity	99%				+/-	151.4966	µg/mL	Stressed
69	1,2,4-Trichlorobenzene			2,505.3	µg/mL	+/-	14.5657	µg/mL	Gravimetric
	CAS #	120-82-1	(Lot SHBC5541V)			+/-	151.1528	µg/mL	Unstressed
	Purity	99%				+/-	151.5117	µg/mL	Stressed
70	Hexachlorobutadiene			2,506.5	µg/mL	+/-	14.5728	µg/mL	Gravimetric
	CAS #	87-68-3	(Lot J31X013)			+/-	151.2266	µg/mL	Unstressed
	Purity	98%				+/-	151.5856	µg/mL	Stressed
71	Naphthalene			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	91-20-3	(Lot MKBW2603V)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed

72	1,2,3-Trichlorobenzene		2,511.1	µg/mL	+/-	14.5999	µg/mL	Gravimetric
	CAS # 87-61-6	(Lot 12912PFV)			+/-	151.5073	µg/mL	Unstressed
	Purity 99%				+/-	151.8670	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

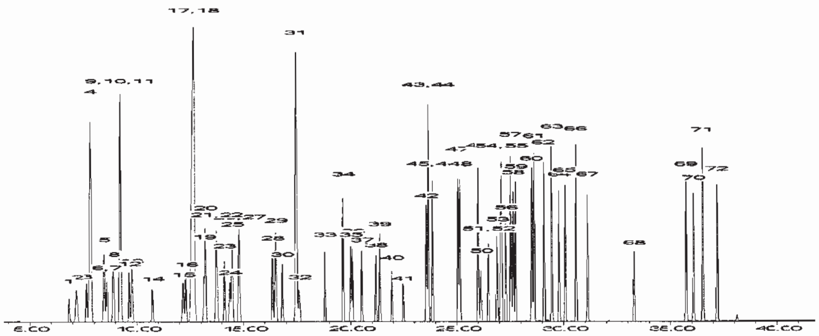
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician **Date Mixed:** 22-Dec-2016 **Balance:** B251644995

Jennifer 2 Pollino
Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 04-Jan-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8260MegaMix_00058

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992

Lot No.: A0123711

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1250-62500 µg/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL

Pkg Amt: > 1 mL

Expiration Date : December 31, 2018

Storage: 0°C or colder

REC'D 9-11-17
JDH
1276948-950

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Diethyl ether (ethyl ether)			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	60-29-7	(Lot SHBG1462V)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113)			2,505.1	µg/mL	+/-	14.5650	µg/mL	Gravimetric
	CAS #	76-13-1	(Lot 00009482)			+/-	151.1453	µg/mL	Unstressed
	Purity	99%				+/-	151.5041	µg/mL	Stressed
3	1,1-dichloroethene			2,511.5	µg/mL	+/-	14.6021	µg/mL	Gravimetric
	CAS #	75-35-4	(Lot SHBG8609V)			+/-	151.5299	µg/mL	Unstressed
	Purity	99%				+/-	151.8897	µg/mL	Stressed
4	tert-Butanol (TBA)			25,001.8	µg/mL	+/-	145.3547	µg/mL	Gravimetric
	CAS #	75-65-0	(Lot SHBF0688V)			+/-	1,508.4656	µg/mL	Unstressed
	Purity	99%				+/-	1,512.0470	µg/mL	Stressed
5	Methyl acetate			5,000.5	µg/mL	+/-	29.0733	µg/mL	Gravimetric
	CAS #	79-20-9	(Lot SHBG4345V)			+/-	301.7023	µg/mL	Unstressed
	Purity	99%				+/-	302.4186	µg/mL	Stressed
6	Iodomethane (methyl iodide)			2,502.9	µg/mL	+/-	14.5519	µg/mL	Gravimetric
	CAS #	74-88-4	(Lot SHBF2149V)			+/-	151.0095	µg/mL	Unstressed
	Purity	99%				+/-	151.3681	µg/mL	Stressed
7	Allyl chloride (3-chloropropene)			2,517.1	µg/mL	+/-	14.6348	µg/mL	Gravimetric
	CAS #	107-05-1	(Lot SHBF8133V)			+/-	151.8693	µg/mL	Unstressed
	Purity	99%				+/-	152.2299	µg/mL	Stressed

8	Methylene chloride (dichloromethane)		2,502.1	µg/mL	+/-	14.5476	µg/mL	Gravimetric
	CAS # 75-09-2	(Lot SHBH2578V)			+/-	150.9643	µg/mL	Unstressed
	Purity 99%				+/-	151.3227	µg/mL	Stressed
9	Carbon disulfide		2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
	CAS # 75-15-0	(Lot S20A856)			+/-	150.9190	µg/mL	Unstressed
	Purity 99%				+/-	151.2773	µg/mL	Stressed
10	Acrylonitrile		25,001.3	µg/mL	+/-	145.3518	µg/mL	Gravimetric
	CAS # 107-13-1	(Lot T07B2030)			+/-	1,508.4355	µg/mL	Unstressed
	Purity 99%				+/-	1,512.0167	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)		2,505.3	µg/mL	+/-	14.5657	µg/mL	Gravimetric
	CAS # 1634-04-4	(Lot SHBG2655V)			+/-	151.1528	µg/mL	Unstressed
	Purity 99%				+/-	151.5117	µg/mL	Stressed
12	cis-1,2-Dichloroethene		2,500.5	µg/mL	+/-	14.5379	µg/mL	Gravimetric
	CAS # 156-59-2	(Lot MKBV2831V)			+/-	150.8644	µg/mL	Unstressed
	Purity 98%				+/-	151.2226	µg/mL	Stressed
13	n-Hexane (C6)		2,503.8	µg/mL	+/-	14.5570	µg/mL	Gravimetric
	CAS # 110-54-3	(Lot SHBG2674V)			+/-	151.0623	µg/mL	Unstressed
	Purity 99%				+/-	151.4210	µg/mL	Stressed
14	1,1-Dichloroethane		2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
	CAS # 75-34-3	(Lot 00008621)			+/-	150.8587	µg/mL	Unstressed
	Purity 99%				+/-	151.2169	µg/mL	Stressed
15	2,2-Dichloropropane		2,501.0	µg/mL	+/-	14.5408	µg/mL	Gravimetric
	CAS # 594-20-7	(Lot BCBR0622V)			+/-	150.8940	µg/mL	Unstressed
	Purity 98%				+/-	151.2522	µg/mL	Stressed
16	trans-1,2-Dichloroethene		2,503.8	µg/mL	+/-	14.5570	µg/mL	Gravimetric
	CAS # 156-60-5	(Lot 09431AEV)			+/-	151.0623	µg/mL	Unstressed
	Purity 99%				+/-	151.4210	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)		62,512.5	µg/mL	+/-	363.4341	µg/mL	Gravimetric
	CAS # 78-83-1	(Lot SHBG8201V)			+/-	3,771.6543	µg/mL	Unstressed
	Purity 99%				+/-	3,780.6088	µg/mL	Stressed
18	chloroform		2,501.9	µg/mL	+/-	14.5461	µg/mL	Gravimetric
	CAS # 67-66-3	(Lot MKBV2089V)			+/-	150.9492	µg/mL	Unstressed
	Purity 99%				+/-	151.3076	µg/mL	Stressed
19	Bromochloromethane		2,503.3	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS # 74-97-5	(Lot 00004559)			+/-	151.0322	µg/mL	Unstressed
	Purity 99%				+/-	151.3907	µg/mL	Stressed
20	Tetrahydrofuran		5,001.3	µg/mL	+/-	29.0777	µg/mL	Gravimetric
	CAS # 109-99-9	(Lot SHBG2910V)			+/-	301.7476	µg/mL	Unstressed
	Purity 99%				+/-	302.4640	µg/mL	Stressed
21	1,1,1-trichloroethane		2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS # 71-55-6	(Lot B15W12061)			+/-	150.8512	µg/mL	Unstressed
	Purity 99%				+/-	151.2093	µg/mL	Stressed
22	Cyclohexane		2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS # 110-82-7	(Lot MKBX4768V)			+/-	150.9567	µg/mL	Unstressed
	Purity 99%				+/-	151.3151	µg/mL	Stressed
23	1,1-Dichloropropene		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 563-58-6	(Lot 160727JLM)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed

24	carbon tetrachloride			2,503.3	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS #	56-23-5	(Lot SHBG1763V)			+/-	151.0322	µg/mL	Unstressed
	Purity	99%				+/-	151.3907	µg/mL	Stressed
25	n-Heptane (C7)			2,505.5	µg/mL	+/-	14.5672	µg/mL	Gravimetric
	CAS #	142-82-5	(Lot SHBG6171V)			+/-	151.1679	µg/mL	Unstressed
	Purity	99%				+/-	151.5268	µg/mL	Stressed
26	1,2-Dichloroethane			2,504.8	µg/mL	+/-	14.5628	µg/mL	Gravimetric
	CAS #	107-06-2	(Lot SHBF9313V)			+/-	151.1227	µg/mL	Unstressed
	Purity	99%				+/-	151.4815	µg/mL	Stressed
27	Benzene			2,506.9	µg/mL	+/-	14.5752	µg/mL	Gravimetric
	CAS #	71-43-2	(Lot SHBH2056V)			+/-	151.2509	µg/mL	Unstressed
	Purity	99%				+/-	151.6100	µg/mL	Stressed
28	Trichloroethene			2,502.4	µg/mL	+/-	14.5490	µg/mL	Gravimetric
	CAS #	79-01-6	(Lot SHBH1955V)			+/-	150.9794	µg/mL	Unstressed
	Purity	99%				+/-	151.3378	µg/mL	Stressed
29	Methylcyclohexane			2,500.3	µg/mL	+/-	14.5372	µg/mL	Gravimetric
	CAS #	108-87-2	(Lot SHBG0634V)			+/-	150.8570	µg/mL	Unstressed
	Purity	98%				+/-	151.2152	µg/mL	Stressed
30	1,2-Dichloropropane			2,503.0	µg/mL	+/-	14.5527	µg/mL	Gravimetric
	CAS #	78-87-5	(Lot 01113D0V)			+/-	151.0171	µg/mL	Unstressed
	Purity	99%				+/-	151.3756	µg/mL	Stressed
31	1,4-Dioxane			50,011.4	µg/mL	+/-	290.7552	µg/mL	Gravimetric
	CAS #	123-91-1	(Lot SHBH2584V)			+/-	3,017.4064	µg/mL	Unstressed
	Purity	99%				+/-	3,024.5702	µg/mL	Stressed
32	Dibromomethane			2,501.9	µg/mL	+/-	14.5465	µg/mL	Gravimetric
	CAS #	74-95-3	(Lot 10183283)			+/-	150.9531	µg/mL	Unstressed
	Purity	98%				+/-	151.3115	µg/mL	Stressed
33	cis-1,3-Dichloropropene			2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS #	10061-01-5	(Lot 22622)			+/-	150.8964	µg/mL	Unstressed
	Purity	99%				+/-	151.2547	µg/mL	Stressed
34	Toluene			2,504.3	µg/mL	+/-	14.5599	µg/mL	Gravimetric
	CAS #	108-88-3	(Lot SHBH1932V)			+/-	151.0925	µg/mL	Unstressed
	Purity	99%				+/-	151.4512	µg/mL	Stressed
35	Ethyl methacrylate			2,506.9	µg/mL	+/-	14.5752	µg/mL	Gravimetric
	CAS #	97-63-2	(Lot SHBD9190V)			+/-	151.2509	µg/mL	Unstressed
	Purity	99%				+/-	151.6100	µg/mL	Stressed
36	trans-1,3-Dichloropropene			2,503.6	µg/mL	+/-	14.5563	µg/mL	Gravimetric
	CAS #	10061-02-6	(Lot C584177)			+/-	151.0548	µg/mL	Unstressed
	Purity	99%				+/-	151.4134	µg/mL	Stressed
37	1,1,2-Trichloroethane			2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS #	79-00-5	(Lot FGB01)			+/-	150.8964	µg/mL	Unstressed
	Purity	99%				+/-	151.2547	µg/mL	Stressed
38	1,3-Dichloropropane			2,503.5	µg/mL	+/-	14.5556	µg/mL	Gravimetric
	CAS #	142-28-9	(Lot BCBG2162V)			+/-	151.0472	µg/mL	Unstressed
	Purity	99%				+/-	151.4059	µg/mL	Stressed
39	Tetrachloroethene			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	127-18-4	(Lot SHBD9374V)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed

40	dibromochloromethane			2,500.2	µg/mL	+/-	14.5365	µg/mL	Gravimetric
	CAS #	124-48-1	(Lot MKBW3597V)			+/-	150.8497	µg/mL	Unstressed
	Purity	98%				+/-	151.2078	µg/mL	Stressed
41	1,2-Dibromoethane (EDB)			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	106-93-4	(Lot BCBH3877V)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
42	Chlorobenzene			2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS #	108-90-7	(Lot SHBF0505V)			+/-	150.8436	µg/mL	Unstressed
	Purity	99%				+/-	151.2017	µg/mL	Stressed
43	m-Xylene			1,250.3	µg/mL	+/-	7.2691	µg/mL	Gravimetric
	CAS #	108-38-3	(Lot SHBG4347V)			+/-	75.4331	µg/mL	Unstressed
	Purity	99%				+/-	75.6122	µg/mL	Stressed
44	p-Xylene			1,251.3	µg/mL	+/-	7.2749	µg/mL	Gravimetric
	CAS #	106-42-3	(Lot SHBG3928V)			+/-	75.4935	µg/mL	Unstressed
	Purity	99%				+/-	75.6727	µg/mL	Stressed
45	Ethylbenzene			2,503.3	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS #	100-41-4	(Lot SHBG5920V)			+/-	151.0322	µg/mL	Unstressed
	Purity	99%				+/-	151.3907	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane			2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS #	630-20-6	(Lot MKBS3769V)			+/-	150.8512	µg/mL	Unstressed
	Purity	99%				+/-	151.2093	µg/mL	Stressed
47	o-Xylene			2,504.9	µg/mL	+/-	14.5636	µg/mL	Gravimetric
	CAS #	95-47-6	(Lot SHBH3432V)			+/-	151.1302	µg/mL	Unstressed
	Purity	99%				+/-	151.4890	µg/mL	Stressed
48	Styrene			2,506.3	µg/mL	+/-	14.5716	µg/mL	Gravimetric
	CAS #	100-42-5	(Lot MKBS7097V)			+/-	151.2132	µg/mL	Unstressed
	Purity	99%				+/-	151.5722	µg/mL	Stressed
49	Isopropylbenzene (cumene)			2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
	CAS #	98-82-8	(Lot 10185056)			+/-	150.9341	µg/mL	Unstressed
	Purity	99%				+/-	151.2925	µg/mL	Stressed
50	bromoform			2,502.9	µg/mL	+/-	14.5519	µg/mL	Gravimetric
	CAS #	75-25-2	(Lot SHBD8459V)			+/-	151.0095	µg/mL	Unstressed
	Purity	99%				+/-	151.3681	µg/mL	Stressed
51	bromodichloromethane			2,506.8	µg/mL	+/-	14.5750	µg/mL	Gravimetric
	CAS #	75-27-4	(Lot MKBW5506V)			+/-	151.2490	µg/mL	Unstressed
	Purity	97%				+/-	151.6081	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	79-34-5	(Lot CFA4D)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
53	1,2,3-Trichloropropane			2,508.5	µg/mL	+/-	14.5846	µg/mL	Gravimetric
	CAS #	96-18-4	(Lot BCBH8722V)			+/-	151.3489	µg/mL	Unstressed
	Purity	99%				+/-	151.7082	µg/mL	Stressed
54	trans-1,4-dichloro-2-butene			2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS #	110-57-6	(Lot MKBP6041V)			+/-	150.8817	µg/mL	Unstressed
	Purity	95%				+/-	151.2399	µg/mL	Stressed
55	n-Propylbenzene			2,501.9	µg/mL	+/-	14.5461	µg/mL	Gravimetric
	CAS #	103-65-1	(Lot MKBJ0332V)			+/-	150.9492	µg/mL	Unstressed
	Purity	99%				+/-	151.3076	µg/mL	Stressed

56	Bromobenzene			2,507.0	µg/mL	+/-	14.5759	µg/mL	Gravimetric
	CAS #	108-86-1	(Lot MKBD4032V)			+/-	151.2584	µg/mL	Unstressed
	Purity	99%				+/-	151.6175	µg/mL	Stressed
57	1,3,5-Trimethylbenzene			2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS #	108-67-8	(Lot BCBQ2165V)			+/-	150.9040	µg/mL	Unstressed
	Purity	99%				+/-	151.2622	µg/mL	Stressed
58	2-Chlorotoluene			2,500.6	µg/mL	+/-	14.5388	µg/mL	Gravimetric
	CAS #	95-49-8	(Lot MKBW5554V)			+/-	150.8738	µg/mL	Unstressed
	Purity	99%				+/-	151.2320	µg/mL	Stressed
59	4-Chlorotoluene			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	106-43-4	(Lot MKBL7753V)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
60	tert-Butylbenzene			2,507.0	µg/mL	+/-	14.5759	µg/mL	Gravimetric
	CAS #	98-06-6	(Lot S52237V)			+/-	151.2584	µg/mL	Unstressed
	Purity	99%				+/-	151.6175	µg/mL	Stressed
61	1,2,4-Trimethylbenzene			2,500.8	µg/mL	+/-	14.5401	µg/mL	Gravimetric
	CAS #	95-63-6	(Lot MKBJ6229V)			+/-	150.8866	µg/mL	Unstressed
	Purity	98%				+/-	151.2448	µg/mL	Stressed
62	sec-Butylbenzene			2,505.4	µg/mL	+/-	14.5665	µg/mL	Gravimetric
	CAS #	135-98-8	(Lot MKBR9260V)			+/-	151.1604	µg/mL	Unstressed
	Purity	99%				+/-	151.5193	µg/mL	Stressed
63	p-Isopropyltoluene (p-Cymene)			2,503.8	µg/mL	+/-	14.5570	µg/mL	Gravimetric
	CAS #	99-87-6	(Lot MKBS2604V)			+/-	151.0623	µg/mL	Unstressed
	Purity	99%				+/-	151.4210	µg/mL	Stressed
64	1,3-Dichlorobenzene			2,503.9	µg/mL	+/-	14.5577	µg/mL	Gravimetric
	CAS #	541-73-1	(Lot BCBM5751V)			+/-	151.0699	µg/mL	Unstressed
	Purity	99%				+/-	151.4285	µg/mL	Stressed
65	1,4-Dichlorobenzene			2,509.9	µg/mL	+/-	14.5926	µg/mL	Gravimetric
	CAS #	106-46-7	(Lot MKBS1350V)			+/-	151.4319	µg/mL	Unstressed
	Purity	99%				+/-	151.7914	µg/mL	Stressed
66	n-Butylbenzene			2,503.3	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS #	104-51-8	(Lot 09418JJV)			+/-	151.0322	µg/mL	Unstressed
	Purity	99%				+/-	151.3907	µg/mL	Stressed
67	1,2-Dichlorobenzene			2,503.8	µg/mL	+/-	14.5570	µg/mL	Gravimetric
	CAS #	95-50-1	(Lot SHBD7331V)			+/-	151.0623	µg/mL	Unstressed
	Purity	99%				+/-	151.4210	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane			2,505.0	µg/mL	+/-	14.5643	µg/mL	Gravimetric
	CAS #	96-12-8	(Lot FBL01)			+/-	151.1378	µg/mL	Unstressed
	Purity	99%				+/-	151.4966	µg/mL	Stressed
69	1,2,4-Trichlorobenzene			2,505.3	µg/mL	+/-	14.5657	µg/mL	Gravimetric
	CAS #	120-82-1	(Lot SHBC5541V)			+/-	151.1528	µg/mL	Unstressed
	Purity	99%				+/-	151.5117	µg/mL	Stressed
70	Hexachlorobutadiene			2,506.5	µg/mL	+/-	14.5728	µg/mL	Gravimetric
	CAS #	87-68-3	(Lot J31X013)			+/-	151.2266	µg/mL	Unstressed
	Purity	98%				+/-	151.5856	µg/mL	Stressed
71	Naphthalene			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	91-20-3	(Lot MKBW2603V)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed

72	1,2,3-Trichlorobenzene		2,511.1 µg/mL	+/-	14.5999	µg/mL	Gravimetric
	CAS # 87-61-6	(Lot 12912PFV)		+/-	151.5073	µg/mL	Unstressed
	Purity 99%			+/-	151.8670	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

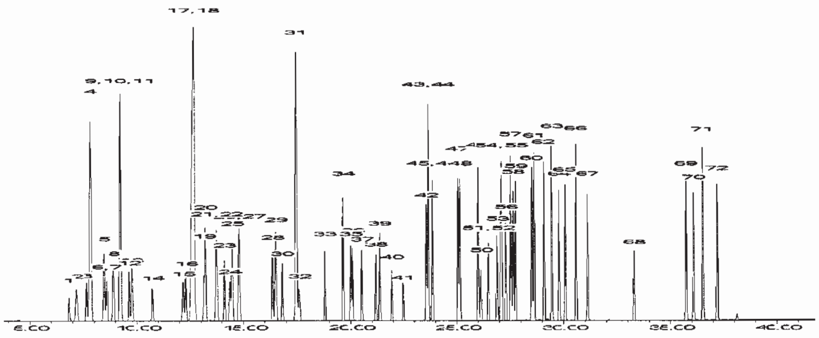
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 22-Dec-2016 **Balance:** B251644995

Jennifer 2 Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 04-Jan-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8260MegaMixSS_00056

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992.sec **Lot No.:** A0123775

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1250-62500 µg/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2018 **Storage:** 0°C or colder

REC'D 9-11-17
JDH

12769~~48~~-95~~0~~
51 3

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)			Expanded Uncertainty (95% C.L.; K=2)		
1	Diethyl ether (ethyl ether)			2,501.2	µg/mL	+/-	14.5422	µg/mL	Gravimetric
	CAS #	60-29-7.SEC	(Lot F23X068)			+/-	150.9088	µg/mL	Unstressed
	Purity	98%				+/-	151.2671	µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113)			2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS #	76-13-1.SEC	(Lot 18342)			+/-	150.9040	µg/mL	Unstressed
	Purity	99%				+/-	151.2622	µg/mL	Stressed
3	1,1-Dichloroethene			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	75-35-4.SEC	(Lot 2767000)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
4	tert-Butanol (TBA)			25,003.1	µg/mL	+/-	145.3626	µg/mL	Gravimetric
	CAS #	75-65-0.SEC	(Lot XYXDO)			+/-	1,508.5475	µg/mL	Unstressed
	Purity	98%				+/-	1,512.1291	µg/mL	Stressed
5	Methyl acetate			5,000.4	µg/mL	+/-	29.0726	µg/mL	Gravimetric
	CAS #	79-20-9.SEC	(Lot YDGVD)			+/-	301.6948	µg/mL	Unstressed
	Purity	99%				+/-	302.4111	µg/mL	Stressed
6	Iodomethane (methyl iodide)			2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
	CAS #	74-88-4.SEC	(Lot Y25A027)			+/-	150.8587	µg/mL	Unstressed
	Purity	99%				+/-	151.2169	µg/mL	Stressed
7	Allyl chloride (3-chloropropene)			2,500.1	µg/mL	+/-	14.5358	µg/mL	Gravimetric
	CAS #	107-05-1.SEC	(Lot VEBOC)			+/-	150.8423	µg/mL	Unstressed
	Purity	98%				+/-	151.2004	µg/mL	Stressed

8	Methylene chloride (dichloromethane)			2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS #	75-09-2.SEC	(Lot FGM02)			+/-	150.8813	µg/mL	Unstressed
	Purity	99%				+/-	151.2395	µg/mL	Stressed
9	Carbon disulfide			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	75-15-0.SEC	(Lot MKBL1376V)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed
10	Acrylonitrile			25,000.9	µg/mL	+/-	145.3496	µg/mL	Gravimetric
	CAS #	107-13-1.SEC	(Lot UERIL)			+/-	1,508.4128	µg/mL	Unstressed
	Purity	99%				+/-	1,511.9941	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)			2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
	CAS #	1634-04-4.SEC	(Lot ZAQTA-MS)			+/-	150.8361	µg/mL	Unstressed
	Purity	99%				+/-	151.1942	µg/mL	Stressed
12	cis-1,2-Dichloroethene			2,500.7	µg/mL	+/-	14.5394	µg/mL	Gravimetric
	CAS #	156-59-2.SEC	(Lot HGC01-BLKT)			+/-	150.8792	µg/mL	Unstressed
	Purity	98%				+/-	151.2374	µg/mL	Stressed
13	n-Hexane (C6)			2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS #	110-54-3.SEC	(Lot 10188491)			+/-	150.9266	µg/mL	Unstressed
	Purity	99%				+/-	151.2849	µg/mL	Stressed
14	1,1-Dichloroethane			2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS #	75-34-3.SEC	(Lot 5379000)			+/-	150.8512	µg/mL	Unstressed
	Purity	99%				+/-	151.2093	µg/mL	Stressed
15	2,2-Dichloropropane			2,500.1	µg/mL	+/-	14.5358	µg/mL	Gravimetric
	CAS #	594-20-7.SEC	(Lot I7E8E)			+/-	150.8423	µg/mL	Unstressed
	Purity	98%				+/-	151.2004	µg/mL	Stressed
16	trans-1,2-Dichloroethene			2,500.2	µg/mL	+/-	14.5362	µg/mL	Gravimetric
	CAS #	156-60-5.SEC	(Lot TS5UB)			+/-	150.8466	µg/mL	Unstressed
	Purity	97%				+/-	151.2048	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)			62,506.9	µg/mL	+/-	363.4014	µg/mL	Gravimetric
	CAS #	78-83-1.SEC	(Lot 83NHH)			+/-	3,771.3149	µg/mL	Unstressed
	Purity	99%				+/-	3,780.2687	µg/mL	Stressed
18	Chloroform			2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS #	67-66-3.SEC	(Lot 1297547)			+/-	150.8436	µg/mL	Unstressed
	Purity	99%				+/-	151.2017	µg/mL	Stressed
19	Bromochloromethane			2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS #	74-97-5.SEC	(Lot 5670200)			+/-	150.9040	µg/mL	Unstressed
	Purity	99%				+/-	151.2622	µg/mL	Stressed
20	Tetrahydrofuran			5,002.3	µg/mL	+/-	29.0835	µg/mL	Gravimetric
	CAS #	109-99-9.SEC	(Lot K3V7J-SJ)			+/-	301.8079	µg/mL	Unstressed
	Purity	99%				+/-	302.5245	µg/mL	Stressed
21	1,1,1-Trichloroethane			2,500.7	µg/mL	+/-	14.5394	µg/mL	Gravimetric
	CAS #	71-55-6.SEC	(Lot CS160712)			+/-	150.8792	µg/mL	Unstressed
	Purity	98%				+/-	151.2374	µg/mL	Stressed
22	Cyclohexane			2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS #	110-82-7.SEC	(Lot YADRA)			+/-	150.8964	µg/mL	Unstressed
	Purity	99%				+/-	151.2547	µg/mL	Stressed
23	1,1-Dichloropropene			2,501.3	µg/mL	+/-	14.5427	µg/mL	Gravimetric
	CAS #	563-58-6.SEC	(Lot 5221100)			+/-	150.9133	µg/mL	Unstressed
	Purity	96%				+/-	151.2716	µg/mL	Stressed

24	Carbon tetrachloride			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	56-23-5.SEC	(Lot 11466)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
25	n-Heptane (C7)			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	142-82-5.SEC	(Lot OGM01)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
26	1,2-Dichloroethane			2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS #	107-06-2.SEC	(Lot FO6PK)			+/-	150.8436	µg/mL	Unstressed
	Purity	99%				+/-	151.2017	µg/mL	Stressed
27	Benzene			2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS #	71-43-2.SEC	(Lot B28Y008)			+/-	150.9266	µg/mL	Unstressed
	Purity	99%				+/-	151.2849	µg/mL	Stressed
28	Trichloroethene			2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS #	79-01-6.SEC	(Lot H04X050)			+/-	150.8964	µg/mL	Unstressed
	Purity	99%				+/-	151.2547	µg/mL	Stressed
29	Methylcyclohexane			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	108-87-2.SEC	(Lot 24MSD-CD)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed
30	1,2-Dichloropropane			2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS #	78-87-5.SEC	(Lot OGG01)			+/-	150.9040	µg/mL	Unstressed
	Purity	99%				+/-	151.2622	µg/mL	Stressed
31	1,4-Dioxane			50,007.1	µg/mL	+/-	290.7305	µg/mL	Gravimetric
	CAS #	123-91-1.SEC	(Lot MUFZH)			+/-	3,017.1500	µg/mL	Unstressed
	Purity	99%				+/-	3,024.3132	µg/mL	Stressed
32	Dibromomethane			2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
	CAS #	74-95-3.SEC	(Lot FGI01-OICH)			+/-	150.9341	µg/mL	Unstressed
	Purity	99%				+/-	151.2925	µg/mL	Stressed
33	cis-1,3-Dichloropropene			2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS #	10061-01-5.SEC	(Lot 487OA)			+/-	150.8436	µg/mL	Unstressed
	Purity	99%				+/-	151.2017	µg/mL	Stressed
34	Toluene			2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
	CAS #	108-88-3.SEC	(Lot YND2B-BD)			+/-	150.8361	µg/mL	Unstressed
	Purity	99%				+/-	151.1942	µg/mL	Stressed
35	Ethyl methacrylate			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	97-63-2.SEC	(Lot MLWYK-LS)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
36	trans-1,3-Dichloropropene			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	10061-02-6.SEC	(Lot ZDMSL)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
37	1,1,2-Trichloroethane			2,500.8	µg/mL	+/-	14.5401	µg/mL	Gravimetric
	CAS #	79-00-5.SEC	(Lot 5034600)			+/-	150.8866	µg/mL	Unstressed
	Purity	98%				+/-	151.2448	µg/mL	Stressed
38	1,3-Dichloropropane			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	142-28-9.SEC	(Lot AGN01-EFPC)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
39	Tetrachloroethene			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	127-18-4.SEC	(Lot F09W014)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed

40	Dibromochloromethane			2,500.4	µg/mL	+/-	14.5376	µg/mL	Gravimetric
	CAS #	124-48-1.SEC	(Lot 10181507)			+/-	150.8613	µg/mL	Unstressed
	Purity	97%				+/-	151.2194	µg/mL	Stressed
41	1,2-Dibromoethane (EDB)			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	106-93-4.SEC	(Lot 3505900)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
42	Chlorobenzene			2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS #	108-90-7.SEC	(Lot 1161936)			+/-	150.8964	µg/mL	Unstressed
	Purity	99%				+/-	151.2547	µg/mL	Stressed
43	m-Xylene			1,250.9	µg/mL	+/-	7.2727	µg/mL	Gravimetric
	CAS #	108-38-3.SEC	(Lot OUKMG-GB)			+/-	75.4708	µg/mL	Unstressed
	Purity	99%				+/-	75.6500	µg/mL	Stressed
44	p-Xylene			1,250.5	µg/mL	+/-	7.2705	µg/mL	Gravimetric
	CAS #	106-42-3.SEC	(Lot GM01)			+/-	75.4482	µg/mL	Unstressed
	Purity	99%				+/-	75.6273	µg/mL	Stressed
45	Ethylbenzene			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	100-41-4.SEC	(Lot PI4SE)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane			2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS #	630-20-6.SEC	(Lot GC01)			+/-	150.9040	µg/mL	Unstressed
	Purity	99%				+/-	151.2622	µg/mL	Stressed
47	o-Xylene			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	95-47-6.SEC	(Lot FGL01-KTPK)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed
48	Styrene			2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
	CAS #	100-42-5.SEC	(Lot OFIOL-IA)			+/-	150.8587	µg/mL	Unstressed
	Purity	99%				+/-	151.2169	µg/mL	Stressed
49	Isopropylbenzene (cumene)			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	98-82-8.SEC	(Lot 2PHXG-IH)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
50	Bromoform			2,502.3	µg/mL	+/-	14.5483	µg/mL	Gravimetric
	CAS #	75-25-2.SEC	(Lot 5139000)			+/-	150.9718	µg/mL	Unstressed
	Purity	99%				+/-	151.3303	µg/mL	Stressed
51	Bromodichloromethane			2,500.1	µg/mL	+/-	14.5358	µg/mL	Gravimetric
	CAS #	75-27-4.SEC	(Lot 13780)			+/-	150.8423	µg/mL	Unstressed
	Purity	98%				+/-	151.2004	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	79-34-5.SEC	(Lot CFA4D-AQ)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
53	1,2,3-Trichloropropane			2,500.1	µg/mL	+/-	14.5358	µg/mL	Gravimetric
	CAS #	96-18-4.SEC	(Lot OGI01)			+/-	150.8423	µg/mL	Unstressed
	Purity	98%				+/-	151.2004	µg/mL	Stressed
54	trans-1,4-Dichloro-2-butene			2,501.0	µg/mL	+/-	14.5408	µg/mL	Gravimetric
	CAS #	110-57-6.SEC	(Lot 100700-3)			+/-	150.8940	µg/mL	Unstressed
	Purity	98%				+/-	151.2522	µg/mL	Stressed
55	n-Propylbenzene			2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
	CAS #	103-65-1.SEC	(Lot T2HFC-IT)			+/-	150.8361	µg/mL	Unstressed
	Purity	99%				+/-	151.1942	µg/mL	Stressed

56	Bromobenzene			2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS #	108-86-1.SEC	(Lot 2FUHG-EM)			+/-	150.8436	µg/mL	Unstressed
	Purity	99%				+/-	151.2017	µg/mL	Stressed
57	1,3,5-Trimethylbenzene			2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS #	108-67-8.SEC	(Lot TOOOF)			+/-	150.8512	µg/mL	Unstressed
	Purity	99%				+/-	151.2093	µg/mL	Stressed
58	2-Chlorotoluene			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	95-49-8.SEC	(Lot SW8QG-AO)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed
59	4-Chlorotoluene			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	106-43-4.SEC	(Lot P4XHJ-AO)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
60	tert-Butylbenzene			2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS #	98-06-6.SEC	(Lot OGN01-CAI)			+/-	150.8436	µg/mL	Unstressed
	Purity	99%				+/-	151.2017	µg/mL	Stressed
61	1,2,4-Trimethylbenzene			2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
	CAS #	95-63-6.SEC	(Lot SC7LO-QA)			+/-	150.8587	µg/mL	Unstressed
	Purity	99%				+/-	151.2169	µg/mL	Stressed
62	sec-Butylbenzene			2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
	CAS #	135-98-8.SEC	(Lot OGN01-IMA)			+/-	150.9190	µg/mL	Unstressed
	Purity	99%				+/-	151.2773	µg/mL	Stressed
63	4-Isopropyltoluene (p-cymene)			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	99-87-6.SEC	(Lot 5221800)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
64	1,3-Dichlorobenzene			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	541-73-1.SEC	(Lot FMDFD)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed
65	1,4-Dichlorobenzene			2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS #	106-46-7.SEC	(Lot 4Y5DC)			+/-	150.8813	µg/mL	Unstressed
	Purity	99%				+/-	151.2395	µg/mL	Stressed
66	n-Butylbenzene			2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS #	104-51-8.SEC	(Lot OGN01-PNP)			+/-	150.8813	µg/mL	Unstressed
	Purity	99%				+/-	151.2395	µg/mL	Stressed
67	1,2-Dichlorobenzene			2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS #	95-50-1.SEC	(Lot R6QDM)			+/-	150.8964	µg/mL	Unstressed
	Purity	99%				+/-	151.2547	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane			2,501.5	µg/mL	+/-	14.5436	µg/mL	Gravimetric
	CAS #	96-12-8.SEC	(Lot LC00408V)			+/-	150.9236	µg/mL	Unstressed
	Purity	98%				+/-	151.2819	µg/mL	Stressed
69	1,2,4-Trichlorobenzene			2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
	CAS #	120-82-1.SEC	(Lot 3LYYC)			+/-	150.9869	µg/mL	Unstressed
	Purity	99%				+/-	151.3454	µg/mL	Stressed
70	Hexachlorobutadiene			2,501.4	µg/mL	+/-	14.5433	µg/mL	Gravimetric
	CAS #	87-68-3.SEC	(Lot 5526800)			+/-	150.9198	µg/mL	Unstressed
	Purity	97%				+/-	151.2781	µg/mL	Stressed
71	Naphthalene			2,501.8	µg/mL	+/-	14.5454	µg/mL	Gravimetric
	CAS #	91-20-3.SEC	(Lot SKZ5N)			+/-	150.9417	µg/mL	Unstressed
	Purity	99%				+/-	151.3000	µg/mL	Stressed

72	1,2,3-Trichlorobenzene		2,500.7	µg/mL	+/-	14.5394	µg/mL	Gravimetric
	CAS # 87-61-6.SEC	(Lot A0043055)			+/-	150.8792	µg/mL	Unstressed
	Purity 98%				+/-	151.2374	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

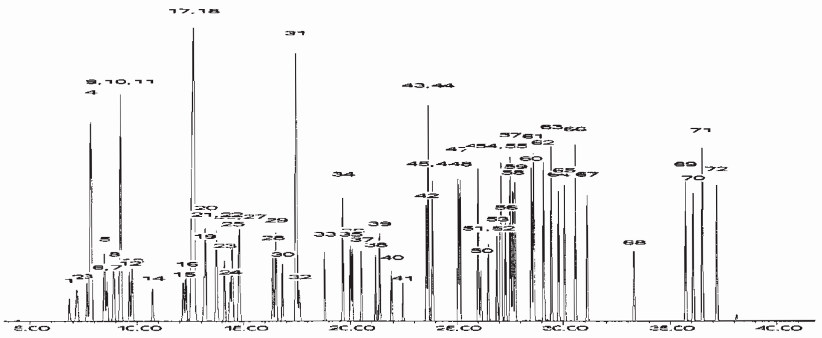
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael Maye

Date Mixed: 28-Dec-2016 **Balance:** 1127510105

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 04-Jan-2017

Manufactured under Restek's ISO 9001:2008
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Reagent

8260VinAcetat_00059

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569724 **Lot No.:** A0127538

Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)

8260 List 1 / Std #6 Vinyl Acetate (2015) 5000 ug/ml, P&T Methanol, 1 ml/ampul

REC'D 7-24-17
JDH
1250363-365

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2017 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	Vinyl acetate			5,003.0 µg/mL	+/-	29.3604	µg/mL	Gravimetric
	CAS #	108-05-4	(Lot STBD7333V)		+/-	301.8795	µg/mL	Unstressed
	Purity	99%			+/-	302.5961	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods. Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

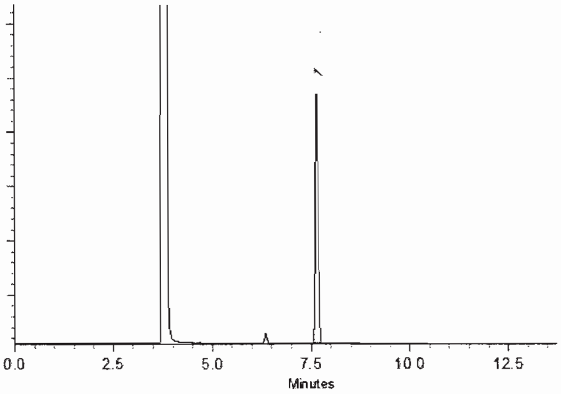
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 15-May-2017 **Balance:** B251644995

Justine Albertson - Operations Tech-ARM QC

Date Passed: 23-May-2017

Manufactured under Restek's ISO 9001:2008
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Certificate #FM 80397

Reagent

8270 Surr Std_00083

Recd: 5-25-16

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0103960

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

920025
ID: 8270 Surr Std_00082
Exp: 06/30/19 Prpd: MAK
8270 Surrogate parent sta

920026
ID: 8270 Surr Std_00083
Exp: 06/30/19 Prpd: MAK
8270 Surrogate parent sta

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	2-Fluorophenol			5,006.1	µg/mL	+/-	29.1044	µg/mL	Gravimetric
	CAS #	367-12-4	(Lot STBC5591V)			+/-	124.7363	µg/mL	Unstressed
	Purity	99%				+/-	156.8636	µg/mL	Stressed
2	Phenol-d5			5,002.5	µg/mL	+/-	29.0834	µg/mL	Gravimetric
	CAS #	4165-62-2	(Lot X479P6)			+/-	124.6466	µg/mL	Unstressed
	Purity	99%				+/-	156.7508	µg/mL	Stressed
3	Nitrobenzene-d5			5,003.7	µg/mL	+/-	29.0901	µg/mL	Gravimetric
	CAS #	4165-60-0	(Lot PR-20474)			+/-	124.6753	µg/mL	Unstressed
	Purity	99%				+/-	156.7868	µg/mL	Stressed
4	2-Fluorobiphenyl			5,002.4	µg/mL	+/-	29.0826	µg/mL	Gravimetric
	CAS #	321-60-8	(Lot B19Z016)			+/-	124.6429	µg/mL	Unstressed
	Purity	99%				+/-	156.7461	µg/mL	Stressed
5	2,4,6-Tribromophenol			5,024.2	µg/mL	+/-	29.2093	µg/mL	Gravimetric
	CAS #	118-79-6	(Lot 29699MJV)			+/-	125.1861	µg/mL	Unstressed
	Purity	99%				+/-	157.4292	µg/mL	Stressed
6	p-Terphenyl-d14			5,010.4	µg/mL	+/-	29.1291	µg/mL	Gravimetric
	CAS #	1718-51-0	(Lot PR-20577)			+/-	124.8422	µg/mL	Unstressed
	Purity	99%				+/-	156.9968	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Tech Tips:

Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

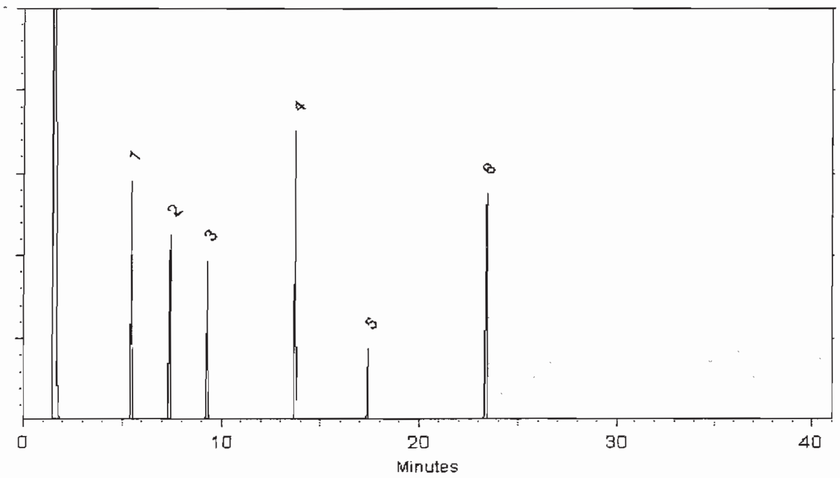
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Fauver

Jennifer L Pollino
Jennifer L. Pollino - QC Analyst

Date Mixed: 11-Jun-2014 **Balance:** 1128360905

Date Passed: 23-Jun-2014

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

Acrolein_00053

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568720 **Lot No.:** A0127476

Description : 8260 List 1/Std #5 Acrolein High

8260 List 1/Std #5 Acrolein High 19,750 µg/mL, Water, 1 mL/ampul

REC'D 9-28-17
JDH
1286719-720

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2017 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Acrolein			19,755.0	µg/mL	+/-	115.6699	µg/mL	Gravimetric
	CAS #	107-02-8	(Lot 170123JLM)			+/-	633.4074	µg/mL	Unstressed
	Purity	99%				+/-	736.2668	µg/mL	Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0μm
Rtx-502.2 (cat.#10910)

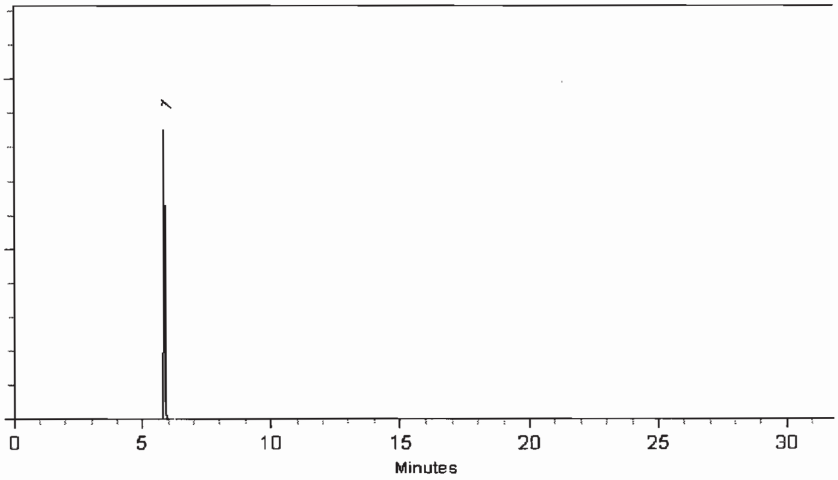
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 10-May-2017 **Balance:** B251644995

Tyler Brown - Operations Tech-ARM QC

Date Passed: 11-May-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

Adds(A) 2016_00019

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.
This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570808 **Lot No.:** A0123685
Description : 8260 List 2 / Std #6
8260 List 2 / Std #6 2500-62500 µg/ml, P&T Methanol, 1 ml/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : June 30, 2018 **Storage:** 0°C or colder

REC'D 7-24-17
JDH

1245128 - 130

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)			Expanded Uncertainty (95% C.L.; K=2)		
1	2-Propanol (isopropanol)		25,022.0	µg/mL	+/-	145.4725	µg/mL	Gravimetric
	CAS # 67-63-0	(Lot SHBG8138V)			+/-	1,237.7836	µg/mL	Unstressed
	Purity 99%				+/-	1,268.5622	µg/mL	Stressed
2	Chloroprene (2-chloro-1,3-butadiene)		2,515.5	µg/mL	+/-	14.6253	µg/mL	Gravimetric
	CAS # 126-99-8	(Lot 161201JLM)			+/-	124.4364	µg/mL	Unstressed
	Purity 99%				+/-	127.5306	µg/mL	Stressed
3	Methacrylonitrile		25,000.0	µg/mL	+/-	145.3446	µg/mL	Gravimetric
	CAS # 126-98-7	(Lot 1012014)			+/-	1,236.6953	µg/mL	Unstressed
	Purity 99%				+/-	1,267.4469	µg/mL	Stressed
4	2,2,4-Trimethylpentane (isooctane)		2,508.0	µg/mL	+/-	14.5817	µg/mL	Gravimetric
	CAS # 540-84-1	(Lot SHBD2922V)			+/-	124.0654	µg/mL	Unstressed
	Purity 99%				+/-	127.1504	µg/mL	Stressed
5	1-Butanol		62,715.5	µg/mL	+/-	364.6143	µg/mL	Gravimetric
	CAS # 71-36-3	(Lot SHBF9309V)			+/-	3,102.3986	µg/mL	Unstressed
	Purity 99%				+/-	3,179.5425	µg/mL	Stressed
6	2-Nitropropane		5,007.8	µg/mL	+/-	29.1158	µg/mL	Gravimetric
	CAS # 79-46-9	(Lot BCBL0537V)			+/-	247.7251	µg/mL	Unstressed
	Purity 98%				+/-	253.8850	µg/mL	Stressed
7	1-Chlorohexane		2,501.5	µg/mL	+/-	14.5436	µg/mL	Gravimetric
	CAS # 544-10-5	(Lot 05107LK)			+/-	123.7413	µg/mL	Unstressed
	Purity 98%				+/-	126.8183	µg/mL	Stressed

8	1,2,3-Trimethylbenzene		2,516.2	µg/mL	+/-	14.6291	µg/mL	Gravimetric
	CAS # 526-73-8	(Lot 877605-15)			+/-	124.4685	µg/mL	Unstressed
	Purity 98%				+/-	127.5635	µg/mL	Stressed
9	Benzyl chloride		2,508.3	µg/mL	+/-	14.5832	µg/mL	Gravimetric
	CAS # 100-44-7	(Lot SHBB7346V)			+/-	124.0777	µg/mL	Unstressed
	Purity 99%				+/-	127.1630	µg/mL	Stressed
10	1,3,5-Trichlorobenzene		2,508.0	µg/mL	+/-	14.5817	µg/mL	Gravimetric
	CAS # 108-70-3	(Lot 11319AS)			+/-	124.0654	µg/mL	Unstressed
	Purity 99%				+/-	127.1504	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

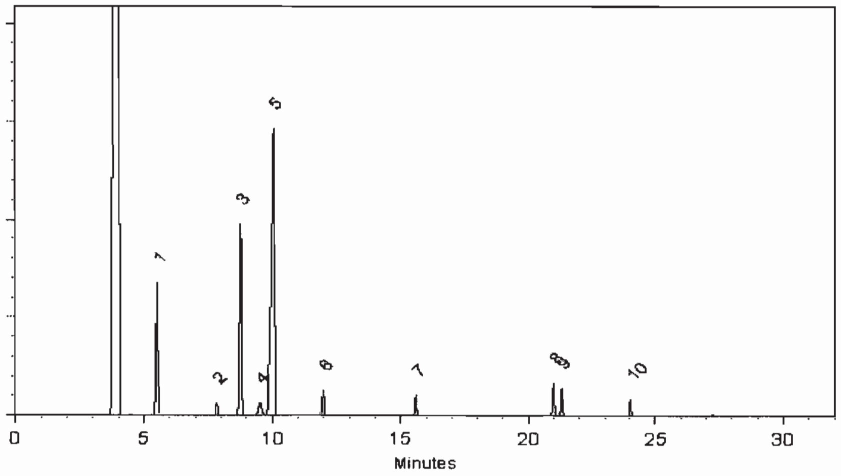
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Date Mixed: 21-Dec-2016 **Balance:** 1125113331

Amanda Miller - Operations Tech-ARM QC

Date Passed: 27-Dec-2016

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Certificate #FM 80397

Reagent

Adds(A) 2016_00020

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570808
Lot No.: A0123685
Description : 8260 List 2 / Std #6
8260 List 2 / Std #6 2500-62500 µg/ml, P&T Methanol, 1 ml/ampul
Container Size : 2 mL
Pkg Amt: > 1 mL
Expiration Date : June 30, 2018
Storage: 0°C or colder

REC'D 7-24-17
JDH

1245128-130

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)			Expanded Uncertainty (95% C.L.; K=2)		
1	2-Propanol (isopropanol)		25,022.0	µg/mL	+/-	145.4725	µg/mL	Gravimetric
	CAS # 67-63-0	(Lot SHBG8138V)			+/-	1,237.7836	µg/mL	Unstressed
	Purity 99%				+/-	1,268.5622	µg/mL	Stressed
2	Chloroprene (2-chloro-1,3-butadiene)		2,515.5	µg/mL	+/-	14.6253	µg/mL	Gravimetric
	CAS # 126-99-8	(Lot 161201JLM)			+/-	124.4364	µg/mL	Unstressed
	Purity 99%				+/-	127.5306	µg/mL	Stressed
3	Methacrylonitrile		25,000.0	µg/mL	+/-	145.3446	µg/mL	Gravimetric
	CAS # 126-98-7	(Lot 1012014)			+/-	1,236.6953	µg/mL	Unstressed
	Purity 99%				+/-	1,267.4469	µg/mL	Stressed
4	2,2,4-Trimethylpentane (isooctane)		2,508.0	µg/mL	+/-	14.5817	µg/mL	Gravimetric
	CAS # 540-84-1	(Lot SHBD2922V)			+/-	124.0654	µg/mL	Unstressed
	Purity 99%				+/-	127.1504	µg/mL	Stressed
5	1-Butanol		62,715.5	µg/mL	+/-	364.6143	µg/mL	Gravimetric
	CAS # 71-36-3	(Lot SHBF9309V)			+/-	3,102.3986	µg/mL	Unstressed
	Purity 99%				+/-	3,179.5425	µg/mL	Stressed
6	2-Nitropropane		5,007.8	µg/mL	+/-	29.1158	µg/mL	Gravimetric
	CAS # 79-46-9	(Lot BCBL0537V)			+/-	247.7251	µg/mL	Unstressed
	Purity 98%				+/-	253.8850	µg/mL	Stressed
7	1-Chlorohexane		2,501.5	µg/mL	+/-	14.5436	µg/mL	Gravimetric
	CAS # 544-10-5	(Lot 05107LK)			+/-	123.7413	µg/mL	Unstressed
	Purity 98%				+/-	126.8183	µg/mL	Stressed

8	1,2,3-Trimethylbenzene		2,516.2	µg/mL	+/-	14.6291	µg/mL	Gravimetric
	CAS # 526-73-8	(Lot 877605-15)			+/-	124.4685	µg/mL	Unstressed
	Purity 98%				+/-	127.5635	µg/mL	Stressed
9	Benzyl chloride		2,508.3	µg/mL	+/-	14.5832	µg/mL	Gravimetric
	CAS # 100-44-7	(Lot SHBB7346V)			+/-	124.0777	µg/mL	Unstressed
	Purity 99%				+/-	127.1630	µg/mL	Stressed
10	1,3,5-Trichlorobenzene		2,508.0	µg/mL	+/-	14.5817	µg/mL	Gravimetric
	CAS # 108-70-3	(Lot 11319AS)			+/-	124.0654	µg/mL	Unstressed
	Purity 99%				+/-	127.1504	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

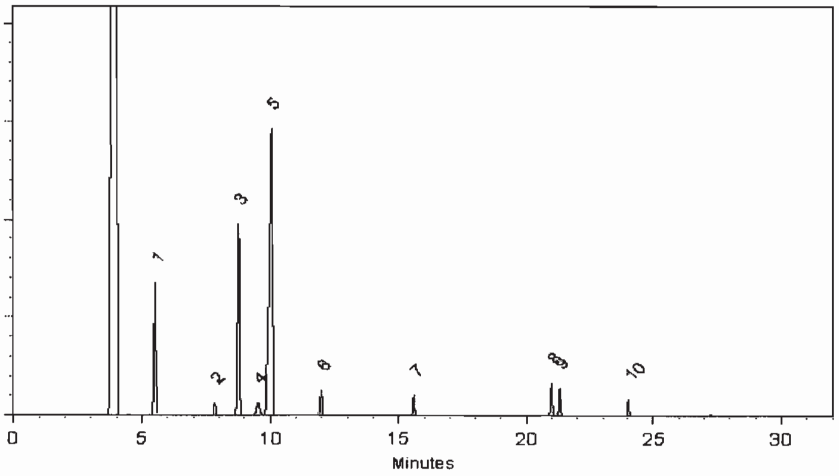
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca

Date Mixed: 21-Dec-2016 **Balance:** 1125113331

Amanda Miller - Operations Tech-ARM QC

Date Passed: 27-Dec-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

Adds(B) 2016_00019

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.
This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570809 **Lot No.:** A0123728

Description : 8260 List 2 / Std #7

8260 List 2 / Std #7 2500-5000 µg/ml, P&T Methanol, 1 ml/ampul

Rec'd 7-24-17
JDH
1245134-136

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Ethyl acetate		5,003.0	µg/mL	+/-	29.2937	µg/mL	Gravimetric
	CAS # 141-78-6	(Lot SHBG6401V)			+/-	301.8731	µg/mL	Unstressed
	Purity 99%				+/-	302.5897	µg/mL	Stressed
2	Ethyl acrylate		2,508.0	µg/mL	+/-	14.7183	µg/mL	Gravimetric
	CAS # 140-88-5	(Lot 10129902)			+/-	151.3320	µg/mL	Unstressed
	Purity 99%				+/-	151.6912	µg/mL	Stressed
3	Methyl methacrylate		5,011.5	µg/mL	+/-	29.3434	µg/mL	Gravimetric
	CAS # 80-62-6	(Lot 160830A-BL1)			+/-	302.3859	µg/mL	Unstressed
	Purity 99%				+/-	303.1038	µg/mL	Stressed
4	Butyl acetate		2,505.5	µg/mL	+/-	14.7037	µg/mL	Gravimetric
	CAS # 123-86-4	(Lot SHBF4442V)			+/-	151.1811	µg/mL	Unstressed
	Purity 99%				+/-	151.5400	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

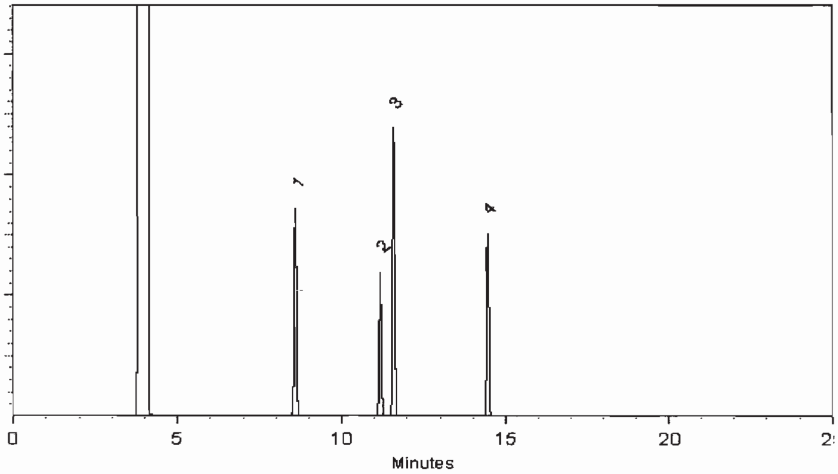
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician **Date Mixed:** 23-Dec-2016 **Balance:** B251644995

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 28-Dec-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

Adds (B) 2016_00020

RESTEK®

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.
This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570809 **Lot No.:** A0123728

Description : 8260 List 2 / Std #7

8260 List 2 / Std #7 2500-5000 μg/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2018 **Storage:** 0°C or colder

Rec'd 7-24-17
JDH
1245134-136

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Ethyl acetate **CAS #** **Purity**	 141-78-6 99%	 (Lot SHBG6401V)	5,003.0 μg/mL	+/- 29.2937 +/- 301.8731 +/- 302.5897	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
2	Ethyl acrylate **CAS #** **Purity**	 140-88-5 99%	 (Lot 10129902)	2,508.0 μg/mL	+/- 14.7183 +/- 151.3320 +/- 151.6912	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
3	Methyl methacrylate **CAS #** **Purity**	 80-62-6 99%	 (Lot 160830A-BL1)	5,011.5 μg/mL	+/- 29.3434 +/- 302.3859 +/- 303.1038	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
4	Butyl acetate **CAS #** **Purity**	 123-86-4 99%	 (Lot SHBF4442V)	2,505.5 μg/mL	+/- 14.7037 +/- 151.1811 +/- 151.5400	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

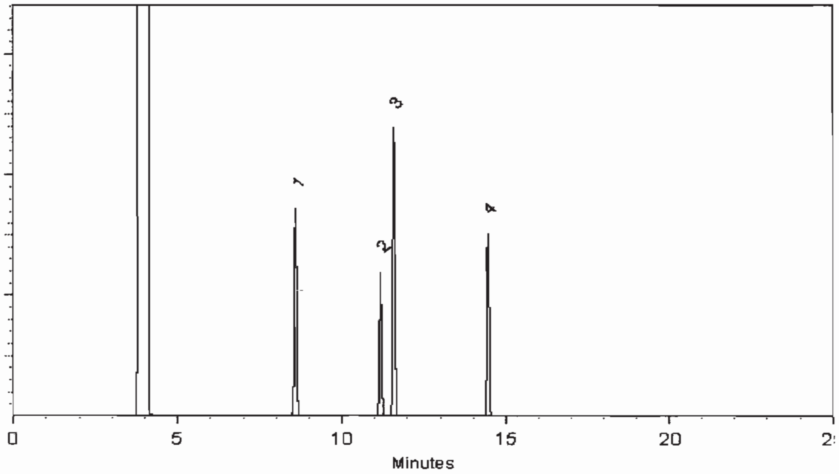
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician **Date Mixed:** 23-Dec-2016 **Balance:** B251644995

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 28-Dec-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

BFB_00074

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: CLP-004
Description: p-Bromofluorobenzene
Lot: 216071230
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Jul 20, 2016
Expiration: Jul 20, 2026
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
p-Bromofluorobenzene	460-00-4	100.0	25.01	25.01

1248476

1248482 - 1248485

BFB_00074 → 00078

rec'd
8-10-17
AMB

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By:
Larry Decker, Organic QC Manager

Page 1 of 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 5/16

CERTIFICATION REPORT

1. **Quality Documentation:** This certificate is designed in accordance with ISO Guide 31 (Reference Materials - Contents of Certificates and Labels) and ISO Guide 35 (Reference Materials – General and Statistical Principles for Certification).

2. **Quality Standards:**

   ISO Guide 34 - General Requirements for the Competence of
   Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 - General Requirements for the Competence of
   Testing and Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001 - Quality Management System - Requirements
   Eagle Registrations Certificate Number 3774

3. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use.

4. **Raw Materials:** Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.

5. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

6. **Homogeneity Assessment:** Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements, and ISO Guide 35.

7. **Stability Assessment:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.

8. **Analytical Quality Control:** Products are tested by validated analytical methods specified in the manufacturer's quality system.

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_{\mathrm{m}} = \sqrt{(u(\mathrm{P}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{V}))^2}$. The expanded uncertainty, U_{CRM} assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. The U_{CRM} for organic products is ±5%, the U_{CRM} for inorganic products is ±2%.

10. **Warranties:** The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.

11. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

BFB_00075

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: CLP-004
Description: p-Bromofluorobenzene
Lot: 216071230
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Jul 20, 2016
Expiration: Jul 20, 2026
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
p-Bromofluorobenzene	460-00-4	100.0	25.01	25.01

1248476

1248482 - 1248485

BFB_00074 → 00078

Rec'd
8-10-17
AMB

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By:
Larry Decker, Organic QC Manager

Page 1 of 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 5/16

CERTIFICATION REPORT

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   ISO/IEC 17025 - General Requirements for the Competence of
   Testing and Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001 - Quality Management System - Requirements
   Eagle Registrations Certificate Number 3774

3. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use.

4. **Raw Materials:** Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.

5. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

6. **Homogeneity Assessment:** Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements, and ISO Guide 35.

7. **Stability Assessment:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.

8. **Analytical Quality Control:** Products are tested by validated analytical methods specified in the manufacturer's quality system.

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_m = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$. The expanded uncertainty, U_{CRM} assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. The U_{CRM} for organic products is ±5%, the U_{CRM} for inorganic products is ±2%.

10. **Warranties:** The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.

11. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

Cal Mix 5_00015

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110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.
This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Received by KA
11/4/15

780919, 40-43

Catalog No. : 31995 **Lot No.:** A0111195

Description : 8270 Calibration Mix #5, Revised

8270 Calibration Mix #5, Revised 2,000µg/ml, Methylene Chloride, 1ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2021 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Naphthalene **CAS #** 91-20-3 **Purity** 99%	(Lot MKBH4351V)	2,006.5 µg/mL	+/- 11.7753 +/- 89.1642 +/- 97.9607	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Methylnaphthalene **CAS #** 91-57-6 **Purity** 95%	(Lot STBF0201V)	1,999.8 µg/mL	+/- 11.7357 +/- 88.8643 +/- 97.6311	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	1-Methylnaphthalene **CAS #** 90-12-0 **Purity** 99%	(Lot 525000-10)	2,000.0 µg/mL	+/- 11.7371 +/- 88.8754 +/- 97.6434	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	Acenaphthylene **CAS #** 208-96-8 **Purity** 99%	(Lot ER030707-01)	2,002.5 µg/mL	+/- 11.7518 +/- 88.9865 +/- 97.7654	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKBP0384V)	2,004.0 µg/mL	+/- 11.7606 +/- 89.0531 +/- 97.8386	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	2,003.1 µg/mL	+/- 11.7554 +/- 89.0140 +/- 97.7957	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	Phenanthrene **CAS #** 85-01-8 **Purity** 98%	(Lot MKBL6906V)	2,000.2 µg/mL	+/- 11.7382 +/- 88.8834 +/- 97.6521	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	Anthracene		2,000.0	µg/mL	+/-	11.7371	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	88.8754	µg/mL	Unstressed
	Purity 99%				+/-	97.6434	µg/mL	Stressed
9	Fluoranthene		2,002.6	µg/mL	+/-	11.7526	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	88.9922	µg/mL	Unstressed
	Purity 98%				+/-	97.7718	µg/mL	Stressed
10	Pyrene		2,004.0	µg/mL	+/-	11.7606	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	89.0531	µg/mL	Unstressed
	Purity 99%				+/-	97.8386	µg/mL	Stressed
11	Benz(a)anthracene		2,005.5	µg/mL	+/-	11.7694	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	89.1198	µg/mL	Unstressed
	Purity 99%				+/-	97.9119	µg/mL	Stressed
12	Chrysene		2,003.5	µg/mL	+/-	11.7577	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	89.0309	µg/mL	Unstressed
	Purity 99%				+/-	97.8142	µg/mL	Stressed
13	Benzo(b)fluoranthene		2,000.0	µg/mL	+/-	11.7371	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	88.8754	µg/mL	Unstressed
	Purity 99%				+/-	97.6434	µg/mL	Stressed
14	Benzo(k)fluoranthene		2,004.5	µg/mL	+/-	11.7635	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 022011)			+/-	89.0753	µg/mL	Unstressed
	Purity 99%				+/-	97.8630	µg/mL	Stressed
15	Benzo(a)pyrene		2,000.5	µg/mL	+/-	11.7401	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	88.8976	µg/mL	Unstressed
	Purity 99%				+/-	97.6678	µg/mL	Stressed
16	Indeno(1,2,3-cd)pyrene		2,003.5	µg/mL	+/-	11.7577	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	89.0309	µg/mL	Unstressed
	Purity 99%				+/-	97.8142	µg/mL	Stressed
17	Dibenz(a,h)anthracene		2,002.5	µg/mL	+/-	11.7518	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	88.9865	µg/mL	Unstressed
	Purity 99%				+/-	97.7654	µg/mL	Stressed
18	Benzo(g,h,i)perylene		2,000.0	µg/mL	+/-	11.7371	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER020708-08)			+/-	88.8754	µg/mL	Unstressed
	Purity 99%				+/-	97.6434	µg/mL	Stressed
Solvent:	Methylene Chloride							
	CAS # 75-09-2							
	Purity 99%							

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

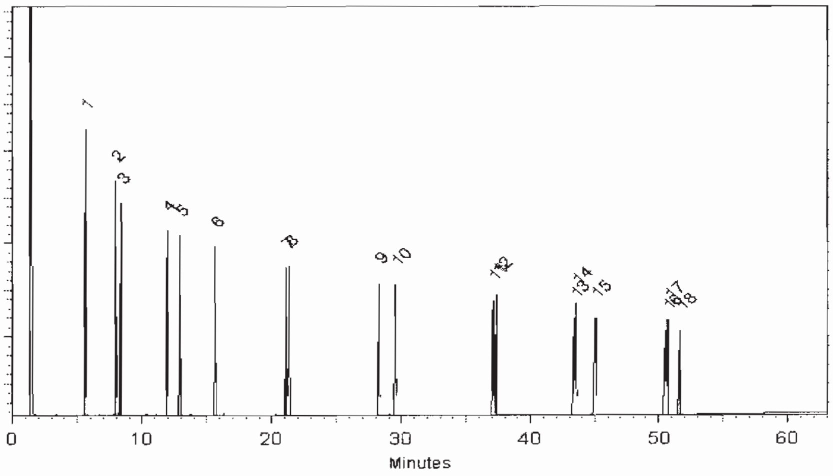
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Tyler Brown - QA Analyst

Date Mixed: 19-May-2015 **Balance:** 1128360905

Date Passed: 21-May-2015

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

Cal Mix 5_00020

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Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Rec 12-15-15

Catalog No. : 31995
Lot No.: A0113665
Description : 8270 Calibration Mix #5, Revised
8270 Calibration Mix #5, Revised 2,000µg/ml, Methylene Chloride, 1ml/ampul
Container Size : 2 mL
Pkg Amt: > 1 mL
Expiration Date : August 31, 2021
Storage: 10°C or colder
Handling: Sonication required. Mix is photosensitive.

814007
ID: Cal Mix 5_00019
Exp: 08/31/21 Prpd: JSW
8270 Cal Mix #5 parent st

814020
ID: Cal Mix 5_00020
Exp: 08/31/21 Prpd: JSW
8270 Cal Mix #5 parent st

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	Naphthalene		2,000.5 µg/mL	+/-	11.7401	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)		+/-	88.8976	µg/mL	Unstressed
	Purity 99%			+/-	97.6678	µg/mL	Stressed
2	2-Methylnaphthalene		2,001.0 µg/mL	+/-	11.7430	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)		+/-	88.9198	µg/mL	Unstressed
	Purity 99%			+/-	97.6922	µg/mL	Stressed
3	1-Methylnaphthalene		2,006.0 µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)		+/-	89.1420	µg/mL	Unstressed
	Purity 99%			+/-	97.9363	µg/mL	Stressed
4	Acenaphthylene		2,002.0 µg/mL	+/-	11.7489	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot ER030707-01)		+/-	88.9642	µg/mL	Unstressed
	Purity 99%			+/-	97.7410	µg/mL	Stressed
5	Acenaphthene		2,005.0 µg/mL	+/-	11.7665	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)		+/-	89.0976	µg/mL	Unstressed
	Purity 99%			+/-	97.8875	µg/mL	Stressed
6	Fluorene		2,005.1 µg/mL	+/-	11.7669	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)		+/-	89.1011	µg/mL	Unstressed
	Purity 98%			+/-	97.8914	µg/mL	Stressed
7	Phenanthrene		2,001.7 µg/mL	+/-	11.7468	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBQ8219V)		+/-	88.9487	µg/mL	Unstressed
	Purity 98%			+/-	97.7239	µg/mL	Stressed

8	Anthracene		2,002.0	µg/mL	+/-	11.7489	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	88.9642	µg/mL	Unstressed
	Purity 99%				+/-	97.7410	µg/mL	Stressed
9	Fluoranthene		2,006.1	µg/mL	+/-	11.7727	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	89.1447	µg/mL	Unstressed
	Purity 98%				+/-	97.9392	µg/mL	Stressed
10	Pyrene		2,004.5	µg/mL	+/-	11.7635	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	89.0753	µg/mL	Unstressed
	Purity 99%				+/-	97.8630	µg/mL	Stressed
11	Benz(a)anthracene		2,003.0	µg/mL	+/-	11.7547	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	89.0087	µg/mL	Unstressed
	Purity 99%				+/-	97.7898	µg/mL	Stressed
12	Chrysene		2,005.0	µg/mL	+/-	11.7665	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	89.0976	µg/mL	Unstressed
	Purity 99%				+/-	97.8875	µg/mL	Stressed
13	Benzo(b)fluoranthene		2,000.0	µg/mL	+/-	11.7371	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	88.8754	µg/mL	Unstressed
	Purity 99%				+/-	97.6434	µg/mL	Stressed
14	Benzo(k)fluoranthene		2,001.0	µg/mL	+/-	11.7430	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	88.9198	µg/mL	Unstressed
	Purity 99%				+/-	97.6922	µg/mL	Stressed
15	Benzo(a)pyrene		2,003.5	µg/mL	+/-	11.7577	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	89.0309	µg/mL	Unstressed
	Purity 99%				+/-	97.8142	µg/mL	Stressed
16	Indeno(1,2,3-cd)pyrene		2,003.5	µg/mL	+/-	11.7577	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	89.0309	µg/mL	Unstressed
	Purity 99%				+/-	97.8142	µg/mL	Stressed
17	Dibenz(a,h)anthracene		2,000.0	µg/mL	+/-	11.7371	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	88.8754	µg/mL	Unstressed
	Purity 99%				+/-	97.6434	µg/mL	Stressed
18	Benzo(g,h,i)perylene		2,002.5	µg/mL	+/-	11.7518	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER020708-08)			+/-	88.9865	µg/mL	Unstressed
	Purity 99%				+/-	97.7654	µg/mL	Stressed
Solvent:	Methylene Chloride							
	CAS # 75-09-2							
	Purity 99%							

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

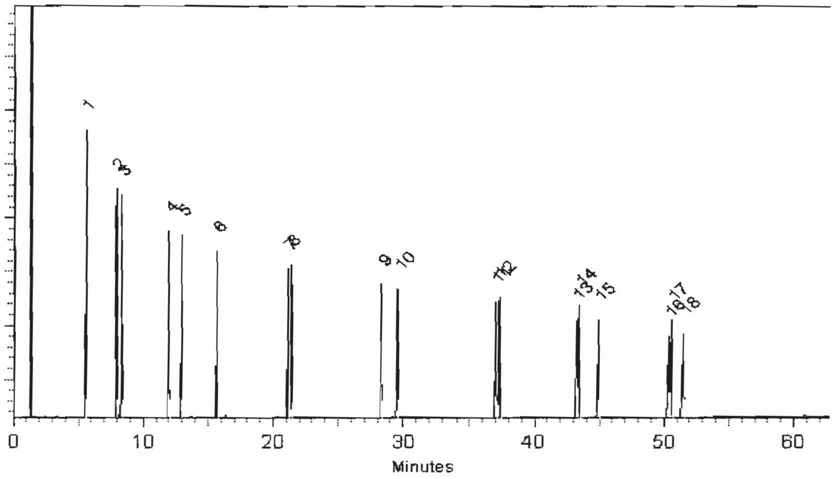
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
100°C (hold 1 min.) to 330°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Diane Shaffer
Diane Shaffer - QA Analyst

Date Mixed: 01-Sep-2015 **Balance:** B442140311

Date Passed: 03-Sep-2015

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

Ethanol P_00007

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

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ilac-MRA

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571994

Lot No.: A0123787

Description : 8260 Ethanol Standard

8260 Ethanol Standard 100,000 µg/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL

Pkg Amt: > 1 mL

Expiration Date : December 31, 2019

Storage: 0°C or colder

REC'D 7-24-17
JDH

126~~1~~1911, 1261919
JDH
8-27-17

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Ethanol			100,062.7	µg/mL	+/-	585.8587	µg/mL	Gravimetric
	CAS #	64-17-5	(Lot SHBG4100V)			+/-	2,143.4667	µg/mL	Unstressed
	Purity	99%				+/-	2,205.7173	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.# 10910)

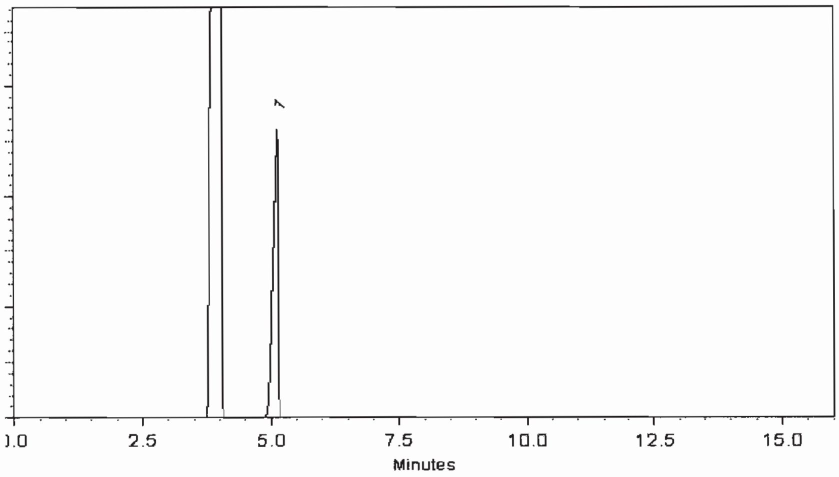
Carrier Gas:
hydrogen-constant pressure 11 psi.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis

Cathleen Soltis - Mix Technician

Date Mixed: 28-Dec-2016 **Balance:** 1125113331

Amanda Miller - Operations Tech-ARM QC

Date Passed: 03-Jan-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

Ethanol P_00008

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571994 **Lot No.:** A0123787

Description : 8260 Ethanol Standard

8260 Ethanol Standard 100,000 µg/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2019 **Storage:** 0°C or colder

RECD 7-24-17
JDH

126~~1~~1911, 1261919
JDH
827-17

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Ethanol			100,062.7 µg/mL	+/- 585.8587	µg/mL	Gravimetric
	CAS #	64-17-5	(Lot SHBG4100V)		+/- 2,143.4667	µg/mL	Unstressed
	Purity	99%			+/- 2,205.7173	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.# 10910)

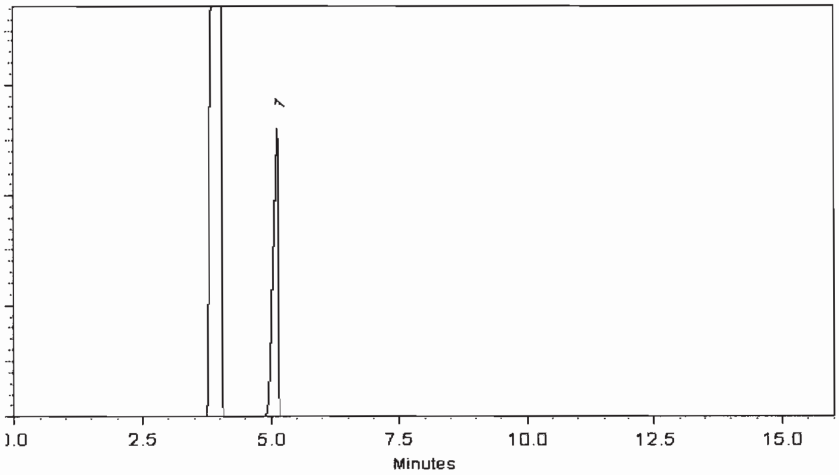
Carrier Gas:
hydrogen-constant pressure 11 psi.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis
Cathleen Soltis - Mix Technician

Date Mixed: 28-Dec-2016 **Balance:** 1125113331

Amanda Miller - Operations Tech-ARM QC

Date Passed: 03-Jan-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

GCMS Tune Mix_00014

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

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ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31615
Lot No.: A0117997
Description : GC/MS Tuning Mixture
GC/MS Tuning Mixture 1,000µg/mL, Methylene Chloride, 1mL/ampul
Container Size : 2 mL
Pkg Amt: > 1 mL
Expiration Date : March 31, 2019
Storage: 10°C or colder
Handling: Contains carcinogen/reproductive toxin.

996899
ID: GCMS Tune Mix_00014
Exp: 03/31/19 Prpd: MAK
GCMS Tuning Mix parent st

996900
ID: GCMS Tune Mix_00015
Exp: 03/31/19 Prpd: MAK
GCMS Tuning Mix parent st

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Pentachlorophenol		1,003.7	µg/mL	+/-	5.8492	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	45.7132	µg/mL	Unstressed
	Purity 98%				+/-	66.0076	µg/mL	Stressed
2	DFTPP (Decafluorotriphenylphosphine)		998.4	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 5074-71-5	(Lot Q15B005)			+/-	45.4711	µg/mL	Unstressed
	Purity 99%				+/-	65.6580	µg/mL	Stressed
3	Benzidine		1,001.8	µg/mL	+/-	5.8380	µg/mL	Gravimetric
	CAS # 92-87-5	(Lot 160309JLM)			+/-	45.6259	µg/mL	Unstressed
	Purity 99%				+/-	65.8816	µg/mL	Stressed
4	4,4'-DDT		1,003.0	µg/mL	+/-	5.8450	µg/mL	Gravimetric
	CAS # 50-29-3	(Lot S37912V)			+/-	45.6806	µg/mL	Unstressed
	Purity 99%				+/-	65.9605	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

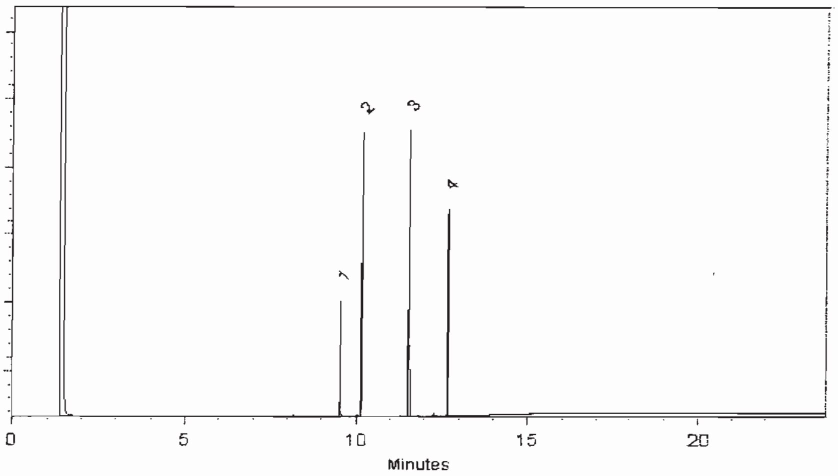
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Mary Ellen Wood - Mix Technician **Date Mixed:** 14-Mar-2016 **Balance:** 1128360905

Amanda Miller - QC Analyst **Date Passed:** 21-Mar-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

ICP ICV 3_00003

ACCREDITED
Reference Materials Producer
Cert #2495.01

1113301
ID: ICP ICV 3_00003
Exp:02/28/18 Prpd:LKJ Opn:02/28/17
ICP ICV 3

SPEXertificate®

rtificate of Reference Material

ilac-MRA
ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: ZITMO-55-250 **Lot No.** 41-090CR
Description: Custom Claritas Standard
Matrix: 5% HNO_3

This **CLÅRITAS PPT®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Uncertainty	SRM	Analyte	Labeled	Uncertainty	SRM
Al	10000 µg/mL	±200 µg/mL	3101a*	Fe	10000 µg/mL	±200 µg/mL	3126a*
Ca	10000 µg/mL	±200 µg/mL	3109a*	Mg	10000 µg/mL	±200 µg/mL	3131a*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# ALL8

Trace Metallic Impurities in the Actual Solution via ICP-MS Analysis:

Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L	Element	µg/L
Ag	<10	Cs	2	In	0.8	Ni	25	Sc	<6	Ti	<20
As	<3	Cu	9	Ir	<2	P	<1000	Se	<200	Tl	<40
Au	<1	Dy	0.2	K	100	Pb	<0.7	Si	600	Tm	<0.2
B	<5	Er	<0.01	La	8	Pd	<6	Sm	<0.2	U	<0.8
Ba	30	Eu	<0.1	Li	<50	Pr	0.6	Sn	<5	V	3
Be	<7	Ga	<2	Lu	<0.01	Pt	2	Sr	80	W	<10
Bi	<30	Gd	<0.5	Mn	100	Rb	<2	Ta	<3	Y	<1
Cd	<2	Ge	<10	Mo	<10	Re	<0.2	Tb	0.2	Yb	<0.01
Ce	10	Hf	<0.3	Na	200	Rh	<10	Te	<10	Zn	65
Co	10	Hg	<7	Nb	<2	Ru	<3	Th	<3	Zr	10
Cr	2	Ho	0.6	Nd	<1	Sb	30				

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±2% of the labeled value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: FEB 2017 Certifying Officer: Kathe Culli

Reagent

ICP LLC B_00004

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

1267828
ID: ICP LLC B_00004
Exp:09/05/18 Prpd:SFF Opn:09/05/17
ICP LLC B

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICP LLC-B
Lot Number:	M2-MEB661170
Matrix:	5% (v/v) HNO3

Value / Analyte(s):

1 000 mg/L ea:
Potassium, Sulfur,
200 mg/L ea:
Sodium, Magnesium, Calcium,
100 mg/L ea:
Uranium,
50 mg/L ea:
Phosphorus,
40 mg/L ea:
Thorium, Bismuth, Aluminum,
20 mg/L ea:
Boron, Iron,
10 mg/L ea:
Cobalt, Lithium, Barium,
Vanadium,
8 mg/L ea:
Nickel,
5 mg/L ea:
Copper,
4 mg/L ea:
Thallium, Zinc,
3 mg/L ea:
Selenium, Manganese,
2 mg/L ea:
Chromium, Arsenic, Silver,
Lead,
1 mg/L ea:
Strontium, Cadmium, Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
B	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Bi	ICP Assay	3106	991212
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
S	ICP Assay	3154	892205
S	Acidimetric		traceable to 84L
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

Reagent

K Dichromate_00004

SIGMA-ALDRICH®
sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Potassium dichromate - ACS reagent, ≥99.0%

$K_2Cr_2O_7$

Product Number:	**207802**
Batch Number:	**MKBV0900V**
Brand:	SIAL
CAS Number:	7778-50-9
MDL Number:	MFCD00011367
Formula:	Cr2K2O7
Formula Weight:	294.18 g/mol
Quality Release Date:	07 APR 2015

900931
ID: K Dichromate_00004
Exp:05/03/22 Prpd:NPV Opn:05/03/16
Potassium Dichromate Cal

Test	Specification	Result
Appearance (Color) Orange	Conforms to Requirements	Orange
Appearance (Form)	Crystals	Crystals
X-Ray Diffraction	Conforms to Structure	Conforms
Titration by Na2S2O3	≥ 99.0 %	99.0 %
Loss on Drying	≤ 0.05 %	< 0.03 %
Calcium (Ca)	≤ 0.003 %	< 0.001 %
Chloride Content	≤ 0.001 %	< 0.001 %
Iron (Fe)	≤ 0.001 %	< 0.001 %
Insoluble Matter C = 10%, H2O	≤ 0.005 %	< 0.001 %
Sodium (Na)	≤ 0.02 %	< 0.01 %
Sulfate (SO4)	≤ 0.005 %	< 0.005 %
Meets ACS Requirements Tenth Edition	Current ACS Specification	Conforms

Ali Ataei

Ali Ataei, Manager
Quality Control
Milwaukee, WI US

Reagent

K-Dichromate_00002

Fisher Scientific

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0064970

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	P188	**Quality Test / Release Date**	**5/14/2015**
Lot Number	153492		
Description	POTASSIUM DICHROMATE, A.C.S.		
Country of Origin	United States	*** Suggested Retest Date**	**May-2020**
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	FINE ORANGE CRYSTALS
ASSAY	%	>= 99	99.9
CALCIUM	%	<= 0.003	0.0010
CHLORIDE	%	<= 0.001	<0.0010
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.005	0.001
IRON (Fe)	%	<= 0.001	<0.0010
LOSS ON DRYING @ 105 C	%	<= 0.05	0.02
SODIUM (Na)	%	<= 0.02	<0.020
SULFATE (SO4)	%	<= 0.005	0.004

1166282
ID: K-Dichromate_00002
Exp:05/31/20 Prpd:NPV Opn:05/02/17
Potassium Dichromate

CERTIFIED BY

Lab Manager Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Reagent

MPREP1_00012

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

1252826
ID: MPREP1_00012
Exp:08/16/18 Prpd:LAM Opn:08/16/17
Metals Prep 1 Spike

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TESTAMERICA-13
Lot Number:	M2-MEB660630
Matrix:	7% (v/v) HNO3

Value / Analyte(s):

2 000 mg/L ea:
Aluminum, Calcium, Iron,
Potassium, Sodium, Magnesium,
Sulfur,

200 mg/L ea:
Manganese, Samarium, Strontium,
Thorium, Uranium, Vanadium,
Zinc, Nickel, Phosphorus,
Lead, Bismuth, Cadmium,
Cobalt, Chromium, Copper,
Arsenic, Barium,

100 mg/L ea:
Selenium,

40 mg/L ea:
Thallium, Boron, Silver,

20 mg/L ea:
Lithium, Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 mg/L	Arsenic, As	200.0 ± 1.8 mg/L
Barium, Ba	200.0 ± 0.9 mg/L	Beryllium, Be	20.00 ± 0.12 mg/L
Bismuth, Bi	200.0 ± 1.1 mg/L	Boron, B	40.00 ± 0.24 mg/L
Cadmium, Cd	200.0 ± 0.9 mg/L	Calcium, Ca	2 000 ± 8 mg/L
Chromium, Cr	200.0 ± 1.3 mg/L	Cobalt, Co	200.0 ± 1.1 mg/L
Copper, Cu	200.0 ± 1.0 mg/L	Iron, Fe	2 000 ± 8 mg/L
Lead, Pb	200.0 ± 1.1 mg/L	Lithium, Li	20.00 ± 0.08 mg/L
Magnesium, Mg	2 000 ± 8 mg/L	Manganese, Mn	200.0 ± 1.0 mg/L
Nickel, Ni	200.0 ± 1.0 mg/L	Phosphorus, P	200.0 ± 0.9 mg/L
Potassium, K	2 000 ± 8 mg/L	Samarium, Sm	200.0 ± 0.8 mg/L
Selenium, Se	100.0 ± 0.6 mg/L	Silver, Ag	40.01 ± 0.18 mg/L
Sodium, Na	2 000 ± 7 mg/L	Strontium, Sr	200.0 ± 0.8 mg/L
Sulfur, S	2 000 ± 10 mg/L	Thallium, Tl	40.01 ± 0.22 mg/L
Thorium, Th	200.0 ± 1.0 mg/L	Uranium, U	200.0 ± 1.0 mg/L
Vanadium, V	200.0 ± 1.1 mg/L	Zinc, Zn	200.0 ± 1.0 mg/L

Density: 1.093 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Bi	ICP Assay	3106	991212
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
S	ICP Assay	3154	892205
S	Acidimetric		traceable to 84L
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sm	ICP Assay	3147a	892911
Sm	EDTA	928	928
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2

U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2)$$

$$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2)$$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 08, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 08, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: ______________________

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael L Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MPREP2_00010

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	PREP-2
Lot Number:	M2-MEB654648
Matrix:	7% (v/v) HNO3 1.6% (v/v) HF

1252827
ID: MPREP2_00010
Exp:08/16/18 Prpd:LAM Opn:08/16/17
Metals Prep 2 Spike

Value / Analyte(s):
1 000 mg/L ea:
Silicon,
200 mg/L ea:
Tin, Titanium, Tungsten,
Zirconium,
100 mg/L ea:
Molybdenum, Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**100.0 ± 0.7 mg/L**	**Molybdenum, Mo**	**100.0 ± 0.5 mg/L**
Silicon, Si	**1 000 ± 6 mg/L**	**Tin, Sn**	**200.0 ± 0.7 mg/L**
Titanium, Ti	**200.0 ± 1.2 mg/L**	**Tungsten, W**	**200.0 ± 1.5 mg/L**
Zirconium, Zr	**200.0 ± 1.4 mg/L**		

Certified Density: 1.043 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Sb	ICP Assay	3102A	061229
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	070330
Sn	Calculated		See Sec. 4.2
Ti	ICP Assay	3162a	130925
W	ICP Assay	3163	140606
Zr	ICP Assay	3169	130920

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 09, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec **7.1**. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- January 09, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: ______________________

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Donna Senn

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael Z Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

Polar Add._00049

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.
This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571993
Lot No.: A0123796
Description : 8260 List 3/ Std#1 Polar Additions (2017)
8260 List 3/ Std#1 Polar Additions (2017) 2500-25,000 µg/ml, 1 ml/ampul
Container Size : 2 mL
Pkg Amt: > 1 mL
Expiration Date : December 31, 2018
Storage: 0°C or colder

REC'D 9-11-17
JDH
1276972-974

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Acetonitrile			25,004.5	µg/mL	+/-	145.3705	µg/mL	Gravimetric
	CAS #	75-05-8	(Lot SHBB3177V)			+/-	1,236.9157	µg/mL	Unstressed
	Purity	98%				+/-	1,267.6727	µg/mL	Stressed
2	Diisopropyl ether (DIPE)			2,505.0	µg/mL	+/-	14.5643	µg/mL	Gravimetric
	CAS #	108-20-3	(Lot SHBC0391V)			+/-	123.9170	µg/mL	Unstressed
	Purity	99%				+/-	126.9983	µg/mL	Stressed
3	Ethyl-tert-butyl ether (ETBE)			2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS #	637-92-3	(Lot MKBT8400V)			+/-	123.7438	µg/mL	Unstressed
	Purity	99%				+/-	126.8208	µg/mL	Stressed
4	Propionitrile			25,003.8	µg/mL	+/-	145.3664	µg/mL	Gravimetric
	CAS #	107-12-0	(Lot BCBM6569V)			+/-	1,236.8808	µg/mL	Unstressed
	Purity	99%				+/-	1,267.6370	µg/mL	Stressed
5	tert-Amyl alcohol			25,006.0	µg/mL	+/-	145.3794	µg/mL	Gravimetric
	CAS #	75-85-4	(Lot STBB1898V)			+/-	1,236.9921	µg/mL	Unstressed
	Purity	99%				+/-	1,267.7510	µg/mL	Stressed
6	tert-Amyl methyl ether (TAME)			2,505.4	µg/mL	+/-	14.5664	µg/mL	Gravimetric
	CAS #	994-05-8	(Lot HMBD8698V)			+/-	123.9353	µg/mL	Unstressed
	Purity	98%				+/-	127.0170	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

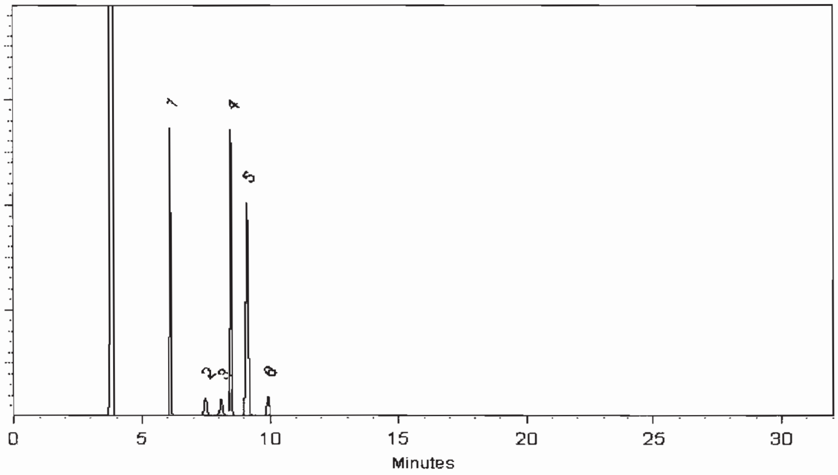
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis
Cathleen Soltis - Mix Technician **Date Mixed:** 28-Dec-2016 **Balance:** 1125113331

Amanda Miller - Operations Tech-ARM QC **Date Passed:** 30-Dec-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Method 8260C DOD

Volatile Organic Compounds (GC/MS) by Method 8260C DOD

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low

GC Column (1): RTX-VMS40 ID: 0.18(mm)

Client Sample ID	Lab Sample ID	DBFM	#	DCA	#	TOL	#	BFB	#
SHAD041DP026SS02NS	160-24924-1	106		110		122	Q	133	Q
SHAD041DP026SS03NS	160-24924-2	97		102		112		121	Q
SHAD041DP026SS04NS RA	160-24924-3 RA	101		104		103		98	
SHAD041DP026SS05NS	160-24924-4	97		98		108		111	
SHAD041DP026SS05DS	160-24924-5	100		104		113		112	
SHAD041DP026SS06NS	160-24924-6	95		98		108		107	
SHAD041DP022SS01NS RA	160-24924-7 RA	78	Q	89	Q	60	Q	48	Q
SHAD041DP022SS02NS	160-24924-8	145	Q	152	Q	196	Q	234	Q
SHAD041DP022SS03NS	160-24924-9	97		98		113		122	Q
SHAD041DP022SS04NS	160-24924-10	98		103		109		109	
SHAD041DP022SS05NS	160-24924-11	93		90		107		110	
SHAD041DP022SS06NS	160-24924-12	96		95		108		108	
SHAD041DP013SS01NS	160-24924-13	96		96		117	Q	153	Q
SHAD041DP013SS02NS	160-24924-14	100		104		112		120	Q
SHAD041DP013SS03NS	160-24924-15	102		111		115		121	Q
SHAD041DP013SS04NS	160-24924-16	96		103		105		107	
SHAD041DP013SS05NS	160-24924-17	93		94		107		115	
SHAD041DP013SS05DS	160-24924-18	95		100		107		106	
SHAD041DP013SS06NS	160-24924-19	96		101		106		106	
	MB 160-332159/1-A	100		98		108		113	
	MB 160-332262/1-A	103		106		103		99	
	MB 160-332265/1-A	97		93		105		112	
	MB 160-332822/1-A	104		110		105		99	
	LCS 160-332159/2-A	96		92		104		106	
	LCS 160-332262/2-A	94		97		104		109	
	LCS 160-332265/2-A	96		91		102		103	
	LCS 160-332822/2-A	94		99		103		103	
	LCSD 160-332159/3-A	99		93		106		106	
	LCSD 160-332262/3-A	98		100		106		111	

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	78-119
DCA = 1,2-Dichloroethane-d4 (Surr)	71-136
TOL = Toluene-d8 (Surr)	85-116
BFB = 4-Bromofluorobenzene (Surr)	79-119

Column to be used to flag recovery values

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low

GC Column (1): RTX-VMS40 ID: 0.18(mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
	LCSD 160-332265/3-A	96	88	102	106
	LCSD 160-332822/3-A	97	102	102	105
SHAD041DP022SS03NS MS	160-24924-9 MS	99	103	112	112
SHAD041DP022SS03NS MSD	160-24924-9 MSD	82	79	94	88

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	78-119
DCA = 1,2-Dichloroethane-d4 (Surr)	71-136
TOL = Toluene-d8 (Surr)	85-116
BFB = 4-Bromofluorobenzene (Surr)	79-119

Column to be used to flag recovery values

FORM II 8260C DOD

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): RTX-VMS40 ID: 0.18(mm)

Client Sample ID	Lab Sample ID	DBFM	#	DCA	#	TOL	#	BFB	#
TB-100617-7	160-24924-20	105		107		113	Q	108	
TB-100617-8	160-24924-21	101		102		111		109	
TB-100617-9	160-24924-22	100		100		109		108	
TB-100617-10	160-24924-23	98		100		107		110	
	MB 160-331094/8	96		95		104		107	
	LCS 160-331094/5	100		97		106		108	
	LCSD 160-331094/6	101		96		106		106	

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	80-119
DCA = 1,2-Dichloroethane-d4 (Surr)	81-118
TOL = Toluene-d8 (Surr)	89-112
BFB = 4-Bromofluorobenzene (Surr)	85-114

Column to be used to flag recovery values

FORM II 8260C DOD

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Water Level: Low Lab File ID: FLCS2895.D

Lab ID: LCS 160-331094/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	50.0	49.1	98	74-131	
1,1,2,2-Tetrachloroethane	50.0	49.8	100	71-121	
1,1,2-Trichloroethane	50.0	50.1	100	80-119	
1,1-Dichloroethane	50.0	49.0	98	77-125	
1,1-Dichloroethene	50.0	49.2	98	71-131	
1,2-Dichlorobenzene	50.0	51.6	103	80-119	
1,2-Dichloroethane	50.0	49.0	98	73-128	
1,2-Dichloropropane	50.0	50.4	101	78-122	
1,4-Dichlorobenzene	50.0	50.3	101	79-118	
Benzene	50.0	49.9	100	79-120	
Bromodichloromethane	50.0	49.3	99	79-125	
Bromoform	50.0	47.8	96	66-130	
Carbon tetrachloride	50.0	49.9	100	72-136	
Chlorodibromomethane	50.0	53.5	107	74-126	
Chloroform	50.0	49.4	99	79-124	
Chloromethane	50.0	42.3	85	50-139	
cis-1,2-Dichloroethene	50.0	50.5	101	78-123	
cis-1,3-Dichloropropene	50.0	52.8	106	75-124	
Ethylbenzene	50.0	47.0	94	79-121	
Methylene Chloride	50.0	48.3	97	74-124	
Tetrachloroethene	50.0	53.0	106	74-129	
Toluene	50.0	52.6	105	80-121	
trans-1,2-Dichloroethene	50.0	49.1	98	75-124	
trans-1,3-Dichloropropene	50.0	53.4	107	73-127	
Trichloroethene	50.0	48.5	97	79-123	
Vinyl chloride	50.0	36.8	74	58-137	
Xylenes, Total	100	108	108	79-121	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: FLCS3033.D

Lab ID: LCS 160-332159/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	50.0	50.0	100	73-130	
1,1,2,2-Tetrachloroethane	50.0	48.6	97	70-124	
1,1,2-Trichloroethane	50.0	47.9	96	78-121	
1,1-Dichloroethane	50.0	48.9	98	76-125	
1,1-Dichloroethene	50.0	50.6	101	70-131	
1,2-Dichlorobenzene	50.0	49.7	99	78-121	
1,2-Dichloroethane	50.0	46.6	93	73-128	
1,2-Dichloropropane	50.0	48.8	98	76-123	
1,4-Dichlorobenzene	50.0	49.5	99	75-120	
Benzene	50.0	49.6	99	77-121	
Bromodichloromethane	50.0	47.8	96	75-127	
Bromoform	50.0	45.2	90	67-132	
Carbon tetrachloride	50.0	51.3	103	70-135	
Chlorodibromomethane	50.0	51.1	102	74-126	
Chloroform	50.0	48.4	97	78-123	
Chloromethane	50.0	45.0	90	50-136	
cis-1,2-Dichloroethene	50.0	50.3	101	77-123	
cis-1,3-Dichloropropene	50.0	50.7	101	74-126	
Ethylbenzene	50.0	48.1	96	76-122	
Methylene Chloride	50.0	47.2	94	70-128	
Tetrachloroethene	50.0	52.7	105	73-128	
Toluene	50.0	52.3	105	77-121	
trans-1,2-Dichloroethene	50.0	50.2	100	74-125	
trans-1,3-Dichloropropene	50.0	50.2	100	71-130	
Trichloroethene	50.0	48.8	98	77-123	
Vinyl chloride	50.0	38.8	78	56-135	
Xylenes, Total	100	108	108	78-124	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: XLCS9245.D

Lab ID: LCS 160-332262/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	50.0	52.4	105	73-130	
1,1,2,2-Tetrachloroethane	50.0	47.7	95	70-124	
1,1,2-Trichloroethane	50.0	48.5	97	78-121	
1,1-Dichloroethane	50.0	52.5	105	76-125	
1,1-Dichloroethene	50.0	52.1	104	70-131	
1,2-Dichlorobenzene	50.0	48.8	98	78-121	
1,2-Dichloroethane	50.0	50.1	100	73-128	
1,2-Dichloropropane	50.0	53.6	107	76-123	
1,4-Dichlorobenzene	50.0	49.1	98	75-120	
Benzene	50.0	49.3	99	77-121	
Bromodichloromethane	50.0	50.9	102	75-127	
Bromoform	50.0	52.2	104	67-132	
Carbon tetrachloride	50.0	52.0	104	70-135	
Chlorodibromomethane	50.0	49.2	98	74-126	
Chloroform	50.0	49.8	100	78-123	
Chloromethane	50.0	59.3	119	50-136	
cis-1,2-Dichloroethene	50.0	52.3	105	77-123	
cis-1,3-Dichloropropene	50.0	46.7	93	74-126	
Ethylbenzene	50.0	53.0	106	76-122	
Methylene Chloride	50.0	50.2	100	70-128	
Tetrachloroethene	50.0	51.2	102	73-128	
Toluene	50.0	51.0	102	77-121	
trans-1,2-Dichloroethene	50.0	50.8	102	74-125	
trans-1,3-Dichloropropene	50.0	48.4	97	71-130	
Trichloroethene	50.0	48.4	97	77-123	
Vinyl chloride	50.0	52.3	105	56-135	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Matrix: Solid   Level: Low   Lab File ID: FLCS3059.D

Lab ID: LCS 160-332265/2-A   Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	50.0	47.1	94	73-130	
1,1,2,2-Tetrachloroethane	50.0	46.4	93	70-124	
1,1,2-Trichloroethane	50.0	46.9	94	78-121	
1,1-Dichloroethane	50.0	45.9	92	76-125	
1,1-Dichloroethene	50.0	47.6	95	70-131	
1,2-Dichlorobenzene	50.0	49.3	99	78-121	
1,2-Dichloroethane	50.0	43.6	87	73-128	
1,2-Dichloropropane	50.0	47.0	94	76-123	
1,4-Dichlorobenzene	50.0	48.5	97	75-120	
Benzene	50.0	47.9	96	77-121	
Bromodichloromethane	50.0	46.9	94	75-127	
Bromoform	50.0	46.3	93	67-132	
Carbon tetrachloride	50.0	48.2	96	70-135	
Chlorodibromomethane	50.0	51.1	102	74-126	
Chloroform	50.0	46.8	94	78-123	
Chloromethane	50.0	41.4	83	50-136	
cis-1,2-Dichloroethene	50.0	47.9	96	77-123	
cis-1,3-Dichloropropene	50.0	49.3	99	74-126	
Ethylbenzene	50.0	46.6	93	76-122	
Methylene Chloride	50.0	45.7	91	70-128	
Tetrachloroethene	50.0	52.3	105	73-128	
Toluene	50.0	50.2	100	77-121	
trans-1,2-Dichloroethene	50.0	47.6	95	74-125	
trans-1,3-Dichloropropene	50.0	48.9	98	71-130	
Trichloroethene	50.0	46.2	92	77-123	
Vinyl chloride	50.0	35.6	71	56-135	
Xylenes, Total	100	103	103	78-124	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Matrix: Solid   Level: Low   Lab File ID: XLCS9324.D

Lab ID: LCS 160-332822/2-A   Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	50.0	54.7	109	73-130	
1,1,2,2-Tetrachloroethane	50.0	47.8	96	70-124	
1,1,2-Trichloroethane	50.0	49.3	99	78-121	
1,1-Dichloroethane	50.0	54.1	108	76-125	
1,1-Dichloroethene	50.0	54.5	109	70-131	
1,2-Dichlorobenzene	50.0	50.3	101	78-121	
1,2-Dichloroethane	50.0	53.1	106	73-128	
1,2-Dichloropropane	50.0	54.3	109	76-123	
1,4-Dichlorobenzene	50.0	51.4	103	75-120	
Benzene	50.0	51.9	104	77-121	
Bromodichloromethane	50.0	53.0	106	75-127	
Bromoform	50.0	52.4	105	67-132	
Carbon tetrachloride	50.0	54.1	108	70-135	
Chlorodibromomethane	50.0	50.5	101	74-126	
Chloroform	50.0	51.9	104	78-123	
Chloromethane	50.0	58.6	117	50-136	
cis-1,2-Dichloroethene	50.0	53.6	107	77-123	
cis-1,3-Dichloropropene	50.0	47.7	95	74-126	
Ethylbenzene	50.0	57.2	114	76-122	
Methylene Chloride	50.0	51.7	103	70-128	
Tetrachloroethene	50.0	52.8	106	73-128	
Toluene	50.0	53.3	107	77-121	
trans-1,2-Dichloroethene	50.0	52.8	106	74-125	
trans-1,3-Dichloropropene	50.0	49.8	100	71-130	
Trichloroethene	50.0	51.7	103	77-123	
Vinyl chloride	50.0	52.6	105	56-135	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Water Level: Low Lab File ID: FLCS2896.D

Lab ID: LCSD 160-331094/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1-Trichloroethane	50.0	49.2	98	0	20	74-131	
1,1,2,2-Tetrachloroethane	50.0	49.4	99	1	20	71-121	
1,1,2-Trichloroethane	50.0	50.1	100	0	20	80-119	
1,1-Dichloroethane	50.0	48.8	98	0	20	77-125	
1,1-Dichloroethene	50.0	50.8	102	3	20	71-131	
1,2-Dichlorobenzene	50.0	50.8	102	2	20	80-119	
1,2-Dichloroethane	50.0	47.7	95	3	20	73-128	
1,2-Dichloropropane	50.0	50.2	100	0	20	78-122	
1,4-Dichlorobenzene	50.0	49.5	99	2	20	79-118	
Benzene	50.0	50.1	100	0	20	79-120	
Bromodichloromethane	50.0	49.7	99	1	20	79-125	
Bromoform	50.0	47.7	95	0	20	66-130	
Carbon tetrachloride	50.0	50.3	101	1	20	72-136	
Chlorodibromomethane	50.0	52.5	105	2	20	74-126	
Chloroform	50.0	49.0	98	1	20	79-124	
Chloromethane	50.0	40.9	82	4	20	50-139	
cis-1,2-Dichloroethene	50.0	51.0	102	1	20	78-123	
cis-1,3-Dichloropropene	50.0	51.6	103	2	20	75-124	
Ethylbenzene	50.0	46.2	92	2	20	79-121	
Methylene Chloride	50.0	48.4	97	0	20	74-124	
Tetrachloroethene	50.0	53.5	107	1	20	74-129	
Toluene	50.0	52.1	104	1	20	80-121	
trans-1,2-Dichloroethene	50.0	49.8	100	1	20	75-124	
trans-1,3-Dichloropropene	50.0	52.0	104	3	20	73-127	
Trichloroethene	50.0	48.2	96	1	20	79-123	
Vinyl chloride	50.0	35.4	71	4	20	58-137	
Xylenes, Total	100	107	107	2	20	79-121	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: FLCS3034.D

Lab ID: LCSD 160-332159/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCSD CONCENTRATION (ug/Kg)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	50.0	50.2	100	0	20	73-130	
1,1,2,2-Tetrachloroethane	50.0	48.2	96	1	20	70-124	
1,1,2-Trichloroethane	50.0	48.1	96	0	20	78-121	
1,1-Dichloroethane	50.0	49.6	99	1	20	76-125	
1,1-Dichloroethene	50.0	51.6	103	2	20	70-131	
1,2-Dichlorobenzene	50.0	51.7	103	4	20	78-121	
1,2-Dichloroethane	50.0	46.1	92	1	20	73-128	
1,2-Dichloropropane	50.0	48.6	97	0	20	76-123	
1,4-Dichlorobenzene	50.0	50.5	101	2	20	75-120	
Benzene	50.0	50.4	101	2	20	77-121	
Bromodichloromethane	50.0	47.8	96	0	20	75-127	
Bromoform	50.0	47.1	94	4	20	67-132	
Carbon tetrachloride	50.0	51.1	102	0	20	70-135	
Chlorodibromomethane	50.0	51.5	103	1	20	74-126	
Chloroform	50.0	48.9	98	1	20	78-123	
Chloromethane	50.0	44.1	88	2	20	50-136	
cis-1,2-Dichloroethene	50.0	51.7	103	3	20	77-123	
cis-1,3-Dichloropropene	50.0	49.8	100	2	20	74-126	
Ethylbenzene	50.0	48.4	97	0	20	76-122	
Methylene Chloride	50.0	48.3	97	2	20	70-128	
Tetrachloroethene	50.0	53.6	107	2	20	73-128	
Toluene	50.0	52.3	105	0	20	77-121	
trans-1,2-Dichloroethene	50.0	50.5	101	1	20	74-125	
trans-1,3-Dichloropropene	50.0	50.5	101	1	20	71-130	
Trichloroethene	50.0	48.0	96	2	20	77-123	
Vinyl chloride	50.0	37.3	75	4	20	56-135	
Xylenes, Total	100	109	109	1	20	78-124	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: XLCS9246.D

Lab ID: LCSD 160-332262/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCSD CONCENTRATION (ug/Kg)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	50.0	54.2	108	3	20	73-130	
1,1,2,2-Tetrachloroethane	50.0	49.3	99	3	20	70-124	
1,1,2-Trichloroethane	50.0	49.2	98	1	20	78-121	
1,1-Dichloroethane	50.0	53.3	107	2	20	76-125	
1,1-Dichloroethene	50.0	52.6	105	1	20	70-131	
1,2-Dichlorobenzene	50.0	51.2	102	5	20	78-121	
1,2-Dichloroethane	50.0	51.7	103	3	20	73-128	
1,2-Dichloropropane	50.0	54.8	110	2	20	76-123	
1,4-Dichlorobenzene	50.0	50.8	102	3	20	75-120	
Benzene	50.0	50.3	101	2	20	77-121	
Bromodichloromethane	50.0	52.2	104	3	20	75-127	
Bromoform	50.0	53.4	107	2	20	67-132	
Carbon tetrachloride	50.0	53.7	107	3	20	70-135	
Chlorodibromomethane	50.0	51.4	103	4	20	74-126	
Chloroform	50.0	50.5	101	1	20	78-123	
Chloromethane	50.0	60.3	121	2	20	50-136	
cis-1,2-Dichloroethene	50.0	52.6	105	0	20	77-123	
cis-1,3-Dichloropropene	50.0	48.1	96	3	20	74-126	
Ethylbenzene	50.0	55.0	110	4	20	76-122	
Methylene Chloride	50.0	50.8	102	1	20	70-128	
Tetrachloroethene	50.0	52.2	104	2	20	73-128	
Toluene	50.0	51.6	103	1	20	77-121	
trans-1,2-Dichloroethene	50.0	51.2	102	1	20	74-125	
trans-1,3-Dichloropropene	50.0	50.1	100	4	20	71-130	
Trichloroethene	50.0	49.9	100	3	20	77-123	
Vinyl chloride	50.0	52.0	104	1	20	56-135	

Column to be used to flag recovery and RPD values

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: FLCS3060.D

Lab ID: LCSD 160-332265/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCSD CONCENTRATION (ug/Kg)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1-Trichloroethane	50.0	46.4	93	1	20	73-130	
1,1,2,2-Tetrachloroethane	50.0	47.3	95	2	20	70-124	
1,1,2-Trichloroethane	50.0	47.6	95	1	20	78-121	
1,1-Dichloroethane	50.0	45.3	91	1	20	76-125	
1,1-Dichloroethene	50.0	47.8	96	0	20	70-131	
1,2-Dichlorobenzene	50.0	49.9	100	1	20	78-121	
1,2-Dichloroethane	50.0	42.8	86	2	20	73-128	
1,2-Dichloropropane	50.0	46.2	92	2	20	76-123	
1,4-Dichlorobenzene	50.0	48.3	97	0	20	75-120	
Benzene	50.0	47.4	95	1	20	77-121	
Bromodichloromethane	50.0	45.9	92	2	20	75-127	
Bromoform	50.0	49.0	98	6	20	67-132	
Carbon tetrachloride	50.0	47.3	95	2	20	70-135	
Chlorodibromomethane	50.0	50.7	101	1	20	74-126	
Chloroform	50.0	46.0	92	2	20	78-123	
Chloromethane	50.0	39.8	80	4	20	50-136	
cis-1,2-Dichloroethene	50.0	48.5	97	1	20	77-123	
cis-1,3-Dichloropropene	50.0	48.0	96	3	20	74-126	
Ethylbenzene	50.0	45.2	90	3	20	76-122	
Methylene Chloride	50.0	45.0	90	1	20	70-128	
Tetrachloroethene	50.0	53.0	106	1	20	73-128	
Toluene	50.0	49.5	99	1	20	77-121	
trans-1,2-Dichloroethene	50.0	47.6	95	0	20	74-125	
trans-1,3-Dichloropropene	50.0	48.2	96	1	20	71-130	
Trichloroethene	50.0	46.1	92	0	20	77-123	
Vinyl chloride	50.0	33.6	67	6	20	56-135	
Xylenes, Total	100	102	102	1	20	78-124	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: XLCS9325.D

Lab ID: LCSD 160-332822/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCSD CONCENTRATION (ug/Kg)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	50.0	54.3	109	1	20	73-130	
1,1,2,2-Tetrachloroethane	50.0	50.7	101	6	20	70-124	
1,1,2-Trichloroethane	50.0	51.2	102	4	20	78-121	
1,1-Dichloroethane	50.0	53.6	107	1	20	76-125	
1,1-Dichloroethene	50.0	52.9	106	3	20	70-131	
1,2-Dichlorobenzene	50.0	51.1	102	2	20	78-121	
1,2-Dichloroethane	50.0	54.8	110	3	20	73-128	
1,2-Dichloropropane	50.0	55.0	110	1	20	76-123	
1,4-Dichlorobenzene	50.0	50.7	101	1	20	75-120	
Benzene	50.0	50.9	102	2	20	77-121	
Bromodichloromethane	50.0	53.7	107	1	20	75-127	
Bromoform	50.0	53.1	106	1	20	67-132	
Carbon tetrachloride	50.0	54.0	108	0	20	70-135	
Chlorodibromomethane	50.0	51.9	104	3	20	74-126	
Chloroform	50.0	51.8	104	0	20	78-123	
Chloromethane	50.0	57.4	115	2	20	50-136	
cis-1,2-Dichloroethene	50.0	53.4	107	0	20	77-123	
cis-1,3-Dichloropropene	50.0	48.2	96	1	20	74-126	
Ethylbenzene	50.0	56.2	112	2	20	76-122	
Methylene Chloride	50.0	51.1	102	1	20	70-128	
Tetrachloroethene	50.0	52.4	105	1	20	73-128	
Toluene	50.0	51.9	104	3	20	77-121	
trans-1,2-Dichloroethene	50.0	51.7	103	2	20	74-125	
trans-1,3-Dichloropropene	50.0	49.8	100	0	20	71-130	
Trichloroethene	50.0	50.5	101	2	20	77-123	
Vinyl chloride	50.0	50.8	102	3	20	56-135	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: FSMP3042.D

Lab ID: 160-24924-9 MS Client ID: SHAD041DP022SS03NS MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	42.6	0.92 U	42.6	100	73-130	
1,1,2,2-Tetrachloroethane	42.6	0.92 U	47.7	112	70-124	
1,1,2-Trichloroethane	42.6	0.92 U	44.0	103	78-121	
1,1-Dichloroethane	42.6	0.92 U	41.6	98	76-125	
1,1-Dichloroethene	42.6	4.6 U	41.4	97	70-131	
1,2-Dichlorobenzene	42.6	0.92 U	45.5	107	78-121	
1,2-Dichloroethane	42.6	0.92 U	43.2	101	73-128	
1,2-Dichloropropane	42.6	0.92 U	42.0	99	76-123	
1,4-Dichlorobenzene	42.6	0.92 U	44.8	105	75-120	
Benzene	42.6	0.92 U	42.6	100	77-121	
Bromodichloromethane	42.6	0.92 U	42.6	100	75-127	
Bromoform	42.6	0.92 U	44.2	104	67-132	
Carbon tetrachloride	42.6	0.92 U	43.2	101	70-135	
Chlorodibromomethane	42.6	0.92 U	46.6	110	74-126	
Chloroform	42.6	0.92 U	42.5	100	78-123	
Chloromethane	42.6	4.6 U	39.7	93	50-136	
cis-1,2-Dichloroethene	42.6	0.92 U	42.4	100	77-123	
cis-1,3-Dichloropropene	42.6	0.92 U	43.4	102	74-126	
Ethylbenzene	42.6	0.92 U	44.1	104	76-122	
Methylene Chloride	42.6	4.6 U	39.9	94	70-128	
Tetrachloroethene	42.6	0.92 U	46.1	108	73-128	
Toluene	42.6	0.92 U	46.5	109	77-121	
trans-1,2-Dichloroethene	42.6	0.92 U	41.5	98	74-125	
trans-1,3-Dichloropropene	42.6	0.92 U	45.6	107	71-130	
Trichloroethene	42.6	0.92 U	40.9	96	77-123	
Vinyl chloride	42.6	0.92 U	39.2	92	56-135	
Xylenes, Total	85.1	4.6 U	93.8	110	78-124	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: FSMP3043.D

Lab ID: 160-24924-9 MSD Client ID: SHAD041DP022SS03NS MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	46.3	44.6	96	5	20	73-130	
1,1,2,2-Tetrachloroethane	46.3	51.4	111	7	20	70-124	
1,1,2-Trichloroethane	46.3	46.4	100	5	20	78-121	
1,1-Dichloroethane	46.3	43.5	94	5	20	76-125	
1,1-Dichloroethene	46.3	43.7	94	6	20	70-131	
1,2-Dichlorobenzene	46.3	47.0	101	3	20	78-121	
1,2-Dichloroethane	46.3	44.8	97	4	20	73-128	
1,2-Dichloropropane	46.3	45.1	97	7	20	76-123	
1,4-Dichlorobenzene	46.3	47.4	102	6	20	75-120	
Benzene	46.3	44.9	97	5	20	77-121	
Bromodichloromethane	46.3	45.9	99	8	20	75-127	
Bromoform	46.3	50.0	108	12	20	67-132	
Carbon tetrachloride	46.3	44.6	96	3	20	70-135	
Chlorodibromomethane	46.3	49.2	106	5	20	74-126	
Chloroform	46.3	44.2	95	4	20	78-123	
Chloromethane	46.3	42.1	91	6	20	50-136	
cis-1,2-Dichloroethene	46.3	43.3	93	2	20	77-123	
cis-1,3-Dichloropropene	46.3	48.7	105	11	20	74-126	
Ethylbenzene	46.3	45.2	98	2	20	76-122	
Methylene Chloride	46.3	41.9	90	5	20	70-128	
Tetrachloroethene	46.3	47.2	102	2	20	73-128	
Toluene	46.3	47.8	103	3	20	77-121	
trans-1,2-Dichloroethene	46.3	43.0	93	4	20	74-125	
trans-1,3-Dichloropropene	46.3	50.5	109	10	20	71-130	
Trichloroethene	46.3	43.6	94	6	20	77-123	
Vinyl chloride	46.3	39.0	84	0	20	56-135	
Xylenes, Total	92.7	96.4	104	3	20	78-124	

Column to be used to flag recovery and RPD values

FORM III 8260C DOD

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab File ID: FBLK2898.D

Lab Sample ID: MB 160-331094/8

Matrix: Water

Heated Purge:(Y/N) Y

Instrument ID: VMSF

Date Analyzed: 10/09/2017 21:05

GC Column: RTX-VMS40 ID: 0.18(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 160-331094/5	FLCS2895.D	10/09/2017 19:50
	LCSD 160-331094/6	FLCS2896.D	10/09/2017 20:15
TB-100617-7	160-24924-20	FSMP2901.D	10/09/2017 22:20
TB-100617-8	160-24924-21	FSMP2902.D	10/09/2017 22:45
TB-100617-9	160-24924-22	FSMP2903.D	10/09/2017 23:11
TB-100617-10	160-24924-23	FSMP2904.D	10/09/2017 23:36

FORM IV 8260C DOD

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Lab File ID: FBLK3036.D　Lab Sample ID: MB 160-332159/1-A

Matrix: Solid　Heated Purge:(Y/N) Y

Instrument ID: VMSF　Date Analyzed: 10/16/2017 18:33

GC Column: RTX-VMS40　ID: 0.18(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
SHAD041DP026SS05DS	160-24924-5	FSMP3049.D	10/16/2017 00:03
	LCS 160-332159/2-A	FLCS3033.D	10/16/2017 17:18
	LCSD 160-332159/3-A	FLCS3034.D	10/16/2017 17:43
SHAD041DP022SS03NS	160-24924-9	FSMP3041.D	10/16/2017 20:37
SHAD041DP022SS03NS MS	160-24924-9 MS	FSMP3042.D	10/16/2017 21:02
SHAD041DP022SS03NS MSD	160-24924-9 MSD	FSMP3043.D	10/16/2017 21:27
SHAD041DP026SS02NS	160-24924-1	FSMP3045.D	10/16/2017 22:24
SHAD041DP026SS03NS	160-24924-2	FSMP3046.D	10/16/2017 22:48
SHAD041DP026SS05NS	160-24924-4	FSMP3048.D	10/16/2017 23:38
SHAD041DP026SS06NS	160-24924-6	FSMP3050.D	10/17/2017 00:27
SHAD041DP022SS02NS	160-24924-8	FSMP3052.D	10/17/2017 01:17
SHAD041DP022SS04NS	160-24924-10	FSMP3053.D	10/17/2017 01:41

FORM IV 8260C DOD

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab File ID: XBLK9248.D Lab Sample ID: MB 160-332262/1-A

Matrix: Solid Heated Purge:(Y/N) Y

Instrument ID: VMSX Date Analyzed: 10/17/2017 17:56

GC Column: RTXVMS30 ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 160-332262/2-A	XLCS9245.D	10/17/2017 16:41
	LCSD 160-332262/3-A	XLCS9246.D	10/17/2017 17:06
SHAD041DP022SS01NS RA	160-24924-7 RA	XSMP9258.D	10/18/2017 00:52

FORM IV 8260C DOD

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab File ID: FBLK3062.D

Lab Sample ID: MB 160-332265/1-A

Matrix: Solid

Heated Purge:(Y/N) Y

Instrument ID: VMSF

Date Analyzed: 10/17/2017 17:13

GC Column: RTX-VMS40 ID: 0.18(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 160-332265/2-A	FLCS3059.D	10/17/2017 15:57
	LCSD 160-332265/3-A	FLCS3060.D	10/17/2017 16:22
SHAD041DP022SS05NS	160-24924-11	FSMP3063.D	10/17/2017 17:38
SHAD041DP022SS06NS	160-24924-12	FSMP3064.D	10/17/2017 18:02
SHAD041DP013SS01NS	160-24924-13	FSMP3065.D	10/17/2017 18:33
SHAD041DP013SS02NS	160-24924-14	FSMP3066.D	10/17/2017 18:59
SHAD041DP013SS03NS	160-24924-15	FSMP3067.D	10/17/2017 19:24
SHAD041DP013SS04NS	160-24924-16	FSMP3068.D	10/17/2017 19:48
SHAD041DP013SS05NS	160-24924-17	FSMP3069.D	10/17/2017 20:13
SHAD041DP013SS05DS	160-24924-18	FSMP3070.D	10/17/2017 20:39
SHAD041DP013SS06NS	160-24924-19	FSMP3071.D	10/17/2017 21:04

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab File ID: XBLK9327.D

Lab Sample ID: MB 160-332822/1-A

Matrix: Solid

Heated Purge:(Y/N) Y

Instrument ID: VMSX

Date Analyzed: 10/19/2017 17:56

GC Column: RTXVMS30 ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 160-332822/2-A	XLCS9324.D	10/19/2017 16:42
	LCSD 160-332822/3-A	XLCS9325.D	10/19/2017 17:06
SHAD041DP026SS04NS RA	160-24924-3 RA	XSMP9328.D	10/19/2017 18:20

FORM IV 8260C DOD

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab File ID: FBFB2846.D BFB Injection Date: 10/02/2017

Instrument ID: VMSF BFB Injection Time: 20:13

Analysis Batch No.: 329944

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE		
50	15.0 - 40.0 % of mass 95	26.5		
75	30.0 - 60.0 % of mass 95	56.2		
95	Base Peak, 100% relative abundance	100.0		
96	5.0 - 9.0 % of mass 95	6.9		
173	Less than 2.0 % of mass 174	0.4	(0.7)	1
174	50.0 - 120.00 % of mass 95	58.7		
175	5.0 - 9.0 % of mass 174	4.8	(8.2)	1
176	95.0 - 101.0 % of mass 174	56.8	(96.7)	1
177	5.0 - 9.0 % of mass 176	3.4	(6.0)	2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 160-329944/3	FICL2848.D	10/02/2017	21:02
	IC 160-329944/4	FICL2849.D	10/02/2017	21:27
	IC 160-329944/5	FICL2850.D	10/02/2017	21:52
	IC 160-329944/6	FICL2851.D	10/02/2017	22:17
	IC 160-329944/7	FICL2852.D	10/02/2017	22:42
	ICIS 160-329944/8	FICL2853.D	10/02/2017	23:06
	IC 160-329944/9	FICL2854.D	10/02/2017	23:31
	IC 160-329944/10	FICL2855.D	10/02/2017	23:55
	ICV 160-329944/13	FICV2858.D	10/03/2017	01:09

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab File ID: FBFB2893.D   BFB Injection Date: 10/09/2017

Instrument ID: VMSF   BFB Injection Time: 18:02

Analysis Batch No.: 331094

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	24.5	
75	30.0 - 60.0 % of mass 95	50.4	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	0.1	(0.2) 1
174	50.0 - 120.00 % of mass 95	59.6	
175	5.0 - 9.0 % of mass 174	4.3	(7.2) 1
176	95.0 - 101.0 % of mass 174	56.7	(95.1) 1
177	5.0 - 9.0 % of mass 176	3.1	(5.5) 2

1-Value is % mass 174   2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 160-331094/4	FCCV2894.D	10/09/2017	19:12
	LCS 160-331094/5	FLCS2895.D	10/09/2017	19:50
	LCSD 160-331094/6	FLCS2896.D	10/09/2017	20:15
	MB 160-331094/8	FBLK2898.D	10/09/2017	21:05
TB-100617-7	160-24924-20	FSMP2901.D	10/09/2017	22:20
TB-100617-8	160-24924-21	FSMP2902.D	10/09/2017	22:45
TB-100617-9	160-24924-22	FSMP2903.D	10/09/2017	23:11
TB-100617-10	160-24924-23	FSMP2904.D	10/09/2017	23:36
	CCVC 160-331094/26	FCCV2916.D	10/10/2017	04:37

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab File ID: FBFB3031.D BFB Injection Date: 10/16/2017

Instrument ID: VMSF BFB Injection Time: 16:13

Analysis Batch No.: 332154

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	25.4	
75	30.0 - 60.0 % of mass 95	54.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.5	(0.9) 1
174	50.0 - 120.00 % of mass 95	58.3	
175	5.0 - 9.0 % of mass 174	4.2	(7.2) 1
176	95.0 - 101.0 % of mass 174	55.6	(95.4) 1
177	5.0 - 9.0 % of mass 176	3.8	(6.8) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SHAD041DP026SS05DS	160-24924-5	FSMP3049.D	10/16/2017	00:03
	CCV 160-332154/3	FCCV3032.D	10/16/2017	16:37
	LCS 160-332159/2-A	FLCS3033.D	10/16/2017	17:18
	LCSD 160-332159/3-A	FLCS3034.D	10/16/2017	17:43
	MB 160-332159/1-A	FBLK3036.D	10/16/2017	18:33
SHAD041DP022SS03NS	160-24924-9	FSMP3041.D	10/16/2017	20:37
SHAD041DP022SS03NS MS	160-24924-9 MS	FSMP3042.D	10/16/2017	21:02
SHAD041DP022SS03NS MSD	160-24924-9 MSD	FSMP3043.D	10/16/2017	21:27
SHAD041DP026SS02NS	160-24924-1	FSMP3045.D	10/16/2017	22:24
SHAD041DP026SS03NS	160-24924-2	FSMP3046.D	10/16/2017	22:48
SHAD041DP026SS05NS	160-24924-4	FSMP3048.D	10/16/2017	23:38
SHAD041DP026SS06NS	160-24924-6	FSMP3050.D	10/17/2017	00:27
SHAD041DP022SS02NS	160-24924-8	FSMP3052.D	10/17/2017	01:17
SHAD041DP022SS04NS	160-24924-10	FSMP3053.D	10/17/2017	01:41
	CCVC 160-332154/25	FCCV3054.D	10/17/2017	02:06

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab File ID: FBFB3057.D   BFB Injection Date: 10/17/2017

Instrument ID: VMSF   BFB Injection Time: 14:54

Analysis Batch No.: 332247

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE		
50	15.0 - 40.0 % of mass 95	25.4		
75	30.0 - 60.0 % of mass 95	54.0		
95	Base Peak, 100% relative abundance	100.0		
96	5.0 - 9.0 % of mass 95	7.3		
173	Less than 2.0 % of mass 174	0.3	(0.5)	1
174	50.0 - 120.00 % of mass 95	58.6		
175	5.0 - 9.0 % of mass 174	4.1	(7.0)	1
176	95.0 - 101.0 % of mass 174	58.7	(100.2)	1
177	5.0 - 9.0 % of mass 176	4.0	(6.8)	2

1-Value is % mass 174   2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 160-332247/4	FCCV3058.D	10/17/2017	15:17
	LCS 160-332265/2-A	FLCS3059.D	10/17/2017	15:57
	LCSD 160-332265/3-A	FLCS3060.D	10/17/2017	16:22
	MB 160-332265/1-A	FBLK3062.D	10/17/2017	17:13
SHAD041DP022SS05NS	160-24924-11	FSMP3063.D	10/17/2017	17:38
SHAD041DP022SS06NS	160-24924-12	FSMP3064.D	10/17/2017	18:02
SHAD041DP013SS01NS	160-24924-13	FSMP3065.D	10/17/2017	18:33
SHAD041DP013SS02NS	160-24924-14	FSMP3066.D	10/17/2017	18:59
SHAD041DP013SS03NS	160-24924-15	FSMP3067.D	10/17/2017	19:24
SHAD041DP013SS04NS	160-24924-16	FSMP3068.D	10/17/2017	19:48
SHAD041DP013SS05NS	160-24924-17	FSMP3069.D	10/17/2017	20:13
SHAD041DP013SS05DS	160-24924-18	FSMP3070.D	10/17/2017	20:39
SHAD041DP013SS06NS	160-24924-19	FSMP3071.D	10/17/2017	21:04
	CCVC 160-332247/25	FCCV3079.D	10/18/2017	00:49

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab File ID: XBFB8773.D   BFB Injection Date: 09/14/2017

Instrument ID: VMSX   BFB Injection Time: 22:23

Analysis Batch No.: 327349

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	20.2	
75	30.0 - 60.0 % of mass 95	44.2	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.0	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	68.7	
175	5.0 - 9.0 % of mass 174	4.0	(5.8) 1
176	95.0 - 101.0 % of mass 174	66.0	(96.1) 1
177	5.0 - 9.0 % of mass 176	4.8	(7.3) 2

1-Value is % mass 174   2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 160-327349/3	XICL8774.D	09/14/2017	22:55
	IC 160-327349/4	XICL8775.D	09/14/2017	23:20
	IC 160-327349/5	XICL8776.D	09/14/2017	23:45
	IC 160-327349/6	XICL8777.D	09/15/2017	00:10
	IC 160-327349/7	XICL8778.D	09/15/2017	00:35
	ICIS 160-327349/8	XICL8779.D	09/15/2017	01:00
	IC 160-327349/9	XICL8780.D	09/15/2017	01:25
	IC 160-327349/10	XICL8781.D	09/15/2017	01:49
	ICV 160-327349/13	XICV8784.D	09/15/2017	03:04

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab File ID: XBFB9243.D BFB Injection Date: 10/17/2017

Instrument ID: VMSX BFB Injection Time: 14:42

Analysis Batch No.: 332246

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	19.1
75	30.0 - 60.0 % of mass 95	46.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.9
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	66.5
175	5.0 - 9.0 % of mass 174	4.7 (7.1) 1
176	95.0 - 101.0 % of mass 174	65.4 (98.4) 1
177	5.0 - 9.0 % of mass 176	4.6 (7.0) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 160-332246/3	XCCV9244.D	10/17/2017	15:05
	LCS 160-332262/2-A	XLCS9245.D	10/17/2017	16:41
	LCSD 160-332262/3-A	XLCS9246.D	10/17/2017	17:06
	MB 160-332262/1-A	XBLK9248.D	10/17/2017	17:56
SHAD041DP022SS01NS RA	160-24924-7 RA	XSMP9258.D	10/18/2017	00:52
	CCVC 160-332246/19	XCCV9260.D	10/18/2017	01:42

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Lab File ID: XBFB9322.D　BFB Injection Date: 10/19/2017

Instrument ID: VMSX　BFB Injection Time: 15:41

Analysis Batch No.: 332817

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	19.8
75	30.0 - 60.0 % of mass 95	45.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.6
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	68.0
175	5.0 - 9.0 % of mass 174	4.7 (7.0) 1
176	95.0 - 101.0 % of mass 174	65.7 (96.7) 1
177	5.0 - 9.0 % of mass 176	4.0 (6.1) 2

1-Value is % mass 174　2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 160-332817/3	XCCV9323.D	10/19/2017	16:05
	LCS 160-332822/2-A	XLCS9324.D	10/19/2017	16:42
	LCSD 160-332822/3-A	XLCS9325.D	10/19/2017	17:06
	MB 160-332822/1-A	XBLK9327.D	10/19/2017	17:56
SHAD041DP026SS04NS RA	160-24924-3 RA	XSMP9328.D	10/19/2017	18:20
	CCVC 160-332817/14	XCCV9334.D	10/19/2017	21:32

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Sample No.: ICIS 160-329944/8
Date Analyzed: 10/02/2017 23:06
Instrument ID: VMSF
GC Column: RTX-VMS40 ID: 0.18(mm)
Lab File ID (Standard): FICL2853.D
Heated Purge: (Y/N) Y
Calibration ID: 13586

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1501143	9.33	918988	12.32	575131	14.11
UPPER LIMIT		3002286	9.83	1837976	12.82	1150262	14.61
LOWER LIMIT		750572	8.83	459494	11.82	287566	13.61
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 160-329944/13		1876408	9.33	1172630	12.32	697269	14.11
CCV 160-331094/4		1943982	9.33	1177964	12.32	696172	14.11
LCS 160-331094/5		2027641	9.33	1207111	12.32	702625	14.11
LCSD 160-331094/6		2078782	9.33	1246515	12.32	726665	14.11
MB 160-331094/8		1926099	9.33	1100592	12.32	637785	14.11
160-24924-20	TB-100617-7	1547283	9.34	866699	12.32	525033	14.11
160-24924-21	TB-100617-8	1554419	9.33	859398	12.32	515280	14.11
160-24924-22	TB-100617-9	1498628	9.33	836943	12.32	497790	14.11
160-24924-23	TB-100617-10	1431239	9.33	818141	12.32	473713	14.11
CCVC 160-331094/26		1380717	9.33	853498	12.32	507903	14.11
160-24924-5	SHAD041DP026SS05DS	1152543	9.33	656523	12.32	381861	14.10
CCV 160-332154/3		1757649	9.33	1055739	12.32	627999	14.11
LCS 160-332159/2-A		1874090	9.33	1123137	12.32	653964	14.11
LCSD 160-332159/3-A		1863088	9.33	1096141	12.32	633077	14.10
MB 160-332159/1-A		1674445	9.33	974757	12.32	571299	14.11
160-24924-9	SHAD041DP022SS03NS	1375228	9.33	741455	12.32	347020	14.10
160-24924-9 MS	SHAD041DP022SS03NS MS	1445384	9.33	826473	12.32	459604	14.11
160-24924-9 MSD	SHAD041DP022SS03NS MSD	1622324	9.33	966517	12.32	493331	14.10
160-24924-1	SHAD041DP026SS02NS	1278187	9.33	669376	12.32	276134Q	14.10
160-24924-2	SHAD041DP026SS03NS	1332821	9.33	726052	12.32	375471	14.11
160-24924-4	SHAD041DP026SS05NS	1241803	9.33	709303	12.31	396406	14.10
160-24924-6	SHAD041DP026SS06NS	1183237	9.33	663160	12.32	388162	14.11
160-24924-8	SHAD041DP022SS02NS	706051Q	9.33	263063Q	12.32	64578Q	14.11
160-24924-10	SHAD041DP022SS04NS	1099858	9.33	626744	12.32	357702	14.11
CCVC 160-332154/25		1228882	9.33	750933	12.32	460371	14.11
CCV 160-332247/4		1797449	9.33	1120841	12.32	636529	14.11
LCS 160-332265/2-A		1863793	9.33	1124578	12.32	660225	14.11
LCSD 160-332265/3-A		1984748	9.33	1193786	12.32	688991	14.11

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C DOD

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Sample No.: ICIS 160-329944/8
Date Analyzed: 10/02/2017 23:06
Instrument ID: VMSF
GC Column: RTX-VMS40 ID: 0.18(mm)
Lab File ID (Standard): FICL2853.D
Heated Purge: (Y/N) Y
Calibration ID: 13586

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1501143	9.33	918988	12.32	575131	14.11
UPPER LIMIT		3002286	9.83	1837976	12.82	1150262	14.61
LOWER LIMIT		750572	8.83	459494	11.82	287566	13.61
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 160-332265/1-A		1773075	9.33	1052951	12.32	597257	14.11
160-24924-11	SHAD041DP022SS05NS	1768741	9.33	1003621	12.32	570181	14.11
160-24924-12	SHAD041DP022SS06NS	1593532	9.33	894501	12.32	524815	14.10
160-24924-13	SHAD041DP013SS01NS	1490100	9.33	707863	12.32	251308Q	14.11
160-24924-14	SHAD041DP013SS02NS	1382357	9.33	778374	12.32	391973	14.11
160-24924-15	SHAD041DP013SS03NS	1249937	9.33	734989	12.32	418879	14.11
160-24924-16	SHAD041DP013SS04NS	1208046	9.33	683949	12.32	413092	14.11
160-24924-17	SHAD041DP013SS05NS	1368656	9.33	810231	12.32	423711	14.10
160-24924-18	SHAD041DP013SS05DS	1292229	9.33	732413	12.31	423953	14.10
160-24924-19	SHAD041DP013SS06NS	1259889	9.33	722571	12.32	423032	14.11
CCVC 160-332247/25		1328110	9.33	826659	12.32	497893	14.10

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C DOD

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Sample No.: ICIS 160-327349/8   Date Analyzed: 09/15/2017 01:00

Instrument ID: VMSX   GC Column: RTXVMS30   ID: 0.25(mm)

Lab File ID (Standard): XICL8779.D   Heated Purge: (Y/N) Y

Calibration ID: 13526

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1587478	8.26	998654	11.98	393312	14.20
UPPER LIMIT		3174956	8.76	1997308	12.48	786624	14.70
LOWER LIMIT		793739	7.76	499327	11.48	196656	13.70
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 160-327349/13		1641837	8.26	980937	11.98	395613	14.20
CCV 160-332246/3		1241861	8.24	756590	11.98	294685	14.18
LCS 160-332262/2-A		1259015	8.24	749891	11.98	291491	14.18
LCSD 160-332262/3-A		1236261	8.26	739379	11.98	294399	14.18
MB 160-332262/1-A		1168019	8.26	684473	11.98	288525	14.20
160-24924-7 RA	SHAD041DP022SS01NS RA	591158Q	8.26	211306Q	11.98	31106Q	14.18
CCVC 160-332246/19		1177341	8.26	712374	11.98	278637	14.18
CCV 160-332817/3		1098009	8.26	667803	11.98	275406	14.18
LCS 160-332822/2-A		1127748	8.26	681409	11.98	272265	14.18
LCSD 160-332822/3-A		1145416	8.26	697215	11.98	281866	14.20
MB 160-332822/1-A		1086899	8.26	639332	11.98	262051	14.20
160-24924-3 RA	SHAD041DP026SS04NS RA	1067331	8.26	622567	11.98	253511	14.20
CCVC 160-332817/14		1070824	8.26	649847	11.98	268838	14.18

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C DOD

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: SHAD041DP026SS02NS
Lab Sample ID: 160-24924-1
Matrix: Solid
Lab File ID: FSMP3045.D
Analysis Method: 8260C DOD
Date Collected: 10/05/2017 16:04
Sample wt/vol: 5.7256(g)
Date Analyzed: 10/16/2017 22:24
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 1.4
Level: (low/med) Low
Analysis Batch No.: 332154
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.89	U	4.4	0.89	0.38
79-34-5	1,1,2,2-Tetrachloroethane	0.89	U Q	4.4	0.89	0.36
79-00-5	1,1,2-Trichloroethane	0.89	U Q	4.4	0.89	0.51
75-34-3	1,1-Dichloroethane	0.89	U	4.4	0.89	0.35
75-35-4	1,1-Dichloroethene	4.4	U	4.4	4.4	1.4
95-50-1	1,2-Dichlorobenzene	0.89	U Q	4.4	0.89	0.25
107-06-2	1,2-Dichloroethane	0.89	U	4.4	0.89	0.77
78-87-5	1,2-Dichloropropane	0.89	U	4.4	0.89	0.34
106-46-7	1,4-Dichlorobenzene	0.89	U Q	4.4	0.89	0.53
71-43-2	Benzene	0.89	U	4.4	0.89	0.22
75-27-4	Bromodichloromethane	0.89	U	4.4	0.89	0.22
75-25-2	Bromoform	0.89	U Q	4.4	0.89	0.32
56-23-5	Carbon tetrachloride	0.89	U	4.4	0.89	0.45
124-48-1	Chlorodibromomethane	0.89	U Q	4.4	0.89	0.36
67-66-3	Chloroform	0.89	U	4.4	0.89	0.33
74-87-3	Chloromethane	4.4	U	8.9	4.4	0.58
156-59-2	cis-1,2-Dichloroethene	0.89	U	4.4	0.89	0.53
10061-01-5	cis-1,3-Dichloropropene	0.89	U	4.4	0.89	0.53
100-41-4	Ethylbenzene	0.89	U Q	4.4	0.89	0.26
75-09-2	Methylene Chloride	4.4	U	8.9	4.4	1.4
127-18-4	Tetrachloroethene	0.89	U Q	4.4	0.89	0.29
108-88-3	Toluene	0.89	U Q	4.4	0.89	0.62
156-60-5	trans-1,2-Dichloroethene	0.89	U	4.4	0.89	0.84
10061-02-6	trans-1,3-Dichloropropene	0.89	U Q	4.4	0.89	0.31
79-01-6	Trichloroethene	0.89	U	4.4	0.89	0.34
75-01-4	Vinyl chloride	0.89	U	8.9	0.89	0.38
1330-20-7	Xylenes, Total	4.4	U Q	8.9	4.4	0.76

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	110		71-136
460-00-4	4-Bromofluorobenzene (Surr)	133	Q	79-119
1868-53-7	Dibromofluoromethane (Surr)	106		78-119
2037-26-5	Toluene-d8 (Surr)	122	Q	85-116

Report Date: 18-Oct-2017 22:15:38 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3045.D
Lims ID: 160-24924-A-1-B
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 16-Oct-2017 22:24:30 ALS Bottle#: 15 Worklist Smp#: 16
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-016
Misc. Info.: 160-24924-A-1-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:13:24 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:15:37

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.256				ND	
4 Vinyl chloride	62		3.398				ND	
9 1,1-Dichloroethene	96		5.090				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.202				ND	
28 1,1-Dichloroethane	63		7.066				ND	
32 cis-1,2-Dichloroethene	96		7.764				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.285				ND	
$ 41 Dibromofluoromethane (Surr	113	8.322	8.332	-0.010	91	320043	52.8	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.841				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.996	8.995	0.001	93	429338	54.9	
49 1,2-Dichloroethane	62		9.078				ND	
* 51 Fluorobenzene	96	9.328	9.326	0.002	97	1278187	50.0	
53 Trichloroethene	95		9.515				ND	
56 1,2-Dichloropropane	63		10.095				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.949	10.947	0.002	95	1137820	60.9	
63 Toluene	92		10.995				ND	
65 Tetrachloroethene	164		11.350				ND	
67 trans-1,3-Dichloropropene	75		11.361				ND	
68 1,1,2-Trichloroethane	83		11.515				ND	
70 Chlorodibromomethane	129		11.681				ND	
* 76 Chlorobenzene-d5	117	12.321	12.320	0.001	94	669376	50.0	
78 Ethylbenzene	91		12.332				ND	
80 m-Xylene & p-Xylene	106		12.438				ND	
82 o-Xylene	106		12.793				ND	
84 Bromoform	173		12.888				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.268	13.266	0.002	80	334073	66.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.096	14.107	-0.011	96	276134	50.0	s
102 1,4-Dichlorobenzene	146		14.118				ND	
104 1,2-Dichlorobenzene	146		14.426				ND	
S 112 Xylenes, Total	106		16.500				ND	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test

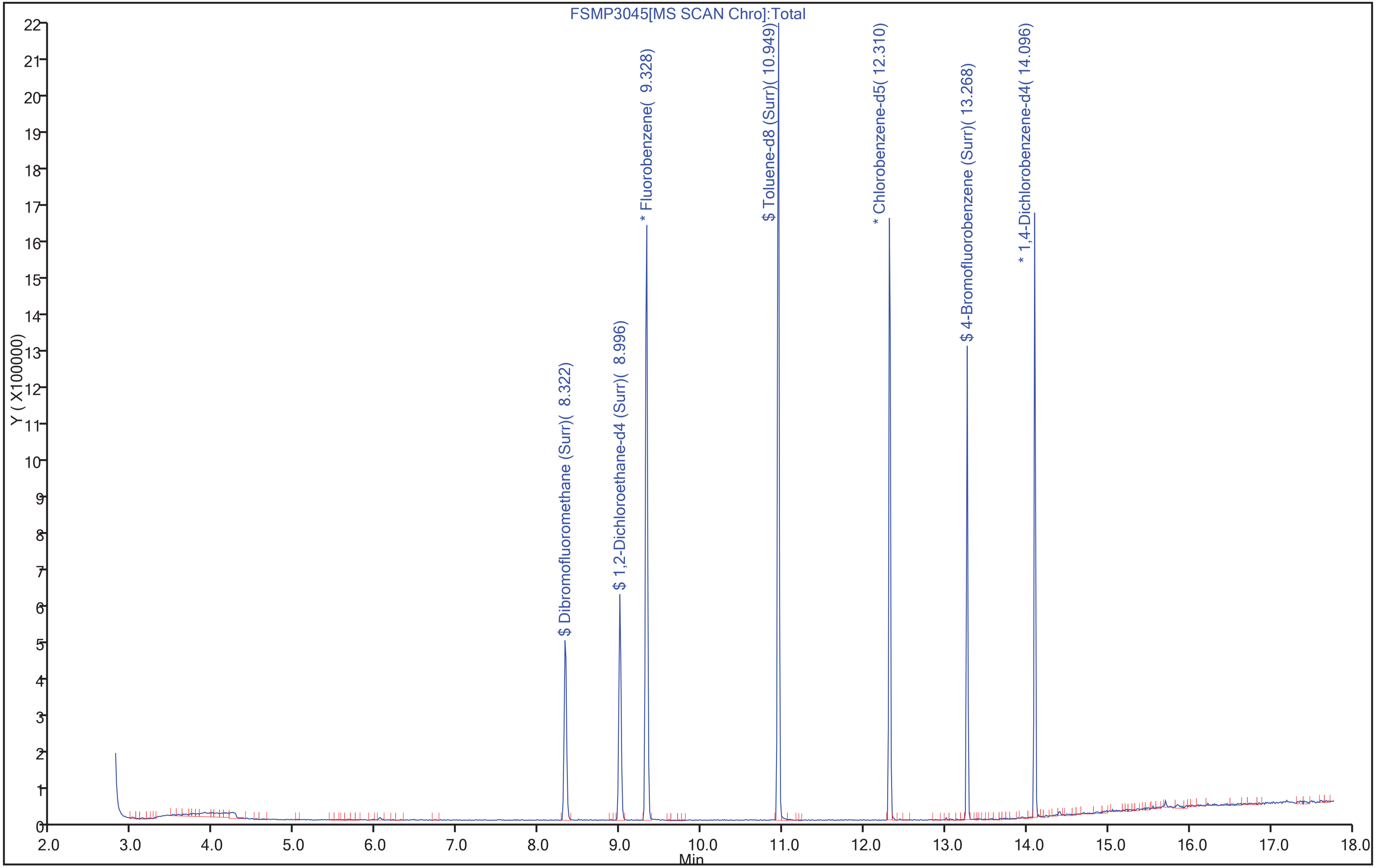
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:15:38 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3045.D				
Injection Date:	16-Oct-2017 22:24:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-1-B	Lab Sample ID:	160-24924-1	Worklist Smp#:	16
Client ID:	SHAD041DP026SS02NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3045.D
Lims ID: 160-24924-A-1-B
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 16-Oct-2017 22:24:30 ALS Bottle#: 15 Worklist Smp#: 16
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-016
Misc. Info.: 160-24924-A-1-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:13:24 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:15:37

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	52.8	105.55
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	54.9	109.85
$ 62 Toluene-d8 (Surr)	50.0	60.9	121.78
$ 86 4-Bromofluorobenzene (Surr)	50.0	66.5	133.07

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS03NS	Lab Sample ID: 160-24924-2
Matrix: Solid	Lab File ID: FSMP3046.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 16:11
Sample wt/vol: 4.4702(g)	Date Analyzed: 10/16/2017 22:48
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 12.1	Level: (low/med) Low
Analysis Batch No.: 332154	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.3	U	6.4	1.3	0.55
79-34-5	1,1,2,2-Tetrachloroethane	1.3	U Q	6.4	1.3	0.51
79-00-5	1,1,2-Trichloroethane	1.3	U	6.4	1.3	0.73
75-34-3	1,1-Dichloroethane	1.3	U	6.4	1.3	0.50
75-35-4	1,1-Dichloroethene	6.4	U	6.4	6.4	2.0
95-50-1	1,2-Dichlorobenzene	1.3	U Q	6.4	1.3	0.36
107-06-2	1,2-Dichloroethane	1.3	U	6.4	1.3	1.1
78-87-5	1,2-Dichloropropane	1.3	U	6.4	1.3	0.49
106-46-7	1,4-Dichlorobenzene	1.3	U Q	6.4	1.3	0.76
71-43-2	Benzene	1.3	U	6.4	1.3	0.32
75-27-4	Bromodichloromethane	1.3	U	6.4	1.3	0.32
75-25-2	Bromoform	1.3	U	6.4	1.3	0.47
56-23-5	Carbon tetrachloride	1.3	U	6.4	1.3	0.65
124-48-1	Chlorodibromomethane	1.3	U	6.4	1.3	0.52
67-66-3	Chloroform	1.3	U	6.4	1.3	0.48
74-87-3	Chloromethane	6.4	U	13	6.4	0.83
156-59-2	cis-1,2-Dichloroethene	1.3	U	6.4	1.3	0.76
10061-01-5	cis-1,3-Dichloropropene	1.3	U	6.4	1.3	0.76
100-41-4	Ethylbenzene	1.3	U	6.4	1.3	0.38
75-09-2	Methylene Chloride	6.4	U	13	6.4	2.0
127-18-4	Tetrachloroethene	1.3	U	6.4	1.3	0.41
108-88-3	Toluene	1.3	U	6.4	1.3	0.89
156-60-5	trans-1,2-Dichloroethene	1.3	U	6.4	1.3	1.2
10061-02-6	trans-1,3-Dichloropropene	1.3	U	6.4	1.3	0.44
79-01-6	Trichloroethene	1.3	U	6.4	1.3	0.49
75-01-4	Vinyl chloride	1.3	U	13	1.3	0.54
1330-20-7	Xylenes, Total	6.4	U	13	6.4	1.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		71-136
460-00-4	4-Bromofluorobenzene (Surr)	121	Q	79-119
1868-53-7	Dibromofluoromethane (Surr)	97		78-119
2037-26-5	Toluene-d8 (Surr)	112		85-116

Report Date: 18-Oct-2017 22:16:17 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3046.D
Lims ID: 160-24924-A-2-B
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 16-Oct-2017 22:48:30 ALS Bottle#: 16 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-017
Misc. Info.: 160-24924-A-2-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:16:16 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:16:16

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.256				ND	
4 Vinyl chloride	62		3.398				ND	
9 1,1-Dichloroethene	96		5.090				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.202				ND	
28 1,1-Dichloroethane	63		7.066				ND	
32 cis-1,2-Dichloroethene	96		7.764				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.285				ND	
$ 41 Dibromofluoromethane (Surr	113	8.331	8.332	-0.001	91	306684	48.5	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.841				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.993	8.995	-0.002	94	417239	51.2	
49 1,2-Dichloroethane	62		9.078				ND	
* 51 Fluorobenzene	96	9.325	9.326	-0.001	97	1332821	50.0	
53 Trichloroethene	95		9.515				ND	
56 1,2-Dichloropropane	63		10.095				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.946	10.947	-0.001	95	1139850	56.2	
63 Toluene	92		10.995				ND	
65 Tetrachloroethene	164		11.350				ND	
67 trans-1,3-Dichloropropene	75		11.361				ND	
68 1,1,2-Trichloroethane	83		11.515				ND	
70 Chlorodibromomethane	129		11.681				ND	
* 76 Chlorobenzene-d5	117	12.318	12.320	-0.002	93	726052	50.0	
78 Ethylbenzene	91	12.318	12.318	-0.014	3	3019	0.0944	7
80 m-Xylene & p-Xylene	106	12.437	12.437	-0.001	1	1967	0.1823	7
82 o-Xylene	106		12.793				ND	
84 Bromoform	173		12.888				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.265	13.266	-0.001	74	413528	60.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.105	14.107	-0.002	98	375471	50.0	
102 1,4-Dichlorobenzene	146		14.118				ND	
104 1,2-Dichlorobenzene	146		14.426				ND	
S 112 Xylenes, Total	106		16.500				ND	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

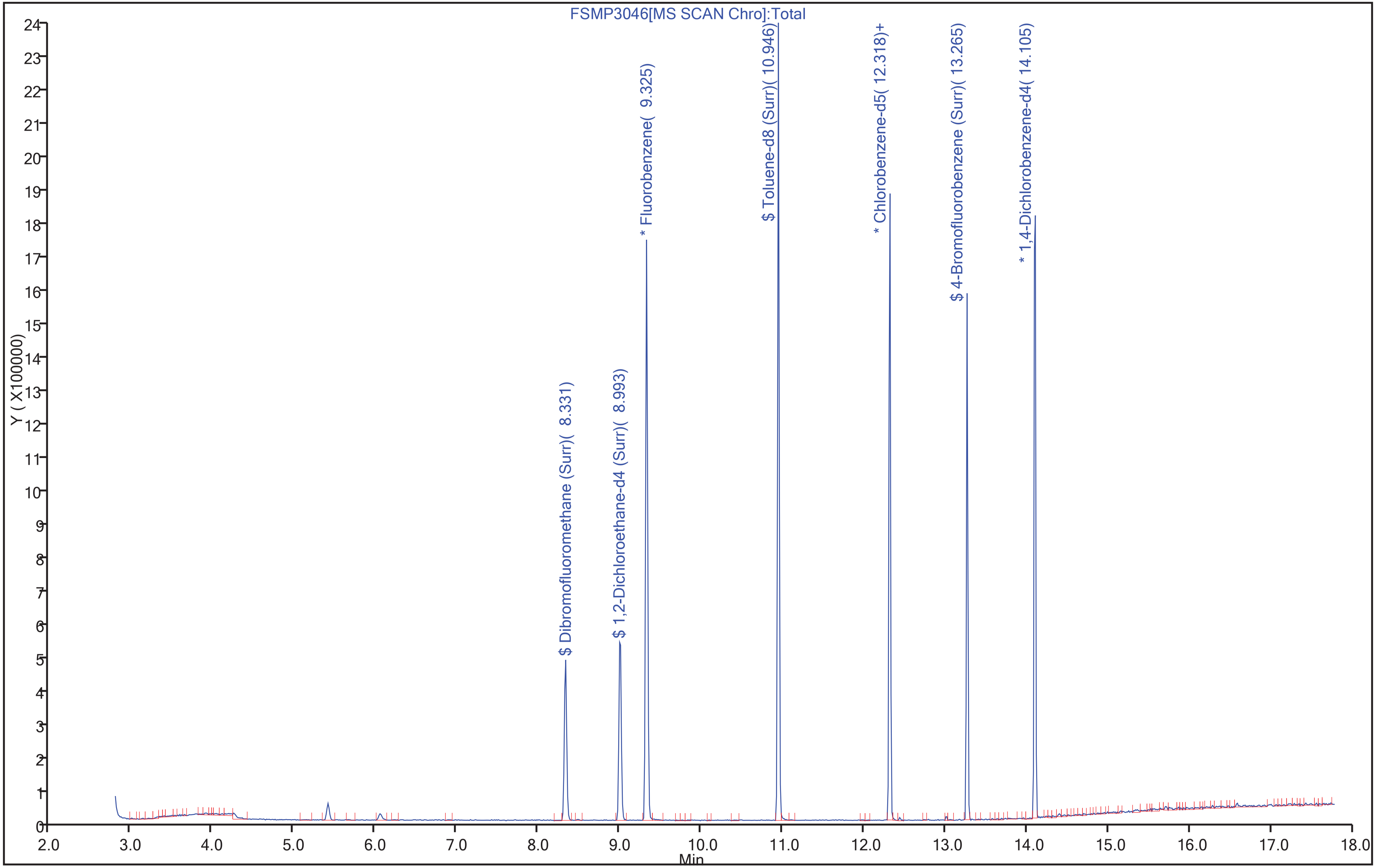
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:16:17 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3046.D				
Injection Date:	16-Oct-2017 22:48:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-2-B	Lab Sample ID:	160-24924-2	Worklist Smp#:	17
Client ID:	SHAD041DP026SS03NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3046.D
Lims ID: 160-24924-A-2-B
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 16-Oct-2017 22:48:30 ALS Bottle#: 16 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-017
Misc. Info.: 160-24924-A-2-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:16:16 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:16:16

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.5	97.00
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	51.2	102.38
$ 62 Toluene-d8 (Surr)	50.0	56.2	112.48
$ 86 4-Bromofluorobenzene (Surr)	50.0	60.6	121.14

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS04NS RA	Lab Sample ID: 160-24924-3 RA
Matrix: Solid	Lab File ID: XSMP9328.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 16:15
Sample wt/vol: 6.7046(g)	Date Analyzed: 10/19/2017 18:20
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTXVMS30 ID: 0.25(mm)
% Moisture: 9.6	Level: (low/med) Low
Analysis Batch No.: 332817	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.82	U	4.1	0.82	0.36
79-34-5	1,1,2,2-Tetrachloroethane	0.82	U	4.1	0.82	0.33
79-00-5	1,1,2-Trichloroethane	0.82	U	4.1	0.82	0.47
75-34-3	1,1-Dichloroethane	0.82	U	4.1	0.82	0.32
75-35-4	1,1-Dichloroethene	4.1	U	4.1	4.1	1.3
95-50-1	1,2-Dichlorobenzene	0.82	U	4.1	0.82	0.23
107-06-2	1,2-Dichloroethane	0.82	U	4.1	0.82	0.72
78-87-5	1,2-Dichloropropane	0.82	U	4.1	0.82	0.32
106-46-7	1,4-Dichlorobenzene	0.82	U	4.1	0.82	0.49
71-43-2	Benzene	0.82	U	4.1	0.82	0.21
75-27-4	Bromodichloromethane	0.82	U	4.1	0.82	0.21
75-25-2	Bromoform	0.82	U	4.1	0.82	0.30
56-23-5	Carbon tetrachloride	0.82	U	4.1	0.82	0.42
124-48-1	Chlorodibromomethane	0.82	U	4.1	0.82	0.33
67-66-3	Chloroform	0.82	U	4.1	0.82	0.31
74-87-3	Chloromethane	4.1	U	8.2	4.1	0.54
156-59-2	cis-1,2-Dichloroethene	0.82	U	4.1	0.82	0.49
10061-01-5	cis-1,3-Dichloropropene	0.82	U	4.1	0.82	0.49
100-41-4	Ethylbenzene	0.82	U	4.1	0.82	0.25
75-09-2	Methylene Chloride	4.1	U	8.2	4.1	1.3
127-18-4	Tetrachloroethene	0.82	U	4.1	0.82	0.27
108-88-3	Toluene	0.82	U	4.1	0.82	0.58
156-60-5	trans-1,2-Dichloroethene	0.82	U	4.1	0.82	0.78
10061-02-6	trans-1,3-Dichloropropene	0.82	U	4.1	0.82	0.29
79-01-6	Trichloroethene	0.82	U	4.1	0.82	0.32
75-01-4	Vinyl chloride	0.82	U	8.2	0.82	0.35
1330-20-7	Xylenes, Total	4.1	U	8.2	4.1	0.70

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		71-136
460-00-4	4-Bromofluorobenzene (Surr)	98		79-119
1868-53-7	Dibromofluoromethane (Surr)	101		78-119
2037-26-5	Toluene-d8 (Surr)	103		85-116

FORM I 8260C DOD

Report Date: 24-Oct-2017 17:04:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XSMP9328.D
Lims ID: 160-24924-B-3-A
Client ID: SHAD041DP026SS04NS
Sample Type: Client
Inject. Date: 19-Oct-2017 18:20:30 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011712-008
Misc. Info.: 160-24924-B-3-A
Operator ID: JDH Instrument ID: VMSX

Method: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 24-Oct-2017 17:03:16 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: hannj Date: 24-Oct-2017 17:04:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		2.079				ND	
4 Vinyl chloride	62		2.197				ND	
9 1,1-Dichloroethene	96		3.593				ND	
17 Methylene Chloride	84	4.516	4.516	0.000	91	7519	1.49	
19 trans-1,2-Dichloroethene	96		4.789				ND	
28 1,1-Dichloroethane	63		5.759				ND	
32 cis-1,2-Dichloroethene	96		6.552				ND	
36 Chloroform	83		6.942				ND	
37 Carbon tetrachloride	117		7.096				ND	
40 1,1,1-Trichloroethane	97		7.191				ND	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.191	0.000	92	215997	50.3	
44 Benzene	78		7.699				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.877	0.012	33	217279	52.1	
49 1,2-Dichloroethane	62		7.972				ND	
* 51 Fluorobenzene	96	8.256	8.256	0.000	99	1067331	50.0	
53 Trichloroethene	95		8.469				ND	
56 1,2-Dichloropropane	63		9.131				ND	
57 Dichlorobromomethane	83		9.226				ND	
61 cis-1,3-Dichloropropene	75		10.019				ND	
$ 62 Toluene-d8 (Surr)	98	10.243	10.243	0.000	94	922179	51.3	
63 Toluene	92		10.303				ND	
65 Tetrachloroethene	164		10.764				ND	
67 trans-1,3-Dichloropropene	75		10.823				ND	
68 1,1,2-Trichloroethane	83		11.001				ND	
70 Chlorodibromomethane	129		11.190				ND	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	89	622567	50.0	
78 Ethylbenzene	91		12.042				ND	
80 m-Xylene & p-Xylene	106		12.184				ND	
82 o-Xylene	106		12.610				ND	
84 Bromoform	173		12.681				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	83	267147	49.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.367				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.184	0.012	97	253511	50.0	
102 1,4-Dichlorobenzene	146		14.207				ND	
104 1,2-Dichlorobenzene	146		14.574				ND	
S 112 Xylenes, Total	106		16.500				ND	

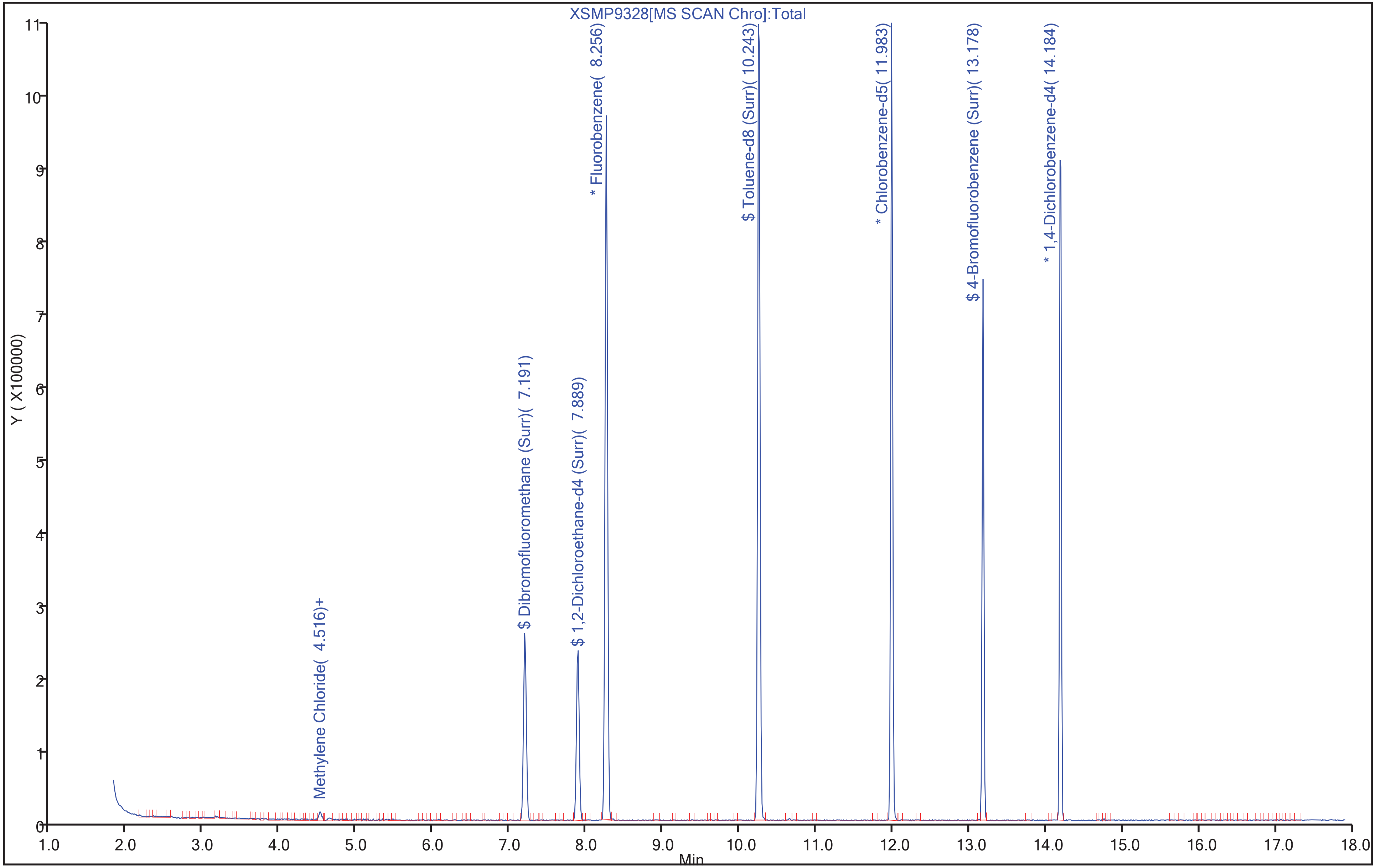
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Oct-2017 17:04:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XSMP9328.D				
Injection Date:	19-Oct-2017 18:20:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	160-24924-B-3-A	Lab Sample ID:	160-24924-3	Worklist Smp#:	8
Client ID:	SHAD041DP026SS04NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XSMP9328.D				
Lims ID:	160-24924-B-3-A				
Client ID:	SHAD041DP026SS04NS				
Sample Type:	Client				
Inject. Date:	19-Oct-2017 18:20:30	ALS Bottle#:	7	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011712-008				
Misc. Info.:	160-24924-B-3-A				
Operator ID:	JDH	Instrument ID:	VMSX		
Method:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	24-Oct-2017 17:03:16	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK003				

First Level Reviewer: hannj Date: 24-Oct-2017 17:04:32

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	50.3	100.55
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	52.1	104.28
$ 62 Toluene-d8 (Surr)	50.0	51.3	102.68
$ 86 4-Bromofluorobenzene (Surr)	50.0	49.1	98.16

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS05NS	Lab Sample ID: 160-24924-4
Matrix: Solid	Lab File ID: FSMP3048.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 16:22
Sample wt/vol: 5.4593(g)	Date Analyzed: 10/16/2017 23:38
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 20.1	Level: (low/med) Low
Analysis Batch No.: 332154	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.1	U	5.7	1.1	0.49
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U	5.7	1.1	0.46
79-00-5	1,1,2-Trichloroethane	1.1	U	5.7	1.1	0.66
75-34-3	1,1-Dichloroethane	1.1	U	5.7	1.1	0.45
75-35-4	1,1-Dichloroethene	5.7	U	5.7	5.7	1.8
95-50-1	1,2-Dichlorobenzene	1.1	U	5.7	1.1	0.32
107-06-2	1,2-Dichloroethane	1.1	U	5.7	1.1	0.99
78-87-5	1,2-Dichloropropane	1.1	U	5.7	1.1	0.44
106-46-7	1,4-Dichlorobenzene	1.1	U	5.7	1.1	0.69
71-43-2	Benzene	1.1	U	5.7	1.1	0.29
75-27-4	Bromodichloromethane	1.1	U	5.7	1.1	0.29
75-25-2	Bromoform	1.1	U	5.7	1.1	0.42
56-23-5	Carbon tetrachloride	1.1	U	5.7	1.1	0.59
124-48-1	Chlorodibromomethane	1.1	U	5.7	1.1	0.47
67-66-3	Chloroform	1.1	U	5.7	1.1	0.43
74-87-3	Chloromethane	5.7	U	11	5.7	0.74
156-59-2	cis-1,2-Dichloroethene	1.1	U	5.7	1.1	0.68
10061-01-5	cis-1,3-Dichloropropene	1.1	U	5.7	1.1	0.68
100-41-4	Ethylbenzene	1.1	U	5.7	1.1	0.34
75-09-2	Methylene Chloride	5.7	U	11	5.7	1.8
127-18-4	Tetrachloroethene	1.1	U	5.7	1.1	0.37
108-88-3	Toluene	1.1	U	5.7	1.1	0.80
156-60-5	trans-1,2-Dichloroethene	1.1	U	5.7	1.1	1.1
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.7	1.1	0.40
79-01-6	Trichloroethene	1.1	U	5.7	1.1	0.44
75-01-4	Vinyl chloride	1.1	U	11	1.1	0.49
1330-20-7	Xylenes, Total	5.7	U	11	5.7	0.98

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		71-136
460-00-4	4-Bromofluorobenzene (Surr)	111		79-119
1868-53-7	Dibromofluoromethane (Surr)	97		78-119
2037-26-5	Toluene-d8 (Surr)	108		85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3048.D
Lims ID: 160-24924-A-4-B
Client ID: SHAD041DP026SS05NS
Sample Type: Client
Inject. Date: 16-Oct-2017 23:38:30 ALS Bottle#: 18 Worklist Smp#: 19
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-019
Misc. Info.: 160-24924-A-4-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:16:16 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:16:59

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.256				ND	
4 Vinyl chloride	62		3.398				ND	
9 1,1-Dichloroethene	96		5.090				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.202				ND	
28 1,1-Dichloroethane	63		7.066				ND	
32 cis-1,2-Dichloroethene	96		7.764				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.285				ND	
$ 41 Dibromofluoromethane (Surr	113	8.323	8.332	-0.009	92	284796	48.3	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.841				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.997	8.995	0.002	94	371776	49.0	
49 1,2-Dichloroethane	62		9.078				ND	
* 51 Fluorobenzene	96	9.329	9.326	0.003	97	1241803	50.0	
53 Trichloroethene	95		9.515				ND	
56 1,2-Dichloropropane	63		10.095				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.950	10.947	0.003	96	1066623	53.9	
63 Toluene	92		10.995				ND	
65 Tetrachloroethene	164		11.350				ND	
67 trans-1,3-Dichloropropene	75		11.361				ND	
68 1,1,2-Trichloroethane	83		11.515				ND	
70 Chlorodibromomethane	129		11.681				ND	
* 76 Chlorobenzene-d5	117	12.310	12.320	-0.010	98	709303	50.0	
78 Ethylbenzene	91		12.332				ND	
80 m-Xylene & p-Xylene	106		12.438				ND	
82 o-Xylene	106		12.793				ND	
84 Bromoform	173		12.888				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.269	13.266	0.003	79	398325	55.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.097	14.107	-0.010	98	396406	50.0	
102 1,4-Dichlorobenzene	146		14.118				ND	
104 1,2-Dichlorobenzene	146		14.426				ND	
S 112 Xylenes, Total	106		16.500				ND	

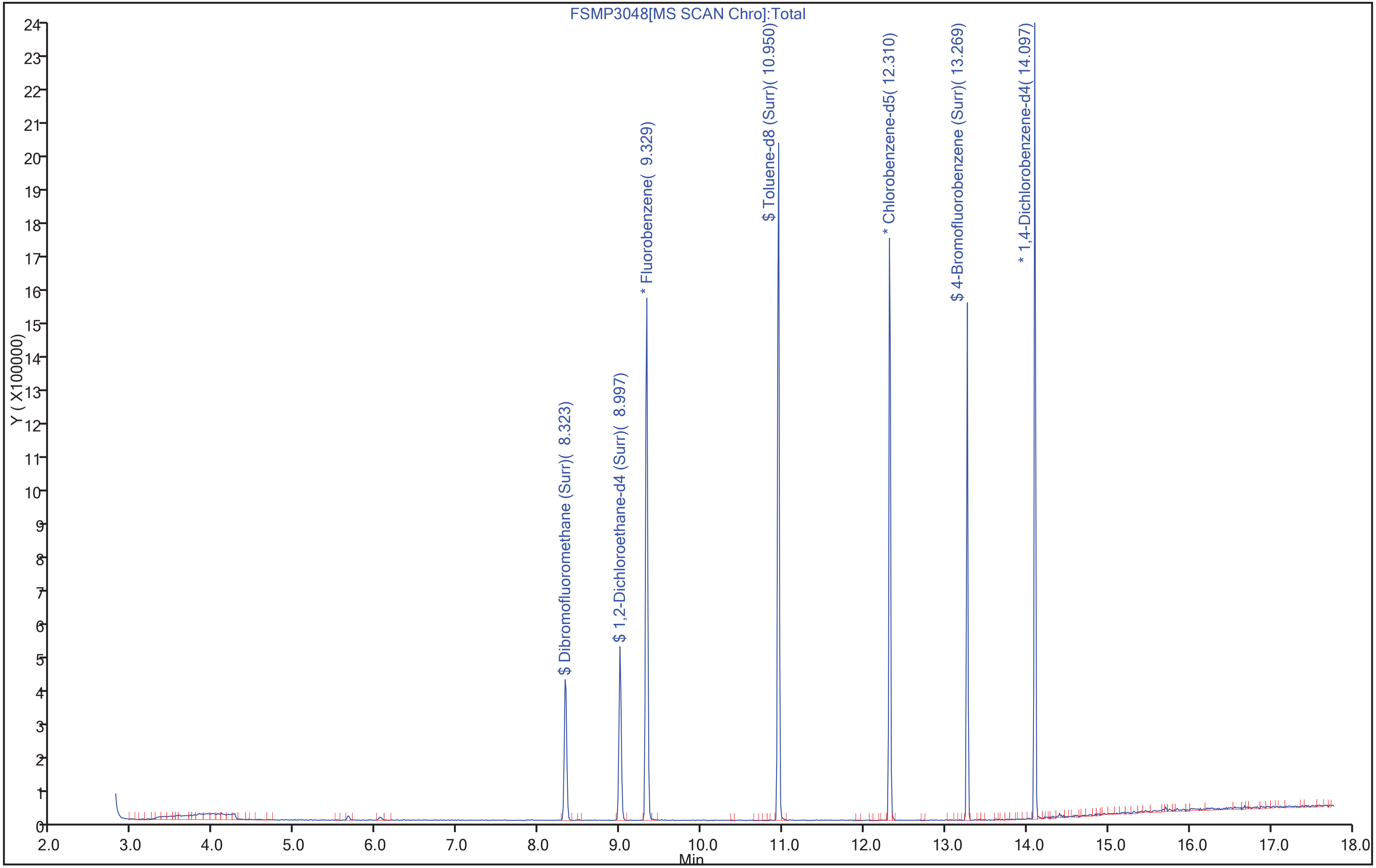
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:17:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3048.D				
Injection Date:	16-Oct-2017 23:38:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-4-B	Lab Sample ID:	160-24924-4	Worklist Smp#:	19
Client ID:	SHAD041DP026SS05NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3048.D				
Lims ID:	160-24924-A-4-B				
Client ID:	SHAD041DP026SS05NS				
Sample Type:	Client				
Inject. Date:	16-Oct-2017 23:38:30	ALS Bottle#:	18	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011671-019				
Misc. Info.:	160-24924-A-4-B				
Operator ID:	JDH	Instrument ID:	VMSF		

Method:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m		
Limit Group:	MSV-8260_DoD		
Last Update:	18-Oct-2017 22:16:16	Calib Date:	02-Oct-2017 23:55:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:16:59

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.3	96.68
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	49.0	97.91
$ 62 Toluene-d8 (Surr)	50.0	53.9	107.74
$ 86 4-Bromofluorobenzene (Surr)	50.0	55.3	110.53

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS05DS	Lab Sample ID: 160-24924-5
Matrix: Solid	Lab File ID: FSMP3049.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 16:26
Sample wt/vol: 5.7012(g)	Date Analyzed: 10/16/2017 00:03
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 26.5	Level: (low/med) Low
Analysis Batch No.: 332154	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.2	U	6.0	1.2	0.51
79-34-5	1,1,2,2-Tetrachloroethane	1.2	U	6.0	1.2	0.48
79-00-5	1,1,2-Trichloroethane	1.2	U	6.0	1.2	0.68
75-34-3	1,1-Dichloroethane	1.2	U	6.0	1.2	0.47
75-35-4	1,1-Dichloroethene	6.0	U	6.0	6.0	1.9
95-50-1	1,2-Dichlorobenzene	1.2	U	6.0	1.2	0.34
107-06-2	1,2-Dichloroethane	1.2	U	6.0	1.2	1.0
78-87-5	1,2-Dichloropropane	1.2	U	6.0	1.2	0.46
106-46-7	1,4-Dichlorobenzene	1.2	U	6.0	1.2	0.72
71-43-2	Benzene	1.2	U	6.0	1.2	0.30
75-27-4	Bromodichloromethane	1.2	U	6.0	1.2	0.30
75-25-2	Bromoform	1.2	U	6.0	1.2	0.44
56-23-5	Carbon tetrachloride	1.2	U	6.0	1.2	0.61
124-48-1	Chlorodibromomethane	1.2	U	6.0	1.2	0.48
67-66-3	Chloroform	1.2	U	6.0	1.2	0.45
74-87-3	Chloromethane	6.0	U	12	6.0	0.78
156-59-2	cis-1,2-Dichloroethene	1.2	U	6.0	1.2	0.71
10061-01-5	cis-1,3-Dichloropropene	1.2	U	6.0	1.2	0.71
100-41-4	Ethylbenzene	1.2	U	6.0	1.2	0.36
75-09-2	Methylene Chloride	6.0	U	12	6.0	1.9
127-18-4	Tetrachloroethene	1.2	U	6.0	1.2	0.38
108-88-3	Toluene	1.2	U	6.0	1.2	0.84
156-60-5	trans-1,2-Dichloroethene	1.2	U	6.0	1.2	1.1
10061-02-6	trans-1,3-Dichloropropene	1.2	U	6.0	1.2	0.42
79-01-6	Trichloroethene	1.2	U	6.0	1.2	0.46
75-01-4	Vinyl chloride	1.2	U	12	1.2	0.51
1330-20-7	Xylenes, Total	6.0	U	12	6.0	1.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		71-136
460-00-4	4-Bromofluorobenzene (Surr)	112		79-119
1868-53-7	Dibromofluoromethane (Surr)	100		78-119
2037-26-5	Toluene-d8 (Surr)	113		85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3049.D
Lims ID: 160-24924-A-5-B
Client ID: SHAD041DP026SS05DS
Sample Type: Client
Inject. Date: 16-Oct-2017 00:03:30 ALS Bottle#: 19 Worklist Smp#: 20
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-020
Misc. Info.: 160-24924-A-5-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:16:16 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:17:16

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.256				ND	
4 Vinyl chloride	62		3.398				ND	
9 1,1-Dichloroethene	96		5.090				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.202				ND	
28 1,1-Dichloroethane	63		7.066				ND	
32 cis-1,2-Dichloroethene	96		7.764				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.285				ND	
$ 41 Dibromofluoromethane (Surr	113	8.334	8.332	0.002	91	274110	50.1	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.841				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.996	8.995	0.001	93	365267	51.8	
49 1,2-Dichloroethane	62		9.078				ND	
* 51 Fluorobenzene	96	9.328	9.326	0.002	97	1152543	50.0	
53 Trichloroethene	95		9.515				ND	
56 1,2-Dichloropropane	63		10.095				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.949	10.947	0.002	95	1033870	56.4	
63 Toluene	92		10.995				ND	
65 Tetrachloroethene	164		11.350				ND	
67 trans-1,3-Dichloropropene	75		11.361				ND	
68 1,1,2-Trichloroethane	83		11.515				ND	
70 Chlorodibromomethane	129		11.681				ND	
* 76 Chlorobenzene-d5	117	12.321	12.320	0.001	93	656523	50.0	
78 Ethylbenzene	91		12.332				ND	
80 m-Xylene & p-Xylene	106		12.438				ND	
82 o-Xylene	106		12.793				ND	
84 Bromoform	173		12.888				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.268	13.266	0.002	78	387328	55.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.096	14.107	-0.011	97	381861	50.0	
102 1,4-Dichlorobenzene	146		14.118				ND	
104 1,2-Dichlorobenzene	146		14.426				ND	
S 112 Xylenes, Total	106		16.500				ND	

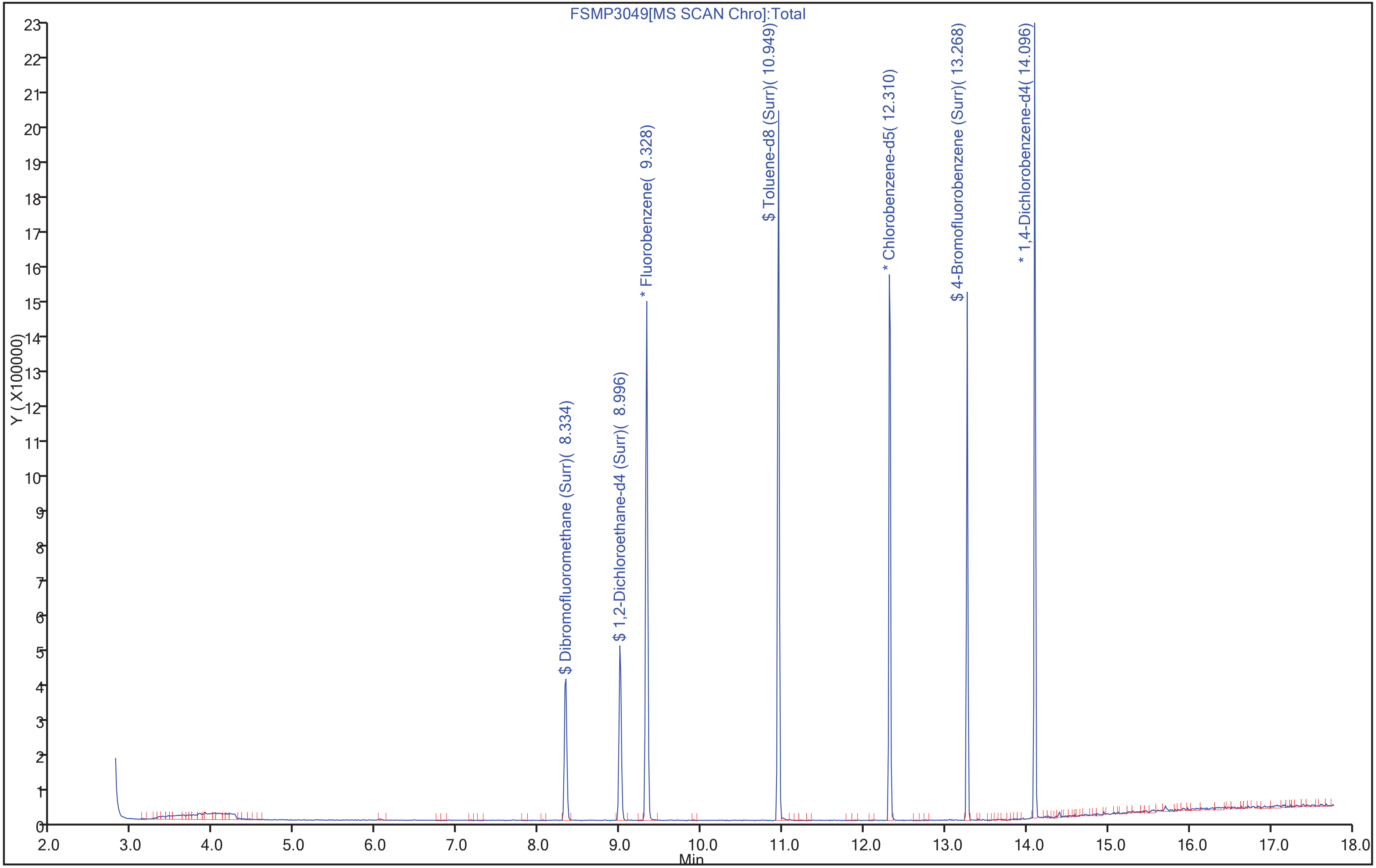
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:17:17 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3049.D				
Injection Date:	16-Oct-2017 00:03:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-5-B	Lab Sample ID:	160-24924-5	Worklist Smp#:	20
Client ID:	SHAD041DP026SS05DS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3049.D				
Lims ID:	160-24924-A-5-B				
Client ID:	SHAD041DP026SS05DS				
Sample Type:	Client				
Inject. Date:	16-Oct-2017 00:03:30	ALS Bottle#:	19	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011671-020				
Misc. Info.:	160-24924-A-5-B				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	18-Oct-2017 22:16:16	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK015				
First Level Reviewer: hannj		Date:	18-Oct-2017 22:17:16		

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	50.1	100.26
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	51.8	103.64
$ 62 Toluene-d8 (Surr)	50.0	56.4	112.82
$ 86 4-Bromofluorobenzene (Surr)	50.0	55.8	111.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP026SS06NS Lab Sample ID: 160-24924-6

Matrix: Solid Lab File ID: FSMP3050.D

Analysis Method: 8260C DOD Date Collected: 10/05/2017 16:31

Sample wt/vol: 5.3632(g) Date Analyzed: 10/17/2017 00:27

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-VMS40 ID: 0.18(mm)

% Moisture: 13.9 Level: (low/med) Low

Analysis Batch No.: 332154 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.1	U	5.4	1.1	0.47
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U	5.4	1.1	0.43
79-00-5	1,1,2-Trichloroethane	1.1	U	5.4	1.1	0.62
75-34-3	1,1-Dichloroethane	1.1	U	5.4	1.1	0.42
75-35-4	1,1-Dichloroethene	5.4	U	5.4	5.4	1.7
95-50-1	1,2-Dichlorobenzene	1.1	U	5.4	1.1	0.31
107-06-2	1,2-Dichloroethane	1.1	U	5.4	1.1	0.94
78-87-5	1,2-Dichloropropane	1.1	U	5.4	1.1	0.41
106-46-7	1,4-Dichlorobenzene	1.1	U	5.4	1.1	0.65
71-43-2	Benzene	1.1	U	5.4	1.1	0.27
75-27-4	Bromodichloromethane	1.1	U	5.4	1.1	0.28
75-25-2	Bromoform	1.1	U	5.4	1.1	0.40
56-23-5	Carbon tetrachloride	1.1	U	5.4	1.1	0.56
124-48-1	Chlorodibromomethane	1.1	U	5.4	1.1	0.44
67-66-3	Chloroform	1.1	U	5.4	1.1	0.41
74-87-3	Chloromethane	5.4	U	11	5.4	0.70
156-59-2	cis-1,2-Dichloroethene	1.1	U	5.4	1.1	0.65
10061-01-5	cis-1,3-Dichloropropene	1.1	U	5.4	1.1	0.64
100-41-4	Ethylbenzene	1.1	U	5.4	1.1	0.32
75-09-2	Methylene Chloride	5.4	U	11	5.4	1.7
127-18-4	Tetrachloroethene	1.1	U	5.4	1.1	0.35
108-88-3	Toluene	1.1	U	5.4	1.1	0.76
156-60-5	trans-1,2-Dichloroethene	1.1	U	5.4	1.1	1.0
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.4	1.1	0.38
79-01-6	Trichloroethene	1.1	U	5.4	1.1	0.42
75-01-4	Vinyl chloride	1.1	U	11	1.1	0.46
1330-20-7	Xylenes, Total	5.4	U	11	5.4	0.92

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		71-136
460-00-4	4-Bromofluorobenzene (Surr)	107		79-119
1868-53-7	Dibromofluoromethane (Surr)	95		78-119
2037-26-5	Toluene-d8 (Surr)	108		85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3050.D
Lims ID: 160-24924-A-6-B
Client ID: SHAD041DP026SS06NS
Sample Type: Client
Inject. Date: 17-Oct-2017 00:27:30 ALS Bottle#: 20 Worklist Smp#: 21
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-021
Misc. Info.: 160-24924-A-6-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:16:16 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:17:39

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.256				ND	
4 Vinyl chloride	62		3.398				ND	
9 1,1-Dichloroethene	96		5.090				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.202				ND	
28 1,1-Dichloroethane	63		7.066				ND	
32 cis-1,2-Dichloroethene	96		7.764				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.285				ND	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.332	0.000	91	267556	47.7	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.841				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.994	8.995	-0.001	94	356074	49.2	
49 1,2-Dichloroethane	62		9.078				ND	
* 51 Fluorobenzene	96	9.326	9.326	0.000	97	1183237	50.0	
53 Trichloroethene	95		9.515				ND	
56 1,2-Dichloropropane	63		10.095				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.947	10.947	0.000	95	995524	53.8	
63 Toluene	92		10.995				ND	
65 Tetrachloroethene	164		11.350				ND	
67 trans-1,3-Dichloropropene	75		11.361				ND	
68 1,1,2-Trichloroethane	83		11.515				ND	
70 Chlorodibromomethane	129		11.681				ND	
* 76 Chlorobenzene-d5	117	12.319	12.320	-0.001	93	663160	50.0	
78 Ethylbenzene	91		12.332				ND	
80 m-Xylene & p-Xylene	106		12.438				ND	
82 o-Xylene	106		12.793				ND	
84 Bromoform	173		12.888				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.266	0.000	75	379341	53.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.107	-0.001	97	388162	50.0	
102 1,4-Dichlorobenzene	146		14.118				ND	
104 1,2-Dichlorobenzene	146		14.426				ND	
S 112 Xylenes, Total	106		16.500				ND	

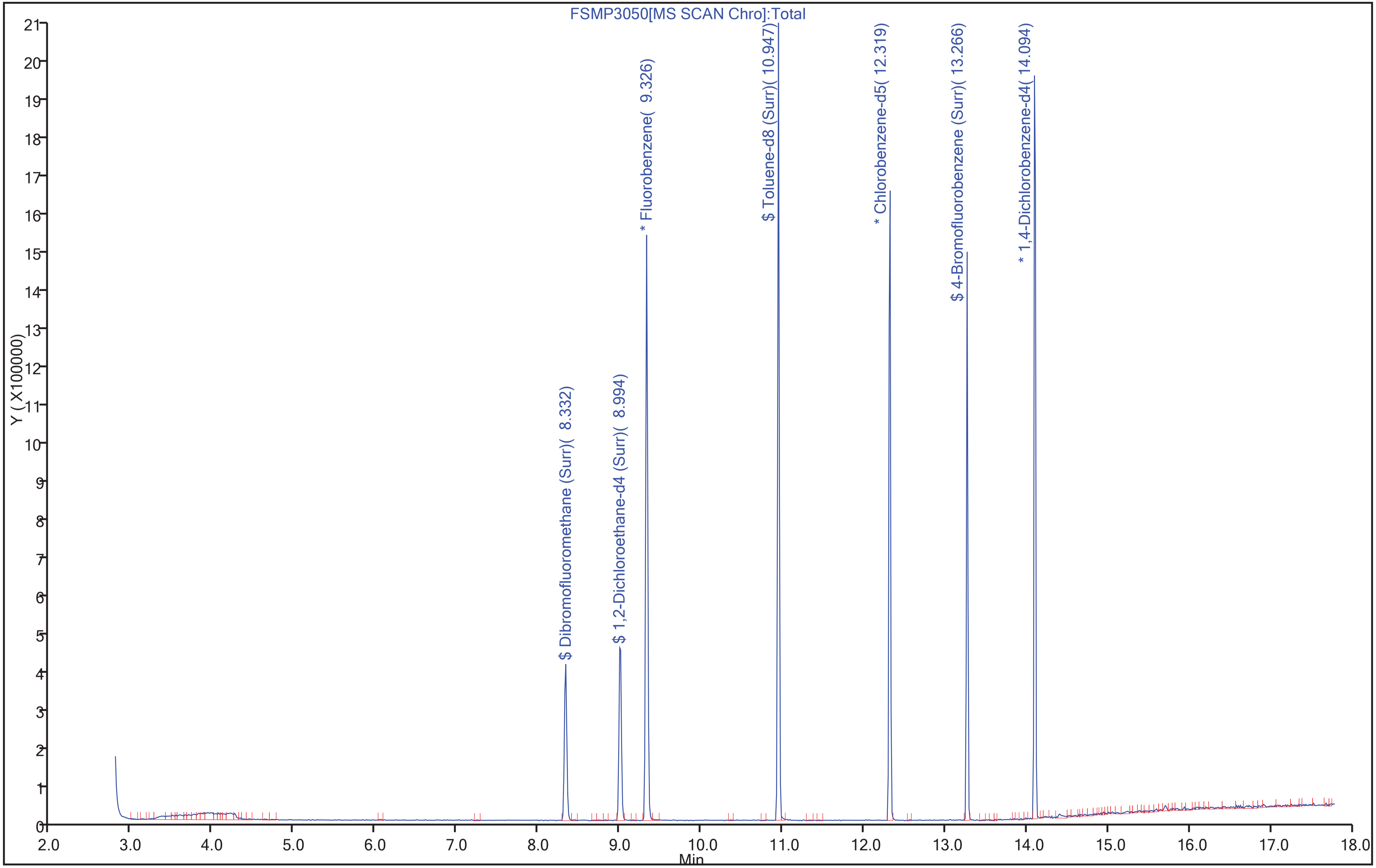
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:17:40 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3050.D				
Injection Date:	17-Oct-2017 00:27:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-6-B	Lab Sample ID:	160-24924-6	Worklist Smp#:	21
Client ID:	SHAD041DP026SS06NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3050.D				
Lims ID:	160-24924-A-6-B				
Client ID:	SHAD041DP026SS06NS				
Sample Type:	Client				
Inject. Date:	17-Oct-2017 00:27:30	ALS Bottle#:	20	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011671-021				
Misc. Info.:	160-24924-A-6-B				
Operator ID:	JDH	Instrument ID:	VMSF		

Method:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m		
Limit Group:	MSV-8260_DoD		
Last Update:	18-Oct-2017 22:16:16	Calib Date:	02-Oct-2017 23:55:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:17:39

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	47.7	95.32
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	49.2	98.41
$ 62 Toluene-d8 (Surr)	50.0	53.8	107.55
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.7	107.49

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS01NS RA	Lab Sample ID: 160-24924-7 RA
Matrix: Solid	Lab File ID: XSMP9258.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 16:45
Sample wt/vol: 5.5237(g)	Date Analyzed: 10/18/2017 00:52
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTXVMS30 ID: 0.25(mm)
% Moisture: 0.3	Level: (low/med) Low
Analysis Batch No.: 332246	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.91	U Q	4.5	0.91	0.39
79-34-5	1,1,2,2-Tetrachloroethane	0.91	U Q	4.5	0.91	0.36
79-00-5	1,1,2-Trichloroethane	0.91	U Q	4.5	0.91	0.52
75-34-3	1,1-Dichloroethane	0.91	U Q	4.5	0.91	0.36
75-35-4	1,1-Dichloroethene	4.5	U Q	4.5	4.5	1.5
95-50-1	1,2-Dichlorobenzene	0.91	U Q	4.5	0.91	0.26
107-06-2	1,2-Dichloroethane	0.91	U Q	4.5	0.91	0.79
78-87-5	1,2-Dichloropropane	0.91	U Q	4.5	0.91	0.35
106-46-7	1,4-Dichlorobenzene	0.91	U Q	4.5	0.91	0.54
71-43-2	Benzene	0.91	U Q	4.5	0.91	0.23
75-27-4	Bromodichloromethane	0.91	U Q	4.5	0.91	0.23
75-25-2	Bromoform	0.91	U Q	4.5	0.91	0.33
56-23-5	Carbon tetrachloride	0.91	U Q	4.5	0.91	0.47
124-48-1	Chlorodibromomethane	0.91	U Q	4.5	0.91	0.37
67-66-3	Chloroform	0.91	U Q	4.5	0.91	0.34
74-87-3	Chloromethane	4.5	U Q	9.1	4.5	0.59
156-59-2	cis-1,2-Dichloroethene	0.91	U Q	4.5	0.91	0.54
10061-01-5	cis-1,3-Dichloropropene	0.91	U Q	4.5	0.91	0.54
100-41-4	Ethylbenzene	0.91	U Q	4.5	0.91	0.27
75-09-2	Methylene Chloride	4.5	U Q	9.1	4.5	1.4
127-18-4	Tetrachloroethene	0.91	U Q	4.5	0.91	0.29
108-88-3	Toluene	0.91	U Q	4.5	0.91	0.64
156-60-5	trans-1,2-Dichloroethene	0.91	U Q	4.5	0.91	0.86
10061-02-6	trans-1,3-Dichloropropene	0.91	U Q	4.5	0.91	0.32
79-01-6	Trichloroethene	0.91	U Q	4.5	0.91	0.35
75-01-4	Vinyl chloride	0.91	U Q	9.1	0.91	0.39
1330-20-7	Xylenes, Total	4.5	U Q	9.1	4.5	0.78

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	89	Q	71-136
460-00-4	4-Bromofluorobenzene (Surr)	48	Q	79-119
1868-53-7	Dibromofluoromethane (Surr)	78	Q	78-119
2037-26-5	Toluene-d8 (Surr)	60	Q	85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XSMP9258.D
Lims ID: 160-24924-B-7-A
Client ID: SHAD041DP022SS01NS
Sample Type: Client
Inject. Date: 18-Oct-2017 00:52:30 ALS Bottle#: 16 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011681-017
Misc. Info.: 160-24924-B-7-A
Operator ID: JDH Instrument ID: VMSX

Method: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 01:09:26 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 01:13:22

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		2.079				ND	
4 Vinyl chloride	62		2.197				ND	
9 1,1-Dichloroethene	96		3.605				ND	
17 Methylene Chloride	84		4.516				ND	
19 trans-1,2-Dichloroethene	96		4.788				ND	
28 1,1-Dichloroethane	63		5.759				ND	
32 cis-1,2-Dichloroethene	96		6.552				ND	
36 Chloroform	83		6.942				ND	
37 Carbon tetrachloride	117		7.096				ND	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.190	0.001	91	93290	39.2	
40 1,1,1-Trichloroethane	97		7.190				ND	
44 Benzene	78		7.699				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.877	7.877	0.000	33	102739	44.5	
49 1,2-Dichloroethane	62		7.971				ND	
* 51 Fluorobenzene	96	8.256	8.255	0.001	99	591158	50.0	s
53 Trichloroethene	95		8.468				ND	
56 1,2-Dichloropropane	63		9.131				ND	
57 Dichlorobromomethane	83		9.226				ND	
61 cis-1,3-Dichloropropene	75		10.019				ND	
$ 62 Toluene-d8 (Surr)	98	10.244	10.243	0.001	95	184250	30.2	
63 Toluene	92		10.303				ND	
65 Tetrachloroethene	164		10.764				ND	
67 trans-1,3-Dichloropropene	75		10.823				ND	
68 1,1,2-Trichloroethane	83		11.001				ND	
70 Chlorodibromomethane	129		11.190				ND	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	88	211306	50.0	s
78 Ethylbenzene	91		12.042				ND	
80 m-Xylene & p-Xylene	106		12.184				ND	
82 o-Xylene	106		12.610				ND	
84 Bromoform	173		12.681				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	87	15884	23.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.367				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.184	14.184	0.000	96	31106	50.0	s
102 1,4-Dichlorobenzene	146		14.207				ND	
104 1,2-Dichlorobenzene	146		14.574				ND	
S 112 Xylenes, Total	106		16.500				ND	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

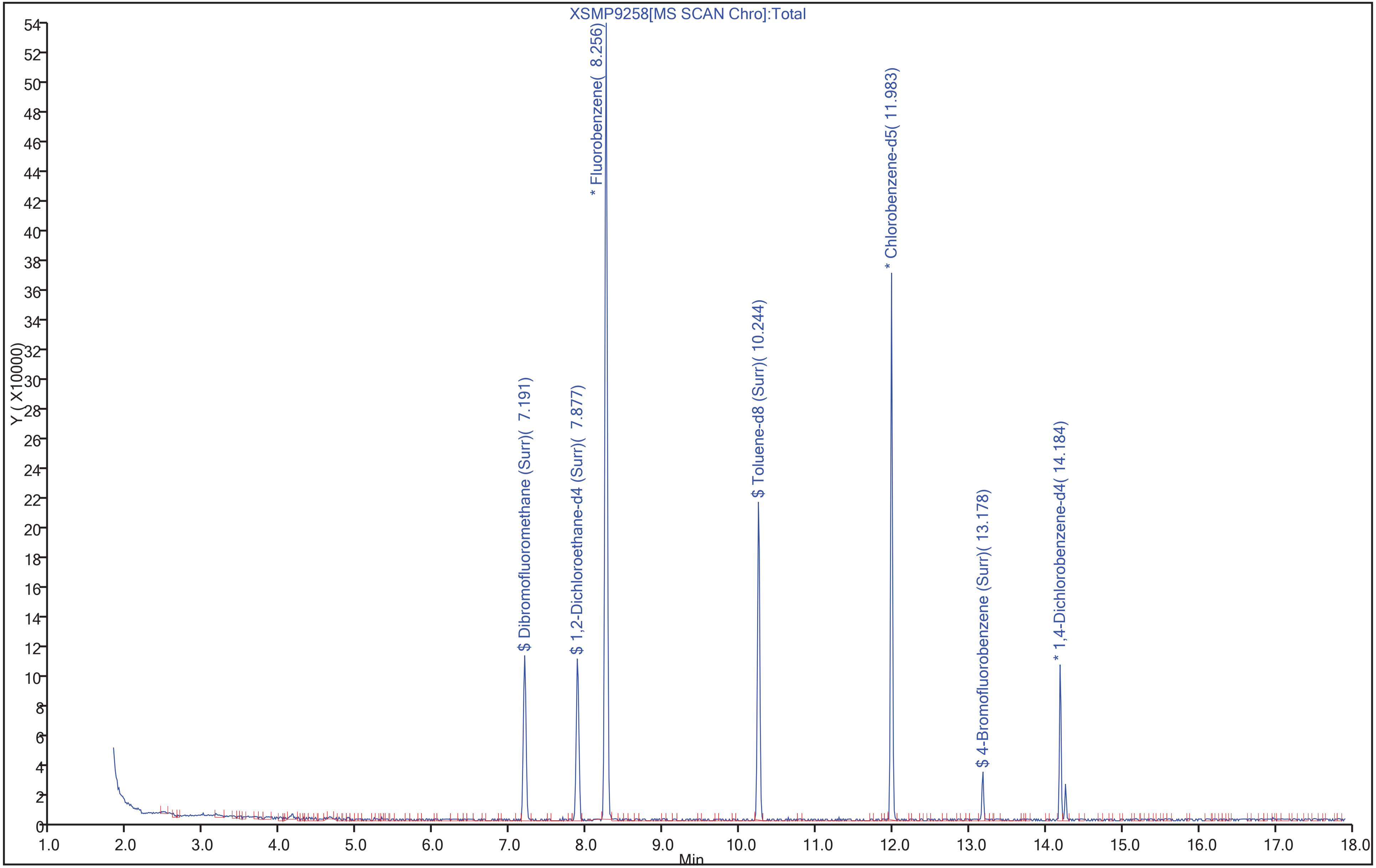
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 01:13:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XSMP9258.D				
Injection Date:	18-Oct-2017 00:52:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	160-24924-B-7-A	Lab Sample ID:	160-24924-7	Worklist Smp#:	17
Client ID:	SHAD041DP022SS01NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



Report Date: 20-Oct-2017 01:13:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XSMP9258.D				
Lims ID:	160-24924-B-7-A				
Client ID:	SHAD041DP022SS01NS				
Sample Type:	Client				
Inject. Date:	18-Oct-2017 00:52:30	ALS Bottle#:	16	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011681-017				
Misc. Info.:	160-24924-B-7-A				
Operator ID:	JDH	Instrument ID:	VMSX		
Method:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	20-Oct-2017 01:09:26	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK032				

First Level Reviewer: hannj Date: 20-Oct-2017 01:13:22

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	39.2	78.41
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	44.5	89.03
$ 62 Toluene-d8 (Surr)	50.0	30.2	60.44
$ 86 4-Bromofluorobenzene (Surr)	50.0	23.8	47.57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS02NS	Lab Sample ID: 160-24924-8
Matrix: Solid	Lab File ID: FSMP3052.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 16:55
Sample wt/vol: 5.3446(g)	Date Analyzed: 10/17/2017 01:17
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 1.0	Level: (low/med) Low
Analysis Batch No.: 332154	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.94	U Q	4.7	0.94	0.41
79-34-5	1,1,2,2-Tetrachloroethane	0.94	U Q	4.7	0.94	0.38
79-00-5	1,1,2-Trichloroethane	0.94	U Q	4.7	0.94	0.54
75-34-3	1,1-Dichloroethane	0.94	U Q	4.7	0.94	0.37
75-35-4	1,1-Dichloroethene	4.7	U Q	4.7	4.7	1.5
95-50-1	1,2-Dichlorobenzene	0.94	U Q	4.7	0.94	0.27
107-06-2	1,2-Dichloroethane	0.94	U Q	4.7	0.94	0.82
78-87-5	1,2-Dichloropropane	0.94	U Q	4.7	0.94	0.36
106-46-7	1,4-Dichlorobenzene	0.94	U Q	4.7	0.94	0.57
71-43-2	Benzene	0.94	U Q	4.7	0.94	0.24
75-27-4	Bromodichloromethane	0.94	U Q	4.7	0.94	0.24
75-25-2	Bromoform	0.94	U Q	4.7	0.94	0.35
56-23-5	Carbon tetrachloride	0.94	U Q	4.7	0.94	0.48
124-48-1	Chlorodibromomethane	0.94	U Q	4.7	0.94	0.38
67-66-3	Chloroform	0.94	U Q	4.7	0.94	0.36
74-87-3	Chloromethane	4.7	U Q	9.4	4.7	0.61
156-59-2	cis-1,2-Dichloroethene	0.94	U Q	4.7	0.94	0.56
10061-01-5	cis-1,3-Dichloropropene	0.94	U Q	4.7	0.94	0.56
100-41-4	Ethylbenzene	0.94	U Q	4.7	0.94	0.28
75-09-2	Methylene Chloride	4.7	U Q	9.4	4.7	1.5
127-18-4	Tetrachloroethene	0.94	U Q	4.7	0.94	0.30
108-88-3	Toluene	0.94	U Q	4.7	0.94	0.66
156-60-5	trans-1,2-Dichloroethene	0.94	U Q	4.7	0.94	0.89
10061-02-6	trans-1,3-Dichloropropene	0.94	U Q	4.7	0.94	0.33
79-01-6	Trichloroethene	0.94	U Q	4.7	0.94	0.36
75-01-4	Vinyl chloride	0.94	U Q	9.4	0.94	0.40
1330-20-7	Xylenes, Total	4.7	U Q	9.4	4.7	0.81

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	152	Q	71-136
460-00-4	4-Bromofluorobenzene (Surr)	234	Q	79-119
1868-53-7	Dibromofluoromethane (Surr)	145	Q	78-119
2037-26-5	Toluene-d8 (Surr)	196	Q	85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3052.D
Lims ID: 160-24924-A-8-B
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 17-Oct-2017 01:17:30 ALS Bottle#: 22 Worklist Smp#: 23
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-023
Misc. Info.: 160-24924-A-8-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:16:16 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:18:24

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.256				ND	
4 Vinyl chloride	62		3.398				ND	
9 1,1-Dichloroethene	96		5.090				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.202				ND	
28 1,1-Dichloroethane	63		7.066				ND	
32 cis-1,2-Dichloroethene	96		7.764				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.285				ND	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.332	0.000	91	242988	72.5	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.841				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.995	8.995	0.000	94	327269	75.8	
49 1,2-Dichloroethane	62		9.078				ND	
* 51 Fluorobenzene	96	9.326	9.326	0.000	97	706051	50.0	s
53 Trichloroethene	95		9.515				ND	
56 1,2-Dichloropropane	63		10.095				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.947	10.947	0.000	96	719890	98.0	
63 Toluene	92		10.995				ND	
65 Tetrachloroethene	164		11.350				ND	
67 trans-1,3-Dichloropropene	75		11.361				ND	
68 1,1,2-Trichloroethane	83		11.515				ND	
70 Chlorodibromomethane	129		11.681				ND	
* 76 Chlorobenzene-d5	117	12.320	12.320	0.000	93	263063	50.0	s
78 Ethylbenzene	91		12.332				ND	
80 m-Xylene & p-Xylene	106		12.438				ND	
82 o-Xylene	106		12.793				ND	
84 Bromoform	173		12.888				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.267	13.266	0.001	76	137309	116.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.107	14.107	0.000	97	64578	50.0	s
102 1,4-Dichlorobenzene	146		14.118				ND	
104 1,2-Dichlorobenzene	146		14.426				ND	
S 112 Xylenes, Total	106		16.500				ND	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

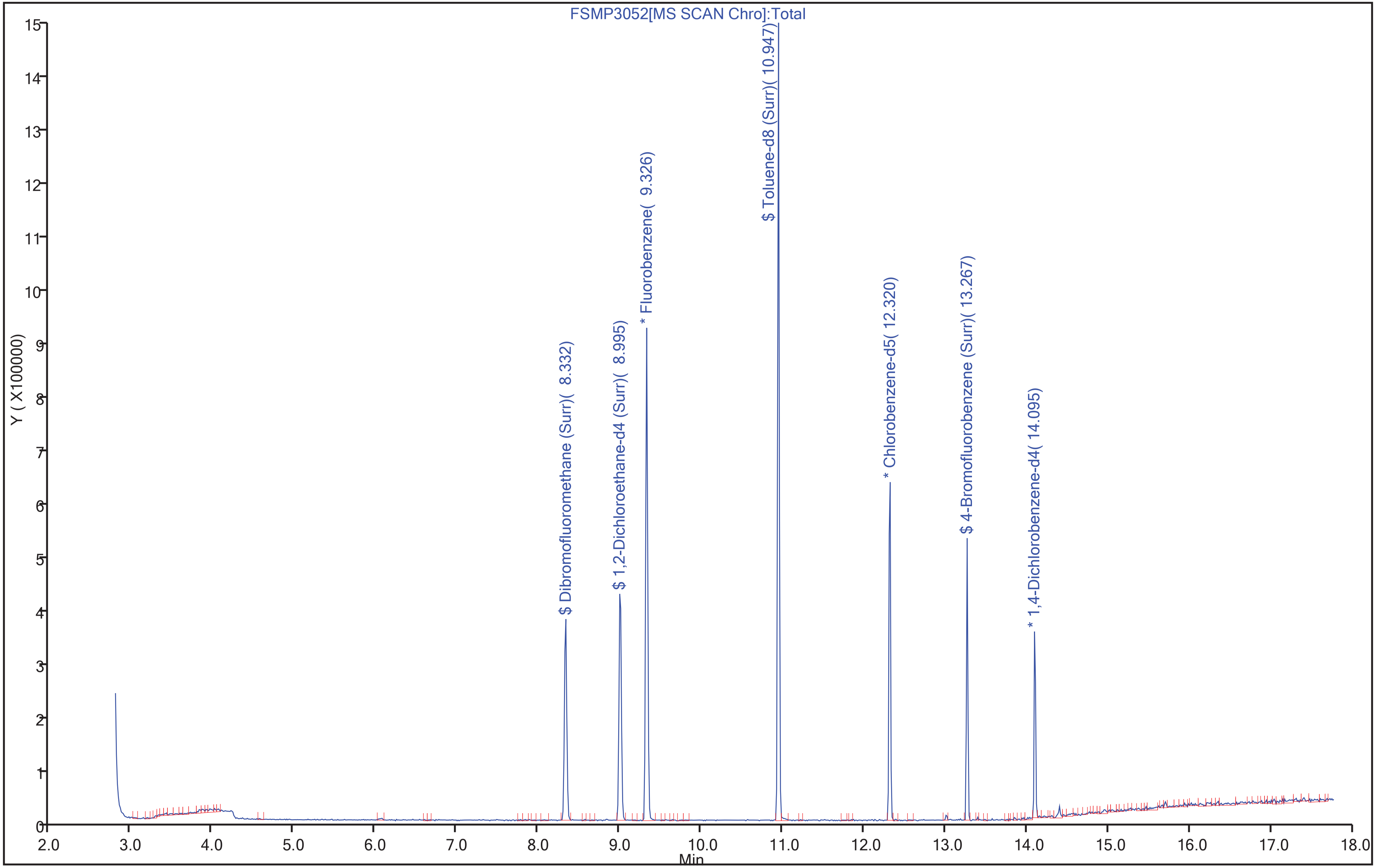
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:18:25 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3052.D				
Injection Date:	17-Oct-2017 01:17:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-8-B	Lab Sample ID:	160-24924-8	Worklist Smp#:	23
Client ID:	SHAD041DP022SS02NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3052.D
Lims ID: 160-24924-A-8-B
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 17-Oct-2017 01:17:30 ALS Bottle#: 22 Worklist Smp#: 23
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-023
Misc. Info.: 160-24924-A-8-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:16:16 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:18:24

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	72.5	145.08
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	75.8	151.59
$ 62 Toluene-d8 (Surr)	50.0	98.0	196.06
$ 86 4-Bromofluorobenzene (Surr)	50.0	116.9	233.87

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS03NS	Lab Sample ID: 160-24924-9
Matrix: Solid	Lab File ID: FSMP3041.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 16:59
Sample wt/vol: 5.5168(g)	Date Analyzed: 10/16/2017 20:37
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 2.0	Level: (low/med) Low
Analysis Batch No.: 332154	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.92	U	4.6	0.92	0.40
79-34-5	1,1,2,2-Tetrachloroethane	0.92	U Q	4.6	0.92	0.37
79-00-5	1,1,2-Trichloroethane	0.92	U	4.6	0.92	0.53
75-34-3	1,1-Dichloroethane	0.92	U	4.6	0.92	0.36
75-35-4	1,1-Dichloroethene	4.6	U	4.6	4.6	1.5
95-50-1	1,2-Dichlorobenzene	0.92	U Q	4.6	0.92	0.26
107-06-2	1,2-Dichloroethane	0.92	U	4.6	0.92	0.80
78-87-5	1,2-Dichloropropane	0.92	U	4.6	0.92	0.35
106-46-7	1,4-Dichlorobenzene	0.92	U Q	4.6	0.92	0.55
71-43-2	Benzene	0.92	U	4.6	0.92	0.23
75-27-4	Bromodichloromethane	0.92	U	4.6	0.92	0.23
75-25-2	Bromoform	0.92	U	4.6	0.92	0.34
56-23-5	Carbon tetrachloride	0.92	U	4.6	0.92	0.47
124-48-1	Chlorodibromomethane	0.92	U	4.6	0.92	0.38
67-66-3	Chloroform	0.92	U	4.6	0.92	0.35
74-87-3	Chloromethane	4.6	U	9.2	4.6	0.60
156-59-2	cis-1,2-Dichloroethene	0.92	U	4.6	0.92	0.55
10061-01-5	cis-1,3-Dichloropropene	0.92	U	4.6	0.92	0.55
100-41-4	Ethylbenzene	0.92	U	4.6	0.92	0.28
75-09-2	Methylene Chloride	4.6	U	9.2	4.6	1.5
127-18-4	Tetrachloroethene	0.92	U	4.6	0.92	0.30
108-88-3	Toluene	0.92	U	4.6	0.92	0.65
156-60-5	trans-1,2-Dichloroethene	0.92	U	4.6	0.92	0.87
10061-02-6	trans-1,3-Dichloropropene	0.92	U	4.6	0.92	0.32
79-01-6	Trichloroethene	0.92	U	4.6	0.92	0.36
75-01-4	Vinyl chloride	0.92	U	9.2	0.92	0.40
1330-20-7	Xylenes, Total	4.6	U	9.2	4.6	0.79

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		71-136
460-00-4	4-Bromofluorobenzene (Surr)	122	Q	79-119
1868-53-7	Dibromofluoromethane (Surr)	97		78-119
2037-26-5	Toluene-d8 (Surr)	113		85-116

Report Date: 18-Oct-2017 22:15:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3041.D				
Lims ID:	160-24924-A-9-B				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	Client				
Inject. Date:	16-Oct-2017 20:37:30	ALS Bottle#:	11	Worklist Smp#:	12
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011671-012				
Misc. Info.:	160-24924-A-9-B				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	18-Oct-2017 22:13:24	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK015				
First Level Reviewer: hannj		Date:	18-Oct-2017 22:15:10		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85		2.936				ND	
2 1,2-Dichloro-1,1,2,2-tetra	135		3.161				ND	
3 Chloromethane	50		3.256				ND	
122 Butadiene	39		3.386				ND	
4 Vinyl chloride	62		3.398				ND	
5 Bromomethane	94		3.895				ND	
6 Chloroethane	64		4.072				ND	
7 Trichlorofluoromethane	101		4.262				ND	
123 Dichlorofluoromethane	67		4.380				ND	
8 Ethyl ether	74		4.759				ND	
11 Ethanol	45		4.972				ND	
9 1,1-Dichloroethene	96		5.090				ND	
10 Carbon disulfide	76		5.149				ND	
12 1,1,2-Trichloro-1,2,2-trif	151		5.173				ND	
13 Iodomethane	142		5.327				ND	
14 Acrolein	56		5.611				ND	
16 Isopropyl alcohol	45		5.812				ND	
15 3-Chloro-1-propene	39		5.812				ND	
S 26 1,2-Dichloroethene, Total	96		5.816				ND	
17 Methylene Chloride	84		5.966				ND	
18 Acetone	43		6.048				ND	
19 trans-1,2-Dichloroethene	96		6.202				ND	
20 Methyl acetate	74		6.214				ND	
21 Hexane	86		6.297				ND	
22 Methyl tert-butyl ether	73		6.344				ND	
23 2-Methyl-2-propanol	59		6.451				ND	
24 Acetonitrile	41		6.723				ND	
25 Isopropyl ether	45		6.853				ND	
27 2-Chloro-1,3-butadiene	53		7.031				ND	
28 1,1-Dichloroethane	63		7.066				ND	
29 Acrylonitrile	53		7.137				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59		7.338				ND	
31 Vinyl acetate	43		7.374				ND	
32 cis-1,2-Dichloroethene	96		7.764				ND	
33 2,2-Dichloropropane	77		7.906				ND	
35 Chlorobromomethane	128		8.025				ND	
34 Cyclohexane	84		8.036				ND	
36 Chloroform	83		8.096				ND	
39 Ethyl acetate	45		8.226				ND	
37 Carbon tetrachloride	117		8.285				ND	
38 Tetrahydrofuran	71		8.309				ND	
$ 41 Dibromofluoromethane (Surr	113	8.334	8.332	0.002	92	315814	48.4	
40 1,1,1-Trichloroethane	97		8.380				ND	
43 2-Butanone (MEK)	43		8.486				ND	
42 1,1-Dichloropropene	75		8.522				ND	
125 Isooctane	57		8.640				ND	
117 n-Heptane	43		8.746				ND	
44 Benzene	78		8.841				ND	
45 Propionitrile	54		8.865				ND	
46 Methacrylonitrile	41		8.888				ND	
48 Tert-amyl methyl ether	73		8.936				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.997	8.995	0.002	93	413365	49.1	
50 Isobutyl alcohol	42		9.019				ND	
49 1,2-Dichloroethane	62		9.078				ND	
118 1,4-Difluorobenzene	114		9.130				ND	
* 51 Fluorobenzene	96	9.328	9.326	0.002	97	1375228	50.0	
52 Methylcyclohexane	55		9.515				ND	
53 Trichloroethene	95		9.515				ND	
54 n-Butanol	56		9.811				ND	
55 Dibromomethane	93		9.989				ND	
124 Ethyl acrylate	55		10.060				ND	
56 1,2-Dichloropropane	63		10.095				ND	
57 Dichlorobromomethane	83		10.143				ND	
128 2-Pentanone	43		10.253				ND	
58 Methyl methacrylate	69		10.273				ND	
59 1,4-Dioxane	88		10.344				ND	
60 2-Chloroethyl vinyl ether	63		10.687				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.949	10.947	0.002	95	1164686	56.3	
63 Toluene	92		10.995				ND	
64 2-Nitropropane	43		11.219				ND	
66 4-Methyl-2-pentanone (MIBK	43		11.326				ND	
65 Tetrachloroethene	164		11.350				ND	
67 trans-1,3-Dichloropropene	75		11.361				ND	
119 n-Butyl acetate	43		11.397				ND	
69 Ethyl methacrylate	69		11.468				ND	
68 1,1,2-Trichloroethane	83		11.515				ND	
S 73 1,3-Dichloropropene, Total	75		11.620				ND	
70 Chlorodibromomethane	129		11.681				ND	
71 1,3-Dichloropropane	76		11.764				ND	
72 Ethylene Dibromide	107		11.906				ND	
74 2-Hexanone	43		12.036				ND	
75 1-Chlorohexane	91		12.273				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 76 Chlorobenzene-d5	117	12.322	12.320	0.002	93	741455	50.0	
78 Ethylbenzene	91		12.332				ND	
77 Chlorobenzene	112		12.332				ND	
79 1,1,1,2-Tetrachloroethane	131		12.379				ND	
80 m-Xylene & p-Xylene	106		12.438				ND	
82 o-Xylene	106		12.793				ND	
83 Styrene	104		12.829				ND	
84 Bromoform	173		12.888				ND	
85 Isopropylbenzene	105		13.030				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.269	13.266	0.003	79	384073	60.9	
88 N-Propylbenzene	91		13.337				ND	
87 Bromobenzene	156		13.361				ND	
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
91 1,3,5-Trimethylbenzene	105		13.468				ND	
90 2-Chlorotoluene	91		13.491				ND	
92 1,2,3-Trichloropropane	110		13.515				ND	
93 trans-1,4-Dichloro-2-buten	53		13.527				ND	
94 Cyclohexanone	55		13.574				ND	
95 4-Chlorotoluene	91		13.610				ND	
81 Pentachloroethane	167		13.636				ND	
96 tert-Butylbenzene	119		13.728				ND	
97 1,2,4-Trimethylbenzene	105		13.775				ND	
98 sec-Butylbenzene	105		13.858				ND	
99 4-Isopropyltoluene	119		13.941				ND	
100 1,3-Dichlorobenzene	146		14.047				ND	
120 1,2,3-Trimethylbenzene	105		14.095				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.097	14.107	-0.010	96	347020	50.0	
102 1,4-Dichlorobenzene	146		14.118				ND	
103 n-Butylbenzene	134		14.249				ND	
121 Benzyl chloride	126		14.284				ND	
104 1,2-Dichlorobenzene	146		14.426				ND	
106 n-Nonyl Aldehyde	57		14.947				ND	
105 1,2-Dibromo-3-Chloropropan	157		15.030				ND	
107 1,3,5-Trichlorobenzene	180		15.041				ND	
108 Hexachlorobutadiene	225		15.503				ND	
109 1,2,4-Trichlorobenzene	180		15.562				ND	
110 Naphthalene	128		15.858				ND	
111 1,2,3-Trichlorobenzene	180		16.035				ND	
S 112 Xylenes, Total	106		16.500				ND	
127 2-Methylpentane	1		0.000				ND	
S 113 Trihalomethanes, Total	1		0.000				ND	
126 C6-C12	1		0.000				ND	

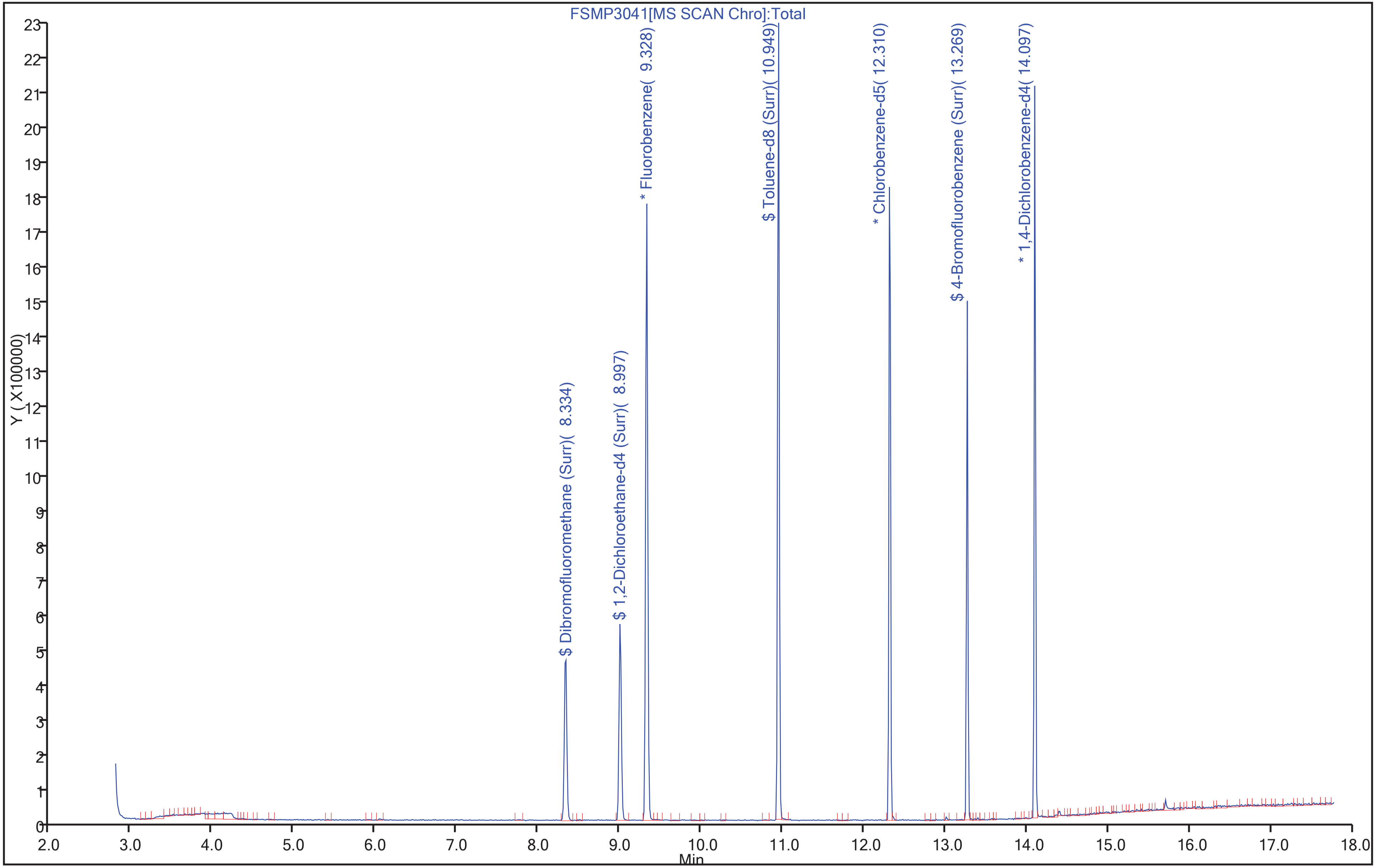
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:15:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3041.D				
Injection Date:	16-Oct-2017 20:37:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-9-B	Lab Sample ID:	160-24924-9	Worklist Smp#:	12
Client ID:	SHAD041DP022SS03NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3041.D
Lims ID: 160-24924-A-9-B
Client ID: SHAD041DP022SS03NS
Sample Type: Client
Inject. Date: 16-Oct-2017 20:37:30 ALS Bottle#: 11 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-012
Misc. Info.: 160-24924-A-9-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:13:24 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:15:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.4	96.81
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	49.1	98.30
$ 62 Toluene-d8 (Surr)	50.0	56.3	112.54
$ 86 4-Bromofluorobenzene (Surr)	50.0	60.9	121.74

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP022SS04NS

Lab Sample ID: 160-24924-10

Matrix: Solid

Lab File ID: FSMP3053.D

Analysis Method: 8260C DOD

Date Collected: 10/05/2017 17:10

Sample wt/vol: 5.2977(g)

Date Analyzed: 10/17/2017 01:41

Soil Aliquot Vol:

Dilution Factor: 1

Soil Extract Vol.:

GC Column: RTX-VMS40 ID: 0.18(mm)

% Moisture: 13.7

Level: (low/med) Low

Analysis Batch No.: 332154

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.1	U	5.5	1.1	0.47
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U	5.5	1.1	0.44
79-00-5	1,1,2-Trichloroethane	1.1	U	5.5	1.1	0.63
75-34-3	1,1-Dichloroethane	1.1	U	5.5	1.1	0.43
75-35-4	1,1-Dichloroethene	5.5	U	5.5	5.5	1.8
95-50-1	1,2-Dichlorobenzene	1.1	U	5.5	1.1	0.31
107-06-2	1,2-Dichloroethane	1.1	U	5.5	1.1	0.95
78-87-5	1,2-Dichloropropane	1.1	U	5.5	1.1	0.42
106-46-7	1,4-Dichlorobenzene	1.1	U	5.5	1.1	0.66
71-43-2	Benzene	1.1	U	5.5	1.1	0.28
75-27-4	Bromodichloromethane	1.1	U	5.5	1.1	0.28
75-25-2	Bromoform	1.1	U	5.5	1.1	0.40
56-23-5	Carbon tetrachloride	1.1	U	5.5	1.1	0.56
124-48-1	Chlorodibromomethane	1.1	U	5.5	1.1	0.44
67-66-3	Chloroform	1.1	U	5.5	1.1	0.41
74-87-3	Chloromethane	5.5	U	11	5.5	0.71
156-59-2	cis-1,2-Dichloroethene	1.1	U	5.5	1.1	0.65
10061-01-5	cis-1,3-Dichloropropene	1.1	U	5.5	1.1	0.65
100-41-4	Ethylbenzene	1.1	U	5.5	1.1	0.33
75-09-2	Methylene Chloride	5.5	U	11	5.5	1.7
127-18-4	Tetrachloroethene	1.1	U	5.5	1.1	0.35
108-88-3	Toluene	1.1	U	5.5	1.1	0.77
156-60-5	trans-1,2-Dichloroethene	1.1	U	5.5	1.1	1.0
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.5	1.1	0.38
79-01-6	Trichloroethene	1.1	U	5.5	1.1	0.42
75-01-4	Vinyl chloride	1.1	U	11	1.1	0.47
1330-20-7	Xylenes, Total	5.5	U	11	5.5	0.93

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		71-136
460-00-4	4-Bromofluorobenzene (Surr)	109		79-119
1868-53-7	Dibromofluoromethane (Surr)	98		78-119
2037-26-5	Toluene-d8 (Surr)	109		85-116

FORM I 8260C DOD

Report Date: 18-Oct-2017 22:18:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3053.D
Lims ID: 160-24924-A-10-B
Client ID: SHAD041DP022SS04NS
Sample Type: Client
Inject. Date: 17-Oct-2017 01:41:30 ALS Bottle#: 23 Worklist Smp#: 24
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-024
Misc. Info.: 160-24924-A-10-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:16:16 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:18:46

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.256				ND	
4 Vinyl chloride	62		3.398				ND	
9 1,1-Dichloroethene	96		5.090				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.202				ND	
28 1,1-Dichloroethane	63		7.066				ND	
32 cis-1,2-Dichloroethene	96		7.764				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.285				ND	
$ 41 Dibromofluoromethane (Surr	113	8.333	8.332	0.001	91	255195	48.9	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.841				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.995	8.995	0.000	93	346088	51.5	
49 1,2-Dichloroethane	62		9.078				ND	
* 51 Fluorobenzene	96	9.326	9.326	0.000	97	1099858	50.0	
53 Trichloroethene	95		9.515				ND	
56 1,2-Dichloropropane	63		10.095				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.948	10.947	0.001	95	955249	54.6	
63 Toluene	92		10.995				ND	
65 Tetrachloroethene	164		11.350				ND	
67 trans-1,3-Dichloropropene	75		11.361				ND	
68 1,1,2-Trichloroethane	83		11.515				ND	
70 Chlorodibromomethane	129		11.681				ND	
* 76 Chlorobenzene-d5	117	12.320	12.320	0.000	93	626744	50.0	
78 Ethylbenzene	91		12.332				ND	
80 m-Xylene & p-Xylene	106		12.438				ND	
82 o-Xylene	106		12.793				ND	
84 Bromoform	173		12.888				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.267	13.266	0.001	76	355752	54.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.107	14.107	0.000	97	357702	50.0	
102 1,4-Dichlorobenzene	146		14.118				ND	
104 1,2-Dichlorobenzene	146		14.426				ND	
S 112 Xylenes, Total	106		16.500				ND	

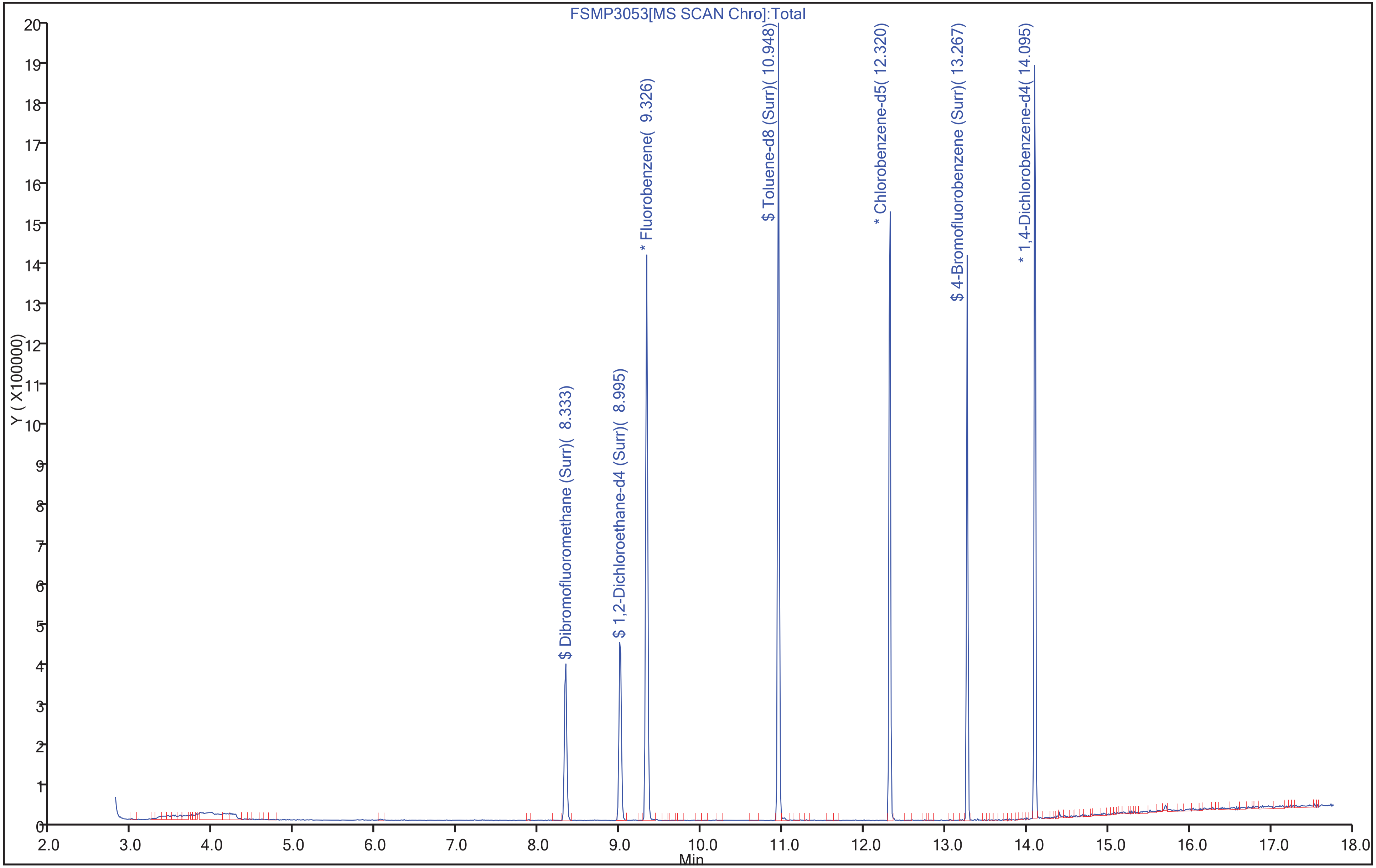
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:18:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3053.D				
Injection Date:	17-Oct-2017 01:41:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-10-B	Lab Sample ID:	160-24924-10	Worklist Smp#:	24
Client ID:	SHAD041DP022SS04NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3053.D				
Lims ID:	160-24924-A-10-B				
Client ID:	SHAD041DP022SS04NS				
Sample Type:	Client				
Inject. Date:	17-Oct-2017 01:41:30	ALS Bottle#:	23	Worklist Smp#:	24
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011671-024				
Misc. Info.:	160-24924-A-10-B				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	18-Oct-2017 22:16:16	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK015				
First Level Reviewer: hannj		Date:	18-Oct-2017 22:18:46		

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.9	97.81
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	51.5	102.91
$ 62 Toluene-d8 (Surr)	50.0	54.6	109.20
$ 86 4-Bromofluorobenzene (Surr)	50.0	54.7	109.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS05NS	Lab Sample ID: 160-24924-11
Matrix: Solid	Lab File ID: FSMP3063.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 17:15
Sample wt/vol: 5.2319(g)	Date Analyzed: 10/17/2017 17:38
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 12.1	Level: (low/med) Low
Analysis Batch No.: 332247	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.1	U	5.4	1.1	0.47
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U	5.4	1.1	0.44
79-00-5	1,1,2-Trichloroethane	1.1	U	5.4	1.1	0.62
75-34-3	1,1-Dichloroethane	1.1	U	5.4	1.1	0.43
75-35-4	1,1-Dichloroethene	5.4	U	5.4	5.4	1.8
95-50-1	1,2-Dichlorobenzene	1.1	U	5.4	1.1	0.31
107-06-2	1,2-Dichloroethane	1.1	U	5.4	1.1	0.94
78-87-5	1,2-Dichloropropane	1.1	U	5.4	1.1	0.42
106-46-7	1,4-Dichlorobenzene	1.1	U	5.4	1.1	0.65
71-43-2	Benzene	1.1	U	5.4	1.1	0.28
75-27-4	Bromodichloromethane	1.1	U	5.4	1.1	0.28
75-25-2	Bromoform	1.1	U	5.4	1.1	0.40
56-23-5	Carbon tetrachloride	1.1	U	5.4	1.1	0.56
124-48-1	Chlorodibromomethane	1.1	U	5.4	1.1	0.44
67-66-3	Chloroform	1.1	U	5.4	1.1	0.41
74-87-3	Chloromethane	5.4	U	11	5.4	0.71
156-59-2	cis-1,2-Dichloroethene	1.1	U	5.4	1.1	0.65
10061-01-5	cis-1,3-Dichloropropene	1.1	U	5.4	1.1	0.65
100-41-4	Ethylbenzene	1.1	U	5.4	1.1	0.33
75-09-2	Methylene Chloride	5.4	U	11	5.4	1.7
127-18-4	Tetrachloroethene	1.1	U	5.4	1.1	0.35
108-88-3	Toluene	1.1	U	5.4	1.1	0.76
156-60-5	trans-1,2-Dichloroethene	1.1	U	5.4	1.1	1.0
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.4	1.1	0.38
79-01-6	Trichloroethene	1.1	U	5.4	1.1	0.42
75-01-4	Vinyl chloride	1.1	U Q	11	1.1	0.47
1330-20-7	Xylenes, Total	5.4	U	11	5.4	0.93

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	90		71-136
460-00-4	4-Bromofluorobenzene (Surr)	110		79-119
1868-53-7	Dibromofluoromethane (Surr)	93		78-119
2037-26-5	Toluene-d8 (Surr)	107		85-116

FORM I 8260C DOD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3063.D
Lims ID: 160-24924-A-11-B
Client ID: SHAD041DP022SS05NS
Sample Type: Client
Inject. Date: 17-Oct-2017 17:38:30 ALS Bottle#: 7 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-009
Misc. Info.: 160-24924-A-11-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:02:01

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.269				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.967				ND	
19 trans-1,2-Dichloroethene	96		6.204				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.765				ND	
36 Chloroform	83		8.097				ND	
37 Carbon tetrachloride	117		8.286				ND	
$ 41 Dibromofluoromethane (Surr	113	8.331	8.322	0.009	92	390024	46.5	
40 1,1,1-Trichloroethane	97		8.381				ND	
44 Benzene	78		8.830				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.006	8.996	0.010	92	487801	45.1	
49 1,2-Dichloroethane	62		9.079				ND	
* 51 Fluorobenzene	96	9.325	9.327	-0.002	97	1768741	50.0	
53 Trichloroethene	95		9.517				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.132				ND	
61 cis-1,3-Dichloropropene	75		10.771				ND	
$ 62 Toluene-d8 (Surr)	98	10.946	10.948	-0.002	95	1496018	53.4	
63 Toluene	92		10.996				ND	
65 Tetrachloroethene	164		11.351				ND	
67 trans-1,3-Dichloropropene	75		11.363				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.319	12.321	-0.002	91	1003621	50.0	
78 Ethylbenzene	91		12.333				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.877				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.265	13.268	-0.003	81	570742	55.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.105	14.096	0.009	97	570181	50.0	
102 1,4-Dichlorobenzene	146		14.108				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 00:02:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3063.D

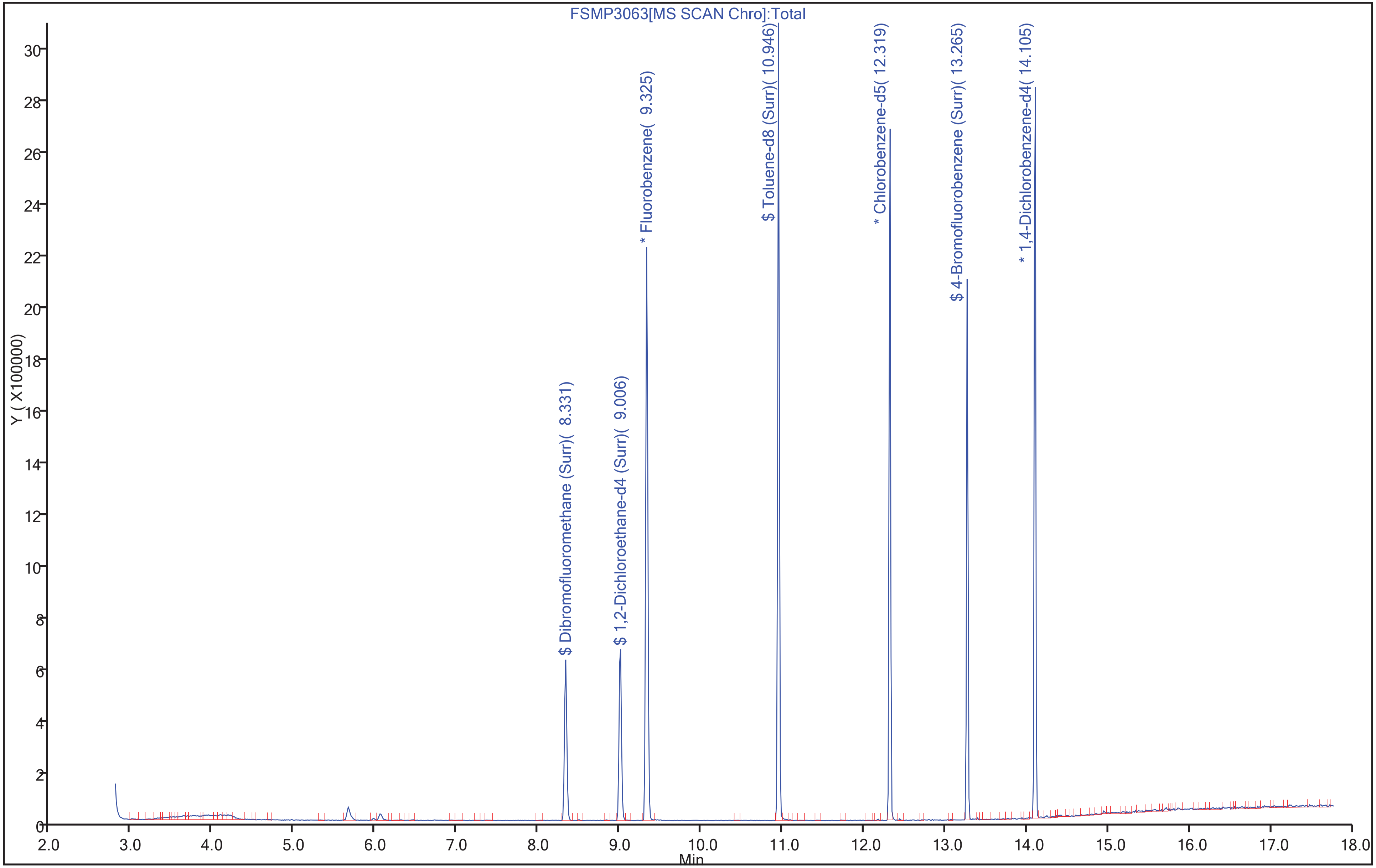
Injection Date: 17-Oct-2017 17:38:30 Instrument ID: VMSF Operator ID: JDH

Lims ID: 160-24924-A-11-B Lab Sample ID: 160-24924-11 Worklist Smp#: 9

Client ID: SHAD041DP022SS05NS

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 7

Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3063.D				
Lims ID:	160-24924-A-11-B				
Client ID:	SHAD041DP022SS05NS				
Sample Type:	Client				
Inject. Date:	17-Oct-2017 17:38:30	ALS Bottle#:	7	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011682-009				
Misc. Info.:	160-24924-A-11-B				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	20-Oct-2017 00:01:42	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK032				
First Level Reviewer: hannj		Date:	20-Oct-2017 00:02:01		

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	46.5	92.96
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	45.1	90.19
$ 62 Toluene-d8 (Surr)	50.0	53.4	106.79
$ 86 4-Bromofluorobenzene (Surr)	50.0	55.1	110.10

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS06NS	Lab Sample ID: 160-24924-12
Matrix: Solid	Lab File ID: FSMP3064.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 17:23
Sample wt/vol: 4.9267(g)	Date Analyzed: 10/17/2017 18:02
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 10.8	Level: (low/med) Low
Analysis Batch No.: 332247	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.1	U	5.7	1.1	0.49
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U	5.7	1.1	0.46
79-00-5	1,1,2-Trichloroethane	1.1	U	5.7	1.1	0.65
75-34-3	1,1-Dichloroethane	1.1	U	5.7	1.1	0.45
75-35-4	1,1-Dichloroethene	5.7	U	5.7	5.7	1.8
95-50-1	1,2-Dichlorobenzene	1.1	U	5.7	1.1	0.32
107-06-2	1,2-Dichloroethane	1.1	U	5.7	1.1	0.99
78-87-5	1,2-Dichloropropane	1.1	U	5.7	1.1	0.44
106-46-7	1,4-Dichlorobenzene	1.1	U	5.7	1.1	0.68
71-43-2	Benzene	1.1	U	5.7	1.1	0.29
75-27-4	Bromodichloromethane	1.1	U	5.7	1.1	0.29
75-25-2	Bromoform	1.1	U	5.7	1.1	0.42
56-23-5	Carbon tetrachloride	1.1	U	5.7	1.1	0.58
124-48-1	Chlorodibromomethane	1.1	U	5.7	1.1	0.46
67-66-3	Chloroform	1.1	U	5.7	1.1	0.43
74-87-3	Chloromethane	5.7	U	11	5.7	0.74
156-59-2	cis-1,2-Dichloroethene	1.1	U	5.7	1.1	0.68
10061-01-5	cis-1,3-Dichloropropene	1.1	U	5.7	1.1	0.68
100-41-4	Ethylbenzene	1.1	U	5.7	1.1	0.34
75-09-2	Methylene Chloride	5.7	U	11	5.7	1.8
127-18-4	Tetrachloroethene	1.1	U	5.7	1.1	0.37
108-88-3	Toluene	1.1	U	5.7	1.1	0.80
156-60-5	trans-1,2-Dichloroethene	1.1	U	5.7	1.1	1.1
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.7	1.1	0.40
79-01-6	Trichloroethene	1.1	U	5.7	1.1	0.44
75-01-4	Vinyl chloride	1.1	U Q	11	1.1	0.49
1330-20-7	Xylenes, Total	5.7	U	11	5.7	0.97

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		71-136
460-00-4	4-Bromofluorobenzene (Surr)	108		79-119
1868-53-7	Dibromofluoromethane (Surr)	96		78-119
2037-26-5	Toluene-d8 (Surr)	108		85-116

FORM I 8260C DOD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3064.D				
Lims ID:	160-24924-A-12-B				
Client ID:	SHAD041DP022SS06NS				
Sample Type:	Client				
Inject. Date:	17-Oct-2017 18:02:30	ALS Bottle#:	8	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011682-010				
Misc. Info.:	160-24924-A-12-B				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	20-Oct-2017 00:01:42	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK032				
First Level Reviewer: hannj		Date:	20-Oct-2017 00:09:01		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.269				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.967				ND	
19 trans-1,2-Dichloroethene	96		6.204				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.765				ND	
36 Chloroform	83		8.097				ND	
37 Carbon tetrachloride	117		8.286				ND	
$ 41 Dibromofluoromethane (Surr	113	8.323	8.322	0.001	92	363777	48.1	
40 1,1,1-Trichloroethane	97		8.381				ND	
44 Benzene	78		8.830				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.997	8.996	0.001	94	463147	47.5	
49 1,2-Dichloroethane	62		9.079				ND	
* 51 Fluorobenzene	96	9.328	9.327	0.001	97	1593532	50.0	
53 Trichloroethene	95		9.517				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.132				ND	
61 cis-1,3-Dichloropropene	75		10.771				ND	
$ 62 Toluene-d8 (Surr)	98	10.950	10.948	0.002	95	1344914	53.9	
63 Toluene	92		10.996				ND	
65 Tetrachloroethene	164		11.351				ND	
67 trans-1,3-Dichloropropene	75		11.363				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.322	12.321	0.001	92	894501	50.0	
78 Ethylbenzene	91		12.333				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.877				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.269	13.268	0.001	80	513552	53.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.097	14.096	0.001	97	524815	50.0	
102 1,4-Dichlorobenzene	146		14.108				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

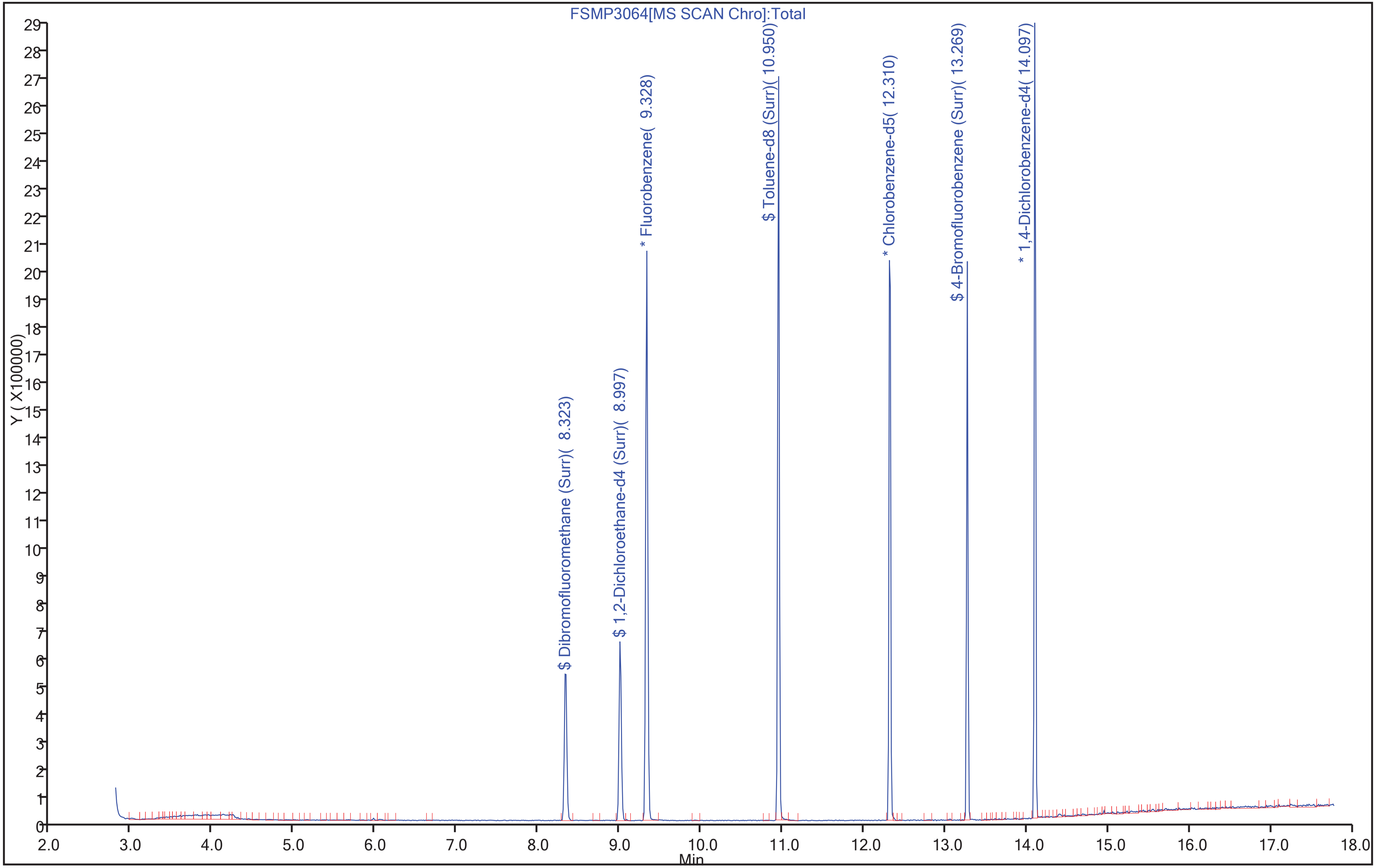
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 00:09:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3064.D				
Injection Date:	17-Oct-2017 18:02:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-12-B	Lab Sample ID:	160-24924-12	Worklist Smp#:	10
Client ID:	SHAD041DP022SS06NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3064.D				
Lims ID:	160-24924-A-12-B				
Client ID:	SHAD041DP022SS06NS				
Sample Type:	Client				
Inject. Date:	17-Oct-2017 18:02:30	ALS Bottle#:	8	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011682-010				
Misc. Info.:	160-24924-A-12-B				
Operator ID:	JDH	Instrument ID:	VMSF		

Method:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m		
Limit Group:	MSV-8260_DoD		
Last Update:	20-Oct-2017 00:01:42	Calib Date:	02-Oct-2017 23:55:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:09:01

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.1	96.23
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	47.5	95.05
$ 62 Toluene-d8 (Surr)	50.0	53.9	107.72
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.8	107.63

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: SHAD041DP013SS01NS
Lab Sample ID: 160-24924-13
Matrix: Solid
Lab File ID: FSMP3065.D
Analysis Method: 8260C DOD
Date Collected: 10/05/2017 14:23
Sample wt/vol: 5.8343(g)
Date Analyzed: 10/17/2017 18:33
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 0.5
Level: (low/med) Low
Analysis Batch No.: 332247
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.86	U	4.3	0.86	0.37
79-34-5	1,1,2,2-Tetrachloroethane	0.86	U Q	4.3	0.86	0.35
79-00-5	1,1,2-Trichloroethane	0.86	U Q	4.3	0.86	0.49
75-34-3	1,1-Dichloroethane	0.86	U	4.3	0.86	0.34
75-35-4	1,1-Dichloroethene	4.3	U	4.3	4.3	1.4
95-50-1	1,2-Dichlorobenzene	0.86	U Q	4.3	0.86	0.24
107-06-2	1,2-Dichloroethane	0.86	U	4.3	0.86	0.75
78-87-5	1,2-Dichloropropane	0.86	U	4.3	0.86	0.33
106-46-7	1,4-Dichlorobenzene	0.86	U Q	4.3	0.86	0.52
71-43-2	Benzene	0.86	U	4.3	0.86	0.22
75-27-4	Bromodichloromethane	0.86	U	4.3	0.86	0.22
75-25-2	Bromoform	0.86	U Q	4.3	0.86	0.32
56-23-5	Carbon tetrachloride	0.86	U	4.3	0.86	0.44
124-48-1	Chlorodibromomethane	0.86	U Q	4.3	0.86	0.35
67-66-3	Chloroform	0.86	U	4.3	0.86	0.32
74-87-3	Chloromethane	4.3	U	8.6	4.3	0.56
156-59-2	cis-1,2-Dichloroethene	0.86	U	4.3	0.86	0.51
10061-01-5	cis-1,3-Dichloropropene	0.86	U	4.3	0.86	0.51
100-41-4	Ethylbenzene	0.88	J Q	4.3	0.86	0.26
75-09-2	Methylene Chloride	4.3	U	8.6	4.3	1.4
127-18-4	Tetrachloroethene	0.86	U Q	4.3	0.86	0.28
108-88-3	Toluene	0.86	U Q	4.3	0.86	0.60
156-60-5	trans-1,2-Dichloroethene	0.86	U	4.3	0.86	0.81
10061-02-6	trans-1,3-Dichloropropene	0.86	U Q	4.3	0.86	0.30
79-01-6	Trichloroethene	0.86	U	4.3	0.86	0.33
75-01-4	Vinyl chloride	0.86	U Q	8.6	0.86	0.37
1330-20-7	Xylenes, Total	4.9	J Q	8.6	4.3	0.74

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		71-136
460-00-4	4-Bromofluorobenzene (Surr)	153	Q	79-119
1868-53-7	Dibromofluoromethane (Surr)	96		78-119
2037-26-5	Toluene-d8 (Surr)	117	Q	85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3065.D
Lims ID: 160-24924-A-13-B
Client ID: SHAD041DP013SS01NS
Sample Type: Client
Inject. Date: 17-Oct-2017 18:33:30 ALS Bottle#: 9 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-011
Misc. Info.: 160-24924-A-13-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:09:27

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.269				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.967				ND	
19 trans-1,2-Dichloroethene	96		6.204				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.765				ND	
36 Chloroform	83		8.097				ND	
37 Carbon tetrachloride	117		8.286				ND	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.322	0.010	92	338495	47.9	
40 1,1,1-Trichloroethane	97		8.381				ND	
44 Benzene	78		8.830				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.995	8.996	-0.001	93	439628	48.2	
49 1,2-Dichloroethane	62		9.079				ND	
* 51 Fluorobenzene	96	9.326	9.327	-0.001	97	1490100	50.0	
53 Trichloroethene	95		9.517				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.132				ND	
61 cis-1,3-Dichloropropene	75		10.771				ND	
$ 62 Toluene-d8 (Surr)	98	10.947	10.948	-0.001	95	1157157	58.6	
63 Toluene	92		10.996				ND	
65 Tetrachloroethene	164		11.351				ND	
67 trans-1,3-Dichloropropene	75		11.363				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.320	12.321	-0.001	92	707863	50.0	
78 Ethylbenzene	91	12.331	12.333	-0.002	97	31815	1.02	
80 m-Xylene & p-Xylene	106	12.438	12.439	-0.001	95	45803	4.35	
82 o-Xylene	106	12.793	12.794	-0.001	98	15067	1.42	
84 Bromoform	173		12.877				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.268	-0.002	77	349958	76.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.096	0.010	98	251308	50.0	s
102 1,4-Dichlorobenzene	146		14.108				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106				0		5.77	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

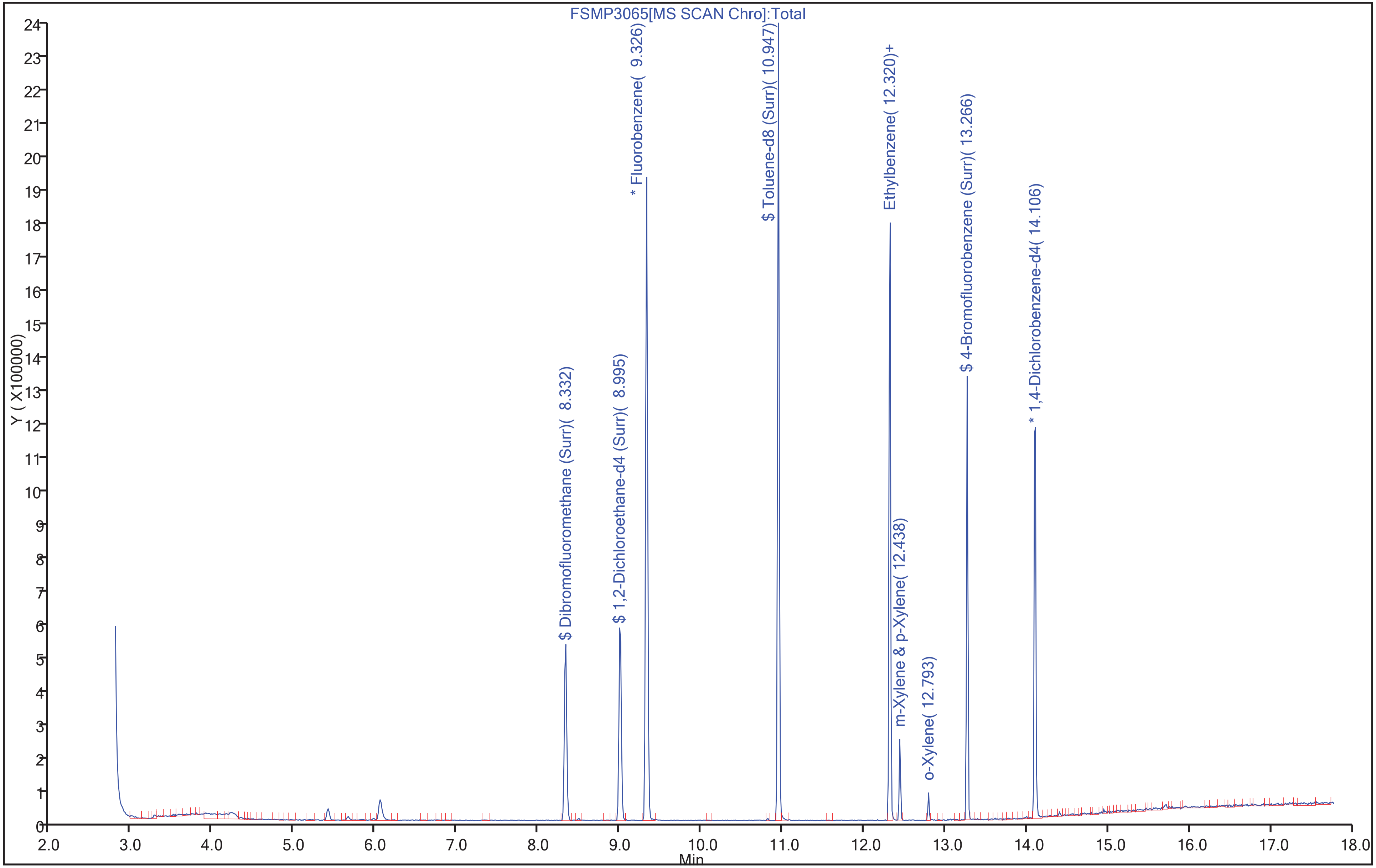
Reagents:

I.S. Working_00154 Amount Added: 10.00 Units: uL Run Reagent
8260 Surr 25_00080 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 20-Oct-2017 00:09:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3065.D
Injection Date: 17-Oct-2017 18:33:30 Instrument ID: VMSF Operator ID: JDH
Lims ID: 160-24924-A-13-B Lab Sample ID: 160-24924-13 Worklist Smp#: 11
Client ID: SHAD041DP013SS01NS
Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 9
Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3065.D
Lims ID: 160-24924-A-13-B
Client ID: SHAD041DP013SS01NS
Sample Type: Client
Inject. Date: 17-Oct-2017 18:33:30 ALS Bottle#: 9 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-011
Misc. Info.: 160-24924-A-13-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:09:27

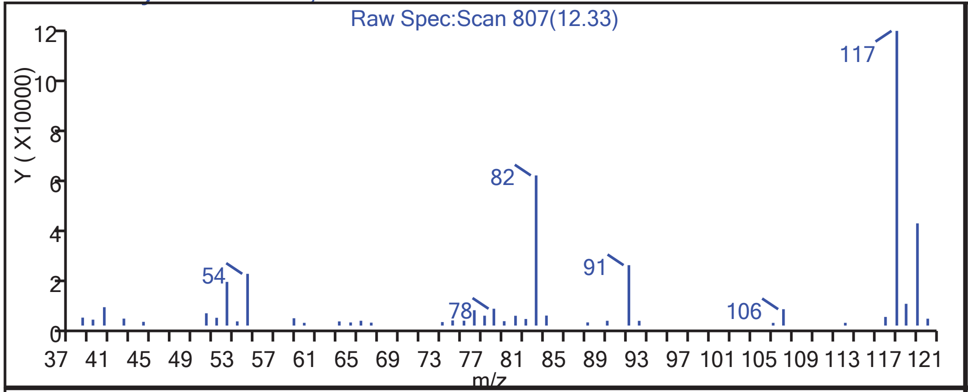
Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	47.9	95.76
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	48.2	96.48
$ 62 Toluene-d8 (Surr)	50.0	58.6	117.12
$ 86 4-Bromofluorobenzene (Surr)	50.0	76.6	153.17

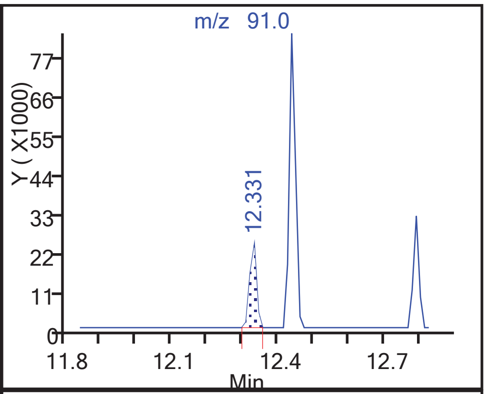
Report Date: 20-Oct-2017 00:09:28　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

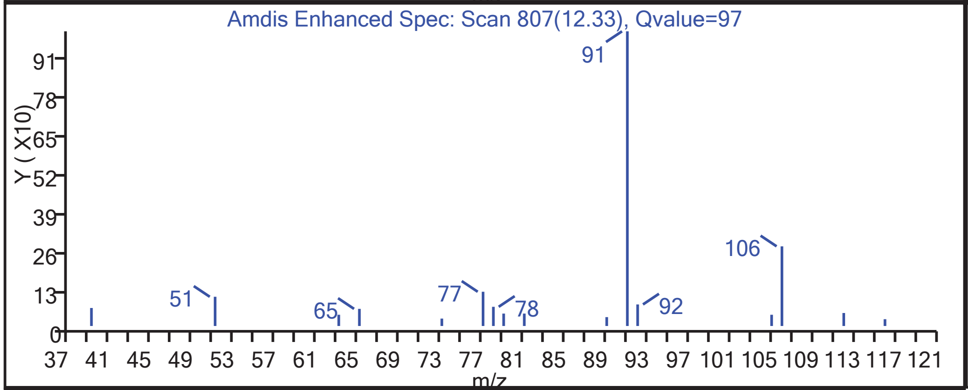
TestAmerica St. Louis

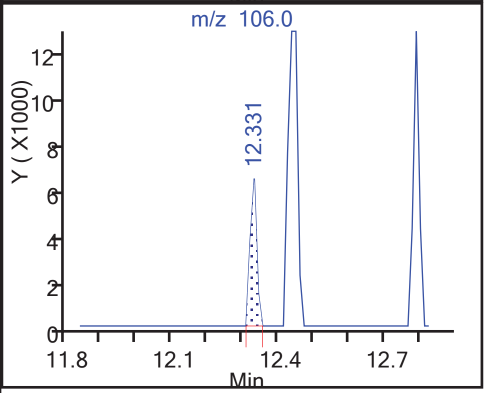
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3065.D				
Injection Date:	17-Oct-2017 18:33:30	Instrument ID:	VMSF		
Lims ID:	160-24924-A-13-B	Lab Sample ID:	160-24924-13		
Client ID:	SHAD041DP013SS01NS				
Operator ID:	JDH	ALS Bottle#:	9	Worklist Smp#:	11
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

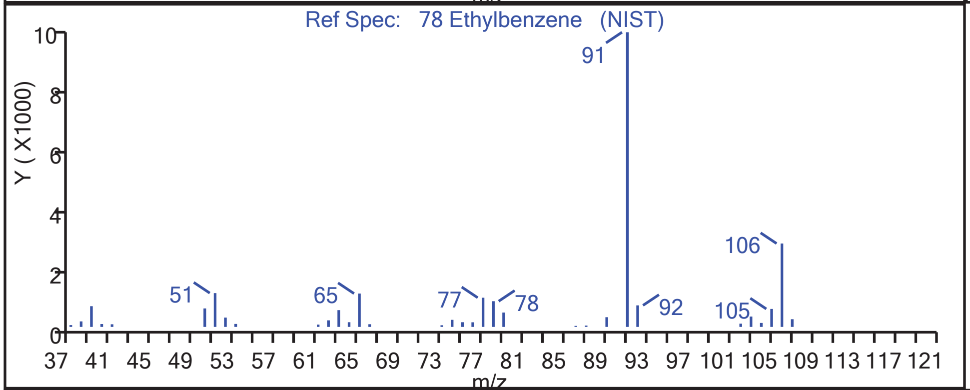
78 Ethylbenzene, CAS: 100-41-4

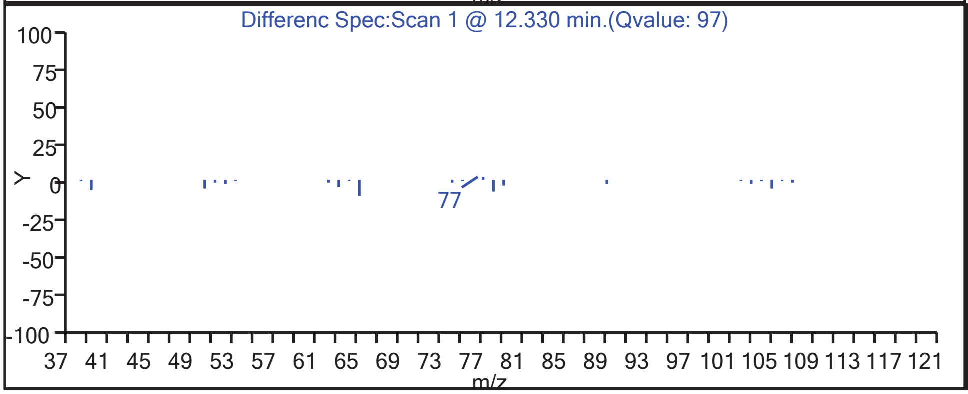


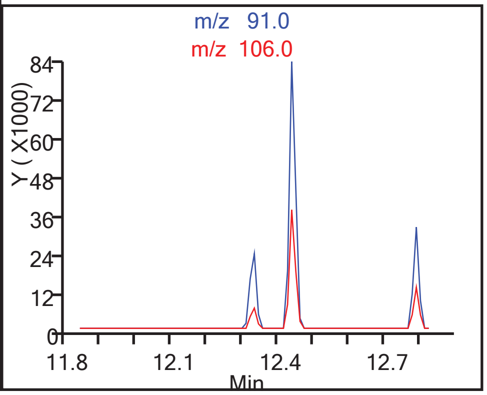










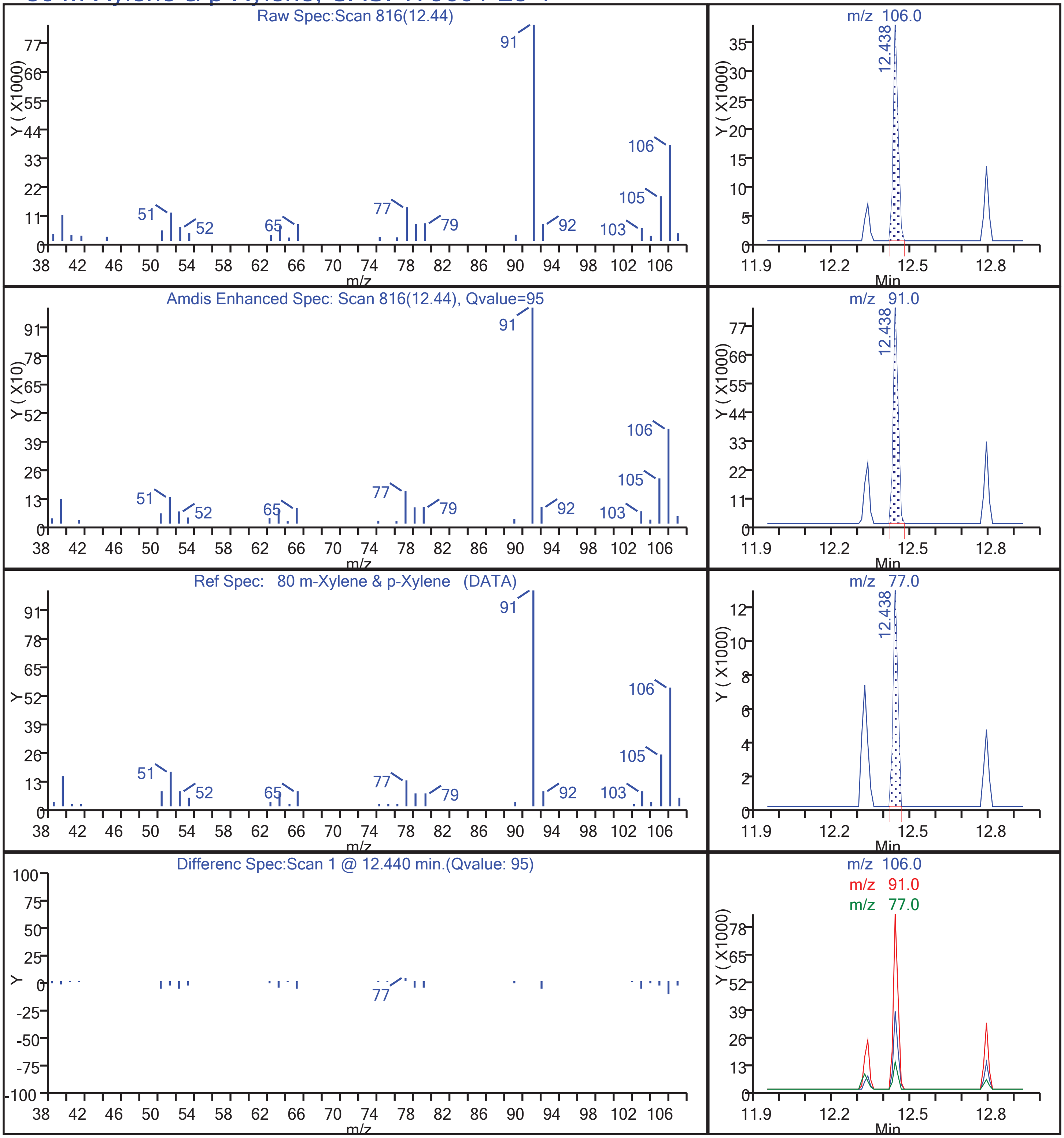


Report Date: 20-Oct-2017 00:09:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3065.D				
Injection Date:	17-Oct-2017 18:33:30	Instrument ID:	VMSF		
Lims ID:	160-24924-A-13-B	Lab Sample ID:	160-24924-13		
Client ID:	SHAD041DP013SS01NS				
Operator ID:	JDH	ALS Bottle#:	9	Worklist Smp#:	11
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

80 m-Xylene & p-Xylene, CAS: 179601-23-1



Report Date: 20-Oct-2017 00:09:28　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3065.D

Injection Date: 17-Oct-2017 18:33:30　Instrument ID: VMSF

Lims ID: 160-24924-A-13-B　Lab Sample ID: 160-24924-13

Client ID: SHAD041DP013SS01NS

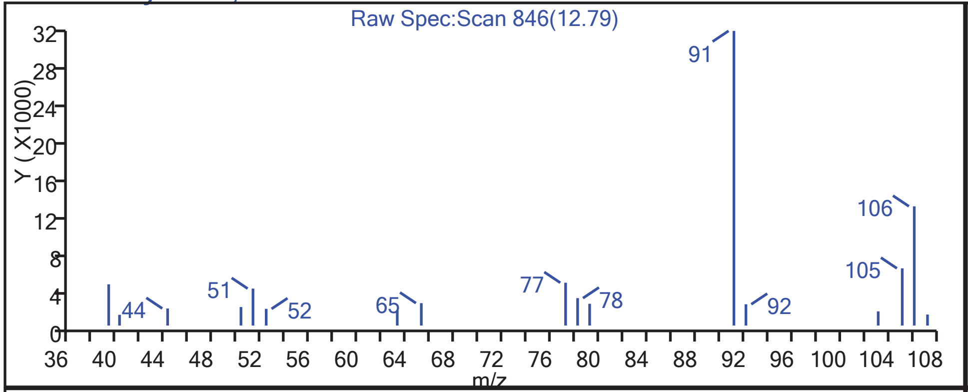
Operator ID: JDH　ALS Bottle#: 9　Worklist Smp#: 11

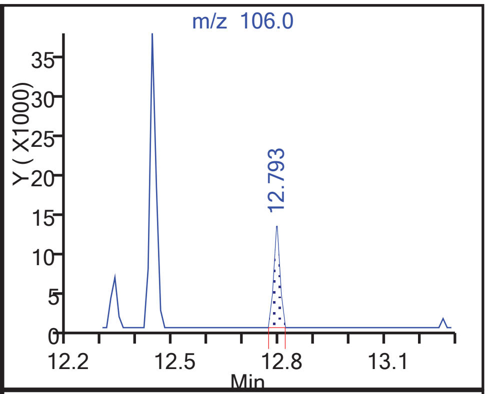
Purge Vol: 5.000 mL　Dil. Factor: 1.0000

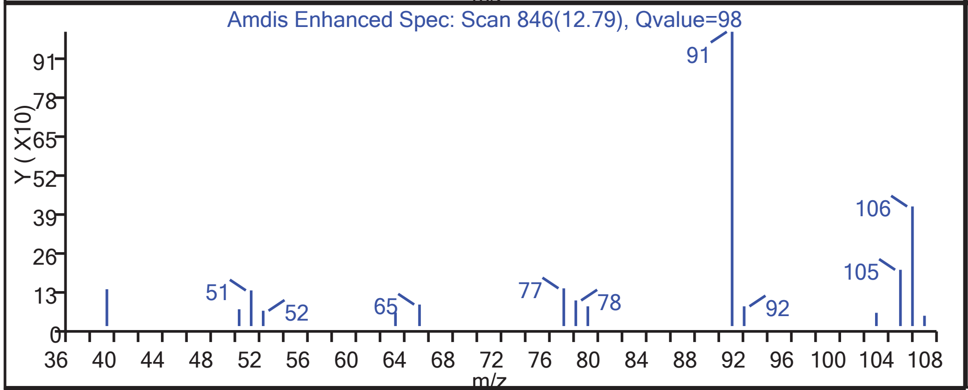
Method: 5mL-8260_MSF　Limit Group: MSV-8260_DoD

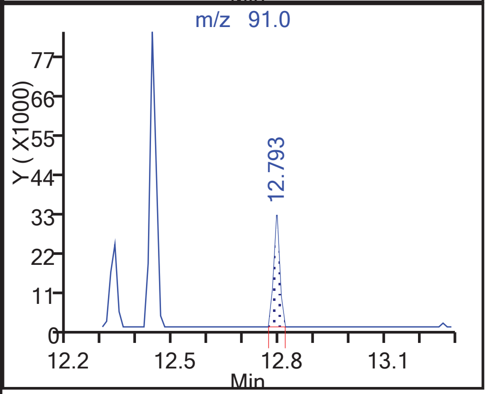
Column:　Detector MS SCAN

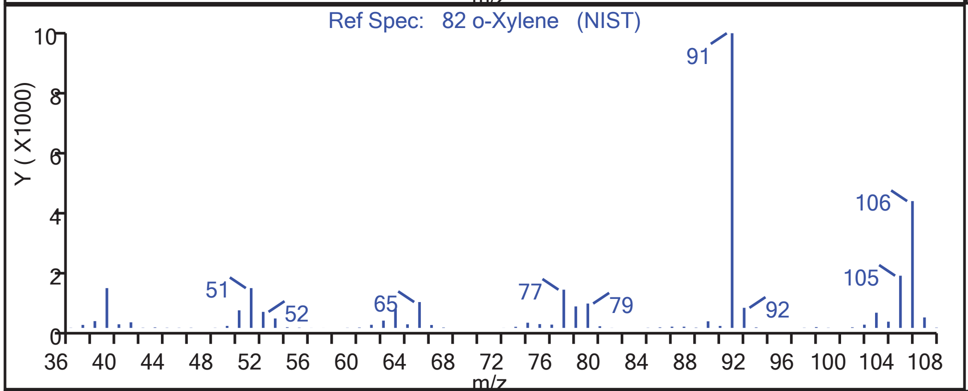
82 o-Xylene, CAS: 95-47-6

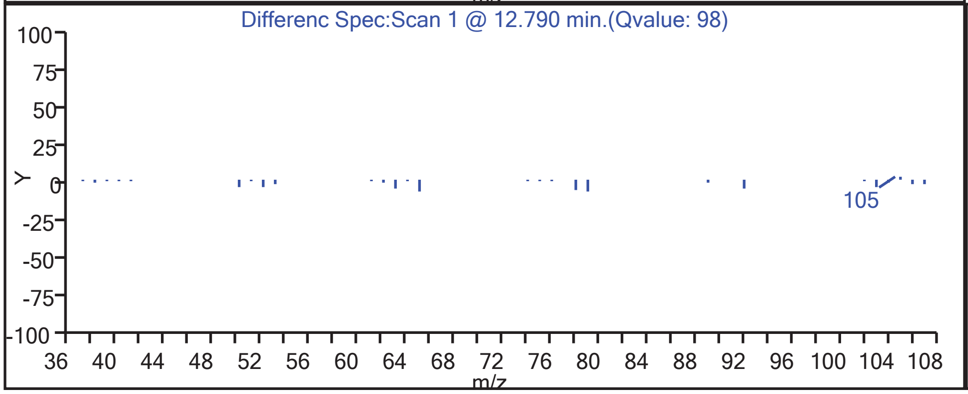

Raw Spec:Scan 846(12.79)

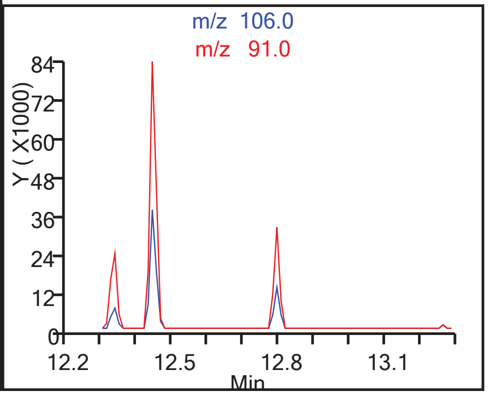

m/z 106.0


Amdis Enhanced Spec: Scan 846(12.79), Qvalue=98


m/z 91.0


Ref Spec: 82 o-Xylene (NIST)


Differenc Spec:Scan 1 @ 12.790 min.(Qvalue: 98)


m/z 106.0
m/z 91.0

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: SHAD041DP013SS02NS
Lab Sample ID: 160-24924-14
Matrix: Solid
Lab File ID: FSMP3066.D
Analysis Method: 8260C DOD
Date Collected: 10/05/2017 14:34
Sample wt/vol: 5.7426(g)
Date Analyzed: 10/17/2017 18:59
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 5.5
Level: (low/med) Low
Analysis Batch No.: 332247
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.92	U	4.6	0.92	0.40
79-34-5	1,1,2,2-Tetrachloroethane	0.92	U Q	4.6	0.92	0.37
79-00-5	1,1,2-Trichloroethane	0.92	U	4.6	0.92	0.53
75-34-3	1,1-Dichloroethane	0.92	U	4.6	0.92	0.36
75-35-4	1,1-Dichloroethene	4.6	U	4.6	4.6	1.5
95-50-1	1,2-Dichlorobenzene	0.92	U Q	4.6	0.92	0.26
107-06-2	1,2-Dichloroethane	0.92	U	4.6	0.92	0.80
78-87-5	1,2-Dichloropropane	0.92	U	4.6	0.92	0.35
106-46-7	1,4-Dichlorobenzene	0.92	U Q	4.6	0.92	0.55
71-43-2	Benzene	0.92	U	4.6	0.92	0.23
75-27-4	Bromodichloromethane	0.92	U	4.6	0.92	0.23
75-25-2	Bromoform	0.92	U	4.6	0.92	0.34
56-23-5	Carbon tetrachloride	0.92	U	4.6	0.92	0.47
124-48-1	Chlorodibromomethane	0.92	U	4.6	0.92	0.37
67-66-3	Chloroform	0.92	U	4.6	0.92	0.35
74-87-3	Chloromethane	4.6	U	9.2	4.6	0.60
156-59-2	cis-1,2-Dichloroethene	0.92	U	4.6	0.92	0.55
10061-01-5	cis-1,3-Dichloropropene	0.92	U	4.6	0.92	0.55
100-41-4	Ethylbenzene	0.92	U	4.6	0.92	0.28
75-09-2	Methylene Chloride	4.6	U	9.2	4.6	1.5
127-18-4	Tetrachloroethene	0.92	U	4.6	0.92	0.30
108-88-3	Toluene	0.92	U	4.6	0.92	0.64
156-60-5	trans-1,2-Dichloroethene	0.92	U	4.6	0.92	0.87
10061-02-6	trans-1,3-Dichloropropene	0.92	U	4.6	0.92	0.32
79-01-6	Trichloroethene	0.92	U	4.6	0.92	0.35
75-01-4	Vinyl chloride	0.92	U Q	9.2	0.92	0.39
1330-20-7	Xylenes, Total	4.6	U	9.2	4.6	0.79

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		71-136
460-00-4	4-Bromofluorobenzene (Surr)	120	Q	79-119
1868-53-7	Dibromofluoromethane (Surr)	100		78-119
2037-26-5	Toluene-d8 (Surr)	112		85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3066.D				
Lims ID:	160-24924-A-14-B				
Client ID:	SHAD041DP013SS02NS				
Sample Type:	Client				
Inject. Date:	17-Oct-2017 18:59:30	ALS Bottle#:	10	Worklist Smp#:	12
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011682-012				
Misc. Info.:	160-24924-A-14-B				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	20-Oct-2017 00:01:42	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK032				
First Level Reviewer: hannj		Date:	20-Oct-2017 00:09:43		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.269				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.967				ND	
19 trans-1,2-Dichloroethene	96		6.204				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.765				ND	
36 Chloroform	83		8.097				ND	
37 Carbon tetrachloride	117		8.286				ND	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.322	0.010	92	327676	50.0	
40 1,1,1-Trichloroethane	97		8.381				ND	
44 Benzene	78		8.830				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.995	8.996	-0.002	95	438842	51.9	
49 1,2-Dichloroethane	62		9.079				ND	
* 51 Fluorobenzene	96	9.326	9.327	-0.001	97	1382357	50.0	
53 Trichloroethene	95		9.517				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.132				ND	
61 cis-1,3-Dichloropropene	75		10.771				ND	
$ 62 Toluene-d8 (Surr)	98	10.947	10.948	-0.001	95	1212896	55.8	
63 Toluene	92		10.996				ND	
65 Tetrachloroethene	164		11.351				ND	
67 trans-1,3-Dichloropropene	75		11.363				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.320	12.321	-0.001	92	778374	50.0	
78 Ethylbenzene	91		12.333				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.877				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.268	-0.002	77	425899	59.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.096	0.010	97	391973	50.0	
102 1,4-Dichlorobenzene	146		14.108				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

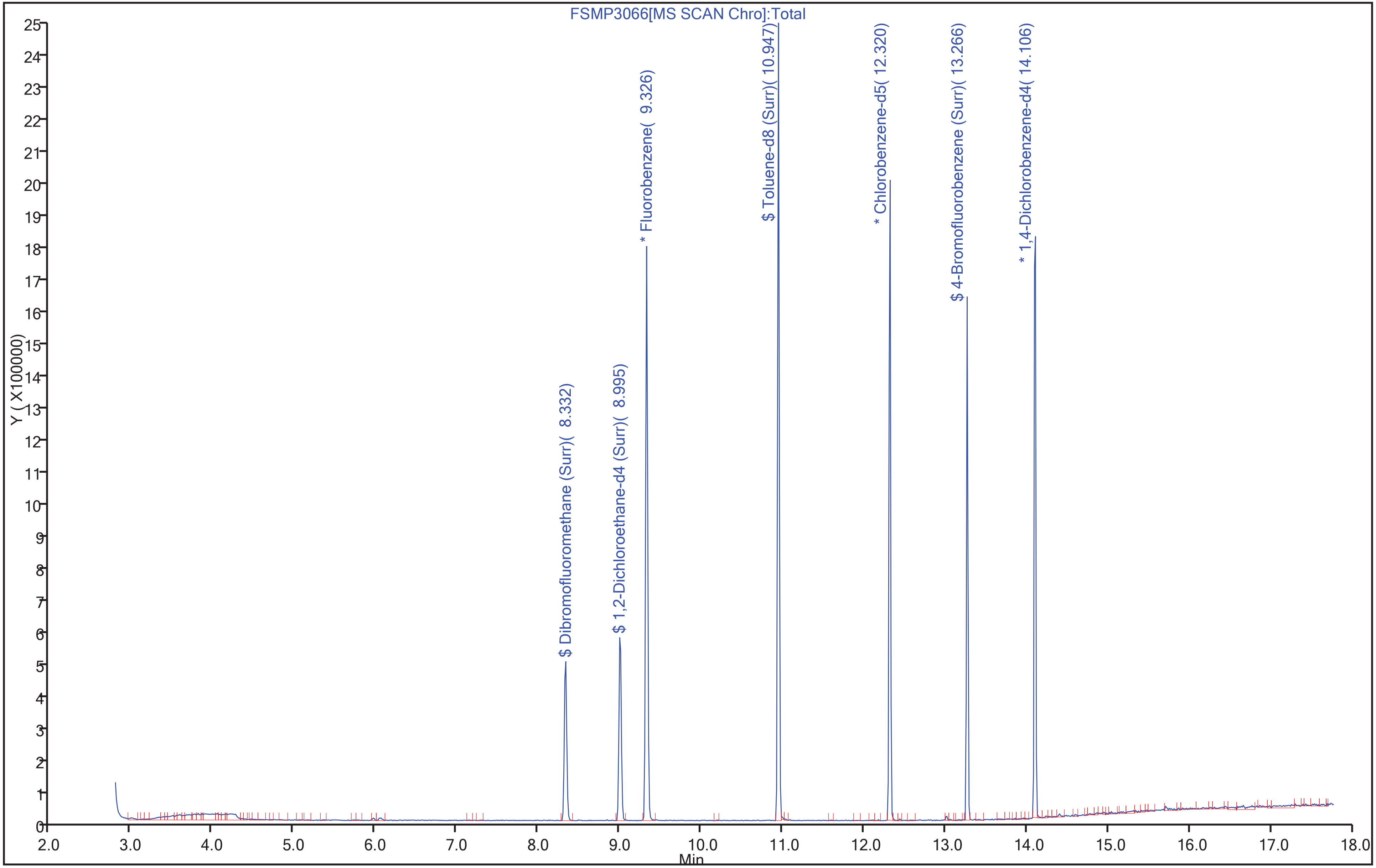
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 00:09:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3066.D				
Injection Date:	17-Oct-2017 18:59:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-14-B	Lab Sample ID:	160-24924-14	Worklist Smp#:	12
Client ID:	SHAD041DP013SS02NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3066.D				
Lims ID:	160-24924-A-14-B				
Client ID:	SHAD041DP013SS02NS				
Sample Type:	Client				
Inject. Date:	17-Oct-2017 18:59:30	ALS Bottle#:	10	Worklist Smp#:	12
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011682-012				
Misc. Info.:	160-24924-A-14-B				
Operator ID:	JDH	Instrument ID:	VMSF		

Method:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m		
Limit Group:	MSV-8260_DoD		
Last Update:	20-Oct-2017 00:01:42	Calib Date:	02-Oct-2017 23:55:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:09:43

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	50.0	99.93
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	51.9	103.82
$ 62 Toluene-d8 (Surr)	50.0	55.8	111.64
$ 86 4-Bromofluorobenzene (Surr)	50.0	59.8	119.51

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP013SS03NS Lab Sample ID: 160-24924-15

Matrix: Solid Lab File ID: FSMP3067.D

Analysis Method: 8260C DOD Date Collected: 10/05/2017 14:44

Sample wt/vol: 5.7961(g) Date Analyzed: 10/17/2017 19:24

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-VMS40 ID: 0.18(mm)

% Moisture: 13.4 Level: (low/med) Low

Analysis Batch No.: 332247 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.0	U	5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U Q	5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	1.0	U	5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	1.0	U	5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	5.0	U	5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	1.0	U Q	5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	1.0	U	5.0	1.0	0.86
78-87-5	1,2-Dichloropropane	1.0	U	5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	1.0	U Q	5.0	1.0	0.60
71-43-2	Benzene	1.0	U	5.0	1.0	0.25
75-27-4	Bromodichloromethane	1.0	U	5.0	1.0	0.25
75-25-2	Bromoform	1.0	U	5.0	1.0	0.36
56-23-5	Carbon tetrachloride	1.0	U	5.0	1.0	0.51
124-48-1	Chlorodibromomethane	1.0	U	5.0	1.0	0.40
67-66-3	Chloroform	1.0	U	5.0	1.0	0.37
74-87-3	Chloromethane	5.0	U	10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	1.0	U	5.0	1.0	0.59
10061-01-5	cis-1,3-Dichloropropene	1.0	U	5.0	1.0	0.59
100-41-4	Ethylbenzene	1.0	U	5.0	1.0	0.30
75-09-2	Methylene Chloride	5.0	U	10	5.0	1.6
127-18-4	Tetrachloroethene	1.0	U	5.0	1.0	0.32
108-88-3	Toluene	1.0	U	5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	1.0	U	5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0	0.35
79-01-6	Trichloroethene	1.0	U	5.0	1.0	0.38
75-01-4	Vinyl chloride	1.0	U Q	10	1.0	0.43
1330-20-7	Xylenes, Total	5.0	U	10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	111		71-136
460-00-4	4-Bromofluorobenzene (Surr)	121	Q	79-119
1868-53-7	Dibromofluoromethane (Surr)	102		78-119
2037-26-5	Toluene-d8 (Surr)	115		85-116

Report Date: 20-Oct-2017 00:10:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3067.D
Lims ID: 160-24924-A-15-B
Client ID: SHAD041DP013SS03NS
Sample Type: Client
Inject. Date: 17-Oct-2017 19:24:30 ALS Bottle#: 11 Worklist Smp#: 13
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-013
Misc. Info.: 160-24924-A-15-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:10:10

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.269				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.967				ND	
19 trans-1,2-Dichloroethene	96		6.204				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.765				ND	
36 Chloroform	83		8.097				ND	
37 Carbon tetrachloride	117		8.286				ND	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.322	0.010	91	302099	50.9	
40 1,1,1-Trichloroethane	97		8.381				ND	
44 Benzene	78		8.830				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.006	8.996	0.010	94	425174	55.6	
49 1,2-Dichloroethane	62		9.079				ND	
* 51 Fluorobenzene	96	9.326	9.327	-0.001	97	1249937	50.0	
53 Trichloroethene	95		9.517				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.132				ND	
61 cis-1,3-Dichloropropene	75		10.771				ND	
$ 62 Toluene-d8 (Surr)	98	10.947	10.948	-0.001	95	1182326	57.6	
63 Toluene	92		10.996				ND	
65 Tetrachloroethene	164		11.351				ND	
67 trans-1,3-Dichloropropene	75		11.363				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.319	12.321	-0.002	92	734989	50.0	
78 Ethylbenzene	91		12.333				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.877				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.268	-0.002	76	459854	60.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.096	0.010	98	418879	50.0	
102 1,4-Dichlorobenzene	146		14.108				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

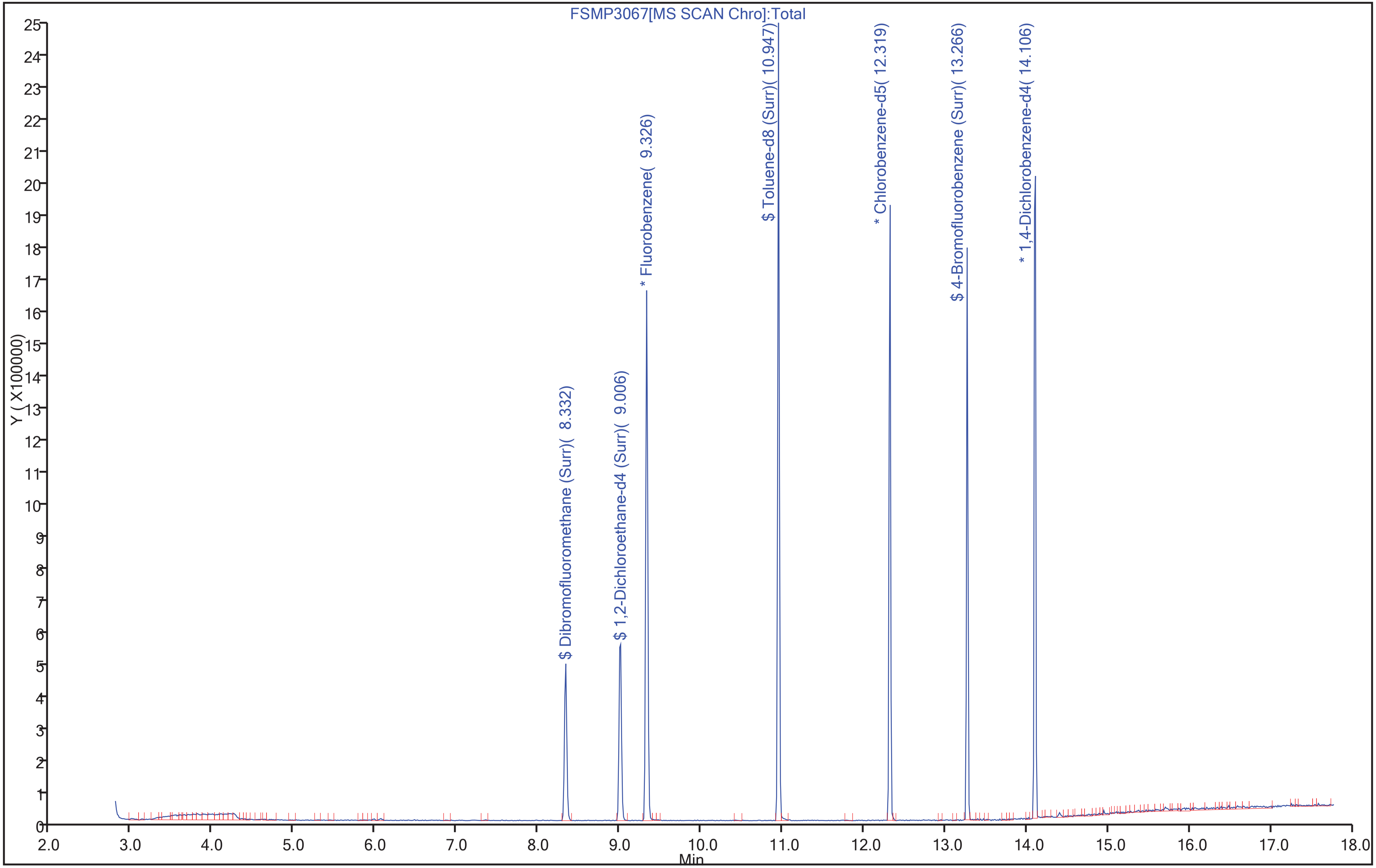
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 00:10:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3067.D				
Injection Date:	17-Oct-2017 19:24:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-15-B	Lab Sample ID:	160-24924-15	Worklist Smp#:	13
Client ID:	SHAD041DP013SS03NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3067.D				
Lims ID:	160-24924-A-15-B				
Client ID:	SHAD041DP013SS03NS				
Sample Type:	Client				
Inject. Date:	17-Oct-2017 19:24:30	ALS Bottle#:	11	Worklist Smp#:	13
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011682-013				
Misc. Info.:	160-24924-A-15-B				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	20-Oct-2017 00:01:42	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK032				

First Level Reviewer: hannj Date: 20-Oct-2017 00:10:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	50.9	101.89
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	55.6	111.24
$ 62 Toluene-d8 (Surr)	50.0	57.6	115.25
$ 86 4-Bromofluorobenzene (Surr)	50.0	60.4	120.75

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS04NS	Lab Sample ID: 160-24924-16
Matrix: Solid	Lab File ID: FSMP3068.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 15:06
Sample wt/vol: 6.7675(g)	Date Analyzed: 10/17/2017 19:48
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 15.2	Level: (low/med) Low
Analysis Batch No.: 332247	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.87	U	4.4	0.87	0.38
79-34-5	1,1,2,2-Tetrachloroethane	0.87	U	4.4	0.87	0.35
79-00-5	1,1,2-Trichloroethane	0.87	U	4.4	0.87	0.50
75-34-3	1,1-Dichloroethane	0.87	U	4.4	0.87	0.34
75-35-4	1,1-Dichloroethene	4.4	U	4.4	4.4	1.4
95-50-1	1,2-Dichlorobenzene	0.87	U	4.4	0.87	0.25
107-06-2	1,2-Dichloroethane	0.87	U	4.4	0.87	0.76
78-87-5	1,2-Dichloropropane	0.87	U	4.4	0.87	0.33
106-46-7	1,4-Dichlorobenzene	0.87	U	4.4	0.87	0.52
71-43-2	Benzene	0.87	U	4.4	0.87	0.22
75-27-4	Bromodichloromethane	0.87	U	4.4	0.87	0.22
75-25-2	Bromoform	0.87	U	4.4	0.87	0.32
56-23-5	Carbon tetrachloride	0.87	U	4.4	0.87	0.45
124-48-1	Chlorodibromomethane	0.87	U	4.4	0.87	0.35
67-66-3	Chloroform	0.87	U	4.4	0.87	0.33
74-87-3	Chloromethane	4.4	U	8.7	4.4	0.57
156-59-2	cis-1,2-Dichloroethene	0.87	U	4.4	0.87	0.52
10061-01-5	cis-1,3-Dichloropropene	0.87	U	4.4	0.87	0.52
100-41-4	Ethylbenzene	0.87	U	4.4	0.87	0.26
75-09-2	Methylene Chloride	4.4	U	8.7	4.4	1.4
127-18-4	Tetrachloroethene	0.87	U	4.4	0.87	0.28
108-88-3	Toluene	0.87	U	4.4	0.87	0.61
156-60-5	trans-1,2-Dichloroethene	0.87	U	4.4	0.87	0.82
10061-02-6	trans-1,3-Dichloropropene	0.87	U	4.4	0.87	0.30
79-01-6	Trichloroethene	0.87	U	4.4	0.87	0.34
75-01-4	Vinyl chloride	0.87	U Q	8.7	0.87	0.37
1330-20-7	Xylenes, Total	4.4	U	8.7	4.4	0.74

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		71-136
460-00-4	4-Bromofluorobenzene (Surr)	107		79-119
1868-53-7	Dibromofluoromethane (Surr)	96		78-119
2037-26-5	Toluene-d8 (Surr)	105		85-116

Report Date: 20-Oct-2017 00:10:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3068.D
Lims ID: 160-24924-A-16-B
Client ID: SHAD041DP013SS04NS
Sample Type: Client
Inject. Date: 17-Oct-2017 19:48:30 ALS Bottle#: 12 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-014
Misc. Info.: 160-24924-A-16-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:10:28

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.269				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.967				ND	
19 trans-1,2-Dichloroethene	96		6.204				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.765				ND	
36 Chloroform	83		8.097				ND	
37 Carbon tetrachloride	117		8.286				ND	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.322	0.010	91	275549	48.1	
40 1,1,1-Trichloroethane	97		8.381				ND	
44 Benzene	78		8.830				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.006	8.996	0.010	95	381795	51.7	
49 1,2-Dichloroethane	62		9.079				ND	
* 51 Fluorobenzene	96	9.326	9.327	-0.001	97	1208046	50.0	
53 Trichloroethene	95		9.517				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.132				ND	
61 cis-1,3-Dichloropropene	75		10.771				ND	
$ 62 Toluene-d8 (Surr)	98	10.947	10.948	-0.001	95	1005606	52.7	
63 Toluene	92		10.996				ND	
65 Tetrachloroethene	164		11.351				ND	
67 trans-1,3-Dichloropropene	75		11.363				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.319	12.321	-0.002	93	683949	50.0	
78 Ethylbenzene	91		12.333				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.877				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.268	-0.002	79	400187	53.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.096	0.010	98	413092	50.0	
102 1,4-Dichlorobenzene	146		14.108				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

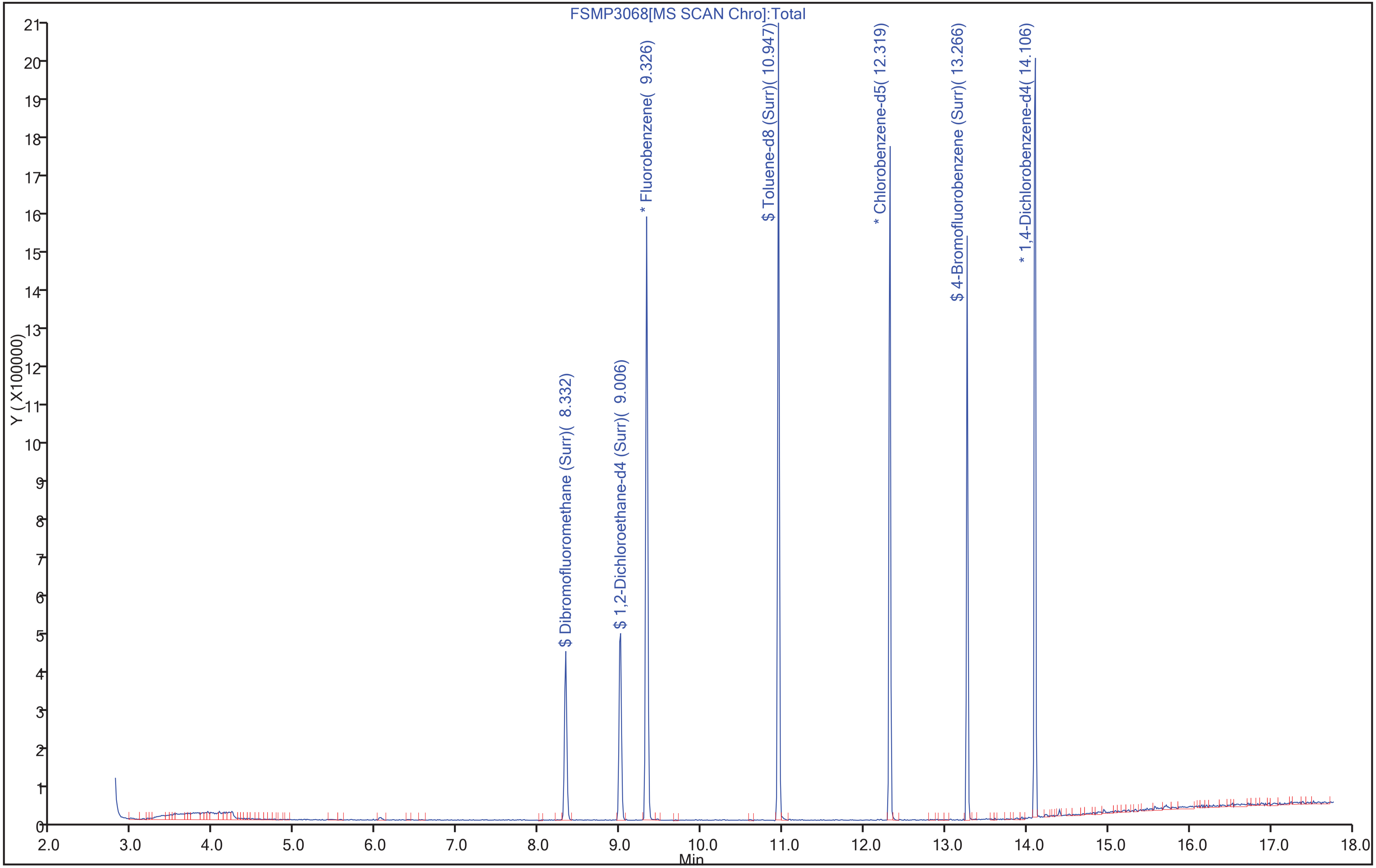
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 00:10:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3068.D				
Injection Date:	17-Oct-2017 19:48:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-16-B	Lab Sample ID:	160-24924-16	Worklist Smp#:	14
Client ID:	SHAD041DP013SS04NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3068.D				
Lims ID:	160-24924-A-16-B				
Client ID:	SHAD041DP013SS04NS				
Sample Type:	Client				
Inject. Date:	17-Oct-2017 19:48:30	ALS Bottle#:	12	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011682-014				
Misc. Info.:	160-24924-A-16-B				
Operator ID:	JDH	Instrument ID:	VMSF		

Method:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m		
Limit Group:	MSV-8260_DoD		
Last Update:	20-Oct-2017 00:01:42	Calib Date:	02-Oct-2017 23:55:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:10:28

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.1	96.15
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	51.7	103.36
$ 62 Toluene-d8 (Surr)	50.0	52.7	105.34
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.3	106.56

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS05NS	Lab Sample ID: 160-24924-17
Matrix: Solid	Lab File ID: FSMP3069.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 15:10
Sample wt/vol: 5.618(g)	Date Analyzed: 10/17/2017 20:13
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 24.0	Level: (low/med) Low
Analysis Batch No.: 332247	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.2	U	5.9	1.2	0.50
79-34-5	1,1,2,2-Tetrachloroethane	1.2	U	5.9	1.2	0.47
79-00-5	1,1,2-Trichloroethane	1.2	U	5.9	1.2	0.67
75-34-3	1,1-Dichloroethane	1.2	U	5.9	1.2	0.46
75-35-4	1,1-Dichloroethene	5.9	U	5.9	5.9	1.9
95-50-1	1,2-Dichlorobenzene	1.2	U	5.9	1.2	0.33
107-06-2	1,2-Dichloroethane	1.2	U	5.9	1.2	1.0
78-87-5	1,2-Dichloropropane	1.2	U	5.9	1.2	0.45
106-46-7	1,4-Dichlorobenzene	1.2	U	5.9	1.2	0.70
71-43-2	Benzene	1.2	U	5.9	1.2	0.30
75-27-4	Bromodichloromethane	1.2	U	5.9	1.2	0.30
75-25-2	Bromoform	1.2	U	5.9	1.2	0.43
56-23-5	Carbon tetrachloride	1.2	U	5.9	1.2	0.60
124-48-1	Chlorodibromomethane	1.2	U	5.9	1.2	0.48
67-66-3	Chloroform	1.2	U	5.9	1.2	0.44
74-87-3	Chloromethane	5.9	U	12	5.9	0.76
156-59-2	cis-1,2-Dichloroethene	1.2	U	5.9	1.2	0.70
10061-01-5	cis-1,3-Dichloropropene	1.2	U	5.9	1.2	0.70
100-41-4	Ethylbenzene	1.2	U	5.9	1.2	0.35
75-09-2	Methylene Chloride	5.9	U	12	5.9	1.8
127-18-4	Tetrachloroethene	1.2	U	5.9	1.2	0.38
108-88-3	Toluene	1.2	U	5.9	1.2	0.82
156-60-5	trans-1,2-Dichloroethene	1.2	U	5.9	1.2	1.1
10061-02-6	trans-1,3-Dichloropropene	1.2	U	5.9	1.2	0.41
79-01-6	Trichloroethene	1.2	U	5.9	1.2	0.45
75-01-4	Vinyl chloride	1.2	U Q	12	1.2	0.50
1330-20-7	Xylenes, Total	5.9	U	12	5.9	1.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		71-136
460-00-4	4-Bromofluorobenzene (Surr)	115		79-119
1868-53-7	Dibromofluoromethane (Surr)	93		78-119
2037-26-5	Toluene-d8 (Surr)	107		85-116

Report Date: 20-Oct-2017 00:10:46   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3069.D
Lims ID: 160-24924-A-17-B
Client ID: SHAD041DP013SS05NS
Sample Type: Client
Inject. Date: 17-Oct-2017 20:13:30   ALS Bottle#: 13   Worklist Smp#: 15
Purge Vol: 5.000 mL   Dil. Factor: 1.0000
Sample Info: 160-0011682-015
Misc. Info.: 160-24924-A-17-B
Operator ID: JDH   Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42   Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE   ID Type: Deconvolution ID
Quant Method: Internal Standard   Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 :   Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj   Date: 20-Oct-2017 00:10:46

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.269				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.967				ND	
19 trans-1,2-Dichloroethene	96		6.204				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.765				ND	
36 Chloroform	83		8.097				ND	
37 Carbon tetrachloride	117		8.286				ND	
$ 41 Dibromofluoromethane (Surr	113	8.334	8.322	0.012	92	302090	46.5	
40 1,1,1-Trichloroethane	97		8.381				ND	
44 Benzene	78		8.830				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.997	8.996	0.001	93	391488	46.8	
49 1,2-Dichloroethane	62		9.079				ND	
* 51 Fluorobenzene	96	9.328	9.327	0.001	97	1368656	50.0	
53 Trichloroethene	95		9.517				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.132				ND	
61 cis-1,3-Dichloropropene	75		10.771				ND	
$ 62 Toluene-d8 (Surr)	98	10.949	10.948	0.001	96	1209719	53.5	
63 Toluene	92		10.996				ND	
65 Tetrachloroethene	164		11.351				ND	
67 trans-1,3-Dichloropropene	75		11.363				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.322	12.321	0.001	93	810231	50.0	
78 Ethylbenzene	91		12.333				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.877				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.269	13.268	0.001	80	441492	57.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.097	14.096	0.001	96	423711	50.0	
102 1,4-Dichlorobenzene	146		14.108				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

Reagents:

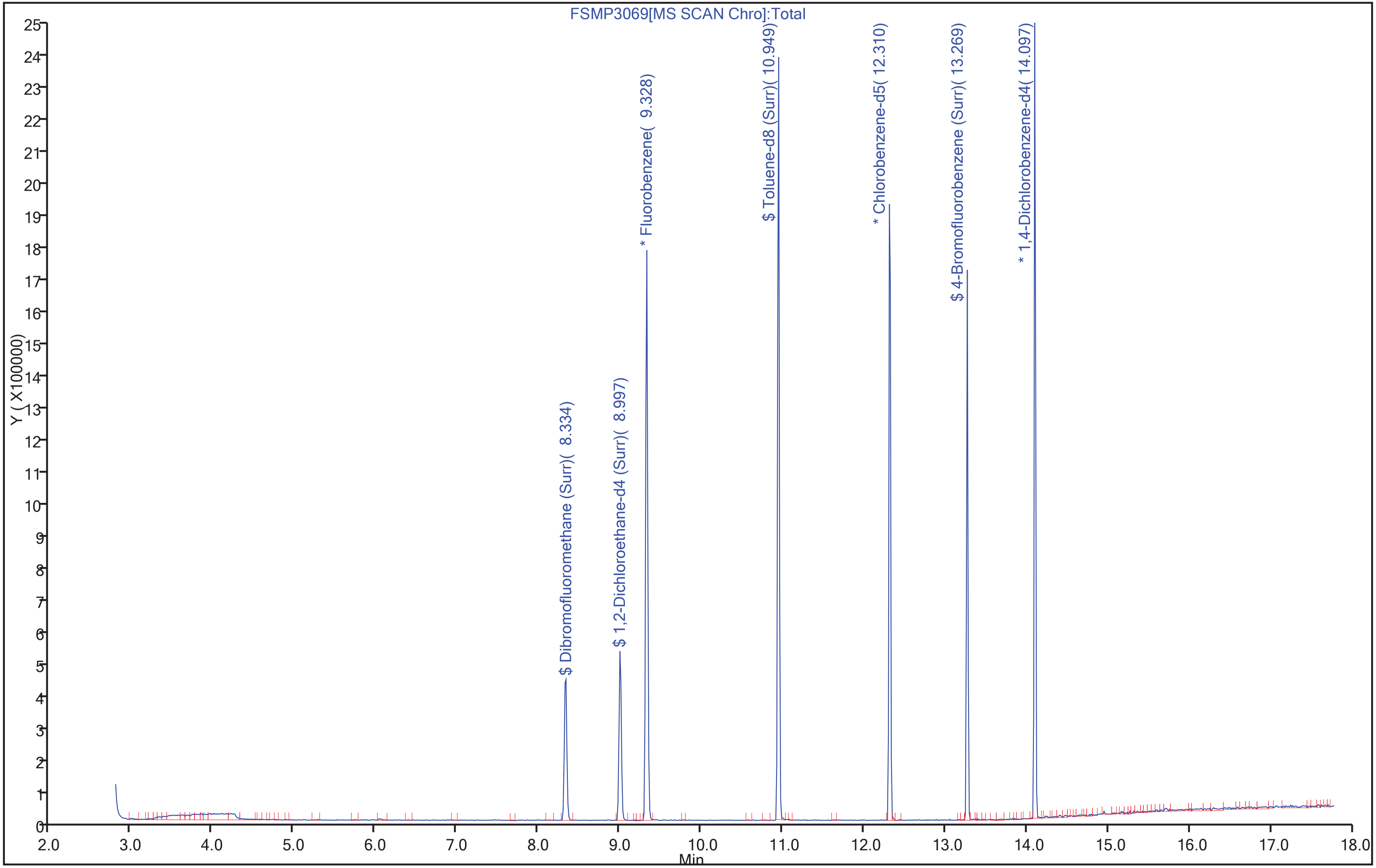
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 00:10:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3069.D

Injection Date:	17-Oct-2017 20:13:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-17-B	Lab Sample ID:	160-24924-17	Worklist Smp#:	15
Client ID:	SHAD041DP013SS05NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3069.D
Lims ID: 160-24924-A-17-B
Client ID: SHAD041DP013SS05NS
Sample Type: Client
Inject. Date: 17-Oct-2017 20:13:30 ALS Bottle#: 13 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-015
Misc. Info.: 160-24924-A-17-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:10:46

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	46.5	93.05
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	46.8	93.54
$ 62 Toluene-d8 (Surr)	50.0	53.5	106.97
$ 86 4-Bromofluorobenzene (Surr)	50.0	57.3	114.61

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TectAmeuixa St. Lo3ic
Job No.: 160-94s94-1
SDG No.:
Client Sample ID: SHAD041DP012SS05DS
Lab Sample ID: 160-94s94-1r
Matuid: Soliy
Lab File ID: FSMP2080.D
Analhcic Met7oy: r960C DOD
Date Collextey: 10/05/9018 15:15
Sample wt/vol: 5.r651(g)
Date Analhzey: 10/18/9018 90:2s
Soil Aliq3ot Vol:
Dil3tion Faxtou: 1
Soil Edtuaxt Vol.:
GC Col3mn: RTX-VMS40 ID: 0.1r(mm)
% Moict3ue: 1s.r
Level: (low/mey) Low
Analhcic Batx7 No.: 229948
Unitc: 3g/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
81-55-6	1,1,1-Tuix7louoet7ane	1.1	U	5.2	1.1	0.46
8s-24-5	1,1,9,9-Tetuax7louoet7ane	1.1	U	5.2	1.1	0.42
8s-00-5	1,1,9-Tuix7louoet7ane	1.1	U	5.2	1.1	0.61
85-24-2	1,1-Dix7louoet7ane	1.1	U	5.2	1.1	0.49
85-25-4	1,1-Dix7louoet7ene	5.2	U	5.2	5.2	1.8
s5-50-1	1,9-Dix7louobenzene	1.1	U	5.2	1.1	0.20
108-06-9	1,9-Dix7louoet7ane	1.1	U	5.2	1.1	0.s9
8r-r8-5	1,9-Dix7louopuopane	1.1	U	5.2	1.1	0.41
106-46-8	1,4-Dix7louobenzene	1.1	U	5.2	1.1	0.64
81-42-9	Benzene	1.1	U	5.2	1.1	0.98
85-98-4	Buomoyix7louomet7ane	1.1	U	5.2	1.1	0.98
85-95-9	Buomofoum	1.1	U	5.2	1.1	0.2s
56-92-5	Caubon tetuax7louiye	1.1	U	5.2	1.1	0.55
194-4r-1	C7louoyibuomomet7ane	1.1	U	5.2	1.1	0.42
68-66-2	C7louofoum	1.1	U	5.2	1.1	0.40
84-r8-2	C7louomet7ane	5.2	U	11	5.2	0.6s
156-5s-9	xic-1,9-Dix7louoet7ene	1.1	U	5.2	1.1	0.62
10061-01-5	xic-1,2-Dix7louopuopene	1.1	U	5.2	1.1	0.62
100-41-4	Et7hlbenzene	1.1	U	5.2	1.1	0.29
85-0s-9	Met7hlene C7louiye	5.2	U	11	5.2	1.8
198-1r-4	Tetuax7louoet7ene	1.1	U	5.2	1.1	0.24
10r-rr-2	Tol3ene	1.1	U	5.2	1.1	0.84
156-60-5	tuanc-1,9-Dix7louoet7ene	1.1	U	5.2	1.1	1.0
10061-09-6	tuanc-1,2-Dix7louopuopene	1.1	U	5.2	1.1	0.28
8s-01-6	Tuix7louoet7ene	1.1	U	5.2	1.1	0.41
85-01-4	Vinhl x7louiye	1.1	U Q	11	1.1	0.45
1220-90-8	Xhlenec, Total	5.2	U	11	5.2	0.s1

CAS NO.	SURROGATE	%REC	Q	LIMITS
18060-08-0	1,9-Dix7louoet7ane-y4 (S3uu)	100		81-126
460-00-4	4-Buomofl3ouobenzene (S3uu)	106		8s-11s
1r6r-52-8	Dibuomofl3ouomet7ane (S3uu)	s5		8r-11s
9028-96-5	Tol3ene-yr (S3uu)	108		r5-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3070.D
Lims ID: 160-24924-A-18-B
Client ID: SHAD041DP013SS05DS
Sample Type: Client
Inject. Date: 17-Oct-2017 20:39:30 ALS Bottle#: 14 Worklist Smp#: 16
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-016
Misc. Info.: 160-24924-A-18-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:11:06

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.269				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.967				ND	
19 trans-1,2-Dichloroethene	96		6.204				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.765				ND	
36 Chloroform	83		8.097				ND	
37 Carbon tetrachloride	117		8.286				ND	
$ 41 Dibromofluoromethane (Surr	113	8.323	8.322	0.001	91	290043	47.3	
40 1,1,1-Trichloroethane	97		8.381				ND	
44 Benzene	78		8.830				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.998	8.996	0.002	94	394625	49.9	
49 1,2-Dichloroethane	62		9.079				ND	
* 51 Fluorobenzene	96	9.329	9.327	0.002	97	1292229	50.0	
53 Trichloroethene	95		9.517				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.132				ND	
61 cis-1,3-Dichloropropene	75		10.771				ND	
$ 62 Toluene-d8 (Surr)	98	10.950	10.948	0.002	95	1095488	53.6	
63 Toluene	92		10.996				ND	
65 Tetrachloroethene	164		11.351				ND	
67 trans-1,3-Dichloropropene	75		11.363				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.311	12.321	-0.010	97	732413	50.0	
78 Ethylbenzene	91		12.333				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.877				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.269	13.268	0.001	81	410270	53.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.098	14.096	0.002	96	423953	50.0	
102 1,4-Dichlorobenzene	146		14.108				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

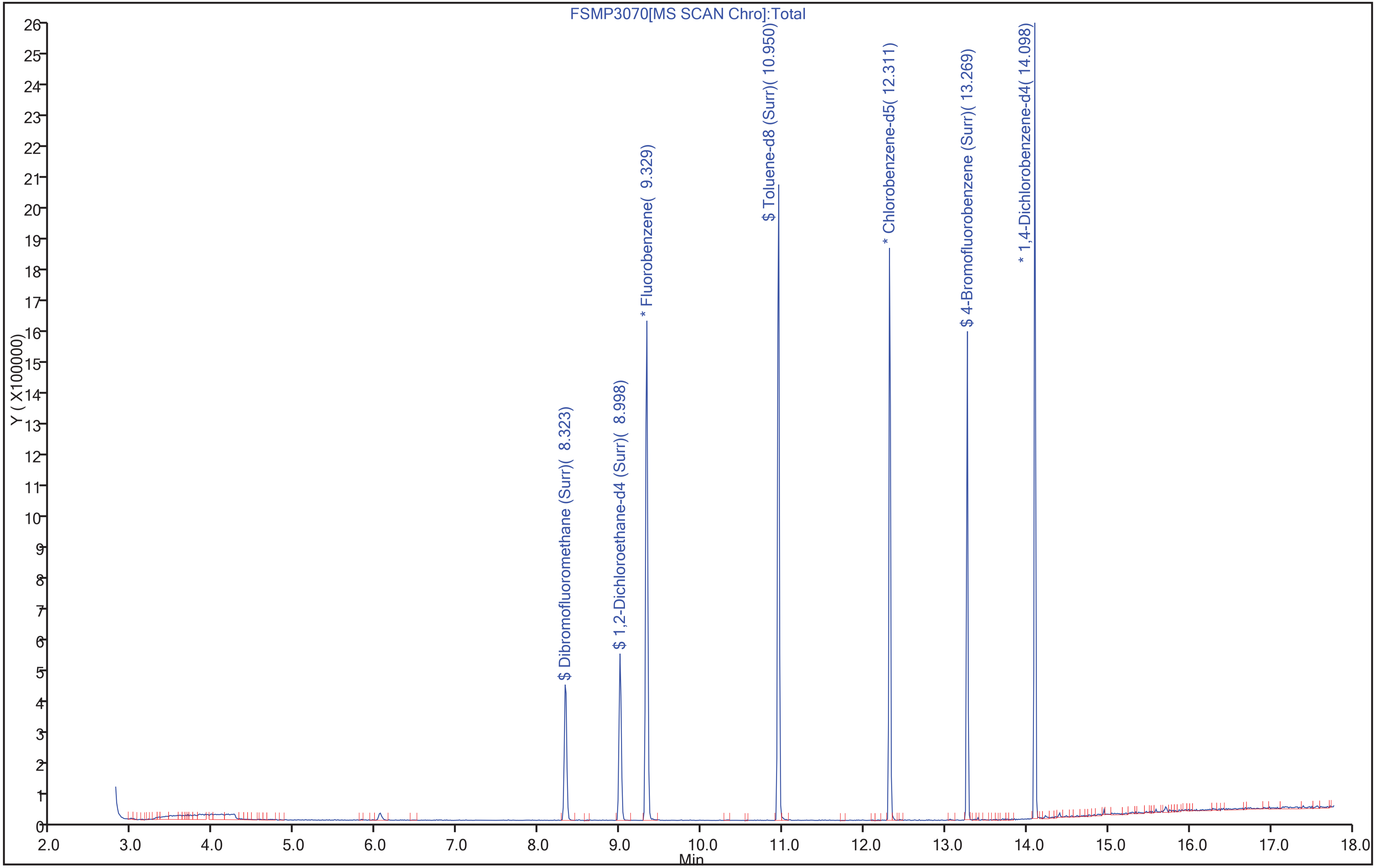
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 00:11:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3070.D
Injection Date: 17-Oct-2017 20:39:30
Instrument ID: VMSF
Operator ID: JDH
Lims ID: 160-24924-A-18-B
Lab Sample ID: 160-24924-18
Worklist Smp#: 16
Client ID: SHAD041DP013SS05DS
Purge Vol: 5.000 mL
Dil. Factor: 1.0000
ALS Bottle#: 14
Method: 5mL-8260_MSF
Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3070.D
Lims ID: 160-24924-A-18-B
Client ID: SHAD041DP013SS05DS
Sample Type: Client
Inject. Date: 17-Oct-2017 20:39:30 ALS Bottle#: 14 Worklist Smp#: 16
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-016
Misc. Info.: 160-24924-A-18-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:11:06

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	47.3	94.62
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	49.9	99.87
$ 62 Toluene-d8 (Surr)	50.0	53.6	107.16
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.2	106.44

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS06NS	Lab Sample ID: 160-24924-19
Matrix: Solid	Lab File ID: FSMP3071.D
Analysis Method: 8260C DOD	Date Collected: 10/05/2017 15:18
Sample wt/vol: 5.4393(g)	Date Analyzed: 10/17/2017 21:04
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 16.2	Level: (low/med) Low
Analysis Batch No.: 332247	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.1	U	5.5	1.1	0.47
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U	5.5	1.1	0.44
79-00-5	1,1,2-Trichloroethane	1.1	U	5.5	1.1	0.63
75-34-3	1,1-Dichloroethane	1.1	U	5.5	1.1	0.43
75-35-4	1,1-Dichloroethene	5.5	U	5.5	5.5	1.8
95-50-1	1,2-Dichlorobenzene	1.1	U	5.5	1.1	0.31
107-06-2	1,2-Dichloroethane	1.1	U	5.5	1.1	0.95
78-87-5	1,2-Dichloropropane	1.1	U	5.5	1.1	0.42
106-46-7	1,4-Dichlorobenzene	1.1	U	5.5	1.1	0.66
71-43-2	Benzene	1.1	U	5.5	1.1	0.28
75-27-4	Bromodichloromethane	1.1	U	5.5	1.1	0.28
75-25-2	Bromoform	1.1	U	5.5	1.1	0.40
56-23-5	Carbon tetrachloride	1.1	U	5.5	1.1	0.56
124-48-1	Chlorodibromomethane	1.1	U	5.5	1.1	0.45
67-66-3	Chloroform	1.1	U	5.5	1.1	0.41
74-87-3	Chloromethane	5.5	U	11	5.5	0.71
156-59-2	cis-1,2-Dichloroethene	1.1	U	5.5	1.1	0.66
10061-01-5	cis-1,3-Dichloropropene	1.1	U	5.5	1.1	0.65
100-41-4	Ethylbenzene	1.1	U	5.5	1.1	0.33
75-09-2	Methylene Chloride	5.5	U	11	5.5	1.7
127-18-4	Tetrachloroethene	1.1	U	5.5	1.1	0.35
108-88-3	Toluene	1.1	U	5.5	1.1	0.77
156-60-5	trans-1,2-Dichloroethene	1.1	U	5.5	1.1	1.0
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.5	1.1	0.38
79-01-6	Trichloroethene	1.1	U	5.5	1.1	0.42
75-01-4	Vinyl chloride	1.1	U Q	11	1.1	0.47
1330-20-7	Xylenes, Total	5.5	U	11	5.5	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		71-136
460-00-4	4-Bromofluorobenzene (Surr)	106		79-119
1868-53-7	Dibromofluoromethane (Surr)	96		78-119
2037-26-5	Toluene-d8 (Surr)	106		85-116

FORM I 8260C DOD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3071.D
Lims ID: 160-24924-A-19-B
Client ID: SHAD041DP013SS06NS
Sample Type: Client
Inject. Date: 17-Oct-2017 21:04:30 ALS Bottle#: 15 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-017
Misc. Info.: 160-24924-A-19-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:11:23

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.269				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.967				ND	
19 trans-1,2-Dichloroethene	96		6.204				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.765				ND	
36 Chloroform	83		8.097				ND	
37 Carbon tetrachloride	117		8.286				ND	
$ 41 Dibromofluoromethane (Surr	113	8.331	8.322	0.009	91	287864	48.2	
40 1,1,1-Trichloroethane	97		8.381				ND	
44 Benzene	78		8.830				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.005	8.996	0.009	93	388398	50.4	
49 1,2-Dichloroethane	62		9.079				ND	
* 51 Fluorobenzene	96	9.325	9.327	-0.002	97	1259889	50.0	
53 Trichloroethene	95		9.517				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.132				ND	
61 cis-1,3-Dichloropropene	75		10.771				ND	
$ 62 Toluene-d8 (Surr)	98	10.946	10.948	-0.002	95	1066534	52.9	
63 Toluene	92		10.996				ND	
65 Tetrachloroethene	164		11.351				ND	
67 trans-1,3-Dichloropropene	75		11.363				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.319	12.321	-0.002	92	722571	50.0	
78 Ethylbenzene	91		12.333				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.877				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.265	13.268	-0.003	75	407769	53.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.105	14.096	0.009	98	423032	50.0	
102 1,4-Dichlorobenzene	146		14.108				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

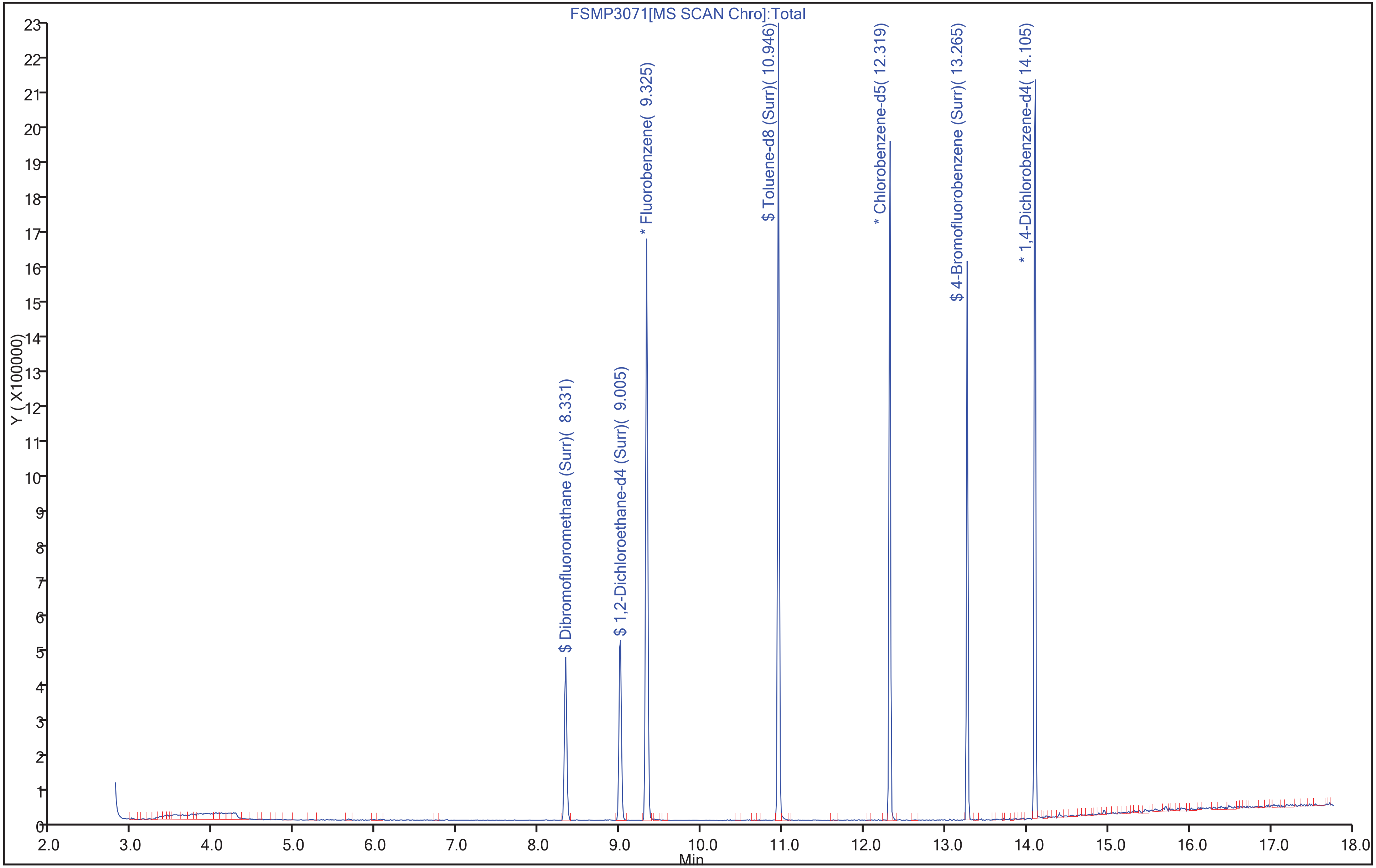
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 00:11:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3071.D				
Injection Date:	17-Oct-2017 21:04:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-19-B	Lab Sample ID:	160-24924-19	Worklist Smp#:	17
Client ID:	SHAD041DP013SS06NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FSMP3071.D
Lims ID: 160-24924-A-19-B
Client ID: SHAD041DP013SS06NS
Sample Type: Client
Inject. Date: 17-Oct-2017 21:04:30 ALS Bottle#: 15 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-017
Misc. Info.: 160-24924-A-19-B
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:11:23

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.2	96.32
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	50.4	100.82
$ 62 Toluene-d8 (Surr)	50.0	52.9	105.75
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.0	106.03

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: TB-100617-7
Lab Sample ID: 160-24924-20
Matrix: Water
Lab File ID: FSMP2901.D
Analysis Method: 8260C DOD
Date Collected: 10/06/2017 13:03
Sample wt/vol: 5(mL)
Date Analyzed: 10/09/2017 22:20
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 331094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.0	U	5.0	1.0	0.29
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	5.0	2.0	0.43
79-00-5	1,1,2-Trichloroethane	1.0	U Q	5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	1.0	U	5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	1.0	U	5.0	1.0	0.37
95-50-1	1,2-Dichlorobenzene	2.0	U	5.0	2.0	0.28
107-06-2	1,2-Dichloroethane	1.0	U	5.0	1.0	0.37
78-87-5	1,2-Dichloropropane	1.0	U	5.0	1.0	0.32
106-46-7	1,4-Dichlorobenzene	2.0	U	5.0	2.0	0.35
71-43-2	Benzene	1.0	U	5.0	1.0	0.25
75-27-4	Bromodichloromethane	2.0	U	5.0	2.0	0.25
75-25-2	Bromoform	1.0	U Q	5.0	1.0	0.37
56-23-5	Carbon tetrachloride	1.0	U	5.0	1.0	0.36
124-48-1	Chlorodibromomethane	1.0	U Q	5.0	1.0	0.33
67-66-3	Chloroform	1.0	U	5.0	1.0	0.15
74-87-3	Chloromethane	2.0	U	10	2.0	0.55
156-59-2	cis-1,2-Dichloroethene	1.0	U	5.0	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	1.0	U	5.0	1.0	0.34
100-41-4	Ethylbenzene	1.0	U Q	5.0	1.0	0.30
75-09-2	Methylene Chloride	5.0	U	7.5	5.0	1.7
127-18-4	Tetrachloroethene	1.0	U Q	5.0	1.0	0.28
108-88-3	Toluene	1.0	U Q	5.0	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	1.0	U	5.0	1.0	0.18
10061-02-6	trans-1,3-Dichloropropene	1.0	U Q	5.0	1.0	0.35
79-01-6	Trichloroethene	1.0	U	5.0	1.0	0.29
75-01-4	Vinyl chloride	1.0	U	5.0	1.0	0.43
1330-20-7	Xylenes, Total	5.0	U Q	10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		81-118
460-00-4	4-Bromofluorobenzene (Surr)	108		85-114
1868-53-7	Dibromofluoromethane (Surr)	105		80-119
2037-26-5	Toluene-d8 (Surr)	113	Q	89-112

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2901.D
Lims ID: 160-24924-A-20
Client ID: TB-100617-7
Sample Type: Client
Inject. Date: 09-Oct-2017 22:20:30 ALS Bottle#: 8 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-011
Misc. Info.: 160-24924-A-20
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 11-Oct-2017 22:58:47 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: hannj Date: 11-Oct-2017 22:58:47

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.268				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.203				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.777				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.297				ND	
$ 41 Dibromofluoromethane (Surr	113	8.331	8.333	-0.002	91	386162	52.6	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.842				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.006	9.007	-0.001	93	506421	53.5	
49 1,2-Dichloroethane	62		9.090				ND	
* 51 Fluorobenzene	96	9.337	9.327	0.010	98	1547283	50.0	
53 Trichloroethene	95		9.516				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.946	10.948	-0.002	96	1364087	56.4	
63 Toluene	92		10.995				ND	
67 trans-1,3-Dichloropropene	75		11.362				ND	
65 Tetrachloroethene	164		11.362				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.319	12.321	-0.002	94	866699	50.0	
78 Ethylbenzene	91		12.332				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.889				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.265	13.267	-0.002	84	516404	54.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.105	14.107	-0.002	98	525033	50.0	
102 1,4-Dichlorobenzene	146		14.119				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

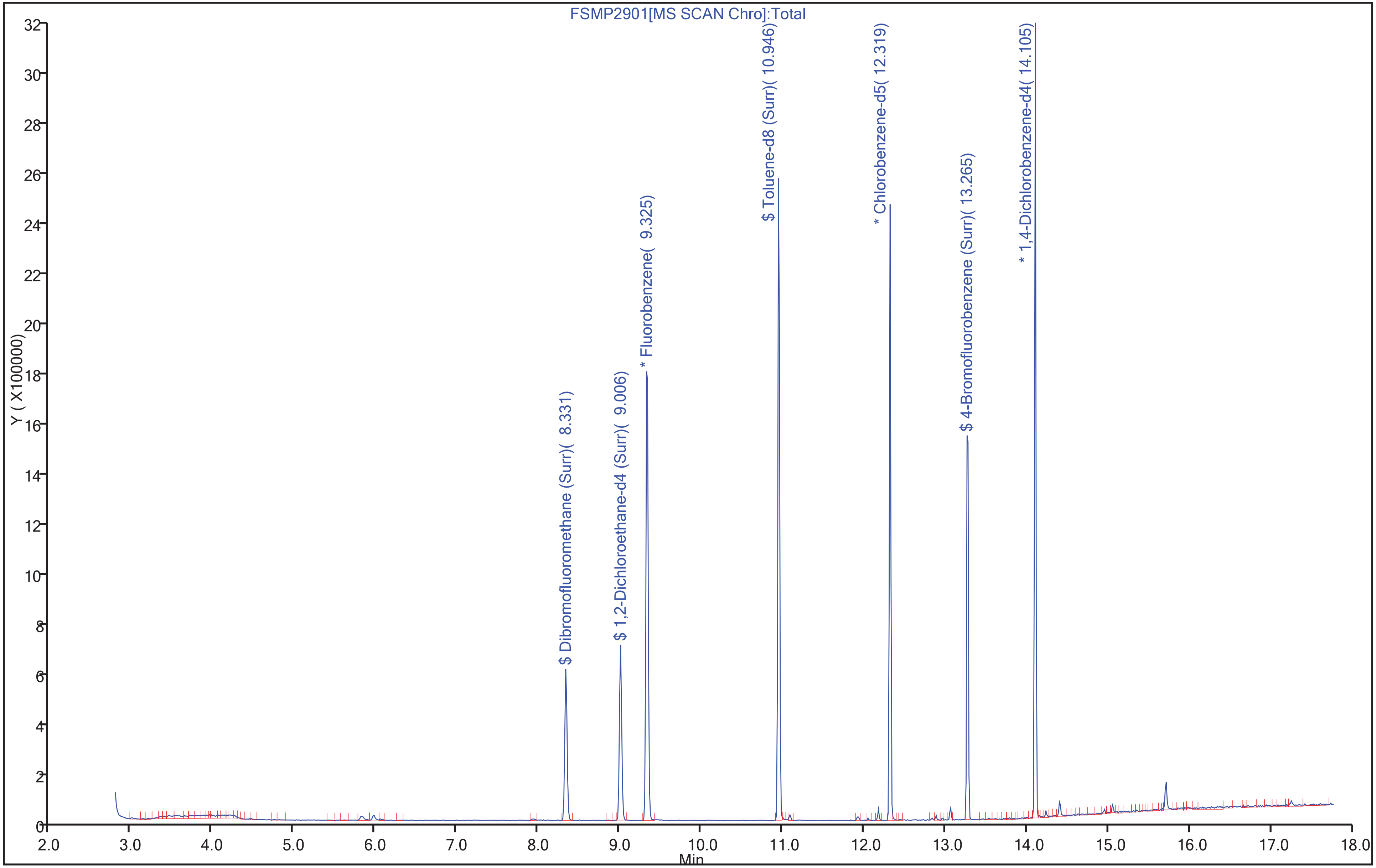
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 11-Oct-2017 22:58:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2901.D				
Injection Date:	09-Oct-2017 22:20:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-20	Lab Sample ID:	160-24924-20	Worklist Smp#:	11
Client ID:	TB-100617-7				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2901.D				
Lims ID:	160-24924-A-20				
Client ID:	TB-100617-7				
Sample Type:	Client				
Inject. Date:	09-Oct-2017 22:20:30	ALS Bottle#:	8	Worklist Smp#:	11
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011606-011				
Misc. Info.:	160-24924-A-20				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	11-Oct-2017 22:58:47	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK028				
First Level Reviewer: hannj		Date:	11-Oct-2017 22:58:47		

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	52.6	105.21
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	53.5	107.04
$ 62 Toluene-d8 (Surr)	50.0	56.4	112.76
$ 86 4-Bromofluorobenzene (Surr)	50.0	54.1	108.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: TB-100617-8	Lab Sample ID: 160-24924-21
Matrix: Water	Lab File ID: FSMP2902.D
Analysis Method: 8260C DOD	Date Collected: 10/06/2017 13:03
Sample wt/vol: 5(mL)	Date Analyzed: 10/09/2017 22:45
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 331094	Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.0	U	5.0	1.0	0.29
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	5.0	2.0	0.43
79-00-5	1,1,2-Trichloroethane	1.0	U	5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	1.0	U	5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	1.0	U	5.0	1.0	0.37
95-50-1	1,2-Dichlorobenzene	2.0	U	5.0	2.0	0.28
107-06-2	1,2-Dichloroethane	1.0	U	5.0	1.0	0.37
78-87-5	1,2-Dichloropropane	1.0	U	5.0	1.0	0.32
106-46-7	1,4-Dichlorobenzene	2.0	U	5.0	2.0	0.35
71-43-2	Benzene	1.0	U	5.0	1.0	0.25
75-27-4	Bromodichloromethane	2.0	U	5.0	2.0	0.25
75-25-2	Bromoform	1.0	U	5.0	1.0	0.37
56-23-5	Carbon tetrachloride	1.0	U	5.0	1.0	0.36
124-48-1	Chlorodibromomethane	1.0	U	5.0	1.0	0.33
67-66-3	Chloroform	1.0	U	5.0	1.0	0.15
74-87-3	Chloromethane	2.0	U	10	2.0	0.55
156-59-2	cis-1,2-Dichloroethene	1.0	U	5.0	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	1.0	U	5.0	1.0	0.34
100-41-4	Ethylbenzene	1.0	U	5.0	1.0	0.30
75-09-2	Methylene Chloride	5.0	U	7.5	5.0	1.7
127-18-4	Tetrachloroethene	1.0	U	5.0	1.0	0.28
108-88-3	Toluene	1.0	U	5.0	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	1.0	U	5.0	1.0	0.18
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0	0.35
79-01-6	Trichloroethene	1.0	U	5.0	1.0	0.29
75-01-4	Vinyl chloride	1.0	U	5.0	1.0	0.43
1330-20-7	Xylenes, Total	5.0	U	10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		81-118
460-00-4	4-Bromofluorobenzene (Surr)	109		85-114
1868-53-7	Dibromofluoromethane (Surr)	101		80-119
2037-26-5	Toluene-d8 (Surr)	111		89-112

FORM I 8260C DOD

Report Date: 11-Oct-2017 22:59:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2902.D
Lims ID: 160-24924-A-21
Client ID: TB-100617-8
Sample Type: Client
Inject. Date: 09-Oct-2017 22:45:30 ALS Bottle#: 9 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-012
Misc. Info.: 160-24924-A-21
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 11-Oct-2017 22:59:10 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: hannj Date: 11-Oct-2017 22:59:10

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.268				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.203				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.777				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.297				ND	
$ 41 Dibromofluoromethane (Surr	113	8.334	8.333	0.001	92	372240	50.5	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.842				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.009	9.007	0.002	95	485810	51.1	
49 1,2-Dichloroethane	62		9.090				ND	
* 51 Fluorobenzene	96	9.328	9.327	0.001	97	1554419	50.0	
53 Trichloroethene	95		9.516				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.949	10.948	0.001	95	1336061	55.7	
63 Toluene	92		10.995				ND	
67 trans-1,3-Dichloropropene	75		11.362				ND	
65 Tetrachloroethene	164		11.362				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.322	12.321	0.001	93	859398	50.0	
78 Ethylbenzene	91		12.332				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.889				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.269	13.267	0.002	79	512598	54.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.109	14.107	0.002	98	515280	50.0	
102 1,4-Dichlorobenzene	146		14.119				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

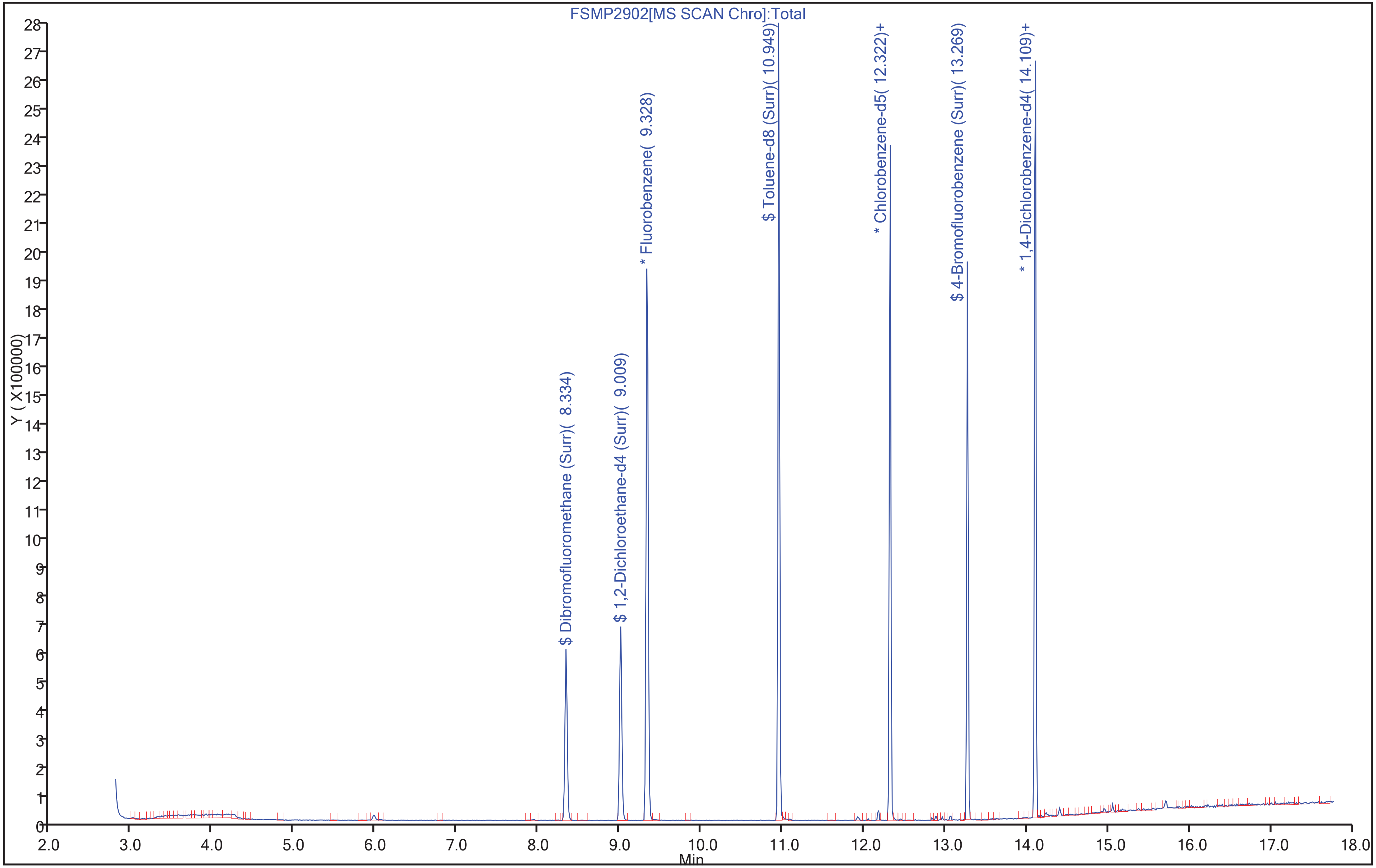
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 11-Oct-2017 22:59:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2902.D				
Injection Date:	09-Oct-2017 22:45:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-21	Lab Sample ID:	160-24924-21	Worklist Smp#:	12
Client ID:	TB-100617-8				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2902.D
Lims ID: 160-24924-A-21
Client ID: TB-100617-8
Sample Type: Client
Inject. Date: 09-Oct-2017 22:45:30 ALS Bottle#: 9 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-012
Misc. Info.: 160-24924-A-21
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 11-Oct-2017 22:59:10 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: hannj Date: 11-Oct-2017 22:59:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	50.5	100.95
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	51.1	102.21
$ 62 Toluene-d8 (Surr)	50.0	55.7	111.38
$ 86 4-Bromofluorobenzene (Surr)	50.0	54.7	109.42

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: TB-100617-9
Lab Sample ID: 160-24924-22
Matrix: Water
Lab File ID: FSMP2903.D
Analysis Method: 8260C DOD
Date Collected: 10/06/2017 13:03
Sample wt/vol: 5(mL)
Date Analyzed: 10/09/2017 23:11
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 331094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.0	U	5.0	1.0	0.29
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	5.0	2.0	0.43
79-00-5	1,1,2-Trichloroethane	1.0	U	5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	1.0	U	5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	1.0	U	5.0	1.0	0.37
95-50-1	1,2-Dichlorobenzene	2.0	U	5.0	2.0	0.28
107-06-2	1,2-Dichloroethane	1.0	U	5.0	1.0	0.37
78-87-5	1,2-Dichloropropane	1.0	U	5.0	1.0	0.32
106-46-7	1,4-Dichlorobenzene	2.0	U	5.0	2.0	0.35
71-43-2	Benzene	1.0	U	5.0	1.0	0.25
75-27-4	Bromodichloromethane	2.0	U	5.0	2.0	0.25
75-25-2	Bromoform	1.0	U	5.0	1.0	0.37
56-23-5	Carbon tetrachloride	1.0	U	5.0	1.0	0.36
124-48-1	Chlorodibromomethane	1.0	U	5.0	1.0	0.33
67-66-3	Chloroform	1.0	U	5.0	1.0	0.15
74-87-3	Chloromethane	2.0	U	10	2.0	0.55
156-59-2	cis-1,2-Dichloroethene	1.0	U	5.0	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	1.0	U	5.0	1.0	0.34
100-41-4	Ethylbenzene	1.0	U	5.0	1.0	0.30
75-09-2	Methylene Chloride	5.0	U	7.5	5.0	1.7
127-18-4	Tetrachloroethene	1.0	U	5.0	1.0	0.28
108-88-3	Toluene	1.0	U	5.0	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	1.0	U	5.0	1.0	0.18
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0	0.35
79-01-6	Trichloroethene	1.0	U	5.0	1.0	0.29
75-01-4	Vinyl chloride	1.0	U	5.0	1.0	0.43
1330-20-7	Xylenes, Total	5.0	U	10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		81-118
460-00-4	4-Bromofluorobenzene (Surr)	108		85-114
1868-53-7	Dibromofluoromethane (Surr)	100		80-119
2037-26-5	Toluene-d8 (Surr)	109		89-112

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2903.D
Lims ID: 160-24924-A-22
Client ID: TB-100617-9
Sample Type: Client
Inject. Date: 09-Oct-2017 23:11:30 ALS Bottle#: 10 Worklist Smp#: 13
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-013
Misc. Info.: 160-24924-A-22
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 11-Oct-2017 22:59:10 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: hannj Date: 11-Oct-2017 22:59:30

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.268				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.203				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.777				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.297				ND	
$ 41 Dibromofluoromethane (Surr	113	8.333	8.333	0.000	91	355342	50.0	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.842				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.008	9.007	0.001	93	456567	49.8	
49 1,2-Dichloroethane	62		9.090				ND	
* 51 Fluorobenzene	96	9.327	9.327	0.000	97	1498628	50.0	
53 Trichloroethene	95		9.516				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.948	10.948	0.000	96	1273801	54.5	
63 Toluene	92		10.995				ND	
67 trans-1,3-Dichloropropene	75		11.362				ND	
65 Tetrachloroethene	164		11.362				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.321	12.321	0.000	93	836943	50.0	
78 Ethylbenzene	91		12.332				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.889				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.268	13.267	0.001	78	487526	53.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.108	14.107	0.001	98	497790	50.0	
102 1,4-Dichlorobenzene	146		14.119				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

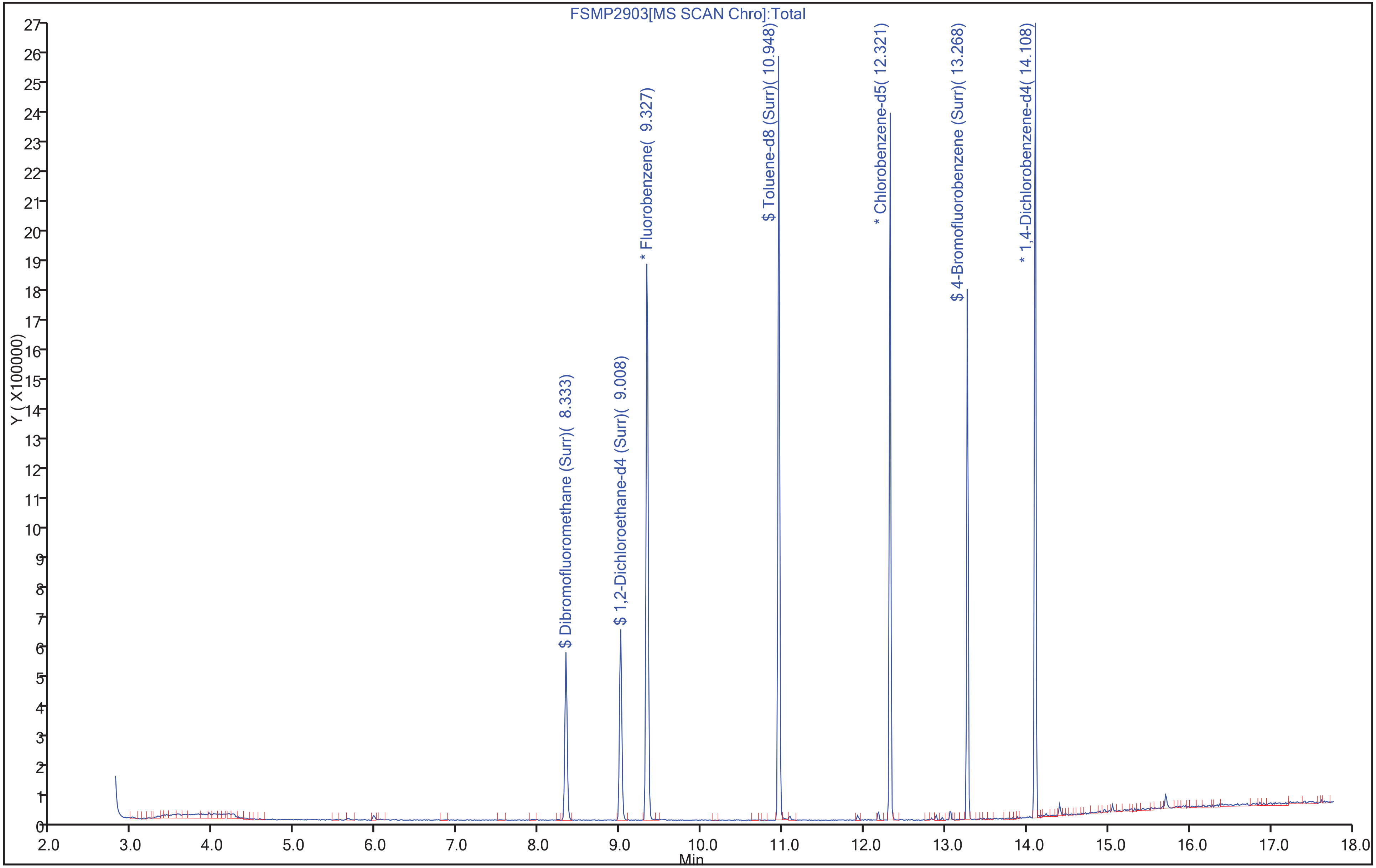
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 11-Oct-2017 22:59:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2903.D				
Injection Date:	09-Oct-2017 23:11:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-22	Lab Sample ID:	160-24924-22	Worklist Smp#:	13
Client ID:	TB-100617-9				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2903.D
Lims ID: 160-24924-A-22
Client ID: TB-100617-9
Sample Type: Client
Inject. Date: 09-Oct-2017 23:11:30 ALS Bottle#: 10 Worklist Smp#: 13
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-013
Misc. Info.: 160-24924-A-22
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 11-Oct-2017 22:59:10 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: hannj Date: 11-Oct-2017 22:59:30

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	50.0	99.96
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	49.8	99.63
$ 62 Toluene-d8 (Surr)	50.0	54.5	109.04
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.9	107.73

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: TB-100617-10	Lab Sample ID: 160-24924-23
Matrix: Water	Lab File ID: FSMP2904.D
Analysis Method: 8260C DOD	Date Collected: 10/06/2017 13:03
Sample wt/vol: 5(mL)	Date Analyzed: 10/09/2017 23:36
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 331094	Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.0	U	5.0	1.0	0.29
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	5.0	2.0	0.43
79-00-5	1,1,2-Trichloroethane	1.0	U	5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	1.0	U	5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	1.0	U	5.0	1.0	0.37
95-50-1	1,2-Dichlorobenzene	2.0	U	5.0	2.0	0.28
107-06-2	1,2-Dichloroethane	1.0	U	5.0	1.0	0.37
78-87-5	1,2-Dichloropropane	1.0	U	5.0	1.0	0.32
106-46-7	1,4-Dichlorobenzene	2.0	U	5.0	2.0	0.35
71-43-2	Benzene	1.0	U	5.0	1.0	0.25
75-27-4	Bromodichloromethane	2.0	U	5.0	2.0	0.25
75-25-2	Bromoform	1.0	U	5.0	1.0	0.37
56-23-5	Carbon tetrachloride	1.0	U	5.0	1.0	0.36
124-48-1	Chlorodibromomethane	1.0	U	5.0	1.0	0.33
67-66-3	Chloroform	1.0	U	5.0	1.0	0.15
74-87-3	Chloromethane	2.0	U	10	2.0	0.55
156-59-2	cis-1,2-Dichloroethene	1.0	U	5.0	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	1.0	U	5.0	1.0	0.34
100-41-4	Ethylbenzene	1.0	U	5.0	1.0	0.30
75-09-2	Methylene Chloride	5.0	U	7.5	5.0	1.7
127-18-4	Tetrachloroethene	1.0	U	5.0	1.0	0.28
108-88-3	Toluene	1.0	U	5.0	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	1.0	U	5.0	1.0	0.18
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0	0.35
79-01-6	Trichloroethene	1.0	U	5.0	1.0	0.29
75-01-4	Vinyl chloride	1.0	U	5.0	1.0	0.43
1330-20-7	Xylenes, Total	5.0	U	10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		81-118
460-00-4	4-Bromofluorobenzene (Surr)	110		85-114
1868-53-7	Dibromofluoromethane (Surr)	98		80-119
2037-26-5	Toluene-d8 (Surr)	107		89-112

Report Date: 11-Oct-2017 22:59:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2904.D
Lims ID: 160-24924-A-23
Client ID: TB-100617-10
Sample Type: Client
Inject. Date: 09-Oct-2017 23:36:30 ALS Bottle#: 11 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-014
Misc. Info.: 160-24924-A-23
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 11-Oct-2017 22:59:10 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: hannj Date: 11-Oct-2017 22:59:48

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
3 Chloromethane	50		3.268				ND	
4 Vinyl chloride	62		3.399				ND	
9 1,1-Dichloroethene	96		5.091				ND	
17 Methylene Chloride	84		5.966				ND	
19 trans-1,2-Dichloroethene	96		6.203				ND	
28 1,1-Dichloroethane	63		7.067				ND	
32 cis-1,2-Dichloroethene	96		7.777				ND	
36 Chloroform	83		8.096				ND	
37 Carbon tetrachloride	117		8.297				ND	
$ 41 Dibromofluoromethane (Surr	113	8.335	8.333	0.002	91	332450	49.0	
40 1,1,1-Trichloroethane	97		8.380				ND	
44 Benzene	78		8.842				ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.010	9.007	0.003	94	439741	50.2	
49 1,2-Dichloroethane	62		9.090				ND	
* 51 Fluorobenzene	96	9.329	9.327	0.002	97	1431239	50.0	
53 Trichloroethene	95		9.516				ND	
56 1,2-Dichloropropane	63		10.096				ND	
57 Dichlorobromomethane	83		10.143				ND	
61 cis-1,3-Dichloropropene	75		10.770				ND	
$ 62 Toluene-d8 (Surr)	98	10.950	10.948	0.002	95	1226246	53.7	
63 Toluene	92		10.995				ND	
67 trans-1,3-Dichloropropene	75		11.362				ND	
65 Tetrachloroethene	164		11.362				ND	
68 1,1,2-Trichloroethane	83		11.516				ND	
70 Chlorodibromomethane	129		11.682				ND	
* 76 Chlorobenzene-d5	117	12.323	12.321	0.002	93	818141	50.0	
78 Ethylbenzene	91		12.332				ND	
80 m-Xylene & p-Xylene	106		12.439				ND	
82 o-Xylene	106		12.794				ND	
84 Bromoform	173		12.889				ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.270	13.267	0.003	75	473445	55.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
89 1,1,2,2-Tetrachloroethane	83		13.397				ND	
* 101 1,4-Dichlorobenzene-d4	152	14.110	14.107	0.003	98	473713	50.0	
102 1,4-Dichlorobenzene	146		14.119				ND	
104 1,2-Dichlorobenzene	146		14.427				ND	
S 112 Xylenes, Total	106		16.500				ND	

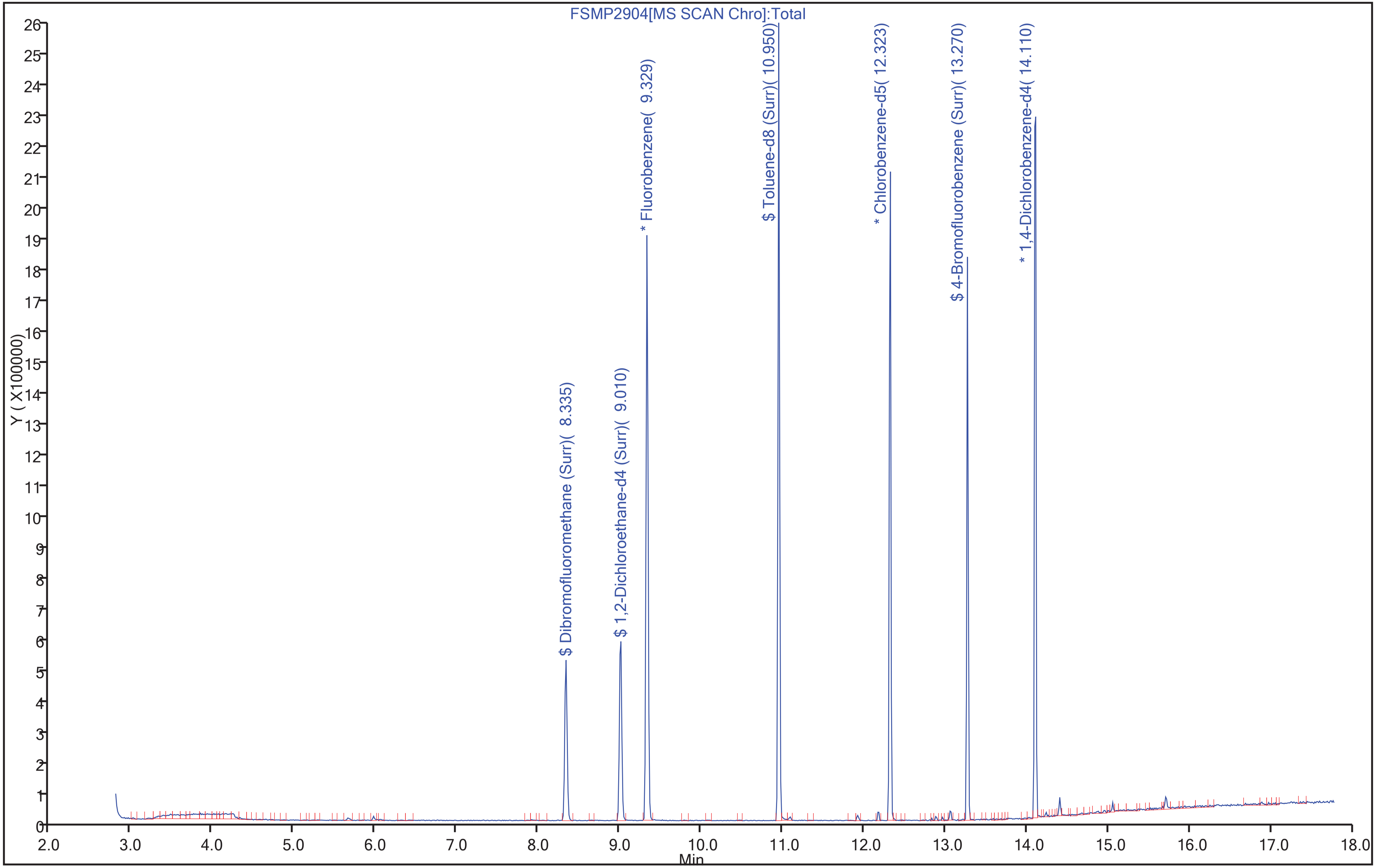
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 11-Oct-2017 22:59:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2904.D				
Injection Date:	09-Oct-2017 23:36:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-23	Lab Sample ID:	160-24924-23	Worklist Smp#:	14
Client ID:	TB-100617-10				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FSMP2904.D				
Lims ID:	160-24924-A-23				
Client ID:	TB-100617-10				
Sample Type:	Client				
Inject. Date:	09-Oct-2017 23:36:30	ALS Bottle#:	11	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011606-014				
Misc. Info.:	160-24924-A-23				
Operator ID:	JDH	Instrument ID:	VMSF		

Method:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m		
Limit Group:	MSV-8260_DoD		
Last Update:	11-Oct-2017 22:59:10	Calib Date:	02-Oct-2017 23:55:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK028		

First Level Reviewer: hannj Date: 11-Oct-2017 22:59:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	49.0	97.92
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	50.2	100.48
$ 62 Toluene-d8 (Surr)	50.0	53.7	107.38
$ 86 4-Bromofluorobenzene (Surr)	50.0	55.0	109.93

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 329944
SDG No.:
Instrument ID: VMSF
GC Column: RTX-VMS40 ID: 0.18(mm)
Heated Purge: (Y/N) Y
Calibration Start Date: 10/02/2017 21:02
Calibration End Date: 10/02/2017 23:55
Calibration ID: 13586

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-329944/3	FICL2848.D
Level 2	IC 160-329944/4	FICL2849.D
Level 3	IC 160-329944/5	FICL2850.D
Level 4	IC 160-329944/6	FICL2851.D
Level 5	IC 160-329944/7	FICL2852.D
Level 6	ICIS 160-329944/8	FICL2853.D
Level 7	IC 160-329944/9	FICL2854.D
Level 8	IC 160-329944/10	FICL2855.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	+++++ 0.3456	+++++ 0.3568	0.3937 0.3321	0.3868	0.3790	Ave		0.3657			0.1000	6.7		15.0			
1,2-Dichloro-1,1,2,2-tetrafluoroethane	+++++ 0.1394	+++++ 0.1261	0.1085 0.1264	0.1234	0.1081	Ave		0.1220			0.0100	9.8		15.0			
Chloromethane	+++++ 0.6176	+++++ 0.6298	0.7419 0.5775	0.6803	0.6907	Ave		0.6563			0.1000	9.0		15.0			
Butadiene	+++++ 0.6844	+++++ 0.6414	0.9112 0.5047	0.8346	0.7781	Qua	0.7584	0.7531	-0.001258		0.0100				1.0000		0.9900
Vinyl chloride	0.4222 0.5746	0.5796 0.5624	0.6316 +++++	0.6645	0.6441	Ave		0.5827			0.1000	13.9		15.0			
Bromomethane	+++++ 0.2117	+++++ 0.1923	0.3270 0.1867	0.2966	0.2744	LinF		0.1899			0.1000				0.9930		0.9900
Chloroethane	+++++ 0.2570	+++++ 0.2275	0.3523 0.2153	0.3487	0.3257	LinF		0.2207			0.1000				0.9910		0.9900
Trichlorofluoromethane	+++++ 0.5076	+++++ 0.5118	0.5002 0.4641	0.5681	0.4986	Ave		0.5084			0.1000	6.6		15.0			
Dichlorofluoromethane	+++++ 0.6301	+++++ 0.6366	0.6978 0.5789	0.6751	0.6634	Ave		0.6470			0.0100	6.4		15.0			
Ethyl ether	+++++ 0.1548	+++++ 0.1561	0.1572 0.1558	0.1583	0.1571	Ave		0.1566			0.0100	0.8		15.0			
Ethanol	+++++ 0.0029	+++++ 0.0029	0.0019 0.0026	0.0023	0.0030	Lin1	-0.091	0.0027		*	0.0100				0.9940		0.9900
1,1-Dichloroethene	+++++ 0.2652	+++++ 0.2701	0.2680 0.2660	0.2743	0.2744	Ave		0.2697			0.1000	1.5		15.0			
Carbon disulfide	+++++ 1.0198	+++++ 1.0429	1.0910 0.9864	1.0966	1.0868	Ave		1.0539			0.1000	4.3		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	+++++ 0.1875	+++++ 0.1933	0.1862 0.1893	0.1946	0.1911	Ave		0.1903			0.1000	1.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF GC Column: RTX-VMS40 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02 Calibration End Date: 10/02/2017 23:55 Calibration ID: 13586

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Iodomethane	+++++ 0.3477	+++++ 0.3642	0.3390 0.3647	0.3510	0.3543	Ave		0.3535			0.0100	2.8		15.0			
Acrolein	+++++ 0.0373	+++++ 0.0372	0.0339 0.0374	0.0362	0.0379	Ave		0.0367			0.0010	3.9		15.0			
3-Chloro-1-propene	+++++ 0.5022	+++++ 0.5085	0.5358 0.4739	0.5220	0.5188	Ave		0.5102			0.0100	4.2		15.0			
Isopropyl alcohol	+++++ 0.0139	+++++ 0.0147	0.0139 0.0150	0.0130	0.0139	Ave		0.0141			0.0100	5.0		15.0			
Methylene Chloride	+++++ 0.3041	+++++ 0.3055	0.3515 0.2982	0.3387	0.3358	Ave		0.3223			0.1000	6.9		15.0			
Acetone	+++++ 0.0594	+++++ 0.0603	0.1033 0.0650	0.0806	0.0832	Lin	0.1054	0.0632		*	0.1000				0.9960		0.9900
trans-1,2-Dichloroethene	+++++ 0.3020	0.3091 0.3101	0.3056 0.2982	0.3143	0.3131	Ave		0.3075			0.1000	1.9		15.0			
Methyl acetate	+++++ 0.0117	+++++ 0.0114	0.0088 0.0120	0.0103	0.0119	Ave		0.0110		*	0.1000	11.2		15.0			
Hexane	+++++ 0.0897	+++++ 0.0943	0.0690 0.0973	0.0802	0.0944	Ave		0.0875			0.0100	12.4		15.0			
Methyl tert-butyl ether	+++++ 0.6951	+++++ 0.7066	0.6563 0.6696	0.6898	0.7245	Ave		0.6903			0.1000	3.6		15.0			
2-Methyl-2-propanol	+++++ 0.0207	+++++ 0.0219	0.0204 0.0217	0.0189	0.0215	Ave		0.0209			0.0100	5.4		15.0			
Acetonitrile	+++++ 0.0257	+++++ 0.0254	0.0283 0.0246	0.0258	0.0299	Ave		0.0266			0.0010	7.6		15.0			
Isopropyl ether	+++++ 1.2474	+++++ 1.2296	1.1429 1.0193	1.2109	1.2488	Ave		1.1831			0.0100	7.5		15.0			
2-Chloro-1,3-butadiene	+++++ 0.6153	+++++ 0.6446	0.5337 0.5982	0.5871	0.6024	Ave		0.5969			0.0100	6.1		15.0			
1,1-Dichloroethane	+++++ 0.6466	+++++ 0.6538	0.6747 0.6032	0.6798	0.6815	Ave		0.6566			0.2000	4.5		15.0			
Acrylonitrile	+++++ 0.0773	+++++ 0.0786	0.0767 0.0718	0.0786	0.0843	Ave		0.0779			0.0100	5.1		15.0			
Tert-butyl ethyl ether	+++++ 0.9938	+++++ 1.0059	0.9180 0.8842	0.9570	1.0013	Ave		0.9600			0.0100	5.2		15.0			
Vinyl acetate	+++++ 0.6353	+++++ 0.6425	0.5593 0.6309	0.5834	0.6057	Ave		0.6095			0.0100	5.4		15.0			
cis-1,2-Dichloroethene	+++++ 0.3241	0.2953 0.3353	0.3273 0.3258	0.3232	0.3352	Ave		0.3237			0.1000	4.2		15.0			
2,2-Dichloropropane	+++++ 0.3783	+++++ 0.3736	0.4060 0.3370	0.4205	0.4002	Ave		0.3859			0.0100	7.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF   GC Column: RTX-VMS40   ID: 0.18(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02   Calibration End Date: 10/02/2017 23:55   Calibration ID: 13586

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Bromochloromethane	+++++ 0.1163	+++++ 0.1159	0.1043 0.1196	0.1101	0.1130	Ave		0.1132			0.0100	4.8		15.0			
Cyclohexane	+++++ 0.5574	+++++ 0.5744	0.5375 0.5520	0.5620	0.5750	Ave		0.5597			0.1000	2.5		15.0			
Chloroform	+++++ 0.5618	0.5726 0.5673	0.5729 0.5260	0.5915	0.5960	Ave		0.5697			0.2000	4.0		15.0			
Ethyl acetate	+++++ 0.0269	+++++ 0.0282	0.0306 0.0304	0.0271	0.0284	Ave		0.0286			0.0100	5.6		15.0			
Carbon tetrachloride	+++++ 0.3648	+++++ 0.3768	0.3727 0.3692	0.3701	0.3721	Ave		0.3709			0.1000	1.1		15.0			
Tetrahydrofuran	+++++ 0.0191	+++++ 0.0203	0.0147 0.0217	0.0159	0.0183	Ave		0.0184			0.0010	14.5		15.0			
1,1,1-Trichloroethane	+++++ 0.4873	+++++ 0.5000	0.5016 0.4755	0.5065	0.5116	Ave		0.4971			0.1000	2.7		15.0			
2-Butanone (MEK)	+++++ 0.0972	+++++ 0.0932	0.1009 0.1013	0.0844	0.0963	Ave		0.0956		*	0.1000	6.5		15.0			
1,1-Dichloropropene	+++++ 0.4586	+++++ 0.4692	0.4283 0.4474	0.4424	0.4595	Ave		0.4509			0.0100	3.2		15.0			
Isooctane	+++++ 1.6772	+++++ 1.6317	1.6249 1.3778	1.7266	1.7466	Ave		1.6308			0.0100	8.2		15.0			
n-Heptane	+++++ 0.7173	+++++ 0.7080	0.6143 0.6559	0.6881	0.7143	Ave		0.6830			0.0100	6.0		15.0			
Benzene	1.2199 1.2234	1.2958 1.1783	1.2986 0.9389	1.2900	1.3082	Ave		1.2191			0.5000	10.1		15.0			
Propionitrile	+++++ 0.0293	+++++ 0.0297	0.0269 0.0297	0.0280	0.0301	Ave		0.0290			0.0010	4.3		15.0			
Methacrylonitrile	+++++ 0.1591	+++++ 0.1521	0.1521 0.1143	0.1557	0.1640	Ave		0.1496			0.0100	11.9		15.0			
Tert-amyl methyl ether	+++++ 0.7989	+++++ 0.8362	0.7285 0.7373	0.7582	0.8193	Ave		0.7797			0.0100	5.7		15.0			
Isobutyl alcohol	+++++ 0.0067	+++++ 0.0072	0.0050 0.0074	0.0058	0.0066	Ave		0.0064			0.0010	13.6		15.0			
1,2-Dichloroethane	+++++ 0.3647	0.3507 0.3728	0.3616 0.3500	0.3692	0.3763	Ave		0.3636			0.1000	2.8		15.0			
Methylcyclohexane	+++++ 0.6346	+++++ 0.6572	0.6212 0.5779	0.6479	0.6444	Ave		0.6305			0.1000	4.5		15.0			
Trichloroethene	+++++ 0.3129	0.3117 0.3219	0.3230 0.3168	0.3134	0.3159	Ave		0.3165			0.2000	1.4		15.0			
n-Butanol	+++++ 0.0055	+++++ 0.0061	0.0040 0.0067	0.0046	0.0057	Qua	-0.207	0.0056	0.0000002	*	0.0100				1.0000		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF GC Column: RTX-VMS40 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02 Calibration End Date: 10/02/2017 23:55 Calibration ID: 13586

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dibromomethane	+++++ 0.1226	+++++ 0.1261	0.1214 0.1285	0.1265	0.1277	Ave		0.1255			0.0100	2.3		15.0			
Ethyl acrylate	+++++ 0.1754	+++++ 0.1967	0.1298 0.2201	0.1486	0.1652	Lin1	-0.612	0.2119			0.0100				0.9940		0.9900
1,2-Dichloropropane	+++++ 0.3006	+++++ 0.3069	0.2857 0.3058	0.2984	0.3056	Ave		0.3005			0.1000	2.7		15.0			
Bromodichloromethane	+++++ 0.3578	+++++ 0.3662	0.3330 0.3661	0.3397	0.3610	Ave		0.3540			0.2000	4.0		15.0			
Methyl methacrylate	+++++ 0.1058	+++++ 0.1114	0.0710 0.1218	0.0860	0.0964	Lin1	-0.633	0.1190			0.0100				0.9980		0.9900
1,4-Dioxane	+++++ 0.0016	+++++ 0.0018	0.0008 0.0019	0.0012	0.0017	Lin1	-0.114	0.0019			0.0010				0.9990		0.9900
2-Chloroethyl vinyl ether	+++++ 0.0975	+++++ 0.1047	0.0759 0.1182	0.0822	0.0879	Lin1	-0.299	0.1136			0.0100				0.9950		0.9900
cis-1,3-Dichloropropene	+++++ 0.3799	+++++ 0.3948	0.3225 0.3929	0.3542	0.3714	Ave		0.3693			0.2000	7.4		15.0			
Toluene	0.9507 1.0805	1.0303 1.0667	1.0859 0.8904	1.1028	1.1151	Ave		1.0403			0.4000	7.7		15.0			
2-Nitropropane	+++++ 0.0863	+++++ 0.0930	0.0639 0.0955	0.0708	0.0776	Lin1	-0.432	0.0950			0.0100				0.9990		0.9900
4-Methyl-2-pentanone (MIBK)	+++++ 0.3251	+++++ 0.3414	0.2513 0.3382	0.2963	0.3106	Ave		0.3105			0.1000	10.8		15.0			
trans-1,3-Dichloropropene	+++++ 0.5188	+++++ 0.5309	0.4459 0.5135	0.4777	0.5039	Ave		0.4985			0.1000	6.3		15.0			
Tetrachloroethene	+++++ 0.2887	0.2426 0.3084	0.2796 0.3050	0.2857	0.2956	Ave		0.2865			0.2000	7.7		15.0			
n-Butyl acetate	+++++ 0.0673	+++++ 0.0681	0.0462 0.0678	0.0571	0.0622	Ave		0.0614			0.0100	14.0		15.0			
Ethyl methacrylate	+++++ 0.3401	+++++ 0.3588	0.2397 0.3728	0.2832	0.3094	Lin1	-0.828	0.3705			0.0100				0.9990		0.9900
1,1,2-Trichloroethane	+++++ 0.2317	+++++ 0.2333	0.2338 0.2336	0.2391	0.2447	Ave		0.2360			0.1000	2.1		15.0			
Chlorodibromomethane	+++++ 0.2719	+++++ 0.2859	0.2162 0.2902	0.2587	0.2623	Ave		0.2642			0.1000	10.1		15.0			
1,3-Dichloropropane	+++++ 0.4934	+++++ 0.4887	0.4880 0.4726	0.4861	0.5014	Ave		0.4884			0.0100	1.9		15.0			
1,2-Dibromoethane	+++++ 0.2282	+++++ 0.2286	0.2111 0.2342	0.2232	0.2258	Ave		0.2252			0.1000	3.5		15.0			
2-Hexanone	+++++ 0.1850	+++++ 0.1900	0.1630 0.1993	0.1745	0.1790	Ave		0.1818			0.1000	7.0		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 329944
SDG No.:
Instrument ID: VMSF
GC Column: RTX-VMS40 ID: 0.18(mm)
Heated Purge: (Y/N) Y
Calibration Start Date: 10/02/2017 21:02
Calibration End Date: 10/02/2017 23:55
Calibration ID: 13586

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1-Chlorohexane	+++++ 0.6049	+++++ 0.6003	0.5402 0.5839	0.6243	0.6300	Ave		0.5973			0.0100	5.5		15.0			
Chlorobenzene	+++++ 1.1212	+++++ 1.0940	1.1340 0.8543	1.1576	1.1558	Ave		1.0862			0.5000	10.7		15.0			
Ethylbenzene	2.1393 2.1950	2.2338 1.8519	2.2981 +++++	2.3664	2.3245	Ave		2.2013			0.1000	7.8		15.0			
1,1,1,2-Tetrachloroethane	+++++ 0.3968	+++++ 0.4024	0.3599 0.3779	0.3759	0.3842	Ave		0.3828			0.0100	4.0		15.0			
m-Xylene & p-Xylene	0.5759 0.8019	0.7009 0.7966	0.7524 0.6950	0.8028	0.8200	Ave		0.7432			0.1000	11.1		15.0			
o-Xylene	0.5923 0.8276	0.6929 0.8105	0.7638 0.6934	0.8108	0.8050	Ave		0.7495			0.3000	11.0		15.0			
Styrene	+++++ 1.1392	+++++ 1.1327	0.9590 0.8960	1.0207	1.0877	Ave		1.0392			0.3000	9.5		15.0			
Bromoform	+++++ 0.2354	+++++ 0.2484	0.1908 0.2907	0.2106	0.2106	Lin1	-0.698	0.2759			0.1000				0.9920		0.9900
Isopropylbenzene	+++++ 3.4932	+++++ 2.8800	3.5200 2.0710	3.8071	3.7022	Qua	1.6816	3.7592	-0.008501		0.1000				0.9990		0.9900
N-Propylbenzene	+++++ 4.3551	+++++ 3.3200	4.7020 +++++	4.9618	4.7893	Ave		4.4256			0.0100	14.8		15.0			
Bromobenzene	+++++ 0.6497	+++++ 0.6677	0.6639 0.7268	0.6661	0.6665	Ave		0.6734			0.0100	4.0		15.0			
1,1,2,2-Tetrachloroethane	+++++ 0.6218	+++++ 0.5897	0.6530 0.6299	0.6499	0.6251	Ave		0.6282			0.3000	3.6		15.0			
1,3,5-Trimethylbenzene	+++++ 3.1709	+++++ 2.7296	3.0854 +++++	3.2500	3.2151	Ave		3.0902			0.0100	6.8		15.0			
2-Chlorotoluene	+++++ 3.1185	+++++ 2.7778	3.3376 2.0532	3.3886	3.2752	Qua	-0.967	3.5076	-0.007246		0.0100				1.0000		0.9900
1,2,3-Trichloropropane	+++++ 0.1591	+++++ 0.1627	0.1531 0.1765	0.1700	0.1625	Ave		0.1640			0.0100	5.0		15.0			
trans-1,4-Dichloro-2-butene	+++++ 0.1981	+++++ 0.1927	0.2137 0.2204	0.1976	0.2034	Ave		0.2043			0.0100	5.2		15.0			
Cyclohexanone	+++++ 0.0192	+++++ 0.0202	0.0180 0.0220	0.0183	0.0197	Ave		0.0196			0.0010	7.4		15.0			
4-Chlorotoluene	+++++ 2.6778	+++++ 2.3383	2.9365 1.8150	2.9236	2.9096	Qua	1.6547	2.8719	-0.005333		0.0100				1.0000		0.9900
tert-Butylbenzene	+++++ 2.5823	+++++ 2.3221	2.4812 1.7695	2.6039	2.6122	Ave		2.3952			0.0100	13.6		15.0			
1,2,4-Trimethylbenzene	+++++ 3.2664	+++++ 2.7187	3.3111 +++++	3.4091	3.4347	Ave		3.2280			0.0100	9.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF
GC Column: RTX-VMS40 ID: 0.18(mm)
Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02
Calibration End Date: 10/02/2017 23:55
Calibration ID: 13586

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
sec-Butylbenzene	+++++ 4.1806	+++++ 3.1856	4.4155 +++++	4.5978	4.5417	Ave		4.1842			0.0100	13.9		15.0			
4-Isopropyltoluene	+++++ 3.4053	+++++ 2.8441	3.4066 +++++	3.6378	3.6013	Ave		3.3790			0.0100	9.4		15.0			
1,3-Dichlorobenzene	+++++ 1.5296	+++++ 1.4652	1.6698 1.3230	1.5990	1.5810	Ave		1.5279			0.6000	8.0		15.0			
1,2,3-Trimethylbenzene	+++++ 3.3682	+++++ 2.8094	3.5992 +++++	3.6550	3.5941	Ave		3.4052			0.0100	10.3		15.0			
1,4-Dichlorobenzene	+++++ 1.6277	+++++ 1.5403	1.7361 1.2927	1.7156	1.6916	Ave		1.6007			0.5000	10.4		15.0			
n-Butylbenzene	+++++ 0.9717	+++++ 0.9455	0.9272 0.9325	0.9655	0.9428	Ave		0.9475			0.0100	1.9		15.0			
Benzyl chloride	+++++ 0.2371	+++++ 0.2465	0.2454 0.2663	0.2276	0.2383	Ave		0.2435			0.0100	5.4		15.0			
1,2-Dichlorobenzene	+++++ 1.4246	+++++ 1.3721	1.4831 1.2597	1.5145	1.4499	Ave		1.4173			0.4000	6.5		15.0			
n-Nonyl Aldehyde	+++++ 0.6059	+++++ 0.6296	0.5638 0.6603	0.6080	0.6167	Ave		0.6140			0.0100	5.2		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.1032	+++++ 0.1076	0.0746 0.1155	0.0930	0.1002	Ave		0.0990			0.0500	14.3		15.0			
1,3,5-Trichlorobenzene	+++++ 1.2195	+++++ 1.2201	1.2692 1.1094	1.2389	1.2079	Ave		1.2108			0.0100	4.5		15.0			
Hexachlorobutadiene	+++++ 0.6158	+++++ 0.6370	0.5707 0.6270	0.6192	0.5957	Ave		0.6109			0.0100	3.9		15.0			
1,2,4-Trichlorobenzene	+++++ 1.0103	+++++ 0.9992	1.0014 0.9779	0.9904	0.9938	Ave		0.9955			0.2000	1.1		15.0			
Naphthalene	+++++ 1.9334	+++++ 1.8267	1.9854 1.5637	2.0217	1.9851	Ave		1.8860			0.0100	9.1		15.0			
1,2,3-Trichlorobenzene	+++++ 0.8335	+++++ 0.8348	0.8743 0.8258	0.8535	0.8199	Ave		0.8403			0.0100	2.4		15.0			
Dibromofluoromethane (Surr)	+++++ 0.2368	+++++ 0.2330	0.2434 0.2348	0.2355	0.2398	Ave		0.2372			0.0100	1.6		15.0			
1,2-Dichloroethane-d4 (Surr)	+++++ 0.3073	+++++ 0.2995	0.3175 0.2874	0.3005	0.3225	Ave		0.3058			0.0100	4.2		15.0			
Toluene-d8 (Surr)	+++++ 1.4650	+++++ 1.3612	1.5463 1.0368	1.4870	1.4783	Ave		1.3958			0.0100	13.3		15.0			
4-Bromofluorobenzene (Surr)	+++++ 0.9022	+++++ 0.8783	0.9779 0.9356	0.8908	0.8701	Ave		0.9091			0.0100	4.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF   GC Column: RTX-VMS40   ID: 0.18(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02   Calibration End Date: 10/02/2017 23:55   Calibration ID: 13586

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-329944/3	FICL2848.D
Level 2	IC 160-329944/4	FICL2849.D
Level 3	IC 160-329944/5	FICL2850.D
Level 4	IC 160-329944/6	FICL2851.D
Level 5	IC 160-329944/7	FICL2852.D
Level 6	ICIS 160-329944/8	FICL2853.D
Level 7	IC 160-329944/9	FICL2854.D
Level 8	IC 160-329944/10	FICL2855.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	+++++ 518814	+++++ 1236933	48906 2654142	101037	197332	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	FB	Ave	+++++ 209190	+++++ 437164	13474 1010558	32221	56295	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Chloromethane	FB	Ave	+++++ 927091	+++++ 2183562	92162 4615328	177698	359648	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Butadiene	FB	Qua	+++++ 1027456	+++++ 2223868	113197 4033750	218004	405178	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Vinyl chloride	FB	Ave	11236 862596	37517 1950015	78459 +++++	173578	335410	1.00 50.0	2.50 100	5.00 +++++	10.0	20.0
Bromomethane	FB	LinF	+++++ 317792	+++++ 666610	40620 1492302	77484	142875	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Chloroethane	FB	LinF	+++++ 385798	+++++ 788695	43761 1720988	91091	169594	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Trichlorofluoromethane	FB	Ave	+++++ 761956	+++++ 1774621	62143 3709073	148383	259637	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Dichlorofluoromethane	FB	Ave	+++++ 945854	+++++ 2207112	86685 4626908	176342	345426	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Ethyl ether	FB	Ave	+++++ 232401	+++++ 541219	19530 1245444	41339	81802	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Ethanol	FB	Lin1	+++++ 171496	+++++ 400783	9430 815474	23890	61659	+++++ 2000	+++++ 4000	200 8000	400	800
1,1-Dichloroethene	FB	Ave	+++++ 398138	+++++ 936339	33288 2125995	71650	142874	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Carbon disulfide	FB	Ave	+++++ 1530926	+++++ 3616070	135525 7883019	286444	565907	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	+++++ 281526	+++++ 670075	23135 1512588	50820	99502	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Iodomethane	FB	Ave	+++++ 521921	+++++ 1262812	42117 2914998	91691	184472	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF GC Column: RTX-VMS40 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02 Calibration End Date: 10/02/2017 23:55 Calibration ID: 13586

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Acrolein	FB	Ave	+++++ 280240	+++++ 645173	21078 1494083	47277	98585	+++++ 250	+++++ 500	25.0 1000	50.0	100
3-Chloro-1-propene	FB	Ave	+++++ 753862	+++++ 1763145	66566 3787256	136348	270137	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Isopropyl alcohol	FB	Ave	+++++ 208034	+++++ 510294	17220 1195668	33974	72479	+++++ 500	+++++ 1000	50.0 2000	100	200
Methylene Chloride	FB	Ave	+++++ 456510	+++++ 1059188	43663 2382962	88481	174864	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Acetone	FB	Lin	+++++ 89233	+++++ 209014	12838 519155	21046	43323	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
trans-1,2-Dichloroethene	FB	Ave	+++++ 453345	20008 1075326	37967 2383253	82084	163027	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
Methyl acetate	FB	Ave	+++++ 87705	+++++ 197074	5483 480390	13507	30923	+++++ 250	+++++ 500	25.0 1000	50.0	100
Hexane	FB	Ave	+++++ 134716	+++++ 326817	8575 777243	20952	49145	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Methyl tert-butyl ether	FB	Ave	+++++ 1043417	+++++ 2449810	81534 5351231	180172	377228	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
2-Methyl-2-propanol	FB	Ave	+++++ 311268	+++++ 759965	25331 1737253	49314	111920	+++++ 500	+++++ 1000	50.0 2000	100	200
Acetonitrile	FB	Ave	+++++ 385252	+++++ 881944	35099 1962326	67512	155452	+++++ 500	+++++ 1000	50.0 2000	100	200
Isopropyl ether	FB	Ave	+++++ 1872473	+++++ 4263246	141975 8145907	316283	650280	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
2-Chloro-1,3-butadiene	FB	Ave	+++++ 923609	+++++ 2235098	66303 4780750	153363	313694	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1-Dichloroethane	FB	Ave	+++++ 970652	+++++ 2267031	83811 4821089	177573	354869	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Acrylonitrile	FB	Ave	+++++ 1159721	+++++ 2725885	95283 5741632	205219	438905	+++++ 500	+++++ 1000	50.0 2000	100	200
Tert-butyl ethyl ether	FB	Ave	+++++ 1491904	+++++ 3487582	114034 7066771	249957	521388	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Vinyl acetate	FB	Ave	+++++ 953658	+++++ 2227642	69478 5041931	152394	315390	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
cis-1,2-Dichloroethene	FB	Ave	+++++ 486446	19117 1162482	40665 2604175	84413	174526	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
2,2-Dichloropropane	FB	Ave	+++++ 567889	+++++ 1295423	50435 2693531	109834	208384	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Bromochloromethane	FB	Ave	+++++ 174606	+++++ 401802	12959 956199	28752	58826	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Cyclohexane	FB	Ave	+++++ 836778	+++++ 1991527	66768 4411604	146793	299426	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF GC Column: RTX-VMS40 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02 Calibration End Date: 10/02/2017 23:55 Calibration ID: 13586

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Chloroform	FB	Ave	+++++ 843306	37064 1966866	71173 4203972	154505	310335	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
Ethyl acetate	FB	Ave	+++++ 80616	+++++ 195598	7615 485980	14170	29614	+++++ 100	+++++ 200	10.0 400	20.0	40.0
Carbon tetrachloride	FB	Ave	+++++ 547575	+++++ 1306335	46295 2950663	96665	193755	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Tetrahydrofuran	FB	Ave	+++++ 57291	+++++ 141001	3654 347641	8313	19102	+++++ 100	+++++ 200	10.0 400	20.0	40.0
1,1,1-Trichloroethane	FB	Ave	+++++ 731465	+++++ 1733495	62307 3800176	132306	266375	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
2-Butanone (MEK)	FB	Ave	+++++ 145905	+++++ 323192	12534 809655	22053	50154	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1-Dichloropropene	FB	Ave	+++++ 688480	+++++ 1626927	53202 3575400	115557	239284	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Isooctane	FB	Ave	+++++ 2517788	+++++ 5657443	201855 11011472	450983	909487	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
n-Heptane	FB	Ave	+++++ 1076699	+++++ 2454740	76312 5242152	179733	371954	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Benzene	FB	Ave	32467 1836571	83880 4085271	161325 7503972	336953	681168	1.00 50.0	2.50 100	5.00 200	10.0	20.0
Propionitrile	FB	Ave	+++++ 440386	+++++ 1030365	33400 2375381	73222	156693	+++++ 500	+++++ 1000	50.0 2000	100	200
Methacrylonitrile	FB	Ave	+++++ 2388141	+++++ 5272595	188964 9137478	406664	854153	+++++ 500	+++++ 1000	50.0 2000	100	200
Tert-amyl methyl ether	FB	Ave	+++++ 1199200	+++++ 2899368	90499 5892509	198030	426626	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Isobutyl alcohol	FB	Ave	+++++ 249928	+++++ 620297	15639 1469745	37663	85753	+++++ 1250	+++++ 2500	125 5000	250	500
1,2-Dichloroethane	FB	Ave	+++++ 547433	22703 1292521	44918 2797421	96434	195964	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
Methylcyclohexane	FB	Ave	+++++ 952633	+++++ 2278652	77171 4618871	169228	335558	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Trichloroethene	FB	Ave	+++++ 469757	20175 1116132	40125 2531820	81871	164478	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
n-Butanol	FB	Qua	+++++ 207604	+++++ 530507	12360 1335814	29869	73584	+++++ 1250	+++++ 2500	125 5000	250	500
Dibromomethane	FB	Ave	+++++ 184097	+++++ 437115	15081 1027170	33038	66480	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Ethyl acrylate	FB	Lin1	+++++ 263318	+++++ 682118	16121 1759116	38809	86021	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dichloropropane	FB	Ave	+++++ 451270	+++++ 1063974	35486 2444333	77942	159147	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF   GC Column: RTX-VMS40   ID: 0.18(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02   Calibration End Date: 10/02/2017 23:55   Calibration ID: 13586

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Bromodichloromethane	FB	Ave	+++++ 537163	+++++ 1269537	41363 2926255	88732	187992	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Methyl methacrylate	FB	Lin1	+++++ 317619	+++++ 772333	17629 1946483	44934	100365	+++++ 100	+++++ 200	10.0 400	20.0	40.0
1,4-Dioxane	FB	Lin1	+++++ 49443	+++++ 125346	2011 297430	6288	17577	+++++ 1000	+++++ 2000	100 4000	200	400
2-Chloroethyl vinyl ether	FB	Lin1	+++++ 146429	+++++ 363133	9427 944661	21478	45758	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
cis-1,3-Dichloropropene	FB	Ave	+++++ 570294	+++++ 1368979	40058 3140126	92524	193416	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Toluene	CBNZ d5	Ave	14743 992955	38279 2293492	78521 4615249	169508	349131	1.00 50.0	2.50 100	5.00 200	10.0	20.0
2-Nitropropane	CBNZ d5	Lin1	+++++ 158625	+++++ 399756	9234 990168	21771	48565	+++++ 100	+++++ 200	10.0 400	20.0	40.0
4-Methyl-2-pentanone (MIBK)	CBNZ d5	Ave	+++++ 298795	+++++ 734030	18168 1752860	45547	97240	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
trans-1,3-Dichloropropene	CBNZ d5	Ave	+++++ 476796	+++++ 1141558	32243 2661600	73424	157773	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Tetrachloroethene	CBNZ d5	Ave	+++++ 265349	9014 663193	20217 1580791	43920	92553	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
n-Butyl acetate	CBNZ d5	Ave	+++++ 61856	+++++ 146493	3338 351461	8776	19466	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Ethyl methacrylate	CBNZ d5	Lin1	+++++ 312587	+++++ 771431	17333 1932457	43526	96884	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1,2-Trichloroethane	CBNZ d5	Ave	+++++ 212906	+++++ 501668	16908 1211031	36745	76617	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Chlorodibromomethane	CBNZ d5	Ave	+++++ 249843	+++++ 614651	15632 1504023	39757	82133	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,3-Dichloropropane	CBNZ d5	Ave	+++++ 453430	+++++ 1050696	35285 2449763	74715	156992	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dibromoethane	CBNZ d5	Ave	+++++ 209702	+++++ 491615	15268 1213712	34309	70705	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
2-Hexanone	CBNZ d5	Ave	+++++ 170010	+++++ 408566	11785 1032942	26815	56040	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1-Chlorohexane	CBNZ d5	Ave	+++++ 555907	+++++ 1290691	39064 3026733	95959	197242	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Chlorobenzene	CBNZ d5	Ave	+++++ 1030391	+++++ 2352327	81997 4428225	177931	361891	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Ethylbenzene	CBNZ d5	Ave	33175 2017160	82996 3981873	166173 +++++	363741	727788	1.00 50.0	2.50 100	5.00 +++++	10.0	20.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	+++++ 364621	+++++ 865273	26026 1958873	57777	120287	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF   GC Column: RTX-VMS40   ID: 0.18(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02   Calibration End Date: 10/02/2017 23:55   Calibration ID: 13586

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
m-Xylene & p-Xylene	CBNZ d5	Ave	8931 736979	26041 1712832	54403 3602615	123403	256742	1.00 50.0	2.50 100	5.00 200	10.0	20.0
o-Xylene	CBNZ d5	Ave	9185 760596	25746 1742633	55232 3594096	124634	252037	1.00 50.0	2.50 100	5.00 200	10.0	20.0
Styrene	CBNZ d5	Ave	+++++ 1046937	+++++ 2435402	69342 4644342	156884	340561	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Bromoform	DCBd 4	Lin1	+++++ 135386	+++++ 335159	8141 847410	19390	40636	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Isopropylbenzene	DCBd 4	Qua	+++++ 2009020	+++++ 3885192	150158 6037255	350524	714316	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
N-Propylbenzene	DCBd 4	Ave	+++++ 2504736	+++++ 4478769	200579 +++++	456840	924067	+++++ 50.0	+++++ 100	5.00 +++++	10.0	20.0
Bromobenzene	DCBd 4	Ave	+++++ 373634	+++++ 900768	28320 2118720	61326	128594	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	+++++ 357618	+++++ 795509	27858 1836220	59839	120619	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	+++++ 1823707	+++++ 3682384	131619 +++++	299235	620333	+++++ 50.0	+++++ 100	5.00 +++++	10.0	20.0
2-Chlorotoluene	DCBd 4	Qua	+++++ 1793542	+++++ 3747307	142377 5985311	311995	631940	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2,3-Trichloropropane	DCBd 4	Ave	+++++ 91488	+++++ 219452	6533 514399	15648	31350	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	+++++ 113910	+++++ 259951	9116 642487	18194	39240	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Cyclohexanone	DCBd 4	Ave	+++++ 110433	+++++ 272477	7688 641093	16856	38008	+++++ 500	+++++ 1000	50.0 2000	100	200
4-Chlorotoluene	DCBd 4	Qua	+++++ 1540081	+++++ 3154404	125267 5290944	269184	561401	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
tert-Butylbenzene	DCBd 4	Ave	+++++ 1485140	+++++ 3132651	105843 5158411	239747	504020	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	+++++ 1878590	+++++ 3667658	141245 +++++	313881	662708	+++++ 50.0	+++++ 100	5.00 +++++	10.0	20.0
sec-Butylbenzene	DCBd 4	Ave	+++++ 2404375	+++++ 4297484	188357 +++++	423328	876307	+++++ 50.0	+++++ 100	5.00 +++++	10.0	20.0
4-Isopropyltoluene	DCBd 4	Ave	+++++ 1958486	+++++ 3836811	145319 +++++	334936	694849	+++++ 50.0	+++++ 100	5.00 +++++	10.0	20.0
1,3-Dichlorobenzene	DCBd 4	Ave	+++++ 879697	+++++ 1976629	71230 3856554	147219	305050	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	+++++ 1937175	+++++ 3790024	153537 +++++	336524	693461	+++++ 50.0	+++++ 100	5.00 +++++	10.0	20.0
1,4-Dichlorobenzene	DCBd 4	Ave	+++++ 936144	+++++ 2077879	74061 3768338	157955	326380	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1　Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF　GC Column: RTX-VMS40　ID: 0.18(mm)　Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02　Calibration End Date: 10/02/2017 23:55　Calibration ID: 13586

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
n-Butylbenzene	DCBd 4	Ave	+++++ 558838	+++++ 1275528	39551 2718201	88892	181907	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Benzyl chloride	DCBd 4	Ave	+++++ 136386	+++++ 332566	10470 776154	20955	45987	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dichlorobenzene	DCBd 4	Ave	+++++ 819349	+++++ 1850972	63267 3672054	139446	279757	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
n-Nonyl Aldehyde	DCBd 4	Ave	+++++ 348482	+++++ 849386	24049 1924817	55980	118985	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	+++++ 59361	+++++ 145182	3181 336735	8562	19330	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	+++++ 701399	+++++ 1645958	54142 3233897	114063	233055	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Hexachlorobutadiene	DCBd 4	Ave	+++++ 354149	+++++ 859319	24347 1827835	57011	114928	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	+++++ 581033	+++++ 1347988	42719 2850792	91192	191740	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Naphthalene	DCBd 4	Ave	+++++ 1111944	+++++ 2464334	84694 4558367	186140	383014	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	+++++ 479359	+++++ 1126126	37298 2407434	78583	158200	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Dibromofluoromethane (Surr)	FB	Ave	+++++ 355444	+++++ 807729	30235 1876766	61514	124879	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	+++++ 461255	+++++ 1038504	39437 2297160	78491	167931	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Toluene-d8 (Surr)	CBNZ d5	Ave	+++++ 1346300	+++++ 2926744	111815 5374280	228573	462860	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	+++++ 518870	+++++ 1184866	41717 2727253	82018	167875	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

Curve Type Legend:
Ave = Average ISTD
Lin = Linear ISTD
Lin1 = Linear 1/conc ISTD
LinF = Linear ISTD forced zero
Qua = Quadratic ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1　Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF　GC Column: RTX-VMS40　ID: 0.18(mm)　Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02　Calibration End Date: 10/02/2017 23:55　Calibration ID: 13586

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-329944/3	FICL2848.D
Level 2	IC 160-329944/4	FICL2849.D
Level 3	IC 160-329944/5	FICL2850.D
Level 4	IC 160-329944/6	FICL2851.D
Level 5	IC 160-329944/7	FICL2852.D
Level 6	ICIS 160-329944/8	FICL2853.D
Level 7	IC 160-329944/9	FICL2854.D
Level 8	IC 160-329944/10	FICL2855.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Dichlorodifluoromethane	+++++ -2.4	+++++ -9.2	7.7	5.8	3.6	-5.5	 30	 30	30	30	30	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane	+++++ 3.4	+++++ 3.7	-11.1	1.1	-11.4	14.3	 30	 30	30	30	30	30
Chloromethane	+++++ -4.0	+++++ -12.0	13.0	3.7	5.2	-5.9	 30	 30	30	30	30	30
Butadiene	+++++ 1.3	+++++ -0.2	1.7	2.5	1.7	-3.3	 30	 30	30	30	30	30
Vinyl chloride	-27.6 -3.5	-0.5 +++++	8.4	14.0	10.5	-1.4	30 30	30	30	30	30	30
Bromomethane	+++++ 1.3	+++++ -1.7	72.2 *	56.2 *	44.5 *	11.5	 30	 30	30	30	30	30
Chloroethane	+++++ 3.1	+++++ -2.4	59.6 *	58.0 *	47.5 *	16.4	 30	 30	30	30	30	30
Trichlorofluoromethane	+++++ 0.7	+++++ -8.7	-1.6	11.7	-1.9	-0.2	 30	 30	30	30	30	30
Dichlorofluoromethane	+++++ -1.6	+++++ -10.5	7.9	4.3	2.5	-2.6	 30	 30	30	30	30	30
Ethyl ether	+++++ -0.3	+++++ -0.5	0.4	1.1	0.3	-1.1	 30	 30	30	30	30	30
Ethanol	+++++ 7.1	+++++ -5.8	-13.4	-7.5	13.0	6.7	 30	 30	30	30	30	30
1,1-Dichloroethene	+++++ 0.1	+++++ -1.4	-0.6	1.7	1.8	-1.6	 30	 30	30	30	30	30
Carbon disulfide	+++++ -1.0	+++++ -6.4	3.5	4.1	3.1	-3.2	 30	 30	30	30	30	30
1,1,2-Trichloro-1,2,2-trifluoroethane	+++++ 1.5	+++++ -0.6	-2.1	2.2	0.4	-1.5	 30	 30	30	30	30	30
Iodomethane	+++++ 3.0	+++++ 3.2	-4.1	-0.7	0.2	-1.6	 30	 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF GC Column: RTX-VMS40 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02 Calibration End Date: 10/02/2017 23:55 Calibration ID: 13586

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Acrolein	+++++	+++++	-7.4	-1.2	3.3	1.9			30	30	30	30
	1.5	2.0					30	30				
3-Chloro-1-propene	+++++	+++++	5.0	2.3	1.7	-1.6			30	30	30	30
	-0.3	-7.1					30	30				
Isopropyl alcohol	+++++	+++++	-1.4	-7.5	-1.0	-1.4			30	30	30	30
	4.7	6.5					30	30				
Methylene Chloride	+++++	+++++	9.1	5.1	4.2	-5.6			30	30	30	30
	-5.2	-7.5					30	30				
Acetone	+++++	+++++	30.1 *	10.7	23.2	-9.3			30	30	30	30
	-6.3	1.9					30	30				
trans-1,2-Dichloroethene	+++++	0.5	-0.6	2.2	1.8	-1.8		30	30	30	30	30
	0.9	-3.0					30	30				
Methyl acetate	+++++	+++++	-19.9	-6.2	7.8	6.0			30	30	30	30
	3.2	9.1					30	30				
Hexane	+++++	+++++	-21.1	-8.3	7.9	2.6			30	30	30	30
	7.8	11.2					30	30				
Methyl tert-butyl ether	+++++	+++++	-4.9	-0.1	4.9	0.7			30	30	30	30
	2.4	-3.0					30	30				
2-Methyl-2-propanol	+++++	+++++	-2.2	-9.5	3.0	-0.6			30	30	30	30
	5.1	4.2					30	30				
Acetonitrile	+++++	+++++	6.2	-2.8	12.2	-3.5			30	30	30	30
	-4.4	-7.7					30	30				
Isopropyl ether	+++++	+++++	-3.4	2.3	5.6	5.4			30	30	30	30
	3.9	-13.9					30	30				
2-Chloro-1,3-butadiene	+++++	+++++	-10.6	-1.6	0.9	3.1			30	30	30	30
	8.0	0.2					30	30				
1,1-Dichloroethane	+++++	+++++	2.7	3.5	3.8	-1.5			30	30	30	30
	-0.4	-8.1					30	30				
Acrylonitrile	+++++	+++++	-1.5	0.9	8.2	-0.8			30	30	30	30
	0.9	-7.8					30	30				
Tert-butyl ethyl ether	+++++	+++++	-4.4	-0.3	4.3	3.5			30	30	30	30
	4.8	-7.9					30	30				
Vinyl acetate	+++++	+++++	-8.2	-4.3	-0.6	4.2			30	30	30	30
	5.4	3.5					30	30				
cis-1,2-Dichloroethene	+++++	-8.8	1.1	-0.2	3.5	0.1		30	30	30	30	30
	3.6	0.6					30	30				
2,2-Dichloropropane	+++++	+++++	5.2	9.0	3.7	-2.0			30	30	30	30
	-3.2	-12.7					30	30				
Bromochloromethane	+++++	+++++	-7.8	-2.8	-0.2	2.7			30	30	30	30
	2.4	5.7					30	30				
Cyclohexane	+++++	+++++	-4.0	0.4	2.7	-0.4			30	30	30	30
	2.6	-1.4					30	30				

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 329944
SDG No.:
Instrument ID: VMSF
GC Column: RTX-VMS40 ID: 0.18(mm)
Heated Purge: (Y/N) Y
Calibration Start Date: 10/02/2017 21:02
Calibration End Date: 10/02/2017 23:55
Calibration ID: 13586

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Chloroform	+++++ -0.4	0.5 -7.7	0.6	3.8	4.6	-1.4	 30	30 30	30	30	30	30
Ethyl acetate	+++++ -1.4	+++++ 6.3	7.1	-5.2	-0.6	-6.2	 30	 30	30	30	30	30
Carbon tetrachloride	+++++ 1.6	+++++ -0.5	0.5	-0.2	0.3	-1.7	 30	 30	30	30	30	30
Tetrahydrofuran	+++++ 10.8	+++++ 18.5	-19.9	-13.3	-0.1	4.0	 30	 30	30	30	30	30
1,1,1-Trichloroethane	+++++ 0.6	+++++ -4.3	0.9	1.9	2.9	-2.0	 30	 30	30	30	30	30
2-Butanone (MEK)	+++++ -2.5	+++++ 6.0	5.6	-11.6	0.8	1.7	 30	 30	30	30	30	30
1,1-Dichloropropene	+++++ 4.1	+++++ -0.8	-5.0	-1.9	1.9	1.7	 30	 30	30	30	30	30
Isooctane	+++++ 0.1	+++++ -15.5	-0.4	5.9	7.1	2.8	 30	 30	30	30	30	30
n-Heptane	+++++ 3.7	+++++ -4.0	-10.1	0.7	4.6	5.0	 30	 30	30	30	30	30
Benzene	0.1 -3.4	6.3 -23.0	6.5	5.8	7.3	0.4	30 30	30 30	30	30	30	30
Propionitrile	+++++ 2.6	+++++ 2.6	-7.2	-3.2	3.9	1.3	 30	 30	30	30	30	30
Methacrylonitrile	+++++ 1.7	+++++ -23.6	1.7	4.1	9.7	6.4	 30	 30	30	30	30	30
Tert-amyl methyl ether	+++++ 7.2	+++++ -5.4	-6.6	-2.8	5.1	2.5	 30	 30	30	30	30	30
Isobutyl alcohol	+++++ 11.3	+++++ 14.5	-21.6	-10.3	2.5	3.6	 30	 30	30	30	30	30
1,2-Dichloroethane	+++++ 2.5	-3.5 -3.7	-0.6	1.5	3.5	0.3	 30	30 30	30	30	30	30
Methylcyclohexane	+++++ 4.2	+++++ -8.3	-1.5	2.8	2.2	0.6	 30	 30	30	30	30	30
Trichloroethene	+++++ 1.7	-1.5 0.1	2.0	-1.0	-0.2	-1.1	 30	30 30	30	30	30	30
n-Butanol	+++++ 0.7	+++++ 0.0	0.4	-4.2	6.3	-2.9	 30	 30	30	30	30	30
Dibromomethane	+++++ 0.5	+++++ 2.4	-3.2	0.8	1.8	-2.3	 30	 30	30	30	30	30
Ethyl acrylate	+++++ -4.3	+++++ 5.3	19.0	-1.0	-7.6	-11.4	 30	 30	30	30	30	30
1,2-Dichloropropane	+++++ 2.1	+++++ 1.8	-4.9	-0.7	1.7	0.0	 30	 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF   GC Column: RTX-VMS40   ID: 0.18(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02   Calibration End Date: 10/02/2017 23:55   Calibration ID: 13586

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Bromodichloromethane	+++++ 3.4	+++++ 3.4	-5.9	-4.0	2.0	1.1	 30	 30	30	30	30	30
Methyl methacrylate	+++++ -3.8	+++++ 3.6	12.8	-1.1	-5.7	-5.8	 30	 30	30	30	30	30
1,4-Dioxane	+++++ -0.2	+++++ 1.1	4.3	-5.1	5.6	-5.8	 30	 30	30	30	30	30
2-Chloroethyl vinyl ether	+++++ -5.2	+++++ 5.3	19.5	-1.3	-9.5	-8.9	 30	 30	30	30	30	30
cis-1,3-Dichloropropene	+++++ 6.9	+++++ 6.4	-12.7	-4.1	0.6	2.9	 30	 30	30	30	30	30
Toluene	-8.6 2.5	-1.0 -14.4	4.4	6.0	7.2	3.9	30 30	30 30	30	30	30	30
2-Nitropropane	+++++ 0.1	+++++ 1.6	12.7	-2.7	-7.0	-4.6	 30	 30	30	30	30	30
4-Methyl-2-pentanone (MIBK)	+++++ 10.0	+++++ 8.9	-19.1	-4.6	0.0	4.7	 30	 30	30	30	30	30
trans-1,3-Dichloropropene	+++++ 6.5	+++++ 3.0	-10.5	-4.2	1.1	4.1	 30	 30	30	30	30	30
Tetrachloroethene	+++++ 7.6	-15.3 6.4	-2.4	-0.3	3.2	0.8	 30	30 30	30	30	30	30
n-Butyl acetate	+++++ 10.9	+++++ 10.3	-24.9	-7.1	1.2	9.5	 30	 30	30	30	30	30
Ethyl methacrylate	+++++ -0.9	+++++ 1.7	9.4	-1.2	-5.3	-3.7	 30	 30	30	30	30	30
1,1,2-Trichloroethane	+++++ -1.2	+++++ -1.0	-0.9	1.3	3.7	-1.8	 30	 30	30	30	30	30
Chlorodibromomethane	+++++ 8.2	+++++ 9.8	-18.2	-2.1	-0.7	2.9	 30	 30	30	30	30	30
1,3-Dichloropropane	+++++ 0.1	+++++ -3.2	-0.1	-0.5	2.7	1.0	 30	 30	30	30	30	30
1,2-Dibromoethane	+++++ 1.5	+++++ 4.0	-6.2	-0.9	0.3	1.3	 30	 30	30	30	30	30
2-Hexanone	+++++ 4.5	+++++ 9.6	-10.3	-4.0	-1.5	1.8	 30	 30	30	30	30	30
1-Chlorohexane	+++++ 0.5	+++++ -2.2	-9.5	4.5	5.5	1.3	 30	 30	30	30	30	30
Chlorobenzene	+++++ 0.7	+++++ -21.3	4.4	6.6	6.4	3.2	 30	 30	30	30	30	30
Ethylbenzene	-2.8 -15.9	1.5 +++++	4.4	7.5	5.6	-0.3	30 30	30	30	30	30	30
1,1,1,2-Tetrachloroethane	+++++ 5.1	+++++ -1.3	-6.0	-1.8	0.3	3.6	 30	 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF GC Column: RTX-VMS40 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02 Calibration End Date: 10/02/2017 23:55 Calibration ID: 13586

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
m-Xylene & p-Xylene	-22.5 7.2	-5.7 -6.5	1.2	8.0	10.3	7.9	30 30	30 30	30	30	30	30
o-Xylene	-21.0 8.1	-7.6 -7.5	1.9	8.2	7.4	10.4	30 30	30 30	30	30	30	30
Styrene	+++++ 9.0	+++++ -13.8	-7.7	-1.8	4.7	9.6	 30	 30	30	30	30	30
Bromoform	+++++ -7.4	+++++ 6.6	19.8	1.6	-11.0	-9.6	 30	 30	30	30	30	30
Isopropylbenzene	+++++ -2.2	+++++ 1.1	-14.5	-1.0	0.8	4.3	 30	 30	30	30	30	30
N-Propylbenzene	+++++ -25.0	+++++ +++++	6.2	12.1	8.2	-1.6	 30		30	30	30	30
Bromobenzene	+++++ -0.8	+++++ 7.9	-1.4	-1.1	-1.0	-3.5	 30	 30	30	30	30	30
1,1,2,2-Tetrachloroethane	+++++ -6.1	+++++ 0.3	3.9	3.4	-0.5	-1.0	 30	 30	30	30	30	30
1,3,5-Trimethylbenzene	+++++ -11.7	+++++ +++++	-0.2	5.2	4.0	2.6	 30		30	30	30	30
2-Chlorotoluene	+++++ 0.2	+++++ -0.1	1.7	1.5	-1.2	-0.3	 30	 30	30	30	30	30
1,2,3-Trichloropropane	+++++ -0.8	+++++ 7.6	-6.6	3.7	-0.9	-3.0	 30	 30	30	30	30	30
trans-1,4-Dichloro-2-butene	+++++ -5.7	+++++ 7.9	4.6	-3.3	-0.5	-3.1	 30	 30	30	30	30	30
Cyclohexanone	+++++ 3.2	+++++ 12.4	-7.9	-6.5	0.7	-1.9	 30	 30	30	30	30	30
4-Chlorotoluene	+++++ -0.9	+++++ 0.2	-8.5	-2.2	2.3	1.7	 30	 30	30	30	30	30
tert-Butylbenzene	+++++ -3.1	+++++ -26.1	3.6	8.7	9.1	7.8	 30	 30	30	30	30	30
1,2,4-Trimethylbenzene	+++++ -15.8	+++++ +++++	2.6	5.6	6.4	1.2	 30		30	30	30	30
sec-Butylbenzene	+++++ -23.9	+++++ +++++	5.5	9.9	8.5	-0.1	 30		30	30	30	30
4-Isopropyltoluene	+++++ -15.8	+++++ +++++	0.8	7.7	6.6	0.8	 30		30	30	30	30
1,3-Dichlorobenzene	+++++ -4.1	+++++ -13.4	9.3	4.7	3.5	0.1	 30	 30	30	30	30	30
1,2,3-Trimethylbenzene	+++++ -17.5	+++++ +++++	5.7	7.3	5.5	-1.1	 30		30	30	30	30
1,4-Dichlorobenzene	+++++ -3.8	+++++ -19.2	8.5	7.2	5.7	1.7	 30	 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 329944

SDG No.:

Instrument ID: VMSF GC Column: RTX-VMS40 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/02/2017 21:02 Calibration End Date: 10/02/2017 23:55 Calibration ID: 13586

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
n-Butylbenzene	+++++ -0.2	+++++ -1.6	-2.1	1.9	-0.5	2.6	30	30	30	30	30	30
Benzyl chloride	+++++ 1.2	+++++ 9.3	0.8	-6.6	-2.1	-2.6	30	30	30	30	30	30
1,2-Dichlorobenzene	+++++ -3.2	+++++ -11.1	4.6	6.9	2.3	0.5	30	30	30	30	30	30
n-Nonyl Aldehyde	+++++ 2.5	+++++ 7.5	-8.2	-1.0	0.4	-1.3	30	30	30	30	30	30
1,2-Dibromo-3-Chloropropane	+++++ 8.7	+++++ 16.7	-24.7	-6.1	1.2	4.2	30	30	30	30	30	30
1,3,5-Trichlorobenzene	+++++ 0.8	+++++ -8.4	4.8	2.3	-0.2	0.7	30	30	30	30	30	30
Hexachlorobutadiene	+++++ 4.3	+++++ 2.6	-6.6	1.4	-2.5	0.8	30	30	30	30	30	30
1,2,4-Trichlorobenzene	+++++ 0.4	+++++ -1.8	0.6	-0.5	-0.2	1.5	30	30	30	30	30	30
Naphthalene	+++++ -3.1	+++++ -17.1	5.3	7.2	5.3	2.5	30	30	30	30	30	30
1,2,3-Trichlorobenzene	+++++ -0.7	+++++ -1.7	4.0	1.6	-2.4	-0.8	30	30	30	30	30	30
Dibromofluoromethane (Surr)	+++++ -1.8	+++++ -1.0	2.6	-0.7	1.1	-0.2	30	30	30	30	30	30
1,2-Dichloroethane-d4 (Surr)	+++++ -2.0	+++++ -6.0	3.8	-1.7	5.5	0.5	30	30	30	30	30	30
Toluene-d8 (Surr)	+++++ -2.5	+++++ -25.7	10.8	6.5	5.9	5.0	30	30	30	30	30	30
4-Bromofluorobenzene (Surr)	+++++ -3.4	+++++ 2.9	7.6	-2.0	-4.3	-0.8	30	30	30	30	30	30

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2848.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	02-Oct-2017 21:02:30	ALS Bottle#:	2	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011546-003				
Misc. Info.:	IC				
Operator ID:	JDH	Instrument ID:	VMSF		
Sublist:	chrom-5mL-8260_MSF*sub16				
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	08-Oct-2017 22:07:50	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK018				
First Level Reviewer: hannj		Date:	03-Oct-2017 16:26:05		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85		2.938				ND	ND	
2 1,2-Dichloro-1,1,2,2-tetra	135		3.163				ND	ND	
3 Chloromethane	50	3.269	3.258	0.011	96	15942	1.00	0.9127	
122 Butadiene	39	3.388	3.388	0.000	92	34513	1.00	0.7157	
4 Vinyl chloride	62	3.400	3.400	0.000	55	11236	1.00	0.7245	
5 Bromomethane	94	3.885	3.897	-0.012	2	6001	1.00	1.19	
6 Chloroethane	64	4.086	4.074	0.012	90	8423	1.00	1.43	
7 Trichlorofluoromethane	101	4.263	4.264	-0.001	35	4316	1.00	0.3190	
123 Dichlorofluoromethane	67	4.382	4.382	0.000	97	13561	1.00	0.7875	
8 Ethyl ether	74	4.748	4.761	-0.013	43	2339	1.00	0.5614	
11 Ethanol	45		4.985				ND	ND	
9 1,1-Dichloroethene	96	5.092	5.092	0.000	38	3767	1.00	0.5249	
10 Carbon disulfide	76		5.151				ND	ND	
12 1,1,2-Trichloro-1,2,2-trif	151	5.186	5.175	0.011	53	3062	1.00	0.6045	
13 Iodomethane	142		5.329				ND	ND	
14 Acrolein	56	5.624	5.624	0.000	56	3809	5.00	3.90	
15 3-Chloro-1-propene	39	5.813	5.814	-0.001	83	11841	1.00	0.8720	
S 26 1,2-Dichloroethene, Total	96				0			1.68	
16 Isopropyl alcohol	45	5.825	5.825	0.000	19	2398	10.0	6.41	
17 Methylene Chloride	84	5.967	5.967	0.000	94	11630	1.00	1.36	
18 Acetone	43		6.062				ND	ND	
19 trans-1,2-Dichloroethene	96	6.204	6.204	0.000	92	6602	1.00	0.8067	
20 Methyl acetate	74		6.216				ND	ND	
21 Hexane	86		6.299				ND	ND	
22 Methyl tert-butyl ether	73		6.346				ND	ND	
23 2-Methyl-2-propanol	59	6.464	6.464	0.000	6	3948	10.0	7.11	
24 Acetonitrile	41	6.725	6.725	0.000	94	7670	10.0	10.8	
25 Isopropyl ether	45	6.855	6.855	0.000	93	26264	1.00	0.8341	
27 2-Chloro-1,3-butadiene	53		7.032				ND	ND	
28 1,1-Dichloroethane	63		7.068				ND	ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.139	7.139	0.000	96	16194	10.0	7.81	
30 Tert-butyl ethyl ether	59	7.352	7.352	0.000	96	18470	1.00	0.7229	
31 Vinyl acetate	43	7.375	7.376	-0.001	93	12513	1.00	0.7714	
32 cis-1,2-Dichloroethene	96	7.766	7.766	0.000	77	7497	1.00	0.8701	
33 2,2-Dichloropropane	77		7.920				ND	ND	
35 Chlorobromomethane	128	8.026	8.026	0.000	1	1957	1.00	0.6495	
34 Cyclohexane	84	8.026	8.038	-0.012	94	10507	1.00	0.7053	
36 Chloroform	83	8.097	8.097	0.000	92	13626	1.00	0.8986	
39 Ethyl acetate	45		8.239				ND	ND	
37 Carbon tetrachloride	117	8.286	8.299	-0.013	90	6535	1.00	0.6619	
38 Tetrahydrofuran	71		8.322				ND	ND	
$ 41 Dibromofluoromethane (Surr	113		8.334				ND	ND	
40 1,1,1-Trichloroethane	97	8.381	8.381	0.000	92	10403	1.00	0.7864	
43 2-Butanone (MEK)	43		8.488				ND	ND	
42 1,1-Dichloropropene	75	8.535	8.523	0.012	84	9192	1.00	0.7659	
125 Isooctane	57	8.641	8.642	-0.001	95	31856	1.00	0.7339	
117 n-Heptane	43	8.748	8.748	0.000	89	11710	1.00	0.6442	
44 Benzene	78	8.843	8.843	0.000	94	32467	1.00	1.00	
45 Propionitrile	54		8.878				ND	ND	
46 Methacrylonitrile	41	8.890	8.902	-0.012	96	28848	10.0	7.25	
48 Tert-amyl methyl ether	73	8.949	8.949	0.000	89	16111	1.00	0.7763	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.996	9.009	-0.012	79	5247	1.00	0.6447	
50 Isobutyl alcohol	42	9.020	9.020	0.000	71	1864	25.0	10.9	
49 1,2-Dichloroethane	62	9.079	9.091	-0.012	91	8857	1.00	0.9152	
* 51 Fluorobenzene	96	9.328	9.328	0.000	97	1330749	50.0	50.0	
53 Trichloroethene	95	9.517	9.517	0.000	74	8161	1.00	0.9688	
52 Methylcyclohexane	55	9.517	9.517	0.000	89	12895	1.00	0.7684	
54 n-Butanol	56		9.813				ND	ND	
55 Dibromomethane	93		9.991				ND	ND	
124 Ethyl acrylate	55		10.062				ND	ND	
56 1,2-Dichloropropane	63	10.097	10.097	0.000	81	5951	1.00	0.7441	
57 Dichlorobromomethane	83	10.144	10.144	0.000	90	6456	1.00	0.6853	
58 Methyl methacrylate	69		10.275				ND	ND	
59 1,4-Dioxane	88		10.346				ND	ND	
60 2-Chloroethyl vinyl ether	63		10.689				ND	ND	
61 cis-1,3-Dichloropropene	75	10.771	10.772	-0.001	91	8486	1.00	0.8634	
$ 62 Toluene-d8 (Surr)	98	10.949	10.949	0.000	92	15449	1.00	0.7137	
63 Toluene	92	10.996	10.996	0.000	97	14743	1.00	0.9139	
64 2-Nitropropane	43		11.221				ND	ND	
66 4-Methyl-2-pentanone (MIBK	43		11.328				ND	ND	
67 trans-1,3-Dichloropropene	75	11.363	11.363	0.000	81	5845	1.00	0.7562	
65 Tetrachloroethene	164	11.351	11.363	-0.012	44	3168	1.00	0.7130	
119 n-Butyl acetate	43		11.411				ND	ND	
69 Ethyl methacrylate	69		11.470				ND	ND	
68 1,1,2-Trichloroethane	83		11.517				ND	ND	
S 73 1,3-Dichloropropene, Total	75				0			1.62	
70 Chlorodibromomethane	129		11.683				ND	ND	
71 1,3-Dichloropropane	76	11.765	11.766	-0.001	88	7615	1.00	1.01	
72 Ethylene Dibromide	107	11.907	11.908	-0.001	38	3073	1.00	0.8800	
74 2-Hexanone	43		12.038				ND	ND	
75 1-Chlorohexane	91	12.274	12.274	0.000	85	7864	1.00	0.8490	
* 76 Chlorobenzene-d5	117	12.321	12.322	-0.001	93	775380	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.333	12.334	-0.001	74	15932	1.00	0.9459	
78 Ethylbenzene	91	12.333	12.334	-0.001	91	33175	1.00	0.9718	
79 1,1,1,2-Tetrachloroethane	131	12.381	12.381	0.000	1	4252	1.00	0.7162	
80 m-Xylene & p-Xylene	106	12.440	12.440	0.000	94	8931	1.00	0.7749	
82 o-Xylene	106	12.795	12.795	0.000	98	9185	1.00	0.7902	
83 Styrene	104	12.830	12.831	0.000	89	13457	1.00	0.8350	
84 Bromoform	173		12.890				ND	ND	
85 Isopropylbenzene	105	13.031	13.032	-0.001	96	25816	1.00	0.3256	
$ 86 4-Bromofluorobenzene (Surr	95	13.268	13.268	0.000	77	5708	1.00	0.7064	
88 N-Propylbenzene	91	13.339	13.339	0.000	98	35426	1.00	0.9007	
87 Bromobenzene	156	13.375	13.375	0.000	89	4596	1.00	0.7679	
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	ND	
91 1,3,5-Trimethylbenzene	105	13.469	13.469	0.000	91	23710	1.00	0.8633	
90 2-Chlorotoluene	91	13.493	13.493	0.000	92	27111	1.00	1.15	
92 1,2,3-Trichloropropane	110		13.517				ND	ND	
93 trans-1,4-Dichloro-2-buten	53		13.529				ND	ND	
94 Cyclohexanone	55		13.588				ND	ND	
95 4-Chlorotoluene	91	13.611	13.611	0.000	97	22351	1.00	0.2997	
96 tert-Butylbenzene	119	13.730	13.730	0.000	92	17533	1.00	0.8236	
97 1,2,4-Trimethylbenzene	105	13.777	13.777	0.000	97	23572	1.00	0.8216	
98 sec-Butylbenzene	105	13.860	13.860	0.000	96	32219	1.00	0.8664	
99 4-Isopropyltoluene	119	13.943	13.943	0.000	95	24172	1.00	0.8049	
100 1,3-Dichlorobenzene	146	14.049	14.061	-0.012	92	13184	1.00	0.9709	
120 1,2,3-Trimethylbenzene	105	14.108	14.108	0.000	44	28902	1.00	0.9550	
* 101 1,4-Dichlorobenzene-d4	152	14.108	14.108	0.000	98	444379	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.120	14.120	0.000	88	14826	1.00	1.04	
103 n-Butylbenzene	134	14.250	14.250	0.000	97	6558	1.00	0.7788	
121 Benzyl chloride	126		14.286				ND	ND	
104 1,2-Dichlorobenzene	146	14.428	14.428	0.000	86	12108	1.00	0.9612	
106 n-Nonyl Aldehyde	57		14.949				ND	ND	
105 1,2-Dibromo-3-Chloropropan	157		15.031				ND	ND	
107 1,3,5-Trichlorobenzene	180	15.043	15.043	0.000	88	9320	1.00	0.8661	
108 Hexachlorobutadiene	225	15.504	15.505	-0.001	84	5586	1.00	1.03	
109 1,2,4-Trichlorobenzene	180	15.564	15.564	0.000	86	9498	1.00	1.07	
110 Naphthalene	128	15.871	15.860	0.011	93	16467	1.00	0.9824	
111 1,2,3-Trichlorobenzene	180	16.037	16.037	0.000	89	6443	1.00	0.8627	
S 112 Xylenes, Total	106				0			1.57	
S 113 Trihalomethanes, Total	1				0			1.58	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

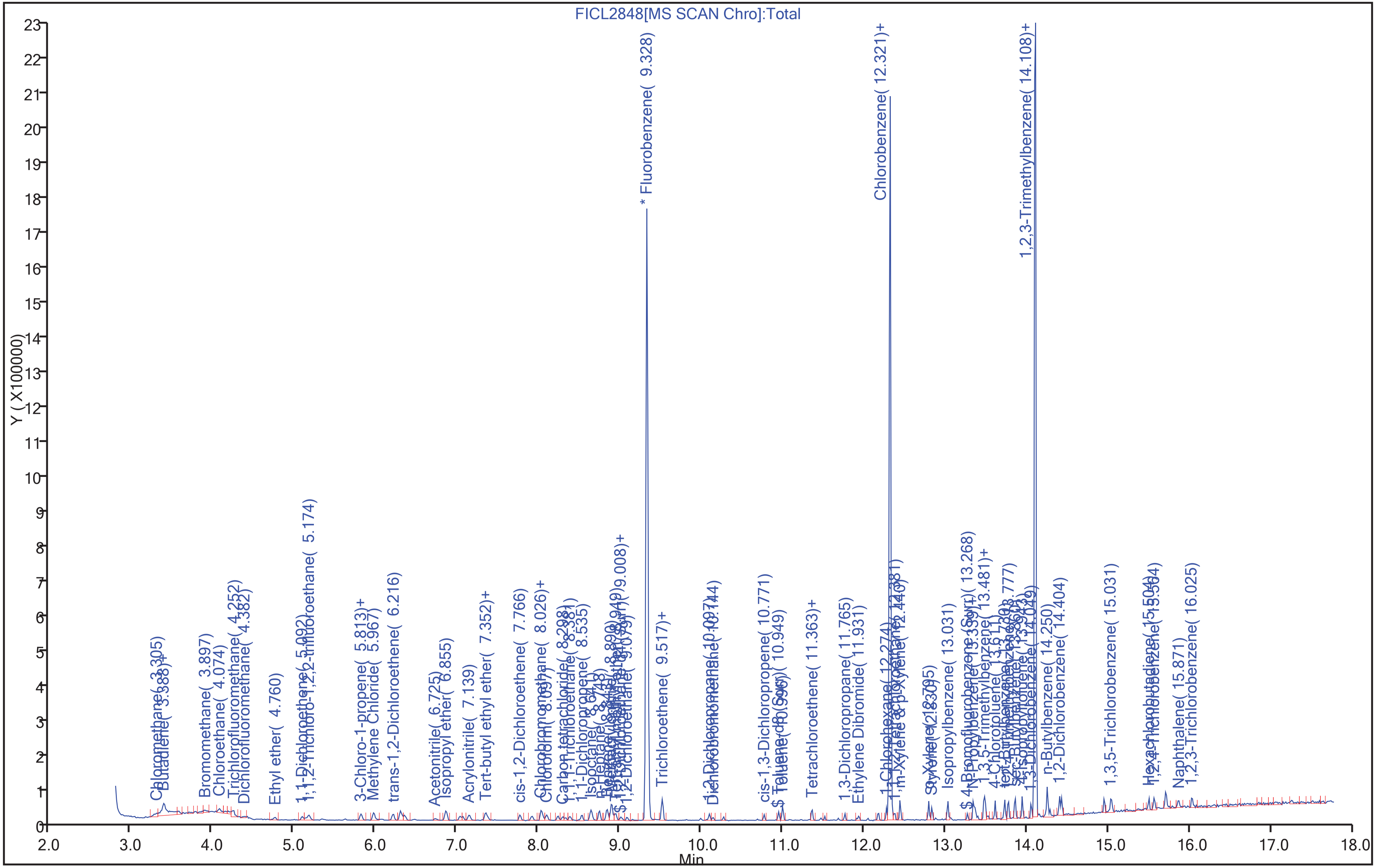
Reagents:

8260 Surr 25_00079	Amount Added: 0.20	Units: uL	
8260 NewWkMix_00239	Amount Added: 0.20	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 08-Oct-2017 22:07:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2848.D				
Injection Date:	02-Oct-2017 21:02:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2849.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Oct-2017 21:27:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011546-004
Misc. Info.: IC
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 08-Oct-2017 22:07:52 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK018

First Level Reviewer: hannj Date: 03-Oct-2017 16:27:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.950	2.938	0.012	95	21121	2.50	2.23	
2 1,2-Dichloro-1,1,2,2-tetra	135		3.163				ND	ND	
3 Chloromethane	50	3.269	3.258	0.011	95	46406	2.50	2.73	
122 Butadiene	39	3.388	3.388	0.000	95	63718	2.50	2.27	
4 Vinyl chloride	62	3.400	3.400	0.000	57	37517	2.50	2.49	
5 Bromomethane	94	3.897	3.897	-0.001	88	19499	2.50	3.97	
6 Chloroethane	64	4.074	4.074	0.000	98	23130	2.50	4.05	
7 Trichlorofluoromethane	101	4.263	4.264	-0.001	95	11362	2.50	0.8631	
123 Dichlorofluoromethane	67	4.382	4.382	0.000	97	44487	2.50	2.66	
8 Ethyl ether	74	4.760	4.761	-0.001	96	9414	2.50	2.32	
11 Ethanol	45		4.985				ND	ND	
9 1,1-Dichloroethene	96	5.103	5.092	0.011	90	16789	2.50	2.40	
10 Carbon disulfide	76	5.151	5.151	0.000	100	65589	2.50	2.40	
12 1,1,2-Trichloro-1,2,2-trif	151	5.174	5.175	-0.001	75	10150	2.50	2.06	
13 Iodomethane	142		5.329				ND	ND	
14 Acrolein	56	5.624	5.624	0.000	98	9683	12.5	10.2	
15 3-Chloro-1-propene	39	5.813	5.814	-0.001	87	32379	2.50	2.45	
S 26 1,2-Dichloroethene, Total	96				0			4.79	
16 Isopropyl alcohol	45	5.813	5.825	-0.012	13	6351	25.0	17.5	
17 Methylene Chloride	84	5.967	5.967	0.000	94	24622	2.50	2.95	
18 Acetone	43		6.062				ND	ND	
19 trans-1,2-Dichloroethene	96	6.204	6.204	0.000	92	20008	2.50	2.51	
20 Methyl acetate	74	6.216	6.216	0.000	72	1809	12.5	6.34	
21 Hexane	86	6.310	6.299	0.011	80	3843	2.50	1.70	
22 Methyl tert-butyl ether	73		6.346				ND	ND	
23 2-Methyl-2-propanol	59	6.464	6.464	0.000	91	11563	25.0	21.4	
24 Acetonitrile	41	6.725	6.725	0.000	98	19006	25.0	27.6	
25 Isopropyl ether	45	6.855	6.855	0.000	92	71995	2.50	2.35	
27 2-Chloro-1,3-butadiene	53	7.032	7.032	0.000	91	32370	2.50	2.09	
28 1,1-Dichloroethane	63	7.068	7.068	0.000	96	41973	2.50	2.47	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.151	7.139	0.012	98	45050	25.0	22.3	
30 Tert-butyl ethyl ether	59	7.340	7.352	-0.012	96	54128	2.50	2.18	
31 Vinyl acetate	43	7.375	7.376	-0.001	96	32972	2.50	2.09	
32 cis-1,2-Dichloroethene	96	7.766	7.766	0.000	84	19117	2.50	2.28	
33 2,2-Dichloropropane	77	7.920	7.920	0.000	90	25973	2.50	2.60	
35 Chlorobromomethane	128	8.026	8.026	0.000	86	6251	2.50	2.13	
34 Cyclohexane	84	8.038	8.038	0.000	95	29400	2.50	2.03	
36 Chloroform	83	8.097	8.097	0.000	98	37064	2.50	2.51	
39 Ethyl acetate	45	8.227	8.239	-0.012	97	3866	5.00	5.22	
37 Carbon tetrachloride	117	8.298	8.299	-0.001	94	22192	2.50	2.31	
38 Tetrahydrofuran	71		8.322				ND	ND	
$ 41 Dibromofluoromethane (Surr	113		8.334				ND	ND	
40 1,1,1-Trichloroethane	97	8.381	8.381	0.000	94	31489	2.50	2.45	
43 2-Butanone (MEK)	43		8.488				ND	ND	
42 1,1-Dichloropropene	75	8.523	8.523	0.000	90	26848	2.50	2.30	
125 Isooctane	57	8.641	8.642	-0.001	98	96700	2.50	2.29	
117 n-Heptane	43	8.748	8.748	0.000	90	34228	2.50	1.94	
44 Benzene	78	8.843	8.843	0.000	95	83880	2.50	2.66	
45 Propionitrile	54		8.878				ND	ND	
46 Methacrylonitrile	41	8.890	8.902	-0.012	96	80329	25.0	20.7	
48 Tert-amyl methyl ether	73	8.949	8.949	0.000	91	43641	2.50	2.16	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.008	9.009	0.000	92	20629	2.50	2.61	
50 Isobutyl alcohol	42	9.020	9.020	0.000	86	6494	62.5	39.0	
49 1,2-Dichloroethane	62	9.079	9.091	-0.012	93	22703	2.50	2.41	
* 51 Fluorobenzene	96	9.328	9.328	0.000	97	1294613	50.0	50.0	
52 Methylcyclohexane	55	9.517	9.517	0.000	95	34587	2.50	2.12	
53 Trichloroethene	95	9.517	9.517	0.000	64	20175	2.50	2.46	
54 n-Butanol	56	9.813	9.813	0.000	82	5334	62.5	73.7	
55 Dibromomethane	93	9.990	9.991	-0.001	93	7443	2.50	2.29	
124 Ethyl acrylate	55		10.062				ND	ND	
56 1,2-Dichloropropane	63	10.097	10.097	0.000	91	18951	2.50	2.44	
57 Dichlorobromomethane	83	10.144	10.144	0.000	96	20155	2.50	2.20	
58 Methyl methacrylate	69		10.275				ND	ND	
59 1,4-Dioxane	88		10.346				ND	ND	
60 2-Chloroethyl vinyl ether	63		10.689				ND	ND	
61 cis-1,3-Dichloropropene	75	10.771	10.772	-0.001	90	20548	2.50	2.15	
$ 62 Toluene-d8 (Surr)	98	10.949	10.949	0.000	95	52366	2.50	2.52	
63 Toluene	92	10.996	10.996	0.000	97	38279	2.50	2.48	
64 2-Nitropropane	43	11.221	11.221	0.000	87	5045	5.00	8.12	
66 4-Methyl-2-pentanone (MIBK	43	11.328	11.328	0.000	91	8587	2.50	1.86	
65 Tetrachloroethene	164	11.363	11.363	0.000	89	9014	2.50	2.12	
67 trans-1,3-Dichloropropene	75	11.363	11.363	0.000	95	16106	2.50	2.17	
119 n-Butyl acetate	43		11.411				ND	ND	
69 Ethyl methacrylate	69		11.470				ND	ND	
68 1,1,2-Trichloroethane	83	11.517	11.517	0.000	90	8212	2.50	2.34	
S 73 1,3-Dichloropropene, Total	75				0			4.32	
70 Chlorodibromomethane	129	11.682	11.683	-0.001	86	8509	2.50	2.17	
71 1,3-Dichloropropane	76	11.765	11.766	-0.001	96	17019	2.50	2.34	
72 Ethylene Dibromide	107	11.907	11.908	-0.001	96	7210	2.50	2.15	
74 2-Hexanone	43		12.038				ND	ND	
75 1-Chlorohexane	91	12.274	12.274	0.000	82	18614	2.50	2.10	
* 76 Chlorobenzene-d5	117	12.321	12.322	-0.001	92	743100	50.0	50.0	

Report Date: 08-Oct-2017 22:07:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2849.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
78 Ethylbenzene	91	12.333	12.334	-0.001	92	82996	2.50	2.54	
77 Chlorobenzene	112	12.333	12.334	-0.001	72	41577	2.50	2.58	
79 1,1,1,2-Tetrachloroethane	131	12.381	12.381	0.000	89	12623	2.50	2.22	
80 m-Xylene & p-Xylene	106	12.440	12.440	0.000	96	26041	2.50	2.36	
82 o-Xylene	106	12.795	12.795	0.000	99	25746	2.50	2.31	
83 Styrene	104	12.830	12.831	0.000	91	34980	2.50	2.26	
84 Bromoform	173	12.889	12.890	-0.001	20	3577	2.50	4.03	
85 Isopropylbenzene	105	13.031	13.032	-0.001	98	69378	2.50	1.69	
$ 86 4-Bromofluorobenzene (Surr	95	13.268	13.268	0.000	72	22249	2.50	2.83	
88 N-Propylbenzene	91	13.339	13.339	0.000	99	94957	2.50	2.48	
87 Bromobenzene	156	13.375	13.375	0.000	92	14374	2.50	2.47	
89 1,1,2,2-Tetrachloroethane	83		13.398				ND	ND	
91 1,3,5-Trimethylbenzene	105	13.469	13.469	0.000	94	60546	2.50	2.27	
90 2-Chlorotoluene	91	13.493	13.493	0.000	93	67072	2.50	2.50	
92 1,2,3-Trichloropropane	110	13.528	13.517	0.011	8	3326	2.50	2.35	
93 trans-1,4-Dichloro-2-buten	53		13.529				ND	ND	
94 Cyclohexanone	55	13.588	13.588	0.000	1	3144	25.0	18.6	
95 4-Chlorotoluene	91	13.611	13.611	0.000	98	59386	2.50	1.82	
96 tert-Butylbenzene	119	13.730	13.730	0.000	95	48413	2.50	2.34	
97 1,2,4-Trimethylbenzene	105	13.777	13.777	0.000	97	69501	2.50	2.49	
98 sec-Butylbenzene	105	13.860	13.860	0.000	95	89529	2.50	2.47	
99 4-Isopropyltoluene	119	13.943	13.943	0.000	97	72169	2.50	2.47	
100 1,3-Dichlorobenzene	146	14.049	14.061	-0.012	91	35150	2.50	2.66	
* 101 1,4-Dichlorobenzene-d4	152	14.108	14.108	0.000	98	432269	50.0	50.0	
120 1,2,3-Trimethylbenzene	105	14.108	14.108	0.000	46	75214	2.50	2.55	
102 1,4-Dichlorobenzene	146	14.120	14.120	0.000	94	37880	2.50	2.74	
103 n-Butylbenzene	134	14.250	14.250	0.000	99	16742	2.50	2.04	
121 Benzyl chloride	126		14.286				ND	ND	
104 1,2-Dichlorobenzene	146	14.428	14.428	0.000	88	31705	2.50	2.59	
106 n-Nonyl Aldehyde	57	14.948	14.949	-0.001	64	11713	2.50	2.21	
105 1,2-Dibromo-3-Chloropropan	157		15.031				ND	ND	
107 1,3,5-Trichlorobenzene	180	15.043	15.043	0.000	95	26967	2.50	2.58	
108 Hexachlorobutadiene	225	15.504	15.505	-0.001	93	14417	2.50	2.73	
109 1,2,4-Trichlorobenzene	180	15.564	15.564	0.000	90	21517	2.50	2.50	
110 Naphthalene	128	15.859	15.860	-0.001	97	40949	2.50	2.51	
111 1,2,3-Trichlorobenzene	180	16.037	16.037	0.000	89	17775	2.50	2.45	
S 112 Xylenes, Total	106				0			4.67	
S 113 Trihalomethanes, Total	1				0			10.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

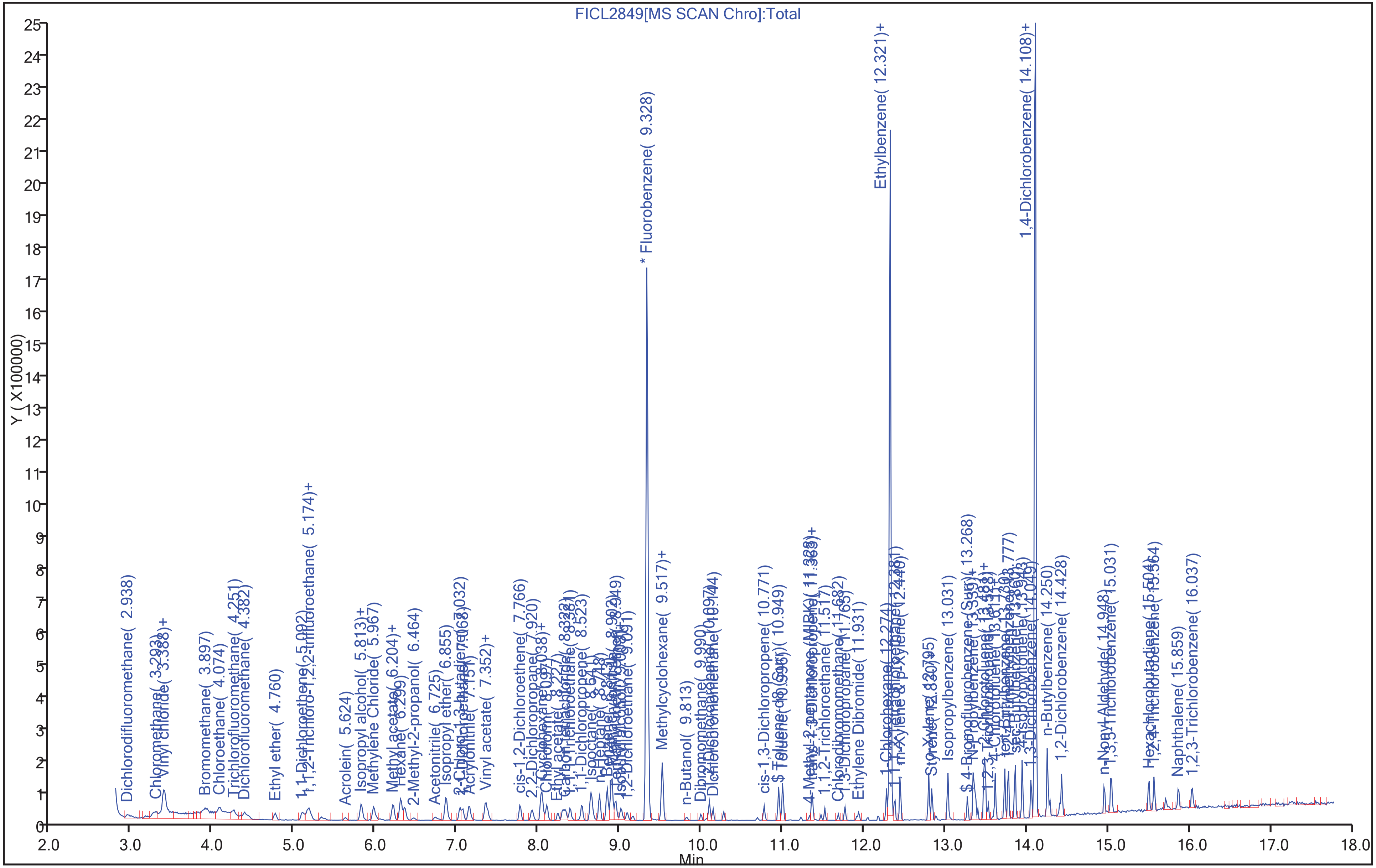
Reagents:

8260 Surr 25_00079	Amount Added: 0.50	Units: uL	
8260 NewWkMix_00239	Amount Added: 0.50	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 08-Oct-2017 22:07:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2849.D				
Injection Date:	02-Oct-2017 21:27:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



Report Date: 08-Oct-2017 22:07:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2850.D
Lims ID: IC
Client ID:
Sample Type: IC
Calib Level: 3
Inject. Date: 02-Oct-2017 21:52:30
ALS Bottle#: 4
Worklist Smp#: 5
Purge Vol: 5.000 mL
Dil. Factor: 1.0000
Sample Info: 160-0011546-005
Misc. Info.: IC
Operator ID: JDH
Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 08-Oct-2017 22:07:54
Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE
ID Type: Deconvolution ID
Quant Method: Internal Standard
Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 :
Det: MS SCAN
Process Host: XAWRK018

First Level Reviewer: hannj
Date: 03-Oct-2017 16:37:08

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.951	2.938	0.013	97	48906	5.00	5.38	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.164	3.163	0.001	32	13474	5.00	4.45	M
3 Chloromethane	50	3.271	3.258	0.013	98	92162	5.00	5.65	
122 Butadiene	39	3.389	3.388	0.001	97	113197	5.00	5.09	
4 Vinyl chloride	62	3.401	3.400	0.001	60	78459	5.00	5.42	
5 Bromomethane	94	3.886	3.897	-0.011	93	40620	5.00	8.61	
6 Chloroethane	64	4.075	4.074	0.001	97	43761	5.00	7.98	
7 Trichlorofluoromethane	101	4.312	4.264	0.048	93	62143	5.00	4.92	M
123 Dichlorofluoromethane	67	4.383	4.382	0.001	99	86685	5.00	5.39	
8 Ethyl ether	74	4.762	4.761	0.001	93	19530	5.00	5.02	
11 Ethanol	45	4.975	4.985	-0.010	1	9430	200.0	173.1	M
9 1,1-Dichloroethene	96	5.093	5.092	0.001	95	33288	5.00	4.97	
10 Carbon disulfide	76	5.152	5.151	0.001	100	135525	5.00	5.18	
12 1,1,2-Trichloro-1,2,2-trif	151	5.188	5.175	0.013	93	23135	5.00	4.89	
13 Iodomethane	142	5.330	5.329	0.002	96	42117	5.00	4.80	
14 Acrolein	56	5.625	5.624	0.001	98	21078	25.0	23.1	
15 3-Chloro-1-propene	39	5.815	5.814	0.001	86	66566	5.00	5.25	
S 26 1,2-Dichloroethene, Total	96				0			10.0	
16 Isopropyl alcohol	45	5.815	5.825	-0.010	15	17220	50.0	49.3	
17 Methylene Chloride	84	5.969	5.967	0.002	94	43663	5.00	5.45	
18 Acetone	43	6.051	6.062	-0.011	96	12838	5.00	6.50	
19 trans-1,2-Dichloroethene	96	6.205	6.204	0.001	94	37967	5.00	4.97	
20 Methyl acetate	74	6.217	6.216	0.001	100	5483	25.0	20.0	
21 Hexane	86	6.300	6.299	0.001	95	8575	5.00	3.95	
22 Methyl tert-butyl ether	73	6.347	6.346	0.001	95	81534	5.00	4.75	
23 2-Methyl-2-propanol	59	6.454	6.464	-0.010	94	25331	50.0	48.9	
24 Acetonitrile	41	6.714	6.725	-0.011	97	35099	50.0	53.1	
25 Isopropyl ether	45	6.856	6.855	0.001	93	141975	5.00	4.83	
27 2-Chloro-1,3-butadiene	53	7.033	7.032	0.001	95	66303	5.00	4.47	
28 1,1-Dichloroethane	63	7.069	7.068	0.001	95	83811	5.00	5.14	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.140	7.139	0.001	99	95283	50.0	49.2	
30 Tert-butyl ethyl ether	59	7.341	7.352	-0.011	97	114034	5.00	4.78	
31 Vinyl acetate	43	7.377	7.376	0.001	97	69478	5.00	4.59	
32 cis-1,2-Dichloroethene	96	7.767	7.766	0.001	86	40665	5.00	5.06	
33 2,2-Dichloropropane	77	7.921	7.920	0.001	91	50435	5.00	5.26	
35 Chlorobromomethane	128	8.027	8.026	0.001	84	12959	5.00	4.61	
34 Cyclohexane	84	8.039	8.038	0.001	94	66768	5.00	4.80	
36 Chloroform	83	8.098	8.097	0.001	96	71173	5.00	5.03	
39 Ethyl acetate	45	8.229	8.239	-0.010	99	7615	10.0	10.7	
37 Carbon tetrachloride	117	8.300	8.299	0.001	94	46295	5.00	5.02	
38 Tetrahydrofuran	71	8.323	8.322	0.001	64	3654	10.0	8.01	
$ 41 Dibromofluoromethane (Surr	113	8.335	8.334	0.001	93	30235	5.00	5.13	
40 1,1,1-Trichloroethane	97	8.382	8.381	0.001	95	62307	5.00	5.05	
43 2-Butanone (MEK)	43	8.489	8.488	0.001	92	12534	5.00	5.28	
42 1,1-Dichloropropene	75	8.524	8.523	0.001	89	53202	5.00	4.75	
125 Isooctane	57	8.643	8.642	0.001	96	201855	5.00	4.98	
117 n-Heptane	43	8.749	8.748	0.001	93	76312	5.00	4.50	
44 Benzene	78	8.844	8.843	0.001	95	161325	5.00	5.33	
45 Propionitrile	54	8.879	8.878	0.001	94	33400	50.0	46.4	
46 Methacrylonitrile	41	8.891	8.902	-0.011	96	188964	50.0	50.9	
48 Tert-amyl methyl ether	73	8.939	8.949	-0.010	93	90499	5.00	4.67	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.998	9.009	-0.010	90	39437	5.00	5.19	
50 Isobutyl alcohol	42	9.021	9.020	0.001	84	15639	125.0	97.9	
49 1,2-Dichloroethane	62	9.081	9.091	-0.010	96	44918	5.00	4.97	
* 51 Fluorobenzene	96	9.329	9.328	0.001	97	1242255	50.0	50.0	
53 Trichloroethene	95	9.518	9.517	0.001	64	40125	5.00	5.10	
52 Methylcyclohexane	55	9.518	9.517	0.001	95	77171	5.00	4.93	
54 n-Butanol	56	9.826	9.813	0.013	92	12360	125.0	125.5	
55 Dibromomethane	93	9.992	9.991	0.001	86	15081	5.00	4.84	
124 Ethyl acrylate	55	10.063	10.062	0.001	33	16121	5.00	5.95	
56 1,2-Dichloropropane	63	10.098	10.097	0.001	88	35486	5.00	4.75	
57 Dichlorobromomethane	83	10.146	10.144	0.002	96	41363	5.00	4.70	
58 Methyl methacrylate	69	10.276	10.275	0.001	93	17629	10.0	11.3	
59 1,4-Dioxane	88	10.347	10.346	0.001	22	2011	100.0	104.3	
60 2-Chloroethyl vinyl ether	63	10.690	10.689	0.001	83	9427	5.00	5.97	
61 cis-1,3-Dichloropropene	75	10.773	10.772	0.001	88	40058	5.00	4.37	
$ 62 Toluene-d8 (Surr)	98	10.950	10.949	0.001	95	111815	5.00	5.54	
63 Toluene	92	10.997	10.996	0.001	97	78521	5.00	5.22	
64 2-Nitropropane	43	11.222	11.221	0.001	98	9234	10.0	11.3	
66 4-Methyl-2-pentanone (MIBK	43	11.329	11.328	0.001	96	18168	5.00	4.05	
67 trans-1,3-Dichloropropene	75	11.364	11.363	0.001	96	32243	5.00	4.47	
65 Tetrachloroethene	164	11.364	11.363	0.001	89	20217	5.00	4.88	
119 n-Butyl acetate	43	11.400	11.411	-0.011	14	3338	5.00	3.76	
69 Ethyl methacrylate	69	11.471	11.470	0.001	62	17333	5.00	5.47	
68 1,1,2-Trichloroethane	83	11.518	11.517	0.001	92	16908	5.00	4.95	
S 73 1,3-Dichloropropene, Total	75				0			8.84	
70 Chlorodibromomethane	129	11.684	11.683	0.001	90	15632	5.00	4.09	
71 1,3-Dichloropropane	76	11.767	11.766	0.001	98	35285	5.00	5.00	
72 Ethylene Dibromide	107	11.909	11.908	0.001	94	15268	5.00	4.69	
74 2-Hexanone	43	12.039	12.038	0.001	93	11785	5.00	4.48	
75 1-Chlorohexane	91	12.275	12.274	0.001	85	39064	5.00	4.52	
* 76 Chlorobenzene-d5	117	12.323	12.322	0.001	94	723096	50.0	50.0	

Report Date: 08-Oct-2017 22:07:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2850.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.335	12.334	0.001	75	81997	5.00	5.22	
78 Ethylbenzene	91	12.335	12.334	0.001	91	166173	5.00	5.22	
79 1,1,1,2-Tetrachloroethane	131	12.382	12.381	0.001	91	26026	5.00	4.70	
80 m-Xylene & p-Xylene	106	12.441	12.440	0.001	96	54403	5.00	5.06	
82 o-Xylene	106	12.796	12.795	0.001	99	55232	5.00	5.10	
83 Styrene	104	12.832	12.831	0.002	95	69342	5.00	4.61	
84 Bromoform	173	12.891	12.890	0.001	45	8141	5.00	5.99	
85 Isopropylbenzene	105	13.033	13.032	0.001	97	150158	5.00	4.28	
$ 86 4-Bromofluorobenzene (Surr	95	13.269	13.268	0.001	75	41717	5.00	5.38	
88 N-Propylbenzene	91	13.340	13.339	0.001	99	200579	5.00	5.31	
87 Bromobenzene	156	13.376	13.375	0.001	94	28320	5.00	4.93	
89 1,1,2,2-Tetrachloroethane	83	13.400	13.398	0.002	95	27858	5.00	5.20	
91 1,3,5-Trimethylbenzene	105	13.471	13.469	0.001	94	131619	5.00	4.99	
90 2-Chlorotoluene	91	13.494	13.493	0.001	94	142377	5.00	5.09	
92 1,2,3-Trichloropropane	110	13.518	13.517	0.001	14	6533	5.00	4.67	
93 trans-1,4-Dichloro-2-buten	53	13.530	13.529	0.001	71	9116	5.00	5.23	
94 Cyclohexanone	55	13.577	13.588	-0.011	90	7688	50.0	46.0	
95 4-Chlorotoluene	91	13.613	13.611	0.001	99	125267	5.00	4.58	
96 tert-Butylbenzene	119	13.731	13.730	0.001	93	105843	5.00	5.18	
97 1,2,4-Trimethylbenzene	105	13.778	13.777	0.001	98	141245	5.00	5.13	
98 sec-Butylbenzene	105	13.861	13.860	0.001	95	188357	5.00	5.28	
99 4-Isopropyltoluene	119	13.944	13.943	0.001	96	145319	5.00	5.04	
100 1,3-Dichlorobenzene	146	14.050	14.061	-0.011	93	71230	5.00	5.46	
120 1,2,3-Trimethylbenzene	105	14.109	14.108	0.001	52	153537	5.00	5.28	
* 101 1,4-Dichlorobenzene-d4	152	14.109	14.108	0.001	96	426585	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.121	14.120	0.001	95	74061	5.00	5.42	
103 n-Butylbenzene	134	14.251	14.250	0.001	99	39551	5.00	4.89	
121 Benzyl chloride	126	14.287	14.286	0.001	12	10470	5.00	5.04	
104 1,2-Dichlorobenzene	146	14.429	14.428	0.001	91	63267	5.00	5.23	
106 n-Nonyl Aldehyde	57	14.950	14.949	0.001	84	24049	5.00	4.59	
105 1,2-Dibromo-3-Chloropropan	157	15.032	15.031	0.001	12	3181	5.00	3.77	
107 1,3,5-Trichlorobenzene	180	15.044	15.043	0.001	93	54142	5.00	5.24	
108 Hexachlorobutadiene	225	15.506	15.505	0.001	91	24347	5.00	4.67	
109 1,2,4-Trichlorobenzene	180	15.565	15.564	0.001	91	42719	5.00	5.03	
110 Naphthalene	128	15.861	15.860	0.001	98	84694	5.00	5.26	
111 1,2,3-Trichlorobenzene	180	16.038	16.037	0.001	93	37298	5.00	5.20	
S 112 Xylenes, Total	106				0			10.2	
S 113 Trihalomethanes, Total	1				0			19.8	

QC Flag Legend

Review Flags

M - Manually Integrated

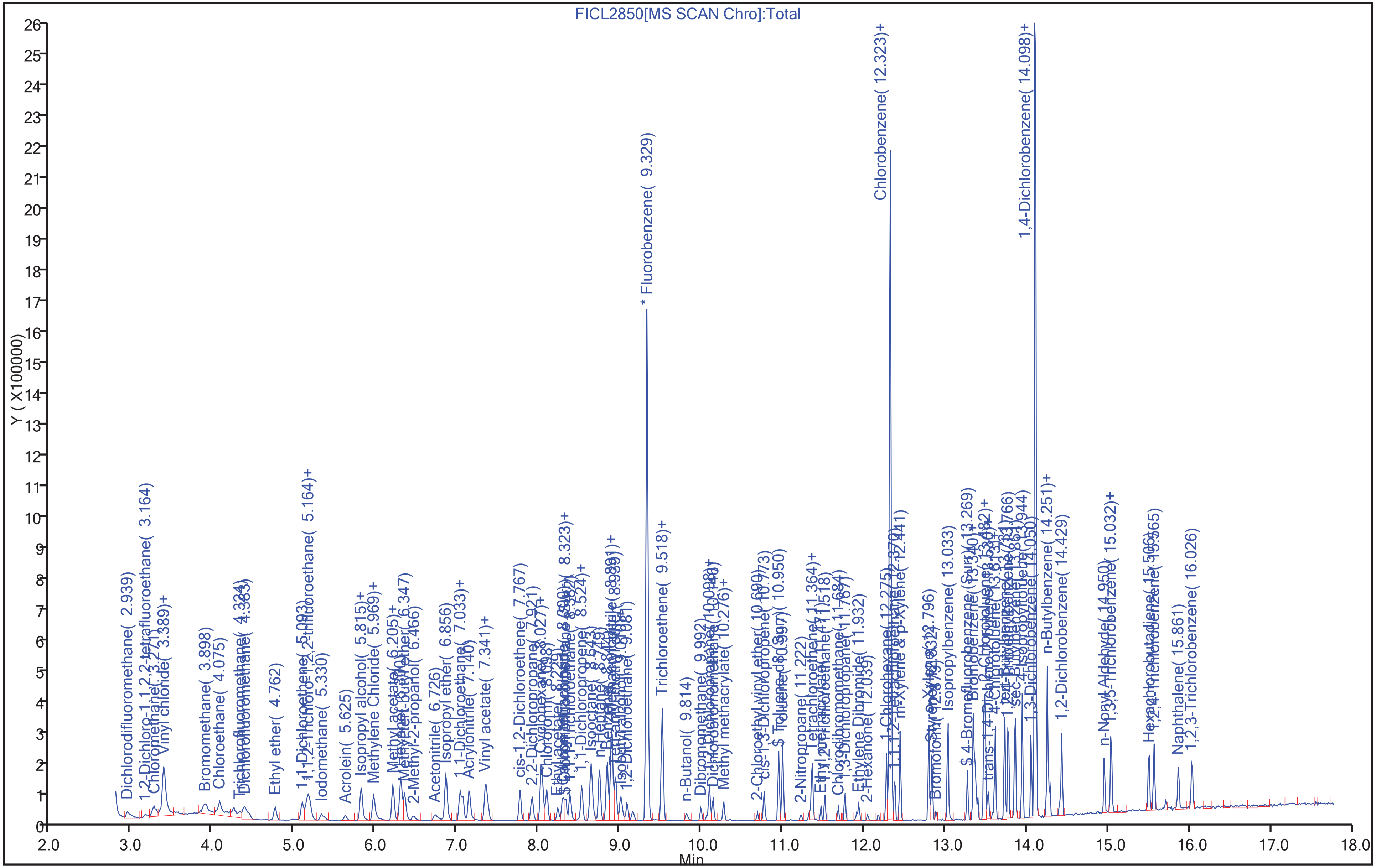
Reagents:

8260 Surr 25_00079	Amount Added: 1.00	Units: uL	
8260 NewWkMix_00239	Amount Added: 1.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 08-Oct-2017 22:07:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2850.D				
Injection Date:	02-Oct-2017 21:52:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis

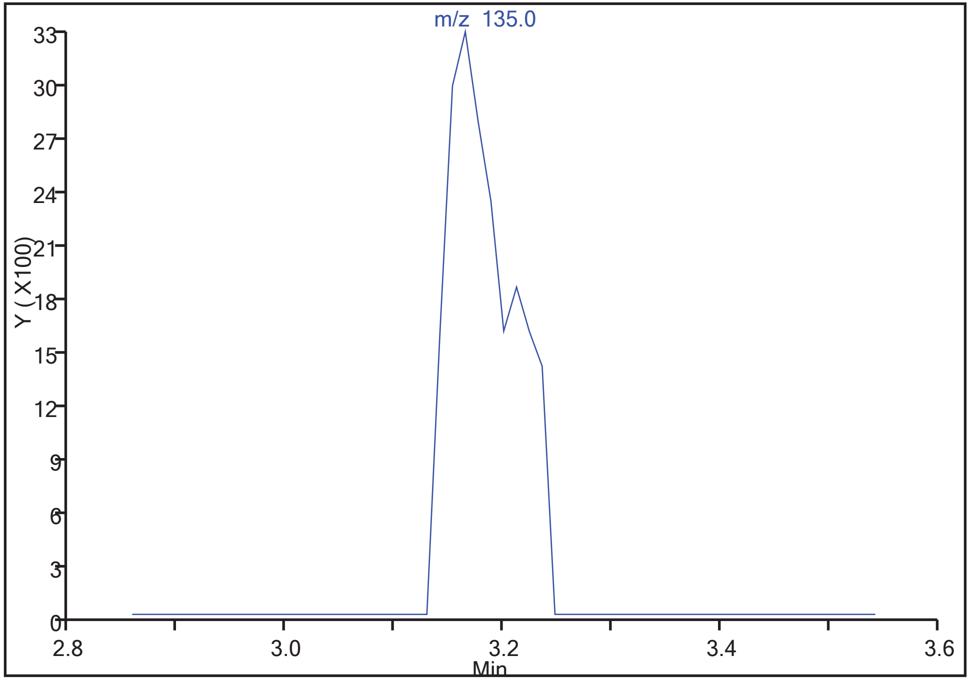
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2850.D				
Injection Date:	02-Oct-2017 21:52:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

2 1,2-Dichloro-1,1,2,2-tetrafluoroethane, CAS: 76-14-2

Signal: 1

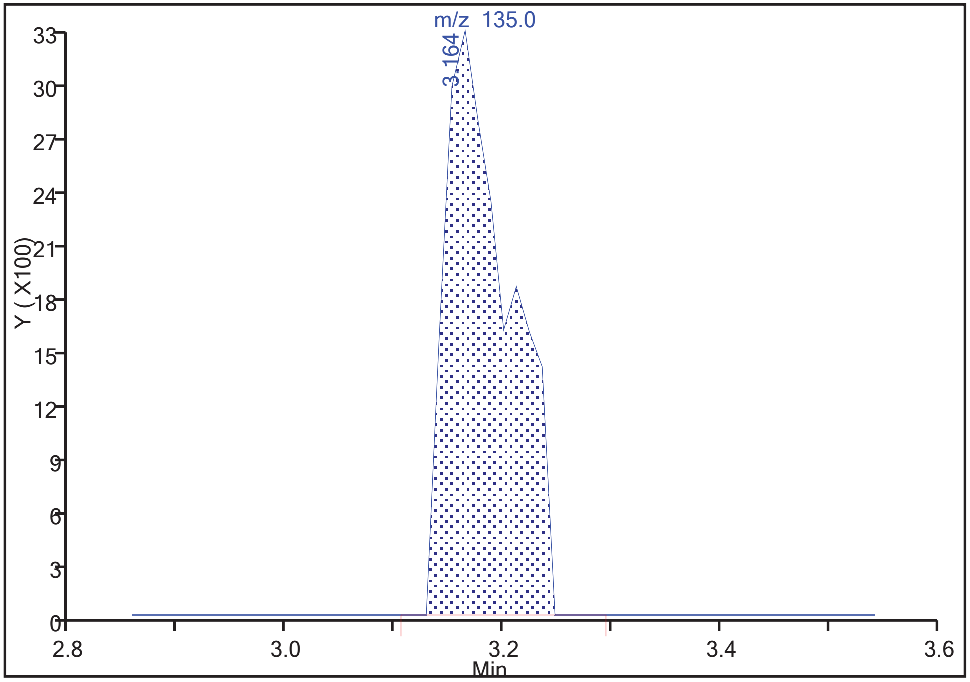
Not Detected
Expected RT: 3.16

Processing Integration Results



RT: 3.16
Area: 13474
Amount: 4.446342
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 03-Oct-2017 16:34:39
Audit Action: Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2850.D				
Injection Date:	02-Oct-2017 21:52:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

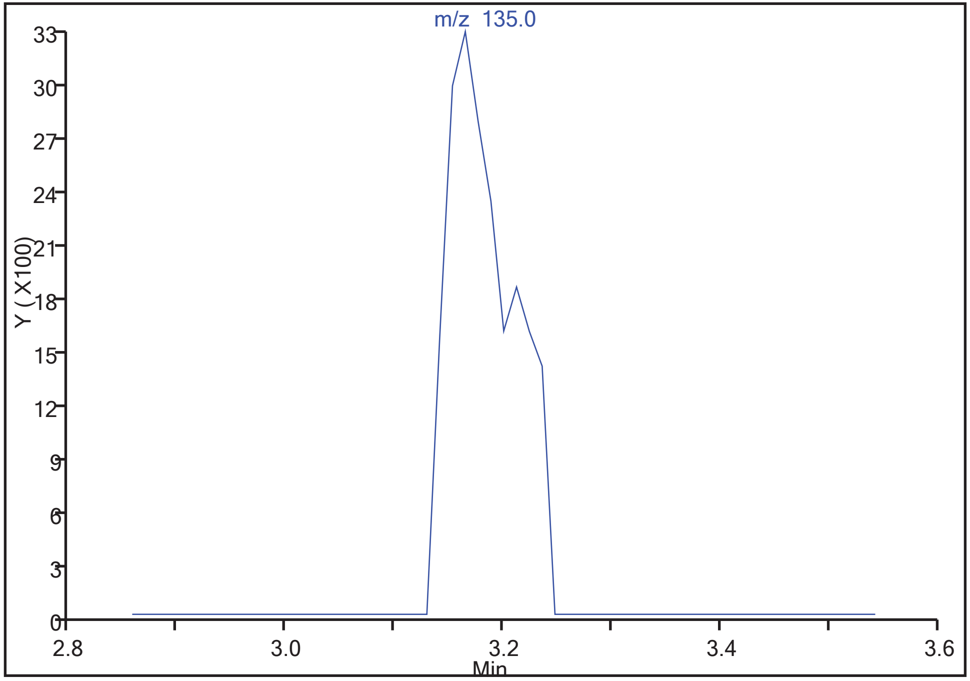
2 1,2-Dichloro-1,1,2,2-tetrafluoroethane, CAS: 76-14-2

Signal: 1

Not Detected

Expected RT: 3.16

Processing Integration Results



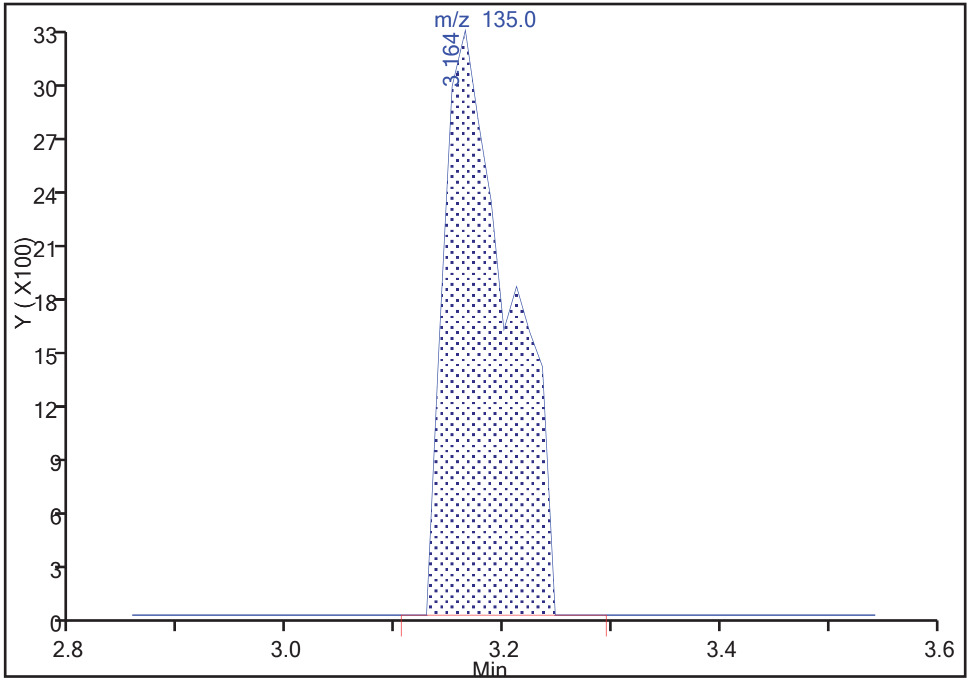
RT: 3.16

Area: 13474

Amount: 4.446342

Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 03-Oct-2017 16:34:47

Audit Action: Manually Integrated

Audit Reason: Split Peak

TestAmerica St. Louis

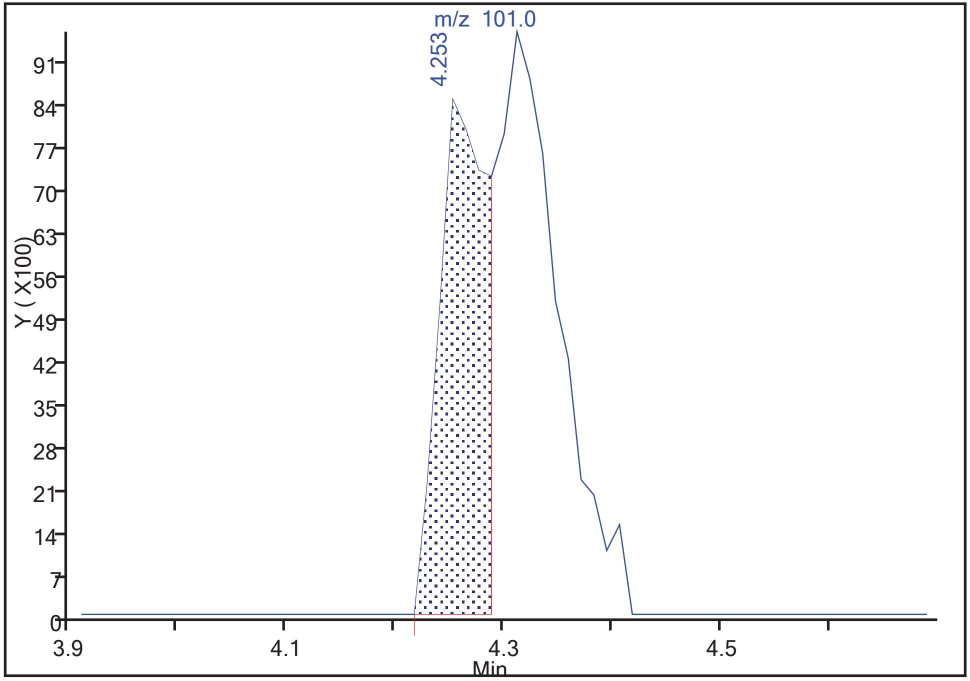
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2850.D				
Injection Date:	02-Oct-2017 21:52:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

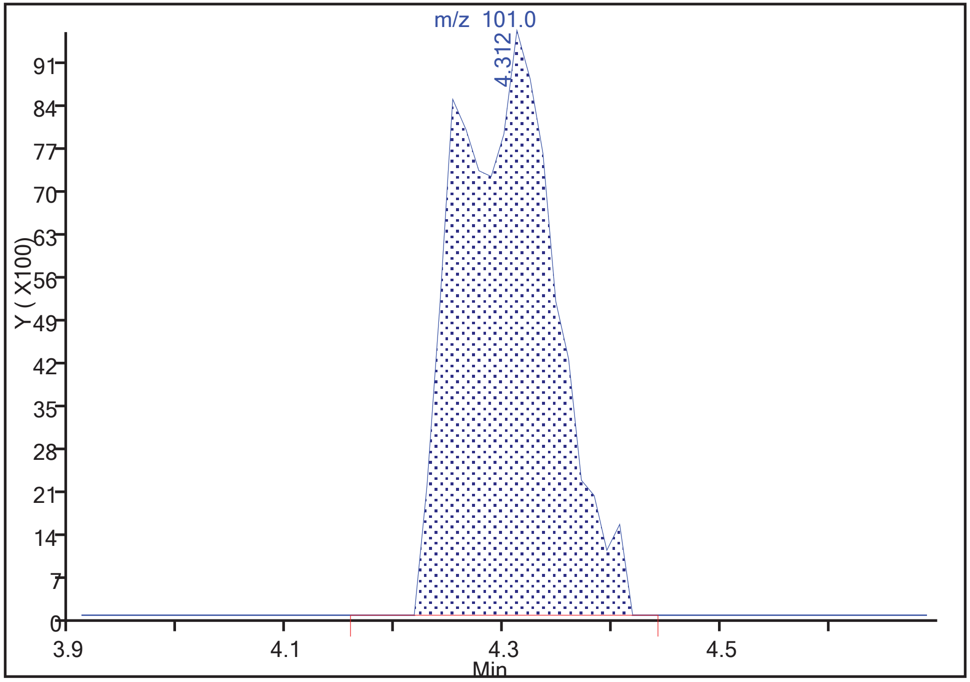
Processing Integration Results

RT: 4.25
Area: 26904
Amount: 3.869575
Amount Units: ug/l



Manual Integration Results

RT: 4.31
Area: 62143
Amount: 4.919681
Amount Units: ug/l



Reviewer: hannj, 03-Oct-2017 16:35:03
Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica St. Louis

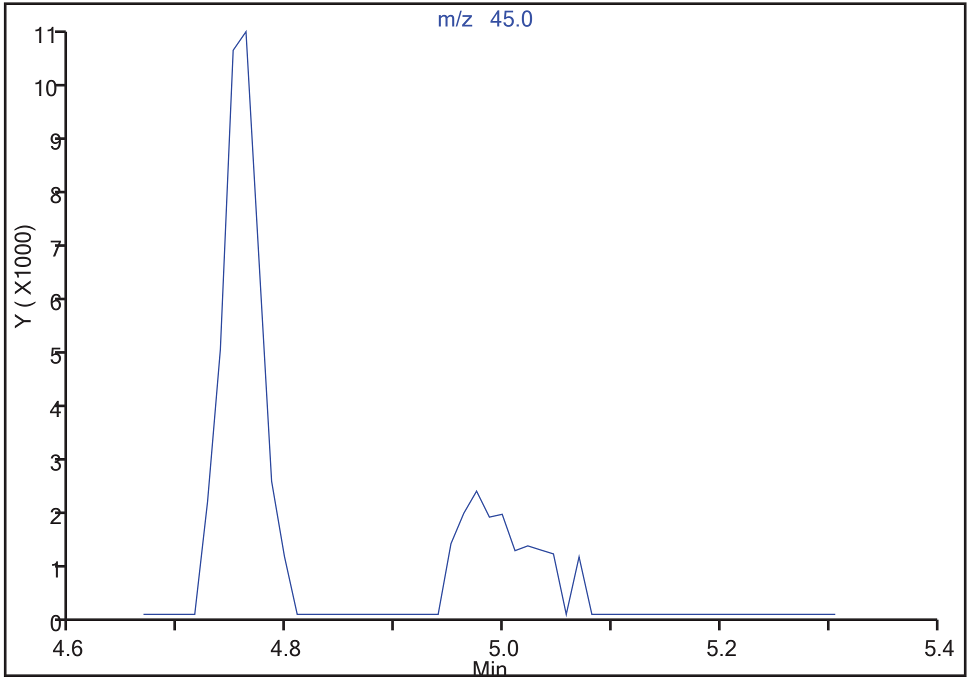
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2850.D				
Injection Date:	02-Oct-2017 21:52:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

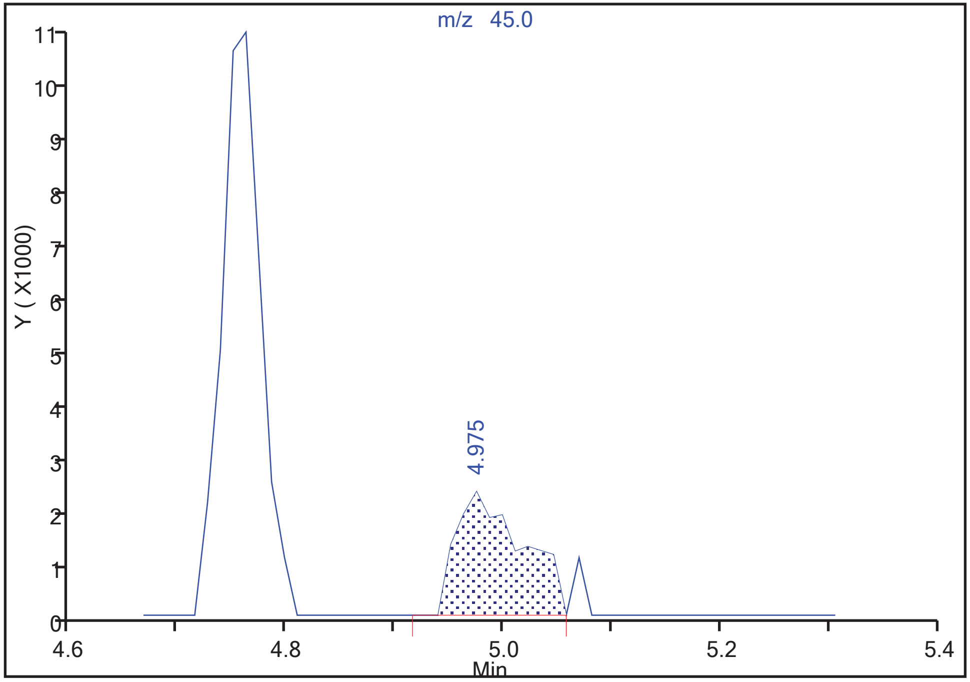
Not Detected
Expected RT: 4.99

Processing Integration Results



RT: 4.97
Area: 9430
Amount: 173.1087
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 03-Oct-2017 16:35:11
Audit Action: Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

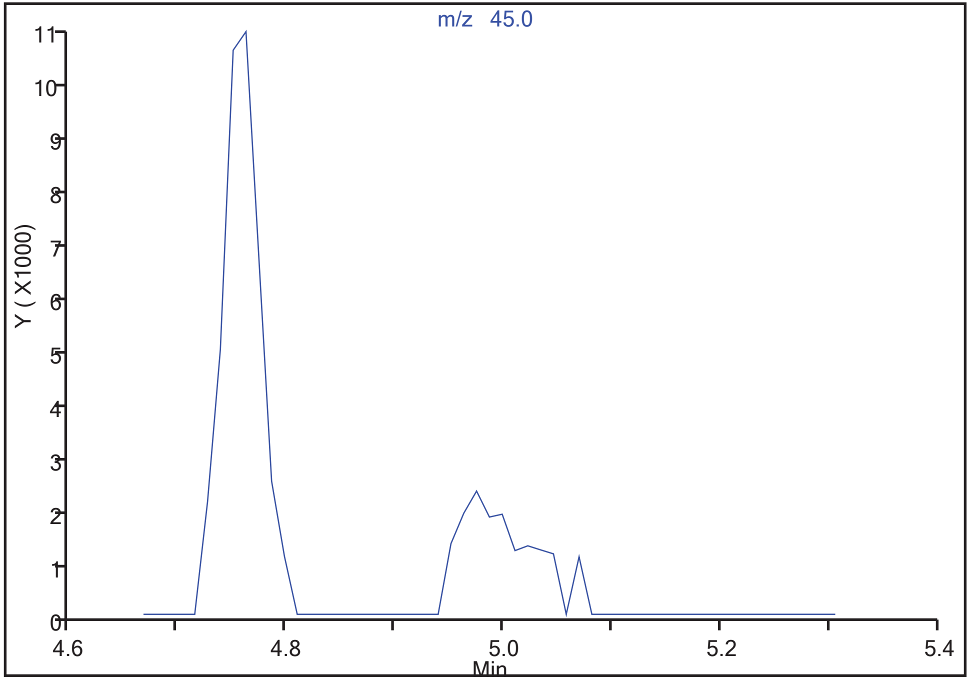
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2850.D
Injection Date: 02-Oct-2017 21:52:30 Instrument ID: VMSF
Lims ID: IC
Client ID:
Operator ID: JDH ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD
Column: Detector MS SCAN

11 Ethanol, CAS: 64-17-5

Signal: 1

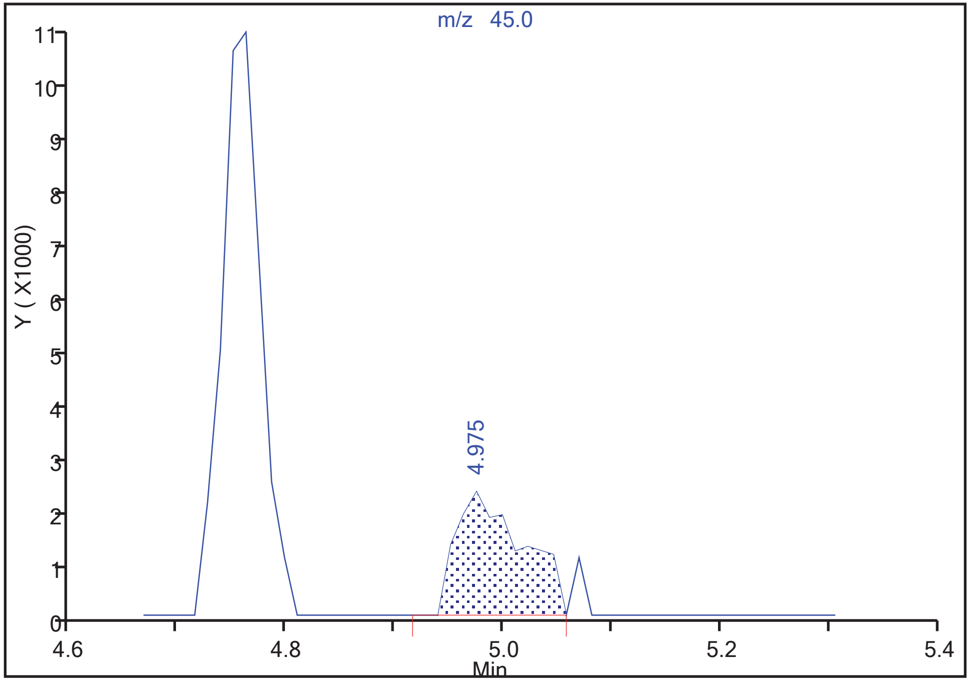
Not Detected
Expected RT: 4.99

Processing Integration Results



RT: 4.97
Area: 9430
Amount: 173.1087
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 03-Oct-2017 16:35:24
Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2851.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Oct-2017 22:17:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011546-006
Misc. Info.: IC
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 08-Oct-2017 22:07:56 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK018

First Level Reviewer: hannj Date: 03-Oct-2017 16:41:34

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.948	2.938	0.010	99	101037	10.0	10.6	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.161	3.163	-0.002	95	32221	10.0	10.1	
3 Chloromethane	50	3.268	3.258	0.010	100	177698	10.0	10.4	
122 Butadiene	39	3.386	3.388	-0.002	96	218004	10.0	10.3	
4 Vinyl chloride	62	3.398	3.400	-0.002	62	173578	10.0	11.4	
5 Bromomethane	94	3.895	3.897	-0.002	91	77484	10.0	15.6	
6 Chloroethane	64	4.072	4.074	-0.002	98	91091	10.0	15.8	
7 Trichlorofluoromethane	101	4.261	4.264	-0.003	97	148383	10.0	11.2	M
123 Dichlorofluoromethane	67	4.380	4.382	-0.002	99	176342	10.0	10.4	
8 Ethyl ether	74	4.758	4.761	-0.003	93	41339	10.0	10.1	
11 Ethanol	45	4.995	4.985	0.010	1	23890	400.0	369.8	M
9 1,1-Dichloroethene	96	5.090	5.092	-0.002	91	71650	10.0	10.2	
10 Carbon disulfide	76	5.149	5.151	-0.002	100	286444	10.0	10.4	
12 1,1,2-Trichloro-1,2,2-trif	151	5.184	5.175	0.009	95	50820	10.0	10.2	
13 Iodomethane	142	5.326	5.329	-0.002	98	91691	10.0	9.93	
14 Acrolein	56	5.622	5.624	-0.002	97	47277	50.0	49.4	
15 3-Chloro-1-propene	39	5.812	5.814	-0.002	88	136348	10.0	10.2	
S 26 1,2-Dichloroethene, Total	96				0			20.2	
16 Isopropyl alcohol	45	5.823	5.825	-0.002	14	33974	100.0	92.5	
17 Methylene Chloride	84	5.965	5.967	-0.002	95	88481	10.0	10.5	
18 Acetone	43	6.048	6.062	-0.014	98	21046	10.0	11.1	
19 trans-1,2-Dichloroethene	96	6.202	6.204	-0.002	92	82084	10.0	10.2	
20 Methyl acetate	74	6.226	6.216	0.010	100	13507	50.0	46.9	
21 Hexane	86	6.309	6.299	0.010	96	20952	10.0	9.17	
22 Methyl tert-butyl ether	73	6.356	6.346	0.010	91	180172	10.0	10.0	
23 2-Methyl-2-propanol	59	6.462	6.464	-0.002	94	49314	100.0	90.5	
24 Acetonitrile	41	6.735	6.725	0.010	98	67512	100.0	97.2	
25 Isopropyl ether	45	6.865	6.855	0.010	94	316283	10.0	10.2	
27 2-Chloro-1,3-butadiene	53	7.030	7.032	-0.002	94	153363	10.0	9.84	
28 1,1-Dichloroethane	63	7.066	7.068	-0.002	96	177573	10.0	10.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.149	7.139	0.010	100	205219	100.0	100.9	
30 Tert-butyl ethyl ether	59	7.350	7.352	-0.002	98	249957	10.0	9.97	
31 Vinyl acetate	43	7.374	7.376	-0.002	97	152394	10.0	9.57	
32 cis-1,2-Dichloroethene	96	7.776	7.766	0.010	86	84413	10.0	9.98	
33 2,2-Dichloropropane	77	7.918	7.920	-0.002	93	109834	10.0	10.9	
35 Chlorobromomethane	128	8.024	8.026	-0.002	86	28752	10.0	9.72	
34 Cyclohexane	84	8.036	8.038	-0.002	97	146793	10.0	10.0	
36 Chloroform	83	8.095	8.097	-0.002	96	154505	10.0	10.4	
39 Ethyl acetate	45	8.237	8.239	-0.002	99	14170	20.0	19.0	
37 Carbon tetrachloride	117	8.296	8.299	-0.003	93	96665	10.0	9.98	
38 Tetrahydrofuran	71	8.320	8.322	-0.002	94	8313	20.0	17.3	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.334	-0.002	91	61514	10.0	9.93	
40 1,1,1-Trichloroethane	97	8.379	8.381	-0.002	96	132306	10.0	10.2	
43 2-Butanone (MEK)	43	8.498	8.488	0.010	65	22053	10.0	8.84	
42 1,1-Dichloropropene	75	8.533	8.523	0.010	91	115557	10.0	9.81	
125 Isooctane	57	8.640	8.642	-0.002	98	450983	10.0	10.6	
117 n-Heptane	43	8.746	8.748	-0.002	94	179733	10.0	10.1	
44 Benzene	78	8.841	8.843	-0.002	99	336953	10.0	10.6	
45 Propionitrile	54	8.876	8.878	-0.002	92	73222	100.0	96.8	
46 Methacrylonitrile	41	8.900	8.902	-0.002	96	406664	100.0	104.1	
48 Tert-amyl methyl ether	73	8.947	8.949	-0.002	93	198030	10.0	9.72	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.006	9.009	-0.002	93	78491	10.0	9.83	
50 Isobutyl alcohol	42	9.018	9.020	-0.002	91	37663	250.0	224.3	
49 1,2-Dichloroethane	62	9.089	9.091	-0.002	97	96434	10.0	10.2	
* 51 Fluorobenzene	96	9.326	9.328	-0.002	97	1305999	50.0	50.0	
52 Methylcyclohexane	55	9.515	9.517	-0.002	96	169228	10.0	10.3	
53 Trichloroethene	95	9.515	9.517	-0.002	60	81871	10.0	9.90	
54 n-Butanol	56	9.811	9.813	-0.002	94	29869	250.0	239.4	
55 Dibromomethane	93	9.989	9.991	-0.002	84	33038	10.0	10.1	
124 Ethyl acrylate	55	10.060	10.062	-0.002	33	38809	10.0	9.90	
56 1,2-Dichloropropane	63	10.095	10.097	-0.002	89	77942	10.0	9.93	
57 Dichlorobromomethane	83	10.142	10.144	-0.002	96	88732	10.0	9.60	
58 Methyl methacrylate	69	10.273	10.275	-0.002	93	44934	20.0	19.8	
59 1,4-Dioxane	88	10.344	10.346	-0.002	91	6288	200.0	189.8	
60 2-Chloroethyl vinyl ether	63	10.687	10.689	-0.002	91	21478	10.0	9.87	
61 cis-1,3-Dichloropropene	75	10.770	10.772	-0.002	89	92524	10.0	9.59	
$ 62 Toluene-d8 (Surr)	98	10.947	10.949	-0.002	95	228573	10.0	10.7	
63 Toluene	92	10.994	10.996	-0.002	97	169508	10.0	10.6	
64 2-Nitropropane	43	11.219	11.221	-0.002	97	21771	20.0	19.5	
66 4-Methyl-2-pentanone (MIBK	43	11.326	11.328	-0.002	97	45547	10.0	9.54	
65 Tetrachloroethene	164	11.361	11.363	-0.002	90	43920	10.0	9.97	
67 trans-1,3-Dichloropropene	75	11.361	11.363	-0.002	98	73424	10.0	9.58	
119 n-Butyl acetate	43	11.408	11.411	-0.003	92	8776	10.0	9.29	
69 Ethyl methacrylate	69	11.468	11.470	-0.002	92	43526	10.0	9.88	
68 1,1,2-Trichloroethane	83	11.515	11.517	-0.002	93	36745	10.0	10.1	
S 73 1,3-Dichloropropene, Total	75				0			19.2	
70 Chlorodibromomethane	129	11.681	11.683	-0.002	88	39757	10.0	9.79	
71 1,3-Dichloropropane	76	11.763	11.766	-0.003	98	74715	10.0	9.95	
72 Ethylene Dibromide	107	11.905	11.908	-0.003	96	34309	10.0	9.91	
74 2-Hexanone	43	12.047	12.038	0.009	97	26815	10.0	9.60	
75 1-Chlorohexane	91	12.272	12.274	-0.002	81	95959	10.0	10.5	
* 76 Chlorobenzene-d5	117	12.320	12.322	-0.002	93	768546	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
78 Ethylbenzene	91	12.331	12.334	-0.003	92	363741	10.0	10.8	
77 Chlorobenzene	112	12.331	12.334	-0.003	70	177931	10.0	10.7	
79 1,1,1,2-Tetrachloroethane	131	12.379	12.381	-0.002	92	57777	10.0	9.82	
80 m-Xylene & p-Xylene	106	12.438	12.440	-0.002	96	123403	10.0	10.8	
82 o-Xylene	106	12.793	12.795	-0.002	100	124634	10.0	10.8	
83 Styrene	104	12.840	12.831	0.010	94	156884	10.0	9.82	
84 Bromoform	173	12.888	12.890	-0.002	90	19390	10.0	10.2	
85 Isopropylbenzene	105	13.030	13.032	-0.002	97	350524	10.0	9.90	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.268	-0.002	80	82018	10.0	9.80	
88 N-Propylbenzene	91	13.349	13.339	0.010	99	456840	10.0	11.2	
87 Bromobenzene	156	13.373	13.375	-0.002	97	61326	10.0	9.89	
89 1,1,2,2-Tetrachloroethane	83	13.396	13.398	-0.002	95	59839	10.0	10.3	
91 1,3,5-Trimethylbenzene	105	13.479	13.469	0.010	94	299235	10.0	10.5	
90 2-Chlorotoluene	91	13.491	13.493	-0.002	94	311995	10.0	10.1	
92 1,2,3-Trichloropropane	110	13.527	13.517	0.010	85	15648	10.0	10.4	
93 trans-1,4-Dichloro-2-buten	53	13.527	13.529	-0.002	73	18194	10.0	9.67	
94 Cyclohexanone	55	13.586	13.588	-0.002	96	16856	100.0	93.5	
95 4-Chlorotoluene	91	13.609	13.611	-0.002	99	269184	10.0	9.78	
96 tert-Butylbenzene	119	13.728	13.730	-0.002	94	239747	10.0	10.9	
97 1,2,4-Trimethylbenzene	105	13.775	13.777	-0.002	98	313881	10.0	10.6	
98 sec-Butylbenzene	105	13.858	13.860	-0.002	96	423328	10.0	11.0	
99 4-Isopropyltoluene	119	13.941	13.943	-0.002	96	334936	10.0	10.8	
100 1,3-Dichlorobenzene	146	14.059	14.061	-0.002	96	147219	10.0	10.5	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.108	-0.002	97	460358	50.0	50.0	
120 1,2,3-Trimethylbenzene	105	14.106	14.108	-0.002	59	336524	10.0	10.7	
102 1,4-Dichlorobenzene	146	14.118	14.120	-0.002	93	157955	10.0	10.7	
103 n-Butylbenzene	134	14.260	14.250	0.010	98	88892	10.0	10.2	
121 Benzyl chloride	126	14.284	14.286	-0.002	71	20955	10.0	9.34	
104 1,2-Dichlorobenzene	146	14.438	14.428	0.010	92	139446	10.0	10.7	
106 n-Nonyl Aldehyde	57	14.958	14.949	0.009	86	55980	10.0	9.90	
105 1,2-Dibromo-3-Chloropropan	157	15.029	15.031	-0.002	55	8562	10.0	9.39	
107 1,3,5-Trichlorobenzene	180	15.041	15.043	-0.002	94	114063	10.0	10.2	
108 Hexachlorobutadiene	225	15.503	15.505	-0.002	93	57011	10.0	10.1	
109 1,2,4-Trichlorobenzene	180	15.574	15.564	0.010	92	91192	10.0	9.95	
110 Naphthalene	128	15.869	15.860	0.009	98	186140	10.0	10.7	
111 1,2,3-Trichlorobenzene	180	16.035	16.037	-0.002	93	78583	10.0	10.2	
S 112 Xylenes, Total	106				0			21.6	
S 113 Trihalomethanes, Total	1				0			39.9	

QC Flag Legend

Review Flags

M - Manually Integrated

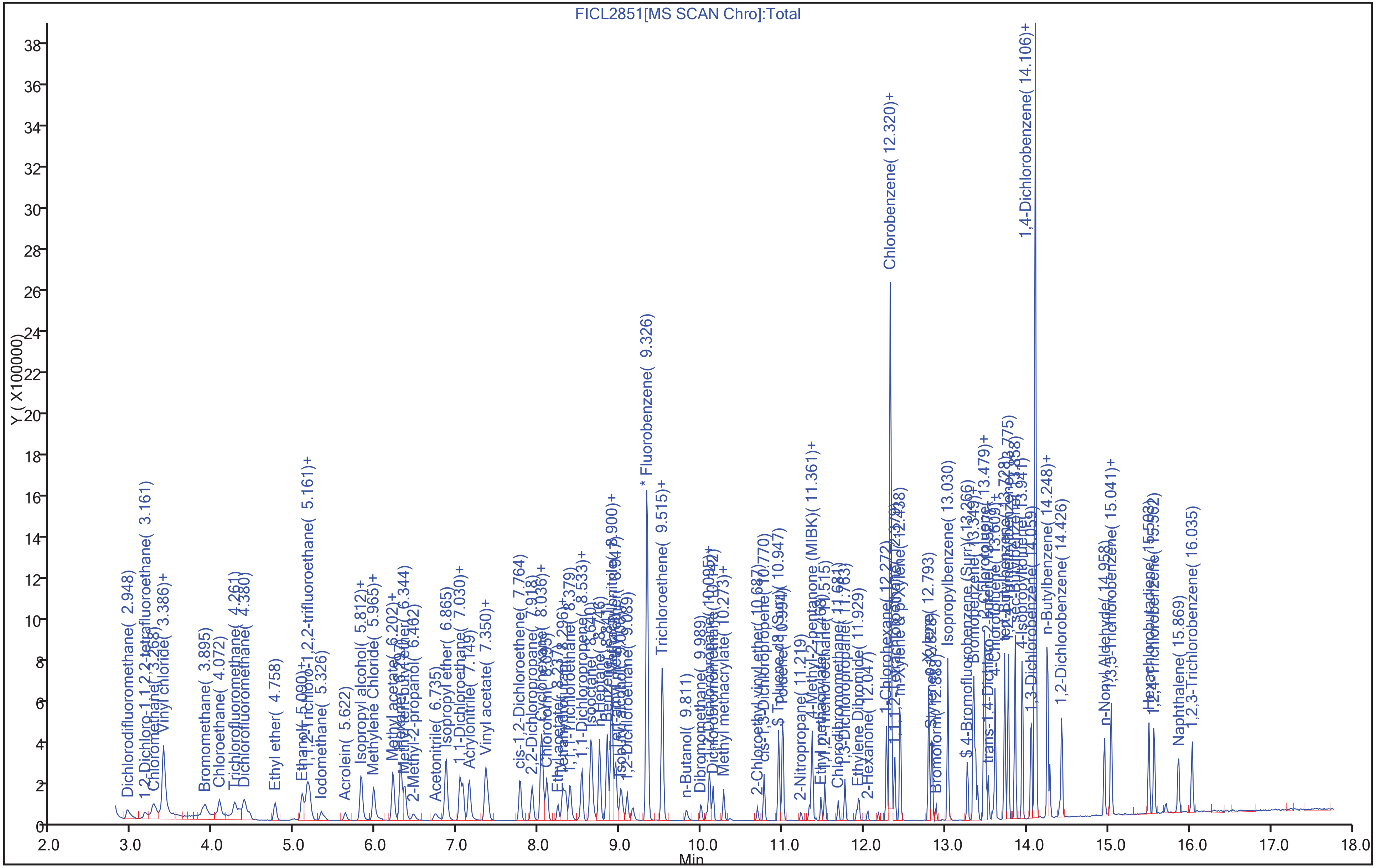
Reagents:

8260 Surr 25_00079	Amount Added: 2.00	Units: uL	
8260 NewWkMix_00239	Amount Added: 2.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 08-Oct-2017 22:07:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2851.D				
Injection Date:	02-Oct-2017 22:17:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis

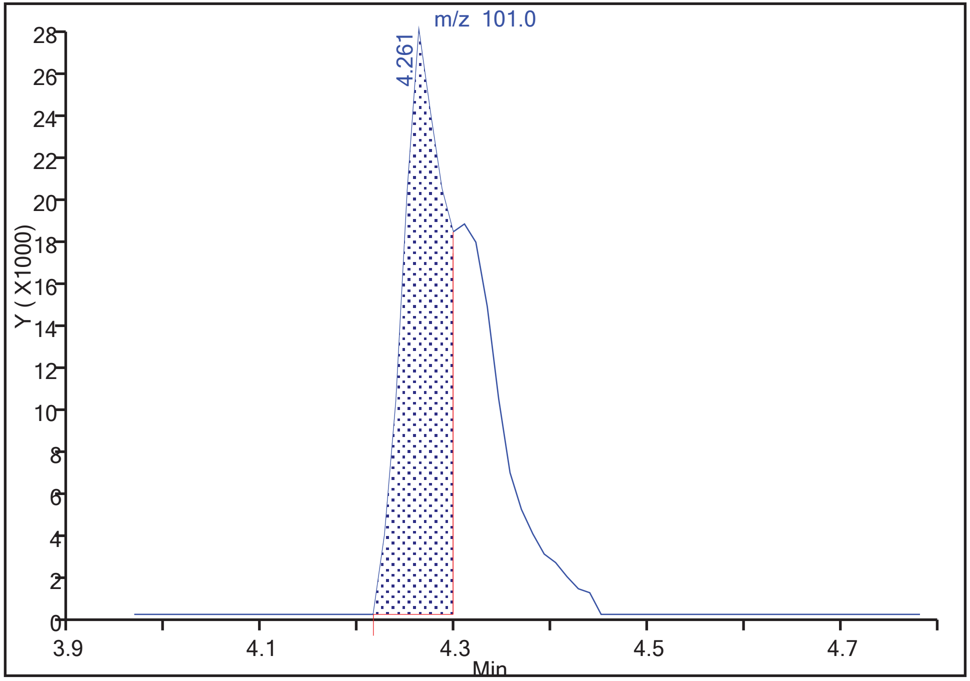
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2851.D				
Injection Date:	02-Oct-2017 22:17:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

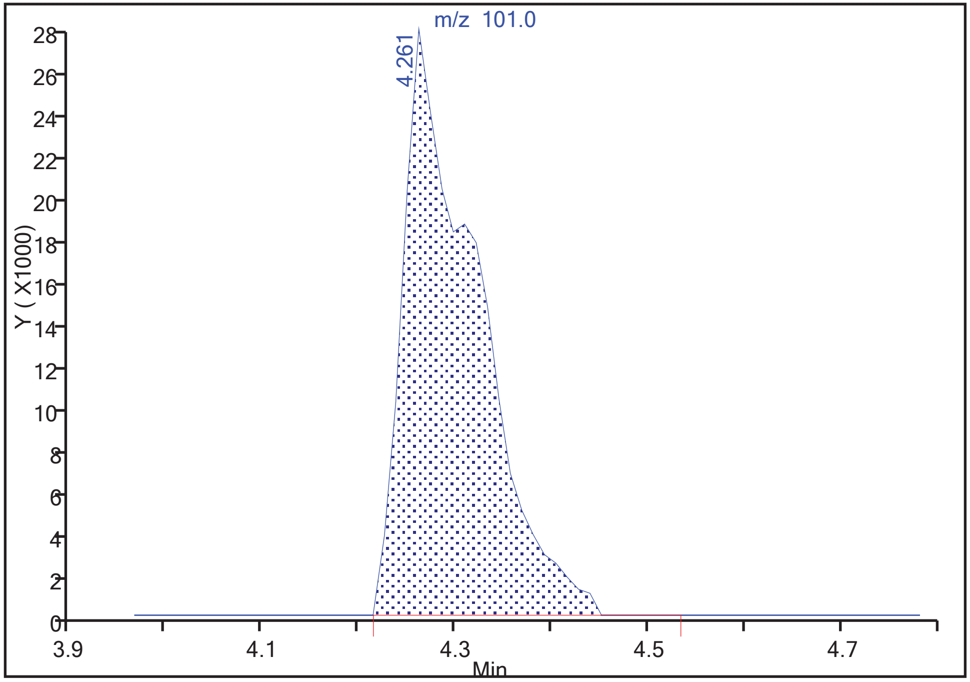
Processing Integration Results

RT: 4.26
Area: 87618
Amount: 10.254466
Amount Units: ug/l



Manual Integration Results

RT: 4.26
Area: 148383
Amount: 11.173694
Amount Units: ug/l



Reviewer: hannj, 03-Oct-2017 16:37:45
Audit Action: Manually Integrated
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

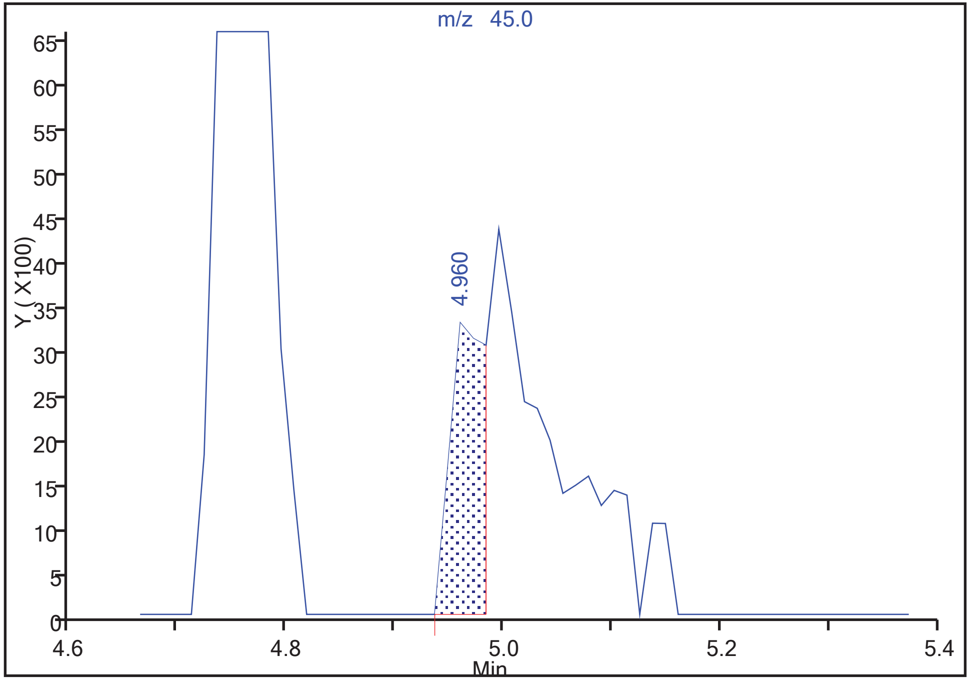
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2851.D				
Injection Date:	02-Oct-2017 22:17:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

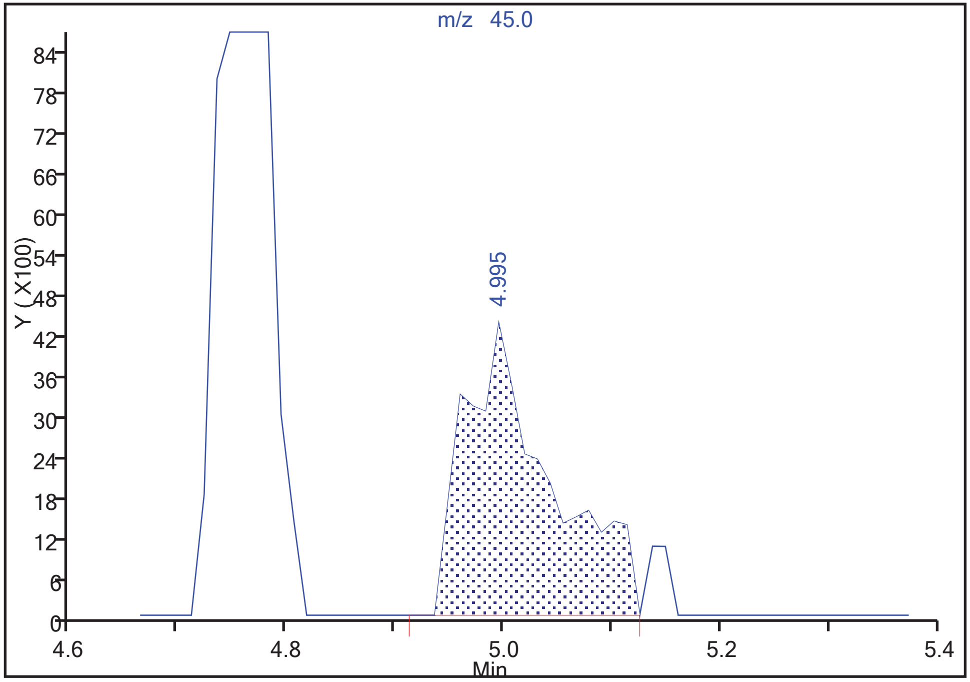
Processing Integration Results

RT:	4.96
Area:	7803
Amount:	167.5562
Amount Units:	ug/l



Manual Integration Results

RT:	5.00
Area:	23890
Amount:	369.8222
Amount Units:	ug/l



Reviewer: hannj, 03-Oct-2017 16:38:44

Audit Action: Manually Integrated

Audit Reason: Peak Tail

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2852.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Oct-2017 22:42:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011546-007
Misc. Info.: IC
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 08-Oct-2017 22:07:58 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK018

First Level Reviewer: hannj Date: 03-Oct-2017 16:57:07

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.936	2.938	-0.002	99	197332	20.0	20.7	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.161	3.163	-0.002	93	56295	20.0	17.7	
3 Chloromethane	50	3.267	3.258	0.009	100	359648	20.0	21.0	
122 Butadiene	39	3.386	3.388	-0.002	94	405178	20.0	20.3	
4 Vinyl chloride	62	3.397	3.400	-0.003	99	335410	20.0	22.1	
5 Bromomethane	94	3.894	3.897	-0.003	91	142875	20.0	28.9	
6 Chloroethane	64	4.072	4.074	-0.002	99	169594	20.0	29.5	
7 Trichlorofluoromethane	101	4.309	4.264	0.044	95	259637	20.0	19.6	M
123 Dichlorofluoromethane	67	4.379	4.382	-0.003	100	345426	20.0	20.5	
8 Ethyl ether	74	4.758	4.761	-0.003	96	81802	20.0	20.1	
11 Ethanol	45	4.995	4.985	0.010	1	61659	800.0	904.2	M
9 1,1-Dichloroethene	96	5.089	5.092	-0.003	93	142874	20.0	20.4	
10 Carbon disulfide	76	5.149	5.151	-0.002	100	565907	20.0	20.6	
12 1,1,2-Trichloro-1,2,2-trif	151	5.172	5.175	-0.003	96	99502	20.0	20.1	
13 Iodomethane	142	5.326	5.329	-0.002	99	184472	20.0	20.0	
14 Acrolein	56	5.622	5.624	-0.002	97	98585	100.0	103.3	
15 3-Chloro-1-propene	39	5.811	5.814	-0.003	89	270137	20.0	20.3	
S 26 1,2-Dichloroethene, Total	96				0			41.1	
16 Isopropyl alcohol	45	5.823	5.825	-0.002	14	72479	200.0	198.1	
17 Methylene Chloride	84	5.965	5.967	-0.002	97	174864	20.0	20.8	
18 Acetone	43	6.048	6.062	-0.014	98	43323	20.0	24.6	
19 trans-1,2-Dichloroethene	96	6.202	6.204	-0.002	92	163027	20.0	20.4	
20 Methyl acetate	74	6.214	6.216	-0.002	99	30923	100.0	107.8	
21 Hexane	86	6.308	6.299	0.009	96	49145	20.0	21.6	
22 Methyl tert-butyl ether	73	6.356	6.346	0.010	93	377228	20.0	21.0	
23 2-Methyl-2-propanol	59	6.450	6.464	-0.014	95	111920	200.0	206.1	
24 Acetonitrile	41	6.722	6.725	-0.003	100	155452	200.0	224.5	
25 Isopropyl ether	45	6.864	6.855	0.009	94	650280	20.0	21.1	
27 2-Chloro-1,3-butadiene	53	7.030	7.032	-0.002	95	313694	20.0	20.2	
28 1,1-Dichloroethane	63	7.066	7.068	-0.002	97	354869	20.0	20.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.148	7.139	0.009	98	438905	200.0	216.5	
30 Tert-butyl ethyl ether	59	7.350	7.352	-0.002	98	521388	20.0	20.9	
31 Vinyl acetate	43	7.373	7.376	-0.003	97	315390	20.0	19.9	
32 cis-1,2-Dichloroethene	96	7.776	7.766	0.010	87	174526	20.0	20.7	
33 2,2-Dichloropropane	77	7.918	7.920	-0.002	93	208384	20.0	20.7	
35 Chlorobromomethane	128	8.024	8.026	-0.002	87	58826	20.0	20.0	
34 Cyclohexane	84	8.036	8.038	-0.002	97	299426	20.0	20.5	
36 Chloroform	83	8.095	8.097	-0.002	98	310335	20.0	20.9	
39 Ethyl acetate	45	8.237	8.239	-0.002	99	29614	40.0	39.8	
37 Carbon tetrachloride	117	8.296	8.299	-0.003	94	193755	20.0	20.1	
38 Tetrahydrofuran	71	8.320	8.322	-0.002	93	19102	40.0	40.0	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.334	-0.002	93	124879	20.0	20.2	
40 1,1,1-Trichloroethane	97	8.379	8.381	-0.002	96	266375	20.0	20.6	
43 2-Butanone (MEK)	43	8.497	8.488	0.009	93	50154	20.0	20.2	
42 1,1-Dichloropropene	75	8.533	8.523	0.010	90	239284	20.0	20.4	
125 Isooctane	57	8.639	8.642	-0.003	97	909487	20.0	21.4	
117 n-Heptane	43	8.746	8.748	-0.002	94	371954	20.0	20.9	
44 Benzene	78	8.840	8.843	-0.003	98	681168	20.0	21.5	
45 Propionitrile	54	8.876	8.878	-0.002	96	156693	200.0	207.8	
46 Methacrylonitrile	41	8.900	8.902	-0.002	96	854153	200.0	219.4	
48 Tert-amyl methyl ether	73	8.947	8.949	-0.002	94	426626	20.0	21.0	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.006	9.009	-0.002	94	167931	20.0	21.1	
50 Isobutyl alcohol	42	9.018	9.020	-0.002	89	85753	500.0	512.5	
49 1,2-Dichloroethane	62	9.089	9.091	-0.002	96	195964	20.0	20.7	
* 51 Fluorobenzene	96	9.326	9.328	-0.002	97	1301764	50.0	50.0	
53 Trichloroethene	95	9.515	9.517	-0.002	60	164478	20.0	20.0	
52 Methylcyclohexane	55	9.515	9.517	-0.002	96	335558	20.0	20.4	
54 n-Butanol	56	9.811	9.813	-0.002	94	73584	500.0	531.4	
55 Dibromomethane	93	9.988	9.991	-0.003	87	66480	20.0	20.4	
124 Ethyl acrylate	55	10.059	10.062	-0.003	96	86021	20.0	18.5	
56 1,2-Dichloropropane	63	10.095	10.097	-0.002	91	159147	20.0	20.3	
57 Dichlorobromomethane	83	10.142	10.144	-0.002	98	187992	20.0	20.4	
58 Methyl methacrylate	69	10.272	10.275	-0.003	93	100365	40.0	37.7	
59 1,4-Dioxane	88	10.343	10.346	-0.003	93	17577	400.0	422.4	
60 2-Chloroethyl vinyl ether	63	10.686	10.689	-0.003	91	45758	20.0	18.1	
61 cis-1,3-Dichloropropene	75	10.769	10.772	-0.003	89	193416	20.0	20.1	
$ 62 Toluene-d8 (Surr)	98	10.947	10.949	-0.002	95	462860	20.0	21.2	
63 Toluene	92	10.994	10.996	-0.002	97	349131	20.0	21.4	
64 2-Nitropropane	43	11.219	11.221	-0.002	93	48565	40.0	37.2	
66 4-Methyl-2-pentanone (MIBK	43	11.325	11.328	-0.003	98	97240	20.0	20.0	
67 trans-1,3-Dichloropropene	75	11.361	11.363	-0.002	99	157773	20.0	20.2	
65 Tetrachloroethene	164	11.361	11.363	-0.002	89	92553	20.0	20.6	
119 n-Butyl acetate	43	11.408	11.411	-0.003	96	19466	20.0	20.2	
69 Ethyl methacrylate	69	11.467	11.470	-0.003	94	96884	20.0	18.9	
68 1,1,2-Trichloroethane	83	11.515	11.517	-0.002	94	76617	20.0	20.7	
S 73 1,3-Dichloropropene, Total	75				0			40.3	
70 Chlorodibromomethane	129	11.680	11.683	-0.003	89	82133	20.0	19.9	
71 1,3-Dichloropropane	76	11.763	11.766	-0.003	98	156992	20.0	20.5	
72 Ethylene Dibromide	107	11.905	11.908	-0.003	98	70705	20.0	20.1	
74 2-Hexanone	43	12.047	12.038	0.009	96	56040	20.0	19.7	
75 1-Chlorohexane	91	12.272	12.274	-0.002	85	197242	20.0	21.1	
* 76 Chlorobenzene-d5	117	12.319	12.322	-0.003	93	782745	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.331	12.334	-0.003	70	361891	20.0	21.3	
78 Ethylbenzene	91	12.331	12.334	-0.003	92	727788	20.0	21.1	
79 1,1,1,2-Tetrachloroethane	131	12.378	12.381	-0.003	93	120287	20.0	20.1	
80 m-Xylene & p-Xylene	106	12.449	12.440	0.009	97	256742	20.0	22.1	
82 o-Xylene	106	12.793	12.795	-0.002	99	252037	20.0	21.5	
83 Styrene	104	12.840	12.831	0.010	93	340561	20.0	20.9	
84 Bromoform	173	12.887	12.890	-0.003	90	40636	20.0	17.8	
85 Isopropylbenzene	105	13.029	13.032	-0.003	97	714316	20.0	20.2	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.268	-0.002	80	167875	20.0	19.1	
88 N-Propylbenzene	91	13.349	13.339	0.010	99	924067	20.0	21.6	
87 Bromobenzene	156	13.372	13.375	-0.003	96	128594	20.0	19.8	
89 1,1,2,2-Tetrachloroethane	83	13.396	13.398	-0.002	96	120619	20.0	19.9	
91 1,3,5-Trimethylbenzene	105	13.479	13.469	0.010	94	620333	20.0	20.8	
90 2-Chlorotoluene	91	13.491	13.493	-0.002	94	631940	20.0	19.8	
92 1,2,3-Trichloropropane	110	13.526	13.517	0.009	85	31350	20.0	19.8	
93 trans-1,4-Dichloro-2-buten	53	13.526	13.529	-0.003	82	39240	20.0	19.9	
94 Cyclohexanone	55	13.585	13.588	-0.003	96	38008	200.0	201.3	
95 4-Chlorotoluene	91	13.609	13.611	-0.002	98	561401	20.0	20.5	
96 tert-Butylbenzene	119	13.727	13.730	-0.003	94	504020	20.0	21.8	
97 1,2,4-Trimethylbenzene	105	13.775	13.777	-0.002	98	662708	20.0	21.3	
98 sec-Butylbenzene	105	13.858	13.860	-0.002	96	876307	20.0	21.7	
99 4-Isopropyltoluene	119	13.940	13.943	-0.003	96	694849	20.0	21.3	
100 1,3-Dichlorobenzene	146	14.059	14.061	-0.002	97	305050	20.0	20.7	
120 1,2,3-Trimethylbenzene	105	14.106	14.108	-0.002	74	693461	20.0	21.1	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.108	-0.002	96	482362	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.118	14.120	-0.002	92	326380	20.0	21.1	
103 n-Butylbenzene	134	14.260	14.250	0.010	99	181907	20.0	19.9	
121 Benzyl chloride	126	14.284	14.286	-0.002	84	45987	20.0	19.6	
104 1,2-Dichlorobenzene	146	14.437	14.428	0.009	95	279757	20.0	20.5	
106 n-Nonyl Aldehyde	57	14.958	14.949	0.009	85	118985	20.0	20.1	
105 1,2-Dibromo-3-Chloropropan	157	15.029	15.031	-0.002	57	19330	20.0	20.2	
107 1,3,5-Trichlorobenzene	180	15.041	15.043	-0.002	93	233055	20.0	20.0	
108 Hexachlorobutadiene	225	15.502	15.505	-0.003	94	114928	20.0	19.5	
109 1,2,4-Trichlorobenzene	180	15.561	15.564	-0.003	91	191740	20.0	20.0	
110 Naphthalene	128	15.869	15.860	0.009	98	383014	20.0	21.1	
111 1,2,3-Trichlorobenzene	180	16.035	16.037	-0.002	93	158200	20.0	19.5	
S 112 Xylenes, Total	106				0			43.5	
S 113 Trihalomethanes, Total	1				0			79.0	

QC Flag Legend

Review Flags

M - Manually Integrated

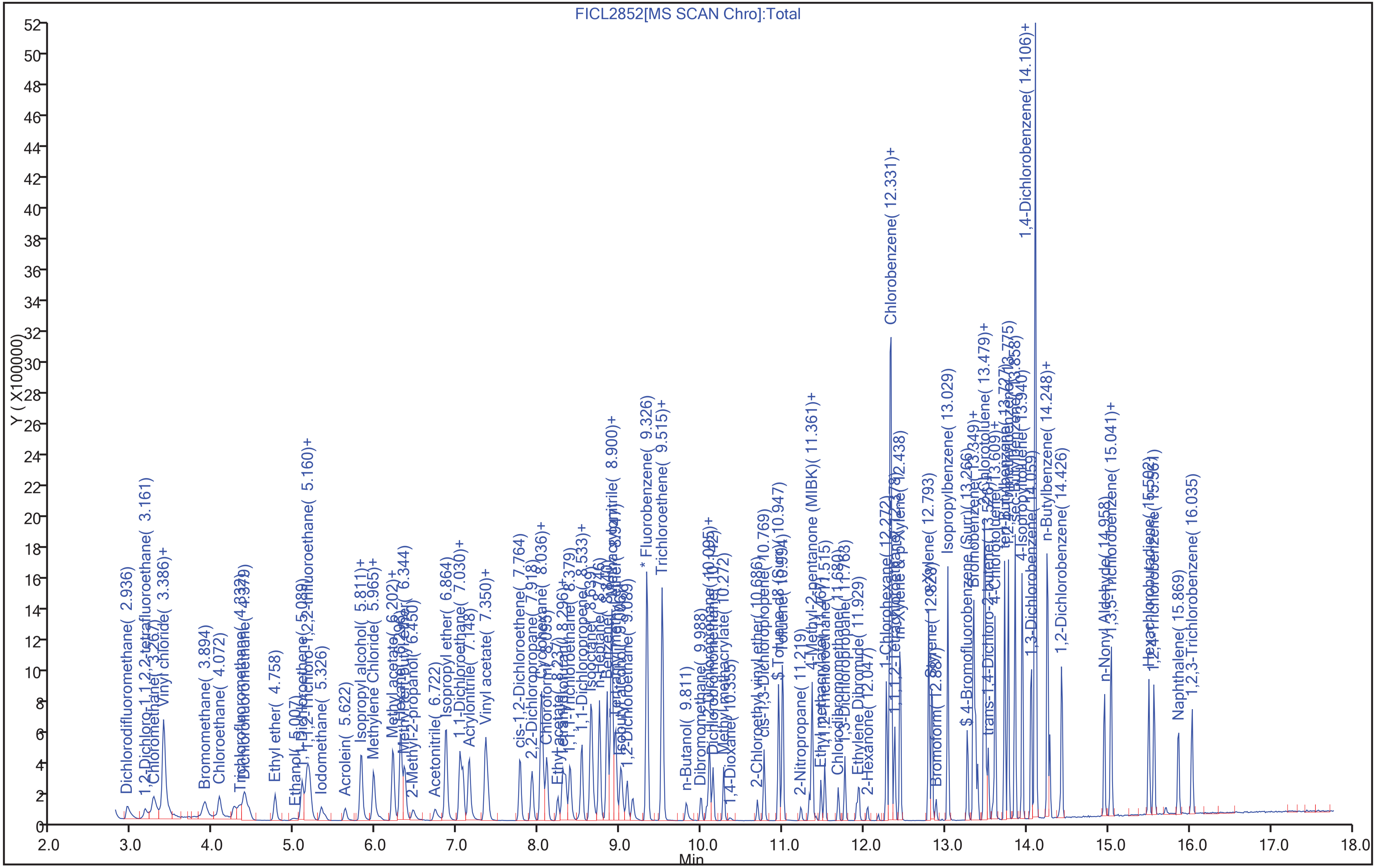
Reagents:

8260 Surr 25_00079	Amount Added: 4.00	Units: uL	
8260 NewWkMix_00239	Amount Added: 4.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 08-Oct-2017 22:08:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2852.D				
Injection Date:	02-Oct-2017 22:42:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



Manual Integration/User Assign Peak Report

TestAmerica St. Louis

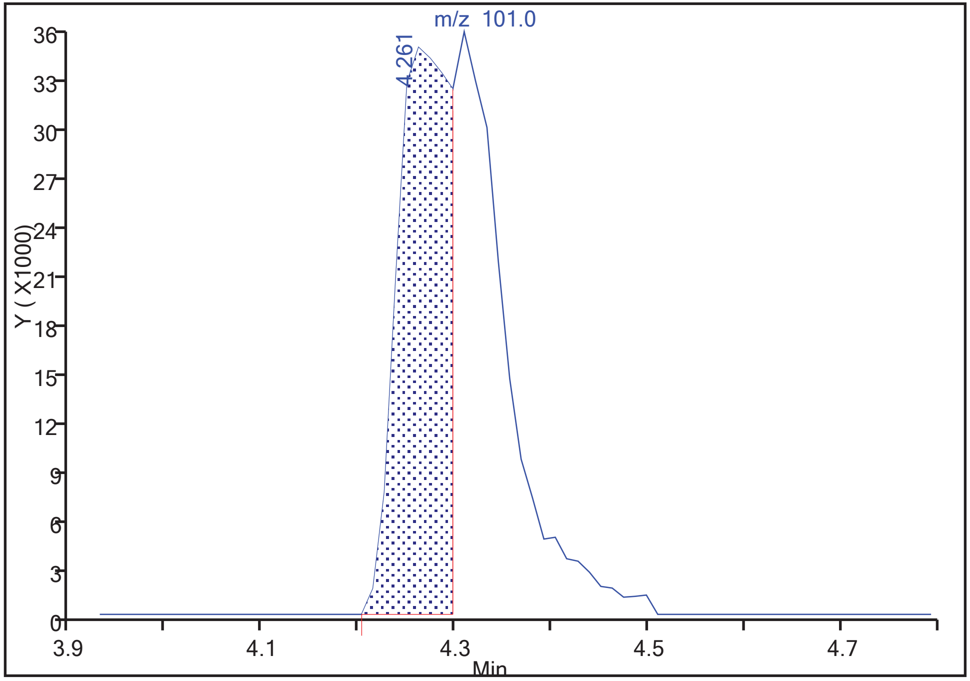
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2852.D				
Injection Date:	02-Oct-2017 22:42:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	6	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

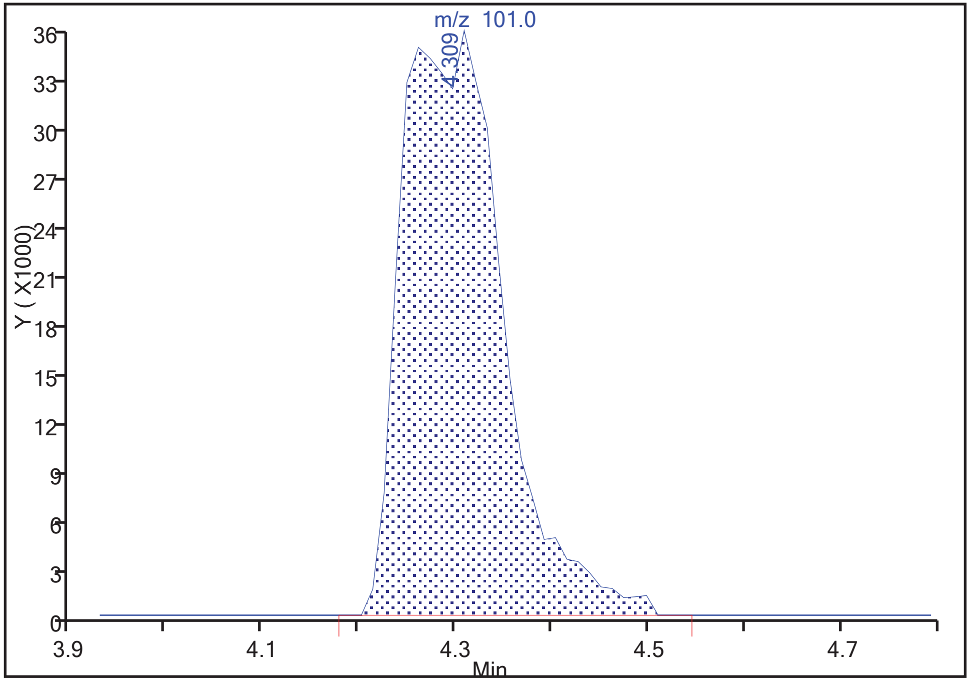
RT: 4.26
Area: 136882
Amount: 14.369103
Amount Units: ug/l

Processing Integration Results



RT: 4.31
Area: 259637
Amount: 19.615067
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 03-Oct-2017 16:57:36

Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica St. Louis

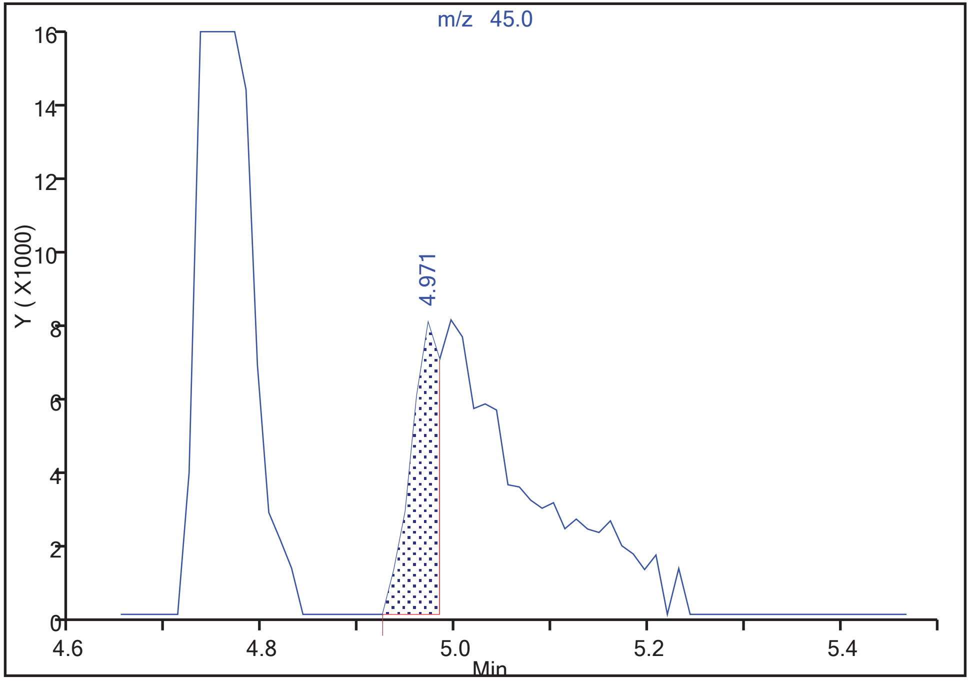
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2852.D				
Injection Date:	02-Oct-2017 22:42:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	6	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

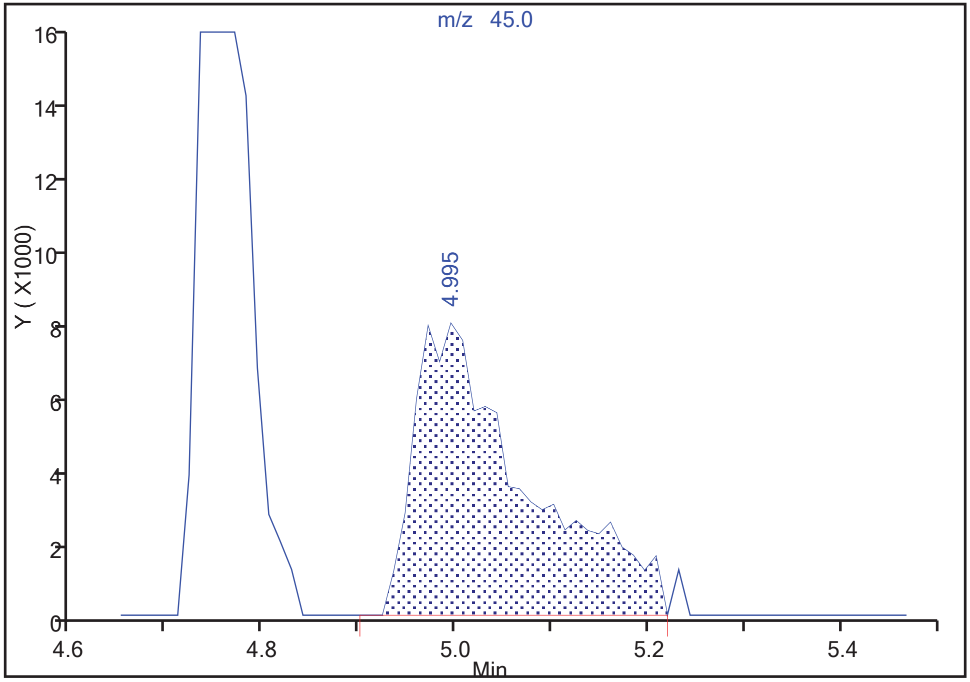
Processing Integration Results

RT: 4.97
Area: 16705
Amount: 314.5973
Amount Units: ug/l



Manual Integration Results

RT: 4.99
Area: 61659
Amount: 904.2433
Amount Units: ug/l



Reviewer: hannj, 03-Oct-2017 16:58:01
Audit Action: Manually Integrated
Audit Reason: Peak Tail

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2853.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 6
Inject. Date: 02-Oct-2017 23:06:30 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011546-008
Misc. Info.: ICIS
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 08-Oct-2017 22:08:00 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK018

First Level Reviewer: hannj Date: 03-Oct-2017 15:08:22

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.938	2.938	0.000	97	518814	50.0	47.3	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.163	3.163	0.000	89	209190	50.0	57.1	M
3 Chloromethane	50	3.258	3.258	0.000	100	927091	50.0	47.1	
122 Butadiene	39	3.388	3.388	0.000	93	1027456	50.0	48.3	
4 Vinyl chloride	62	3.400	3.400	0.000	66	862596	50.0	49.3	
5 Bromomethane	94	3.897	3.897	0.000	91	317792	50.0	55.7	
6 Chloroethane	64	4.074	4.074	0.000	98	385798	50.0	58.2	
7 Trichlorofluoromethane	101	4.264	4.264	0.000	97	761956	50.0	49.9	M
123 Dichlorofluoromethane	67	4.382	4.382	0.000	100	945854	50.0	48.7	
8 Ethyl ether	74	4.761	4.761	0.000	94	232401	50.0	49.4	
11 Ethanol	45	4.985	4.985	0.000	1	171496	2000.0	2133.6	M
9 1,1-Dichloroethene	96	5.092	5.092	0.000	93	398138	50.0	49.2	
10 Carbon disulfide	76	5.151	5.151	0.000	99	1530926	50.0	48.4	
12 1,1,2-Trichloro-1,2,2-trif	151	5.175	5.175	0.000	46	281526	50.0	49.3	
13 Iodomethane	142	5.329	5.329	0.000	98	521921	50.0	49.2	
14 Acrolein	56	5.624	5.624	0.000	94	280240	250.0	254.6	
15 3-Chloro-1-propene	39	5.814	5.814	0.000	87	753862	50.0	49.2	
16 Isopropyl alcohol	45	5.825	5.825	0.000	12	208034	500.0	493.0	
17 Methylene Chloride	84	5.967	5.967	0.000	96	456510	50.0	47.2	
18 Acetone	43	6.062	6.062	0.000	76	89233	50.0	45.3	
19 trans-1,2-Dichloroethene	96	6.204	6.204	0.000	92	453345	50.0	49.1	
20 Methyl acetate	74	6.216	6.216	0.000	84	87705	250.0	265.1	
21 Hexane	86	6.299	6.299	0.000	91	134716	50.0	51.3	
22 Methyl tert-butyl ether	73	6.346	6.346	0.000	91	1043417	50.0	50.3	
23 2-Methyl-2-propanol	59	6.464	6.464	0.000	92	311268	500.0	497.0	
24 Acetonitrile	41	6.725	6.725	0.000	99	385252	500.0	482.4	
25 Isopropyl ether	45	6.855	6.855	0.000	94	1872473	50.0	52.7	
27 2-Chloro-1,3-butadiene	53	7.032	7.032	0.000	95	923609	50.0	51.5	
28 1,1-Dichloroethane	63	7.068	7.068	0.000	97	970652	50.0	49.2	
29 Acrylonitrile	53	7.139	7.139	0.000	97	1159721	500.0	496.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59	7.352	7.352	0.000	97	1491904	50.0	51.8	
31 Vinyl acetate	43	7.376	7.376	0.000	97	953658	50.0	52.1	
32 cis-1,2-Dichloroethene	96	7.766	7.766	0.000	87	486446	50.0	50.0	
33 2,2-Dichloropropane	77	7.920	7.920	0.000	93	567889	50.0	49.0	
35 Chlorobromomethane	128	8.026	8.026	0.000	70	174606	50.0	51.4	
34 Cyclohexane	84	8.038	8.038	0.000	96	836778	50.0	49.8	
36 Chloroform	83	8.097	8.097	0.000	82	843306	50.0	49.3	
39 Ethyl acetate	45	8.239	8.239	0.000	99	80616	100.0	93.8	
37 Carbon tetrachloride	117	8.299	8.299	0.000	90	547575	50.0	49.2	
38 Tetrahydrofuran	71	8.322	8.322	0.000	78	57291	100.0	104.0	
$ 41 Dibromofluoromethane (Surr	113	8.334	8.334	0.000	69	355444	50.0	49.9	
40 1,1,1-Trichloroethane	97	8.381	8.381	0.000	59	731465	50.0	49.0	
43 2-Butanone (MEK)	43	8.488	8.488	0.000	97	145905	50.0	50.9	
42 1,1-Dichloropropene	75	8.523	8.523	0.000	88	688480	50.0	50.9	
125 Isooctane	57	8.642	8.642	0.000	98	2517788	50.0	51.4	
117 n-Heptane	43	8.748	8.748	0.000	93	1076699	50.0	52.5	
44 Benzene	78	8.843	8.843	0.000	99	1836571	50.0	50.2	
45 Propionitrile	54	8.878	8.878	0.000	53	440386	500.0	506.4	
46 Methacrylonitrile	41	8.902	8.902	0.000	81	2388141	500.0	531.9	
48 Tert-amyl methyl ether	73	8.949	8.949	0.000	79	1199200	50.0	51.2	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.009	9.009	0.000	95	461255	50.0	50.2	
50 Isobutyl alcohol	42	9.020	9.020	0.000	77	249928	1250.0	1295.2	
49 1,2-Dichloroethane	62	9.091	9.091	0.000	91	547433	50.0	50.1	
* 51 Fluorobenzene	96	9.328	9.328	0.000	97	1501143	50.0	50.0	
52 Methylcyclohexane	55	9.517	9.517	0.000	96	952633	50.0	50.3	
53 Trichloroethene	95	9.517	9.517	0.000	61	469757	50.0	49.4	
54 n-Butanol	56	9.813	9.813	0.000	96	207604	1250.0	1214.3	
55 Dibromomethane	93	9.991	9.991	0.000	79	184097	50.0	48.9	
124 Ethyl acrylate	55	10.062	10.062	0.000	1	263318	50.0	44.3	
56 1,2-Dichloropropane	63	10.097	10.097	0.000	89	451270	50.0	50.0	
57 Dichlorobromomethane	83	10.144	10.144	0.000	94	537163	50.0	50.5	
58 Methyl methacrylate	69	10.275	10.275	0.000	91	317619	100.0	94.2	
59 1,4-Dioxane	88	10.346	10.346	0.000	92	49443	1000.0	942.5	
60 2-Chloroethyl vinyl ether	63	10.689	10.689	0.000	92	146429	50.0	45.6	
61 cis-1,3-Dichloropropene	75	10.772	10.772	0.000	86	570294	50.0	51.4	
$ 62 Toluene-d8 (Surr)	98	10.949	10.949	0.000	96	1346300	50.0	52.5	
63 Toluene	92	10.996	10.996	0.000	92	992955	50.0	51.9	
64 2-Nitropropane	43	11.221	11.221	0.000	98	158625	100.0	95.4	
66 4-Methyl-2-pentanone (MIBK	43	11.328	11.328	0.000	99	298795	50.0	52.4	
65 Tetrachloroethene	164	11.363	11.363	0.000	80	265349	50.0	50.4	
67 trans-1,3-Dichloropropene	75	11.363	11.363	0.000	96	476796	50.0	52.0	
119 n-Butyl acetate	43	11.411	11.411	0.000	92	61856	50.0	54.8	
69 Ethyl methacrylate	69	11.470	11.470	0.000	93	312587	50.0	48.1	
68 1,1,2-Trichloroethane	83	11.517	11.517	0.000	90	212906	50.0	49.1	
70 Chlorodibromomethane	129	11.683	11.683	0.000	89	249843	50.0	51.5	
71 1,3-Dichloropropane	76	11.766	11.766	0.000	99	453430	50.0	50.5	
72 Ethylene Dibromide	107	11.908	11.908	0.000	96	209702	50.0	50.7	
74 2-Hexanone	43	12.038	12.038	0.000	95	170010	50.0	50.9	
75 1-Chlorohexane	91	12.274	12.274	0.000	80	555907	50.0	50.6	
* 76 Chlorobenzene-d5	117	12.322	12.322	0.000	80	918988	50.0	50.0	
78 Ethylbenzene	91	12.334	12.334	0.000	86	2017160	50.0	49.9	
77 Chlorobenzene	112	12.334	12.334	0.000	68	1030391	50.0	51.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
79 1,1,1,2-Tetrachloroethane	131	12.381	12.381	0.000	57	364621	50.0	51.8	
80 m-Xylene & p-Xylene	106	12.440	12.440	0.000	97	736979	50.0	54.0	
82 o-Xylene	106	12.795	12.795	0.000	98	760596	50.0	55.2	
83 Styrene	104	12.831	12.831	0.000	53	1046937	50.0	54.8	
84 Bromoform	173	12.890	12.890	0.000	96	135386	50.0	45.2	
85 Isopropylbenzene	105	13.032	13.032	0.000	98	2009020	50.0	52.2	
$ 86 4-Bromofluorobenzene (Surr	95	13.268	13.268	0.000	71	518870	50.0	49.6	
88 N-Propylbenzene	91	13.339	13.339	0.000	98	2504736	50.0	49.2	
87 Bromobenzene	156	13.375	13.375	0.000	90	373634	50.0	48.2	
89 1,1,2,2-Tetrachloroethane	83	13.398	13.398	0.000	80	357618	50.0	49.5	
91 1,3,5-Trimethylbenzene	105	13.469	13.469	0.000	90	1823707	50.0	51.3	
90 2-Chlorotoluene	91	13.493	13.493	0.000	94	1793542	50.0	49.9	
92 1,2,3-Trichloropropane	110	13.517	13.517	0.000	12	91488	50.0	48.5	
93 trans-1,4-Dichloro-2-buten	53	13.529	13.529	0.000	0	113910	50.0	48.5	
94 Cyclohexanone	55	13.588	13.588	0.000	74	110433	500.0	490.6	
95 4-Chlorotoluene	91	13.611	13.611	0.000	99	1540081	50.0	50.8	
96 tert-Butylbenzene	119	13.730	13.730	0.000	88	1485140	50.0	53.9	
97 1,2,4-Trimethylbenzene	105	13.777	13.777	0.000	0	1878590	50.0	50.6	
98 sec-Butylbenzene	105	13.860	13.860	0.000	96	2404375	50.0	50.0	
99 4-Isopropyltoluene	119	13.943	13.943	0.000	94	1958486	50.0	50.4	
100 1,3-Dichlorobenzene	146	14.061	14.061	0.000	98	879697	50.0	50.1	
* 101 1,4-Dichlorobenzene-d4	152	14.108	14.108	0.000	70	575131	50.0	50.0	
120 1,2,3-Trimethylbenzene	105	14.108	14.108	0.000	95	1937175	50.0	49.5	
102 1,4-Dichlorobenzene	146	14.120	14.120	0.000	91	936144	50.0	50.8	
103 n-Butylbenzene	134	14.250	14.250	0.000	97	558838	50.0	51.3	
121 Benzyl chloride	126	14.286	14.286	0.000	58	136386	50.0	48.7	
104 1,2-Dichlorobenzene	146	14.428	14.428	0.000	88	819349	50.0	50.3	
106 n-Nonyl Aldehyde	57	14.949	14.949	0.000	80	348482	50.0	49.3	
105 1,2-Dibromo-3-Chloropropan	157	15.031	15.031	0.000	49	59361	50.0	52.1	
107 1,3,5-Trichlorobenzene	180	15.043	15.043	0.000	96	701399	50.0	50.4	
108 Hexachlorobutadiene	225	15.505	15.505	0.000	97	354149	50.0	50.4	
109 1,2,4-Trichlorobenzene	180	15.564	15.564	0.000	89	581033	50.0	50.7	
110 Naphthalene	128	15.860	15.860	0.000	98	1111944	50.0	51.3	
111 1,2,3-Trichlorobenzene	180	16.037	16.037	0.000	95	479359	50.0	49.6	

QC Flag Legend

Review Flags

M - Manually Integrated

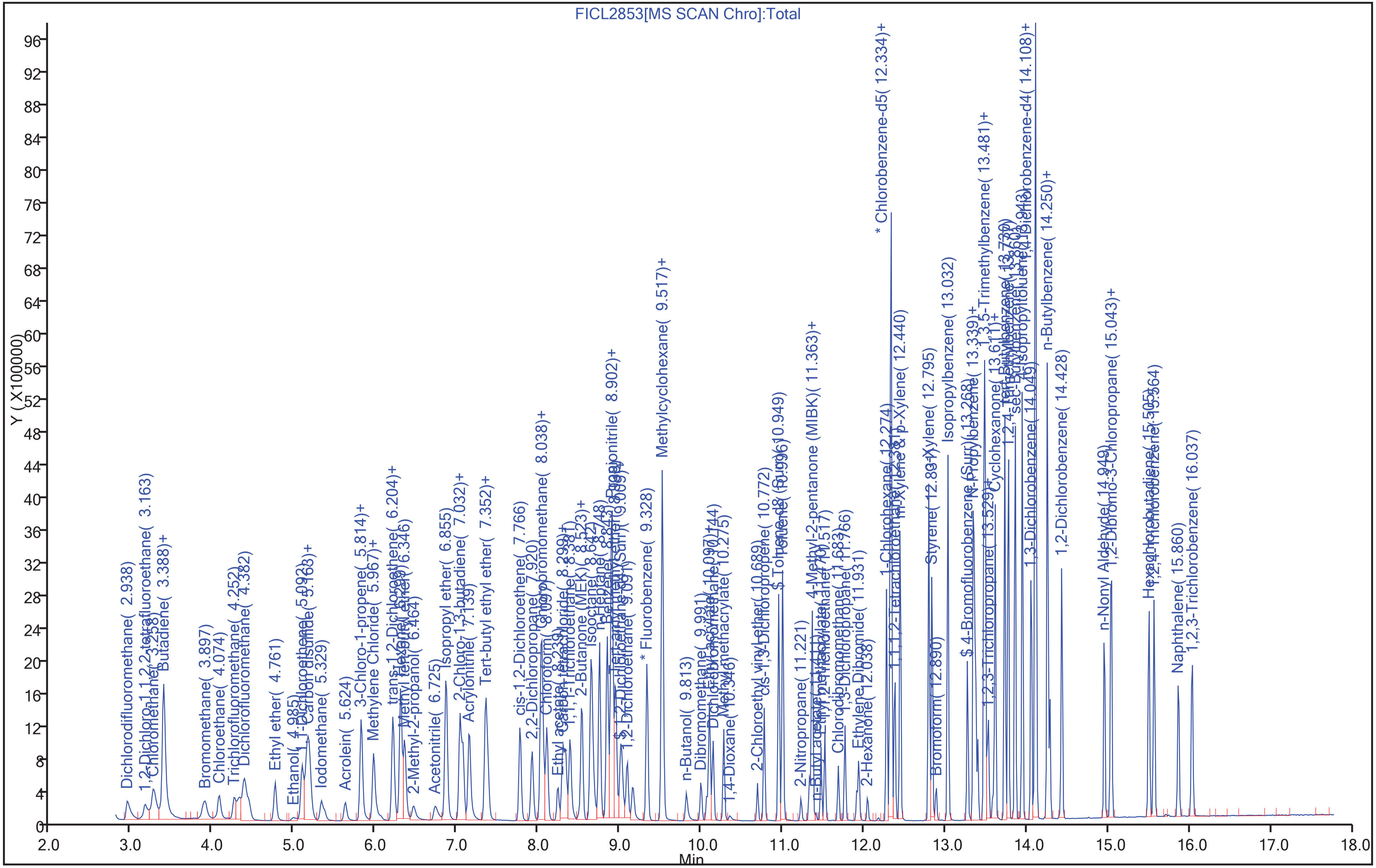
Reagents:

8260 Surr 25_00079	Amount Added: 10.00	Units: uL	
8260 NewWkMix_00239	Amount Added: 10.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 08-Oct-2017 22:08:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2853.D				
Injection Date:	02-Oct-2017 23:06:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	ICIS			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis

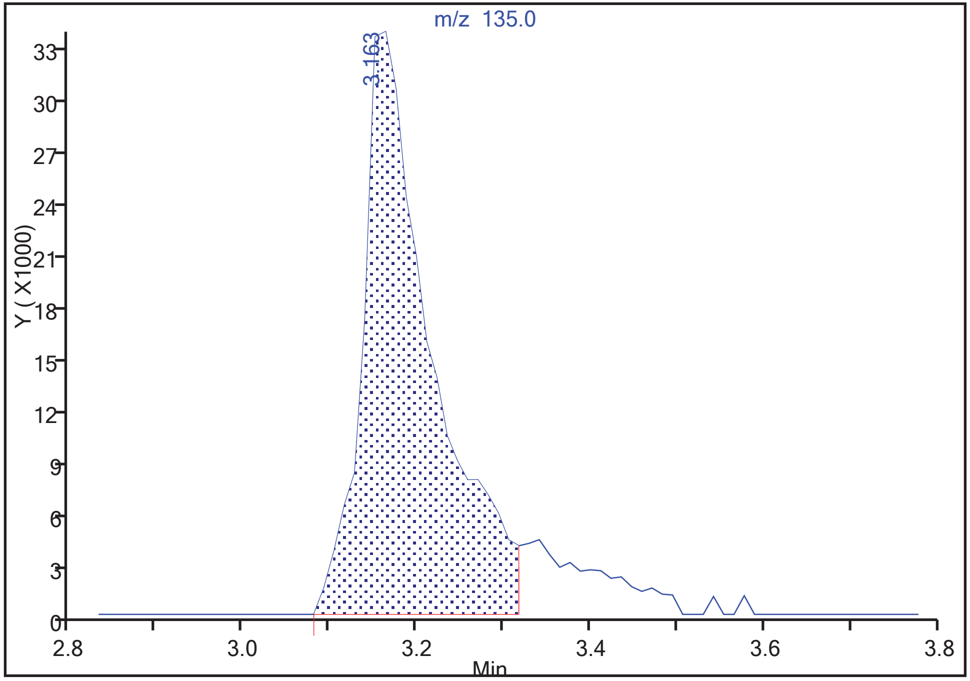
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2853.D				
Injection Date:	02-Oct-2017 23:06:30	Instrument ID:	VMSF		
Lims ID:	ICIS				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	7	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

2 1,2-Dichloro-1,1,2,2-tetrafluoroethane, CAS: 76-14-2

Signal: 1

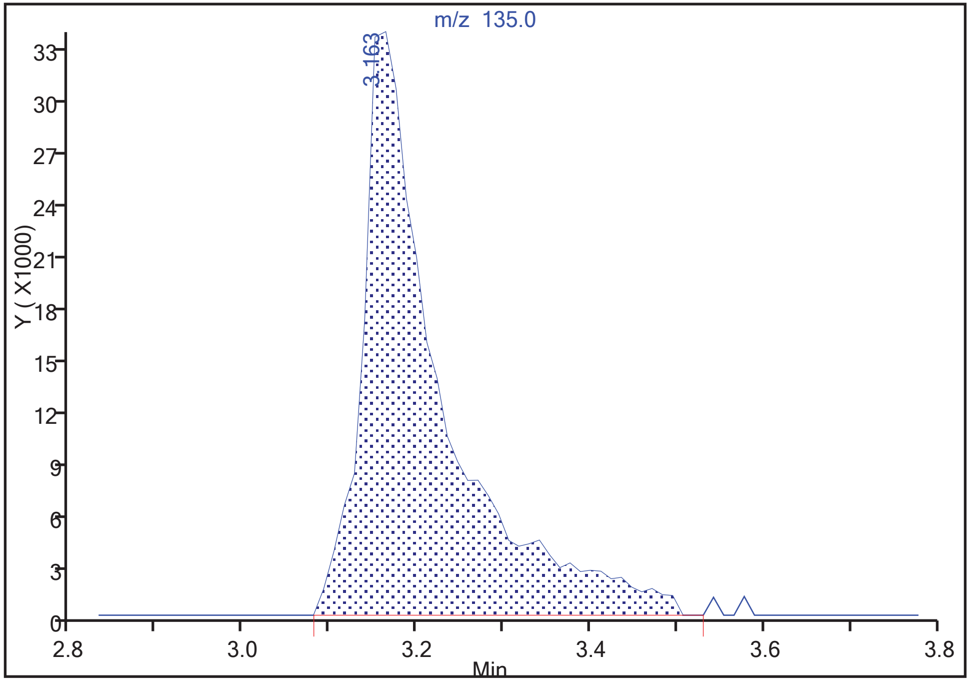
Processing Integration Results

RT: 3.16
Area: 183980
Amount: 50.514187
Amount Units: ug/l



Manual Integration Results

RT: 3.16
Area: 209190
Amount: 57.126274
Amount Units: ug/l



Reviewer: hannj, 03-Oct-2017 16:11:50

Audit Action: Manually Integrated Audit Reason: Peak Tail

Report Date: 08-Oct-2017 22:08:02

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

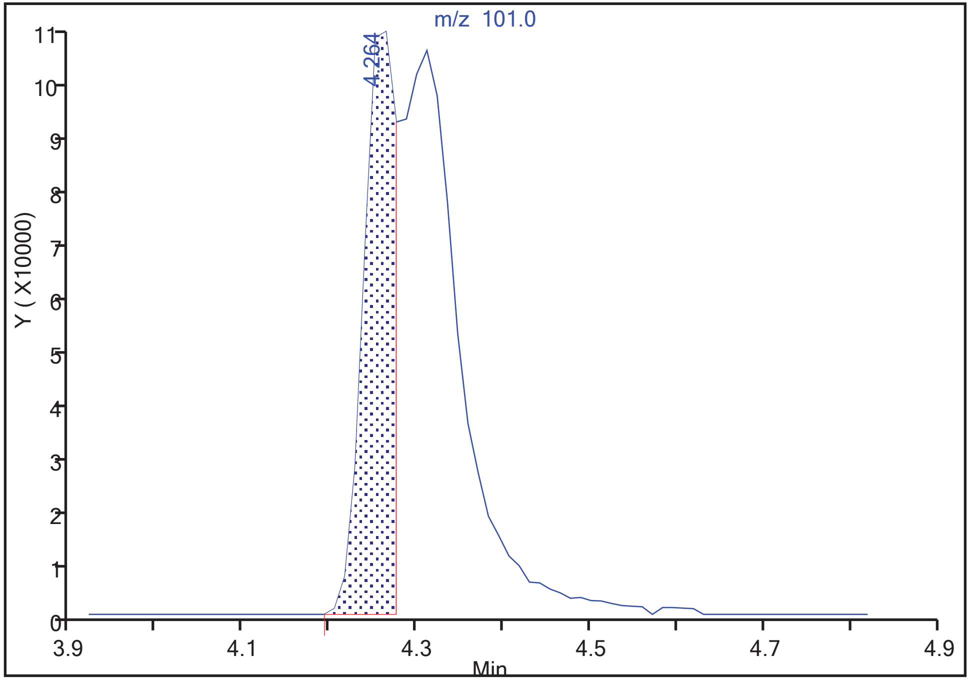
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2853.D				
Injection Date:	02-Oct-2017 23:06:30	Instrument ID:	VMSF		
Lims ID:	ICIS				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	7	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

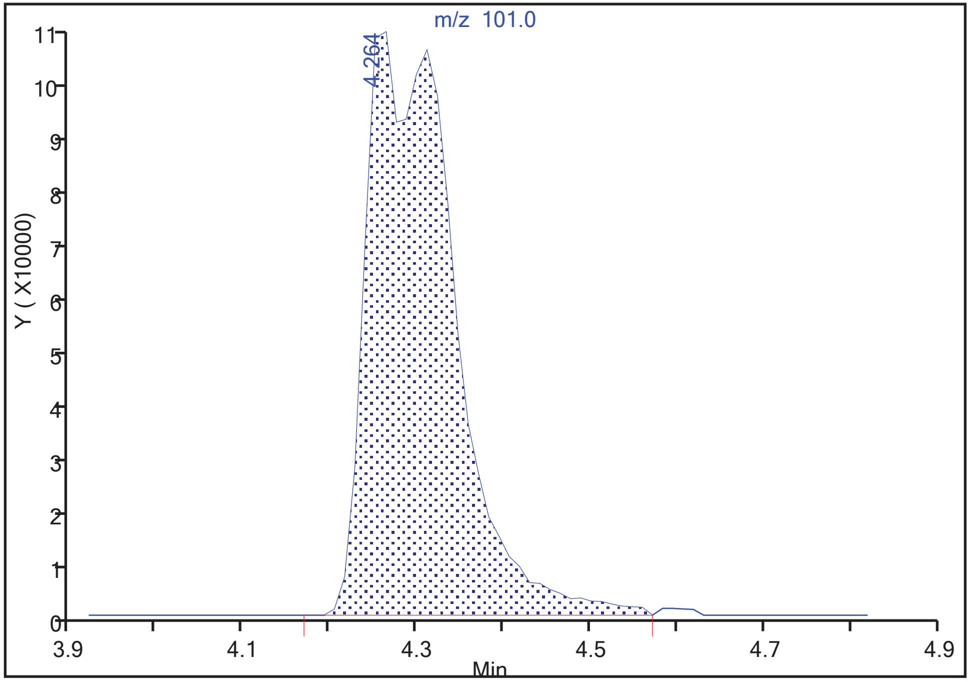
Processing Integration Results

RT:	4.26
Area:	288587
Amount:	40.610012
Amount Units:	ug/l



Manual Integration Results

RT:	4.26
Area:	761956
Amount:	49.918704
Amount Units:	ug/l



Reviewer: hannj, 03-Oct-2017 16:12:06

Audit Action: Manually Integrated

Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

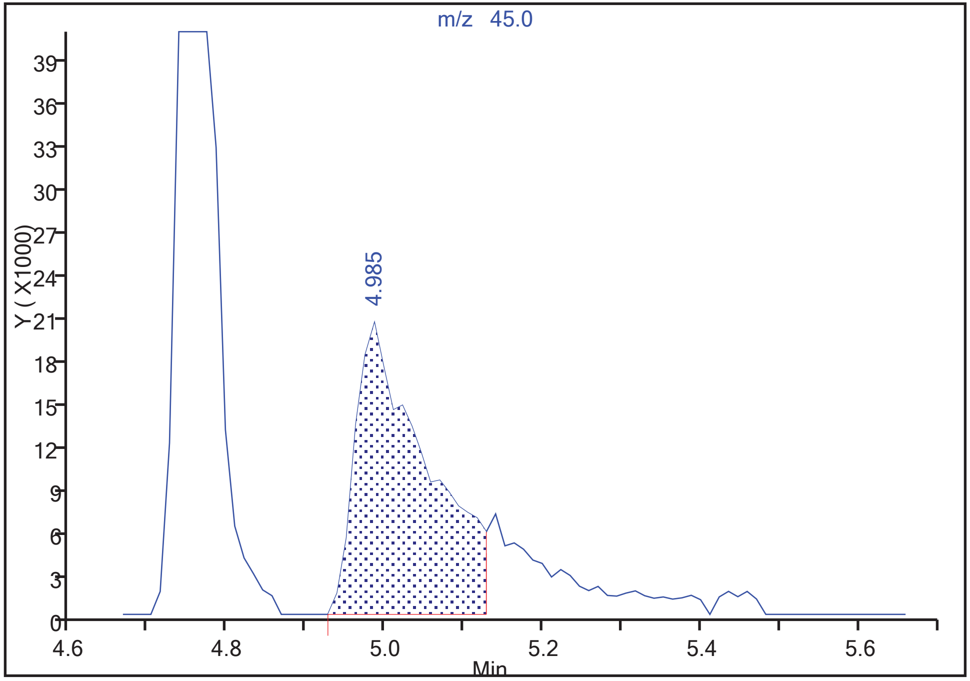
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2853.D				
Injection Date:	02-Oct-2017 23:06:30	Instrument ID:	VMSF		
Lims ID:	ICIS				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	7	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

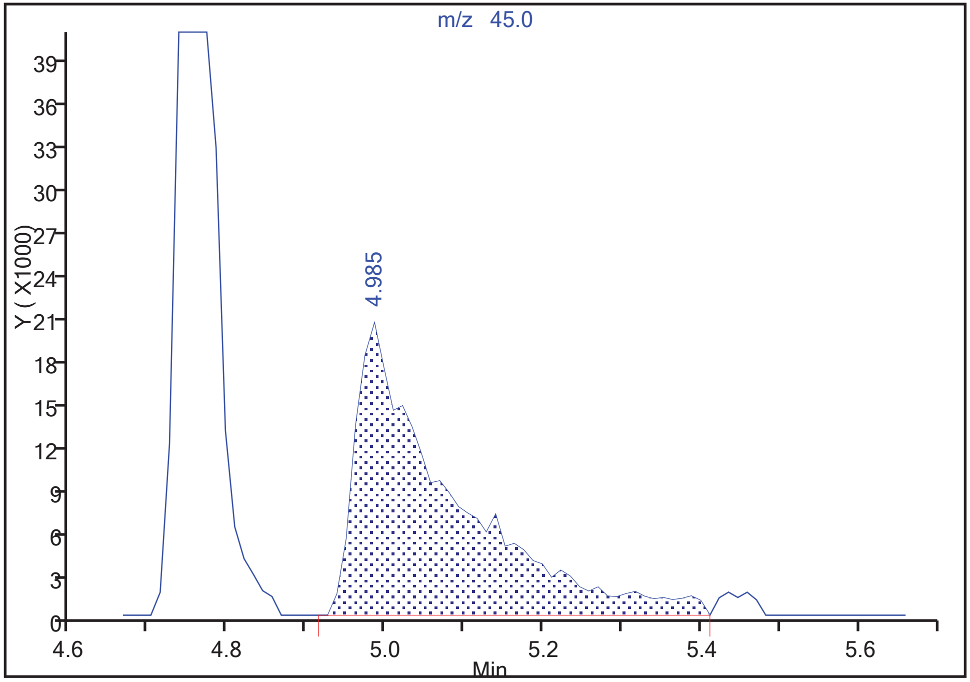
Processing Integration Results

RT:	4.99
Area:	130998
Amount:	2685.0187
Amount Units:	ug/l



Manual Integration Results

RT:	4.99
Area:	171496
Amount:	2133.5861
Amount Units:	ug/l



Reviewer: hannj, 03-Oct-2017 16:12:24

Audit Action: Manually Integrated Audit Reason: Peak Tail

Report Date: 08-Oct-2017 22:08:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2854.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 02-Oct-2017 23:31:30 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011546-009
Misc. Info.: IC
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 08-Oct-2017 22:08:04 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK018

First Level Reviewer: hannj Date: 03-Oct-2017 17:01:54

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.950	2.938	0.012	100	1236933	100.0	97.6	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.163	3.163	0.000	97	437164	100.0	103.4	
3 Chloromethane	50	3.269	3.258	0.011	100	2183562	100.0	96.0	
122 Butadiene	39	3.387	3.388	-0.001	96	2223868	100.0	101.3	
4 Vinyl chloride	62	3.399	3.400	-0.001	98	1950015	100.0	96.5	
5 Bromomethane	94	3.896	3.897	-0.001	92	666610	100.0	101.3	
6 Chloroethane	64	4.074	4.074	0.000	98	788695	100.0	103.1	
7 Trichlorofluoromethane	101	4.310	4.264	0.046	99	1774621	100.0	100.7	M
123 Dichlorofluoromethane	67	4.381	4.382	-0.001	100	2207112	100.0	98.4	
8 Ethyl ether	74	4.760	4.761	-0.001	96	541219	100.0	99.7	
11 Ethanol	45	4.997	4.985	0.012	23	400783	4000.0	4283.2	M
9 1,1-Dichloroethene	96	5.091	5.092	-0.001	93	936339	100.0	100.1	
10 Carbon disulfide	76	5.151	5.151	0.000	100	3616070	100.0	99.0	
12 1,1,2-Trichloro-1,2,2-trif	151	5.174	5.175	-0.001	97	670075	100.0	101.5	
13 Iodomethane	142	5.328	5.329	0.000	99	1262812	100.0	103.0	
14 Acrolein	56	5.624	5.624	0.000	99	645173	500.0	507.6	
15 3-Chloro-1-propene	39	5.813	5.814	-0.001	89	1763145	100.0	99.7	
S 26 1,2-Dichloroethene, Total	96				0			204.4	
16 Isopropyl alcohol	45	5.825	5.825	0.000	97	510294	1000.0	1047.2	
17 Methylene Chloride	84	5.967	5.967	0.000	97	1059188	100.0	94.8	
18 Acetone	43	6.050	6.062	-0.012	98	209014	100.0	93.7	
19 trans-1,2-Dichloroethene	96	6.204	6.204	0.000	93	1075326	100.0	100.9	
20 Methyl acetate	74	6.216	6.216	0.000	100	197074	500.0	515.8	
21 Hexane	86	6.310	6.299	0.011	96	326817	100.0	107.8	
22 Methyl tert-butyl ether	73	6.357	6.346	0.011	93	2449810	100.0	102.4	
23 2-Methyl-2-propanol	59	6.464	6.464	0.000	97	759965	1000.0	1050.8	
24 Acetonitrile	41	6.724	6.725	-0.001	100	881944	1000.0	956.2	
25 Isopropyl ether	45	6.866	6.855	0.011	93	4263246	100.0	103.9	
27 2-Chloro-1,3-butadiene	53	7.032	7.032	0.000	95	2235098	100.0	108.0	
28 1,1-Dichloroethane	63	7.067	7.068	-0.001	97	2267031	100.0	99.6	

Report Date: 08-Oct-2017 22:08:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2854.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.150	7.139	0.011	98	2725885	1000.0	1009.5	
30 Tert-butyl ethyl ether	59	7.351	7.352	-0.001	97	3487582	100.0	104.8	
31 Vinyl acetate	43	7.375	7.376	-0.001	97	2227642	100.0	105.4	
32 cis-1,2-Dichloroethene	96	7.777	7.766	0.011	86	1162482	100.0	103.6	
33 2,2-Dichloropropane	77	7.919	7.920	-0.001	94	1295423	100.0	96.8	
35 Chlorobromomethane	128	8.026	8.026	0.000	88	401802	100.0	102.4	
34 Cyclohexane	84	8.038	8.038	0.000	97	1991527	100.0	102.6	
36 Chloroform	83	8.097	8.097	0.000	98	1966866	100.0	99.6	
39 Ethyl acetate	45	8.239	8.239	0.000	99	195598	200.0	197.2	
37 Carbon tetrachloride	117	8.298	8.299	-0.001	97	1306335	100.0	101.6	
38 Tetrahydrofuran	71	8.322	8.322	0.000	92	141001	200.0	221.6	
$ 41 Dibromofluoromethane (Surr	113	8.334	8.334	0.000	92	807729	100.0	98.2	
40 1,1,1-Trichloroethane	97	8.381	8.381	0.000	96	1733495	100.0	100.6	
43 2-Butanone (MEK)	43	8.499	8.488	0.011	98	323192	100.0	97.5	
42 1,1-Dichloropropene	75	8.535	8.523	0.012	92	1626927	100.0	104.1	
125 Isooctane	57	8.653	8.642	0.011	96	5657443	100.0	100.1	
117 n-Heptane	43	8.748	8.748	0.000	95	2454740	100.0	103.7	
44 Benzene	78	8.842	8.843	-0.001	99	4085271	100.0	96.6	
45 Propionitrile	54	8.878	8.878	0.000	97	1030365	1000.0	1026.0	
46 Methacrylonitrile	41	8.902	8.902	0.000	95	5272595	1000.0	1016.8	
48 Tert-amyl methyl ether	73	8.949	8.949	0.000	94	2899368	100.0	107.2	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.008	9.009	0.000	96	1038504	100.0	98.0	
50 Isobutyl alcohol	42	9.020	9.020	0.000	91	620297	2500.0	2783.6	
49 1,2-Dichloroethane	62	9.091	9.091	0.000	97	1292521	100.0	102.5	
* 51 Fluorobenzene	96	9.328	9.328	0.000	97	1733603	50.0	50.0	
53 Trichloroethene	95	9.517	9.517	0.000	64	1116132	100.0	101.7	
52 Methylcyclohexane	55	9.517	9.517	0.000	96	2278652	100.0	104.2	
54 n-Butanol	56	9.813	9.813	0.000	97	530507	2500.0	2516.4	
55 Dibromomethane	93	9.990	9.991	-0.001	88	437115	100.0	100.5	
124 Ethyl acrylate	55	10.061	10.062	-0.001	97	682118	100.0	95.7	
56 1,2-Dichloropropane	63	10.097	10.097	0.000	92	1063974	100.0	102.1	
57 Dichlorobromomethane	83	10.144	10.144	0.000	98	1269537	100.0	103.4	
58 Methyl methacrylate	69	10.274	10.275	-0.001	93	772333	200.0	192.5	
59 1,4-Dioxane	88	10.345	10.346	-0.001	97	125346	2000.0	1996.0	
60 2-Chloroethyl vinyl ether	63	10.688	10.689	-0.001	91	363133	100.0	94.8	
61 cis-1,3-Dichloropropene	75	10.771	10.772	-0.001	91	1368979	100.0	106.9	
$ 62 Toluene-d8 (Surr)	98	10.949	10.949	0.000	95	2926744	100.0	97.5	
63 Toluene	92	10.996	10.996	0.000	96	2293492	100.0	102.5	
64 2-Nitropropane	43	11.221	11.221	0.000	99	399756	200.0	200.2	
66 4-Methyl-2-pentanone (MIBK	43	11.327	11.328	-0.001	99	734030	100.0	110.0	
67 trans-1,3-Dichloropropene	75	11.363	11.363	0.000	99	1141558	100.0	106.5	
65 Tetrachloroethene	164	11.363	11.363	0.000	89	663193	100.0	107.6	
119 n-Butyl acetate	43	11.410	11.411	-0.001	99	146493	100.0	110.9	
69 Ethyl methacrylate	69	11.469	11.470	-0.001	94	771431	100.0	99.1	
68 1,1,2-Trichloroethane	83	11.517	11.517	0.000	94	501668	100.0	98.8	
S 73 1,3-Dichloropropene, Total	75				0			213.4	
70 Chlorodibromomethane	129	11.682	11.683	-0.001	90	614651	100.0	108.2	
71 1,3-Dichloropropane	76	11.765	11.766	-0.001	99	1050696	100.0	100.1	
72 Ethylene Dibromide	107	11.907	11.908	-0.001	99	491615	100.0	101.5	
74 2-Hexanone	43	12.037	12.038	-0.001	97	408566	100.0	104.5	
75 1-Chlorohexane	91	12.274	12.274	0.000	80	1290691	100.0	100.5	
* 76 Chlorobenzene-d5	117	12.321	12.322	-0.001	93	1075063	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.333	12.334	-0.001	74	2352327	100.0	100.7	
78 Ethylbenzene	91	12.333	12.334	-0.001	86	3981873	100.0	84.1	
79 1,1,1,2-Tetrachloroethane	131	12.380	12.381	-0.001	94	865273	100.0	105.1	
80 m-Xylene & p-Xylene	106	12.440	12.440	0.000	99	1712832	100.0	107.2	
82 o-Xylene	106	12.795	12.795	0.000	95	1742633	100.0	108.1	
83 Styrene	104	12.830	12.831	0.000	91	2435402	100.0	109.0	
84 Bromoform	173	12.889	12.890	-0.001	96	335159	100.0	92.6	
85 Isopropylbenzene	105	13.031	13.032	-0.001	96	3885192	100.0	97.8	
$ 86 4-Bromofluorobenzene (Surr	95	13.268	13.268	0.000	95	1184866	100.0	96.6	
88 N-Propylbenzene	91	13.339	13.339	0.000	95	4478769	100.0	75.0	
87 Bromobenzene	156	13.374	13.375	-0.001	96	900768	100.0	99.2	
89 1,1,2,2-Tetrachloroethane	83	13.398	13.398	0.000	96	795509	100.0	93.9	
91 1,3,5-Trimethylbenzene	105	13.481	13.469	0.012	95	3682384	100.0	88.3	
90 2-Chlorotoluene	91	13.493	13.493	0.000	96	3747307	100.0	100.2	
92 1,2,3-Trichloropropane	110	13.528	13.517	0.011	83	219452	100.0	99.2	
93 trans-1,4-Dichloro-2-buten	53	13.528	13.529	-0.001	85	259951	100.0	94.3	
94 Cyclohexanone	55	13.587	13.588	-0.001	97	272477	1000.0	1032.1	
95 4-Chlorotoluene	91	13.611	13.611	0.000	97	3154404	100.0	99.1	
96 tert-Butylbenzene	119	13.729	13.730	-0.001	91	3132651	100.0	96.9	
97 1,2,4-Trimethylbenzene	105	13.777	13.777	0.000	96	3667658	100.0	84.2	
98 sec-Butylbenzene	105	13.859	13.860	-0.001	94	4297484	100.0	76.1	
99 4-Isopropyltoluene	119	13.942	13.943	-0.001	89	3836811	100.0	84.2	
100 1,3-Dichlorobenzene	146	14.061	14.061	0.000	97	1976629	100.0	95.9	
120 1,2,3-Trimethylbenzene	105	14.108	14.108	0.000	93	3790024	100.0	82.5	
* 101 1,4-Dichlorobenzene-d4	152	14.108	14.108	0.000	67	674521	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.120	14.120	0.000	91	2077879	100.0	96.2	
103 n-Butylbenzene	134	14.262	14.250	0.012	93	1275528	100.0	99.8	
121 Benzyl chloride	126	14.285	14.286	-0.001	58	332566	100.0	101.2	
104 1,2-Dichlorobenzene	146	14.427	14.428	-0.001	90	1850972	100.0	96.8	
106 n-Nonyl Aldehyde	57	14.948	14.949	-0.001	85	849386	100.0	102.5	
105 1,2-Dibromo-3-Chloropropan	157	15.031	15.031	0.000	65	145182	100.0	108.7	
107 1,3,5-Trichlorobenzene	180	15.043	15.043	0.000	96	1645958	100.0	100.8	
108 Hexachlorobutadiene	225	15.504	15.505	-0.001	98	859319	100.0	104.3	
109 1,2,4-Trichlorobenzene	180	15.563	15.564	-0.001	92	1347988	100.0	100.4	
110 Naphthalene	128	15.871	15.860	0.011	98	2464334	100.0	96.9	
111 1,2,3-Trichlorobenzene	180	16.037	16.037	0.000	93	1126126	100.0	99.3	
S 112 Xylenes, Total	106				0			215.3	
S 113 Trihalomethanes, Total	1				0			403.8	

QC Flag Legend

Review Flags

M - Manually Integrated

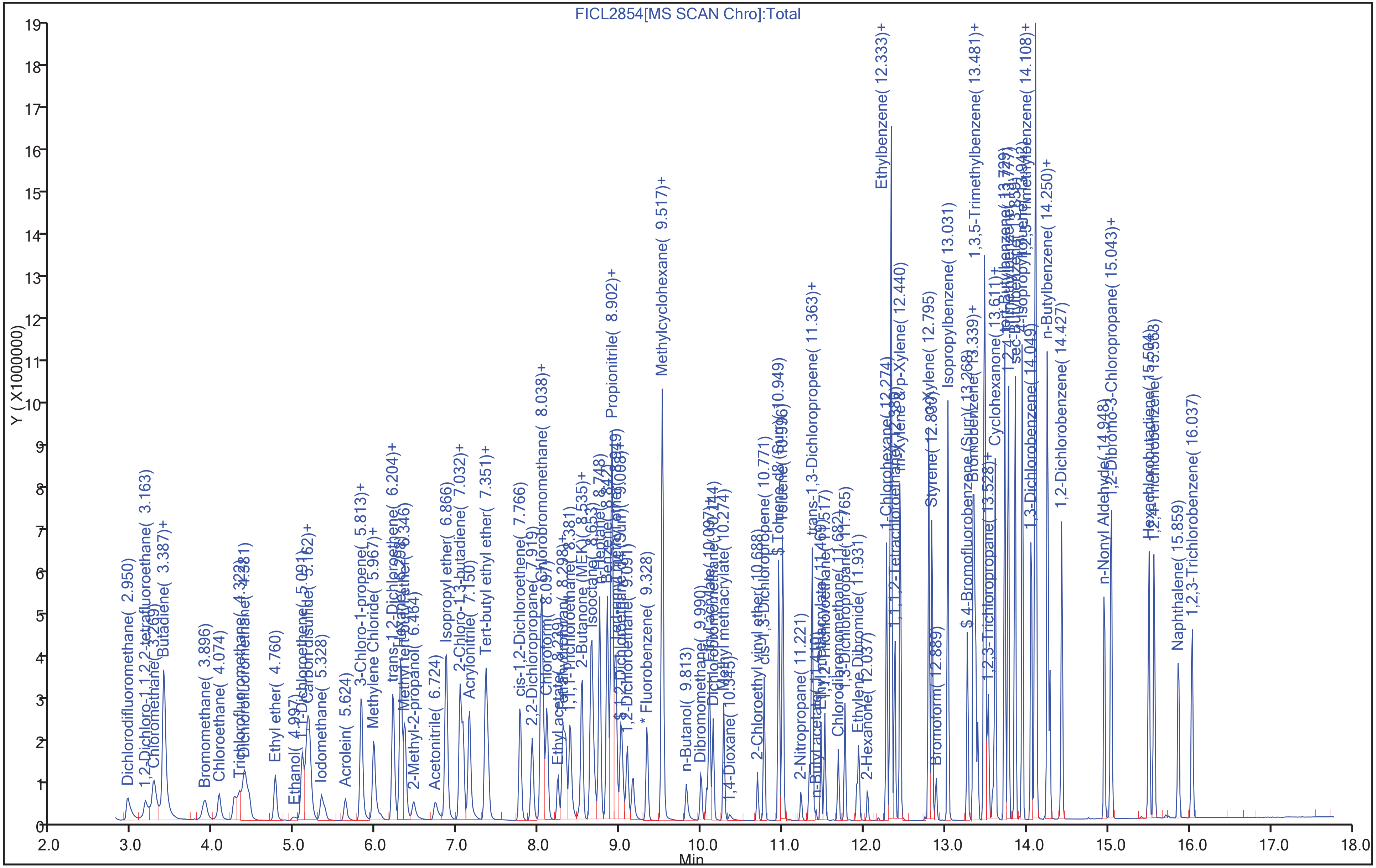
Reagents:

8260 Surr 25_00079	Amount Added: 20.00	Units: uL	
8260NewHiWrk_00216	Amount Added: 4.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 08-Oct-2017 22:08:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2854.D				
Injection Date:	02-Oct-2017 23:31:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis

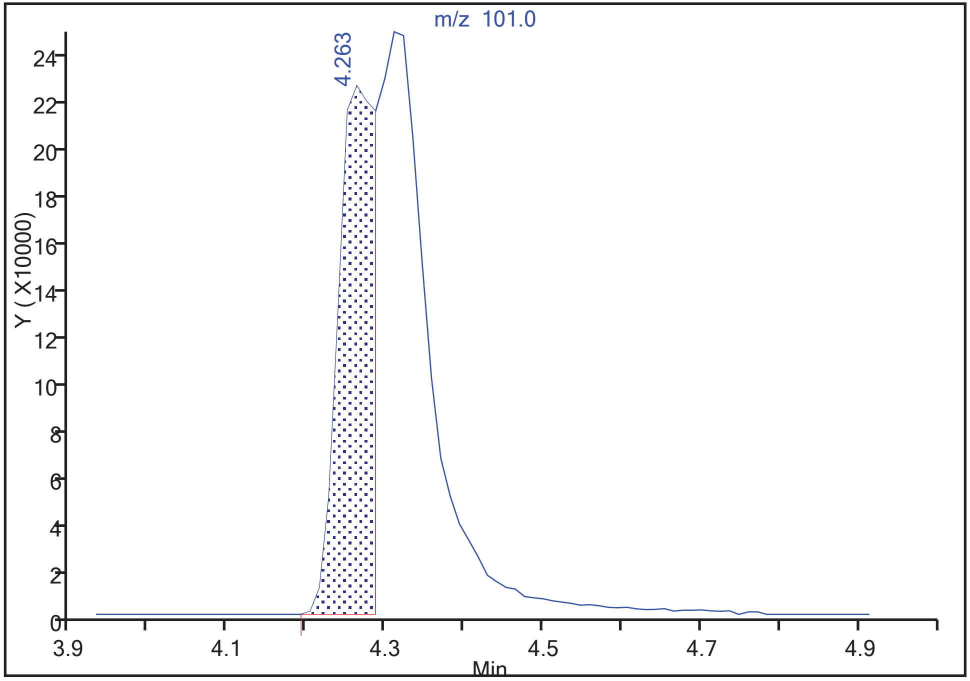
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2854.D				
Injection Date:	02-Oct-2017 23:31:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	8	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

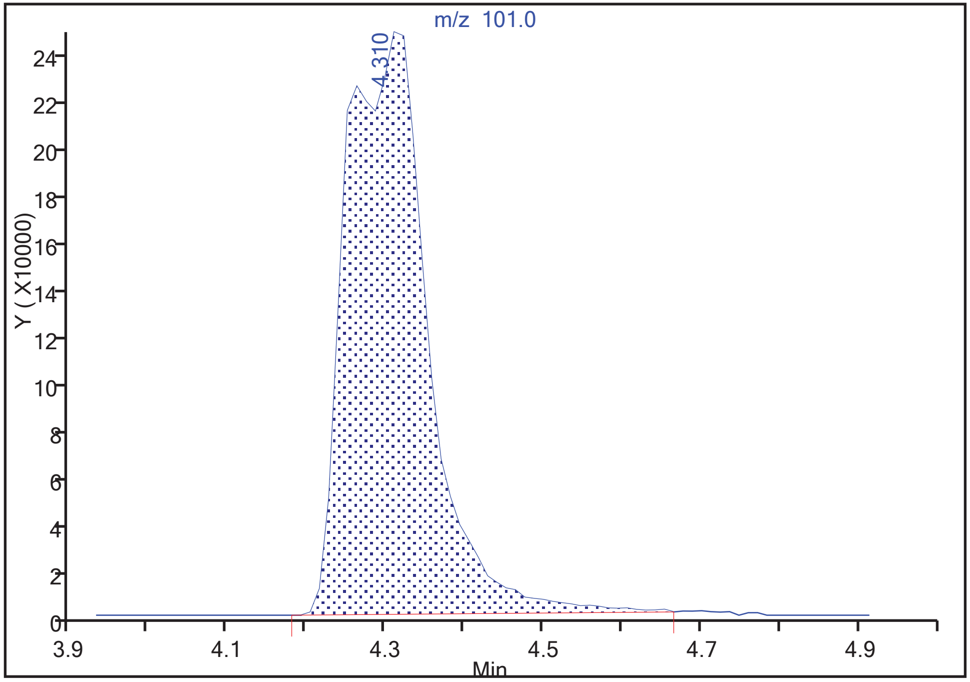
Processing Integration Results

RT: 4.26
Area: 742753
Amount: 52.870320
Amount Units: ug/l



Manual Integration Results

RT: 4.31
Area: 1774621
Amount: 100.6726
Amount Units: ug/l



Reviewer: hannj, 03-Oct-2017 17:00:18
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

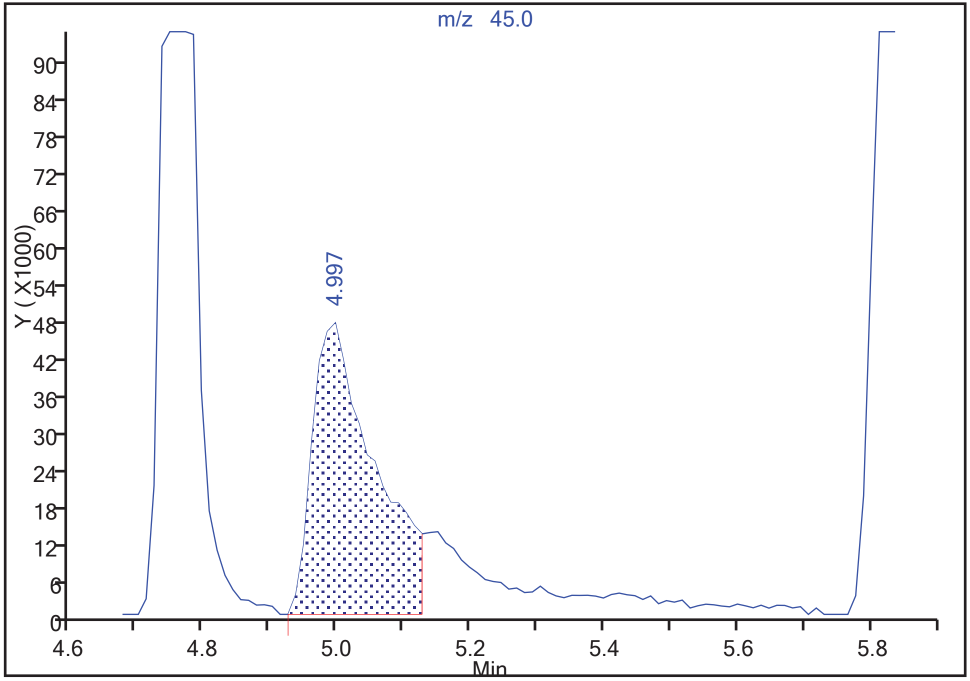
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2854.D				
Injection Date:	02-Oct-2017 23:31:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	8	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

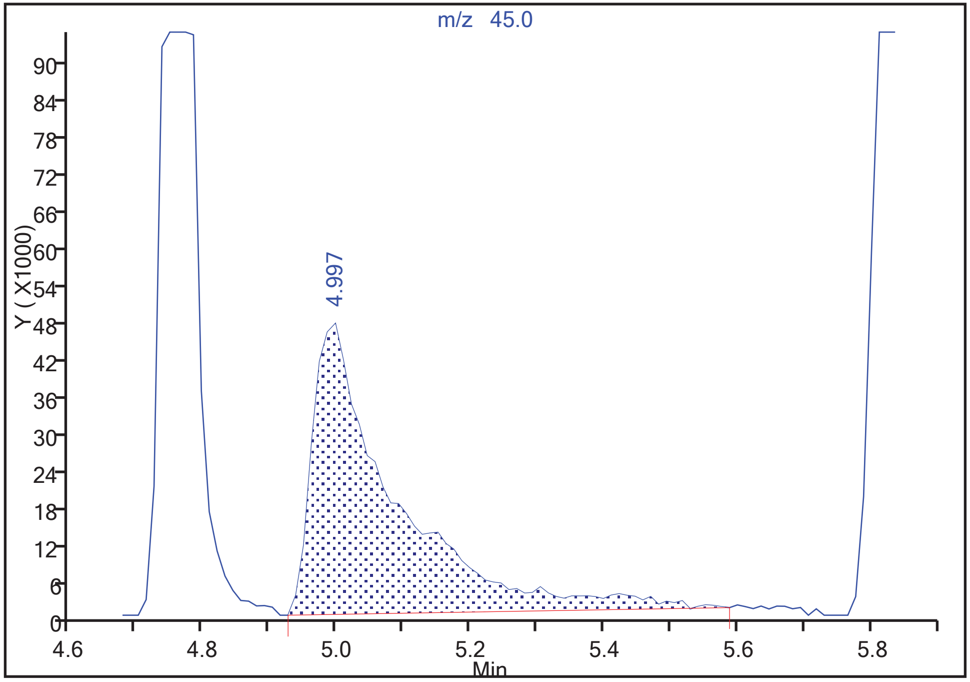
RT: 5.00
Area: 307228
Amount: 3693.2298
Amount Units: ug/l

Processing Integration Results



RT: 5.00
Area: 400783
Amount: 4283.1914
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 03-Oct-2017 17:00:54
Audit Action: Manually Integrated Audit Reason: Peak Tail

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 02-Oct-2017 23:55:30 ALS Bottle#: 9 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011546-010
Misc. Info.: IC
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 08-Oct-2017 22:08:07 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK018

First Level Reviewer: hannj Date: 03-Oct-2017 17:04:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.938	2.938	0.000	100	2654142	200.0	181.6	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.163	3.163	0.000	98	1010558	200.0	207.3	
3 Chloromethane	50	3.258	3.258	0.000	99	4615328	200.0	176.0	
122 Butadiene	39	3.388	3.388	0.000	98	4033750	200.0	199.6	
4 Vinyl chloride	62	3.400	3.400	0.000	99	3710709	200.0	159.4	
5 Bromomethane	94	3.897	3.897	0.000	92	1492302	200.0	196.7	
6 Chloroethane	64	4.074	4.074	0.000	98	1720988	200.0	195.1	
7 Trichlorofluoromethane	101	4.311	4.264	0.047	98	3709073	200.0	182.6	M
123 Dichlorofluoromethane	67	4.382	4.382	0.000	99	4626908	200.0	179.0	
8 Ethyl ether	74	4.760	4.761	-0.001	95	1245444	200.0	199.1	
11 Ethanol	45	4.985	4.985	0.000	23	815474	8000.0	7536.0	M
9 1,1-Dichloroethene	96	5.092	5.092	0.000	95	2125995	200.0	197.3	
10 Carbon disulfide	76	5.151	5.151	0.000	99	7883019	200.0	187.2	
12 1,1,2-Trichloro-1,2,2-trif	151	5.175	5.175	0.000	97	1512588	200.0	198.9	
13 Iodomethane	142	5.328	5.329	0.000	99	2914998	200.0	206.4	
14 Acrolein	56	5.624	5.624	0.000	99	1494083	1000.0	1020.0	
15 3-Chloro-1-propene	39	5.814	5.814	0.000	89	3787256	200.0	185.8	
S 26 1,2-Dichloroethene, Total	96				0			395.3	
16 Isopropyl alcohol	45	5.814	5.825	-0.011	25	1195668	2000.0	2129.0	
17 Methylene Chloride	84	5.967	5.967	0.000	98	2382962	200.0	185.0	
18 Acetone	43	6.050	6.062	-0.012	97	519155	200.0	203.8	
19 trans-1,2-Dichloroethene	96	6.204	6.204	0.000	94	2383253	200.0	194.0	
20 Methyl acetate	74	6.216	6.216	0.000	99	480390	1000.0	1090.9	
21 Hexane	86	6.311	6.299	0.011	95	777243	200.0	222.3	
22 Methyl tert-butyl ether	73	6.346	6.346	0.000	94	5351231	200.0	194.0	
23 2-Methyl-2-propanol	59	6.453	6.464	-0.012	98	1737253	2000.0	2084.2	
24 Acetonitrile	41	6.725	6.725	0.000	100	1962326	2000.0	1846.0	
25 Isopropyl ether	45	6.855	6.855	0.000	87	8145907	200.0	172.3	
27 2-Chloro-1,3-butadiene	53	7.032	7.032	0.000	96	4780750	200.0	200.4	
28 1,1-Dichloroethane	63	7.068	7.068	0.000	96	4821089	200.0	183.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.151	7.139	0.012	95	5741632	2000.0	1845.0	
30 Tert-butyl ethyl ether	59	7.352	7.352	0.000	93	7066771	200.0	184.2	
31 Vinyl acetate	43	7.375	7.376	-0.001	98	5041931	200.0	207.0	
32 cis-1,2-Dichloroethene	96	7.766	7.766	0.000	86	2604175	200.0	201.3	
33 2,2-Dichloropropane	77	7.920	7.920	0.000	94	2693531	200.0	174.7	
35 Chlorobromomethane	128	8.026	8.026	0.000	90	956199	200.0	211.4	
34 Cyclohexane	84	8.038	8.038	0.000	96	4411604	200.0	197.2	
36 Chloroform	83	8.097	8.097	0.000	97	4203972	200.0	184.7	
39 Ethyl acetate	45	8.239	8.239	0.000	99	485980	400.0	425.1	
37 Carbon tetrachloride	117	8.298	8.299	-0.001	97	2950663	200.0	199.1	
38 Tetrahydrofuran	71	8.322	8.322	0.000	93	347641	400.0	474.0	
$ 41 Dibromofluoromethane (Surr	113	8.334	8.334	0.000	92	1876766	200.0	198.0	
40 1,1,1-Trichloroethane	97	8.381	8.381	0.000	97	3800176	200.0	191.3	
43 2-Butanone (MEK)	43	8.488	8.488	0.000	98	809655	200.0	212.0	
42 1,1-Dichloropropene	75	8.535	8.523	0.012	91	3575400	200.0	198.4	
125 Isooctane	57	8.653	8.642	0.011	88	11011472	200.0	169.0	
117 n-Heptane	43	8.748	8.748	0.000	94	5242152	200.0	192.1	
44 Benzene	78	8.843	8.843	0.000	91	7503972	200.0	154.0	
45 Propionitrile	54	8.878	8.878	0.000	92	2375381	2000.0	2052.3	
46 Methacrylonitrile	41	8.902	8.902	0.000	91	9137478	2000.0	1529.0	
48 Tert-amyl methyl ether	73	8.949	8.949	0.000	90	5892509	200.0	189.1	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.008	9.009	0.000	94	2297160	200.0	188.0	
50 Isobutyl alcohol	42	9.020	9.020	0.000	93	1469745	5000.0	5722.7	
49 1,2-Dichloroethane	62	9.091	9.091	0.000	96	2797421	200.0	192.5	
* 51 Fluorobenzene	96	9.328	9.328	0.000	97	1998002	50.0	50.0	
52 Methylcyclohexane	55	9.517	9.517	0.000	93	4618871	200.0	183.3	
53 Trichloroethene	95	9.517	9.517	0.000	72	2531820	200.0	200.2	
54 n-Butanol	56	9.813	9.813	0.000	94	1335814	5000.0	4998.0	
55 Dibromomethane	93	9.991	9.991	-0.001	90	1027170	200.0	204.9	
124 Ethyl acrylate	55	10.062	10.062	0.000	99	1759116	200.0	210.7	
56 1,2-Dichloropropane	63	10.097	10.097	0.000	91	2444333	200.0	203.6	
57 Dichlorobromomethane	83	10.144	10.144	0.000	98	2926255	200.0	206.9	
58 Methyl methacrylate	69	10.274	10.275	-0.001	94	1946483	400.0	414.6	
59 1,4-Dioxane	88	10.345	10.346	-0.001	96	297430	4000.0	4045.0	
60 2-Chloroethyl vinyl ether	63	10.689	10.689	0.000	92	944661	200.0	210.7	
61 cis-1,3-Dichloropropene	75	10.771	10.772	-0.001	90	3140126	200.0	212.8	
$ 62 Toluene-d8 (Surr)	98	10.949	10.949	0.000	91	5374280	200.0	148.6	
63 Toluene	92	10.996	10.996	0.000	85	4615249	200.0	171.2	
64 2-Nitropropane	43	11.221	11.221	0.000	97	990168	400.0	406.5	
66 4-Methyl-2-pentanone (MIBK	43	11.328	11.328	0.000	99	1752860	200.0	217.8	
65 Tetrachloroethene	164	11.363	11.363	0.000	91	1580791	200.0	212.9	
67 trans-1,3-Dichloropropene	75	11.363	11.363	0.000	97	2661600	200.0	206.0	
119 n-Butyl acetate	43	11.410	11.411	-0.001	99	351461	200.0	220.7	
69 Ethyl methacrylate	69	11.470	11.470	0.000	94	1932457	200.0	203.5	
68 1,1,2-Trichloroethane	83	11.517	11.517	0.000	94	1211031	200.0	198.0	
S 73 1,3-Dichloropropene, Total	75				0			418.8	
70 Chlorodibromomethane	129	11.683	11.683	0.000	90	1504023	200.0	219.7	
71 1,3-Dichloropropane	76	11.765	11.766	-0.001	98	2449763	200.0	193.6	
72 Ethylene Dibromide	107	11.907	11.908	-0.001	98	1213712	200.0	208.0	
74 2-Hexanone	43	12.038	12.038	0.000	98	1032942	200.0	219.2	
75 1-Chlorohexane	91	12.274	12.274	0.000	85	3026733	200.0	195.5	
* 76 Chlorobenzene-d5	117	12.322	12.322	0.000	91	1295869	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
78 Ethylbenzene	91	12.333	12.334	-0.001	74	6196924	200.0	108.6	
77 Chlorobenzene	112	12.333	12.334	-0.001	74	4428225	200.0	157.3	
79 1,1,1,2-Tetrachloroethane	131	12.381	12.381	0.000	95	1958873	200.0	197.4	
80 m-Xylene & p-Xylene	106	12.440	12.440	0.000	86	3602615	200.0	187.0	
82 o-Xylene	106	12.795	12.795	0.000	80	3594096	200.0	185.0	
83 Styrene	104	12.830	12.831	0.000	85	4644342	200.0	172.4	
84 Bromoform	173	12.890	12.890	0.000	96	847410	200.0	213.3	
85 Isopropylbenzene	105	13.032	13.032	0.000	78	6037255	200.0	202.2	
$ 86 4-Bromofluorobenzene (Surr	95	13.268	13.268	0.000	82	2727253	200.0	205.8	
88 N-Propylbenzene	91	13.351	13.339	0.012	83	6072290	200.0	94.1	
87 Bromobenzene	156	13.375	13.375	0.000	96	2118720	200.0	215.9	
89 1,1,2,2-Tetrachloroethane	83	13.398	13.398	0.000	96	1836220	200.0	200.5	
91 1,3,5-Trimethylbenzene	105	13.481	13.469	0.012	87	5342131	200.0	118.6	
90 2-Chlorotoluene	91	13.493	13.493	0.000	85	5985311	200.0	199.9	
92 1,2,3-Trichloropropane	110	13.529	13.517	0.012	85	514399	200.0	215.2	
93 trans-1,4-Dichloro-2-buten	53	13.529	13.529	0.000	85	642487	200.0	215.8	
94 Cyclohexanone	55	13.588	13.588	0.000	96	641093	2000.0	2247.5	
95 4-Chlorotoluene	91	13.611	13.611	0.000	84	5290944	200.0	200.4	
96 tert-Butylbenzene	119	13.730	13.730	0.000	83	5158411	200.0	147.8	
97 1,2,4-Trimethylbenzene	105	13.777	13.777	0.000	81	5506639	200.0	117.0	
98 sec-Butylbenzene	105	13.860	13.860	0.000	78	6229982	200.0	102.2	
99 4-Isopropyltoluene	119	13.943	13.943	0.000	83	5425389	200.0	110.2	
100 1,3-Dichlorobenzene	146	14.061	14.061	0.000	89	3856554	200.0	173.2	
* 101 1,4-Dichlorobenzene-d4	152	14.108	14.108	0.000	61	728775	50.0	50.0	
120 1,2,3-Trimethylbenzene	105	14.108	14.108	0.000	85	5412208	200.0	109.0	
102 1,4-Dichlorobenzene	146	14.120	14.120	0.000	80	3768338	200.0	161.5	
103 n-Butylbenzene	134	14.262	14.250	0.012	81	2718201	200.0	196.8	
121 Benzyl chloride	126	14.286	14.286	0.000	63	776154	200.0	218.6	
104 1,2-Dichlorobenzene	146	14.428	14.428	0.000	87	3672054	200.0	177.8	
106 n-Nonyl Aldehyde	57	14.948	14.949	-0.001	87	1924817	200.0	215.1	
105 1,2-Dibromo-3-Chloropropan	157	15.031	15.031	0.000	67	336735	200.0	233.3	
107 1,3,5-Trichlorobenzene	180	15.043	15.043	0.000	90	3233897	200.0	183.2	
108 Hexachlorobutadiene	225	15.505	15.505	0.000	97	1827835	200.0	205.3	
109 1,2,4-Trichlorobenzene	180	15.564	15.564	0.000	93	2850792	200.0	196.5	
110 Naphthalene	128	15.871	15.860	0.011	99	4558367	200.0	165.8	
111 1,2,3-Trichlorobenzene	180	16.037	16.037	0.000	92	2407434	200.0	196.6	
S 112 Xylenes, Total	106				0			372.0	
S 113 Trihalomethanes, Total	1				0			824.5	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

8260_Surr_00051	Amount Added: 0.40	Units: uL	
8260NewHiWrk_00216	Amount Added: 8.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 08-Oct-2017 22:08:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

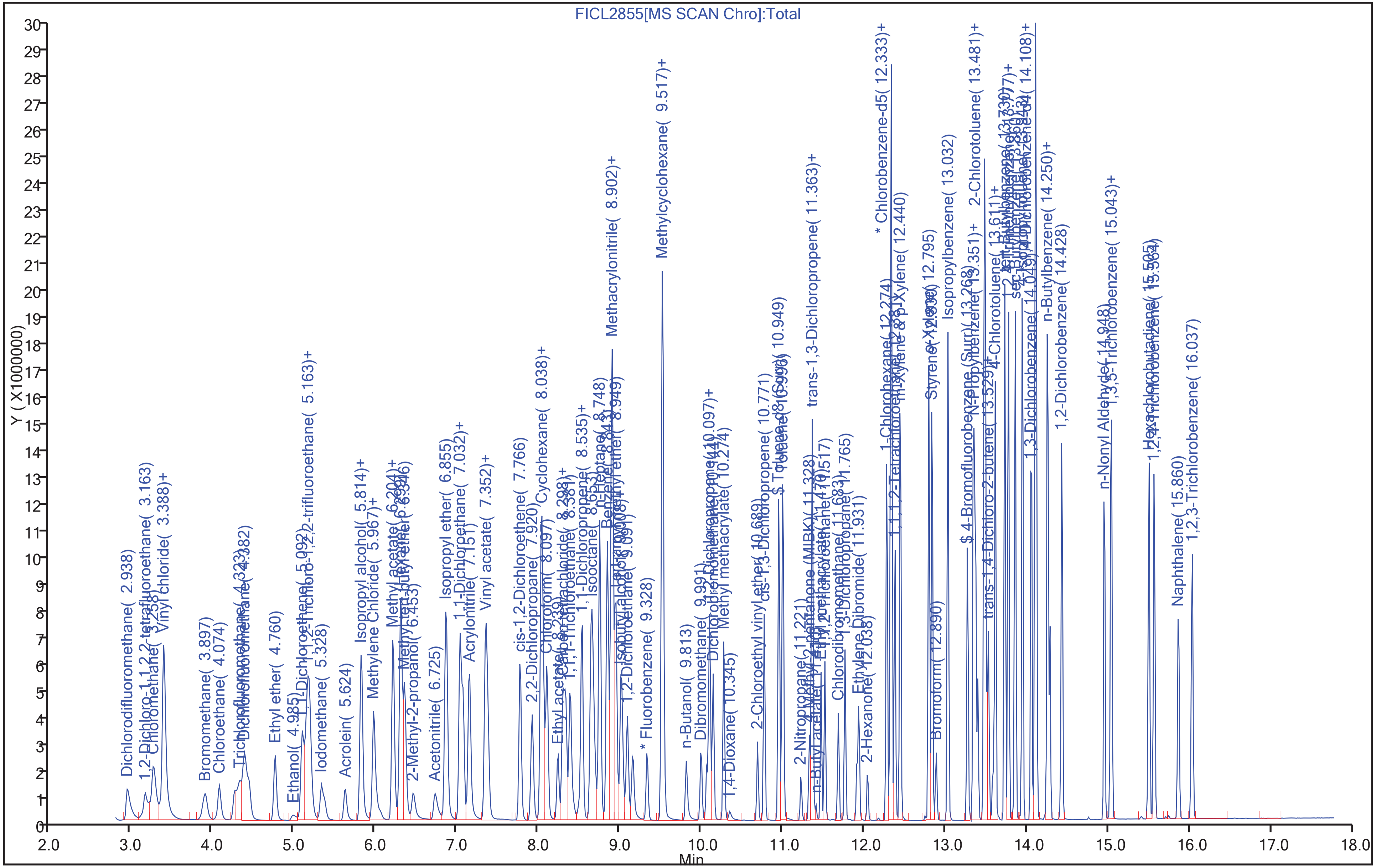
Injection Date: 02-Oct-2017 23:55:30 Instrument ID: VMSF Operator ID: JDH

Lims ID: IC Worklist Smp#: 10

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 9

Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD



TestAmerica St. Louis

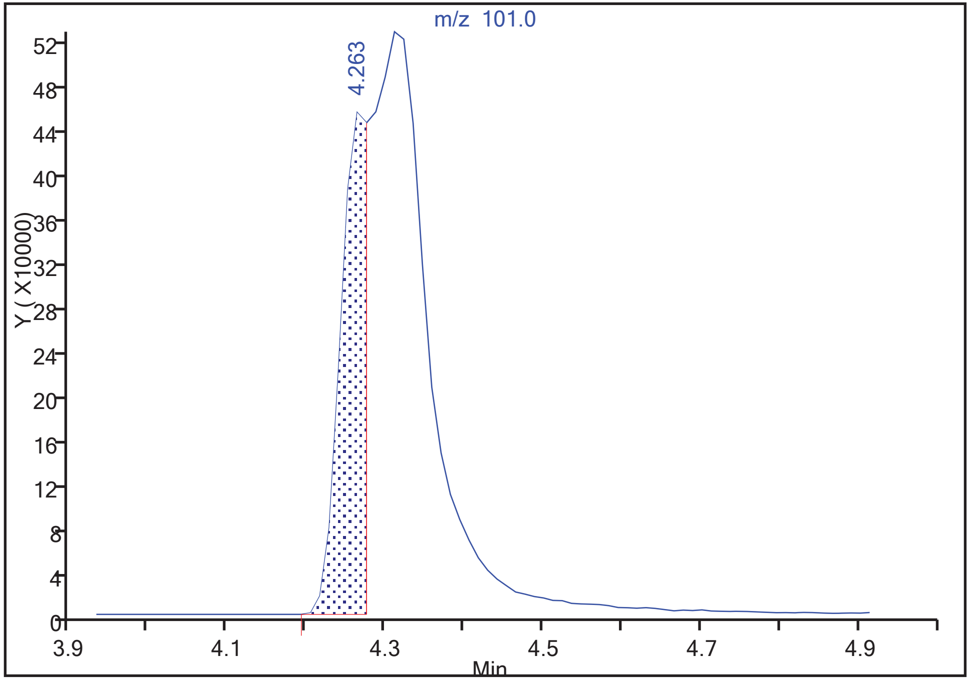
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Injection Date:	02-Oct-2017 23:55:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	9	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

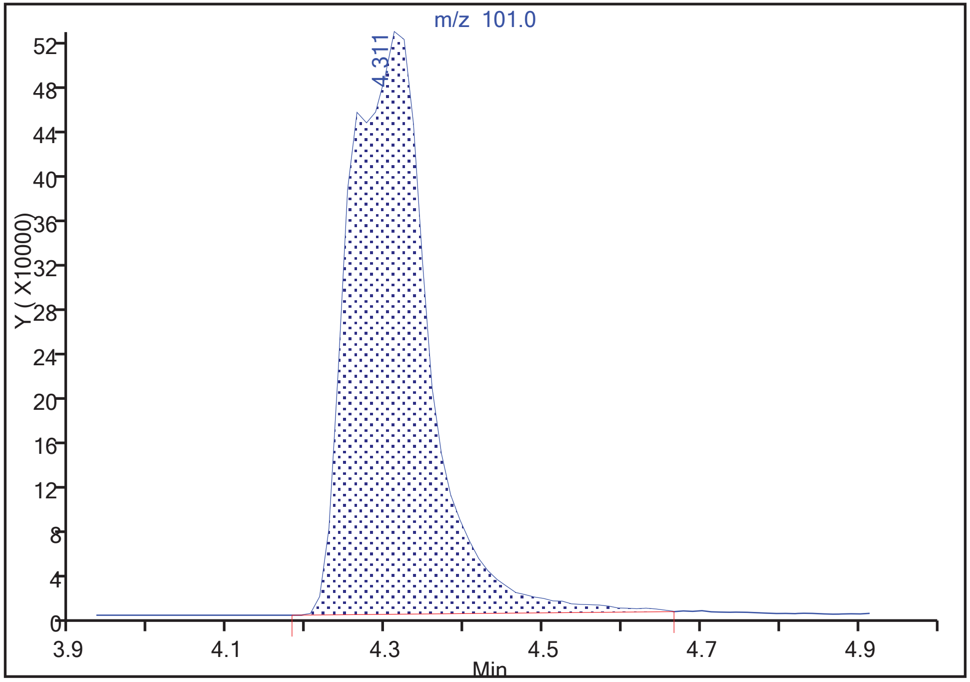
Processing Integration Results

RT:	4.26
Area:	1137659
Amount:	62.600712
Amount Units:	ug/l



Manual Integration Results

RT:	4.31
Area:	3709073
Amount:	182.5681
Amount Units:	ug/l



Reviewer: hannj, 08-Oct-2017 21:03:16

Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica St. Louis

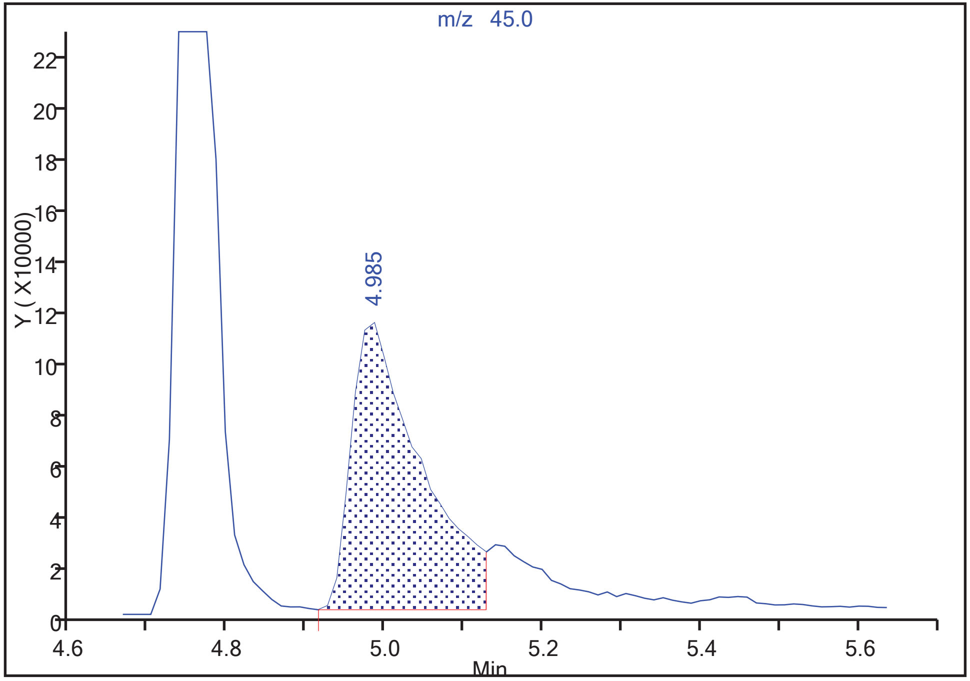
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Injection Date:	02-Oct-2017 23:55:30	Instrument ID:	VMSF		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	9	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

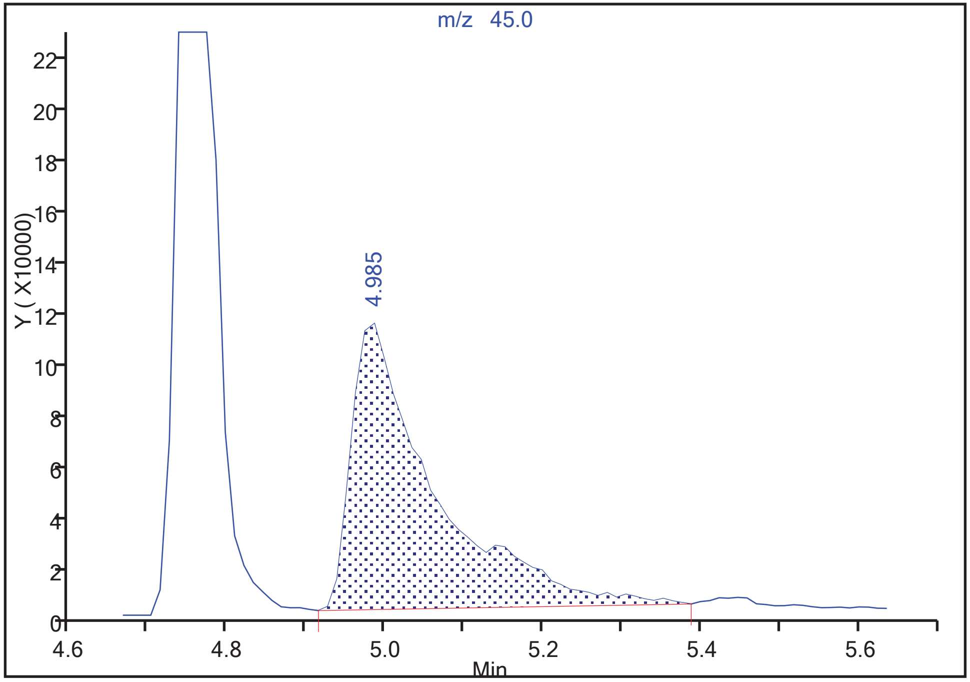
Processing Integration Results

RT: 4.99
Area: 696732
Amount: 6941.8698
Amount Units: ug/l



Manual Integration Results

RT: 4.99
Area: 815474
Amount: 7536.0483
Amount Units: ug/l



Reviewer: hannj, 08-Oct-2017 21:03:33
Audit Action: Manually Integrated Audit Reason: Peak Tail

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX   GC Column: RTXVMS30   ID: 0.25(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55   Calibration End Date: 09/15/2017 01:49   Calibration ID: 13526

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-327349/3	XICL8774.D
Level 2	IC 160-327349/4	XICL8775.D
Level 3	IC 160-327349/5	XICL8776.D
Level 4	IC 160-327349/6	XICL8777.D
Level 5	IC 160-327349/7	XICL8778.D
Level 6	ICIS 160-327349/8	XICL8779.D
Level 7	IC 160-327349/9	XICL8780.D
Level 8	IC 160-327349/10	XICL8781.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	+++++ 0.3004	+++++ 0.2798	0.3049 0.2773	0.3091	0.2944	Ave		0.2943			0.1000	4.5		15.0			
1,2-Dichloro-1,1,2,2-tetrafluoroethane	+++++ 0.1260	+++++ 0.1611	0.1265 0.1529	0.1224	0.1226	Ave		0.1353			0.0100	12.7		15.0			
Chloromethane	+++++ 0.3808	+++++ 0.3576	0.4012 0.3506	0.4087	0.3804	Ave		0.3799			0.1000	6.1		15.0			
Vinyl chloride	0.3270 0.2933	0.2943 0.2784	0.3231 0.2605	0.3088	0.3039	Ave		0.2987			0.1000	7.4		15.0			
Butadiene	+++++ 0.2564	+++++ 0.2178	0.2884 0.2053	0.2651	0.2632	Ave		0.2494			0.0100	12.6		15.0			
Bromomethane	+++++ 0.1082	+++++ 0.1052	0.1376 0.1024	0.1113	0.1228	Ave		0.1146			0.1000	11.6		15.0			
Chloroethane	+++++ 0.1023	+++++ 0.0916	0.1260 0.1056	0.1180	0.1161	Ave		0.1099			0.1000	11.3		15.0			
Trichlorofluoromethane	+++++ 0.3065	+++++ 0.2848	0.3407 0.2858	0.3096	0.3153	Ave		0.3071			0.1000	6.8		15.0			
Dichlorofluoromethane	+++++ 0.2800	+++++ 0.2840	0.3168 0.2747	0.2890	0.2815	Ave		0.2877			0.0100	5.2		15.0			
Ethyl ether	+++++ 0.1161	+++++ 0.1197	0.1153 0.1197	0.1104	0.1130	Ave		0.1157			0.0100	3.2		15.0			
1,1-Dichloroethene	+++++ 0.2595	+++++ 0.2642	0.2624 0.2512	0.2514	0.2511	Ave		0.2566			0.1000	2.4		15.0			
Ethanol	+++++ 0.0014	+++++ 0.0014	0.0010 0.0014	0.0010	0.0013	Lin1	-0.112	0.0014		*	0.0100				0.9990		0.9900
Carbon disulfide	+++++ 0.8737	+++++ 0.8531	0.9146 0.7956	0.8902	0.8620	Ave		0.8649			0.1000	4.7		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	+++++ 0.1821	+++++ 0.1837	0.1976 0.1809	0.1885	0.1860	Ave		0.1865			0.1000	3.3		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX GC Column: RTXVMS30 ID: 0.25(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55 Calibration End Date: 09/15/2017 01:49 Calibration ID: 13526

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Iodomethane	+++++ 0.3256	+++++ 0.3379	0.3118 0.3360	0.3090	0.3176	Ave		0.3230			0.0100	3.8		15.0			
Acrolein	+++++ 0.0183	+++++ 0.0203	0.0128 0.0204	0.0135	0.0158	Lin1	-0.280	0.0204			0.0010				0.9980		0.9900
3-Chloro-1-propene	+++++ 0.2690	+++++ 0.2776	0.2215 0.2769	0.2383	0.2503	Ave		0.2556			0.0100	8.9		15.0			
Isopropyl alcohol	+++++ 0.0061	+++++ 0.0067	0.0041 0.0070	0.0046	0.0055	Lin1	-0.197	0.0069		*	0.0100				0.9980		0.9900
Methylene Chloride	+++++ 0.2348	+++++ 0.2277	0.2562 0.2221	0.2448	0.2360	Ave		0.2369			0.1000	5.1		15.0			
Acetone	+++++ 0.0342	+++++ 0.0315	0.0412 0.0304	0.0355	0.0337	Ave		0.0344		*	0.1000	11.1		15.0			
trans-1,2-Dichloroethene	+++++ 0.2731	0.2457 0.2800	0.2622 0.2713	0.2649	0.2602	Ave		0.2653			0.1000	4.2		15.0			
Methyl acetate	+++++ 0.0074	+++++ 0.0073	0.0042 0.0073	0.0064	0.0068	Lin1	-0.069	0.0074		*	0.1000				1.0000		0.9900
Hexane	+++++ 0.0887	+++++ 0.0891	0.0622 0.0867	0.0791	0.0805	Ave		0.0811			0.0100	12.5		15.0			
Methyl tert-butyl ether	+++++ 0.3884	+++++ 0.3989	0.3167 0.4168	0.3491	0.3535	Ave		0.3706			0.1000	10.0		15.0			
2-Methyl-2-propanol	+++++ 0.0091	+++++ 0.0102	0.0063 0.0111	0.0068	0.0081	Lin1	-0.344	0.0108			0.0100				0.9960		0.9900
Acetonitrile	+++++ 0.0139	+++++ 0.0132	0.0120 0.0132	0.0125	0.0130	Ave		0.0130			0.0010	5.0		15.0			
Isopropyl ether	+++++ 0.7057	+++++ 0.7342	0.4720 0.7531	0.5533	0.6098	Lin1	-1.806	0.7539			0.0100				0.9990		0.9900
2-Chloro-1,3-butadiene	+++++ 0.4569	+++++ 0.4462	0.3449 0.4436	0.3963	0.4201	Ave		0.4180			0.0100	10.0		15.0			
1,1-Dichloroethane	+++++ 0.4623	+++++ 0.4416	0.4814 0.4379	0.4835	0.4672	Ave		0.4623			0.2000	4.2		15.0			
Acrylonitrile	+++++ 0.0426	+++++ 0.0420	0.0382 0.0410	0.0407	0.0405	Ave		0.0408			0.0100	3.8		15.0			
Tert-butyl ethyl ether	+++++ 0.5519	+++++ 0.5711	0.3799 0.5909	0.4299	0.4723	Lin1	-1.405	0.5895			0.0100				0.9990		0.9900
Vinyl acetate	+++++ 0.3361	+++++ 0.3469	0.2480 0.3494	0.2683	0.3024	Ave		0.3085			0.0100	13.9		15.0			
cis-1,2-Dichloroethene	+++++ 0.2776	0.2017 0.2745	0.2483 0.2704	0.2555	0.2555	Ave		0.2548			0.1000	10.2		15.0			
2,2-Dichloropropane	+++++ 0.2411	+++++ 0.2349	0.2347 0.2290	0.2286	0.2291	Ave		0.2329			0.0100	2.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 327349
SDG No.:
Instrument ID: VMSX
GC Column: RTXVMS30
ID: 0.25(mm)
Heated Purge: (Y/N) Y
Calibration Start Date: 09/14/2017 22:55
Calibration End Date: 09/15/2017 01:49
Calibration ID: 13526

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Cyclohexane	+++++ 0.4518	+++++ 0.4332	0.3540 0.4168	0.4001	0.4284	Ave		0.4140			0.1000	8.2		15.0			
Bromochloromethane	+++++ 0.0938	+++++ 0.0877	0.0943 0.0848	0.0964	0.0909	Ave		0.0913			0.0100	4.8		15.0			
Chloroform	+++++ 0.4056	0.4031 0.4002	0.4360 0.3992	0.4198	0.3982	Ave		0.4089			0.2000	3.4		15.0			
Carbon tetrachloride	+++++ 0.3079	+++++ 0.3123	0.3083 0.3182	0.3047	0.2998	Ave		0.3085			0.1000	2.0		15.0			
Tetrahydrofuran	+++++ 0.0123	+++++ 0.0126	+++++ 0.0129	0.0083	0.0094	Lin1	-0.110	0.0131			0.0010				0.9990		0.9900
Ethyl acetate	+++++ 0.0176	+++++ 0.0175	0.0105 0.0166	0.0170	0.0172	Lin1	-0.036	0.0172			0.0100				0.9980		0.9900
1,1,1-Trichloroethane	+++++ 0.3658	+++++ 0.3574	0.3501 0.3531	0.3623	0.3592	Ave		0.3580			0.1000	1.6		15.0			
1,1-Dichloropropene	+++++ 0.3684	+++++ 0.3641	0.2799 0.3598	0.3243	0.3335	Ave		0.3383			0.0100	9.9		15.0			
2-Butanone (MEK)	+++++ 0.0513	+++++ 0.0503	0.0375 0.0485	0.0441	0.0455	Ave		0.0462		*	0.1000	11.0		15.0			
Isooctane	+++++ 1.1607	+++++ 1.1329	0.9293 1.1118	1.0679	1.1071	Ave		1.0849			0.0100	7.6		15.0			
Benzene	0.8941 1.0592	1.0391 0.9731	1.1380 0.9113	1.1427	1.0938	Ave		1.0314			0.5000	9.4		15.0			
n-Heptane	+++++ 0.5120	+++++ 0.4748	0.4209 0.4644	0.4885	0.4901	Ave		0.4751			0.0100	6.5		15.0			
Propionitrile	+++++ 0.0155	+++++ 0.0149	0.0150 0.0149	0.0155	0.0156	Ave		0.0152			0.0010	2.2		15.0			
Methacrylonitrile	+++++ 0.0726	+++++ 0.0701	0.0707 0.0667	0.0721	0.0721	Ave		0.0707			0.0100	3.1		15.0			
Tert-amyl methyl ether	+++++ 0.4080	+++++ 0.4115	0.3243 0.4271	0.3500	0.3608	Ave		0.3803			0.0100	10.7		15.0			
1,2-Dichloroethane	+++++ 0.2298	0.2359 0.2232	0.2340 0.2262	0.2334	0.2262	Ave		0.2298			0.1000	2.1		15.0			
Isobutyl alcohol	+++++ 0.0028	+++++ 0.0030	0.0019 0.0032	0.0020	0.0024	Lin1	-0.239	0.0031			0.0010				0.9980		0.9900
Methylcyclohexane	+++++ 0.4404	+++++ 0.4130	0.4061 0.4012	0.4147	0.4242	Ave		0.4166			0.1000	3.4		15.0			
Trichloroethene	+++++ 0.2797	0.2633 0.2578	0.2838 0.2461	0.2987	0.2817	Ave		0.2730			0.2000	6.6		15.0			
n-Butanol	+++++ 0.0028	+++++ 0.0032	0.0016 0.0035	0.0017	0.0022	Lin	-0.644	0.0036		*	0.0100				0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX   GC Column: RTXVMS30   ID: 0.25(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55   Calibration End Date: 09/15/2017 01:49   Calibration ID: 13526

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dibromomethane	+++++ 0.0991	+++++ 0.0956	0.0919 0.0953	0.0976	0.0952	Ave		0.0958			0.0100	2.6		15.0			
1,2-Dichloropropane	+++++ 0.2361	+++++ 0.2394	0.2086 0.2396	0.2160	0.2150	Ave		0.2258			0.1000	6.2		15.0			
Bromodichloromethane	+++++ 0.2778	+++++ 0.2733	0.2577 0.2780	0.2636	0.2675	Ave		0.2696			0.2000	3.0		15.0			
Ethyl acrylate	+++++ 0.1533	+++++ 0.1610	0.0839 0.1694	0.0970	0.1210	Lin1	-0.591	0.1689			0.0100				0.9980		0.9900
Methyl methacrylate	+++++ 0.0891	+++++ 0.0923	0.0485 0.0939	0.0564	0.0699	Lin1	-0.619	0.0949			0.0100				0.9990		0.9900
1,4-Dioxane	+++++ 0.0012	+++++ 0.0013	+++++ 0.0012	0.0008	0.0010	Lin1	-0.091	0.0012			0.0010				0.9990		0.9900
2-Chloroethyl vinyl ether	+++++ 0.0100	+++++ 0.0135	+++++ 0.0150	+++++	0.0053	Ave		0.0110			0.0100	39.0	*	15.0			
cis-1,3-Dichloropropene	+++++ 0.3248	+++++ 0.3436	0.2155 0.3496	0.2322	0.2696	Lin1	-0.961	0.3509			0.2000				0.9990		0.9900
Toluene	0.5929 1.0540	0.7747 1.0437	0.9550 1.0582	1.0354	1.0558	Lin1	-0.507	1.0593			0.4000				1.0000		0.9900
2-Nitropropane	+++++ 0.0420	+++++ 0.0499	0.0316 0.0580	0.0303	0.0351	QuaF		0.0390	0.0000478		0.0100				0.9990		0.9900
Tetrachloroethene	+++++ 0.3208	0.2901 0.3291	0.3392 0.3280	0.3187	0.3057	Ave		0.3188			0.2000	5.1		15.0			
4-Methyl-2-pentanone (MIBK)	+++++ 0.1657	+++++ 0.1806	0.1071 0.1939	0.1256	0.1418	Lin1	-0.592	0.1904			0.1000				0.9970		0.9900
trans-1,3-Dichloropropene	+++++ 0.4007	+++++ 0.4257	0.2935 0.4557	0.3178	0.3580	Lin1	-1.127	0.4475			0.1000				0.9980		0.9900
1,1,2-Trichloroethane	+++++ 0.1960	+++++ 0.2067	0.2070 0.2156	0.1977	0.1892	Ave		0.2020			0.1000	4.7		15.0			
Ethyl methacrylate	+++++ 0.2709	+++++ 0.3023	0.1384 0.3338	0.1663	0.2126	Lin1	-1.377	0.3257			0.0100				0.9940		0.9900
Chlorodibromomethane	+++++ 0.2417	+++++ 0.2664	0.2198 0.2886	0.2300	0.2283	Ave		0.2458			0.1000	10.8		15.0			
1,3-Dichloropropane	+++++ 0.4207	+++++ 0.4268	0.3846 0.4530	0.3780	0.3933	Ave		0.4094			0.0100	7.1		15.0			
1,2-Dibromoethane	+++++ 0.2054	+++++ 0.2157	0.1797 0.2315	0.1857	0.1874	Ave		0.2009			0.1000	10.1		15.0			
n-Butyl acetate	+++++ 0.2766	+++++ 0.3237	0.1705 0.3691	0.1696	0.2031	Lin	-3.068	0.3767			0.0100				0.9960		0.9900
2-Hexanone	+++++ 0.1161	+++++ 0.1236	0.0590 0.1421	0.0750	0.0975	Lin1	-0.547	0.1373			0.1000				0.9940		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1　Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX　GC Column: RTXVMS30　ID: 0.25(mm)　Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55　Calibration End Date: 09/15/2017 01:49　Calibration ID: 13526

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1-Chlorohexane	+++++ 0.7130	+++++ 0.6927	0.6852 0.6624	0.7097	0.7119	Ave		0.6958			0.0100	2.9		15.0			
Chlorobenzene	+++++ 1.0185	+++++ 0.9897	1.1220 0.9389	1.1048	1.0469	Ave		1.0368			0.5000	6.7		15.0			
Ethylbenzene	1.7485 2.0069	1.8700 1.9463	2.0937 1.8944	2.0861	1.9953	Ave		1.9551			0.1000	5.9		15.0			
1,1,1,2-Tetrachloroethane	+++++ 0.2983	+++++ 0.3090	0.3246 0.3221	0.3076	0.2917	Ave		0.3089			0.0100	4.2		15.0			
m-Xylene & p-Xylene	0.4140 0.7395	0.5263 0.7383	0.6307 0.7335	0.6770	0.7139	Lin1	-0.409	0.7380			0.1000				1.0000		0.9900
o-Xylene	0.3220 0.6697	0.3882 0.6847	0.4729 0.6908	0.5547	0.6262	Lin1	-0.606	0.6864			0.3000				0.9990		0.9900
Styrene	+++++ 1.0613	+++++ 1.0383	0.8179 1.0283	0.9869	1.0344	Ave		0.9945			0.3000	9.0		15.0			
Bromoform	+++++ 0.2847	+++++ 0.2797	0.2297 0.2882	0.2454	0.2554	Ave		0.2638			0.1000	9.1		15.0			
Isopropylbenzene	+++++ 4.7230	+++++ 4.4335	3.2681 4.1760	3.9433	4.2021	Ave		4.1243			0.1000	12.0		15.0			
Bromobenzene	+++++ 0.8779	+++++ 0.8362	0.7112 0.8226	0.7595	0.8049	Ave		0.8021			0.0100	7.4		15.0			
N-Propylbenzene	+++++ 5.7586	+++++ 5.2625	4.4338 4.8151	5.2209	5.3400	Ave		5.1385			0.0100	8.9		15.0			
1,1,2,2-Tetrachloroethane	+++++ 0.5841	+++++ 0.5658	0.5878 0.5784	0.5705	0.5602	Ave		0.5745			0.3000	1.9		15.0			
2-Chlorotoluene	+++++ 3.1782	+++++ 3.0490	2.6096 2.9642	2.8191	2.9661	Ave		2.9311			0.0100	6.7		15.0			
1,3,5-Trimethylbenzene	+++++ 3.5393	+++++ 3.3152	2.7986 3.1013	3.3104	3.4126	Ave		3.2462			0.0100	8.1		15.0			
1,2,3-Trichloropropane	+++++ 0.1649	+++++ 0.1563	0.1651 0.1540	0.1532	0.1599	Ave		0.1589			0.0100	3.3		15.0			
Cyclohexanone	+++++ 0.0130	+++++ 0.0159	0.0103 0.0173	0.0105	0.0111	Lin1	-0.571	0.0167			0.0010				0.9910		0.9900
trans-1,4-Dichloro-2-butene	+++++ 0.1705	+++++ 0.1762	0.1201 0.1843	0.1227	0.1491	Lin1	-0.460	0.1833			0.0100				0.9990		0.9900
4-Chlorotoluene	+++++ 3.2168	+++++ 3.0405	2.6912 2.9683	2.8971	2.9650	Ave		2.9631			0.0100	5.8		15.0			
tert-Butylbenzene	+++++ 3.1442	+++++ 2.9502	2.2505 2.8195	2.7195	2.8781	Ave		2.7937			0.0100	10.8		15.0			
1,2,4-Trimethylbenzene	+++++ 3.5361	+++++ 3.2503	2.8183 3.1271	3.2683	3.3513	Ave		3.2252			0.0100	7.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 327349
SDG No.:
Instrument ID: VMSX
GC Column: RTXVMS30
ID: 0.25(mm)
Heated Purge: (Y/N) Y
Calibration Start Date: 09/14/2017 22:55
Calibration End Date: 09/15/2017 01:49
Calibration ID: 13526

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
sec-Butylbenzene	+++++ 4.9858	+++++ 4.5991	4.3155 4.2236	4.7194	4.7432	Ave		4.5978			0.0100	6.2		15.0			
4-Isopropyltoluene	+++++ 3.9455	+++++ 3.6742	2.9450 3.4525	3.3954	3.6635	Ave		3.5127			0.0100	9.7		15.0			
1,3-Dichlorobenzene	+++++ 1.7234	+++++ 1.6086	1.7800 1.5719	1.7105	1.6830	Ave		1.6796			0.6000	4.6		15.0			
1,4-Dichlorobenzene	+++++ 1.6326	+++++ 1.5259	1.7284 1.4640	1.6765	1.6283	Ave		1.6093			0.5000	6.1		15.0			
1,2,3-Trimethylbenzene	+++++ 3.1145	+++++ 2.9534	3.0601 2.8234	3.0835	3.0573	Ave		3.0154			0.0100	3.6		15.0			
Benzyl chloride	+++++ 0.1847	+++++ 0.1886	0.1380 0.1914	0.1512	0.1688	Ave		0.1704			0.0100	12.9		15.0			
n-Butylbenzene	+++++ 1.0107	+++++ 0.9439	0.7785 0.8958	0.9021	0.9614	Ave		0.9154			0.0100	8.6		15.0			
1,2-Dichlorobenzene	+++++ 1.4216	+++++ 1.3520	1.3337 1.3389	1.3887	1.3832	Ave		1.3697			0.4000	2.5		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.0668	+++++ 0.0710	0.0237 0.0775	0.0565	0.0678	Lin1	-0.250	0.0766			0.0500				0.9980		0.9900
n-Nonyl Aldehyde	+++++ 0.3153	+++++ 0.3246	0.1802 0.3604	0.1517	0.2672	Lin1	-1.360	0.3538			0.0100				0.9950		0.9900
1,3,5-Trichlorobenzene	+++++ 1.1730	+++++ 1.0682	1.0344 0.9612	1.0851	1.1430	Ave		1.0775			0.0100	7.1		15.0			
Hexachlorobutadiene	+++++ 0.5206	+++++ 0.4744	0.5317 0.4406	0.5089	0.5247	Ave		0.5002			0.0100	7.1		15.0			
1,2,4-Trichlorobenzene	+++++ 0.8782	+++++ 0.8169	0.6726 0.7584	0.7171	0.7975	Ave		0.7735			0.2000	9.5		15.0			
Naphthalene	+++++ 1.4348	+++++ 1.4236	0.7835 1.4077	0.9646	1.1642	Lin1	-3.843	1.4430			0.0100				0.9990		0.9900
1,2,3-Trichlorobenzene	+++++ 0.7283	+++++ 0.6799	0.5323 0.6274	0.6496	0.6726	Ave		0.6483			0.0100	10.2		15.0			
Dibromofluoromethane (Surr)	+++++ 0.1999	+++++ 0.1935	0.2177 0.2040	0.1933	0.1993	Ave		0.2013			0.0100	4.5		15.0			
1,2-Dichloroethane-d4 (Surr)	+++++ 0.1902	+++++ 0.1855	0.2180 0.2027	0.1887	0.1862	Ave		0.1952			0.0100	6.5		15.0			
Toluene-d8 (Surr)	+++++ 1.5007	+++++ 1.5121	1.3034 1.6240	1.2791	1.4366	Ave		1.4427			0.0100	9.2		15.0			
4-Bromofluorobenzene (Surr)	+++++ 1.1438	+++++ 1.1750	0.8843 1.2999	0.9209	1.0172	Ave		1.0735			0.0100	14.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX   GC Column: RTXVMS30   ID: 0.25(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55   Calibration End Date: 09/15/2017 01:49   Calibration ID: 13526

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-327349/3	XICL8774.D
Level 2	IC 160-327349/4	XICL8775.D
Level 3	IC 160-327349/5	XICL8776.D
Level 4	IC 160-327349/6	XICL8777.D
Level 5	IC 160-327349/7	XICL8778.D
Level 6	ICIS 160-327349/8	XICL8779.D
Level 7	IC 160-327349/9	XICL8780.D
Level 8	IC 160-327349/10	XICL8781.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	+++++ 476813	+++++ 904088	43671 1815577	92170	178308	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	FB	Ave	+++++ 200091	+++++ 520620	18119 1001380	36501	74245	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Chloromethane	FB	Ave	+++++ 604563	+++++ 1155387	57460 2295470	121870	230416	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Vinyl chloride	FB	Ave	8732 465546	20455 899503	46265 1705869	92075	184101	1.00 50.0	2.50 100	5.00 200	10.0	20.0
Butadiene	FB	Ave	+++++ 406962	+++++ 703739	41302 1344303	79037	159396	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Bromomethane	FB	Ave	+++++ 171737	+++++ 339854	19706 670748	33196	74412	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Chloroethane	FB	Ave	+++++ 162433	+++++ 295902	18039 691583	35168	70341	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Trichlorofluoromethane	FB	Ave	+++++ 486599	+++++ 920110	48798 1871063	92319	191003	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Dichlorofluoromethane	FB	Ave	+++++ 444474	+++++ 917735	45370 1798336	86182	170493	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Ethyl ether	FB	Ave	+++++ 184229	+++++ 386802	16507 783935	32928	68468	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1-Dichloroethene	FB	Ave	+++++ 411917	+++++ 853714	37580 1644651	74958	152118	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Ethanol	FB	Lin1	+++++ 87940	+++++ 187061	6005 374431	11961	31629	+++++ 2000	+++++ 4000	200 8000	400	800
Carbon disulfide	FB	Ave	+++++ 1387016	+++++ 2756424	130976 5209065	265431	522123	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	+++++ 289107	+++++ 593639	28293 1184484	56216	112658	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Iodomethane	FB	Ave	+++++ 516842	+++++ 1091905	44647 2200068	92137	192389	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX
GC Column: RTXVMS30
ID: 0.25(mm)
Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55
Calibration End Date: 09/15/2017 01:49
Calibration ID: 13526

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Acrolein	FB	Lin1	+++++ 144890	+++++ 327149	9150 666905	20083	47968	+++++ 250	+++++ 500	25.0 1000	50.0	100
3-Chloro-1-propene	FB	Ave	+++++ 427097	+++++ 896971	31725 1813234	71062	151613	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Isopropyl alcohol	FB	Lin1	+++++ 96973	+++++ 215442	5838 456727	13717	33075	+++++ 500	+++++ 1000	50.0 2000	100	200
Methylene Chloride	FB	Ave	+++++ 372705	+++++ 735842	36691 1454384	72979	142932	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Acetone	FB	Ave	+++++ 54228	+++++ 101810	5907 199240	10578	20413	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
trans-1,2-Dichloroethene	FB	Ave	+++++ 433501	17082 904740	37555 1776273	78970	157583	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
Methyl acetate	FB	Lin1	+++++ 58841	+++++ 117962	2992 238899	9469	20579	+++++ 250	+++++ 500	25.0 1000	50.0	100
Hexane	FB	Ave	+++++ 140770	+++++ 287989	8913 567437	23576	48783	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Methyl tert-butyl ether	FB	Ave	+++++ 616607	+++++ 1288905	45361 2728680	104077	214132	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
2-Methyl-2-propanol	FB	Lin1	+++++ 145025	+++++ 329754	8996 725369	20233	49252	+++++ 500	+++++ 1000	50.0 2000	100	200
Acetonitrile	FB	Ave	+++++ 220058	+++++ 427479	17213 866941	37259	78797	+++++ 500	+++++ 1000	50.0 2000	100	200
Isopropyl ether	FB	Lin1	+++++ 1120237	+++++ 2372359	67598 4930569	164966	369376	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
2-Chloro-1,3-butadiene	FB	Ave	+++++ 725289	+++++ 1441541	49398 2904134	118168	254453	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1-Dichloroethane	FB	Ave	+++++ 733911	+++++ 1426852	68940 2866923	144146	283019	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Acrylonitrile	FB	Ave	+++++ 676749	+++++ 1358496	54652 2686520	121334	245045	+++++ 500	+++++ 1000	50.0 2000	100	200
Tert-butyl ethyl ether	FB	Lin1	+++++ 876182	+++++ 1845097	54412 3869048	128183	286058	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Vinyl acetate	FB	Ave	+++++ 533556	+++++ 1120711	35515 2287824	79999	183196	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
cis-1,2-Dichloroethene	FB	Ave	+++++ 440738	14018 886969	35562 1770312	76179	154739	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
2,2-Dichloropropane	FB	Ave	+++++ 382771	+++++ 759038	33618 1499570	68146	138787	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Cyclohexane	FB	Ave	+++++ 717268	+++++ 1399614	50697 2728890	119299	259462	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Bromochloromethane	FB	Ave	+++++ 148914	+++++ 283198	13501 555206	28735	55071	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1	Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX	GC Column: RTXVMS30	ID: 0.25(mm)	Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55	Calibration End Date: 09/15/2017 01:49	Calibration ID: 13526

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Chloroform	FB	Ave	+++++ 643880	28023 1292958	62437 2613800	125167	241202	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
Carbon tetrachloride	FB	Ave	+++++ 488830	+++++ 1008935	44154 2083596	90861	181565	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Tetrahydrofuran	FB	Lin1	+++++ 39052	+++++ 81284	+++++ 168438	4961	11413	+++++ 100	+++++ 200	+++++ 400	20.0	40.0
Ethyl acetate	FB	Lin1	+++++ 55817	+++++ 113063	2994 217592	10120	20820	+++++ 100	+++++ 200	10.0 400	20.0	40.0
1,1,1-Trichloroethane	FB	Ave	+++++ 580636	+++++ 1154878	50143 2312065	108030	217587	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1-Dichloropropene	FB	Ave	+++++ 584785	+++++ 1176304	40092 2355714	96690	202035	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
2-Butanone (MEK)	FB	Ave	+++++ 81378	+++++ 162419	5373 317764	13144	27552	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Isooctane	FB	Ave	+++++ 1842510	+++++ 3660317	133088 7279619	318404	670602	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Benzene	FB	Ave	23877 1681513	72234 3144135	162978 5966969	340714	662526	1.00 50.0	2.50 100	5.00 200	10.0	20.0
n-Heptane	FB	Ave	+++++ 812810	+++++ 1533995	60277 3040812	145665	296883	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Propionitrile	FB	Ave	+++++ 246677	+++++ 482963	21487 973400	46107	94745	+++++ 500	+++++ 1000	50.0 2000	100	200
Methacrylonitrile	FB	Ave	+++++ 1153296	+++++ 2264386	101213 4365830	215109	436485	+++++ 500	+++++ 1000	50.0 2000	100	200
Tert-amyl methyl ether	FB	Ave	+++++ 647633	+++++ 1329415	46450 2796310	104351	218542	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dichloroethane	FB	Ave	+++++ 364727	16400 721204	33506 1481158	69594	136987	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
Isobutyl alcohol	FB	Lin1	+++++ 111585	+++++ 243015	6666 521307	14557	36247	+++++ 1250	+++++ 2500	125 5000	250	500
Methylcyclohexane	FB	Ave	+++++ 699069	+++++ 1334287	58165 2626602	123648	256919	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Trichloroethene	FB	Ave	+++++ 443942	18300 832988	40641 1611456	89064	170618	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
n-Butanol	FB	Lin	+++++ 110225	+++++ 258969	5662 579470	12855	33407	+++++ 1250	+++++ 2500	125 5000	250	500
Dibromomethane	FB	Ave	+++++ 157291	+++++ 308971	13155 623790	29101	57637	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dichloropropane	FB	Ave	+++++ 374781	+++++ 773399	29876 1568891	64396	130220	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Bromodichloromethane	FB	Ave	+++++ 440963	+++++ 882934	36912 1820015	78585	162000	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX   GC Column: RTXVMS30   ID: 0.25(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55   Calibration End Date: 09/15/2017 01:49   Calibration ID: 13526

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Ethyl acrylate	FB	Lin1	+++++ 243322	+++++ 520306	12012 1109314	28925	73320	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Methyl methacrylate	FB	Lin1	+++++ 282926	+++++ 596274	13882 1229643	33604	84649	+++++ 100	+++++ 200	10.0 400	20.0	40.0
1,4-Dioxane	FB	Lin1	+++++ 37602	+++++ 80858	+++++ 156526	4783	11520	+++++ 1000	+++++ 2000	+++++ 4000	200	400
2-Chloroethyl vinyl ether	FB	Ave	+++++ 15887	+++++ 43598	+++++ 97911	+++++	3239	+++++ 50.0	+++++ 100	+++++ 200	+++++	20.0
cis-1,3-Dichloropropene	FB	Lin1	+++++ 515600	+++++ 1110060	30861 2289275	69228	163328	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Toluene	CBNZ d5	Lin1	9391 1052584	32225 2013483	82127 3905782	191636	400274	1.00 50.0	2.50 100	5.00 200	10.0	20.0
2-Nitropropane	CBNZ d5	QuaF	+++++ 83955	+++++ 192637	5429 428507	11200	26591	+++++ 100	+++++ 200	10.0 400	20.0	40.0
Tetrachloroethene	CBNZ d5	Ave	+++++ 320366	12069 634853	29170 1210625	58981	115918	+++++ 50.0	2.50 100	5.00 200	10.0	20.0
4-Methyl-2-pentanone (MIBK)	CBNZ d5	Lin1	+++++ 165455	+++++ 348358	9213 715880	23242	53752	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
trans-1,3-Dichloropropene	CBNZ d5	Lin1	+++++ 400143	+++++ 821131	25239 1681972	58827	135709	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1,2-Trichloroethane	CBNZ d5	Ave	+++++ 195692	+++++ 398666	17805 795777	36586	71745	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Ethyl methacrylate	CBNZ d5	Lin1	+++++ 270504	+++++ 583092	11899 1232214	30779	80587	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Chlorodibromomethane	CBNZ d5	Ave	+++++ 241368	+++++ 513886	18901 1065187	42567	86537	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,3-Dichloropropane	CBNZ d5	Ave	+++++ 420143	+++++ 823279	33076 1672142	69967	149123	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dibromoethane	CBNZ d5	Ave	+++++ 205162	+++++ 416097	15452 854496	34361	71058	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
n-Butyl acetate	CBNZ d5	Lin	+++++ 276178	+++++ 624518	14664 1362235	31388	76988	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
2-Hexanone	CBNZ d5	Lin1	+++++ 115988	+++++ 238474	5071 524451	13881	36976	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1-Chlorohexane	CBNZ d5	Ave	+++++ 712087	+++++ 1336226	58929 2444913	131344	269899	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Chlorobenzene	CBNZ d5	Ave	+++++ 1017147	+++++ 1909328	96492 3465576	204481	396925	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Ethylbenzene	CBNZ d5	Ave	27695 2004246	77788 3754563	180053 6992509	386099	756468	1.00 50.0	2.50 100	5.00 200	10.0	20.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	+++++ 297891	+++++ 596098	27919 1188747	56921	110585	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX   GC Column: RTXVMS30   ID: 0.25(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55   Calibration End Date: 09/15/2017 01:49   Calibration ID: 13526

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
m-Xylene & p-Xylene	CBNZd5	Lin1	6558 738541	21893 1424281	54237 2707317	125290	270669	1.00 50.0	2.50 100	5.00 200	10.0	20.0
o-Xylene	CBNZd5	Lin1	5100 668765	16147 1320810	40664 2549719	102667	237415	1.00 50.0	2.50 100	5.00 200	10.0	20.0
Styrene	CBNZd5	Ave	+++++ 1059919	+++++ 2002935	70338 3795676	182661	392160	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Bromoform	DCBd4	Ave	+++++ 111971	+++++ 221463	8789 444388	19551	41245	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Isopropylbenzene	DCBd4	Ave	+++++ 1857613	+++++ 3510704	125035 6438144	314206	678683	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Bromobenzene	DCBd4	Ave	+++++ 345269	+++++ 662158	27211 1268282	60519	129994	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
N-Propylbenzene	DCBd4	Ave	+++++ 2264941	+++++ 4167150	169633 7423445	416009	862464	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,1,2,2-Tetrachloroethane	DCBd4	Ave	+++++ 229729	+++++ 448043	22489 891784	45456	90485	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
2-Chlorotoluene	DCBd4	Ave	+++++ 1250015	+++++ 2414378	99843 4569966	224633	479063	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,3,5-Trimethylbenzene	DCBd4	Ave	+++++ 1392047	+++++ 2625163	107072 4781238	263776	551165	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2,3-Trichloropropane	DCBd4	Ave	+++++ 64838	+++++ 123792	6318 237457	12207	25826	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Cyclohexanone	DCBd4	Lin1	+++++ 51095	+++++ 125551	3922 266709	8406	17859	+++++ 500	+++++ 1000	50.0 2000	100	200
trans-1,4-Dichloro-2-butene	DCBd4	Lin1	+++++ 67041	+++++ 139558	4595 284124	9777	24080	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
4-Chlorotoluene	DCBd4	Ave	+++++ 1265202	+++++ 2407654	102962 4576250	230843	478882	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
tert-Butylbenzene	DCBd4	Ave	+++++ 1236651	+++++ 2336167	86103 4346762	216691	464839	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2,4-Trimethylbenzene	DCBd4	Ave	+++++ 1390783	+++++ 2573754	107827 4821009	260427	541277	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
sec-Butylbenzene	DCBd4	Ave	+++++ 1960994	+++++ 3641858	165108 6511559	376049	766073	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
4-Isopropyltoluene	DCBd4	Ave	+++++ 1551794	+++++ 2909464	112673 5322787	270553	591686	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,3-Dichlorobenzene	DCBd4	Ave	+++++ 677834	+++++ 1273779	68100 2423470	136292	271815	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,4-Dichlorobenzene	DCBd4	Ave	+++++ 642119	+++++ 1208329	66129 2257003	133587	262981	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2,3-Trimethylbenzene	DCBd4	Ave	+++++ 1224985	+++++ 2338660	117077 4352877	245700	493788	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX GC Column: RTXVMS30 ID: 0.25(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55 Calibration End Date: 09/15/2017 01:49 Calibration ID: 13526

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Benzyl chloride	DCBd4	Ave	+++++ 72634	+++++ 149308	5279 295098	12044	27256	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
n-Butylbenzene	DCBd4	Ave	+++++ 397531	+++++ 747434	29785 1381000	71882	155282	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dichlorobenzene	DCBd4	Ave	+++++ 559152	+++++ 1070580	51026 2064192	110652	223406	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dibromo-3-Chloropropane	DCBd4	Lin1	+++++ 26272	+++++ 56211	907 119549	4499	10947	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
n-Nonyl Aldehyde	DCBd4	Lin1	+++++ 123997	+++++ 257019	6896 555691	12091	43149	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,3,5-Trichlorobenzene	DCBd4	Ave	+++++ 461346	+++++ 845878	39574 1481897	86464	184608	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Hexachlorobutadiene	DCBd4	Ave	+++++ 204763	+++++ 375680	20342 679211	40553	84749	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2,4-Trichlorobenzene	DCBd4	Ave	+++++ 345410	+++++ 646901	25734 1169264	57139	128807	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Naphthalene	DCBd4	Lin1	+++++ 564340	+++++ 1127266	29975 2170322	76858	188026	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2,3-Trichlorobenzene	DCBd4	Ave	+++++ 286434	+++++ 538387	20364 967208	51759	108626	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Dibromofluoromethane (Surr)	FB	Ave	+++++ 317325	+++++ 625168	31171 1335896	57628	120704	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	+++++ 301998	+++++ 599291	31217 1326987	56253	112806	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Toluene-d8 (Surr)	CBNZd5	Ave	+++++ 1498678	+++++ 2916915	112092 5994488	236738	544644	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
4-Bromofluorobenzene (Surr)	DCBd4	Ave	+++++ 449864	+++++ 930408	33832 2004020	73376	164293	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

Curve Type Legend:

Ave = Average ISTD
Lin = Linear ISTD
Lin1 = Linear 1/conc ISTD
QuaF = Quadratic ISTD forced zero

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX GC Column: RTXVMS30 ID: 0.25(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55 Calibration End Date: 09/15/2017 01:49 Calibration ID: 13526

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-327349/3	XICL8774.D
Level 2	IC 160-327349/4	XICL8775.D
Level 3	IC 160-327349/5	XICL8776.D
Level 4	IC 160-327349/6	XICL8777.D
Level 5	IC 160-327349/7	XICL8778.D
Level 6	ICIS 160-327349/8	XICL8779.D
Level 7	IC 160-327349/9	XICL8780.D
Level 8	IC 160-327349/10	XICL8781.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Dichlorodifluoromethane	+++++ -4.9	+++++ -5.8	3.6	5.0	0.0	2.1	 30	 30	30	30	30	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane	+++++ 19.1	+++++ 13.1	-6.5	-9.5	-9.4	-6.8	 30	 30	30	30	30	30
Chloromethane	+++++ -5.9	+++++ -7.7	5.6	7.6	0.1	0.2	 30	 30	30	30	30	30
Vinyl chloride	9.5 -6.8	-1.5 -12.8	8.2	3.4	1.8	-1.8	30 30	30 30	30	30	30	30
Butadiene	+++++ -12.7	+++++ -17.7	15.7	6.3	5.5	2.8	 30	 30	30	30	30	30
Bromomethane	+++++ -8.2	+++++ -10.6	20.1	-2.8	7.2	-5.6	 30	 30	30	30	30	30
Chloroethane	+++++ -16.7	+++++ -3.9	14.6	7.3	5.6	-6.9	 30	 30	30	30	30	30
Trichlorofluoromethane	+++++ -7.3	+++++ -7.0	10.9	0.8	2.7	-0.2	 30	 30	30	30	30	30
Dichlorofluoromethane	+++++ -1.3	+++++ -4.5	10.1	0.5	-2.2	-2.7	 30	 30	30	30	30	30
Ethyl ether	+++++ 3.5	+++++ 3.5	-0.4	-4.6	-2.3	0.3	 30	 30	30	30	30	30
1,1-Dichloroethene	+++++ 3.0	+++++ -2.1	2.2	-2.0	-2.1	1.1	 30	 30	30	30	30	30
Ethanol	+++++ 1.8	+++++ -0.4	11.0	-11.5	-0.3	-0.6	 30	 30	30	30	30	30
Carbon disulfide	+++++ -1.4	+++++ -8.0	5.7	2.9	-0.3	1.0	 30	 30	30	30	30	30
1,1,2-Trichloro-1,2,2-trifluoroethane	+++++ -1.5	+++++ -3.0	5.9	1.1	-0.3	-2.3	 30	 30	30	30	30	30
Iodomethane	+++++ 4.6	+++++ 4.0	-3.5	-4.3	-1.7	0.8	 30	 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX   GC Column: RTXVMS30   ID: 0.25(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55   Calibration End Date: 09/15/2017 01:49   Calibration ID: 13526

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Acrolein	+++++	+++++	17.5	-6.6	-8.7	-5.1			30	30	30	30
	1.9	1.1					30	30				
3-Chloro-1-propene	+++++	+++++	-13.3	-6.8	-2.1	5.2			30	30	30	30
	8.6	8.3					30	30				
Isopropyl alcohol	+++++	+++++	16.0	-4.9	-6.8	-5.9			30	30	30	30
	-0.7	2.3					30	30				
Methylene Chloride	+++++	+++++	8.1	3.3	-0.4	-0.9			30	30	30	30
	-3.9	-6.2					30	30				
Acetone	+++++	+++++	19.8	3.1	-2.1	-0.8			30	30	30	30
	-8.5	-11.6					30	30				
trans-1,2-Dichloroethene	+++++	-7.4	-1.2	-0.2	-2.0	2.9		30	30	30	30	30
	5.5	2.2					30	30				
Methyl acetate	+++++	+++++	-6.9	3.9	0.6	3.4			30	30	30	30
	0.0	-0.9					30	30				
Hexane	+++++	+++++	-23.2	-2.4	-0.6	9.4			30	30	30	30
	10.0	6.9					30	30				
Methyl tert-butyl ether	+++++	+++++	-14.5	-5.8	-4.6	4.8			30	30	30	30
	7.7	12.5					30	30				
2-Methyl-2-propanol	+++++	+++++	21.7	-5.4	-8.9	-9.1			30	30	30	30
	-2.4	4.1					30	30				
Acetonitrile	+++++	+++++	-7.4	-3.7	0.3	6.8			30	30	30	30
	2.0	2.0					30	30				
Isopropyl ether	+++++	+++++	10.5	-2.7	-7.1	-1.6			30	30	30	30
	-0.2	1.1					30	30				
2-Chloro-1,3-butadiene	+++++	+++++	-17.5	-5.2	0.5	9.3			30	30	30	30
	6.7	6.1					30	30				
1,1-Dichloroethane	+++++	+++++	4.1	4.6	1.1	0.0			30	30	30	30
	-4.5	-5.3					30	30				
Acrylonitrile	+++++	+++++	-6.6	-0.3	-0.9	4.4			30	30	30	30
	3.0	0.5					30	30				
Tert-butyl ethyl ether	+++++	+++++	12.1	-3.2	-8.0	-1.6			30	30	30	30
	-0.7	1.4					30	30				
Vinyl acetate	+++++	+++++	-19.6	-13.0	-2.0	8.9			30	30	30	30
	12.4	13.3					30	30				
cis-1,2-Dichloroethene	+++++	-20.9	-2.5	0.3	0.3	9.0		30	30	30	30	30
	7.7	6.1					30	30				
2,2-Dichloropropane	+++++	+++++	0.8	-1.9	-1.6	3.5			30	30	30	30
	0.9	-1.7					30	30				
Cyclohexane	+++++	+++++	-14.5	-3.4	3.5	9.1			30	30	30	30
	4.6	0.7					30	30				
Bromochloromethane	+++++	+++++	3.3	5.6	-0.4	2.7			30	30	30	30
	-4.0	-7.1					30	30				

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 327349
SDG No.:
Instrument ID: VMSX
GC Column: RTXVMS30
ID: 0.25(mm)
Heated Purge: (Y/N) Y
Calibration Start Date: 09/14/2017 22:55
Calibration End Date: 09/15/2017 01:49
Calibration ID: 13526

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Chloroform	+++++ -2.1	-1.4 -2.4	6.6	2.7	-2.6	-0.8	 30	30 30	30	30	30	30
Carbon tetrachloride	+++++ 1.2	+++++ 3.1	-0.1	-1.2	-2.8	-0.2	 30	 30	30	30	30	30
Tetrahydrofuran	+++++ -0.1	+++++ 0.0	+++++	5.3	-7.3	2.0	 30	 30		30	30	30
Ethyl acetate	+++++ 2.7	+++++ -2.9	-18.3	9.1	5.1	4.2	 30	 30	30	30	30	30
1,1,1-Trichloroethane	+++++ -0.2	+++++ -1.4	-2.2	1.2	0.3	2.2	 30	 30	30	30	30	30
1,1-Dichloropropene	+++++ 7.6	+++++ 6.3	-17.3	-4.2	-1.4	8.9	 30	 30	30	30	30	30
2-Butanone (MEK)	+++++ 8.8	+++++ 5.1	-18.8	-4.6	-1.5	11.0	 30	 30	30	30	30	30
Isooctane	+++++ 4.4	+++++ 2.5	-14.3	-1.6	2.0	7.0	 30	 30	30	30	30	30
Benzene	-13.3 -5.7	0.7 -11.6	10.3	10.8	6.0	2.7	30 30	30 30	30	30	30	30
n-Heptane	+++++ -0.1	+++++ -2.3	-11.4	2.8	3.2	7.8	 30	 30	30	30	30	30
Propionitrile	+++++ -1.9	+++++ -2.5	-1.6	1.4	2.6	1.9	 30	 30	30	30	30	30
Methacrylonitrile	+++++ -0.9	+++++ -5.7	-0.1	2.0	1.9	2.7	 30	 30	30	30	30	30
Tert-amyl methyl ether	+++++ 8.2	+++++ 12.3	-14.7	-8.0	-5.1	7.3	 30	 30	30	30	30	30
1,2-Dichloroethane	+++++ -2.9	2.7 -1.6	1.8	1.6	-1.6	0.0	 30	30 30	30	30	30	30
Isobutyl alcohol	+++++ -1.4	+++++ 2.6	19.9	-7.6	-8.8	-4.6	 30	 30	30	30	30	30
Methylcyclohexane	+++++ -0.9	+++++ -3.7	-2.5	-0.5	1.8	5.7	 30	 30	30	30	30	30
Trichloroethene	+++++ -5.6	-3.6 -9.8	3.9	9.4	3.2	2.4	 30	30 30	30	30	30	30
n-Butanol	+++++ -4.2	+++++ 1.5	86.3 *	19.0	-3.3	-8.9	 30	 30	30	30	30	30
Dibromomethane	+++++ -0.1	+++++ -0.5	-4.1	1.9	-0.6	3.5	 30	 30	30	30	30	30
1,2-Dichloropropane	+++++ 6.0	+++++ 6.1	-7.6	-4.3	-4.8	4.6	 30	 30	30	30	30	30
Bromodichloromethane	+++++ 1.3	+++++ 3.1	-4.4	-2.2	-0.8	3.0	 30	 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX   GC Column: RTXVMS30   ID: 0.25(mm)   Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55   Calibration End Date: 09/15/2017 01:49   Calibration ID: 13526

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Ethyl acrylate	+++++ -1.1	+++++ 2.1	19.6	-7.6	-10.8	-2.2	 30	 30	30	30	30	30
Methyl methacrylate	+++++ 0.5	+++++ 0.6	16.4	-8.0	-10.0	0.5	 30	 30	30	30	30	30
1,4-Dioxane	+++++ 4.1	+++++ -2.2	+++++	1.0	-5.4	2.4	 30	 30		30	30	30
2-Chloroethyl vinyl ether	+++++ 23.2	+++++ 36.6 *	+++++	+++++	-51.2 *	-8.6	 30	 30			30	30
cis-1,3-Dichloropropene	+++++ 0.7	+++++ 1.0	16.2	-6.4	-9.5	-2.0	 30	 30	30	30	30	30
Toluene	3.8 -1.0	-7.7 0.1	-0.3	2.5	2.1	0.5	30 30	30 30	30	30	30	30
2-Nitropropane	+++++ 2.3	+++++ -0.2	-19.9	-23.9	-13.8	-3.7	 30	 30	30	30	30	30
Tetrachloroethene	+++++ 3.2	-9.0 2.9	6.4	0.0	-4.1	0.6	 30	30 30	30	30	30	30
4-Methyl-2-pentanone (MIBK)	+++++ -2.1	+++++ 3.4	18.4	-3.0	-10.0	-6.8	 30	 30	30	30	30	30
trans-1,3-Dichloropropene	+++++ -2.4	+++++ 3.1	15.9	-3.8	-7.4	-5.4	 30	 30	30	30	30	30
1,1,2-Trichloroethane	+++++ 2.3	+++++ 6.7	2.5	-2.2	-6.3	-3.0	 30	 30	30	30	30	30
Ethyl methacrylate	+++++ -3.0	+++++ 4.6	27.0	-6.7	-13.6	-8.4	 30	 30	30	30	30	30
Chlorodibromomethane	+++++ 8.4	+++++ 17.4	-10.6	-6.4	-7.1	-1.7	 30	 30	30	30	30	30
1,3-Dichloropropane	+++++ 4.2	+++++ 10.6	-6.1	-7.7	-3.9	2.8	 30	 30	30	30	30	30
1,2-Dibromoethane	+++++ 7.4	+++++ 15.2	-10.6	-7.6	-6.7	2.3	 30	 30	30	30	30	30
n-Butyl acetate	+++++ -5.9	+++++ 2.0	108.2 *	26.5	-5.4	-10.3	 30	 30	30	30	30	30
2-Hexanone	+++++ -6.0	+++++ 5.5	22.6	-5.6	-9.1	-7.4	 30	 30	30	30	30	30
1-Chlorohexane	+++++ -0.5	+++++ -4.8	-1.5	2.0	2.3	2.5	 30	 30	30	30	30	30
Chlorobenzene	+++++ -4.5	+++++ -9.4	8.2	6.6	1.0	-1.8	 30	 30	30	30	30	30
Ethylbenzene	-10.6 -0.5	-4.4 -3.1	7.1	6.7	2.1	2.6	30 30	30 30	30	30	30	30
1,1,1,2-Tetrachloroethane	+++++ 0.0	+++++ 4.3	5.1	-0.4	-5.6	-3.4	 30	 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX GC Column: RTXVMS30 ID: 0.25(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55 Calibration End Date: 09/15/2017 01:49 Calibration ID: 13526

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
m-Xylene & p-Xylene	11.6 0.6	-6.5 -0.3	-3.4	-2.7	-0.5	1.3	30 30	30 30	30	30	30	30
o-Xylene	35.3 * 0.6	-8.1 1.1	-13.4	-10.4	-4.4	-0.7	30 30	30 30	30	30	30	30
Styrene	+++++ 4.4	+++++ 3.4	-17.8	-0.8	4.0	6.7	30	30	30	30	30	30
Bromoform	+++++ 6.0	+++++ 9.2	-12.9	-7.0	-3.2	7.9	30	30	30	30	30	30
Isopropylbenzene	+++++ 7.5	+++++ 1.3	-20.8	-4.4	1.9	14.5	30	30	30	30	30	30
Bromobenzene	+++++ 4.3	+++++ 2.6	-11.3	-5.3	0.4	9.5	30	30	30	30	30	30
N-Propylbenzene	+++++ 2.4	+++++ -6.3	-13.7	1.6	3.9	12.1	30	30	30	30	30	30
1,1,2,2-Tetrachloroethane	+++++ -1.5	+++++ 0.7	2.3	-0.7	-2.5	1.7	30	30	30	30	30	30
2-Chlorotoluene	+++++ 4.0	+++++ 1.1	-11.0	-3.8	1.2	8.4	30	30	30	30	30	30
1,3,5-Trimethylbenzene	+++++ 2.1	+++++ -4.5	-13.8	2.0	5.1	9.0	30	30	30	30	30	30
1,2,3-Trichloropropane	+++++ -1.6	+++++ -3.1	3.9	-3.6	0.6	3.7	30	30	30	30	30	30
Cyclohexanone	+++++ -1.4	+++++ 5.5	30.0	-2.4	-16.5	-15.2	30	30	30	30	30	30
trans-1,4-Dichloro-2-butene	+++++ -1.3	+++++ 1.8	15.7	-8.0	-6.1	-2.0	30	30	30	30	30	30
4-Chlorotoluene	+++++ 2.6	+++++ 0.2	-9.2	-2.2	0.1	8.6	30	30	30	30	30	30
tert-Butylbenzene	+++++ 5.6	+++++ 0.9	-19.4	-2.7	3.0	12.5	30	30	30	30	30	30
1,2,4-Trimethylbenzene	+++++ 0.8	+++++ -3.0	-12.6	1.3	3.9	9.6	30	30	30	30	30	30
sec-Butylbenzene	+++++ 0.0	+++++ -8.1	-6.1	2.6	3.2	8.4	30	30	30	30	30	30
4-Isopropyltoluene	+++++ 4.6	+++++ -1.7	-16.2	-3.3	4.3	12.3	30	30	30	30	30	30
1,3-Dichlorobenzene	+++++ -4.2	+++++ -6.4	6.0	1.8	0.2	2.6	30	30	30	30	30	30
1,4-Dichlorobenzene	+++++ -5.2	+++++ -9.0	7.4	4.2	1.2	1.4	30	30	30	30	30	30
1,2,3-Trimethylbenzene	+++++ -2.1	+++++ -6.4	1.5	2.3	1.4	3.3	30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 327349

SDG No.:

Instrument ID: VMSX GC Column: RTXVMS30 ID: 0.25(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/14/2017 22:55 Calibration End Date: 09/15/2017 01:49 Calibration ID: 13526

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Benzyl chloride	+++++ 10.6	+++++ 12.3	-19.0	-11.3	-1.0	8.4	 30	 30	30	30	30	30
n-Butylbenzene	+++++ 3.1	+++++ -2.1	-15.0	-1.5	5.0	10.4	 30	 30	30	30	30	30
1,2-Dichlorobenzene	+++++ -1.3	+++++ -2.2	-2.6	1.4	1.0	3.8	 30	 30	30	30	30	30
1,2-Dibromo-3-Chloropropane	+++++ -4.0	+++++ 2.9	-3.8	6.4	4.8	-6.3	 30	 30	30	30	30	30
n-Nonyl Aldehyde	+++++ -4.4	+++++ 3.8	27.8	-18.7	-5.3	-3.2	 30	 30	30	30	30	30
1,3,5-Trichlorobenzene	+++++ -0.9	+++++ -10.8	-4.0	0.7	6.1	8.9	 30	 30	30	30	30	30
Hexachlorobutadiene	+++++ -5.1	+++++ -11.9	6.3	1.8	4.9	4.1	 30	 30	30	30	30	30
1,2,4-Trichlorobenzene	+++++ 5.6	+++++ -1.9	-13.0	-7.3	3.1	13.5	 30	 30	30	30	30	30
Naphthalene	+++++ 1.3	+++++ -1.1	7.6	-6.5	-6.0	4.8	 30	 30	30	30	30	30
1,2,3-Trichlorobenzene	+++++ 4.9	+++++ -3.2	-17.9	0.2	3.7	12.3	 30	 30	30	30	30	30
Dibromofluoromethane (Surr)	+++++ -3.9	+++++ 1.4	8.1	-4.0	-1.0	-0.7	 30	 30	30	30	30	30
1,2-Dichloroethane-d4 (Surr)	+++++ -5.0	+++++ 3.8	11.7	-3.4	-4.6	-2.5	 30	 30	30	30	30	30
Toluene-d8 (Surr)	+++++ 4.8	+++++ 12.6	-9.6	-11.3	-0.4	4.0	 30	 30	30	30	30	30
4-Bromofluorobenzene (Surr)	+++++ 9.5	+++++ 21.1	-17.6	-14.2	-5.2	6.5	 30	 30	30	30	30	30

Report Date: 18-Sep-2017 21:38:18 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8774.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Sep-2017 22:55:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011418-003
Misc. Info.: IC
Operator ID: JDH Instrument ID: VMSX
Sublist: chrom-5mL-8260-MSX*sub15

Method: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 18-Sep-2017 21:38:15 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK025

First Level Reviewer: hannj Date: 18-Sep-2017 19:13:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85		1.889				ND	ND	
2 1,2-Dichloro-1,1,2,2-tetra	135		2.043				ND	ND	
3 Chloromethane	50	2.090	2.091	-0.001	96	10230	1.00	1.01	
4 Vinyl chloride	62	2.197	2.197	0.000	93	8732	1.00	1.09	
121 Butadiene	39	2.209	2.221	-0.012	88	7451	1.00	1.12	
5 Bromomethane	94	2.576	2.576	0.000	79	2313	1.00	0.7558	
6 Chloroethane	64		2.741				ND	ND	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	94	7748	1.00	0.9447	
122 Dichlorofluoromethane	67	3.002	3.013	-0.011	93	6665	1.00	0.8676	
8 Ethyl ether	74	3.357	3.357	0.000	44	1618	1.00	0.5237	
10 Carbon disulfide	76		3.605				ND	ND	
11 Ethanol	45		3.605				ND	ND	
9 1,1-Dichloroethene	96	3.593	3.605	-0.012	60	5591	1.00	0.8158	
12 1,1,2-Trichloro-1,2,2-trif	151	3.700	3.712	-0.012	78	2834	1.00	0.5691	
13 Iodomethane	142		3.794				ND	ND	
14 Acrolein	56		4.138				ND	ND	
15 3-Chloro-1-propene	39		4.351				ND	ND	
16 Isopropyl alcohol	45		4.493				ND	ND	
17 Methylene Chloride	84	4.516	4.528	-0.012	86	5290	1.00	0.8361	
18 Acetone	43		4.646				ND	ND	
19 trans-1,2-Dichloroethene	96	4.788	4.788	0.000	91	6388	1.00	0.9016	
20 Methyl acetate	74		4.871				ND	ND	
21 Hexane	86		4.942				ND	ND	
22 Methyl tert-butyl ether	73		5.013				ND	ND	
23 2-Methyl-2-propanol	59		5.238				ND	ND	
24 Acetonitrile	41	5.368	5.380	-0.012	53	1655	10.0	4.78	
25 Isopropyl ether	45		5.640				ND	ND	
27 2-Chloro-1,3-butadiene	53		5.723				ND	ND	
28 1,1-Dichloroethane	63		5.759				ND	ND	
S 26 1,2-Dichloroethene, Total	96				0			1.57	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53		5.865				ND	ND	
30 Tert-butyl ethyl ether	59		6.185				ND	ND	
31 Vinyl acetate	43	6.197	6.197	-0.001	88	3277	1.00	0.3978	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	71	4562	1.00	0.6705	
33 2,2-Dichloropropane	77		6.694				ND	ND	
34 Cyclohexane	84	6.776	6.800	-0.024	1	3588	1.00	0.3245	
35 Chlorobromomethane	128		6.824				ND	ND	
36 Chloroform	83	6.954	6.954	0.000	87	9904	1.00	0.9071	
37 Carbon tetrachloride	117	7.096	7.096	0.000	80	6905	1.00	0.8381	
38 Tetrahydrofuran	71		7.167				ND	ND	
39 Ethyl acetate	45		7.179				ND	ND	
40 1,1,1-Trichloroethane	97	7.190	7.202	-0.012	89	7964	1.00	0.8331	
$ 41 Dibromofluoromethane (Surr	113		7.202				ND	ND	
42 1,1-Dichloropropene	75		7.368				ND	ND	
43 2-Butanone (MEK)	43		7.404				ND	ND	
124 Isooctane	57	7.534	7.546	-0.012	87	15720	1.00	0.5426	
44 Benzene	78	7.699	7.699	0.000	93	23877	1.00	0.8669	
117 n-Heptane	43	7.699	7.699	0.000	55	5370	1.00	0.4232	
45 Propionitrile	54		7.770				ND	ND	
46 Methacrylonitrile	41	7.794	7.794	0.000	88	12431	10.0	6.58	
$ 47 1,2-Dichloroethane-d4 (Sur	65		7.889				ND	ND	
48 Tert-amyl methyl ether	73	7.900	7.900	0.000	89	4479	1.00	0.4411	
49 1,2-Dichloroethane	62	7.971	7.983	-0.012	81	3549	1.00	0.5783	
50 Isobutyl alcohol	42		8.102				ND	ND	
* 51 Fluorobenzene	96	8.255	8.255	0.000	99	1335181	50.0	50.0	
52 Methylcyclohexane	55	8.433	8.445	-0.012	86	7936	1.00	0.7134	
53 Trichloroethene	95	8.468	8.468	0.000	88	6563	1.00	0.9003	
54 n-Butanol	56		8.989				ND	ND	
55 Dibromomethane	93		9.001				ND	ND	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	1	3995	1.00	0.6626	
57 Dichlorobromomethane	83	9.226	9.226	0.000	88	4518	1.00	0.6275	
123 Ethyl acrylate	55		9.226				ND	ND	
58 Methyl methacrylate	69		9.474				ND	ND	
59 1,4-Dioxane	88		9.498				ND	ND	
60 2-Chloroethyl vinyl ether	63		9.983				ND	ND	
61 cis-1,3-Dichloropropene	75		10.030				ND	ND	
$ 62 Toluene-d8 (Surr)	98	10.255	10.255	0.000	85	13665	1.00	0.5980	
63 Toluene	92	10.314	10.314	0.000	95	9391	1.00	1.04	
64 2-Nitropropane	43		10.622				ND	ND	
65 Tetrachloroethene	164	10.764	10.776	-0.012	85	3484	1.00	0.6899	
66 4-Methyl-2-pentanone (MIBK	43		10.811				ND	ND	
67 trans-1,3-Dichloropropene	75		10.835				ND	ND	
68 1,1,2-Trichloroethane	83		11.013				ND	ND	
69 Ethyl methacrylate	69		11.048				ND	ND	
70 Chlorodibromomethane	129	11.190	11.202	-0.012	1	2378	1.00	0.6108	
71 1,3-Dichloropropane	76		11.308				ND	ND	
72 Ethylene Dibromide	107		11.439				ND	ND	
S 73 1,3-Dichloropropene, Total	75		11.620					ND	
118 n-Butyl acetate	43		11.640				ND	ND	
74 2-Hexanone	43		11.723				ND	ND	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	86	791984	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	33	11041	1.00	1.00	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.006	12.007	0.000	97	17742	1.00	1.08	
78 Ethylbenzene	91	12.042	12.042	0.000	95	27695	1.00	0.8943	
79 1,1,1,2-Tetrachloroethane	131	12.066	12.078	-0.012	82	4230	1.00	0.8646	
80 m-Xylene & p-Xylene	106	12.196	12.196	0.000	92	6558	1.00	1.12	
82 o-Xylene	106	12.610	12.610	0.000	90	5100	1.00	1.35	
83 Styrene	104	12.657	12.669	-0.012	87	8959	1.00	0.5687	
84 Bromoform	173		12.681				ND	ND	
85 Isopropylbenzene	105	12.918	12.918	0.000	90	14484	1.00	0.5203	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	85	3927	1.00	0.5420	
87 Bromobenzene	156	13.273	13.273	0.000	87	3524	1.00	0.6510	
88 N-Propylbenzene	91	13.308	13.308	0.000	95	18276	1.00	0.5269	
89 1,1,2,2-Tetrachloroethane	83		13.379				ND	ND	
90 2-Chlorotoluene	91	13.438	13.438	0.000	91	11040	1.00	0.5580	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	91	9225	1.00	0.4210	
92 1,2,3-Trichloropropane	110		13.497				ND	ND	
93 trans-1,4-Dichloro-2-buten	53		13.533				ND	ND	
94 Cyclohexanone	55		13.533				ND	ND	
95 4-Chlorotoluene	91	13.604	13.592	0.012	89	11355	1.00	0.5677	
96 tert-Butylbenzene	119	13.770	13.781	-0.011	91	9199	1.00	0.4879	
97 1,2,4-Trimethylbenzene	105	13.841	13.841	0.000	88	10524	1.00	0.4834	
98 sec-Butylbenzene	105	13.935	13.935	0.000	91	13758	1.00	0.4433	
99 4-Isopropyltoluene	119	14.065	14.065	0.000	92	9615	1.00	0.4055	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	91	8640	1.00	0.7621	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.196	0.000	96	337482	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.207	14.207	0.000	35	11716	1.00	1.08	
119 1,2,3-Trimethylbenzene	105	14.219	14.231	-0.012	92	16348	1.00	0.8032	
103 n-Butylbenzene	134	14.432	14.432	0.000	93	3434	1.00	0.5558	
120 Benzyl chloride	126		14.432				ND	ND	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	91	7939	1.00	0.8587	
105 1,2-Dibromo-3-Chloropropan	157		15.272				ND	ND	
107 1,3,5-Trichlorobenzene	180		15.284				ND	ND	
106 n-Nonyl Aldehyde	57		15.284				ND	ND	
108 Hexachlorobutadiene	225		15.805				ND	ND	
109 1,2,4-Trichlorobenzene	180		15.840				ND	ND	
110 Naphthalene	128		16.113				ND	ND	
111 1,2,3-Trichlorobenzene	180		16.266				ND	ND	
S 112 Xylenes, Total	106				0			2.47	
S 113 Trihalomethanes, Total	1				0			2.15	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

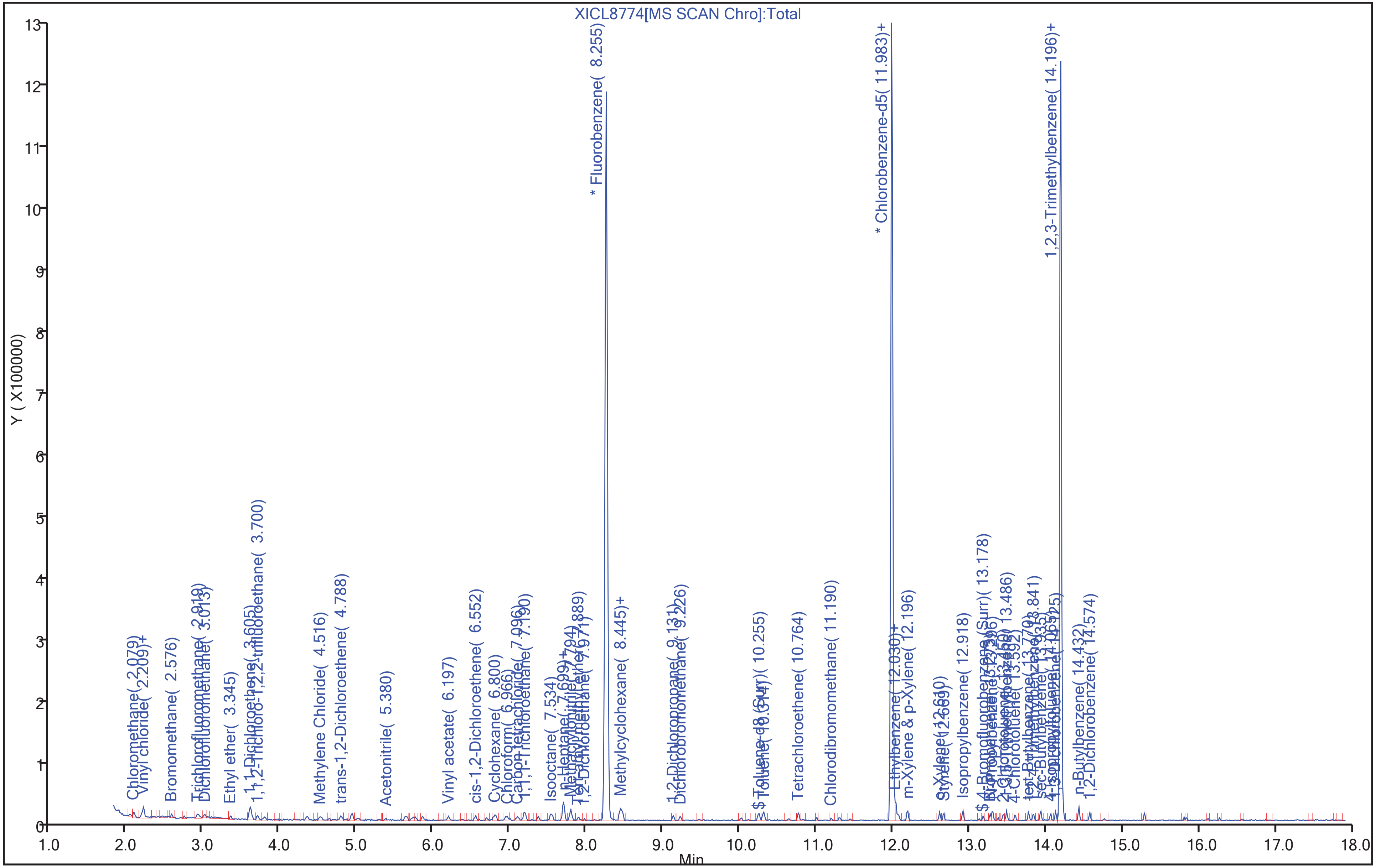
Reagents:

8260 Surr 25_00079	Amount Added: 0.20	Units: uL	
8260 NewWkMix_00236	Amount Added: 0.20	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Sep-2017 21:38:18 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8774.D				
Injection Date:	14-Sep-2017 22:55:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8775.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Sep-2017 23:20:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011418-004
Misc. Info.: IC
Operator ID: JDH Instrument ID: VMSX
Sublist: chrom-5mL-8260-MSX*sub15

Method: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 18-Sep-2017 21:38:20 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK025

First Level Reviewer: hannj Date: 18-Sep-2017 19:14:59

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.878	1.889	-0.011	94	19649	2.50	2.40	
2 1,2-Dichloro-1,1,2,2-tetra	135		2.043				ND	ND	
3 Chloromethane	50	2.091	2.091	0.000	98	28110	2.50	2.66	
4 Vinyl chloride	62	2.197	2.197	0.000	96	20455	2.50	2.46	
121 Butadiene	39	2.221	2.221	0.000	90	19600	2.50	2.83	
5 Bromomethane	94	2.576	2.576	0.000	81	6888	2.50	2.16	
6 Chloroethane	64		2.741				ND	ND	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	94	20487	2.50	2.40	
122 Dichlorofluoromethane	67	3.014	3.013	0.001	94	18833	2.50	2.35	
8 Ethyl ether	74	3.357	3.357	0.000	90	7765	2.50	2.41	
9 1,1-Dichloroethene	96	3.605	3.605	0.000	59	15249	2.50	2.14	
11 Ethanol	45		3.605				ND	ND	
10 Carbon disulfide	76	3.605	3.605	0.000	99	61217	2.50	2.55	
12 1,1,2-Trichloro-1,2,2-trif	151	3.700	3.712	-0.012	89	12415	2.50	2.39	
13 Iodomethane	142		3.794				ND	ND	
14 Acrolein	56		4.138				ND	ND	
15 3-Chloro-1-propene	39	4.351	4.351	0.000	90	13738	2.50	1.93	
16 Isopropyl alcohol	45	4.505	4.493	0.012	1	2573	25.0	41.9	
17 Methylene Chloride	84	4.528	4.528	0.000	93	17221	2.50	2.61	
18 Acetone	43		4.646				ND	ND	
19 trans-1,2-Dichloroethene	96	4.789	4.788	0.001	96	17082	2.50	2.32	
20 Methyl acetate	74		4.871				ND	ND	
21 Hexane	86	4.942	4.942	0.000	72	1560	2.50	0.6922	
22 Methyl tert-butyl ether	73	5.013	5.013	0.000	93	17338	2.50	1.68	
23 2-Methyl-2-propanol	59	5.238	5.238	0.000	6	3414	25.0	43.2	
24 Acetonitrile	41	5.392	5.380	0.012	72	8397	25.0	23.3	
25 Isopropyl ether	45	5.640	5.640	0.000	86	28614	2.50	3.76	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	92	18557	2.50	1.60	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	94	33289	2.50	2.59	
S 26 1,2-Dichloroethene, Total	96				0			4.29	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	5.865	5.865	0.000	97	23358	25.0	20.6	
30 Tert-butyl ethyl ether	59	6.185	6.185	0.000	93	20824	2.50	3.65	
31 Vinyl acetate	43	6.208	6.197	0.011	45	13669	2.50	1.59	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	76	14018	2.50	1.98	
33 2,2-Dichloropropane	77		6.694				ND	ND	
34 Cyclohexane	84	6.800	6.800	0.000	87	19166	2.50	1.66	
35 Chlorobromomethane	128	6.824	6.824	0.000	68	5584	2.50	2.20	
36 Chloroform	83	6.954	6.954	0.000	91	28023	2.50	2.46	
37 Carbon tetrachloride	117	7.096	7.096	0.000	96	19482	2.50	2.27	
38 Tetrahydrofuran	71		7.167				ND	ND	
39 Ethyl acetate	45		7.179				ND	ND	
$ 41 Dibromofluoromethane (Surr	113		7.202				ND	ND	
40 1,1,1-Trichloroethane	97	7.202	7.202	0.000	93	25114	2.50	2.52	
42 1,1-Dichloropropene	75	7.380	7.368	0.012	87	17008	2.50	1.81	
43 2-Butanone (MEK)	43		7.404				ND	ND	
124 Isooctane	57	7.534	7.546	-0.012	94	52027	2.50	1.72	
117 n-Heptane	43	7.699	7.699	0.000	62	21113	2.50	1.60	
44 Benzene	78	7.699	7.699	0.000	96	72234	2.50	2.52	
45 Propionitrile	54		7.770				ND	ND	
46 Methacrylonitrile	41	7.794	7.794	0.000	91	40763	25.0	20.7	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.889	0.000	90	13052	2.50	2.40	
48 Tert-amyl methyl ether	73	7.901	7.900	0.001	87	19432	2.50	1.84	
49 1,2-Dichloroethane	62	7.972	7.983	-0.011	90	16400	2.50	2.57	
50 Isobutyl alcohol	42	8.090	8.102	-0.012	84	3265	62.5	113.2	
* 51 Fluorobenzene	96	8.256	8.255	0.001	99	1390309	50.0	50.0	
52 Methylcyclohexane	55	8.433	8.445	-0.012	91	25003	2.50	2.16	
53 Trichloroethene	95	8.469	8.468	0.001	97	18300	2.50	2.41	
54 n-Butanol	56	8.989	8.989	0.000	27	3559	62.5	213.6	
55 Dibromomethane	93	8.989	9.001	-0.012	85	4958	2.50	1.86	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	88	13234	2.50	2.11	
123 Ethyl acrylate	55		9.226				ND	ND	
57 Dichlorobromomethane	83	9.226	9.226	0.000	93	17355	2.50	2.31	
58 Methyl methacrylate	69		9.474				ND	ND	
59 1,4-Dioxane	88		9.498				ND	ND	
60 2-Chloroethyl vinyl ether	63		9.983				ND	ND	
61 cis-1,3-Dichloropropene	75	10.031	10.030	0.000	91	13327	2.50	4.10	
$ 62 Toluene-d8 (Surr)	98	10.255	10.255	0.000	92	46802	2.50	1.95	
63 Toluene	92	10.314	10.314	0.000	98	32225	2.50	2.31	
64 2-Nitropropane	43		10.622				ND	ND	
65 Tetrachloroethene	164	10.764	10.776	-0.012	92	12069	2.50	2.28	
66 4-Methyl-2-pentanone (MIBK	43		10.811				ND	ND	
67 trans-1,3-Dichloropropene	75	10.835	10.835	0.000	89	9835	2.50	3.84	
68 1,1,2-Trichloroethane	83	11.013	11.013	0.000	82	6836	2.50	2.03	
69 Ethyl methacrylate	69		11.048				ND	ND	
70 Chlorodibromomethane	129	11.190	11.202	-0.012	84	7905	2.50	1.93	
71 1,3-Dichloropropane	76	11.308	11.308	0.000	90	13609	2.50	2.00	
72 Ethylene Dibromide	107	11.450	11.439	0.011	82	6698	2.50	2.00	
S 73 1,3-Dichloropropene, Total	75				0			7.94	
118 n-Butyl acetate	43		11.640				ND	ND	
74 2-Hexanone	43		11.723				ND	ND	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	87	831976	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	63	25958	2.50	2.24	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.007	12.007	0.001	97	48946	2.50	2.84	
78 Ethylbenzene	91	12.042	12.042	0.000	99	77788	2.50	2.39	
79 1,1,1,2-Tetrachloroethane	131	12.078	12.078	0.000	92	12260	2.50	2.39	
80 m-Xylene & p-Xylene	106	12.196	12.196	0.000	96	21893	2.50	2.34	
82 o-Xylene	106	12.610	12.610	0.000	95	16147	2.50	2.30	
83 Styrene	104	12.669	12.669	0.000	93	24219	2.50	1.46	
84 Bromoform	173		12.681				ND	ND	
85 Isopropylbenzene	105	12.918	12.918	0.000	95	45175	2.50	1.50	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	82	14050	2.50	1.79	
87 Bromobenzene	156	13.273	13.273	0.000	90	11311	2.50	1.93	
88 N-Propylbenzene	91	13.308	13.308	0.000	98	61930	2.50	1.65	
89 1,1,2,2-Tetrachloroethane	83		13.379				ND	ND	
90 2-Chlorotoluene	91	13.438	13.438	0.000	95	37611	2.50	1.75	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	93	36872	2.50	1.55	
92 1,2,3-Trichloropropane	110	13.498	13.497	0.001	51	1864	2.50	1.60	
94 Cyclohexanone	55		13.533				ND	ND	
93 trans-1,4-Dichloro-2-buten	53		13.533				ND	ND	
95 4-Chlorotoluene	91	13.592	13.592	0.000	95	37619	2.50	1.73	
96 tert-Butylbenzene	119	13.770	13.781	-0.011	95	31345	2.50	1.53	
97 1,2,4-Trimethylbenzene	105	13.841	13.841	0.000	97	37525	2.50	1.59	
98 sec-Butylbenzene	105	13.935	13.935	0.000	94	58961	2.50	1.75	
99 4-Isopropyltoluene	119	14.066	14.065	0.001	97	39874	2.50	1.55	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	94	29612	2.50	2.41	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.196	0.000	96	365947	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.208	14.207	0.001	94	30945	2.50	2.63	
119 1,2,3-Trimethylbenzene	105	14.219	14.231	-0.012	93	50651	2.50	2.30	
120 Benzyl chloride	126	14.432	14.432	0.000	38	1957	2.50	1.57	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	10536	2.50	1.57	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	94	23674	2.50	2.36	
105 1,2-Dibromo-3-Chloropropan	157		15.272				ND	ND	
106 n-Nonyl Aldehyde	57		15.284				ND	ND	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	94	17721	2.50	2.25	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	91	8945	2.50	2.44	
109 1,2,4-Trichlorobenzene	180	15.840	15.840	0.000	90	9477	2.50	1.67	
110 Naphthalene	128		16.113				ND	ND	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	93	8798	2.50	1.85	
S 112 Xylenes, Total	106				0			4.63	
S 113 Trihalomethanes, Total	1				0			6.71	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

8260 Surr 25_00079	Amount Added: 0.50	Units: uL	
8260 NewWkMix_00236	Amount Added: 0.50	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Sep-2017 21:38:25 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8775.D

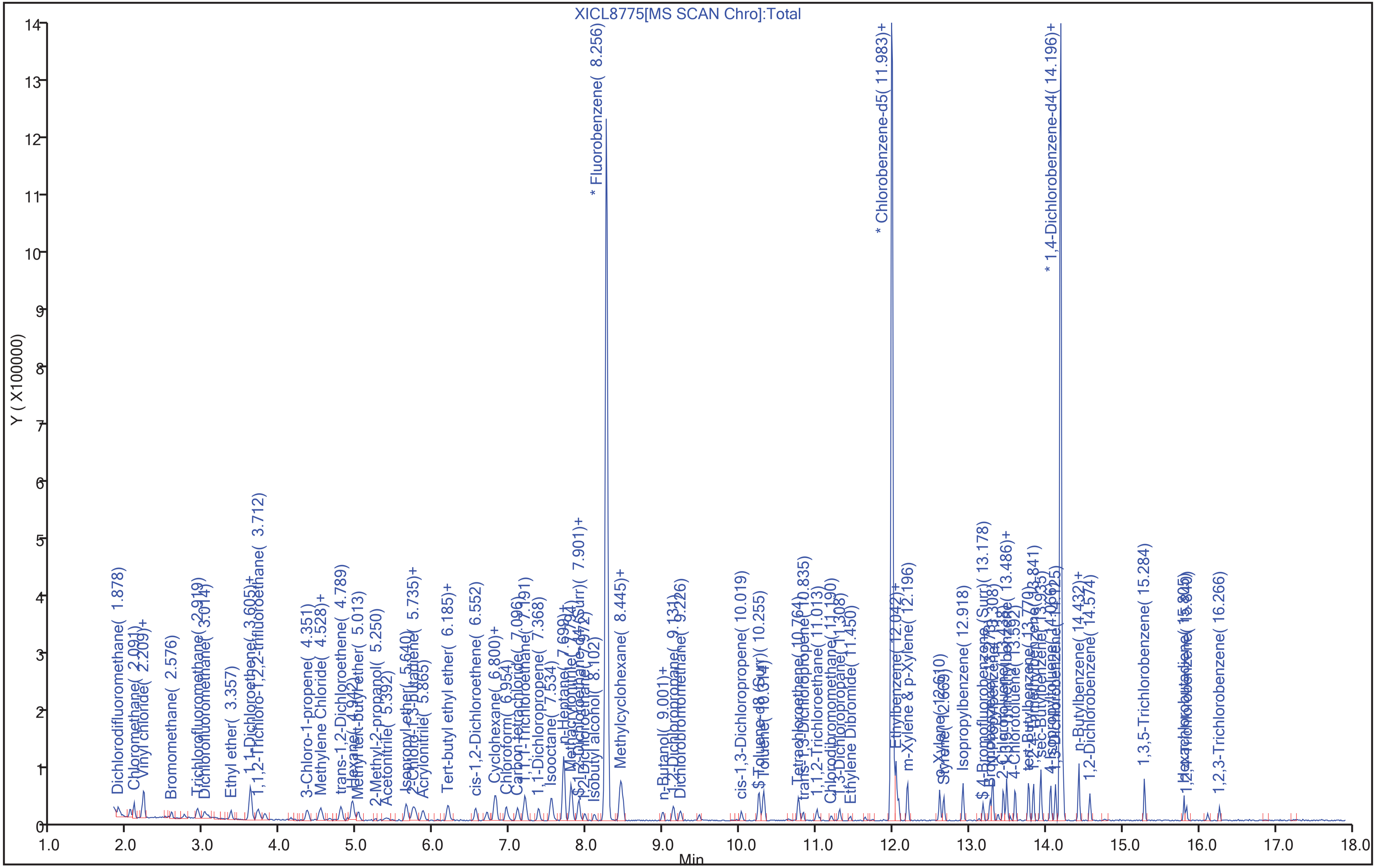
Injection Date: 14-Sep-2017 23:20:30 Instrument ID: VMSX Operator ID: JDH

Lims ID: IC Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 3

Method: 5mL-8260-MSX Limit Group: MSV-8260_DoD



Report Date: 18-Sep-2017 21:38:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8776.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Sep-2017 23:45:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011418-005
Misc. Info.: IC
Operator ID: JDH Instrument ID: VMSX
Sublist: chrom-5mL-8260-MSX*sub15

Method: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 18-Sep-2017 21:38:30 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK025

First Level Reviewer: hannj Date: 18-Sep-2017 16:48:27

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.878	1.889	-0.011	97	43671	5.00	5.18	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.031	2.043	-0.012	72	18119	5.00	4.68	
3 Chloromethane	50	2.091	2.091	0.000	99	57460	5.00	5.28	
4 Vinyl chloride	62	2.197	2.197	0.000	97	46265	5.00	5.41	
121 Butadiene	39	2.209	2.221	-0.012	97	41302	5.00	5.78	
5 Bromomethane	94	2.576	2.576	0.000	90	19706	5.00	6.00	
6 Chloroethane	64	2.753	2.741	0.012	95	18039	5.00	5.73	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	95	48798	5.00	5.55	
122 Dichlorofluoromethane	67	3.014	3.013	0.001	96	45370	5.00	5.51	
8 Ethyl ether	74	3.357	3.357	0.000	93	16507	5.00	4.98	
10 Carbon disulfide	76	3.617	3.605	0.012	99	130976	5.00	5.29	
11 Ethanol	45	3.605	3.605	0.000	1	6005	200.0	222.0	
9 1,1-Dichloroethene	96	3.605	3.605	0.000	93	37580	5.00	5.11	
12 1,1,2-Trichloro-1,2,2-trif	151	3.712	3.712	0.000	91	28293	5.00	5.30	
13 Iodomethane	142	3.795	3.794	0.001	97	44647	5.00	4.83	
14 Acrolein	56	4.138	4.138	0.000	95	9150	25.0	29.4	
15 3-Chloro-1-propene	39	4.351	4.351	0.000	90	31725	5.00	4.33	
16 Isopropyl alcohol	45	4.493	4.493	0.000	95	5838	50.0	58.0	
17 Methylene Chloride	84	4.528	4.528	0.000	96	36691	5.00	5.41	
18 Acetone	43	4.647	4.646	0.001	34	5907	5.00	5.99	
19 trans-1,2-Dichloroethene	96	4.789	4.788	0.001	98	37555	5.00	4.94	
20 Methyl acetate	74	4.883	4.871	0.012	95	2992	25.0	23.3	
21 Hexane	86	4.954	4.942	0.012	89	8913	5.00	3.84	
22 Methyl tert-butyl ether	73	5.025	5.013	0.012	1	45361	5.00	4.27	
23 2-Methyl-2-propanol	59	5.250	5.238	0.012	91	8996	50.0	60.9	
24 Acetonitrile	41	5.392	5.380	0.012	89	17213	50.0	46.3	
25 Isopropyl ether	45	5.641	5.640	0.001	88	67598	5.00	5.53	
27 2-Chloro-1,3-butadiene	53	5.735	5.723	0.012	89	49398	5.00	4.13	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	97	68940	5.00	5.21	
S 26 1,2-Dichloroethene, Total	96				0			9.81	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	5.865	5.865	0.000	96	54652	50.0	46.7	
30 Tert-butyl ethyl ether	59	6.185	6.185	0.000	92	54412	5.00	5.61	
31 Vinyl acetate	43	6.197	6.197	0.000	96	35515	5.00	4.02	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	78	35562	5.00	4.87	
33 2,2-Dichloropropane	77	6.694	6.694	0.000	93	33618	5.00	5.04	
34 Cyclohexane	84	6.800	6.800	0.000	91	50697	5.00	4.27	
35 Chlorobromomethane	128	6.824	6.824	0.000	94	13501	5.00	5.16	
36 Chloroform	83	6.954	6.954	0.000	93	62437	5.00	5.33	
37 Carbon tetrachloride	117	7.096	7.096	0.000	97	44154	5.00	5.00	
38 Tetrahydrofuran	71		7.167				ND	ND	
39 Ethyl acetate	45	7.191	7.179	0.012	96	2994	10.0	8.17	
40 1,1,1-Trichloroethane	97	7.202	7.202	0.000	96	50143	5.00	4.89	
$ 41 Dibromofluoromethane (Surr	113	7.202	7.202	0.000	91	31171	5.00	5.41	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	94	40092	5.00	4.14	
43 2-Butanone (MEK)	43	7.392	7.404	-0.012	29	5373	5.00	4.06	
124 Isooctane	57	7.546	7.546	0.000	96	133088	5.00	4.28	
44 Benzene	78	7.699	7.699	0.000	97	162978	5.00	5.52	
117 n-Heptane	43	7.699	7.699	0.000	66	60277	5.00	4.43	
45 Propionitrile	54	7.770	7.770	0.000	94	21487	50.0	49.2	
46 Methacrylonitrile	41	7.794	7.794	0.000	92	101213	50.0	50.0	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.889	0.000	85	31217	5.00	5.58	
48 Tert-amyl methyl ether	73	7.901	7.900	0.001	90	46450	5.00	4.26	
49 1,2-Dichloroethane	62	7.983	7.983	0.000	96	33506	5.00	5.09	
50 Isobutyl alcohol	42	8.102	8.102	0.000	84	6666	125.0	149.8	
* 51 Fluorobenzene	96	8.256	8.255	0.001	99	1432131	50.0	50.0	
52 Methylcyclohexane	55	8.445	8.445	0.000	91	58165	5.00	4.87	
53 Trichloroethene	95	8.469	8.468	0.001	97	40641	5.00	5.20	
54 n-Butanol	56	8.989	8.989	0.000	46	5662	125.0	232.9	
55 Dibromomethane	93	9.001	9.001	0.000	91	13155	5.00	4.80	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	91	29876	5.00	4.62	
57 Dichlorobromomethane	83	9.226	9.226	0.000	97	36912	5.00	4.78	
123 Ethyl acrylate	55	9.226	9.226	0.000	1	12012	5.00	5.98	
58 Methyl methacrylate	69	9.474	9.474	0.000	89	13882	10.0	11.6	
59 1,4-Dioxane	88		9.498				ND	ND	
60 2-Chloroethyl vinyl ether	63		9.983				ND	ND	
61 cis-1,3-Dichloropropene	75	10.019	10.030	-0.011	95	30861	5.00	5.81	
$ 62 Toluene-d8 (Surr)	98	10.255	10.255	0.000	94	112092	5.00	4.52	
63 Toluene	92	10.315	10.314	0.001	98	82127	5.00	4.99	
64 2-Nitropropane	43	10.610	10.622	-0.012	89	5429	10.0	8.01	
65 Tetrachloroethene	164	10.764	10.776	-0.012	94	29170	5.00	5.32	
66 4-Methyl-2-pentanone (MIBK	43	10.800	10.811	-0.011	88	9213	5.00	5.92	
67 trans-1,3-Dichloropropene	75	10.823	10.835	-0.012	93	25239	5.00	5.80	
68 1,1,2-Trichloroethane	83	11.013	11.013	0.000	88	17805	5.00	5.12	
69 Ethyl methacrylate	69	11.048	11.048	0.000	7	11899	5.00	6.35	
70 Chlorodibromomethane	129	11.202	11.202	0.000	89	18901	5.00	4.47	
71 1,3-Dichloropropane	76	11.308	11.308	0.000	91	33076	5.00	4.70	
72 Ethylene Dibromide	107	11.439	11.439	0.000	96	15452	5.00	4.47	
S 73 1,3-Dichloropropene, Total	75				0			11.6	
118 n-Butyl acetate	43	11.640	11.640	0.000	75	14664	5.00	10.4	
74 2-Hexanone	43	11.723	11.723	0.000	13	5071	5.00	6.13	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	87	859973	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	87	58929	5.00	4.92	

Report Date: 18-Sep-2017 21:38:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8776.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.007	12.007	0.001	97	96492	5.00	5.41	
78 Ethylbenzene	91	12.042	12.042	0.000	98	180053	5.00	5.35	
79 1,1,1,2-Tetrachloroethane	131	12.078	12.078	0.000	92	27919	5.00	5.26	
80 m-Xylene & p-Xylene	106	12.196	12.196	0.000	97	54237	5.00	4.83	
82 o-Xylene	106	12.610	12.610	0.000	96	40664	5.00	4.33	
83 Styrene	104	12.669	12.669	0.000	94	70338	5.00	4.11	
84 Bromoform	173	12.681	12.681	0.000	93	8789	5.00	4.35	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	125035	5.00	3.96	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	86	33832	5.00	4.12	
87 Bromobenzene	156	13.273	13.273	0.000	93	27211	5.00	4.43	
88 N-Propylbenzene	91	13.308	13.308	0.000	98	169633	5.00	4.31	
89 1,1,2,2-Tetrachloroethane	83	13.379	13.379	0.000	31	22489	5.00	5.12	
90 2-Chlorotoluene	91	13.438	13.438	0.000	97	99843	5.00	4.45	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	107072	5.00	4.31	
92 1,2,3-Trichloropropane	110	13.498	13.497	0.001	82	6318	5.00	5.20	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	70	4595	5.00	5.78	
94 Cyclohexanone	55	13.533	13.533	0.000	1	3922	50.0	65.0	
95 4-Chlorotoluene	91	13.592	13.592	0.000	97	102962	5.00	4.54	
96 tert-Butylbenzene	119	13.782	13.781	0.001	95	86103	5.00	4.03	
97 1,2,4-Trimethylbenzene	105	13.841	13.841	0.000	97	107827	5.00	4.37	
98 sec-Butylbenzene	105	13.935	13.935	0.000	94	165108	5.00	4.69	
99 4-Isopropyltoluene	119	14.066	14.065	0.001	96	112673	5.00	4.19	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	98	68100	5.00	5.30	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.196	0.000	96	382593	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.208	14.207	0.001	95	66129	5.00	5.37	
119 1,2,3-Trimethylbenzene	105	14.231	14.231	0.000	95	117077	5.00	5.07	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	29785	5.00	4.25	
120 Benzyl chloride	126	14.432	14.432	0.000	89	5279	5.00	4.05	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	97	51026	5.00	4.87	
105 1,2-Dibromo-3-Chloropropan	157	15.273	15.272	0.000	1	907	5.00	4.81	M
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	39574	5.00	4.80	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	49	6896	5.00	6.39	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	94	20342	5.00	5.32	
109 1,2,4-Trichlorobenzene	180	15.840	15.840	0.000	91	25734	5.00	4.35	
110 Naphthalene	128	16.113	16.113	0.000	94	29975	5.00	5.38	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	93	20364	5.00	4.10	
S 112 Xylenes, Total	106				0			9.16	
S 113 Trihalomethanes, Total	1				0			18.9	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated

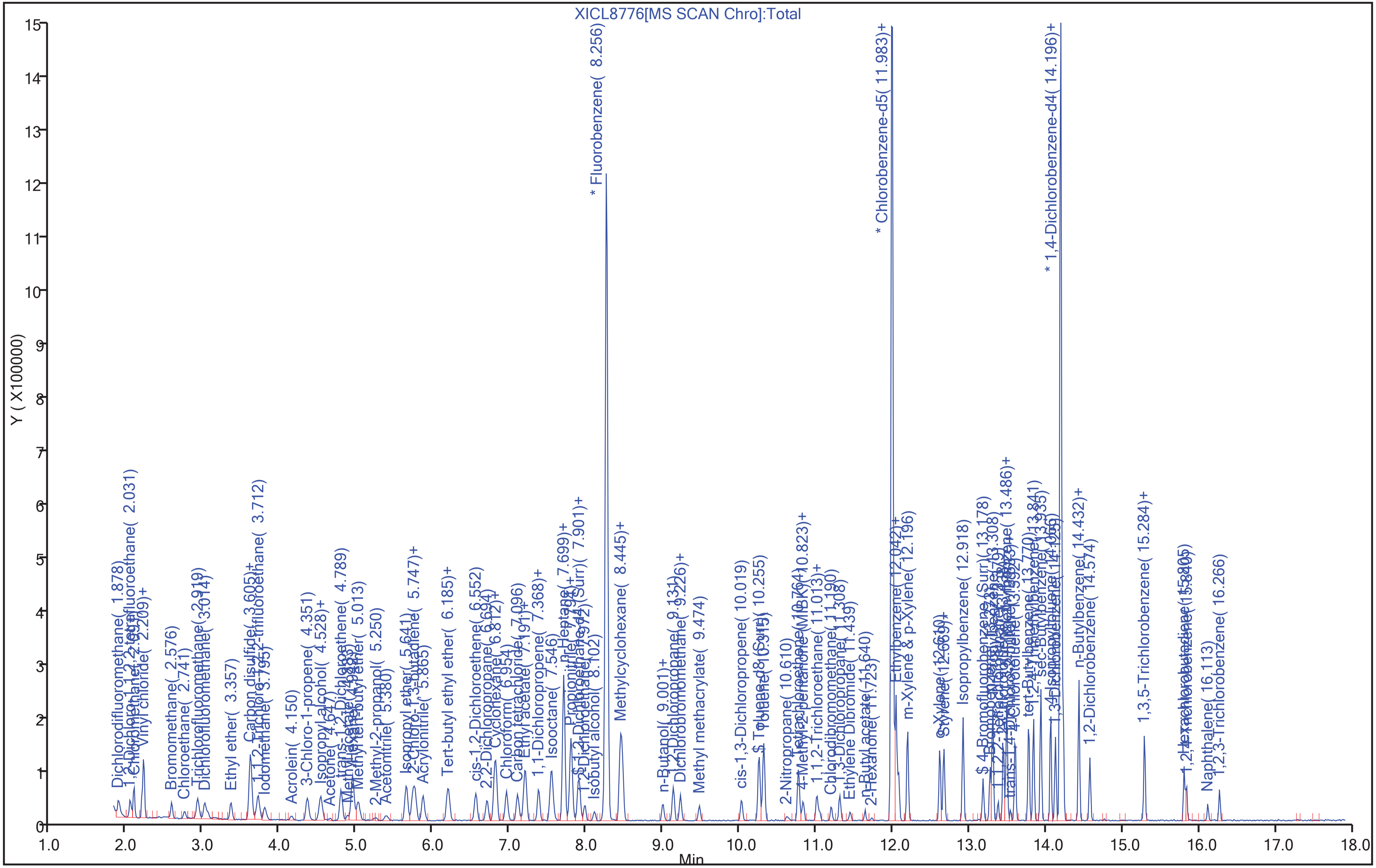
Reagents:

8260 Surr 25_00079	Amount Added: 1.00	Units: uL	
8260 NewWkMix_00236	Amount Added: 1.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Sep-2017 21:38:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8776.D				
Injection Date:	14-Sep-2017 23:45:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis

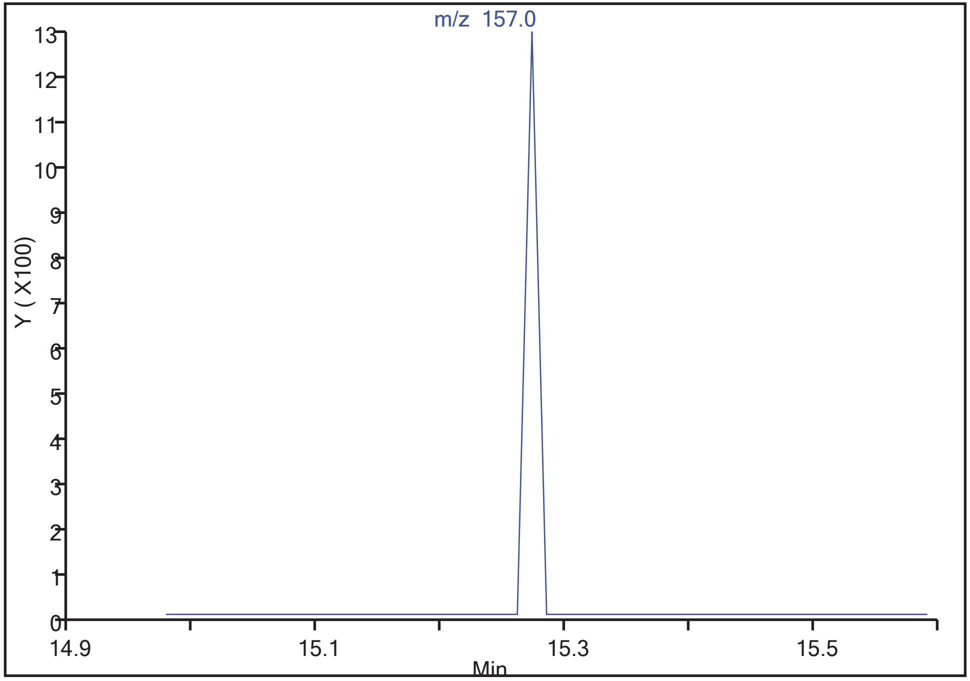
Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8776.D				
Injection Date:	14-Sep-2017 23:45:30	Instrument ID:	VMSX		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

105 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8

Signal: 1

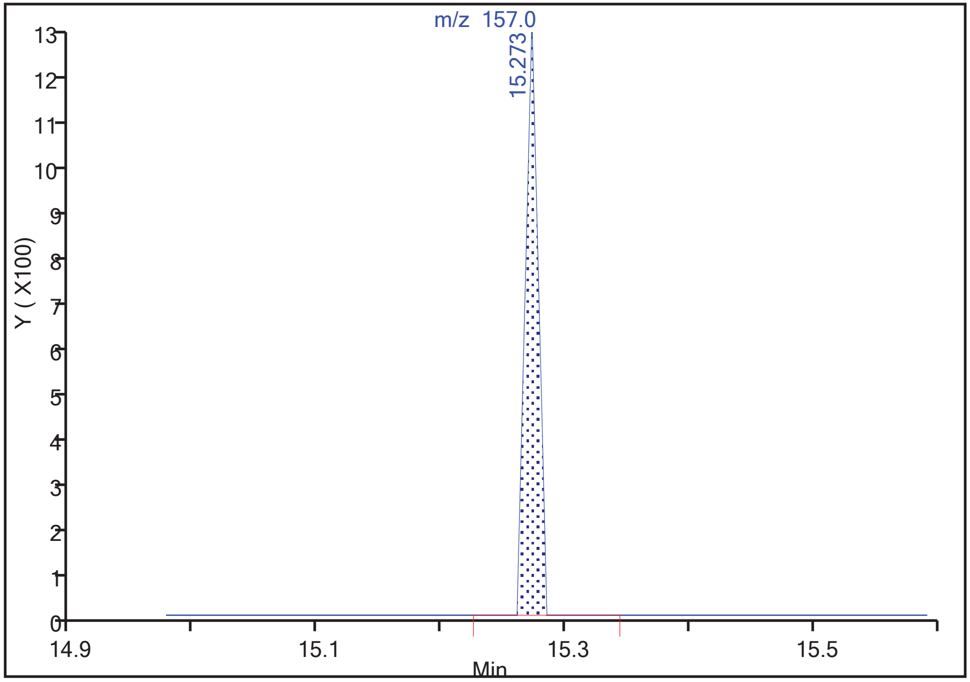
Not Detected
Expected RT: 15.27

Processing Integration Results



Manual Integration Results

RT: 15.27
Area: 907
Amount: 4.811812
Amount Units: ug/l



Reviewer: hannj, 18-Sep-2017 16:47:57
Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

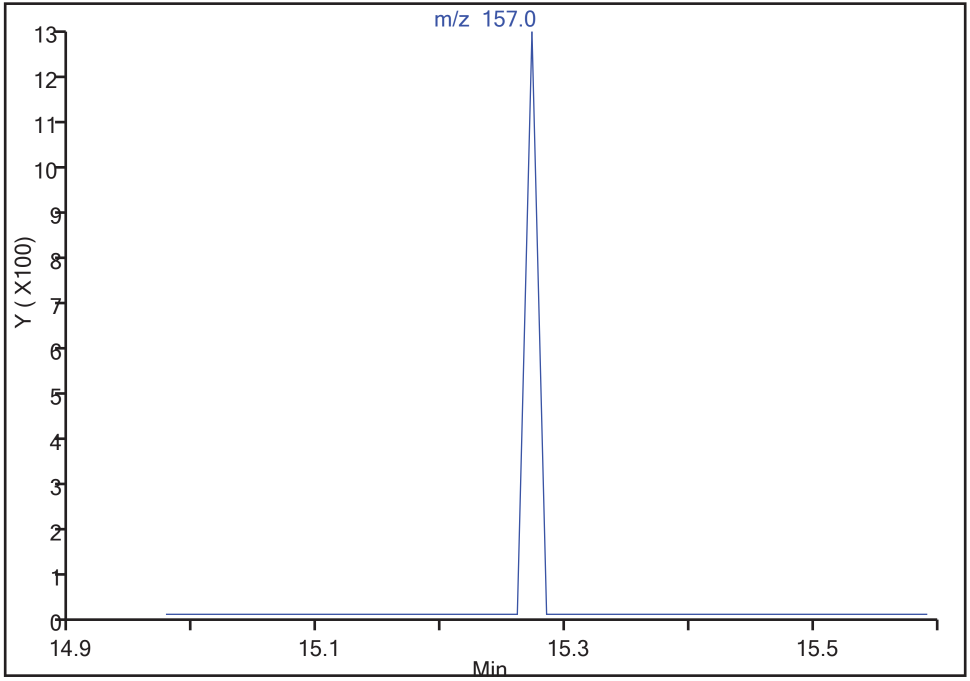
Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8776.D				
Injection Date:	14-Sep-2017 23:45:30	Instrument ID:	VMSX		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

105 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8

Signal: 1

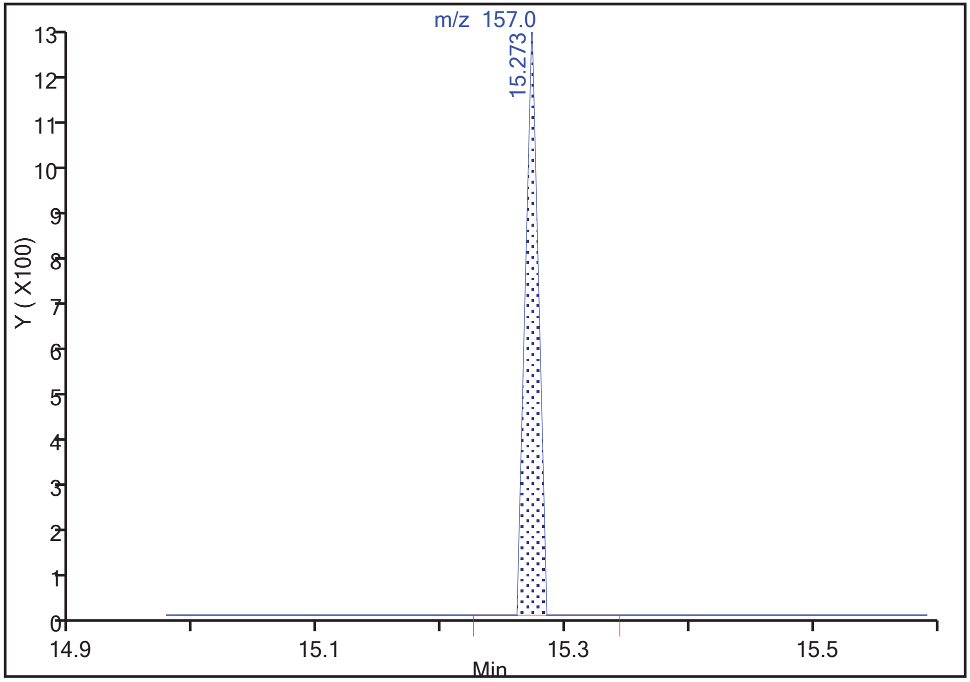
Not Detected
Expected RT: 15.27

Processing Integration Results



RT: 15.27
Area: 907
Amount: 4.811812
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 18-Sep-2017 16:48:05
Audit Action: Manually Integrated Audit Reason: Missed Peak

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8777.D
Lims ID: IC
Client ID:
Sample Type: IC
Calib Level: 4
Inject. Date: 15-Sep-2017 00:10:30
ALS Bottle#: 5
Worklist Smp#: 6
Purge Vol: 5.000 mL
Dil. Factor: 1.0000
Sample Info: 160-0011418-006
Misc. Info.: IC
Operator ID: JDH
Instrument ID: VMSX
Sublist: chrom-5mL-8260-MSX*sub15

Method: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 18-Sep-2017 21:38:41
Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE
ID Type: Deconvolution ID
Quant Method: Internal Standard
Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 :
Det: MS SCAN
Process Host: XAWRK025

First Level Reviewer: hannj
Date: 18-Sep-2017 16:53:50

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.889	1.889	0.000	98	92170	10.0	10.5	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.043	2.043	0.000	98	36501	10.0	9.05	
3 Chloromethane	50	2.091	2.091	0.000	99	121870	10.0	10.8	
4 Vinyl chloride	62	2.197	2.197	0.000	97	92075	10.0	10.3	
121 Butadiene	39	2.209	2.221	-0.012	89	79037	10.0	10.6	
5 Bromomethane	94	2.576	2.576	0.000	92	33196	10.0	9.72	
6 Chloroethane	64	2.741	2.741	0.000	97	35168	10.0	10.7	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	98	92319	10.0	10.1	
122 Dichlorofluoromethane	67	3.014	3.013	0.001	97	86182	10.0	10.0	
8 Ethyl ether	74	3.357	3.357	0.000	91	32928	10.0	9.54	
9 1,1-Dichloroethene	96	3.605	3.605	0.000	95	74958	10.0	9.80	
11 Ethanol	45	3.605	3.605	0.000	27	11961	400.0	354.1	
10 Carbon disulfide	76	3.617	3.605	0.012	99	265431	10.0	10.3	
12 1,1,2-Trichloro-1,2,2-trif	151	3.712	3.712	0.000	93	56216	10.0	10.1	
13 Iodomethane	142	3.795	3.794	0.000	97	92137	10.0	9.57	
14 Acrolein	56	4.138	4.138	0.000	97	20083	50.0	46.7	
15 3-Chloro-1-propene	39	4.351	4.351	0.000	93	71062	10.0	9.32	
16 Isopropyl alcohol	45	4.504	4.493	0.011	25	13717	100.0	95.1	
17 Methylene Chloride	84	4.528	4.528	0.000	92	72979	10.0	10.3	
18 Acetone	43	4.646	4.646	0.000	67	10578	10.0	10.3	
19 trans-1,2-Dichloroethene	96	4.788	4.788	0.000	99	78970	10.0	9.98	
20 Methyl acetate	74	4.883	4.871	0.012	98	9469	50.0	51.9	
21 Hexane	86	4.954	4.942	0.012	90	23576	10.0	9.76	
22 Methyl tert-butyl ether	73	5.013	5.013	0.000	1	104077	10.0	9.42	
23 2-Methyl-2-propanol	59	5.238	5.238	0.000	90	20233	100.0	94.6	
24 Acetonitrile	41	5.392	5.380	0.012	99	37259	100.0	96.3	
25 Isopropyl ether	45	5.640	5.640	0.000	91	164966	10.0	9.73	
27 2-Chloro-1,3-butadiene	53	5.735	5.723	0.012	92	118168	10.0	9.48	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	96	144146	10.0	10.5	
S 26 1,2-Dichloroethene, Total	96				0			20.0	

Report Date: 18-Sep-2017 21:38:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8777.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	5.865	5.865	0.000	100	121334	100.0	99.7	
30 Tert-butyl ethyl ether	59	6.185	6.185	0.000	95	128183	10.0	9.68	
31 Vinyl acetate	43	6.208	6.197	0.011	97	79999	10.0	8.70	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	78	76179	10.0	10.0	
33 2,2-Dichloropropane	77	6.705	6.694	0.011	93	68146	10.0	9.81	
34 Cyclohexane	84	6.800	6.800	0.000	90	119299	10.0	9.66	
35 Chlorobromomethane	128	6.824	6.824	0.000	97	28735	10.0	10.6	
36 Chloroform	83	6.954	6.954	0.000	93	125167	10.0	10.3	
37 Carbon tetrachloride	117	7.096	7.096	0.000	97	90861	10.0	9.88	
38 Tetrahydrofuran	71	7.167	7.167	0.000	38	4961	20.0	21.1	
39 Ethyl acetate	45	7.179	7.179	0.000	96	10120	20.0	21.8	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.202	-0.011	91	57628	10.0	9.60	
40 1,1,1-Trichloroethane	97	7.202	7.202	0.000	97	108030	10.0	10.1	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	95	96690	10.0	9.58	
43 2-Butanone (MEK)	43	7.404	7.404	0.000	97	13144	10.0	9.54	
124 Isooctane	57	7.546	7.546	0.000	96	318404	10.0	9.84	
117 n-Heptane	43	7.699	7.699	0.000	69	145665	10.0	10.3	
44 Benzene	78	7.699	7.699	0.000	96	340714	10.0	11.1	
45 Propionitrile	54	7.770	7.770	0.000	96	46107	100.0	101.4	
46 Methacrylonitrile	41	7.794	7.794	0.000	92	215109	100.0	102.0	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.889	0.000	90	56253	10.0	9.66	
48 Tert-amyl methyl ether	73	7.901	7.900	0.001	93	104351	10.0	9.20	
49 1,2-Dichloroethane	62	7.983	7.983	0.000	96	69594	10.0	10.2	
50 Isobutyl alcohol	42	8.102	8.102	0.000	85	14557	250.0	231.0	
* 51 Fluorobenzene	96	8.256	8.255	0.001	99	1490799	50.0	50.0	
52 Methylcyclohexane	55	8.445	8.445	0.000	90	123648	10.0	9.95	
53 Trichloroethene	95	8.469	8.468	0.000	98	89064	10.0	10.9	
54 n-Butanol	56	8.989	8.989	0.000	85	12855	250.0	297.5	
55 Dibromomethane	93	9.001	9.001	0.000	93	29101	10.0	10.2	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	92	64396	10.0	9.57	
123 Ethyl acrylate	55	9.226	9.226	0.000	55	28925	10.0	9.24	
57 Dichlorobromomethane	83	9.226	9.226	0.000	98	78585	10.0	9.78	
58 Methyl methacrylate	69	9.474	9.474	0.000	88	33604	20.0	18.4	
59 1,4-Dioxane	88	9.510	9.498	0.012	1	4783	200.0	202.0	M
60 2-Chloroethyl vinyl ether	63		9.983				ND	ND	
61 cis-1,3-Dichloropropene	75	10.030	10.030	0.000	95	69228	10.0	9.36	
$ 62 Toluene-d8 (Surr)	98	10.255	10.255	0.000	94	236738	10.0	8.87	
63 Toluene	92	10.314	10.314	0.000	97	191636	10.0	10.3	
64 2-Nitropropane	43	10.610	10.622	-0.012	96	11200	20.0	15.2	
65 Tetrachloroethene	164	10.764	10.776	-0.012	96	58981	10.0	10.0	
66 4-Methyl-2-pentanone (MIBK	43	10.811	10.811	0.000	96	23242	10.0	9.70	
67 trans-1,3-Dichloropropene	75	10.835	10.835	0.000	93	58827	10.0	9.62	
68 1,1,2-Trichloroethane	83	11.013	11.013	0.000	90	36586	10.0	9.78	
69 Ethyl methacrylate	69	11.048	11.048	0.000	47	30779	10.0	9.33	
70 Chlorodibromomethane	129	11.202	11.202	0.000	87	42567	10.0	9.36	
71 1,3-Dichloropropane	76	11.308	11.308	0.000	92	69967	10.0	9.23	
72 Ethylene Dibromide	107	11.450	11.439	0.011	93	34361	10.0	9.24	
S 73 1,3-Dichloropropene, Total	75				0			19.0	
118 n-Butyl acetate	43	11.640	11.640	0.000	97	31388	10.0	12.6	
74 2-Hexanone	43	11.723	11.723	0.000	95	13881	10.0	9.44	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	87	925390	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	93	131344	10.0	10.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.007	12.007	0.001	97	204481	10.0	10.7	
78 Ethylbenzene	91	12.042	12.042	0.000	98	386099	10.0	10.7	
79 1,1,1,2-Tetrachloroethane	131	12.078	12.078	0.000	95	56921	10.0	9.96	
80 m-Xylene & p-Xylene	106	12.196	12.196	0.000	96	125290	10.0	9.73	
82 o-Xylene	106	12.610	12.610	0.000	97	102667	10.0	8.96	
83 Styrene	104	12.669	12.669	0.000	95	182661	10.0	9.92	
84 Bromoform	173	12.681	12.681	0.000	95	19551	10.0	9.30	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	314206	10.0	9.56	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	84	73376	10.0	8.58	
87 Bromobenzene	156	13.273	13.273	0.000	94	60519	10.0	9.47	
88 N-Propylbenzene	91	13.308	13.308	0.000	99	416009	10.0	10.2	
89 1,1,2,2-Tetrachloroethane	83	13.379	13.379	0.000	93	45456	10.0	9.93	
90 2-Chlorotoluene	91	13.450	13.438	0.012	96	224633	10.0	9.62	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	95	263776	10.0	10.2	
92 1,2,3-Trichloropropane	110	13.497	13.497	0.000	82	12207	10.0	9.64	
94 Cyclohexanone	55	13.533	13.533	0.000	71	8406	100.0	97.6	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	1	9777	10.0	9.20	
95 4-Chlorotoluene	91	13.604	13.592	0.012	98	230843	10.0	9.78	
96 tert-Butylbenzene	119	13.781	13.781	0.000	94	216691	10.0	9.73	
97 1,2,4-Trimethylbenzene	105	13.841	13.841	0.000	97	260427	10.0	10.1	
98 sec-Butylbenzene	105	13.935	13.935	0.000	94	376049	10.0	10.3	
99 4-Isopropyltoluene	119	14.065	14.065	0.000	96	270553	10.0	9.67	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	98	136292	10.0	10.2	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.196	0.000	97	398409	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.207	14.207	0.000	95	133587	10.0	10.4	
119 1,2,3-Trimethylbenzene	105	14.231	14.231	0.000	97	245700	10.0	10.2	
120 Benzyl chloride	126	14.432	14.432	0.000	89	12044	10.0	8.87	
103 n-Butylbenzene	134	14.432	14.432	0.000	96	71882	10.0	9.85	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	97	110652	10.0	10.1	
105 1,2-Dibromo-3-Chloropropan	157	15.272	15.272	0.000	85	4499	10.0	10.6	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	38	12091	10.0	8.13	
107 1,3,5-Trichlorobenzene	180	15.296	15.284	0.012	96	86464	10.0	10.1	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	40553	10.0	10.2	
109 1,2,4-Trichlorobenzene	180	15.840	15.840	0.000	94	57139	10.0	9.27	
110 Naphthalene	128	16.113	16.113	0.000	96	76858	10.0	9.35	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	95	51759	10.0	10.0	
S 112 Xylenes, Total	106				0			18.7	
S 113 Trihalomethanes, Total	1				0			38.7	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

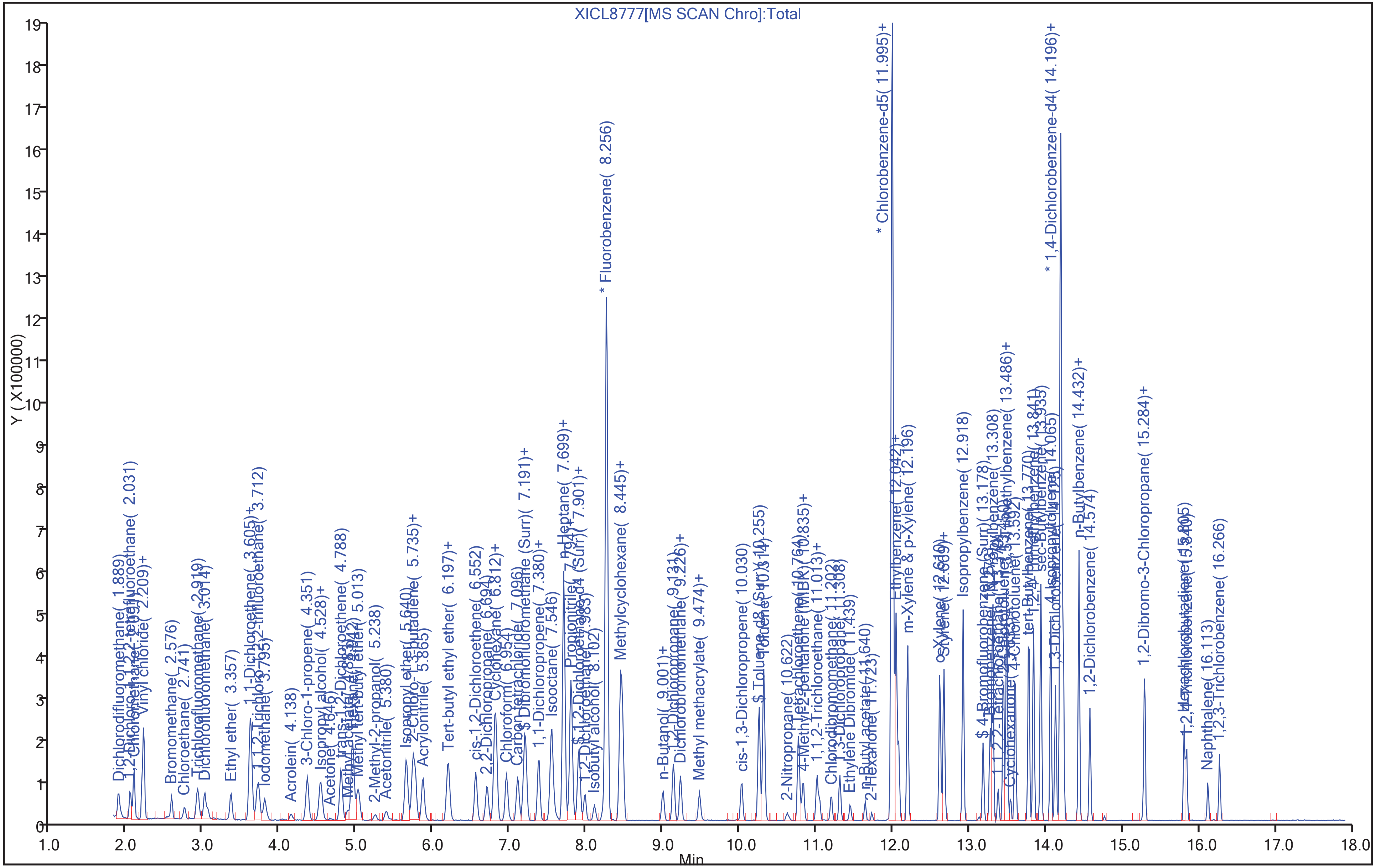
Reagents:

8260 Surr 25_00079	Amount Added: 2.00	Units: uL	
8260 NewWkMix_00236	Amount Added: 2.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Sep-2017 21:38:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8777.D				
Injection Date:	15-Sep-2017 00:10:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis

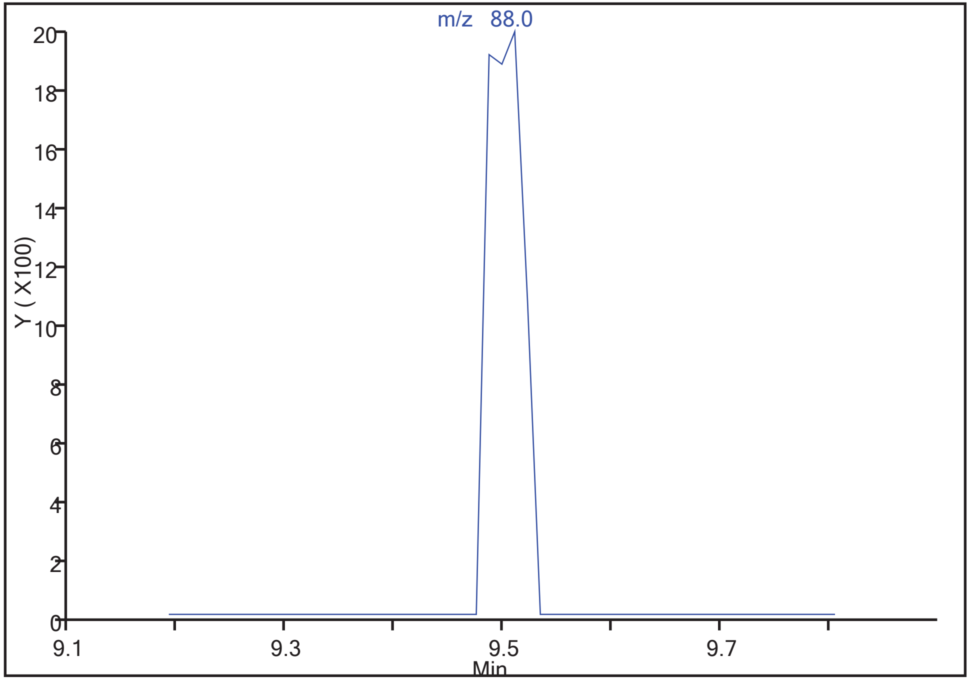
Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8777.D				
Injection Date:	15-Sep-2017 00:10:30	Instrument ID:	VMSX		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

59 1,4-Dioxane, CAS: 123-91-1

Signal: 1

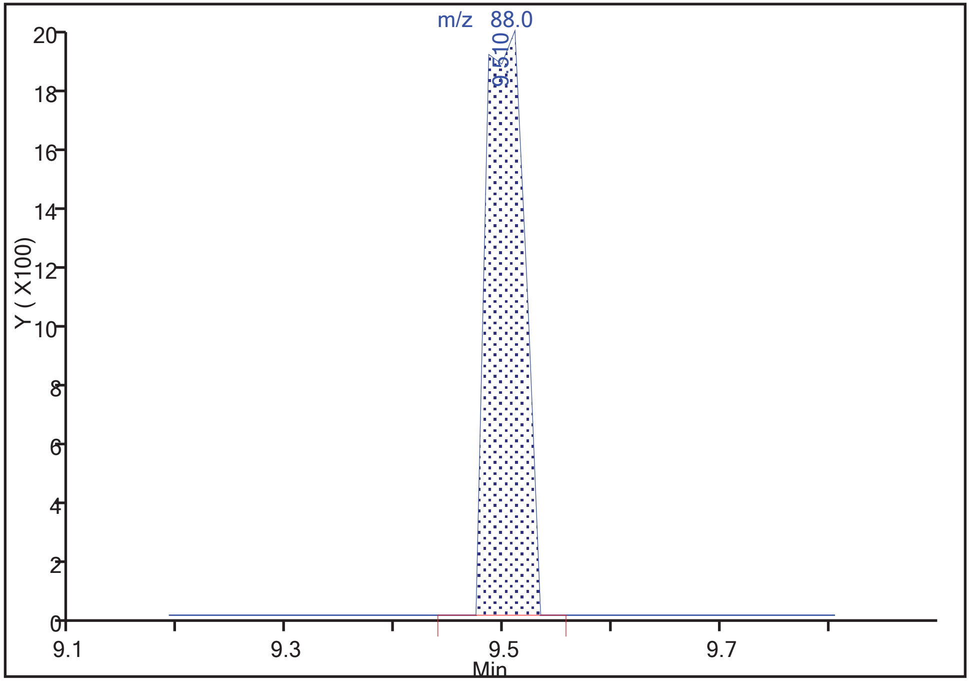
Not Detected
Expected RT: 9.50

Processing Integration Results



RT: 9.51
Area: 4783
Amount: 201.9684
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 18-Sep-2017 16:53:00
Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8777.D				
Injection Date:	15-Sep-2017 00:10:30	Instrument ID:	VMSX		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

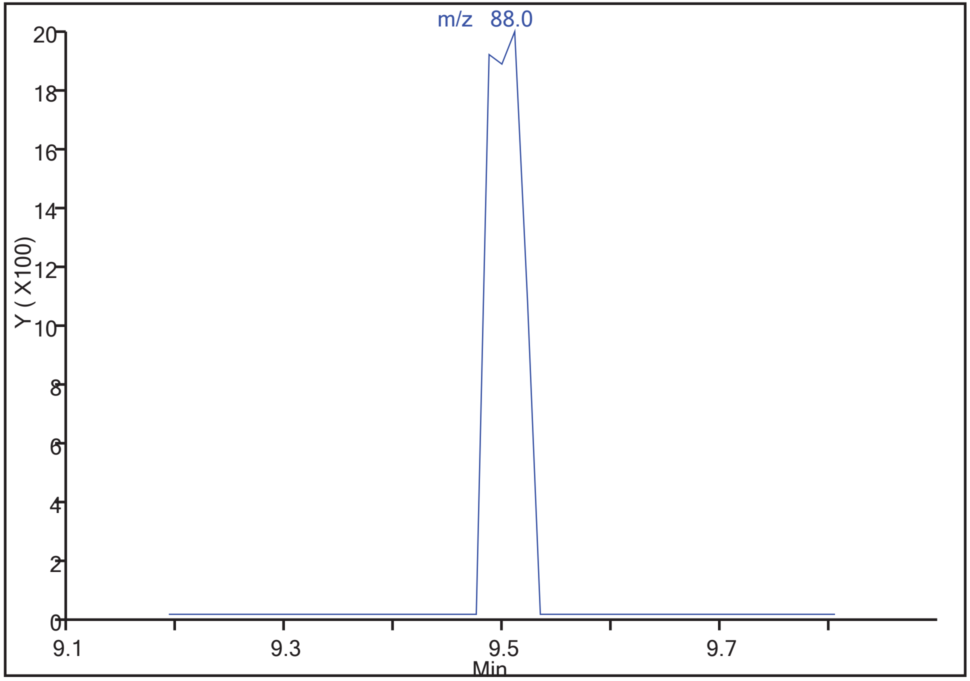
59 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Not Detected

Expected RT: 9.50

Processing Integration Results



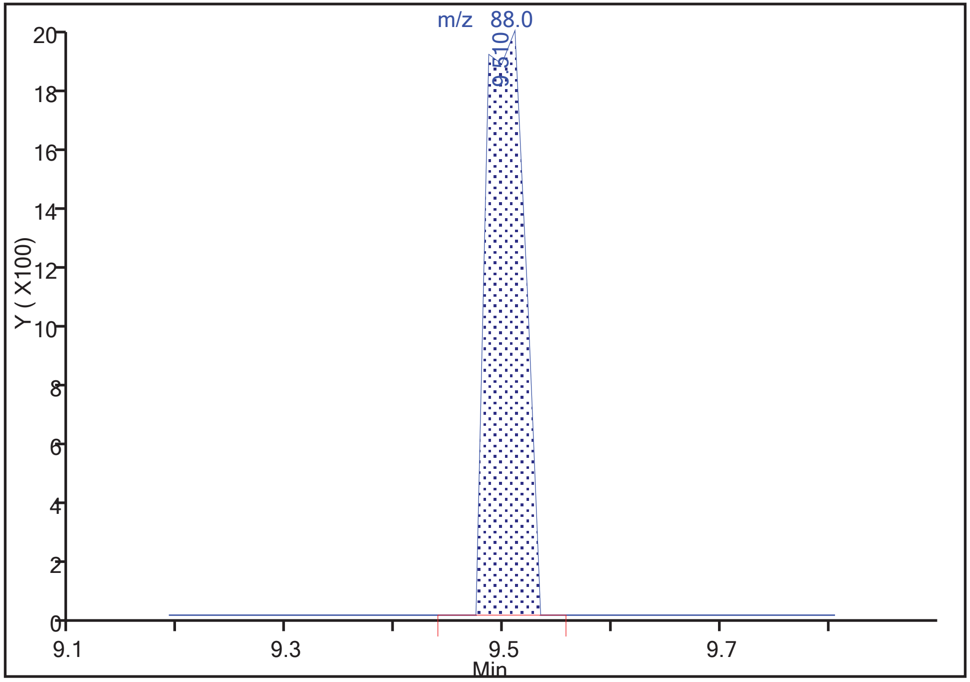
RT: 9.51

Area: 4783

Amount: 201.9684

Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 18-Sep-2017 16:53:13

Audit Action: Manually Integrated Audit Reason: Missed Peak

Report Date: 18-Sep-2017 21:38:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8778.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 15-Sep-2017 00:35:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011418-007
Misc. Info.: IC
Operator ID: JDH Instrument ID: VMSX
Sublist: chrom-5mL-8260-MSX*sub15

Method: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 18-Sep-2017 21:38:49 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK025

First Level Reviewer: hannj Date: 18-Sep-2017 16:55:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.889	1.889	0.000	99	178308	20.0	20.0	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.043	2.043	0.000	99	74245	20.0	18.1	
3 Chloromethane	50	2.091	2.091	0.000	99	230416	20.0	20.0	
4 Vinyl chloride	62	2.197	2.197	0.000	98	184101	20.0	20.4	
121 Butadiene	39	2.221	2.221	0.000	88	159396	20.0	21.1	
5 Bromomethane	94	2.576	2.576	0.000	91	74412	20.0	21.4	
6 Chloroethane	64	2.753	2.741	0.012	98	70341	20.0	21.1	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	98	191003	20.0	20.5	
122 Dichlorofluoromethane	67	3.014	3.013	0.001	97	170493	20.0	19.6	
8 Ethyl ether	74	3.357	3.357	0.000	93	68468	20.0	19.5	
10 Carbon disulfide	76	3.617	3.605	0.012	99	522123	20.0	19.9	
11 Ethanol	45	3.605	3.605	0.000	28	31629	800.0	797.8	
9 1,1-Dichloroethene	96	3.605	3.605	0.000	95	152118	20.0	19.6	
12 1,1,2-Trichloro-1,2,2-trif	151	3.712	3.712	0.000	94	112658	20.0	19.9	
13 Iodomethane	142	3.795	3.794	0.001	97	192389	20.0	19.7	
14 Acrolein	56	4.150	4.138	0.012	98	47968	100.0	91.3	
15 3-Chloro-1-propene	39	4.351	4.351	0.000	92	151613	20.0	19.6	
16 Isopropyl alcohol	45	4.505	4.493	0.012	93	33075	200.0	186.5	
17 Methylene Chloride	84	4.528	4.528	0.000	94	142932	20.0	19.9	
18 Acetone	43	4.647	4.646	0.001	99	20413	20.0	19.6	
19 trans-1,2-Dichloroethene	96	4.789	4.788	0.001	99	157583	20.0	19.6	
20 Methyl acetate	74	4.871	4.871	0.000	96	20579	100.0	100.6	
21 Hexane	86	4.942	4.942	0.000	88	48783	20.0	19.9	
22 Methyl tert-butyl ether	73	5.013	5.013	0.000	1	214132	20.0	19.1	
23 2-Methyl-2-propanol	59	5.238	5.238	0.000	93	49252	200.0	182.3	
24 Acetonitrile	41	5.380	5.380	0.000	99	78797	200.0	200.5	
25 Isopropyl ether	45	5.641	5.640	0.000	93	369376	20.0	18.6	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	91	254453	20.0	20.1	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	96	283019	20.0	20.2	
S 26 1,2-Dichloroethene, Total	96				0			39.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	5.865	5.865	0.000	99	245045	200.0	198.1	
30 Tert-butyl ethyl ether	59	6.185	6.185	0.000	96	286058	20.0	18.4	
31 Vinyl acetate	43	6.208	6.197	0.011	98	183196	20.0	19.6	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	79	154739	20.0	20.1	
33 2,2-Dichloropropane	77	6.705	6.694	0.011	93	138787	20.0	19.7	
34 Cyclohexane	84	6.800	6.800	0.000	91	259462	20.0	20.7	
35 Chlorobromomethane	128	6.824	6.824	0.000	96	55071	20.0	19.9	
36 Chloroform	83	6.954	6.954	0.000	94	241202	20.0	19.5	
37 Carbon tetrachloride	117	7.096	7.096	0.000	98	181565	20.0	19.4	
38 Tetrahydrofuran	71	7.167	7.167	0.000	84	11413	40.0	37.1	
39 Ethyl acetate	45	7.179	7.179	0.000	97	20820	40.0	42.0	
40 1,1,1-Trichloroethane	97	7.202	7.202	0.000	98	217587	20.0	20.1	
$ 41 Dibromofluoromethane (Surr	113	7.202	7.202	0.000	93	120704	20.0	19.8	
42 1,1-Dichloropropene	75	7.380	7.368	0.012	96	202035	20.0	19.7	
43 2-Butanone (MEK)	43	7.404	7.404	0.000	98	27552	20.0	19.7	
124 Isooctane	57	7.546	7.546	0.000	96	670602	20.0	20.4	
44 Benzene	78	7.699	7.699	0.000	96	662526	20.0	21.2	
117 n-Heptane	43	7.699	7.699	0.000	70	296883	20.0	20.6	
45 Propionitrile	54	7.770	7.770	0.000	95	94745	200.0	205.2	
46 Methacrylonitrile	41	7.794	7.794	0.000	92	436485	200.0	203.8	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.889	0.000	92	112806	20.0	19.1	
48 Tert-amyl methyl ether	73	7.901	7.900	0.001	96	218542	20.0	19.0	
49 1,2-Dichloroethane	62	7.972	7.983	-0.011	97	136987	20.0	19.7	
50 Isobutyl alcohol	42	8.102	8.102	0.000	90	36247	500.0	456.0	
* 51 Fluorobenzene	96	8.256	8.255	0.001	99	1514298	50.0	50.0	
52 Methylcyclohexane	55	8.445	8.445	0.000	90	256919	20.0	20.4	
53 Trichloroethene	95	8.469	8.468	0.001	99	170618	20.0	20.6	
54 n-Butanol	56	8.989	8.989	0.000	97	33407	500.0	483.4	
55 Dibromomethane	93	9.001	9.001	0.000	95	57637	20.0	19.9	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	92	130220	20.0	19.0	
57 Dichlorobromomethane	83	9.226	9.226	0.000	99	162000	20.0	19.8	
123 Ethyl acrylate	55	9.226	9.226	0.000	60	73320	20.0	17.8	
58 Methyl methacrylate	69	9.474	9.474	0.000	93	84649	40.0	36.0	
59 1,4-Dioxane	88	9.498	9.498	0.000	1	11520	400.0	378.6	M
60 2-Chloroethyl vinyl ether	63	9.971	9.983	-0.012	1	3239	20.0	9.77	
61 cis-1,3-Dichloropropene	75	10.031	10.030	0.001	95	163328	20.0	18.1	
$ 62 Toluene-d8 (Surr)	98	10.255	10.255	0.000	94	544644	20.0	19.9	
63 Toluene	92	10.315	10.314	0.000	98	400274	20.0	20.4	
64 2-Nitropropane	43	10.622	10.622	0.000	94	26591	40.0	34.5	
65 Tetrachloroethene	164	10.764	10.776	-0.012	95	115918	20.0	19.2	
66 4-Methyl-2-pentanone (MIBK	43	10.811	10.811	0.000	96	53752	20.0	18.0	
67 trans-1,3-Dichloropropene	75	10.835	10.835	0.000	94	135709	20.0	18.5	
68 1,1,2-Trichloroethane	83	11.013	11.013	0.000	89	71745	20.0	18.7	
69 Ethyl methacrylate	69	11.048	11.048	0.000	66	80587	20.0	17.3	
70 Chlorodibromomethane	129	11.202	11.202	0.000	90	86537	20.0	18.6	
71 1,3-Dichloropropane	76	11.308	11.308	0.000	92	149123	20.0	19.2	
72 Ethylene Dibromide	107	11.439	11.439	0.000	99	71058	20.0	18.7	
S 73 1,3-Dichloropropene, Total	75				0			36.6	
118 n-Butyl acetate	43	11.640	11.640	0.000	96	76988	20.0	18.9	
74 2-Hexanone	43	11.723	11.723	0.000	97	36976	20.0	18.2	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	87	947818	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	94	269899	20.0	20.5	

Report Date: 18-Sep-2017 21:38:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8778.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.007	12.007	0.001	97	396925	20.0	20.2	
78 Ethylbenzene	91	12.042	12.042	0.000	98	756468	20.0	20.4	
79 1,1,1,2-Tetrachloroethane	131	12.078	12.078	0.000	94	110585	20.0	18.9	
80 m-Xylene & p-Xylene	106	12.196	12.196	0.000	97	270669	20.0	19.9	
82 o-Xylene	106	12.610	12.610	0.000	97	237415	20.0	19.1	
83 Styrene	104	12.669	12.669	0.000	94	392160	20.0	20.8	
84 Bromoform	173	12.681	12.681	0.000	95	41245	20.0	19.4	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	678683	20.0	20.4	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	85	164293	20.0	19.0	
87 Bromobenzene	156	13.273	13.273	0.000	94	129994	20.0	20.1	
88 N-Propylbenzene	91	13.308	13.308	0.000	98	862464	20.0	20.8	
89 1,1,2,2-Tetrachloroethane	83	13.379	13.379	0.000	94	90485	20.0	19.5	
90 2-Chlorotoluene	91	13.450	13.438	0.012	96	479063	20.0	20.2	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	95	551165	20.0	21.0	
92 1,2,3-Trichloropropane	110	13.498	13.497	0.001	83	25826	20.0	20.1	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	84	24080	20.0	18.8	
94 Cyclohexanone	55	13.533	13.533	0.000	69	17859	200.0	167.0	
95 4-Chlorotoluene	91	13.592	13.592	0.000	98	478882	20.0	20.0	
96 tert-Butylbenzene	119	13.782	13.781	0.001	94	464839	20.0	20.6	
97 1,2,4-Trimethylbenzene	105	13.841	13.841	0.000	97	541277	20.0	20.8	
98 sec-Butylbenzene	105	13.935	13.935	0.000	94	766073	20.0	20.6	
99 4-Isopropyltoluene	119	14.066	14.065	0.001	97	591686	20.0	20.9	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	98	271815	20.0	20.0	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.196	0.000	95	403776	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.208	14.207	0.001	95	262981	20.0	20.2	
119 1,2,3-Trimethylbenzene	105	14.219	14.231	-0.012	98	493788	20.0	20.3	
103 n-Butylbenzene	134	14.432	14.432	0.000	96	155282	20.0	21.0	
120 Benzyl chloride	126	14.432	14.432	0.000	89	27256	20.0	19.8	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	97	223406	20.0	20.2	
105 1,2-Dibromo-3-Chloropropan	157	15.273	15.272	0.000	81	10947	20.0	21.0	
107 1,3,5-Trichlorobenzene	180	15.296	15.284	0.012	96	184608	20.0	21.2	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	55	43149	20.0	18.9	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	97	84749	20.0	21.0	
109 1,2,4-Trichlorobenzene	180	15.840	15.840	0.000	94	128807	20.0	20.6	
110 Naphthalene	128	16.113	16.113	0.000	97	188026	20.0	18.8	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	95	108626	20.0	20.7	
S 112 Xylenes, Total	106				0			39.0	
S 113 Trihalomethanes, Total	1				0			77.2	

QC Flag Legend

Review Flags
M - Manually Integrated

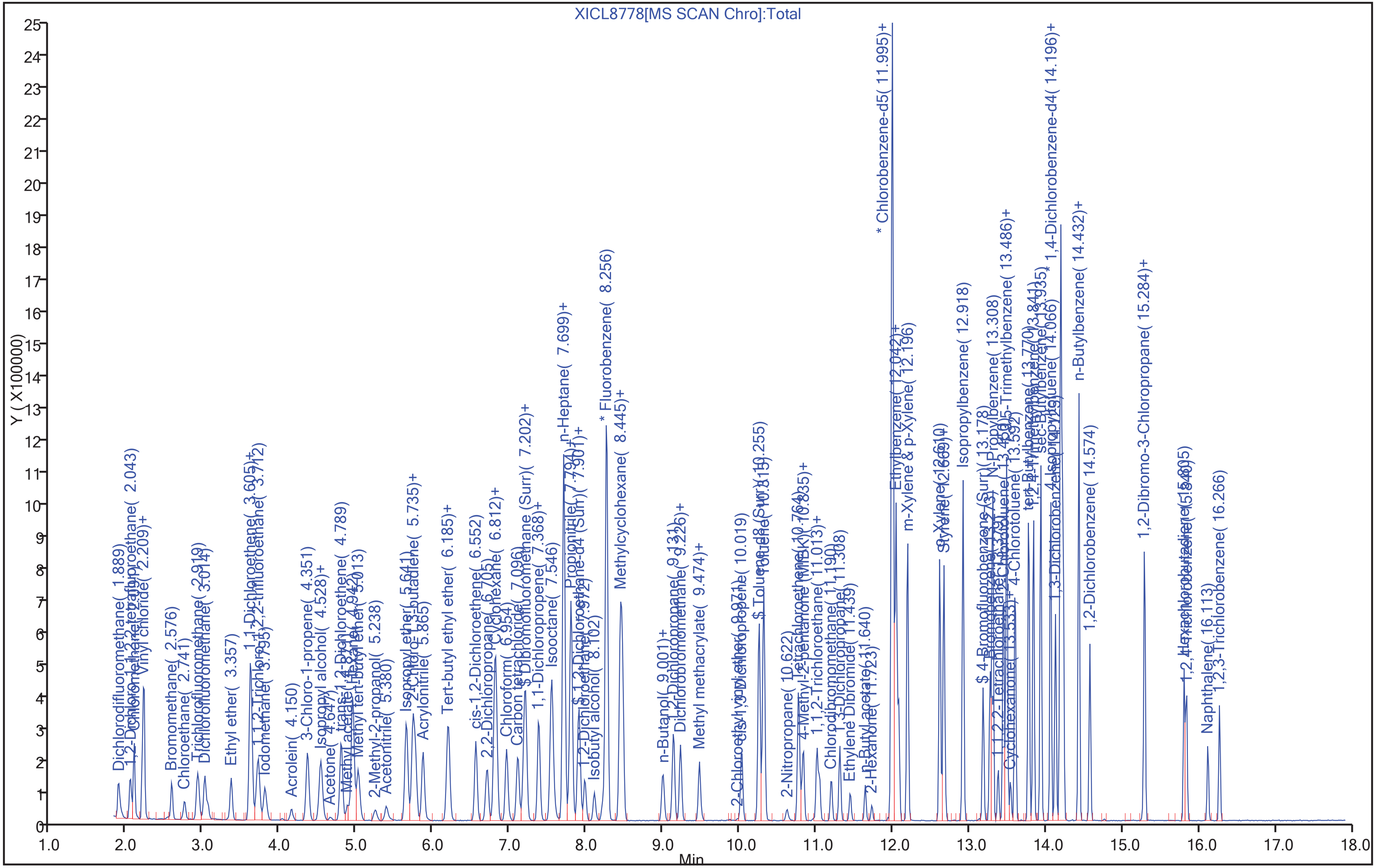
Reagents:

8260 Surr 25_00079	Amount Added: 4.00	Units: uL	
8260 NewWkMix_00236	Amount Added: 4.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Sep-2017 21:38:54　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8778.D
Injection Date: 15-Sep-2017 00:35:30　　Instrument ID: VMSX　　Operator ID: JDH
Lims ID: IC　　Worklist Smp#: 7
Client ID:
Purge Vol: 5.000 mL　　Dil. Factor: 1.0000　　ALS Bottle#: 6
Method: 5mL-8260-MSX　　Limit Group: MSV-8260_DoD



TestAmerica St. Louis

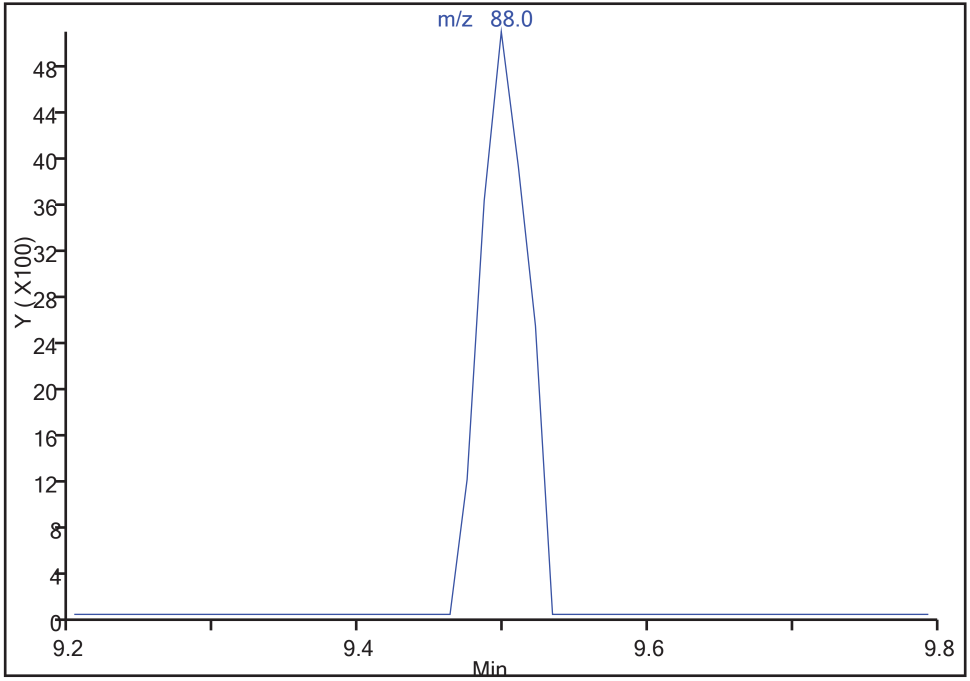
Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8778.D				
Injection Date:	15-Sep-2017 00:35:30	Instrument ID:	VMSX		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	6	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

59 1,4-Dioxane, CAS: 123-91-1

Signal: 1

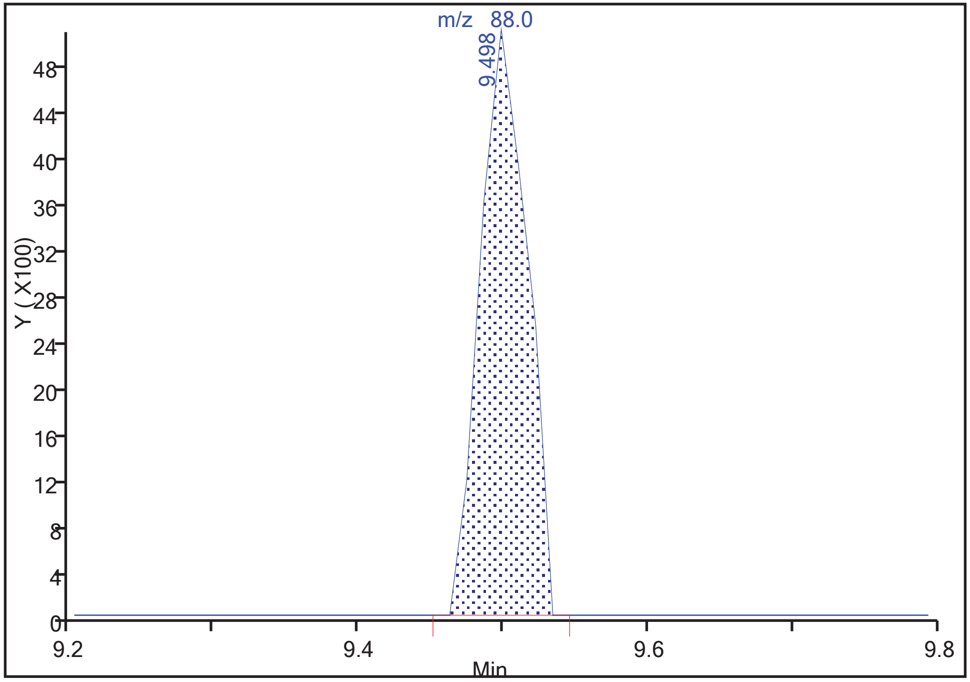
Not Detected
Expected RT: 9.50

Processing Integration Results



RT: 9.50
Area: 11520
Amount: 378.5946
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 18-Sep-2017 16:54:34
Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8778.D				
Injection Date:	15-Sep-2017 00:35:30	Instrument ID:	VMSX		
Lims ID:	IC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	6	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

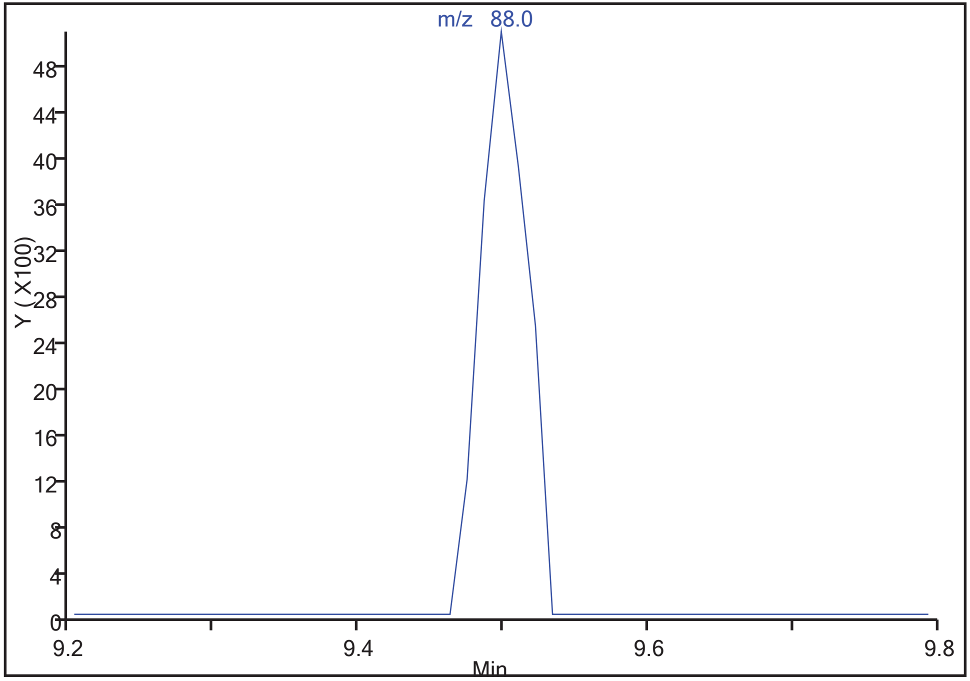
59 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Not Detected

Expected RT: 9.50

Processing Integration Results



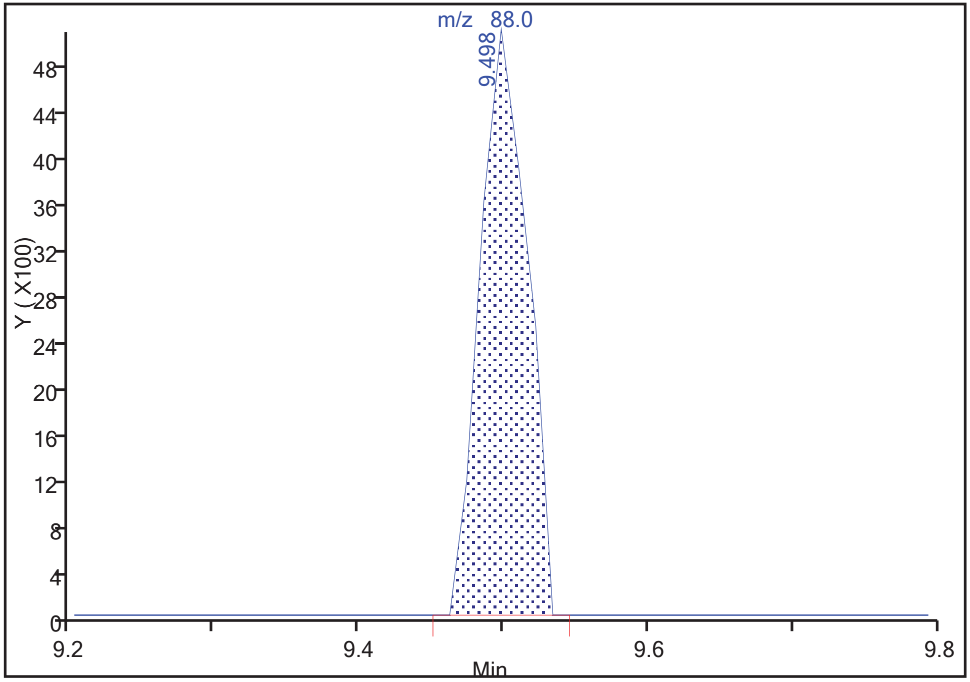
RT: 9.50

Area: 11520

Amount: 378.5946

Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 18-Sep-2017 16:54:42

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8779.D				
Lims ID:	ICIS				
Client ID:					
Sample Type:	ICIS	Calib Level:	6		
Inject. Date:	15-Sep-2017 01:00:30	ALS Bottle#:	7	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011418-008				
Misc. Info.:	ICIS				
Operator ID:	JDH	Instrument ID:	VMSX		
Sublist:	chrom-5mL-8260-MSX*sub15				
Method:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	18-Sep-2017 21:43:32	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK025				
First Level Reviewer: hannj		Date:	18-Sep-2017 21:43:32		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.889	1.889	0.000	99	476813	50.0	51.0	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.043	2.043	0.000	99	200091	50.0	46.6	
3 Chloromethane	50	2.091	2.091	0.000	99	604563	50.0	50.1	
4 Vinyl chloride	62	2.197	2.197	0.000	98	465546	50.0	49.1	
121 Butadiene	39	2.221	2.221	0.000	89	406962	50.0	51.4	
5 Bromomethane	94	2.576	2.576	0.000	92	171737	50.0	47.2	
6 Chloroethane	64	2.741	2.741	0.000	99	162433	50.0	46.5	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	98	486599	50.0	49.9	
122 Dichlorofluoromethane	67	3.013	3.013	0.000	97	444474	50.0	48.7	
8 Ethyl ether	74	3.357	3.357	0.000	92	184229	50.0	50.1	
10 Carbon disulfide	76	3.605	3.605	0.000	99	1387016	50.0	50.5	
11 Ethanol	45	3.605	3.605	0.000	26	87940	2000.0	1988.0	
9 1,1-Dichloroethene	96	3.605	3.605	0.000	97	411917	50.0	50.6	
12 1,1,2-Trichloro-1,2,2-trif	151	3.712	3.712	0.000	94	289107	50.0	48.8	
13 Iodomethane	142	3.794	3.794	0.000	97	516842	50.0	50.4	
14 Acrolein	56	4.138	4.138	0.000	99	144890	250.0	237.1	
15 3-Chloro-1-propene	39	4.351	4.351	0.000	93	427097	50.0	52.6	
16 Isopropyl alcohol	45	4.493	4.493	0.000	96	96973	500.0	470.4	
17 Methylene Chloride	84	4.528	4.528	0.000	94	372705	50.0	49.5	
18 Acetone	43	4.646	4.646	0.000	100	54228	50.0	49.6	
19 trans-1,2-Dichloroethene	96	4.788	4.788	0.000	99	433501	50.0	51.5	
20 Methyl acetate	74	4.871	4.871	0.000	97	58841	250.0	258.4	
21 Hexane	86	4.942	4.942	0.000	88	140770	50.0	54.7	
22 Methyl tert-butyl ether	73	5.013	5.013	0.000	94	616607	50.0	52.4	
23 2-Methyl-2-propanol	59	5.238	5.238	0.000	95	145025	500.0	454.4	
24 Acetonitrile	41	5.380	5.380	0.000	100	220058	500.0	534.1	
25 Isopropyl ether	45	5.640	5.640	0.000	95	1120237	50.0	49.2	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	92	725289	50.0	54.7	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	96	733911	50.0	50.0	
29 Acrylonitrile	53	5.865	5.865	0.000	99	676749	500.0	522.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59	6.185	6.185	0.000	97	876182	50.0	49.2	
31 Vinyl acetate	43	6.197	6.197	0.000	98	533556	50.0	54.5	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	79	440738	50.0	54.5	
33 2,2-Dichloropropane	77	6.694	6.694	0.000	92	382771	50.0	51.8	
34 Cyclohexane	84	6.800	6.800	0.000	89	717268	50.0	54.6	
35 Chlorobromomethane	128	6.824	6.824	0.000	97	148914	50.0	51.4	
36 Chloroform	83	6.954	6.954	0.000	94	643880	50.0	49.6	
37 Carbon tetrachloride	117	7.096	7.096	0.000	97	488830	50.0	49.9	
38 Tetrahydrofuran	71	7.167	7.167	0.000	87	39052	100.0	102.0	
39 Ethyl acetate	45	7.179	7.179	0.000	98	55817	100.0	104.2	
40 1,1,1-Trichloroethane	97	7.202	7.202	0.000	98	580636	50.0	51.1	
$ 41 Dibromofluoromethane (Surr	113	7.202	7.202	0.000	92	317325	50.0	49.7	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	97	584785	50.0	54.4	
43 2-Butanone (MEK)	43	7.404	7.404	0.000	99	81378	50.0	55.5	
124 Isooctane	57	7.546	7.546	0.000	96	1842510	50.0	53.5	
44 Benzene	78	7.699	7.699	0.000	96	1681513	50.0	51.3	
117 n-Heptane	43	7.699	7.699	0.000	72	812810	50.0	53.9	
45 Propionitrile	54	7.770	7.770	0.000	95	246677	500.0	509.7	
46 Methacrylonitrile	41	7.794	7.794	0.000	92	1153296	500.0	513.7	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.889	0.000	96	301998	50.0	48.7	
48 Tert-amyl methyl ether	73	7.900	7.900	0.000	96	647633	50.0	53.6	
49 1,2-Dichloroethane	62	7.983	7.983	0.000	97	364727	50.0	50.0	
50 Isobutyl alcohol	42	8.102	8.102	0.000	93	111585	1250.0	1191.9	
* 51 Fluorobenzene	96	8.255	8.255	0.000	99	1587478	50.0	50.0	
52 Methylcyclohexane	55	8.445	8.445	0.000	90	699069	50.0	52.9	
53 Trichloroethene	95	8.468	8.468	0.000	99	443942	50.0	51.2	
54 n-Butanol	56	8.989	8.989	0.000	91	110225	1250.0	1138.9	
55 Dibromomethane	93	9.001	9.001	0.000	96	157291	50.0	51.7	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	96	374781	50.0	52.3	
57 Dichlorobromomethane	83	9.226	9.226	0.000	99	440963	50.0	51.5	
123 Ethyl acrylate	55	9.226	9.226	0.000	98	243322	50.0	48.9	
58 Methyl methacrylate	69	9.474	9.474	0.000	93	282926	100.0	100.5	
59 1,4-Dioxane	88	9.498	9.498	0.000	84	37602	1000.0	1024.2	
60 2-Chloroethyl vinyl ether	63	9.983	9.983	0.000	89	15887	50.0	45.7	
61 cis-1,3-Dichloropropene	75	10.030	10.030	0.000	96	515600	50.0	49.0	
$ 62 Toluene-d8 (Surr)	98	10.255	10.255	0.000	93	1498678	50.0	52.0	
63 Toluene	92	10.314	10.314	0.000	98	1052584	50.0	50.2	
64 2-Nitropropane	43	10.622	10.622	0.000	98	83955	100.0	96.3	
65 Tetrachloroethene	164	10.776	10.776	0.000	95	320366	50.0	50.3	
66 4-Methyl-2-pentanone (MIBK	43	10.811	10.811	0.000	97	165455	50.0	46.6	
67 trans-1,3-Dichloropropene	75	10.835	10.835	0.000	93	400143	50.0	47.3	
68 1,1,2-Trichloroethane	83	11.013	11.013	0.000	89	195692	50.0	48.5	
69 Ethyl methacrylate	69	11.048	11.048	0.000	83	270504	50.0	45.8	
70 Chlorodibromomethane	129	11.202	11.202	0.000	91	241368	50.0	49.2	
71 1,3-Dichloropropane	76	11.308	11.308	0.000	91	420143	50.0	51.4	
72 Ethylene Dibromide	107	11.439	11.439	0.000	99	205162	50.0	51.1	
118 n-Butyl acetate	43	11.640	11.640	0.000	97	276178	50.0	44.9	
74 2-Hexanone	43	11.723	11.723	0.000	95	115988	50.0	46.3	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	87	998654	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	84	712087	50.0	51.2	
77 Chlorobenzene	112	12.007	12.007	0.000	98	1017147	50.0	49.1	
78 Ethylbenzene	91	12.042	12.042	0.000	96	2004246	50.0	51.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
79 1,1,1,2-Tetrachloroethane	131	12.078	12.078	0.000	95	297891	50.0	48.3	
80 m-Xylene & p-Xylene	106	12.196	12.196	0.000	97	738541	50.0	50.7	
82 o-Xylene	106	12.610	12.610	0.000	98	668765	50.0	49.7	
83 Styrene	104	12.669	12.669	0.000	95	1059919	50.0	53.4	
84 Bromoform	173	12.681	12.681	0.000	97	111971	50.0	53.9	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	1857613	50.0	57.3	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	84	449864	50.0	53.3	
87 Bromobenzene	156	13.273	13.273	0.000	95	345269	50.0	54.7	
88 N-Propylbenzene	91	13.308	13.308	0.000	98	2264941	50.0	56.0	
89 1,1,2,2-Tetrachloroethane	83	13.379	13.379	0.000	94	229729	50.0	50.8	
90 2-Chlorotoluene	91	13.438	13.438	0.000	96	1250015	50.0	54.2	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	1392047	50.0	54.5	
92 1,2,3-Trichloropropane	110	13.497	13.497	0.000	78	64838	50.0	51.9	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	87	67041	50.0	49.0	
94 Cyclohexanone	55	13.533	13.533	0.000	70	51095	500.0	424.1	
95 4-Chlorotoluene	91	13.592	13.592	0.000	98	1265202	50.0	54.3	
96 tert-Butylbenzene	119	13.781	13.781	0.000	93	1236651	50.0	56.3	
97 1,2,4-Trimethylbenzene	105	13.841	13.841	0.000	97	1390783	50.0	54.8	
98 sec-Butylbenzene	105	13.935	13.935	0.000	94	1960994	50.0	54.2	
99 4-Isopropyltoluene	119	14.065	14.065	0.000	97	1551794	50.0	56.2	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	98	677834	50.0	51.3	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.196	0.000	94	393312	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.207	14.207	0.000	94	642119	50.0	50.7	
119 1,2,3-Trimethylbenzene	105	14.231	14.231	0.000	98	1224985	50.0	51.6	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	397531	50.0	55.2	
120 Benzyl chloride	126	14.432	14.432	0.000	89	72634	50.0	54.2	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	559152	50.0	51.9	
105 1,2-Dibromo-3-Chloropropan	157	15.272	15.272	0.000	85	26272	50.0	46.9	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	97	461346	50.0	54.4	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	58	123997	50.0	48.4	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	204763	50.0	52.0	
109 1,2,4-Trichlorobenzene	180	15.840	15.840	0.000	93	345410	50.0	56.8	
110 Naphthalene	128	16.113	16.113	0.000	97	564340	50.0	52.4	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	96	286434	50.0	56.2	

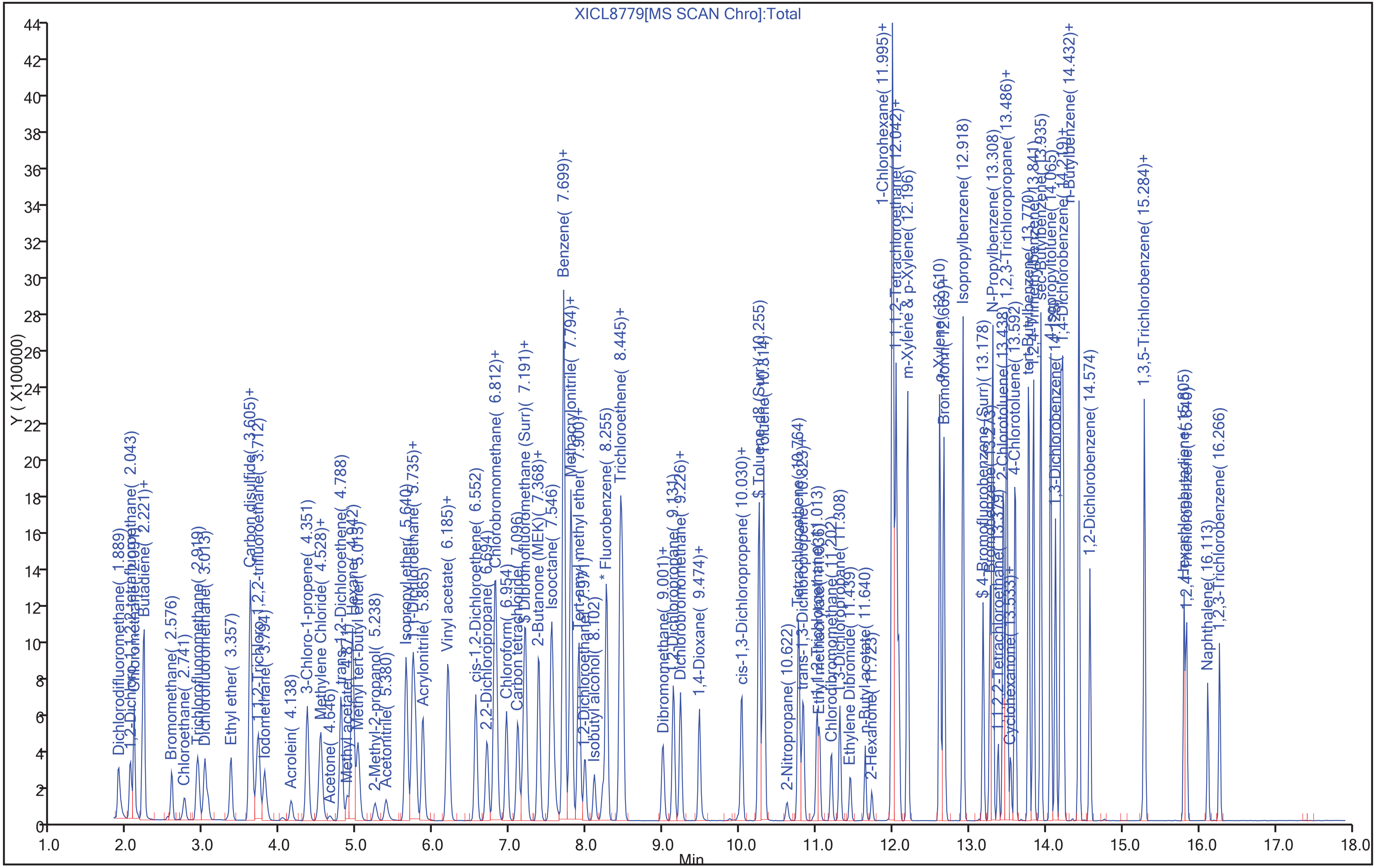
Reagents:

8260 Surr 25_00079	Amount Added: 10.00	Units: uL	
8260 NewWkMix_00236	Amount Added: 10.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Sep-2017 21:43:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8779.D				
Injection Date:	15-Sep-2017 01:00:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	ICIS			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8780.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	15-Sep-2017 01:25:30	ALS Bottle#:	8	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011418-009				
Misc. Info.:	IC				
Operator ID:	JDH	Instrument ID:	VMSX		
Sublist:	chrom-5mL-8260-MSX*sub15				
Method:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	18-Sep-2017 21:38:57	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK025				
First Level Reviewer: hannj		Date:	18-Sep-2017 16:56:19		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.889	1.889	0.000	99	904088	100.0	95.1	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.043	2.043	0.000	99	520620	100.0	119.1	
3 Chloromethane	50	2.091	2.091	-0.001	99	1155387	100.0	94.1	
4 Vinyl chloride	62	2.197	2.197	0.000	98	899503	100.0	93.2	
121 Butadiene	39	2.209	2.221	-0.012	89	703739	100.0	87.3	
5 Bromomethane	94	2.576	2.576	0.000	92	339854	100.0	91.8	
6 Chloroethane	64	2.741	2.741	0.000	99	295902	100.0	83.3	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	99	920110	100.0	92.7	
122 Dichlorofluoromethane	67	3.013	3.013	0.000	97	917735	100.0	98.7	
8 Ethyl ether	74	3.357	3.357	0.000	92	386802	100.0	103.5	
9 1,1-Dichloroethene	96	3.605	3.605	0.000	96	853714	100.0	103.0	
11 Ethanol	45	3.605	3.605	0.000	26	187061	4000.0	4071.1	
10 Carbon disulfide	76	3.605	3.605	0.000	99	2756424	100.0	98.6	
12 1,1,2-Trichloro-1,2,2-trif	151	3.712	3.712	0.000	95	593639	100.0	98.5	
13 Iodomethane	142	3.794	3.794	0.000	97	1091905	100.0	104.6	
14 Acrolein	56	4.138	4.138	0.000	99	327149	500.0	509.4	
15 3-Chloro-1-propene	39	4.351	4.351	0.000	93	896971	100.0	108.6	
16 Isopropyl alcohol	45	4.504	4.493	0.011	98	215442	1000.0	993.2	
17 Methylene Chloride	84	4.528	4.528	0.000	95	735842	100.0	96.1	
18 Acetone	43	4.646	4.646	0.000	100	101810	100.0	91.5	
19 trans-1,2-Dichloroethene	96	4.788	4.788	0.000	99	904740	100.0	105.5	
20 Methyl acetate	74	4.871	4.871	0.000	98	117962	500.0	500.2	
21 Hexane	86	4.942	4.942	0.000	87	287989	100.0	110.0	
22 Methyl tert-butyl ether	73	5.013	5.013	0.000	93	1288905	100.0	107.7	
23 2-Methyl-2-propanol	59	5.238	5.238	0.000	96	329754	1000.0	976.1	
24 Acetonitrile	41	5.380	5.380	0.000	99	427479	1000.0	1019.6	
25 Isopropyl ether	45	5.640	5.640	0.000	95	2372359	100.0	99.8	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	92	1441541	100.0	106.7	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	96	1426852	100.0	95.5	
S 26 1,2-Dichloroethene, Total	96				0			213.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	5.865	5.865	0.000	99	1358496	1000.0	1029.6	
30 Tert-butyl ethyl ether	59	6.185	6.185	0.000	98	1845097	100.0	99.3	
31 Vinyl acetate	43	6.197	6.197	0.000	97	1120711	100.0	112.4	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	79	886969	100.0	107.7	
33 2,2-Dichloropropane	77	6.694	6.694	0.000	91	759038	100.0	100.9	
34 Cyclohexane	84	6.800	6.800	0.000	90	1399614	100.0	104.6	
35 Chlorobromomethane	128	6.824	6.824	0.000	96	283198	100.0	96.0	
36 Chloroform	83	6.954	6.954	0.000	94	1292958	100.0	97.9	
37 Carbon tetrachloride	117	7.096	7.096	0.000	98	1008935	100.0	101.2	
38 Tetrahydrofuran	71	7.167	7.167	0.000	92	81284	200.0	199.9	
39 Ethyl acetate	45	7.179	7.179	0.000	99	113063	200.0	205.4	
$ 41 Dibromofluoromethane (Surr	113	7.202	7.202	0.000	93	625168	100.0	96.1	
40 1,1,1-Trichloroethane	97	7.202	7.202	0.000	98	1154878	100.0	99.8	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	97	1176304	100.0	107.6	
43 2-Butanone (MEK)	43	7.392	7.404	-0.012	100	162419	100.0	108.8	
124 Isooctane	57	7.545	7.546	-0.001	96	3660317	100.0	104.4	
117 n-Heptane	43	7.699	7.699	0.000	73	1533995	100.0	99.9	
44 Benzene	78	7.699	7.699	0.000	97	3144135	100.0	94.3	
45 Propionitrile	54	7.770	7.770	0.000	95	482963	1000.0	980.6	
46 Methacrylonitrile	41	7.794	7.794	0.000	92	2264386	1000.0	991.1	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.889	0.000	97	599291	100.0	95.0	
48 Tert-amyl methyl ether	73	7.900	7.900	0.000	97	1329415	100.0	108.2	
49 1,2-Dichloroethane	62	7.971	7.983	-0.012	97	721204	100.0	97.1	
50 Isobutyl alcohol	42	8.102	8.102	0.000	94	243015	2500.0	2464.2	
* 51 Fluorobenzene	96	8.255	8.255	0.000	99	1615501	50.0	50.0	
52 Methylcyclohexane	55	8.445	8.445	0.000	89	1334287	100.0	99.1	
53 Trichloroethene	95	8.468	8.468	0.000	98	832988	100.0	94.4	
54 n-Butanol	56	8.989	8.989	0.000	90	258969	2500.0	2396.1	
55 Dibromomethane	93	9.001	9.001	0.000	96	308971	100.0	99.9	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	96	773399	100.0	106.0	
123 Ethyl acrylate	55	9.226	9.226	0.000	98	520306	100.0	98.9	
57 Dichlorobromomethane	83	9.226	9.226	0.000	99	882934	100.0	101.3	
58 Methyl methacrylate	69	9.474	9.474	0.000	93	596274	200.0	201.1	
59 1,4-Dioxane	88	9.498	9.498	0.000	85	80858	2000.0	2082.7	
60 2-Chloroethyl vinyl ether	63	9.983	9.983	0.000	93	43598	100.0	123.2	
61 cis-1,3-Dichloropropene	75	10.019	10.030	-0.011	96	1110060	100.0	100.7	
$ 62 Toluene-d8 (Surr)	98	10.255	10.255	0.000	93	2916915	100.0	104.8	
63 Toluene	92	10.314	10.314	0.000	98	2013483	100.0	99.0	
64 2-Nitropropane	43	10.622	10.622	0.000	97	192637	200.0	204.5	
65 Tetrachloroethene	164	10.764	10.776	-0.012	94	634853	100.0	103.2	
66 4-Methyl-2-pentanone (MIBK	43	10.800	10.811	-0.011	96	348358	100.0	97.9	
67 trans-1,3-Dichloropropene	75	10.835	10.835	0.000	93	821131	100.0	97.6	
68 1,1,2-Trichloroethane	83	11.013	11.013	0.000	89	398666	100.0	102.3	
69 Ethyl methacrylate	69	11.048	11.048	0.000	83	583092	100.0	97.0	
70 Chlorodibromomethane	129	11.202	11.202	0.000	91	513886	100.0	108.4	
71 1,3-Dichloropropane	76	11.308	11.308	0.000	91	823279	100.0	104.2	
72 Ethylene Dibromide	107	11.439	11.439	-0.001	99	416097	100.0	107.4	
S 73 1,3-Dichloropropene, Total	75				0			198.3	
118 n-Butyl acetate	43	11.640	11.640	0.000	99	624518	100.0	94.1	
74 2-Hexanone	43	11.722	11.723	-0.001	96	238474	100.0	94.0	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	87	964554	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	93	1336226	100.0	99.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.006	12.007	0.000	96	1909328	100.0	95.5	
78 Ethylbenzene	91	12.042	12.042	0.000	98	3754563	100.0	99.5	
79 1,1,1,2-Tetrachloroethane	131	12.077	12.078	-0.001	95	596098	100.0	100.0	
80 m-Xylene & p-Xylene	106	12.196	12.196	0.000	97	1424281	100.0	100.6	
82 o-Xylene	106	12.610	12.610	0.000	98	1320810	100.0	100.6	
83 Styrene	104	12.669	12.669	0.000	95	2002935	100.0	104.4	
84 Bromoform	173	12.681	12.681	0.000	96	221463	100.0	106.0	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	3510704	100.0	107.5	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	83	930408	100.0	109.5	
87 Bromobenzene	156	13.273	13.273	0.000	96	662158	100.0	104.3	
88 N-Propylbenzene	91	13.308	13.308	0.000	98	4167150	100.0	102.4	
89 1,1,2,2-Tetrachloroethane	83	13.379	13.379	0.000	94	448043	100.0	98.5	
90 2-Chlorotoluene	91	13.450	13.438	0.012	96	2414378	100.0	104.0	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	95	2625163	100.0	102.1	
92 1,2,3-Trichloropropane	110	13.497	13.497	0.000	82	123792	100.0	98.4	
94 Cyclohexanone	55	13.533	13.533	0.000	76	125551	1000.0	985.8	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	89	139558	100.0	98.7	
95 4-Chlorotoluene	91	13.592	13.592	0.000	98	2407654	100.0	102.6	
96 tert-Butylbenzene	119	13.781	13.781	0.000	93	2336167	100.0	105.6	
97 1,2,4-Trimethylbenzene	105	13.841	13.841	0.000	97	2573754	100.0	100.8	
98 sec-Butylbenzene	105	13.935	13.935	0.000	94	3641858	100.0	100.0	
99 4-Isopropyltoluene	119	14.065	14.065	0.000	96	2909464	100.0	104.6	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	97	1273779	100.0	95.8	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.196	0.000	96	395929	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.207	14.207	0.000	93	1208329	100.0	94.8	
119 1,2,3-Trimethylbenzene	105	14.231	14.231	0.000	98	2338660	100.0	97.9	
120 Benzyl chloride	126	14.432	14.432	0.000	89	149308	100.0	110.6	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	747434	100.0	103.1	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	97	1070580	100.0	98.7	
105 1,2-Dibromo-3-Chloropropan	157	15.272	15.272	0.000	84	56211	100.0	96.0	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	62	257019	100.0	95.6	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	845878	100.0	99.1	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	375680	100.0	94.9	
109 1,2,4-Trichlorobenzene	180	15.840	15.840	0.000	94	646901	100.0	105.6	
110 Naphthalene	128	16.113	16.113	-0.001	97	1127266	100.0	101.3	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	95	538387	100.0	104.9	
S 112 Xylenes, Total	106				0			201.2	
S 113 Trihalomethanes, Total	1				0			413.6	

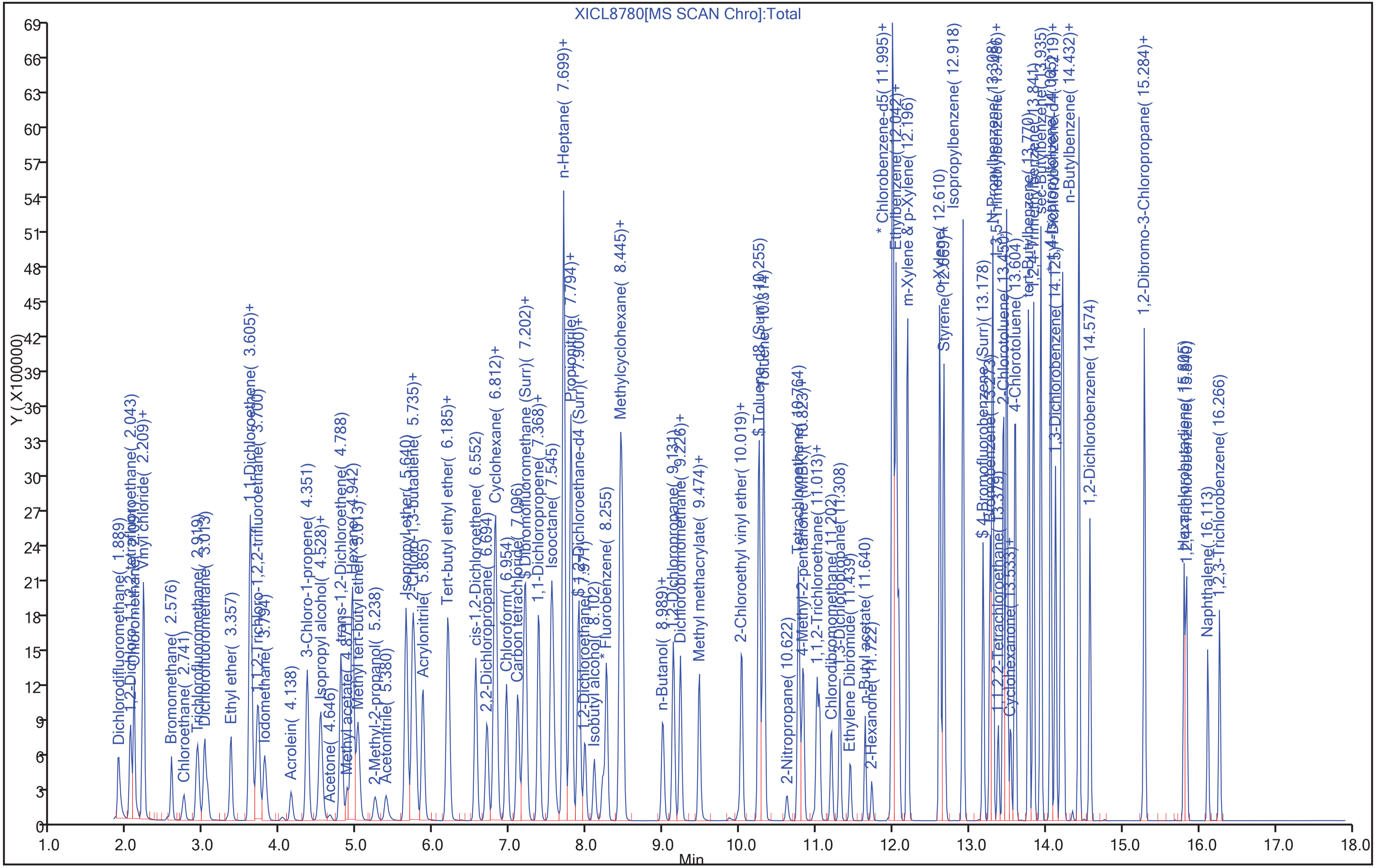
Reagents:

8260 Surr 25_00079 Amount Added: 20.00 Units: uL
8260NewHiWrk_00213 Amount Added: 4.00 Units: uL
I.S. Working_00153 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 18-Sep-2017 21:39:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8780.D				
Injection Date:	15-Sep-2017 01:25:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 15-Sep-2017 01:49:30 ALS Bottle#: 9 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011418-010
Misc. Info.: IC
Operator ID: JDH Instrument ID: VMSX
Sublist: chrom-5mL-8260-MSX*sub15

Method: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 18-Sep-2017 21:39:08 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK025

First Level Reviewer: hannj Date: 18-Sep-2017 16:57:45

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.890	1.889	0.001	100	1815577	200.0	188.4	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.043	2.043	0.000	99	1001380	200.0	226.1	
3 Chloromethane	50	2.091	2.091	0.000	99	2295470	200.0	184.6	
4 Vinyl chloride	62	2.197	2.197	0.000	98	1705869	200.0	174.5	
121 Butadiene	39	2.209	2.221	-0.012	89	1344303	200.0	164.7	
5 Bromomethane	94	2.576	2.576	0.000	92	670748	200.0	178.8	
6 Chloroethane	64	2.742	2.741	0.001	99	691583	200.0	192.2	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	99	1871063	200.0	186.1	
122 Dichlorofluoromethane	67	3.014	3.013	0.001	97	1798336	200.0	191.0	
8 Ethyl ether	74	3.357	3.357	0.000	92	783935	200.0	207.0	
10 Carbon disulfide	76	3.617	3.605	0.012	99	5209065	200.0	184.0	
11 Ethanol	45	3.605	3.605	0.000	28	374431	8000.0	7967.1	
9 1,1-Dichloroethene	96	3.605	3.605	0.000	97	1644651	200.0	195.8	
12 1,1,2-Trichloro-1,2,2-trif	151	3.712	3.712	0.000	94	1184484	200.0	194.0	
13 Iodomethane	142	3.795	3.794	0.001	98	2200068	200.0	208.1	
14 Acrolein	56	4.138	4.138	0.000	99	666905	1000.0	1011.1	
15 3-Chloro-1-propene	39	4.351	4.351	0.000	93	1813234	200.0	216.7	
16 Isopropyl alcohol	45	4.493	4.493	0.000	98	456727	2000.0	2046.9	
17 Methylene Chloride	84	4.528	4.528	0.000	95	1454384	200.0	187.5	
18 Acetone	43	4.647	4.646	0.001	100	199240	200.0	176.8	
19 trans-1,2-Dichloroethene	96	4.789	4.788	0.001	99	1776273	200.0	204.5	
20 Methyl acetate	74	4.871	4.871	0.000	98	238899	1000.0	990.6	
21 Hexane	86	4.942	4.942	0.000	88	567437	200.0	213.8	
22 Methyl tert-butyl ether	73	5.013	5.013	0.000	95	2728680	200.0	224.9	
23 2-Methyl-2-propanol	59	5.238	5.238	0.000	97	725369	2000.0	2081.8	
24 Acetonitrile	41	5.380	5.380	0.000	99	866941	2000.0	2040.8	
25 Isopropyl ether	45	5.641	5.640	0.001	95	4930569	200.0	202.2	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	92	2904134	200.0	212.2	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	97	2866923	200.0	189.4	
S 26 1,2-Dichloroethene, Total	96				0			416.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	5.865	5.865	0.000	99	2686520	2000.0	2009.6	
30 Tert-butyl ethyl ether	59	6.185	6.185	0.000	98	3869048	200.0	202.9	
31 Vinyl acetate	43	6.197	6.197	0.000	97	2287824	200.0	226.5	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	80	1770312	200.0	212.2	
33 2,2-Dichloropropane	77	6.706	6.694	0.012	91	1499570	200.0	196.7	
34 Cyclohexane	84	6.800	6.800	0.000	90	2728890	200.0	201.3	
35 Chlorobromomethane	128	6.824	6.824	0.000	95	555206	200.0	185.7	
36 Chloroform	83	6.954	6.954	0.000	94	2613800	200.0	195.3	
37 Carbon tetrachloride	117	7.108	7.096	0.012	98	2083596	200.0	206.3	
38 Tetrahydrofuran	71	7.155	7.167	-0.012	91	168438	400.0	400.0	
39 Ethyl acetate	45	7.179	7.179	0.000	98	217592	400.0	388.3	
40 1,1,1-Trichloroethane	97	7.203	7.202	0.000	98	2312065	200.0	197.3	
$ 41 Dibromofluoromethane (Surr	113	7.203	7.202	0.000	93	1335896	200.0	202.7	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	97	2355714	200.0	212.7	
43 2-Butanone (MEK)	43	7.392	7.404	-0.012	100	317764	200.0	210.1	
124 Isooctane	57	7.546	7.546	0.000	95	7279619	200.0	205.0	
44 Benzene	78	7.699	7.699	0.000	97	5966969	200.0	176.7	
117 n-Heptane	43	7.699	7.699	0.000	74	3040812	200.0	195.5	
45 Propionitrile	54	7.770	7.770	0.000	94	973400	2000.0	1950.5	
46 Methacrylonitrile	41	7.794	7.794	0.000	92	4365830	2000.0	1885.9	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.889	0.000	95	1326987	200.0	207.6	
48 Tert-amyl methyl ether	73	7.901	7.900	0.001	97	2796310	200.0	224.6	
49 1,2-Dichloroethane	62	7.983	7.983	0.000	97	1481158	200.0	196.9	
50 Isobutyl alcohol	42	8.102	8.102	0.000	95	521307	5000.0	5132.2	
* 51 Fluorobenzene	96	8.256	8.255	0.001	99	1636863	50.0	50.0	
52 Methylcyclohexane	55	8.445	8.445	0.000	90	2626602	200.0	192.6	
53 Trichloroethene	95	8.469	8.468	0.001	98	1611456	200.0	180.3	
54 n-Butanol	56	8.989	8.989	0.000	87	579470	5000.0	5076.3	
55 Dibromomethane	93	9.001	9.001	0.000	96	623790	200.0	199.0	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	97	1568891	200.0	212.3	
57 Dichlorobromomethane	83	9.226	9.226	0.000	99	1820015	200.0	206.2	
123 Ethyl acrylate	55	9.226	9.226	0.000	98	1109314	200.0	204.2	
58 Methyl methacrylate	69	9.474	9.474	0.000	92	1229643	400.0	402.4	
59 1,4-Dioxane	88	9.498	9.498	0.000	84	156526	4000.0	3912.5	
60 2-Chloroethyl vinyl ether	63	9.983	9.983	0.000	91	97911	200.0	273.1	
61 cis-1,3-Dichloropropene	75	10.031	10.030	0.001	96	2289275	200.0	202.0	
$ 62 Toluene-d8 (Surr)	98	10.255	10.255	0.000	93	5994488	200.0	225.1	
63 Toluene	92	10.315	10.314	0.001	99	3905782	200.0	200.3	
64 2-Nitropropane	43	10.610	10.622	-0.012	97	428507	400.0	399.3	
65 Tetrachloroethene	164	10.764	10.776	-0.012	94	1210625	200.0	205.8	
66 4-Methyl-2-pentanone (MIBK	43	10.800	10.811	-0.011	95	715880	200.0	206.8	
67 trans-1,3-Dichloropropene	75	10.835	10.835	0.000	93	1681972	200.0	206.2	
68 1,1,2-Trichloroethane	83	11.013	11.013	0.000	89	795777	200.0	213.4	
69 Ethyl methacrylate	69	11.048	11.048	0.000	85	1232214	200.0	209.2	
70 Chlorodibromomethane	129	11.202	11.202	0.000	91	1065187	200.0	234.8	
71 1,3-Dichloropropane	76	11.309	11.308	0.001	91	1672142	200.0	221.3	
72 Ethylene Dibromide	107	11.451	11.439	0.012	99	854496	200.0	230.5	
S 73 1,3-Dichloropropene, Total	75				0			408.2	
118 n-Butyl acetate	43	11.640	11.640	0.000	99	1362235	200.0	204.1	
74 2-Hexanone	43	11.723	11.723	0.000	95	524451	200.0	210.9	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	90	922783	50.0	50.0	
75 1-Chlorohexane	91	12.007	11.995	0.012	87	2444913	200.0	190.4	

Report Date: 18-Sep-2017 21:39:13 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.007	12.007	0.001	95	3465576	200.0	181.1	
78 Ethylbenzene	91	12.042	12.042	0.000	97	6992509	200.0	193.8	
79 1,1,1,2-Tetrachloroethane	131	12.078	12.078	0.000	95	1188747	200.0	208.5	
80 m-Xylene & p-Xylene	106	12.196	12.196	0.000	97	2707317	200.0	199.3	
82 o-Xylene	106	12.610	12.610	0.000	97	2549719	200.0	202.1	
83 Styrene	104	12.669	12.669	0.000	95	3795676	200.0	206.8	
84 Bromoform	173	12.681	12.681	0.000	96	444388	200.0	218.5	
85 Isopropylbenzene	105	12.918	12.918	0.000	97	6438144	200.0	202.5	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	82	2004020	200.0	242.2	
87 Bromobenzene	156	13.273	13.273	0.000	96	1268282	200.0	205.1	
88 N-Propylbenzene	91	13.308	13.308	0.000	97	7423445	200.0	187.4	
89 1,1,2,2-Tetrachloroethane	83	13.379	13.379	0.000	95	891784	200.0	201.4	
90 2-Chlorotoluene	91	13.450	13.438	0.012	96	4569966	200.0	202.3	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	95	4781238	200.0	191.1	
92 1,2,3-Trichloropropane	110	13.498	13.497	0.001	81	237457	200.0	193.9	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	89	284124	200.0	203.6	
94 Cyclohexanone	55	13.533	13.533	0.000	76	266709	2000.0	2110.6	
95 4-Chlorotoluene	91	13.604	13.592	0.012	98	4576250	200.0	200.3	
96 tert-Butylbenzene	119	13.782	13.781	0.001	93	4346762	200.0	201.8	
97 1,2,4-Trimethylbenzene	105	13.841	13.841	0.000	98	4821009	200.0	193.9	
98 sec-Butylbenzene	105	13.935	13.935	0.000	95	6511559	200.0	183.7	
99 4-Isopropyltoluene	119	14.066	14.065	0.001	96	5322787	200.0	196.6	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	97	2423470	200.0	187.2	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.196	0.000	95	385426	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.208	14.207	0.001	93	2257003	200.0	181.9	
119 1,2,3-Trimethylbenzene	105	14.231	14.231	0.000	98	4352877	200.0	187.3	
103 n-Butylbenzene	134	14.432	14.432	0.000	98	1381000	200.0	195.7	
120 Benzyl chloride	126	14.432	14.432	0.000	90	295098	200.0	224.6	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	2064192	200.0	195.5	
105 1,2-Dibromo-3-Chloropropan	157	15.273	15.272	0.001	85	119549	200.0	205.8	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	95	1481897	200.0	178.4	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	66	555691	200.0	207.6	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	679211	200.0	176.2	
109 1,2,4-Trichlorobenzene	180	15.841	15.840	0.001	94	1169264	200.0	196.1	
110 Naphthalene	128	16.113	16.113	0.000	98	2170322	200.0	197.8	
111 1,2,3-Trichlorobenzene	180	16.267	16.266	0.001	94	967208	200.0	193.5	
S 112 Xylenes, Total	106				0			401.5	
S 113 Trihalomethanes, Total	1				0			854.8	

Reagents:

8260NewHiWrk_00213 Amount Added: 8.00 Units: uL
8260_Surr_00051 Amount Added: 0.40 Units: uL
I.S. Working_00153 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 18-Sep-2017 21:39:13 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

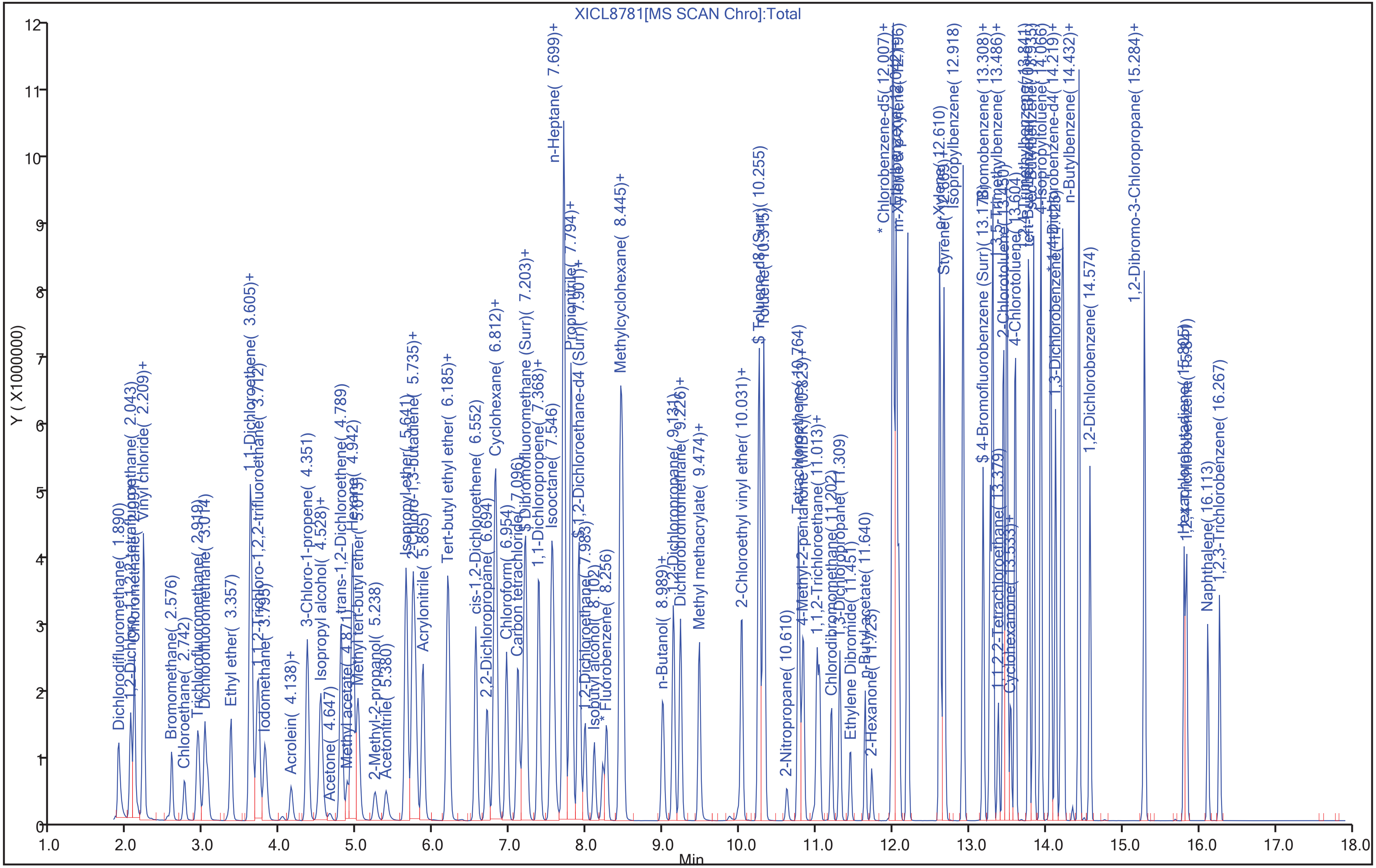
Injection Date: 15-Sep-2017 01:49:30 Instrument ID: VMSX Operator ID: JDH

Lims ID: IC Worklist Smp#: 10

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 9

Method: 5mL-8260-MSX Limit Group: MSV-8260_DoD



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-329944/13 Calibration Date: 10/03/2017 01:09

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FICV2858.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3657	0.3388	0.1000	46.3	50.0	-7.3	20.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1220	0.1342	0.0100	55.0	50.0	10.0	20.0
Chloromethane	Ave	0.6563	0.5690	0.1000	43.4	50.0	-13.3	20.0
Butadiene	Qua		0.5112	0.0100	35.0	50.0	-30.0*	20.0
Vinyl chloride	Ave	0.5827	0.4809	0.1000	41.3	50.0	-17.5	20.0
Bromomethane	LinF		0.1658	0.1000	43.7	50.0	-12.7	20.0
Chloroethane	LinF		0.1947	0.1000	44.1	50.0	-11.8	20.0
Trichlorofluoromethane	Ave	0.5084	0.4743	0.1000	46.6	50.0	-6.7	20.0
Dichlorofluoromethane	Ave	0.6470	0.6794	0.0100	52.5	50.0	5.0	20.0
Ethyl ether	Ave	0.1566	0.1704	0.0100	54.4	50.0	8.9	20.0
Ethanol	Lin1		0.0027*	0.0100	2040	2000	1.8	20.0
1,1-Dichloroethene	Ave	0.2697	0.2740	0.1000	50.8	50.0	1.6	20.0
Carbon disulfide	Ave	1.054	1.044	0.1000	49.5	50.0	-0.9	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1903	0.1943	0.1000	51.1	50.0	2.1	20.0
Iodomethane	Ave	0.3535	0.3707	0.0100	52.4	50.0	4.9	20.0
Acrolein	Ave	0.0367	0.0339	0.0010	231	250	-7.4	20.0
3-Chloro-1-propene	Ave	0.5102	0.5094	0.0100	49.9	50.0	-0.2	20.0
Isopropyl alcohol	Ave	0.0141	0.0145	0.0100	515	500	3.0	20.0
Methylene Chloride	Ave	0.3223	0.3106	0.1000	48.2	50.0	-3.6	20.0
Acetone	Lin		0.0595*	0.1000	45.3	50.0	-9.3	20.0
trans-1,2-Dichloroethene	Ave	0.3075	0.3197	0.1000	52.0	50.0	4.0	20.0
Methyl acetate	Ave	0.0110	0.0119*	0.1000	269	250	7.5	20.0
Hexane	Ave	0.0875	0.0940	0.0100	53.7	50.0	7.5	20.0
Methyl tert-butyl ether	Ave	0.6903	0.7215	0.1000	52.3	50.0	4.5	20.0
2-Methyl-2-propanol	Ave	0.0209	0.0223	0.0100	535	500	7.1	20.0
Acetonitrile	Ave	0.0266	0.0259	0.0010	486	500	-2.8	20.0
Isopropyl ether	Ave	1.183	1.316	0.0100	55.6	50.0	11.3	20.0
2-Chloro-1,3-butadiene	Ave	0.5969	0.6114	0.0100	51.2	50.0	2.4	20.0
1,1-Dichloroethane	Ave	0.6566	0.6608	0.2000	50.3	50.0	0.6	20.0
Acrylonitrile	Ave	0.0779	0.0787	0.0100	506	500	1.1	20.0
Tert-butyl ethyl ether	Ave	0.9600	1.031	0.0100	53.7	50.0	7.4	20.0
Vinyl acetate	Ave	0.6095	0.6280	0.0100	51.5	50.0	3.0	20.0
cis-1,2-Dichloroethene	Ave	0.3237	0.3337	0.1000	51.5	50.0	3.1	20.0
2,2-Dichloropropane	Ave	0.3859	0.3683	0.0100	47.7	50.0	-4.6	20.0
Bromochloromethane	Ave	0.1132	0.1122	0.0100	49.5	50.0	-0.9	20.0
Cyclohexane	Ave	0.5597	0.5624	0.1000	50.2	50.0	0.5	20.0
Chloroform	Ave	0.5697	0.5702	0.2000	50.0	50.0	0.0	20.0
Ethyl acetate	Ave	0.0286	0.0284	0.0100	99.1	100	-0.9	20.0
Carbon tetrachloride	Ave	0.3709	0.3719	0.1000	50.1	50.0	0.3	20.0
1,1,1-Trichloroethane	Ave	0.4971	0.5044	0.1000	50.7	50.0	1.5	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Lab Sample ID: ICV 160-329944/13
Calibration Date: 10/03/2017 01:09
Instrument ID: VMSF
Calib Start Date: 10/02/2017 21:02
GC Column: RTX-VMS40
ID: 0.18(mm)
Calib End Date: 10/02/2017 23:55
Lab File ID: FICV2858.D
Conc. Units: ug/L
Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Butanone (MEK)	Ave	0.0956	0.0880*	0.1000	46.1	50.0	-7.9	20.0
1,1-Dichloropropene	Ave	0.4509	0.4691	0.0100	52.0	50.0	4.0	20.0
Isooctane	Ave	1.631	1.645	0.0100	50.4	50.0	0.9	20.0
n-Heptane	Ave	0.6830	0.7088	0.0100	51.9	50.0	3.8	20.0
Benzene	Ave	1.219	1.260	0.5000	51.7	50.0	3.4	20.0
Propionitrile	Ave	0.0290	0.0302	0.0010	521	500	4.3	20.0
Methacrylonitrile	Ave	0.1496	0.1568	0.0100	524	500	4.9	20.0
Tert-amyl methyl ether	Ave	0.7797	0.8317	0.0100	53.3	50.0	6.7	20.0
Isobutyl alcohol	Ave	0.0064	0.0066	0.0010	1270	1250	2.0	20.0
1,2-Dichloroethane	Ave	0.3636	0.3638	0.1000	50.0	50.0	0.0	20.0
Methylcyclohexane	Ave	0.6305	0.6165	0.1000	48.9	50.0	-2.2	20.0
Trichloroethene	Ave	0.3165	0.3140	0.2000	49.6	50.0	-0.8	20.0
n-Butanol	Qua		0.0058*	0.0100	1260	1250	0.7	20.0
Dibromomethane	Ave	0.1255	0.1252	0.0100	49.9	50.0	-0.2	20.0
Ethyl acrylate	Lin1		0.1873	0.0100	47.1	50.0	-5.8	20.0
1,2-Dichloropropane	Ave	0.3005	0.3183	0.1000	53.0	50.0	5.9	20.0
Bromodichloromethane	Ave	0.3540	0.3613	0.2000	51.0	50.0	2.1	20.0
Methyl methacrylate	Lin1		0.1067	0.0100	95.0	100	-5.0	20.0
1,4-Dioxane	Lin1		0.0018	0.0010	1030	1000	3.1	20.0
2-Chloroethyl vinyl ether	Lin1		0.1008	0.0100	47.0	50.0	-6.0	20.0
cis-1,3-Dichloropropene	Ave	0.3693	0.4150	0.2000	56.2	50.0	12.4	20.0
Toluene	Ave	1.040	1.091	0.4000	52.4	50.0	4.8	20.0
2-Nitropropane	Lin1		0.0840	0.0100	92.9	100	-7.1	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3105	0.3051	0.1000	49.1	50.0	-1.7	20.0
Tetrachloroethene	Ave	0.2865	0.2972	0.2000	51.9	50.0	3.7	20.0
trans-1,3-Dichloropropene	Ave	0.4985	0.5168	0.1000	51.8	50.0	3.7	20.0
n-Butyl acetate	Ave	0.0614	0.0743	0.0100	60.5	50.0	20.9*	20.0
Ethyl methacrylate	Lin1		0.3427	0.0100	48.5	50.0	-3.0	20.0
1,1,2-Trichloroethane	Ave	0.2360	0.2412	0.1000	51.1	50.0	2.2	20.0
Chlorodibromomethane	Ave	0.2642	0.2802	0.1000	53.0	50.0	6.1	20.0
1,3-Dichloropropane	Ave	0.4884	0.4935	0.0100	50.5	50.0	1.1	20.0
1,2-Dibromoethane	Ave	0.2252	0.2312	0.1000	51.3	50.0	2.7	20.0
2-Hexanone	Ave	0.1818	0.1848	0.1000	50.8	50.0	1.7	20.0
1-Chlorohexane	Ave	0.5973	0.6121	0.0100	51.2	50.0	2.5	20.0
Chlorobenzene	Ave	1.086	1.112	0.5000	51.2	50.0	2.4	20.0
Ethylbenzene	Ave	2.201	2.093	0.1000	47.5	50.0	-4.9	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3828	0.3983	0.0100	52.0	50.0	4.0	20.0
m-Xylene & p-Xylene	Ave	0.7432	0.7937	0.1000	53.4	50.0	6.8	20.0
o-Xylene	Ave	0.7495	0.8075	0.3000	53.9	50.0	7.7	20.0
Styrene	Ave	1.039	1.105	0.3000	53.2	50.0	6.3	20.0
Bromoform	Lin1		0.2414	0.1000	46.3	50.0	-7.4	20.0

FORM VII 8260C DOD

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-329944/13 Calibration Date: 10/03/2017 01:09

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FICV2858.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropylbenzene	Qua		3.484	0.1000	52.0	50.0	4.0	20.0
N-Propylbenzene	Ave	4.426	4.234	0.0100	47.8	50.0	-4.3	20.0
Bromobenzene	Ave	0.6734	0.6876	0.0100	51.1	50.0	2.1	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6282	0.6195	0.3000	49.3	50.0	-1.4	20.0
1,3,5-Trimethylbenzene	Ave	3.090	3.147	0.0100	50.9	50.0	1.8	20.0
2-Chlorotoluene	Qua		3.162	0.0100	50.7	50.0	1.3	20.0
1,2,3-Trichloropropane	Ave	0.1640	0.1707	0.0100	52.0	50.0	4.1	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2043	0.2005	0.0100	49.1	50.0	-1.9	20.0
Cyclohexanone	Ave	0.0196	0.0191	0.0010	489	500	-2.3	20.0
4-Chlorotoluene	Qua		2.724	0.0100	51.8	50.0	3.7	20.0
tert-Butylbenzene	Ave	2.395	2.602	0.0100	54.3	50.0	8.6	20.0
1,2,4-Trimethylbenzene	Ave	3.228	3.163	0.0100	49.0	50.0	-2.0	20.0
sec-Butylbenzene	Ave	4.184	3.975	0.0100	47.5	50.0	-5.0	20.0
4-Isopropyltoluene	Ave	3.379	3.408	0.0100	50.4	50.0	0.9	20.0
1,3-Dichlorobenzene	Ave	1.528	1.541	0.6000	50.4	50.0	0.9	20.0
1,2,3-Trimethylbenzene	Ave	3.405	3.312	0.0100	48.6	50.0	-2.7	20.0
1,4-Dichlorobenzene	Ave	1.601	1.625	0.5000	50.8	50.0	1.5	20.0
n-Butylbenzene	Ave	0.9475	0.9455	0.0100	49.9	50.0	-0.2	20.0
Benzyl chloride	Ave	0.2435	0.2274	0.0100	46.7	50.0	-6.6	20.0
1,2-Dichlorobenzene	Ave	1.417	1.439	0.4000	50.8	50.0	1.5	20.0
n-Nonyl Aldehyde	Ave	0.6140	0.5004	0.0100	40.7	50.0	-18.5	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.0990	0.1024	0.0500	51.7	50.0	3.4	20.0
1,3,5-Trichlorobenzene	Ave	1.211	1.212	0.0100	50.0	50.0	0.0	20.0
Hexachlorobutadiene	Ave	0.6109	0.6128	0.0100	50.2	50.0	0.3	20.0
1,2,4-Trichlorobenzene	Ave	0.996	1.008	0.2000	50.6	50.0	1.2	20.0
Naphthalene	Ave	1.886	1.824	0.0100	48.4	50.0	-3.3	20.0
1,2,3-Trichlorobenzene	Ave	0.8403	0.8189	0.0100	48.7	50.0	-2.5	20.0
Dibromofluoromethane (Surr)	Ave	0.2372	0.2415	0.0100	50.9	50.0	1.8	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3058	0.3042	0.0100	49.7	50.0	-0.5	20.0
Toluene-d8 (Surr)	Ave	1.396	1.461	0.0100	52.3	50.0	4.7	20.0
4-Bromofluorobenzene (Surr)	Ave	0.9091	0.9427	0.0100	51.8	50.0	3.7	20.0

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICV2858.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 03-Oct-2017 01:09:30 ALS Bottle#: 12 Worklist Smp#: 13
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011546-013
Misc. Info.: ICV
Operator ID: JDH Instrument ID: VMSF
Sublist:

Method: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 08-Oct-2017 22:08:35 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK018

First Level Reviewer: hannj Date: 08-Oct-2017 22:10:59

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.947	2.938	0.009	99	635740	50.0	46.3	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.172	3.163	0.009	96	251796	50.0	55.0	M
3 Chloromethane	50	3.267	3.258	0.009	99	1067695	50.0	43.4	
122 Butadiene	39	3.385	3.388	-0.003	97	959282	50.0	35.0	
4 Vinyl chloride	62	3.397	3.400	-0.003	99	902300	50.0	41.3	
5 Bromomethane	94	3.894	3.897	-0.003	92	311161	50.0	43.7	
6 Chloroethane	64	4.072	4.074	-0.002	98	365302	50.0	44.1	
7 Trichlorofluoromethane	101	4.308	4.264	0.044	97	889897	50.0	46.6	M
123 Dichlorofluoromethane	67	4.379	4.382	-0.003	100	1274832	50.0	52.5	
8 Ethyl ether	74	4.758	4.761	-0.003	95	319806	50.0	54.4	
11 Ethanol	45	4.983	4.985	-0.002	23	204447	2000.0	2036.4	M
9 1,1-Dichloroethene	96	5.089	5.092	-0.003	94	514088	50.0	50.8	
10 Carbon disulfide	76	5.148	5.151	-0.003	100	1959283	50.0	49.5	
12 1,1,2-Trichloro-1,2,2-trif	151	5.172	5.175	-0.003	97	364654	50.0	51.1	
13 Iodomethane	142	5.326	5.329	-0.002	99	695593	50.0	52.4	
14 Acrolein	56	5.622	5.624	-0.002	98	318468	250.0	231.5	
15 3-Chloro-1-propene	39	5.811	5.814	-0.003	89	955765	50.0	49.9	
16 Isopropyl alcohol	45	5.823	5.825	-0.002	17	271653	500.0	515.1	
17 Methylene Chloride	84	5.965	5.967	-0.002	97	582803	50.0	48.2	
18 Acetone	43	6.048	6.062	-0.014	98	111561	50.0	45.3	
19 trans-1,2-Dichloroethene	96	6.201	6.204	-0.003	93	599850	50.0	52.0	
20 Methyl acetate	74	6.213	6.216	-0.003	99	111196	250.0	268.9	
21 Hexane	86	6.296	6.299	-0.003	96	176452	50.0	53.7	
22 Methyl tert-butyl ether	73	6.355	6.346	0.009	92	1353889	50.0	52.3	
23 2-Methyl-2-propanol	59	6.462	6.464	-0.002	97	419186	500.0	535.5	
24 Acetonitrile	41	6.722	6.725	-0.003	100	485352	500.0	486.2	
25 Isopropyl ether	45	6.864	6.855	0.009	95	2470033	50.0	55.6	
27 2-Chloro-1,3-butadiene	53	7.030	7.032	-0.002	94	1147289	50.0	51.2	
28 1,1-Dichloroethane	63	7.065	7.068	-0.003	97	1239876	50.0	50.3	
29 Acrylonitrile	53	7.148	7.139	0.009	98	1477521	500.0	505.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59	7.349	7.352	-0.003	98	1934844	50.0	53.7	
31 Vinyl acetate	43	7.373	7.376	-0.003	97	1178425	50.0	51.5	
32 cis-1,2-Dichloroethene	96	7.775	7.766	0.009	86	626090	50.0	51.5	
33 2,2-Dichloropropane	77	7.917	7.920	-0.003	93	691138	50.0	47.7	
35 Chlorobromomethane	128	8.024	8.026	-0.002	88	210448	50.0	49.5	
34 Cyclohexane	84	8.035	8.038	-0.003	97	1055205	50.0	50.2	
36 Chloroform	83	8.095	8.097	-0.002	97	1070010	50.0	50.0	
39 Ethyl acetate	45	8.237	8.239	-0.002	99	106428	100.0	99.1	
37 Carbon tetrachloride	117	8.296	8.299	-0.003	97	697784	50.0	50.1	
38 Tetrahydrofuran	71	8.319	8.322	-0.003	95	74659	100.0	108.4	
$ 41 Dibromofluoromethane (Surr	113	8.331	8.334	-0.003	94	453120	50.0	50.9	
40 1,1,1-Trichloroethane	97	8.390	8.381	0.009	96	946508	50.0	50.7	
43 2-Butanone (MEK)	43	8.497	8.488	0.009	98	165150	50.0	46.1	
42 1,1-Dichloropropene	75	8.532	8.523	0.009	92	880127	50.0	52.0	
125 Isooctane	57	8.651	8.642	0.009	98	3086207	50.0	50.4	
117 n-Heptane	43	8.745	8.748	-0.003	96	1329979	50.0	51.9	
44 Benzene	78	8.840	8.843	-0.003	99	2364592	50.0	51.7	
45 Propionitrile	54	8.876	8.878	-0.002	92	566661	500.0	521.3	
46 Methacrylonitrile	41	8.899	8.902	-0.003	96	2942899	500.0	524.3	
48 Tert-amyl methyl ether	73	8.947	8.949	-0.002	94	1560663	50.0	53.3	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.006	9.009	-0.002	95	570867	50.0	49.7	
50 Isobutyl alcohol	42	9.018	9.020	-0.002	92	307419	1250.0	1274.6	
49 1,2-Dichloroethane	62	9.089	9.091	-0.002	97	682608	50.0	50.0	
* 51 Fluorobenzene	96	9.325	9.328	-0.003	97	1876408	50.0	50.0	
53 Trichloroethene	95	9.515	9.517	-0.002	64	589247	50.0	49.6	
52 Methylcyclohexane	55	9.515	9.517	-0.002	97	1156707	50.0	48.9	
54 n-Butanol	56	9.810	9.813	-0.003	97	269774	1250.0	1258.8	
55 Dibromomethane	93	9.988	9.991	-0.003	89	234940	50.0	49.9	
124 Ethyl acrylate	55	10.059	10.062	-0.003	99	351390	50.0	47.1	
56 1,2-Dichloropropane	63	10.094	10.097	-0.003	92	597211	50.0	53.0	
57 Dichlorobromomethane	83	10.142	10.144	-0.002	98	677920	50.0	51.0	
58 Methyl methacrylate	69	10.272	10.275	-0.003	93	400505	100.0	95.0	
59 1,4-Dioxane	88	10.343	10.346	-0.003	95	67988	1000.0	1030.7	
60 2-Chloroethyl vinyl ether	63	10.686	10.689	-0.003	91	189159	50.0	47.0	
61 cis-1,3-Dichloropropene	75	10.769	10.772	-0.003	91	778657	50.0	56.2	
$ 62 Toluene-d8 (Surr)	98	10.946	10.949	-0.003	96	1713535	50.0	52.3	
63 Toluene	92	10.994	10.996	-0.002	98	1278989	50.0	52.4	
64 2-Nitropropane	43	11.219	11.221	-0.003	98	197004	100.0	92.9	
66 4-Methyl-2-pentanone (MIBK	43	11.325	11.328	-0.003	99	357805	50.0	49.1	
67 trans-1,3-Dichloropropene	75	11.361	11.363	-0.003	98	605976	50.0	51.8	
65 Tetrachloroethene	164	11.361	11.363	-0.003	92	348521	50.0	51.9	
119 n-Butyl acetate	43	11.408	11.411	-0.003	97	87122	50.0	60.5	
69 Ethyl methacrylate	69	11.467	11.470	-0.003	95	401829	50.0	48.5	
68 1,1,2-Trichloroethane	83	11.514	11.517	-0.003	94	282891	50.0	51.1	
70 Chlorodibromomethane	129	11.680	11.683	-0.003	90	328609	50.0	53.0	
71 1,3-Dichloropropane	76	11.763	11.766	-0.003	99	578729	50.0	50.5	
72 Ethylene Dibromide	107	11.905	11.908	-0.003	97	271126	50.0	51.3	
74 2-Hexanone	43	12.047	12.038	0.009	98	216746	50.0	50.8	
75 1-Chlorohexane	91	12.283	12.274	0.009	96	717759	50.0	51.2	
* 76 Chlorobenzene-d5	117	12.319	12.322	-0.003	93	1172630	50.0	50.0	
77 Chlorobenzene	112	12.331	12.334	-0.003	72	1304365	50.0	51.2	
78 Ethylbenzene	91	12.331	12.334	-0.003	91	2454371	50.0	47.5	

Report Date: 08-Oct-2017 22:11:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICV2858.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
79 1,1,1,2-Tetrachloroethane	131	12.378	12.381	-0.003	94	467027	50.0	52.0	
80 m-Xylene & p-Xylene	106	12.449	12.440	0.009	97	930763	50.0	53.4	
82 o-Xylene	106	12.792	12.795	-0.003	99	946886	50.0	53.9	
83 Styrene	104	12.840	12.831	0.010	93	1295376	50.0	53.2	
84 Bromoform	173	12.887	12.890	-0.003	93	168332	50.0	46.3	
85 Isopropylbenzene	105	13.029	13.032	-0.003	99	2429150	50.0	52.0	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.268	-0.002	83	657302	50.0	51.8	
88 N-Propylbenzene	91	13.348	13.339	0.009	97	2952014	50.0	47.8	
87 Bromobenzene	156	13.372	13.375	-0.003	97	479429	50.0	51.1	
89 1,1,2,2-Tetrachloroethane	83	13.396	13.398	-0.002	95	431980	50.0	49.3	
91 1,3,5-Trimethylbenzene	105	13.479	13.469	0.010	95	2194491	50.0	50.9	
90 2-Chlorotoluene	91	13.490	13.493	-0.003	95	2204927	50.0	50.7	
92 1,2,3-Trichloropropane	110	13.526	13.517	0.009	85	118992	50.0	52.0	
93 trans-1,4-Dichloro-2-buten	53	13.526	13.529	-0.003	81	139771	50.0	49.1	
94 Cyclohexanone	55	13.585	13.588	-0.003	96	133329	500.0	488.5	
95 4-Chlorotoluene	91	13.609	13.611	-0.002	99	1899446	50.0	51.8	
96 tert-Butylbenzene	119	13.727	13.730	-0.003	93	1814381	50.0	54.3	
97 1,2,4-Trimethylbenzene	105	13.774	13.777	-0.003	98	2205180	50.0	49.0	
98 sec-Butylbenzene	105	13.857	13.860	-0.003	96	2771732	50.0	47.5	
99 4-Isopropyltoluene	119	13.940	13.943	-0.003	95	2376250	50.0	50.4	
100 1,3-Dichlorobenzene	146	14.058	14.061	-0.003	97	1074712	50.0	50.4	
120 1,2,3-Trimethylbenzene	105	14.106	14.108	-0.002	95	2309494	50.0	48.6	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.108	-0.002	72	697269	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.118	14.120	-0.002	90	1133232	50.0	50.8	
103 n-Butylbenzene	134	14.260	14.250	0.010	96	659267	50.0	49.9	
121 Benzyl chloride	126	14.283	14.286	-0.003	54	158584	50.0	46.7	
104 1,2-Dichlorobenzene	146	14.437	14.428	0.009	96	1003187	50.0	50.8	
106 n-Nonyl Aldehyde	57	14.958	14.949	0.009	87	348883	50.0	40.7	
105 1,2-Dibromo-3-Chloropropan	157	15.029	15.031	-0.002	61	71413	50.0	51.7	
107 1,3,5-Trichlorobenzene	180	15.041	15.043	-0.003	95	845017	50.0	50.0	
108 Hexachlorobutadiene	225	15.502	15.505	-0.003	96	427262	50.0	50.2	
109 1,2,4-Trichlorobenzene	180	15.573	15.564	0.009	92	702590	50.0	50.6	
110 Naphthalene	128	15.869	15.860	0.009	98	1271718	50.0	48.4	
111 1,2,3-Trichlorobenzene	180	16.034	16.037	-0.003	94	571017	50.0	48.7	

QC Flag Legend

Review Flags

M - Manually Integrated

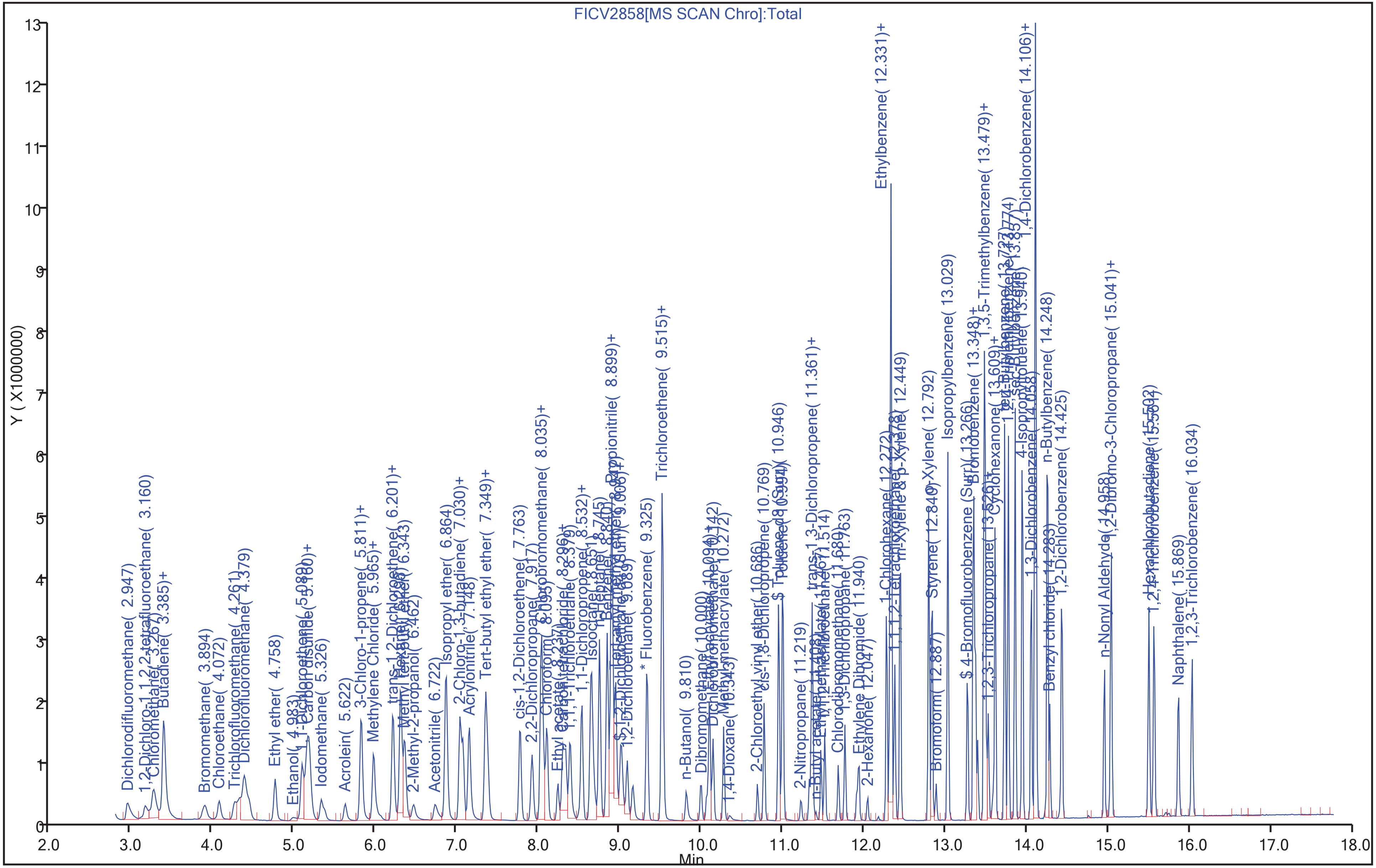
Reagents:

8260NewICVMix_00230	Amount Added: 10.00	Units: uL	
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 08-Oct-2017 22:11:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICV2858.D				
Injection Date:	03-Oct-2017 01:09:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	ICV			Worklist Smp#:	13
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		


FICV2858[MS SCAN Chro]:Total

TestAmerica St. Louis

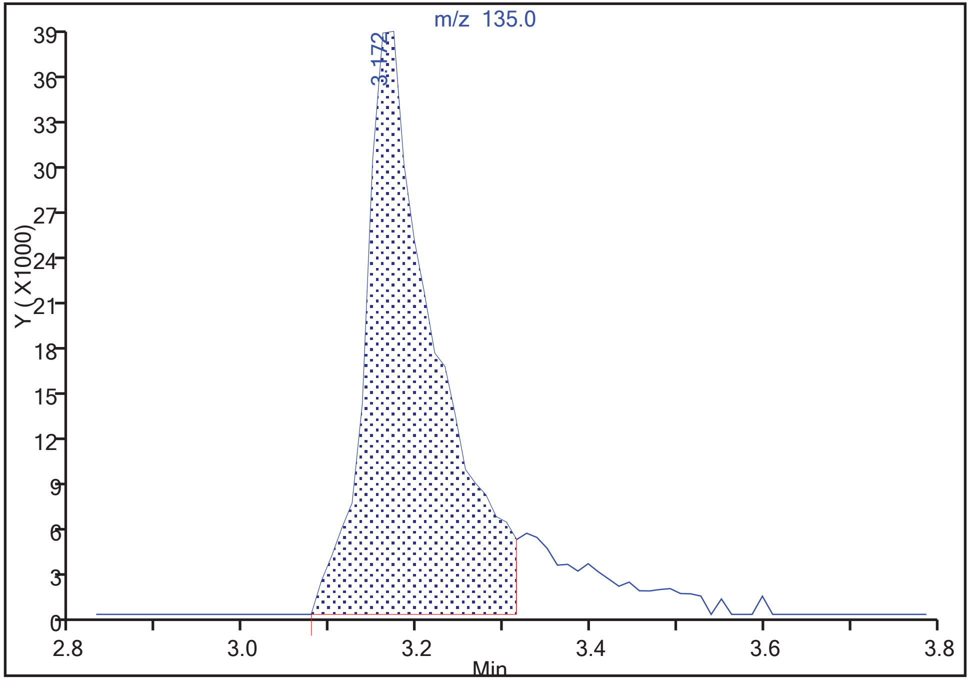
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICV2858.D				
Injection Date:	03-Oct-2017 01:09:30	Instrument ID:	VMSF		
Lims ID:	ICV				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	12	Worklist Smp#:	13
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

2 1,2-Dichloro-1,1,2,2-tetrafluoroethane, CAS: 76-14-2

Signal: 1

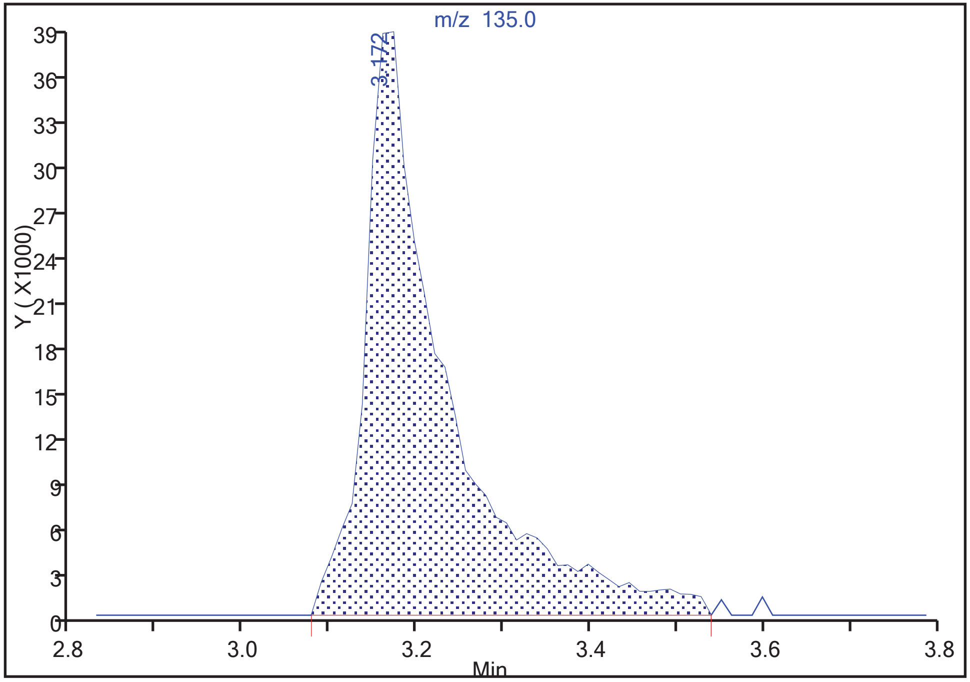
Processing Integration Results

RT: 3.17
Area: 218210
Amount: 47.672114
Amount Units: ug/l



Manual Integration Results

RT: 3.17
Area: 251796
Amount: 55.009613
Amount Units: ug/l



Reviewer: hannj, 08-Oct-2017 22:06:18
Audit Action: Manually Integrated Audit Reason: Peak Tail

TestAmerica St. Louis

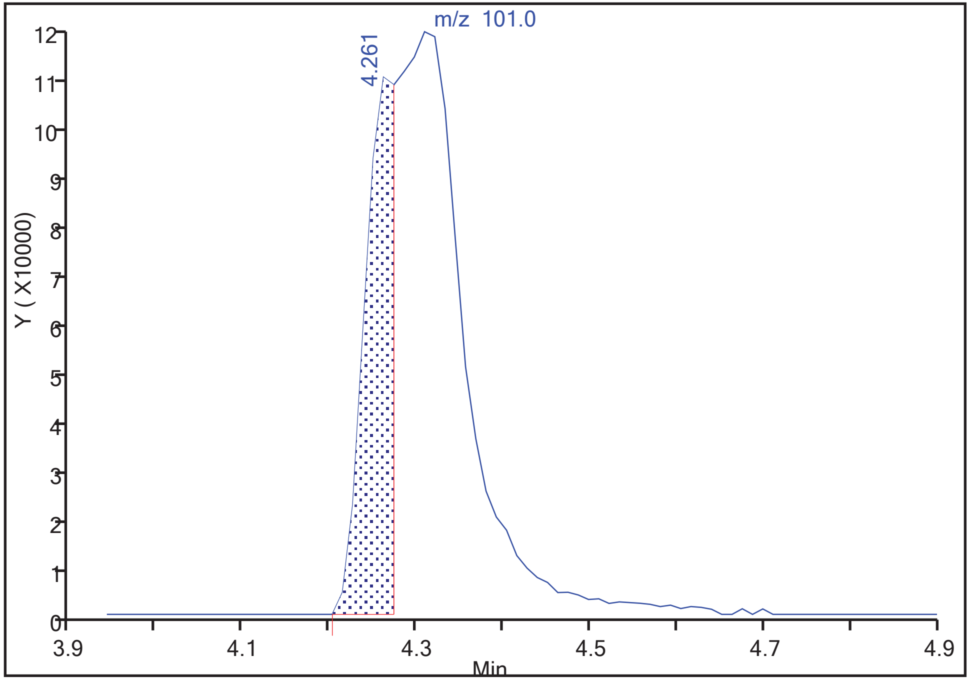
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICV2858.D				
Injection Date:	03-Oct-2017 01:09:30	Instrument ID:	VMSF		
Lims ID:	ICV				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	12	Worklist Smp#:	13
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

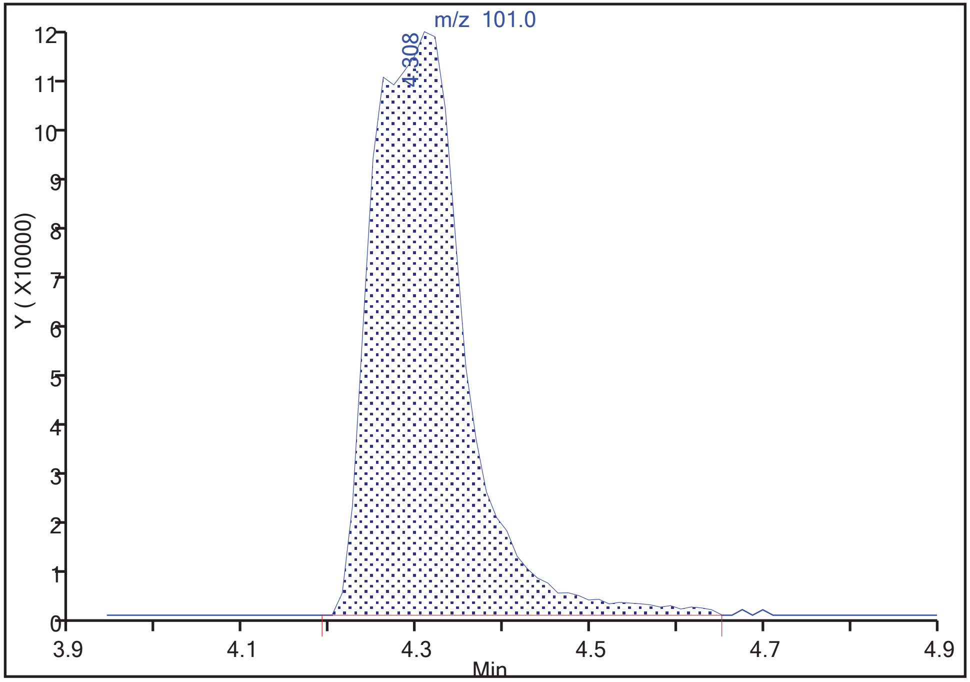
RT: 4.26
Area: 279272
Amount: 14.637119
Amount Units: ug/l

Processing Integration Results



RT: 4.31
Area: 889897
Amount: 46.641010
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 08-Oct-2017 22:06:36
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

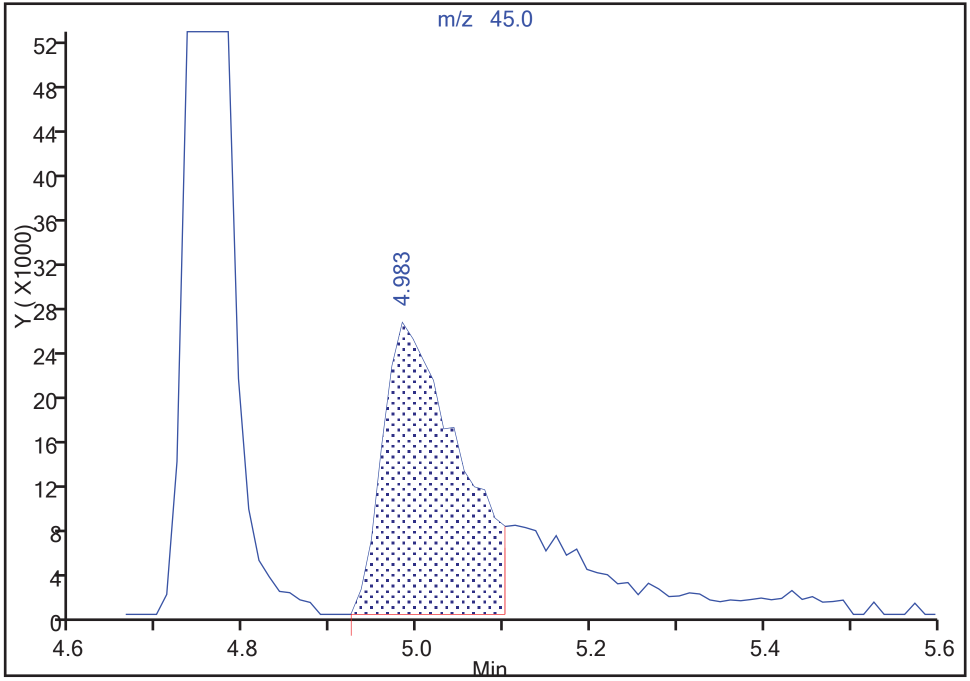
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICV2858.D				
Injection Date:	03-Oct-2017 01:09:30	Instrument ID:	VMSF		
Lims ID:	ICV				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	12	Worklist Smp#:	13
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

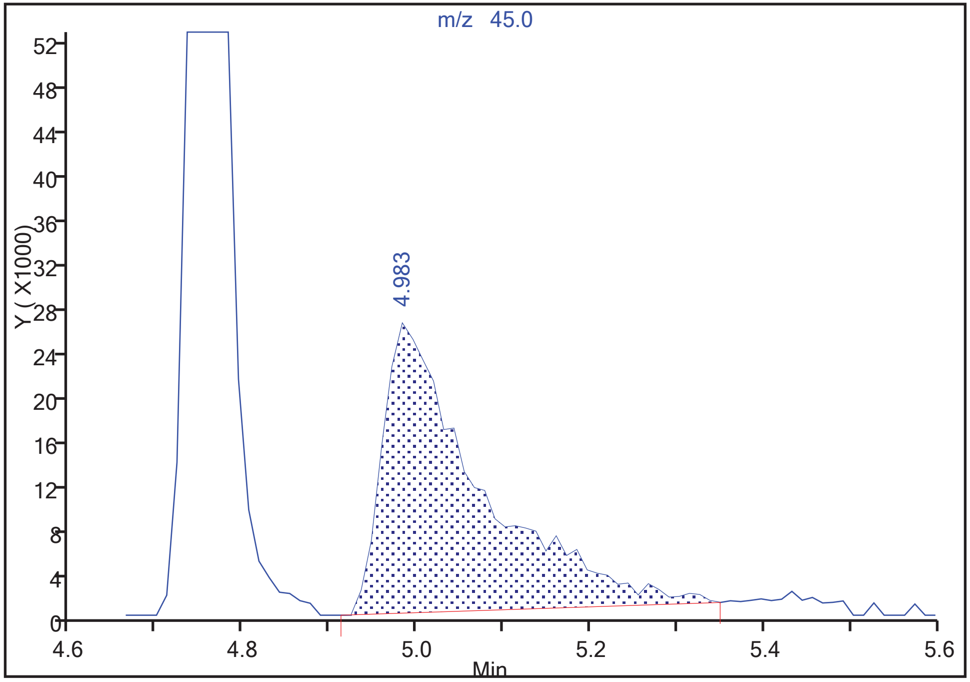
Processing Integration Results

RT:	4.98
Area:	162283
Amount:	1623.3481
Amount Units:	ug/l



Manual Integration Results

RT:	4.98
Area:	204447
Amount:	2036.4004
Amount Units:	ug/l



Reviewer: hannj, 08-Oct-2017 22:06:50

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-331094/4   Calibration Date: 10/09/2017 19:12

Instrument ID: VMSF   Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40   ID: 0.18(mm)   Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV2894.D   Conc. Units: ug/L   Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3657	0.3531	0.1000	48.3	50.0	-3.4	20.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1220	0.1307	0.0100	53.6	50.0	7.2	20.0
Chloromethane	Ave	0.6563	0.5761	0.1000	43.9	50.0	-12.2	20.0
Butadiene	Qua		0.5286	0.0100	36.3	50.0	-27.4*	20.0
Vinyl chloride	Ave	0.5827	0.4686	0.1000	40.2	50.0	-19.6	20.0
Bromomethane	LinF		0.1567	0.1000	41.3	50.0	-17.5	20.0
Chloroethane	LinF		0.2333	0.1000	52.9	50.0	5.7	20.0
Trichlorofluoromethane	Ave	0.5084	0.4644	0.1000	45.7	50.0	-8.7	20.0
Dichlorofluoromethane	Ave	0.6470	0.6042	0.0100	46.7	50.0	-6.6	20.0
Ethyl ether	Ave	0.1566	0.1603	0.0100	51.2	50.0	2.4	20.0
Ethanol	Lin1		0.0025*	0.0100	1850	2000	-7.7	20.0
1,1-Dichloroethene	Ave	0.2697	0.2695	0.1000	50.0	50.0	-0.0	20.0
Carbon disulfide	Ave	1.054	1.052	0.1000	49.9	50.0	-0.2	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1903	0.1935	0.1000	50.8	50.0	1.6	20.0
Iodomethane	Ave	0.3535	0.3606	0.0100	51.0	50.0	2.0	20.0
Acrolein	Ave	0.0367	0.0393	0.0010	268	250	7.1	20.0
3-Chloro-1-propene	Ave	0.5102	0.5054	0.0100	49.5	50.0	-0.9	20.0
Isopropyl alcohol	Ave	0.0141	0.0152	0.0100	542	500	8.3	20.0
Methylene Chloride	Ave	0.3223	0.3125	0.1000	48.5	50.0	-3.0	20.0
Acetone	Lin		0.0755*	0.1000	58.0	50.0	16.0	20.0
trans-1,2-Dichloroethene	Ave	0.3075	0.3063	0.1000	49.8	50.0	-0.4	20.0
Methyl acetate	Ave	0.0110	0.0125*	0.1000	283	250	13.4	20.0
Hexane	Ave	0.0875	0.0925	0.0100	52.9	50.0	5.8	20.0
Methyl tert-butyl ether	Ave	0.6903	0.7255	0.1000	52.6	50.0	5.1	20.0
2-Methyl-2-propanol	Ave	0.0209	0.0227	0.0100	543	500	8.6	20.0
Acetonitrile	Ave	0.0266	0.0280	0.0010	527	500	5.3	20.0
Isopropyl ether	Ave	1.183	1.264	0.0100	53.4	50.0	6.8	20.0
2-Chloro-1,3-butadiene	Ave	0.5969	0.6244	0.0100	52.3	50.0	4.6	20.0
1,1-Dichloroethane	Ave	0.6566	0.6515	0.2000	49.6	50.0	-0.8	20.0
Acrylonitrile	Ave	0.0779	0.0832	0.0100	534	500	6.8	20.0
Tert-butyl ethyl ether	Ave	0.9600	1.010	0.0100	52.6	50.0	5.2	20.0
Vinyl acetate	Ave	0.6095	0.6675	0.0100	54.8	50.0	9.5	20.0
cis-1,2-Dichloroethene	Ave	0.3237	0.3319	0.1000	51.3	50.0	2.5	20.0
2,2-Dichloropropane	Ave	0.3859	0.3974	0.0100	51.5	50.0	3.0	20.0
Bromochloromethane	Ave	0.1132	0.1150	0.0100	50.8	50.0	1.6	20.0
Cyclohexane	Ave	0.5597	0.5698	0.1000	50.9	50.0	1.8	20.0
Chloroform	Ave	0.5697	0.5688	0.2000	49.9	50.0	-0.2	20.0
Ethyl acetate	Ave	0.0286	0.0289	0.0100	101	100	0.9	20.0
Carbon tetrachloride	Ave	0.3709	0.3841	0.1000	51.8	50.0	3.5	20.0
1,1,1-Trichloroethane	Ave	0.4971	0.5008	0.1000	50.4	50.0	0.8	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-331094/4 Calibration Date: 10/09/2017 19:12

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV2894.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Butanone (MEK)	Ave	0.0956	0.1018	0.1000	53.3	50.0	6.5	20.0
1,1-Dichloropropene	Ave	0.4509	0.4710	0.0100	52.2	50.0	4.5	20.0
Isooctane	Ave	1.631	1.699	0.0100	52.1	50.0	4.2	20.0
n-Heptane	Ave	0.6830	0.7290	0.0100	53.4	50.0	6.7	20.0
Benzene	Ave	1.219	1.232	0.5000	50.5	50.0	1.1	20.0
Propionitrile	Ave	0.0290	0.0307	0.0010	531	500	6.1	20.0
Methacrylonitrile	Ave	0.1496	0.1622	0.0100	542	500	8.4	20.0
Tert-amyl methyl ether	Ave	0.7797	0.8277	0.0100	53.1	50.0	6.1	20.0
Isobutyl alcohol	Ave	0.0064	0.0070	0.0010	1360	1250	8.4	20.0
1,2-Dichloroethane	Ave	0.3636	0.3689	0.1000	50.7	50.0	1.4	20.0
Methylcyclohexane	Ave	0.6305	0.6383	0.1000	50.6	50.0	1.2	20.0
Trichloroethene	Ave	0.3165	0.3138	0.2000	49.6	50.0	-0.9	20.0
n-Butanol	Qua		0.0058*	0.0100	1260	1250	1.0	20.0
Dibromomethane	Ave	0.1255	0.1268	0.0100	50.5	50.0	1.1	20.0
Ethyl acrylate	Lin1		0.1922	0.0100	48.2	50.0	-3.5	20.0
1,2-Dichloropropane	Ave	0.3005	0.3060	0.1000	50.9	50.0	1.8	20.0
Bromodichloromethane	Ave	0.3540	0.3591	0.2000	50.7	50.0	1.4	20.0
Methyl methacrylate	Lin1		0.1090	0.0100	96.9	100	-3.1	20.0
1,4-Dioxane	Lin1		0.0013	0.0010	767	1000	-23.3*	20.0
2-Chloroethyl vinyl ether	Lin1		0.1016	0.0100	47.3	50.0	-5.3	20.0
cis-1,3-Dichloropropene	Ave	0.3693	0.3915	0.2000	53.0	50.0	6.0	20.0
Toluene	Ave	1.040	1.093	0.4000	52.5	50.0	5.1	20.0
2-Nitropropane	Lin1		0.0898	0.0100	99.1	100	-0.9	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3105	0.3393	0.1000	54.6	50.0	9.3	20.0
Tetrachloroethene	Ave	0.2865	0.3057	0.2000	53.4	50.0	6.7	20.0
trans-1,3-Dichloropropene	Ave	0.4985	0.5329	0.1000	53.5	50.0	6.9	20.0
n-Butyl acetate	Ave	0.0614	0.0664	0.0100	54.0	50.0	8.1	20.0
Ethyl methacrylate	Lin1		0.3549	0.0100	50.1	50.0	0.3	20.0
1,1,2-Trichloroethane	Ave	0.2360	0.2384	0.1000	50.5	50.0	1.0	20.0
Chlorodibromomethane	Ave	0.2642	0.2804	0.1000	53.1	50.0	6.1	20.0
1,3-Dichloropropane	Ave	0.4884	0.4978	0.0100	51.0	50.0	1.9	20.0
1,2-Dibromoethane	Ave	0.2252	0.2290	0.1000	50.9	50.0	1.7	20.0
2-Hexanone	Ave	0.1818	0.1939	0.1000	53.3	50.0	6.7	20.0
1-Chlorohexane	Ave	0.5973	0.6124	0.0100	51.3	50.0	2.5	20.0
Chlorobenzene	Ave	1.086	1.095	0.5000	50.4	50.0	0.9	20.0
Ethylbenzene	Ave	2.201	2.124	0.1000	48.3	50.0	-3.5	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3828	0.3940	0.0100	51.5	50.0	2.9	20.0
m-Xylene & p-Xylene	Ave	0.7432	0.7875	0.1000	53.0	50.0	6.0	20.0
o-Xylene	Ave	0.7495	0.8079	0.3000	53.9	50.0	7.8	20.0
Styrene	Ave	1.039	1.101	0.3000	52.9	50.0	5.9	20.0
Bromoform	Lin1		0.2556	0.1000	48.9	50.0	-2.3	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-331094/4 Calibration Date: 10/09/2017 19:12

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV2894.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropylbenzene	Qua		3.509	0.1000	52.4	50.0	4.9	20.0
N-Propylbenzene	Ave	4.426	4.285	0.0100	48.4	50.0	-3.2	20.0
Bromobenzene	Ave	0.6734	0.6812	0.0100	50.6	50.0	1.1	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6282	0.6410	0.3000	51.0	50.0	2.0	20.0
1,3,5-Trimethylbenzene	Ave	3.090	3.186	0.0100	51.5	50.0	3.1	20.0
2-Chlorotoluene	Qua		3.144	0.0100	50.3	50.0	0.7	20.0
1,2,3-Trichloropropane	Ave	0.1640	0.1733	0.0100	52.8	50.0	5.7	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2043	0.2037	0.0100	49.9	50.0	-0.3	20.0
Cyclohexanone	Ave	0.0196	0.0179	0.0010	458	500	-8.4	20.0
4-Chlorotoluene	Qua		2.725	0.0100	51.9	50.0	3.7	20.0
tert-Butylbenzene	Ave	2.395	2.612	0.0100	54.5	50.0	9.0	20.0
1,2,4-Trimethylbenzene	Ave	3.228	3.216	0.0100	49.8	50.0	-0.4	20.0
sec-Butylbenzene	Ave	4.184	3.996	0.0100	47.7	50.0	-4.5	20.0
4-Isopropyltoluene	Ave	3.379	3.398	0.0100	50.3	50.0	0.6	20.0
1,3-Dichlorobenzene	Ave	1.528	1.548	0.6000	50.6	50.0	1.3	20.0
1,2,3-Trimethylbenzene	Ave	3.405	3.276	0.0100	48.1	50.0	-3.8	20.0
1,4-Dichlorobenzene	Ave	1.601	1.602	0.5000	50.0	50.0	0.1	20.0
n-Butylbenzene	Ave	0.9475	0.9784	0.0100	51.6	50.0	3.3	20.0
Benzyl chloride	Ave	0.2435	0.2733	0.0100	56.1	50.0	12.2	20.0
1,2-Dichlorobenzene	Ave	1.417	1.433	0.4000	50.5	50.0	1.1	20.0
n-Nonyl Aldehyde	Ave	0.6140	0.6072	0.0100	49.4	50.0	-1.1	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.0990	0.1031	0.0500	52.1	50.0	4.1	20.0
1,3,5-Trichlorobenzene	Ave	1.211	1.207	0.0100	49.8	50.0	-0.3	20.0
Hexachlorobutadiene	Ave	0.6109	0.6010	0.0100	49.2	50.0	-1.6	20.0
1,2,4-Trichlorobenzene	Ave	0.996	0.9725	0.2000	48.8	50.0	-2.3	20.0
Naphthalene	Ave	1.886	1.827	0.0100	48.4	50.0	-3.1	20.0
1,2,3-Trichlorobenzene	Ave	0.8403	0.7806	0.0100	46.4	50.0	-7.1	20.0
Dibromofluoromethane (Surr)	Ave	0.2372	0.2354	0.0100	49.6	50.0	-0.8	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3058	0.3064	0.0100	50.1	50.0	0.2	20.0
Toluene-d8 (Surr)	Ave	1.396	1.470	0.0100	52.6	50.0	5.3	20.0
4-Bromofluorobenzene (Surr)	Ave	0.9091	0.9438	0.0100	51.9	50.0	3.8	20.0

Report Date: 11-Oct-2017 22:40:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2894.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 09-Oct-2017 19:12:30 ALS Bottle#: 2 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-004
Misc. Info.: CCV
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 11-Oct-2017 22:40:20 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: hannj Date: 11-Oct-2017 22:40:19

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.948	2.948	0.000	100	686323	50.0	48.3	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.173	3.173	0.000	97	254123	50.0	53.6	
3 Chloromethane	50	3.267	3.267	0.000	100	1119891	50.0	43.9	
122 Butadiene	39	3.386	3.386	0.000	96	1027643	50.0	36.3	
4 Vinyl chloride	62	3.397	3.397	0.000	98	911004	50.0	40.2	
5 Bromomethane	94	3.894	3.894	0.000	91	304529	50.0	41.3	
6 Chloroethane	64	4.072	4.072	0.000	99	453617	50.0	52.9	
7 Trichlorofluoromethane	101	4.320	4.320	0.000	99	902823	50.0	45.7	M
123 Dichlorofluoromethane	67	4.391	4.391	0.000	100	1174636	50.0	46.7	
8 Ethyl ether	74	4.758	4.758	0.000	95	311526	50.0	51.2	
11 Ethanol	45	4.983	4.983	0.000	99	191714	2000.0	1846.4	M
9 1,1-Dichloroethene	96	5.090	5.090	0.000	93	523822	50.0	50.0	
10 Carbon disulfide	76	5.149	5.149	0.000	100	2045704	50.0	49.9	
12 1,1,2-Trichloro-1,2,2-trif	151	5.172	5.172	0.000	97	376091	50.0	50.8	
13 Iodomethane	142	5.326	5.326	0.000	99	700933	50.0	51.0	
14 Acrolein	56	5.622	5.622	0.000	99	381592	250.0	267.7	
15 3-Chloro-1-propene	39	5.811	5.811	0.000	90	982495	50.0	49.5	
S 26 1,2-Dichloroethene, Total	96				0			101.1	
16 Isopropyl alcohol	45	5.823	5.823	0.000	18	295918	500.0	541.6	
17 Methylene Chloride	84	5.965	5.965	0.000	98	607551	50.0	48.5	
18 Acetone	43	6.048	6.048	0.000	98	146716	50.0	58.0	
19 trans-1,2-Dichloroethene	96	6.202	6.202	0.000	94	595529	50.0	49.8	
20 Methyl acetate	74	6.214	6.214	0.000	99	121431	250.0	283.4	
21 Hexane	86	6.308	6.308	0.000	96	179840	50.0	52.9	
22 Methyl tert-butyl ether	73	6.344	6.344	0.000	93	1410370	50.0	52.6	
23 2-Methyl-2-propanol	59	6.450	6.450	0.000	97	440292	500.0	542.9	
24 Acetonitrile	41	6.722	6.722	0.000	99	544613	500.0	526.6	
25 Isopropyl ether	45	6.853	6.853	0.000	95	2456477	50.0	53.4	
27 2-Chloro-1,3-butadiene	53	7.030	7.030	0.000	94	1213802	50.0	52.3	
28 1,1-Dichloroethane	63	7.066	7.066	0.000	97	1266591	50.0	49.6	

Report Date: 11-Oct-2017 22:40:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2894.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.137	7.137	0.000	98	1616911	500.0	534.0	
30 Tert-butyl ethyl ether	59	7.350	7.350	0.000	98	1963013	50.0	52.6	
31 Vinyl acetate	43	7.373	7.373	0.000	97	1297637	50.0	54.8	
32 cis-1,2-Dichloroethene	96	7.764	7.764	0.000	87	645176	50.0	51.3	
33 2,2-Dichloropropane	77	7.918	7.918	0.000	93	772598	50.0	51.5	
35 Chlorobromomethane	128	8.024	8.024	0.000	88	223570	50.0	50.8	
34 Cyclohexane	84	8.036	8.036	0.000	96	1107587	50.0	50.9	
36 Chloroform	83	8.095	8.095	0.000	96	1105642	50.0	49.9	
39 Ethyl acetate	45	8.225	8.225	0.000	99	112224	100.0	100.9	
37 Carbon tetrachloride	117	8.296	8.296	0.000	97	746639	50.0	51.8	
38 Tetrahydrofuran	71	8.320	8.320	0.000	95	80729	100.0	113.1	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.332	0.000	92	457638	50.0	49.6	
40 1,1,1-Trichloroethane	97	8.379	8.379	0.000	96	973627	50.0	50.4	
43 2-Butanone (MEK)	43	8.486	8.486	0.000	98	197868	50.0	53.3	
42 1,1-Dichloropropene	75	8.521	8.521	0.000	92	915682	50.0	52.2	
125 Isooctane	57	8.639	8.639	0.000	98	3302189	50.0	52.1	
117 n-Heptane	43	8.746	8.746	0.000	95	1417103	50.0	53.4	
44 Benzene	78	8.841	8.841	0.000	99	2395860	50.0	50.5	
45 Propionitrile	54	8.876	8.876	0.000	95	597471	500.0	530.5	
46 Methacrylonitrile	41	8.900	8.900	0.000	96	3152586	500.0	542.2	
48 Tert-amyl methyl ether	73	8.935	8.935	0.000	94	1608952	50.0	53.1	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.006	9.006	0.000	95	595597	50.0	50.1	
50 Isobutyl alcohol	42	9.018	9.018	0.000	92	338681	1250.0	1355.4	
49 1,2-Dichloroethane	62	9.089	9.089	0.000	97	717104	50.0	50.7	
* 51 Fluorobenzene	96	9.326	9.326	0.000	97	1943982	50.0	50.0	
53 Trichloroethene	95	9.515	9.515	0.000	61	610023	50.0	49.6	
52 Methylcyclohexane	55	9.515	9.515	0.000	96	1240907	50.0	50.6	
54 n-Butanol	56	9.811	9.811	0.000	95	280490	1250.0	1262.9	
55 Dibromomethane	93	9.988	9.988	0.000	89	246520	50.0	50.5	
124 Ethyl acrylate	55	10.059	10.059	0.000	99	373591	50.0	48.2	
56 1,2-Dichloropropane	63	10.095	10.095	0.000	93	594925	50.0	50.9	
57 Dichlorobromomethane	83	10.142	10.142	0.000	98	697982	50.0	50.7	
58 Methyl methacrylate	69	10.272	10.272	0.000	94	423589	100.0	96.9	
59 1,4-Dioxane	88	10.343	10.343	0.000	95	51259	1000.0	766.7	
60 2-Chloroethyl vinyl ether	63	10.686	10.686	0.000	91	197443	50.0	47.3	
61 cis-1,3-Dichloropropene	75	10.769	10.769	0.000	91	760982	50.0	53.0	
$ 62 Toluene-d8 (Surr)	98	10.947	10.947	0.000	95	1731089	50.0	52.6	
63 Toluene	92	10.994	10.994	0.000	98	1287902	50.0	52.5	
64 2-Nitropropane	43	11.219	11.219	0.000	98	211667	100.0	99.1	
66 4-Methyl-2-pentanone (MIBK	43	11.325	11.325	0.000	99	399641	50.0	54.6	
67 trans-1,3-Dichloropropene	75	11.361	11.361	0.000	98	627708	50.0	53.5	
65 Tetrachloroethene	164	11.361	11.361	0.000	91	360139	50.0	53.4	
119 n-Butyl acetate	43	11.408	11.408	0.000	99	78213	50.0	54.0	
69 Ethyl methacrylate	69	11.467	11.467	0.000	94	418063	50.0	50.1	
68 1,1,2-Trichloroethane	83	11.515	11.515	0.000	93	280763	50.0	50.5	
S 73 1,3-Dichloropropene, Total	75				0			106.5	
70 Chlorodibromomethane	129	11.680	11.680	0.000	90	330244	50.0	53.1	
71 1,3-Dichloropropane	76	11.763	11.763	0.000	98	586386	50.0	51.0	
72 Ethylene Dibromide	107	11.905	11.905	0.000	98	269797	50.0	50.9	
74 2-Hexanone	43	12.035	12.035	0.000	98	228403	50.0	53.3	
* 76 Chlorobenzene-d5	117	12.319	12.319	0.000	92	1177964	50.0	50.0	
75 1-Chlorohexane	91	12.272	12.272	0.000	82	721332	50.0	51.3	

Report Date: 11-Oct-2017 22:40:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2894.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.331	12.331	0.000	73	1290347	50.0	50.4	
78 Ethylbenzene	91	12.331	12.331	0.000	91	2502278	50.0	48.3	
79 1,1,1,2-Tetrachloroethane	131	12.379	12.379	0.000	95	464154	50.0	51.5	
80 m-Xylene & p-Xylene	106	12.438	12.438	0.000	97	927681	50.0	53.0	
82 o-Xylene	106	12.793	12.793	0.000	98	951714	50.0	53.9	
83 Styrene	104	12.840	12.840	0.000	94	1296354	50.0	52.9	
84 Bromoform	173	12.887	12.887	0.000	96	177958	50.0	48.9	
85 Isopropylbenzene	105	13.029	13.029	0.000	98	2442725	50.0	52.4	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.266	0.000	81	657062	50.0	51.9	
88 N-Propylbenzene	91	13.349	13.349	0.000	98	2982770	50.0	48.4	
87 Bromobenzene	156	13.373	13.373	0.000	97	474208	50.0	50.6	
89 1,1,2,2-Tetrachloroethane	83	13.396	13.396	0.000	95	446241	50.0	51.0	
91 1,3,5-Trimethylbenzene	105	13.479	13.479	0.000	94	2217686	50.0	51.5	
90 2-Chlorotoluene	91	13.491	13.491	0.000	95	2189100	50.0	50.3	
92 1,2,3-Trichloropropane	110	13.526	13.526	0.000	84	120613	50.0	52.8	
93 trans-1,4-Dichloro-2-buten	53	13.526	13.526	0.000	83	141835	50.0	49.9	
94 Cyclohexanone	55	13.586	13.586	0.000	97	124757	500.0	457.9	
95 4-Chlorotoluene	91	13.609	13.609	0.000	99	1897041	50.0	51.9	
96 tert-Butylbenzene	119	13.727	13.727	0.000	93	1818378	50.0	54.5	
97 1,2,4-Trimethylbenzene	105	13.775	13.775	0.000	98	2238736	50.0	49.8	
98 sec-Butylbenzene	105	13.858	13.858	0.000	96	2781602	50.0	47.7	
99 4-Isopropyltoluene	119	13.940	13.940	0.000	95	2365383	50.0	50.3	
100 1,3-Dichlorobenzene	146	14.059	14.059	0.000	97	1077395	50.0	50.6	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.106	0.000	73	696172	50.0	50.0	
120 1,2,3-Trimethylbenzene	105	14.106	14.106	0.000	95	2280892	50.0	48.1	
102 1,4-Dichlorobenzene	146	14.118	14.118	0.000	92	1115442	50.0	50.0	
103 n-Butylbenzene	134	14.260	14.260	0.000	96	681129	50.0	51.6	
121 Benzyl chloride	126	14.284	14.284	0.000	54	190254	50.0	56.1	
104 1,2-Dichlorobenzene	146	14.437	14.437	0.000	98	997465	50.0	50.5	
106 n-Nonyl Aldehyde	57	14.958	14.958	0.000	88	422712	50.0	49.4	
105 1,2-Dibromo-3-Chloropropan	157	15.029	15.029	0.000	73	71772	50.0	52.1	
107 1,3,5-Trichlorobenzene	180	15.041	15.041	0.000	97	840361	50.0	49.8	
108 Hexachlorobutadiene	225	15.502	15.502	0.000	97	418407	50.0	49.2	
109 1,2,4-Trichlorobenzene	180	15.562	15.562	0.000	92	677042	50.0	48.8	
110 Naphthalene	128	15.869	15.869	0.000	98	1271934	50.0	48.4	
111 1,2,3-Trichlorobenzene	180	16.035	16.035	0.000	94	543421	50.0	46.4	
S 112 Xylenes, Total	106				0			106.9	
S 113 Trihalomethanes, Total	1				0			202.6	

QC Flag Legend

Review Flags

M - Manually Integrated

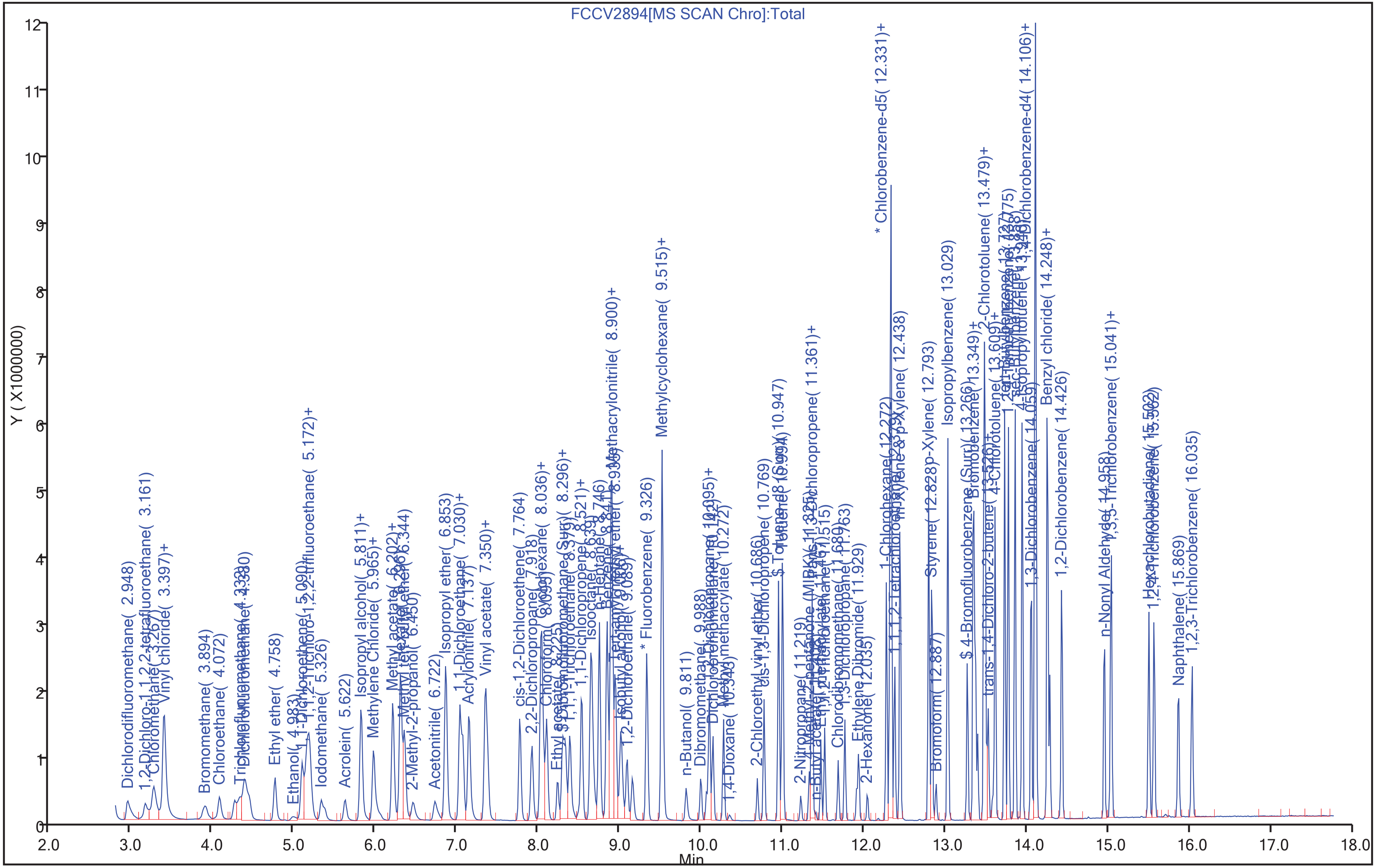
Reagents:

8260 NewWkMix_00241	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 11-Oct-2017 22:40:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2894.D				
Injection Date:	09-Oct-2017 19:12:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	CCV			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



Manual Integration/User Assign Peak Report

TestAmerica St. Louis

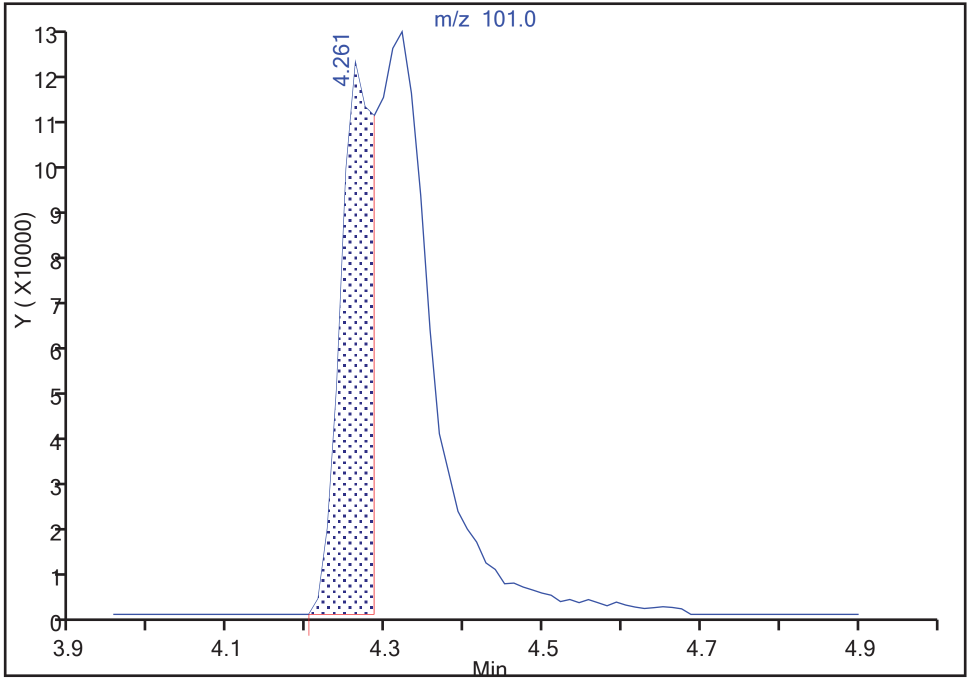
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2894.D				
Injection Date:	09-Oct-2017 19:12:30	Instrument ID:	VMSF		
Lims ID:	CCV				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

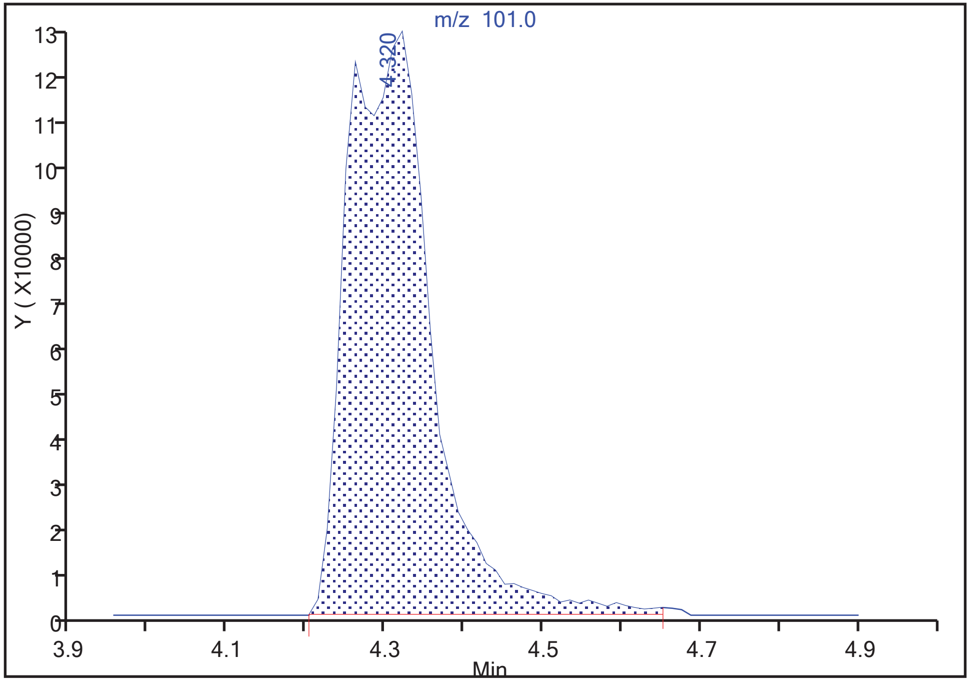
Processing Integration Results

RT:	4.26
Area:	342747
Amount:	17.339513
Amount Units:	ug/l



Manual Integration Results

RT:	4.32
Area:	902823
Amount:	45.673664
Amount Units:	ug/l



Reviewer: hannj, 11-Oct-2017 22:38:42

Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica St. Louis

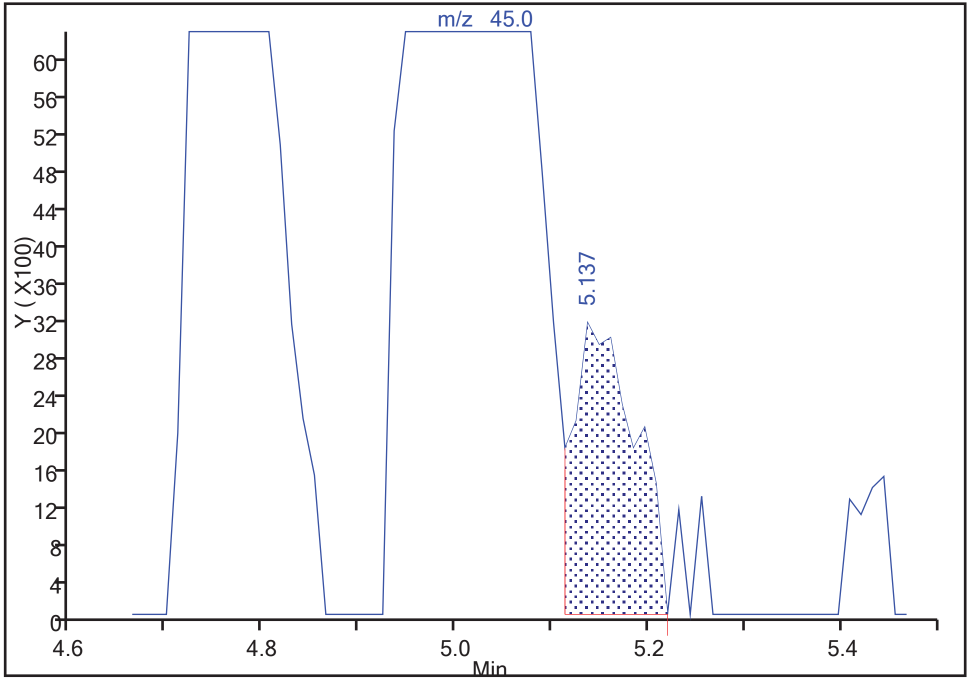
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2894.D				
Injection Date:	09-Oct-2017 19:12:30	Instrument ID:	VMSF		
Lims ID:	CCV				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

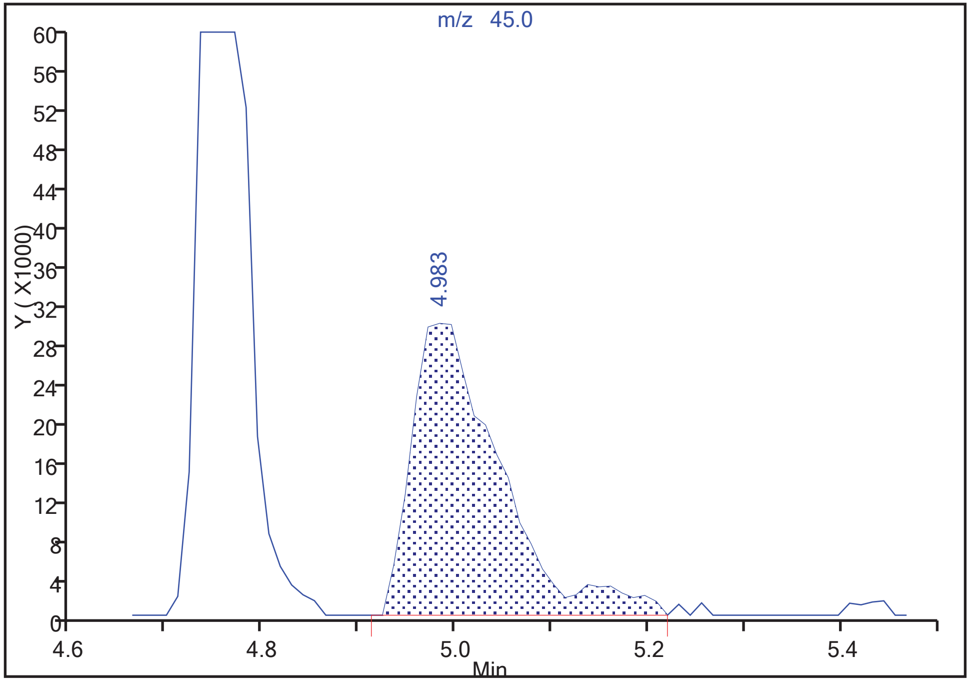
RT: 5.14
Area: 14371
Amount: 169.4603
Amount Units: ug/l

Processing Integration Results



RT: 4.98
Area: 191714
Amount: 1846.3802
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 11-Oct-2017 22:38:50
Audit Action: Assigned Compound ID Audit Reason: Split Peak

Report Date: 11-Oct-2017 22:40:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

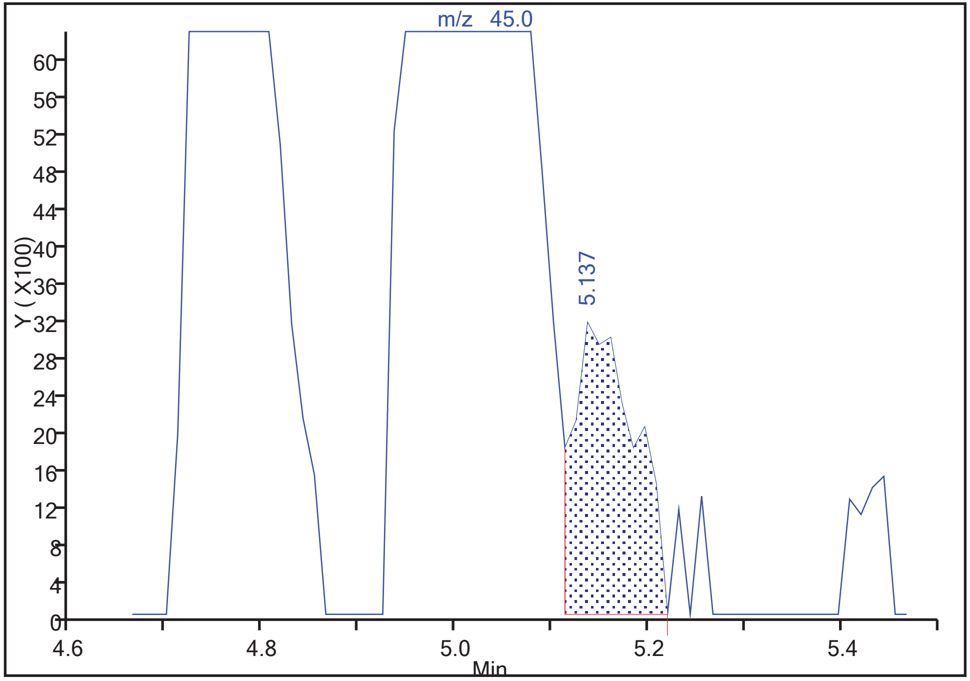
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2894.D
Injection Date: 09-Oct-2017 19:12:30
Instrument ID: VMSF
Lims ID: CCV
Client ID:
Operator ID: JDH
ALS Bottle#: 2
Worklist Smp#: 4
Purge Vol: 5.000 mL
Dil. Factor: 1.0000
Method: 5mL-8260_MSF
Limit Group: MSV-8260_DoD
Column:
Detector MS SCAN

11 Ethanol, CAS: 64-17-5

Signal: 1

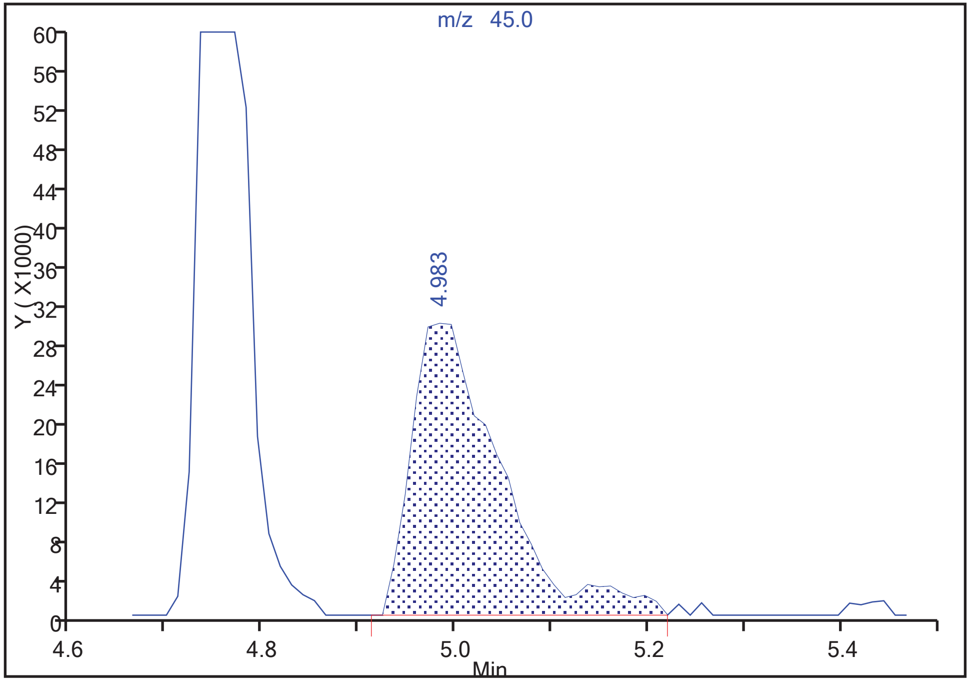
Processing Integration Results

RT: 5.14
Area: 14371
Amount: 169.4603
Amount Units: ug/l



Manual Integration Results

RT: 4.98
Area: 191714
Amount: 1846.3802
Amount Units: ug/l



Reviewer: hannj, 11-Oct-2017 22:39:02
Audit Action: Manually Integrated
Audit Reason: Peak Tail

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-331094/26　Calibration Date: 10/10/2017 04:37

Instrument ID: VMSF　Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40　ID: 0.18(mm)　Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV2916.D　Conc. Units: ug/L　Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3657	0.2973	0.1000	40.7	50.0	-18.7	50.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1220	0.1148	0.0100	47.1	50.0	-5.9	50.0
Chloromethane	Ave	0.6563	0.5612	0.1000	42.8	50.0	-14.5	50.0
Butadiene	Qua		0.6164	0.0100	43.0	50.0	-14.0	50.0
Vinyl chloride	Ave	0.5827	0.5058	0.1000	43.4	50.0	-13.2	50.0
Bromomethane	LinF		0.1782	0.1000	46.9	50.0	-6.2	50.0
Chloroethane	LinF		0.2436	0.1000	55.2	50.0	10.4	50.0
Trichlorofluoromethane	Ave	0.5084	0.4018	0.1000	39.5	50.0	-21.0	50.0
Dichlorofluoromethane	Ave	0.6470	0.5448	0.0100	42.1	50.0	-15.8	50.0
Ethyl ether	Ave	0.1566	0.1464	0.0100	46.8	50.0	-6.5	50.0
Ethanol	Lin1		0.0027*	0.0100	2010	2000	0.3	50.0
1,1-Dichloroethene	Ave	0.2697	0.2408	0.1000	44.6	50.0	-10.7	50.0
Carbon disulfide	Ave	1.054	0.9231	0.1000	43.8	50.0	-12.4	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1903	0.1543	0.1000	40.5	50.0	-18.9	50.0
Iodomethane	Ave	0.3535	0.3255	0.0100	46.0	50.0	-7.9	50.0
Acrolein	Ave	0.0367	0.0296	0.0010	202	250	-19.3	50.0
3-Chloro-1-propene	Ave	0.5102	0.4697	0.0100	46.0	50.0	-7.9	50.0
Isopropyl alcohol	Ave	0.0141	0.0141	0.0100	502	500	0.4	50.0
Methylene Chloride	Ave	0.3223	0.2985	0.1000	46.3	50.0	-7.4	50.0
Acetone	Lin		0.0701*	0.1000	53.7	50.0	7.4	50.0
trans-1,2-Dichloroethene	Ave	0.3075	0.2808	0.1000	45.7	50.0	-8.7	50.0
Methyl acetate	Ave	0.0110	0.0107*	0.1000	243	250	-2.7	50.0
Hexane	Ave	0.0875	0.0792	0.0100	45.2	50.0	-9.5	50.0
Methyl tert-butyl ether	Ave	0.6903	0.6639	0.1000	48.1	50.0	-3.8	50.0
2-Methyl-2-propanol	Ave	0.0209	0.0200	0.0100	480	500	-3.9	50.0
Acetonitrile	Ave	0.0266	0.0273	0.0010	513	500	2.5	50.0
Isopropyl ether	Ave	1.183	1.213	0.0100	51.3	50.0	2.6	50.0
2-Chloro-1,3-butadiene	Ave	0.5969	0.5622	0.0100	47.1	50.0	-5.8	50.0
1,1-Dichloroethane	Ave	0.6566	0.6286	0.2000	47.9	50.0	-4.3	50.0
Acrylonitrile	Ave	0.0779	0.0766	0.0100	492	500	-1.6	50.0
Tert-butyl ethyl ether	Ave	0.9600	0.9626	0.0100	50.1	50.0	0.3	50.0
Vinyl acetate	Ave	0.6095	0.5820	0.0100	47.7	50.0	-4.5	50.0
cis-1,2-Dichloroethene	Ave	0.3237	0.3125	0.1000	48.3	50.0	-3.5	50.0
2,2-Dichloropropane	Ave	0.3859	0.2819	0.0100	36.5	50.0	-27.0	50.0
Bromochloromethane	Ave	0.1132	0.1082	0.0100	47.8	50.0	-4.4	50.0
Cyclohexane	Ave	0.5597	0.4834	0.1000	43.2	50.0	-13.6	50.0
Chloroform	Ave	0.5697	0.5467	0.2000	48.0	50.0	-4.0	50.0
Ethyl acetate	Ave	0.0286	0.0260	0.0100	90.7	100	-9.3	50.0
Carbon tetrachloride	Ave	0.3709	0.3317	0.1000	44.7	50.0	-10.6	50.0
1,1,1-Trichloroethane	Ave	0.4971	0.4517	0.1000	45.4	50.0	-9.1	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-331094/26 Calibration Date: 10/10/2017 04:37

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV2916.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Butanone (MEK)	Ave	0.0956	0.0929*	0.1000	48.6	50.0	-2.8	50.0
1,1-Dichloropropene	Ave	0.4509	0.4272	0.0100	47.4	50.0	-5.3	50.0
Isooctane	Ave	1.631	1.471	0.0100	45.1	50.0	-9.8	50.0
n-Heptane	Ave	0.6830	0.6225	0.0100	45.6	50.0	-8.9	50.0
Benzene	Ave	1.219	1.217	0.5000	49.9	50.0	-0.1	50.0
Propionitrile	Ave	0.0290	0.0295	0.0010	509	500	1.8	50.0
Methacrylonitrile	Ave	0.1496	0.1593	0.0100	533	500	6.5	50.0
Tert-amyl methyl ether	Ave	0.7797	0.7947	0.0100	51.0	50.0	1.9	50.0
Isobutyl alcohol	Ave	0.0064	0.0066	0.0010	1290	1250	3.1	50.0
1,2-Dichloroethane	Ave	0.3636	0.3605	0.1000	49.6	50.0	-0.9	50.0
Methylcyclohexane	Ave	0.6305	0.5541	0.1000	43.9	50.0	-12.1	50.0
Trichloroethene	Ave	0.3165	0.3015	0.2000	47.6	50.0	-4.8	50.0
n-Butanol	Qua		0.0057*	0.0100	1250	1250	-0.3	50.0
Dibromomethane	Ave	0.1255	0.1227	0.0100	48.9	50.0	-2.2	50.0
Ethyl acrylate	Lin1		0.1766	0.0100	44.6	50.0	-10.9	50.0
1,2-Dichloropropane	Ave	0.3005	0.3020	0.1000	50.3	50.0	0.5	50.0
Bromodichloromethane	Ave	0.3540	0.3565	0.2000	50.4	50.0	0.7	50.0
Methyl methacrylate	Lin1		0.1025	0.0100	91.5	100	-8.5	50.0
1,4-Dioxane	Lin1		0.0016	0.0010	912	1000	-8.8	50.0
2-Chloroethyl vinyl ether	Lin1		0.0940	0.0100	44.0	50.0	-12.0	50.0
cis-1,3-Dichloropropene	Ave	0.3693	0.3737	0.2000	50.6	50.0	1.2	50.0
Toluene	Ave	1.040	1.052	0.4000	50.6	50.0	1.2	50.0
2-Nitropropane	Lin1		0.0796	0.0100	88.3	100	-11.7	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3105	0.3067	0.1000	49.4	50.0	-1.2	50.0
Tetrachloroethene	Ave	0.2865	0.2682	0.2000	46.8	50.0	-6.4	50.0
trans-1,3-Dichloropropene	Ave	0.4985	0.5013	0.1000	50.3	50.0	0.6	50.0
n-Butyl acetate	Ave	0.0614	0.0609	0.0100	49.5	50.0	-0.9	50.0
Ethyl methacrylate	Lin1		0.3251	0.0100	46.1	50.0	-7.8	50.0
1,1,2-Trichloroethane	Ave	0.2360	0.2328	0.1000	49.3	50.0	-1.4	50.0
Chlorodibromomethane	Ave	0.2642	0.2641	0.1000	50.0	50.0	-0.0	50.0
1,3-Dichloropropane	Ave	0.4884	0.4894	0.0100	50.1	50.0	0.2	50.0
1,2-Dibromoethane	Ave	0.2252	0.2189	0.1000	48.6	50.0	-2.8	50.0
2-Hexanone	Ave	0.1818	0.1775	0.1000	48.8	50.0	-2.3	50.0
1-Chlorohexane	Ave	0.5973	0.5405	0.0100	45.2	50.0	-9.5	50.0
Chlorobenzene	Ave	1.086	1.092	0.5000	50.3	50.0	0.5	50.0
Ethylbenzene	Ave	2.201	2.099	0.1000	47.7	50.0	-4.7	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3828	0.3888	0.0100	50.8	50.0	1.5	50.0
m-Xylene & p-Xylene	Ave	0.7432	0.7602	0.1000	51.1	50.0	2.3	50.0
o-Xylene	Ave	0.7495	0.7916	0.3000	52.8	50.0	5.6	50.0
Styrene	Ave	1.039	1.116	0.3000	53.7	50.0	7.3	50.0
Bromoform	Lin1		0.2415	0.1000	46.3	50.0	-7.4	50.0

FORM VII 8260C DOD

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-331094/26　Calibration Date: 10/10/2017 04:37

Instrument ID: VMSF　Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40　ID: 0.18(mm)　Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV2916.D　Conc. Units: ug/L　Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropylbenzene	Qua		3.489	0.1000	52.1	50.0	4.2	50.0
N-Propylbenzene	Ave	4.426	4.301	0.0100	48.6	50.0	-2.8	50.0
Bromobenzene	Ave	0.6734	0.6715	0.0100	49.9	50.0	-0.3	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6282	0.6041	0.3000	48.1	50.0	-3.8	50.0
1,3,5-Trimethylbenzene	Ave	3.090	3.139	0.0100	50.8	50.0	1.6	50.0
2-Chlorotoluene	Qua		3.130	0.0100	50.1	50.0	0.1	50.0
1,2,3-Trichloropropane	Ave	0.1640	0.1665	0.0100	50.8	50.0	1.5	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2043	0.1753	0.0100	42.9	50.0	-14.2	50.0
Cyclohexanone	Ave	0.0196	0.0190	0.0010	484	500	-3.1	50.0
4-Chlorotoluene	Qua		2.692	0.0100	51.2	50.0	2.3	50.0
tert-Butylbenzene	Ave	2.395	2.573	0.0100	53.7	50.0	7.4	50.0
1,2,4-Trimethylbenzene	Ave	3.228	3.260	0.0100	50.5	50.0	1.0	50.0
sec-Butylbenzene	Ave	4.184	4.111	0.0100	49.1	50.0	-1.8	50.0
4-Isopropyltoluene	Ave	3.379	3.346	0.0100	49.5	50.0	-1.0	50.0
1,3-Dichlorobenzene	Ave	1.528	1.534	0.6000	50.2	50.0	0.4	50.0
1,2,3-Trimethylbenzene	Ave	3.405	3.479	0.0100	51.1	50.0	2.2	50.0
1,4-Dichlorobenzene	Ave	1.601	1.601	0.5000	50.0	50.0	0.0	50.0
n-Butylbenzene	Ave	0.9475	0.8892	0.0100	46.9	50.0	-6.2	50.0
Benzyl chloride	Ave	0.2435	0.1550	0.0100	31.8	50.0	-36.4	50.0
1,2-Dichlorobenzene	Ave	1.417	1.433	0.4000	50.6	50.0	1.1	50.0
n-Nonyl Aldehyde	Ave	0.6140	0.5506	0.0100	44.8	50.0	-10.3	50.0
1,2-Dibromo-3-Chloropropane	Ave	0.0990	0.1032	0.0500	52.1	50.0	4.3	50.0
1,3,5-Trichlorobenzene	Ave	1.211	1.157	0.0100	47.8	50.0	-4.5	50.0
Hexachlorobutadiene	Ave	0.6109	0.5738	0.0100	47.0	50.0	-6.1	50.0
1,2,4-Trichlorobenzene	Ave	0.996	0.9674	0.2000	48.6	50.0	-2.8	50.0
Naphthalene	Ave	1.886	1.902	0.0100	50.4	50.0	0.9	50.0
1,2,3-Trichlorobenzene	Ave	0.8403	0.7999	0.0100	47.6	50.0	-4.8	50.0
Dibromofluoromethane (Surr)	Ave	0.2372	0.2308	0.0100	48.6	50.0	-2.7	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3058	0.3063	0.0100	50.1	50.0	0.2	50.0
Toluene-d8 (Surr)	Ave	1.396	1.468	0.0100	52.6	50.0	5.2	50.0
4-Bromofluorobenzene (Surr)	Ave	0.9091	0.9038	0.0100	49.7	50.0	-0.6	50.0

FORM VII 8260C DOD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2916.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 10-Oct-2017 04:37:30 ALS Bottle#: 23 Worklist Smp#: 26
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-026
Misc. Info.: CCVC
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 11-Oct-2017 22:55:24 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: hannj Date: 11-Oct-2017 22:55:24

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.949	2.949	0.000	99	410474	50.0	40.7	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.162	3.162	0.000	94	158543	50.0	47.1	M
3 Chloromethane	50	3.268	3.268	0.000	99	774838	50.0	42.8	
122 Butadiene	39	3.399	3.399	0.000	95	851130	50.0	43.0	
4 Vinyl chloride	62	3.399	3.399	0.000	99	698323	50.0	43.4	
5 Bromomethane	94	3.896	3.896	0.000	93	246028	50.0	46.9	
6 Chloroethane	64	4.073	4.073	0.000	98	336332	50.0	55.2	
7 Trichlorofluoromethane	101	4.310	4.310	0.000	98	554761	50.0	39.5	M
123 Dichlorofluoromethane	67	4.393	4.393	0.000	99	752174	50.0	42.1	
8 Ethyl ether	74	4.759	4.759	0.000	97	202109	50.0	46.8	
11 Ethanol	45	4.984	4.984	0.000	24	148097	2000.0	2005.2	M
9 1,1-Dichloroethene	96	5.091	5.091	0.000	93	332455	50.0	44.6	
10 Carbon disulfide	76	5.150	5.150	0.000	100	1274544	50.0	43.8	
12 1,1,2-Trichloro-1,2,2-trif	151	5.185	5.185	0.000	98	213102	50.0	40.5	
13 Iodomethane	142	5.327	5.327	0.000	99	449482	50.0	46.0	M
14 Acrolein	56	5.623	5.623	0.000	99	204288	250.0	201.8	
15 3-Chloro-1-propene	39	5.813	5.813	0.000	88	648497	50.0	46.0	
S 26 1,2-Dichloroethene, Total	96				0			93.9	
16 Isopropyl alcohol	45	5.824	5.824	0.000	25	194853	500.0	502.1	
17 Methylene Chloride	84	5.966	5.966	0.000	96	412069	50.0	46.3	
18 Acetone	43	6.061	6.061	0.000	98	96723	50.0	53.7	
19 trans-1,2-Dichloroethene	96	6.203	6.203	0.000	92	387742	50.0	45.7	
20 Methyl acetate	74	6.215	6.215	0.000	100	74049	250.0	243.3	
21 Hexane	86	6.310	6.310	0.000	96	109284	50.0	45.2	
22 Methyl tert-butyl ether	73	6.357	6.357	0.000	96	916632	50.0	48.1	
23 2-Methyl-2-propanol	59	6.463	6.463	0.000	96	276727	500.0	480.4	
24 Acetonitrile	41	6.724	6.724	0.000	99	376489	500.0	512.5	
25 Isopropyl ether	45	6.866	6.866	0.000	95	1675345	50.0	51.3	
27 2-Chloro-1,3-butadiene	53	7.031	7.031	0.000	94	776173	50.0	47.1	
28 1,1-Dichloroethane	63	7.067	7.067	0.000	97	867922	50.0	47.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.150	7.150	0.000	98	1058219	500.0	492.1	
30 Tert-butyl ethyl ether	59	7.351	7.351	0.000	98	1329058	50.0	50.1	
31 Vinyl acetate	43	7.374	7.374	0.000	97	803633	50.0	47.7	
32 cis-1,2-Dichloroethene	96	7.777	7.777	0.000	87	431500	50.0	48.3	
33 2,2-Dichloropropane	77	7.919	7.919	0.000	93	389203	50.0	36.5	
35 Chlorobromomethane	128	8.025	8.025	0.000	87	149380	50.0	47.8	
34 Cyclohexane	84	8.037	8.037	0.000	97	667397	50.0	43.2	
36 Chloroform	83	8.096	8.096	0.000	98	754805	50.0	48.0	
39 Ethyl acetate	45	8.238	8.238	0.000	99	71668	100.0	90.7	
37 Carbon tetrachloride	117	8.297	8.297	0.000	96	457954	50.0	44.7	
38 Tetrahydrofuran	71	8.321	8.321	0.000	94	52467	100.0	103.5	
$ 41 Dibromofluoromethane (Surr	113	8.333	8.333	0.000	93	318660	50.0	48.6	
40 1,1,1-Trichloroethane	97	8.380	8.380	0.000	97	623606	50.0	45.4	
43 2-Butanone (MEK)	43	8.499	8.499	0.000	97	128295	50.0	48.6	
42 1,1-Dichloropropene	75	8.534	8.534	0.000	91	589793	50.0	47.4	
125 Isooctane	57	8.652	8.652	0.000	98	2031221	50.0	45.1	
117 n-Heptane	43	8.747	8.747	0.000	95	859495	50.0	45.6	
44 Benzene	78	8.842	8.842	0.000	99	1680992	50.0	49.9	
45 Propionitrile	54	8.877	8.877	0.000	94	407050	500.0	508.9	
46 Methacrylonitrile	41	8.901	8.901	0.000	97	2200089	500.0	532.7	
48 Tert-amyl methyl ether	73	8.948	8.948	0.000	94	1097289	50.0	51.0	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.007	9.007	0.000	95	422843	50.0	50.1	
50 Isobutyl alcohol	42	9.019	9.019	0.000	93	228648	1250.0	1288.3	
49 1,2-Dichloroethane	62	9.090	9.090	0.000	97	497679	50.0	49.6	
* 51 Fluorobenzene	96	9.327	9.327	0.000	97	1380717	50.0	50.0	
53 Trichloroethene	95	9.516	9.516	0.000	67	416231	50.0	47.6	
52 Methylcyclohexane	55	9.516	9.516	0.000	96	765014	50.0	43.9	
54 n-Butanol	56	9.812	9.812	0.000	95	196352	1250.0	1246.1	
55 Dibromomethane	93	9.990	9.990	0.000	88	169419	50.0	48.9	
124 Ethyl acrylate	55	10.061	10.061	0.000	99	243831	50.0	44.6	
56 1,2-Dichloropropane	63	10.096	10.096	0.000	91	417036	50.0	50.3	
57 Dichlorobromomethane	83	10.143	10.143	0.000	97	492182	50.0	50.4	
58 Methyl methacrylate	69	10.273	10.273	0.000	93	283120	100.0	91.5	
59 1,4-Dioxane	88	10.356	10.356	0.000	96	43885	1000.0	911.6	
60 2-Chloroethyl vinyl ether	63	10.688	10.688	0.000	91	129832	50.0	44.0	
61 cis-1,3-Dichloropropene	75	10.770	10.770	0.000	90	515997	50.0	50.6	
$ 62 Toluene-d8 (Surr)	98	10.948	10.948	0.000	96	1253257	50.0	52.6	
63 Toluene	92	10.995	10.995	0.000	97	898271	50.0	50.6	
64 2-Nitropropane	43	11.220	11.220	0.000	97	135888	100.0	88.3	
66 4-Methyl-2-pentanone (MIBK	43	11.327	11.327	0.000	99	261751	50.0	49.4	
67 trans-1,3-Dichloropropene	75	11.362	11.362	0.000	99	427812	50.0	50.3	
65 Tetrachloroethene	164	11.362	11.362	0.000	89	228900	50.0	46.8	
119 n-Butyl acetate	43	11.409	11.409	0.000	98	51962	50.0	49.5	
69 Ethyl methacrylate	69	11.469	11.469	0.000	94	277473	50.0	46.1	
68 1,1,2-Trichloroethane	83	11.516	11.516	0.000	94	198705	50.0	49.3	
S 73 1,3-Dichloropropene, Total	75				0			100.9	
70 Chlorodibromomethane	129	11.682	11.682	0.000	89	225440	50.0	50.0	
71 1,3-Dichloropropane	76	11.764	11.764	0.000	98	417686	50.0	50.1	
72 Ethylene Dibromide	107	11.906	11.906	0.000	98	186821	50.0	48.6	
74 2-Hexanone	43	12.037	12.037	0.000	97	151518	50.0	48.8	
75 1-Chlorohexane	91	12.273	12.273	0.000	83	461276	50.0	45.2	
* 76 Chlorobenzene-d5	117	12.321	12.321	0.000	93	853498	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	12.332	12.332	0.000	72	931811	50.0	50.3	
78 Ethylbenzene	91	12.332	12.332	0.000	91	1791193	50.0	47.7	
79 1,1,1,2-Tetrachloroethane	131	12.380	12.380	0.000	93	331806	50.0	50.8	
80 m-Xylene & p-Xylene	106	12.439	12.439	0.000	97	648851	50.0	51.1	
82 o-Xylene	106	12.794	12.794	0.000	99	675654	50.0	52.8	
83 Styrene	104	12.829	12.829	0.000	94	952086	50.0	53.7	
84 Bromoform	173	12.889	12.889	0.000	94	122650	50.0	46.3	
85 Isopropylbenzene	105	13.031	13.031	0.000	98	1771981	50.0	52.1	
$ 86 4-Bromofluorobenzene (Surr	95	13.267	13.267	0.000	80	459022	50.0	49.7	
88 N-Propylbenzene	91	13.350	13.350	0.000	98	2184539	50.0	48.6	
87 Bromobenzene	156	13.374	13.374	0.000	97	341063	50.0	49.9	
89 1,1,2,2-Tetrachloroethane	83	13.397	13.397	0.000	95	306817	50.0	48.1	
91 1,3,5-Trimethylbenzene	105	13.480	13.480	0.000	94	1594357	50.0	50.8	
90 2-Chlorotoluene	91	13.492	13.492	0.000	95	1589794	50.0	50.1	
92 1,2,3-Trichloropropane	110	13.528	13.528	0.000	85	84554	50.0	50.8	
93 trans-1,4-Dichloro-2-buten	53	13.528	13.528	0.000	85	89044	50.0	42.9	
94 Cyclohexanone	55	13.587	13.587	0.000	98	96275	500.0	484.3	
95 4-Chlorotoluene	91	13.610	13.610	0.000	99	1367511	50.0	51.2	
96 tert-Butylbenzene	119	13.729	13.729	0.000	93	1306673	50.0	53.7	
97 1,2,4-Trimethylbenzene	105	13.776	13.776	0.000	99	1655856	50.0	50.5	
98 sec-Butylbenzene	105	13.859	13.859	0.000	96	2087883	50.0	49.1	
99 4-Isopropyltoluene	119	13.942	13.942	0.000	96	1699466	50.0	49.5	
100 1,3-Dichlorobenzene	146	14.060	14.060	0.000	97	779174	50.0	50.2	
* 101 1,4-Dichlorobenzene-d4	152	14.107	14.107	0.000	75	507903	50.0	50.0	
120 1,2,3-Trimethylbenzene	105	14.107	14.107	0.000	97	1766747	50.0	51.1	
102 1,4-Dichlorobenzene	146	14.119	14.119	0.000	93	813162	50.0	50.0	
103 n-Butylbenzene	134	14.261	14.261	0.000	98	451640	50.0	46.9	
121 Benzyl chloride	126	14.285	14.285	0.000	56	78728	50.0	31.8	
104 1,2-Dichlorobenzene	146	14.427	14.427	0.000	90	727817	50.0	50.6	
106 n-Nonyl Aldehyde	57	14.947	14.947	0.000	85	279672	50.0	44.8	
105 1,2-Dibromo-3-Chloropropan	157	15.030	15.030	0.000	71	52435	50.0	52.1	
107 1,3,5-Trichlorobenzene	180	15.042	15.042	0.000	95	587562	50.0	47.8	
108 Hexachlorobutadiene	225	15.504	15.504	0.000	96	291422	50.0	47.0	
109 1,2,4-Trichlorobenzene	180	15.563	15.563	0.000	91	491360	50.0	48.6	
110 Naphthalene	128	15.870	15.870	0.000	98	966173	50.0	50.4	
111 1,2,3-Trichlorobenzene	180	16.036	16.036	0.000	93	406248	50.0	47.6	
S 112 Xylenes, Total	106				0			104.0	
S 113 Trihalomethanes, Total	1				0			194.6	

QC Flag Legend

Review Flags

M - Manually Integrated

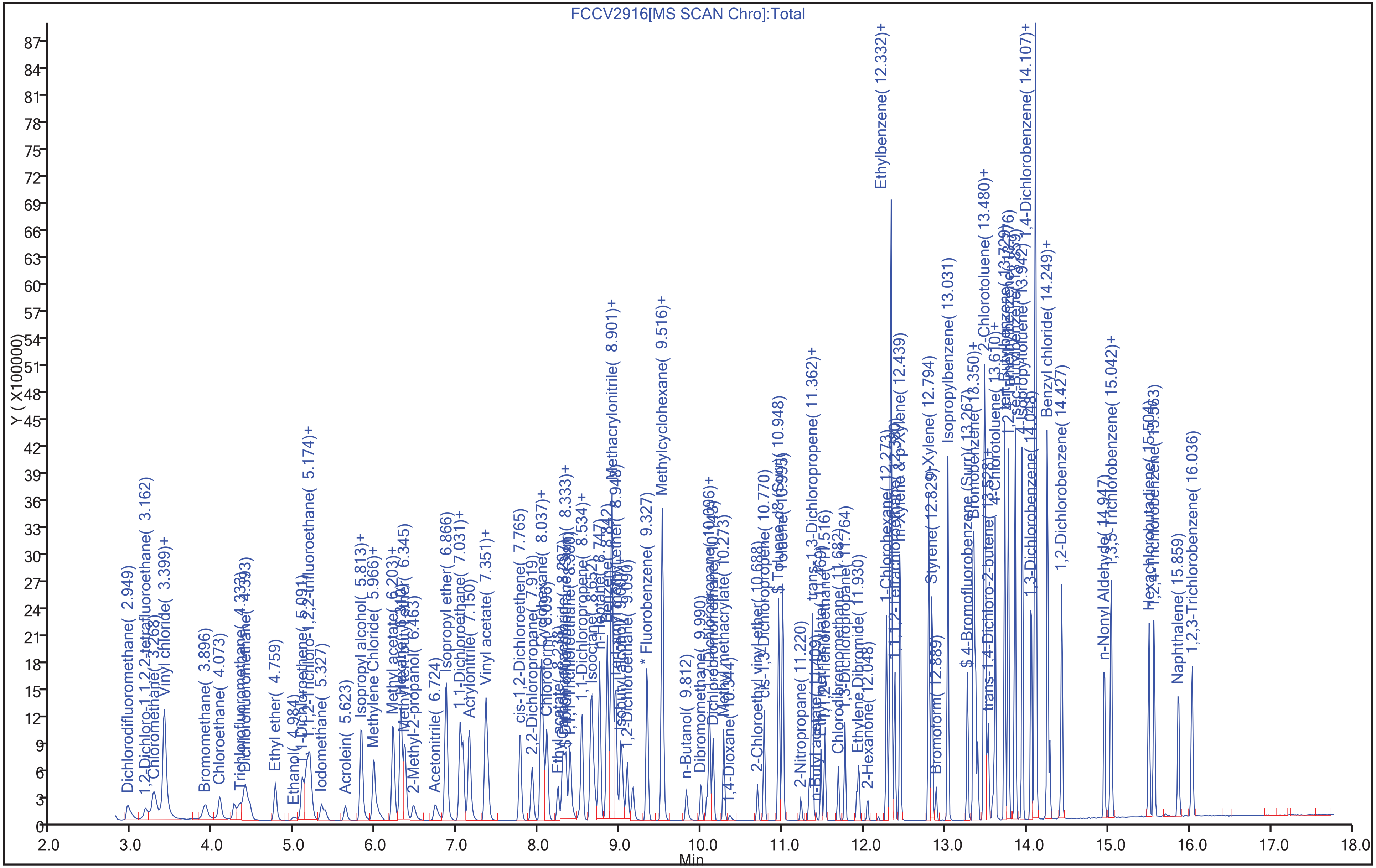
Reagents:

8260 NewWkMix_00241	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 11-Oct-2017 22:55:25 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2916.D
Injection Date: 10-Oct-2017 04:37:30 Instrument ID: VMSF Operator ID: JDH
Lims ID: CCVC Worklist Smp#: 26
Client ID:
Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 23
Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD



Manual Integration/User Assign Peak Report

TestAmerica St. Louis

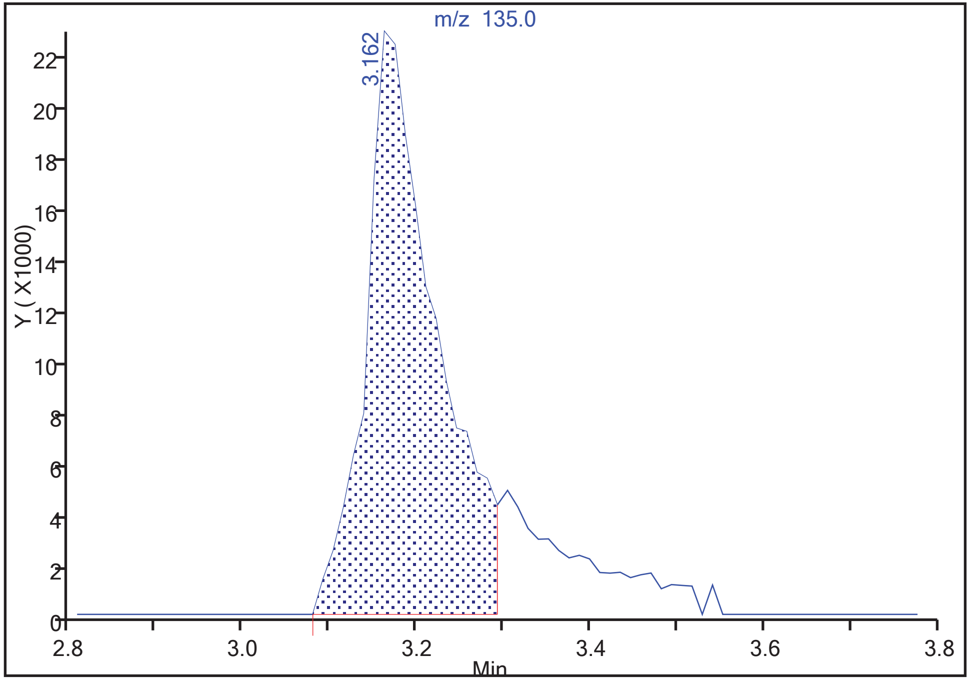
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2916.D				
Injection Date:	10-Oct-2017 04:37:30	Instrument ID:	VMSF		
Lims ID:	CCVC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	23	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

2 1,2-Dichloro-1,1,2,2-tetrafluoroethane, CAS: 76-14-2

Signal: 1

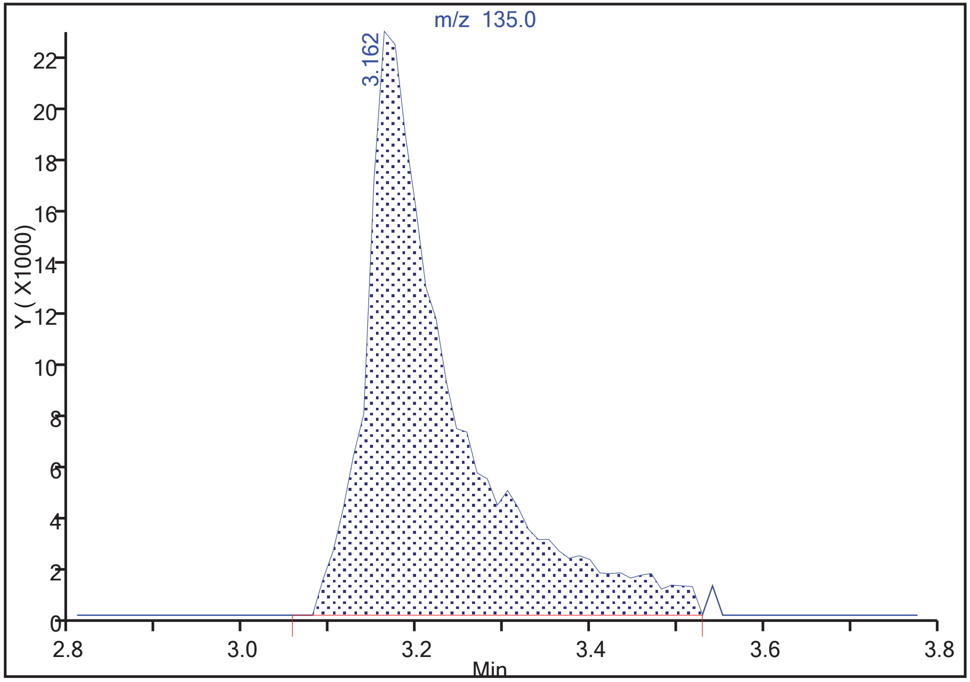
Processing Integration Results

RT: 3.16
Area: 129155
Amount: 38.346311
Amount Units: ug/l



Manual Integration Results

RT: 3.16
Area: 158543
Amount: 47.071652
Amount Units: ug/l



Reviewer: hannj, 11-Oct-2017 22:53:59

Audit Action: Manually Integrated Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

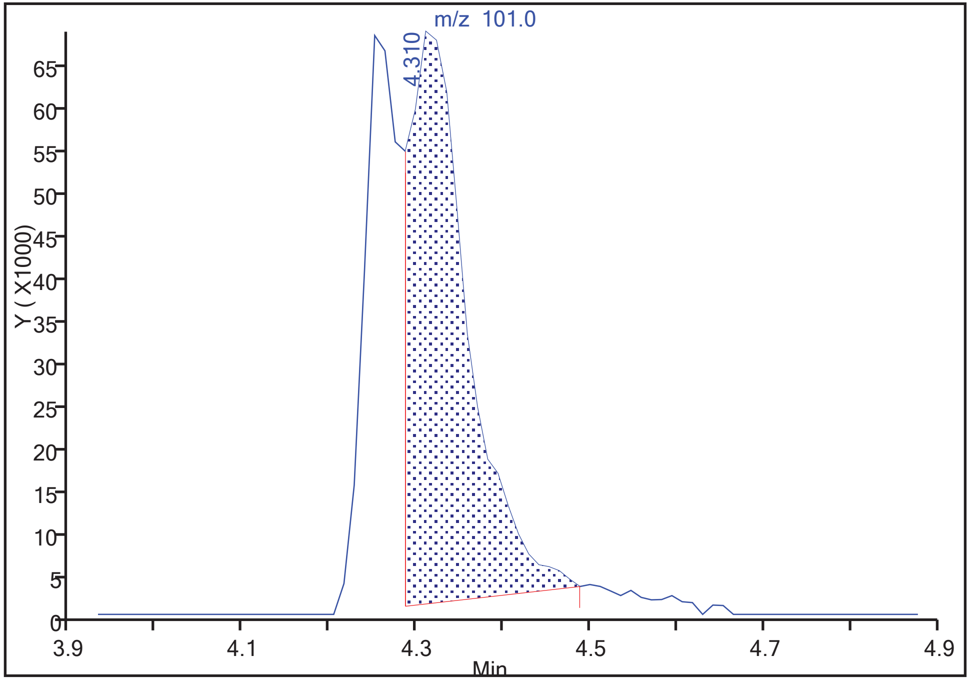
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2916.D				
Injection Date:	10-Oct-2017 04:37:30	Instrument ID:	VMSF		
Lims ID:	CCVC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	23	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

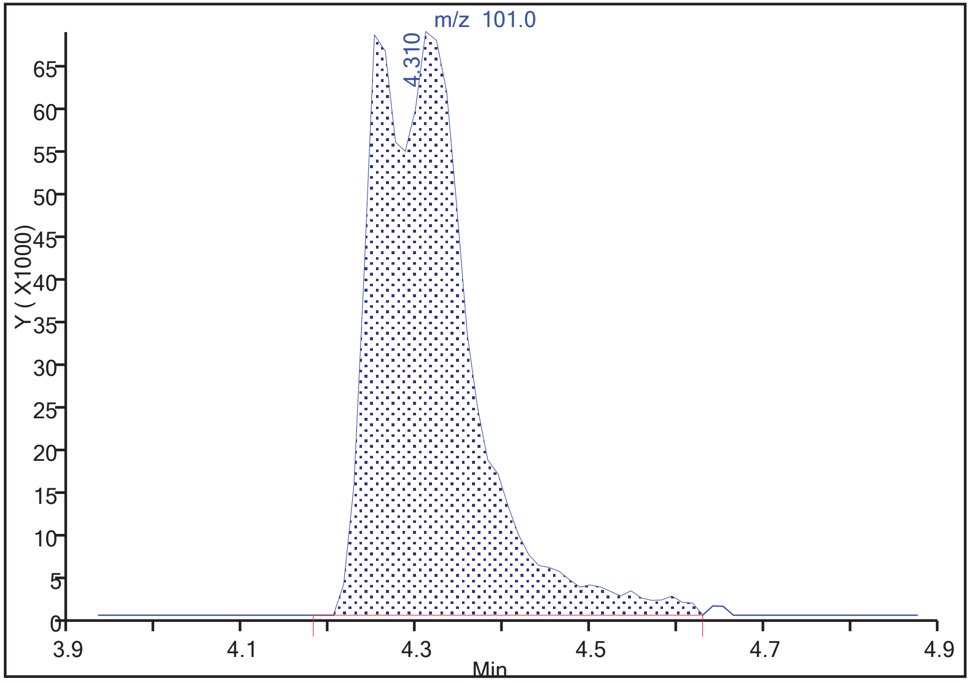
Processing Integration Results

RT: 4.31
Area: 332311
Amount: 23.669851
Amount Units: ug/l



Manual Integration Results

RT: 4.31
Area: 554761
Amount: 39.514521
Amount Units: ug/l



Reviewer: hannj, 11-Oct-2017 22:54:16

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

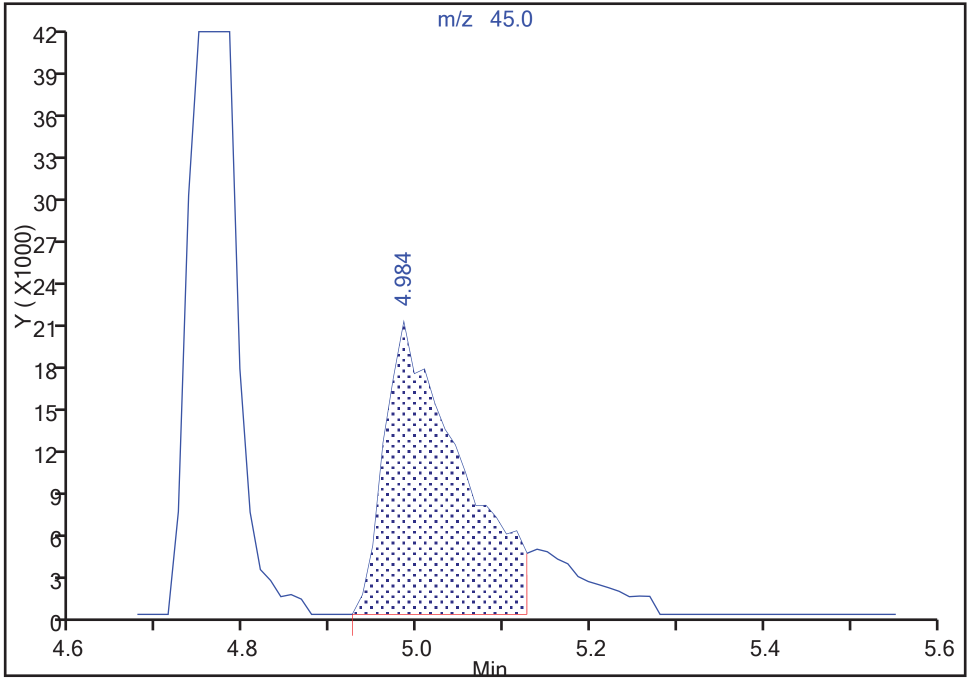
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2916.D				
Injection Date:	10-Oct-2017 04:37:30	Instrument ID:	VMSF		
Lims ID:	CCVC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	23	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

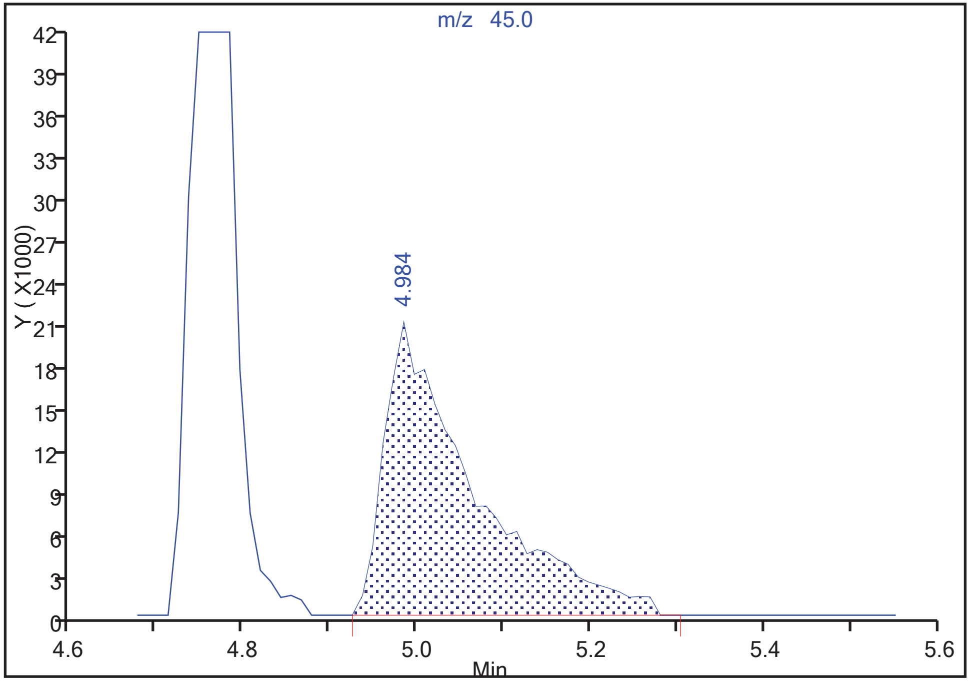
RT: 4.98
Area: 126165
Amount: 1713.2439
Amount Units: ug/l

Processing Integration Results



RT: 4.98
Area: 148097
Amount: 2005.2313
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 11-Oct-2017 22:54:28
Audit Action: Manually Integrated
Audit Reason: Peak Tail

TestAmerica St. Louis

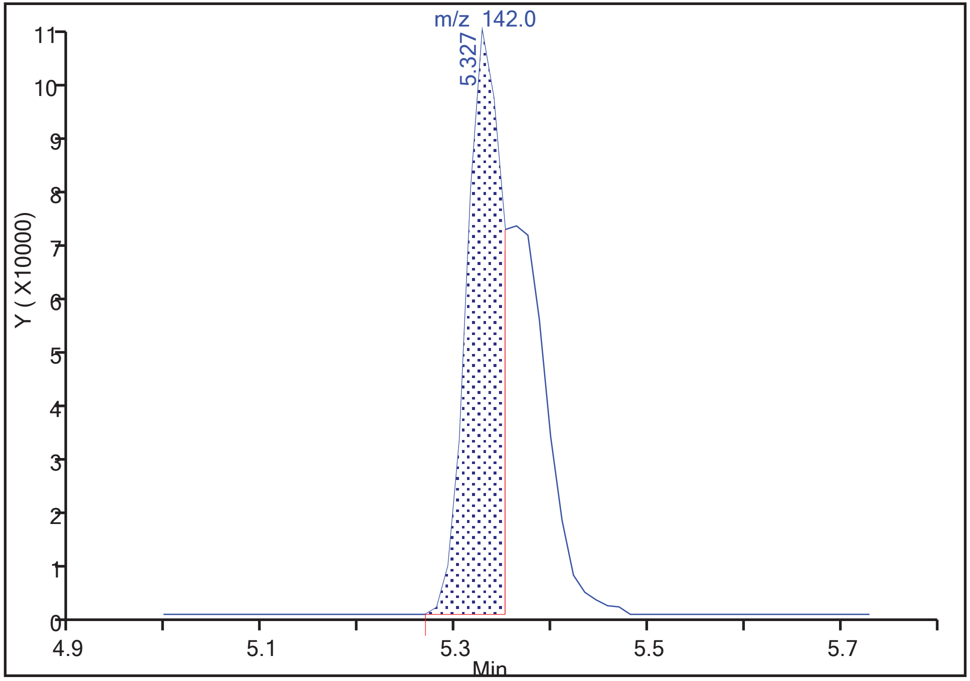
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FCCV2916.D				
Injection Date:	10-Oct-2017 04:37:30	Instrument ID:	VMSF		
Lims ID:	CCVC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	23	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

13 Iodomethane, CAS: 74-88-4

Signal: 1

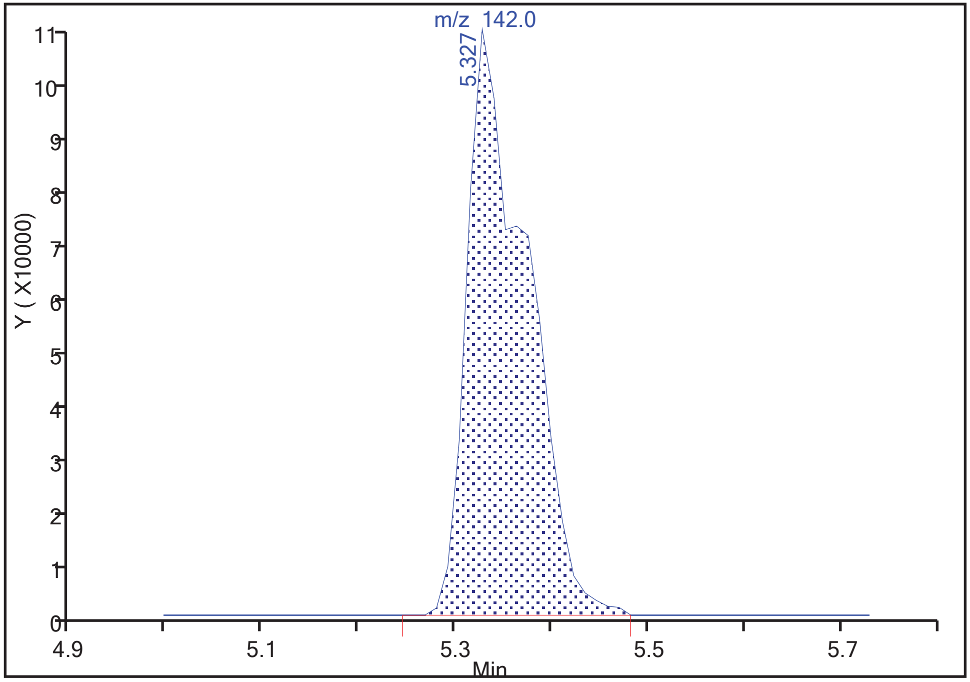
Processing Integration Results

RT:	5.33
Area:	269750
Amount:	27.633787
Amount Units:	ug/l



Manual Integration Results

RT:	5.33
Area:	449482
Amount:	46.045931
Amount Units:	ug/l



Reviewer: hannj, 11-Oct-2017 22:54:41

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332154/3   Calibration Date: 10/16/2017 16:37

Instrument ID: VMSF   Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40   ID: 0.18(mm)   Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3032.D   Conc. Units: ug/L   Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3657	0.3894	0.1000	53.2	50.0	6.5	20.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1220	0.1479	0.0100	60.6	50.0	21.3*	20.0
Chloromethane	Ave	0.6563	0.6185	0.1000	47.1	50.0	-5.8	20.0
Butadiene	Qua		0.5737	0.0100	39.7	50.0	-20.6*	20.0
Vinyl chloride	Ave	0.5827	0.4932	0.1000	42.3	50.0	-15.4	20.0
Bromomethane	LinF		0.1650	0.1000	43.4	50.0	-13.1	20.0
Chloroethane	LinF		0.2534	0.1000	57.4	50.0	14.8	20.0
Trichlorofluoromethane	Ave	0.5084	0.5107	0.1000	50.2	50.0	0.5	20.0
Dichlorofluoromethane	Ave	0.6470	0.6449	0.0100	49.8	50.0	-0.3	20.0
Ethyl ether	Ave	0.1566	0.1653	0.0100	52.8	50.0	5.6	20.0
Ethanol	Lin1		0.0023*	0.0100	1700	2000	-15.2	20.0
1,1-Dichloroethene	Ave	0.2697	0.2833	0.1000	52.5	50.0	5.1	20.0
Carbon disulfide	Ave	1.054	1.095	0.1000	52.0	50.0	3.9	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1903	0.2015	0.1000	52.9	50.0	5.9	20.0
Iodomethane	Ave	0.3535	0.3719	0.0100	52.6	50.0	5.2	20.0
Acrolein	Ave	0.0367	0.0385	0.0010	263	250	5.1	20.0
3-Chloro-1-propene	Ave	0.5102	0.5180	0.0100	50.8	50.0	1.5	20.0
Isopropyl alcohol	Ave	0.0141	0.0155	0.0100	553	500	10.6	20.0
Methylene Chloride	Ave	0.3223	0.3146	0.1000	48.8	50.0	-2.4	20.0
Acetone	Lin		0.0746*	0.1000	57.3	50.0	14.7	20.0
trans-1,2-Dichloroethene	Ave	0.3075	0.3194	0.1000	51.9	50.0	3.9	20.0
Methyl acetate	Ave	0.0110	0.0126*	0.1000	286	250	14.4	20.0
Hexane	Ave	0.0875	0.0957	0.0100	54.7	50.0	9.3	20.0
Methyl tert-butyl ether	Ave	0.6903	0.7443	0.1000	53.9	50.0	7.8	20.0
2-Methyl-2-propanol	Ave	0.0209	0.0234	0.0100	560	500	12.0	20.0
Acetonitrile	Ave	0.0266	0.0292	0.0010	549	500	9.9	20.0
Isopropyl ether	Ave	1.183	1.310	0.0100	55.4	50.0	10.7	20.0
2-Chloro-1,3-butadiene	Ave	0.5969	0.6391	0.0100	53.5	50.0	7.1	20.0
1,1-Dichloroethane	Ave	0.6566	0.6729	0.2000	51.2	50.0	2.5	20.0
Acrylonitrile	Ave	0.0779	0.0855	0.0100	549	500	9.8	20.0
Tert-butyl ethyl ether	Ave	0.9600	1.041	0.0100	54.2	50.0	8.4	20.0
Vinyl acetate	Ave	0.6095	0.6685	0.0100	54.8	50.0	9.7	20.0
cis-1,2-Dichloroethene	Ave	0.3237	0.3397	0.1000	52.5	50.0	4.9	20.0
2,2-Dichloropropane	Ave	0.3859	0.4340	0.0100	56.2	50.0	12.4	20.0
Bromochloromethane	Ave	0.1132	0.1184	0.0100	52.3	50.0	4.6	20.0
Cyclohexane	Ave	0.5597	0.5955	0.1000	53.2	50.0	6.4	20.0
Chloroform	Ave	0.5697	0.5758	0.2000	50.5	50.0	1.1	20.0
Ethyl acetate	Ave	0.0286	0.0300	0.0100	105	100	4.9	20.0
Carbon tetrachloride	Ave	0.3709	0.3956	0.1000	53.3	50.0	6.6	20.0
1,1,1-Trichloroethane	Ave	0.4971	0.5169	0.1000	52.0	50.0	4.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332154/3　Calibration Date: 10/16/2017 16:37

Instrument ID: VMSF　Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40　ID: 0.18(mm)　Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3032.D　Conc. Units: ug/L　Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Butanone (MEK)	Ave	0.0956	0.1025	0.1000	53.6	50.0	7.2	20.0
1,1-Dichloropropene	Ave	0.4509	0.4783	0.0100	53.0	50.0	6.1	20.0
Isooctane	Ave	1.631	1.782	0.0100	54.6	50.0	9.3	20.0
n-Heptane	Ave	0.6830	0.7414	0.0100	54.3	50.0	8.5	20.0
Benzene	Ave	1.219	1.245	0.5000	51.1	50.0	2.2	20.0
Propionitrile	Ave	0.0290	0.0311	0.0010	537	500	7.5	20.0
Methacrylonitrile	Ave	0.1496	0.1633	0.0100	546	500	9.2	20.0
Tert-amyl methyl ether	Ave	0.7797	0.8322	0.0100	53.4	50.0	6.7	20.0
Isobutyl alcohol	Ave	0.0064	0.0074	0.0010	1440	1250	15.4	20.0
1,2-Dichloroethane	Ave	0.3636	0.3722	0.1000	51.2	50.0	2.4	20.0
Methylcyclohexane	Ave	0.6305	0.6613	0.1000	52.4	50.0	4.9	20.0
Trichloroethene	Ave	0.3165	0.3126	0.2000	49.4	50.0	-1.2	20.0
n-Butanol	Qua		0.0062*	0.0100	1350	1250	7.9	20.0
Dibromomethane	Ave	0.1255	0.1318	0.0100	52.5	50.0	5.1	20.0
Ethyl acrylate	Lin1		0.1990	0.0100	49.8	50.0	-0.3	20.0
1,2-Dichloropropane	Ave	0.3005	0.3151	0.1000	52.4	50.0	4.9	20.0
Bromodichloromethane	Ave	0.3540	0.3708	0.2000	52.4	50.0	4.7	20.0
Methyl methacrylate	Lin1		0.1133	0.0100	100	100	0.5	20.0
1,4-Dioxane	Lin1		0.0014	0.0010	784	1000	-21.6*	20.0
2-Chloroethyl vinyl ether	Lin1		0.1106	0.0100	51.3	50.0	2.6	20.0
cis-1,3-Dichloropropene	Ave	0.3693	0.3981	0.2000	53.9	50.0	7.8	20.0
Toluene	Ave	1.040	1.125	0.4000	54.1	50.0	8.1	20.0
2-Nitropropane	Lin1		0.0960	0.0100	106	100	5.5	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3105	0.3704	0.1000	59.6	50.0	19.3	20.0
Tetrachloroethene	Ave	0.2865	0.3084	0.2000	53.8	50.0	7.6	20.0
trans-1,3-Dichloropropene	Ave	0.4985	0.5524	0.1000	55.4	50.0	10.8	20.0
n-Butyl acetate	Ave	0.0614	0.0750	0.0100	61.0	50.0	22.1*	20.0
Ethyl methacrylate	Lin1		0.3750	0.0100	52.8	50.0	5.7	20.0
1,1,2-Trichloroethane	Ave	0.2360	0.2458	0.1000	52.1	50.0	4.1	20.0
Chlorodibromomethane	Ave	0.2642	0.2903	0.1000	54.9	50.0	9.9	20.0
1,3-Dichloropropane	Ave	0.4884	0.5170	0.0100	52.9	50.0	5.9	20.0
1,2-Dibromoethane	Ave	0.2252	0.2416	0.1000	53.6	50.0	7.3	20.0
2-Hexanone	Ave	0.1818	0.2050	0.1000	56.4	50.0	12.8	20.0
1-Chlorohexane	Ave	0.5973	0.6254	0.0100	52.4	50.0	4.7	20.0
Chlorobenzene	Ave	1.086	1.129	0.5000	52.0	50.0	3.9	20.0
Ethylbenzene	Ave	2.201	2.196	0.1000	49.9	50.0	-0.2	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3828	0.4079	0.0100	53.3	50.0	6.5	20.0
m-Xylene & p-Xylene	Ave	0.7432	0.8271	0.1000	55.6	50.0	11.3	20.0
o-Xylene	Ave	0.7495	0.8326	0.3000	55.5	50.0	11.1	20.0
Styrene	Ave	1.039	1.157	0.3000	55.7	50.0	11.3	20.0
Bromoform	Lin1		0.2570	0.1000	49.1	50.0	-1.8	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332154/3   Calibration Date: 10/16/2017 16:37

Instrument ID: VMSF   Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40   ID: 0.18(mm)   Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3032.D   Conc. Units: ug/L   Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropylbenzene	Qua		3.732	0.1000	56.4	50.0	12.7	20.0
N-Propylbenzene	Ave	4.426	4.472	0.0100	50.5	50.0	1.0	20.0
Bromobenzene	Ave	0.6734	0.7046	0.0100	52.3	50.0	4.6	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6282	0.6608	0.3000	52.6	50.0	5.2	20.0
1,3,5-Trimethylbenzene	Ave	3.090	3.282	0.0100	53.1	50.0	6.2	20.0
2-Chlorotoluene	Qua		3.282	0.0100	52.8	50.0	5.6	20.0
1,2,3-Trichloropropane	Ave	0.1640	0.1801	0.0100	54.9	50.0	9.9	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2043	0.2026	0.0100	49.6	50.0	-0.9	20.0
Cyclohexanone	Ave	0.0196	0.0194	0.0010	494	500	-1.1	20.0
4-Chlorotoluene	Qua		2.846	0.0100	54.5	50.0	9.0	20.0
tert-Butylbenzene	Ave	2.395	2.711	0.0100	56.6	50.0	13.2	20.0
1,2,4-Trimethylbenzene	Ave	3.228	3.368	0.0100	52.2	50.0	4.3	20.0
sec-Butylbenzene	Ave	4.184	4.271	0.0100	51.0	50.0	2.1	20.0
4-Isopropyltoluene	Ave	3.379	3.471	0.0100	51.4	50.0	2.7	20.0
1,3-Dichlorobenzene	Ave	1.528	1.608	0.6000	52.6	50.0	5.2	20.0
1,2,3-Trimethylbenzene	Ave	3.405	3.408	0.0100	50.0	50.0	0.0	20.0
1,4-Dichlorobenzene	Ave	1.601	1.654	0.5000	51.7	50.0	3.3	20.0
n-Butylbenzene	Ave	0.9475	0.9914	0.0100	52.3	50.0	4.6	20.0
Benzyl chloride	Ave	0.2435	0.2739	0.0100	56.2	50.0	12.4	20.0
1,2-Dichlorobenzene	Ave	1.417	1.486	0.4000	52.4	50.0	4.8	20.0
n-Nonyl Aldehyde	Ave	0.6140	0.6070	0.0100	49.4	50.0	-1.2	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.0990	0.1061	0.0500	53.6	50.0	7.1	20.0
1,3,5-Trichlorobenzene	Ave	1.211	1.228	0.0100	50.7	50.0	1.5	20.0
Hexachlorobutadiene	Ave	0.6109	0.6182	0.0100	50.6	50.0	1.2	20.0
1,2,4-Trichlorobenzene	Ave	0.996	0.9900	0.2000	49.7	50.0	-0.6	20.0
Naphthalene	Ave	1.886	1.897	0.0100	50.3	50.0	0.6	20.0
1,2,3-Trichlorobenzene	Ave	0.8403	0.7684	0.0100	45.7	50.0	-8.6	20.0
Dibromofluoromethane (Surr)	Ave	0.2372	0.2371	0.0100	50.0	50.0	-0.0	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3058	0.3057	0.0100	50.0	50.0	-0.0	20.0
Toluene-d8 (Surr)	Ave	1.396	1.511	0.0100	54.1	50.0	8.3	20.0
4-Bromofluorobenzene (Surr)	Ave	0.9091	0.9767	0.0100	53.7	50.0	7.4	20.0

FORM VII 8260C DOD

Report Date: 18-Oct-2017 21:59:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FCCV3032.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 16-Oct-2017 16:37:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-003
Misc. Info.: CCV
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 21:59:04 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 21:59:03

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.936	2.936	0.000	100	684358	50.0	53.2	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.161	3.161	0.000	97	259994	50.0	60.6	
3 Chloromethane	50	3.255	3.255	0.000	100	1087156	50.0	47.1	
122 Butadiene	39	3.386	3.386	0.000	97	1008411	50.0	39.7	
4 Vinyl chloride	62	3.397	3.397	0.000	98	866845	50.0	42.3	
5 Bromomethane	94	3.894	3.894	0.000	92	289938	50.0	43.4	
6 Chloroethane	64	4.072	4.072	0.000	99	445466	50.0	57.4	
7 Trichlorofluoromethane	101	4.308	4.308	0.000	95	897691	50.0	50.2	M
123 Dichlorofluoromethane	67	4.379	4.379	0.000	100	1133574	50.0	49.8	
8 Ethyl ether	74	4.746	4.746	0.000	95	290488	50.0	52.8	
11 Ethanol	45	4.971	4.971	0.000	23	158917	2000.0	1695.6	
9 1,1-Dichloroethene	96	5.089	5.089	0.000	94	497977	50.0	52.5	
10 Carbon disulfide	76	5.149	5.149	0.000	100	1925022	50.0	52.0	
12 1,1,2-Trichloro-1,2,2-trif	151	5.172	5.172	0.000	97	354123	50.0	52.9	
13 Iodomethane	142	5.314	5.314	0.000	100	653747	50.0	52.6	
14 Acrolein	56	5.610	5.610	0.000	99	338724	250.0	262.9	
16 Isopropyl alcohol	45	5.811	5.811	0.000	17	273187	500.0	553.0	
15 3-Chloro-1-propene	39	5.811	5.811	0.000	90	910390	50.0	50.8	
S 26 1,2-Dichloroethene, Total	96				0			104.4	
17 Methylene Chloride	84	5.965	5.965	0.000	97	552951	50.0	48.8	
18 Acetone	43	6.048	6.048	0.000	98	131174	50.0	57.3	
19 trans-1,2-Dichloroethene	96	6.202	6.202	0.000	94	561311	50.0	51.9	
20 Methyl acetate	74	6.214	6.214	0.000	100	110820	250.0	286.1	
21 Hexane	86	6.296	6.296	0.000	96	168121	50.0	54.7	
22 Methyl tert-butyl ether	73	6.344	6.344	0.000	91	1308283	50.0	53.9	
23 2-Methyl-2-propanol	59	6.450	6.450	0.000	97	410801	500.0	560.2	
24 Acetonitrile	41	6.711	6.711	0.000	99	513752	500.0	549.4	
25 Isopropyl ether	45	6.853	6.853	0.000	95	2303005	50.0	55.4	
27 2-Chloro-1,3-butadiene	53	7.018	7.018	0.000	94	1123277	50.0	53.5	
28 1,1-Dichloroethane	63	7.054	7.054	0.000	97	1182768	50.0	51.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.137	7.137	0.000	99	1503390	500.0	549.1	
30 Tert-butyl ethyl ether	59	7.338	7.338	0.000	98	1829368	50.0	54.2	
31 Vinyl acetate	43	7.361	7.361	0.000	97	1174969	50.0	54.8	
32 cis-1,2-Dichloroethene	96	7.764	7.764	0.000	86	597034	50.0	52.5	
33 2,2-Dichloropropane	77	7.906	7.906	0.000	94	762729	50.0	56.2	
35 Chlorobromomethane	128	8.024	8.024	0.000	87	208089	50.0	52.3	
34 Cyclohexane	84	8.024	8.024	0.000	96	1046672	50.0	53.2	
36 Chloroform	83	8.095	8.095	0.000	97	1012009	50.0	50.5	
39 Ethyl acetate	45	8.225	8.225	0.000	99	105550	100.0	104.9	
37 Carbon tetrachloride	117	8.284	8.284	0.000	97	695251	50.0	53.3	
38 Tetrahydrofuran	71	8.308	8.308	0.000	94	76768	100.0	119.0	
$ 41 Dibromofluoromethane (Surr	113	8.320	8.320	0.000	93	416718	50.0	50.0	
40 1,1,1-Trichloroethane	97	8.379	8.379	0.000	97	908457	50.0	52.0	
43 2-Butanone (MEK)	43	8.485	8.485	0.000	98	180122	50.0	53.6	
42 1,1-Dichloropropene	75	8.521	8.521	0.000	91	840727	50.0	53.0	
125 Isooctane	57	8.639	8.639	0.000	98	3132600	50.0	54.6	
117 n-Heptane	43	8.734	8.734	0.000	96	1303064	50.0	54.3	
44 Benzene	78	8.829	8.829	0.000	99	2188967	50.0	51.1	
45 Propionitrile	54	8.864	8.864	0.000	98	547073	500.0	537.3	
46 Methacrylonitrile	41	8.888	8.888	0.000	96	2869997	500.0	545.9	
48 Tert-amyl methyl ether	73	8.935	8.935	0.000	95	1462636	50.0	53.4	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.994	8.994	0.000	95	537303	50.0	50.0	
50 Isobutyl alcohol	42	9.018	9.018	0.000	92	325901	1250.0	1442.5	
49 1,2-Dichloroethane	62	9.077	9.077	0.000	97	654175	50.0	51.2	
* 51 Fluorobenzene	96	9.326	9.326	0.000	97	1757649	50.0	50.0	
52 Methylcyclohexane	55	9.515	9.515	0.000	96	1162273	50.0	52.4	
53 Trichloroethene	95	9.515	9.515	0.000	62	549428	50.0	49.4	
54 n-Butanol	56	9.811	9.811	0.000	95	272394	1250.0	1349.4	
55 Dibromomethane	93	9.988	9.988	0.000	88	231673	50.0	52.5	
124 Ethyl acrylate	55	10.059	10.059	0.000	99	349715	50.0	49.8	
56 1,2-Dichloropropane	63	10.095	10.095	0.000	93	553814	50.0	52.4	
57 Dichlorobromomethane	83	10.130	10.130	0.000	98	651645	50.0	52.4	
58 Methyl methacrylate	69	10.272	10.272	0.000	94	398204	100.0	100.5	
59 1,4-Dioxane	88	10.343	10.343	0.000	95	47484	1000.0	784.0	
60 2-Chloroethyl vinyl ether	63	10.686	10.686	0.000	92	194355	50.0	51.3	
61 cis-1,3-Dichloropropene	75	10.769	10.769	0.000	91	699688	50.0	53.9	
$ 62 Toluene-d8 (Surr)	98	10.947	10.947	0.000	95	1595334	50.0	54.1	
63 Toluene	92	10.994	10.994	0.000	98	1187440	50.0	54.1	
64 2-Nitropropane	43	11.219	11.219	0.000	98	202668	100.0	105.5	
66 4-Methyl-2-pentanone (MIBK	43	11.325	11.325	0.000	98	391025	50.0	59.6	
65 Tetrachloroethene	164	11.349	11.349	0.000	88	325579	50.0	53.8	
67 trans-1,3-Dichloropropene	75	11.361	11.361	0.000	97	583197	50.0	55.4	
119 n-Butyl acetate	43	11.396	11.396	0.000	99	79176	50.0	61.0	
69 Ethyl methacrylate	69	11.467	11.467	0.000	94	395894	50.0	52.8	
68 1,1,2-Trichloroethane	83	11.515	11.515	0.000	93	259463	50.0	52.1	
S 73 1,3-Dichloropropene, Total	75				0			109.3	
70 Chlorodibromomethane	129	11.680	11.680	0.000	90	306485	50.0	54.9	
71 1,3-Dichloropropane	76	11.763	11.763	0.000	98	545783	50.0	52.9	
72 Ethylene Dibromide	107	11.905	11.905	0.000	98	255084	50.0	53.6	
74 2-Hexanone	43	12.035	12.035	0.000	99	216458	50.0	56.4	
75 1-Chlorohexane	91	12.272	12.272	0.000	85	660216	50.0	52.4	
* 76 Chlorobenzene-d5	117	12.319	12.319	0.000	92	1055739	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
78 Ethylbenzene	91	12.331	12.331	0.000	91	2318900	50.0	49.9	
77 Chlorobenzene	112	12.331	12.331	0.000	76	1191643	50.0	52.0	
79 1,1,1,2-Tetrachloroethane	131	12.378	12.378	0.000	94	430629	50.0	53.3	
80 m-Xylene & p-Xylene	106	12.438	12.438	0.000	97	873174	50.0	55.6	
82 o-Xylene	106	12.793	12.793	0.000	98	879003	50.0	55.5	
83 Styrene	104	12.828	12.828	0.000	93	1221287	50.0	55.7	
84 Bromoform	173	12.887	12.887	0.000	97	161423	50.0	49.1	
85 Isopropylbenzene	105	13.029	13.029	0.000	98	2343395	50.0	56.4	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.266	0.000	77	613341	50.0	53.7	
88 N-Propylbenzene	91	13.337	13.337	0.000	98	2808446	50.0	50.5	
87 Bromobenzene	156	13.361	13.361	0.000	95	442473	50.0	52.3	
89 1,1,2,2-Tetrachloroethane	83	13.396	13.396	0.000	94	415008	50.0	52.6	
91 1,3,5-Trimethylbenzene	105	13.467	13.467	0.000	93	2060887	50.0	53.1	
90 2-Chlorotoluene	91	13.491	13.491	0.000	95	2061011	50.0	52.8	
92 1,2,3-Trichloropropane	110	13.514	13.514	0.000	85	113115	50.0	54.9	
93 trans-1,4-Dichloro-2-buten	53	13.526	13.526	0.000	93	127203	50.0	49.6	
94 Cyclohexanone	55	13.574	13.574	0.000	97	121489	500.0	494.3	
95 4-Chlorotoluene	91	13.609	13.609	0.000	99	1787377	50.0	54.5	
96 tert-Butylbenzene	119	13.727	13.727	0.000	93	1702787	50.0	56.6	
97 1,2,4-Trimethylbenzene	105	13.775	13.775	0.000	99	2115156	50.0	52.2	
98 sec-Butylbenzene	105	13.858	13.858	0.000	96	2682491	50.0	51.0	
99 4-Isopropyltoluene	119	13.940	13.940	0.000	95	2179714	50.0	51.4	
100 1,3-Dichlorobenzene	146	14.047	14.047	0.000	92	1009778	50.0	52.6	
120 1,2,3-Trimethylbenzene	105	14.094	14.094	0.000	96	2140384	50.0	50.0	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.106	0.000	72	627999	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.118	14.118	0.000	93	1038464	50.0	51.7	
103 n-Butylbenzene	134	14.248	14.248	0.000	96	622581	50.0	52.3	
121 Benzyl chloride	126	14.284	14.284	0.000	66	171985	50.0	56.2	
104 1,2-Dichlorobenzene	146	14.426	14.426	0.000	92	933048	50.0	52.4	
106 n-Nonyl Aldehyde	57	14.946	14.946	0.000	84	381166	50.0	49.4	
105 1,2-Dibromo-3-Chloropropan	157	15.029	15.029	0.000	72	66597	50.0	53.6	
107 1,3,5-Trichlorobenzene	180	15.041	15.041	0.000	97	771463	50.0	50.7	
108 Hexachlorobutadiene	225	15.502	15.502	0.000	97	388217	50.0	50.6	
109 1,2,4-Trichlorobenzene	180	15.561	15.561	0.000	93	621689	50.0	49.7	
110 Naphthalene	128	15.857	15.857	0.000	98	1191535	50.0	50.3	
111 1,2,3-Trichlorobenzene	180	16.035	16.035	0.000	94	482533	50.0	45.7	
S 112 Xylenes, Total	106				0			111.2	
S 113 Trihalomethanes, Total	1				0			207.0	

QC Flag Legend

Review Flags
M - Manually Integrated

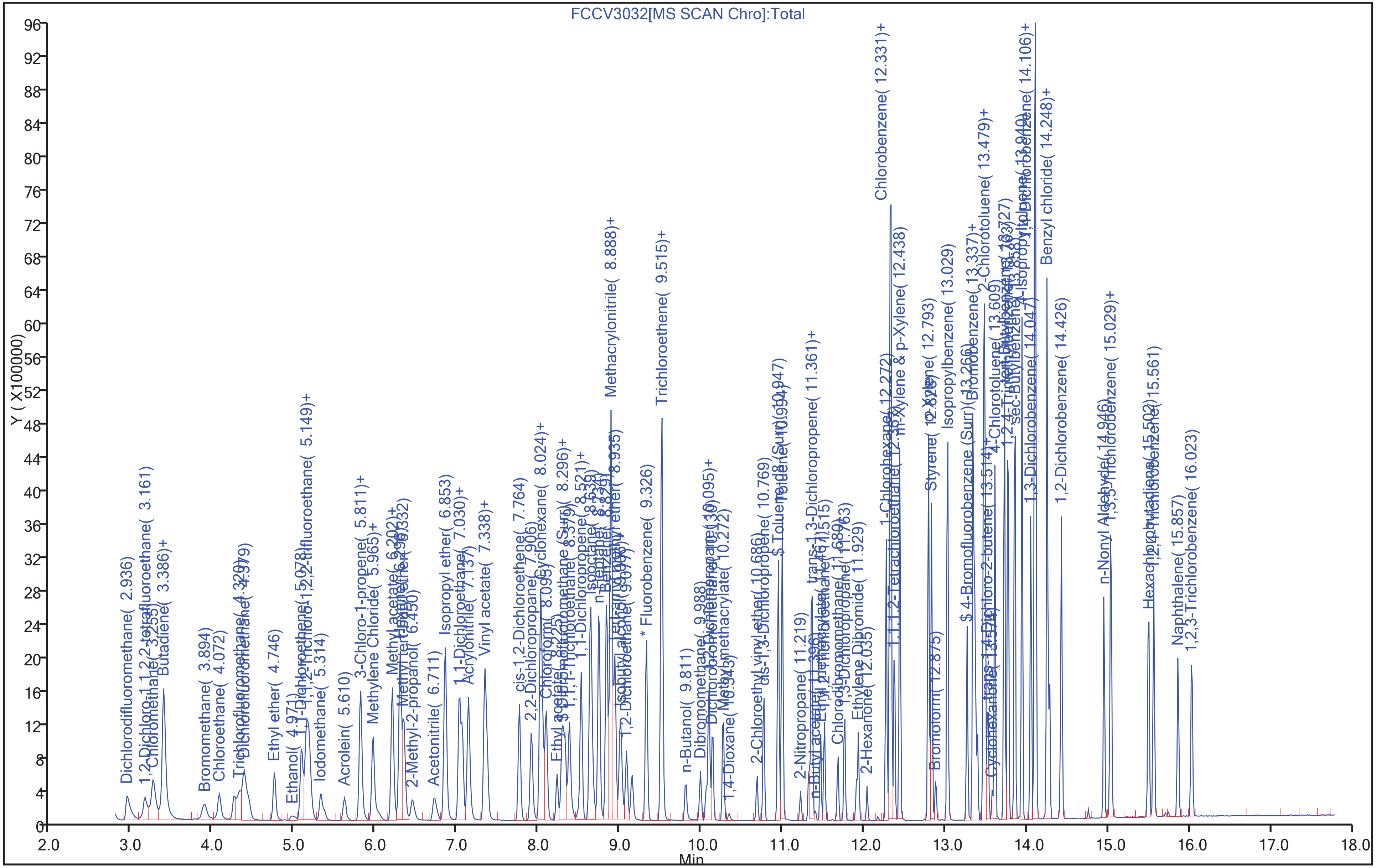
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 21:59:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FCCV3032.D				
Injection Date:	16-Oct-2017 16:37:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis

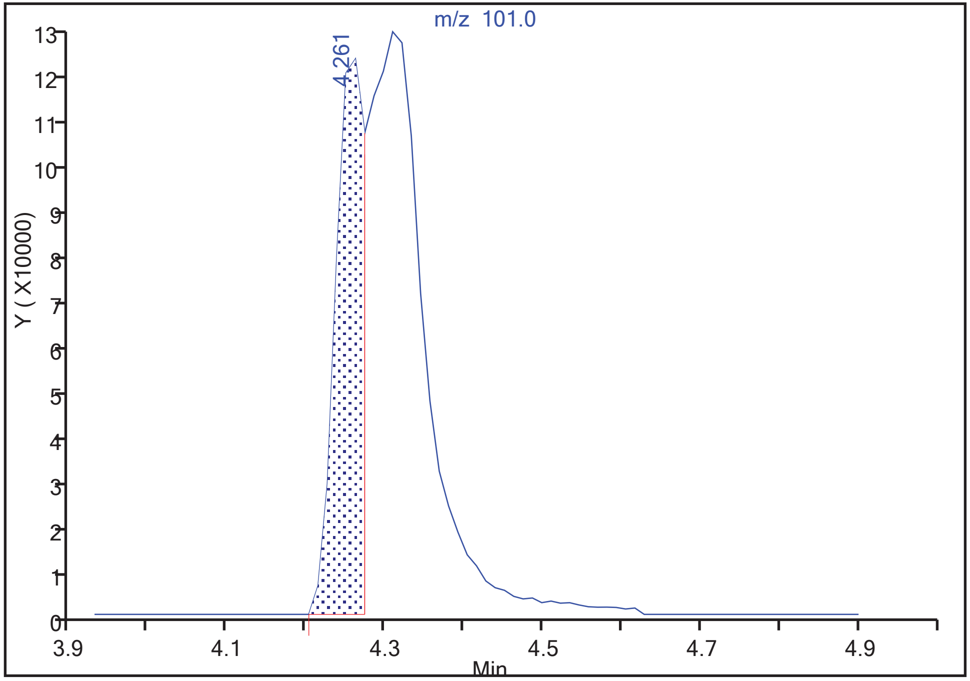
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FCCV3032.D				
Injection Date:	16-Oct-2017 16:37:30	Instrument ID:	VMSF		
Lims ID:	CCV				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	2	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

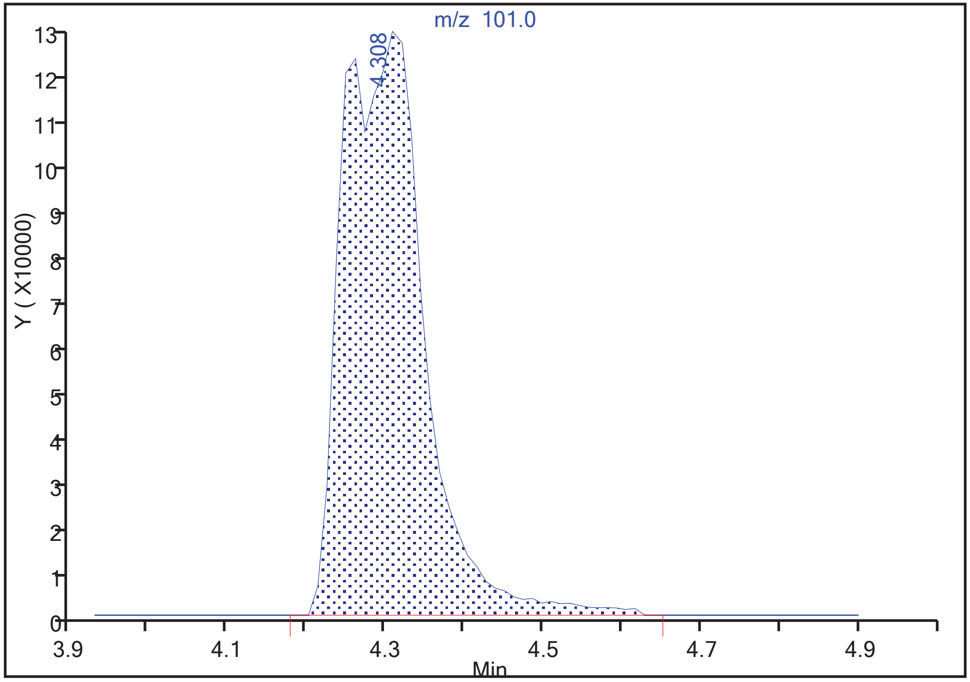
Processing Integration Results

RT:	4.26
Area:	313435
Amount:	17.537626
Amount Units:	ug/l



Manual Integration Results

RT:	4.31
Area:	897691
Amount:	50.228498
Amount Units:	ug/l



Reviewer: hannj, 18-Oct-2017 21:58:16

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332154/25   Calibration Date: 10/17/2017 02:06

Instrument ID: VMSF   Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40   ID: 0.18(mm)   Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3054.D   Conc. Units: ug/L   Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3657	0.3332	0.1000	45.6	50.0	-8.9	50.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1220	0.1376	0.0100	56.4	50.0	12.8	50.0
Chloromethane	Ave	0.6563	0.6027	0.1000	45.9	50.0	-8.2	50.0
Butadiene	Qua		0.6356	0.0100	44.5	50.0	-11.0	50.0
Vinyl chloride	Ave	0.5827	0.4940	0.1000	42.4	50.0	-15.2	50.0
Bromomethane	LinF		0.2164	0.1000	57.0	50.0	14.0	50.0
Chloroethane	LinF		0.2844	0.1000	64.4	50.0	28.8	50.0
Trichlorofluoromethane	Ave	0.5084	0.4529	0.1000	44.5	50.0	-10.9	50.0
Dichlorofluoromethane	Ave	0.6470	0.6139	0.0100	47.4	50.0	-5.1	50.0
Ethyl ether	Ave	0.1566	0.1524	0.0100	48.7	50.0	-2.6	50.0
Ethanol	Lin1		0.0024*	0.0100	1760	2000	-11.9	50.0
1,1-Dichloroethene	Ave	0.2697	0.2459	0.1000	45.6	50.0	-8.8	50.0
Carbon disulfide	Ave	1.054	1.006	0.1000	47.7	50.0	-4.5	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1903	0.1662	0.1000	43.7	50.0	-12.7	50.0
Iodomethane	Ave	0.3535	0.3342	0.0100	47.3	50.0	-5.5	50.0
Acrolein	Ave	0.0367	0.0310	0.0010	211	250	-15.5	50.0
3-Chloro-1-propene	Ave	0.5102	0.5048	0.0100	49.5	50.0	-1.1	50.0
Isopropyl alcohol	Ave	0.0141	0.0140	0.0100	498	500	-0.5	50.0
Methylene Chloride	Ave	0.3223	0.3004	0.1000	46.6	50.0	-6.8	50.0
Acetone	Lin		0.0673*	0.1000	51.5	50.0	3.1	50.0
trans-1,2-Dichloroethene	Ave	0.3075	0.2943	0.1000	47.9	50.0	-4.3	50.0
Methyl acetate	Ave	0.0110	0.0114*	0.1000	259	250	3.6	50.0
Hexane	Ave	0.0875	0.0812	0.0100	46.4	50.0	-7.2	50.0
Methyl tert-butyl ether	Ave	0.6903	0.6936	0.1000	50.2	50.0	0.5	50.0
2-Methyl-2-propanol	Ave	0.0209	0.0203	0.0100	487	500	-2.7	50.0
Acetonitrile	Ave	0.0266	0.0285	0.0010	535	500	7.0	50.0
Isopropyl ether	Ave	1.183	1.242	0.0100	52.5	50.0	5.0	50.0
2-Chloro-1,3-butadiene	Ave	0.5969	0.5897	0.0100	49.4	50.0	-1.2	50.0
1,1-Dichloroethane	Ave	0.6566	0.6572	0.2000	50.0	50.0	0.0	50.0
Acrylonitrile	Ave	0.0779	0.0781	0.0100	501	500	0.2	50.0
Tert-butyl ethyl ether	Ave	0.9600	0.9905	0.0100	51.6	50.0	3.2	50.0
Vinyl acetate	Ave	0.6095	0.6012	0.0100	49.3	50.0	-1.4	50.0
cis-1,2-Dichloroethene	Ave	0.3237	0.3229	0.1000	49.9	50.0	-0.3	50.0
2,2-Dichloropropane	Ave	0.3859	0.3810	0.0100	49.4	50.0	-1.3	50.0
Bromochloromethane	Ave	0.1132	0.1085	0.0100	47.9	50.0	-4.2	50.0
Cyclohexane	Ave	0.5597	0.5189	0.1000	46.4	50.0	-7.3	50.0
Chloroform	Ave	0.5697	0.5689	0.2000	49.9	50.0	-0.1	50.0
Ethyl acetate	Ave	0.0286	0.0262	0.0100	91.4	100	-8.6	50.0
Carbon tetrachloride	Ave	0.3709	0.3533	0.1000	47.6	50.0	-4.7	50.0
1,1,1-Trichloroethane	Ave	0.4971	0.4831	0.1000	48.6	50.0	-2.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332154/25 Calibration Date: 10/17/2017 02:06

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3054.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Butanone (MEK)	Ave	0.0956	0.0867*	0.1000	45.4	50.0	-9.3	50.0
1,1-Dichloropropene	Ave	0.4509	0.4401	0.0100	48.8	50.0	-2.4	50.0
Isooctane	Ave	1.631	1.543	0.0100	47.3	50.0	-5.4	50.0
n-Heptane	Ave	0.6830	0.6262	0.0100	45.8	50.0	-8.3	50.0
Benzene	Ave	1.219	1.231	0.5000	50.5	50.0	0.9	50.0
Propionitrile	Ave	0.0290	0.0287	0.0010	495	500	-0.9	50.0
Methacrylonitrile	Ave	0.1496	0.1583	0.0100	529	500	5.9	50.0
Tert-amyl methyl ether	Ave	0.7797	0.8127	0.0100	52.1	50.0	4.2	50.0
Isobutyl alcohol	Ave	0.0064	0.0067	0.0010	1300	1250	4.0	50.0
1,2-Dichloroethane	Ave	0.3636	0.3672	0.1000	50.5	50.0	1.0	50.0
Methylcyclohexane	Ave	0.6305	0.5863	0.1000	46.5	50.0	-7.0	50.0
Trichloroethene	Ave	0.3165	0.3095	0.2000	48.9	50.0	-2.2	50.0
n-Butanol	Qua		0.0053*	0.0100	1160	1250	-7.1	50.0
Dibromomethane	Ave	0.1255	0.1226	0.0100	48.9	50.0	-2.3	50.0
Ethyl acrylate	Lin1		0.1676	0.0100	42.4	50.0	-15.1	50.0
1,2-Dichloropropane	Ave	0.3005	0.3021	0.1000	50.3	50.0	0.5	50.0
Bromodichloromethane	Ave	0.3540	0.3636	0.2000	51.4	50.0	2.7	50.0
Methyl methacrylate	Lin1		0.0995	0.0100	88.9	100	-11.1	50.0
1,4-Dioxane	Lin1		0.0014	0.0010	795	1000	-20.5	50.0
2-Chloroethyl vinyl ether	Lin1		0.0922	0.0100	43.2	50.0	-13.6	50.0
cis-1,3-Dichloropropene	Ave	0.3693	0.3653	0.2000	49.5	50.0	-1.1	50.0
Toluene	Ave	1.040	1.082	0.4000	52.0	50.0	4.0	50.0
2-Nitropropane	Lin1		0.0831	0.0100	92.0	100	-8.0	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3105	0.3052	0.1000	49.1	50.0	-1.7	50.0
Tetrachloroethene	Ave	0.2865	0.2788	0.2000	48.6	50.0	-2.7	50.0
trans-1,3-Dichloropropene	Ave	0.4985	0.5016	0.1000	50.3	50.0	0.6	50.0
n-Butyl acetate	Ave	0.0614	0.0624	0.0100	50.8	50.0	1.5	50.0
Ethyl methacrylate	Lin1		0.3300	0.0100	46.8	50.0	-6.5	50.0
1,1,2-Trichloroethane	Ave	0.2360	0.2331	0.1000	49.4	50.0	-1.2	50.0
Chlorodibromomethane	Ave	0.2642	0.2783	0.1000	52.7	50.0	5.4	50.0
1,3-Dichloropropane	Ave	0.4884	0.4953	0.0100	50.7	50.0	1.4	50.0
1,2-Dibromoethane	Ave	0.2252	0.2163	0.1000	48.0	50.0	-4.0	50.0
2-Hexanone	Ave	0.1818	0.1692	0.1000	46.5	50.0	-6.9	50.0
1-Chlorohexane	Ave	0.5973	0.5622	0.0100	47.1	50.0	-5.9	50.0
Chlorobenzene	Ave	1.086	1.123	0.5000	51.7	50.0	3.4	50.0
Ethylbenzene	Ave	2.201	2.245	0.1000	51.0	50.0	2.0	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3828	0.3953	0.0100	51.6	50.0	3.2	50.0
m-Xylene & p-Xylene	Ave	0.7432	0.7978	0.1000	53.7	50.0	7.3	50.0
o-Xylene	Ave	0.7495	0.8246	0.3000	55.0	50.0	10.0	50.0
Styrene	Ave	1.039	1.155	0.3000	55.6	50.0	11.1	50.0
Bromoform	Lin1		0.2428	0.1000	46.5	50.0	-6.9	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332154/25　Calibration Date: 10/17/2017 02:06

Instrument ID: VMSF　Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40　ID: 0.18(mm)　Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3054.D　Conc. Units: ug/L　Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropylbenzene	Qua		3.595	0.1000	53.9	50.0	7.9	50.0
N-Propylbenzene	Ave	4.426	4.498	0.0100	50.8	50.0	1.6	50.0
Bromobenzene	Ave	0.6734	0.6757	0.0100	50.2	50.0	0.3	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6282	0.6199	0.3000	49.3	50.0	-1.3	50.0
1,3,5-Trimethylbenzene	Ave	3.090	3.263	0.0100	52.8	50.0	5.6	50.0
2-Chlorotoluene	Qua		3.272	0.0100	52.6	50.0	5.3	50.0
1,2,3-Trichloropropane	Ave	0.1640	0.1614	0.0100	49.2	50.0	-1.5	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2043	0.1895	0.0100	46.4	50.0	-7.2	50.0
Cyclohexanone	Ave	0.0196	0.0176	0.0010	450	500	-10.0	50.0
4-Chlorotoluene	Qua		2.793	0.0100	53.3	50.0	6.7	50.0
tert-Butylbenzene	Ave	2.395	2.662	0.0100	55.6	50.0	11.1	50.0
1,2,4-Trimethylbenzene	Ave	3.228	3.399	0.0100	52.6	50.0	5.3	50.0
sec-Butylbenzene	Ave	4.184	4.290	0.0100	51.3	50.0	2.5	50.0
4-Isopropyltoluene	Ave	3.379	3.456	0.0100	51.1	50.0	2.3	50.0
1,3-Dichlorobenzene	Ave	1.528	1.572	0.6000	51.4	50.0	2.9	50.0
1,2,3-Trimethylbenzene	Ave	3.405	3.560	0.0100	52.3	50.0	4.5	50.0
1,4-Dichlorobenzene	Ave	1.601	1.658	0.5000	51.8	50.0	3.6	50.0
n-Butylbenzene	Ave	0.9475	0.9155	0.0100	48.3	50.0	-3.4	50.0
Benzyl chloride	Ave	0.2435	0.1882	0.0100	38.6	50.0	-22.7	50.0
1,2-Dichlorobenzene	Ave	1.417	1.465	0.4000	51.7	50.0	3.3	50.0
n-Nonyl Aldehyde	Ave	0.6140	0.5294	0.0100	43.1	50.0	-13.8	50.0
1,2-Dibromo-3-Chloropropane	Ave	0.0990	0.1030	0.0500	52.0	50.0	4.0	50.0
1,3,5-Trichlorobenzene	Ave	1.211	1.172	0.0100	48.4	50.0	-3.2	50.0
Hexachlorobutadiene	Ave	0.6109	0.5783	0.0100	47.3	50.0	-5.3	50.0
1,2,4-Trichlorobenzene	Ave	0.996	0.9296	0.2000	46.7	50.0	-6.6	50.0
Naphthalene	Ave	1.886	1.799	0.0100	47.7	50.0	-4.6	50.0
1,2,3-Trichlorobenzene	Ave	0.8403	0.7688	0.0100	45.7	50.0	-8.5	50.0
Dibromofluoromethane (Surr)	Ave	0.2372	0.2369	0.0100	49.9	50.0	-0.2	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3058	0.3113	0.0100	50.9	50.0	1.8	50.0
Toluene-d8 (Surr)	Ave	1.396	1.475	0.0100	52.8	50.0	5.7	50.0
4-Bromofluorobenzene (Surr)	Ave	0.9091	0.9316	0.0100	51.2	50.0	2.5	50.0

Report Date: 18-Oct-2017 22:09:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FCCV3054.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 17-Oct-2017 02:06:30 ALS Bottle#: 24 Worklist Smp#: 25
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-025
Misc. Info.: CCVC
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:09:46 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:09:46

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.936	2.936	0.000	99	409431	50.0	45.6	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.161	3.161	0.000	96	169092	50.0	56.4	M
3 Chloromethane	50	3.256	3.256	0.000	100	740614	50.0	45.9	
122 Butadiene	39	3.386	3.386	0.000	95	781117	50.0	44.5	
4 Vinyl chloride	62	3.398	3.398	0.000	99	607066	50.0	42.4	
5 Bromomethane	94	3.895	3.895	0.000	93	265942	50.0	57.0	
6 Chloroethane	64	4.072	4.072	0.000	99	349486	50.0	64.4	
7 Trichlorofluoromethane	101	4.262	4.262	0.000	97	556602	50.0	44.5	M
123 Dichlorofluoromethane	67	4.380	4.380	0.000	100	754384	50.0	47.4	
8 Ethyl ether	74	4.759	4.759	0.000	96	187336	50.0	48.7	
11 Ethanol	45	4.972	4.972	0.000	22	115518	2000.0	1761.5	
9 1,1-Dichloroethene	96	5.090	5.090	0.000	92	302212	50.0	45.6	
10 Carbon disulfide	76	5.149	5.149	0.000	100	1236856	50.0	47.7	
12 1,1,2-Trichloro-1,2,2-trif	151	5.173	5.173	0.000	96	204214	50.0	43.7	
13 Iodomethane	142	5.327	5.327	0.000	99	410650	50.0	47.3	
14 Acrolein	56	5.611	5.611	0.000	99	190289	250.0	211.2	
16 Isopropyl alcohol	45	5.812	5.812	0.000	16	171906	500.0	497.7	
15 3-Chloro-1-propene	39	5.812	5.812	0.000	88	620274	50.0	49.5	
S 26 1,2-Dichloroethene, Total	96				0			97.7	
17 Methylene Chloride	84	5.966	5.966	0.000	96	369133	50.0	46.6	
18 Acetone	43	6.048	6.048	0.000	98	82683	50.0	51.5	
19 trans-1,2-Dichloroethene	96	6.202	6.202	0.000	93	361650	50.0	47.9	
20 Methyl acetate	74	6.214	6.214	0.000	99	70123	250.0	258.9	
21 Hexane	86	6.297	6.297	0.000	97	99792	50.0	46.4	
22 Methyl tert-butyl ether	73	6.344	6.344	0.000	97	852389	50.0	50.2	
23 2-Methyl-2-propanol	59	6.451	6.451	0.000	96	249528	500.0	486.7	
24 Acetonitrile	41	6.723	6.723	0.000	99	349629	500.0	534.8	
25 Isopropyl ether	45	6.853	6.853	0.000	95	1526535	50.0	52.5	
27 2-Chloro-1,3-butadiene	53	7.031	7.031	0.000	95	724691	50.0	49.4	
28 1,1-Dichloroethane	63	7.066	7.066	0.000	97	807562	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.137	7.137	0.000	97	959259	500.0	501.2	
30 Tert-butyl ethyl ether	59	7.338	7.338	0.000	98	1217247	50.0	51.6	
31 Vinyl acetate	43	7.374	7.374	0.000	97	738752	50.0	49.3	
32 cis-1,2-Dichloroethene	96	7.764	7.764	0.000	87	396828	50.0	49.9	
33 2,2-Dichloropropane	77	7.906	7.906	0.000	93	468250	50.0	49.4	
35 Chlorobromomethane	128	8.025	8.025	0.000	88	133329	50.0	47.9	
34 Cyclohexane	84	8.036	8.036	0.000	97	637704	50.0	46.4	
36 Chloroform	83	8.096	8.096	0.000	98	699119	50.0	49.9	
39 Ethyl acetate	45	8.226	8.226	0.000	99	64273	100.0	91.4	
37 Carbon tetrachloride	117	8.285	8.285	0.000	96	434191	50.0	47.6	
38 Tetrahydrofuran	71	8.309	8.309	0.000	94	47564	100.0	105.4	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.332	0.000	93	291070	50.0	49.9	
40 1,1,1-Trichloroethane	97	8.380	8.380	0.000	96	593664	50.0	48.6	
43 2-Butanone (MEK)	43	8.486	8.486	0.000	97	106552	50.0	45.4	
42 1,1-Dichloropropene	75	8.522	8.522	0.000	90	540873	50.0	48.8	
125 Isooctane	57	8.640	8.640	0.000	98	1896440	50.0	47.3	
117 n-Heptane	43	8.746	8.746	0.000	95	769493	50.0	45.8	
44 Benzene	78	8.841	8.841	0.000	99	1512314	50.0	50.5	
45 Propionitrile	54	8.865	8.865	0.000	98	352732	500.0	495.5	
46 Methacrylonitrile	41	8.888	8.888	0.000	96	1945439	500.0	529.3	
48 Tert-amyl methyl ether	73	8.936	8.936	0.000	94	998754	50.0	52.1	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.995	8.995	0.000	95	382529	50.0	50.9	
50 Isobutyl alcohol	42	9.019	9.019	0.000	91	205408	1250.0	1300.4	
49 1,2-Dichloroethane	62	9.078	9.078	0.000	97	451259	50.0	50.5	
* 51 Fluorobenzene	96	9.326	9.326	0.000	97	1228882	50.0	50.0	
52 Methylcyclohexane	55	9.515	9.515	0.000	96	720470	50.0	46.5	
53 Trichloroethene	95	9.515	9.515	0.000	65	380301	50.0	48.9	
54 n-Butanol	56	9.811	9.811	0.000	95	161916	1250.0	1161.0	
55 Dibromomethane	93	9.989	9.989	0.000	87	150648	50.0	48.9	
124 Ethyl acrylate	55	10.060	10.060	0.000	99	205979	50.0	42.4	
56 1,2-Dichloropropane	63	10.095	10.095	0.000	91	371264	50.0	50.3	
57 Dichlorobromomethane	83	10.143	10.143	0.000	97	446800	50.0	51.4	
58 Methyl methacrylate	69	10.273	10.273	0.000	93	244552	100.0	88.9	
59 1,4-Dioxane	88	10.344	10.344	0.000	95	33688	1000.0	794.7	
60 2-Chloroethyl vinyl ether	63	10.687	10.687	0.000	92	113346	50.0	43.2	
61 cis-1,3-Dichloropropene	75	10.770	10.770	0.000	90	448848	50.0	49.5	
$ 62 Toluene-d8 (Surr)	98	10.947	10.947	0.000	95	1107648	50.0	52.8	
63 Toluene	92	10.995	10.995	0.000	97	812768	50.0	52.0	
64 2-Nitropropane	43	11.219	11.219	0.000	99	124814	100.0	92.0	
66 4-Methyl-2-pentanone (MIBK	43	11.326	11.326	0.000	99	229163	50.0	49.1	
65 Tetrachloroethene	164	11.350	11.350	0.000	86	209334	50.0	48.6	
67 trans-1,3-Dichloropropene	75	11.361	11.361	0.000	99	376649	50.0	50.3	
119 n-Butyl acetate	43	11.397	11.397	0.000	97	46853	50.0	50.8	
69 Ethyl methacrylate	69	11.468	11.468	0.000	94	247777	50.0	46.8	
68 1,1,2-Trichloroethane	83	11.515	11.515	0.000	94	175036	50.0	49.4	
S 73 1,3-Dichloropropene, Total	75				0			99.8	
70 Chlorodibromomethane	129	11.681	11.681	0.000	89	209000	50.0	52.7	
71 1,3-Dichloropropane	76	11.764	11.764	0.000	98	371936	50.0	50.7	
72 Ethylene Dibromide	107	11.906	11.906	0.000	98	162410	50.0	48.0	
74 2-Hexanone	43	12.036	12.036	0.000	98	127085	50.0	46.5	
75 1-Chlorohexane	91	12.273	12.273	0.000	85	422141	50.0	47.1	
* 76 Chlorobenzene-d5	117	12.320	12.320	0.000	93	750933	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
78 Ethylbenzene	91	12.332	12.332	0.000	92	1685851	50.0	51.0	
77 Chlorobenzene	112	12.332	12.332	0.000	74	843379	50.0	51.7	
79 1,1,1,2-Tetrachloroethane	131	12.379	12.379	0.000	93	296831	50.0	51.6	
80 m-Xylene & p-Xylene	106	12.438	12.438	0.000	97	599080	50.0	53.7	
82 o-Xylene	106	12.793	12.793	0.000	99	619222	50.0	55.0	
83 Styrene	104	12.829	12.829	0.000	93	867020	50.0	55.6	
84 Bromoform	173	12.888	12.888	0.000	96	111770	50.0	46.5	
85 Isopropylbenzene	105	13.030	13.030	0.000	98	1654854	50.0	53.9	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.266	0.000	76	428891	50.0	51.2	
88 N-Propylbenzene	91	13.337	13.337	0.000	99	2070697	50.0	50.8	
87 Bromobenzene	156	13.361	13.361	0.000	91	311071	50.0	50.2	
89 1,1,2,2-Tetrachloroethane	83	13.397	13.397	0.000	96	285359	50.0	49.3	
91 1,3,5-Trimethylbenzene	105	13.468	13.468	0.000	93	1502091	50.0	52.8	
90 2-Chlorotoluene	91	13.491	13.491	0.000	95	1506191	50.0	52.6	
92 1,2,3-Trichloropropane	110	13.515	13.515	0.000	89	74320	50.0	49.2	
93 trans-1,4-Dichloro-2-buten	53	13.527	13.527	0.000	93	87245	50.0	46.4	
94 Cyclohexanone	55	13.574	13.574	0.000	93	81059	500.0	449.9	
95 4-Chlorotoluene	91	13.610	13.610	0.000	99	1285724	50.0	53.3	
96 tert-Butylbenzene	119	13.728	13.728	0.000	93	1225546	50.0	55.6	
97 1,2,4-Trimethylbenzene	105	13.775	13.775	0.000	99	1564598	50.0	52.6	
98 sec-Butylbenzene	105	13.858	13.858	0.000	96	1974760	50.0	51.3	
99 4-Isopropyltoluene	119	13.941	13.941	0.000	96	1590832	50.0	51.1	
100 1,3-Dichlorobenzene	146	14.047	14.047	0.000	92	723627	50.0	51.4	
120 1,2,3-Trimethylbenzene	105	14.095	14.095	0.000	96	1638710	50.0	52.3	
* 101 1,4-Dichlorobenzene-d4	152	14.107	14.107	0.000	71	460371	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.118	14.118	0.000	94	763252	50.0	51.8	
103 n-Butylbenzene	134	14.249	14.249	0.000	97	421489	50.0	48.3	
121 Benzyl chloride	126	14.284	14.284	0.000	81	86644	50.0	38.6	
104 1,2-Dichlorobenzene	146	14.426	14.426	0.000	92	674303	50.0	51.7	
106 n-Nonyl Aldehyde	57	14.947	14.947	0.000	83	243728	50.0	43.1	
105 1,2-Dibromo-3-Chloropropan	157	15.030	15.030	0.000	54	47415	50.0	52.0	
107 1,3,5-Trichlorobenzene	180	15.041	15.041	0.000	97	539430	50.0	48.4	
108 Hexachlorobutadiene	225	15.503	15.503	0.000	97	266234	50.0	47.3	
109 1,2,4-Trichlorobenzene	180	15.562	15.562	0.000	92	427959	50.0	46.7	
110 Naphthalene	128	15.858	15.858	0.000	98	828162	50.0	47.7	
111 1,2,3-Trichlorobenzene	180	16.035	16.035	0.000	93	353945	50.0	45.7	
S 112 Xylenes, Total	106				0			108.7	
S 113 Trihalomethanes, Total	1				0			200.5	

QC Flag Legend

Review Flags

M - Manually Integrated

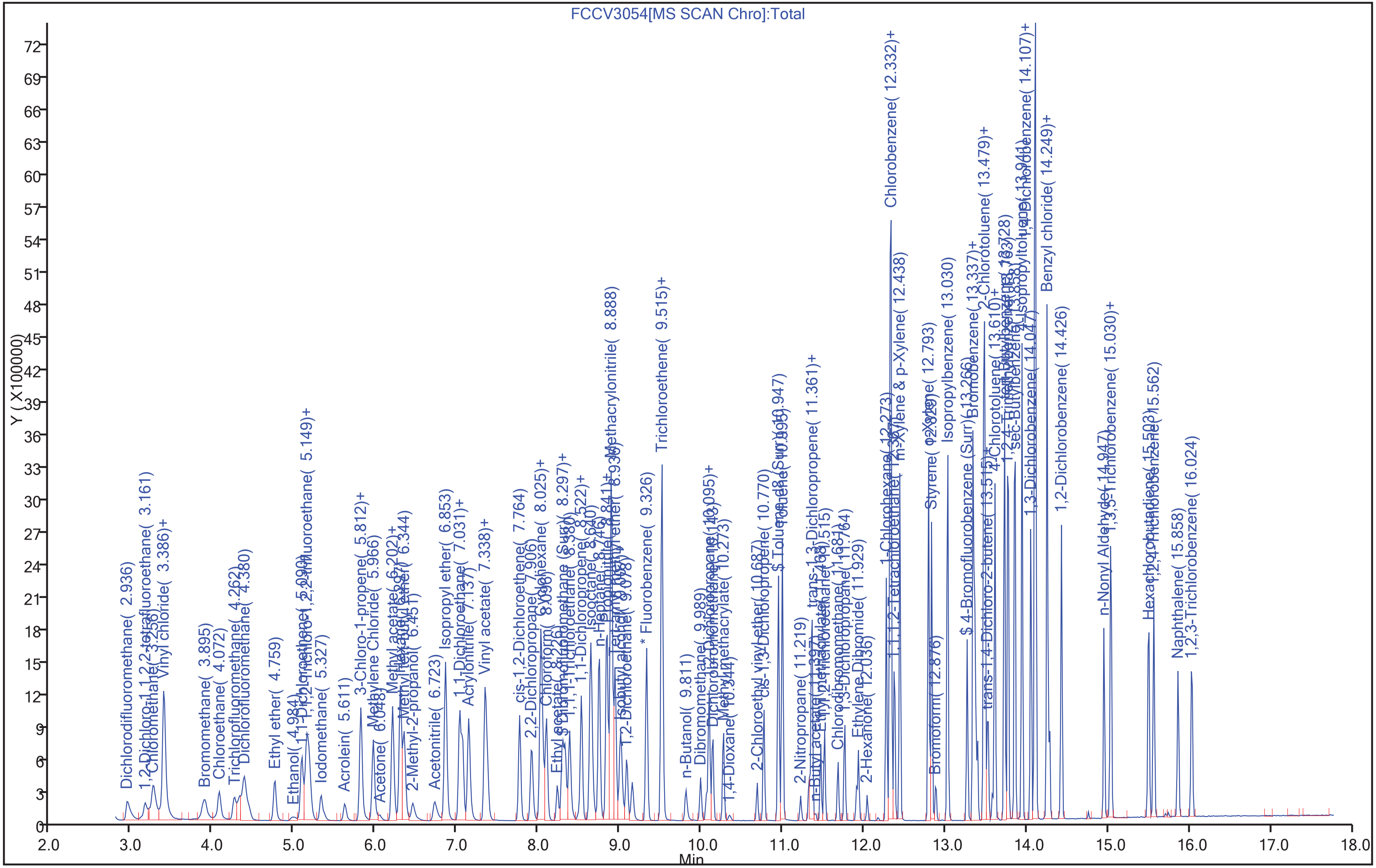
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:09:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FCCV3054.D				
Injection Date:	17-Oct-2017 02:06:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	CCVC			Worklist Smp#:	25
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis

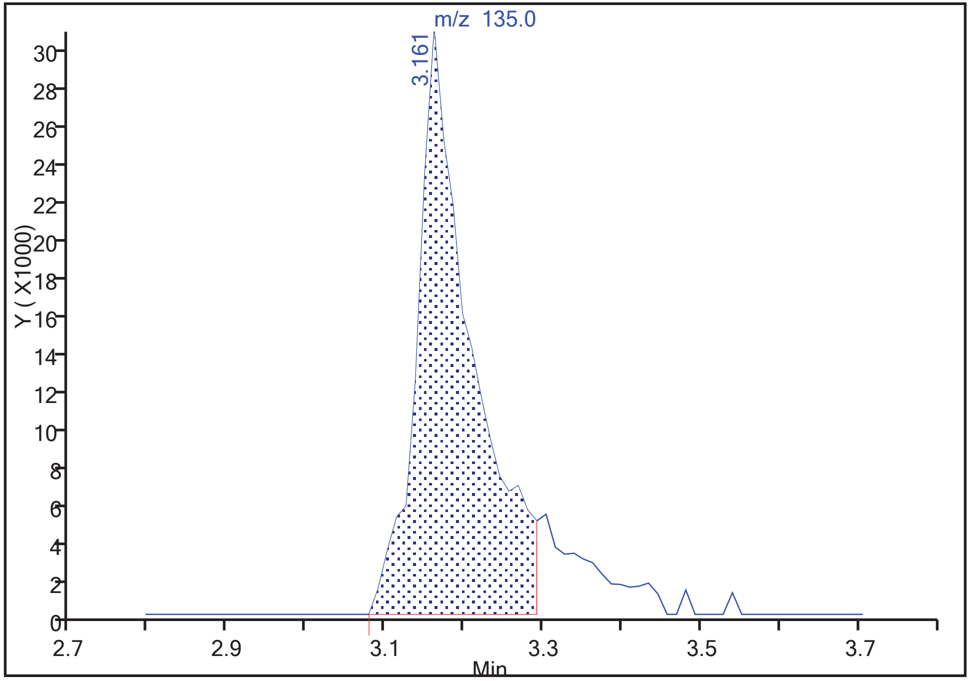
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FCCV3054.D				
Injection Date:	17-Oct-2017 02:06:30	Instrument ID:	VMSF		
Lims ID:	CCVC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	24	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

2 1,2-Dichloro-1,1,2,2-tetrafluoroethane, CAS: 76-14-2

Signal: 1

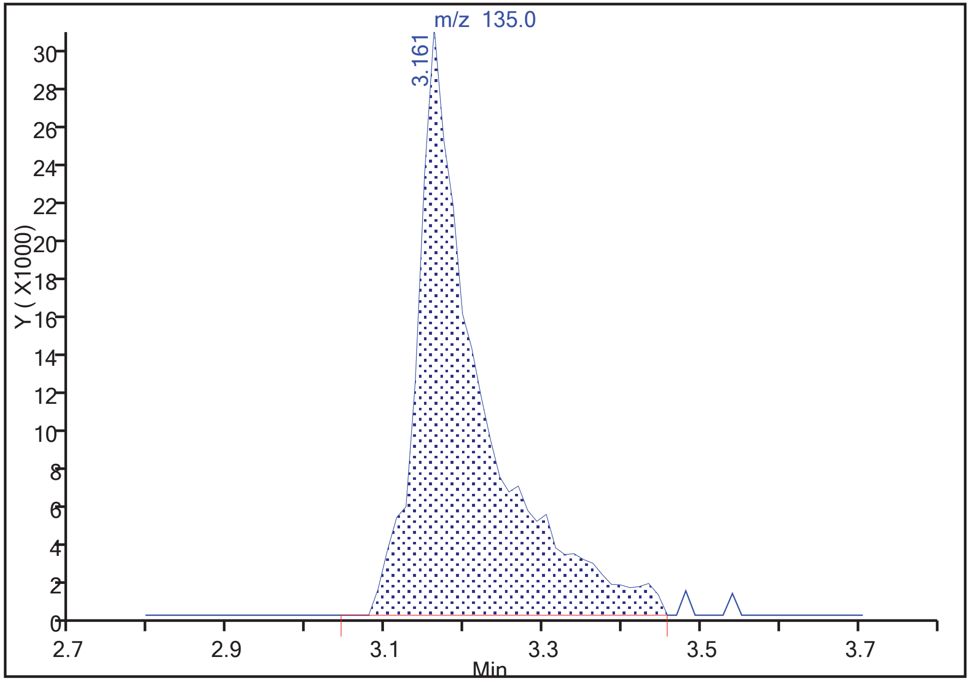
Processing Integration Results

RT: 3.16
Area: 146854
Amount: 48.988330
Amount Units: ug/l



Manual Integration Results

RT: 3.16
Area: 169092
Amount: 56.406599
Amount Units: ug/l



Reviewer: hannj, 18-Oct-2017 22:08:40
Audit Action: Manually Integrated Audit Reason: Peak Tail

TestAmerica St. Louis

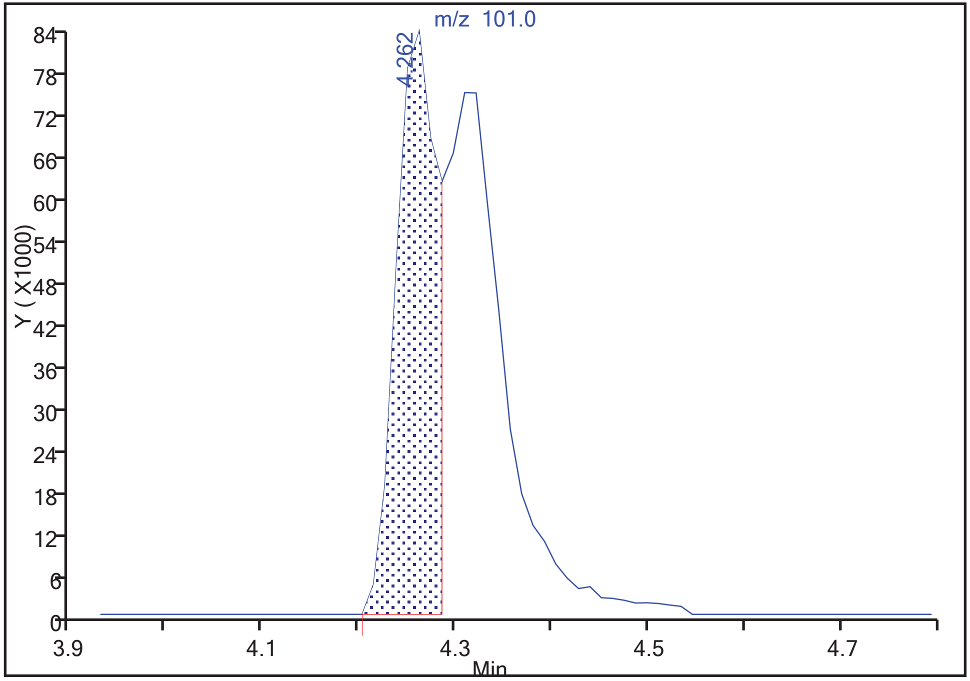
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FCCV3054.D				
Injection Date:	17-Oct-2017 02:06:30	Instrument ID:	VMSF		
Lims ID:	CCVC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	24	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

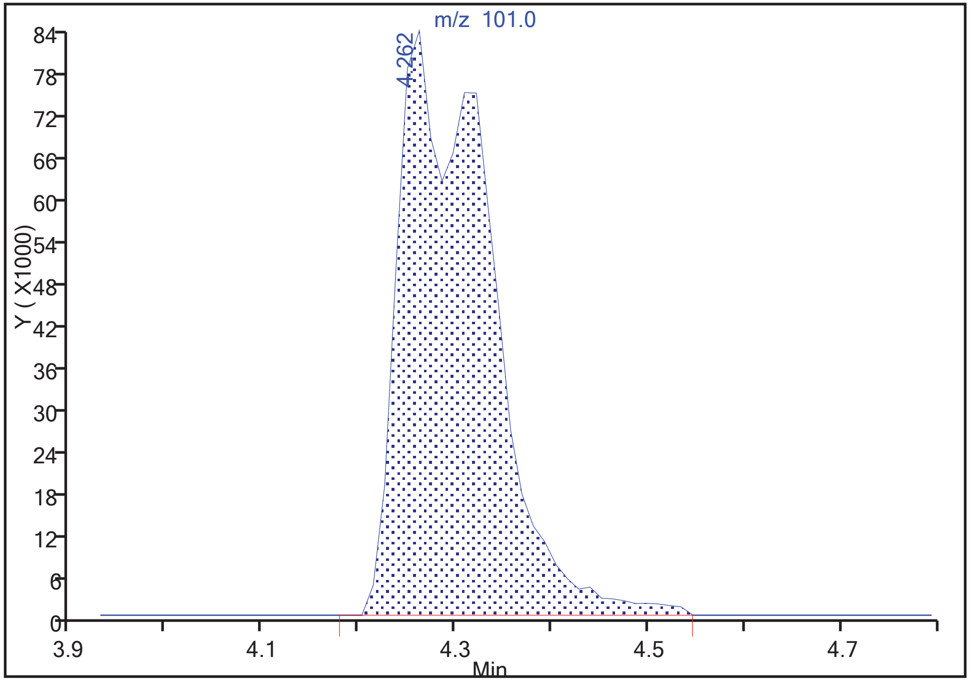
RT: 4.26
Area: 259064
Amount: 20.732533
Amount Units: ug/l

Processing Integration Results



RT: 4.26
Area: 556602
Amount: 44.544086
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 18-Oct-2017 22:08:54
Audit Action: Manually Integrated Audit Reason: Split Peak

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332247/4 Calibration Date: 10/17/2017 15:17

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3058.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3657	0.3745	0.1000	51.2	50.0	2.4	20.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1220	0.1494	0.0100	61.3	50.0	22.5*	20.0
Chloromethane	Ave	0.6563	0.5677	0.1000	43.2	50.0	-13.5	20.0
Butadiene	Qua		0.5423	0.0100	37.3	50.0	-25.4*	20.0
Vinyl chloride	Ave	0.5827	0.4628	0.1000	39.7	50.0	-20.6*	20.0
Bromomethane	LinF		0.1541	0.1000	40.6	50.0	-18.9	20.0
Chloroethane	LinF		0.2640	0.1000	59.8	50.0	19.6	20.0
Trichlorofluoromethane	Ave	0.5084	0.4797	0.1000	47.2	50.0	-5.6	20.0
Dichlorofluoromethane	Ave	0.6470	0.5900	0.0100	45.6	50.0	-8.8	20.0
Ethyl ether	Ave	0.1566	0.1457	0.0100	46.5	50.0	-6.9	20.0
Ethanol	Lin1		0.0020*	0.0100	1530	2000	-23.4*	20.0
1,1-Dichloroethene	Ave	0.2697	0.2631	0.1000	48.8	50.0	-2.4	20.0
Carbon disulfide	Ave	1.054	0.9929	0.1000	47.1	50.0	-5.8	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1903	0.1966	0.1000	51.6	50.0	3.3	20.0
Iodomethane	Ave	0.3535	0.3403	0.0100	48.1	50.0	-3.7	20.0
Acrolein	Ave	0.0367	0.0306	0.0010	208	250	-16.6	20.0
3-Chloro-1-propene	Ave	0.5102	0.4617	0.0100	45.2	50.0	-9.5	20.0
Isopropyl alcohol	Ave	0.0141	0.0118	0.0100	420	500	-16.1	20.0
Methylene Chloride	Ave	0.3223	0.2884	0.1000	44.7	50.0	-10.5	20.0
Acetone	Lin		0.0614*	0.1000	46.8	50.0	-6.3	20.0
trans-1,2-Dichloroethene	Ave	0.3075	0.2957	0.1000	48.1	50.0	-3.8	20.0
Methyl acetate	Ave	0.0110	0.0102*	0.1000	230	250	-7.8	20.0
Hexane	Ave	0.0875	0.0888	0.0100	50.7	50.0	1.5	20.0
Methyl tert-butyl ether	Ave	0.6903	0.6313	0.1000	45.7	50.0	-8.6	20.0
2-Methyl-2-propanol	Ave	0.0209	0.0177	0.0100	425	500	-15.1	20.0
Acetonitrile	Ave	0.0266	0.0242	0.0010	454	500	-9.2	20.0
Isopropyl ether	Ave	1.183	1.157	0.0100	48.9	50.0	-2.2	20.0
2-Chloro-1,3-butadiene	Ave	0.5969	0.5922	0.0100	49.6	50.0	-0.8	20.0
1,1-Dichloroethane	Ave	0.6566	0.6057	0.2000	46.1	50.0	-7.7	20.0
Acrylonitrile	Ave	0.0779	0.0707	0.0100	454	500	-9.2	20.0
Tert-butyl ethyl ether	Ave	0.9600	0.9157	0.0100	47.7	50.0	-4.6	20.0
Vinyl acetate	Ave	0.6095	0.5758	0.0100	47.2	50.0	-5.5	20.0
cis-1,2-Dichloroethene	Ave	0.3237	0.3082	0.1000	47.6	50.0	-4.8	20.0
2,2-Dichloropropane	Ave	0.3859	0.3884	0.0100	50.3	50.0	0.6	20.0
Bromochloromethane	Ave	0.1132	0.1042	0.0100	46.0	50.0	-8.0	20.0
Cyclohexane	Ave	0.5597	0.5343	0.1000	47.7	50.0	-4.5	20.0
Chloroform	Ave	0.5697	0.5366	0.2000	47.1	50.0	-5.8	20.0
Ethyl acetate	Ave	0.0286	0.0240	0.0100	84.0	100	-16.0	20.0
Carbon tetrachloride	Ave	0.3709	0.3644	0.1000	49.1	50.0	-1.8	20.0
1,1,1-Trichloroethane	Ave	0.4971	0.4799	0.1000	48.3	50.0	-3.5	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332247/4 Calibration Date: 10/17/2017 15:17

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3058.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Butanone (MEK)	Ave	0.0956	0.0816*	0.1000	42.7	50.0	-14.6	20.0
1,1-Dichloropropene	Ave	0.4509	0.4426	0.0100	49.1	50.0	-1.8	20.0
Isooctane	Ave	1.631	1.630	0.0100	50.0	50.0	-0.0	20.0
n-Heptane	Ave	0.6830	0.6989	0.0100	51.2	50.0	2.3	20.0
Benzene	Ave	1.219	1.184	0.5000	48.5	50.0	-2.9	20.0
Propionitrile	Ave	0.0290	0.0257	0.0010	444	500	-11.2	20.0
Methacrylonitrile	Ave	0.1496	0.1397	0.0100	467	500	-6.6	20.0
Tert-amyl methyl ether	Ave	0.7797	0.7268	0.0100	46.6	50.0	-6.8	20.0
Isobutyl alcohol	Ave	0.0064	0.0055	0.0010	1070	1250	-14.6	20.0
1,2-Dichloroethane	Ave	0.3636	0.3263	0.1000	44.9	50.0	-10.3	20.0
Methylcyclohexane	Ave	0.6305	0.6159	0.1000	48.8	50.0	-2.3	20.0
Trichloroethene	Ave	0.3165	0.2994	0.2000	47.3	50.0	-5.4	20.0
n-Butanol	Qua		0.0045*	0.0100	1010	1250	-19.3	20.0
Dibromomethane	Ave	0.1255	0.1155	0.0100	46.0	50.0	-8.0	20.0
Ethyl acrylate	Lin1		0.1676	0.0100	42.4	50.0	-15.1	20.0
1,2-Dichloropropane	Ave	0.3005	0.2848	0.1000	47.4	50.0	-5.2	20.0
Bromodichloromethane	Ave	0.3540	0.3375	0.2000	47.7	50.0	-4.7	20.0
Methyl methacrylate	Lin1		0.0979	0.0100	87.5	100	-12.5	20.0
1,4-Dioxane	Lin1		0.0011	0.0010	626	1000	-37.4*	20.0
2-Chloroethyl vinyl ether	Lin1		0.0906	0.0100	42.5	50.0	-15.0	20.0
cis-1,3-Dichloropropene	Ave	0.3693	0.3707	0.2000	50.2	50.0	0.4	20.0
Toluene	Ave	1.040	1.058	0.4000	50.9	50.0	1.7	20.0
2-Nitropropane	Lin1		0.0713	0.0100	79.6	100	-20.4*	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3105	0.2709	0.1000	43.6	50.0	-12.7	20.0
Tetrachloroethene	Ave	0.2865	0.2994	0.2000	52.3	50.0	4.5	20.0
trans-1,3-Dichloropropene	Ave	0.4985	0.4987	0.1000	50.0	50.0	0.0	20.0
n-Butyl acetate	Ave	0.0614	0.0589	0.0100	47.9	50.0	-4.1	20.0
Ethyl methacrylate	Lin1		0.3146	0.0100	44.7	50.0	-10.6	20.0
1,1,2-Trichloroethane	Ave	0.2360	0.2202	0.1000	46.6	50.0	-6.7	20.0
Chlorodibromomethane	Ave	0.2642	0.2648	0.1000	50.1	50.0	0.2	20.0
1,3-Dichloropropane	Ave	0.4884	0.4599	0.0100	47.1	50.0	-5.8	20.0
1,2-Dibromoethane	Ave	0.2252	0.2163	0.1000	48.0	50.0	-4.0	20.0
2-Hexanone	Ave	0.1818	0.1635	0.1000	45.0	50.0	-10.1	20.0
1-Chlorohexane	Ave	0.5973	0.6020	0.0100	50.4	50.0	0.8	20.0
Chlorobenzene	Ave	1.086	1.057	0.5000	48.7	50.0	-2.7	20.0
Ethylbenzene	Ave	2.201	2.068	0.1000	47.0	50.0	-6.1	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3828	0.3605	0.0100	47.1	50.0	-5.8	20.0
m-Xylene & p-Xylene	Ave	0.7432	0.7679	0.1000	51.7	50.0	3.3	20.0
o-Xylene	Ave	0.7495	0.7728	0.3000	51.6	50.0	3.1	20.0
Styrene	Ave	1.039	1.089	0.3000	52.4	50.0	4.7	20.0
Bromoform	Lin1		0.2476	0.1000	47.4	50.0	-5.2	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332247/4 Calibration Date: 10/17/2017 15:17

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3058.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropylbenzene	Qua		3.591	0.1000	53.9	50.0	7.8	20.0
N-Propylbenzene	Ave	4.426	4.328	0.0100	48.9	50.0	-2.2	20.0
Bromobenzene	Ave	0.6734	0.6940	0.0100	51.5	50.0	3.1	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6282	0.5861	0.3000	46.6	50.0	-6.7	20.0
1,3,5-Trimethylbenzene	Ave	3.090	3.171	0.0100	51.3	50.0	2.6	20.0
2-Chlorotoluene	Qua		3.145	0.0100	50.3	50.0	0.7	20.0
1,2,3-Trichloropropane	Ave	0.1640	0.1536	0.0100	46.8	50.0	-6.3	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2043	0.1846	0.0100	45.2	50.0	-9.7	20.0
Cyclohexanone	Ave	0.0196	0.0157	0.0010	400	500	-19.9	20.0
4-Chlorotoluene	Qua		2.732	0.0100	52.0	50.0	4.0	20.0
tert-Butylbenzene	Ave	2.395	2.641	0.0100	55.1	50.0	10.2	20.0
1,2,4-Trimethylbenzene	Ave	3.228	3.246	0.0100	50.3	50.0	0.6	20.0
sec-Butylbenzene	Ave	4.184	4.176	0.0100	49.9	50.0	-0.2	20.0
4-Isopropyltoluene	Ave	3.379	3.372	0.0100	49.9	50.0	-0.2	20.0
1,3-Dichlorobenzene	Ave	1.528	1.559	0.6000	51.0	50.0	2.0	20.0
1,2,3-Trimethylbenzene	Ave	3.405	3.275	0.0100	48.1	50.0	-3.8	20.0
1,4-Dichlorobenzene	Ave	1.601	1.577	0.5000	49.3	50.0	-1.5	20.0
n-Butylbenzene	Ave	0.9475	0.9468	0.0100	50.0	50.0	-0.0	20.0
Benzyl chloride	Ave	0.2435	0.2435	0.0100	50.0	50.0	0.0	20.0
1,2-Dichlorobenzene	Ave	1.417	1.405	0.4000	49.6	50.0	-0.8	20.0
n-Nonyl Aldehyde	Ave	0.6140	0.5052	0.0100	41.1	50.0	-17.7	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.0990	0.0880	0.0500	44.4	50.0	-11.2	20.0
1,3,5-Trichlorobenzene	Ave	1.211	1.181	0.0100	48.8	50.0	-2.4	20.0
Hexachlorobutadiene	Ave	0.6109	0.6049	0.0100	49.5	50.0	-1.0	20.0
1,2,4-Trichlorobenzene	Ave	0.996	0.9294	0.2000	46.7	50.0	-6.6	20.0
Naphthalene	Ave	1.886	1.592	0.0100	42.2	50.0	-15.6	20.0
1,2,3-Trichlorobenzene	Ave	0.8403	0.7227	0.0100	43.0	50.0	-14.0	20.0
Dibromofluoromethane (Surr)	Ave	0.2372	0.2225	0.0100	46.9	50.0	-6.2	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3058	0.2835	0.0100	46.4	50.0	-7.3	20.0
Toluene-d8 (Surr)	Ave	1.396	1.400	0.0100	50.2	50.0	0.3	20.0
4-Bromofluorobenzene (Surr)	Ave	0.9091	0.9629	0.0100	53.0	50.0	5.9	20.0

Report Date: 19-Oct-2017 23:54:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FCCV3058.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 17-Oct-2017 15:17:30 ALS Bottle#: 2 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-004
Misc. Info.: CCV
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 19-Oct-2017 23:54:44 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 19-Oct-2017 23:54:43

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.936	2.936	0.000	100	673210	50.0	51.2	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.161	3.161	0.000	97	268606	50.0	61.3	
3 Chloromethane	50	3.256	3.256	0.000	100	1020386	50.0	43.2	
122 Butadiene	39	3.386	3.386	0.000	97	974704	50.0	37.3	
4 Vinyl chloride	62	3.398	3.398	0.000	98	831938	50.0	39.7	
5 Bromomethane	94	3.883	3.883	0.000	91	276889	50.0	40.6	
6 Chloroethane	64	4.072	4.072	0.000	99	474540	50.0	59.8	
7 Trichlorofluoromethane	101	4.309	4.309	0.000	96	862241	50.0	47.2	M
123 Dichlorofluoromethane	67	4.380	4.380	0.000	100	1060465	50.0	45.6	
8 Ethyl ether	74	4.758	4.758	0.000	95	261925	50.0	46.5	
11 Ethanol	45	4.971	4.971	0.000	99	146452	2000.0	1531.3	M
9 1,1-Dichloroethene	96	5.090	5.090	0.000	94	472852	50.0	48.8	
10 Carbon disulfide	76	5.149	5.149	0.000	100	1784591	50.0	47.1	
12 1,1,2-Trichloro-1,2,2-trif	151	5.184	5.184	0.000	97	353361	50.0	51.6	
13 Iodomethane	142	5.326	5.326	0.000	100	611682	50.0	48.1	
14 Acrolein	56	5.610	5.610	0.000	99	274625	250.0	208.4	
16 Isopropyl alcohol	45	5.811	5.811	0.000	15	212029	500.0	419.7	
15 3-Chloro-1-propene	39	5.811	5.811	0.000	90	829922	50.0	45.2	
S 26 1,2-Dichloroethene, Total	96				0			95.7	
17 Methylene Chloride	84	5.965	5.965	0.000	97	518403	50.0	44.7	
18 Acetone	43	6.048	6.048	0.000	97	110284	50.0	46.8	
19 trans-1,2-Dichloroethene	96	6.202	6.202	0.000	94	531462	50.0	48.1	
20 Methyl acetate	74	6.214	6.214	0.000	100	91273	250.0	230.4	
21 Hexane	86	6.297	6.297	0.000	96	159557	50.0	50.7	
22 Methyl tert-butyl ether	73	6.344	6.344	0.000	94	1134667	50.0	45.7	
23 2-Methyl-2-propanol	59	6.450	6.450	0.000	97	318498	500.0	424.7	
24 Acetonitrile	41	6.711	6.711	0.000	99	434229	500.0	454.1	
25 Isopropyl ether	45	6.853	6.853	0.000	96	2079025	50.0	48.9	
27 2-Chloro-1,3-butadiene	53	7.030	7.030	0.000	94	1064530	50.0	49.6	
28 1,1-Dichloroethane	63	7.066	7.066	0.000	97	1088772	50.0	46.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.137	7.137	0.000	98	1271001	500.0	454.0	
30 Tert-butyl ethyl ether	59	7.338	7.338	0.000	98	1645978	50.0	47.7	
31 Vinyl acetate	43	7.373	7.373	0.000	97	1034883	50.0	47.2	
32 cis-1,2-Dichloroethene	96	7.764	7.764	0.000	86	553913	50.0	47.6	
33 2,2-Dichloropropane	77	7.906	7.906	0.000	93	698117	50.0	50.3	
35 Chlorobromomethane	128	8.024	8.024	0.000	88	187223	50.0	46.0	
34 Cyclohexane	84	8.036	8.036	0.000	96	960424	50.0	47.7	
36 Chloroform	83	8.095	8.095	0.000	96	964550	50.0	47.1	
39 Ethyl acetate	45	8.225	8.225	0.000	99	86391	100.0	84.0	
37 Carbon tetrachloride	117	8.284	8.284	0.000	97	655010	50.0	49.1	
38 Tetrahydrofuran	71	8.308	8.308	0.000	94	61333	100.0	93.0	
43 2-Butanone (MEK)	43	8.486	8.486	0.000	98	146631	50.0	42.7	
$ 41 Dibromofluoromethane (Surr	113	8.320	8.320	0.000	94	399968	50.0	46.9	
40 1,1,1-Trichloroethane	97	8.379	8.379	0.000	97	862610	50.0	48.3	
42 1,1-Dichloropropene	75	8.521	8.521	0.000	92	795568	50.0	49.1	
125 Isooctane	57	8.639	8.639	0.000	98	2929029	50.0	50.0	
117 n-Heptane	43	8.734	8.734	0.000	95	1256160	50.0	51.2	
44 Benzene	78	8.829	8.829	0.000	99	2127678	50.0	48.5	
45 Propionitrile	54	8.864	8.864	0.000	98	462205	500.0	443.9	
46 Methacrylonitrile	41	8.888	8.888	0.000	96	2511596	500.0	467.2	
48 Tert-amyl methyl ether	73	8.935	8.935	0.000	94	1306325	50.0	46.6	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.994	8.994	0.000	95	509573	50.0	46.4	
50 Isobutyl alcohol	42	9.018	9.018	0.000	91	246784	1250.0	1068.1	
49 1,2-Dichloroethane	62	9.077	9.077	0.000	97	586434	50.0	44.9	
* 51 Fluorobenzene	96	9.326	9.326	0.000	97	1797449	50.0	50.0	
52 Methylcyclohexane	55	9.515	9.515	0.000	96	1107085	50.0	48.8	
53 Trichloroethene	95	9.515	9.515	0.000	63	538109	50.0	47.3	
54 n-Butanol	56	9.811	9.811	0.000	96	203658	1250.0	1009.3	
55 Dibromomethane	93	9.988	9.988	0.000	90	207576	50.0	46.0	
124 Ethyl acrylate	55	10.059	10.059	0.000	99	301263	50.0	42.4	
56 1,2-Dichloropropane	63	10.095	10.095	0.000	93	511850	50.0	47.4	
57 Dichlorobromomethane	83	10.142	10.142	0.000	98	606596	50.0	47.7	
58 Methyl methacrylate	69	10.272	10.272	0.000	95	351777	100.0	87.5	
59 1,4-Dioxane	88	10.343	10.343	0.000	98	37940	1000.0	625.9	
60 2-Chloroethyl vinyl ether	63	10.687	10.687	0.000	92	162788	50.0	42.5	
61 cis-1,3-Dichloropropene	75	10.769	10.769	0.000	91	666231	50.0	50.2	
$ 62 Toluene-d8 (Surr)	98	10.947	10.947	0.000	94	1569634	50.0	50.2	
63 Toluene	92	10.994	10.994	0.000	98	1186013	50.0	50.9	
64 2-Nitropropane	43	11.219	11.219	0.000	99	159857	100.0	79.6	
66 4-Methyl-2-pentanone (MIBK	43	11.326	11.326	0.000	98	303656	50.0	43.6	
65 Tetrachloroethene	164	11.349	11.349	0.000	91	335606	50.0	52.3	
67 trans-1,3-Dichloropropene	75	11.361	11.361	0.000	97	558981	50.0	50.0	
119 n-Butyl acetate	43	11.397	11.397	0.000	98	66015	50.0	47.9	
69 Ethyl methacrylate	69	11.468	11.468	0.000	93	352559	50.0	44.7	
68 1,1,2-Trichloroethane	83	11.515	11.515	0.000	93	246772	50.0	46.6	
S 73 1,3-Dichloropropene, Total	75				0			100.2	
70 Chlorodibromomethane	129	11.680	11.680	0.000	90	296799	50.0	50.1	
71 1,3-Dichloropropane	76	11.763	11.763	0.000	98	515495	50.0	47.1	
72 Ethylene Dibromide	107	11.905	11.905	0.000	98	242381	50.0	48.0	
74 2-Hexanone	43	12.035	12.035	0.000	99	183275	50.0	45.0	
75 1-Chlorohexane	91	12.272	12.272	0.000	88	674692	50.0	50.4	
* 76 Chlorobenzene-d5	117	12.319	12.319	0.000	92	1120841	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
78 Ethylbenzene	91	12.331	12.331	0.000	95	2317730	50.0	47.0	
77 Chlorobenzene	112	12.331	12.331	0.000	89	1185061	50.0	48.7	
79 1,1,1,2-Tetrachloroethane	131	12.367	12.367	0.000	93	404076	50.0	47.1	
80 m-Xylene & p-Xylene	106	12.438	12.438	0.000	97	860696	50.0	51.7	
82 o-Xylene	106	12.793	12.793	0.000	98	866223	50.0	51.6	
83 Styrene	104	12.828	12.828	0.000	93	1220090	50.0	52.4	
84 Bromoform	173	12.887	12.887	0.000	97	157619	50.0	47.4	
85 Isopropylbenzene	105	13.029	13.029	0.000	98	2285966	50.0	53.9	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.266	0.000	79	612888	50.0	53.0	
88 N-Propylbenzene	91	13.337	13.337	0.000	99	2755208	50.0	48.9	
87 Bromobenzene	156	13.361	13.361	0.000	94	441766	50.0	51.5	
89 1,1,2,2-Tetrachloroethane	83	13.396	13.396	0.000	95	373057	50.0	46.6	
91 1,3,5-Trimethylbenzene	105	13.467	13.467	0.000	94	2018175	50.0	51.3	
90 2-Chlorotoluene	91	13.491	13.491	0.000	96	2001904	50.0	50.3	
92 1,2,3-Trichloropropane	110	13.515	13.515	0.000	85	97773	50.0	46.8	
93 trans-1,4-Dichloro-2-buten	53	13.526	13.526	0.000	92	117482	50.0	45.2	
94 Cyclohexanone	55	13.574	13.574	0.000	93	99749	500.0	400.4	
95 4-Chlorotoluene	91	13.609	13.609	0.000	99	1738767	50.0	52.0	
96 tert-Butylbenzene	119	13.728	13.728	0.000	93	1680831	50.0	55.1	
97 1,2,4-Trimethylbenzene	105	13.775	13.775	0.000	99	2066311	50.0	50.3	
98 sec-Butylbenzene	105	13.858	13.858	0.000	96	2658200	50.0	49.9	
99 4-Isopropyltoluene	119	13.941	13.941	0.000	95	2146485	50.0	49.9	
100 1,3-Dichlorobenzene	146	14.047	14.047	0.000	94	992129	50.0	51.0	
120 1,2,3-Trimethylbenzene	105	14.094	14.094	0.000	95	2084880	50.0	48.1	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.106	0.000	72	636529	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.118	14.118	0.000	93	1003690	50.0	49.3	
103 n-Butylbenzene	134	14.248	14.248	0.000	96	602642	50.0	50.0	
121 Benzyl chloride	126	14.284	14.284	0.000	93	155023	50.0	50.0	
104 1,2-Dichlorobenzene	146	14.426	14.426	0.000	93	894577	50.0	49.6	
106 n-Nonyl Aldehyde	57	14.946	14.946	0.000	85	321592	50.0	41.1	
105 1,2-Dibromo-3-Chloropropan	157	15.029	15.029	0.000	55	55998	50.0	44.4	
107 1,3,5-Trichlorobenzene	180	15.041	15.041	0.000	97	751924	50.0	48.8	
108 Hexachlorobutadiene	225	15.502	15.502	0.000	98	385046	50.0	49.5	
109 1,2,4-Trichlorobenzene	180	15.562	15.562	0.000	93	591559	50.0	46.7	
110 Naphthalene	128	15.857	15.857	0.000	98	1013580	50.0	42.2	
111 1,2,3-Trichlorobenzene	180	16.035	16.035	0.000	94	460028	50.0	43.0	
S 112 Xylenes, Total	106				0			103.2	
S 113 Trihalomethanes, Total	1				0			192.3	

QC Flag Legend

Review Flags

M - Manually Integrated

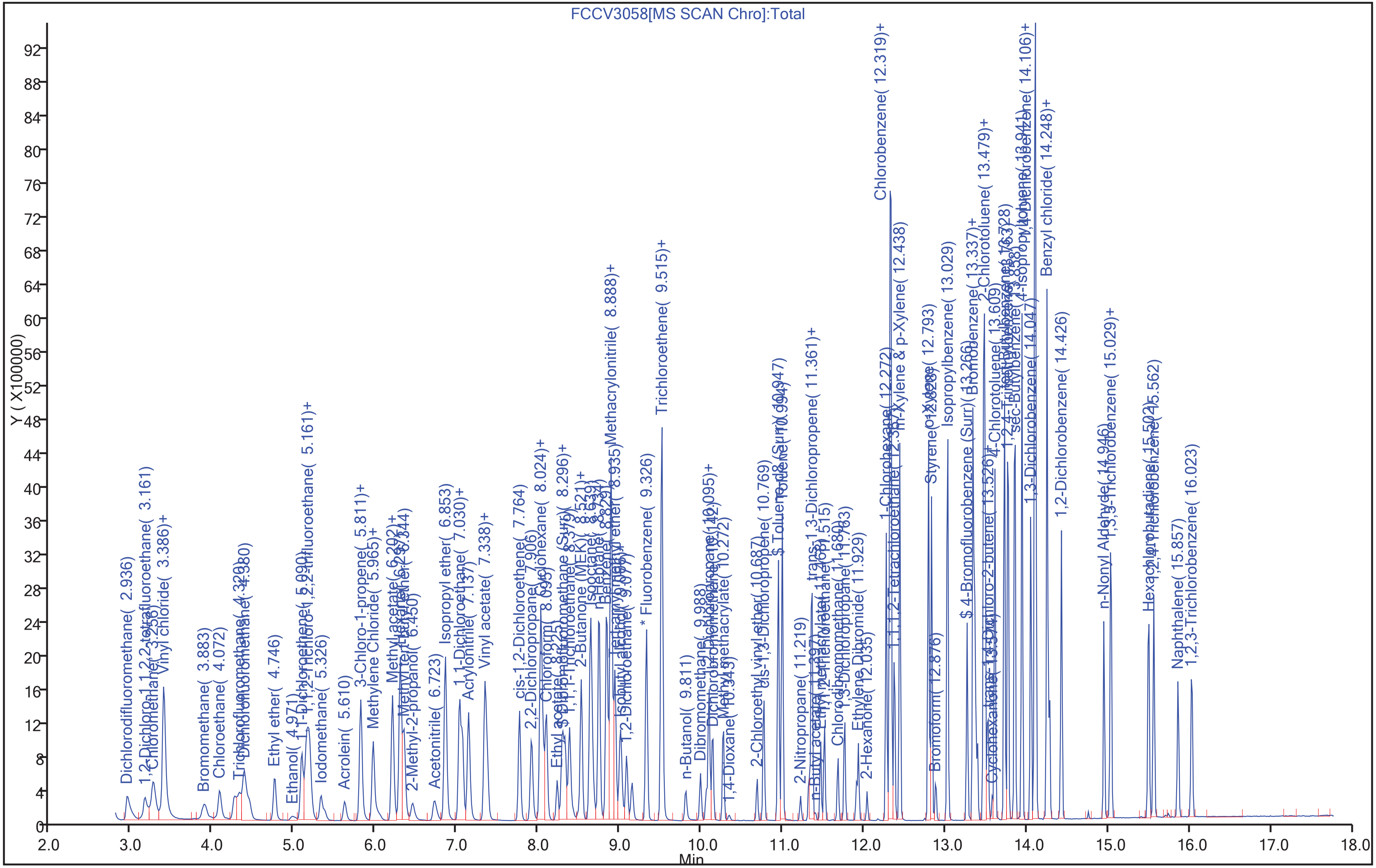
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 19-Oct-2017 23:54:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FCCV3058.D				
Injection Date:	17-Oct-2017 15:17:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	CCV			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



Report Date: 19-Oct-2017 23:54:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

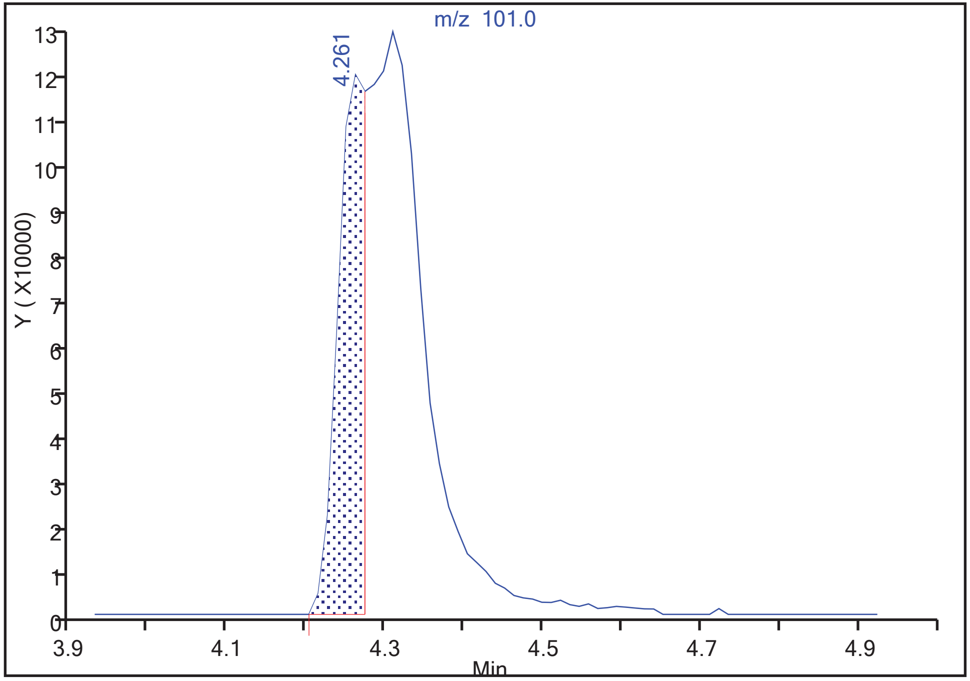
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FCCV3058.D				
Injection Date:	17-Oct-2017 15:17:30	Instrument ID:	VMSF		
Lims ID:	CCV				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

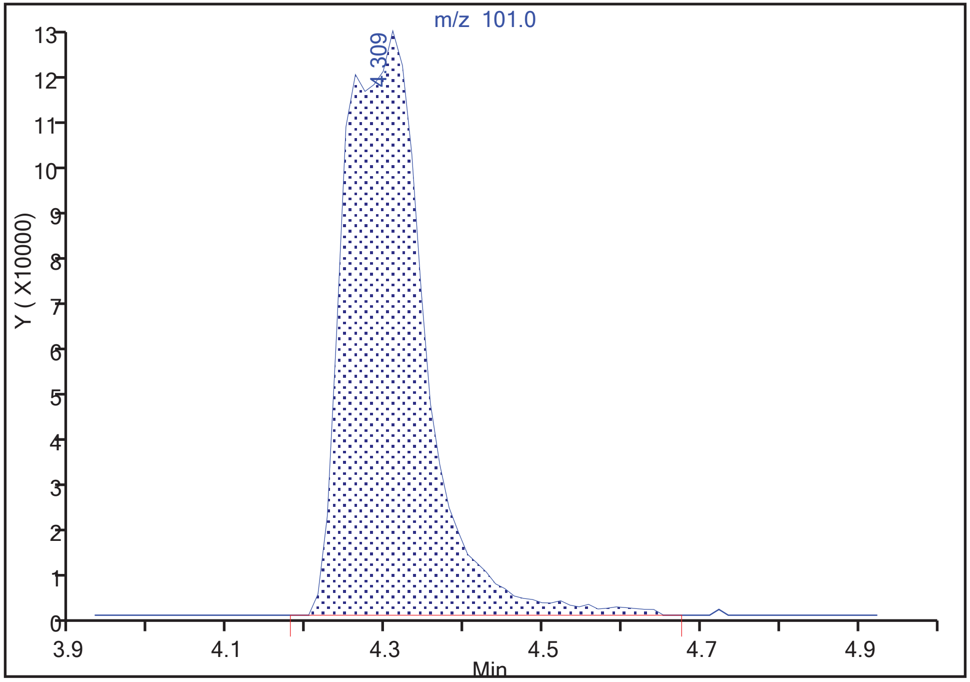
Processing Integration Results

RT:	4.26
Area:	286681
Amount:	15.685480
Amount Units:	ug/l



Manual Integration Results

RT:	4.31
Area:	862241
Amount:	47.176701
Amount Units:	ug/l



Reviewer: hannj, 19-Oct-2017 23:53:26

Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica St. Louis

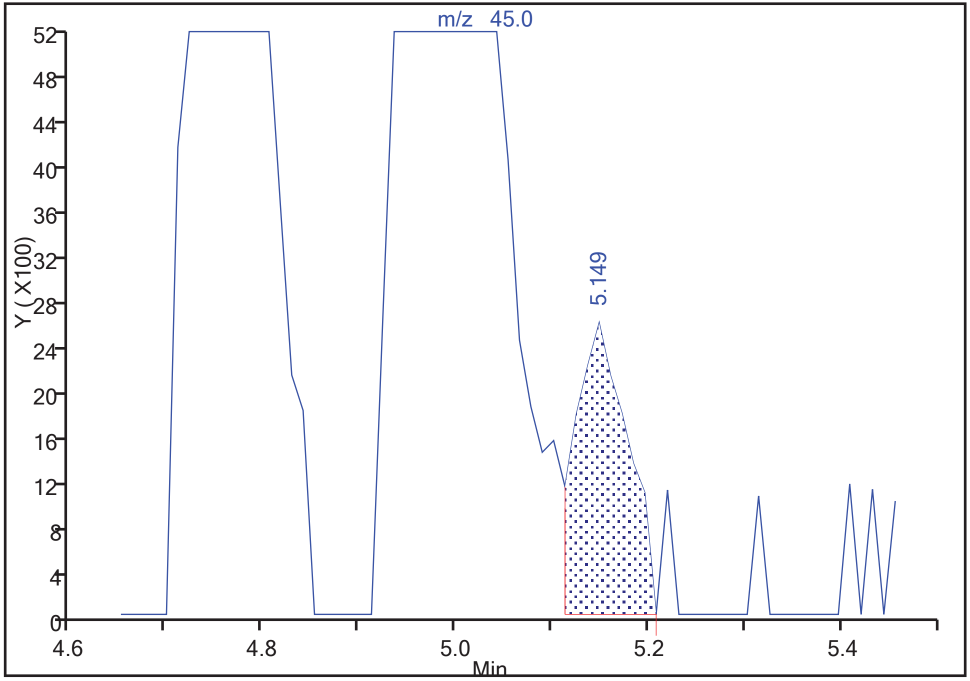
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FCCV3058.D				
Injection Date:	17-Oct-2017 15:17:30	Instrument ID:	VMSF		
Lims ID:	CCV				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

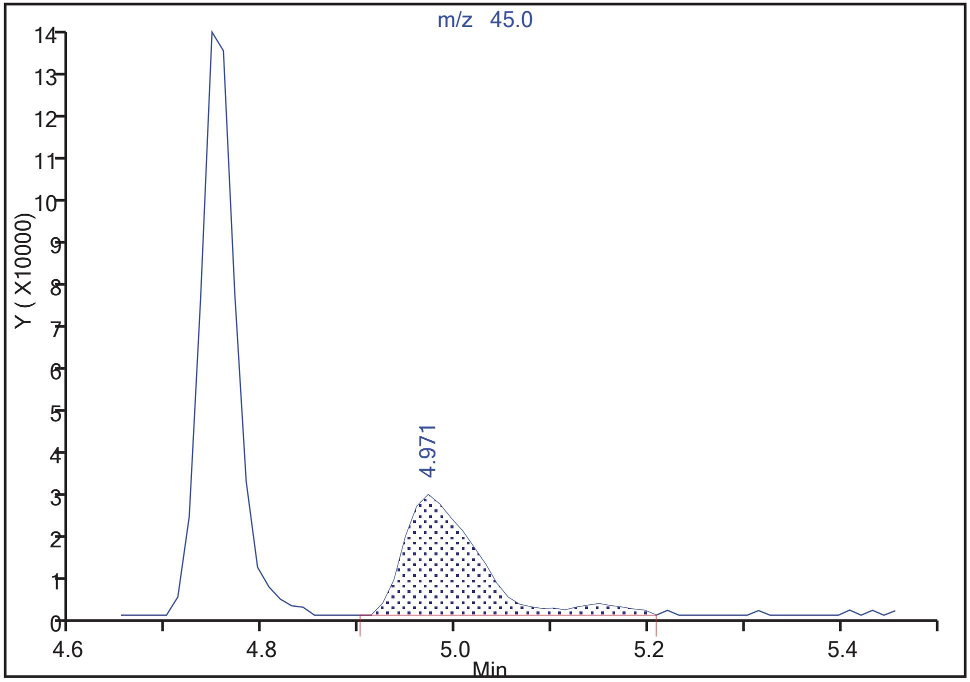
Processing Integration Results

RT: 5.15
Area: 9964
Amount: 135.4695
Amount Units: ug/l



Manual Integration Results

RT: 4.97
Area: 146452
Amount: 1531.2862
Amount Units: ug/l



Reviewer: hannj, 19-Oct-2017 23:53:32
Audit Action: Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica St. Louis

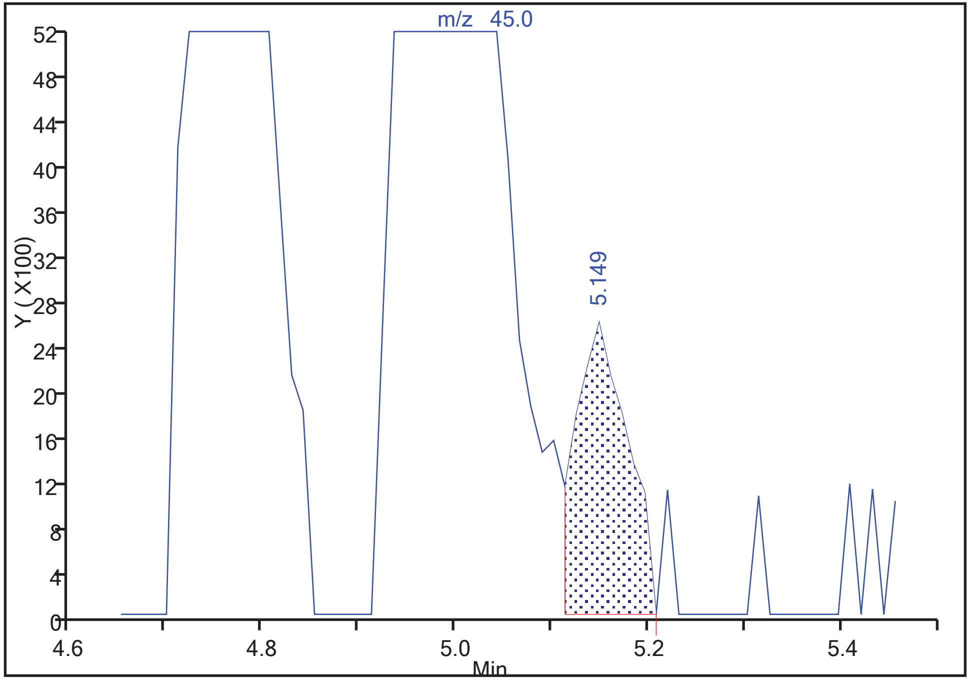
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FCCV3058.D				
Injection Date:	17-Oct-2017 15:17:30	Instrument ID:	VMSF		
Lims ID:	CCV				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

11 Ethanol, CAS: 64-17-5

Signal: 1

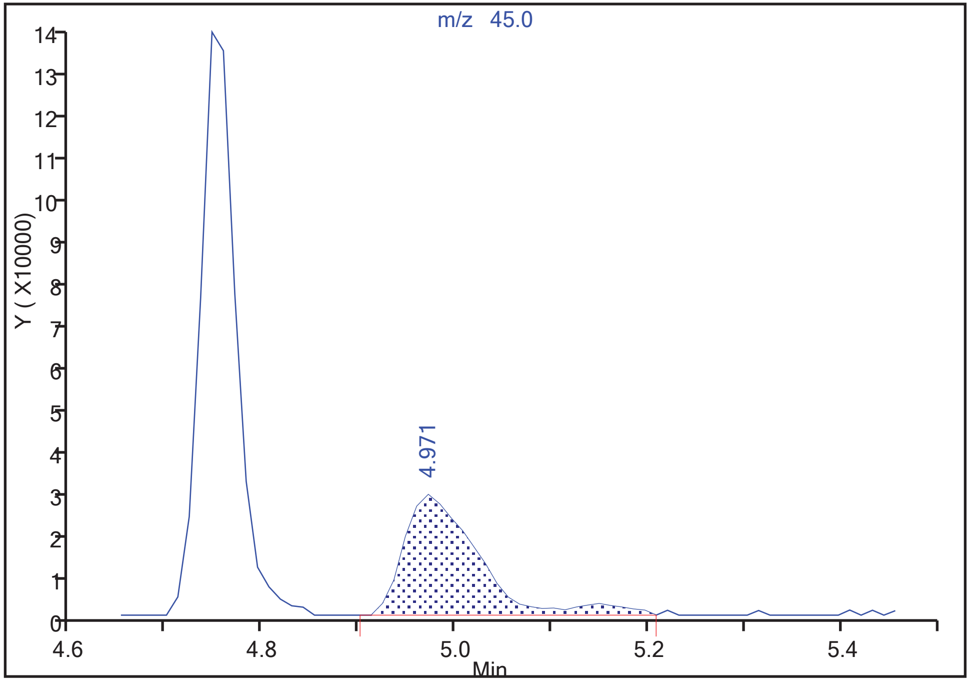
Processing Integration Results

RT:	5.15
Area:	9964
Amount:	135.4695
Amount Units:	ug/l



Manual Integration Results

RT:	4.97
Area:	146452
Amount:	1531.2862
Amount Units:	ug/l



Reviewer: hannj, 19-Oct-2017 23:53:54

Audit Action: Manually Integrated Audit Reason: Peak Tail

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332247/25 Calibration Date: 10/18/2017 00:49

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3079.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3657	0.3129	0.1000	42.8	50.0	-14.4	50.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1220	0.1306	0.0100	53.5	50.0	7.0	50.0
Chloromethane	Ave	0.6563	0.5665	0.1000	43.2	50.0	-13.7	50.0
Butadiene	Qua		0.5679	0.0100	39.3	50.0	-21.4	50.0
Vinyl chloride	Ave	0.5827	0.4364	0.1000	37.4	50.0	-25.1	50.0
Bromomethane	LinF		0.1978	0.1000	52.1	50.0	4.1	50.0
Chloroethane	LinF		0.2697	0.1000	61.1	50.0	22.2	50.0
Trichlorofluoromethane	Ave	0.5084	0.4485	0.1000	44.1	50.0	-11.8	50.0
Dichlorofluoromethane	Ave	0.6470	0.6113	0.0100	47.2	50.0	-5.5	50.0
Ethyl ether	Ave	0.1566	0.1457	0.0100	46.5	50.0	-6.9	50.0
Ethanol	Lin1		0.0028*	0.0100	2060	2000	3.0	50.0
1,1-Dichloroethene	Ave	0.2697	0.2442	0.1000	45.3	50.0	-9.5	50.0
Carbon disulfide	Ave	1.054	0.9410	0.1000	44.6	50.0	-10.7	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1903	0.1679	0.1000	44.1	50.0	-11.8	50.0
Iodomethane	Ave	0.3535	0.3397	0.0100	48.0	50.0	-3.9	50.0
Acrolein	Ave	0.0367	0.0296	0.0010	202	250	-19.2	50.0
3-Chloro-1-propene	Ave	0.5102	0.4958	0.0100	48.6	50.0	-2.8	50.0
Isopropyl alcohol	Ave	0.0141	0.0145	0.0100	517	500	3.4	50.0
Methylene Chloride	Ave	0.3223	0.2968	0.1000	46.0	50.0	-7.9	50.0
Acetone	Lin		0.0736*	0.1000	56.5	50.0	13.1	50.0
trans-1,2-Dichloroethene	Ave	0.3075	0.2866	0.1000	46.6	50.0	-6.8	50.0
Methyl acetate	Ave	0.0110	0.0111*	0.1000	251	250	0.5	50.0
Hexane	Ave	0.0875	0.0752	0.0100	43.0	50.0	-14.1	50.0
Methyl tert-butyl ether	Ave	0.6903	0.6880	0.1000	49.8	50.0	-0.3	50.0
2-Methyl-2-propanol	Ave	0.0209	0.0199	0.0100	477	500	-4.6	50.0
Acetonitrile	Ave	0.0266	0.0284	0.0010	533	500	6.6	50.0
Isopropyl ether	Ave	1.183	1.231	0.0100	52.0	50.0	4.1	50.0
2-Chloro-1,3-butadiene	Ave	0.5969	0.5805	0.0100	48.6	50.0	-2.8	50.0
1,1-Dichloroethane	Ave	0.6566	0.6324	0.2000	48.2	50.0	-3.7	50.0
Acrylonitrile	Ave	0.0779	0.0779	0.0100	500	500	0.0	50.0
Tert-butyl ethyl ether	Ave	0.9600	0.9760	0.0100	50.8	50.0	1.7	50.0
Vinyl acetate	Ave	0.6095	0.5920	0.0100	48.6	50.0	-2.9	50.0
cis-1,2-Dichloroethene	Ave	0.3237	0.3172	0.1000	49.0	50.0	-2.0	50.0
2,2-Dichloropropane	Ave	0.3859	0.3427	0.0100	44.4	50.0	-11.2	50.0
Bromochloromethane	Ave	0.1132	0.1080	0.0100	47.7	50.0	-4.6	50.0
Cyclohexane	Ave	0.5597	0.4814	0.1000	43.0	50.0	-14.0	50.0
Chloroform	Ave	0.5697	0.5672	0.2000	49.8	50.0	-0.4	50.0
Ethyl acetate	Ave	0.0286	0.0249	0.0100	86.8	100	-13.2	50.0
Carbon tetrachloride	Ave	0.3709	0.3549	0.1000	47.8	50.0	-4.3	50.0
1,1,1-Trichloroethane	Ave	0.4971	0.4763	0.1000	47.9	50.0	-4.2	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332247/25   Calibration Date: 10/18/2017 00:49

Instrument ID: VMSF   Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40   ID: 0.18(mm)   Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3079.D   Conc. Units: ug/L   Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Butanone (MEK)	Ave	0.0956	0.0866*	0.1000	45.3	50.0	-9.4	50.0
1,1-Dichloropropene	Ave	0.4509	0.4222	0.0100	46.8	50.0	-6.4	50.0
Isooctane	Ave	1.631	1.447	0.0100	44.4	50.0	-11.3	50.0
n-Heptane	Ave	0.6830	0.6040	0.0100	44.2	50.0	-11.6	50.0
Benzene	Ave	1.219	1.206	0.5000	49.5	50.0	-1.1	50.0
Propionitrile	Ave	0.0290	0.0290	0.0010	500	500	0.0	50.0
Methacrylonitrile	Ave	0.1496	0.1597	0.0100	534	500	6.8	50.0
Tert-amyl methyl ether	Ave	0.7797	0.7761	0.0100	49.8	50.0	-0.5	50.0
Isobutyl alcohol	Ave	0.0064	0.0067	0.0010	1310	1250	4.6	50.0
1,2-Dichloroethane	Ave	0.3636	0.3648	0.1000	50.2	50.0	0.3	50.0
Methylcyclohexane	Ave	0.6305	0.5621	0.1000	44.6	50.0	-10.9	50.0
Trichloroethene	Ave	0.3165	0.3066	0.2000	48.4	50.0	-3.1	50.0
n-Butanol	Qua		0.0054*	0.0100	1190	1250	-5.2	50.0
Dibromomethane	Ave	0.1255	0.1229	0.0100	49.0	50.0	-2.1	50.0
Ethyl acrylate	Lin1		0.1674	0.0100	42.4	50.0	-15.2	50.0
1,2-Dichloropropane	Ave	0.3005	0.2967	0.1000	49.4	50.0	-1.3	50.0
Bromodichloromethane	Ave	0.3540	0.3591	0.2000	50.7	50.0	1.4	50.0
Methyl methacrylate	Lin1		0.1004	0.0100	89.7	100	-10.3	50.0
1,4-Dioxane	Lin1		0.0018	0.0010	1020	1000	1.5	50.0
2-Chloroethyl vinyl ether	Lin1		0.0881	0.0100	41.4	50.0	-17.2	50.0
cis-1,3-Dichloropropene	Ave	0.3693	0.3701	0.2000	50.1	50.0	0.2	50.0
Toluene	Ave	1.040	1.044	0.4000	50.2	50.0	0.4	50.0
2-Nitropropane	Lin1		0.0793	0.0100	88.0	100	-12.0	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3105	0.3006	0.1000	48.4	50.0	-3.2	50.0
Tetrachloroethene	Ave	0.2865	0.2805	0.2000	48.9	50.0	-2.1	50.0
trans-1,3-Dichloropropene	Ave	0.4985	0.4921	0.1000	49.4	50.0	-1.3	50.0
n-Butyl acetate	Ave	0.0614	0.0604	0.0100	49.2	50.0	-1.6	50.0
Ethyl methacrylate	Lin1		0.3193	0.0100	45.3	50.0	-9.3	50.0
1,1,2-Trichloroethane	Ave	0.2360	0.2278	0.1000	48.2	50.0	-3.5	50.0
Chlorodibromomethane	Ave	0.2642	0.2722	0.1000	51.5	50.0	3.0	50.0
1,3-Dichloropropane	Ave	0.4884	0.4673	0.0100	47.8	50.0	-4.3	50.0
1,2-Dibromoethane	Ave	0.2252	0.2172	0.1000	48.2	50.0	-3.5	50.0
2-Hexanone	Ave	0.1818	0.1770	0.1000	48.7	50.0	-2.6	50.0
1-Chlorohexane	Ave	0.5973	0.5328	0.0100	44.6	50.0	-10.8	50.0
Chlorobenzene	Ave	1.086	1.073	0.5000	49.4	50.0	-1.2	50.0
Ethylbenzene	Ave	2.201	2.131	0.1000	48.4	50.0	-3.2	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3828	0.3798	0.0100	49.6	50.0	-0.8	50.0
m-Xylene & p-Xylene	Ave	0.7432	0.7551	0.1000	50.8	50.0	1.6	50.0
o-Xylene	Ave	0.7495	0.7726	0.3000	51.5	50.0	3.1	50.0
Styrene	Ave	1.039	1.085	0.3000	52.2	50.0	4.5	50.0
Bromoform	Lin1		0.2500	0.1000	47.8	50.0	-4.3	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332247/25 Calibration Date: 10/18/2017 00:49

Instrument ID: VMSF Calib Start Date: 10/02/2017 21:02

GC Column: RTX-VMS40 ID: 0.18(mm) Calib End Date: 10/02/2017 23:55

Lab File ID: FCCV3079.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropylbenzene	Qua		3.465	0.1000	51.7	50.0	3.4	50.0
N-Propylbenzene	Ave	4.426	4.199	0.0100	47.4	50.0	-5.1	50.0
Bromobenzene	Ave	0.6734	0.6655	0.0100	49.4	50.0	-1.2	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6282	0.5955	0.3000	47.4	50.0	-5.2	50.0
1,3,5-Trimethylbenzene	Ave	3.090	3.101	0.0100	50.2	50.0	0.3	50.0
2-Chlorotoluene	Qua		3.105	0.0100	49.6	50.0	-0.8	50.0
1,2,3-Trichloropropane	Ave	0.1640	0.1594	0.0100	48.6	50.0	-2.8	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2043	0.1793	0.0100	43.9	50.0	-12.2	50.0
Cyclohexanone	Ave	0.0196	0.0187	0.0010	478	500	-4.3	50.0
4-Chlorotoluene	Qua		2.682	0.0100	50.9	50.0	1.9	50.0
tert-Butylbenzene	Ave	2.395	2.581	0.0100	53.9	50.0	7.8	50.0
1,2,4-Trimethylbenzene	Ave	3.228	3.245	0.0100	50.3	50.0	0.5	50.0
sec-Butylbenzene	Ave	4.184	4.064	0.0100	48.6	50.0	-2.9	50.0
4-Isopropyltoluene	Ave	3.379	3.264	0.0100	48.3	50.0	-3.4	50.0
1,3-Dichlorobenzene	Ave	1.528	1.512	0.6000	49.5	50.0	-1.1	50.0
1,2,3-Trimethylbenzene	Ave	3.405	3.359	0.0100	49.3	50.0	-1.3	50.0
1,4-Dichlorobenzene	Ave	1.601	1.588	0.5000	49.6	50.0	-0.8	50.0
n-Butylbenzene	Ave	0.9475	0.8639	0.0100	45.6	50.0	-8.8	50.0
Benzyl chloride	Ave	0.2435	0.1630	0.0100	33.5	50.0	-33.1	50.0
1,2-Dichlorobenzene	Ave	1.417	1.426	0.4000	50.3	50.0	0.6	50.0
n-Nonyl Aldehyde	Ave	0.6140	0.5166	0.0100	42.1	50.0	-15.9	50.0
1,2-Dibromo-3-Chloropropane	Ave	0.0990	0.0998	0.0500	50.4	50.0	0.8	50.0
1,3,5-Trichlorobenzene	Ave	1.211	1.160	0.0100	47.9	50.0	-4.2	50.0
Hexachlorobutadiene	Ave	0.6109	0.6094	0.0100	49.9	50.0	-0.2	50.0
1,2,4-Trichlorobenzene	Ave	0.996	0.9488	0.2000	47.7	50.0	-4.7	50.0
Naphthalene	Ave	1.886	1.772	0.0100	47.0	50.0	-6.0	50.0
1,2,3-Trichlorobenzene	Ave	0.8403	0.7846	0.0100	46.7	50.0	-6.6	50.0
Dibromofluoromethane (Surr)	Ave	0.2372	0.2303	0.0100	48.6	50.0	-2.9	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3058	0.3203	0.0100	52.4	50.0	4.8	50.0
Toluene-d8 (Surr)	Ave	1.396	1.439	0.0100	51.5	50.0	3.1	50.0
4-Bromofluorobenzene (Surr)	Ave	0.9091	0.9226	0.0100	50.7	50.0	1.5	50.0

FORM VII 8260C DOD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FCCV3079.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 18-Oct-2017 00:49:30 ALS Bottle#: 23 Worklist Smp#: 25
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-025
Misc. Info.: CCVC
Operator ID: JDH Instrument ID: VMSF
Sublist: chrom-5mL-8260_MSF*sub16

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:00:44 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:00:44

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.949	2.949	0.000	99	415500	50.0	42.8	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.162	3.162	0.000	96	173406	50.0	53.5	
3 Chloromethane	50	3.269	3.269	0.000	100	752432	50.0	43.2	
122 Butadiene	39	3.387	3.387	0.000	93	754261	50.0	39.3	
4 Vinyl chloride	62	3.399	3.399	0.000	58	579564	50.0	37.4	
5 Bromomethane	94	3.896	3.896	0.000	93	262644	50.0	52.1	
6 Chloroethane	64	4.074	4.074	0.000	99	358224	50.0	61.1	
7 Trichlorofluoromethane	101	4.310	4.310	0.000	87	595600	50.0	44.1	M
123 Dichlorofluoromethane	67	4.381	4.381	0.000	100	811894	50.0	47.2	
8 Ethyl ether	74	4.760	4.760	0.000	95	193514	50.0	46.5	
11 Ethanol	45	4.973	4.973	0.000	24	146389	2000.0	2059.7	M
9 1,1-Dichloroethene	96	5.091	5.091	0.000	93	324278	50.0	45.3	
10 Carbon disulfide	76	5.150	5.150	0.000	100	1249784	50.0	44.6	
12 1,1,2-Trichloro-1,2,2-trif	151	5.174	5.174	0.000	96	223034	50.0	44.1	
13 Iodomethane	142	5.328	5.328	0.000	99	451135	50.0	48.0	
14 Acrolein	56	5.612	5.612	0.000	98	196568	250.0	201.9	
16 Isopropyl alcohol	45	5.813	5.813	0.000	25	193082	500.0	517.2	
15 3-Chloro-1-propene	39	5.813	5.813	0.000	88	658526	50.0	48.6	
S 26 1,2-Dichloroethene, Total	96				0			95.6	
17 Methylene Chloride	84	5.967	5.967	0.000	96	394164	50.0	46.0	
18 Acetone	43	6.050	6.050	0.000	98	97772	50.0	56.5	
19 trans-1,2-Dichloroethene	96	6.204	6.204	0.000	93	380643	50.0	46.6	
20 Methyl acetate	74	6.215	6.215	0.000	100	73519	250.0	251.2	
21 Hexane	86	6.298	6.298	0.000	96	99837	50.0	43.0	
22 Methyl tert-butyl ether	73	6.345	6.345	0.000	97	913735	50.0	49.8	
23 2-Methyl-2-propanol	59	6.452	6.452	0.000	96	264256	500.0	476.9	
24 Acetonitrile	41	6.724	6.724	0.000	98	376757	500.0	533.2	
25 Isopropyl ether	45	6.854	6.854	0.000	95	1635006	50.0	52.0	
27 2-Chloro-1,3-butadiene	53	7.020	7.020	0.000	94	770910	50.0	48.6	
28 1,1-Dichloroethane	63	7.067	7.067	0.000	97	839875	50.0	48.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	7.138	7.138	0.000	98	1034685	500.0	500.2	
30 Tert-butyl ethyl ether	59	7.339	7.339	0.000	98	1296285	50.0	50.8	
31 Vinyl acetate	43	7.375	7.375	0.000	97	786203	50.0	48.6	
32 cis-1,2-Dichloroethene	96	7.765	7.765	0.000	86	421330	50.0	49.0	
33 2,2-Dichloropropane	77	7.907	7.907	0.000	93	455111	50.0	44.4	
35 Chlorobromomethane	128	8.026	8.026	0.000	88	143468	50.0	47.7	
34 Cyclohexane	84	8.038	8.038	0.000	97	639289	50.0	43.0	
36 Chloroform	83	8.097	8.097	0.000	97	753289	50.0	49.8	
39 Ethyl acetate	45	8.227	8.227	0.000	99	66004	100.0	86.8	
37 Carbon tetrachloride	117	8.286	8.286	0.000	96	471399	50.0	47.8	
38 Tetrahydrofuran	71	8.310	8.310	0.000	94	46658	100.0	95.7	
$ 41 Dibromofluoromethane (Surr	113	8.322	8.322	0.000	93	305921	50.0	48.6	
40 1,1,1-Trichloroethane	97	8.381	8.381	0.000	96	632518	50.0	47.9	
43 2-Butanone (MEK)	43	8.487	8.487	0.000	94	114995	50.0	45.3	
42 1,1-Dichloropropene	75	8.523	8.523	0.000	90	560688	50.0	46.8	
125 Isooctane	57	8.641	8.641	0.000	98	1921726	50.0	44.4	
117 n-Heptane	43	8.736	8.736	0.000	94	802229	50.0	44.2	
44 Benzene	78	8.830	8.830	0.000	99	1602004	50.0	49.5	
45 Propionitrile	54	8.866	8.866	0.000	97	384774	500.0	500.1	
46 Methacrylonitrile	41	8.890	8.890	0.000	97	2120523	500.0	533.8	
48 Tert-amyl methyl ether	73	8.937	8.937	0.000	94	1030740	50.0	49.8	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.996	8.996	0.000	96	425450	50.0	52.4	
50 Isobutyl alcohol	42	9.020	9.020	0.000	90	223120	1250.0	1306.9	
49 1,2-Dichloroethane	62	9.079	9.079	0.000	97	484426	50.0	50.2	
* 51 Fluorobenzene	96	9.327	9.327	0.000	97	1328110	50.0	50.0	
52 Methylcyclohexane	55	9.517	9.517	0.000	96	746539	50.0	44.6	
53 Trichloroethene	95	9.517	9.517	0.000	68	407227	50.0	48.4	
54 n-Butanol	56	9.813	9.813	0.000	96	178988	1250.0	1185.5	
55 Dibromomethane	93	9.990	9.990	0.000	88	163185	50.0	49.0	
124 Ethyl acrylate	55	10.061	10.061	0.000	99	222372	50.0	42.4	
56 1,2-Dichloropropane	63	10.096	10.096	0.000	90	394091	50.0	49.4	
57 Dichlorobromomethane	83	10.132	10.132	0.000	97	476920	50.0	50.7	
58 Methyl methacrylate	69	10.274	10.274	0.000	93	266794	100.0	89.7	
59 1,4-Dioxane	88	10.345	10.345	0.000	97	47348	1000.0	1015.1	
60 2-Chloroethyl vinyl ether	63	10.688	10.688	0.000	92	116960	50.0	41.4	
61 cis-1,3-Dichloropropene	75	10.771	10.771	0.000	90	491580	50.0	50.1	
$ 62 Toluene-d8 (Surr)	98	10.948	10.948	0.000	95	1189223	50.0	51.5	
63 Toluene	92	10.996	10.996	0.000	97	862985	50.0	50.2	
64 2-Nitropropane	43	11.221	11.221	0.000	98	131116	100.0	88.0	
66 4-Methyl-2-pentanone (MIBK	43	11.327	11.327	0.000	97	248501	50.0	48.4	
65 Tetrachloroethene	164	11.351	11.351	0.000	90	231852	50.0	48.9	
67 trans-1,3-Dichloropropene	75	11.363	11.363	0.000	99	406780	50.0	49.4	
119 n-Butyl acetate	43	11.398	11.398	0.000	97	49959	50.0	49.2	
69 Ethyl methacrylate	69	11.469	11.469	0.000	94	263947	50.0	45.3	
68 1,1,2-Trichloroethane	83	11.516	11.516	0.000	94	188268	50.0	48.2	
S 73 1,3-Dichloropropene, Total	75				0			99.5	
70 Chlorodibromomethane	129	11.682	11.682	0.000	89	225029	50.0	51.5	
71 1,3-Dichloropropane	76	11.765	11.765	0.000	99	386317	50.0	47.8	
72 Ethylene Dibromide	107	11.907	11.907	0.000	98	179553	50.0	48.2	
74 2-Hexanone	43	12.037	12.037	0.000	97	146303	50.0	48.7	
75 1-Chlorohexane	91	12.274	12.274	0.000	86	440442	50.0	44.6	
* 76 Chlorobenzene-d5	117	12.321	12.321	0.000	93	826659	50.0	50.0	

Report Date: 20-Oct-2017 00:00:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FCCV3079.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
78 Ethylbenzene	91	12.333	12.333	0.000	94	1761284	50.0	48.4	
77 Chlorobenzene	112	12.333	12.333	0.000	90	886921	50.0	49.4	
79 1,1,1,2-Tetrachloroethane	131	12.368	12.368	0.000	96	313933	50.0	49.6	
80 m-Xylene & p-Xylene	106	12.439	12.439	0.000	97	624242	50.0	50.8	
82 o-Xylene	106	12.794	12.794	0.000	99	638641	50.0	51.5	
83 Styrene	104	12.830	12.830	0.000	92	897322	50.0	52.2	
84 Bromoform	173	12.877	12.877	0.000	91	124483	50.0	47.8	
85 Isopropylbenzene	105	13.031	13.031	0.000	98	1725118	50.0	51.7	
$ 86 4-Bromofluorobenzene (Surr	95	13.268	13.268	0.000	80	459340	50.0	50.7	
88 N-Propylbenzene	91	13.339	13.339	0.000	99	2090559	50.0	47.4	
87 Bromobenzene	156	13.362	13.362	0.000	92	331349	50.0	49.4	
89 1,1,2,2-Tetrachloroethane	83	13.398	13.398	0.000	95	296501	50.0	47.4	
91 1,3,5-Trimethylbenzene	105	13.469	13.469	0.000	93	1543764	50.0	50.2	
90 2-Chlorotoluene	91	13.481	13.481	0.000	94	1545974	50.0	49.6	
92 1,2,3-Trichloropropane	110	13.516	13.516	0.000	87	79351	50.0	48.6	
93 trans-1,4-Dichloro-2-buten	53	13.528	13.528	0.000	91	89284	50.0	43.9	
94 Cyclohexanone	55	13.575	13.575	0.000	92	93241	500.0	478.5	
95 4-Chlorotoluene	91	13.611	13.611	0.000	99	1335477	50.0	50.9	
96 tert-Butylbenzene	119	13.729	13.729	0.000	93	1285147	50.0	53.9	
97 1,2,4-Trimethylbenzene	105	13.765	13.765	0.000	99	1615636	50.0	50.3	
98 sec-Butylbenzene	105	13.847	13.847	0.000	98	2023210	50.0	48.6	
99 4-Isopropyltoluene	119	13.942	13.942	0.000	96	1625144	50.0	48.3	
100 1,3-Dichlorobenzene	146	14.049	14.049	0.000	93	752748	50.0	49.5	
120 1,2,3-Trimethylbenzene	105	14.096	14.096	0.000	95	1672576	50.0	49.3	
* 101 1,4-Dichlorobenzene-d4	152	14.096	14.096	0.000	71	497893	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.108	14.108	0.000	84	790827	50.0	49.6	
103 n-Butylbenzene	134	14.250	14.250	0.000	97	430104	50.0	45.6	
121 Benzyl chloride	126	14.285	14.285	0.000	93	81135	50.0	33.5	
104 1,2-Dichlorobenzene	146	14.427	14.427	0.000	93	710207	50.0	50.3	
106 n-Nonyl Aldehyde	57	14.948	14.948	0.000	84	257215	50.0	42.1	
105 1,2-Dibromo-3-Chloropropan	157	15.031	15.031	0.000	71	49693	50.0	50.4	
107 1,3,5-Trichlorobenzene	180	15.031	15.031	0.000	94	577527	50.0	47.9	
108 Hexachlorobutadiene	225	15.504	15.504	0.000	96	303430	50.0	49.9	
109 1,2,4-Trichlorobenzene	180	15.563	15.563	0.000	93	472421	50.0	47.7	
110 Naphthalene	128	15.859	15.859	0.000	98	882305	50.0	47.0	
111 1,2,3-Trichlorobenzene	180	16.025	16.025	0.000	93	390656	50.0	46.7	
S 112 Xylenes, Total	106				0			102.3	
S 113 Trihalomethanes, Total	1				0			199.9	

QC Flag Legend

Review Flags

M - Manually Integrated

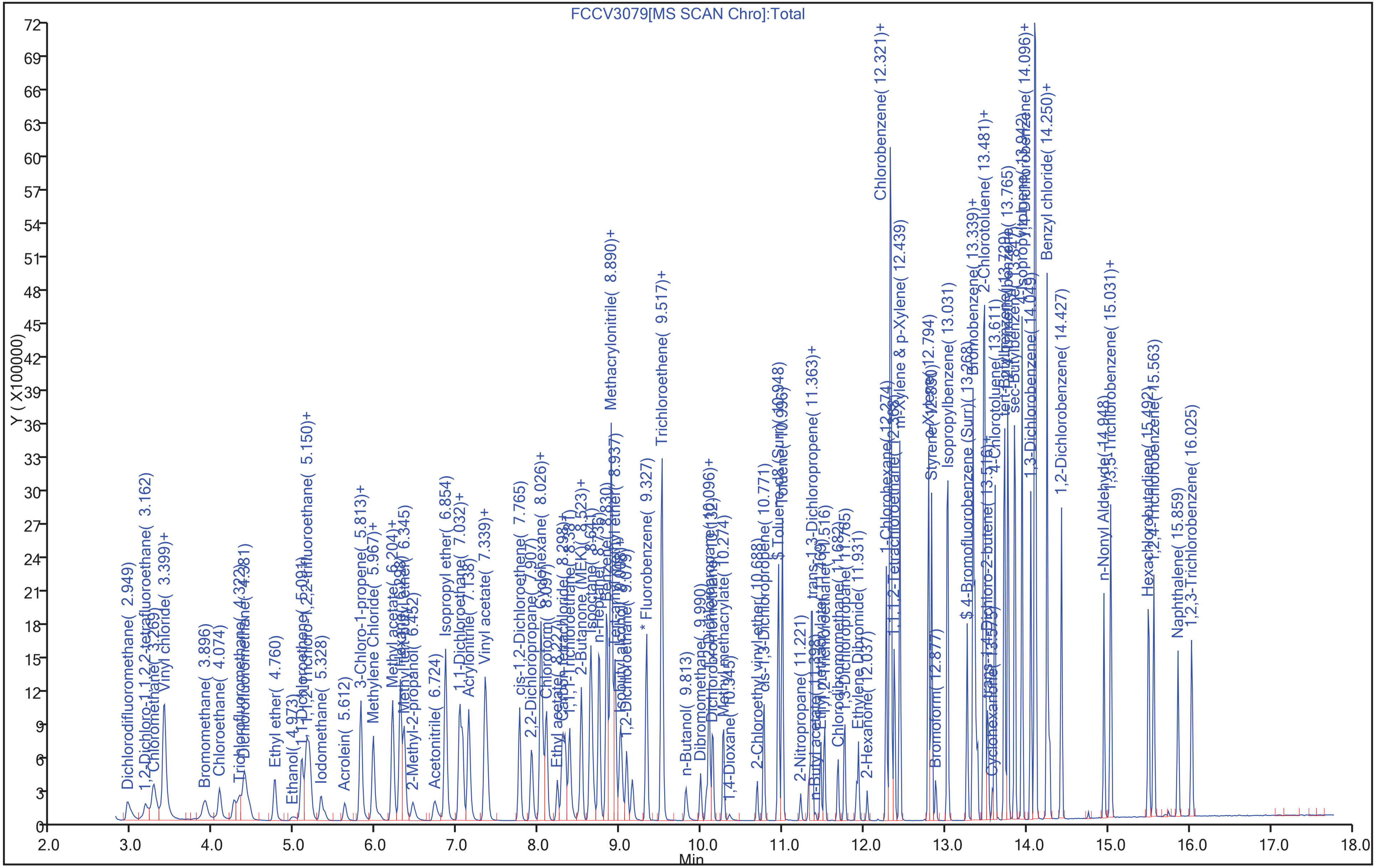
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 00:00:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FCCV3079.D				
Injection Date:	18-Oct-2017 00:49:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	CCVC			Worklist Smp#:	25
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis

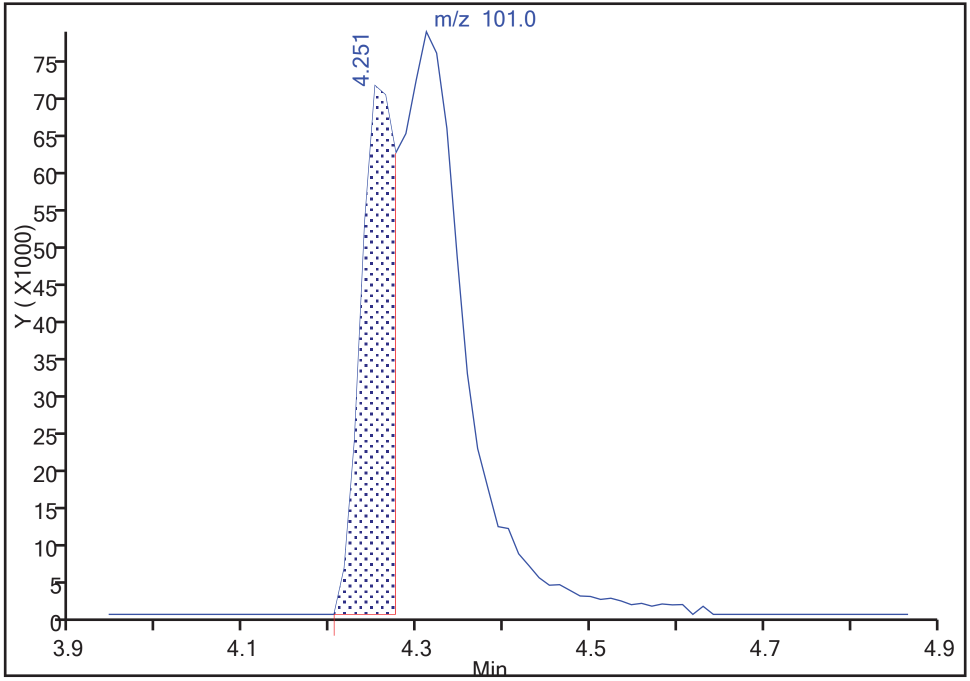
Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FCCV3079.D				
Injection Date:	18-Oct-2017 00:49:30	Instrument ID:	VMSF		
Lims ID:	CCVC				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	23	Worklist Smp#:	25
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Column:		Detector	MS SCAN		

7 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

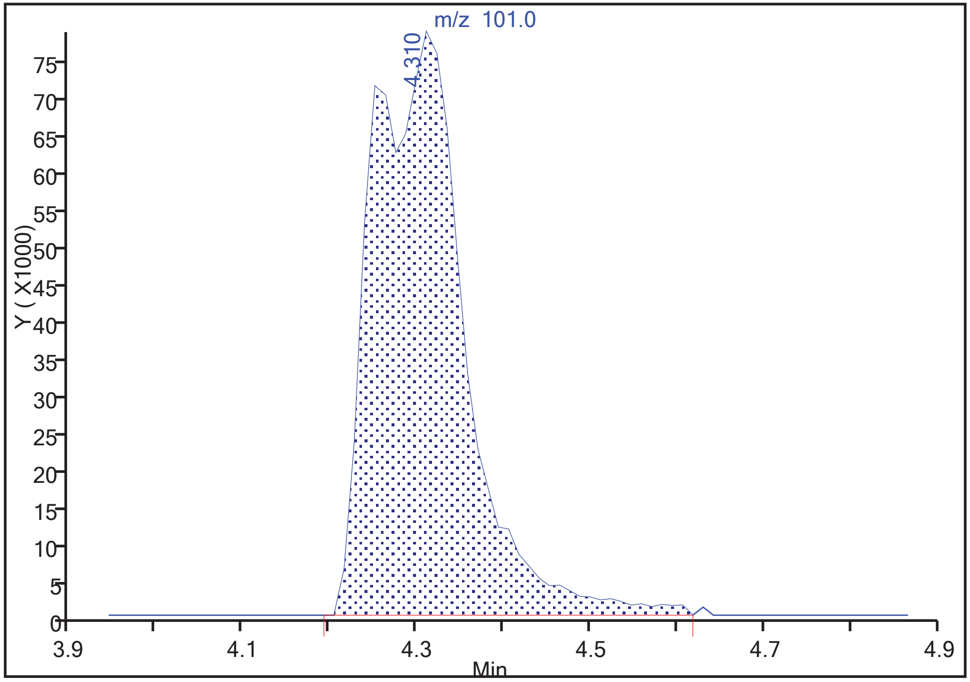
RT: 4.25
Area: 203916
Amount: 15.099853
Amount Units: ug/l

Processing Integration Results



RT: 4.31
Area: 595600
Amount: 44.103811
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 19-Oct-2017 23:59:38
Audit Action: Manually Integrated
Audit Reason: Split Peak

TestAmerica St. Louis

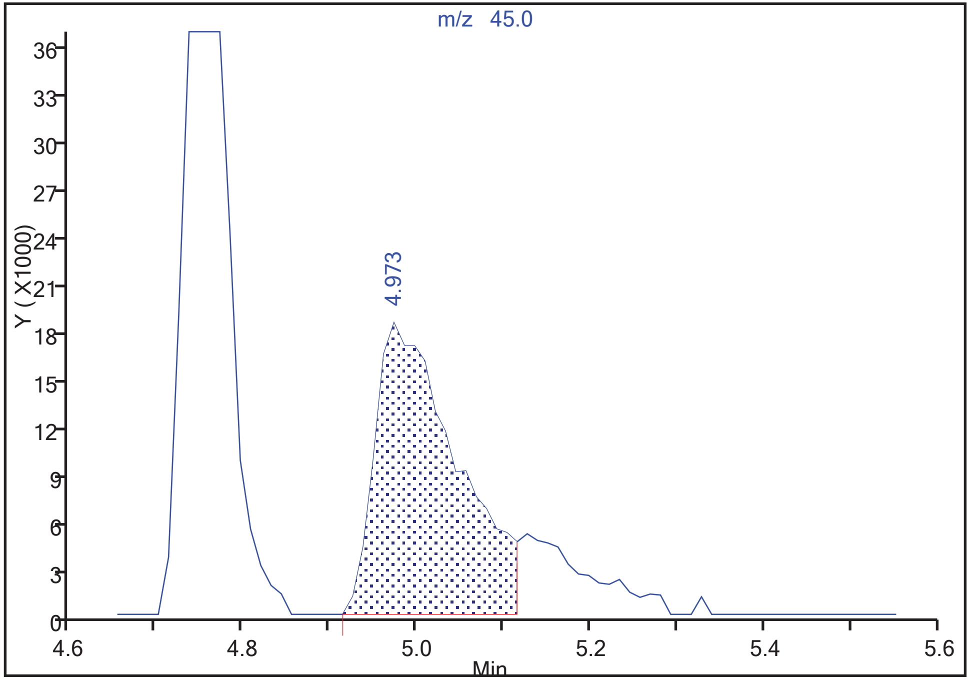
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FCCV3079.D
Injection Date: 18-Oct-2017 00:49:30
Instrument ID: VMSF
Lims ID: CCVC
Client ID:
Operator ID: JDH
ALS Bottle#: 23
Worklist Smp#: 25
Purge Vol: 5.000 mL
Dil. Factor: 1.0000
Method: 5mL-8260_MSF
Limit Group: MSV-8260_DoD
Column:
Detector MS SCAN

11 Ethanol, CAS: 64-17-5

Signal: 1

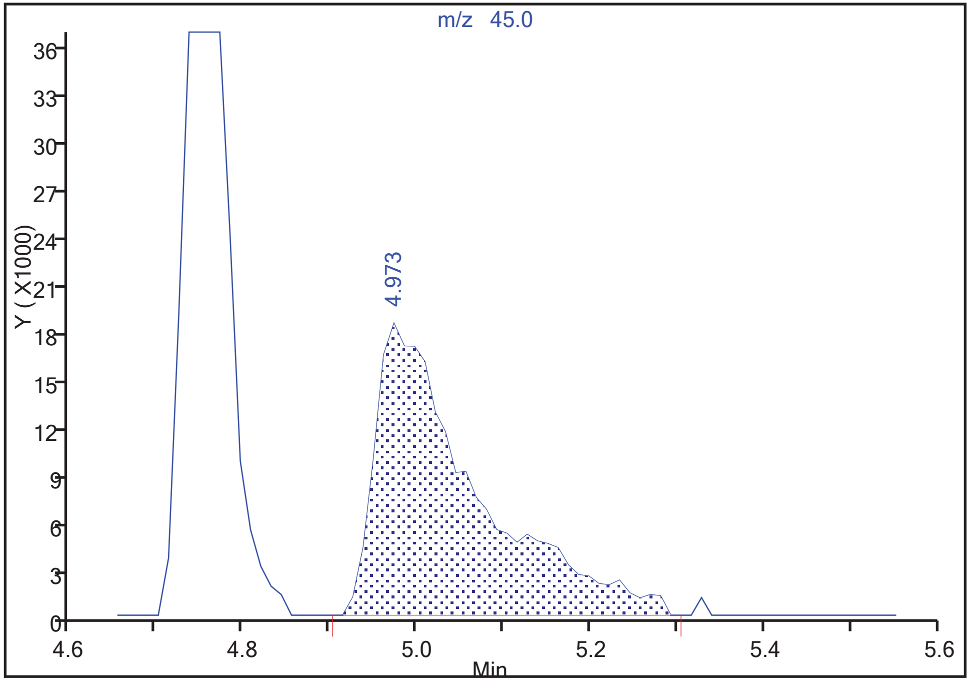
RT: 4.97
Area: 119989
Amount: 1694.2966
Amount Units: ug/l

Processing Integration Results



RT: 4.97
Area: 146389
Amount: 2059.6897
Amount Units: ug/l

Manual Integration Results



Reviewer: hannj, 19-Oct-2017 23:59:53
Audit Action: Manually Integrated
Audit Reason: Peak Tail

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-327349/13   Calibration Date: 09/15/2017 03:04

Instrument ID: VMSX   Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30   ID: 0.25(mm)   Calib End Date: 09/15/2017 01:49

Lab File ID: XICV8784.D   Conc. Units: ug/L   Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2943	0.2900	0.1000	49.3	50.0	-1.5	20.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1353	0.1591	0.0100	58.8	50.0	17.6	20.0
Chloromethane	Ave	0.3799	0.3698	0.1000	48.7	50.0	-2.7	20.0
Vinyl chloride	Ave	0.2987	0.2875	0.1000	48.1	50.0	-3.7	20.0
Butadiene	Ave	0.2494	0.2308	0.0100	46.3	50.0	-7.4	20.0
Bromomethane	Ave	0.1146	0.1091	0.1000	47.6	50.0	-4.8	20.0
Chloroethane	Ave	0.1099	0.1008	0.1000	45.8	50.0	-8.3	20.0
Trichlorofluoromethane	Ave	0.3071	0.2918	0.1000	47.5	50.0	-5.0	20.0
Dichlorofluoromethane	Ave	0.2877	0.2967	0.0100	51.6	50.0	3.1	20.0
Ethyl ether	Ave	0.1157	0.1270	0.0100	54.9	50.0	9.7	20.0
1,1-Dichloroethene	Ave	0.2566	0.2776	0.1000	54.1	50.0	8.2	20.0
Carbon disulfide	Ave	0.8649	0.9018	0.1000	52.1	50.0	4.3	20.0
Ethanol	Lin1		0.0013*	0.0100	1920	2000	-4.2	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1865	0.1946	0.1000	52.2	50.0	4.3	20.0
Iodomethane	Ave	0.3230	0.3433	0.0100	53.1	50.0	6.3	20.0
Acrolein	Lin1		0.0188	0.0010	244	250	-2.5	20.0
3-Chloro-1-propene	Ave	0.2556	0.2839	0.0100	55.5	50.0	11.1	20.0
Isopropyl alcohol	Lin1		0.0064*	0.0100	488	500	-2.4	20.0
Methylene Chloride	Ave	0.2369	0.2387	0.1000	50.4	50.0	0.7	20.0
Acetone	Ave	0.0344	0.0323*	0.1000	46.9	50.0	-6.2	20.0
trans-1,2-Dichloroethene	Ave	0.2653	0.2852	0.1000	53.7	50.0	7.5	20.0
Methyl acetate	Lin1		0.0078*	0.1000	270	250	8.0	20.0
Hexane	Ave	0.0811	0.0943	0.0100	58.1	50.0	16.3	20.0
Methyl tert-butyl ether	Ave	0.3706	0.4093	0.1000	55.2	50.0	10.5	20.0
2-Methyl-2-propanol	Lin1		0.0095*	0.0100	473	500	-5.5	20.0
Acetonitrile	Ave	0.0130	0.0135	0.0010	520	500	3.9	20.0
Isopropyl ether	Lin1		0.7522	0.0100	52.3	50.0	4.6	20.0
2-Chloro-1,3-butadiene	Ave	0.4180	0.4621	0.0100	55.3	50.0	10.5	20.0
1,1-Dichloroethane	Ave	0.4623	0.4756	0.2000	51.4	50.0	2.9	20.0
Acrylonitrile	Ave	0.0408	0.0435	0.0100	533	500	6.6	20.0
Tert-butyl ethyl ether	Lin1		0.5755	0.0100	51.2	50.0	2.4	20.0
Vinyl acetate	Ave	0.3085	0.3395	0.0100	55.0	50.0	10.1	20.0
cis-1,2-Dichloroethene	Ave	0.2548	0.2796	0.1000	54.9	50.0	9.7	20.0
2,2-Dichloropropane	Ave	0.2329	0.2466	0.0100	52.9	50.0	5.9	20.0
Cyclohexane	Ave	0.4140	0.4605	0.1000	55.6	50.0	11.2	20.0
Bromochloromethane	Ave	0.0913	0.0930	0.0100	50.9	50.0	1.9	20.0
Chloroform	Ave	0.4089	0.4242	0.2000	51.9	50.0	3.8	20.0
Carbon tetrachloride	Ave	0.3085	0.3228	0.1000	52.3	50.0	4.6	20.0
Ethyl acetate	Lin1		0.0174	0.0100	103	100	2.9	20.0
1,1,1-Trichloroethane	Ave	0.3580	0.3834	0.1000	53.5	50.0	7.1	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-327349/13 Calibration Date: 09/15/2017 03:04

Instrument ID: VMSX Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30 ID: 0.25(mm) Calib End Date: 09/15/2017 01:49

Lab File ID: XICV8784.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1-Dichloropropene	Ave	0.3383	0.3816	0.0100	56.4	50.0	12.8	20.0
2-Butanone (MEK)	Ave	0.0462	0.0503*	0.1000	54.4	50.0	8.8	20.0
Isooctane	Ave	1.085	1.189	0.0100	54.8	50.0	9.6	20.0
Benzene	Ave	1.031	1.054	0.5000	51.1	50.0	2.2	20.0
n-Heptane	Ave	0.4751	0.5226	0.0100	55.0	50.0	10.0	20.0
Propionitrile	Ave	0.0152	0.0160	0.0010	525	500	5.1	20.0
Methacrylonitrile	Ave	0.0707	0.0723	0.0100	511	500	2.2	20.0
Tert-amyl methyl ether	Ave	0.3803	0.4168	0.0100	54.8	50.0	9.6	20.0
1,2-Dichloroethane	Ave	0.2298	0.2313	0.1000	50.3	50.0	0.7	20.0
Isobutyl alcohol	Lin1		0.0029	0.0010	1220	1250	-2.7	20.0
Methylcyclohexane	Ave	0.4166	0.4374	0.1000	52.5	50.0	5.0	20.0
Trichloroethene	Ave	0.2730	0.2766	0.2000	50.7	50.0	1.3	20.0
n-Butanol	Lin		0.0027*	0.0100	1120	1250	-10.7	20.0
Dibromomethane	Ave	0.0958	0.0966	0.0100	50.4	50.0	0.9	20.0
1,2-Dichloropropane	Ave	0.2258	0.2458	0.1000	54.4	50.0	8.9	20.0
Bromodichloromethane	Ave	0.2696	0.2875	0.2000	53.3	50.0	6.6	20.0
Ethyl acrylate	Lin1		0.1590	0.0100	50.6	50.0	1.1	20.0
Methyl methacrylate	Lin1		0.0906	0.0100	102	100	2.0	20.0
1,4-Dioxane	Lin1		0.0012	0.0010	1010	1000	0.9	20.0
2-Chloroethyl vinyl ether	Ave	0.0110	0.0102	0.0100	46.8	50.0	-6.5	20.0
cis-1,3-Dichloropropene	Lin1		0.3404	0.2000	51.2	50.0	2.5	20.0
Toluene	Lin1		1.114	0.4000	53.1	50.0	6.1	20.0
2-Nitropropane	QuaF		0.0444	0.0100	101	100	1.2	20.0
Tetrachloroethene	Ave	0.3188	0.3393	0.2000	53.2	50.0	6.4	20.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.1826	0.1000	51.1	50.0	2.1	20.0
trans-1,3-Dichloropropene	Lin1		0.4243	0.1000	49.9	50.0	-0.2	20.0
1,1,2-Trichloroethane	Ave	0.2020	0.2142	0.1000	53.0	50.0	6.0	20.0
Ethyl methacrylate	Lin1		0.2899	0.0100	48.7	50.0	-2.5	20.0
Chlorodibromomethane	Ave	0.2458	0.2656	0.1000	54.0	50.0	8.1	20.0
1,3-Dichloropropane	Ave	0.4094	0.4424	0.0100	54.0	50.0	8.1	20.0
1,2-Dibromoethane	Ave	0.2009	0.2183	0.1000	54.3	50.0	8.7	20.0
n-Butyl acetate	Lin		0.2990	0.0100	47.8	50.0	-4.3	20.0
2-Hexanone	Lin1		0.1228	0.1000	48.7	50.0	-2.6	20.0
1-Chlorohexane	Ave	0.6958	0.7593	0.0100	54.6	50.0	9.1	20.0
Chlorobenzene	Ave	1.037	1.051	0.5000	50.7	50.0	1.4	20.0
Ethylbenzene	Ave	1.955	2.072	0.1000	53.0	50.0	6.0	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3089	0.3168	0.0100	51.3	50.0	2.6	20.0
m-Xylene & p-Xylene	Lin1		0.7774	0.1000	53.2	50.0	6.5	20.0
o-Xylene	Lin1		0.7072	0.3000	52.4	50.0	4.8	20.0
Styrene	Ave	0.9945	1.088	0.3000	54.7	50.0	9.4	20.0
Bromoform	Ave	0.2638	0.2902	0.1000	55.0	50.0	10.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-327349/13   Calibration Date: 09/15/2017 03:04

Instrument ID: VMSX   Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30   ID: 0.25(mm)   Calib End Date: 09/15/2017 01:49

Lab File ID: XICV8784.D   Conc. Units: ug/L   Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropylbenzene	Ave	4.124	4.848	0.1000	58.8	50.0	17.5	20.0
Bromobenzene	Ave	0.8021	0.8851	0.0100	55.2	50.0	10.3	20.0
N-Propylbenzene	Ave	5.138	5.900	0.0100	57.4	50.0	14.8	20.0
1,1,2,2-Tetrachloroethane	Ave	0.5745	0.6008	0.3000	52.3	50.0	4.6	20.0
2-Chlorotoluene	Ave	2.931	3.267	0.0100	55.7	50.0	11.5	20.0
1,3,5-Trimethylbenzene	Ave	3.246	3.639	0.0100	56.1	50.0	12.1	20.0
1,2,3-Trichloropropane	Ave	0.1589	0.1698	0.0100	53.4	50.0	6.8	20.0
Cyclohexanone	Lin1		0.0130	0.0010	424	500	-15.2	20.0
trans-1,4-Dichloro-2-butene	Lin1		0.1740	0.0100	50.0	50.0	-0.0	20.0
4-Chlorotoluene	Ave	2.963	3.298	0.0100	55.7	50.0	11.3	20.0
tert-Butylbenzene	Ave	2.794	3.247	0.0100	58.1	50.0	16.2	20.0
1,2,4-Trimethylbenzene	Ave	3.225	3.551	0.0100	55.0	50.0	10.1	20.0
sec-Butylbenzene	Ave	4.598	5.103	0.0100	55.5	50.0	11.0	20.0
4-Isopropyltoluene	Ave	3.513	4.041	0.0100	57.5	50.0	15.0	20.0
1,3-Dichlorobenzene	Ave	1.680	1.717	0.6000	51.1	50.0	2.2	20.0
1,4-Dichlorobenzene	Ave	1.609	1.638	0.5000	50.9	50.0	1.8	20.0
1,2,3-Trimethylbenzene	Ave	3.015	3.214	0.0100	53.3	50.0	6.6	20.0
Benzyl chloride	Ave	0.1704	0.1697	0.0100	49.8	50.0	-0.4	20.0
n-Butylbenzene	Ave	0.9154	1.018	0.0100	55.6	50.0	11.2	20.0
1,2-Dichlorobenzene	Ave	1.370	1.427	0.4000	52.1	50.0	4.2	20.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0717	0.0500	50.1	50.0	0.2	20.0
1,3,5-Trichlorobenzene	Ave	1.077	1.153	0.0100	53.5	50.0	7.0	20.0
n-Nonyl Aldehyde	Lin1		0.2876	0.0100	44.5	50.0	-11.0	20.0
Hexachlorobutadiene	Ave	0.5002	0.5384	0.0100	53.8	50.0	7.6	20.0
1,2,4-Trichlorobenzene	Ave	0.7735	0.8910	0.2000	57.6	50.0	15.2	20.0
Naphthalene	Lin1		1.475	0.0100	53.8	50.0	7.5	20.0
1,2,3-Trichlorobenzene	Ave	0.6483	0.7411	0.0100	57.2	50.0	14.3	20.0
Dibromofluoromethane (Surr)	Ave	0.2013	0.1971	0.0100	49.0	50.0	-2.1	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1952	0.1932	0.0100	49.5	50.0	-1.1	20.0
Toluene-d8 (Surr)	Ave	1.443	1.570	0.0100	54.4	50.0	8.9	20.0
4-Bromofluorobenzene (Surr)	Ave	1.073	1.172	0.0100	54.6	50.0	9.2	20.0

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICV8784.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Sep-2017 03:04:30 ALS Bottle#: 12 Worklist Smp#: 13
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011418-013
Misc. Info.: ICV
Operator ID: JDH Instrument ID: VMSX
Sublist:

Method: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 18-Sep-2017 21:45:40 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK025

First Level Reviewer: hannj Date: 18-Sep-2017 21:45:40

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.878	1.889	-0.011	99	476086	50.0	49.3	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.043	2.043	0.000	98	261218	50.0	58.8	
3 Chloromethane	50	2.091	2.091	0.000	99	607097	50.0	48.7	
4 Vinyl chloride	62	2.197	2.197	0.000	98	471997	50.0	48.1	
121 Butadiene	39	2.209	2.221	-0.012	89	378896	50.0	46.3	
5 Bromomethane	94	2.576	2.576	0.000	92	179062	50.0	47.6	
6 Chloroethane	64	2.741	2.741	0.000	98	165497	50.0	45.8	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	99	479153	50.0	47.5	
122 Dichlorofluoromethane	67	3.014	3.013	0.001	98	487044	50.0	51.6	
8 Ethyl ether	74	3.357	3.357	0.000	91	208438	50.0	54.9	
10 Carbon disulfide	76	3.605	3.605	0.000	99	1480535	50.0	52.1	
11 Ethanol	45	3.605	3.605	0.000	25	87525	2000.0	1916.0	
9 1,1-Dichloroethene	96	3.605	3.605	0.000	97	455792	50.0	54.1	
12 1,1,2-Trichloro-1,2,2-trif	151	3.712	3.712	0.000	95	319466	50.0	52.2	
13 Iodomethane	142	3.795	3.794	0.001	97	563574	50.0	53.1	
14 Acrolein	56	4.138	4.138	0.000	100	154304	250.0	243.8	
15 3-Chloro-1-propene	39	4.351	4.351	0.000	93	466077	50.0	55.5	
16 Isopropyl alcohol	45	4.493	4.493	0.000	96	104276	500.0	487.9	
17 Methylene Chloride	84	4.528	4.528	0.000	94	391856	50.0	50.4	
18 Acetone	43	4.647	4.646	0.001	99	53004	50.0	46.9	
19 trans-1,2-Dichloroethene	96	4.789	4.788	0.001	99	468176	50.0	53.7	
20 Methyl acetate	74	4.871	4.871	0.000	98	63680	250.0	270.0	
21 Hexane	86	4.942	4.942	0.000	87	154737	50.0	58.1	
22 Methyl tert-butyl ether	73	5.013	5.013	0.000	96	672009	50.0	55.2	
23 2-Methyl-2-propanol	59	5.238	5.238	0.000	94	156460	500.0	472.6	
24 Acetonitrile	41	5.380	5.380	0.000	100	221370	500.0	519.5	
25 Isopropyl ether	45	5.641	5.640	0.000	95	1234963	50.0	52.3	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	91	758663	50.0	55.3	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	96	780879	50.0	51.4	
29 Acrylonitrile	53	5.854	5.865	-0.011	99	714772	500.0	533.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59	6.185	6.185	0.000	97	944809	50.0	51.2	
31 Vinyl acetate	43	6.197	6.197	0.000	98	557449	50.0	55.0	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	80	459002	50.0	54.9	
33 2,2-Dichloropropane	77	6.694	6.694	0.000	92	404826	50.0	52.9	
34 Cyclohexane	84	6.800	6.800	0.000	89	756023	50.0	55.6	
35 Chlorobromomethane	128	6.824	6.824	0.000	96	152686	50.0	50.9	
36 Chloroform	83	6.954	6.954	0.000	94	696511	50.0	51.9	
37 Carbon tetrachloride	117	7.096	7.096	0.000	98	529983	50.0	52.3	
38 Tetrahydrofuran	71	7.167	7.167	0.000	90	39826	100.0	100.7	
39 Ethyl acetate	45	7.179	7.179	0.000	99	56980	100.0	102.9	
40 1,1,1-Trichloroethane	97	7.202	7.202	0.000	98	629492	50.0	53.5	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.202	-0.011	92	323623	50.0	49.0	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	97	626544	50.0	56.4	
43 2-Butanone (MEK)	43	7.392	7.404	-0.012	100	82542	50.0	54.4	
124 Isooctane	57	7.546	7.546	0.000	96	1952445	50.0	54.8	
44 Benzene	78	7.699	7.699	0.000	96	1729979	50.0	51.1	
117 n-Heptane	43	7.699	7.699	0.000	73	858038	50.0	55.0	
45 Propionitrile	54	7.770	7.770	0.000	95	263037	500.0	525.5	
46 Methacrylonitrile	41	7.794	7.794	0.000	92	1186814	500.0	511.1	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.889	0.000	97	317140	50.0	49.5	
48 Tert-amyl methyl ether	73	7.901	7.900	0.001	96	684282	50.0	54.8	
49 1,2-Dichloroethane	62	7.972	7.983	-0.011	97	379773	50.0	50.3	
50 Isobutyl alcohol	42	8.102	8.102	0.000	92	117872	1250.0	1215.7	
* 51 Fluorobenzene	96	8.256	8.255	0.001	99	1641837	50.0	50.0	
52 Methylcyclohexane	55	8.445	8.445	0.000	90	718173	50.0	52.5	
53 Trichloroethene	95	8.469	8.468	0.001	99	454171	50.0	50.7	
54 n-Butanol	56	8.989	8.989	0.000	88	111367	1250.0	1116.7	
55 Dibromomethane	93	9.001	9.001	0.000	95	158636	50.0	50.4	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	95	403544	50.0	54.4	
57 Dichlorobromomethane	83	9.226	9.226	0.000	99	472030	50.0	53.3	
123 Ethyl acrylate	55	9.226	9.226	0.000	98	261005	50.0	50.6	
58 Methyl methacrylate	69	9.474	9.474	0.000	93	297550	100.0	102.0	
59 1,4-Dioxane	88	9.498	9.498	0.000	85	38253	1000.0	1008.6	
60 2-Chloroethyl vinyl ether	63	9.983	9.983	0.000	89	16817	50.0	46.8	
61 cis-1,3-Dichloropropene	75	10.031	10.030	0.001	95	558865	50.0	51.2	
$ 62 Toluene-d8 (Surr)	98	10.255	10.255	0.000	93	1540412	50.0	54.4	
63 Toluene	92	10.315	10.314	0.000	98	1092866	50.0	53.1	
64 2-Nitropropane	43	10.610	10.622	-0.012	98	87106	100.0	101.2	
65 Tetrachloroethene	164	10.764	10.776	-0.012	95	332804	50.0	53.2	
66 4-Methyl-2-pentanone (MIBK	43	10.811	10.811	0.000	96	179134	50.0	51.1	
67 trans-1,3-Dichloropropene	75	10.835	10.835	0.000	93	416208	50.0	49.9	
68 1,1,2-Trichloroethane	83	11.013	11.013	0.000	90	210104	50.0	53.0	
69 Ethyl methacrylate	69	11.048	11.048	0.000	83	284374	50.0	48.7	
70 Chlorodibromomethane	129	11.202	11.202	0.000	91	260543	50.0	54.0	
71 1,3-Dichloropropane	76	11.308	11.308	0.000	91	433973	50.0	54.0	
72 Ethylene Dibromide	107	11.439	11.439	0.000	98	214136	50.0	54.3	
118 n-Butyl acetate	43	11.640	11.640	0.000	98	293278	50.0	47.8	
74 2-Hexanone	43	11.723	11.723	0.000	95	120429	50.0	48.7	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	87	980937	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	95	744808	50.0	54.6	
77 Chlorobenzene	112	12.007	12.007	0.001	98	1031359	50.0	50.7	
78 Ethylbenzene	91	12.042	12.042	0.000	98	2032212	50.0	53.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
79 1,1,1,2-Tetrachloroethane	131	12.078	12.078	0.000	95	310768	50.0	51.3	
80 m-Xylene & p-Xylene	106	12.196	12.196	0.000	97	762624	50.0	53.2	
82 o-Xylene	106	12.610	12.610	0.000	98	693669	50.0	52.4	
83 Styrene	104	12.669	12.669	0.000	95	1067036	50.0	54.7	
84 Bromoform	173	12.681	12.681	0.000	95	114820	50.0	55.0	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	1917751	50.0	58.8	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	84	463771	50.0	54.6	
87 Bromobenzene	156	13.273	13.273	0.000	96	350139	50.0	55.2	
88 N-Propylbenzene	91	13.308	13.308	0.000	98	2333954	50.0	57.4	
89 1,1,2,2-Tetrachloroethane	83	13.379	13.379	0.000	94	237666	50.0	52.3	
90 2-Chlorotoluene	91	13.450	13.438	0.012	96	1292393	50.0	55.7	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	1439666	50.0	56.1	
92 1,2,3-Trichloropropane	110	13.498	13.497	0.001	81	67165	50.0	53.4	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	89	68849	50.0	50.0	
94 Cyclohexanone	55	13.533	13.533	0.000	70	51394	500.0	424.1	
95 4-Chlorotoluene	91	13.592	13.592	0.000	98	1304829	50.0	55.7	
96 tert-Butylbenzene	119	13.782	13.781	0.001	93	1284664	50.0	58.1	
97 1,2,4-Trimethylbenzene	105	13.841	13.841	0.000	97	1404814	50.0	55.0	
98 sec-Butylbenzene	105	13.935	13.935	0.000	94	2018721	50.0	55.5	
99 4-Isopropyltoluene	119	14.066	14.065	0.001	97	1598577	50.0	57.5	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	97	679393	50.0	51.1	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.196	0.000	95	395613	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.208	14.207	0.001	95	648137	50.0	50.9	
119 1,2,3-Trimethylbenzene	105	14.231	14.231	0.000	98	1271341	50.0	53.3	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	402814	50.0	55.6	
120 Benzyl chloride	126	14.432	14.432	0.000	89	67139	50.0	49.8	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	564609	50.0	52.1	
105 1,2-Dibromo-3-Chloropropan	157	15.272	15.272	0.000	85	28379	50.0	50.1	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	456135	50.0	53.5	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	56	113765	50.0	44.5	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	212988	50.0	53.8	
109 1,2,4-Trichlorobenzene	180	15.840	15.840	0.000	94	352498	50.0	57.6	
110 Naphthalene	128	16.113	16.113	0.000	97	583474	50.0	53.8	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	95	293199	50.0	57.2	

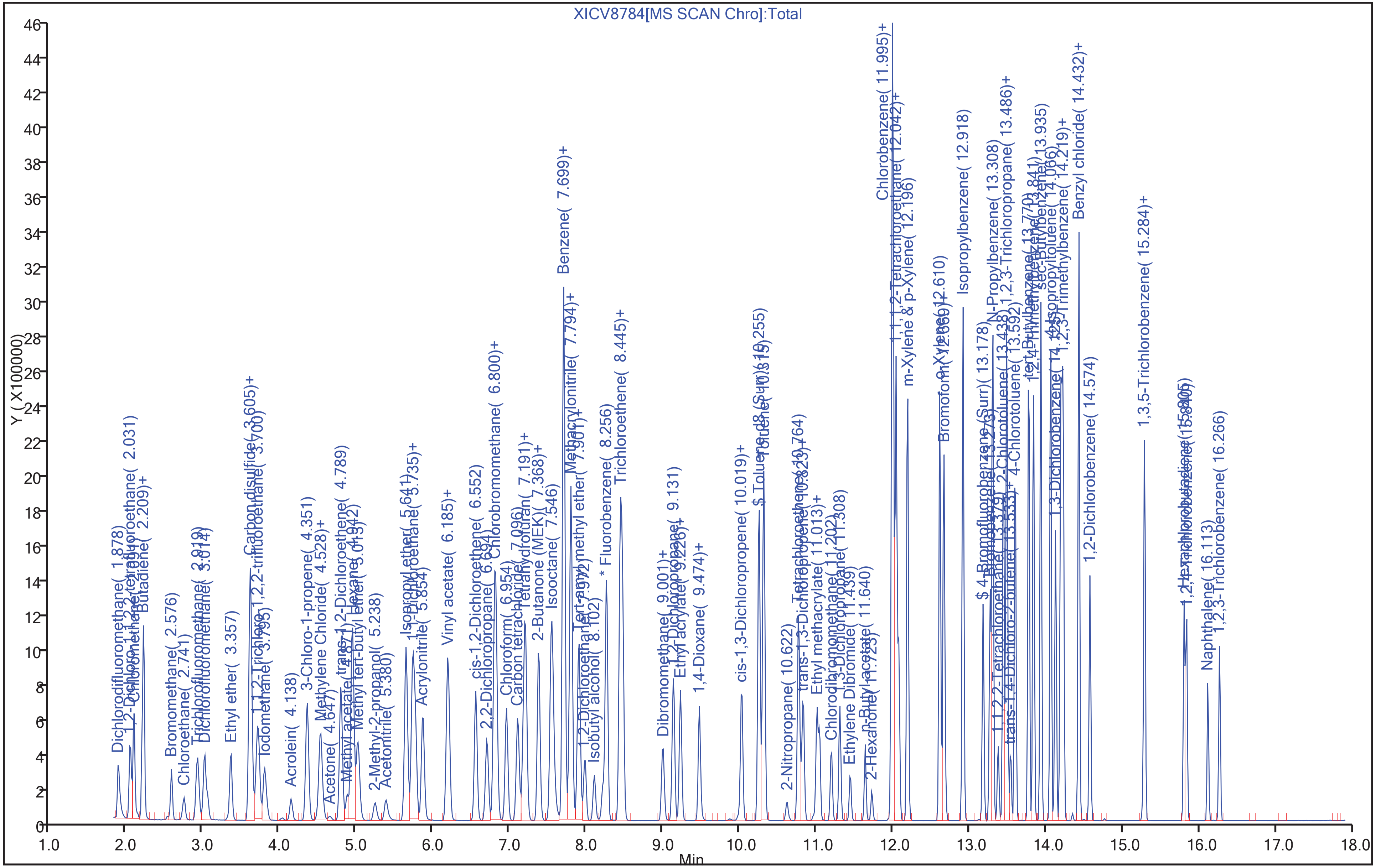
Reagents:

8260NewICVMix_00227	Amount Added: 10.00	Units: uL	
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	
I.S. Working_00153	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Sep-2017 21:45:42   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICV8784.D
Injection Date: 15-Sep-2017 03:04:30   Instrument ID: VMSX   Operator ID: JDH
Lims ID: ICV   Worklist Smp#: 13
Client ID:
Purge Vol: 5.000 mL   Dil. Factor: 1.0000   ALS Bottle#: 12
Method: 5mL-8260-MSX   Limit Group: MSV-8260_DoD



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332246/3 Calibration Date: 10/17/2017 15:05

Instrument ID: VMSX Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30 ID: 0.25(mm) Calib End Date: 09/15/2017 01:49

Lab File ID: XCCV9244.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2943	0.3327	0.1000	56.5	50.0	13.0	20.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1353	0.1578	0.0100	58.3	50.0	16.6	20.0
Chloromethane	Ave	0.3799	0.4541	0.1000	59.8	50.0	19.5	20.0
Vinyl chloride	Ave	0.2987	0.3074	0.1000	51.5	50.0	2.9	20.0
Butadiene	Ave	0.2494	0.2792	0.0100	56.0	50.0	12.0	20.0
Bromomethane	Ave	0.1146	0.1088	0.1000	47.5	50.0	-5.1	20.0
Chloroethane	Ave	0.1099	0.1096	0.1000	49.9	50.0	-0.3	20.0
Trichlorofluoromethane	Ave	0.3071	0.3207	0.1000	52.2	50.0	4.4	20.0
Dichlorofluoromethane	Ave	0.2877	0.2997	0.0100	52.1	50.0	4.2	20.0
Ethyl ether	Ave	0.1157	0.1179	0.0100	50.9	50.0	1.9	20.0
1,1-Dichloroethene	Ave	0.2566	0.2622	0.1000	51.1	50.0	2.2	20.0
Ethanol	Lin1		0.0017*	0.0100	2360	2000	18.1	20.0
Carbon disulfide	Ave	0.8649	0.9128	0.1000	52.8	50.0	5.5	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1865	0.1849	0.1000	49.6	50.0	-0.9	20.0
Iodomethane	Ave	0.3230	0.3255	0.0100	50.4	50.0	0.8	20.0
Acrolein	Lin1		0.0223	0.0010	286	250	14.4	20.0
3-Chloro-1-propene	Ave	0.2556	0.2965	0.0100	58.0	50.0	16.0	20.0
Isopropyl alcohol	Lin1		0.0069*	0.0100	530	500	5.9	20.0
Methylene Chloride	Ave	0.2369	0.2422	0.1000	51.1	50.0	2.2	20.0
Acetone	Ave	0.0344	0.0403*	0.1000	58.6	50.0	17.1	20.0
trans-1,2-Dichloroethene	Ave	0.2653	0.2644	0.1000	49.8	50.0	-0.3	20.0
Methyl acetate	Lin1		0.0071*	0.1000	249	250	-0.4	20.0
Hexane	Ave	0.0811	0.0903	0.0100	55.7	50.0	11.4	20.0
Methyl tert-butyl ether	Ave	0.3706	0.3937	0.1000	53.1	50.0	6.2	20.0
2-Methyl-2-propanol	Lin1		0.0096*	0.0100	474	500	-5.2	20.0
Acetonitrile	Ave	0.0130	0.0165	0.0010	634	500	26.8*	20.0
Isopropyl ether	Lin1		0.7886	0.0100	54.7	50.0	9.4	20.0
2-Chloro-1,3-butadiene	Ave	0.4180	0.4876	0.0100	58.3	50.0	16.7	20.0
1,1-Dichloroethane	Ave	0.4623	0.4820	0.2000	52.1	50.0	4.3	20.0
Acrylonitrile	Ave	0.0408	0.0489	0.0100	598	500	19.7	20.0
Tert-butyl ethyl ether	Lin1		0.5759	0.0100	51.2	50.0	2.5	20.0
Vinyl acetate	Ave	0.3085	0.3784	0.0100	61.3	50.0	22.6*	20.0
cis-1,2-Dichloroethene	Ave	0.2548	0.2659	0.1000	52.2	50.0	4.4	20.0
2,2-Dichloropropane	Ave	0.2329	0.2624	0.0100	56.3	50.0	12.7	20.0
Cyclohexane	Ave	0.4140	0.4399	0.1000	53.1	50.0	6.2	20.0
Bromochloromethane	Ave	0.0913	0.0904	0.0100	49.5	50.0	-0.9	20.0
Chloroform	Ave	0.4089	0.4053	0.2000	49.6	50.0	-0.9	20.0
Carbon tetrachloride	Ave	0.3085	0.3223	0.1000	52.2	50.0	4.5	20.0
Ethyl acetate	Lin1		0.0186	0.0100	110	100	10.2	20.0
1,1,1-Trichloroethane	Ave	0.3580	0.3711	0.1000	51.8	50.0	3.7	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis　　Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332246/3　　Calibration Date: 10/17/2017 15:05

Instrument ID: VMSX　　Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30　　ID: 0.25(mm)　　Calib End Date: 09/15/2017 01:49

Lab File ID: XCCV9244.D　　Conc. Units: ug/L　　Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1-Dichloropropene	Ave	0.3383	0.3609	0.0100	53.3	50.0	6.7	20.0
2-Butanone (MEK)	Ave	0.0462	0.0557*	0.1000	60.3	50.0	20.6*	20.0
Isooctane	Ave	1.085	1.227	0.0100	56.6	50.0	13.1	20.0
Benzene	Ave	1.031	1.023	0.5000	49.6	50.0	-0.8	20.0
n-Heptane	Ave	0.4751	0.5764	0.0100	60.7	50.0	21.3*	20.0
Propionitrile	Ave	0.0152	0.0173	0.0010	567	500	13.3	20.0
Methacrylonitrile	Ave	0.0707	0.0812	0.0100	574	500	14.8	20.0
Tert-amyl methyl ether	Ave	0.3803	0.4016	0.0100	52.8	50.0	5.6	20.0
1,2-Dichloroethane	Ave	0.2298	0.2430	0.1000	52.9	50.0	5.8	20.0
Isobutyl alcohol	Lin1		0.0032	0.0010	1320	1250	6.0	20.0
Methylcyclohexane	Ave	0.4166	0.4682	0.1000	56.2	50.0	12.4	20.0
Trichloroethene	Ave	0.2730	0.2663	0.2000	48.8	50.0	-2.4	20.0
n-Butanol	Lin		0.0030*	0.0100	1200	1250	-3.7	20.0
Dibromomethane	Ave	0.0958	0.0948	0.0100	49.5	50.0	-1.0	20.0
1,2-Dichloropropane	Ave	0.2258	0.2399	0.1000	53.1	50.0	6.3	20.0
Bromodichloromethane	Ave	0.2696	0.2837	0.2000	52.6	50.0	5.2	20.0
Ethyl acrylate	Lin1		0.1614	0.0100	51.3	50.0	2.6	20.0
Methyl methacrylate	Lin1		0.0834	0.0100	94.4	100	-5.6	20.0
1,4-Dioxane	Lin1		0.0011	0.0010	951	1000	-4.9	20.0
2-Chloroethyl vinyl ether	Ave	0.0110	0.0073*	0.0100	33.3	50.0	-33.5*	20.0
cis-1,3-Dichloropropene	Lin1		0.3194	0.2000	48.3	50.0	-3.5	20.0
Toluene	Lin1		1.046	0.4000	49.8	50.0	-0.3	20.0
2-Nitropropane	QuaF		0.0485	0.0100	110	100	9.6	20.0
Tetrachloroethene	Ave	0.3188	0.3227	0.2000	50.6	50.0	1.2	20.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.1859	0.1000	51.9	50.0	3.8	20.0
trans-1,3-Dichloropropene	Lin1		0.4175	0.1000	49.2	50.0	-1.7	20.0
1,1,2-Trichloroethane	Ave	0.2020	0.2011	0.1000	49.8	50.0	-0.5	20.0
Ethyl methacrylate	Lin1		0.2621	0.0100	44.5	50.0	-11.1	20.0
Chlorodibromomethane	Ave	0.2458	0.2576	0.1000	52.4	50.0	4.8	20.0
1,3-Dichloropropane	Ave	0.4094	0.4206	0.0100	51.4	50.0	2.7	20.0
1,2-Dibromoethane	Ave	0.2009	0.2076	0.1000	51.7	50.0	3.4	20.0
n-Butyl acetate	Lin		0.3001	0.0100	48.0	50.0	-4.1	20.0
2-Hexanone	Lin1		0.1282	0.1000	50.7	50.0	1.4	20.0
1-Chlorohexane	Ave	0.6958	0.6340	0.0100	45.6	50.0	-8.9	20.0
Chlorobenzene	Ave	1.037	1.007	0.5000	48.6	50.0	-2.9	20.0
Ethylbenzene	Ave	1.955	2.062	0.1000	52.7	50.0	5.4	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3089	0.3035	0.0100	49.1	50.0	-1.7	20.0
m-Xylene & p-Xylene	Lin1		0.7264	0.1000	49.8	50.0	-0.5	20.0
o-Xylene	Lin1		0.6561	0.3000	48.7	50.0	-2.7	20.0
Styrene	Ave	0.9945	1.054	0.3000	53.0	50.0	5.9	20.0
Bromoform	Ave	0.2638	0.2883	0.1000	54.6	50.0	9.3	20.0

FORM VII 8260C DOD

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332246/3 Calibration Date: 10/17/2017 15:05

Instrument ID: VMSX Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30 ID: 0.25(mm) Calib End Date: 09/15/2017 01:49

Lab File ID: XCCV9244.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropylbenzene	Ave	4.124	4.639	0.1000	56.2	50.0	12.5	20.0
Bromobenzene	Ave	0.8021	0.8468	0.0100	52.8	50.0	5.6	20.0
N-Propylbenzene	Ave	5.138	5.749	0.0100	55.9	50.0	11.9	20.0
1,1,2,2-Tetrachloroethane	Ave	0.5745	0.5610	0.3000	48.8	50.0	-2.3	20.0
2-Chlorotoluene	Ave	2.931	3.247	0.0100	55.4	50.0	10.8	20.0
1,3,5-Trimethylbenzene	Ave	3.246	3.468	0.0100	53.4	50.0	6.8	20.0
1,2,3-Trichloropropane	Ave	0.1589	0.1688	0.0100	53.1	50.0	6.2	20.0
Cyclohexanone	Lin1		0.0144	0.0010	466	500	-6.8	20.0
trans-1,4-Dichloro-2-butene	Lin1		0.1879	0.0100	53.8	50.0	7.5	20.0
4-Chlorotoluene	Ave	2.963	3.232	0.0100	54.5	50.0	9.1	20.0
tert-Butylbenzene	Ave	2.794	3.017	0.0100	54.0	50.0	8.0	20.0
1,2,4-Trimethylbenzene	Ave	3.225	3.468	0.0100	53.8	50.0	7.5	20.0
sec-Butylbenzene	Ave	4.598	4.800	0.0100	52.2	50.0	4.4	20.0
4-Isopropyltoluene	Ave	3.513	3.781	0.0100	53.8	50.0	7.6	20.0
1,3-Dichlorobenzene	Ave	1.680	1.646	0.6000	49.0	50.0	-2.0	20.0
1,4-Dichlorobenzene	Ave	1.609	1.565	0.5000	48.6	50.0	-2.7	20.0
1,2,3-Trimethylbenzene	Ave	3.015	2.999	0.0100	49.7	50.0	-0.6	20.0
Benzyl chloride	Ave	0.1704	0.1972	0.0100	57.9	50.0	15.7	20.0
n-Butylbenzene	Ave	0.9154	0.9802	0.0100	53.5	50.0	7.1	20.0
1,2-Dichlorobenzene	Ave	1.370	1.335	0.4000	48.7	50.0	-2.5	20.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0643	0.0500	45.2	50.0	-9.5	20.0
1,3,5-Trichlorobenzene	Ave	1.077	1.115	0.0100	51.7	50.0	3.5	20.0
n-Nonyl Aldehyde	Lin1		0.3251	0.0100	49.8	50.0	-0.5	20.0
Hexachlorobutadiene	Ave	0.5002	0.5011	0.0100	50.1	50.0	0.2	20.0
1,2,4-Trichlorobenzene	Ave	0.7735	0.8406	0.2000	54.3	50.0	8.7	20.0
Naphthalene	Lin1		1.323	0.0100	48.5	50.0	-3.0	20.0
1,2,3-Trichlorobenzene	Ave	0.6483	0.6712	0.0100	51.8	50.0	3.5	20.0
Dibromofluoromethane (Surr)	Ave	0.2013	0.1895	0.0100	47.1	50.0	-5.9	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1952	0.1931	0.0100	49.4	50.0	-1.1	20.0
Toluene-d8 (Surr)	Ave	1.443	1.460	0.0100	50.6	50.0	1.2	20.0
4-Bromofluorobenzene (Surr)	Ave	1.073	1.139	0.0100	53.0	50.0	6.1	20.0

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XCCV9244.D				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	17-Oct-2017 15:05:30	ALS Bottle#:	2	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011681-003				
Misc. Info.:	CCV				
Operator ID:	JDH	Instrument ID:	VMSX		
Sublist:	chrom-5mL-8260-MSX*sub15				
Method:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	20-Oct-2017 01:04:40	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK032				
First Level Reviewer: hannj		Date:	20-Oct-2017 01:04:40		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.878	1.878	0.000	99	413115	50.0	56.5	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.032	2.032	0.000	98	195925	50.0	58.3	
3 Chloromethane	50	2.079	2.079	0.000	99	563963	50.0	59.8	
4 Vinyl chloride	62	2.185	2.185	0.000	98	381763	50.0	51.5	
121 Butadiene	39	2.209	2.209	0.000	89	346666	50.0	56.0	
5 Bromomethane	94	2.576	2.576	0.000	92	135087	50.0	47.5	
6 Chloroethane	64	2.730	2.730	0.000	99	136147	50.0	49.9	
7 Trichlorofluoromethane	101	2.907	2.907	0.000	98	398284	50.0	52.2	
122 Dichlorofluoromethane	67	3.002	3.002	0.000	97	372156	50.0	52.1	
8 Ethyl ether	74	3.345	3.345	0.000	95	146354	50.0	50.9	
11 Ethanol	45	3.593	3.593	0.000	30	82225	2000.0	2361.0	
9 1,1-Dichloroethene	96	3.593	3.593	0.000	94	325596	50.0	51.1	
10 Carbon disulfide	76	3.605	3.605	0.000	99	1133549	50.0	52.8	
12 1,1,2-Trichloro-1,2,2-trif	151	3.700	3.700	0.000	95	229596	50.0	49.6	
13 Iodomethane	142	3.783	3.783	0.000	98	404172	50.0	50.4	
14 Acrolein	56	4.126	4.126	0.000	99	138135	250.0	286.0	
15 3-Chloro-1-propene	39	4.339	4.339	0.000	93	368254	50.0	58.0	
16 Isopropyl alcohol	45	4.481	4.481	0.000	96	86032	500.0	529.6	
17 Methylene Chloride	84	4.516	4.516	0.000	98	300720	50.0	51.1	
18 Acetone	43	4.635	4.635	0.000	99	50059	50.0	58.6	
19 trans-1,2-Dichloroethene	96	4.777	4.777	0.000	97	328398	50.0	49.8	
20 Methyl acetate	74	4.860	4.860	0.000	98	44287	250.0	249.0	
21 Hexane	86	4.931	4.931	0.000	88	112088	50.0	55.7	
22 Methyl tert-butyl ether	73	5.002	5.002	0.000	95	488878	50.0	53.1	
23 2-Methyl-2-propanol	59	5.226	5.226	0.000	93	118774	500.0	474.2	
24 Acetonitrile	41	5.368	5.368	0.000	99	204369	500.0	634.1	
25 Isopropyl ether	45	5.629	5.629	0.000	95	979300	50.0	54.7	
27 2-Chloro-1,3-butadiene	53	5.712	5.712	0.000	92	605555	50.0	58.3	
28 1,1-Dichloroethane	63	5.747	5.747	0.000	96	598539	50.0	52.1	
S 26 1,2-Dichloroethene, Total	96				0			102.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	5.854	5.854	0.000	100	606986	500.0	598.5	
30 Tert-butyl ethyl ether	59	6.173	6.173	0.000	98	715189	50.0	51.2	
31 Vinyl acetate	43	6.185	6.185	0.000	97	469869	50.0	61.3	
32 cis-1,2-Dichloroethene	96	6.540	6.540	0.000	81	330193	50.0	52.2	
33 2,2-Dichloropropane	77	6.682	6.682	0.000	93	325847	50.0	56.3	
34 Cyclohexane	84	6.788	6.788	0.000	92	546282	50.0	53.1	
35 Chlorobromomethane	128	6.812	6.812	0.000	94	112318	50.0	49.5	
36 Chloroform	83	6.942	6.942	0.000	94	503296	50.0	49.6	
37 Carbon tetrachloride	117	7.084	7.084	0.000	98	400271	50.0	52.2	
38 Tetrahydrofuran	71	7.155	7.155	0.000	94	26968	100.0	91.0	
39 Ethyl acetate	45	7.167	7.167	0.000	98	46205	100.0	110.2	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.191	0.000	92	235281	50.0	47.1	
40 1,1,1-Trichloroethane	97	7.191	7.191	0.000	98	460863	50.0	51.8	
42 1,1-Dichloropropene	75	7.356	7.356	0.000	96	448186	50.0	53.3	
43 2-Butanone (MEK)	43	7.380	7.380	0.000	99	69172	50.0	60.3	
124 Isooctane	57	7.534	7.534	0.000	96	1523899	50.0	56.6	
117 n-Heptane	43	7.688	7.688	0.000	77	715852	50.0	60.7	
44 Benzene	78	7.688	7.688	0.000	97	1270487	50.0	49.6	
45 Propionitrile	54	7.759	7.759	0.000	98	214504	500.0	566.6	
46 Methacrylonitrile	41	7.782	7.782	0.000	93	1008395	500.0	574.1	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.877	7.877	0.000	95	239737	50.0	49.4	
48 Tert-amyl methyl ether	73	7.889	7.889	0.000	95	498710	50.0	52.8	
49 1,2-Dichloroethane	62	7.972	7.972	0.000	97	301817	50.0	52.9	
50 Isobutyl alcohol	42	8.090	8.090	0.000	94	97693	1250.0	1324.9	
* 51 Fluorobenzene	96	8.244	8.244	0.000	99	1241861	50.0	50.0	
52 Methylcyclohexane	55	8.433	8.433	0.000	93	581426	50.0	56.2	
53 Trichloroethene	95	8.457	8.457	0.000	97	330741	50.0	48.8	
54 n-Butanol	56	8.977	8.977	0.000	94	92078	1250.0	1204.0	
55 Dibromomethane	93	8.989	8.989	0.000	96	117707	50.0	49.5	
56 1,2-Dichloropropane	63	9.119	9.119	0.000	95	297958	50.0	53.1	
123 Ethyl acrylate	55	9.214	9.214	0.000	98	200436	50.0	51.3	
57 Dichlorobromomethane	83	9.214	9.214	0.000	99	352367	50.0	52.6	
58 Methyl methacrylate	69	9.463	9.463	0.000	95	207145	100.0	94.4	
59 1,4-Dioxane	88	9.486	9.486	0.000	83	27140	1000.0	950.6	
60 2-Chloroethyl vinyl ether	63	9.971	9.971	0.000	79	9049	50.0	33.3	
61 cis-1,3-Dichloropropene	75	10.019	10.019	0.000	94	396694	50.0	48.3	
$ 62 Toluene-d8 (Surr)	98	10.244	10.244	0.000	94	1104542	50.0	50.6	
63 Toluene	92	10.303	10.303	0.000	98	791366	50.0	49.8	
64 2-Nitropropane	43	10.610	10.610	0.000	97	73424	100.0	109.6	
65 Tetrachloroethene	164	10.764	10.764	0.000	94	244130	50.0	50.6	
66 4-Methyl-2-pentanone (MIBK	43	10.800	10.800	0.000	99	140654	50.0	51.9	
67 trans-1,3-Dichloropropene	75	10.823	10.823	0.000	95	315863	50.0	49.2	
68 1,1,2-Trichloroethane	83	11.001	11.001	0.000	91	152119	50.0	49.8	
69 Ethyl methacrylate	69	11.036	11.036	0.000	88	198336	50.0	44.5	
70 Chlorodibromomethane	129	11.190	11.190	0.000	90	194879	50.0	52.4	
71 1,3-Dichloropropane	76	11.297	11.297	0.000	94	318198	50.0	51.4	
72 Ethylene Dibromide	107	11.439	11.439	0.000	98	157096	50.0	51.7	
S 73 1,3-Dichloropropene, Total	75				0			97.4	
118 n-Butyl acetate	43	11.628	11.628	0.000	98	227032	50.0	48.0	
74 2-Hexanone	43	11.723	11.723	0.000	97	97026	50.0	50.7	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	89	756590	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	83	479641	50.0	45.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	11.995	11.995	0.000	98	761954	50.0	48.6	
78 Ethylbenzene	91	12.030	12.030	0.000	96	1559746	50.0	52.7	
79 1,1,1,2-Tetrachloroethane	131	12.066	12.066	0.000	94	229642	50.0	49.1	
80 m-Xylene & p-Xylene	106	12.184	12.184	0.000	97	549586	50.0	49.8	
82 o-Xylene	106	12.610	12.610	0.000	98	496380	50.0	48.7	
83 Styrene	104	12.657	12.657	0.000	96	797140	50.0	53.0	
84 Bromoform	173	12.681	12.681	0.000	95	84951	50.0	54.6	
85 Isopropylbenzene	105	12.906	12.906	0.000	97	1367034	50.0	56.2	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	83	335542	50.0	53.0	
87 Bromobenzene	156	13.273	13.273	0.000	95	249534	50.0	52.8	
88 N-Propylbenzene	91	13.296	13.296	0.000	99	1694005	50.0	55.9	
89 1,1,2,2-Tetrachloroethane	83	13.367	13.367	0.000	95	165320	50.0	48.8	
90 2-Chlorotoluene	91	13.438	13.438	0.000	96	956819	50.0	55.4	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	1021870	50.0	53.4	
92 1,2,3-Trichloropropane	110	13.498	13.498	0.000	82	49734	50.0	53.1	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	89	55367	50.0	53.8	
94 Cyclohexanone	55	13.533	13.533	0.000	74	42396	500.0	465.9	
95 4-Chlorotoluene	91	13.592	13.592	0.000	98	952483	50.0	54.5	
96 tert-Butylbenzene	119	13.770	13.770	0.000	93	888923	50.0	54.0	
97 1,2,4-Trimethylbenzene	105	13.829	13.829	0.000	98	1021850	50.0	53.8	
98 sec-Butylbenzene	105	13.924	13.924	0.000	95	1414510	50.0	52.2	
99 4-Isopropyltoluene	119	14.054	14.054	0.000	97	1114063	50.0	53.8	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	97	485171	50.0	49.0	
* 101 1,4-Dichlorobenzene-d4	152	14.184	14.184	0.000	98	294685	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.196	14.196	0.000	90	461194	50.0	48.6	
119 1,2,3-Trimethylbenzene	105	14.219	14.219	0.000	98	883634	50.0	49.7	
120 Benzyl chloride	126	14.421	14.421	0.000	90	58116	50.0	57.9	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	288859	50.0	53.5	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	393338	50.0	48.7	
105 1,2-Dibromo-3-Chloropropan	157	15.261	15.261	0.000	84	18942	50.0	45.2	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	57	95787	50.0	49.8	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	328547	50.0	51.7	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	147666	50.0	50.1	
109 1,2,4-Trichlorobenzene	180	15.841	15.841	0.000	94	247699	50.0	54.3	
110 Naphthalene	128	16.113	16.113	0.000	97	389922	50.0	48.5	
111 1,2,3-Trichlorobenzene	180	16.267	16.267	0.000	95	197804	50.0	51.8	
S 112 Xylenes, Total	106				0			98.4	
S 113 Trihalomethanes, Total	1				0			209.2	

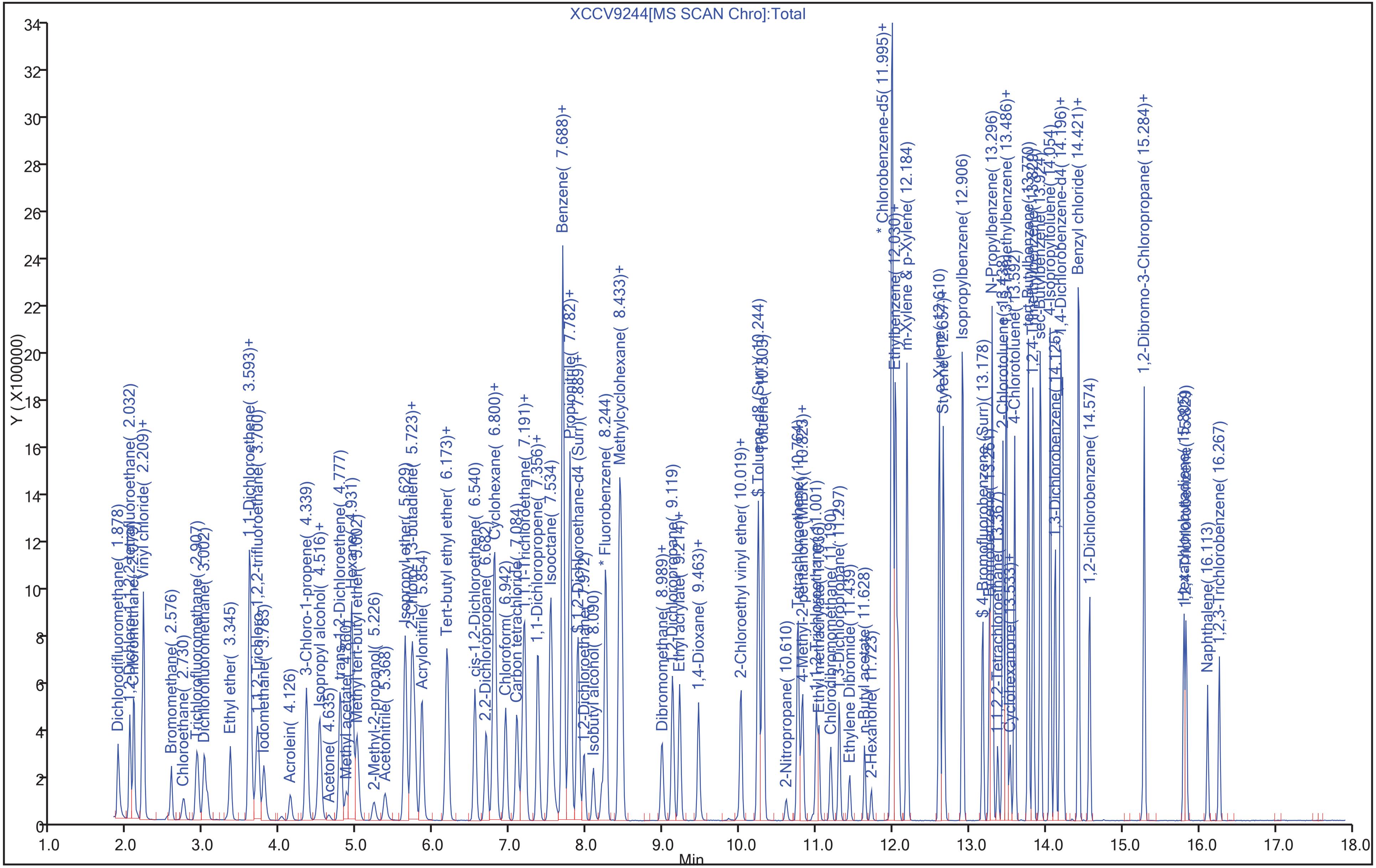
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 01:04:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XCCV9244.D				
Injection Date:	17-Oct-2017 15:05:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332246/19 Calibration Date: 10/18/2017 01:42

Instrument ID: VMSX Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30 ID: 0.25(mm) Calib End Date: 09/15/2017 01:49

Lab File ID: XCCV9260.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2943	0.3085	0.1000	52.4	50.0	4.8	50.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1353	0.1576	0.0100	58.2	50.0	16.5	50.0
Chloromethane	Ave	0.3799	0.4128	0.1000	54.3	50.0	8.7	50.0
Vinyl chloride	Ave	0.2987	0.2760	0.1000	46.2	50.0	-7.6	50.0
Butadiene	Ave	0.2494	0.2643	0.0100	53.0	50.0	6.0	50.0
Bromomethane	Ave	0.1146	0.1105	0.1000	48.2	50.0	-3.5	50.0
Chloroethane	Ave	0.1099	0.1148	0.1000	52.2	50.0	4.4	50.0
Trichlorofluoromethane	Ave	0.3071	0.3245	0.1000	52.8	50.0	5.6	50.0
Dichlorofluoromethane	Ave	0.2877	0.3053	0.0100	53.1	50.0	6.1	50.0
Ethyl ether	Ave	0.1157	0.1033	0.0100	44.7	50.0	-10.7	50.0
Ethanol	Lin1		0.0013*	0.0100	1870	2000	-6.6	50.0
1,1-Dichloroethene	Ave	0.2566	0.2539	0.1000	49.5	50.0	-1.1	50.0
Carbon disulfide	Ave	0.8649	0.8849	0.1000	51.2	50.0	2.3	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1865	0.1866	0.1000	50.0	50.0	0.0	50.0
Iodomethane	Ave	0.3230	0.3158	0.0100	48.9	50.0	-2.2	50.0
Acrolein	Lin1		0.0158	0.0010	208	250	-17.0	50.0
3-Chloro-1-propene	Ave	0.2556	0.2757	0.0100	53.9	50.0	7.8	50.0
Isopropyl alcohol	Lin1		0.0053*	0.0100	413	500	-17.4	50.0
Methylene Chloride	Ave	0.2369	0.2292	0.1000	48.4	50.0	-3.3	50.0
Acetone	Ave	0.0344	0.0302*	0.1000	43.8	50.0	-12.3	50.0
trans-1,2-Dichloroethene	Ave	0.2653	0.2579	0.1000	48.6	50.0	-2.8	50.0
Methyl acetate	Lin1		0.0057*	0.1000	202	250	-19.2	50.0
Hexane	Ave	0.0811	0.0855	0.0100	52.7	50.0	5.5	50.0
Methyl tert-butyl ether	Ave	0.3706	0.3367	0.1000	45.4	50.0	-9.1	50.0
2-Methyl-2-propanol	Lin1		0.0072*	0.0100	365	500	-26.9	50.0
Acetonitrile	Ave	0.0130	0.0131	0.0010	506	500	1.2	50.0
Isopropyl ether	Lin1		0.7241	0.0100	50.4	50.0	0.8	50.0
2-Chloro-1,3-butadiene	Ave	0.4180	0.4779	0.0100	57.2	50.0	14.3	50.0
1,1-Dichloroethane	Ave	0.4623	0.4687	0.2000	50.7	50.0	1.4	50.0
Acrylonitrile	Ave	0.0408	0.0402	0.0100	492	500	-1.5	50.0
Tert-butyl ethyl ether	Lin1		0.5073	0.0100	45.4	50.0	-9.2	50.0
Vinyl acetate	Ave	0.3085	0.3114	0.0100	50.5	50.0	0.9	50.0
cis-1,2-Dichloroethene	Ave	0.2548	0.2594	0.1000	50.9	50.0	1.8	50.0
2,2-Dichloropropane	Ave	0.2329	0.2280	0.0100	48.9	50.0	-2.1	50.0
Cyclohexane	Ave	0.4140	0.4381	0.1000	52.9	50.0	5.8	50.0
Bromochloromethane	Ave	0.0913	0.0833	0.0100	45.6	50.0	-8.7	50.0
Chloroform	Ave	0.4089	0.3962	0.2000	48.5	50.0	-3.1	50.0
Carbon tetrachloride	Ave	0.3085	0.3143	0.1000	50.9	50.0	1.9	50.0
Ethyl acetate	Lin1		0.0144	0.0100	85.8	100	-14.2	50.0
1,1,1-Trichloroethane	Ave	0.3580	0.3633	0.1000	50.7	50.0	1.5	50.0

FORM VII 8260C DOD

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332246/19 Calibration Date: 10/18/2017 01:42

Instrument ID: VMSX Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30 ID: 0.25(mm) Calib End Date: 09/15/2017 01:49

Lab File ID: XCCV9260.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1-Dichloropropene	Ave	0.3383	0.3491	0.0100	51.6	50.0	3.2	50.0
2-Butanone (MEK)	Ave	0.0462	0.0445*	0.1000	48.2	50.0	-3.6	50.0
Isooctane	Ave	1.085	1.231	0.0100	56.7	50.0	13.5	50.0
n-Heptane	Ave	0.4751	0.5601	0.0100	58.9	50.0	17.9	50.0
Benzene	Ave	1.031	1.015	0.5000	49.2	50.0	-1.6	50.0
Propionitrile	Ave	0.0152	0.0143	0.0010	470	500	-6.1	50.0
Methacrylonitrile	Ave	0.0707	0.0702	0.0100	497	500	-0.7	50.0
Tert-amyl methyl ether	Ave	0.3803	0.3545	0.0100	46.6	50.0	-6.8	50.0
1,2-Dichloroethane	Ave	0.2298	0.2232	0.1000	48.6	50.0	-2.9	50.0
Isobutyl alcohol	Lin1		0.0024	0.0010	1040	1250	-17.0	50.0
Methylcyclohexane	Ave	0.4166	0.4720	0.1000	56.6	50.0	13.3	50.0
Trichloroethene	Ave	0.2730	0.2638	0.2000	48.3	50.0	-3.4	50.0
n-Butanol	Lin		0.0022*	0.0100	946	1250	-24.3	50.0
Dibromomethane	Ave	0.0958	0.0882	0.0100	46.1	50.0	-7.9	50.0
1,2-Dichloropropane	Ave	0.2258	0.2286	0.1000	50.6	50.0	1.3	50.0
Ethyl acrylate	Lin1		0.1291	0.0100	41.7	50.0	-16.5	50.0
Bromodichloromethane	Ave	0.2696	0.2665	0.2000	49.4	50.0	-1.2	50.0
Methyl methacrylate	Lin1		0.0687	0.0100	78.9	100	-21.1	50.0
1,4-Dioxane	Lin1		0.0009*	0.0010	788	1000	-21.2	50.0
cis-1,3-Dichloropropene	Lin1		0.2760	0.2000	42.1	50.0	-15.9	50.0
Toluene	Lin1		1.048	0.4000	50.0	50.0	-0.0	50.0
2-Nitropropane	QuaF		0.0387	0.0100	89.3	100	-10.7	50.0
Tetrachloroethene	Ave	0.3188	0.3119	0.2000	48.9	50.0	-2.2	50.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.1498	0.1000	42.4	50.0	-15.1	50.0
trans-1,3-Dichloropropene	Lin1		0.3685	0.1000	43.7	50.0	-12.6	50.0
1,1,2-Trichloroethane	Ave	0.2020	0.1799	0.1000	44.5	50.0	-11.0	50.0
Ethyl methacrylate	Lin1		0.2258	0.0100	38.9	50.0	-22.2	50.0
Chlorodibromomethane	Ave	0.2458	0.2263	0.1000	46.0	50.0	-7.9	50.0
1,3-Dichloropropane	Ave	0.4094	0.3804	0.0100	46.5	50.0	-7.1	50.0
1,2-Dibromoethane	Ave	0.2009	0.1821	0.1000	45.3	50.0	-9.4	50.0
n-Butyl acetate	Lin		0.2414	0.0100	40.2	50.0	-19.6	50.0
2-Hexanone	Lin1		0.0988*	0.1000	40.0	50.0	-20.1	50.0
1-Chlorohexane	Ave	0.6958	0.5901	0.0100	42.4	50.0	-15.2	50.0
Chlorobenzene	Ave	1.037	1.004	0.5000	48.4	50.0	-3.2	50.0
Ethylbenzene	Ave	1.955	2.093	0.1000	53.5	50.0	7.0	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3089	0.2970	0.0100	48.1	50.0	-3.8	50.0
m-Xylene & p-Xylene	Lin1		0.7101	0.1000	48.7	50.0	-2.7	50.0
o-Xylene	Lin1		0.6490	0.3000	48.2	50.0	-3.7	50.0
Styrene	Ave	0.9945	1.022	0.3000	51.4	50.0	2.8	50.0
Bromoform	Ave	0.2638	0.2610	0.1000	49.5	50.0	-1.1	50.0
Isopropylbenzene	Ave	4.124	4.646	0.1000	56.3	50.0	12.6	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332246/19　Calibration Date: 10/18/2017 01:42

Instrument ID: VMSX　Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30　ID: 0.25(mm)　Calib End Date: 09/15/2017 01:49

Lab File ID: XCCV9260.D　Conc. Units: ug/L　Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromobenzene	Ave	0.8021	0.8278	0.0100	51.6	50.0	3.2	50.0
N-Propylbenzene	Ave	5.138	5.698	0.0100	55.4	50.0	10.9	50.0
1,1,2,2-Tetrachloroethane	Ave	0.5745	0.5300	0.3000	46.1	50.0	-7.7	50.0
2-Chlorotoluene	Ave	2.931	3.208	0.0100	54.7	50.0	9.5	50.0
1,3,5-Trimethylbenzene	Ave	3.246	3.563	0.0100	54.9	50.0	9.8	50.0
1,2,3-Trichloropropane	Ave	0.1589	0.1457	0.0100	45.8	50.0	-8.3	50.0
Cyclohexanone	Lin1		0.0105	0.0010	350	500	-30.0	50.0
trans-1,4-Dichloro-2-butene	Lin1		0.1564	0.0100	45.2	50.0	-9.7	50.0
4-Chlorotoluene	Ave	2.963	3.122	0.0100	52.7	50.0	5.4	50.0
tert-Butylbenzene	Ave	2.794	3.049	0.0100	54.6	50.0	9.1	50.0
1,2,4-Trimethylbenzene	Ave	3.225	3.474	0.0100	53.9	50.0	7.7	50.0
sec-Butylbenzene	Ave	4.598	4.905	0.0100	53.3	50.0	6.7	50.0
4-Isopropyltoluene	Ave	3.513	3.697	0.0100	52.6	50.0	5.3	50.0
1,3-Dichlorobenzene	Ave	1.680	1.648	0.6000	49.1	50.0	-1.9	50.0
1,4-Dichlorobenzene	Ave	1.609	1.556	0.5000	48.3	50.0	-3.3	50.0
1,2,3-Trimethylbenzene	Ave	3.015	3.069	0.0100	50.9	50.0	1.8	50.0
Benzyl chloride	Ave	0.1704	0.1206	0.0100	35.4	50.0	-29.3	50.0
n-Butylbenzene	Ave	0.9154	0.9398	0.0100	51.3	50.0	2.7	50.0
1,2-Dichlorobenzene	Ave	1.370	1.331	0.4000	48.6	50.0	-2.8	50.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0559	0.0500	39.7	50.0	-20.5	50.0
1,3,5-Trichlorobenzene	Ave	1.077	1.098	0.0100	50.9	50.0	1.9	50.0
n-Nonyl Aldehyde	Lin1		0.2618	0.0100	40.8	50.0	-18.3	50.0
Hexachlorobutadiene	Ave	0.5002	0.4918	0.0100	49.2	50.0	-1.7	50.0
1,2,4-Trichlorobenzene	Ave	0.7735	0.8030	0.2000	51.9	50.0	3.8	50.0
Naphthalene	Lin1		1.171	0.0100	43.2	50.0	-13.6	50.0
1,2,3-Trichlorobenzene	Ave	0.6483	0.6500	0.0100	50.1	50.0	0.3	50.0
2-Chloroethyl vinyl ether	Ave	0.0110			2.00	50.0		
Dibromofluoromethane (Surr)	Ave	0.2013	0.1896	0.0100	47.1	50.0	-5.8	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1952	0.1826	0.0100	46.8	50.0	-6.4	50.0
Toluene-d8 (Surr)	Ave	1.443	1.461	0.0100	50.6	50.0	1.3	50.0
4-Bromofluorobenzene (Surr)	Ave	1.073	1.131	0.0100	52.7	50.0	5.4	50.0

FORM VII 8260C DOD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XCCV9260.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 18-Oct-2017 01:42:30 ALS Bottle#: 18 Worklist Smp#: 19
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011681-019
Misc. Info.: CCVC
Operator ID: JDH Instrument ID: VMSX
Sublist: chrom-5mL-8260-MSX*sub15

Method: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 01:08:44 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 01:08:44

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.878	1.878	0.000	98	363189	50.0	52.4	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.031	2.031	0.000	99	185488	50.0	58.2	
3 Chloromethane	50	2.079	2.079	0.000	99	486044	50.0	54.3	
4 Vinyl chloride	62	2.197	2.197	0.000	98	324961	50.0	46.2	
121 Butadiene	39	2.209	2.209	0.000	89	311180	50.0	53.0	
5 Bromomethane	94	2.576	2.576	0.000	92	130134	50.0	48.2	
6 Chloroethane	64	2.741	2.741	0.000	99	135119	50.0	52.2	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	99	382018	50.0	52.8	
122 Dichlorofluoromethane	67	3.002	3.002	0.000	97	359417	50.0	53.1	
8 Ethyl ether	74	3.345	3.345	0.000	96	121671	50.0	44.7	
11 Ethanol	45	3.593	3.593	0.000	27	61114	2000.0	1867.7	
9 1,1-Dichloroethene	96	3.605	3.605	0.000	95	298931	50.0	49.5	
10 Carbon disulfide	76	3.605	3.605	0.000	100	1041775	50.0	51.2	
12 1,1,2-Trichloro-1,2,2-trif	151	3.700	3.700	0.000	94	219680	50.0	50.0	
13 Iodomethane	142	3.794	3.794	0.000	98	371769	50.0	48.9	
14 Acrolein	56	4.138	4.138	0.000	99	93212	250.0	207.5	
15 3-Chloro-1-propene	39	4.351	4.351	0.000	93	324538	50.0	53.9	
16 Isopropyl alcohol	45	4.493	4.493	0.000	95	62617	500.0	413.2	
17 Methylene Chloride	84	4.516	4.516	0.000	99	269850	50.0	48.4	
18 Acetone	43	4.635	4.635	0.000	98	35537	50.0	43.8	
19 trans-1,2-Dichloroethene	96	4.788	4.788	0.000	97	303639	50.0	48.6	
20 Methyl acetate	74	4.871	4.871	0.000	98	33766	250.0	202.1	
21 Hexane	86	4.930	4.930	0.000	89	100632	50.0	52.7	
22 Methyl tert-butyl ether	73	5.001	5.001	0.000	92	396413	50.0	45.4	
23 2-Methyl-2-propanol	59	5.226	5.226	0.000	92	84882	500.0	365.3	
24 Acetonitrile	41	5.368	5.368	0.000	99	154659	500.0	506.2	
25 Isopropyl ether	45	5.640	5.640	0.000	97	852540	50.0	50.4	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	93	562587	50.0	57.2	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	97	551853	50.0	50.7	
S 26 1,2-Dichloroethene, Total	96				0			99.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	5.853	5.853	0.000	99	473499	500.0	492.4	
30 Tert-butyl ethyl ether	59	6.173	6.173	0.000	97	597262	50.0	45.4	
31 Vinyl acetate	43	6.197	6.197	0.000	97	366594	50.0	50.5	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	80	305411	50.0	50.9	
33 2,2-Dichloropropane	77	6.694	6.694	0.000	93	268380	50.0	48.9	
34 Cyclohexane	84	6.800	6.800	0.000	92	515743	50.0	52.9	
35 Chlorobromomethane	128	6.812	6.812	0.000	92	98103	50.0	45.6	
36 Chloroform	83	6.942	6.942	0.000	94	466476	50.0	48.5	
37 Carbon tetrachloride	117	7.096	7.096	0.000	98	369979	50.0	50.9	
38 Tetrahydrofuran	71	7.155	7.155	0.000	91	20732	100.0	75.4	
39 Ethyl acetate	45	7.167	7.167	0.000	97	33928	100.0	85.8	
$ 41 Dibromofluoromethane (Surr	113	7.190	7.190	0.000	91	223260	50.0	47.1	
40 1,1,1-Trichloroethane	97	7.190	7.190	0.000	97	427762	50.0	50.7	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	95	410949	50.0	51.6	
43 2-Butanone (MEK)	43	7.392	7.392	0.000	99	52414	50.0	48.2	
124 Isooctane	57	7.534	7.534	0.000	96	1449737	50.0	56.7	
117 n-Heptane	43	7.687	7.687	0.000	77	659373	50.0	58.9	
44 Benzene	78	7.699	7.699	0.000	97	1194989	50.0	49.2	
45 Propionitrile	54	7.770	7.770	0.000	96	168571	500.0	469.6	
46 Methacrylonitrile	41	7.794	7.794	0.000	93	827001	500.0	496.7	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.877	7.877	0.000	93	215023	50.0	46.8	
48 Tert-amyl methyl ether	73	7.900	7.900	0.000	95	417388	50.0	46.6	
49 1,2-Dichloroethane	62	7.971	7.971	0.000	96	262783	50.0	48.6	
50 Isobutyl alcohol	42	8.090	8.090	0.000	93	71308	1250.0	1037.5	
* 51 Fluorobenzene	96	8.255	8.255	0.000	99	1177341	50.0	50.0	
52 Methylcyclohexane	55	8.433	8.433	0.000	93	555690	50.0	56.6	
53 Trichloroethene	95	8.468	8.468	0.000	99	310549	50.0	48.3	
54 n-Butanol	56	8.977	8.977	0.000	93	65374	1250.0	946.4	
55 Dibromomethane	93	8.989	8.989	0.000	95	103883	50.0	46.1	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	94	269168	50.0	50.6	
123 Ethyl acrylate	55	9.214	9.214	0.000	99	151990	50.0	41.7	
57 Dichlorobromomethane	83	9.226	9.226	0.000	99	313724	50.0	49.4	
58 Methyl methacrylate	69	9.462	9.462	0.000	94	161692	100.0	78.9	
59 1,4-Dioxane	88	9.486	9.486	0.000	78	20970	1000.0	788.3	
60 2-Chloroethyl vinyl ether	63		9.971				ND	ND	
61 cis-1,3-Dichloropropene	75	10.019	10.019	0.000	94	324925	50.0	42.1	
$ 62 Toluene-d8 (Surr)	98	10.243	10.243	0.000	94	1040933	50.0	50.6	
63 Toluene	92	10.303	10.303	0.000	98	746747	50.0	50.0	
64 2-Nitropropane	43	10.610	10.610	0.000	98	55113	100.0	89.3	
65 Tetrachloroethene	164	10.764	10.764	0.000	95	222171	50.0	48.9	
66 4-Methyl-2-pentanone (MIBK	43	10.800	10.800	0.000	98	106684	50.0	42.4	
67 trans-1,3-Dichloropropene	75	10.823	10.823	0.000	95	262478	50.0	43.7	
68 1,1,2-Trichloroethane	83	11.001	11.001	0.000	91	128142	50.0	44.5	
69 Ethyl methacrylate	69	11.036	11.036	0.000	73	160828	50.0	38.9	
70 Chlorodibromomethane	129	11.190	11.190	0.000	91	161229	50.0	46.0	
71 1,3-Dichloropropane	76	11.308	11.308	0.000	94	270952	50.0	46.5	
72 Ethylene Dibromide	107	11.438	11.438	0.000	99	129722	50.0	45.3	
S 73 1,3-Dichloropropene, Total	75				0			85.8	
118 n-Butyl acetate	43	11.628	11.628	0.000	97	171967	50.0	40.2	
74 2-Hexanone	43	11.722	11.722	0.000	98	70370	50.0	40.0	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	88	712374	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	85	420342	50.0	42.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	11.995	11.995	0.000	98	715066	50.0	48.4	
78 Ethylbenzene	91	12.042	12.042	0.000	98	1490686	50.0	53.5	
79 1,1,1,2-Tetrachloroethane	131	12.077	12.077	0.000	94	211592	50.0	48.1	
80 m-Xylene & p-Xylene	106	12.184	12.184	0.000	97	505857	50.0	48.7	
82 o-Xylene	106	12.610	12.610	0.000	98	462339	50.0	48.2	
83 Styrene	104	12.657	12.657	0.000	95	728224	50.0	51.4	
84 Bromoform	173	12.681	12.681	0.000	96	72710	50.0	49.5	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	1294446	50.0	56.3	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	83	315121	50.0	52.7	
87 Bromobenzene	156	13.273	13.273	0.000	94	230662	50.0	51.6	
88 N-Propylbenzene	91	13.296	13.296	0.000	99	1587599	50.0	55.4	
89 1,1,2,2-Tetrachloroethane	83	13.367	13.367	0.000	93	147688	50.0	46.1	
90 2-Chlorotoluene	91	13.438	13.438	0.000	96	893888	50.0	54.7	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	992782	50.0	54.9	
92 1,2,3-Trichloropropane	110	13.497	13.497	0.000	81	40589	50.0	45.8	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	90	43579	50.0	45.2	
94 Cyclohexanone	55	13.533	13.533	0.000	68	29312	500.0	349.9	
95 4-Chlorotoluene	91	13.592	13.592	0.000	98	869828	50.0	52.7	
96 tert-Butylbenzene	119	13.770	13.770	0.000	93	849487	50.0	54.6	
97 1,2,4-Trimethylbenzene	105	13.829	13.829	0.000	98	968074	50.0	53.9	
98 sec-Butylbenzene	105	13.923	13.923	0.000	95	1366820	50.0	53.3	
99 4-Isopropyltoluene	119	14.054	14.054	0.000	96	1030190	50.0	52.6	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	98	459172	50.0	49.1	
* 101 1,4-Dichlorobenzene-d4	152	14.184	14.184	0.000	97	278637	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.207	14.207	0.000	93	433511	50.0	48.3	
119 1,2,3-Trimethylbenzene	105	14.219	14.219	0.000	99	855207	50.0	50.9	
120 Benzyl chloride	126	14.420	14.420	0.000	89	33595	50.0	35.4	
103 n-Butylbenzene	134	14.432	14.432	0.000	98	261869	50.0	51.3	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	370896	50.0	48.6	
105 1,2-Dibromo-3-Chloropropan	157	15.261	15.261	0.000	84	15565	50.0	39.7	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	54	72947	50.0	40.8	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	305857	50.0	50.9	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	137041	50.0	49.2	
109 1,2,4-Trichlorobenzene	180	15.829	15.829	0.000	93	223731	50.0	51.9	
110 Naphthalene	128	16.112	16.112	0.000	97	326148	50.0	43.2	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	95	181115	50.0	50.1	
S 112 Xylenes, Total	106				0			96.8	
S 113 Trihalomethanes, Total	1				0			193.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 01:08:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XCCV9260.D

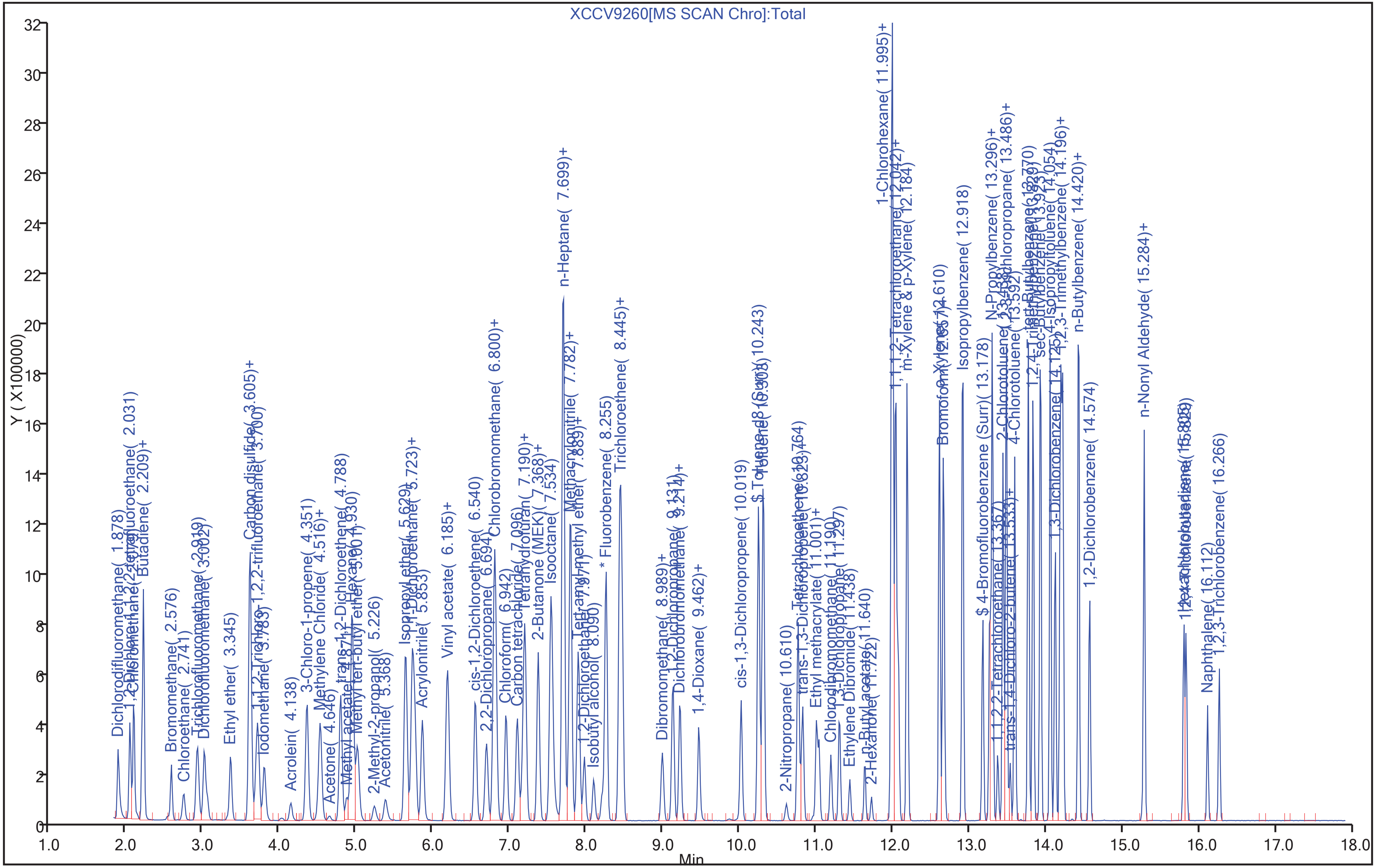
Injection Date: 18-Oct-2017 01:42:30 Instrument ID: VMSX Operator ID: JDH

Lims ID: CCVC Worklist Smp#: 19

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 18

Method: 5mL-8260-MSX Limit Group: MSV-8260_DoD



10/26/2017

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332817/3   Calibration Date: 10/19/2017 16:05

Instrument ID: VMSX   Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30   ID: 0.25(mm)   Calib End Date: 09/15/2017 01:49

Lab File ID: XCCV9323.D   Conc. Units: ug/L   Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2943	0.3199	0.1000	54.3	50.0	8.7	20.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1353	0.1610	0.0100	59.5	50.0	19.0	20.0
Chloromethane	Ave	0.3799	0.4348	0.1000	57.2	50.0	14.5	20.0
Vinyl chloride	Ave	0.2987	0.3076	0.1000	51.5	50.0	3.0	20.0
Butadiene	Ave	0.2494	0.2859	0.0100	57.3	50.0	14.7	20.0
Bromomethane	Ave	0.1146	0.1279	0.1000	55.8	50.0	11.6	20.0
Chloroethane	Ave	0.1099	0.1197	0.1000	54.4	50.0	8.9	20.0
Trichlorofluoromethane	Ave	0.3071	0.3640	0.1000	59.3	50.0	18.5	20.0
Dichlorofluoromethane	Ave	0.2877	0.3370	0.0100	58.6	50.0	17.2	20.0
Ethyl ether	Ave	0.1157	0.1185	0.0100	51.2	50.0	2.4	20.0
1,1-Dichloroethene	Ave	0.2566	0.2724	0.1000	53.1	50.0	6.1	20.0
Ethanol	Lin1		0.0016*	0.0100	2330	2000	16.5	20.0
Carbon disulfide	Ave	0.8649	0.9039	0.1000	52.3	50.0	4.5	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1865	0.1998	0.1000	53.6	50.0	7.1	20.0
Iodomethane	Ave	0.3230	0.3287	0.0100	50.9	50.0	1.8	20.0
Acrolein	Lin1		0.0208	0.0010	268	250	7.2	20.0
3-Chloro-1-propene	Ave	0.2556	0.2992	0.0100	58.5	50.0	17.0	20.0
Isopropyl alcohol	Lin1		0.0064*	0.0100	491	500	-1.8	20.0
Methylene Chloride	Ave	0.2369	0.2464	0.1000	52.0	50.0	4.0	20.0
Acetone	Ave	0.0344	0.0376*	0.1000	54.6	50.0	9.2	20.0
trans-1,2-Dichloroethene	Ave	0.2653	0.2726	0.1000	51.4	50.0	2.7	20.0
Methyl acetate	Lin1		0.0072*	0.1000	250	250	-0.1	20.0
Hexane	Ave	0.0811	0.0868	0.0100	53.5	50.0	7.0	20.0
Methyl tert-butyl ether	Ave	0.3706	0.3811	0.1000	51.4	50.0	2.8	20.0
2-Methyl-2-propanol	Lin1		0.0087*	0.0100	433	500	-13.3	20.0
Acetonitrile	Ave	0.0130	0.0158	0.0010	609	500	21.8*	20.0
Isopropyl ether	Lin1		0.7654	0.0100	53.2	50.0	6.3	20.0
2-Chloro-1,3-butadiene	Ave	0.4180	0.5024	0.0100	60.1	50.0	20.2*	20.0
1,1-Dichloroethane	Ave	0.4623	0.4974	0.2000	53.8	50.0	7.6	20.0
Acrylonitrile	Ave	0.0408	0.0474	0.0100	580	500	16.0	20.0
Tert-butyl ethyl ether	Lin1		0.5566	0.0100	49.6	50.0	-0.8	20.0
Vinyl acetate	Ave	0.3085	0.3698	0.0100	59.9	50.0	19.9	20.0
cis-1,2-Dichloroethene	Ave	0.2548	0.2721	0.1000	53.4	50.0	6.8	20.0
2,2-Dichloropropane	Ave	0.2329	0.2772	0.0100	59.5	50.0	19.0	20.0
Cyclohexane	Ave	0.4140	0.4481	0.1000	54.1	50.0	8.2	20.0
Bromochloromethane	Ave	0.0913	0.0932	0.0100	51.0	50.0	2.0	20.0
Chloroform	Ave	0.4089	0.4193	0.2000	51.3	50.0	2.6	20.0
Carbon tetrachloride	Ave	0.3085	0.3329	0.1000	53.9	50.0	7.9	20.0
Ethyl acetate	Lin1		0.0176	0.0100	105	100	4.6	20.0
1,1,1-Trichloroethane	Ave	0.3580	0.3894	0.1000	54.4	50.0	8.8	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis　　Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-332817/3　　Calibration Date: 10/19/2017 16:05

Instrument ID: VMSX　　Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30　ID: 0.25(mm)　　Calib End Date: 09/15/2017 01:49

Lab File ID: XCCV9323.D　　Conc. Units: ug/L　　Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1-Dichloropropene	Ave	0.3383	0.3724	0.0100	55.0	50.0	10.1	20.0
2-Butanone (MEK)	Ave	0.0462	0.0551*	0.1000	59.6	50.0	19.2	20.0
Isooctane	Ave	1.085	1.271	0.0100	58.6	50.0	17.1	20.0
Benzene	Ave	1.031	1.081	0.5000	52.4	50.0	4.8	20.0
n-Heptane	Ave	0.4751	0.5895	0.0100	62.0	50.0	24.1*	20.0
Propionitrile	Ave	0.0152	0.0175	0.0010	573	500	14.5	20.0
Methacrylonitrile	Ave	0.0707	0.0830	0.0100	587	500	17.3	20.0
Tert-amyl methyl ether	Ave	0.3803	0.3933	0.0100	51.7	50.0	3.4	20.0
1,2-Dichloroethane	Ave	0.2298	0.2458	0.1000	53.5	50.0	7.0	20.0
Isobutyl alcohol	Lin1		0.0030	0.0010	1280	1250	2.7	20.0
Methylcyclohexane	Ave	0.4166	0.4898	0.1000	58.8	50.0	17.6	20.0
Trichloroethene	Ave	0.2730	0.2852	0.2000	52.2	50.0	4.5	20.0
n-Butanol	Lin		0.0028*	0.0100	1130	1250	-9.2	20.0
Dibromomethane	Ave	0.0958	0.1023	0.0100	53.4	50.0	6.9	20.0
1,2-Dichloropropane	Ave	0.2258	0.2472	0.1000	54.7	50.0	9.5	20.0
Bromodichloromethane	Ave	0.2696	0.2876	0.2000	53.3	50.0	6.7	20.0
Ethyl acrylate	Lin1		0.1574	0.0100	50.1	50.0	0.2	20.0
Methyl methacrylate	Lin1		0.0832	0.0100	94.2	100	-5.8	20.0
1,4-Dioxane	Lin1		0.0012	0.0010	1000	1000	0.1	20.0
cis-1,3-Dichloropropene	Lin1		0.3162	0.2000	47.8	50.0	-4.4	20.0
Toluene	Lin1		1.120	0.4000	53.3	50.0	6.7	20.0
2-Nitropropane	QuaF		0.0471	0.0100	107	100	6.6	20.0
Tetrachloroethene	Ave	0.3188	0.3386	0.2000	53.1	50.0	6.2	20.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.1803	0.1000	50.5	50.0	0.9	20.0
trans-1,3-Dichloropropene	Lin1		0.4282	0.1000	50.4	50.0	0.7	20.0
1,1,2-Trichloroethane	Ave	0.2020	0.2062	0.1000	51.0	50.0	2.0	20.0
Ethyl methacrylate	Lin1		0.2632	0.0100	44.6	50.0	-10.7	20.0
Chlorodibromomethane	Ave	0.2458	0.2585	0.1000	52.6	50.0	5.2	20.0
1,3-Dichloropropane	Ave	0.4094	0.4318	0.0100	52.7	50.0	5.5	20.0
1,2-Dibromoethane	Ave	0.2009	0.2063	0.1000	51.3	50.0	2.7	20.0
n-Butyl acetate	Lin		0.2968	0.0100	47.5	50.0	-4.9	20.0
2-Hexanone	Lin1		0.1277	0.1000	50.5	50.0	1.0	20.0
1-Chlorohexane	Ave	0.6958	0.6561	0.0100	47.1	50.0	-5.7	20.0
Chlorobenzene	Ave	1.037	1.079	0.5000	52.1	50.0	4.1	20.0
Ethylbenzene	Ave	1.955	2.253	0.1000	57.6	50.0	15.2	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3089	0.3208	0.0100	51.9	50.0	3.9	20.0
m-Xylene & p-Xylene	Lin1		0.7722	0.1000	52.9	50.0	5.7	20.0
o-Xylene	Lin1		0.7004	0.3000	51.9	50.0	3.8	20.0
Styrene	Ave	0.9945	1.106	0.3000	55.6	50.0	11.2	20.0
Bromoform	Ave	0.2638	0.2969	0.1000	56.3	50.0	12.5	20.0
Isopropylbenzene	Ave	4.124	4.784	0.1000	58.0	50.0	16.0	20.0

FORM VII 8260C DOD

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Lab Sample ID: CCV 160-332817/3
Calibration Date: 10/19/2017 16:05
Instrument ID: VMSX
Calib Start Date: 09/14/2017 22:55
GC Column: RTXVMS30
ID: 0.25(mm)
Calib End Date: 09/15/2017 01:49
Lab File ID: XCCV9323.D
Conc. Units: ug/L
Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromobenzene	Ave	0.8021	0.8819	0.0100	55.0	50.0	10.0	20.0
N-Propylbenzene	Ave	5.138	5.936	0.0100	57.8	50.0	15.5	20.0
1,1,2,2-Tetrachloroethane	Ave	0.5745	0.5889	0.3000	51.3	50.0	2.5	20.0
2-Chlorotoluene	Ave	2.931	3.336	0.0100	56.9	50.0	13.8	20.0
1,3,5-Trimethylbenzene	Ave	3.246	3.680	0.0100	56.7	50.0	13.4	20.0
1,2,3-Trichloropropane	Ave	0.1589	0.1645	0.0100	51.8	50.0	3.5	20.0
Cyclohexanone	Lin1		0.0156	0.0010	503	500	0.7	20.0
trans-1,4-Dichloro-2-butene	Lin1		0.1948	0.0100	55.6	50.0	11.3	20.0
4-Chlorotoluene	Ave	2.963	3.272	0.0100	55.2	50.0	10.4	20.0
tert-Butylbenzene	Ave	2.794	3.122	0.0100	55.9	50.0	11.8	20.0
1,2,4-Trimethylbenzene	Ave	3.225	3.622	0.0100	56.2	50.0	12.3	20.0
sec-Butylbenzene	Ave	4.598	5.049	0.0100	54.9	50.0	9.8	20.0
4-Isopropyltoluene	Ave	3.513	3.986	0.0100	56.7	50.0	13.5	20.0
1,3-Dichlorobenzene	Ave	1.680	1.765	0.6000	52.5	50.0	5.1	20.0
1,4-Dichlorobenzene	Ave	1.609	1.675	0.5000	52.0	50.0	4.1	20.0
1,2,3-Trimethylbenzene	Ave	3.015	3.175	0.0100	52.6	50.0	5.3	20.0
Benzyl chloride	Ave	0.1704	0.1995	0.0100	58.5	50.0	17.0	20.0
n-Butylbenzene	Ave	0.9154	1.049	0.0100	57.3	50.0	14.5	20.0
1,2-Dichlorobenzene	Ave	1.370	1.424	0.4000	52.0	50.0	3.9	20.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0676	0.0500	47.4	50.0	-5.3	20.0
1,3,5-Trichlorobenzene	Ave	1.077	1.191	0.0100	55.3	50.0	10.5	20.0
n-Nonyl Aldehyde	Lin1		0.3026	0.0100	46.6	50.0	-6.8	20.0
Hexachlorobutadiene	Ave	0.5002	0.5135	0.0100	51.3	50.0	2.7	20.0
1,2,4-Trichlorobenzene	Ave	0.7735	0.8838	0.2000	57.1	50.0	14.3	20.0
Naphthalene	Lin1		1.369	0.0100	50.1	50.0	0.2	20.0
1,2,3-Trichlorobenzene	Ave	0.6483	0.7156	0.0100	55.2	50.0	10.4	20.0
2-Chloroethyl vinyl ether	Ave	0.0110			2.00	50.0		
Dibromofluoromethane (Surr)	Ave	0.2013	0.1882	0.0100	46.8	50.0	-6.5	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1952	0.1886	0.0100	48.3	50.0	-3.4	20.0
Toluene-d8 (Surr)	Ave	1.443	1.444	0.0100	50.1	50.0	0.1	20.0
4-Bromofluorobenzene (Surr)	Ave	1.073	1.062	0.0100	49.5	50.0	-1.1	20.0

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XCCV9323.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Oct-2017 16:05:30 ALS Bottle#: 1 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011712-003
Misc. Info.: CCV
Operator ID: JDH Instrument ID: VMSX
Sublist: chrom-5mL-8260-MSX*sub15

Method: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 24-Oct-2017 16:45:10 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: hannj Date: 24-Oct-2017 16:45:10

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.877	1.877	0.000	99	351270	50.0	54.3	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.031	2.031	0.000	99	176799	50.0	59.5	
3 Chloromethane	50	2.079	2.079	0.000	99	477448	50.0	57.2	
4 Vinyl chloride	62	2.185	2.185	0.000	97	337746	50.0	51.5	
121 Butadiene	39	2.209	2.209	0.000	89	313920	50.0	57.3	
5 Bromomethane	94	2.576	2.576	0.000	92	140469	50.0	55.8	
6 Chloroethane	64	2.729	2.729	0.000	99	131385	50.0	54.4	
7 Trichlorofluoromethane	101	2.907	2.907	0.000	98	399681	50.0	59.3	
122 Dichlorofluoromethane	67	3.002	3.002	0.000	97	370078	50.0	58.6	
8 Ethyl ether	74	3.345	3.345	0.000	95	130070	50.0	51.2	
9 1,1-Dichloroethene	96	3.593	3.593	0.000	96	299118	50.0	53.1	
11 Ethanol	45	3.593	3.593	0.000	25	71694	2000.0	2329.4	
10 Carbon disulfide	76	3.605	3.605	0.000	99	992432	50.0	52.3	
12 1,1,2-Trichloro-1,2,2-trif	151	3.700	3.700	0.000	95	219358	50.0	53.6	
13 Iodomethane	142	3.783	3.783	0.000	98	360874	50.0	50.9	
14 Acrolein	56	4.126	4.126	0.000	100	114039	250.0	268.0	
15 3-Chloro-1-propene	39	4.339	4.339	0.000	92	328479	50.0	58.5	
16 Isopropyl alcohol	45	4.481	4.481	0.000	95	70212	500.0	491.1	
17 Methylene Chloride	84	4.516	4.516	0.000	99	270524	50.0	52.0	
18 Acetone	43	4.635	4.635	0.000	98	41288	50.0	54.6	
19 trans-1,2-Dichloroethene	96	4.788	4.788	0.000	97	299353	50.0	51.4	
20 Methyl acetate	74	4.859	4.859	0.000	98	39264	250.0	249.7	
21 Hexane	86	4.930	4.930	0.000	89	95258	50.0	53.5	
22 Methyl tert-butyl ether	73	5.001	5.001	0.000	94	418465	50.0	51.4	
23 2-Methyl-2-propanol	59	5.226	5.226	0.000	95	95288	500.0	433.3	
24 Acetonitrile	41	5.368	5.368	0.000	99	173591	500.0	609.2	
25 Isopropyl ether	45	5.628	5.628	0.000	98	840359	50.0	53.2	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	93	551624	50.0	60.1	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	98	546142	50.0	53.8	
S 26 1,2-Dichloroethene, Total	96				0			104.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	5.853	5.853	0.000	99	520014	500.0	579.9	
30 Tert-butyl ethyl ether	59	6.173	6.173	0.000	98	611194	50.0	49.6	
31 Vinyl acetate	43	6.185	6.185	0.000	98	406079	50.0	59.9	
32 cis-1,2-Dichloroethene	96	6.540	6.540	0.000	80	298778	50.0	53.4	
33 2,2-Dichloropropane	77	6.693	6.693	0.000	93	304393	50.0	59.5	
34 Cyclohexane	84	6.788	6.788	0.000	92	492056	50.0	54.1	
35 Chlorobromomethane	128	6.812	6.812	0.000	92	102275	50.0	51.0	
36 Chloroform	83	6.942	6.942	0.000	94	460414	50.0	51.3	
37 Carbon tetrachloride	117	7.096	7.096	0.000	97	365524	50.0	53.9	
38 Tetrahydrofuran	71	7.155	7.155	0.000	91	22747	100.0	87.2	
39 Ethyl acetate	45	7.167	7.167	0.000	99	38725	100.0	104.6	
40 1,1,1-Trichloroethane	97	7.190	7.190	0.000	97	427607	50.0	54.4	
$ 41 Dibromofluoromethane (Surr	113	7.190	7.190	0.000	93	206636	50.0	46.8	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	95	408895	50.0	55.0	
43 2-Butanone (MEK)	43	7.392	7.392	0.000	99	60448	50.0	59.6	
124 Isooctane	57	7.534	7.534	0.000	96	1395575	50.0	58.6	
117 n-Heptane	43	7.687	7.687	0.000	76	647246	50.0	62.0	
44 Benzene	78	7.687	7.687	0.000	97	1187011	50.0	52.4	
45 Propionitrile	54	7.758	7.758	0.000	93	191711	500.0	572.7	
46 Methacrylonitrile	41	7.782	7.782	0.000	93	910928	500.0	586.6	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.877	7.877	0.000	95	207125	50.0	48.3	
48 Tert-amyl methyl ether	73	7.889	7.889	0.000	93	431829	50.0	51.7	
49 1,2-Dichloroethane	62	7.971	7.971	0.000	96	269917	50.0	53.5	
50 Isobutyl alcohol	42	8.090	8.090	0.000	91	83519	1250.0	1283.5	
* 51 Fluorobenzene	96	8.255	8.255	0.000	99	1098009	50.0	50.0	
52 Methylcyclohexane	55	8.433	8.433	0.000	93	537809	50.0	58.8	
53 Trichloroethene	95	8.457	8.457	0.000	98	313099	50.0	52.2	
54 n-Butanol	56	8.977	8.977	0.000	94	75917	1250.0	1134.8	
55 Dibromomethane	93	8.989	8.989	0.000	95	112369	50.0	53.4	
56 1,2-Dichloropropane	63	9.119	9.119	0.000	94	271390	50.0	54.7	
123 Ethyl acrylate	55	9.214	9.214	0.000	97	172876	50.0	50.1	
57 Dichlorobromomethane	83	9.214	9.214	0.000	99	315788	50.0	53.3	
58 Methyl methacrylate	69	9.462	9.462	0.000	95	182696	100.0	94.2	
59 1,4-Dioxane	88	9.486	9.486	0.000	80	25374	1000.0	1001.0	
60 2-Chloroethyl vinyl ether	63		9.971				ND	ND	
61 cis-1,3-Dichloropropene	75	10.018	10.018	0.000	94	347192	50.0	47.8	
$ 62 Toluene-d8 (Surr)	98	10.243	10.243	0.000	94	964572	50.0	50.1	
63 Toluene	92	10.302	10.302	0.000	98	747695	50.0	53.3	
64 2-Nitropropane	43	10.610	10.610	0.000	97	62856	100.0	106.6	
65 Tetrachloroethene	164	10.764	10.764	0.000	95	226117	50.0	53.1	
66 4-Methyl-2-pentanone (MIBK	43	10.799	10.799	0.000	97	120421	50.0	50.5	
67 trans-1,3-Dichloropropene	75	10.823	10.823	0.000	95	285926	50.0	50.4	
68 1,1,2-Trichloroethane	83	11.001	11.001	0.000	90	137668	50.0	51.0	
69 Ethyl methacrylate	69	11.036	11.036	0.000	89	175787	50.0	44.6	
70 Chlorodibromomethane	129	11.190	11.190	0.000	90	172618	50.0	52.6	
71 1,3-Dichloropropane	76	11.296	11.296	0.000	94	288340	50.0	52.7	
72 Ethylene Dibromide	107	11.438	11.438	0.000	99	137736	50.0	51.3	
S 73 1,3-Dichloropropene, Total	75				0			98.2	
118 n-Butyl acetate	43	11.628	11.628	0.000	98	198201	50.0	47.5	
74 2-Hexanone	43	11.722	11.722	0.000	97	85297	50.0	50.5	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	89	667803	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	84	438152	50.0	47.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	11.995	11.995	0.000	98	720823	50.0	52.1	
78 Ethylbenzene	91	12.042	12.042	0.000	96	1504730	50.0	57.6	
79 1,1,1,2-Tetrachloroethane	131	12.066	12.066	0.000	94	214232	50.0	51.9	
80 m-Xylene & p-Xylene	106	12.184	12.184	0.000	97	515654	50.0	52.9	
82 o-Xylene	106	12.610	12.610	0.000	98	467744	50.0	51.9	
83 Styrene	104	12.657	12.657	0.000	96	738581	50.0	55.6	
84 Bromoform	173	12.681	12.681	0.000	93	81757	50.0	56.3	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	1317522	50.0	58.0	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	84	292471	50.0	49.5	
87 Bromobenzene	156	13.273	13.273	0.000	95	242878	50.0	55.0	
88 N-Propylbenzene	91	13.296	13.296	0.000	99	1634798	50.0	57.8	
89 1,1,2,2-Tetrachloroethane	83	13.367	13.367	0.000	94	162172	50.0	51.3	
90 2-Chlorotoluene	91	13.438	13.438	0.000	96	918799	50.0	56.9	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	1013482	50.0	56.7	
92 1,2,3-Trichloropropane	110	13.497	13.497	0.000	83	45307	50.0	51.8	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	90	53639	50.0	55.6	
94 Cyclohexanone	55	13.533	13.533	0.000	76	43063	500.0	503.4	
95 4-Chlorotoluene	91	13.592	13.592	0.000	98	901235	50.0	55.2	
96 tert-Butylbenzene	119	13.770	13.770	0.000	94	859868	50.0	55.9	
97 1,2,4-Trimethylbenzene	105	13.829	13.829	0.000	98	997650	50.0	56.2	
98 sec-Butylbenzene	105	13.923	13.923	0.000	95	1390556	50.0	54.9	
99 4-Isopropyltoluene	119	14.054	14.054	0.000	97	1097752	50.0	56.7	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	97	485955	50.0	52.5	
* 101 1,4-Dichlorobenzene-d4	152	14.184	14.184	0.000	96	275406	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.207	14.207	0.000	95	461259	50.0	52.0	
119 1,2,3-Trimethylbenzene	105	14.219	14.219	0.000	99	874387	50.0	52.6	
120 Benzyl chloride	126	14.420	14.420	0.000	89	54936	50.0	58.5	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	288788	50.0	57.3	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	392063	50.0	52.0	
105 1,2-Dibromo-3-Chloropropan	157	15.260	15.260	0.000	84	18606	50.0	47.4	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	56	83342	50.0	46.6	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	327909	50.0	55.3	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	141409	50.0	51.3	
109 1,2,4-Trichlorobenzene	180	15.840	15.840	0.000	94	243415	50.0	57.1	
110 Naphthalene	128	16.112	16.112	0.000	97	376979	50.0	50.1	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	96	197080	50.0	55.2	
S 112 Xylenes, Total	106				0			104.8	
S 113 Trihalomethanes, Total	1				0			213.5	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

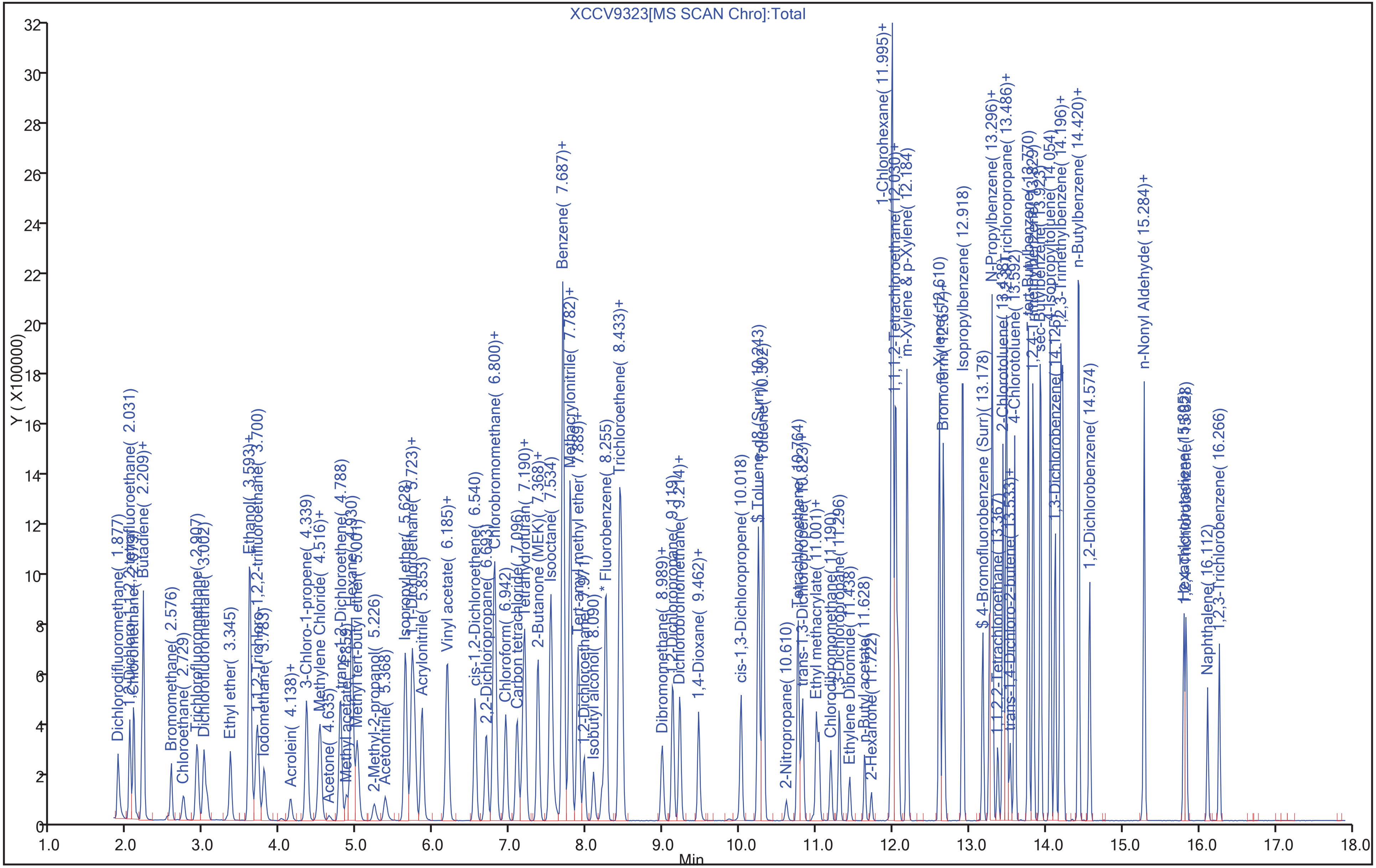
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Oct-2017 16:45:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XCCV9323.D
Injection Date: 19-Oct-2017 16:05:30 Instrument ID: VMSX Operator ID: JDH
Lims ID: CCV Worklist Smp#: 3
Client ID:
Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 1
Method: 5mL-8260-MSX Limit Group: MSV-8260_DoD



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332817/14 Calibration Date: 10/19/2017 21:32

Instrument ID: VMSX Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30 ID: 0.25(mm) Calib End Date: 09/15/2017 01:49

Lab File ID: XCCV9334.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2943	0.3024	0.1000	51.4	50.0	2.8	50.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Ave	0.1353	0.1588	0.0100	58.7	50.0	17.4	50.0
Chloromethane	Ave	0.3799	0.4202	0.1000	55.3	50.0	10.6	50.0
Vinyl chloride	Ave	0.2987	0.2791	0.1000	46.7	50.0	-6.5	50.0
Butadiene	Ave	0.2494	0.2696	0.0100	54.1	50.0	8.1	50.0
Bromomethane	Ave	0.1146	0.1118	0.1000	48.8	50.0	-2.4	50.0
Chloroethane	Ave	0.1099	0.1148	0.1000	52.2	50.0	4.5	50.0
Trichlorofluoromethane	Ave	0.3071	0.3549	0.1000	57.8	50.0	15.5	50.0
Dichlorofluoromethane	Ave	0.2877	0.3106	0.0100	54.0	50.0	8.0	50.0
Ethyl ether	Ave	0.1157	0.1176	0.0100	50.8	50.0	1.6	50.0
1,1-Dichloroethene	Ave	0.2566	0.2690	0.1000	52.4	50.0	4.8	50.0
Carbon disulfide	Ave	0.8649	0.8838	0.1000	51.1	50.0	2.2	50.0
Ethanol	Lin1		0.0016*	0.0100	2210	2000	10.6	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1865	0.2041	0.1000	54.7	50.0	9.5	50.0
Iodomethane	Ave	0.3230	0.3232	0.0100	50.0	50.0	0.0	50.0
Acrolein	Lin1		0.0202	0.0010	260	250	4.2	50.0
3-Chloro-1-propene	Ave	0.2556	0.2950	0.0100	57.7	50.0	15.4	50.0
Isopropyl alcohol	Lin1		0.0063*	0.0100	484	500	-3.2	50.0
Methylene Chloride	Ave	0.2369	0.2456	0.1000	51.8	50.0	3.7	50.0
Acetone	Ave	0.0344	0.0356*	0.1000	51.7	50.0	3.4	50.0
trans-1,2-Dichloroethene	Ave	0.2653	0.2721	0.1000	51.3	50.0	2.5	50.0
Methyl acetate	Lin1		0.0071*	0.1000	248	250	-1.0	50.0
Hexane	Ave	0.0811	0.0891	0.0100	55.0	50.0	10.0	50.0
Methyl tert-butyl ether	Ave	0.3706	0.3781	0.1000	51.0	50.0	2.0	50.0
2-Methyl-2-propanol	Lin1		0.0087*	0.0100	432	500	-13.5	50.0
Acetonitrile	Ave	0.0130	0.0155	0.0010	598	500	19.7	50.0
Isopropyl ether	Lin1		0.7678	0.0100	53.3	50.0	6.6	50.0
2-Chloro-1,3-butadiene	Ave	0.4180	0.5057	0.0100	60.5	50.0	21.0	50.0
1,1-Dichloroethane	Ave	0.4623	0.4929	0.2000	53.3	50.0	6.6	50.0
Acrylonitrile	Ave	0.0408	0.0490	0.0100	599	500	19.9	50.0
Tert-butyl ethyl ether	Lin1		0.5543	0.0100	49.4	50.0	-1.2	50.0
Vinyl acetate	Ave	0.3085	0.3653	0.0100	59.2	50.0	18.4	50.0
cis-1,2-Dichloroethene	Ave	0.2548	0.2728	0.1000	53.5	50.0	7.1	50.0
2,2-Dichloropropane	Ave	0.2329	0.2470	0.0100	53.0	50.0	6.0	50.0
Cyclohexane	Ave	0.4140	0.4560	0.1000	55.1	50.0	10.1	50.0
Bromochloromethane	Ave	0.0913	0.0938	0.0100	51.4	50.0	2.7	50.0
Chloroform	Ave	0.4089	0.4251	0.2000	52.0	50.0	4.0	50.0
Carbon tetrachloride	Ave	0.3085	0.3323	0.1000	53.9	50.0	7.7	50.0
Ethyl acetate	Lin1		0.0175	0.0100	104	100	3.9	50.0
1,1,1-Trichloroethane	Ave	0.3580	0.3882	0.1000	54.2	50.0	8.4	50.0

FORM VII 8260C DOD

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-332817/14 Calibration Date: 10/19/2017 21:32

Instrument ID: VMSX Calib Start Date: 09/14/2017 22:55

GC Column: RTXVMS30 ID: 0.25(mm) Calib End Date: 09/15/2017 01:49

Lab File ID: XCCV9334.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1-Dichloropropene	Ave	0.3383	0.3741	0.0100	55.3	50.0	10.6	50.0
2-Butanone (MEK)	Ave	0.0462	0.0538*	0.1000	58.3	50.0	16.5	50.0
Isooctane	Ave	1.085	1.262	0.0100	58.2	50.0	16.4	50.0
n-Heptane	Ave	0.4751	0.6054	0.0100	63.7	50.0	27.4	50.0
Benzene	Ave	1.031	1.082	0.5000	52.5	50.0	4.9	50.0
Propionitrile	Ave	0.0152	0.0176	0.0010	576	500	15.1	50.0
Methacrylonitrile	Ave	0.0707	0.0843	0.0100	596	500	19.1	50.0
Tert-amyl methyl ether	Ave	0.3803	0.3960	0.0100	52.1	50.0	4.1	50.0
1,2-Dichloroethane	Ave	0.2298	0.2499	0.1000	54.4	50.0	8.8	50.0
Isobutyl alcohol	Lin1		0.0029	0.0010	1240	1250	-0.5	50.0
Methylcyclohexane	Ave	0.4166	0.5024	0.1000	60.3	50.0	20.6	50.0
Trichloroethene	Ave	0.2730	0.2818	0.2000	51.6	50.0	3.2	50.0
n-Butanol	Lin		0.0027*	0.0100	1110	1250	-11.1	50.0
Dibromomethane	Ave	0.0958	0.1005	0.0100	52.4	50.0	4.9	50.0
1,2-Dichloropropane	Ave	0.2258	0.2498	0.1000	55.3	50.0	10.6	50.0
Ethyl acrylate	Lin1		0.1540	0.0100	49.1	50.0	-1.8	50.0
Bromodichloromethane	Ave	0.2696	0.2928	0.2000	54.3	50.0	8.6	50.0
Methyl methacrylate	Lin1		0.0832	0.0100	94.2	100	-5.8	50.0
1,4-Dioxane	Lin1		0.0011	0.0010	974	1000	-2.6	50.0
cis-1,3-Dichloropropene	Lin1		0.3114	0.2000	47.1	50.0	-5.8	50.0
Toluene	Lin1		1.115	0.4000	53.1	50.0	6.2	50.0
2-Nitropropane	QuaF		0.0457	0.0100	104	100	3.8	50.0
Tetrachloroethene	Ave	0.3188	0.3336	0.2000	52.3	50.0	4.6	50.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.1814	0.1000	50.8	50.0	1.5	50.0
trans-1,3-Dichloropropene	Lin1		0.4225	0.1000	49.7	50.0	-0.6	50.0
1,1,2-Trichloroethane	Ave	0.2020	0.2073	0.1000	51.3	50.0	2.6	50.0
Ethyl methacrylate	Lin1		0.2664	0.0100	45.1	50.0	-9.8	50.0
Chlorodibromomethane	Ave	0.2458	0.2578	0.1000	52.4	50.0	4.9	50.0
1,3-Dichloropropane	Ave	0.4094	0.4345	0.0100	53.1	50.0	6.1	50.0
1,2-Dibromoethane	Ave	0.2009	0.2069	0.1000	51.5	50.0	3.0	50.0
n-Butyl acetate	Lin		0.2944	0.0100	47.2	50.0	-5.6	50.0
2-Hexanone	Lin1		0.1243	0.1000	49.2	50.0	-1.5	50.0
1-Chlorohexane	Ave	0.6958	0.6458	0.0100	46.4	50.0	-7.2	50.0
Chlorobenzene	Ave	1.037	1.092	0.5000	52.7	50.0	5.3	50.0
Ethylbenzene	Ave	1.955	2.289	0.1000	58.5	50.0	17.1	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3089	0.3175	0.0100	51.4	50.0	2.8	50.0
m-Xylene & p-Xylene	Lin1		0.7780	0.1000	53.3	50.0	6.5	50.0
o-Xylene	Lin1		0.6916	0.3000	51.3	50.0	2.5	50.0
Styrene	Ave	0.9945	1.103	0.3000	55.4	50.0	10.9	50.0
Bromoform	Ave	0.2638	0.2848	0.1000	54.0	50.0	7.9	50.0
Isopropylbenzene	Ave	4.124	4.821	0.1000	58.4	50.0	16.9	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Lab Sample ID: CCVC 160-332817/14
Calibration Date: 10/19/2017 21:32
Instrument ID: VMSX
Calib Start Date: 09/14/2017 22:55
GC Column: RTXVMS30
ID: 0.25(mm)
Calib End Date: 09/15/2017 01:49
Lab File ID: XCCV9334.D
Conc. Units: ug/L
Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bromobenzene	Ave	0.8021	0.8761	0.0100	54.6	50.0	9.2	50.0
N-Propylbenzene	Ave	5.138	5.944	0.0100	57.8	50.0	15.7	50.0
1,1,2,2-Tetrachloroethane	Ave	0.5745	0.5878	0.3000	51.2	50.0	2.3	50.0
2-Chlorotoluene	Ave	2.931	3.291	0.0100	56.1	50.0	12.3	50.0
1,3,5-Trimethylbenzene	Ave	3.246	3.657	0.0100	56.3	50.0	12.7	50.0
1,2,3-Trichloropropane	Ave	0.1589	0.1636	0.0100	51.5	50.0	2.9	50.0
Cyclohexanone	Lin1		0.0137	0.0010	444	500	-11.2	50.0
trans-1,4-Dichloro-2-butene	Lin1		0.1869	0.0100	53.5	50.0	7.0	50.0
4-Chlorotoluene	Ave	2.963	3.252	0.0100	54.9	50.0	9.7	50.0
tert-Butylbenzene	Ave	2.794	3.197	0.0100	57.2	50.0	14.4	50.0
1,2,4-Trimethylbenzene	Ave	3.225	3.618	0.0100	56.1	50.0	12.2	50.0
sec-Butylbenzene	Ave	4.598	5.133	0.0100	55.8	50.0	11.6	50.0
4-Isopropyltoluene	Ave	3.513	4.017	0.0100	57.2	50.0	14.3	50.0
1,3-Dichlorobenzene	Ave	1.680	1.744	0.6000	51.9	50.0	3.8	50.0
1,4-Dichlorobenzene	Ave	1.609	1.664	0.5000	51.7	50.0	3.4	50.0
1,2,3-Trimethylbenzene	Ave	3.015	3.206	0.0100	53.2	50.0	6.3	50.0
Benzyl chloride	Ave	0.1704	0.1631	0.0100	47.9	50.0	-4.3	50.0
n-Butylbenzene	Ave	0.9154	1.026	0.0100	56.0	50.0	12.1	50.0
1,2-Dichlorobenzene	Ave	1.370	1.419	0.4000	51.8	50.0	3.6	50.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0656	0.0500	46.1	50.0	-7.9	50.0
1,3,5-Trichlorobenzene	Ave	1.077	1.143	0.0100	53.1	50.0	6.1	50.0
n-Nonyl Aldehyde	Lin1		0.2991	0.0100	46.1	50.0	-7.8	50.0
Hexachlorobutadiene	Ave	0.5002	0.5242	0.0100	52.4	50.0	4.8	50.0
1,2,4-Trichlorobenzene	Ave	0.7735	0.8541	0.2000	55.2	50.0	10.4	50.0
Naphthalene	Lin1		1.321	0.0100	48.4	50.0	-3.1	50.0
1,2,3-Trichlorobenzene	Ave	0.6483	0.7224	0.0100	55.7	50.0	11.4	50.0
2-Chloroethyl vinyl ether	Ave	0.0110			2.00	50.0		
Dibromofluoromethane (Surr)	Ave	0.2013	0.1971	0.0100	49.0	50.0	-2.1	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1952	0.2001	0.0100	51.2	50.0	2.5	50.0
Toluene-d8 (Surr)	Ave	1.443	1.500	0.0100	52.0	50.0	4.0	50.0
4-Bromofluorobenzene (Surr)	Ave	1.073	1.124	0.0100	52.4	50.0	4.7	50.0

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XCCV9334.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 19-Oct-2017 21:32:30 ALS Bottle#: 13 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011712-014
Misc. Info.: CCVC
Operator ID: JDH Instrument ID: VMSX
Sublist: chrom-5mL-8260-MSX*sub15

Method: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 24-Oct-2017 16:46:02 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: hannj Date: 24-Oct-2017 16:46:02

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.878	1.878	0.000	99	323848	50.0	51.4	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.031	2.031	0.000	99	170074	50.0	58.7	
3 Chloromethane	50	2.079	2.079	0.000	99	449970	50.0	55.3	
4 Vinyl chloride	62	2.197	2.197	0.000	97	298911	50.0	46.7	
121 Butadiene	39	2.209	2.209	0.000	90	288698	50.0	54.1	
5 Bromomethane	94	2.576	2.576	0.000	92	119725	50.0	48.8	
6 Chloroethane	64	2.741	2.741	0.000	98	122970	50.0	52.2	
7 Trichlorofluoromethane	101	2.919	2.919	0.000	98	379996	50.0	57.8	
122 Dichlorofluoromethane	67	3.002	3.002	0.000	97	332639	50.0	54.0	
8 Ethyl ether	74	3.357	3.357	0.000	96	125939	50.0	50.8	
9 1,1-Dichloroethene	96	3.593	3.593	0.000	94	288021	50.0	52.4	
11 Ethanol	45	3.605	3.605	0.000	26	66286	2000.0	2212.4	
10 Carbon disulfide	76	3.605	3.605	0.000	100	946394	50.0	51.1	
12 1,1,2-Trichloro-1,2,2-trif	151	3.700	3.700	0.000	95	218555	50.0	54.7	
13 Iodomethane	142	3.795	3.795	0.000	98	346135	50.0	50.0	
14 Acrolein	56	4.138	4.138	0.000	99	107946	250.0	260.5	
15 3-Chloro-1-propene	39	4.339	4.339	0.000	93	315935	50.0	57.7	
16 Isopropyl alcohol	45	4.493	4.493	0.000	94	67392	500.0	483.8	
17 Methylene Chloride	84	4.516	4.516	0.000	98	263029	50.0	51.8	
18 Acetone	43	4.635	4.635	0.000	98	38099	50.0	51.7	
19 trans-1,2-Dichloroethene	96	4.789	4.789	0.000	97	291338	50.0	51.3	
20 Methyl acetate	74	4.871	4.871	0.000	99	37958	250.0	247.6	
21 Hexane	86	4.942	4.942	0.000	89	95437	50.0	55.0	
22 Methyl tert-butyl ether	73	5.013	5.013	0.000	96	404913	50.0	51.0	
23 2-Methyl-2-propanol	59	5.226	5.226	0.000	97	92730	500.0	432.4	
24 Acetonitrile	41	5.368	5.368	0.000	99	166279	500.0	598.3	
25 Isopropyl ether	45	5.640	5.640	0.000	95	822184	50.0	53.3	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	93	541488	50.0	60.5	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	98	527808	50.0	53.3	
S 26 1,2-Dichloroethene, Total	96				0			104.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 Acrylonitrile	53	5.853	5.853	0.000	100	524274	500.0	599.5	
30 Tert-butyl ethyl ether	59	6.173	6.173	0.000	97	593562	50.0	49.4	
31 Vinyl acetate	43	6.197	6.197	0.000	98	391159	50.0	59.2	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	81	292124	50.0	53.5	
33 2,2-Dichloropropane	77	6.694	6.694	0.000	94	264457	50.0	53.0	
34 Cyclohexane	84	6.800	6.800	0.000	93	488276	50.0	55.1	
35 Chlorobromomethane	128	6.812	6.812	0.000	93	100432	50.0	51.4	
36 Chloroform	83	6.942	6.942	0.000	94	455177	50.0	52.0	
37 Carbon tetrachloride	117	7.096	7.096	0.000	97	355848	50.0	53.9	
38 Tetrahydrofuran	71	7.155	7.155	0.000	92	22615	100.0	88.8	
39 Ethyl acetate	45	7.167	7.167	0.000	99	37529	100.0	103.9	
40 1,1,1-Trichloroethane	97	7.191	7.191	0.000	98	415722	50.0	54.2	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.191	0.000	92	211009	50.0	49.0	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	95	400586	50.0	55.3	
43 2-Butanone (MEK)	43	7.392	7.392	0.000	99	57628	50.0	58.3	
124 Isooctane	57	7.534	7.534	0.000	96	1351840	50.0	58.2	
117 n-Heptane	43	7.688	7.688	0.000	84	648229	50.0	63.7	
44 Benzene	78	7.699	7.699	0.000	97	1158652	50.0	52.5	
45 Propionitrile	54	7.770	7.770	0.000	97	187958	500.0	575.7	
46 Methacrylonitrile	41	7.794	7.794	0.000	94	902208	500.0	595.7	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.877	7.877	0.000	94	214238	50.0	51.2	
48 Tert-amyl methyl ether	73	7.901	7.901	0.000	93	424033	50.0	52.1	
49 1,2-Dichloroethane	62	7.972	7.972	0.000	97	267617	50.0	54.4	
50 Isobutyl alcohol	42	8.090	8.090	0.000	91	78747	1250.0	1243.5	
* 51 Fluorobenzene	96	8.256	8.256	0.000	99	1070824	50.0	50.0	
52 Methylcyclohexane	55	8.433	8.433	0.000	93	537947	50.0	60.3	
53 Trichloroethene	95	8.469	8.469	0.000	98	301744	50.0	51.6	
54 n-Butanol	56	8.977	8.977	0.000	91	72227	1250.0	1111.4	
55 Dibromomethane	93	8.989	8.989	0.000	96	107564	50.0	52.4	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	94	267444	50.0	55.3	
123 Ethyl acrylate	55	9.214	9.214	0.000	99	164917	50.0	49.1	
57 Dichlorobromomethane	83	9.226	9.226	0.000	98	313532	50.0	54.3	
58 Methyl methacrylate	69	9.463	9.463	0.000	95	178103	100.0	94.2	
59 1,4-Dioxane	88	9.486	9.486	0.000	77	24018	1000.0	973.7	
60 2-Chloroethyl vinyl ether	63		9.971				ND	ND	
61 cis-1,3-Dichloropropene	75	10.019	10.019	0.000	94	333486	50.0	47.1	
$ 62 Toluene-d8 (Surr)	98	10.243	10.243	0.000	94	974973	50.0	52.0	
63 Toluene	92	10.303	10.303	0.000	98	724256	50.0	53.1	
64 2-Nitropropane	43	10.610	10.610	0.000	98	59345	100.0	103.8	
65 Tetrachloroethene	164	10.764	10.764	0.000	94	216783	50.0	52.3	
66 4-Methyl-2-pentanone (MIBK	43	10.800	10.800	0.000	98	117906	50.0	50.8	
67 trans-1,3-Dichloropropene	75	10.823	10.823	0.000	96	274555	50.0	49.7	
68 1,1,2-Trichloroethane	83	11.001	11.001	0.000	91	134683	50.0	51.3	
69 Ethyl methacrylate	69	11.036	11.036	0.000	74	173126	50.0	45.1	
70 Chlorodibromomethane	129	11.190	11.190	0.000	91	167512	50.0	52.4	
71 1,3-Dichloropropane	76	11.308	11.308	0.000	94	282363	50.0	53.1	
72 Ethylene Dibromide	107	11.439	11.439	0.000	100	134466	50.0	51.5	
S 73 1,3-Dichloropropene, Total	75				0			96.8	
118 n-Butyl acetate	43	11.640	11.640	0.000	98	191288	50.0	47.2	
74 2-Hexanone	43	11.723	11.723	0.000	98	80763	50.0	49.2	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	89	649847	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	87	419697	50.0	46.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112	11.995	11.995	0.000	98	709499	50.0	52.7	
78 Ethylbenzene	91	12.042	12.042	0.000	98	1487564	50.0	58.5	
79 1,1,1,2-Tetrachloroethane	131	12.078	12.078	0.000	94	206337	50.0	51.4	
80 m-Xylene & p-Xylene	106	12.184	12.184	0.000	97	505553	50.0	53.3	
82 o-Xylene	106	12.610	12.610	0.000	98	449432	50.0	51.3	
83 Styrene	104	12.657	12.657	0.000	95	716487	50.0	55.4	
84 Bromoform	173	12.681	12.681	0.000	95	76555	50.0	54.0	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	1296120	50.0	58.4	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	83	302221	50.0	52.4	
87 Bromobenzene	156	13.273	13.273	0.000	94	235528	50.0	54.6	
88 N-Propylbenzene	91	13.296	13.296	0.000	99	1597908	50.0	57.8	
89 1,1,2,2-Tetrachloroethane	83	13.367	13.367	0.000	95	158023	50.0	51.2	
90 2-Chlorotoluene	91	13.438	13.438	0.000	96	884669	50.0	56.1	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	983150	50.0	56.3	
92 1,2,3-Trichloropropane	110	13.498	13.498	0.000	84	43975	50.0	51.5	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	87	50245	50.0	53.5	
94 Cyclohexanone	55	13.533	13.533	0.000	68	36713	500.0	444.0	
95 4-Chlorotoluene	91	13.592	13.592	0.000	99	874234	50.0	54.9	
96 tert-Butylbenzene	119	13.770	13.770	0.000	94	859420	50.0	57.2	
97 1,2,4-Trimethylbenzene	105	13.829	13.829	0.000	98	972766	50.0	56.1	
98 sec-Butylbenzene	105	13.935	13.935	0.000	94	1379987	50.0	55.8	
99 4-Isopropyltoluene	119	14.054	14.054	0.000	97	1079818	50.0	57.2	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	97	468762	50.0	51.9	
* 101 1,4-Dichlorobenzene-d4	152	14.184	14.184	0.000	97	268838	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.207	14.207	0.000	92	447407	50.0	51.7	
119 1,2,3-Trimethylbenzene	105	14.219	14.219	0.000	99	861858	50.0	53.2	
120 Benzyl chloride	126	14.420	14.420	0.000	89	43847	50.0	47.9	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	275817	50.0	56.0	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	381418	50.0	51.8	
105 1,2-Dibromo-3-Chloropropan	157	15.261	15.261	0.000	85	17626	50.0	46.1	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	56	80412	50.0	46.1	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	307390	50.0	53.1	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	140931	50.0	52.4	
109 1,2,4-Trichlorobenzene	180	15.840	15.840	0.000	94	229618	50.0	55.2	
110 Naphthalene	128	16.113	16.113	0.000	97	355217	50.0	48.4	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	95	194203	50.0	55.7	
S 112 Xylenes, Total	106				0			104.5	
S 113 Trihalomethanes, Total	1				0			212.7	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

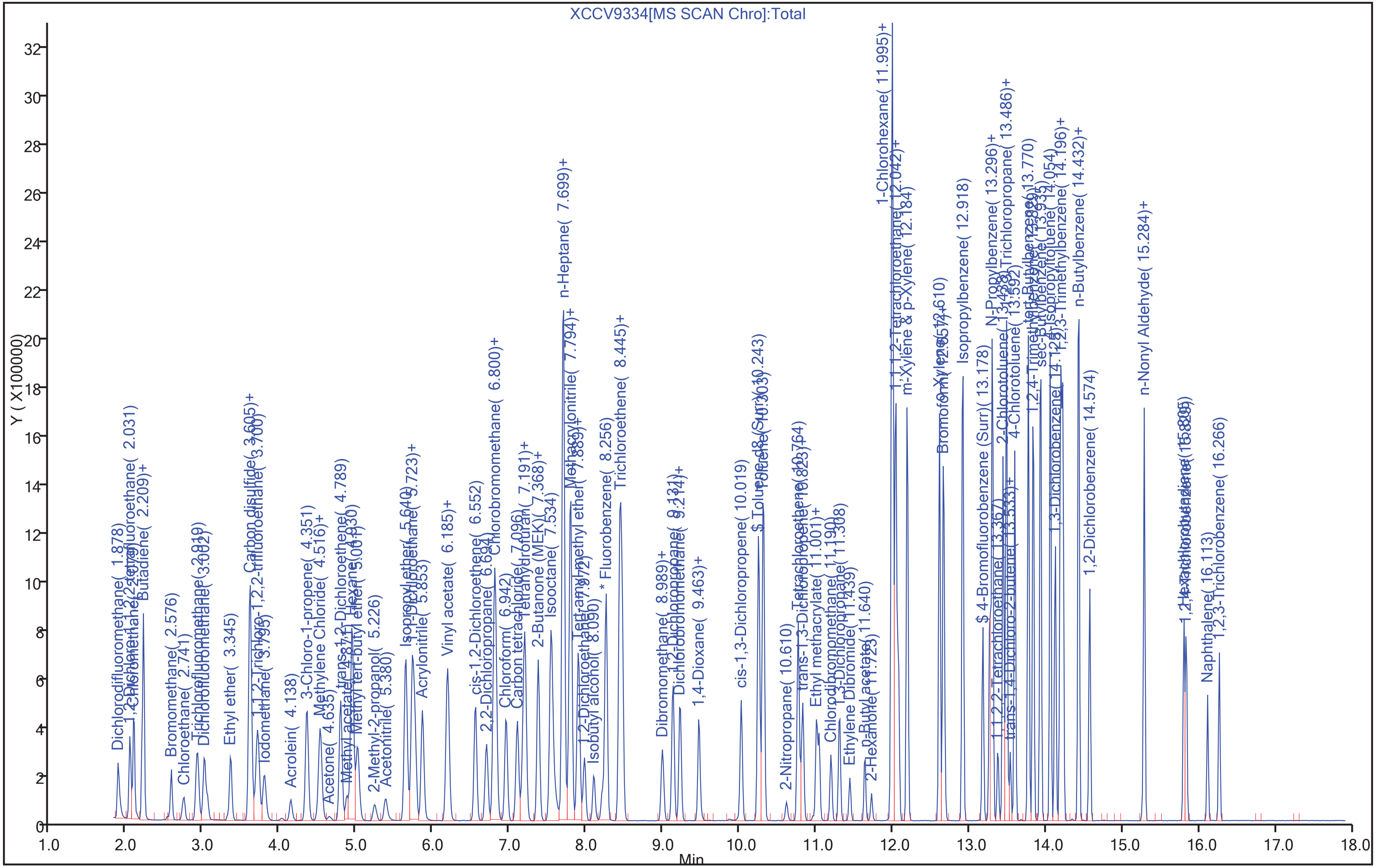
Reagents:

8260 NewWkMix_00242 Amount Added: 10.00 Units: uL
I.S. Working_00154 Amount Added: 10.00 Units: uL Run Reagent
8260 Surr 25_00080 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 24-Oct-2017 16:46:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XCCV9334.D
Injection Date: 19-Oct-2017 21:32:30
Instrument ID: VMSX
Operator ID: JDH
Lims ID: CCVC
Worklist Smp#: 14
Client ID:
Purge Vol: 5.000 mL
Dil. Factor: 1.0000
ALS Bottle#: 13
Method: 5mL-8260-MSX
Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FBFB2846.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	02-Oct-2017 20:13:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Sample Info:	160-0011546-001				
Misc. Info.:	BFB				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	03-Oct-2017 16:05:43	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK024				
First Level Reviewer: hannj		Date:	03-Oct-2017 16:05:43		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 114 BFB	95	3.982	3.982	0.000	0	341681	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

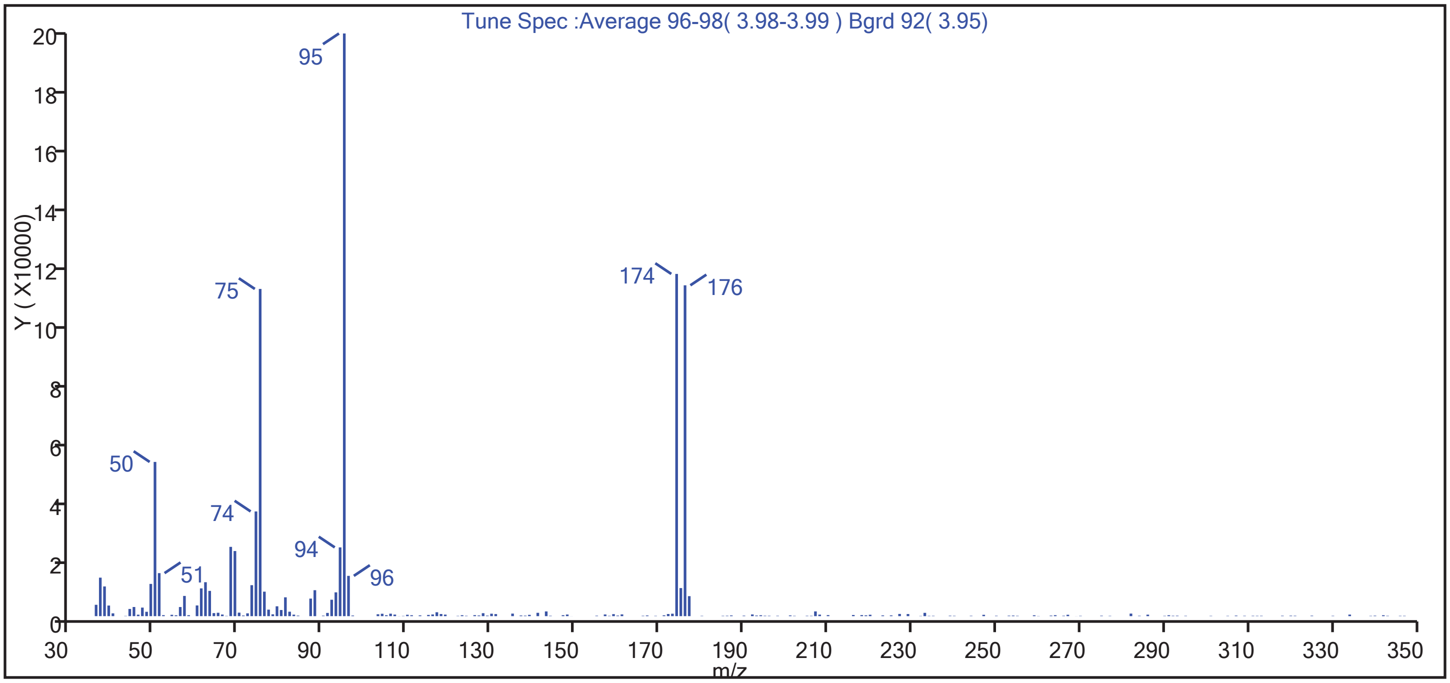
BFB_00074 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FBFB2846.D				
Injection Date:	02-Oct-2017 20:13:30	Instrument ID:	VMSF		
Lims ID:	BFB				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Tune Method:	BFB Method 8260				

$ 114 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	26.5
75	30 to 60% of m/z 95	56.2
96	5 to 9% of m/z 95	6.9
173	Less than 2% of m/z 174	0.4 (0.7)
174	50 to 120% of m/z 95	58.7
175	5 to 9% of m/z 174	4.8 (8.2)
176	Greater than 95% but less than 101% of m/z 174	56.8 (96.7)
177	5 to 9% of m/z 176	3.4 (6.0)

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FBFB2846.D\5mL-8260_MSF.rslt\spectra.d
Injection Date: 02-Oct-2017 20:13:30
Spectrum: Tune Spec :Average 96-98(3.98-3.99) Bgrd 92(3.95)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 180

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	3701	87.00	5728	157.00	549	239.00	146
37.00	12559	88.00	8466	158.00	110	240.00	117
38.00	9693	90.00	165	159.00	657	244.00	126
39.00	3458	91.00	1054	160.00	185	247.00	435
40.00	914	92.00	5351	161.00	571	250.00	132
43.00	84	93.00	7765	166.00	129	253.00	161
44.00	2346	94.00	22432	167.00	227	254.00	197
45.00	2982	95.00	190080	169.00	104	255.00	117
46.00	474	96.00	13141	171.00	277	259.00	281
47.00	2788	97.00	211	172.00	699	260.00	59
48.00	1422	103.00	615	173.00	795	263.00	184
49.00	10515	104.00	775	174.00	111640	264.00	310
50.00	50312	105.00	301	175.00	9156	266.00	136
51.00	14033	106.00	804	176.00	107928	267.00	448
52.00	324	107.00	506	177.00	6520	269.00	17
54.00	436	108.00	29	180.00	109	270.00	109
55.00	284	109.00	87	185.00	117	275.00	149
56.00	2975	110.00	452	186.00	138	277.00	105
57.00	6594	111.00	295	187.00	237	282.00	833
58.00	312	113.00	256	190.00	163	284.00	129
60.00	3493	115.00	397	192.00	555	286.00	482
61.00	9055	116.00	550	193.00	204	290.00	111
62.00	11073	117.00	1271	194.00	293	291.00	295
63.00	8241	118.00	693	195.00	137	292.00	135
64.00	992	119.00	501	196.00	126	293.00	149
65.00	1103	122.00	101	198.00	124	295.00	117
66.00	524	123.00	304	201.00	239	301.00	107
67.00	88	124.00	119	202.00	108	305.00	104
68.00	22600	126.00	327	205.00	124	307.00	183
69.00	21240	127.00	223	206.00	117	309.00	122
70.00	1141	128.00	963	207.00	1547	311.00	126
71.00	214	129.00	175	208.00	495	312.00	117
72.00	919	130.00	797	210.00	338	313.00	125

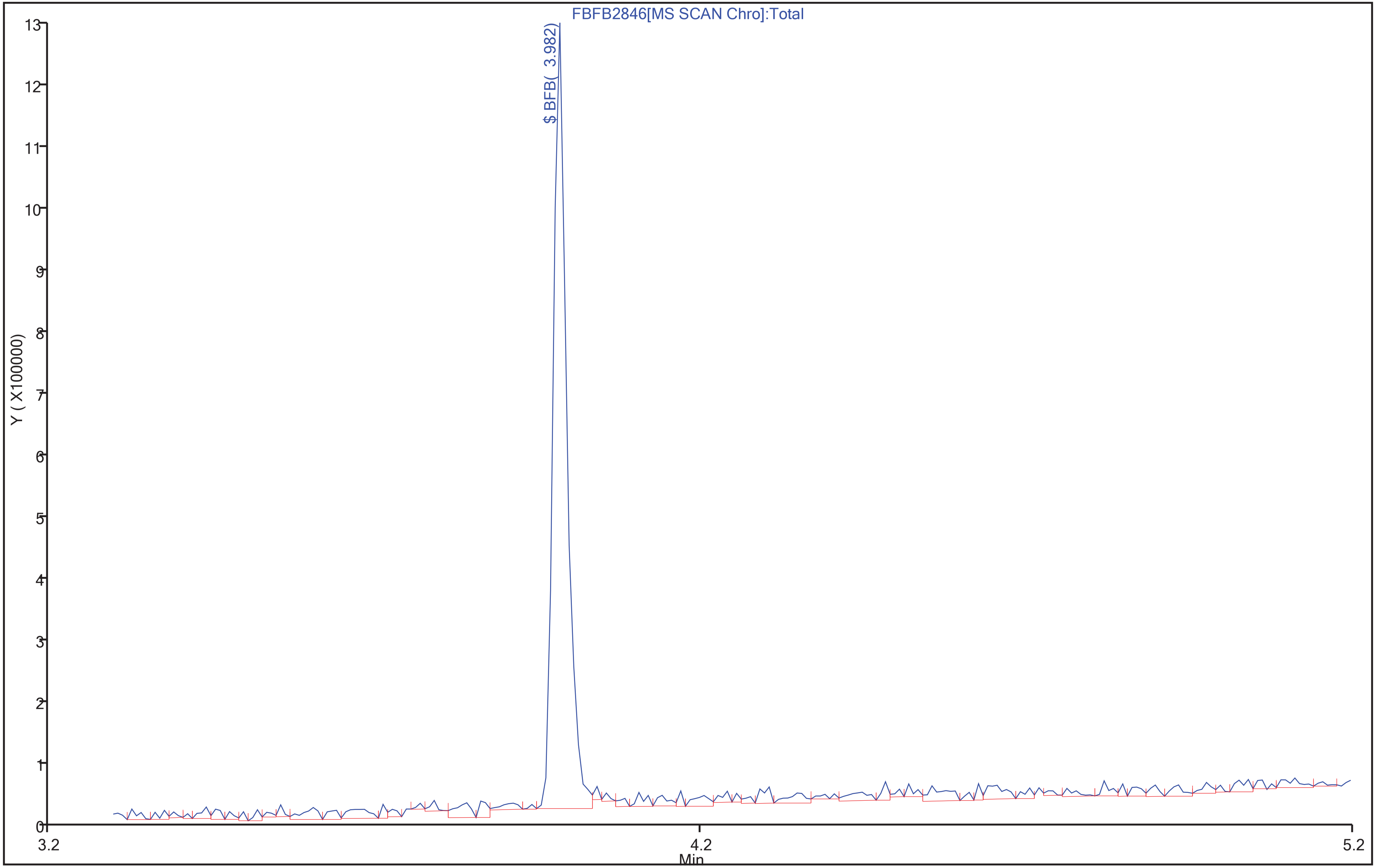
Report Date: 03-Oct-2017 16:05:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FBFB2846.D\5mL-8260_MSF.rslt\spectra.d
Injection Date: 02-Oct-2017 20:13:30
Spectrum: Tune Spec :Average 96-98(3.98-3.99) Bgrd 92(3.95)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 180

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	10101	131.00	674	216.00	376	318.00	145
74.00	34160	135.00	830	218.00	344	320.00	160
75.00	106744	137.00	221	219.00	270	321.00	138
76.00	7989	138.00	166	220.00	449	325.00	159
77.00	2118	139.00	424	223.00	246	330.00	122
78.00	594	141.00	1088	225.00	251	334.00	506
79.00	3213	143.00	1542	227.00	718	339.00	106
80.00	2003	144.00	127	229.00	690	340.00	159
81.00	6142	147.00	312	232.00	83	342.00	293
82.00	1451	148.00	527	233.00	1078	343.00	117
83.00	488	149.00	16	234.00	105	346.00	113
84.00	177	155.00	147	235.00	117	347.00	114

Report Date: 03-Oct-2017 16:05:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FBFB2846.D
Injection Date: 02-Oct-2017 20:13:30
Instrument ID: VMSF
Operator ID: JDH
Lims ID: BFB
Worklist Smp#: 1
Client ID:
Injection Vol: 2.0 uL
Dil. Factor: 1.0000
ALS Bottle#: 1
Method: 5mL-8260_MSF
Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FBFB2893.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	09-Oct-2017 18:02:30	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Sample Info:	160-0011606-003				
Misc. Info.:	BFB				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	10-Oct-2017 16:46:32	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK022				
First Level Reviewer: hannj		Date:	10-Oct-2017 16:46:32		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 114 BFB	95	3.973	3.973	0.000	0	811894	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

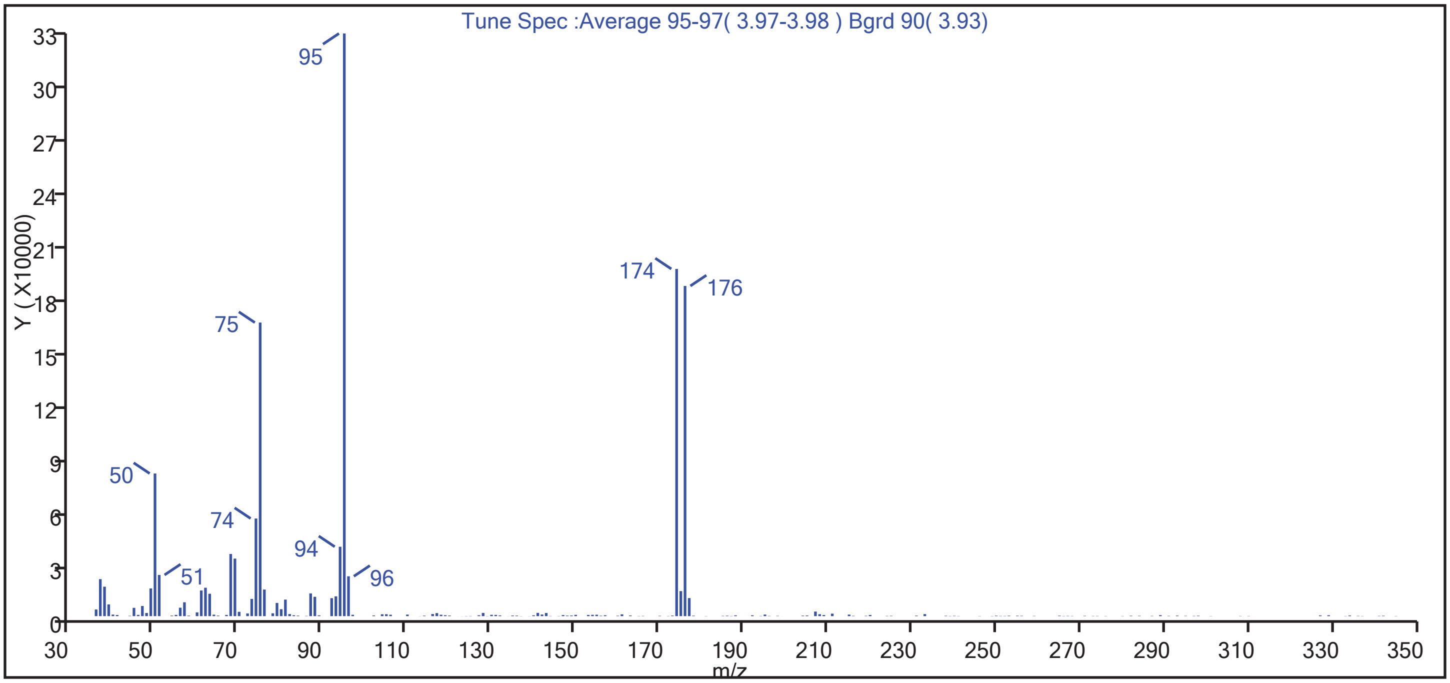
BFB_00075 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FBFB2893.D
Injection Date: 09-Oct-2017 18:02:30 Instrument ID: VMSF
Lims ID: BFB
Client ID:
Operator ID: JDH ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD
Tune Method: BFB Method 8260

$ 114 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	24.5
75	30 to 60% of m/z 95	50.4
96	5 to 9% of m/z 95	6.8
173	Less than 2% of m/z 174	0.1 (0.2)
174	50 to 120% of m/z 95	59.6
175	5 to 9% of m/z 174	4.3 (7.2)
176	Greater than 95% but less than 101% of m/z 174	56.7 (95.1)
177	5 to 9% of m/z 176	3.1 (5.5)

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FBFB2893.D\5mL-8260_MSF.rslt\spectra.d
Injection Date: 09-Oct-2017 18:02:30
Spectrum: Tune Spec :Average 95-97(3.97-3.98) Bgrd 90(3.93)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 175

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	3761	89.00	464	153.00	685	239.00	127
37.00	20896	92.00	10150	154.00	742	240.00	202
38.00	16632	93.00	11192	155.00	810	241.00	114
39.00	6631	94.00	39200	156.00	253	246.00	102
40.00	876	95.00	328960	157.00	510	249.00	105
41.00	656	96.00	22504	160.00	253	250.00	271
44.00	200	97.00	776	161.00	1024	251.00	156
45.00	4696	102.00	405	163.00	386	252.00	138
46.00	712	104.00	1054	165.00	114	253.00	273
47.00	5745	105.00	1093	166.00	157	255.00	256
48.00	1796	106.00	797	170.00	210	256.00	211
49.00	15654	110.00	882	172.00	118	259.00	153
50.00	80544	113.00	46	173.00	336	265.00	278
51.00	23272	114.00	290	174.00	196032	266.00	115
54.00	321	116.00	1190	175.00	14130	267.00	171
55.00	713	117.00	1712	176.00	186432	268.00	128
56.00	4765	118.00	794	177.00	10195	271.00	197
57.00	7832	119.00	534	178.00	278	273.00	135
58.00	303	120.00	350	181.00	92	274.00	140
60.00	2136	122.00	7	185.00	189	276.00	111
61.00	14507	123.00	37	186.00	273	280.00	117
62.00	16043	124.00	102	187.00	123	282.00	252
63.00	12642	125.00	120	188.00	464	284.00	209
64.00	832	127.00	501	192.00	480	286.00	2
65.00	321	128.00	1813	194.00	136	287.00	168
67.00	694	129.00	74	195.00	896	289.00	544
68.00	35096	130.00	752	196.00	158	291.00	179
69.00	32496	131.00	704	198.00	182	293.00	313
70.00	2440	132.00	429	199.00	11	295.00	184
72.00	1542	134.00	30	204.00	308	297.00	166
73.00	9742	135.00	371	205.00	396	298.00	255
74.00	55136	136.00	311	207.00	2593	301.00	100
75.00	165760	137.00	75	208.00	1091	308.00	124

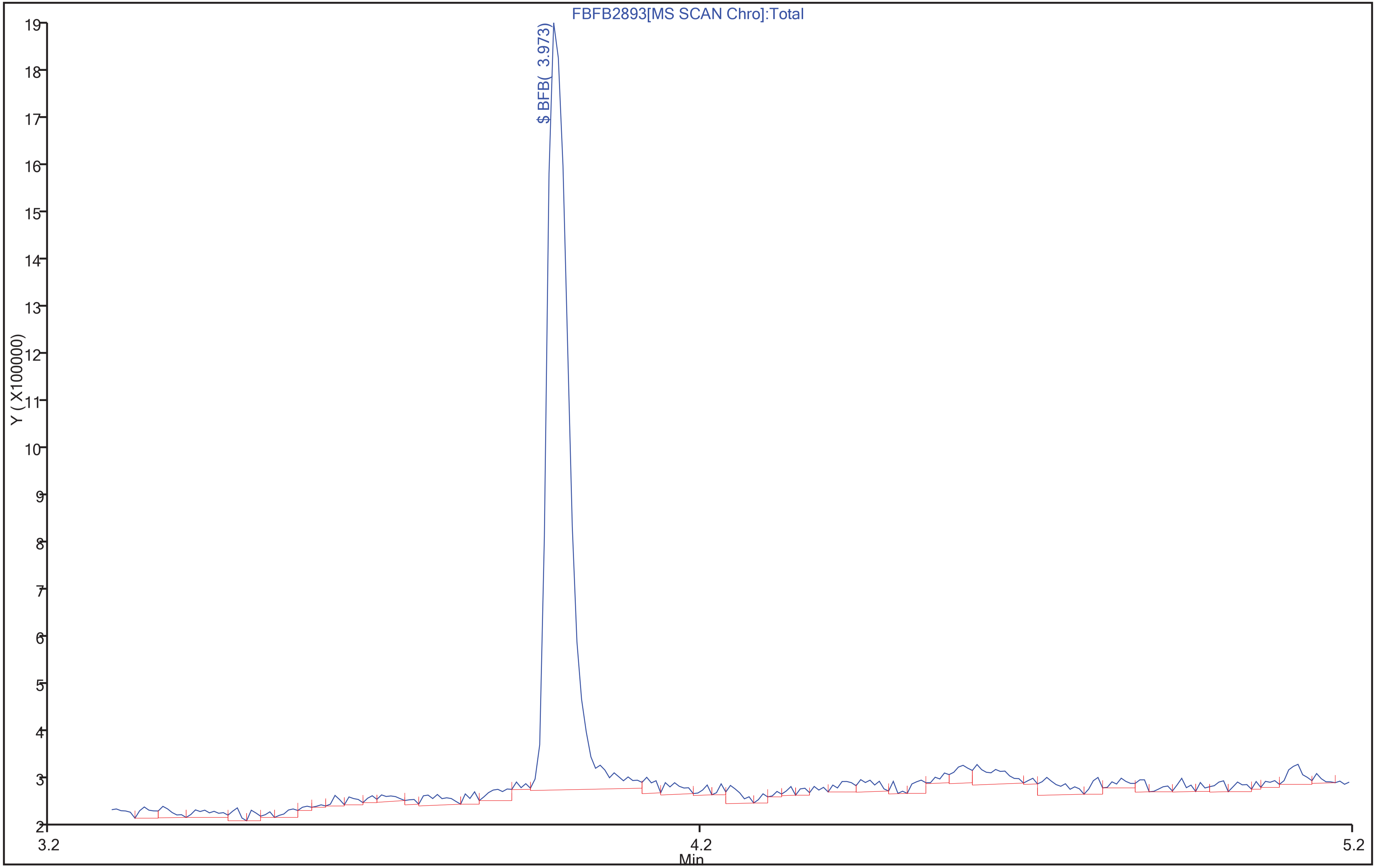
Report Date: 10-Oct-2017 16:46:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FBFB2893.D\5mL-8260_MSF.rslt\spectra.d
Injection Date: 09-Oct-2017 18:02:30
Spectrum: Tune Spec :Average 95-97(3.97-3.98) Bgrd 90(3.93)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 175

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	15010	139.00	55	209.00	629	310.00	120
78.00	1603	140.00	474	211.00	1407	327.00	437
79.00	7463	141.00	1839	215.00	877	329.00	510
80.00	3916	142.00	908	216.00	205	333.00	107
81.00	9338	143.00	1786	219.00	211	334.00	364
82.00	1168	144.00	125	220.00	638	336.00	181
83.00	523	146.00	109	224.00	159	337.00	112
84.00	314	147.00	610	225.00	215	341.00	164
86.00	166	148.00	320	231.00	309	342.00	249
87.00	12841	149.00	388	233.00	1145	345.00	109
88.00	10925	150.00	738	238.00	225		

Report Date: 10-Oct-2017 16:46:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FBFB2893.D				
Injection Date:	09-Oct-2017 18:02:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	BFB			Worklist Smp#:	3
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FBFB3031.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	16-Oct-2017 16:13:30	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Sample Info:	160-0011671-002				
Misc. Info.:	BFB				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	16-Oct-2017 19:34:33	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK011				
First Level Reviewer: hannj		Date:	16-Oct-2017 19:34:33		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 114 BFB	95	3.965	3.965	0.000	0	790791	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

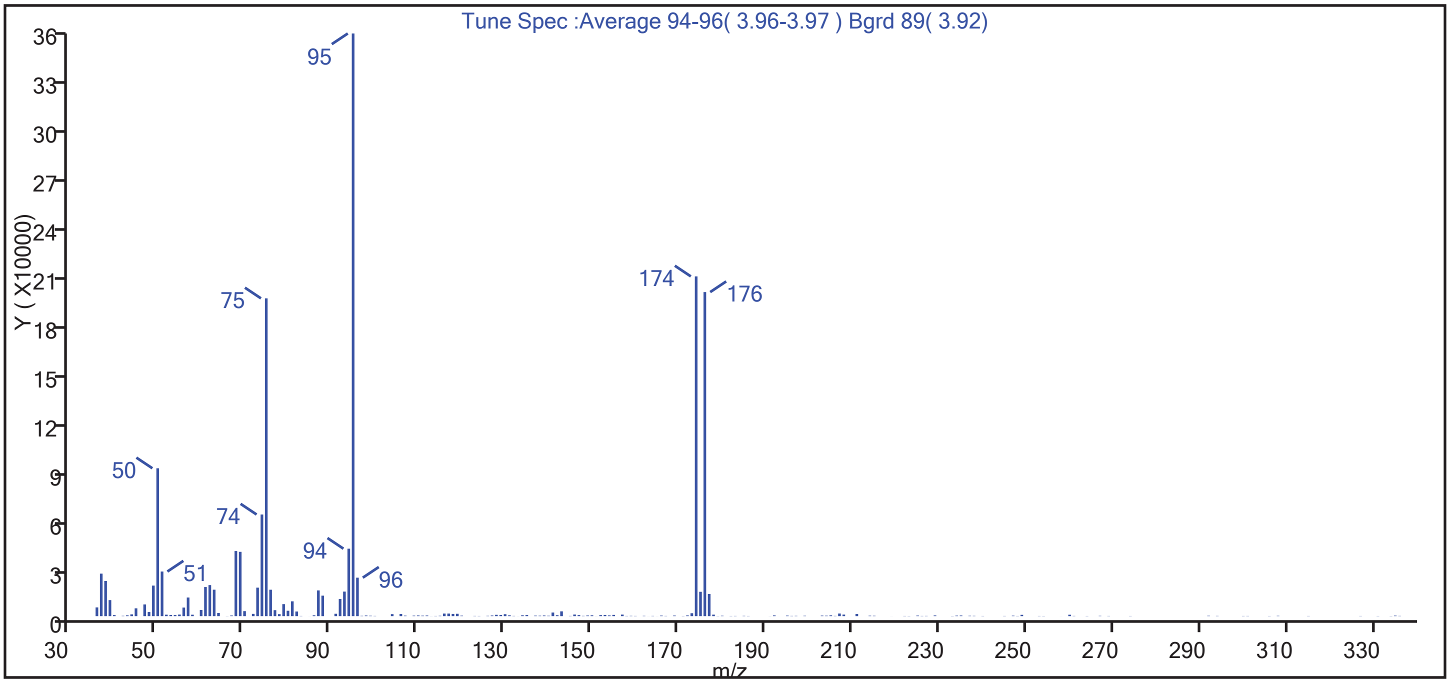
BFB_00075	Amount Added: 2.00	Units: uL

MS Tune Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FBFB3031.D				
Injection Date:	16-Oct-2017 16:13:30	Instrument ID:	VMSF		
Lims ID:	BFB				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		
Tune Method:	BFB Method 8260				

$ 114 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	25.4
75	30 to 60% of m/z 95	54.5
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	0.5 (0.9)
174	50 to 120% of m/z 95	58.3
175	5 to 9% of m/z 174	4.2 (7.2)
176	Greater than 95% but less than 101% of m/z 174	55.6 (95.4)
177	5 to 9% of m/z 176	3.8 (6.8)

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FBFB3031.D\5mL-8260_MSF.rslt\spectra.d
Injection Date: 16-Oct-2017 16:13:30
Spectrum: Tune Spec :Average 94-96(3.96-3.97) Bgrd 89(3.92)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 181

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	5275	88.00	12363	146.00	971	207.00	1576
37.00	25648	91.00	1430	147.00	632	208.00	945
38.00	21208	92.00	10337	148.00	170	211.00	1307
39.00	9674	93.00	14815	149.00	396	214.00	274
40.00	636	94.00	40704	150.00	516	215.00	231
42.00	201	95.00	351552	151.00	23	219.00	15
43.00	493	96.00	23208	152.00	619	222.00	111
44.00	1073	97.00	194	153.00	716	223.00	101
45.00	4723	98.00	393	154.00	452	225.00	351
47.00	7073	99.00	242	155.00	757	226.00	124
48.00	2484	100.00	134	157.00	937	227.00	140
49.00	18432	104.00	1213	158.00	119	229.00	443
50.00	89216	106.00	1311	159.00	182	233.00	98
51.00	26920	107.00	308	160.00	129	234.00	314
52.00	878	109.00	308	162.00	187	235.00	398
53.00	701	110.00	414	163.00	16	237.00	226
54.00	654	111.00	295	164.00	141	238.00	183
55.00	946	112.00	396	165.00	22	240.00	108
56.00	5175	113.00	31	166.00	333	245.00	120
57.00	11235	114.00	116	167.00	130	247.00	291
58.00	866	115.00	216	169.00	361	248.00	107
60.00	3711	116.00	1550	171.00	103	249.00	796
61.00	17560	117.00	1553	172.00	444	253.00	111
62.00	18728	118.00	1343	173.00	1764	254.00	101
63.00	15956	119.00	1422	174.00	204992	258.00	12
64.00	1926	120.00	299	175.00	14690	260.00	860
66.00	55	123.00	132	176.00	195520	261.00	138
67.00	399	124.00	111	177.00	13378	264.00	103
68.00	39280	126.00	189	178.00	907	267.00	197
69.00	38800	127.00	404	179.00	68	269.00	121
70.00	3015	128.00	798	180.00	246	274.00	107
72.00	1370	129.00	714	182.00	106	292.00	235
73.00	17192	130.00	1178	183.00	128	294.00	153

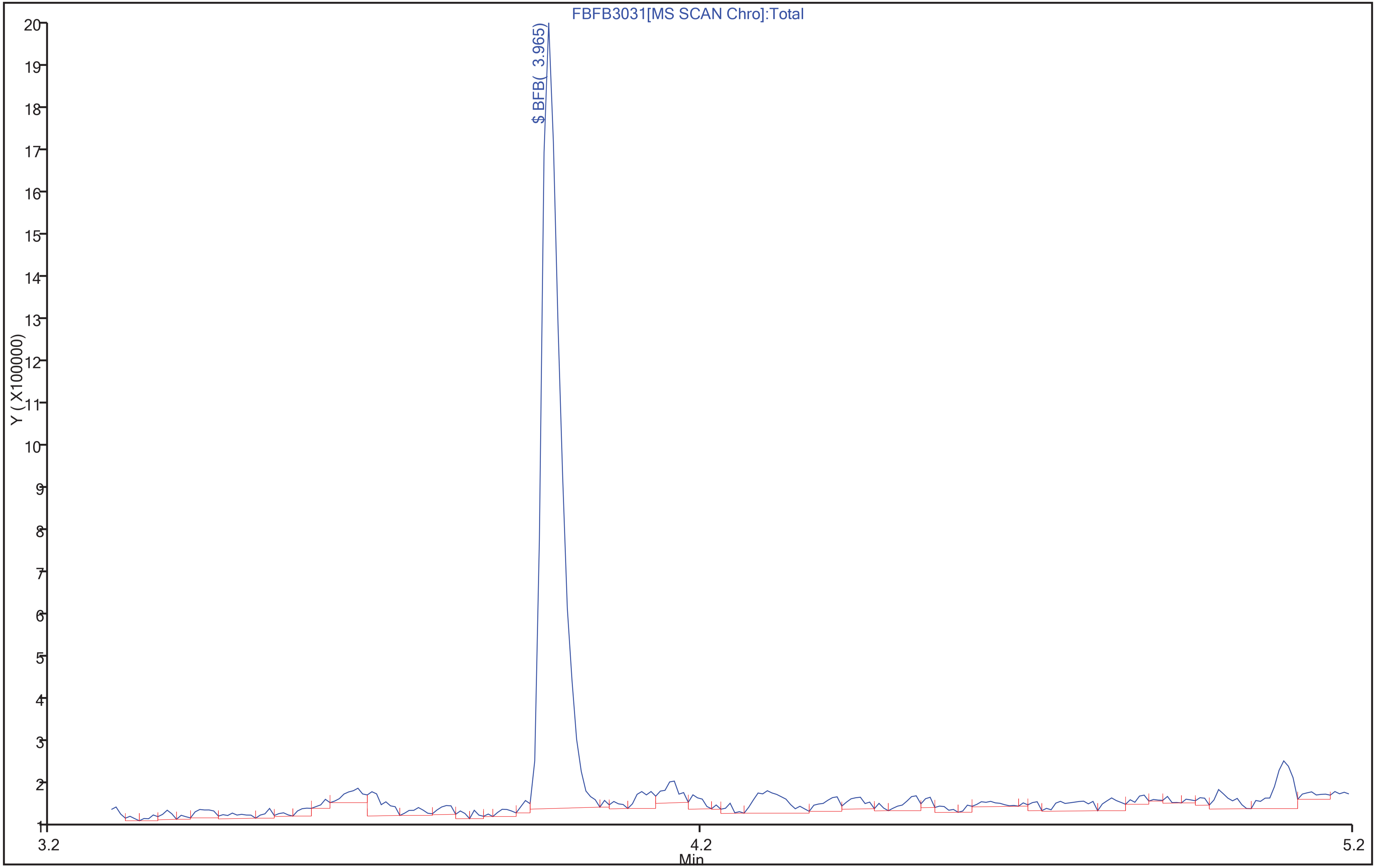
Report Date: 16-Oct-2017 19:34:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FBFB3031.D\5mL-8260_MSF.rslt\spectra.d
Injection Date: 16-Oct-2017 16:13:30
Spectrum: Tune Spec :Average 94-96(3.96-3.97) Bgrd 89(3.92)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 181

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	61320	131.00	514	185.00	177	300.00	116
75.00	191744	132.00	137	186.00	109	301.00	122
76.00	15939	133.00	24	191.00	33	306.00	105
77.00	3605	134.00	518	192.00	449	308.00	212
78.00	1209	135.00	655	193.00	3	315.00	114
79.00	7244	137.00	313	195.00	335	327.00	113
80.00	3254	138.00	267	196.00	143	331.00	100
81.00	8942	139.00	406	197.00	183	334.00	84
82.00	2794	140.00	236	199.00	232	335.00	320
83.00	119	141.00	2181	203.00	340	336.00	151
85.00	15	142.00	567	204.00	281		
86.00	513	143.00	2896	205.00	499		
87.00	15524	145.00	138	206.00	148		

Report Date: 16-Oct-2017 19:34:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FBFB3031.D				
Injection Date:	16-Oct-2017 16:13:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	BFB			Worklist Smp#:	2
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FBFB3057.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	17-Oct-2017 14:54:30	ALS Bottle#:	1	Worklist Smp#:	3
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Sample Info:	160-0011682-003				
Misc. Info.:	BFB				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	17-Oct-2017 20:06:09	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK029				
First Level Reviewer: hannj		Date:	17-Oct-2017 20:06:09		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 114 BFB	95	3.975	3.975	0.000	0	499678	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

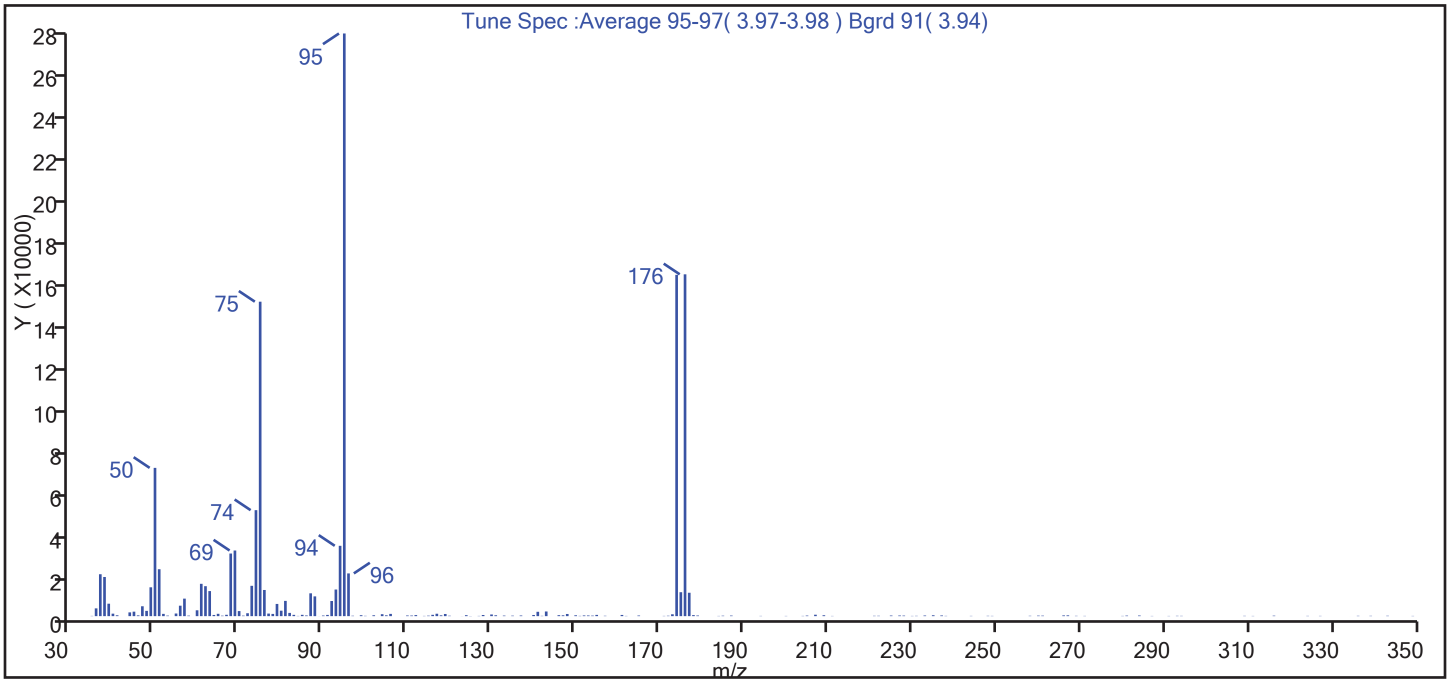
BFB_00075 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FBFB3057.D
Injection Date: 17-Oct-2017 14:54:30 Instrument ID: VMSF
Lims ID: BFB
Client ID:
Operator ID: JDH ALS Bottle#: 1 Worklist Smp#: 3
Injection Vol: 2.0 uL Dil. Factor: 1.0000
Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD
Tune Method: BFB Method 8260

$ 114 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	25.4
75	30 to 60% of m/z 95	54.0
96	5 to 9% of m/z 95	7.3
173	Less than 2% of m/z 174	0.3 (0.5)
174	50 to 120% of m/z 95	58.6
175	5 to 9% of m/z 174	4.1 (7.0)
176	Greater than 95% but less than 101% of m/z 174	58.7 (100.2)
177	5 to 9% of m/z 176	4.0 (6.8)

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FBFB3057.D\5mL-8260_MSF.rslt\spectra.d
Injection Date: 17-Oct-2017 14:54:30
Spectrum: Tune Spec :Average 95-97(3.97-3.98) Bgrd 91(3.94)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 159

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	116	79.00	5796	130.00	795	211.00	104
36.00	3694	80.00	2592	131.00	417	221.00	163
37.00	19896	81.00	7243	133.00	265	222.00	173
38.00	18584	82.00	1541	135.00	231	225.00	291
39.00	5907	83.00	616	137.00	311	227.00	300
40.00	1181	84.00	110	140.00	556	228.00	261
41.00	412	85.00	625	141.00	2066	230.00	113
44.00	1786	86.00	330	142.00	147	231.00	147
45.00	2128	87.00	10839	143.00	2216	233.00	307
46.00	370	88.00	9384	146.00	458	235.00	417
47.00	4692	89.00	18	147.00	394	237.00	328
48.00	2502	90.00	295	148.00	1029	238.00	128
49.00	13693	91.00	582	150.00	412	244.00	122
50.00	70376	92.00	7186	151.00	126	248.00	156
51.00	22272	93.00	12634	152.00	338	249.00	122
52.00	1080	94.00	33384	153.00	318	258.00	169
53.00	251	95.00	276544	154.00	256	260.00	252
55.00	1252	96.00	20280	155.00	591	261.00	239
56.00	4961	97.00	191	157.00	173	266.00	350
57.00	8315	99.00	442	161.00	571	267.00	375
58.00	244	100.00	143	162.00	105	269.00	151
60.00	2783	102.00	416	165.00	300	271.00	117
61.00	15345	104.00	922	171.00	115	280.00	117
62.00	14220	105.00	394	172.00	194	281.00	259
63.00	11895	106.00	1070	173.00	886	284.00	298
64.00	563	110.00	315	174.00	161984	287.00	100
65.00	1110	111.00	290	175.00	11363	291.00	102
66.00	223	112.00	508	176.00	162240	293.00	156
67.00	645	114.00	116	177.00	11106	294.00	136
68.00	29720	115.00	228	178.00	492	309.00	143
69.00	31152	116.00	635	179.00	303	311.00	106
70.00	2406	117.00	1144	184.00	105	316.00	229
71.00	240	118.00	388	185.00	210	324.00	128

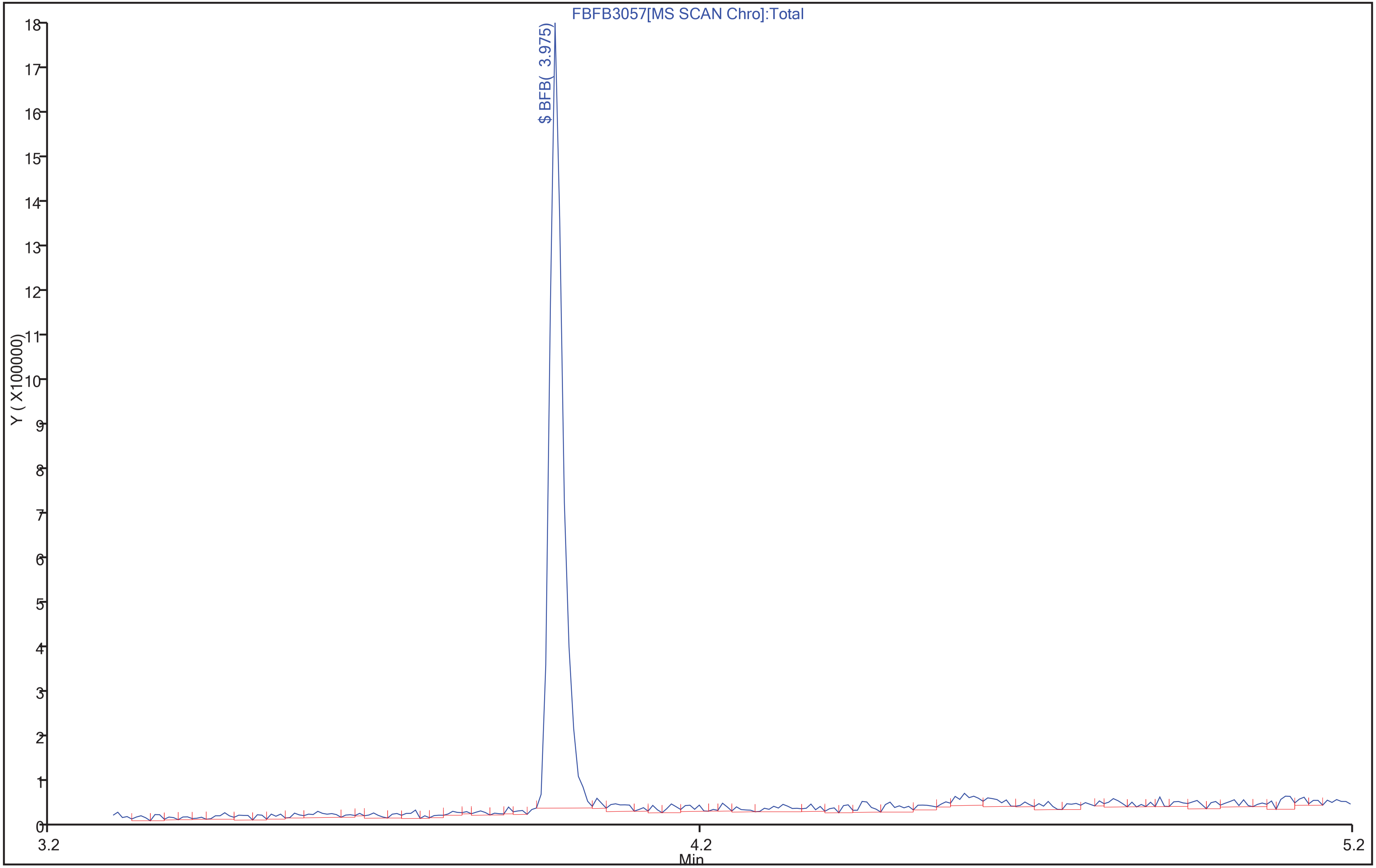
Report Date: 17-Oct-2017 20:06:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FBFB3057.D\5mL-8260_MSF.rslt\spectra.d
Injection Date: 17-Oct-2017 14:54:30
Spectrum: Tune Spec :Average 95-97(3.97-3.98) Bgrd 91(3.94)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 159

m/z	Y	m/z	Y	m/z	Y	m/z	Y
72.00	1385	119.00	1027	187.00	270	327.00	120
73.00	14395	120.00	191	194.00	114	334.00	3
74.00	50304	123.00	24	200.00	106	336.00	153
75.00	149248	124.00	456	204.00	117	339.00	151
76.00	12420	125.00	73	205.00	278	343.00	180
77.00	1219	127.00	114	207.00	678	349.00	111
78.00	1059	128.00	545	209.00	424		

Report Date: 17-Oct-2017 20:06:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FBFB3057.D				
Injection Date:	17-Oct-2017 14:54:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	BFB			Worklist Smp#:	3
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XBFB8773.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	14-Sep-2017 22:23:30	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Sample Info:	160-0011418-002				
Misc. Info.:	BFB				
Operator ID:	JDH	Instrument ID:	VMSX		
Method:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	18-Sep-2017 16:30:36	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK014				
First Level Reviewer: hannj		Date:	18-Sep-2017 16:30:36		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 114 BFB	95	3.942	3.942	0.000	0	171929	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

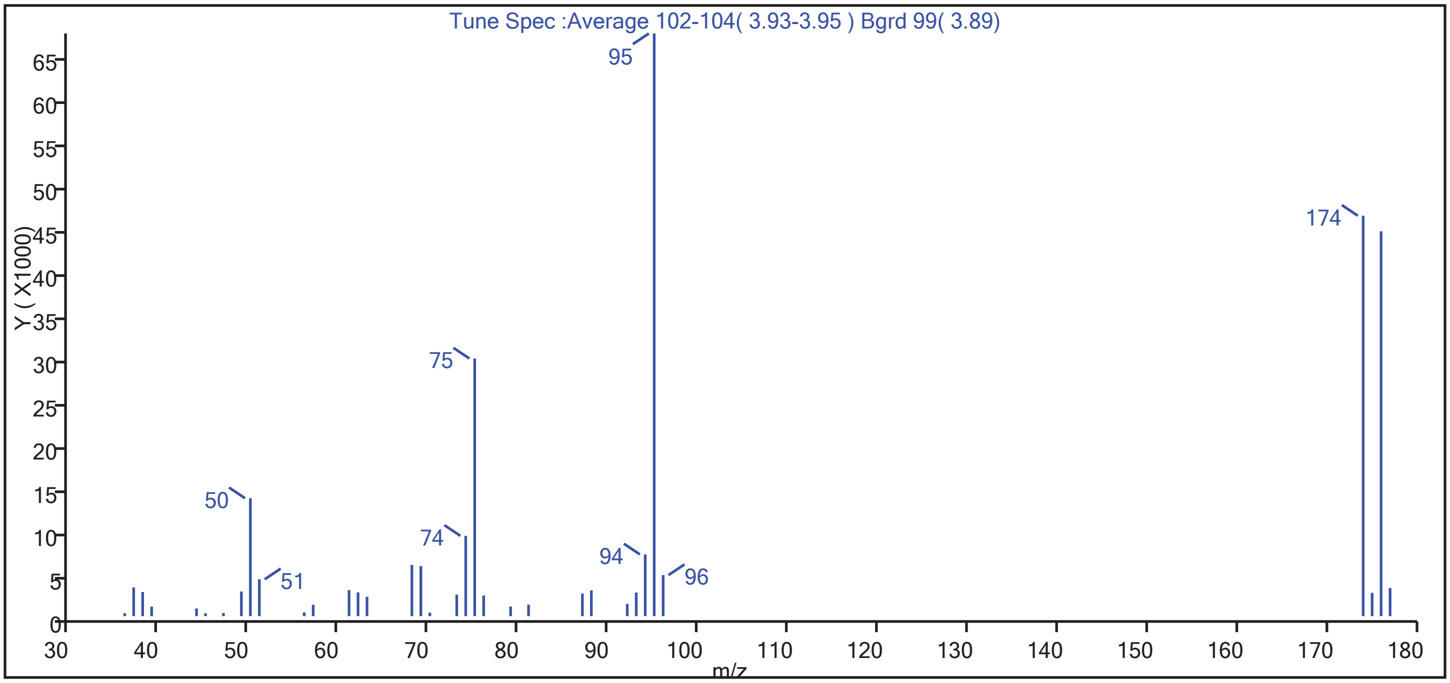
BFB_00074 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XBFB8773.D				
Injection Date:	14-Sep-2017 22:23:30	Instrument ID:	VMSX		
Lims ID:	BFB				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		
Tune Method:	BFB Method 8260				

$ 114 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	20.2
75	30 to 60% of m/z 95	44.2
96	5 to 9% of m/z 95	7.0
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	68.7
175	5 to 9% of m/z 174	4.0 (5.8)
176	Greater than 95% but less than 101% of m/z 174	66.0 (96.1)
177	5 to 9% of m/z 176	4.8 (7.3)

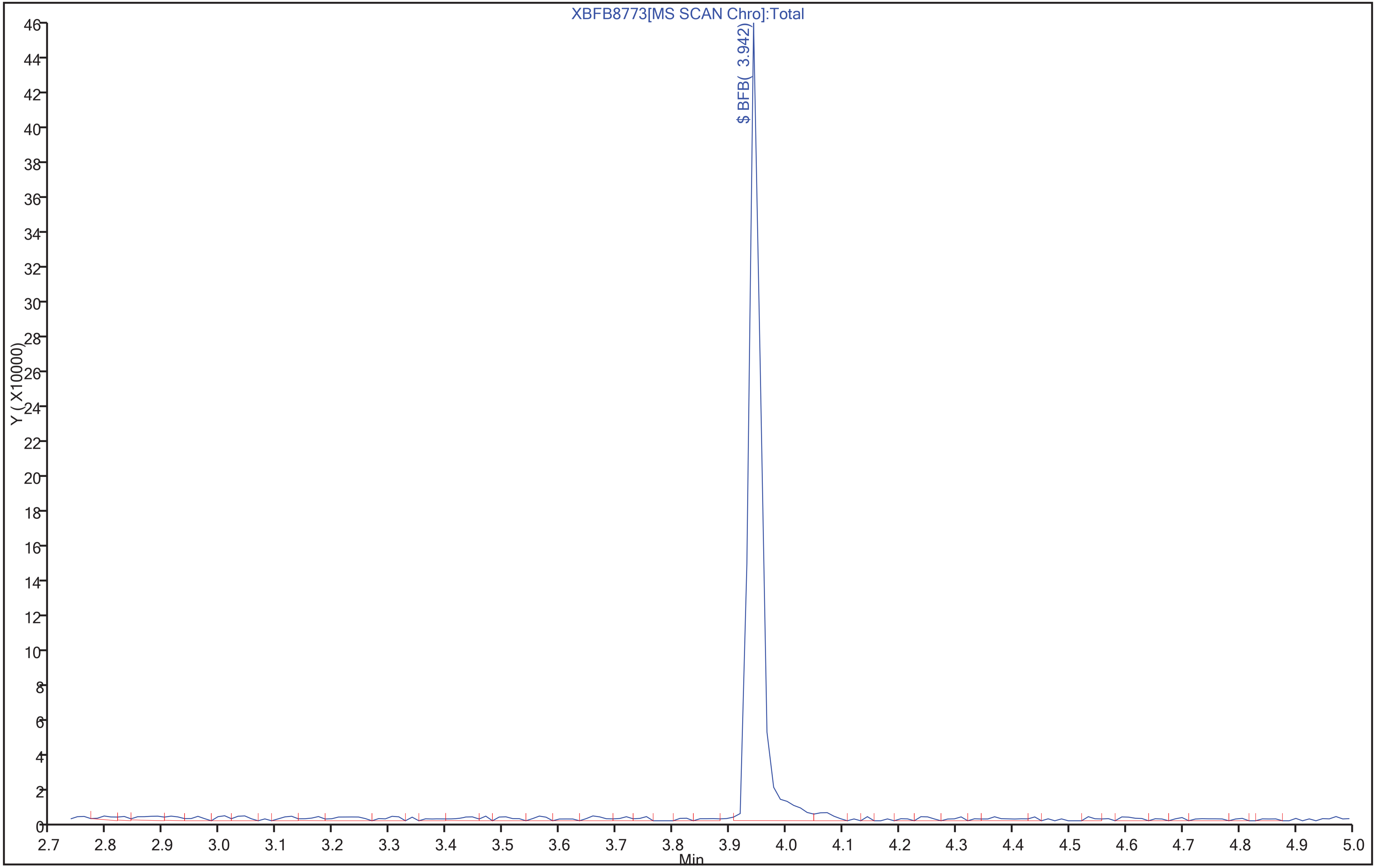
Data File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XBFB8773.D\5mL-8260-MSX.rslt\spectra.d
Injection Date: 14-Sep-2017 22:23:30
Spectrum: Tune Spec :Average 102-104(3.93-3.95) Bgrd 99(3.89)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 35

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	346	51.00	4292	73.00	2497	93.00	2751
37.00	3346	56.00	435	74.00	9356	94.00	7191
38.00	2807	57.00	1316	75.00	30016	95.00	67880
39.00	1110	61.00	3033	76.00	2405	96.00	4783
44.00	890	62.00	2767	79.00	1120	174.00	46648
45.00	335	63.00	2256	81.00	1337	175.00	2716
47.00	373	68.00	5964	87.00	2635	176.00	44832
49.00	2865	69.00	5825	88.00	3012	177.00	3273
50.00	13739	70.00	405	92.00	1423		

Report Date: 18-Sep-2017 16:30:37 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XBFB8773.D				
Injection Date:	14-Sep-2017 22:23:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	BFB			Worklist Smp#:	2
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XBFB9243.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	17-Oct-2017 14:42:30	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Sample Info:	160-0011681-002				
Misc. Info.:	BFB				
Operator ID:	JDH	Instrument ID:	VMSX		

Method:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m		
Limit Group:	MSV-8260_DoD		
Last Update:	18-Oct-2017 15:40:59	Calib Date:	15-Sep-2017 01:49:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK006

First Level Reviewer: hannj Date: 18-Oct-2017 15:40:58

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 114 BFB	95	3.942	3.942	0.000	0	153792	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

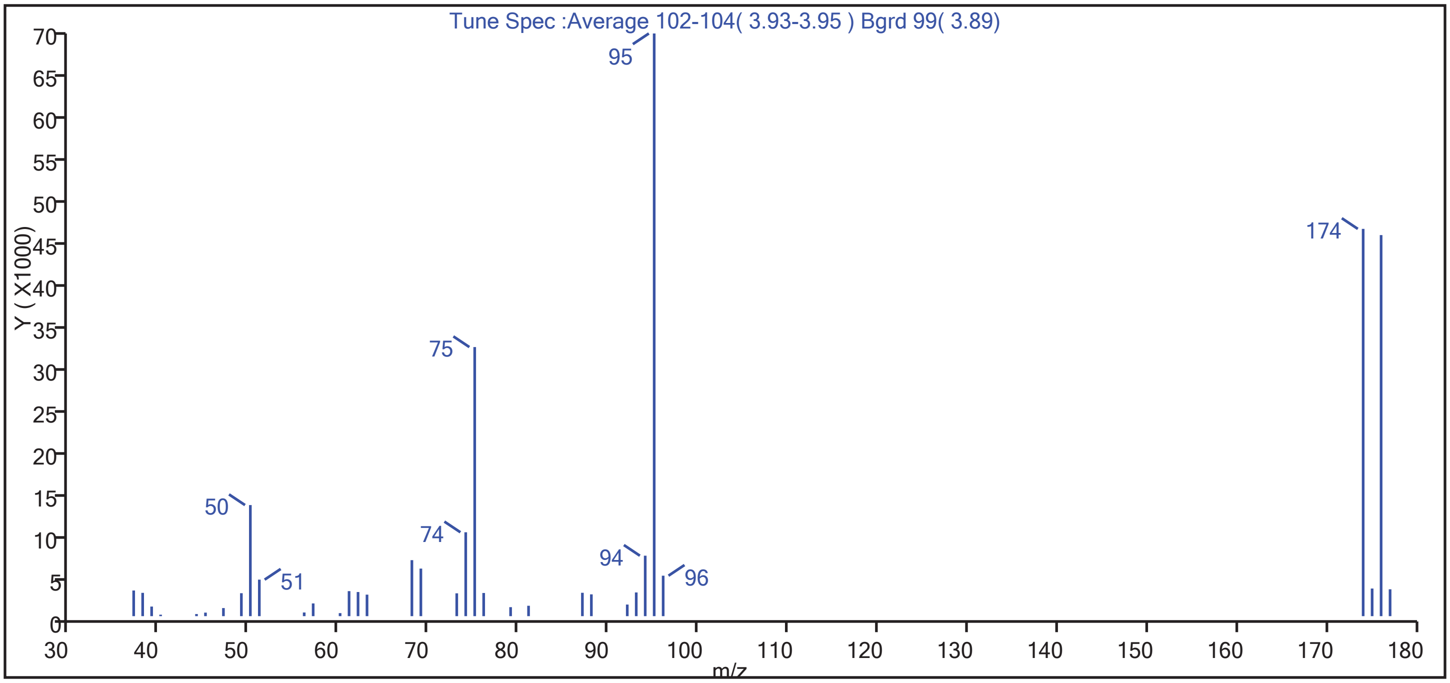
BFB_00075 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XBFB9243.D				
Injection Date:	17-Oct-2017 14:42:30	Instrument ID:	VMSX		
Lims ID:	BFB				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		
Tune Method:	BFB Method 8260				

$ 114 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	19.1
75	30 to 60% of m/z 95	46.2
96	5 to 9% of m/z 95	6.9
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	66.5
175	5 to 9% of m/z 174	4.7 (7.1)
176	Greater than 95% but less than 101% of m/z 174	65.4 (98.4)
177	5 to 9% of m/z 176	4.6 (7.0)

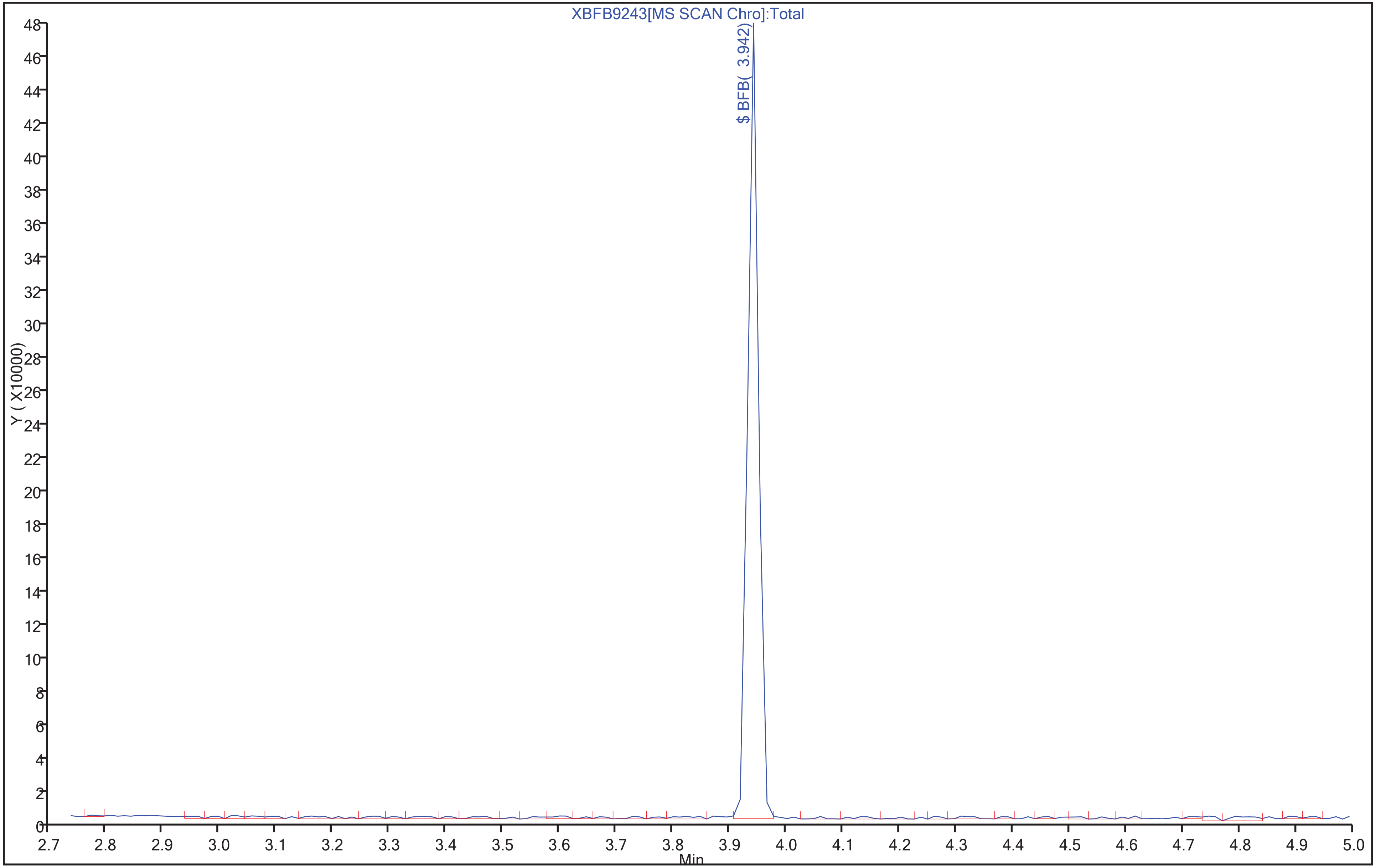
Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XBFB9243.D\5mL-8260-MSX.rslt\spectra.d
Injection Date: 17-Oct-2017 14:42:30
Spectrum: Tune Spec :Average 102-104(3.93-3.95) Bgrd 99(3.89)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 35

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	3074	51.00	4377	73.00	2736	93.00	2841
38.00	2793	56.00	439	74.00	10055	94.00	7246
39.00	1149	57.00	1525	75.00	32256	95.00	69848
40.00	174	60.00	363	76.00	2777	96.00	4849
44.00	253	61.00	2999	79.00	1078	174.00	46424
45.00	423	62.00	2892	81.00	1245	175.00	3310
47.00	969	63.00	2577	87.00	2801	176.00	45680
49.00	2751	68.00	6712	88.00	2612	177.00	3220
50.00	13316	69.00	5700	92.00	1389		

Report Date: 18-Oct-2017 15:40:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XBFB9243.D				
Injection Date:	17-Oct-2017 14:42:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	BFB			Worklist Smp#:	2
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XBFB9322.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	19-Oct-2017 15:41:30	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Sample Info:	160-0011712-002				
Misc. Info.:	BFB				
Operator ID:	JDH	Instrument ID:	VMSX		
Method:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	22-Oct-2017 17:19:39	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK003				

First Level Reviewer: hannj Date: 22-Oct-2017 17:19:39

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 114 BFB	95	3.942	3.942	0.000	0	167149	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

BFB_00075	Amount Added: 2.00	Units: uL

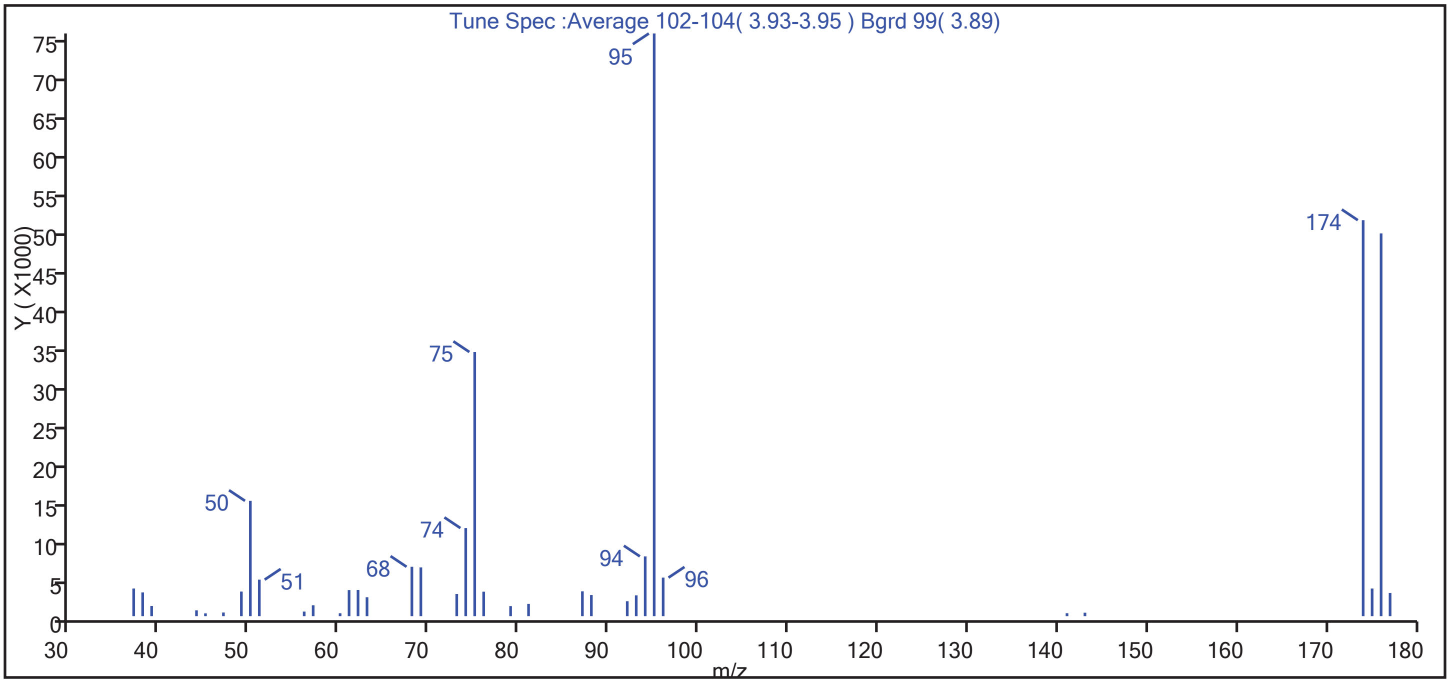
Report Date: 22-Oct-2017 17:19:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

MS Tune Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XBFB9322.D				
Injection Date:	19-Oct-2017 15:41:30	Instrument ID:	VMSX		
Lims ID:	BFB				
Client ID:					
Operator ID:	JDH	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 uL	Dil. Factor:	1.0000		
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		
Tune Method:	BFB Method 8260				

$ 114 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	19.8
75	30 to 60% of m/z 95	45.3
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	68.0
175	5 to 9% of m/z 174	4.7 (7.0)
176	Greater than 95% but less than 101% of m/z 174	65.7 (96.7)
177	5 to 9% of m/z 176	4.0 (6.1)

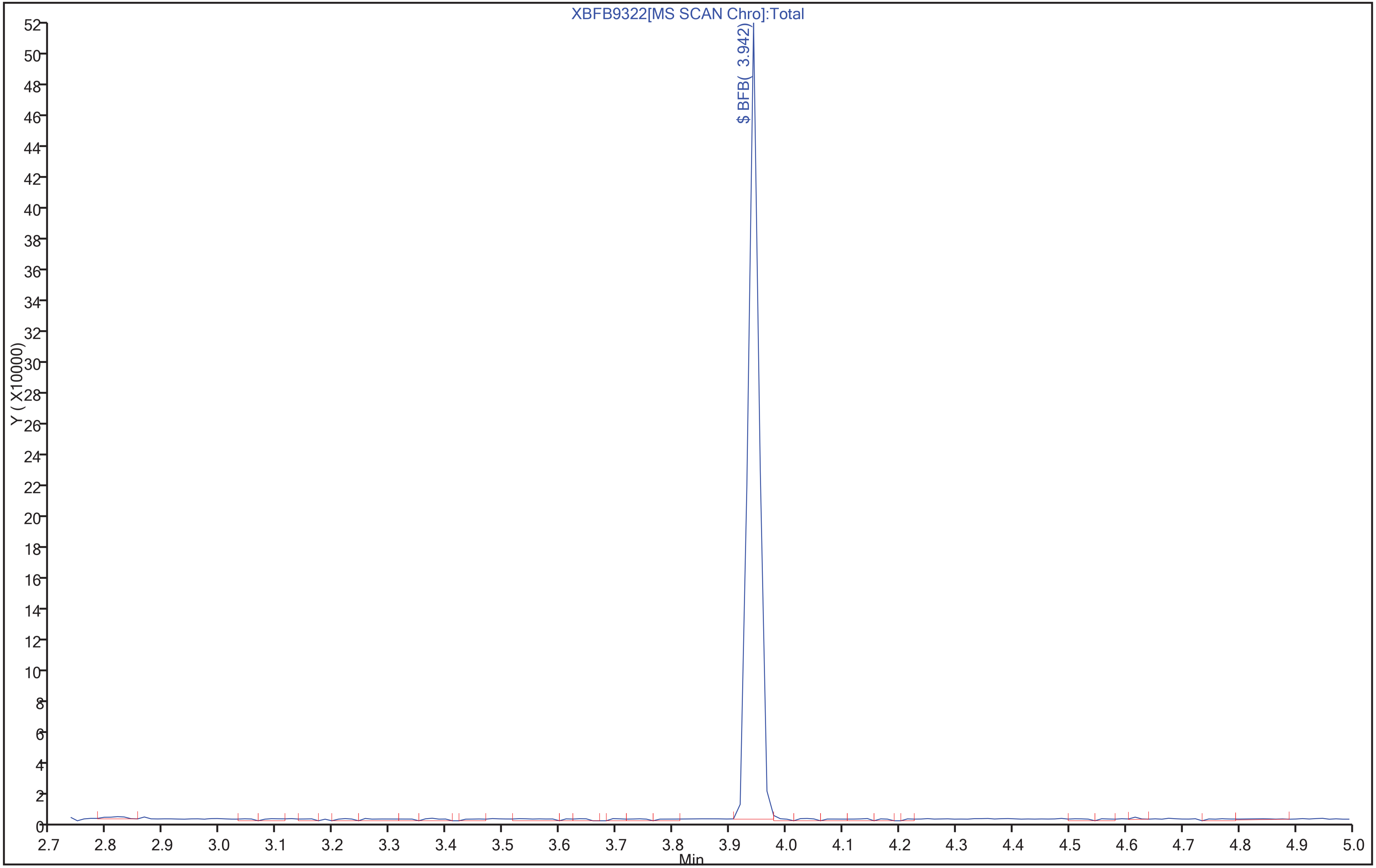
Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XBFB9322.D\5mL-8260-MSX.rslt\spectra.d
Injection Date: 19-Oct-2017 15:41:30
Spectrum: Tune Spec :Average 102-104(3.93-3.95) Bgrd 99(3.89)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 36

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	3556	56.00	588	74.00	11343	94.00	7695
38.00	3058	57.00	1404	75.00	34016	95.00	75032
39.00	1306	60.00	375	76.00	3149	96.00	4960
44.00	751	61.00	3356	79.00	1292	141.00	379
45.00	361	62.00	3370	81.00	1576	143.00	441
47.00	469	63.00	2437	87.00	3199	174.00	50992
49.00	3165	68.00	6356	88.00	2718	175.00	3558
50.00	14845	69.00	6278	92.00	1924	176.00	49288
51.00	4698	73.00	2852	93.00	2680	177.00	2983

Report Date: 22-Oct-2017 17:19:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XBFB9322.D				
Injection Date:	19-Oct-2017 15:41:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	BFB			Worklist Smp#:	2
Client ID:					
Injection Vol:	2.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID:

Lab Sample ID: MB 160-331094/8

Matrix: Water

Lab File ID: FBLK2898.D

Analysis Method: 8260C DOD

Date Collected:

Sample wt/vol: 5(mL)

Date Analyzed: 10/09/2017 21:05

Soil Aliquot Vol:

Dilution Factor: 1

Soil Extract Vol.:

GC Column: RTX-VMS40 ID: 0.18(mm)

% Moisture:

Level: (low/med) Low

Analysis Batch No.: 331094

Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.0	U	5.0	1.0	0.29
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	5.0	2.0	0.43
79-00-5	1,1,2-Trichloroethane	1.0	U	5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	1.0	U	5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	1.0	U	5.0	1.0	0.37
95-50-1	1,2-Dichlorobenzene	2.0	U	5.0	2.0	0.28
107-06-2	1,2-Dichloroethane	1.0	U	5.0	1.0	0.37
78-87-5	1,2-Dichloropropane	1.0	U	5.0	1.0	0.32
106-46-7	1,4-Dichlorobenzene	2.0	U	5.0	2.0	0.35
71-43-2	Benzene	1.0	U	5.0	1.0	0.25
75-27-4	Bromodichloromethane	2.0	U	5.0	2.0	0.25
75-25-2	Bromoform	1.0	U	5.0	1.0	0.37
56-23-5	Carbon tetrachloride	1.0	U	5.0	1.0	0.36
124-48-1	Chlorodibromomethane	1.0	U	5.0	1.0	0.33
67-66-3	Chloroform	1.0	U	5.0	1.0	0.15
74-87-3	Chloromethane	2.0	U	10	2.0	0.55
156-59-2	cis-1,2-Dichloroethene	1.0	U	5.0	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	1.0	U	5.0	1.0	0.34
100-41-4	Ethylbenzene	1.0	U	5.0	1.0	0.30
75-09-2	Methylene Chloride	5.0	U	7.5	5.0	1.7
127-18-4	Tetrachloroethene	1.0	U	5.0	1.0	0.28
108-88-3	Toluene	1.0	U	5.0	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	1.0	U	5.0	1.0	0.18
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0	0.35
79-01-6	Trichloroethene	1.0	U	5.0	1.0	0.29
75-01-4	Vinyl chloride	1.0	U	5.0	1.0	0.43
1330-20-7	Xylenes, Total	5.0	U	10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		81-118
460-00-4	4-Bromofluorobenzene (Surr)	107		85-114
1868-53-7	Dibromofluoromethane (Surr)	96		80-119
2037-26-5	Toluene-d8 (Surr)	104		89-112

Report Date: 12-Oct-2017 15:57:37 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FBLK2898.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 09-Oct-2017 21:05:30 ALS Bottle#: 5 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-008
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 12-Oct-2017 15:57:36 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK018

First Level Reviewer: hannj Date: 12-Oct-2017 15:57:36

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85		2.949					ND	
2 1,2-Dichloro-1,1,2,2-tetra	135		3.162					ND	
3 Chloromethane	50		3.268					ND	
122 Butadiene	39		3.399					ND	
4 Vinyl chloride	62		3.399					ND	
5 Bromomethane	94		3.896					ND	
6 Chloroethane	64		4.073					ND	
7 Trichlorofluoromethane	101		4.310					ND	
123 Dichlorofluoromethane	67		4.393					ND	
8 Ethyl ether	74		4.759					ND	
11 Ethanol	45		4.984					ND	
9 1,1-Dichloroethene	96		5.091					ND	
10 Carbon disulfide	76		5.150					ND	
12 1,1,2-Trichloro-1,2,2-trif	151		5.185					ND	
13 Iodomethane	142		5.327					ND	
14 Acrolein	56		5.623					ND	
15 3-Chloro-1-propene	39		5.813					ND	
S 26 1,2-Dichloroethene, Total	96		5.816					ND	
16 Isopropyl alcohol	45		5.824					ND	
17 Methylene Chloride	84		5.966					ND	
18 Acetone	43		6.061					ND	
19 trans-1,2-Dichloroethene	96		6.203					ND	
20 Methyl acetate	74		6.215					ND	
21 Hexane	86		6.310					ND	
22 Methyl tert-butyl ether	73		6.357					ND	
23 2-Methyl-2-propanol	59		6.463					ND	
24 Acetonitrile	41		6.724					ND	
25 Isopropyl ether	45		6.866					ND	
27 2-Chloro-1,3-butadiene	53		7.031					ND	
28 1,1-Dichloroethane	63		7.067					ND	
29 Acrylonitrile	53		7.150					ND	
30 Tert-butyl ethyl ether	59		7.351					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43		7.374					ND	
32 cis-1,2-Dichloroethene	96		7.777					ND	
33 2,2-Dichloropropane	77		7.919					ND	
35 Chlorobromomethane	128		8.025					ND	
34 Cyclohexane	84		8.037					ND	
36 Chloroform	83		8.096					ND	
39 Ethyl acetate	45		8.238					ND	
37 Carbon tetrachloride	117		8.297					ND	
38 Tetrahydrofuran	71		8.321					ND	
$ 41 Dibromofluoromethane (Surr	113	8.334	8.333	0.001	92	437720	50.0	47.9	
40 1,1,1-Trichloroethane	97		8.380					ND	
43 2-Butanone (MEK)	43		8.499					ND	
42 1,1-Dichloropropene	75		8.534					ND	
125 Isooctane	57		8.652					ND	
117 n-Heptane	43		8.747					ND	
44 Benzene	78		8.842					ND	
45 Propionitrile	54		8.877					ND	
46 Methacrylonitrile	41		8.901					ND	
48 Tert-amyl methyl ether	73		8.948					ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.009	9.007	0.002	92	556791	50.0	47.3	
50 Isobutyl alcohol	42		9.019					ND	
49 1,2-Dichloroethane	62		9.090					ND	
118 1,4-Difluorobenzene	114		9.130					ND	
* 51 Fluorobenzene	96	9.328	9.327	0.001	97	1926099	50.0	50.0	
53 Trichloroethene	95		9.516					ND	
52 Methylcyclohexane	55		9.516					ND	
54 n-Butanol	56		9.812					ND	
55 Dibromomethane	93		9.990					ND	
124 Ethyl acrylate	55		10.061					ND	
56 1,2-Dichloropropane	63		10.096					ND	
57 Dichlorobromomethane	83		10.143					ND	
128 2-Pentanone	43		10.253					ND	
58 Methyl methacrylate	69		10.273					ND	
59 1,4-Dioxane	88		10.356					ND	
60 2-Chloroethyl vinyl ether	63		10.688					ND	
61 cis-1,3-Dichloropropene	75		10.770					ND	
$ 62 Toluene-d8 (Surr)	98	10.949	10.948	0.001	95	1595294	50.0	51.9	
63 Toluene	92		10.995					ND	
64 2-Nitropropane	43		11.220					ND	
66 4-Methyl-2-pentanone (MIBK	43		11.327					ND	
67 trans-1,3-Dichloropropene	75		11.362					ND	
65 Tetrachloroethene	164		11.362					ND	
119 n-Butyl acetate	43		11.409					ND	
69 Ethyl methacrylate	69		11.469					ND	
68 1,1,2-Trichloroethane	83		11.516					ND	
S 73 1,3-Dichloropropene, Total	75		11.620					ND	
70 Chlorodibromomethane	129		11.682					ND	
71 1,3-Dichloropropane	76		11.764					ND	
72 Ethylene Dibromide	107		11.906					ND	
74 2-Hexanone	43		12.037					ND	
75 1-Chlorohexane	91		12.273					ND	
* 76 Chlorobenzene-d5	117	12.322	12.321	0.001	91	1100592	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
77 Chlorobenzene	112		12.332					ND	
78 Ethylbenzene	91		12.332					ND	
79 1,1,1,2-Tetrachloroethane	131		12.380					ND	
80 m-Xylene & p-Xylene	106		12.439					ND	
82 o-Xylene	106		12.794					ND	
83 Styrene	104		12.829					ND	
84 Bromoform	173		12.889					ND	
85 Isopropylbenzene	105		13.031					ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.269	13.267	0.002	79	619643	50.0	53.4	
88 N-Propylbenzene	91		13.350					ND	
87 Bromobenzene	156		13.374					ND	
89 1,1,2,2-Tetrachloroethane	83		13.397					ND	
91 1,3,5-Trimethylbenzene	105		13.480					ND	
90 2-Chlorotoluene	91		13.492					ND	
92 1,2,3-Trichloropropane	110		13.528					ND	
93 trans-1,4-Dichloro-2-buten	53		13.528					ND	
94 Cyclohexanone	55		13.587					ND	
95 4-Chlorotoluene	91		13.610					ND	
81 Pentachloroethane	167		13.636					ND	
96 tert-Butylbenzene	119		13.729					ND	
97 1,2,4-Trimethylbenzene	105		13.776					ND	
98 sec-Butylbenzene	105		13.859					ND	
99 4-Isopropyltoluene	119		13.942					ND	
100 1,3-Dichlorobenzene	146		14.060					ND	
* 101 1,4-Dichlorobenzene-d4	152	14.109	14.107	0.002	98	637785	50.0	50.0	
102 1,4-Dichlorobenzene	146		14.119					ND	
103 n-Butylbenzene	134		14.261					ND	
121 Benzyl chloride	126		14.285					ND	
104 1,2-Dichlorobenzene	146		14.427					ND	
106 n-Nonyl Aldehyde	57		14.947					ND	
105 1,2-Dibromo-3-Chloropropan	157		15.030					ND	
107 1,3,5-Trichlorobenzene	180		15.042					ND	
108 Hexachlorobutadiene	225		15.504					ND	
109 1,2,4-Trichlorobenzene	180		15.563					ND	
110 Naphthalene	128		15.870					ND	
111 1,2,3-Trichlorobenzene	180		16.036					ND	
S 112 Xylenes, Total	106		16.500					ND	
127 2-Methylpentane	1		0.000					ND	
S 113 Trihalomethanes, Total	1		0.000					ND	
126 C6-C12	1		0.000					ND	

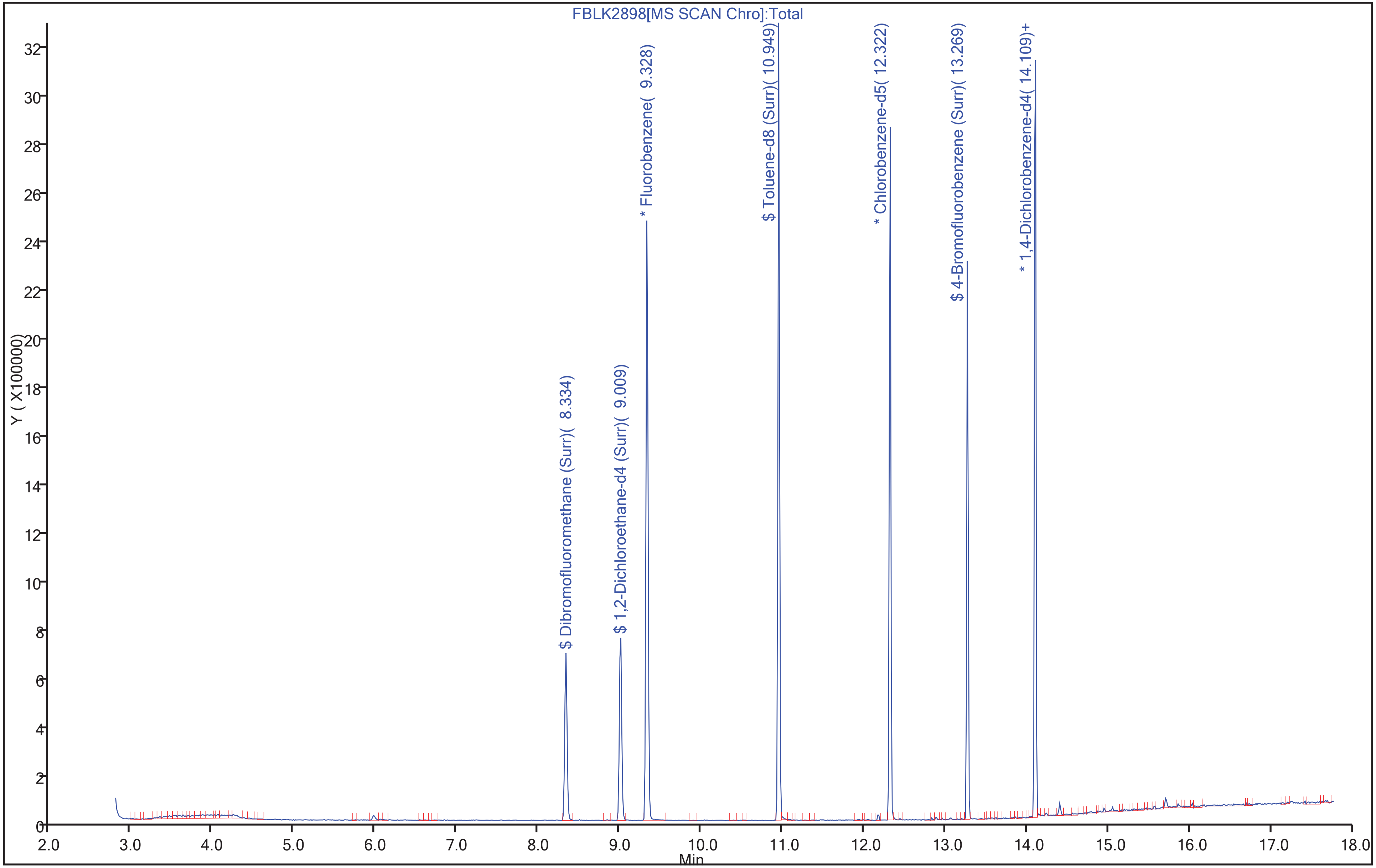
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 12-Oct-2017 15:57:38 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FBLK2898.D				
Injection Date:	09-Oct-2017 21:05:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	MB			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FBLK2898.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 09-Oct-2017 21:05:30 ALS Bottle#: 5 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-008
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 12-Oct-2017 15:57:36 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK018

First Level Reviewer: hannj Date: 12-Oct-2017 15:57:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	47.9	95.80
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	47.3	94.54
$ 62 Toluene-d8 (Surr)	50.0	51.9	103.85
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.4	106.87

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: MB 160-332159/1-A
Matrix: Solid	Lab File ID: FBLK3036.D
Analysis Method: 8260C DOD	Date Collected:
Sample wt/vol: 5.00(g)	Date Analyzed: 10/16/2017 18:33
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 332154	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.0	U	5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	1.0	U	5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	1.0	U	5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	5.0	U	5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	1.0	U	5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	1.0	U	5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	1.0	U	5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	1.0	U	5.0	1.0	0.60
71-43-2	Benzene	1.0	U	5.0	1.0	0.25
75-27-4	Bromodichloromethane	1.0	U	5.0	1.0	0.25
75-25-2	Bromoform	1.0	U	5.0	1.0	0.37
56-23-5	Carbon tetrachloride	1.0	U	5.0	1.0	0.51
124-48-1	Chlorodibromomethane	1.0	U	5.0	1.0	0.41
67-66-3	Chloroform	1.0	U	5.0	1.0	0.38
74-87-3	Chloromethane	5.0	U	10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	1.0	U	5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	1.0	U	5.0	1.0	0.60
100-41-4	Ethylbenzene	1.0	U	5.0	1.0	0.30
75-09-2	Methylene Chloride	5.0	U	10	5.0	1.6
127-18-4	Tetrachloroethene	1.0	U	5.0	1.0	0.32
108-88-3	Toluene	1.0	U	5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	1.0	U	5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0	0.35
79-01-6	Trichloroethene	1.0	U	5.0	1.0	0.39
75-01-4	Vinyl chloride	1.0	U	10	1.0	0.43
1330-20-7	Xylenes, Total	5.0	U	10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		71-136
460-00-4	4-Bromofluorobenzene (Surr)	113		79-119
1868-53-7	Dibromofluoromethane (Surr)	100		78-119
2037-26-5	Toluene-d8 (Surr)	108		85-116

FORM I 8260C DOD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FBLK3036.D
Lims ID: MB 160-332159/1-A
Client ID:
Sample Type: MB
Inject. Date: 16-Oct-2017 18:33:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-007
Misc. Info.: MB 160-332159/1-A
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:11:00 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:11:00

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85		2.936					ND	
2 1,2-Dichloro-1,1,2,2-tetra	135		3.161					ND	
3 Chloromethane	50		3.256					ND	
122 Butadiene	39		3.386					ND	
4 Vinyl chloride	62		3.398					ND	
5 Bromomethane	94		3.895					ND	
6 Chloroethane	64		4.072					ND	
7 Trichlorofluoromethane	101		4.262					ND	
123 Dichlorofluoromethane	67		4.380					ND	
8 Ethyl ether	74		4.759					ND	
11 Ethanol	45		4.972					ND	
9 1,1-Dichloroethene	96		5.090					ND	
10 Carbon disulfide	76		5.149					ND	
12 1,1,2-Trichloro-1,2,2-trif	151		5.173					ND	
13 Iodomethane	142		5.327					ND	
14 Acrolein	56		5.611					ND	
16 Isopropyl alcohol	45		5.812					ND	
15 3-Chloro-1-propene	39		5.812					ND	
S 26 1,2-Dichloroethene, Total	96		5.816					ND	
17 Methylene Chloride	84		5.966					ND	
18 Acetone	43		6.048					ND	
19 trans-1,2-Dichloroethene	96		6.202					ND	
20 Methyl acetate	74		6.214					ND	
21 Hexane	86		6.297					ND	
22 Methyl tert-butyl ether	73		6.344					ND	
23 2-Methyl-2-propanol	59		6.451					ND	
24 Acetonitrile	41		6.723					ND	
25 Isopropyl ether	45		6.853					ND	
27 2-Chloro-1,3-butadiene	53		7.031					ND	
28 1,1-Dichloroethane	63		7.066					ND	
29 Acrylonitrile	53		7.137					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59		7.338					ND	
31 Vinyl acetate	43		7.374					ND	
32 cis-1,2-Dichloroethene	96		7.764					ND	
33 2,2-Dichloropropane	77		7.906					ND	
35 Chlorobromomethane	128		8.025					ND	
34 Cyclohexane	84		8.036					ND	
36 Chloroform	83		8.096					ND	
39 Ethyl acetate	45		8.226					ND	
37 Carbon tetrachloride	117		8.285					ND	
38 Tetrahydrofuran	71		8.309					ND	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.332	0.000	92	398931	50.0	50.2	
40 1,1,1-Trichloroethane	97		8.380					ND	
43 2-Butanone (MEK)	43		8.486					ND	
42 1,1-Dichloropropene	75		8.522					ND	
125 Isooctane	57		8.640					ND	
117 n-Heptane	43		8.746					ND	
44 Benzene	78		8.841					ND	
45 Propionitrile	54		8.865					ND	
46 Methacrylonitrile	41		8.888					ND	
48 Tert-amyl methyl ether	73		8.936					ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.006	8.995	0.011	93	500980	50.0	48.9	
50 Isobutyl alcohol	42		9.019					ND	
49 1,2-Dichloroethane	62		9.078					ND	
118 1,4-Difluorobenzene	114		9.130					ND	
* 51 Fluorobenzene	96	9.325	9.326	-0.001	97	1674445	50.0	50.0	
52 Methylcyclohexane	55		9.515					ND	
53 Trichloroethene	95		9.515					ND	
54 n-Butanol	56		9.811					ND	
55 Dibromomethane	93		9.989					ND	
124 Ethyl acrylate	55		10.060					ND	
56 1,2-Dichloropropane	63		10.095					ND	
57 Dichlorobromomethane	83		10.143					ND	
128 2-Pentanone	43		10.253					ND	
58 Methyl methacrylate	69		10.273					ND	
59 1,4-Dioxane	88		10.344					ND	
60 2-Chloroethyl vinyl ether	63		10.687					ND	
61 cis-1,3-Dichloropropene	75		10.770					ND	
$ 62 Toluene-d8 (Surr)	98	10.947	10.947	0.000	95	1468081	50.0	54.0	
63 Toluene	92		10.995					ND	
64 2-Nitropropane	43		11.219					ND	
66 4-Methyl-2-pentanone (MIBK	43		11.326					ND	
65 Tetrachloroethene	164		11.350					ND	
67 trans-1,3-Dichloropropene	75		11.361					ND	
119 n-Butyl acetate	43		11.397					ND	
69 Ethyl methacrylate	69		11.468					ND	
68 1,1,2-Trichloroethane	83		11.515					ND	
S 73 1,3-Dichloropropene, Total	75		11.620					ND	
70 Chlorodibromomethane	129		11.681					ND	
71 1,3-Dichloropropane	76		11.764					ND	
72 Ethylene Dibromide	107		11.906					ND	
74 2-Hexanone	43		12.036					ND	
75 1-Chlorohexane	91		12.273					ND	

Report Date: 18-Oct-2017 22:11:02　　Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FBLK3036.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 76 Chlorobenzene-d5	117	12.319	12.320	-0.001	92	974757	50.0	50.0	
78 Ethylbenzene	91		12.332					ND	
77 Chlorobenzene	112		12.332					ND	
79 1,1,1,2-Tetrachloroethane	131		12.379					ND	
80 m-Xylene & p-Xylene	106		12.438					ND	
82 o-Xylene	106		12.793					ND	
83 Styrene	104		12.829					ND	
84 Bromoform	173		12.888					ND	
85 Isopropylbenzene	105		13.030					ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.266	0.000	75	588466	50.0	56.6	
88 N-Propylbenzene	91		13.337					ND	
87 Bromobenzene	156		13.361					ND	
89 1,1,2,2-Tetrachloroethane	83		13.397					ND	
91 1,3,5-Trimethylbenzene	105		13.468					ND	
90 2-Chlorotoluene	91		13.491					ND	
92 1,2,3-Trichloropropane	110		13.515					ND	
93 trans-1,4-Dichloro-2-buten	53		13.527					ND	
94 Cyclohexanone	55		13.574					ND	
95 4-Chlorotoluene	91		13.610					ND	
81 Pentachloroethane	167		13.636					ND	
96 tert-Butylbenzene	119		13.728					ND	
97 1,2,4-Trimethylbenzene	105		13.775					ND	
98 sec-Butylbenzene	105		13.858					ND	
99 4-Isopropyltoluene	119		13.941					ND	
100 1,3-Dichlorobenzene	146		14.047					ND	
120 1,2,3-Trimethylbenzene	105		14.095					ND	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.107	-0.001	98	571299	50.0	50.0	
102 1,4-Dichlorobenzene	146		14.118					ND	
103 n-Butylbenzene	134		14.249					ND	
121 Benzyl chloride	126		14.284					ND	
104 1,2-Dichlorobenzene	146		14.426					ND	
106 n-Nonyl Aldehyde	57		14.947					ND	
105 1,2-Dibromo-3-Chloropropan	157		15.030					ND	
107 1,3,5-Trichlorobenzene	180		15.041					ND	
108 Hexachlorobutadiene	225		15.503					ND	
109 1,2,4-Trichlorobenzene	180		15.562					ND	
110 Naphthalene	128	15.857	15.858	-0.001	93	13223		0.6136	
111 1,2,3-Trichlorobenzene	180		16.035					ND	
S 112 Xylenes, Total	106		16.500					ND	
127 2-Methylpentane	1		0.000					ND	
S 113 Trihalomethanes, Total	1		0.000					ND	
126 C6-C12	1		0.000					ND	

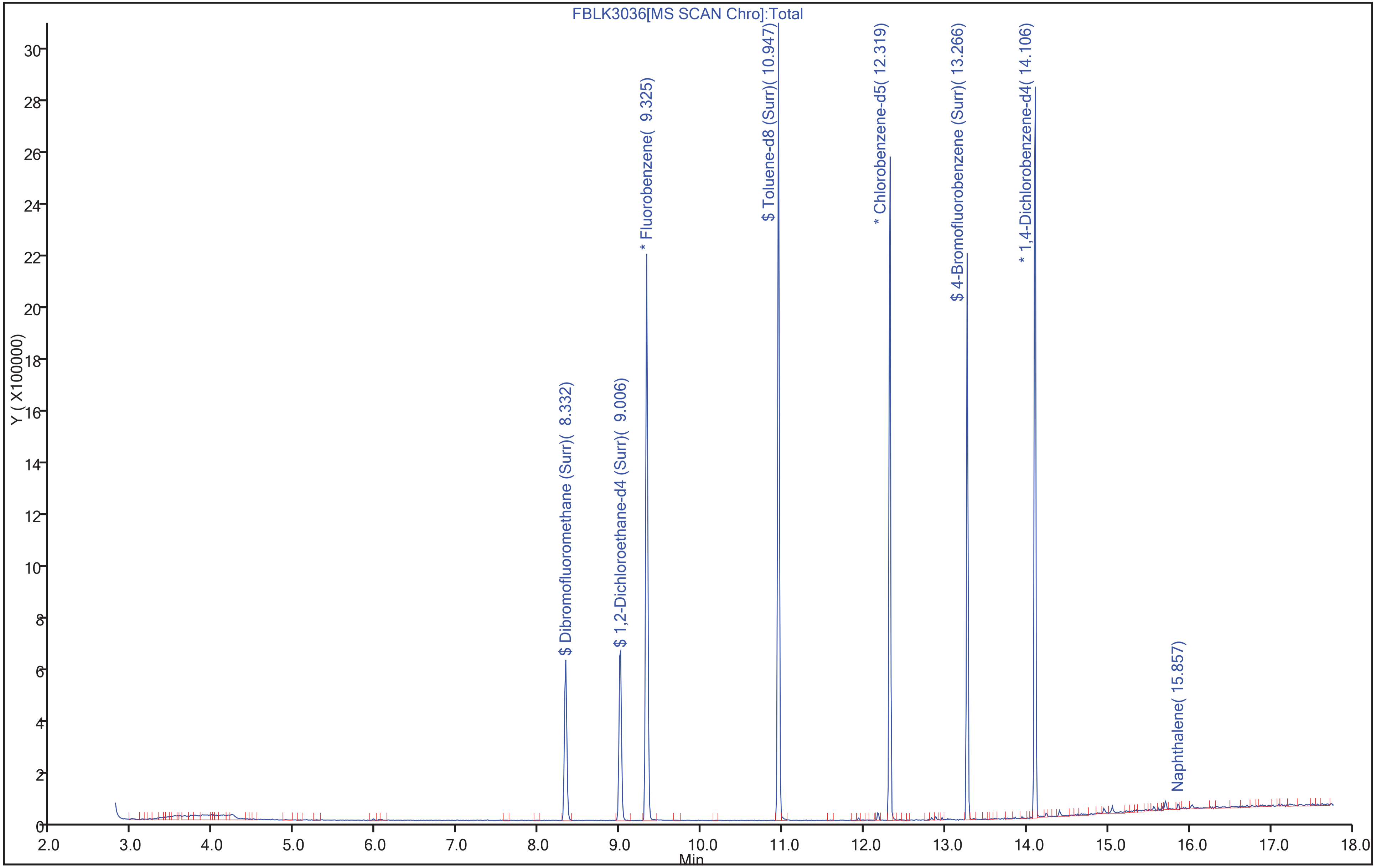
Reagents:

I.S. Working_00154　Amount Added: 10.00　Units: uL　Run Reagent
8260 Surr 25_00080　Amount Added: 10.00　Units: uL　Run Reagent

Report Date: 18-Oct-2017 22:11:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FBLK3036.D				
Injection Date:	16-Oct-2017 18:33:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	MB 160-332159/1-A			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



Report Date: 18-Oct-2017 22:11:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FBLK3036.D				
Lims ID:	MB 160-332159/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	16-Oct-2017 18:33:30	ALS Bottle#:	6	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011671-007				
Misc. Info.:	MB 160-332159/1-A				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	18-Oct-2017 22:11:00	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK015				
First Level Reviewer: hannj		Date:	18-Oct-2017 22:11:00		

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	50.2	100.43
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	48.9	97.84
$ 62 Toluene-d8 (Surr)	50.0	54.0	107.90
$ 86 4-Bromofluorobenzene (Surr)	50.0	56.6	113.30

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: MB 160-332262/1-A
Matrix: Solid	Lab File ID: XBLK9248.D
Analysis Method: 8260C DOD	Date Collected:
Sample wt/vol: 5.00(g)	Date Analyzed: 10/17/2017 17:56
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTXVMS30 ID: 0.25(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 332246	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.0	U	5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	1.0	U	5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	1.0	U	5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	5.0	U	5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	1.0	U	5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	1.0	U	5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	1.0	U	5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	1.0	U	5.0	1.0	0.60
71-43-2	Benzene	1.0	U	5.0	1.0	0.25
75-27-4	Bromodichloromethane	1.0	U	5.0	1.0	0.25
75-25-2	Bromoform	1.0	U	5.0	1.0	0.37
56-23-5	Carbon tetrachloride	1.0	U	5.0	1.0	0.51
124-48-1	Chlorodibromomethane	1.0	U	5.0	1.0	0.41
67-66-3	Chloroform	1.0	U	5.0	1.0	0.38
74-87-3	Chloromethane	5.0	U	10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	1.0	U	5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	1.0	U	5.0	1.0	0.60
100-41-4	Ethylbenzene	1.0	U	5.0	1.0	0.30
75-09-2	Methylene Chloride	5.0	U	10	5.0	1.6
127-18-4	Tetrachloroethene	1.0	U	5.0	1.0	0.32
108-88-3	Toluene	1.0	U	5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	1.0	U	5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0	0.35
79-01-6	Trichloroethene	1.0	U	5.0	1.0	0.39
75-01-4	Vinyl chloride	1.0	U	10	1.0	0.43
1330-20-7	Xylenes, Total	5.0	U	10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		71-136
460-00-4	4-Bromofluorobenzene (Surr)	99		79-119
1868-53-7	Dibromofluoromethane (Surr)	103		78-119
2037-26-5	Toluene-d8 (Surr)	103		85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XBLK9248.D
Lims ID: MB 160-332262/1-A
Client ID:
Sample Type: MB
Inject. Date: 17-Oct-2017 17:56:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011681-007
Misc. Info.: MB 160-332262/1-A
Operator ID: JDH Instrument ID: VMSX

Method: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 01:09:26 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 01:09:26

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85		1.878					ND	
2 1,2-Dichloro-1,1,2,2-tetra	135		2.031					ND	
3 Chloromethane	50		2.079					ND	
4 Vinyl chloride	62		2.197					ND	
121 Butadiene	39		2.209					ND	
5 Bromomethane	94		2.576					ND	
6 Chloroethane	64		2.741					ND	
7 Trichlorofluoromethane	101		2.919					ND	
122 Dichlorofluoromethane	67		3.002					ND	
8 Ethyl ether	74		3.345					ND	
11 Ethanol	45		3.593					ND	
9 1,1-Dichloroethene	96		3.605					ND	
10 Carbon disulfide	76		3.605					ND	
12 1,1,2-Trichloro-1,2,2-trif	151		3.700					ND	
13 Iodomethane	142		3.794					ND	
14 Acrolein	56		4.138					ND	
15 3-Chloro-1-propene	39		4.351					ND	
16 Isopropyl alcohol	45		4.493					ND	
17 Methylene Chloride	84		4.516					ND	
18 Acetone	43		4.635					ND	
19 trans-1,2-Dichloroethene	96		4.788					ND	
20 Methyl acetate	74		4.871					ND	
21 Hexane	86		4.930					ND	
22 Methyl tert-butyl ether	73		5.001					ND	
23 2-Methyl-2-propanol	59		5.226					ND	
24 Acetonitrile	41		5.368					ND	
25 Isopropyl ether	45		5.640					ND	
27 2-Chloro-1,3-butadiene	53		5.723					ND	
28 1,1-Dichloroethane	63		5.759					ND	
S 26 1,2-Dichloroethene, Total	96		5.816					ND	
29 Acrylonitrile	53		5.853					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59		6.173					ND	
31 Vinyl acetate	43		6.197					ND	
32 cis-1,2-Dichloroethene	96		6.552					ND	
33 2,2-Dichloropropane	77		6.694					ND	
34 Cyclohexane	84		6.800					ND	
35 Chlorobromomethane	128		6.812					ND	
36 Chloroform	83		6.942					ND	
37 Carbon tetrachloride	117		7.096					ND	
38 Tetrahydrofuran	71		7.155					ND	
39 Ethyl acetate	45		7.167					ND	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.190	0.001	92	242207	50.0	51.5	
40 1,1,1-Trichloroethane	97		7.190					ND	
42 1,1-Dichloropropene	75		7.368					ND	
43 2-Butanone (MEK)	43		7.392					ND	
124 Isooctane	57		7.534					ND	
117 n-Heptane	43		7.687					ND	
44 Benzene	78		7.699					ND	
45 Propionitrile	54		7.770					ND	
46 Methacrylonitrile	41		7.794					ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.877	7.877	0.000	34	242542	50.0	53.2	
48 Tert-amyl methyl ether	73		7.900					ND	
49 1,2-Dichloroethane	62		7.971					ND	
50 Isobutyl alcohol	42		8.090					ND	
* 51 Fluorobenzene	96	8.256	8.255	0.001	99	1168019	50.0	50.0	
125 1,4-Difluorobenzene	114		8.427					ND	
52 Methylcyclohexane	55		8.433					ND	
53 Trichloroethene	95		8.468					ND	
A 126 C6-C12	1	8.921	(3.966-13.876)		0	725047		NC	
54 n-Butanol	56		8.977					ND	
55 Dibromomethane	93		8.989					ND	
56 1,2-Dichloropropane	63		9.131					ND	
123 Ethyl acrylate	55		9.214					ND	
57 Dichlorobromomethane	83		9.226					ND	
58 Methyl methacrylate	69		9.462					ND	
59 1,4-Dioxane	88		9.486					ND	
128 2-Pentanone	43		9.634					ND	
60 2-Chloroethyl vinyl ether	63		9.971					ND	
61 cis-1,3-Dichloropropene	75		10.019					ND	
$ 62 Toluene-d8 (Surr)	98	10.243	10.243	0.000	94	1021300	50.0	51.7	
63 Toluene	92		10.303					ND	
64 2-Nitropropane	43		10.610					ND	
65 Tetrachloroethene	164		10.764					ND	
66 4-Methyl-2-pentanone (MIBK	43		10.800					ND	
67 trans-1,3-Dichloropropene	75		10.823					ND	
68 1,1,2-Trichloroethane	83		11.001					ND	
69 Ethyl methacrylate	69		11.036					ND	
70 Chlorodibromomethane	129		11.190					ND	
71 1,3-Dichloropropane	76		11.308					ND	
72 Ethylene Dibromide	107		11.438					ND	
S 73 1,3-Dichloropropene, Total	75		11.620					ND	
118 n-Butyl acetate	43		11.628					ND	
74 2-Hexanone	43		11.722					ND	

Report Date: 20-Oct-2017 01:09:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XBLK9248.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	89	684473	50.0	50.0	
75 1-Chlorohexane	91		11.995					ND	
77 Chlorobenzene	112		11.995					ND	
78 Ethylbenzene	91		12.042					ND	
79 1,1,1,2-Tetrachloroethane	131		12.077					ND	
80 m-Xylene & p-Xylene	106		12.184					ND	
82 o-Xylene	106		12.610					ND	
83 Styrene	104		12.657					ND	
84 Bromoform	173		12.681					ND	
85 Isopropylbenzene	105		12.918					ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	83	307950	50.0	49.7	
87 Bromobenzene	156		13.273					ND	
88 N-Propylbenzene	91		13.296					ND	
89 1,1,2,2-Tetrachloroethane	83		13.367					ND	
90 2-Chlorotoluene	91		13.438					ND	
91 1,3,5-Trimethylbenzene	105		13.486					ND	
92 1,2,3-Trichloropropane	110		13.497					ND	
93 trans-1,4-Dichloro-2-buten	53		13.533					ND	
94 Cyclohexanone	55		13.533					ND	
95 4-Chlorotoluene	91		13.592					ND	
96 tert-Butylbenzene	119		13.770					ND	
81 Pentachloroethane	167		13.776					ND	
97 1,2,4-Trimethylbenzene	105		13.829					ND	
98 sec-Butylbenzene	105		13.923					ND	
99 4-Isopropyltoluene	119		14.054					ND	
100 1,3-Dichlorobenzene	146		14.125					ND	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.184	0.012	97	288525	50.0	50.0	
102 1,4-Dichlorobenzene	146		14.207					ND	
119 1,2,3-Trimethylbenzene	105		14.219					ND	
120 Benzyl chloride	126		14.420					ND	
103 n-Butylbenzene	134		14.432					ND	
104 1,2-Dichlorobenzene	146		14.574					ND	
105 1,2-Dibromo-3-Chloropropan	157		15.261					ND	
106 n-Nonyl Aldehyde	57		15.284					ND	
107 1,3,5-Trichlorobenzene	180		15.284					ND	
108 Hexachlorobutadiene	225		15.805					ND	
109 1,2,4-Trichlorobenzene	180		15.829					ND	
110 Naphthalene	128		16.112					ND	
111 1,2,3-Trichlorobenzene	180		16.266					ND	
S 112 Xylenes, Total	106		16.500					ND	
S 113 Trihalomethanes, Total	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

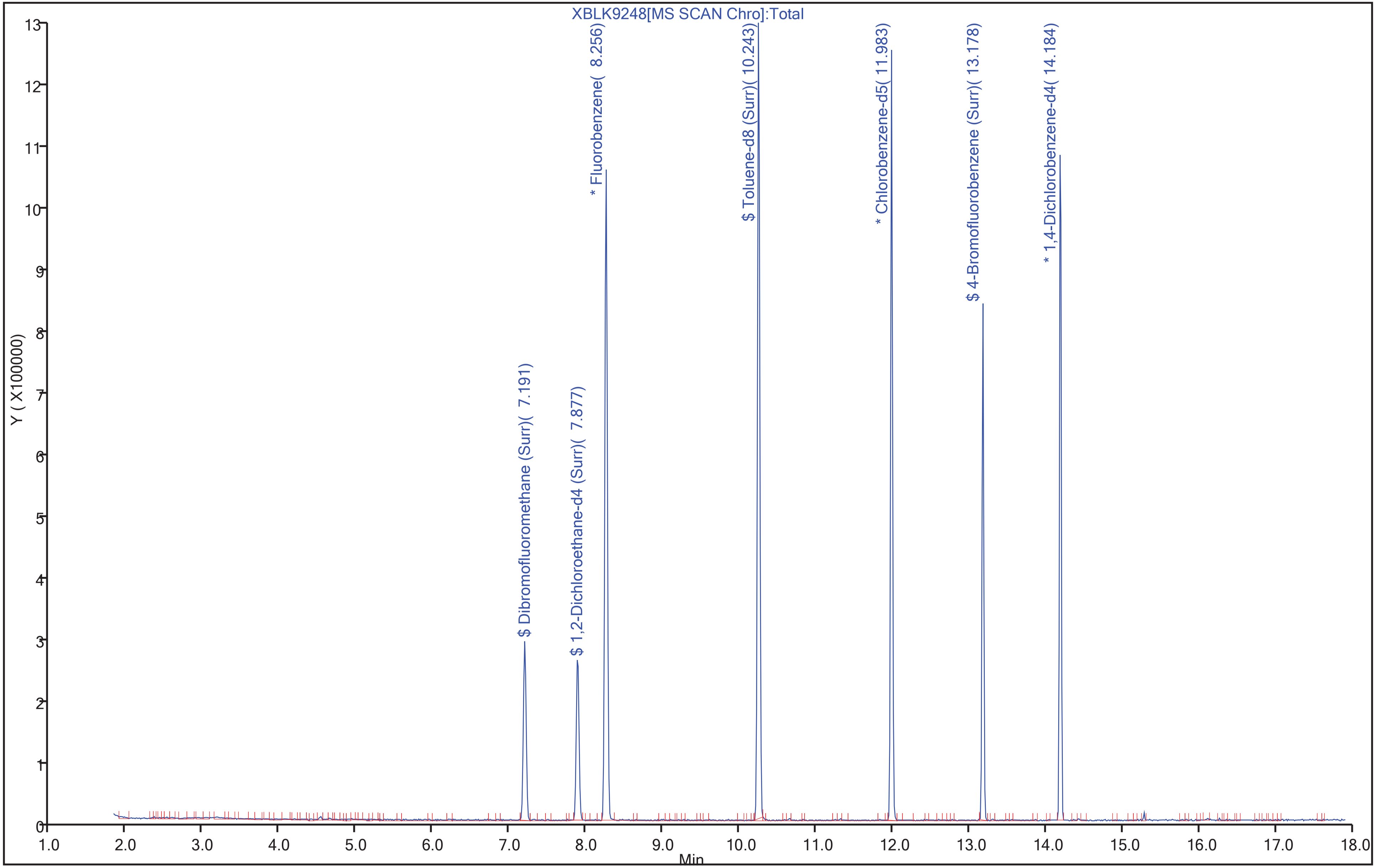
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 01:09:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XBLK9248.D				
Injection Date:	17-Oct-2017 17:56:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	MB 160-332262/1-A			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XBLK9248.D
Lims ID: MB 160-332262/1-A
Client ID:
Sample Type: MB
Inject. Date: 17-Oct-2017 17:56:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011681-007
Misc. Info.: MB 160-332262/1-A
Operator ID: JDH Instrument ID: VMSX

Method: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 01:09:26 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 01:09:26

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	51.5	103.03
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	53.2	106.37
$ 62 Toluene-d8 (Surr)	50.0	51.7	103.43
$ 86 4-Bromofluorobenzene (Surr)	50.0	49.7	99.42

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 160-332265/1-A
Matrix: Solid
Lab File ID: FBLK3062.D
Analysis Method: 8260C DOD
Date Collected:
Sample wt/vol: 5.00(g)
Date Analyzed: 10/17/2017 17:13
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 332247
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.0	U	5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	1.0	U	5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	1.0	U	5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	5.0	U	5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	1.0	U	5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	1.0	U	5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	1.0	U	5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	1.0	U	5.0	1.0	0.60
71-43-2	Benzene	1.0	U	5.0	1.0	0.25
75-27-4	Bromodichloromethane	1.0	U	5.0	1.0	0.25
75-25-2	Bromoform	1.0	U	5.0	1.0	0.37
56-23-5	Carbon tetrachloride	1.0	U	5.0	1.0	0.51
124-48-1	Chlorodibromomethane	1.0	U	5.0	1.0	0.41
67-66-3	Chloroform	1.0	U	5.0	1.0	0.38
74-87-3	Chloromethane	5.0	U	10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	1.0	U	5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	1.0	U	5.0	1.0	0.60
100-41-4	Ethylbenzene	1.0	U	5.0	1.0	0.30
75-09-2	Methylene Chloride	5.0	U	10	5.0	1.6
127-18-4	Tetrachloroethene	1.0	U	5.0	1.0	0.32
108-88-3	Toluene	1.0	U	5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	1.0	U	5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0	0.35
79-01-6	Trichloroethene	1.0	U	5.0	1.0	0.39
75-01-4	Vinyl chloride	1.0	U	10	1.0	0.43
1330-20-7	Xylenes, Total	5.0	U	10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		71-136
460-00-4	4-Bromofluorobenzene (Surr)	112		79-119
1868-53-7	Dibromofluoromethane (Surr)	97		78-119
2037-26-5	Toluene-d8 (Surr)	105		85-116

FORM I 8260C DOD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FBLK3062.D
Lims ID: MB 160-332265/1-A
Client ID:
Sample Type: MB
Inject. Date: 17-Oct-2017 17:13:30 ALS Bottle#: 6 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-008
Misc. Info.: MB 160-332265/1-A
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 00:01:42 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 00:01:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85		2.949					ND	
2 1,2-Dichloro-1,1,2,2-tetra	135		3.162					ND	
3 Chloromethane	50		3.269					ND	
122 Butadiene	39		3.387					ND	
4 Vinyl chloride	62		3.399					ND	
5 Bromomethane	94		3.896					ND	
6 Chloroethane	64		4.074					ND	
7 Trichlorofluoromethane	101		4.310					ND	
123 Dichlorofluoromethane	67		4.381					ND	
8 Ethyl ether	74		4.760					ND	
11 Ethanol	45		4.973					ND	
9 1,1-Dichloroethene	96		5.091					ND	
10 Carbon disulfide	76		5.150					ND	
12 1,1,2-Trichloro-1,2,2-trif	151		5.174					ND	
13 Iodomethane	142		5.328					ND	
14 Acrolein	56		5.612					ND	
16 Isopropyl alcohol	45		5.813					ND	
15 3-Chloro-1-propene	39		5.813					ND	
S 26 1,2-Dichloroethene, Total	96		5.816					ND	
17 Methylene Chloride	84		5.967					ND	
18 Acetone	43	6.050	6.050	0.000	98	10040		2.81	
19 trans-1,2-Dichloroethene	96		6.204					ND	
20 Methyl acetate	74		6.215					ND	
21 Hexane	86		6.298					ND	
22 Methyl tert-butyl ether	73		6.345					ND	
23 2-Methyl-2-propanol	59		6.452					ND	
24 Acetonitrile	41		6.724					ND	
25 Isopropyl ether	45		6.854					ND	
27 2-Chloro-1,3-butadiene	53		7.020					ND	
28 1,1-Dichloroethane	63		7.067					ND	
29 Acrylonitrile	53		7.138					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59		7.339					ND	
31 Vinyl acetate	43		7.375					ND	
32 cis-1,2-Dichloroethene	96		7.765					ND	
33 2,2-Dichloropropane	77		7.907					ND	
35 Chlorobromomethane	128		8.026					ND	
34 Cyclohexane	84		8.038					ND	
36 Chloroform	83		8.097					ND	
39 Ethyl acetate	45		8.227					ND	
37 Carbon tetrachloride	117		8.286					ND	
38 Tetrahydrofuran	71		8.310					ND	
$ 41 Dibromofluoromethane (Surr	113	8.334	8.322	0.012	92	409158	50.0	48.6	
40 1,1,1-Trichloroethane	97		8.381					ND	
43 2-Butanone (MEK)	43		8.487					ND	
42 1,1-Dichloropropene	75		8.523					ND	
125 Isooctane	57		8.641					ND	
117 n-Heptane	43		8.736					ND	
44 Benzene	78		8.830					ND	
45 Propionitrile	54		8.866					ND	
46 Methacrylonitrile	41		8.890					ND	
48 Tert-amyl methyl ether	73		8.937					ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.996	8.996	0.000	92	502146	50.0	46.3	
50 Isobutyl alcohol	42		9.020					ND	
49 1,2-Dichloroethane	62		9.079					ND	
118 1,4-Difluorobenzene	114		9.130					ND	
* 51 Fluorobenzene	96	9.328	9.327	0.001	97	1773075	50.0	50.0	
52 Methylcyclohexane	55		9.517					ND	
53 Trichloroethene	95		9.517					ND	
54 n-Butanol	56		9.813					ND	
55 Dibromomethane	93		9.990					ND	
124 Ethyl acrylate	55		10.061					ND	
56 1,2-Dichloropropane	63		10.096					ND	
57 Dichlorobromomethane	83		10.132					ND	
128 2-Pentanone	43		10.253					ND	
58 Methyl methacrylate	69		10.274					ND	
59 1,4-Dioxane	88		10.345					ND	
60 2-Chloroethyl vinyl ether	63		10.688					ND	
61 cis-1,3-Dichloropropene	75		10.771					ND	
$ 62 Toluene-d8 (Surr)	98	10.949	10.948	0.001	95	1540337	50.0	52.4	
63 Toluene	92		10.996					ND	
64 2-Nitropropane	43		11.221					ND	
66 4-Methyl-2-pentanone (MIBK	43		11.327					ND	
65 Tetrachloroethene	164		11.351					ND	
67 trans-1,3-Dichloropropene	75		11.363					ND	
119 n-Butyl acetate	43		11.398					ND	
69 Ethyl methacrylate	69		11.469					ND	
68 1,1,2-Trichloroethane	83		11.516					ND	
S 73 1,3-Dichloropropene, Total	75		11.620					ND	
70 Chlorodibromomethane	129		11.682					ND	
71 1,3-Dichloropropane	76		11.765					ND	
72 Ethylene Dibromide	107		11.907					ND	
74 2-Hexanone	43		12.037					ND	
75 1-Chlorohexane	91		12.274					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 76 Chlorobenzene-d5	117	12.322	12.321	0.001	91	1052951	50.0	50.0	
78 Ethylbenzene	91		12.333					ND	
77 Chlorobenzene	112		12.333					ND	
79 1,1,1,2-Tetrachloroethane	131		12.368					ND	
80 m-Xylene & p-Xylene	106		12.439					ND	
82 o-Xylene	106		12.794					ND	
83 Styrene	104		12.830					ND	
84 Bromoform	173		12.877					ND	
85 Isopropylbenzene	105		13.031					ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.268	13.268	0.000	80	610231	50.0	56.2	
88 N-Propylbenzene	91		13.339					ND	
87 Bromobenzene	156		13.362					ND	
89 1,1,2,2-Tetrachloroethane	83		13.398					ND	
91 1,3,5-Trimethylbenzene	105		13.469					ND	
90 2-Chlorotoluene	91		13.481					ND	
92 1,2,3-Trichloropropane	110		13.516					ND	
93 trans-1,4-Dichloro-2-buten	53		13.528					ND	
94 Cyclohexanone	55		13.575					ND	
95 4-Chlorotoluene	91		13.611					ND	
81 Pentachloroethane	167		13.636					ND	
96 tert-Butylbenzene	119		13.729					ND	
97 1,2,4-Trimethylbenzene	105		13.765					ND	
98 sec-Butylbenzene	105		13.847					ND	
99 4-Isopropyltoluene	119		13.942					ND	
100 1,3-Dichlorobenzene	146		14.049					ND	
120 1,2,3-Trimethylbenzene	105		14.096					ND	
* 101 1,4-Dichlorobenzene-d4	152	14.108	14.096	0.012	98	597257	50.0	50.0	
102 1,4-Dichlorobenzene	146		14.108					ND	
103 n-Butylbenzene	134		14.250					ND	
121 Benzyl chloride	126		14.285					ND	
104 1,2-Dichlorobenzene	146		14.427					ND	
106 n-Nonyl Aldehyde	57		14.948					ND	
105 1,2-Dibromo-3-Chloropropan	157		15.031					ND	
107 1,3,5-Trichlorobenzene	180		15.031					ND	
108 Hexachlorobutadiene	225		15.504					ND	
109 1,2,4-Trichlorobenzene	180		15.563					ND	
110 Naphthalene	128	15.860	15.859	0.001	93	16036		0.7118	
111 1,2,3-Trichlorobenzene	180	16.025	16.025	0.000	92	5415		0.5395	
S 112 Xylenes, Total	106		16.500					ND	
127 2-Methylpentane	1		0.000					ND	
S 113 Trihalomethanes, Total	1		0.000					ND	
126 C6-C12	1		0.000					ND	

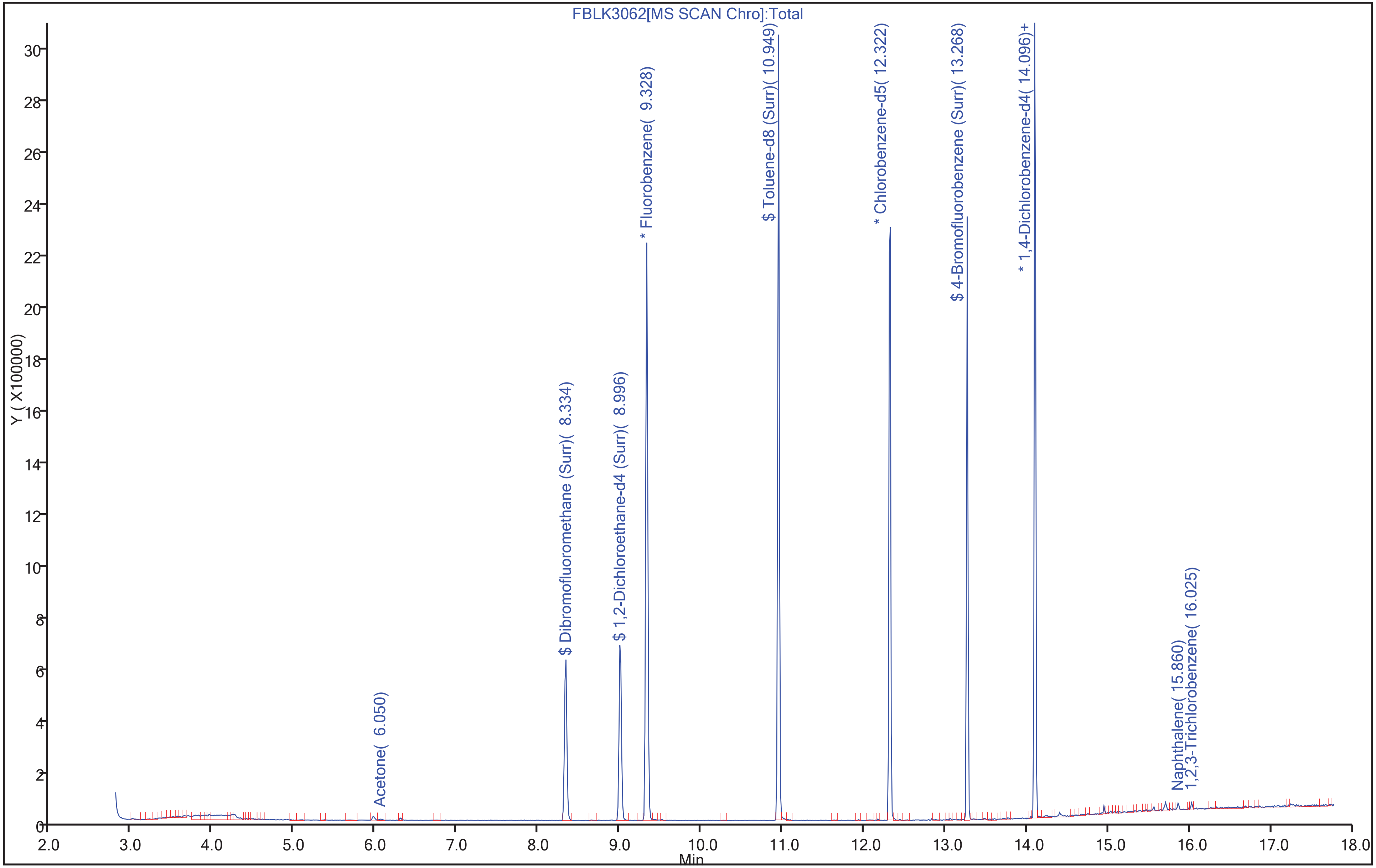
Reagents:

I.S. Working_00154 Amount Added: 10.00 Units: uL Run Reagent
8260 Surr 25_00080 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 20-Oct-2017 00:01:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FBLK3062.D				
Injection Date:	17-Oct-2017 17:13:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	MB 160-332265/1-A			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FBLK3062.D				
Lims ID:	MB 160-332265/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	17-Oct-2017 17:13:30	ALS Bottle#:	6	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011682-008				
Misc. Info.:	MB 160-332265/1-A				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	20-Oct-2017 00:01:42	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK032				
First Level Reviewer: hannj		Date:	20-Oct-2017 00:01:42		

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.6	97.28
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	46.3	92.62
$ 62 Toluene-d8 (Surr)	50.0	52.4	104.81
$ 86 4-Bromofluorobenzene (Surr)	50.0	56.2	112.38

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: MB 160-332822/1-A
Matrix: Solid	Lab File ID: XBLK9327.D
Analysis Method: 8260C DOD	Date Collected:
Sample wt/vol: 5.00(g)	Date Analyzed: 10/19/2017 17:56
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTXVMS30 ID: 0.25(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 332817	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	1.0	U	5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	1.0	U	5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	1.0	U	5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	5.0	U	5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	1.0	U	5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	1.0	U	5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	1.0	U	5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	1.0	U	5.0	1.0	0.60
71-43-2	Benzene	1.0	U	5.0	1.0	0.25
75-27-4	Bromodichloromethane	1.0	U	5.0	1.0	0.25
75-25-2	Bromoform	1.0	U	5.0	1.0	0.37
56-23-5	Carbon tetrachloride	1.0	U	5.0	1.0	0.51
124-48-1	Chlorodibromomethane	1.0	U	5.0	1.0	0.41
67-66-3	Chloroform	1.0	U	5.0	1.0	0.38
74-87-3	Chloromethane	5.0	U	10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	1.0	U	5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	1.0	U	5.0	1.0	0.60
100-41-4	Ethylbenzene	1.0	U	5.0	1.0	0.30
75-09-2	Methylene Chloride	5.0	U	10	5.0	1.6
127-18-4	Tetrachloroethene	1.0	U	5.0	1.0	0.32
108-88-3	Toluene	1.0	U	5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	1.0	U	5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0	0.35
79-01-6	Trichloroethene	1.0	U	5.0	1.0	0.39
75-01-4	Vinyl chloride	1.0	U	10	1.0	0.43
1330-20-7	Xylenes, Total	5.0	U	10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	110		71-136
460-00-4	4-Bromofluorobenzene (Surr)	99		79-119
1868-53-7	Dibromofluoromethane (Surr)	104		78-119
2037-26-5	Toluene-d8 (Surr)	105		85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XBLK9327.D				
Lims ID:	MB 160-332822/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	19-Oct-2017 17:56:30	ALS Bottle#:	6	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011712-007				
Misc. Info.:	MB 160-332822/1-A				
Operator ID:	JDH	Instrument ID:	VMSX		
Method:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	24-Oct-2017 17:03:16	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK003				
First Level Reviewer: hannj		Date:	24-Oct-2017 17:04:02		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85		1.878				ND		
2 1,2-Dichloro-1,1,2,2-tetra	135		2.031				ND		
3 Chloromethane	50		2.079				ND		
4 Vinyl chloride	62		2.197				ND		
121 Butadiene	39		2.209				ND		
5 Bromomethane	94		2.576				ND		
6 Chloroethane	64		2.741				ND		
7 Trichlorofluoromethane	101		2.919				ND		
122 Dichlorofluoromethane	67		3.002				ND		
8 Ethyl ether	74		3.357				ND		
9 1,1-Dichloroethene	96		3.593				ND		
11 Ethanol	45		3.605				ND		
10 Carbon disulfide	76		3.605				ND		
12 1,1,2-Trichloro-1,2,2-trif	151		3.700				ND		
13 Iodomethane	142		3.795				ND		
14 Acrolein	56		4.138				ND		
15 3-Chloro-1-propene	39		4.339				ND		
16 Isopropyl alcohol	45		4.493				ND		
17 Methylene Chloride	84		4.516				ND		
18 Acetone	43		4.635				ND		
19 trans-1,2-Dichloroethene	96		4.789				ND		
20 Methyl acetate	74		4.871				ND		
21 Hexane	86		4.942				ND		
22 Methyl tert-butyl ether	73		5.013				ND		
23 2-Methyl-2-propanol	59		5.226				ND		
24 Acetonitrile	41		5.368				ND		
25 Isopropyl ether	45		5.640				ND		
27 2-Chloro-1,3-butadiene	53		5.723				ND		
28 1,1-Dichloroethane	63		5.759				ND		
S 26 1,2-Dichloroethene, Total	96		5.816				ND		
29 Acrylonitrile	53		5.853				ND		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59		6.173					ND	
31 Vinyl acetate	43		6.197					ND	
32 cis-1,2-Dichloroethene	96		6.552					ND	
33 2,2-Dichloropropane	77		6.694					ND	
34 Cyclohexane	84		6.800					ND	
35 Chlorobromomethane	128		6.812					ND	
36 Chloroform	83		6.942					ND	
37 Carbon tetrachloride	117		7.096					ND	
38 Tetrahydrofuran	71		7.155					ND	
39 Ethyl acetate	45		7.167					ND	
40 1,1,1-Trichloroethane	97		7.191					ND	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.191	0.000	92	226647	50.0	51.8	
42 1,1-Dichloropropene	75		7.368					ND	
43 2-Butanone (MEK)	43		7.392					ND	
124 Isooctane	57		7.534					ND	
117 n-Heptane	43		7.688					ND	
44 Benzene	78		7.699					ND	
45 Propionitrile	54		7.770					ND	
46 Methacrylonitrile	41		7.794					ND	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.877	0.012	33	232602	50.0	54.8	
48 Tert-amyl methyl ether	73		7.901					ND	
49 1,2-Dichloroethane	62		7.972					ND	
50 Isobutyl alcohol	42		8.090					ND	
* 51 Fluorobenzene	96	8.256	8.256	0.000	99	1086899	50.0	50.0	
125 1,4-Difluorobenzene	114		8.427					ND	
52 Methylcyclohexane	55		8.433					ND	
53 Trichloroethene	95		8.469					ND	
A 126 C6-C12	1	8.921	(3.966-13.876)		0	492945		NC	
54 n-Butanol	56		8.977					ND	
55 Dibromomethane	93		8.989					ND	
56 1,2-Dichloropropane	63		9.131					ND	
123 Ethyl acrylate	55		9.214					ND	
57 Dichlorobromomethane	83		9.226					ND	
58 Methyl methacrylate	69		9.463					ND	
59 1,4-Dioxane	88		9.486					ND	
128 2-Pentanone	43		9.634					ND	
60 2-Chloroethyl vinyl ether	63		9.971					ND	
61 cis-1,3-Dichloropropene	75		10.019					ND	
$ 62 Toluene-d8 (Surr)	98	10.244	10.243	0.001	94	963865	50.0	52.3	
63 Toluene	92		10.303					ND	
64 2-Nitropropane	43		10.610					ND	
65 Tetrachloroethene	164		10.764					ND	
66 4-Methyl-2-pentanone (MIBK	43		10.800					ND	
67 trans-1,3-Dichloropropene	75		10.823					ND	
68 1,1,2-Trichloroethane	83		11.001					ND	
69 Ethyl methacrylate	69		11.036					ND	
70 Chlorodibromomethane	129		11.190					ND	
71 1,3-Dichloropropane	76		11.308					ND	
72 Ethylene Dibromide	107		11.439					ND	
S 73 1,3-Dichloropropene, Total	75		11.620					ND	
118 n-Butyl acetate	43		11.640					ND	
74 2-Hexanone	43		11.723					ND	

Report Date: 24-Oct-2017 17:04:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XBLK9327.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	88	639332	50.0	50.0	
75 1-Chlorohexane	91		11.995					ND	
77 Chlorobenzene	112		11.995					ND	
78 Ethylbenzene	91		12.042					ND	
79 1,1,1,2-Tetrachloroethane	131		12.078					ND	
80 m-Xylene & p-Xylene	106		12.184					ND	
82 o-Xylene	106		12.610					ND	
83 Styrene	104		12.657					ND	
84 Bromoform	173		12.681					ND	
85 Isopropylbenzene	105		12.918					ND	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	84	279898	50.0	49.7	
87 Bromobenzene	156		13.273					ND	
88 N-Propylbenzene	91		13.296					ND	
89 1,1,2,2-Tetrachloroethane	83		13.367					ND	
90 2-Chlorotoluene	91		13.438					ND	
91 1,3,5-Trimethylbenzene	105		13.486					ND	
92 1,2,3-Trichloropropane	110		13.498					ND	
93 trans-1,4-Dichloro-2-buten	53		13.533					ND	
94 Cyclohexanone	55		13.533					ND	
95 4-Chlorotoluene	91		13.592					ND	
96 tert-Butylbenzene	119		13.770					ND	
81 Pentachloroethane	167		13.776					ND	
97 1,2,4-Trimethylbenzene	105		13.829					ND	
98 sec-Butylbenzene	105		13.935					ND	
99 4-Isopropyltoluene	119		14.054					ND	
100 1,3-Dichlorobenzene	146		14.125					ND	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.184	0.012	97	262051	50.0	50.0	
102 1,4-Dichlorobenzene	146		14.207					ND	
119 1,2,3-Trimethylbenzene	105		14.219					ND	
120 Benzyl chloride	126		14.420					ND	
103 n-Butylbenzene	134		14.432					ND	
104 1,2-Dichlorobenzene	146		14.574					ND	
105 1,2-Dibromo-3-Chloropropan	157		15.261					ND	
106 n-Nonyl Aldehyde	57		15.284					ND	
107 1,3,5-Trichlorobenzene	180		15.284					ND	
108 Hexachlorobutadiene	225		15.805					ND	
109 1,2,4-Trichlorobenzene	180		15.840					ND	
110 Naphthalene	128		16.113					ND	
111 1,2,3-Trichlorobenzene	180		16.266					ND	
S 112 Xylenes, Total	106		16.500					ND	
S 113 Trihalomethanes, Total	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

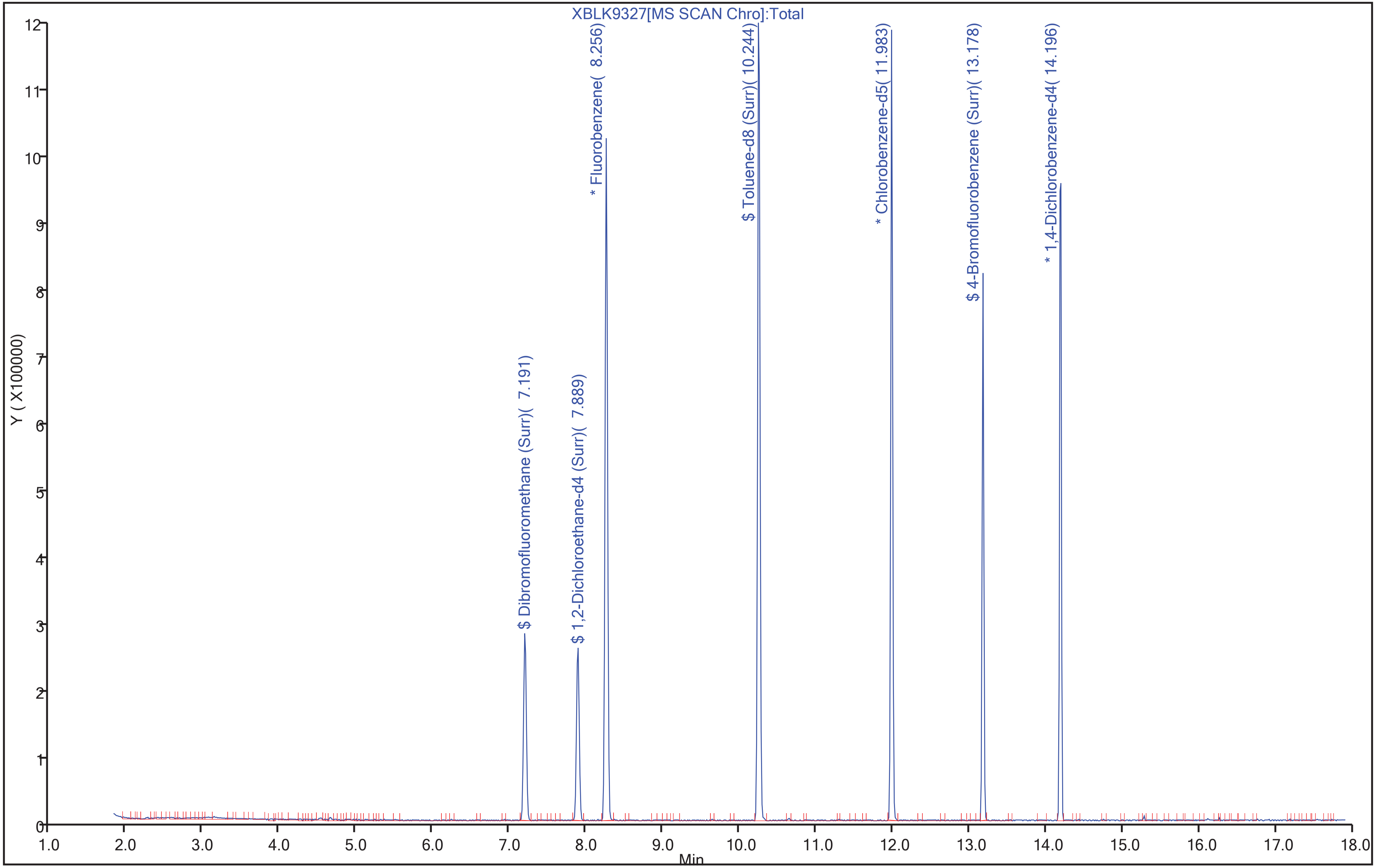
Reagents:

I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Oct-2017 17:04:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XBLK9327.D
Injection Date: 19-Oct-2017 17:56:30 Instrument ID: VMSX Operator ID: JDH
Lims ID: MB 160-332822/1-A Worklist Smp#: 7
Client ID:
Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 6
Method: 5mL-8260-MSX Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XBLK9327.D				
Lims ID:	MB 160-332822/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	19-Oct-2017 17:56:30	ALS Bottle#:	6	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011712-007				
Misc. Info.:	MB 160-332822/1-A				
Operator ID:	JDH	Instrument ID:	VMSX		

Method:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m		
Limit Group:	MSV-8260_DoD		
Last Update:	24-Oct-2017 17:03:16	Calib Date:	15-Sep-2017 01:49:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D		

Column 1 :		Det: MS SCAN	
Process Host:	XAWRK003		

First Level Reviewer: hannj Date: 24-Oct-2017 17:04:02

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	51.8	103.61
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	54.8	109.63
$ 62 Toluene-d8 (Surr)	50.0	52.3	104.50
$ 86 4-Bromofluorobenzene (Surr)	50.0	49.7	99.50

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: LCS 160-331094/5
Matrix: Water	Lab File ID: FLCS2895.D
Analysis Method: 8260C DOD	Date Collected:
Sample wt/vol: 5(mL)	Date Analyzed: 10/09/2017 19:50
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 331094	Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	49.1		5.0	1.0	0.29
79-34-5	1,1,2,2-Tetrachloroethane	49.8		5.0	2.0	0.43
79-00-5	1,1,2-Trichloroethane	50.1		5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	49.0		5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	49.2		5.0	1.0	0.37
95-50-1	1,2-Dichlorobenzene	51.6		5.0	2.0	0.28
107-06-2	1,2-Dichloroethane	49.0		5.0	1.0	0.37
78-87-5	1,2-Dichloropropane	50.4		5.0	1.0	0.32
106-46-7	1,4-Dichlorobenzene	50.3		5.0	2.0	0.35
71-43-2	Benzene	49.9		5.0	1.0	0.25
75-27-4	Bromodichloromethane	49.3		5.0	2.0	0.25
75-25-2	Bromoform	47.8		5.0	1.0	0.37
56-23-5	Carbon tetrachloride	49.9		5.0	1.0	0.36
124-48-1	Chlorodibromomethane	53.5		5.0	1.0	0.33
67-66-3	Chloroform	49.4		5.0	1.0	0.15
74-87-3	Chloromethane	42.3		10	2.0	0.55
156-59-2	cis-1,2-Dichloroethene	50.5		5.0	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	52.8		5.0	1.0	0.34
100-41-4	Ethylbenzene	47.0		5.0	1.0	0.30
75-09-2	Methylene Chloride	48.3		7.5	5.0	1.7
127-18-4	Tetrachloroethene	53.0		5.0	1.0	0.28
108-88-3	Toluene	52.6		5.0	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	49.1		5.0	1.0	0.18
10061-02-6	trans-1,3-Dichloropropene	53.4		5.0	1.0	0.35
79-01-6	Trichloroethene	48.5		5.0	1.0	0.29
75-01-4	Vinyl chloride	36.8		5.0	1.0	0.43
1330-20-7	Xylenes, Total	108		10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		81-118
460-00-4	4-Bromofluorobenzene (Surr)	108		85-114
1868-53-7	Dibromofluoromethane (Surr)	100		80-119
2037-26-5	Toluene-d8 (Surr)	106		89-112

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FLCS2895.D				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	09-Oct-2017 19:50:30	ALS Bottle#:	2	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011606-005				
Misc. Info.:	LCS				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	11-Oct-2017 22:48:02	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK028				
First Level Reviewer: hannj		Date:	11-Oct-2017 22:48:01		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.935	2.949	-0.014	100	693270	50.0	46.8	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.160	3.162	-0.002	97	276278	50.0	55.9	M
3 Chloromethane	50	3.255	3.268	-0.013	100	1126838	50.0	42.3	
122 Butadiene	39	3.385	3.399	-0.014	98	984782	50.0	33.1	
4 Vinyl chloride	62	3.397	3.399	-0.002	99	870602	50.0	36.8	
5 Bromomethane	94	3.894	3.896	-0.002	92	288068	50.0	37.4	
6 Chloroethane	64	4.071	4.073	-0.002	99	364834	50.0	40.8	
7 Trichlorofluoromethane	101	4.308	4.310	-0.002	97	918245	50.0	44.5	M
123 Dichlorofluoromethane	67	4.379	4.393	-0.014	100	1218613	50.0	46.4	
8 Ethyl ether	74	4.757	4.759	-0.002	95	317669	50.0	50.0	
11 Ethanol	45	4.982	4.984	-0.002	22	251931	2000.0	2317.5	M
9 1,1-Dichloroethene	96	5.089	5.091	-0.002	92	537480	50.0	49.2	
10 Carbon disulfide	76	5.148	5.150	-0.002	100	2089649	50.0	48.9	
12 1,1,2-Trichloro-1,2,2-trif	151	5.172	5.185	-0.013	97	381130	50.0	49.4	
13 Iodomethane	142	5.325	5.327	-0.002	100	732076	50.0	51.1	
14 Acrolein	56	5.621	5.623	-0.002	99	362258	250.0	243.7	
15 3-Chloro-1-propene	39	5.810	5.813	-0.003	90	989280	50.0	47.8	
16 Isopropyl alcohol	45	5.822	5.824	-0.002	17	301267	500.0	528.6	
17 Methylene Chloride	84	5.964	5.966	-0.002	98	631157	50.0	48.3	
18 Acetone	43	6.047	6.061	-0.014	98	148746	50.0	56.3	
19 trans-1,2-Dichloroethene	96	6.201	6.203	-0.002	94	611887	50.0	49.1	
20 Methyl acetate	74	6.213	6.215	-0.002	100	119451	250.0	267.3	
21 Hexane	86	6.296	6.310	-0.014	96	185477	50.0	52.3	
22 Methyl tert-butyl ether	73	6.343	6.357	-0.014	94	1426618	50.0	51.0	
23 2-Methyl-2-propanol	59	6.461	6.463	-0.002	97	435075	500.0	514.3	
24 Acetonitrile	41	6.722	6.724	-0.002	99	575364	500.0	533.4	
25 Isopropyl ether	45	6.852	6.866	-0.014	95	2555142	50.0	53.3	
27 2-Chloro-1,3-butadiene	53	7.029	7.031	-0.002	95	1210133	50.0	50.0	
28 1,1-Dichloroethane	63	7.065	7.067	-0.002	96	1305632	50.0	49.0	
29 Acrylonitrile	53	7.136	7.150	-0.014	99	1604034	500.0	507.9	
30 Tert-butyl ethyl ether	59	7.349	7.351	-0.002	98	2024334	50.0	52.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43	7.372	7.374	-0.002	97	1256356	50.0	50.8	
32 cis-1,2-Dichloroethene	96	7.763	7.777	-0.014	87	662992	50.0	50.5	
33 2,2-Dichloropropane	77	7.917	7.919	-0.002	94	728221	50.0	46.5	
35 Chlorobromomethane	128	8.023	8.025	-0.002	88	230890	50.0	50.3	
34 Cyclohexane	84	8.035	8.037	-0.002	96	1117677	50.0	49.2	
36 Chloroform	83	8.094	8.096	-0.002	97	1142212	50.0	49.4	
39 Ethyl acetate	45	8.236	8.238	-0.002	99	111010	100.0	95.7	
37 Carbon tetrachloride	117	8.295	8.297	-0.002	98	750687	50.0	49.9	
38 Tetrahydrofuran	71	8.319	8.321	-0.002	94	84614	100.0	113.7	
$ 41 Dibromofluoromethane (Surr	113	8.331	8.333	-0.002	92	480600	50.0	50.0	
40 1,1,1-Trichloroethane	97	8.378	8.380	-0.002	97	988933	50.0	49.1	
43 2-Butanone (MEK)	43	8.485	8.499	-0.014	98	194319	50.0	50.1	
42 1,1-Dichloropropene	75	8.532	8.534	-0.002	93	931358	50.0	50.9	
125 Isooctane	57	8.639	8.652	-0.013	98	3395501	50.0	51.3	
117 n-Heptane	43	8.745	8.747	-0.002	96	1412151	50.0	51.0	
44 Benzene	78	8.840	8.842	-0.002	98	2465367	50.0	49.9	
45 Propionitrile	54	8.875	8.877	-0.002	97	606657	500.0	516.5	
46 Methacrylonitrile	41	8.899	8.901	-0.002	95	3069517	500.0	506.1	
48 Tert-amyl methyl ether	73	8.946	8.948	-0.002	95	1640708	50.0	51.9	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.005	9.007	-0.002	95	598579	50.0	48.3	
50 Isobutyl alcohol	42	9.017	9.019	-0.002	92	329200	1250.0	1263.1	
49 1,2-Dichloroethane	62	9.088	9.090	-0.002	97	722645	50.0	49.0	
* 51 Fluorobenzene	96	9.325	9.327	-0.002	97	2027641	50.0	50.0	
53 Trichloroethene	95	9.514	9.516	-0.002	62	622528	50.0	48.5	
52 Methylcyclohexane	55	9.514	9.516	-0.002	96	1251155	50.0	48.9	
54 n-Butanol	56	9.810	9.812	-0.002	94	292315	1250.0	1262.0	
55 Dibromomethane	93	9.987	9.990	-0.003	89	248315	50.0	48.8	
124 Ethyl acrylate	55	10.058	10.061	-0.002	99	364122	50.0	45.3	
56 1,2-Dichloropropane	63	10.094	10.096	-0.002	94	613756	50.0	50.4	
57 Dichlorobromomethane	83	10.141	10.143	-0.002	98	708018	50.0	49.3	
58 Methyl methacrylate	69	10.271	10.273	-0.002	95	424012	100.0	93.2	
59 1,4-Dioxane	88	10.342	10.356	-0.014	94	72495	1000.0	1017.8	
60 2-Chloroethyl vinyl ether	63	10.686	10.688	-0.002	91	197452	50.0	45.5	
61 cis-1,3-Dichloropropene	75	10.768	10.770	-0.002	91	791357	50.0	52.8	
$ 62 Toluene-d8 (Surr)	98	10.946	10.948	-0.002	95	1789954	50.0	53.1	
63 Toluene	92	10.993	10.995	-0.002	98	1321130	50.0	52.6	
64 2-Nitropropane	43	11.218	11.220	-0.002	98	198057	100.0	90.9	
66 4-Methyl-2-pentanone (MIBK	43	11.325	11.327	-0.002	99	383839	50.0	51.2	
67 trans-1,3-Dichloropropene	75	11.360	11.362	-0.002	97	642338	50.0	53.4	
65 Tetrachloroethene	164	11.360	11.362	-0.002	91	366616	50.0	53.0	
119 n-Butyl acetate	43	11.407	11.409	-0.002	99	76336	50.0	51.5	
69 Ethyl methacrylate	69	11.467	11.469	-0.002	94	421269	50.0	49.3	
68 1,1,2-Trichloroethane	83	11.514	11.516	-0.002	94	285485	50.0	50.1	
70 Chlorodibromomethane	129	11.680	11.682	-0.002	90	340970	50.0	53.5	
71 1,3-Dichloropropane	76	11.762	11.764	-0.002	98	603996	50.0	51.2	
72 Ethylene Dibromide	107	11.904	11.906	-0.002	98	274051	50.0	50.4	
74 2-Hexanone	43	12.035	12.037	-0.002	98	211067	50.0	48.1	
75 1-Chlorohexane	91	12.271	12.273	-0.002	87	749659	50.0	52.0	
* 76 Chlorobenzene-d5	117	12.319	12.321	-0.002	92	1207111	50.0	50.0	
77 Chlorobenzene	112	12.330	12.332	-0.002	73	1333827	50.0	50.9	
78 Ethylbenzene	91	12.330	12.332	-0.002	91	2500269	50.0	47.0	
79 1,1,1,2-Tetrachloroethane	131	12.378	12.380	-0.002	95	488434	50.0	52.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
80 m-Xylene & p-Xylene	106	12.449	12.439	0.010	97	963358	50.0	53.7	
82 o-Xylene	106	12.792	12.794	-0.002	98	988825	50.0	54.6	
83 Styrene	104	12.839	12.829	0.010	94	1370425	50.0	54.6	
84 Bromoform	173	12.887	12.889	-0.003	95	175467	50.0	47.8	
85 Isopropylbenzene	105	13.028	13.031	-0.003	98	2496212	50.0	53.2	
$ 86 4-Bromofluorobenzene (Surr	95	13.265	13.267	-0.002	94	687866	50.0	53.8	
88 N-Propylbenzene	91	13.348	13.350	-0.002	97	3028009	50.0	48.7	
87 Bromobenzene	156	13.372	13.374	-0.002	96	493074	50.0	52.1	
89 1,1,2,2-Tetrachloroethane	83	13.395	13.397	-0.002	95	439279	50.0	49.8	
91 1,3,5-Trimethylbenzene	105	13.478	13.480	-0.002	96	2247989	50.0	51.8	
90 2-Chlorotoluene	91	13.490	13.492	-0.002	96	2246980	50.0	51.3	
92 1,2,3-Trichloropropane	110	13.525	13.528	-0.003	91	119711	50.0	52.0	
93 trans-1,4-Dichloro-2-buten	53	13.525	13.528	-0.003	82	133254	50.0	46.4	
94 Cyclohexanone	55	13.585	13.587	-0.002	96	143828	500.0	523.0	
95 4-Chlorotoluene	91	13.608	13.610	-0.002	99	1933986	50.0	52.5	
96 tert-Butylbenzene	119	13.727	13.729	-0.002	93	1870818	50.0	55.6	
97 1,2,4-Trimethylbenzene	105	13.774	13.776	-0.002	98	2284436	50.0	50.4	
98 sec-Butylbenzene	105	13.857	13.859	-0.002	96	2839600	50.0	48.3	
99 4-Isopropyltoluene	119	13.940	13.942	-0.002	95	2427425	50.0	51.1	
100 1,3-Dichlorobenzene	146	14.058	14.060	-0.002	97	1126027	50.0	52.4	
* 101 1,4-Dichlorobenzene-d4	152	14.105	14.107	-0.002	73	702625	50.0	50.0	
120 1,2,3-Trimethylbenzene	105	14.105	14.107	-0.002	95	2332771	50.0	48.8	
102 1,4-Dichlorobenzene	146	14.117	14.119	-0.002	91	1132361	50.0	50.3	
103 n-Butylbenzene	134	14.259	14.261	-0.002	96	692408	50.0	52.0	
121 Benzyl chloride	126	14.283	14.284	-0.001	54	173059	50.0	50.6	
104 1,2-Dichlorobenzene	146	14.437	14.427	0.010	97	1027755	50.0	51.6	
106 n-Nonyl Aldehyde	57	14.957	14.947	0.010	88	447156	50.0	51.8	
105 1,2-Dibromo-3-Chloropropan	157	15.028	15.030	-0.002	61	73672	50.0	52.9	
107 1,3,5-Trichlorobenzene	180	15.040	15.042	-0.002	96	895292	50.0	52.6	
108 Hexachlorobutadiene	225	15.502	15.504	-0.002	97	455119	50.0	53.0	
109 1,2,4-Trichlorobenzene	180	15.573	15.563	0.010	93	735922	50.0	52.6	
110 Naphthalene	128	15.868	15.870	-0.002	98	1370463	50.0	51.7	
111 1,2,3-Trichlorobenzene	180	16.034	16.036	-0.002	94	608629	50.0	51.5	

QC Flag Legend

Review Flags

M - Manually Integrated

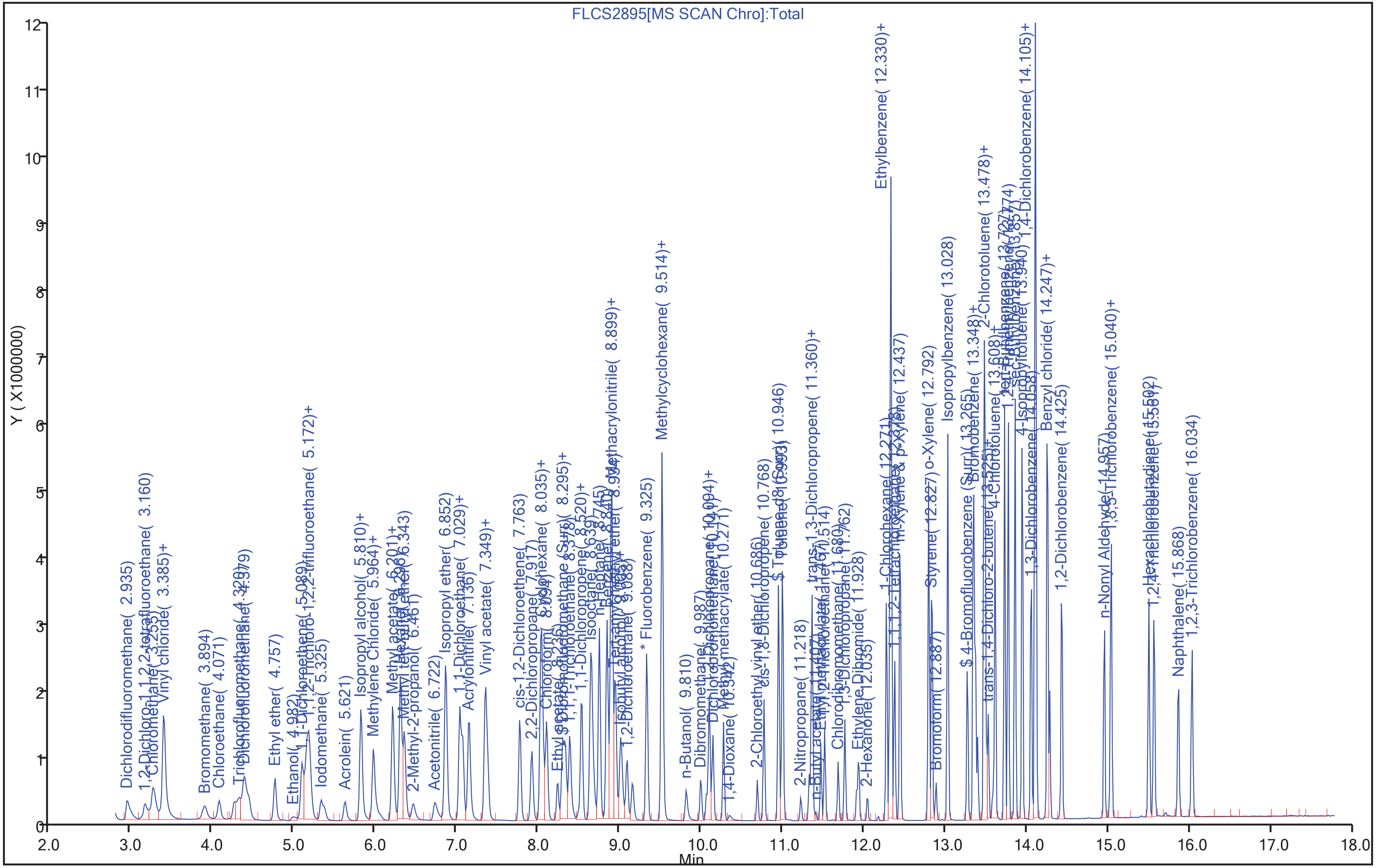
Reagents:

8260 NewWkMix_00241	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 11-Oct-2017 22:48:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FLCS2895.D				
Injection Date:	09-Oct-2017 19:50:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	LCS			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FLCS2895.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 09-Oct-2017 19:50:30 ALS Bottle#: 2 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-005
Misc. Info.: LCS
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 11-Oct-2017 22:48:02 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: hannj Date: 11-Oct-2017 22:48:01

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	50.0	99.92
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	48.3	96.54
$ 62 Toluene-d8 (Surr)	50.0	53.1	106.24
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.8	107.68

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 160-332159/2-A
Matrix: Solid
Lab File ID: FLCS3033.D
Analysis Method: 8260C DOD
Date Collected:
Sample wt/vol: 5.00(g)
Date Analyzed: 10/16/2017 17:18
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 332154
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	50.0		5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	48.6		5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	47.9		5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	48.9		5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	50.6		5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	49.7		5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	46.6		5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	48.8		5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	49.5		5.0	1.0	0.60
71-43-2	Benzene	49.6		5.0	1.0	0.25
75-27-4	Bromodichloromethane	47.8		5.0	1.0	0.25
75-25-2	Bromoform	45.2		5.0	1.0	0.37
56-23-5	Carbon tetrachloride	51.3		5.0	1.0	0.51
124-48-1	Chlorodibromomethane	51.1		5.0	1.0	0.41
67-66-3	Chloroform	48.4		5.0	1.0	0.38
74-87-3	Chloromethane	45.0		10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	50.3		5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	50.7		5.0	1.0	0.60
100-41-4	Ethylbenzene	48.1		5.0	1.0	0.30
75-09-2	Methylene Chloride	47.2		10	5.0	1.6
127-18-4	Tetrachloroethene	52.7		5.0	1.0	0.32
108-88-3	Toluene	52.3		5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	50.2		5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	50.2		5.0	1.0	0.35
79-01-6	Trichloroethene	48.8		5.0	1.0	0.39
75-01-4	Vinyl chloride	38.8		10	1.0	0.43
1330-20-7	Xylenes, Total	108		10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		71-136
460-00-4	4-Bromofluorobenzene (Surr)	106		79-119
1868-53-7	Dibromofluoromethane (Surr)	96		78-119
2037-26-5	Toluene-d8 (Surr)	104		85-116

Report Date: 18-Oct-2017 22:01:53　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FLCS3033.D
Lims ID: LCS 160-332159/2-A
Client ID:
Sample Type: LCS
Inject. Date: 16-Oct-2017 17:18:30　ALS Bottle#: 3　Worklist Smp#: 4
Purge Vol: 5.000 mL　Dil. Factor: 1.0000
Sample Info: 160-0011671-004
Misc. Info.: LCS 160-332159/2-A
Operator ID: JDH　Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:01:52　Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE　ID Type: Deconvolution ID
Quant Method: Internal Standard　Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 :　Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj　Date: 18-Oct-2017 22:01:51

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.937	2.936	0.001	100	702918	50.0	51.3	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.162	3.161	0.001	96	287418	50.0	62.9	
3 Chloromethane	50	3.256	3.255	0.001	100	1107510	50.0	45.0	
122 Butadiene	39	3.386	3.386	0.000	98	965365	50.0	35.3	
4 Vinyl chloride	62	3.386	3.397	-0.011	98	846671	50.0	38.8	
5 Bromomethane	94	3.895	3.894	0.001	92	303879	50.0	42.7	
6 Chloroethane	64	4.073	4.072	0.001	99	434083	50.0	52.5	
7 Trichlorofluoromethane	101	4.309	4.309	0.001	96	906676	50.0	47.6	M
123 Dichlorofluoromethane	67	4.380	4.379	0.001	100	1160591	50.0	47.9	
8 Ethyl ether	74	4.747	4.746	0.001	96	288895	50.0	49.2	
11 Ethanol	45	4.960	4.960	-0.011	23	129558	2000.0	1304.3	
9 1,1-Dichloroethene	96	5.090	5.089	0.001	94	511313	50.0	50.6	
10 Carbon disulfide	76	5.150	5.149	0.001	100	2004580	50.0	50.7	
12 1,1,2-Trichloro-1,2,2-trif	151	5.173	5.172	0.001	97	373520	50.0	52.4	
13 Iodomethane	142	5.327	5.314	0.013	99	685332	50.0	51.7	
14 Acrolein	56	5.611	5.610	0.001	98	312134	250.0	227.2	
16 Isopropyl alcohol	45	5.812	5.811	0.001	16	228788	500.0	434.3	
15 3-Chloro-1-propene	39	5.812	5.811	0.001	90	908481	50.0	47.5	
17 Methylene Chloride	84	5.966	5.965	0.001	98	569767	50.0	47.2	
18 Acetone	43	6.049	6.048	0.001	98	115098	50.0	46.9	
19 trans-1,2-Dichloroethene	96	6.203	6.202	0.001	94	578785	50.0	50.2	
20 Methyl acetate	74	6.215	6.214	0.001	100	103734	250.0	251.1	
21 Hexane	86	6.297	6.296	0.001	96	177484	50.0	54.1	
22 Methyl tert-butyl ether	73	6.345	6.344	0.001	95	1278045	50.0	49.4	
23 2-Methyl-2-propanol	59	6.451	6.450	0.001	97	357643	500.0	457.4	
24 Acetonitrile	41	6.712	6.711	0.001	99	432815	500.0	434.1	
25 Isopropyl ether	45	6.853	6.853	0.001	95	2284131	50.0	51.5	
27 2-Chloro-1,3-butadiene	53	7.019	7.018	0.001	94	1148068	50.0	51.3	
28 1,1-Dichloroethane	63	7.055	7.054	0.001	97	1203313	50.0	48.9	
29 Acrylonitrile	53	7.137	7.137	0.001	99	1380201	500.0	472.8	
30 Tert-butyl ethyl ether	59	7.339	7.338	0.001	98	1781151	50.0	49.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43	7.362	7.361	0.001	97	1118978	50.0	49.0	
32 cis-1,2-Dichloroethene	96	7.765	7.764	0.001	86	610570	50.0	50.3	
33 2,2-Dichloropropane	77	7.907	7.906	0.001	94	762553	50.0	52.7	
35 Chlorobromomethane	128	8.025	8.024	0.001	89	204240	50.0	48.1	
34 Cyclohexane	84	8.025	8.024	0.001	95	1063193	50.0	50.7	
36 Chloroform	83	8.096	8.095	0.001	96	1033786	50.0	48.4	
39 Ethyl acetate	45	8.226	8.225	0.001	99	94211	100.0	87.8	
37 Carbon tetrachloride	117	8.285	8.284	0.001	98	713331	50.0	51.3	
38 Tetrahydrofuran	71	8.309	8.308	0.001	94	68370	100.0	99.4	
$ 41 Dibromofluoromethane (Surr	113	8.321	8.320	0.001	94	427613	50.0	48.1	
40 1,1,1-Trichloroethane	97	8.380	8.379	0.001	97	930677	50.0	50.0	
43 2-Butanone (MEK)	43	8.486	8.486	0.001	96	162633	50.0	45.4	
42 1,1-Dichloropropene	75	8.522	8.521	0.001	92	857909	50.0	50.8	
125 Isooctane	57	8.640	8.639	0.001	98	3173494	50.0	51.9	
117 n-Heptane	43	8.735	8.734	0.001	96	1324861	50.0	51.8	
44 Benzene	78	8.830	8.829	0.001	99	2264554	50.0	49.6	
45 Propionitrile	54	8.865	8.864	0.001	93	460821	500.0	424.5	
46 Methacrylonitrile	41	8.889	8.888	0.001	95	2669620	500.0	476.2	
48 Tert-amyl methyl ether	73	8.936	8.935	0.001	94	1411139	50.0	48.3	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.995	8.994	0.001	96	525044	50.0	45.8	
50 Isobutyl alcohol	42	9.019	9.018	0.001	91	264360	1250.0	1097.4	
49 1,2-Dichloroethane	62	9.078	9.077	0.001	97	634541	50.0	46.6	
* 51 Fluorobenzene	96	9.327	9.326	0.001	97	1874090	50.0	50.0	
52 Methylcyclohexane	55	9.504	9.515	-0.011	97	1178725	50.0	49.9	
53 Trichloroethene	95	9.516	9.515	0.001	62	579004	50.0	48.8	
54 n-Butanol	56	9.800	9.811	-0.011	96	211733	1250.0	1006.6	
55 Dibromomethane	93	9.989	9.988	0.001	90	217523	50.0	46.3	
124 Ethyl acrylate	55	10.060	10.059	0.001	99	313763	50.0	42.4	
56 1,2-Dichloropropane	63	10.096	10.095	0.001	93	549252	50.0	48.8	
57 Dichlorobromomethane	83	10.131	10.130	0.001	98	633572	50.0	47.8	
58 Methyl methacrylate	69	10.273	10.272	0.001	95	366455	100.0	87.5	
59 1,4-Dioxane	88	10.344	10.343	0.001	97	39043	1000.0	618.5	
60 2-Chloroethyl vinyl ether	63	10.687	10.686	0.001	92	172503	50.0	43.1	
61 cis-1,3-Dichloropropene	75	10.770	10.769	0.001	92	702164	50.0	50.7	
$ 62 Toluene-d8 (Surr)	98	10.948	10.947	0.001	94	1623925	50.0	51.8	
63 Toluene	92	10.995	10.994	0.001	98	1221008	50.0	52.3	
64 2-Nitropropane	43	11.220	11.219	0.001	99	171232	100.0	84.8	
66 4-Methyl-2-pentanone (MIBK	43	11.314	11.325	-0.011	97	333251	50.0	47.8	
65 Tetrachloroethene	164	11.350	11.349	0.001	90	339273	50.0	52.7	
67 trans-1,3-Dichloropropene	75	11.362	11.361	0.001	97	562299	50.0	50.2	
119 n-Butyl acetate	43	11.397	11.396	0.001	97	68174	50.0	49.4	
69 Ethyl methacrylate	69	11.468	11.467	0.001	94	364841	50.0	46.1	
68 1,1,2-Trichloroethane	83	11.516	11.515	0.001	94	253887	50.0	47.9	
70 Chlorodibromomethane	129	11.681	11.680	0.001	90	303380	50.0	51.1	
71 1,3-Dichloropropane	76	11.764	11.763	0.001	99	535858	50.0	48.8	
72 Ethylene Dibromide	107	11.906	11.905	0.001	99	245003	50.0	48.4	
74 2-Hexanone	43	12.036	12.035	0.001	99	184875	50.0	45.3	
75 1-Chlorohexane	91	12.273	12.272	0.001	88	687834	50.0	51.3	
* 76 Chlorobenzene-d5	117	12.320	12.319	0.001	91	1123137	50.0	50.0	
78 Ethylbenzene	91	12.332	12.331	0.001	91	2379427	50.0	48.1	
77 Chlorobenzene	112	12.332	12.331	0.001	76	1219949	50.0	50.0	
79 1,1,1,2-Tetrachloroethane	131	12.368	12.378	-0.010	94	433248	50.0	50.4	

Report Date: 18-Oct-2017 22:01:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FLCS3033.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
80 m-Xylene & p-Xylene	106	12.439	12.438	0.001	98	904795	50.0	54.2	
82 o-Xylene	106	12.794	12.793	0.001	98	903579	50.0	53.7	
83 Styrene	104	12.829	12.828	0.001	93	1246297	50.0	53.4	
84 Bromoform	173	12.876	12.887	-0.011	94	153925	50.0	45.2	
85 Isopropylbenzene	105	13.030	13.029	0.001	98	2377146	50.0	54.7	
$ 86 4-Bromofluorobenzene (Surr	95	13.267	13.266	0.001	79	630955	50.0	53.1	
88 N-Propylbenzene	91	13.338	13.337	0.001	98	2822241	50.0	48.8	
87 Bromobenzene	156	13.362	13.361	0.001	91	447146	50.0	50.8	
89 1,1,2,2-Tetrachloroethane	83	13.397	13.396	0.001	94	399258	50.0	48.6	
91 1,3,5-Trimethylbenzene	105	13.468	13.467	0.001	94	2091435	50.0	51.7	
90 2-Chlorotoluene	91	13.480	13.491	-0.011	96	2082555	50.0	51.1	
92 1,2,3-Trichloropropane	110	13.515	13.514	0.001	86	105676	50.0	49.3	
93 trans-1,4-Dichloro-2-buten	53	13.527	13.526	0.001	93	120256	50.0	45.0	
94 Cyclohexanone	55	13.575	13.574	0.001	96	96997	500.0	379.0	
95 4-Chlorotoluene	91	13.610	13.609	0.001	99	1805365	50.0	52.6	
96 tert-Butylbenzene	119	13.728	13.727	0.001	93	1731236	50.0	55.3	
97 1,2,4-Trimethylbenzene	105	13.764	13.775	-0.011	99	2127391	50.0	50.4	
98 sec-Butylbenzene	105	13.859	13.858	0.000	96	2718391	50.0	49.7	
99 4-Isopropyltoluene	119	13.941	13.940	0.001	95	2196078	50.0	49.7	
100 1,3-Dichlorobenzene	146	14.048	14.047	0.001	93	1024466	50.0	51.3	
120 1,2,3-Trimethylbenzene	105	14.095	14.094	0.001	95	2133222	50.0	47.9	
* 101 1,4-Dichlorobenzene-d4	152	14.107	14.106	0.001	73	653964	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.107	14.118	-0.011	93	1035392	50.0	49.5	
103 n-Butylbenzene	134	14.249	14.248	0.001	95	626075	50.0	50.5	
121 Benzyl chloride	126	14.284	14.284	0.000	88	164417	50.0	51.6	
104 1,2-Dichlorobenzene	146	14.426	14.426	0.000	93	921185	50.0	49.7	
106 n-Nonyl Aldehyde	57	14.947	14.946	0.001	84	356831	50.0	44.4	
105 1,2-Dibromo-3-Chloropropan	157	15.030	15.029	0.001	73	62780	50.0	48.5	
107 1,3,5-Trichlorobenzene	180	15.042	15.041	0.001	97	753521	50.0	47.6	
108 Hexachlorobutadiene	225	15.503	15.502	0.001	97	373978	50.0	46.8	
109 1,2,4-Trichlorobenzene	180	15.562	15.561	0.001	93	589737	50.0	45.3	
110 Naphthalene	128	15.858	15.857	0.001	98	1091192	50.0	44.2	
111 1,2,3-Trichlorobenzene	180	16.036	16.035	0.001	95	465734	50.0	42.4	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:01:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FLCS3033.D

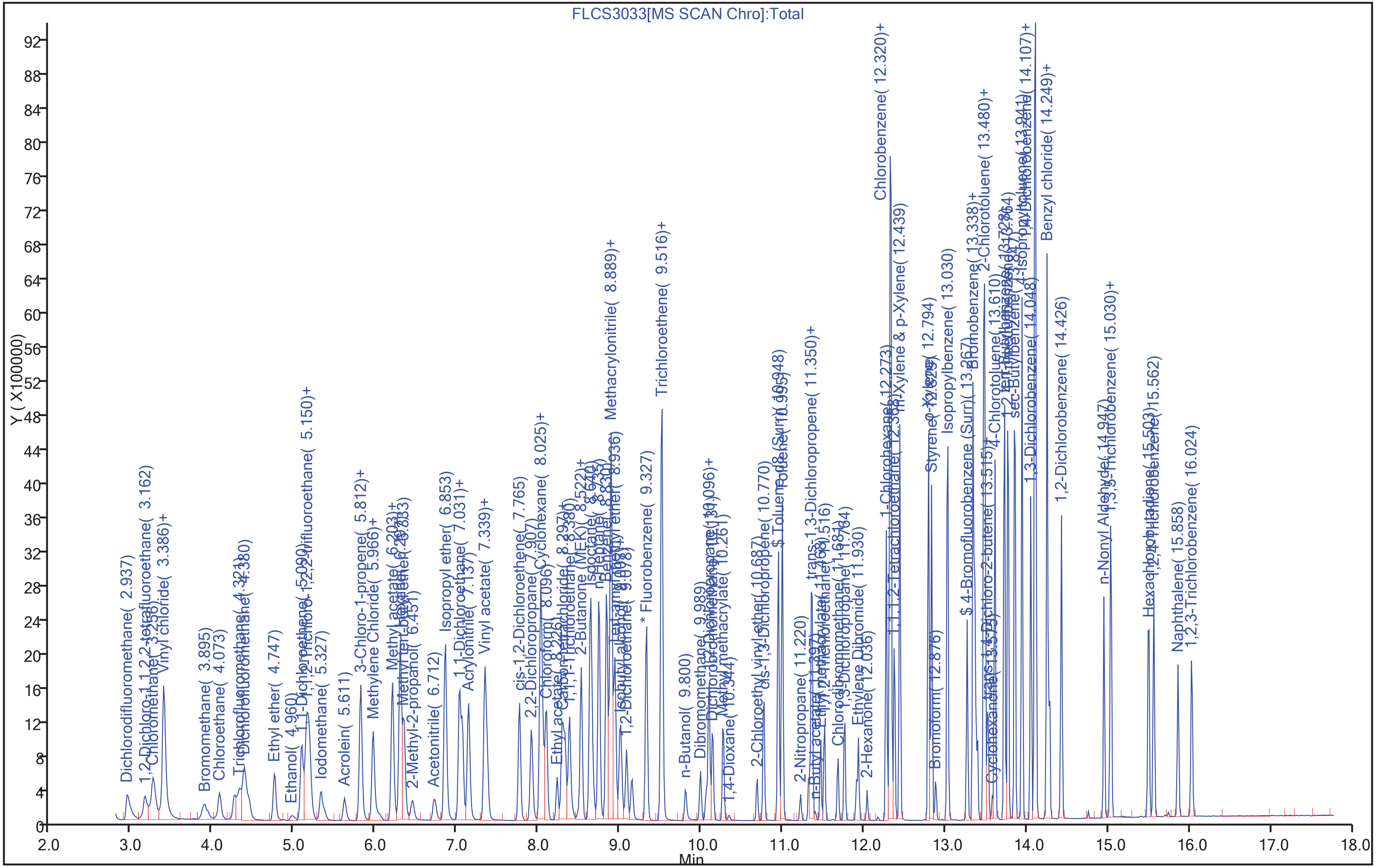
Injection Date: 16-Oct-2017 17:18:30 Instrument ID: VMSF Operator ID: JDH

Lims ID: LCS 160-332159/2-A Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 3

Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FLCS3033.D				
Lims ID:	LCS 160-332159/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	16-Oct-2017 17:18:30	ALS Bottle#:	3	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011671-004				
Misc. Info.:	LCS 160-332159/2-A				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	18-Oct-2017 22:01:52	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK015				
First Level Reviewer: hannj		Date:	18-Oct-2017 22:01:51		

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.1	96.19
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	45.8	91.62
$ 62 Toluene-d8 (Surr)	50.0	51.8	103.59
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.1	106.12

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: LCS 160-332262/2-A
Matrix: Solid	Lab File ID: XLCS9245.D
Analysis Method: 8260C DOD	Date Collected:
Sample wt/vol: 5.00(g)	Date Analyzed: 10/17/2017 16:41
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTXVMS30 ID: 0.25(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 332246	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	52.4		5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	47.7		5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	48.5		5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	52.5		5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	52.1		5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	48.8		5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	50.1		5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	53.6		5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	49.1		5.0	1.0	0.60
71-43-2	Benzene	49.3		5.0	1.0	0.25
75-27-4	Bromodichloromethane	50.9		5.0	1.0	0.25
75-25-2	Bromoform	52.2		5.0	1.0	0.37
56-23-5	Carbon tetrachloride	52.0		5.0	1.0	0.51
124-48-1	Chlorodibromomethane	49.2		5.0	1.0	0.41
67-66-3	Chloroform	49.8		5.0	1.0	0.38
74-87-3	Chloromethane	59.3		10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	52.3		5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	46.7		5.0	1.0	0.60
100-41-4	Ethylbenzene	53.0		5.0	1.0	0.30
75-09-2	Methylene Chloride	50.2		10	5.0	1.6
127-18-4	Tetrachloroethene	51.2		5.0	1.0	0.32
108-88-3	Toluene	51.0		5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	50.8		5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	48.4		5.0	1.0	0.35
79-01-6	Trichloroethene	48.4		5.0	1.0	0.39
75-01-4	Vinyl chloride	52.3		10	1.0	0.43

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		71-136
460-00-4	4-Bromofluorobenzene (Surr)	109		79-119
1868-53-7	Dibromofluoromethane (Surr)	94		78-119
2037-26-5	Toluene-d8 (Surr)	104		85-116

Report Date: 20-Oct-2017 01:05:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XLCS9245.D
Lims ID: LCS 160-332262/2-A
Client ID:
Sample Type: LCS
Inject. Date: 17-Oct-2017 16:41:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011681-004
Misc. Info.: LCS 160-332262/2-A
Operator ID: JDH Instrument ID: VMSX

Method: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 01:05:33 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 01:05:33

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.878	1.878	0.000	99	408424	50.0	55.1	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.031	2.032	-0.001	99	201578	50.0	59.2	
3 Chloromethane	50	2.079	2.079	0.000	99	567453	50.0	59.3	
4 Vinyl chloride	62	2.185	2.185	0.000	98	393281	50.0	52.3	
121 Butadiene	39	2.209	2.209	0.000	89	350921	50.0	55.9	
5 Bromomethane	94	2.576	2.576	0.000	92	145687	50.0	50.5	
6 Chloroethane	64	2.741	2.730	0.011	99	143004	50.0	51.7	
7 Trichlorofluoromethane	101	2.907	2.907	0.000	98	407641	50.0	52.7	
122 Dichlorofluoromethane	67	3.002	3.002	0.000	97	384066	50.0	53.0	
8 Ethyl ether	74	3.345	3.345	0.000	95	148126	50.0	50.8	
11 Ethanol	45	3.593	3.593	0.000	31	74751	2000.0	2125.2	
9 1,1-Dichloroethene	96	3.593	3.593	0.000	96	336425	50.0	52.1	
10 Carbon disulfide	76	3.605	3.605	0.000	100	1140725	50.0	52.4	
12 1,1,2-Trichloro-1,2,2-trif	151	3.700	3.700	0.000	95	235610	50.0	50.2	
13 Iodomethane	142	3.783	3.783	0.000	98	418363	50.0	51.4	
14 Acrolein	56	4.126	4.126	0.000	99	131929	250.0	270.2	
15 3-Chloro-1-propene	39	4.339	4.339	0.000	93	373058	50.0	58.0	
16 Isopropyl alcohol	45	4.469	4.481	-0.012	96	77132	500.0	471.7	
17 Methylene Chloride	84	4.516	4.516	0.000	98	299292	50.0	50.2	
18 Acetone	43	4.635	4.635	0.000	99	51031	50.0	58.9	
19 trans-1,2-Dichloroethene	96	4.777	4.777	0.000	96	339671	50.0	50.8	
20 Methyl acetate	74	4.859	4.860	-0.001	97	43037	250.0	239.1	
21 Hexane	86	4.930	4.931	-0.001	89	113256	50.0	55.5	
22 Methyl tert-butyl ether	73	5.001	5.002	-0.001	95	476676	50.0	51.1	
23 2-Methyl-2-propanol	59	5.214	5.226	-0.012	94	110997	500.0	439.6	
24 Acetonitrile	41	5.356	5.368	-0.012	100	180487	500.0	552.4	
25 Isopropyl ether	45	5.629	5.629	0.000	96	1003453	50.0	55.3	
27 2-Chloro-1,3-butadiene	53	5.711	5.712	-0.001	92	625397	50.0	59.4	
28 1,1-Dichloroethane	63	5.747	5.747	0.000	96	611030	50.0	52.5	
29 Acrylonitrile	53	5.842	5.854	-0.012	99	558239	500.0	542.9	
30 Tert-butyl ethyl ether	59	6.173	6.173	0.000	98	722254	50.0	51.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43	6.185	6.185	0.000	97	439674	50.0	56.6	
32 cis-1,2-Dichloroethene	96	6.540	6.540	0.000	81	335542	50.0	52.3	
33 2,2-Dichloropropane	77	6.682	6.682	0.000	93	321895	50.0	54.9	
34 Cyclohexane	84	6.788	6.788	0.000	92	552827	50.0	53.0	
35 Chlorobromomethane	128	6.812	6.812	0.000	92	110778	50.0	48.2	
36 Chloroform	83	6.942	6.942	0.000	94	512558	50.0	49.8	
37 Carbon tetrachloride	117	7.084	7.084	0.000	98	403911	50.0	52.0	
38 Tetrahydrofuran	71	7.143	7.155	-0.012	92	26421	100.0	88.3	
39 Ethyl acetate	45	7.155	7.167	-0.012	99	42404	100.0	99.9	
$ 41 Dibromofluoromethane (Surr	113	7.179	7.191	-0.012	89	237007	50.0	46.8	
40 1,1,1-Trichloroethane	97	7.191	7.191	0.000	98	472810	50.0	52.4	
42 1,1-Dichloropropene	75	7.356	7.356	0.000	95	459327	50.0	53.9	
43 2-Butanone (MEK)	43	7.380	7.380	0.000	100	64738	50.0	55.7	
124 Isooctane	57	7.522	7.534	-0.012	96	1572385	50.0	57.6	
117 n-Heptane	43	7.688	7.688	0.000	77	737868	50.0	61.7	
44 Benzene	78	7.688	7.688	0.000	97	1281177	50.0	49.3	
45 Propionitrile	54	7.759	7.759	0.000	96	199813	500.0	520.6	
46 Methacrylonitrile	41	7.782	7.782	0.000	93	936145	500.0	525.7	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.877	7.877	0.000	96	238580	50.0	48.5	
48 Tert-amyl methyl ether	73	7.889	7.889	0.000	95	499581	50.0	52.2	
49 1,2-Dichloroethane	62	7.960	7.972	-0.012	96	289938	50.0	50.1	
50 Isobutyl alcohol	42	8.090	8.090	0.000	95	91662	1250.0	1231.8	
* 51 Fluorobenzene	96	8.244	8.244	0.000	99	1259015	50.0	50.0	
52 Methylcyclohexane	55	8.433	8.433	0.000	93	596932	50.0	56.9	
53 Trichloroethene	95	8.457	8.457	0.000	97	332818	50.0	48.4	
54 n-Butanol	56	8.977	8.977	0.000	93	84482	1250.0	1106.6	
55 Dibromomethane	93	8.989	8.989	0.000	94	116841	50.0	48.5	
56 1,2-Dichloropropane	63	9.119	9.119	0.000	95	304463	50.0	53.6	
123 Ethyl acrylate	55	9.214	9.214	0.000	98	190413	50.0	48.3	
57 Dichlorobromomethane	83	9.214	9.214	0.000	99	345478	50.0	50.9	
58 Methyl methacrylate	69	9.462	9.463	-0.001	94	198699	100.0	89.7	
59 1,4-Dioxane	88	9.486	9.486	0.000	86	25547	1000.0	887.9	
60 2-Chloroethyl vinyl ether	63	9.959	9.971	-0.012	84	8242	50.0	29.9	
61 cis-1,3-Dichloropropene	75	10.007	10.019	-0.012	94	388314	50.0	46.7	
$ 62 Toluene-d8 (Surr)	98	10.243	10.244	-0.001	94	1129530	50.0	52.2	
63 Toluene	92	10.303	10.303	0.000	98	803234	50.0	51.0	
64 2-Nitropropane	43	10.598	10.610	-0.012	98	67775	100.0	102.8	
65 Tetrachloroethene	164	10.752	10.764	-0.012	95	244644	50.0	51.2	
66 4-Methyl-2-pentanone (MIBK	43	10.800	10.800	0.000	97	130312	50.0	48.7	
67 trans-1,3-Dichloropropene	75	10.823	10.823	0.000	94	307785	50.0	48.4	
68 1,1,2-Trichloroethane	83	11.001	11.001	0.000	90	146967	50.0	48.5	
69 Ethyl methacrylate	69	11.036	11.036	0.000	85	195817	50.0	44.3	
70 Chlorodibromomethane	129	11.190	11.190	0.000	91	181366	50.0	49.2	
71 1,3-Dichloropropane	76	11.297	11.297	0.000	93	309556	50.0	50.4	
72 Ethylene Dibromide	107	11.439	11.439	0.000	98	149047	50.0	49.5	
118 n-Butyl acetate	43	11.628	11.628	0.000	99	221759	50.0	47.4	
74 2-Hexanone	43	11.711	11.723	-0.012	97	90273	50.0	47.8	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	88	749891	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	80	499685	50.0	47.9	
77 Chlorobenzene	112	11.995	11.995	0.000	89	757384	50.0	48.7	
78 Ethylbenzene	91	12.030	12.030	0.000	96	1552835	50.0	53.0	
79 1,1,1,2-Tetrachloroethane	131	12.066	12.066	0.000	94	221262	50.0	47.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
80 m-Xylene & p-Xylene	106	12.184	12.184	0.000	97	554355	50.0	50.6	
82 o-Xylene	106	12.610	12.610	0.000	98	504047	50.0	49.8	
83 Styrene	104	12.657	12.657	0.000	96	770064	50.0	51.6	
84 Bromoform	173	12.681	12.681	0.000	95	80314	50.0	52.2	
85 Isopropylbenzene	105	12.906	12.906	0.000	96	1384281	50.0	57.6	
$ 86 4-Bromofluorobenzene (Surr	95	13.166	13.178	-0.012	83	341816	50.0	54.6	
87 Bromobenzene	156	13.261	13.273	-0.012	95	251063	50.0	53.7	
88 N-Propylbenzene	91	13.296	13.296	0.000	99	1688475	50.0	56.4	
89 1,1,2,2-Tetrachloroethane	83	13.367	13.367	0.000	94	159605	50.0	47.7	
90 2-Chlorotoluene	91	13.438	13.438	0.000	96	924512	50.0	54.1	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	1048030	50.0	55.4	
92 1,2,3-Trichloropropane	110	13.486	13.498	-0.012	81	43901	50.0	47.4	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	92	55515	50.0	54.5	
94 Cyclohexanone	55	13.533	13.533	0.000	69	37907	500.0	424.5	
95 4-Chlorotoluene	91	13.592	13.592	0.000	98	946253	50.0	54.8	
96 tert-Butylbenzene	119	13.770	13.770	0.000	93	904973	50.0	55.6	
97 1,2,4-Trimethylbenzene	105	13.829	13.829	0.000	98	1013287	50.0	53.9	
98 sec-Butylbenzene	105	13.923	13.924	-0.001	95	1431809	50.0	53.4	
99 4-Isopropyltoluene	119	14.054	14.054	0.000	97	1118589	50.0	54.6	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	98	489312	50.0	50.0	
* 101 1,4-Dichlorobenzene-d4	152	14.184	14.184	0.000	97	291491	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.196	14.196	0.000	92	460683	50.0	49.1	
119 1,2,3-Trimethylbenzene	105	14.219	14.219	0.000	98	898635	50.0	51.1	
120 Benzyl chloride	126	14.420	14.421	-0.001	89	52688	50.0	53.0	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	293087	50.0	54.9	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	389386	50.0	48.8	
105 1,2-Dibromo-3-Chloropropan	157	15.261	15.261	0.000	85	18230	50.0	44.1	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	59	107710	50.0	56.1	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	333530	50.0	53.1	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	97	151089	50.0	51.8	
109 1,2,4-Trichlorobenzene	180	15.829	15.841	-0.012	93	246113	50.0	54.6	
110 Naphthalene	128	16.113	16.113	0.000	97	381897	50.0	48.1	
111 1,2,3-Trichlorobenzene	180	16.266	16.267	0.000	95	203586	50.0	53.9	

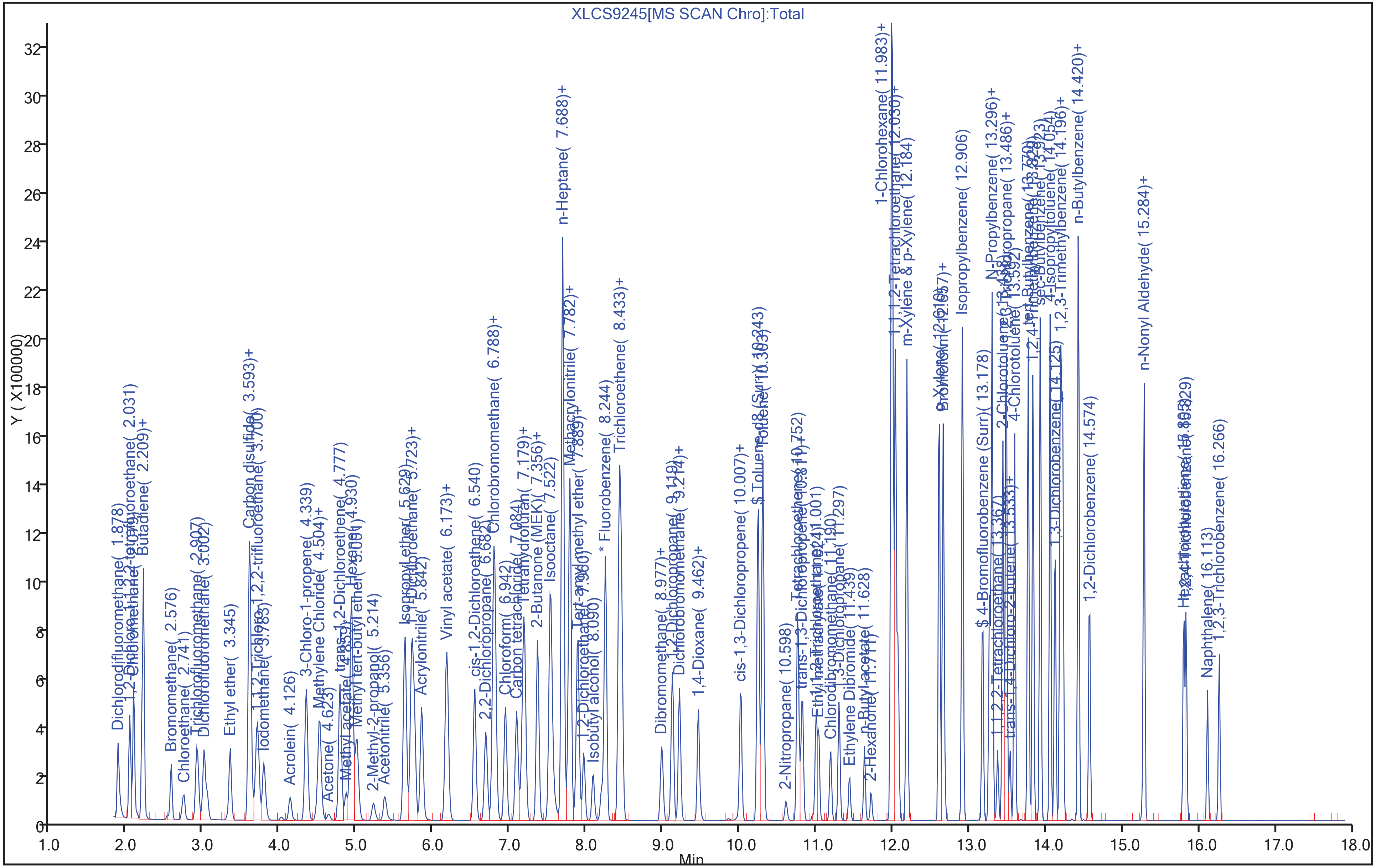
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 01:05:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XLCS9245.D				
Injection Date:	17-Oct-2017 16:41:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	LCS 160-332262/2-A			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XLCS9245.D
Lims ID: LCS 160-332262/2-A
Client ID:
Sample Type: LCS
Inject. Date: 17-Oct-2017 16:41:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011681-004
Misc. Info.: LCS 160-332262/2-A
Operator ID: JDH Instrument ID: VMSX

Method: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 01:05:33 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 01:05:33

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	46.8	93.53
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	48.5	97.07
$ 62 Toluene-d8 (Surr)	50.0	52.2	104.41
$ 86 4-Bromofluorobenzene (Surr)	50.0	54.6	109.24

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis | Job No.: 160-24924-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 160-332265/2-A

Matrix: Solid | Lab File ID: FLCS3059.D

Analysis Method: 8260C DOD | Date Collected:

Sample wt/vol: 5.00(g) | Date Analyzed: 10/17/2017 15:57

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-VMS40 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 332247 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	47.1		5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	46.4		5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	46.9		5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	45.9		5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	47.6		5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	49.3		5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	43.6		5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	47.0		5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	48.5		5.0	1.0	0.60
71-43-2	Benzene	47.9		5.0	1.0	0.25
75-27-4	Bromodichloromethane	46.9		5.0	1.0	0.25
75-25-2	Bromoform	46.3		5.0	1.0	0.37
56-23-5	Carbon tetrachloride	48.2		5.0	1.0	0.51
124-48-1	Chlorodibromomethane	51.1		5.0	1.0	0.41
67-66-3	Chloroform	46.8		5.0	1.0	0.38
74-87-3	Chloromethane	41.4		10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	47.9		5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	49.3		5.0	1.0	0.60
100-41-4	Ethylbenzene	46.6		5.0	1.0	0.30
75-09-2	Methylene Chloride	45.7		10	5.0	1.6
127-18-4	Tetrachloroethene	52.3		5.0	1.0	0.32
108-88-3	Toluene	50.2		5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	47.6		5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	48.9		5.0	1.0	0.35
79-01-6	Trichloroethene	46.2		5.0	1.0	0.39
75-01-4	Vinyl chloride	35.6		10	1.0	0.43
1330-20-7	Xylenes, Total	103		10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		71-136
460-00-4	4-Bromofluorobenzene (Surr)	103		79-119
1868-53-7	Dibromofluoromethane (Surr)	96		78-119
2037-26-5	Toluene-d8 (Surr)	102		85-116

FORM I 8260C DOD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FLCS3059.D
Lims ID: LCS 160-332265/2-A
Client ID:
Sample Type: LCS
Inject. Date: 17-Oct-2017 15:57:30 ALS Bottle#: 3 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-005
Misc. Info.: LCS 160-332265/2-A
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 19-Oct-2017 23:56:37 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 19-Oct-2017 23:56:37

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.936	2.936	0.000	100	647440	50.0	47.5	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.161	3.161	0.000	97	271428	50.0	59.7	
3 Chloromethane	50	3.256	3.256	0.000	100	1013809	50.0	41.4	
122 Butadiene	39	3.386	3.386	0.000	98	886827	50.0	32.3	
4 Vinyl chloride	62	3.398	3.398	0.000	98	772385	50.0	35.6	
5 Bromomethane	94	3.895	3.883	0.012	93	270693	50.0	38.2	
6 Chloroethane	64	4.072	4.072	0.000	99	437134	50.0	53.1	
7 Trichlorofluoromethane	101	4.321	4.321	0.012	95	846614	50.0	44.7	M
123 Dichlorofluoromethane	67	4.380	4.380	0.000	100	1072701	50.0	44.5	
8 Ethyl ether	74	4.747	4.758	-0.011	96	275506	50.0	47.2	
11 Ethanol	45	4.972	4.972	0.001	99	170516	2000.0	1715.3	M
9 1,1-Dichloroethene	96	5.090	5.090	0.000	94	478298	50.0	47.6	
10 Carbon disulfide	76	5.149	5.149	0.000	100	1812420	50.0	46.1	
12 1,1,2-Trichloro-1,2,2-trif	151	5.173	5.184	-0.011	97	352621	50.0	49.7	
13 Iodomethane	142	5.327	5.326	0.001	100	646660	50.0	49.1	
14 Acrolein	56	5.611	5.610	0.001	99	302422	250.0	221.3	
16 Isopropyl alcohol	45	5.800	5.811	-0.011	17	245763	500.0	469.1	
15 3-Chloro-1-propene	39	5.812	5.811	0.001	90	839808	50.0	44.2	
17 Methylene Chloride	84	5.966	5.965	0.001	98	548798	50.0	45.7	
18 Acetone	43	6.048	6.048	0.000	99	119679	50.0	49.1	
19 trans-1,2-Dichloroethene	96	6.202	6.202	0.000	94	545340	50.0	47.6	
20 Methyl acetate	74	6.214	6.214	0.000	99	100945	250.0	245.7	
21 Hexane	86	6.297	6.297	0.000	95	161059	50.0	49.4	
22 Methyl tert-butyl ether	73	6.344	6.344	0.000	90	1214781	50.0	47.2	
23 2-Methyl-2-propanol	59	6.451	6.450	0.001	97	346151	500.0	445.2	
24 Acetonitrile	41	6.711	6.711	0.000	99	481659	500.0	485.7	
25 Isopropyl ether	45	6.853	6.853	0.000	96	2150084	50.0	48.8	
27 2-Chloro-1,3-butadiene	53	7.019	7.030	-0.011	94	1053943	50.0	47.4	
28 1,1-Dichloroethane	63	7.054	7.066	-0.012	97	1123961	50.0	45.9	
29 Acrylonitrile	53	7.137	7.137	0.000	99	1377037	500.0	474.3	
30 Tert-butyl ethyl ether	59	7.338	7.338	0.000	99	1699468	50.0	47.5	

Report Date: 19-Oct-2017 23:56:38 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FLCS3059.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43	7.362	7.373	-0.011	97	1075819	50.0	47.4	
32 cis-1,2-Dichloroethene	96	7.764	7.764	0.000	85	578450	50.0	47.9	
33 2,2-Dichloropropane	77	7.906	7.906	0.000	92	704127	50.0	48.9	
35 Chlorobromomethane	128	8.013	8.024	-0.011	88	194593	50.0	46.1	
34 Cyclohexane	84	8.025	8.036	-0.011	95	973605	50.0	46.7	
36 Chloroform	83	8.096	8.095	0.001	96	993004	50.0	46.8	
39 Ethyl acetate	45	8.226	8.225	0.001	99	95239	100.0	89.3	
37 Carbon tetrachloride	117	8.285	8.284	0.001	97	666642	50.0	48.2	
38 Tetrahydrofuran	71	8.309	8.308	0.001	92	65778	100.0	96.1	
$ 41 Dibromofluoromethane (Surr	113	8.320	8.320	0.000	94	423764	50.0	47.9	
40 1,1,1-Trichloroethane	97	8.380	8.379	0.001	97	872129	50.0	47.1	
43 2-Butanone (MEK)	43	8.486	8.486	0.000	98	156280	50.0	43.9	
42 1,1-Dichloropropene	75	8.522	8.521	0.001	92	802035	50.0	47.7	
125 Isooctane	57	8.640	8.639	0.001	99	2902751	50.0	47.8	
117 n-Heptane	43	8.735	8.734	0.001	96	1226835	50.0	48.2	
44 Benzene	78	8.829	8.829	0.000	98	2177891	50.0	47.9	
45 Propionitrile	54	8.865	8.864	0.001	97	498212	500.0	461.4	
46 Methacrylonitrile	41	8.888	8.888	0.000	95	2582592	500.0	463.3	
48 Tert-amyl methyl ether	73	8.936	8.935	0.001	95	1349892	50.0	46.4	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.995	8.994	0.001	95	521084	50.0	45.7	
50 Isobutyl alcohol	42	9.019	9.018	0.000	92	274007	1250.0	1143.7	
49 1,2-Dichloroethane	62	9.078	9.077	0.001	97	591389	50.0	43.6	
* 51 Fluorobenzene	96	9.326	9.326	0.000	97	1863793	50.0	50.0	
52 Methylcyclohexane	55	9.504	9.515	-0.011	96	1064683	50.0	45.3	
53 Trichloroethene	95	9.515	9.515	0.000	64	545435	50.0	46.2	
54 n-Butanol	56	9.811	9.811	0.000	95	224041	1250.0	1066.2	
55 Dibromomethane	93	9.989	9.988	0.001	91	218219	50.0	46.7	
124 Ethyl acrylate	55	10.060	10.059	0.001	99	318091	50.0	43.2	
56 1,2-Dichloropropane	63	10.095	10.095	0.000	94	526268	50.0	47.0	
57 Dichlorobromomethane	83	10.131	10.142	-0.011	98	619290	50.0	46.9	
58 Methyl methacrylate	69	10.273	10.272	0.001	95	360365	100.0	86.5	
59 1,4-Dioxane	88	10.344	10.343	0.001	92	43671	1000.0	688.1	
60 2-Chloroethyl vinyl ether	63	10.687	10.687	0.000	92	165180	50.0	41.6	
61 cis-1,3-Dichloropropene	75	10.770	10.769	0.001	92	677977	50.0	49.3	
$ 62 Toluene-d8 (Surr)	98	10.947	10.947	0.000	94	1601889	50.0	51.0	
63 Toluene	92	10.995	10.994	0.001	98	1173411	50.0	50.2	
64 2-Nitropropane	43	11.219	11.219	0.000	99	167696	100.0	83.0	
66 4-Methyl-2-pentanone (MIBK	43	11.314	11.326	-0.012	97	320311	50.0	45.9	
65 Tetrachloroethene	164	11.350	11.349	0.001	91	337286	50.0	52.3	
67 trans-1,3-Dichloropropene	75	11.361	11.361	0.000	96	548159	50.0	48.9	
119 n-Butyl acetate	43	11.397	11.397	0.001	99	66708	50.0	48.3	
69 Ethyl methacrylate	69	11.468	11.468	0.000	93	363773	50.0	45.9	
68 1,1,2-Trichloroethane	83	11.515	11.515	0.000	93	249071	50.0	46.9	
70 Chlorodibromomethane	129	11.681	11.680	0.001	91	303553	50.0	51.1	
71 1,3-Dichloropropane	76	11.764	11.763	0.001	97	518476	50.0	47.2	
72 Ethylene Dibromide	107	11.906	11.905	0.001	98	243763	50.0	48.1	
74 2-Hexanone	43	12.036	12.035	0.001	99	184094	50.0	45.0	
75 1-Chlorohexane	91	12.273	12.272	0.001	90	656310	50.0	48.9	
* 76 Chlorobenzene-d5	117	12.320	12.319	0.001	91	1124578	50.0	50.0	
78 Ethylbenzene	91	12.332	12.331	0.001	95	2306836	50.0	46.6	
77 Chlorobenzene	112	12.332	12.331	0.001	88	1185783	50.0	48.5	
79 1,1,1,2-Tetrachloroethane	131	12.367	12.367	0.000	95	416159	50.0	48.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
80 m-Xylene & p-Xylene	106	12.438	12.438	0.000	97	864481	50.0	51.7	
82 o-Xylene	106	12.793	12.793	0.000	98	866743	50.0	51.4	
83 Styrene	104	12.829	12.828	0.001	94	1207140	50.0	51.6	
84 Bromoform	173	12.876	12.887	-0.011	94	159361	50.0	46.3	
85 Isopropylbenzene	105	13.030	13.029	0.001	98	2283093	50.0	51.6	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.266	0.000	80	615915	50.0	51.3	
88 N-Propylbenzene	91	13.337	13.337	0.000	98	2720317	50.0	46.6	
87 Bromobenzene	156	13.361	13.361	0.000	91	442306	50.0	49.7	
89 1,1,2,2-Tetrachloroethane	83	13.397	13.396	0.001	95	385315	50.0	46.4	
91 1,3,5-Trimethylbenzene	105	13.468	13.467	0.001	94	2003534	50.0	49.1	
90 2-Chlorotoluene	91	13.479	13.491	-0.012	95	1990305	50.0	48.0	
92 1,2,3-Trichloropropane	110	13.515	13.515	0.000	88	104826	50.0	48.4	
93 trans-1,4-Dichloro-2-buten	53	13.527	13.526	0.001	94	120764	50.0	44.8	
94 Cyclohexanone	55	13.574	13.574	0.000	95	106533	500.0	412.3	
95 4-Chlorotoluene	91	13.610	13.609	0.001	99	1742850	50.0	50.0	
96 tert-Butylbenzene	119	13.728	13.728	0.000	93	1665433	50.0	52.7	
97 1,2,4-Trimethylbenzene	105	13.763	13.775	-0.012	99	2076149	50.0	48.7	
98 sec-Butylbenzene	105	13.858	13.858	0.000	96	2640667	50.0	47.8	
99 4-Isopropyltoluene	119	13.941	13.941	0.000	95	2138205	50.0	47.9	
100 1,3-Dichlorobenzene	146	14.047	14.047	0.000	94	985296	50.0	48.8	
120 1,2,3-Trimethylbenzene	105	14.095	14.094	0.001	96	2083452	50.0	46.3	
* 101 1,4-Dichlorobenzene-d4	152	14.107	14.106	0.001	73	660225	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.118	14.118	0.000	94	1025243	50.0	48.5	
103 n-Butylbenzene	134	14.249	14.248	0.001	95	605472	50.0	48.4	
121 Benzyl chloride	126	14.284	14.284	0.000	74	157854	50.0	49.1	
104 1,2-Dichlorobenzene	146	14.426	14.426	0.000	94	922335	50.0	49.3	
106 n-Nonyl Aldehyde	57	14.947	14.946	0.001	85	341932	50.0	42.2	
105 1,2-Dibromo-3-Chloropropan	157	15.030	15.029	0.001	75	62640	50.0	47.9	
107 1,3,5-Trichlorobenzene	180	15.041	15.041	0.000	97	792095	50.0	49.5	
108 Hexachlorobutadiene	225	15.503	15.502	0.001	98	391245	50.0	48.5	
109 1,2,4-Trichlorobenzene	180	15.562	15.562	0.000	93	628204	50.0	47.8	
110 Naphthalene	128	15.858	15.857	0.001	98	1125576	50.0	45.2	
111 1,2,3-Trichlorobenzene	180	16.035	16.035	0.000	96	506663	50.0	45.7	

QC Flag Legend

Review Flags
M - Manually Integrated

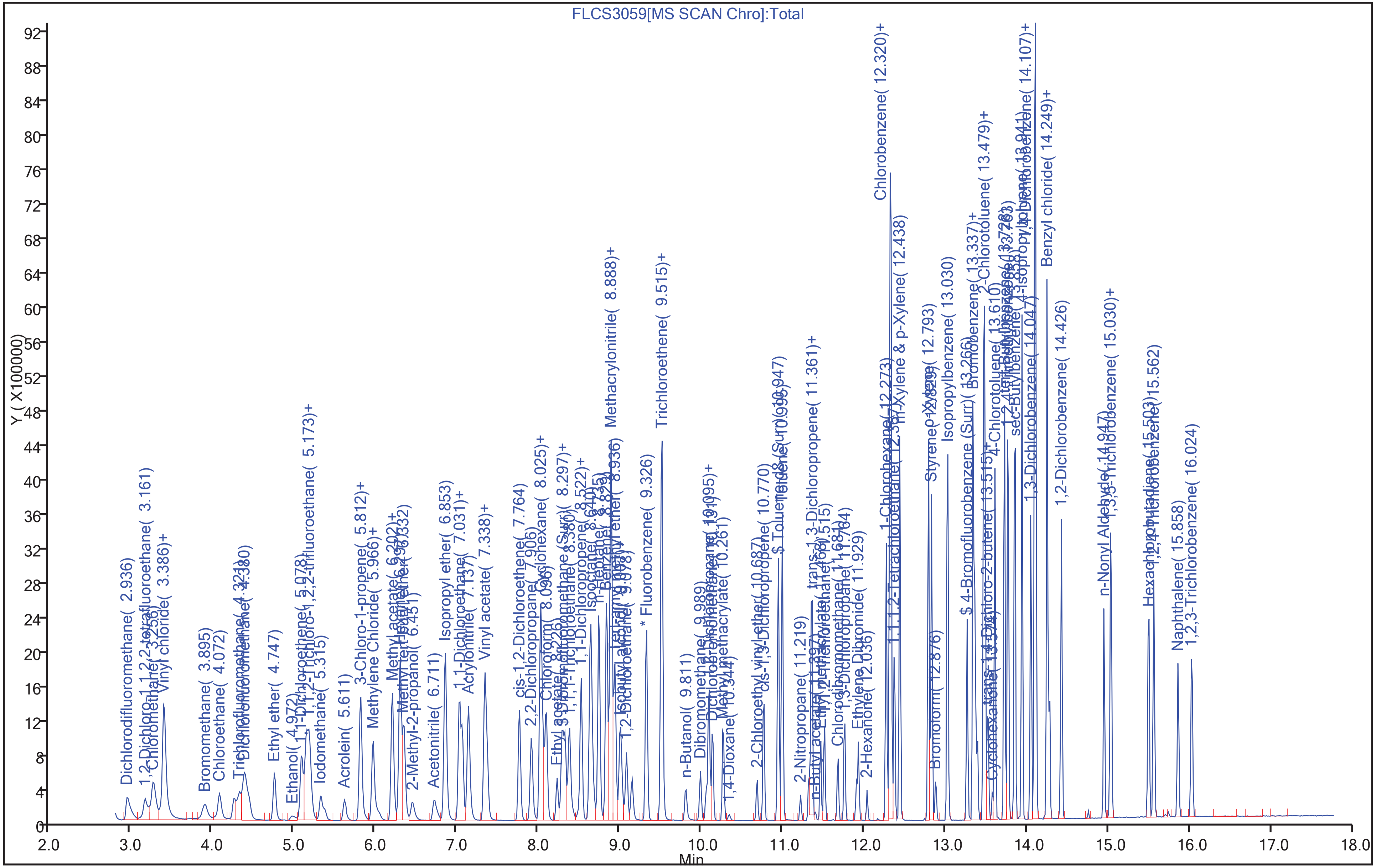
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 19-Oct-2017 23:56:38 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FLCS3059.D				
Injection Date:	17-Oct-2017 15:57:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	LCS 160-332265/2-A			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FLCS3059.D				
Lims ID:	LCS 160-332265/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	17-Oct-2017 15:57:30	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011682-005				
Misc. Info.:	LCS 160-332265/2-A				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	19-Oct-2017 23:56:37	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK032				
First Level Reviewer: hannj		Date:	19-Oct-2017 23:56:37		

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	47.9	95.85
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	45.7	91.43
$ 62 Toluene-d8 (Surr)	50.0	51.0	102.05
$ 86 4-Bromofluorobenzene (Surr)	50.0	51.3	102.61

FORM I

GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: LCS 160-332822/2-A
Matrix: Solid	Lab File ID: XLCS9324.D
Analysis Method: 8260C DOD	Date Collected:
Sample wt/vol: 5.00(g)	Date Analyzed: 10/19/2017 16:42
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTXVMS30 ID: 0.25(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 332817	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	54.7		5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	47.8		5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	49.3		5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	54.1		5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	54.5		5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	50.3		5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	53.1		5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	54.3		5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	51.4		5.0	1.0	0.60
71-43-2	Benzene	51.9		5.0	1.0	0.25
75-27-4	Bromodichloromethane	53.0		5.0	1.0	0.25
75-25-2	Bromoform	52.4		5.0	1.0	0.37
56-23-5	Carbon tetrachloride	54.1		5.0	1.0	0.51
124-48-1	Chlorodibromomethane	50.5		5.0	1.0	0.41
67-66-3	Chloroform	51.9		5.0	1.0	0.38
74-87-3	Chloromethane	58.6		10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	53.6		5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	47.7		5.0	1.0	0.60
100-41-4	Ethylbenzene	57.2		5.0	1.0	0.30
75-09-2	Methylene Chloride	51.7		10	5.0	1.6
127-18-4	Tetrachloroethene	52.8		5.0	1.0	0.32
108-88-3	Toluene	53.3		5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	52.8		5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	49.8		5.0	1.0	0.35
79-01-6	Trichloroethene	51.7		5.0	1.0	0.39
75-01-4	Vinyl chloride	52.6		10	1.0	0.43

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		71-136
460-00-4	4-Bromofluorobenzene (Surr)	103		79-119
1868-53-7	Dibromofluoromethane (Surr)	94		78-119
2037-26-5	Toluene-d8 (Surr)	103		85-116

Report Date: 24-Oct-2017 17:00:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XLCS9324.D
Lims ID: LCS 160-332822/2-A
Client ID:
Sample Type: LCS
Inject. Date: 19-Oct-2017 16:42:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011712-004
Misc. Info.: LCS 160-332822/2-A
Operator ID: JDH Instrument ID: VMSX

Method: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 24-Oct-2017 17:00:43 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: hannj Date: 24-Oct-2017 17:00:43

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.878	1.878	0.000	99	363383	50.0	54.7	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.032	2.031	0.000	99	185265	50.0	60.7	
3 Chloromethane	50	2.091	2.079	0.012	99	501967	50.0	58.6	
4 Vinyl chloride	62	2.197	2.197	0.000	97	354149	50.0	52.6	
121 Butadiene	39	2.209	2.209	0.000	89	314058	50.0	55.8	
5 Bromomethane	94	2.576	2.576	0.000	92	131570	50.0	50.9	
6 Chloroethane	64	2.741	2.741	0.000	99	136081	50.0	54.9	
7 Trichlorofluoromethane	101	2.907	2.919	-0.012	99	391385	50.0	56.5	
122 Dichlorofluoromethane	67	3.002	3.002	0.000	97	367749	50.0	56.7	
8 Ethyl ether	74	3.345	3.357	-0.012	95	132332	50.0	50.7	
9 1,1-Dichloroethene	96	3.593	3.593	0.000	95	315413	50.0	54.5	
11 Ethanol	45	3.605	3.605	0.000	26	68727	2000.0	2179.3	
10 Carbon disulfide	76	3.605	3.605	0.000	99	1028951	50.0	52.7	
12 1,1,2-Trichloro-1,2,2-trif	151	3.700	3.700	0.000	95	220943	50.0	52.5	
13 Iodomethane	142	3.783	3.795	-0.012	98	382098	50.0	52.5	
14 Acrolein	56	4.138	4.138	0.000	99	113812	250.0	260.8	
15 3-Chloro-1-propene	39	4.339	4.339	0.000	92	347771	50.0	60.3	
16 Isopropyl alcohol	45	4.493	4.493	0.000	95	66671	500.0	456.1	
17 Methylene Chloride	84	4.516	4.516	0.000	99	276030	50.0	51.7	
18 Acetone	43	4.635	4.635	0.000	99	44937	50.0	57.9	
19 trans-1,2-Dichloroethene	96	4.789	4.789	0.001	97	315706	50.0	52.8	
20 Methyl acetate	74	4.860	4.871	-0.011	98	38777	250.0	240.4	
21 Hexane	86	4.931	4.942	-0.011	89	98402	50.0	53.8	
22 Methyl tert-butyl ether	73	5.002	5.013	-0.011	94	424255	50.0	50.8	
23 2-Methyl-2-propanol	59	5.226	5.226	0.000	93	92970	500.0	413.2	
24 Acetonitrile	41	5.368	5.368	0.000	100	168423	500.0	575.5	
25 Isopropyl ether	45	5.629	5.640	-0.011	95	886064	50.0	54.5	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	93	588770	50.0	62.5	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	97	564067	50.0	54.1	
29 Acrylonitrile	53	5.854	5.853	0.001	99	516777	500.0	561.1	
30 Tert-butyl ethyl ether	59	6.173	6.173	0.000	97	631166	50.0	49.9	

Report Date: 24-Oct-2017 17:00:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XLCS9324.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43	6.197	6.197	0.000	97	397416	50.0	57.1	
32 cis-1,2-Dichloroethene	96	6.540	6.552	-0.012	81	308268	50.0	53.6	
33 2,2-Dichloropropane	77	6.694	6.694	0.000	93	318604	50.0	60.6	
34 Cyclohexane	84	6.788	6.800	-0.012	92	514935	50.0	55.1	
35 Chlorobromomethane	128	6.812	6.812	0.000	94	103732	50.0	50.4	
36 Chloroform	83	6.942	6.942	0.000	95	478616	50.0	51.9	
37 Carbon tetrachloride	117	7.096	7.096	0.000	98	376186	50.0	54.1	
38 Tetrahydrofuran	71	7.155	7.155	0.000	91	21529	100.0	81.0	
39 Ethyl acetate	45	7.167	7.167	0.000	98	38761	100.0	102.0	
40 1,1,1-Trichloroethane	97	7.191	7.191	0.000	97	441458	50.0	54.7	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.191	0.000	91	214240	50.0	47.2	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	96	429387	50.0	56.3	
43 2-Butanone (MEK)	43	7.392	7.392	0.000	100	61499	50.0	59.0	
124 Isooctane	57	7.534	7.534	0.000	96	1461626	50.0	59.7	
117 n-Heptane	43	7.688	7.688	0.000	77	667698	50.0	62.3	
44 Benzene	78	7.699	7.699	0.000	97	1207978	50.0	51.9	
45 Propionitrile	54	7.759	7.770	-0.011	93	182778	500.0	531.6	
46 Methacrylonitrile	41	7.782	7.794	-0.012	93	872380	500.0	547.0	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.877	7.877	0.000	95	218697	50.0	49.7	
48 Tert-amyl methyl ether	73	7.901	7.901	0.000	93	444452	50.0	51.8	
49 1,2-Dichloroethane	62	7.972	7.972	0.000	97	274998	50.0	53.1	
50 Isobutyl alcohol	42	8.090	8.090	0.000	94	75526	1250.0	1139.2	
* 51 Fluorobenzene	96	8.256	8.256	0.000	99	1127748	50.0	50.0	
52 Methylcyclohexane	55	8.433	8.433	0.000	93	564145	50.0	60.0	
53 Trichloroethene	95	8.457	8.469	-0.012	98	318543	50.0	51.7	
54 n-Butanol	56	8.977	8.977	0.000	89	71591	1250.0	1056.5	
55 Dibromomethane	93	8.989	8.989	0.000	96	106664	50.0	49.4	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	95	276456	50.0	54.3	
123 Ethyl acrylate	55	9.214	9.214	0.000	98	167745	50.0	47.5	
57 Dichlorobromomethane	83	9.214	9.226	-0.012	99	322186	50.0	53.0	
58 Methyl methacrylate	69	9.463	9.463	0.001	95	177822	100.0	89.6	
59 1,4-Dioxane	88	9.486	9.486	0.000	78	23605	1000.0	913.5	
60 2-Chloroethyl vinyl ether	63		9.971				ND	ND	
61 cis-1,3-Dichloropropene	75	10.019	10.019	0.000	94	355418	50.0	47.7	
$ 62 Toluene-d8 (Surr)	98	10.244	10.243	0.001	94	1008105	50.0	51.3	
63 Toluene	92	10.303	10.303	0.000	98	763219	50.0	53.3	
64 2-Nitropropane	43	10.610	10.610	0.000	99	58489	100.0	98.1	
65 Tetrachloroethene	164	10.764	10.764	0.000	94	229216	50.0	52.8	
66 4-Methyl-2-pentanone (MIBK	43	10.800	10.800	0.000	98	115193	50.0	47.5	
67 trans-1,3-Dichloropropene	75	10.823	10.823	0.000	95	288247	50.0	49.8	
68 1,1,2-Trichloroethane	83	11.001	11.001	0.000	91	135813	50.0	49.3	
69 Ethyl methacrylate	69	11.036	11.036	0.000	72	176009	50.0	43.9	
70 Chlorodibromomethane	129	11.190	11.190	0.000	90	169040	50.0	50.5	
71 1,3-Dichloropropane	76	11.297	11.308	-0.011	94	283911	50.0	50.9	
72 Ethylene Dibromide	107	11.439	11.439	0.000	98	132698	50.0	48.5	
118 n-Butyl acetate	43	11.628	11.640	-0.012	98	191329	50.0	45.4	
74 2-Hexanone	43	11.723	11.723	0.000	98	81539	50.0	47.6	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	89	681409	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	86	453182	50.0	47.8	
77 Chlorobenzene	112	11.995	11.995	0.000	97	730618	50.0	51.7	
78 Ethylbenzene	91	12.042	12.042	0.000	96	1523822	50.0	57.2	
79 1,1,1,2-Tetrachloroethane	131	12.066	12.078	-0.012	94	212181	50.0	50.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
80 m-Xylene & p-Xylene	106	12.184	12.184	0.000	97	518191	50.0	52.1	
82 o-Xylene	106	12.610	12.610	0.000	98	469944	50.0	51.1	
83 Styrene	104	12.657	12.657	0.000	95	729022	50.0	53.8	
84 Bromoform	173	12.681	12.681	0.000	95	75333	50.0	52.4	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	1322518	50.0	58.9	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	84	302025	50.0	51.7	
87 Bromobenzene	156	13.273	13.273	0.000	95	238397	50.0	54.6	
88 N-Propylbenzene	91	13.296	13.296	0.000	98	1651252	50.0	59.0	
89 1,1,2,2-Tetrachloroethane	83	13.367	13.367	0.000	95	149511	50.0	47.8	
90 2-Chlorotoluene	91	13.438	13.438	0.000	96	914628	50.0	57.3	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	1007080	50.0	57.0	
92 1,2,3-Trichloropropane	110	13.498	13.498	0.000	82	42924	50.0	49.6	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	90	49241	50.0	51.8	
94 Cyclohexanone	55	13.533	13.533	0.000	74	38959	500.0	463.6	
95 4-Chlorotoluene	91	13.592	13.592	0.000	98	904093	50.0	56.0	
96 tert-Butylbenzene	119	13.770	13.770	0.000	93	871580	50.0	57.3	
97 1,2,4-Trimethylbenzene	105	13.829	13.829	0.000	98	997299	50.0	56.8	
98 sec-Butylbenzene	105	13.935	13.935	0.000	95	1404790	50.0	56.1	
99 4-Isopropyltoluene	119	14.054	14.054	0.000	97	1108732	50.0	58.0	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	97	475065	50.0	51.9	
* 101 1,4-Dichlorobenzene-d4	152	14.184	14.184	0.000	97	272265	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.208	14.207	0.001	93	450451	50.0	51.4	
119 1,2,3-Trimethylbenzene	105	14.219	14.219	0.000	99	867815	50.0	52.9	
120 Benzyl chloride	126	14.421	14.420	0.001	89	51683	50.0	55.7	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	288557	50.0	57.9	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	375257	50.0	50.3	
105 1,2-Dibromo-3-Chloropropan	157	15.273	15.261	0.012	83	16454	50.0	42.7	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	58	92042	50.0	51.6	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	331844	50.0	56.6	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	146327	50.0	53.7	
109 1,2,4-Trichlorobenzene	180	15.841	15.840	0.000	93	246370	50.0	58.5	
110 Naphthalene	128	16.113	16.113	0.000	97	359732	50.0	48.4	
111 1,2,3-Trichlorobenzene	180	16.266	16.266	0.000	94	195091	50.0	55.3	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Oct-2017 17:00:44　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XLCS9324.D

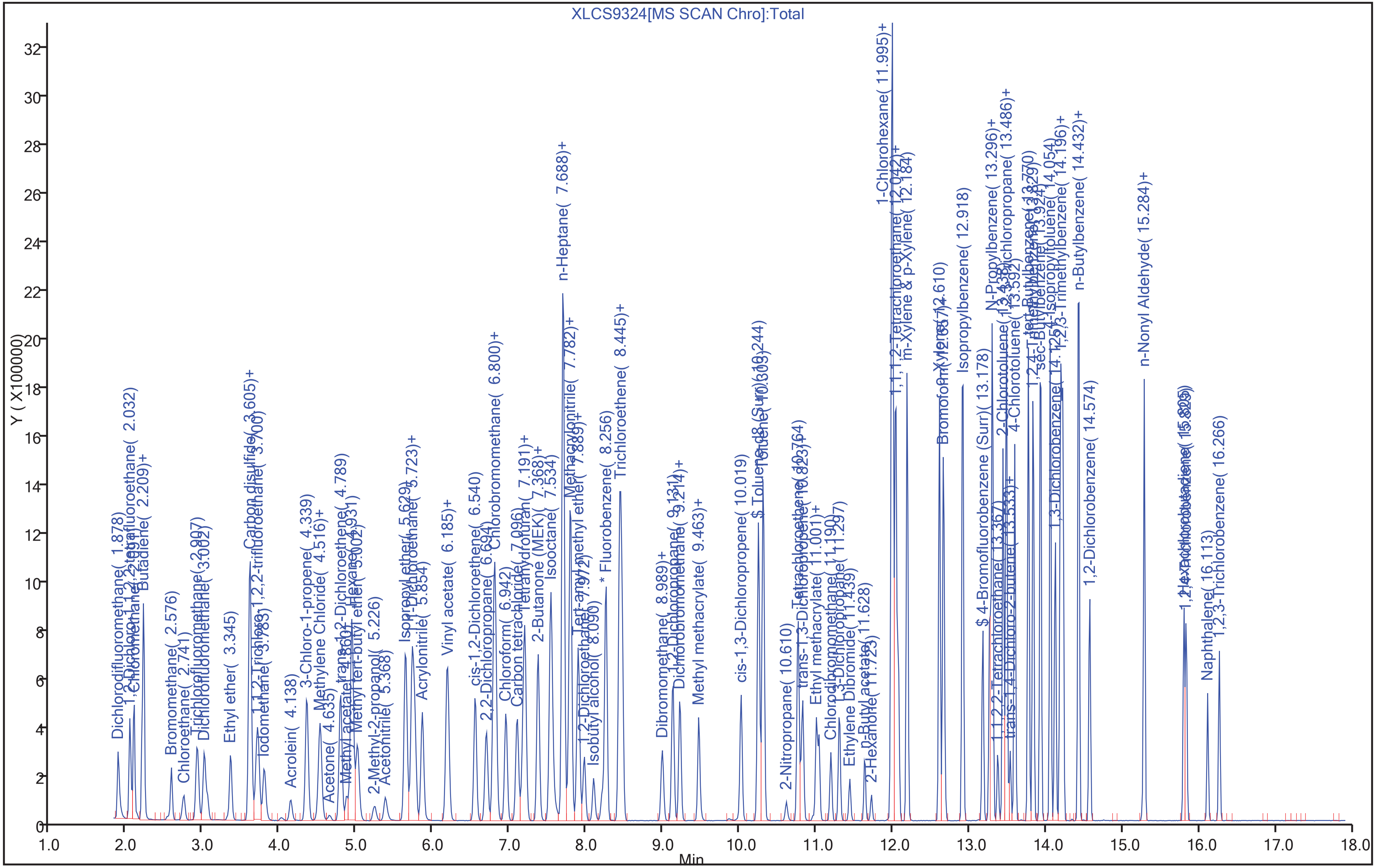
Injection Date: 19-Oct-2017 16:42:30　　Instrument ID: VMSX　　Operator ID: JDH

Lims ID: LCS 160-332822/2-A　　Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL　　Dil. Factor: 1.0000　　ALS Bottle#: 3

Method: 5mL-8260-MSX　　Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XLCS9324.D				
Lims ID:	LCS 160-332822/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	19-Oct-2017 16:42:30	ALS Bottle#:	3	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011712-004				
Misc. Info.:	LCS 160-332822/2-A				
Operator ID:	JDH	Instrument ID:	VMSX		
Method:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	24-Oct-2017 17:00:43	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK003				
First Level Reviewer: hannj		Date:	24-Oct-2017 17:00:43		

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	47.2	94.39
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	49.7	99.34
$ 62 Toluene-d8 (Surr)	50.0	51.3	102.55
$ 86 4-Bromofluorobenzene (Surr)	50.0	51.7	103.34

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 160-331094/6
Matrix: Water
Lab File ID: FLCS2896.D
Analysis Method: 8260C DOD
Date Collected:
Sample wt/vol: 5(mL)
Date Analyzed: 10/09/2017 20:15
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 331094
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	49.2		5.0	1.0	0.29
79-34-5	1,1,2,2-Tetrachloroethane	49.4		5.0	2.0	0.43
79-00-5	1,1,2-Trichloroethane	50.1		5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	48.8		5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	50.8		5.0	1.0	0.37
95-50-1	1,2-Dichlorobenzene	50.8		5.0	2.0	0.28
107-06-2	1,2-Dichloroethane	47.7		5.0	1.0	0.37
78-87-5	1,2-Dichloropropane	50.2		5.0	1.0	0.32
106-46-7	1,4-Dichlorobenzene	49.5		5.0	2.0	0.35
71-43-2	Benzene	50.1		5.0	1.0	0.25
75-27-4	Bromodichloromethane	49.7		5.0	2.0	0.25
75-25-2	Bromoform	47.7		5.0	1.0	0.37
56-23-5	Carbon tetrachloride	50.3		5.0	1.0	0.36
124-48-1	Chlorodibromomethane	52.5		5.0	1.0	0.33
67-66-3	Chloroform	49.0		5.0	1.0	0.15
74-87-3	Chloromethane	40.9		10	2.0	0.55
156-59-2	cis-1,2-Dichloroethene	51.0		5.0	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	51.6		5.0	1.0	0.34
100-41-4	Ethylbenzene	46.2		5.0	1.0	0.30
75-09-2	Methylene Chloride	48.4		7.5	5.0	1.7
127-18-4	Tetrachloroethene	53.5		5.0	1.0	0.28
108-88-3	Toluene	52.1		5.0	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	49.8		5.0	1.0	0.18
10061-02-6	trans-1,3-Dichloropropene	52.0		5.0	1.0	0.35
79-01-6	Trichloroethene	48.2		5.0	1.0	0.29
75-01-4	Vinyl chloride	35.4		5.0	1.0	0.43
1330-20-7	Xylenes, Total	107		10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		81-118
460-00-4	4-Bromofluorobenzene (Surr)	106		85-114
1868-53-7	Dibromofluoromethane (Surr)	101		80-119
2037-26-5	Toluene-d8 (Surr)	106		89-112

FORM I 8260C DOD

Report Date: 11-Oct-2017 22:49:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FLCS2896.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 09-Oct-2017 20:15:30 ALS Bottle#: 3 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011606-006
Misc. Info.: LCSD
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 11-Oct-2017 22:49:08 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: hannj Date: 11-Oct-2017 22:49:08

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.936	2.949	-0.013	100	727273	50.0	47.8	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.160	3.162	-0.002	97	284622	50.0	56.1	
3 Chloromethane	50	3.267	3.268	-0.001	99	1115181	50.0	40.9	
122 Butadiene	39	3.385	3.399	-0.014	97	950765	50.0	31.0	
4 Vinyl chloride	62	3.397	3.399	-0.002	98	857287	50.0	35.4	
5 Bromomethane	94	3.894	3.896	-0.002	92	288690	50.0	36.6	
6 Chloroethane	64	4.071	4.073	-0.002	98	351203	50.0	38.3	
7 Trichlorofluoromethane	101	4.308	4.310	-0.002	99	913376	50.0	43.2	M
123 Dichlorofluoromethane	67	4.379	4.393	-0.014	100	1209511	50.0	45.0	
8 Ethyl ether	74	4.758	4.759	-0.001	93	321325	50.0	49.4	
11 Ethanol	45	4.983	4.984	-0.001	99	250872	2000.0	2251.9	
9 1,1-Dichloroethene	96	5.089	5.091	-0.002	93	569183	50.0	50.8	
10 Carbon disulfide	76	5.148	5.150	-0.002	100	2165489	50.0	49.4	
12 1,1,2-Trichloro-1,2,2-trif	151	5.172	5.185	-0.013	97	402179	50.0	50.8	
13 Iodomethane	142	5.326	5.327	-0.001	99	753662	50.0	51.3	
14 Acrolein	56	5.622	5.623	-0.001	98	374303	250.0	245.6	
15 3-Chloro-1-propene	39	5.811	5.813	-0.002	90	984170	50.0	46.4	
16 Isopropyl alcohol	45	5.823	5.824	-0.001	25	317087	500.0	542.7	
17 Methylene Chloride	84	5.977	5.966	0.011	99	648315	50.0	48.4	
18 Acetone	43	6.048	6.061	-0.013	98	131242	50.0	48.3	
19 trans-1,2-Dichloroethene	96	6.201	6.203	-0.002	93	636567	50.0	49.8	
20 Methyl acetate	74	6.213	6.215	-0.002	99	121576	250.0	265.3	
21 Hexane	86	6.308	6.310	-0.002	96	192523	50.0	52.9	
22 Methyl tert-butyl ether	73	6.355	6.357	-0.002	92	1436532	50.0	50.1	
23 2-Methyl-2-propanol	59	6.462	6.463	-0.001	97	443569	500.0	511.5	
24 Acetonitrile	41	6.722	6.724	-0.002	98	585476	500.0	529.4	
25 Isopropyl ether	45	6.852	6.866	-0.014	96	2537460	50.0	51.6	
27 2-Chloro-1,3-butadiene	53	7.030	7.031	-0.001	94	1251098	50.0	50.4	
28 1,1-Dichloroethane	63	7.065	7.067	-0.002	97	1332511	50.0	48.8	
29 Acrylonitrile	53	7.148	7.150	-0.002	98	1613853	500.0	498.4	
30 Tert-butyl ethyl ether	59	7.349	7.351	-0.002	98	2033018	50.0	50.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43	7.373	7.374	-0.001	96	1285804	50.0	50.7	
32 cis-1,2-Dichloroethene	96	7.775	7.777	-0.002	85	686988	50.0	51.0	
33 2,2-Dichloropropane	77	7.917	7.919	-0.002	93	755680	50.0	47.1	
35 Chlorobromomethane	128	8.024	8.025	-0.001	89	238125	50.0	50.6	
34 Cyclohexane	84	8.035	8.037	-0.002	95	1173369	50.0	50.4	
36 Chloroform	83	8.095	8.096	-0.001	96	1161355	50.0	49.0	
39 Ethyl acetate	45	8.237	8.238	-0.001	99	114675	100.0	96.4	
37 Carbon tetrachloride	117	8.296	8.297	-0.001	98	775494	50.0	50.3	
38 Tetrahydrofuran	71	8.319	8.321	-0.002	95	83011	100.0	108.8	
$ 41 Dibromofluoromethane (Surr	113	8.331	8.333	-0.002	94	499033	50.0	50.6	
40 1,1,1-Trichloroethane	97	8.379	8.380	-0.001	97	1017169	50.0	49.2	
43 2-Butanone (MEK)	43	8.497	8.499	-0.002	98	193510	50.0	48.7	
42 1,1-Dichloropropene	75	8.532	8.534	-0.002	92	957340	50.0	51.1	
125 Isooctane	57	8.651	8.652	-0.001	98	3466257	50.0	51.1	
117 n-Heptane	43	8.745	8.747	-0.002	96	1460048	50.0	51.4	
44 Benzene	78	8.840	8.842	-0.002	99	2537694	50.0	50.1	
45 Propionitrile	54	8.876	8.877	-0.001	92	610707	500.0	507.1	
46 Methacrylonitrile	41	8.899	8.901	-0.002	95	3072609	500.0	494.2	
48 Tert-amyl methyl ether	73	8.947	8.948	-0.001	95	1614729	50.0	49.8	
$ 47 1,2-Dichloroethane-d4 (Sur	65	9.006	9.007	-0.001	95	612868	50.0	48.2	
50 Isobutyl alcohol	42	9.018	9.019	-0.001	93	344210	1250.0	1288.2	
49 1,2-Dichloroethane	62	9.089	9.090	-0.001	97	721494	50.0	47.7	
* 51 Fluorobenzene	96	9.325	9.327	-0.002	97	2078782	50.0	50.0	
53 Trichloroethene	95	9.515	9.516	-0.001	93	634844	50.0	48.2	
52 Methylcyclohexane	55	9.515	9.516	-0.001	96	1273303	50.0	48.6	
54 n-Butanol	56	9.810	9.812	-0.002	94	305714	1250.0	1285.5	
55 Dibromomethane	93	9.988	9.990	-0.002	90	249856	50.0	47.9	
124 Ethyl acrylate	55	10.059	10.061	-0.001	99	368747	50.0	44.7	
56 1,2-Dichloropropane	63	10.094	10.096	-0.002	94	627803	50.0	50.2	
57 Dichlorobromomethane	83	10.142	10.143	-0.001	98	731391	50.0	49.7	
58 Methyl methacrylate	69	10.272	10.273	-0.001	95	433707	100.0	93.0	
59 1,4-Dioxane	88	10.355	10.356	-0.001	98	67522	1000.0	930.3	
60 2-Chloroethyl vinyl ether	63	10.686	10.688	-0.002	92	203445	50.0	45.7	
61 cis-1,3-Dichloropropene	75	10.769	10.770	-0.001	92	792038	50.0	51.6	
$ 62 Toluene-d8 (Surr)	98	10.946	10.948	-0.002	95	1842236	50.0	52.9	
63 Toluene	92	10.994	10.995	-0.001	98	1352321	50.0	52.1	
64 2-Nitropropane	43	11.218	11.220	-0.002	99	200700	100.0	89.3	
66 4-Methyl-2-pentanone (MIBK	43	11.325	11.327	-0.002	99	391253	50.0	50.5	
67 trans-1,3-Dichloropropene	75	11.360	11.362	-0.002	97	645909	50.0	52.0	
65 Tetrachloroethene	164	11.360	11.362	-0.002	94	382417	50.0	53.5	
119 n-Butyl acetate	43	11.408	11.409	-0.001	99	77937	50.0	50.9	
69 Ethyl methacrylate	69	11.467	11.469	-0.002	94	419445	50.0	47.6	
68 1,1,2-Trichloroethane	83	11.514	11.516	-0.002	93	294782	50.0	50.1	
70 Chlorodibromomethane	129	11.680	11.682	-0.002	90	345918	50.0	52.5	
71 1,3-Dichloropropane	76	11.763	11.764	-0.001	98	609359	50.0	50.1	
72 Ethylene Dibromide	107	11.905	11.906	-0.001	98	280227	50.0	49.9	
74 2-Hexanone	43	12.047	12.037	0.010	98	220016	50.0	48.5	
75 1-Chlorohexane	91	12.272	12.273	-0.001	88	769031	50.0	51.6	
* 76 Chlorobenzene-d5	117	12.319	12.321	-0.002	92	1246515	50.0	50.0	
77 Chlorobenzene	112	12.331	12.332	-0.001	73	1350499	50.0	49.9	
78 Ethylbenzene	91	12.331	12.332	-0.001	91	2534582	50.0	46.2	
79 1,1,1,2-Tetrachloroethane	131	12.378	12.380	-0.002	95	484553	50.0	50.8	

Report Date: 11-Oct-2017 22:49:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FLCS2896.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
80 m-Xylene & p-Xylene	106	12.449	12.439	0.010	98	987958	50.0	53.3	
82 o-Xylene	106	12.792	12.794	-0.002	99	994548	50.0	53.2	
83 Styrene	104	12.840	12.829	0.011	94	1368406	50.0	52.8	
84 Bromoform	173	12.887	12.889	-0.002	95	181230	50.0	47.7	
85 Isopropylbenzene	105	13.029	13.031	-0.002	99	2532730	50.0	52.0	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.267	-0.001	86	699947	50.0	53.0	
88 N-Propylbenzene	91	13.348	13.350	-0.002	98	3070962	50.0	47.7	
87 Bromobenzene	156	13.372	13.374	-0.002	96	502547	50.0	51.3	
89 1,1,2,2-Tetrachloroethane	83	13.396	13.397	-0.001	94	451054	50.0	49.4	
91 1,3,5-Trimethylbenzene	105	13.479	13.480	-0.001	95	2277944	50.0	50.7	
90 2-Chlorotoluene	91	13.490	13.492	-0.002	95	2264877	50.0	49.8	
92 1,2,3-Trichloropropane	110	13.526	13.528	-0.002	88	116691	50.0	49.0	
93 trans-1,4-Dichloro-2-buten	53	13.526	13.528	-0.002	81	135893	50.0	45.8	
94 Cyclohexanone	55	13.585	13.587	-0.002	95	141311	500.0	496.8	
95 4-Chlorotoluene	91	13.609	13.610	-0.001	99	1959536	50.0	51.2	
96 tert-Butylbenzene	119	13.727	13.729	-0.002	93	1897969	50.0	54.5	
97 1,2,4-Trimethylbenzene	105	13.774	13.776	-0.002	98	2310138	50.0	49.2	
98 sec-Butylbenzene	105	13.857	13.859	-0.002	96	2887544	50.0	47.5	
99 4-Isopropyltoluene	119	13.940	13.942	-0.002	95	2456624	50.0	50.0	
100 1,3-Dichlorobenzene	146	14.058	14.060	-0.002	97	1121843	50.0	50.5	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.107	-0.001	73	726665	50.0	50.0	
120 1,2,3-Trimethylbenzene	105	14.106	14.107	-0.001	96	2326590	50.0	47.0	
102 1,4-Dichlorobenzene	146	14.118	14.119	-0.001	91	1152670	50.0	49.5	
103 n-Butylbenzene	134	14.260	14.261	-0.001	95	691824	50.0	50.2	
121 Benzyl chloride	126	14.283	14.284	-0.001	54	171711	50.0	48.5	
104 1,2-Dichlorobenzene	146	14.437	14.427	0.010	97	1045829	50.0	50.8	
106 n-Nonyl Aldehyde	57	14.958	14.947	0.011	88	483515	50.0	54.2	
105 1,2-Dibromo-3-Chloropropan	157	15.029	15.030	-0.001	62	75112	50.0	52.2	
107 1,3,5-Trichlorobenzene	180	15.040	15.042	-0.002	95	891497	50.0	50.7	
108 Hexachlorobutadiene	225	15.502	15.504	-0.002	96	445689	50.0	50.2	
109 1,2,4-Trichlorobenzene	180	15.573	15.563	0.010	93	742511	50.0	51.3	
110 Naphthalene	128	15.869	15.870	-0.001	98	1381938	50.0	50.4	
111 1,2,3-Trichlorobenzene	180	16.034	16.036	-0.002	94	614636	50.0	50.3	

QC Flag Legend

Review Flags

M - Manually Integrated

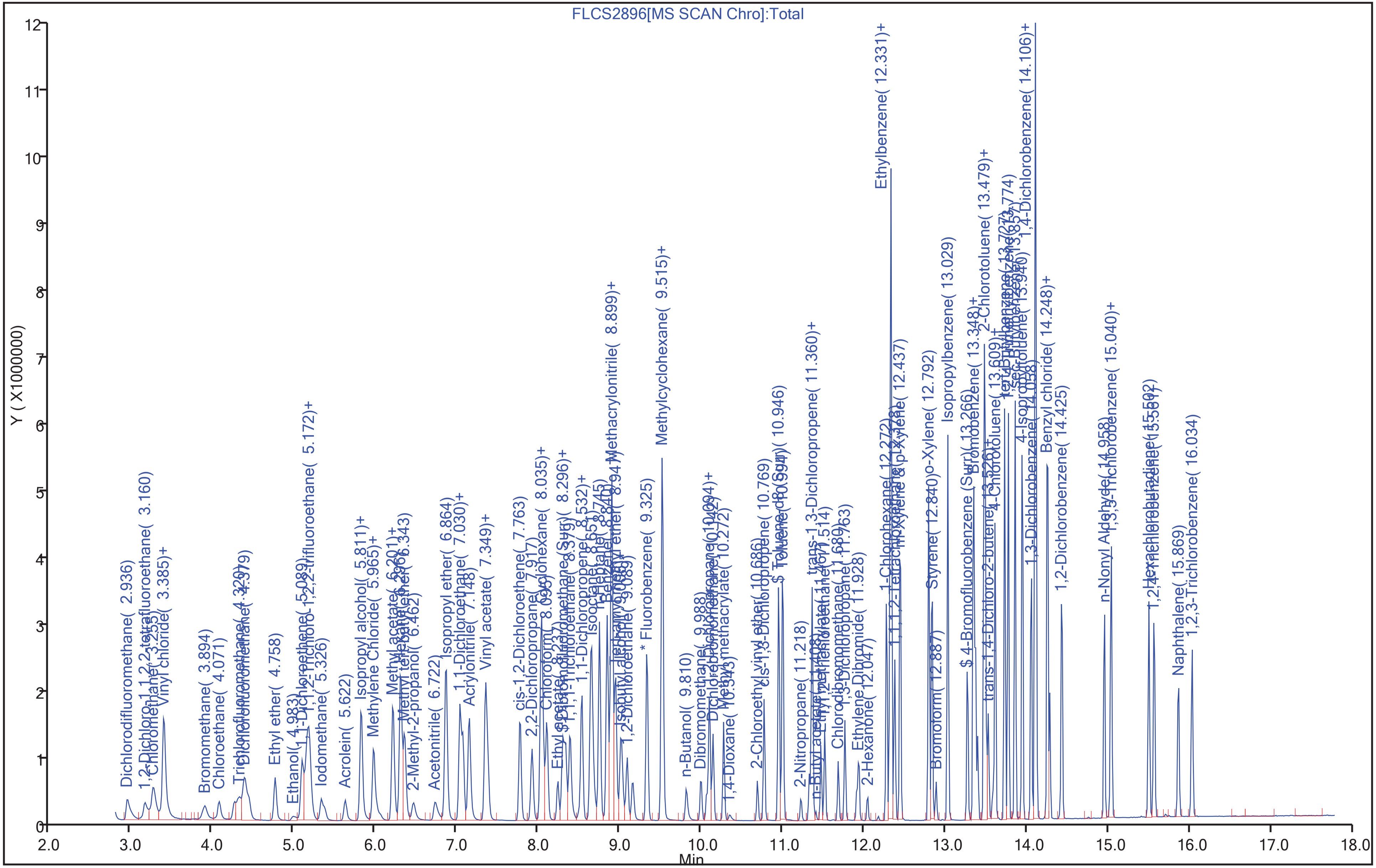
Reagents:

8260 NewWkMix_00241	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00079	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 11-Oct-2017 22:49:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FLCS2896.D				
Injection Date:	09-Oct-2017 20:15:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	LCSD			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\FLCS2896.D				
Lims ID:	LCSD				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	09-Oct-2017 20:15:30	ALS Bottle#:	3	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011606-006				
Misc. Info.:	LCSD				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171009-11606.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	11-Oct-2017 22:49:08	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK028				
First Level Reviewer: hannj		Date:	11-Oct-2017 22:49:08		

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	50.6	101.20
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	48.2	96.42
$ 62 Toluene-d8 (Surr)	50.0	52.9	105.88
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.0	105.95

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: LCSD 160-332159/3-A
Matrix: Solid	Lab File ID: FLCS3034.D
Analysis Method: 8260C DOD	Date Collected:
Sample wt/vol: 5.00(g)	Date Analyzed: 10/16/2017 17:43
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 332154	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	50.2		5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	48.2		5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	48.1		5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	49.6		5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	51.6		5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	51.7		5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	46.1		5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	48.6		5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	50.5		5.0	1.0	0.60
71-43-2	Benzene	50.4		5.0	1.0	0.25
75-27-4	Bromodichloromethane	47.8		5.0	1.0	0.25
75-25-2	Bromoform	47.1		5.0	1.0	0.37
56-23-5	Carbon tetrachloride	51.1		5.0	1.0	0.51
124-48-1	Chlorodibromomethane	51.5		5.0	1.0	0.41
67-66-3	Chloroform	48.9		5.0	1.0	0.38
74-87-3	Chloromethane	44.1		10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	51.7		5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	49.8		5.0	1.0	0.60
100-41-4	Ethylbenzene	48.4		5.0	1.0	0.30
75-09-2	Methylene Chloride	48.3		10	5.0	1.6
127-18-4	Tetrachloroethene	53.6		5.0	1.0	0.32
108-88-3	Toluene	52.3		5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	50.5		5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	50.5		5.0	1.0	0.35
79-01-6	Trichloroethene	48.0		5.0	1.0	0.39
75-01-4	Vinyl chloride	37.3		10	1.0	0.43
1330-20-7	Xylenes, Total	109		10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		71-136
460-00-4	4-Bromofluorobenzene (Surr)	106		79-119
1868-53-7	Dibromofluoromethane (Surr)	99		78-119
2037-26-5	Toluene-d8 (Surr)	106		85-116

Report Date: 18-Oct-2017 22:03:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FLCS3034.D
Lims ID: LCSD 160-332159/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 16-Oct-2017 17:43:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-005
Misc. Info.: LCSD 160-332159/3-A
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:03:34 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:03:33

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.939	2.936	0.003	100	730218	50.0	53.6	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.164	3.164	0.003	96	301936	50.0	66.4	M
3 Chloromethane	50	3.258	3.255	0.003	99	1079565	50.0	44.1	
122 Butadiene	39	3.389	3.386	0.003	98	931546	50.0	34.1	
4 Vinyl chloride	62	3.389	3.397	-0.008	98	810154	50.0	37.3	
5 Bromomethane	94	3.886	3.894	-0.008	92	301877	50.0	42.7	
6 Chloroethane	64	4.075	4.072	0.003	99	453661	50.0	55.2	
7 Trichlorofluoromethane	101	4.312	4.312	0.004	96	903075	50.0	47.7	M
123 Dichlorofluoromethane	67	4.383	4.379	0.004	100	1178192	50.0	48.9	
8 Ethyl ether	74	4.761	4.746	0.015	96	294135	50.0	50.4	
11 Ethanol	45	4.962	4.962	-0.009	24	135993	2000.0	1375.3	
9 1,1-Dichloroethene	96	5.093	5.089	0.004	94	518511	50.0	51.6	
10 Carbon disulfide	76	5.152	5.149	0.003	100	2039014	50.0	51.9	
12 1,1,2-Trichloro-1,2,2-trif	151	5.175	5.172	0.003	97	374181	50.0	52.8	
13 Iodomethane	142	5.329	5.314	0.015	99	698842	50.0	53.1	
14 Acrolein	56	5.613	5.610	0.003	99	307420	250.0	225.1	
16 Isopropyl alcohol	45	5.814	5.811	0.003	16	221366	500.0	422.7	
15 3-Chloro-1-propene	39	5.814	5.811	0.003	90	915156	50.0	48.1	
17 Methylene Chloride	84	5.968	5.965	0.003	98	580561	50.0	48.3	
18 Acetone	43	6.051	6.048	0.003	99	119655	50.0	49.1	
19 trans-1,2-Dichloroethene	96	6.205	6.202	0.003	93	578979	50.0	50.5	
20 Methyl acetate	74	6.217	6.214	0.003	99	103069	250.0	251.0	
21 Hexane	86	6.299	6.296	0.003	97	170084	50.0	52.2	
22 Methyl tert-butyl ether	73	6.347	6.344	0.003	92	1297473	50.0	50.4	
23 2-Methyl-2-propanol	59	6.453	6.450	0.003	97	351148	500.0	451.8	
24 Acetonitrile	41	6.725	6.711	0.014	99	448415	500.0	452.4	
25 Isopropyl ether	45	6.856	6.853	0.004	95	2276419	50.0	51.6	
27 2-Chloro-1,3-butadiene	53	7.033	7.018	0.015	94	1132867	50.0	50.9	
28 1,1-Dichloroethane	63	7.069	7.054	0.015	97	1212667	50.0	49.6	
29 Acrylonitrile	53	7.140	7.137	0.004	99	1393656	500.0	480.3	
30 Tert-butyl ethyl ether	59	7.341	7.338	0.003	98	1811016	50.0	50.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43	7.376	7.361	0.015	97	1076231	50.0	47.4	
32 cis-1,2-Dichloroethene	96	7.767	7.764	0.003	85	623247	50.0	51.7	
33 2,2-Dichloropropane	77	7.909	7.906	0.003	93	774427	50.0	53.9	
35 Chlorobromomethane	128	8.027	8.024	0.003	89	208010	50.0	49.3	
34 Cyclohexane	84	8.039	8.024	0.015	95	1071498	50.0	51.4	
36 Chloroform	83	8.098	8.095	0.003	97	1038160	50.0	48.9	
39 Ethyl acetate	45	8.228	8.225	0.003	99	85510	100.0	80.2	
37 Carbon tetrachloride	117	8.287	8.284	0.003	98	706175	50.0	51.1	
38 Tetrahydrofuran	71	8.311	8.308	0.003	94	68063	100.0	99.5	
$ 41 Dibromofluoromethane (Surr	113	8.323	8.320	0.003	94	436810	50.0	49.4	
40 1,1,1-Trichloroethane	97	8.382	8.379	0.003	97	929162	50.0	50.2	
43 2-Butanone (MEK)	43	8.489	8.485	0.004	98	152209	50.0	42.7	
42 1,1-Dichloropropene	75	8.524	8.521	0.003	93	857952	50.0	51.1	
125 Isooctane	57	8.642	8.639	0.003	98	3183420	50.0	52.4	
117 n-Heptane	43	8.737	8.734	0.003	96	1259538	50.0	49.5	
44 Benzene	78	8.832	8.829	0.003	98	2289235	50.0	50.4	
45 Propionitrile	54	8.867	8.864	0.003	97	488952	500.0	453.0	
46 Methacrylonitrile	41	8.891	8.888	0.003	96	2598222	500.0	466.2	
48 Tert-amyl methyl ether	73	8.938	8.935	0.003	95	1425397	50.0	49.1	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.997	8.994	0.003	95	531598	50.0	46.7	
50 Isobutyl alcohol	42	9.021	9.018	0.003	93	257175	1250.0	1073.9	
49 1,2-Dichloroethane	62	9.080	9.077	0.003	97	624529	50.0	46.1	
* 51 Fluorobenzene	96	9.329	9.326	0.003	97	1863088	50.0	50.0	
52 Methylcyclohexane	55	9.518	9.515	0.003	96	1164809	50.0	49.6	
53 Trichloroethene	95	9.518	9.515	0.003	62	566105	50.0	48.0	
54 n-Butanol	56	9.814	9.811	0.003	94	213671	1250.0	1020.7	
55 Dibromomethane	93	9.991	9.988	0.003	88	221144	50.0	47.3	
124 Ethyl acrylate	55	10.062	10.059	0.003	99	295407	50.0	40.3	
56 1,2-Dichloropropane	63	10.098	10.095	0.003	93	544459	50.0	48.6	
57 Dichlorobromomethane	83	10.133	10.130	0.003	98	630439	50.0	47.8	
58 Methyl methacrylate	69	10.275	10.272	0.003	95	354662	100.0	85.3	
59 1,4-Dioxane	88	10.346	10.343	0.003	96	38257	1000.0	610.5	
60 2-Chloroethyl vinyl ether	63	10.689	10.686	0.003	93	165292	50.0	41.7	
61 cis-1,3-Dichloropropene	75	10.772	10.769	0.003	92	685647	50.0	49.8	
$ 62 Toluene-d8 (Surr)	98	10.950	10.947	0.003	94	1625894	50.0	53.1	
63 Toluene	92	10.997	10.994	0.003	98	1193158	50.0	52.3	
64 2-Nitropropane	43	11.222	11.219	0.003	99	162500	100.0	82.5	
66 4-Methyl-2-pentanone (MIBK	43	11.317	11.325	-0.008	98	318821	50.0	46.8	
65 Tetrachloroethene	164	11.352	11.349	0.003	91	336905	50.0	53.6	
67 trans-1,3-Dichloropropene	75	11.364	11.361	0.003	96	551822	50.0	50.5	
119 n-Butyl acetate	43	11.399	11.396	0.003	98	64312	50.0	47.7	
69 Ethyl methacrylate	69	11.470	11.467	0.003	93	350172	50.0	45.3	
68 1,1,2-Trichloroethane	83	11.518	11.515	0.003	93	248660	50.0	48.1	
70 Chlorodibromomethane	129	11.683	11.680	0.003	90	298382	50.0	51.5	
71 1,3-Dichloropropane	76	11.766	11.763	0.003	98	518047	50.0	48.4	
72 Ethylene Dibromide	107	11.908	11.905	0.003	97	241109	50.0	48.8	
74 2-Hexanone	43	12.038	12.035	0.003	99	176821	50.0	44.4	
75 1-Chlorohexane	91	12.275	12.272	0.003	90	664583	50.0	50.8	
* 76 Chlorobenzene-d5	117	12.322	12.319	0.003	92	1096141	50.0	50.0	
78 Ethylbenzene	91	12.334	12.331	0.003	92	2333313	50.0	48.4	
77 Chlorobenzene	112	12.334	12.331	0.003	75	1186846	50.0	49.8	
79 1,1,1,2-Tetrachloroethane	131	12.370	12.378	-0.008	95	434712	50.0	51.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
80 m-Xylene & p-Xylene	106	12.441	12.438	0.003	98	875370	50.0	53.7	
82 o-Xylene	106	12.796	12.793	0.003	98	904162	50.0	55.0	
83 Styrene	104	12.831	12.828	0.003	94	1214531	50.0	53.3	
84 Bromoform	173	12.879	12.887	-0.008	94	155712	50.0	47.1	
85 Isopropylbenzene	105	13.032	13.029	0.003	97	2377963	50.0	56.8	
$ 86 4-Bromofluorobenzene (Surr	95	13.269	13.266	0.003	80	611421	50.0	53.1	
88 N-Propylbenzene	91	13.340	13.337	0.003	98	2778468	50.0	49.6	
87 Bromobenzene	156	13.364	13.361	0.003	91	439024	50.0	51.5	
89 1,1,2,2-Tetrachloroethane	83	13.399	13.396	0.003	95	383176	50.0	48.2	
91 1,3,5-Trimethylbenzene	105	13.470	13.467	0.003	93	2074481	50.0	53.0	
90 2-Chlorotoluene	91	13.482	13.491	-0.009	95	2054994	50.0	52.2	
92 1,2,3-Trichloropropane	110	13.517	13.514	0.003	88	104835	50.0	50.5	
93 trans-1,4-Dichloro-2-buten	53	13.529	13.526	0.003	89	112982	50.0	43.7	
94 Cyclohexanone	55	13.577	13.574	0.003	92	95439	500.0	385.2	
95 4-Chlorotoluene	91	13.612	13.609	0.003	99	1773847	50.0	53.5	
96 tert-Butylbenzene	119	13.730	13.727	0.003	93	1739625	50.0	57.4	
97 1,2,4-Trimethylbenzene	105	13.766	13.775	-0.009	99	2121026	50.0	51.9	
98 sec-Butylbenzene	105	13.849	13.858	-0.009	97	2722032	50.0	51.4	
99 4-Isopropyltoluene	119	13.943	13.940	0.003	95	2199830	50.0	51.4	
100 1,3-Dichlorobenzene	146	14.050	14.047	0.003	94	1002050	50.0	51.8	
120 1,2,3-Trimethylbenzene	105	14.097	14.094	0.003	96	2146697	50.0	49.8	
* 101 1,4-Dichlorobenzene-d4	152	14.097	14.106	-0.009	71	633077	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.109	14.118	-0.009	88	1024463	50.0	50.5	
103 n-Butylbenzene	134	14.251	14.248	0.003	95	619466	50.0	51.6	
121 Benzyl chloride	126	14.287	14.284	0.003	96	155993	50.0	50.6	
104 1,2-Dichlorobenzene	146	14.429	14.426	0.003	94	927359	50.0	51.7	
106 n-Nonyl Aldehyde	57	14.949	14.946	0.003	87	358832	50.0	46.2	
105 1,2-Dibromo-3-Chloropropan	157	15.032	15.029	0.003	72	62664	50.0	50.0	
107 1,3,5-Trichlorobenzene	180	15.032	15.041	-0.009	92	771691	50.0	50.3	
108 Hexachlorobutadiene	225	15.505	15.502	0.003	96	390774	50.0	50.5	
109 1,2,4-Trichlorobenzene	180	15.565	15.561	0.004	93	616336	50.0	48.9	
110 Naphthalene	128	15.860	15.857	0.003	98	1145772	50.0	48.0	
111 1,2,3-Trichlorobenzene	180	16.026	16.035	-0.009	93	498498	50.0	46.9	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:03:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FLCS3034.D

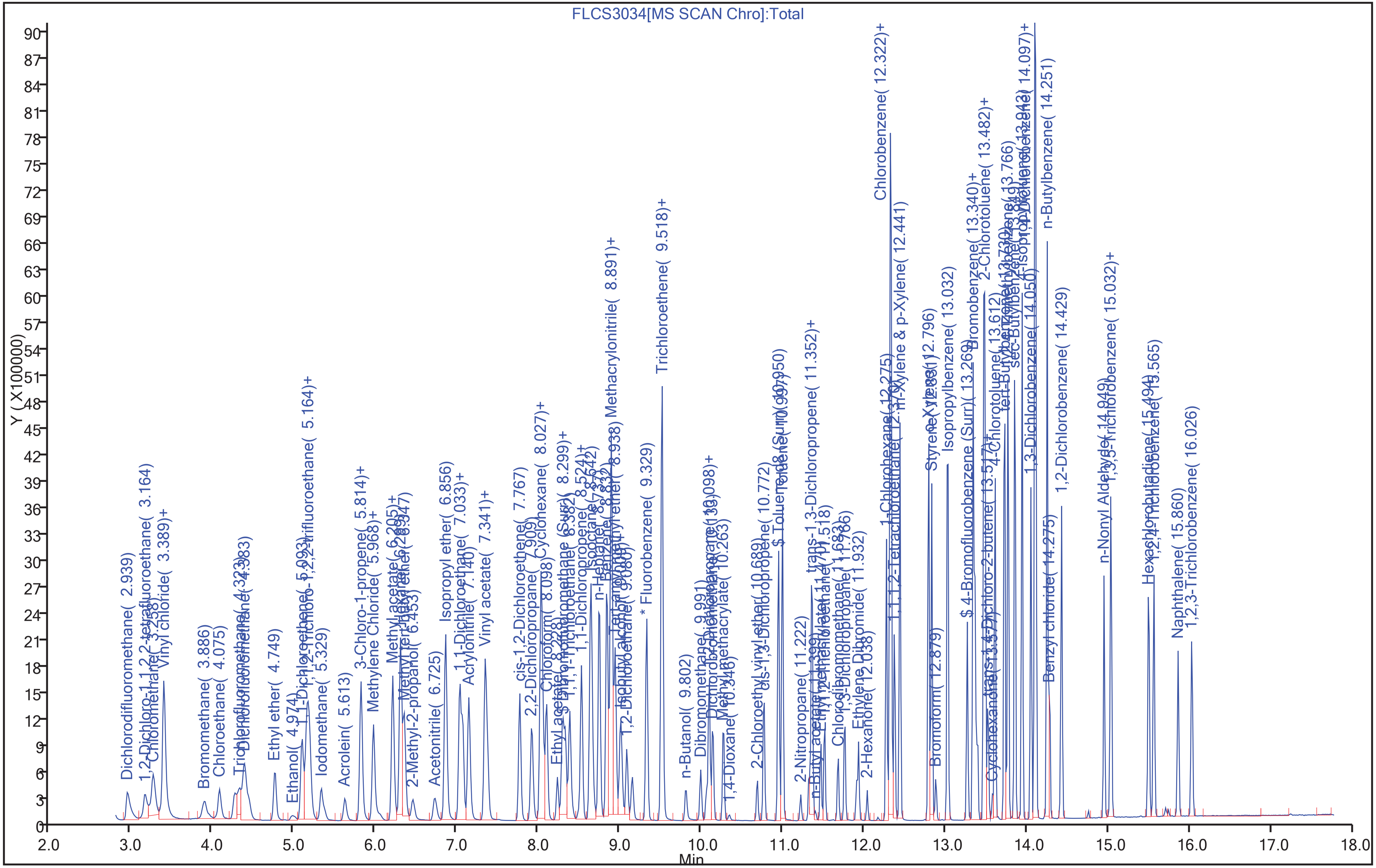
Injection Date: 16-Oct-2017 17:43:30 Instrument ID: VMSF Operator ID: JDH

Lims ID: LCSD 160-332159/3-A Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 4

Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FLCS3034.D				
Lims ID:	LCSD 160-332159/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	16-Oct-2017 17:43:30	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011671-005				
Misc. Info.:	LCSD 160-332159/3-A				
Operator ID:	JDH	Instrument ID:	VMSF		
Method:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m				
Limit Group:	MSV-8260_DoD				
Last Update:	18-Oct-2017 22:03:34	Calib Date:	02-Oct-2017 23:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK015				

First Level Reviewer: hannj Date: 18-Oct-2017 22:03:33

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	49.4	98.84
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	46.7	93.31
$ 62 Toluene-d8 (Surr)	50.0	53.1	106.27
$ 86 4-Bromofluorobenzene (Surr)	50.0	53.1	106.23

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: LCSD 160-332262/3-A
Matrix: Solid	Lab File ID: XLCS9246.D
Analysis Method: 8260C DOD	Date Collected:
Sample wt/vol: 5.00(g)	Date Analyzed: 10/17/2017 17:06
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTXVMS30 ID: 0.25(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 332246	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	54.2		5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	49.3		5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	49.2		5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	53.3		5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	52.6		5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	51.2		5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	51.7		5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	54.8		5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	50.8		5.0	1.0	0.60
71-43-2	Benzene	50.3		5.0	1.0	0.25
75-27-4	Bromodichloromethane	52.2		5.0	1.0	0.25
75-25-2	Bromoform	53.4		5.0	1.0	0.37
56-23-5	Carbon tetrachloride	53.7		5.0	1.0	0.51
124-48-1	Chlorodibromomethane	51.4		5.0	1.0	0.41
67-66-3	Chloroform	50.5		5.0	1.0	0.38
74-87-3	Chloromethane	60.3		10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	52.6		5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	48.1		5.0	1.0	0.60
100-41-4	Ethylbenzene	55.0		5.0	1.0	0.30
75-09-2	Methylene Chloride	50.8		10	5.0	1.6
127-18-4	Tetrachloroethene	52.2		5.0	1.0	0.32
108-88-3	Toluene	51.6		5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	51.2		5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	50.1		5.0	1.0	0.35
79-01-6	Trichloroethene	49.9		5.0	1.0	0.39
75-01-4	Vinyl chloride	52.0		10	1.0	0.43

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		71-136
460-00-4	4-Bromofluorobenzene (Surr)	111		79-119
1868-53-7	Dibromofluoromethane (Surr)	98		78-119
2037-26-5	Toluene-d8 (Surr)	106		85-116

FORM I 8260C DOD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XLCS9246.D				
Lims ID:	LCSD 160-332262/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	17-Oct-2017 17:06:30	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011681-005				
Misc. Info.:	LCSD 160-332262/3-A				
Operator ID:	JDH	Instrument ID:	VMSX		
Method:	\\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	20-Oct-2017 01:06:21	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK032				
First Level Reviewer: hannj		Date:	20-Oct-2017 01:06:21		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.878	1.878	0.000	99	406516	50.0	55.9	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.031	2.032	-0.001	99	195590	50.0	58.5	
3 Chloromethane	50	2.079	2.079	0.000	99	566720	50.0	60.3	
4 Vinyl chloride	62	2.185	2.185	0.000	98	383817	50.0	52.0	
121 Butadiene	39	2.209	2.209	0.000	88	338710	50.0	54.9	
5 Bromomethane	94	2.576	2.576	0.000	92	146692	50.0	51.8	
6 Chloroethane	64	2.730	2.730	0.000	99	141252	50.0	52.0	
7 Trichlorofluoromethane	101	2.907	2.907	0.000	98	404211	50.0	53.2	
122 Dichlorofluoromethane	67	3.002	3.002	0.000	97	386329	50.0	54.3	
8 Ethyl ether	74	3.345	3.345	0.000	95	147063	50.0	51.4	
11 Ethanol	45	3.593	3.593	0.000	26	78588	2000.0	2269.9	
9 1,1-Dichloroethene	96	3.593	3.593	0.000	94	333755	50.0	52.6	
10 Carbon disulfide	76	3.605	3.605	0.000	100	1128639	50.0	52.8	
12 1,1,2-Trichloro-1,2,2-trif	151	3.700	3.700	0.000	94	237506	50.0	51.5	
13 Iodomethane	142	3.783	3.783	0.000	98	422345	50.0	52.9	
14 Acrolein	56	4.126	4.126	0.000	100	131377	250.0	273.9	
15 3-Chloro-1-propene	39	4.339	4.339	0.000	93	373376	50.0	59.1	
16 Isopropyl alcohol	45	4.481	4.481	0.000	97	85976	500.0	531.6	
17 Methylene Chloride	84	4.516	4.516	0.000	99	297641	50.0	50.8	
18 Acetone	43	4.635	4.635	0.000	99	50247	50.0	59.0	
19 trans-1,2-Dichloroethene	96	4.777	4.777	0.000	96	335662	50.0	51.2	
20 Methyl acetate	74	4.859	4.860	-0.001	98	44300	250.0	250.2	
21 Hexane	86	4.930	4.931	-0.001	89	113483	50.0	56.6	
22 Methyl tert-butyl ether	73	5.001	5.002	-0.001	97	499465	50.0	54.5	
23 2-Methyl-2-propanol	59	5.226	5.226	0.000	95	126558	500.0	505.4	
24 Acetonitrile	41	5.368	5.368	0.000	99	192713	500.0	600.6	
25 Isopropyl ether	45	5.629	5.629	0.000	96	1019610	50.0	57.1	
27 2-Chloro-1,3-butadiene	53	5.723	5.712	0.011	92	628192	50.0	60.8	
28 1,1-Dichloroethane	63	5.759	5.747	0.012	97	609477	50.0	53.3	
29 Acrylonitrile	53	5.853	5.854	-0.001	99	580399	500.0	574.8	
30 Tert-butyl ethyl ether	59	6.173	6.173	0.000	97	744541	50.0	53.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43	6.185	6.185	0.000	97	450746	50.0	59.1	
32 cis-1,2-Dichloroethene	96	6.540	6.540	0.000	81	331116	50.0	52.6	
33 2,2-Dichloropropane	77	6.694	6.682	0.012	92	343607	50.0	59.7	
34 Cyclohexane	84	6.788	6.788	0.000	92	564548	50.0	55.1	
35 Chlorobromomethane	128	6.812	6.812	0.000	91	108438	50.0	48.0	
36 Chloroform	83	6.942	6.942	0.000	95	510472	50.0	50.5	
37 Carbon tetrachloride	117	7.096	7.084	0.012	97	409773	50.0	53.7	
38 Tetrahydrofuran	71	7.155	7.155	0.000	92	27453	100.0	92.9	
39 Ethyl acetate	45	7.167	7.167	0.000	98	42791	100.0	102.7	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.191	-0.001	92	243683	50.0	49.0	
40 1,1,1-Trichloroethane	97	7.191	7.191	-0.001	98	479742	50.0	54.2	
42 1,1-Dichloropropene	75	7.368	7.356	0.012	96	460650	50.0	55.1	
43 2-Butanone (MEK)	43	7.392	7.380	0.012	100	66282	50.0	58.0	
124 Isooctane	57	7.534	7.534	0.000	96	1611569	50.0	60.1	
117 n-Heptane	43	7.687	7.688	-0.001	94	730423	50.0	62.2	
44 Benzene	78	7.687	7.688	-0.001	97	1283402	50.0	50.3	
45 Propionitrile	54	7.758	7.759	-0.001	94	205414	500.0	545.0	
46 Methacrylonitrile	41	7.782	7.782	0.000	93	966549	500.0	552.8	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.877	7.877	0.000	95	242246	50.0	50.2	
48 Tert-amyl methyl ether	73	7.889	7.889	0.000	94	507673	50.0	54.0	
49 1,2-Dichloroethane	62	7.971	7.972	-0.001	96	293706	50.0	51.7	
50 Isobutyl alcohol	42	8.090	8.090	0.000	95	96955	1250.0	1321.0	
* 51 Fluorobenzene	96	8.255	8.244	0.011	99	1236261	50.0	50.0	
52 Methylcyclohexane	55	8.433	8.433	0.000	93	611412	50.0	59.4	
53 Trichloroethene	95	8.457	8.457	0.000	97	336647	50.0	49.9	
54 n-Butanol	56	8.977	8.977	0.000	92	91576	1250.0	1203.1	
55 Dibromomethane	93	8.989	8.989	0.000	97	118303	50.0	50.0	
56 1,2-Dichloropropane	63	9.119	9.119	0.000	95	305810	50.0	54.8	
123 Ethyl acrylate	55	9.214	9.214	0.000	98	199370	50.0	51.3	
57 Dichlorobromomethane	83	9.214	9.214	0.000	98	348096	50.0	52.2	
58 Methyl methacrylate	69	9.462	9.463	-0.001	94	210690	100.0	96.3	
59 1,4-Dioxane	88	9.486	9.486	0.000	82	27734	1000.0	973.9	
60 2-Chloroethyl vinyl ether	63	9.971	9.971	0.000	84	8255	50.0	30.5	
61 cis-1,3-Dichloropropene	75	10.019	10.019	0.000	95	393841	50.0	48.1	
$ 62 Toluene-d8 (Surr)	98	10.243	10.244	-0.001	94	1133374	50.0	53.1	
63 Toluene	92	10.303	10.303	0.000	98	800223	50.0	51.6	
64 2-Nitropropane	43	10.610	10.610	0.000	97	73465	100.0	111.9	
65 Tetrachloroethene	164	10.764	10.764	0.000	95	246225	50.0	52.2	
66 4-Methyl-2-pentanone (MIBK	43	10.800	10.800	0.000	98	139486	50.0	52.6	
67 trans-1,3-Dichloropropene	75	10.823	10.823	0.000	95	314986	50.0	50.1	
68 1,1,2-Trichloroethane	83	11.001	11.001	0.000	90	147014	50.0	49.2	
69 Ethyl methacrylate	69	11.036	11.036	0.000	89	202616	50.0	46.3	
70 Chlorodibromomethane	129	11.190	11.190	0.000	91	186932	50.0	51.4	
71 1,3-Dichloropropane	76	11.297	11.297	0.000	94	313818	50.0	51.8	
72 Ethylene Dibromide	107	11.439	11.439	0.000	99	149870	50.0	50.4	
118 n-Butyl acetate	43	11.628	11.628	0.000	99	235836	50.0	50.5	
74 2-Hexanone	43	11.723	11.723	0.000	98	101763	50.0	54.1	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	89	739379	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	85	480637	50.0	46.7	
77 Chlorobenzene	112	11.995	11.995	0.000	97	761342	50.0	49.7	
78 Ethylbenzene	91	12.030	12.030	0.000	96	1589742	50.0	55.0	
79 1,1,1,2-Tetrachloroethane	131	12.066	12.066	0.000	95	230261	50.0	50.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
80 m-Xylene & p-Xylene	106	12.184	12.184	0.000	96	553495	50.0	51.3	
82 o-Xylene	106	12.610	12.610	0.000	98	511152	50.0	51.2	
83 Styrene	104	12.657	12.657	0.000	95	785551	50.0	53.4	
84 Bromoform	173	12.681	12.681	0.000	94	82902	50.0	53.4	
85 Isopropylbenzene	105	12.906	12.906	0.000	97	1396875	50.0	57.5	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	84	350185	50.0	55.4	
87 Bromobenzene	156	13.273	13.273	0.000	97	255072	50.0	54.0	
88 N-Propylbenzene	91	13.296	13.296	0.000	98	1739189	50.0	57.5	
89 1,1,2,2-Tetrachloroethane	83	13.367	13.367	0.000	95	166819	50.0	49.3	
90 2-Chlorotoluene	91	13.438	13.438	0.000	96	981901	50.0	56.9	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	1071926	50.0	56.1	
92 1,2,3-Trichloropropane	110	13.497	13.498	-0.001	82	47241	50.0	50.5	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	89	56013	50.0	54.4	
94 Cyclohexanone	55	13.533	13.533	0.000	74	42780	500.0	470.3	
95 4-Chlorotoluene	91	13.592	13.592	0.000	98	965684	50.0	55.3	
96 tert-Butylbenzene	119	13.770	13.770	0.000	93	931332	50.0	56.6	
97 1,2,4-Trimethylbenzene	105	13.829	13.829	0.000	98	1050488	50.0	55.3	
98 sec-Butylbenzene	105	13.923	13.924	-0.001	95	1462409	50.0	54.0	
99 4-Isopropyltoluene	119	14.054	14.054	0.000	97	1172121	50.0	56.7	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	97	497831	50.0	50.3	
* 101 1,4-Dichlorobenzene-d4	152	14.184	14.184	0.000	98	294399	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.207	14.196	0.011	93	481653	50.0	50.8	
119 1,2,3-Trimethylbenzene	105	14.219	14.219	0.000	99	925504	50.0	52.1	
120 Benzyl chloride	126	14.420	14.421	-0.001	89	54375	50.0	54.2	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	301475	50.0	55.9	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	412991	50.0	51.2	
105 1,2-Dibromo-3-Chloropropan	157	15.261	15.261	0.000	85	20338	50.0	48.4	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	62	120275	50.0	61.6	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	349233	50.0	55.0	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	96	159058	50.0	54.0	
109 1,2,4-Trichlorobenzene	180	15.829	15.841	-0.012	94	265988	50.0	58.4	
110 Naphthalene	128	16.113	16.113	0.000	97	424623	50.0	52.6	
111 1,2,3-Trichlorobenzene	180	16.266	16.267	0.000	95	218218	50.0	57.2	

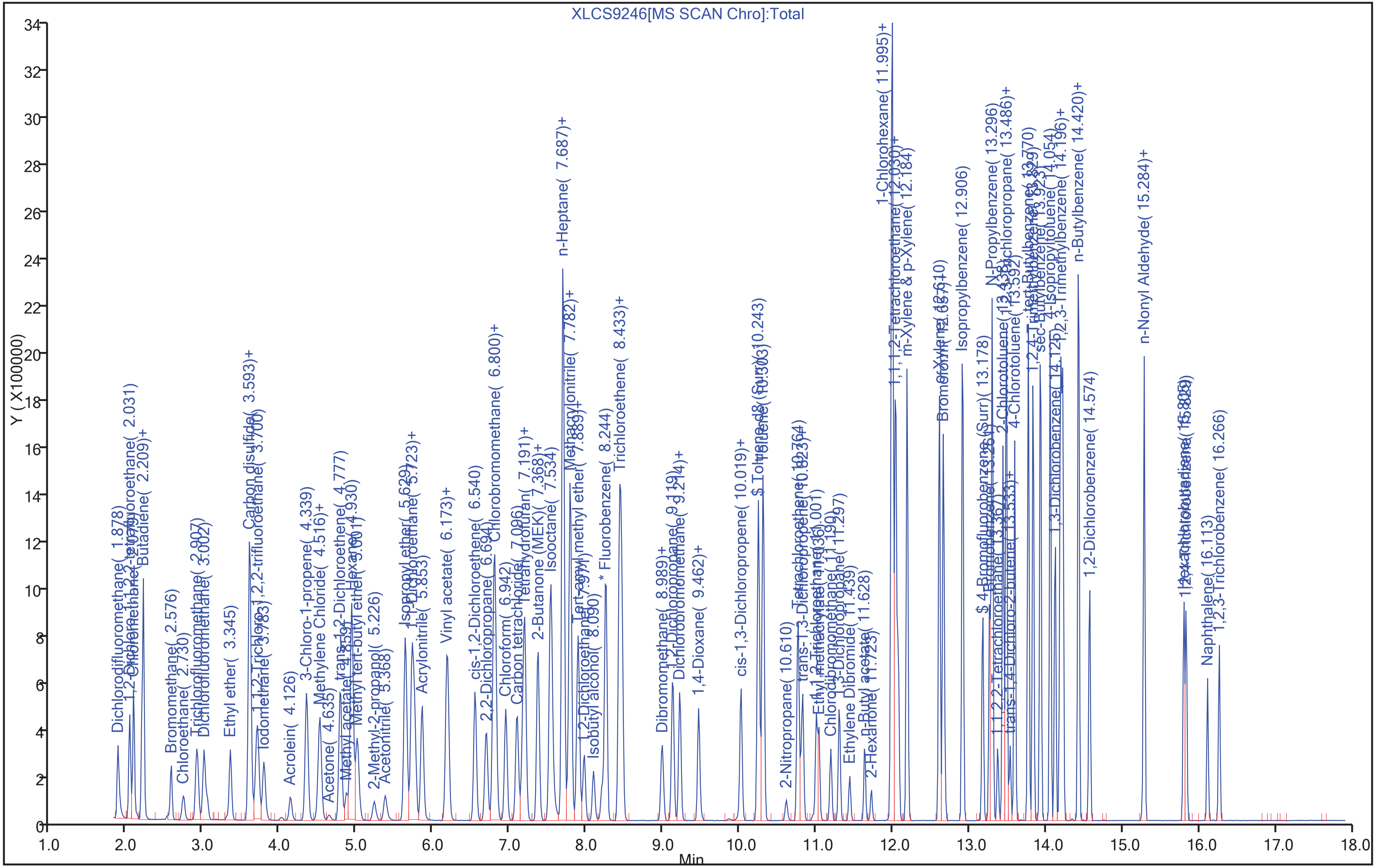
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 20-Oct-2017 01:06:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XLCS9246.D
Injection Date: 17-Oct-2017 17:06:30
Instrument ID: VMSX
Operator ID: JDH
Lims ID: LCSD 160-332262/3-A
Worklist Smp#: 5
Client ID:
Purge Vol: 5.000 mL
Dil. Factor: 1.0000
ALS Bottle#: 4
Method: 5mL-8260-MSX
Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\XLCS9246.D
Lims ID: LCSD 160-332262/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 17-Oct-2017 17:06:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011681-005
Misc. Info.: LCSD 160-332262/3-A
Operator ID: JDH Instrument ID: VMSX

Method: \\ChromNA\StLouis\ChromData\VMSX\20171017-11681.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 20-Oct-2017 01:06:21 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 20-Oct-2017 01:06:21

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	49.0	97.93
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	50.2	100.38
$ 62 Toluene-d8 (Surr)	50.0	53.1	106.25
$ 86 4-Bromofluorobenzene (Surr)	50.0	55.4	110.81

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: LCSD 160-332265/3-A
Matrix: Solid	Lab File ID: FLCS3060.D
Analysis Method: 8260C DOD	Date Collected:
Sample wt/vol: 5.00(g)	Date Analyzed: 10/17/2017 16:22
Soil Aliquot Vol:	Dilution Factor: 1
Soil Extract Vol.:	GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture:	Level: (low/med) Low
Analysis Batch No.: 332247	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	46.4		5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	47.3		5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	47.6		5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	45.3		5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	47.8		5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	49.9		5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	42.8		5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	46.2		5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	48.3		5.0	1.0	0.60
71-43-2	Benzene	47.4		5.0	1.0	0.25
75-27-4	Bromodichloromethane	45.9		5.0	1.0	0.25
75-25-2	Bromoform	49.0		5.0	1.0	0.37
56-23-5	Carbon tetrachloride	47.3		5.0	1.0	0.51
124-48-1	Chlorodibromomethane	50.7		5.0	1.0	0.41
67-66-3	Chloroform	46.0		5.0	1.0	0.38
74-87-3	Chloromethane	39.8		10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	48.5		5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	48.0		5.0	1.0	0.60
100-41-4	Ethylbenzene	45.2		5.0	1.0	0.30
75-09-2	Methylene Chloride	45.0		10	5.0	1.6
127-18-4	Tetrachloroethene	53.0		5.0	1.0	0.32
108-88-3	Toluene	49.5		5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	47.6		5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	48.2		5.0	1.0	0.35
79-01-6	Trichloroethene	46.1		5.0	1.0	0.39
75-01-4	Vinyl chloride	33.6		10	1.0	0.43
1330-20-7	Xylenes, Total	102		10	5.0	0.85

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	88		71-136
460-00-4	4-Bromofluorobenzene (Surr)	106		79-119
1868-53-7	Dibromofluoromethane (Surr)	96		78-119
2037-26-5	Toluene-d8 (Surr)	102		85-116

FORM I 8260C DOD

Report Date: 19-Oct-2017 23:58:20 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FLCS3060.D
Lims ID: LCSD 160-332265/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 17-Oct-2017 16:22:30 ALS Bottle#: 4 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-006
Misc. Info.: LCSD 160-332265/3-A
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 19-Oct-2017 23:58:19 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 19-Oct-2017 23:58:19

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.936	2.936	0.000	100	701861	50.0	48.4	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.161	3.161	0.000	97	297692	50.0	61.5	
3 Chloromethane	50	3.256	3.256	0.000	99	1037867	50.0	39.8	
122 Butadiene	39	3.386	3.386	0.000	99	894381	50.0	30.5	
4 Vinyl chloride	62	3.398	3.398	0.000	98	777675	50.0	33.6	
5 Bromomethane	94	3.895	3.883	0.012	91	253749	50.0	33.7	
6 Chloroethane	64	4.072	4.072	0.000	99	448420	50.0	51.2	
7 Trichlorofluoromethane	101	4.261	4.309	-0.048	96	270127	50.0	13.4	
123 Dichlorofluoromethane	67	4.380	4.380	0.000	100	1134459	50.0	44.2	
8 Ethyl ether	74	4.758	4.758	0.000	95	296223	50.0	47.7	
11 Ethanol	45	4.971	4.971	0.000	23	174213	2000.0	1647.1	
9 1,1-Dichloroethene	96	5.090	5.090	0.000	94	511744	50.0	47.8	
10 Carbon disulfide	76	5.149	5.149	0.000	100	1936965	50.0	46.3	
12 1,1,2-Trichloro-1,2,2-trif	151	5.173	5.184	-0.011	97	386519	50.0	51.2	
13 Iodomethane	142	5.326	5.326	0.000	99	696872	50.0	49.7	
14 Acrolein	56	5.622	5.610	0.012	99	321534	250.0	221.0	
16 Isopropyl alcohol	45	5.812	5.811	0.001	17	263788	500.0	472.8	
15 3-Chloro-1-propene	39	5.812	5.811	0.001	90	860607	50.0	42.5	
17 Methylene Chloride	84	5.965	5.965	0.000	99	575774	50.0	45.0	
18 Acetone	43	6.048	6.048	0.000	99	125084	50.0	48.2	
19 trans-1,2-Dichloroethene	96	6.202	6.202	0.000	95	580669	50.0	47.6	
20 Methyl acetate	74	6.214	6.214	0.000	99	107160	250.0	245.0	
21 Hexane	86	6.297	6.297	0.000	96	171777	50.0	49.5	
22 Methyl tert-butyl ether	73	6.344	6.344	0.000	95	1300178	50.0	47.4	
23 2-Methyl-2-propanol	59	6.451	6.450	0.001	98	387188	500.0	467.6	
24 Acetonitrile	41	6.723	6.711	0.012	99	496129	500.0	469.8	
25 Isopropyl ether	45	6.853	6.853	0.000	96	2251238	50.0	47.9	
27 2-Chloro-1,3-butadiene	53	7.030	7.030	0.000	94	1096292	50.0	46.3	
28 1,1-Dichloroethane	63	7.066	7.066	0.000	97	1180355	50.0	45.3	
29 Acrylonitrile	53	7.137	7.137	0.000	99	1458256	500.0	471.7	
30 Tert-butyl ethyl ether	59	7.338	7.338	0.000	98	1793320	50.0	47.1	

Report Date: 19-Oct-2017 23:58:20 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FLCS3060.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43	7.373	7.373	0.000	97	1104810	50.0	45.7	
32 cis-1,2-Dichloroethene	96	7.764	7.764	0.000	84	622816	50.0	48.5	
33 2,2-Dichloropropane	77	7.918	7.906	0.012	93	723508	50.0	47.2	
35 Chlorobromomethane	128	8.024	8.024	0.000	90	209732	50.0	46.7	
34 Cyclohexane	84	8.036	8.036	0.000	95	1039422	50.0	46.8	
36 Chloroform	83	8.095	8.095	0.000	96	1040715	50.0	46.0	
39 Ethyl acetate	45	8.225	8.225	0.000	99	97115	100.0	85.5	
37 Carbon tetrachloride	117	8.296	8.284	0.012	98	697022	50.0	47.3	
38 Tetrahydrofuran	71	8.320	8.308	0.012	95	74961	100.0	102.9	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.320	0.012	93	451994	50.0	48.0	
40 1,1,1-Trichloroethane	97	8.379	8.379	0.000	98	916420	50.0	46.4	
43 2-Butanone (MEK)	43	8.486	8.486	0.000	98	164135	50.0	43.3	
42 1,1-Dichloropropene	75	8.521	8.521	0.000	93	834270	50.0	46.6	
125 Isooctane	57	8.640	8.639	0.001	99	3089875	50.0	47.7	
117 n-Heptane	43	8.746	8.734	0.012	96	1245753	50.0	46.0	
44 Benzene	78	8.841	8.829	0.012	98	2296213	50.0	47.4	
45 Propionitrile	54	8.864	8.864	0.000	97	521976	500.0	454.0	
46 Methacrylonitrile	41	8.888	8.888	0.000	94	2637089	500.0	444.2	
48 Tert-amyl methyl ether	73	8.935	8.935	0.000	95	1462896	50.0	47.3	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.995	8.994	0.001	95	531719	50.0	43.8	
50 Isobutyl alcohol	42	9.018	9.018	0.000	94	298625	1250.0	1170.5	
49 1,2-Dichloroethane	62	9.077	9.077	0.000	97	618291	50.0	42.8	
* 51 Fluorobenzene	96	9.326	9.326	0.000	97	1984748	50.0	50.0	
52 Methylcyclohexane	55	9.515	9.515	0.000	95	1114922	50.0	44.5	
53 Trichloroethene	95	9.515	9.515	0.000	63	578688	50.0	46.1	
54 n-Butanol	56	9.811	9.811	0.000	93	253140	1250.0	1126.5	
55 Dibromomethane	93	9.989	9.988	0.001	93	223318	50.0	44.8	
124 Ethyl acrylate	55	10.060	10.059	0.001	99	333256	50.0	42.5	
56 1,2-Dichloropropane	63	10.095	10.095	0.000	94	551382	50.0	46.2	
57 Dichlorobromomethane	83	10.142	10.142	0.000	98	644946	50.0	45.9	
58 Methyl methacrylate	69	10.273	10.272	0.001	95	385424	100.0	86.9	
59 1,4-Dioxane	88	10.344	10.343	0.001	96	48785	1000.0	718.8	
60 2-Chloroethyl vinyl ether	63	10.687	10.687	0.000	92	176968	50.0	41.9	
61 cis-1,3-Dichloropropene	75	10.770	10.769	0.001	92	703532	50.0	48.0	
$ 62 Toluene-d8 (Surr)	98	10.947	10.947	0.000	94	1700880	50.0	51.0	
63 Toluene	92	10.994	10.994	0.000	98	1229018	50.0	49.5	
64 2-Nitropropane	43	11.219	11.219	0.000	99	170112	100.0	79.5	
66 4-Methyl-2-pentanone (MIBK	43	11.326	11.326	0.000	98	333456	50.0	45.0	
65 Tetrachloroethene	164	11.349	11.349	0.000	94	362804	50.0	53.0	
67 trans-1,3-Dichloropropene	75	11.361	11.361	0.000	97	573858	50.0	48.2	
119 n-Butyl acetate	43	11.408	11.397	0.012	98	67871	50.0	46.3	
69 Ethyl methacrylate	69	11.468	11.468	0.000	93	385076	50.0	45.8	
68 1,1,2-Trichloroethane	83	11.515	11.515	0.000	92	268389	50.0	47.6	
70 Chlorodibromomethane	129	11.681	11.680	0.001	90	319580	50.0	50.7	
71 1,3-Dichloropropane	76	11.763	11.763	0.000	97	548682	50.0	47.1	
72 Ethylene Dibromide	107	11.905	11.905	0.000	99	259844	50.0	48.3	
74 2-Hexanone	43	12.036	12.035	0.001	99	193525	50.0	44.6	
75 1-Chlorohexane	91	12.272	12.272	0.000	90	693486	50.0	48.6	
* 76 Chlorobenzene-d5	117	12.320	12.319	0.001	90	1193786	50.0	50.0	
78 Ethylbenzene	91	12.331	12.331	0.000	92	2375519	50.0	45.2	
77 Chlorobenzene	112	12.331	12.331	0.000	75	1250387	50.0	48.2	
79 1,1,1,2-Tetrachloroethane	131	12.379	12.367	0.012	95	447129	50.0	48.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
80 m-Xylene & p-Xylene	106	12.438	12.438	0.000	97	908889	50.0	51.2	
82 o-Xylene	106	12.793	12.793	0.000	98	913948	50.0	51.1	
83 Styrene	104	12.828	12.828	0.000	93	1280993	50.0	51.6	
84 Bromoform	173	12.888	12.887	0.001	97	176838	50.0	49.0	
85 Isopropylbenzene	105	13.030	13.029	0.001	97	2380486	50.0	51.5	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.266	0.000	79	662030	50.0	52.8	
88 N-Propylbenzene	91	13.337	13.337	0.000	98	2849922	50.0	46.7	
87 Bromobenzene	156	13.373	13.361	0.012	96	474369	50.0	51.1	
89 1,1,2,2-Tetrachloroethane	83	13.396	13.396	0.000	95	409433	50.0	47.3	
91 1,3,5-Trimethylbenzene	105	13.467	13.467	0.000	94	2104776	50.0	49.4	
90 2-Chlorotoluene	91	13.491	13.491	0.000	96	2072791	50.0	47.9	
92 1,2,3-Trichloropropane	110	13.515	13.515	0.000	87	113086	50.0	50.1	
93 trans-1,4-Dichloro-2-buten	53	13.527	13.526	0.001	92	124064	50.0	44.1	
94 Cyclohexanone	55	13.574	13.574	0.000	95	116441	500.0	431.8	
95 4-Chlorotoluene	91	13.609	13.609	0.000	99	1817830	50.0	50.0	
96 tert-Butylbenzene	119	13.728	13.728	0.000	93	1766999	50.0	53.5	
97 1,2,4-Trimethylbenzene	105	13.775	13.775	0.000	98	2172609	50.0	48.8	
98 sec-Butylbenzene	105	13.858	13.858	0.000	96	2751600	50.0	47.7	
99 4-Isopropyltoluene	119	13.941	13.941	0.000	95	2232256	50.0	47.9	
100 1,3-Dichlorobenzene	146	14.047	14.047	0.000	94	1054679	50.0	50.1	
120 1,2,3-Trimethylbenzene	105	14.106	14.094	0.012	95	2174499	50.0	46.3	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.106	0.000	74	688991	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.118	14.118	0.000	94	1066232	50.0	48.3	
103 n-Butylbenzene	134	14.248	14.248	0.000	96	641353	50.0	49.1	
121 Benzyl chloride	126	14.284	14.284	0.000	62	161374	50.0	48.1	
104 1,2-Dichlorobenzene	146	14.426	14.426	0.000	93	974104	50.0	49.9	
106 n-Nonyl Aldehyde	57	14.946	14.946	0.000	86	395800	50.0	46.8	
105 1,2-Dibromo-3-Chloropropan	157	15.029	15.029	0.000	74	69050	50.0	50.6	
107 1,3,5-Trichlorobenzene	180	15.041	15.041	0.000	97	822450	50.0	49.3	
108 Hexachlorobutadiene	225	15.503	15.502	0.001	98	426559	50.0	50.7	
109 1,2,4-Trichlorobenzene	180	15.562	15.562	0.000	94	663526	50.0	48.4	
110 Naphthalene	128	15.858	15.857	0.001	98	1222841	50.0	47.1	
111 1,2,3-Trichlorobenzene	180	16.035	16.035	0.000	94	540606	50.0	46.7	

Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 19-Oct-2017 23:58:20 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FLCS3060.D

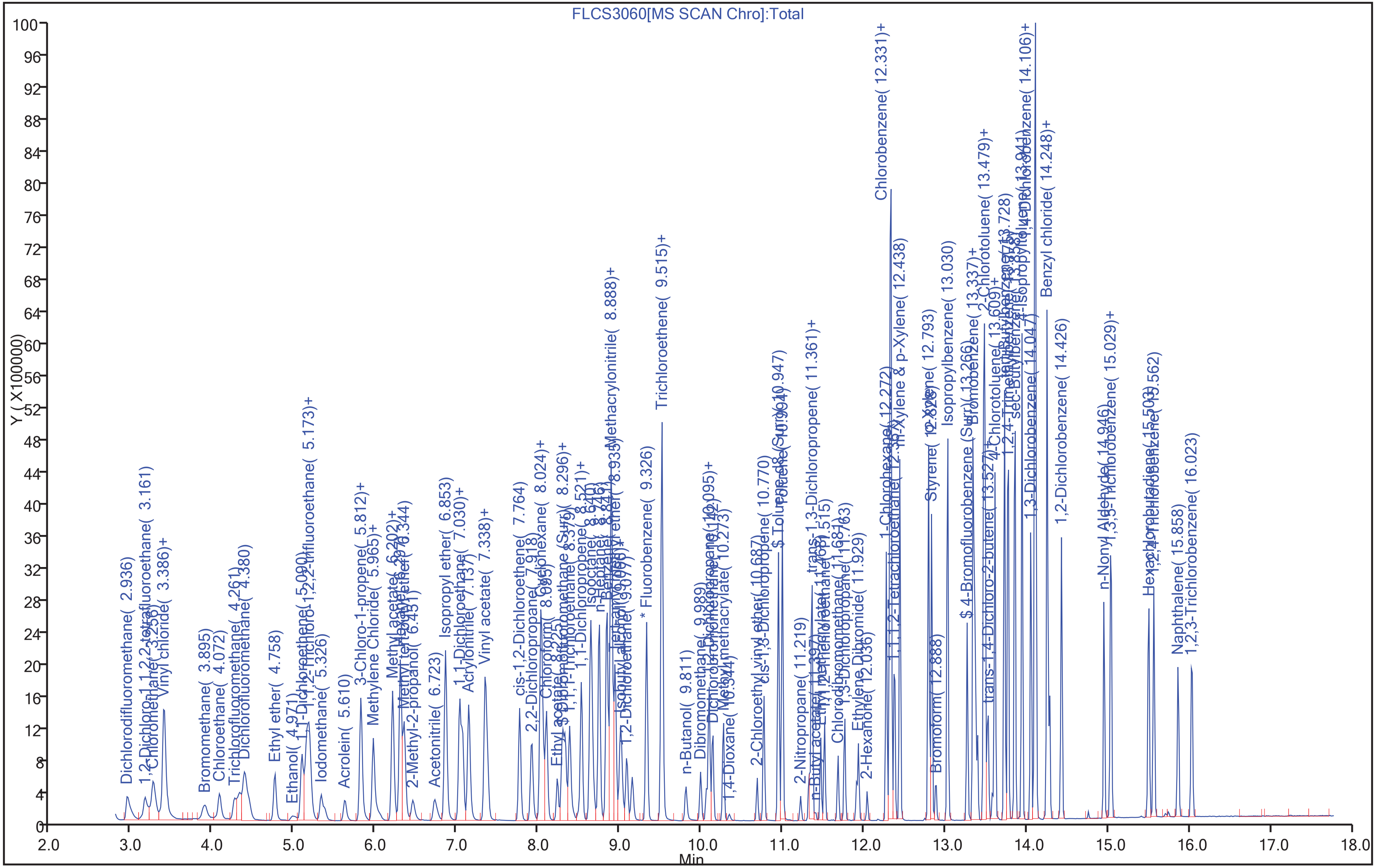
Injection Date: 17-Oct-2017 16:22:30 Instrument ID: VMSF Operator ID: JDH

Lims ID: LCSD 160-332265/3-A Worklist Smp#: 6

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 4

Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\FLCS3060.D
Lims ID: LCSD 160-332265/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 17-Oct-2017 16:22:30 ALS Bottle#: 4 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011682-006
Misc. Info.: LCSD 160-332265/3-A
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171017-11682.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 19-Oct-2017 23:58:19 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: hannj Date: 19-Oct-2017 23:58:19

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.0	96.00
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	43.8	87.61
$ 62 Toluene-d8 (Surr)	50.0	51.0	102.08
$ 86 4-Bromofluorobenzene (Surr)	50.0	52.8	105.69

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID:

Lab Sample ID: LCSD 160-332822/3-A

Matrix: Solid

Lab File ID: XLCS9325.D

Analysis Method: 8260C DOD

Date Collected:

Sample wt/vol: 5.00(g)

Date Analyzed: 10/19/2017 17:06

Soil Aliquot Vol:

Dilution Factor: 1

Soil Extract Vol.:

GC Column: RTXVMS30 ID: 0.25(mm)

% Moisture:

Level: (low/med) Low

Analysis Batch No.: 332817

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	54.3		5.0	1.0	0.43
79-34-5	1,1,2,2-Tetrachloroethane	50.7		5.0	1.0	0.40
79-00-5	1,1,2-Trichloroethane	51.2		5.0	1.0	0.57
75-34-3	1,1-Dichloroethane	53.6		5.0	1.0	0.39
75-35-4	1,1-Dichloroethene	52.9		5.0	5.0	1.6
95-50-1	1,2-Dichlorobenzene	51.1		5.0	1.0	0.28
107-06-2	1,2-Dichloroethane	54.8		5.0	1.0	0.87
78-87-5	1,2-Dichloropropane	55.0		5.0	1.0	0.38
106-46-7	1,4-Dichlorobenzene	50.7		5.0	1.0	0.60
71-43-2	Benzene	50.9		5.0	1.0	0.25
75-27-4	Bromodichloromethane	53.7		5.0	1.0	0.25
75-25-2	Bromoform	53.1		5.0	1.0	0.37
56-23-5	Carbon tetrachloride	54.0		5.0	1.0	0.51
124-48-1	Chlorodibromomethane	51.9		5.0	1.0	0.41
67-66-3	Chloroform	51.8		5.0	1.0	0.38
74-87-3	Chloromethane	57.4		10	5.0	0.65
156-59-2	cis-1,2-Dichloroethene	53.4		5.0	1.0	0.60
10061-01-5	cis-1,3-Dichloropropene	48.2		5.0	1.0	0.60
100-41-4	Ethylbenzene	56.2		5.0	1.0	0.30
75-09-2	Methylene Chloride	51.1		10	5.0	1.6
127-18-4	Tetrachloroethene	52.4		5.0	1.0	0.32
108-88-3	Toluene	51.9		5.0	1.0	0.70
156-60-5	trans-1,2-Dichloroethene	51.7		5.0	1.0	0.94
10061-02-6	trans-1,3-Dichloropropene	49.8		5.0	1.0	0.35
79-01-6	Trichloroethene	50.5		5.0	1.0	0.39
75-01-4	Vinyl chloride	50.8		10	1.0	0.43

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		71-136
460-00-4	4-Bromofluorobenzene (Surr)	105		79-119
1868-53-7	Dibromofluoromethane (Surr)	97		78-119
2037-26-5	Toluene-d8 (Surr)	102		85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XLCS9325.D				
Lims ID:	LCSD 160-332822/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	19-Oct-2017 17:06:30	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011712-005				
Misc. Info.:	LCSD 160-332822/3-A				
Operator ID:	JDH	Instrument ID:	VMSX		
Method:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m				
Limit Group:	MSV-8260_DoD				
Last Update:	24-Oct-2017 17:01:47	Calib Date:	15-Sep-2017 01:49:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK003				
First Level Reviewer: hannj		Date:	24-Oct-2017 17:01:47		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.878	1.878	0.000	99	357077	50.0	53.0	
2 1,2-Dichloro-1,1,2,2-tetra	135	2.032	2.031	0.001	99	178336	50.0	57.5	
3 Chloromethane	50	2.079	2.079	0.000	99	499873	50.0	57.4	
4 Vinyl chloride	62	2.185	2.197	-0.012	98	347757	50.0	50.8	
121 Butadiene	39	2.209	2.209	0.000	88	310315	50.0	54.3	
5 Bromomethane	94	2.576	2.576	0.000	91	127921	50.0	48.7	
6 Chloroethane	64	2.730	2.741	-0.011	99	130660	50.0	51.9	
7 Trichlorofluoromethane	101	2.907	2.919	-0.012	98	382579	50.0	54.4	
122 Dichlorofluoromethane	67	3.002	3.002	0.000	97	358064	50.0	54.3	
8 Ethyl ether	74	3.345	3.357	-0.012	96	135277	50.0	51.0	
9 1,1-Dichloroethene	96	3.593	3.593	0.000	95	311114	50.0	52.9	
11 Ethanol	45	3.605	3.605	0.000	26	80126	2000.0	2490.1	
10 Carbon disulfide	76	3.605	3.605	0.000	100	1011362	50.0	51.0	
12 1,1,2-Trichloro-1,2,2-trif	151	3.700	3.700	0.000	95	225911	50.0	52.9	
13 Iodomethane	142	3.795	3.795	0.000	98	380963	50.0	51.5	
14 Acrolein	56	4.138	4.138	0.000	100	127911	250.0	287.1	
15 3-Chloro-1-propene	39	4.351	4.339	0.012	92	346794	50.0	59.2	
16 Isopropyl alcohol	45	4.493	4.493	0.000	96	81918	500.0	545.8	
17 Methylene Chloride	84	4.516	4.516	0.000	99	277237	50.0	51.1	
18 Acetone	43	4.647	4.635	0.012	99	44662	50.0	56.6	
19 trans-1,2-Dichloroethene	96	4.789	4.789	0.001	98	314071	50.0	51.7	
20 Methyl acetate	74	4.871	4.871	0.000	98	44765	250.0	272.0	
21 Hexane	86	4.931	4.942	-0.011	88	100368	50.0	54.1	
22 Methyl tert-butyl ether	73	5.013	5.013	0.000	94	469069	50.0	55.3	
23 2-Methyl-2-propanol	59	5.238	5.226	0.012	94	117569	500.0	506.6	
24 Acetonitrile	41	5.368	5.368	0.000	98	190472	500.0	640.7	
25 Isopropyl ether	45	5.641	5.640	0.001	96	920863	50.0	55.7	
27 2-Chloro-1,3-butadiene	53	5.723	5.723	0.000	93	590550	50.0	61.7	
28 1,1-Dichloroethane	63	5.759	5.759	0.000	96	568119	50.0	53.6	
29 Acrylonitrile	53	5.854	5.853	0.001	100	573186	500.0	612.7	
30 Tert-butyl ethyl ether	59	6.185	6.173	0.012	98	674282	50.0	52.3	

Report Date: 24-Oct-2017 17:01:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XLCS9325.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
31 Vinyl acetate	43	6.197	6.197	0.000	97	442412	50.0	62.6	
32 cis-1,2-Dichloroethene	96	6.552	6.552	0.000	81	311921	50.0	53.4	
33 2,2-Dichloropropane	77	6.694	6.694	0.000	94	313049	50.0	58.7	
34 Cyclohexane	84	6.800	6.800	0.000	92	514916	50.0	54.3	
35 Chlorobromomethane	128	6.812	6.812	0.000	92	106035	50.0	50.7	
36 Chloroform	83	6.942	6.942	0.000	95	485118	50.0	51.8	
37 Carbon tetrachloride	117	7.096	7.096	0.000	98	381485	50.0	54.0	
38 Tetrahydrofuran	71	7.155	7.155	0.000	92	26352	100.0	96.0	
39 Ethyl acetate	45	7.167	7.167	0.000	97	43851	100.0	113.3	
40 1,1,1-Trichloroethane	97	7.191	7.191	0.000	98	445250	50.0	54.3	
$ 41 Dibromofluoromethane (Surr	113	7.191	7.191	0.000	89	222563	50.0	48.3	
42 1,1-Dichloropropene	75	7.368	7.368	0.000	95	435202	50.0	56.2	
43 2-Butanone (MEK)	43	7.392	7.392	0.000	100	65997	50.0	62.4	
124 Isooctane	57	7.534	7.534	0.000	96	1469464	50.0	59.1	
117 n-Heptane	43	7.688	7.688	0.000	78	688062	50.0	63.2	
44 Benzene	78	7.699	7.699	0.000	97	1201877	50.0	50.9	
45 Propionitrile	54	7.770	7.770	0.000	97	206691	500.0	591.9	
46 Methacrylonitrile	41	7.794	7.794	0.000	93	964666	500.0	595.5	
$ 47 1,2-Dichloroethane-d4 (Sur	65	7.889	7.877	0.012	95	227279	50.0	50.8	
48 Tert-amyl methyl ether	73	7.901	7.901	0.000	93	470799	50.0	54.0	
49 1,2-Dichloroethane	62	7.972	7.972	0.000	97	288439	50.0	54.8	
50 Isobutyl alcohol	42	8.090	8.090	0.000	95	94276	1250.0	1382.7	
* 51 Fluorobenzene	96	8.256	8.256	0.000	99	1145416	50.0	50.0	
52 Methylcyclohexane	55	8.433	8.433	0.000	93	561898	50.0	58.9	
53 Trichloroethene	95	8.469	8.469	0.000	98	315995	50.0	50.5	
54 n-Butanol	56	8.977	8.977	0.000	92	88960	1250.0	1252.8	
55 Dibromomethane	93	8.989	8.989	0.000	97	112077	50.0	51.1	
56 1,2-Dichloropropane	63	9.131	9.131	0.000	95	284250	50.0	55.0	
123 Ethyl acrylate	55	9.214	9.214	0.000	98	191958	50.0	53.1	
57 Dichlorobromomethane	83	9.226	9.226	0.000	99	331867	50.0	53.7	
58 Methyl methacrylate	69	9.463	9.463	0.001	94	199712	100.0	98.4	
59 1,4-Dioxane	88	9.498	9.498	0.012	69	27838	1000.0	1049.0	
60 2-Chloroethyl vinyl ether	63		9.971				ND	ND	
61 cis-1,3-Dichloropropene	75	10.019	10.019	0.000	95	365773	50.0	48.2	
$ 62 Toluene-d8 (Surr)	98	10.244	10.243	0.001	94	1030845	50.0	51.2	
63 Toluene	92	10.315	10.303	0.012	98	758875	50.0	51.9	
64 2-Nitropropane	43	10.610	10.610	0.000	98	68457	100.0	110.7	
65 Tetrachloroethene	164	10.764	10.764	0.000	93	232750	50.0	52.4	
66 4-Methyl-2-pentanone (MIBK	43	10.800	10.800	0.000	98	134806	50.0	53.9	
67 trans-1,3-Dichloropropene	75	10.823	10.823	0.000	95	295334	50.0	49.8	
68 1,1,2-Trichloroethane	83	11.001	11.001	0.000	91	144213	50.0	51.2	
69 Ethyl methacrylate	69	11.036	11.036	0.000	82	194898	50.0	47.1	
70 Chlorodibromomethane	129	11.190	11.190	0.000	91	177877	50.0	51.9	
71 1,3-Dichloropropane	76	11.309	11.308	0.001	94	301357	50.0	52.8	
72 Ethylene Dibromide	107	11.439	11.439	0.000	98	147687	50.0	52.7	
118 n-Butyl acetate	43	11.640	11.640	0.000	99	226582	50.0	51.3	
74 2-Hexanone	43	11.723	11.723	0.000	97	91757	50.0	51.9	
* 76 Chlorobenzene-d5	117	11.983	11.983	0.000	89	697215	50.0	50.0	
75 1-Chlorohexane	91	11.995	11.995	0.000	89	444510	50.0	45.8	
77 Chlorobenzene	112	12.007	11.995	0.012	95	728673	50.0	50.4	
78 Ethylbenzene	91	12.042	12.042	0.000	97	1531858	50.0	56.2	
79 1,1,1,2-Tetrachloroethane	131	12.078	12.078	0.000	93	217728	50.0	50.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
80 m-Xylene & p-Xylene	106	12.184	12.184	0.000	97	527586	50.0	51.8	
82 o-Xylene	106	12.610	12.610	0.000	98	476515	50.0	50.7	
83 Styrene	104	12.657	12.657	0.000	95	755962	50.0	54.5	
84 Bromoform	173	12.681	12.681	0.000	95	78946	50.0	53.1	
85 Isopropylbenzene	105	12.918	12.918	0.000	96	1339555	50.0	57.6	
$ 86 4-Bromofluorobenzene (Surr	95	13.178	13.178	0.000	83	318547	50.0	52.6	
87 Bromobenzene	156	13.273	13.273	0.000	94	242318	50.0	53.6	
88 N-Propylbenzene	91	13.296	13.296	0.000	98	1658543	50.0	57.3	
89 1,1,2,2-Tetrachloroethane	83	13.367	13.367	0.000	95	164229	50.0	50.7	
90 2-Chlorotoluene	91	13.438	13.438	0.000	96	924101	50.0	55.9	
91 1,3,5-Trimethylbenzene	105	13.486	13.486	0.000	94	1022644	50.0	55.9	
92 1,2,3-Trichloropropane	110	13.498	13.498	0.000	82	46511	50.0	51.9	
93 trans-1,4-Dichloro-2-buten	53	13.533	13.533	0.000	89	55569	50.0	56.3	
94 Cyclohexanone	55	13.533	13.533	0.000	76	44942	500.0	512.7	
95 4-Chlorotoluene	91	13.592	13.592	0.000	99	923563	50.0	55.3	
96 tert-Butylbenzene	119	13.770	13.770	0.000	93	887604	50.0	56.4	
97 1,2,4-Trimethylbenzene	105	13.829	13.829	0.000	98	1011359	50.0	55.6	
98 sec-Butylbenzene	105	13.935	13.935	0.000	94	1424103	50.0	54.9	
99 4-Isopropyltoluene	119	14.054	14.054	0.000	97	1119677	50.0	56.5	
100 1,3-Dichlorobenzene	146	14.125	14.125	0.000	97	480145	50.0	50.7	
* 101 1,4-Dichlorobenzene-d4	152	14.196	14.184	0.012	94	281866	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.208	14.207	0.001	92	459748	50.0	50.7	
119 1,2,3-Trimethylbenzene	105	14.219	14.219	0.000	99	889488	50.0	52.3	
120 Benzyl chloride	126	14.421	14.420	0.001	89	54864	50.0	57.1	
103 n-Butylbenzene	134	14.432	14.432	0.000	97	293518	50.0	56.9	
104 1,2-Dichlorobenzene	146	14.574	14.574	0.000	96	394812	50.0	51.1	
105 1,2-Dibromo-3-Chloropropan	157	15.273	15.261	0.012	85	19328	50.0	48.0	
106 n-Nonyl Aldehyde	57	15.284	15.284	0.000	59	104103	50.0	56.0	
107 1,3,5-Trichlorobenzene	180	15.284	15.284	0.000	96	342035	50.0	56.3	
108 Hexachlorobutadiene	225	15.805	15.805	0.000	97	148618	50.0	52.7	
109 1,2,4-Trichlorobenzene	180	15.841	15.840	0.001	94	254749	50.0	58.4	
110 Naphthalene	128	16.113	16.113	0.000	98	410098	50.0	53.1	
111 1,2,3-Trichlorobenzene	180	16.267	16.266	0.001	95	212377	50.0	58.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

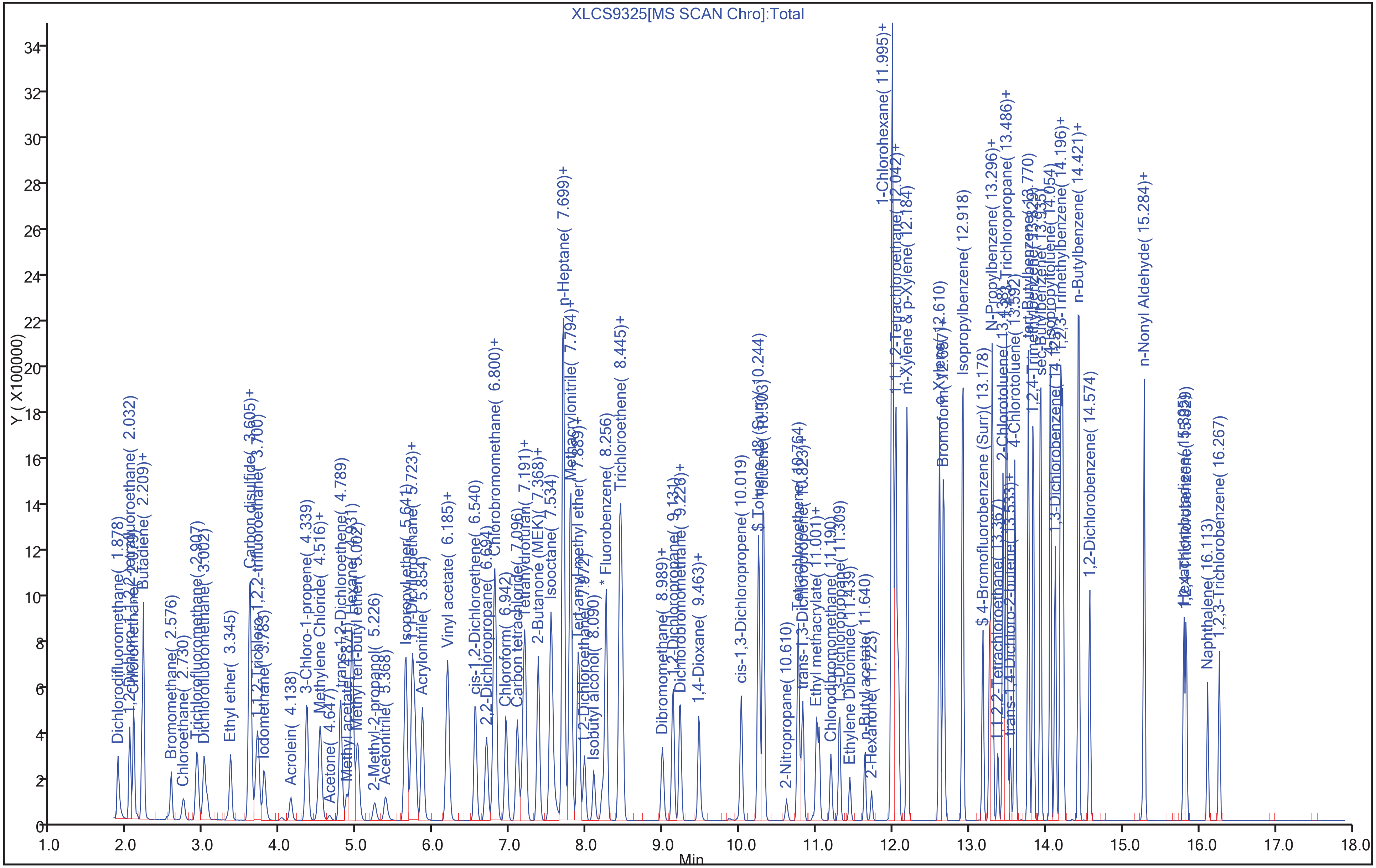
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Oct-2017 17:01:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XLCS9325.D				
Injection Date:	19-Oct-2017 17:06:30	Instrument ID:	VMSX	Operator ID:	JDH
Lims ID:	LCSD 160-332822/3-A			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	5mL-8260-MSX	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\XLCS9325.D
Lims ID: LCSD 160-332822/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Oct-2017 17:06:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011712-005
Misc. Info.: LCSD 160-332822/3-A
Operator ID: JDH Instrument ID: VMSX

Method: \\ChromNA\StLouis\ChromData\VMSX\20171019-11712.b\5mL-8260-MSX.m
Limit Group: MSV-8260_DoD
Last Update: 24-Oct-2017 17:01:47 Calib Date: 15-Sep-2017 01:49:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSX\20170914-11418.b\XICL8781.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: hannj Date: 24-Oct-2017 17:01:47

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	48.3	96.54
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	50.8	101.65
$ 62 Toluene-d8 (Surr)	50.0	51.2	102.49
$ 86 4-Bromofluorobenzene (Surr)	50.0	52.6	105.28

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: SHAD041DP022SS03NS MS
Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Lab File ID: FSMP3042.D
Analysis Method: 8260C DOD
Date Collected: 10/05/2017 16:59
Sample wt/vol: 5.9936(g)
Date Analyzed: 10/16/2017 21:02
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-VMS40 ID: 0.18(mm)
% Moisture: 2.0
Level: (low/med) Low
Analysis Batch No.: 332154
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	42.6		4.3	0.85	0.37
79-34-5	1,1,2,2-Tetrachloroethane	47.7		4.3	0.85	0.34
79-00-5	1,1,2-Trichloroethane	44.0		4.3	0.85	0.49
75-34-3	1,1-Dichloroethane	41.6		4.3	0.85	0.33
75-35-4	1,1-Dichloroethene	41.4		4.3	4.3	1.4
95-50-1	1,2-Dichlorobenzene	45.5		4.3	0.85	0.24
107-06-2	1,2-Dichloroethane	43.2		4.3	0.85	0.74
78-87-5	1,2-Dichloropropane	42.0		4.3	0.85	0.33
106-46-7	1,4-Dichlorobenzene	44.8		4.3	0.85	0.51
71-43-2	Benzene	42.6		4.3	0.85	0.22
75-27-4	Bromodichloromethane	42.6		4.3	0.85	0.22
75-25-2	Bromoform	44.2		4.3	0.85	0.31
56-23-5	Carbon tetrachloride	43.2		4.3	0.85	0.44
124-48-1	Chlorodibromomethane	46.6		4.3	0.85	0.35
67-66-3	Chloroform	42.5		4.3	0.85	0.32
74-87-3	Chloromethane	39.7		8.5	4.3	0.55
156-59-2	cis-1,2-Dichloroethene	42.4		4.3	0.85	0.51
10061-01-5	cis-1,3-Dichloropropene	43.4		4.3	0.85	0.51
100-41-4	Ethylbenzene	44.1		4.3	0.85	0.25
75-09-2	Methylene Chloride	39.9		8.5	4.3	1.3
127-18-4	Tetrachloroethene	46.1		4.3	0.85	0.27
108-88-3	Toluene	46.5		4.3	0.85	0.60
156-60-5	trans-1,2-Dichloroethene	41.5		4.3	0.85	0.80
10061-02-6	trans-1,3-Dichloropropene	45.6		4.3	0.85	0.30
79-01-6	Trichloroethene	40.9		4.3	0.85	0.33
75-01-4	Vinyl chloride	39.2		8.5	0.85	0.36
1330-20-7	Xylenes, Total	93.8		8.5	4.3	0.73

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		71-136
460-00-4	4-Bromofluorobenzene (Surr)	112		79-119
1868-53-7	Dibromofluoromethane (Surr)	99		78-119
2037-26-5	Toluene-d8 (Surr)	112		85-116

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3042.D
Lims ID: 160-24924-A-9-C MS
Client ID: SHAD041DP022SS03NS
Sample Type: MS
Inject. Date: 16-Oct-2017 21:02:30 ALS Bottle#: 12 Worklist Smp#: 13
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-013
Misc. Info.: 160-24924-A-9-C MS
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:05:31 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:05:30

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.936	2.936	0.000	99	519227	50.0	49.1	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.161	3.161	0.000	95	187153	50.0	53.1	
3 Chloromethane	50	3.256	3.255	0.001	100	885459	50.0	46.7	
122 Butadiene	39	3.386	3.386	0.000	97	916548	50.0	44.4	
4 Vinyl chloride	62	3.386	3.397	-0.011	99	774887	50.0	46.0	
5 Bromomethane	94	3.883	3.894	-0.011	93	275862	50.0	50.3	
6 Chloroethane	64	4.072	4.072	0.000	99	419063	50.0	65.7	
7 Trichlorofluoromethane	101	4.262	4.262	-0.046	99	700400	50.0	47.7	M
123 Dichlorofluoromethane	67	4.380	4.379	0.001	100	893136	50.0	47.8	
8 Ethyl ether	74	4.759	4.746	0.013	96	222670	50.0	49.2	
11 Ethanol	45	4.972	4.972	0.001	24	131677	2000.0	1708.2	
9 1,1-Dichloroethene	96	5.090	5.089	0.001	93	378871	50.0	48.6	
10 Carbon disulfide	76	5.149	5.149	0.000	100	1508632	50.0	49.5	
12 1,1,2-Trichloro-1,2,2-trif	151	5.173	5.172	0.001	97	266080	50.0	48.4	
13 Iodomethane	142	5.327	5.314	0.012	99	508245	50.0	49.7	
14 Acrolein	56	5.622	5.610	0.012	98	250335	250.0	236.2	
16 Isopropyl alcohol	45	5.812	5.811	0.001	17	205502	500.0	505.8	
15 3-Chloro-1-propene	39	5.812	5.811	0.001	88	740614	50.0	50.2	
S 26 1,2-Dichloroethene, Total	96				0			98.6	
17 Methylene Chloride	84	5.965	5.965	0.000	96	436678	50.0	46.9	
18 Acetone	43	6.048	6.048	0.000	98	106560	50.0	56.6	
19 trans-1,2-Dichloroethene	96	6.202	6.202	0.000	93	433343	50.0	48.8	
20 Methyl acetate	74	6.214	6.214	0.000	99	95413	250.0	299.5	
21 Hexane	86	6.297	6.296	0.001	96	121918	50.0	48.2	
22 Methyl tert-butyl ether	73	6.344	6.344	0.000	97	1029758	50.0	51.6	
23 2-Methyl-2-propanol	59	6.451	6.450	0.001	96	307805	500.0	510.5	
24 Acetonitrile	41	6.723	6.711	0.012	99	419322	500.0	545.3	
25 Isopropyl ether	45	6.853	6.853	0.001	95	1799164	50.0	52.6	
27 2-Chloro-1,3-butadiene	53	7.030	7.018	0.012	94	882232	50.0	51.1	
28 1,1-Dichloroethane	63	7.066	7.054	0.012	97	927101	50.0	48.8	
29 Acrylonitrile	53	7.137	7.137	0.001	98	1172201	500.0	520.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59	7.338	7.338	0.000	98	1431214	50.0	51.6	
31 Vinyl acetate	43	7.374	7.361	0.013	97	626914	50.0	35.6	
32 cis-1,2-Dichloroethene	96	7.764	7.764	0.000	87	466095	50.0	49.8	
33 2,2-Dichloropropane	77	7.918	7.906	0.012	94	638017	50.0	57.2	
35 Chlorobromomethane	128	8.024	8.024	0.000	88	161955	50.0	49.5	
34 Cyclohexane	84	8.036	8.024	0.012	97	799129	50.0	49.4	
36 Chloroform	83	8.095	8.095	0.000	98	821358	50.0	49.9	
39 Ethyl acetate	45	8.226	8.225	0.001	99	63448	100.0	76.7	
37 Carbon tetrachloride	117	8.297	8.284	0.013	97	543586	50.0	50.7	
38 Tetrahydrofuran	71	8.320	8.308	0.012	93	55899	100.0	105.4	
$ 41 Dibromofluoromethane (Surr	113	8.332	8.320	0.012	91	340277	50.0	49.6	
40 1,1,1-Trichloroethane	97	8.379	8.379	0.000	97	718553	50.0	50.0	
43 2-Butanone (MEK)	43	8.486	8.485	0.001	97	126652	50.0	45.8	
42 1,1-Dichloropropene	75	8.521	8.521	0.000	91	659847	50.0	50.6	
125 Isooctane	57	8.640	8.639	0.001	97	2225067	50.0	47.2	
117 n-Heptane	43	8.746	8.734	0.012	95	855246	50.0	43.3	
44 Benzene	78	8.841	8.829	0.012	98	1762410	50.0	50.0	
45 Propionitrile	54	8.876	8.864	0.012	97	413771	500.0	494.2	
46 Methacrylonitrile	41	8.888	8.888	0.000	96	2281537	500.0	527.7	
48 Tert-amyl methyl ether	73	8.936	8.935	0.001	94	1147339	50.0	50.9	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.995	8.994	0.001	96	455268	50.0	51.5	
50 Isobutyl alcohol	42	9.018	9.018	0.000	91	245833	1250.0	1323.2	
49 1,2-Dichloroethane	62	9.078	9.077	0.001	97	533375	50.0	50.7	
118 1,4-Difluorobenzene	114		9.130					ND	
* 51 Fluorobenzene	96	9.326	9.326	0.000	97	1445384	50.0	50.0	
52 Methylcyclohexane	55	9.515	9.515	0.000	96	903507	50.0	49.6	
53 Trichloroethene	95	9.515	9.515	0.000	62	439472	50.0	48.0	
54 n-Butanol	56	9.811	9.811	0.000	96	190424	1250.0	1160.9	
55 Dibromomethane	93	9.989	9.988	0.001	86	177379	50.0	48.9	
124 Ethyl acrylate	55	10.060	10.059	0.001	99	217937	50.0	38.5	
56 1,2-Dichloropropane	63	10.095	10.095	0.000	92	428829	50.0	49.4	
57 Dichlorobromomethane	83	10.142	10.130	0.012	98	511587	50.0	50.0	
128 2-Pentanone	43		10.253					ND	
58 Methyl methacrylate	69	10.273	10.272	0.001	93	281340	100.0	87.1	
59 1,4-Dioxane	88	10.344	10.343	0.001	97	36948	1000.0	745.1	
60 2-Chloroethyl vinyl ether	63	10.687	10.686	0.001	92	134771	50.0	43.7	
61 cis-1,3-Dichloropropene	75	10.770	10.769	0.001	90	544474	50.0	51.0	
$ 62 Toluene-d8 (Surr)	98	10.947	10.947	0.000	95	1296533	50.0	56.2	
63 Toluene	92	10.994	10.994	0.000	98	938322	50.0	54.6	
64 2-Nitropropane	43	11.219	11.219	0.000	98	142486	100.0	95.3	
66 4-Methyl-2-pentanone (MIBK	43	11.326	11.325	0.001	98	272859	50.0	53.2	
65 Tetrachloroethene	164	11.349	11.349	0.000	89	256223	50.0	54.1	
67 trans-1,3-Dichloropropene	75	11.361	11.361	0.000	99	441536	50.0	53.6	
119 n-Butyl acetate	43	11.409	11.396	0.013	99	51864	50.0	51.1	
69 Ethyl methacrylate	69	11.468	11.467	0.001	94	260576	50.0	44.8	
68 1,1,2-Trichloroethane	83	11.515	11.515	0.000	94	201842	50.0	51.7	
S 73 1,3-Dichloropropene, Total	75				0			104.6	
70 Chlorodibromomethane	129	11.681	11.680	0.001	90	239170	50.0	54.8	
71 1,3-Dichloropropane	76	11.764	11.763	0.001	98	420078	50.0	52.0	
72 Ethylene Dibromide	107	11.906	11.905	0.001	98	190060	50.0	51.1	
74 2-Hexanone	43	12.036	12.035	0.001	98	141056	50.0	46.9	
75 1-Chlorohexane	91	12.272	12.272	0.000	84	487608	50.0	49.4	

Report Date: 18-Oct-2017 22:05:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3042.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 76 Chlorobenzene-d5	117	12.320	12.319	0.001	96	826473	50.0	50.0	
78 Ethylbenzene	91	12.332	12.331	0.001	91	1886673	50.0	51.9	
77 Chlorobenzene	112	12.332	12.331	0.001	76	934924	50.0	52.1	
79 1,1,1,2-Tetrachloroethane	131	12.379	12.378	0.001	93	345413	50.0	54.6	
80 m-Xylene & p-Xylene	106	12.438	12.438	0.000	97	668714	50.0	54.4	
82 o-Xylene	106	12.793	12.793	0.000	99	691837	50.0	55.8	
83 Styrene	104	12.829	12.828	0.000	93	939299	50.0	54.7	
84 Bromoform	173	12.888	12.887	0.001	96	125262	50.0	51.9	
85 Isopropylbenzene	105	13.030	13.029	0.001	98	1883142	50.0	63.0	
$ 86 4-Bromofluorobenzene (Surr	95	13.266	13.266	0.000	76	467486	50.0	55.9	
88 N-Propylbenzene	91	13.337	13.337	0.000	98	2265144	50.0	55.7	
87 Bromobenzene	156	13.373	13.361	0.012	95	331724	50.0	53.6	
89 1,1,2,2-Tetrachloroethane	83	13.396	13.396	0.000	95	323219	50.0	56.0	
91 1,3,5-Trimethylbenzene	105	13.467	13.467	0.000	93	1651352	50.0	58.1	
90 2-Chlorotoluene	91	13.491	13.491	0.000	95	1636879	50.0	58.0	
92 1,2,3-Trichloropropane	110	13.515	13.514	0.001	88	86363	50.0	57.3	
93 trans-1,4-Dichloro-2-buten	53	13.527	13.526	0.001	92	104996	50.0	55.9	
94 Cyclohexanone	55	13.574	13.574	0.000	94	89580	500.0	498.0	
95 4-Chlorotoluene	91	13.609	13.609	0.000	99	1378799	50.0	57.9	
81 Pentachloroethane	167		13.636					ND	
96 tert-Butylbenzene	119	13.728	13.727	0.001	93	1334222	50.0	60.6	
97 1,2,4-Trimethylbenzene	105	13.775	13.775	0.000	99	1694860	50.0	57.1	
98 sec-Butylbenzene	105	13.858	13.858	0.000	96	2167543	50.0	56.4	
99 4-Isopropyltoluene	119	13.941	13.940	0.001	95	1727880	50.0	55.6	
100 1,3-Dichlorobenzene	146	14.047	14.047	0.000	91	743861	50.0	53.0	
120 1,2,3-Trimethylbenzene	105	14.106	14.094	0.012	97	1762557	50.0	56.3	
* 101 1,4-Dichlorobenzene-d4	152	14.106	14.106	0.000	68	459604	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.118	14.118	0.000	93	773767	50.0	52.6	
103 n-Butylbenzene	134	14.248	14.248	0.000	97	450055	50.0	51.7	
121 Benzyl chloride	126	14.284	14.284	0.000	60	130472	50.0	58.3	
104 1,2-Dichlorobenzene	146	14.426	14.426	0.000	91	695829	50.0	53.4	
106 n-Nonyl Aldehyde	57	14.947	14.946	0.001	83	69994	50.0	12.4	
105 1,2-Dibromo-3-Chloropropan	157	15.029	15.029	0.000	55	49894	50.0	54.8	
107 1,3,5-Trichlorobenzene	180	15.041	15.041	0.000	96	521215	50.0	46.8	
108 Hexachlorobutadiene	225	15.503	15.502	0.001	97	259648	50.0	46.2	
109 1,2,4-Trichlorobenzene	180	15.562	15.561	0.001	92	366667	50.0	40.1	
110 Naphthalene	128	15.858	15.857	0.001	98	756262	50.0	43.6	
111 1,2,3-Trichlorobenzene	180	16.035	16.035	0.000	95	281502	50.0	36.4	
S 112 Xylenes, Total	106				0			110.3	
127 2-Methylpentane	1		0.000					ND	
S 113 Trihalomethanes, Total	1				0			206.6	
126 C6-C12	1		0.000					ND	

QC Flag Legend

Review Flags

M - Manually Integrated

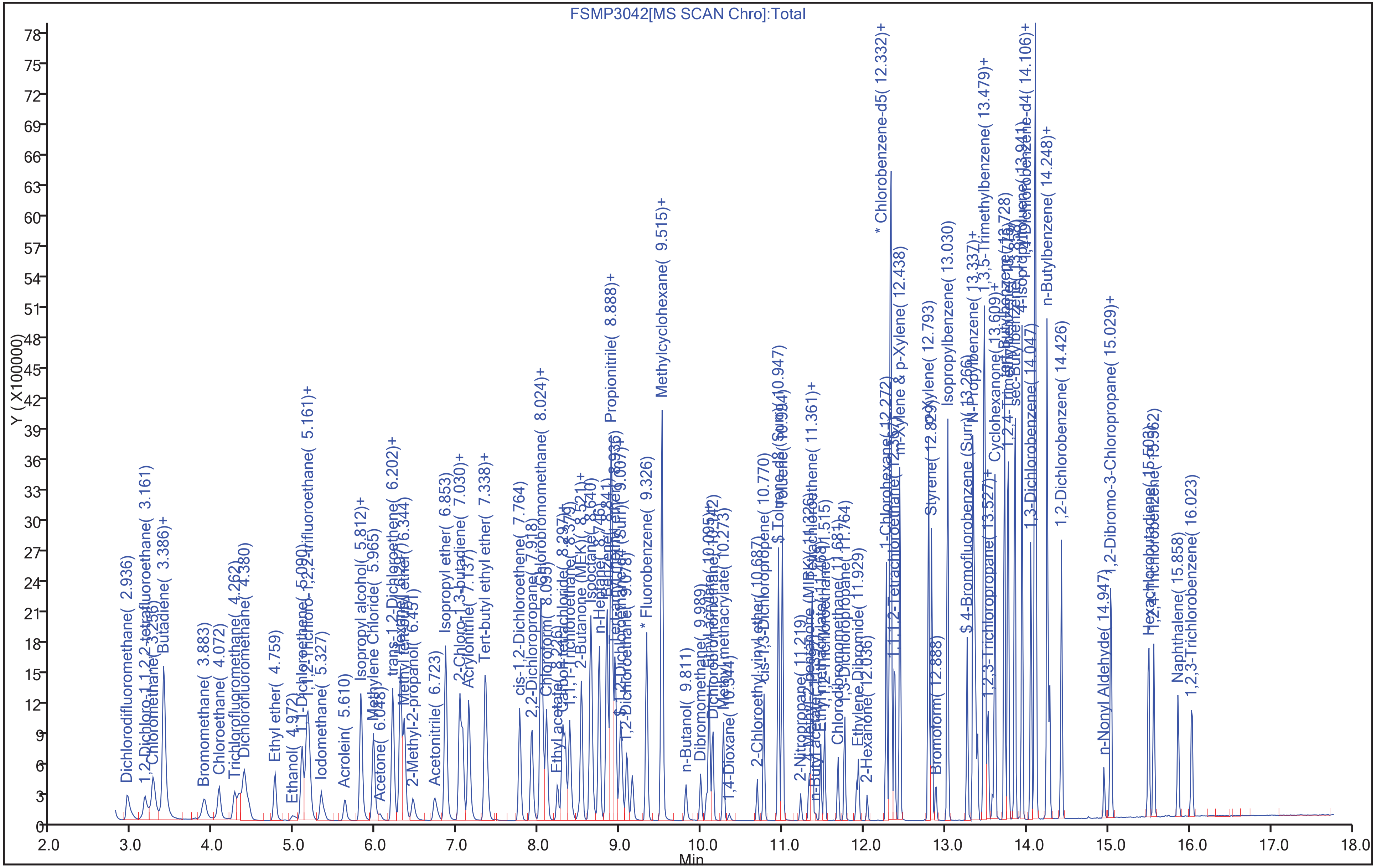
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:05:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3042.D
Injection Date: 16-Oct-2017 21:02:30 Instrument ID: VMSF Operator ID: JDH
Lims ID: 160-24924-A-9-C MS Worklist Smp#: 13
Client ID: SHAD041DP022SS03NS
Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 12
Method: 5mL-8260_MSF Limit Group: MSV-8260_DoD



TestAmerica St. Louis

Recovery Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3042.D
Lims ID: 160-24924-A-9-C MS
Client ID: SHAD041DP022SS03NS
Sample Type: MS
Inject. Date: 16-Oct-2017 21:02:30 ALS Bottle#: 12 Worklist Smp#: 13
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-013
Misc. Info.: 160-24924-A-9-C MS
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:05:31 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:05:30

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	49.6	99.24
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	51.5	103.01
$ 62 Toluene-d8 (Surr)	50.0	56.2	112.39
$ 86 4-Bromofluorobenzene (Surr)	50.0	55.9	111.88

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP022SS03NS MSD Lab Sample ID: 160-24924-9 MSD

Matrix: Solid Lab File ID: FSMP3043.D

Analysis Method: 8260C DOD Date Collected: 10/05/2017 16:59

Sample wt/vol: 5.506(g) Date Analyzed: 10/16/2017 21:27

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-VMS40 ID: 0.18(mm)

% Moisture: 2.0 Level: (low/med) Low

Analysis Batch No.: 332154 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	44.6		4.6	0.93	0.40
79-34-5	1,1,2,2-Tetrachloroethane	51.4		4.6	0.93	0.37
79-00-5	1,1,2-Trichloroethane	46.4		4.6	0.93	0.53
75-34-3	1,1-Dichloroethane	43.5		4.6	0.93	0.36
75-35-4	1,1-Dichloroethene	43.7		4.6	4.6	1.5
95-50-1	1,2-Dichlorobenzene	47.0		4.6	0.93	0.26
107-06-2	1,2-Dichloroethane	44.8		4.6	0.93	0.80
78-87-5	1,2-Dichloropropane	45.1		4.6	0.93	0.35
106-46-7	1,4-Dichlorobenzene	47.4		4.6	0.93	0.56
71-43-2	Benzene	44.9		4.6	0.93	0.23
75-27-4	Bromodichloromethane	45.9		4.6	0.93	0.24
75-25-2	Bromoform	50.0		4.6	0.93	0.34
56-23-5	Carbon tetrachloride	44.6		4.6	0.93	0.48
124-48-1	Chlorodibromomethane	49.2		4.6	0.93	0.38
67-66-3	Chloroform	44.2		4.6	0.93	0.35
74-87-3	Chloromethane	42.1		9.3	4.6	0.60
156-59-2	cis-1,2-Dichloroethene	43.3		4.6	0.93	0.55
10061-01-5	cis-1,3-Dichloropropene	48.7		4.6	0.93	0.55
100-41-4	Ethylbenzene	45.2		4.6	0.93	0.28
75-09-2	Methylene Chloride	41.9		9.3	4.6	1.5
127-18-4	Tetrachloroethene	47.2		4.6	0.93	0.30
108-88-3	Toluene	47.8		4.6	0.93	0.65
156-60-5	trans-1,2-Dichloroethene	43.0		4.6	0.93	0.87
10061-02-6	trans-1,3-Dichloropropene	50.5		4.6	0.93	0.32
79-01-6	Trichloroethene	43.6		4.6	0.93	0.36
75-01-4	Vinyl chloride	39.0		9.3	0.93	0.40
1330-20-7	Xylenes, Total	96.4		9.3	4.6	0.79

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	79		71-136
460-00-4	4-Bromofluorobenzene (Surr)	88		79-119
1868-53-7	Dibromofluoromethane (Surr)	82		78-119
2037-26-5	Toluene-d8 (Surr)	94		85-116

Report Date: 18-Oct-2017 22:08:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3043.D
Lims ID: 160-24924-A-9-D MSD
Client ID: SHAD041DP022SS03NS
Sample Type: MSD
Inject. Date: 16-Oct-2017 21:27:30 ALS Bottle#: 13 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 160-0011671-014
Misc. Info.: 160-24924-A-9-D MSD
Operator ID: JDH Instrument ID: VMSF

Method: \\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m
Limit Group: MSV-8260_DoD
Last Update: 18-Oct-2017 22:08:00 Calib Date: 02-Oct-2017 23:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D

Column 1 : Det: MS SCAN
Process Host: XAWRK015

First Level Reviewer: hannj Date: 18-Oct-2017 22:08:00

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	2.951	2.936	0.015	100	567401	50.0	47.8	
2 1,2-Dichloro-1,1,2,2-tetra	135	3.164	3.164	0.003	96	237716	50.0	60.1	M
3 Chloromethane	50	3.258	3.255	0.003	100	968209	50.0	45.5	
122 Butadiene	39	3.389	3.386	0.003	98	942193	50.0	40.3	
4 Vinyl chloride	62	3.400	3.397	0.003	98	795586	50.0	42.1	
5 Bromomethane	94	3.897	3.894	0.003	92	270669	50.0	43.9	
6 Chloroethane	64	4.075	4.072	0.003	99	389236	50.0	54.3	
7 Trichlorofluoromethane	101	4.312	4.312	0.004	96	757956	50.0	45.9	M
123 Dichlorofluoromethane	67	4.383	4.379	0.004	100	960438	50.0	45.8	
8 Ethyl ether	74	4.761	4.746	0.015	95	235072	50.0	46.3	
11 Ethanol	45	4.986	4.986	0.015	99	170351	2000.0	1963.8	M
9 1,1-Dichloroethene	96	5.093	5.089	0.004	93	413007	50.0	47.2	
10 Carbon disulfide	76	5.152	5.149	0.003	100	1616137	50.0	47.3	
12 1,1,2-Trichloro-1,2,2-trif	151	5.175	5.172	0.003	97	291129	50.0	47.1	
13 Iodomethane	142	5.329	5.314	0.015	99	547701	50.0	47.8	
14 Acrolein	56	5.613	5.610	0.003	99	258037	250.0	216.9	
16 Isopropyl alcohol	45	5.814	5.811	0.003	25	215587	500.0	472.8	
15 3-Chloro-1-propene	39	5.814	5.811	0.003	89	780752	50.0	47.2	
S 26 1,2-Dichloroethene, Total	96				0			93.1	
17 Methylene Chloride	84	5.968	5.965	0.003	98	472849	50.0	45.2	
18 Acetone	43	6.051	6.048	0.003	97	115132	50.0	54.4	
19 trans-1,2-Dichloroethene	96	6.205	6.202	0.003	93	463018	50.0	46.4	
20 Methyl acetate	74	6.217	6.214	0.003	100	101365	250.0	283.5	
21 Hexane	86	6.300	6.296	0.004	96	131975	50.0	46.5	
22 Methyl tert-butyl ether	73	6.347	6.344	0.003	98	1085591	50.0	48.5	
23 2-Methyl-2-propanol	59	6.453	6.450	0.003	96	317143	500.0	468.6	
24 Acetonitrile	41	6.726	6.711	0.015	100	455509	500.0	527.7	
25 Isopropyl ether	45	6.856	6.853	0.004	95	1928809	50.0	50.2	
27 2-Chloro-1,3-butadiene	53	7.033	7.018	0.015	94	956724	50.0	49.4	
28 1,1-Dichloroethane	63	7.069	7.054	0.015	97	1000932	50.0	47.0	
29 Acrylonitrile	53	7.140	7.137	0.004	97	1244281	500.0	492.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
30 Tert-butyl ethyl ether	59	7.341	7.338	0.003	98	1535371	50.0	49.3	
31 Vinyl acetate	43	7.376	7.361	0.015	97	727115	50.0	36.8	
32 cis-1,2-Dichloroethene	96	7.767	7.764	0.003	86	490628	50.0	46.7	
33 2,2-Dichloropropane	77	7.909	7.906	0.003	93	657327	50.0	52.5	
35 Chlorobromomethane	128	8.027	8.024	0.003	87	172649	50.0	47.0	
34 Cyclohexane	84	8.027	8.024	0.003	97	846245	50.0	46.6	
36 Chloroform	83	8.098	8.095	0.003	97	881147	50.0	47.7	
39 Ethyl acetate	45	8.228	8.225	0.003	99	73759	100.0	79.5	
37 Carbon tetrachloride	117	8.287	8.284	0.003	97	579599	50.0	48.2	
38 Tetrahydrofuran	71	8.311	8.308	0.003	94	64618	100.0	108.5	
$ 41 Dibromofluoromethane (Surr	113	8.323	8.320	0.003	93	316748	50.0	41.2	
40 1,1,1-Trichloroethane	97	8.382	8.379	0.003	97	776216	50.0	48.1	
43 2-Butanone (MEK)	43	8.489	8.485	0.004	98	142664	50.0	46.0	
42 1,1-Dichloropropene	75	8.524	8.521	0.003	91	717146	50.0	49.0	
125 Isooctane	57	8.642	8.639	0.003	98	2355082	50.0	44.5	
117 n-Heptane	43	8.737	8.734	0.003	95	963277	50.0	43.5	
44 Benzene	78	8.832	8.829	0.003	98	1916013	50.0	48.4	
45 Propionitrile	54	8.867	8.864	0.003	98	471371	500.0	501.6	
46 Methacrylonitrile	41	8.891	8.888	0.003	97	2489670	500.0	513.1	
48 Tert-amyl methyl ether	73	8.938	8.935	0.003	94	1240789	50.0	49.0	
$ 47 1,2-Dichloroethane-d4 (Sur	65	8.997	8.994	0.003	96	391888	50.0	39.5	
50 Isobutyl alcohol	42	9.021	9.018	0.003	92	257189	1250.0	1233.3	
49 1,2-Dichloroethane	62	9.080	9.077	0.003	97	569685	50.0	48.3	
118 1,4-Difluorobenzene	114		9.130					ND	
* 51 Fluorobenzene	96	9.329	9.326	0.003	97	1622324	50.0	50.0	
52 Methylcyclohexane	55	9.518	9.515	0.003	96	966136	50.0	47.2	
53 Trichloroethene	95	9.518	9.515	0.003	65	482640	50.0	47.0	
54 n-Butanol	56	9.814	9.811	0.003	95	207647	1250.0	1130.2	
55 Dibromomethane	93	9.991	9.988	0.003	88	193889	50.0	47.6	
124 Ethyl acrylate	55	10.062	10.059	0.003	99	268699	50.0	42.0	
56 1,2-Dichloropropane	63	10.098	10.095	0.003	92	474502	50.0	48.7	
57 Dichlorobromomethane	83	10.133	10.130	0.003	98	568694	50.0	49.5	
128 2-Pentanone	43		10.253					ND	
58 Methyl methacrylate	69	10.275	10.272	0.003	94	335729	100.0	92.3	
59 1,4-Dioxane	88	10.346	10.343	0.003	95	48379	1000.0	859.1	
60 2-Chloroethyl vinyl ether	63	10.689	10.686	0.003	93	161436	50.0	46.4	
61 cis-1,3-Dichloropropene	75	10.772	10.769	0.003	90	629163	50.0	52.5	
$ 62 Toluene-d8 (Surr)	98	10.950	10.947	0.003	95	1263744	50.0	46.8	
63 Toluene	92	10.997	10.994	0.003	97	1036290	50.0	51.5	
64 2-Nitropropane	43	11.222	11.219	0.003	98	161674	100.0	92.6	
66 4-Methyl-2-pentanone (MIBK	43	11.317	11.325	-0.008	97	307248	50.0	51.2	
65 Tetrachloroethene	164	11.352	11.349	0.003	87	282160	50.0	50.9	
67 trans-1,3-Dichloropropene	75	11.364	11.361	0.003	97	525458	50.0	54.5	
119 n-Butyl acetate	43	11.399	11.396	0.003	97	58919	50.0	49.6	
69 Ethyl methacrylate	69	11.470	11.467	0.003	95	307776	50.0	45.2	
68 1,1,2-Trichloroethane	83	11.518	11.515	0.003	94	228348	50.0	50.0	
S 73 1,3-Dichloropropene, Total	75				0			107.0	
70 Chlorodibromomethane	129	11.683	11.680	0.003	90	270913	50.0	53.1	
71 1,3-Dichloropropane	76	11.766	11.763	0.003	99	486089	50.0	51.5	
72 Ethylene Dibromide	107	11.908	11.905	0.003	98	219477	50.0	50.4	
74 2-Hexanone	43	12.038	12.035	0.003	98	169431	50.0	48.2	
75 1-Chlorohexane	91	12.275	12.272	0.003	87	557124	50.0	48.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 76 Chlorobenzene-d5	117	12.322	12.319	0.003	95	966517	50.0	50.0	
78 Ethylbenzene	91	12.322	12.331	-0.009	95	2077450	50.0	48.8	
77 Chlorobenzene	112	12.334	12.331	0.003	73	1053497	50.0	50.2	
79 1,1,1,2-Tetrachloroethane	131	12.370	12.378	-0.008	93	373028	50.0	50.4	
80 m-Xylene & p-Xylene	106	12.441	12.438	0.003	97	748509	50.0	52.1	
82 o-Xylene	106	12.796	12.793	0.003	98	752223	50.0	51.9	
83 Styrene	104	12.831	12.828	0.003	93	1032476	50.0	51.4	
84 Bromoform	173	12.879	12.887	-0.008	94	140056	50.0	54.0	
85 Isopropylbenzene	105	13.032	13.029	0.003	98	2022124	50.0	63.1	
$ 86 4-Bromofluorobenzene (Surr	95	13.269	13.266	0.003	80	394083	50.0	43.9	
88 N-Propylbenzene	91	13.340	13.337	0.003	98	2416488	50.0	55.3	
87 Bromobenzene	156	13.364	13.361	0.003	92	367639	50.0	55.3	
89 1,1,2,2-Tetrachloroethane	83	13.387	13.396	-0.009	95	343481	50.0	55.4	
91 1,3,5-Trimethylbenzene	105	13.470	13.467	0.003	93	1732816	50.0	56.8	
90 2-Chlorotoluene	91	13.482	13.491	-0.009	95	1745256	50.0	57.5	
92 1,2,3-Trichloropropane	110	13.518	13.514	0.004	86	90282	50.0	55.8	
93 trans-1,4-Dichloro-2-buten	53	13.529	13.526	0.003	87	113159	50.0	56.1	
94 Cyclohexanone	55	13.577	13.574	0.003	93	101299	500.0	524.6	
95 4-Chlorotoluene	91	13.612	13.609	0.003	99	1497166	50.0	58.6	
81 Pentachloroethane	167		13.636					ND	
96 tert-Butylbenzene	119	13.731	13.727	0.004	93	1462509	50.0	61.9	
97 1,2,4-Trimethylbenzene	105	13.766	13.775	-0.009	99	1784170	50.0	56.0	
98 sec-Butylbenzene	105	13.849	13.858	-0.009	97	2296176	50.0	55.6	
99 4-Isopropyltoluene	119	13.944	13.940	0.004	95	1849850	50.0	55.5	
100 1,3-Dichlorobenzene	146	14.050	14.047	0.003	94	791095	50.0	52.5	
120 1,2,3-Trimethylbenzene	105	14.097	14.094	0.003	96	1823934	50.0	54.3	
* 101 1,4-Dichlorobenzene-d4	152	14.097	14.106	-0.009	70	493331	50.0	50.0	
102 1,4-Dichlorobenzene	146	14.109	14.118	-0.009	88	806894	50.0	51.1	
103 n-Butylbenzene	134	14.251	14.248	0.003	96	487880	50.0	52.2	
121 Benzyl chloride	126	14.287	14.284	0.003	95	135489	50.0	56.4	
104 1,2-Dichlorobenzene	146	14.429	14.426	0.003	93	709170	50.0	50.7	
106 n-Nonyl Aldehyde	57	14.949	14.946	0.003	84	109979	50.0	18.2	
105 1,2-Dibromo-3-Chloropropan	157	15.032	15.029	0.003	69	54153	50.0	55.4	
107 1,3,5-Trichlorobenzene	180	15.032	15.041	-0.009	91	541352	50.0	45.3	
108 Hexachlorobutadiene	225	15.505	15.502	0.003	96	275162	50.0	45.7	
109 1,2,4-Trichlorobenzene	180	15.565	15.561	0.004	92	390797	50.0	39.8	
110 Naphthalene	128	15.860	15.857	0.003	98	805625	50.0	43.3	
111 1,2,3-Trichlorobenzene	180	16.026	16.035	-0.009	93	311231	50.0	37.5	
S 112 Xylenes, Total	106				0			104.0	
127 2-Methylpentane	1		0.000					ND	
S 113 Trihalomethanes, Total	1				0			204.2	
126 C6-C12	1		0.000					ND	

QC Flag Legend

Review Flags

M - Manually Integrated

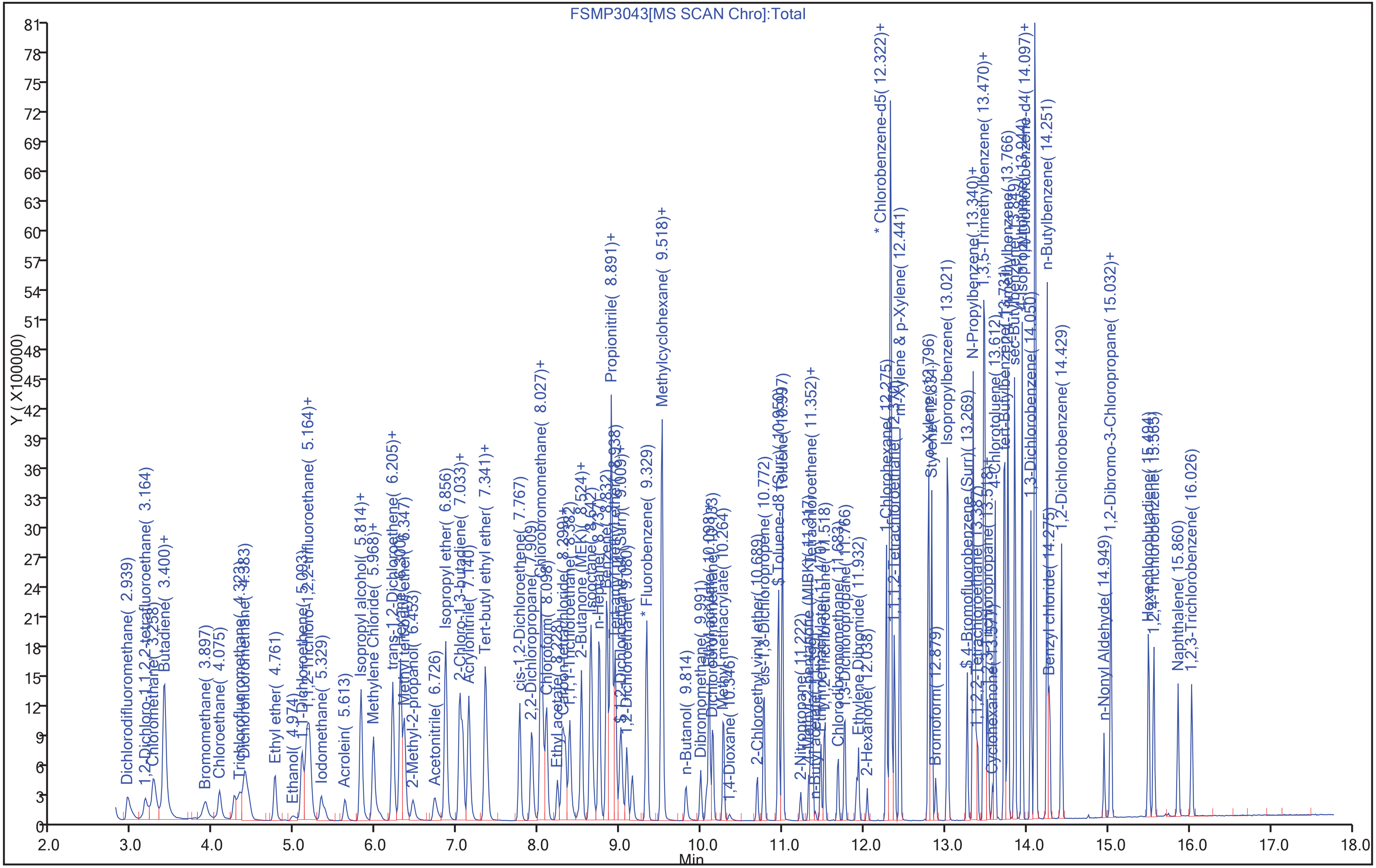
Reagents:

8260 NewWkMix_00242	Amount Added: 10.00	Units: uL	
I.S. Working_00154	Amount Added: 10.00	Units: uL	Run Reagent
8260 Surr 25_00080	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 18-Oct-2017 22:08:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3043.D				
Injection Date:	16-Oct-2017 21:27:30	Instrument ID:	VMSF	Operator ID:	JDH
Lims ID:	160-24924-A-9-D MSD			Worklist Smp#:	14
Client ID:	SHAD041DP022SS03NS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	5mL-8260_MSF	Limit Group:	MSV-8260_DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\FSMP3043.D				
Lims ID:	160-24924-A-9-D MSD				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	MSD				
Inject. Date:	16-Oct-2017 21:27:30	ALS Bottle#:	13	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	160-0011671-014				
Misc. Info.:	160-24924-A-9-D MSD				
Operator ID:	JDH	Instrument ID:	VMSF		

Method:	\\ChromNA\StLouis\ChromData\VMSF\20171016-11671.b\5mL-8260_MSF.m		
Limit Group:	MSV-8260_DoD		
Last Update:	18-Oct-2017 22:08:00	Calib Date:	02-Oct-2017 23:55:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\VMSF\20171002-11546.b\FICL2855.D		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK015		

First Level Reviewer: hannj Date: 18-Oct-2017 22:08:00

Compound	Amount Added	Amount Recovered	% Rec.
$ 41 Dibromofluoromethane (Surr)	50.0	41.2	82.31
$ 47 1,2-Dichloroethane-d4 (Surr)	50.0	39.5	79.00
$ 62 Toluene-d8 (Surr)	50.0	46.8	93.68
$ 86 4-Bromofluorobenzene (Surr)	50.0	43.9	87.87

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSX Start Date: 09/14/2017 22:23

Analysis Batch Number: 327349 End Date: 09/15/2017 03:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 160-327349/2		09/14/2017 22:23	1	XBFB8773.D	RTXVMS30 0.25(mm)
IC 160-327349/3		09/14/2017 22:55	1	XICL8774.D	RTXVMS30 0.25(mm)
IC 160-327349/4		09/14/2017 23:20	1	XICL8775.D	RTXVMS30 0.25(mm)
IC 160-327349/5		09/14/2017 23:45	1	XICL8776.D	RTXVMS30 0.25(mm)
IC 160-327349/6		09/15/2017 00:10	1	XICL8777.D	RTXVMS30 0.25(mm)
IC 160-327349/7		09/15/2017 00:35	1	XICL8778.D	RTXVMS30 0.25(mm)
ICIS 160-327349/8		09/15/2017 01:00	1	XICL8779.D	RTXVMS30 0.25(mm)
IC 160-327349/9		09/15/2017 01:25	1	XICL8780.D	RTXVMS30 0.25(mm)
IC 160-327349/10		09/15/2017 01:49	1	XICL8781.D	RTXVMS30 0.25(mm)
ICV 160-327349/13		09/15/2017 03:04	1	XICV8784.D	RTXVMS30 0.25(mm)

8260C DOD

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Instrument ID: VMSF
Start Date: 10/02/2017 20:13
Analysis Batch Number: 329944
End Date: 10/03/2017 01:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 160-329944/1		10/02/2017 20:13	1	FBFB2846.D	RTX-VMS40 0.18(mm)
IC 160-329944/3		10/02/2017 21:02	1	FICL2848.D	RTX-VMS40 0.18(mm)
IC 160-329944/4		10/02/2017 21:27	1	FICL2849.D	RTX-VMS40 0.18(mm)
IC 160-329944/5		10/02/2017 21:52	1	FICL2850.D	RTX-VMS40 0.18(mm)
IC 160-329944/6		10/02/2017 22:17	1	FICL2851.D	RTX-VMS40 0.18(mm)
IC 160-329944/7		10/02/2017 22:42	1	FICL2852.D	RTX-VMS40 0.18(mm)
ICIS 160-329944/8		10/02/2017 23:06	1	FICL2853.D	RTX-VMS40 0.18(mm)
IC 160-329944/9		10/02/2017 23:31	1	FICL2854.D	RTX-VMS40 0.18(mm)
IC 160-329944/10		10/02/2017 23:55	1	FICL2855.D	RTX-VMS40 0.18(mm)
ICV 160-329944/13		10/03/2017 01:09	1	FICV2858.D	RTX-VMS40 0.18(mm)

8260C DOD

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSF

Start Date: 10/09/2017 00:01

Analysis Batch Number: 331094

End Date: 10/10/2017 04:37

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/09/2017 00:01	1		RTX-VMS40 0.18(mm)
BFB 160-331094/3		10/09/2017 18:02	1	FBFB2893.D	RTX-VMS40 0.18(mm)
CCV 160-331094/4		10/09/2017 19:12	1	FCCV2894.D	RTX-VMS40 0.18(mm)
LCS 160-331094/5		10/09/2017 19:50	1	FLCS2895.D	RTX-VMS40 0.18(mm)
LCSD 160-331094/6		10/09/2017 20:15	1	FLCS2896.D	RTX-VMS40 0.18(mm)
ZZZZZ		10/09/2017 20:40	1		RTX-VMS40 0.18(mm)
MB 160-331094/8		10/09/2017 21:05	1	FBLK2898.D	RTX-VMS40 0.18(mm)
ZZZZZ		10/09/2017 21:55	1		RTX-VMS40 0.18(mm)
160-24924-20		10/09/2017 22:20	1	FSMP2901.D	RTX-VMS40 0.18(mm)
160-24924-21		10/09/2017 22:45	1	FSMP2902.D	RTX-VMS40 0.18(mm)
160-24924-22		10/09/2017 23:11	1	FSMP2903.D	RTX-VMS40 0.18(mm)
160-24924-23		10/09/2017 23:36	1	FSMP2904.D	RTX-VMS40 0.18(mm)
ZZZZZ		10/10/2017 00:26	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/10/2017 00:51	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/10/2017 01:16	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/10/2017 01:41	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/10/2017 02:06	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/10/2017 02:32	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/10/2017 02:57	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/10/2017 03:22	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/10/2017 03:47	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/10/2017 04:12	1		RTX-VMS40 0.18(mm)
CCVC 160-331094/26		10/10/2017 04:37	1	FCCV2916.D	RTX-VMS40 0.18(mm)

8260C DOD

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSF

Start Date: 10/16/2017 00:03

Analysis Batch Number: 332154

End Date: 10/17/2017 02:06

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
160-24924-5		10/16/2017 00:03	1	FSMP3049.D	RTX-VMS40 0.18(mm)
BFB 160-332154/2		10/16/2017 16:13	1	FBFB3031.D	RTX-VMS40 0.18(mm)
CCV 160-332154/3		10/16/2017 16:37	1	FCCV3032.D	RTX-VMS40 0.18(mm)
LCS 160-332159/2-A		10/16/2017 17:18	1	FLCS3033.D	RTX-VMS40 0.18(mm)
LCSD 160-332159/3-A		10/16/2017 17:43	1	FLCS3034.D	RTX-VMS40 0.18(mm)
ZZZZZ		10/16/2017 18:08	1		RTX-VMS40 0.18(mm)
MB 160-332159/1-A		10/16/2017 18:33	1	FBLK3036.D	RTX-VMS40 0.18(mm)
ZZZZZ		10/16/2017 18:58	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/16/2017 19:22	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/16/2017 19:47	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/16/2017 20:12	1		RTX-VMS40 0.18(mm)
160-24924-9		10/16/2017 20:37	1	FSMP3041.D	RTX-VMS40 0.18(mm)
160-24924-9 MS		10/16/2017 21:02	1	FSMP3042.D	RTX-VMS40 0.18(mm)
160-24924-9 MSD		10/16/2017 21:27	1	FSMP3043.D	RTX-VMS40 0.18(mm)
160-24924-1		10/16/2017 22:24	1	FSMP3045.D	RTX-VMS40 0.18(mm)
160-24924-2		10/16/2017 22:48	1	FSMP3046.D	RTX-VMS40 0.18(mm)
ZZZZZ		10/16/2017 23:13	1		RTX-VMS40 0.18(mm)
160-24924-4		10/16/2017 23:38	1	FSMP3048.D	RTX-VMS40 0.18(mm)
160-24924-6		10/17/2017 00:27	1	FSMP3050.D	RTX-VMS40 0.18(mm)
ZZZZZ		10/17/2017 00:52	1		RTX-VMS40 0.18(mm)
160-24924-8		10/17/2017 01:17	1	FSMP3052.D	RTX-VMS40 0.18(mm)
160-24924-10		10/17/2017 01:41	1	FSMP3053.D	RTX-VMS40 0.18(mm)
CCVC 160-332154/25		10/17/2017 02:06	1	FCCV3054.D	RTX-VMS40 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSX

Start Date: 10/17/2017 14:42

Analysis Batch Number: 332246

End Date: 10/18/2017 01:42

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 160-332246/2		10/17/2017 14:42	1	XBFB9243.D	RTXVMS30 0.25(mm)
CCV 160-332246/3		10/17/2017 15:05	1	XCCV9244.D	RTXVMS30 0.25(mm)
LCS 160-332262/2-A		10/17/2017 16:41	1	XLCS9245.D	RTXVMS30 0.25(mm)
LCSD 160-332262/3-A		10/17/2017 17:06	1	XLCS9246.D	RTXVMS30 0.25(mm)
ZZZZZ		10/17/2017 17:31	1		RTXVMS30 0.25(mm)
MB 160-332262/1-A		10/17/2017 17:56	1	XBLK9248.D	RTXVMS30 0.25(mm)
ZZZZZ		10/17/2017 18:20	1		RTXVMS30 0.25(mm)
ZZZZZ		10/17/2017 18:44	1		RTXVMS30 0.25(mm)
ZZZZZ		10/17/2017 19:14	1		RTXVMS30 0.25(mm)
ZZZZZ		10/17/2017 19:39	1		RTXVMS30 0.25(mm)
ZZZZZ		10/17/2017 20:36	1		RTXVMS30 0.25(mm)
ZZZZZ		10/17/2017 21:01	1		RTXVMS30 0.25(mm)
ZZZZZ		10/17/2017 23:16	1		RTXVMS30 0.25(mm)
ZZZZZ		10/18/2017 00:03	1		RTXVMS30 0.25(mm)
ZZZZZ		10/18/2017 00:27	1		RTXVMS30 0.25(mm)
160-24924-7 RA		10/18/2017 00:52	1	XSMP9258.D	RTXVMS30 0.25(mm)
ZZZZZ		10/18/2017 01:17	1		RTXVMS30 0.25(mm)
CCVC 160-332246/19		10/18/2017 01:42	1	XCCV9260.D	RTXVMS30 0.25(mm)

8260C DOD

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSF Start Date: 10/17/2017 14:54

Analysis Batch Number: 332247 End Date: 10/18/2017 00:49

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 160-332247/3		10/17/2017 14:54	1	FBFB3057.D	RTX-VMS40 0.18(mm)
CCV 160-332247/4		10/17/2017 15:17	1	FCCV3058.D	RTX-VMS40 0.18(mm)
LCS 160-332265/2-A		10/17/2017 15:57	1	FLCS3059.D	RTX-VMS40 0.18(mm)
LCSD 160-332265/3-A		10/17/2017 16:22	1	FLCS3060.D	RTX-VMS40 0.18(mm)
ZZZZZ		10/17/2017 16:48	1		RTX-VMS40 0.18(mm)
MB 160-332265/1-A		10/17/2017 17:13	1	FBLK3062.D	RTX-VMS40 0.18(mm)
160-24924-11		10/17/2017 17:38	1	FSMP3063.D	RTX-VMS40 0.18(mm)
160-24924-12		10/17/2017 18:02	1	FSMP3064.D	RTX-VMS40 0.18(mm)
160-24924-13		10/17/2017 18:33	1	FSMP3065.D	RTX-VMS40 0.18(mm)
160-24924-14		10/17/2017 18:59	1	FSMP3066.D	RTX-VMS40 0.18(mm)
160-24924-15		10/17/2017 19:24	1	FSMP3067.D	RTX-VMS40 0.18(mm)
160-24924-16		10/17/2017 19:48	1	FSMP3068.D	RTX-VMS40 0.18(mm)
160-24924-17		10/17/2017 20:13	1	FSMP3069.D	RTX-VMS40 0.18(mm)
160-24924-18		10/17/2017 20:39	1	FSMP3070.D	RTX-VMS40 0.18(mm)
160-24924-19		10/17/2017 21:04	1	FSMP3071.D	RTX-VMS40 0.18(mm)
ZZZZZ		10/17/2017 21:29	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/17/2017 21:58	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/17/2017 22:23	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/17/2017 22:48	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/17/2017 23:18	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/18/2017 00:00	1		RTX-VMS40 0.18(mm)
ZZZZZ		10/18/2017 00:24	1		RTX-VMS40 0.18(mm)
CCVC 160-332247/25		10/18/2017 00:49	1	FCCV3079.D	RTX-VMS40 0.18(mm)

8260C DOD

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: VMSX Start Date: 10/19/2017 15:41

Analysis Batch Number: 332817 End Date: 10/19/2017 21:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 160-332817/2		10/19/2017 15:41	1	XBFB9322.D	RTXVMS30 0.25(mm)
CCV 160-332817/3		10/19/2017 16:05	1	XCCV9323.D	RTXVMS30 0.25(mm)
LCS 160-332822/2-A		10/19/2017 16:42	1	XLCS9324.D	RTXVMS30 0.25(mm)
LCSD 160-332822/3-A		10/19/2017 17:06	1	XLCS9325.D	RTXVMS30 0.25(mm)
ZZZZZ		10/19/2017 17:31	1		RTXVMS30 0.25(mm)
MB 160-332822/1-A		10/19/2017 17:56	1	XBLK9327.D	RTXVMS30 0.25(mm)
160-24924-3 RA		10/19/2017 18:20	1	XSMP9328.D	RTXVMS30 0.25(mm)
ZZZZZ		10/19/2017 18:49	1		RTXVMS30 0.25(mm)
ZZZZZ		10/19/2017 19:14	1		RTXVMS30 0.25(mm)
ZZZZZ		10/19/2017 19:39	1		RTXVMS30 0.25(mm)
ZZZZZ		10/19/2017 20:39	1		RTXVMS30 0.25(mm)
ZZZZZ		10/19/2017 21:07	1		RTXVMS30 0.25(mm)
CCVC 160-332817/14		10/19/2017 21:32	1	XCCV9334.D	RTXVMS30 0.25(mm)

8260C DOD

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Batch Number: 332159 Batch Start Date: 10/16/17 16:59 Batch Analyst: Hann, John D

Batch Method: 5035 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TareWeight	Vial&SampleWt	InitialAmount	FinalAmount	AnalysisComment	
MB 160-332159/1		5035, 8260C DOD				5.00 g	5.00 mL	All sample weights corrected by -0.1687 to account for additional client label on sample vial.	
LCS 160-332159/2		5035, 8260C DOD				5.00 g	5.00 mL		
LCSD 160-332159/3		5035, 8260C DOD				5.00 g	5.00 mL		
160-24924-A-9	SHAD041DP022SS03 NS	5035, 8260C DOD	T	+030.827 g	36.3438 g	5.5168 g	5.00 mL		
160-24924-A-9 MS	SHAD041DP022SS03 NS	5035, 8260C DOD	T	+030.826 g	36.8196 g	5.9936 g	5.00 mL		
160-24924-A-9 MSD	SHAD041DP022SS03 NS	5035, 8260C DOD	T	+030.747 g	36.253 g	5.506 g	5.00 mL		
160-24924-A-1	SHAD041DP026SS02 NS	5035, 8260C DOD	T	+030.496 g	36.2216 g	5.7256 g	5.00 mL		
160-24924-A-2	SHAD041DP026SS03 NS	5035, 8260C DOD	T	+030.700 g	35.1702 g	4.4702 g	5.00 mL		
160-24924-A-4	SHAD041DP026SS05 NS	5035, 8260C DOD	T	+030.597 g	36.0563 g	5.4593 g	5.00 mL		
160-24924-A-5	SHAD041DP026SS05 DS	5035, 8260C DOD	T	+030.500 g	36.2012 g	5.7012 g	5.00 mL		
160-24924-A-6	SHAD041DP026SS06 NS	5035, 8260C DOD	T	+031.152 g	36.5152 g	5.3632 g	5.00 mL		
160-24924-A-8	SHAD041DP022SS02 NS	5035, 8260C DOD	T	+030.661 g	36.0056 g	5.3446 g	5.00 mL		
160-24924-A-10	SHAD041DP022SS04 NS	5035, 8260C DOD	T	+030.888 g	36.1857 g	5.2977 g	5.00 mL		

Batch Notes	
Balance ID	L17410
Vial Lot Number	0119201C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Batch Number: 332262   Batch Start Date: 10/17/17 15:12   Batch Analyst: Hann, John D

Batch Method: 5035   Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TareWeight	Vial&SampleWt	InitialAmount	FinalAmount	AnalysisComment	
MB 160-332262/1		5035, 8260C DOD				5.00 g	5.00 mL		
LCS 160-332262/2		5035, 8260C DOD				5.00 g	5.00 mL	All sample weights corrected by -0.1687g to account for the additional client label on the sample vial.	
LCSD 160-332262/3		5035, 8260C DOD				5.00 g	5.00 mL		
160-24924-B-7	SHAD041DP022SS01 NS	5035, 8260C DOD	T	+030.548 g	36.0717 g	5.5237 g	5.00 mL		

Batch Notes	
Balance ID	L17410
Vial Lot Number	0119201C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Batch Number: 332265 Batch Start Date: 10/17/17 15:13 Batch Analyst: Hann, John D

Batch Method: 5035 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TareWeight	Vial&SampleWt	InitialAmount	FinalAmount	AnalysisComment	
MB 160-332265/1		5035, 8260C DOD				5.00 g	5.00 mL	"GS" indicates sample vial tare-weight labels that contained alpha characters which need to be manually removed from the tare-weight field in order for the spreadsheet to calculate the sample weight.	
LCS 160-332265/2		5035, 8260C DOD				5.00 g	5.00 mL	All sample weights corrected by -0.1687g to account for additional client label on sample vial.	
LCSD 160-332265/3		5035, 8260C DOD				5.00 g	5.00 mL		
160-24924-A-11	SHAD041DP022SS05 NS	5035, 8260C DOD	T	+030.412 g	35.6439 g	5.2319 g	5.00 mL		
160-24924-A-12	SHAD041DP022SS06 NS	5035, 8260C DOD	T	+030.513 g	35.4397 g	4.9267 g	5.00 mL		
160-24924-A-13	SHAD041DP013SS01 NS	5035, 8260C DOD	T	+030.670 g	36.5043 g	5.8343 g	5.00 mL		
160-24924-A-14	SHAD041DP013SS02 NS	5035, 8260C DOD	T	+030.458 g	36.2006 g	5.7426 g	5.00 mL		
160-24924-A-15	SHAD041DP013SS03 NS	5035, 8260C DOD	T	+030.875 g	36.6711 g	5.7961 g	5.00 mL		
160-24924-A-16	SHAD041DP013SS04 NS	5035, 8260C DOD	T	+030.667 g	37.4345 g	6.7675 g	5.00 mL		
160-24924-A-17	SHAD041DP013SS05 NS	5035, 8260C DOD	T	+030.889 g	36.507 g	5.618 g	5.00 mL		
160-24924-A-18	SHAD041DP013SS05 DS	5035, 8260C DOD	T	+030.791 g	36.6561 g	5.8651 g	5.00 mL		
160-24924-A-19	SHAD041DP013SS06 NS	5035, 8260C DOD	T	+030.790 g	36.2293 g	5.4393 g	5.00 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Batch Number: 332265   Batch Start Date: 10/17/17 15:13   Batch Analyst: Hann, John D

Batch Method: 5035   Batch End Date:

Batch Notes	
Balance ID	L17410
Vial Lot Number	0119201C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Batch Number: 332822 Batch Start Date: 10/19/17 16:19 Batch Analyst: Hann, John D

Batch Method: 5035 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TareWeight	Vial&SampleWt	InitialAmount	FinalAmount	AnalysisComment	
MB 160-332822/1		5035, 8260C DOD				5.00 g	5.00 mL		
LCS 160-332822/2		5035, 8260C DOD				5.00 g	5.00 mL	All sample weights corrected by 0.1687g to account for the additional client label on the sample vial.	
LCSD 160-332822/3		5035, 8260C DOD				5.00 g	5.00 mL		
160-24924-B-3	SHAD041DP026SS04 NS	5035, 8260C DOD	T	+030.525 g	37.2296 g	6.7046 g	5.00 mL		

Batch Notes	
Balance ID	L17410
Vial Lot Number	0119201C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8270D DOD

Semivolatile Organic Compounds (GC/MS) by Method 8270D_DOD

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low

GC Column (1): RXI5SiiMS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	NBZ	#	FBP	#	TPHL	#
SHAD041DP026SS02NS	160-24924-1	83		82		91	
SHAD041DP026SS03NS	160-24924-2	79		78		92	
SHAD041DP026SS04NS	160-24924-3	79		80		95	
SHAD041DP026SS05NS	160-24924-4	78		79		96	
SHAD041DP026SS05DS	160-24924-5	86		83		97	
SHAD041DP026SS06NS	160-24924-6	85		81		92	
SHAD041DP022SS01NS	160-24924-7	76		76		84	
SHAD041DP022SS02NS	160-24924-8	75		78		90	
SHAD041DP022SS03NS	160-24924-9	86		85		96	
SHAD041DP022SS04NS	160-24924-10	81		80		91	
SHAD041DP022SS05NS	160-24924-11	82		81		95	
SHAD041DP022SS06NS	160-24924-12	80		81		93	
SHAD041DP013SS01NS	160-24924-13	84		79		83	
SHAD041DP013SS02NS	160-24924-14	76		79		91	
SHAD041DP013SS03NS	160-24924-15	84		84		93	
SHAD041DP013SS04NS	160-24924-16	110	Q	79	Q	93	Q
SHAD041DP013SS05NS	160-24924-17	78		77		94	
SHAD041DP013SS05DS	160-24924-18	82		80		95	
SHAD041DP013SS06NS	160-24924-19	85		86		105	
	MB 160-332664/1-A	89		82		102	
	LCS 160-332664/2-A	80		83		98	
SHAD041DP022SS03NS MS	160-24924-9 MS	83		84		92	
SHAD041DP022SS03NS MSD	160-24924-9 MSD	85		85		93	

	QC LIMITS
NBZ = Nitrobenzene-d5 (Surr)	44-125
FBP = 2-Fluorobiphenyl (Surr)	46-115
TPHL = Terphenyl-d14 (Surr)	58-133

Column to be used to flag recovery values

FORM II 8270D SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Matrix: Solid   Level: Low   Lab File ID: I4844.D

Lab ID: LCS 160-332664/2-A   Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1-Methylnaphthalene	33.3	26.6	80	43-111	
2-Methylnaphthalene	33.3	26.4	79	39-114	
Acenaphthene	33.3	25.4	76	44-111	
Acenaphthylene	33.3	25.2	76	39-116	
Anthracene	33.3	26.4	79	50-114	
Benzo[a]anthracene	33.3	28.4	85	54-122	
Benzo[a]pyrene	33.3	27.0	81	50-125	
Benzo[b]fluoranthene	33.3	28.4	85	53-128	
Benzo[g,h,i]perylene	33.3	31.8	95	49-127	
Benzo[k]fluoranthene	33.3	26.0	78	56-123	
Chrysene	33.3	27.7	83	57-118	
Dibenz(a,h)anthracene	33.3	27.8	83	50-129	
Fluoranthene	33.3	28.6	86	55-119	
Fluorene	33.3	25.6	77	47-114	
Indeno[1,2,3-cd]pyrene	33.3	28.7	86	49-130	
Naphthalene	33.3	26.4	79	38-111	
Phenanthrene	33.3	29.1	87	49-113	
Pyrene	33.3	28.9	87	55-117	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: I4851.D

Lab ID: 160-24924-9 MS Client ID: SHAD041DP022SS03NS MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
1-Methylnaphthalene	33.9	3.4 U	26.3	78	43-111	
2-Methylnaphthalene	33.9	3.4 U	25.8	76	39-114	
Acenaphthene	33.9	3.4 U	24.9	73	44-111	
Acenaphthylene	33.9	3.4 U	26.6	78	39-116	
Anthracene	33.9	3.4 U	25.5	75	50-114	
Benzo[a]anthracene	33.9	3.4 U	26.5	78	54-122	
Benzo[a]pyrene	33.9	3.4 U	25.6	76	50-125	
Benzo[b]fluoranthene	33.9	1.5 J	26.1	73	53-128	
Benzo[g,h,i]perylene	33.9	1.9 J	27.2	75	49-127	
Benzo[k]fluoranthene	33.9	3.4 U	28.9	85	56-123	
Chrysene	33.9	3.4 U	27.7	82	57-118	
Dibenz(a,h)anthracene	33.9	3.4 U	26.4	78	50-129	
Fluoranthene	33.9	3.4 U	27.3	81	55-119	
Fluorene	33.9	3.4 U	25.5	75	47-114	
Indeno[1,2,3-cd]pyrene	33.9	3.4 U	27.1	80	49-130	
Naphthalene	33.9	3.4 U	25.8	76	38-111	
Phenanthrene	33.9	3.4 U	29.0	86	49-113	
Pyrene	33.9	3.4 U	27.2	80	55-117	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica St. Louis　　Job No.: 160-24924-1

SDG No.:

Matrix: Solid　　Level: Low　　Lab File ID: I4852.D

Lab ID: 160-24924-9 MSD　　Client ID: SHAD041DP022SS03NS MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1-Methylnaphthalene	33.5	26.3	78	0	20	43-111	
2-Methylnaphthalene	33.5	26.6	79	3	20	39-114	
Acenaphthene	33.5	25.3	76	2	20	44-111	
Acenaphthylene	33.5	26.9	80	1	20	39-116	
Anthracene	33.5	26.8	80	5	20	50-114	
Benzo[a]anthracene	33.5	27.2	81	3	20	54-122	
Benzo[a]pyrene	33.5	26.8	80	4	20	50-125	
Benzo[b]fluoranthene	33.5	26.7	75	2	20	53-128	
Benzo[g,h,i]perylene	33.5	27.8	77	2	20	49-127	
Benzo[k]fluoranthene	33.5	30.2	90	5	20	56-123	
Chrysene	33.5	27.6	82	0	20	57-118	
Dibenz(a,h)anthracene	33.5	28.1	84	6	20	50-129	
Fluoranthene	33.5	27.7	83	1	20	55-119	
Fluorene	33.5	26.1	78	3	20	47-114	
Indeno[1,2,3-cd]pyrene	33.5	28.5	85	5	20	49-130	
Naphthalene	33.5	26.3	79	2	20	38-111	
Phenanthrene	33.5	29.7	89	2	20	49-113	
Pyrene	33.5	27.4	82	1	20	55-117	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab File ID: I4843.D

Lab Sample ID: MB 160-332664/1-A

Matrix: Solid

Date Extracted: 10/19/2017 11:07

Instrument ID: SMSI

Date Analyzed: 10/21/2017 12:57

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 160-332664/2-A	I4844.D	10/21/2017 13:20
SHAD041DP026SS03NS	160-24924-2	I4845.D	10/21/2017 13:42
SHAD041DP026SS04NS	160-24924-3	I4846.D	10/21/2017 14:05
SHAD041DP026SS05NS	160-24924-4	I4847.D	10/21/2017 14:28
SHAD041DP026SS05DS	160-24924-5	I4848.D	10/21/2017 14:51
SHAD041DP026SS06NS	160-24924-6	I4849.D	10/21/2017 15:13
SHAD041DP022SS03NS	160-24924-9	I4850.D	10/21/2017 15:36
SHAD041DP022SS03NS MS	160-24924-9 MS	I4851.D	10/21/2017 15:58
SHAD041DP022SS03NS MSD	160-24924-9 MSD	I4852.D	10/21/2017 16:21
SHAD041DP022SS04NS	160-24924-10	I4853.D	10/21/2017 16:43
SHAD041DP022SS05NS	160-24924-11	I4854.D	10/21/2017 17:06
SHAD041DP022SS06NS	160-24924-12	I4855.D	10/21/2017 17:29
SHAD041DP013SS02NS	160-24924-14	I4856.D	10/21/2017 17:51
SHAD041DP013SS03NS	160-24924-15	I4857.D	10/21/2017 18:14
SHAD041DP013SS05NS	160-24924-17	I4859.D	10/21/2017 19:00
SHAD041DP013SS05DS	160-24924-18	I4860.D	10/21/2017 19:22
SHAD041DP013SS06NS	160-24924-19	I4861.D	10/21/2017 19:45
SHAD041DP026SS02NS	160-24924-1	I4862.D	10/21/2017 20:07
SHAD041DP022SS02NS	160-24924-8	I4863.D	10/21/2017 20:30
SHAD041DP022SS01NS	160-24924-7	I4864.D	10/21/2017 20:52
SHAD041DP013SS01NS	160-24924-13	I4865.D	10/21/2017 21:15
SHAD041DP013SS04NS	160-24924-16	I4913.D	10/23/2017 18:10

FORM IV 8270D SIM

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab File ID: I4725.D DFTPP Injection Date: 10/19/2017

Instrument ID: SMSI DFTPP Injection Time: 10:42

Analysis Batch No.: 332657

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	28.4	
68	Less than 2.0 % of mass 69	0.5	(1.7) 1
69	Mass 69 relative abundance	29.7	
70	Less than 2.0 % of mass 69	0.1	(0.4) 1
127	40.0 - 60.0 % of mass 198	43.5	
197	Less than 1.0 % of mass 198	0.1	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.8	
275	10.0 - 30.0 % of mass 198	29.5	
365	Greater than 1.0 % of mass 198	3.3	
441	Present but less than mass 443	24.1	(75.1) 3
442	Greater than 40.0 % of mass 198	165.4	
443	17.0 - 23.0 % of mass 442	32.1	(19.4) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 160-332657/3	I4726.D	10/19/2017	11:16
	IC 160-332657/4	I4727.D	10/19/2017	11:38
	IC 160-332657/5	I4728.D	10/19/2017	12:01
	ICIS 160-332657/6	I4729.D	10/19/2017	12:24
	IC 160-332657/7	I4730.D	10/19/2017	12:46
	IC 160-332657/8	I4731.D	10/19/2017	13:09
	IC 160-332657/9	I4732.D	10/19/2017	13:32
	ICV 160-332657/10	I4733.D	10/19/2017	13:54

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Lab File ID: I4841.D
DFTPP Injection Date: 10/21/2017
Instrument ID: SMSI
DFTPP Injection Time: 12:01
Analysis Batch No.: 333047

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	30.0	
68	Less than 2.0 % of mass 69	0.5	(1.6) 1
69	Mass 69 relative abundance	31.0	
70	Less than 2.0 % of mass 69	0.1	(0.5) 1
127	40.0 - 60.0 % of mass 198	44.3	
197	Less than 1.0 % of mass 198	0.3	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.5	
275	10.0 - 30.0 % of mass 198	29.2	
365	Greater than 1.0 % of mass 198	3.3	
441	Present but less than mass 443	22.9	(76.7) 3
442	Greater than 40.0 % of mass 198	152.3	
443	17.0 - 23.0 % of mass 442	29.9	(19.6) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 160-333047/4	I4842.D	10/21/2017	12:35
	MB 160-332664/1-A	I4843.D	10/21/2017	12:57
	LCS 160-332664/2-A	I4844.D	10/21/2017	13:20
SHAD041DP026SS03NS	160-24924-2	I4845.D	10/21/2017	13:42
SHAD041DP026SS04NS	160-24924-3	I4846.D	10/21/2017	14:05
SHAD041DP026SS05NS	160-24924-4	I4847.D	10/21/2017	14:28
SHAD041DP026SS05DS	160-24924-5	I4848.D	10/21/2017	14:51
SHAD041DP026SS06NS	160-24924-6	I4849.D	10/21/2017	15:13
SHAD041DP022SS03NS	160-24924-9	I4850.D	10/21/2017	15:36
SHAD041DP022SS03NS MS	160-24924-9 MS	I4851.D	10/21/2017	15:58
SHAD041DP022SS03NS MSD	160-24924-9 MSD	I4852.D	10/21/2017	16:21
SHAD041DP022SS04NS	160-24924-10	I4853.D	10/21/2017	16:43
SHAD041DP022SS05NS	160-24924-11	I4854.D	10/21/2017	17:06
SHAD041DP022SS06NS	160-24924-12	I4855.D	10/21/2017	17:29
SHAD041DP013SS02NS	160-24924-14	I4856.D	10/21/2017	17:51
SHAD041DP013SS03NS	160-24924-15	I4857.D	10/21/2017	18:14
SHAD041DP013SS05NS	160-24924-17	I4859.D	10/21/2017	19:00
SHAD041DP013SS05DS	160-24924-18	I4860.D	10/21/2017	19:22
SHAD041DP013SS06NS	160-24924-19	I4861.D	10/21/2017	19:45
SHAD041DP026SS02NS	160-24924-1	I4862.D	10/21/2017	20:07
SHAD041DP022SS02NS	160-24924-8	I4863.D	10/21/2017	20:30
SHAD041DP022SS01NS	160-24924-7	I4864.D	10/21/2017	20:52
SHAD041DP013SS01NS	160-24924-13	I4865.D	10/21/2017	21:15
	CCVC 160-333047/28	I4866.D	10/21/2017	21:38

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab File ID: I4892.D   DFTPP Injection Date: 10/23/2017

Instrument ID: SMSI   DFTPP Injection Time: 09:47

Analysis Batch No.: 333184

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	30.3	
68	Less than 2.0 % of mass 69	0.6	(1.8) 1
69	Mass 69 relative abundance	31.2	
70	Less than 2.0 % of mass 69	0.2	(0.6) 1
127	40.0 - 60.0 % of mass 198	44.1	
197	Less than 1.0 % of mass 198	0.1	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.6	
275	10.0 - 30.0 % of mass 198	29.4	
365	Greater than 1.0 % of mass 198	3.3	
441	Present but less than mass 443	23.4	(76.6) 3
442	Greater than 40.0 % of mass 198	155.0	
443	17.0 - 23.0 % of mass 442	30.5	(19.7) 2

1-Value is % mass 69   2-Value is % mass 442   3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 160-333184/4	I4893.D	10/23/2017	10:22
SHAD041DP013SS04NS	160-24924-16	I4913.D	10/23/2017	18:10
	CCVC 160-333184/32	I4921.D	10/23/2017	21:12

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Sample No.: ICIS 160-332657/6 Date Analyzed: 10/19/2017 12:24

Instrument ID: SMSI GC Column: RXI5SiiMS ID: 0.25(mm)

Lab File ID (Standard): I4729.D Heated Purge: (Y/N) N

Calibration ID: 13666

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		252624	3.35	792920	4.45	420319	6.12
UPPER LIMIT		505248	3.85	1585840	4.95	840638	6.62
LOWER LIMIT		126312	2.85	396460	3.95	210160	5.62
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 160-332657/10		266098	3.35	845334	4.45	408438	6.12
CCV 160-333047/4		295401	3.30	962282	4.40	508810	6.08
MB 160-332664/1-A		234293	3.31	813976	4.40	477758	6.08
LCS 160-332664/2-A		252682	3.31	897374	4.40	482645	6.08
160-24924-2	SHAD041DP026SS03NS	257763	3.31	839837	4.40	522544	6.08
160-24924-3	SHAD041DP026SS04NS	264644	3.31	927195	4.40	480203	6.08
160-24924-4	SHAD041DP026SS05NS	274040	3.31	975590	4.40	502868	6.08
160-24924-5	SHAD041DP026SS05DS	265031	3.31	928844	4.40	488326	6.08
160-24924-6	SHAD041DP026SS06NS	271236	3.31	961632	4.40	509480	6.08
160-24924-9	SHAD041DP022SS03NS	263858	3.31	922614	4.40	480078	6.08
160-24924-9 MS	SHAD041DP022SS03NS MS	261071	3.31	936140	4.40	500582	6.08
160-24924-9 MSD	SHAD041DP022SS03NS MSD	256933	3.31	902131	4.40	479275	6.08
160-24924-10	SHAD041DP022SS04NS	271739	3.31	936709	4.40	494964	6.08
160-24924-11	SHAD041DP022SS05NS	266522	3.31	894729	4.40	476974	6.08
160-24924-12	SHAD041DP022SS06NS	268372	3.31	946525	4.40	497490	6.08
160-24924-14	SHAD041DP013SS02NS	255243	3.31	892307	4.40	468358	6.08
160-24924-15	SHAD041DP013SS03NS	271384	3.31	940973	4.40	505024	6.08
160-24924-17	SHAD041DP013SS05NS	269846	3.31	936548	4.40	497800	6.08
160-24924-18	SHAD041DP013SS05DS	273834	3.31	938080	4.40	501524	6.08
160-24924-19	SHAD041DP013SS06NS	279589	3.31	966370	4.40	507552	6.08
160-24924-1	SHAD041DP026SS02NS	263308	3.31	893826	4.40	482595	6.08
160-24924-8	SHAD041DP022SS02NS	272537	3.30	927385	4.40	499404	6.08
160-24924-7	SHAD041DP022SS01NS	259503	3.30	863454	4.40	465319	6.08
160-24924-13	SHAD041DP013SS01NS	263299	3.30	875970	4.40	475908	6.08
CCVC 160-333047/28		300226	3.30	961661	4.41	524320	6.08
CCV 160-333184/4		260454	3.25	892029	4.35	483464	6.02
160-24924-16	SHAD041DP013SS04NS	1976Q	3.25	6000Q	4.35	3124Q	6.02
CCVC 160-333184/32		275706	3.25	924289	4.35	483979	6.02

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D SIM

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis　　Job No.: 160-24924-1

SDG No.:

Sample No.: ICIS 160-332657/6　　Date Analyzed: 10/19/2017 12:24

Instrument ID: SMSI　　GC Column: RXI5SiiMS　　ID: 0.25(mm)

Lab File ID (Standard): I4729.D　　Heated Purge: (Y/N) N

Calibration ID: 13666

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		692595	7.56	697668	10.15	754436	11.75
UPPER LIMIT		1385190	8.06	1395336	10.65	1508872	12.25
LOWER LIMIT		346298	7.06	348834	9.65	377218	11.25
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 160-332657/10		729725	7.56	723748	10.14	764952	11.75
CCV 160-333047/4		864326	7.51	851717	10.10	905354	11.69
MB 160-332664/1-A		828715	7.51	821915	10.10	866171	11.69
LCS 160-332664/2-A		803601	7.51	792039	10.10	662230	11.69
160-24924-2	SHAD041DP026SS03NS	891007	7.51	877452	10.10	957397	11.69
160-24924-3	SHAD041DP026SS04NS	820119	7.51	791733	10.10	849548	11.69
160-24924-4	SHAD041DP026SS05NS	853645	7.51	844785	10.10	896376	11.69
160-24924-5	SHAD041DP026SS05DS	833351	7.51	807045	10.10	849278	11.69
160-24924-6	SHAD041DP026SS06NS	852896	7.51	839699	10.10	886449	11.69
160-24924-9	SHAD041DP022SS03NS	816403	7.51	792694	10.10	866379	11.69
160-24924-9 MS	SHAD041DP022SS03NS MS	834481	7.51	827822	10.11	911964	11.70
160-24924-9 MSD	SHAD041DP022SS03NS MSD	793898	7.51	806313	10.11	871197	11.70
160-24924-10	SHAD041DP022SS04NS	835625	7.51	841904	10.10	913150	11.69
160-24924-11	SHAD041DP022SS05NS	801506	7.51	787408	10.11	847396	11.69
160-24924-12	SHAD041DP022SS06NS	834861	7.51	837608	10.10	905209	11.69
160-24924-14	SHAD041DP013SS02NS	792199	7.51	773573	10.11	778789	11.70
160-24924-15	SHAD041DP013SS03NS	844219	7.51	856783	10.11	911769	11.69
160-24924-17	SHAD041DP013SS05NS	828506	7.51	818243	10.10	866823	11.69
160-24924-18	SHAD041DP013SS05DS	840895	7.51	830535	10.10	877349	11.69
160-24924-19	SHAD041DP013SS06NS	869916	7.51	858225	10.10	923786	11.69
160-24924-1	SHAD041DP026SS02NS	814405	7.51	808249	10.10	872466	11.69
160-24924-8	SHAD041DP022SS02NS	840679	7.51	832321	10.10	931811	11.69
160-24924-7	SHAD041DP022SS01NS	787709	7.51	789314	10.10	870926	11.70
160-24924-13	SHAD041DP013SS01NS	802301	7.51	826908	10.11	886666	11.70
CCVC 160-333047/28		888632	7.51	920769	10.10	1001686	11.69
CCV 160-333184/4		803904	7.46	775330	10.04	835052	11.61
160-24924-16	SHAD041DP013SS04NS	5101Q	7.46	5097Q	10.04	5060Q	11.61
CCVC 160-333184/32		799417	7.46	785357	10.04	856118	11.61

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D SIM

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS02NS	Lab Sample ID: 160-24924-1
Matrix: Solid	Lab File ID: I4862.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 16:04
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.13(g)	Date Analyzed: 10/21/2017 20:07
Con. Extract Vol.: 1(mL)	Dilution Factor: 5
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 1.4	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	17	U	33	17	14
91-57-6	2-Methylnaphthalene	17	U	33	17	2.7
83-32-9	Acenaphthene	17	U	33	17	5.7
208-96-8	Acenaphthylene	17	U	33	17	4.0
120-12-7	Anthracene	5.1	J D	33	17	3.2
56-55-3	Benzo[a]anthracene	13	J D	33	17	6.8
50-32-8	Benzo[a]pyrene	11	J D	33	17	4.2
205-99-2	Benzo[b]fluoranthene	19	J D	33	17	5.3
191-24-2	Benzo[g,h,i]perylene	13	J D	33	17	5.7
207-08-9	Benzo[k]fluoranthene	17	U	33	17	5.7
218-01-9	Chrysene	14	J D	33	17	6.7
53-70-3	Dibenz(a,h)anthracene	17	U	33	17	16
206-44-0	Fluoranthene	19	J D	33	17	7.6
86-73-7	Fluorene	17	U	33	17	5.4
193-39-5	Indeno[1,2,3-cd]pyrene	17	U	33	17	11
91-20-3	Naphthalene	17	U	33	17	5.1
85-01-8	Phenanthrene	20	J D	33	17	14
129-00-0	Pyrene	24	J D	33	17	7.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	82		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	83		44-125
1718-51-0	Terphenyl-d14 (Surr)	91		58-133

Report Date: 22-Oct-2017 15:57:18 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D				
Lims ID:	160-24924-F-1-B				
Client ID:	SHAD041DP026SS02NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 20:07:30	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	160-0011729-024				
Misc. Info.:	160-24924-F-1-B				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK053				
First Level Reviewer: konopkad		Date:	22-Oct-2017 09:37:50		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	90	263308	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	14	19253	0.2484	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	893826	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	48146	0.2457	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	482595	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	814405	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	31167	0.1203	
16 Anthracene	178	7.589	7.578	0.011	1	8033	0.0306	
17 Fluoranthene	202	8.697	8.696	0.001	12	32149	0.1134	
18 Pyrene	202	8.912	8.912	0.000	11	40371	0.1437	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	47223	0.2744	
20 Benzo[a]anthracene	228	10.084	10.084	0.000	1	21461	0.0783	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	808249	4.00	
22 Chrysene	228	10.116	10.116	0.000	41	21809	0.0837	
23 Benzo[b]fluoranthene	252	11.224	11.224	0.000	3	34500	0.1152	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252	11.612	11.611	0.001	12	17666	0.0627	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	872466	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.171	13.160	0.011	4	15390	0.0456	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276	13.569	13.558	0.011	14	22544	0.0772	

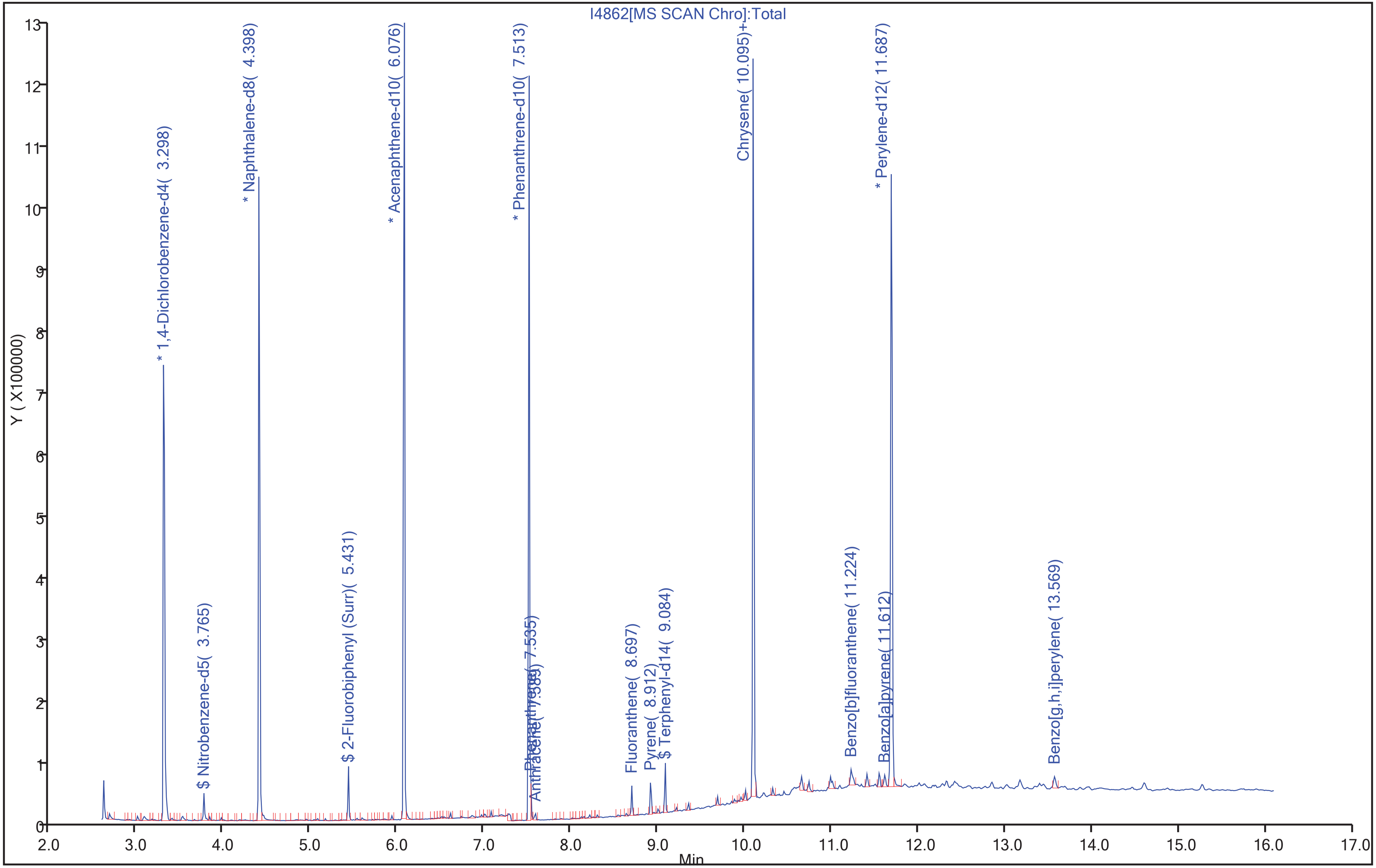
Reagents:

80 ppm I Std_00084 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:57:18 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D				
Injection Date:	21-Oct-2017 20:07:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-F-1-B	Lab Sample ID:	160-24924-1	Worklist Smp#:	24
Client ID:	SHAD041DP026SS02NS				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	24
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D				
Lims ID:	160-24924-F-1-B				
Client ID:	SHAD041DP026SS02NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 20:07:30	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	160-0011729-024				
Misc. Info.:	160-24924-F-1-B				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 09:37:50

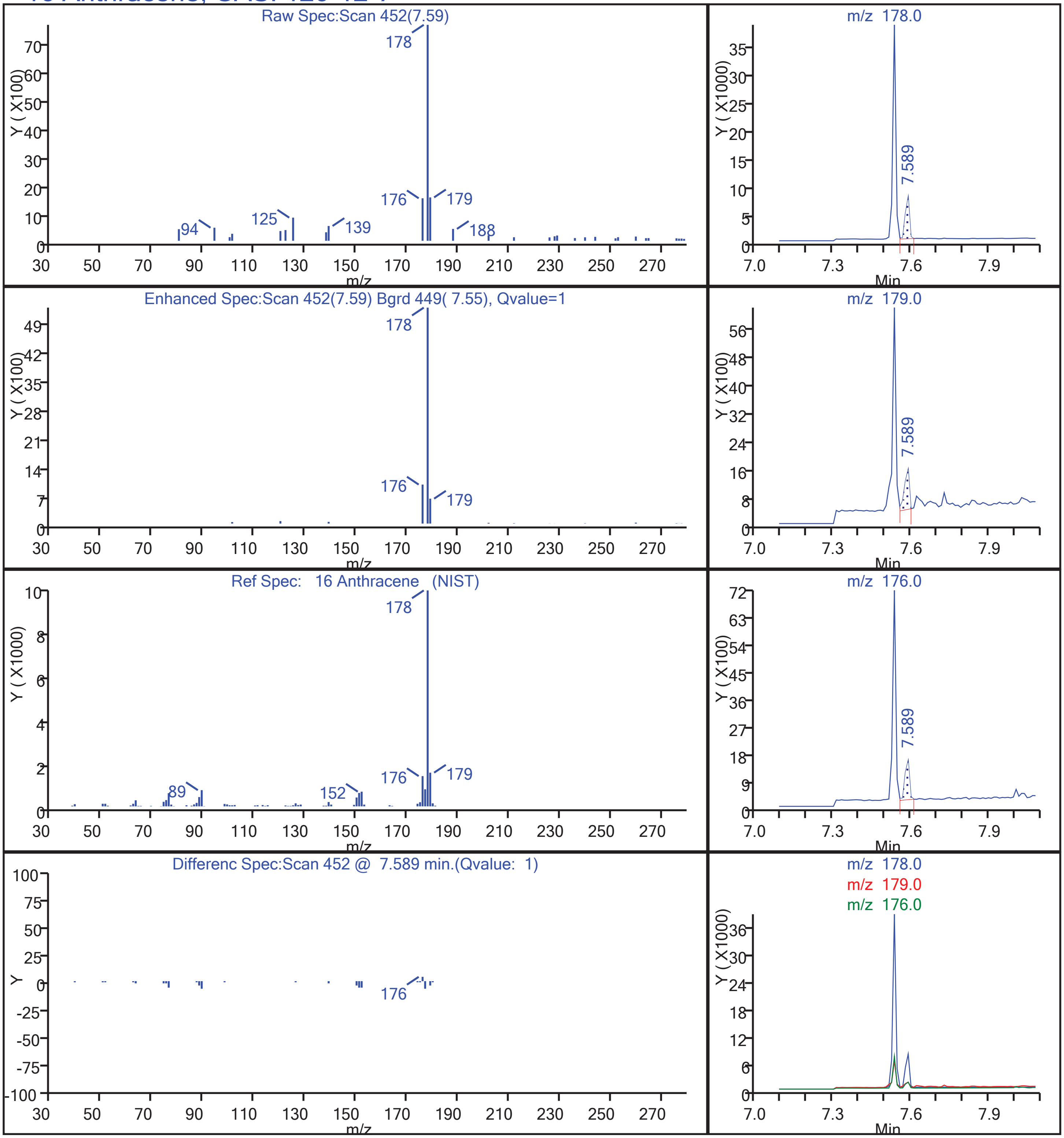
Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	0.2484	82.79
$ 9 2-Fluorobiphenyl (Surr)	1.50	0.2457	81.90
$ 19 Terphenyl-d14	1.50	0.2744	91.48

Report Date: 22-Oct-2017 15:57:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

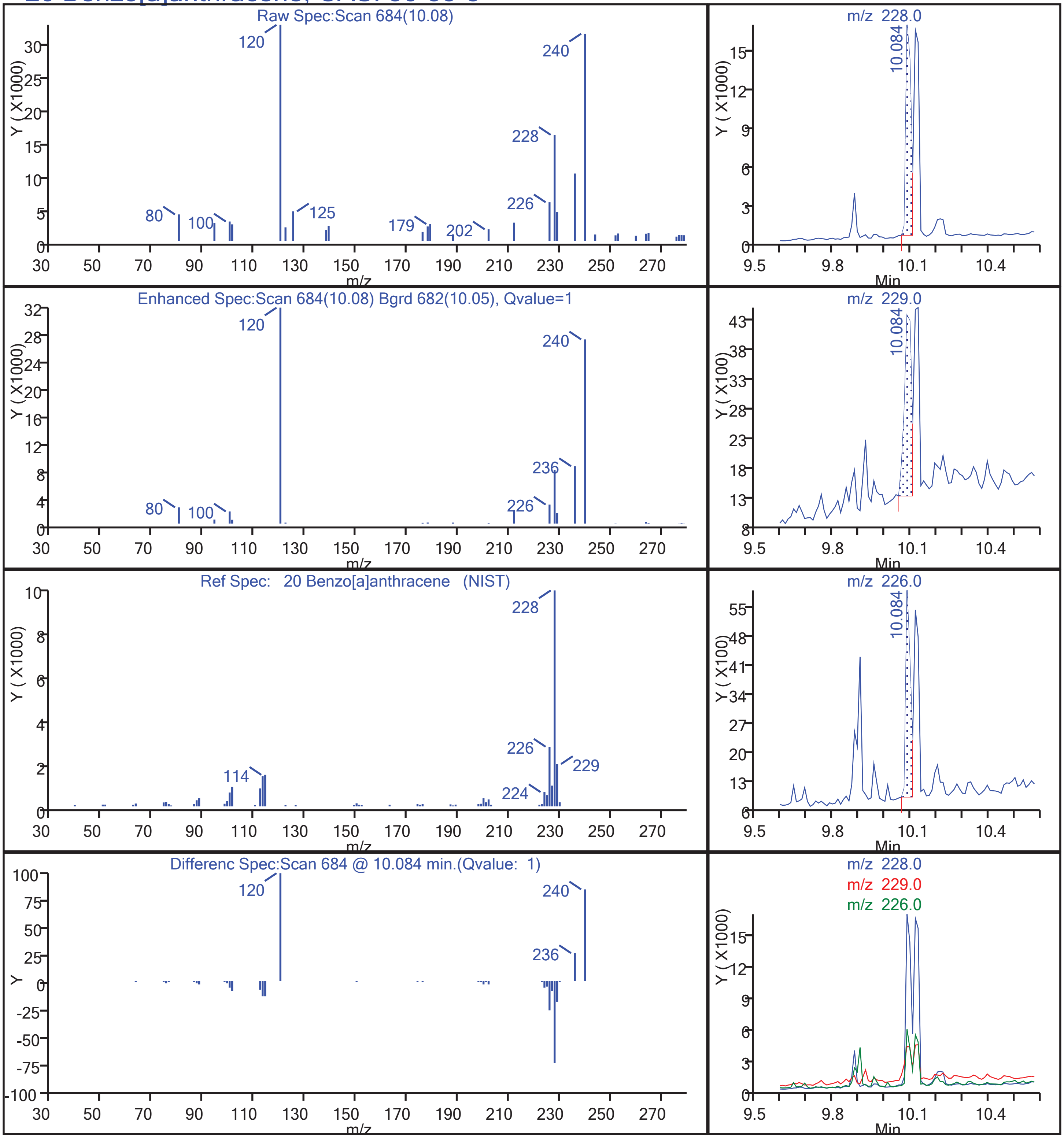
Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D				
Injection Date:	21-Oct-2017 20:07:30	Instrument ID:	SMSI		
Lims ID:	160-24924-F-1-B	Lab Sample ID:	160-24924-1		
Client ID:	SHAD041DP026SS02NS				
Operator ID:	DEK	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

16 Anthracene, CAS: 120-12-7



Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D
Injection Date: 21-Oct-2017 20:07:30
Instrument ID: SMSI
Lims ID: 160-24924-F-1-B
Lab Sample ID: 160-24924-1
Client ID: SHAD041DP026SS02NS
Operator ID: DEK
ALS Bottle#: 24
Worklist Smp#: 24
Injection Vol: 1.0 ul
Dil. Factor: 5.0000
Method: 8270_SIM_SMSI
Limit Group: MSS-8270SIM DoD
Column:
Detector MS SCAN

20 Benzo[a]anthracene, CAS: 56-55-3

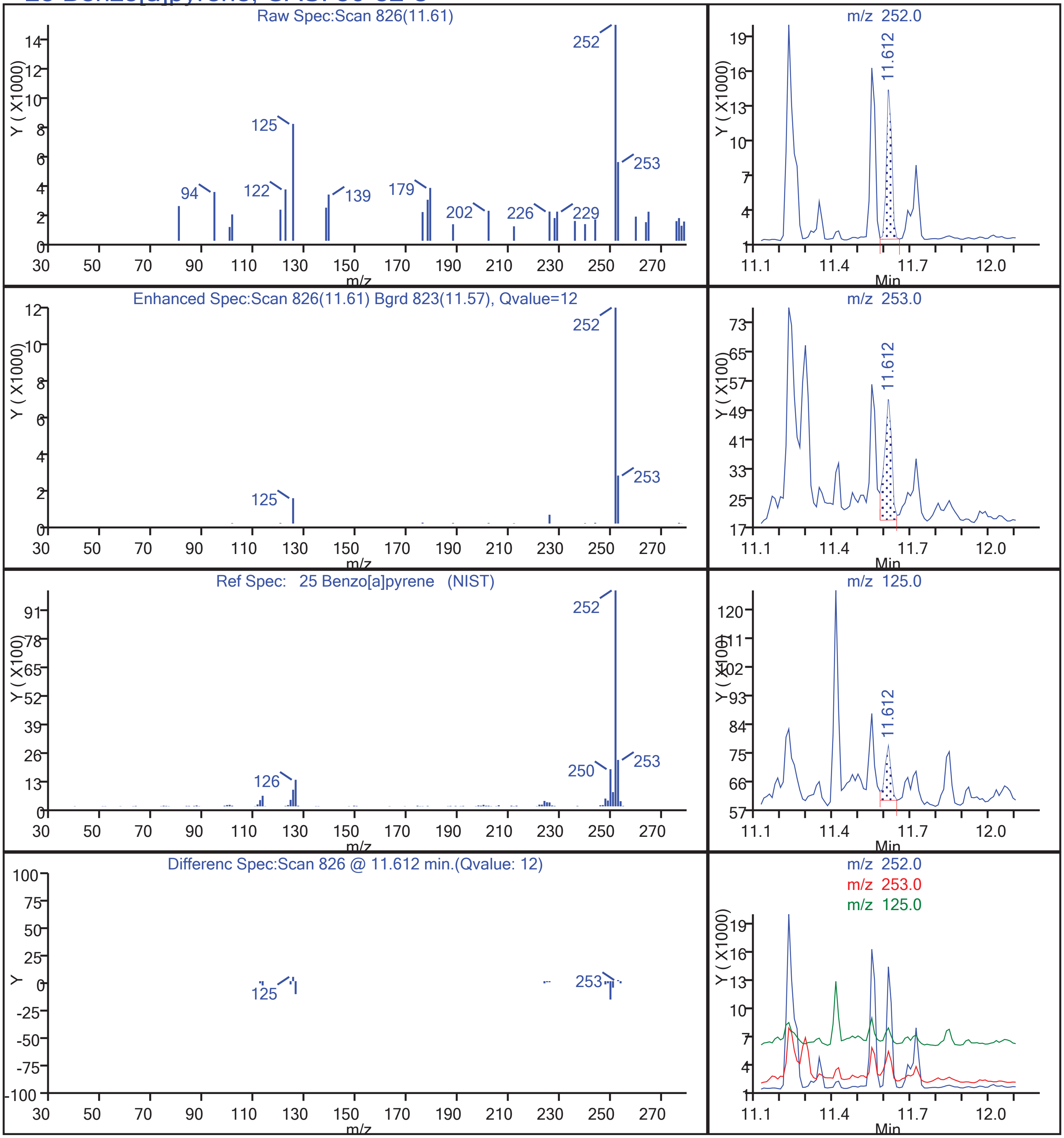


Report Date: 22-Oct-2017 15:57:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D				
Injection Date:	21-Oct-2017 20:07:30	Instrument ID:	SMSI		
Lims ID:	160-24924-F-1-B	Lab Sample ID:	160-24924-1		
Client ID:	SHAD041DP026SS02NS				
Operator ID:	DEK	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

25 Benzo[a]pyrene, CAS: 50-32-8

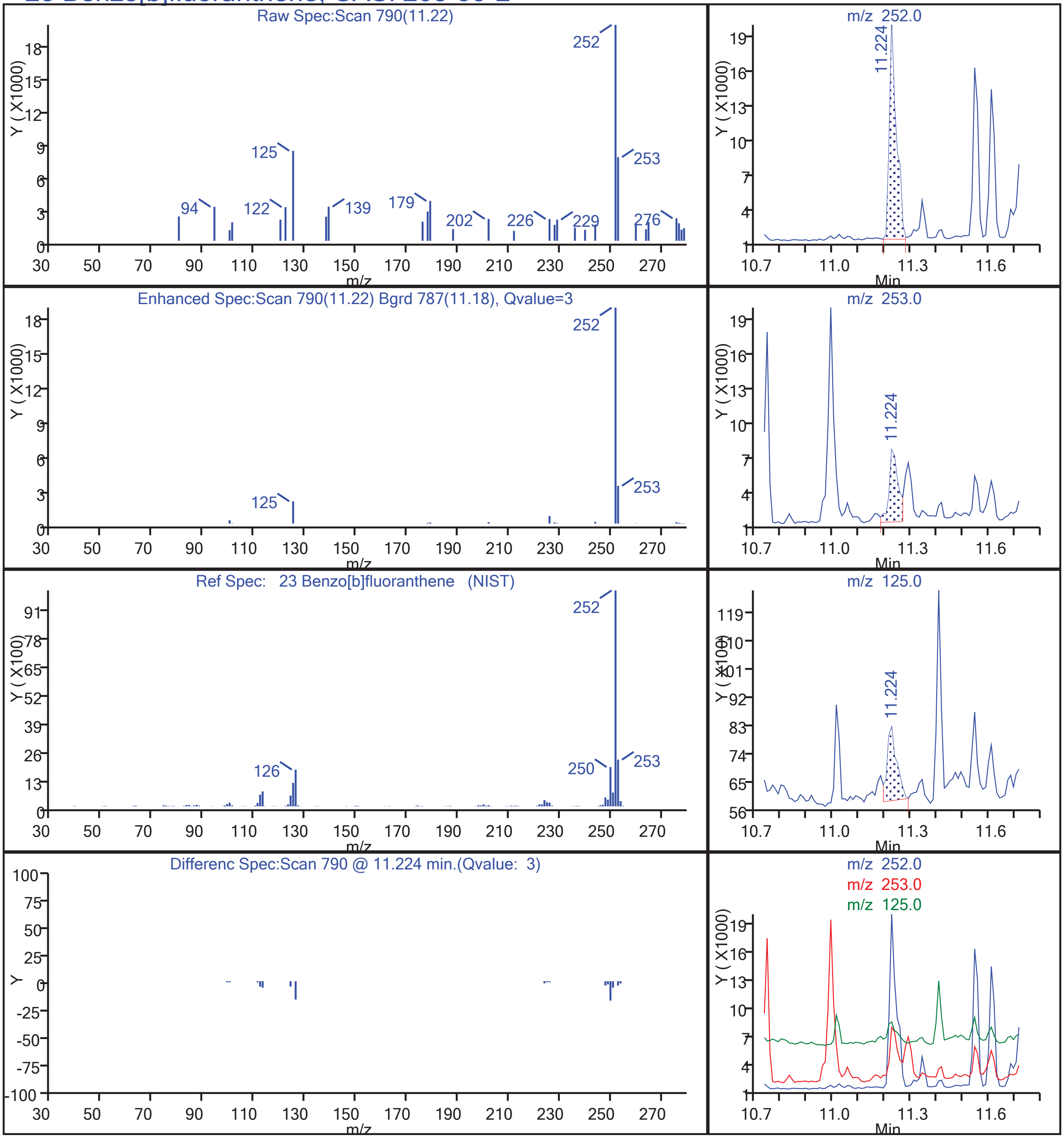


Report Date: 22-Oct-2017 15:57:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D				
Injection Date:	21-Oct-2017 20:07:30	Instrument ID:	SMSI		
Lims ID:	160-24924-F-1-B	Lab Sample ID:	160-24924-1		
Client ID:	SHAD041DP026SS02NS				
Operator ID:	DEK	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

23 Benzo[b]fluoranthene, CAS: 205-99-2

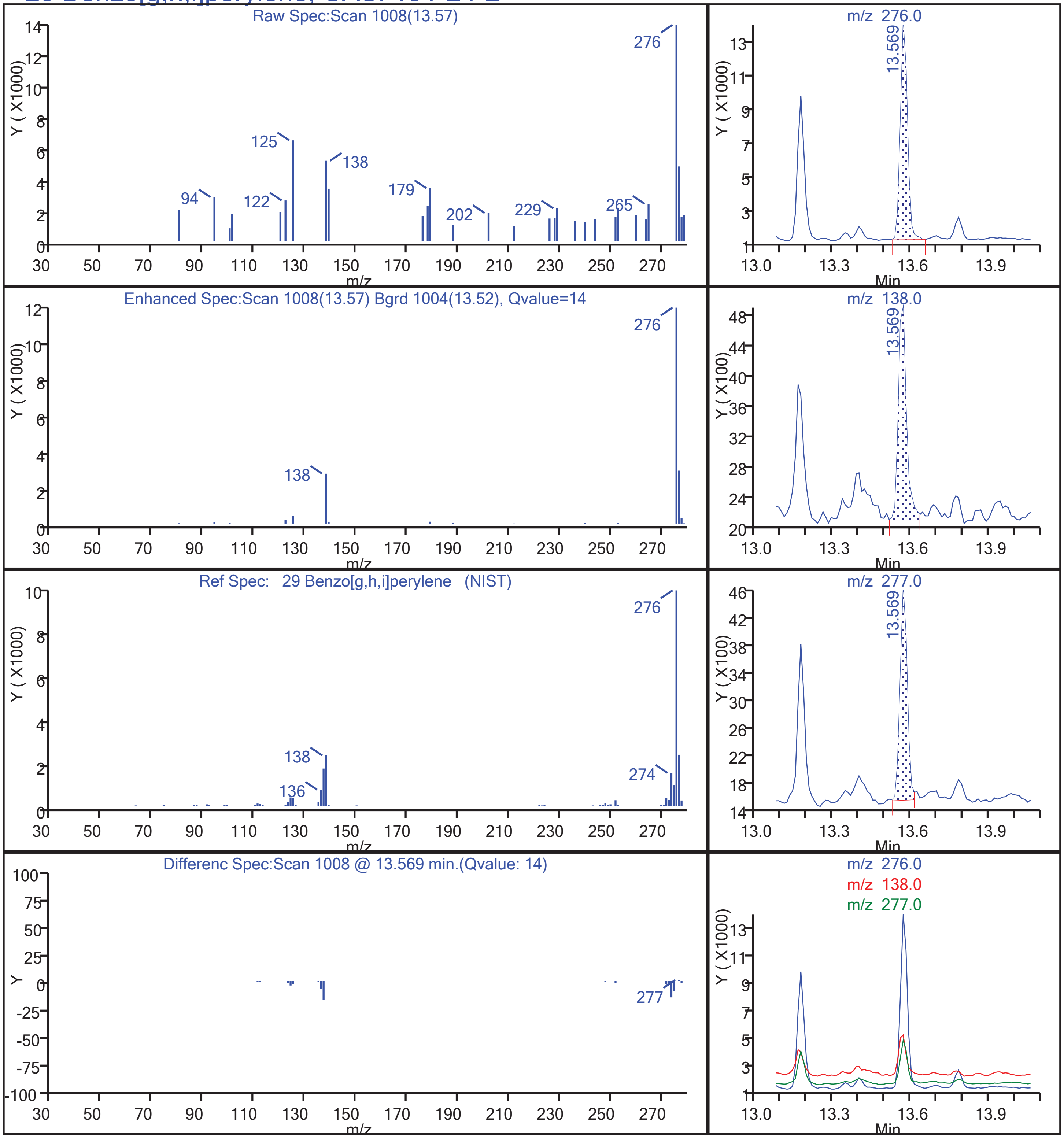


Report Date: 22-Oct-2017 15:57:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D
Injection Date: 21-Oct-2017 20:07:30
Instrument ID: SMSI
Lims ID: 160-24924-F-1-B
Lab Sample ID: 160-24924-1
Client ID: SHAD041DP026SS02NS
Operator ID: DEK
ALS Bottle#: 24
Worklist Smp#: 24
Injection Vol: 1.0 ul
Dil. Factor: 5.0000
Method: 8270_SIM_SMSI
Limit Group: MSS-8270SIM DoD
Column:
Detector MS SCAN

29 Benzo[g,h,i]perylene, CAS: 191-24-2

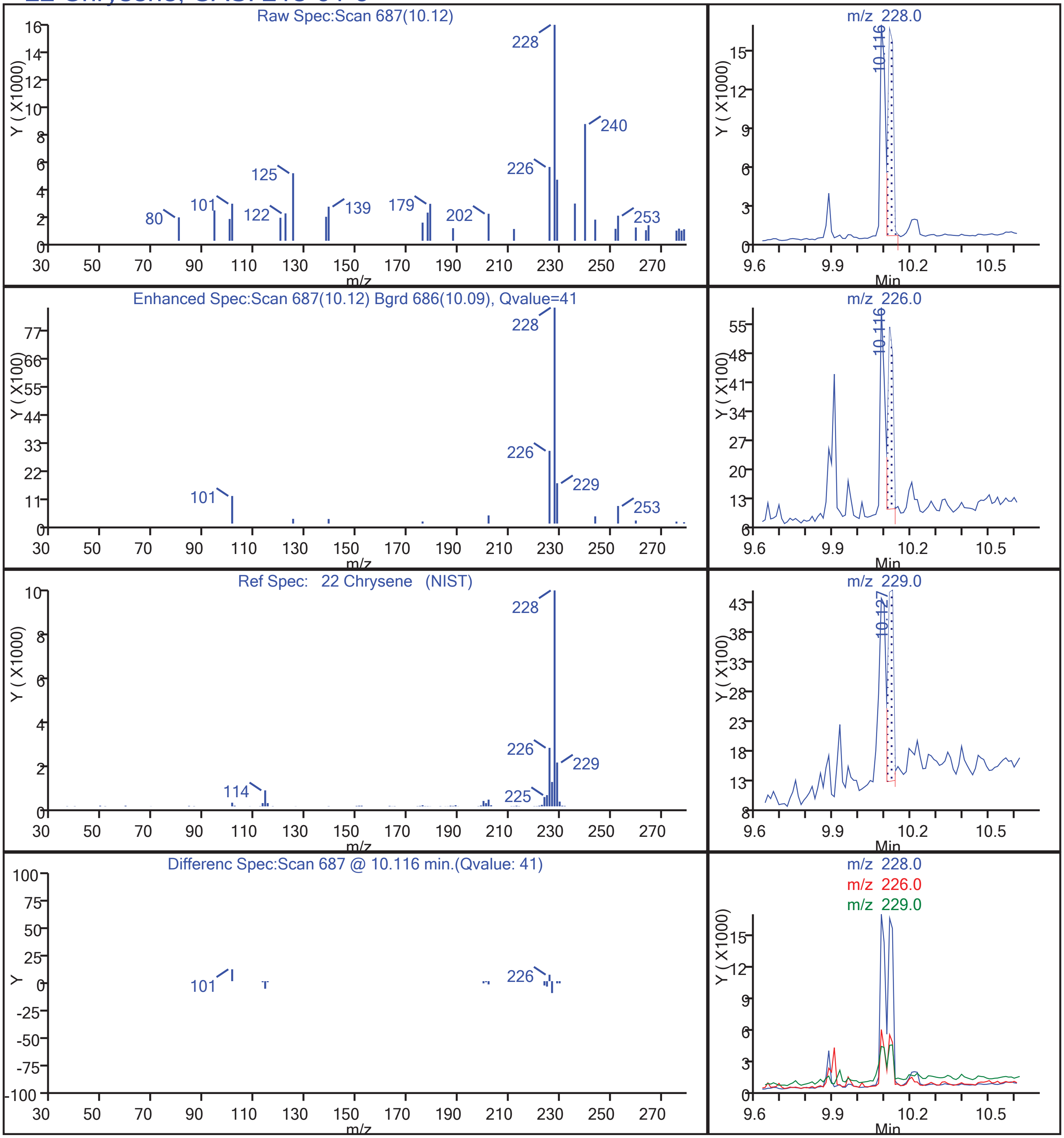


Report Date: 22-Oct-2017 15:57:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D				
Injection Date:	21-Oct-2017 20:07:30	Instrument ID:	SMSI		
Lims ID:	160-24924-F-1-B	Lab Sample ID:	160-24924-1		
Client ID:	SHAD041DP026SS02NS				
Operator ID:	DEK	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

22 Chrysene, CAS: 218-01-9

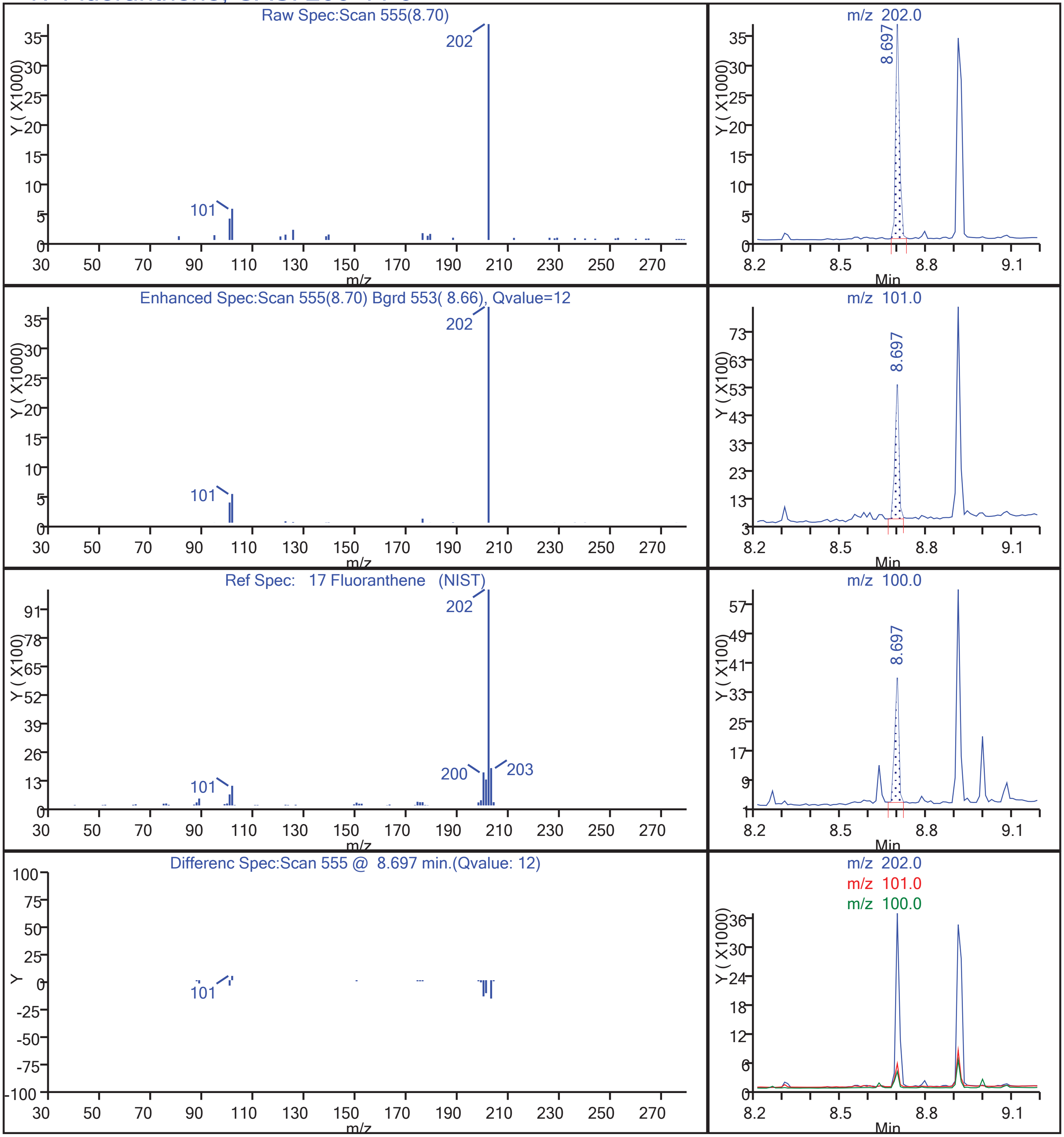


Report Date: 22-Oct-2017 15:57:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D				
Injection Date:	21-Oct-2017 20:07:30	Instrument ID:	SMSI		
Lims ID:	160-24924-F-1-B	Lab Sample ID:	160-24924-1		
Client ID:	SHAD041DP026SS02NS				
Operator ID:	DEK	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

17 Fluoranthene, CAS: 206-44-0

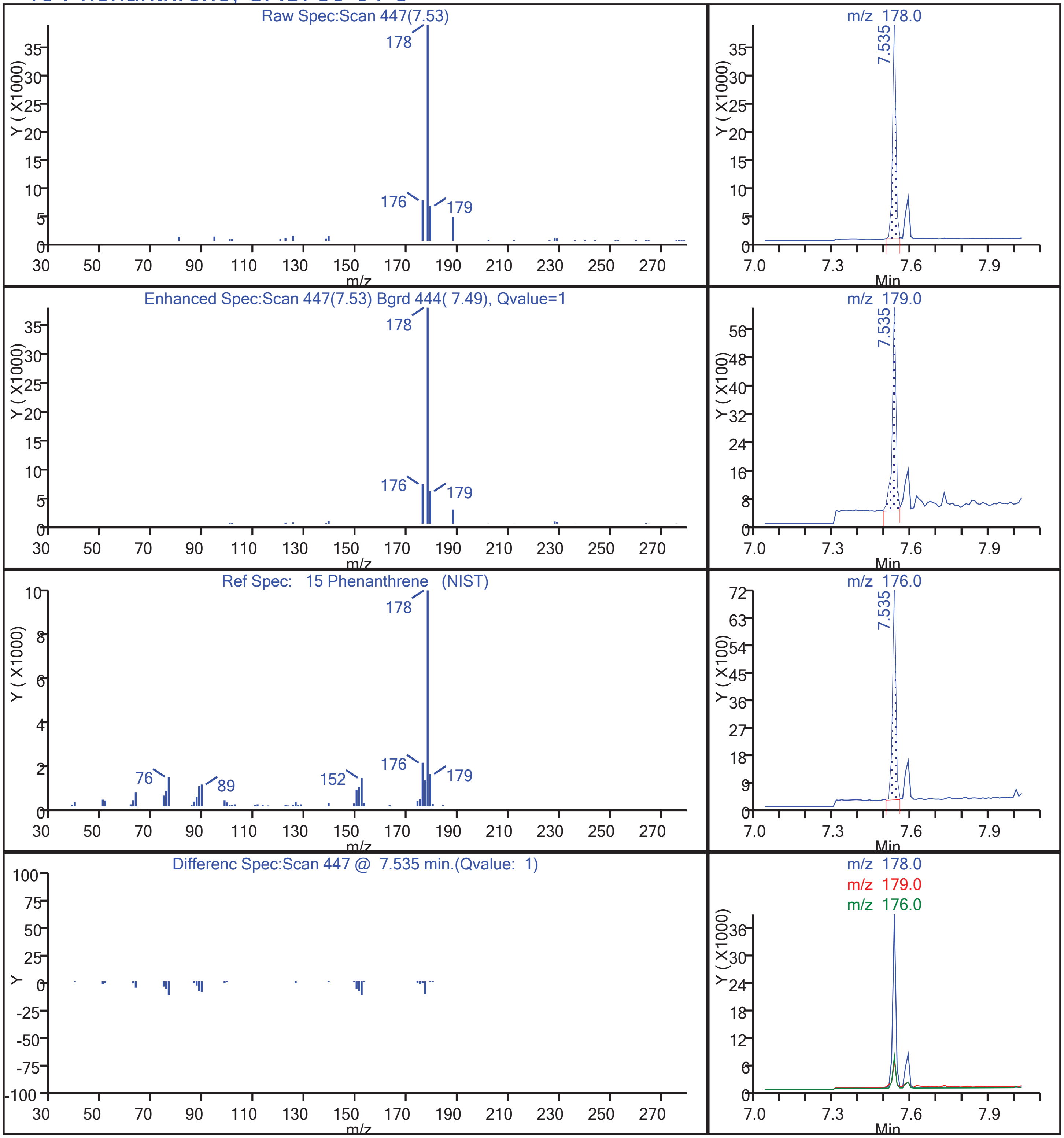


Report Date: 22-Oct-2017 15:57:19   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D
Injection Date: 21-Oct-2017 20:07:30   Instrument ID: SMSI
Lims ID: 160-24924-F-1-B   Lab Sample ID: 160-24924-1
Client ID: SHAD041DP026SS02NS
Operator ID: DEK   ALS Bottle#: 24   Worklist Smp#: 24
Injection Vol: 1.0 ul   Dil. Factor: 5.0000
Method: 8270_SIM_SMSI   Limit Group: MSS-8270SIM DoD
Column: Detector MS SCAN

15 Phenanthrene, CAS: 85-01-8

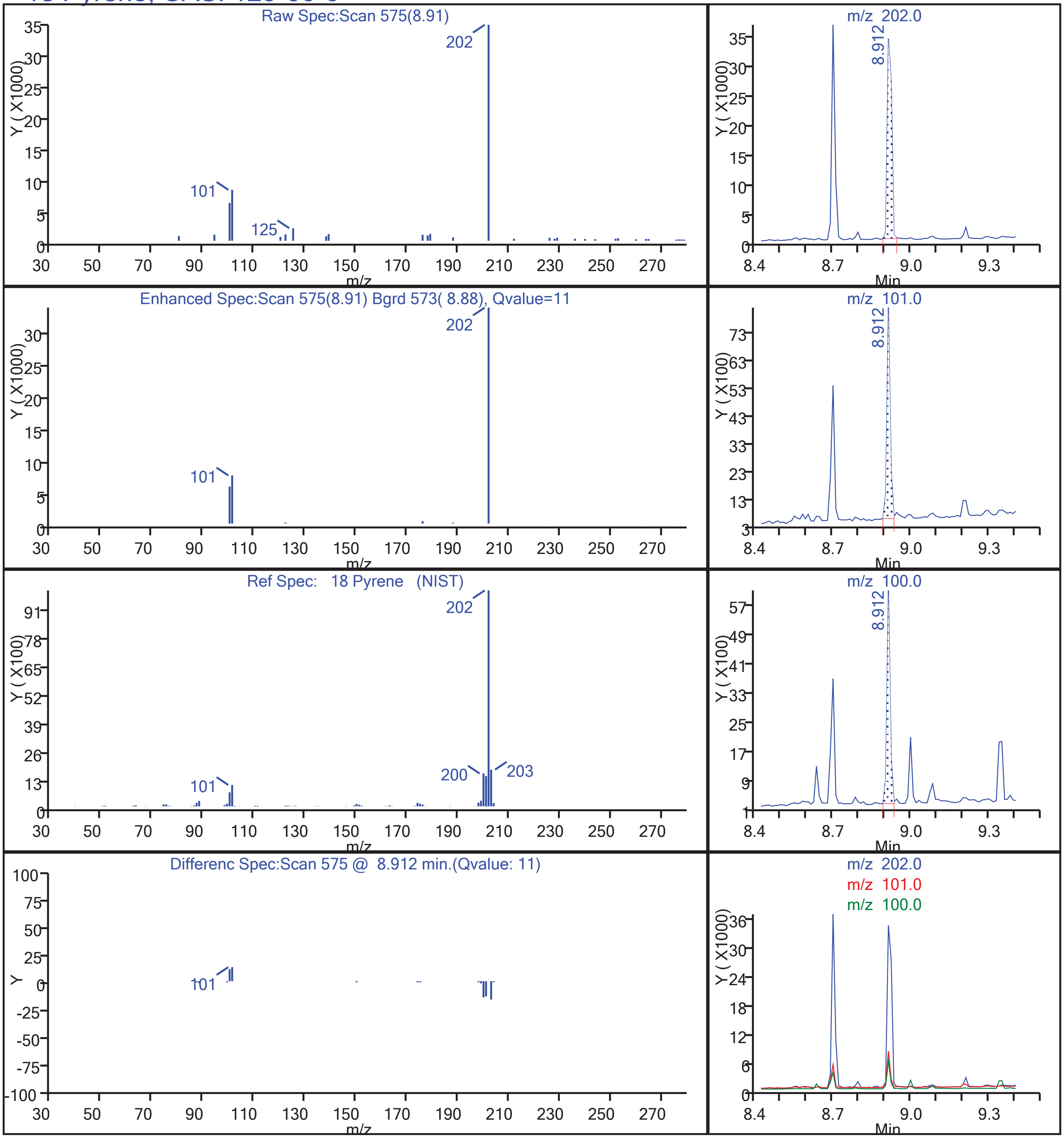


Report Date: 22-Oct-2017 15:57:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4862.D				
Injection Date:	21-Oct-2017 20:07:30	Instrument ID:	SMSI		
Lims ID:	160-24924-F-1-B	Lab Sample ID:	160-24924-1		
Client ID:	SHAD041DP026SS02NS				
Operator ID:	DEK	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

18 Pyrene, CAS: 129-00-0



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS03NS	Lab Sample ID: 160-24924-2
Matrix: Solid	Lab File ID: I4845.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 16:11
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.29(g)	Date Analyzed: 10/21/2017 13:42
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 12.1	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.8	U	7.4	3.8	3.2
91-57-6	2-Methylnaphthalene	0.71	J	7.4	3.8	0.59
83-32-9	Acenaphthene	3.8	U	7.4	3.8	1.3
208-96-8	Acenaphthylene	3.8	U	7.4	3.8	0.90
120-12-7	Anthracene	3.8	U	7.4	3.8	0.71
56-55-3	Benzo[a]anthracene	3.8	U	7.4	3.8	1.5
50-32-8	Benzo[a]pyrene	3.8	U	7.4	3.8	0.94
205-99-2	Benzo[b]fluoranthene	3.8	U	7.4	3.8	1.2
191-24-2	Benzo[g,h,i]perylene	3.8	U	7.4	3.8	1.3
207-08-9	Benzo[k]fluoranthene	3.8	U	7.4	3.8	1.3
218-01-9	Chrysene	3.8	U	7.4	3.8	1.5
53-70-3	Dibenz(a,h)anthracene	3.8	U	7.4	3.8	3.5
206-44-0	Fluoranthene	3.8	U	7.4	3.8	1.7
86-73-7	Fluorene	3.8	U	7.4	3.8	1.2
193-39-5	Indeno[1,2,3-cd]pyrene	3.8	U	7.4	3.8	2.4
91-20-3	Naphthalene	3.8	U	7.4	3.8	1.1
85-01-8	Phenanthrene	3.8	U	7.4	3.8	3.0
129-00-0	Pyrene	3.8	U	7.4	3.8	1.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	78		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	79		44-125
1718-51-0	Terphenyl-d14 (Surr)	92		58-133

FORM I 8270D SIM

Report Date: 22-Oct-2017 15:56:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4845.D
Lims ID: 160-24924-F-2-B
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 21-Oct-2017 13:42:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-007
Misc. Info.: 160-24924-F-2-B
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:41:37

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	89	257763	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	7	85951	1.18	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	839837	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142	5.065	5.076	-0.011	25	2879	0.0188	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	249656	1.18	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	1	522544	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166	6.609	6.609	0.000	16	5427	0.0265	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	891007	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	15938	0.0563	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	258217	1.38	
20 Benzo[a]anthracene	228	10.095	10.084	0.011	1	6512	0.0219	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	877452	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	957397	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276	13.569	13.558	0.011	13	9733	0.0304	

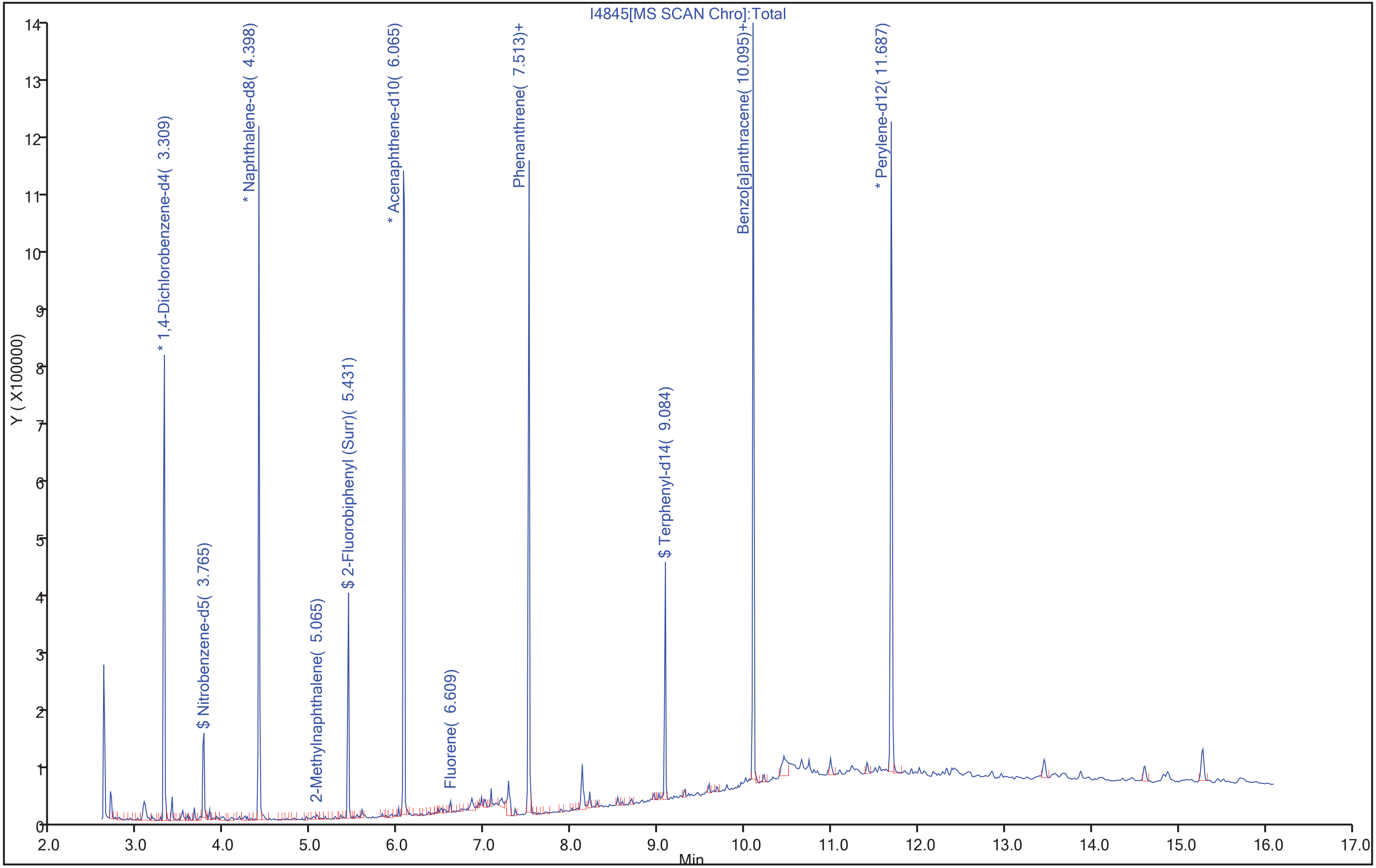
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:56:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4845.D				
Injection Date:	21-Oct-2017 13:42:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-F-2-B	Lab Sample ID:	160-24924-2	Worklist Smp#:	7
Client ID:	SHAD041DP026SS03NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4845.D				
Lims ID:	160-24924-F-2-B				
Client ID:	SHAD041DP026SS03NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 13:42:30	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-007				
Misc. Info.:	160-24924-F-2-B				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK053				
First Level Reviewer: konopkad		Date:	22-Oct-2017 15:41:37		

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.18	78.67
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.18	78.44
$ 19 Terphenyl-d14	1.50	1.38	92.16

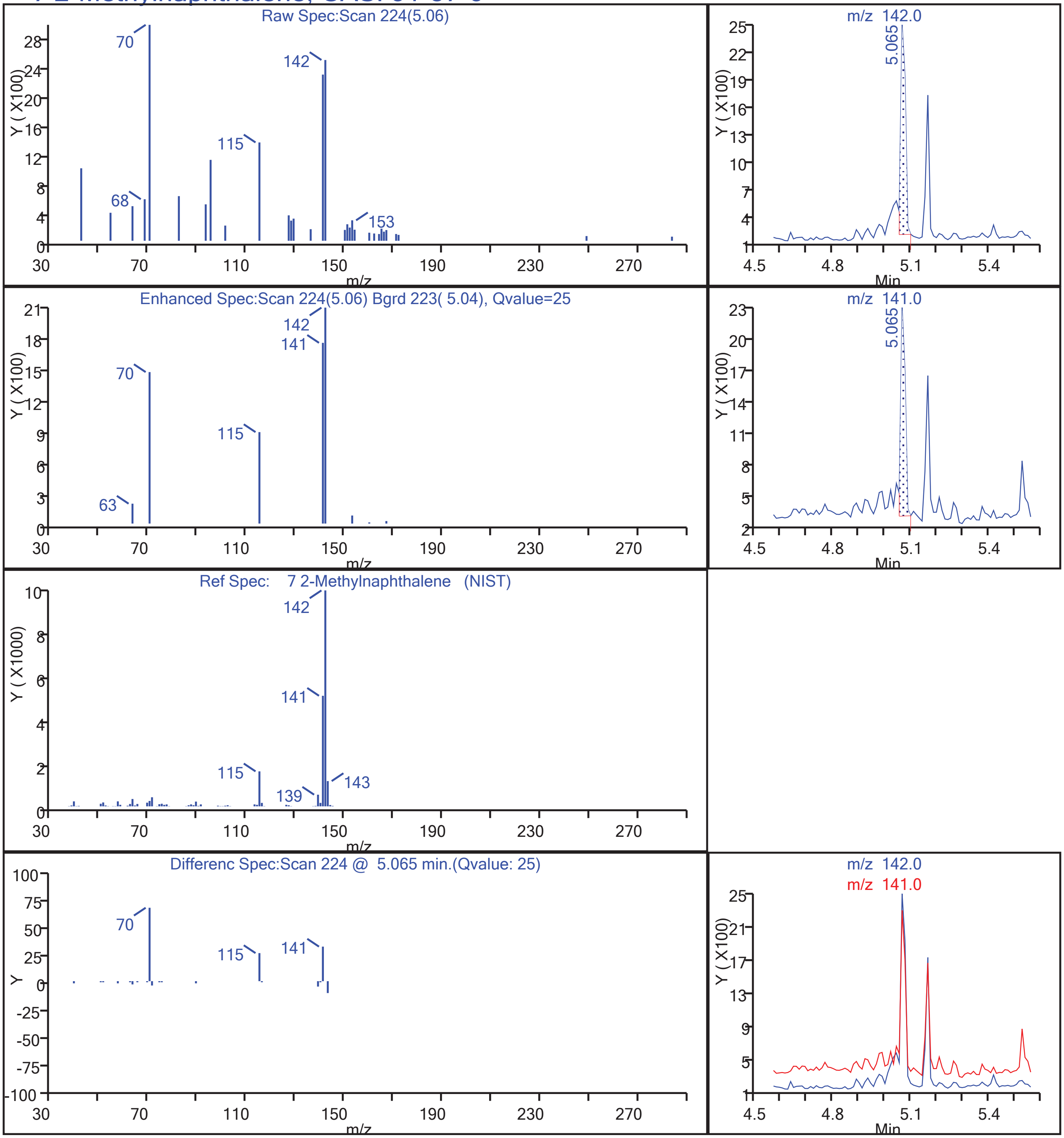
Report Date: 22-Oct-2017 15:56:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4845.D

Injection Date:	21-Oct-2017 13:42:30	Instrument ID:	SMSI		
Lims ID:	160-24924-F-2-B	Lab Sample ID:	160-24924-2		
Client ID:	SHAD041DP026SS03NS				
Operator ID:	DEK	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

7 2-Methylnaphthalene, CAS: 91-57-6



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS04NS	Lab Sample ID: 160-24924-3
Matrix: Solid	Lab File ID: I4846.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 16:15
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.19(g)	Date Analyzed: 10/21/2017 14:05
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 9.6	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.7	U	7.3	3.7	3.2
91-57-6	2-Methylnaphthalene	3.7	U	7.3	3.7	0.58
83-32-9	Acenaphthene	3.7	U	7.3	3.7	1.2
208-96-8	Acenaphthylene	3.7	U	7.3	3.7	0.87
120-12-7	Anthracene	3.7	U	7.3	3.7	0.70
56-55-3	Benzo[a]anthracene	3.7	U	7.3	3.7	1.5
50-32-8	Benzo[a]pyrene	3.7	U	7.3	3.7	0.92
205-99-2	Benzo[b]fluoranthene	3.7	U	7.3	3.7	1.2
191-24-2	Benzo[g,h,i]perylene	3.7	U	7.3	3.7	1.2
207-08-9	Benzo[k]fluoranthene	3.7	U	7.3	3.7	1.2
218-01-9	Chrysene	3.7	U	7.3	3.7	1.4
53-70-3	Dibenz(a,h)anthracene	3.7	U	7.3	3.7	3.4
206-44-0	Fluoranthene	3.7	U	7.3	3.7	1.7
86-73-7	Fluorene	3.7	U	7.3	3.7	1.2
193-39-5	Indeno[1,2,3-cd]pyrene	3.7	U	7.3	3.7	2.3
91-20-3	Naphthalene	3.7	U	7.3	3.7	1.1
85-01-8	Phenanthrene	3.7	U	7.3	3.7	3.0
129-00-0	Pyrene	3.7	U	7.3	3.7	1.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	80		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	79		44-125
1718-51-0	Terphenyl-d14 (Surr)	95		58-133

FORM I 8270D SIM

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4846.D
Lims ID: 160-24924-F-3-B
Client ID: SHAD041DP026SS04NS
Sample Type: Client
Inject. Date: 21-Oct-2017 14:05:30 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-008
Misc. Info.: 160-24924-F-3-B
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:42:00

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	89	264644	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	8	94909	1.18	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	927195	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142	5.076	5.076	0.000	35	1987	0.0117	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	233479	1.20	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	480203	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	820119	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	10563	0.0405	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	239168	1.42	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	791733	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	849548	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276		13.558				ND	

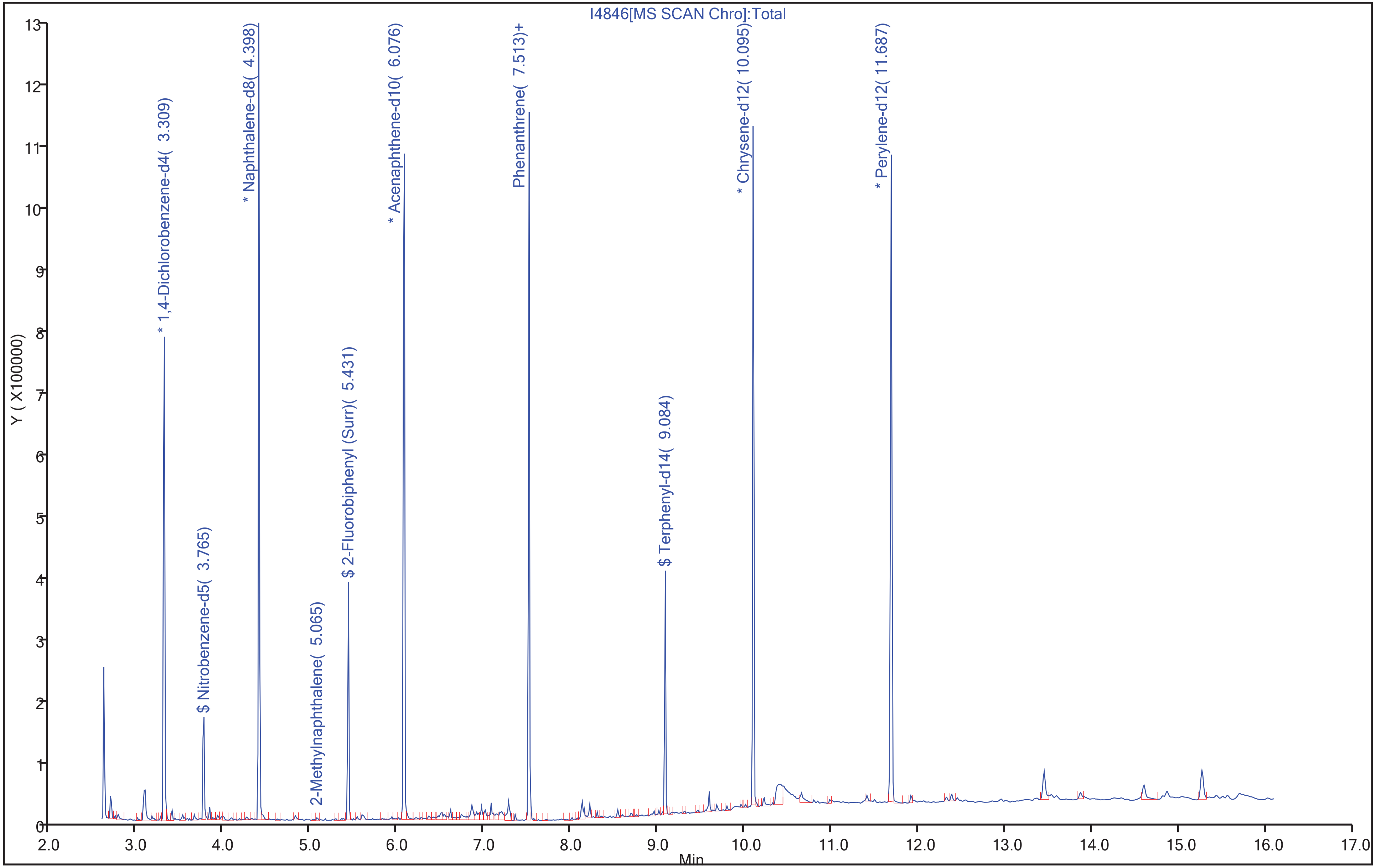
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:56:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4846.D				
Injection Date:	21-Oct-2017 14:05:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-F-3-B	Lab Sample ID:	160-24924-3	Worklist Smp#:	8
Client ID:	SHAD041DP026SS04NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4846.D
Lims ID: 160-24924-F-3-B
Client ID: SHAD041DP026SS04NS
Sample Type: Client
Inject. Date: 21-Oct-2017 14:05:30 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-008
Misc. Info.: 160-24924-F-3-B
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:42:00

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.18	78.68
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.20	79.83
$ 19 Terphenyl-d14	1.50	1.42	94.60

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS05NS	Lab Sample ID: 160-24924-4
Matrix: Solid	Lab File ID: I4847.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 16:22
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.41(g)	Date Analyzed: 10/21/2017 14:28
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 20.1	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	4.1	U	8.1	4.1	3.5
91-57-6	2-Methylnaphthalene	4.1	U	8.1	4.1	0.65
83-32-9	Acenaphthene	4.1	U	8.1	4.1	1.4
208-96-8	Acenaphthylene	4.1	U	8.1	4.1	0.98
120-12-7	Anthracene	4.1	U	8.1	4.1	0.78
56-55-3	Benzo[a]anthracene	4.1	U	8.1	4.1	1.7
50-32-8	Benzo[a]pyrene	4.1	U	8.1	4.1	1.0
205-99-2	Benzo[b]fluoranthene	4.1	U	8.1	4.1	1.3
191-24-2	Benzo[g,h,i]perylene	4.1	U	8.1	4.1	1.4
207-08-9	Benzo[k]fluoranthene	4.1	U	8.1	4.1	1.4
218-01-9	Chrysene	4.1	U	8.1	4.1	1.6
53-70-3	Dibenz(a,h)anthracene	4.1	U	8.1	4.1	3.9
206-44-0	Fluoranthene	4.1	U	8.1	4.1	1.9
86-73-7	Fluorene	4.1	U	8.1	4.1	1.3
193-39-5	Indeno[1,2,3-cd]pyrene	4.1	U	8.1	4.1	2.6
91-20-3	Naphthalene	4.1	U	8.1	4.1	1.2
85-01-8	Phenanthrene	4.1	U	8.1	4.1	3.3
129-00-0	Pyrene	4.1	U	8.1	4.1	1.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	79		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	78		44-125
1718-51-0	Terphenyl-d14 (Surr)	96		58-133

Report Date: 22-Oct-2017 15:56:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4847.D
Lims ID: 160-24924-F-4-B
Client ID: SHAD041DP026SS05NS
Sample Type: Client
Inject. Date: 21-Oct-2017 14:28:30 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-009
Misc. Info.: 160-24924-F-4-B
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:42:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	89	274040	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	8	99357	1.17	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	975590	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	241006	1.18	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	502868	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	853645	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	10987	0.0405	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	258214	1.44	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	844785	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	896376	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276		13.558				ND	

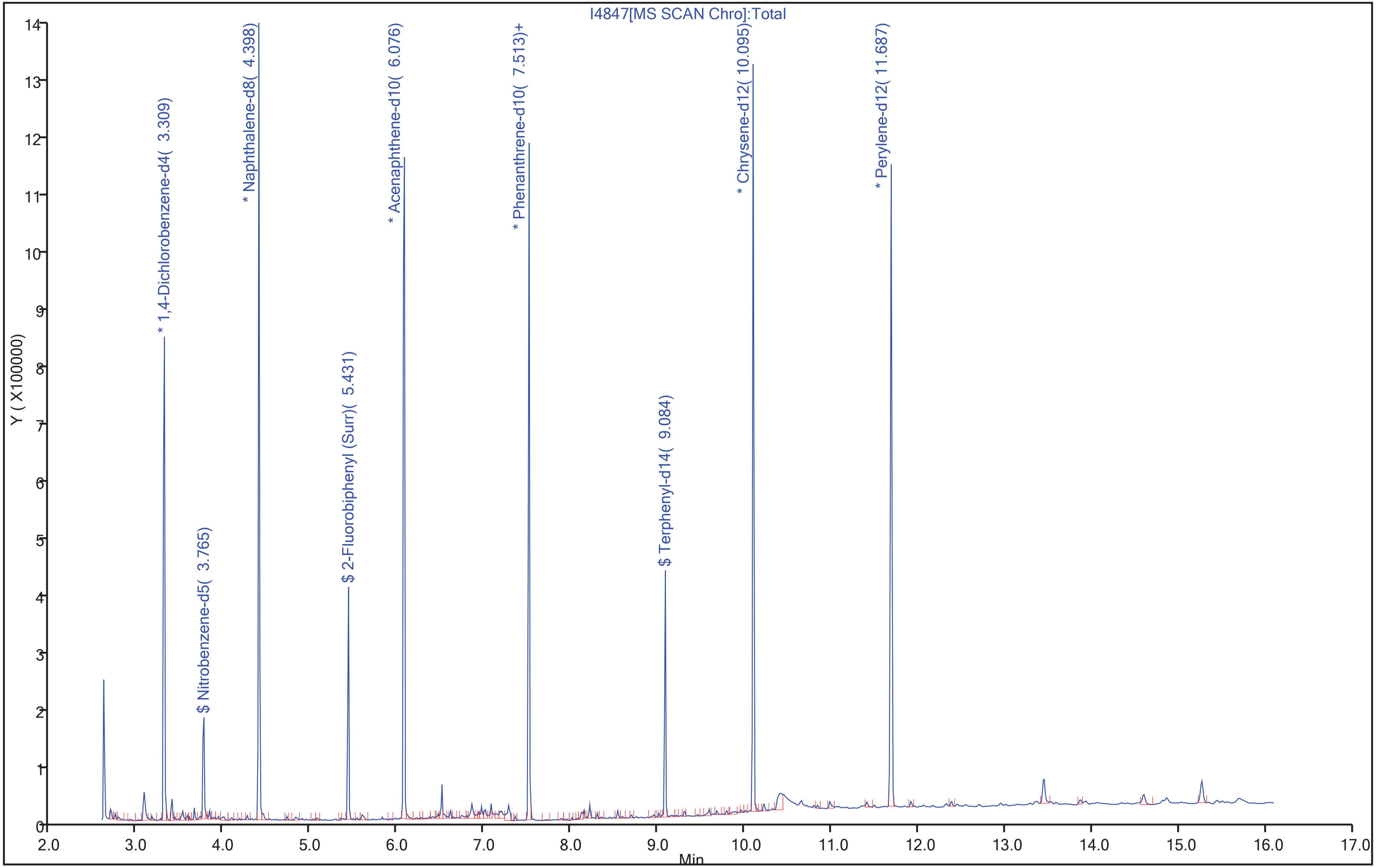
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:56:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4847.D				
Injection Date:	21-Oct-2017 14:28:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-F-4-B	Lab Sample ID:	160-24924-4	Worklist Smp#:	9
Client ID:	SHAD041DP026SS05NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4847.D				
Lims ID:	160-24924-F-4-B				
Client ID:	SHAD041DP026SS05NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 14:28:30	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-009				
Misc. Info.:	160-24924-F-4-B				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:42:38

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.17	78.29
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.18	78.69
$ 19 Terphenyl-d14	1.50	1.44	95.72

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP026SS05DS

Lab Sample ID: 160-24924-5

Matrix: Solid

Lab File ID: I4848.D

Analysis Method: 8270D SIM

Date Collected: 10/05/2017 16:26

Extract. Method: 3550C

Date Extracted: 10/19/2017 11:07

Sample wt/vol: 30.26(g)

Date Analyzed: 10/21/2017 14:51

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 26.5

GPC Cleanup:(Y/N) N

Analysis Batch No.: 333047

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	4.5	U	8.9	4.5	3.9
91-57-6	2-Methylnaphthalene	4.5	U	8.9	4.5	0.71
83-32-9	Acenaphthene	4.5	U	8.9	4.5	1.5
208-96-8	Acenaphthylene	4.5	U	8.9	4.5	1.1
120-12-7	Anthracene	4.5	U	8.9	4.5	0.86
56-55-3	Benzo[a]anthracene	4.5	U	8.9	4.5	1.8
50-32-8	Benzo[a]pyrene	4.5	U	8.9	4.5	1.1
205-99-2	Benzo[b]fluoranthene	4.5	U	8.9	4.5	1.4
191-24-2	Benzo[g,h,i]perylene	4.5	U	8.9	4.5	1.5
207-08-9	Benzo[k]fluoranthene	4.5	U	8.9	4.5	1.5
218-01-9	Chrysene	4.5	U	8.9	4.5	1.8
53-70-3	Dibenz(a,h)anthracene	4.5	U	8.9	4.5	4.2
206-44-0	Fluoranthene	4.5	U	8.9	4.5	2.0
86-73-7	Fluorene	4.5	U	8.9	4.5	1.5
193-39-5	Indeno[1,2,3-cd]pyrene	4.5	U	8.9	4.5	2.9
91-20-3	Naphthalene	4.5	U	8.9	4.5	1.4
85-01-8	Phenanthrene	4.5	U	8.9	4.5	3.6
129-00-0	Pyrene	4.5	U	8.9	4.5	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	83		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	86		44-125
1718-51-0	Terphenyl-d14 (Surr)	97		58-133

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4848.D
Lims ID: 160-24924-F-5-B
Client ID: SHAD041DP026SS05DS
Sample Type: Client
Inject. Date: 21-Oct-2017 14:51:30 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-010
Misc. Info.: 160-24924-f-5-b
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:43:01

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	88	265031	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	8	104050	1.29	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	928844	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	245560	1.24	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	488326	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	833351	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	11267	0.0425	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	249869	1.45	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	807045	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	849278	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276		13.558				ND	

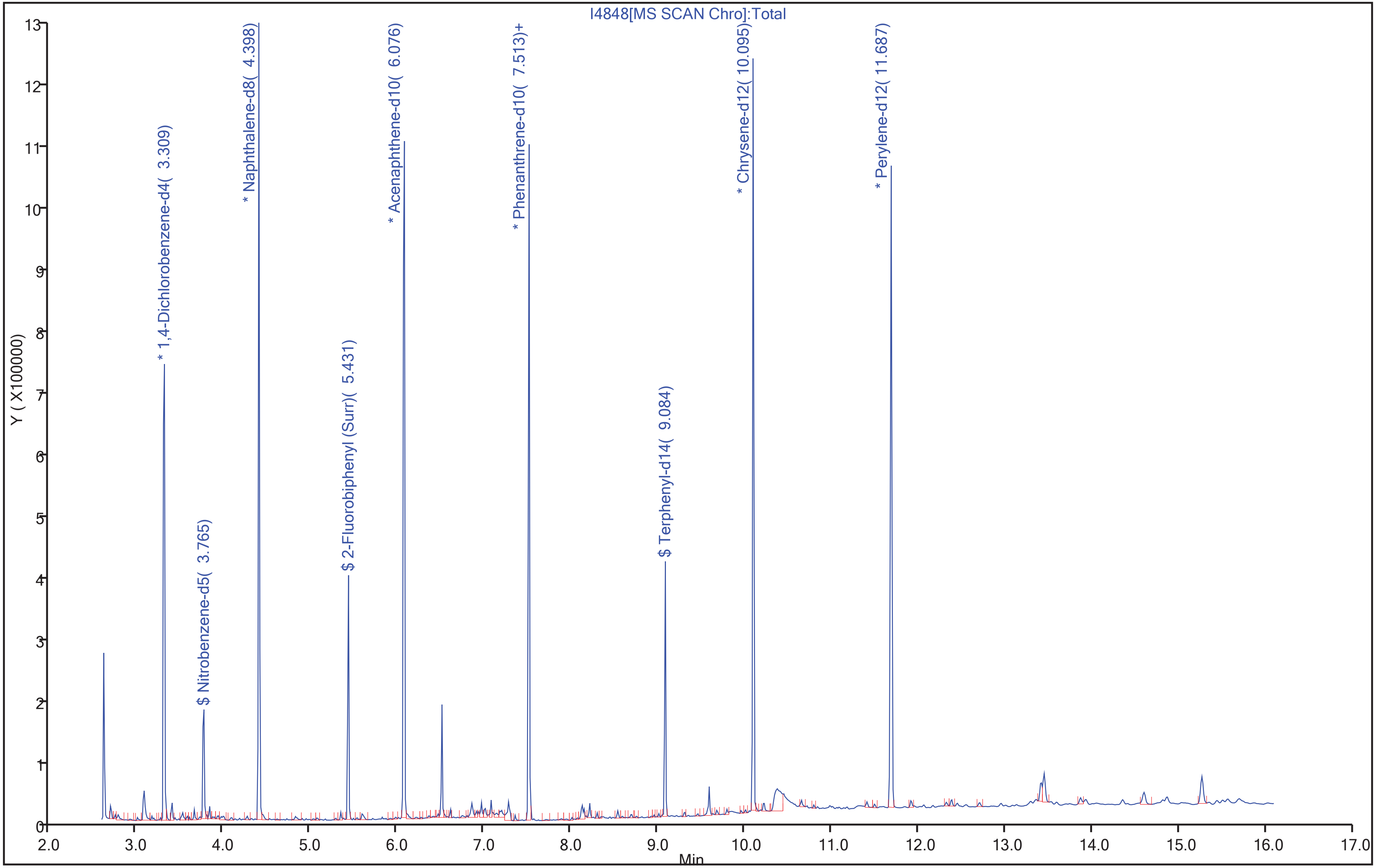
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:56:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4848.D				
Injection Date:	21-Oct-2017 14:51:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-F-5-B	Lab Sample ID:	160-24924-5	Worklist Smp#:	10
Client ID:	SHAD041DP026SS05DS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4848.D				
Lims ID:	160-24924-F-5-B				
Client ID:	SHAD041DP026SS05DS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 14:51:30	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-010				
Misc. Info.:	160-24924-f-5-b				
Operator ID:	DEK	Instrument ID:	SMSI		

Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m		
Limit Group:	MSS-8270SIM DoD		
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30
Integrator:	RTE	ID Type:	RT Order ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:43:01

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.29	86.11
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.24	82.56
$ 19 Terphenyl-d14	1.50	1.45	96.96

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP026SS06NS

Lab Sample ID: 160-24924-6

Matrix: Solid

Lab File ID: I4849.D

Analysis Method: 8270D SIM

Date Collected: 10/05/2017 16:31

Extract. Method: 3550C

Date Extracted: 10/19/2017 11:07

Sample wt/vol: 30.30(g)

Date Analyzed: 10/21/2017 15:13

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 13.9

GPC Cleanup:(Y/N) N

Analysis Batch No.: 333047

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.8	U	7.6	3.8	3.3
91-57-6	2-Methylnaphthalene	3.8	U	7.6	3.8	0.60
83-32-9	Acenaphthene	3.8	U	7.6	3.8	1.3
208-96-8	Acenaphthylene	3.8	U	7.6	3.8	0.91
120-12-7	Anthracene	3.8	U	7.6	3.8	0.73
56-55-3	Benzo[a]anthracene	3.8	U	7.6	3.8	1.5
50-32-8	Benzo[a]pyrene	3.8	U	7.6	3.8	0.96
205-99-2	Benzo[b]fluoranthene	3.8	U	7.6	3.8	1.2
191-24-2	Benzo[g,h,i]perylene	3.8	U	7.6	3.8	1.3
207-08-9	Benzo[k]fluoranthene	3.8	U	7.6	3.8	1.3
218-01-9	Chrysene	3.8	U	7.6	3.8	1.5
53-70-3	Dibenz(a,h)anthracene	3.8	U	7.6	3.8	3.6
206-44-0	Fluoranthene	3.8	U	7.6	3.8	1.7
86-73-7	Fluorene	3.8	U	7.6	3.8	1.2
193-39-5	Indeno[1,2,3-cd]pyrene	3.8	U	7.6	3.8	2.4
91-20-3	Naphthalene	3.8	U	7.6	3.8	1.2
85-01-8	Phenanthrene	3.8	U	7.6	3.8	3.1
129-00-0	Pyrene	3.8	U	7.6	3.8	1.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	81		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	85		44-125
1718-51-0	Terphenyl-d14 (Surr)	92		58-133

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4849.D				
Lims ID:	160-24924-F-6-B				
Client ID:	SHAD041DP026SS06NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 15:13:30	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-011				
Misc. Info.:	160-24924-F-6-B				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK053				
First Level Reviewer: konopkad		Date:	22-Oct-2017 15:43:26		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.310	3.298	0.012	88	271236	4.00	
$ 3 Nitrobenzene-d5	82	3.754	3.765	-0.011	20	105862	1.27	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	961632	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	252649	1.22	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	1	509480	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	852896	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	8515	0.0314	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	247098	1.38	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	839699	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	886449	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276		13.558				ND	

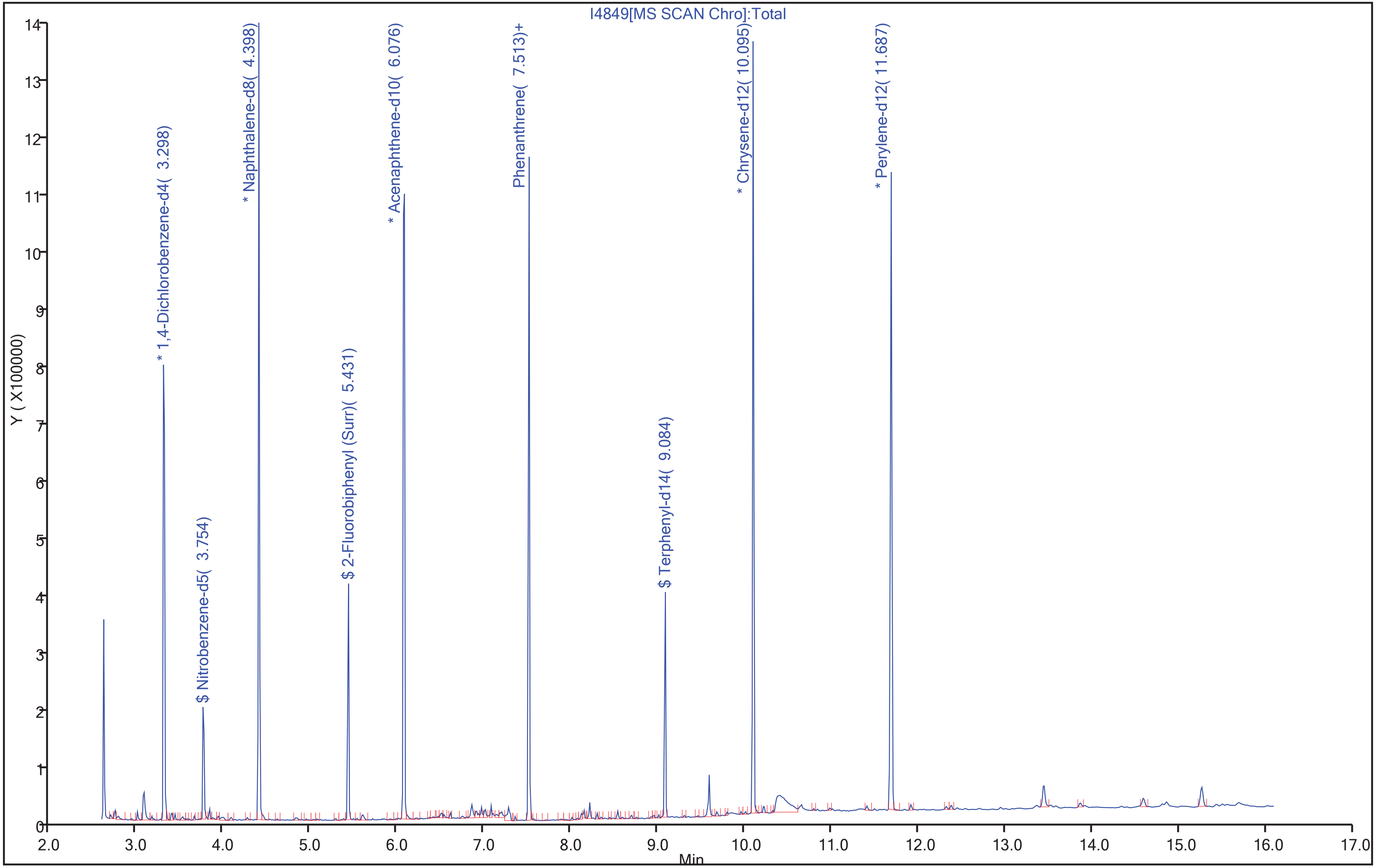
Reagents:

80 ppm I Std_00084 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:56:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4849.D				
Injection Date:	21-Oct-2017 15:13:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-F-6-B	Lab Sample ID:	160-24924-6	Worklist Smp#:	11
Client ID:	SHAD041DP026SS06NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4849.D
Lims ID: 160-24924-F-6-B
Client ID: SHAD041DP026SS06NS
Sample Type: Client
Inject. Date: 21-Oct-2017 15:13:30 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-011
Misc. Info.: 160-24924-F-6-B
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:43:26

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.27	84.62
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.22	81.42
$ 19 Terphenyl-d14	1.50	1.38	92.15

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS01NS	Lab Sample ID: 160-24924-7
Matrix: Solid	Lab File ID: I4864.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 16:45
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.19(g)	Date Analyzed: 10/21/2017 20:52
Con. Extract Vol.: 1(mL)	Dilution Factor: 10
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 0.3	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	33	U	66	33	29
91-57-6	2-Methylnaphthalene	33	U	66	33	5.2
83-32-9	Acenaphthene	33	U	66	33	11
208-96-8	Acenaphthylene	33	U	66	33	7.9
120-12-7	Anthracene	33	U	66	33	6.3
56-55-3	Benzo[a]anthracene	17	J D	66	33	13
50-32-8	Benzo[a]pyrene	33	U	66	33	8.3
205-99-2	Benzo[b]fluoranthene	33	U	66	33	10
191-24-2	Benzo[g,h,i]perylene	21	J D	66	33	11
207-08-9	Benzo[k]fluoranthene	15	J D	66	33	11
218-01-9	Chrysene	33	U	66	33	13
53-70-3	Dibenz(a,h)anthracene	33	U	66	33	31
206-44-0	Fluoranthene	33	U	66	33	15
86-73-7	Fluorene	33	U	66	33	11
193-39-5	Indeno[1,2,3-cd]pyrene	33	U	66	33	21
91-20-3	Naphthalene	33	U	66	33	10
85-01-8	Phenanthrene	33	U	66	33	27
129-00-0	Pyrene	33	U	66	33	14

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	76		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	76		44-125
1718-51-0	Terphenyl-d14 (Surr)	84		58-133

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4864.D				
Lims ID:	160-24924-F-7-B				
Client ID:	SHAD041DP022SS01NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 20:52:30	ALS Bottle#:	26	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	10.0000		
Sample Info:	160-0011729-026				
Misc. Info.:	160-24924-F-7-B				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK053				
First Level Reviewer: konopkad		Date:	22-Oct-2017 15:55:54		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.298	3.298	0.000	98	259503	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	16	8570	0.1144	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	863454	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	21420	0.1134	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	465319	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	787709	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	5010	0.0200	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202	8.697	8.696	0.001	12	8615	0.0314	
18 Pyrene	202	8.912	8.912	0.000	11	8163	0.0298	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	21145	0.1258	
20 Benzo[a]anthracene	228	10.116	10.084	0.032	1	13822	0.0517	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	789314	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252	11.224	11.246	-0.022	1	14450	0.0445	
25 Benzo[a]pyrene	252	11.622	11.611	0.011	10	5347	0.0190	
* 26 Perylene-d12	264	11.698	11.687	0.011	16	870926	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276	13.580	13.558	0.022	11	18277	0.0627	

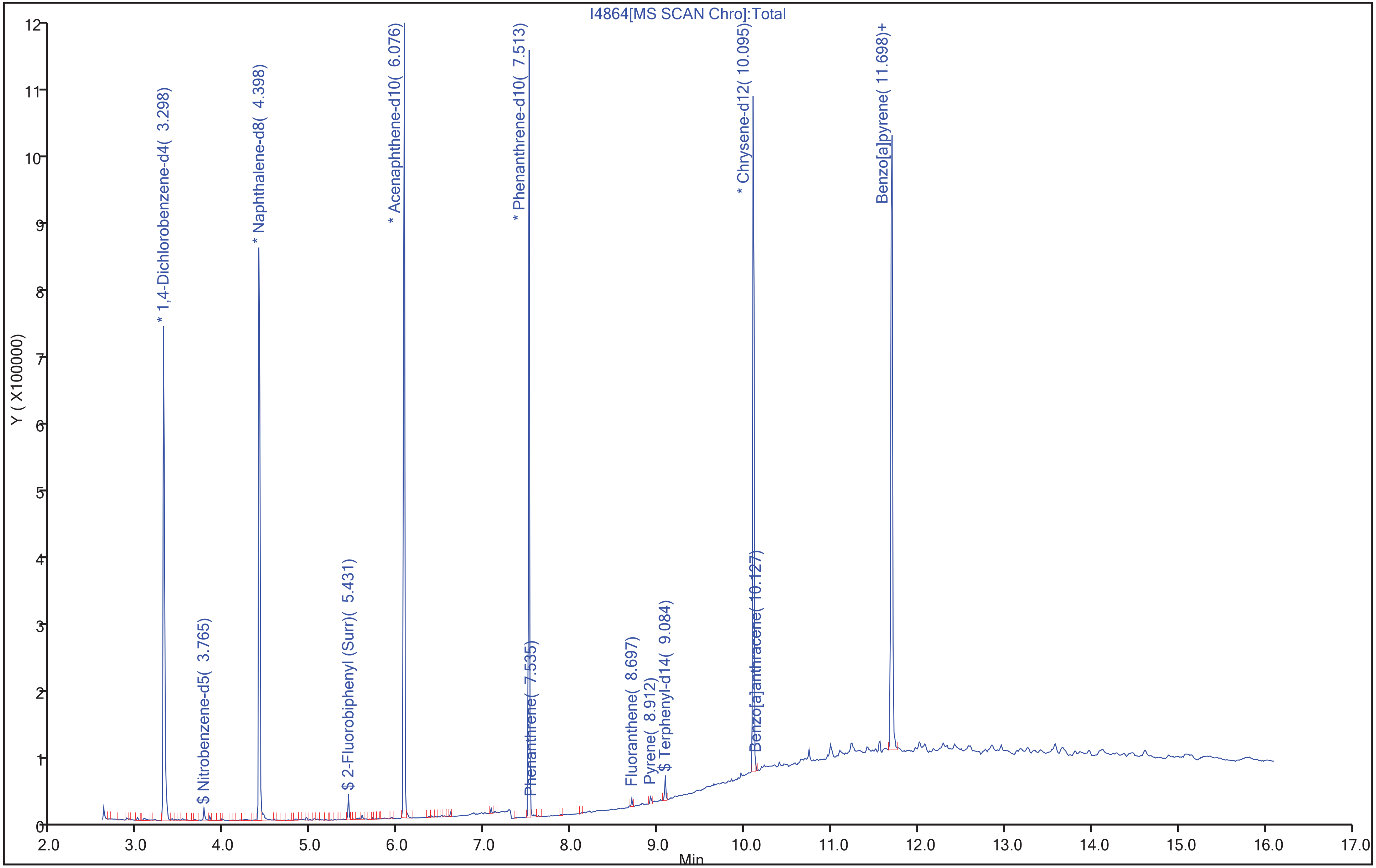
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4864.D				
Injection Date:	21-Oct-2017 20:52:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-F-7-B	Lab Sample ID:	160-24924-7	Worklist Smp#:	26
Client ID:	SHAD041DP022SS01NS				
Injection Vol:	1.0 ul	Dil. Factor:	10.0000	ALS Bottle#:	26
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



Report Date: 22-Oct-2017 15:57:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4864.D				
Lims ID:	160-24924-F-7-B				
Client ID:	SHAD041DP022SS01NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 20:52:30	ALS Bottle#:	26	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	10.0000		
Sample Info:	160-0011729-026				
Misc. Info.:	160-24924-F-7-B				
Operator ID:	DEK	Instrument ID:	SMSI		

Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m		
Limit Group:	MSS-8270SIM DoD		
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30
Integrator:	RTE	ID Type:	RT Order ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D		

Column 1 : Det: MS SCAN

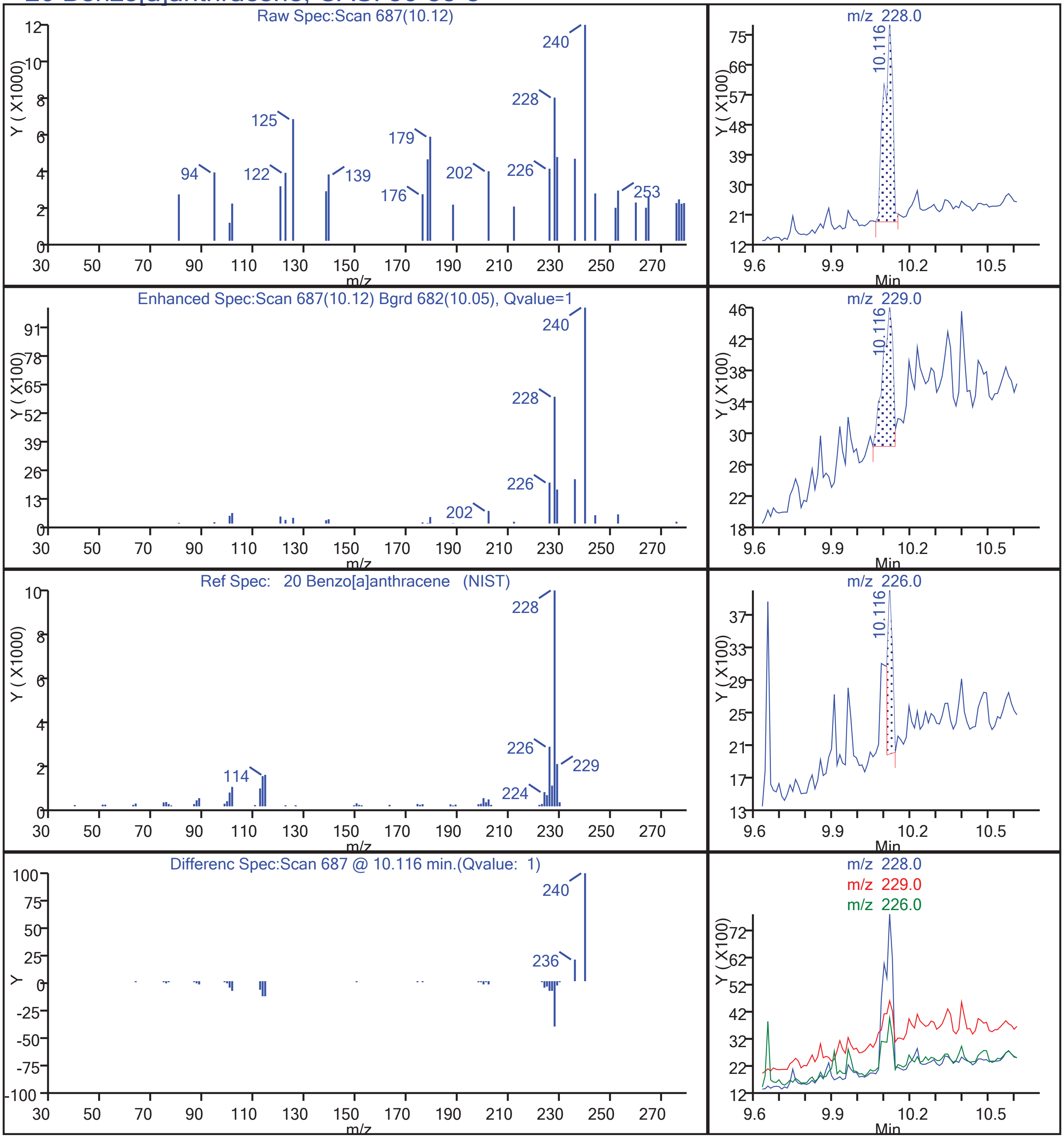
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:55:54

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	0.1144	76.29
$ 9 2-Fluorobiphenyl (Surr)	1.50	0.1134	75.58
$ 19 Terphenyl-d14	1.50	0.1258	83.89

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4864.D
Injection Date: 21-Oct-2017 20:52:30
Instrument ID: SMSI
Lims ID: 160-24924-F-7-B
Lab Sample ID: 160-24924-7
Client ID: SHAD041DP022SS01NS
Operator ID: DEK
ALS Bottle#: 26
Worklist Smp#: 26
Injection Vol: 1.0 ul
Dil. Factor: 10.0000
Method: 8270_SIM_SMSI
Limit Group: MSS-8270SIM DoD
Column:
Detector MS SCAN

20 Benzo[a]anthracene, CAS: 56-55-3



Report Date: 22-Oct-2017 15:57:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4864.D

Injection Date: 21-Oct-2017 20:52:30
Instrument ID: SMSI

Lims ID: 160-24924-F-7-B
Lab Sample ID: 160-24924-7

Client ID: SHAD041DP022SS01NS

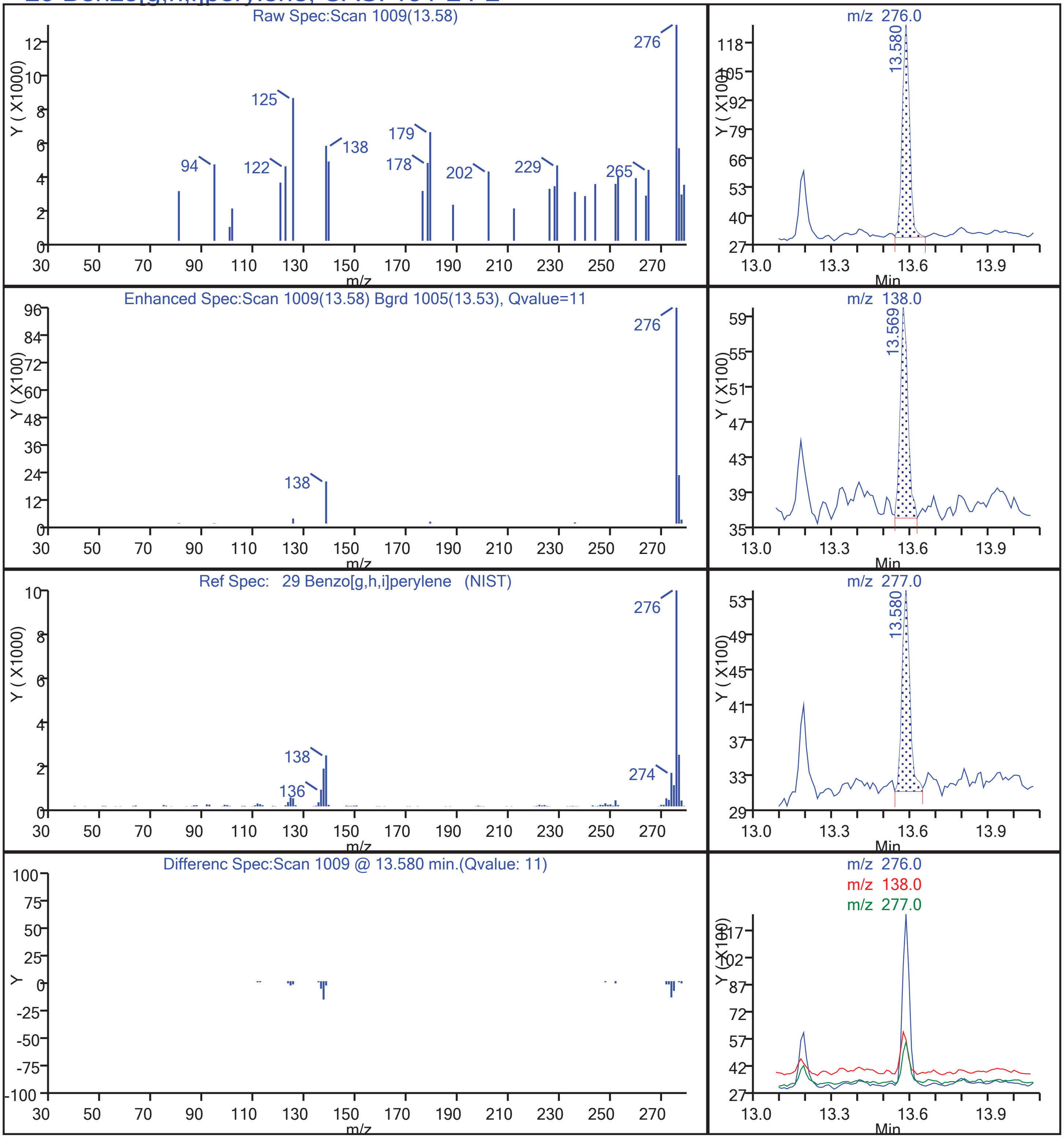
Operator ID: DEK
ALS Bottle#: 26
Worklist Smp#: 26

Injection Vol: 1.0 ul
Dil. Factor: 10.0000

Method: 8270_SIM_SMSI
Limit Group: MSS-8270SIM DoD

Column:
Detector MS SCAN

29 Benzo[g,h,i]perylene, CAS: 191-24-2



Raw Spec:Scan 1009(13.58)

m/z 276.0

Enhanced Spec:Scan 1009(13.58) Bgrd 1005(13.53), Qvalue=11

m/z 138.0

Ref Spec: 29 Benzo[g,h,i]perylene (NIST)

m/z 277.0

Differenc Spec:Scan 1009 @ 13.580 min.(Qvalue: 11)

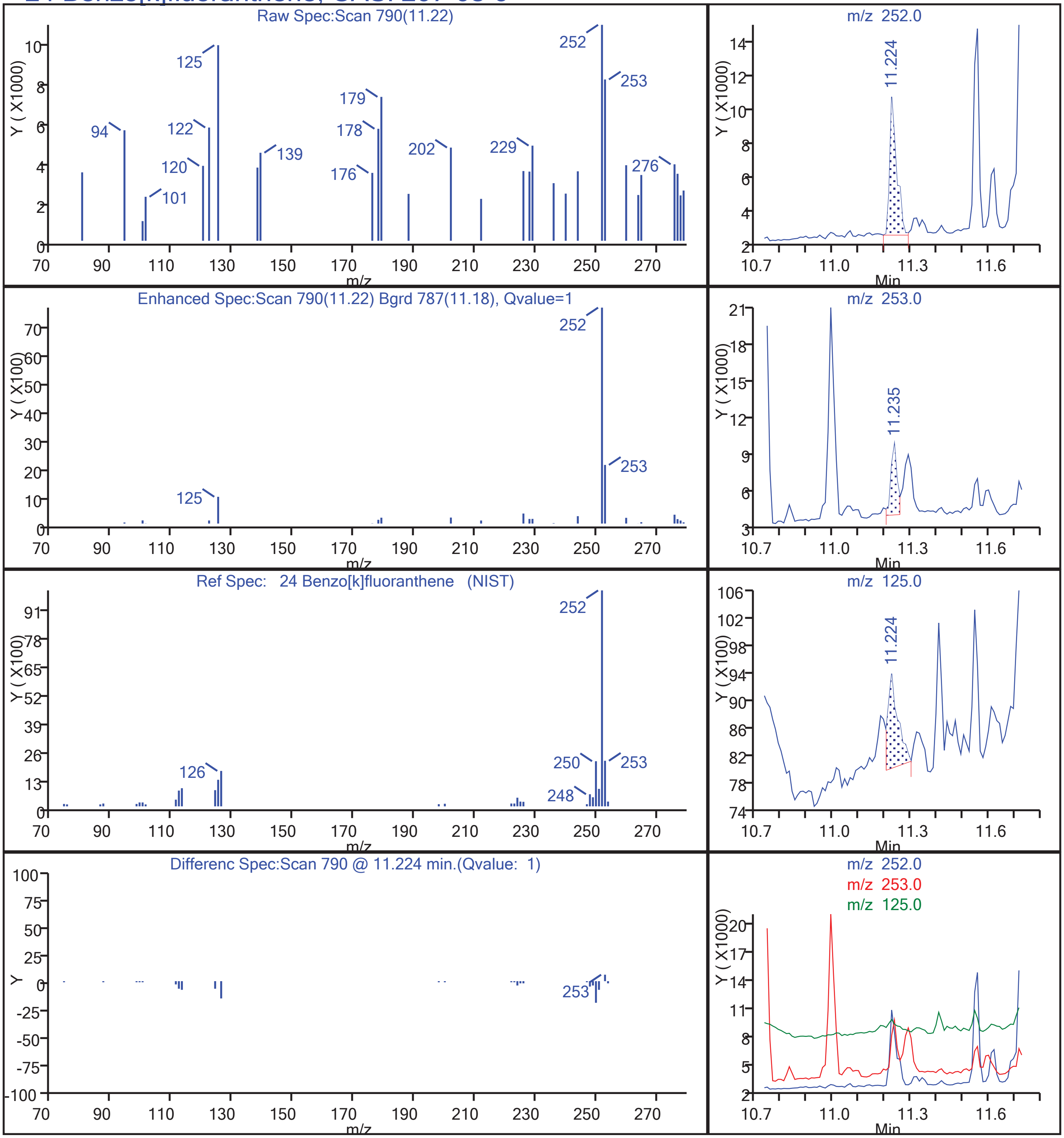
m/z 276.0
m/z 138.0
m/z 277.0

Report Date: 22-Oct-2017 15:57:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4864.D				
Injection Date:	21-Oct-2017 20:52:30	Instrument ID:	SMSI		
Lims ID:	160-24924-F-7-B	Lab Sample ID:	160-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:	DEK	ALS Bottle#:	26	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	10.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

24 Benzo[k]fluoranthene, CAS: 207-08-9



FORM I

GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP022SS02NS

Lab Sample ID: 160-24924-3

Matrix: Solid

Lab File ID: I4368.D

Analysis Method: 3270D SIM

Date Collected: 10/05/2017 16:55

Extract. Method: 8550C

Date Extracted: 10/19/2017 11:07

Sample wt/vol: 80.17(g)

Date Analyzed: 10/21/2017 20:80

Con. Extract Vol.: 1(mL)

Dilution Factor: 5

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 1.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 888047

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	17	U	88	17	14
91-57-6	2-Methylnaphthalene	17	U	88	17	2.6
38-82-9	Acenaphthene	17	U	88	17	5.7
203-96-3	Acenaphthylene	17	U	88	17	4.0
120-12-7	Anthracene	17	U	88	17	8.2
56-55-8	Benzo[a]anthracene	17	U	88	17	6.7
50-82-3	Benzo[a]pyrene	17	U	88	17	4.2
205-99-2	Benzo[b]fluoranthene	18	J D	88	17	5.8
191-24-2	Benzo[g,h,i]perylene	14	J D	88	17	5.6
207-03-9	Benzo[k]fluoranthene	17	U	88	17	5.7
213-01-9	Chrysene	17	U	88	17	6.6
58-70-8	Dibenz(a,h)anthracene	17	U	88	17	16
206-44-0	Fluoranthene	17	U	88	17	7.6
36-78-7	Fluorene	17	U	88	17	5.4
198-89-5	Indeno[1,2,8-cd]pyrene	17	U	88	17	11
91-20-8	Naphthalene	17	U	88	17	5.1
35-01-3	Phenanthrene	17	U	88	17	14
129-00-0	Pyrene	17	U	88	17	7.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
821-60-3	2-Fluorobiphenyl (Surr)	73		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	75		44-125
1713-51-0	Terphenyl-d14 (Surr)	90		53-188

Report Date: 22-Oct-2017 15:57:20　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4863.D
Lims ID: 160-24924-E-8-D
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 21-Oct-2017 20:30:30　ALS Bottle#: 25　Worklist Smp#: 25
Injection Vol: 1.0 ul　Dil. Factor: 5.0000
Sample Info: 160-0011729-025
Misc. Info.: 160-24924-E-8-D
Operator ID: DEK　Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44　Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE　ID Type: RT Order ID
Quant Method: Internal Standard　Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 :　Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad　Date: 22-Oct-2017 15:55:17

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.298	3.298	0.000	96	272537	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	14	17978	0.2235	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	927385	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	47631	0.2349	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	499404	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	840679	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	6837	0.0256	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	47698	0.2692	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	832321	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252	11.224	11.224	0.000	3	25425	0.0795	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252	11.612	11.611	0.001	12	6458	0.0215	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	931811	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.171	13.160	0.011	3	11022	0.0306	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276	13.580	13.558	0.022	11	26555	0.0852	

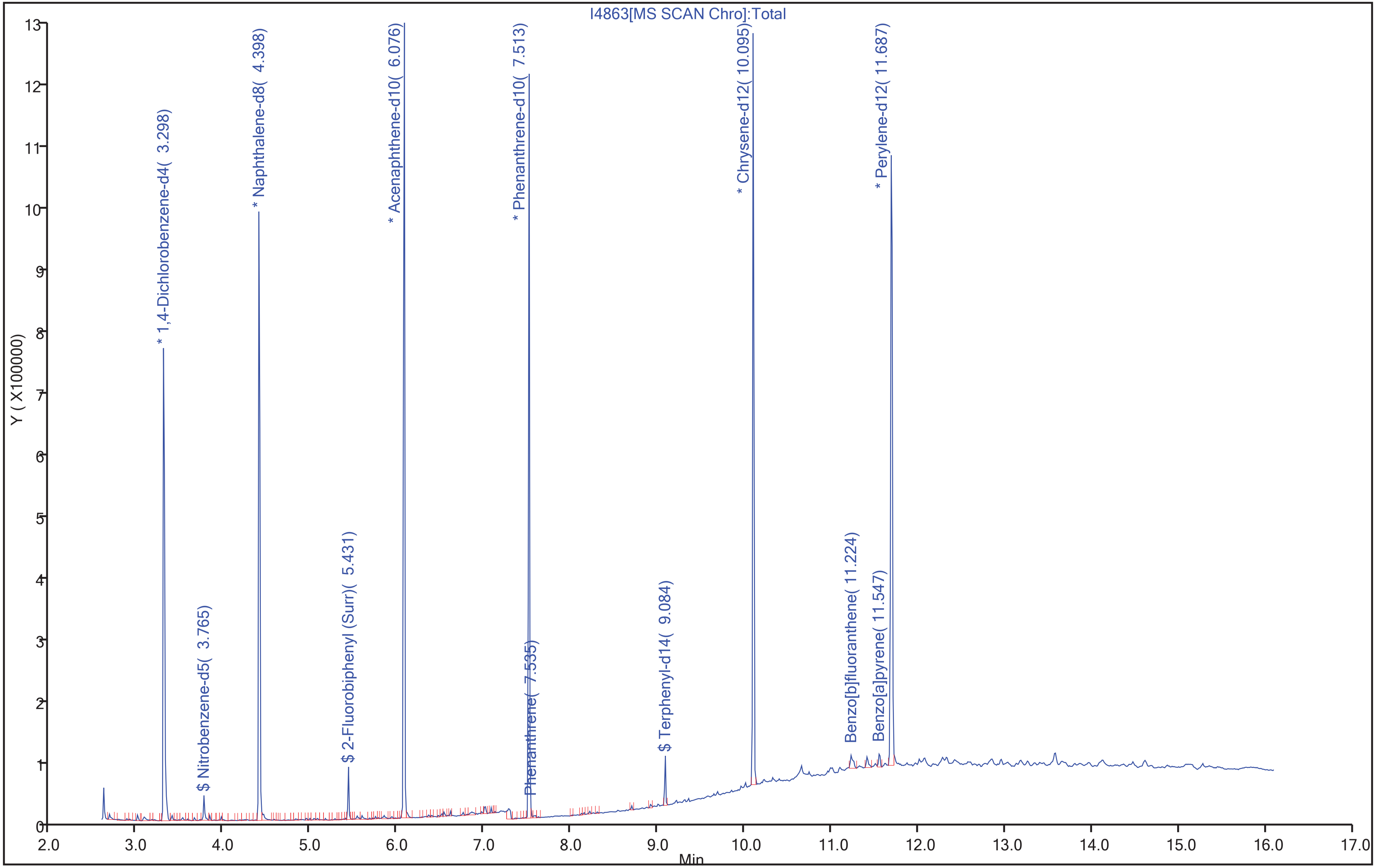
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:20   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4863.D				
Injection Date:	21-Oct-2017 20:30:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-8-D	Lab Sample ID:	160-24924-8	Worklist Smp#:	25
Client ID:	SHAD041DP022SS02NS				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	25
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4863.D
Lims ID: 160-24924-E-8-D
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 21-Oct-2017 20:30:30 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 5.0000
Sample Info: 160-0011729-025
Misc. Info.: 160-24924-E-8-D
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:55:17

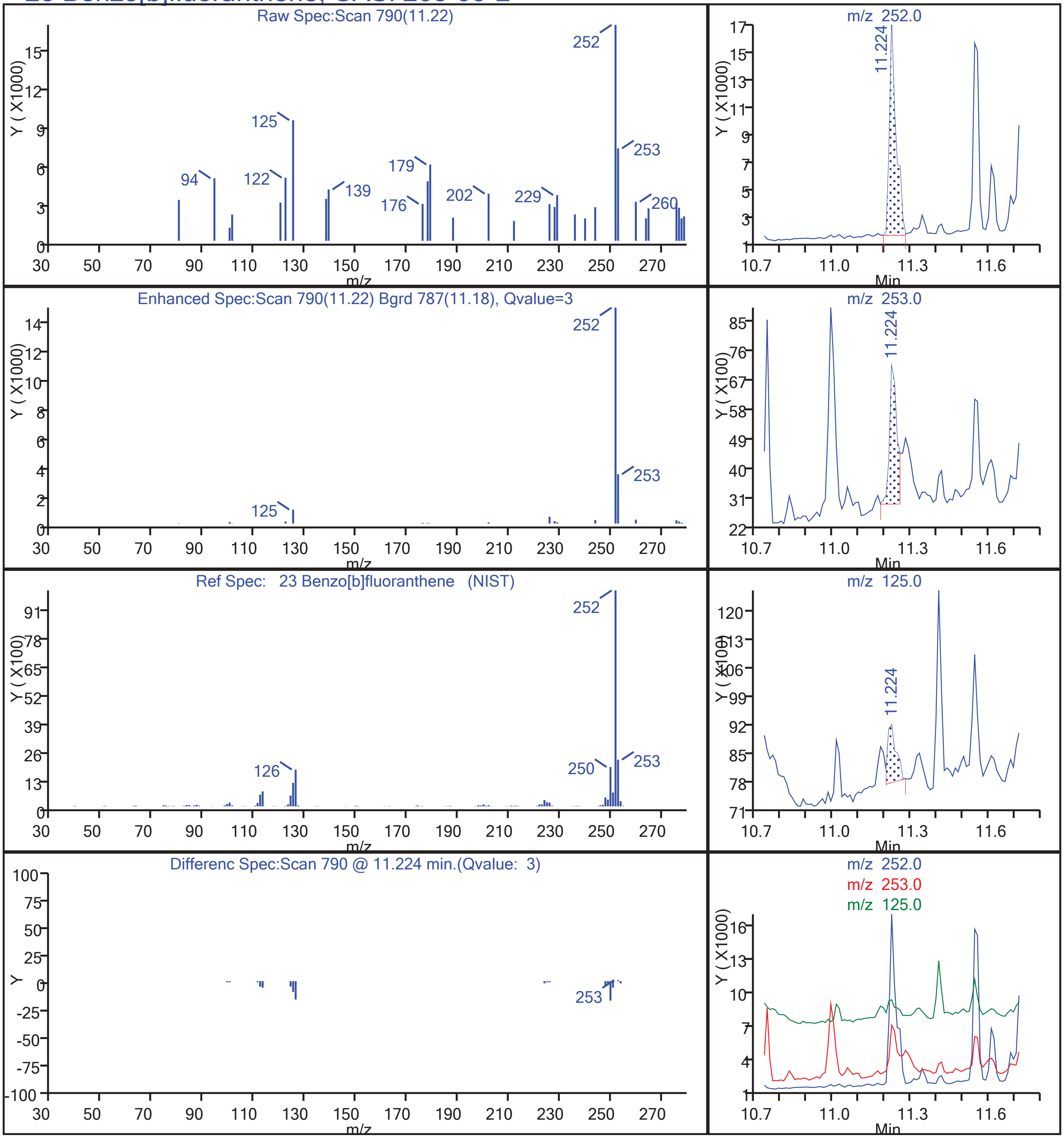
Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	0.2235	74.51
$ 9 2-Fluorobiphenyl (Surr)	1.50	0.2349	78.30
$ 19 Terphenyl-d14	1.50	0.2692	89.73

Report Date: 22-Oct-2017 15:57:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4863.D
Injection Date: 21-Oct-2017 20:30:30
Instrument ID: SMSI
Lims ID: 160-24924-E-8-D
Lab Sample ID: 160-24924-8
Client ID: SHAD041DP022SS02NS
Operator ID: DEK
ALS Bottle#: 25
Worklist Smp#: 25
Injection Vol: 1.0 ul
Dil. Factor: 5.0000
Method: 8270_SIM_SMSI
Limit Group: MSS-8270SIM DoD
Column:
Detector: MS SCAN

23 Benzo[b]fluoranthene, CAS: 205-99-2



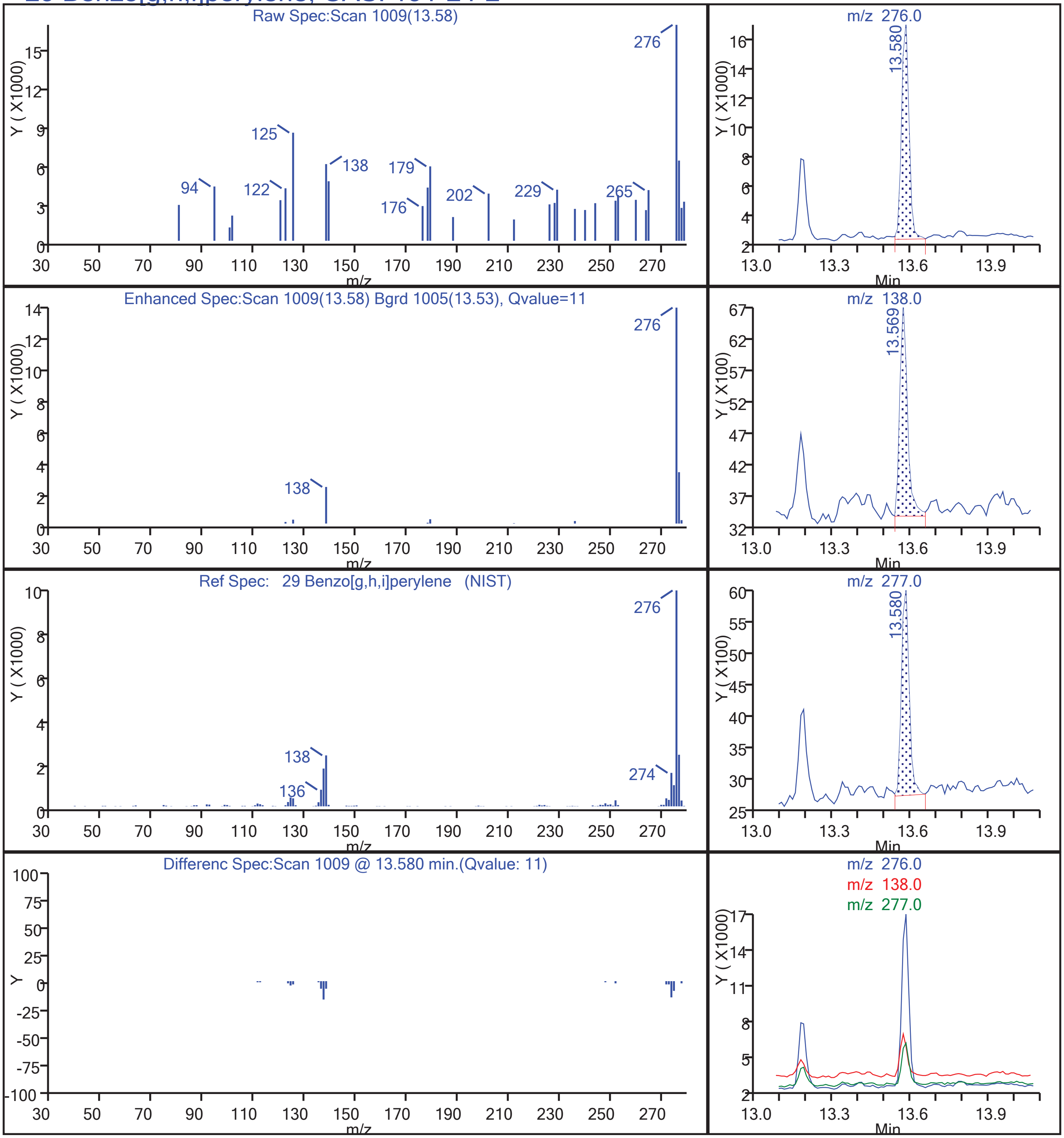
Report Date: 22-Oct-2017 15:57:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4863.D

Injection Date:	21-Oct-2017 20:30:30	Instrument ID:	SMSI		
Lims ID:	160-24924-E-8-D	Lab Sample ID:	160-24924-8		
Client ID:	SHAD041DP022SS02NS				
Operator ID:	DEK	ALS Bottle#:	25	Worklist Smp#:	25
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

29 Benzo[g,h,i]perylene, CAS: 191-24-2



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS03NS	Lab Sample ID: 160-24924-9
Matrix: Solid	Lab File ID: I4850.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 16:59
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.14(g)	Date Analyzed: 10/21/2017 15:36
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 2.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.4	U	6.7	3.4	2.9
91-57-6	2-Methylnaphthalene	3.4	U	6.7	3.4	0.53
83-32-9	Acenaphthene	3.4	U	6.7	3.4	1.1
208-96-8	Acenaphthylene	3.4	U	6.7	3.4	0.81
120-12-7	Anthracene	3.4	U	6.7	3.4	0.64
56-55-3	Benzo[a]anthracene	3.4	U	6.7	3.4	1.4
50-32-8	Benzo[a]pyrene	3.4	U	6.7	3.4	0.85
205-99-2	Benzo[b]fluoranthene	1.5	J	6.7	3.4	1.1
191-24-2	Benzo[g,h,i]perylene	1.9	J	6.7	3.4	1.1
207-08-9	Benzo[k]fluoranthene	3.4	U	6.7	3.4	1.1
218-01-9	Chrysene	3.4	U	6.7	3.4	1.3
53-70-3	Dibenz(a,h)anthracene	3.4	U	6.7	3.4	3.2
206-44-0	Fluoranthene	3.4	U	6.7	3.4	1.5
86-73-7	Fluorene	3.4	U	6.7	3.4	1.1
193-39-5	Indeno[1,2,3-cd]pyrene	3.4	U	6.7	3.4	2.2
91-20-3	Naphthalene	3.4	U	6.7	3.4	1.0
85-01-8	Phenanthrene	3.4	U	6.7	3.4	2.7
129-00-0	Pyrene	3.4	U	6.7	3.4	1.5

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	85		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	86		44-125
1718-51-0	Terphenyl-d14 (Surr)	96		58-133

Report Date: 22-Oct-2017 15:56:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4850.D
Lims ID: 160-24924-E-9-J
Client ID: SHAD041DP022SS03NS
Sample Type: Client
Inject. Date: 21-Oct-2017 15:36:30 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-012
Misc. Info.: 160-24924-E-9-J
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:47:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	89	263858	4.00	
$ 3 Nitrobenzene-d5	82	3.754	3.765	-0.011	19	102630	1.28	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	922614	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142	5.065	5.076	-0.011	25	2170	0.0129	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	249247	1.28	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	1	480078	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	816403	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	12867	0.0496	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	243434	1.44	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	792694	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252	11.224	11.224	0.000	1	13128	0.0441	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	866379	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276	13.580	13.558	0.022	12	16178	0.0558	

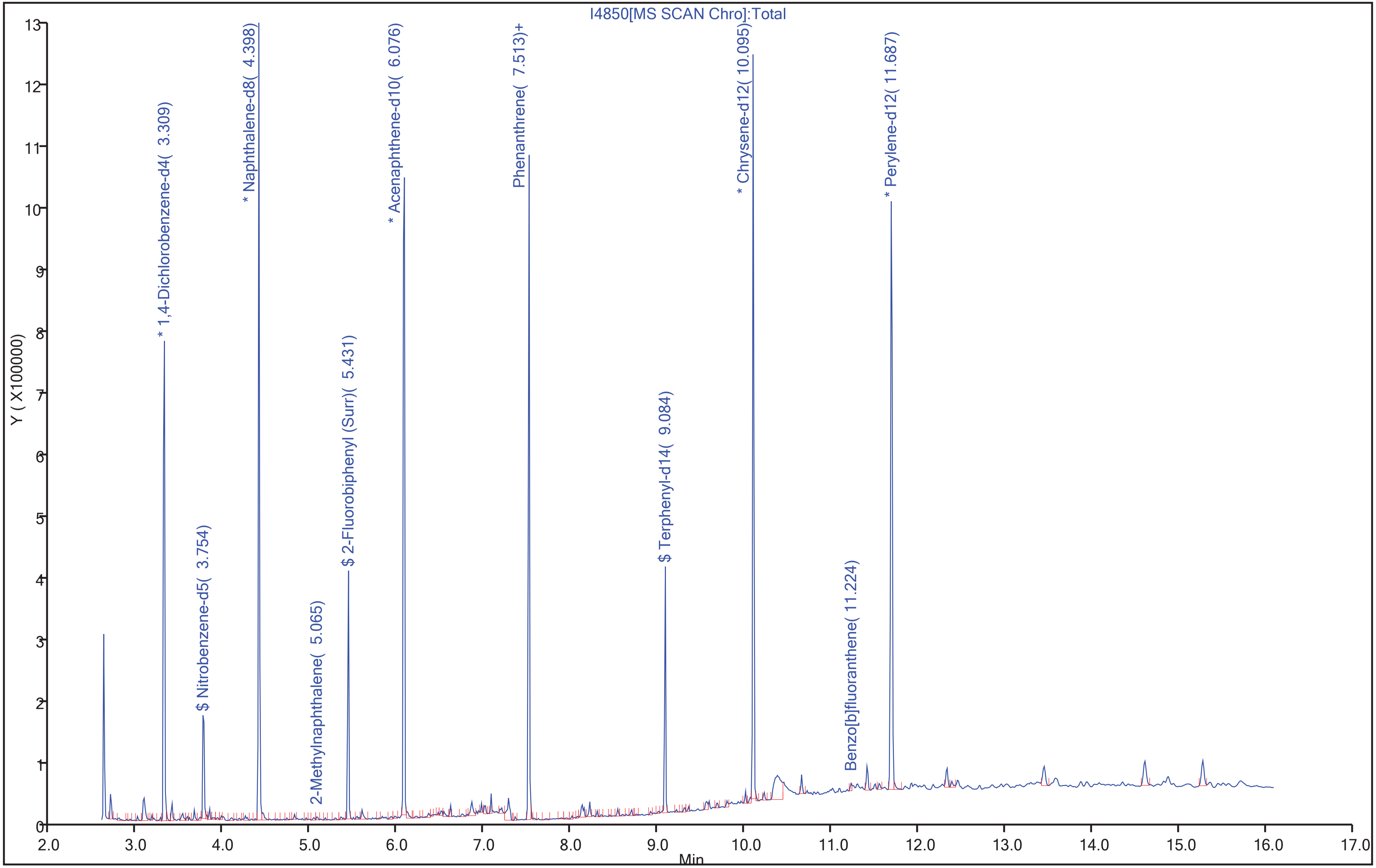
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4850.D				
Injection Date:	21-Oct-2017 15:36:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-9-J	Lab Sample ID:	160-24924-9	Worklist Smp#:	12
Client ID:	SHAD041DP022SS03NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4850.D				
Lims ID:	160-24924-E-9-J				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 15:36:30	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-012				
Misc. Info.:	160-24924-E-9-J				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:47:42

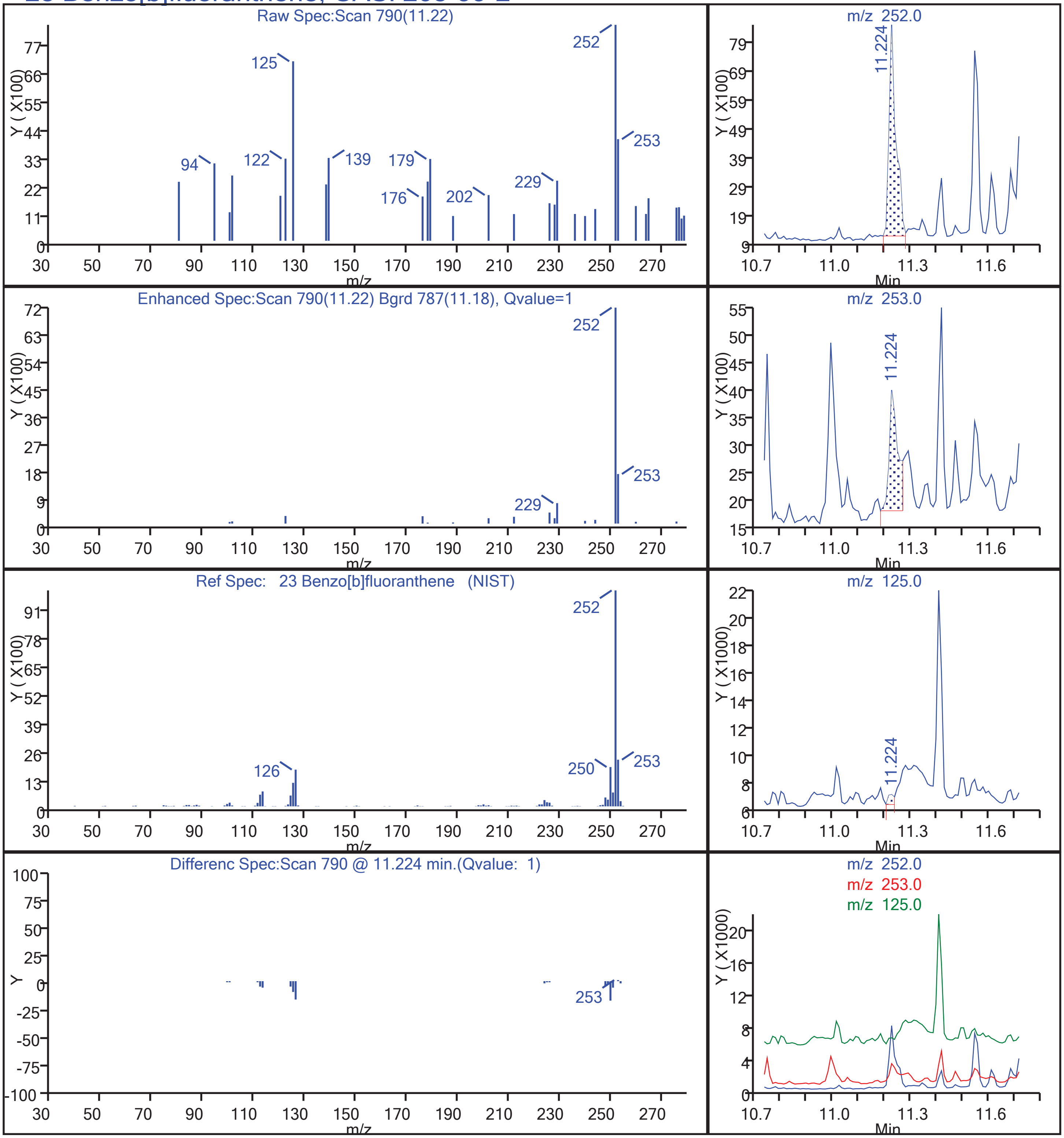
Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.28	85.51
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.28	85.24
$ 19 Terphenyl-d14	1.50	1.44	96.17

Report Date: 22-Oct-2017 15:57:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4850.D
Injection Date: 21-Oct-2017 15:36:30 Instrument ID: SMSI
Lims ID: 160-24924-E-9-J Lab Sample ID: 160-24924-9
Client ID: SHAD041DP022SS03NS
Operator ID: DEK ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8270_SIM_SMSI Limit Group: MSS-8270SIM DoD
Column: Detector MS SCAN

23 Benzo[b]fluoranthene, CAS: 205-99-2

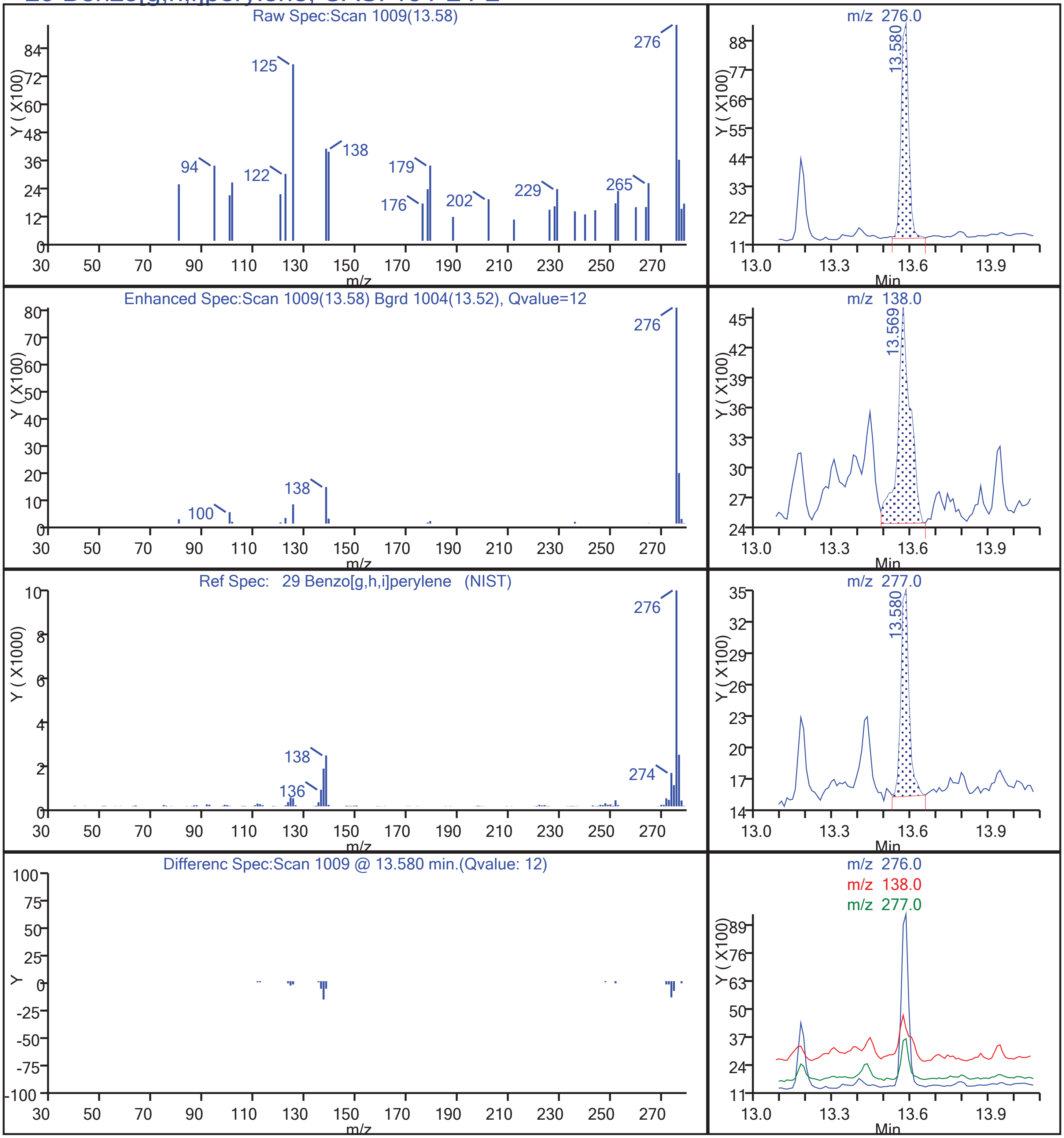


Report Date: 22-Oct-2017 15:57:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4850.D
Injection Date: 21-Oct-2017 15:36:30 Instrument ID: SMSI
Lims ID: 160-24924-E-9-J Lab Sample ID: 160-24924-9
Client ID: SHAD041DP022SS03NS
Operator ID: DEK ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8270_SIM_SMSI Limit Group: MSS-8270SIM DoD
Column: Detector MS SCAN

29 Benzo[g,h,i]perylene, CAS: 191-24-2



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS04NS	Lab Sample ID: 160-24924-10
Matrix: Soliy	Lab File ID: I48d7.D
Anal5sis Met3oy: 82h0D SIM	Date Collectey: 10/0d/201h 1h:10
Extract. Met3oy: 7dd0C	Date Extractey: 10/19/201h 11:0h
Sample wt/vol: 70.2d(g)	Date Anal5zey: 10/21/201h 16:47
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/mey) Low
% Moisture: 17.h	GPC Cleanup:(Y/N) N
Anal5sis Batc3 No.: 77704h	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Met35lnap3t3alene	7.8	U	h.6	7.8	7.7
91-dh-6	2-Met35lnap3t3alene	7.8	U	h.6	7.8	0.60
87-72-9	Acenap3t3ene	7.8	U	h.6	7.8	1.7
208-96-8	Acenap3t35lene	7.8	U	h.6	7.8	0.91
120-12-h	Ant3racene	7.8	U	h.6	7.8	0.h7
d6-dd-7	Benzo[a]ant3racene	7.8	U	h.6	7.8	1.d
d0-72-8	Benzo[a]p5rene	7.8	U	h.6	7.8	0.96
20d-99-2	Benzo[b]fluorant3ene	7.8	U	h.6	7.8	1.2
191-24-2	Benzo[g,3,i]per5lene	7.8	U	h.6	7.8	1.7
20h-08-9	Benzo[k]fluorant3ene	7.8	U	h.6	7.8	1.7
218-01-9	C3r5sene	7.8	U	h.6	7.8	1.d
d7-h0-7	Dibenz(a,3)ant3racene	7.8	U	h.6	7.8	7.6
206-44-0	Fluorant3ene	7.8	U	h.6	7.8	1.h
86-h7-h	Fluorene	7.8	U	h.6	7.8	1.2
197-79-d	Inyeno[1,2,7-cy]p5rene	7.8	U	h.6	7.8	2.4
91-20-7	Nap3t3alene	7.8	U	h.6	7.8	1.2
8d-01-8	P3enant3rene	7.8	U	h.6	7.8	7.1
129-00-0	P5rene	7.8	U	h.6	7.8	1.h

CAS NO.	SURROGATE	%REC	Q	LIMITS
721-60-8	2-Fluorobip3en5l (Surr)	80		46-11d
416d-60-0	Nitrobenzene-yd (Surr)	81		44-12d
1h18-d1-0	Terp3en5l-y14 (Surr)	91		d8-177

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4853.D				
Lims ID:	160-24924-E-10-D				
Client ID:	SHAD041DP022SS04NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 16:43:30	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-015				
Misc. Info.:	160-24924-E-10-D				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:50:02

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	89	271739	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	8	98568	1.21	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	936709	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	239945	1.19	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	494964	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	835625	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	9046	0.0340	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	244710	1.37	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	841904	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	913150	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276		13.558				ND	

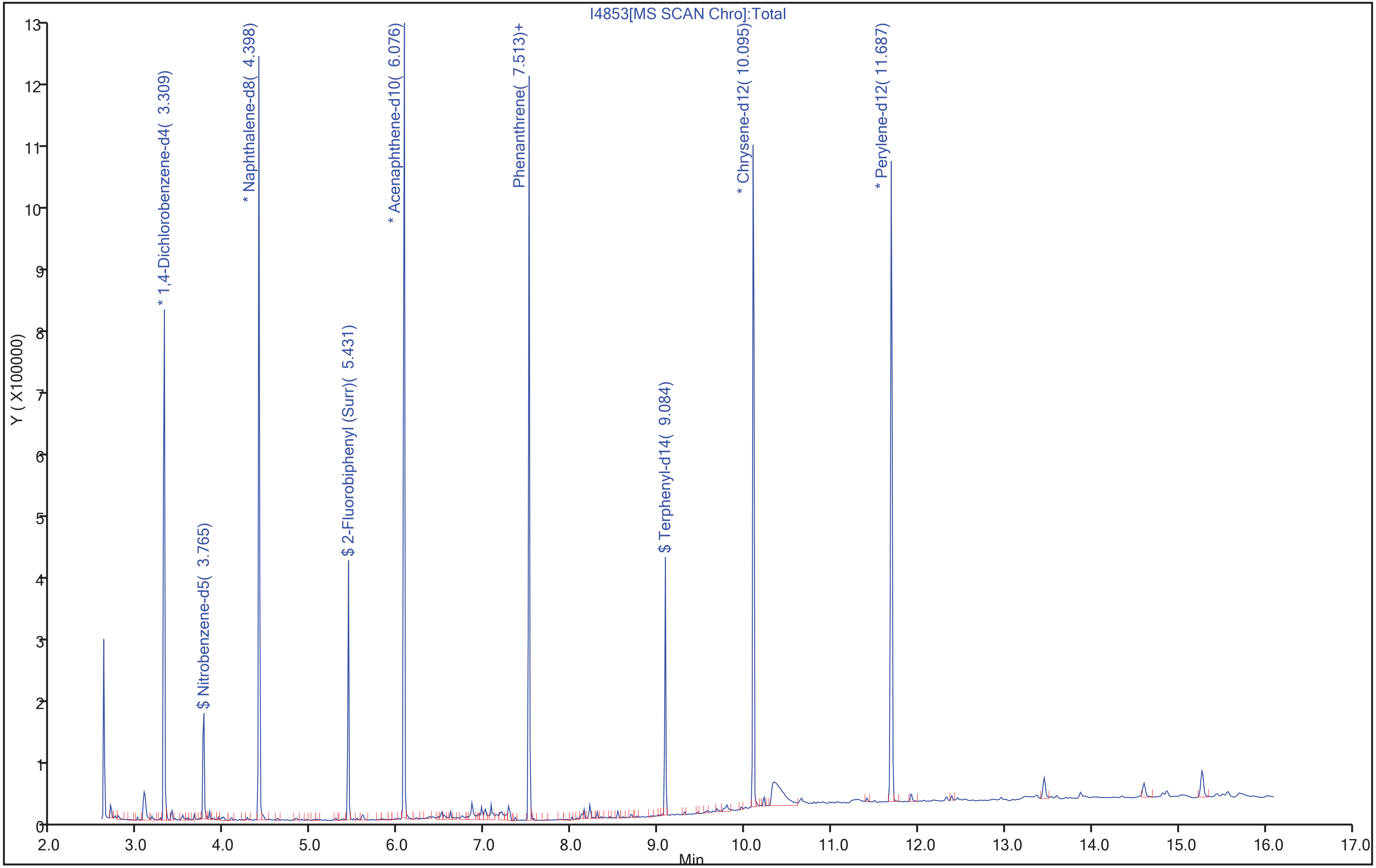
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4853.D				
Injection Date:	21-Oct-2017 16:43:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-10-D	Lab Sample ID:	160-24924-10	Worklist Smp#:	15
Client ID:	SHAD041DP022SS04NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4853.D				
Lims ID:	160-24924-E-10-D				
Client ID:	SHAD041DP022SS04NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 16:43:30	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-015				
Misc. Info.:	160-24924-E-10-D				
Operator ID:	DEK	Instrument ID:	SMSI		

Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m		
Limit Group:	MSS-8270SIM DoD		
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30
Integrator:	RTE	ID Type:	RT Order ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:50:02

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.21	80.89
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.19	79.59
$ 19 Terphenyl-d14	1.50	1.37	91.02

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS05NS	Lab Sample ID: 160-24924-11
Matrix: Solid	Lab File ID: I4854.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 17:15
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.11(g)	Date Analyzed: 10/21/2017 17:06
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 12.1	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.8	U	7.5	3.8	3.3
91-57-6	2-Methylnaphthalene	3.8	U	7.5	3.8	0.60
83-32-9	Acenaphthene	3.8	U	7.5	3.8	1.3
208-96-8	Acenaphthylene	3.8	U	7.5	3.8	0.90
120-12-7	Anthracene	3.8	U	7.5	3.8	0.72
56-55-3	Benzo[a]anthracene	3.8	U	7.5	3.8	1.5
50-32-8	Benzo[a]pyrene	3.8	U	7.5	3.8	0.95
205-99-2	Benzo[b]fluoranthene	3.8	U	7.5	3.8	1.2
191-24-2	Benzo[g,h,i]perylene	3.8	U	7.5	3.8	1.3
207-08-9	Benzo[k]fluoranthene	3.8	U	7.5	3.8	1.3
218-01-9	Chrysene	3.8	U	7.5	3.8	1.5
53-70-3	Dibenz(a,h)anthracene	3.8	U	7.5	3.8	3.6
206-44-0	Fluoranthene	3.8	U	7.5	3.8	1.7
86-73-7	Fluorene	3.8	U	7.5	3.8	1.2
193-39-5	Indeno[1,2,3-cd]pyrene	3.8	U	7.5	3.8	2.4
91-20-3	Naphthalene	3.8	U	7.5	3.8	1.1
85-01-8	Phenanthrene	3.8	U	7.5	3.8	3.1
129-00-0	Pyrene	3.8	U	7.5	3.8	1.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	81		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	82		44-125
1718-51-0	Terphenyl-d14 (Surr)	95		58-133

Report Date: 22-Oct-2017 15:57:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4854.D
Lims ID: 160-24924-E-11-D
Client ID: SHAD041DP022SS05NS
Sample Type: Client
Inject. Date: 21-Oct-2017 17:06:30 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-016
Misc. Info.: 160-24924-E-11-D
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:50:25

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	91	266522	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	9	95834	1.24	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	894729	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	234563	1.21	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	476974	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	801506	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	11588	0.0455	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	239911	1.43	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.106	10.095	0.011	1	787408	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	847396	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276		13.558				ND	

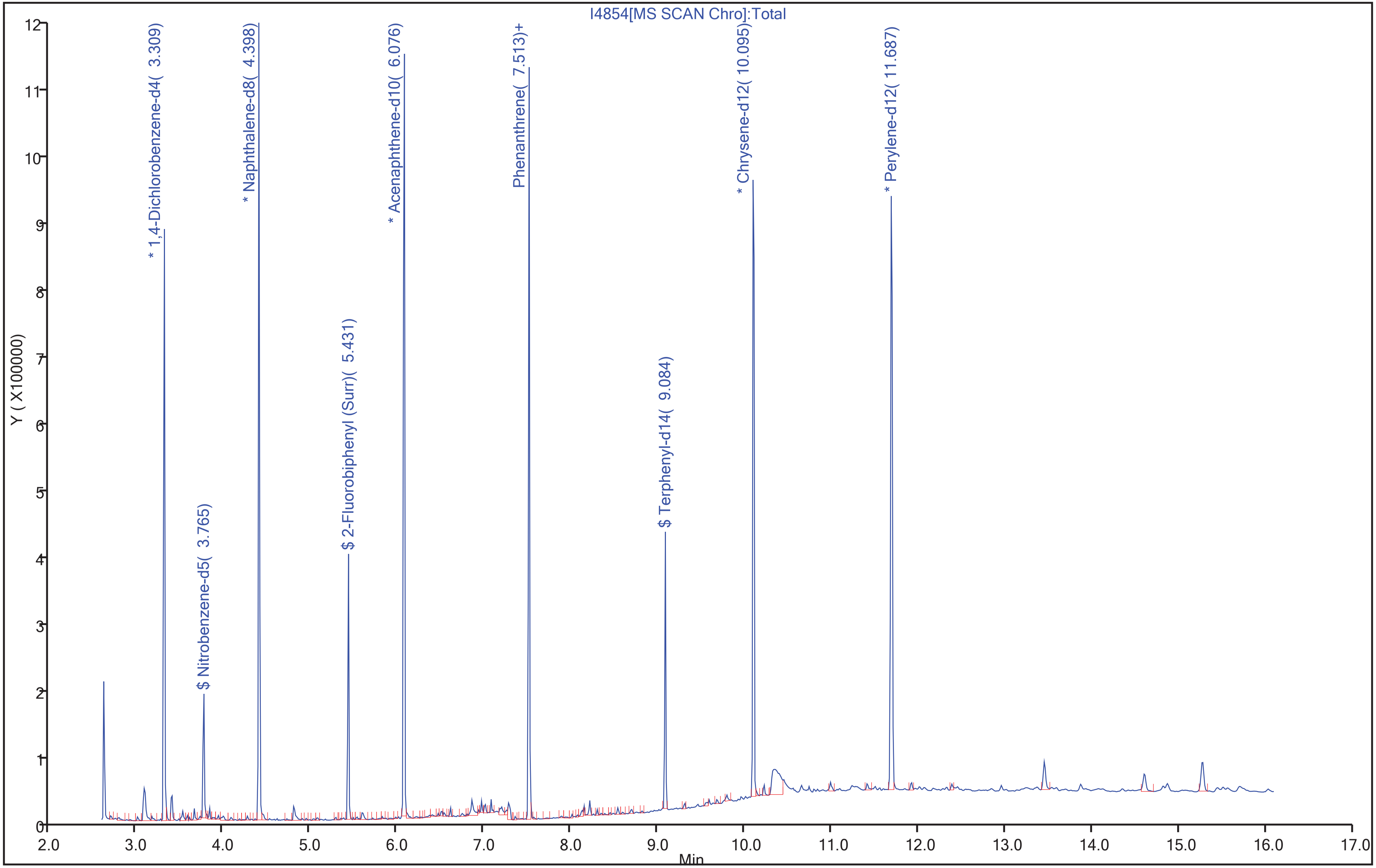
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4854.D				
Injection Date:	21-Oct-2017 17:06:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-11-D	Lab Sample ID:	160-24924-11	Worklist Smp#:	16
Client ID:	SHAD041DP022SS05NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4854.D				
Lims ID:	160-24924-E-11-D				
Client ID:	SHAD041DP022SS05NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 17:06:30	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-016				
Misc. Info.:	160-24924-E-11-D				
Operator ID:	DEK	Instrument ID:	SMSI		

Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m		
Limit Group:	MSS-8270SIM DoD		
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30
Integrator:	RTE	ID Type:	RT Order ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:50:25

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.24	82.33
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.21	80.74
$ 19 Terphenyl-d14	1.50	1.43	95.41

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS06NS	Lab Sample ID: 160-24924-12
Matrix: Solid	Lab File ID: I4855.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 17:23
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.47(g)	Date Analyzed: 10/21/2017 17:29
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 10.8	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.7	U	7.3	3.7	3.2
91-57-6	2-Methylnaphthalene	3.7	U	7.3	3.7	0.58
83-32-9	Acenaphthene	3.7	U	7.3	3.7	1.2
208-96-8	Acenaphthylene	3.7	U	7.3	3.7	0.88
120-12-7	Anthracene	3.7	U	7.3	3.7	0.70
56-55-3	Benzo[a]anthracene	3.7	U	7.3	3.7	1.5
50-32-8	Benzo[a]pyrene	3.7	U	7.3	3.7	0.92
205-99-2	Benzo[b]fluoranthene	3.7	U	7.3	3.7	1.2
191-24-2	Benzo[g,h,i]perylene	3.7	U	7.3	3.7	1.2
207-08-9	Benzo[k]fluoranthene	3.7	U	7.3	3.7	1.2
218-01-9	Chrysene	3.7	U	7.3	3.7	1.5
53-70-3	Dibenz(a,h)anthracene	3.7	U	7.3	3.7	3.5
206-44-0	Fluoranthene	3.7	U	7.3	3.7	1.7
86-73-7	Fluorene	3.7	U	7.3	3.7	1.2
193-39-5	Indeno[1,2,3-cd]pyrene	3.7	U	7.3	3.7	2.3
91-20-3	Naphthalene	3.7	U	7.3	3.7	1.1
85-01-8	Phenanthrene	3.7	U	7.3	3.7	3.0
129-00-0	Pyrene	3.7	U	7.3	3.7	1.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	81		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	80		44-125
1718-51-0	Terphenyl-d14 (Surr)	93		58-133

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4855.D				
Lims ID:	160-24924-E-12-D				
Client ID:	SHAD041DP022SS06NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 17:29:30	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-017				
Misc. Info.:	160-24924-e-12-d				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK053				
First Level Reviewer: konopkad		Date:	22-Oct-2017 15:50:48		

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
*	2 1,4-Dichlorobenzene-d4	152	3.310	3.298	0.012	89	268372	4.00	
$	3 Nitrobenzene-d5	82	3.754	3.765	-0.011	20	98540	1.20	
*	4 Naphthalene-d8	136	4.398	4.398	0.000	1	946525	4.00	
	5 Naphthalene	128		4.420				ND	
	7 2-Methylnaphthalene	142		5.076				ND	
	8 1-Methylnaphthalene	142		5.165				ND	
$	9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	245334	1.21	
	10 Acenaphthylene	152		5.931				ND	
*	11 Acenaphthene-d10	164	6.076	6.076	0.000	0	497490	4.00	
	12 Acenaphthene	153		6.098				ND	
	13 Fluorene	166		6.609				ND	
*	14 Phenanthrene-d10	188	7.513	7.513	0.000	1	834861	4.00	
	15 Phenanthrene	178	7.535	7.535	0.000	1	8777	0.0331	
	16 Anthracene	178		7.578				ND	
	17 Fluoranthene	202		8.696				ND	
	18 Pyrene	202		8.912				ND	
$	19 Terphenyl-d14	244	9.084	9.084	0.000	1	247682	1.39	
	20 Benzo[a]anthracene	228		10.084				ND	
*	21 Chrysene-d12	240	10.095	10.095	0.000	1	837608	4.00	
	22 Chrysene	228		10.116				ND	
	23 Benzo[b]fluoranthene	252		11.224				ND	
	24 Benzo[k]fluoranthene	252		11.246				ND	
	25 Benzo[a]pyrene	252		11.611				ND	
*	26 Perylene-d12	264	11.687	11.687	0.000	16	905209	4.00	
	27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
	28 Dibenz(a,h)anthracene	278		13.193				ND	
	29 Benzo[g,h,i]perylene	276		13.558				ND	

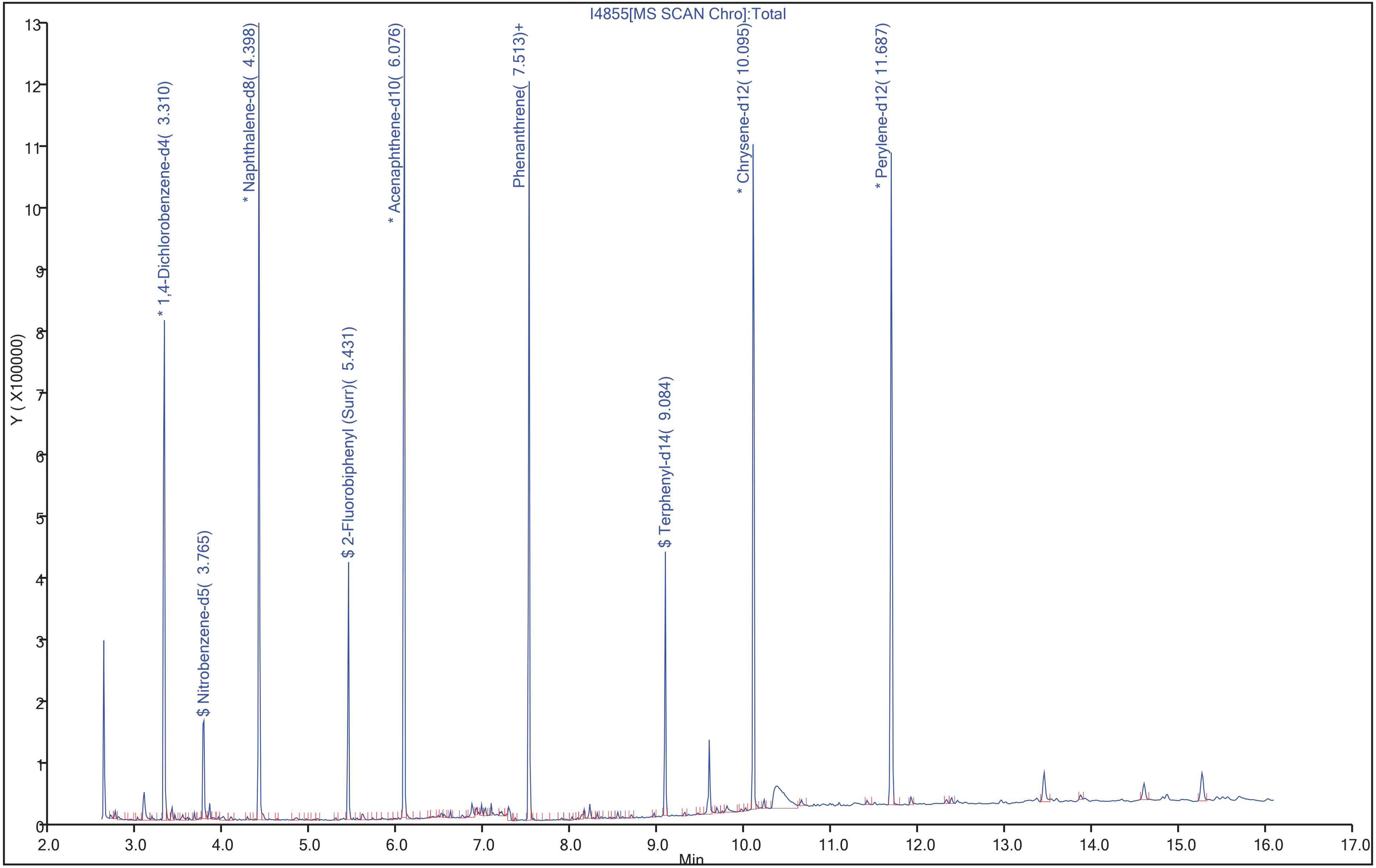
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4855.D				
Injection Date:	21-Oct-2017 17:29:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-12-D	Lab Sample ID:	160-24924-12	Worklist Smp#:	17
Client ID:	SHAD041DP022SS06NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4855.D
Lims ID: 160-24924-E-12-D
Client ID: SHAD041DP022SS06NS
Sample Type: Client
Inject. Date: 21-Oct-2017 17:29:30 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-017
Misc. Info.: 160-24924-e-12-d
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:50:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.20	80.03
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.21	80.97
$ 19 Terphenyl-d14	1.50	1.39	92.60

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS01NS	Lab Sample ID: 160-24924-13
Matrix: Solid	Lab File ID: I4865.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 14:23
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.06(g)	Date Analyzed: 10/21/2017 21:15
Con. Extract Vol.: 1(mL)	Dilution Factor: 10
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 0.5	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	33	U	66	33	29
91-57-6	2-Methylnaphthalene	33	U	66	33	5.3
83-32-9	Acenaphthene	33	U	66	33	11
208-96-8	Acenaphthylene	33	U	66	33	8.0
120-12-7	Anthracene	33	U	66	33	6.4
56-55-3	Benzo[a]anthracene	33	U	66	33	13
50-32-8	Benzo[a]pyrene	33	U	66	33	8.4
205-99-2	Benzo[b]fluoranthene	33	U	66	33	11
191-24-2	Benzo[g,h,i]perylene	31	J D	66	33	11
207-08-9	Benzo[k]fluoranthene	33	U	66	33	11
218-01-9	Chrysene	33	U	66	33	13
53-70-3	Dibenz(a,h)anthracene	33	U	66	33	31
206-44-0	Fluoranthene	33	U	66	33	15
86-73-7	Fluorene	33	U	66	33	11
193-39-5	Indeno[1,2,3-cd]pyrene	33	U	66	33	21
91-20-3	Naphthalene	33	U	66	33	10
85-01-8	Phenanthrene	33	U	66	33	27
129-00-0	Pyrene	33	U	66	33	14

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	79		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	84		44-125
1718-51-0	Terphenyl-d14 (Surr)	83		58-133

FORM I 8270D SIM

Report Date: 22-Oct-2017 15:57:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4865.D
Lims ID: 160-24924-E-13-C
Client ID: SHAD041DP013SS01NS
Sample Type: Client
Inject. Date: 21-Oct-2017 21:15:30 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 10.0000
Sample Info: 160-0011729-027
Misc. Info.: 160-24924-e-13-c
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:56:20

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
*	2 1,4-Dichlorobenzene-d4	152	3.298	3.298	0.000	97	263299	4.00	
$	3 Nitrobenzene-d5	82	3.765	3.765	0.000	4	9545	0.1256	
*	4 Naphthalene-d8	136	4.398	4.398	0.000	1	875970	4.00	
	5 Naphthalene	128		4.420				ND	
	7 2-Methylnaphthalene	142		5.076				ND	
	8 1-Methylnaphthalene	142		5.165				ND	
$	9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	22862	0.1183	
	10 Acenaphthylene	152		5.931				ND	
*	11 Acenaphthene-d10	164	6.076	6.076	0.000	0	475908	4.00	
	12 Acenaphthene	153		6.098				ND	
	13 Fluorene	166		6.609				ND	
*	14 Phenanthrene-d10	188	7.513	7.513	0.000	1	802301	4.00	
	15 Phenanthrene	178		7.535				ND	
	16 Anthracene	178		7.578				ND	
	17 Fluoranthene	202		8.696				ND	
	18 Pyrene	202		8.912				ND	
$	19 Terphenyl-d14	244	9.084	9.084	0.000	1	22006	0.1250	
	20 Benzo[a]anthracene	228		10.084				ND	
*	21 Chrysene-d12	240	10.106	10.095	0.011	1	826908	4.00	
	22 Chrysene	228		10.116				ND	
	23 Benzo[b]fluoranthene	252		11.224				ND	
	24 Benzo[k]fluoranthene	252		11.246				ND	
	25 Benzo[a]pyrene	252		11.611				ND	
*	26 Perylene-d12	264	11.698	11.687	0.011	16	886666	4.00	
	27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
	28 Dibenz(a,h)anthracene	278		13.193				ND	
	29 Benzo[g,h,i]perylene	276	13.591	13.558	0.033	12	27441	0.0925	

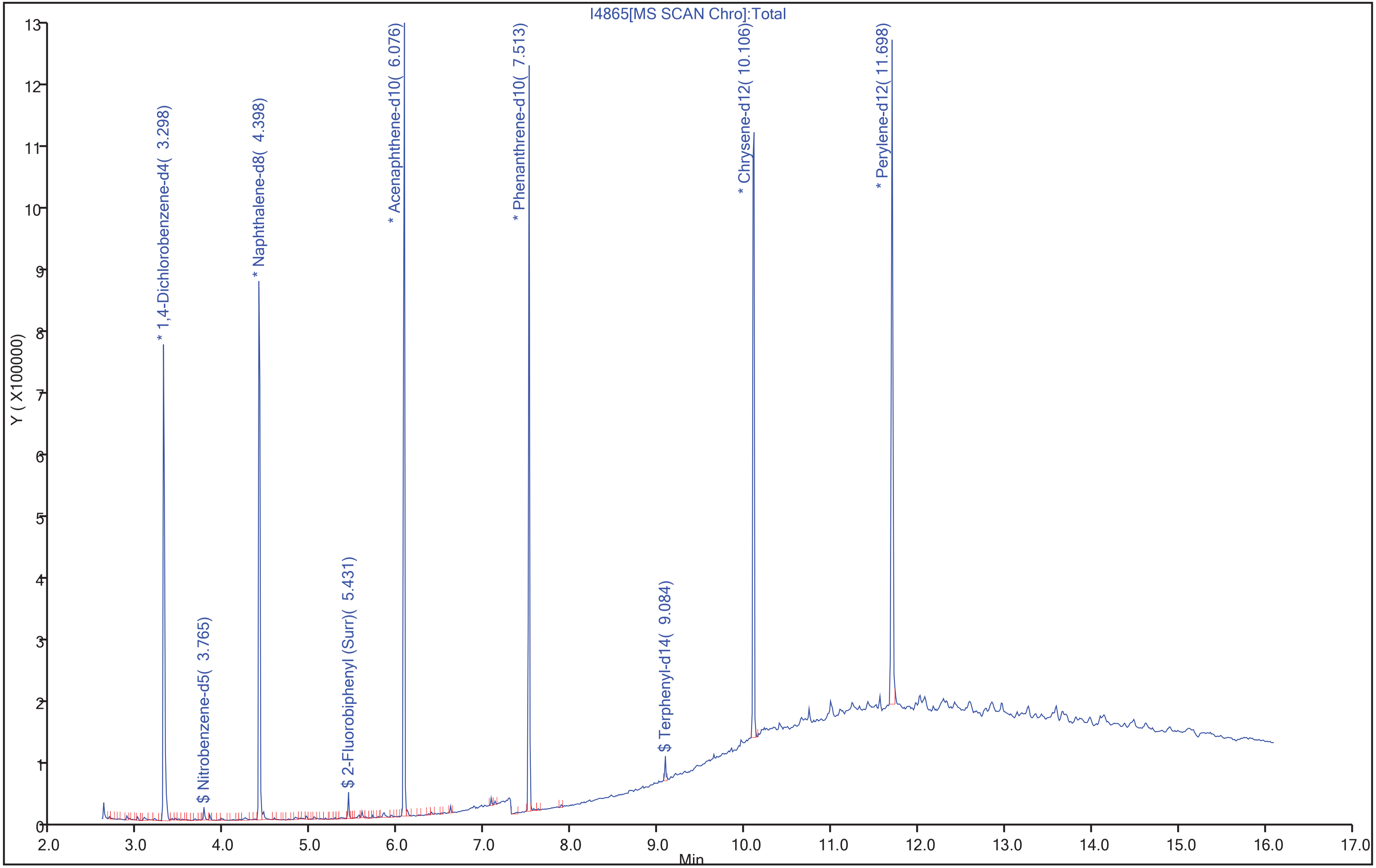
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4865.D				
Injection Date:	21-Oct-2017 21:15:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-13-C	Lab Sample ID:	160-24924-13	Worklist Smp#:	27
Client ID:	SHAD041DP013SS01NS				
Injection Vol:	1.0 ul	Dil. Factor:	10.0000	ALS Bottle#:	27
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4865.D
Lims ID: 160-24924-E-13-C
Client ID: SHAD041DP013SS01NS
Sample Type: Client
Inject. Date: 21-Oct-2017 21:15:30 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 10.0000
Sample Info: 160-0011729-027
Misc. Info.: 160-24924-e-13-c
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:56:20

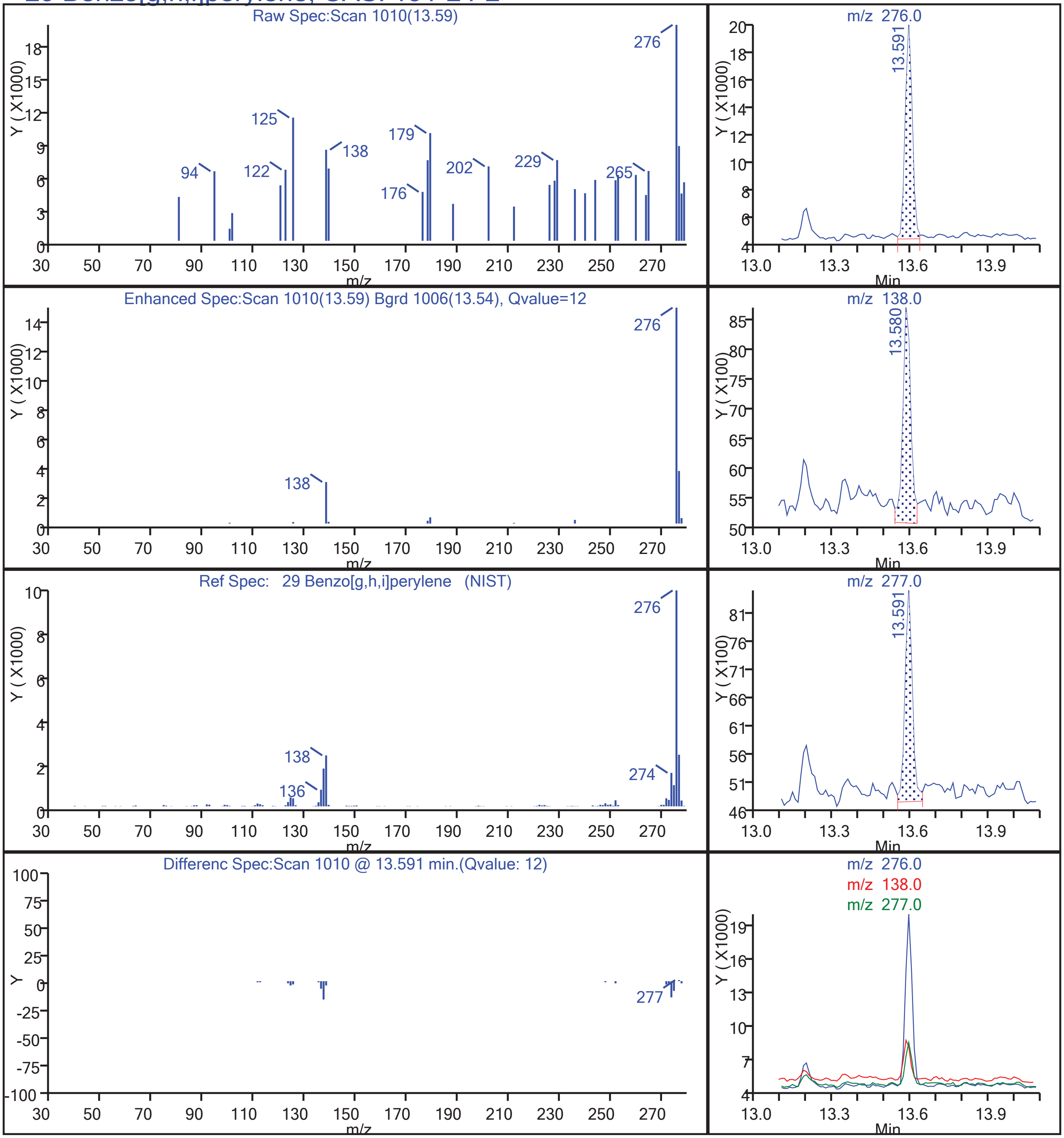
Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	0.1256	83.76
$ 9 2-Fluorobiphenyl (Surr)	1.50	0.1183	78.87
$ 19 Terphenyl-d14	1.50	0.1250	83.34

Report Date: 22-Oct-2017 15:57:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4865.D
Injection Date: 21-Oct-2017 21:15:30
Instrument ID: SMSI
Lims ID: 160-24924-E-13-C
Lab Sample ID: 160-24924-13
Client ID: SHAD041DP013SS01NS
Operator ID: DEK
ALS Bottle#: 27
Worklist Smp#: 27
Injection Vol: 1.0 ul
Dil. Factor: 10.0000
Method: 8270_SIM_SMSI
Limit Group: MSS-8270SIM DoD
Column:
Detector MS SCAN

29 Benzo[g,h,i]perylene, CAS: 191-24-2



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS02NS	Lab Sample ID: 160-24924-14
Matrix: Solid	Lab File ID: I4856.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 14:34
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.29(g)	Date Analyzed: 10/21/2017 17:51
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 5.5	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.5	U	6.9	3.5	3.0
91-57-6	2-Methylnaphthalene	3.5	U	6.9	3.5	0.55
83-32-9	Acenaphthene	3.5	U	6.9	3.5	1.2
208-96-8	Acenaphthylene	3.5	U	6.9	3.5	0.83
120-12-7	Anthracene	3.5	U	6.9	3.5	0.66
56-55-3	Benzo[a]anthracene	3.5	U	6.9	3.5	1.4
50-32-8	Benzo[a]pyrene	3.5	U	6.9	3.5	0.88
205-99-2	Benzo[b]fluoranthene	1.9	J	6.9	3.5	1.1
191-24-2	Benzo[g,h,i]perylene	1.5	J	6.9	3.5	1.2
207-08-9	Benzo[k]fluoranthene	3.5	U	6.9	3.5	1.2
218-01-9	Chrysene	3.5	U	6.9	3.5	1.4
53-70-3	Dibenz(a,h)anthracene	3.5	U	6.9	3.5	3.3
206-44-0	Fluoranthene	3.5	U	6.9	3.5	1.6
86-73-7	Fluorene	3.5	U	6.9	3.5	1.1
193-39-5	Indeno[1,2,3-cd]pyrene	3.5	U	6.9	3.5	2.2
91-20-3	Naphthalene	3.5	U	6.9	3.5	1.1
85-01-8	Phenanthrene	3.5	U	6.9	3.5	2.8
129-00-0	Pyrene	3.5	U	6.9	3.5	1.5

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	79		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	76		44-125
1718-51-0	Terphenyl-d14 (Surr)	91		58-133

Report Date: 22-Oct-2017 15:57:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4856.D
Lims ID: 160-24924-F-14-B
Client ID: SHAD041DP013SS02NS
Sample Type: Client
Inject. Date: 21-Oct-2017 17:51:30 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-018
Misc. Info.: 160-24924-F-14-B
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:51:37

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	90	255243	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	8	88595	1.14	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	892307	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142	5.076	5.076	0.000	33	2240	0.0138	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	225426	1.19	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	468358	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	792199	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	14040	0.0557	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202	8.697	8.696	0.001	12	8350	0.0303	
18 Pyrene	202	8.912	8.912	0.000	12	5949	0.0221	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	223786	1.36	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.106	10.095	0.011	1	773573	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252	11.224	11.224	0.000	1	14323	0.0536	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.698	11.687	0.011	16	778789	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276	13.580	13.558	0.022	12	11446	0.0439	

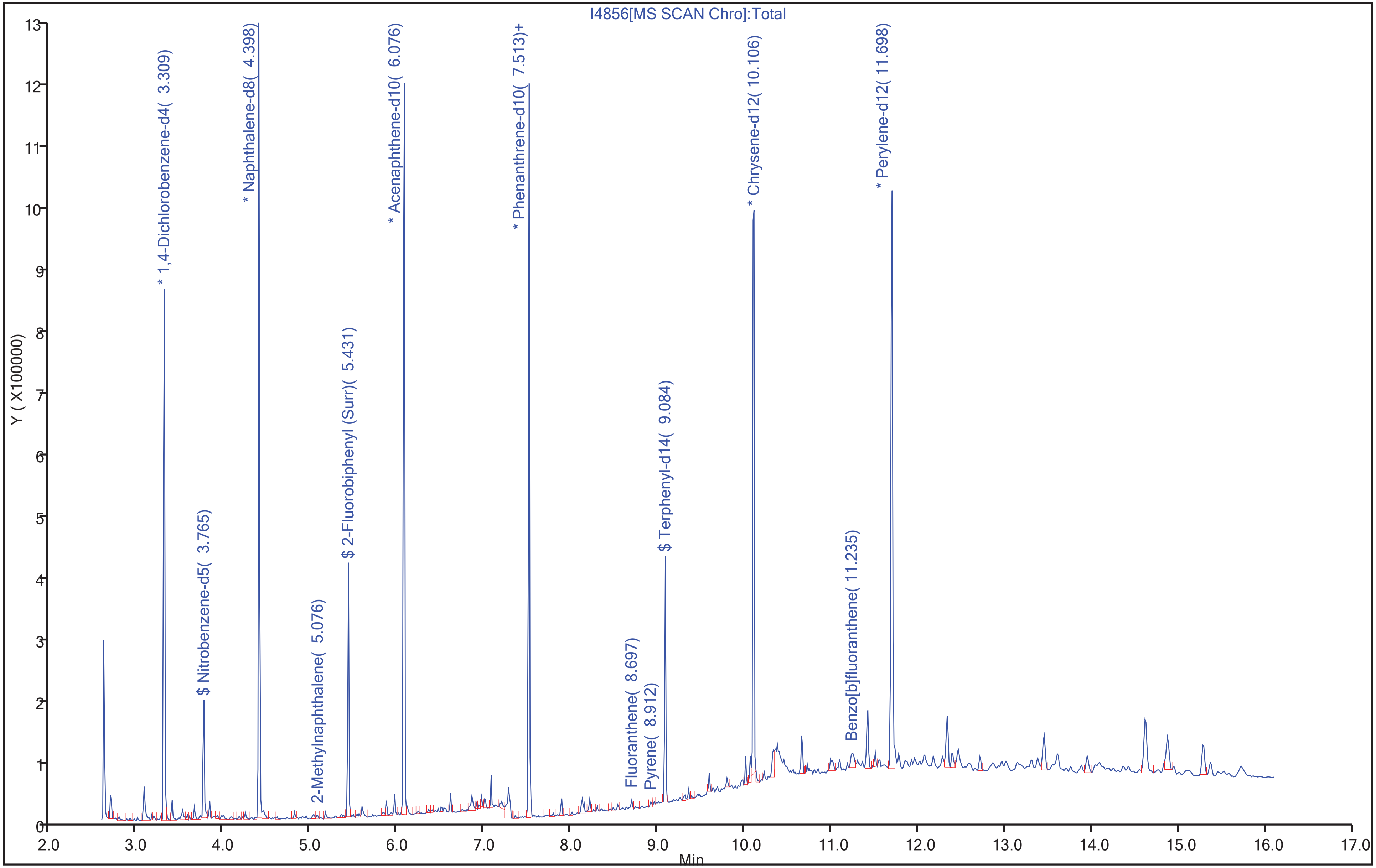
Reagents:

80 ppm I Std_00084 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:57:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4856.D				
Injection Date:	21-Oct-2017 17:51:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-F-14-B	Lab Sample ID:	160-24924-14	Worklist Smp#:	18
Client ID:	SHAD041DP013SS02NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4856.D				
Lims ID:	160-24924-F-14-B				
Client ID:	SHAD041DP013SS02NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 17:51:30	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-018				
Misc. Info.:	160-24924-F-14-B				
Operator ID:	DEK	Instrument ID:	SMSI		

Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m		
Limit Group:	MSS-8270SIM DoD		
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30
Integrator:	RTE	ID Type:	RT Order ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK053

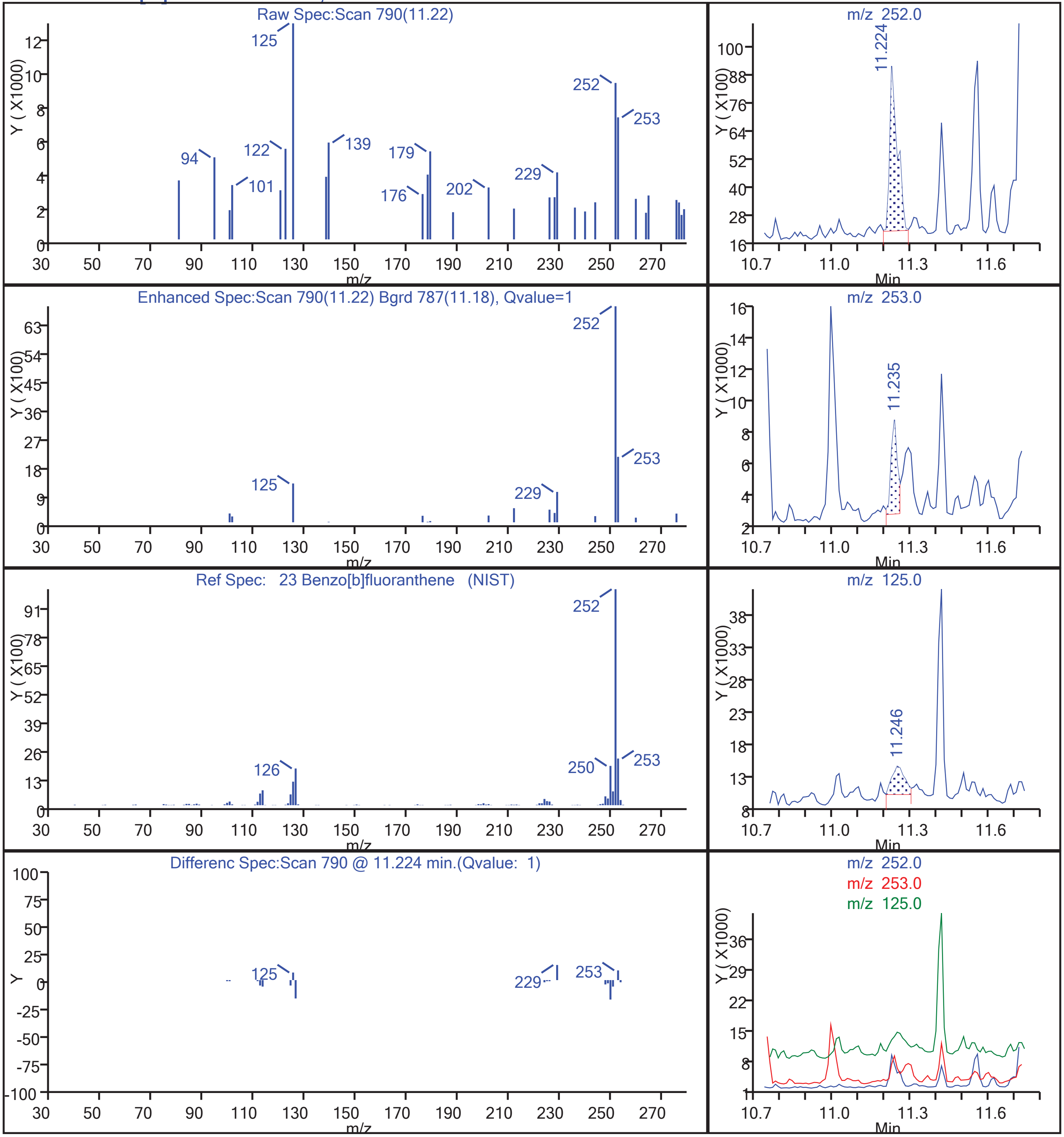
First Level Reviewer: konopkad Date: 22-Oct-2017 15:51:37

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.14	76.32
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.19	79.03
$ 19 Terphenyl-d14	1.50	1.36	90.59

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4856.D				
Injection Date:	21-Oct-2017 17:51:30	Instrument ID:	SMSI		
Lims ID:	160-24924-F-14-B	Lab Sample ID:	160-24924-14		
Client ID:	SHAD041DP013SS02NS				
Operator ID:	DEK	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

23 Benzo[b]fluoranthene, CAS: 205-99-2



Report Date: 22-Oct-2017 15:57:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4856.D

Injection Date: 21-Oct-2017 17:51:30 Instrument ID: SMSI

Lims ID: 160-24924-F-14-B Lab Sample ID: 160-24924-14

Client ID: SHAD041DP013SS02NS

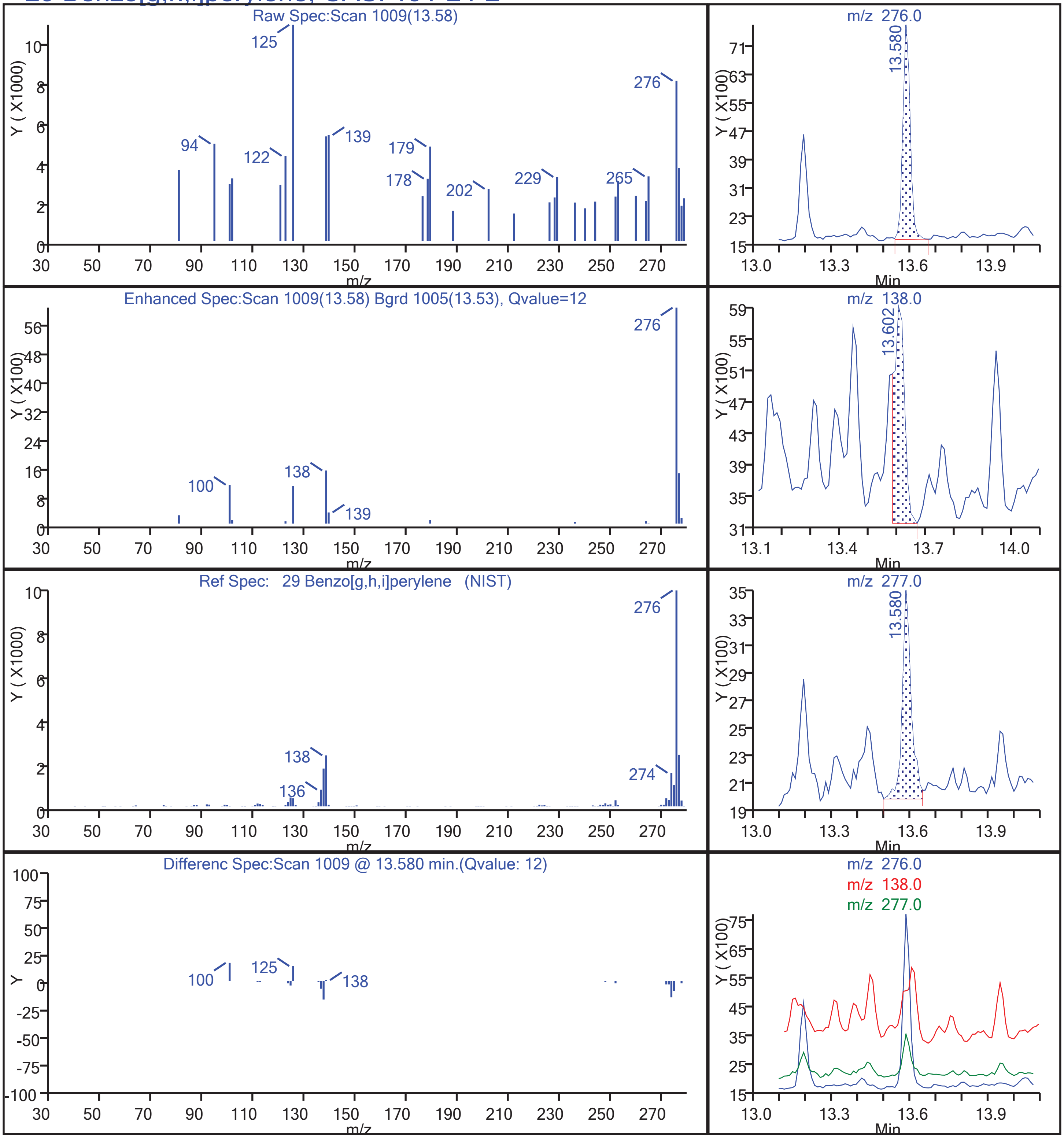
Operator ID: DEK ALS Bottle#: 18 Worklist Smp#: 18

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8270_SIM_SMSI Limit Group: MSS-8270SIM DoD

Column: Detector MS SCAN

29 Benzo[g,h,i]perylene, CAS: 191-24-2



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS03NS	Lab Sample ID: 160-24924-15
Matrix: Solid	Lab File ID: I4857.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 14:44
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.11(g)	Date Analyzed: 10/21/2017 18:14
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 13.4	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.8	U	7.6	3.8	3.3
91-57-6	2-Methylnaphthalene	3.8	U	7.6	3.8	0.60
83-32-9	Acenaphthene	3.8	U	7.6	3.8	1.3
208-96-8	Acenaphthylene	3.8	U	7.6	3.8	0.91
120-12-7	Anthracene	3.8	U	7.6	3.8	0.73
56-55-3	Benzo[a]anthracene	3.8	U	7.6	3.8	1.5
50-32-8	Benzo[a]pyrene	3.8	U	7.6	3.8	0.96
205-99-2	Benzo[b]fluoranthene	3.8	U	7.6	3.8	1.2
191-24-2	Benzo[g,h,i]perylene	3.8	U	7.6	3.8	1.3
207-08-9	Benzo[k]fluoranthene	3.8	U	7.6	3.8	1.3
218-01-9	Chrysene	3.8	U	7.6	3.8	1.5
53-70-3	Dibenz(a,h)anthracene	3.8	U	7.6	3.8	3.6
206-44-0	Fluoranthene	3.8	U	7.6	3.8	1.7
86-73-7	Fluorene	3.8	U	7.6	3.8	1.2
193-39-5	Indeno[1,2,3-cd]pyrene	3.8	U	7.6	3.8	2.4
91-20-3	Naphthalene	3.8	U	7.6	3.8	1.2
85-01-8	Phenanthrene	3.8	U	7.6	3.8	3.1
129-00-0	Pyrene	3.8	U	7.6	3.8	1.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	84		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	84		44-125
1718-51-0	Terphenyl-d14 (Surr)	93		58-133

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4857.D				
Lims ID:	160-24924-E-15-D				
Client ID:	SHAD041DP013SS03NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 18:14:30	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-019				
Misc. Info.:	160-24924-E-15-D				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:52:10

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	90	271384	4.00	
$ 3 Nitrobenzene-d5	82	3.754	3.765	-0.011	20	102911	1.26	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	940973	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142	5.076	5.076	0.000	33	1820	0.0106	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	258923	1.26	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	505024	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	844219	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	13746	0.0512	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	255329	1.40	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.106	10.095	0.011	1	856783	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	911769	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276		13.558				ND	

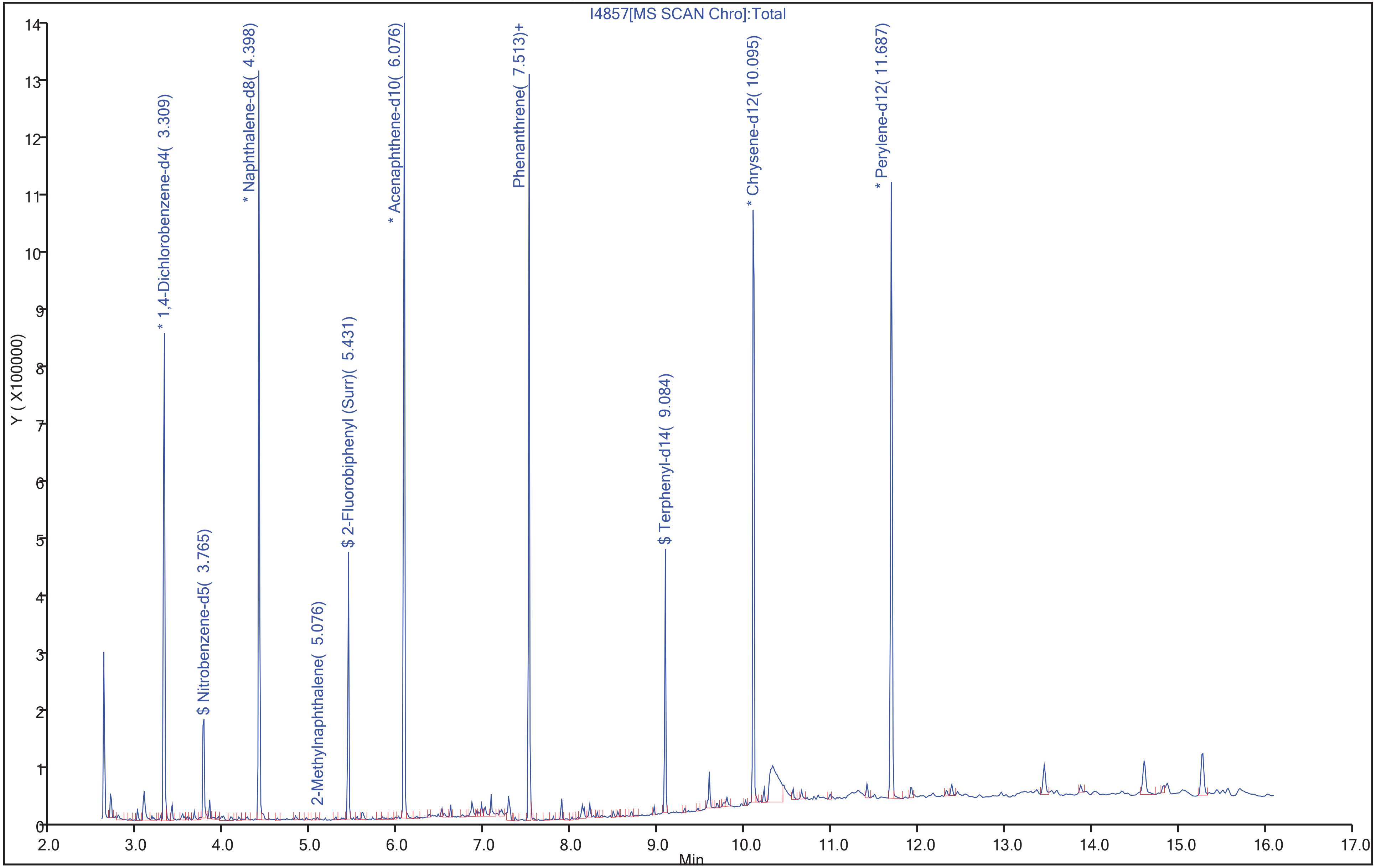
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4857.D				
Injection Date:	21-Oct-2017 18:14:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-15-D	Lab Sample ID:	160-24924-15	Worklist Smp#:	19
Client ID:	SHAD041DP013SS03NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4857.D
Lims ID: 160-24924-E-15-D
Client ID: SHAD041DP013SS03NS
Sample Type: Client
Inject. Date: 21-Oct-2017 18:14:30 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-019
Misc. Info.: 160-24924-E-15-D
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:52:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.26	84.07
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.26	84.18
$ 19 Terphenyl-d14	1.50	1.40	93.32

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP013SS04NS
Lab Sample ID: 160-24924-16

Matrix: Solid
Lab File ID: I4913.D

Analysis Method: 8270D SIM
Date Collected: 10/05/2017 15:06

Extract. Method: 3550C
Date Extracted: 10/19/2017 11:07

Sample wt/vol: 30.05(g)
Date Analyzed: 10/23/2017 18:10

Con. Extract Vol.: 1(mL)
Dilution Factor: 1

Injection Volume: 1(uL)
Level: (low/med) Low

% Moisture: 15.2
GPC Cleanup:(Y/N) N

Analysis Batch No.: 333184
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.9	U Q	7.8	3.9	3.4
91-57-6	2-Methylnaphthalene	3.9	U Q	7.8	3.9	0.62
83-32-9	Acenaphthene	3.9	U Q	7.8	3.9	1.3
208-96-8	Acenaphthylene	3.9	U Q	7.8	3.9	0.94
120-12-7	Anthracene	3.9	U Q	7.8	3.9	0.75
56-55-3	Benzo[a]anthracene	3.9	U Q	7.8	3.9	1.6
50-32-8	Benzo[a]pyrene	3.9	U Q	7.8	3.9	0.98
205-99-2	Benzo[b]fluoranthene	3.9	U Q	7.8	3.9	1.2
191-24-2	Benzo[g,h,i]perylene	3.9	U Q	7.8	3.9	1.3
207-08-9	Benzo[k]fluoranthene	3.9	U Q	7.8	3.9	1.3
218-01-9	Chrysene	3.9	U Q	7.8	3.9	1.6
53-70-3	Dibenz(a,h)anthracene	3.9	U Q	7.8	3.9	3.7
206-44-0	Fluoranthene	3.9	U Q	7.8	3.9	1.8
86-73-7	Fluorene	3.9	U Q	7.8	3.9	1.3
193-39-5	Indeno[1,2,3-cd]pyrene	3.9	U Q	7.8	3.9	2.5
91-20-3	Naphthalene	3.9	U Q	7.8	3.9	1.2
85-01-8	Phenanthrene	3.9	U Q	7.8	3.9	3.2
129-00-0	Pyrene	3.9	U Q	7.8	3.9	1.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	79	Q	46-115
4165-60-0	Nitrobenzene-d5 (Surr)	110	Q	44-125
1718-51-0	Terphenyl-d14 (Surr)	93	Q	58-133

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4913.D				
Lims ID:	160-24924-F-16-B				
Client ID:	SHAD041DP013SS04NS				
Sample Type:	Client				
Inject. Date:	23-Oct-2017 18:10:30	ALS Bottle#:	23	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011739-024				
Misc. Info.:	160-24924-F-16-B				
Operator ID:	DEK/JFL	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	24-Oct-2017 08:44:10	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK037				

First Level Reviewer: konopkad Date: 24-Oct-2017 08:41:25

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.254	3.254	0.000	96	1976	4.00	s
$ 3 Nitrobenzene-d5	82	3.709	3.720	-0.011	15	856	1.64	
* 4 Naphthalene-d8	136	4.354	4.354	0.000	1	6000	4.00	s
5 Naphthalene	128		4.376				ND	
7 2-Methylnaphthalene	142		5.020				ND	
8 1-Methylnaphthalene	142		5.120				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.387	5.387	0.000	1	1510	1.19	
10 Acenaphthylene	152		5.887				ND	
* 11 Acenaphthene-d10	164	6.020	6.020	0.000	2	3124	4.00	s
12 Acenaphthene	153		6.054				ND	
13 Fluorene	166		6.553				ND	
* 14 Phenanthrene-d10	188	7.460	7.460	0.000	1	5101	4.00	s
15 Phenanthrene	178		7.481				ND	
16 Anthracene	178		7.535				ND	
17 Fluoranthene	202		8.643				ND	
18 Pyrene	202		8.858				ND	
$ 19 Terphenyl-d14	244	9.030	9.030	0.000	1	1517	1.40	
20 Benzo[a]anthracene	228		10.030				ND	
* 21 Chrysene-d12	240	10.041	10.041	0.000	1	5097	4.00	s
22 Chrysene	228		10.063				ND	
23 Benzo[b]fluoranthene	252		11.149				ND	
24 Benzo[k]fluoranthene	252		11.181				ND	
25 Benzo[a]pyrene	252		11.536				ND	
* 26 Perylene-d12	264	11.612	11.612	0.000	16	5060	4.00	s
27 Indeno[1,2,3-cd]pyrene	276		13.064				ND	
28 Dibenz(a,h)anthracene	278		13.085				ND	
29 Benzo[g,h,i]perylene	276		13.451				ND	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

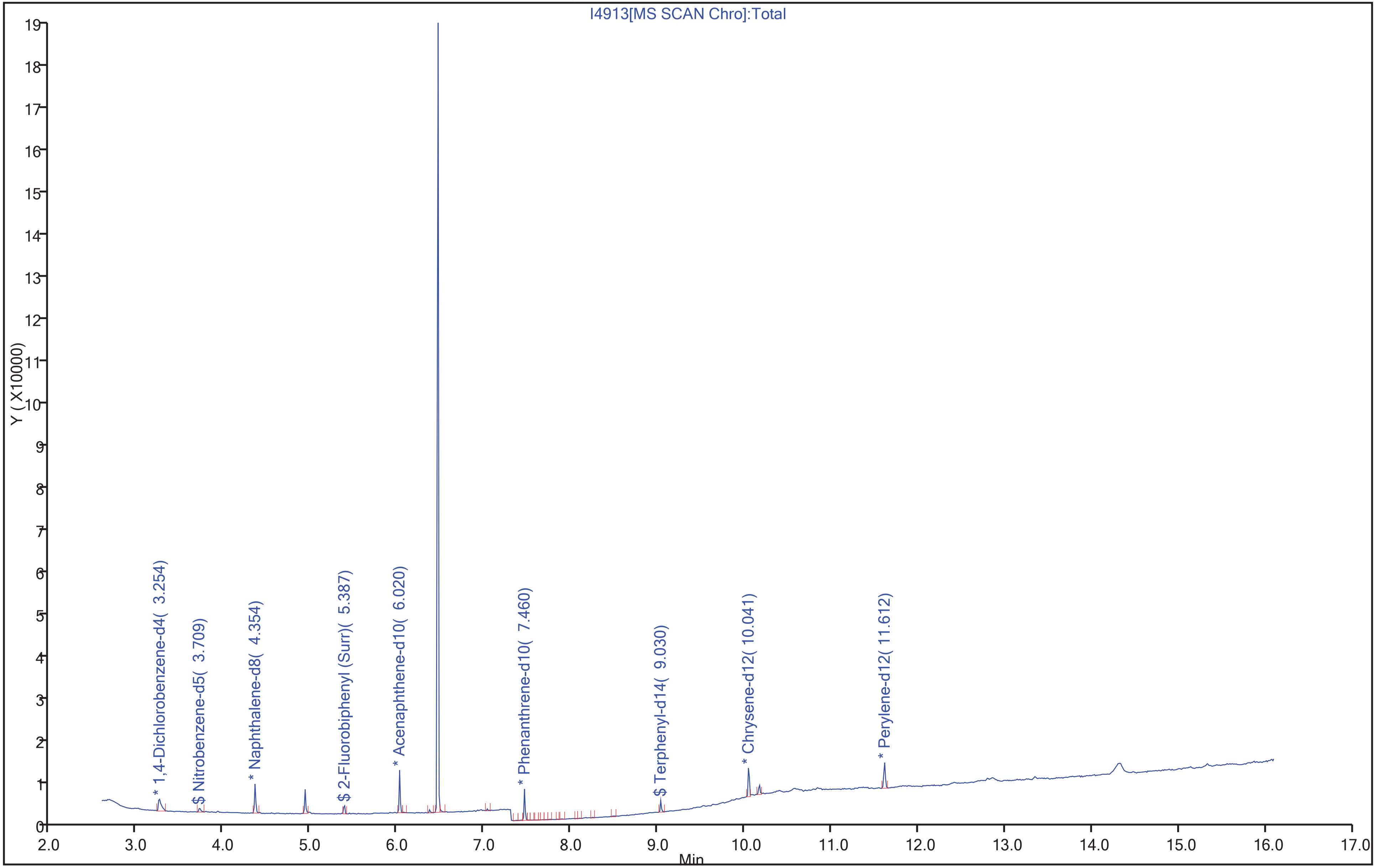
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Oct-2017 08:44:35 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4913.D				
Injection Date:	23-Oct-2017 18:10:30	Instrument ID:	SMSI	Operator ID:	DEK/JFL
Lims ID:	160-24924-F-16-B	Lab Sample ID:	160-24924-16	Worklist Smp#:	24
Client ID:	SHAD041DP013SS04NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4913.D
Lims ID: 160-24924-F-16-B
Client ID: SHAD041DP013SS04NS
Sample Type: Client
Inject. Date: 23-Oct-2017 18:10:30 ALS Bottle#: 23 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011739-024
Misc. Info.: 160-24924-F-16-B
Operator ID: DEK/JFL Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 24-Oct-2017 08:44:10 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK037

First Level Reviewer: konopkad Date: 24-Oct-2017 08:41:25

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.64	109.67
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.19	79.36
$ 19 Terphenyl-d14	1.50	1.40	93.20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS05NS	Lab Sample ID: 160-24924-17
Matrix: Solid	Lab File ID: I4859.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 15:10
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.12(g)	Date Analyzed: 10/21/2017 19:00
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 24.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	4.4	U	8.6	4.4	3.8
91-57-6	2-Methylnaphthalene	4.4	U	8.6	4.4	0.69
83-32-9	Acenaphthene	4.4	U	8.6	4.4	1.5
208-96-8	Acenaphthylene	4.4	U	8.6	4.4	1.0
120-12-7	Anthracene	4.4	U	8.6	4.4	0.83
56-55-3	Benzo[a]anthracene	4.4	U	8.6	4.4	1.8
50-32-8	Benzo[a]pyrene	4.4	U	8.6	4.4	1.1
205-99-2	Benzo[b]fluoranthene	4.4	U	8.6	4.4	1.4
191-24-2	Benzo[g,h,i]perylene	4.4	U	8.6	4.4	1.5
207-08-9	Benzo[k]fluoranthene	4.4	U	8.6	4.4	1.5
218-01-9	Chrysene	4.4	U	8.6	4.4	1.7
53-70-3	Dibenz(a,h)anthracene	4.4	U	8.6	4.4	4.1
206-44-0	Fluoranthene	4.4	U	8.6	4.4	2.0
86-73-7	Fluorene	4.4	U	8.6	4.4	1.4
193-39-5	Indeno[1,2,3-cd]pyrene	4.4	U	8.6	4.4	2.8
91-20-3	Naphthalene	4.4	U	8.6	4.4	1.3
85-01-8	Phenanthrene	4.4	U	8.6	4.4	3.5
129-00-0	Pyrene	4.4	U	8.6	4.4	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	77		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	78		44-125
1718-51-0	Terphenyl-d14 (Surr)	94		58-133

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4859.D				
Lims ID:	160-24924-F-17-B				
Client ID:	SHAD041DP013SS05NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 19:00:30	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-021				
Misc. Info.:	160-24924-F-17-B				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK053				
First Level Reviewer: konopkad		Date:	22-Oct-2017 15:52:44		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.310	3.298	0.012	89	269846	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	8	95345	1.17	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	936548	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	233279	1.15	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	497800	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	828506	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	12348	0.0469	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	246259	1.41	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	818243	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	866823	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276		13.558				ND	

Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:14 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4859.D

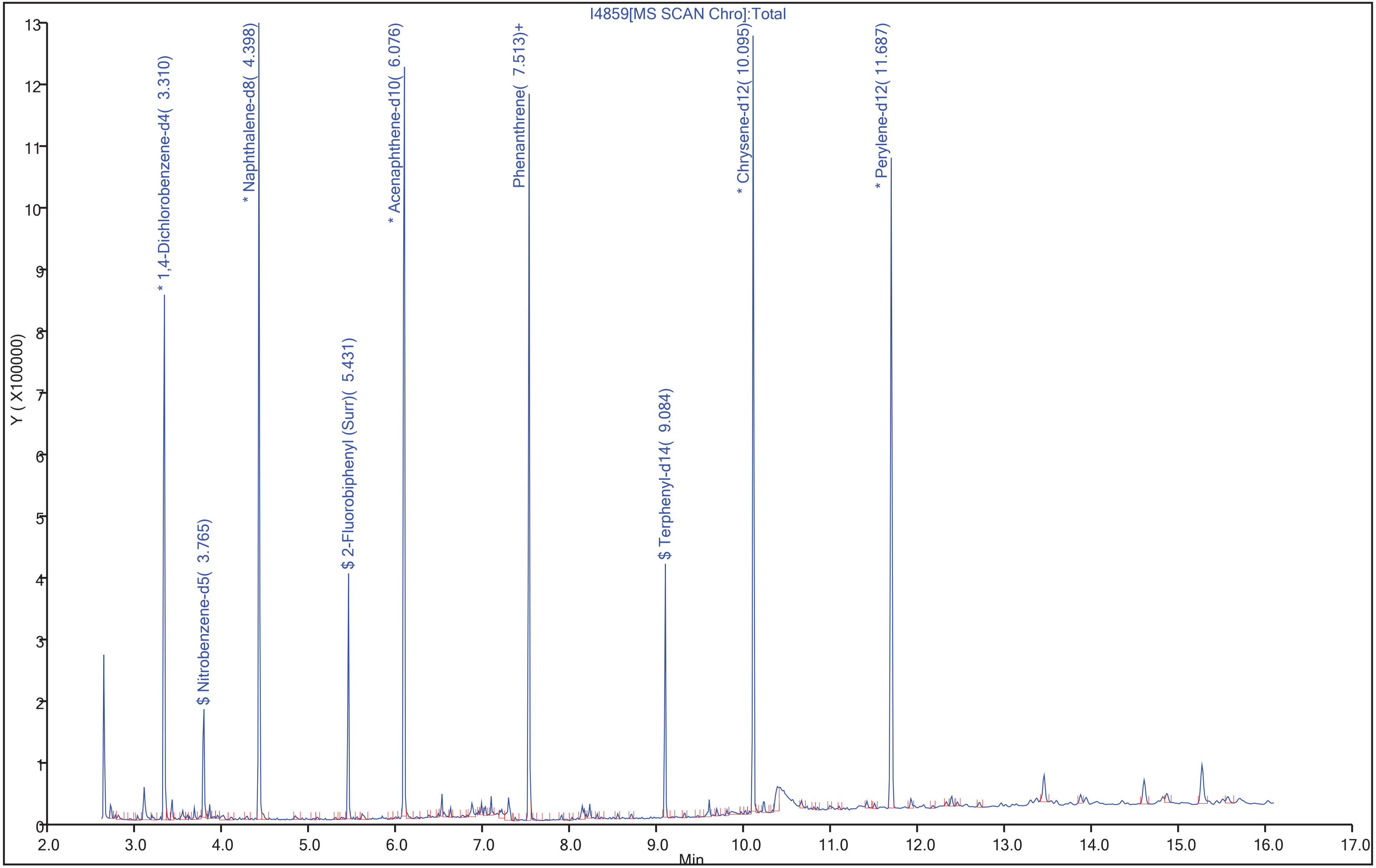
Injection Date: 21-Oct-2017 19:00:30
Instrument ID: SMSI
Operator ID: DEK

Lims ID: 160-24924-F-17-B
Lab Sample ID: 160-24924-17
Worklist Smp#: 21

Client ID: SHAD041DP013SS05NS

Injection Vol: 1.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 21

Method: 8270_SIM_SMSI
Limit Group: MSS-8270SIM DoD



Report Date: 22-Oct-2017 15:57:14 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4859.D				
Lims ID:	160-24924-F-17-B				
Client ID:	SHAD041DP013SS05NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 19:00:30	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-021				
Misc. Info.:	160-24924-F-17-B				
Operator ID:	DEK	Instrument ID:	SMSI		

Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m		
Limit Group:	MSS-8270SIM DoD		
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30
Integrator:	RTE	ID Type:	RT Order ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:52:44

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.17	78.26
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.15	76.94
$ 19 Terphenyl-d14	1.50	1.41	94.25

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP013SS05DS

Lab Sample ID: 160-24924-18

Matrix: Solid

Lab File ID: I4860.D

Analysis Method: 8270D SIM

Date Collected: 10/05/2017 15:15

Extract. Method: 3550C

Date Extracted: 10/19/2017 11:07

Sample wt/vol: 30.30(g)

Date Analyzed: 10/21/2017 19:22

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 19.8

GPC Cleanup:(Y/N) N

Analysis Batch No.: 333047

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	4.1	U	8.1	4.1	3.5
91-57-6	2-Methylnaphthalene	4.1	U	8.1	4.1	0.65
83-32-9	Acenaphthene	4.1	U	8.1	4.1	1.4
208-96-8	Acenaphthylene	4.1	U	8.1	4.1	0.98
120-12-7	Anthracene	4.1	U	8.1	4.1	0.78
56-55-3	Benzo[a]anthracene	4.1	U	8.1	4.1	1.7
50-32-8	Benzo[a]pyrene	4.1	U	8.1	4.1	1.0
205-99-2	Benzo[b]fluoranthene	4.1	U	8.1	4.1	1.3
191-24-2	Benzo[g,h,i]perylene	4.1	U	8.1	4.1	1.4
207-08-9	Benzo[k]fluoranthene	4.1	U	8.1	4.1	1.4
218-01-9	Chrysene	4.1	U	8.1	4.1	1.6
53-70-3	Dibenz(a,h)anthracene	4.1	U	8.1	4.1	3.9
206-44-0	Fluoranthene	4.1	U	8.1	4.1	1.9
86-73-7	Fluorene	4.1	U	8.1	4.1	1.3
193-39-5	Indeno[1,2,3-cd]pyrene	4.1	U	8.1	4.1	2.6
91-20-3	Naphthalene	4.1	U	8.1	4.1	1.2
85-01-8	Phenanthrene	4.1	U	8.1	4.1	3.3
129-00-0	Pyrene	4.1	U	8.1	4.1	1.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	80		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	82		44-125
1718-51-0	Terphenyl-d14 (Surr)	95		58-133

Report Date: 22-Oct-2017 15:57:15 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4860.D
Lims ID: 160-24924-E-18-C
Client ID: SHAD041DP013SS05DS
Sample Type: Client
Inject. Date: 21-Oct-2017 19:22:30 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-022
Misc. Info.: 160-24924-E-18-C
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:53:05

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	90	273834	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	8	100663	1.24	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	938080	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	245183	1.20	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	501524	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	840895	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	12349	0.0462	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	252464	1.43	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	830535	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	877349	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276		13.558				ND	

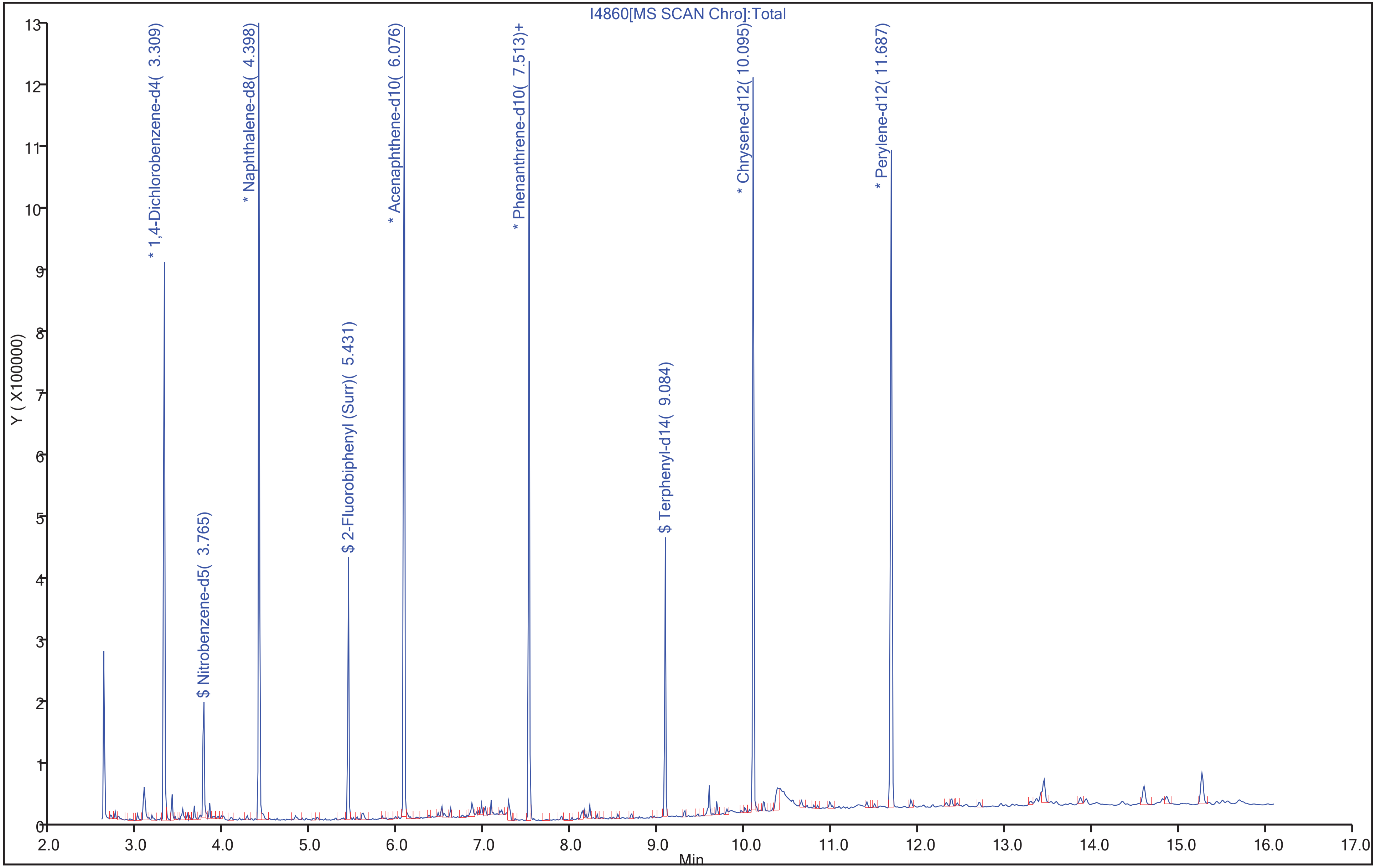
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:15 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4860.D				
Injection Date:	21-Oct-2017 19:22:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-18-C	Lab Sample ID:	160-24924-18	Worklist Smp#:	22
Client ID:	SHAD041DP013SS05DS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4860.D				
Lims ID:	160-24924-E-18-C				
Client ID:	SHAD041DP013SS05DS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 19:22:30	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-022				
Misc. Info.:	160-24924-E-18-C				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK053				
First Level Reviewer: konopkad		Date:	22-Oct-2017 15:53:05		

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.24	82.49
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.20	80.27
$ 19 Terphenyl-d14	1.50	1.43	95.19

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS06NS	Lab Sample ID: 160-24924-19
Matrix: Solid	Lab File ID: I4861.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 15:18
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.35(g)	Date Analyzed: 10/21/2017 19:45
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 16.2	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.9	U	7.8	3.9	3.4
91-57-6	2-Methylnaphthalene	3.9	U	7.8	3.9	0.62
83-32-9	Acenaphthene	3.9	U	7.8	3.9	1.3
208-96-8	Acenaphthylene	3.9	U	7.8	3.9	0.94
120-12-7	Anthracene	3.9	U	7.8	3.9	0.75
56-55-3	Benzo[a]anthracene	3.9	U	7.8	3.9	1.6
50-32-8	Benzo[a]pyrene	3.9	U	7.8	3.9	0.99
205-99-2	Benzo[b]fluoranthene	3.9	U	7.8	3.9	1.2
191-24-2	Benzo[g,h,i]perylene	3.9	U	7.8	3.9	1.3
207-08-9	Benzo[k]fluoranthene	3.9	U	7.8	3.9	1.3
218-01-9	Chrysene	3.9	U	7.8	3.9	1.6
53-70-3	Dibenz(a,h)anthracene	3.9	U	7.8	3.9	3.7
206-44-0	Fluoranthene	3.9	U	7.8	3.9	1.8
86-73-7	Fluorene	3.9	U	7.8	3.9	1.3
193-39-5	Indeno[1,2,3-cd]pyrene	3.9	U	7.8	3.9	2.5
91-20-3	Naphthalene	3.9	U	7.8	3.9	1.2
85-01-8	Phenanthrene	3.9	U	7.8	3.9	3.2
129-00-0	Pyrene	3.9	U	7.8	3.9	1.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	86		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	85		44-125
1718-51-0	Terphenyl-d14 (Surr)	105		58-133

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4861.D
Lims ID: 160-24924-E-19-C
Client ID: SHAD041DP013SS06NS
Sample Type: Client
Inject. Date: 21-Oct-2017 19:45:30 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-023
Misc. Info.: 160-24924-e-19-c
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:53:33

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	90	279589	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	7	106693	1.27	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	966370	4.00	
5 Naphthalene	128		4.420				ND	
7 2-Methylnaphthalene	142		5.076				ND	
8 1-Methylnaphthalene	142		5.165				ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	265783	1.29	
10 Acenaphthylene	152		5.931				ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	507552	4.00	
12 Acenaphthene	153		6.098				ND	
13 Fluorene	166		6.609				ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	869916	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	9541	0.0345	
16 Anthracene	178		7.578				ND	
17 Fluoranthene	202		8.696				ND	
18 Pyrene	202		8.912				ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	286763	1.57	
20 Benzo[a]anthracene	228		10.084				ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	858225	4.00	
22 Chrysene	228		10.116				ND	
23 Benzo[b]fluoranthene	252		11.224				ND	
24 Benzo[k]fluoranthene	252		11.246				ND	
25 Benzo[a]pyrene	252		11.611				ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	923786	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160				ND	
28 Dibenz(a,h)anthracene	278		13.193				ND	
29 Benzo[g,h,i]perylene	276		13.558				ND	

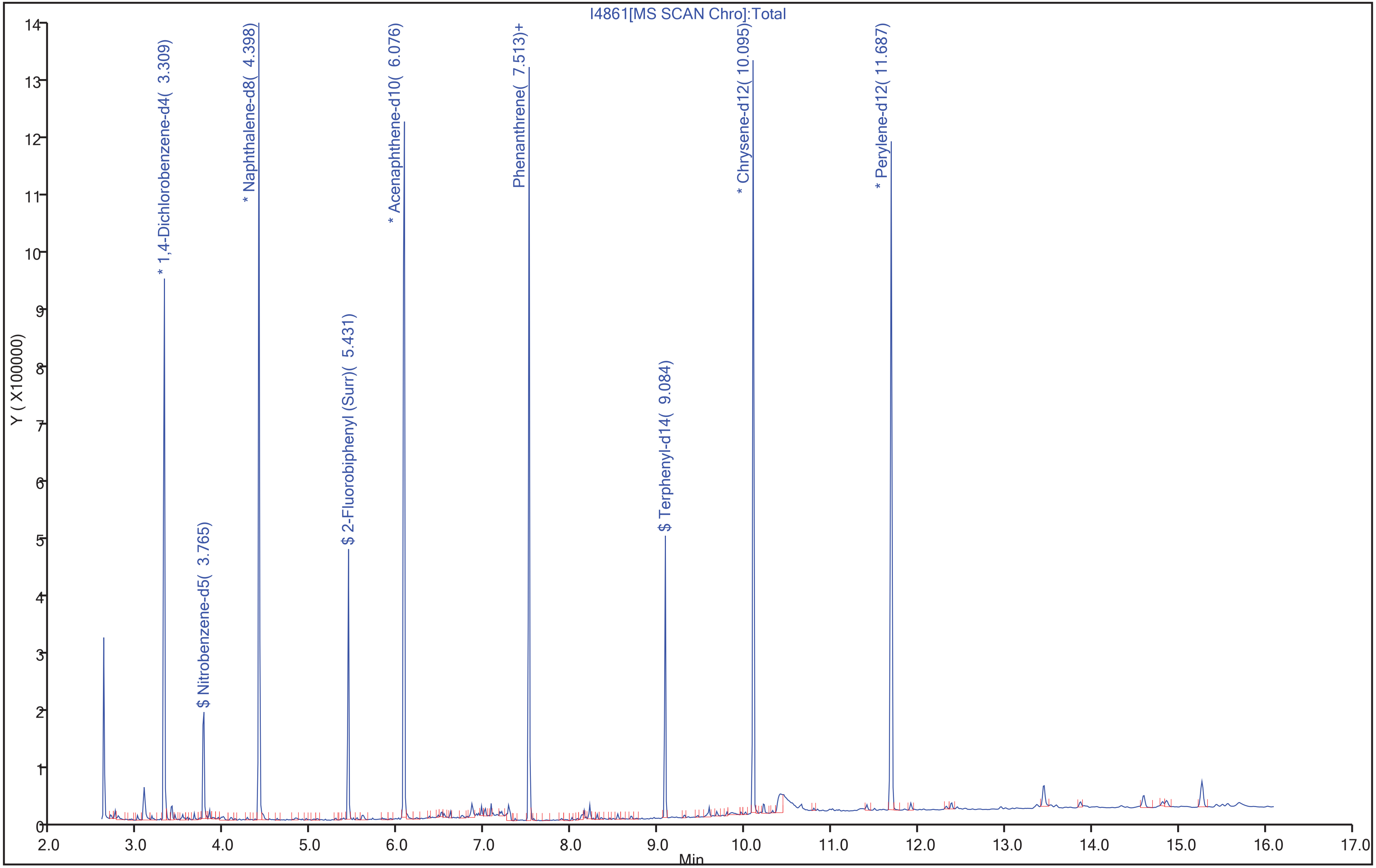
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:17 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4861.D				
Injection Date:	21-Oct-2017 19:45:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-19-C	Lab Sample ID:	160-24924-19	Worklist Smp#:	23
Client ID:	SHAD041DP013SS06NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4861.D				
Lims ID:	160-24924-E-19-C				
Client ID:	SHAD041DP013SS06NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 19:45:30	ALS Bottle#:	23	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-023				
Misc. Info.:	160-24924-e-19-c				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:53:33

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.27	84.87
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.29	85.98
$ 19 Terphenyl-d14	1.50	1.57	104.64

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 332657

SDG No.:

Instrument ID: SMSI GC Column: RXI5SiiMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/19/2017 11:16 Calibration End Date: 10/19/2017 13:32 Calibration ID: 13666

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-332657/9	I4732.D
Level 2	IC 160-332657/8	I4731.D
Level 3	IC 160-332657/7	I4730.D
Level 4	ICIS 160-332657/6	I4729.D
Level 5	IC 160-332657/5	I4728.D
Level 6	IC 160-332657/4	I4727.D
Level 7	IC 160-332657/3	I4726.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Naphthalene	1.1132 1.0745	1.0959 0.9939	1.1516	1.1256	1.1488	Ave		1.1005				4.9		15.0			
2-Methylnaphthalene	0.7492 0.7316	0.6916 0.6841	0.7911	0.7830	0.6779	Ave		0.7298				6.4		15.0			
1-Methylnaphthalene	0.7034 0.6577	0.6108 0.6190	0.7372	0.6881	0.5988	Ave		0.6593				8.0		15.0			
Acenaphthylene	2.2209 2.0643	2.1266 1.9511	2.2114	2.1748	2.1558	Ave		2.1293				4.5		15.0			
Acenaphthene	1.5211 1.3026	1.2419 1.4272	1.4461	1.3455	1.3599	Ave		1.3778				6.8		15.0			
Fluorene	1.7614 1.4544	1.5387 1.3678	1.6121	1.6036	1.6478	Ave		1.5694				8.3		15.0			
Phenanthrene	1.2911 1.2673	1.2945 1.0640	1.3277	1.3614	1.2980	Ave		1.2720				7.6		15.0			
Anthracene	1.2885 1.3121	1.2491 1.1195	1.3463	1.3824	1.3384	Ave		1.2909				6.7		15.0			
Fluoranthene	1.5203 1.3902	1.2510 1.3367	1.4293	1.5140	1.3020	Ave		1.3919				7.4		15.0			
Pyrene	1.4298 1.4104	1.4237 1.2269	1.3426	1.4261	1.4703	Ave		1.3900				5.9		15.0			
Benzo[a]anthracene	1.4528 1.2324	1.3575 1.2560	1.3909	1.3946	1.4054	Ave		1.3557				6.0		15.0			
Chrysene	1.3394 1.3499	1.2750 1.0558	1.3485	1.3721	1.2848	Ave		1.2894				8.5		15.0			
Benzo[b]fluoranthene	1.3658 1.4920	1.4039 1.1392	1.3255	1.4163	1.4678	Ave		1.3729				8.6		15.0			
Benzo[k]fluoranthene	1.5187 1.3292	1.5236 1.1884	1.5986	1.5292	1.7589	Ave		1.4924				12.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 332657

SDG No.:

Instrument ID: SMSI GC Column: RXI5SiiMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/19/2017 11:16 Calibration End Date: 10/19/2017 13:32 Calibration ID: 13666

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Benzo[a]pyrene	1.2567 1.3883	1.2368 1.2187	1.2964	1.3052	1.3345	Ave		1.2909				4.6		15.0			
Indeno[1,2,3-cd]pyrene	1.4552 1.5708	1.5220 1.4904	1.5657	1.5998	1.6279	Ave		1.5474				4.0		15.0			
Dibenz(a,h)anthracene	1.2358 1.3411	1.3289 1.2371	1.3596	1.3725	1.3866	Ave		1.3231				4.7		15.0			
Benzo[g,h,i]perylene	1.2448 1.4947	1.3316 1.1249	1.3740	1.3631	1.4353	Ave		1.3383				9.2		15.0			
Nitrobenzene-d5 (Surr)	0.3390 0.3553	0.3086 0.3019	0.3937	0.3502	0.3797	Ave		0.3469				9.8		15.0			
2-Fluorobiphenyl (Surr)	1.7876 1.4513	1.5944 1.4567	1.7330	1.7439	1.6020	Ave		1.6242				8.4		15.0			
Terphenyl-d14 (Surr)	0.8972 0.7889	0.9016 0.7287	0.8463	0.9114	0.8867	Ave		0.8516				8.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 332657

SDG No.:

Instrument ID: SMSI
GC Column: RXI5SiiMS ID: 0.25(mm)
Heated Purge: (Y/N) N

Calibration Start Date: 10/19/2017 11:16
Calibration End Date: 10/19/2017 13:32
Calibration ID: 13666

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-332657/9	I4732.D
Level 2	IC 160-332657/8	I4731.D
Level 3	IC 160-332657/7	I4730.D
Level 4	ICIS 160-332657/6	I4729.D
Level 5	IC 160-332657/5	I4728.D
Level 6	IC 160-332657/4	I4727.D
Level 7	IC 160-332657/3	I4726.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Naphthalene	NPT	Ave	22288 1175317	47786 2133281	108327	223126	492113	0.100 5.00	0.200 10.0	0.500	1.00	2.00
2-Methylnaphthalene	NPT	Ave	15001 800245	30154 1468354	74418	155215	290376	0.100 5.00	0.200 10.0	0.500	1.00	2.00
1-Methylnaphthalene	NPT	Ave	14084 719448	26633 1328457	69343	136409	256493	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Acenaphthylene	ANT	Ave	20561 1191487	46006 1969732	110966	228524	421295	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Acenaphthene	ANT	Ave	14082 751870	26867 1440817	72567	141388	265751	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Fluorene	ANT	Ave	16307 839457	33287 1380871	80893	168506	322023	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Phenanthrene	PHN	Ave	20327 930089	47940 1857195	113843	235730	451611	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Anthracene	PHN	Ave	20286 963014	46260 1954174	115444	239369	465652	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Fluoranthene	PHN	Ave	23936 1020325	46329 2333309	122561	262149	452988	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Pyrene	CRY	Ave	23780 1170641	49502 2186481	120810	248736	482440	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Benzo[a]anthracene	CRY	Ave	24163 1022879	47200 2238254	125159	243250	461131	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Chrysene	CRY	Ave	22277 1120348	44331 1881596	121344	239326	421546	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Benzo[b]fluoranthene	PRY	Ave	25203 1233328	51359 2376844	119694	267128	496015	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Benzo[k]fluoranthene	PRY	Ave	28025 1098721	55739 2479393	144352	288422	594368	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Benzo[a]pyrene	PRY	Ave	23189 1147560	45247 2542610	117068	246169	450960	0.100 5.00	0.200 10.0	0.500	1.00	2.00

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 332657
SDG No.:
Instrument ID: SMSI
GC Column: RXI5SiiMS
ID: 0.25(mm)
Heated Purge: (Y/N) N
Calibration Start Date: 10/19/2017 11:16
Calibration End Date: 10/19/2017 13:32
Calibration ID: 13666

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Indeno[1,2,3-cd]pyrene	PRY	Ave	26853 1298404	55680 3109611	141387	301737	550108	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Dibenz(a,h)anthracene	PRY	Ave	22804 1108529	48615 2581086	122770	258857	468571	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Benzo[g,h,i]perylene	PRY	Ave	22971 1235522	48713 2346882	124075	257096	485025	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Nitrobenzene-d5 (Surr)	NPT	Ave	6788 388663	13455 647864	37031	69427	162638	0.100 5.00	0.200 10.0	0.500	1.00	2.00
2-Fluorobiphenyl (Surr)	ANT	Ave	16550 837706	34493 1470654	86964	183252	313067	0.100 5.00	0.200 10.0	0.500	1.00	2.00
Terphenyl-d14 (Surr)	CRY	Ave	14922 654755	31350 1298656	76148	158967	290952	0.100 5.00	0.200 10.0	0.500	1.00	2.00

Curve Type Legend:
Ave = Average ISTD

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 332657

SDG No.:

Instrument ID: SMSI   GC Column: RXI5SiiMS   ID: 0.25(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 10/19/2017 11:16   Calibration End Date: 10/19/2017 13:32   Calibration ID: 13666

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-332657/9	I4732.D
Level 2	IC 160-332657/8	I4731.D
Level 3	IC 160-332657/7	I4730.D
Level 4	ICIS 160-332657/6	I4729.D
Level 5	IC 160-332657/5	I4728.D
Level 6	IC 160-332657/4	I4727.D
Level 7	IC 160-332657/3	I4726.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Naphthalene	1.1 -9.7	-0.4	4.6	2.3	4.4	-2.4	30 30	30	30	30	30	30
2-Methylnaphthalene	2.7 -6.3	-5.2	8.4	7.3	-7.1	0.2	30 30	30	30	30	30	30
1-Methylnaphthalene	6.7 -6.1	-7.4	11.8	4.4	-9.2	-0.2	30 30	30	30	30	30	30
Acenaphthylene	4.3 -8.4	-0.1	3.9	2.1	1.2	-3.1	30 30	30	30	30	30	30
Acenaphthene	10.4 3.6	-9.9	5.0	-2.3	-1.3	-5.5	30 30	30	30	30	30	30
Fluorene	12.2 -12.8	-2.0	2.7	2.2	5.0	-7.3	30 30	30	30	30	30	30
Phenanthrene	1.5 -16.4	1.8	4.4	7.0	2.0	-0.4	30 30	30	30	30	30	30
Anthracene	-0.2 -13.3	-3.2	4.3	7.1	3.7	1.6	30 30	30	30	30	30	30
Fluoranthene	9.2 -4.0	-10.1	2.7	8.8	-6.5	-0.1	30 30	30	30	30	30	30
Pyrene	2.9 -11.7	2.4	-3.4	2.6	5.8	1.5	30 30	30	30	30	30	30
Benzo[a]anthracene	7.2 -7.4	0.1	2.6	2.9	3.7	-9.1	30 30	30	30	30	30	30
Chrysene	3.9 -18.1	-1.1	4.6	6.4	-0.4	4.7	30 30	30	30	30	30	30
Benzo[b]fluoranthene	-0.5 -17.0	2.3	-3.5	3.2	6.9	8.7	30 30	30	30	30	30	30
Benzo[k]fluoranthene	1.8 -20.4	2.1	7.1	2.5	17.9	-10.9	30 30	30	30	30	30	30
Benzo[a]pyrene	-2.7 -5.6	-4.2	0.4	1.1	3.4	7.5	30 30	30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 332657

SDG No.:

Instrument ID: SMSI   GC Column: RXI5SiiMS   ID: 0.25(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 10/19/2017 11:16   Calibration End Date: 10/19/2017 13:32   Calibration ID: 13666

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Indeno[1,2,3-cd]pyrene	-6.0 -3.7	-1.6	1.2	3.4	5.2	1.5	30 30	30	30	30	30	30
Dibenz(a,h)anthracene	-6.6 -6.5	0.4	2.8	3.7	4.8	1.4	30 30	30	30	30	30	30
Benzo[g,h,i]perylene	-7.0 -16.0	-0.5	2.7	1.9	7.2	11.7	30 30	30	30	30	30	30
Nitrobenzene-d5 (Surr)	-2.3 -13.0	-11.0	13.5	1.0	9.4	2.4	30 30	30	30	30	30	30
2-Fluorobiphenyl (Surr)	10.1 -10.3	-1.8	6.7	7.4	-1.4	-10.6	30 30	30	30	30	30	30
Terphenyl-d14 (Surr)	5.4 -14.4	5.9	-0.6	7.0	4.1	-7.4	30 30	30	30	30	30	30

Report Date: 20-Oct-2017 08:14:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4726.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 19-Oct-2017 11:16:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011706-003
Misc. Info.: IC
Operator ID: DEK Instrument ID: SMSI
Sublist: chrom-8270_SIM_SMSI*sub1

Method: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 20-Oct-2017 08:14:22 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK055

First Level Reviewer: konopkad Date: 19-Oct-2017 11:35:16

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.354	3.354	0.000	94	249878	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.809	3.809	0.000	16	647864	10.0	8.70	
* 4 Naphthalene-d8	136	4.454	4.454	0.000	1	858516	4.00	4.00	
5 Naphthalene	128	4.476	4.476	0.000	22	2133281	10.0	9.03	
7 2-Methylnaphthalene	142	5.120	5.120	0.000	29	1468354	10.0	9.37	
8 1-Methylnaphthalene	142	5.209	5.209	0.000	1	1328457	10.0	9.39	
$ 9 2-Fluorobiphenyl (Surr)	172	5.476	5.476	0.000	1	1470654	10.0	8.97	
10 Acenaphthylene	152	5.987	5.987	0.000	48	1969732	10.0	9.16	
* 11 Acenaphthene-d10	164	6.120	6.120	0.000	2	403819	4.00	4.00	
12 Acenaphthene	153	6.154	6.154	0.000	22	1440817	10.0	10.4	
13 Fluorene	166	6.653	6.654	-0.001	28	1380871	10.0	8.72	
* 14 Phenanthrene-d10	188	7.556	7.556	0.000	1	698226	4.00	4.00	
15 Phenanthrene	178	7.578	7.578	0.000	1	1857195	10.0	8.36	
16 Anthracene	178	7.632	7.632	0.000	3	1954174	10.0	8.67	
17 Fluoranthene	202	8.750	8.750	0.000	12	2333309	10.0	9.60	
18 Pyrene	202	8.965	8.966	-0.001	13	2186481	10.0	8.83	
$ 19 Terphenyl-d14	244	9.127	9.127	0.000	1	1298656	10.0	8.56	
20 Benzo[a]anthracene	228	10.138	10.138	0.000	2	2238254	10.0	9.26	
* 21 Chrysene-d12	240	10.149	10.149	0.000	1	712839	4.00	4.00	
22 Chrysene	228	10.170	10.170	0.000	42	1881596	10.0	8.19	
23 Benzo[b]fluoranthene	252	11.289	11.278	0.011	2	2376844	10.0	8.30	
24 Benzo[k]fluoranthene	252	11.321	11.310	0.011	1	2479393	10.0	7.96	
25 Benzo[a]pyrene	252	11.687	11.676	0.011	13	2542610	10.0	9.44	
* 26 Perylene-d12	264	11.751	11.751	0.000	16	834553	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.257	13.247	0.010	5	3109611	10.0	9.63	
28 Dibenz(a,h)anthracene	278	13.290	13.268	0.022	61	2581086	10.0	9.35	
29 Benzo[g,h,i]perylene	276	13.666	13.645	0.021	15	2346882	10.0	8.40	

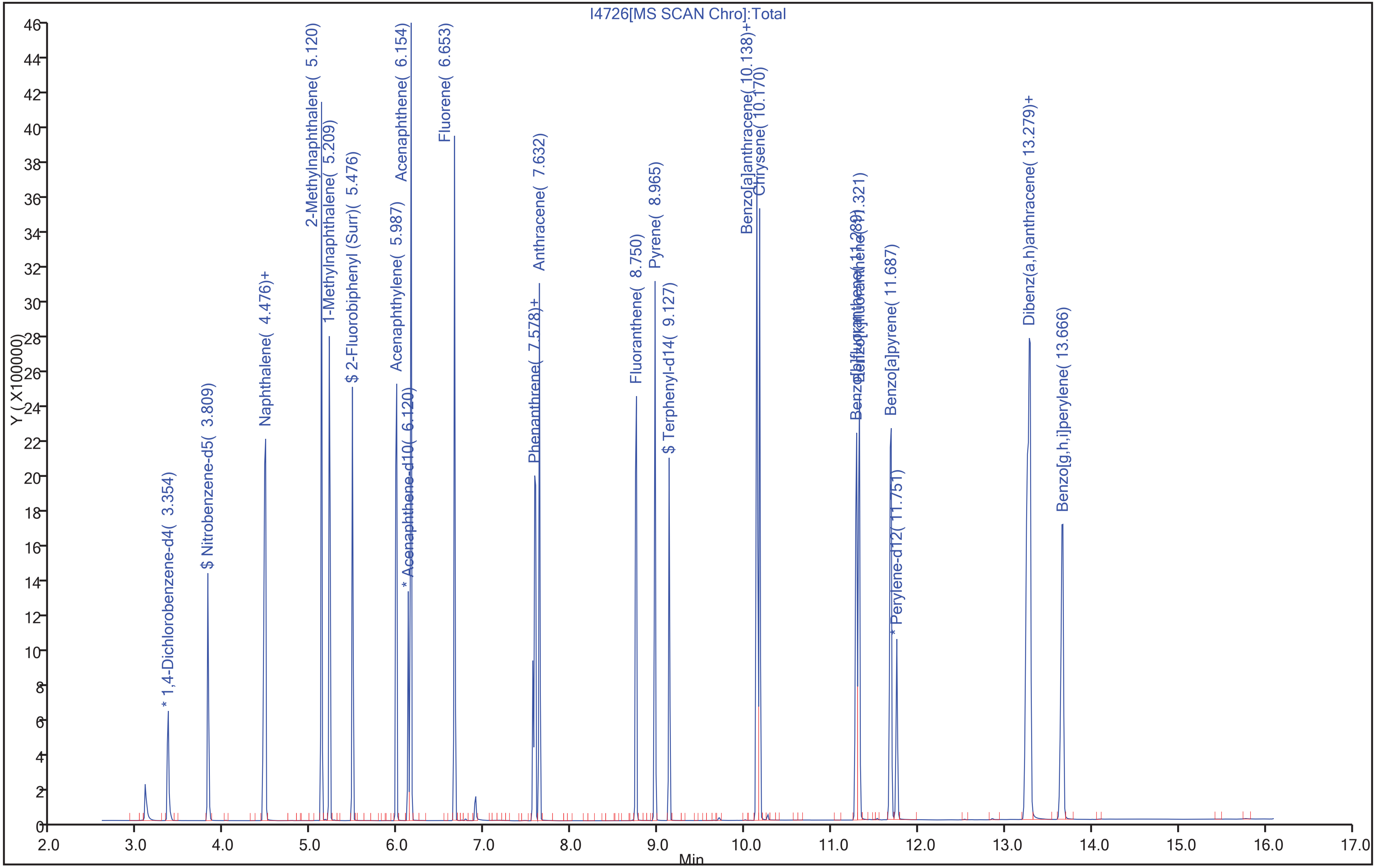
Reagents:

10 ppm PAH_00023	Amount Added: 1.00	Units: mL

Report Date: 20-Oct-2017 08:14:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4726.D
Injection Date: 19-Oct-2017 11:16:30 Instrument ID: SMSI Operator ID: DEK
Lims ID: IC Worklist Smp#: 3
Client ID:
Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 3
Method: 8270_SIM_SMSI Limit Group: MSS-8270SIM DoD



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4727.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Oct-2017 11:38:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011706-004
Misc. Info.: IC
Operator ID: DEK Instrument ID: SMSI
Sublist: chrom-8270_SIM_SMSI*sub1

Method: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 20-Oct-2017 08:14:23 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK055

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.354	3.354	0.000	95	259957	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.809	3.809	0.000	17	388663	5.00	5.12	
* 4 Naphthalene-d8	136	4.454	4.454	0.000	1	875083	4.00	4.00	
5 Naphthalene	128	4.476	4.476	0.000	22	1175317	5.00	4.88	
7 2-Methylnaphthalene	142	5.120	5.120	0.000	30	800245	5.00	5.01	
8 1-Methylnaphthalene	142	5.209	5.209	0.000	1	719448	5.00	4.99	
$ 9 2-Fluorobiphenyl (Surr)	172	5.476	5.476	0.000	1	837706	5.00	4.47	
10 Acenaphthylene	152	5.987	5.987	0.000	48	1191487	5.00	4.85	
* 11 Acenaphthene-d10	164	6.120	6.120	0.000	2	461754	4.00	4.00	
12 Acenaphthene	153	6.154	6.154	0.000	22	751870	5.00	4.73	
13 Fluorene	166	6.653	6.654	-0.001	29	839457	5.00	4.63	
* 14 Phenanthrene-d10	188	7.556	7.556	0.000	1	587149	4.00	4.00	
15 Phenanthrene	178	7.578	7.578	0.000	1	930089	5.00	4.98	
16 Anthracene	178	7.632	7.632	0.000	3	963014	5.00	5.08	
17 Fluoranthene	202	8.740	8.750	-0.010	11	1020325	5.00	4.99	
18 Pyrene	202	8.965	8.966	-0.001	14	1170641	5.00	5.07	
$ 19 Terphenyl-d14	244	9.127	9.127	0.000	1	654755	5.00	4.63	
20 Benzo[a]anthracene	228	10.138	10.138	0.000	2	1022879	5.00	4.55	
* 21 Chrysene-d12	240	10.149	10.149	0.000	1	663983	4.00	4.00	
22 Chrysene	228	10.170	10.170	0.000	42	1120348	5.00	5.23	
23 Benzo[b]fluoranthene	252	11.278	11.278	0.000	3	1233328	5.00	5.43	
24 Benzo[k]fluoranthene	252	11.310	11.310	0.000	1	1098721	5.00	4.45	
25 Benzo[a]pyrene	252	11.676	11.676	0.000	13	1147560	5.00	5.38	
* 26 Perylene-d12	264	11.751	11.751	0.000	16	661286	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.247	13.247	0.000	5	1298404	5.00	5.08	
28 Dibenz(a,h)anthracene	278	13.279	13.268	0.011	61	1108529	5.00	5.07	
29 Benzo[g,h,i]perylene	276	13.645	13.645	0.000	17	1235522	5.00	5.58	

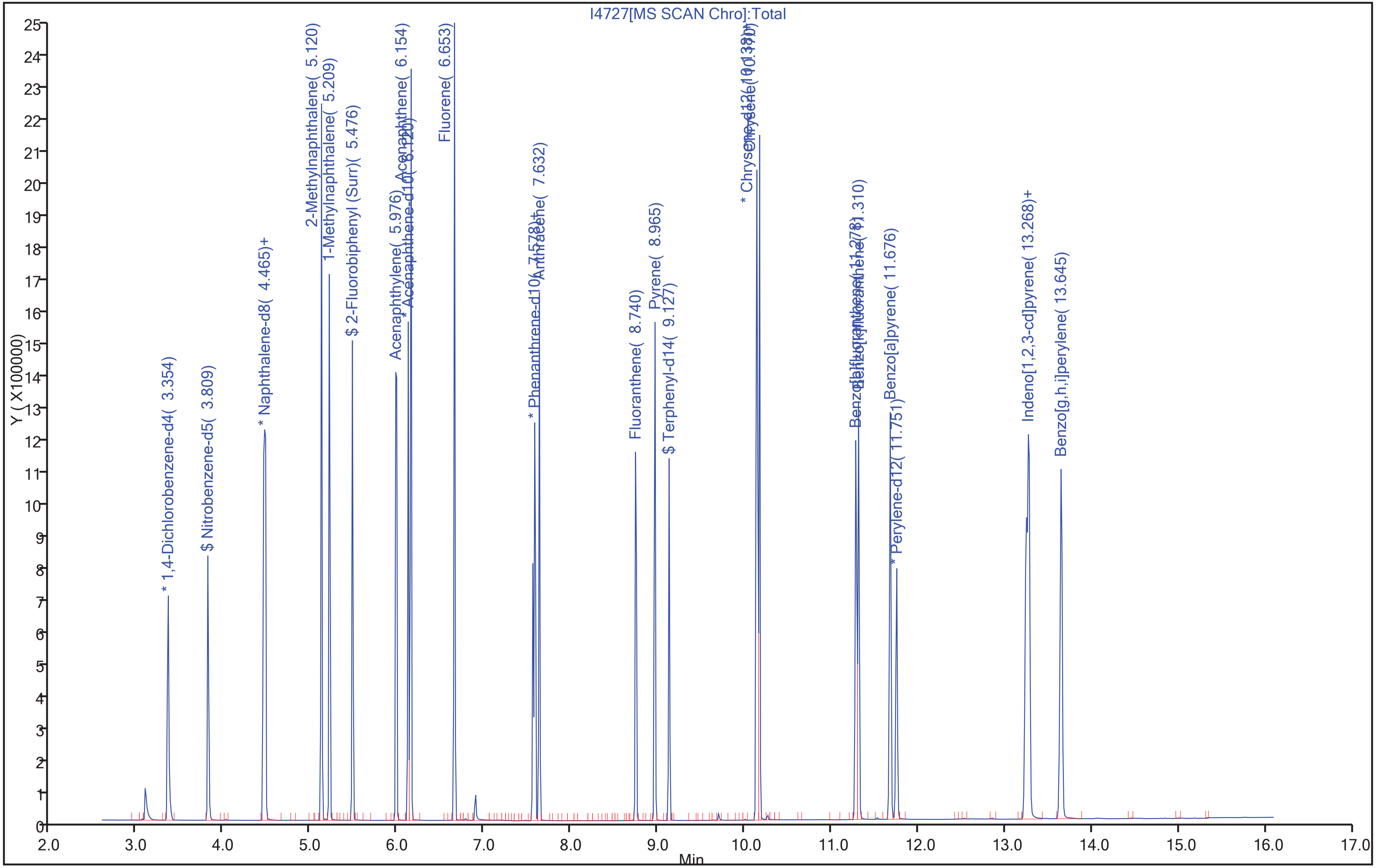
Reagents:

5 ppm PAH_00022	Amount Added: 1.00	Units: mL

Report Date: 20-Oct-2017 08:14:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4727.D				
Injection Date:	19-Oct-2017 11:38:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4728.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 19-Oct-2017 12:01:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011706-005
Misc. Info.: IC
Operator ID: DEK Instrument ID: SMSI
Sublist: chrom-8270_SIM_SMSI*sub1

Method: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 20-Oct-2017 08:14:25 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK055

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.354	3.354	0.000	94	269998	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.809	3.809	0.000	17	162638	2.00	2.19	
* 4 Naphthalene-d8	136	4.454	4.454	0.000	1	856706	4.00	4.00	
5 Naphthalene	128	4.465	4.476	-0.011	22	492113	2.00	2.09	
7 2-Methylnaphthalene	142	5.120	5.120	0.000	31	290376	2.00	1.86	
8 1-Methylnaphthalene	142	5.209	5.209	0.000	1	256493	2.00	1.82	
$ 9 2-Fluorobiphenyl (Surr)	172	5.476	5.476	0.000	1	313067	2.00	1.97	
10 Acenaphthylene	152	5.976	5.987	-0.011	47	421295	2.00	2.02	
* 11 Acenaphthene-d10	164	6.120	6.120	0.000	2	390846	4.00	4.00	
12 Acenaphthene	153	6.154	6.154	0.000	21	265751	2.00	1.97	
13 Fluorene	166	6.654	6.654	0.000	29	322023	2.00	2.10	
* 14 Phenanthrene-d10	188	7.556	7.556	0.000	1	695834	4.00	4.00	
15 Phenanthrene	178	7.578	7.578	0.000	1	451611	2.00	2.04	
16 Anthracene	178	7.632	7.632	0.000	3	465652	2.00	2.07	
17 Fluoranthene	202	8.740	8.750	-0.010	11	452988	2.00	1.87	
18 Pyrene	202	8.966	8.966	0.000	14	482440	2.00	2.12	
$ 19 Terphenyl-d14	244	9.127	9.127	0.000	1	290952	2.00	2.08	
20 Benzo[a]anthracene	228	10.138	10.138	0.000	1	461131	2.00	2.07	
* 21 Chrysene-d12	240	10.149	10.149	0.000	1	656230	4.00	4.00	
22 Chrysene	228	10.170	10.170	0.000	43	421546	2.00	1.99	
23 Benzo[b]fluoranthene	252	11.278	11.278	0.000	3	496015	2.00	2.14	
24 Benzo[k]fluoranthene	252	11.310	11.310	0.000	1	594368	2.00	2.36	
25 Benzo[a]pyrene	252	11.676	11.676	0.000	14	450960	2.00	2.07	
* 26 Perylene-d12	264	11.751	11.751	0.000	16	675859	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.236	13.247	-0.011	5	550108	2.00	2.10	
28 Dibenz(a,h)anthracene	278	13.268	13.268	0.000	61	468571	2.00	2.10	
29 Benzo[g,h,i]perylene	276	13.645	13.645	0.000	12	485025	2.00	2.14	

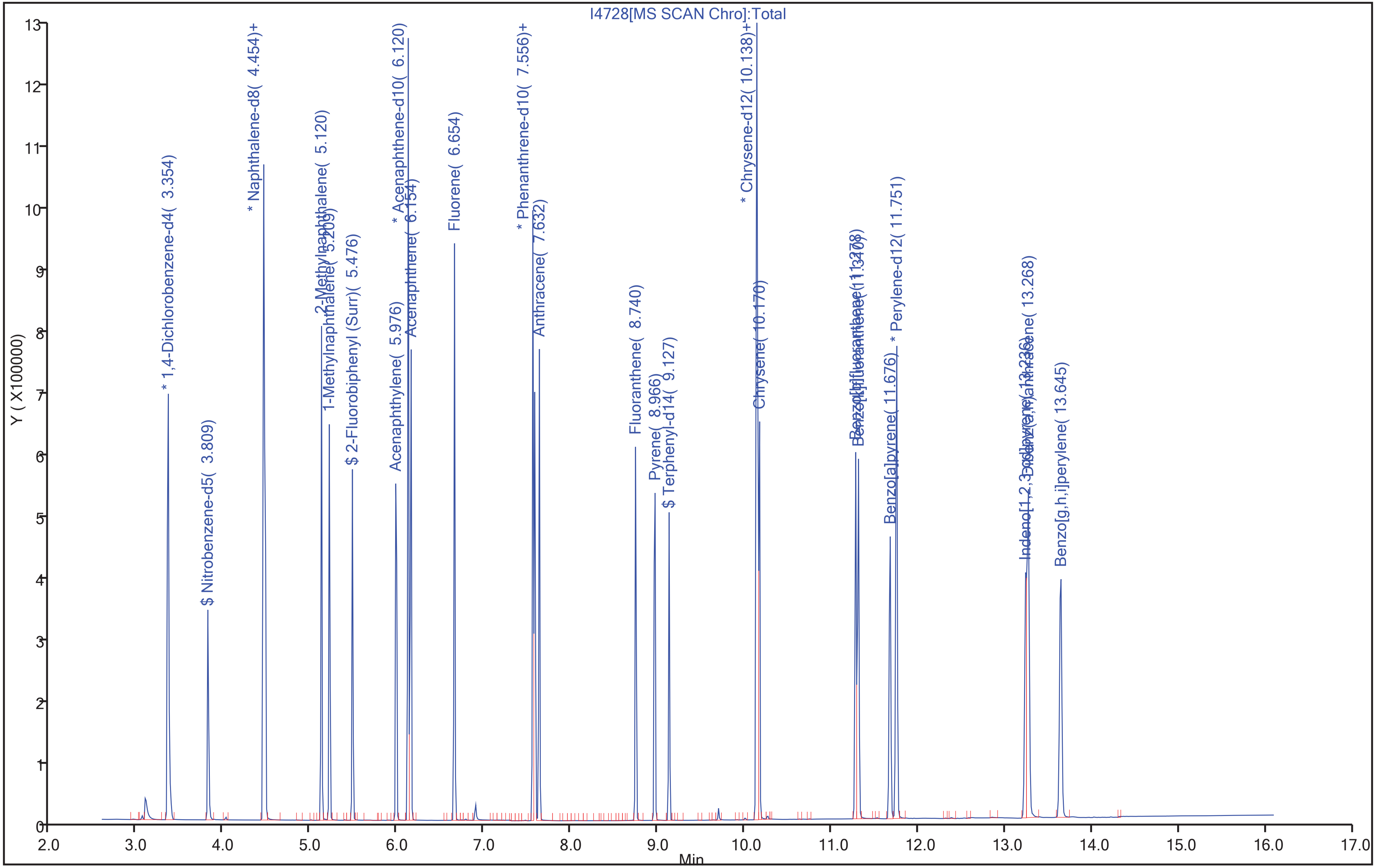
Reagents:

2 ppm PAH_00022	Amount Added: 1.00	Units: mL

Report Date: 20-Oct-2017 08:14:25 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4728.D
Injection Date: 19-Oct-2017 12:01:30 Instrument ID: SMSI Operator ID: DEK
Lims ID: IC Worklist Smp#: 5
Client ID:
Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 5
Method: 8270_SIM_SMSI Limit Group: MSS-8270SIM DoD



Report Date: 20-Oct-2017 08:14:27   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4729.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS   Calib Level: 4
Inject. Date: 19-Oct-2017 12:24:30   ALS Bottle#: 6   Worklist Smp#: 6
Injection Vol: 1.0 ul   Dil. Factor: 1.0000
Sample Info: 160-0011706-006
Misc. Info.: ICIS
Operator ID: DEK   Instrument ID: SMSI
Sublist: chrom-8270_SIM_SMSI*sub1

Method: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 20-Oct-2017 08:14:26   Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE   ID Type: RT Order ID
Quant Method: Internal Standard   Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 :   Det: MS SCAN
Process Host: XAWRK055

First Level Reviewer: konopkad   Date: 19-Oct-2017 13:14:33

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.354	3.354	0.000	94	252624	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.809	3.809	0.000	16	69427	1.00	1.01	
* 4 Naphthalene-d8	136	4.454	4.454	0.000	1	792920	4.00	4.00	
5 Naphthalene	128	4.465	4.465	0.000	22	223126	1.00	1.02	
7 2-Methylnaphthalene	142	5.120	5.120	0.000	31	155215	1.00	1.07	
8 1-Methylnaphthalene	142	5.209	5.209	0.000	1	136409	1.00	1.04	
$ 9 2-Fluorobiphenyl (Surr)	172	5.476	5.476	0.000	1	183252	1.00	1.07	
10 Acenaphthylene	152	5.976	5.976	0.000	47	228524	1.00	1.02	
* 11 Acenaphthene-d10	164	6.120	6.120	0.000	2	420319	4.00	4.00	
12 Acenaphthene	153	6.154	6.154	0.000	21	141388	1.00	0.9766	
13 Fluorene	166	6.654	6.654	0.000	29	168506	1.00	1.02	
* 14 Phenanthrene-d10	188	7.556	7.556	0.000	1	692595	4.00	4.00	
15 Phenanthrene	178	7.578	7.578	0.000	1	235730	1.00	1.07	
16 Anthracene	178	7.632	7.632	0.000	3	239369	1.00	1.07	
17 Fluoranthene	202	8.740	8.740	0.000	11	262149	1.00	1.09	
18 Pyrene	202	8.966	8.966	0.000	14	248736	1.00	1.03	
$ 19 Terphenyl-d14	244	9.127	9.127	0.000	1	158967	1.00	1.07	
20 Benzo[a]anthracene	228	10.138	10.138	0.000	1	243250	1.00	1.03	
* 21 Chrysene-d12	240	10.149	10.149	0.000	1	697668	4.00	4.00	
22 Chrysene	228	10.170	10.170	0.000	43	239326	1.00	1.06	
23 Benzo[b]fluoranthene	252	11.278	11.278	0.000	2	267128	1.00	1.03	
24 Benzo[k]fluoranthene	252	11.310	11.310	0.000	1	288422	1.00	1.02	
25 Benzo[a]pyrene	252	11.676	11.676	0.000	14	246169	1.00	1.01	
* 26 Perylene-d12	264	11.751	11.751	0.000	16	754436	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.236	13.236	0.000	5	301737	1.00	1.03	
28 Dibenz(a,h)anthracene	278	13.268	13.268	0.000	61	258857	1.00	1.04	
29 Benzo[g,h,i]perylene	276	13.645	13.645	0.000	15	257096	1.00	1.02	

Reagents:

1 ppm PAH_00145	Amount Added: 1.00	Units: mL

Report Date: 20-Oct-2017 08:14:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4729.D

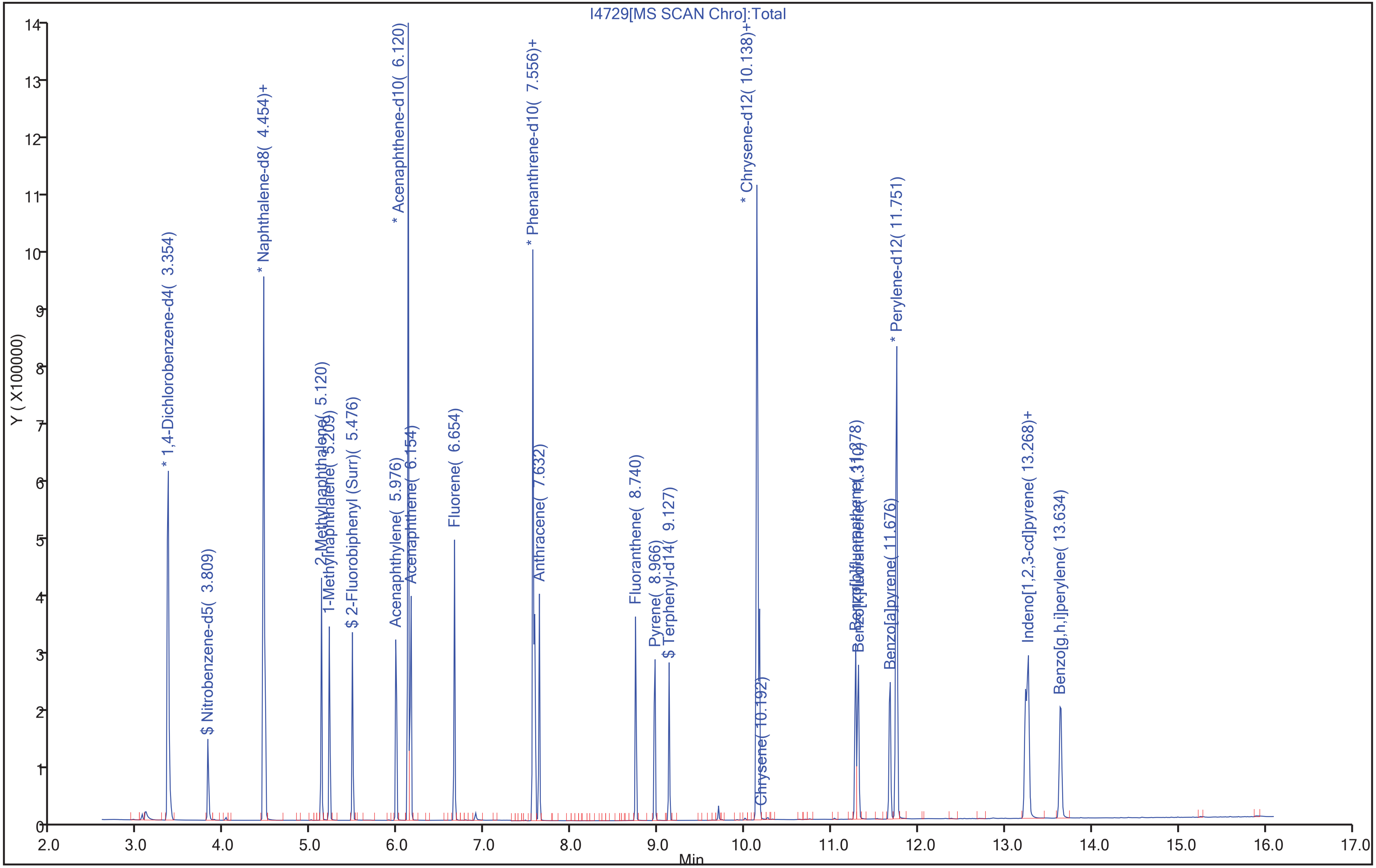
Injection Date: 19-Oct-2017 12:24:30 Instrument ID: SMSI Operator ID: DEK

Lims ID: ICIS Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 6

Method: 8270_SIM_SMSI Limit Group: MSS-8270SIM DoD



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4730.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 19-Oct-2017 12:46:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011706-007
Misc. Info.: IC
Operator ID: DEK Instrument ID: SMSI
Sublist: chrom-8270_SIM_SMSI*sub1

Method: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 20-Oct-2017 08:14:27 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK055

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.354	3.354	0.000	94	262930	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.809	3.809	0.000	18	37031	0.5000	0.5674	
* 4 Naphthalene-d8	136	4.454	4.454	0.000	1	752510	4.00	4.00	
5 Naphthalene	128	4.465	4.465	0.000	22	108327	0.5000	0.5232	
7 2-Methylnaphthalene	142	5.120	5.120	0.000	31	74418	0.5000	0.5420	
8 1-Methylnaphthalene	142	5.209	5.209	0.000	1	69343	0.5000	0.5591	
$ 9 2-Fluorobiphenyl (Surr)	172	5.476	5.476	0.000	1	86964	0.5000	0.5335	
10 Acenaphthylene	152	5.976	5.976	0.000	47	110966	0.5000	0.5193	
* 11 Acenaphthene-d10	164	6.120	6.120	0.000	2	401441	4.00	4.00	
12 Acenaphthene	153	6.154	6.154	0.000	20	72567	0.5000	0.5248	
13 Fluorene	166	6.653	6.654	-0.001	29	80893	0.5000	0.5136	
* 14 Phenanthrene-d10	188	7.556	7.556	0.000	1	685976	4.00	4.00	
15 Phenanthrene	178	7.578	7.578	0.000	1	113843	0.5000	0.5219	
16 Anthracene	178	7.632	7.632	0.000	3	115444	0.5000	0.5215	
17 Fluoranthene	202	8.740	8.740	0.000	12	122561	0.5000	0.5134	
18 Pyrene	202	8.965	8.966	-0.001	13	120810	0.5000	0.4830	
$ 19 Terphenyl-d14	244	9.127	9.127	0.000	1	76148	0.5000	0.4969	
20 Benzo[a]anthracene	228	10.127	10.138	-0.011	3	125159	0.5000	0.5130	
* 21 Chrysene-d12	240	10.138	10.149	-0.011	1	719853	4.00	4.00	
22 Chrysene	228	10.170	10.170	0.000	43	121344	0.5000	0.5229	
23 Benzo[b]fluoranthene	252	11.278	11.278	0.000	2	119694	0.5000	0.4827	
24 Benzo[k]fluoranthene	252	11.310	11.310	0.000	1	144352	0.5000	0.5356	
25 Benzo[a]pyrene	252	11.676	11.676	0.000	14	117068	0.5000	0.5021	
* 26 Perylene-d12	264	11.751	11.751	0.000	16	722407	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.236	13.236	0.000	5	141387	0.5000	0.5059	
28 Dibenz(a,h)anthracene	278	13.268	13.268	0.000	61	122770	0.5000	0.5138	
29 Benzo[g,h,i]perylene	276	13.645	13.645	0.000	12	124075	0.5000	0.5133	

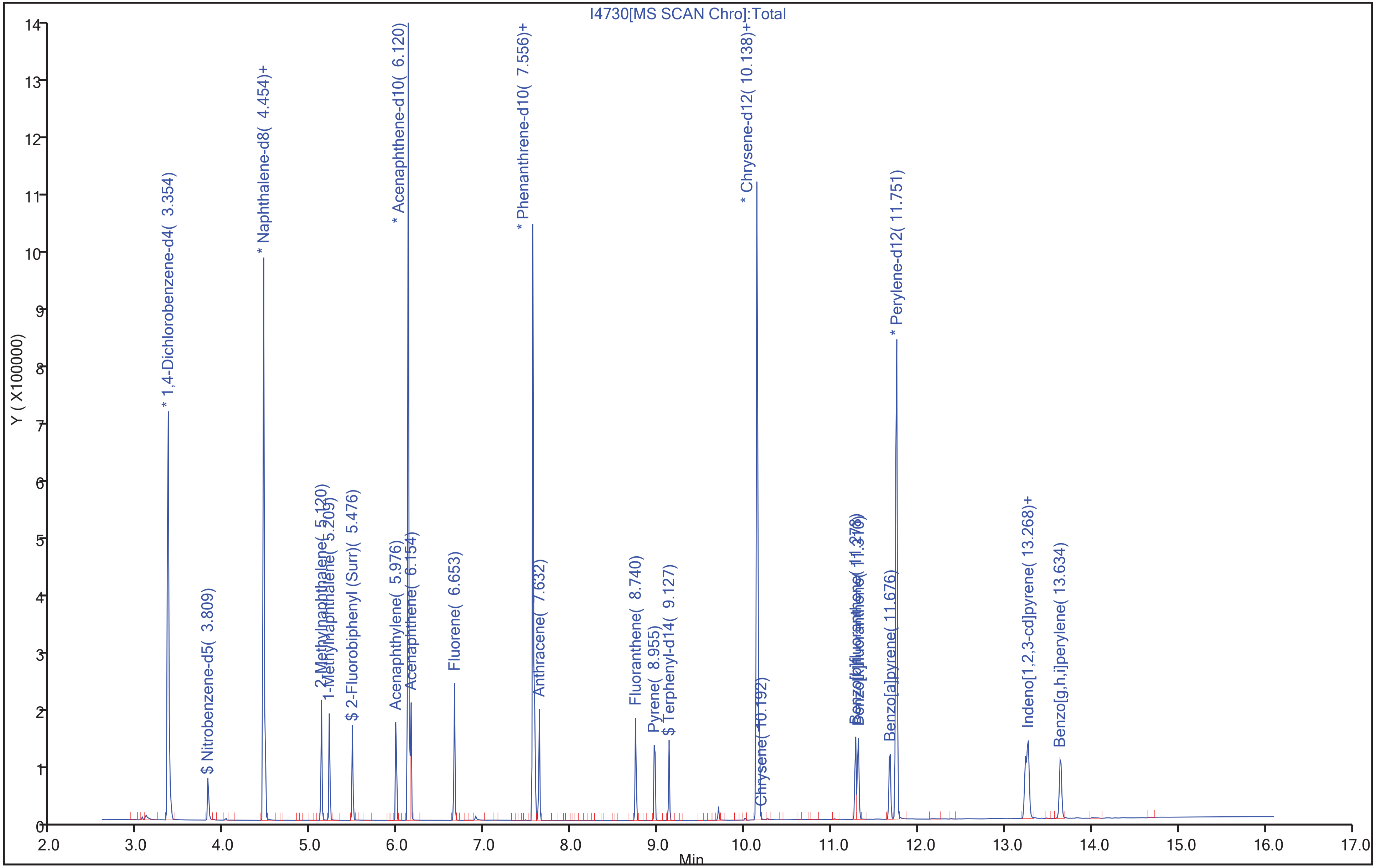
Reagents:

0.5 ppm PAH_00023	Amount Added: 1.00	Units: mL

Report Date: 20-Oct-2017 08:14:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4730.D				
Injection Date:	19-Oct-2017 12:46:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



Report Date: 20-Oct-2017 08:14:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4731.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 19-Oct-2017 13:09:30 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011706-008
Misc. Info.: IC
Operator ID: DEK Instrument ID: SMSI
Sublist: chrom-8270_SIM_SMSI*sub1

Method: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 20-Oct-2017 08:14:29 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK055

First Level Reviewer: konopkad Date: 19-Oct-2017 13:48:59

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.354	3.354	0.000	94	255742	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.809	3.809	0.000	18	13455	0.2000	0.1779	
* 4 Naphthalene-d8	136	4.454	4.454	0.000	1	872051	4.00	4.00	
5 Naphthalene	128	4.465	4.465	0.000	1	47786	0.2000	0.1992	
7 2-Methylnaphthalene	142	5.120	5.120	0.000	31	30154	0.2000	0.1895	
8 1-Methylnaphthalene	142	5.209	5.209	0.000	1	26633	0.2000	0.1853	
$ 9 2-Fluorobiphenyl (Surr)	172	5.476	5.476	0.000	1	34493	0.2000	0.1963	
10 Acenaphthylene	152	5.976	5.976	0.000	47	46006	0.2000	0.1998	
* 11 Acenaphthene-d10	164	6.120	6.120	0.000	2	432664	4.00	4.00	
12 Acenaphthene	153	6.153	6.154	-0.001	20	26867	0.2000	0.1803	
13 Fluorene	166	6.653	6.654	-0.001	29	33287	0.2000	0.1961	
* 14 Phenanthrene-d10	188	7.556	7.556	0.000	1	740692	4.00	4.00	
15 Phenanthrene	178	7.578	7.578	0.000	1	47940	0.2000	0.2035	
16 Anthracene	178	7.632	7.632	0.000	3	46260	0.2000	0.1935	
17 Fluoranthene	202	8.740	8.740	0.000	12	46329	0.2000	0.1797	
18 Pyrene	202	8.965	8.966	-0.001	13	49502	0.2000	0.2049	
$ 19 Terphenyl-d14	244	9.127	9.127	0.000	1	31350	0.2000	0.2118	
20 Benzo[a]anthracene	228	10.127	10.138	-0.011	1	47200	0.2000	0.2003	
* 21 Chrysene-d12	240	10.138	10.149	-0.011	1	695392	4.00	4.00	
22 Chrysene	228	10.170	10.170	0.000	42	44331	0.2000	0.1978	
23 Benzo[b]fluoranthene	252	11.278	11.278	0.000	2	51359	0.2000	0.2045	
24 Benzo[k]fluoranthene	252	11.310	11.310	0.000	1	55739	0.2000	0.2042	
25 Benzo[a]pyrene	252	11.676	11.676	0.000	14	45247	0.2000	0.1916	
* 26 Perylene-d12	264	11.751	11.751	0.000	16	731663	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.236	13.236	0.000	5	55680	0.2000	0.1967	
28 Dibenz(a,h)anthracene	278	13.268	13.268	0.000	61	48615	0.2000	0.2009	
29 Benzo[g,h,i]perylene	276	13.634	13.645	-0.011	13	48713	0.2000	0.1990	

Reagents:

0.2 ppm PAH_00023	Amount Added: 1.00	Units: mL

Report Date: 20-Oct-2017 08:14:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4731.D

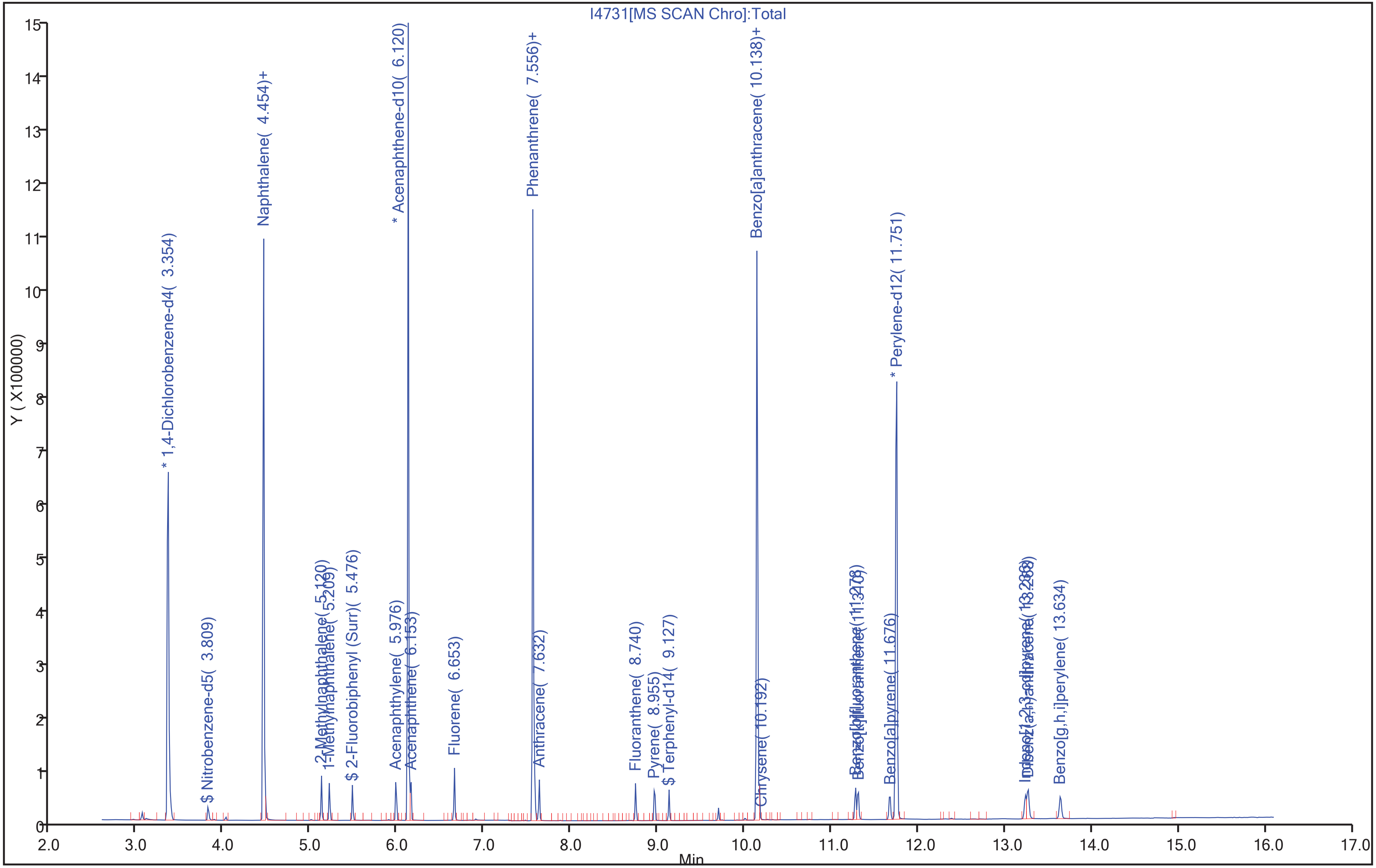
Injection Date: 19-Oct-2017 13:09:30
Instrument ID: SMSI
Operator ID: DEK

Lims ID: IC
Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 8

Method: 8270_SIM_SMSI
Limit Group: MSS-8270SIM DoD



Report Date: 20-Oct-2017 08:14:31   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	19-Oct-2017 13:32:30	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011706-009				
Misc. Info.:	IC				
Operator ID:	DEK	Instrument ID:	SMSI		
Sublist:	chrom-8270_SIM_SMSI*sub1				
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	20-Oct-2017 08:14:30	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK055				
First Level Reviewer: konopkad		Date:	19-Oct-2017 13:50:18		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.354	3.354	0.000	94	246935	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.809	3.809	0.000	19	6788	0.1000	0.0977	
* 4 Naphthalene-d8	136	4.454	4.454	0.000	1	800886	4.00	4.00	
5 Naphthalene	128	4.465	4.465	0.000	1	22288	0.1000	0.1011	
7 2-Methylnaphthalene	142	5.120	5.120	0.000	31	15001	0.1000	0.1027	
8 1-Methylnaphthalene	142	5.209	5.209	0.000	1	14084	0.1000	0.1067	
$ 9 2-Fluorobiphenyl (Surr)	172	5.476	5.476	0.000	1	16550	0.1000	0.1101	
10 Acenaphthylene	152	5.976	5.976	0.000	47	20561	0.1000	0.1043	
* 11 Acenaphthene-d10	164	6.120	6.120	0.000	2	370322	4.00	4.00	
12 Acenaphthene	153	6.153	6.154	-0.001	13	14082	0.1000	0.1104	
13 Fluorene	166	6.653	6.654	-0.001	29	16307	0.1000	0.1122	
* 14 Phenanthrene-d10	188	7.556	7.556	0.000	1	629776	4.00	4.00	
15 Phenanthrene	178	7.578	7.578	0.000	1	20327	0.1000	0.1015	
16 Anthracene	178	7.631	7.632	-0.001	3	20286	0.1000	0.0998	
17 Fluoranthene	202	8.739	8.740	-0.001	11	23936	0.1000	0.1092	
18 Pyrene	202	8.965	8.966	-0.001	14	23780	0.1000	0.1029	
$ 19 Terphenyl-d14	244	9.127	9.127	0.000	1	14922	0.1000	0.1054	
20 Benzo[a]anthracene	228	10.127	10.138	-0.011	1	24163	0.1000	0.1072	
* 21 Chrysene-d12	240	10.138	10.149	-0.011	1	665276	4.00	4.00	
22 Chrysene	228	10.170	10.170	0.000	42	22277	0.1000	0.1039	
23 Benzo[b]fluoranthene	252	11.278	11.278	0.000	2	25203	0.1000	0.0995	
24 Benzo[k]fluoranthene	252	11.310	11.310	0.000	1	28025	0.1000	0.1018	
25 Benzo[a]pyrene	252	11.676	11.676	0.000	13	23189	0.1000	0.0973	
* 26 Perylene-d12	264	11.751	11.751	0.000	16	738120	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.236	13.236	0.000	5	26853	0.1000	0.0940	
28 Dibenz(a,h)anthracene	278	13.268	13.268	0.000	61	22804	0.1000	0.0934	
29 Benzo[g,h,i]perylene	276	13.634	13.645	-0.011	13	22971	0.1000	0.0930	

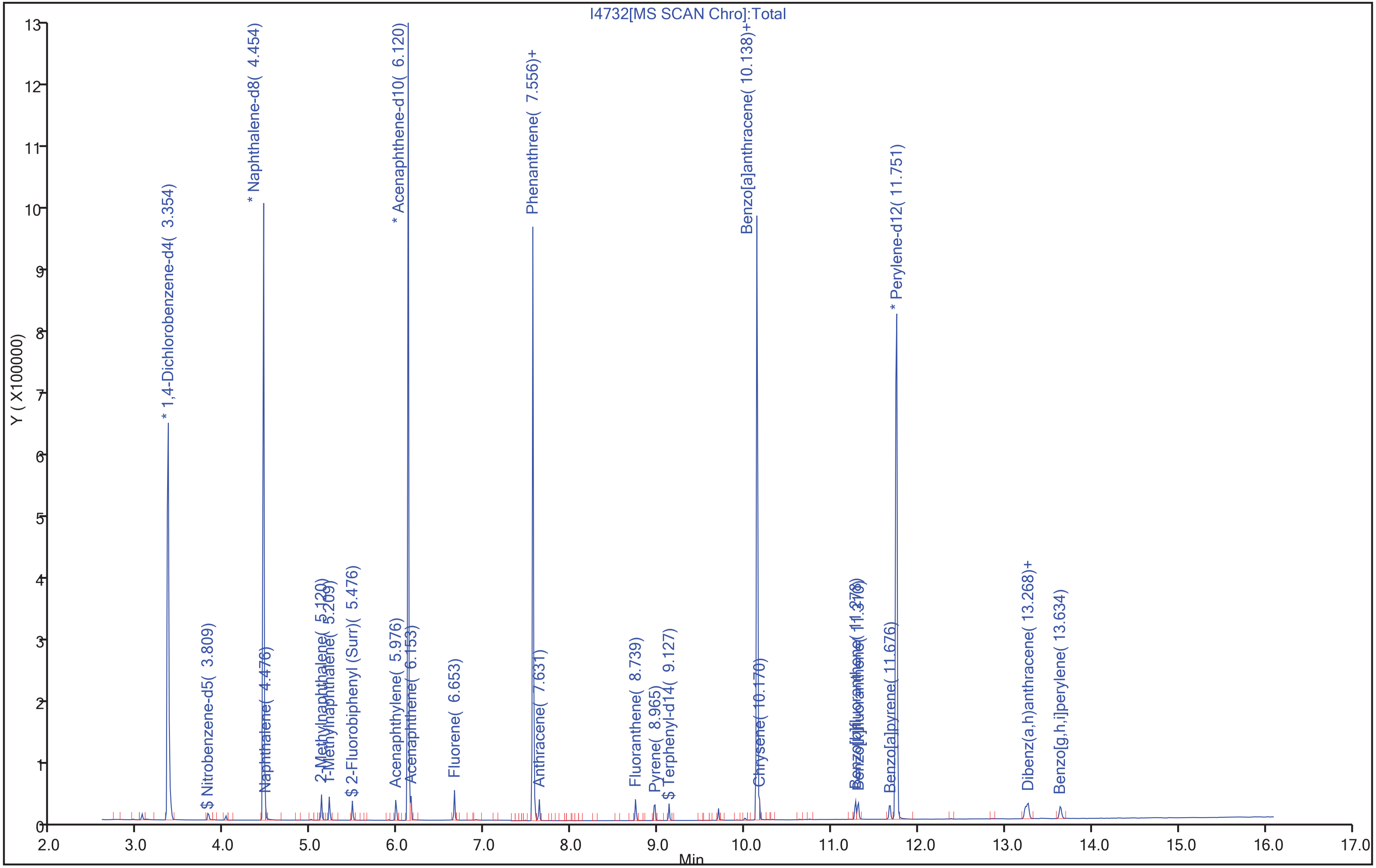
Reagents:

0.1 ppm PAH_00023	Amount Added: 1.00	Units: mL

Report Date: 20-Oct-2017 08:14:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Injection Date:	19-Oct-2017 13:32:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID (1): CCV 160-333047/4 Instrument ID (1): SMSI

GC Column (1): RXI5SiiMS ID: 0.25(mm) Date Analyzed (1): 10/21/2017 12:35

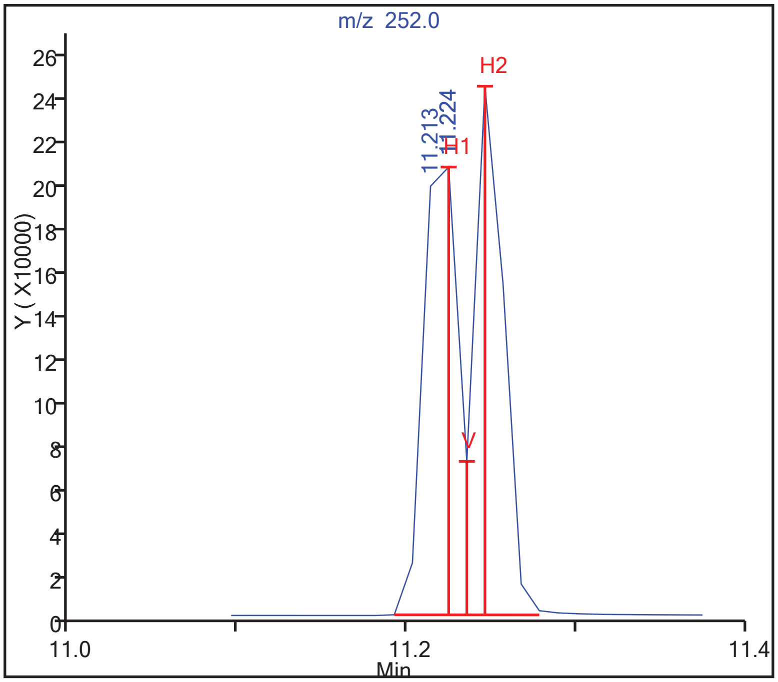
ANALYTE	RT	RESOLUTION (%)
Nitrobenzene-d5 (Surr)	3.77	100.0
Naphthalene	4.42	100.0
2-Methylnaphthalene	5.08	100.0
1-Methylnaphthalene	5.17	100.0
2-Fluorobiphenyl (Surr)	5.43	100.0
Acenaphthylene	5.93	100.0
Acenaphthene	6.10	100.0
Fluorene	6.61	100.0
Phenanthrene	7.54	100.0
Anthracene	7.58	100.0
Fluoranthene	8.70	100.0
Pyrene	8.91	100.0
Terphenyl-d14 (Surr)	9.08	100.0
Benzo[a]anthracene	10.08	100.0
Chrysene	10.12	100.0
Benzo[b]fluoranthene	11.22	31.40
Benzo[k]fluoranthene	11.25	100.0
Benzo[a]pyrene	11.61	100.0
Indeno[1,2,3-cd]pyrene	13.16	100.0
Dibenz(a,h)anthracene	13.19	100.0

Resolution Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4842.D				
Injection Date:	21-Oct-2017 12:35:30	Instrument ID:	SMSI		
Lims ID:	CCV				
Client ID:					
Operator ID:	DEK	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

23 Benzo[b]fluoranthene - 24 Benzo[k]fluoranthene



SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 70329

H1(23 Benzo[b]fluoranthen) = 205249

H2(24 Benzo[k]fluoranthen) = 242321

Version D: %R = 31.4 <= 50.0

Passed

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID (1): CCV 160-333184/4 Instrument ID (1): SMSI

GC Column (1): RXI5SiiMS ID: 0.25(mm) Date Analyzed (1): 10/23/2017 10:22

ANALYTE	RT	RESOLUTION (%)
Nitrobenzene-d5 (Surr)	3.72	100.0
Naphthalene	4.38	100.0
2-Methylnaphthalene	5.02	100.0
1-Methylnaphthalene	5.12	100.0
2-Fluorobiphenyl (Surr)	5.39	100.0
Acenaphthylene	5.89	100.0
Acenaphthene	6.05	100.0
Fluorene	6.55	100.0
Phenanthrene	7.48	100.0
Anthracene	7.54	100.0
Fluoranthene	8.64	100.0
Pyrene	8.86	100.0
Terphenyl-d14 (Surr)	9.03	100.0
Benzo[a]anthracene	10.03	100.0
Chrysene	10.06	100.0
Benzo[b]fluoranthene	11.15	43.90
Benzo[k]fluoranthene	11.18	100.0
Benzo[a]pyrene	11.54	100.0
Indeno[1,2,3-cd]pyrene	13.06	100.0
Dibenz(a,h)anthracene	13.09	100.0

Resolution Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4893.D				
Injection Date:	23-Oct-2017 10:22:30	Instrument ID:	SMSI		
Lims ID:	CCV				
Client ID:					
Operator ID:	DEK/JFL	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

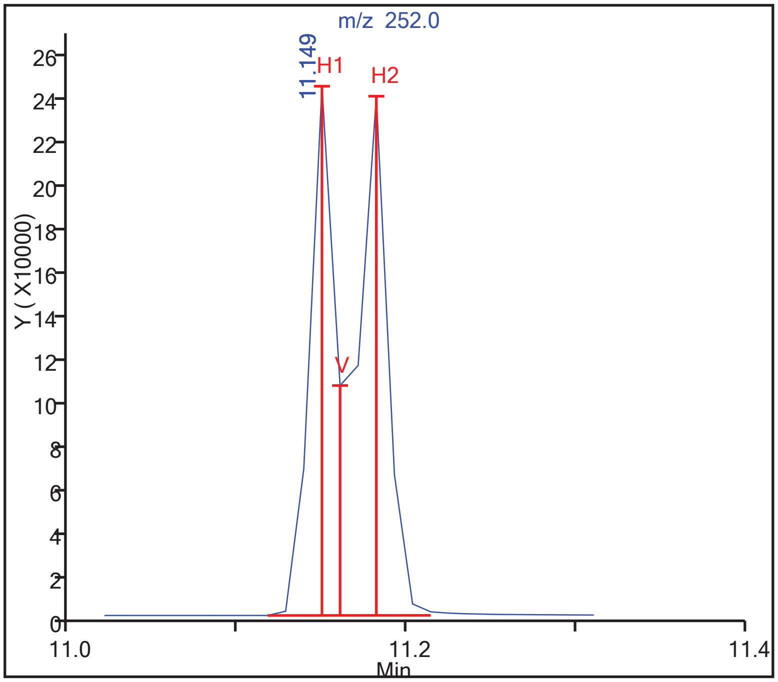
23 Benzo[b]fluoranthene - 24 Benzo[k]fluoranthene

SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 104552
H1(23 Benzo[b]fluoranthen) = 240679
H2(24 Benzo[k]fluoranthen) = 236114

Version D: %R = 43.9 <= 50.0
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab Sample ID (1): CCVC 160-333184/32

Instrument ID (1): SMSI

GC Column (1): RXI5SiiMS ID: 0.25(mm)

Date Analyzed (1): 10/23/2017 21:12

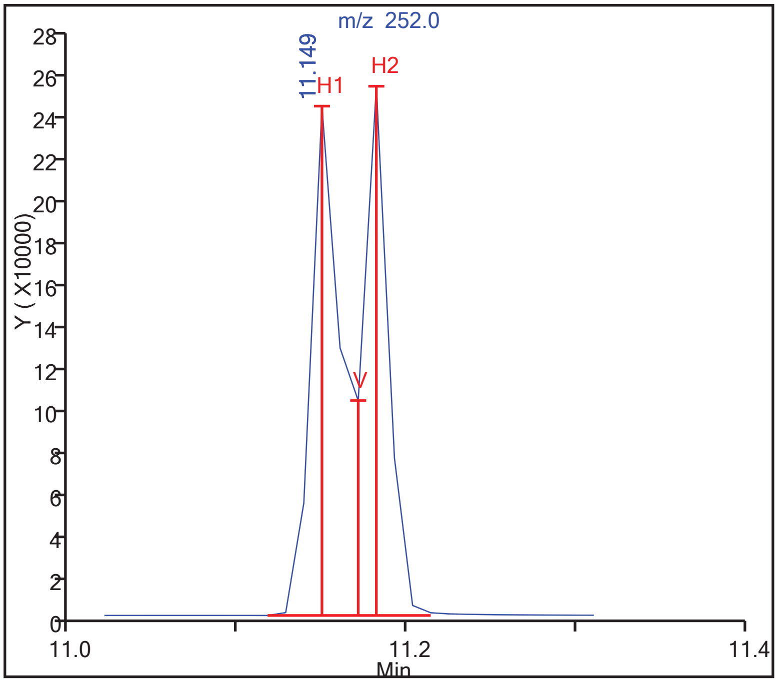
ANALYTE	RT	RESOLUTION (%)
Nitrobenzene-d5 (Surr)	3.72	100.0
Naphthalene	4.38	100.0
2-Methylnaphthalene	5.02	100.0
1-Methylnaphthalene	5.12	100.0
2-Fluorobiphenyl (Surr)	5.39	100.0
Acenaphthylene	5.89	100.0
Acenaphthene	6.05	100.0
Fluorene	6.55	100.0
Phenanthrene	7.48	100.0
Anthracene	7.54	100.0
Fluoranthene	8.64	100.0
Pyrene	8.87	100.0
Terphenyl-d14 (Surr)	9.03	100.0
Benzo[a]anthracene	10.03	100.0
Chrysene	10.07	100.0
Benzo[b]fluoranthene	11.15	41.40
Benzo[k]fluoranthene	11.18	100.0
Benzo[a]pyrene	11.54	100.0
Indeno[1,2,3-cd]pyrene	13.06	100.0
Dibenz(a,h)anthracene	13.10	100.0

Resolution Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4921.D				
Injection Date:	23-Oct-2017 21:12:30	Instrument ID:	SMSI		
Lims ID:	CCVC				
Client ID:					
Operator ID:	DEK/JFL	ALS Bottle#:	31	Worklist Smp#:	32
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

23 Benzo[b]fluoranthene - 24 Benzo[k]fluoranthene



SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 102965
H1(23 Benzo[b]fluoranthen) = 244064
H2(24 Benzo[k]fluoranthen) = 253596

Version D: %R = 41.4 <= 50.0
Passed

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-332657/10 Calibration Date: 10/19/2017 13:54

Instrument ID: SMSI Calib Start Date: 10/19/2017 11:16

GC Column: RXI5SiiMS ID: 0.25(mm) Calib End Date: 10/19/2017 13:32

Lab File ID: I4733.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	1.101	1.107		1.01	1.00	0.6	20.0
2-Methylnaphthalene	Ave	0.7298	0.7035		0.964	1.00	-3.6	20.0
1-Methylnaphthalene	Ave	0.6593	0.6711		1.02	1.00	1.8	20.0
Acenaphthylene	Ave	2.129	2.184		1.03	1.00	2.6	20.0
Acenaphthene	Ave	1.378	1.313		0.953	1.00	-4.7	20.0
Fluorene	Ave	1.569	1.582		1.01	1.00	0.8	20.0
Phenanthrene	Ave	1.272	1.317		1.04	1.00	3.5	20.0
Anthracene	Ave	1.291	1.275		0.988	1.00	-1.2	20.0
Fluoranthene	Ave	1.392	1.329		0.955	1.00	-4.5	20.0
Pyrene	Ave	1.390	1.326		0.954	1.00	-4.6	20.0
Benzo[a]anthracene	Ave	1.356	1.348		0.994	1.00	-0.6	20.0
Chrysene	Ave	1.289	1.284		0.996	1.00	-0.4	20.0
Benzo[b]fluoranthene	Ave	1.373	1.422		1.04	1.00	3.6	20.0
Benzo[k]fluoranthene	Ave	1.492	1.573		1.05	1.00	5.4	20.0
Benzo[a]pyrene	Ave	1.291	1.289		0.998	1.00	-0.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.547	1.614		1.04	1.00	4.3	20.0
Dibenz(a,h)anthracene	Ave	1.323	1.350		1.02	1.00	2.0	20.0
Benzo[g,h,i]perylene	Ave	1.338	1.259		0.941	1.00	-5.9	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3469	0.3722		1.07	1.00	7.3	20.0
2-Fluorobiphenyl (Surr)	Ave	1.624	1.738		1.07	1.00	7.0	20.0
Terphenyl-d14 (Surr)	Ave	0.8516	0.8989		1.06	1.00	5.6	20.0

Report Date: 20-Oct-2017 08:14:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4733.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 19-Oct-2017 13:54:30 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011706-010
Misc. Info.: ICV
Operator ID: DEK Instrument ID: SMSI
Sublist:

Method: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 20-Oct-2017 08:14:30 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK055

First Level Reviewer: konopkad Date: 19-Oct-2017 14:12:16

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.354	3.354	0.000	94	266098	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.809	3.809	0.000	17	78667	1.00	1.07	
* 4 Naphthalene-d8	136	4.454	4.454	0.000	1	845334	4.00	4.00	
5 Naphthalene	128	4.465	4.465	0.000	22	233863	1.00	1.01	
7 2-Methylnaphthalene	142	5.120	5.120	0.000	32	148665	1.00	0.9639	
8 1-Methylnaphthalene	142	5.209	5.209	0.000	1	141826	1.00	1.02	
$ 9 2-Fluorobiphenyl (Surr)	172	5.476	5.476	0.000	1	177471	1.00	1.07	
10 Acenaphthylene	152	5.976	5.976	0.000	47	223050	1.00	1.03	
* 11 Acenaphthene-d10	164	6.120	6.120	0.000	1	408438	4.00	4.00	
12 Acenaphthene	153	6.154	6.154	0.000	20	134109	1.00	0.9533	
13 Fluorene	166	6.653	6.654	-0.001	30	161560	1.00	1.01	
* 14 Phenanthrene-d10	188	7.556	7.556	0.000	1	729725	4.00	4.00	
15 Phenanthrene	178	7.578	7.578	0.000	1	240275	1.00	1.04	
16 Anthracene	178	7.632	7.632	0.000	3	232588	1.00	0.9876	
17 Fluoranthene	202	8.740	8.740	0.000	11	242447	1.00	0.9548	
18 Pyrene	202	8.965	8.966	-0.001	13	239992	1.00	0.9542	
$ 19 Terphenyl-d14	244	9.127	9.127	0.000	1	162635	1.00	1.06	
20 Benzo[a]anthracene	228	10.127	10.138	-0.011	3	243830	1.00	0.99	
* 21 Chrysene-d12	240	10.138	10.149	-0.011	1	723748	4.00	4.00	
22 Chrysene	228	10.170	10.170	0.000	43	232378	1.00	1.00	
23 Benzo[b]fluoranthene	252	11.278	11.278	0.000	2	271966	1.00	1.04	
24 Benzo[k]fluoranthene	252	11.310	11.310	0.000	1	300809	1.00	1.05	
25 Benzo[a]pyrene	252	11.676	11.676	0.000	14	246499	1.00	1.00	
* 26 Perylene-d12	264	11.751	11.751	0.000	16	764952	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.236	13.236	0.000	5	308619	1.00	1.04	
28 Dibenz(a,h)anthracene	278	13.268	13.268	0.000	61	258177	1.00	1.02	
29 Benzo[g,h,i]perylene	276	13.634	13.645	-0.011	16	240863	1.00	0.9411	

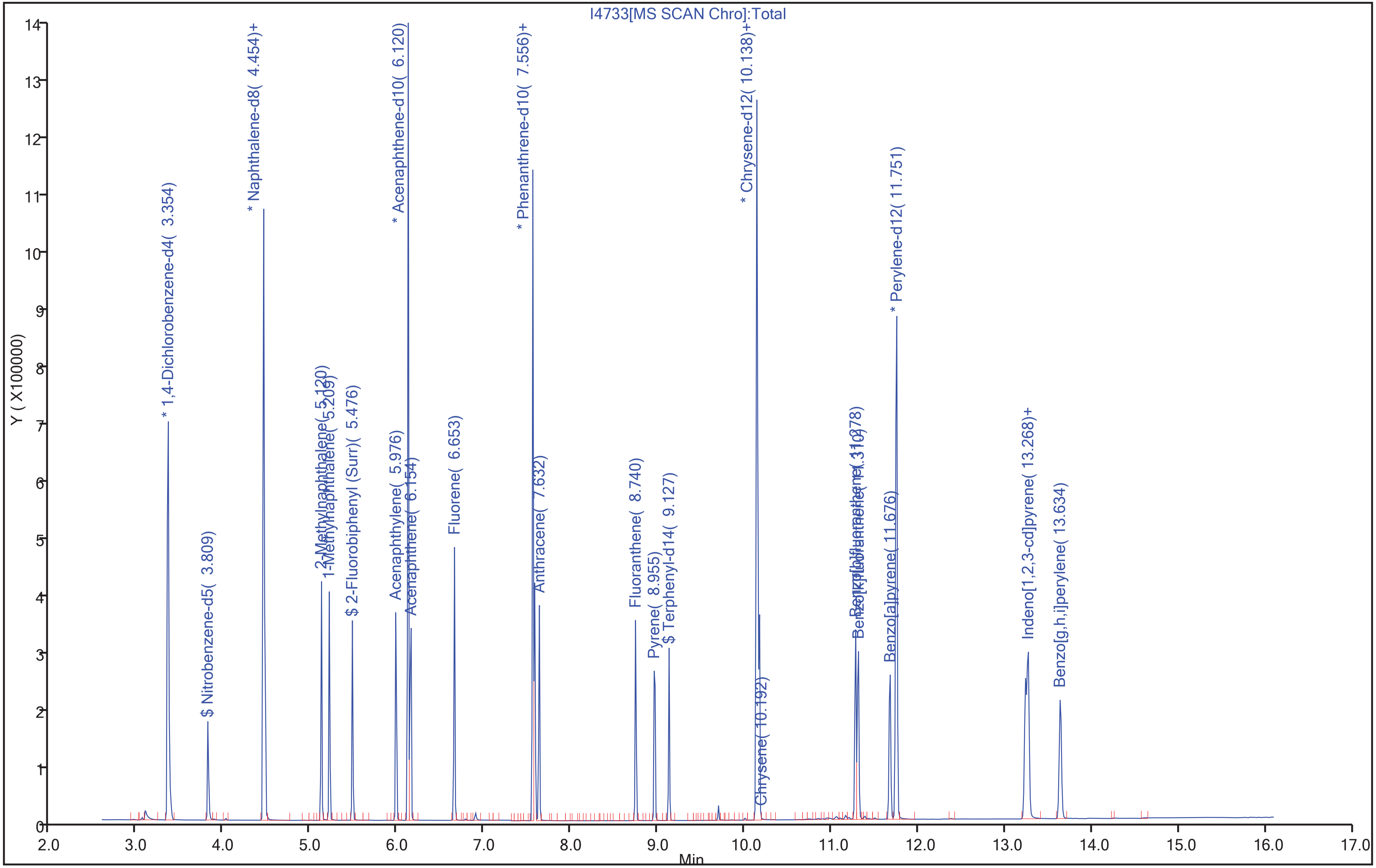
Reagents:

1 ppm PAHI_00037 Amount Added: 1.00 Units: mL

Report Date: 20-Oct-2017 08:14:32
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4733.D
Injection Date: 19-Oct-2017 13:54:30
Instrument ID: SMSI
Operator ID: DEK
Lims ID: ICV
Worklist Smp#: 10
Client ID:
Injection Vol: 1.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 10
Method: 8270_SIM_SMSI
Limit Group: MSS-8270SIM DoD



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333047/4   Calibration Date: 10/21/2017 12:35

Instrument ID: SMSI   Calib Start Date: 10/19/2017 11:16

GC Column: RXI5SiiMS   ID: 0.25(mm)   Calib End Date: 10/19/2017 13:32

Lab File ID: I4842.D   Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	1.101	1.146		1.04	1.00	4.1	20.0
2-Methylnaphthalene	Ave	0.7298	0.7273		0.997	1.00	-0.3	20.0
1-Methylnaphthalene	Ave	0.6593	0.7056		1.07	1.00	7.0	20.0
Acenaphthylene	Ave	2.129	2.231		1.05	1.00	4.8	20.0
Acenaphthene	Ave	1.378	1.359		0.986	1.00	-1.4	20.0
Fluorene	Ave	1.569	1.495		0.952	1.00	-4.8	20.0
Phenanthrene	Ave	1.272	1.254		0.986	1.00	-1.4	20.0
Anthracene	Ave	1.291	1.236		0.958	1.00	-4.2	20.0
Fluoranthene	Ave	1.392	1.352		0.971	1.00	-2.9	20.0
Pyrene	Ave	1.390	1.410		1.01	1.00	1.4	20.0
Benzo[a]anthracene	Ave	1.356	1.349		0.995	1.00	-0.5	20.0
Chrysene	Ave	1.289	1.290		1.00	1.00	0.0	20.0
Benzo[b]fluoranthene	Ave	1.373	1.414		1.03	1.00	3.0	20.0
Benzo[k]fluoranthene	Ave	1.492	1.369		0.917	1.00	-8.3	20.0
Benzo[a]pyrene	Ave	1.291	1.257		0.973	1.00	-2.7	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.547	1.527		0.987	1.00	-1.3	20.0
Dibenz(a,h)anthracene	Ave	1.323	1.317		0.995	1.00	-0.5	20.0
Benzo[g,h,i]perylene	Ave	1.338	1.335		0.997	1.00	-0.3	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3469	0.3411		0.983	1.00	-1.7	20.0
2-Fluorobiphenyl (Surr)	Ave	1.624	1.568		0.965	1.00	-3.5	20.0
Terphenyl-d14 (Surr)	Ave	0.8516	0.8412		0.988	1.00	-1.2	20.0

FORM VII 8270D SIM

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4842.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Oct-2017 12:35:30　ALS Bottle#: 4　Worklist Smp#: 4
Injection Vol: 1.0 ul　Dil. Factor: 1.0000
Sample Info: 160-0011729-004
Misc. Info.: CCV
Operator ID: DEK　Instrument ID: SMSI
Sublist: chrom-8270_SIM_SMSI*sub1

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44　Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE　ID Type: RT Order ID
Quant Method: Internal Standard　Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 :　Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad　Date: 21-Oct-2017 12:52:47

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.298	3.298	0.000	99	295401	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	13	82051	1.00	0.9832	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	962282	4.00	4.00	
5 Naphthalene	128	4.420	4.420	0.000	22	275668	1.00	1.04	
7 2-Methylnaphthalene	142	5.076	5.076	0.000	33	174957	1.00	1.00	
8 1-Methylnaphthalene	142	5.165	5.165	0.000	1	169744	1.00	1.07	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	199464	1.00	0.9655	
10 Acenaphthylene	152	5.931	5.931	0.000	48	283745	1.00	1.05	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	508810	4.00	4.00	
12 Acenaphthene	153	6.098	6.098	0.000	24	172885	1.00	0.9865	
13 Fluorene	166	6.609	6.609	0.000	30	190148	1.00	0.9525	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	864326	4.00	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	270932	1.00	0.9857	
16 Anthracene	178	7.578	7.578	0.000	3	267134	1.00	0.9577	
17 Fluoranthene	202	8.696	8.696	0.000	13	292046	1.00	0.9710	
18 Pyrene	202	8.912	8.912	0.000	12	300232	1.00	1.01	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	179119	1.00	0.9879	
20 Benzo[a]anthracene	228	10.084	10.084	0.000	3	287310	1.00	1.00	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	851717	4.00	4.00	
22 Chrysene	228	10.116	10.116	0.000	41	274660	1.00	1.00	
23 Benzo[b]fluoranthene	252	11.224	11.224	0.000	1	320077	1.00	1.03	
24 Benzo[k]fluoranthene	252	11.246	11.246	0.000	1	309863	1.00	0.9174	
25 Benzo[a]pyrene	252	11.611	11.611	0.000	13	284438	1.00	0.9735	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	905354	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.160	13.160	0.000	5	345672	1.00	0.9870	
28 Dibenz(a,h)anthracene	278	13.193	13.193	0.000	62	298057	1.00	1.00	
29 Benzo[g,h,i]perylene	276	13.558	13.558	0.000	16	302138	1.00	1.00	

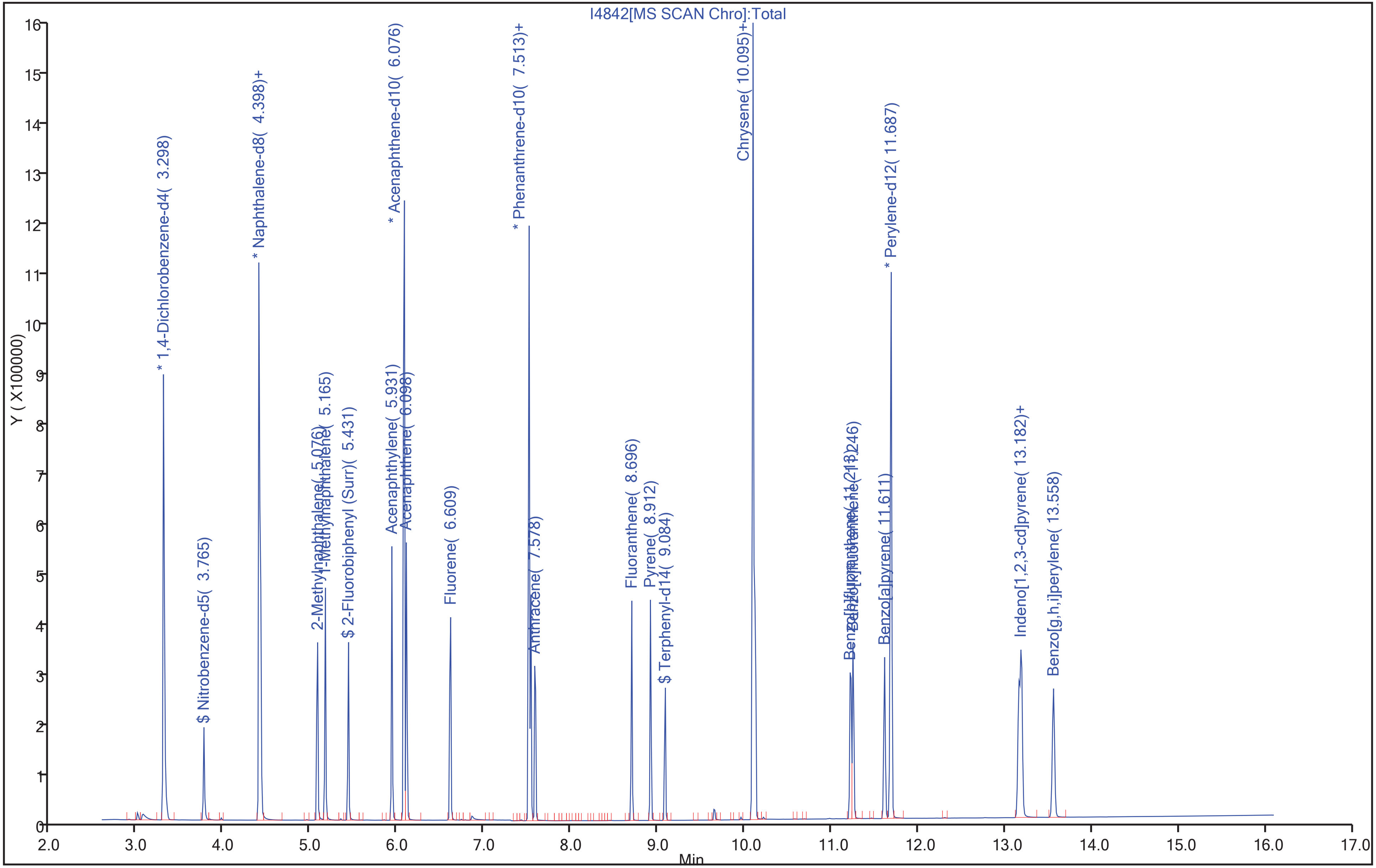
Reagents:

1 ppm PAH_00146	Amount Added: 1.00	Units: mL

Report Date: 22-Oct-2017 15:56:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4842.D
Injection Date: 21-Oct-2017 12:35:30 Instrument ID: SMSI Operator ID: DEK
Lims ID: CCV Worklist Smp#: 4
Client ID:
Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4
Method: 8270_SIM_SMSI Limit Group: MSS-8270SIM DoD



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Lab Sample ID: CCVC 160-333047/28
Calibration Date: 10/21/2017 21:38
Instrument ID: SMSI
Calib Start Date: 10/19/2017 11:16
GC Column: RXI5SiiMS ID: 0.25(mm)
Calib End Date: 10/19/2017 13:32
Lab File ID: I4866.D
Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	1.101	1.155		1.05	1.00	5.0	50.0
2-Methylnaphthalene	Ave	0.7298	0.7557		1.04	1.00	3.5	50.0
1-Methylnaphthalene	Ave	0.6593	0.7195		1.09	1.00	9.1	50.0
Acenaphthylene	Ave	2.129	2.185		1.03	1.00	2.6	50.0
Acenaphthene	Ave	1.378	1.298		0.942	1.00	-5.8	50.0
Fluorene	Ave	1.569	1.533		0.977	1.00	-2.3	50.0
Phenanthrene	Ave	1.272	1.277		1.00	1.00	0.4	50.0
Anthracene	Ave	1.291	1.271		0.985	1.00	-1.5	50.0
Fluoranthene	Ave	1.392	1.387		0.996	1.00	-0.4	50.0
Pyrene	Ave	1.390	1.368		0.984	1.00	-1.6	50.0
Benzo[a]anthracene	Ave	1.356	1.373		1.01	1.00	1.3	50.0
Chrysene	Ave	1.289	1.290		1.00	1.00	0.0	50.0
Benzo[b]fluoranthene	Ave	1.373	1.383		1.01	1.00	0.7	50.0
Benzo[k]fluoranthene	Ave	1.492	1.470		0.985	1.00	-1.5	50.0
Benzo[a]pyrene	Ave	1.291	1.288		0.997	1.00	-0.3	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.547	1.444		0.933	1.00	-6.7	50.0
Dibenz(a,h)anthracene	Ave	1.323	1.269		0.959	1.00	-4.1	50.0
Benzo[g,h,i]perylene	Ave	1.338	1.174		0.877	1.00	-12.3	50.0
Nitrobenzene-d5 (Surr)	Ave	0.3469	0.3561		1.03	1.00	2.7	50.0
2-Fluorobiphenyl (Surr)	Ave	1.624	1.568		0.966	1.00	-3.4	50.0
Terphenyl-d14 (Surr)	Ave	0.8516	0.8544		1.00	1.00	0.3	50.0

FORM VII 8270D SIM

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4866.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 21-Oct-2017 21:38:30 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-028
Misc. Info.: CCVC
Operator ID: DEK Instrument ID: SMSI
Sublist: chrom-8270_SIM_SMSI*sub1

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:57:24 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 09:37:06

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.298	3.298	0.000	99	300226	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	15	85620	1.00	1.03	
* 4 Naphthalene-d8	136	4.409	4.409	0.000	1	961661	4.00	4.00	
5 Naphthalene	128	4.420	4.420	0.000	22	277785	1.00	1.05	
7 2-Methylnaphthalene	142	5.076	5.076	0.000	32	181674	1.00	1.04	
8 1-Methylnaphthalene	142	5.165	5.165	0.000	1	172981	1.00	1.09	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	205584	1.00	0.9657	
10 Acenaphthylene	152	5.931	5.931	0.000	47	286439	1.00	1.03	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	524320	4.00	4.00	
12 Acenaphthene	153	6.098	6.098	0.000	25	170202	1.00	0.9424	
13 Fluorene	166	6.609	6.609	0.000	30	201008	1.00	0.9771	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	888632	4.00	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	283799	1.00	1.00	
16 Anthracene	178	7.588	7.588	0.000	3	282400	1.00	0.9847	
17 Fluoranthene	202	8.696	8.696	0.000	12	308031	1.00	1.00	
18 Pyrene	202	8.912	8.912	0.000	11	314975	1.00	0.9844	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	196676	1.00	1.00	
20 Benzo[a]anthracene	228	10.084	10.084	0.000	3	316108	1.00	1.01	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	920769	4.00	4.00	
22 Chrysene	228	10.127	10.127	0.000	43	297026	1.00	1.00	
23 Benzo[b]fluoranthene	252	11.224	11.224	0.000	2	346384	1.00	1.01	
24 Benzo[k]fluoranthene	252	11.256	11.256	0.000	1	368172	1.00	0.9852	
25 Benzo[a]pyrene	252	11.611	11.611	0.000	13	322464	1.00	1.00	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	1001686	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.171	13.171	0.000	5	361593	1.00	0.9331	
28 Dibenz(a,h)anthracene	278	13.193	13.193	0.000	60	317856	1.00	0.9594	
29 Benzo[g,h,i]perylene	276	13.569	13.569	0.000	15	293884	1.00	0.8769	

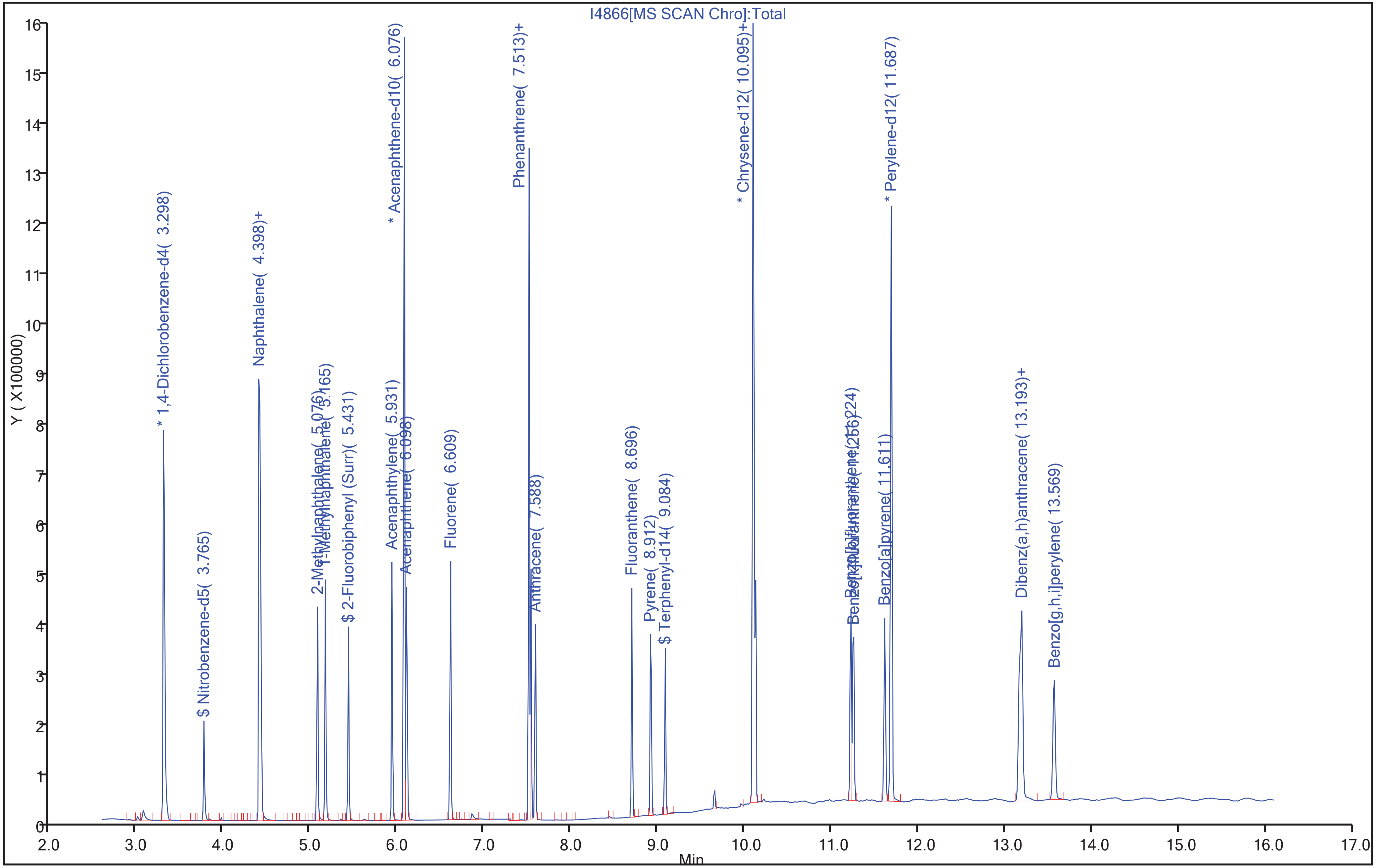
Reagents:

1 ppm PAH_00146	Amount Added: 1.00	Units: mL

Report Date: 22-Oct-2017 15:57:25 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4866.D				
Injection Date:	21-Oct-2017 21:38:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	CCVC			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Lab Sample ID: CCV 160-333184/4
Calibration Date: 10/23/2017 10:22
Instrument ID: SMSI
Calib Start Date: 10/19/2017 11:16
GC Column: RXI5SiiMS ID: 0.25(mm)
Calib End Date: 10/19/2017 13:32
Lab File ID: I4893.D
Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	1.101	1.060		0.964	1.00	-3.6	20.0
2-Methylnaphthalene	Ave	0.7298	0.7356		1.01	1.00	0.8	20.0
1-Methylnaphthalene	Ave	0.6593	0.6708		1.02	1.00	1.7	20.0
Acenaphthylene	Ave	2.129	1.980		0.930	1.00	-7.0	20.0
Acenaphthene	Ave	1.378	1.325		0.962	1.00	-3.8	20.0
Fluorene	Ave	1.569	1.475		0.940	1.00	-6.0	20.0
Phenanthrene	Ave	1.272	1.261		0.991	1.00	-0.9	20.0
Anthracene	Ave	1.291	1.226		0.950	1.00	-5.0	20.0
Fluoranthene	Ave	1.392	1.356		0.974	1.00	-2.6	20.0
Pyrene	Ave	1.390	1.398		1.01	1.00	0.6	20.0
Benzo[a]anthracene	Ave	1.356	1.345		0.992	1.00	-0.8	20.0
Chrysene	Ave	1.289	1.301		1.01	1.00	0.9	20.0
Benzo[b]fluoranthene	Ave	1.373	1.280		0.932	1.00	-6.8	20.0
Benzo[k]fluoranthene	Ave	1.492	1.623		1.09	1.00	8.8	20.0
Benzo[a]pyrene	Ave	1.291	1.253		0.970	1.00	-3.0	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.547	1.491		0.964	1.00	-3.6	20.0
Dibenz(a,h)anthracene	Ave	1.323	1.289		0.974	1.00	-2.6	20.0
Benzo[g,h,i]perylene	Ave	1.338	1.315		0.983	1.00	-1.7	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3469	0.3321		0.957	1.00	-4.3	20.0
2-Fluorobiphenyl (Surr)	Ave	1.624	1.417		0.872	1.00	-12.8	20.0
Terphenyl-d14 (Surr)	Ave	0.8516	0.8512		1.00	1.00	-0.0	20.0

FORM VII 8270D SIM

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4893.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 23-Oct-2017 10:22:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011739-004
Misc. Info.: CCV
Operator ID: DEK/JFL Instrument ID: SMSI
Sublist: chrom-8270_SIM_SMSI*sub1

Method: \\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 24-Oct-2017 08:44:10 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK037

First Level Reviewer: lorej Date: 23-Oct-2017 10:51:25

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.254	3.254	0.000	97	260454	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.720	3.720	0.000	11	74060	1.00	0.9573	
* 4 Naphthalene-d8	136	4.354	4.354	0.000	1	892029	4.00	4.00	
5 Naphthalene	128	4.376	4.376	0.000	22	236490	1.00	0.9636	
7 2-Methylnaphthalene	142	5.020	5.020	0.000	28	164040	1.00	1.01	
8 1-Methylnaphthalene	142	5.120	5.120	0.000	1	149598	1.00	1.02	
$ 9 2-Fluorobiphenyl (Surr)	172	5.387	5.387	0.000	1	171241	1.00	0.8723	
10 Acenaphthylene	152	5.887	5.887	0.000	48	239373	1.00	0.9301	
* 11 Acenaphthene-d10	164	6.020	6.020	0.000	2	483464	4.00	4.00	
12 Acenaphthene	153	6.054	6.054	0.000	22	160133	1.00	0.9616	
13 Fluorene	166	6.553	6.553	0.000	29	178259	1.00	0.9398	
* 14 Phenanthrene-d10	188	7.460	7.460	0.000	1	803904	4.00	4.00	
15 Phenanthrene	178	7.481	7.481	0.000	1	253443	1.00	0.99	
16 Anthracene	178	7.535	7.535	0.000	3	246485	1.00	0.9501	
17 Fluoranthene	202	8.643	8.643	0.000	12	272526	1.00	0.9742	
18 Pyrene	202	8.858	8.858	0.000	11	271015	1.00	1.01	
$ 19 Terphenyl-d14	244	9.030	9.030	0.000	1	164987	1.00	1.00	
20 Benzo[a]anthracene	228	10.030	10.030	0.000	3	260642	1.00	0.99	
* 21 Chrysene-d12	240	10.041	10.041	0.000	1	775330	4.00	4.00	
22 Chrysene	228	10.063	10.063	0.000	41	252252	1.00	1.01	
23 Benzo[b]fluoranthene	252	11.149	11.149	0.000	3	267203	1.00	0.9323	
24 Benzo[k]fluoranthene	252	11.181	11.181	0.000	1	338854	1.00	1.09	
25 Benzo[a]pyrene	252	11.536	11.536	0.000	14	261476	1.00	0.9702	
* 26 Perylene-d12	264	11.612	11.612	0.000	16	835052	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.064	13.064	0.000	5	311366	1.00	0.9639	M
28 Dibenz(a,h)anthracene	278	13.085	13.085	0.000	57	269110	1.00	0.9743	
29 Benzo[g,h,i]perylene	276	13.451	13.451	0.000	17	274609	1.00	0.9829	

QC Flag Legend

Review Flags

M - Manually Integrated

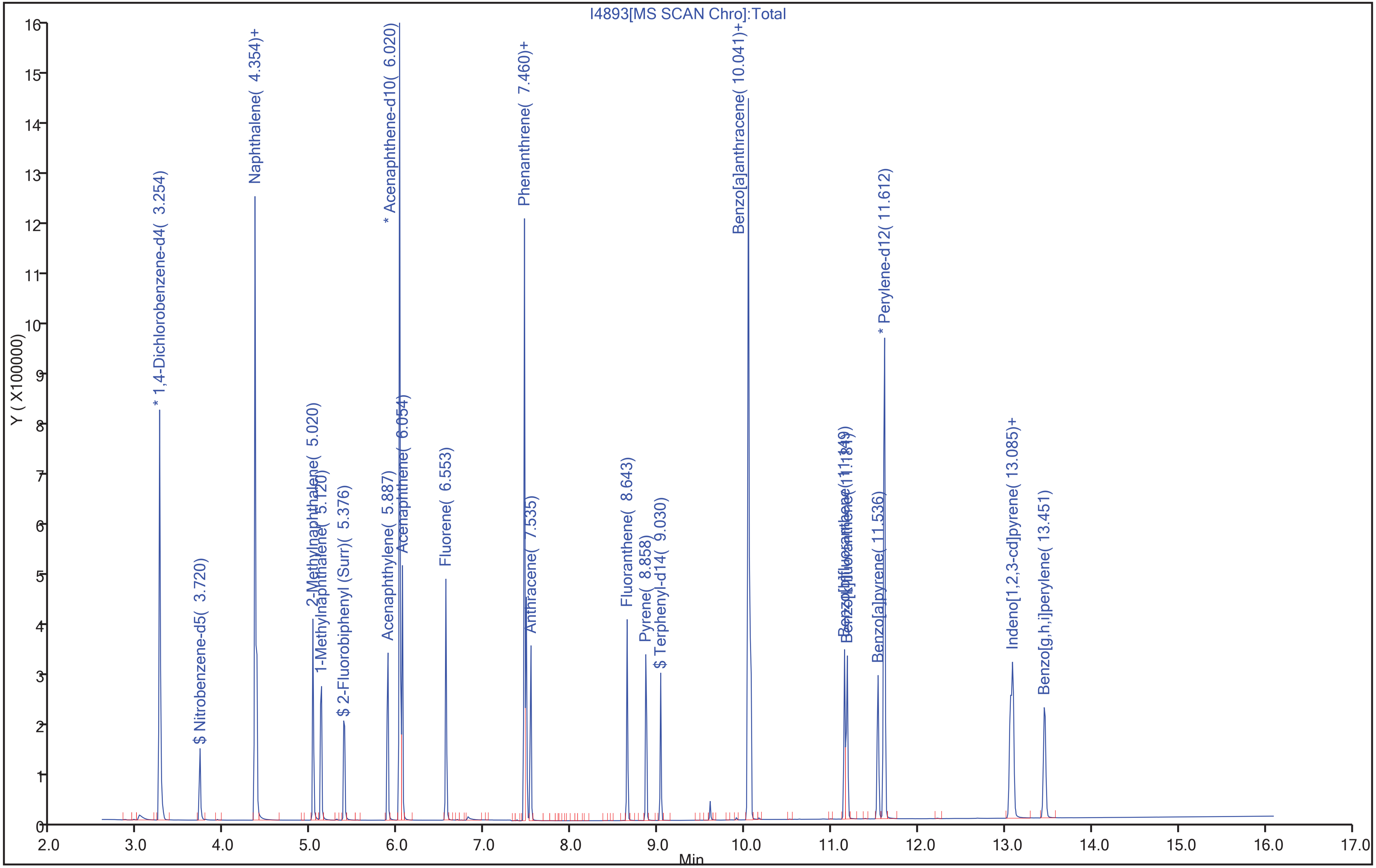
Reagents:

1 ppm PAH_00146	Amount Added: 1.00	Units: mL

Report Date: 24-Oct-2017 08:44:10
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4893.D
Injection Date: 23-Oct-2017 10:22:30
Instrument ID: SMSI
Operator ID: DEK/JFL
Lims ID: CCV
Worklist Smp#: 4
Client ID:
Injection Vol: 1.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 3
Method: 8270_SIM_SMSI
Limit Group: MSS-8270SIM DoD



Manual Integration/User Assign Peak Report

TestAmerica St. Louis

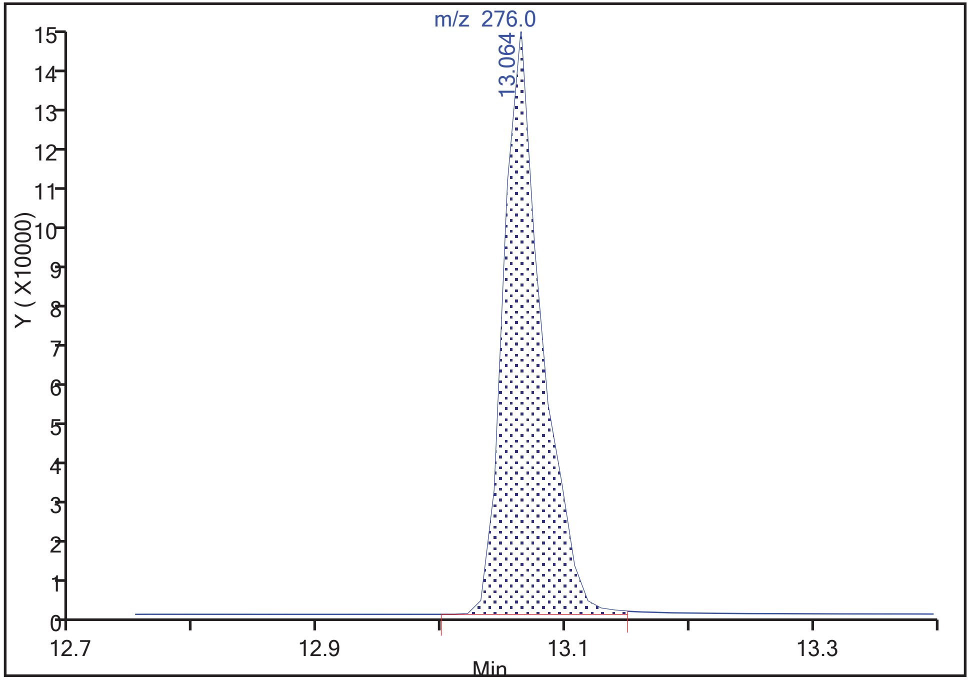
Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4893.D				
Injection Date:	23-Oct-2017 10:22:30	Instrument ID:	SMSI		
Lims ID:	CCV				
Client ID:					
Operator ID:	DEK/JFL	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Column:		Detector	MS SCAN		

27 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

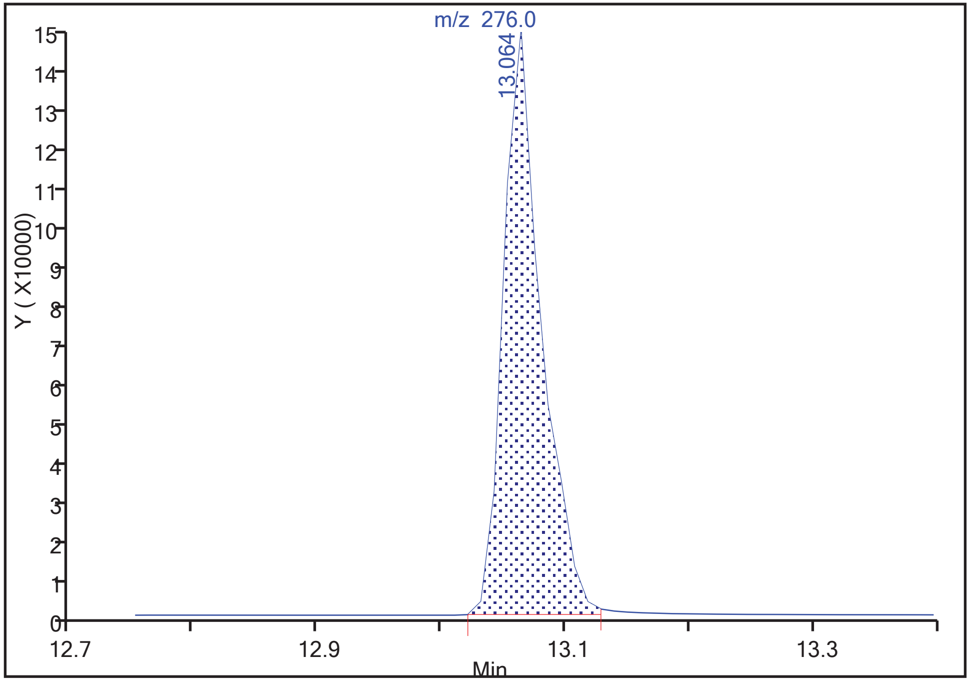
Processing Integration Results

RT: 13.06
Area: 313762
Amount: 0.971277
Amount Units: ug/ml



Manual Integration Results

RT: 13.06
Area: 311366
Amount: 0.963860
Amount Units: ug/ml



Reviewer: lorej, 23-Oct-2017 17:15:32

Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVC 160-333184/32 Calibration Date: 10/23/2017 21:12

Instrument ID: SMSI Calib Start Date: 10/19/2017 11:16

GC Column: RXI5SiiMS ID: 0.25(mm) Calib End Date: 10/19/2017 13:32

Lab File ID: I4921.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	1.101	1.074		0.975	1.00	-2.5	50.0
2-Methylnaphthalene	Ave	0.7298	0.7273		0.997	1.00	-0.3	50.0
1-Methylnaphthalene	Ave	0.6593	0.6461		0.980	1.00	-2.0	50.0
Acenaphthylene	Ave	2.129	2.060		0.967	1.00	-3.3	50.0
Acenaphthene	Ave	1.378	1.345		0.976	1.00	-2.4	50.0
Fluorene	Ave	1.569	1.514		0.965	1.00	-3.5	50.0
Phenanthrene	Ave	1.272	1.261		0.991	1.00	-0.9	50.0
Anthracene	Ave	1.291	1.272		0.985	1.00	-1.5	50.0
Fluoranthene	Ave	1.392	1.324		0.951	1.00	-4.9	50.0
Pyrene	Ave	1.390	1.414		1.02	1.00	1.7	50.0
Benzo[a]anthracene	Ave	1.356	1.364		1.01	1.00	0.6	50.0
Chrysene	Ave	1.289	1.284		0.996	1.00	-0.4	50.0
Benzo[b]fluoranthene	Ave	1.373	1.600		1.17	1.00	16.5	50.0
Benzo[k]fluoranthene	Ave	1.492	1.321		0.885	1.00	-11.5	50.0
Benzo[a]pyrene	Ave	1.291	1.284		0.994	1.00	-0.6	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.547	1.579		1.02	1.00	2.1	50.0
Dibenz(a,h)anthracene	Ave	1.323	1.365		1.03	1.00	3.2	50.0
Benzo[g,h,i]perylene	Ave	1.338	1.367		1.02	1.00	2.1	50.0
Nitrobenzene-d5 (Surr)	Ave	0.3469	0.3335		0.961	1.00	-3.9	50.0
2-Fluorobiphenyl (Surr)	Ave	1.624	1.427		0.878	1.00	-12.2	50.0
Terphenyl-d14 (Surr)	Ave	0.8516	0.8856		1.04	1.00	4.0	50.0

FORM VII 8270D SIM

Report Date: 24-Oct-2017 08:44:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4921.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 23-Oct-2017 21:12:30 ALS Bottle#: 31 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011739-032
Misc. Info.: CCVC
Operator ID: DEK/JFL Instrument ID: SMSI
Sublist: chrom-8270_SIM_SMSI*sub1

Method: \\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 24-Oct-2017 08:44:43 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK037

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.254	3.254	0.000	97	275706	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.721	3.721	0.000	10	77058	1.00	0.9613	
* 4 Naphthalene-d8	136	4.354	4.354	0.000	1	924289	4.00	4.00	
5 Naphthalene	128	4.376	4.376	0.000	22	248059	1.00	0.9755	
7 2-Methylnaphthalene	142	5.020	5.020	0.000	28	168057	1.00	1.00	
8 1-Methylnaphthalene	142	5.120	5.120	0.000	1	149284	1.00	0.9799	
$ 9 2-Fluorobiphenyl (Surr)	172	5.387	5.387	0.000	1	172617	1.00	0.8784	
10 Acenaphthylene	152	5.887	5.887	0.000	48	249217	1.00	0.9673	
* 11 Acenaphthene-d10	164	6.020	6.020	0.000	3	483979	4.00	4.00	
12 Acenaphthene	153	6.054	6.054	0.000	21	162726	1.00	0.9761	
13 Fluorene	166	6.553	6.553	0.000	29	183165	1.00	0.9646	
* 14 Phenanthrene-d10	188	7.460	7.460	0.000	1	799417	4.00	4.00	
15 Phenanthrene	178	7.481	7.481	0.000	1	252022	1.00	0.99	
16 Anthracene	178	7.535	7.535	0.000	3	254114	1.00	0.9850	
17 Fluoranthene	202	8.643	8.643	0.000	11	264685	1.00	0.9515	
18 Pyrene	202	8.869	8.869	0.000	13	277677	1.00	1.02	
$ 19 Terphenyl-d14	244	9.030	9.030	0.000	1	173881	1.00	1.04	
20 Benzo[a]anthracene	228	10.030	10.030	0.000	3	267812	1.00	1.01	
* 21 Chrysene-d12	240	10.041	10.041	0.000	1	785357	4.00	4.00	
22 Chrysene	228	10.073	10.073	0.000	43	252093	1.00	1.00	
23 Benzo[b]fluoranthene	252	11.149	11.149	0.000	3	342359	1.00	1.17	
24 Benzo[k]fluoranthene	252	11.181	11.181	0.000	1	282660	1.00	0.8849	
25 Benzo[a]pyrene	252	11.536	11.536	0.000	14	274723	1.00	0.99	
* 26 Perylene-d12	264	11.612	11.612	0.000	16	856118	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.064	13.064	0.000	5	338033	1.00	1.02	
28 Dibenz(a,h)anthracene	278	13.096	13.096	0.000	62	292134	1.00	1.03	
29 Benzo[g,h,i]perylene	276	13.462	13.462	0.000	13	292522	1.00	1.02	

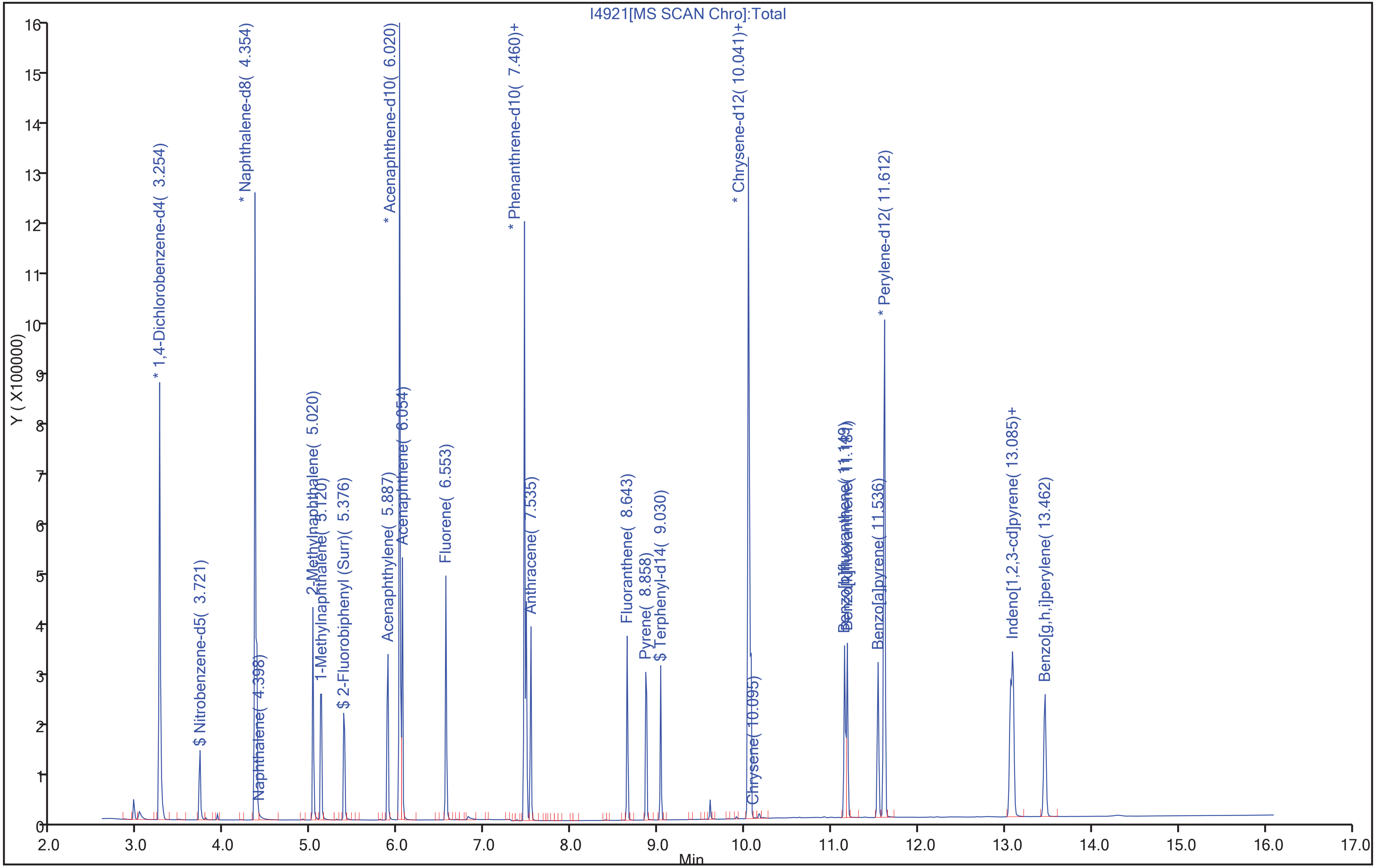
Reagents:

1 ppm PAH_00146	Amount Added: 1.00	Units: mL

Report Date: 24-Oct-2017 08:44:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4921.D				
Injection Date:	23-Oct-2017 21:12:30	Instrument ID:	SMSI	Operator ID:	DEK/JFL
Lims ID:	CCVC			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4725.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 19-Oct-2017 10:42:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011706-002
Misc. Info.: DFTPP
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 20-Oct-2017 08:14:20 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK055

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152		3.354				4.00	ND	
* 4 Naphthalene-d8	136		4.454				4.00	ND	
* 11 Acenaphthene-d10	164		6.120				4.00	ND	
* 14 Phenanthrene-d10	188		7.556				4.00	ND	
* 21 Chrysene-d12	240		10.149				4.00	ND	
* 26 Perylene-d12	264		11.751				4.00	ND	
1 Pentachlorophenol_T	266	12.074	12.074	0.000	96	145718	NR	NR	
6 Benzidine_T	184	15.080	15.080	0.000	100	2638956	NR	NR	
32 DFTPP									
30 4,4'-DDD	235	16.166	16.166	0.000	92	6374		NR	
33 4,4'-DDT	235	16.727	16.727	0.000	97	1079963	NR	NR	
31 4,4'-DDE	246		17.048					ND	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
8 - Failed MS Tune Ratio Test

Reagents:

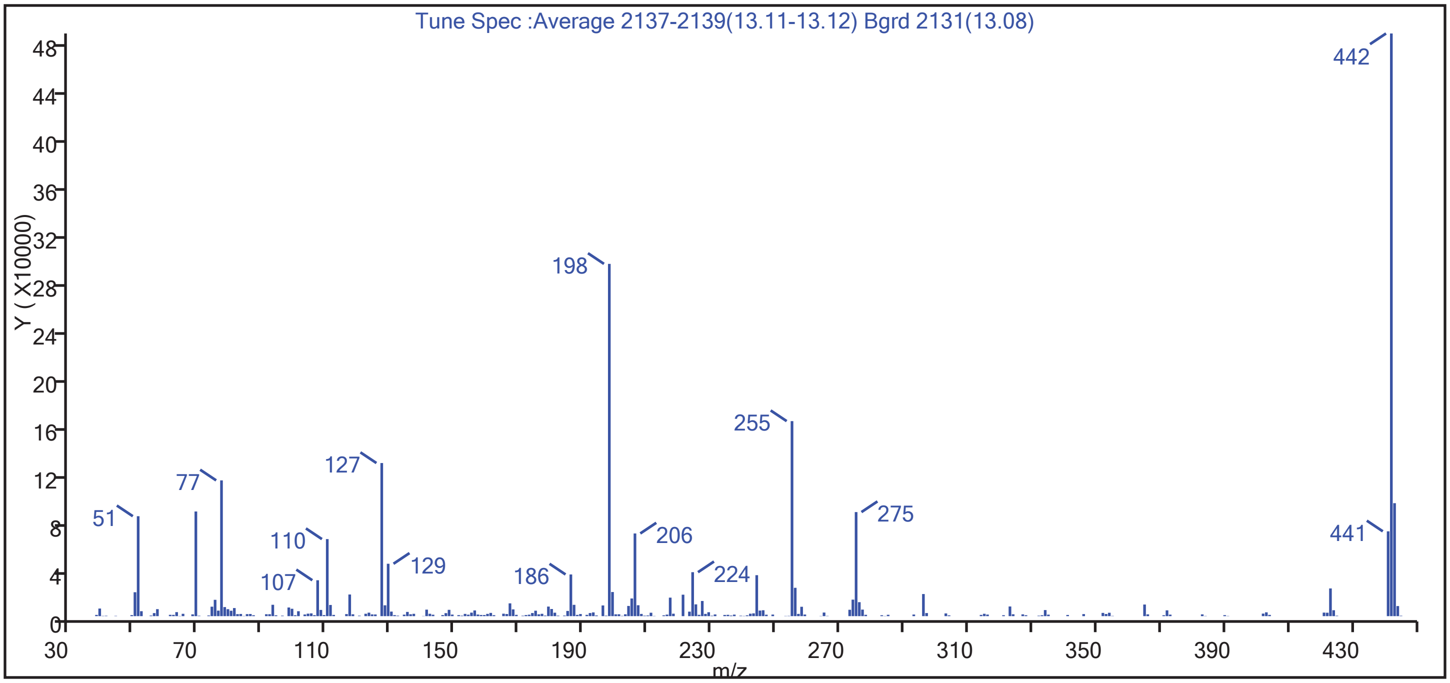
50 ppm Tuning_00033	Amount Added: 1.00	Units: mL	
80 ppm I Std_00085	Amount Added: 10.00	Units: uL	Run Reagent

MS Tune Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4725.D				
Injection Date:	19-Oct-2017 10:42:30	Instrument ID:	SMSI		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	DEK	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Tune Method:	DFTPP Method 8270				

32 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	28.4*
68	<2% of mass 69	0.5 (1.7)
69	Present	29.7
70	<2% of mass 69	0.1 (0.4)
127	40-60% of mass 198	43.5
197	<1% of mass 198	0.1
199	5-9% of mass 198	6.8
275	10-30% of mass 198	29.5
365	>1% of mass 198	3.3
441	Present but less than mass 443	24.1 (75.1)
442	>40% of mass 198	165.4
443	17-23% of mass 442	32.1 (19.4)

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4725.D\8270_SIM_SMSI.rslt\spectra.d
Injection Date: 19-Oct-2017 10:42:30
Spectrum: Tune Spec :Average 2137-2139(13.11-13.12) Bgrd 2131(13.08)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 228

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	1024	120.00	403	189.00	1738	264.00	180
39.00	6303	122.00	1968	191.00	1065	265.00	2990
40.00	239	123.00	2879	192.00	2576	266.00	235
41.00	343	124.00	1446	193.00	3101	273.00	5284
44.00	260	125.00	1397	194.00	590	274.00	13682
49.00	863	127.00	126872	196.00	8871	275.00	86232
50.00	19816	128.00	8978	197.00	405	276.00	11580
51.00	82808	129.00	43416	198.00	291904	277.00	5423
52.00	4098	130.00	3771	199.00	19984	278.00	1096
55.00	509	131.00	852	200.00	1503	283.00	752
56.00	2528	132.00	415	201.00	1543	284.00	169
57.00	5802	134.00	1240	202.00	258	285.00	1116
61.00	1099	135.00	3499	203.00	1534	293.00	1336
62.00	1059	136.00	1572	204.00	8453	296.00	18320
63.00	3327	137.00	1930	205.00	14647	297.00	2569
64.00	172	140.00	175	206.00	68512	303.00	2259
65.00	1935	141.00	5390	207.00	9034	304.00	670
68.00	1461	142.00	1961	208.00	1842	314.00	1037
69.00	86728	143.00	1190	209.00	415	315.00	1951
70.00	368	146.00	895	210.00	592	316.00	1294
73.00	582	147.00	2494	211.00	2831	321.00	771
74.00	7845	148.00	5230	212.00	187	323.00	8014
75.00	13528	149.00	1282	215.00	698	324.00	1544
76.00	4570	151.00	852	216.00	1275	327.00	1482
77.00	112496	152.00	423	217.00	15338	328.00	771
78.00	7508	153.00	1862	218.00	2026	332.00	398
79.00	5769	154.00	1220	221.00	17784	333.00	756
80.00	4484	155.00	2909	223.00	3733	334.00	5038
81.00	6706	156.00	4737	224.00	36424	335.00	1239
82.00	1662	157.00	1314	225.00	9764	341.00	980
83.00	1806	158.00	969	226.00	1104	346.00	1699
84.00	190	159.00	940	227.00	12562	352.00	2692
85.00	1660	160.00	1878	228.00	1856	353.00	1779

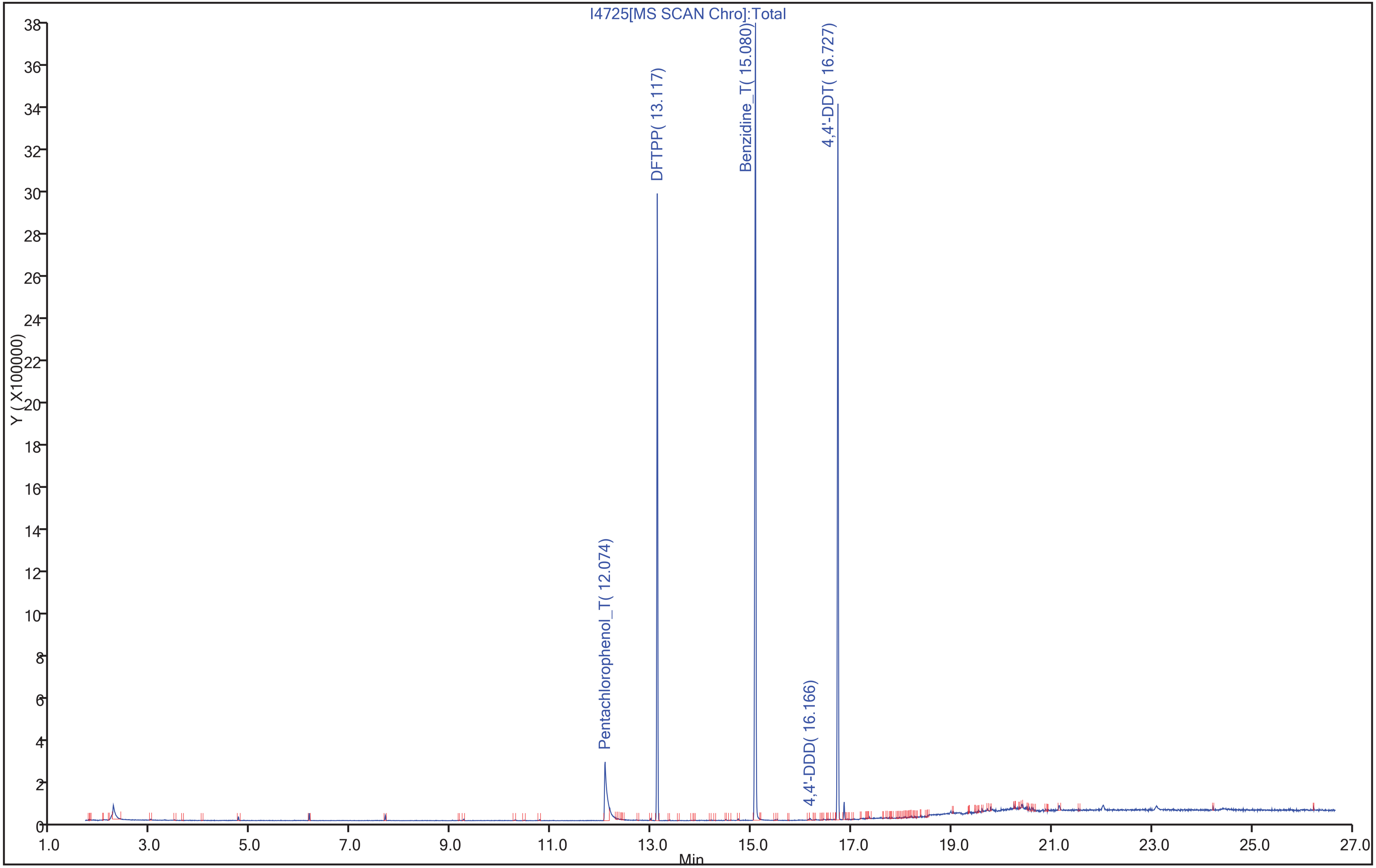
Report Date: 20-Oct-2017 08:14:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4725.D\8270_SIM_SMSI.rslt\spectra.d
Injection Date: 19-Oct-2017 10:42:30
Spectrum: Tune Spec :Average 2137-2139(13.11-13.12) Bgrd 2131(13.08)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 228

m/z	Y	m/z	Y	m/z	Y	m/z	Y
86.00	1782	161.00	2680	229.00	3238	354.00	2802
87.00	748	162.00	808	230.00	386	355.00	239
91.00	1584	165.00	2032	231.00	1404	365.00	9628
92.00	1599	166.00	1756	234.00	992	366.00	1470
93.00	9416	167.00	10599	235.00	1090	371.00	768
94.00	717	168.00	5599	236.00	529	372.00	4812
96.00	419	169.00	1075	237.00	1261	373.00	1246
98.00	7162	171.00	380	239.00	382	383.00	1461
99.00	6108	172.00	910	240.00	204	384.00	190
100.00	765	173.00	1202	241.00	669	390.00	837
101.00	4076	174.00	2579	242.00	2024	391.00	203
103.00	1380	175.00	4499	243.00	2313	402.00	2112
104.00	2056	176.00	1491	244.00	33944	403.00	3162
105.00	2296	177.00	1932	245.00	4631	404.00	1041
106.00	809	178.00	484	246.00	4892	421.00	2937
107.00	29744	179.00	7929	247.00	1181	422.00	2839
108.00	5150	180.00	5917	249.00	1300	423.00	22960
109.00	889	181.00	2863	253.00	197	424.00	4906
110.00	63848	182.00	443	254.00	260	425.00	379
111.00	9263	184.00	498	255.00	161600	441.00	70280
112.00	1027	185.00	4304	256.00	23488	442.00	482816
116.00	1700	186.00	34544	257.00	1862	443.00	93608
117.00	17944	187.00	9374	258.00	7766	444.00	8351
118.00	1525	188.00	1049	259.00	1334	445.00	365

Report Date: 20-Oct-2017 08:14:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4725.D
Injection Date: 19-Oct-2017 10:42:30 Instrument ID: SMSI Operator ID: DEK
Lims ID: DFTPP Worklist Smp#: 2
Client ID:
Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2
Method: 8270_SIM_SMSI Limit Group: MSS-8270SIM DoD

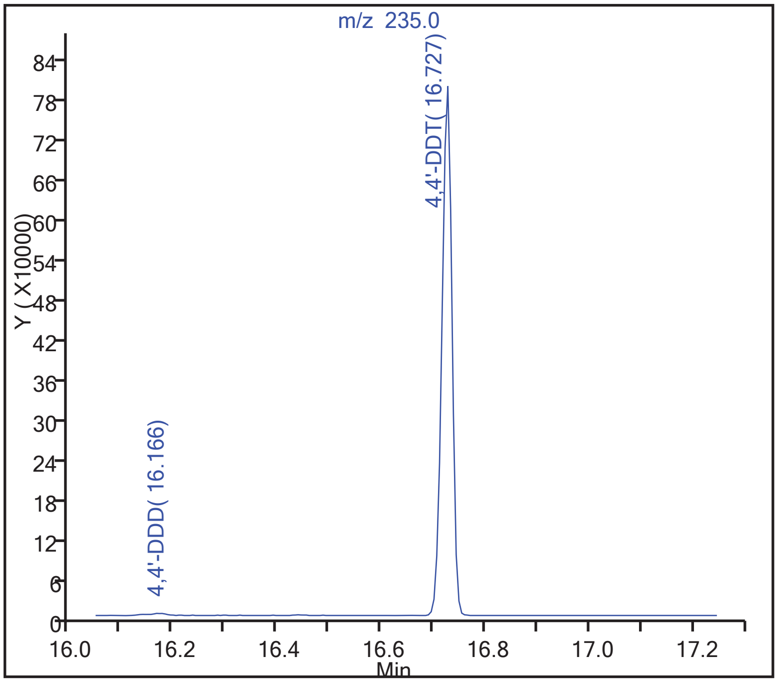


Breakdown Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4725.D				
Injection Date:	19-Oct-2017 10:42:30	Instrument ID:	SMSI		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	DEK	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

33 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

33 4,4'-DDT, Area = 1079963
30 4,4'-DDD, Area = 6374
31 4,4'-DDE, Area = 0

%Breakdown: 0.59%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica St. Louis

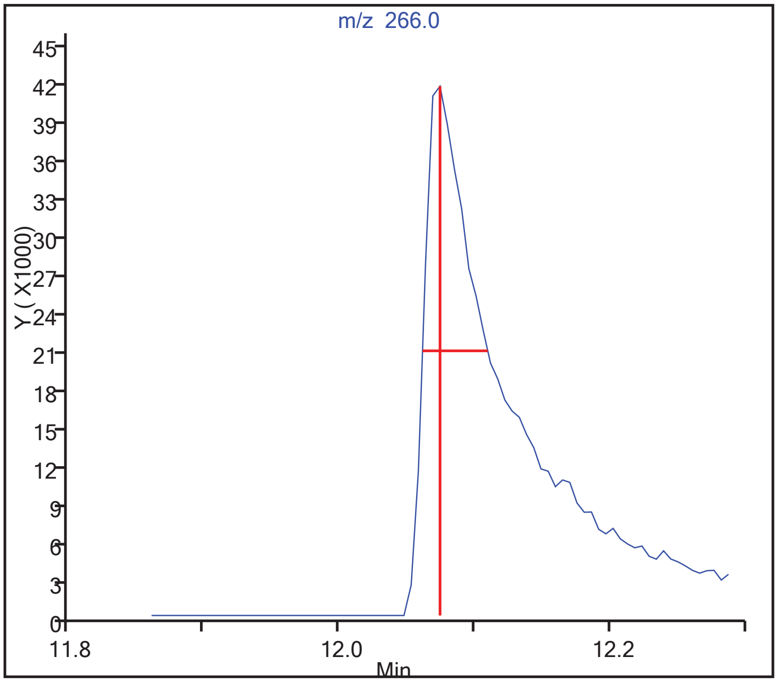
Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4725.D				
Injection Date:	19-Oct-2017 10:42:30	Instrument ID:	SMSI		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	DEK	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

1 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.000 (min.)
Front Width = 0.000 (min.)

Tailing Factor = 0.0, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica St. Louis

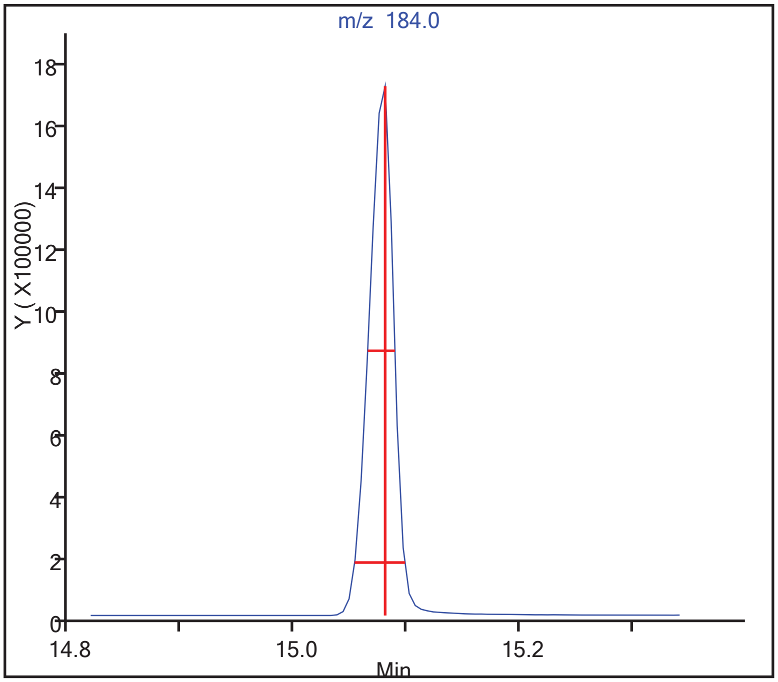
Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4725.D				
Injection Date:	19-Oct-2017 10:42:30	Instrument ID:	SMSI		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	DEK	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

6 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.018 (min.)
Front Width = 0.027 (min.)

Tailing Factor = 0.7, Max. Tailing < 2.00
Passed



Report Date: 22-Oct-2017 15:56:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4841.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 21-Oct-2017 12:01:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-003
Misc. Info.: DFTPP
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:43 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 21-Oct-2017 12:29:58

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Pentachlorophenol_T	266		12.063				ND	ND	
6 Benzidine_T	184	15.096	15.096	0.000	99	3316567	NR	NR	
32 DFTPP									
30 4,4'-DDD	235	16.160	16.160	0.000	1	6418		NR	
33 4,4'-DDT	235	16.738	16.738	0.000	98	1464181	NR	NR	
31 4,4'-DDE	246		17.048					ND	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
ND - Not Detected or Marked ND

Reagents:

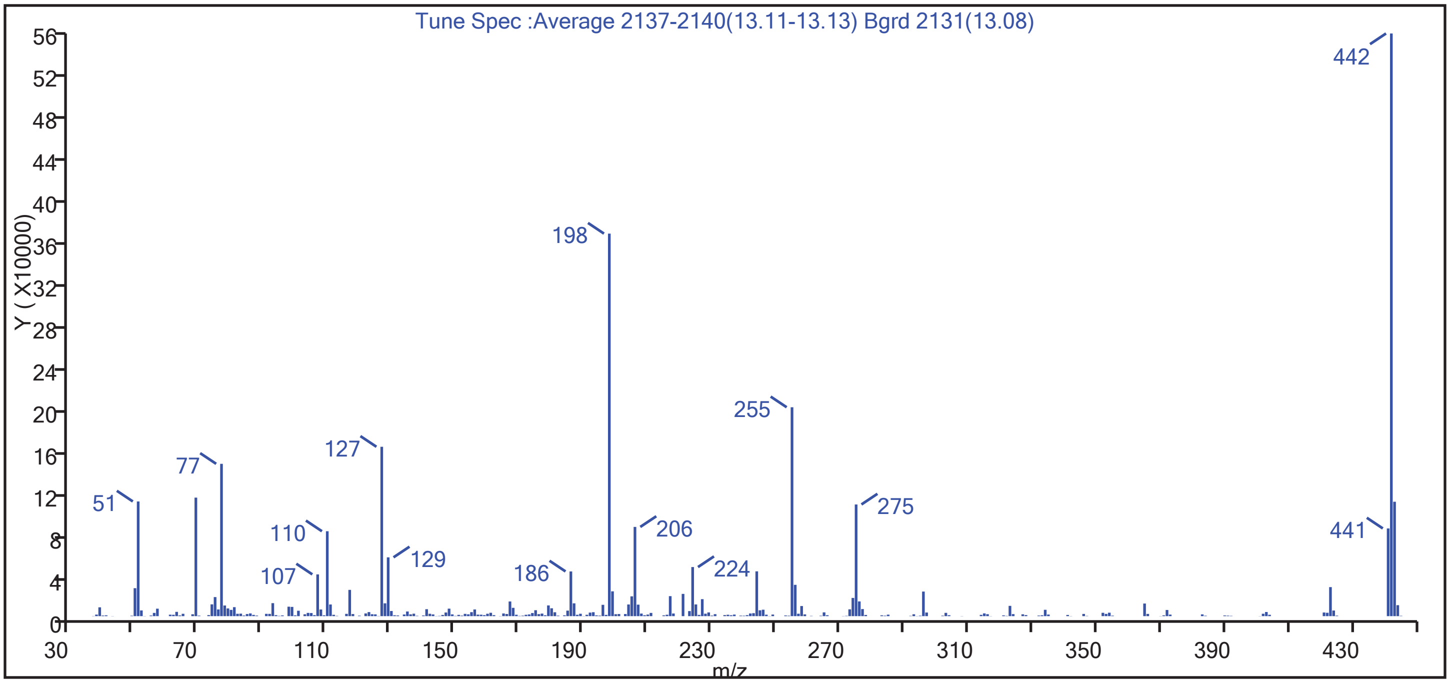
50 ppm Tuning_00033 Amount Added: 1.00 Units: mL

MS Tune Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4841.D				
Injection Date:	21-Oct-2017 12:01:30	Instrument ID:	SMSI		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	DEK	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Tune Method:	DFTPP Method 8270				

32 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	30.0
68	<2% of mass 69	0.5 (1.6)
69	Present	31.0
70	<2% of mass 69	0.1 (0.5)
127	40-60% of mass 198	44.3
197	<1% of mass 198	0.3
199	5-9% of mass 198	6.5
275	10-30% of mass 198	29.2
365	>1% of mass 198	3.3
441	Present but less than mass 443	22.9 (76.7)
442	>40% of mass 198	152.3
443	17-23% of mass 442	29.9 (19.6)

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4841.D\8270_SIM_SMSI.rslt\spectra.d
Injection Date: 21-Oct-2017 12:01:30
Spectrum: Tune Spec :Average 2137-2140(13.11-13.13) Bgrd 2131(13.08)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 256

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	166	123.00	3877	191.00	1300	275.00	106896
38.00	1483	124.00	1824	192.00	3393	276.00	14099
39.00	8446	125.00	1706	193.00	3779	277.00	6773
40.00	607	126.00	199	194.00	757	278.00	1140
41.00	808	127.00	162112	195.00	524	283.00	811
43.00	129	128.00	12267	196.00	10837	284.00	467
49.00	436	129.00	56280	197.00	1207	285.00	1424
50.00	26768	130.00	4934	198.00	366144	292.00	318
51.00	109776	131.00	856	199.00	23744	293.00	1785
52.00	5483	132.00	680	200.00	1856	294.00	125
53.00	131	134.00	1582	201.00	2026	295.00	444
55.00	623	135.00	4448	203.00	2015	296.00	23528
56.00	3103	136.00	1731	204.00	11186	297.00	3470
57.00	7147	137.00	2348	205.00	18960	302.00	488
61.00	1396	138.00	348	206.00	85408	303.00	3150
62.00	1307	140.00	686	207.00	11004	304.00	918
63.00	4097	141.00	6644	208.00	2468	308.00	137
64.00	701	142.00	2267	209.00	876	314.00	1239
65.00	2245	143.00	1652	210.00	1506	315.00	2633
68.00	1790	144.00	130	211.00	3083	316.00	1854
69.00	113440	145.00	288	215.00	785	317.00	133
70.00	525	146.00	1161	216.00	1344	321.00	752
73.00	1024	147.00	3487	217.00	19144	322.00	272
74.00	11286	148.00	7175	218.00	2537	323.00	9834
75.00	18240	149.00	1677	221.00	21296	324.00	1943
76.00	6410	150.00	280	223.00	4840	327.00	1763
77.00	145792	151.00	1216	224.00	46984	328.00	1019
78.00	10178	152.00	528	225.00	11216	332.00	577
79.00	7392	153.00	2185	226.00	1211	333.00	841
80.00	5995	154.00	1754	227.00	16254	334.00	6076
81.00	8600	155.00	3822	228.00	2342	335.00	1527
82.00	2255	156.00	6397	229.00	3554	341.00	1142
83.00	2394	157.00	1440	230.00	552	342.00	140

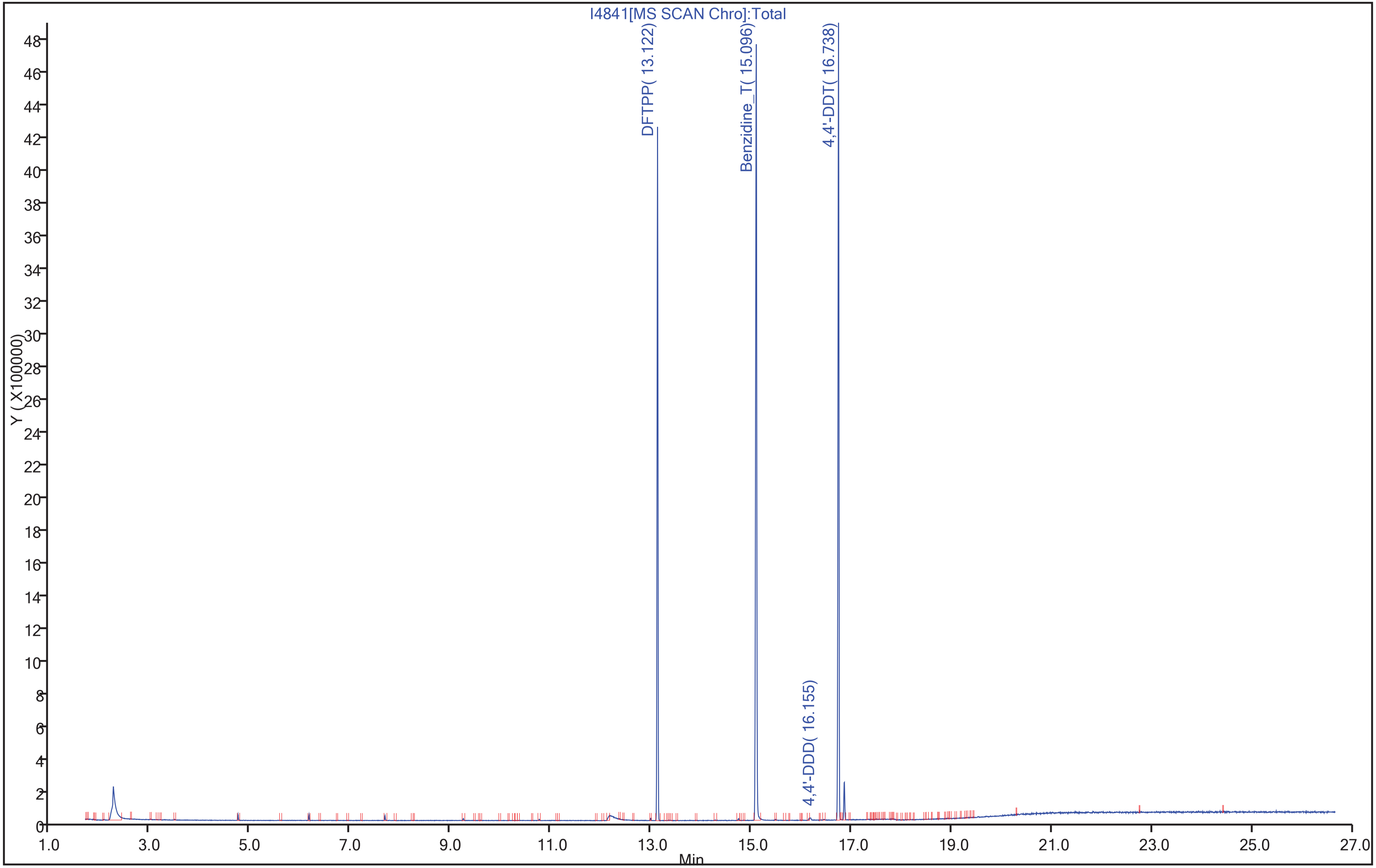
Report Date: 22-Oct-2017 15:56:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4841.D\8270_SIM_SMSI.rslt\spectra.d
Injection Date: 21-Oct-2017 12:01:30
Spectrum: Tune Spec :Average 2137-2140(13.11-13.13) Bgrd 2131(13.08)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 256

m/z	Y	m/z	Y	m/z	Y	m/z	Y
84.00	628	158.00	1384	231.00	1897	346.00	2125
85.00	1999	159.00	969	234.00	1015	347.00	265
86.00	2620	160.00	2297	235.00	1333	352.00	3209
87.00	1208	161.00	3224	236.00	876	353.00	2147
88.00	558	162.00	953	237.00	1502	354.00	3301
91.00	2201	164.00	147	239.00	520	355.00	500
92.00	2169	165.00	2566	240.00	440	365.00	12075
93.00	12428	166.00	2054	241.00	941	366.00	2132
94.00	949	167.00	14054	242.00	2550	370.00	128
95.00	295	168.00	7956	243.00	2848	371.00	785
96.00	731	169.00	1333	244.00	42880	372.00	5908
98.00	9048	170.00	277	245.00	5595	373.00	1472
99.00	8845	171.00	493	246.00	6154	383.00	1681
100.00	778	172.00	1299	247.00	1378	384.00	426
101.00	5167	173.00	1646	248.00	126	390.00	691
103.00	1787	174.00	2966	249.00	1521	391.00	503
104.00	3107	175.00	5676	253.00	681	392.00	318
105.00	2972	176.00	1920	254.00	454	401.00	133
106.00	952	177.00	2446	255.00	199936	402.00	2299
107.00	39968	178.00	845	256.00	29976	403.00	3969
108.00	6350	179.00	10267	257.00	2320	404.00	1302
109.00	809	180.00	7531	258.00	9672	421.00	3491
110.00	81272	181.00	3720	259.00	1689	422.00	3229
111.00	11174	182.00	512	261.00	275	423.00	27792
112.00	1282	184.00	802	264.00	415	424.00	5387
113.00	286	185.00	5283	265.00	3619	425.00	504
116.00	2190	186.00	42800	266.00	894	441.00	83960
117.00	25136	187.00	12259	271.00	150	442.00	557696
118.00	1999	188.00	1316	272.00	323	443.00	109504
120.00	470	189.00	2282	273.00	6523	444.00	10487
122.00	2590	190.00	141	274.00	17432	445.00	356

Report Date: 22-Oct-2017 15:56:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4841.D				
Injection Date:	21-Oct-2017 12:01:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	DFTPP			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

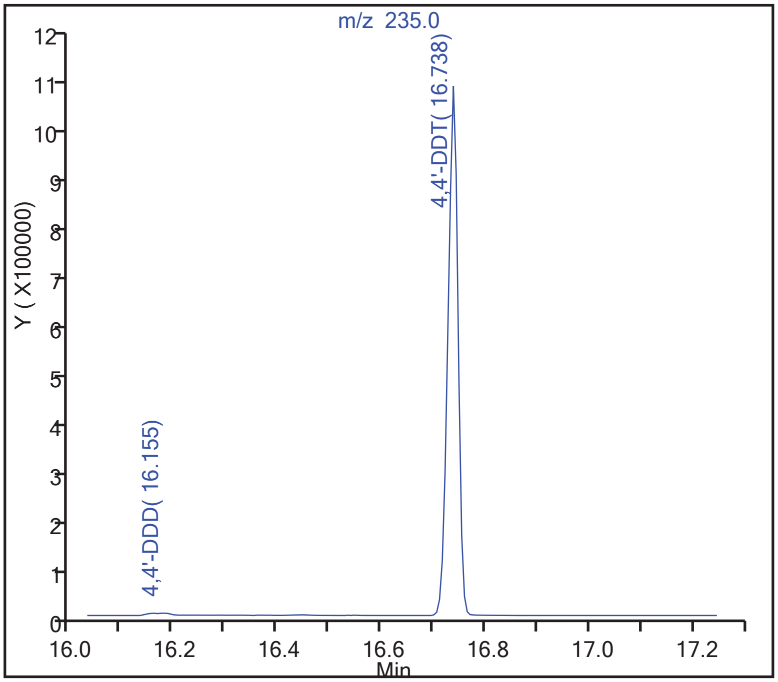


Breakdown Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4841.D				
Injection Date:	21-Oct-2017 12:01:30	Instrument ID:	SMSI		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	DEK	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

33 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

33 4,4'-DDT, Area = 1464181
30 4,4'-DDD, Area = 6418
31 4,4'-DDE, Area = 0

%Breakdown: 0.44%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica St. Louis

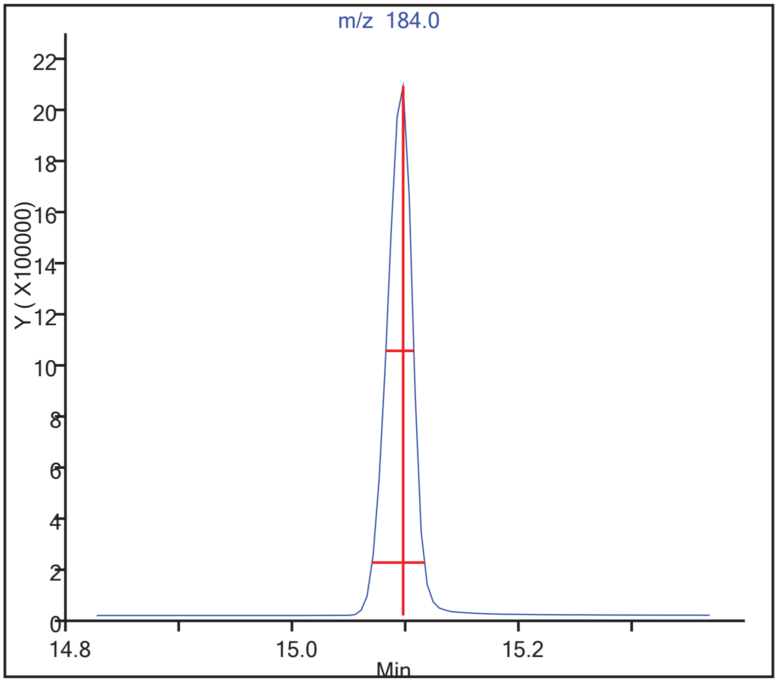
Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4841.D				
Injection Date:	21-Oct-2017 12:01:30	Instrument ID:	SMSI		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	DEK	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

6 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.019 (min.)
Front Width = 0.028 (min.)

Tailing Factor = 0.7, Max. Tailing < 2.00
Passed



Report Date: 24-Oct-2017 08:44:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4892.D				
Lims ID:	DFTPP				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	23-Oct-2017 09:47:30	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011739-003				
Misc. Info.:	DFTPP				
Operator ID:	DEK/JFL	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	24-Oct-2017 08:44:08	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK037				
First Level Reviewer: lorej		Date:	23-Oct-2017 10:19:16		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Pentachlorophenol_T	266		12.063				ND	ND	
6 Benzidine_T	184	15.069	15.069	0.000	99	2690695	NR	NR	
32 DFTPP									
30 4,4'-DDD	235	16.134	16.134	0.000	87	7173		NR	
33 4,4'-DDT	235	16.711	16.711	0.000	98	1315612	NR	NR	
31 4,4'-DDE	246		17.048					ND	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard
ND - Not Detected or Marked ND

Reagents:

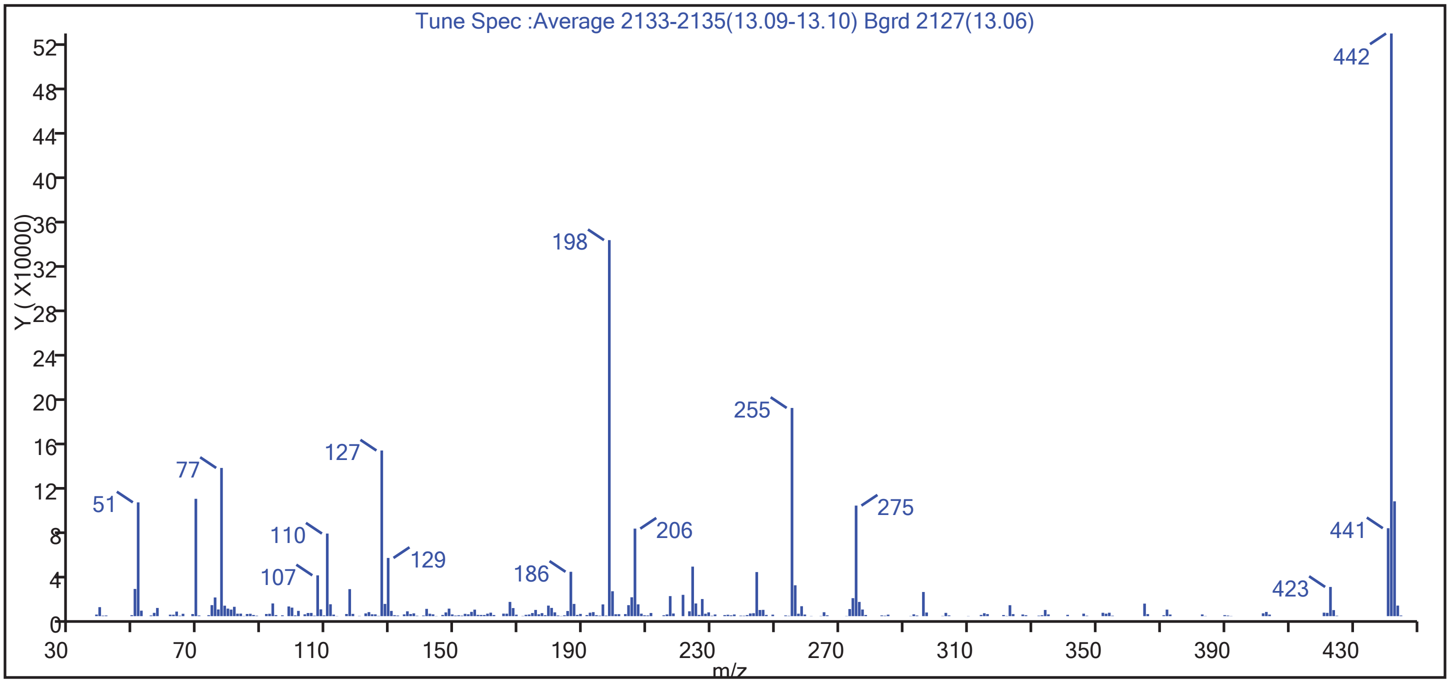
50 ppm Tuning_00033 Amount Added: 1.00 Units: mL

MS Tune Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4892.D				
Injection Date:	23-Oct-2017 09:47:30	Instrument ID:	SMSI		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	DEK/JFL	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		
Tune Method:	DFTPP Method 8270				

32 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	30.3
68	<2% of mass 69	0.6 (1.8)
69	Present	31.2
70	<2% of mass 69	0.2 (0.6)
127	40-60% of mass 198	44.1
197	<1% of mass 198	0.1
199	5-9% of mass 198	6.6
275	10-30% of mass 198	29.4
365	>1% of mass 198	3.3
441	Present but less than mass 443	23.4 (76.6)
442	>40% of mass 198	155.0
443	17-23% of mass 442	30.5 (19.7)

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4892.D\8270_SIM_SMSI.rslt\spectra.d
Injection Date: 23-Oct-2017 09:47:30
Spectrum: Tune Spec :Average 2133-2135(13.09-13.10) Bgrd 2127(13.06)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 242

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	1422	124.00	1693	192.00	3123	275.00	100256
39.00	8159	125.00	1646	193.00	3650	276.00	12920
40.00	469	126.00	266	194.00	908	277.00	6006
41.00	624	127.00	150208	195.00	460	278.00	1062
49.00	893	128.00	11085	196.00	10663	283.00	702
50.00	24672	129.00	52784	197.00	489	284.00	420
51.00	103184	130.00	4756	198.00	340992	285.00	1342
52.00	4977	131.00	878	199.00	22592	292.00	184
55.00	651	132.00	580	200.00	1717	293.00	1654
56.00	2990	134.00	1597	201.00	1775	294.00	569
57.00	7433	135.00	4396	203.00	1863	296.00	21912
61.00	1324	136.00	1945	204.00	9976	297.00	3310
62.00	1315	137.00	2534	205.00	17112	302.00	241
63.00	4128	138.00	390	206.00	79368	303.00	2970
64.00	401	140.00	602	207.00	10713	304.00	716
65.00	2130	141.00	6600	208.00	2252	310.00	171
68.00	1903	142.00	2175	209.00	808	314.00	1117
69.00	106408	143.00	1656	210.00	665	315.00	2661
70.00	624	144.00	168	211.00	2861	316.00	1856
73.00	903	146.00	1099	215.00	821	321.00	1025
74.00	9991	147.00	3393	216.00	1567	322.00	197
75.00	16944	148.00	6801	217.00	18176	323.00	9927
76.00	6052	149.00	1578	218.00	2419	324.00	1838
77.00	134400	150.00	557	221.00	19328	327.00	1508
78.00	9479	151.00	831	223.00	4407	328.00	858
79.00	6826	152.00	472	224.00	44912	332.00	456
80.00	5939	153.00	2087	225.00	11508	333.00	842
81.00	8472	154.00	1684	226.00	1137	334.00	5629
82.00	2228	155.00	3890	227.00	15508	335.00	1592
83.00	2294	156.00	5890	228.00	2179	341.00	1184
84.00	201	157.00	1155	229.00	3424	346.00	2265
85.00	1949	158.00	1081	230.00	375	347.00	405
86.00	2140	159.00	1065	231.00	1516	352.00	3054

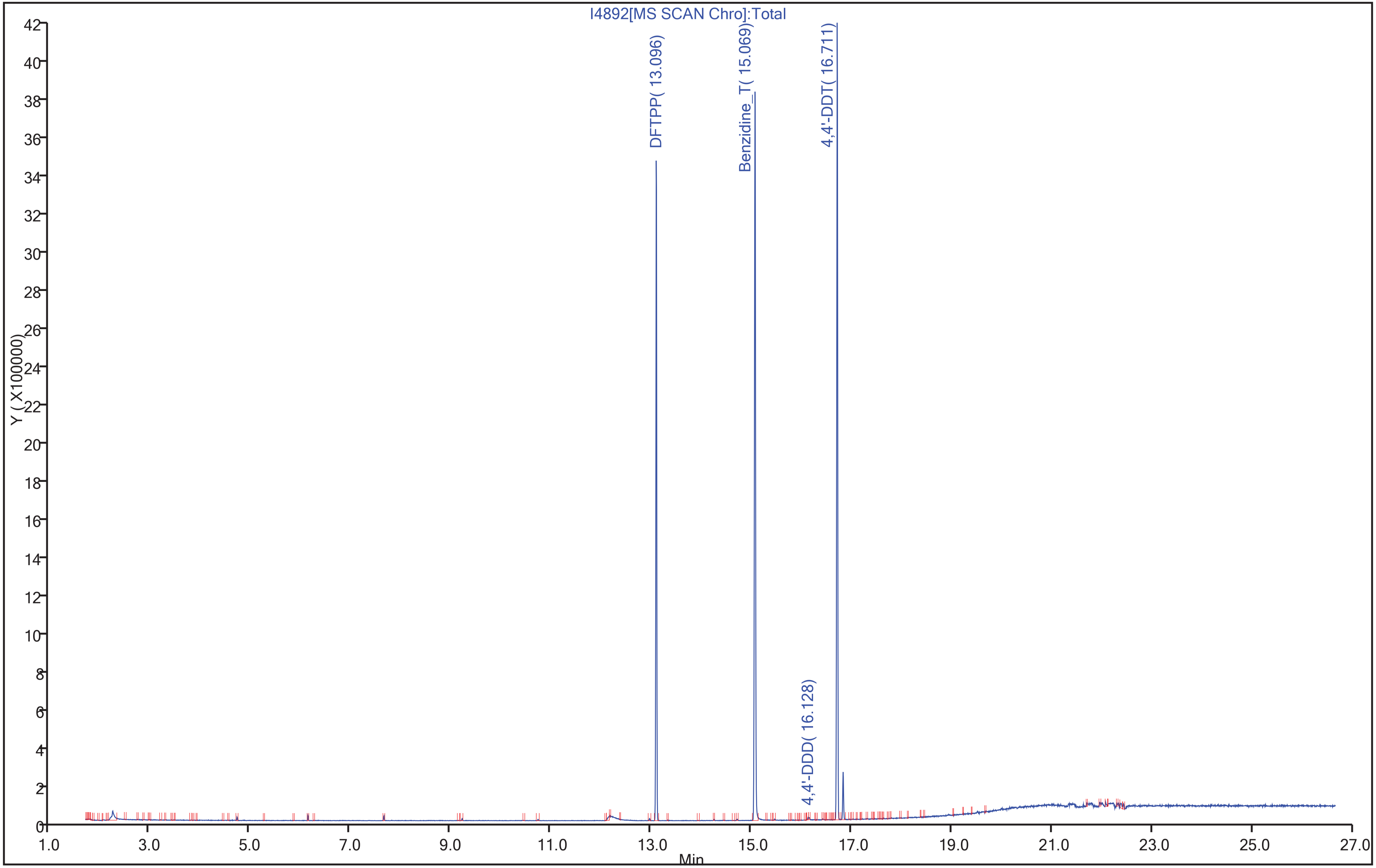
Report Date: 24-Oct-2017 08:44:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4892.D\8270_SIM_SMSI.rslt\spectra.d
Injection Date: 23-Oct-2017 09:47:30
Spectrum: Tune Spec :Average 2133-2135(13.09-13.10) Bgrd 2127(13.06)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 242

m/z	Y	m/z	Y	m/z	Y	m/z	Y
87.00	1071	160.00	2245	234.00	974	353.00	2241
88.00	413	161.00	3155	235.00	1251	354.00	3088
91.00	1961	162.00	1027	236.00	755	355.00	425
92.00	2152	165.00	2281	237.00	1520	365.00	11361
93.00	11523	166.00	2228	239.00	462	366.00	1838
94.00	953	167.00	12912	240.00	387	371.00	865
96.00	777	168.00	7331	241.00	957	372.00	5931
98.00	8793	169.00	1317	242.00	2428	373.00	1466
99.00	7728	171.00	224	243.00	2679	383.00	1549
100.00	710	172.00	1210	244.00	39984	384.00	193
101.00	4776	173.00	1487	245.00	5581	390.00	914
103.00	1654	174.00	2828	246.00	5705	391.00	541
104.00	2846	175.00	5648	247.00	1117	392.00	182
105.00	2920	176.00	1671	249.00	1342	402.00	2575
106.00	440	177.00	2749	253.00	680	403.00	3813
107.00	36992	178.00	874	254.00	315	404.00	1407
108.00	6159	179.00	9558	255.00	188800	421.00	3168
109.00	678	180.00	7457	256.00	27992	422.00	2983
110.00	74888	181.00	3445	257.00	2205	423.00	26480
111.00	10789	182.00	659	258.00	9010	424.00	5475
112.00	1382	183.00	178	259.00	1453	425.00	406
113.00	166	184.00	801	261.00	175	441.00	79744
116.00	1950	185.00	4670	264.00	211	442.00	528384
117.00	24496	186.00	40232	265.00	3562	443.00	104136
118.00	2041	187.00	11086	266.00	788	444.00	9570
120.00	244	188.00	1136	272.00	188	445.00	606
122.00	2487	189.00	2023	273.00	6439		
123.00	3649	191.00	990	274.00	16317		

Report Date: 24-Oct-2017 08:44:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4892.D				
Injection Date:	23-Oct-2017 09:47:30	Instrument ID:	SMSI	Operator ID:	DEK/JFL
Lims ID:	DFTPP			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



Breakdown Report

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4892.D				
Injection Date:	23-Oct-2017 09:47:30	Instrument ID:	SMSI		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	DEK/JFL	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

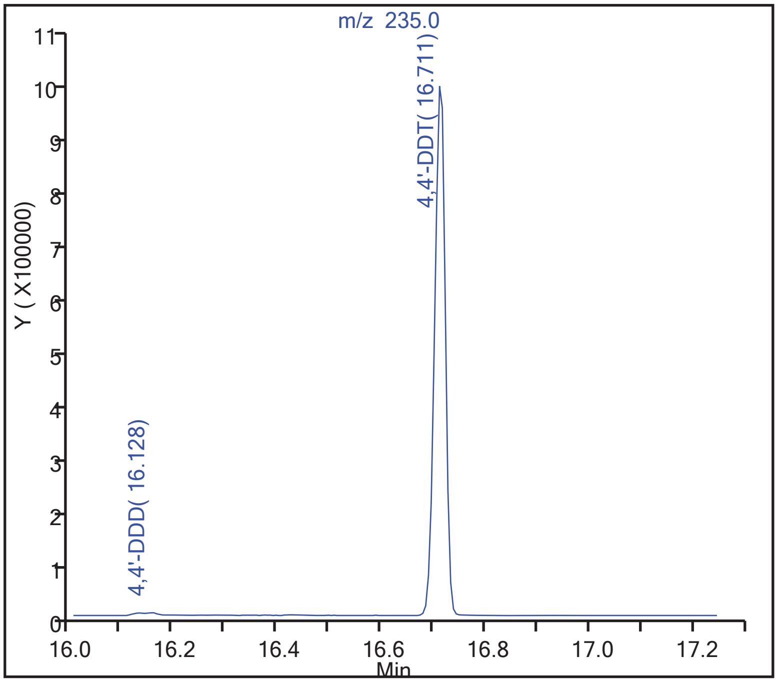
33 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

33 4,4'-DDT, Area = 1315612
30 4,4'-DDD, Area = 7173
31 4,4'-DDE, Area = 0

%Breakdown: 0.54%, Max Limit: 20.00%
Passed



Peak Tailing Report

TestAmerica St. Louis

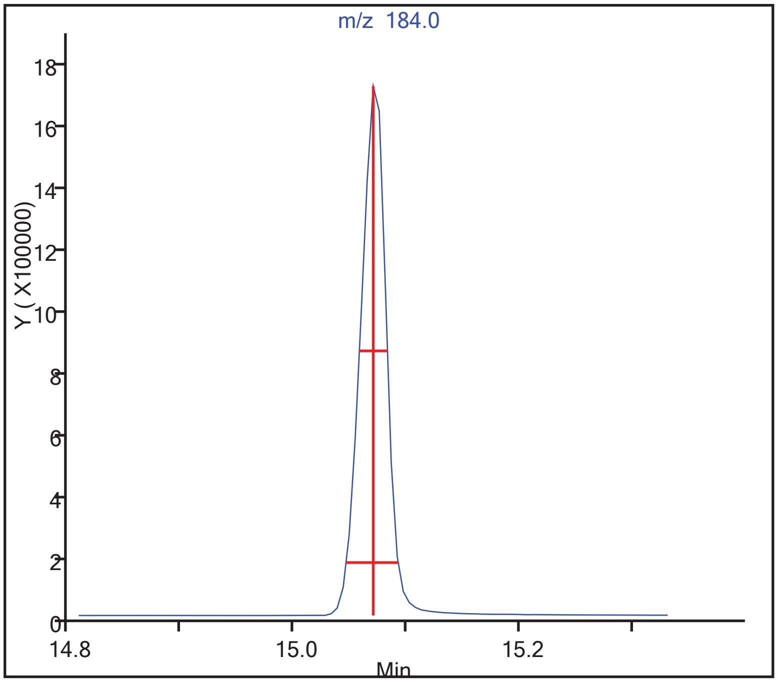
Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171023-11739.b\I4892.D				
Injection Date:	23-Oct-2017 09:47:30	Instrument ID:	SMSI		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	DEK/JFL	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		

6 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.022 (min.)
Front Width = 0.024 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: MB 160-332664/1-A
Matrix: Solid	Lab File ID: I4843.D
Analysis Method: 8270D SIM	Date Collected:
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30(g)	Date Analyzed: 10/21/2017 12:57
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture:	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	3.3	U	6.6	3.3	2.9
91-57-6	2-Methylnaphthalene	3.3	U	6.6	3.3	0.53
83-32-9	Acenaphthene	3.3	U	6.6	3.3	1.1
208-96-8	Acenaphthylene	3.3	U	6.6	3.3	0.80
120-12-7	Anthracene	3.3	U	6.6	3.3	0.63
56-55-3	Benzo[a]anthracene	3.3	U	6.6	3.3	1.3
50-32-8	Benzo[a]pyrene	3.3	U	6.6	3.3	0.84
205-99-2	Benzo[b]fluoranthene	3.3	U	6.6	3.3	1.1
191-24-2	Benzo[g,h,i]perylene	3.3	U	6.6	3.3	1.1
207-08-9	Benzo[k]fluoranthene	3.3	U	6.6	3.3	1.1
218-01-9	Chrysene	3.3	U	6.6	3.3	1.3
53-70-3	Dibenz(a,h)anthracene	3.3	U	6.6	3.3	3.1
206-44-0	Fluoranthene	3.3	U	6.6	3.3	1.5
86-73-7	Fluorene	3.3	U	6.6	3.3	1.1
193-39-5	Indeno[1,2,3-cd]pyrene	3.3	U	6.6	3.3	2.1
91-20-3	Naphthalene	3.3	U	6.6	3.3	1.0
85-01-8	Phenanthrene	3.3	U	6.6	3.3	2.7
129-00-0	Pyrene	3.3	U	6.6	3.3	1.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	82		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	89		44-125
1718-51-0	Terphenyl-d14 (Surr)	102		58-133

Report Date: 22-Oct-2017 15:56:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4843.D
Lims ID: MB 160-332664/1-A
Client ID:
Sample Type: MB
Inject. Date: 21-Oct-2017 12:57:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-005
Misc. Info.: MB 160-332664/1-A
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:40:48

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	89	234293	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	7	94569	1.50	1.34	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	813976	4.00	4.00	
5 Naphthalene	128		4.420					ND	
7 2-Methylnaphthalene	142		5.076					ND	
8 1-Methylnaphthalene	142		5.165					ND	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	239235	1.50	1.23	
10 Acenaphthylene	152		5.931					ND	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	477758	4.00	4.00	
12 Acenaphthene	153		6.098					ND	
13 Fluorene	166		6.609					ND	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	828715	4.00	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	13295		0.0505	
16 Anthracene	178		7.578					ND	
17 Fluoranthene	202		8.696					ND	
18 Pyrene	202		8.912					ND	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	267100	1.50	1.53	
20 Benzo[a]anthracene	228		10.084					ND	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	821915	4.00	4.00	
22 Chrysene	228		10.116					ND	
23 Benzo[b]fluoranthene	252		11.224					ND	
24 Benzo[k]fluoranthene	252		11.246					ND	
25 Benzo[a]pyrene	252		11.611					ND	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	866171	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276		13.160					ND	
28 Dibenz(a,h)anthracene	278		13.193					ND	
29 Benzo[g,h,i]perylene	276		13.558					ND	

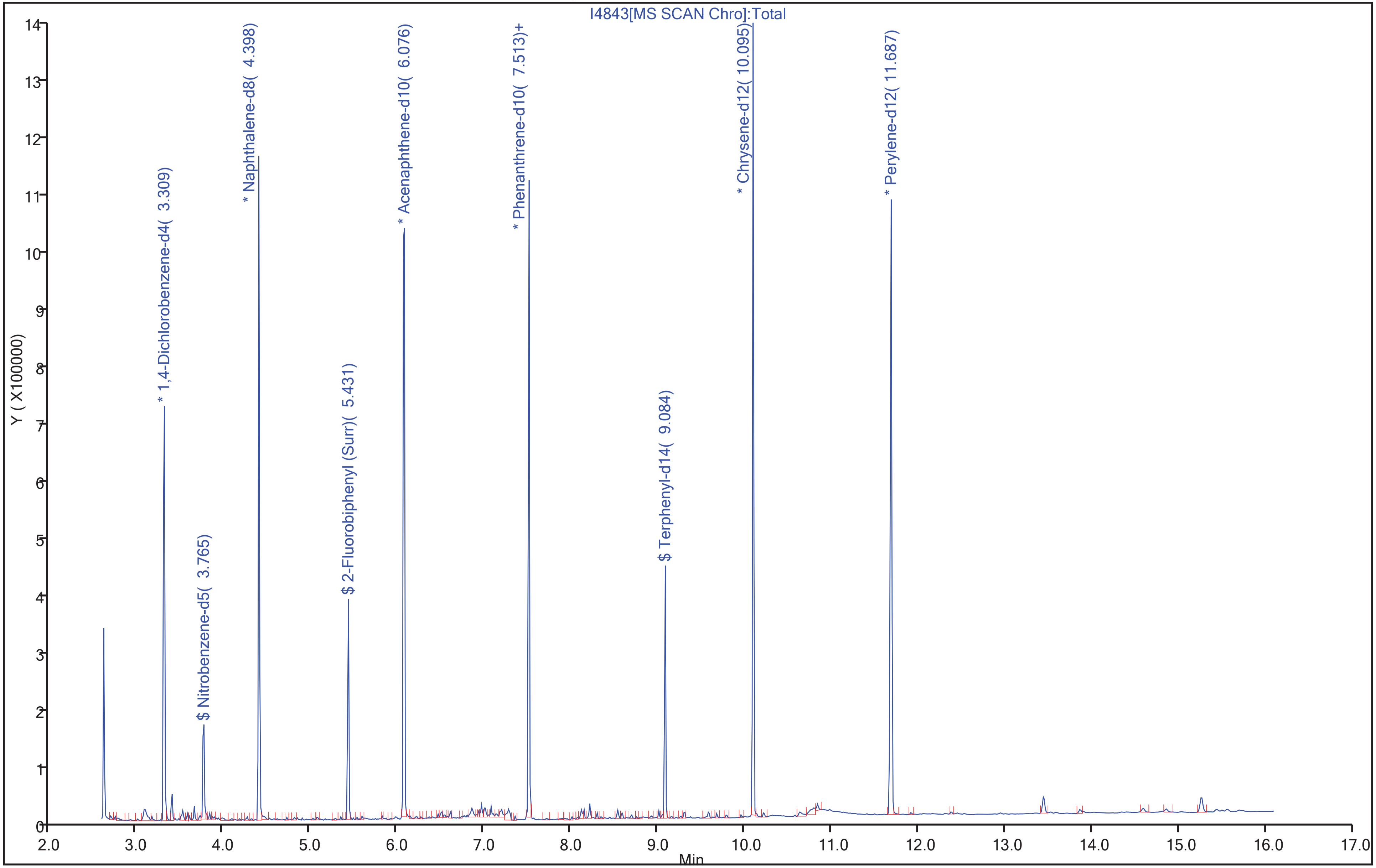
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:56:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4843.D				
Injection Date:	21-Oct-2017 12:57:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	MB 160-332664/1-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4843.D
Lims ID: MB 160-332664/1-A
Client ID:
Sample Type: MB
Inject. Date: 21-Oct-2017 12:57:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-005
Misc. Info.: MB 160-332664/1-A
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:40:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.34	89.31
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.23	82.22
$ 19 Terphenyl-d14	1.50	1.53	101.77

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: LCS 160-332664/2-A
Matrix: Solid	Lab File ID: I4844.D
Analysis Method: 8270D SIM	Date Collected:
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30(g)	Date Analyzed: 10/21/2017 13:20
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture:	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	26.6		6.6	3.3	2.9
91-57-6	2-Methylnaphthalene	26.4		6.6	3.3	0.53
83-32-9	Acenaphthene	25.4		6.6	3.3	1.1
208-96-8	Acenaphthylene	25.2		6.6	3.3	0.80
120-12-7	Anthracene	26.4		6.6	3.3	0.63
56-55-3	Benzo[a]anthracene	28.4		6.6	3.3	1.3
50-32-8	Benzo[a]pyrene	27.0		6.6	3.3	0.84
205-99-2	Benzo[b]fluoranthene	28.4		6.6	3.3	1.1
191-24-2	Benzo[g,h,i]perylene	31.8		6.6	3.3	1.1
207-08-9	Benzo[k]fluoranthene	26.0		6.6	3.3	1.1
218-01-9	Chrysene	27.7		6.6	3.3	1.3
53-70-3	Dibenz(a,h)anthracene	27.8		6.6	3.3	3.1
206-44-0	Fluoranthene	28.6		6.6	3.3	1.5
86-73-7	Fluorene	25.6		6.6	3.3	1.1
193-39-5	Indeno[1,2,3-cd]pyrene	28.7		6.6	3.3	2.1
91-20-3	Naphthalene	26.4		6.6	3.3	1.0
85-01-8	Phenanthrene	29.1		6.6	3.3	2.7
129-00-0	Pyrene	28.9		6.6	3.3	1.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	83		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	80		44-125
1718-51-0	Terphenyl-d14 (Surr)	98		58-133

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4844.D				
Lims ID:	LCS 160-332664/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	21-Oct-2017 13:20:30	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-006				
Misc. Info.:	LCS 160-332664/2-A				
Operator ID:	DEK	Instrument ID:	SMSI		
Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m				
Limit Group:	MSS-8270SIM DoD				
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D				
Column 1 :		Det: MS SCAN			
Process Host:	XAWRK053				
First Level Reviewer: konopkad		Date:	22-Oct-2017 15:41:05		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	88	252682	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.754	3.765	-0.011	20	93728	1.50	1.20	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	897374	4.00	4.00	
5 Naphthalene	128	4.420	4.420	0.000	22	195229	1.00	0.7907	
7 2-Methylnaphthalene	142	5.065	5.076	-0.011	27	129881	1.00	0.7933	
8 1-Methylnaphthalene	142	5.165	5.165	0.000	1	118022	1.00	0.7979	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	242529	1.50	1.24	
10 Acenaphthylene	152	5.931	5.931	0.000	48	194253	1.00	0.7561	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	1	482645	4.00	4.00	
12 Acenaphthene	153	6.098	6.098	0.000	24	126625	1.00	0.7617	
13 Fluorene	166	6.609	6.609	0.000	31	145603	1.00	0.7689	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	803601	4.00	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	223149	1.00	0.8732	
16 Anthracene	178	7.578	7.578	0.000	3	205306	1.00	0.7916	
17 Fluoranthene	202	8.696	8.696	0.000	12	239902	1.00	0.8579	
18 Pyrene	202	8.912	8.912	0.000	12	238796	1.00	0.8676	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	246891	1.50	1.46	
20 Benzo[a]anthracene	228	10.084	10.084	0.000	2	228548	1.00	0.8514	
* 21 Chrysene-d12	240	10.095	10.095	0.000	1	792039	4.00	4.00	
22 Chrysene	228	10.116	10.116	0.000	41	212452	1.00	0.8321	
23 Benzo[b]fluoranthene	252	11.224	11.224	0.000	1	193484	1.00	0.8512	
24 Benzo[k]fluoranthene	252	11.246	11.246	0.000	1	192740	1.00	0.7801	
25 Benzo[a]pyrene	252	11.611	11.611	0.000	14	173099	1.00	0.8099	
* 26 Perylene-d12	264	11.687	11.687	0.000	16	662230	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.160	13.160	0.000	6	220235	1.00	0.8597	
28 Dibenz(a,h)anthracene	278	13.193	13.193	0.000	61	182843	1.00	0.8347	
29 Benzo[g,h,i]perylene	276	13.558	13.558	0.000	17	211361	1.00	0.9539	

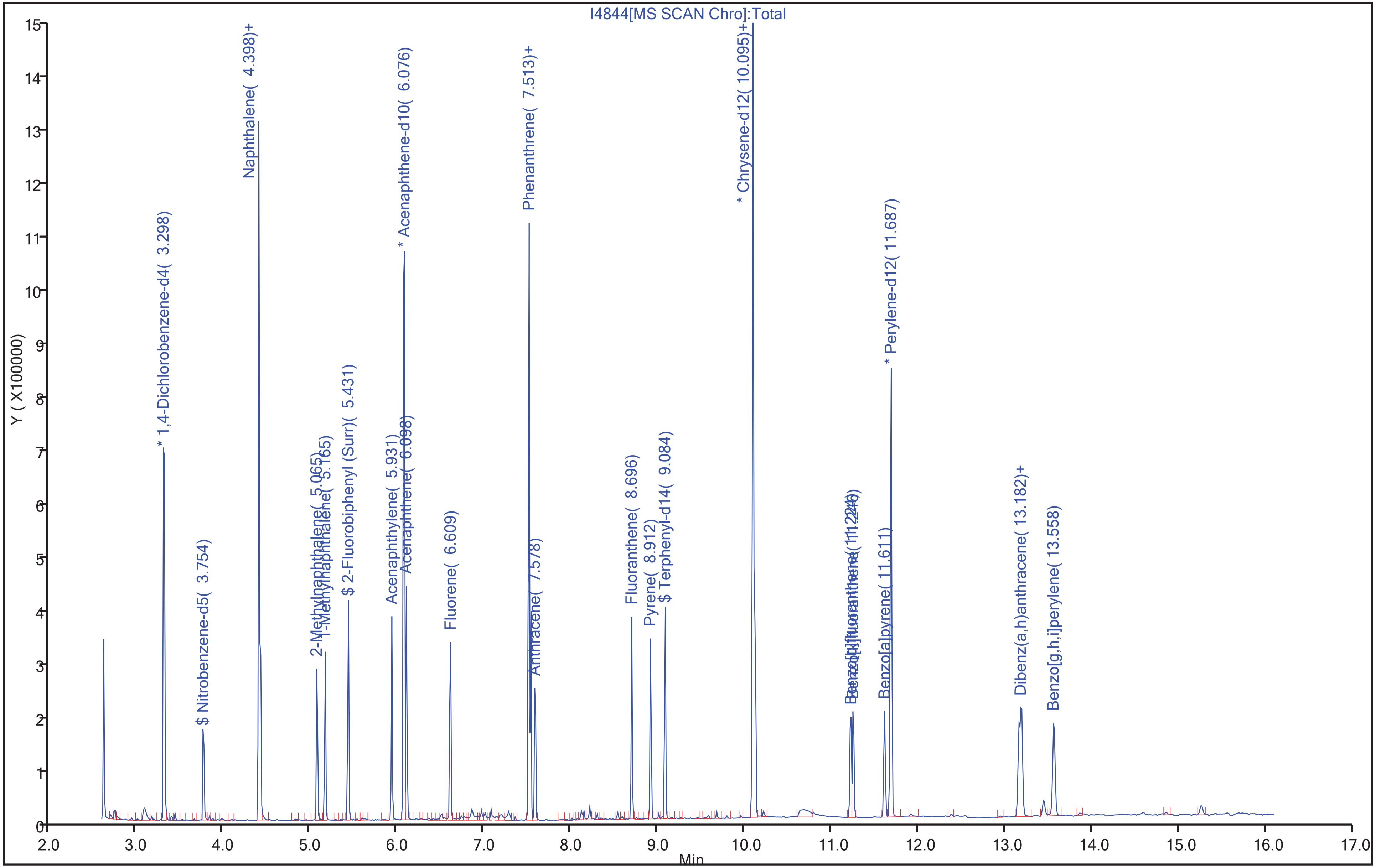
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:56:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4844.D				
Injection Date:	21-Oct-2017 13:20:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	LCS 160-332664/2-A			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



TestAmerica St. Louis

Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4844.D
Lims ID: LCS 160-332664/2-A
Client ID:
Sample Type: LCS
Inject. Date: 21-Oct-2017 13:20:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-006
Misc. Info.: LCS 160-332664/2-A
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:41:05

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.20	80.29
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.24	82.50
$ 19 Terphenyl-d14	1.50	1.46	97.61

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS03NS MS	Lab Sample ID: 160-24924-9 MS
Matrix: Solid	Lab File ID: I4851.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 16:59
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.12(g)	Date Analyzed: 10/21/2017 15:58
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 2.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	26.3		6.7	3.4	2.9
91-57-6	2-Methylnaphthalene	25.8		6.7	3.4	0.53
83-32-9	Acenaphthene	24.9		6.7	3.4	1.1
208-96-8	Acenaphthylene	26.6		6.7	3.4	0.81
120-12-7	Anthracene	25.5		6.7	3.4	0.64
56-55-3	Benzo[a]anthracene	26.5		6.7	3.4	1.4
50-32-8	Benzo[a]pyrene	25.6		6.7	3.4	0.85
205-99-2	Benzo[b]fluoranthene	26.1		6.7	3.4	1.1
191-24-2	Benzo[g,h,i]perylene	27.2		6.7	3.4	1.1
207-08-9	Benzo[k]fluoranthene	28.9		6.7	3.4	1.1
218-01-9	Chrysene	27.7		6.7	3.4	1.3
53-70-3	Dibenz(a,h)anthracene	26.4		6.7	3.4	3.2
206-44-0	Fluoranthene	27.3		6.7	3.4	1.5
86-73-7	Fluorene	25.5		6.7	3.4	1.1
193-39-5	Indeno[1,2,3-cd]pyrene	27.1		6.7	3.4	2.2
91-20-3	Naphthalene	25.8		6.7	3.4	1.0
85-01-8	Phenanthrene	29.0		6.7	3.4	2.7
129-00-0	Pyrene	27.2		6.7	3.4	1.5

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	84		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	83		44-125
1718-51-0	Terphenyl-d14 (Surr)	92		58-133

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4851.D
Lims ID: 160-24924-E-9-K MS
Client ID: SHAD041DP022SS03NS
Sample Type: MS
Inject. Date: 21-Oct-2017 15:58:30 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-013
Misc. Info.: 160-24924-E-9-K MS
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:48:55

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.309	3.298	0.011	88	261071	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.754	3.765	-0.011	20	100828	1.50	1.24	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	936140	4.00	4.00	
5 Naphthalene	128	4.420	4.420	0.000	22	196170	1.00	0.7617	
7 2-Methylnaphthalene	142	5.076	5.076	0.000	34	130295	1.00	0.7629	
8 1-Methylnaphthalene	142	5.165	5.165	0.000	1	119792	1.00	0.7764	
$ 9 2-Fluorobiphenyl (Surr)	172	5.431	5.431	0.000	1	255406	1.50	1.26	
10 Acenaphthylene	152	5.931	5.931	0.000	48	208995	1.00	0.7843	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	500582	4.00	4.00	
12 Acenaphthene	153	6.098	6.098	0.000	24	126488	1.00	0.7336	
13 Fluorene	166	6.609	6.609	0.000	30	147527	1.00	0.7511	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	834481	4.00	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	227286	1.00	0.8565	
16 Anthracene	178	7.589	7.578	0.011	3	202669	1.00	0.7525	
17 Fluoranthene	202	8.696	8.696	0.000	12	234264	1.00	0.8067	
18 Pyrene	202	8.922	8.912	0.010	13	231184	1.00	0.8037	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	243365	1.50	1.38	
20 Benzo[a]anthracene	228	10.095	10.084	0.011	1	219485	1.00	0.7823	
* 21 Chrysene-d12	240	10.106	10.095	0.011	1	827822	4.00	4.00	
22 Chrysene	228	10.127	10.116	0.011	43	218532	1.00	0.8190	
23 Benzo[b]fluoranthene	252	11.224	11.224	0.000	3	241350	1.00	0.7710	
24 Benzo[k]fluoranthene	252	11.257	11.246	0.011	1	290061	1.00	0.8525	
25 Benzo[a]pyrene	252	11.622	11.611	0.011	14	222564	1.00	0.7562	
* 26 Perylene-d12	264	11.698	11.687	0.011	16	911964	4.00	4.00	
27 Indeno[1,2,3-cd]pyrene	276	13.182	13.160	0.022	5	282527	1.00	0.8008	
28 Dibenz(a,h)anthracene	278	13.204	13.193	0.011	60	234709	1.00	0.7781	
29 Benzo[g,h,i]perylene	276	13.580	13.558	0.022	13	244989	1.00	0.8029	

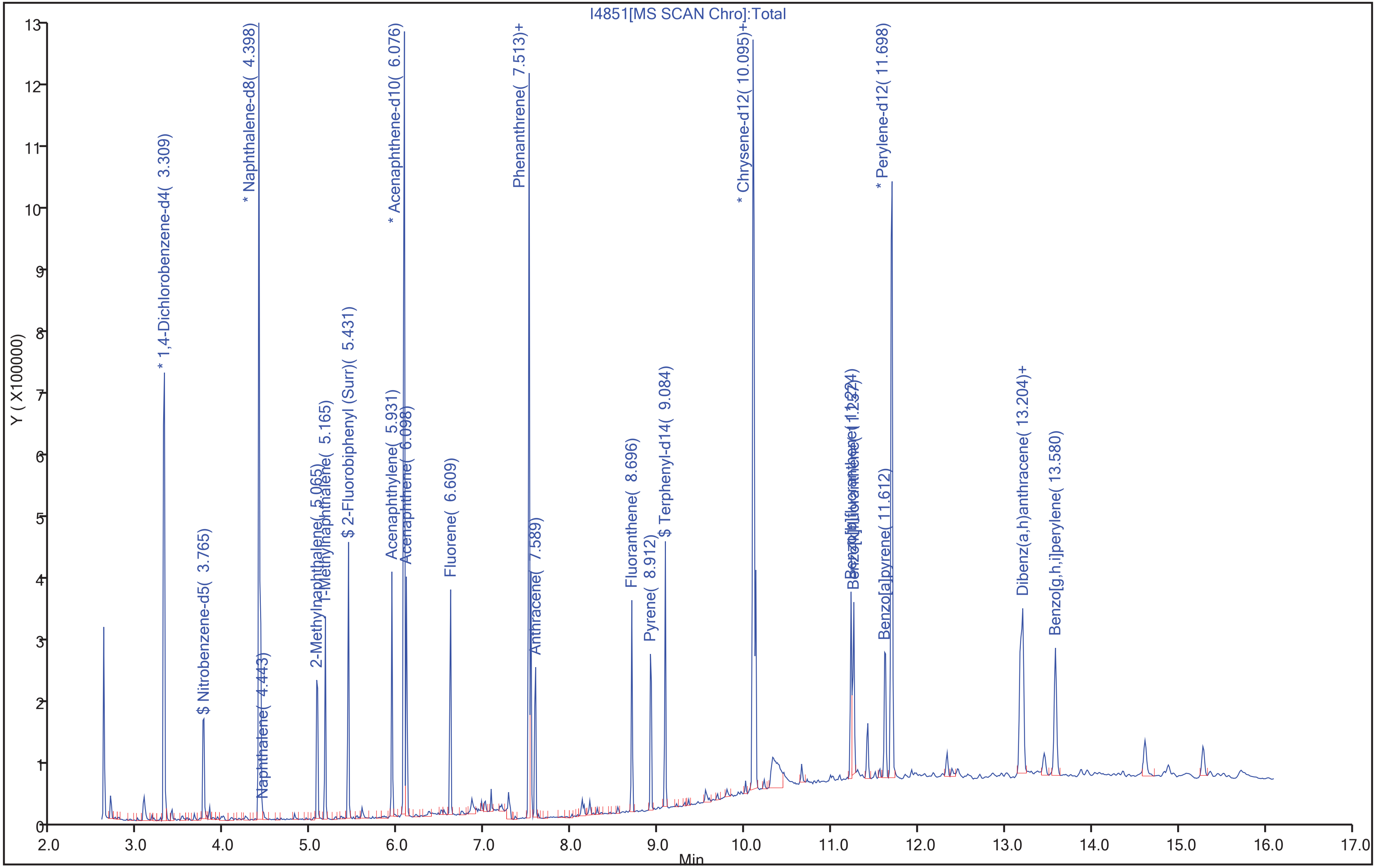
Reagents:

80 ppm I Std_00084	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:57:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4851.D				
Injection Date:	21-Oct-2017 15:58:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-9-K MS			Worklist Smp#:	13
Client ID:	SHAD041DP022SS03NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



Report Date: 22-Oct-2017 15:57:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4851.D
Lims ID: 160-24924-E-9-K MS
Client ID: SHAD041DP022SS03NS
Sample Type: MS
Inject. Date: 21-Oct-2017 15:58:30 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-013
Misc. Info.: 160-24924-E-9-K MS
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:48:55

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.24	82.79
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.26	83.77
$ 19 Terphenyl-d14	1.50	1.38	92.06

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS03NS MSD	Lab Sample ID: 160-24924-9 MSD
Matrix: Solid	Lab File ID: I4852.D
Analysis Method: 8270D SIM	Date Collected: 10/05/2017 16:59
Extract. Method: 3550C	Date Extracted: 10/19/2017 11:07
Sample wt/vol: 30.47(g)	Date Analyzed: 10/21/2017 16:21
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 1(uL)	Level: (low/med) Low
% Moisture: 2.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333047	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	26.3		6.6	3.3	2.9
91-57-6	2-Methylnaphthalene	26.6		6.6	3.3	0.53
83-32-9	Acenaphthene	25.3		6.6	3.3	1.1
208-96-8	Acenaphthylene	26.9		6.6	3.3	0.80
120-12-7	Anthracene	26.8		6.6	3.3	0.64
56-55-3	Benzo[a]anthracene	27.2		6.6	3.3	1.4
50-32-8	Benzo[a]pyrene	26.8		6.6	3.3	0.84
205-99-2	Benzo[b]fluoranthene	26.7		6.6	3.3	1.1
191-24-2	Benzo[g,h,i]perylene	27.8		6.6	3.3	1.1
207-08-9	Benzo[k]fluoranthene	30.2		6.6	3.3	1.1
218-01-9	Chrysene	27.6		6.6	3.3	1.3
53-70-3	Dibenz(a,h)anthracene	28.1		6.6	3.3	3.2
206-44-0	Fluoranthene	27.7		6.6	3.3	1.5
86-73-7	Fluorene	26.1		6.6	3.3	1.1
193-39-5	Indeno[1,2,3-cd]pyrene	28.5		6.6	3.3	2.1
91-20-3	Naphthalene	26.3		6.6	3.3	1.0
85-01-8	Phenanthrene	29.7		6.6	3.3	2.7
129-00-0	Pyrene	27.4		6.6	3.3	1.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl (Surr)	85		46-115
4165-60-0	Nitrobenzene-d5 (Surr)	85		44-125
1718-51-0	Terphenyl-d14 (Surr)	93		58-133

Report Date: 22-Oct-2017 15:57:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4852.D
Lims ID: 160-24924-E-9-L MSD
Client ID: SHAD041DP022SS03NS
Sample Type: MSD
Inject. Date: 21-Oct-2017 16:21:30 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 160-0011729-014
Misc. Info.: 160-24924-e-9-l msd
Operator ID: DEK Instrument ID: SMSI

Method: \\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m
Limit Group: MSS-8270SIM DoD
Last Update: 22-Oct-2017 15:56:44 Calib Date: 19-Oct-2017 13:32:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D

Column 1 : Det: MS SCAN
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:49:18

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 2 1,4-Dichlorobenzene-d4	152	3.310	3.298	0.012	89	256933	4.00	4.00	
$ 3 Nitrobenzene-d5	82	3.765	3.765	0.000	7	100273	1.50	1.28	
* 4 Naphthalene-d8	136	4.398	4.398	0.000	1	902131	4.00	4.00	
5 Naphthalene	128	4.421	4.420	0.001	22	195171	1.00	0.7863	
7 2-Methylnaphthalene	142	5.076	5.076	0.000	34	130588	1.00	0.7934	
8 1-Methylnaphthalene	142	5.165	5.165	0.000	1	116534	1.00	0.7837	
$ 9 2-Fluorobiphenyl (Surr)	172	5.432	5.431	0.001	1	247283	1.50	1.27	
10 Acenaphthylene	152	5.931	5.931	0.000	47	204612	1.00	0.8020	
* 11 Acenaphthene-d10	164	6.076	6.076	0.000	0	479275	4.00	4.00	
12 Acenaphthene	153	6.098	6.098	0.000	24	124850	1.00	0.7563	
13 Fluorene	166	6.609	6.609	0.000	30	146551	1.00	0.7793	
* 14 Phenanthrene-d10	188	7.513	7.513	0.000	1	793898	4.00	4.00	
15 Phenanthrene	178	7.535	7.535	0.000	1	223756	1.00	0.8863	
16 Anthracene	178	7.589	7.578	0.011	3	204980	1.00	0.8000	
17 Fluoranthene	202	8.697	8.696	0.001	12	228208	1.00	0.8261	
18 Pyrene	202	8.923	8.912	0.011	13	229460	1.00	0.8189	
$ 19 Terphenyl-d14	244	9.084	9.084	0.000	1	239862	1.50	1.40	
20 Benzo[a]anthracene	228	10.095	10.084	0.011	1	222040	1.00	0.8125	
* 21 Chrysene-d12	240	10.106	10.095	0.011	1	806313	4.00	4.00	
22 Chrysene	228	10.127	10.116	0.011	43	214275	1.00	0.8244	
23 Benzo[b]fluoranthene	252	11.224	11.224	0.000	3	238400	1.00	0.7973	
24 Benzo[k]fluoranthene	252	11.257	11.246	0.011	1	293345	1.00	0.9025	
25 Benzo[a]pyrene	252	11.622	11.611	0.011	14	224613	1.00	0.7989	
* 26 Perylene-d12	264	11.698	11.687	0.011	16	871197	4.00	4.00	
1 Pentachlorophenol_T	266		12.063					ND	
27 Indeno[1,2,3-cd]pyrene	276	13.182	13.160	0.022	5	286963	1.00	0.8515	
28 Dibenz(a,h)anthracene	278	13.204	13.193	0.011	60	241562	1.00	0.8383	
29 Benzo[g,h,i]perylene	276	13.580	13.558	0.022	12	241803	1.00	0.8295	
6 Benzidine_T	184		15.096					ND	
30 4,4'-DDD	235		16.160					ND	
33 4,4'-DDT	235		16.738					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
31 4,4'-DDE	246		17.048					ND	

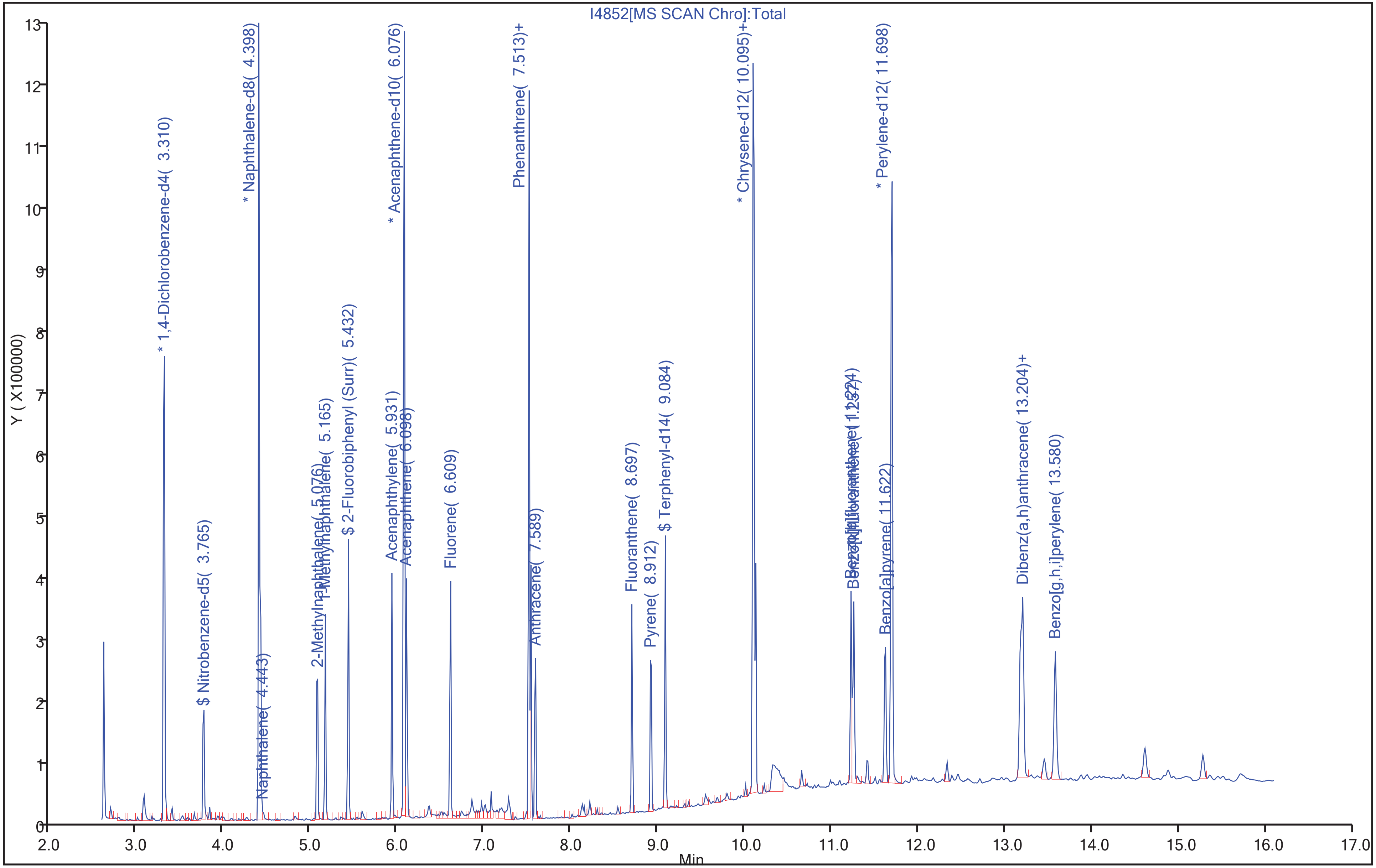
Reagents:

80 ppm I Std_00084 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:57:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4852.D				
Injection Date:	21-Oct-2017 16:21:30	Instrument ID:	SMSI	Operator ID:	DEK
Lims ID:	160-24924-E-9-L MSD			Worklist Smp#:	14
Client ID:	SHAD041DP022SS03NS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8270_SIM_SMSI	Limit Group:	MSS-8270SIM DoD		



Report Date: 22-Oct-2017 15:57:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\I4852.D				
Lims ID:	160-24924-E-9-L MSD				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	MSD				
Inject. Date:	21-Oct-2017 16:21:30	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-0011729-014				
Misc. Info.:	160-24924-e-9-l msd				
Operator ID:	DEK	Instrument ID:	SMSI		

Method:	\\ChromNA\StLouis\ChromData\SMSI\20171021-11729.b\8270_SIM_SMSI.m		
Limit Group:	MSS-8270SIM DoD		
Last Update:	22-Oct-2017 15:56:44	Calib Date:	19-Oct-2017 13:32:30
Integrator:	RTE	ID Type:	RT Order ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SMSI\20171019-11706.b\I4732.D		

Column 1 : Det: MS SCAN

Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:49:18

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Nitrobenzene-d5	1.50	1.28	85.44
$ 9 2-Fluorobiphenyl (Surr)	1.50	1.27	84.71
$ 19 Terphenyl-d14	1.50	1.40	93.16

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Instrument ID: SMSI　Start Date: 10/19/2017 10:42

Analysis Batch Number: 332657　End Date: 10/19/2017 19:56

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 160-332657/2		10/19/2017 10:42	1	I4725.D	RXI5SiiMS 0.25(mm)
IC 160-332657/3		10/19/2017 11:16	1	I4726.D	RXI5SiiMS 0.25(mm)
IC 160-332657/4		10/19/2017 11:38	1	I4727.D	RXI5SiiMS 0.25(mm)
IC 160-332657/5		10/19/2017 12:01	1	I4728.D	RXI5SiiMS 0.25(mm)
ICIS 160-332657/6		10/19/2017 12:24	1	I4729.D	RXI5SiiMS 0.25(mm)
IC 160-332657/7		10/19/2017 12:46	1	I4730.D	RXI5SiiMS 0.25(mm)
IC 160-332657/8		10/19/2017 13:09	1	I4731.D	RXI5SiiMS 0.25(mm)
IC 160-332657/9		10/19/2017 13:32	1	I4732.D	RXI5SiiMS 0.25(mm)
ICV 160-332657/10		10/19/2017 13:54	1	I4733.D	RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 14:17	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 14:40	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 15:02	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 15:25	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 15:48	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 16:10	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 16:32	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 16:55	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 17:18	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 17:40	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 18:03	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 18:25	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 18:48	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 19:11	10		RXI5SiiMS 0.25(mm)
ZZZZZ		10/19/2017 19:33	10		RXI5SiiMS 0.25(mm)
CCVC 160-332657/26		10/19/2017 19:56	1		RXI5SiiMS 0.25(mm)

8270D SIM

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Instrument ID: SMSI   Start Date: 10/21/2017 12:01

Analysis Batch Number: 333047   End Date: 10/21/2017 21:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 160-333047/3		10/21/2017 12:01	1	I4841.D	RXI5SiiMS 0.25(mm)
CCV 160-333047/4		10/21/2017 12:35	1	I4842.D	RXI5SiiMS 0.25(mm)
MB 160-332664/1-A		10/21/2017 12:57	1	I4843.D	RXI5SiiMS 0.25(mm)
LCS 160-332664/2-A		10/21/2017 13:20	1	I4844.D	RXI5SiiMS 0.25(mm)
160-24924-2		10/21/2017 13:42	1	I4845.D	RXI5SiiMS 0.25(mm)
160-24924-3		10/21/2017 14:05	1	I4846.D	RXI5SiiMS 0.25(mm)
160-24924-4		10/21/2017 14:28	1	I4847.D	RXI5SiiMS 0.25(mm)
160-24924-5		10/21/2017 14:51	1	I4848.D	RXI5SiiMS 0.25(mm)
160-24924-6		10/21/2017 15:13	1	I4849.D	RXI5SiiMS 0.25(mm)
160-24924-9		10/21/2017 15:36	1	I4850.D	RXI5SiiMS 0.25(mm)
160-24924-9 MS		10/21/2017 15:58	1	I4851.D	RXI5SiiMS 0.25(mm)
160-24924-9 MSD		10/21/2017 16:21	1	I4852.D	RXI5SiiMS 0.25(mm)
160-24924-10		10/21/2017 16:43	1	I4853.D	RXI5SiiMS 0.25(mm)
160-24924-11		10/21/2017 17:06	1	I4854.D	RXI5SiiMS 0.25(mm)
160-24924-12		10/21/2017 17:29	1	I4855.D	RXI5SiiMS 0.25(mm)
160-24924-14		10/21/2017 17:51	1	I4856.D	RXI5SiiMS 0.25(mm)
160-24924-15		10/21/2017 18:14	1	I4857.D	RXI5SiiMS 0.25(mm)
ZZZZZ		10/21/2017 18:37	1		RXI5SiiMS 0.25(mm)
160-24924-17		10/21/2017 19:00	1	I4859.D	RXI5SiiMS 0.25(mm)
160-24924-18		10/21/2017 19:22	1	I4860.D	RXI5SiiMS 0.25(mm)
160-24924-19		10/21/2017 19:45	1	I4861.D	RXI5SiiMS 0.25(mm)
160-24924-1		10/21/2017 20:07	5	I4862.D	RXI5SiiMS 0.25(mm)
160-24924-8		10/21/2017 20:30	5	I4863.D	RXI5SiiMS 0.25(mm)
160-24924-7		10/21/2017 20:52	10	I4864.D	RXI5SiiMS 0.25(mm)
160-24924-13		10/21/2017 21:15	10	I4865.D	RXI5SiiMS 0.25(mm)
CCVC 160-333047/28		10/21/2017 21:38	1	I4866.D	RXI5SiiMS 0.25(mm)

8270D SIM

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: SMSI Start Date: 10/23/2018 09:48

Analysis Batch Number: 333174 End Date: 10/23/2018 21:12

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 160-333174/3		10/23/2018 09:48	1	I4792.D	RXI5SiiMS 0.25(mm)
CCV 160-333174/4		10/23/2018 10:22	1	I4793.D	RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 10:59	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 11:22	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 11:45	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 12:07	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 12:31	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 12:53	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 13:16	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 13:37	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 14:01	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 14:24	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 14:46	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 15:09	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 15:32	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 15:54	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 16:18	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 16:39	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 18:02	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 18:25	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 18:48	1		RXI5SiiMS 0.25(mm)
160-24924-16		10/23/2018 17:10	1	I4913.D	RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 17:32	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 17:55	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 19:17	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 19:41	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 20:04	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 20:28	1		RXI5SiiMS 0.25(mm)
ZZZZZ		10/23/2018 20:49	1		RXI5SiiMS 0.25(mm)
CCVC 160-333174/32		10/23/2018 21:12	1	I4921.D	RXI5SiiMS 0.25(mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Batch Number: 332664 Batch Start Date: 10/19/17 11:07 Batch Analyst: Slama, Kurt R

Batch Method: 3550C Batch End Date: 10/19/17 13:53

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	InitialAmount	FinalAmount	SonicatorID	1 ppm PAH Spk 00017	150ppmBNASurr 00047
MB 160-332664/1		3550C, 8270D SIM		CALC NOT SET TO RUN	30 g	1 mL	1		10 uL
LCS 160-332664/2		3550C, 8270D SIM		CALC NOT SET TO RUN	30 g	1 mL	2	1000 uL	10 uL
160-24924-F-1	SHAD041DP026SS02 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.13 g	1 mL	3		10 uL
160-24924-F-2	SHAD041DP026SS03 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.29 g	1 mL	4		10 uL
160-24924-F-3	SHAD041DP026SS04 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.19 g	1 mL	5		10 uL
160-24924-F-4	SHAD041DP026SS05 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.41 g	1 mL	8		10 uL
160-24924-F-5	SHAD041DP026SS05 DS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.26 g	1 mL	9		10 uL
160-24924-F-6	SHAD041DP026SS06 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.30 g	1 mL	1		10 uL
160-24924-F-7	SHAD041DP022SS01 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.19 g	1 mL	2		10 uL
160-24924-E-8	SHAD041DP022SS02 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.17 g	1 mL	3		10 uL
160-24924-E-9	SHAD041DP022SS03 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.14 g	1 mL	4		10 uL
160-24924-E-9 MS	SHAD041DP022SS03 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.12 g	1 mL	5	1000 uL	10 uL
160-24924-E-9 MSD	SHAD041DP022SS03 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.47 g	1 mL	8	1000 uL	10 uL
160-24924-E-10	SHAD041DP022SS04 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.25 g	1 mL	9		10 uL
160-24924-E-11	SHAD041DP022SS05 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.11 g	1 mL	1		10 uL
160-24924-E-12	SHAD041DP022SS06 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.47 g	1 mL	2		10 uL
160-24924-E-13	SHAD041DP013SS01 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.06 g	1 mL	3		10 uL
160-24924-F-14	SHAD041DP013SS02 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.29 g	1 mL	4		10 uL
160-24924-E-15	SHAD041DP013SS03 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.11 g	1 mL	5		10 uL
160-24924-F-16	SHAD041DP013SS04 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.05 g	1 mL	8		10 uL
160-24924-F-17	SHAD041DP013SS05 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.12 g	1 mL	9		10 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Batch Number: 332664 Batch Start Date: 10/19/17 11:07 Batch Analyst: Slama, Kurt R

Batch Method: 3550C Batch End Date: 10/19/17 13:53

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	InitialAmount	FinalAmount	SonicatorID	1 ppm PAH Spk 00017	150ppmBNASurr 00047
160-24924-E-18	SHAD041DP013SS05 DS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.30 g	1 mL	1		10 uL
160-24924-E-19	SHAD041DP013SS06 NS	3550C, 8270D SIM	T	CALC NOT SET TO RUN	30.35 g	1 mL	2		10 uL

Batch Notes	
Balance ID	27250189
Concentration End Time	10/19/17 17:00
Concentration Start Time	10/19/17 16:00
Analyst ID - Concentration	kelli agu
N-evap ID	40656
N-evap Temperature	35 Degrees C
Na2SO4 ID	1277542
Nominal Amount Used	30 g
Prep Solvent ID	1281082; 1279380
Prep Solvent Name	methylene chloride/acetone; methylene chloride
Prep Solvent Volume Used	300 mL
Person's name who did the prep	Kurt Slama
Analyst ID - Reagent Drop Witness	Gerrod McKinney
Analyst ID - Reagent Drop	Kurt Slama
Vendor of Reagent used	J.T. Baker
Water Bath ID	2,4
Water Bath Temperature	90 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8082A DOD

Polychlorinated Biphenyls (PCBs) by Gas Chromatography by Method 8082A DOD

FORM II
PCBS SURROGATE RECOVERY

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Matrix: Solid   Level: Low

GC Column (1): RTXCLP2   ID: 0.53(mm)

Client Sample ID	Lab Sample ID	DCB1	#
SHAD041DP026SS02NS	160-24924-1	105	
SHAD041DP026SS03NS	160-24924-2	82	
SHAD041DP026SS04NS	160-24924-3	101	
SHAD041DP026SS05NS	160-24924-4	85	
SHAD041DP026SS05DS	160-24924-5	89	
SHAD041DP026SS06NS	160-24924-6	97	
SHAD041DP022SS01NS	160-24924-7	87	
SHAD041DP022SS02NS	160-24924-8	96	
SHAD041DP022SS03NS	160-24924-9	90	
SHAD041DP022SS04NS	160-24924-10	105	
SHAD041DP022SS05NS	160-24924-11	91	
SHAD041DP022SS06NS	160-24924-12	88	
SHAD041DP013SS01NS	160-24924-13	96	
SHAD041DP013SS02NS	160-24924-14	83	
SHAD041DP013SS03NS	160-24924-15	90	
SHAD041DP013SS04NS	160-24924-16	95	
SHAD041DP013SS05NS	160-24924-17	91	
SHAD041DP013SS05DS	160-24924-18	82	
SHAD041DP013SS06NS	160-24924-19	92	
	MB 160-332430/1-A	104	
	LCS 160-332430/2-A	95	
SHAD041DP022SS03NS MS	160-24924-9 MS	90	
SHAD041DP022SS03NS MSD	160-24924-9 MSD	90	

	QC LIMITS
DCB = DCB Decachlorobiphenyl (Surr)	44-150

Column to be used to flag recovery values

FORM II 8082A

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: KLCS119.D

Lab ID: LCS 160-332430/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
PCB-1016	167	161	97	47-134	
PCB-1260	167	163	98	53-140	

Column to be used to flag recovery and RPD values

FORM III 8082A

FORM III
PCBS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica St. Louis　　Job No.: 160-24924-1

SDG No.:

Matrix: Solid　　Level: Low　　Lab File ID: KSMP130.D

Lab ID: 160-24924-9 MS　　Client ID: SHAD041DP022SS03NS MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
PCB-1016	170	16 U	164	96	47-134	
PCB-1260	170	10 U	159	94	53-140	

Column to be used to flag recovery and RPD values

FORM III 8082A

FORM III
PCBS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Matrix: Solid

Level: Low

Lab File ID: KSMP131.D

Lab ID: 160-24924-9 MSD

Client ID: SHAD041DP022SS03NS MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
PCB-1016	169	166	98	2	30	47-134	
PCB-1260	169	157	92	2	30	53-140	

Column to be used to flag recovery and RPD values

FORM III 8082A

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: MB 160-332430/1-A

Matrix: Solid   Date Extracted: 10/18/2017 09:00

Lab File ID:(1) KBLK118.D   Lab File ID:(2) KBLK118.D

Date Analyzed:(1) 10/21/2017 13:03   Date Analyzed:(2) 10/21/2017 13:03

Instrument ID:(1) SGCK   Instrument ID:(2) SGCK

GC Column:(1) RTXCLP2 ID: 0.53(mm)   GC Column:(2) RTXCLP1 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 160-332430/2-A	10/21/2017 13:24	10/21/2017 13:24
SHAD041DP026SS02NS	160-24924-1	10/21/2017 13:45	10/21/2017 13:45
SHAD041DP026SS03NS	160-24924-2	10/21/2017 14:06	10/21/2017 14:06
SHAD041DP026SS04NS	160-24924-3	10/21/2017 14:27	10/21/2017 14:27
SHAD041DP026SS05NS	160-24924-4	10/21/2017 14:48	10/21/2017 14:48
SHAD041DP026SS05DS	160-24924-5	10/21/2017 15:09	10/21/2017 15:09
SHAD041DP026SS06NS	160-24924-6	10/21/2017 15:30	10/21/2017 15:30
SHAD041DP022SS01NS	160-24924-7	10/21/2017 15:50	10/21/2017 15:50
SHAD041DP022SS02NS	160-24924-8	10/21/2017 16:11	10/21/2017 16:11
SHAD041DP022SS03NS	160-24924-9	10/21/2017 16:53	10/21/2017 16:53
SHAD041DP022SS03NS MS	160-24924-9 MS	10/21/2017 17:14	10/21/2017 17:14
SHAD041DP022SS03NS MSD	160-24924-9 MSD	10/21/2017 17:35	10/21/2017 17:35
SHAD041DP022SS04NS	160-24924-10	10/21/2017 17:56	10/21/2017 17:56
SHAD041DP022SS05NS	160-24924-11	10/21/2017 18:17	10/21/2017 18:17
SHAD041DP022SS06NS	160-24924-12	10/21/2017 18:38	10/21/2017 18:38
SHAD041DP013SS01NS	160-24924-13	10/21/2017 18:59	10/21/2017 18:59
SHAD041DP013SS02NS	160-24924-14	10/21/2017 19:20	10/21/2017 19:20
SHAD041DP013SS03NS	160-24924-15	10/21/2017 19:41	10/21/2017 19:41
SHAD041DP013SS04NS	160-24924-16	10/21/2017 20:02	10/21/2017 20:02
SHAD041DP013SS05NS	160-24924-17	10/21/2017 20:44	10/21/2017 20:44
SHAD041DP013SS05DS	160-24924-18	10/21/2017 21:05	10/21/2017 21:05
SHAD041DP013SS06NS	160-24924-19	10/21/2017 21:26	10/21/2017 21:26

FORM IV 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Sample No.: ICIS 160-326367/8
Date Analyzed: 09/08/2017 12:36
Instrument ID: SGCK
GC Column: RTXCLP1 ID: 0.53(mm)
Lab File ID (Standard): KICL511.D
Heated Purge: (Y/N) N
Calibration ID: 13479

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		526676413	3.44				
UPPER LIMIT		1053352826	3.45				
LOWER LIMIT		263338207	3.42				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 160-326367/11		543546261	3.44				
ICV 160-326367/19		552920854	3.44				
CCVIS 160-333051/3		532136140	3.41Q				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.015 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII

PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Sample No.: ICIS 160-326367/8 Date Analyzed: 09/08/2017 12:36

Instrument ID: SGCK GC Column: RTXCLP2 ID: 0.53(mm)

Lab File ID (Standard): KICL511.D Heated Purge: (Y/N) N

Calibration ID: 13480

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		75071350	4.21				
UPPER LIMIT		150142700	4.22				
LOWER LIMIT		37535675	4.19				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 160-326367/11		75936053	4.21				
ICV 160-326367/19		76128613	4.21				
CCVIS 160-333051/3		78833447	4.19Q				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.015 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Sample No.: CCVIS 160-333051/3
Date Analyzed: 10/21/2017 12:42
Instrument ID: SGCK
GC Column: RTXCLP1 ID: 0.53(mm)
Lab File ID (Standard): KCCV117.D
Heated Purge: (Y/N) N
Calibration ID: 13495

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		532136140	3.41 Q				
UPPER LIMIT		1064272280	3.43				
LOWER LIMIT		266068070	3.40				
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 160-332430/1-A		552742809	3.41				
LCS 160-332430/2-A		548046899	3.41				
160-24924-1	SHAD041DP026SS02NS	568632106	3.41				
160-24924-2	SHAD041DP026SS03NS	551619715	3.41				
160-24924-3	SHAD041DP026SS04NS	537711558	3.41				
160-24924-4	SHAD041DP026SS05NS	555508296	3.41				
160-24924-5	SHAD041DP026SS05DS	550190162	3.41				
160-24924-6	SHAD041DP026SS06NS	545011564	3.41				
160-24924-7	SHAD041DP022SS01NS	533390757	3.41				
160-24924-8	SHAD041DP022SS02NS	540510788	3.41				
CCV 160-333051/14		545355596	3.41				
160-24924-9	SHAD041DP022SS03NS	537638538	3.41				
160-24924-9 MS	SHAD041DP022SS03NS MS	562252845	3.41				
160-24924-9 MSD	SHAD041DP022SS03NS MSD	568147189	3.41				
160-24924-10	SHAD041DP022SS04NS	577023794	3.41				
160-24924-11	SHAD041DP022SS05NS	537657895	3.41				
160-24924-12	SHAD041DP022SS06NS	586995838	3.41				
160-24924-13	SHAD041DP013SS01NS	533860040	3.41				
160-24924-14	SHAD041DP013SS02NS	563312653	3.41				
160-24924-15	SHAD041DP013SS03NS	555428212	3.41				
160-24924-16	SHAD041DP013SS04NS	583805024	3.41				
CCV 160-333051/25		556534718	3.41				
160-24924-17	SHAD041DP013SS05NS	587269847	3.41				
160-24924-18	SHAD041DP013SS05DS	584593624	3.41				
160-24924-19	SHAD041DP013SS06NS	569553383	3.41				
CCV 160-333051/36		571443256	3.41				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.015 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Sample No.: CCVIS 160-333051/3

Date Analyzed: 10/21/2017 12:42

Instrument ID: SGCK

GC Column: RTXCLP2 ID: 0.53(mm)

Lab File ID (Standard): KCCV117.D

Heated Purge: (Y/N) N

Calibration ID: 13496

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		78833447	4.19 Q				
UPPER LIMIT		157666894	4.20				
LOWER LIMIT		39416724	4.17				
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 160-332430/1-A		83780908	4.19				
LCS 160-332430/2-A		83014409	4.19				
160-24924-1	SHAD041DP026SS02NS	85441920	4.19				
160-24924-2	SHAD041DP026SS03NS	83190825	4.19				
160-24924-3	SHAD041DP026SS04NS	81538388	4.19				
160-24924-4	SHAD041DP026SS05NS	83454720	4.19				
160-24924-5	SHAD041DP026SS05DS	83636319	4.19				
160-24924-6	SHAD041DP026SS06NS	81635112	4.19				
160-24924-7	SHAD041DP022SS01NS	79752638	4.19				
160-24924-8	SHAD041DP022SS02NS	80706674	4.19				
CCV 160-333051/14		81220042	4.19				
160-24924-9	SHAD041DP022SS03NS	80736761	4.19				
160-24924-9 MS	SHAD041DP022SS03NS MS	83353462	4.19				
160-24924-9 MSD	SHAD041DP022SS03NS MSD	84550345	4.19				
160-24924-10	SHAD041DP022SS04NS	86285061	4.19				
160-24924-11	SHAD041DP022SS05NS	80448975	4.19				
160-24924-12	SHAD041DP022SS06NS	87218746	4.19				
160-24924-13	SHAD041DP013SS01NS	79593917	4.19				
160-24924-14	SHAD041DP013SS02NS	83183389	4.19				
160-24924-15	SHAD041DP013SS03NS	82389182	4.19				
160-24924-16	SHAD041DP013SS04NS	86611002	4.19				
CCV 160-333051/25		82217134	4.19				
160-24924-17	SHAD041DP013SS05NS	86475504	4.19				
160-24924-18	SHAD041DP013SS05DS	86273078	4.19				
160-24924-19	SHAD041DP013SS06NS	85021285	4.19				
CCV 160-333051/36		84039828	4.19				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.015 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS02NS	Lab Sample ID: 160-24924-1
Matrix: Solid	Lab File ID: KSMP120.D
Analysis Method: 8082A	Date Collected: 10/05/2017 16:04
Extraction Method: 3550C	Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.07(g)	Date Analyzed: 10/21/2017 13:45
Con. Extract Vol.: 10(mL)	Dilution Factor: 1
Injection Volume: 2(uL)	GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 1.4	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	16	U	33	16	9.7
11104-28-2	PCB-1221	16	U	33	16	9.7
11141-16-5	PCB-1232	16	U	33	16	9.7
53469-21-9	PCB-1242	16	U	33	16	9.7
12672-29-6	PCB-1248	16	U	33	16	11
11097-69-1	PCB-1254	16	U	33	16	13
11096-82-5	PCB-1260	10	U	33	10	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	105		44-150

Report Date: 22-Oct-2017 15:23:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP120.D
Lims ID: 160-24924-E-1-C
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 21-Oct-2017 13:45:13 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-1-c
Misc. Info.: 160-0011731-006
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:03:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.413	3.411	0.002	568632106	50.0	
2	4.189	4.187	0.002	85441920	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.823	12.823	0.000	114954389	17.1	
2	14.090	14.087	0.003	17211907	21.0	
				RPD =	20.69	

Reagents:

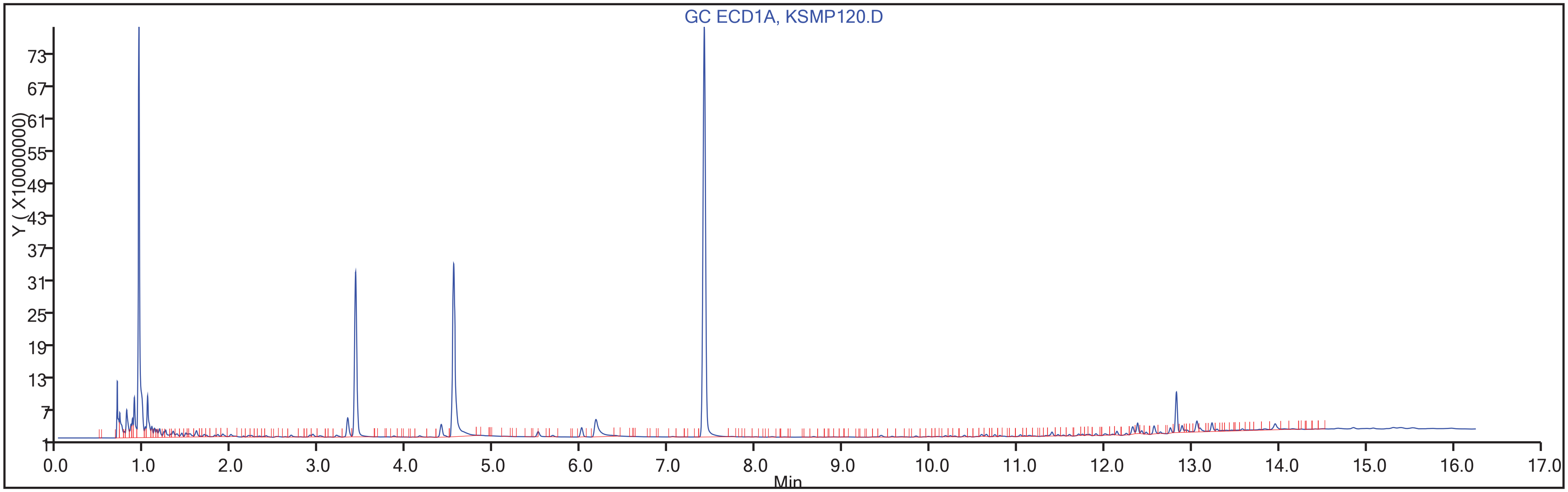
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

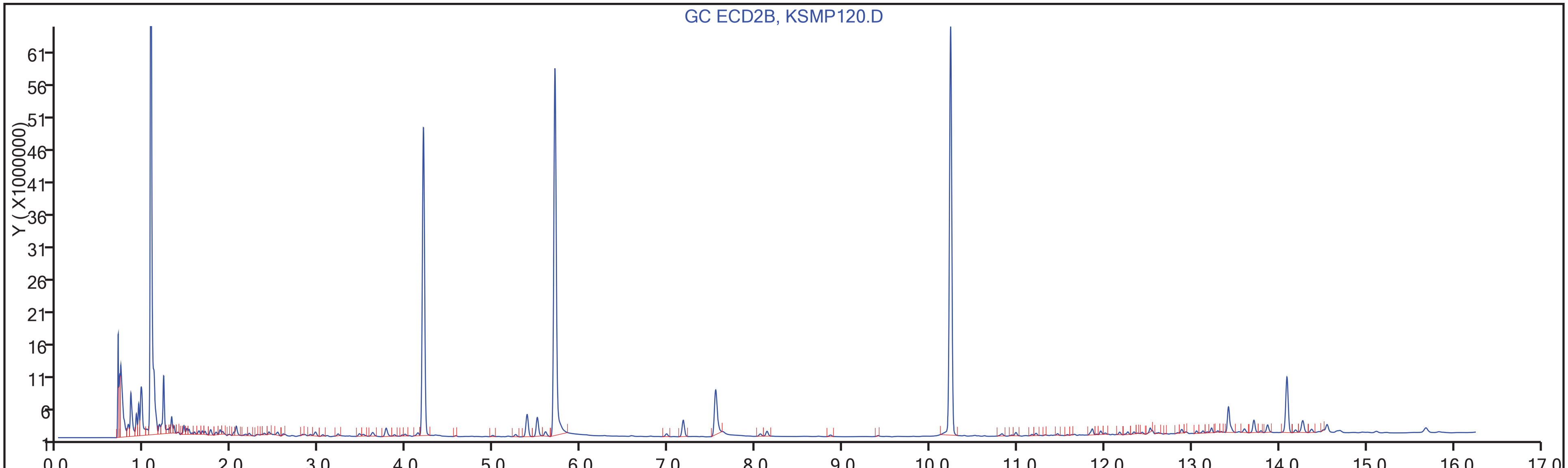
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP120.D				
Injection Date:	21-Oct-2017 13:45:13	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-1-C	Lab Sample ID:	160-24924-1	Worklist Smp#:	6
Client ID:	SHAD041DP026SS02NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP120.D				
Lims ID:	160-24924-E-1-C				
Client ID:	SHAD041DP026SS02NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 13:45:13	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-1-c				
Misc. Info.:	160-0011731-006				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:14	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:03:47

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.1	85.16

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	21.0	104.81

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP026SS03NS

Lab Sample ID: 160-24924-2

Matrix: Solid

Lab File ID: KSMP121.D

Analysis Method: 8082A

Date Collected: 10/05/2017 16:11

Extraction Method: 3550C

Date Extracted: 10/18/2017 09:00

Sample wt/vol: 30.20(g)

Date Analyzed: 10/21/2017 14:06

Con. Extract Vol.: 10(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

GC Column: RTXCLP2 ID: 0.53(mm)

% Moisture: 12.1

GPC Cleanup:(Y/N) N

Analysis Batch No.: 333051

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	18	U	37	18	11
11104-28-2	PCB-1221	18	U	37	18	11
11141-16-5	PCB-1232	18	U	37	18	11
53469-21-9	PCB-1242	18	U	37	18	11
12672-29-6	PCB-1248	18	U	37	18	12
11097-69-1	PCB-1254	18	U	37	18	15
11096-82-5	PCB-1260	11	U	37	11	11

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	82		44-150

Report Date: 22-Oct-2017 15:23:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP121.D
Lims ID: 160-24924-E-2-C
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 21-Oct-2017 14:06:15 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-2-c
Misc. Info.: 160-0011731-007
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:03:55

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.413	3.411	0.002	551619715	50.0	
2	4.190	4.187	0.003	83190825	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.825	12.823	0.002	100797893	15.5	
2	14.091	14.087	0.004	13078400	16.4	
				RPD =	6.07	

Reagents:

8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

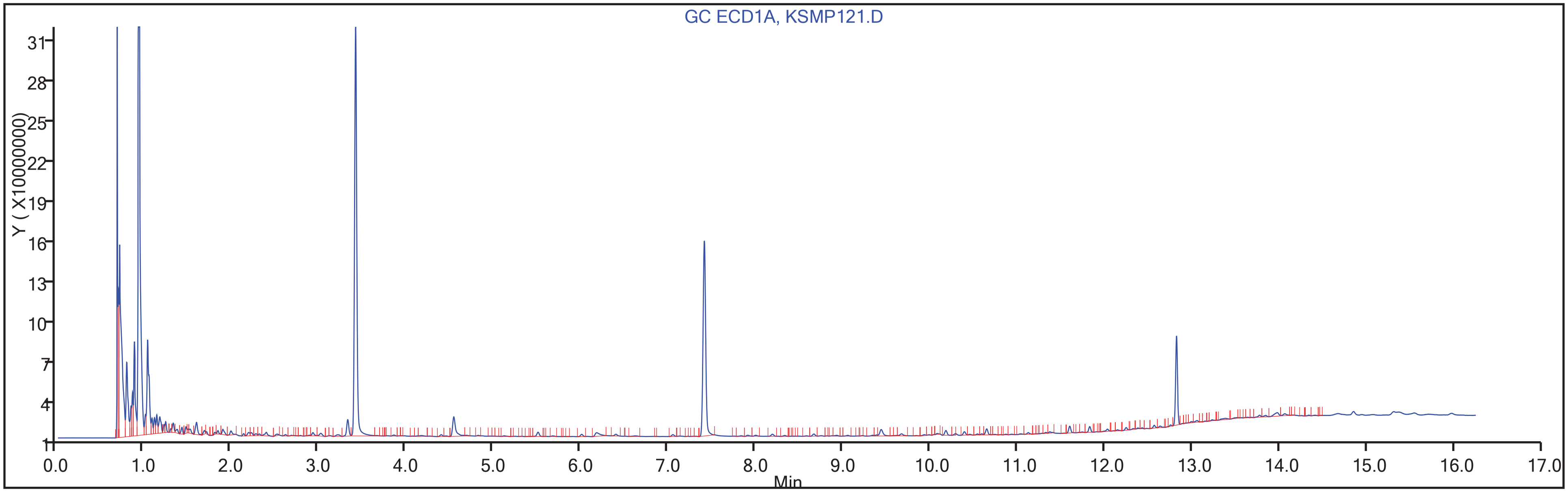
Report Date: 22-Oct-2017 15:23:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

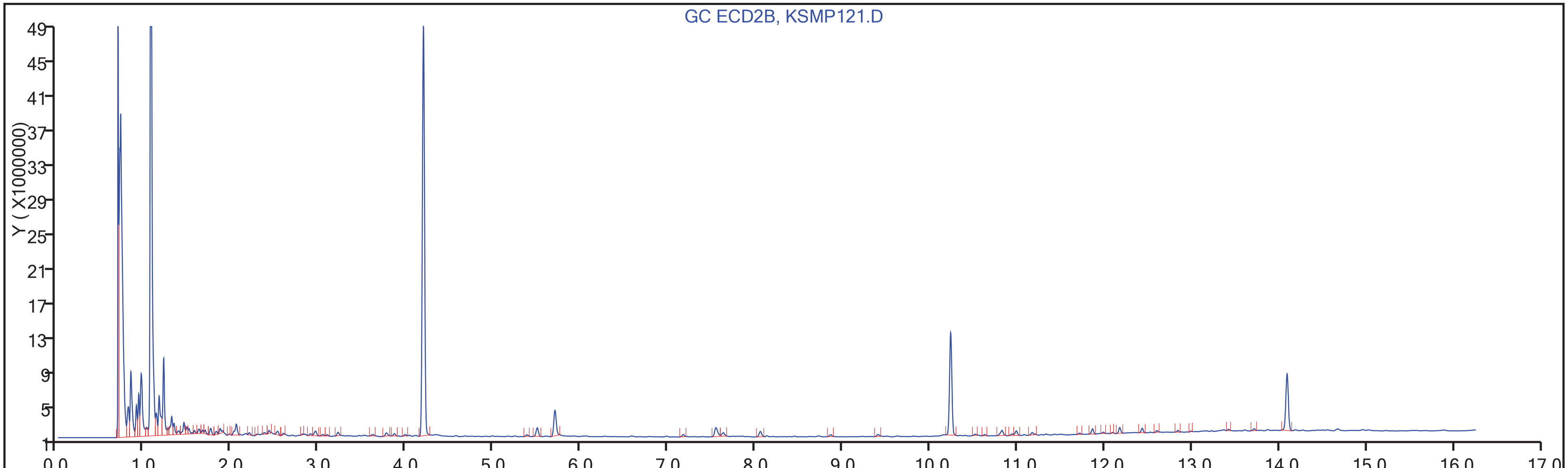
Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP121.D

Injection Date:	21-Oct-2017 14:06:15	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-2-C	Lab Sample ID:	160-24924-2	Worklist Smp#:	7
Client ID:	SHAD041DP026SS03NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP121.D				
Lims ID:	160-24924-E-2-C				
Client ID:	SHAD041DP026SS03NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 14:06:15	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-2-c				
Misc. Info.:	160-0011731-007				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:14	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:03:55

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	15.5	76.97

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	16.4	81.79

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS04NS	Lab Sample ID: 160-24924-3
Matrix: Solid	Lab File ID: KSMP122.D
Analysis Method: 8082A	Date Collected: 10/05/2017 16:15
Extraction Method: 3550C	Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.28(g)	Date Analyzed: 10/21/2017 14:27
Con. Extract Vol.: 10(mL)	Dilution Factor: 1
Injection Volume: 2(uL)	GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 9.6	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	18	U	36	18	11
11104-28-2	PCB-1221	18	U	36	18	11
11141-16-5	PCB-1232	18	U	36	18	11
53469-21-9	PCB-1242	18	U	36	18	11
12672-29-6	PCB-1248	18	U	36	18	12
11097-69-1	PCB-1254	18	U	36	18	14
11096-82-5	PCB-1260	11	U	36	11	11

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	101		44-150

Report Date: 22-Oct-2017 15:23:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP122.D				
Lims ID:	160-24924-E-3-C				
Client ID:	SHAD041DP026SS04NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 14:27:09	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-3-c				
Misc. Info.:	160-0011731-008				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:14	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:04:03

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.414	3.411	0.003	537711558	50.0	
2	4.192	4.187	0.005	81538388	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.827	12.823	0.004	126236636	19.9	
2	14.092	14.087	0.005	15890316	20.4	
				RPD =	2.50	

Reagents:

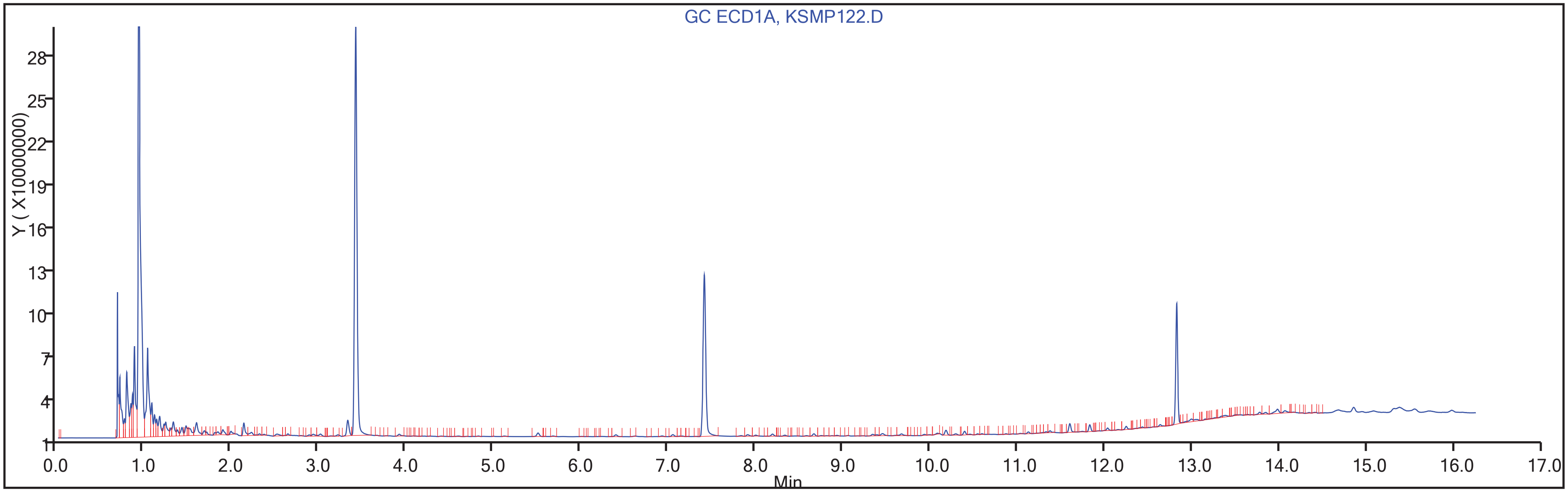
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

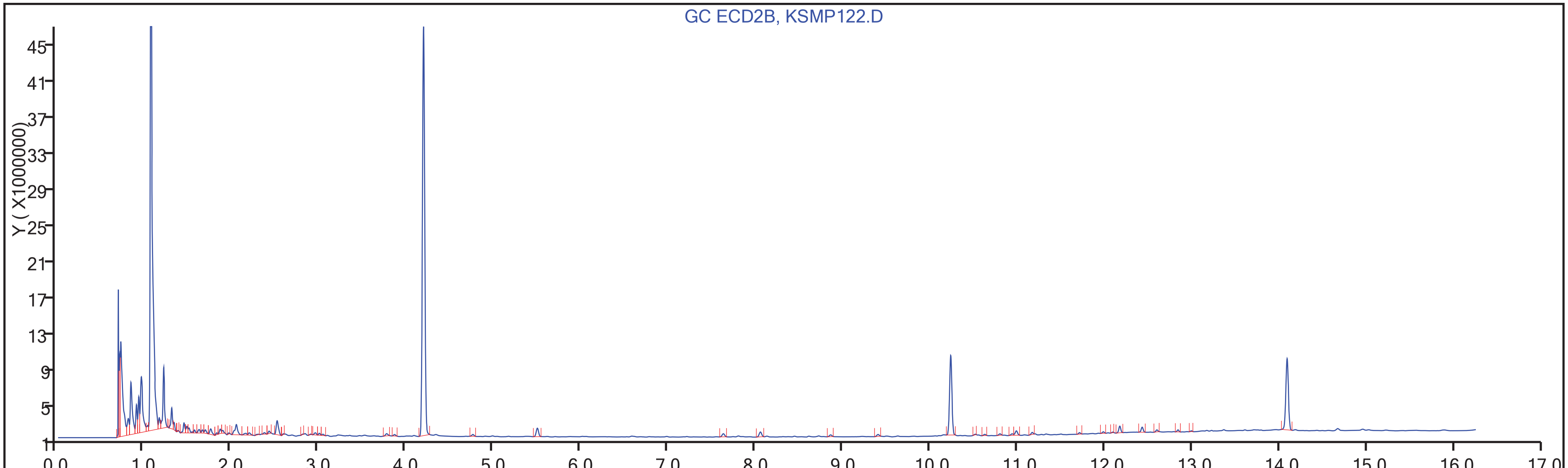
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP122.D				
Injection Date:	21-Oct-2017 14:27:09	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-3-C	Lab Sample ID:	160-24924-3	Worklist Smp#:	8
Client ID:	SHAD041DP026SS04NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP122.D				
Lims ID:	160-24924-E-3-C				
Client ID:	SHAD041DP026SS04NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 14:27:09	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-3-c				
Misc. Info.:	160-0011731-008				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:14	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:04:03

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	19.9	98.89

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	20.4	101.39

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: SHAD041DP026SS05NS
Lab Sample ID: 160-24924-4
Matrix: Solid
Lab File ID: KSMP123.D
Analysis Method: 8082A
Date Collected: 10/05/2017 16:22
Extraction Method: 3550C
Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.39(g)
Date Analyzed: 10/21/2017 14:48
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 20.1
GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	20	U	41	20	12
11104-28-2	PCB-1221	20	U	41	20	12
11141-16-5	PCB-1232	20	U	41	20	12
53469-21-9	PCB-1242	20	U	41	20	12
12672-29-6	PCB-1248	20	U	41	20	13
11097-69-1	PCB-1254	20	U	41	20	16
11096-82-5	PCB-1260	12	U	41	12	12

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	85		44-150

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP123.D
Lims ID: 160-24924-E-4-C
Client ID: SHAD041DP026SS05NS
Sample Type: Client
Inject. Date: 21-Oct-2017 14:48:02 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-4-c
Misc. Info.: 160-0011731-009
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:04:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.413	3.411	0.002	555508296	50.0	
2	4.191	4.187	0.004	83454720	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.826	12.823	0.003	107280898	16.3	
2	14.092	14.087	0.005	13632010	17.1	
				RPD =	4.37	

Reagents:

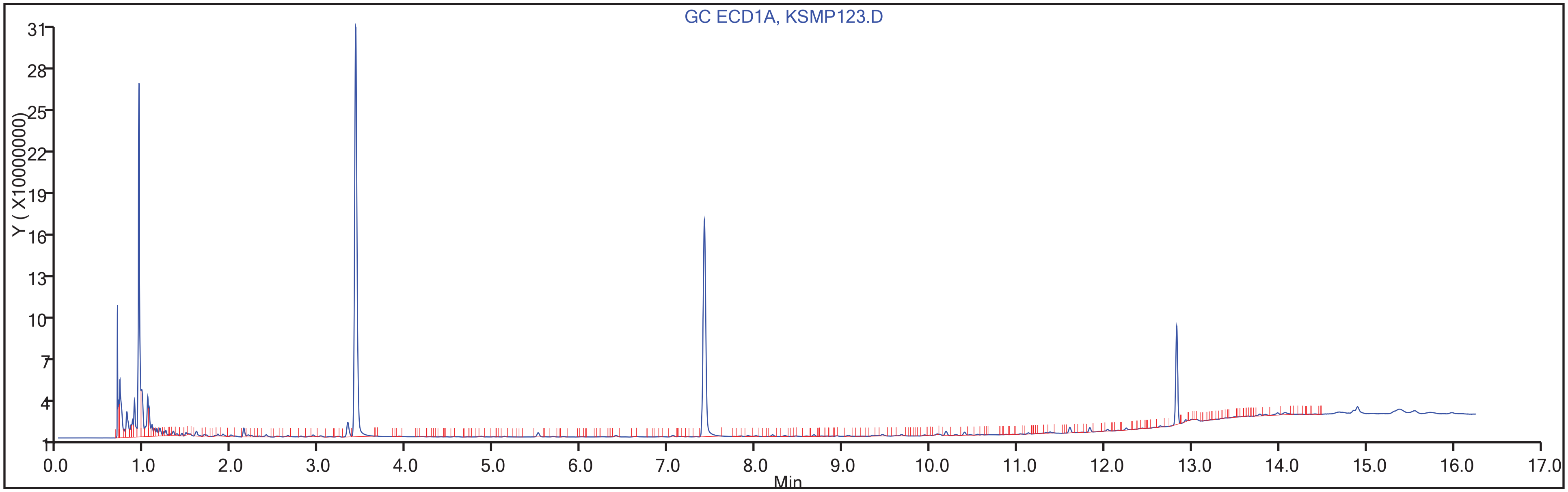
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

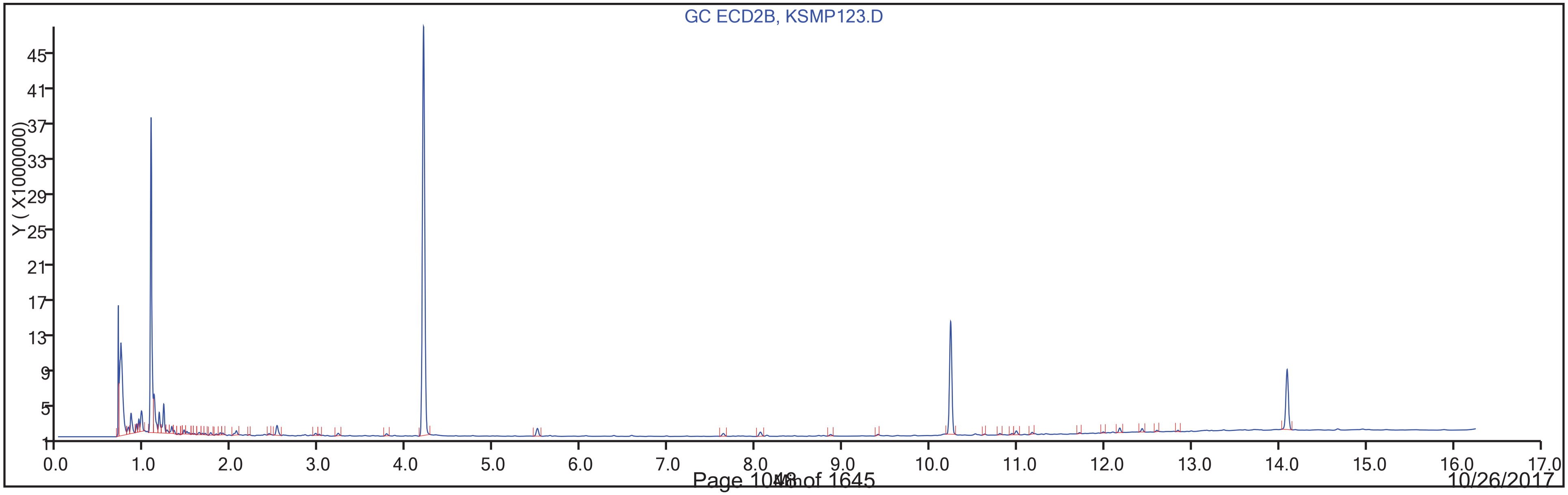
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP123.D				
Injection Date:	21-Oct-2017 14:48:02	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-4-C	Lab Sample ID:	160-24924-4	Worklist Smp#:	9
Client ID:	SHAD041DP026SS05NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP123.D
Lims ID: 160-24924-E-4-C
Client ID: SHAD041DP026SS05NS
Sample Type: Client
Inject. Date: 21-Oct-2017 14:48:02 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-4-c
Misc. Info.: 160-0011731-009
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:04:11

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	16.3	81.35

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.1	84.98

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP026SS05DS	Lab Sample ID: 160-24924-5
Matrix: Solid	Lab File ID: KSMP124.D
Analysis Method: 8082A	Date Collected: 10/05/2017 16:26
Extraction Method: 3550C	Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.32(g)	Date Analyzed: 10/21/2017 15:09
Con. Extract Vol.: 10(mL)	Dilution Factor: 1
Injection Volume: 2(uL)	GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 26.5	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	22	U	44	22	13
11104-28-2	PCB-1221	22	U	44	22	13
11141-16-5	PCB-1232	22	U	44	22	13
53469-21-9	PCB-1242	22	U	44	22	13
12672-29-6	PCB-1248	22	U	44	22	14
11097-69-1	PCB-1254	22	U	44	22	18
11096-82-5	PCB-1260	13	U	44	13	13

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	89		44-150

FORM I 8082A

Report Date: 22-Oct-2017 15:23:38 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP124.D
Lims ID: 160-24924-E-5-C
Client ID: SHAD041DP026SS05DS
Sample Type: Client
Inject. Date: 21-Oct-2017 15:09:05 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-5-c
Misc. Info.: 160-0011731-010
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:04:19

```
Col   RT       Exp RT   Dlt RT                  OnCol Amt
      (min.)   (min.)   (min.)   Response       ng/ml       Flags

*  2 1-Bromo-2-nitrobenzene
 1     3.414    3.411   0.003    550190162      50.0
 2     4.192    4.187   0.005     83636319      50.0
                                          RPD =  0.00

$  5 DCB Decachlorobiphenyl (Surr)
 1    12.826   12.823   0.003    112640256      17.3
 2    14.092   14.087   0.005     14280464      17.8
                                          RPD =  2.96
```

Reagents:

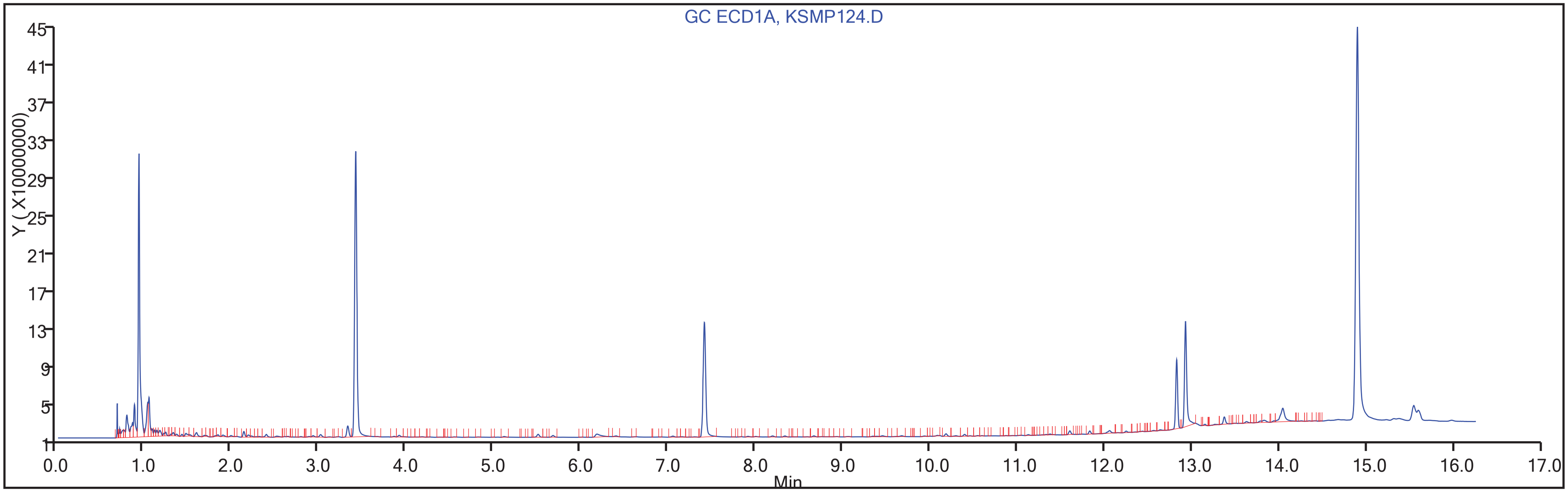
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:38	Chrom Revision: 2.2 16-Aug-2017 16:24:46

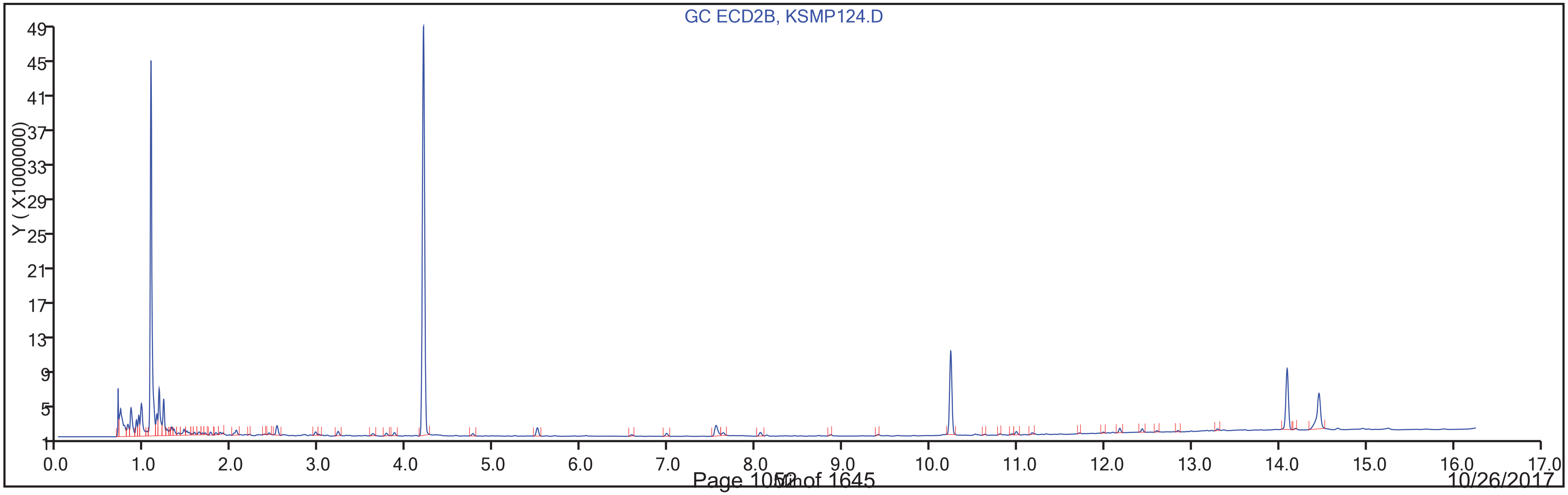
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP124.D				
Injection Date:	21-Oct-2017 15:09:05	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-5-C	Lab Sample ID:	160-24924-5	Worklist Smp#:	10
Client ID:	SHAD041DP026SS05DS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP124.D
Lims ID: 160-24924-E-5-C
Client ID: SHAD041DP026SS05DS
Sample Type: Client
Inject. Date: 21-Oct-2017 15:09:05 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-5-c
Misc. Info.: 160-0011731-010
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:04:19

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.3	86.24

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.8	88.83

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: SHAD041DP026SS06NS
Lab Sample ID: 160-24924-6
Matrix: Solid
Lab File ID: KSMP125.D
Analysis Method: 8082A
Date Collected: 10/05/2017 16:31
Extraction Method: 3550C
Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.06(g)
Date Analyzed: 10/21/2017 15:30
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 13.9
GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	19	U	38	19	11
11104-28-2	PCB-1221	19	U	38	19	11
11141-16-5	PCB-1232	19	U	38	19	11
53469-21-9	PCB-1242	19	U	38	19	11
12672-29-6	PCB-1248	19	U	38	19	12
11097-69-1	PCB-1254	19	U	38	19	15
11096-82-5	PCB-1260	12	U	38	12	12

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	97		44-150

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP125.D
Lims ID: 160-24924-E-6-C
Client ID: SHAD041DP026SS06NS
Sample Type: Client
Inject. Date: 21-Oct-2017 15:30:01 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-6-c
Misc. Info.: 160-0011731-011
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:04:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.414	3.411	0.003	545011564	50.0	
2	4.192	4.187	0.005	81635112	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.826	12.823	0.003	124650088	19.3	
2	14.092	14.087	0.005	15297023	19.6	
				RPD =	1.19	

Reagents:

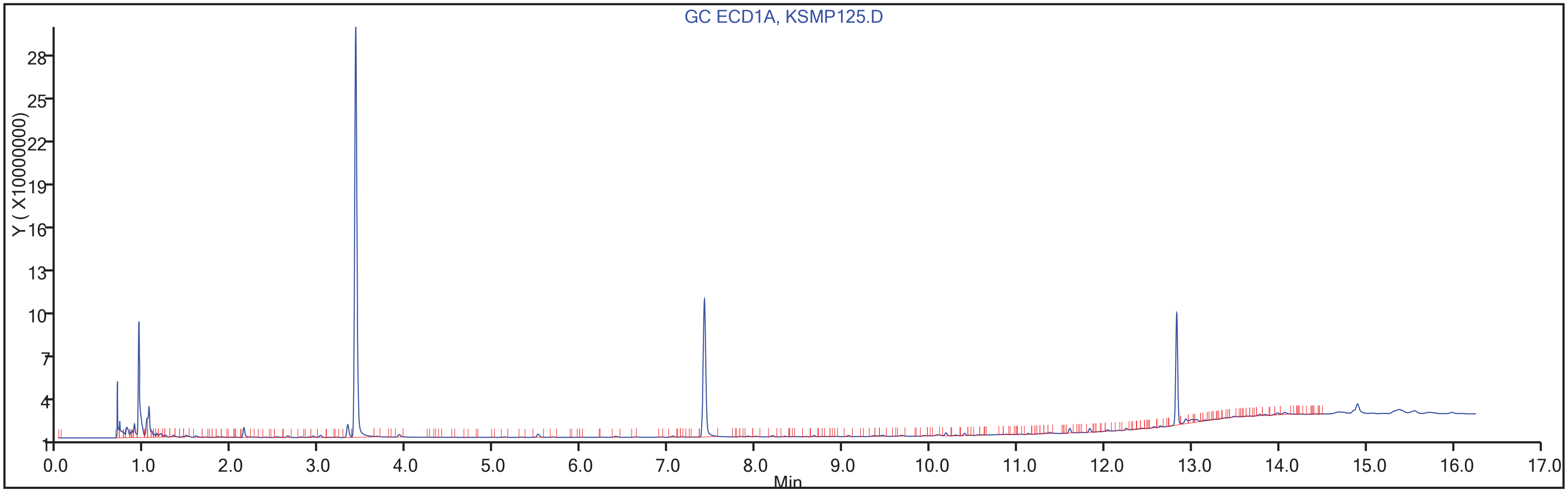
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:40 Chrom Revision: 2.2 16-Aug-2017 16:24:46

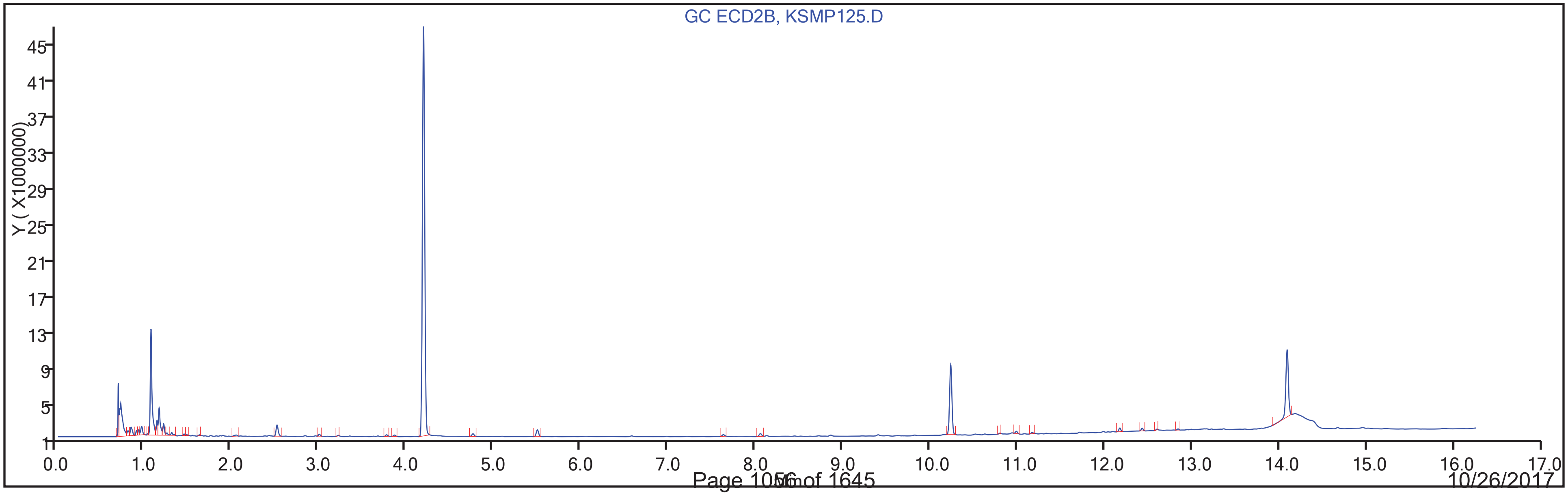
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP125.D				
Injection Date:	21-Oct-2017 15:30:01	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-6-C	Lab Sample ID:	160-24924-6	Worklist Smp#:	11
Client ID:	SHAD041DP026SS06NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP125.D				
Lims ID:	160-24924-E-6-C				
Client ID:	SHAD041DP026SS06NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 15:30:01	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-6-c				
Misc. Info.:	160-0011731-011				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:14	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:04:29

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	19.3	96.34

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	19.6	97.49

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG No.:			
Client Sample ID:	SHAD041DP022SS01NS	Lab Sample ID:	160-24924-7
Matrix:	Solid	Lab File ID:	KSMP126.D
Analysis Method:	8082A	Date Collected:	10/05/2017 16:45
Extraction Method:	3550C	Date Extracted:	10/18/2017 09:00
Sample wt/vol:	30.33(g)	Date Analyzed:	10/21/2017 15:50
Con. Extract Vol.:	10(mL)	Dilution Factor:	1
Injection Volume:	2(uL)	GC Column:	RTXCLP2 ID: 0.53(mm)
% Moisture:	0.3	GPC Cleanup:(Y/N)	N
Analysis Batch No.:	333051	Units:	ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	16	U	33	16	9.5
11104-28-2	PCB-1221	16	U	33	16	9.5
11141-16-5	PCB-1232	16	U	33	16	9.5
53469-21-9	PCB-1242	16	U	33	16	9.5
12672-29-6	PCB-1248	16	U	33	16	11
11097-69-1	PCB-1254	16	U	33	16	13
11096-82-5	PCB-1260	12	J	33	9.9	9.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	87		44-150

TestAmerica St. Louis
Target Compound Quantitation Report

```
Data File:        \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP126.D
Lims ID:          160-24924-E-7-C
Client ID:        SHAD041DP022SS01NS
Sample Type:      Client
Inject. Date:     21-Oct-2017 15:50:53      ALS Bottle#:    12        Worklist Smp#:    12
Injection Vol:    2.0 ul                    Dil. Factor:    1.0000
Sample Info:      160-24924-e-7-c
Misc. Info.:      160-0011731-012
Operator ID:      DEK                       Instrument ID:  SGCK

Method:           \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group:      GC 8082A_ICAL_IS
Last Update:      22-Oct-2017 15:23:14      Calib Date:     08-Sep-2017 17:29:06
Integrator:       Falcon
Quant Method:     Internal Standard         Quant By:       Initial Calibration
Last ICal File:   \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 :        RTX-CLP Pesticides ( 0.53 mm)             Det: GC ECD1A
Column 2 :        RTX-CLP Pesticides2 ( 0.53 mm)            Det: GC ECD2B
Process Host:     XAWRK053

First Level Reviewer: konopkad              Date:           22-Oct-2017 15:04:47

      RT     Exp RT   Dlt RT               OnCol Amt
Col  (min.)  (min.)   (min.)   Response      ng/ml    Flags

*  2 1-Bromo-2-nitrobenzene
 1   3.414   3.411    0.003   533390757     50.0
 2   4.191   4.187    0.004    79752638     50.0
                                       RPD =   0.00

 11 PCB-1260
 1   9.835   9.838   -0.003    11332599     26.6
 1  10.230  10.231   -0.001    18024879     27.5
 1  10.590  10.591   -0.001    21829088     30.0
 1  11.395  11.398   -0.003    23184996     31.8
 1  11.702  11.703   -0.001    12746478     34.9
 2  11.215  11.212    0.003     1367974     23.7
 2  11.458  11.457    0.001     2243217     36.1
 2   0.000  11.854    0.000           0        0
 2  12.523  12.521    0.002     3371520     40.2
 2  12.886  12.886    0.000     2581033     46.5
                                       RPD =  19.35
```

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.824	12.823	0.001	89645028	14.2	
2	14.091	14.087	0.004	13293854	17.4	
					RPD = 20.22	
S 8 Polychlorinated biphenyls, Total						
1					30.2	
2					36.6	
					RPD = 19.35	

Reagents:

8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP126.D

Injection Date: 21-Oct-2017 15:50:53

Instrument ID: SGCK

Operator ID: DEK

Lims ID: 160-24924-E-7-C

Lab Sample ID: 160-24924-7

Worklist Smp#: 12

Client ID: SHAD041DP022SS01NS

Injection Vol: 2.0 ul

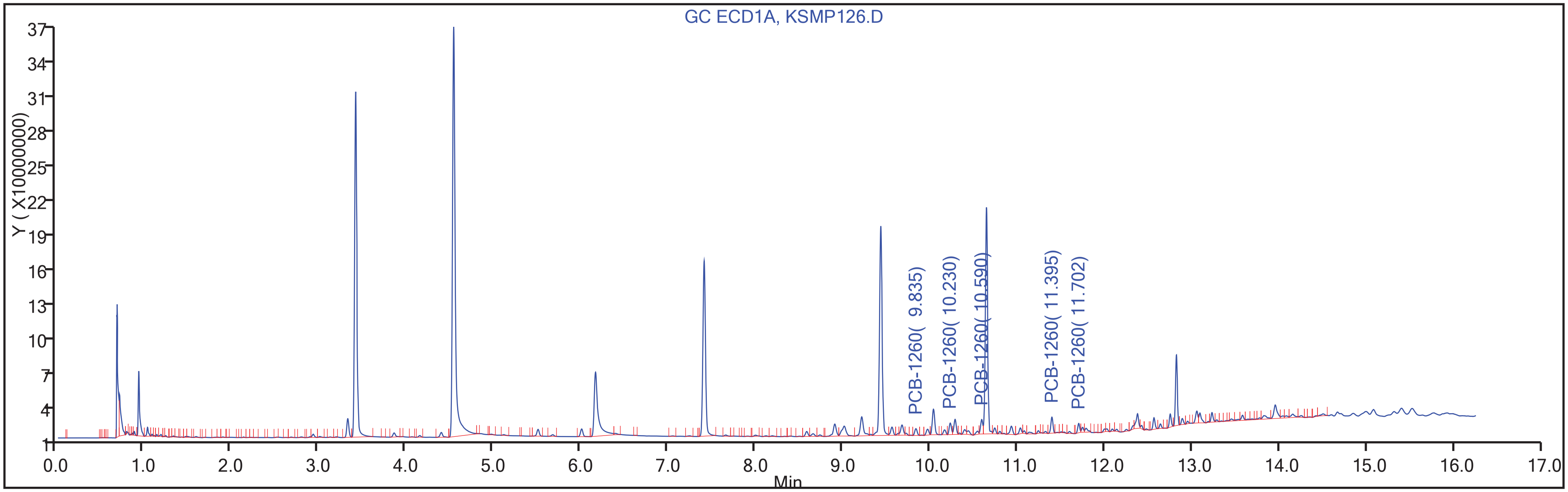
Dil. Factor: 1.0000

ALS Bottle#: 12

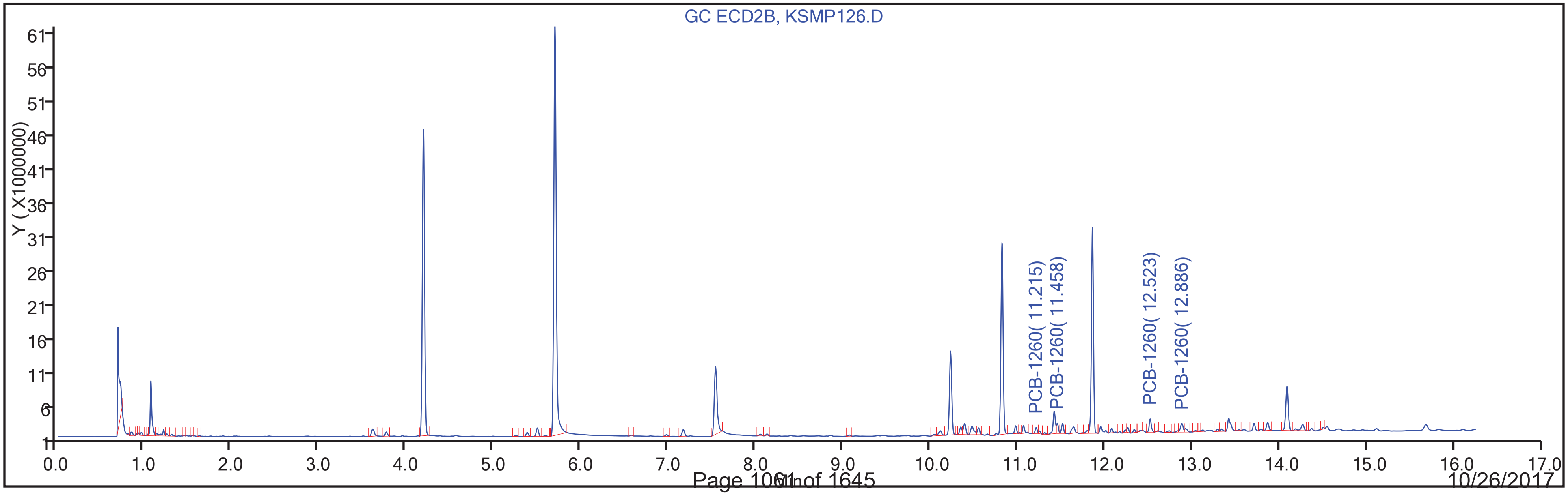
Method: 8082A_IS_SGCK

Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP126.D
Lims ID: 160-24924-E-7-C
Client ID: SHAD041DP022SS01NS
Sample Type: Client
Inject. Date: 21-Oct-2017 15:50:53 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-7-c
Misc. Info.: 160-0011731-012
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:04:47

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	14.2	70.79

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.4	86.72

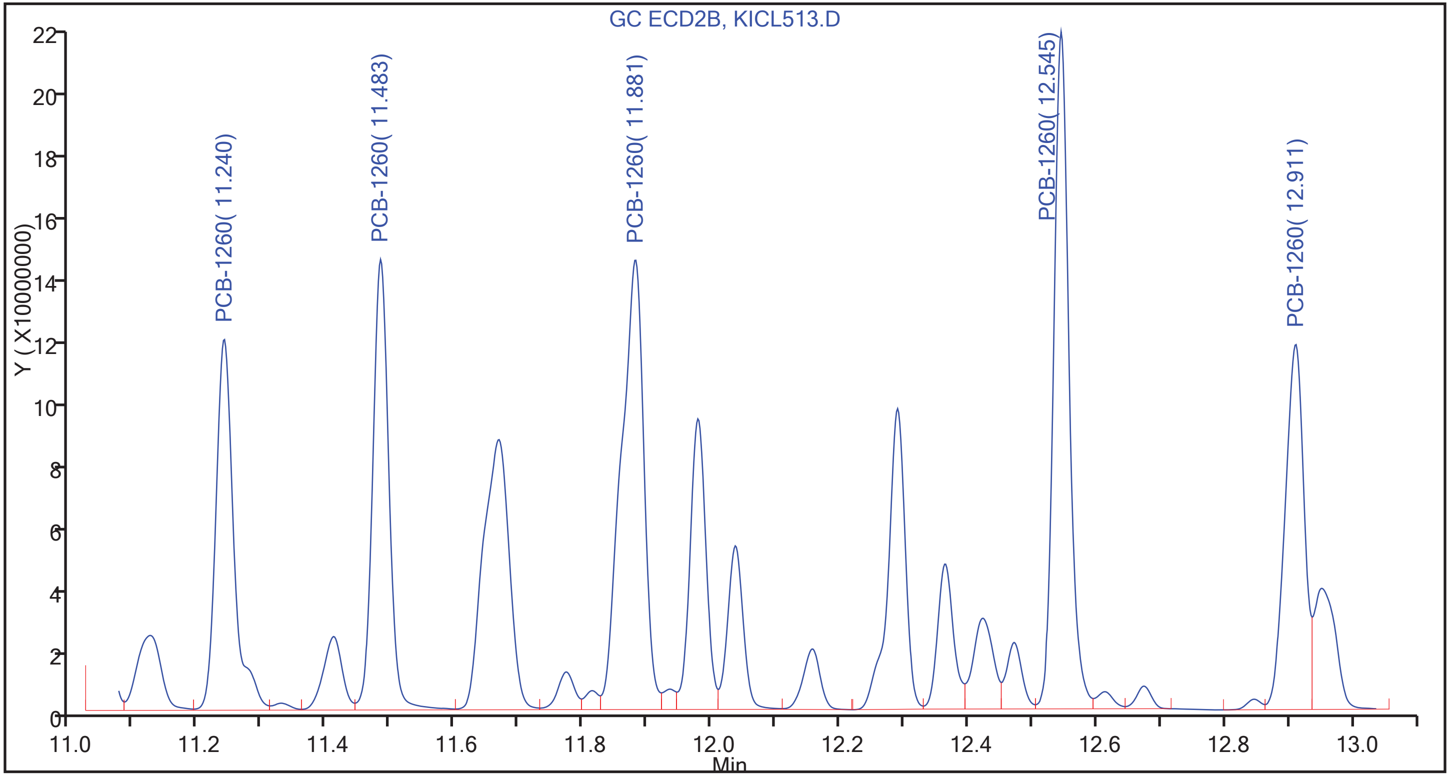
Report Date: 22-Oct-2017 15:23:43
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

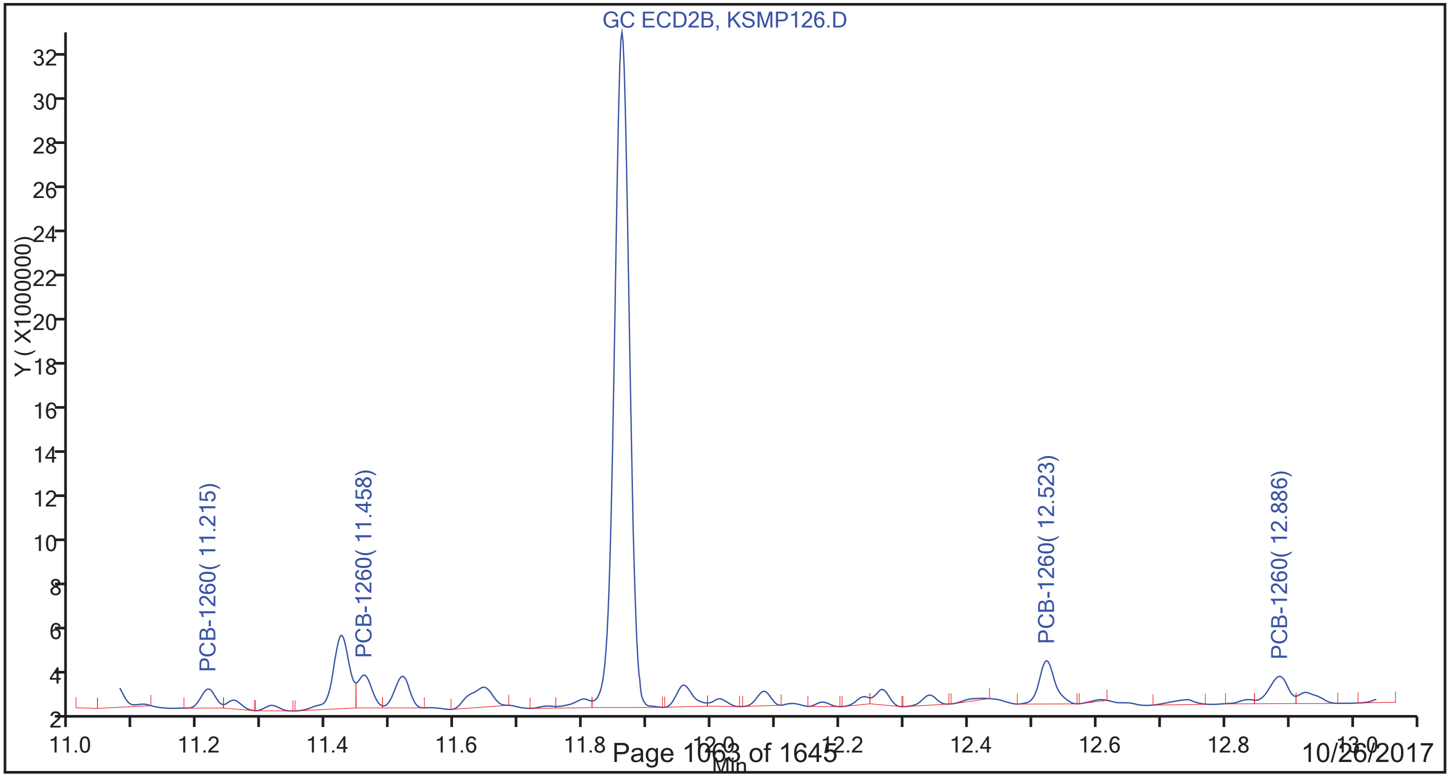
Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP126.D
Injection Date: 21-Oct-2017 15:50:53
Instrument ID: SGCK
Lims ID: 160-24924-E-7-C
Lab Sample ID: 160-24924-7
Client ID: SHAD041DP022SS01NS
Operator ID: DEK
ALS Bottle#: 12
Worklist Smp#: 12
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS
Column: RTX-CLP Pesticides2 (0.53 mm)
Detector GC ECD2B

11 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample



FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP022SS02NS

Lab Sample ID: 160-24924-8

Matrix: Solid

Lab File ID: KSMP127.D

Analysis Method: 8082A

Date Collected: 10/05/2017 16:55

Extraction Method: 3550C

Date Extracted: 10/18/2017 09:00

Sample wt/vol: 30.04(g)

Date Analyzed: 10/21/2017 16:11

Con. Extract Vol.: 10(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

GC Column: RTXCLP2 ID: 0.53(mm)

% Moisture: 1.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 333051

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	16	U	33	16	9.7
11104-28-2	PCB-1221	16	U	33	16	9.7
11141-16-5	PCB-1232	16	U	33	16	9.7
53469-21-9	PCB-1242	16	U	33	16	9.7
12672-29-6	PCB-1248	16	U	33	16	11
11097-69-1	PCB-1254	16	U	33	16	13
11096-82-5	PCB-1260	10	U	33	10	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	96		44-150

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP127.D
Lims ID: 160-24924-E-8-C
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 21-Oct-2017 16:11:55 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-8-c
Misc. Info.: 160-0011731-013
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:05:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.414	3.411	0.003	540510788	50.0	
2	4.192	4.187	0.005	80706674	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.824	12.823	0.001	113723598	17.8	
2	14.092	14.087	0.005	14822806	19.2	
				RPD =	7.52	

Reagents:

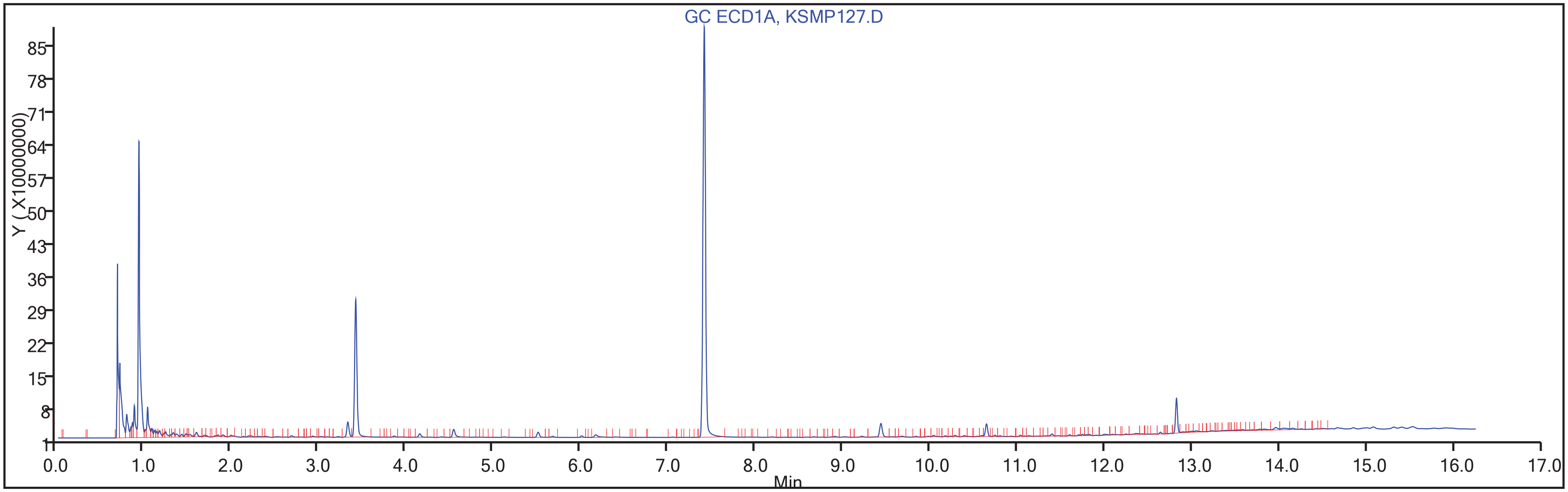
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

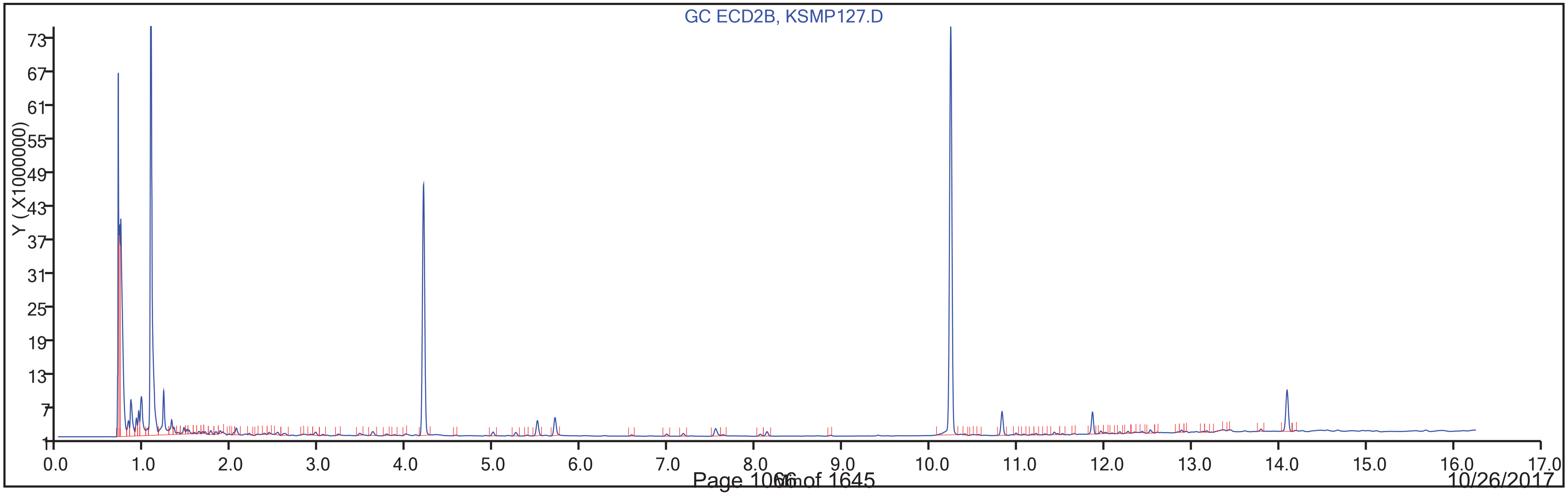
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP127.D				
Injection Date:	21-Oct-2017 16:11:55	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-8-C	Lab Sample ID:	160-24924-8	Worklist Smp#:	13
Client ID:	SHAD041DP022SS02NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP127.D
Lims ID: 160-24924-E-8-C
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 21-Oct-2017 16:11:55 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-8-c
Misc. Info.: 160-0011731-013
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:05:02

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.8	88.63

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	19.2	95.55

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: SHAD041DP022SS03NS
Lab Sample ID: 160-24924-9
Matrix: Solid
Lab File ID: KSMP129.D
Analysis Method: 8082A
Date Collected: 10/05/2017 16:59
Extraction Method: 3550C
Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.04(g)
Date Analyzed: 10/21/2017 16:53
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 2.0
GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	16	U	34	16	9.8
11104-28-2	PCB-1221	16	U	34	16	9.8
11141-16-5	PCB-1232	16	U	34	16	9.8
53469-21-9	PCB-1242	16	U	34	16	9.8
12672-29-6	PCB-1248	16	U	34	16	11
11097-69-1	PCB-1254	16	U	34	16	13
11096-82-5	PCB-1260	10	U	34	10	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	90		44-150

FORM I 8082A

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP129.D				
Lims ID:	160-24924-E-9-G				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 16:53:48	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-9-g				
Misc. Info.:	160-0011731-015				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:06:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.414	3.411	0.003	537638538	50.0	
2	4.191	4.187	0.004	80736761	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.824	12.823	0.001	107454772	16.9	
2	14.092	14.087	0.005	13899936	18.0	
				RPD =	6.20	

Reagents:

8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

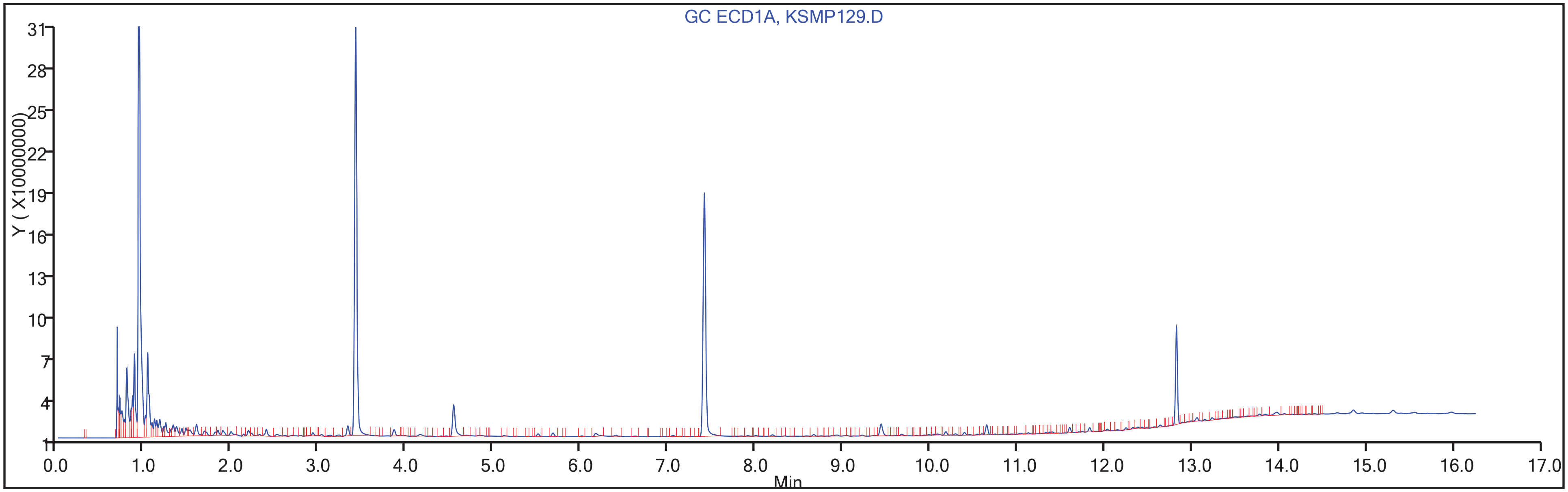
Report Date: 22-Oct-2017 15:23:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

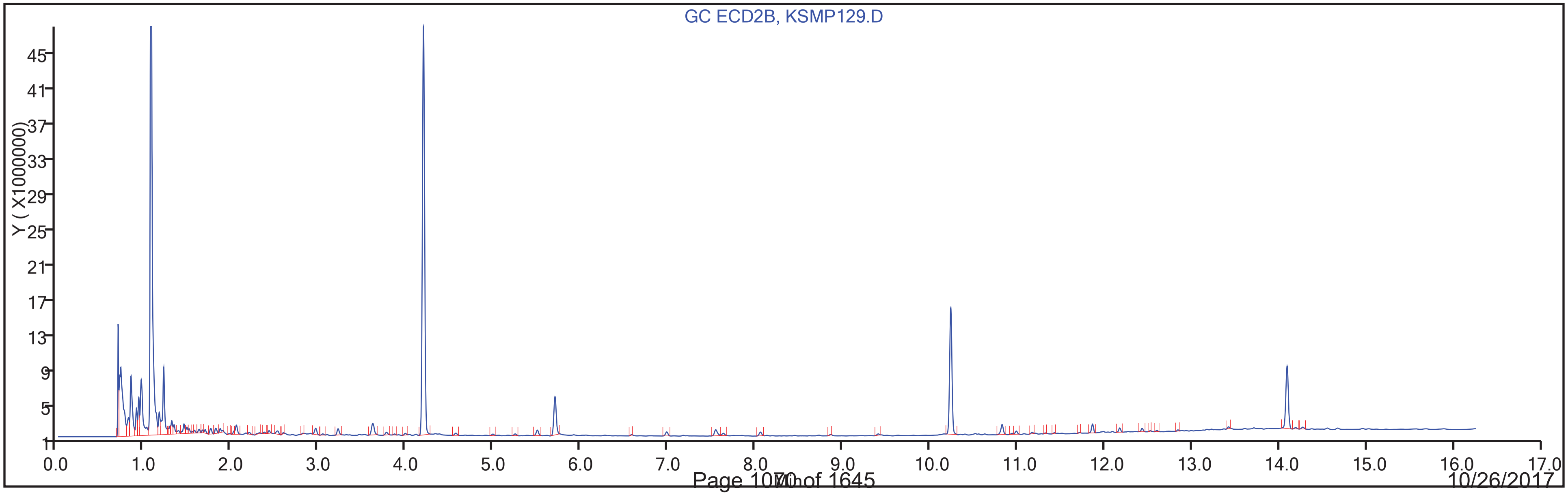
Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP129.D

Injection Date:	21-Oct-2017 16:53:48	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-9-G	Lab Sample ID:	160-24924-9	Worklist Smp#:	15
Client ID:	SHAD041DP022SS03NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP129.D				
Lims ID:	160-24924-E-9-G				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 16:53:48	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-9-g				
Misc. Info.:	160-0011731-015				
Operator ID:	DEK	Instrument ID:	SGCK		
Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:06:56

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	16.9	84.19

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	18.0	89.57

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP022SS04NS

Lab Sample ID: 160-24924-10

Matrix: Solid

Lab File ID: KSMP132.D

Analysis Method: 8082A

Date Collected: 10/05/2017 17:10

Extraction Method: 3550C

Date Extracted: 10/18/2017 09:00

Sample wt/vol: 30.13(g)

Date Analyzed: 10/21/2017 17:56

Con. Extract Vol.: 10(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

GC Column: RTXCLP2 ID: 0.53(mm)

% Moisture: 13.7

GPC Cleanup:(Y/N) N

Analysis Batch No.: 333051

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	18	U	38	18	11
11104-28-2	PCB-1221	18	U	38	18	11
11141-16-5	PCB-1232	18	U	38	18	11
53469-21-9	PCB-1242	18	U	38	18	11
12672-29-6	PCB-1248	18	U	38	18	12
11097-69-1	PCB-1254	18	U	38	18	15
11096-82-5	PCB-1260	12	U	38	12	11

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	105		44-150

FORM I 8082A

Report Date: 22-Oct-2017 15:23:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP132.D				
Lims ID:	160-24924-E-10-C				
Client ID:	SHAD041DP022SS04NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 17:56:34	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-10-c				
Misc. Info.:	160-0011731-018				
Operator ID:	DEK	Instrument ID:	SGCK		
Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:07:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.414	3.411	0.003	577023794	50.0	
2	4.191	4.187	0.004	86285061	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.824	12.823	0.001	139003413	20.4	
2	14.092	14.087	0.005	17396999	21.1	
				RPD =	3.32	

Reagents:

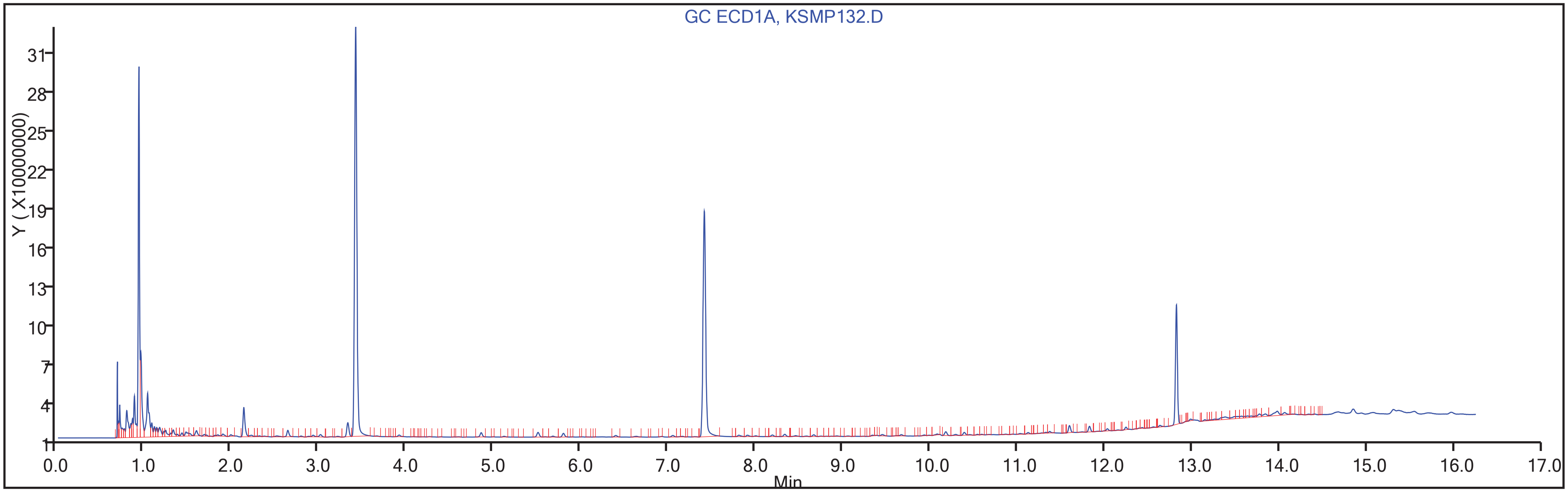
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:57
Chrom Revision: 2.2 16-Aug-2017 16:24:46

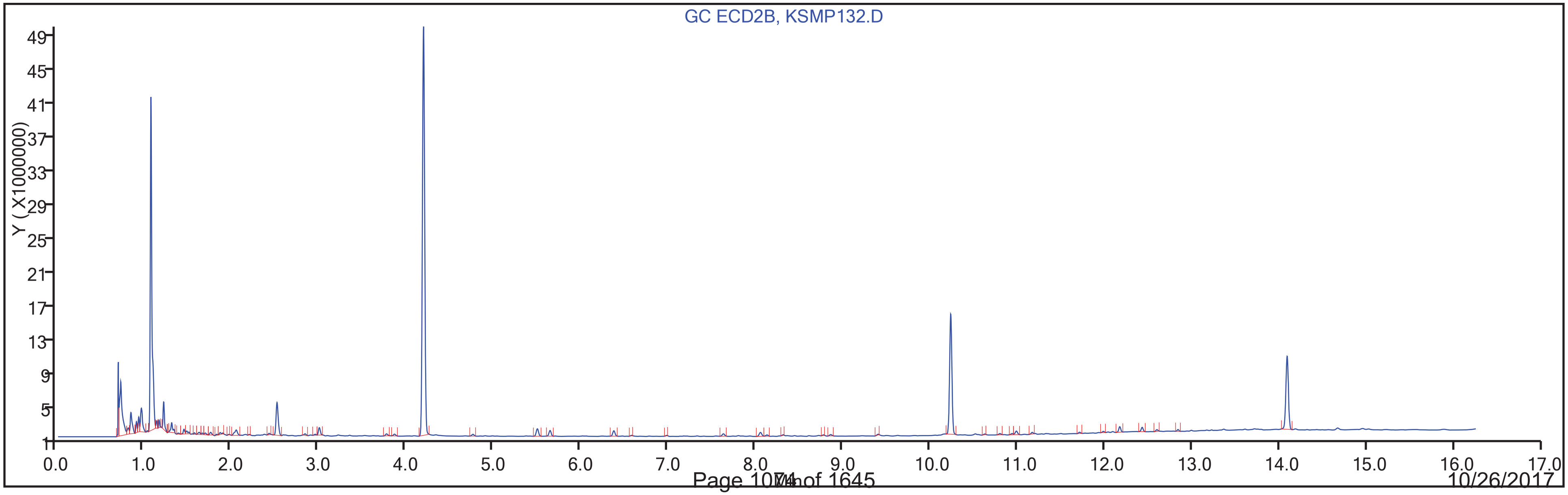
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP132.D				
Injection Date:	21-Oct-2017 17:56:34	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-10-C	Lab Sample ID:	160-24924-10	Worklist Smp#:	18
Client ID:	SHAD041DP022SS04NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP132.D				
Lims ID:	160-24924-E-10-C				
Client ID:	SHAD041DP022SS04NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 17:56:34	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-10-c				
Misc. Info.:	160-0011731-018				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:07:40

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	20.4	101.47

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	21.1	104.90

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: SHAD041DP022SS05NS
Lab Sample ID: 160-24924-11
Matrix: Solid
Lab File ID: KSMP133.D
Analysis Method: 8082A
Date Collected: 10/05/2017 17:15
Extraction Method: 3550C
Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.44(g)
Date Analyzed: 10/21/2017 18:17
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
GC Column: RTXCLP2
ID: 0.53(mm)
% Moisture: 12.1
GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	18	U	37	18	11
11104-28-2	PCB-1221	18	U	37	18	11
11141-16-5	PCB-1232	18	U	37	18	11
53469-21-9	PCB-1242	18	U	37	18	11
12672-29-6	PCB-1248	18	U	37	18	12
11097-69-1	PCB-1254	18	U	37	18	15
11096-82-5	PCB-1260	11	U	37	11	11

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	91		44-150

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP133.D
Lims ID: 160-24924-E-11-C
Client ID: SHAD041DP022SS05NS
Sample Type: Client
Inject. Date: 21-Oct-2017 18:17:37 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-11-c
Misc. Info.: 160-0011731-019
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:07:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.413	3.411	0.002	537657895	50.0	
2	4.191	4.187	0.004	80448975	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.823	12.823	0.000	112113385	17.6	
2	14.091	14.087	0.004	14127915	18.3	
				RPD =	3.94	

Reagents:

8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

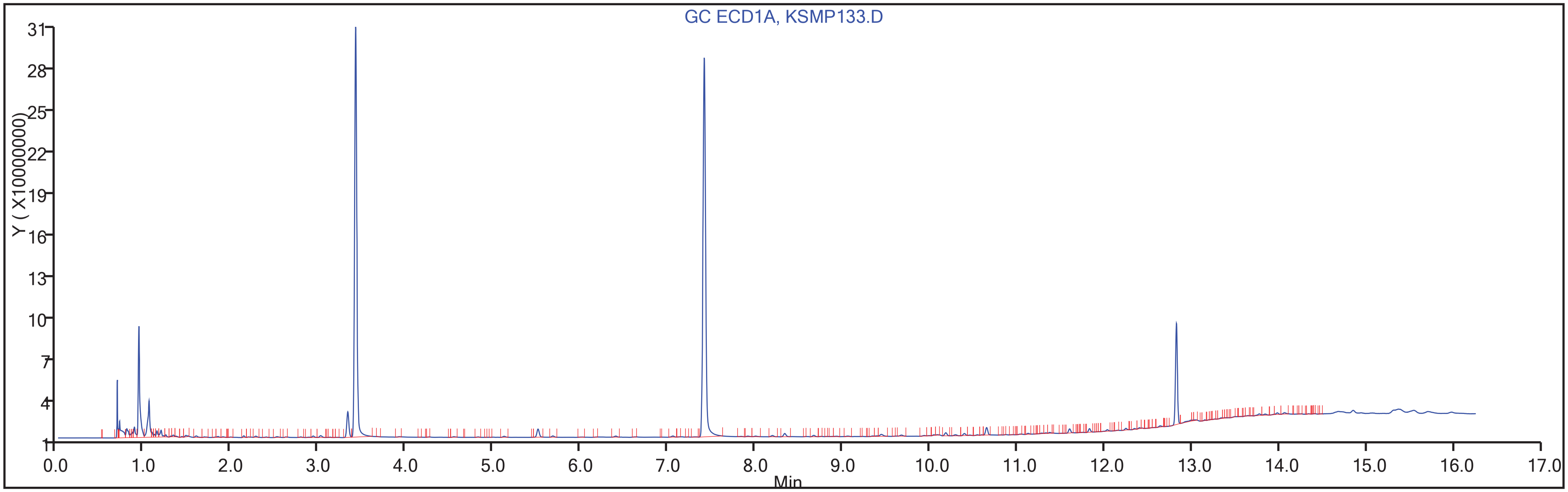
Report Date: 22-Oct-2017 15:23:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

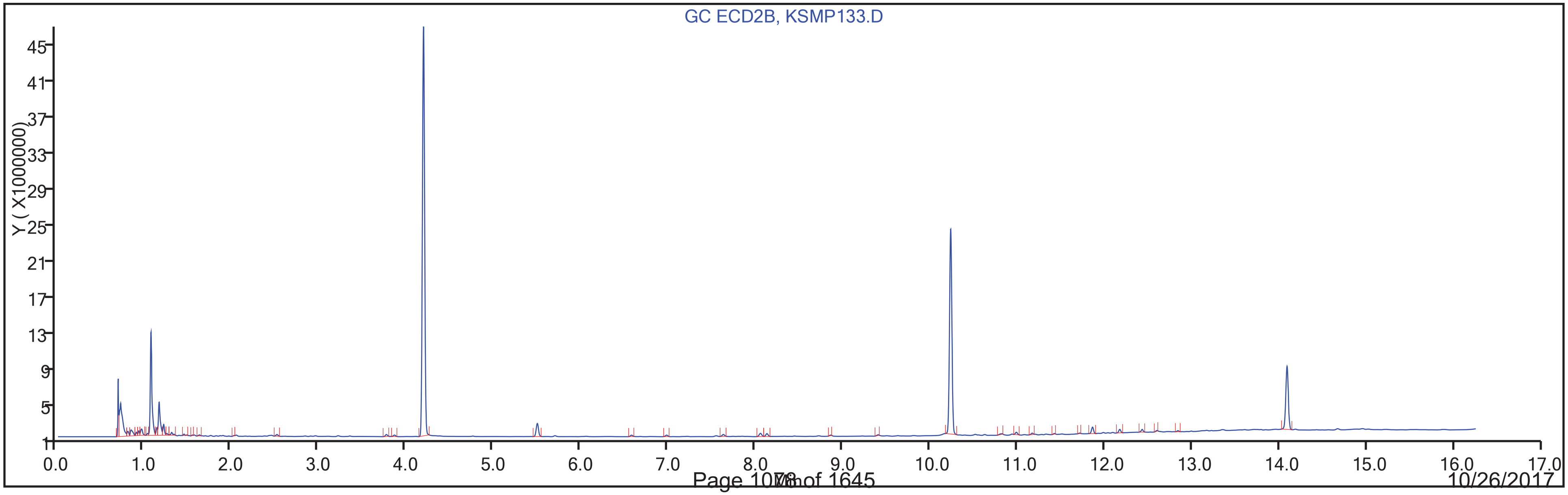
Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP133.D

Injection Date:	21-Oct-2017 18:17:37	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-11-C	Lab Sample ID:	160-24924-11	Worklist Smp#:	19
Client ID:	SHAD041DP022SS05NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP133.D				
Lims ID:	160-24924-E-11-C				
Client ID:	SHAD041DP022SS05NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 18:17:37	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-11-c				
Misc. Info.:	160-0011731-019				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:07:47

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.6	87.84

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	18.3	91.37

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS06NS	Lab Sample ID: 160-24924-12
Matrix: Solid	Lab File ID: KSMP134.D
Analysis Method: 8082A	Date Collected: 10/05/2017 17:23
Extraction Method: 3550C	Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.01(g)	Date Analyzed: 10/21/2017 18:38
Con. Extract Vol.: 10(mL)	Dilution Factor: 1
Injection Volume: 2(uL)	GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 10.8	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	18	U	37	18	11
11104-28-2	PCB-1221	18	U	37	18	11
11141-16-5	PCB-1232	18	U	37	18	11
53469-21-9	PCB-1242	18	U	37	18	11
12672-29-6	PCB-1248	18	U	37	18	12
11097-69-1	PCB-1254	18	U	37	18	15
11096-82-5	PCB-1260	11	U	37	11	11

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	88		44-150

FORM I 8082A

Report Date: 22-Oct-2017 15:24:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP134.D				
Lims ID:	160-24924-E-12-C				
Client ID:	SHAD041DP022SS06NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 18:38:33	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-12-c				
Misc. Info.:	160-0011731-020				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:07:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.412	3.411	0.001	586995838	50.0	
2	4.190	4.187	0.003	87218746	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.822	12.823	-0.001	116884888	16.8	
2	14.090	14.087	0.003	14732569	17.6	
				RPD =	4.66	

Reagents:

8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

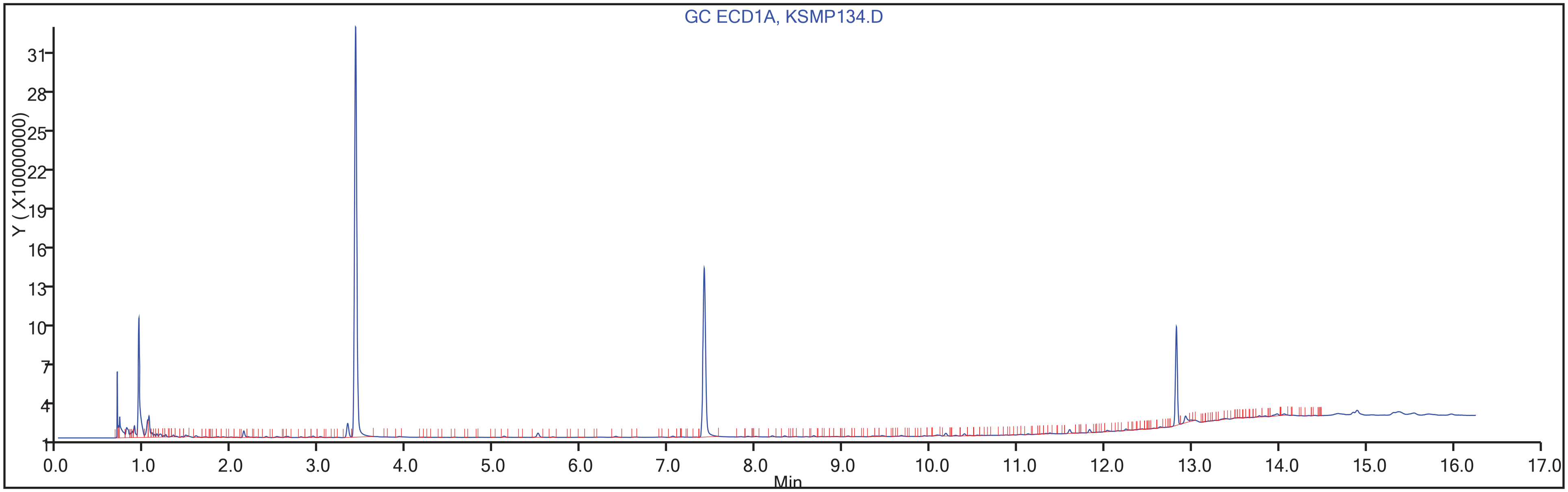
Report Date: 22-Oct-2017 15:24:00

Chrom Revision: 2.2 16-Aug-2017 16:24:46

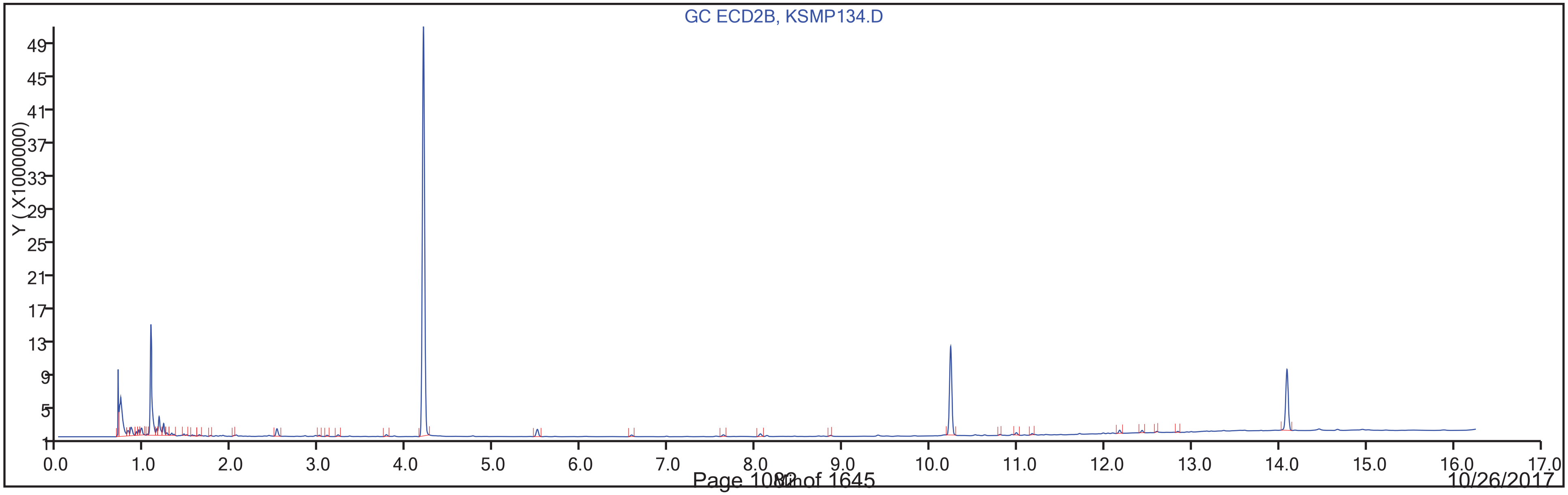
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP134.D				
Injection Date:	21-Oct-2017 18:38:33	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-12-C	Lab Sample ID:	160-24924-12	Worklist Smp#:	20
Client ID:	SHAD041DP022SS06NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 22-Oct-2017 15:24:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP134.D
Lims ID: 160-24924-E-12-C
Client ID: SHAD041DP022SS06NS
Sample Type: Client
Inject. Date: 21-Oct-2017 18:38:33 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-12-c
Misc. Info.: 160-0011731-020
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:07:53

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	16.8	83.88

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.6	87.88

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS01NS	Lab Sample ID: 160-24924-13
Matrix: Solid	Lab File ID: KSMP135.D
Analysis Method: 8082A	Date Collected: 10/05/2017 14:23
Extraction Method: 3550C	Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.07(g)	Date Analyzed: 10/21/2017 18:59
Con. Extract Vol.: 10(mL)	Dilution Factor: 1
Injection Volume: 2(uL)	GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 0.5	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	16	U	33	16	9.6
11104-28-2	PCB-1221	16	U	33	16	9.6
11141-16-5	PCB-1232	16	U	33	16	9.6
53469-21-9	PCB-1242	16	U	33	16	9.6
12672-29-6	PCB-1248	16	U	33	16	11
11097-69-1	PCB-1254	16	U	33	16	13
11096-82-5	PCB-1260	10	U	33	10	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	96		44-150

FORM I 8082A

Report Date: 22-Oct-2017 15:24:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP135.D
Lims ID: 160-24924-E-13-B
Client ID: SHAD041DP013SS01NS
Sample Type: Client
Inject. Date: 21-Oct-2017 18:59:30 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-13-b
Misc. Info.: 160-0011731-021
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:08:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.412	3.411	0.001	533860040	50.0	
2	4.190	4.187	0.003	79593917	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.821	12.823	-0.002	110396145	17.5	
2	14.090	14.087	0.003	14619939	19.2	
				RPD =	9.26	

Reagents:

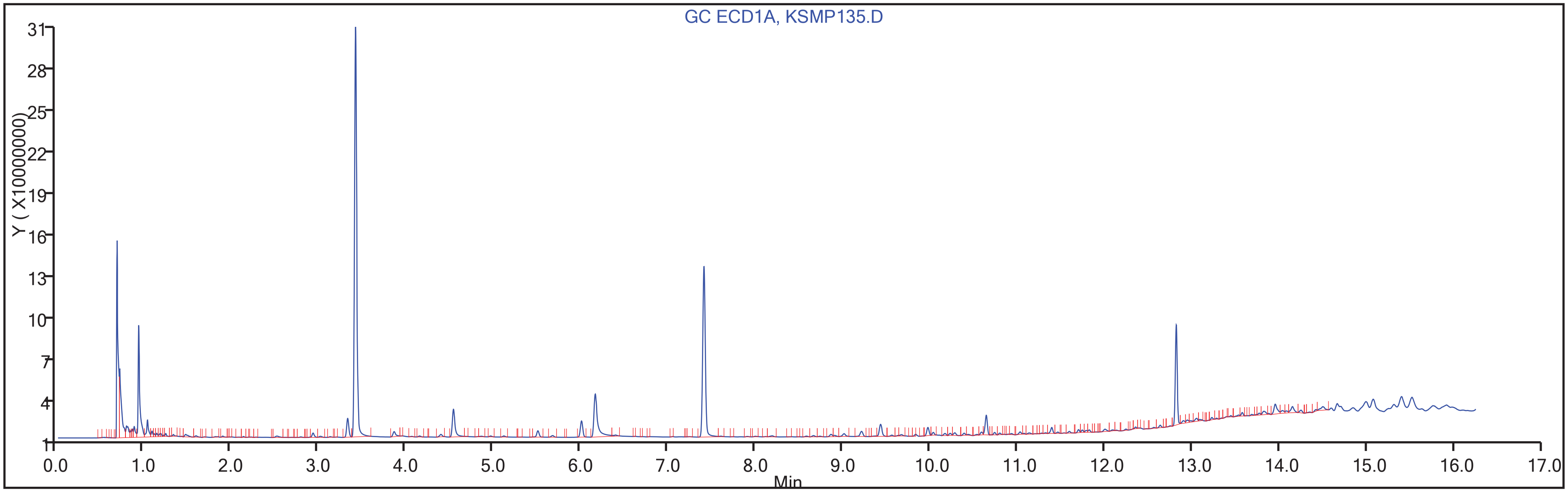
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:24:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

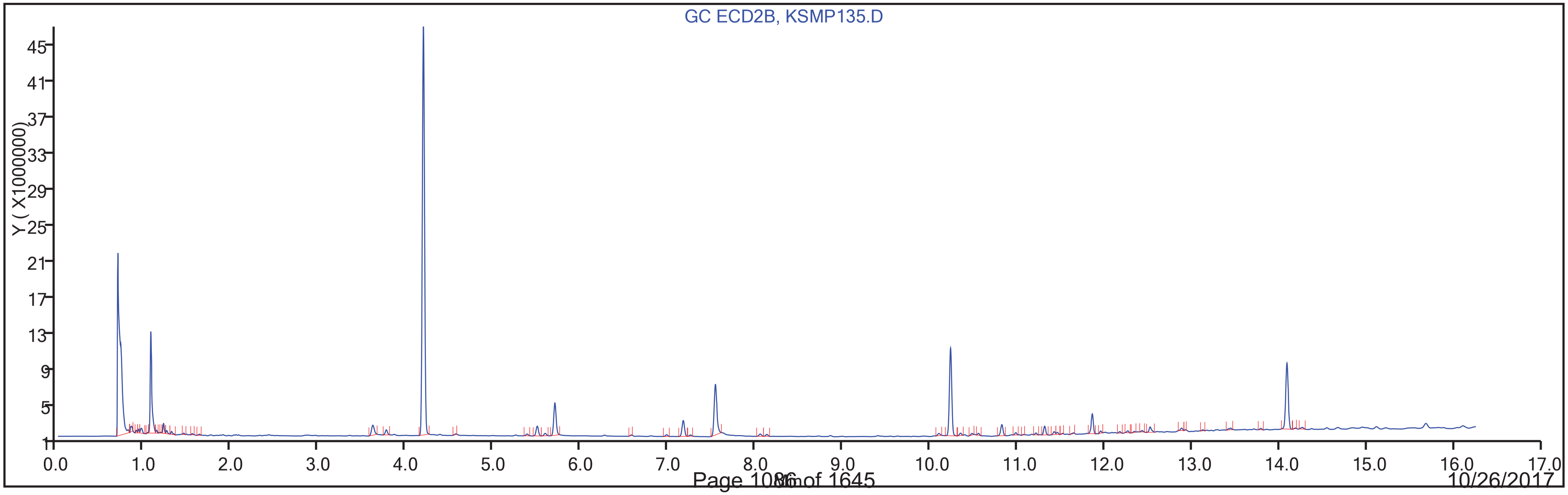
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP135.D
Injection Date: 21-Oct-2017 18:59:30 Instrument ID: SGCK Operator ID: DEK
Lims ID: 160-24924-E-13-B Lab Sample ID: 160-24924-13 Worklist Smp#: 21
Client ID: SHAD041DP013SS01NS
Injection Vol: 2.0 ul Dil. Factor: 1.0000 ALS Bottle#: 21
Method: 8082A_IS_SGCK Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP135.D				
Lims ID:	160-24924-E-13-B				
Client ID:	SHAD041DP013SS01NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 18:59:30	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-13-b				
Misc. Info.:	160-0011731-021				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:08:01

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.5	87.11

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	19.2	95.56

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP013SS02NS

Lab Sample ID: 160-24924-14

Matrix: Solid

Lab File ID: KSMP136.D

Analysis Method: 8082A

Date Collected: 10/05/2017 14:34

Extraction Method: 3550C

Date Extracted: 10/18/2017 09:00

Sample wt/vol: 30.11(g)

Date Analyzed: 10/21/2017 19:20

Con. Extract Vol.: 10(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

GC Column: RTXCLP2 ID: 0.53(mm)

% Moisture: 5.5

GPC Cleanup:(Y/N) N

Analysis Batch No.: 333051

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	17	U	35	17	10
11104-28-2	PCB-1221	17	U	35	17	10
11141-16-5	PCB-1232	17	U	35	17	10
53469-21-9	PCB-1242	17	U	35	17	10
12672-29-6	PCB-1248	17	U	35	17	11
11097-69-1	PCB-1254	17	U	35	17	14
11096-82-5	PCB-1260	11	U	35	11	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	83		44-150

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP136.D
Lims ID: 160-24924-E-14-B
Client ID: SHAD041DP013SS02NS
Sample Type: Client
Inject. Date: 21-Oct-2017 19:20:31 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-14-b
Misc. Info.: 160-0011731-022
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:08:07

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.413	3.411	0.002	563312653	50.0	
2	4.190	4.187	0.003	83183389	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.823	12.823	0.000	104260218	15.7	
2	14.090	14.087	0.003	13249806	16.6	
				RPD =	6.10	

Reagents:

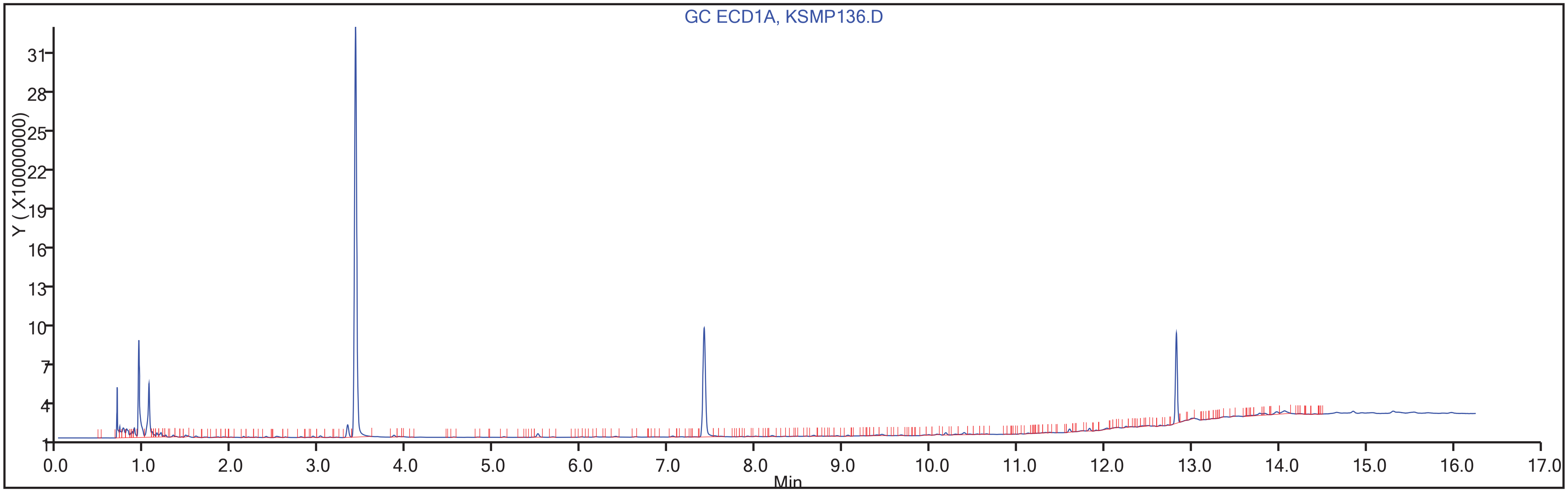
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:24:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

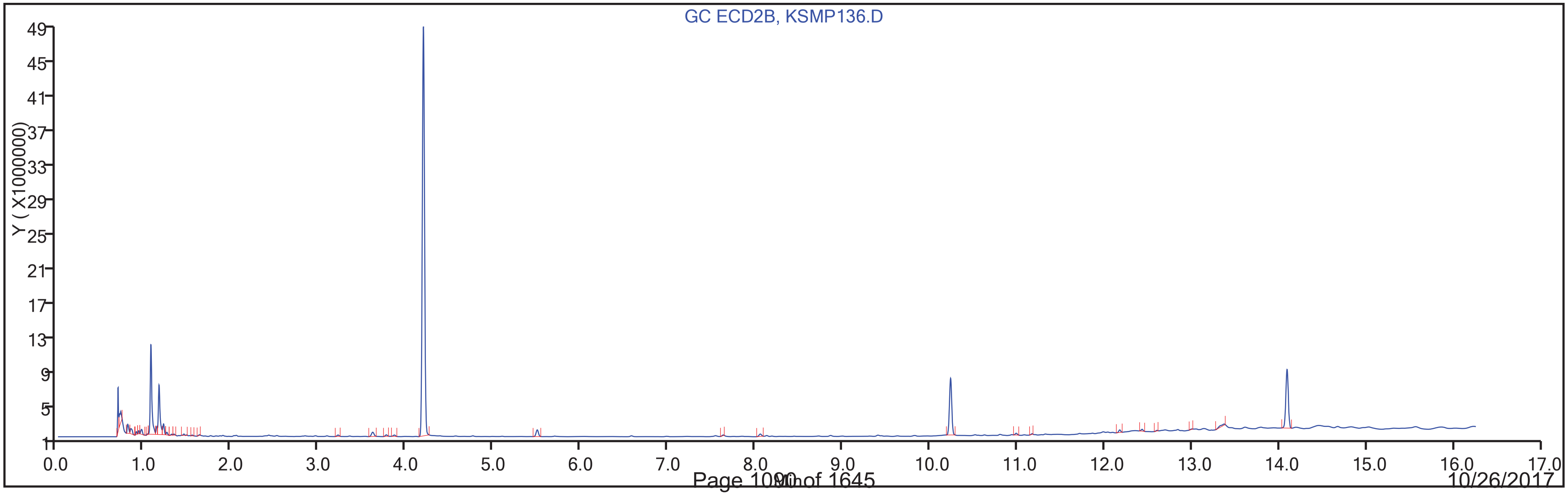
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP136.D				
Injection Date:	21-Oct-2017 19:20:31	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-14-B	Lab Sample ID:	160-24924-14	Worklist Smp#:	22
Client ID:	SHAD041DP013SS02NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP136.D				
Lims ID:	160-24924-E-14-B				
Client ID:	SHAD041DP013SS02NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 19:20:31	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-14-b				
Misc. Info.:	160-0011731-022				
Operator ID:	DEK	Instrument ID:	SGCK		
Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:08:07

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	15.7	77.96

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	16.6	82.87

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP013SS03NS

Lab Sample ID: 160-24924-15

Matrix: Solid

Lab File ID: KSMP137.D

Analysis Method: 8082A

Date Collected: 10/05/2017 14:44

Extraction Method: 3550C

Date Extracted: 10/18/2017 09:00

Sample wt/vol: 30.08(g)

Date Analyzed: 10/21/2017 19:41

Con. Extract Vol.: 10(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

GC Column: RTXCLP2 ID: 0.53(mm)

% Moisture: 13.4

GPC Cleanup:(Y/N) N

Analysis Batch No.: 333051

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	18	U	38	18	11
11104-28-2	PCB-1221	18	U	38	18	11
11141-16-5	PCB-1232	18	U	38	18	11
53469-21-9	PCB-1242	18	U	38	18	11
12672-29-6	PCB-1248	18	U	38	18	12
11097-69-1	PCB-1254	18	U	38	18	15
11096-82-5	PCB-1260	12	U	38	12	11

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	90		44-150

Report Date: 22-Oct-2017 15:24:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP137.D
Lims ID: 160-24924-E-15-C
Client ID: SHAD041DP013SS03NS
Sample Type: Client
Inject. Date: 21-Oct-2017 19:41:25 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24925-e-13-g
Misc. Info.: 160-0011731-044
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:08:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.411	3.411	0.000	555428212	50.0	
2	4.191	4.187	0.004	82389182	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.823	12.823	0.000	117046900	17.8	
2	14.091	14.087	0.004	14312967	18.1	
				RPD =	1.80	

Reagents:

8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

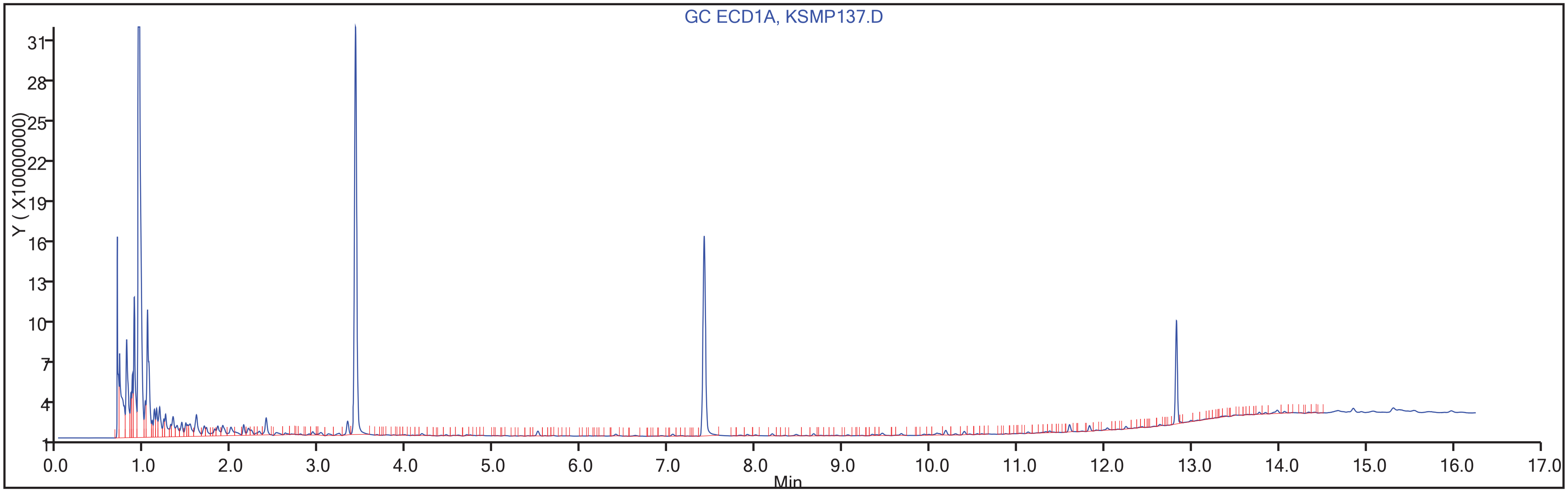
Report Date: 22-Oct-2017 15:24:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

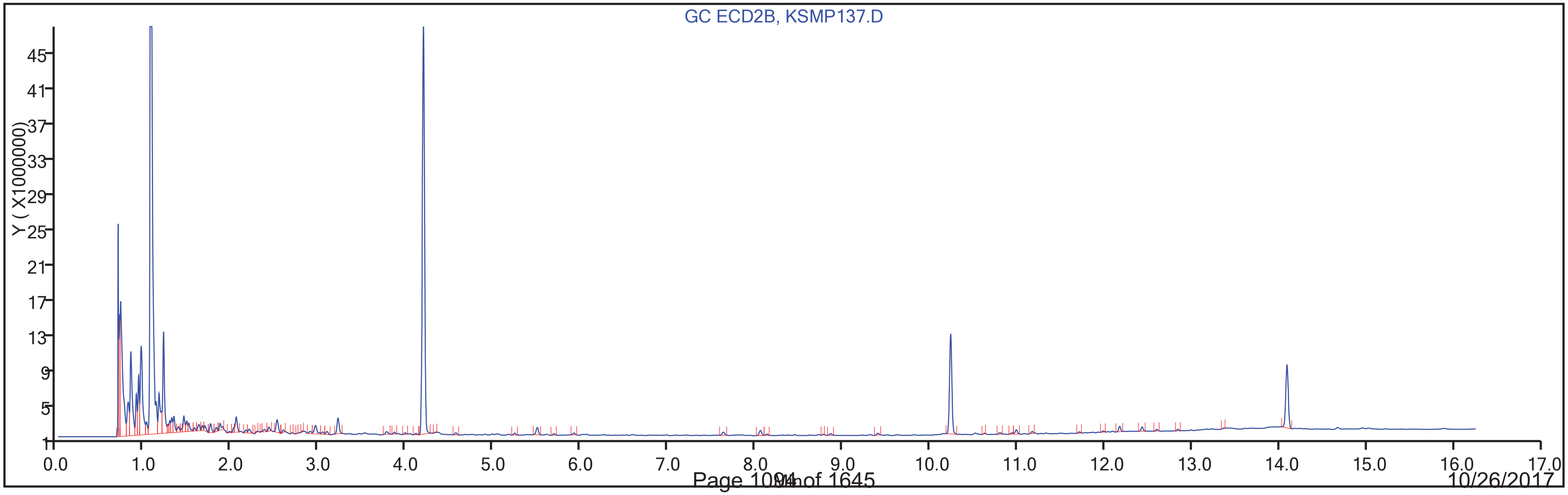
Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP137.D

Injection Date:	21-Oct-2017 19:41:25	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-15-C	Lab Sample ID:	160-24924-15	Worklist Smp#:	23
Client ID:	SHAD041DP013SS03NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP137.D				
Lims ID:	160-24924-E-15-C				
Client ID:	SHAD041DP013SS03NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 19:41:25	ALS Bottle#:	23	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24925-e-13-g				
Misc. Info.:	160-0011731-044				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:08:14

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.8	88.77

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	18.1	90.38

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS04NS	Lab Sample ID: 160-24924-16
Matrix: Solid	Lab File ID: KSMP138.D
Analysis Method: 8082A	Date Collected: 10/05/2017 15:06
Extraction Method: 3550C	Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.29(g)	Date Analyzed: 10/21/2017 20:02
Con. Extract Vol.: 10(mL)	Dilution Factor: 1
Injection Volume: 2(uL)	GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 15.2	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	19	U	39	19	11
11104-28-2	PCB-1221	19	U	39	19	11
11141-16-5	PCB-1232	19	U	39	19	11
53469-21-9	PCB-1242	19	U	39	19	11
12672-29-6	PCB-1248	19	U	39	19	13
11097-69-1	PCB-1254	19	U	39	19	15
11096-82-5	PCB-1260	12	U	39	12	12

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	95		44-150

FORM I 8082A

Report Date: 22-Oct-2017 15:24:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP138.D
Lims ID: 160-24924-F-16-A
Client ID: SHAD041DP013SS04NS
Sample Type: Client
Inject. Date: 21-Oct-2017 20:02:20 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24925-e-13-h
Misc. Info.: 160-0011731-045
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:08:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.411	3.411	0.000	583805024	50.0	
2	4.189	4.187	0.002	86611002	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.823	12.823	0.000	127622468	18.5	
2	14.091	14.087	0.004	15780686	19.0	
				RPD =	2.90	

Reagents:

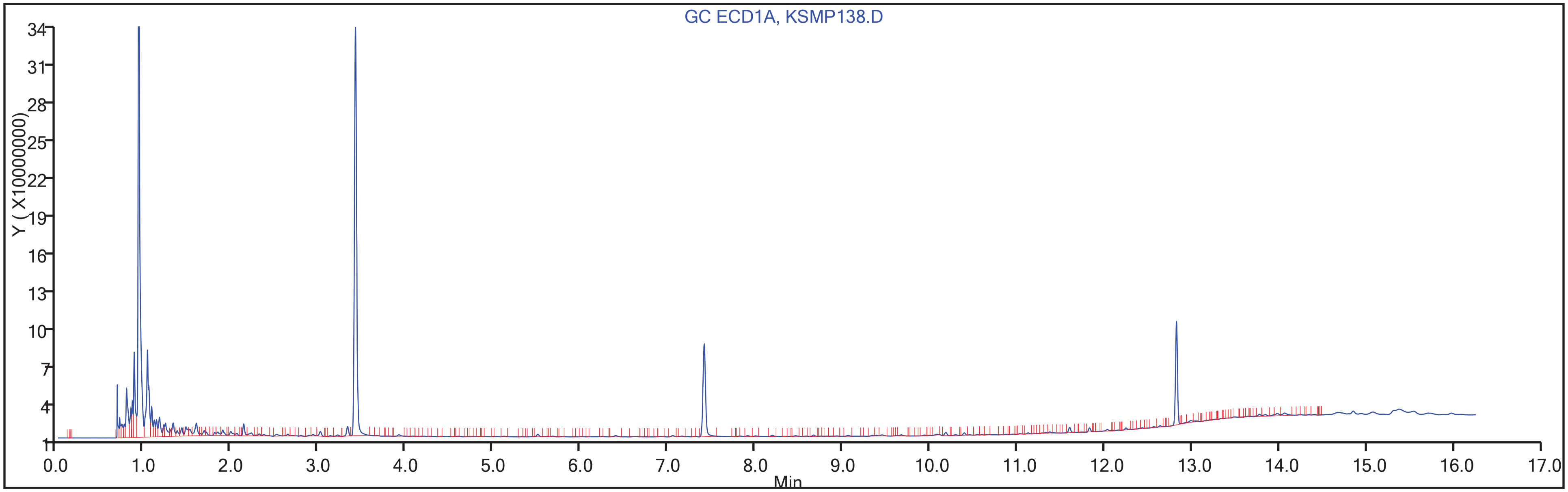
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:24:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

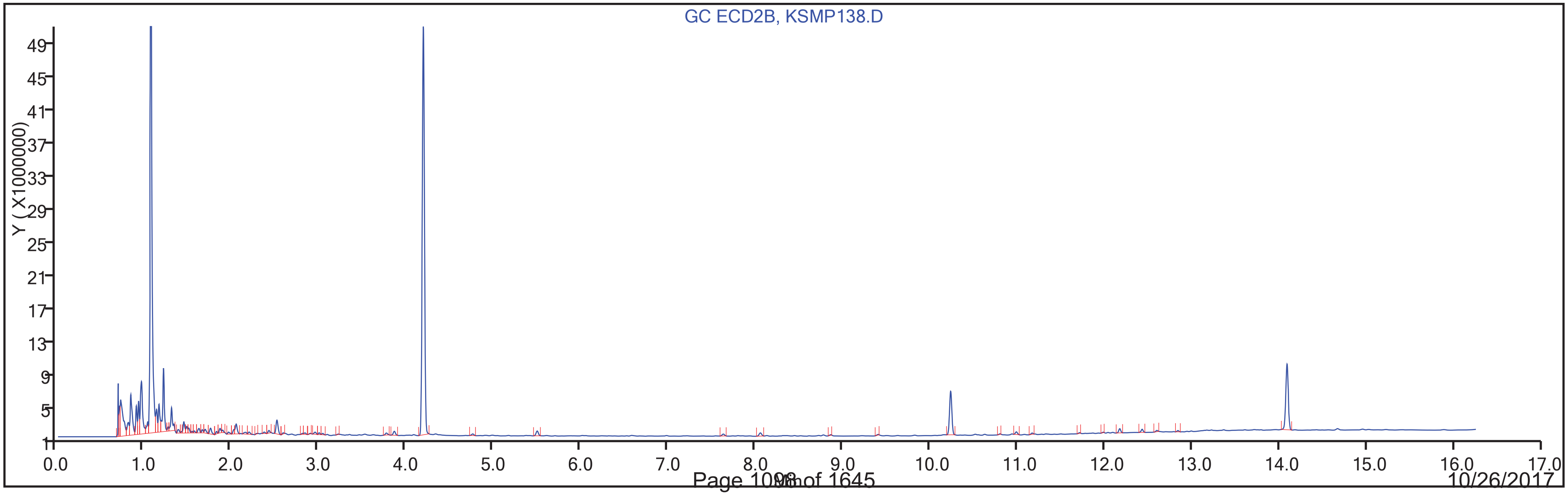
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP138.D				
Injection Date:	21-Oct-2017 20:02:20	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-F-16-A	Lab Sample ID:	160-24924-16	Worklist Smp#:	24
Client ID:	SHAD041DP013SS04NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP138.D				
Lims ID:	160-24924-F-16-A				
Client ID:	SHAD041DP013SS04NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 20:02:20	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24925-e-13-h				
Misc. Info.:	160-0011731-045				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:08:23

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	18.5	92.08

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	19.0	94.79

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP013SS05NS	Lab Sample ID: 160-24924-17
Matrix: Solid	Lab File ID: KSMP140.D
Analysis Method: 8082A	Date Collected: 10/05/2017 15:10
Extraction Method: 3550C	Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.41(g)	Date Analyzed: 10/21/2017 20:44
Con. Extract Vol.: 10(mL)	Dilution Factor: 1
Injection Volume: 2(uL)	GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 24.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	21	U	43	21	12
11104-28-2	PCB-1221	21	U	43	21	12
11141-16-5	PCB-1232	21	U	43	21	12
53469-21-9	PCB-1242	21	U	43	21	12
12672-29-6	PCB-1248	21	U	43	21	14
11097-69-1	PCB-1254	21	U	43	21	17
11096-82-5	PCB-1260	13	U	43	13	13

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	91		44-150

Report Date: 22-Oct-2017 15:24:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP140.D
Lims ID: 160-24924-F-17-A
Client ID: SHAD041DP013SS05NS
Sample Type: Client
Inject. Date: 21-Oct-2017 20:44:19 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-f-16-a
Misc. Info.: 160-0011731-024
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:24:09 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:12:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.412	3.411	0.001	587269847	50.0	
2	4.192	4.187	0.005	86475504	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.824	12.823	0.001	121712700	17.5	
2	14.092	14.087	0.005	15201558	18.4	
				RPD =	4.65	

Reagents:

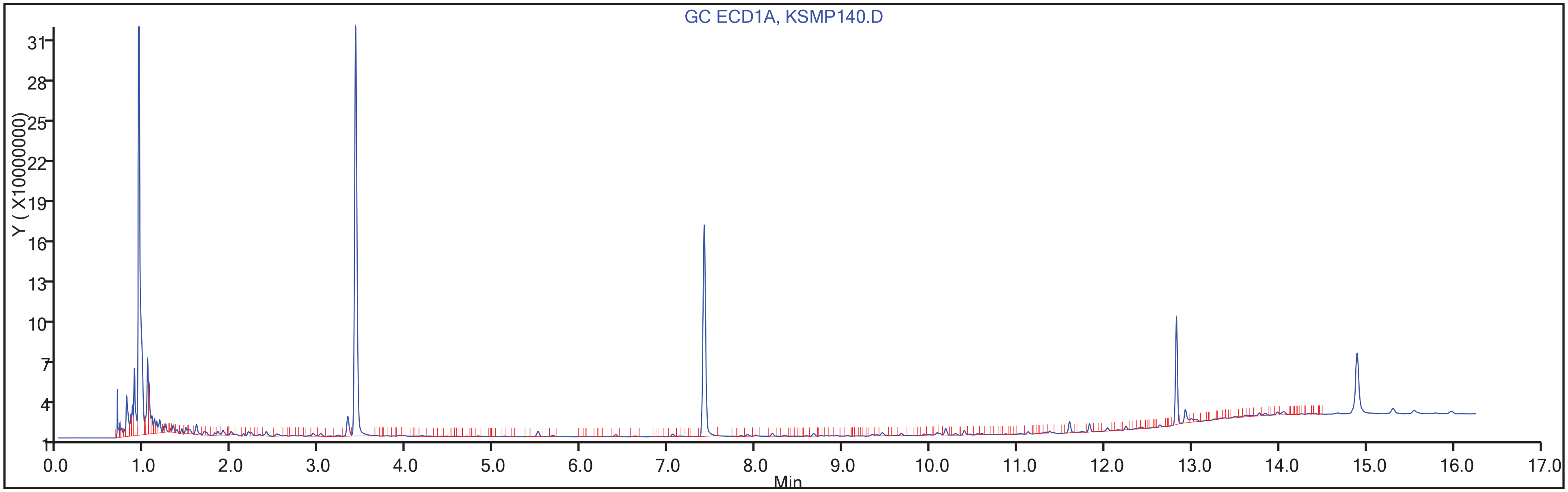
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:24:12
Chrom Revision: 2.2 16-Aug-2017 16:24:46

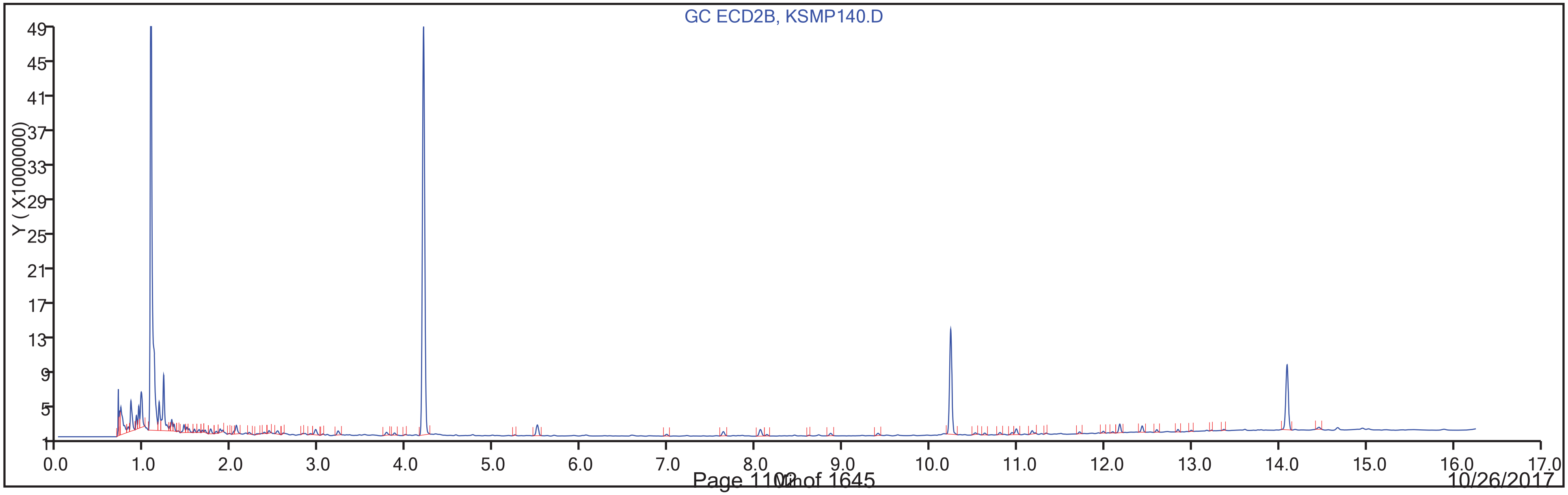
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP140.D
Injection Date: 21-Oct-2017 20:44:19
Instrument ID: SGCK
Operator ID: DEK
Lims ID: 160-24924-F-17-A
Lab Sample ID: 160-24924-17
Worklist Smp#: 26
Client ID: SHAD041DP013SS05NS
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 26
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 22-Oct-2017 15:24:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP140.D				
Lims ID:	160-24924-F-17-A				
Client ID:	SHAD041DP013SS05NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 20:44:19	ALS Bottle#:	26	Worklist Smp#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-f-16-a				
Misc. Info.:	160-0011731-024				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:24:09	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:12:26

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.5	87.30

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	18.4	91.46

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: SHAD041DP013SS05DS
Lab Sample ID: 160-24924-18
Matrix: Solid
Lab File ID: KSMP141.D
Analysis Method: 8082A
Date Collected: 10/05/2017 15:15
Extraction Method: 3550C
Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.15(g)
Date Analyzed: 10/21/2017 21:05
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 19.8
GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	20	U	41	20	12
11104-28-2	PCB-1221	20	U	41	20	12
11141-16-5	PCB-1232	20	U	41	20	12
53469-21-9	PCB-1242	20	U	41	20	12
12672-29-6	PCB-1248	20	U	41	20	13
11097-69-1	PCB-1254	20	U	41	20	16
11096-82-5	PCB-1260	12	U	41	12	12

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	82		44-150

FORM I 8082A

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP141.D
Lims ID: 160-24924-E-18-B
Client ID: SHAD041DP013SS05DS
Sample Type: Client
Inject. Date: 21-Oct-2017 21:05:15 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 160-0011731-025
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:24:09 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:12:35

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.414	3.411	0.003	584593624	50.0	
2	4.192	4.187	0.005	86273078	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.824	12.823	0.001	109962057	15.9	
2	14.092	14.087	0.005	13638342	16.5	
				RPD =	3.73	

Reagents:

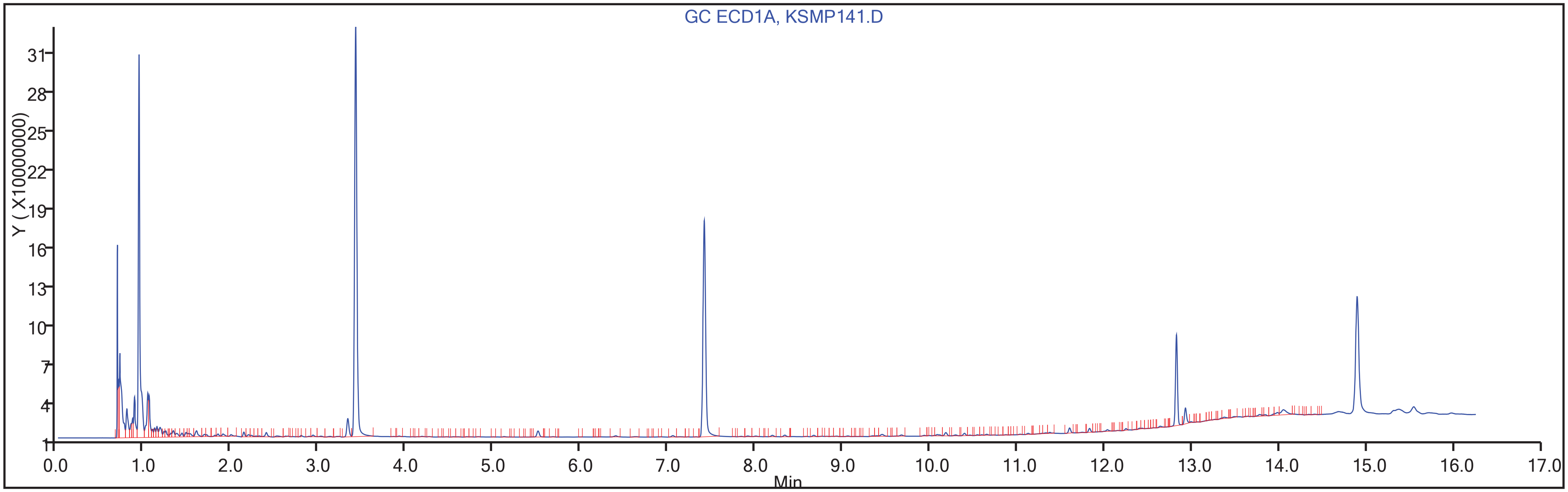
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:24:14 Chrom Revision: 2.2 16-Aug-2017 16:24:46

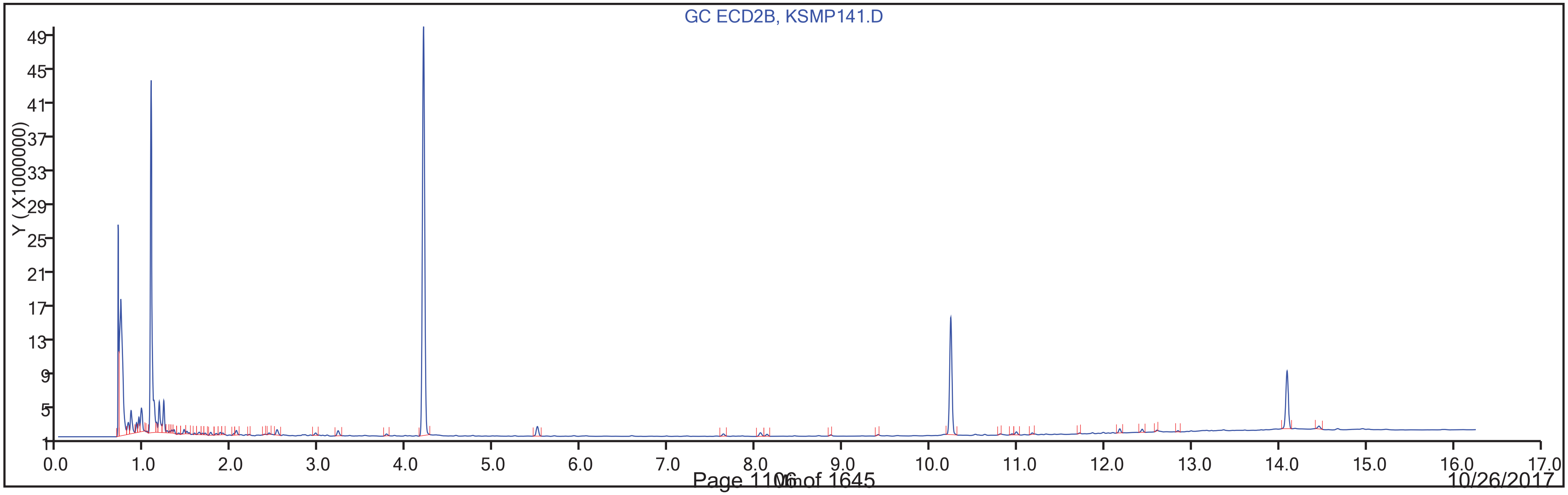
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP141.D				
Injection Date:	21-Oct-2017 21:05:15	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-18-B	Lab Sample ID:	160-24924-18	Worklist Smp#:	27
Client ID:	SHAD041DP013SS05DS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP141.D
Lims ID: 160-24924-E-18-B
Client ID: SHAD041DP013SS05DS
Sample Type: Client
Inject. Date: 21-Oct-2017 21:05:15 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 160-0011731-025
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:24:09 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:12:35

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	15.9	79.23

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	16.5	82.25

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Client Sample ID: SHAD041DP013SS06NS

Lab Sample ID: 160-24924-19

Matrix: Solid

Lab File ID: KSMP142.D

Analysis Method: 8082A

Date Collected: 10/05/2017 15:18

Extraction Method: 3550C

Date Extracted: 10/18/2017 09:00

Sample wt/vol: 30.18(g)

Date Analyzed: 10/21/2017 21:26

Con. Extract Vol.: 10(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

GC Column: RTXCLP2 ID: 0.53(mm)

% Moisture: 16.2

GPC Cleanup:(Y/N) N

Analysis Batch No.: 333051

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	19	U	39	19	11
11104-28-2	PCB-1221	19	U	39	19	11
11141-16-5	PCB-1232	19	U	39	19	11
53469-21-9	PCB-1242	19	U	39	19	11
12672-29-6	PCB-1248	19	U	39	19	13
11097-69-1	PCB-1254	19	U	39	19	16
11096-82-5	PCB-1260	12	U	39	12	12

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	92		44-150

Report Date: 22-Oct-2017 15:24:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP142.D
Lims ID: 160-24924-E-19-B
Client ID: SHAD041DP013SS06NS
Sample Type: Client
Inject. Date: 21-Oct-2017 21:26:16 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-f-17-a
Misc. Info.: 160-0011731-026
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:24:09 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:12:44

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.414	3.411	0.003	569553383	50.0	
2	4.192	4.187	0.005	85021285	50.0	
				RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)						
1	12.823	12.823	0.000	118744963	17.6	
2	14.092	14.087	0.005	14954442	18.4	
				RPD =	4.11	

Reagents:

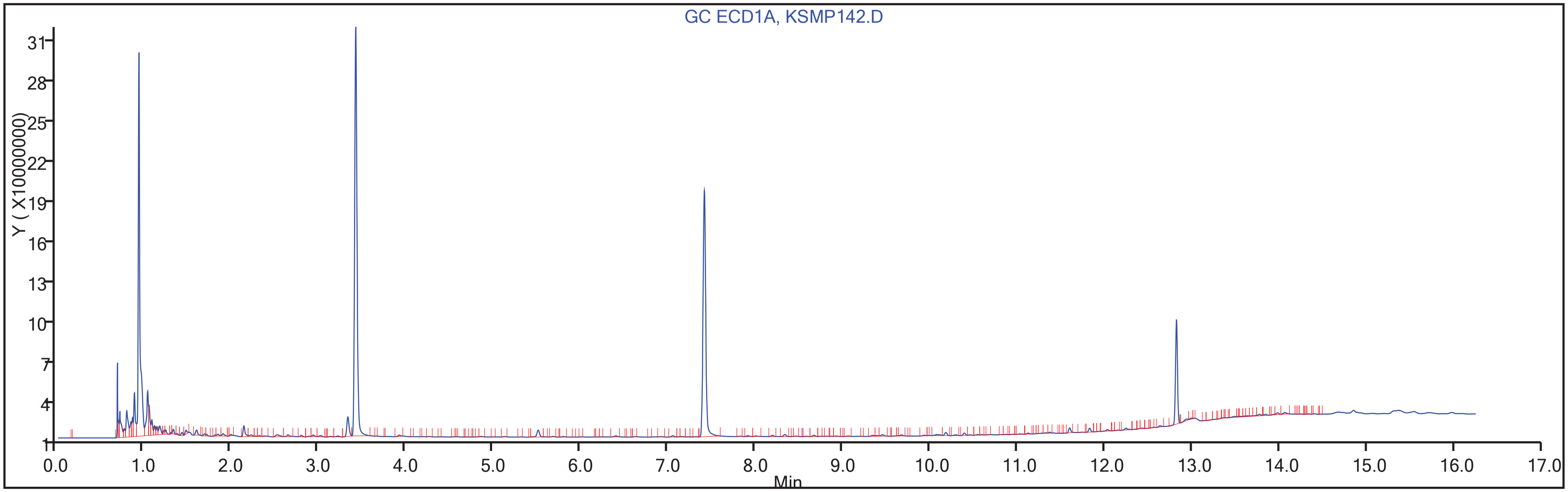
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:24:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

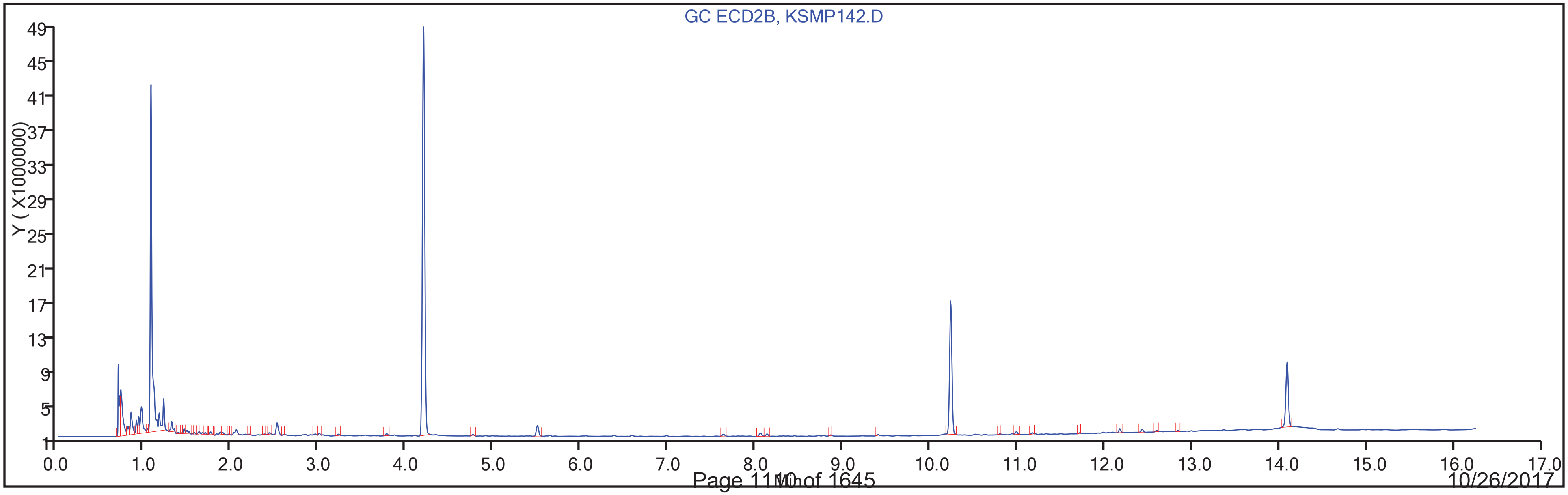
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP142.D
Injection Date: 21-Oct-2017 21:26:16
Instrument ID: SGCK
Operator ID: DEK
Lims ID: 160-24924-E-19-B
Lab Sample ID: 160-24924-19
Worklist Smp#: 28
Client ID: SHAD041DP013SS06NS
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 28
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP142.D				
Lims ID:	160-24924-E-19-B				
Client ID:	SHAD041DP013SS06NS				
Sample Type:	Client				
Inject. Date:	21-Oct-2017 21:26:16	ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-f-17-a				
Misc. Info.:	160-0011731-026				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:24:09	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:12:44

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.6	87.82

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	18.4	91.51

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK GC Column: RTXCLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 11:12 Calibration End Date: 09/08/2017 13:17 Calibration ID: 13479

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/4	KICL507.D
Level 2	IC 160-326367/5	KICL508.D
Level 3	IC 160-326367/6	KICL509.D
Level 4	IC 160-326367/7	KICL510.D
Level 5	ICIS 160-326367/8	KICL511.D
Level 6	IC 160-326367/9	KICL512.D
Level 7	IC 160-326367/10	KICL513.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.0145 0.0135	0.0148 0.0134	0.0143	0.0143	0.0142	Ave		0.0141				3.7		20.0			
PCB-1016 Peak 2	0.0320 0.0284	0.0324 0.0281	0.0313	0.0305	0.0303	Ave		0.0304				5.5		20.0			
PCB-1016 Peak 3	0.0642 0.0639	0.0650 0.0662	0.0638	0.0642	0.0656	Ave		0.0647				1.4		20.0			
PCB-1016 Peak 4	0.0258 0.0264	0.0274 0.0268	0.0272	0.0272	0.0272	Ave		0.0268				2.1		20.0			
PCB-1016 Peak 5	0.0290 0.0277	0.0286 0.0282	0.0284	0.0284	0.0286	Ave		0.0284				1.4		20.0			
PCB-1260 Peak 1	0.0398 0.0395	0.0389 0.0411	0.0397	0.0405	0.0405	Ave		0.0400				1.9		20.0			
PCB-1260 Peak 2	0.0599 0.0620	0.0566 0.0673	0.0593	0.0623	0.0628	Ave		0.0614				5.4		20.0			
PCB-1260 Peak 3	0.0667 0.0692	0.0627 0.0746	0.0656	0.0687	0.0694	Ave		0.0681				5.4		20.0			
PCB-1260 Peak 4	0.0634 0.0726	0.0591 0.0815	0.0623	0.0691	0.0704	Ave		0.0684				11.1		20.0			
PCB-1260 Peak 5	0.0328 0.0351	0.0309 0.0381	0.0326	0.0351	0.0350	Ave		0.0342				6.8		20.0			
DCB Decachlorobiphenyl (Surr)	0.5875 0.6017	0.5465 0.6190	0.5666	0.6189	0.5978	Ave		0.5911				4.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK   GC Column: RTXCLP1   ID: 0.53(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 11:12   Calibration End Date: 09/08/2017 13:17   Calibration ID: 13479

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/4	KICL507.D
Level 2	IC 160-326367/5	KICL508.D
Level 3	IC 160-326367/6	KICL509.D
Level 4	IC 160-326367/7	KICL510.D
Level 5	ICIS 160-326367/8	KICL511.D
Level 6	IC 160-326367/9	KICL512.D
Level 7	IC 160-326367/10	KICL513.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	7613200 293988644	15558776 574617499	29986740	74170422	149500018	50.0 2000	100 4000	200	500	1000
PCB-1016 Peak 2	BNB	Ave	16796390 617310741	34063994 1208242932	65642147	158770011	319042694	50.0 2000	100 4000	200	500	1000
PCB-1016 Peak 3	BNB	Ave	33680701 1389619366	68255333 2847464640	133511014	333682856	690614597	50.0 2000	100 4000	200	500	1000
PCB-1016 Peak 4	BNB	Ave	13563810 573915120	28832750 1150549758	56854064	141373198	286200489	50.0 2000	100 4000	200	500	1000
PCB-1016 Peak 5	BNB	Ave	15232788 602927893	30084464 1214011927	59369343	147504345	301160098	50.0 2000	100 4000	200	500	1000
PCB-1260 Peak 1	BNB	Ave	20896541 858003656	40855641 1766968123	83146589	210687709	426128824	50.0 2000	100 4000	200	500	1000
PCB-1260 Peak 2	BNB	Ave	31431375 1347350335	59478126 2891155816	124096108	323796326	661663111	50.0 2000	100 4000	200	500	1000
PCB-1260 Peak 3	BNB	Ave	35027844 1503733177	65893418 3205217376	137372779	357249776	731111054	50.0 2000	100 4000	200	500	1000
PCB-1260 Peak 4	BNB	Ave	33274686 1578680284	62057844 3505308913	130520654	359547750	741981102	50.0 2000	100 4000	200	500	1000
PCB-1260 Peak 5	BNB	Ave	17234514 762641644	32472357 1636016428	68166267	182493501	368441653	50.0 2000	100 4000	200	500	1000
DCB Decachlorobiphenyl (Surr)	BNB	Ave	15416700 654251881	28712823 1330620853	59321924	160919627	314841339	2.50 100	5.00 200	10.0	25.0	50.0

Curve Type Legend:

Ave = Average ISTD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL507.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Sep-2017 11:12:22 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-004
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:01 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

First Level Reviewer: konopkad Date: 08-Sep-2017 14:29:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	524858487	50.0	50.0	
2	4.206	4.208	-0.002	74558969	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.739	5.739	0.000	7613200	50.0	51.3	
1	6.379	6.379	0.000	16796390	50.0	52.6	
1	7.162	7.162	0.000	33680701	50.0	49.6	
1	7.376	7.376	0.000	13563810	50.0	48.1	
1	8.036	8.036	0.000	15232788	50.0	51.1	
2	7.071	7.073	-0.002	1166569	50.0	53.7	
2	7.792	7.793	-0.001	2507038	50.0	54.6	
2	8.547	8.549	-0.002	3978160	50.0	47.3	
2	8.766	8.766	0.000	1484771	50.0	46.7	
2	9.509	9.509	0.000	1285209	50.0	45.8	
						RPD = 1.83	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.884	9.882	0.002	20896541	50.0	49.8	
1	10.274	10.274	0.000	31431375	50.0	48.7	
1	10.632	10.632	0.000	35027844	50.0	49.0	
1	11.436	11.436	0.000	33274686	50.0	46.4	
1	11.742	11.742	0.000	17234514	50.0	48.0	
2	11.241	11.239	0.002	2354489	50.0	43.6	
2	11.484	11.484	0.000	2844797	50.0	49.0	
2	11.881	11.881	0.000	3705033	50.0	46.5	
2	12.546	12.546	0.000	3715870	50.0	47.4	
2	12.911	12.911	0.000	1986856	50.0	38.3	
						RPD = 7.33	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	15416700	2.50	2.48	
2	14.122	14.123	-0.001	1853889	2.50	2.60	
						RPD = 4.45	

Reagents:

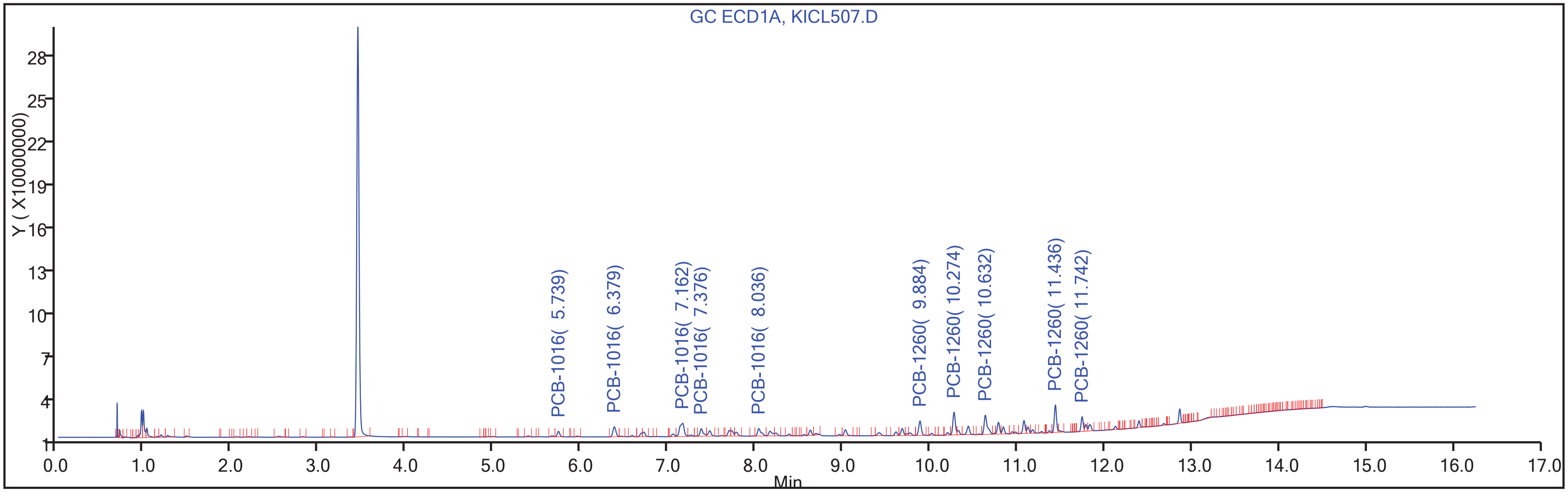
1016/1260 Cal_00015	Amount Added: 12.50	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

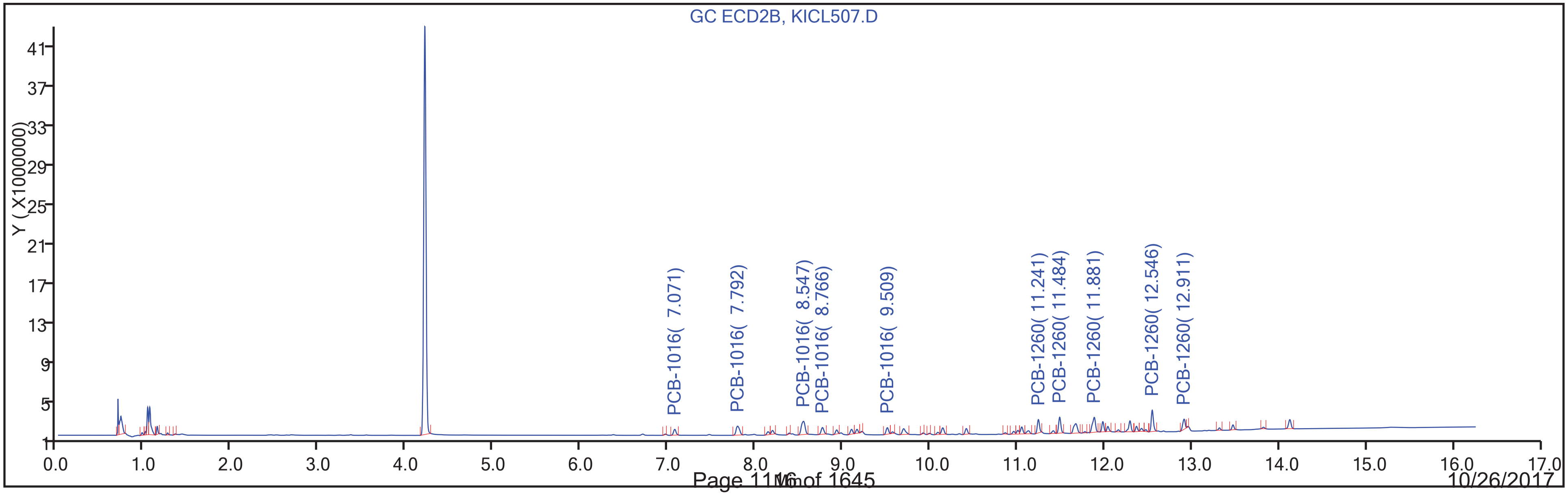
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL507.D
Injection Date: 08-Sep-2017 11:12:22
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 4
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 4
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL508.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Sep-2017 11:33:19 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-005
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:04 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.441	3.439	0.002	525419639	50.0	50.0	
2	4.209	4.208	0.001	74429279	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.739	5.739	0.000	15558776	100.0	104.7	
1	6.379	6.379	0.000	34063994	100.0	106.5	
1	7.162	7.162	0.000	68255333	100.0	100.4	
1	7.377	7.376	0.001	28832750	100.0	102.2	
1	8.036	8.036	0.000	30084464	100.0	100.7	
2	7.073	7.073	0.000	2348987	100.0	108.3	
2	7.793	7.793	0.000	4884020	100.0	106.5	
2	8.548	8.549	-0.001	8146900	100.0	97.1	
2	8.766	8.766	0.000	3058754	100.0	96.3	
2	9.509	9.509	0.000	2994262	100.0	106.9	
						RPD = 0.11	
11 PCB-1260							
1	9.882	9.882	0.000	40855641	100.0	97.2	
1	10.274	10.274	0.000	59478126	100.0	92.1	
1	10.632	10.632	0.000	65893418	100.0	92.0	
1	11.436	11.436	0.000	62057844	100.0	86.4	
1	11.744	11.742	0.002	32472357	100.0	90.3	
2	11.241	11.239	0.002	5572711	100.0	103.3	
2	11.484	11.484	0.000	5461805	100.0	94.3	
2	11.881	11.881	0.000	6942770	100.0	87.3	
2	12.546	12.546	0.000	6985921	100.0	89.3	
2	12.911	12.911	0.000	5006309	100.0	96.6	
						RPD = 2.72	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.862	12.861	0.001	28712823	5.00	4.62	
2	14.123	14.123	0.000	3535207	5.00	4.96	
						RPD = 7.09	

Reagents:

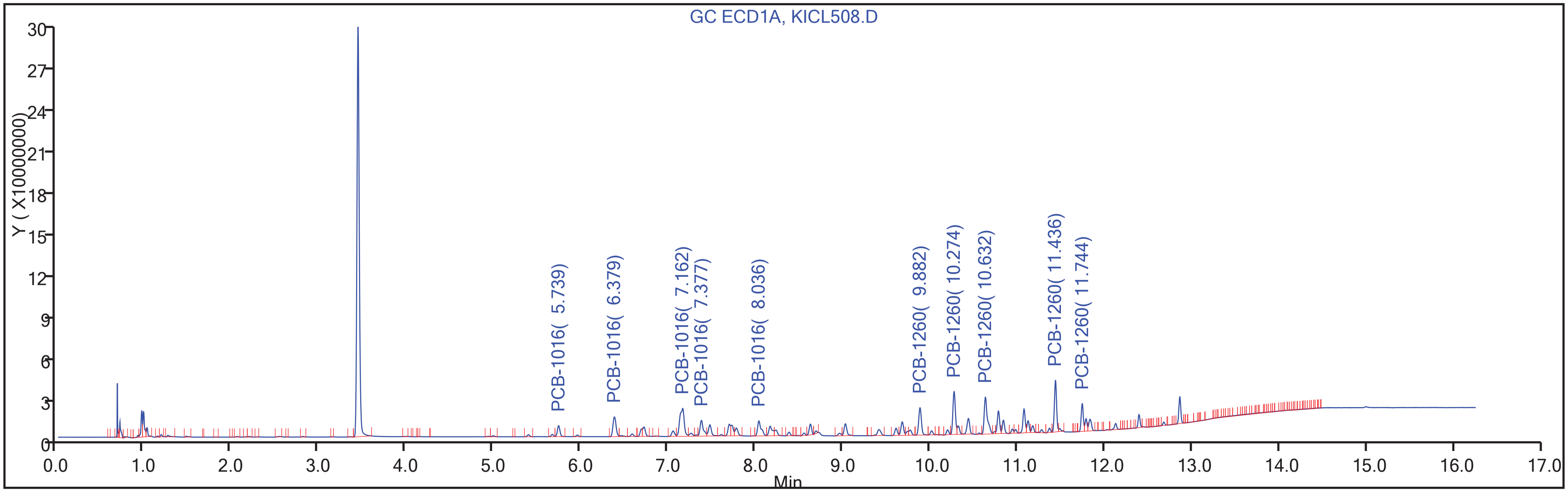
1016/1260 Cal_00015	Amount Added: 25.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

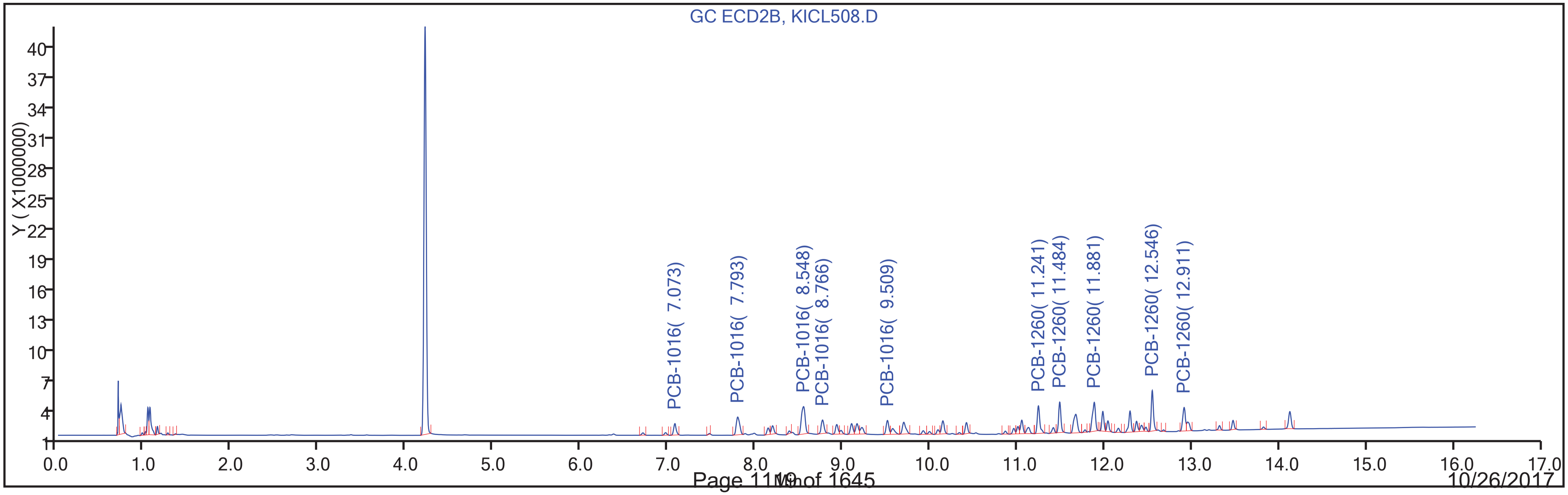
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL508.D				
Injection Date:	08-Sep-2017 11:33:19	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL509.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Sep-2017 11:54:15 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-006
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:07 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	523483194	50.0	50.0	
2	4.209	4.208	0.001	75181488	50.0	50.0	
						RPD =	0.00
1 PCB-1016							
1	5.739	5.739	0.000	29986740	200.0	202.6	
1	6.379	6.379	0.000	65642147	200.0	206.0	
1	7.162	7.162	0.000	133511014	200.0	197.2	
1	7.377	7.376	0.001	56854064	200.0	202.3	
1	8.036	8.036	0.000	59369343	200.0	199.5	
2	7.074	7.073	0.001	4582172	200.0	209.2	
2	7.794	7.793	0.001	9658581	200.0	208.4	
2	8.548	8.549	-0.001	16062974	200.0	189.5	
2	8.768	8.766	0.002	5990974	200.0	186.8	
2	9.511	9.509	0.002	5769969	200.0	203.9	
						RPD =	0.96
11 PCB-1260							
1	9.884	9.882	0.002	83146589	200.0	198.6	
1	10.276	10.274	0.002	124096108	200.0	192.9	
1	10.632	10.632	0.000	137372779	200.0	192.6	
1	11.437	11.436	0.001	130520654	200.0	182.4	
1	11.744	11.742	0.002	68166267	200.0	190.3	
2	11.241	11.239	0.002	11119204	200.0	204.0	
2	11.486	11.484	0.002	11376150	200.0	194.4	
2	11.883	11.881	0.002	16329641	200.0	203.2	
2	12.546	12.546	0.000	14712759	200.0	186.2	
2	12.913	12.911	0.002	10394992	200.0	198.6	
						RPD =	3.05

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.862	12.861	0.001	59321924	10.0	9.59	
2	14.124	14.123	0.001	7104665	10.0	9.87	
						RPD = 2.95	

Reagents:

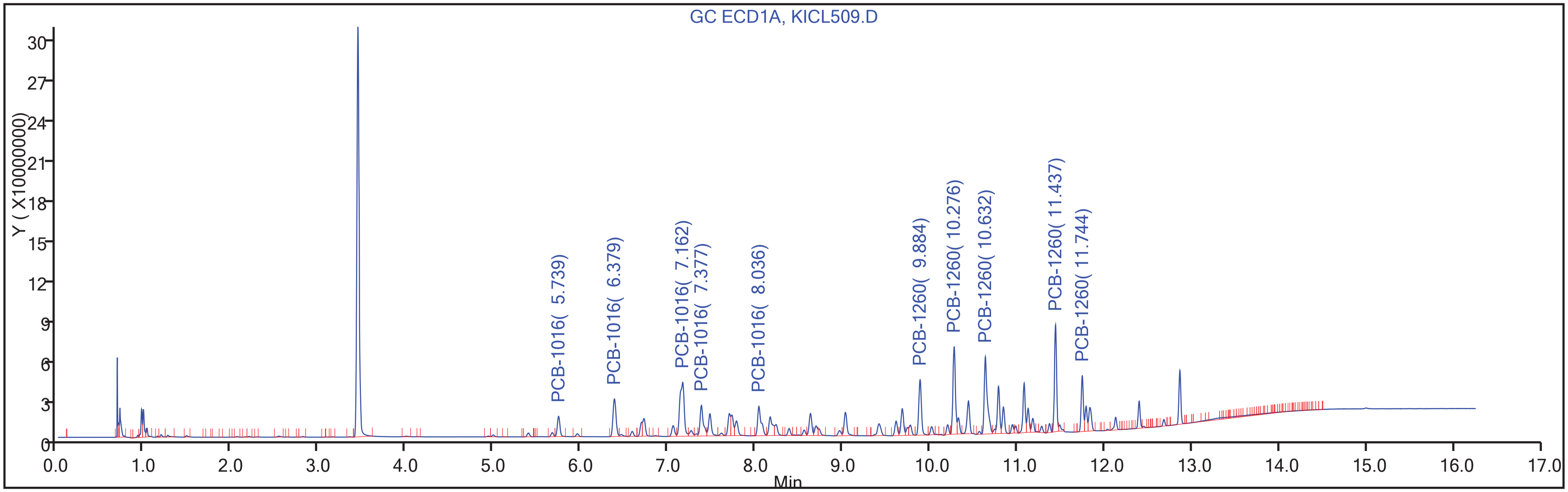
1016/1260 Cal_00015	Amount Added: 50.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

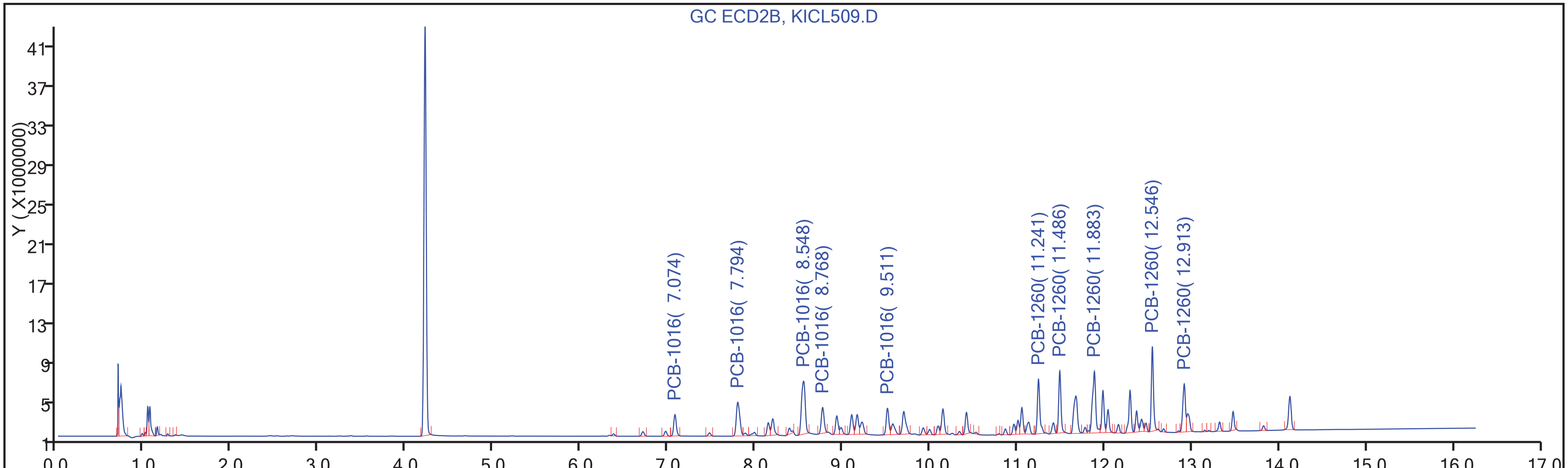
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL509.D				
Injection Date:	08-Sep-2017 11:54:15	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



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Report Date: 11-Sep-2017 09:17:10                    Chrom Revision: 2.2  16-Aug-2017 16:24:46

                                   TestAmerica St. Louis
                              Target Compound Quantitation Report

Data File:        \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL510.D
Lims ID:          IC
Client ID:
Sample Type:      IC                                 Calib Level:       4
Inject. Date:     08-Sep-2017 12:15:16               ALS Bottle#:       7            Worklist Smp#:      7
Injection Vol:    2.0 ul                             Dil. Factor:       1.0000
Sample Info:      IC
Misc. Info.:      160-0011372-007
Operator ID:      DEK                                Instrument ID:     SGCK
Sublist:          chrom-8082A_IS_SGCK*sub5

Method:           \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group:      GC 8082A_ICAL_IS
Last Update:      11-Sep-2017 09:17:10               Calib Date:        08-Sep-2017 17:29:06
Integrator:       Falcon
Quant Method:     Internal Standard                  Quant By:          Initial Calibration
Last ICal File:   \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 :        RTX-CLP Pesticides ( 0.53 mm)                         Det: GC ECD1A
Column 2 :        RTX-CLP Pesticides2 ( 0.53 mm)                        Det: GC ECD2B
Process Host:     XAWRK037
      RT       Exp RT    Dlt RT                   Cal Amt    OnCol Amt
Col   (min.)   (min.)    (min.)    Response       ng/ml      ng/ml       Flags

*  2 1-Bromo-2-nitrobenzene
 1     3.440    3.439    0.001    520057474       50.0        50.0
 2     4.209    4.208    0.001     74638804       50.0        50.0
                                                           RPD =   0.00
   1 PCB-1016
 1     5.740    5.739    0.001     74170422      500.0       504.4
 1     6.380    6.379    0.001    158770011      500.0       501.5
 1     7.163    7.162    0.001    333682856      500.0       496.0
 1     7.377    7.376    0.001    141373198      500.0       506.2
 1     8.037    8.036    0.001    147504345      500.0       499.0
 2     7.074    7.073    0.001     10915580      500.0       502.0
 2     7.794    7.793    0.001     23035660      500.0       500.8
 2     8.549    8.549    0.000     41552080      500.0       493.9
 2     8.765    8.766   -0.001     15342264      500.0       481.8
 2     9.510    9.509    0.001     13953512      500.0       496.7
                                                           RPD =   1.28
  11 PCB-1260
 1     9.883    9.882    0.001    210687709      500.0       506.5
 1    10.275   10.274    0.001    323796326      500.0       506.7
 1    10.633   10.632    0.001    357249776      500.0       504.2
 1    11.437   11.436    0.001    359547750      500.0       505.7
 1    11.743   11.742    0.001    182493501      500.0       512.8
 2    11.240   11.239    0.001     27748744      500.0       512.8
 2    11.485   11.484    0.001     29251550      500.0       503.6
 2    11.882   11.881    0.001     42311948      500.0       530.4
 2    12.545   12.546   -0.001     40940304      500.0       521.9
 2    12.912   12.911    0.001     27549183      500.0       530.1
                                                           RPD =   2.44
```

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.862	12.861	0.001	160919627	25.0	26.2	
2	14.124	14.123	0.001	18763195	25.0	26.3	
					RPD =	0.34	

Reagents:

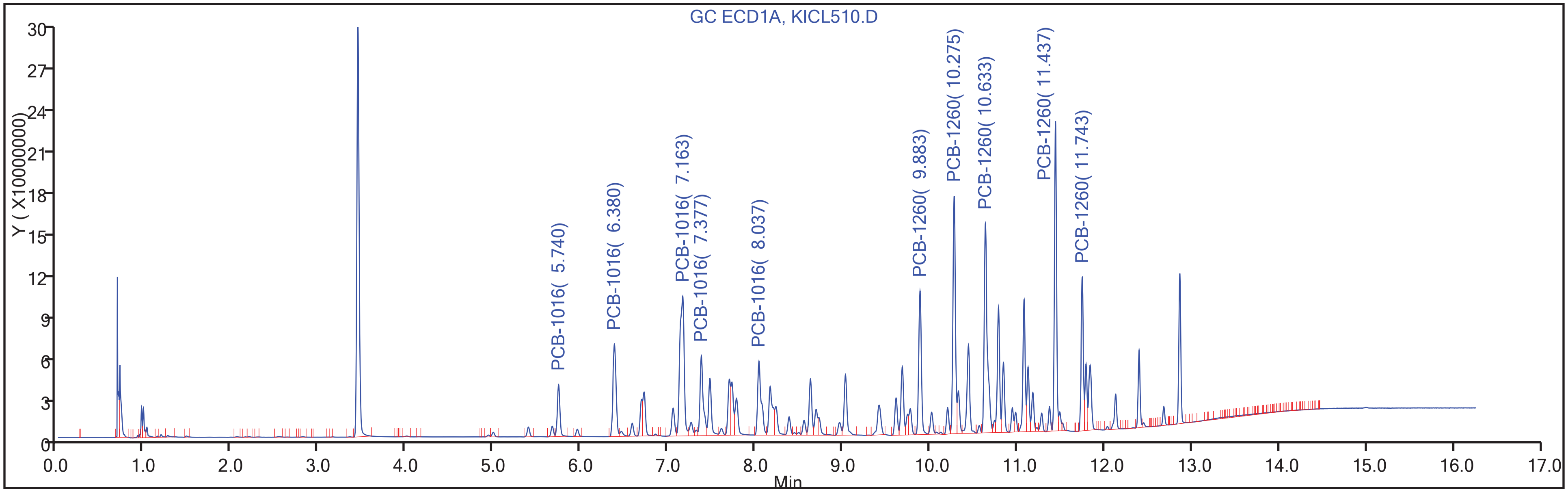
1016/1260 Cal_00015	Amount Added: 125.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

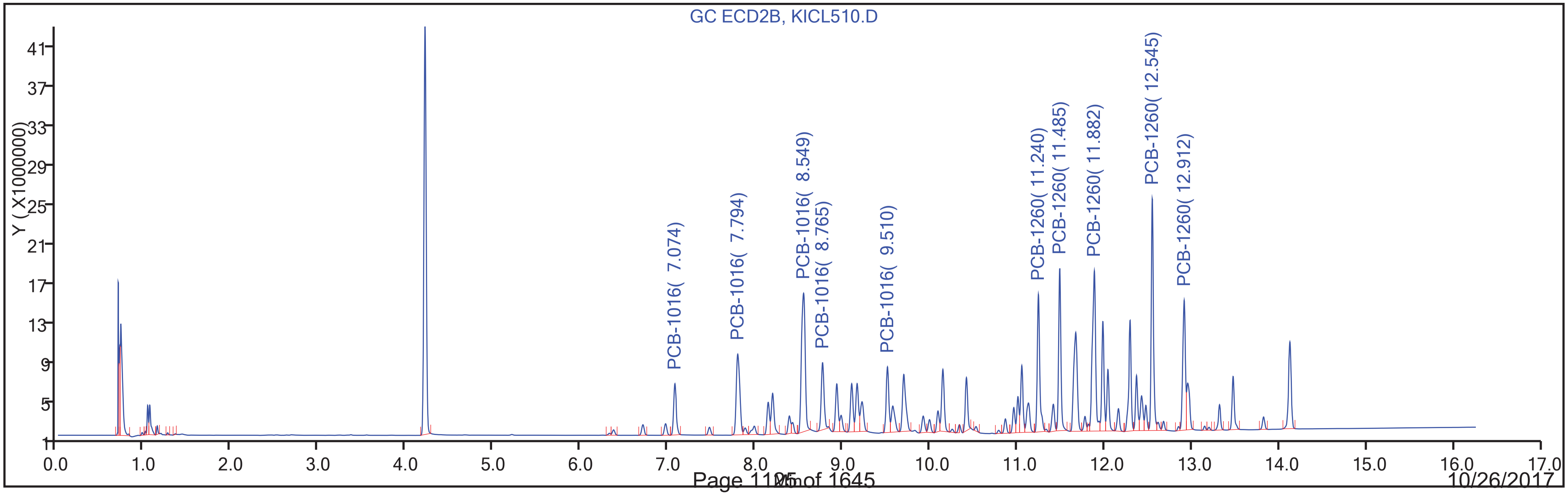
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL510.D
Injection Date: 08-Sep-2017 12:15:16
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 7
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 7
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL511.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 08-Sep-2017 12:36:09 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICIS
Misc. Info.: 160-0011372-008
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:13 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

First Level Reviewer: konopkad Date: 11-Sep-2017 09:09:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	526676413	50.0	50.0	
2	4.208	4.208	0.000	75071350	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.739	5.739	0.000	149500018	1000.0	1003.8	
1	6.379	6.379	0.000	319042694	1000.0	995.0	
1	7.162	7.162	0.000	690614597	1000.0	1013.7	
1	7.376	7.376	0.000	286200489	1000.0	1012.0	
1	8.036	8.036	0.000	301160098	1000.0	1006.1	
2	7.073	7.073	0.000	21384891	1000.0	977.8	
2	7.793	7.793	0.000	45387573	1000.0	981.0	
2	8.549	8.549	0.000	86769606	1000.0	1025.4	
2	8.766	8.766	0.000	33030521	1000.0	1031.3	
2	9.509	9.509	0.000	28472015	1000.0	1007.6	
						RPD = 0.15	

Report Date: 11-Sep-2017 09:17:13 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL511.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.882	9.882	0.000	426128824	1000.0	1011.6	
1	10.274	10.274	0.000	661663111	1000.0	1022.5	
1	10.632	10.632	0.000	731111054	1000.0	1018.9	
1	11.436	11.436	0.000	741981102	1000.0	1030.5	
1	11.742	11.742	0.000	368441653	1000.0	1022.4	
2	11.239	11.239	0.000	56268370	1000.0	1033.8	
2	11.484	11.484	0.000	61011039	1000.0	1044.4	
2	11.881	11.881	0.000	82828884	1000.0	1032.3	
2	12.546	12.546	0.000	81836246	1000.0	1037.3	
2	12.911	12.911	0.000	54954594	1000.0	1051.3	
						RPD = 1.81	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	314841339	50.0	50.6	
2	14.123	14.123	0.000	35504030	50.0	49.4	
						RPD = 2.31	

Reagents:

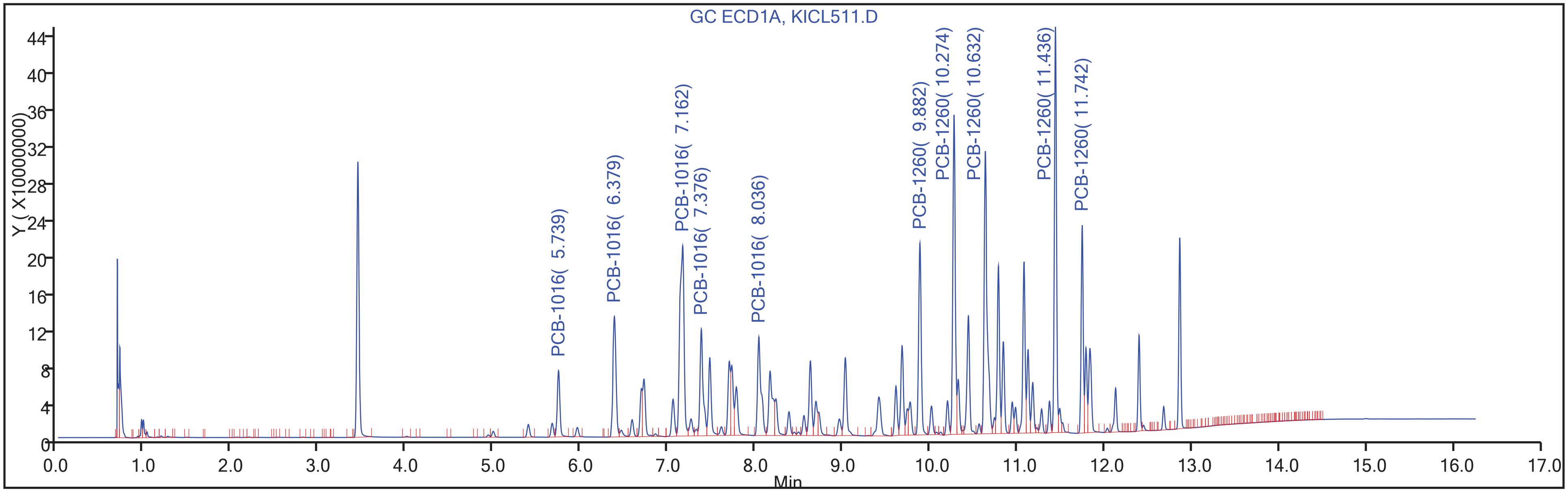
1016/1260 Cal_00015	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:13 Chrom Revision: 2.2 16-Aug-2017 16:24:46

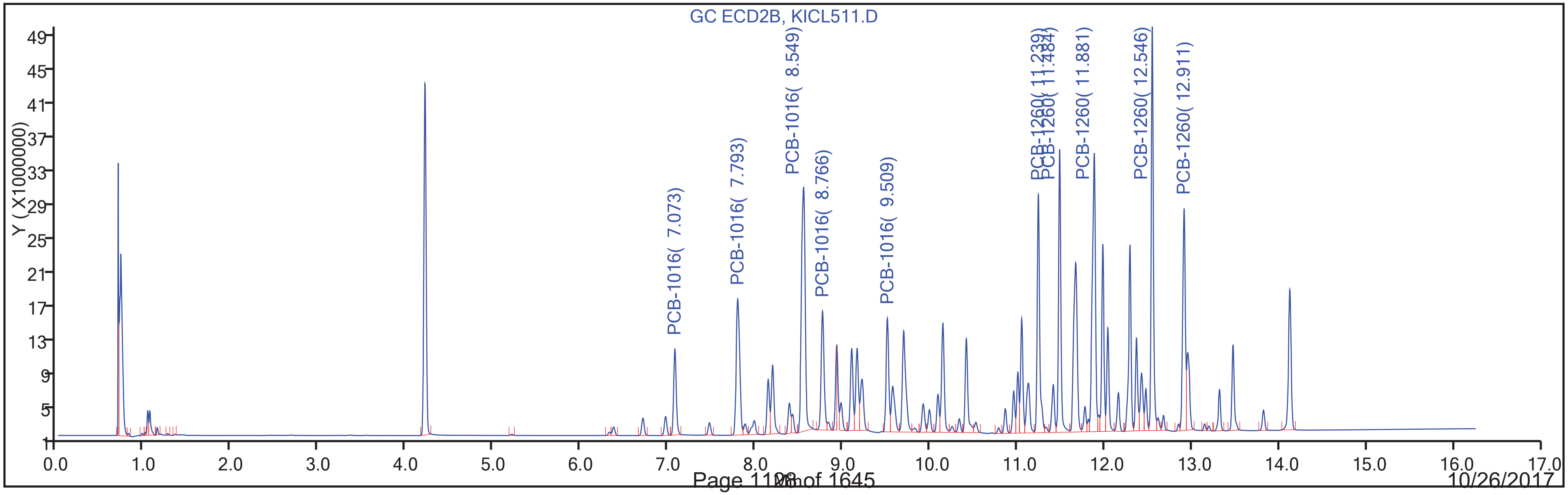
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL511.D
Injection Date: 08-Sep-2017 12:36:09
Instrument ID: SGCK
Operator ID: DEK
Lims ID: ICIS
Worklist Smp#: 8
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 8
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:18 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

```
Data File:        \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL512.D
Lims ID:          IC
Client ID:
Sample Type:      IC                        Calib Level:      6
Inject. Date:     08-Sep-2017 12:57:02      ALS Bottle#:      9          Worklist Smp#:     9
Injection Vol:    2.0 ul                    Dil. Factor:      1.0000
Sample Info:      IC
Misc. Info.:      160-0011372-009
Operator ID:      DEK                       Instrument ID:    SGCK
Sublist:          chrom-8082A_IS_SGCK*sub5

Method:           \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group:      GC 8082A_ICAL_IS
Last Update:      11-Sep-2017 09:17:17      Calib Date:       08-Sep-2017 17:29:06
Integrator:       Falcon
Quant Method:     Internal Standard         Quant By:         Initial Calibration
Last ICal File:   \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 :        RTX-CLP Pesticides ( 0.53 mm)             Det: GC ECD1A
Column 2 :        RTX-CLP Pesticides2 ( 0.53 mm)            Det: GC ECD2B
Process Host:     XAWRK037

       RT      Exp RT   Dlt RT                 Cal Amt    OnCol Amt
Col    (min.)  (min.)   (min.)     Response    ng/ml      ng/ml       Flags

*  2 1-Bromo-2-nitrobenzene
 1     3.440   3.439    0.001     543646600     50.0        50.0
 2     4.209   4.208    0.001      76235743     50.0        50.0
                                                     RPD =   0.00
   1 PCB-1016
 1     5.738   5.739   -0.001     293988644   2000.0      1912.4
 1     6.378   6.379   -0.001     617310741   2000.0      1865.2
 1     7.162   7.162    0.000    1389619366   2000.0      1976.0
 1     7.375   7.376   -0.001     573915120   2000.0      1966.0
 1     8.035   8.036   -0.001     602927893   2000.0      1951.3
 2     7.072   7.073   -0.001      40771950   2000.0      1835.9
 2     7.794   7.793    0.001      86708420   2000.0      1845.4
 2     8.549   8.549    0.000     180623298   2000.0      2101.9
 2     8.765   8.766   -0.001      70241868   2000.0      2159.6
 2     9.509   9.509    0.000      56793574   2000.0      1979.2
                                                     RPD =   2.56
  11 PCB-1260
 1     9.882   9.882    0.000     858003656   2000.0      1973.3
 1    10.273  10.274   -0.001    1347350335   2000.0      2017.1
 1    10.632  10.632    0.000    1503733177   2000.0      2030.2
 1    11.437  11.436    0.001    1578680284   2000.0      2124.1
 1    11.743  11.742    0.001     762641644   2000.0      2050.2
 2    11.240  11.239    0.001     110195253   2000.0      1993.7
 2    11.484  11.484    0.000     119760365   2000.0      2018.7
 2    11.882  11.881    0.001     166261923   2000.0      2040.4
 2    12.545  12.546   -0.001     167123333   2000.0      2085.9
 2    12.912  12.911    0.001     111697959   2000.0      2104.1
                                                     RPD =   0.47
```

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.862	12.861	0.001	654251881	100.0	101.8	
2	14.124	14.123	0.001	71085860	100.0	97.4	
						RPD = 4.40	

Reagents:

1016/1260 Cal_00015	Amount Added: 500.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:18 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL512.D

Injection Date: 08-Sep-2017 12:57:02
Instrument ID: SGCK
Operator ID: DEK

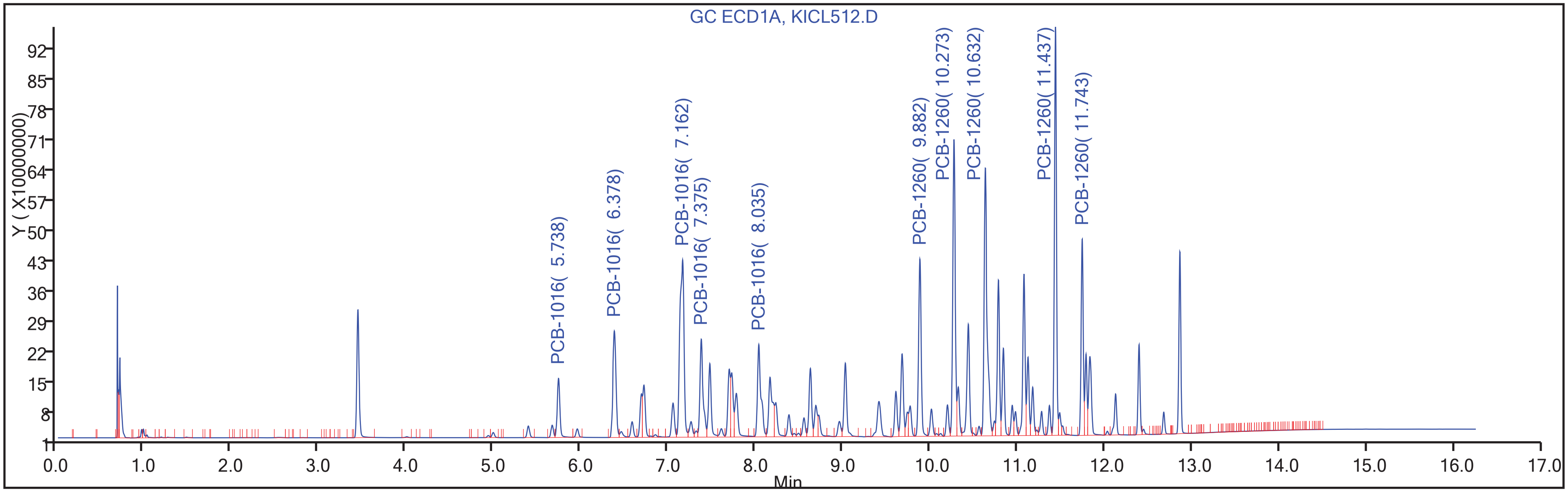
Lims ID: IC
Worklist Smp#: 9

Client ID:

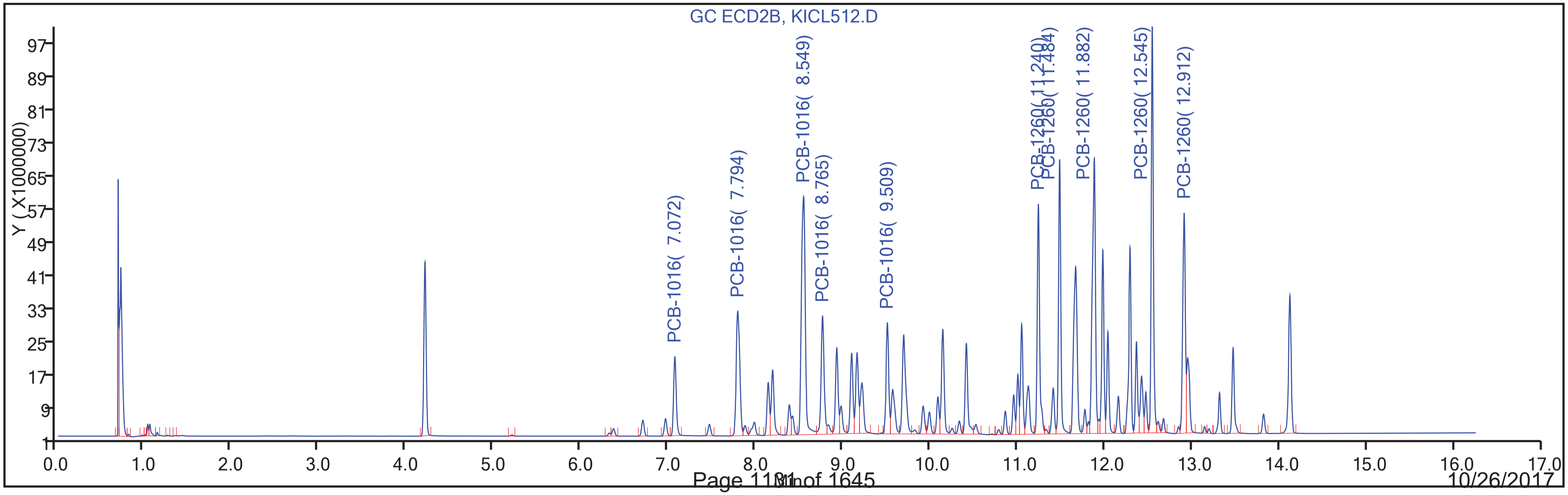
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 9

Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:22　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL513.D
Lims ID: IC
Client ID:
Sample Type: IC　　Calib Level: 7
Inject. Date: 08-Sep-2017 13:17:56　　ALS Bottle#: 10　　Worklist Smp#: 10
Injection Vol: 2.0 ul　　Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-010
Operator ID: DEK　　Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:21　　Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard　　Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm)　　Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm)　　Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.439	0.001	537388973	50.0	50.0	
2	4.208	4.208	0.000	75100509	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.740	5.739	0.001	574617499	4000.0	3781.3	
1	6.380	6.379	0.001	1208242932	4000.0	3693.2	
1	7.163	7.162	0.001	2847464640	4000.0	4096.2	
1	7.376	7.376	0.000	1150549758	4000.0	3987.1	
1	8.035	8.036	-0.001	1214011927	4000.0	3974.8	
2	7.073	7.073	0.000	78456229	4000.0	3586.1	
2	7.793	7.793	0.000	166038302	4000.0	3587.2	
2	8.548	8.549	-0.001	362408175	4000.0	4281.2	
2	8.765	8.766	-0.001	140319369	4000.0	4379.3	
2	9.508	9.509	-0.001	113659328	4000.0	4020.8	
						RPD = 1.63	
11 PCB-1260							
1	9.881	9.882	-0.001	1766968123	4000.0	4111.2	
1	10.273	10.274	-0.001	2891155816	4000.0	4378.7	
1	10.631	10.632	-0.001	3205217376	4000.0	4377.7	
1	11.438	11.436	0.002	3505308913	4000.0	4771.2	
1	11.743	11.742	0.001	1636016428	4000.0	4449.2	
2	11.240	11.239	0.001	222177145	4000.0	4080.4	
2	11.483	11.484	-0.001	243875259	4000.0	4172.9	
2	11.881	11.881	0.000	342975757	4000.0	4272.7	
2	12.545	12.546	-0.001	348314583	4000.0	4413.2	
2	12.911	12.911	0.000	232714734	4000.0	4450.0	
						RPD = 3.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	1330620853	200.0	209.4	
2	14.123	14.123	0.000	139247155	200.0	193.7	
						RPD = 7.81	

Reagents:

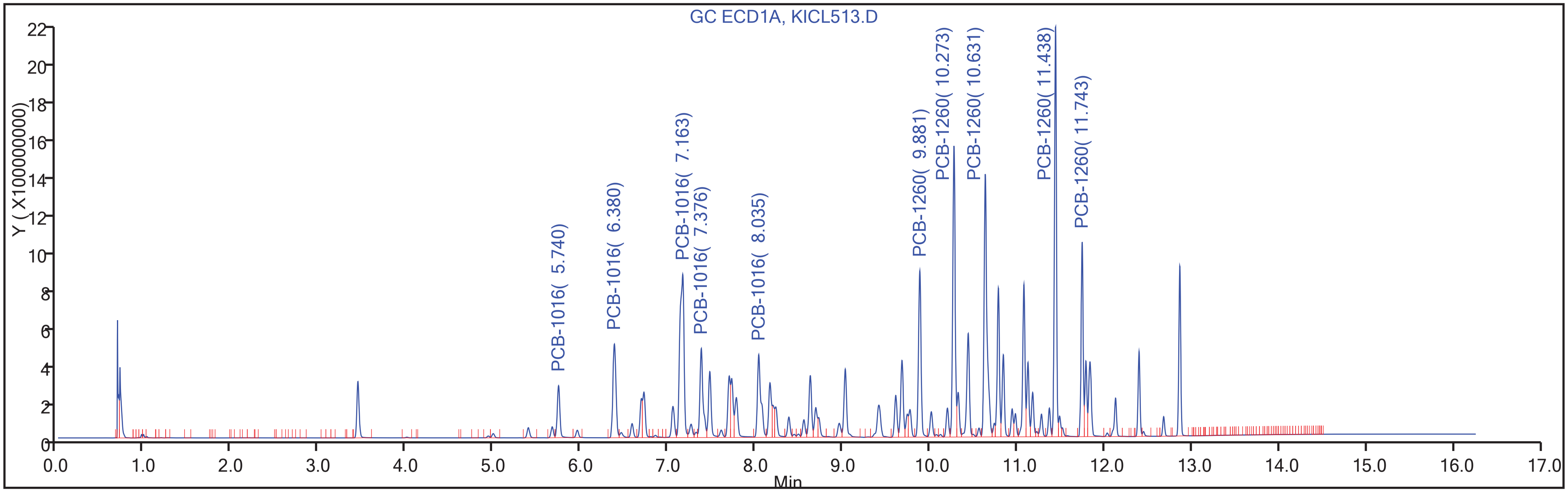
1016/1260 Cal_00015	Amount Added: 1000.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

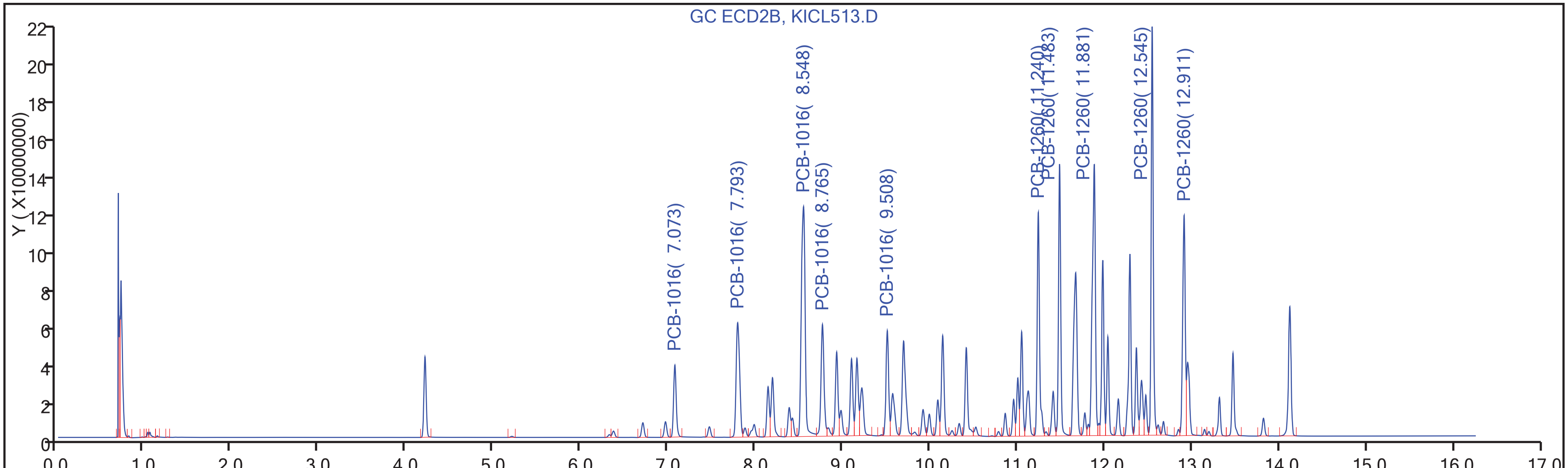
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL513.D
Injection Date: 08-Sep-2017 13:17:56
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 10
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 10
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK GC Column: RTXCLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 11:12 Calibration End Date: 09/08/2017 13:17 Calibration ID: 13480

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/4	KICL507.D
Level 2	IC 160-326367/5	KICL508.D
Level 3	IC 160-326367/6	KICL509.D
Level 4	IC 160-326367/7	KICL510.D
Level 5	ICIS 160-326367/8	KICL511.D
Level 6	IC 160-326367/9	KICL512.D
Level 7	IC 160-326367/10	KICL513.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.0156 0.0134	0.0158 0.0131	0.0152	0.0146	0.0142	Ave		0.0146				7.4		20.0			
PCB-1016 Peak 2	0.0336 0.0284	0.0328 0.0276	0.0321	0.0309	0.0302	Ave		0.0308				7.2		20.0			
PCB-1016 Peak 3	0.0534 0.0592	0.0547 0.0603	0.0534	0.0557	0.0578	Ave		0.0564				5.0		20.0			
PCB-1016 Peak 4	0.0199 0.0230	0.0205 0.0234	0.0199	0.0206	0.0220	Ave		0.0213				6.8		20.0			
PCB-1016 Peak 5	0.0172 0.0186	0.0201 0.0189	0.0192	0.0187	0.0190	Ave		0.0188				4.5		20.0			
PCB-1260 Peak 1	0.0316 0.0361	0.0374 0.0370	0.0370	0.0372	0.0375	Ave		0.0363				5.8		20.0			
PCB-1260 Peak 2	0.0382 0.0393	0.0367 0.0406	0.0378	0.0392	0.0406	Ave		0.0389				3.7		20.0			
PCB-1260 Peak 3	0.0497 0.0545	0.0466 0.0571	0.0543	0.0567	0.0552	Ave		0.0534				7.2		20.0			
PCB-1260 Peak 4	0.0498 0.0548	0.0469 0.0580	0.0489	0.0549	0.0545	Ave		0.0525				7.6		20.0			
PCB-1260 Peak 5	0.0266 0.0366	0.0336 0.0387	0.0346	0.0369	0.0366	Ave		0.0348				11.4		20.0			
DCB Decachlorobiphenyl (Surr)	0.4973 0.4662	0.4750 0.4635	0.4725	0.5028	0.4729	Ave		0.4786				3.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK GC Column: RTXCLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 11:12 Calibration End Date: 09/08/2017 13:17 Calibration ID: 13480

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/4	KICL507.D
Level 2	IC 160-326367/5	KICL508.D
Level 3	IC 160-326367/6	KICL509.D
Level 4	IC 160-326367/7	KICL510.D
Level 5	ICIS 160-326367/8	KICL511.D
Level 6	IC 160-326367/9	KICL512.D
Level 7	IC 160-326367/10	KICL513.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	1166569 40771950	2348987 78456229	4582172	10915580	21384891	50.0 2000	100 4000	200	500	1000
PCB-1016 Peak 2	BNB	Ave	2507038 86708420	4884020 166038302	9658581	23035660	45387573	50.0 2000	100 4000	200	500	1000
PCB-1016 Peak 3	BNB	Ave	3978160 180623298	8146900 362408175	16062974	41552080	86769606	50.0 2000	100 4000	200	500	1000
PCB-1016 Peak 4	BNB	Ave	1484771 70241868	3058754 140319369	5990974	15342264	33030521	50.0 2000	100 4000	200	500	1000
PCB-1016 Peak 5	BNB	Ave	1285209 56793574	2994262 113659328	5769969	13953512	28472015	50.0 2000	100 4000	200	500	1000
PCB-1260 Peak 1	BNB	Ave	2354489 110195253	5572711 222177145	11119204	27748744	56268370	50.0 2000	100 4000	200	500	1000
PCB-1260 Peak 2	BNB	Ave	2844797 119760365	5461805 243875259	11376150	29251550	61011039	50.0 2000	100 4000	200	500	1000
PCB-1260 Peak 3	BNB	Ave	3705033 166261923	6942770 342975757	16329641	42311948	82828884	50.0 2000	100 4000	200	500	1000
PCB-1260 Peak 4	BNB	Ave	3715870 167123333	6985921 348314583	14712759	40940304	81836246	50.0 2000	100 4000	200	500	1000
PCB-1260 Peak 5	BNB	Ave	1986856 111697959	5006309 232714734	10394992	27549183	54954594	50.0 2000	100 4000	200	500	1000
DCB Decachlorobiphenyl (Surr)	BNB	Ave	1853889 71085860	3535207 139247155	7104665	18763195	35504030	2.50 100	5.00 200	10.0	25.0	50.0

Curve Type Legend:

Ave = Average ISTD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL507.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Sep-2017 11:12:22 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-004
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:01 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

First Level Reviewer: konopkad Date: 08-Sep-2017 14:29:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	524858487	50.0	50.0	
2	4.206	4.208	-0.002	74558969	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.739	5.739	0.000	7613200	50.0	51.3	
1	6.379	6.379	0.000	16796390	50.0	52.6	
1	7.162	7.162	0.000	33680701	50.0	49.6	
1	7.376	7.376	0.000	13563810	50.0	48.1	
1	8.036	8.036	0.000	15232788	50.0	51.1	
2	7.071	7.073	-0.002	1166569	50.0	53.7	
2	7.792	7.793	-0.001	2507038	50.0	54.6	
2	8.547	8.549	-0.002	3978160	50.0	47.3	
2	8.766	8.766	0.000	1484771	50.0	46.7	
2	9.509	9.509	0.000	1285209	50.0	45.8	
						RPD = 1.83	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.884	9.882	0.002	20896541	50.0	49.8	
1	10.274	10.274	0.000	31431375	50.0	48.7	
1	10.632	10.632	0.000	35027844	50.0	49.0	
1	11.436	11.436	0.000	33274686	50.0	46.4	
1	11.742	11.742	0.000	17234514	50.0	48.0	
2	11.241	11.239	0.002	2354489	50.0	43.6	
2	11.484	11.484	0.000	2844797	50.0	49.0	
2	11.881	11.881	0.000	3705033	50.0	46.5	
2	12.546	12.546	0.000	3715870	50.0	47.4	
2	12.911	12.911	0.000	1986856	50.0	38.3	
						RPD = 7.33	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	15416700	2.50	2.48	
2	14.122	14.123	-0.001	1853889	2.50	2.60	
						RPD = 4.45	

Reagents:

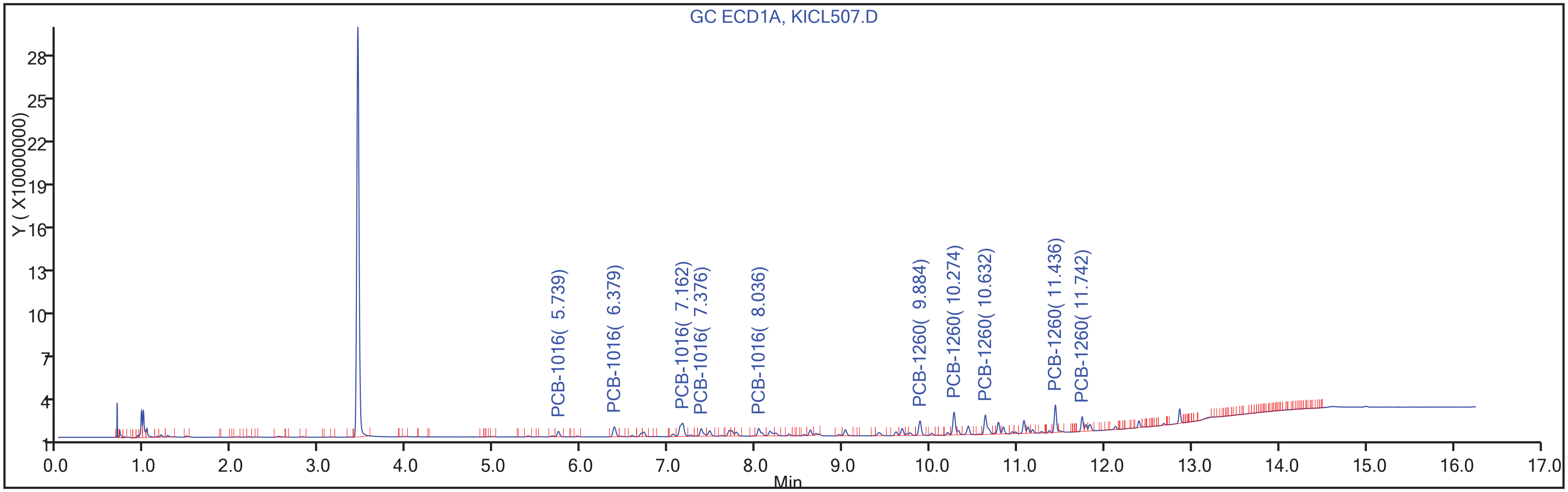
1016/1260 Cal_00015	Amount Added: 12.50	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

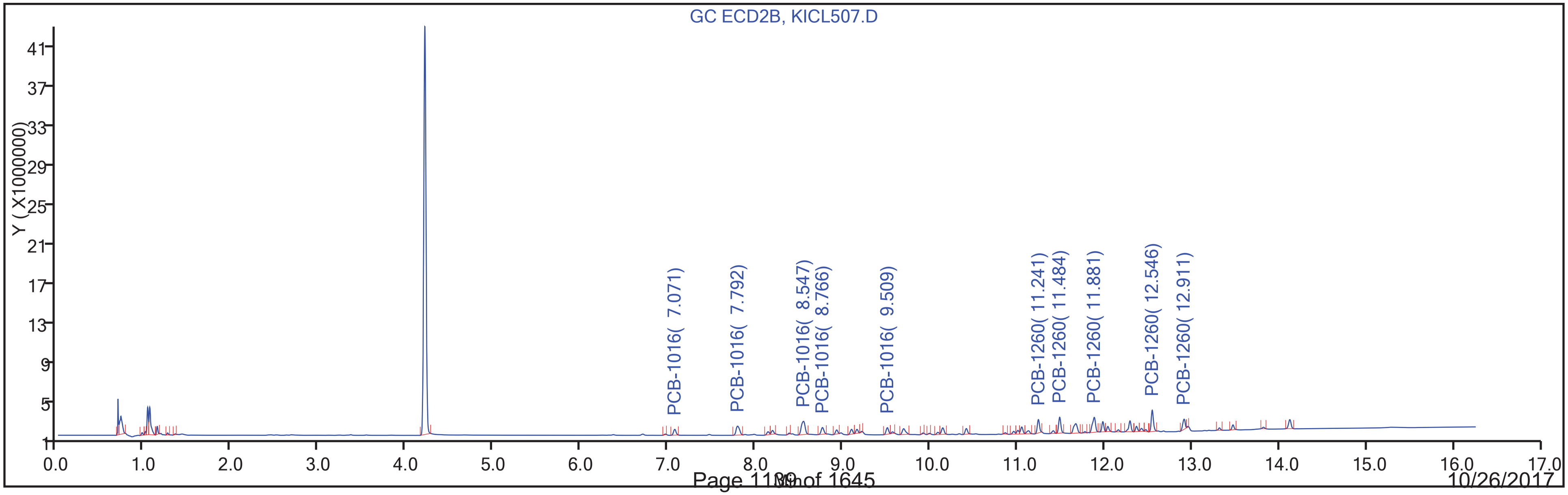
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL507.D
Injection Date: 08-Sep-2017 11:12:22 Instrument ID: SGCK Operator ID: DEK
Lims ID: IC Worklist Smp#: 4
Client ID:
Injection Vol: 2.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4
Method: 8082A_IS_SGCK Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL508.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Sep-2017 11:33:19 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-005
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:04 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.441	3.439	0.002	525419639	50.0	50.0	
2	4.209	4.208	0.001	74429279	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.739	5.739	0.000	15558776	100.0	104.7	
1	6.379	6.379	0.000	34063994	100.0	106.5	
1	7.162	7.162	0.000	68255333	100.0	100.4	
1	7.377	7.376	0.001	28832750	100.0	102.2	
1	8.036	8.036	0.000	30084464	100.0	100.7	
2	7.073	7.073	0.000	2348987	100.0	108.3	
2	7.793	7.793	0.000	4884020	100.0	106.5	
2	8.548	8.549	-0.001	8146900	100.0	97.1	
2	8.766	8.766	0.000	3058754	100.0	96.3	
2	9.509	9.509	0.000	2994262	100.0	106.9	
						RPD = 0.11	
11 PCB-1260							
1	9.882	9.882	0.000	40855641	100.0	97.2	
1	10.274	10.274	0.000	59478126	100.0	92.1	
1	10.632	10.632	0.000	65893418	100.0	92.0	
1	11.436	11.436	0.000	62057844	100.0	86.4	
1	11.744	11.742	0.002	32472357	100.0	90.3	
2	11.241	11.239	0.002	5572711	100.0	103.3	
2	11.484	11.484	0.000	5461805	100.0	94.3	
2	11.881	11.881	0.000	6942770	100.0	87.3	
2	12.546	12.546	0.000	6985921	100.0	89.3	
2	12.911	12.911	0.000	5006309	100.0	96.6	
						RPD = 2.72	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.862	12.861	0.001	28712823	5.00	4.62	
2	14.123	14.123	0.000	3535207	5.00	4.96	
						RPD = 7.09	

Reagents:

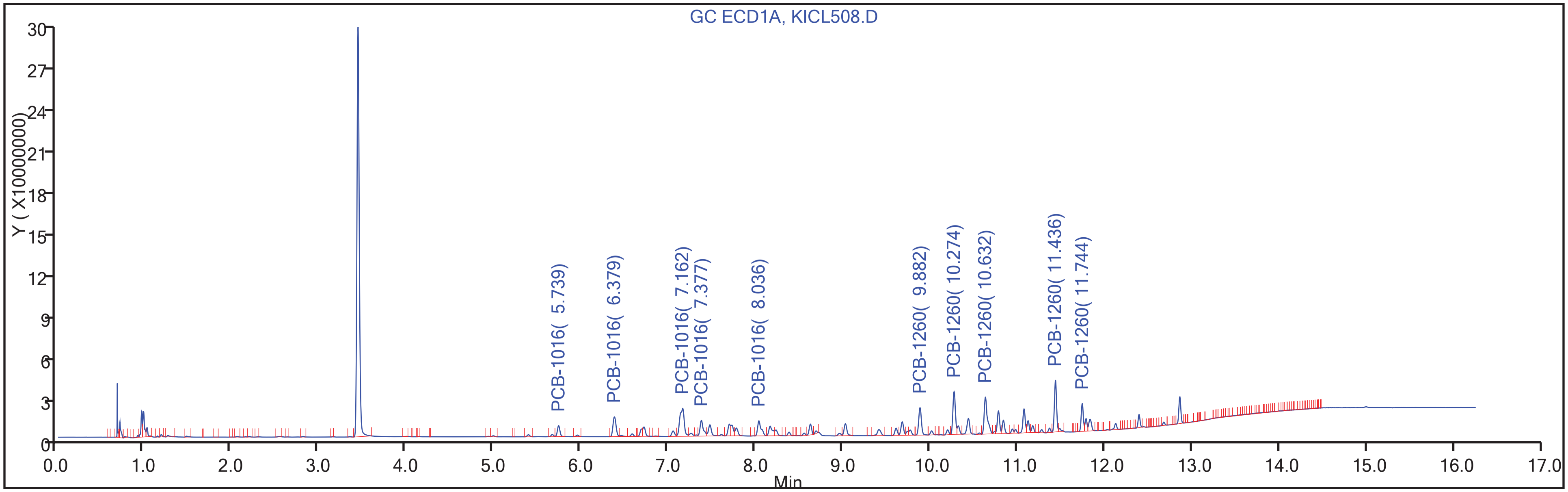
1016/1260 Cal_00015	Amount Added: 25.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

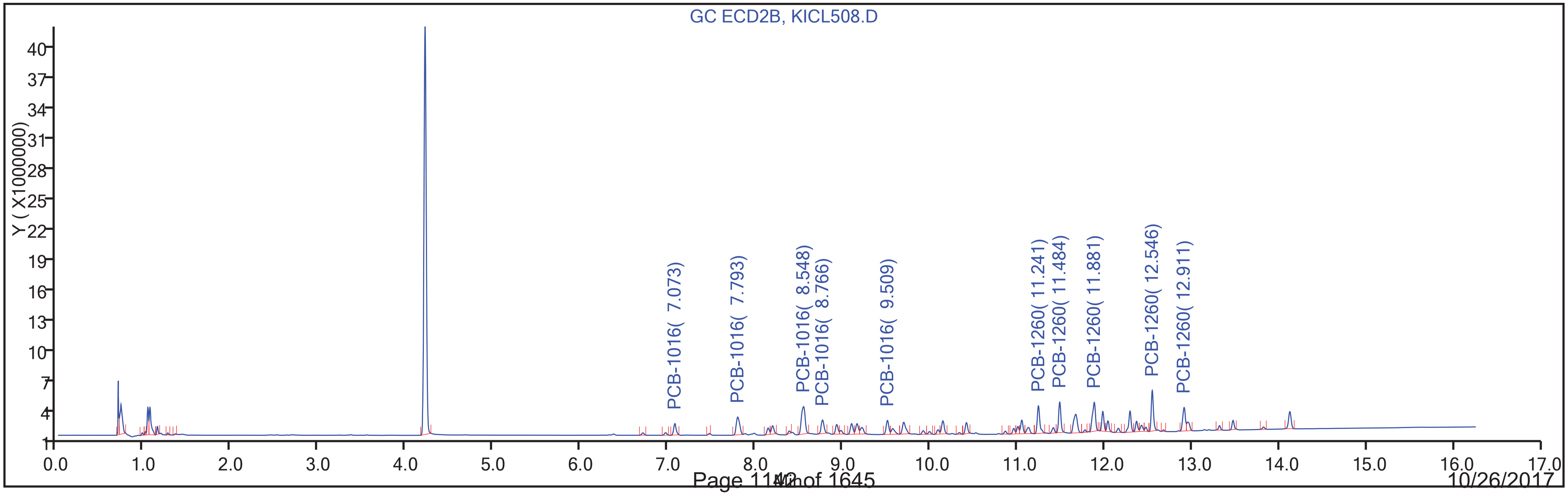
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL508.D
Injection Date: 08-Sep-2017 11:33:19
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 5
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 5
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL509.D
Lims ID: IC
Client ID:
Sample Type: IC   Calib Level: 3
Inject. Date: 08-Sep-2017 11:54:15   ALS Bottle#: 6   Worklist Smp#: 6
Injection Vol: 2.0 ul   Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-006
Operator ID: DEK   Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:07   Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard   Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm)   Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm)   Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	523483194	50.0	50.0	
2	4.209	4.208	0.001	75181488	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.739	5.739	0.000	29986740	200.0	202.6	
1	6.379	6.379	0.000	65642147	200.0	206.0	
1	7.162	7.162	0.000	133511014	200.0	197.2	
1	7.377	7.376	0.001	56854064	200.0	202.3	
1	8.036	8.036	0.000	59369343	200.0	199.5	
2	7.074	7.073	0.001	4582172	200.0	209.2	
2	7.794	7.793	0.001	9658581	200.0	208.4	
2	8.548	8.549	-0.001	16062974	200.0	189.5	
2	8.768	8.766	0.002	5990974	200.0	186.8	
2	9.511	9.509	0.002	5769969	200.0	203.9	
						RPD = 0.96	
11 PCB-1260							
1	9.884	9.882	0.002	83146589	200.0	198.6	
1	10.276	10.274	0.002	124096108	200.0	192.9	
1	10.632	10.632	0.000	137372779	200.0	192.6	
1	11.437	11.436	0.001	130520654	200.0	182.4	
1	11.744	11.742	0.002	68166267	200.0	190.3	
2	11.241	11.239	0.002	11119204	200.0	204.0	
2	11.486	11.484	0.002	11376150	200.0	194.4	
2	11.883	11.881	0.002	16329641	200.0	203.2	
2	12.546	12.546	0.000	14712759	200.0	186.2	
2	12.913	12.911	0.002	10394992	200.0	198.6	
						RPD = 3.05	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.862	12.861	0.001	59321924	10.0	9.59	
2	14.124	14.123	0.001	7104665	10.0	9.87	
						RPD = 2.95	

Reagents:

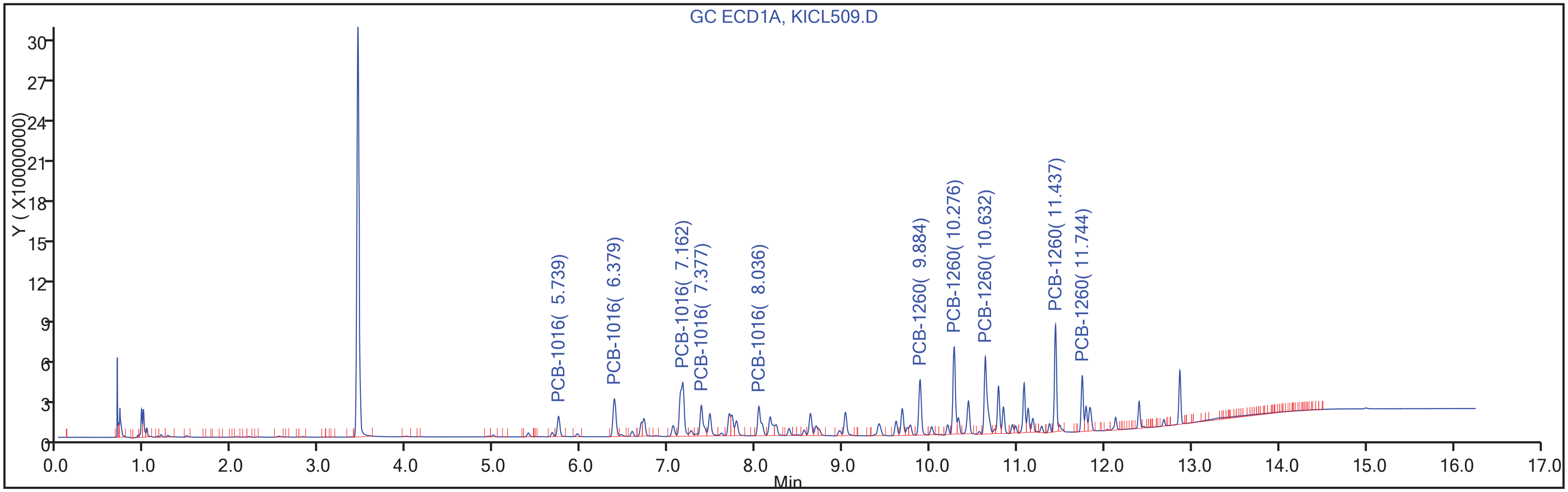
1016/1260 Cal_00015	Amount Added: 50.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:08
Chrom Revision: 2.2 16-Aug-2017 16:24:46

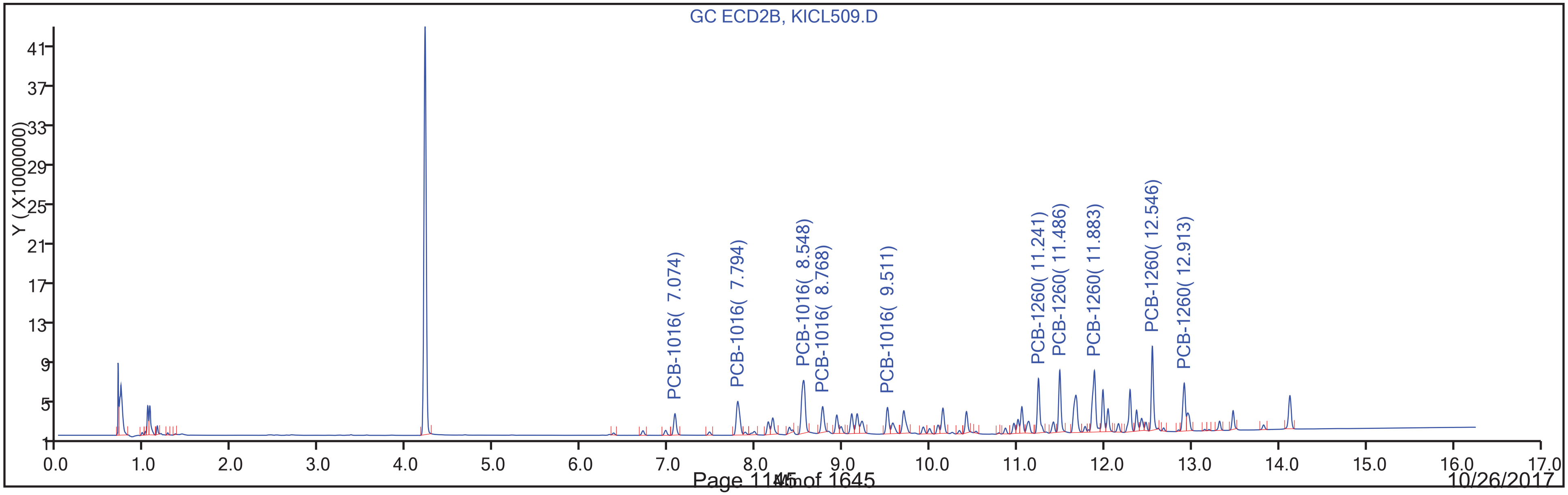
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL509.D
Injection Date: 08-Sep-2017 11:54:15
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 6
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 6
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL510.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Sep-2017 12:15:16 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-007
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:10 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

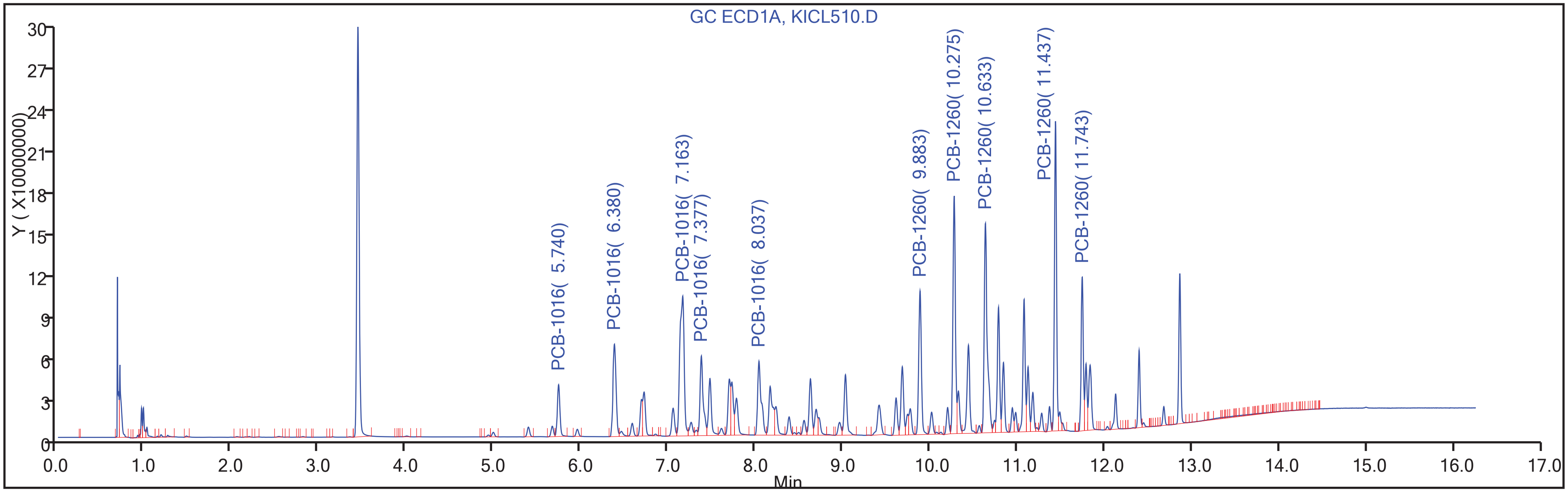
Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.439	0.001	520057474	50.0	50.0	
2	4.209	4.208	0.001	74638804	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.740	5.739	0.001	74170422	500.0	504.4	
1	6.380	6.379	0.001	158770011	500.0	501.5	
1	7.163	7.162	0.001	333682856	500.0	496.0	
1	7.377	7.376	0.001	141373198	500.0	506.2	
1	8.037	8.036	0.001	147504345	500.0	499.0	
2	7.074	7.073	0.001	10915580	500.0	502.0	
2	7.794	7.793	0.001	23035660	500.0	500.8	
2	8.549	8.549	0.000	41552080	500.0	493.9	
2	8.765	8.766	-0.001	15342264	500.0	481.8	
2	9.510	9.509	0.001	13953512	500.0	496.7	
						RPD = 1.28	
11 PCB-1260							
1	9.883	9.882	0.001	210687709	500.0	506.5	
1	10.275	10.274	0.001	323796326	500.0	506.7	
1	10.633	10.632	0.001	357249776	500.0	504.2	
1	11.437	11.436	0.001	359547750	500.0	505.7	
1	11.743	11.742	0.001	182493501	500.0	512.8	
2	11.240	11.239	0.001	27748744	500.0	512.8	
2	11.485	11.484	0.001	29251550	500.0	503.6	
2	11.882	11.881	0.001	42311948	500.0	530.4	
2	12.545	12.546	-0.001	40940304	500.0	521.9	
2	12.912	12.911	0.001	27549183	500.0	530.1	
						RPD = 2.44	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.862	12.861	0.001	160919627	25.0	26.2	
2	14.124	14.123	0.001	18763195	25.0	26.3	
						RPD = 0.34	

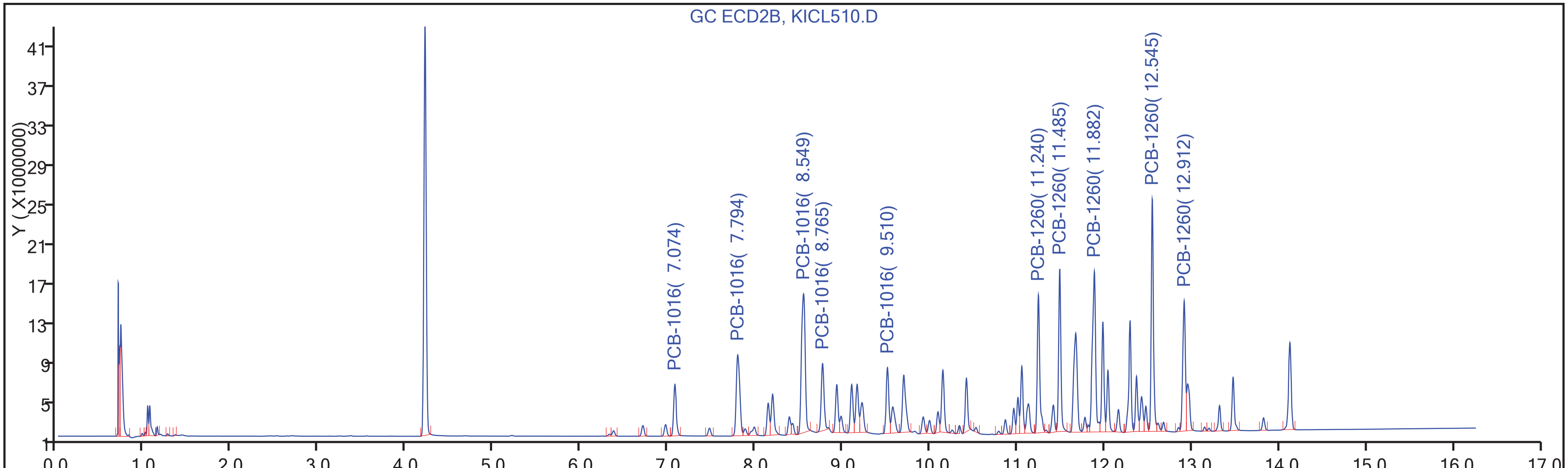
Reagents:

1016/1260 Cal_00015	Amount Added: 125.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46
TestAmerica St. Louis
Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL510.D
Injection Date: 08-Sep-2017 12:15:16 Instrument ID: SGCK Operator ID: DEK
Lims ID: IC Worklist Smp#: 7
Client ID:
Injection Vol: 2.0 ul Dil. Factor: 1.0000 ALS Bottle#: 7
Method: 8082A_IS_SGCK Limit Group: GC 8082A_ICAL_IS
Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:14 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL511.D				
Lims ID:	ICIS				
Client ID:					
Sample Type:	ICIS	Calib Level:	5		
Inject. Date:	08-Sep-2017 12:36:09	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	ICIS				
Misc. Info.:	160-0011372-008				
Operator ID:	DEK	Instrument ID:	SGCK		
Sublist:	chrom-8082A_IS_SGCK*sub5				
Method:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	11-Sep-2017 09:17:13	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK037				

First Level Reviewer: konopkad Date: 11-Sep-2017 09:09:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	526676413	50.0	50.0	
2	4.208	4.208	0.000	75071350	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.739	5.739	0.000	149500018	1000.0	1003.8	
1	6.379	6.379	0.000	319042694	1000.0	995.0	
1	7.162	7.162	0.000	690614597	1000.0	1013.7	
1	7.376	7.376	0.000	286200489	1000.0	1012.0	
1	8.036	8.036	0.000	301160098	1000.0	1006.1	
2	7.073	7.073	0.000	21384891	1000.0	977.8	
2	7.793	7.793	0.000	45387573	1000.0	981.0	
2	8.549	8.549	0.000	86769606	1000.0	1025.4	
2	8.766	8.766	0.000	33030521	1000.0	1031.3	
2	9.509	9.509	0.000	28472015	1000.0	1007.6	
						RPD = 0.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.882	9.882	0.000	426128824	1000.0	1011.6	
1	10.274	10.274	0.000	661663111	1000.0	1022.5	
1	10.632	10.632	0.000	731111054	1000.0	1018.9	
1	11.436	11.436	0.000	741981102	1000.0	1030.5	
1	11.742	11.742	0.000	368441653	1000.0	1022.4	
2	11.239	11.239	0.000	56268370	1000.0	1033.8	
2	11.484	11.484	0.000	61011039	1000.0	1044.4	
2	11.881	11.881	0.000	82828884	1000.0	1032.3	
2	12.546	12.546	0.000	81836246	1000.0	1037.3	
2	12.911	12.911	0.000	54954594	1000.0	1051.3	
						RPD = 1.81	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	314841339	50.0	50.6	
2	14.123	14.123	0.000	35504030	50.0	49.4	
						RPD = 2.31	

Reagents:

1016/1260 Cal_00015	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

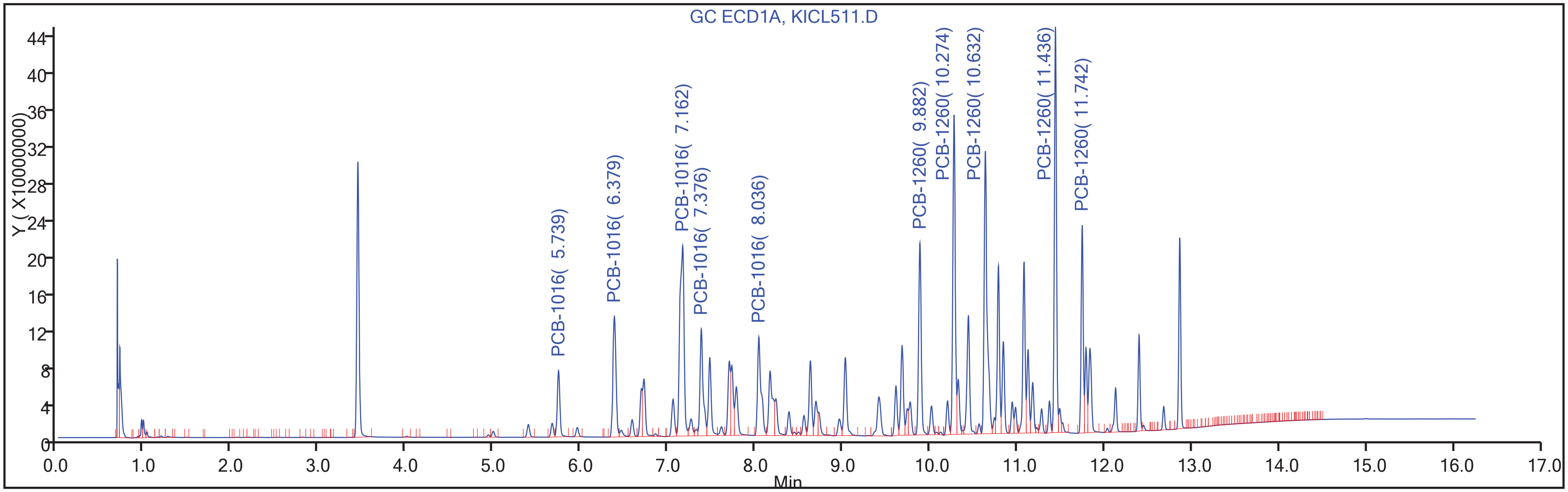
Report Date: 11-Sep-2017 09:17:14 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

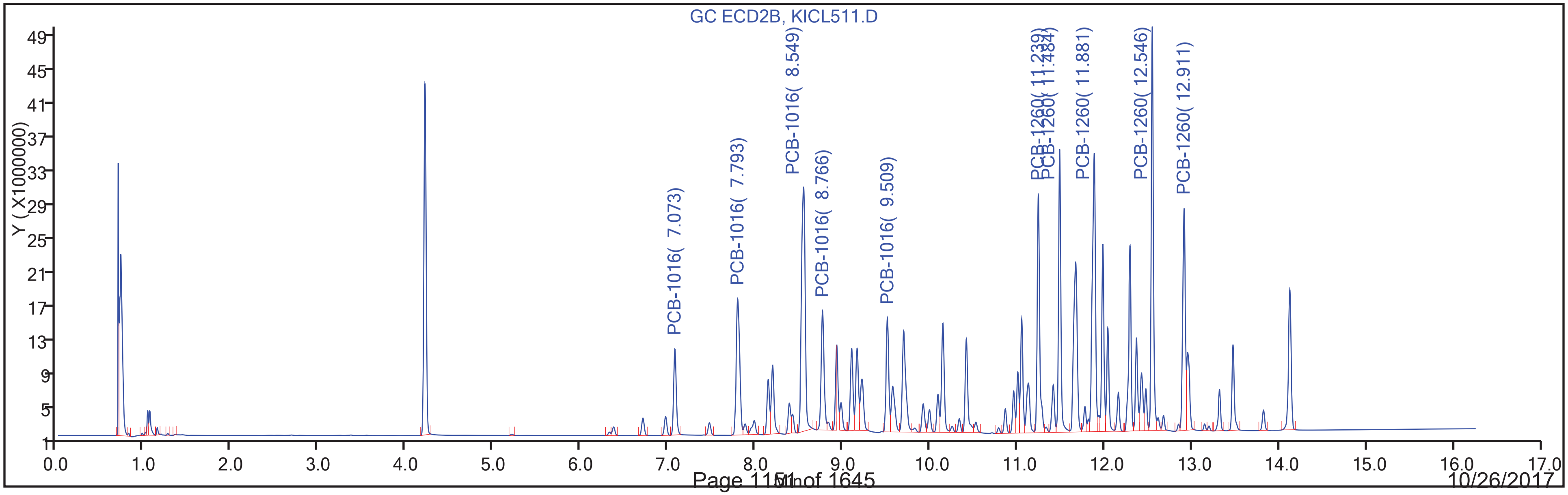
Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL511.D

Injection Date:	08-Sep-2017 12:36:09	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	ICIS			Worklist Smp#:	8
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:18 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL512.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Sep-2017 12:57:02 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-009
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:17 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.439	0.001	543646600	50.0	50.0	
2	4.209	4.208	0.001	76235743	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.738	5.739	-0.001	293988644	2000.0	1912.4	
1	6.378	6.379	-0.001	617310741	2000.0	1865.2	
1	7.162	7.162	0.000	1389619366	2000.0	1976.0	
1	7.375	7.376	-0.001	573915120	2000.0	1966.0	
1	8.035	8.036	-0.001	602927893	2000.0	1951.3	
2	7.072	7.073	-0.001	40771950	2000.0	1835.9	
2	7.794	7.793	0.001	86708420	2000.0	1845.4	
2	8.549	8.549	0.000	180623298	2000.0	2101.9	
2	8.765	8.766	-0.001	70241868	2000.0	2159.6	
2	9.509	9.509	0.000	56793574	2000.0	1979.2	
						RPD = 2.56	
11 PCB-1260							
1	9.882	9.882	0.000	858003656	2000.0	1973.3	
1	10.273	10.274	-0.001	1347350335	2000.0	2017.1	
1	10.632	10.632	0.000	1503733177	2000.0	2030.2	
1	11.437	11.436	0.001	1578680284	2000.0	2124.1	
1	11.743	11.742	0.001	762641644	2000.0	2050.2	
2	11.240	11.239	0.001	110195253	2000.0	1993.7	
2	11.484	11.484	0.000	119760365	2000.0	2018.7	
2	11.882	11.881	0.001	166261923	2000.0	2040.4	
2	12.545	12.546	-0.001	167123333	2000.0	2085.9	
2	12.912	12.911	0.001	111697959	2000.0	2104.1	
						RPD = 0.47	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.862	12.861	0.001	654251881	100.0	101.8	
2	14.124	14.123	0.001	71085860	100.0	97.4	
						RPD = 4.40	

Reagents:

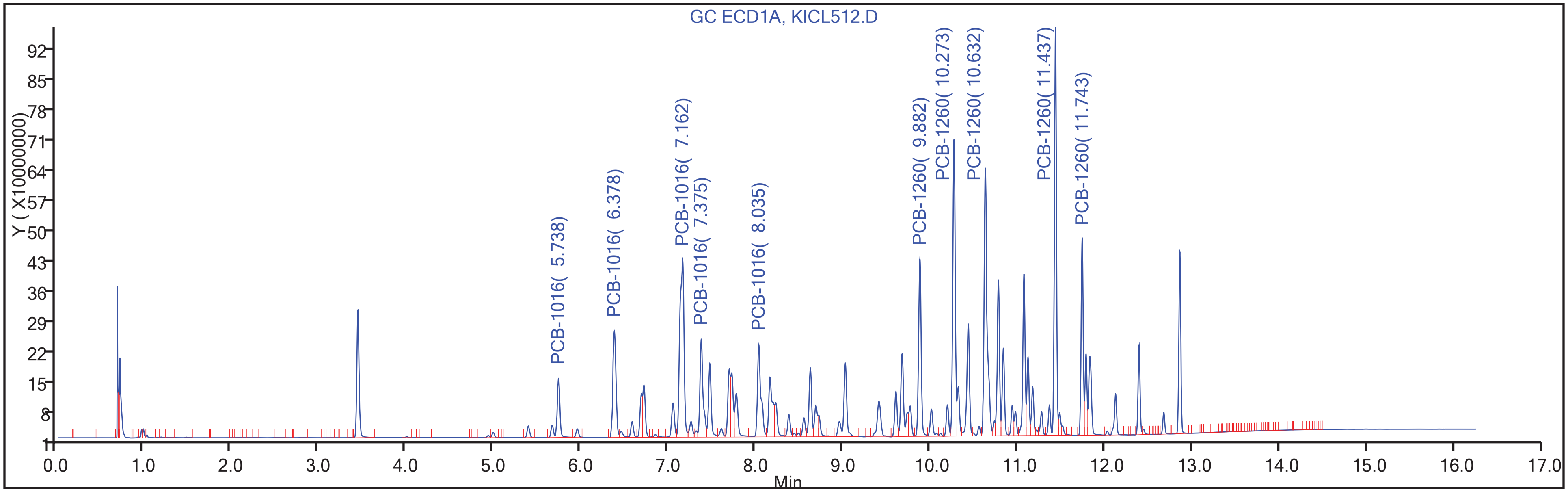
1016/1260 Cal_00015	Amount Added: 500.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:18
Chrom Revision: 2.2 16-Aug-2017 16:24:46

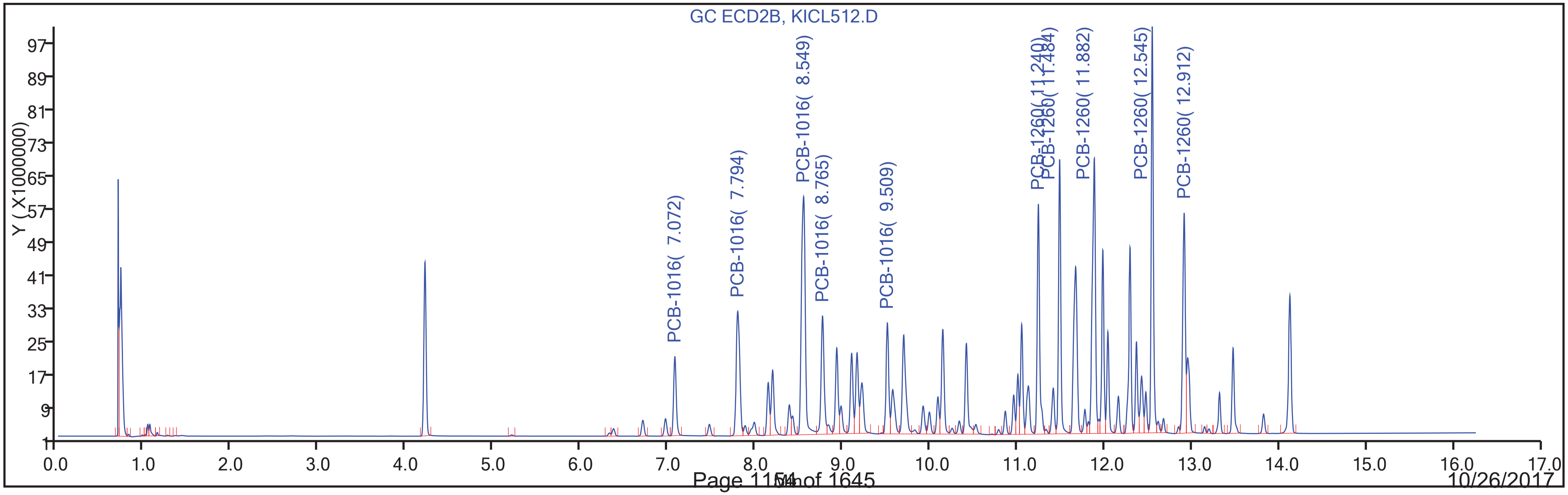
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL512.D
Injection Date: 08-Sep-2017 12:57:02
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 9
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 9
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL513.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	08-Sep-2017 13:17:56	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	160-0011372-010				
Operator ID:	DEK	Instrument ID:	SGCK		
Sublist:	chrom-8082A_IS_SGCK*sub5				
Method:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	11-Sep-2017 09:17:21	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK037				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.439	0.001	537388973	50.0	50.0	
2	4.208	4.208	0.000	75100509	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.740	5.739	0.001	574617499	4000.0	3781.3	
1	6.380	6.379	0.001	1208242932	4000.0	3693.2	
1	7.163	7.162	0.001	2847464640	4000.0	4096.2	
1	7.376	7.376	0.000	1150549758	4000.0	3987.1	
1	8.035	8.036	-0.001	1214011927	4000.0	3974.8	
2	7.073	7.073	0.000	78456229	4000.0	3586.1	
2	7.793	7.793	0.000	166038302	4000.0	3587.2	
2	8.548	8.549	-0.001	362408175	4000.0	4281.2	
2	8.765	8.766	-0.001	140319369	4000.0	4379.3	
2	9.508	9.509	-0.001	113659328	4000.0	4020.8	
						RPD = 1.63	
11 PCB-1260							
1	9.881	9.882	-0.001	1766968123	4000.0	4111.2	
1	10.273	10.274	-0.001	2891155816	4000.0	4378.7	
1	10.631	10.632	-0.001	3205217376	4000.0	4377.7	
1	11.438	11.436	0.002	3505308913	4000.0	4771.2	
1	11.743	11.742	0.001	1636016428	4000.0	4449.2	
2	11.240	11.239	0.001	222177145	4000.0	4080.4	
2	11.483	11.484	-0.001	243875259	4000.0	4172.9	
2	11.881	11.881	0.000	342975757	4000.0	4272.7	
2	12.545	12.546	-0.001	348314583	4000.0	4413.2	
2	12.911	12.911	0.000	232714734	4000.0	4450.0	
						RPD = 3.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	1330620853	200.0	209.4	
2	14.123	14.123	0.000	139247155	200.0	193.7	
					RPD =	7.81	

Reagents:

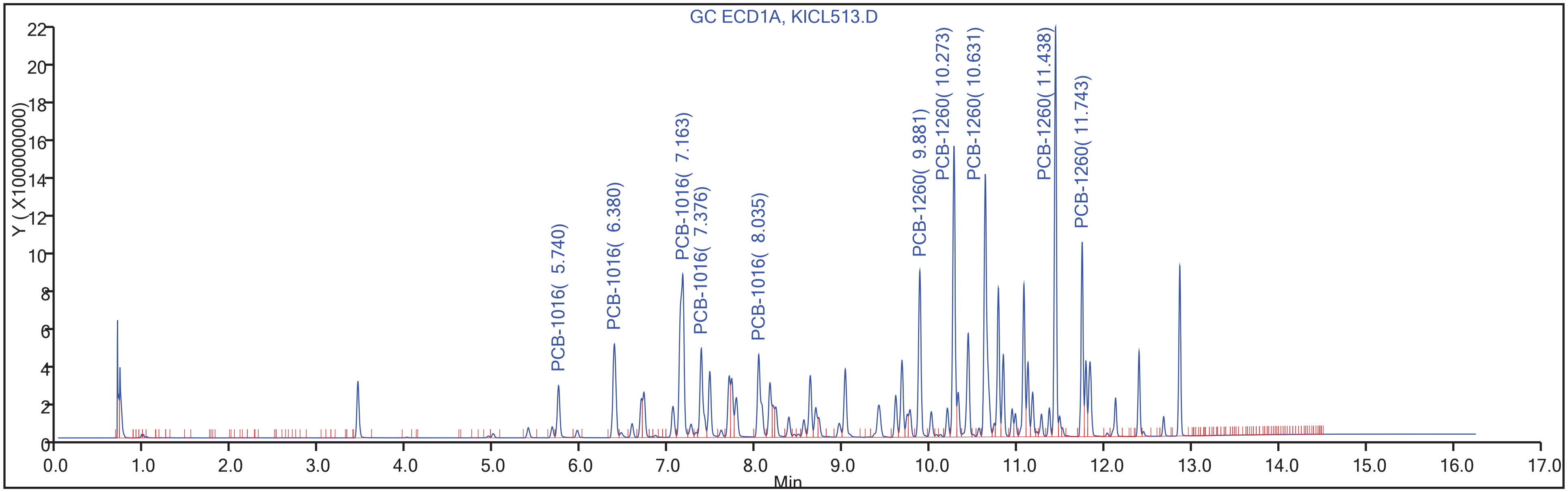
1016/1260 Cal_00015	Amount Added: 1000.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

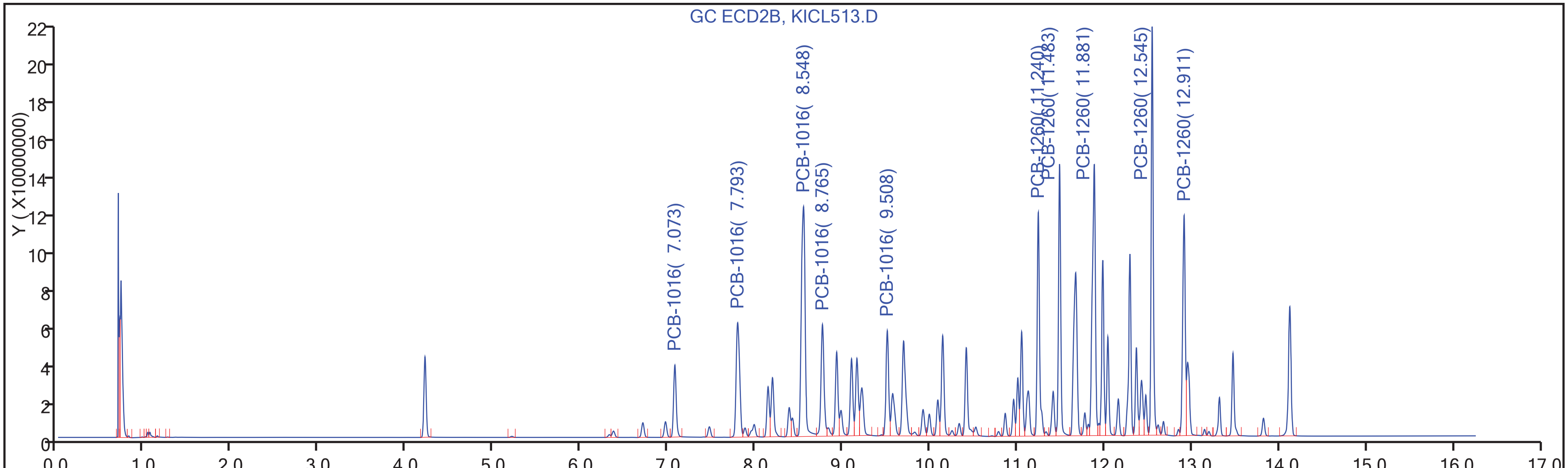
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL513.D				
Injection Date:	08-Sep-2017 13:17:56	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK   GC Column: RTXCLP1   ID: 0.53(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 13:59   Calibration End Date: 09/08/2017 16:05   Calibration ID: 13483

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/12	KICL515.D
Level 2	IC 160-326367/13	KICL516.D
Level 3	IC 160-326367/14	KICL517.D
Level 4	IC 160-326367/15	KICL518.D
Level 5	IC 160-326367/16	KICL519.D
Level 6	IC 160-326367/17	KICL520.D
Level 7	IC 160-326367/18	KICL521.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1221 Peak 1	0.0094 0.0082	0.0089 0.0081	0.0089	0.0088	0.0086	Ave		0.0087				5.3		20.0			
PCB-1221 Peak 2	0.0060 0.0051	0.0055 0.0049	0.0055	0.0055	0.0053	Ave		0.0054				6.6		20.0			
PCB-1221 Peak 3	0.0230 0.0191	0.0211 0.0188	0.0210	0.0210	0.0202	Ave		0.0206				6.9		20.0			
PCB-1254 Peak 1	0.0335 0.0286	0.0308 0.0287	0.0309	0.0304	0.0294	Ave		0.0303				5.5		20.0			
PCB-1254 Peak 2	0.0441 0.0388	0.0409 0.0393	0.0411	0.0401	0.0398	Ave		0.0406				4.3		20.0			
PCB-1254 Peak 3	0.0580 0.0540	0.0538 0.0559	0.0555	0.0549	0.0544	Ave		0.0552				2.6		20.0			
PCB-1254 Peak 4	0.0383 0.0386	0.0362 0.0397	0.0388	0.0384	0.0385	Ave		0.0384				2.8		20.0			
PCB-1254 Peak 5	0.0584 0.0524	0.0521 0.0538	0.0549	0.0532	0.0522	Ave		0.0538				4.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK   GC Column: RTXCLP1   ID: 0.53(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 13:59   Calibration End Date: 09/08/2017 16:05   Calibration ID: 13483

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/12	KICL515.D
Level 2	IC 160-326367/13	KICL516.D
Level 3	IC 160-326367/14	KICL517.D
Level 4	IC 160-326367/15	KICL518.D
Level 5	IC 160-326367/16	KICL519.D
Level 6	IC 160-326367/17	KICL520.D
Level 7	IC 160-326367/18	KICL521.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1221 Peak 1	BNB	Ave	5144787 185006175	9794567 362182548	19419721	47817923	95535827	50.4 2016	101 4032	202	504	1008
PCB-1221 Peak 2	BNB	Ave	3261398 113755100	6081886 219756506	12080400	29968654	59082998	50.4 2016	101 4032	202	504	1008
PCB-1221 Peak 3	BNB	Ave	12510708 428636706	23132400 842147409	45938223	113768480	223803244	50.4 2016	101 4032	202	504	1008
PCB-1254 Peak 1	BNB	Ave	18234270 642921660	33764404 1289012569	67700410	164914334	325072214	50.4 2016	101 4032	202	504	1008
PCB-1254 Peak 2	BNB	Ave	24014486 870046178	44836954 1762526198	90015356	217691372	440015606	50.4 2016	101 4032	202	504	1008
PCB-1254 Peak 3	BNB	Ave	31602613 1212545702	58945557 2510784056	121618824	297951772	602138535	50.4 2016	101 4032	202	504	1008
PCB-1254 Peak 4	BNB	Ave	20868716 865767040	39716342 1784308424	84964630	208436717	426235653	50.4 2016	101 4032	202	504	1008
PCB-1254 Peak 5	BNB	Ave	31789472 1176266646	57147358 2413048108	120206333	288374069	577639147	50.4 2016	101 4032	202	504	1008

Curve Type Legend:

Ave = Average ISTD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL515.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Sep-2017 13:59:49 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-012
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub7

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:30 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

First Level Reviewer: konopkad Date: 09-Sep-2017 00:26:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	540311225	50.0	50.0	
2	4.209	4.208	0.001	74877380	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.392	5.392	0.000	5144787	50.4	54.6	
1	5.667	5.667	0.000	3261398	50.4	55.8	
1	5.739	5.739	0.000	12510708	50.4	56.2	
2	6.705	6.705	0.000	814493	50.4	58.8	
2	6.965	6.965	0.000	516630	50.4	57.2	
2	7.072	7.074	-0.002	1924579	50.4	59.6	
						RPD = 5.24	
9 PCB-1254							
1	8.627	8.625	0.002	18234270	50.4	55.6	
1	9.027	9.027	0.000	24014486	50.4	54.8	
1	9.609	9.607	0.002	31602613	50.4	52.9	
1	10.015	10.012	0.003	20868716	50.4	50.3	
1	10.632	10.634	-0.002	31789472	50.4	54.6	
2	10.144	10.144	0.000	2733420	50.4	55.9	
2	10.414	10.414	0.000	2601559	50.4	52.4	
2	11.005	11.004	0.001	3663905	50.4	54.2	
2	11.279	11.279	0.000	2273409	50.4	50.8	
2	11.884	11.882	0.002	3435679	50.4	53.2	
						RPD = 0.68	

Reagents:

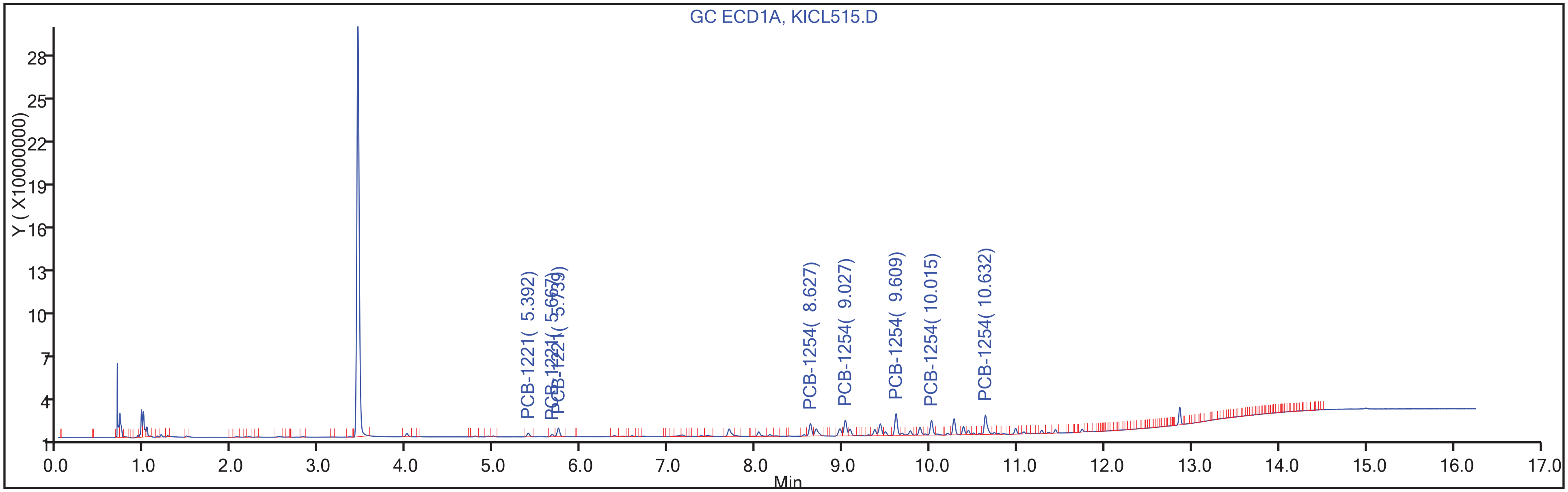
1221/1254 CAL_00005	Amount Added: 12.50	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

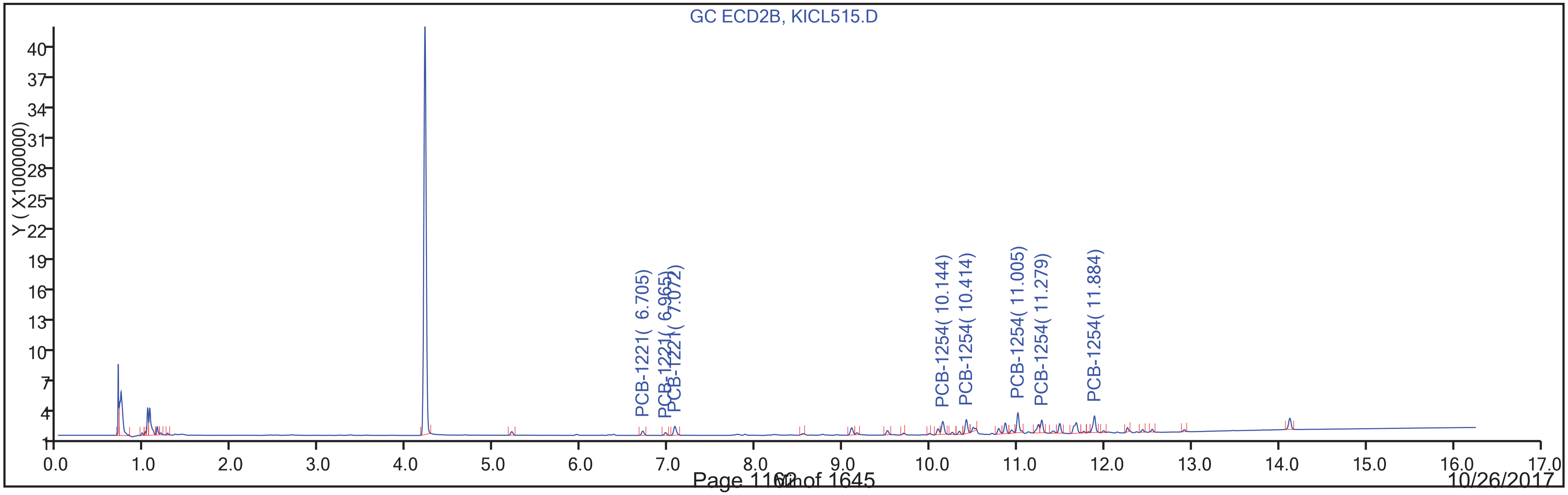
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL515.D
Injection Date: 08-Sep-2017 13:59:49 Instrument ID: SGCK Operator ID: DEK
Lims ID: IC Worklist Smp#: 12
Client ID:
Injection Vol: 2.0 ul Dil. Factor: 1.0000 ALS Bottle#: 12
Method: 8082A_IS_SGCK Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL516.D
Lims ID: IC
Client ID:
Sample Type: IC
Calib Level: 2
Inject. Date: 08-Sep-2017 14:20:43
ALS Bottle#: 13
Worklist Smp#: 13
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-013
Operator ID: DEK
Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub7

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:32
Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard
Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm)
Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm)
Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.438	3.439	-0.001	543941834	50.0	50.0	
2	4.208	4.208	0.000	75089322	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.392	5.392	0.000	9794567	100.8	103.3	
1	5.667	5.667	0.000	6081886	100.8	103.3	
1	5.738	5.739	-0.001	23132400	100.8	103.3	
2	6.705	6.705	0.000	1528424	100.8	110.0	
2	6.965	6.965	0.000	1035675	100.8	114.3	
2	7.073	7.074	-0.001	3557677	100.8	109.9	
						RPD = 7.56	
9 PCB-1254							
1	8.625	8.625	0.000	33764404	100.8	102.3	
1	9.027	9.027	0.000	44836954	100.8	101.6	
1	9.608	9.607	0.001	58945557	100.8	98.1	
1	10.013	10.012	0.001	39716342	100.8	95.1	
1	10.633	10.634	-0.001	57147358	100.8	97.6	
2	10.143	10.144	-0.001	5020790	100.8	102.4	
2	10.413	10.414	-0.001	4703790	100.8	94.4	
2	11.005	11.004	0.001	6709483	100.8	99.0	
2	11.278	11.279	-0.001	4178147	100.8	93.1	
2	11.882	11.882	0.000	6274341	100.8	96.8	
						RPD = 1.82	

Reagents:

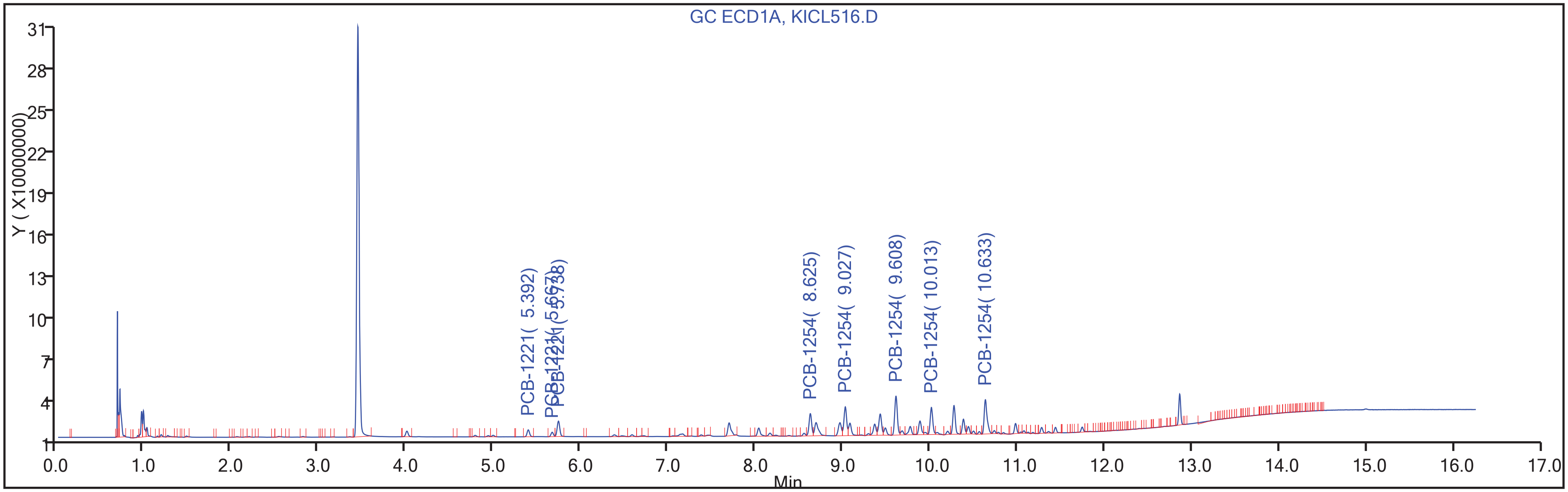
1221/1254 CAL_00005	Amount Added: 25.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

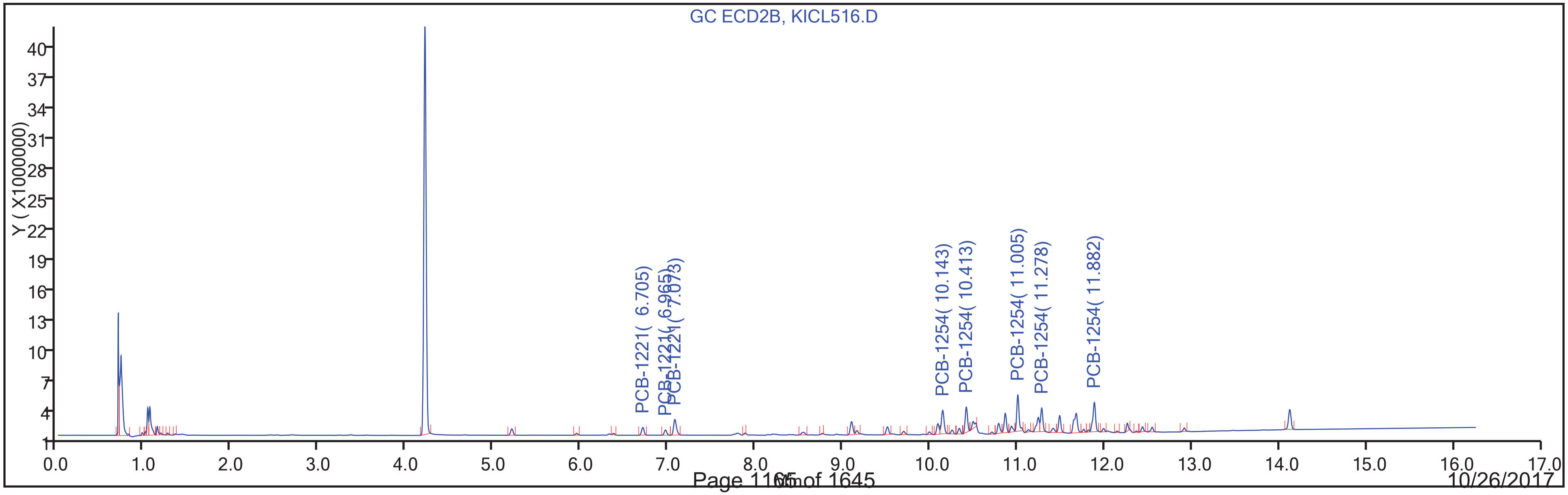
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL516.D
Injection Date: 08-Sep-2017 14:20:43
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 13
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 13
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL517.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Sep-2017 14:41:36 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-014
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub7

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:35 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	543130457	50.0	50.0	
2	4.207	4.208	-0.001	75645415	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.392	5.392	0.000	19419721	201.6	205.1	
1	5.665	5.667	-0.002	12080400	201.6	205.5	
1	5.737	5.739	-0.002	45938223	201.6	205.4	
2	6.704	6.705	-0.001	2986368	201.6	213.4	
2	6.966	6.965	0.001	1993077	201.6	218.4	
2	7.072	7.074	-0.002	6906392	201.6	211.8	
						RPD = 4.37	
9 PCB-1254							
1	8.625	8.625	0.000	67700410	201.6	205.5	
1	9.027	9.027	0.000	90015356	201.6	204.2	
1	9.607	9.607	0.000	121618824	201.6	202.7	
1	10.014	10.012	0.002	84964630	201.6	203.8	
1	10.632	10.634	-0.002	120206333	201.6	205.5	
2	10.144	10.144	0.000	10265542	201.6	207.8	
2	10.414	10.414	0.000	10520733	201.6	209.6	
2	11.006	11.004	0.002	12899583	201.6	189.0	
2	11.279	11.279	0.000	8891746	201.6	196.7	
2	11.882	11.882	0.000	13686165	201.6	209.6	
						RPD = 0.88	

Reagents:

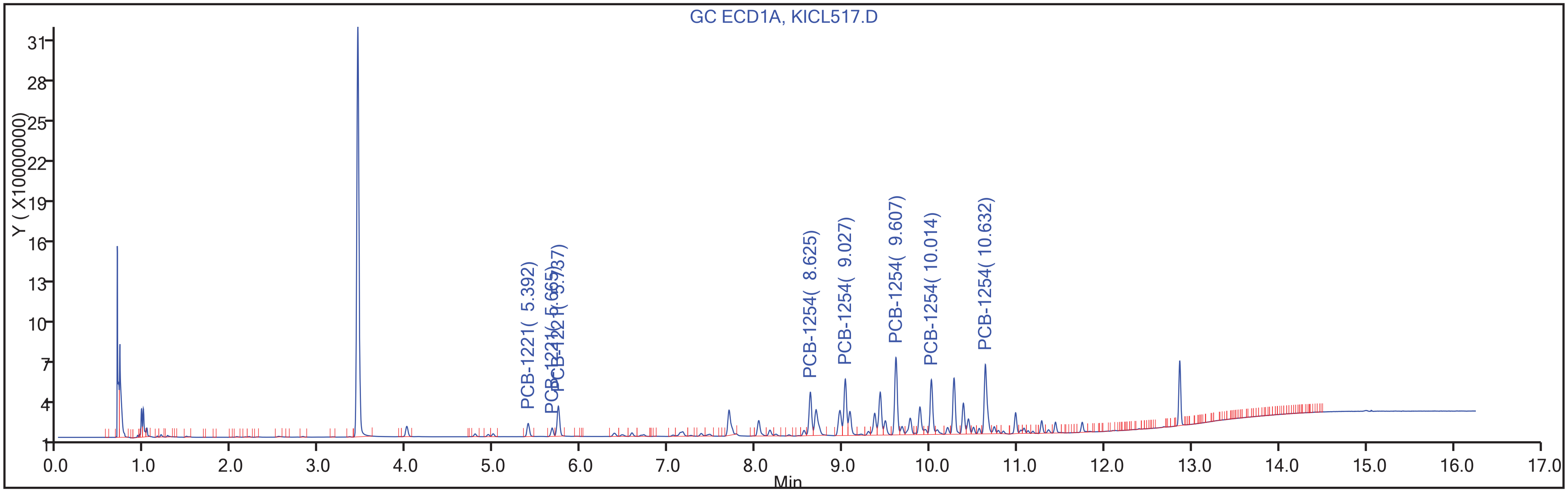
1221/1254 CAL_00005	Amount Added: 50.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:35
Chrom Revision: 2.2 16-Aug-2017 16:24:46

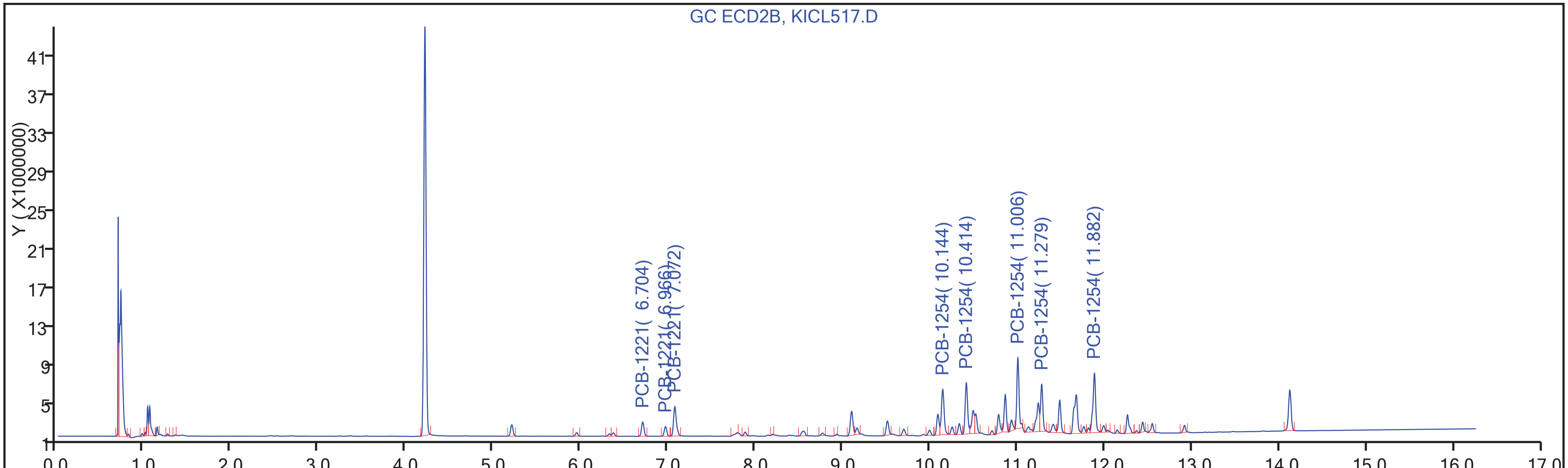
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL517.D
Injection Date: 08-Sep-2017 14:41:36
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 14
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 14
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL518.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Sep-2017 15:02:39 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-015
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub7

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:38 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.439	0.001	537947145	50.0	50.0	
2	4.208	4.208	0.000	74517871	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.393	5.392	0.001	47817923	504.0	509.9	
1	5.666	5.667	-0.001	29968654	504.0	514.7	
1	5.738	5.739	-0.001	113768480	504.0	513.7	
2	6.705	6.705	0.000	6955424	504.0	504.4	
2	6.967	6.965	0.002	4569955	504.0	508.2	
2	7.073	7.074	-0.001	16122678	504.0	502.0	
						RPD = 1.55	
9 PCB-1254							
1	8.626	8.625	0.001	164914334	504.0	505.3	
1	9.026	9.027	-0.001	217691372	504.0	498.7	
1	9.608	9.607	0.001	297951772	504.0	501.4	
1	10.013	10.012	0.001	208436717	504.0	504.9	
1	10.633	10.634	-0.001	288374069	504.0	497.8	
2	10.143	10.144	-0.001	24269883	504.0	498.7	
2	10.415	10.414	0.001	24973042	504.0	505.1	
2	11.005	11.004	0.001	31330370	504.0	466.0	
2	11.278	11.279	-0.001	21296653	504.0	478.2	
2	11.883	11.882	0.001	32832803	504.0	510.5	
						RPD = 1.99	

Reagents:

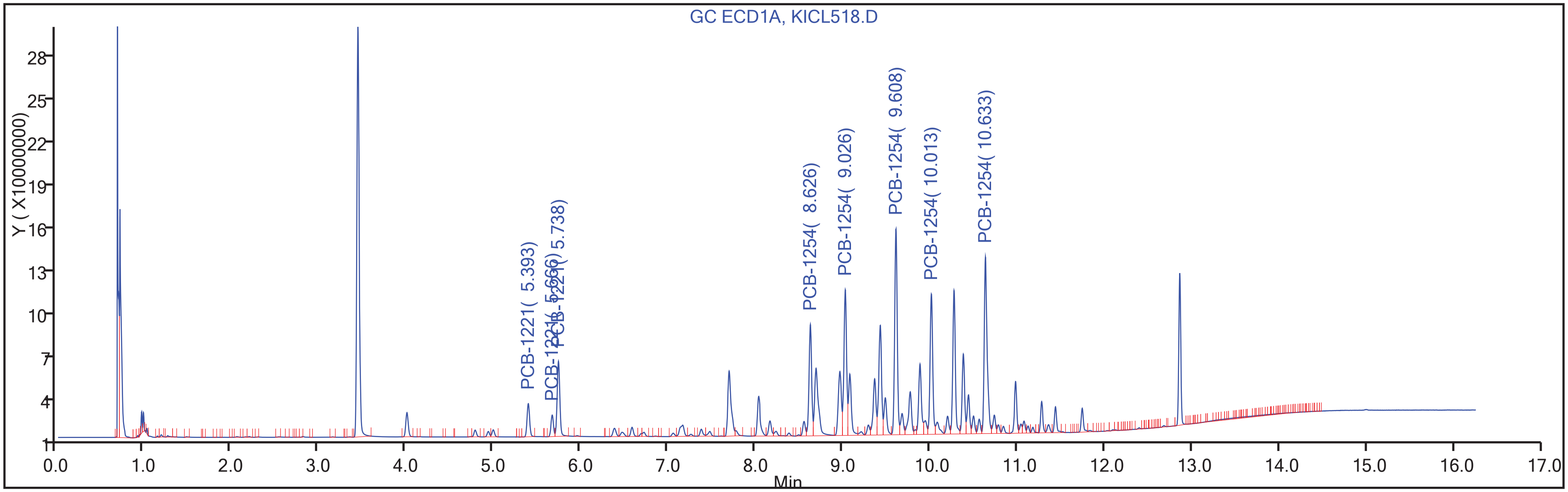
1221/1254 CAL_00005	Amount Added: 125.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:38
Chrom Revision: 2.2 16-Aug-2017 16:24:46

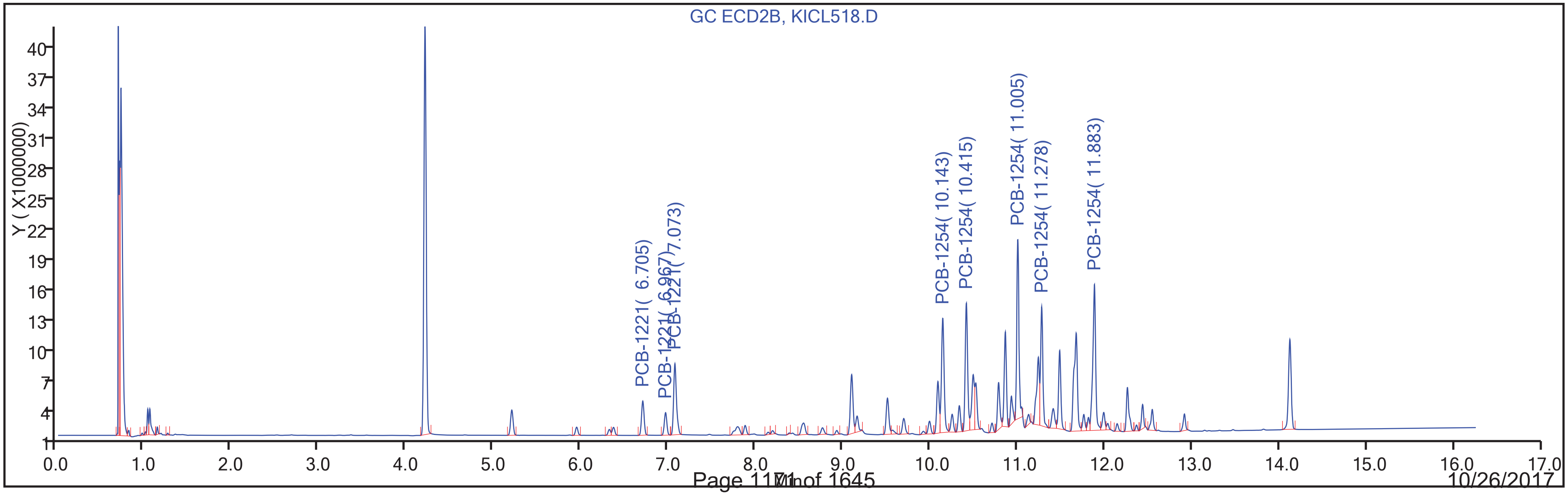
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL518.D
Injection Date: 08-Sep-2017 15:02:39
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 15
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 15
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:42   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL519.D
Lims ID: IC
Client ID:
Sample Type: IC   Calib Level: 5
Inject. Date: 08-Sep-2017 15:23:33   ALS Bottle#: 16   Worklist Smp#: 16
Injection Vol: 2.0 ul   Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-016
Operator ID: DEK   Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub7

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:41   Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard   Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm)   Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm)   Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.440	0.000	548943570	50.0	50.0	
2	4.209	4.209	0.000	76601594	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.392	5.392	0.000	95535827	1008.0	998.4	
1	5.667	5.667	0.000	59082998	1008.0	994.5	
1	5.739	5.739	0.000	223803244	1008.0	990.2	
2	6.705	6.705	0.000	13501989	1008.0	952.6	
2	6.965	6.965	0.000	8762969	1008.0	948.1	
2	7.074	7.074	0.000	31434624	1008.0	952.2	
						RPD = 4.47	
9 PCB-1254							
1	8.625	8.625	0.000	325072214	1008.0	976.1	
1	9.027	9.027	0.000	440015606	1008.0	987.8	
1	9.607	9.607	0.000	602138535	1008.0	993.0	
1	10.012	10.012	0.000	426235653	1008.0	1011.7	
1	10.634	10.634	0.000	577639147	1008.0	977.1	
2	10.144	10.144	0.000	49473050	1008.0	988.9	
2	10.414	10.414	0.000	51444038	1008.0	1012.2	
2	11.004	11.004	0.000	71796267	1008.0	1038.9	
2	11.279	11.279	0.000	48626149	1008.0	1062.2	
2	11.882	11.882	0.000	65019805	1008.0	983.6	
						RPD = 2.79	

Reagents:

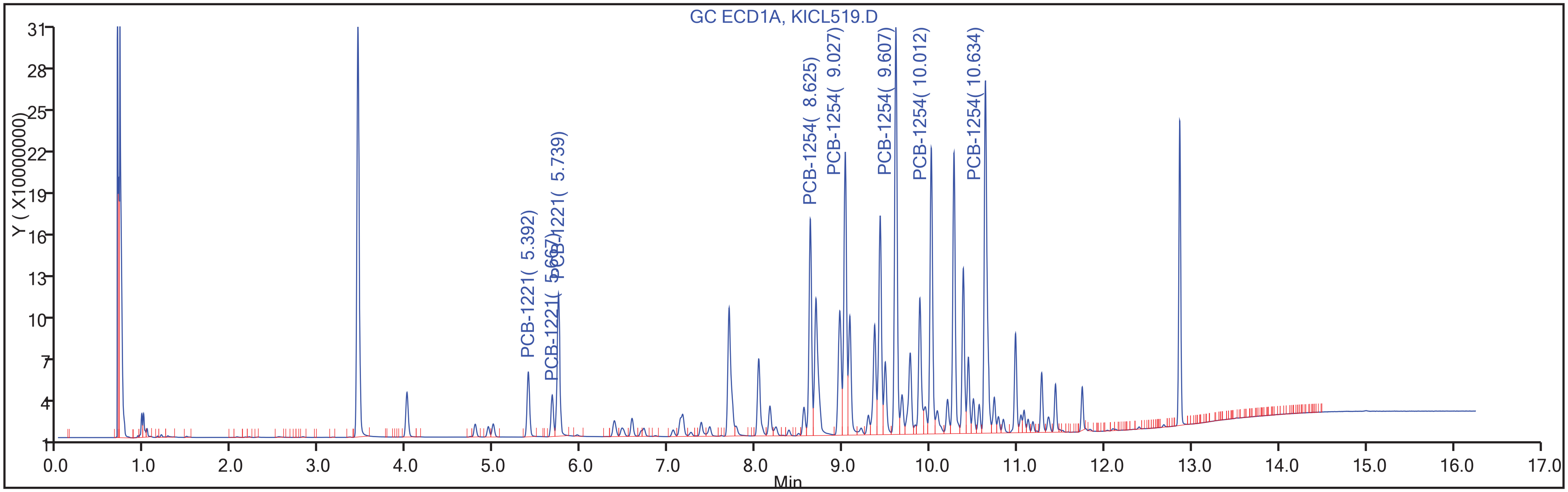
1221/1254 CAL_00005	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

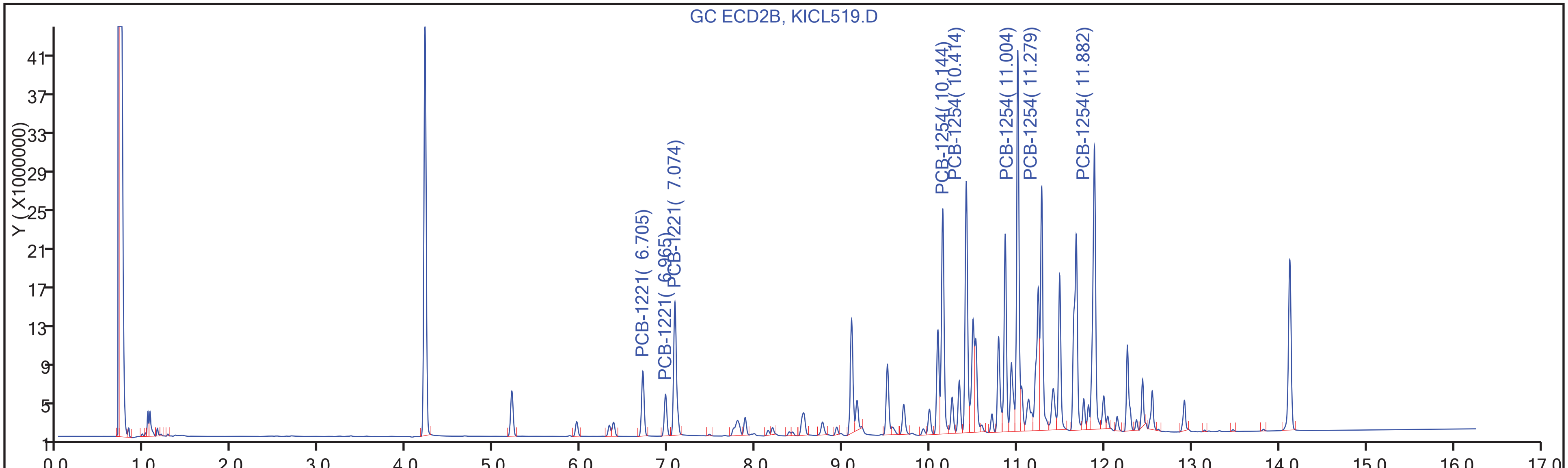
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL519.D
Injection Date: 08-Sep-2017 15:23:33
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 16
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 16
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



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Report Date: 11-Sep-2017 09:17:45                    Chrom Revision: 2.2  16-Aug-2017 16:24:46

                                      TestAmerica St. Louis
                                 Target Compound Quantitation Report

Data File:        \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL520.D
Lims ID:          IC
Client ID:
Sample Type:      IC                              Calib Level:      6
Inject. Date:     08-Sep-2017 15:44:28            ALS Bottle#:      17            Worklist Smp#:     17
Injection Vol:    2.0 ul                          Dil. Factor:      1.0000
Sample Info:      IC
Misc. Info.:      160-0011372-017
Operator ID:      DEK                             Instrument ID:    SGCK
Sublist:          chrom-8082A_IS_SGCK*sub7

Method:           \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group:      GC 8082A_ICAL_IS
Last Update:      11-Sep-2017 09:17:44            Calib Date:       08-Sep-2017 17:29:06
Integrator:       Falcon
Quant Method:     Internal Standard               Quant By:         Initial Calibration
Last ICal File:   \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 :        RTX-CLP Pesticides ( 0.53 mm)                     Det: GC ECD1A
Column 2 :        RTX-CLP Pesticides2 ( 0.53 mm)                    Det: GC ECD2B
Process Host:     XAWRK037

       RT       Exp RT   Dlt RT                   Cal Amt    OnCol Amt
Col   (min.)    (min.)   (min.)     Response       ng/ml       ng/ml     Flags

*  2 1-Bromo-2-nitrobenzene
  1    3.438     3.440   -0.002    556574934      50.0        50.0
  2    4.208     4.209   -0.001     77331746      50.0        50.0
                                                         RPD =   0.00
   3 PCB-1221
  1    5.393     5.392    0.001    185006175    2016.0      1906.9
  1    5.666     5.667   -0.001    113755100    2016.0      1888.4
  1    5.738     5.739   -0.001    428636706    2016.0      1870.5
  2    6.706     6.705    0.001     25469853    2016.0      1779.9
  2    6.966     6.965    0.001     16408856    2016.0      1758.5
  2    7.073     7.074   -0.001     59509704    2016.0      1785.6
                                                         RPD =   6.22
   9 PCB-1254
  1    8.626     8.625    0.001    642921660    2016.0      1904.1
  1    9.026     9.027   -0.001    870046178    2016.0      1926.3
  1    9.608     9.607    0.001   1212545702    2016.0      1972.2
  1   10.013    10.012    0.001    865767040    2016.0      2026.8
  1   10.634    10.634    0.000   1176266646    2016.0      1962.5
  2   10.145    10.144    0.001     95887864    2016.0      1898.7
  2   10.415    10.414    0.001    101813854    2016.0      1984.3
  2   11.005    11.004    0.001    142996938    2016.0      2049.7
  2   11.278    11.279   -0.001     96454432    2016.0      2087.1
  2   11.883    11.882    0.001    130457806    2016.0      1954.8
                                                         RPD =   1.85
```

Reagents:

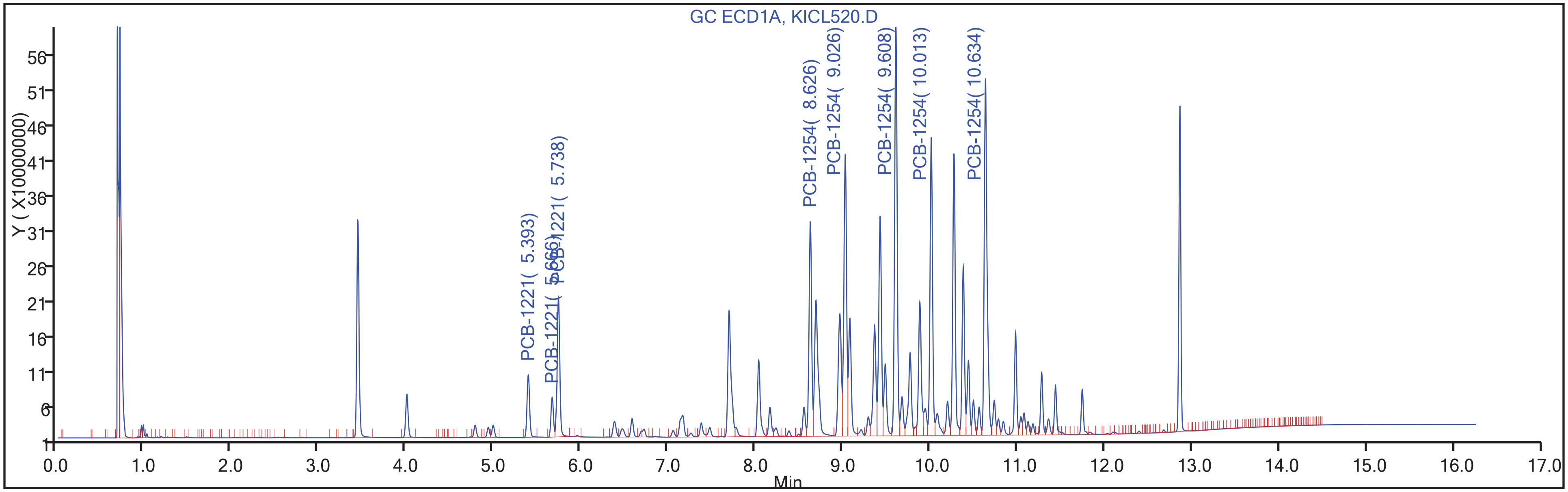
1221/1254 CAL_00005	Amount Added: 500.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:45
Chrom Revision: 2.2 16-Aug-2017 16:24:46

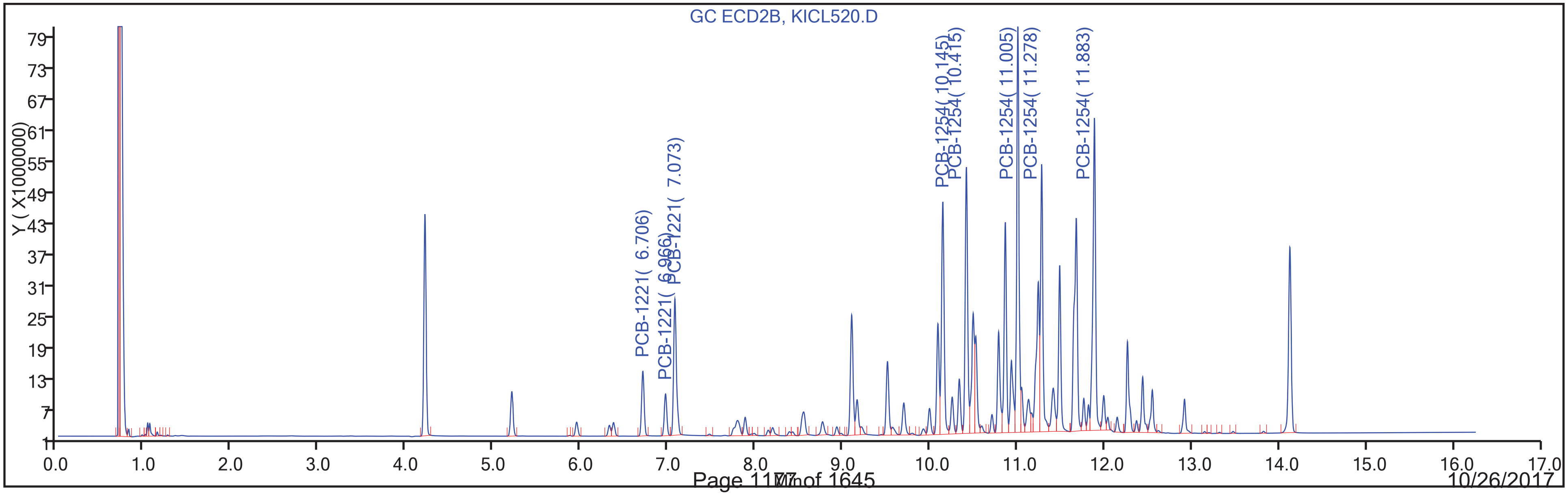
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL520.D				
Injection Date:	08-Sep-2017 15:44:28	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	17
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL521.D
Lims ID: IC
Client ID:
Sample Type: IC
Calib Level: 7
Inject. Date: 08-Sep-2017 16:05:28
ALS Bottle#: 18
Worklist Smp#: 18
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-018
Operator ID: DEK
Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub7

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:47
Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard
Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.441	3.440	0.001	556713545	50.0	50.0	
2	4.209	4.209	0.000	76880300	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.394	5.392	0.002	362182548	4032.0	3732.3	
1	5.667	5.667	0.000	219756506	4032.0	3647.2	
1	5.739	5.739	0.000	842147409	4032.0	3674.0	
2	6.706	6.705	0.001	49059476	4032.0	3448.6	
2	6.966	6.965	0.001	30937959	4032.0	3335.0	
2	7.074	7.074	0.000	113403953	4032.0	3422.6	
						RPD = 7.97	
9 PCB-1254							
1	8.626	8.625	0.001	1289012569	4032.0	3816.6	
1	9.027	9.027	0.000	1762526198	4032.0	3901.4	
1	9.607	9.607	0.000	2510784056	4032.0	4082.7	
1	10.012	10.012	0.000	1784308424	4032.0	4176.2	
1	10.634	10.634	0.000	2413048108	4032.0	4024.9	
2	10.144	10.144	0.000	188686400	4032.0	3758.1	
2	10.414	10.414	0.000	204426471	4032.0	4007.6	
2	11.006	11.004	0.002	288504715	4032.0	4159.6	
2	11.277	11.279	-0.002	195398741	4032.0	4252.9	
2	11.882	11.882	0.000	263828481	4032.0	3976.5	
						RPD = 0.76	

Reagents:

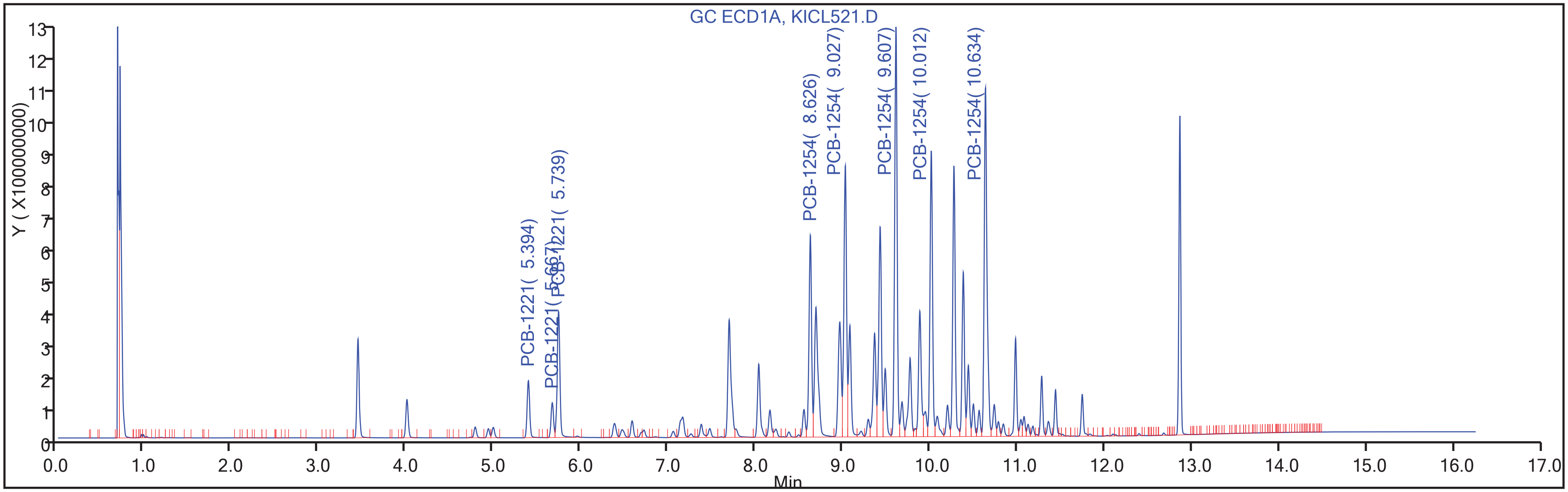
1221/1254 CAL_00005	Amount Added: 1000.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

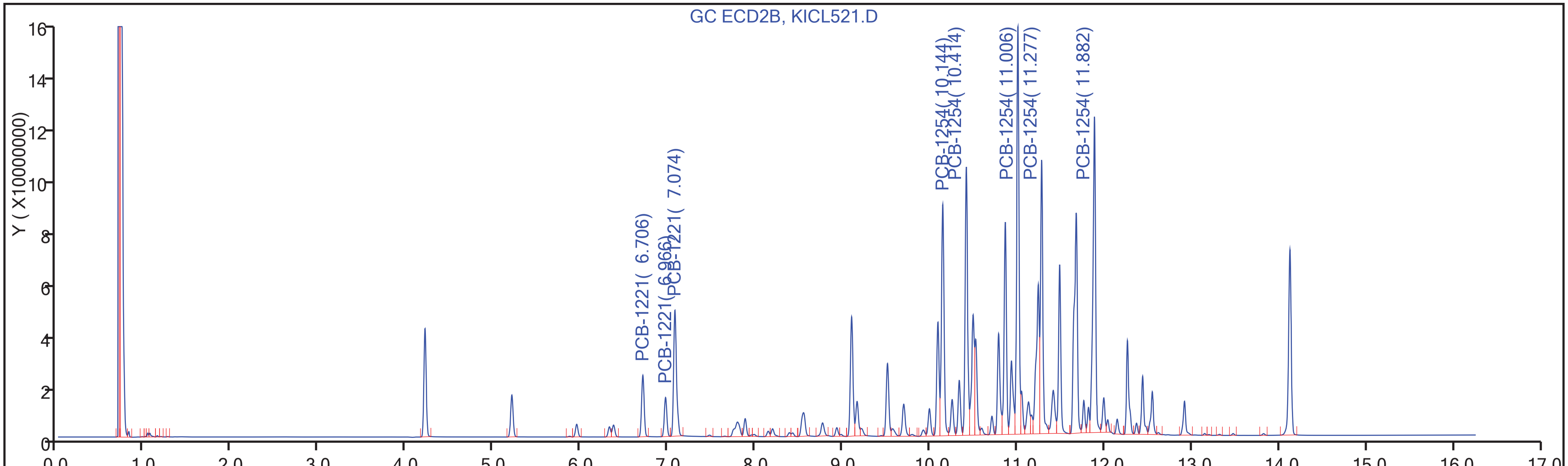
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL521.D
Injection Date: 08-Sep-2017 16:05:28
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 18
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 18
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK   GC Column: RTXCLP2   ID: 0.53(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 13:59   Calibration End Date: 09/08/2017 16:05   Calibration ID: 13484

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/12	KICL515.D
Level 2	IC 160-326367/13	KICL516.D
Level 3	IC 160-326367/14	KICL517.D
Level 4	IC 160-326367/15	KICL518.D
Level 5	IC 160-326367/16	KICL519.D
Level 6	IC 160-326367/17	KICL520.D
Level 7	IC 160-326367/18	KICL521.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1221 Peak 1	0.0108 0.0082	0.0101 0.0079	0.0098	0.0093	0.0087	Ave		0.0093				11.3		20.0			
PCB-1221 Peak 2	0.0068 0.0053	0.0068 0.0050	0.0065	0.0061	0.0057	Ave		0.0060				12.4		20.0			
PCB-1221 Peak 3	0.0255 0.0191	0.0235 0.0183	0.0226	0.0215	0.0204	Ave		0.0215				11.8		20.0			
PCB-1254 Peak 1	0.0362 0.0308	0.0332 0.0304	0.0337	0.0323	0.0320	Ave		0.0327				6.0		20.0			
PCB-1254 Peak 2	0.0345 0.0327	0.0311 0.0330	0.0345	0.0332	0.0333	Ave		0.0332				3.5		20.0			
PCB-1254 Peak 3	0.0485 0.0459	0.0443 0.0465	0.0423	0.0417	0.0465	Ave		0.0451				5.5		20.0			
PCB-1254 Peak 4	0.0301 0.0309	0.0276 0.0315	0.0292	0.0284	0.0315	Ave		0.0299				5.2		20.0			
PCB-1254 Peak 5	0.0455 0.0418	0.0414 0.0426	0.0449	0.0437	0.0421	Ave		0.0431				3.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK   GC Column: RTXCLP2   ID: 0.53(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 13:59   Calibration End Date: 09/08/2017 16:05   Calibration ID: 13484

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/12	KICL515.D
Level 2	IC 160-326367/13	KICL516.D
Level 3	IC 160-326367/14	KICL517.D
Level 4	IC 160-326367/15	KICL518.D
Level 5	IC 160-326367/16	KICL519.D
Level 6	IC 160-326367/17	KICL520.D
Level 7	IC 160-326367/18	KICL521.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1221 Peak 1	BNB	Ave	814493 25469853	1528424 49059476	2986368	6955424	13501989	50.4 2016	101 4032	202	504	1008
PCB-1221 Peak 2	BNB	Ave	516630 16408856	1035675 30937959	1993077	4569955	8762969	50.4 2016	101 4032	202	504	1008
PCB-1221 Peak 3	BNB	Ave	1924579 59509704	3557677 113403953	6906392	16122678	31434624	50.4 2016	101 4032	202	504	1008
PCB-1254 Peak 1	BNB	Ave	2733420 95887864	5020790 188686400	10265542	24269883	49473050	50.4 2016	101 4032	202	504	1008
PCB-1254 Peak 2	BNB	Ave	2601559 101813854	4703790 204426471	10520733	24973042	51444038	50.4 2016	101 4032	202	504	1008
PCB-1254 Peak 3	BNB	Ave	3663905 142996938	6709483 288504715	12899583	31330370	71796267	50.4 2016	101 4032	202	504	1008
PCB-1254 Peak 4	BNB	Ave	2273409 96454432	4178147 195398741	8891746	21296653	48626149	50.4 2016	101 4032	202	504	1008
PCB-1254 Peak 5	BNB	Ave	3435679 130457806	6274341 263828481	13686165	32832803	65019805	50.4 2016	101 4032	202	504	1008

Curve Type Legend:

Ave = Average ISTD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL515.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Sep-2017 13:59:49 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-012
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub7

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:30 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

First Level Reviewer: konopkad Date: 09-Sep-2017 00:26:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	540311225	50.0	50.0	
2	4.209	4.208	0.001	74877380	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.392	5.392	0.000	5144787	50.4	54.6	
1	5.667	5.667	0.000	3261398	50.4	55.8	
1	5.739	5.739	0.000	12510708	50.4	56.2	
2	6.705	6.705	0.000	814493	50.4	58.8	
2	6.965	6.965	0.000	516630	50.4	57.2	
2	7.072	7.074	-0.002	1924579	50.4	59.6	
						RPD = 5.24	
9 PCB-1254							
1	8.627	8.625	0.002	18234270	50.4	55.6	
1	9.027	9.027	0.000	24014486	50.4	54.8	
1	9.609	9.607	0.002	31602613	50.4	52.9	
1	10.015	10.012	0.003	20868716	50.4	50.3	
1	10.632	10.634	-0.002	31789472	50.4	54.6	
2	10.144	10.144	0.000	2733420	50.4	55.9	
2	10.414	10.414	0.000	2601559	50.4	52.4	
2	11.005	11.004	0.001	3663905	50.4	54.2	
2	11.279	11.279	0.000	2273409	50.4	50.8	
2	11.884	11.882	0.002	3435679	50.4	53.2	
						RPD = 0.68	

Reagents:

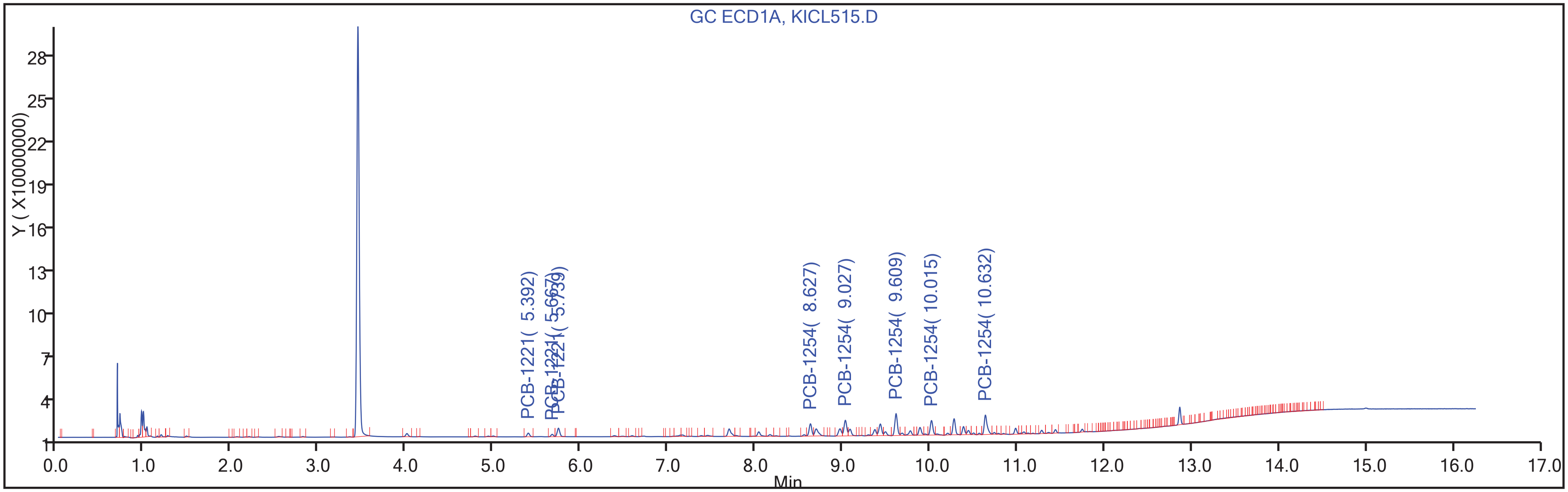
1221/1254 CAL_00005	Amount Added: 12.50	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

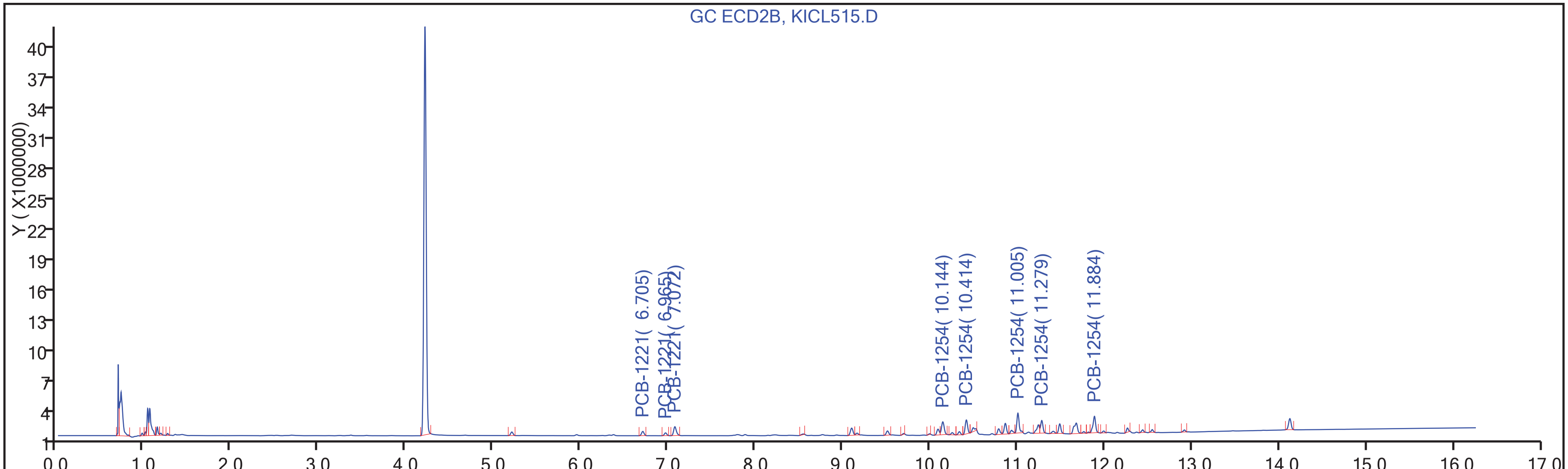
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL515.D
Injection Date: 08-Sep-2017 13:59:49
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 12
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 12
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL516.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	08-Sep-2017 14:20:43	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	160-0011372-013				
Operator ID:	DEK	Instrument ID:	SGCK		
Sublist:	chrom-8082A_IS_SGCK*sub7				
Method:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	11-Sep-2017 09:17:32	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK037				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.438	3.439	-0.001	543941834	50.0	50.0	
2	4.208	4.208	0.000	75089322	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.392	5.392	0.000	9794567	100.8	103.3	
1	5.667	5.667	0.000	6081886	100.8	103.3	
1	5.738	5.739	-0.001	23132400	100.8	103.3	
2	6.705	6.705	0.000	1528424	100.8	110.0	
2	6.965	6.965	0.000	1035675	100.8	114.3	
2	7.073	7.074	-0.001	3557677	100.8	109.9	
						RPD = 7.56	
9 PCB-1254							
1	8.625	8.625	0.000	33764404	100.8	102.3	
1	9.027	9.027	0.000	44836954	100.8	101.6	
1	9.608	9.607	0.001	58945557	100.8	98.1	
1	10.013	10.012	0.001	39716342	100.8	95.1	
1	10.633	10.634	-0.001	57147358	100.8	97.6	
2	10.143	10.144	-0.001	5020790	100.8	102.4	
2	10.413	10.414	-0.001	4703790	100.8	94.4	
2	11.005	11.004	0.001	6709483	100.8	99.0	
2	11.278	11.279	-0.001	4178147	100.8	93.1	
2	11.882	11.882	0.000	6274341	100.8	96.8	
						RPD = 1.82	

Reagents:

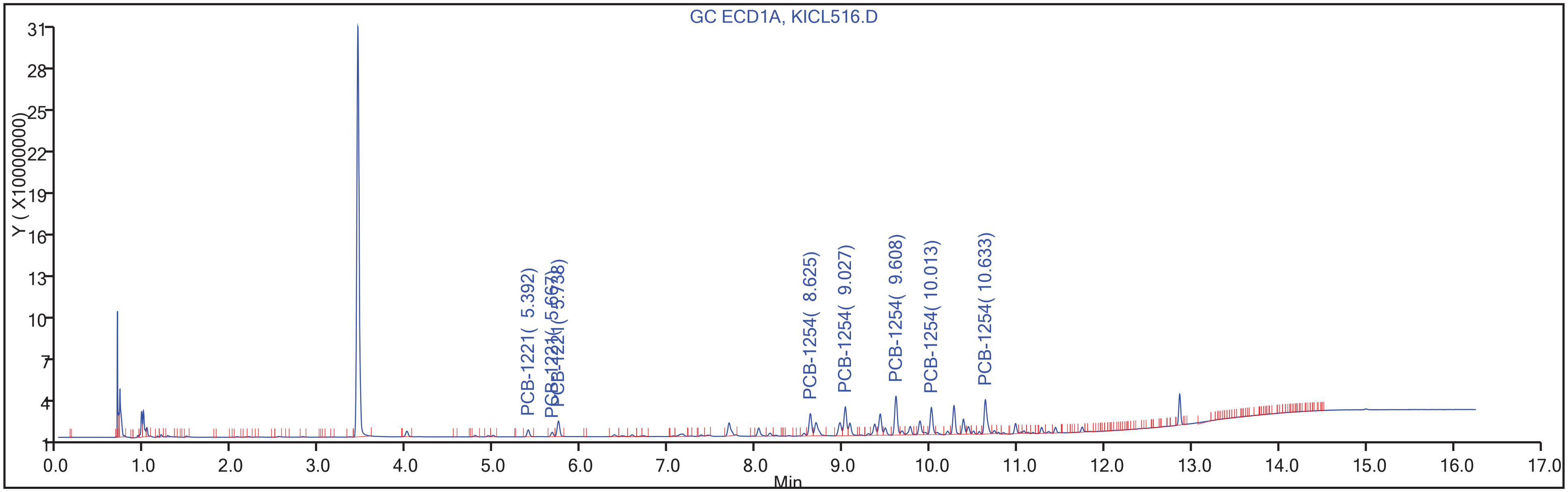
1221/1254 CAL_00005	Amount Added: 25.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

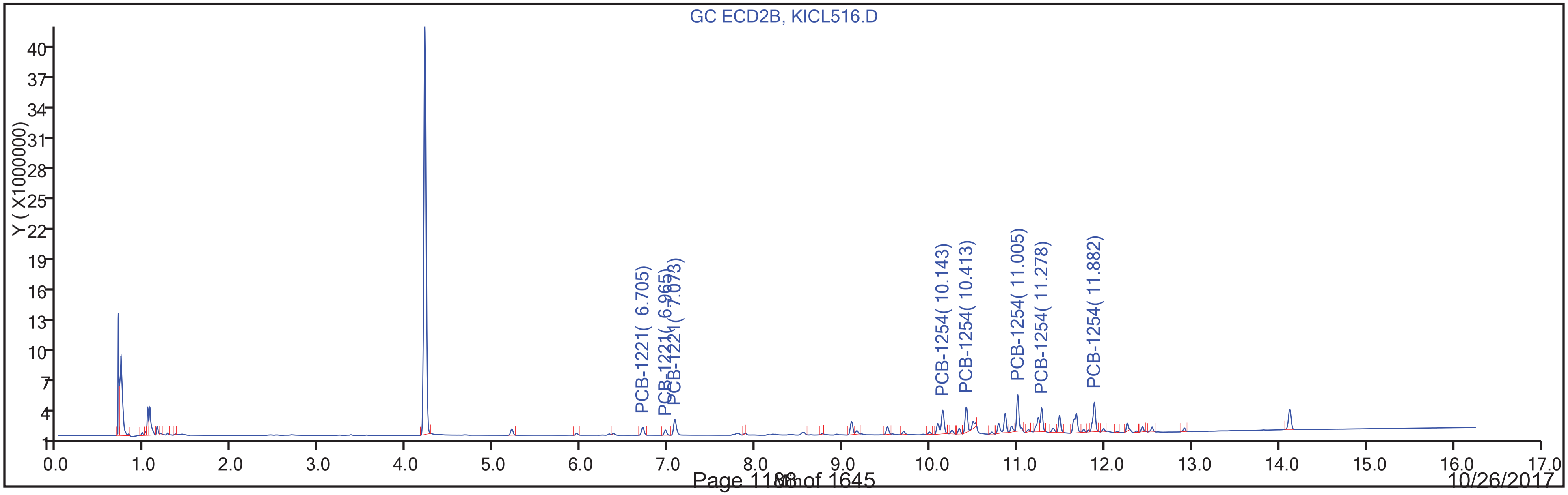
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL516.D				
Injection Date:	08-Sep-2017 14:20:43	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	13
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL517.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Sep-2017 14:41:36 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-014
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub7

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:35 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	543130457	50.0	50.0	
2	4.207	4.208	-0.001	75645415	50.0	50.0	
						RPD =	0.00
3 PCB-1221							
1	5.392	5.392	0.000	19419721	201.6	205.1	
1	5.665	5.667	-0.002	12080400	201.6	205.5	
1	5.737	5.739	-0.002	45938223	201.6	205.4	
2	6.704	6.705	-0.001	2986368	201.6	213.4	
2	6.966	6.965	0.001	1993077	201.6	218.4	
2	7.072	7.074	-0.002	6906392	201.6	211.8	
						RPD =	4.37
9 PCB-1254							
1	8.625	8.625	0.000	67700410	201.6	205.5	
1	9.027	9.027	0.000	90015356	201.6	204.2	
1	9.607	9.607	0.000	121618824	201.6	202.7	
1	10.014	10.012	0.002	84964630	201.6	203.8	
1	10.632	10.634	-0.002	120206333	201.6	205.5	
2	10.144	10.144	0.000	10265542	201.6	207.8	
2	10.414	10.414	0.000	10520733	201.6	209.6	
2	11.006	11.004	0.002	12899583	201.6	189.0	
2	11.279	11.279	0.000	8891746	201.6	196.7	
2	11.882	11.882	0.000	13686165	201.6	209.6	
						RPD =	0.88

Reagents:

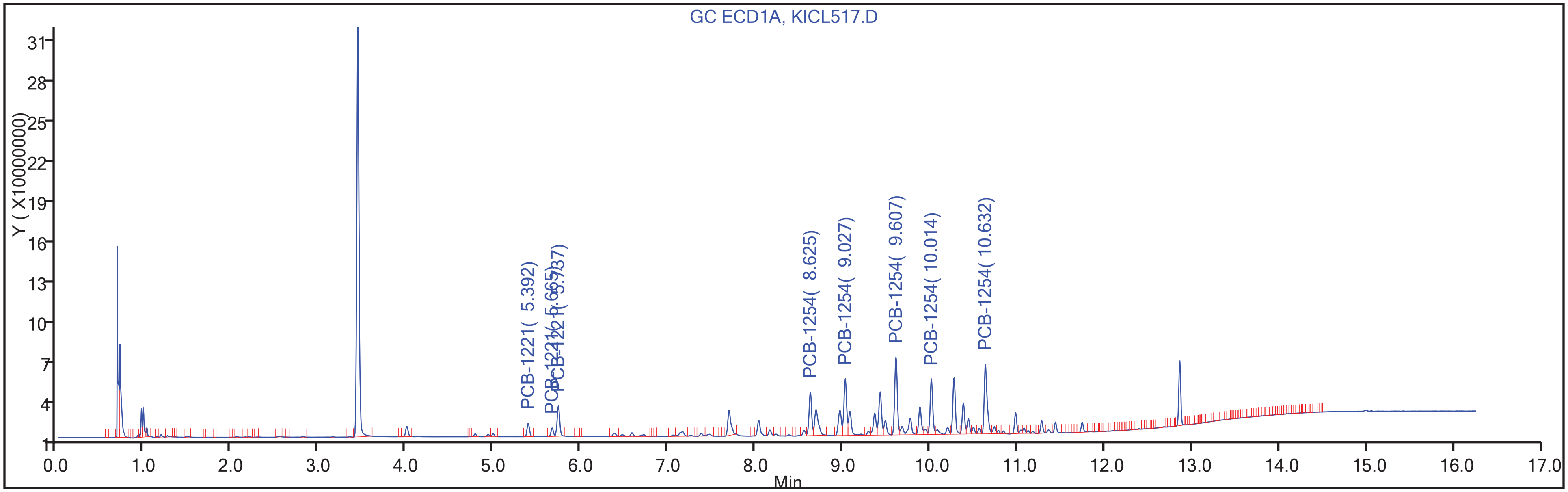
1221/1254 CAL_00005	Amount Added: 50.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

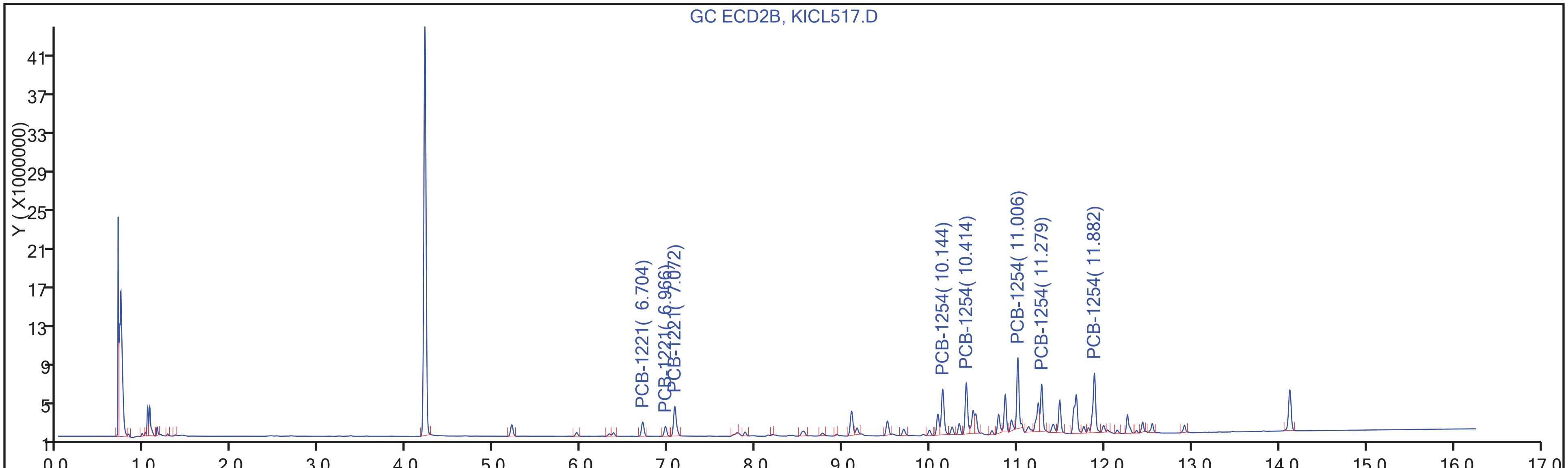
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL517.D				
Injection Date:	08-Sep-2017 14:41:36	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	14
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:39 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL518.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	08-Sep-2017 15:02:39	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	160-0011372-015				
Operator ID:	DEK	Instrument ID:	SGCK		
Sublist:	chrom-8082A_IS_SGCK*sub7				
Method:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	11-Sep-2017 09:17:38	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK037				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.439	0.001	537947145	50.0	50.0	
2	4.208	4.208	0.000	74517871	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.393	5.392	0.001	47817923	504.0	509.9	
1	5.666	5.667	-0.001	29968654	504.0	514.7	
1	5.738	5.739	-0.001	113768480	504.0	513.7	
2	6.705	6.705	0.000	6955424	504.0	504.4	
2	6.967	6.965	0.002	4569955	504.0	508.2	
2	7.073	7.074	-0.001	16122678	504.0	502.0	
						RPD = 1.55	
9 PCB-1254							
1	8.626	8.625	0.001	164914334	504.0	505.3	
1	9.026	9.027	-0.001	217691372	504.0	498.7	
1	9.608	9.607	0.001	297951772	504.0	501.4	
1	10.013	10.012	0.001	208436717	504.0	504.9	
1	10.633	10.634	-0.001	288374069	504.0	497.8	
2	10.143	10.144	-0.001	24269883	504.0	498.7	
2	10.415	10.414	0.001	24973042	504.0	505.1	
2	11.005	11.004	0.001	31330370	504.0	466.0	
2	11.278	11.279	-0.001	21296653	504.0	478.2	
2	11.883	11.882	0.001	32832803	504.0	510.5	
						RPD = 1.99	

Reagents:

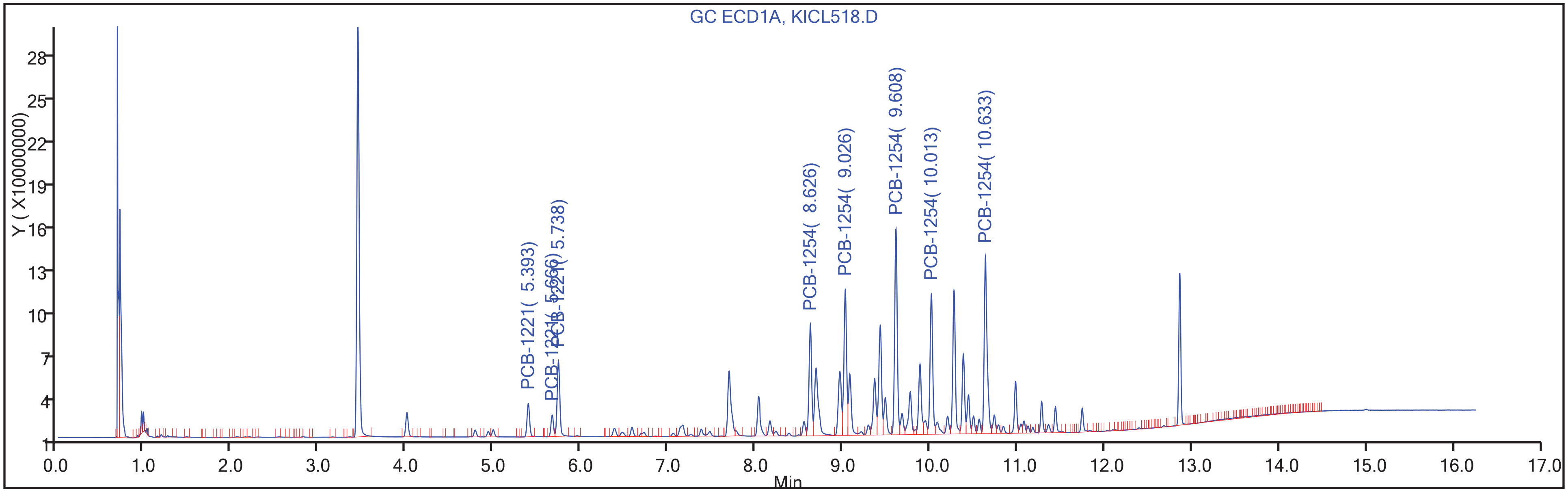
1221/1254 CAL_00005 Amount Added: 125.00 Units: uL
8082_IS_1ppm_00012 Amount Added: 50.00 Units: uL

Report Date: 11-Sep-2017 09:17:39 Chrom Revision: 2.2 16-Aug-2017 16:24:46

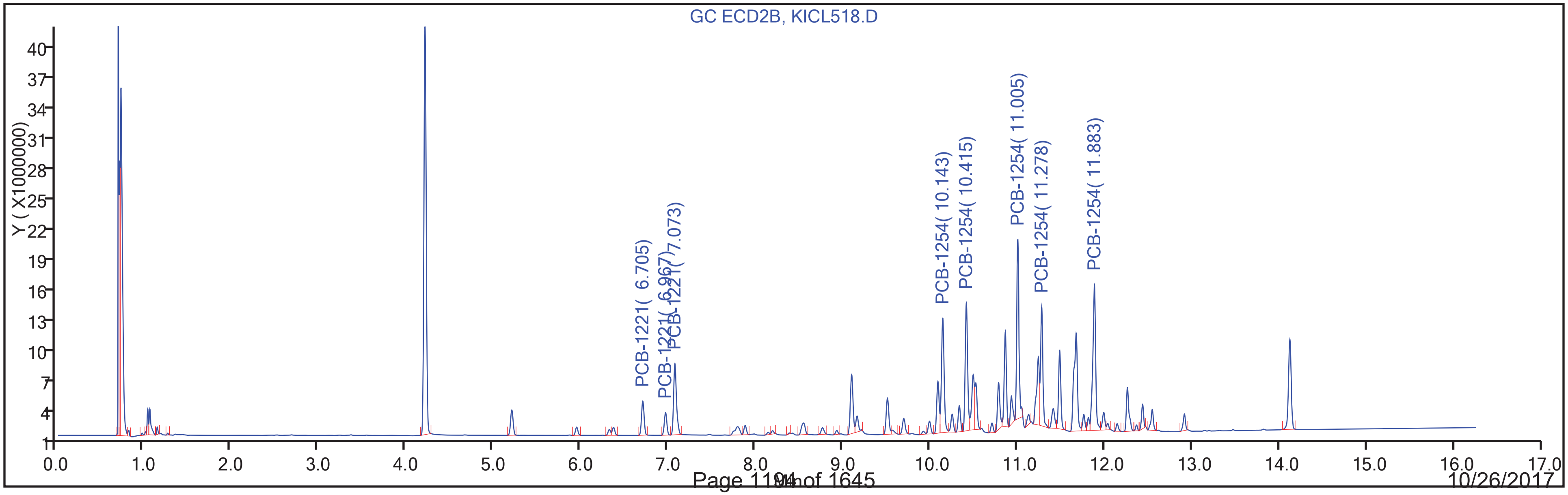
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL518.D				
Injection Date:	08-Sep-2017 15:02:39	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	15
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL519.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Sep-2017 15:23:33 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-016
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub7

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:41 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.440	0.000	548943570	50.0	50.0	
2	4.209	4.209	0.000	76601594	50.0	50.0	
					RPD =	0.00	
3 PCB-1221							
1	5.392	5.392	0.000	95535827	1008.0	998.4	
1	5.667	5.667	0.000	59082998	1008.0	994.5	
1	5.739	5.739	0.000	223803244	1008.0	990.2	
2	6.705	6.705	0.000	13501989	1008.0	952.6	
2	6.965	6.965	0.000	8762969	1008.0	948.1	
2	7.074	7.074	0.000	31434624	1008.0	952.2	
					RPD =	4.47	
9 PCB-1254							
1	8.625	8.625	0.000	325072214	1008.0	976.1	
1	9.027	9.027	0.000	440015606	1008.0	987.8	
1	9.607	9.607	0.000	602138535	1008.0	993.0	
1	10.012	10.012	0.000	426235653	1008.0	1011.7	
1	10.634	10.634	0.000	577639147	1008.0	977.1	
2	10.144	10.144	0.000	49473050	1008.0	988.9	
2	10.414	10.414	0.000	51444038	1008.0	1012.2	
2	11.004	11.004	0.000	71796267	1008.0	1038.9	
2	11.279	11.279	0.000	48626149	1008.0	1062.2	
2	11.882	11.882	0.000	65019805	1008.0	983.6	
					RPD =	2.79	

Reagents:

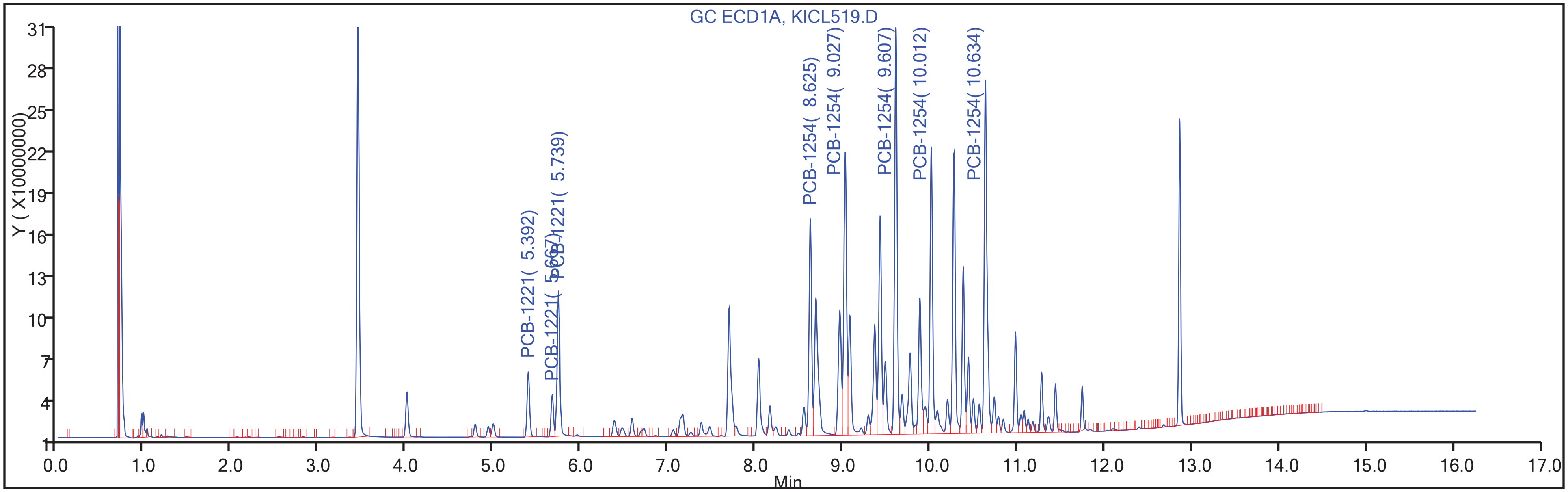
1221/1254 CAL_00005	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

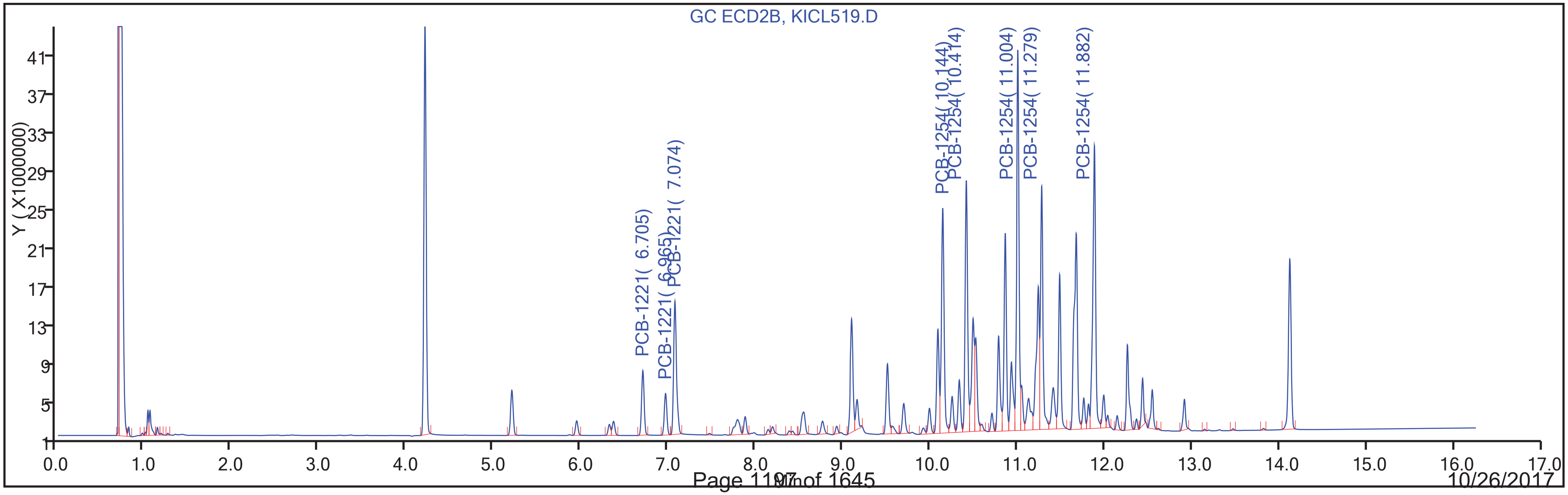
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL519.D				
Injection Date:	08-Sep-2017 15:23:33	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	16
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL520.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	08-Sep-2017 15:44:28	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	160-0011372-017				
Operator ID:	DEK	Instrument ID:	SGCK		
Sublist:	chrom-8082A_IS_SGCK*sub7				
Method:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	11-Sep-2017 09:17:44	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK037				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.438	3.440	-0.002	556574934	50.0	50.0	
2	4.208	4.209	-0.001	77331746	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.393	5.392	0.001	185006175	2016.0	1906.9	
1	5.666	5.667	-0.001	113755100	2016.0	1888.4	
1	5.738	5.739	-0.001	428636706	2016.0	1870.5	
2	6.706	6.705	0.001	25469853	2016.0	1779.9	
2	6.966	6.965	0.001	16408856	2016.0	1758.5	
2	7.073	7.074	-0.001	59509704	2016.0	1785.6	
						RPD = 6.22	
9 PCB-1254							
1	8.626	8.625	0.001	642921660	2016.0	1904.1	
1	9.026	9.027	-0.001	870046178	2016.0	1926.3	
1	9.608	9.607	0.001	1212545702	2016.0	1972.2	
1	10.013	10.012	0.001	865767040	2016.0	2026.8	
1	10.634	10.634	0.000	1176266646	2016.0	1962.5	
2	10.145	10.144	0.001	95887864	2016.0	1898.7	
2	10.415	10.414	0.001	101813854	2016.0	1984.3	
2	11.005	11.004	0.001	142996938	2016.0	2049.7	
2	11.278	11.279	-0.001	96454432	2016.0	2087.1	
2	11.883	11.882	0.001	130457806	2016.0	1954.8	
						RPD = 1.85	

Reagents:

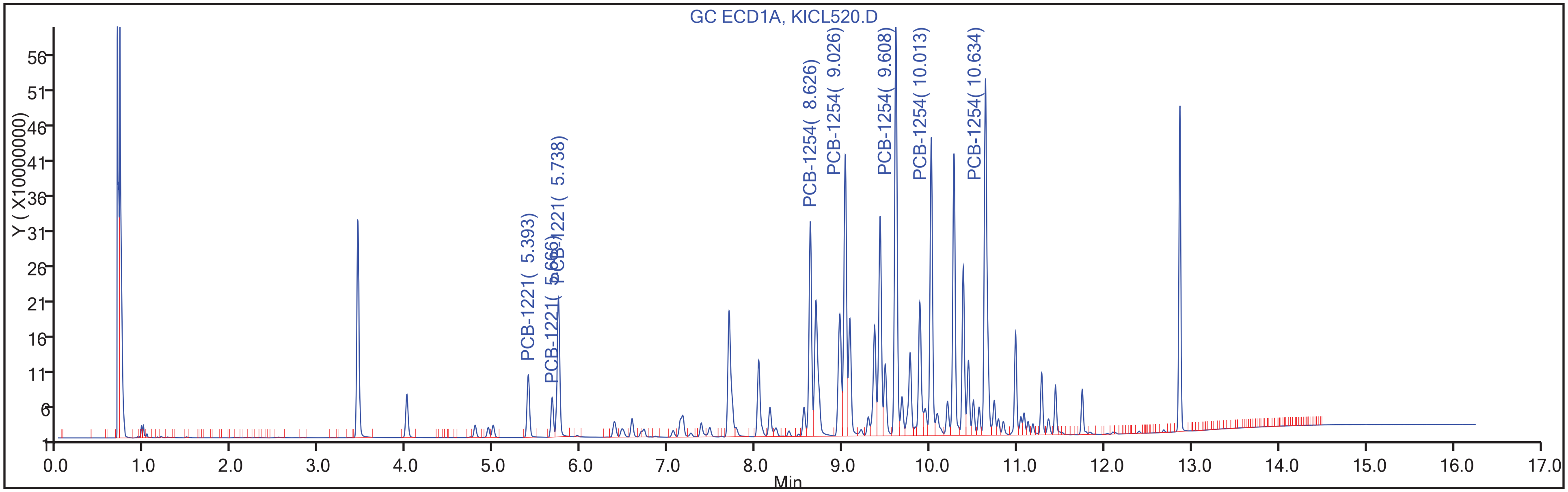
1221/1254 CAL_00005	Amount Added: 500.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

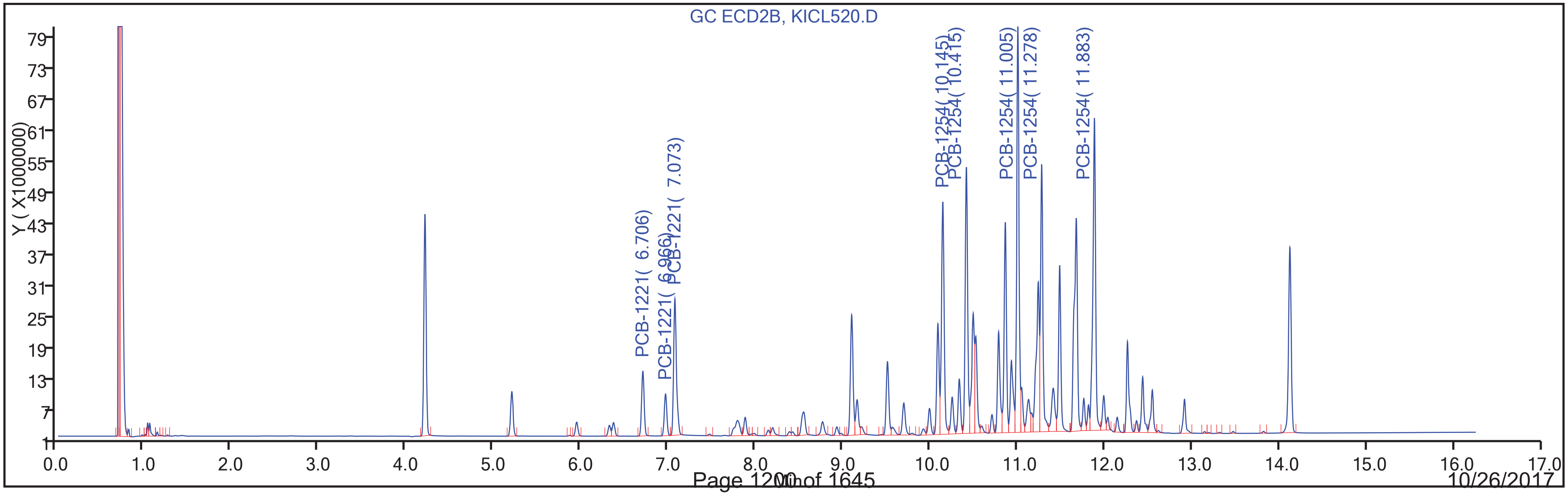
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL520.D				
Injection Date:	08-Sep-2017 15:44:28	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	17
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



Report Date: 11-Sep-2017 09:17:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL521.D
Lims ID: IC
Client ID:
Sample Type: IC
Calib Level: 7
Inject. Date: 08-Sep-2017 16:05:28
ALS Bottle#: 18
Worklist Smp#: 18
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-018
Operator ID: DEK
Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub7

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:47
Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard
Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.441	3.440	0.001	556713545	50.0	50.0	
2	4.209	4.209	0.000	76880300	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.394	5.392	0.002	362182548	4032.0	3732.3	
1	5.667	5.667	0.000	219756506	4032.0	3647.2	
1	5.739	5.739	0.000	842147409	4032.0	3674.0	
2	6.706	6.705	0.001	49059476	4032.0	3448.6	
2	6.966	6.965	0.001	30937959	4032.0	3335.0	
2	7.074	7.074	0.000	113403953	4032.0	3422.6	
						RPD = 7.97	
9 PCB-1254							
1	8.626	8.625	0.001	1289012569	4032.0	3816.6	
1	9.027	9.027	0.000	1762526198	4032.0	3901.4	
1	9.607	9.607	0.000	2510784056	4032.0	4082.7	
1	10.012	10.012	0.000	1784308424	4032.0	4176.2	
1	10.634	10.634	0.000	2413048108	4032.0	4024.9	
2	10.144	10.144	0.000	188686400	4032.0	3758.1	
2	10.414	10.414	0.000	204426471	4032.0	4007.6	
2	11.006	11.004	0.002	288504715	4032.0	4159.6	
2	11.277	11.279	-0.002	195398741	4032.0	4252.9	
2	11.882	11.882	0.000	263828481	4032.0	3976.5	
						RPD = 0.76	

Reagents:

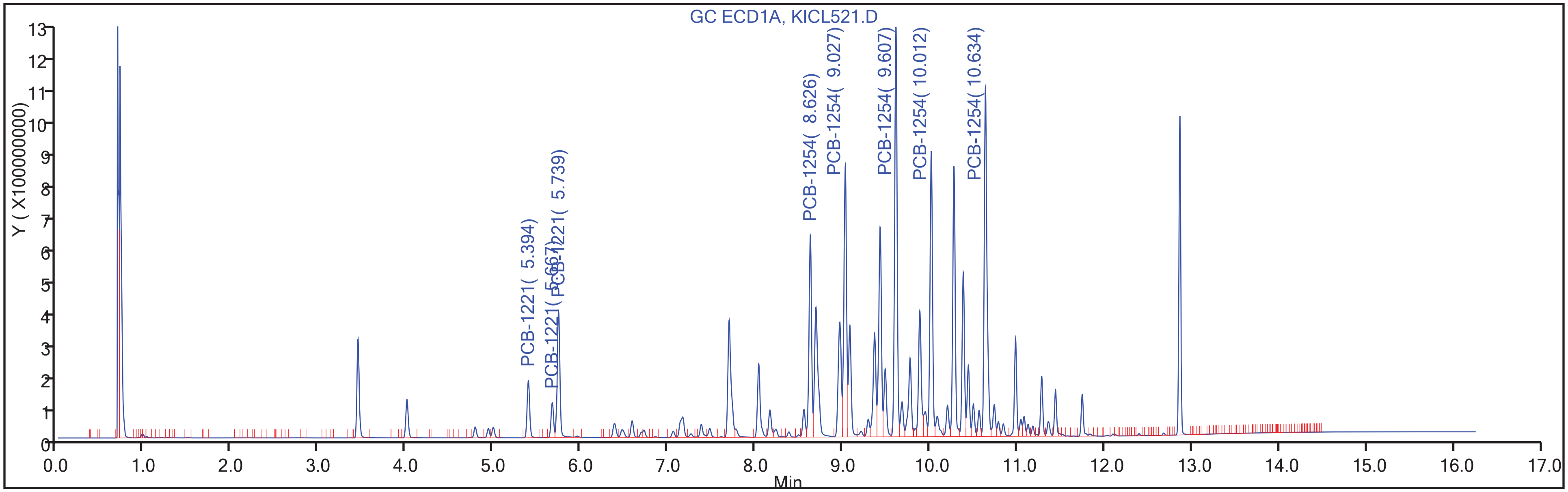
1221/1254 CAL_00005	Amount Added: 1000.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

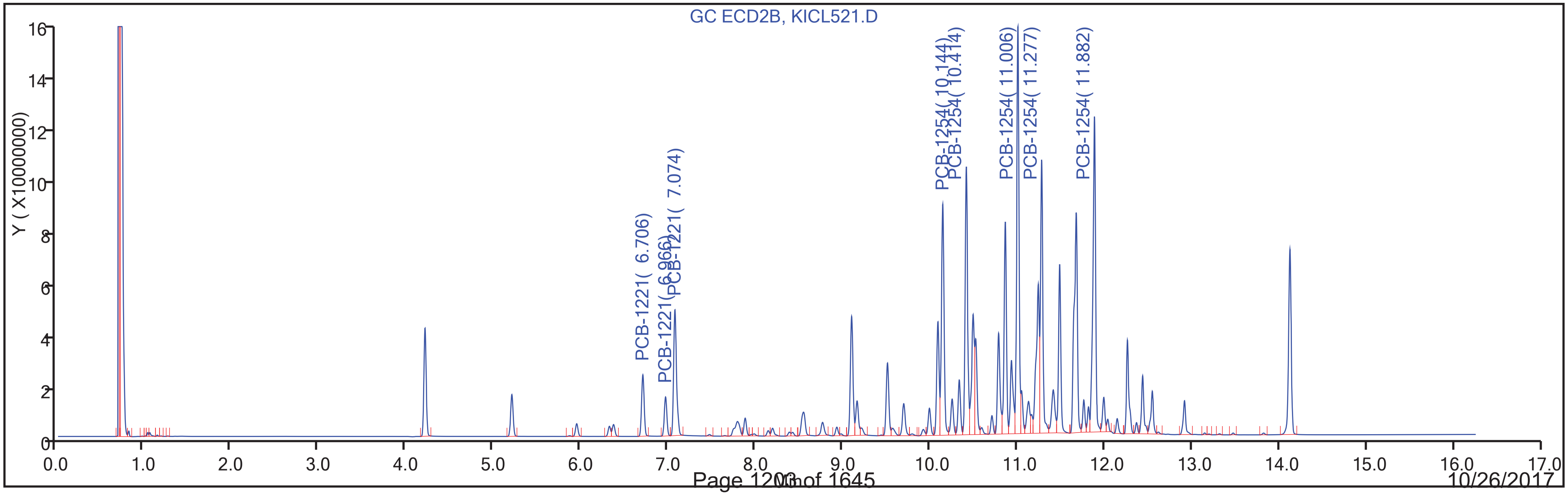
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL521.D				
Injection Date:	08-Sep-2017 16:05:28	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	18
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1　Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK　GC Column: RTXCLP1　ID: 0.53(mm)　Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 16:47　Calibration End Date: 09/08/2017 16:47　Calibration ID: 13487

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/20	KICL523.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.0166					Ave		0.0166						20.0			
PCB-1232 Peak 2	0.0137					Ave		0.0137						20.0			
PCB-1232 Peak 3	0.0285					Ave		0.0285						20.0			
PCB-1232 Peak 4	0.0119					Ave		0.0119						20.0			
PCB-1232 Peak 5	0.0116					Ave		0.0116						20.0			
PCB-1262 Peak 1	0.0300					Ave		0.0300						20.0			
PCB-1262 Peak 2	0.0399					Ave		0.0399						20.0			
PCB-1262 Peak 3	0.0528					Ave		0.0528						20.0			
PCB-1262 Peak 4	0.0928					Ave		0.0928						20.0			
PCB-1262 Peak 5	0.0359					Ave		0.0359						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1　Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK　GC Column: RTXCLP1　ID: 0.53(mm)　Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 16:47　Calibration End Date: 09/08/2017 16:47　Calibration ID: 13487

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/20	KICL523.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	184028094					1000				
PCB-1232 Peak 2	BNB	Ave	152198628					1000				
PCB-1232 Peak 3	BNB	Ave	316439915					1000				
PCB-1232 Peak 4	BNB	Ave	132138176					1000				
PCB-1232 Peak 5	BNB	Ave	128308312					1000				
PCB-1262 Peak 1	BNB	Ave	333329223					1000				
PCB-1262 Peak 2	BNB	Ave	443434735					1000				
PCB-1262 Peak 3	BNB	Ave	585749702					1000				
PCB-1262 Peak 4	BNB	Ave	1029787431					1000				
PCB-1262 Peak 5	BNB	Ave	399043995					1000				

Curve Type Legend:

Ave = Average ISTD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL523.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Sep-2017 16:47:14 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-020
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub8

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:54 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

First Level Reviewer: konopkad Date: 09-Sep-2017 00:30:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.438	3.438	0.000	555021763	50.0	50.0	
2	4.208	4.208	0.000	75841001	50.0	50.0	
						RPD = 0.00	
7 PCB-1232							
1	5.738	5.738	0.000	184028094	1000.0	1000.0	
1	6.378	6.378	0.000	152198628	1000.0	1000.0	
1	7.161	7.161	0.000	316439915	1000.0	1000.0	
1	7.376	7.376	0.000	132138176	1000.0	1000.0	
1	8.035	8.035	0.000	128308312	1000.0	1000.0	
2	7.073	7.073	0.000	25624862	1000.0	1000.0	
2	7.793	7.793	0.000	22712846	1000.0	1000.0	
2	8.548	8.548	0.000	38365756	1000.0	1000.0	
2	8.766	8.766	0.000	14392582	1000.0	1000.0	
2	8.928	8.928	0.000	9262588	1000.0	1000.0	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
6 PCB-1262							
1	9.881	9.881	0.000	333329223	1000.0	1000.0	
1	10.273	10.273	0.000	443434735	1000.0	1000.0	
1	10.781	10.781	0.000	585749702	1000.0	1000.0	
1	11.435	11.435	0.000	1029787431	1000.0	1000.0	
1	11.785	11.785	0.000	399043995	1000.0	1000.0	
2	11.240	11.240	0.000	43072208	1000.0	1000.0	
2	11.978	11.978	0.000	63988063	1000.0	1000.0	
2	12.290	12.290	0.000	55920292	1000.0	1000.0	
2	12.545	12.545	0.000	110212005	1000.0	1000.0	
2	12.905	12.905	0.000	72656444	1000.0	1000.0	
						RPD = 0.00	

Reagents:

1232/1262 CAL_00004	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

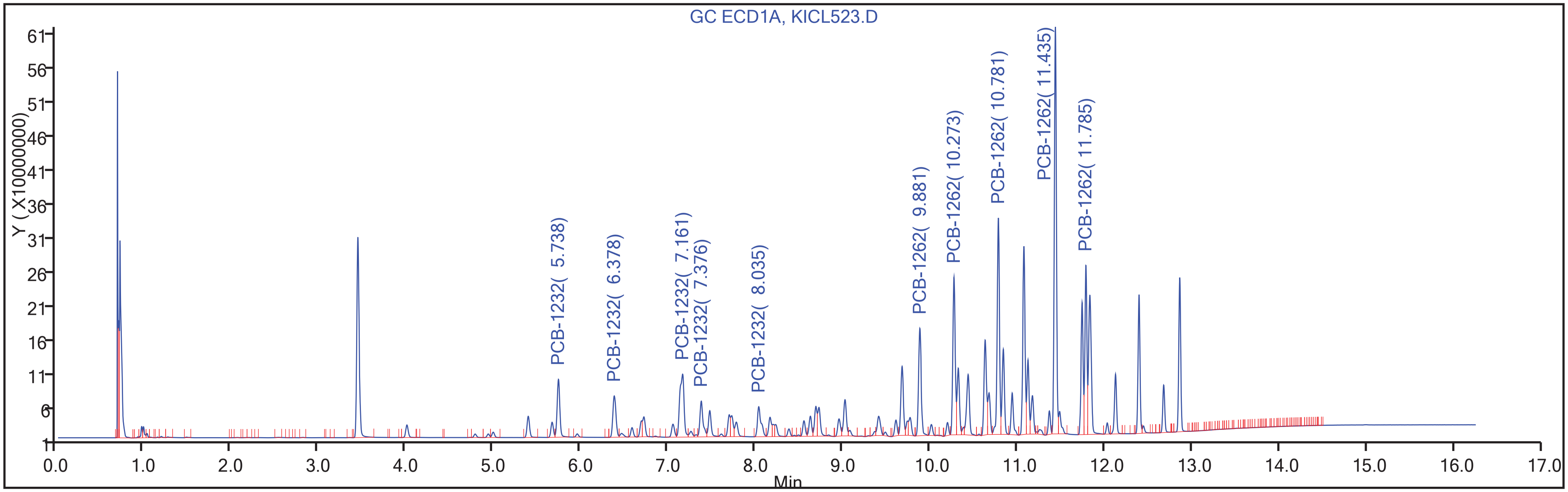
Report Date: 11-Sep-2017 09:17:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

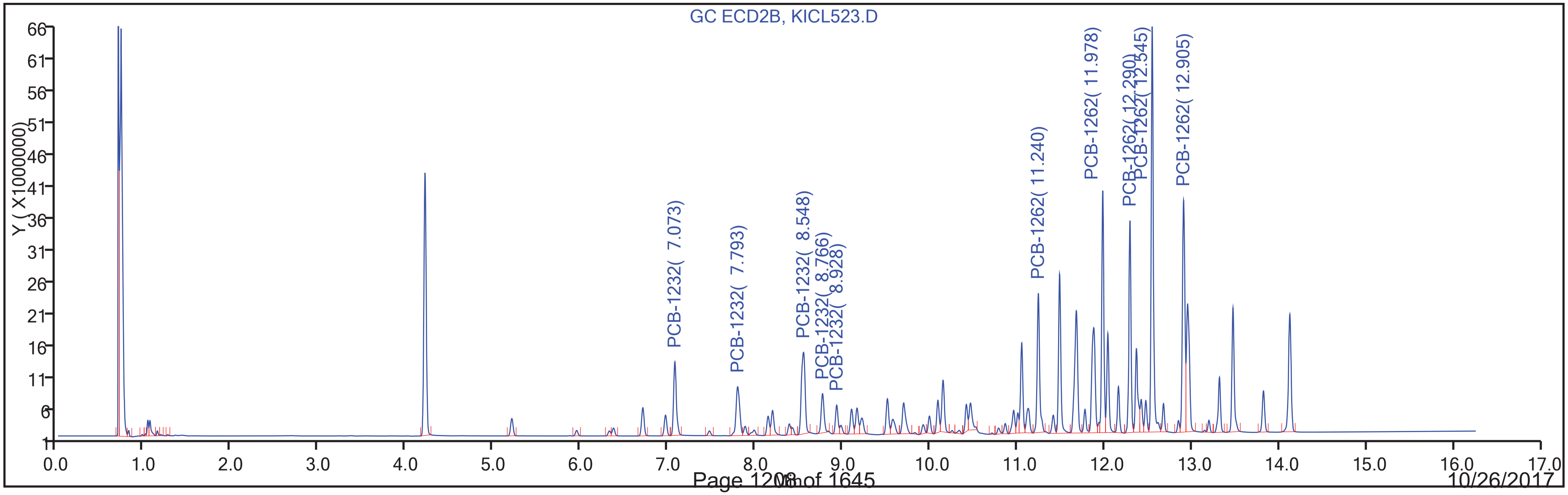
Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL523.D

Injection Date:	08-Sep-2017 16:47:14	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	20
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK GC Column: RTXCLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 16:47 Calibration End Date: 09/08/2017 16:47 Calibration ID: 13488

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/20	KICL523.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.0169					Ave		0.0169						20.0			
PCB-1232 Peak 2	0.0150					Ave		0.0150						20.0			
PCB-1232 Peak 3	0.0253					Ave		0.0253						20.0			
PCB-1232 Peak 4	0.0095					Ave		0.0095						20.0			
PCB-1232 Peak 5	0.0061					Ave		0.0061						20.0			
PCB-1262 Peak 1	0.0284					Ave		0.0284						20.0			
PCB-1262 Peak 2	0.0422					Ave		0.0422						20.0			
PCB-1262 Peak 3	0.0369					Ave		0.0369						20.0			
PCB-1262 Peak 4	0.0727					Ave		0.0727						20.0			
PCB-1262 Peak 5	0.0479					Ave		0.0479						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK   GC Column: RTXCLP2   ID: 0.53(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 16:47   Calibration End Date: 09/08/2017 16:47   Calibration ID: 13488

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/20	KICL523.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	25624862					1000				
PCB-1232 Peak 2	BNB	Ave	22712846					1000				
PCB-1232 Peak 3	BNB	Ave	38365756					1000				
PCB-1232 Peak 4	BNB	Ave	14392582					1000				
PCB-1232 Peak 5	BNB	Ave	9262588					1000				
PCB-1262 Peak 1	BNB	Ave	43072208					1000				
PCB-1262 Peak 2	BNB	Ave	63988063					1000				
PCB-1262 Peak 3	BNB	Ave	55920292					1000				
PCB-1262 Peak 4	BNB	Ave	110212005					1000				
PCB-1262 Peak 5	BNB	Ave	72656444					1000				

Curve Type Legend:

Ave = Average ISTD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL523.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Sep-2017 16:47:14 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-020
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub8

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:54 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

First Level Reviewer: konopkad Date: 09-Sep-2017 00:30:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.438	3.438	0.000	555021763	50.0	50.0	
2	4.208	4.208	0.000	75841001	50.0	50.0	
						RPD = 0.00	
7 PCB-1232							
1	5.738	5.738	0.000	184028094	1000.0	1000.0	
1	6.378	6.378	0.000	152198628	1000.0	1000.0	
1	7.161	7.161	0.000	316439915	1000.0	1000.0	
1	7.376	7.376	0.000	132138176	1000.0	1000.0	
1	8.035	8.035	0.000	128308312	1000.0	1000.0	
2	7.073	7.073	0.000	25624862	1000.0	1000.0	
2	7.793	7.793	0.000	22712846	1000.0	1000.0	
2	8.548	8.548	0.000	38365756	1000.0	1000.0	
2	8.766	8.766	0.000	14392582	1000.0	1000.0	
2	8.928	8.928	0.000	9262588	1000.0	1000.0	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
6 PCB-1262							
1	9.881	9.881	0.000	333329223	1000.0	1000.0	
1	10.273	10.273	0.000	443434735	1000.0	1000.0	
1	10.781	10.781	0.000	585749702	1000.0	1000.0	
1	11.435	11.435	0.000	1029787431	1000.0	1000.0	
1	11.785	11.785	0.000	399043995	1000.0	1000.0	
2	11.240	11.240	0.000	43072208	1000.0	1000.0	
2	11.978	11.978	0.000	63988063	1000.0	1000.0	
2	12.290	12.290	0.000	55920292	1000.0	1000.0	
2	12.545	12.545	0.000	110212005	1000.0	1000.0	
2	12.905	12.905	0.000	72656444	1000.0	1000.0	
						RPD = 0.00	

Reagents:

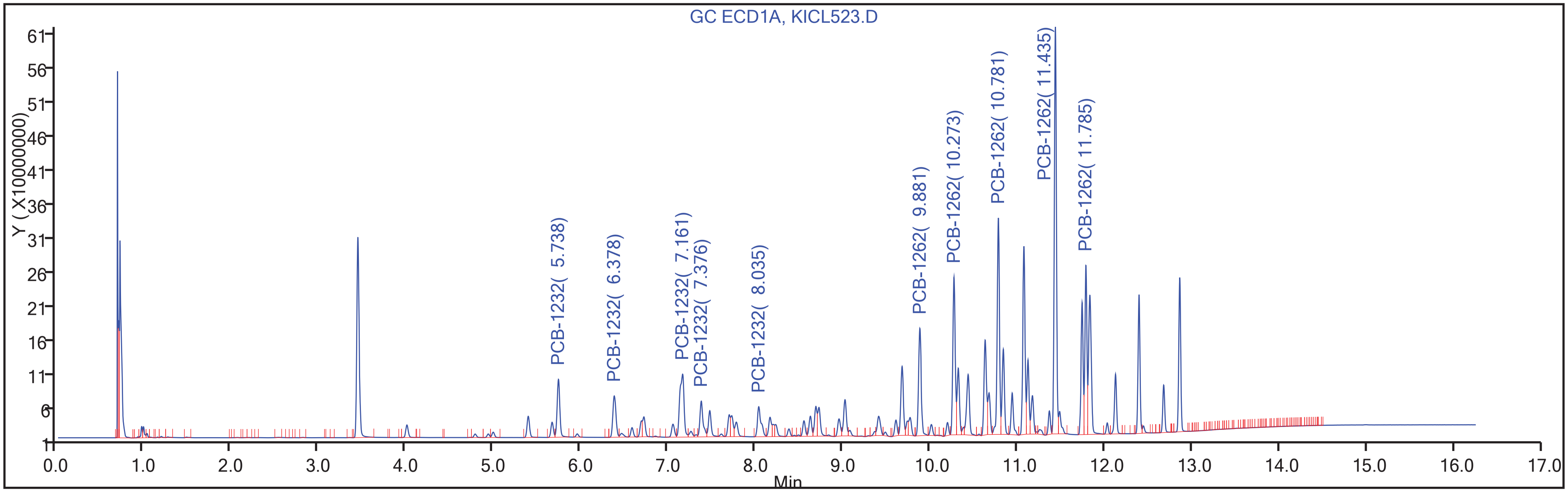
1232/1262 CAL_00004	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:54
Chrom Revision: 2.2 16-Aug-2017 16:24:46

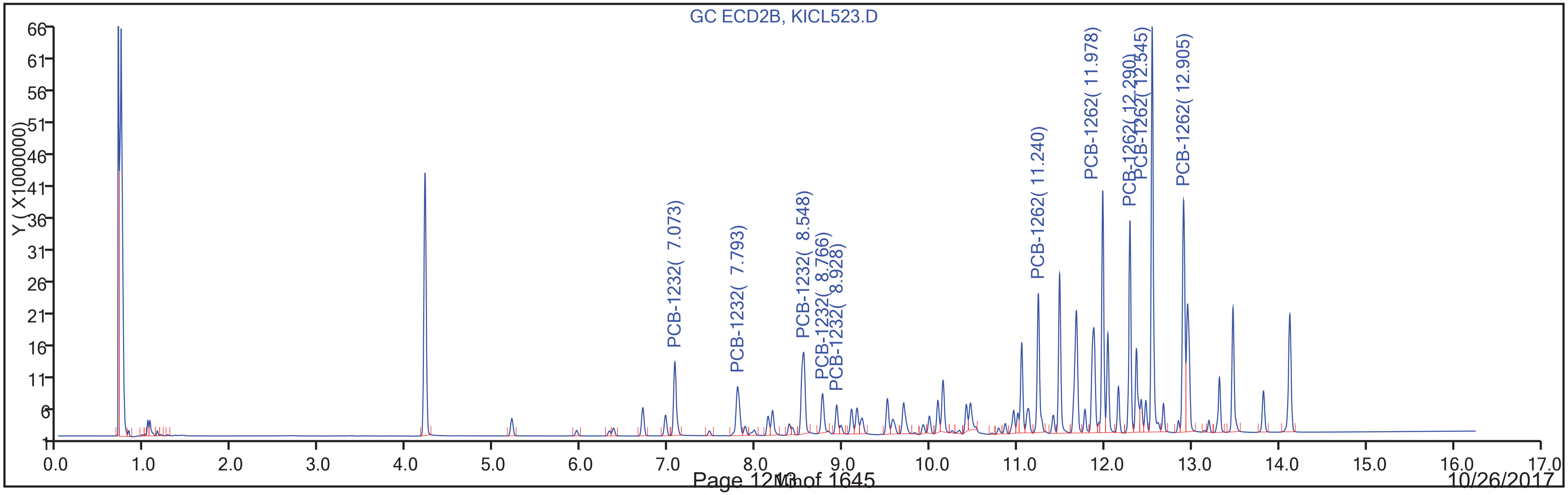
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL523.D
Injection Date: 08-Sep-2017 16:47:14
Instrument ID: SGCK
Operator ID: DEK
Lims ID: IC
Worklist Smp#: 20
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 20
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK   GC Column: RTXCLP1   ID: 0.53(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 17:08   Calibration End Date: 09/08/2017 17:08   Calibration ID: 13491

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/21	KICL524.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	0.0238					Ave		0.0238						20.0			
PCB-1242 Peak 2	0.0100					Ave		0.0100						20.0			
PCB-1242 Peak 3	0.0505					Ave		0.0505						20.0			
PCB-1242 Peak 4	0.0211					Ave		0.0211						20.0			
PCB-1242 Peak 5	0.0225					Ave		0.0225						20.0			
PCB-1268 Peak 1	0.1087					Ave		0.1087						20.0			
PCB-1268 Peak 2	0.1042					Ave		0.1042						20.0			
PCB-1268 Peak 3	0.0890					Ave		0.0890						20.0			
PCB-1268 Peak 4	0.2711					Ave		0.2711						20.0			
PCB-1268 Peak 5	0.0739					Ave		0.0739						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK GC Column: RTXCLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 17:08 Calibration End Date: 09/08/2017 17:08 Calibration ID: 13491

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/21	KICL524.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	263666062					1000				
PCB-1242 Peak 2	BNB	Ave	110476408					1000				
PCB-1242 Peak 3	BNB	Ave	559144845					1000				
PCB-1242 Peak 4	BNB	Ave	233428079					1000				
PCB-1242 Peak 5	BNB	Ave	249361853					1000				
PCB-1268 Peak 1	BNB	Ave	1208374227					1004				
PCB-1268 Peak 2	BNB	Ave	1158428012					1004				
PCB-1268 Peak 3	BNB	Ave	989460379					1004				
PCB-1268 Peak 4	BNB	Ave	3012114876					1004				
PCB-1268 Peak 5	BNB	Ave	821716638					1004				

Curve Type Legend:

Ave = Average ISTD

Report Date: 11-Sep-2017 09:17:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL524.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Sep-2017 17:08:08 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-021
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub6

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:56 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

First Level Reviewer: konopkad Date: 09-Sep-2017 00:30:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.438	3.438	0.000	553409980	50.0	50.0	
2	4.208	4.208	0.000	75592660	50.0	50.0	
						RPD = 0.00	
10 PCB-1242							
1	6.378	6.378	0.000	263666062	1000.0	1000.0	
1	6.718	6.718	0.000	110476408	1000.0	1000.0	
1	7.162	7.162	0.000	559144845	1000.0	1000.0	
1	7.375	7.375	0.000	233428079	1000.0	1000.0	
1	8.035	8.035	0.000	249361853	1000.0	1000.0	
2	7.793	7.793	0.000	36935005	1000.0	1000.0	
2	8.547	8.547	0.000	68558587	1000.0	1000.0	
2	8.765	8.765	0.000	24652234	1000.0	1000.0	
2	9.508	9.508	0.000	22787274	1000.0	1000.0	
2	9.695	9.695	0.000	25729374	1000.0	1000.0	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1268							
1	11.785	11.785	0.000	1208374227	1004.0	1004.0	
1	11.825	11.825	0.000	1158428012	1004.0	1004.0	
1	12.030	12.030	0.000	989460379	1004.0	1004.0	
1	12.678	12.678	0.000	3012114876	1004.0	1004.0	
1	12.860	12.860	0.000	821716638	1004.0	1004.0	
2	12.902	12.902	0.000	123143679	1004.0	1004.0	
2	12.948	12.948	0.000	117591167	1004.0	1004.0	
2	13.193	13.193	0.000	100039754	1004.0	1004.0	
2	13.470	13.470	0.000	37563665	1004.0	1004.0	
2	13.820	13.820	0.000	281938316	1004.0	1004.0	
						RPD = 0.00	

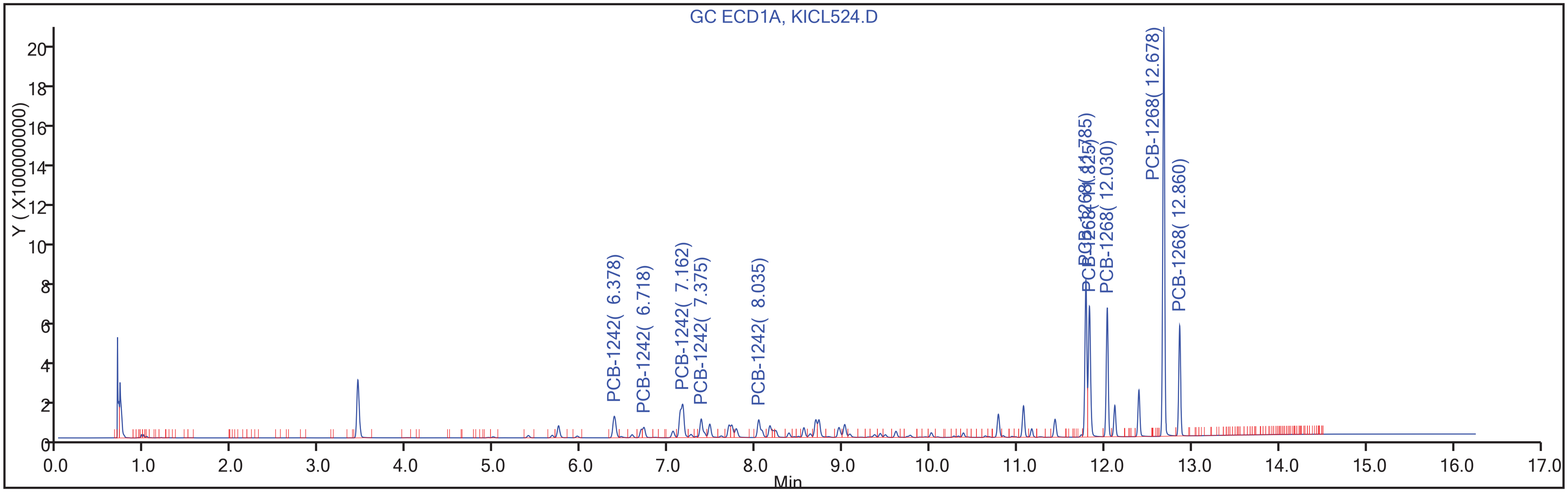
Reagents:

1242/1268 CAL_00005	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

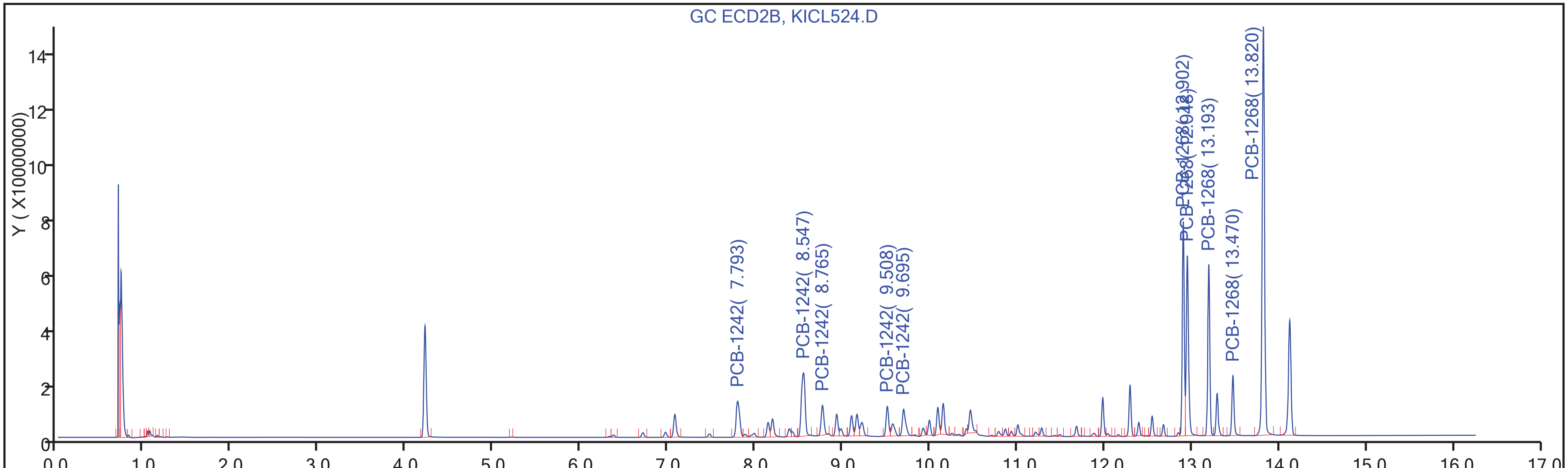
Report Date: 11-Sep-2017 09:17:57   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL524.D
Injection Date: 08-Sep-2017 17:08:08   Instrument ID: SGCK   Operator ID: DEK
Lims ID: IC   Worklist Smp#: 21
Client ID:
Injection Vol: 2.0 ul   Dil. Factor: 1.0000   ALS Bottle#: 21
Method: 8082A_IS_SGCK   Limit Group: GC 8082A_ICAL_IS
Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1   Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK   GC Column: RTXCLP2   ID: 0.53(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 17:08   Calibration End Date: 09/08/2017 17:08   Calibration ID: 13492

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/21	KICL524.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	0.0244					Ave		0.0244						20.0			
PCB-1242 Peak 2	0.0453					Ave		0.0453						20.0			
PCB-1242 Peak 3	0.0163					Ave		0.0163						20.0			
PCB-1242 Peak 4	0.0151					Ave		0.0151						20.0			
PCB-1242 Peak 5	0.0170					Ave		0.0170						20.0			
PCB-1268 Peak 1	0.0811					Ave		0.0811						20.0			
PCB-1268 Peak 2	0.0775					Ave		0.0775						20.0			
PCB-1268 Peak 3	0.0659					Ave		0.0659						20.0			
PCB-1268 Peak 4	0.0247					Ave		0.0247						20.0			
PCB-1268 Peak 5	0.1857					Ave		0.1857						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
Analy Batch No.: 326367
SDG No.:
Instrument ID: SGCK
GC Column: RTXCLP2
ID: 0.53(mm)
Heated Purge: (Y/N) N
Calibration Start Date: 09/08/2017 17:08
Calibration End Date: 09/08/2017 17:08
Calibration ID: 13492

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/21	KICL524.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	36935005					1000				
PCB-1242 Peak 2	BNB	Ave	68558587					1000				
PCB-1242 Peak 3	BNB	Ave	24652234					1000				
PCB-1242 Peak 4	BNB	Ave	22787274					1000				
PCB-1242 Peak 5	BNB	Ave	25729374					1000				
PCB-1268 Peak 1	BNB	Ave	123143679					1004				
PCB-1268 Peak 2	BNB	Ave	117591167					1004				
PCB-1268 Peak 3	BNB	Ave	100039754					1004				
PCB-1268 Peak 4	BNB	Ave	37563665					1004				
PCB-1268 Peak 5	BNB	Ave	281938316					1004				

Curve Type Legend:
Ave = Average ISTD

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL524.D		
Lims ID:	IC		
Client ID:			
Sample Type:	IC	Calib Level:	5
Inject. Date:	08-Sep-2017 17:08:08	ALS Bottle#:	21 Worklist Smp#: 21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Sample Info:	IC		
Misc. Info.:	160-0011372-021		
Operator ID:	DEK	Instrument ID:	SGCK
Sublist:	chrom-8082A_IS_SGCK*sub6		
Method:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	11-Sep-2017 09:17:56	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B
Process Host:	XAWRK037		
First Level Reviewer: konopkad		Date:	09-Sep-2017 00:30:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.438	3.438	0.000	553409980	50.0	50.0	
2	4.208	4.208	0.000	75592660	50.0	50.0	
						RPD = 0.00	
10 PCB-1242							
1	6.378	6.378	0.000	263666062	1000.0	1000.0	
1	6.718	6.718	0.000	110476408	1000.0	1000.0	
1	7.162	7.162	0.000	559144845	1000.0	1000.0	
1	7.375	7.375	0.000	233428079	1000.0	1000.0	
1	8.035	8.035	0.000	249361853	1000.0	1000.0	
2	7.793	7.793	0.000	36935005	1000.0	1000.0	
2	8.547	8.547	0.000	68558587	1000.0	1000.0	
2	8.765	8.765	0.000	24652234	1000.0	1000.0	
2	9.508	9.508	0.000	22787274	1000.0	1000.0	
2	9.695	9.695	0.000	25729374	1000.0	1000.0	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1268							
1	11.785	11.785	0.000	1208374227	1004.0	1004.0	
1	11.825	11.825	0.000	1158428012	1004.0	1004.0	
1	12.030	12.030	0.000	989460379	1004.0	1004.0	
1	12.678	12.678	0.000	3012114876	1004.0	1004.0	
1	12.860	12.860	0.000	821716638	1004.0	1004.0	
2	12.902	12.902	0.000	123143679	1004.0	1004.0	
2	12.948	12.948	0.000	117591167	1004.0	1004.0	
2	13.193	13.193	0.000	100039754	1004.0	1004.0	
2	13.470	13.470	0.000	37563665	1004.0	1004.0	
2	13.820	13.820	0.000	281938316	1004.0	1004.0	
						RPD = 0.00	

Reagents:

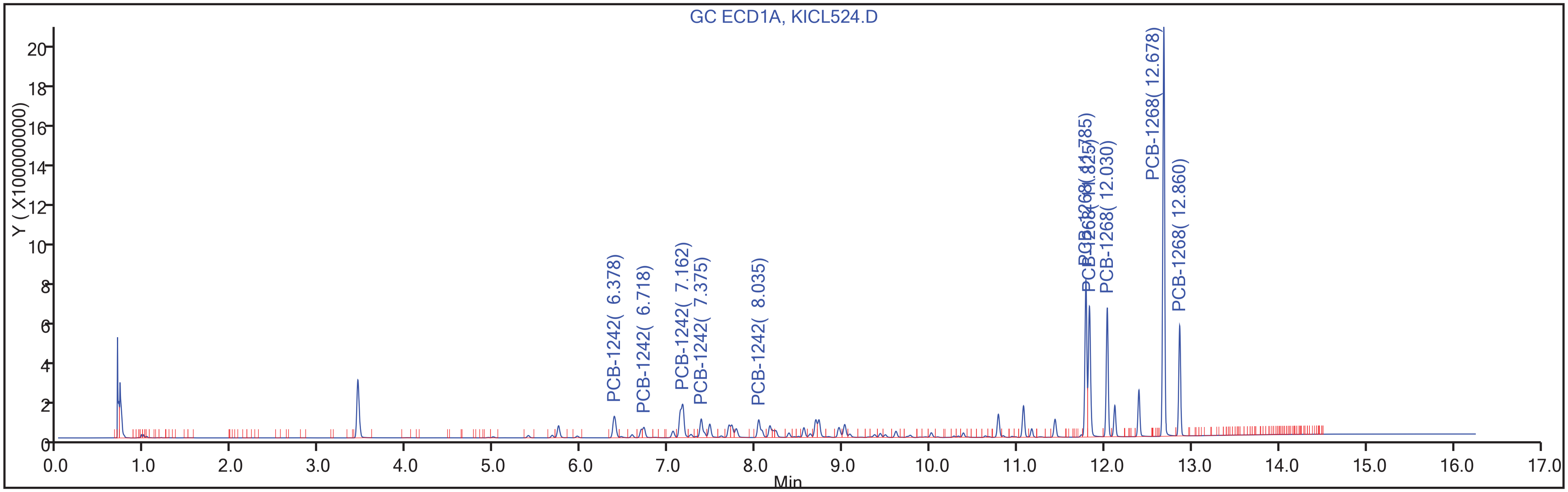
1242/1268 CAL_00005	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

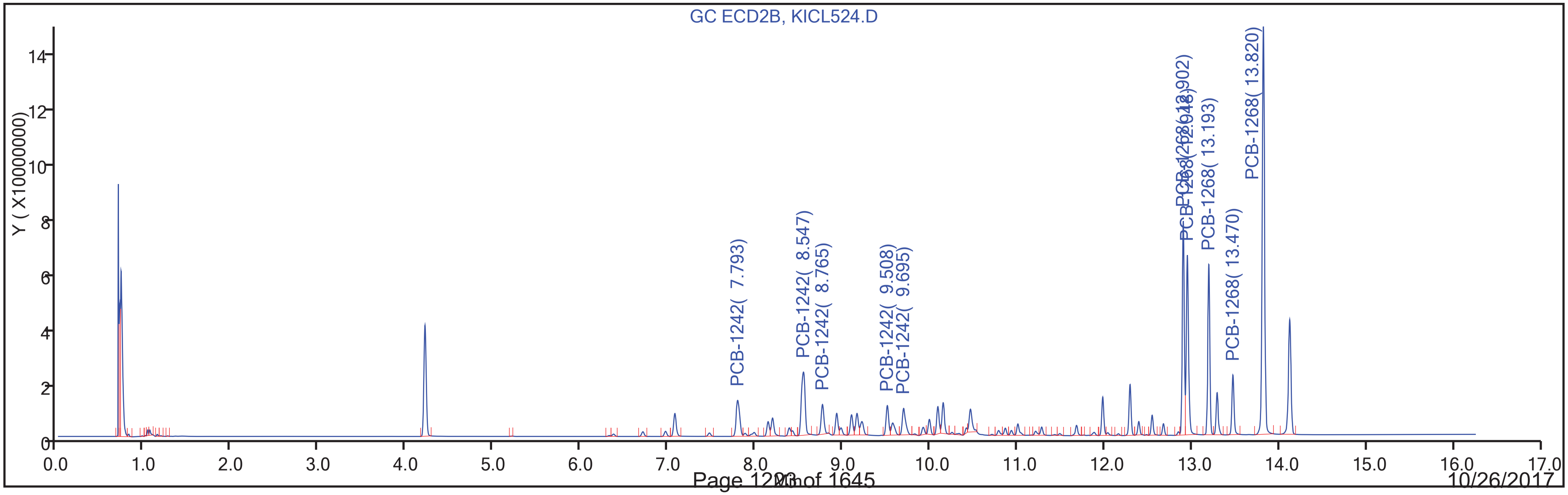
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL524.D				
Injection Date:	08-Sep-2017 17:08:08	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	21
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK GC Column: RTXCLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 17:29 Calibration End Date: 09/08/2017 17:29 Calibration ID: 13495

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/22	KICL525.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	0.0148					Ave		0.0148						20.0			
PCB-1248 Peak 2	0.0201					Ave		0.0201						20.0			
PCB-1248 Peak 3	0.0339					Ave		0.0339						20.0			
PCB-1248 Peak 4	0.0289					Ave		0.0289						20.0			
PCB-1248 Peak 5	0.0235					Ave		0.0235						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK GC Column: RTXCLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 17:29 Calibration End Date: 09/08/2017 17:29 Calibration ID: 13495

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/22	KICL525.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	164632693					1003				
PCB-1248 Peak 2	BNB	Ave	223915603					1003				
PCB-1248 Peak 3	BNB	Ave	377709714					1003				
PCB-1248 Peak 4	BNB	Ave	322407453					1003				
PCB-1248 Peak 5	BNB	Ave	261375196					1003				

Curve Type Legend:

Ave = Average ISTD

Report Date: 11-Sep-2017 09:18:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Sep-2017 17:29:06 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 160-0011372-022
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub9

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:59 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

First Level Reviewer: konopkad Date: 09-Sep-2017 00:31:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	555468429	50.0	50.0	
2	4.208	4.208	0.000	76101792	50.0	50.0	
						RPD = 0.00	
4 PCB-1248							
1	7.138	7.138	0.000	164632693	1003.2	1003.2	
1	7.694	7.694	0.000	223915603	1003.2	1003.2	
1	8.034	8.034	0.000	377709714	1003.2	1003.2	
1	8.688	8.688	0.000	322407453	1003.2	1003.2	
1	9.019	9.019	0.000	261375196	1003.2	1003.2	
2	8.543	8.543	0.000	43196928	1003.2	1003.2	
2	9.098	9.098	0.000	27816372	1003.2	1003.2	
2	9.508	9.508	0.000	36289651	1003.2	1003.2	
2	10.086	10.086	0.000	36266761	1003.2	1003.2	
2	10.148	10.148	0.000	43503311	1003.2	1003.2	
						RPD = 0.00	

Reagents:

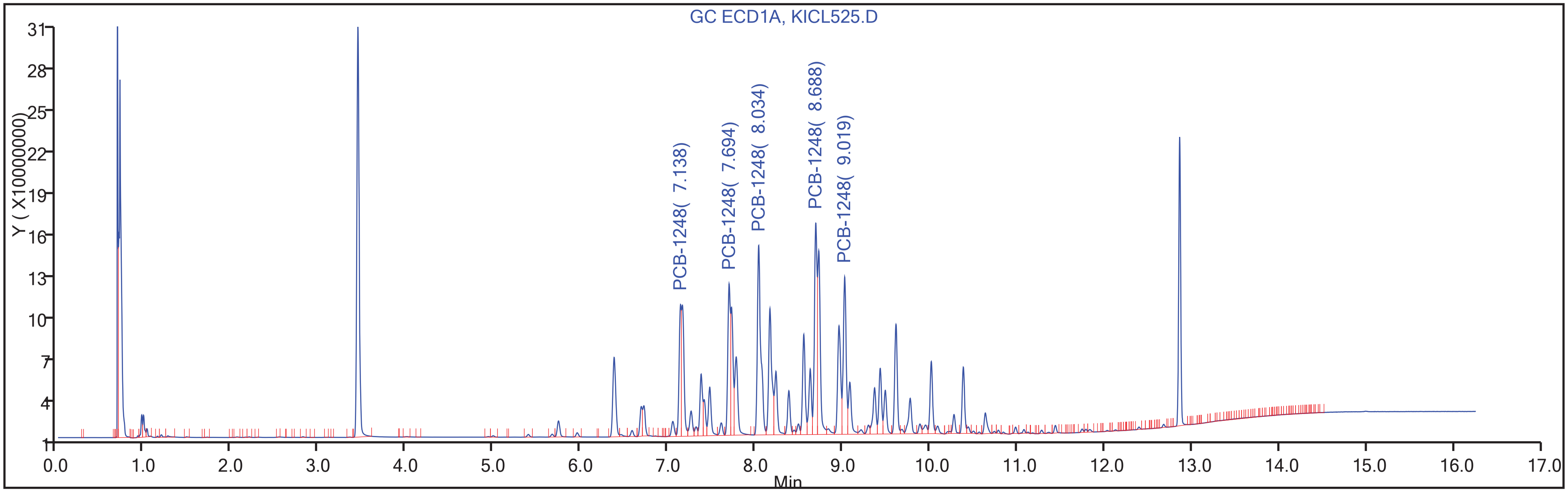
1248 Cal Std_00014	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:18:00		Chrom Revision: 2.2 16-Aug-2017 16:24:46			

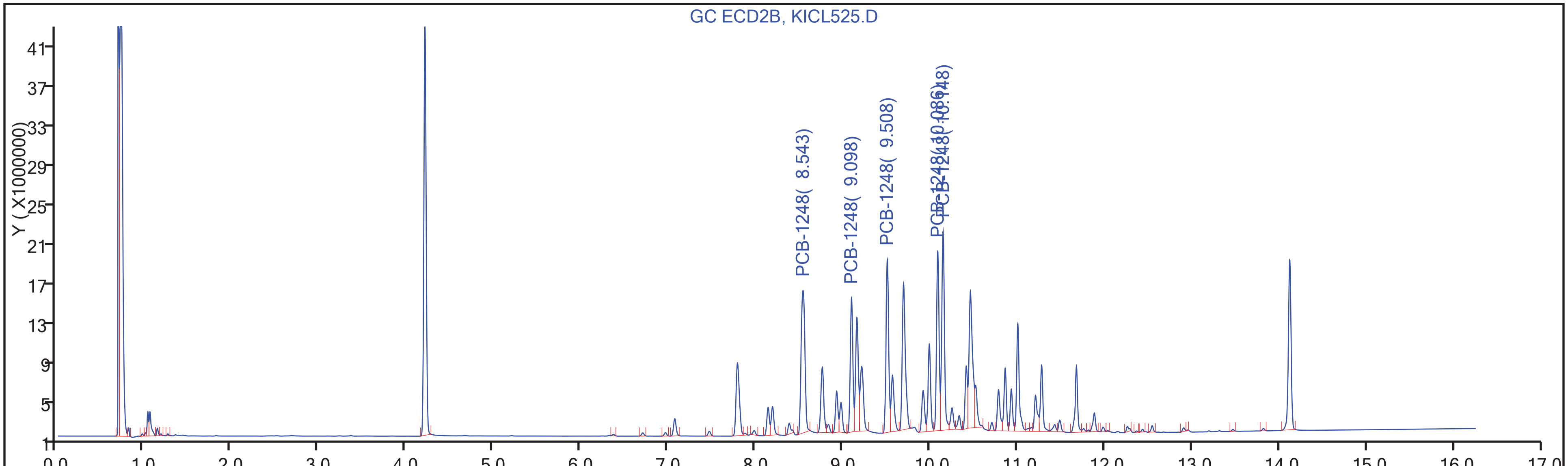
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Injection Date:	08-Sep-2017 17:29:06	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	22
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK GC Column: RTXCLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 17:29 Calibration End Date: 09/08/2017 17:29 Calibration ID: 13496

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/22	KICL525.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	0.0283					Ave		0.0283						20.0			
PCB-1248 Peak 2	0.0182					Ave		0.0182						20.0			
PCB-1248 Peak 3	0.0238					Ave		0.0238						20.0			
PCB-1248 Peak 4	0.0238					Ave		0.0238						20.0			
PCB-1248 Peak 5	0.0285					Ave		0.0285						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1 Analy Batch No.: 326367

SDG No.:

Instrument ID: SGCK GC Column: RTXCLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/08/2017 17:29 Calibration End Date: 09/08/2017 17:29 Calibration ID: 13496

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 160-326367/22	KICL525.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	43196928					1003				
PCB-1248 Peak 2	BNB	Ave	27816372					1003				
PCB-1248 Peak 3	BNB	Ave	36289651					1003				
PCB-1248 Peak 4	BNB	Ave	36266761					1003				
PCB-1248 Peak 5	BNB	Ave	43503311					1003				

Curve Type Legend:

Ave = Average ISTD

Report Date: 11-Sep-2017 09:18:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	08-Sep-2017 17:29:06	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	160-0011372-022				
Operator ID:	DEK	Instrument ID:	SGCK		
Sublist:	chrom-8082A_IS_SGCK*sub9				
Method:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	11-Sep-2017 09:17:59	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK037				

First Level Reviewer: konopkad Date: 09-Sep-2017 00:31:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.439	3.439	0.000	555468429	50.0	50.0	
2	4.208	4.208	0.000	76101792	50.0	50.0	
					RPD =	0.00	
4 PCB-1248							
1	7.138	7.138	0.000	164632693	1003.2	1003.2	
1	7.694	7.694	0.000	223915603	1003.2	1003.2	
1	8.034	8.034	0.000	377709714	1003.2	1003.2	
1	8.688	8.688	0.000	322407453	1003.2	1003.2	
1	9.019	9.019	0.000	261375196	1003.2	1003.2	
2	8.543	8.543	0.000	43196928	1003.2	1003.2	
2	9.098	9.098	0.000	27816372	1003.2	1003.2	
2	9.508	9.508	0.000	36289651	1003.2	1003.2	
2	10.086	10.086	0.000	36266761	1003.2	1003.2	
2	10.148	10.148	0.000	43503311	1003.2	1003.2	
					RPD =	0.00	

Reagents:

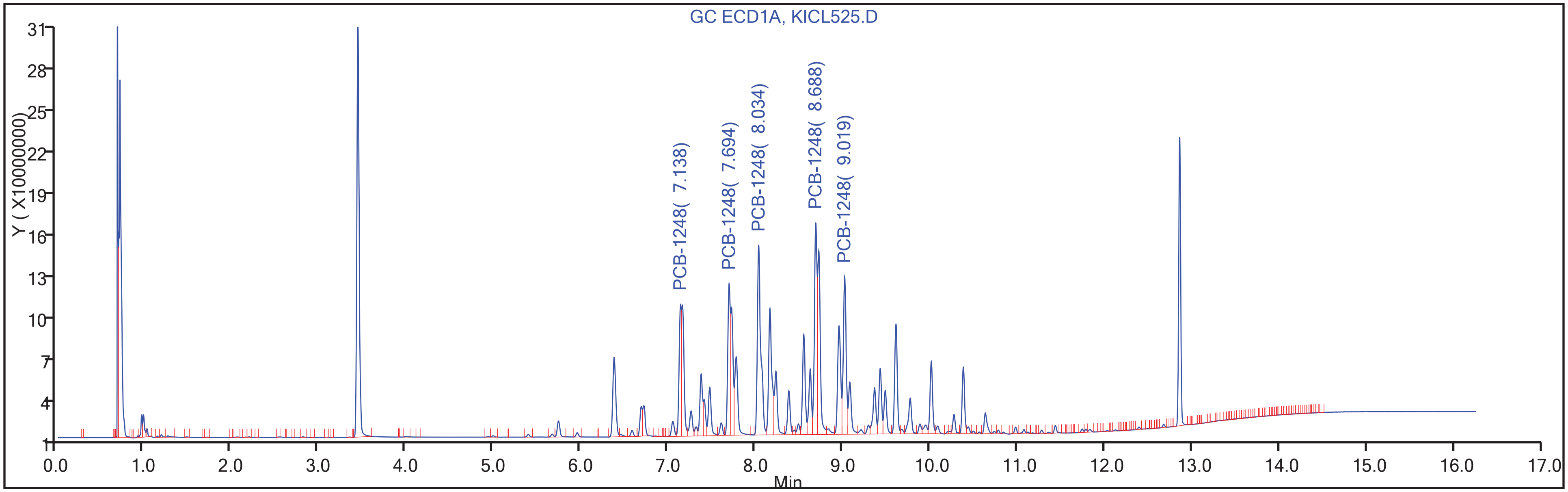
1248 Cal Std_00014	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:18:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

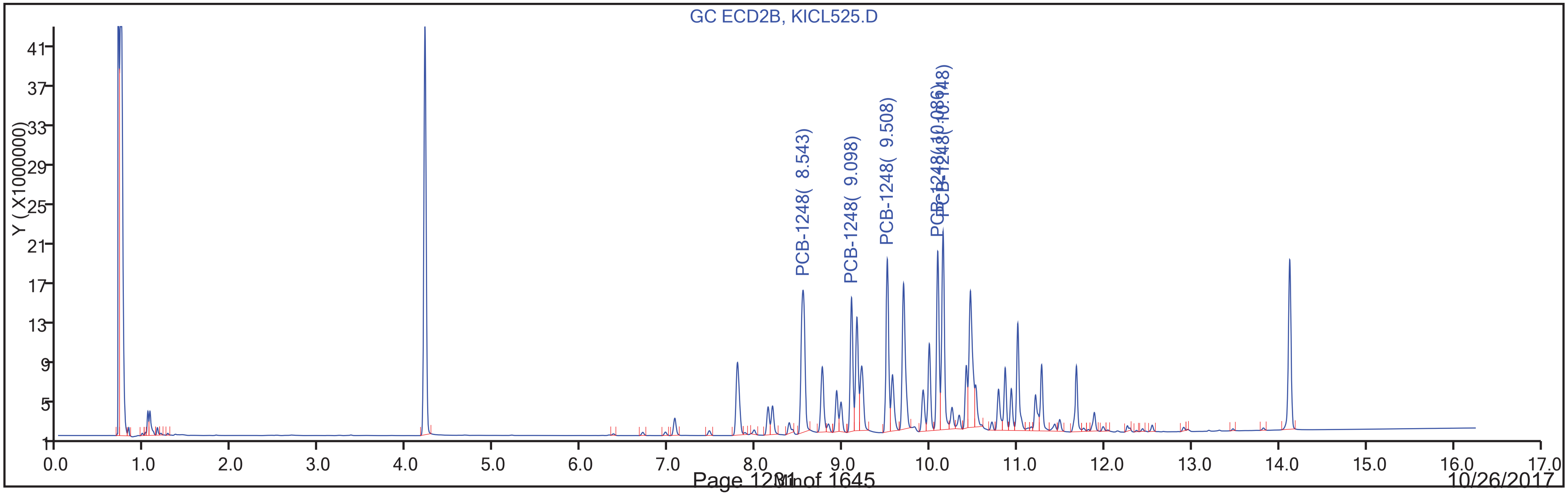
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Injection Date:	08-Sep-2017 17:29:06	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	IC			Worklist Smp#:	22
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/11 Calibration Date: 09/08/2017 13:38

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KICV514.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0141	0.0140		989	1000	-1.1	20.0
PCB-1016 Peak 2	Ave	0.0304	0.0311		1020	1000	2.3	20.0
PCB-1016 Peak 3	Ave	0.0647	0.0670		1040	1000	3.5	20.0
PCB-1016 Peak 4	Ave	0.0268	0.0277		1030	1000	3.3	20.0
PCB-1016 Peak 5	Ave	0.0284	0.0282		992	1000	-0.8	20.0
PCB-1260 Peak 1	Ave	0.0400	0.0386		966	1000	-3.4	20.0
PCB-1260 Peak 2	Ave	0.0614	0.0572		931	1000	-6.9	20.0
PCB-1260 Peak 3	Ave	0.0681	0.0595		873	1000	-12.7	20.0
PCB-1260 Peak 4	Ave	0.0684	0.0797		1170	1000	16.5	20.0
PCB-1260 Peak 5	Ave	0.0342	0.0367		1070	1000	7.2	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.5911	0.6133		51.9	50.0	3.7	20.0

FORM VII 8082A

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/11 Calibration Date: 09/08/2017 13:38

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KICV514.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	5.74	5.73	5.75
PCB-1016 Peak 2	6.38	6.37	6.39
PCB-1016 Peak 3	7.16	7.15	7.17
PCB-1016 Peak 4	7.38	7.37	7.39
PCB-1016 Peak 5	8.04	8.03	8.05
PCB-1260 Peak 1	9.88	9.87	9.89
PCB-1260 Peak 2	10.27	10.26	10.28
PCB-1260 Peak 3	10.63	10.62	10.64
PCB-1260 Peak 4	11.44	11.43	11.45
PCB-1260 Peak 5	11.74	11.73	11.75
DCB Decachlorobiphenyl (Surr)	12.86	12.85	12.87

Form VII 8082A

Report Date: 11-Sep-2017 09:17:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV514.D				
Lims ID:	ICV				
Client ID:					
Sample Type:	ICV				
Inject. Date:	08-Sep-2017 13:38:52	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	ICV				
Misc. Info.:	160-0011372-004				
Operator ID:	DEK	Instrument ID:	SGCK		
Sublist:					

Method:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	11-Sep-2017 09:17:21	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK037	

First Level Reviewer: konopkad Date: 11-Sep-2017 09:09:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.438	3.439	-0.001	543546261	50.0	50.0	
2	4.206	4.208	-0.002	75936053	50.0	50.0	
					RPD =	0.00	
1 PCB-1016							
1	5.738	5.739	-0.001	151946058	1000.0	988.6	
1	6.378	6.379	-0.001	338378941	1000.0	1022.6	
1	7.161	7.162	-0.001	728046615	1000.0	1035.5	
1	7.375	7.376	-0.001	301543710	1000.0	1033.1	
1	8.035	8.036	-0.001	306452728	1000.0	992.0	
2	7.073	7.073	0.000	21441872	1000.0	969.3	
2	7.791	7.793	-0.002	47446821	1000.0	1013.8	
2	8.548	8.549	-0.001	89842434	1000.0	1049.6	
2	8.765	8.766	-0.001	34009546	1000.0	1049.7	
2	9.508	9.509	-0.001	28631970	1000.0	1001.7	
					RPD =	0.24	

Report Date: 11-Sep-2017 09:17:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV514.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.881	9.882	-0.001	420066560	1000.0	966.3	
1	10.273	10.274	-0.001	622074700	1000.0	931.5	
1	10.631	10.632	-0.001	646724557	1000.0	873.3	
1	11.436	11.436	0.000	866009798	1000.0	1165.4	
1	11.741	11.742	-0.001	398850403	1000.0	1072.4	
2	11.240	11.239	0.001	51828840	1000.0	941.4	
2	11.485	11.484	0.001	59023259	1000.0	998.8	
2	11.880	11.881	-0.001	72620210	1000.0	894.7	
2	12.546	12.546	0.000	94495286	1000.0	1184.1	
2	12.911	12.911	0.000	60413960	1000.0	1142.5	
						RPD = 3.00	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	333344435	50.0	51.9	
2	14.123	14.123	0.000	36953020	50.0	50.8	
						RPD = 2.01	

Reagents:

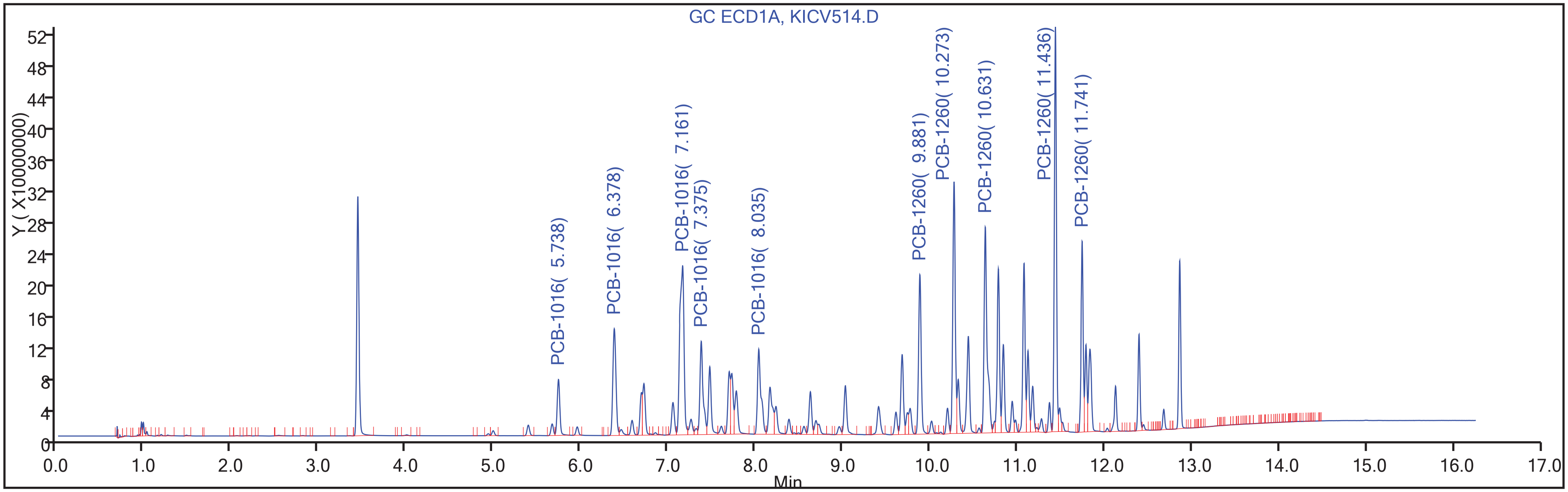
1016/1260 ICV_00013	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

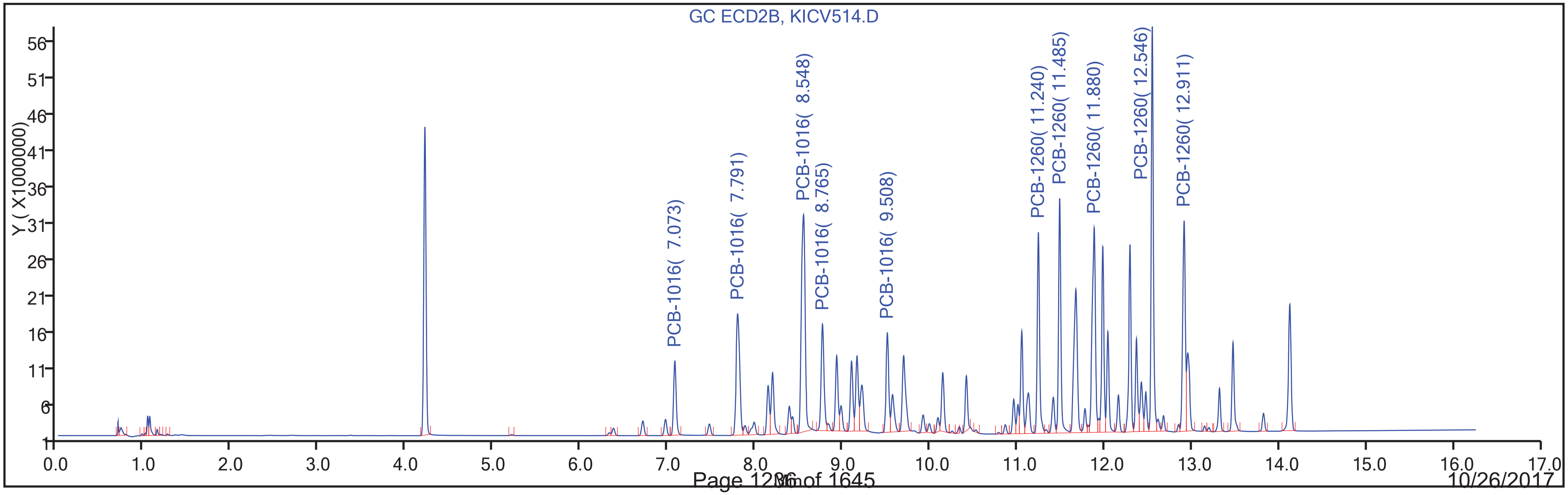
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV514.D				
Injection Date:	08-Sep-2017 13:38:52	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	ICV			Worklist Smp#:	11
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/11

Calibration Date: 09/08/2017 13:38

Instrument ID: SGCK

Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP2

ID: 0.53(mm)

Calib End Date: 09/08/2017 13:17

Lab File ID: KICV514.D

Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0146	0.0141		969	1000	-3.1	20.0
PCB-1016 Peak 2	Ave	0.0308	0.0312		1010	1000	1.4	20.0
PCB-1016 Peak 3	Ave	0.0564	0.0592		1050	1000	5.0	20.0
PCB-1016 Peak 4	Ave	0.0213	0.0224		1050	1000	5.0	20.0
PCB-1016 Peak 5	Ave	0.0188	0.0189		1000	1000	0.2	20.0
PCB-1260 Peak 1	Ave	0.0363	0.0341		941	1000	-5.9	20.0
PCB-1260 Peak 2	Ave	0.0389	0.0389		999	1000	-0.1	20.0
PCB-1260 Peak 3	Ave	0.0534	0.0478		895	1000	-10.5	20.0
PCB-1260 Peak 4	Ave	0.0525	0.0622		1180	1000	18.4	20.0
PCB-1260 Peak 5	Ave	0.0348	0.0398		1140	1000	14.3	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.4786	0.4866		50.8	50.0	1.7	20.0

FORM VII 8082A

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/11 Calibration Date: 09/08/2017 13:38

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP2 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KICV514.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	7.07	7.06	7.08
PCB-1016 Peak 2	7.79	7.78	7.80
PCB-1016 Peak 3	8.55	8.54	8.56
PCB-1016 Peak 4	8.77	8.76	8.78
PCB-1016 Peak 5	9.51	9.50	9.52
PCB-1260 Peak 1	11.24	11.23	11.25
PCB-1260 Peak 2	11.49	11.47	11.49
PCB-1260 Peak 3	11.88	11.87	11.89
PCB-1260 Peak 4	12.55	12.54	12.56
PCB-1260 Peak 5	12.91	12.90	12.92
DCB Decachlorobiphenyl (Surr)	14.12	14.11	14.13

Report Date: 11-Sep-2017 09:17:25   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV514.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 08-Sep-2017 13:38:52   ALS Bottle#: 11   Worklist Smp#: 11
Injection Vol: 2.0 ul   Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 160-0011372-004
Operator ID: DEK   Instrument ID: SGCK
Sublist:

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:21   Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard   Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm)   Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm)   Det: GC ECD2B
Process Host: XAWRK037

First Level Reviewer: konopkad   Date: 11-Sep-2017 09:09:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.438	3.439	-0.001	543546261	50.0	50.0	
2	4.206	4.208	-0.002	75936053	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.738	5.739	-0.001	151946058	1000.0	988.6	
1	6.378	6.379	-0.001	338378941	1000.0	1022.6	
1	7.161	7.162	-0.001	728046615	1000.0	1035.5	
1	7.375	7.376	-0.001	301543710	1000.0	1033.1	
1	8.035	8.036	-0.001	306452728	1000.0	992.0	
2	7.073	7.073	0.000	21441872	1000.0	969.3	
2	7.791	7.793	-0.002	47446821	1000.0	1013.8	
2	8.548	8.549	-0.001	89842434	1000.0	1049.6	
2	8.765	8.766	-0.001	34009546	1000.0	1049.7	
2	9.508	9.509	-0.001	28631970	1000.0	1001.7	
						RPD = 0.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.881	9.882	-0.001	420066560	1000.0	966.3	
1	10.273	10.274	-0.001	622074700	1000.0	931.5	
1	10.631	10.632	-0.001	646724557	1000.0	873.3	
1	11.436	11.436	0.000	866009798	1000.0	1165.4	
1	11.741	11.742	-0.001	398850403	1000.0	1072.4	
2	11.240	11.239	0.001	51828840	1000.0	941.4	
2	11.485	11.484	0.001	59023259	1000.0	998.8	
2	11.880	11.881	-0.001	72620210	1000.0	894.7	
2	12.546	12.546	0.000	94495286	1000.0	1184.1	
2	12.911	12.911	0.000	60413960	1000.0	1142.5	
						RPD = 3.00	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	333344435	50.0	51.9	
2	14.123	14.123	0.000	36953020	50.0	50.8	
						RPD = 2.01	

Reagents:

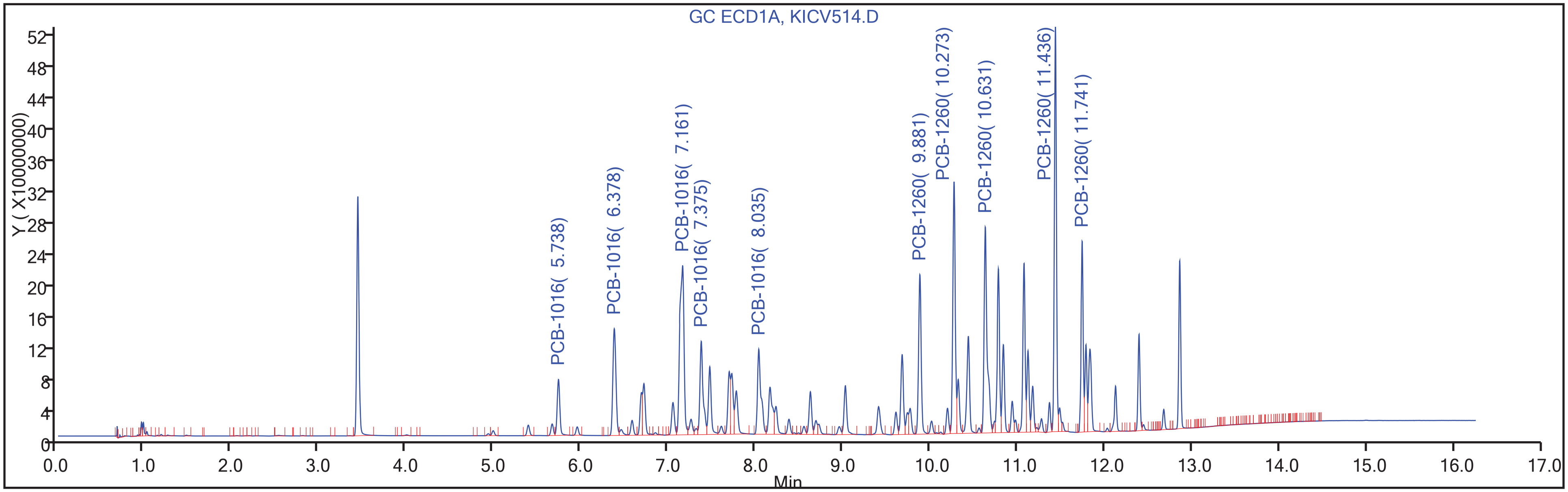
1016/1260 ICV_00013	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:25   Chrom Revision: 2.2 16-Aug-2017 16:24:46

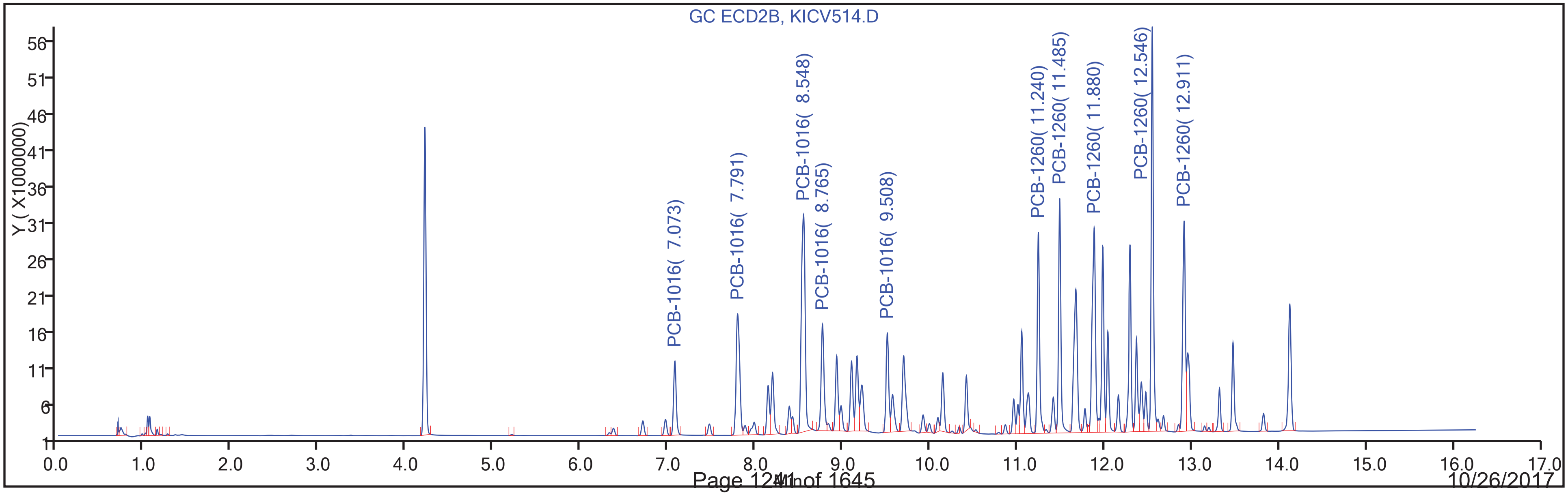
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV514.D				
Injection Date:	08-Sep-2017 13:38:52	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	ICV			Worklist Smp#:	11
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/19 Calibration Date: 09/08/2017 16:26

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KICV522.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
DCB Decachlorobiphenyl (Surr)	Ave	0.5911	0.6047		51.1	50.0	2.3	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/19

Calibration Date: 09/08/2017 16:26

Instrument ID: SGCK

Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm)

Calib End Date: 09/08/2017 13:17

Lab File ID: KICV522.D

Analyte	RT	RT WINDOW	
		FROM	TO
DCB Decachlorobiphenyl (Surr)	12.86	12.85	12.87

Form VII 8082A

```
Report Date: 11-Sep-2017 09:17:50                 Chrom Revision: 2.2  16-Aug-2017 16:24:46

                                  TestAmerica St. Louis
                             Target Compound Quantitation Report

Data File:       \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV522.D
Lims ID:         ICV
Client ID:
Sample Type:     ICV
Inject. Date:    08-Sep-2017 16:26:22          ALS Bottle#:      19           Worklist Smp#:    19
Injection Vol:   2.0 ul                        Dil. Factor:      1.0000
Sample Info:     ICV
Misc. Info.:     160-0011372-019
Operator ID:     DEK                           Instrument ID:    SGCK
Sublist:

Method:          \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group:     GC 8082A_ICAL_IS
Last Update:     11-Sep-2017 09:17:47          Calib Date:       08-Sep-2017 17:29:06
Integrator:      Falcon
Quant Method:    Internal Standard             Quant By:         Initial Calibration
Last ICal File:  \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 :       RTX-CLP Pesticides ( 0.53 mm)                   Det: GC ECD1A
Column 2 :       RTX-CLP Pesticides2 ( 0.53 mm)                  Det: GC ECD2B
Process Host:    XAWRK037

      RT      Exp RT   Dlt RT                 Cal Amt   OnCol Amt
Col   (min.)  (min.)   (min.)     Response    ng/ml     ng/ml       Flags

*  2 1-Bromo-2-nitrobenzene
 1    3.440   3.440    0.000     552920854     50.0       50.0
 2    4.208   4.209   -0.001      76128613     50.0       50.0
                                                    RPD =   0.00

  3 PCB-1221
 1    5.391   5.392   -0.001      96374915   1008.0      999.9
 1    5.666   5.667   -0.001      59721865   1008.0      998.0
 1    5.738   5.739   -0.001     223664021   1008.0      982.5
 2    6.705   6.705    0.000      13555217   1008.0      962.3
 2    6.967   6.965    0.002       8736989   1008.0      951.1
 2    7.073   7.074   -0.001      31166520   1008.0      949.9
                                                    RPD =   4.01

  9 PCB-1254
 1    8.626   8.625    0.001     315707414    996.0      941.2
 1    9.026   9.027   -0.001     421406736    996.0      939.2
 1    9.606   9.607   -0.001     564556355    996.0      924.3
 1   10.013  10.012    0.001     404257623    996.0      952.7
 1   10.631  10.634   -0.003     586399629    996.0      984.8
 2   10.143  10.144   -0.001      46608086    996.0      937.5
 2   10.415  10.414    0.001      49652502    996.0      983.0
 2   11.005  11.004    0.001      66663876    996.0      970.6
 2   11.278  11.279   -0.001      45379455    996.0      997.4
 2   11.883  11.882    0.001      65445655    996.0      996.1
                                                    RPD =   2.96

$  5 DCB Decachlorobiphenyl (Surr)
 1   12.861  12.861    0.000     334321088     50.0       51.1
 2   14.123  14.123    0.000      37156921     50.0       51.0
                                                    RPD =   0.30
```

Reagents:

1221/1254 ICV_00004	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

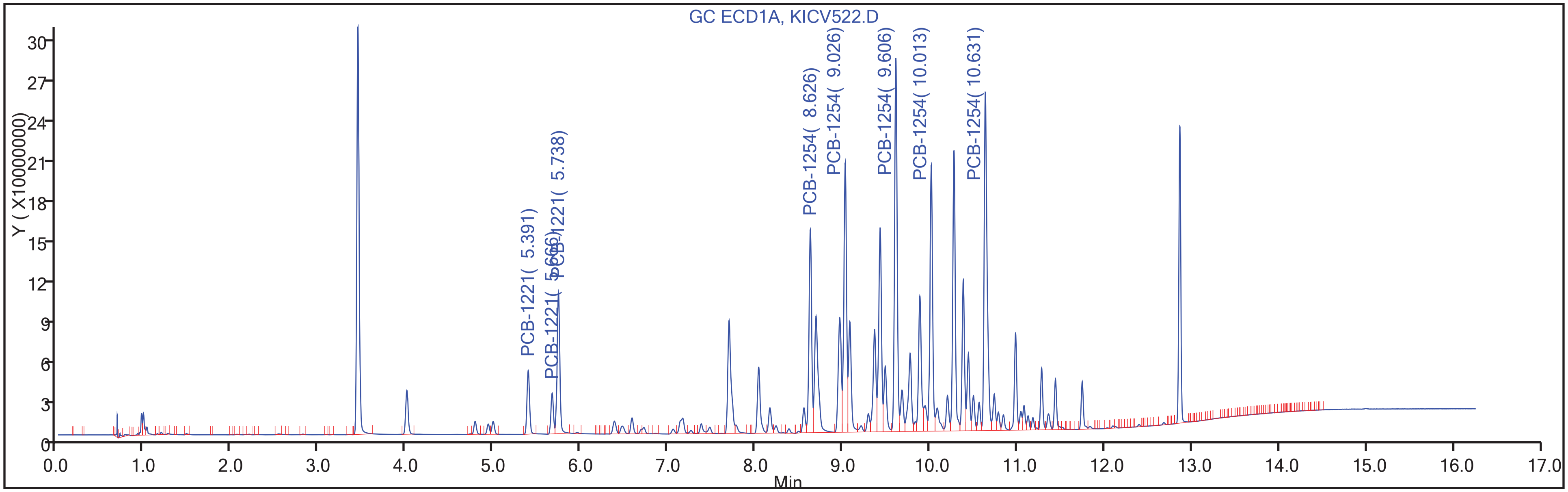
Report Date: 11-Sep-2017 09:17:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

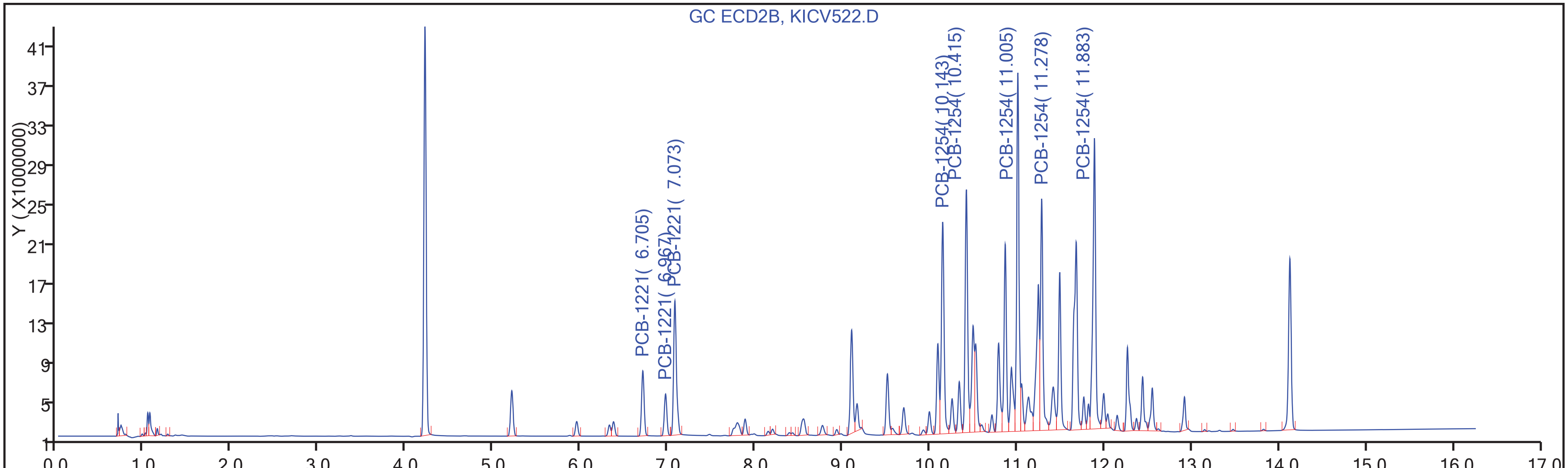
Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV522.D

Injection Date:	08-Sep-2017 16:26:22	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	ICV			Worklist Smp#:	19
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/19

Calibration Date: 09/08/2017 16:26

Instrument ID: SGCK

Calib Start Date: 09/08/2017 13:59

GC Column: RTXCLP1 ID: 0.53(mm)

Calib End Date: 09/08/2017 16:05

Lab File ID: KICV522.D

Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Ave	0.0087	0.0087		1000	1010	-0.8	20.0
PCB-1221 Peak 2	Ave	0.0054	0.0054		998	1010	-1.0	20.0
PCB-1221 Peak 3	Ave	0.0206	0.0201		982	1010	-2.5	20.0
PCB-1254 Peak 1	Ave	0.0303	0.0287		941	996	-5.5	20.0
PCB-1254 Peak 2	Ave	0.0406	0.0383		939	996	-5.7	20.0
PCB-1254 Peak 3	Ave	0.0552	0.0513		924	996	-7.2	20.0
PCB-1254 Peak 4	Ave	0.0384	0.0367		953	996	-4.4	20.0
PCB-1254 Peak 5	Ave	0.0538	0.0532		985	996	-1.1	20.0

FORM VII 8082A

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/19 Calibration Date: 09/08/2017 16:26

Instrument ID: SGCK Calib Start Date: 09/08/2017 13:59

GC Column: RTXCLP1 ID: 0.53(mm) Calib End Date: 09/08/2017 16:05

Lab File ID: KICV522.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	5.39	5.38	5.40
PCB-1221 Peak 2	5.67	5.66	5.68
PCB-1221 Peak 3	5.74	5.73	5.75
PCB-1254 Peak 1	8.63	8.62	8.64
PCB-1254 Peak 2	9.03	9.02	9.04
PCB-1254 Peak 3	9.61	9.60	9.62
PCB-1254 Peak 4	10.01	10.00	10.02
PCB-1254 Peak 5	10.63	10.62	10.64

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV522.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 08-Sep-2017 16:26:22 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 160-0011372-019
Operator ID: DEK Instrument ID: SGCK
Sublist:

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:47 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.440	0.000	552920854	50.0	50.0	
2	4.208	4.209	-0.001	76128613	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.391	5.392	-0.001	96374915	1008.0	999.9	
1	5.666	5.667	-0.001	59721865	1008.0	998.0	
1	5.738	5.739	-0.001	223664021	1008.0	982.5	
2	6.705	6.705	0.000	13555217	1008.0	962.3	
2	6.967	6.965	0.002	8736989	1008.0	951.1	
2	7.073	7.074	-0.001	31166520	1008.0	949.9	
						RPD = 4.01	
9 PCB-1254							
1	8.626	8.625	0.001	315707414	996.0	941.2	
1	9.026	9.027	-0.001	421406736	996.0	939.2	
1	9.606	9.607	-0.001	564556355	996.0	924.3	
1	10.013	10.012	0.001	404257623	996.0	952.7	
1	10.631	10.634	-0.003	586399629	996.0	984.8	
2	10.143	10.144	-0.001	46608086	996.0	937.5	
2	10.415	10.414	0.001	49652502	996.0	983.0	
2	11.005	11.004	0.001	66663876	996.0	970.6	
2	11.278	11.279	-0.001	45379455	996.0	997.4	
2	11.883	11.882	0.001	65445655	996.0	996.1	
						RPD = 2.96	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	334321088	50.0	51.1	
2	14.123	14.123	0.000	37156921	50.0	51.0	
						RPD = 0.30	

Reagents:

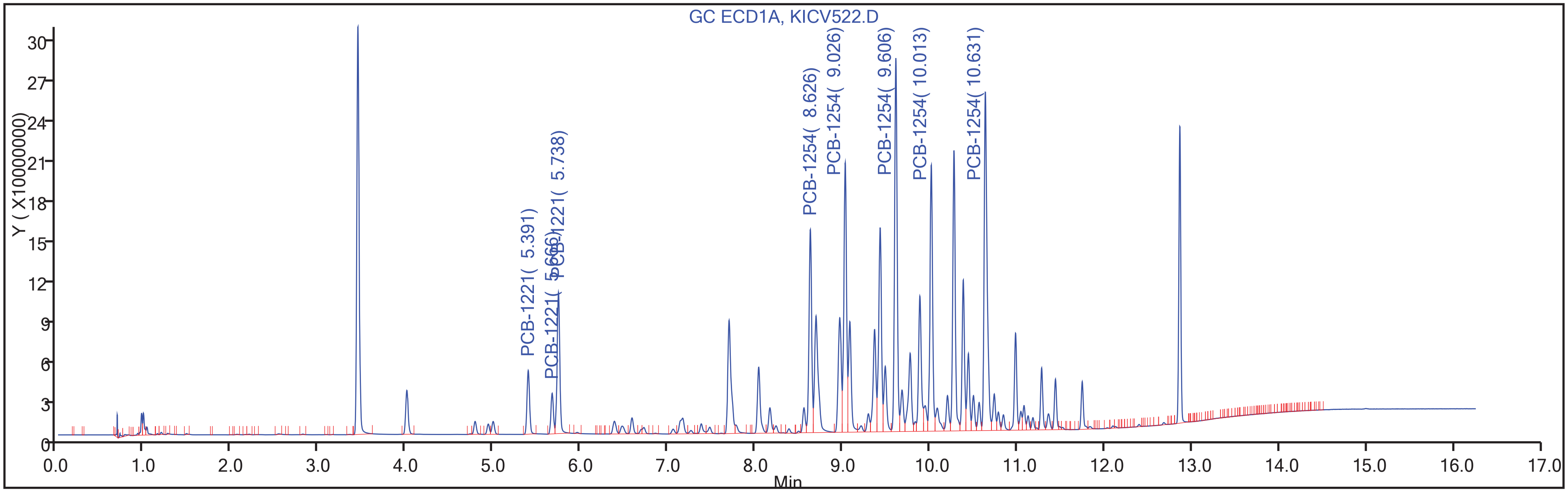
1221/1254 ICV_00004	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

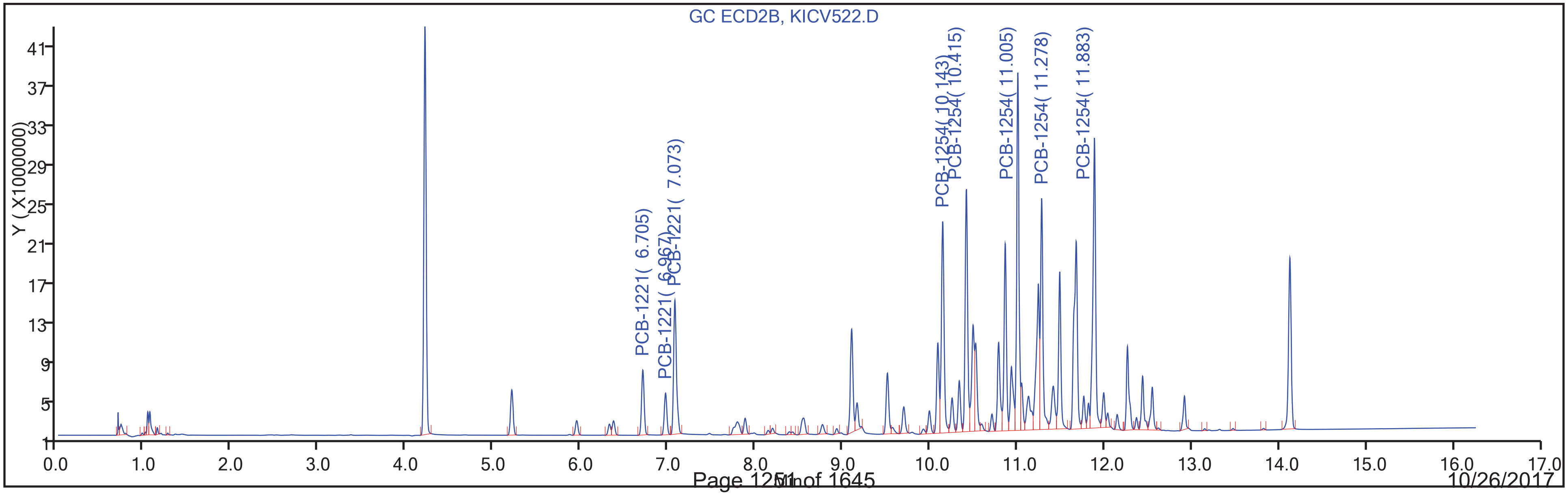
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV522.D
Injection Date: 08-Sep-2017 16:26:22
Instrument ID: SGCK
Operator ID: DEK
Lims ID: ICV
Worklist Smp#: 19
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 19
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/19   Calibration Date: 09/08/2017 16:26

Instrument ID: SGCK   Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP2   ID: 0.53(mm)   Calib End Date: 09/08/2017 13:17

Lab File ID: KICV522.D   Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
DCB Decachlorobiphenyl (Surr)	Ave	0.4786	0.4881		51.0	50.0	2.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/19 Calibration Date: 09/08/2017 16:26

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP2 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KICV522.D

Analyte	RT	RT WINDOW	
		FROM	TO
DCB Decachlorobiphenyl (Surr)	14.12	14.11	14.13

Form VII 8082A

Report Date: 11-Sep-2017 09:17:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV522.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 08-Sep-2017 16:26:22 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 160-0011372-019
Operator ID: DEK Instrument ID: SGCK
Sublist:

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:47 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.440	0.000	552920854	50.0	50.0	
2	4.208	4.209	-0.001	76128613	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.391	5.392	-0.001	96374915	1008.0	999.9	
1	5.666	5.667	-0.001	59721865	1008.0	998.0	
1	5.738	5.739	-0.001	223664021	1008.0	982.5	
2	6.705	6.705	0.000	13555217	1008.0	962.3	
2	6.967	6.965	0.002	8736989	1008.0	951.1	
2	7.073	7.074	-0.001	31166520	1008.0	949.9	
						RPD = 4.01	
9 PCB-1254							
1	8.626	8.625	0.001	315707414	996.0	941.2	
1	9.026	9.027	-0.001	421406736	996.0	939.2	
1	9.606	9.607	-0.001	564556355	996.0	924.3	
1	10.013	10.012	0.001	404257623	996.0	952.7	
1	10.631	10.634	-0.003	586399629	996.0	984.8	
2	10.143	10.144	-0.001	46608086	996.0	937.5	
2	10.415	10.414	0.001	49652502	996.0	983.0	
2	11.005	11.004	0.001	66663876	996.0	970.6	
2	11.278	11.279	-0.001	45379455	996.0	997.4	
2	11.883	11.882	0.001	65445655	996.0	996.1	
						RPD = 2.96	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	334321088	50.0	51.1	
2	14.123	14.123	0.000	37156921	50.0	51.0	
						RPD = 0.30	

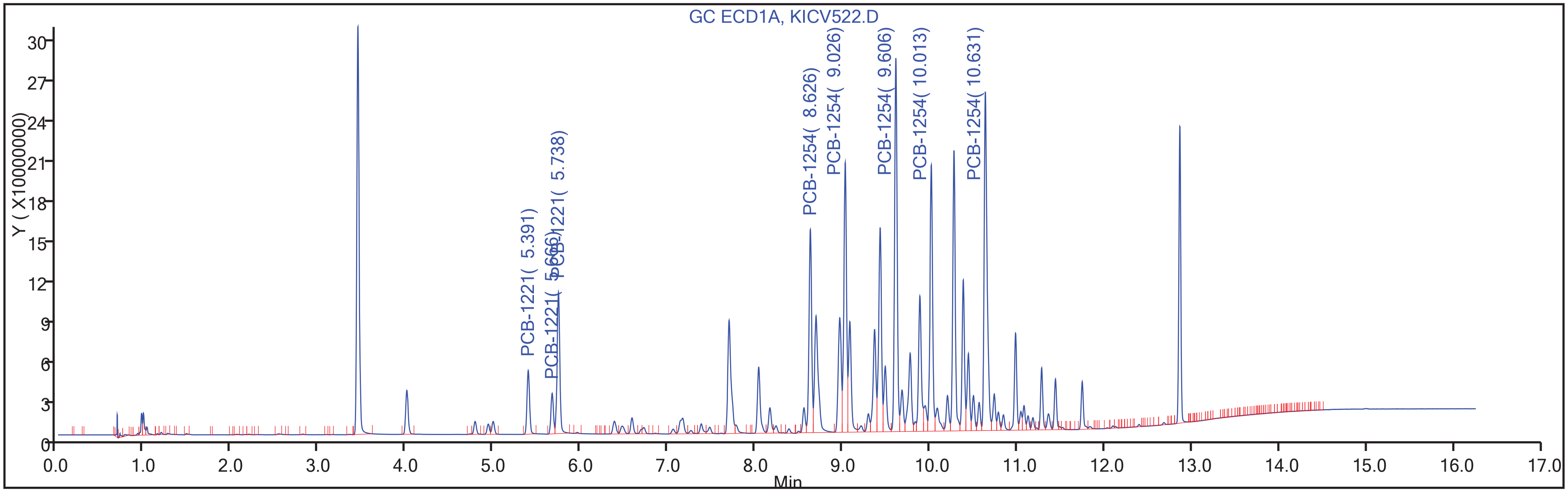
Reagents:

1221/1254 ICV_00004	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

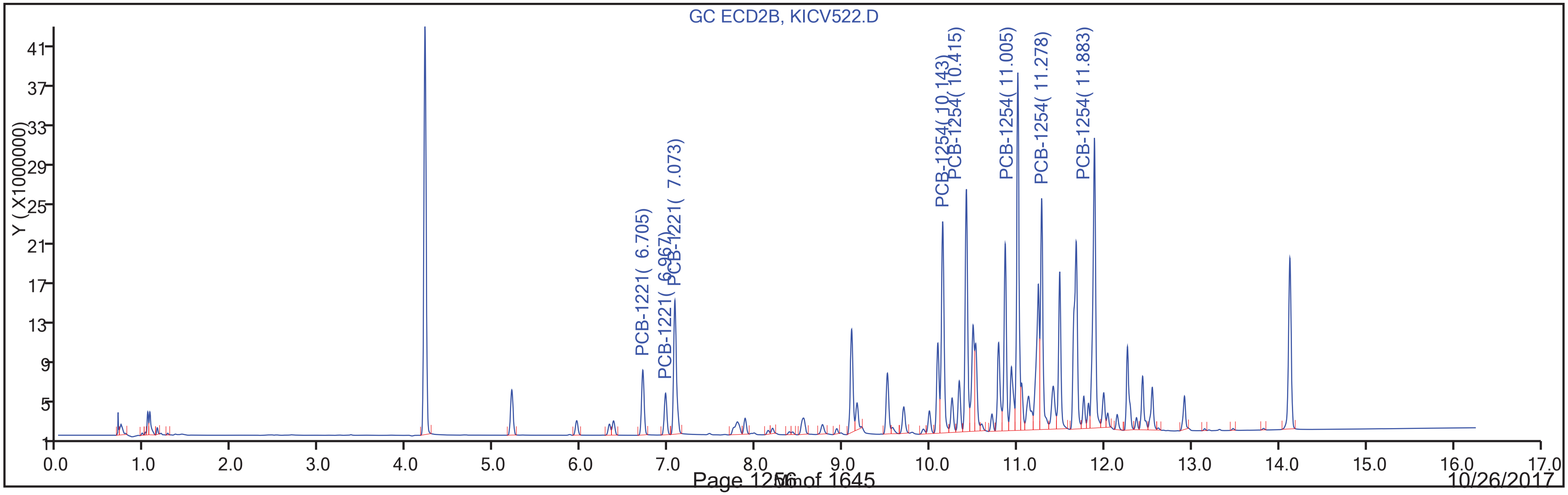
Report Date: 11-Sep-2017 09:17:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV522.D
Injection Date: 08-Sep-2017 16:26:22
Instrument ID: SGCK
Operator ID: DEK
Lims ID: ICV
Worklist Smp#: 19
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 19
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS
Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Lab Sample ID: ICV 160-326367/19
Calibration Date: 09/08/2017 16:26
Instrument ID: SGCK
Calib Start Date: 09/08/2017 13:59
GC Column: RTXCLP2 ID: 0.53(mm)
Calib End Date: 09/08/2017 16:05
Lab File ID: KICV522.D
Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Ave	0.0093	0.0088		962	1010	-4.5	20.0
PCB-1221 Peak 2	Ave	0.0060	0.0057		951	1010	-5.6	20.0
PCB-1221 Peak 3	Ave	0.0215	0.0203		950	1010	-5.8	20.0
PCB-1254 Peak 1	Ave	0.0327	0.0307		937	996	-5.9	20.0
PCB-1254 Peak 2	Ave	0.0332	0.0327		983	996	-1.3	20.0
PCB-1254 Peak 3	Ave	0.0451	0.0440		971	996	-2.5	20.0
PCB-1254 Peak 4	Ave	0.0299	0.0299		997	996	0.1	20.0
PCB-1254 Peak 5	Ave	0.0431	0.0432		996	996	0.0	20.0

FORM VII 8082A

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICV 160-326367/19 Calibration Date: 09/08/2017 16:26

Instrument ID: SGCK Calib Start Date: 09/08/2017 13:59

GC Column: RTXCLP2 ID: 0.53(mm) Calib End Date: 09/08/2017 16:05

Lab File ID: KICV522.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	6.71	6.70	6.72
PCB-1221 Peak 2	6.97	6.96	6.98
PCB-1221 Peak 3	7.07	7.06	7.08
PCB-1254 Peak 1	10.14	10.13	10.15
PCB-1254 Peak 2	10.42	10.40	10.42
PCB-1254 Peak 3	11.01	10.99	11.01
PCB-1254 Peak 4	11.28	11.27	11.29
PCB-1254 Peak 5	11.88	11.87	11.89

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV522.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 08-Sep-2017 16:26:22 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 160-0011372-019
Operator ID: DEK Instrument ID: SGCK
Sublist:

Method: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 11-Sep-2017 09:17:47 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK037

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.440	3.440	0.000	552920854	50.0	50.0	
2	4.208	4.209	-0.001	76128613	50.0	50.0	
						RPD = 0.00	
3 PCB-1221							
1	5.391	5.392	-0.001	96374915	1008.0	999.9	
1	5.666	5.667	-0.001	59721865	1008.0	998.0	
1	5.738	5.739	-0.001	223664021	1008.0	982.5	
2	6.705	6.705	0.000	13555217	1008.0	962.3	
2	6.967	6.965	0.002	8736989	1008.0	951.1	
2	7.073	7.074	-0.001	31166520	1008.0	949.9	
						RPD = 4.01	
9 PCB-1254							
1	8.626	8.625	0.001	315707414	996.0	941.2	
1	9.026	9.027	-0.001	421406736	996.0	939.2	
1	9.606	9.607	-0.001	564556355	996.0	924.3	
1	10.013	10.012	0.001	404257623	996.0	952.7	
1	10.631	10.634	-0.003	586399629	996.0	984.8	
2	10.143	10.144	-0.001	46608086	996.0	937.5	
2	10.415	10.414	0.001	49652502	996.0	983.0	
2	11.005	11.004	0.001	66663876	996.0	970.6	
2	11.278	11.279	-0.001	45379455	996.0	997.4	
2	11.883	11.882	0.001	65445655	996.0	996.1	
						RPD = 2.96	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.861	12.861	0.000	334321088	50.0	51.1	
2	14.123	14.123	0.000	37156921	50.0	51.0	
						RPD = 0.30	

Reagents:

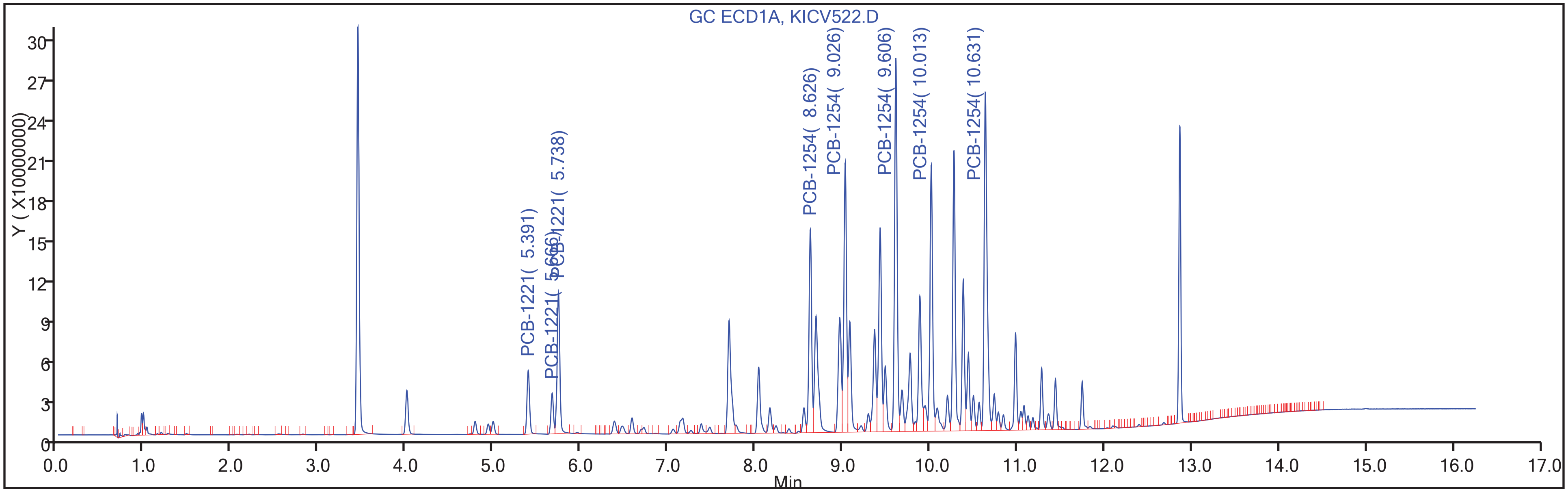
1221/1254 ICV_00004	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00012	Amount Added: 50.00	Units: uL

Report Date: 11-Sep-2017 09:17:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

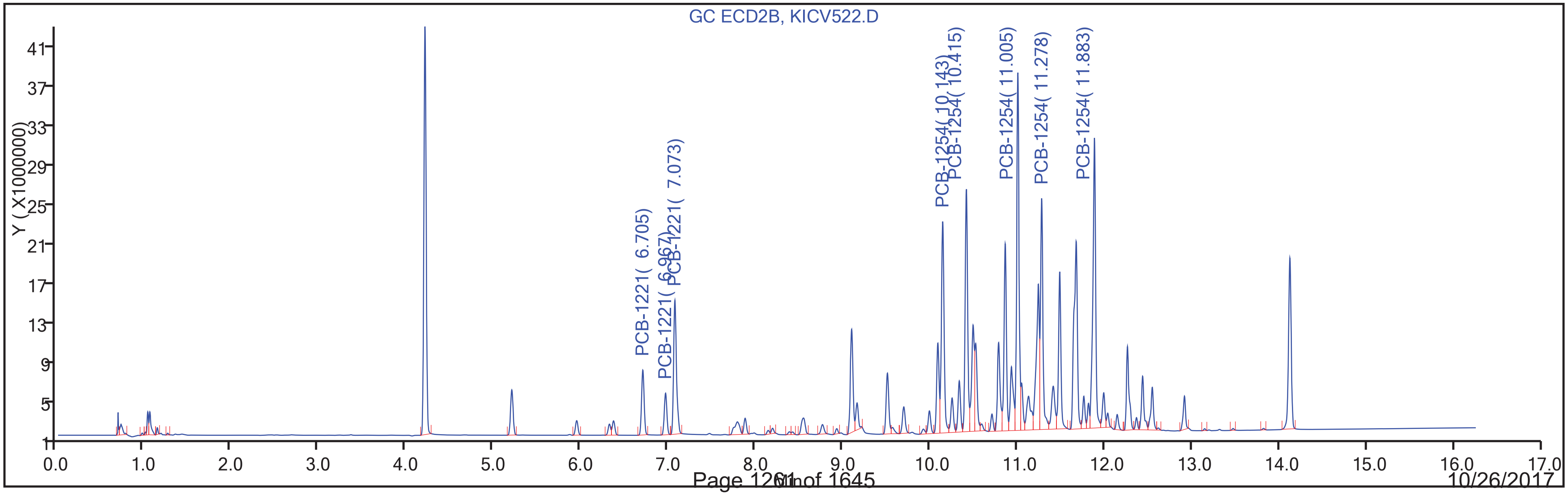
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICV522.D
Injection Date: 08-Sep-2017 16:26:22
Instrument ID: SGCK
Operator ID: DEK
Lims ID: ICV
Worklist Smp#: 19
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 19
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVIS 160-333051/3 Calibration Date: 10/21/2017 12:42

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV117.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0141	0.0151		1070	1000	6.8	20.0
PCB-1016 Peak 2	Ave	0.0304	0.0313		1030	1000	2.8	20.0
PCB-1016 Peak 3	Ave	0.0647	0.0664		1030	1000	2.6	20.0
PCB-1016 Peak 4	Ave	0.0268	0.0279		1040	1000	4.0	20.0
PCB-1016 Peak 5	Ave	0.0284	0.0289		1020	1000	1.7	20.0
PCB-1260 Peak 1	Ave	0.0400	0.0402		1010	1000	0.5	20.0
PCB-1260 Peak 2	Ave	0.0614	0.0616		1000	1000	0.2	20.0
PCB-1260 Peak 3	Ave	0.0681	0.0688		1010	1000	1.0	20.0
PCB-1260 Peak 4	Ave	0.0684	0.0703		1030	1000	2.9	20.0
PCB-1260 Peak 5	Ave	0.0342	0.0344		1010	1000	0.6	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.5911	0.6198		52.4	50.0	4.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVIS 160-333051/3 Calibration Date: 10/21/2017 12:42

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV117.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	5.71	5.70	5.72
PCB-1016 Peak 2	6.34	6.33	6.35
PCB-1016 Peak 3	7.13	7.12	7.14
PCB-1016 Peak 4	7.34	7.33	7.35
PCB-1016 Peak 5	8.00	7.99	8.01
PCB-1260 Peak 1	9.84	9.83	9.85
PCB-1260 Peak 2	10.23	10.22	10.24
PCB-1260 Peak 3	10.59	10.58	10.60
PCB-1260 Peak 4	11.40	11.39	11.41
PCB-1260 Peak 5	11.70	11.69	11.71
DCB Decachlorobiphenyl (Surr)	12.82	12.81	12.83

Report Date: 22-Oct-2017 15:23:15 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV117.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 21-Oct-2017 12:42:27 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 160-0011731-003
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.411	3.411	0.000	532136140	50.0	50.0	
2	4.187	4.187	0.000	78833447	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.705	5.705	0.000	160658808	1000.0	1067.7	
1	6.341	6.341	0.000	333010599	1000.0	1027.9	
1	7.125	7.125	0.000	706534096	1000.0	1026.4	
1	7.336	7.336	0.000	297300079	1000.0	1040.4	
1	7.995	7.995	0.000	307492619	1000.0	1016.7	
2	7.046	7.046	0.000	23321362	1000.0	1015.5	
2	7.764	7.764	0.000	49309156	1000.0	1014.9	
2	8.517	8.517	0.000	99821589	1000.0	1123.4	
2	8.736	8.736	0.000	38981119	1000.0	1159.0	
2	9.477	9.477	0.000	31229469	1000.0	1052.5	
						RPD = 3.53	
11 PCB-1260							
1	9.838	9.838	0.000	427892624	1000.0	1005.4	
1	10.231	10.231	0.000	655031757	1000.0	1001.8	
1	10.591	10.591	0.000	732565383	1000.0	1010.4	
1	11.398	11.398	0.000	748604191	1000.0	1029.0	
1	11.703	11.703	0.000	366283003	1000.0	1006.0	
2	11.212	11.212	0.000	59252107	1000.0	1036.7	
2	11.457	11.457	0.000	64684160	1000.0	1054.4	
2	11.854	11.854	0.000	87487230	1000.0	1038.3	
2	12.521	12.521	0.000	87677065	1000.0	1058.3	
2	12.886	12.886	0.000	58319118	1000.0	1062.4	
						RPD = 3.83	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.823	12.823	0.000	329828890	50.0	52.4	
2	14.087	14.087	0.000	38053920	50.0	50.4	
						RPD = 3.88	

Reagents:

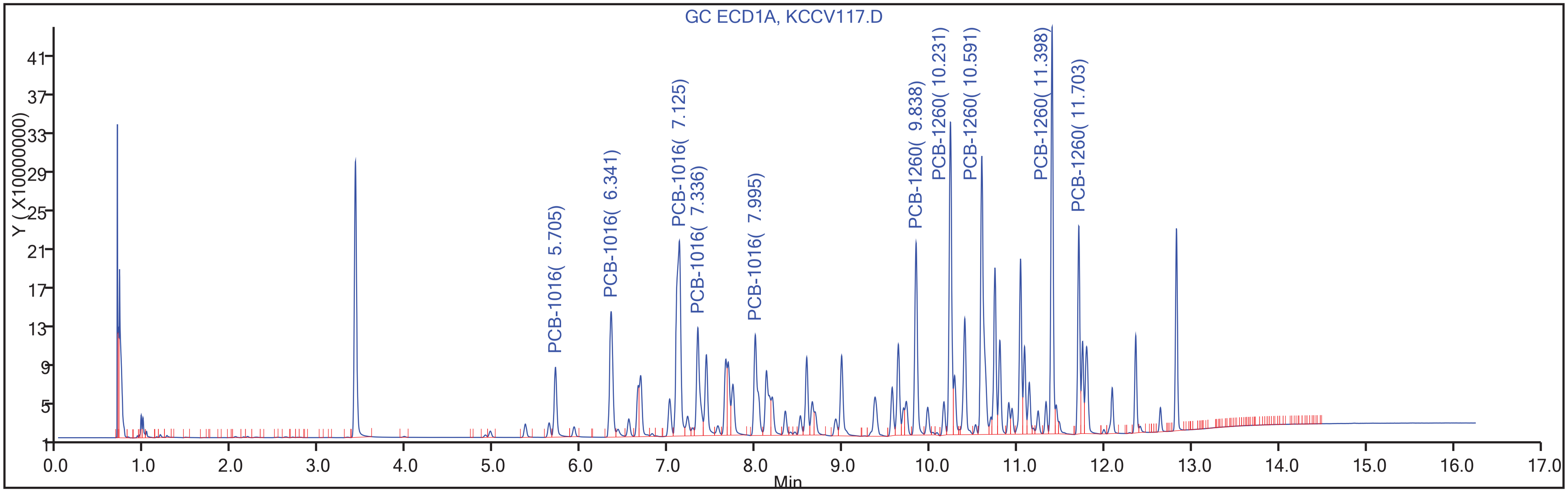
1016/1260 Cal_00015	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00013	Amount Added: 50.00	Units: uL

Report Date: 22-Oct-2017 15:23:15 Chrom Revision: 2.2 16-Aug-2017 16:24:46

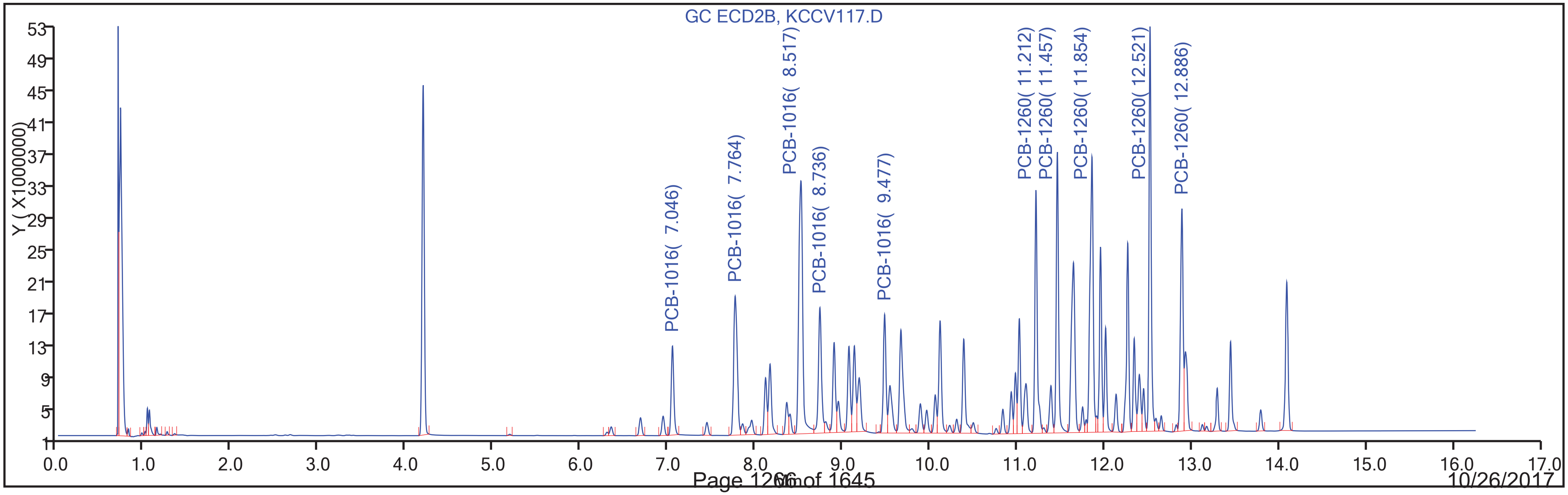
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV117.D				
Injection Date:	21-Oct-2017 12:42:27	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCVIS 160-333051/3

Calibration Date: 10/21/2017 12:42

Instrument ID: SGCK

Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP2 ID: 0.53(mm)

Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV117.D

Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0146	0.0148		1020	1000	1.6	20.0
PCB-1016 Peak 2	Ave	0.0308	0.0313		1010	1000	1.5	20.0
PCB-1016 Peak 3	Ave	0.0564	0.0633		1120	1000	12.3	20.0
PCB-1016 Peak 4	Ave	0.0213	0.0247		1160	1000	15.9	20.0
PCB-1016 Peak 5	Ave	0.0188	0.0198		1050	1000	5.2	20.0
PCB-1260 Peak 1	Ave	0.0363	0.0376		1040	1000	3.7	20.0
PCB-1260 Peak 2	Ave	0.0389	0.0410		1050	1000	5.4	20.0
PCB-1260 Peak 3	Ave	0.0534	0.0555		1040	1000	3.8	20.0
PCB-1260 Peak 4	Ave	0.0525	0.0556		1060	1000	5.8	20.0
PCB-1260 Peak 5	Ave	0.0348	0.0370		1060	1000	6.2	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.4786	0.4827		50.4	50.0	0.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Lab Sample ID: CCVIS 160-333051/3	Calibration Date: 10/21/2017 12:42
Instrument ID: SGCK	Calib Start Date: 09/08/2017 11:12
GC Column: RTXCLP2 ID: 0.53(mm)	Calib End Date: 09/08/2017 13:17
Lab File ID: KCCV117.D	

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	7.05	7.04	7.06
PCB-1016 Peak 2	7.76	7.75	7.77
PCB-1016 Peak 3	8.52	8.51	8.53
PCB-1016 Peak 4	8.74	8.73	8.75
PCB-1016 Peak 5	9.48	9.47	9.49
PCB-1260 Peak 1	11.21	11.20	11.22
PCB-1260 Peak 2	11.46	11.45	11.47
PCB-1260 Peak 3	11.85	11.84	11.86
PCB-1260 Peak 4	12.52	12.51	12.53
PCB-1260 Peak 5	12.89	12.88	12.90
DCB Decachlorobiphenyl (Surr)	14.09	14.08	14.10

Form VII 8082A

Report Date: 22-Oct-2017 15:23:18   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV117.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 21-Oct-2017 12:42:27   ALS Bottle#: 3   Worklist Smp#: 3
Injection Vol: 2.0 ul   Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 160-0011731-003
Operator ID: DEK   Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14   Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard   Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm)   Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm)   Det: GC ECD2B
Process Host: XAWRK053

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.411	3.411	0.000	532136140	50.0	50.0	
2	4.187	4.187	0.000	78833447	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.705	5.705	0.000	160658808	1000.0	1067.7	
1	6.341	6.341	0.000	333010599	1000.0	1027.9	
1	7.125	7.125	0.000	706534096	1000.0	1026.4	
1	7.336	7.336	0.000	297300079	1000.0	1040.4	
1	7.995	7.995	0.000	307492619	1000.0	1016.7	
2	7.046	7.046	0.000	23321362	1000.0	1015.5	
2	7.764	7.764	0.000	49309156	1000.0	1014.9	
2	8.517	8.517	0.000	99821589	1000.0	1123.4	
2	8.736	8.736	0.000	38981119	1000.0	1159.0	
2	9.477	9.477	0.000	31229469	1000.0	1052.5	
						RPD = 3.53	
11 PCB-1260							
1	9.838	9.838	0.000	427892624	1000.0	1005.4	
1	10.231	10.231	0.000	655031757	1000.0	1001.8	
1	10.591	10.591	0.000	732565383	1000.0	1010.4	
1	11.398	11.398	0.000	748604191	1000.0	1029.0	
1	11.703	11.703	0.000	366283003	1000.0	1006.0	
2	11.212	11.212	0.000	59252107	1000.0	1036.7	
2	11.457	11.457	0.000	64684160	1000.0	1054.4	
2	11.854	11.854	0.000	87487230	1000.0	1038.3	
2	12.521	12.521	0.000	87677065	1000.0	1058.3	
2	12.886	12.886	0.000	58319118	1000.0	1062.4	
						RPD = 3.83	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.823	12.823	0.000	329828890	50.0	52.4	
2	14.087	14.087	0.000	38053920	50.0	50.4	
						RPD = 3.88	

Reagents:

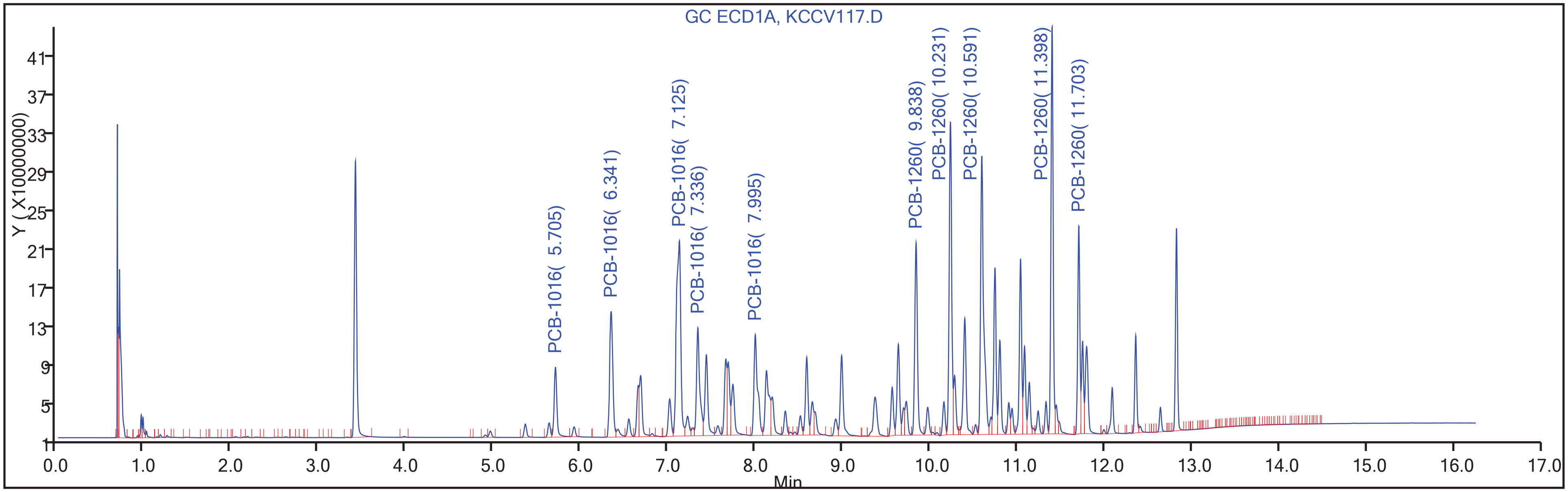
1016/1260 Cal_00015	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00013	Amount Added: 50.00	Units: uL

Report Date: 22-Oct-2017 15:23:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

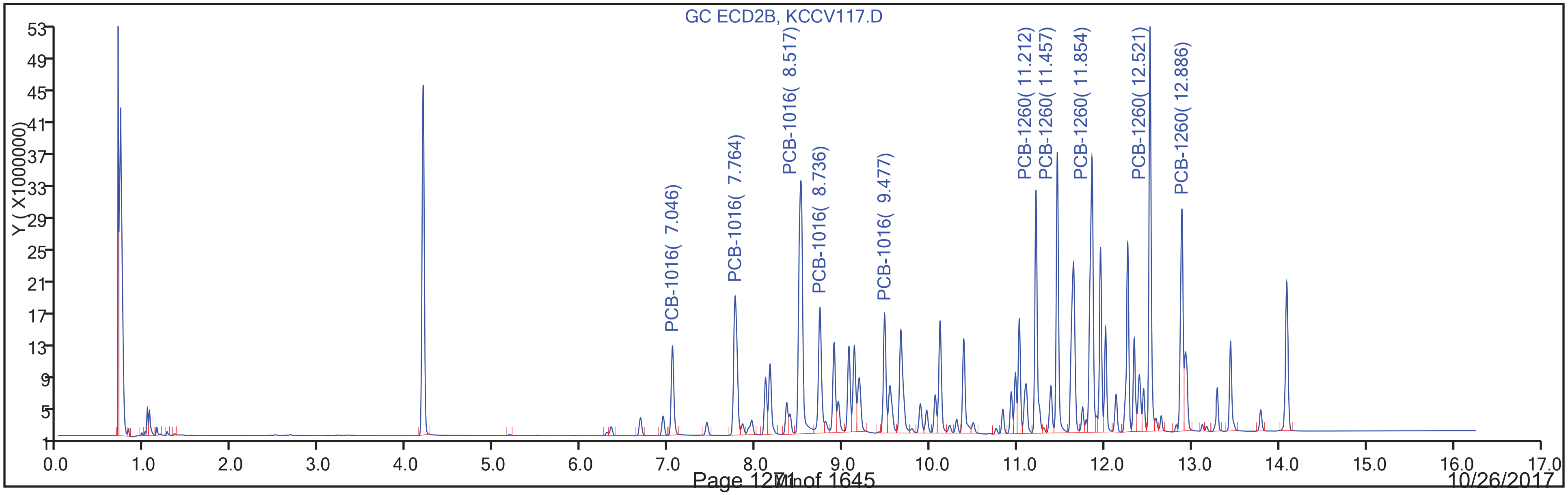
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV117.D				
Injection Date:	21-Oct-2017 12:42:27	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/14 Calibration Date: 10/21/2017 16:32

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV128.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0141	0.0145		1020	1000	2.3	20.0
PCB-1016 Peak 2	Ave	0.0304	0.0294		966	1000	-3.4	20.0
PCB-1016 Peak 3	Ave	0.0647	0.0637		984	1000	-1.6	20.0
PCB-1016 Peak 4	Ave	0.0268	0.0268		998	1000	-0.2	20.0
PCB-1016 Peak 5	Ave	0.0284	0.0269		947	1000	-5.3	20.0
PCB-1260 Peak 1	Ave	0.0400	0.0356		889	1000	-11.1	20.0
PCB-1260 Peak 2	Ave	0.0614	0.0543		883	1000	-11.7	20.0
PCB-1260 Peak 3	Ave	0.0681	0.0596		874	1000	-12.6	20.0
PCB-1260 Peak 4	Ave	0.0684	0.0598		874	1000	-12.6	20.0
PCB-1260 Peak 5	Ave	0.0342	0.0306		893	1000	-10.7	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.5911	0.5436		46.0	50.0	-8.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/14 Calibration Date: 10/21/2017 16:32

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV128.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	5.71	5.70	5.72
PCB-1016 Peak 2	6.35	6.33	6.35
PCB-1016 Peak 3	7.13	7.12	7.14
PCB-1016 Peak 4	7.34	7.33	7.35
PCB-1016 Peak 5	8.00	7.99	8.01
PCB-1260 Peak 1	9.84	9.83	9.85
PCB-1260 Peak 2	10.24	10.22	10.24
PCB-1260 Peak 3	10.60	10.58	10.60
PCB-1260 Peak 4	11.40	11.39	11.41
PCB-1260 Peak 5	11.71	11.69	11.71
DCB Decachlorobiphenyl (Surr)	12.83	12.81	12.83

Form VII 8082A

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV128.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Oct-2017 16:32:49 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 160-0011731-014
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:06:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.413	3.411	0.002	545355596	50.0	50.0	
2	4.191	4.187	0.004	81220042	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.707	5.705	0.002	157815541	1000.0	1023.4	
1	6.345	6.341	0.004	320552711	1000.0	965.5	
1	7.127	7.125	0.002	694349875	1000.0	984.3	
1	7.340	7.336	0.004	292338594	1000.0	998.3	
1	7.998	7.995	0.003	293409343	1000.0	946.6	
2	7.050	7.046	0.004	23761300	1000.0	1004.3	
2	7.770	7.764	0.006	50098142	1000.0	1000.8	
2	8.523	8.517	0.006	103258764	1000.0	1127.9	
2	8.741	8.736	0.005	39969447	1000.0	1153.4	
2	9.483	9.477	0.006	31396491	1000.0	1027.0	
						RPD = 7.73	

Report Date: 22-Oct-2017 15:23:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV128.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.843	9.838	0.005	387816426	1000.0	889.1	
1	10.235	10.231	0.004	591685116	1000.0	883.0	
1	10.595	10.591	0.004	649707871	1000.0	874.4	
1	11.400	11.398	0.002	651659496	1000.0	874.0	
1	11.705	11.703	0.002	333254552	1000.0	893.1	
2	11.216	11.212	0.004	55082497	1000.0	935.4	
2	11.461	11.457	0.004	59151698	1000.0	935.9	
2	11.858	11.854	0.004	83129603	1000.0	957.6	
2	12.525	12.521	0.004	82388943	1000.0	965.2	
2	12.890	12.886	0.004	55501877	1000.0	981.3	
						RPD = 7.87	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.825	12.823	0.002	296454806	50.0	46.0	
2	14.093	14.087	0.006	36209531	50.0	46.6	
						RPD = 1.29	
S 8 Polychlorinated biphenyls, Total							
1						1866.3	
2						2017.8	
						RPD = 7.80	

Reagents:

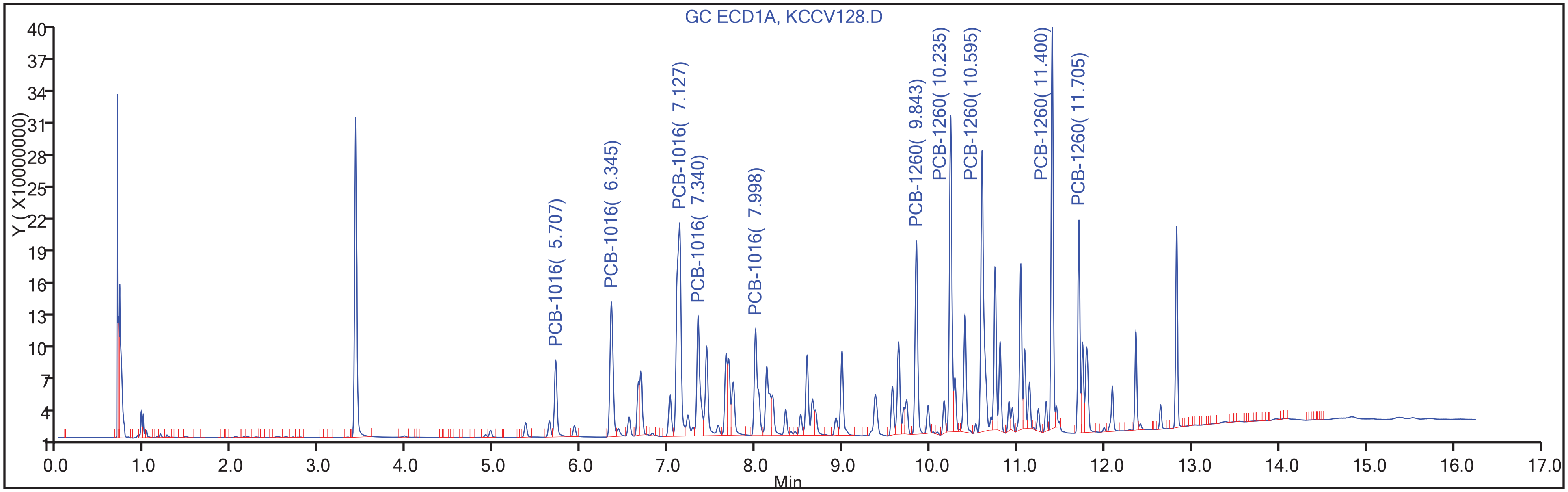
1016/1260 Cal_00015	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00013	Amount Added: 50.00	Units: uL

Report Date: 22-Oct-2017 15:23:47　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

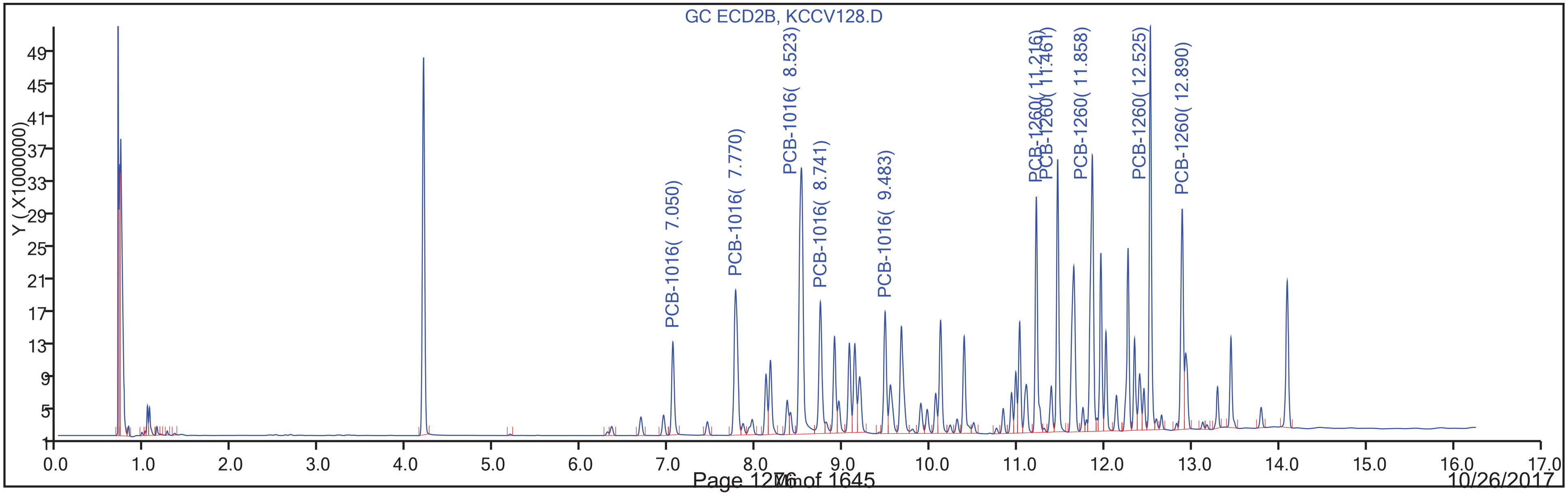
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV128.D				
Injection Date:	21-Oct-2017 16:32:49	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	CCV			Worklist Smp#:	14
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/14

Calibration Date: 10/21/2017 16:32

Instrument ID: SGCK

Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP2 ID: 0.53(mm)

Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV128.D

Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0146	0.0146		1000	1000	0.4	20.0
PCB-1016 Peak 2	Ave	0.0308	0.0308		1000	1000	0.0	20.0
PCB-1016 Peak 3	Ave	0.0564	0.0636		1130	1000	12.8	20.0
PCB-1016 Peak 4	Ave	0.0213	0.0246		1150	1000	15.3	20.0
PCB-1016 Peak 5	Ave	0.0188	0.0193		1030	1000	2.7	20.0
PCB-1260 Peak 1	Ave	0.0363	0.0339		935	1000	-6.5	20.0
PCB-1260 Peak 2	Ave	0.0389	0.0364		936	1000	-6.4	20.0
PCB-1260 Peak 3	Ave	0.0534	0.0512		958	1000	-4.2	20.0
PCB-1260 Peak 4	Ave	0.0525	0.0507		965	1000	-3.5	20.0
PCB-1260 Peak 5	Ave	0.0348	0.0342		981	1000	-1.9	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.4786	0.4458		46.6	50.0	-6.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/14 Calibration Date: 10/21/2017 16:32

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP2 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV128.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	7.05	7.04	7.06
PCB-1016 Peak 2	7.77	7.75	7.77
PCB-1016 Peak 3	8.52	8.51	8.53
PCB-1016 Peak 4	8.74	8.73	8.75
PCB-1016 Peak 5	9.48	9.47	9.49
PCB-1260 Peak 1	11.22	11.20	11.22
PCB-1260 Peak 2	11.46	11.45	11.47
PCB-1260 Peak 3	11.86	11.84	11.86
PCB-1260 Peak 4	12.53	12.51	12.53
PCB-1260 Peak 5	12.89	12.88	12.90
DCB Decachlorobiphenyl (Surr)	14.09	14.08	14.10

Form VII 8082A

Report Date: 22-Oct-2017 15:23:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV128.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Oct-2017 16:32:49 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 160-0011731-014
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:06:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.413	3.411	0.002	545355596	50.0	50.0	
2	4.191	4.187	0.004	81220042	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.707	5.705	0.002	157815541	1000.0	1023.4	
1	6.345	6.341	0.004	320552711	1000.0	965.5	
1	7.127	7.125	0.002	694349875	1000.0	984.3	
1	7.340	7.336	0.004	292338594	1000.0	998.3	
1	7.998	7.995	0.003	293409343	1000.0	946.6	
2	7.050	7.046	0.004	23761300	1000.0	1004.3	
2	7.770	7.764	0.006	50098142	1000.0	1000.8	
2	8.523	8.517	0.006	103258764	1000.0	1127.9	
2	8.741	8.736	0.005	39969447	1000.0	1153.4	
2	9.483	9.477	0.006	31396491	1000.0	1027.0	
						RPD = 7.73	

Report Date: 22-Oct-2017 15:23:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV128.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.843	9.838	0.005	387816426	1000.0	889.1	
1	10.235	10.231	0.004	591685116	1000.0	883.0	
1	10.595	10.591	0.004	649707871	1000.0	874.4	
1	11.400	11.398	0.002	651659496	1000.0	874.0	
1	11.705	11.703	0.002	333254552	1000.0	893.1	
2	11.216	11.212	0.004	55082497	1000.0	935.4	
2	11.461	11.457	0.004	59151698	1000.0	935.9	
2	11.858	11.854	0.004	83129603	1000.0	957.6	
2	12.525	12.521	0.004	82388943	1000.0	965.2	
2	12.890	12.886	0.004	55501877	1000.0	981.3	
						RPD = 7.87	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.825	12.823	0.002	296454806	50.0	46.0	
2	14.093	14.087	0.006	36209531	50.0	46.6	
						RPD = 1.29	
S 8 Polychlorinated biphenyls, Total							
1						1866.3	
2						2017.8	
						RPD = 7.80	

Reagents:

1016/1260 Cal_00015	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00013	Amount Added: 50.00	Units: uL

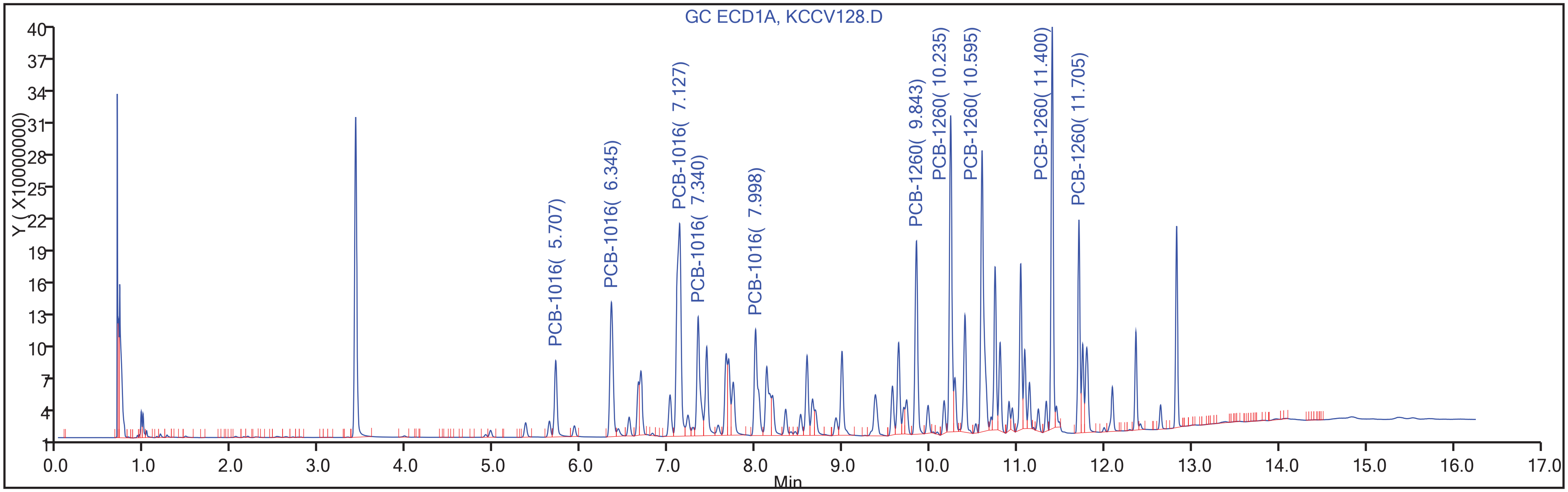
Report Date: 22-Oct-2017 15:23:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

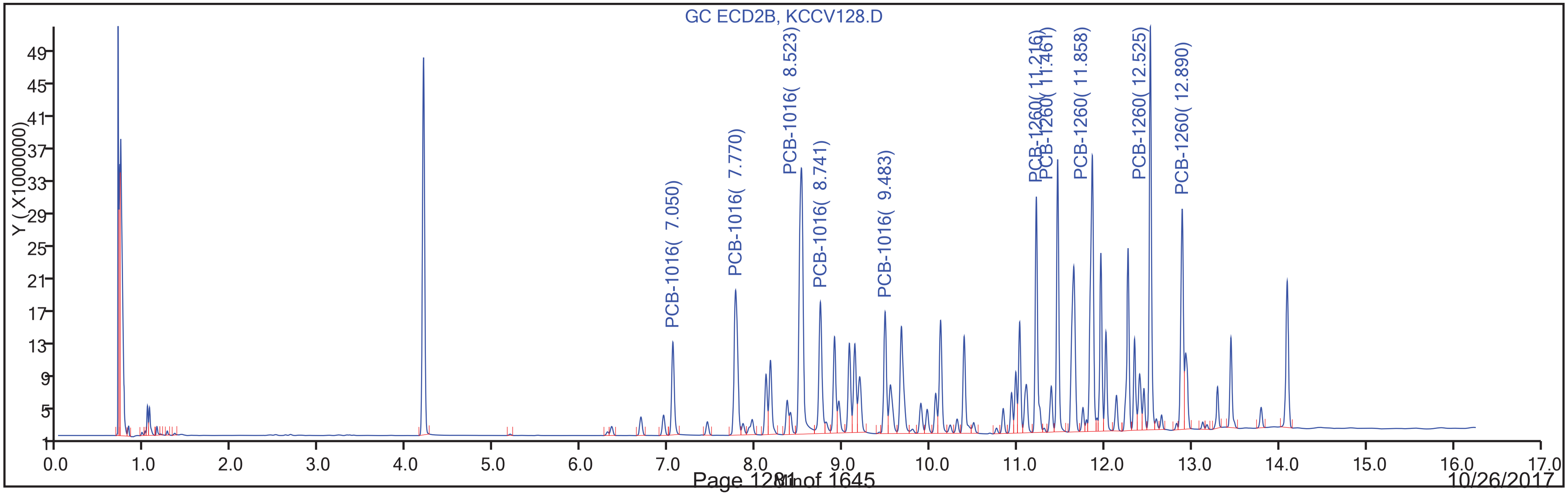
Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV128.D

Injection Date:	21-Oct-2017 16:32:49	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	CCV			Worklist Smp#:	14
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/25

Calibration Date: 10/21/2017 20:23

Instrument ID: SGCK

Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm)

Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV139.D

Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0141	0.0147		1040	1000	4.3	20.0
PCB-1016 Peak 2	Ave	0.0304	0.0301		989	1000	-1.1	20.0
PCB-1016 Peak 3	Ave	0.0647	0.0660		1020	1000	2.0	20.0
PCB-1016 Peak 4	Ave	0.0268	0.0275		1030	1000	2.6	20.0
PCB-1016 Peak 5	Ave	0.0284	0.0279		980	1000	-2.0	20.0
PCB-1260 Peak 1	Ave	0.0400	0.0373		932	1000	-6.8	20.0
PCB-1260 Peak 2	Ave	0.0614	0.0573		933	1000	-6.7	20.0
PCB-1260 Peak 3	Ave	0.0681	0.0629		924	1000	-7.6	20.0
PCB-1260 Peak 4	Ave	0.0684	0.0631		923	1000	-7.7	20.0
PCB-1260 Peak 5	Ave	0.0342	0.0325		949	1000	-5.1	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.5911	0.5648		47.8	50.0	-4.5	20.0

FORM VII 8082A

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/25 Calibration Date: 10/21/2017 20:23

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV139.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	5.71	5.70	5.72
PCB-1016 Peak 2	6.35	6.33	6.35
PCB-1016 Peak 3	7.13	7.12	7.14
PCB-1016 Peak 4	7.34	7.33	7.35
PCB-1016 Peak 5	8.00	7.99	8.01
PCB-1260 Peak 1	9.84	9.83	9.85
PCB-1260 Peak 2	10.23	10.22	10.24
PCB-1260 Peak 3	10.59	10.58	10.60
PCB-1260 Peak 4	11.40	11.39	11.41
PCB-1260 Peak 5	11.71	11.69	11.71
DCB Decachlorobiphenyl (Surr)	12.82	12.81	12.83

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV139.D				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	21-Oct-2017 20:23:25	ALS Bottle#:	25	Worklist Smp#:	25
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-15-c				
Misc. Info.:	160-0011731-023				
Operator ID:	DEK	Instrument ID:	SGCK		
Sublist:	chrom-8082A_IS_SGCK*sub5				
Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	22-Oct-2017 15:24:09	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:12:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.412	3.411	0.001	556534718	50.0	50.0	
2	4.190	4.187	0.003	82217134	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.706	5.705	0.001	164094982	1000.0	1042.7	
1	6.346	6.341	0.005	335178752	1000.0	989.3	
1	7.127	7.125	0.002	734068674	1000.0	1019.7	
1	7.339	7.336	0.003	306548242	1000.0	1025.8	
1	7.997	7.995	0.002	310132483	1000.0	980.5	
2	7.050	7.046	0.004	24464059	1000.0	1021.4	
2	7.768	7.764	0.004	51525149	1000.0	1016.8	
2	8.523	8.517	0.006	108312384	1000.0	1168.8	
2	8.740	8.736	0.004	41861141	1000.0	1193.4	
2	9.482	9.477	0.005	33242595	1000.0	1074.2	
						RPD = 7.91	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.839	9.838	0.001	414838196	1000.0	932.0	
1	10.234	10.231	0.003	637759272	1000.0	932.7	
1	10.592	10.591	0.001	700309644	1000.0	923.6	
1	11.399	11.398	0.001	702466644	1000.0	923.3	
1	11.706	11.703	0.003	361208015	1000.0	948.5	
2	11.217	11.212	0.005	58696105	1000.0	984.7	
2	11.460	11.457	0.003	63774034	1000.0	996.8	
2	11.858	11.854	0.004	89250388	1000.0	1015.6	
2	12.523	12.521	0.002	87324799	1000.0	1010.6	
2	12.888	12.886	0.002	59299574	1000.0	1035.8	
						RPD = 7.90	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.824	12.823	0.001	314305202	50.0	47.8	
2	14.092	14.087	0.005	37919368	50.0	48.2	
						RPD = 0.86	
S 8 Polychlorinated biphenyls, Total							
1						1943.6	
2						2103.6	
						RPD = 7.91	

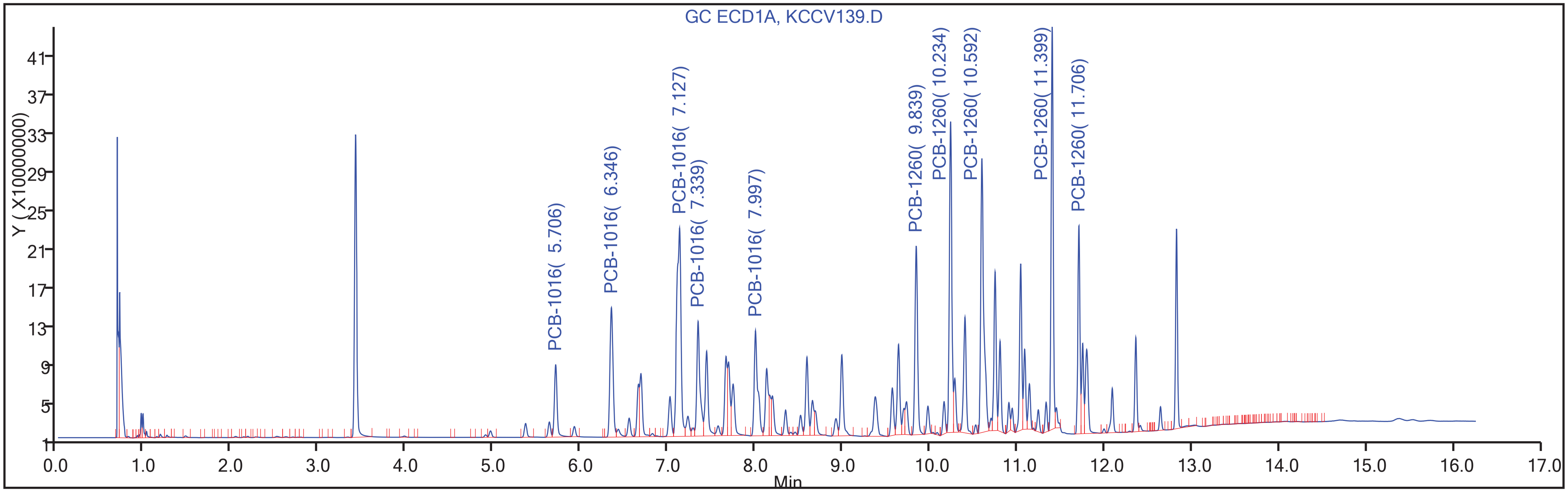
Reagents:

1016/1260 Cal_00015	Amount Added: 250.00	Units: uL
8082_IS_1ppm_00013	Amount Added: 50.00	Units: uL

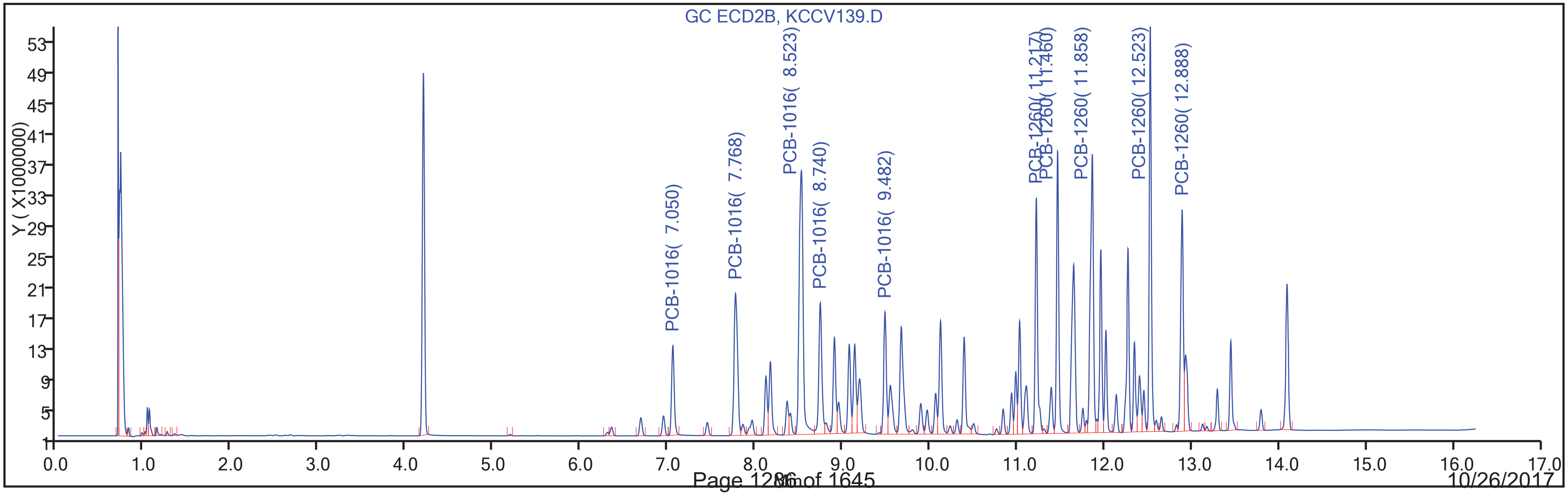
Report Date: 22-Oct-2017 15:24:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV139.D				
Injection Date:	21-Oct-2017 20:23:25	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	CCV			Worklist Smp#:	25
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/25

Calibration Date: 10/21/2017 20:23

Instrument ID: SGCK

Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP2 ID: 0.53(mm)

Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV139.D

Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0146	0.0149		1020	1000	2.1	20.0
PCB-1016 Peak 2	Ave	0.0308	0.0313		1020	1000	1.7	20.0
PCB-1016 Peak 3	Ave	0.0564	0.0659		1170	1000	16.9	20.0
PCB-1016 Peak 4	Ave	0.0213	0.0255		1190	1000	19.3	20.0
PCB-1016 Peak 5	Ave	0.0188	0.0202		1070	1000	7.4	20.0
PCB-1260 Peak 1	Ave	0.0363	0.0357		985	1000	-1.5	20.0
PCB-1260 Peak 2	Ave	0.0389	0.0388		997	1000	-0.3	20.0
PCB-1260 Peak 3	Ave	0.0534	0.0543		1020	1000	1.6	20.0
PCB-1260 Peak 4	Ave	0.0525	0.0531		1010	1000	1.1	20.0
PCB-1260 Peak 5	Ave	0.0348	0.0361		1040	1000	3.6	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.4786	0.4612		48.2	50.0	-3.6	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/25 Calibration Date: 10/21/2017 20:23

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP2 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV139.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	7.05	7.04	7.06
PCB-1016 Peak 2	7.77	7.75	7.77
PCB-1016 Peak 3	8.52	8.51	8.53
PCB-1016 Peak 4	8.74	8.73	8.75
PCB-1016 Peak 5	9.48	9.47	9.49
PCB-1260 Peak 1	11.22	11.20	11.22
PCB-1260 Peak 2	11.46	11.45	11.47
PCB-1260 Peak 3	11.86	11.84	11.86
PCB-1260 Peak 4	12.52	12.51	12.53
PCB-1260 Peak 5	12.89	12.88	12.90
DCB Decachlorobiphenyl (Surr)	14.09	14.08	14.10

Form VII 8082A

Report Date: 22-Oct-2017 15:24:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV139.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Oct-2017 20:23:25 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-15-c
Misc. Info.: 160-0011731-023
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:24:09 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:12:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.412	3.411	0.001	556534718	50.0	50.0	
2	4.190	4.187	0.003	82217134	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.706	5.705	0.001	164094982	1000.0	1042.7	
1	6.346	6.341	0.005	335178752	1000.0	989.3	
1	7.127	7.125	0.002	734068674	1000.0	1019.7	
1	7.339	7.336	0.003	306548242	1000.0	1025.8	
1	7.997	7.995	0.002	310132483	1000.0	980.5	
2	7.050	7.046	0.004	24464059	1000.0	1021.4	
2	7.768	7.764	0.004	51525149	1000.0	1016.8	
2	8.523	8.517	0.006	108312384	1000.0	1168.8	
2	8.740	8.736	0.004	41861141	1000.0	1193.4	
2	9.482	9.477	0.005	33242595	1000.0	1074.2	
						RPD = 7.91	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.839	9.838	0.001	414838196	1000.0	932.0	
1	10.234	10.231	0.003	637759272	1000.0	932.7	
1	10.592	10.591	0.001	700309644	1000.0	923.6	
1	11.399	11.398	0.001	702466644	1000.0	923.3	
1	11.706	11.703	0.003	361208015	1000.0	948.5	
2	11.217	11.212	0.005	58696105	1000.0	984.7	
2	11.460	11.457	0.003	63774034	1000.0	996.8	
2	11.858	11.854	0.004	89250388	1000.0	1015.6	
2	12.523	12.521	0.002	87324799	1000.0	1010.6	
2	12.888	12.886	0.002	59299574	1000.0	1035.8	
						RPD =	7.90
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.824	12.823	0.001	314305202	50.0	47.8	
2	14.092	14.087	0.005	37919368	50.0	48.2	
						RPD =	0.86
S 8 Polychlorinated biphenyls, Total							
1						1943.6	
2						2103.6	
						RPD =	7.91

Reagents:

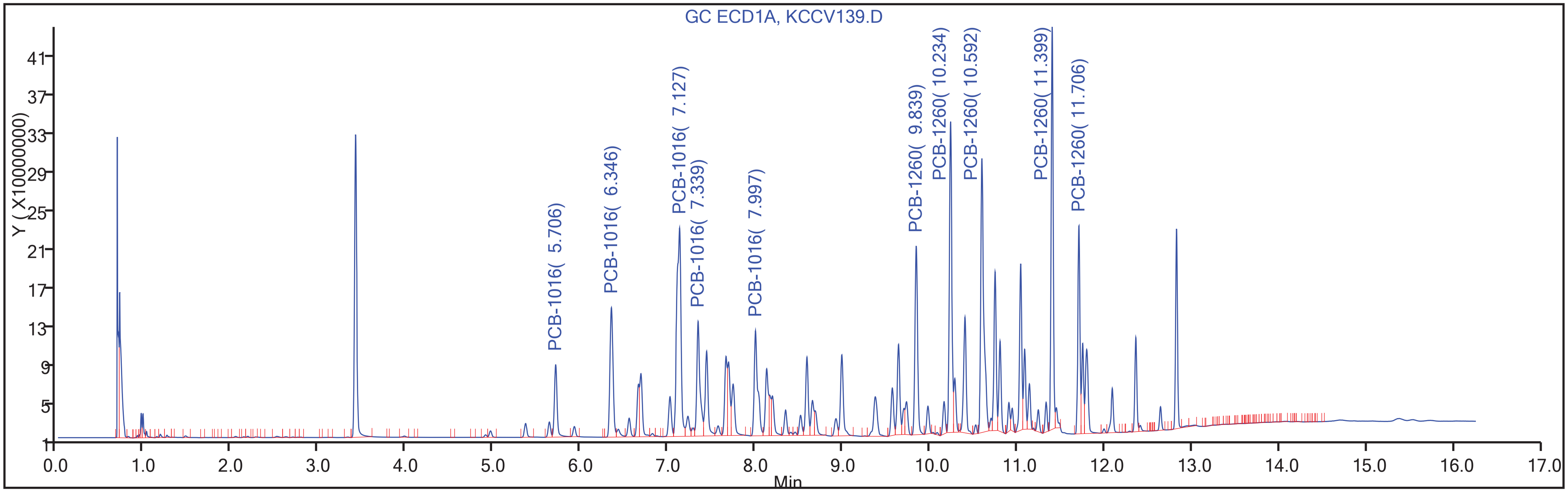
1016/1260 Cal_00015 Amount Added: 250.00 Units: uL
8082_IS_1ppm_00013 Amount Added: 50.00 Units: uL

Report Date: 22-Oct-2017 15:24:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

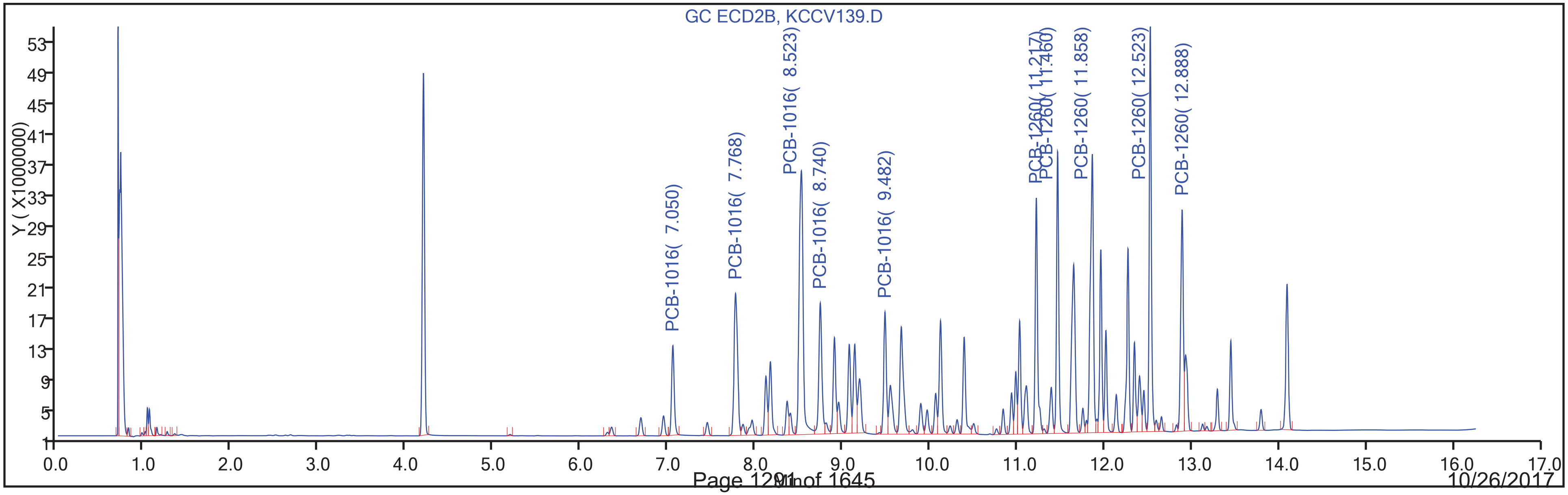
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV139.D
Injection Date: 21-Oct-2017 20:23:25
Instrument ID: SGCK
Operator ID: DEK
Lims ID: CCV
Worklist Smp#: 25
Client ID:
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 25
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/36 Calibration Date: 10/22/2017 00:13

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV150.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0141	0.0141		996	1000	-0.4	20.0
PCB-1016 Peak 2	Ave	0.0304	0.0286		939	1000	-6.1	20.0
PCB-1016 Peak 3	Ave	0.0647	0.0632		977	1000	-2.3	20.0
PCB-1016 Peak 4	Ave	0.0268	0.0265		986	1000	-1.4	20.0
PCB-1016 Peak 5	Ave	0.0284	0.0268		942	1000	-5.8	20.0
PCB-1260 Peak 1	Ave	0.0400	0.0377		942	1000	-5.8	20.0
PCB-1260 Peak 2	Ave	0.0614	0.0585		953	1000	-4.7	20.0
PCB-1260 Peak 3	Ave	0.0681	0.0660		968	1000	-3.2	20.0
PCB-1260 Peak 4	Ave	0.0684	0.0691		1010	1000	1.1	20.0
PCB-1260 Peak 5	Ave	0.0342	0.0344		1010	1000	0.6	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.5911	0.6140		51.9	50.0	3.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/36   Calibration Date: 10/22/2017 00:13

Instrument ID: SGCK   Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP1   ID: 0.53(mm)   Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV150.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	5.71	5.70	5.72
PCB-1016 Peak 2	6.35	6.33	6.35
PCB-1016 Peak 3	7.13	7.12	7.14
PCB-1016 Peak 4	7.34	7.33	7.35
PCB-1016 Peak 5	8.00	7.99	8.01
PCB-1260 Peak 1	9.84	9.83	9.85
PCB-1260 Peak 2	10.23	10.22	10.24
PCB-1260 Peak 3	10.59	10.58	10.60
PCB-1260 Peak 4	11.40	11.39	11.41
PCB-1260 Peak 5	11.70	11.69	11.71
DCB Decachlorobiphenyl (Surr)	12.83	12.81	12.83

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV150.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 22-Oct-2017 00:13:57 ALS Bottle#: 36 Worklist Smp#: 36
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24925-e-4-c
Misc. Info.: 160-0011731-034
Operator ID: DEK Instrument ID: SGCK
Sublist: chrom-8082A_IS_SGCK*sub5

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:24:30 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:17:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.414	3.411	0.003	571443256	50.0	50.0	
2	4.192	4.187	0.005	84039828	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.708	5.705	0.003	161018546	1000.0	996.5	
1	6.346	6.341	0.005	326835192	1000.0	939.5	
1	7.126	7.125	0.001	721891181	1000.0	976.6	
1	7.339	7.336	0.003	302611115	1000.0	986.2	
1	7.996	7.995	0.001	306013477	1000.0	942.2	
2	7.050	7.046	0.004	24218658	1000.0	989.2	
2	7.769	7.764	0.005	51195923	1000.0	988.4	
2	8.524	8.517	0.007	107683166	1000.0	1136.8	
2	8.742	8.736	0.006	41646104	1000.0	1161.5	
2	9.482	9.477	0.005	32550797	1000.0	1029.0	
						RPD = 9.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.841	9.838	0.003	430329900	1000.0	941.6	
1	10.234	10.231	0.003	668947113	1000.0	952.8	
1	10.594	10.591	0.003	753712034	1000.0	968.1	
1	11.398	11.398	0.000	789609824	1000.0	1010.7	
1	11.704	11.703	0.001	393215191	1000.0	1005.6	
2	11.217	11.212	0.005	61323945	1000.0	1006.4	
2	11.462	11.457	0.005	66734773	1000.0	1020.4	
2	11.859	11.854	0.005	94473228	1000.0	1051.7	
2	12.524	12.521	0.003	96949072	1000.0	1097.7	
2	12.890	12.886	0.004	65631295	1000.0	1121.5	
						RPD = 8.24	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.826	12.823	0.003	350837534	50.0	51.9	
2	14.094	14.087	0.007	42558328	50.0	52.9	
						RPD = 1.86	
S 8 Polychlorinated biphenyls, Total							
1						1943.9	
2						2120.5	
						RPD = 8.69	

Reagents:

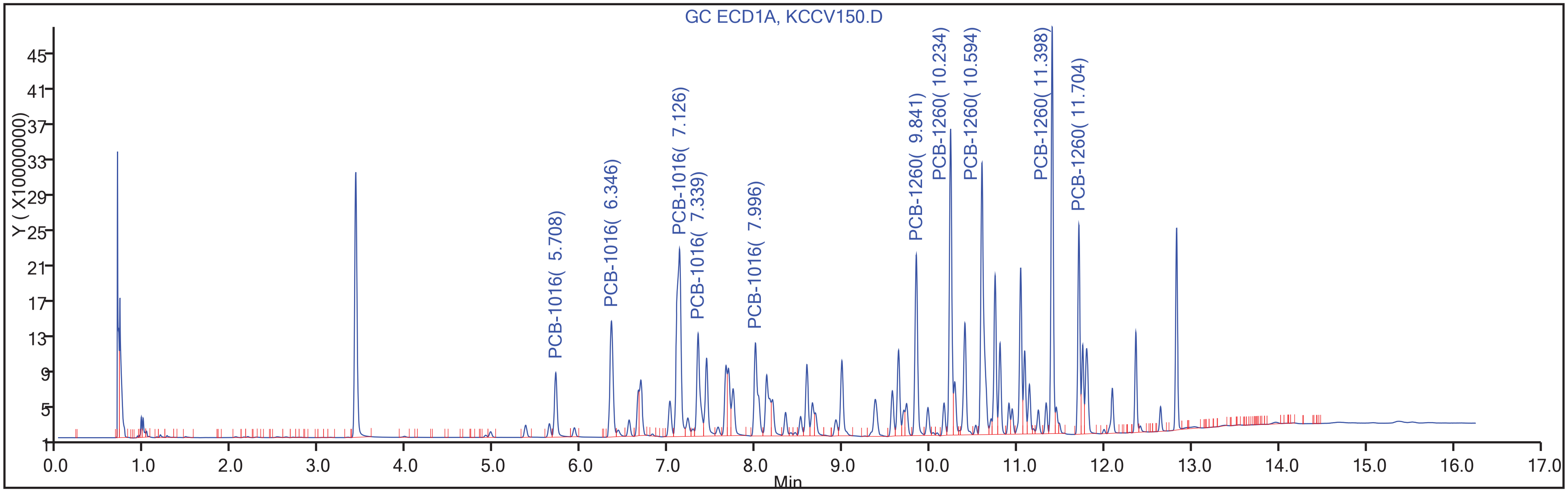
1016/1260 Cal_00015	Amount Added: 250.00	Units: uL	
8082_IS_1ppm_00013	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:24:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

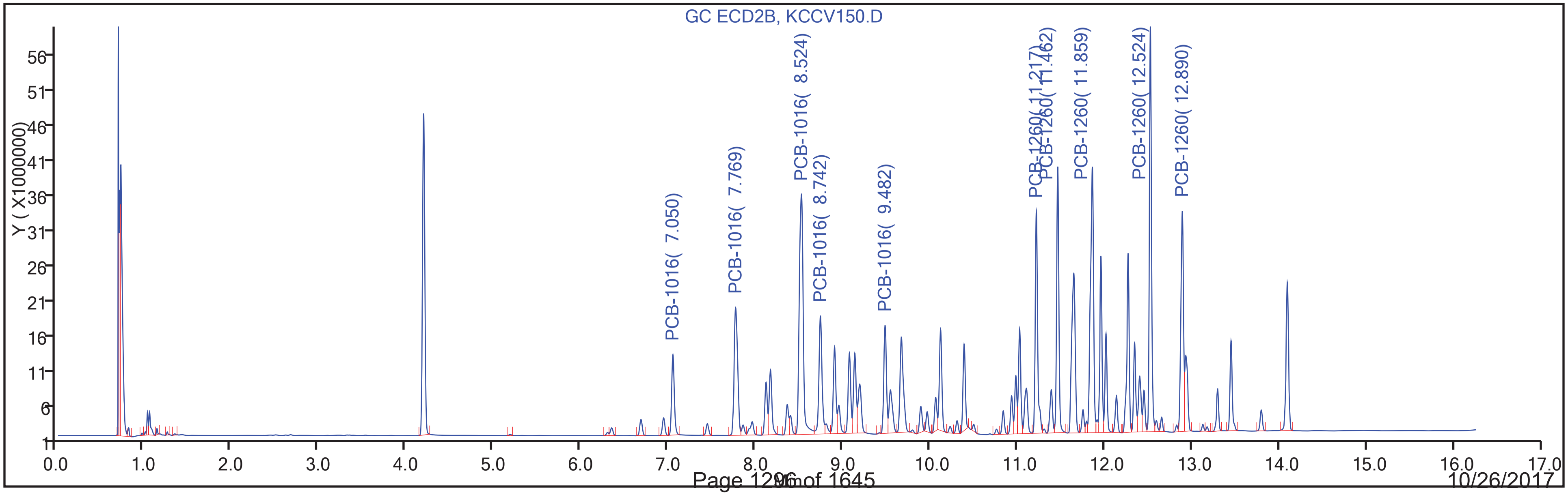
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV150.D				
Injection Date:	22-Oct-2017 00:13:57	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	CCV			Worklist Smp#:	36
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	36
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Lab Sample ID: CCV 160-333051/36
Calibration Date: 10/22/2017 00:13
Instrument ID: SGCK
Calib Start Date: 09/08/2017 11:12
GC Column: RTXCLP2 ID: 0.53(mm)
Calib End Date: 09/08/2017 13:17
Lab File ID: KCCV150.D
Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0146	0.0144		989	1000	-1.1	20.0
PCB-1016 Peak 2	Ave	0.0308	0.0305		988	1000	-1.2	20.0
PCB-1016 Peak 3	Ave	0.0564	0.0641		1140	1000	13.7	20.0
PCB-1016 Peak 4	Ave	0.0213	0.0248		1160	1000	16.1	20.0
PCB-1016 Peak 5	Ave	0.0188	0.0194		1030	1000	2.9	20.0
PCB-1260 Peak 1	Ave	0.0363	0.0365		1010	1000	0.6	20.0
PCB-1260 Peak 2	Ave	0.0389	0.0397		1020	1000	2.0	20.0
PCB-1260 Peak 3	Ave	0.0534	0.0562		1050	1000	5.2	20.0
PCB-1260 Peak 4	Ave	0.0525	0.0577		1100	1000	9.8	20.0
PCB-1260 Peak 5	Ave	0.0348	0.0391		1120	1000	12.2	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.4786	0.5064		52.9	50.0	5.8	20.0

FORM VII 8082A

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: CCV 160-333051/36 Calibration Date: 10/22/2017 00:13

Instrument ID: SGCK Calib Start Date: 09/08/2017 11:12

GC Column: RTXCLP2 ID: 0.53(mm) Calib End Date: 09/08/2017 13:17

Lab File ID: KCCV150.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	7.05	7.04	7.06
PCB-1016 Peak 2	7.77	7.75	7.77
PCB-1016 Peak 3	8.52	8.51	8.53
PCB-1016 Peak 4	8.74	8.73	8.75
PCB-1016 Peak 5	9.48	9.47	9.49
PCB-1260 Peak 1	11.22	11.20	11.22
PCB-1260 Peak 2	11.46	11.45	11.47
PCB-1260 Peak 3	11.86	11.84	11.86
PCB-1260 Peak 4	12.52	12.51	12.53
PCB-1260 Peak 5	12.89	12.88	12.90
DCB Decachlorobiphenyl (Surr)	14.09	14.08	14.10

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV150.D				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	22-Oct-2017 00:13:57	ALS Bottle#:	36	Worklist Smp#:	36
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24925-e-4-c				
Misc. Info.:	160-0011731-034				
Operator ID:	DEK	Instrument ID:	SGCK		
Sublist:	chrom-8082A_IS_SGCK*sub5				
Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	22-Oct-2017 15:24:30	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:17:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.414	3.411	0.003	571443256	50.0	50.0	
2	4.192	4.187	0.005	84039828	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.708	5.705	0.003	161018546	1000.0	996.5	
1	6.346	6.341	0.005	326835192	1000.0	939.5	
1	7.126	7.125	0.001	721891181	1000.0	976.6	
1	7.339	7.336	0.003	302611115	1000.0	986.2	
1	7.996	7.995	0.001	306013477	1000.0	942.2	
2	7.050	7.046	0.004	24218658	1000.0	989.2	
2	7.769	7.764	0.005	51195923	1000.0	988.4	
2	8.524	8.517	0.007	107683166	1000.0	1136.8	
2	8.742	8.736	0.006	41646104	1000.0	1161.5	
2	9.482	9.477	0.005	32550797	1000.0	1029.0	
						RPD = 9.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.841	9.838	0.003	430329900	1000.0	941.6	
1	10.234	10.231	0.003	668947113	1000.0	952.8	
1	10.594	10.591	0.003	753712034	1000.0	968.1	
1	11.398	11.398	0.000	789609824	1000.0	1010.7	
1	11.704	11.703	0.001	393215191	1000.0	1005.6	
2	11.217	11.212	0.005	61323945	1000.0	1006.4	
2	11.462	11.457	0.005	66734773	1000.0	1020.4	
2	11.859	11.854	0.005	94473228	1000.0	1051.7	
2	12.524	12.521	0.003	96949072	1000.0	1097.7	
2	12.890	12.886	0.004	65631295	1000.0	1121.5	
						RPD = 8.24	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.826	12.823	0.003	350837534	50.0	51.9	
2	14.094	14.087	0.007	42558328	50.0	52.9	
						RPD = 1.86	
S 8 Polychlorinated biphenyls, Total							
1						1943.9	
2						2120.5	
						RPD = 8.69	

Reagents:

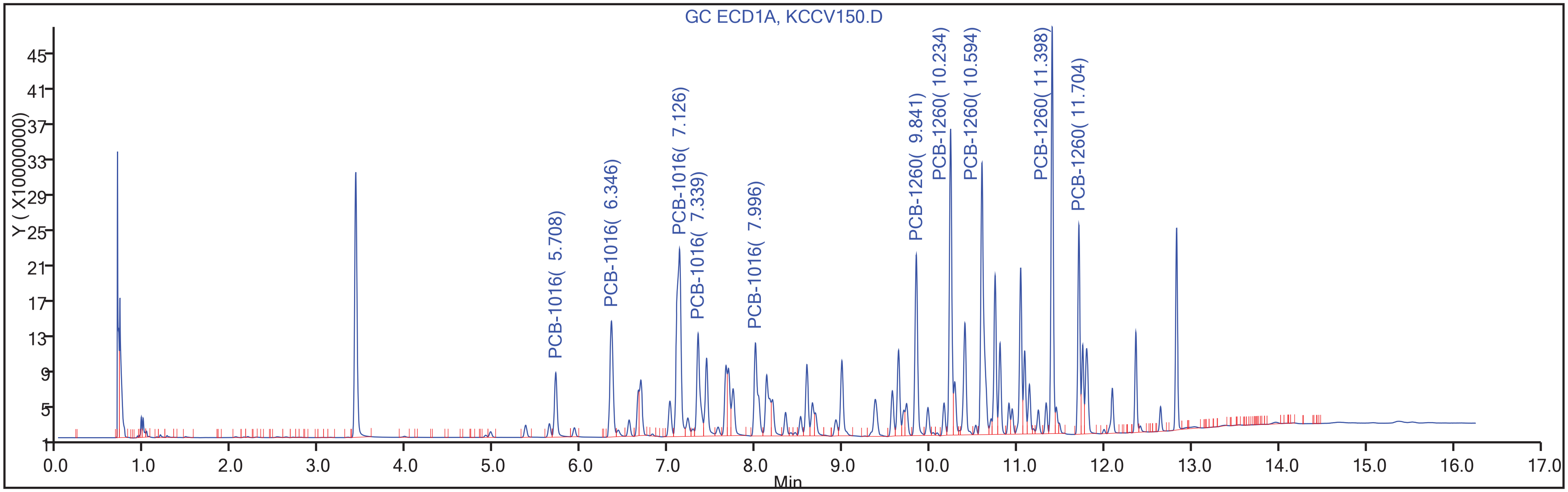
1016/1260 Cal_00015	Amount Added: 250.00	Units: uL	
8082_IS_1ppm_00013	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:24:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

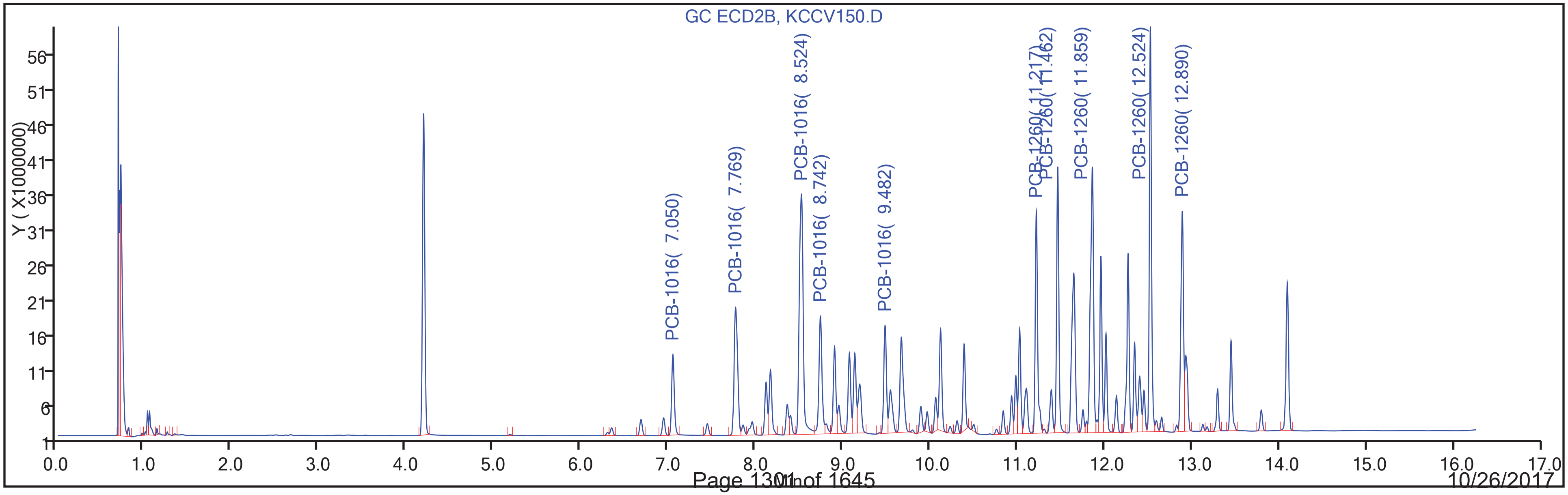
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KCCV150.D				
Injection Date:	22-Oct-2017 00:13:57	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	CCV			Worklist Smp#:	36
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	36
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 160-332430/1-A

Matrix: Solid Lab File ID: KBLK118.D

Analysis Method: 8082A Date Collected:

Extraction Method: 3550C Date Extracted: 10/18/2017 09:00

Sample wt/vol: 30(g) Date Analyzed: 10/21/2017 13:03

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 2(uL) GC Column: RTXCLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 333051 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	16	U	33	16	9.6
11104-28-2	PCB-1221	16	U	33	16	9.6
11141-16-5	PCB-1232	16	U	33	16	9.6
53469-21-9	PCB-1242	16	U	33	16	9.6
12672-29-6	PCB-1248	16	U	33	16	11
11097-69-1	PCB-1254	16	U	33	16	13
11096-82-5	PCB-1260	10	U	33	10	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	104		44-150

FORM I 8082A

TestAmerica St. Louis
Target Compound Quantitation Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KBLK118.D				
Lims ID:	MB 160-332430/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	21-Oct-2017 13:03:27	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	mb 160-332430/1-				
Misc. Info.:	160-0011731-004				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:14	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:03:21

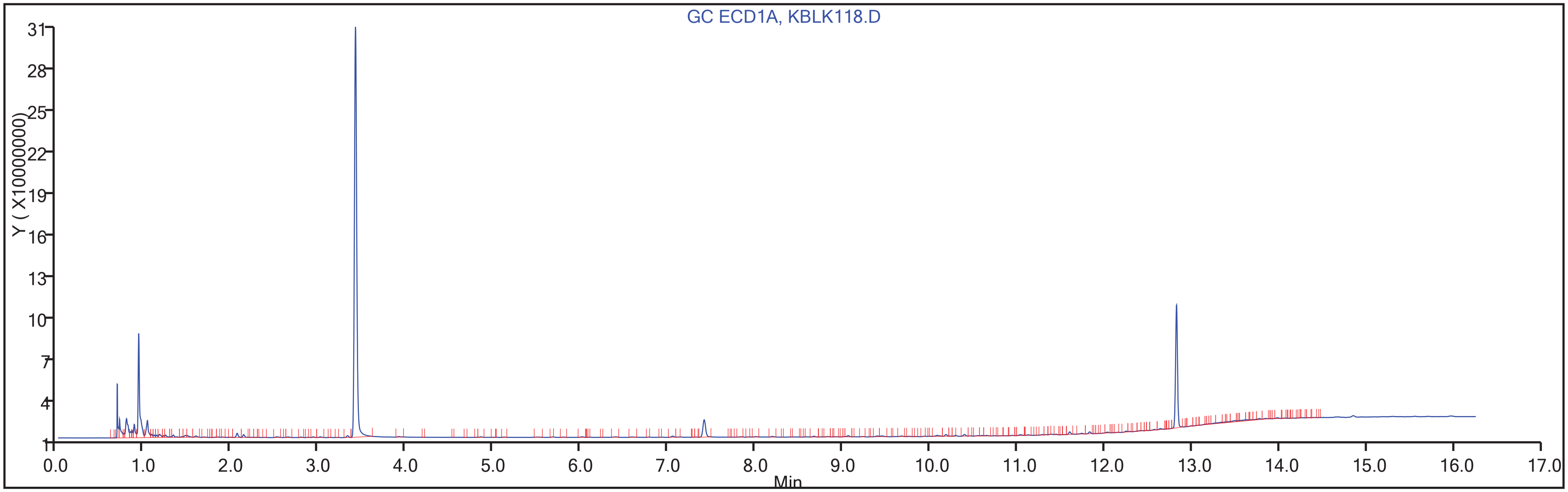
Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.411	3.411	0.000	552742809	50.0	50.0	
2	4.189	4.187	0.002	83780908	50.0	50.0	
					RPD =	0.00	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.825	12.823	0.002	136883181	20.1	20.9	
2	14.091	14.087	0.004	16773738	20.1	20.9	
					RPD =	0.15	

Reagents:

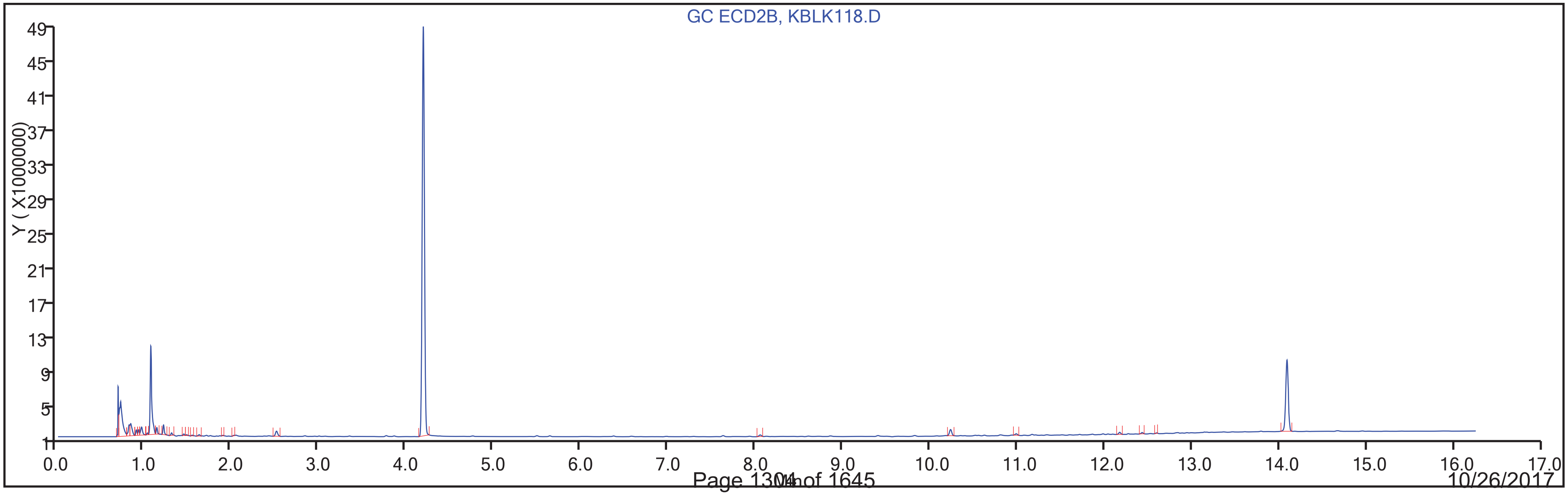
8082_IS_1ppm_00013	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 22-Oct-2017 15:23:23		Chrom Revision: 2.2 16-Aug-2017 16:24:46			
	TestAmerica St. Louis				
Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KBLK118.D				
Injection Date:	21-Oct-2017 13:03:27	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	MB 160-332430/1-A			Worklist Smp#:	4
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KBLK118.D				
Lims ID:	MB 160-332430/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	21-Oct-2017 13:03:27	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	mb 160-332430/1-				
Misc. Info.:	160-0011731-004				
Operator ID:	DEK	Instrument ID:	SGCK		
Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	22-Oct-2017 15:23:14	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:03:21

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	20.9	104.32

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	20.9	104.16

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID:	Lab Sample ID: LCS 160-332430/2-A
Matrix: Solid	Lab File ID: KLCS119.D
Analysis Method: 8082A	Date Collected:
Extraction Method: 3550C	Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30(g)	Date Analyzed: 10/21/2017 13:24
Con. Extract Vol.: 10(mL)	Dilution Factor: 1
Injection Volume: 2(uL)	GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture:	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	161		33	16	9.6
11096-82-5	PCB-1260	163		33	10	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	95		44-150

FORM I 8082A

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KLCS119.D
Lims ID: LCS 160-332430/2-A
Client ID:
Sample Type: LCS
Inject. Date: 21-Oct-2017 13:24:21 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcs 160-332430/2
Misc. Info.: 160-0011731-005
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:14 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:03:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.412	3.411	0.001	548046899	50.0	50.0	
2	4.190	4.187	0.003	83014409	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.705	5.705	0.000	74236374	500.0	479.0	
1	6.344	6.341	0.003	160222035	500.0	480.2	
1	7.127	7.125	0.002	326696471	500.0	460.8	
1	7.340	7.336	0.004	129710091	500.0	440.8	
1	7.997	7.995	0.002	139006774	500.0	446.3	
2	7.048	7.046	0.002	11659912	500.0	482.1	
2	7.768	7.764	0.004	24873227	500.0	486.1	
2	8.522	8.517	0.005	46050818	500.0	492.1	
2	8.740	8.736	0.004	16588869	500.0	468.4	
2	9.482	9.477	0.005	15180760	500.0	485.8	
						RPD = 4.56	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.840	9.838	0.002	200411367	500.0	457.2	
1	10.234	10.231	0.003	309100865	500.0	459.0	
1	10.594	10.591	0.003	344962142	500.0	462.0	
1	11.399	11.398	0.001	327345976	500.0	436.9	
1	11.705	11.703	0.002	174403618	500.0	465.1	
2	11.215	11.212	0.003	29269673	500.0	486.3	
2	11.462	11.457	0.005	31088636	500.0	481.2	
2	11.858	11.854	0.004	44869114	500.0	505.7	
2	12.522	12.521	0.001	41687525	500.0	477.8	
2	12.888	12.886	0.002	28343435	500.0	490.3	
						RPD = 6.83	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.824	12.823	0.001	122226484	20.1	18.9	
2	14.090	14.087	0.003	15169860	20.1	19.1	
						RPD = 1.19	

Reagents:

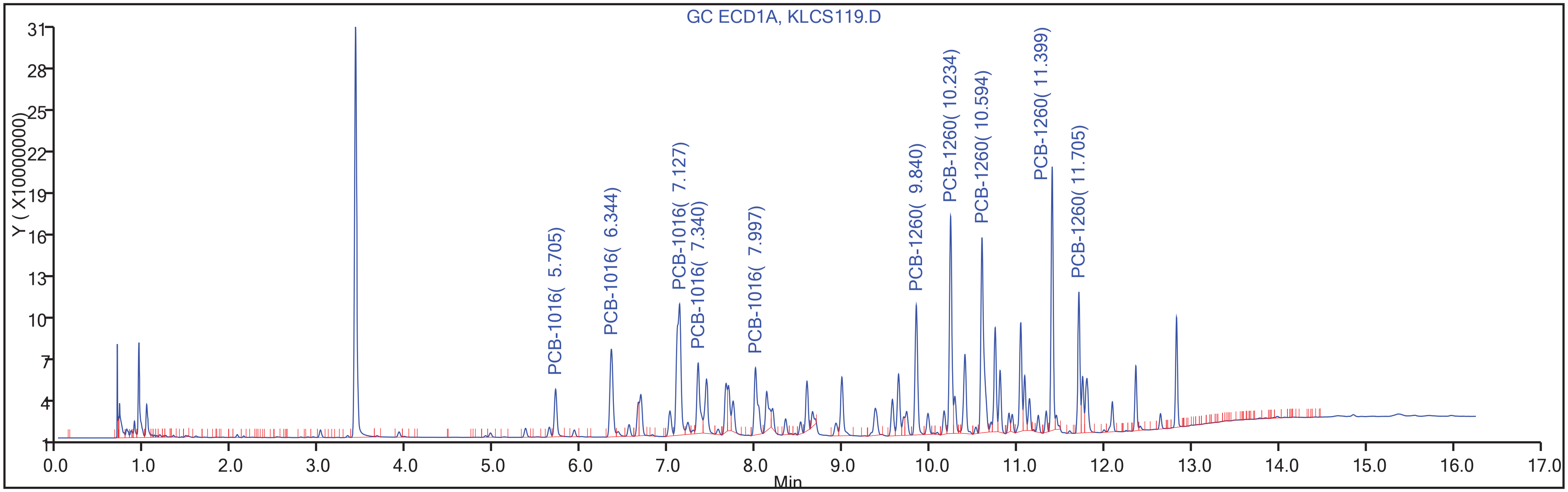
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

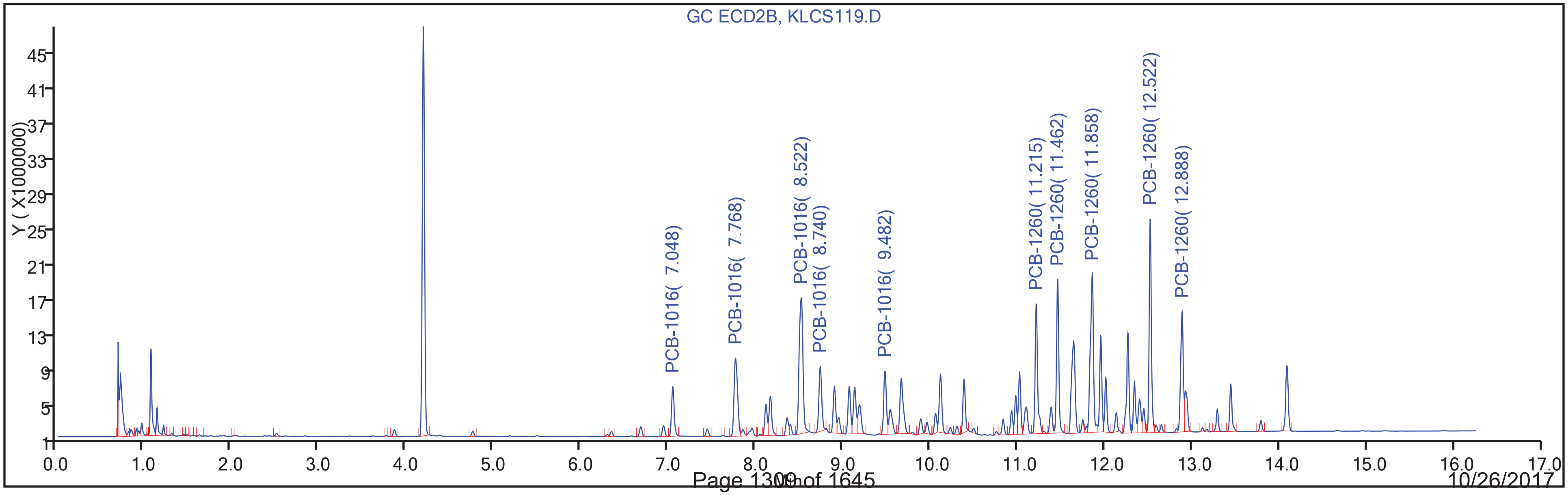
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KLCS119.D				
Injection Date:	21-Oct-2017 13:24:21	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	LCS 160-332430/2-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis

Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KLCS119.D				
Lims ID:	LCS 160-332430/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	21-Oct-2017 13:24:21	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	lcs 160-332430/2				
Misc. Info.:	160-0011731-005				
Operator ID:	DEK	Instrument ID:	SGCK		
Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m				
Limit Group:	GC 8082A_ICAL_IS				
Last Update:	22-Oct-2017 15:23:14	Calib Date:	08-Sep-2017 17:29:06		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D				
Column 1 :	RTX-CLP Pesticides (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)		Det: GC ECD2B		
Process Host:	XAWRK053				

First Level Reviewer: konopkad Date: 22-Oct-2017 15:03:33

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	18.9	93.94

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	19.1	95.07

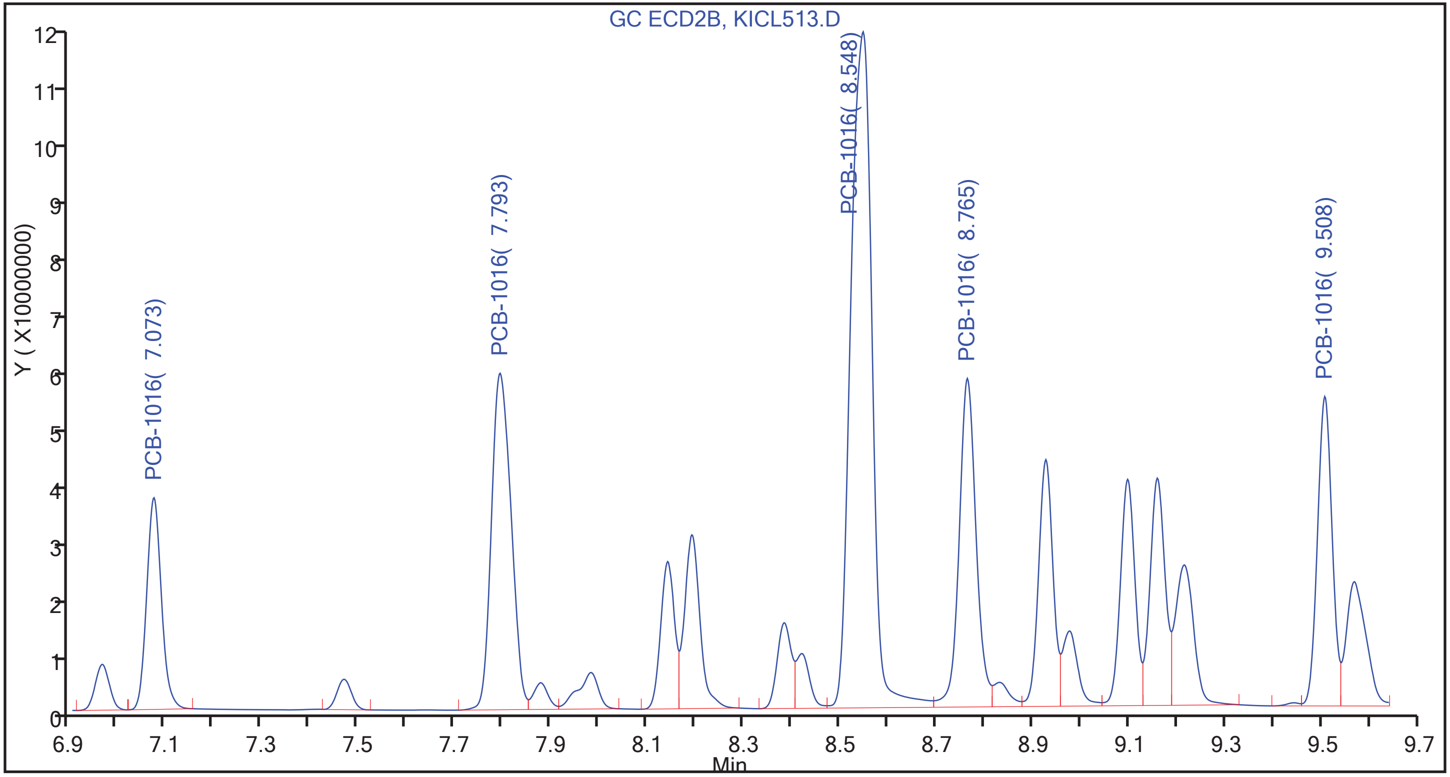
Report Date: 22-Oct-2017 15:23:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

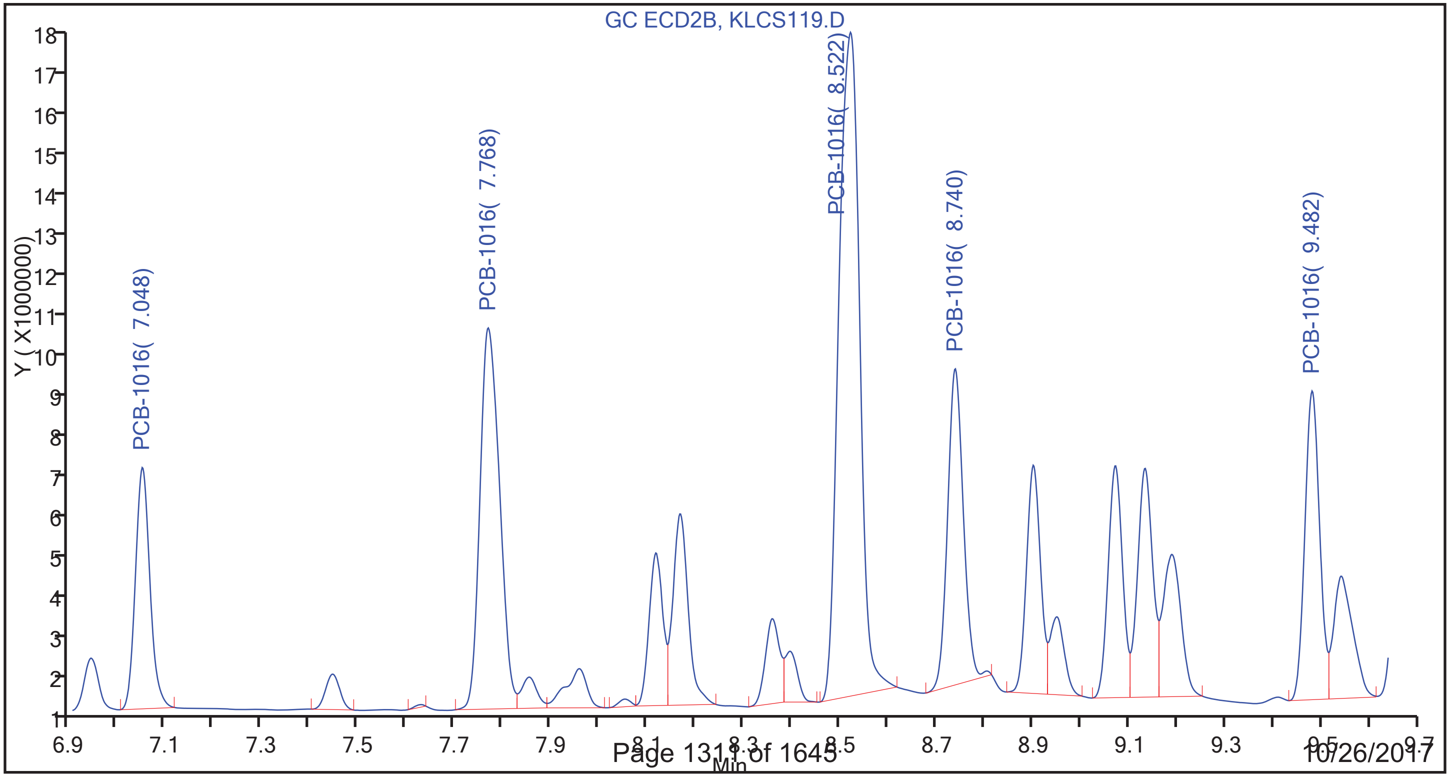
Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KLCS119.D				
Injection Date:	21-Oct-2017 13:24:21	Instrument ID:	SGCK		
Lims ID:	LCS 160-332430/2-A				
Client ID:					
Operator ID:	DEK	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		
Column:	RTX-CLP Pesticides2 (0.53 mm)	Detector	GC ECD2B		

1 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



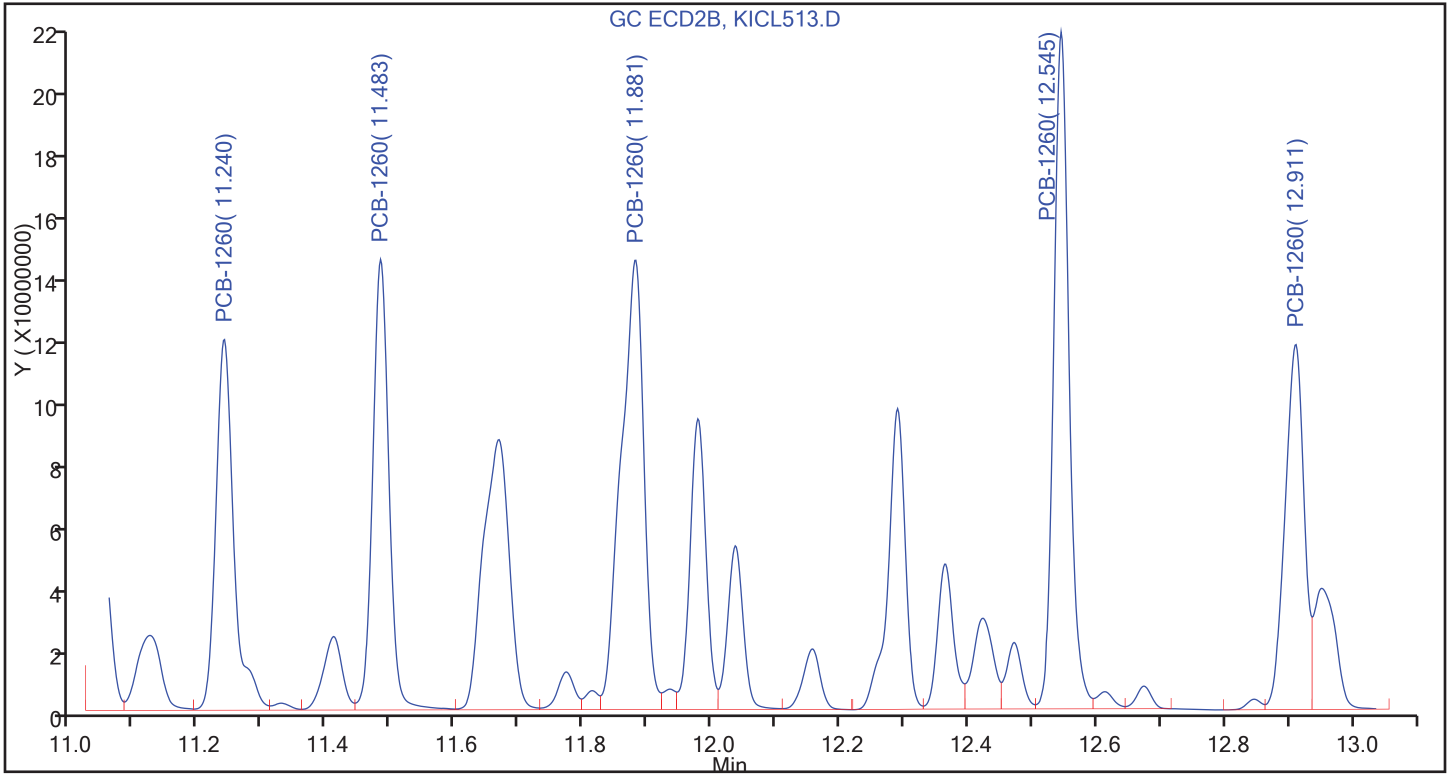
Report Date: 22-Oct-2017 15:23:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KLCS119.D
Injection Date: 21-Oct-2017 13:24:21 Instrument ID: SGCK
Lims ID: LCS 160-332430/2-A
Client ID:
Operator ID: DEK ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 8082A_IS_SGCK Limit Group: GC 8082A_ICAL_IS
Column: RTX-CLP Pesticides2 (0.53 mm) Detector GC ECD2B

11 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



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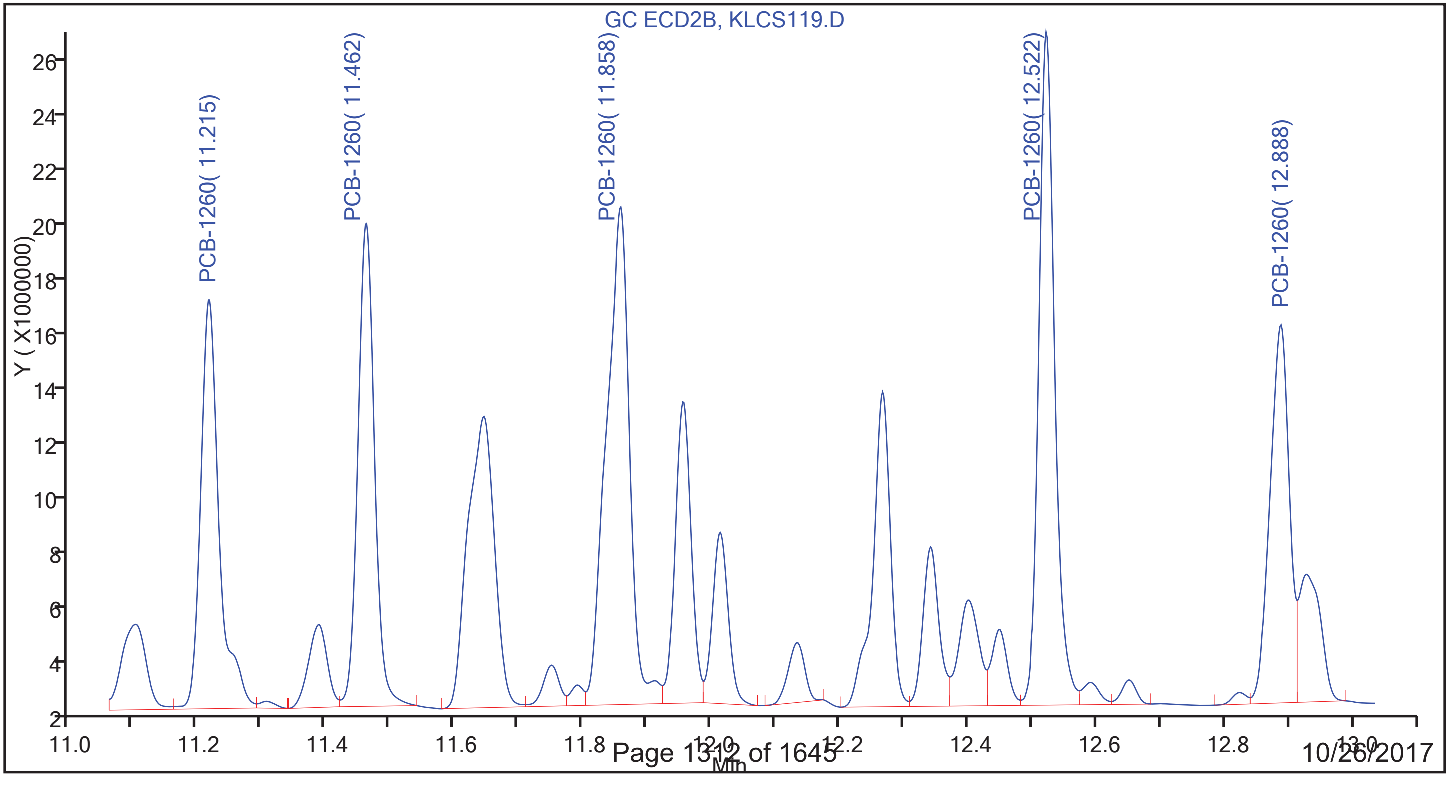


FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Client Sample ID: SHAD041DP022SS03NS MS	Lab Sample ID: 160-24924-9 MS
Matrix: Solid	Lab File ID: KSMP130.D
Analysis Method: 8082A	Date Collected: 10/05/2017 16:59
Extraction Method: 3550C	Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.04(g)	Date Analyzed: 10/21/2017 17:14
Con. Extract Vol.: 10(mL)	Dilution Factor: 1
Injection Volume: 2(uL)	GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 2.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	164		34	16	9.8
11104-28-2	PCB-1221	16	U	34	16	9.8
11141-16-5	PCB-1232	16	U	34	16	9.8
53469-21-9	PCB-1242	16	U	34	16	9.8
12672-29-6	PCB-1248	16	U	34	16	11
11097-69-1	PCB-1254	16	U	34	16	13
11096-82-5	PCB-1260	159		34	10	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	90		44-150

Report Date: 22-Oct-2017 15:23:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP130.D
Lims ID: 160-24924-E-9-H MS
Client ID: SHAD041DP022SS03NS
Sample Type: MS
Inject. Date: 21-Oct-2017 17:14:47 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-9-h
Misc. Info.: 160-0011731-016
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:07:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.413	3.411	0.002	562252845	50.0	50.0	
2	4.191	4.187	0.004	83353462	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.706	5.705	0.001	73984345	500.0	465.3	
1	6.345	6.341	0.004	157593175	500.0	460.4	
1	7.126	7.125	0.001	327067284	500.0	449.7	
1	7.340	7.336	0.004	116166284	500.0	384.8	
1	7.996	7.995	0.001	136746407	500.0	427.9	
2	7.049	7.046	0.003	11417901	500.0	470.2	
2	7.769	7.764	0.005	24503067	500.0	477.0	
2	8.524	8.517	0.007	46474505	500.0	494.6	
2	8.741	8.736	0.005	17034064	500.0	479.0	
2	9.482	9.477	0.005	15384460	500.0	490.4	
						RPD = 9.70	

Report Date: 22-Oct-2017 15:23:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP130.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.840	9.838	0.002	186877243	500.0	415.6	
1	10.235	10.231	0.004	292589474	500.0	423.5	
1	10.593	10.591	0.002	336737214	500.0	439.6	
1	11.398	11.398	0.000	310162476	500.0	403.5	
1	11.705	11.703	0.002	166456530	500.0	432.7	
2	11.216	11.212	0.004	28269669	500.0	467.8	
2	11.461	11.457	0.004	29827575	500.0	459.8	
2	11.857	11.854	0.003	44116666	500.0	495.2	
2	12.522	12.521	0.001	39254897	500.0	448.1	
2	12.887	12.886	0.001	27596854	500.0	475.5	
						RPD = 10.38	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.823	12.823	0.000	113185890	20.1	17.0	
2	14.091	14.087	0.004	14370346	20.1	18.0	
						RPD = 5.61	
S 8 Polychlorinated biphenyls, Total							
1						860.6	
2						951.5	
						RPD = 10.03	

Reagents:

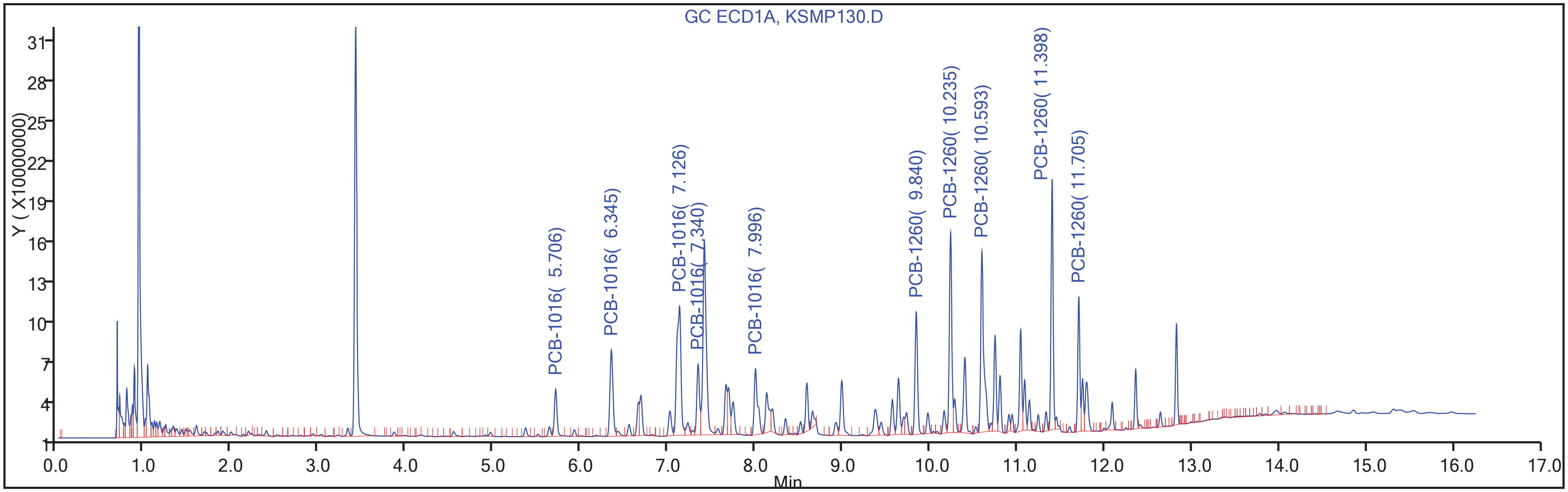
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

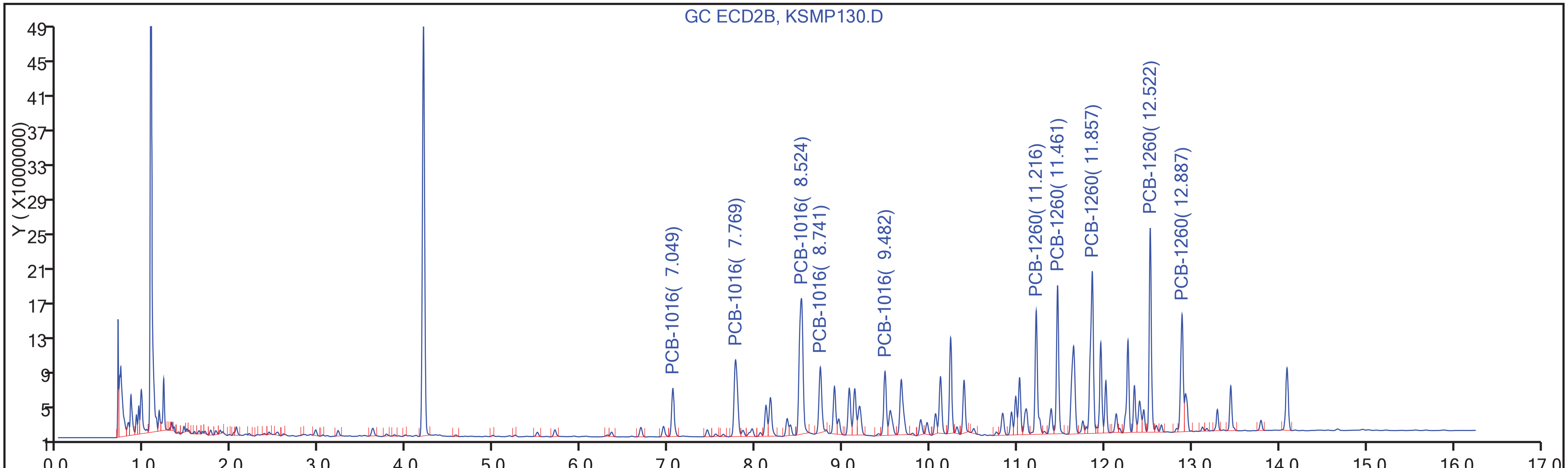
TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP130.D				
Injection Date:	21-Oct-2017 17:14:47	Instrument ID:	SGCK	Operator ID:	DEK
Lims ID:	160-24924-E-9-H MS			Worklist Smp#:	16
Client ID:	SHAD041DP022SS03NS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP130.D
Lims ID: 160-24924-E-9-H MS
Client ID: SHAD041DP022SS03NS
Sample Type: MS
Inject. Date: 21-Oct-2017 17:14:47 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-9-h
Misc. Info.: 160-0011731-016
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:07:11

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.0	84.80

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	18.0	89.70

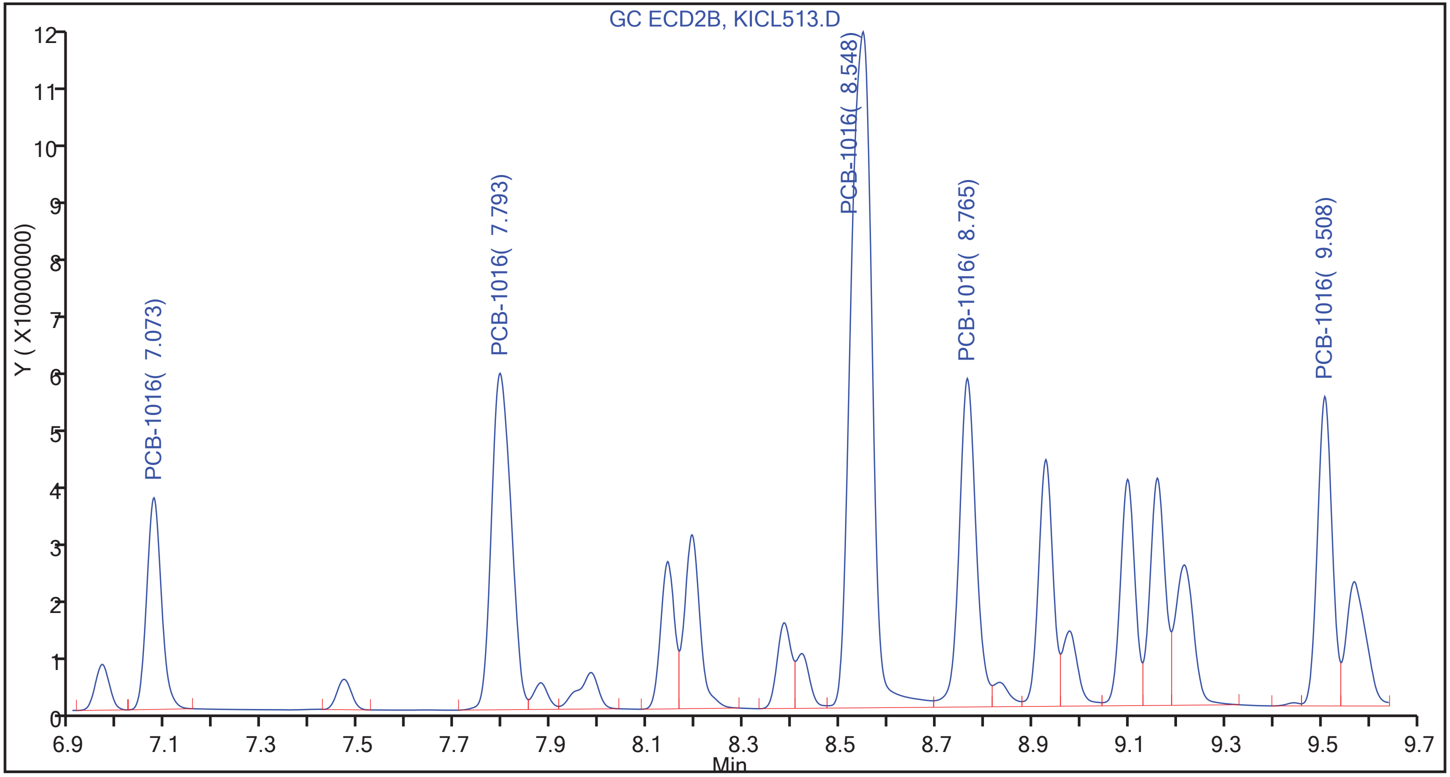
Report Date: 22-Oct-2017 15:23:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP130.D				
Injection Date:	21-Oct-2017 17:14:47	Instrument ID:	SGCK		
Lims ID:	160-24924-E-9-H MS				
Client ID:	SHAD041DP022SS03NS				
Operator ID:	DEK	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		
Column:	RTX-CLP Pesticides2 (0.53 mm)	Detector	GC ECD2B		

1 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



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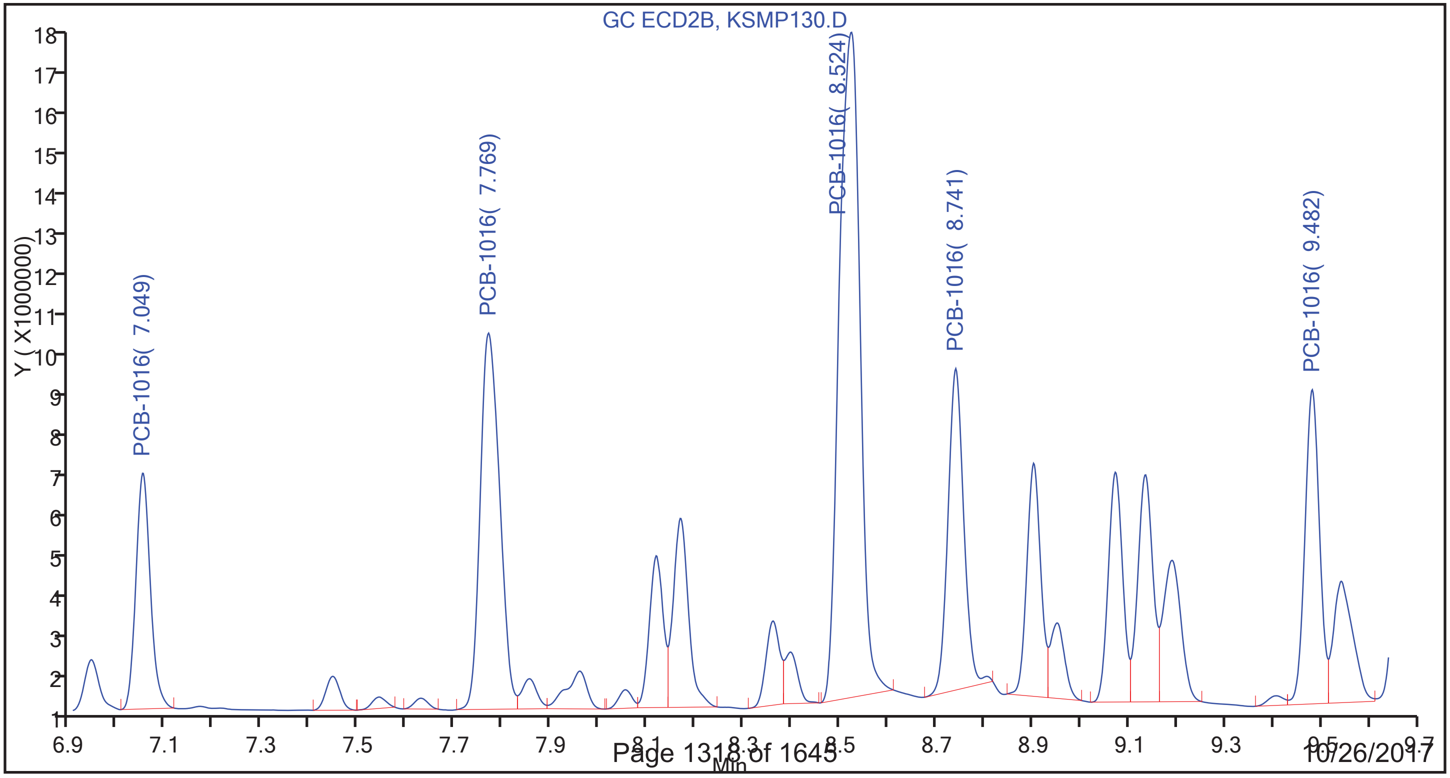
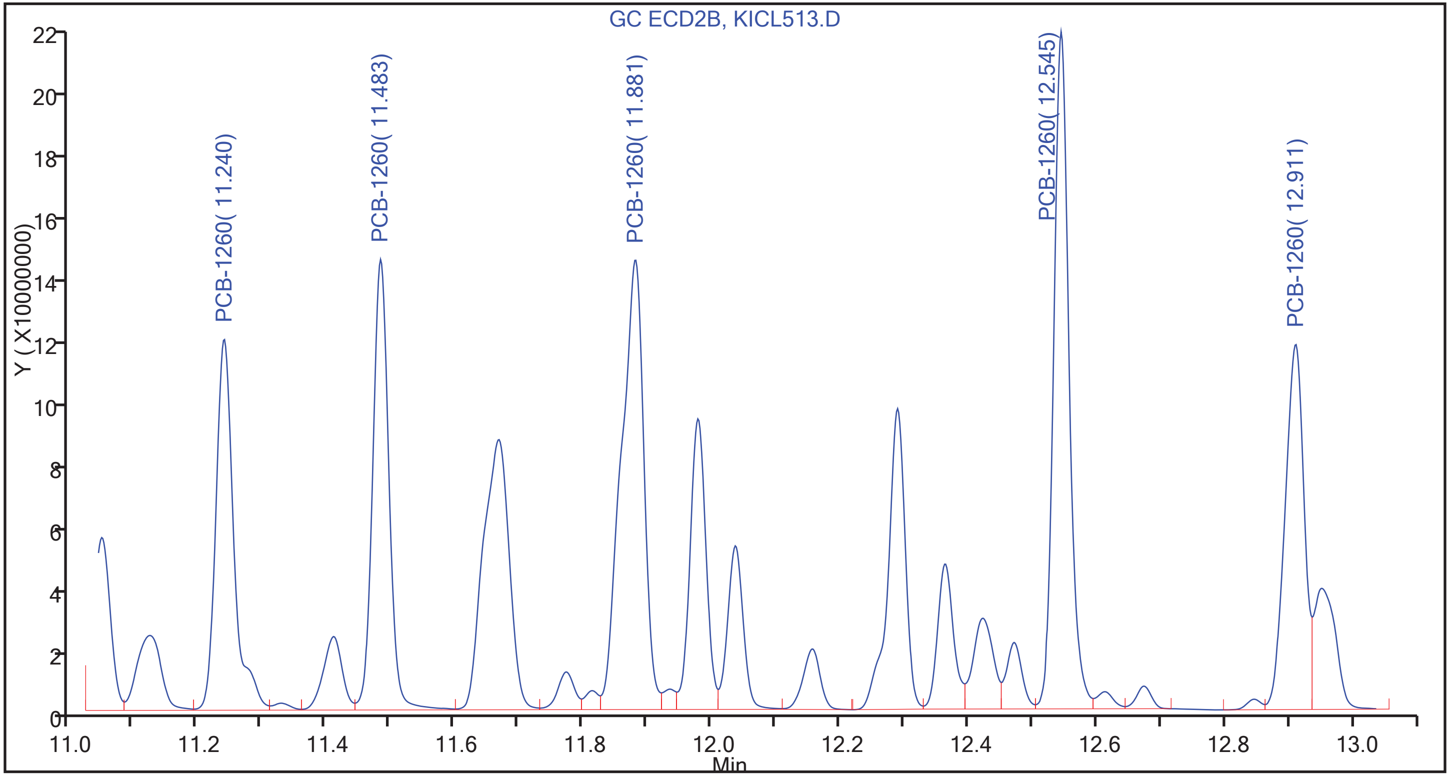


TestAmerica St. Louis

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP130.D				
Injection Date:	21-Oct-2017 17:14:47	Instrument ID:	SGCK		
Lims ID:	160-24924-E-9-H MS				
Client ID:	SHAD041DP022SS03NS				
Operator ID:	DEK	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		
Column:	RTX-CLP Pesticides2 (0.53 mm)	Detector	GC ECD2B		

11 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



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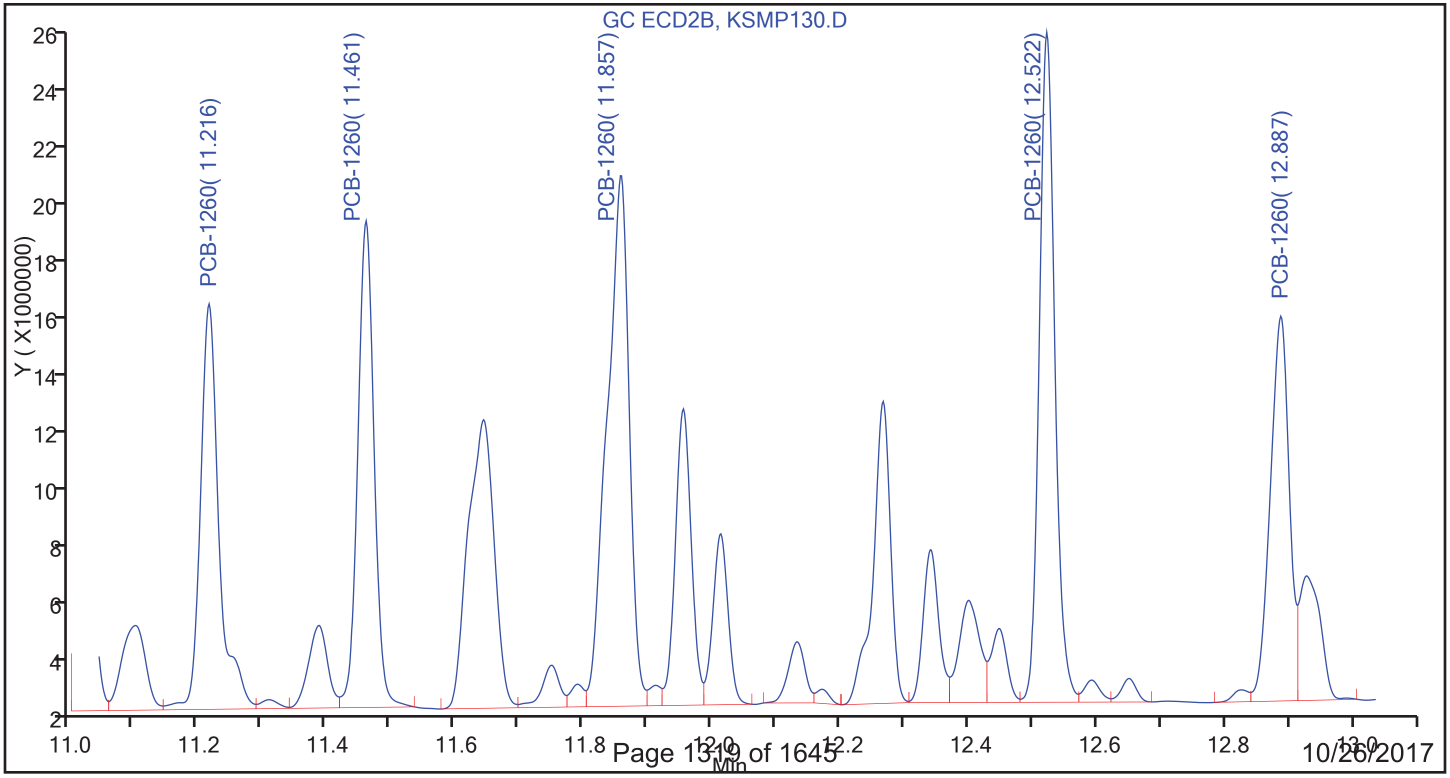


FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Client Sample ID: SHAD041DP022SS03NS MSD
Lab Sample ID: 160-24924-9 MSD
Matrix: Solid
Lab File ID: KSMP131.D
Analysis Method: 8082A
Date Collected: 10/05/2017 16:59
Extraction Method: 3550C
Date Extracted: 10/18/2017 09:00
Sample wt/vol: 30.11(g)
Date Analyzed: 10/21/2017 17:35
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
GC Column: RTXCLP2 ID: 0.53(mm)
% Moisture: 2.0
GPC Cleanup:(Y/N) N
Analysis Batch No.: 333051
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	166		34	16	9.8
11104-28-2	PCB-1221	16	U	34	16	9.8
11141-16-5	PCB-1232	16	U	34	16	9.8
53469-21-9	PCB-1242	16	U	34	16	9.8
12672-29-6	PCB-1248	16	U	34	16	11
11097-69-1	PCB-1254	16	U	34	16	13
11096-82-5	PCB-1260	157		34	10	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	90		44-150

Report Date: 22-Oct-2017 15:23:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis
Target Compound Quantitation Report

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP131.D
Lims ID: 160-24924-E-9-I MSD
Client ID: SHAD041DP022SS03NS
Sample Type: MSD
Inject. Date: 21-Oct-2017 17:35:40 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-e-9-i
Misc. Info.: 160-0011731-017
Operator ID: DEK Instrument ID: SGCK

Method: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m
Limit Group: GC 8082A_ICAL_IS
Last Update: 22-Oct-2017 15:23:46 Calib Date: 08-Sep-2017 17:29:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D

Column 1 : RTX-CLP Pesticides (0.53 mm) Det: GC ECD1A
Column 2 : RTX-CLP Pesticides2 (0.53 mm) Det: GC ECD2B
Process Host: XAWRK053

First Level Reviewer: konopkad Date: 22-Oct-2017 15:07:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.413	3.411	0.002	568147189	50.0	50.0	
2	4.191	4.187	0.004	84550345	50.0	50.0	
						RPD = 0.00	
1 PCB-1016							
1	5.705	5.705	0.000	74353372	500.0	462.8	
1	6.343	6.341	0.002	157037418	500.0	454.0	
1	7.127	7.125	0.002	327513623	500.0	445.6	
1	7.338	7.336	0.002	110914786	500.0	363.6	
1	7.997	7.995	0.002	136756632	500.0	423.5	
2	7.050	7.046	0.004	11481738	500.0	466.2	
2	7.770	7.764	0.006	24610107	500.0	472.3	
2	8.525	8.517	0.008	46896432	500.0	492.1	
2	8.741	8.736	0.005	19287225	500.0	534.7	
2	9.483	9.477	0.006	15594674	500.0	490.0	
						RPD = 13.28	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
11 PCB-1260							
1	9.840	9.838	0.002	188376421	500.0	414.6	
1	10.233	10.231	0.002	290888021	500.0	416.7	
1	10.592	10.591	0.001	330119553	500.0	426.5	
1	11.397	11.398	-0.001	309397816	500.0	398.3	
1	11.703	11.703	0.000	166502578	500.0	428.3	
2	11.216	11.212	0.004	28455980	500.0	464.2	
2	11.461	11.457	0.004	29796268	500.0	452.9	
2	11.858	11.854	0.004	43694816	500.0	483.5	
2	12.523	12.521	0.002	39412747	500.0	443.6	
2	12.888	12.886	0.002	27517295	500.0	467.4	
						RPD = 10.33	
$ 5 DCB Decachlorobiphenyl (Surr)							
1	12.823	12.823	0.000	115090498	20.1	17.1	
2	14.091	14.087	0.004	14679458	20.1	18.1	
						RPD = 5.69	
S 8 Polychlorinated biphenyls, Total							
1						846.8	
2						953.3	
						RPD = 11.84	

Reagents:

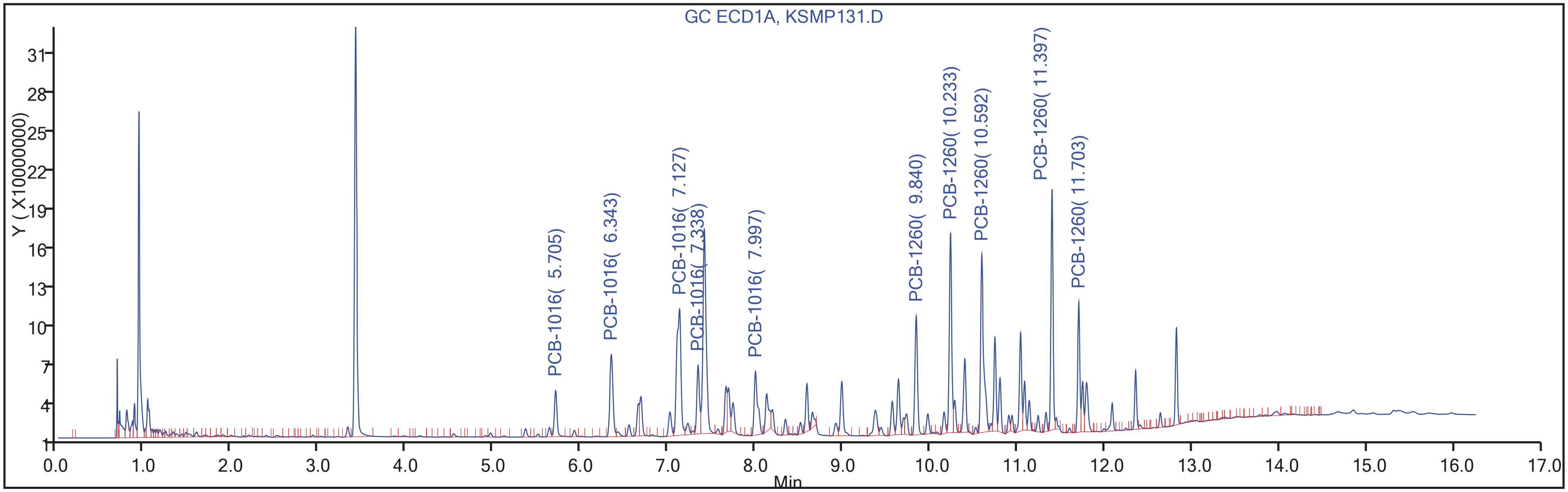
8082_IS_1ppm_00013 Amount Added: 10.00 Units: uL Run Reagent

Report Date: 22-Oct-2017 15:23:54
Chrom Revision: 2.2 16-Aug-2017 16:24:46

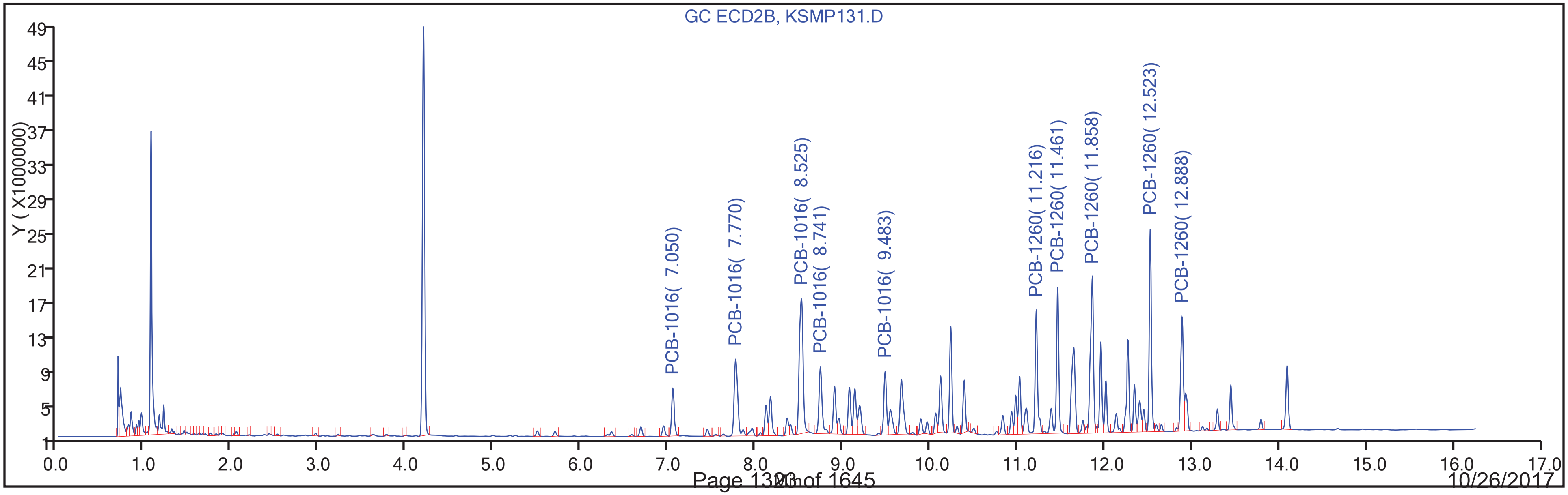
TestAmerica St. Louis

Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP131.D
Injection Date: 21-Oct-2017 17:35:40
Instrument ID: SGCK
Operator ID: DEK
Lims ID: 160-24924-E-9-I MSD
Worklist Smp#: 17
Client ID: SHAD041DP022SS03NS
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
ALS Bottle#: 17
Method: 8082A_IS_SGCK
Limit Group: GC 8082A_ICAL_IS

Column: RTX-CLP Pesticides (0.53 mm)



Column: RTX-CLP Pesticides2 (0.53 mm)



TestAmerica St. Louis
Recovery Report

Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP131.D				
Lims ID:	160-24924-E-9-I MSD				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	MSD				
Inject. Date:	21-Oct-2017 17:35:40	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-e-9-i				
Misc. Info.:	160-0011731-017				
Operator ID:	DEK	Instrument ID:	SGCK		

Method:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\8082A_IS_SGCK.m		
Limit Group:	GC 8082A_ICAL_IS		
Last Update:	22-Oct-2017 15:23:46	Calib Date:	08-Sep-2017 17:29:06
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\StLouis\ChromData\SGCK\20170908-11372.b\KICL525.D		

Column 1 :	RTX-CLP Pesticides (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-CLP Pesticides2 (0.53 mm)	Det: GC ECD2B
Process Host:	XAWRK053	

First Level Reviewer: konopkad Date: 22-Oct-2017 15:07:31

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	17.1	85.33

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 DCB Decachlorobiphenyl (Surr)	20.1	18.1	90.33

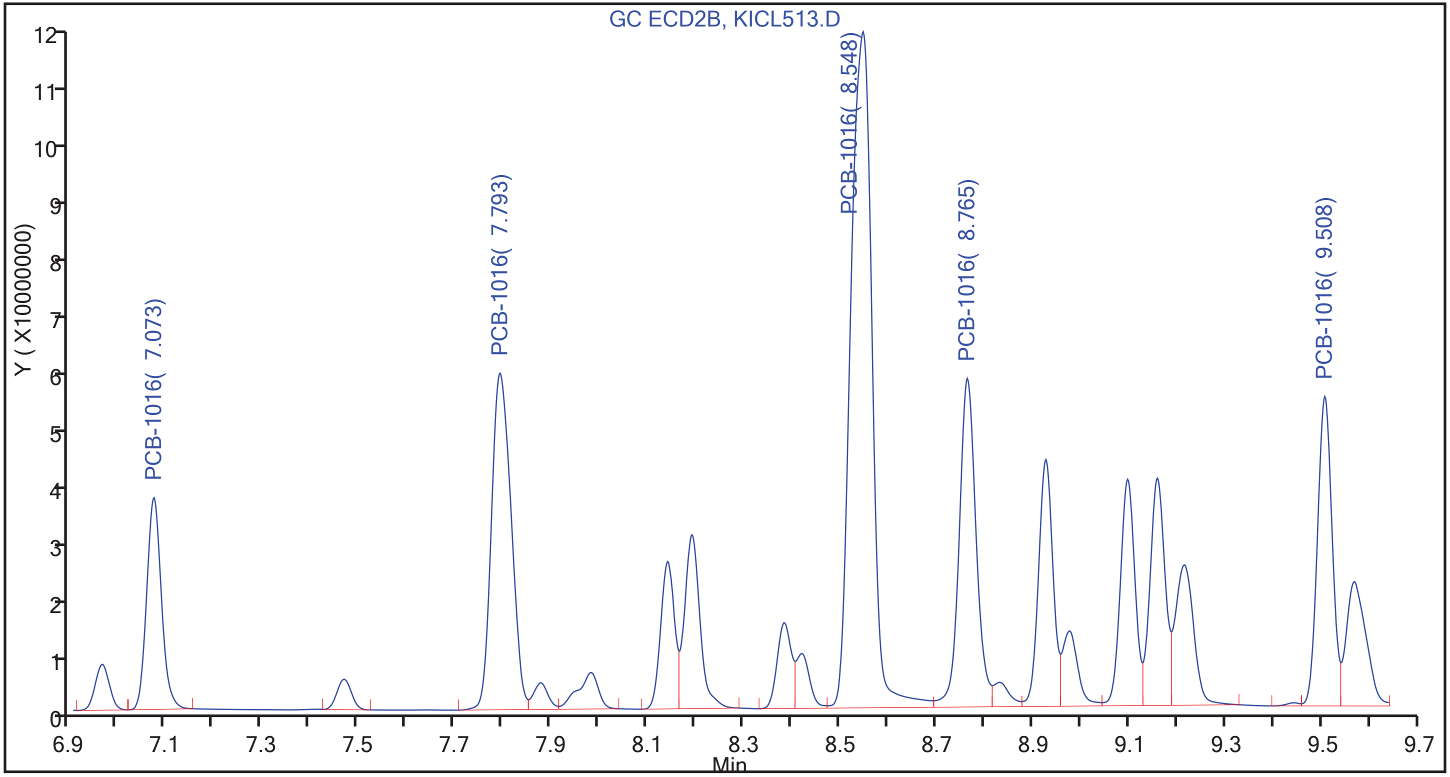
Report Date: 22-Oct-2017 15:23:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

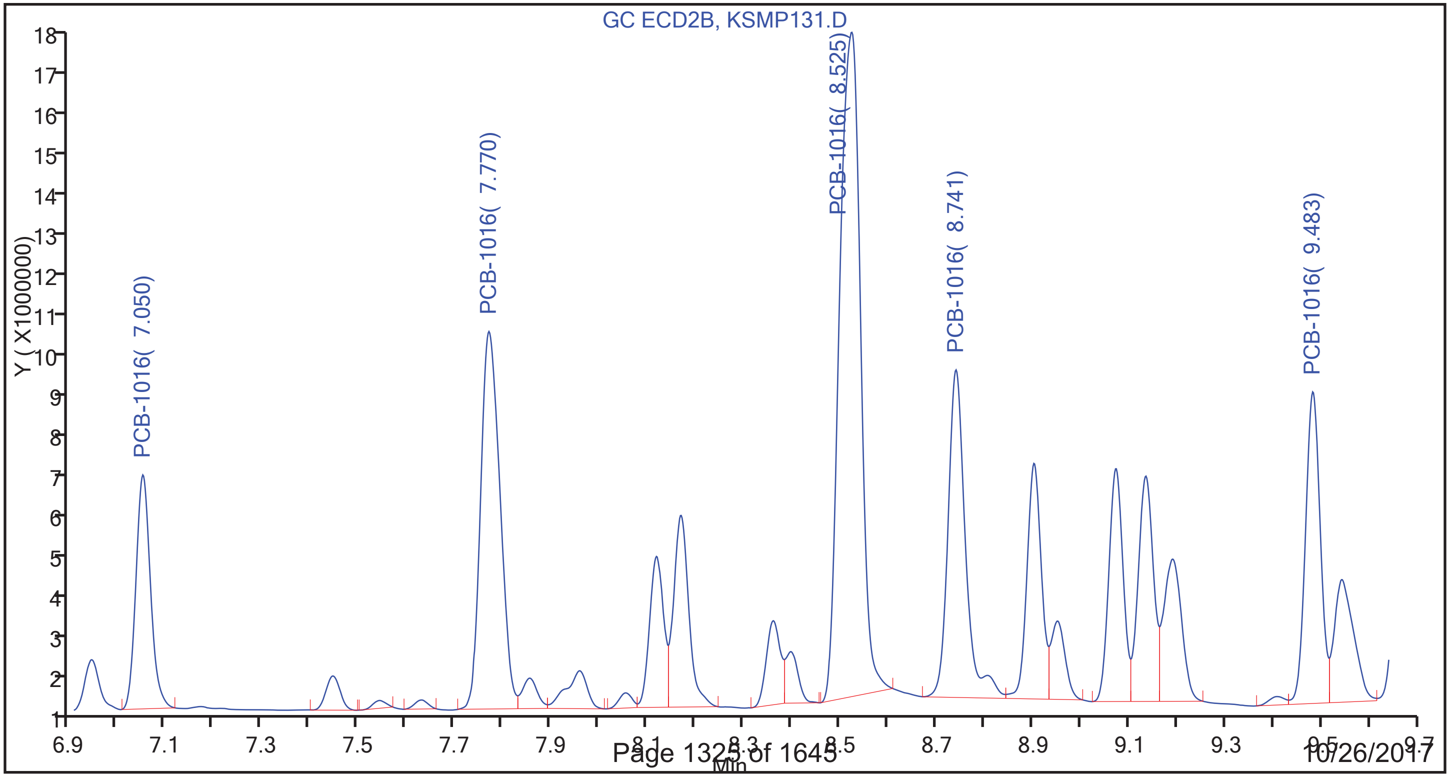
Data File: \\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP131.D
Injection Date: 21-Oct-2017 17:35:40 Instrument ID: SGCK
Lims ID: 160-24924-E-9-I MSD
Client ID: SHAD041DP022SS03NS
Operator ID: DEK ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 8082A_IS_SGCK Limit Group: GC 8082A_ICAL_IS
Column: RTX-CLP Pesticides2 (0.53 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



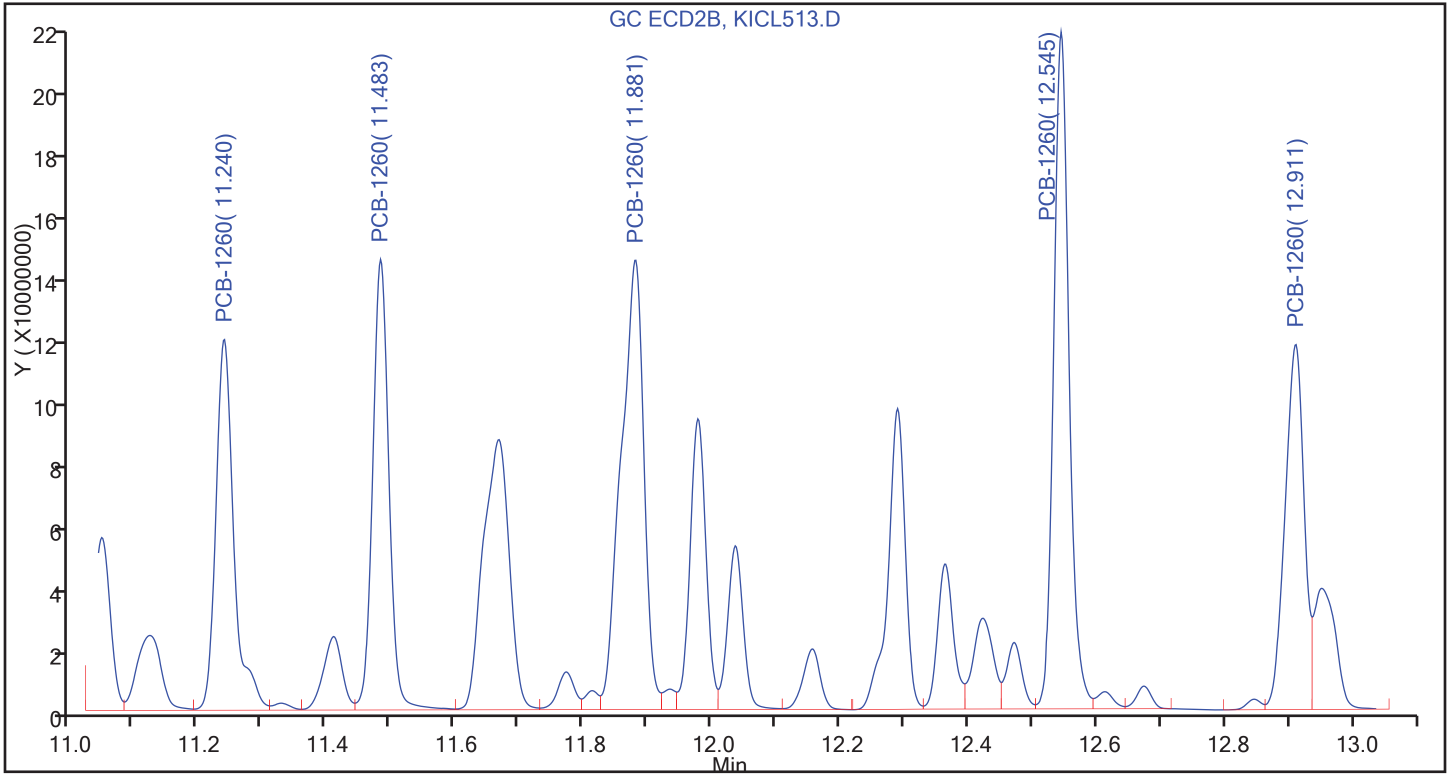
Report Date: 22-Oct-2017 15:23:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica St. Louis

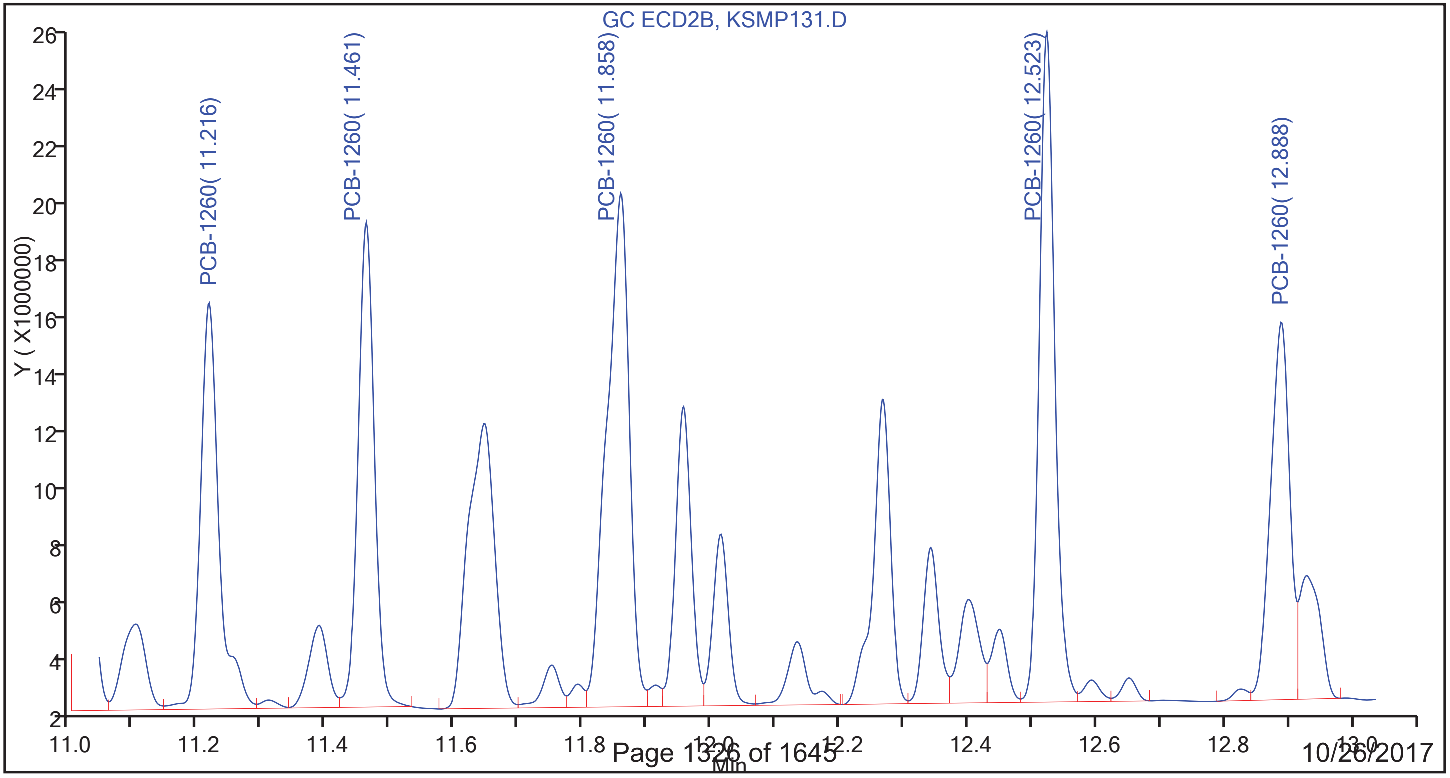
Data File:	\\ChromNA\StLouis\ChromData\SGCK\20171021-11731.b\KSMP131.D				
Injection Date:	21-Oct-2017 17:35:40	Instrument ID:	SGCK		
Lims ID:	160-24924-E-9-I MSD				
Client ID:	SHAD041DP022SS03NS				
Operator ID:	DEK	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	8082A_IS_SGCK	Limit Group:	GC 8082A_ICAL_IS		
Column:	RTX-CLP Pesticides2 (0.53 mm)	Detector	GC ECD2B		

11 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample



PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: SGCK Start Date: 09/08/2017 10:51

Analysis Batch Number: 326367 End Date: 09/09/2017 01:30

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/08/2017 10:51	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 10:51	1		RTXCLP2 0.53(mm)
IC 160-326367/4		09/08/2017 11:12	1	KICL507.D	RTXCLP1 0.53(mm)
IC 160-326367/4		09/08/2017 11:12	1	KICL507.D	RTXCLP2 0.53(mm)
IC 160-326367/5		09/08/2017 11:33	1	KICL508.D	RTXCLP1 0.53(mm)
IC 160-326367/5		09/08/2017 11:33	1	KICL508.D	RTXCLP2 0.53(mm)
IC 160-326367/6		09/08/2017 11:54	1	KICL509.D	RTXCLP1 0.53(mm)
IC 160-326367/6		09/08/2017 11:54	1	KICL509.D	RTXCLP2 0.53(mm)
IC 160-326367/7		09/08/2017 12:15	1	KICL510.D	RTXCLP1 0.53(mm)
IC 160-326367/7		09/08/2017 12:15	1	KICL510.D	RTXCLP2 0.53(mm)
ICIS 160-326367/8		09/08/2017 12:36	1	KICL511.D	RTXCLP1 0.53(mm)
ICIS 160-326367/8		09/08/2017 12:36	1	KICL511.D	RTXCLP2 0.53(mm)
IC 160-326367/9		09/08/2017 12:57	1	KICL512.D	RTXCLP1 0.53(mm)
IC 160-326367/9		09/08/2017 12:57	1	KICL512.D	RTXCLP2 0.53(mm)
IC 160-326367/10		09/08/2017 13:17	1	KICL513.D	RTXCLP1 0.53(mm)
IC 160-326367/10		09/08/2017 13:17	1	KICL513.D	RTXCLP2 0.53(mm)
ICV 160-326367/11		09/08/2017 13:38	1	KICV514.D	RTXCLP1 0.53(mm)
ICV 160-326367/11		09/08/2017 13:38	1	KICV514.D	RTXCLP2 0.53(mm)
IC 160-326367/12		09/08/2017 13:59	1	KICL515.D	RTXCLP1 0.53(mm)
IC 160-326367/12		09/08/2017 13:59	1	KICL515.D	RTXCLP2 0.53(mm)
IC 160-326367/13		09/08/2017 14:20	1	KICL516.D	RTXCLP1 0.53(mm)
IC 160-326367/13		09/08/2017 14:20	1	KICL516.D	RTXCLP2 0.53(mm)
IC 160-326367/14		09/08/2017 14:41	1	KICL517.D	RTXCLP1 0.53(mm)
IC 160-326367/14		09/08/2017 14:41	1	KICL517.D	RTXCLP2 0.53(mm)
IC 160-326367/15		09/08/2017 15:02	1	KICL518.D	RTXCLP1 0.53(mm)
IC 160-326367/15		09/08/2017 15:02	1	KICL518.D	RTXCLP2 0.53(mm)
IC 160-326367/16		09/08/2017 15:23	1	KICL519.D	RTXCLP1 0.53(mm)
IC 160-326367/16		09/08/2017 15:23	1	KICL519.D	RTXCLP2 0.53(mm)
IC 160-326367/17		09/08/2017 15:44	1	KICL520.D	RTXCLP1 0.53(mm)
IC 160-326367/17		09/08/2017 15:44	1	KICL520.D	RTXCLP2 0.53(mm)
IC 160-326367/18		09/08/2017 16:05	1	KICL521.D	RTXCLP1 0.53(mm)
IC 160-326367/18		09/08/2017 16:05	1	KICL521.D	RTXCLP2 0.53(mm)
ICV 160-326367/19		09/08/2017 16:26	1	KICV522.D	RTXCLP1 0.53(mm)
ICV 160-326367/19		09/08/2017 16:26	1	KICV522.D	RTXCLP2 0.53(mm)
IC 160-326367/20		09/08/2017 16:47	1	KICL523.D	RTXCLP1 0.53(mm)
IC 160-326367/20		09/08/2017 16:47	1	KICL523.D	RTXCLP2 0.53(mm)
IC 160-326367/21		09/08/2017 17:08	1	KICL524.D	RTXCLP1 0.53(mm)
IC 160-326367/21		09/08/2017 17:08	1	KICL524.D	RTXCLP2 0.53(mm)
IC 160-326367/22		09/08/2017 17:29	1	KICL525.D	RTXCLP1 0.53(mm)
IC 160-326367/22		09/08/2017 17:29	1	KICL525.D	RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 17:50	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 17:50	1		RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 18:10	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 18:10	1		RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 18:31	1		RTXCLP1 0.53(mm)

8082A

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: SGCK Start Date: 09/08/2017 10:51

Analysis Batch Number: 326367 End Date: 09/09/2017 01:30

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/08/2017 18:31	1		RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 18:52	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 18:52	1		RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 19:13	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 19:13	1		RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 19:34	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 19:34	1		RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 19:55	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 19:55	1		RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 20:16	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 20:16	1		RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 20:37	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 20:37	1		RTXCLP2 0.53(mm)
CCV 160-326367/32		09/08/2017 20:58	1		RTXCLP1 0.53(mm)
CCV 160-326367/32		09/08/2017 20:58	1		RTXCLP2 0.53(mm)
CCV 160-326367/33		09/08/2017 21:19	1		RTXCLP1 0.53(mm)
CCV 160-326367/33		09/08/2017 21:19	1		RTXCLP2 0.53(mm)
160-23715-A-10-A MDLV		09/08/2017 21:40	1		RTXCLP1 0.53(mm)
160-23715-A-10-A MDLV		09/08/2017 21:40	1		RTXCLP2 0.53(mm)
160-23715-A-10-B MDLV		09/08/2017 22:01	1		RTXCLP1 0.53(mm)
160-23715-A-10-B MDLV		09/08/2017 22:01	1		RTXCLP2 0.53(mm)
160-23715-A-10-C MDLV		09/08/2017 22:22	1		RTXCLP1 0.53(mm)
160-23715-A-10-C MDLV		09/08/2017 22:22	1		RTXCLP2 0.53(mm)
160-23715-A-10-D MDLV		09/08/2017 22:43	1		RTXCLP1 0.53(mm)
160-23715-A-10-D MDLV		09/08/2017 22:43	1		RTXCLP2 0.53(mm)
160-23715-A-10-E MDLV		09/08/2017 23:03	1		RTXCLP1 0.53(mm)
160-23715-A-10-E MDLV		09/08/2017 23:03	1		RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 23:24	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 23:24	1		RTXCLP2 0.53(mm)
ZZZZZ		09/08/2017 23:45	1		RTXCLP1 0.53(mm)
ZZZZZ		09/08/2017 23:45	1		RTXCLP2 0.53(mm)
ZZZZZ		09/09/2017 00:06	1		RTXCLP1 0.53(mm)
ZZZZZ		09/09/2017 00:06	1		RTXCLP2 0.53(mm)
ZZZZZ		09/09/2017 00:27	1		RTXCLP1 0.53(mm)
ZZZZZ		09/09/2017 00:27	1		RTXCLP2 0.53(mm)
ZZZZZ		09/09/2017 00:48	1		RTXCLP1 0.53(mm)
ZZZZZ		09/09/2017 00:48	1		RTXCLP2 0.53(mm)
CCV 160-326367/44		09/09/2017 01:09	1		RTXCLP1 0.53(mm)
CCV 160-326367/44		09/09/2017 01:09	1		RTXCLP2 0.53(mm)
CCV 160-326367/45		09/09/2017 01:30	1		RTXCLP1 0.53(mm)
CCV 160-326367/45		09/09/2017 01:30	1		RTXCLP2 0.53(mm)

8082A

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Instrument ID: SGCK

Start Date: 10/21/2017 12:42

Analysis Batch Number: 333051

End Date: 10/22/2017 07:13

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVIS 160-333051/3		10/21/2017 12:42	1	KCCV117.D	RTXCLP1 0.53(mm)
CCVIS 160-333051/3		10/21/2017 12:42	1	KCCV117.D	RTXCLP2 0.53(mm)
MB 160-332430/1-A		10/21/2017 13:03	1	KBLK118.D	RTXCLP1 0.53(mm)
MB 160-332430/1-A		10/21/2017 13:03	1	KBLK118.D	RTXCLP2 0.53(mm)
LCS 160-332430/2-A		10/21/2017 13:24	1	KLCS119.D	RTXCLP1 0.53(mm)
LCS 160-332430/2-A		10/21/2017 13:24	1	KLCS119.D	RTXCLP2 0.53(mm)
160-24924-1		10/21/2017 13:45	1	KSMP120.D	RTXCLP1 0.53(mm)
160-24924-1		10/21/2017 13:45	1	KSMP120.D	RTXCLP2 0.53(mm)
160-24924-2		10/21/2017 14:06	1	KSMP121.D	RTXCLP1 0.53(mm)
160-24924-2		10/21/2017 14:06	1	KSMP121.D	RTXCLP2 0.53(mm)
160-24924-3		10/21/2017 14:27	1	KSMP122.D	RTXCLP1 0.53(mm)
160-24924-3		10/21/2017 14:27	1	KSMP122.D	RTXCLP2 0.53(mm)
160-24924-4		10/21/2017 14:48	1	KSMP123.D	RTXCLP1 0.53(mm)
160-24924-4		10/21/2017 14:48	1	KSMP123.D	RTXCLP2 0.53(mm)
160-24924-5		10/21/2017 15:09	1	KSMP124.D	RTXCLP1 0.53(mm)
160-24924-5		10/21/2017 15:09	1	KSMP124.D	RTXCLP2 0.53(mm)
160-24924-6		10/21/2017 15:30	1	KSMP125.D	RTXCLP1 0.53(mm)
160-24924-6		10/21/2017 15:30	1	KSMP125.D	RTXCLP2 0.53(mm)
160-24924-7		10/21/2017 15:50	1	KSMP126.D	RTXCLP1 0.53(mm)
160-24924-7		10/21/2017 15:50	1	KSMP126.D	RTXCLP2 0.53(mm)
160-24924-8		10/21/2017 16:11	1	KSMP127.D	RTXCLP1 0.53(mm)
160-24924-8		10/21/2017 16:11	1	KSMP127.D	RTXCLP2 0.53(mm)
CCV 160-333051/14		10/21/2017 16:32	1	KCCV128.D	RTXCLP1 0.53(mm)
CCV 160-333051/14		10/21/2017 16:32	1	KCCV128.D	RTXCLP2 0.53(mm)
160-24924-9		10/21/2017 16:53	1	KSMP129.D	RTXCLP1 0.53(mm)
160-24924-9		10/21/2017 16:53	1	KSMP129.D	RTXCLP2 0.53(mm)
160-24924-9 MS		10/21/2017 17:14	1	KSMP130.D	RTXCLP1 0.53(mm)
160-24924-9 MS		10/21/2017 17:14	1	KSMP130.D	RTXCLP2 0.53(mm)
160-24924-9 MSD		10/21/2017 17:35	1	KSMP131.D	RTXCLP1 0.53(mm)
160-24924-9 MSD		10/21/2017 17:35	1	KSMP131.D	RTXCLP2 0.53(mm)
160-24924-10		10/21/2017 17:56	1	KSMP132.D	RTXCLP1 0.53(mm)
160-24924-10		10/21/2017 17:56	1	KSMP132.D	RTXCLP2 0.53(mm)
160-24924-11		10/21/2017 18:17	1	KSMP133.D	RTXCLP1 0.53(mm)
160-24924-11		10/21/2017 18:17	1	KSMP133.D	RTXCLP2 0.53(mm)
160-24924-12		10/21/2017 18:38	1	KSMP134.D	RTXCLP1 0.53(mm)
160-24924-12		10/21/2017 18:38	1	KSMP134.D	RTXCLP2 0.53(mm)
160-24924-13		10/21/2017 18:59	1	KSMP135.D	RTXCLP1 0.53(mm)
160-24924-13		10/21/2017 18:59	1	KSMP135.D	RTXCLP2 0.53(mm)
160-24924-14		10/21/2017 19:20	1	KSMP136.D	RTXCLP1 0.53(mm)
160-24924-14		10/21/2017 19:20	1	KSMP136.D	RTXCLP2 0.53(mm)
160-24924-15		10/21/2017 19:41	1	KSMP137.D	RTXCLP1 0.53(mm)
160-24924-15		10/21/2017 19:41	1	KSMP137.D	RTXCLP2 0.53(mm)
160-24924-16		10/21/2017 20:02	1	KSMP138.D	RTXCLP1 0.53(mm)
160-24924-16		10/21/2017 20:02	1	KSMP138.D	RTXCLP2 0.53(mm)
CCV 160-333051/25		10/21/2017 20:23	1	KCCV139.D	RTXCLP1 0.53(mm)

8082A

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: SGCK Start Date: 10/21/2017 12:42

Analysis Batch Number: 333051 End Date: 10/22/2017 07:13

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 160-333051/25		10/21/2017 20:23	1	KCCV139.D	RTXCLP2 0.53(mm)
160-24924-17		10/21/2017 20:44	1	KSMP140.D	RTXCLP1 0.53(mm)
160-24924-17		10/21/2017 20:44	1	KSMP140.D	RTXCLP2 0.53(mm)
160-24924-18		10/21/2017 21:05	1	KSMP141.D	RTXCLP1 0.53(mm)
160-24924-18		10/21/2017 21:05	1	KSMP141.D	RTXCLP2 0.53(mm)
160-24924-19		10/21/2017 21:26	1	KSMP142.D	RTXCLP1 0.53(mm)
160-24924-19		10/21/2017 21:26	1	KSMP142.D	RTXCLP2 0.53(mm)
ZZZZZ		10/21/2017 21:47	1		RTXCLP1 0.53(mm)
ZZZZZ		10/21/2017 21:47	1		RTXCLP2 0.53(mm)
ZZZZZ		10/21/2017 22:08	1		RTXCLP1 0.53(mm)
ZZZZZ		10/21/2017 22:08	1		RTXCLP2 0.53(mm)
ZZZZZ		10/21/2017 22:29	1		RTXCLP1 0.53(mm)
ZZZZZ		10/21/2017 22:29	1		RTXCLP2 0.53(mm)
ZZZZZ		10/21/2017 22:50	1		RTXCLP1 0.53(mm)
ZZZZZ		10/21/2017 22:50	1		RTXCLP2 0.53(mm)
ZZZZZ		10/21/2017 23:11	1		RTXCLP1 0.53(mm)
ZZZZZ		10/21/2017 23:11	1		RTXCLP2 0.53(mm)
ZZZZZ		10/21/2017 23:32	1		RTXCLP1 0.53(mm)
ZZZZZ		10/21/2017 23:32	1		RTXCLP2 0.53(mm)
ZZZZZ		10/21/2017 23:53	1		RTXCLP1 0.53(mm)
ZZZZZ		10/21/2017 23:53	1		RTXCLP2 0.53(mm)
CCV 160-333051/36		10/22/2017 00:13	1	KCCV150.D	RTXCLP1 0.53(mm)
CCV 160-333051/36		10/22/2017 00:13	1	KCCV150.D	RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 00:35	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 00:35	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 00:55	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 00:55	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 01:16	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 01:16	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 01:37	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 01:37	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 01:58	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 01:58	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 02:19	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 02:19	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 02:40	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 02:40	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 03:01	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 03:01	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 03:22	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 03:22	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 03:43	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 03:43	1		RTXCLP2 0.53(mm)
CCV 160-333051/47		10/22/2017 04:04	1		RTXCLP1 0.53(mm)
CCV 160-333051/47		10/22/2017 04:04	1		RTXCLP2 0.53(mm)

8082A

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: SGCK Start Date: 10/21/2017 12:42

Analysis Batch Number: 333051 End Date: 10/22/2017 07:13

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/22/2017 04:25	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 04:25	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 04:46	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 04:46	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 05:07	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 05:07	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 05:28	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 05:28	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 05:49	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 05:49	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 06:10	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 06:10	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 06:31	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 06:31	1		RTXCLP2 0.53(mm)
ZZZZZ		10/22/2017 06:52	1		RTXCLP1 0.53(mm)
ZZZZZ		10/22/2017 06:52	1		RTXCLP2 0.53(mm)
CCV 160-333051/56		10/22/2017 07:13	1		RTXCLP1 0.53(mm)
CCV 160-333051/56		10/22/2017 07:13	1		RTXCLP2 0.53(mm)

8082A

PCBS BATCH WORKSHEET

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Batch Number: 332430　Batch Start Date: 10/18/17 09:00　Batch Analyst: Slama, Kurt R

Batch Method: 3550C　Batch End Date: 10/18/17 12:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	InitialAmount	FinalAmount	SonicatorID	PCB Surr 00014	PCB_Spike 00020
MB 160-332430/1		3550C, 8082A		CALC NOT SET TO RUN	30 g	10 mL	1	500 uL	
LCS 160-332430/2		3550C, 8082A		CALC NOT SET TO RUN	30 g	10 mL	2	500 uL	500 uL
160-24924-E-1	SHAD041DP026SS02 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.07 g	10 mL	3	500 uL	
160-24924-E-2	SHAD041DP026SS03 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.20 g	10 mL	4	500 uL	
160-24924-E-3	SHAD041DP026SS04 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.28 g	10 mL	5	500 uL	
160-24924-E-4	SHAD041DP026SS05 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.39 g	10 mL	8	500 uL	
160-24924-E-5	SHAD041DP026SS05 DS	3550C, 8082A	T	CALC NOT SET TO RUN	30.32 g	10 mL	9	500 uL	
160-24924-E-6	SHAD041DP026SS06 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.06 g	10 mL	1	500 uL	
160-24924-E-7	SHAD041DP022SS01 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.33 g	10 mL	2	500 uL	
160-24924-E-8	SHAD041DP022SS02 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.04 g	10 mL	3	500 uL	
160-24924-E-9	SHAD041DP022SS03 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.04 g	10 mL	4	500 uL	
160-24924-E-9 MS	SHAD041DP022SS03 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.04 g	10 mL	5	500 uL	500 uL
160-24924-E-9 MSD	SHAD041DP022SS03 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.11 g	10 mL	8	500 uL	500 uL
160-24924-E-10	SHAD041DP022SS04 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.13 g	10 mL	9	500 uL	
160-24924-E-11	SHAD041DP022SS05 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.44 g	10 mL	1	500 uL	
160-24924-E-12	SHAD041DP022SS06 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.01 g	10 mL	2	500 uL	
160-24924-E-13	SHAD041DP013SS01 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.07 g	10 mL	3	500 uL	
160-24924-E-14	SHAD041DP013SS02 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.11 g	10 mL	4	500 uL	
160-24924-E-15	SHAD041DP013SS03 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.08 g	10 mL	5	500 uL	
160-24924-F-16	SHAD041DP013SS04 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.29 g	10 mL	8	500 uL	
160-24924-F-17	SHAD041DP013SS05 NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.41 g	10 mL	9	500 uL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Batch Number: 332430 Batch Start Date: 10/18/17 09:00 Batch Analyst: Slama, Kurt R

Batch Method: 3550C Batch End Date: 10/18/17 12:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	InitialAmount	FinalAmount	SonicatorID	PCB Surr 00014	PCB_Spike 00020
160-24924-E-18	SHAD041DP013SS05DS	3550C, 8082A	T	CALC NOT SET TO RUN	30.15 g	10 mL	1	500 uL	
160-24924-E-19	SHAD041DP013SS06NS	3550C, 8082A	T	CALC NOT SET TO RUN	30.18 g	10 mL	2	500 uL	

Batch Notes	
Acid used for Clean Up ID	Sulfuric; 1297977
Balance ID	27250189
Concentration End Time	10/20/17 19:00
Concentration Start Time	10/20/17 18:00
Analyst ID - Concentration	John Ginn
Analyst ID - Clean Up	John Ginn
Exchange Solvent ID	1304962
Exchange Solvent Name	Hexane
Na2SO4 ID	1277542
Nominal Amount Used	30 g
Prep Solvent ID	1281082; 1279380
Prep Solvent Name	methylene chloride/acetone; methylene chloride
Prep Solvent Volume Used	300 mL
Person's name who did the prep	Kurt Slama
Analyst ID - Reagent Drop Witness	Gerrod McKinney
Analyst ID - Reagent Drop	Kurt Slama
Vendor of Reagent used	J.T. Baker
Water Bath ID	2,4
Water Bath Temperature	95 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: TestAmerica St. Louis

Job Number: 160-24924-1

SDG No.:

Project: Sharpe Army Depot - Task 16

Client Sample ID	Lab Sample ID
SHAD041DP026SS02NS	160-24924-1
SHAD041DP026SS03NS	160-24924-2
SHAD041DP026SS04NS	160-24924-3
SHAD041DP026SS05NS	160-24924-4
SHAD041DP026SS05DS	160-24924-5
SHAD041DP026SS06NS	160-24924-6
SHAD041DP022SS01NS	160-24924-7
SHAD041DP022SS02NS	160-24924-8
SHAD041DP022SS03NS	160-24924-9
SHAD041DP022SS04NS	160-24924-10
SHAD041DP022SS05NS	160-24924-11
SHAD041DP022SS06NS	160-24924-12
SHAD041DP013SS01NS	160-24924-13
SHAD041DP013SS02NS	160-24924-14
SHAD041DP013SS03NS	160-24924-15
SHAD041DP013SS04NS	160-24924-16
SHAD041DP013SS05NS	160-24924-17
SHAD041DP013SS05DS	160-24924-18
SHAD041DP013SS06NS	160-24924-19

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SHAD041DP026SS02NS

Lab Sample ID: 160-24924-1

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:04

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 98.6

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	19	4.6	3.5	1.2	mg/Kg		D	5	6010C
Lead	380	4.6	3.5	1.2	mg/Kg		D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	SHAD041DP026SS03NS	Lab Sample ID:	160-24924-2
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 16:11
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	87.9		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	14	5.3	3.9	1.3	mg/Kg		D	5	6010C
Lead	34	5.3	3.9	1.3	mg/Kg		D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SHAD041DP026SS04NS

Lab Sample ID: 160-24924-3

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:15

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 90.4

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	9.7	5.3	4.0	1.3	mg/Kg		D	5	6010C
Lead	2.4	5.3	4.0	1.3	mg/Kg	J	D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SHAD041DP026SS05NS	Lab Sample ID: 160-24924-4
Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG ID.:	
Matrix: Solid	Date Sampled: 10/05/2017 16:22
Reporting Basis: DRY	Date Received: 10/07/2017 08:50
% Solids: 79.9	

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	14	5.4	4.1	1.4	mg/Kg		D	5	6010C
Lead	7.2	5.4	4.1	1.4	mg/Kg		D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SHAD041DP026SS05DS

Lab Sample ID: 160-24924-5

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:26

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 73.5

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	15	6.3	4.7	1.6	mg/Kg		D	5	6010C
Lead	8.9	6.3	4.7	1.6	mg/Kg		D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	SHAD041DP026SS06NS	Lab Sample ID:	160-24924-6
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 16:31
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	86.1		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	18	5.6	4.2	1.4	mg/Kg		D	5	6010C
Lead	5.5	5.6	4.2	1.4	mg/Kg	J	D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SHAD041DP022SS01NS

Lab Sample ID: 160-24924-7

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:45

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 99.7

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	52	4.5	3.4	1.1	mg/Kg		D	5	6010C
Lead	260	4.5	3.4	1.1	mg/Kg		D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SHAD041DP022SS02NS

Lab Sample ID: 160-24924-8

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:55

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 99.0

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	20	4.6	3.4	1.1	mg/Kg		D	5	6010C
Lead	320	4.6	3.4	1.1	mg/Kg		D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	SHAD041DP022SS03NS	Lab Sample ID:	160-24924-9
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 16:59
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	98.0		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	12	4.3	3.2	1.1	mg/Kg		D J	5	6010C
Lead	39	4.3	3.2	1.1	mg/Kg		D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	SHAD041DP022SS04NS	Lab Sample ID:	160-24924-10
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 17:10
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	86.3		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	11	5.2	3.9	1.3	mg/Kg		D	5	6010C
Lead	1.4	5.2	3.9	1.3	mg/Kg	J	D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	SHAD041DP022SS05NS	Lab Sample ID:	160-24924-11
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 17:15
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	87.9		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	9.4	5.1	3.8	1.3	mg/Kg		D	5	6010C
Lead	2.6	5.1	3.8	1.3	mg/Kg	J	D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SHAD041DP022SS06NS

Lab Sample ID: 160-24924-12

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 17:23

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 89.2

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	19	5.2	3.9	1.3	mg/Kg		D	5	6010C
Lead	4.8	5.2	3.9	1.3	mg/Kg	J	D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SHAD041DP013SS01NS

Lab Sample ID: 160-24924-13

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 14:23

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 99.5

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	13	4.7	3.5	1.2	mg/Kg		D	5	6010C
Lead	22	4.7	3.5	1.2	mg/Kg		D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	SHAD041DP013SS02NS	Lab Sample ID:	160-24924-14
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 14:34
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	94.5		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	9.4	4.5	3.3	1.1	mg/Kg		D	5	6010C
Lead	1.7	4.5	3.3	1.1	mg/Kg	J	D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SHAD041DP013SS03NS

Lab Sample ID: 160-24924-15

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 14:44

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 86.6

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	15	5.2	3.9	1.3	mg/Kg		D	5	6010C
Lead	3.4	5.2	3.9	1.3	mg/Kg	J	D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	SHAD041DP013SS04NS	Lab Sample ID:	160-24924-16
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 15:06
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	84.8		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	9.8	5.2	3.9	1.3	mg/Kg		D	5	6010C
Lead	1.6	5.2	3.9	1.3	mg/Kg	J	D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SHAD041DP013SS05NS

Lab Sample ID: 160-24924-17

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 15:10

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 76.0

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	17	5.7	4.2	1.4	mg/Kg		D	5	6010C
Lead	6.3	5.7	4.2	1.4	mg/Kg		D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	SHAD041DP013SS05DS	Lab Sample ID:	160-24924-18
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 15:15
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	80.2		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	17	5.9	4.4	1.5	mg/Kg		D	5	6010C
Lead	7.2	5.9	4.4	1.5	mg/Kg		D	5	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	SHAD041DP013SS06NS	Lab Sample ID:	160-24924-19
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 15:18
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	83.8		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium	15	5.5	4.1	1.4	mg/Kg		D	5	6010C
Lead	4.4	5.5	4.1	1.4	mg/Kg	J	D	5	6010C

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

ICV Source: ICP ICV_00330 Concentration Units: ug/L

CCV Source: ICP CAL1/LLC_00136

Analyte	ICV 160-332586/5 10/18/2017 13:34				CCVL 160-332586/49 10/18/2017 17:11				CCVL 160-332586/62 10/18/2017 18:09			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Chromium	5210		5000	104	10.3		10.0	103	9.60	J	10.0	96
Lead	5390		5000	108	10.3		10.0	103	10.8		10.0	108

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

ICV Source: ICP ICV_00330 Concentration Units: ug/L

CCV Source: ICP CAL1/LLC_00136

Analyte	CCVL 160-332586/75 10/18/2017 19:06				CCVL 160-332586/88 10/18/2017 20:04							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Chromium	9.80	J	10.0	98	10.1		10.0	101				
Lead	9.90	J	10.0	99	10.8		10.0	108				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

ICV Source: ICP ICV_00330

Concentration Units: ug/L

CCV Source: ICP CAL2/CCV_00129

Analyte	ICV 160-332586/5 10/18/2017 13:34				CCV 160-332586/50 10/18/2017 17:16				CCV 160-332586/63 10/18/2017 18:13			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Chromium	5210		5000	104	4960		5000	99	4940		5000	99
Lead	5390		5000	108	5110		5000	102	5070		5000	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

ICV Source: ICP ICV_00330

Concentration Units: ug/L

CCV Source: ICP CAL2/CCV_00129

Analyte	CCV 160-332586/76 10/18/2017 19:11				CCV 160-332586/89 10/18/2017 20:09							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Chromium	5080		5000	102	4880		5000	98				
Lead	5180		5000	104	4960		5000	99				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Method: 6010C Instrument ID: ICP6500

Lab Sample ID: CRI 160-332586/7 Concentration Units: ug/L

CRQL Check Standard Source: ICP CAL1/LLC_00136

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	10.0	9.00	J	90	80-120
Lead	10.0	8.60	J	86	80-120

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 160-332586/6 10/18/2017 13:38		CCB 160-332586/51 10/18/2017 17:20		CCB 160-332586/64 10/18/2017 18:17		CCB 160-332586/77 10/18/2017 19:15	
		Found	C	Found	C	Found	C	Found	C
Chromium	10	9.0	U	9.0	U	9.0	U	9.0	U
Lead	10	9.0	U	9.0	U	9.0	U	9.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 160-332586/90 10/18/2017 20:13							
		Found	C	Found	C	Found	C	Found	C
Chromium	10	9.0	U						
Lead	10	9.0	U						

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Concentration Units: mg/Kg Lab Sample ID: MB 160-332120/1-A

Instrument Code: ICP6500 Batch No.: 332586

CAS No.	Analyte	Concentration	C	Q	Method
7440-47-3	Chromium	0.73	U		6010C_DOD5
7439-92-1	Lead	0.73	U		6010C_DOD5

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICSA 160-332586/8 Instrument ID: ICP6500

Lab File ID: 101817C2.asc ICS Source: ICP ICSA_00014

Concentration Units: ug/L

Analyte	True	Found	
	Solution A	Solution A	Percent Recovery
Chromium		**-7.90**	
Lead		**-5.30**	
Aluminum	*100000*	*98640*	*99*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Lab Sample ID: ICSAB 160-332586/9 Instrument ID: ICP6500

Lab File ID: 101817C2.asc ICS Source: ICP ICSAB_00012

Concentration Units: ug/L

Analyte	True	Found	
	Solution AB	Solution AB	Percent Recovery
Chromium	**2500**	**2427**	**97**
Lead	**2500**	**2419**	**97**

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: SHAD041DP022SS03NS MS

Lab ID: 160-24924-9 MS

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Matrix: Solid

Concentration Units: mg/Kg

% Solids: 98.0

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Chromium	165		12		98.0	157	85-113	D J	6010C
Lead	137		39		98.0	100	81-112	D	6010C

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: SHAD041DP022SS03NS MSD	Lab ID: 160-24924-9 MSD
Lab Name: TestAmerica St. Louis	Job No.: 160-24924-1
SDG No.:	
Matrix: Solid	Concentration Units: mg/Kg
% Solids: 98.0	

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Chromium	100		90.1	98	85-113	49	20	D J	6010C
Lead	123		90.1	94	81-112	10	20	D	6010C

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VD - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS

Client ID: SHAD041DP022SS03NS PDS

Lab ID: 160-24924-9 PDS

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Matrix: Solid

Concentration Units: mg/Kg

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Chromium	49.3		12		43.0	88	80-120	D	6010C
Lead	75.2		39		43.0	85	80-120	D	6010C

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VB - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 160-332120/2-A

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

Sample Matrix: Solid

LCS Source: MPREP1_00012

Analyte	Solid(mg/Kg)							
	True	Found	C	%R	Limits		Q	Method
Chromium	89.0	86.8		98	85	113		6010C
Lead	89.0	89.5		101	81	112		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS

Lab ID: 160-24924-9

SDG No:

Lab Name: TestAmerica St. Louis Job No: 160-24924-1

Matrix: Solid Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Chromium	12		12.9	J	NC	D	6010C
Lead	39		40.2		NC	D	6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica St. Louis　Job Number: 160-24924-1

SDG Number:

Matrix: Solid　Instrument ID: ICP6500

Method: 6010C　DL Date: 05/05/2016 11:50

Prep Method: 3050B

Analyte	Wavelength/ Mass	LOQ (mg/Kg)	DL (mg/Kg)
Chromium		1	0.25
Lead		1	0.25

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica St. Louis　Job Number: 160-24924-1

SDG Number:

Matrix: Solid　Instrument ID: ICP6500

Method: 6010C　XMDL Date: 09/14/2016 11:59

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Chromium		10	3
Lead		10	3

FORM IX - IN

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica St. Louis Job No: 160-24924-1

SDG No.:

Instrument ID: ICP6500 Date: 08/10/2017 15:36

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Chromium		10	6010C
Lead		10	6010C

FORM XI - IN

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Prep Method: 3050B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 160-332120/1-A	10/16/2017 11:52	332120	0.5112		50
LCS 160-332120/2-A	10/16/2017 11:52	332120	0.5617		50
160-24924-1	10/16/2017 11:52	332120	0.5490		50
160-24924-2	10/16/2017 11:52	332120	0.5409		50
160-24924-3	10/16/2017 11:52	332120	0.5217		50
160-24924-4	10/16/2017 11:52	332120	0.5742		50
160-24924-5	10/16/2017 11:52	332120	0.5429		50
160-24924-6	10/16/2017 11:52	332120	0.5210		50
160-24924-7	10/16/2017 11:52	332120	0.5607		50
160-24924-8	10/16/2017 11:52	332120	0.5513		50
160-24924-9	10/16/2017 11:52	332120	0.5931		50
160-24924-9 MS	10/16/2017 11:52	332120	0.5206		50
160-24924-9 MSD	10/16/2017 11:52	332120	0.5663		50
160-24924-10	10/16/2017 11:52	332120	0.5626		50
160-24924-11	10/16/2017 11:52	332120	0.5600		50
160-24924-12	10/16/2017 11:52	332120	0.5428		50
160-24924-13	10/16/2017 11:52	332120	0.5362		50
160-24924-14	10/16/2017 11:52	332120	0.5937		50
160-24924-15	10/16/2017 11:52	332120	0.5585		50
160-24924-16	10/16/2017 11:52	332120	0.5644		50
160-24924-17	10/16/2017 11:52	332120	0.5806		50
160-24924-18	10/16/2017 11:52	332120	0.5296		50
160-24924-19	10/16/2017 11:52	332120	0.5451		50

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Instrument ID: ICP6500

Analysis Method: 6010C

Start Date: 10/18/2017 13:16

End Date: 10/18/2017 20:26

Lab Sample Id	D/F	Type	Time	Analytes																									
				Cr	Pb																								
ICIS 160-332586/1	1		13:16	X	X																								
IC 160-332586/2			13:21	X	X																								
IC 160-332586/3			13:26	X	X																								
IC 160-332586/4			13:30	X	X																								
ICV 160-332586/5	1		13:34	X	X																								
ICB 160-332586/6	1		13:38	X	X																								
CRI 160-332586/7	1		13:43	X	X																								
ICSA 160-332586/8	1		13:47	X	X																								
ICSAB 160-332586/9	1		13:52	X	X																								
CCVL 160-332586/10			13:56																										
CCV 160-332586/11			14:01																										
CCB 160-332586/12			14:05																										
ZZZZZZ			14:30																										
ZZZZZZ			14:34																										
ZZZZZZ			14:39																										
ZZZZZZ			14:43																										
ZZZZZZ			14:48																										
ZZZZZZ			14:52																										
ZZZZZZ			14:57																										
ZZZZZZ			15:01																										
ZZZZZZ			15:06																										
ZZZZZZ			15:10																										
CCVL 160-332586/23			15:15																										
CCV 160-332586/24			15:19																										
CCB 160-332586/25			15:24																										
ZZZZZZ			15:28																										
ZZZZZZ			15:33																										
ZZZZZZ			15:37																										
ZZZZZZ			15:42																										
ZZZZZZ			15:46																										
ZZZZZZ			15:51																										
ZZZZZZ			15:55																										
ZZZZZZ			16:00																										
ZZZZZZ			16:04																										
ZZZZZZ			16:09																										
CCVL 160-332586/36			16:13																										
CCV 160-332586/37			16:18																										
CCB 160-332586/38			16:22																										
ZZZZZZ			16:26																										
ZZZZZZ			16:31																										
ZZZZZZ			16:35																										
ZZZZZZ			16:40																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Instrument ID: ICP6500

Analysis Method: 6010C

Start Date: 10/18/2017 13:16

End Date: 10/18/2017 20:26

Lab Sample Id	D/F	Type	Time	Analytes	
				Cr	Pb
ZZZZZZ			16:44		
ZZZZZZ			16:49		
ZZZZZZ			16:53		
ZZZZZZ			16:58		
ZZZZZZ			17:02		
ZZZZZZ			17:07		
CCVL 160-332586/49	1		17:11	X	X
CCV 160-332586/50	1		17:16	X	X
CCB 160-332586/51	1		17:20	X	X
ZZZZZZ			17:24		
ZZZZZZ			17:29		
ZZZZZZ			17:33		
ZZZZZZ			17:37		
ZZZZZZ			17:42		
MB 160-332120/1-A	1	T	17:46	X	X
LCS 160-332120/2-A	1	T	17:51	X	X
160-24924-1	5	T	17:55	X	X
160-24924-2	5	T	18:00	X	X
160-24924-3	5	T	18:04	X	X
CCVL 160-332586/62	1		18:09	X	X
CCV 160-332586/63	1		18:13	X	X
CCB 160-332586/64	1		18:17	X	X
160-24924-4	5	T	18:22	X	X
160-24924-5	5	T	18:26	X	X
160-24924-6	5	T	18:31	X	X
160-24924-7	5	T	18:35	X	X
160-24924-8	5	T	18:40	X	X
160-24924-9	5	T	18:44	X	X
160-24924-9 SD	25	T	18:49	X	X
160-24924-9 MS	5	T	18:53	X	X
160-24924-9 MSD	5	T	18:58	X	X
160-24924-9 PDS	5	T	19:02	X	X
CCVL 160-332586/75	1		19:06	X	X
CCV 160-332586/76	1		19:11	X	X
CCB 160-332586/77	1		19:15	X	X
160-24924-10	5	T	19:19	X	X
160-24924-11	5	T	19:24	X	X
160-24924-12	5	T	19:28	X	X
160-24924-13	5	T	19:33	X	X
160-24924-14	5	T	19:37	X	X
160-24924-15	5	T	19:42	X	X
160-24924-16	5	T	19:46	X	X

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Instrument ID: ICP6500

Analysis Method: 6010C

Start Date: 10/18/2017 13:16

End Date: 10/18/2017 20:26

				Analytes	
Lab Sample Id	D/F	Type	Time	Cr	Pb
160-24924-17	5	T	19:51	X	X
160-24924-18	5	T	19:55	X	X
160-24924-19	5	T	20:00	X	X
CCVL 160-332586/88	1		20:04	X	X
CCV 160-332586/89	1		20:09	X	X
CCB 160-332586/90	1		20:13	X	X
ZZZZZZ			20:17		
ZZZZZZ			20:22		
ZZZZZZ			20:26		

Prep Types:

T = Total/NA

METALS BATCH WORKSHEET

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Batch Number: 332120   Batch Start Date: 10/17/17 13:15   Batch Analyst: Mazariegos, Leonel A

Batch Method: 3050B   Batch End Date: 10/18/17 09:51

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MPREP1 00012	MPREP2 00010		
MB 160-332120/1		3050B, 6010C		0.5112 g	50 mL				
LCS 160-332120/2		3050B, 6010C		0.5617 g	50 mL	0.25 mL	0.25 mL		
160-24924-E-1	SHAD041DP026SS02 NS	3050B, 6010C	T	0.5490 g	50 mL				
160-24924-E-2	SHAD041DP026SS03 NS	3050B, 6010C	T	0.5409 g	50 mL				
160-24924-E-3	SHAD041DP026SS04 NS	3050B, 6010C	T	0.5217 g	50 mL				
160-24924-E-4	SHAD041DP026SS05 NS	3050B, 6010C	T	0.5742 g	50 mL				
160-24924-E-5	SHAD041DP026SS05 DS	3050B, 6010C	T	0.5429 g	50 mL				
160-24924-E-6	SHAD041DP026SS06 NS	3050B, 6010C	T	0.5210 g	50 mL				
160-24924-E-7	SHAD041DP022SS01 NS	3050B, 6010C	T	0.5607 g	50 mL				
160-24924-E-8	SHAD041DP022SS02 NS	3050B, 6010C	T	0.5513 g	50 mL				
160-24924-E-9	SHAD041DP022SS03 NS	3050B, 6010C	T	0.5931 g	50 mL				
160-24924-E-9 MS	SHAD041DP022SS03 NS	3050B, 6010C	T	0.5206 g	50 mL	0.25 mL	0.25 mL		
160-24924-E-9 MSD	SHAD041DP022SS03 NS	3050B, 6010C	T	0.5663 g	50 mL	0.25 mL	0.25 mL		
160-24924-E-10	SHAD041DP022SS04 NS	3050B, 6010C	T	0.5626 g	50 mL				
160-24924-E-11	SHAD041DP022SS05 NS	3050B, 6010C	T	0.5600 g	50 mL				
160-24924-E-12	SHAD041DP022SS06 NS	3050B, 6010C	T	0.5428 g	50 mL				
160-24924-E-13	SHAD041DP013SS01 NS	3050B, 6010C	T	0.5362 g	50 mL				
160-24924-E-14	SHAD041DP013SS02 NS	3050B, 6010C	T	0.5937 g	50 mL				
160-24924-E-15	SHAD041DP013SS03 NS	3050B, 6010C	T	0.5585 g	50 mL				
160-24924-E-16	SHAD041DP013SS04 NS	3050B, 6010C	T	0.5644 g	50 mL				
160-24924-E-17	SHAD041DP013SS05 NS	3050B, 6010C	T	0.5806 g	50 mL				
160-24924-E-18	SHAD041DP013SS05 DS	3050B, 6010C	T	0.5296 g	50 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1

SDG No.:

Batch Number: 332120
Batch Start Date: 10/17/17 13:15
Batch Analyst: Mazariegos, Leonel A

Batch Method: 3050B
Batch End Date: 10/18/17 09:51

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MPREP1 00012	MPREP2 00010		
160-24924-E-19	SHAD041DP013SS06 NS	3050B, 6010C	T	0.5451 g	50 mL				

Batch Notes	
Balance ID	27150548
Batch Comment	Weighed up by DAS
Blank Soil Lot Number	22832253
Hydrogen Peroxide ID	1208218
Lot # of hydrochloric acid	1269732
Lot # of Nitric Acid	1269735, 1269849
Hot Block ID	HG1
Oven, Bath or Block Temperature 1	93.6 Degrees C
Pipette ID	MET-11
Thermometer ID	160612183, 160322360
Digestion Tube/Cup ID	274166-4428 40

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Sample Name: CALBLK1 Acquired: 10/18/2017 13:16:43 Type: Cal
Method: _2016(v387) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0034	-.0089	.0002	.0023	.0329	.0005	-.0002	.0000	-.0002
Stddev	.0002	.0027	.0000	.0008	.0047	.0006	.0002	.0000	.0001
%RSD	4.855	30.42	21.43	33.84	14.40	120.2	107.2	82.75	48.19
#1	-.0033	-.0114	.0001	.0021	.0311	.0012	.0000	.0000	-.0003
#2	-.0035	-.0060	.0002	.0032	.0383	.0000	-.0002	.0000	-.0003
#3	-.0032	-.0094	.0002	.0017	.0293	.0003	-.0003	.0001	-.0001

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0002	.0000	-.0003	.0004	.1100	.1185	-.0022	-.0027	.0001
Stddev	.0000	.0001	.0001	.0008	.0031	.0076	.0020	.0012	.0000
%RSD	3.177	211.3	23.21	209.2	2.791	6.444	89.20	44.46	12.98
#1	.0002	-.0000	-.0002	-.0005	.1103	.1272	-.0045	-.0038	.0002
#2	.0002	.0001	-.0003	.0011	.1129	.1129	-.0008	-.0015	.0001
#3	.0002	.0001	-.0002	.0006	.1068	.1153	-.0014	-.0027	.0001

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.1903	-.0001	-.0008	-.0001	.0001	.0004	.0000	.1549	.0002
Stddev	.0049	.0000	.0001	.0001	.0001	.0001	.0001	.2707	.0001
%RSD	2.560	8.185	7.561	42.35	101.1	26.82	312.7	174.8	26.27
#1	.1850	-.0001	-.0009	-.0001	.0001	.0003	.0002	-.0017	.0003
#2	.1944	-.0001	-.0007	-.0002	.0001	.0005	-.0001	-.0011	.0002
#3	.1917	-.0001	-.0008	-.0002	-.0000	.0004	.0000	.4675	.0003

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0092	.0055	.0015	-.0003	-.0042	-.0011	-.0003
Stddev	.0029	.0001	.0030	.0001	.0011	.0012	.0001
%RSD	31.72	1.490	196.2	42.63	24.79	103.5	19.29
#1	-.0092	.0056	.0024	-.0004	-.0040	.0002	-.0004
#2	-.0120	.0054	-.0018	-.0001	-.0054	-.0014	-.0003
#3	-.0062	.0055	.0041	-.0003	-.0033	-.0021	-.0002

Sample Name: CALBLK1 Acquired: 10/18/2017 13:16:43 Type: Cal
Method: _2016(v387) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8183.6	2034.5
Stddev	194.6	30.2
%RSD	2.3775	1.4837
#1	7965.8	2010.9
#2	8245.1	2068.5
#3	8340.1	2024.1

```
Sample Name: CAL 1      Acquired: 10/18/2017 13:21:23      Type: Cal
Method: _2016(v387)     Mode: IR      Corr. Factor: 1.000000
User: admin       Custom ID1:        Custom ID2:        Custom ID3:
Comment:

Elem       Ag3280  Al3961  As1890  B_2496  Ba4554  Be3130  Bi2230  Ca1840  Cd2288
Units       Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S
Avg         .0035   .0255   .0005   .0167   .5262   .0671   .0075   .0993   .0020
Stddev      .0007   .0044   .0000   .0016   .0118   .0023   .0005   .0045   .0002
%RSD        18.68   17.41   9.603   9.385   2.249   3.386   6.122   4.551   8.044

#1          .0028   .0204   .0005   .0171   .5164   .0689   .0071   .0949   .0020
#2          .0041   .0285   .0006   .0179   .5394   .0680   .0074   .0990   .0019
#3          .0037   .0276   .0005   .0149   .5228   .0645   .0080   .1039   .0022

Elem       Co2286  Cr2055  Cu2178  Fe2599  K_7664  Li6707  Mg2798  Mn2576  Mo2020
Units       Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S
Avg         .0102   .0027   .0007   .0362   .4310   .2105   .0350   .0246   .0072
Stddev      .0005   .0001   .0000   .0011   .0095   .0064   .0004   .0009   .0003
%RSD        4.845   3.391   2.564   2.941   2.205   3.046   1.073   3.539   4.575

#1          .0098   .0026   .0007   .0357   .4230   .2056   .0346   .0255   .0068
#2          .0100   .0027   .0007   .0375   .4285   .2082   .0354   .0247   .0072
#3          .0107   .0027   .0007   .0356   .4415   .2178   .0351   .0237   .0075

Elem       Na5895  Ni2216  P_1774  Pb2203  S_1820  Sb2068  Se1960  Si2516  Sn1899
Units       Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S
Avg         .3911   .0128   .0072   .0005   .0837   .0009   .0003   .0436   .0079
Stddev      .0024   .0006   .0003   .0002   .0041   .0000   .0001   .0012   .0004
%RSD        .6018   5.092   4.791   36.76   4.850   4.642   16.38   2.692   4.430

#1          .3895   .0122   .0068   .0003   .0801   .0009   .0003   .0444   .0076
#2          .3900   .0126   .0071   .0005   .0830   .0010   .0003   .0441   .0079
#3          .3938   .0135   .0075   .0007   .0881   .0009   .0004   .0423   .0083

Elem       Sr4077  Th2832  Ti3349  Tl1908  U_3670  V_2908  Zn2138
Units       Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S   Cts/S
Avg         .0797   .0108   .0247   .0006   .0169   .0100   .0113
Stddev      .0022   .0001   .0018   .0001   .0002   .0011   .0006
%RSD        2.797   1.363   7.386   13.18   .9650   11.41   4.935

#1          .0773   .0107   .0258   .0005   .0169   .0098   .0108
#2          .0817   .0109   .0226   .0006   .0170   .0090   .0112
#3          .0801   .0107   .0257   .0007   .0167   .0113   .0119
```

Sample Name: CAL 1 Acquired: 10/18/2017 13:21:23 Type: Cal
Method: _2016(v387) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7518.6	1983.4
Stddev	160.3	10.1
%RSD	2.1326	.50747
#1	7702.6	1994.8
#2	7408.8	1979.3
#3	7444.5	1975.9

```
Sample Name: Cal 2       Acquired: 10/18/2017 13:26:00       Type: Cal
Method: _2016(v387)       Mode: IR       Corr. Factor: 1.000000
User: admin         Custom ID1:            Custom ID2:            Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units          Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S
Avg            .6335     7.683     .1513     .1585     48.28     65.55     .1847     4.702     2.348
Stddev         .0025      .014     .0009     .0009       .07       .19     .0015      .035      .018
%RSD           .3966     .1774     .5871     .5995     .1427     .2954     .8216     .7348     .7491

#1             .6307     7.696     .1516     .1589     48.36     65.71     .1843     4.702     2.350
#2             .6355     7.685     .1503     .1591     48.25     65.34     .1835     4.667     2.329
#3             .6344     7.669     .1520     .1574     48.24     65.60     .1864     4.736     2.364

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units          Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S
Avg            .9317     1.236     .1819     16.64     3.270     9.005     1.806     8.276     .1740
Stddev         .0054      .009     .0012       .04      .007      .019      .004      .022     .0012
%RSD           .5819     .6994     .6512     .2242     .2294     .2069     .2239     .2643     .7173

#1             .9329     1.236     .1821     16.66     3.277     9.024     1.802     8.296     .1743
#2             .9258     1.227     .1807     16.59     3.262     8.986     1.806     8.253     .1726
#3             .9364     1.244     .1830     16.65     3.270     9.005     1.810     8.278     .1750

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units          Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S
Avg            9.913     1.520     1.561     .3307     .8560     .0367     .0230     .5669     .3650
Stddev          .010      .011      .010     .0022     .0061     .0002     .0001     .0025     .0029
%RSD           .1019     .6974     .6305     .6591     .7141     .6145     .5810     .4467     .7969

#1             9.925     1.522     1.564     .3308     .8596     .0369     .0231     .5692     .3656
#2             9.906     1.508     1.550     .3284     .8489     .0364     .0229     .5641     .3619
#3             9.910     1.529     1.569     .3328     .8594     .0368     .0230     .5673     .3676

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units          Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S
Avg            81.84     .1501     5.704     .0392     .2352     1.285     2.807
Stddev           .10     .0007      .013     .0003     .0014      .001      .019
%RSD           .1211     .4698     .2352     .8730     .6096     .0466     .6817

#1             81.95     .1494     5.712     .0392     .2339     1.284     2.810
#2             81.77     .1508     5.689     .0389     .2367     1.285     2.787
#3             81.79     .1501     5.712     .0396     .2349     1.285     2.825
```

Sample Name: Cal 2 Acquired: 10/18/2017 13:26:00 Type: Cal
Method: _2016(v387) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7430.7	2146.5
Stddev	78.3	8.4
%RSD	1.0533	.39138
#1	7474.9	2151.2
#2	7477.0	2151.5
#3	7340.4	2136.8

```
Sample Name: Cal 3      Acquired: 10/18/2017 13:30:11      Type: Cal
Method: _2016(v387)      Mode: IR      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem        Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units        Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S
Avg          1.324     15.29     .3235     .3106     96.02     129.1     .3901     9.686     4.998
Stddev        .005       .04     .0042     .0020       .27        .4     .0053      .109      .068
%RSD         .4144     .2696     1.310     .6545     .2816     .2852     1.360     1.126     1.357

#1           1.318     15.25     .3188     .3086     95.75     128.7     .3842     9.569     4.924
#2           1.326     15.33     .3269     .3105     96.02     129.1     .3944     9.784     5.057
#3           1.328     15.29     .3249     .3127     96.30     129.4     .3917     9.706     5.012

Elem        Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units        Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S
Avg          1.955     2.597     .3831     33.11     6.490     17.86     3.554     16.52     .3663
Stddev        .027      .032     .0051       .16      .028       .04      .013       .06     .0047
%RSD         1.359     1.212     1.329     .4959     .4348     .2435     .3706     .3549     1.286

#1           1.925     2.564     .3780     32.92     6.459     17.81     3.539     16.46     .3613
#2           1.977     2.626     .3882     33.17     6.496     17.89     3.565     16.53     .3707
#3           1.961     2.603     .3833     33.24     6.514     17.88     3.557     16.57     .3668

Elem        Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units        Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S
Avg          19.59     3.182     3.226     .6839     1.842     .0778     .0494     1.116     .7554
Stddev         .06      .043      .038     .0072      .028     .0009     .0007      .003     .0088
%RSD         .2870     1.343     1.186     1.050     1.537     1.167     1.408     .3083     1.170

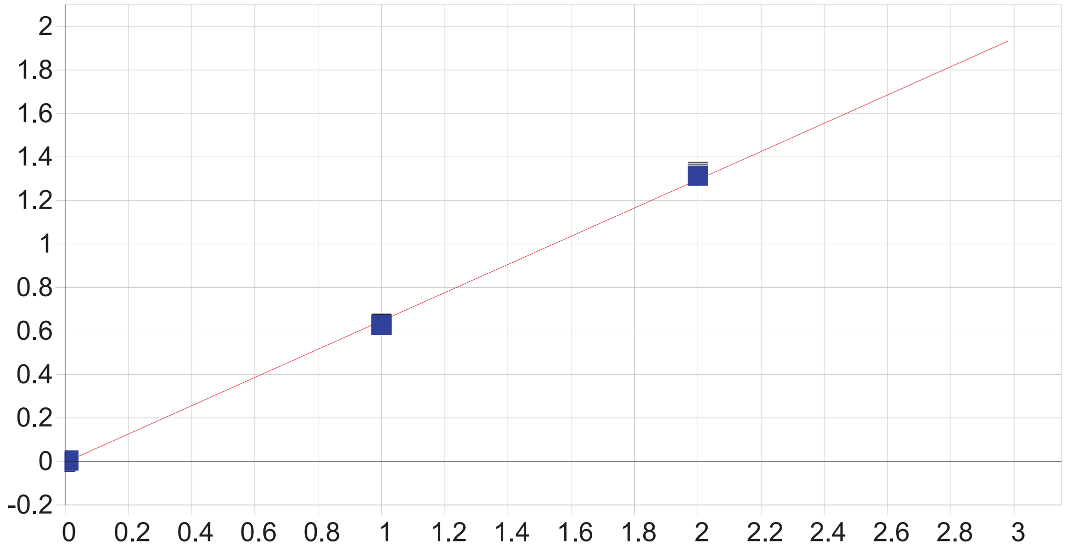
#1           19.53     3.136     3.184     .6761     1.810     .0768     .0487     1.112     .7455
#2           19.65     3.220     3.259     .6902     1.865     .0786     .0500     1.119     .7625
#3           19.60     3.191     3.236     .6855     1.850     .0780     .0496     1.116     .7580

Elem        Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units        Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S     Cts/S
Avg          160.4     .2990     11.24     .0801     .4872     2.559     5.954
Stddev         2.0     .0017       .04     .0009     .0025      .004      .083
%RSD         1.259     .5706     .3541     1.084     .5187     .1678     1.389

#1           160.9     .2973     11.19     .0792     .4843     2.554     5.863
#2           162.2     .3007     11.26     .0809     .4880     2.561     6.025
#3           158.2     .2990     11.27     .0801     .4892     2.562     5.973
```

Sample Name: Cal 3 Acquired: 10/18/2017 13:30:11 Type: Cal
Method: _2016(v387) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	6903.2	2041.5
Stddev	27.8	31.9
%RSD	.40260	1.5609
#1	6891.4	2043.4
#2	6883.3	2008.8
#3	6935.0	2072.4

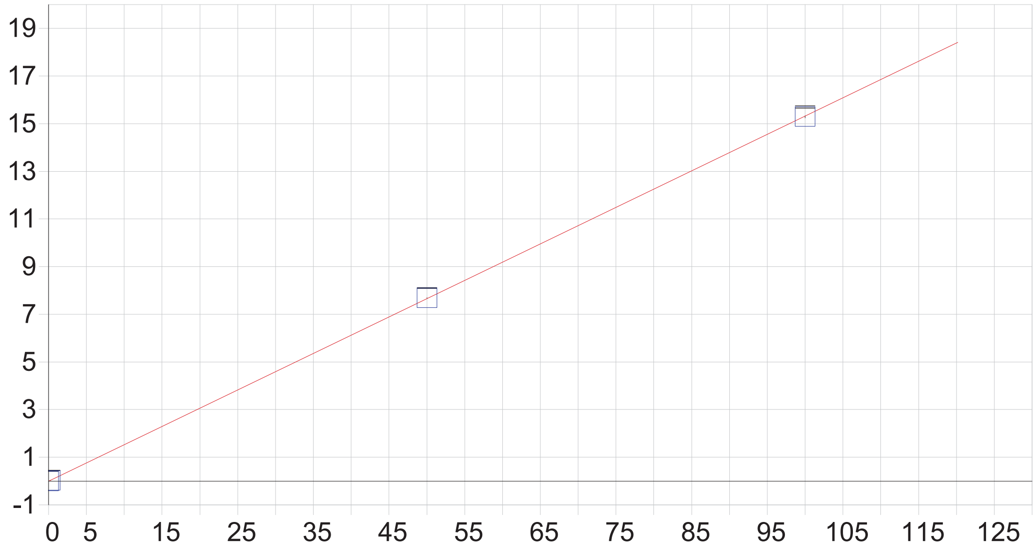


Ag 328.068 {103}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.003356	Re-Slope:	1.000000
A1 (Gain):	0.649341	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999815	Status:	OK.
Std Error of Est:	0.000098		
Predicted MDL:	0.001255		
Predicted MQL:	0.004182		

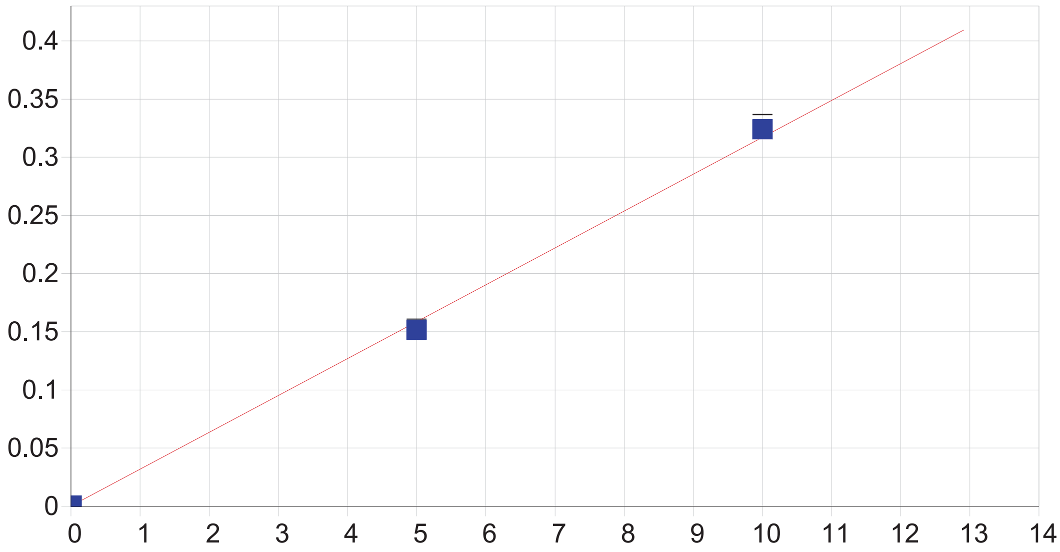
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	-.00336	.000	1
CAL 1	.01000	.00980	-.000	-1.96	.00354	.001	1
Cal 2	1.0000	.97261	-.027	-2.74	.63354	.003	1
Cal 3	2.0000	2.0276	.028	1.38	1.3239	.005	1



Al 396.152 { 85}

Date of Fit:	10/18/2017 13:34:25		Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):		-0.008928		Re-Slope:	1.000000		
A1 (Gain):		0.153291		Y-int:	0.000000		
A2 (Curvature):		0.000000					
n (Exponent):		1.000000					
Correlation:		0.999986		Status:	OK.		
Std Error of Est:		0.000195					
Predicted MDL:		0.021810					
Predicted MQL:		0.072699					

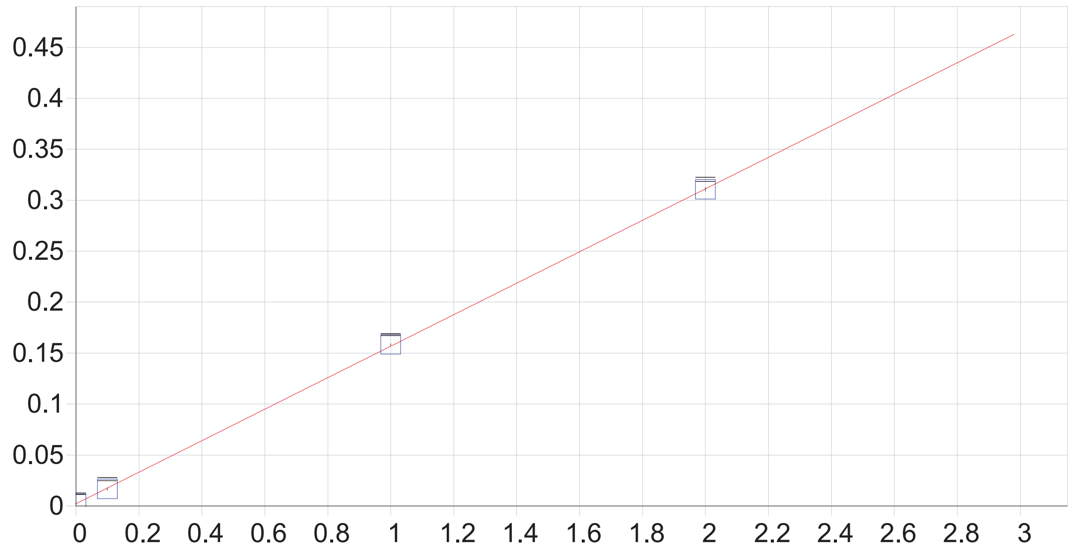
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00002	-.000	.000	-.00893	.003	1
CAL 1	.20000	.22442	.024	12.2	.02547	.004	1
Cal 2	50.000	50.182	.182	.363	7.6835	.014	1
Cal 3	100.00	99.794	-.206	-.206	15.289	.041	1



As 189.042 {478}

Date of Fit:	10/18/2017 13:34:25		Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):		0.000180		Re-Slope:	1.000000		
A1 (Gain):		0.031692		Y-int:	0.000000		
A2 (Curvature):		0.000000					
n (Exponent):		1.000000					
Correlation:		0.999508		Status:	OK.		
Std Error of Est:		0.000017					
Predicted MDL:		0.002927					
Predicted MQL:		0.009758					

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	.00018	.000	1
CAL 1	.01000	.01052	.001	5.23	.00052	.000	1
Cal 2	5.0000	4.7785	-.221	-4.43	.15133	.001	1
Cal 3	10.000	10.221	.221	2.21	.32351	.004	1

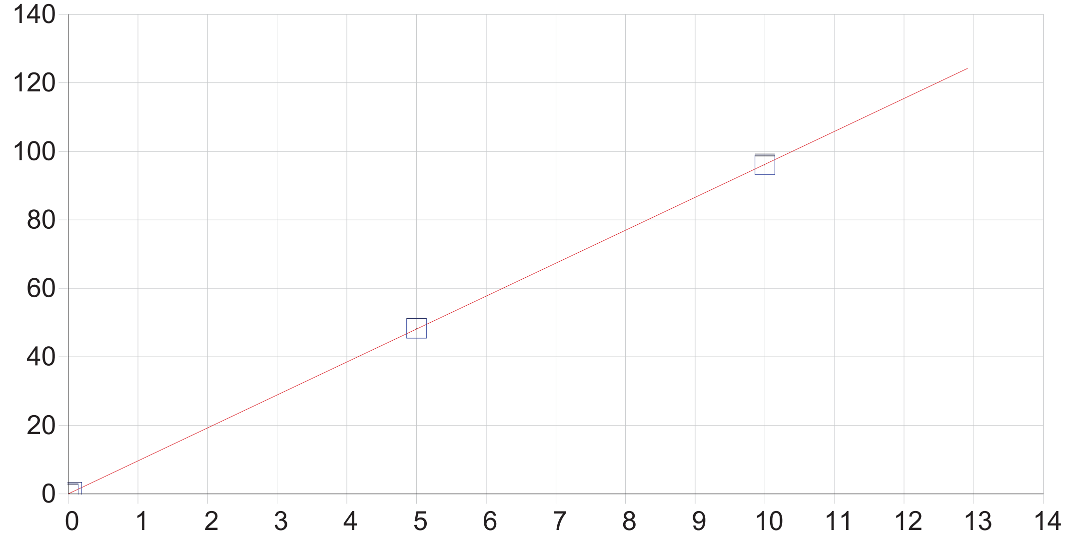


B 249.678 {135}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.002304 Re-Slope: 1.000000
A1 (Gain): 0.154456 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999899 Status: OK.
Std Error of Est: 0.000055
Predicted MDL: 0.006979
Predicted MQL: 0.023264

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00001	.000	.000	.00230	.001	1
CAL 1	.10000	.09295	-.007	-7.05	.01666	.002	1
Cal 2	1.0000	1.0110	.011	1.10	.15847	.001	1
Cal 3	2.0000	1.9960	-.004	-.199	.31060	.002	1

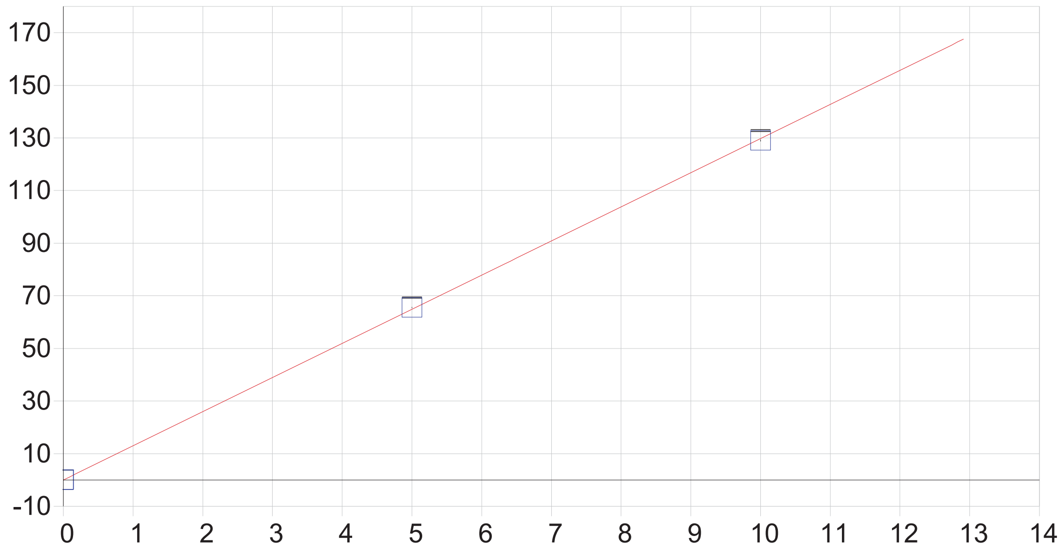


Ba 455.403 { 74}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.032917	Re-Slope:	1.000000
A1 (Gain):	9.616985	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.001089		
Predicted MDL:	0.000467		
Predicted MQL:	0.001558		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	.03290	.005	1
CAL 1	.05000	.05129	.001	2.58	.52619	.012	1
Cal 2	5.0000	5.0173	.017	.347	48.285	.069	1
Cal 3	10.000	9.9814	-.019	-.186	96.024	.270	1

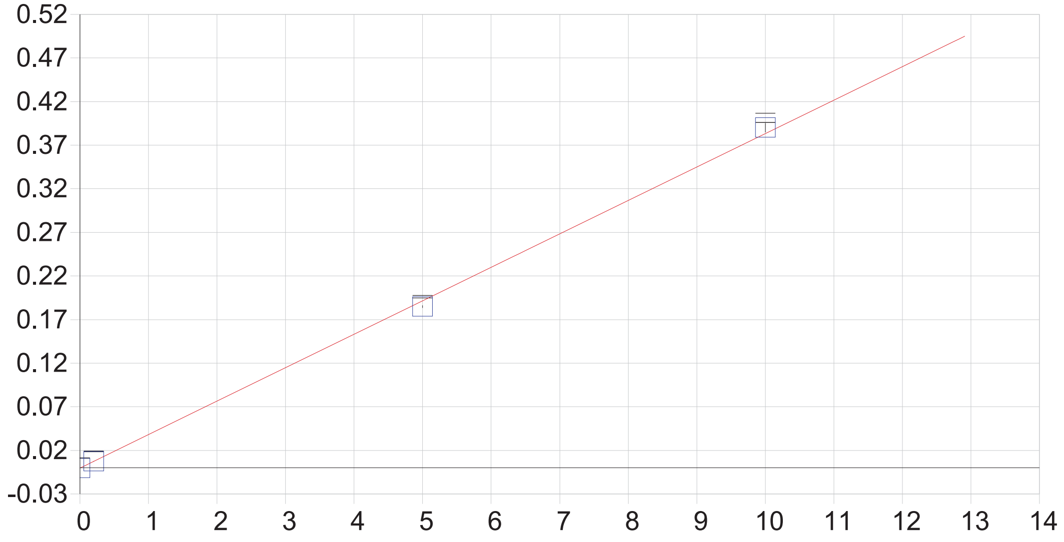


Be 313.042 {108}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000519	Re-Slope:	1.000000
A1 (Gain):	12.975982	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.001160		
Predicted MDL:	0.000119		
Predicted MQL:	0.000396		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	.00052	.001	1
CAL 1	.00500	.00513	.000	2.66	.06712	.002	1
Cal 2	5.0000	5.0515	.051	1.03	65.548	.194	1
Cal 3	10.000	9.9484	-.052	-.516	129.09	.368	1

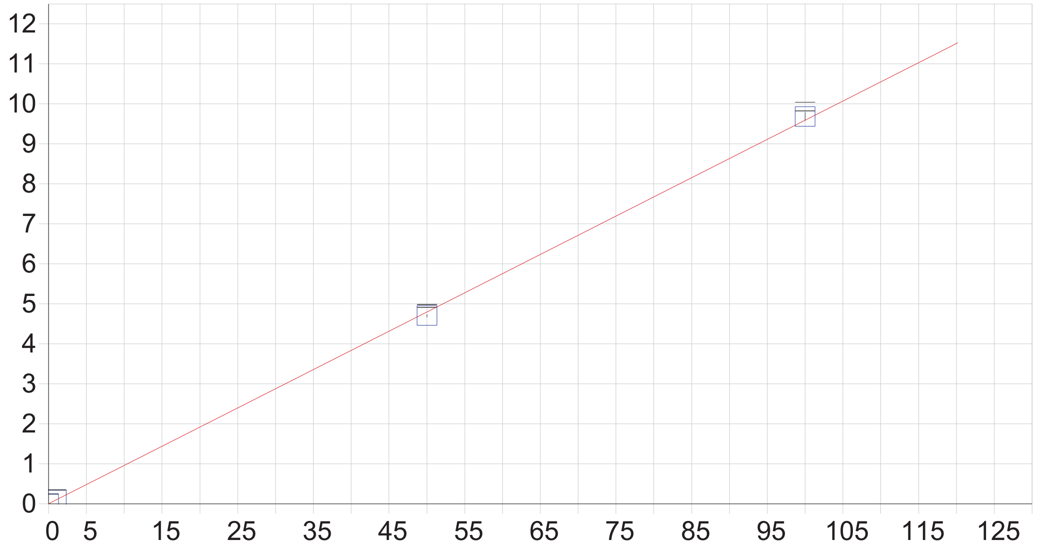


Bi 223.061 {451}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000170	Re-Slope:	1.000000
A1 (Gain):	0.038346	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999689	Status:	OK.
Std Error of Est:	0.000075		
Predicted MDL:	0.004131		
Predicted MQL:	0.013769		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	-.00017	.000	1
CAL 1	.20000	.19978	-.000	-.108	.00749	.000	1
Cal 2	5.0000	4.8224	-.178	-3.55	.18475	.002	1
Cal 3	10.000	10.178	.178	1.78	.39010	.005	1

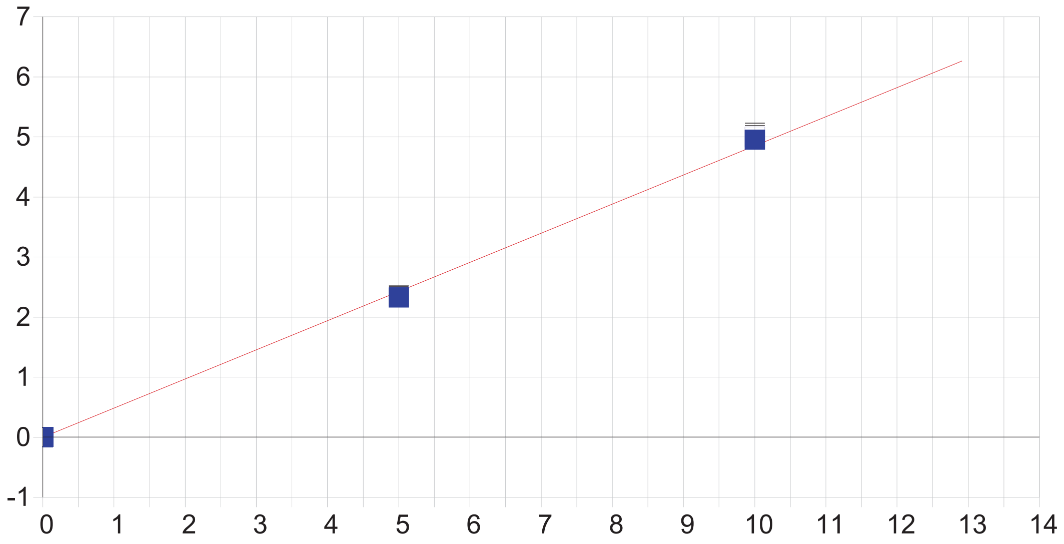


Ca 184.006 {483}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000049 Re-Slope: 1.000000
A1 (Gain): 0.095941 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999900 Status: OK.
Std Error of Est: 0.000746
Predicted MDL: 0.000939
Predicted MQL: 0.003128

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00002	-.000	.000	.00005	.000	1
CAL 1	1.0000	1.0344	.034	3.44	.09929	.005	1
Cal 2	50.000	49.005	-.995	-1.99	4.7016	.035	1
Cal 3	100.00	100.96	.961	.961	9.6863	.109	1

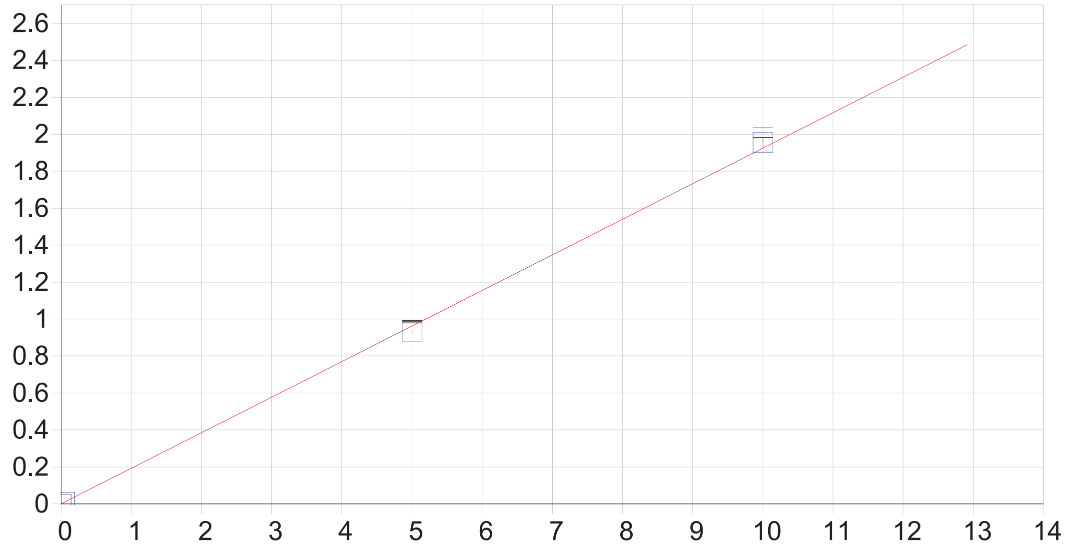


Cd 228.802 {447}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.000241 Re-Slope: 1.000000
A1 (Gain): 0.485084 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999578 Status: OK.
Std Error of Est: 0.000174
Predicted MDL: 0.000333
Predicted MQL: 0.001110

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	-.00024	.000	1
CAL 1	.00500	.00458	-.000	-8.31	.00203	.000	1
Cal 2	5.0000	4.7929	-.207	-4.14	2.3479	.018	1
Cal 3	10.000	10.207	.207	2.07	4.9976	.068	1



Co 228.616 {448}

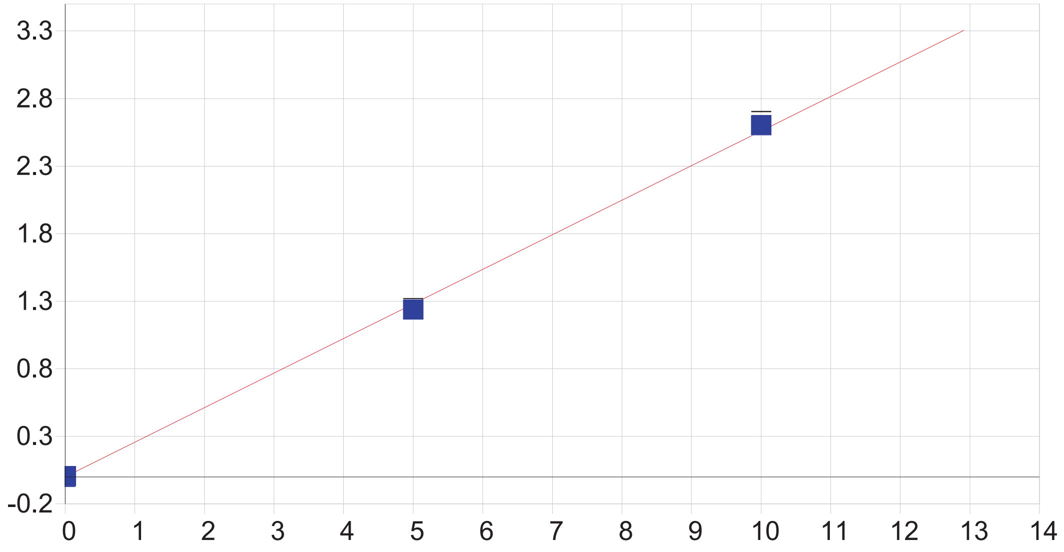
Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000227
A1 (Gain): 0.192408
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999748
Std Error of Est: 0.000167
Predicted MDL: 0.000636
Predicted MQL: 0.002120

Re-Slope: 1.000000
Y-int: 0.000000

Status: OK.

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	.00023	.000	1
CAL 1	.05000	.05166	.002	3.32	.01017	.000	1
Cal 2	5.0000	4.8411	-.159	-3.18	.93169	.005	1
Cal 3	10.000	10.157	.157	1.57	1.9546	.027	1

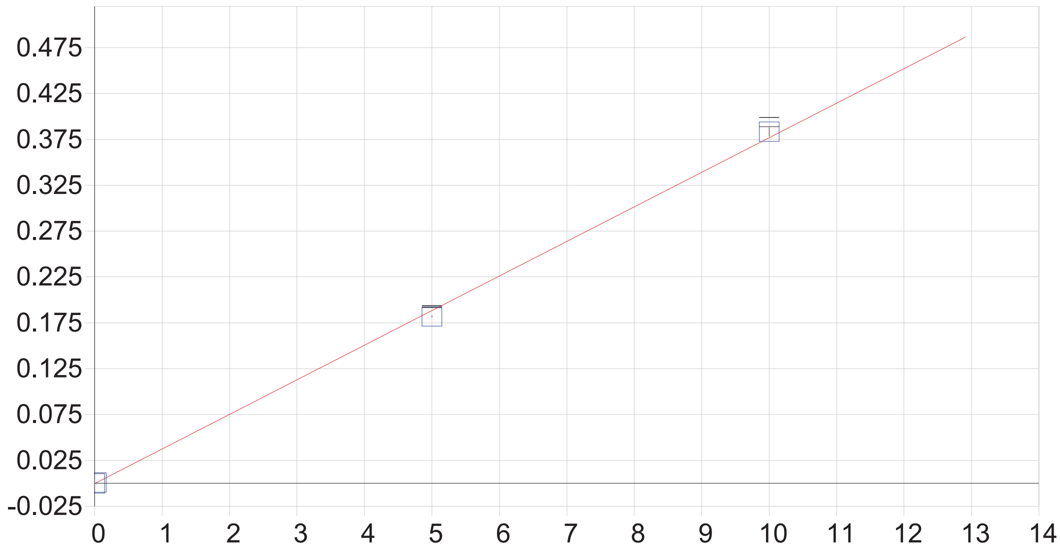


Cr 205.560 {464}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000027 Re-Slope: 1.000000
A1 (Gain): 0.255935 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999729 Status: OK.
Std Error of Est: 0.000103
Predicted MDL: 0.000285
Predicted MQL: 0.000950

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	.00003	.000	1
CAL 1	.01000	.01031	.000	3.11	.00266	.000	1
Cal 2	5.0000	4.8354	-.165	-3.29	1.2356	.009	1
Cal 3	10.000	10.164	.164	1.64	2.5975	.031	1

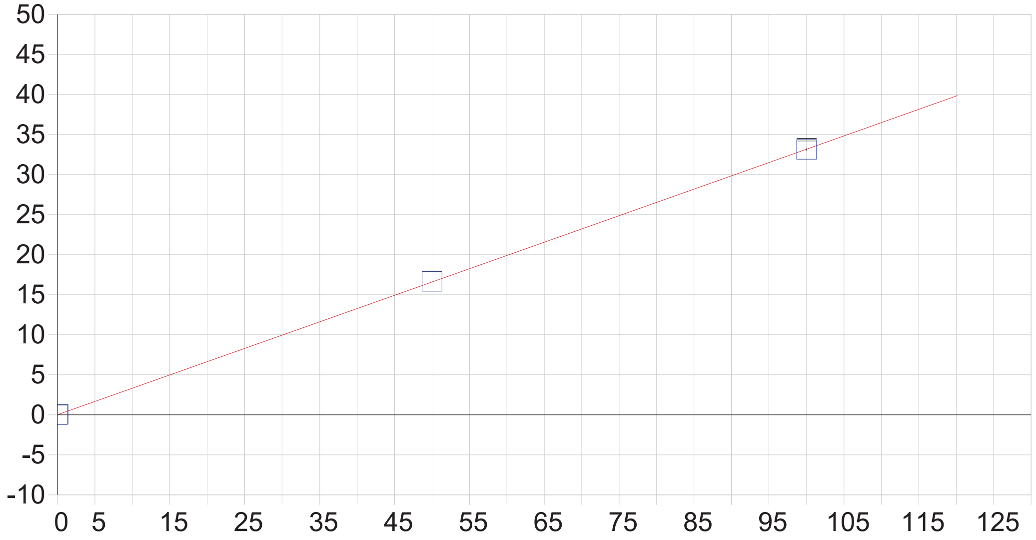


Cu 217.894 {455}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.000270 Re-Slope: 1.000000
A1 (Gain): 0.037710 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999714 Status: OK.
Std Error of Est: 0.000025
Predicted MDL: 0.003575
Predicted MQL: 0.011917

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	-.00027	.000	1
CAL 1	.02500	.02636	.001	5.46	.00072	.000	1
Cal 2	5.0000	4.8311	-.169	-3.38	.18191	.001	1
Cal 3	10.000	10.168	.168	1.68	.38315	.005	1



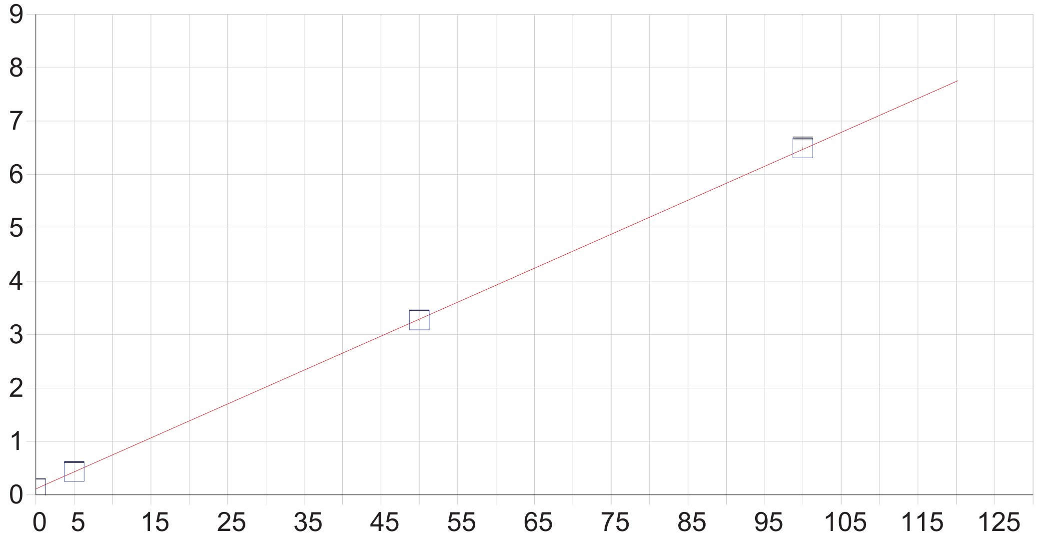
Fe 259.940 {130}

Date of Fit:	10/18/2017 13:34:25		Type of Fit:	Linear	Weighting:	1/Conc	

A0 (Offset): 0.000395
A1 (Gain): 0.331651
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999995
Std Error of Est: 0.000178
Predicted MDL: 0.003185
Predicted MQL: 0.010617

Re-Slope: 1.000000
Y-int: 0.000000
Status: OK.

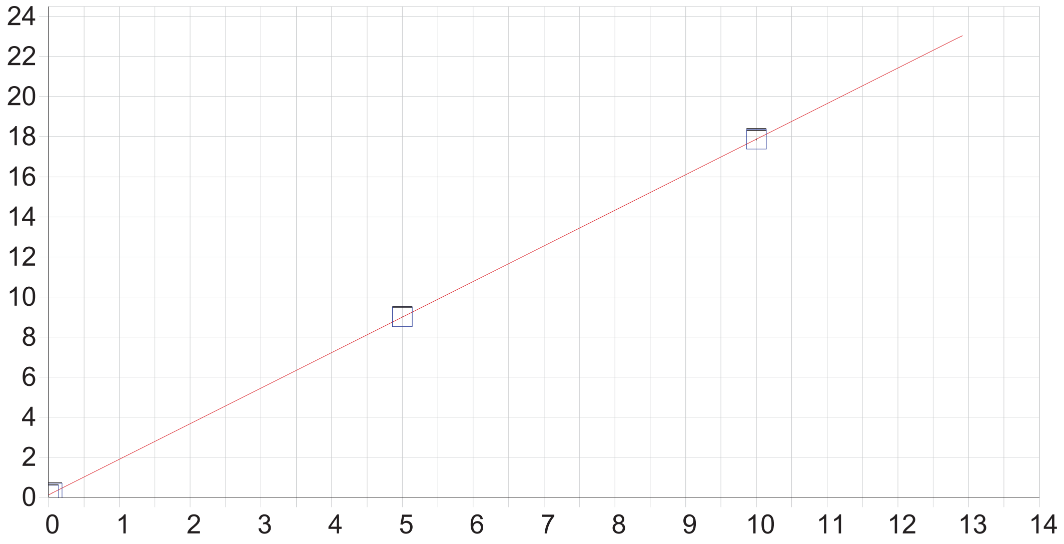
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00001	-.000	.000	.00039	.001	1
CAL 1	.10000	.10810	.008	8.10	.03624	.001	1
Cal 2	50.000	50.159	.159	.318	16.636	.037	1
Cal 3	100.00	99.833	-.167	-.167	33.110	.164	1



K 766.490 { 44}

Date of Fit:	10/18/2017 13:34:25		Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):		0.110009		Re-Slope:	1.000000		
A1 (Gain):		0.063616		Y-int:	0.000000		
A2 (Curvature):		0.000000					
n (Exponent):		1.000000					
Correlation:		0.999989		Status:	OK.		
Std Error of Est:		0.000375					
Predicted MDL:		0.075031					
Predicted MQL:		0.250104					

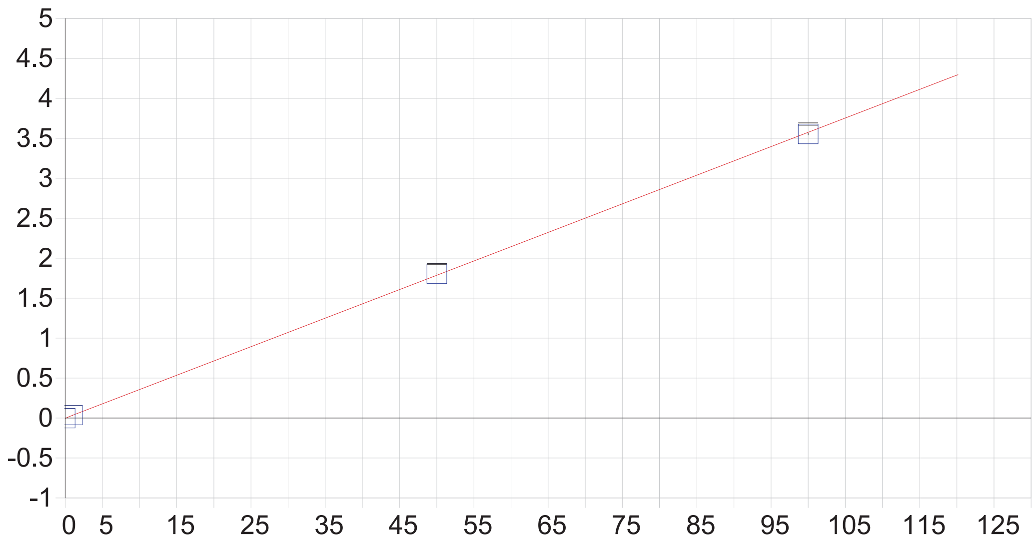
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00003	-.000	.000	.11001	.003	1
CAL 1	5.0000	5.0459	.046	.918	.43101	.010	1
Cal 2	50.000	49.666	-.334	-.668	3.2695	.008	1
Cal 3	100.00	100.29	.288	.288	6.4899	.028	1



Li 670.784 { 50}

Date of Fit:	10/18/2017 13:34:25		Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):		0.118460		Re-Slope:	1.000000		
A1 (Gain):		1.775675		Y-int:	0.000000		
A2 (Curvature):		0.000000					
n (Exponent):		1.000000					
Correlation:		0.999997		Status:	OK.		
Std Error of Est:		0.000155					
Predicted MDL:		0.002851					
Predicted MQL:		0.009504					

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	.11846	.008	1
CAL 1	.05000	.05185	.002	3.69	.21052	.006	1
Cal 2	5.0000	5.0046	.005	.091	9.0049	.019	1
Cal 3	10.000	9.9936	-.006	-.064	17.864	.044	1



Mg 279.806 {121}

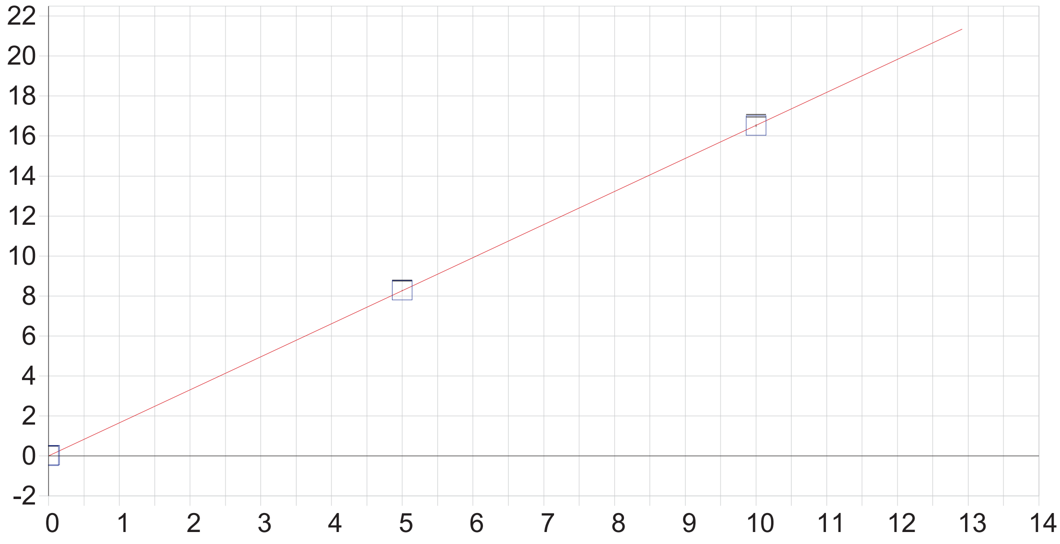
Date of Fit: 10/18/2017 13:34:25
Type of Fit: Linear
Weighting: 1/Conc

A0 (Offset): -0.002208
A1 (Gain): 0.035767
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999963
Std Error of Est: 0.000169
Predicted MDL: 0.026948
Predicted MQL: 0.089828

Re-Slope: 1.000000
Y-int: 0.000000

Status: OK.

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00005	-.000	.000	-.00221	.002	1
CAL 1	1.0000	1.0416	.042	4.16	.03505	.000	1
Cal 2	50.000	50.545	.545	1.09	1.8057	.004	1
Cal 3	100.00	99.413	-.587	-.587	3.5535	.013	1

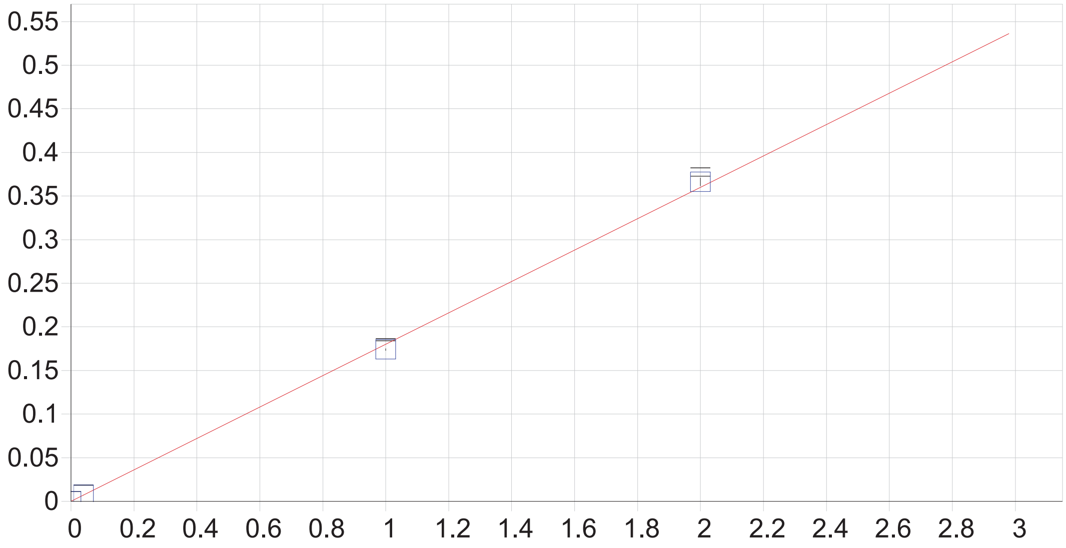


Mn 257.610 {131}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.002648	Re-Slope:	1.000000
A1 (Gain):	1.653461	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000116		
Predicted MDL:	0.000621		
Predicted MQL:	0.002071		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	-.00265	.001	1
CAL 1	.01500	.01649	.001	9.96	.02462	.001	1
Cal 2	5.0000	5.0067	.007	.134	8.2758	.022	1
Cal 3	10.000	9.9918	-.008	-.082	16.518	.059	1

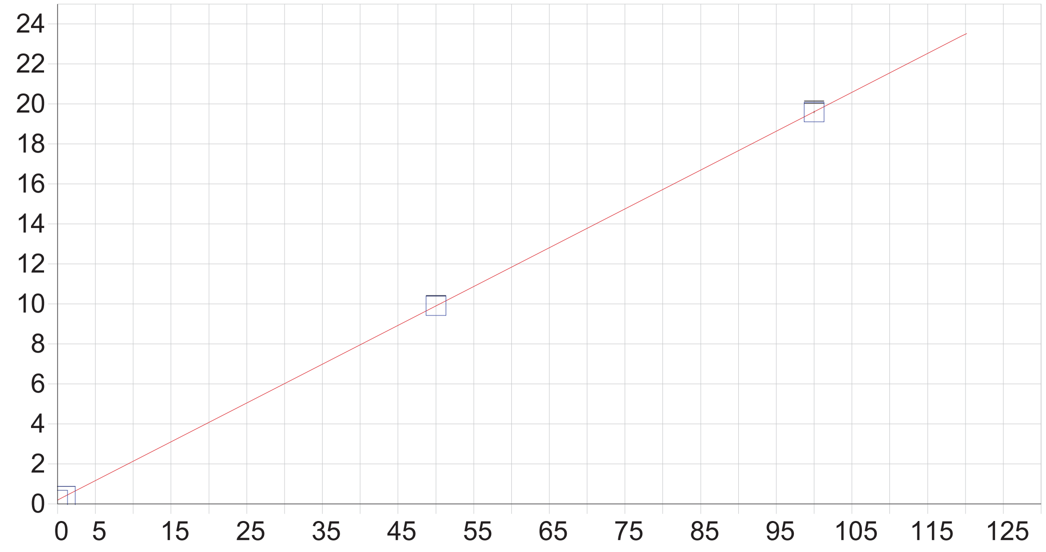


Mo 202.030 {467}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000141	Re-Slope:	1.000000
A1 (Gain):	0.179927	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999708	Status:	OK.
Std Error of Est:	0.000068		
Predicted MDL:	0.000601		
Predicted MQL:	0.002004		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	.00014	.000	1
CAL 1	.04000	.03904	-.001	-2.40	.00717	.000	1
Cal 2	1.0000	.96614	-.034	-3.39	.17398	.001	1
Cal 3	2.0000	2.0348	.035	1.74	.36626	.005	1

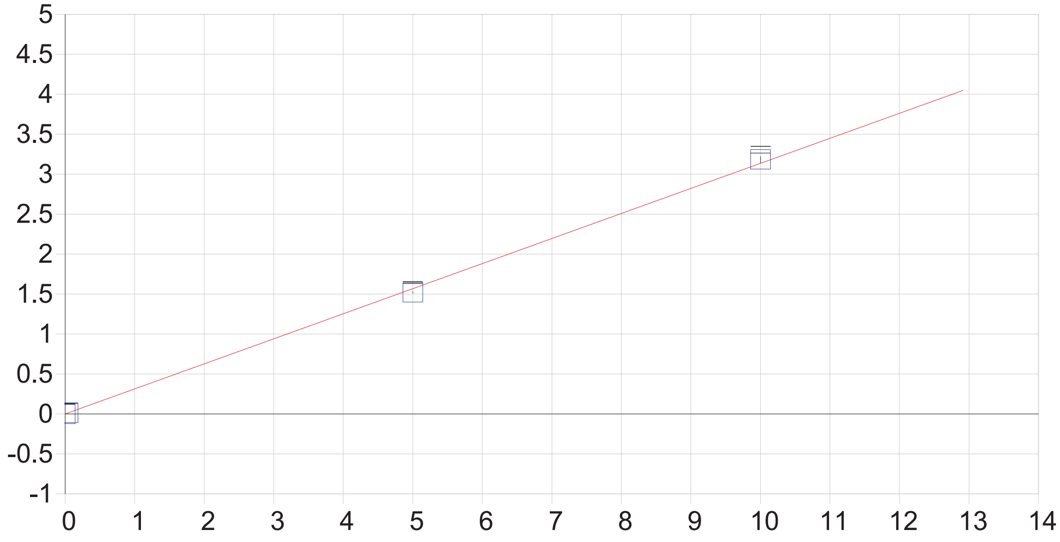


Na 589.592 { 57}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.190352 Re-Slope: 1.000000
A1 (Gain): 0.194211 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999996 Status: OK.
Std Error of Est: 0.000315
Predicted MDL: 0.023249
Predicted MQL: 0.077495

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00003	-.000	.000	.19035	.005	1
CAL 1	1.0000	1.0337	.034	3.37	.39110	.002	1
Cal 2	50.000	50.065	.065	.129	9.9134	.010	1
Cal 3	100.00	99.902	-.098	-.098	19.592	.056	1

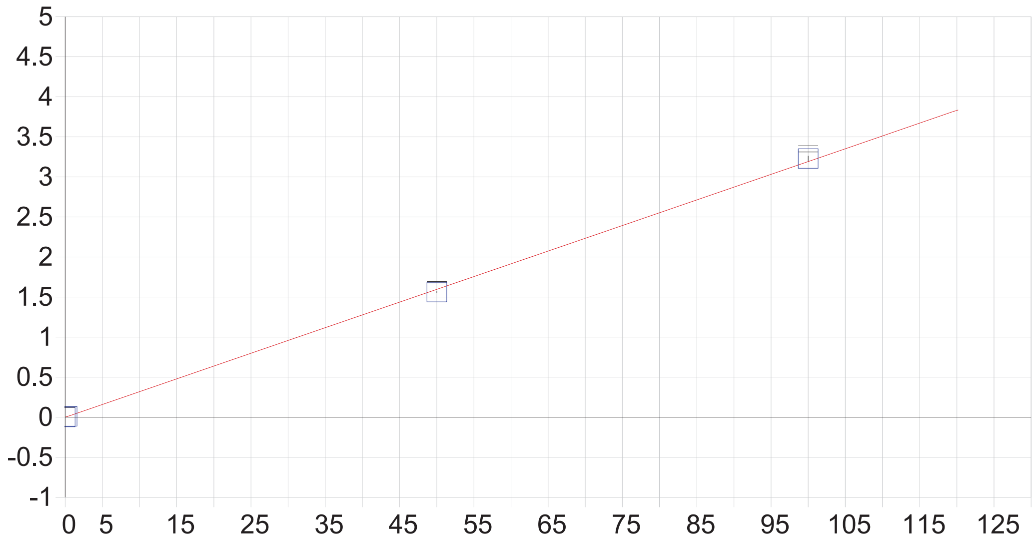


Ni 221.647 {452}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000098	Re-Slope:	1.000000
A1 (Gain):	0.313511	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999770	Status:	OK.
Std Error of Est:	0.000233		
Predicted MDL:	0.000497		
Predicted MQL:	0.001657		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	-.00010	.000	1
CAL 1	.04000	.04101	.001	2.52	.01276	.001	1
Cal 2	5.0000	4.8479	-.152	-3.04	1.5198	.011	1
Cal 3	10.000	10.151	.151	1.51	3.1824	.043	1

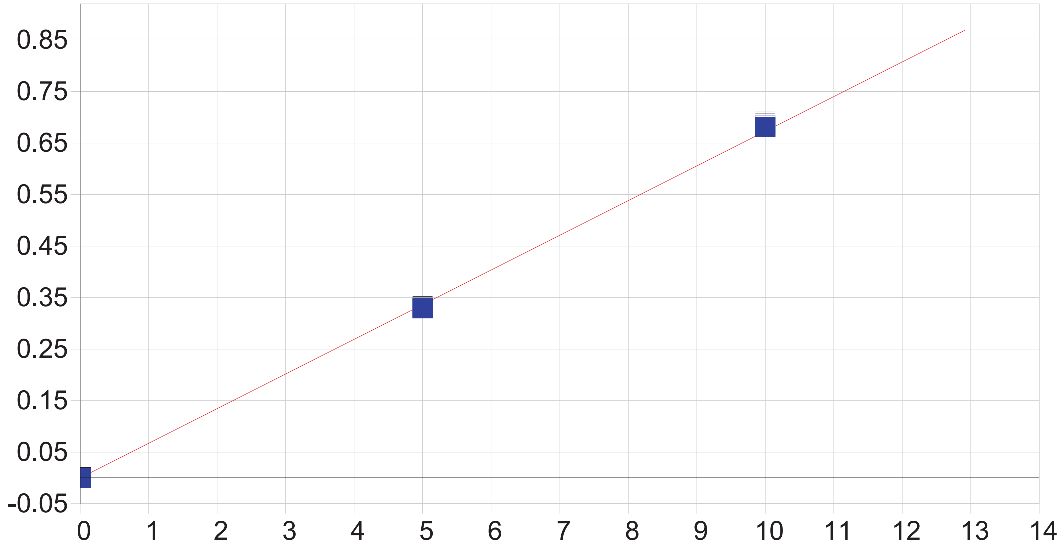


P 177.495 {490}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000796	Re-Slope:	1.000000
A1 (Gain):	0.031924	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999883	Status:	OK.
Std Error of Est:	0.000134		
Predicted MDL:	0.002439		
Predicted MQL:	0.008130		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	-.00080	.000	1
CAL 1	.25000	.24894	-.001	-.423	.00715	.000	1
Cal 2	50.000	48.919	-1.08	-2.16	1.5609	.010	1
Cal 3	100.00	101.08	1.08	1.08	3.2261	.038	1

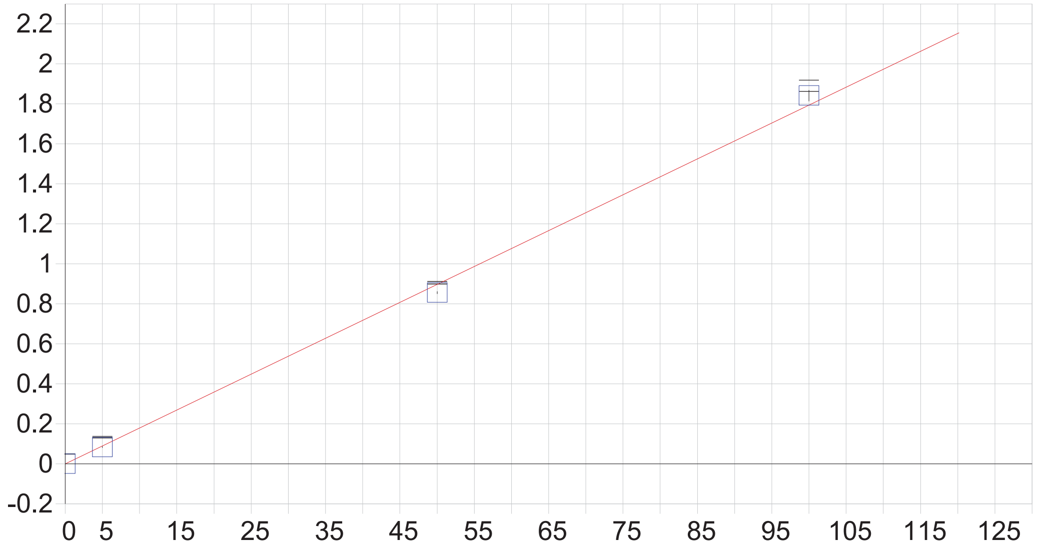


Pb 220.353 {453}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000146	Re-Slope:	1.000000
A1 (Gain):	0.067277	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999875	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.001838		
Predicted MQL:	0.006126		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	-.00015	.000	1
CAL 1	.01000	.00906	-.001	-9.40	.00051	.000	1
Cal 2	5.0000	4.8893	-.111	-2.21	.33068	.002	1
Cal 3	10.000	10.112	.112	1.12	.68393	.007	1

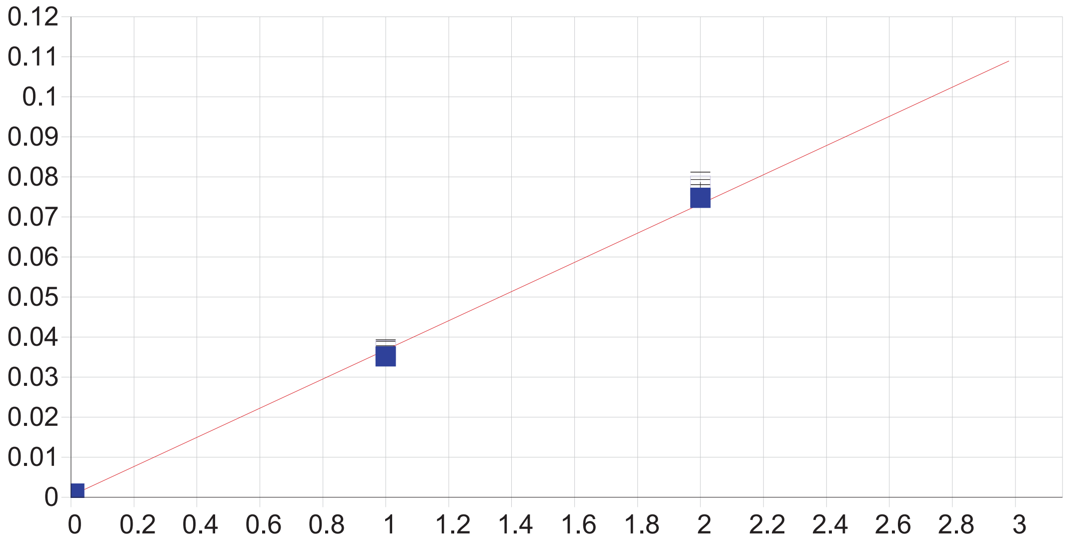


S 182.034 {485}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000064 Re-Slope: 1.000000
A1 (Gain): 0.017943 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999362 Status: OK.
Std Error of Est: 0.000798
Predicted MDL: 0.004752
Predicted MQL: 0.015839

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00044	.000	.000	.00007	.000	1
CAL 1	5.0000	4.6622	-.338	-6.76	.08372	.004	1
Cal 2	50.000	47.702	-2.30	-4.60	.85598	.006	1
Cal 3	100.00	102.64	2.64	2.64	1.8416	.028	1

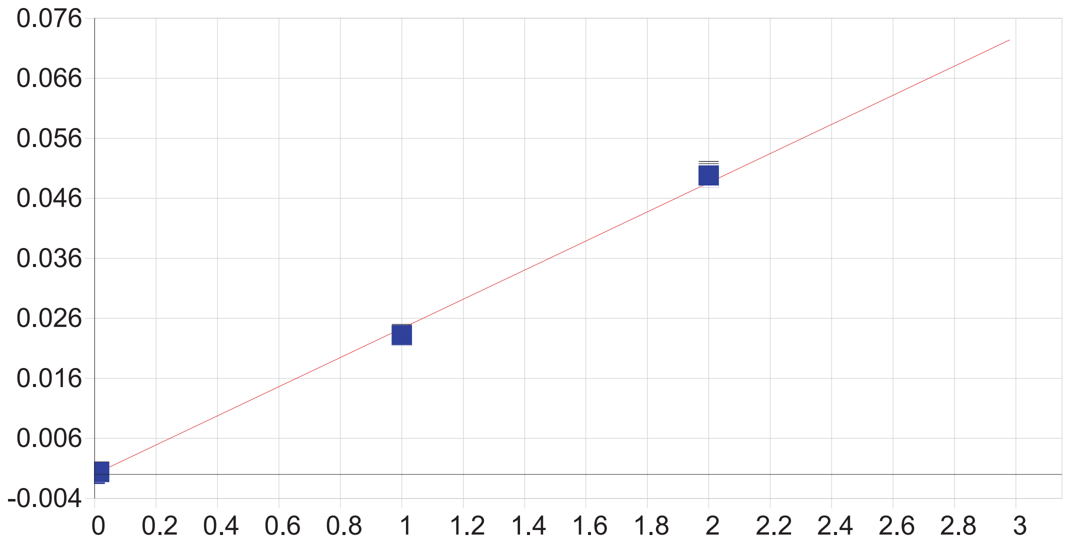


Sb 206.833 {463}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000369 Re-Slope: 1.000000
A1 (Gain): 0.036438 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999122 Status: OK.
Std Error of Est: 0.000012
Predicted MDL: 0.003469
Predicted MQL: 0.011563

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00001	-.000	.000	.00037	.000	1
CAL 1	.01000	.01533	.005	53.3	.00092	.000	1
Cal 2	1.0000	.95441	-.046	-4.56	.03668	.000	1
Cal 3	2.0000	2.0406	.041	2.03	.07778	.001	1

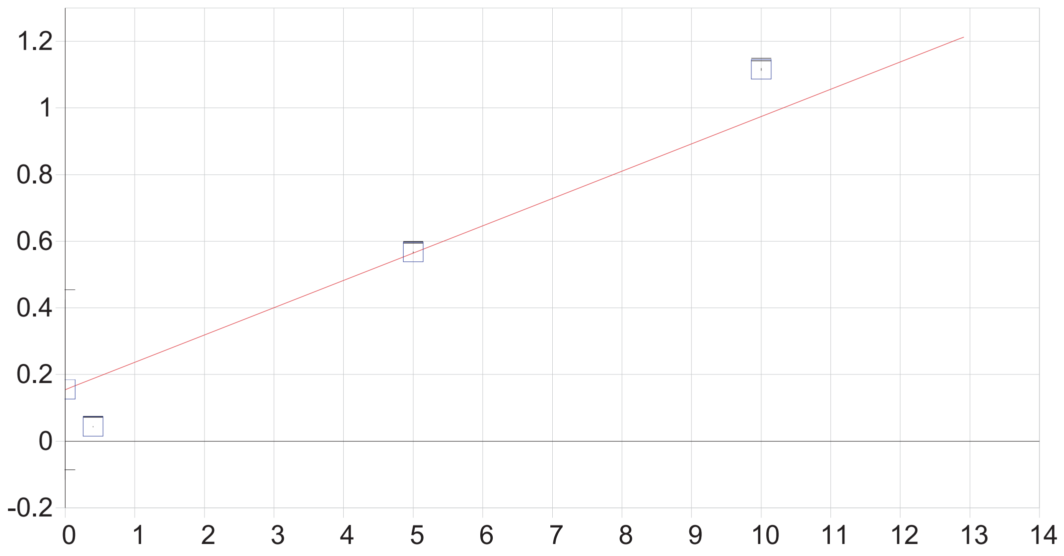


Se 196.090 {472}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000043	Re-Slope:	1.000000
A1 (Gain):	0.024284	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999385	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.004493		
Predicted MQL:	0.014978		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	.00004	.000	1
CAL 1	.01500	.01282	-.002	-14.5	.00034	.000	1
Cal 2	1.0000	.95353	-.046	-4.65	.02302	.000	1
Cal 3	2.0000	2.0486	.049	2.43	.04942	.001	1

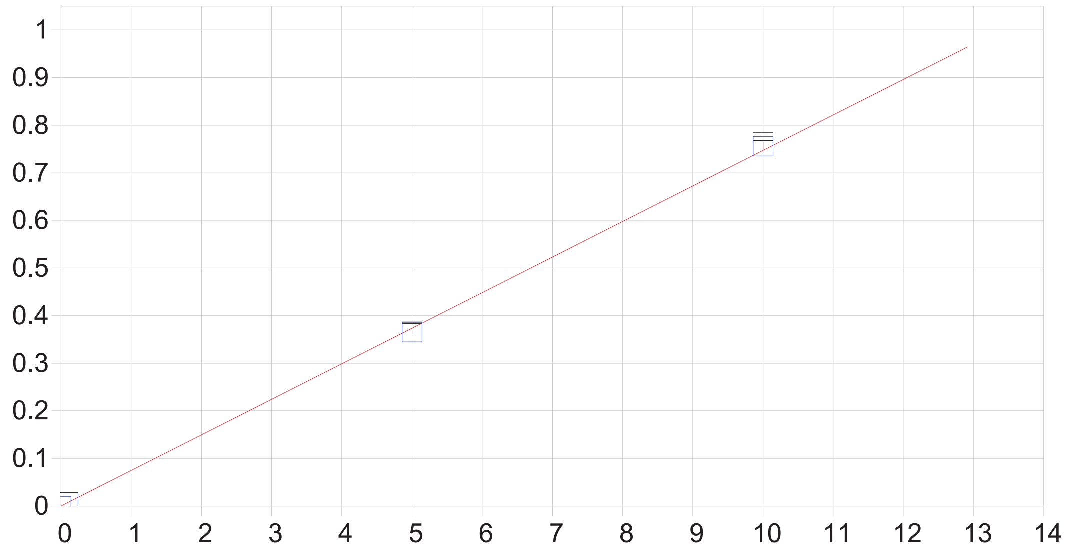


Si 251.611 {134}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.154729	Re-Slope:	1.000000
A1 (Gain):	0.081941	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.810937	Status:	OK.
Std Error of Est:	0.006558		
Predicted MDL:	0.013445		
Predicted MQL:	0.044815		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00168	.002	.000	.15487	.271	1
CAL 1	.40000	-1.3562	-1.76	-439.	.04360	.001	1
Cal 2	5.0000	5.0296	.030	.592	.56686	.003	1
Cal 3	10.000	11.727	1.73	17.3	1.1156	.003	1

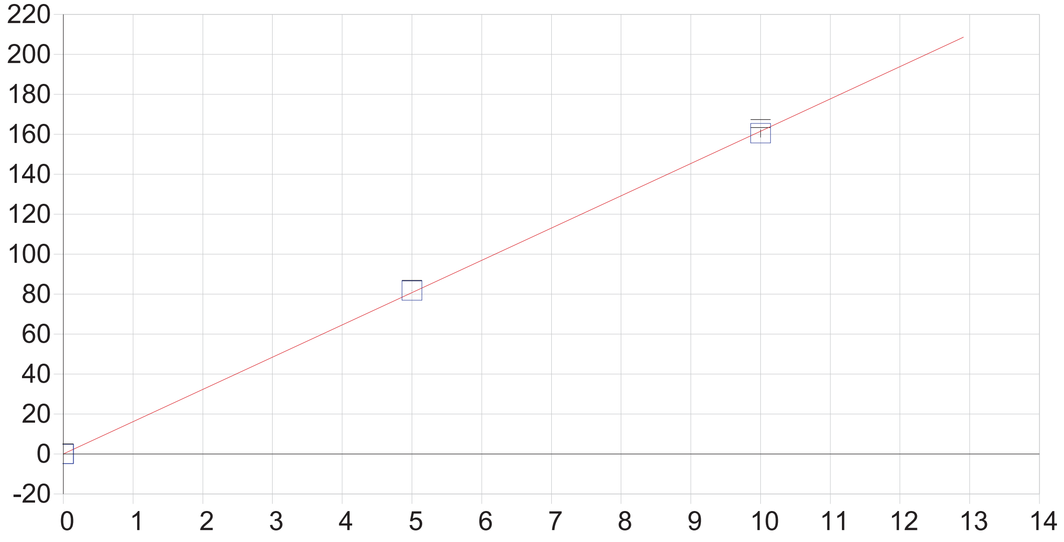


Sn 189.989 {478}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000225	Re-Slope:	1.000000
A1 (Gain):	0.074680	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999868	Status:	OK.
Std Error of Est:	0.000067		
Predicted MDL:	0.001086		
Predicted MQL:	0.003620		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	.00022	.000	1
CAL 1	.10000	.10334	.003	3.34	.00794	.000	1
Cal 2	5.0000	4.8852	-.115	-2.30	.36505	.003	1
Cal 3	10.000	10.111	.111	1.11	.75535	.009	1

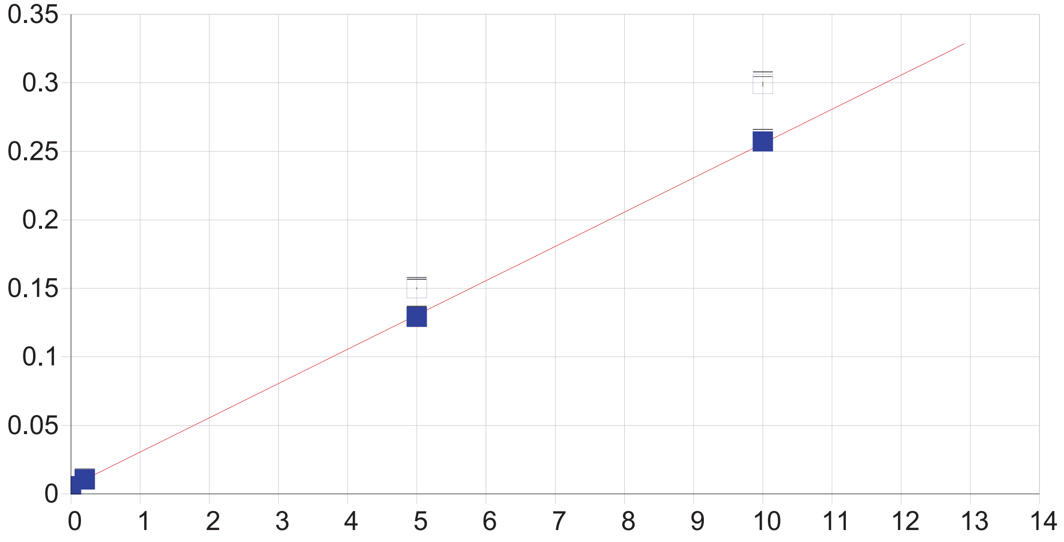


Sr 407.771 { 83}

Date of Fit:	10/18/2017 13:34:25		Type of Fit:	Linear	Weighting:	1/Conc	

A0 (Offset): -0.009145 Re-Slope: 1.000000
A1 (Gain): 16.154196 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999954 Status: OK.
Std Error of Est: 0.001903
Predicted MDL: 0.000181
Predicted MQL: 0.000604

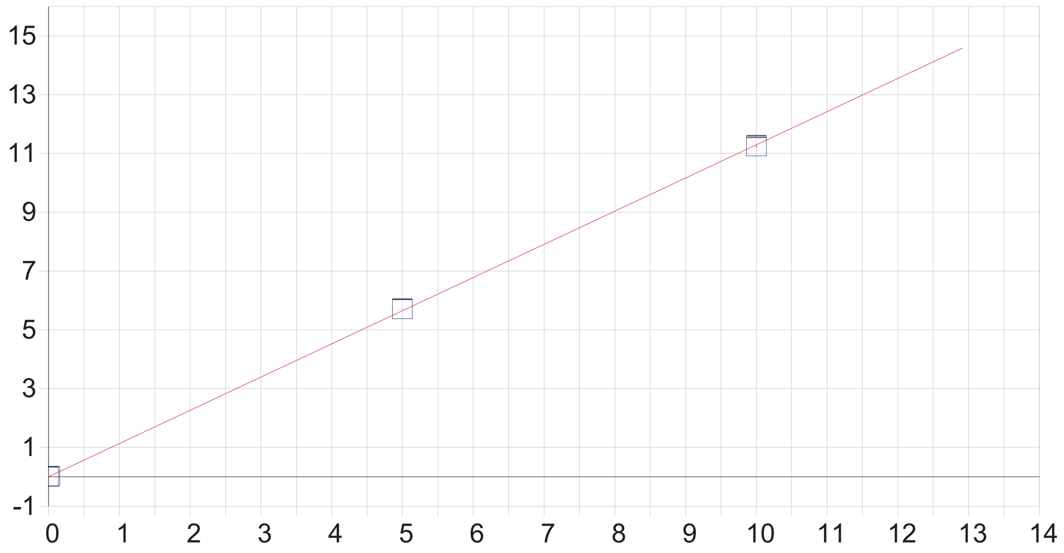
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	-.00915	.003	1
CAL 1	.00500	.00550	.001	10.0	.07971	.002	1
Cal 2	5.0000	5.0666	.067	1.33	81.838	.099	1
Cal 3	10.000	9.9329	-.067	-.671	160.45	2.02	1



Th 283.231 {119}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.005506	Re-Slope:	1.000000		
A1 (Gain):	0.025015	Y-int:	0.000000		
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999975	Status:	OK.		
Std Error of Est:	0.000016				
Predicted MDL:	0.008090				
Predicted MQL:	0.026968				

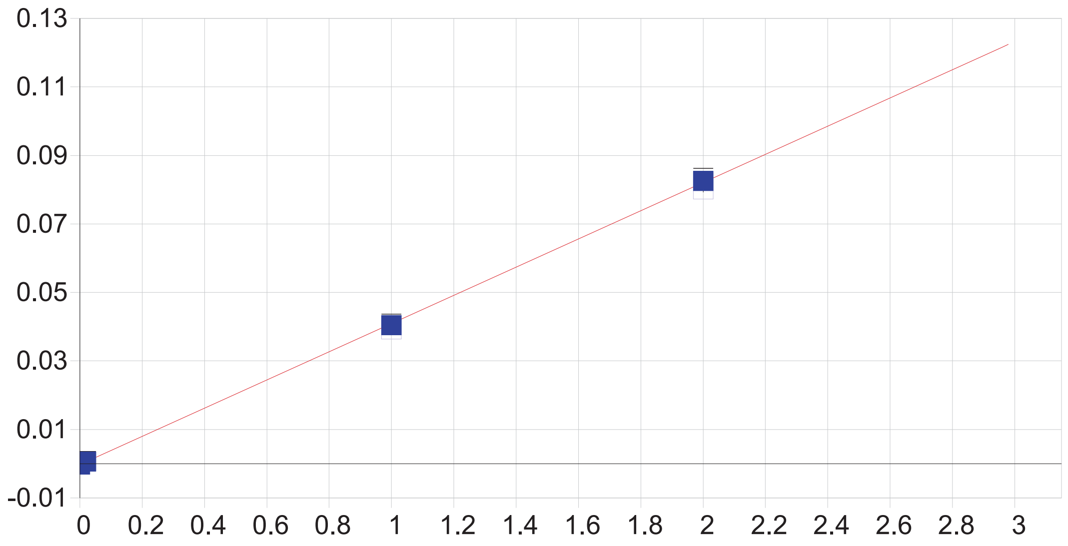
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	.00551	.000	1
CAL 1	.20000	.19939	-.001	-.303	.01076	.000	1
Cal 2	5.0000	4.9416	-.058	-1.17	.15006	.001	1
Cal 3	10.000	10.059	.059	.590	.29902	.002	1



Ti 334.941 {101}

Date of Fit:	10/18/2017 13:34:25	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.001547	Re-Slope:	1.000000		
A1 (Gain):	1.129456	Y-int:	0.000000		
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999976	Status:	OK.		
Std Error of Est:	0.000194				
Predicted MDL:	0.001582				
Predicted MQL:	0.005273				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	.00155	.003	1
CAL 1	.02000	.02047	.000	2.35	.02467	.002	1
Cal 2	5.0000	5.0490	.049	.980	5.7042	.013	1
Cal 3	10.000	9.9505	-.049	-.495	11.240	.040	1

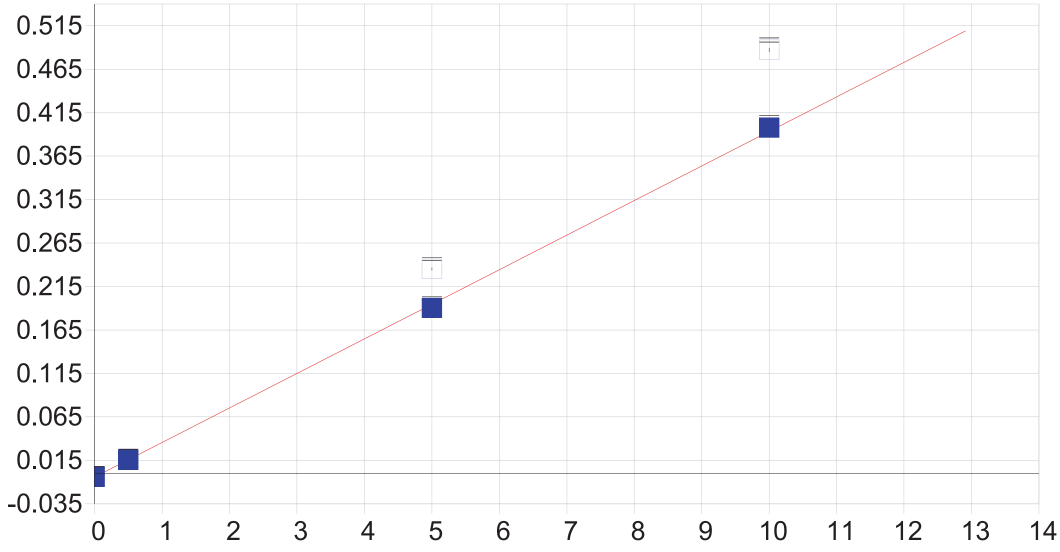


Tl 190.856 {477}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000263	Re-Slope:	1.000000
A1 (Gain):	0.041174	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999954	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.002283		
Predicted MQL:	0.007611		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	-.00000	-.000	.000	-.00026	.000	1
CAL 1	.02000	.02123	.001	6.15	.00060	.000	1
Cal 2	1.0000	.98849	-.012	-1.15	.03921	.000	1
Cal 3	2.0000	2.0103	.010	.513	.08006	.001	1

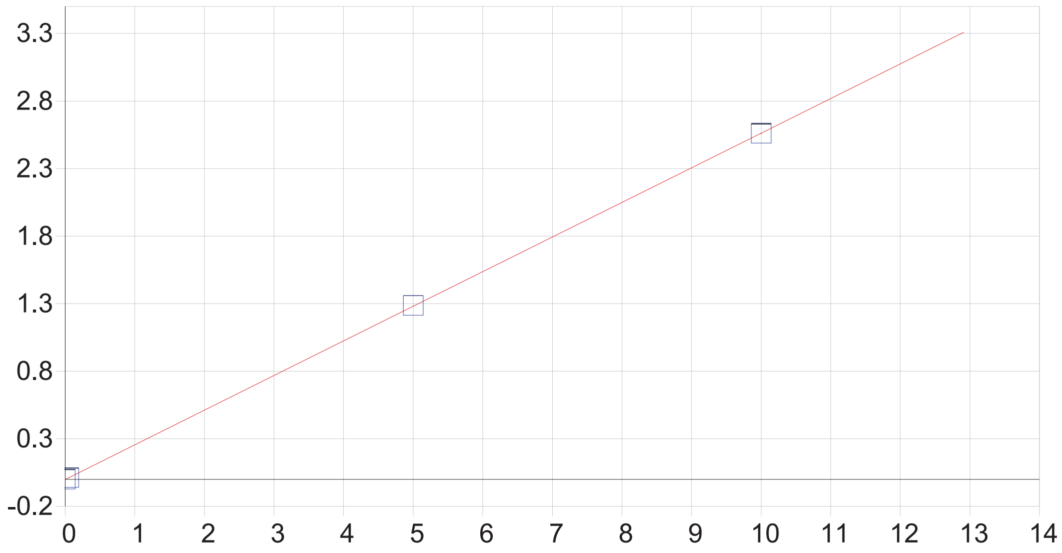


U 367.007 { 92}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.004246 Re-Slope: 1.000000
A1 (Gain): 0.039762 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999927 Status: OK.
Std Error of Est: 0.000073
Predicted MDL: 0.029045
Predicted MQL: 0.096818

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00001	.000	.000	-.00425	.001	1
CAL 1	.50000	.49581	-.004	-.839	.01686	.000	1
Cal 2	5.0000	4.8955	-.104	-2.09	.23516	.001	1
Cal 3	10.000	10.108	.108	1.08	.48718	.003	1

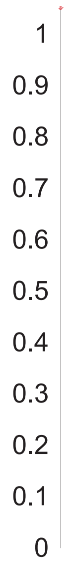


V 290.882 {116}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.001117 Re-Slope: 1.000000
A1 (Gain): 0.256278 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999970 Status: OK.
Std Error of Est: 0.000077
Predicted MDL: 0.005815
Predicted MQL: 0.019384

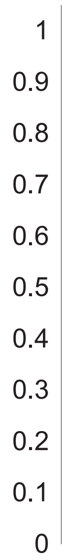
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00001	.000	.000	-.00112	.001	1
CAL 1	.05000	.04355	-.006	-12.9	.01004	.001	1
Cal 2	5.0000	5.0175	.017	.349	1.2847	.001	1
Cal 3	10.000	9.9890	-.011	-.110	2.5588	.004	1



Y 360.073 { 94}*

Date of Fit:	10/18/2017 13:21:19	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	1.0000	.000	1

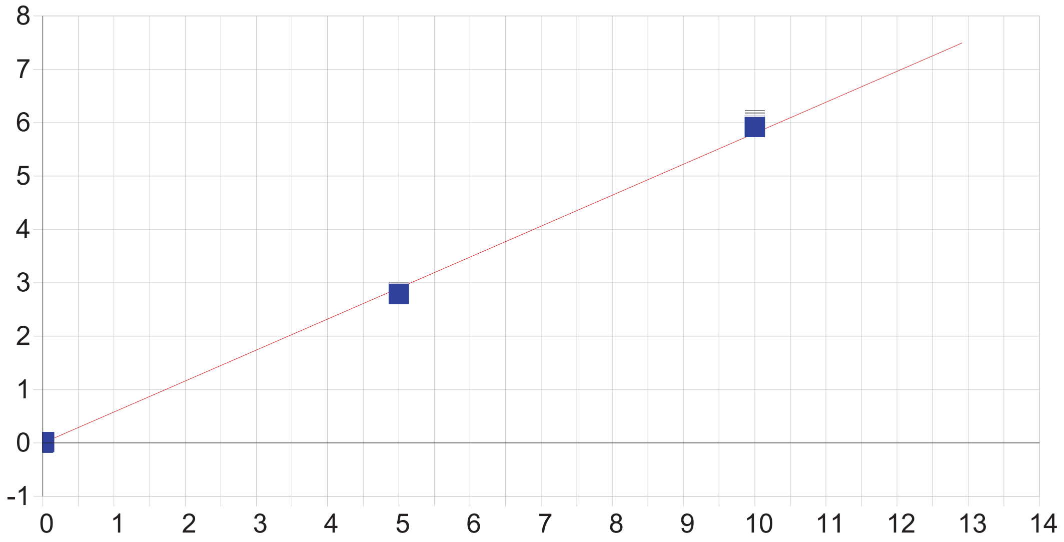


Y 371.030 { 91}*

Date of Fit:	10/18/2017 13:21:19	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	

A1 (Gain): 0.000000 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.000000 Status: Warning Zero Gain
Std Error of Est: 0.000000
Predicted MDL: n/a
Predicted MQL: n/a

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	1.0000	.000	1



Zn 213.856 {458}

Date of Fit: 10/18/2017 13:34:25 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.000301 Re-Slope: 1.000000
A1 (Gain): 0.580340 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999627 Status: OK.
Std Error of Est: 0.000391
Predicted MDL: 0.000215
Predicted MQL: 0.000715

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CALBLK1	.00000	.00000	.000	.000	-.00030	.000	1
CAL 1	.02000	.01973	-.000	-1.33	.01130	.001	1
Cal 2	5.0000	4.8057	-.194	-3.89	2.8074	.019	1
Cal 3	10.000	10.195	.195	1.95	5.9536	.083	1

Sample Name: ICV Acquired: 10/18/2017 13:34:30 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.002	50.46	5.213	W 1.052	5.089	5.092	5.238	50.04
Stddev	.002	.25	.153	.009	.017	.015	.146	1.29
%RSD	.2349	.4899	2.943	.8474	.3412	.3011	2.782	2.570
#1	1.001	50.25	5.068	1.045	5.069	5.074	5.112	48.80
#2	1.000	50.39	5.374	1.062	5.100	5.102	5.398	51.37
#3	1.005	50.73	5.198	1.048	5.099	5.098	5.205	49.96
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				1.000				
Range				5.000%				

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.088	W 5.288	5.210	5.173	51.22	50.95	5.128	51.16
Stddev	.135	.141	.142	.137	.26	.34	.024	.23
%RSD	2.650	2.666	2.724	2.647	.5114	.6694	.4601	.4585
#1	4.967	5.162	5.076	5.046	50.94	50.56	5.101	50.89
#2	5.233	5.440	5.359	5.318	51.28	51.22	5.138	51.28
#3	5.062	5.261	5.195	5.154	51.45	51.05	5.144	51.31
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		5.000						
Range		5.000%						

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.192	1.019	50.91	5.210	52.25	W 5.387	51.40	1.039
Stddev	.023	.028	.24	.138	1.43	.146	1.53	.029
%RSD	.4363	2.756	.4637	2.655	2.740	2.711	2.982	2.830
#1	5.167	.9918	50.64	5.081	50.87	5.239	50.07	1.013
#2	5.212	1.048	50.99	5.356	53.73	5.531	53.08	1.071
#3	5.198	1.017	51.09	5.192	52.16	5.392	51.05	1.033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
Value						5.000		
Range						5.000%		

```
Sample Name: ICV      Acquired: 10/18/2017 13:34:30      Type: QC
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Se1960     Si2516     Sn1899     Sr4077     Th2832     Ti3349     Tl1908     U_3670
Units            ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg            1.036      5.169      5.154      5.227      5.127      5.114    F 1.105      4.926
Stddev          .028       .091       .145       .027       .034       .026       .028       .000
%RSD           2.735      1.754      2.809      .5130      .6626      .5063      2.520      .0084

#1             1.012      5.078      5.012      5.198      5.095      5.085      1.076      4.926
#2             1.067      5.169      5.301      5.233      5.163      5.130      1.132      4.926
#3             1.028      5.259      5.148      5.250      5.124      5.129      1.106      4.927

Check ?     Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Fail       None
Value                                                                          1.000
Range                                                                         10.00%

Elem          V_2908     Zn2138
Units            ppm        ppm
Avg            5.140      5.101
Stddev          .030       .138
%RSD           .5759      2.706

#1             5.107      4.978
#2             5.152      5.250
#3             5.162      5.075

Check ?     Chk Pass   Chk Pass
Value
Range

Int. Std.     Y_3600     Y_3710
Units          Cts/S      Cts/S
Avg           7699.6     2214.8
Stddev          91.0        5.9
%RSD          1.1817     .26422

#1            7804.2     2219.6
#2            7638.6     2216.6
#3            7656.1     2208.3
```

Sample Name: ICB Acquired: 10/18/2017 13:38:41 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0258	.0013	.0002	.0003	.0001	-.0001	-.0008
Stddev	.0008	.0445	.0013	.0068	.0005	.0003	.0036	.0007
%RSD	166.7	172.2	98.53	2822.	160.9	444.6	2646.	89.23
#1	.0013	.0732	-.0001	.0080	.0006	-.0002	-.0034	-.0002
#2	-.0002	.0193	.0017	-.0046	-.0003	.0001	-.0006	-.0007
#3	.0003	-.0150	.0024	-.0027	.0006	.0003	.0037	-.0016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0003	.0000	-.0000	.0026	.1749	.0014	.0063
Stddev	.0003	.0005	.0002	.0007	.0046	.1937	.0017	.0226
%RSD	386.9	206.7	849.1	2961.	176.8	110.7	124.0	360.2
#1	-.0002	.0008	.0003	-.0008	.0074	.0342	-.0003	.0323
#2	.0002	-.0003	.0000	.0005	-.0018	.3957	.0031	-.0043
#3	-.0002	.0003	-.0002	.0001	.0022	.0946	.0014	-.0091
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	-.0004	.0435	.0002	.0014	-.0003	.0010	.0009
Stddev	.0007	.0008	.0144	.0001	.0013	.0008	.0010	.0012
%RSD	84.21	194.7	33.22	43.41	97.00	244.3	103.1	131.9
#1	.0012	-.0007	.0313	.0001	-.0000	.0006	.0021	.0017
#2	.0014	-.0011	.0594	.0003	.0016	-.0006	.0005	.0015
#3	.0000	.0005	.0397	.0002	.0026	-.0009	.0003	-.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

```
Sample Name: ICB      Acquired: 10/18/2017 13:38:41      Type: QC
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin      Custom ID1:      Custom ID2:      Custom ID3:
Comment:

Elem           Se1960     Si2516     Sn1899     Sr4077     Th2832     Ti3349     Tl1908     U_3670
Units             ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg            -.0004   F -1.884     -.0004      .0000     -.0041      .0002     -.0009      .0117
Stddev          .0023       .023      .0001      .0001      .0034      .0001      .0032      .0212
%RSD            525.8      1.205      18.94      295.7      82.95      52.47      369.5      181.0

#1              .0018     -1.909     -.0003     -.0001     -.0011      .0003     -.0028      .0309
#2             -.0028     -1.879     -.0003      .0000     -.0078      .0002     -.0026     -.0110
#3             -.0004     -1.864     -.0004      .0001     -.0035      .0001      .0028      .0152

Check ?      Chk Pass   Chk Fail   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass       None
High Limit                 .4000
Low Limit                 -.4000

Elem           V_2908     Zn2138
Units             ppm        ppm
Avg            -.0082      .0000
Stddev          .0101      .0003
%RSD            123.2      1966.

#1             -.0165      .0002
#2             -.0112     -.0003
#3              .0031      .0002

Check ?      Chk Pass   Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600     Y_3710
Units           Cts/S      Cts/S
Avg            7976.9     2000.5
Stddev           82.1       23.7
%RSD           1.0294     1.1848

#1             8010.1     2027.0
#2             7883.3     1981.2
#3             8037.2     1993.3
```

Sample Name: LLC Acquired: 10/18/2017 13:43:20 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0084	.2235	.0086	.0859	.0506	.0050	.1808	.9459
Stddev	.0004	.0150	.0036	.0076	.0006	.0001	.0042	.0076
%RSD	4.715	6.707	41.98	8.843	1.244	1.696	2.339	.8034
#1	.0087	.2206	.0112	.0884	.0503	.0050	.1766	.9383
#2	.0079	.2101	.0045	.0919	.0501	.0050	.1808	.9460
#3	.0086	.2397	.0101	.0773	.0513	.0049	.1850	.9535
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042	.0465	.0090	.0219	.1061	4.749	.0443	1.060
Stddev	.0003	.0001	.0001	.0016	.0025	.081	.0007	.013
%RSD	5.992	.1892	1.329	7.470	2.348	1.701	1.694	1.253
#1	.0040	.0465	.0089	.0232	.1047	4.818	.0434	1.067
#2	.0041	.0465	.0091	.0200	.1046	4.660	.0449	1.044
#3	.0045	.0466	.0089	.0224	.1090	4.769	.0445	1.068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0169	.0354	.8447	.0380	.2269	.0086	4.164	W .0079
Stddev	.0004	.0003	.0594	.0003	.0015	.0031	.032	.0003
%RSD	2.247	.8961	7.029	.7370	.6792	36.62	.7642	4.356
#1	.0165	.0353	.7839	.0378	.2254	.0120	4.132	.0081
#2	.0169	.0352	.8475	.0379	.2267	.0079	4.164	.0075
#3	.0173	.0358	.9025	.0383	.2285	.0058	4.196	.0080
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn
Value								.0100
Range								-20.00%

Sample Name: LLC Acquired: 10/18/2017 13:43:20 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0120	F -1.351	.0924	.0053	.1734	.0203	.0192	.5165
Stddev	.0023	.024	.0011	.0001	.0032	.0011	.0009	.0335
%RSD	18.77	1.780	1.194	2.208	1.841	5.274	4.710	6.483
#1	.0094	-1.361	.0912	.0052	.1704	.0215	.0188	.4848
#2	.0132	-1.323	.0934	.0054	.1768	.0200	.0202	.5515
#3	.0135	-1.368	.0925	.0052	.1731	.0194	.0186	.5131
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value		.4000						
Range		-30.00%						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	.0411	.0184
Stddev	.0040	.0002
%RSD	9.770	1.069
#1	.0457	.0186
#2	.0382	.0183
#3	.0395	.0183
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8280.9	2251.8
Stddev	75.9	12.5
%RSD	.91661	.55357
#1	8360.6	2261.6
#2	8272.5	2256.2
#3	8209.5	2237.8

Sample Name: ICSA Acquired: 10/18/2017 13:47:59 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	98.64	.0054	W -.0567	-.0003	-.0001	-.0014	89.63
Stddev	.0020	.36	.0018	.0039	.0004	.0002	.0039	.17
%RSD	418.0	.3693	34.03	6.818	113.6	145.1	283.9	.1855
#1	-.0015	98.73	.0062	-.0600	-.0004	.0001	-.0008	89.79
#2	.0003	98.96	.0033	-.0577	.0001	-.0003	.0022	89.46
#3	.0026	98.25	.0067	-.0524	-.0007	-.0002	-.0055	89.65
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				.0045				
Low Limit				-.0045				

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	.0023	-.0079	-.0100	100.0	98.68	.0120	99.13
Stddev	.0005	.0002	.0003	.0050	.6	.61	.0052	.35
%RSD	89.47	7.230	3.296	49.47	.5676	.6175	43.05	.3526
#1	-.0010	.0021	-.0078	-.0145	100.6	98.99	.0087	99.49
#2	-.0008	.0024	-.0077	-.0109	100.1	99.07	.0094	99.09
#3	.0000	.0023	-.0082	-.0047	99.43	97.97	.0180	98.80
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	-.0005	98.22	.0012	89.81	-.0053	90.85	.0061
Stddev	.0004	.0002	.48	.0004	.10	.0021	.08	.0010
%RSD	31.90	34.44	.4883	35.37	.1119	39.62	.0846	16.75
#1	.0018	-.0007	98.42	.0007	89.79	-.0053	90.76	.0070
#2	.0010	-.0003	98.57	.0012	89.72	-.0074	90.90	.0050
#3	.0011	-.0006	97.67	.0015	89.92	-.0032	90.89	.0064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: ICSA Acquired: 10/18/2017 13:47:59 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0012	F -1.905	-.0005	.0011	.0508	-.0027	.0015	-.0160
Stddev	.0009	.018	.0008	.0002	.0066	.0016	.0017	.0276
%RSD	75.01	.9195	142.2	13.68	13.02	60.45	117.5	172.5
#1	-.0021	-1.885	-.0013	.0012	.0460	-.0042	.0010	-.0084
#2	-.0011	-1.919	.0002	.0013	.0584	-.0028	.0034	.0070
#3	-.0004	-1.911	-.0005	.0010	.0481	-.0010	.0000	-.0467
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit		.4000						
Low Limit		-.4000						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	.0010	.0111
Stddev	.0067	.0002
%RSD	648.4	1.755
#1	-.0008	.0113
#2	-.0045	.0110
#3	.0085	.0109
Check ?	Chk Pass	Chk Pass
High Limit		
Low Limit		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7836.6	2228.3
Stddev	53.9	31.1
%RSD	.68736	1.3975
#1	7774.7	2230.0
#2	7872.8	2196.4
#3	7862.4	2258.6

Sample Name: ICSAB Acquired: 10/18/2017 13:52:32 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4765	98.12	2.489	.4567	2.451	2.500	2.431	94.88	2.439
Stddev	.0014	.39	.033	.0025	.012	.014	.032	1.22	.034
%RSD	.2885	.3955	1.306	.5520	.4813	.5658	1.295	1.286	1.378
#1	.4780	98.13	2.518	.4568	2.455	2.510	2.457	96.12	2.470
#2	.4753	98.50	2.496	.4541	2.459	2.507	2.441	94.83	2.443
#3	.4762	97.73	2.454	.4591	2.437	2.484	2.396	93.69	2.404
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.425	2.427	2.413	99.93	98.66	2.543	99.32	2.474	.4835
Stddev	.033	.030	.033	.49	.60	.013	.41	.012	.0069
%RSD	1.344	1.228	1.350	.4944	.6122	.5151	.4099	.4660	1.419
#1	2.457	2.455	2.442	100.1	98.71	2.539	99.40	2.482	.4908
#2	2.427	2.429	2.419	100.3	99.23	2.558	99.67	2.480	.4827
#3	2.391	2.396	2.378	99.37	98.03	2.533	98.87	2.461	.4771
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	97.90	2.427	96.63	2.419	97.03	.4931	.4940	F 1.359	2.412
Stddev	.55	.031	1.20	.031	1.18	.0070	.0046	.018	.033
%RSD	.5567	1.285	1.243	1.268	1.213	1.425	.9265	1.335	1.373
#1	97.88	2.456	97.78	2.449	98.07	.4985	.4990	1.354	2.443
#2	98.46	2.430	96.71	2.421	97.28	.4956	.4901	1.380	2.416
#3	97.37	2.394	95.38	2.388	95.75	.4851	.4928	1.345	2.377
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value								2.500	
Range								-20.00%	

Sample Name: ICSAB Acquired: 10/18/2017 13:52:32 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.491	2.405	2.496	.4813	2.305	2.480	2.457
Stddev	.009	.003	.016	.0044	.052	.016	.031
%RSD	.3801	.1182	.6305	.9240	2.268	.6390	1.280
#1	2.485	2.405	2.507	.4858	2.346	2.473	2.486
#2	2.502	2.408	2.503	.4814	2.322	2.498	2.462
#3	2.486	2.402	2.478	.4769	2.246	2.468	2.424
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7615.7	2023.5
Stddev	132.8	29.9
%RSD	1.7433	1.4794
#1	7464.6	2021.3
#2	7668.9	1994.7
#3	7713.6	2054.4

Sample Name: CCVL Acquired: 10/18/2017 13:56:47 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0099	.2210	.0100	.0979	.0507	.0051	.1982	1.015
Stddev	.0014	.0080	.0011	.0141	.0004	.0001	.0105	.042
%RSD	13.87	3.636	11.26	14.36	.8125	2.589	5.306	4.088
#1	.0110	.2289	.0088	.0818	.0505	.0052	.1875	.9715
#2	.0104	.2128	.0110	.1043	.0504	.0050	.1987	1.020
#3	.0084	.2212	.0103	.1077	.0512	.0051	.2085	1.054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051	.0512	.0100	.0275	.1088	4.978	.0513	1.002
Stddev	.0002	.0023	.0003	.0017	.0034	.121	.0041	.012
%RSD	3.412	4.472	3.116	6.340	3.130	2.432	8.016	1.176
#1	.0052	.0488	.0097	.0263	.1071	4.838	.0478	.9889
#2	.0049	.0515	.0103	.0295	.1065	5.052	.0558	1.005
#3	.0052	.0534	.0099	.0267	.1127	5.043	.0503	1.012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0172	.0380	.9532	.0408	.2426	.0112	4.563	.0105
Stddev	.0007	.0017	.0469	.0014	.0116	.0002	.277	.0017
%RSD	4.034	4.567	4.922	3.330	4.766	1.818	6.078	16.21
#1	.0166	.0362	.9174	.0394	.2308	.0114	4.265	.0107
#2	.0180	.0380	.9359	.0410	.2432	.0113	4.612	.0087
#3	.0171	.0397	1.006	.0421	.2539	.0110	4.813	.0121
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

```
Sample Name: CCVL      Acquired: 10/18/2017 13:56:47      Type: QC
Method: _2016(v387)    Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem            Se1960      Si2516      Sn1899      Sr4077      Th2832      Ti3349      Tl1908      U_3670
Units              ppm         ppm         ppm         ppm         ppm         ppm         ppm         ppm
Avg              .0130    F -1.365       .0998       .0051       .1629       .0201       .0175       .5178
Stddev           .0036        .007       .0046       .0002       .0046       .0026       .0033       .0022
%RSD             28.05       .5173       4.653       3.267       2.806       13.02       18.53       .4316

#1               .0090      -1.358       .0945       .0053       .1620       .0230       .0190       .5194
#2               .0162      -1.366       .1014       .0050       .1679       .0179       .0138       .5152
#3               .0137      -1.372       .1034       .0050       .1589       .0193       .0198       .5187

Check ?       Chk Pass    Chk Fail    Chk Pass    Chk Pass    Chk Pass    Chk Pass    Chk Pass        None
Value                        .4000
Range                      -30.00%

Elem            V_2908      Zn2138
Units              ppm         ppm
Avg              .0475       .0192
Stddev           .0048       .0010
%RSD             10.11       5.445

#1               .0435       .0180
#2               .0462       .0194
#3               .0529       .0201

Check ?       Chk Pass    Chk Pass
Value
Range

Int. Std.       Y_3600      Y_3710
Units            Cts/S       Cts/S
Avg             7956.5      2133.0
Stddev           114.1        10.8
%RSD            1.4334      .50633

#1              7840.3      2127.8
#2              7960.9      2145.4
#3              8068.3      2125.8
```

```
Sample Name: CCV      Acquired: 10/18/2017 14:01:25      Type: QC
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin      Custom ID1:      Custom ID2:      Custom ID3:
Comment:

Elem        Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units          ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg          .9684     49.87     4.876     .9941     5.014     5.051     4.844     48.99     4.780
Stddev       .0105       .13      .125     .0095      .018      .018      .119      1.13      .106
%RSD         1.080     .2542     2.569     .9540     .3592     .3521     2.457     2.302     2.216

#1           .9572     49.97     4.765     .9860     5.027     5.064     4.746     48.05     4.696
#2           .9778     49.92     4.853     1.004     5.023     5.058     4.810     48.68     4.744
#3           .9702     49.73     5.012     .9917     4.994     5.031     4.976     50.24     4.899

Check ?   Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
Value
Range

Elem        Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units          ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg          4.842     4.857     4.868     50.28     49.66     4.991     50.61     5.023     .9807
Stddev        .112      .114      .122       .22       .09      .023       .20      .010     .0249
%RSD         2.320     2.348     2.503     .4382     .1732     .4672     .4002     .1951     2.534

#1           4.755     4.763     4.765     50.44     49.67     5.017     50.78     5.029     .9605
#2           4.802     4.825     4.835     50.38     49.74     4.985     50.66     5.028     .9733
#3           4.969     4.984     5.002     50.03     49.57     4.972     50.39     5.012     1.008

Check ?   Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
Value
Range

Elem        Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units          ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg          49.83     4.844     50.06     4.953     48.50     .9792     .9779     4.992     4.932
Stddev         .18      .109      1.32      .120      1.17     .0247     .0244      .053      .118
%RSD         .3574     2.239     2.631     2.420     2.423     2.519     2.491     1.065     2.389

#1           50.02     4.757     48.91     4.848     47.56     .9580     .9608     4.984     4.836
#2           49.81     4.810     49.78     4.927     48.13     .9734     .9672     5.048     4.897
#3           49.67     4.966     51.50     5.083     49.82     1.006     1.006     4.943     5.064

Check ?   Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
Value
Range
```

Sample Name: CCV Acquired: 10/18/2017 14:01:25 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.041	4.945	5.043	1.002	4.850	5.010	4.815
Stddev	.021	.057	.027	.025	.073	.029	.112
%RSD	.4240	1.151	.5306	2.452	1.503	.5759	2.326
#1	5.059	4.880	5.064	.9802	4.772	5.030	4.726
#2	5.048	4.968	5.051	.9981	4.864	5.023	4.779
#3	5.017	4.987	5.013	1.029	4.916	4.977	4.941
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7618.6	2208.1
Stddev	164.1	11.7
%RSD	2.1539	.52813
#1	7776.6	2195.5
#2	7630.4	2210.3
#3	7449.0	2218.5

Sample Name: CCB Acquired: 10/18/2017 14:05:38 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0002	.0005	-.0023	-.0003	.0000	-.0050	.0001
Stddev	.0006	.0245	.0014	.0096	.0001	.0001	.0013	.0002
%RSD	141.5	14870.	280.2	413.7	40.09	229.0	26.89	119.0
#1	-.0000	-.0265	-.0000	-.0132	-.0004	.0000	-.0035	.0000
#2	.0011	.0218	-.0006	.0052	-.0002	.0001	-.0054	.0003
#3	.0002	.0051	.0021	.0010	-.0003	-.0000	-.0060	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0003	-.0001	.0029	.0046	-.1702	-.0047	-.0088
Stddev	.0002	.0002	.0003	.0031	.0021	.0456	.0021	.0437
%RSD	234.4	57.25	426.2	105.6	46.06	26.82	44.97	495.8
#1	.0001	.0004	-.0000	.0055	.0022	-.1462	-.0069	-.0544
#2	-.0001	.0004	.0002	.0037	.0058	-.1415	-.0027	.0328
#3	.0002	.0001	-.0004	-.0005	.0059	-.2228	-.0044	-.0049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014	-.0003	-.1044	.0001	.0017	.0001	.0027	.0016
Stddev	.0005	.0001	.0301	.0003	.0040	.0022	.0016	.0024
%RSD	34.46	42.48	28.85	327.0	228.8	1680.	59.61	152.7
#1	.0010	-.0004	-.1275	.0002	-.0019	-.0025	.0020	.0035
#2	.0014	-.0002	-.1155	.0003	.0011	.0013	.0015	-.0011
#3	.0020	-.0004	-.0703	-.0002	.0060	.0016	.0045	.0022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

```
Sample Name: CCB       Acquired: 10/18/2017 14:05:38       Type: QC
Method: _2016(v387)      Mode: CONC       Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem           Se1960     Si2516     Sn1899     Sr4077     Th2832     Ti3349     Tl1908     U_3670
Units             ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg             .0000   F -1.882      .0007      .0002      .0045      .0016     -.0009      .0053
Stddev          .0030       .021      .0005      .0001      .0130      .0015      .0013      .0052
%RSD           13700.      1.105      69.30      53.51      289.8      93.33      155.5      99.29

#1              .0017     -1.902      .0009      .0001     -.0073      .0030     -.0005     -.0008
#2              .0017     -1.882      .0002      .0002      .0185      .0015      .0003      .0081
#3             -.0034     -1.861      .0011      .0003      .0023      .0001     -.0023      .0084

Check ?      Chk Pass   Chk Fail   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass       None
High Limit                 .4000
Low Limit                 -.4000

Elem           V_2908     Zn2138
Units             ppm        ppm
Avg            -.0064      .0000
Stddev          .0005      .0003
%RSD            7.423      801.5

#1             -.0062     -.0003
#2             -.0070      .0001
#3             -.0061      .0002

Check ?      Chk Pass   Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600     Y_3710
Units           Cts/S      Cts/S
Avg            8081.7     2194.5
Stddev          177.6        8.2
%RSD           2.1978     .37212

#1             8284.5     2186.5
#2             7954.1     2202.8
#3             8006.3     2194.2
```

```
Sample Name: 160-24830-A-4-A@2     Acquired: 10/18/2017 14:30:22     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin     Custom ID1:          Custom ID2:          Custom ID3:
Comment: 331593

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0008     .0447     .0106     .0053     .0078    -.0001    -.0032     6.108     .0003
Stddev         .0003     .0206     .0008     .0073     .0007     .0001     .0023      .233     .0002
%RSD           36.61     46.13     7.837     139.1     8.481     50.57     70.45     3.815     72.48

#1             .0005     .0228     .0111     .0075     .0084    -.0001    -.0023     5.854     .0002
#2             .0011     .0638     .0110    -.0029     .0080    -.0002    -.0059     6.160     .0001
#3             .0009     .0475     .0097     .0113     .0071    -.0001    -.0016     6.312     .0005

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0001     .0002     .0017     .0233     .5580    -.0052     1.482     .0160     .0009
Stddev         .0006     .0001     .0053     .0063     .1243     .0008      .032     .0005     .0001
%RSD           1111.     37.22     311.5     27.06     22.28     16.30     2.178     2.881     8.038

#1            -.0003     .0004     .0059     .0253     .5391    -.0057     1.502     .0165     .0008
#2             .0007     .0002    -.0042     .0283     .6907    -.0056     1.500     .0158     .0009
#3            -.0003     .0002     .0034     .0162     .4442    -.0042     1.445     .0156     .0010

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            55.12     .0034     10.86    -.0009     6.639     .0011    -.0001     5.619     .0001
Stddev           .24     .0003       .43     .0011      .286     .0023     .0016      .072     .0015
%RSD           .4340     9.058     3.997     132.8     4.315     198.0     1116.     1.280     2156.

#1             55.32     .0033     10.38    -.0021     6.321    -.0015    -.0018     5.638     .0013
#2             55.19     .0032     10.98    -.0006     6.722     .0025     .0015     5.680    -.0016
#3             54.86     .0038     11.23     .0001     6.875     .0024    -.0001     5.540     .0005

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 160-24830-A-4-A@2      Acquired: 10/18/2017 14:30:22      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment: 331593

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0345     .0074    -.0001     .0000    -.0008     .0082     .0008
Stddev         .0000     .0105     .0008     .0005     .0206     .0015     .0001
%RSD           .1148     141.8     609.5     5960.     2548.     18.73     8.155

#1             .0345     .0066    -.0006    -.0005    -.0018     .0092     .0008
#2             .0345     .0183     .0008     .0001     .0203     .0065     .0009
#3             .0345    -.0027    -.0006     .0004    -.0209     .0090     .0009

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8197.2    2193.3
Stddev         176.6      21.4
%RSD          2.1545    .97525

#1            8357.6    2169.0
#2            8226.2    2201.7
#3            8007.9    2209.3
```

```
Sample Name: 160-24830-A-4-ASD@10      Acquired: 10/18/2017 14:34:56      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0005     .0212     .0020    -.0029     .0014     .0000    -.0038     1.208     .0000
Stddev         .0007     .0275     .0023     .0061     .0001     .0001     .0048      .019     .0002
%RSD           161.7     129.7     118.2     205.9     7.269     421.8     125.9     1.591     454.9

#1             .0011     .0223     .0042     .0026     .0013     .0000    -.0041     1.220     .0002
#2            -.0003     .0480    -.0004    -.0021     .0015     .0001    -.0084     1.218    -.0002
#3             .0006    -.0068     .0021    -.0094     .0013    -.0001     .0011     1.185     .0001

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0002     .0001     .0029     .0053    -.0345    -.0053     .2730     .0039    -.0004
Stddev         .0005     .0001     .0014     .0021     .1245     .0072     .0235     .0005     .0003
%RSD           292.2     256.5     49.28     39.31     360.7     135.8     8.613     13.83     67.28

#1             .0002     .0002     .0013     .0071     .0737     .0011     .2573     .0038    -.0002
#2             .0007     .0001     .0039     .0030    -.0067    -.0040     .3001     .0045    -.0004
#3            -.0003    -.0001     .0036     .0058    -.1705    -.0130     .2617     .0035    -.0007

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            10.97     .0011     2.107    -.0002     1.272    -.0030     .0002    -.4064    -.0001
Stddev           .10     .0003      .039     .0016      .029     .0028     .0028     .0234     .0016
%RSD           .9106     27.66     1.843     910.0     2.276     91.92     1135.     5.762     2198.

#1             11.08     .0011     2.130    -.0016     1.291    -.0004    -.0027    -.3869     .0002
#2             10.90     .0014     2.128     .0015     1.286    -.0059     .0006    -.4324     .0014
#3             10.93     .0008     2.062    -.0004     1.239    -.0027     .0029    -.4001    -.0017

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: 160-24830-A-4-ASD@10 Acquired: 10/18/2017 14:34:56 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0070	.0001	.0001	.0004	.0203	-.0027	.0004
Stddev	.0001	.0018	.0014	.0006	.0112	.0037	.0000
%RSD	2.087	2015.	1856.	136.8	55.02	140.7	4.838
#1	.0072	.0006	.0009	.0009	.0324	-.0016	.0004
#2	.0070	.0015	-.0015	-.0002	.0103	.0004	.0004
#3	.0069	-.0019	.0009	.0006	.0183	-.0068	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8453.7	2198.6
Stddev	29.5	57.4
%RSD	.34952	2.6128
#1	8482.8	2132.4
#2	8454.5	2235.2
#3	8423.7	2228.2

```
Sample Name: 160-24830-A-4-B MS@2     Acquired: 10/18/2017 14:39:33     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin       Custom ID1:         Custom ID2:         Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0970     5.141     .4852     .0940     .5164     .0512     .4658     10.88     .4581
Stddev         .0005      .041     .0047     .0091     .0019     .0003     .0080       .07     .0041
%RSD           .5074     .7899     .9683     9.662     .3684     .6667     1.724     .6114     .9053

#1             .0975     5.183     .4885     .0887     .5183     .0516     .4746     10.92     .4624
#2             .0971     5.102     .4798     .0888     .5162     .0510     .4588     10.80     .4541
#3             .0965     5.137     .4872     .1045     .5145     .0510     .4641     10.92     .4577

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .4781     .4788     .4882     5.211     5.547     .0532     6.780     .5371     .2390
Stddev         .0028     .0033     .0055      .031      .058     .0046      .055     .0031     .0019
%RSD           .5934     .6884     1.125     .5882     1.038     8.578     .8177     .5707     .7948

#1             .4809     .4812     .4944     5.241     5.614     .0564     6.843     .5403     .2407
#2             .4753     .4750     .4840     5.213     5.510     .0552     6.739     .5367     .2370
#3             .4780     .4802     .4861     5.180     5.519     .0480     6.758     .5342     .2394

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            61.68     .4838     11.56     .4925     11.23     .2354     .2434     9.228     .4869
Stddev           .27     .0044       .10     .0024       .12     .0039     .0061      .081     .0050
%RSD           .4375     .9122     .9004     .4801     1.103     1.673     2.495     .8790     1.021

#1             61.96     .4869     11.67     .4931     11.37     .2397     .2489     9.321     .4908
#2             61.65     .4787     11.46     .4899     11.13     .2343     .2369     9.177     .4813
#3             61.42     .4856     11.55     .4945     11.19     .2320     .2443     9.185     .4886

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: 160-24830-A-4-B MS@2 Acquired: 10/18/2017 14:39:33 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5484	.5058	.5198	.1010	.5072	.5282	.4681
Stddev	.0022	.0062	.0034	.0015	.0303	.0086	.0046
%RSD	.3990	1.235	.6484	1.459	5.973	1.624	.9796
#1	.5509	.4991	.5232	.1008	.5337	.5320	.4725
#2	.5474	.5067	.5197	.0996	.4742	.5342	.4633
#3	.5469	.5115	.5164	.1025	.5137	.5184	.4684
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8117.8	2137.1
Stddev	98.9	35.5
%RSD	1.2186	1.6601
#1	8173.2	2098.0
#2	8176.7	2167.3
#3	8003.6	2145.9

Sample Name: 160-24830-A-4-CMSD@2 Acquired: 10/18/2017 14:43:55 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0965	5.089	.4981	.0977	.5143	.0511	.4858	11.22	.4740
Stddev	.0007	.055	.0125	.0016	.0025	.0004	.0163	.27	.0122
%RSD	.6747	1.076	2.514	1.614	.4808	.7416	3.364	2.389	2.566
#1	.0959	5.129	.4947	.0995	.5157	.0515	.4853	11.14	.4711
#2	.0965	5.026	.4876	.0972	.5114	.0507	.4696	11.00	.4636
#3	.0972	5.111	.5120	.0965	.5158	.0510	.5023	11.52	.4874
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4955	.4921	.5020	5.170	5.359	.0479	6.746	.5325	.2457
Stddev	.0127	.0120	.0126	.040	.084	.0056	.065	.0031	.0064
%RSD	2.568	2.431	2.511	.7717	1.558	11.66	.9611	.5732	2.615
#1	.4917	.4887	.4990	5.200	5.394	.0536	6.808	.5351	.2445
#2	.4852	.4822	.4912	5.124	5.264	.0424	6.678	.5291	.2400
#3	.5097	.5054	.5158	5.184	5.419	.0476	6.750	.5332	.2527
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	61.13	.5011	11.82	.5021	11.62	.2424	.2479	9.150	.4981
Stddev	.42	.0124	.30	.0100	.31	.0052	.0066	.111	.0109
%RSD	.6813	2.465	2.500	1.984	2.638	2.143	2.664	1.210	2.182
#1	61.37	.4960	11.75	.5001	11.52	.2413	.2471	9.228	.4958
#2	60.65	.4920	11.57	.4933	11.37	.2378	.2418	9.023	.4886
#3	61.36	.5151	12.14	.5129	11.96	.2481	.2549	9.199	.5100
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24830-A-4-CMSD@2     Acquired: 10/18/2017 14:43:55     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin       Custom ID1:        Custom ID2:        Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .5467     .5005     .5163     .1055     .4866     .5254     .4855
Stddev         .0038     .0019     .0030     .0013     .0322     .0097     .0125
%RSD           .6878     .3697     .5758     1.267     6.608     1.849     2.574

#1             .5481     .5021     .5174     .1060     .4504     .5349     .4822
#2             .5424     .4985     .5130     .1040     .5119     .5155     .4750
#3             .5496     .5010     .5186     .1066     .4976     .5260     .4994

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8056.3    2237.6
Stddev         133.0      61.8
%RSD          1.6513    2.7605

#1            8038.2    2169.8
#2            8197.5    2290.6
#3            7933.3    2252.4
```

```
Sample Name: 160-24830-A-5-A@2      Acquired: 10/18/2017 14:48:17       Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0004     .0041     .0123     .0036     .0060    -.0001    -.0006     6.294    -.0001
Stddev         .0009     .0043     .0016     .0012     .0009     .0002     .0020      .047     .0001
%RSD           223.4     106.4     13.37     33.39     15.57     337.3     339.9     .7416     158.9

#1             .0013     .0060     .0116     .0028     .0055    -.0003    -.0029     6.245    -.0001
#2            -.0005     .0071     .0111     .0049     .0070     .0001     .0008     6.338     .0000
#3             .0005    -.0009     .0142     .0030     .0054    -.0001     .0003     6.297    -.0001

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0005     .0002     .0019     .0037     .5896     .0006     1.547     .0008     .0013
Stddev         .0007     .0001     .0032     .0014     .0577     .0070      .024     .0004     .0001
%RSD           133.2     36.38     165.0     37.24     9.781     1100.     1.578     50.75     4.771

#1             .0013     .0003    -.0009     .0034     .6230    -.0065     1.562     .0007     .0013
#2            -.0001     .0002     .0013     .0052     .6229     .0073     1.561     .0013     .0013
#3             .0004     .0002     .0054     .0025     .5230     .0011     1.519     .0005     .0014

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            56.12     .0034     11.36     .0010     6.892    -.0009     .0031     5.727     .0000
Stddev           .12     .0003       .09     .0022      .076     .0054     .0018      .046     .0014
%RSD           .2218     7.747     .7954     207.4     1.096     596.1     58.39     .8053    33100.

#1             56.21     .0037     11.26     .0035     6.805     .0042     .0051     5.729     .0003
#2             55.98     .0031     11.42     .0001     6.931    -.0066     .0025     5.680    -.0015
#3             56.17     .0035     11.41    -.0005     6.940    -.0004     .0016     5.772     .0012

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 160-24830-A-5-A@2      Acquired: 10/18/2017 14:48:17       Type: Unk
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin         Custom ID1:            Custom ID2:            Custom ID3:
Comment:

Elem          Sr4077   Th2832   Ti3349   Tl1908   U_3670   V_2908   Zn2138
Units            ppm      ppm      ppm      ppm      ppm      ppm      ppm
Avg            .0356    .0031    .0005    .0012    .0004    .0083    .0004
Stddev         .0001    .0022    .0004    .0013    .0192    .0042    .0002
%RSD           .1703    69.65    82.23    104.2    4514.    50.82    50.60

#1             .0356    .0019    .0001    .0011   -.0166    .0096    .0003
#2             .0355    .0019    .0010    .0000   -.0034    .0036    .0003
#3             .0356    .0057    .0006    .0025    .0213    .0117    .0006

Check ?     Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600   Y_3710
Units          Cts/S    Cts/S
Avg           8177.1   2209.3
Stddev         117.4     16.6
%RSD          1.4358   .75178

#1            8093.2   2209.4
#2            8126.7   2225.9
#3            8311.2   2192.7
```

Sample Name: MB 160-332182/1-A Acquired: 10/18/2017 14:52:51 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 332182

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	.0220	-.0001	-.0098	.0002	-.0000	-.0026	.0188	.0001
Stddev	.0012	.0458	.0009	.0016	.0001	.0002	.0018	.0014	.0006
%RSD	118.5	207.9	682.9	16.09	39.04	347.8	68.89	7.429	766.9
#1	.0009	.0738	.0008	-.0094	.0001	.0001	-.0026	.0173	-.0002
#2	-.0001	-.0134	-.0010	-.0115	.0002	-.0002	-.0043	.0201	.0008
#3	.0023	.0057	-.0002	-.0084	.0001	-.0001	-.0008	.0189	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0001	-.0022	.0205	-.1140	-.0033	.0231	.0009	-.0001
Stddev	.0003	.0002	.0016	.0025	.0576	.0026	.0406	.0009	.0003
%RSD	104.3	199.3	70.98	12.18	50.48	80.06	175.4	94.05	212.6
#1	-.0006	.0002	-.0040	.0225	-.1476	-.0049	.0572	.0020	.0000
#2	-.0001	-.0001	-.0017	.0177	-.1470	-.0003	.0339	.0004	.0000
#3	-.0001	.0002	-.0010	.0214	-.0476	-.0046	-.0217	.0005	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0588	-.0000	.0155	.0007	.0056	.0000	-.0025	-1.880	.0135
Stddev	.0258	.0002	.0008	.0003	.0068	.0014	.0022	.003	.0007
%RSD	43.92	15920.	4.906	38.93	122.2	3337.	87.26	.1345	5.216
#1	-.0801	.0003	.0148	.0004	.0022	-.0009	-.0016	-1.877	.0127
#2	-.0663	-.0002	.0163	.0007	.0011	.0016	-.0009	-1.882	.0137
#3	-.0301	-.0001	.0153	.0009	.0135	-.0006	-.0050	-1.880	.0141
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: MB 160-332182/1-A       Acquired: 10/18/2017 14:52:51       Type: Unk
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin         Custom ID1:             Custom ID2:             Custom ID3:
Comment: 332182

Elem           Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .0001    -.0084     .0005     .0019     .0113    -.0087     .0005
Stddev          .0001     .0054     .0015     .0018     .0373     .0049     .0001
%RSD            42.77     64.15     292.4     92.31     330.5     56.09     10.96

#1              .0002    -.0043    -.0009     .0039     .0159    -.0041     .0005
#2              .0001    -.0144     .0022     .0012     .0460    -.0139     .0006
#3              .0001    -.0064     .0003     .0006    -.0281    -.0081     .0005

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600    Y_3710
Units           Cts/S     Cts/S
Avg            7990.1    2102.5
Stddev          173.2      26.0
%RSD           2.1676    1.2350

#1             8168.9    2132.4
#2             7978.3    2086.3
#3             7823.2    2088.7
```

```
Sample Name: LCSSRM 160-3321822@2      Acquired: 10/18/2017 14:57:31      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin         Custom ID1:            Custom ID2:            Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .1464     33.50     .7163     .5991     1.042     .4944     .0017     27.07     .4207
Stddev         .0011       .12     .0020     .0040      .001     .0003     .0049       .07     .0020
%RSD           .7494     .3692     .2794     .6662     .1341     .0648     282.4     .2707     .4806

#1             .1474     33.35     .7167     .6026     1.040     .4944     .0020     27.14     .4228
#2             .1464     33.57     .7142     .5947     1.042     .4941     .0065     26.99     .4188
#3             .1453     33.56     .7181     .6000     1.043     .4948    -.0033     27.07     .4204

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .7718     .6942     .8508     64.77     10.12     .0217     12.68     1.609     .5802
Stddev         .0031     .0022     .0043       .03       .15     .0022       .02      .002     .0028
%RSD           .4050     .3213     .5018     .0391     1.449     10.31     .1793     .0986     .4898

#1             .7745     .6966     .8557     64.77     9.951     .0233     12.68     1.608     .5822
#2             .7684     .6922     .8484     64.80     10.22     .0226     12.65     1.609     .5770
#3             .7725     .6938     .8482     64.75     10.18     .0192     12.70     1.611     .5815

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            4.012     .6542     3.168     .7457     .7155     .4015     .8845    -1.081     .7279
Stddev          .049     .0021      .016     .0018     .0041     .0044     .0036      .007     .0018
%RSD           1.231     .3187     .4972     .2417     .5742     1.096     .4105     .6807     .2466

#1             3.957     .6564     3.179     .7475     .7201     .4056     .8887    -1.078     .7300
#2             4.053     .6522     3.150     .7439     .7139     .4020     .8826    -1.077     .7268
#3             4.025     .6540     3.175     .7456     .7124     .3968     .8822    -1.090     .7270

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: LCSSRM 160-3321822@2      Acquired: 10/18/2017 14:57:31      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .5181     .0251     1.254     .7394     .1237     .5668     .9154
Stddev         .0006     .0012      .002     .0025     .0198     .0032     .0037
%RSD           .1218     4.705     .1404     .3413     16.00     .5603     .4025

#1             .5176     .0238     1.253     .7422     .1141     .5634     .9192
#2             .5179     .0254     1.253     .7372     .1465     .5673     .9119
#3             .5188     .0261     1.256     .7388     .1106     .5697     .9150

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           9518.6    2602.3
Stddev          17.5      47.0
%RSD          .18363    1.8043

#1            9508.1    2647.8
#2            9538.7    2554.0
#3            9508.9    2605.0
```

```
Sample Name: LCDSRM 160-3321823@2      Acquired: 10/18/2017 15:01:52      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .1432     33.59     .6895     .5858     .9974     .4880     .0020     26.69     .4067
Stddev         .0009       .04     .0090     .0036     .0028     .0016     .0010       .33     .0052
%RSD           .6086     .1236     1.310     .6127     .2786     .3373     48.56     1.232     1.275

#1             .1422     33.58     .6836     .5854     .9998     .4894     .0030     26.52     .4048
#2             .1436     33.64     .6850     .5824     .9981     .4883     .0011     26.47     .4027
#3             .1438     33.55     .6999     .5895     .9944     .4862     .0019     27.06     .4126

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .7389     .6730     .8369     64.29     9.727     .0223     12.49     1.498     .5539
Stddev         .0100     .0073     .0109       .18      .017     .0023       .02      .004     .0068
%RSD           1.354     1.079     1.297     .2745     .1753     10.12     .1230     .2957     1.221

#1             .7341     .6690     .8304     64.44     9.708     .0226     12.51     1.502     .5500
#2             .7323     .6686     .8308     64.33     9.739     .0243     12.48     1.499     .5500
#3             .7505     .6813     .8494     64.09     9.734     .0198     12.48     1.493     .5617

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            3.901     .6263     3.369     .7178     .7311     .3684     .8458    -1.110     .6885
Stddev          .029     .0079      .038     .0091     .0081     .0037     .0075      .007     .0082
%RSD           .7334     1.255     1.136     1.273     1.113     1.007     .8898     .6226     1.185

#1             3.890     .6216     3.347     .7158     .7262     .3699     .8415    -1.115     .6851
#2             3.934     .6218     3.347     .7099     .7267     .3642     .8414    -1.113     .6825
#3             3.880     .6353     3.413     .7278     .7405     .3712     .8545    -1.102     .6978

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: LCDSRM 160-3321823@2 Acquired: 10/18/2017 15:01:52 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5140	.0318	1.231	.7089	.1184	.5487	.8904
Stddev	.0007	.0013	.001	.0096	.0063	.0081	.0108
%RSD	.1300	3.946	.0714	1.348	5.347	1.482	1.212
#1	.5139	.0310	1.230	.7049	.1122	.5435	.8843
#2	.5147	.0333	1.230	.7020	.1180	.5446	.8840
#3	.5133	.0312	1.232	.7198	.1249	.5581	.9029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	9517.7	2684.0
Stddev	85.9	8.2
%RSD	.90216	.30553
#1	9533.7	2685.7
#2	9594.5	2691.2
#3	9425.0	2675.0

```
Sample Name: 280-102094-A-13-A     Acquired: 10/18/2017 15:06:11     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin     Custom ID1:     Custom ID2:     Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0106     7.604     .0001    -.0084     .2309    -.0000    -.0045  F 107.3     .0100
Stddev         .0009      .070     .0025     .0066     .0017     .0000     .0020       1.0     .0001
%RSD           8.318     .9153     4105.     78.10     .7296     665.0     44.04     .9551     1.156

#1             .0110     7.682     .0025    -.0043     .2328     .0000    -.0068     108.4     .0101
#2             .0111     7.581     .0001    -.0160     .2299     .0000    -.0031     107.3     .0099
#3             .0095     7.548    -.0025    -.0050     .2299    -.0000    -.0037     106.3     .0101

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Fail  Chk Pass
High Limit                                                                          100.0
Low Limit                                                                          -500.0

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0015     .0274     .3640     4.568     .2173     .0282     2.872     .0606     .0699
Stddev         .0001     .0000     .0023      .026     .1151     .0044      .034     .0018     .0006
%RSD           4.637     .1654     .6303     .5693     52.97     15.66     1.178     3.038     .8951

#1             .0016     .0274     .3640     4.596     .2706     .0233     2.906     .0627     .0702
#2             .0014     .0275     .3663     4.544     .2961     .0296     2.838     .0598     .0704
#3             .0015     .0274     .3617     4.563     .0852     .0318     2.871     .0592     .0692

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            2.620     .0245     .6741     .1266     2.113     .0090    -.0028    -.6232     .0268
Stddev          .055     .0004     .0089     .0024      .033     .0028     .0018     .0170     .0007
%RSD           2.086     1.777     1.314     1.868     1.551     31.17     65.23     2.727     2.693

#1             2.683     .0248     .6841     .1293     2.150     .0074    -.0024    -.6040     .0263
#2             2.583     .0247     .6708     .1250     2.104     .0122    -.0012    -.6294     .0264
#3             2.594     .0240     .6673     .1254     2.087     .0073    -.0048    -.6362     .0276

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 280-102094-A-13-A      Acquired: 10/18/2017 15:06:11      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem            Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units              ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg              .0773     .0174     .0928    -.0038    -.0163    -.0037     .3961
Stddev           .0002     .0019     .0026     .0011     .0159     .0121     .0037
%RSD             .2037     10.72     2.771     28.51     97.49     328.4     .9225

#1               .0773     .0195     .0932    -.0048     .0018     .0094     .3998
#2               .0775     .0161     .0951    -.0027    -.0228    -.0061     .3959
#3               .0772     .0165     .0900    -.0040    -.0280    -.0144     .3925

Check ?       Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.       Y_3600    Y_3710
Units            Cts/S     Cts/S
Avg             7876.8    2107.4
Stddev            65.7      17.0
%RSD            .83388    .80773

#1              7837.1    2088.0
#2              7840.6    2119.8
#3              7952.6    2114.4
```

Sample Name: 280-102094-A-13ASD@5 Acquired: 10/18/2017 15:10:47 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025	1.531	-.0014	-.0156	.0464	.0001	-.0028	23.42	.0020
Stddev	.0009	.009	.0033	.0069	.0006	.0001	.0016	.29	.0002
%RSD	37.64	.5592	244.1	44.18	1.302	155.5	57.03	1.230	11.77
#1	.0019	1.526	.0013	-.0180	.0468	.0002	-.0010	23.30	.0023
#2	.0019	1.527	-.0051	-.0078	.0457	-.0001	-.0034	23.75	.0019
#3	.0036	1.541	-.0003	-.0209	.0468	.0002	-.0040	23.22	.0019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0058	.0773	.9322	-.1532	.0004	.5617	.0131	.0142
Stddev	.0008	.0001	.0005	.0062	.0720	.0042	.0399	.0004	.0003
%RSD	66.11	1.576	.6915	.6667	47.02	1182.	7.101	3.368	1.887
#1	.0003	.0059	.0779	.9386	-.1958	-.0002	.5594	.0127	.0141
#2	.0019	.0058	.0771	.9263	-.1937	-.0035	.6027	.0135	.0145
#3	.0014	.0057	.0769	.9317	-.0700	.0048	.5230	.0129	.0139
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3966	.0055	.1379	.0268	.4460	.0023	-.0038	-1.645	.0055
Stddev	.0261	.0003	.0026	.0013	.0042	.0032	.0010	.015	.0002
%RSD	6.593	5.224	1.858	4.991	.9331	142.0	27.20	.8911	2.987
#1	.3702	.0057	.1387	.0254	.4430	.0017	-.0026	-1.642	.0057
#2	.3972	.0052	.1400	.0280	.4508	.0057	-.0043	-1.632	.0054
#3	.4224	.0056	.1351	.0272	.4442	-.0006	-.0044	-1.661	.0054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 280-102094-A-13ASD@5      Acquired: 10/18/2017 15:10:47      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0159    -.0016     .0186    -.0011     .0059    -.0056     .0836
Stddev         .0001     .0049     .0011     .0024     .0460     .0029     .0010
%RSD           .6954     309.4     5.855     226.9     783.2     51.85     1.176

#1             .0160     .0018     .0195     .0012    -.0450    -.0033     .0832
#2             .0158     .0007     .0189    -.0008     .0446    -.0089     .0847
#3             .0158    -.0072     .0174    -.0036     .0180    -.0046     .0828

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8299.3    2233.7
Stddev          52.8      38.3
%RSD          .63600    1.7134

#1            8268.4    2234.8
#2            8269.2    2271.4
#3            8360.2    2194.9
```

Sample Name: CCVL Acquired: 10/18/2017 15:15:24 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0098	.2141	.0082	.0954	.0513	.0051	.1957	.9932
Stddev	.0008	.0335	.0005	.0080	.0009	.0002	.0043	.0055
%RSD	8.048	15.67	5.525	8.427	1.765	4.450	2.200	.5561
#1	.0107	.2489	.0078	.0934	.0510	.0053	.1948	.9893
#2	.0093	.1820	.0087	.1043	.0523	.0050	.2004	.9995
#3	.0095	.2112	.0082	.0886	.0505	.0049	.1919	.9908
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046	.0496	.0098	.0266	.1111	4.758	.0521	1.073
Stddev	.0002	.0002	.0002	.0009	.0045	.051	.0006	.038
%RSD	5.123	.4149	2.288	3.410	4.026	1.079	1.140	3.572
#1	.0047	.0498	.0096	.0255	.1145	4.699	.0514	1.115
#2	.0043	.0496	.0101	.0271	.1128	4.788	.0524	1.062
#3	.0047	.0494	.0099	.0271	.1060	4.787	.0525	1.041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0167	.0377	.9251	.0396	.2437	.0087	4.488	.0100
Stddev	.0003	.0001	.0494	.0004	.0034	.0014	.035	.0018
%RSD	1.798	.2867	5.341	.9048	1.415	15.74	.7759	17.64
#1	.0170	.0376	.9617	.0392	.2397	.0074	4.464	.0121
#2	.0164	.0378	.9449	.0399	.2460	.0101	4.528	.0091
#3	.0167	.0376	.8689	.0397	.2454	.0087	4.473	.0089
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

```
Sample Name: CCVL      Acquired: 10/18/2017 15:15:24      Type: QC
Method: _2016(v387)    Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem           Se1960      Si2516      Sn1899      Sr4077      Th2832      Ti3349      Tl1908      U_3670
Units             ppm         ppm         ppm         ppm         ppm         ppm         ppm         ppm
Avg             .0128    F -1.380       .0979       .0056       .1819       .0212       .0190       .4853
Stddev          .0033        .003       .0017       .0002       .0085       .0020       .0015       .0162
%RSD            26.15       .1951       1.734       3.147       4.677       9.638       7.954       3.335

#1              .0161      -1.377       .0960       .0054       .1814       .0194       .0185       .4706
#2              .0127      -1.382       .0993       .0057       .1906       .0234       .0177       .4827
#3              .0094      -1.382       .0983       .0057       .1737       .0207       .0207       .5026

Check ?      Chk Pass    Chk Fail    Chk Pass    Chk Pass    Chk Pass    Chk Pass    Chk Pass        None
Value                       .4000
Range                     -30.00%

Elem           V_2908      Zn2138
Units             ppm         ppm
Avg             .0363       .0185
Stddev          .0050       .0001
%RSD            13.66       .7337

#1              .0306       .0187
#2              .0397       .0185
#3              .0385       .0184

Check ?      Chk Pass    Chk Pass
Value
Range

Int. Std.      Y_3600      Y_3710
Units           Cts/S       Cts/S
Avg            7988.1      2037.8
Stddev           17.9        51.6
%RSD           .22458      2.5334

#1             8006.9      1985.7
#2             7986.1      2038.9
#3             7971.2      2088.9
```

Sample Name: CCV Acquired: 10/18/2017 15:19:57 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9648	50.67	4.948	.9826	5.092	5.103	4.886	49.13	4.791
Stddev	.0045	.10	.081	.0047	.015	.017	.077	.56	.062
%RSD	.4701	.1967	1.634	.4825	.2845	.3334	1.578	1.132	1.297
#1	.9699	50.79	4.962	.9828	5.091	5.097	4.908	49.25	4.806
#2	.9630	50.65	5.021	.9872	5.107	5.122	4.949	49.62	4.844
#3	.9614	50.59	4.861	.9778	5.078	5.089	4.800	48.52	4.723
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.836	4.921	4.984	50.16	49.39	4.977	51.38	5.063	.9979
Stddev	.063	.059	.064	.16	.23	.014	.18	.023	.0124
%RSD	1.294	1.207	1.289	.3245	.4569	.2745	.3518	.4549	1.241
#1	4.856	4.932	4.993	50.20	49.52	4.984	51.41	5.056	.9994
#2	4.887	4.974	5.043	50.30	49.53	4.985	51.54	5.089	1.009
#3	4.766	4.857	4.915	49.98	49.13	4.961	51.18	5.045	.9848
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.23	4.832	51.05	5.022	48.74	1.001	.9794	5.072	4.982
Stddev	.19	.059	.64	.057	.80	.018	.0138	.009	.061
%RSD	.3749	1.212	1.254	1.128	1.634	1.839	1.404	.1820	1.217
#1	50.33	4.846	51.12	5.031	48.93	1.002	.9851	5.072	4.989
#2	50.35	4.882	51.65	5.073	49.42	1.018	.9894	5.082	5.039
#3	50.01	4.768	50.37	4.961	47.86	.9814	.9638	5.063	4.919
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: CCV Acquired: 10/18/2017 15:19:57 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.110	5.146	5.116	1.024	4.737	5.075	4.825
Stddev	.011	.043	.015	.011	.019	.018	.063
%RSD	.2232	.8376	.2970	1.054	.4021	.3595	1.300
#1	5.122	5.174	5.114	1.025	4.735	5.061	4.843
#2	5.107	5.096	5.132	1.035	4.719	5.068	4.878
#3	5.100	5.167	5.102	1.013	4.757	5.096	4.756
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7522.4	2175.5
Stddev	22.4	27.3
%RSD	.29734	1.2556
#1	7548.0	2146.8
#2	7506.6	2178.2
#3	7512.6	2201.3

Sample Name: CCB Acquired: 10/18/2017 15:24:03 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018	.0102	.0007	-.0066	.0000	.0000	-.0036	-.0009
Stddev	.0008	.0270	.0022	.0057	.0003	.0001	.0017	.0009
%RSD	48.05	265.9	309.8	86.20	606.2	400.1	48.12	104.9
#1	.0020	.0283	-.0015	-.0119	.0003	.0001	-.0044	-.0016
#2	.0024	.0230	.0029	-.0006	.0001	-.0000	-.0048	-.0012
#3	.0008	-.0209	.0008	-.0073	-.0003	.0000	-.0016	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	-.0000	-.0000	-.0014	.0010	-.1076	-.0034	.0145
Stddev	.0002	.0002	.0001	.0025	.0013	.1260	.0034	.0045
%RSD	178.7	1010.	967.4	180.8	129.3	117.1	101.6	30.78
#1	-.0003	.0000	.0001	-.0011	-.0001	-.0253	-.0073	.0186
#2	.0001	.0001	.0000	.0009	.0024	-.2527	-.0011	.0152
#3	-.0002	-.0002	-.0001	-.0041	.0006	-.0449	-.0017	.0097
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	.0000	-.1593	.0005	-.0016	.0001	.0059	-.0019
Stddev	.0012	.0001	.0260	.0004	.0017	.0014	.0018	.0042
%RSD	129.0	3544.	16.30	83.72	105.6	1260.	31.10	224.8
#1	.0022	.0002	-.1825	.0005	-.0001	-.0014	.0045	.0027
#2	.0008	-.0001	-.1641	.0001	-.0034	.0014	.0053	-.0028
#3	-.0002	-.0000	-.1312	.0010	-.0013	.0003	.0080	-.0055
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 10/18/2017 15:24:03 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	F -1.896	.0013	.0002	-.0083	.0004	-.0037	-.0091
Stddev	.0024	.009	.0012	.0002	.0047	.0012	.0026	.0265
%RSD	982.7	.4864	92.53	72.20	56.08	332.3	70.87	290.3
#1	-.0002	-1.892	.0014	.0001	-.0121	.0017	-.0051	-.0396
#2	-.0026	-1.907	.0025	.0003	-.0031	-.0003	-.0007	.0038
#3	.0021	-1.890	.0000	.0004	-.0097	-.0003	-.0052	.0084
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit		.4000						
Low Limit		-.4000						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	-.0059	.0001
Stddev	.0083	.0002
%RSD	140.4	162.0
#1	-.0124	.0001
#2	.0034	-.0001
#3	-.0087	.0003
Check ?	Chk Pass	Chk Pass
High Limit		
Low Limit		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7952.3	2192.3
Stddev	81.5	25.8
%RSD	1.0248	1.1772
#1	8030.1	2212.3
#2	7959.1	2201.4
#3	7867.6	2163.1

Sample Name: 280-102094-A-14-A   Acquired: 10/18/2017 15:28:38   Type: Unk
Method: _2016(v387)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0124	8.424	.0025	-.0052	.3219	-.0001	-.0014	F 112.9	.0163
Stddev	.0009	.039	.0039	.0087	.0003	.0001	.0017	2.6	.0006
%RSD	6.903	.4639	153.7	166.0	.1060	54.99	124.9	2.279	3.859
#1	.0119	8.390	.0064	.0048	.3219	-.0002	.0000	115.5	.0168
#2	.0134	8.417	.0025	-.0095	.3223	-.0001	-.0033	112.8	.0165
#3	.0119	8.467	-.0013	-.0109	.3216	-.0001	-.0008	110.4	.0156
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit								100.0	
Low Limit								-500.0	

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0037	.0428	.8581	12.40	.3502	.0378	3.360	.1311	.0842
Stddev	.0007	.0013	.0160	.02	.1651	.0088	.031	.0012	.0018
%RSD	18.99	3.033	1.863	.1853	47.14	23.38	.9320	.9228	2.144
#1	.0045	.0442	.8743	12.40	.4043	.0313	3.325	.1322	.0862
#2	.0032	.0426	.8578	12.41	.1649	.0344	3.386	.1314	.0836
#3	.0034	.0416	.8423	12.37	.4815	.0479	3.368	.1298	.0828
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.043	.0353	.6759	.3681	3.402	.0102	-.0006	-.8005	.0388
Stddev	.041	.0010	.0165	.0107	.102	.0015	.0050	.0155	.0005
%RSD	.8209	2.888	2.442	2.902	2.987	14.77	783.3	1.930	1.163
#1	4.996	.0363	.6921	.3778	3.503	.0091	-.0061	-.8027	.0391
#2	5.059	.0353	.6767	.3698	3.402	.0095	.0005	-.8148	.0391
#3	5.074	.0343	.6591	.3566	3.300	.0119	.0037	-.7841	.0383
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 280-102094-A-14-A      Acquired: 10/18/2017 15:28:38      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem             Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units               ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg               .0841     .0007     .1190    -.0024    -.0212    -.0033     .7489
Stddev            .0002     .0059     .0015     .0018     .0240     .0073     .0184
%RSD              .1962     840.5     1.250     74.57     113.1     222.0     2.459

#1                .0839     .0068     .1179    -.0044     .0008    -.0079     .7677
#2                .0841    -.0049     .1184    -.0016    -.0468     .0051     .7479
#3                .0842     .0002     .1207    -.0011    -.0177    -.0070     .7310

Check ?        Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.        Y_3600    Y_3710
Units             Cts/S     Cts/S
Avg              8091.5    2154.2
Stddev             74.0      77.0
%RSD             .91497    3.5763

#1               8013.7    2230.2
#2               8161.1    2156.2
#3               8099.7    2076.2
```

```
Sample Name: 280-102094-A-15-A     Acquired: 10/18/2017 15:33:09     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin     Custom ID1:     Custom ID2:     Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0013     7.342     .0018    -.0042     .0293    -.0001    -.0031   F 110.9     .0010
Stddev         .0007      .037     .0014     .0093     .0004     .0001     .0024       2.5     .0003
%RSD           57.84     .5060     80.74     223.2     1.511     45.07     78.95     2.293     33.32

#1             .0007     7.299     .0003    -.0035     .0289    -.0001    -.0013     108.4     .0014
#2             .0021     7.359     .0031     .0048     .0293    -.0001    -.0058     110.8     .0007
#3             .0010     7.368     .0019    -.0138     .0297    -.0002    -.0021     113.4     .0010

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Fail  Chk Pass
High Limit                                                                          100.0
Low Limit                                                                          -500.0

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0010     .0035     .0387     1.226    -.0329     .0265     2.599     .0203     .0035
Stddev         .0003     .0005     .0060      .007     .1375     .0021      .006     .0008     .0003
%RSD           28.52     13.44     15.41     .5684     418.6     7.759     .2513     4.105     9.940

#1             .0014     .0031     .0324     1.224    -.1829     .0274     2.592     .0211     .0038
#2             .0008     .0041     .0394     1.221     .0873     .0241     2.601     .0206     .0031
#3             .0010     .0034     .0443     1.234    -.0030     .0279     2.605     .0194     .0035

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .4877     .0055     .1046     .0144     1.065     .0004     .0004    -.7601     .0147
Stddev         .0450     .0005     .0023     .0029      .029     .0038     .0032     .0056     .0008
%RSD           9.234     9.477     2.158     19.96     2.711     885.6     809.4     .7328     5.507

#1             .5186     .0054     .1020     .0172     1.037     .0021     .0037    -.7659     .0155
#2             .4360     .0061     .1063     .0115     1.062    -.0039     .0000    -.7548     .0139
#3             .5085     .0051     .1054     .0145     1.095     .0031    -.0026    -.7595     .0145

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 280-102094-A-15-A      Acquired: 10/18/2017 15:33:09      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem            Sr4077     Th2832     Ti3349     Tl1908     U_3670     V_2908     Zn2138
Units              ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg              .0622      .0125      .0654     -.0023     -.0349     -.0072      .0615
Stddev           .0002      .0041      .0011      .0036      .0239      .0049      .0016
%RSD             .3898      33.17      1.679      161.1      68.50      67.92      2.583

#1               .0619      .0116      .0655      .0003     -.0262     -.0077      .0599
#2               .0624      .0170      .0643     -.0006     -.0619     -.0021      .0618
#3               .0622      .0089      .0664     -.0064     -.0165     -.0119      .0630

Check ?       Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass
High Limit
Low Limit

Int. Std.       Y_3600     Y_3710
Units            Cts/S      Cts/S
Avg             7616.2     2055.0
Stddev            71.5       17.7
%RSD            .93885     .85898

#1              7688.6     2057.7
#2              7614.2     2071.2
#3              7545.7     2036.2
```

Sample Name: 280-102094-A-16-A Acquired: 10/18/2017 15:37:42 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	6.816	-.0003	-.0078	.0139	-.0001	-.0035	F 107.5	.0003
Stddev	.0008	.026	.0008	.0064	.0003	.0000	.0036	2.2	.0004
%RSD	141.4	.3833	249.1	81.83	1.927	67.49	103.2	2.026	104.9
#1	.0006	6.789	-.0009	-.0071	.0137	-.0001	-.0029	106.2	.0003
#2	-.0002	6.841	.0006	-.0018	.0142	-.0001	-.0073	106.3	-.0000
#3	.0014	6.817	-.0007	-.0146	.0139	-.0000	-.0002	110.0	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit								100.0	
Low Limit								-500.0	

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0017	.0162	.4178	-.1890	.0168	2.410	.0135	.0026
Stddev	.0004	.0001	.0028	.0037	.0663	.0026	.026	.0003	.0004
%RSD	54.59	6.121	17.08	.8802	35.08	15.55	1.068	2.442	13.93
#1	.0010	.0016	.0185	.4152	-.1997	.0186	2.432	.0131	.0026
#2	.0007	.0018	.0131	.4220	-.1180	.0138	2.417	.0136	.0023
#3	.0003	.0018	.0169	.4162	-.2493	.0180	2.382	.0137	.0030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2650	.0026	.0853	.0040	1.034	.0004	-.0029	-.1921	.0120
Stddev	.0198	.0003	.0012	.0010	.024	.0035	.0015	.0228	.0007
%RSD	7.472	11.28	1.385	25.08	2.278	854.9	51.82	11.88	5.642
#1	.2438	.0024	.0861	.0046	1.026	-.0026	-.0016	-.2074	.0112
#2	.2830	.0025	.0840	.0029	1.016	-.0004	-.0025	-.1659	.0121
#3	.2683	.0029	.0858	.0046	1.060	.0043	-.0045	-.2030	.0126
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 280-102094-A-16-A Acquired: 10/18/2017 15:37:42 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0613	.0113	.0654	-.0004	-.0267	-.0069	.0190
Stddev	.0002	.0066	.0009	.0034	.0067	.0052	.0004
%RSD	.4021	58.70	1.415	851.5	25.25	75.57	2.155
#1	.0614	.0059	.0664	-.0029	-.0305	-.0081	.0187
#2	.0611	.0093	.0650	-.0019	-.0189	-.0115	.0189
#3	.0616	.0187	.0647	.0035	-.0308	-.0012	.0195
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8087.2	2267.0
Stddev	107.4	52.8
%RSD	1.3285	2.3287
#1	8203.9	2301.9
#2	8065.4	2206.3
#3	7992.4	2292.8

```
Sample Name: 280-102094-A-17-A      Acquired: 10/18/2017 15:42:16      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem           Ag3280     Al3961     As1890     B_2496     Ba4554     Be3130     Bi2230     Ca1840     Cd2288
Units             ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg             .0016      7.074     -.0006     -.0004      .0098     -.0000     -.0021    F 111.2      .0002
Stddev          .0013       .056      .0022      .0042      .0005      .0001      .0025        1.5      .0003
%RSD            80.42      .7976      346.8      1101.      4.712      814.9      117.7      1.384      173.0

#1              .0024      7.064      .0005     -.0051      .0095      .0001     -.0041      110.1     -.0002
#2              .0022      7.023     -.0031      .0014      .0103      .0001     -.0029      112.9      .0003
#3              .0001      7.134      .0008      .0026      .0095     -.0002      .0007      110.4      .0004

Check ?      Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Fail   Chk Pass
High Limit                                                                                  100.0
Low Limit                                                                                  -500.0

Elem           Co2286     Cr2055     Cu2178     Fe2599     K_7664     Li6707     Mg2798     Mn2576     Mo2020
Units             ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg             .0007      .0011      .0040      .2545     -.0605      .0262      2.480      .0119     -.0003
Stddev          .0005      .0001      .0034      .0015      .1452      .0020       .018      .0007      .0004
%RSD            71.80      8.099      85.81      .6071      240.1      7.817      .7379      5.992      120.6

#1              .0010      .0011      .0053      .2545     -.2281      .0279      2.485      .0126     -.0005
#2              .0001      .0010      .0066      .2560      .0258      .0239      2.495      .0121     -.0006
#3              .0011      .0012      .0001      .2529      .0209      .0266      2.459      .0112      .0001

Check ?      Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass
High Limit
Low Limit

Elem           Na5895     Ni2216     P_1774     Pb2203     S_1820     Sb2068     Se1960     Si2516     Sn1899
Units             ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg             .3107      .0017      .0915      .0000      .9888     -.0031     -.0014      .0765      .0121
Stddev          .0517      .0003      .0028      .0001      .0175      .0024      .0031      .0215      .0008
%RSD            16.64      16.84      3.042      312.4      1.774      79.10      217.9      28.16      6.291

#1              .3288      .0019      .0928     -.0000      .9715     -.0005     -.0026      .0536      .0112
#2              .2524      .0014      .0934     -.0001      1.007     -.0054      .0021      .0796      .0126
#3              .3509      .0016      .0883      .0002      .9882     -.0033     -.0038      .0964      .0125

Check ?      Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass
High Limit
Low Limit
```

```
Sample Name: 280-102094-A-17-A      Acquired: 10/18/2017 15:42:16      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:            Custom ID2:            Custom ID3:
Comment:

Elem             Sr4077     Th2832     Ti3349     Tl1908     U_3670     V_2908     Zn2138
Units               ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg               .0586      .0037      .0672     -.0017     -.0091     -.0067      .0059
Stddev            .0003      .0049      .0036      .0007      .0147      .0011      .0002
%RSD              .4635      133.8      5.406      39.88      161.5      17.13      3.727

#1                .0584      .0020      .0709     -.0025      .0065     -.0054      .0058
#2                .0589      .0092      .0637     -.0011     -.0227     -.0072      .0062
#3                .0586     -.0002      .0669     -.0015     -.0111     -.0075      .0058

Check ?        Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass
High Limit
Low Limit

Int. Std.        Y_3600     Y_3710
Units             Cts/S      Cts/S
Avg              7719.7     2093.9
Stddev             53.5       35.7
%RSD             .69364     1.7063

#1               7698.5     2084.6
#2               7680.0     2133.4
#3               7780.6     2063.8
```

```
Sample Name: MB 160-331797/1-A      Acquired: 10/18/2017 15:46:49      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin         Custom ID1:          Custom ID2:          Custom ID3:
Comment: 331797

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0009     .0191     .0002    -.0120    -.0001    -.0001    -.0029     .2175     .0002
Stddev         .0018     .0282     .0009     .0037     .0004     .0002     .0044     .0156     .0004
%RSD           205.0     147.2     424.5     30.87     760.0     376.4     151.0     7.174     205.2

#1             .0020     .0387     .0012    -.0077    -.0000    -.0001    -.0028     .2041    -.0002
#2            -.0012    -.0132    -.0007    -.0140     .0004     .0002    -.0073     .2346     .0005
#3             .0019     .0319     .0001    -.0142    -.0005    -.0002     .0014     .2136     .0003

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0005     .0004     .0018     .0128    -.1828    -.0012    -.0296     .0016    -.0003
Stddev         .0002     .0002     .0016     .0027     .0483     .0050     .0508     .0004     .0004
%RSD           49.60     54.82     87.11     21.30     26.41     435.5     171.7     26.95     140.4

#1             .0004     .0002     .0036     .0129    -.1705    -.0010     .0074     .0011    -.0005
#2             .0007     .0003     .0005     .0155    -.2360    -.0063    -.0086     .0018    -.0004
#3             .0002     .0006     .0015     .0101    -.1418     .0038    -.0875     .0019     .0001

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg           -.0962     .0006     .0152    -.0010     .0105    -.0010     .0022    -1.856     .0153
Stddev         .0719     .0004     .0009     .0012     .0025     .0009     .0018      .025     .0005
%RSD           74.76     64.46     5.872     118.6     24.07     90.16     82.35     1.323     3.062

#1            -.1387     .0003     .0157    -.0015     .0077    -.0005     .0003    -1.863     .0148
#2            -.1368     .0005     .0142    -.0020     .0125    -.0005     .0040    -1.876     .0158
#3            -.0132     .0011     .0158     .0004     .0113    -.0020     .0023    -1.829     .0153

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: MB 160-331797/1-A      Acquired: 10/18/2017 15:46:49      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment: 331797

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0001     .0054     .0003    -.0012     .0101    -.0060     .0008
Stddev         .0001     .0078     .0006     .0017     .0208     .0075     .0001
%RSD           92.32     144.9     200.3     150.1     205.3     126.0     10.64

#1             .0001     .0026     .0008    -.0016    -.0101    -.0036     .0007
#2             .0001     .0142     .0004    -.0026     .0090    -.0143     .0008
#3            -.0000    -.0006    -.0003     .0007     .0315     .0001     .0007

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           7870.0    2150.1
Stddev          94.4     101.8
%RSD          1.1998    4.7368

#1            7978.8    2216.8
#2            7808.9    2200.6
#3            7822.4    2032.9
```

```
Sample Name: LCS 160-331797/2-A      Acquired: 10/18/2017 15:51:25      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .1960     10.28     .9715     .1830     1.015     .1003     .9696     9.847     .9203
Stddev         .0005       .03     .0502     .0010      .001     .0001     .0476      .428     .0412
%RSD           .2556     .2957     5.167     .5497     .1011     .1196     4.913     4.347     4.475

#1             .1956     10.30     .9135     .1842     1.014     .1002     .9146     9.356     .8730
#2             .1965     10.25     .9999     .1827     1.016     .1004     .9953     10.04     .9399
#3             .1958     10.31     1.001     .1822     1.016     .1003     .9987     10.14     .9480

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .9619     .9763     1.002     10.12     9.322     .0950     10.46     1.032     .4894
Stddev         .0434     .0424      .042       .02      .132     .0019       .01      .002     .0223
%RSD           4.513     4.348     4.220     .1724     1.414     2.001     .0496     .2117     4.547

#1             .9120     .9276     .9546     10.11     9.266     .0971     10.45     1.031     .4640
#2             .9824     .9956     1.015     10.11     9.227     .0935     10.46     1.034     .4991
#3             .9912     1.006     1.036     10.14     9.472     .0943     10.46     1.030     .5052

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            9.802     .9653     1.024     1.017     9.265     .4841     .4855    -.2770     1.005
Stddev          .015     .0418      .044      .045      .416     .0218     .0223     .0214      .045
%RSD           .1509     4.331     4.266     4.463     4.491     4.494     4.595     7.729     4.497

#1             9.811     .9172     .9738     .9648     8.786     .4593     .4602    -.2702     .9532
#2             9.785     .9860     1.043     1.041     9.473     .4927     .4936    -.3010     1.025
#3             9.810     .9927     1.055     1.046     9.536     .5002     .5026    -.2598     1.036

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: LCS 160-331797/2-A     Acquired: 10/18/2017 15:51:25     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin     Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            1.028     1.043     1.029     .2163     .9435     1.028     .9313
Stddev          .002      .005      .002     .0103     .0206      .001     .0413
%RSD           .1626     .5083     .1853     4.750     2.187     .0688     4.440

#1             1.027     1.037     1.027     .2045     .9602     1.027     .8840
#2             1.027     1.046     1.029     .2216     .9499     1.029     .9499
#3             1.030     1.046     1.031     .2228     .9204     1.028     .9601

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           7997.0    2376.5
Stddev         326.8      26.2
%RSD          4.0858    1.1030

#1            8372.9    2389.5
#2            7837.2    2393.6
#3            7780.9    2346.3
```

```
Sample Name: 160-24925-E-3-A@5      Acquired: 10/18/2017 15:55:39      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0008     24.57     .0111    -.0233     .3711     .0007    -.0062     12.98     .0001
Stddev         .0012       .18     .0019     .0111     .0025     .0002     .0022       .38     .0001
%RSD           148.5     .7487     17.51     47.52     .6788     22.56     34.68     2.907     80.49

#1            -.0005     24.45     .0132    -.0120     .3712     .0006    -.0085     13.38     .0000
#2             .0012     24.48     .0093    -.0238     .3686     .0009    -.0059     12.92     .0003
#3             .0017     24.78     .0107    -.0342     .3736     .0006    -.0043     12.64     .0001

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0201     .0277     .0221     42.37     4.111     .0298     12.05     1.636    -.0001
Stddev         .0010     .0008     .0019       .18      .134     .0018       .06      .006     .0003
%RSD           5.091     2.788     8.407     .4148     3.260     6.025     .5337     .3696     317.5

#1             .0212     .0284     .0242     42.45     4.015     .0289     12.00     1.634    -.0002
#2             .0199     .0278     .0208     42.17     4.054     .0319     12.01     1.630    -.0003
#3             .0191     .0269     .0212     42.50     4.264     .0286     12.12     1.642     .0002

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            1.297     .0234     1.835     .0058     .0570    -.0012    -.0014    -1.611     .0026
Stddev          .006     .0012      .068     .0012     .0036     .0015     .0037      .017     .0012
%RSD           .4491     5.277     3.696     19.86     6.338     127.2     262.9     1.025     48.49

#1             1.303     .0247     1.908     .0065     .0612     .0006    -.0053    -1.630     .0040
#2             1.294     .0233     1.824     .0066     .0545    -.0022    -.0012    -1.603     .0019
#3             1.292     .0223     1.774     .0045     .0554    -.0020     .0022    -1.599     .0018

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 160-24925-E-3-A@5      Acquired: 10/18/2017 15:55:39      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem           Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .1487    -.0288     2.590    -.0003     .0400     .1211     .1008
Stddev          .0012     .0020      .014     .0026     .0057     .0023     .0032
%RSD            .8019     6.983     .5288     779.5     14.16     1.928     3.190

#1              .1480    -.0276     2.584     .0026     .0338     .1222     .1042
#2              .1481    -.0277     2.580    -.0015     .0448     .1227     .1002
#3              .1501    -.0311     2.606    -.0021     .0414     .1184     .0979

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600    Y_3710
Units           Cts/S     Cts/S
Avg            8788.7    2361.5
Stddev           29.1      30.6
%RSD           .33060    1.2947

#1             8757.7    2373.8
#2             8793.3    2326.7
#3             8815.2    2384.0
```

Sample Name: 160-24925-E-4-A@ Acquired: 10/18/2017 16:00:07 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	19.61	.0078	-.0208	.1640	.0005	-.0048	6.500	.0000
Stddev	.0014	.05	.0006	.0068	.0005	.0001	.0063	.090	.0001
%RSD	93.84	.2477	7.044	32.77	.2969	23.82	130.1	1.379	373.6
#1	-.0000	19.60	.0072	-.0259	.1639	.0004	-.0097	6.430	.0002
#2	.0028	19.67	.0080	-.0234	.1635	.0006	-.0070	6.467	-.0001
#3	.0017	19.57	.0083	-.0131	.1645	.0005	.0023	6.601	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0170	.0243	.0188	29.48	2.591	.0207	9.262	.5077	-.0007
Stddev	.0003	.0006	.0010	.08	.075	.0045	.039	.0011	.0004
%RSD	1.715	2.637	5.224	.2706	2.913	21.89	.4255	.2158	53.81
#1	.0167	.0238	.0177	29.48	2.514	.0169	9.232	.5072	-.0010
#2	.0171	.0241	.0194	29.57	2.664	.0257	9.306	.5089	-.0007
#3	.0172	.0250	.0193	29.41	2.596	.0194	9.246	.5069	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6173	.0242	1.152	.0041	.0236	-.0024	.0007	-1.613	.0027
Stddev	.0122	.0006	.019	.0011	.0057	.0014	.0012	.017	.0004
%RSD	1.975	2.375	1.651	27.93	24.32	58.16	174.8	1.041	15.72
#1	.6280	.0236	1.140	.0032	.0265	-.0014	.0005	-1.633	.0032
#2	.6040	.0244	1.143	.0054	.0274	-.0019	.0020	-1.601	.0027
#3	.6199	.0247	1.174	.0037	.0170	-.0041	-.0004	-1.607	.0023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24925-E-4-A@      Acquired: 10/18/2017 16:00:07      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:


Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0741    -.0082     1.651    -.0010     .0115     .0739     .0759
Stddev         .0004     .0085      .006     .0002     .0229     .0022     .0010
%RSD           .5783     104.0     .3558     21.41     198.6     3.014     1.338

#1             .0741    -.0103     1.646    -.0008     .0340     .0764     .0750
#2             .0745     .0012     1.658    -.0010    -.0117     .0721     .0758
#3             .0736    -.0155     1.650    -.0013     .0122     .0732     .0770

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8522.9    2307.6
Stddev          43.9      22.2
%RSD          .51488    .96249

#1            8572.1    2329.9
#2            8487.8    2307.4
#3            8508.9    2285.5
```

```
Sample Name: 160-24925-E-5-A@      Acquired: 10/18/2017 16:04:37      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin         Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem           Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .0010     18.34     .0111    -.0268     .2680     .0004    -.0012     11.39     .0005
Stddev          .0008       .06     .0014     .0030     .0001     .0001     .0017       .12     .0002
%RSD            80.52     .3330     13.08     11.21     .0472     23.84     147.1     1.037     38.20

#1              .0004     18.40     .0115    -.0299     .2679     .0003    -.0024     11.38     .0003
#2              .0008     18.28     .0094    -.0239     .2681     .0005    -.0019     11.52     .0007
#3              .0019     18.35     .0122    -.0267     .2680     .0005     .0008     11.29     .0004

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem           Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .0200     .0737     .0817     59.75     3.470     .0216     11.41     1.003     .0017
Stddev          .0008     .0007     .0034       .19      .060     .0006       .13      .002     .0006
%RSD            4.132     .9662     4.140     .3130     1.722     2.708     1.117     .2397     37.29

#1              .0196     .0735     .0778     59.77     3.523     .0210     11.31     1.003     .0019
#2              .0210     .0745     .0834     59.55     3.405     .0217     11.37     1.001     .0010
#3              .0194     .0731     .0838     59.92     3.481     .0221     11.56     1.005     .0021

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem           Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .4005     .0609     1.225     .5859     .2801     .0037    -.0050    -1.658     .0119
Stddev          .0718     .0006      .017     .0058     .0063     .0025     .0054      .015     .0002
%RSD            17.93     1.023     1.354     .9947     2.261     68.91     106.3     .8934     2.050

#1              .3700     .0612     1.218     .5837     .2733     .0033    -.0107    -1.647     .0116
#2              .3490     .0613     1.244     .5925     .2810     .0013    -.0045    -1.675     .0120
#3              .4825     .0602     1.213     .5814     .2859     .0064     .0000    -1.652     .0120

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 160-24925-E-5-A@      Acquired: 10/18/2017 16:04:37      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .1242     .0096     1.223    -.0005    -.0005     .0734     .2353
Stddev         .0006     .0089      .004     .0022     .0352     .0043     .0030
%RSD           .5147     92.52     .3536     457.5     6840.     5.850     1.272

#1             .1250     .0030     1.225     .0015    -.0243     .0741     .2349
#2             .1238     .0061     1.218    -.0028     .0399     .0774     .2384
#3             .1240     .0197     1.226    -.0001    -.0172     .0688     .2325

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8350.0    2317.9
Stddev          47.5      92.6
%RSD          .56827    3.9958

#1            8296.0    2392.3
#2            8385.1    2347.3
#3            8368.8    2214.2
```

```
Sample Name: 160-24925-E-6-A@      Acquired: 10/18/2017 16:09:05      Type: Unk
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin         Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem           Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .0005     15.84     .0026    -.0079     .1545     .0004    -.0019     16.62     .0000
Stddev          .0007       .06     .0016     .0085     .0010     .0001     .0031       .36     .0001
%RSD            141.2     .3731     63.04     107.6     .6674     30.52     163.8     2.159     402.7

#1             -.0003     15.79     .0043    -.0127     .1533     .0005    -.0037     16.23     .0001
#2              .0006     15.82     .0011    -.0131     .1554     .0005     .0017     16.93     .0001
#3              .0012     15.91     .0023     .0019     .1547     .0003    -.0037     16.71    -.0001

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem           Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .0137     .0244     .0117     36.71     4.962     .0178     16.13     .6412    -.0009
Stddev          .0005     .0004     .0058       .11      .057     .0031       .03     .0051     .0001
%RSD            3.323     1.758     49.10     .2942     1.158     17.59     .1978     .7920     9.431

#1              .0136     .0239     .0134     36.59     4.994     .0212     16.12     .6355    -.0008
#2              .0143     .0245     .0164     36.80     4.896     .0170     16.10     .6452    -.0009
#3              .0134     .0248     .0053     36.73     4.996     .0151     16.16     .6430    -.0010

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem           Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             1.217     .0196     1.230     .0097     .0783     .0007    -.0022    -1.695     .0025
Stddev           .007     .0007      .033     .0016     .0025     .0008     .0034      .001     .0012
%RSD            .6197     3.557     2.692     16.73     3.216     102.8     153.0     .0730     46.47

#1              1.223     .0188     1.193     .0097     .0769     .0013    -.0004    -1.694     .0017
#2              1.209     .0201     1.256     .0081     .0812    -.0001    -.0001    -1.696     .0038
#3              1.220     .0198     1.242     .0114     .0769     .0011    -.0062    -1.696     .0019

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: 160-24925-E-6-A@ Acquired: 10/18/2017 16:09:05 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2720	-.0060	1.487	.0014	.0289	.0822	.0716
Stddev	.0000	.0105	.005	.0008	.0188	.0107	.0017
%RSD	.0015	173.6	.3377	58.05	65.10	13.04	2.337
#1	.2720	-.0063	1.481	.0005	.0506	.0727	.0698
#2	.2720	-.0163	1.491	.0019	.0184	.0938	.0732
#3	.2720	.0046	1.489	.0017	.0176	.0801	.0717
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8580.7	2380.7
Stddev	33.7	15.4
%RSD	.39248	.64629
#1	8603.9	2370.6
#2	8596.0	2398.4
#3	8542.0	2373.2

Sample Name: CCVL Acquired: 10/18/2017 16:13:35 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0097	.2278	.0101	.0891	.0523	.0051	.2023	1.026
Stddev	.0005	.0394	.0009	.0044	.0003	.0003	.0031	.004
%RSD	4.995	17.28	9.319	4.915	.5379	4.964	1.555	.3848
#1	.0103	.2399	.0092	.0909	.0522	.0048	.2044	1.030
#2	.0095	.2597	.0101	.0924	.0521	.0052	.2039	1.025
#3	.0094	.1838	.0111	.0842	.0526	.0053	.1987	1.023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0047	.0512	.0102	.0252	.1103	4.849	.0530	1.088
Stddev	.0002	.0003	.0004	.0029	.0056	.084	.0003	.030
%RSD	3.652	.5787	3.670	11.70	5.103	1.736	.5702	2.718
#1	.0046	.0509	.0107	.0222	.1073	4.940	.0534	1.063
#2	.0049	.0512	.0101	.0253	.1068	4.774	.0530	1.120
#3	.0047	.0515	.0100	.0281	.1168	4.832	.0527	1.081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0168	.0401	.9422	.0410	.2586	.0115	4.703	.0088
Stddev	.0009	.0006	.0355	.0002	.0011	.0008	.025	.0027
%RSD	5.502	1.483	3.770	.5477	.4316	6.744	.5255	30.83
#1	.0170	.0394	.9793	.0412	.2593	.0107	4.731	.0117
#2	.0157	.0404	.9388	.0409	.2573	.0122	4.694	.0082
#3	.0176	.0405	.9085	.0408	.2591	.0116	4.685	.0064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVL Acquired: 10/18/2017 16:13:35 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0135	F -1.343	.1039	.0057	.1964	.0222	.0196	.4936
Stddev	.0040	.016	.0016	.0003	.0040	.0010	.0011	.0283
%RSD	29.70	1.162	1.503	5.631	2.058	4.355	5.662	5.727
#1	.0103	-1.327	.1057	.0057	.1918	.0222	.0200	.4621
#2	.0180	-1.346	.1033	.0059	.1977	.0212	.0183	.5168
#3	.0122	-1.358	.1028	.0053	.1996	.0231	.0204	.5020
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value		.4000						
Range		-30.00%						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	.0470	.0191
Stddev	.0023	.0002
%RSD	4.798	.8139
#1	.0483	.0189
#2	.0483	.0191
#3	.0444	.0193
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7697.2	2031.5
Stddev	7.2	12.7
%RSD	.09343	.62319
#1	7692.1	2034.0
#2	7705.4	2017.8
#3	7694.0	2042.7

Sample Name: CCV Acquired: 10/18/2017 16:18:07 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9644	51.86	5.182	.9811	5.181	5.170	5.043	50.92	4.926
Stddev	.0048	.27	.002	.0083	.022	.023	.009	.03	.004
%RSD	.4926	.5283	.0465	.8486	.4181	.4531	.1851	.0626	.0852
#1	.9688	51.84	5.180	.9774	5.190	5.178	5.048	50.94	4.923
#2	.9594	52.14	5.185	.9906	5.197	5.188	5.032	50.94	4.931
#3	.9650	51.60	5.182	.9753	5.157	5.143	5.049	50.89	4.924
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.976	5.112	5.201	50.66	50.12	5.019	53.05	5.150	1.041
Stddev	.008	.007	.008	.11	.20	.012	.25	.024	.002
%RSD	.1570	.1394	.1506	.2195	.3914	.2442	.4776	.4630	.1829
#1	4.967	5.119	5.197	50.69	49.99	5.026	53.15	5.165	1.040
#2	4.978	5.112	5.210	50.75	50.35	5.027	53.24	5.163	1.043
#3	4.982	5.105	5.197	50.54	50.03	5.005	52.76	5.123	1.039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	51.15	4.960	53.72	5.278	50.47	1.047	1.020	5.228	5.212
Stddev	.17	.009	.07	.011	.08	.005	.005	.051	.003
%RSD	.3309	.1738	.1225	.2016	.1617	.4993	.4847	.9814	.0492
#1	51.22	4.953	53.75	5.283	50.38	1.053	1.016	5.223	5.213
#2	51.28	4.970	53.75	5.285	50.55	1.045	1.026	5.282	5.214
#3	50.96	4.957	53.64	5.265	50.49	1.043	1.020	5.179	5.209
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

```
Sample Name: CCV       Acquired: 10/18/2017 16:18:07       Type: QC
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin         Custom ID1:            Custom ID2:            Custom ID3:
Comment:

Elem           Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             5.201     5.387     5.225     1.081     4.636     5.224     4.971
Stddev           .025      .051      .023      .004      .015      .025      .004
%RSD            .4755     .9387     .4415     .3721     .3134     .4858     .0867

#1              5.199     5.406     5.231     1.084     4.646     5.234     4.966
#2              5.227     5.330     5.245     1.082     4.619     5.243     4.973
#3              5.177     5.425     5.200     1.076     4.641     5.195     4.973

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass      None  Chk Pass  Chk Pass
Value
Range

Int. Std.      Y_3600    Y_3710
Units           Cts/S     Cts/S
Avg            7127.0    2051.1
Stddev           45.1      14.1
%RSD           .63338    .68858

#1             7075.3    2059.5
#2             7146.5    2059.0
#3             7159.1    2034.8
```

Sample Name: CCB   Acquired: 10/18/2017 16:22:15   Type: QC
Method: _2016(v387)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	-.0137	.0013	-.0052	-.0004	-.0000	-.0036	.0006
Stddev	.0006	.0341	.0008	.0032	.0005	.0001	.0011	.0003
%RSD	46.46	248.8	57.33	62.18	129.7	438.2	30.70	58.05
#1	.0016	-.0076	.0006	-.0025	-.0006	-.0001	-.0044	.0010
#2	.0018	.0169	.0022	-.0043	-.0007	.0001	-.0039	.0005
#3	.0006	-.0505	.0012	-.0088	.0002	-.0001	-.0023	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0004	-.0000	-.0025	.0085	.0074	.0051	-.0188
Stddev	.0003	.0004	.0004	.0017	.0031	.1069	.0011	.0167
%RSD	230.6	85.13	1406.	68.65	36.51	1449.	22.23	88.99
#1	.0005	.0008	.0003	-.0006	.0117	.0740	.0063	-.0378
#2	.0000	.0003	.0001	-.0040	.0084	.0641	.0046	-.0117
#3	-.0001	.0002	-.0005	-.0029	.0055	-.1159	.0043	-.0068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0006	-.0981	.0000	.0008	.0004	.0055	-.0027
Stddev	.0008	.0004	.0214	.0002	.0007	.0023	.0014	.0035
%RSD	317.9	64.10	21.77	626.4	90.13	594.9	25.86	131.6
#1	.0012	-.0007	-.0775	.0003	.0007	.0030	.0067	-.0064
#2	-.0001	-.0009	-.1202	-.0002	.0001	-.0007	.0039	-.0021
#3	-.0004	-.0002	-.0968	.0000	.0016	-.0011	.0058	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

```
Sample Name: CCB      Acquired: 10/18/2017 16:22:15      Type: QC
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin      Custom ID1:      Custom ID2:      Custom ID3:
Comment:

Elem          Se1960     Si2516     Sn1899     Sr4077     Th2832     Ti3349     Tl1908     U_3670
Units            ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg           -.0020   F -1.891      .0010      .0003     -.0004      .0019     -.0012      .0066
Stddev         .0023       .014      .0009      .0002      .0023      .0008      .0014      .0192
%RSD           112.4      .7255      93.53      94.03      579.7      40.72      120.1      293.3

#1            -.0040     -1.881      .0010      .0004      .0017      .0028     -.0005      .0014
#2            -.0024     -1.887      .0019      .0004     -.0002      .0015     -.0028     -.0096
#3             .0004     -1.907      .0000     -.0000     -.0027      .0014     -.0002      .0278

Check ?     Chk Pass   Chk Fail   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass       None
High Limit                .4000
Low Limit                -.4000

Elem          V_2908     Zn2138
Units            ppm        ppm
Avg           -.0101     -.0000
Stddev         .0032      .0000
%RSD           31.45      80.73

#1            -.0064     -.0001
#2            -.0119     -.0000
#3            -.0120     -.0001

Check ?     Chk Pass   Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600     Y_3710
Units          Cts/S      Cts/S
Avg           7994.8     2041.8
Stddev         235.0       36.7
%RSD          2.9391     1.7981

#1            7863.1     2019.3
#2            7855.2     2022.0
#3            8266.1     2084.2
```

```
Sample Name: 160-24925-E-7-A@      Acquired: 10/18/2017 16:26:50      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0009     16.55     .0037    -.0015     .1533     .0003     .0008     16.89    -.0000
Stddev         .0007       .11     .0007     .0111     .0011     .0001     .0011       .21     .0002
%RSD           80.81     .6460     18.11     729.3     .7424     32.50     137.6     1.259     2927.

#1             .0001     16.64     .0029    -.0140     .1540     .0003     .0014     17.10    -.0001
#2             .0010     16.57     .0040     .0071     .1539     .0002    -.0005     16.90    -.0002
#3             .0015     16.43     .0041     .0024     .1520     .0004     .0015     16.67     .0002

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0146     .0234     .0125     37.08     5.734     .0181     16.10     .7186    -.0001
Stddev         .0004     .0002     .0023       .18      .054     .0042       .12     .0029     .0006
%RSD           2.856     .7693     18.35     .4920     .9467     22.96     .7757     .4035     545.4

#1             .0148     .0236     .0149     37.24     5.776     .0228     16.21     .7214     .0005
#2             .0141     .0234     .0123     37.11     5.673     .0167     16.12     .7190    -.0007
#3             .0148     .0232     .0104     36.88     5.754     .0149     15.97     .7156    -.0002

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            1.372     .0197     1.521     .0046     .0704     .0012    -.0003    -1.686     .0022
Stddev          .033     .0005      .029     .0006     .0007     .0017     .0033      .010     .0003
%RSD           2.366     2.439     1.917     13.70     1.030     141.5     946.5     .5775     13.22

#1             1.389     .0203     1.543     .0042     .0711     .0022    -.0020    -1.687     .0021
#2             1.393     .0194     1.533     .0043     .0704     .0020     .0034    -1.676     .0019
#3             1.335     .0195     1.488     .0053     .0697    -.0007    -.0025    -1.695     .0025

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: 160-24925-E-7-A@ Acquired: 10/18/2017 16:26:50 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2903	-.0219	1.532	-.0021	.0246	.0886	.0666
Stddev	.0015	.0025	.006	.0006	.0412	.0047	.0012
%RSD	.5000	11.46	.4198	30.28	167.4	5.300	1.817
#1	.2917	-.0217	1.537	-.0014	.0033	.0917	.0675
#2	.2905	-.0246	1.535	-.0022	-.0016	.0832	.0671
#3	.2888	-.0195	1.525	-.0027	.0721	.0909	.0652
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8534.7	2320.0
Stddev	66.1	16.2
%RSD	.77474	.69964
#1	8462.4	2302.8
#2	8592.1	2322.1
#3	8549.7	2335.1

Sample Name: 160-24925-E-8-A@5 Acquired: 10/18/2017 16:31:19 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	17.09	.0116	.0011	.3162	.0003	-.0040	F 108.1	.0002
Stddev	.0014	.06	.0015	.0107	.0012	.0001	.0008	2.1	.0002
%RSD	274.3	.3787	12.54	1005.	.3770	35.88	19.33	1.916	98.57
#1	-.0003	17.15	.0124	-.0052	.3169	.0002	-.0032	110.2	.0004
#2	-.0003	17.10	.0124	-.0050	.3168	.0005	-.0047	106.0	.0001
#3	.0021	17.02	.0099	.0134	.3148	.0003	-.0039	108.1	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit								100.0	
Low Limit								-500.0	

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0139	.0313	.0244	31.96	2.067	.0454	44.78	.4634	-.0007
Stddev	.0003	.0007	.0027	.14	.089	.0020	.11	.0013	.0003
%RSD	2.353	2.366	10.96	.4383	4.288	4.349	.2374	.2857	41.76
#1	.0142	.0321	.0272	32.08	2.146	.0461	44.90	.4643	-.0010
#2	.0135	.0306	.0219	31.98	1.971	.0432	44.76	.4619	-.0004
#3	.0139	.0313	.0241	31.81	2.084	.0470	44.69	.4641	-.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.370	.0223	1.640	.0343	.1444	-.0005	.0007	-1.621	.0016
Stddev	.031	.0011	.040	.0015	.0046	.0009	.0041	.016	.0007
%RSD	1.292	4.785	2.418	4.442	3.164	185.5	631.2	.9691	40.89
#1	2.352	.0235	1.680	.0352	.1491	.0004	.0003	-1.609	.0016
#2	2.352	.0213	1.601	.0326	.1399	-.0014	.0049	-1.639	.0010
#3	2.405	.0222	1.640	.0352	.1443	-.0005	-.0033	-1.614	.0023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24925-E-8-A@5      Acquired: 10/18/2017 16:31:19      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem            Sr4077     Th2832     Ti3349     Tl1908     U_3670     V_2908     Zn2138
Units              ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg              1.473      .0016      1.524     -.0007     -.0212      .0988      .0682
Stddev            .005      .0031       .002      .0020      .0293      .0046      .0011
%RSD             .3606      189.0      .1557      274.8      138.0      4.693      1.620

#1               1.478      .0027      1.526     -.0002     -.0195      .0963      .0693
#2               1.474      .0040      1.523      .0009      .0072      .0960      .0671
#3               1.468     -.0018      1.522     -.0029     -.0514      .1042      .0682

Check ?       Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass
High Limit
Low Limit

Int. Std.       Y_3600     Y_3710
Units            Cts/S      Cts/S
Avg             8288.6     2201.6
Stddev           105.7       15.4
%RSD            1.2755     .69927

#1              8184.2     2191.0
#2              8395.6     2219.2
#3              8286.0     2194.5
```

Sample Name: 160-24925-E-9-A@5 Acquired: 10/18/2017 16:35:47 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	15.88	.0108	-.0295	.1740	.0003	-.0005	17.92	-.0000
Stddev	.0005	.07	.0031	.0028	.0007	.0001	.0009	.61	.0002
%RSD	44.96	.4628	28.67	9.600	.4158	30.54	189.5	3.386	1682.
#1	.0007	15.94	.0083	-.0299	.1733	.0002	-.0013	17.33	-.0002
#2	.0011	15.80	.0099	-.0321	.1747	.0004	-.0007	17.87	-.0000
#3	.0017	15.89	.0142	-.0265	.1738	.0004	.0005	18.55	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0191	.0315	.0120	49.20	2.853	.0167	7.881	.8128	-.0007
Stddev	.0006	.0012	.0011	.06	.112	.0007	.025	.0030	.0006
%RSD	3.188	3.703	9.129	.1118	3.913	3.994	.3201	.3685	96.53
#1	.0186	.0305	.0123	49.16	2.776	.0159	7.898	.8141	.0001
#2	.0189	.0312	.0128	49.18	2.802	.0172	7.852	.8094	-.0011
#3	.0197	.0328	.0107	49.26	2.981	.0170	7.893	.8150	-.0010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9525	.0212	2.453	.0035	.0516	.0023	.0000	-1.661	.0033
Stddev	.0134	.0004	.091	.0001	.0018	.0031	.0043	.019	.0001
%RSD	1.402	1.909	3.703	3.473	3.509	133.3	8813.	1.135	4.083
#1	.9373	.0209	2.362	.0036	.0500	.0051	-.0010	-1.678	.0033
#2	.9623	.0211	2.453	.0034	.0512	-.0010	-.0037	-1.665	.0034
#3	.9580	.0217	2.544	.0035	.0535	.0030	.0048	-1.641	.0031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24925-E-9-A@5 Acquired: 10/18/2017 16:35:47 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1299	.0188	1.999	.0002	.0147	.1363	.0694
Stddev	.0005	.0023	.003	.0018	.0148	.0060	.0026
%RSD	.3967	12.02	.1675	787.1	100.5	4.381	3.708
#1	.1296	.0186	1.999	.0020	.0267	.1397	.0668
#2	.1297	.0211	1.996	-.0017	.0193	.1294	.0695
#3	.1305	.0166	2.003	.0003	-.0018	.1397	.0719
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8224.7	2361.2
Stddev	261.7	21.6
%RSD	3.1814	.91384
#1	8431.7	2373.5
#2	8311.7	2373.8
#3	7930.6	2336.3

Sample Name: 160-24925-E-10-A@5 Acquired: 10/18/2017 16:40:16 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	9.540	.0067	-.0210	.0888	.0002	-.0031	5.235	-.0001
Stddev	.0001	.049	.0022	.0061	.0003	.0001	.0016	.201	.0003
%RSD	25.34	.5176	32.71	29.22	.3450	63.83	52.13	3.846	354.5
#1	.0006	9.553	.0054	-.0181	.0887	.0001	-.0045	5.110	-.0003
#2	.0004	9.485	.0092	-.0168	.0892	.0001	-.0013	5.128	-.0003
#3	.0005	9.581	.0054	-.0280	.0886	.0003	-.0034	5.467	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0127	.0205	.0110	32.20	1.325	.0104	5.443	.3525	-.0008
Stddev	.0008	.0009	.0010	.05	.073	.0014	.048	.0008	.0006
%RSD	6.068	4.193	9.288	.1412	5.485	13.60	.8862	.2266	74.25
#1	.0120	.0199	.0099	32.17	1.277	.0091	5.483	.3516	-.0015
#2	.0125	.0202	.0116	32.25	1.290	.0119	5.456	.3526	-.0004
#3	.0135	.0215	.0116	32.17	1.409	.0102	5.389	.3532	-.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4947	.0143	1.227	.0020	.0156	.0018	.0036	-1.676	.0030
Stddev	.0290	.0009	.052	.0009	.0021	.0026	.0028	.013	.0007
%RSD	5.856	6.202	4.235	47.84	13.37	147.5	75.45	.7924	21.84
#1	.4630	.0141	1.197	.0030	.0134	.0048	.0068	-1.665	.0031
#2	.5011	.0134	1.197	.0016	.0175	.0003	.0016	-1.691	.0023
#3	.5199	.0152	1.287	.0013	.0159	.0003	.0025	-1.672	.0036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24925-E-10-A@5      Acquired: 10/18/2017 16:40:16      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0626    -.0150     1.367     .0000     .0234     .0908     .0514
Stddev         .0003     .0101      .002     .0013     .0069     .0051     .0024
%RSD           .5382     67.63     .1514     7486.     29.48     5.568     4.685

#1             .0623    -.0216     1.365     .0003     .0307     .0895     .0500
#2             .0627    -.0033     1.368    -.0014     .0224     .0964     .0500
#3             .0630    -.0200     1.369     .0011     .0170     .0865     .0542

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8129.5    2292.4
Stddev          69.9      24.9
%RSD          .85928    1.0845

#1            8184.6    2314.3
#2            8153.0    2265.3
#3            8050.9    2297.6
```

```
Sample Name: 160-24925-E-11-A@5      Acquired: 10/18/2017 16:44:47      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0005     33.44     .0084    -.0127     .2622     .0010    -.0037     10.12     .0002
Stddev         .0008       .18     .0009     .0049     .0004     .0001     .0005       .40     .0002
%RSD           150.8     .5491     11.14     38.67     .1391     7.962     13.42     3.949     122.7

#1            -.0002     33.57     .0075    -.0079     .2626     .0011    -.0042     9.740    -.0000
#2             .0013     33.52     .0082    -.0177     .2620     .0010    -.0032     10.07     .0004
#3             .0004     33.23     .0094    -.0125     .2619     .0009    -.0037     10.54     .0002

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0262     .0394     .0353     45.43     3.551     .0326     16.26     .7175    -.0007
Stddev         .0013     .0018     .0027       .16      .033     .0016       .04     .0019     .0004
%RSD           5.010     4.579     7.577     .3628     .9329     5.032     .2226     .2650     52.66

#1             .0249     .0376     .0322     45.57     3.589     .0307     16.22     .7194    -.0011
#2             .0264     .0394     .0367     45.46     3.534     .0331     16.28     .7156    -.0003
#3             .0275     .0412     .0369     45.25     3.530     .0339     16.28     .7173    -.0007

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .9294     .0409     1.549     .0100     .0334     .0002     .0010    -1.531     .0038
Stddev         .0049     .0017      .060     .0016     .0011     .0019     .0026      .003     .0009
%RSD           .5284     4.060     3.880     15.97     3.441     827.7     260.0     .1630     24.68

#1             .9351     .0391     1.493     .0104     .0323     .0018    -.0011    -1.529     .0049
#2             .9263     .0412     1.540     .0082     .0332     .0006     .0039    -1.533     .0034
#3             .9269     .0424     1.612     .0113     .0346    -.0018     .0001    -1.533     .0031

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: 160-24925-E-11-A@5 Acquired: 10/18/2017 16:44:47 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1212	-.0263	2.392	-.0010	.0109	.1214	.1146
Stddev	.0011	.0071	.007	.0021	.0177	.0089	.0046
%RSD	.8694	27.07	.2750	210.2	162.6	7.297	4.010
#1	.1220	-.0337	2.398	.0007	.0208	.1282	.1103
#2	.1215	-.0255	2.394	-.0003	.0214	.1246	.1141
#3	.1200	-.0196	2.385	-.0034	-.0095	.1114	.1194
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8293.9	2353.1
Stddev	271.2	19.4
%RSD	3.2698	.82404
#1	8528.1	2368.5
#2	8356.8	2359.5
#3	7996.7	2331.3

Sample Name: 160-24925-E-12-A@5 Acquired: 10/18/2017 16:49:16 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	13.94	.0127	-.0171	.4306	.0003	.0013	17.53	.0013
Stddev	.0004	.06	.0013	.0080	.0021	.0001	.0012	.41	.0005
%RSD	14.01	.4516	9.853	46.44	.4953	30.47	99.48	2.313	39.41
#1	.0028	14.02	.0116	-.0238	.4298	.0002	.0025	17.10	.0018
#2	.0029	13.91	.0141	-.0083	.4331	.0004	-.0000	17.60	.0008
#3	.0022	13.90	.0125	-.0193	.4291	.0004	.0013	17.90	.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0195	.0573	.2169	76.01	4.751	.0143	9.216	1.190	.0028
Stddev	.0004	.0012	.0027	.24	.042	.0029	.032	.007	.0003
%RSD	1.835	2.153	1.266	.3126	.8898	20.34	.3421	.5784	12.34
#1	.0193	.0558	.2138	76.06	4.799	.0114	9.224	1.186	.0025
#2	.0200	.0580	.2190	76.23	4.731	.0172	9.243	1.198	.0028
#3	.0193	.0580	.2180	75.76	4.722	.0142	9.182	1.186	.0031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6307	.0466	1.608	.6924	1.553	.0125	-.0028	-1.662	.0349
Stddev	.0334	.0014	.045	.0177	.035	.0017	.0031	.025	.0005
%RSD	5.301	3.061	2.805	2.550	2.252	13.27	108.3	1.475	1.542
#1	.6623	.0452	1.561	.6729	1.519	.0111	.0000	-1.634	.0343
#2	.5957	.0467	1.611	.6970	1.551	.0143	-.0024	-1.669	.0353
#3	.6340	.0480	1.651	.7073	1.589	.0122	-.0061	-1.682	.0350
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24925-E-12-A@5 Acquired: 10/18/2017 16:49:16 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1946	.0101	1.126	.0013	-.0236	.0777	.8974
Stddev	.0003	.0078	.005	.0018	.0317	.0098	.0213
%RSD	.1530	76.95	.4633	138.1	134.4	12.64	2.375
#1	.1949	.0066	1.122	.0027	.0086	.0751	.8747
#2	.1943	.0190	1.132	.0019	-.0247	.0695	.9005
#3	.1947	.0047	1.123	-.0007	-.0547	.0886	.9170
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7809.8	2188.3
Stddev	140.8	5.2
%RSD	1.8027	.23685
#1	7969.9	2192.0
#2	7754.0	2182.4
#3	7705.4	2190.7

```
Sample Name: 160-24925-E-13-A@5      Acquired: 10/18/2017 16:53:43      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0007     15.46     .0035    -.0098     .1417     .0004    -.0031     14.28    -.0000
Stddev         .0003       .07     .0035     .0064     .0014     .0000     .0030       .12     .0002
%RSD           49.49     .4754     98.97     65.00     .9850     8.747     96.38     .8620     621.9

#1             .0010     15.45     .0045    -.0081     .1408     .0004    -.0041     14.37    -.0000
#2             .0003     15.40    -.0004    -.0045     .1409     .0004    -.0054     14.34    -.0002
#3             .0006     15.54     .0064    -.0168     .1433     .0004     .0003     14.14     .0001

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0138     .0227     .0136     37.36     5.117     .0181     12.45     .6798    -.0006
Stddev         .0006     .0003     .0032       .21      .078     .0036       .10     .0051     .0000
%RSD           4.490     1.197     23.36     .5600     1.519     19.74     .8091     .7542     6.544

#1             .0144     .0230     .0163     37.36     5.028     .0198     12.43     .6792    -.0006
#2             .0139     .0225     .0145     37.16     5.173     .0140     12.36     .6750    -.0006
#3             .0131     .0226     .0101     37.58     5.150     .0206     12.56     .6852    -.0007

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .2656     .0174     .9263     .0191     .0963    -.0003     .0011    -1.734     .0030
Stddev         .0185     .0003     .0080     .0000     .0023     .0010     .0022      .015     .0006
%RSD           6.964     1.595     .8671     .2250     2.398     328.9     210.8     .8532     19.95

#1             .2444     .0177     .9304     .0191     .0944     .0008    -.0012    -1.745     .0024
#2             .2785     .0171     .9314     .0190     .0957    -.0011     .0011    -1.717     .0036
#3             .2739     .0173     .9170     .0191     .0989    -.0007     .0033    -1.739     .0030

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: 160-24925-E-13-A@5 Acquired: 10/18/2017 16:53:43 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1859	-.0055	1.438	.0003	.0288	.0703	.0771
Stddev	.0012	.0086	.009	.0013	.0060	.0063	.0008
%RSD	.6314	157.3	.6550	441.1	20.68	9.011	.9865
#1	.1858	.0006	1.434	-.0012	.0220	.0666	.0774
#2	.1847	-.0017	1.431	.0012	.0329	.0666	.0775
#3	.1871	-.0153	1.449	.0009	.0316	.0776	.0762
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8587.2	2263.7
Stddev	40.7	37.9
%RSD	.47425	1.6727
#1	8541.6	2239.9
#2	8600.4	2243.8
#3	8619.8	2307.3

```
Sample Name: 160-24925-E-13ASD@25      Acquired: 10/18/2017 16:58:12      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin      Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0013     3.201     .0018    -.0148     .0288     .0001    -.0051     3.092     .0000
Stddev         .0008      .012     .0011     .0079     .0006     .0002     .0006      .051     .0004
%RSD           62.17     .3595     59.79     53.16     2.124     236.8     10.99     1.659     5023.

#1             .0007     3.188     .0030    -.0239     .0286     .0003    -.0050     3.035    -.0002
#2             .0010     3.210     .0015    -.0106     .0294    -.0000    -.0046     3.106    -.0002
#3             .0022     3.205     .0009    -.0100     .0282    -.0000    -.0058     3.135     .0004

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0032     .0058     .0025     7.769     .8064    -.0005     2.577     .1416    -.0005
Stddev         .0004     .0001     .0027      .010     .0508     .0031      .031     .0009     .0005
%RSD           12.89     1.685     109.2     .1336     6.301     577.8     1.199     .6112     102.7

#1             .0029     .0057     .0019     7.775     .7988     .0026     2.556     .1406    -.0000
#2             .0031     .0059     .0054     7.757     .7598    -.0036     2.612     .1422    -.0010
#3             .0037     .0058     .0001     7.775     .8605    -.0006     2.562     .1420    -.0004

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg           -.0793     .0041     .1964     .0038     .0219    -.0010    -.0025    -1.862     .0006
Stddev         .0172     .0000     .0038     .0009     .0023     .0032     .0010      .015     .0007
%RSD           21.64     .9880     1.925     24.31     10.72     328.2     40.23     .7864     113.0

#1            -.0610     .0042     .1938     .0038     .0242    -.0041    -.0016    -1.868    -.0001
#2            -.0951     .0041     .1947     .0028     .0195    -.0011    -.0022    -1.873     .0006
#3            -.0818     .0041     .2008     .0047     .0219     .0022    -.0036    -1.846     .0013

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 160-24925-E-13ASD@25      Acquired: 10/18/2017 16:58:12      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0384    -.0126     .2953     .0004     .0250     .0110     .0164
Stddev         .0004     .0032     .0041     .0014     .0138     .0114     .0003
%RSD           .9321     25.45     1.387     366.8     55.27     104.0     1.791

#1             .0386    -.0162     .2909    -.0005     .0090     .0180     .0162
#2             .0385    -.0103     .2991    -.0003     .0324    -.0022     .0163
#3             .0379    -.0112     .2958     .0019     .0334     .0170     .0167

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8349.1    2228.4
Stddev          44.1      29.8
%RSD          .52782    1.3388

#1            8343.7    2197.3
#2            8395.7    2231.2
#3            8308.0    2256.7
```

```
Sample Name: 160-24925-E-13-BMS@5     Acquired: 10/18/2017 17:02:44     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin       Custom ID1:        Custom ID2:        Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0395     28.78     .1945     .0289     .4070     .0210     .1908     19.87     .1844
Stddev         .0010       .12     .0028     .0076     .0010     .0001     .0030       .22     .0022
%RSD           2.566     .4073     1.448     26.15     .2514     .6746     1.586     1.082     1.174

#1             .0402     28.67     .1915     .0367     .4063     .0211     .1900     19.63     .1819
#2             .0384     28.76     .1952     .0216     .4082     .0211     .1941     19.99     .1851
#3             .0400     28.90     .1970     .0284     .4066     .0208     .1882     20.01     .1861

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .2073     .2193     .2086     43.06     8.162     .0423     16.10     .9601     .0938
Stddev         .0025     .0021     .0011       .08      .104     .0056       .07     .0020     .0009
%RSD           1.201     .9455     .5488     .1886     1.278     13.30     .4436     .2096     .9965

#1             .2048     .2169     .2077     42.97     8.197     .0359     16.04     .9597     .0928
#2             .2073     .2206     .2099     43.13     8.045     .0445     16.08     .9623     .0943
#3             .2097     .2204     .2083     43.07     8.244     .0465     16.18     .9584     .0945

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            4.667     .2102     1.087     .2110     1.934     .0559     .0950    -1.273     .1905
Stddev          .038     .0023      .012     .0024      .031     .0037     .0061      .022     .0016
%RSD           .8203     1.109     1.129     1.117     1.584     6.552     6.464     1.704     .8183

#1             4.623     .2075     1.074     .2084     1.899     .0529     .1021    -1.291     .1887
#2             4.693     .2115     1.090     .2114     1.948     .0549     .0907    -1.279     .1912
#3             4.685     .2115     1.098     .2131     1.955     .0600     .0924    -1.249     .1915

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 160-24925-E-13-BMS@5      Acquired: 10/18/2017 17:02:44      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem           Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .4609     .1981     2.500     .0423     .2134     .2917     .2593
Stddev          .0013     .0058      .007     .0008     .0026     .0049     .0034
%RSD            .2891     2.914     .2772     1.861     1.236     1.670     1.318

#1              .4593     .1983     2.492     .0416     .2103     .2871     .2554
#2              .4616     .2038     2.506     .0432     .2148     .2913     .2610
#3              .4617     .1923     2.502     .0421     .2150     .2968     .2616

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600    Y_3710
Units           Cts/S     Cts/S
Avg            8359.3    2291.9
Stddev           27.6      10.5
%RSD           .32990    .46031

#1             8329.5    2302.6
#2             8364.5    2291.5
#3             8384.0    2281.5
```

Sample Name: 160-24925-E-13CMSD@5 Acquired: 10/18/2017 17:07:07 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0383	28.13	.1965	.0289	.4001	.0202	.1932	20.40	.1877
Stddev	.0009	.18	.0077	.0057	.0030	.0001	.0050	.51	.0055
%RSD	2.281	.6531	3.896	19.67	.7497	.5836	2.573	2.487	2.937
#1	.0373	28.17	.1937	.0344	.4020	.0203	.1946	20.49	.1887
#2	.0388	27.92	.2052	.0291	.3967	.0201	.1973	20.86	.1926
#3	.0389	28.28	.1906	.0231	.4017	.0202	.1877	19.85	.1817
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2123	.2255	.2165	42.91	8.141	.0430	15.80	.9307	.0948
Stddev	.0059	.0054	.0029	.31	.059	.0036	.07	.0071	.0022
%RSD	2.774	2.398	1.335	.7157	.7287	8.400	.4712	.7644	2.290
#1	.2129	.2259	.2197	43.11	8.184	.0418	15.88	.9354	.0953
#2	.2178	.2307	.2160	42.55	8.073	.0471	15.73	.9225	.0967
#3	.2061	.2199	.2140	43.05	8.165	.0402	15.81	.9341	.0925
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.626	.2154	1.140	.2266	1.996	.0606	.0968	-1.282	.1940
Stddev	.019	.0059	.029	.0039	.054	.0021	.0031	.019	.0047
%RSD	.4118	2.737	2.573	1.726	2.684	3.438	3.223	1.502	2.417
#1	4.611	.2158	1.141	.2273	1.998	.0599	.0932	-1.269	.1945
#2	4.619	.2211	1.169	.2301	2.049	.0630	.0990	-1.272	.1984
#3	4.647	.2093	1.111	.2224	1.942	.0590	.0982	-1.304	.1891
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24925-E-13CMSD@5 Acquired: 10/18/2017 17:07:07 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4452	.1908	2.480	.0393	.2331	.2836	.2818
Stddev	.0040	.0143	.019	.0008	.0176	.0076	.0075
%RSD	.8878	7.488	.7639	2.090	7.560	2.680	2.664
#1	.4467	.2038	2.494	.0384	.2136	.2879	.2831
#2	.4407	.1930	2.458	.0400	.2477	.2748	.2886
#3	.4482	.1755	2.487	.0396	.2381	.2880	.2737
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8177.6	2241.4
Stddev	173.9	53.0
%RSD	2.1262	2.3656
#1	8100.7	2285.0
#2	8055.5	2182.4
#3	8376.7	2256.7

Sample Name: CCVL Acquired: 10/18/2017 17:11:32 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0106	.2150	.0101	.0890	.0520	.0052	.2011	1.021
Stddev	.0012	.0049	.0008	.0130	.0003	.0001	.0057	.017
%RSD	11.31	2.261	7.991	14.57	.5610	1.498	2.852	1.628
#1	.0119	.2206	.0110	.0748	.0518	.0052	.2078	1.038
#2	.0096	.2124	.0095	.1002	.0518	.0052	.1975	1.018
#3	.0103	.2120	.0098	.0922	.0523	.0053	.1982	1.006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049	.0507	.0103	.0249	.1102	4.774	.0456	1.053
Stddev	.0001	.0006	.0003	.0015	.0053	.090	.0034	.039
%RSD	1.100	1.123	2.426	5.992	4.795	1.893	7.343	3.726
#1	.0049	.0512	.0106	.0266	.1062	4.670	.0426	1.021
#2	.0050	.0509	.0101	.0239	.1162	4.828	.0451	1.041
#3	.0049	.0501	.0103	.0241	.1082	4.824	.0492	1.097
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0155	.0396	.8915	.0409	.2560	.0103	4.743	.0098
Stddev	.0005	.0011	.0210	.0011	.0060	.0012	.085	.0016
%RSD	3.373	2.725	2.361	2.585	2.345	11.98	1.785	16.32
#1	.0150	.0407	.8787	.0421	.2629	.0115	4.836	.0116
#2	.0161	.0395	.9158	.0403	.2521	.0090	4.724	.0085
#3	.0153	.0385	.8799	.0403	.2530	.0103	4.669	.0092
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVL Acquired: 10/18/2017 17:11:32 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0131	F -1.335	.1030	.0054	.1872	.0191	.0216	.5000
Stddev	.0026	.018	.0005	.0003	.0061	.0027	.0024	.0165
%RSD	20.22	1.353	.5111	5.251	3.236	14.29	11.06	3.309
#1	.0117	-1.355	.1036	.0056	.1829	.0163	.0191	.4977
#2	.0161	-1.324	.1030	.0051	.1942	.0218	.0217	.4847
#3	.0115	-1.325	.1025	.0055	.1847	.0193	.0239	.5175
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value		.4000						
Range		-30.00%						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	.0387	.0194
Stddev	.0055	.0003
%RSD	14.33	1.786
#1	.0349	.0197
#2	.0450	.0195
#3	.0361	.0190
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8061.2	2074.9
Stddev	186.4	12.1
%RSD	2.3119	.58398
#1	7908.6	2086.8
#2	8006.0	2062.6
#3	8268.9	2075.4

Sample Name: CCV   Acquired: 10/18/2017 17:16:03   Type: QC
Method: _2016(v387)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9544	51.53	5.037	.9813	5.161	5.152	4.894	49.41	4.777
Stddev	.0029	.31	.022	.0044	.028	.022	.047	.44	.038
%RSD	.2987	.6091	.4407	.4467	.5495	.4302	.9639	.8995	.7983
#1	.9524	51.89	5.013	.9827	5.190	5.172	4.840	48.90	4.734
#2	.9576	51.39	5.056	.9848	5.161	5.155	4.927	49.66	4.808
#3	.9530	51.31	5.044	.9764	5.133	5.128	4.915	49.68	4.788
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.837	4.961	5.038	50.47	49.88	5.001	52.39	5.123	1.012
Stddev	.043	.043	.035	.33	.27	.029	.21	.018	.008
%RSD	.8988	.8617	.6873	.6497	.5353	.5908	.3941	.3510	.8196
#1	4.787	4.912	4.999	50.81	50.17	5.034	52.62	5.142	1.002
#2	4.869	4.986	5.054	50.45	49.81	4.994	52.33	5.118	1.018
#3	4.853	4.986	5.062	50.15	49.65	4.976	52.23	5.107	1.015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.90	4.818	52.18	5.113	49.16	1.017	.9984	5.164	5.057
Stddev	.24	.038	.42	.042	.34	.006	.0082	.020	.041
%RSD	.4800	.7797	.8144	.8126	.6847	.6182	.8194	.3923	.8105
#1	51.17	4.776	51.70	5.066	48.81	1.009	.9892	5.186	5.011
#2	50.81	4.846	52.47	5.140	49.48	1.019	1.001	5.159	5.087
#3	50.71	4.834	52.39	5.135	49.20	1.021	1.005	5.147	5.074
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

```
Sample Name: CCV      Acquired: 10/18/2017 17:16:03      Type: QC
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            5.191     5.273     5.192     1.048     4.649     5.193     4.830
Stddev          .043      .039      .026      .008      .046      .032      .039
%RSD           .8243     .7399     .5090     .7253     .9857     .6086     .8011

#1             5.236     5.245     5.219     1.039     4.597     5.227     4.786
#2             5.186     5.256     5.190     1.050     4.672     5.189     4.859
#3             5.151     5.318     5.167     1.054     4.679     5.164     4.846

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass      None  Chk Pass  Chk Pass
Value
Range

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           7403.3    2186.2
Stddev          92.6      38.9
%RSD          1.2504    1.7791

#1            7490.7    2189.2
#2            7412.9    2223.6
#3            7306.3    2146.0
```

Sample Name: CCB Acquired: 10/18/2017 17:20:11 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0163	.0006	-.0126	-.0005	-.0001	-.0002	.0001
Stddev	.0011	.0210	.0021	.0075	.0005	.0000	.0008	.0006
%RSD	188.6	128.7	338.0	59.84	88.85	38.28	321.5	427.2
#1	.0008	.0040	-.0015	-.0060	-.0010	-.0001	-.0005	-.0004
#2	-.0006	.0406	.0008	-.0208	-.0001	-.0001	-.0009	.0008
#3	.0016	.0044	.0025	-.0110	-.0005	-.0002	.0006	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0011	.0001	-.0000	.0035	-.2335	-.0054	-.0087
Stddev	.0004	.0001	.0002	.0048	.0022	.0978	.0052	.0370
%RSD	160.8	9.738	230.8	12200.	63.38	41.90	96.81	427.3
#1	.0008	.0010	-.0000	.0023	.0017	-.1302	-.0082	-.0432
#2	.0002	.0013	-.0000	-.0056	.0060	-.2454	.0006	.0305
#3	-.0001	.0011	.0003	.0032	.0029	-.3248	-.0085	-.0133
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	-.0003	-.2008	.0000	.0005	-.0003	.0051	-.0004
Stddev	.0004	.0003	.0232	.0001	.0013	.0009	.0049	.0014
%RSD	44.25	86.63	11.56	344.7	255.9	306.9	96.85	380.5
#1	.0006	-.0000	-.2273	.0002	.0020	.0004	.0084	.0006
#2	.0010	-.0005	-.1916	-.0000	-.0000	-.0013	.0074	.0003
#3	.0014	-.0006	-.1837	-.0001	-.0004	.0000	-.0006	-.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 10/18/2017 17:20:11 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0000	F -1.882	.0008	.0002	-.0028	-.0003	.0014	-.0009
Stddev	.0011	.002	.0002	.0002	.0041	.0013	.0019	.0313
%RSD	3503.	.1005	30.53	86.38	144.8	388.5	141.7	3386.
#1	.0009	-1.880	.0005	.0001	-.0075	.0003	.0036	-.0356
#2	-.0012	-1.884	.0009	.0002	-.0015	.0005	.0002	.0077
#3	.0002	-1.882	.0009	.0005	.0004	-.0018	.0003	.0251
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit		.4000						
Low Limit		-.4000						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	-.0053	-.0001
Stddev	.0061	.0001
%RSD	114.7	116.6
#1	-.0098	-.0002
#2	.0016	-.0001
#3	-.0076	.0000
Check ?	Chk Pass	Chk Pass
High Limit		
Low Limit		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8045.8	2192.7
Stddev	144.6	40.6
%RSD	1.7965	1.8521
#1	8144.1	2239.4
#2	8113.5	2165.6
#3	7879.8	2173.0

Sample Name: 160-24925-E-13APDS@5 Acquired: 10/18/2017 17:24:46 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0813	15.71	.0902	.8825	.5798	.0454	1.722	21.51	.0411
Stddev	.0011	.07	.0006	.0107	.0040	.0003	.014	.09	.0002
%RSD	1.360	.4722	.6119	1.214	.6917	.7534	.8202	.4379	.3982
#1	.0801	15.63	.0908	.8795	.5760	.0450	1.738	21.62	.0413
#2	.0813	15.74	.0897	.8944	.5840	.0456	1.718	21.43	.0411
#3	.0823	15.77	.0902	.8737	.5794	.0456	1.711	21.49	.0410
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4406	.1074	.2296	34.67	48.22	.4637	20.26	.7481	.3439
Stddev	.0024	.0004	.0042	.17	.23	.0012	.13	.0042	.0025
%RSD	.5355	.3272	1.817	.5030	.4852	.2691	.6331	.5610	.7217
#1	.4432	.1075	.2342	34.50	48.04	.4629	20.17	.7433	.3467
#2	.4385	.1070	.2262	34.85	48.48	.4652	20.41	.7499	.3420
#3	.4400	.1077	.2282	34.68	48.14	.4631	20.20	.7511	.3429
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.136	.3603	3.128	.1025	41.95	.0833	.1307	2.945	.8691
Stddev	.039	.0023	.021	.0008	.43	.0025	.0055	.005	.0060
%RSD	.4308	.6421	.6856	.8039	1.020	3.050	4.169	.1713	.6852
#1	9.097	.3630	3.153	.1025	42.44	.0831	.1370	2.940	.8760
#2	9.176	.3588	3.116	.1033	41.64	.0860	.1276	2.948	.8654
#3	9.134	.3591	3.115	.1017	41.76	.0809	.1276	2.948	.8661
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24925-E-13APDS@5      Acquired: 10/18/2017 17:24:46      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem           Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .2138     1.732     1.489     .1771     4.286     .5264     .2416
Stddev          .0012      .015      .006     .0007      .008     .0028     .0020
%RSD            .5715     .8864     .4343     .4186     .1812     .5290     .8440

#1              .2124     1.747     1.482     .1774     4.288     .5275     .2439
#2              .2148     1.731     1.495     .1762     4.293     .5233     .2404
#3              .2140     1.717     1.489     .1776     4.278     .5285     .2405

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600    Y_3710
Units           Cts/S     Cts/S
Avg            8461.7    2272.0
Stddev           42.6      37.0
%RSD           .50366    1.6307

#1             8505.6    2243.6
#2             8459.1    2258.5
#3             8420.4    2313.9
```

```
Sample Name: 160-24925-E-14-A@5      Acquired: 10/18/2017 17:29:01      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem           Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .0008     22.24     .0257    -.0162     .1877     .0005    -.0014     28.07    -.0002
Stddev          .0010       .10     .0021     .0076     .0019     .0002     .0013       .46     .0001
%RSD            132.1     .4426     8.031     46.79     1.036     35.24     90.74     1.639     75.20

#1             -.0004     22.35     .0244    -.0221     .1899     .0004    -.0028     27.55    -.0003
#2              .0015     22.17     .0281    -.0076     .1862     .0008    -.0002     28.45    -.0002
#3              .0012     22.19     .0247    -.0189     .1871     .0004    -.0013     28.19    -.0000

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem           Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .0228     .0328     .0255     41.68     1.135     .0352     17.68     .7108    -.0008
Stddev          .0005     .0005     .0029       .17      .087     .0043       .08     .0030     .0001
%RSD            2.035     1.375     11.20     .4134     7.706     12.16     .4260     .4209     16.67

#1              .0223     .0323     .0268     41.87     1.230     .0305     17.76     .7142    -.0010
#2              .0232     .0332     .0222     41.52     1.057     .0364     17.67     .7084    -.0007
#3              .0229     .0330     .0274     41.66     1.118     .0388     17.61     .7098    -.0008

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem           Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             1.347     .0355     2.347     .0283     .1286    -.0003    -.0002    -1.598     .0028
Stddev           .006     .0010      .045     .0014     .0024     .0021     .0026      .014     .0013
%RSD            .4519     2.936     1.921     5.070     1.832     698.1     1089.     .8998     44.52

#1              1.354     .0344     2.295     .0267     .1276    -.0018     .0025    -1.582     .0016
#2              1.345     .0356     2.378     .0288     .1270     .0021    -.0027    -1.610     .0027
#3              1.342     .0365     2.368     .0294     .1313    -.0012    -.0006    -1.602     .0041

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 160-24925-E-14-A@5       Acquired: 10/18/2017 17:29:01       Type: Unk
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .3565     .0045     2.119     .0007     .0068     .1368     .1065
Stddev         .0015     .0103      .008     .0005     .0331     .0063     .0016
%RSD           .4203     227.4     .3629     71.40     488.1     4.585     1.488

#1             .3581     .0052     2.128     .0009     .0446     .1298     .1047
#2             .3551     .0144     2.114     .0011    -.0078     .1391     .1073
#3             .3564    -.0061     2.115     .0001    -.0165     .1417     .1076

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8247.4    2350.3
Stddev         182.7      11.0
%RSD          2.2151    .46968

#1            8408.4    2339.1
#2            8048.8    2361.1
#3            8285.0    2350.9
```

```
Sample Name: 160-24925-F-15-A@5      Acquired: 10/18/2017 17:33:29      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0011     16.51     .0132    -.0284     .1769     .0004    -.0039     7.324     .0004
Stddev         .0013       .14     .0009     .0023     .0017     .0001     .0034      .143     .0002
%RSD           116.9     .8351     6.451     8.237     .9552     20.74     86.42     1.949     51.53

#1             .0014     16.64     .0142    -.0257     .1789     .0005    -.0044     7.186     .0006
#2            -.0003     16.53     .0127    -.0298     .1762     .0003    -.0003     7.316     .0002
#3             .0022     16.36     .0127    -.0298     .1758     .0004    -.0070     7.471     .0004

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0198     .0270     .0138     43.78     3.930     .0212     9.495     .8071    -.0003
Stddev         .0004     .0004     .0013       .43      .026     .0034      .070     .0077     .0005
%RSD           2.250     1.649     9.198     .9849     .6592     16.17     .7357     .9537     144.1

#1             .0202     .0265     .0131     44.25     3.920     .0237     9.567     .8158    -.0008
#2             .0193     .0270     .0152     43.68     3.959     .0225     9.428     .8044    -.0002
#3             .0200     .0274     .0129     43.40     3.910     .0173     9.490     .8012     .0001

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .6468     .0232     1.931     .0018     .0303     .0011    -.0012    -1.644     .0035
Stddev         .0341     .0005      .038     .0005     .0015     .0027     .0039      .007     .0009
%RSD           5.268     2.352     1.990     27.69     4.913     255.0     324.3     .4537     26.62

#1             .6861     .0226     1.889     .0024     .0304    -.0005    -.0054    -1.640     .0028
#2             .6281     .0233     1.943     .0014     .0317     .0042    -.0006    -1.652     .0031
#3             .6262     .0236     1.963     .0017     .0287    -.0005     .0024    -1.639     .0046

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 160-24925-F-15-A@5      Acquired: 10/18/2017 17:33:29      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg           .0762    -.0142     2.069    -.0028    -.0021     .1184     .0768
Stddev        .0005     .0133      .019     .0020     .0222     .0105     .0013
%RSD          .6662     93.45     .9140     72.41     1079.     8.861     1.661

#1            .0767    -.0282     2.088    -.0013     .0223     .1208     .0756
#2            .0762    -.0127     2.068    -.0019    -.0073     .1275     .0766
#3            .0757    -.0018     2.050    -.0050    -.0212     .1069     .0781

Check ?    Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8216.5    2298.6
Stddev         120.3      35.6
%RSD          1.4637    1.5481

#1            8273.3    2258.3
#2            8297.8    2312.0
#3            8078.3    2325.6
```

Sample Name: 160-24925-L-16-A@5 Acquired: 10/18/2017 17:37:57 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	24.37	.0070	-.0119	.1758	.0009	-.0024	7.234	.0001
Stddev	.0005	.07	.0036	.0044	.0005	.0001	.0029	.142	.0004
%RSD	56.73	.3005	51.20	36.46	.3114	6.045	125.2	1.970	336.7
#1	.0007	24.46	.0049	-.0139	.1754	.0009	-.0047	7.156	.0004
#2	.0005	24.33	.0111	-.0070	.1756	.0008	-.0033	7.399	.0002
#3	.0014	24.33	.0049	-.0150	.1764	.0010	.0010	7.148	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0197	.0306	.0254	38.08	3.045	.0301	12.18	.4715	-.0001
Stddev	.0006	.0007	.0012	.21	.123	.0033	.02	.0017	.0005
%RSD	2.947	2.216	4.824	.5515	4.025	11.07	.1823	.3650	618.6
#1	.0199	.0301	.0255	38.32	3.127	.0297	12.18	.4732	-.0004
#2	.0201	.0314	.0242	38.02	3.104	.0336	12.20	.4714	-.0003
#3	.0190	.0304	.0266	37.91	2.904	.0270	12.15	.4698	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8530	.0338	1.180	.0075	.0251	-.0014	.0025	-1.560	.0036
Stddev	.0445	.0008	.025	.0013	.0035	.0035	.0011	.004	.0011
%RSD	5.216	2.345	2.110	17.32	13.89	246.9	43.49	.2654	30.61
#1	.8852	.0336	1.168	.0088	.0218	-.0051	.0032	-1.558	.0045
#2	.8715	.0347	1.209	.0062	.0248	.0018	.0013	-1.557	.0040
#3	.8022	.0332	1.164	.0077	.0287	-.0010	.0031	-1.565	.0024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24925-L-16-A@5 Acquired: 10/18/2017 17:37:57 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0908	-.0026	1.822	-.0008	.0205	.0940	.0902
Stddev	.0003	.0071	.005	.0016	.0078	.0029	.0019
%RSD	.3183	270.9	.2854	215.9	38.11	3.111	2.074
#1	.0909	-.0108	1.828	-.0003	.0288	.0925	.0893
#2	.0905	.0023	1.819	-.0026	.0197	.0974	.0924
#3	.0911	.0006	1.820	.0006	.0132	.0921	.0890
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8653.7	2215.5
Stddev	126.9	92.2
%RSD	1.4667	4.1603
#1	8748.7	2144.7
#2	8509.6	2182.1
#3	8703.0	2319.7

```
Sample Name: 160-24925-E-17-A@5      Acquired: 10/18/2017 17:42:26      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem           Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .0007     28.11     .0086    -.0210     .2241     .0010     .0013     12.97    -.0003
Stddev          .0013       .04     .0010     .0032     .0011     .0001     .0028       .11     .0002
%RSD            193.5     .1594     11.27     15.10     .4754     11.09     219.0     .8214     76.39

#1              .0021     28.06     .0085    -.0183     .2229     .0009     .0016     12.86    -.0005
#2             -.0001     28.15     .0077    -.0203     .2248     .0010     .0038     12.97    -.0004
#3             -.0000     28.11     .0097    -.0245     .2246     .0011    -.0017     13.07    -.0000

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem           Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .0248     .0409     .0361     45.76     1.957     .0292     15.86     .5687    -.0006
Stddev          .0002     .0004     .0026       .03      .024     .0010       .07     .0013     .0003
%RSD            1.004     .8667     7.321     .0690     1.224     3.584     .4480     .2201     42.58

#1              .0246     .0406     .0379     45.72     1.932     .0280     15.84     .5674    -.0007
#2              .0247     .0409     .0330     45.78     1.961     .0299     15.94     .5699    -.0003
#3              .0251     .0413     .0373     45.78     1.979     .0297     15.81     .5689    -.0009

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem           Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             1.149     .0517     1.883     .0096     .0382     .0021    -.0006    -1.560     .0025
Stddev           .022     .0005      .010     .0018     .0024     .0021     .0062      .004     .0002
%RSD            1.948     1.032     .5254     18.57     6.180     99.57     1060.     .2442     8.001

#1              1.140     .0511     1.872     .0115     .0398     .0025     .0048    -1.559     .0027
#2              1.133     .0521     1.884     .0080     .0355    -.0002    -.0074    -1.558     .0025
#3              1.175     .0520     1.892     .0092     .0394     .0039     .0008    -1.565     .0023

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: 160-24925-E-17-A@5 Acquired: 10/18/2017 17:42:26 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1374	-.0008	1.846	.0011	.0098	.1242	.1142
Stddev	.0006	.0048	.009	.0004	.0072	.0068	.0011
%RSD	.4386	575.6	.4661	39.49	73.04	5.478	.9536
#1	.1373	.0000	1.836	.0010	.0043	.1311	.1130
#2	.1380	.0035	1.849	.0007	.0180	.1239	.1147
#3	.1368	-.0060	1.852	.0015	.0072	.1175	.1150
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8356.0	2302.8
Stddev	38.2	13.5
%RSD	.45703	.58540
#1	8355.2	2293.4
#2	8394.6	2318.3
#3	8318.2	2296.8

Sample Name: MB 160-332120/1-A　Acquired: 10/18/2017 17:46:54　Type: Unk
Method: _2016(v387)　Mode: CONC　Corr. Factor: 1.000000
User: admin　Custom ID1:　Custom ID2:　Custom ID3:
Comment: 332120

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019	.0166	-.0015	-.0106	.0005	-.0000	-.0008	.0733	.0002
Stddev	.0003	.0323	.0015	.0104	.0004	.0001	.0033	.0012	.0003
%RSD	15.87	194.8	106.2	98.19	73.11	207.0	411.5	1.670	211.8
#1	.0016	-.0161	-.0032	.0009	.0001	.0000	-.0040	.0740	-.0002
#2	.0020	.0174	-.0006	-.0131	.0005	-.0000	-.0009	.0719	.0002
#3	.0021	.0485	-.0005	-.0194	.0009	-.0001	.0025	.0740	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0003	.0003	.0237	-.3035	-.0006	.0282	.0009	-.0005
Stddev	.0004	.0003	.0014	.0014	.0400	.0081	.0129	.0008	.0005
%RSD	69.21	107.8	524.9	5.838	13.17	1410.	45.76	83.87	91.64
#1	.0006	.0005	.0016	.0253	-.2762	-.0033	.0265	.0011	-.0002
#2	.0002	.0004	-.0012	.0233	-.3494	-.0069	.0162	.0016	-.0011
#3	.0010	-.0001	.0004	.0227	-.2851	.0085	.0419	.0001	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.1871	.0008	.0165	-.0002	.0041	-.0031	.0012	-1.844	.0149
Stddev	.0276	.0002	.0008	.0009	.0020	.0035	.0057	.017	.0005
%RSD	14.74	29.98	4.835	438.1	49.02	112.7	497.6	.9051	3.448
#1	-.1554	.0010	.0169	-.0002	.0052	-.0029	.0055	-1.864	.0154
#2	-.2008	.0007	.0169	-.0011	.0053	-.0067	.0034	-1.836	.0146
#3	-.2051	.0005	.0155	.0007	.0018	.0003	-.0054	-1.834	.0146
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: MB 160-332120/1-A   Acquired: 10/18/2017 17:46:54   Type: Unk
Method: _2016(v387)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment: 332120

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	-.0028	.0009	.0004	.0130	-.0061	.0018
Stddev	.0001	.0010	.0007	.0012	.0262	.0054	.0001
%RSD	21.30	34.22	80.58	292.3	202.1	88.33	6.036
#1	.0006	-.0018	.0003	.0019	-.0149	-.0107	.0019
#2	.0005	-.0037	.0008	-.0004	.0370	-.0001	.0018
#3	.0004	-.0030	.0017	-.0002	.0167	-.0076	.0017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8151.2	2200.4
Stddev	82.9	65.4
%RSD	1.0167	2.9719
#1	8061.4	2151.5
#2	8167.3	2274.7
#3	8224.8	2175.1

```
Sample Name: LCS 160-332120/2-A      Acquired: 10/18/2017 17:51:29      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .1915     10.27     .9676     .1752     1.019     .1005     .9679     9.953     .9193
Stddev         .0013       .08     .0287     .0036      .006     .0008     .0286      .271     .0249
%RSD           .6845     .7874     2.964     2.070     .5614     .7920     2.958     2.717     2.710

#1             .1913     10.35     .9907     .1787     1.026     .1014     .9956     10.22     .9439
#2             .1929     10.26     .9355     .1753     1.016     .1001     .9384     9.676     .8941
#3             .1903     10.19     .9766     .1714     1.016     .1000     .9698     9.967     .9199

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .9634     .9751     1.001     10.13     9.431     .1059     10.55     1.038     .4867
Stddev         .0256     .0274      .031       .05      .162     .0009       .10      .005     .0124
%RSD           2.655     2.805     3.080     .5341     1.719     .8381     .9059     .4592     2.546

#1             .9898     1.002     1.032     10.20     9.512     .1049     10.64     1.044     .4991
#2             .9388     .9477     .9707     10.11     9.244     .1066     10.55     1.036     .4744
#3             .9615     .9751     1.001     10.10     9.536     .1062     10.45     1.035     .4866

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            9.923     .9639     1.013     1.006     9.208     .4796     .4829     1.770     .9924
Stddev          .070     .0264      .030      .026      .254     .0153     .0113      .029     .0269
%RSD           .7012     2.741     2.944     2.614     2.755     3.192     2.343     1.665     2.714

#1             10.00     .9906     1.043     1.031     9.466     .4967     .4929     1.796     1.020
#2             9.876     .9378     .9831     .9789     8.959     .4672     .4706     1.738     .9658
#3             9.890     .9634     1.014     1.007     9.199     .4749     .4851     1.775     .9917

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: LCS 160-332120/2-A      Acquired: 10/18/2017 17:51:29      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem            Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units              ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg              1.023     1.029     1.026     .2123     .9421     1.016     .9305
Stddev            .007      .001      .007     .0076     .0044      .012     .0251
%RSD             .6842     .0637     .6969     3.574     .4692     1.198     2.701

#1               1.031     1.028     1.035     .2198     .9455     1.030     .9556
#2               1.020     1.029     1.022     .2046     .9371     1.009     .9053
#3               1.018     1.029     1.023     .2125     .9437     1.009     .9306

Check ?       Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.       Y_3600    Y_3710
Units            Cts/S     Cts/S
Avg             8074.9    2094.0
Stddev           191.7      26.4
%RSD            2.3745    1.2607

#1              7894.0    2124.4
#2              8275.9    2080.6
#3              8054.9    2077.1
```

Sample Name: 160-24924-E-1-A@5 Acquired: 10/18/2017 17:55:44 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025	12.08	.0079	.0032	.6437	.0002	.0029	14.56	.0011
Stddev	.0014	.06	.0014	.0019	.0023	.0002	.0018	.02	.0003
%RSD	54.13	.4668	17.39	58.39	.3550	69.02	61.15	.1581	25.29
#1	.0040	12.09	.0081	.0047	.6440	.0001	.0046	14.54	.0009
#2	.0022	12.02	.0092	.0037	.6413	.0002	.0011	14.58	.0014
#3	.0013	12.13	.0064	.0011	.6458	.0004	.0031	14.55	.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0139	.0404	.2048	44.36	3.720	.0140	7.795	.8869	.0014
Stddev	.0002	.0003	.0023	.14	.201	.0029	.053	.0022	.0006
%RSD	1.339	.6775	1.135	.3210	5.410	20.40	.6760	.2505	47.42
#1	.0141	.0403	.2029	44.44	3.784	.0122	7.835	.8892	.0007
#2	.0138	.0407	.2074	44.20	3.494	.0125	7.815	.8848	.0020
#3	.0137	.0403	.2042	44.45	3.881	.0173	7.735	.8867	.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3490	.0358	1.149	.8212	.8730	.0093	.0002	-1.687	.0274
Stddev	.0058	.0001	.003	.0029	.0019	.0024	.0009	.013	.0010
%RSD	1.666	.2865	.2649	.3515	.2165	25.48	576.3	.7707	3.800
#1	.3513	.0359	1.148	.8201	.8714	.0085	-.0000	-1.682	.0273
#2	.3534	.0359	1.152	.8245	.8724	.0075	-.0007	-1.701	.0264
#3	.3424	.0357	1.147	.8191	.8751	.0120	.0012	-1.676	.0284
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24924-E-1-A@5      Acquired: 10/18/2017 17:55:44       Type: Unk
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .1616    -.0085     .8727     .0005     .0093     .0529     .9401
Stddev         .0006     .0058     .0016     .0008     .0243     .0072     .0023
%RSD           .3487     68.60     .1878     162.0     260.8     13.63     .2430

#1             .1612    -.0129     .8727     .0013    -.0043     .0529     .9389
#2             .1613    -.0019     .8711    -.0003    -.0051     .0601     .9428
#3             .1622    -.0107     .8744     .0004     .0373     .0457     .9388

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8295.8    2221.8
Stddev          35.4       7.8
%RSD          .42675    .35289

#1            8334.0    2218.5
#2            8289.1    2230.8
#3            8264.2    2216.1
```

Sample Name: 160-24924-E-2-A@5 Acquired: 10/18/2017 18:00:13 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	16.61	.0089	-.0118	.3455	.0003	-.0035	F 104.3	.0001
Stddev	.0014	.09	.0029	.0013	.0020	.0000	.0012	.4	.0004
%RSD	113.5	.5492	32.28	11.29	.5848	13.07	35.95	.3873	430.2
#1	.0001	16.51	.0121	-.0107	.3432	.0003	-.0032	104.1	.0003
#2	.0028	16.62	.0066	-.0133	.3469	.0003	-.0024	104.8	-.0004
#3	.0008	16.69	.0079	-.0113	.3465	.0004	-.0049	104.1	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit								100.0	
Low Limit								-500.0	

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0171	.0262	.0290	31.02	3.331	.0459	22.36	.7009	-.0005
Stddev	.0001	.0004	.0024	.16	.090	.0014	.11	.0053	.0006
%RSD	.6518	1.557	8.382	.5082	2.706	3.090	.4935	.7510	122.7
#1	.0172	.0257	.0293	30.84	3.305	.0460	22.23	.6949	-.0009
#2	.0171	.0264	.0264	31.07	3.431	.0444	22.42	.7034	.0002
#3	.0170	.0265	.0312	31.14	3.256	.0472	22.43	.7046	-.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.106	.0316	2.496	.0643	.2956	-.0010	.0004	-1.637	.0026
Stddev	.028	.0004	.008	.0012	.0069	.0026	.0013	.004	.0006
%RSD	2.561	1.295	.3034	1.889	2.346	267.5	334.4	.2203	22.99
#1	1.088	.0321	2.488	.0646	.2900	.0016	.0008	-1.640	.0022
#2	1.091	.0313	2.504	.0629	.2935	-.0010	.0014	-1.633	.0024
#3	1.138	.0315	2.495	.0653	.3034	-.0036	-.0011	-1.638	.0033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24924-E-2-A@5 Acquired: 10/18/2017 18:00:13 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9014	-.0105	1.585	-.0004	-.0134	.0768	.1261
Stddev	.0051	.0121	.006	.0012	.0270	.0095	.0007
%RSD	.5654	115.4	.3899	324.9	201.8	12.35	.5868
#1	.8959	.0019	1.579	.0001	-.0432	.0856	.1257
#2	.9021	-.0111	1.587	-.0017	.0092	.0668	.1270
#3	.9061	-.0223	1.591	.0006	-.0060	.0779	.1257
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8235.1	2220.0
Stddev	22.9	24.3
%RSD	.27780	1.0932
#1	8241.5	2216.1
#2	8209.8	2198.0
#3	8254.2	2246.0

Sample Name: 160-24924-E-3-A@5 Acquired: 10/18/2017 18:04:41 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	15.65	.0119	-.0178	.1749	.0004	-.0014	7.025	.0001
Stddev	.0009	.06	.0022	.0067	.0005	.0000	.0039	.074	.0000
%RSD	63.54	.3539	18.90	37.77	.2987	4.984	285.6	1.048	37.41
#1	.0013	15.71	.0143	-.0183	.1755	.0005	-.0009	6.985	.0001
#2	.0007	15.60	.0099	-.0242	.1745	.0005	-.0055	6.980	.0001
#3	.0025	15.65	.0113	-.0108	.1747	.0004	.0023	7.110	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0171	.0183	.0149	31.83	3.316	.0167	9.590	.6646	-.0006
Stddev	.0007	.0001	.0036	.13	.079	.0047	.038	.0029	.0003
%RSD	3.915	.6524	23.88	.3956	2.368	27.93	.3979	.4313	45.88
#1	.0164	.0184	.0190	31.97	3.244	.0219	9.632	.6671	-.0003
#2	.0170	.0183	.0129	31.78	3.399	.0155	9.557	.6615	-.0008
#3	.0178	.0182	.0128	31.74	3.304	.0128	9.582	.6652	-.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1553	.0214	1.820	.0046	.0255	-.0021	.0031	-1.649	.0027
Stddev	.0101	.0003	.015	.0003	.0041	.0028	.0045	.010	.0007
%RSD	6.534	1.522	.8099	7.510	16.05	134.6	142.9	.6281	26.58
#1	.1444	.0216	1.812	.0048	.0256	-.0020	.0024	-1.659	.0026
#2	.1645	.0210	1.811	.0042	.0295	-.0050	-.0010	-1.651	.0021
#3	.1568	.0216	1.837	.0047	.0214	.0006	.0079	-1.638	.0035
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24924-E-3-A@5      Acquired: 10/18/2017 18:04:41      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0749    -.0093     1.781    -.0004     .0134     .0820     .0714
Stddev         .0002     .0016      .009     .0021     .0369     .0049     .0006
%RSD           .2145     17.56     .5008     609.6     275.0     6.021     .8966

#1             .0747    -.0080     1.791    -.0013     .0292     .0859     .0711
#2             .0749    -.0087     1.778    -.0018     .0398     .0837     .0711
#3             .0750    -.0111     1.775     .0021    -.0287     .0764     .0722

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8663.1    2366.6
Stddev          37.0        .7
%RSD          .42740    .03149

#1            8697.9    2366.1
#2            8667.1    2366.2
#3            8624.2    2367.4
```

Sample Name: CCVL Acquired: 10/18/2017 18:09:09 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0091	.2121	.0103	.0870	.0515	.0050	.1852	.9553
Stddev	.0010	.0293	.0016	.0075	.0004	.0002	.0037	.0154
%RSD	10.58	13.79	15.69	8.621	.7359	4.001	1.988	1.612
#1	.0092	.2387	.0088	.0847	.0517	.0048	.1887	.9728
#2	.0101	.2169	.0120	.0954	.0510	.0051	.1855	.9440
#3	.0081	.1808	.0100	.0809	.0517	.0050	.1813	.9491
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042	.0474	.0096	.0227	.1080	4.547	.0463	1.030
Stddev	.0001	.0012	.0001	.0021	.0038	.109	.0013	.015
%RSD	2.253	2.485	1.485	9.313	3.503	2.386	2.855	1.460
#1	.0043	.0488	.0097	.0203	.1117	4.465	.0452	1.013
#2	.0042	.0466	.0095	.0234	.1081	4.670	.0477	1.042
#3	.0041	.0470	.0097	.0243	.1042	4.505	.0458	1.036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0164	.0369	.8159	.0384	.2402	.0108	4.344	F .0069
Stddev	.0004	.0004	.0135	.0003	.0047	.0013	.092	.0028
%RSD	2.735	1.132	1.659	.8400	1.976	12.18	2.108	40.50
#1	.0165	.0374	.8003	.0385	.2456	.0094	4.447	.0063
#2	.0168	.0366	.8233	.0380	.2384	.0120	4.271	.0045
#3	.0159	.0369	.8241	.0386	.2367	.0110	4.313	.0100
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value								.0100
Range								-30.00%

```
Sample Name: CCVL      Acquired: 10/18/2017 18:09:09      Type: QC
Method: _2016(v387)    Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:         Custom ID2:          Custom ID3:
Comment:

Elem            Se1960     Si2516     Sn1899     Sr4077     Th2832     Ti3349     Tl1908     U_3670
Units              ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg              .0109  F -1.362      .0950      .0054      .1831      .0221      .0208      .5331
Stddev           .0041       .020      .0011      .0001      .0052      .0032      .0008      .0311
%RSD             37.44      1.459      1.157      2.680      2.832      14.46      4.061      5.841

#1               .0096     -1.339      .0963      .0052      .1841      .0250      .0215      .5662
#2               .0155     -1.376      .0943      .0055      .1775      .0225      .0199      .5044
#3               .0076     -1.370      .0945      .0055      .1877      .0187      .0211      .5286

Check ?       Chk Pass   Chk Fail   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass       None
Value                       .4000
Range                     -30.00%

Elem            V_2908     Zn2138
Units              ppm        ppm
Avg              .0503      .0180
Stddev           .0047      .0002
%RSD             9.322      1.384

#1               .0491      .0182
#2               .0463      .0177
#3               .0554      .0180

Check ?       Chk Pass   Chk Pass
Value
Range

Int. Std.       Y_3600     Y_3710
Units            Cts/S      Cts/S
Avg             8329.2     2166.4
Stddev            18.0        5.1
%RSD            .21670     .23750

#1              8332.5     2165.6
#2              8345.5     2161.8
#3              8309.8     2171.9
```

Sample Name: CCV Acquired: 10/18/2017 18:13:41 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9615	50.69	5.009	.9752	5.108	5.085	4.896	49.20	4.771
Stddev	.0143	.03	.026	.0072	.014	.026	.032	.32	.035
%RSD	1.492	.0587	.5236	.7349	.2815	.5037	.6527	.6458	.7324
#1	.9515	50.72	5.038	.9726	5.092	5.056	4.932	49.56	4.811
#2	.9550	50.67	5.002	.9832	5.119	5.103	4.876	49.07	4.757
#3	.9779	50.68	4.987	.9696	5.113	5.097	4.878	48.96	4.745
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.838	4.938	4.992	50.03	49.62	4.975	51.97	5.083	1.006
Stddev	.031	.033	.031	.03	.21	.015	.19	.021	.006
%RSD	.6375	.6712	.6127	.0637	.4210	.2988	.3746	.4081	.6505
#1	4.873	4.975	5.026	50.00	49.86	4.987	51.85	5.064	1.013
#2	4.826	4.928	4.984	50.07	49.48	4.981	52.19	5.105	1.005
#3	4.814	4.911	4.967	50.03	49.51	4.958	51.86	5.081	1.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.37	4.821	51.91	5.068	49.19	1.006	.9917	5.073	5.026
Stddev	.03	.034	.32	.032	.41	.005	.0119	.023	.031
%RSD	.0679	.7098	.6125	.6338	.8295	.5089	1.201	.4487	.6250
#1	50.35	4.860	52.27	5.104	49.61	1.008	1.005	5.075	5.062
#2	50.41	4.808	51.81	5.058	49.15	1.009	.9894	5.095	5.014
#3	50.36	4.795	51.65	5.042	48.80	.9999	.9811	5.049	5.003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: CCV Acquired: 10/18/2017 18:13:41 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.107	5.272	5.136	1.037	4.737	5.113	4.826
Stddev	.007	.084	.012	.005	.072	.012	.038
%RSD	.1442	1.599	.2341	.4965	1.519	.2380	.7784
#1	5.114	5.231	5.126	1.042	4.709	5.112	4.869
#2	5.099	5.215	5.149	1.032	4.684	5.101	4.813
#3	5.109	5.369	5.131	1.035	4.819	5.126	4.798
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7557.3	2109.5
Stddev	22.7	12.7
%RSD	.30040	.60019
#1	7568.6	2095.5
#2	7572.2	2113.2
#3	7531.2	2120.0

Sample Name: CCB Acquired: 10/18/2017 18:17:47 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0030	-.0001	-.0102	-.0008	-.0002	-.0034	.0006
Stddev	.0001	.0308	.0018	.0082	.0008	.0001	.0024	.0010
%RSD	11.15	1044.	2563.	80.45	97.49	39.26	71.01	161.0
#1	.0004	.0268	.0017	-.0012	-.0016	-.0001	-.0009	.0005
#2	.0005	.0139	-.0018	-.0173	-.0008	-.0001	-.0035	-.0003
#3	.0004	-.0318	-.0001	-.0120	-.0000	-.0003	-.0058	.0017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0007	.0003	.0002	.0059	-.1067	.0009	-.0175
Stddev	.0000	.0007	.0002	.0030	.0021	.0438	.0017	.0173
%RSD	31.85	89.90	45.96	1516.	35.44	41.00	187.7	98.75
#1	.0001	.0010	.0005	.0036	.0044	-.0591	.0015	-.0345
#2	.0001	.0012	.0002	-.0013	.0049	-.1159	-.0010	.0001
#3	.0001	-.0000	.0003	-.0018	.0083	-.1452	.0023	-.0182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	-.0004	-.1161	.0002	.0025	-.0002	.0070	.0010
Stddev	.0007	.0007	.0133	.0002	.0028	.0004	.0078	.0011
%RSD	110.4	151.8	11.47	124.9	111.2	224.1	112.2	117.1
#1	.0015	-.0011	-.1315	.0004	.0002	-.0000	.0121	-.0003
#2	.0001	-.0004	-.1086	-.0000	.0018	.0001	-.0020	.0019
#3	.0004	.0002	-.1083	.0001	.0055	-.0007	.0108	.0012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 10/18/2017 18:17:47 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0014	F -1.905	.0005	.0002	.0026	-.0015	.0002	.0296
Stddev	.0038	.010	.0001	.0002	.0063	.0007	.0012	.0114
%RSD	273.3	.5180	22.82	109.0	241.2	50.38	599.0	38.52
#1	.0024	-1.894	.0006	-.0000	-.0038	-.0020	.0013	.0279
#2	-.0013	-1.913	.0004	.0004	.0089	-.0006	-.0011	.0417
#3	-.0053	-1.909	.0005	.0003	.0028	-.0018	.0004	.0191
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit		.4000						
Low Limit		-.4000						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	-.0072	.0001
Stddev	.0066	.0003
%RSD	92.08	402.1
#1	-.0096	-.0001
#2	-.0122	-.0001
#3	.0003	.0004
Check ?	Chk Pass	Chk Pass
High Limit		
Low Limit		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7921.3	2077.2
Stddev	54.3	23.7
%RSD	.68595	1.1404
#1	7973.5	2054.1
#2	7925.3	2101.4
#3	7865.1	2076.0

Sample Name: 160-24924-E-4-A@5 Acquired: 10/18/2017 18:22:22 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	32.44	.0182	-.0209	.9524	.0011	-.0039	11.28	.0002
Stddev	.0007	.13	.0008	.0037	.0048	.0001	.0007	.22	.0001
%RSD	43.14	.3898	4.305	17.59	.5013	8.657	18.44	1.906	71.83
#1	.0021	32.32	.0174	-.0185	.9469	.0011	-.0046	11.49	.0000
#2	.0018	32.57	.0190	-.0190	.9559	.0012	-.0032	11.06	.0003
#3	.0008	32.43	.0183	-.0251	.9543	.0010	-.0038	11.29	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0269	.0259	.0359	42.79	5.958	.0402	16.41	5.179	.0001
Stddev	.0012	.0004	.0016	.18	.070	.0003	.06	.035	.0002
%RSD	4.346	1.493	4.383	.4215	1.179	.6382	.3632	.6684	116.2
#1	.0276	.0264	.0371	42.59	5.913	.0401	16.34	5.139	.0003
#2	.0255	.0256	.0364	42.88	6.039	.0404	16.45	5.200	.0000
#3	.0276	.0259	.0341	42.92	5.923	.0399	16.44	5.198	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.143	.0347	1.928	.0132	.0601	-.0020	.0014	-1.508	.0040
Stddev	.008	.0008	.040	.0003	.0019	.0012	.0018	.017	.0009
%RSD	.6969	2.433	2.095	2.358	3.180	61.18	125.6	1.103	22.49
#1	1.145	.0354	1.965	.0133	.0597	-.0031	.0029	-1.489	.0039
#2	1.134	.0338	1.885	.0135	.0622	-.0020	-.0006	-1.514	.0032
#3	1.149	.0349	1.933	.0129	.0585	-.0007	.0021	-1.520	.0050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24924-E-4-A@5 Acquired: 10/18/2017 18:22:22 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1748	-.0291	2.971	.0053	.0456	.1285	.1365
Stddev	.0009	.0094	.016	.0005	.0242	.0048	.0035
%RSD	.5213	32.17	.5535	10.08	53.05	3.711	2.555
#1	.1739	-.0199	2.954	.0059	.0734	.1334	.1399
#2	.1757	-.0387	2.987	.0051	.0349	.1283	.1329
#3	.1749	-.0288	2.972	.0049	.0287	.1238	.1367
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8921.0	2379.8
Stddev	17.8	42.3
%RSD	.19947	1.7771
#1	8900.6	2331.1
#2	8933.2	2406.6
#3	8929.2	2401.8

Sample Name: 160-24924-E-5-A@5 Acquired: 10/18/2017 18:26:49 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	50.66	.0346	-.0273	.5757	.0020	-.0006	12.55	.0003
Stddev	.0003	.05	.0006	.0110	.0003	.0000	.0026	.25	.0002
%RSD	23.09	.1001	1.803	40.44	.0466	2.462	409.9	1.954	73.95
#1	.0010	50.64	.0352	-.0157	.5760	.0020	-.0022	12.83	.0005
#2	.0016	50.72	.0346	-.0284	.5757	.0020	-.0020	12.37	.0001
#3	.0013	50.63	.0340	-.0377	.5754	.0020	.0023	12.45	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0397	.0234	.0497	69.96	10.38	.0637	28.42	2.047	.0001
Stddev	.0013	.0007	.0034	.09	.13	.0030	.10	.008	.0007
%RSD	3.369	2.897	6.808	.1235	1.250	4.673	.3676	.3887	883.6
#1	.0411	.0242	.0535	70.06	10.43	.0667	28.44	2.056	.0001
#2	.0385	.0231	.0471	69.90	10.47	.0607	28.51	2.044	.0008
#3	.0394	.0229	.0485	69.92	10.23	.0637	28.30	2.041	-.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.753	.0391	1.349	.0142	.0504	-.0037	-.0009	-1.422	.0029
Stddev	.037	.0010	.028	.0023	.0028	.0016	.0049	.013	.0003
%RSD	2.140	2.652	2.090	15.94	5.502	44.56	525.4	.8841	11.80
#1	1.796	.0402	1.382	.0147	.0493	-.0038	-.0020	-1.435	.0032
#2	1.733	.0386	1.334	.0161	.0484	-.0053	-.0052	-1.410	.0031
#3	1.730	.0383	1.332	.0117	.0536	-.0020	.0044	-1.422	.0025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24924-E-5-A@5 Acquired: 10/18/2017 18:26:49 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2130	-.0475	3.573	.0001	.0296	.1861	.2169
Stddev	.0013	.0066	.009	.0027	.0044	.0049	.0050
%RSD	.6080	13.94	.2394	3660.	14.69	2.615	2.323
#1	.2115	-.0471	3.582	.0005	.0345	.1804	.2227
#2	.2139	-.0411	3.574	-.0029	.0281	.1887	.2131
#3	.2135	-.0543	3.565	.0026	.0262	.1890	.2151
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8943.3	2357.5
Stddev	12.3	92.1
%RSD	.13798	3.9054
#1	8957.0	2251.2
#2	8940.1	2409.3
#3	8932.9	2412.1

Sample Name: 160-24924-E-6-A@5 Acquired: 10/18/2017 18:31:17 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	32.11	.0070	-.0252	.2718	.0010	-.0037	8.340	.0003
Stddev	.0011	.11	.0012	.0011	.0014	.0000	.0055	.058	.0000
%RSD	135.0	.3331	17.04	4.442	.5058	3.798	151.4	.6938	8.055
#1	.0005	32.04	.0084	-.0261	.2703	.0010	.0027	8.295	.0003
#2	-.0001	32.23	.0064	-.0239	.2723	.0010	-.0061	8.321	.0003
#3	.0020	32.06	.0063	-.0256	.2729	.0010	-.0075	8.405	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0258	.0326	.0240	42.90	5.859	.0329	15.21	.7281	-.0001
Stddev	.0001	.0002	.0011	.15	.088	.0009	.12	.0043	.0003
%RSD	.3394	.6579	4.385	.3559	1.509	2.684	.7807	.5911	237.6
#1	.0259	.0324	.0229	42.74	5.757	.0319	15.08	.7273	-.0001
#2	.0258	.0326	.0249	42.92	5.918	.0335	15.26	.7242	.0002
#3	.0258	.0328	.0243	43.04	5.901	.0333	15.30	.7327	-.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8724	.0315	1.485	.0099	.0279	.0004	-.0001	-1.484	.0022
Stddev	.0075	.0007	.015	.0011	.0066	.0031	.0033	.015	.0003
%RSD	.8604	2.182	1.018	10.81	23.56	729.4	2300.	1.010	14.06
#1	.8638	.0308	1.472	.0090	.0234	.0035	-.0018	-1.467	.0024
#2	.8768	.0318	1.483	.0111	.0248	.0006	-.0022	-1.495	.0024
#3	.8768	.0321	1.502	.0097	.0354	-.0027	.0036	-1.489	.0019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24924-E-6-A@5       Acquired: 10/18/2017 18:31:17       Type: Unk
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin         Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .1121    -.0290     2.315     .0011     .0306     .0939     .1138
Stddev         .0001     .0044      .003     .0023     .0143     .0063     .0009
%RSD           .1177     15.27     .1380     211.5     46.70     6.737     .7911

#1             .1119    -.0338     2.312     .0032     .0142     .0879     .1132
#2             .1122    -.0283     2.314    -.0014     .0374     .1005     .1133
#3             .1122    -.0250     2.318     .0014     .0403     .0934     .1148

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8711.3    2424.1
Stddev         166.9      21.8
%RSD          1.9160    .90131

#1            8888.9    2448.8
#2            8687.2    2416.3
#3            8557.7    2407.2
```

Sample Name: 160-24924-E-7-A@5 Acquired: 10/18/2017 18:35:45 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	14.32	.0089	-.0184	.2413	.0004	.0006	7.798	.0008
Stddev	.0008	.06	.0021	.0103	.0009	.0001	.0013	.075	.0000
%RSD	108.5	.3856	23.78	56.33	.3574	19.95	211.5	.9653	1.003
#1	.0002	14.33	.0082	-.0254	.2423	.0004	.0021	7.864	.0008
#2	.0017	14.37	.0113	-.0065	.2407	.0005	.0000	7.815	.0008
#3	.0004	14.26	.0073	-.0232	.2408	.0003	-.0003	7.716	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0142	.1154	.1457	33.79	3.100	.0158	9.106	.7609	.0003
Stddev	.0002	.0010	.0026	.08	.041	.0079	.032	.0026	.0001
%RSD	1.592	.8619	1.777	.2227	1.334	50.15	.3524	.3406	45.36
#1	.0144	.1163	.1431	33.87	3.099	.0236	9.141	.7638	.0002
#2	.0140	.1156	.1482	33.73	3.141	.0078	9.079	.7598	.0004
#3	.0141	.1143	.1457	33.75	3.059	.0159	9.097	.7590	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0889	.0487	1.221	.5898	.5223	.0023	-.0013	-1.652	.0093
Stddev	.0514	.0003	.014	.0052	.0023	.0018	.0008	.001	.0003
%RSD	57.86	.6435	1.134	.8744	.4341	77.84	63.48	.0757	3.676
#1	.1432	.0489	1.234	.5934	.5247	.0003	-.0020	-1.653	.0090
#2	.0826	.0483	1.222	.5922	.5202	.0028	-.0014	-1.653	.0096
#3	.0409	.0488	1.206	.5839	.5220	.0037	-.0004	-1.651	.0092
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24924-E-7-A@5 Acquired: 10/18/2017 18:35:45 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0798	.0080	.7168	-.0006	.0107	.0523	.2075
Stddev	.0003	.0167	.0031	.0023	.0183	.0052	.0022
%RSD	.4066	207.6	.4267	360.9	170.6	9.996	1.041
#1	.0795	.0259	.7202	-.0012	.0316	.0557	.2095
#2	.0801	.0054	.7144	.0019	.0032	.0463	.2077
#3	.0797	-.0071	.7157	-.0025	-.0026	.0550	.2052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8442.6	2217.5
Stddev	69.7	85.7
%RSD	.82582	3.8628
#1	8496.2	2157.4
#2	8467.7	2179.6
#3	8363.8	2315.6

Sample Name: 160-24924-E-8-A@5 Acquired: 10/18/2017 18:40:11 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	13.27	.0083	-.0074	.3735	.0002	.0009	19.03	.0013
Stddev	.0013	.01	.0014	.0073	.0012	.0002	.0023	.23	.0001
%RSD	122.0	.0852	17.30	97.89	.3111	68.80	252.0	1.210	8.526
#1	.0022	13.26	.0066	-.0158	.3737	.0002	-.0017	19.26	.0014
#2	.0012	13.28	.0091	-.0032	.3722	.0004	.0026	19.01	.0012
#3	-.0003	13.28	.0091	-.0033	.3745	.0001	.0019	18.80	.0012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0166	.0431	.2236	65.14	4.560	.0163	10.18	1.192	.0020
Stddev	.0005	.0007	.0055	.14	.072	.0054	.04	.003	.0002
%RSD	2.723	1.518	2.444	.2151	1.577	33.35	.4255	.2251	10.65
#1	.0171	.0438	.2297	65.23	4.606	.0189	10.23	1.194	.0022
#2	.0163	.0429	.2193	64.98	4.597	.0198	10.17	1.189	.0018
#3	.0164	.0425	.2218	65.21	4.477	.0100	10.14	1.192	.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5214	.0475	1.353	.7043	1.275	.0082	.0031	-1.624	.0210
Stddev	.0514	.0005	.020	.0060	.018	.0027	.0041	.016	.0006
%RSD	9.865	.9961	1.481	.8551	1.389	32.64	135.0	1.005	3.008
#1	.5136	.0480	1.373	.7095	1.290	.0068	-.0017	-1.626	.0212
#2	.5763	.0472	1.352	.7058	1.279	.0113	.0049	-1.606	.0202
#3	.4743	.0471	1.333	.6977	1.255	.0065	.0060	-1.639	.0214
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24924-E-8-A@5     Acquired: 10/18/2017 18:40:11     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin      Custom ID1:        Custom ID2:        Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .1998    -.0076     .9504     .0017     .0027     .0543     .7143
Stddev         .0005     .0037     .0026     .0010     .0078     .0023     .0072
%RSD           .2427     48.96     .2692     55.05     287.4     4.165     1.011

#1             .2003    -.0110     .9515     .0009    -.0042     .0517     .7221
#2             .1993    -.0080     .9474     .0028     .0012     .0552     .7130
#3             .1998    -.0037     .9522     .0015     .0112     .0559     .7078

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8513.2    2224.8
Stddev          95.2      58.2
%RSD          1.1183    2.6140

#1            8415.5    2232.4
#2            8518.6    2163.3
#3            8605.7    2278.8
```

Sample Name: 160-24924-E-9-A@5 Acquired: 10/18/2017 18:44:39 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	13.63	.0036	-.0196	.1661	.0004	-.0035	17.18	.0002
Stddev	.0006	.04	.0014	.0046	.0009	.0001	.0017	.15	.0002
%RSD	55.05	.2797	40.27	23.67	.5223	17.12	49.65	.8482	144.1
#1	.0006	13.66	.0033	-.0184	.1661	.0004	-.0015	17.02	.0003
#2	.0018	13.59	.0023	-.0157	.1652	.0003	-.0047	17.21	.0003
#3	.0008	13.65	.0052	-.0247	.1669	.0005	-.0043	17.30	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0137	.0269	.0377	35.60	5.362	.0158	13.61	.6954	.0002
Stddev	.0005	.0002	.0024	.06	.079	.0003	.04	.0026	.0006
%RSD	3.590	.8553	6.382	.1634	1.468	2.003	.2984	.3803	347.4
#1	.0138	.0267	.0404	35.64	5.453	.0161	13.64	.6931	-.0000
#2	.0131	.0269	.0365	35.53	5.311	.0157	13.57	.6947	.0008
#3	.0140	.0271	.0361	35.62	5.322	.0155	13.64	.6983	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0891	.0272	1.045	.0900	.1937	-.0032	-.0014	-1.653	.0046
Stddev	.0330	.0005	.010	.0018	.0018	.0012	.0016	.011	.0005
%RSD	37.02	2.012	.9357	1.973	.9085	36.41	113.3	.6360	11.11
#1	.0510	.0265	1.034	.0880	.1917	-.0026	-.0032	-1.642	.0044
#2	.1078	.0274	1.047	.0908	.1950	-.0025	-.0002	-1.655	.0043
#3	.1085	.0275	1.053	.0913	.1943	-.0046	-.0008	-1.662	.0052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24924-E-9-A@5       Acquired: 10/18/2017 18:44:39        Type: Unk
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin        Custom ID1:            Custom ID2:            Custom ID3:
Comment:

Elem           Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .2476    -.0168     1.248     .0013     .0292     .0617     .1244
Stddev          .0007     .0037      .003     .0012     .0015     .0038     .0012
%RSD            .2658     21.88     .2230     93.42     5.162     6.113     .9661

#1              .2483    -.0203     1.251     .0027     .0277     .0658     .1230
#2              .2471    -.0130     1.247     .0010     .0293     .0611     .1250
#3              .2473    -.0171     1.246     .0003     .0307     .0583     .1252

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600    Y_3710
Units           Cts/S     Cts/S
Avg            8574.0    2367.6
Stddev           45.9       3.0
%RSD           .53481    .12550

#1             8605.4    2370.8
#2             8595.4    2367.1
#3             8521.4    2364.9
```

Sample Name: 160-24924-E-9-ASD@25 Acquired: 10/18/2017 18:49:08 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	2.765	.0009	-.0107	.0331	.0001	-.0018	3.679	.0001
Stddev	.0008	.038	.0012	.0058	.0002	.0002	.0006	.061	.0002
%RSD	119.2	1.388	129.9	54.57	.6478	140.4	35.34	1.652	220.7
#1	.0010	2.721	-.0005	-.0171	.0330	.0002	-.0013	3.609	.0003
#2	-.0002	2.794	.0015	-.0058	.0330	-.0001	-.0025	3.718	.0000
#3	.0012	2.778	.0018	-.0091	.0334	.0003	-.0015	3.709	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029	.0060	.0070	7.278	.9388	.0042	2.768	.1417	-.0001
Stddev	.0001	.0002	.0042	.017	.1054	.0065	.075	.0008	.0008
%RSD	4.395	3.878	60.53	.2361	11.23	154.9	2.715	.5667	718.2
#1	.0029	.0060	.0052	7.266	.9235	.0110	2.751	.1412	-.0010
#2	.0027	.0063	.0118	7.297	.8420	.0034	2.850	.1426	.0003
#3	.0030	.0058	.0040	7.270	1.051	-.0019	2.702	.1412	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0486	.0063	.2145	.0187	.0470	-.0006	-.0014	-1.848	.0012
Stddev	.0083	.0001	.0050	.0011	.0044	.0011	.0027	.004	.0011
%RSD	17.02	1.976	2.313	6.076	9.406	176.7	196.7	.1943	92.38
#1	-.0491	.0061	.2087	.0192	.0428	-.0011	.0016	-1.850	.0006
#2	-.0567	.0063	.2173	.0174	.0516	-.0014	-.0019	-1.844	.0005
#3	-.0401	.0063	.2173	.0196	.0465	.0006	-.0038	-1.850	.0024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24924-E-9-ASD@25 Acquired: 10/18/2017 18:49:08 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0501	-.0066	.2487	-.0011	.0102	.0051	.0261
Stddev	.0002	.0057	.0015	.0015	.0356	.0082	.0007
%RSD	.4107	87.01	.6072	130.2	349.8	162.3	2.635
#1	.0499	-.0014	.2471	.0006	.0364	.0129	.0253
#2	.0502	-.0127	.2491	-.0021	.0246	-.0035	.0266
#3	.0502	-.0056	.2501	-.0018	-.0304	.0058	.0264
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8360.5	2130.1
Stddev	86.2	8.9
%RSD	1.0306	.41901
#1	8459.3	2136.4
#2	8320.5	2119.9
#3	8301.6	2133.9

Sample Name: 160-24924-E-9-B MS@5 Acquired: 10/18/2017 18:53:41 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0393	19.97	.2121	.0098	.3607	.0207	.2015	19.05	.1905
Stddev	.0012	.11	.0068	.0128	.0026	.0000	.0046	.41	.0044
%RSD	3.006	.5443	3.211	129.9	.7204	.2133	2.293	2.156	2.335
#1	.0404	19.86	.2065	-.0048	.3578	.0207	.1973	18.67	.1865
#2	.0393	20.08	.2102	.0186	.3627	.0207	.2009	18.98	.1898
#3	.0381	19.96	.2197	.0157	.3618	.0208	.2065	19.49	.1953
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2189	.3375	.5222	95.93	6.942	.0392	14.23	1.070	.1269
Stddev	.0045	.0088	.0129	.40	.078	.0038	.10	.006	.0029
%RSD	2.042	2.615	2.466	.4215	1.126	9.636	.6896	.5902	2.304
#1	.2152	.3295	.5102	95.47	6.886	.0425	14.12	1.064	.1239
#2	.2176	.3360	.5206	96.21	7.032	.0351	14.28	1.076	.1272
#3	.2239	.3470	.5358	96.11	6.910	.0400	14.30	1.072	.1297
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.869	.4062	1.219	.2786	2.230	.0745	.0987	-.9253	.2223
Stddev	.005	.0091	.029	.0065	.063	.0070	.0024	.0259	.0067
%RSD	.1631	2.234	2.424	2.345	2.825	9.371	2.426	2.797	3.027
#1	2.873	.3983	1.190	.2719	2.174	.0669	.0990	-.9532	.2169
#2	2.864	.4043	1.217	.2790	2.217	.0758	.0962	-.9205	.2202
#3	2.869	.4161	1.249	.2850	2.298	.0807	.1009	-.9021	.2299
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24924-E-9-B MS@5 Acquired: 10/18/2017 18:53:41 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4437	.2105	1.737	.0444	.2155	.2601	.2886
Stddev	.0030	.0069	.011	.0032	.0320	.0061	.0062
%RSD	.6670	3.297	.6387	7.186	14.83	2.358	2.135
#1	.4405	.2167	1.725	.0438	.1964	.2599	.2831
#2	.4464	.2117	1.739	.0415	.2524	.2664	.2876
#3	.4440	.2030	1.747	.0478	.1977	.2541	.2953
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8352.9	2258.5
Stddev	149.9	12.3
%RSD	1.7945	.54244
#1	8481.2	2262.2
#2	8389.3	2244.9
#3	8188.1	2268.6

Sample Name: 160-24924-E-9-CMSD@5 Acquired: 10/18/2017 18:58:05 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0390	22.62	.1964	.0294	.3917	.0207	.1952	20.15	.1862
Stddev	.0011	.03	.0022	.0051	.0028	.0002	.0029	.30	.0024
%RSD	2.872	.1258	1.125	17.32	.7167	.8443	1.472	1.474	1.298
#1	.0392	22.59	.1977	.0339	.3889	.0206	.1980	20.30	.1874
#2	.0400	22.64	.1976	.0238	.3917	.0206	.1953	20.34	.1878
#3	.0378	22.63	.1939	.0305	.3945	.0209	.1923	19.81	.1834
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2080	.2221	.2295	37.13	7.308	.0441	16.36	.8562	.0943
Stddev	.0036	.0031	.0051	.16	.184	.0039	.07	.0082	.0018
%RSD	1.723	1.400	2.206	.4234	2.518	8.932	.4377	.9536	1.905
#1	.2099	.2241	.2316	36.98	7.520	.0479	16.32	.8499	.0954
#2	.2103	.2237	.2332	37.13	7.194	.0444	16.33	.8533	.0953
#3	.2039	.2185	.2237	37.29	7.209	.0400	16.45	.8654	.0922
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.928	.2182	1.300	.2737	2.087	.0586	.0967	-1.066	.1936
Stddev	.073	.0029	.021	.0035	.029	.0017	.0010	.025	.0021
%RSD	2.482	1.335	1.604	1.275	1.399	2.981	1.079	2.363	1.088
#1	2.997	.2197	1.311	.2761	2.104	.0606	.0958	-1.082	.1950
#2	2.852	.2201	1.313	.2752	2.104	.0582	.0979	-1.037	.1946
#3	2.936	.2149	1.276	.2697	2.053	.0571	.0965	-1.079	.1912
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24924-E-9-CMSD@5 Acquired: 10/18/2017 18:58:05 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4877	.1954	1.977	.0414	.2184	.2743	.3066
Stddev	.0017	.0033	.014	.0017	.0198	.0059	.0047
%RSD	.3481	1.687	.7217	4.140	9.063	2.166	1.535
#1	.4861	.1922	1.962	.0416	.2207	.2674	.3095
#2	.4875	.1988	1.978	.0430	.2369	.2781	.3091
#3	.4895	.1953	1.991	.0396	.1975	.2773	.3012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8634.4	2254.9
Stddev	103.4	70.3
%RSD	1.1970	3.1181
#1	8607.2	2173.7
#2	8547.4	2296.3
#3	8748.6	2294.7

Sample Name: 160-24924-E-9-APDS@5 Acquired: 10/18/2017 19:02:28 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0827	14.06	.0966	.8873	.6066	.0459	1.774	24.67	.0425
Stddev	.0011	.05	.0011	.0098	.0015	.0001	.024	.30	.0002
%RSD	1.357	.3736	1.134	1.110	.2468	.1626	1.355	1.224	.5332
#1	.0821	14.08	.0957	.8762	.6071	.0460	1.753	24.38	.0425
#2	.0819	14.01	.0962	.8905	.6049	.0458	1.770	24.66	.0423
#3	.0839	14.11	.0978	.8951	.6078	.0459	1.800	24.98	.0428
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4561	.1145	.2617	32.85	48.93	.4715	21.36	.7564	.3582
Stddev	.0057	.0017	.0028	.08	.16	.0078	.15	.0015	.0052
%RSD	1.250	1.515	1.078	.2539	.3323	1.653	.6874	.1966	1.445
#1	.4504	.1127	.2586	32.80	48.89	.4744	21.27	.7547	.3529
#2	.4560	.1147	.2623	32.80	48.79	.4627	21.28	.7570	.3585
#3	.4618	.1162	.2641	32.94	49.11	.4774	21.53	.7575	.3633
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.170	.3825	3.346	.1749	43.69	.0880	.1289	3.059	.9090
Stddev	.051	.0049	.057	.0012	.71	.0025	.0043	.035	.0133
%RSD	.5577	1.289	1.715	.6935	1.618	2.859	3.374	1.157	1.460
#1	9.182	.3777	3.287	.1740	43.02	.0853	.1274	3.089	.8958
#2	9.114	.3821	3.351	.1745	43.63	.0886	.1255	3.020	.9089
#3	9.214	.3876	3.401	.1763	44.43	.0902	.1338	3.069	.9223
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24924-E-9-APDS@5      Acquired: 10/18/2017 19:02:28      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem           Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .2689     1.770     1.308     .1828     4.332     .5219     .2917
Stddev          .0010      .010      .005     .0054      .030     .0101     .0042
%RSD            .3807     .5779     .3966     2.945     .6975     1.935     1.451

#1              .2681     1.764     1.307     .1791     4.297     .5106     .2879
#2              .2684     1.764     1.304     .1803     4.349     .5253     .2910
#3              .2700     1.782     1.314     .1890     4.350     .5299     .2962

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600    Y_3710
Units           Cts/S     Cts/S
Avg            8107.0    2258.9
Stddev           25.2      26.8
%RSD           .31131    1.1886

#1             8133.8    2260.2
#2             8103.4    2285.1
#3             8083.7    2231.4
```

Sample Name: CCVL Acquired: 10/18/2017 19:06:43 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0100	.2238	.0097	.0821	.0515	.0049	.1973	.9880
Stddev	.0016	.0075	.0009	.0015	.0004	.0001	.0026	.0034
%RSD	15.72	3.352	9.240	1.805	.7644	1.814	1.314	.3485
#1	.0115	.2323	.0101	.0835	.0517	.0050	.1943	.9889
#2	.0101	.2181	.0103	.0806	.0511	.0050	.1988	.9842
#3	.0083	.2209	.0087	.0823	.0518	.0048	.1987	.9909
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046	.0489	.0098	.0242	.1079	4.600	.0463	1.062
Stddev	.0001	.0002	.0002	.0012	.0041	.056	.0028	.012
%RSD	2.327	.4232	1.707	4.798	3.757	1.207	5.957	1.108
#1	.0047	.0488	.0096	.0255	.1125	4.637	.0455	1.061
#2	.0045	.0488	.0099	.0232	.1054	4.628	.0494	1.051
#3	.0045	.0491	.0099	.0238	.1057	4.537	.0440	1.074
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0167	.0386	.8477	.0394	.2513	.0099	4.531	.0090
Stddev	.0005	.0004	.0281	.0004	.0013	.0005	.024	.0022
%RSD	2.887	1.044	3.317	.8941	.5342	5.497	.5210	24.70
#1	.0170	.0382	.8643	.0391	.2514	.0093	4.543	.0096
#2	.0169	.0387	.8152	.0395	.2499	.0103	4.504	.0108
#3	.0161	.0390	.8636	.0398	.2526	.0102	4.547	.0065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVL Acquired: 10/18/2017 19:06:43 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0130	F -1.358	.0992	.0052	.1927	.0224	.0199	.4876
Stddev	.0038	.022	.0023	.0002	.0066	.0006	.0004	.0094
%RSD	29.25	1.639	2.288	3.222	3.435	2.470	2.093	1.934
#1	.0139	-1.383	.1010	.0051	.1851	.0218	.0203	.4781
#2	.0163	-1.349	.0967	.0053	.1965	.0227	.0195	.4970
#3	.0088	-1.341	.1001	.0054	.1966	.0228	.0197	.4876
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value		.4000						
Range		-30.00%						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	.0497	.0185
Stddev	.0006	.0002
%RSD	1.203	1.286
#1	.0500	.0184
#2	.0502	.0184
#3	.0491	.0188
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8045.8	2141.9
Stddev	40.5	3.9
%RSD	.50327	.18230
#1	8087.6	2138.2
#2	8006.7	2141.6
#3	8043.2	2146.0

Sample Name: CCV Acquired: 10/18/2017 19:11:15 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9622	51.35	5.099	.9817	5.170	5.148	5.023	50.55	4.914
Stddev	.0045	.24	.080	.0087	.023	.032	.087	.70	.083
%RSD	.4669	.4766	1.567	.8889	.4530	.6295	1.741	1.390	1.697
#1	.9580	51.51	5.063	.9839	5.193	5.181	4.974	50.10	4.868
#2	.9669	51.46	5.044	.9721	5.171	5.147	4.970	50.18	4.864
#3	.9616	51.07	5.191	.9892	5.146	5.116	5.123	51.36	5.010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.976	5.075	5.130	50.58	50.15	5.017	52.30	5.117	1.030
Stddev	.076	.077	.080	.19	.18	.020	.26	.023	.016
%RSD	1.522	1.519	1.568	.3690	.3536	.3936	.4926	.4461	1.553
#1	4.928	5.029	5.087	50.76	50.34	5.039	52.49	5.143	1.024
#2	4.936	5.033	5.081	50.58	50.12	5.011	52.40	5.104	1.019
#3	5.063	5.164	5.223	50.39	49.99	5.001	52.01	5.104	1.049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.88	4.955	52.86	5.180	50.21	1.027	1.016	5.166	5.148
Stddev	.30	.076	.81	.077	.99	.023	.013	.036	.079
%RSD	.5953	1.526	1.538	1.483	1.964	2.224	1.253	.7034	1.525
#1	51.15	4.911	52.47	5.139	49.80	1.023	1.012	5.188	5.100
#2	50.93	4.911	52.31	5.132	49.50	1.006	1.006	5.186	5.107
#3	50.55	5.042	53.79	5.269	51.34	1.052	1.030	5.124	5.239
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: CCV Acquired: 10/18/2017 19:11:15 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.183	5.243	5.190	1.058	4.740	5.162	4.958
Stddev	.022	.036	.019	.020	.021	.012	.086
%RSD	.4217	.6893	.3694	1.841	.4384	.2385	1.730
#1	5.204	5.218	5.208	1.047	4.741	5.176	4.913
#2	5.184	5.284	5.191	1.046	4.719	5.156	4.904
#3	5.160	5.226	5.170	1.080	4.760	5.153	5.057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7368.0	2077.6
Stddev	54.9	36.4
%RSD	.74484	1.7516
#1	7431.3	2049.6
#2	7339.0	2064.5
#3	7333.8	2118.8

```
Sample Name: CCB       Acquired: 10/18/2017 19:15:22       Type: QC
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Ag3280     Al3961     As1890     B_2496     Ba4554     Be3130     Bi2230     Ca1840
Units            ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg            .0015     -.0043      .0022     -.0050      .0001      .0009     -.0038     -.0003
Stddev         .0009      .0151      .0017      .0139      .0019      .0015      .0013      .0005
%RSD           61.14      349.0      78.88      281.5      3621.      174.0      32.95      201.9

#1             .0010     -.0142      .0035     -.0209     -.0003      .0000     -.0039      .0002
#2             .0025     -.0119      .0002      .0050     -.0017     -.0000     -.0050     -.0001
#3             .0010      .0131      .0028      .0010      .0021      .0026     -.0025     -.0009

Check ?     Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass
High Limit
Low Limit

Elem          Cd2288     Co2286     Cr2055     Cu2178     Fe2599     K_7664     Li6707     Mg2798
Units            ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg           -.0002      .0005      .0000     -.0010      .0119     -.1189      .0003      .0045
Stddev         .0002      .0006      .0004      .0023      .0192      .0922      .0008      .0297
%RSD           140.7      138.4      1072.      229.8      161.1      77.52      244.5      666.9

#1            -.0002     -.0002     -.0003      .0016      .0006     -.2129     -.0004      .0070
#2             .0001      .0005      .0005     -.0019      .0010     -.1151      .0002     -.0265
#3            -.0003      .0011     -.0001     -.0026      .0340     -.0287      .0011      .0329

Check ?     Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass
High Limit
Low Limit

Elem          Mn2576     Mo2020     Na5895     Ni2216     P_1774     Pb2203     S_1820     Sb2068
Units            ppm        ppm        ppm        ppm        ppm        ppm        ppm        ppm
Avg            .0013     -.0002     -.1683      .0001      .0006     -.0004      .0034      .0022
Stddev         .0018      .0004      .0295      .0003      .0008      .0011      .0097      .0015
%RSD           133.9      180.4      17.55      216.4      140.0      281.2      285.4      68.16

#1            -.0001     -.0003     -.1834      .0004      .0014      .0003      .0136      .0011
#2             .0007      .0002     -.1872      .0003      .0003      .0002      .0022      .0039
#3             .0034     -.0006     -.1343     -.0002     -.0000     -.0017     -.0056      .0016

Check ?     Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass   Chk Pass
High Limit
Low Limit
```

```
Sample Name: CCB      Acquired: 10/18/2017 19:15:22      Type: QC
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin       Custom ID1:        Custom ID2:        Custom ID3:
Comment:

Elem           Se1960      Si2516      Sn1899      Sr4077      Th2832      Ti3349      Tl1908      U_3670
Units             ppm         ppm         ppm         ppm         ppm         ppm         ppm         ppm
Avg             .0028    F -1.881       .0012       .0012       .0081       .0006      -.0026      -.0236
Stddev          .0028        .007       .0003       .0018       .0084       .0005       .0016       .0161
%RSD            98.86       .3604       28.57       155.1       104.1       88.42       60.68       68.19

#1              .0057      -1.882       .0015       .0001       .0176       .0003      -.0028      -.0408
#2              .0027      -1.874       .0010       .0001       .0048       .0003      -.0041      -.0212
#3              .0001      -1.887       .0009       .0033       .0018       .0012      -.0009      -.0089

Check ?      Chk Pass    Chk Fail    Chk Pass    Chk Pass    Chk Pass    Chk Pass    Chk Pass        None
High Limit                  .4000
Low Limit                  -.4000

Elem           V_2908      Zn2138
Units             ppm         ppm
Avg            -.0064      -.0002
Stddev          .0019       .0000
%RSD            28.79       27.39

#1             -.0044      -.0002
#2             -.0069      -.0002
#3             -.0080      -.0001

Check ?      Chk Pass    Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600      Y_3710
Units           Cts/S       Cts/S
Avg            7831.1      2129.2
Stddev          105.7        33.4
%RSD           1.3496      1.5694

#1             7942.9      2165.8
#2             7732.9      2121.3
#3             7817.4      2100.4
```

```
Sample Name: 160-24924-E-10-A@5     Acquired: 10/18/2017 19:19:57     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin       Custom ID1:         Custom ID2:         Custom ID3:
Comment:

Elem         Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units           ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg           .0016     15.90     .0111    -.0167     .2126     .0004    -.0018     6.683     .0001
Stddev        .0005       .07     .0035     .0107     .0006     .0001     .0025      .054     .0002
%RSD          29.95     .4103     31.70     64.06     .2778     28.73     141.0     .8062     310.9

#1            .0020     15.85     .0073    -.0291     .2120     .0003    -.0002     6.623     .0002
#2            .0011     15.97     .0142    -.0094     .2131     .0006    -.0047     6.727     .0002
#3            .0015     15.87     .0119    -.0118     .2128     .0004    -.0005     6.698    -.0002

Check ?    Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem         Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units           ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg           .0178     .0208     .0137     33.69     3.853     .0215     9.781     .8894    -.0003
Stddev        .0011     .0002     .0007       .05      .052     .0028      .035     .0037     .0003
%RSD          6.454     .8303     5.330     .1564     1.343     13.08     .3581     .4110     81.02

#1            .0179     .0206     .0130     33.75     3.895     .0194     9.794     .8892    -.0005
#2            .0189     .0210     .0145     33.70     3.869     .0247     9.808     .8932    -.0000
#3            .0166     .0207     .0136     33.64     3.795     .0205     9.741     .8859    -.0005

Check ?    Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem         Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units           ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg           .9405     .0229     1.962     .0027     .0296    -.0037     .0014    -1.612     .0020
Stddev        .0178     .0003      .018     .0010     .0018     .0010     .0023      .002     .0004
%RSD          1.897     1.304     .9299     38.82     6.161     28.13     166.9     .1034     22.40

#1            .9280     .0228     1.941     .0038     .0315    -.0025    -.0012    -1.612     .0016
#2            .9327     .0227     1.974     .0024     .0280    -.0044     .0030    -1.614     .0025
#3            .9610     .0232     1.971     .0018     .0292    -.0041     .0024    -1.610     .0019

Check ?    Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 160-24924-E-10-A@5     Acquired: 10/18/2017 19:19:57     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin     Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0695    -.0099     1.893     .0003     .0252     .0931     .0721
Stddev         .0004     .0077      .004     .0021     .0112     .0009     .0005
%RSD           .5955     77.30     .2366     686.3     44.42     .9881     .6430

#1             .0697    -.0013     1.897    -.0020     .0146     .0932     .0717
#2             .0698    -.0127     1.895     .0020     .0243     .0922     .0726
#3             .0691    -.0158     1.888     .0009     .0369     .0940     .0720

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8592.5    2325.4
Stddev          26.8      27.5
%RSD          .31193    1.1823

#1            8613.8    2328.6
#2            8562.4    2296.4
#3            8601.2    2351.1
```

Sample Name: 160-24924-E-11-A@5 Acquired: 10/18/2017 19:24:25 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	17.78	.0268	-.0156	.8364	.0007	.0001	7.211	.0005
Stddev	.0012	.01	.0012	.0063	.0033	.0001	.0004	.016	.0001
%RSD	140.1	.0748	4.559	40.57	.3925	13.78	563.1	.2249	21.78
#1	.0019	17.76	.0275	-.0083	.8356	.0008	.0004	7.224	.0005
#2	-.0005	17.79	.0254	-.0193	.8400	.0006	-.0004	7.193	.0004
#3	.0012	17.77	.0275	-.0191	.8336	.0006	.0002	7.217	.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0270	.0185	.0238	36.56	3.913	.0271	9.780	4.166	.0007
Stddev	.0004	.0002	.0013	.15	.072	.0012	.067	.025	.0001
%RSD	1.546	1.332	5.384	.4098	1.846	4.494	.6894	.5919	11.84
#1	.0266	.0188	.0253	36.59	3.955	.0262	9.794	4.172	.0008
#2	.0271	.0185	.0229	36.69	3.955	.0285	9.840	4.187	.0006
#3	.0274	.0183	.0233	36.40	3.830	.0266	9.707	4.138	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.062	.0291	1.670	.0052	.0515	.0009	-.0000	-1.583	.0037
Stddev	.029	.0004	.002	.0012	.0020	.0010	.0030	.024	.0010
%RSD	2.744	1.436	.1060	22.26	3.892	112.4	16260.	1.506	26.69
#1	1.092	.0288	1.672	.0042	.0505	.0000	-.0033	-1.601	.0038
#2	1.060	.0290	1.669	.0065	.0538	.0020	.0006	-1.592	.0027
#3	1.034	.0296	1.668	.0049	.0502	.0007	.0026	-1.556	.0047
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24924-E-11-A@5     Acquired: 10/18/2017 19:24:25     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin       Custom ID1:        Custom ID2:        Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .1054    -.0121     1.845     .0056     .0160     .1435     .0874
Stddev         .0007     .0071      .006     .0011     .0180     .0056     .0002
%RSD           .6793     58.94     .3471     19.21     112.7     3.888     .2340

#1             .1051    -.0139     1.845     .0067    -.0045     .1476     .0873
#2             .1062    -.0181     1.851     .0054     .0295     .1457     .0873
#3             .1049    -.0042     1.838     .0046     .0230     .1372     .0877

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           8416.1    2256.4
Stddev          68.5      59.1
%RSD          .81421    2.6198

#1            8345.4    2251.1
#2            8420.6    2200.0
#3            8482.2    2317.9
```

Sample Name: 160-24924-E-12-A@5 Acquired: 10/18/2017 19:28:53 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014	32.43	.0063	-.0216	.2619	.0010	-.0019	8.509	.0001
Stddev	.0006	.09	.0044	.0075	.0011	.0001	.0014	.149	.0002
%RSD	42.06	.2885	70.57	34.92	.4235	6.808	74.51	1.752	174.3
#1	.0008	32.33	.0041	-.0264	.2608	.0010	-.0005	8.628	.0000
#2	.0020	32.50	.0033	-.0129	.2620	.0009	-.0018	8.558	.0003
#3	.0016	32.48	.0114	-.0254	.2630	.0011	-.0033	8.342	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0251	.0360	.0306	44.28	6.258	.0415	15.93	.6480	-.0005
Stddev	.0007	.0005	.0011	.19	.115	.0049	.08	.0041	.0003
%RSD	2.920	1.405	3.467	.4237	1.840	11.76	.4724	.6384	51.32
#1	.0255	.0365	.0318	44.19	6.327	.0369	15.86	.6456	-.0006
#2	.0256	.0359	.0297	44.15	6.321	.0466	15.92	.6455	-.0007
#3	.0243	.0355	.0304	44.49	6.125	.0409	16.01	.6527	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.117	.0340	1.465	.0092	.0291	-.0034	-.0012	-1.460	.0042
Stddev	.022	.0005	.026	.0006	.0038	.0027	.0023	.007	.0007
%RSD	1.981	1.387	1.810	6.094	13.00	78.32	182.8	.4788	17.58
#1	1.092	.0342	1.487	.0087	.0320	-.0064	-.0006	-1.468	.0050
#2	1.132	.0343	1.472	.0092	.0305	-.0013	.0006	-1.458	.0042
#3	1.128	.0334	1.435	.0098	.0248	-.0025	-.0037	-1.455	.0035
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24924-E-12-A@5      Acquired: 10/18/2017 19:28:53      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem           Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             .1099    -.0108     2.211    -.0021     .0401     .0989     .1353
Stddev          .0006     .0078      .011     .0008     .0085     .0037     .0021
%RSD            .5653     72.59     .4915     37.30     21.07     3.703     1.535

#1              .1100    -.0189     2.208    -.0014     .0498     .0995     .1369
#2              .1092    -.0033     2.202    -.0020     .0340     .0949     .1361
#3              .1104    -.0101     2.223    -.0029     .0367     .1022     .1330

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600    Y_3710
Units           Cts/S     Cts/S
Avg            8729.9    2264.4
Stddev          141.5      53.6
%RSD           1.6204    2.3655

#1             8612.7    2316.0
#2             8689.9    2209.0
#3             8887.1    2268.1
```

Sample Name: 160-24924-E-13-A@5 Acquired: 10/18/2017 19:33:21 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	12.53	.0065	-.0165	.1871	.0003	-.0016	8.947	.0005
Stddev	.0008	.02	.0021	.0033	.0007	.0001	.0037	.147	.0002
%RSD	146.4	.1354	32.10	19.94	.3734	47.06	231.1	1.649	37.76
#1	-.0004	12.54	.0089	-.0179	.1863	.0003	.0026	8.822	.0003
#2	.0011	12.51	.0053	-.0190	.1872	.0005	-.0035	8.910	.0007
#3	.0010	12.53	.0054	-.0128	.1877	.0002	-.0039	9.110	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0142	.0288	.0309	27.82	3.329	.0161	8.507	.7538	-.0001
Stddev	.0006	.0005	.0020	.08	.104	.0039	.016	.0007	.0005
%RSD	4.426	1.841	6.468	.3042	3.114	24.31	.1895	.0868	567.3
#1	.0134	.0282	.0287	27.82	3.226	.0160	8.520	.7540	.0004
#2	.0144	.0287	.0326	27.73	3.433	.0122	8.489	.7531	-.0002
#3	.0146	.0293	.0314	27.90	3.329	.0201	8.511	.7543	-.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0308	.0412	1.088	.0463	.4378	-.0017	.0009	-1.652	.0110
Stddev	.0234	.0009	.015	.0007	.0078	.0011	.0058	.017	.0005
%RSD	75.92	2.206	1.333	1.428	1.784	65.15	649.0	.9976	4.784
#1	.0365	.0402	1.074	.0456	.4325	-.0005	.0073	-1.635	.0112
#2	.0507	.0412	1.088	.0469	.4341	-.0028	-.0006	-1.668	.0104
#3	.0051	.0421	1.103	.0465	.4468	-.0020	-.0040	-1.652	.0114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24924-E-13-A@5      Acquired: 10/18/2017 19:33:21      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem           Sr4077     Th2832     Ti3349     Tl1908    U_3670    V_2908    Zn2138
Units             ppm        ppm        ppm        ppm       ppm       ppm       ppm
Avg             .0780     -.0117      .9157      .0011     .0290     .0572     .0998
Stddev          .0005      .0025      .0025      .0024     .0061     .0045     .0020
%RSD            .6017      21.01      .2740      204.4     20.86     7.935     1.968

#1              .0775     -.0105      .9160      .0025     .0310     .0595     .0979
#2              .0782     -.0101      .9131      .0025     .0339     .0601     .0996
#3              .0784     -.0146      .9181     -.0016     .0222     .0519     .1019

Check ?      Chk Pass   Chk Pass   Chk Pass   Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600     Y_3710
Units           Cts/S      Cts/S
Avg            8562.5     2219.0
Stddev           92.5       49.4
%RSD           1.0801     2.2241

#1             8612.5     2194.6
#2             8619.3     2186.6
#3             8455.8     2275.8
```

Sample Name: 160-24924-E-14-A@5 Acquired: 10/18/2017 19:37:51 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	14.65	.0037	-.0035	.1820	.0003	-.0028	23.13	.0000
Stddev	.0012	.06	.0048	.0046	.0011	.0001	.0044	.18	.0002
%RSD	185.4	.4248	128.1	130.8	.6004	19.39	157.5	.7764	429.8
#1	-.0004	14.71	.0015	-.0070	.1831	.0003	.0014	22.92	.0001
#2	.0004	14.59	.0092	.0017	.1820	.0004	-.0074	23.24	.0002
#3	.0020	14.64	.0005	-.0053	.1809	.0003	-.0024	23.23	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0128	.0212	.0100	31.07	6.300	.0252	16.67	1.736	-.0004
Stddev	.0008	.0005	.0040	.03	.068	.0044	.05	.002	.0004
%RSD	6.233	2.122	39.70	.1047	1.072	17.64	.3190	.1130	116.6
#1	.0129	.0210	.0124	31.07	6.354	.0297	16.72	1.738	-.0009
#2	.0120	.0210	.0054	31.10	6.224	.0250	16.68	1.736	-.0001
#3	.0136	.0218	.0122	31.04	6.322	.0208	16.61	1.735	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3592	.0178	1.195	.0038	.1051	.0002	.0001	-1.640	.0025
Stddev	.0680	.0005	.017	.0020	.0024	.0011	.0032	.016	.0004
%RSD	18.93	2.663	1.401	52.33	2.313	646.6	2764.	.9602	14.59
#1	.4331	.0182	1.176	.0028	.1079	-.0002	-.0036	-1.634	.0028
#2	.3452	.0181	1.202	.0060	.1033	.0014	.0024	-1.629	.0027
#3	.2992	.0173	1.207	.0025	.1042	-.0007	.0015	-1.658	.0021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: 160-24924-E-14-A@5 Acquired: 10/18/2017 19:37:51 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3508	-.0003	1.275	.0033	.0176	.0561	.0651
Stddev	.0017	.0157	.002	.0008	.0232	.0084	.0007
%RSD	.4946	4892.	.1340	23.01	131.5	15.00	1.040
#1	.3494	.0177	1.277	.0042	.0023	.0503	.0643
#2	.3527	-.0080	1.274	.0032	.0062	.0522	.0655
#3	.3502	-.0107	1.273	.0027	.0443	.0657	.0655
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8302.7	2213.7
Stddev	37.7	88.7
%RSD	.45408	4.0056
#1	8343.0	2120.6
#2	8268.3	2223.3
#3	8296.9	2297.1

```
Sample Name: 160-24924-E-15-A@5      Acquired: 10/18/2017 19:42:21      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0008     25.64     .0126     .0029     .3818     .0007    -.0018     88.92     .0003
Stddev         .0006       .11     .0036     .0062     .0021     .0001     .0029       .84     .0004
%RSD           81.59     .4395     28.70     215.9     .5535     9.142     155.9     .9461     119.5

#1             .0011     25.61     .0154    -.0016     .3813     .0007    -.0019     89.63     .0006
#2             .0012     25.54     .0140     .0100     .3800     .0008    -.0047     89.13    -.0001
#3             .0001     25.76     .0085     .0003     .3841     .0006     .0010     87.99     .0006

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0239     .0292     .0282     38.48     2.392     .0605     47.25     .7956    -.0009
Stddev         .0002     .0004     .0014       .15      .035     .0003       .25     .0008     .0002
%RSD           .8310     1.356     4.890     .3950     1.472     .5377     .5326     .0947     25.26

#1             .0237     .0294     .0275     38.36     2.381     .0607     47.14     .7957    -.0011
#2             .0241     .0294     .0298     38.44     2.364     .0606     47.07     .7948    -.0009
#3             .0239     .0287     .0274     38.65     2.432     .0601     47.54     .7963    -.0007

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            5.427     .0382     3.356     .0065     .0980    -.0014    -.0016    -1.514     .0024
Stddev          .050     .0002      .044     .0023     .0017     .0032     .0029      .010     .0005
%RSD           .9241     .5558     1.308     34.84     1.760     234.6     179.5     .6622     20.37

#1             5.371     .0382     3.395     .0087     .0972     .0004     .0015    -1.518     .0025
#2             5.440     .0385     3.365     .0042     .0969     .0005    -.0021    -1.522     .0029
#3             5.469     .0381     3.308     .0065     .1000    -.0050    -.0042    -1.503     .0019

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

```
Sample Name: 160-24924-E-15-A@5      Acquired: 10/18/2017 19:42:21      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem           Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units             ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg             1.239     .0067     2.030    -.0006    -.0100     .1111     .1047
Stddev           .005     .0160      .008     .0018     .0104     .0074     .0011
%RSD            .4102     239.3     .3916     283.6     104.1     6.662     1.058

#1              1.236     .0162     2.023    -.0027    -.0199     .1036     .1057
#2              1.236     .0156     2.029    -.0001     .0008     .1114     .1049
#3              1.245    -.0118     2.039     .0009    -.0107     .1184     .1035

Check ?      Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.      Y_3600    Y_3710
Units           Cts/S     Cts/S
Avg            8312.2    2262.0
Stddev           58.9      15.7
%RSD           .70801    .69248

#1             8262.8    2276.9
#2             8296.5    2263.4
#3             8377.3    2245.7
```

Sample Name: 160-24924-E-16-A@5 Acquired: 10/18/2017 19:46:48 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	13.20	.0166	-.0177	.2342	.0002	-.0001	31.52	.0002
Stddev	.0013	.09	.0027	.0062	.0017	.0001	.0024	.41	.0002
%RSD	75.09	.6452	16.04	35.20	.7049	50.54	1679.	1.294	102.7
#1	.0002	13.11	.0151	-.0147	.2323	.0001	-.0018	31.24	.0004
#2	.0026	13.24	.0196	-.0136	.2355	.0004	.0026	31.99	.0001
#3	.0024	13.27	.0149	-.0249	.2346	.0002	-.0012	31.33	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798	Mn2576	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0161	.0187	.0114	34.45	3.302	.0187	8.539	1.081	-.0004
Stddev	.0002	.0001	.0023	.19	.108	.0045	.021	.004	.0004
%RSD	1.210	.7221	20.35	.5388	3.268	23.88	.2443	.3573	105.1
#1	.0160	.0187	.0141	34.24	3.179	.0198	8.543	1.077	-.0001
#2	.0163	.0188	.0105	34.59	3.348	.0138	8.516	1.085	-.0009
#3	.0161	.0185	.0097	34.52	3.379	.0226	8.557	1.081	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068	Se1960	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7181	.0186	2.010	.0031	.1077	.0008	-.0007	-1.611	.0018
Stddev	.0271	.0007	.023	.0009	.0019	.0035	.0026	.013	.0011
%RSD	3.769	3.658	1.126	27.30	1.727	435.5	388.8	.8269	64.77
#1	.6884	.0180	1.997	.0030	.1073	.0013	-.0003	-1.614	.0007
#2	.7246	.0193	2.036	.0024	.1098	.0040	-.0035	-1.596	.0030
#3	.7413	.0185	1.997	.0041	.1061	-.0029	.0017	-1.622	.0017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

```
Sample Name: 160-24924-E-16-A@5     Acquired: 10/18/2017 19:46:48     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin       Custom ID1:          Custom ID2:          Custom ID3:
Comment:

Elem            Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units              ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg              .1984     .0094     1.662     .0011     .0356     .0962     .0659
Stddev           .0014     .0131      .006     .0007     .0232     .0054     .0009
%RSD             .6925     138.6     .3754     60.06     65.11     5.622     1.304

#1               .1968     .0131     1.657     .0010     .0194     .0900     .0655
#2               .1993     .0203     1.669     .0019     .0252     .0999     .0669
#3               .1990    -.0051     1.660     .0005     .0622     .0986     .0653

Check ?       Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Int. Std.       Y_3600    Y_3710
Units            Cts/S     Cts/S
Avg             8380.8    2335.0
Stddev           122.6      12.1
%RSD            1.4633    .51739

#1              8493.7    2335.9
#2              8250.3    2346.6
#3              8398.3    2322.5
```

```
Sample Name: 160-24924-E-17-A@5      Acquired: 10/18/2017 19:51:17      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0011     40.76     .0237    -.0213     .5901     .0014    -.0037     12.11     .0001
Stddev         .0006       .11     .0026     .0025     .0038     .0002     .0031       .38     .0001
%RSD           54.03     .2818     10.83     11.57     .6501     13.33     83.24     3.122     89.66

#1             .0016     40.63     .0212    -.0228     .5858     .0016    -.0058     12.54     .0003
#2             .0011     40.84     .0237    -.0184     .5913     .0012    -.0002     11.93     .0001
#3             .0005     40.82     .0263    -.0226     .5932     .0013    -.0051     11.86     .0001

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0322     .0304     .0447     56.17     7.743     .0520     21.80     1.912    -.0010
Stddev         .0015     .0006     .0033       .26      .066     .0043       .09      .010     .0002
%RSD           4.538     2.060     7.399     .4568     .8454     8.344     .4308     .5014     21.71

#1             .0339     .0311     .0418     55.89     7.811     .0493     21.72     1.901    -.0010
#2             .0315     .0303     .0483     56.22     7.737     .0570     21.90     1.916    -.0008
#3             .0312     .0298     .0439     56.40     7.680     .0497     21.77     1.919    -.0012

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            1.985     .0355     1.733     .0112     .0488    -.0033     .0026    -1.506     .0037
Stddev          .013     .0017      .058     .0017     .0031     .0035     .0005      .019     .0009
%RSD           .6729     4.855     3.370     14.93     6.366     106.9     18.31     1.260     23.23

#1             1.999     .0375     1.800     .0109     .0452    -.0071     .0022    -1.485     .0038
#2             1.973     .0347     1.708     .0096     .0507    -.0026     .0024    -1.522     .0044
#3             1.982     .0343     1.692     .0129     .0505    -.0002     .0031    -1.511     .0027

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: 160-24924-E-17-A@5 Acquired: 10/18/2017 19:51:17 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1810	-.0165	3.239	.0005	.0373	.1556	.1713
Stddev	.0006	.0169	.021	.0017	.0136	.0026	.0055
%RSD	.3501	102.4	.6643	375.8	36.58	1.683	3.221
#1	.1803	-.0006	3.216	.0024	.0424	.1579	.1777
#2	.1814	-.0342	3.245	-.0007	.0475	.1561	.1688
#3	.1814	-.0146	3.257	-.0003	.0218	.1527	.1675
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8816.7	2335.6
Stddev	211.2	33.2
%RSD	2.3950	1.4231
#1	8573.2	2333.9
#2	8926.5	2303.3
#3	8950.3	2369.7

```
Sample Name: 160-24924-E-18-A@5     Acquired: 10/18/2017 19:55:44     Type: Unk
Method: _2016(v387)     Mode: CONC     Corr. Factor: 1.000000
User: admin       Custom ID1:         Custom ID2:         Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0008     43.70     .0188    -.0260     .5036     .0016    -.0023     11.86    -.0001
Stddev         .0010       .16     .0010     .0037     .0009     .0000     .0017       .10     .0003
%RSD           117.6     .3714     5.268     14.39     .1815     2.096     73.47     .8023     328.1

#1             .0002     43.73     .0188    -.0274     .5041     .0016    -.0011     11.92     .0001
#2             .0004     43.85     .0178    -.0288     .5042     .0016    -.0016     11.75     .0001
#3             .0019     43.53     .0197    -.0217     .5025     .0016    -.0043     11.91    -.0004

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0342     .0293     .0401     59.32     8.917     .0571     24.54     1.609    -.0004
Stddev         .0001     .0003     .0016       .12      .067     .0022       .09      .004     .0001
%RSD           .4136     1.040     3.952     .1958     .7537     3.810     .3497     .2434     37.23

#1             .0342     .0296     .0393     59.43     8.872     .0584     24.56     1.611    -.0004
#2             .0342     .0291     .0391     59.33     8.886     .0546     24.61     1.612    -.0002
#3             .0340     .0291     .0420     59.19     8.994     .0584     24.44     1.605    -.0005

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            2.098     .0366     1.349     .0123     .0552     .0001    -.0008    -1.500     .0035
Stddev          .030     .0001      .016     .0014     .0040     .0015     .0033      .008     .0013
%RSD           1.434     .3159     1.191     11.31     7.228     3075.     400.2     .5424     36.65

#1             2.117     .0365     1.357     .0123     .0596     .0016     .0009    -1.493     .0020
#2             2.114     .0366     1.331     .0137     .0519    -.0000     .0013    -1.509     .0044
#3             2.063     .0367     1.360     .0109     .0541    -.0014    -.0046    -1.497     .0042

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: 160-24924-E-18-A@5 Acquired: 10/18/2017 19:55:44 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1898	-.0259	3.160	-.0007	.0341	.1493	.1912
Stddev	.0001	.0112	.011	.0004	.0160	.0016	.0019
%RSD	.0452	43.06	.3523	58.10	46.93	1.046	1.008
#1	.1898	-.0362	3.163	-.0011	.0169	.1506	.1928
#2	.1899	-.0275	3.170	-.0007	.0485	.1476	.1890
#3	.1897	-.0141	3.148	-.0003	.0368	.1497	.1918
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8648.4	2393.4
Stddev	41.2	34.8
%RSD	.47628	1.4537
#1	8688.5	2361.5
#2	8650.7	2388.2
#3	8606.2	2430.5

```
Sample Name: 160-24924-E-19-A@5      Acquired: 10/18/2017 20:00:14      Type: Unk
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin         Custom ID1:            Custom ID2:            Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0011     22.17     .0088    -.0194     .1930     .0007    -.0008     8.979     .0000
Stddev         .0012       .08     .0029     .0148     .0006     .0001     .0030      .146     .0003
%RSD           116.6     .3559     32.96     76.39     .3162     19.64     371.0     1.625     6888.

#1             .0025     22.26     .0097    -.0344     .1936     .0006    -.0000     9.064     .0000
#2             .0004     22.10     .0112    -.0191     .1924     .0008    -.0041     9.063    -.0003
#3             .0003     22.16     .0056    -.0047     .1930     .0008     .0017     8.811     .0003

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .0206     .0271     .0263     38.13     3.068     .0267     13.08     .5854    -.0009
Stddev         .0008     .0005     .0003       .06      .041     .0015       .10     .0020     .0008
%RSD           4.075     1.932     1.092     .1680     1.338     5.446     .7918     .3494     99.50

#1             .0216     .0276     .0266     38.18     3.054     .0274     13.17     .5873    -.0000
#2             .0202     .0272     .0261     38.05     3.036     .0250     12.97     .5855    -.0017
#3             .0202     .0266     .0261     38.14     3.114     .0277     13.08     .5832    -.0008

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .7898     .0328     1.619     .0080     .0315    -.0009     .0021    -1.574     .0032
Stddev         .0484     .0003      .029     .0010     .0058     .0037     .0018      .023     .0006
%RSD           6.123     .8692     1.779     12.85     18.46     412.1     82.92     1.440     17.37

#1             .8229     .0329     1.632     .0070     .0303     .0032     .0037    -1.598     .0025
#2             .7343     .0330     1.638     .0080     .0264    -.0022     .0025    -1.573     .0035
#3             .8122     .0325     1.586     .0090     .0378    -.0037     .0002    -1.553     .0035

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
High Limit
Low Limit
```

Sample Name: 160-24924-E-19-A@5 Acquired: 10/18/2017 20:00:14 Type: Unk
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr4077	Th2832	Ti3349	Tl1908	U_3670	V_2908	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0976	-.0051	1.692	-.0008	.0155	.1125	.0973
Stddev	.0003	.0094	.002	.0026	.0127	.0060	.0019
%RSD	.3015	185.9	.1407	330.5	81.84	5.303	1.922
#1	.0974	-.0006	1.694	-.0032	.0240	.1184	.0985
#2	.0975	-.0159	1.689	-.0012	.0216	.1127	.0983
#3	.0979	.0013	1.692	.0020	.0009	.1064	.0952
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8456.5	2227.6
Stddev	19.2	15.3
%RSD	.22646	.68738
#1	8452.6	2222.5
#2	8439.6	2244.9
#3	8477.3	2215.5

Sample Name: CCVL Acquired: 10/18/2017 20:04:41 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0090	.2144	F .0064	.0934	.0525	.0050	.1974	.9967
Stddev	.0009	.0227	.0025	.0072	.0004	.0002	.0067	.0214
%RSD	10.05	10.61	39.05	7.761	.7460	4.434	3.403	2.151
#1	.0091	.2268	.0063	.0908	.0521	.0048	.1901	.9735
#2	.0099	.1881	.0090	.1016	.0527	.0052	.1988	1.016
#3	.0081	.2282	.0040	.0878	.0528	.0050	.2033	1.001
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value			.0100					
Range			-30.00%					

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049	.0495	.0101	.0289	.1096	4.569	.0504	1.101
Stddev	.0003	.0010	.0002	.0034	.0030	.129	.0029	.013
%RSD	5.186	1.980	2.340	11.74	2.767	2.828	5.831	1.172
#1	.0046	.0485	.0101	.0257	.1080	4.424	.0526	1.101
#2	.0050	.0505	.0103	.0285	.1130	4.611	.0471	1.088
#3	.0051	.0494	.0099	.0325	.1076	4.672	.0515	1.114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0173	.0389	.7913	.0397	.2547	.0108	4.608	.0107
Stddev	.0010	.0006	.0121	.0011	.0028	.0019	.104	.0024
%RSD	6.029	1.518	1.528	2.666	1.096	17.43	2.257	22.37
#1	.0162	.0383	.8037	.0387	.2515	.0090	4.498	.0099
#2	.0176	.0395	.7795	.0409	.2563	.0106	4.704	.0134
#3	.0182	.0388	.7908	.0396	.2563	.0127	4.622	.0088
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVL Acquired: 10/18/2017 20:04:41 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0127	F -1.331	.1014	.0056	.1944	.0217	.0216	.4846
Stddev	.0015	.002	.0021	.0002	.0064	.0028	.0015	.0220
%RSD	11.89	.1540	2.086	3.426	3.274	12.96	6.911	4.533
#1	.0114	-1.329	.0995	.0056	.1880	.0246	.0202	.4685
#2	.0144	-1.333	.1036	.0059	.1945	.0217	.0213	.5096
#3	.0122	-1.333	.1010	.0055	.2007	.0189	.0232	.4756
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value		.4000						
Range		-30.00%						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	.0446	.0188
Stddev	.0027	.0003
%RSD	6.102	1.695
#1	.0414	.0184
#2	.0460	.0189
#3	.0463	.0190
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8127.3	2198.1
Stddev	101.3	10.2
%RSD	1.2463	.46459
#1	8224.5	2208.1
#2	8022.3	2187.7
#3	8135.0	2198.5

```
Sample Name: CCV       Acquired: 10/18/2017 20:09:13       Type: QC
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin        Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            .9724     50.94     4.857     .9912     5.139     5.114     4.802     49.18     4.757
Stddev         .0107       .41      .194     .0078      .046      .046      .205      1.75      .193
%RSD           1.102     .8118     4.002     .7821     .9034     .9058     4.264     3.562     4.051

#1             .9686     51.40     5.081     .9942     5.186     5.158     5.037     51.19     4.979
#2             .9642     50.77     4.763     .9824     5.138     5.119     4.710     48.34     4.662
#3             .9846     50.63     4.729     .9970     5.094     5.065     4.660     48.00     4.631

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
Value
Range

Elem          Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            4.831     4.884     4.882     50.73     50.02     5.036     52.06     5.094     .9852
Stddev          .184      .188      .199       .35       .33      .030       .39      .051     .0390
%RSD           3.810     3.846     4.070     .6891     .6532     .5926     .7471     1.011     3.958

#1             5.043     5.100     5.110     51.13     50.36     5.071     52.48     5.145     1.030
#2             4.740     4.795     4.787     50.59     49.99     5.018     52.00     5.096     .9667
#3             4.710     4.758     4.748     50.47     49.71     5.020     51.70     5.042     .9588

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
Value
Range

Elem          Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            50.55     4.822     50.37     4.961     47.92     .9764     .9653     5.146     4.954
Stddev           .35      .180      2.11      .191      2.21     .0423     .0351      .054      .183
%RSD           .6979     3.738     4.179     3.839     4.609     4.330     3.635     1.045     3.686

#1             50.95     5.029     52.78     5.180     50.46     1.025     1.006     5.201     5.164
#2             50.44     4.738     49.37     4.870     46.77     .9519     .9429     5.142     4.863
#3             50.27     4.700     48.95     4.833     46.52     .9520     .9474     5.094     4.835

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
Value
Range
```

```
Sample Name: CCV      Acquired: 10/18/2017 20:09:13      Type: QC
Method: _2016(v387)      Mode: CONC      Corr. Factor: 1.000000
User: admin      Custom ID1:      Custom ID2:      Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            5.177     5.102     5.166     1.010     4.829     5.144     4.798
Stddev          .037      .082      .049      .039      .057      .041      .193
%RSD           .7097     1.597     .9474     3.853     1.190     .7942     4.028

#1             5.218     5.089     5.211     1.055     4.781     5.189     5.020
#2             5.166     5.027     5.173     .9925     4.813     5.134     4.703
#3             5.147     5.189     5.114     .9829     4.893     5.109     4.669

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass      None  Chk Pass  Chk Pass
Value
Range

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           7316.3    2122.8
Stddev         121.8      34.2
%RSD          1.6653    1.6117

#1            7182.3    2131.9
#2            7346.2    2151.5
#3            7420.4    2085.0
```

Sample Name: CCB   Acquired: 10/18/2017 20:13:20   Type: QC
Method: _2016(v387)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0088	.0024	-.0077	-.0007	-.0001	-.0029	.0003
Stddev	.0005	.0318	.0012	.0049	.0005	.0001	.0034	.0005
%RSD	198.6	362.5	49.08	63.43	77.92	138.8	116.0	170.0
#1	-.0000	.0231	.0031	-.0054	-.0004	.0000	-.0024	.0006
#2	-.0000	-.0088	.0031	-.0132	-.0003	-.0001	.0002	.0006
#3	.0008	-.0406	.0010	-.0043	-.0013	-.0001	-.0066	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0000	.0000	.0002	-.0015	.0032	-.2142	.0007	-.0102
Stddev	.0002	.0002	.0002	.0013	.0026	.0797	.0012	.0131
%RSD	939.8	928.4	115.7	86.07	79.97	37.23	179.2	128.5
#1	-.0002	-.0001	.0000	-.0001	.0007	-.1257	-.0004	-.0147
#2	.0001	-.0001	.0001	-.0026	.0031	-.2365	.0005	-.0204
#3	.0001	.0003	.0005	-.0018	.0058	-.2804	.0019	.0046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	-.0003	-.1730	.0004	.0010	.0009	.0016	-.0013
Stddev	.0004	.0002	.0385	.0005	.0028	.0006	.0058	.0013
%RSD	65.12	59.32	22.26	133.4	268.1	69.33	369.3	104.7
#1	.0010	-.0001	-.1330	.0002	-.0019	.0005	-.0009	-.0028
#2	.0002	-.0002	-.2098	.0000	.0014	.0006	-.0026	-.0002
#3	.0005	-.0004	-.1761	.0010	.0036	.0016	.0082	-.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 10/18/2017 20:13:20 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	F -1.885	.0006	.0004	-.0039	-.0005	-.0002	.0141
Stddev	.0027	.004	.0007	.0003	.0078	.0012	.0002	.0225
%RSD	1846.	.2039	116.8	71.36	198.1	249.7	86.75	160.2
#1	-.0030	-1.881	.0014	.0006	-.0091	.0007	-.0004	.0383
#2	.0021	-1.885	.0001	.0004	.0050	-.0004	-.0000	.0101
#3	.0013	-1.889	.0003	.0001	-.0077	-.0017	-.0002	-.0062
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit		.4000						
Low Limit		-.4000						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	-.0058	.0001
Stddev	.0042	.0001
%RSD	72.74	115.1
#1	-.0012	.0002
#2	-.0095	.0000
#3	-.0068	.0000
Check ?	Chk Pass	Chk Pass
High Limit		
Low Limit		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8245.8	2116.8
Stddev	189.9	27.1
%RSD	2.3029	1.2798
#1	8447.5	2090.9
#2	8070.4	2145.0
#3	8219.5	2114.5

Sample Name: CCVL Acquired: 10/18/2017 20:17:55 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0090	.2167	.0080	.0871	.0509	.0053	.1975	.9873
Stddev	.0006	.0237	.0019	.0157	.0002	.0001	.0112	.0347
%RSD	6.956	10.93	24.04	18.06	.4708	1.821	5.682	3.511
#1	.0088	.1932	.0085	.1042	.0506	.0051	.1846	.9486
#2	.0097	.2164	.0059	.0732	.0511	.0053	.2027	.9976
#3	.0085	.2405	.0097	.0840	.0509	.0053	.2052	1.016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0048	.0485	.0097	.0242	.1056	4.454	.0482	1.064
Stddev	.0000	.0015	.0002	.0025	.0005	.078	.0028	.002
%RSD	.2493	3.079	2.481	10.24	.4477	1.748	5.778	.1622
#1	.0048	.0470	.0095	.0214	.1059	4.367	.0475	1.065
#2	.0048	.0485	.0100	.0262	.1058	4.476	.0513	1.062
#3	.0048	.0499	.0097	.0250	.1050	4.518	.0459	1.065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0167	.0380	.7837	.0397	.2513	.0094	4.567	.0083
Stddev	.0004	.0013	.0519	.0014	.0071	.0012	.189	.0014
%RSD	2.382	3.308	6.627	3.602	2.828	13.27	4.138	17.37
#1	.0163	.0367	.7576	.0381	.2431	.0097	4.352	.0066
#2	.0171	.0380	.7500	.0403	.2552	.0081	4.639	.0090
#3	.0167	.0392	.8435	.0408	.2556	.0105	4.709	.0092
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVL Acquired: 10/18/2017 20:17:55 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0149	F -1.363	.0993	.0055	.1889	.0220	.0196	.4877
Stddev	.0064	.013	.0024	.0003	.0080	.0005	.0014	.0063
%RSD	42.85	.9659	2.418	6.045	4.260	2.070	7.405	1.289
#1	.0079	-1.374	.0967	.0052	.1878	.0225	.0190	.4920
#2	.0203	-1.366	.0995	.0053	.1815	.0218	.0212	.4906
#3	.0165	-1.349	.1015	.0058	.1975	.0217	.0185	.4804
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value		.4000						
Range		-30.00%						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	.0446	.0188
Stddev	.0013	.0008
%RSD	2.965	4.198
#1	.0438	.0178
#2	.0461	.0192
#3	.0439	.0192
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	8200.9	2156.7
Stddev	155.0	27.6
%RSD	1.8901	1.2802
#1	8285.5	2188.3
#2	8295.2	2137.0
#3	8022.0	2145.0

```
Sample Name: CCV       Acquired: 10/18/2017 20:22:27       Type: QC
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin         Custom ID1:            Custom ID2:            Custom ID3:
Comment:

Elem         Ag3280    Al3961    As1890    B_2496    Ba4554    Be3130    Bi2230    Ca1840    Cd2288
Units           ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg           .9523     50.40     5.093     .9620     5.096     5.079     5.007     50.53     4.906
Stddev        .0042       .41      .027     .0043      .047      .051      .028       .29      .031
%RSD          .4362     .8155     .5235     .4474     .9214     .9979     .5531     .5774     .6374

#1            .9568     50.87     5.095     .9586     5.148     5.135     5.003     50.59     4.910
#2            .9487     50.21     5.118     .9669     5.082     5.067     5.036     50.78     4.935
#3            .9514     50.11     5.065     .9606     5.058     5.036     4.981     50.21     4.872

Check ?    Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
Value
Range

Elem         Co2286    Cr2055    Cu2178    Fe2599    K_7664    Li6707    Mg2798    Mn2576    Mo2020
Units           ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg           4.973     5.052     5.093     50.08     49.49     4.969     51.79     5.073     1.025
Stddev         .032      .031      .038       .47       .43      .035       .47      .045      .007
%RSD          .6464     .6083     .7393     .9299     .8687     .7104     .9073     .8899     .6766

#1            4.988     5.067     5.091     50.58     49.96     5.009     52.31     5.124     1.028
#2            4.995     5.072     5.132     50.01     49.39     4.958     51.67     5.059     1.030
#3            4.936     5.017     5.057     49.65     49.12     4.942     51.40     5.037     1.017

Check ?    Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
Value
Range

Elem         Na5895    Ni2216    P_1774    Pb2203    S_1820    Sb2068    Se1960    Si2516    Sn1899
Units           ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg           50.26     4.958     52.83     5.165     50.24     1.025     1.012     5.034     5.137
Stddev          .40      .030       .23      .032       .26      .005      .011      .049      .031
%RSD          .7872     .6063     .4365     .6252     .5249     .5276     1.051     .9701     .6018

#1            50.68     4.968     52.83     5.164     50.23     1.023     1.013     5.087     5.145
#2            50.19     4.982     53.06     5.197     50.50     1.031     1.023     4.991     5.163
#3            49.90     4.924     52.60     5.132     49.98     1.021     1.002     5.023     5.103

Check ?    Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass  Chk Pass
Value
Range
```

```
Sample Name: CCV       Acquired: 10/18/2017 20:22:27       Type: QC
Method: _2016(v387)       Mode: CONC       Corr. Factor: 1.000000
User: admin         Custom ID1:           Custom ID2:           Custom ID3:
Comment:

Elem          Sr4077    Th2832    Ti3349    Tl1908    U_3670    V_2908    Zn2138
Units            ppm       ppm       ppm       ppm       ppm       ppm       ppm
Avg            5.088     5.117     5.124     1.054     4.715     5.067     4.957
Stddev          .042      .034      .049      .005      .042      .049      .032
%RSD           .8259     .6702     .9464     .5125     .8817     .9712     .6455

#1             5.135     5.131     5.179     1.055     4.705     5.124     4.965
#2             5.073     5.142     5.101     1.059     4.679     5.045     4.983
#3             5.055     5.078     5.090     1.048     4.760     5.033     4.921

Check ?     Chk Pass  Chk Pass  Chk Pass  Chk Pass      None  Chk Pass  Chk Pass
Value
Range

Int. Std.     Y_3600    Y_3710
Units          Cts/S     Cts/S
Avg           7287.1    2027.6
Stddev          52.4      23.5
%RSD          .71863    1.1586

#1            7260.7    2008.1
#2            7253.2    2021.0
#3            7347.4    2053.7
```

Sample Name: CCB Acquired: 10/18/2017 20:26:34 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba4554	Be3130	Bi2230	Ca1840
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0096	.0005	-.0050	-.0005	-.0001	-.0029	-.0003
Stddev	.0014	.0182	.0022	.0076	.0004	.0000	.0014	.0006
%RSD	7134.	190.4	432.7	151.4	82.76	25.18	49.00	196.2
#1	.0000	.0302	-.0001	.0027	-.0001	-.0001	-.0013	-.0002
#2	.0014	-.0044	-.0014	-.0054	-.0005	-.0001	-.0041	.0002
#3	-.0014	.0030	.0030	-.0123	-.0008	-.0002	-.0032	-.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2288	Co2286	Cr2055	Cu2178	Fe2599	K_7664	Li6707	Mg2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0000	-.0000	-.0015	.0040	-.1762	-.0012	-.0196
Stddev	.0004	.0002	.0003	.0024	.0022	.1381	.0038	.0345
%RSD	241.1	474.1	736.6	160.3	54.78	78.34	324.5	176.0
#1	.0004	.0000	.0003	-.0037	.0065	-.3263	.0016	-.0121
#2	.0004	.0001	-.0002	-.0018	.0021	-.0547	.0003	.0105
#3	-.0003	-.0002	-.0002	.0010	.0036	-.1477	-.0055	-.0573
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mn2576	Mo2020	Na5895	Ni2216	P_1774	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	-.0009	-.1668	.0003	.0026	-.0011	.0011	-.0022
Stddev	.0007	.0007	.0086	.0002	.0019	.0003	.0025	.0019
%RSD	125.5	85.77	5.172	72.58	70.73	28.32	224.7	86.67
#1	-.0001	-.0006	-.1627	.0002	.0013	-.0012	.0037	-.0013
#2	.0014	-.0017	-.1768	.0006	.0018	-.0007	.0008	-.0009
#3	.0004	-.0003	-.1611	.0002	.0048	-.0013	-.0012	-.0043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 10/18/2017 20:26:34 Type: QC
Method: _2016(v387) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Si2516	Sn1899	Sr4077	Th2832	Ti3349	Tl1908	U_3670
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	F -1.889	.0002	.0002	-.0013	.0012	-.0019	.0095
Stddev	.0034	.020	.0004	.0001	.0117	.0014	.0010	.0243
%RSD	2642.	1.047	270.2	28.51	903.8	123.4	54.74	257.1
#1	-.0037	-1.903	.0005	.0003	.0122	.0001	-.0026	.0375
#2	.0013	-1.896	.0003	.0002	-.0093	.0006	-.0007	-.0032
#3	.0028	-1.866	-.0003	.0002	-.0067	.0028	-.0023	-.0059
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit		.4000						
Low Limit		-.4000						

Elem	V_2908	Zn2138
Units	ppm	ppm
Avg	-.0068	-.0000
Stddev	.0018	.0002
%RSD	26.58	318.9
#1	-.0084	.0001
#2	-.0072	-.0002
#3	-.0048	-.0000
Check ?	Chk Pass	Chk Pass
High Limit		
Low Limit		

Int. Std.	Y_3600	Y_3710
Units	Cts/S	Cts/S
Avg	7961.7	2153.9
Stddev	64.4	44.8
%RSD	.80854	2.0807
#1	7962.3	2118.6
#2	7897.1	2138.8
#3	8025.8	2204.3

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
	Ag 328.068 {103}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.003356	0.649341	0.000000	1.000000
	Al 396.152 { 85}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.008928	0.153291	0.000000	1.000000
	As 189.042 {478}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000180	0.031692	0.000000	1.000000
	B 249.678 {135}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.002304	0.154456	0.000000	1.000000
	Ba 455.403 { 74}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.032917	9.616985	0.000000	1.000000
	Be 313.042 {108}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000519	12.975982	0.000000	1.000000
	Bi 223.061 {451}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.000170	0.038346	0.000000	1.000000
	Ca 184.006 {483}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000049	0.095941	0.000000	1.000000
	Cd 228.802 {447}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.000241	0.485084	0.000000	1.000000
	Co 228.616 {448}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000227	0.192408	0.000000	1.000000
	Cr 205.560 {464}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000027	0.255935	0.000000	1.000000
	Cu 217.894 {455}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.000270	0.037710	0.000000	1.000000
	Fe 259.940 {130}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000395	0.331651	0.000000	1.000000
	K 766.490 { 44}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.110009	0.063616	0.000000	1.000000
	Li 670.784 { 50}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.118460	1.775675	0.000000	1.000000
	Mg 279.806 {121}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.002208	0.035767	0.000000	1.000000
	Mn 257.610 {131}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.002648	1.653461	0.000000	1.000000
	Mo 202.030 {467}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000141	0.179927	0.000000	1.000000
	Na 589.592 { 57}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.190352	0.194211	0.000000	1.000000
	Ni 221.647 {452}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.000098	0.313511	0.000000	1.000000
	P 177.495 {490}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.000796	0.031924	0.000000	1.000000
	Pb 220.353 {453}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.000146	0.067277	0.000000	1.000000
	S 182.034 {485}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000064	0.017943	0.000000	1.000000
	Sb 206.833 {463}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000369	0.036438	0.000000	1.000000
	Se 196.090 {472}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000043	0.024284	0.000000	1.000000
	Si 251.611 {134}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.154729	0.081941	0.000000	1.000000
	Sn 189.989 {478}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.000225	0.074680	0.000000	1.000000
	Sr 407.771 { 83}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.009145	16.154196	0.000000	1.000000
	Th 283.231 {119}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.005506	0.025015	0.000000	1.000000
	Ti 334.941 {101}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	0.001547	1.129456	0.000000	1.000000
	Tl 190.856 {477}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.000263	0.041174	0.000000	1.000000
	U 367.007 { 92}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.004246	0.039762	0.000000	1.000000
	V 290.882 {116}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.001117	0.256278	0.000000	1.000000
	Y 360.073 { 94}*	10/18/2017 13:21:19	10/18/2017 13:21:19	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 371.030 { 91}*	10/18/2017 13:21:19	10/18/2017 13:21:19	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Zn 213.856 {458}	10/18/2017 13:34:25	10/18/2017 13:34:25	Linear	1/Conc	-0.000301	0.580340	0.000000	1.000000

	Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
							Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	0.999815	0.000098	0.001255	0.004182	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	0.999986	0.000195	0.021810	0.072699	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	0.999508	0.000017	0.002927	0.009758	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	0.999899	0.000055	0.006979	0.023264	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	0.999996	0.001089	0.000467	0.001558	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	0.999973	0.001160	0.000119	0.000396	OK.	1.000000	0.000000	1	0
	Bi 223.061 {451}	0.999689	0.000075	0.004131	0.013769	OK.	1.000000	0.000000	1	0
	Ca 184.006 {483}	0.999900	0.000746	0.000939	0.003128	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	0.999578	0.000174	0.000333	0.001110	OK.	1.000000	0.000000	1	0
	Co 228.616 {448}	0.999748	0.000167	0.000636	0.002120	OK.	1.000000	0.000000	1	0
	Cr 205.560 {464}	0.999729	0.000103	0.000285	0.000950	OK.	1.000000	0.000000	1	0
	Cu 217.894 {455}	0.999714	0.000025	0.003575	0.011917	OK.	1.000000	0.000000	1	0
	Fe 259.940 {130}	0.999995	0.000178	0.003185	0.010617	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	0.999989	0.000375	0.075031	0.250104	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	0.999997	0.000155	0.002851	0.009504	OK.	1.000000	0.000000	1	0
	Mg 279.806 {121}	0.999963	0.000169	0.026948	0.089828	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	0.999995	0.000116	0.000621	0.002071	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	0.999708	0.000068	0.000601	0.002004	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	0.999996	0.000315	0.023249	0.077495	OK.	1.000000	0.000000	1	0
	Ni 221.647 {452}	0.999770	0.000233	0.000497	0.001657	OK.	1.000000	0.000000	1	0
	P 177.495 {490}	0.999883	0.000134	0.002439	0.008130	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	0.999875	0.000019	0.001838	0.006126	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	0.999362	0.000798	0.004752	0.015839	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	0.999122	0.000012	0.003469	0.011563	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	0.999385	0.000008	0.004493	0.014978	OK.	1.000000	0.000000	1	0
	Si 251.611 {134}	0.810937	0.006558	0.013445	0.044815	OK.	1.000000	0.000000	1	0
	Sn 189.989 {478}	0.999868	0.000067	0.001086	0.003620	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	0.999954	0.001903	0.000181	0.000604	OK.	1.000000	0.000000	1	0
	Th 283.231 {119}	0.999975	0.000016	0.008090	0.026968	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	0.999976	0.000194	0.001582	0.005273	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	0.999954	0.000004	0.002283	0.007611	OK.	1.000000	0.000000	1	0
	U 367.007 { 92}	0.999927	0.000073	0.029045	0.096818	OK.	1.000000	0.000000	1	0
	V 290.882 {116}	0.999970	0.000077	0.005815	0.019384	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Zn 213.856 {458}	0.999627	0.000391	0.000215	0.000715	OK.	1.000000	0.000000	1	0

LKP 10/19/17 File: 101817C2 A.Batch: 332586 Inst: 6500

	Pos ID	Rack	Row	Col	Type	Samplename	Comment	Custom ID1	Custom ID2	Custom ID3
1	1001	3	1	1	Unk	160-24830-A-4-A@2	331593			
2	1002	3	1	2	Unk	160-24830-A-4-ASD@10				
3	1003	3	1	3	Unk	160-24830-A-4-B MS@2	-ha			
4	1004	3	1	4	Unk	160-24830-A-4-CMSD@2				
5	1005	3	1	5	Unk	160-24830-A-5-A@2				
6	1006	3	1	6	Unk	MB 160-332182/1-A	332182			
7	1007	3	1	7	Unk	LCSSRM 160-3321822@2				
8	1008	3	1	8	Unk	LCDSRM 160-3321823@2				
9	1009	3	1	9	Unk	280-102094-A-13-A	-All			
10	1010	3	1	10	Unk	280-102094-A-13ASD@5				
11	1011	3	1	11	Unk	280-102094-A-14-A				
12	1012	3	1	12	Unk	280-102094-A-15-A				
13	1013	3	2	1	Unk	280-102094-A-16-A				
14	1014	3	2	2	Unk	280-102094-A-17-A				
15	1015	3	2	3	Unk	MB 160-331797/1-A	331797			
16	1016	3	2	4	Unk	LCS 160-331797/2-A				
17	1017	3	2	5	Unk	160-24925-E-3-A@5				
18	1018	3	2	6	Unk	160-24925-E-4-A@				
19	1019	3	2	7	Unk	160-24925-E-5-A@				
20	1020	3	2	8	Unk	160-24925-E-6-A@				
21	1021	3	2	9	Unk	160-24925-E-7-A@				
22	1022	3	2	10	Unk	160-24925-E-8-A@5				
23	1023	3	2	11	Unk	160-24925-E-9-A@5	- All			
24	1024	3	2	12	Unk	160-24925-E-10-A@5				
25	1025	3	3	1	Unk	160-24925-E-11-A@5				
26	1026	3	3	2	Unk	160-24925-E-12-A@5				
27	1027	3	3	3	Unk	160-24925-E-13-A@5				
28	1028	3	3	4	Unk	160-24925-E-13ASD@25				
29	1029	3	3	5	Unk	160-24925-E-13-BMS@5				
30	1030	3	3	6	Unk	160-24925-E-13CMSD@5				
31	1031	3	3	7	Unk	160-24925-E-13APDS@5				
32	1032	3	3	8	Unk	160-24925-E-14-A@5				
33	1033	3	3	9	Unk	160-24925-F-15-A@5				
34	1034	3	3	10	Unk	160-24925-L-16-A@5				
35	1035	3	3	11	Unk	160-24925-E-17-A@5				
36	1036	3	3	12	Unk	MB 160-332120/1-A	332120			
37	1037	3	4	1	Unk	LCS 160-332120/2-A				
38	1038	3	4	2	Unk	160-24924-E-1-A@5				
39	1039	3	4	3	Unk	160-24924-E-2-A@5				
40	1040	3	4	4	Unk	160-24924-E-3-A@5				
41	1041	3	4	5	Unk	160-24924-E-4-A@5				
42	1042	3	4	6	Unk	160-24924-E-5-A@5				
43	1043	3	4	7	Unk	160-24924-E-6-A@5				
44	1044	3	4	8	Unk	160-24924-E-7-A@5				
45	1045	3	4	9	Unk	160-24924-E-8-A@5				
46	1046	3	4	10	Unk	160-24924-E-9-A@5				
47	1047	3	4	11	Unk	160-24924-E-9-ASD@25	-All			
48	1048	3	4	12	Unk	160-24924-E-9-B MS@5				
49	1049	3	5	1	Unk	160-24924-E-9-CMSD@5				
50	1050	3	5	2	Unk	160-24924-E-9-APDS@5				
51	1051	3	5	3	Unk	160-24924-E-10-A@5				
52	1052	3	5	4	Unk	160-24924-E-11-A@5				
53	1053	3	5	5	Unk	160-24924-E-12-A@5				
54	1054	3	5	6	Unk	160-24924-E-13-A@5				
55	1055	3	5	7	Unk	160-24924-E-14-A@5				
56	1056	3	5	8	Unk	160-24924-E-15-A@5				
57	1057	3	5	9	Unk	160-24924-E-16-A@5				
58	1058	3	5	10	Unk	160-24924-E-17-A@5				
59	1059	3	5	11	Unk	160-24924-E-18-A@5				

	Pos ID	Rack	Row	Col	Type	Samplename	Comment	Custom ID1	Custom ID2	Custom ID3
60	1060	3	5	12	Unk	160-24924-E-19-A@5	✓- All			

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis
Job Number: 160-24924-1
SDG No.:
Project: Sharpe Army Depot - Task 16

Client Sample ID	Lab Sample ID
SHAD041DP026SS02NS	160-24924-1
SHAD041DP026SS03NS	160-24924-2
SHAD041DP026SS04NS	160-24924-3
SHAD041DP026SS05NS	160-24924-4
SHAD041DP026SS05DS	160-24924-5
SHAD041DP026SS06NS	160-24924-6
SHAD041DP022SS01NS	160-24924-7
SHAD041DP022SS02NS	160-24924-8
SHAD041DP022SS03NS	160-24924-9
SHAD041DP022SS04NS	160-24924-10
SHAD041DP022SS05NS	160-24924-11
SHAD041DP022SS06NS	160-24924-12
SHAD041DP013SS01NS	160-24924-13
SHAD041DP013SS02NS	160-24924-14
SHAD041DP013SS03NS	160-24924-15
SHAD041DP013SS04NS	160-24924-16
SHAD041DP013SS05NS	160-24924-17
SHAD041DP013SS05DS	160-24924-18
SHAD041DP013SS06NS	160-24924-19

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP026SS02NS

Lab Sample ID: 160-24924-1

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:04

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 98.6

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	4.1	0.40	0.20	0.10	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID:	SHAD041DP026SS03NS	Lab Sample ID:	160-24924-2
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 16:11
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	87.9		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.40	0.45	0.23	0.11	mg/Kg	J		1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP026SS04NS

Lab Sample ID: 160-24924-3

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:15

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 90.4

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.34	0.44	0.22	0.11	mg/Kg	J		1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP026SS05NS

Lab Sample ID: 160-24924-4

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:22

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 79.9

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	1.2	0.50	0.25	0.12	mg/Kg			1	7196A

FORM IB-IN

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID:	SHAD041DP026SS05DS	Lab Sample ID:	160-24924-5
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 16:26
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	73.5		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	1.1	0.53	0.26	0.13	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP026SS06NS

Lab Sample ID: 160-24924-6

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:31

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 86.1

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.39	0.44	0.22	0.11	mg/Kg	J		1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP022SS01NS

Lab Sample ID: 160-24924-7

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:45

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 99.7

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	8.0	0.38	0.19	0.095	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP022SS02NS

Lab Sample ID: 160-24924-8

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:55

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 99.0

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	1.1	0.39	0.20	0.098	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP022SS03NS

Lab Sample ID: 160-24924-9

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 16:59

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 98.0

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.45	0.40	0.20	0.10	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID:	SHAD041DP022SS04NS	Lab Sample ID:	160-24924-10
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 17:10
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	86.3		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.46	0.46	0.23	0.11	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP022SS05NS

Lab Sample ID: 160-24924-11

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 17:15

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 87.9

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	1.0	0.45	0.22	0.11	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID:	SHAD041DP022SS06NS	Lab Sample ID:	160-24924-12
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 17:23
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	89.2		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.23	0.44	0.22	0.11	mg/Kg	J		1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP013SS01NS

Lab Sample ID: 160-24924-13

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 14:23

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 99.5

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.82	0.40	0.20	0.099	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP013SS02NS

Lab Sample ID: 160-24924-14

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 14:34

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 94.5

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.32	0.42	0.21	0.11	mg/Kg	J		1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID:	SHAD041DP013SS03NS	Lab Sample ID:	160-24924-15
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 14:44
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	86.6		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.28	0.44	0.22	0.11	mg/Kg	J		1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP013SS04NS

Lab Sample ID: 160-24924-16

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 15:06

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 84.8

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.52	0.47	0.24	0.12	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID:	SHAD041DP013SS05NS	Lab Sample ID:	160-24924-17
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 15:10
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	76.0		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.57	0.51	0.26	0.13	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SHAD041DP013SS05DS

Lab Sample ID: 160-24924-18

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG ID.:

Matrix: Solid

Date Sampled: 10/05/2017 15:15

Reporting Basis: DRY

Date Received: 10/07/2017 08:50

% Solids: 80.2

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.86	0.47	0.23	0.12	mg/Kg			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID:	SHAD041DP013SS06NS	Lab Sample ID:	160-24924-19
Lab Name:	TestAmerica St. Louis	Job No.:	160-24924-1
SDG ID.:			
Matrix:	Solid	Date Sampled:	10/05/2017 15:18
Reporting Basis:	DRY	Date Received:	10/07/2017 08:50
% Solids:	83.8		

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Chromium(VI)	0.24	0.47	0.24	0.12	mg/Kg	J		1	7196A

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Analyst: NPV Batch Start Date: 10/19/2017

Reporting Units: ug/L Analytical Batch No.: 332648

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
6	ICV	09:33	Chromium(VI)	248	250	99	90-110		Cr6 5ppm QC_00201
7	ICB	09:33	Chromium(VI)	5.0				U	
18	CCV	09:33	Chromium(VI)	249	250	100	90-110		Cr6 5ppm QC_00201
19	CCB	09:33	Chromium(VI)	5.0				U	
30	CCV	09:33	Chromium(VI)	249	250	100	90-110		Cr6 5ppm QC_00201
31	CCB	09:33	Chromium(VI)	5.0				U	
37	CCV	09:33	Chromium(VI)	248	250	99	90-110		Cr6 5ppm QC_00201
38	CCB	09:33	Chromium(VI)	5.0				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Analyst: NPV   Batch Start Date: 10/20/2017

Reporting Units: ug/L   Analytical Batch No.: 332863

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
6	ICV	08:43	Chromium(VI)	254	250	102	90-110		Cr6 5ppm QC_00201
7	ICB	08:43	Chromium(VI)	5.0				U	
18	CCV	08:43	Chromium(VI)	252	250	101	90-110		Cr6 5ppm QC_00201
19	CCB	08:43	Chromium(VI)	5.0				U	
30	CCV	08:45	Chromium(VI)	253	250	101	90-110		Cr6 5ppm QC_00201
31	CCB	08:45	Chromium(VI)	5.0				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	LOQ	Dil
Batch ID: 332648	Date: 10/19/2017 09:33	Prep Batch: 332230	Date: 10/18/2017 06:45				
7196A	MB 160-332230/1-A	Chromium(VI)	0.19	U	mg/Kg	0.39	1
Batch ID: 332863	Date: 10/20/2017 08:43	Prep Batch: 332594	Date: 10/19/2017 08:15				
7196A	MB 160-332594/1-A	Chromium(VI)	0.19	U	mg/Kg	0.38	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 332648	Date: 10/19/2017 09:33	Prep Batch: 332230	Date: 10/18/2017 06:45								
7196A	160-24922-F-26-B	Chromium(VI)	0.30	J	mg/Kg						
7196A	160-24922-F-26-B MS	Chromium(VI)	46.8		mg/Kg	48.8	95	75-125			D
Batch ID: 332863	Date: 10/20/2017 08:43	Prep Batch: 332594	Date: 10/19/2017 08:15								
7196A	160-24924-9	Chromium(VI)	0.45		mg/Kg						
7196A	160-24924-9 MS	Chromium(VI)	36.6		mg/Kg	40.2	90	75-125			D

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 332648	Date: 10/19/2017 09:33	Prep Batch: 332230	Date: 10/18/2017 06:45								
7196A	160-24922-F-26-C MSD	Chromium(VI)	47.7		mg/Kg	49.3	96	75-125	2	20	D
Batch ID: 332863	Date: 10/20/2017 08:43	Prep Batch: 332594	Date: 10/19/2017 08:15								
7196A	160-24924-9 MSD	Chromium(VI)	37.2		mg/Kg	40.2	91	75-125	1	20	D

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM V-IN

5-IN
MATRIX SPIKE INSOLUBLE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 332648	Date: 10/19/2017 09:33	Prep Batch: 332230	Date: 10/18/2017 06:45								
7196A	160-24922-F-26-D	Chromium(VI)	0.30	J	mg/Kg						
7196A	160-24922-F-26-D MSI	Chromium(VI)	51.6		mg/Kg	98.1	52	20.4-110			D
Batch ID: 332863	Date: 10/20/2017 08:43	Prep Batch: 332594	Date: 10/19/2017 08:15								
7196A	160-24924-9	Chromium(VI)	0.45		mg/Kg						
7196A	160-24924-9 MSI	Chromium(VI)	40.8		mg/Kg	84.5	48	20.4-110			D

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 332648 Date: 10/19/2017 09:33 Prep Batch: 332230 Date: 10/18/2017 06:45											
					LCS Source: Cr6 100ppmCal_00060						
7196A	LCS 160-332230/2-A	Chromium(VI)	37.1		mg/Kg	38.1	97	84-110			D
Batch ID: 332863 Date: 10/20/2017 08:43 Prep Batch: 332594 Date: 10/19/2017 08:15											
					LCS Source: Cr6 100ppmCal_00060						
7196A	LCS 160-332594/2-A	Chromium(VI)	39.4		mg/Kg	40.0	99	84-110			D

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis

Job Number: 160-24924-1

SDG Number:

Matrix: Solid

Instrument ID: UV1

Method: 7196A

DL Date: 01/16/2012 15:42

Prep Method: 3060A

Analyte	Wavelength/ Mass	LOQ (mg/Kg)	DL (mg/Kg)
Chromium(VI)		0.4	0.1

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis

Job Number: 160-24924-1

SDG Number:

Matrix: Solid

Instrument ID: UV1

Method: 7196A

XMDL Date: 01/16/2012 15:41

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Chromium(VI)		10	2.59

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis

Job Number: 160-24924-1

SDG Number:

Matrix: Solid

Instrument ID: NOEQUIP

Method: Moisture

LOQ Date: 01/28/2011 14:43

Analyte	Wavelength/ Mass	LOQ (%)	
Percent Moisture		0.1	
Percent Solids		0.1	

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis

Job Number: 160-24924-1

SDG Number:

Matrix: Solid

Instrument ID: NOEQUIP

Method: Moisture

XRL Date: 01/28/2011 14:42

Analyte	Wavelength/ Mass	XRL (%)	
Percent Moisture		0.1	
Percent Solids		0.1	

FORM IX - IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Prep Method: 3060A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 160-332230/1-A	10/18/2017 06:45	332230	2.5751		100
LCS 160-332230/2-A	10/18/2017 06:45	332230	2.6286		100
160-24922-F-26-B MS	10/18/2017 06:45	332230	2.5526		100
160-24922-F-26-C MSD	10/18/2017 06:45	332230	2.5257		100
160-24922-F-26-D MSI	10/18/2017 06:45	332230	2.5551		100
160-24924-1	10/18/2017 06:45	332230	2.5328		100
160-24924-2	10/18/2017 06:45	332230	2.5117		100
160-24924-3	10/18/2017 06:45	332230	2.5124		100
160-24924-4	10/18/2017 06:45	332230	2.5039		100
160-24924-5	10/18/2017 06:45	332230	2.5853		100
160-24924-6	10/18/2017 06:45	332230	2.6505		100
160-24924-7	10/18/2017 06:45	332230	2.6456		100

FORM XII-IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Prep Method: 3060A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 160-332594/1-A	10/19/2017 08:15	332594	2.6117		100
LCS 160-332594/2-A	10/19/2017 08:15	332594	2.5053		100
160-24924-8	10/19/2017 08:15	332594	2.5727		100
160-24924-9	10/19/2017 08:15	332594	2.5268		100
160-24924-9 MS	10/19/2017 08:15	332594	2.5400		100
160-24924-9 MSD	10/19/2017 08:15	332594	2.5417		100
160-24924-9 MSI	10/19/2017 08:15	332594	2.5647		100
160-24924-10	10/19/2017 08:15	332594	2.5256		100
160-24924-11	10/19/2017 08:15	332594	2.5468		100
160-24924-12	10/19/2017 08:15	332594	2.5212		100
160-24924-13	10/19/2017 08:15	332594	2.5412		100
160-24924-14	10/19/2017 08:15	332594	2.5143		100
160-24924-15	10/19/2017 08:15	332594	2.6067		100
160-24924-16	10/19/2017 08:15	332594	2.5055		100
160-24924-17	10/19/2017 08:15	332594	2.5654		100
160-24924-18	10/19/2017 08:15	332594	2.6531		100
160-24924-19	10/19/2017 08:15	332594	2.5283		100

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Instrument ID: UV1

Analysis Method: 7196A

Start Date: 10/19/2017 09:33

End Date: 10/19/2017 09:33

Lab Sample Id	D/F	Type	Time	Analytes Cr6
IC 160-332648/1	1		09:33	X
IC 160-332648/2	1		09:33	X
IC 160-332648/3	1		09:33	X
IC 160-332648/4	1		09:33	X
IC 160-332648/5	1		09:33	X
ICV 160-332648/6	1		09:33	X
ICB 160-332648/7	1		09:33	X
MB 160-332230/1-A	1	T	09:33	X
LCS 160-332230/2-A	4	T	09:33	X
ZZZZZZ			09:33	
ZZZZZZ			09:33	
ZZZZZZ			09:33	
ZZZZZZ			09:33	
ZZZZZZ			09:33	
ZZZZZZ			09:33	
ZZZZZZ			09:33	
ZZZZZZ			09:33	
CCV 160-332648/18	1		09:33	X
CCB 160-332648/19	1		09:33	X
ZZZZZZ			09:33	
ZZZZZZ			09:33	
160-24922-F-26-B MS	4	T	09:33	X
160-24922-F-26-C MSD	4	T	09:33	X
160-24922-F-26-D MSI	4	T	09:33	X
ZZZZZZ			09:33	
ZZZZZZ			09:33	
ZZZZZZ			09:33	
160-24924-1	1	T	09:33	X
160-24924-2	1	T	09:33	X
CCV 160-332648/30	1		09:33	X
CCB 160-332648/31	1		09:33	X
160-24924-3	1	T	09:33	X
160-24924-4	1	T	09:33	X
160-24924-5	1	T	09:33	X
160-24924-6	1	T	09:33	X
160-24924-7	1	T	09:33	X
CCV 160-332648/37	1		09:33	X
CCB 160-332648/38	1		09:33	X

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: UV1 Analysis Method: 7196A

Start Date: 10/20/2017 08:43 End Date: 10/20/2017 08:45

				Analytes
Lab Sample Id	D/F	Type	Time	Cr6
IC 160-332863/1	1		08:43	X
IC 160-332863/2	1		08:43	X
IC 160-332863/3	1		08:43	X
IC 160-332863/4	1		08:43	X
IC 160-332863/5	1		08:43	X
ICV 160-332863/6	1		08:43	X
ICB 160-332863/7	1		08:43	X
MB 160-332594/1-A	1	T	08:43	X
LCS 160-332594/2-A	4	T	08:43	X
160-24924-8	1	T	08:43	X
160-24924-9	1	T	08:43	X
160-24924-9 MS	4	T	08:43	X
160-24924-9 MSD	4	T	08:43	X
160-24924-9 MSI	4	T	08:43	X
160-24924-10	1	T	08:43	X
160-24924-11	1	T	08:43	X
160-24924-12	1	T	08:43	X
CCV 160-332863/18	1		08:43	X
CCB 160-332863/19	1		08:43	X
160-24924-13	1	T	08:43	X
160-24924-14	1	T	08:43	X
160-24924-15	1	T	08:43	X
160-24924-16	1	T	08:45	X
160-24924-17	1	T	08:45	X
160-24924-18	1	T	08:45	X
160-24924-19	1	T	08:45	X
ZZZZZZ			08:45	
ZZZZZZ			08:45	
ZZZZZZ			08:45	
CCV 160-332863/30	1		08:45	X
CCB 160-332863/31	1		08:45	X
ZZZZZZ			08:45	
ZZZZZZ			08:45	
ZZZZZZ			08:45	
ZZZZZZ			08:45	
ZZZZZZ			08:45	
CCV 160-332863/37			08:45	
CCB 160-332863/38			08:45	

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: Moisture

Start Date: 10/08/2017 14:21 End Date: 10/08/2017 14:21

Lab Sample Id	D/F	Type	Time	Analytes																									
				%Sol	Moist																								
ZZZZZZ			14:21																										
160-24922-D-19 DU	1	T	14:21	X	X																								
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
160-24924-1	1	T	14:21	X	X																								
160-24924-2	1	T	14:21	X	X																								
160-24924-3	1	T	14:21	X	X																								
160-24924-4	1	T	14:21	X	X																								
160-24924-5	1	T	14:21	X	X																								
160-24924-6	1	T	14:21	X	X																								
160-24924-7	1	T	14:21	X	X																								
160-24924-8	1	T	14:21	X	X																								
160-24924-9	1	T	14:21	X	X																								
160-24924-10	1	T	14:21	X	X																								
160-24924-11	1	T	14:21	X	X																								
160-24924-12	1	T	14:21	X	X																								
160-24924-13	1	T	14:21	X	X																								
160-24924-14	1	T	14:21	X	X																								
160-24924-15	1	T	14:21	X	X																								
160-24924-16	1	T	14:21	X	X																								
160-24924-17	1	T	14:21	X	X																								
160-24924-18	1	T	14:21	X	X																								
160-24924-19	1	T	14:21	X	X																								
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
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FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica St. Louis

Job No.: 160-24924-1

SDG No.:

Instrument ID: NOEQUIP

Analysis Method: Moisture

Start Date: 10/08/2017 14:21

End Date: 10/08/2017 14:21

Lab Sample Id	D/F	Type	Time	Analytes																									
				%Sol	Moist																								
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
ZZZZZZ			14:21																										
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ZZZZZZ			14:21																										
ZZZZZZ			14:21																										

Prep Types:

T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Batch Number: 332230 Batch Start Date: 10/18/17 06:45 Batch Analyst: Vassilev, Nikolay P

Batch Method: 3060A Batch End Date: 10/18/17 10:20

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Cr6 100ppmCal 00060	Cr6 ERA soil 00010		
MB 160-332230/1		3060A, 7196A		2.5751 g	100 mL				
LCS 160-332230/2		3060A, 7196A		2.6286 g	100 mL	1 mL			
160-24922-F-26 MS		3060A, 7196A	T	2.5526 g	100 mL	1 mL			
160-24922-F-26 MSD		3060A, 7196A	T	2.5257 g	100 mL	1 mL			
160-24922-F-26 MSI		3060A, 7196A	T	2.5551 g	100 mL		1.0079 g		
160-24924-F-1	SHAD041DP026SS02 NS	3060A, 7196A	T	2.5328 g	100 mL				
160-24924-F-2	SHAD041DP026SS03 NS	3060A, 7196A	T	2.5117 g	100 mL				
160-24924-F-3	SHAD041DP026SS04 NS	3060A, 7196A	T	2.5124 g	100 mL				
160-24924-F-4	SHAD041DP026SS05 NS	3060A, 7196A	T	2.5039 g	100 mL				
160-24924-F-5	SHAD041DP026SS05 DS	3060A, 7196A	T	2.5853 g	100 mL				
160-24924-F-6	SHAD041DP026SS06 NS	3060A, 7196A	T	2.6505 g	100 mL				
160-24924-F-7	SHAD041DP022SS01 NS	3060A, 7196A	T	2.6456 g	100 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1

SDG No.:

Batch Number: 332230
Batch Start Date: 10/18/17 06:45
Batch Analyst: Vassilev, Nikolay P

Batch Method: 3060A
Batch End Date: 10/18/17 10:20

Batch Notes	
Alkaline Digestion Solution ID	1294952
Balance ID	1123051741
First End time	10:10
Potassium Chromate Vendor ID	Fisher
Potassium Phosphate Buffer Reagent ID	1299210
Magnesium Chloride ID	1299554
Magnesium Chloride Vendor	Macron
Pipette ID	IC003
First Start time	09:10
Ending Temperature	95 Celsius
Starting Temperature	95 Celsius
Uncorrected End Temperature	95 Celsius
Uncorrected Start Temperature	95 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Batch Number: 332594 Batch Start Date: 10/19/17 08:15 Batch Analyst: Vassilev, Nikolay P

Batch Method: 3060A Batch End Date: 10/19/17 11:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Cr6 100ppmCal 00060	Cr6 ERA soil 00010		
MB 160-332594/1		3060A, 7196A		2.6117 g	100 mL				
LCS 160-332594/2		3060A, 7196A		2.5053 g	100 mL	1 mL			
160-24924-F-8	SHAD041DP022SS02 NS	3060A, 7196A	T	2.5727 g	100 mL				
160-24924-F-9	SHAD041DP022SS03 NS	3060A, 7196A	T	2.5268 g	100 mL				
160-24924-F-9 MS	SHAD041DP022SS03 NS	3060A, 7196A	T	2.5400 g	100 mL	1 mL			
160-24924-F-9 MSD	SHAD041DP022SS03 NS	3060A, 7196A	T	2.5417 g	100 mL	1 mL			
160-24924-F-9 MSI	SHAD041DP022SS03 NS	3060A, 7196A	T	2.5647 g	100 mL		1.0616 g		
160-24924-F-10	SHAD041DP022SS04 NS	3060A, 7196A	T	2.5256 g	100 mL				
160-24924-F-11	SHAD041DP022SS05 NS	3060A, 7196A	T	2.5468 g	100 mL				
160-24924-F-12	SHAD041DP022SS06 NS	3060A, 7196A	T	2.5212 g	100 mL				
160-24924-F-13	SHAD041DP013SS01 NS	3060A, 7196A	T	2.5412 g	100 mL				
160-24924-E-14	SHAD041DP013SS02 NS	3060A, 7196A	T	2.5143 g	100 mL				
160-24924-F-15	SHAD041DP013SS03 NS	3060A, 7196A	T	2.6067 g	100 mL				
160-24924-E-16	SHAD041DP013SS04 NS	3060A, 7196A	T	2.5055 g	100 mL				
160-24924-E-17	SHAD041DP013SS05 NS	3060A, 7196A	T	2.5654 g	100 mL				
160-24924-F-18	SHAD041DP013SS05 DS	3060A, 7196A	T	2.6531 g	100 mL				
160-24924-F-19	SHAD041DP013SS06 NS	3060A, 7196A	T	2.5283 g	100 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1

SDG No.:

Batch Number: 332594
Batch Start Date: 10/19/17 08:15
Batch Analyst: Vassilev, Nikolay P

Batch Method: 3060A
Batch End Date: 10/19/17 11:00

Batch Notes	
Alkaline Digestion Solution ID	1294952
Balance ID	1123051741
First End time	10:50
Potassium Chromate Vendor ID	Fisher
Potassium Phosphate Buffer Reagent ID	1299210
Magnesium Chloride ID	1299554
Magnesium Chloride Vendor	Macron
Pipette ID	IC003
First Start time	09:50
Ending Temperature	95 Celsius
Starting Temperature	95 Celsius
Uncorrected End Temperature	95 Celsius
Uncorrected Start Temperature	95 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Batch Number: 332648   Batch Start Date: 10/19/17 09:33   Batch Analyst: Vassilev, Nikolay P

Batch Method: 7196A   Batch End Date: 10/19/17 13:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ColorBlk	UnCorResp	Cr6 5ppm Cal 00205	Cr6 5ppm QC 00201
IC 160-332648/1		7196A		50 mL	50 mL		0.000 Absorbance		
IC 160-332648/2		7196A		50 mL	50 mL		0.008 Absorbance	0.1 mL	
IC 160-332648/3		7196A		50 mL	50 mL		0.085 Absorbance	1 mL	
IC 160-332648/4		7196A		50 mL	50 mL		0.256 Absorbance	3 mL	
IC 160-332648/5		7196A		50 mL	50 mL		0.419 Absorbance	5 mL	
ICV 160-332648/6		7196A		50 mL	50 mL		0.209 Absorbance		2.5 mL
ICB 160-332648/7		7196A		50 mL	50 mL		0.000 Absorbance		
MB 160-332230/1-A		7196A		25 mL	25 mL	0.000 Absorbance	0.001 Absorbance		
LCS 160-332230/2-A		7196A		40 mL	40 mL	0.000 Absorbance	0.205 Absorbance		
CCV 160-332648/18		7196A		50 mL	50 mL		0.210 Absorbance		2.5 mL
CCB 160-332648/19		7196A		50 mL	50 mL		0.000 Absorbance		
160-24922-F-26-B MS		7196A	T	40 mL	40 mL	0.000 Absorbance	0.202 Absorbance		
160-24922-F-26-C MSD		7196A	T	40 mL	40 mL	0.000 Absorbance	0.204 Absorbance		
160-24922-F-26-D MSI		7196A	T	40 mL	40 mL	0.000 Absorbance	0.223 Absorbance		
160-24924-F-1-A	SHAD041DP026SS02 NS	7196A	T	25 mL	25 mL	0.031 Absorbance	0.117 Absorbance		
160-24924-F-2-A	SHAD041DP026SS03 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.008 Absorbance		
CCV 160-332648/30		7196A		50 mL	50 mL		0.210 Absorbance		2.5 mL
CCB 160-332648/31		7196A		50 mL	50 mL		0.000 Absorbance		
160-24924-F-3-A	SHAD041DP026SS04 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.007 Absorbance		
160-24924-F-4-A	SHAD041DP026SS05 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.020 Absorbance		
160-24924-F-5-A	SHAD041DP026SS05 DS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.018 Absorbance		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1
SDG No.:
Batch Number: 332648
Batch Start Date: 10/19/17 09:33
Batch Analyst: Vassilev, Nikolay P
Batch Method: 7196A
Batch End Date: 10/19/17 13:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ColorBlk	UnCorResp	Cr6 5ppm Cal 00205	Cr6 5ppm QC 00201
160-24924-F-6-A	SHAD041DP026SS06 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.008 Absorbance		
160-24924-F-7-A	SHAD041DP022SS01 NS	7196A	T	25 mL	25 mL	0.024 Absorbance	0.201 Absorbance		
CCV 160-332648/37		7196A		50 mL	50 mL		0.209 Absorbance		2.5 mL
CCB 160-332648/38		7196A		50 mL	50 mL		0.000 Absorbance		

Batch Notes	
Acid Used for pH Adjustment ID	1301787
Batch Comment	Balance ID: 1123051741
Spectrophotometer Cell Path Length	540 nm
Color Reagent ID	1303329
Pipette ID	WC J

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis   Job No.: 160-24924-1

SDG No.:

Batch Number: 332863   Batch Start Date: 10/20/17 08:43   Batch Analyst: Vassilev, Nikolay P

Batch Method: 7196A   Batch End Date: 10/20/17 12:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ColorBlk	UnCorResp	Initial pH	Final pH
IC 160-332863/1		7196A		50 mL	50 mL		0.000 Absorbance		
IC 160-332863/2		7196A		50 mL	50 mL		0.008 Absorbance		
IC 160-332863/3		7196A		50 mL	50 mL		0.085 Absorbance		
IC 160-332863/4		7196A		50 mL	50 mL		0.255 Absorbance		
IC 160-332863/5		7196A		50 mL	50 mL		0.417 Absorbance		
ICV 160-332863/6		7196A		50 mL	50 mL		0.213 Absorbance		
ICB 160-332863/7		7196A		50 mL	50 mL		0.000 Absorbance		
MB 160-332594/1-A		7196A		25 mL	25 mL	0.000 Absorbance	0.000 Absorbance		
LCS 160-332594/2-A		7196A		40 mL	40 mL	0.000 Absorbance	0.207 Absorbance	7.35 SU	1.98 SU
160-24924-F-8-A	SHAD041DP022SS02 NS	7196A	T	25 mL	25 mL	0.073 Absorbance	0.097 Absorbance	7.32 SU	1.85 SU
160-24924-F-9-A	SHAD041DP022SS03 NS	7196A	T	25 mL	25 mL	0.019 Absorbance	0.029 Absorbance	7.26 SU	1.88 SU
160-24924-F-9-B MS	SHAD041DP022SS03 NS	7196A	T	40 mL	40 mL	0.002 Absorbance	0.193 Absorbance	7.71 SU	1.90 SU
160-24924-F-9-C MSD	SHAD041DP022SS03 NS	7196A	T	40 mL	40 mL	0.003 Absorbance	0.197 Absorbance	7.19 SU	1.79 SU
160-24924-F-9-D MSI	SHAD041DP022SS03 NS	7196A	T	40 mL	40 mL	0.002 Absorbance	0.217 Absorbance	7.07 SU	1.85 SU
160-24924-F-10-A	SHAD041DP022SS04 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.009 Absorbance	7.44 SU	1.96 SU
160-24924-F-11-A	SHAD041DP022SS05 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.020 Absorbance	7.63 SU	1.90 SU
160-24924-F-12-A	SHAD041DP022SS06 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.005 Absorbance	7.52 SU	1.88 SU
CCV 160-332863/18		7196A		50 mL	50 mL		0.211 Absorbance		
CCB 160-332863/19		7196A		50 mL	50 mL		0.000 Absorbance		
160-24924-F-13-B	SHAD041DP013SS01 NS	7196A	T	25 mL	25 mL	0.031 Absorbance	0.049 Absorbance	7.66 SU	1.82 SU
160-24924-E-14-C	SHAD041DP013SS02 NS	7196A	T	25 mL	25 mL	0.009 Absorbance	0.016 Absorbance	7.75 SU	1.87 SU

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Batch Number: 332863 Batch Start Date: 10/20/17 08:43 Batch Analyst: Vassilev, Nikolay P

Batch Method: 7196A Batch End Date: 10/20/17 12:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ColorBlk	UnCorResp	Initial pH	Final pH
160-24924-F-15-A	SHAD041DP013SS03 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.006 Absorbance	7.54 SU	1.96 SU
160-24924-E-16-C	SHAD041DP013SS04 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.010 Absorbance	7.47 SU	1.85 SU
160-24924-E-17-C	SHAD041DP013SS05 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.010 Absorbance	7.39 SU	1.94 SU
160-24924-F-18-B	SHAD041DP013SS05 DS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.016 Absorbance	7.22 SU	1.90 SU
160-24924-F-19-B	SHAD041DP013SS06 NS	7196A	T	25 mL	25 mL	0.000 Absorbance	0.005 Absorbance	7.29 SU	1.88 SU
CCV 160-332863/30		7196A		50 mL	50 mL		0.212 Absorbance		
CCB 160-332863/31		7196A		50 mL	50 mL		0.000 Absorbance		

Lab Sample ID	Client Sample ID	Method Chain	Basis	Cr6 5ppm Cal 00205	Cr6 5ppm QC 00201				
IC 160-332863/1		7196A							
IC 160-332863/2		7196A		0.1 mL					
IC 160-332863/3		7196A		1 mL					
IC 160-332863/4		7196A		3 mL					
IC 160-332863/5		7196A		5 mL					
ICV 160-332863/6		7196A			2.5 mL				
ICB 160-332863/7		7196A							
MB 160-332594/1-A		7196A							
LCS 160-332594/2-A		7196A							
160-24924-F-8-A	SHAD041DP022SS02 NS	7196A	T						
160-24924-F-9-A	SHAD041DP022SS03 NS	7196A	T						
160-24924-F-9-B MS	SHAD041DP022SS03 NS	7196A	T						
160-24924-F-9-C MSD	SHAD041DP022SS03 NS	7196A	T						
160-24924-F-9-D MSI	SHAD041DP022SS03 NS	7196A	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis　Job No.: 160-24924-1

SDG No.:

Batch Number: 332863　Batch Start Date: 10/20/17 08:43　Batch Analyst: Vassilev, Nikolay P

Batch Method: 7196A　Batch End Date: 10/20/17 12:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	Cr6 5ppm Cal 00205	Cr6 5ppm QC 00201				
160-24924-F-10-A	SHAD041DP022SS04 NS	7196A	T						
160-24924-F-11-A	SHAD041DP022SS05 NS	7196A	T						
160-24924-F-12-A	SHAD041DP022SS06 NS	7196A	T						
CCV 160-332863/18		7196A			2.5 mL				
CCB 160-332863/19		7196A							
160-24924-F-13-B	SHAD041DP013SS01 NS	7196A	T						
160-24924-E-14-C	SHAD041DP013SS02 NS	7196A	T						
160-24924-F-15-A	SHAD041DP013SS03 NS	7196A	T						
160-24924-E-16-C	SHAD041DP013SS04 NS	7196A	T						
160-24924-E-17-C	SHAD041DP013SS05 NS	7196A	T						
160-24924-F-18-B	SHAD041DP013SS05 DS	7196A	T						
160-24924-F-19-B	SHAD041DP013SS06 NS	7196A	T						
CCV 160-332863/30		7196A			2.5 mL				
CCB 160-332863/31		7196A							

Batch Notes	
Acid Used for pH Adjustment ID	1301787
Batch Comment	Balance ID: 1123051741
Spectrophotometer Cell Path Length	540 nm
Color Reagent ID	1303329
Pipette ID	WC J

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis
Job No.: 160-24924-1

SDG No.:

Batch Number: 330807
Batch Start Date: 10/08/17 14:21
Batch Analyst: Braatz, Steve D

Batch Method: Moisture
Batch End Date: 10/09/17 09:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry		
160-24922-D-19 DU		Moisture	T	2	1.0453 g	16.0446 g	13.2124 g		
160-24924-D-1	SHAD041DP026SS02 NS	Moisture	T	13	1.0142 g	13.6258 g	13.4508 g		
160-24924-D-2	SHAD041DP026SS03 NS	Moisture	T	14	1.0614 g	21.6562 g	19.1618 g		
160-24924-D-3	SHAD041DP026SS04 NS	Moisture	T	15	1.0825 g	13.2129 g	12.0495 g		
160-24924-D-4	SHAD041DP026SS05 NS	Moisture	T	16	1.0636 g	14.9820 g	12.1893 g		
160-24924-D-5	SHAD041DP026SS05 DS	Moisture	T	17	1.0763 g	15.4880 g	11.6707 g		
160-24924-D-6	SHAD041DP026SS06 NS	Moisture	T	18	1.0823 g	25.4420 g	22.0558 g		
160-24924-D-7	SHAD041DP022SS01 NS	Moisture	T	19	1.0446 g	25.4968 g	25.4290 g		
160-24924-D-8	SHAD041DP022SS02 NS	Moisture	T	20	1.0532 g	23.7215 g	23.4984 g		
160-24924-D-9	SHAD041DP022SS03 NS	Moisture	T	21	1.0526 g	28.3146 g	27.7652 g		
160-24924-D-10	SHAD041DP022SS04 NS	Moisture	T	22	1.0346 g	17.9867 g	15.6609 g		
160-24924-D-11	SHAD041DP022SS05 NS	Moisture	T	23	1.0406 g	17.7604 g	15.7294 g		
160-24924-D-12	SHAD041DP022SS06 NS	Moisture	T	24	1.0344 g	10.3508 g	9.3433 g		
160-24924-D-13	SHAD041DP013SS01 NS	Moisture	T	25	1.0694 g	31.9689 g	31.8106 g		
160-24924-D-14	SHAD041DP013SS02 NS	Moisture	T	26	1.0505 g	13.5233 g	12.8407 g		
160-24924-D-15	SHAD041DP013SS03 NS	Moisture	T	27	1.0441 g	14.1943 g	12.4378 g		
160-24924-D-16	SHAD041DP013SS04 NS	Moisture	T	28	1.0913 g	13.5150 g	11.6279 g		
160-24924-D-17	SHAD041DP013SS05 NS	Moisture	T	29	1.0247 g	6.9272 g	5.5131 g		
160-24924-D-18	SHAD041DP013SS05 DS	Moisture	T	30	1.0551 g	6.5779 g	5.4847 g		
160-24924-D-19	SHAD041DP013SS06 NS	Moisture	T	31	1.0537 g	17.8643 g	15.1352 g		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica St. Louis Job No.: 160-24924-1

SDG No.:

Batch Number: 330807 Batch Start Date: 10/08/17 14:21 Batch Analyst: Braatz, Steve D

Batch Method: Moisture Batch End Date: 10/09/17 09:10

Batch Notes	
Balance ID	0034150065 No Unit
Batch Comment	TRAY B
Date samples were placed in the oven	10-8-17
Oven Temp In	102.7 Degrees C
Time samples were place in the oven	21:10
Date samples were removed from oven	10/9/17
Oven Temp Out	102.9 Degrees C
Time Samples were removed from oven	09:10
Oven ID	OA
Thermometer ID	A142186

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

Ahtna Environmental, Inc.

296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

WATER / [✓ SOIL]

Chain of Custody #: 201710-
Carbon Copies: White - Laboratory Yellow - Ahtna

160-24924 Chain of Custody

Project Information:

Project Location: Sharpe Army Depot, Lathrop, CA **Sampler/s:** B. Foster

Project Name: SHAD-041 RI/FS **Report To:** Sylvester Kosowski

Project Number: 05122.16 **E-Mail:** skosowski@htna.net

Sampling Event: SHAD-041 RI/FS **Laboratory:** Test America

Lab Sample Receipt

Laboratory Sample Delivery

Group #:

Custody Seal:

Temp (°C):

		Sample Collection		Matrix				Number of Preserved Bottles								Analysis Requested								
Lab Number	Sample Number/Description	Date	Time	Water	Soil	Other	Total # of Bottles	HCl	HNO_3	H_2SO_4	NaOH	MeOH	$NaHSO^4$	None	Other	Radium 226 (901.1)	VOCs (8260C)	Hexavalent Chromium (7196A)	Lead, Chromium (6010C)	PAHs (8270D)	PCBs (8082A)	PCDD/PCDF (8290A)		Notes
	~~SHAD041DP026SS01NS~~	10/5/17			X												X	X	X	X	X	X		RK
	SHAD041DP026SS02NS	10/5/17	1604		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP026SS03NS	10/5/17	1611		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP026SS04NS	10/5/17	1615		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP026SS05NS	10/5/17	1622		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP026SS05DS	10/5/17	1626		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP026SS06NS	10/5/17	1631		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP022SS01NS	10/5/17	1645		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP022SS02NS	10/5/17	1655		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP022SS03NS	10/5/17	1659		X		21					3		18			X	X	X	X	X	X		MS/MSD
	SHAD041DP022SS04NS	10/5/17	1710		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP022SS05NS	10/5/17	1715		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP022SS06NS	10/5/17	1723		X		7					1		6			X	X	X	X	X	X		
		~~10/ /17~~																						RK
		~~10/ /17~~																						RK

Turnaround Time: X : Standard ____ : 3-5 Day Rush ____ : 48 Hour Rush ____ : 24 Hour Rush

Shipment: Method: FedEx Tracking ID:

Comments:

Chain of Custody Tracking:

Relinquished By Sampler: B Fost	**Date/Time:** 10/6/17 @ 1545	**Received By:** Bill Clark	**Date/Time:** 10.7.17 0850
Relinquished By:	**Date/Time:**	**Received By:**	**Date/Time:**
Relinquished By:	**Date/Time:**	**Received By Laboratory:**	**Date/Time:**

Ahtna Environmental, Inc.

296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

WATER / [✓ SOIL]

Chain of Custody #: 201710-

Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:

Project Location: Sharpe Army Depot, Lathrop, CA **Sampler/s:** B.Foster

Project Name: SHAD-041 RI/FS **Report To:** Sylvester Kosowski

Project Number: 05122.16 **E-Mail:** skosowski@htna.net

Sampling Event: SHAD-041 RI/FS **Laboratory:** Test America

Lab Sample Receipt

Laboratory Sample Delivery

Group #:

Custody Seal:

Temp (°C):

Lab Number	Sample Number/Description	Sample Collection: Date	Time	Matrix: Water	Soil	Other	Total # of Bottles	Number of Preserved Bottles: HCl	HNO_3	H_2SO_4	NaOH	MeOH	$NaHSO^4$	None	Other	Analysis Requested: Radium 226 (901.1)	VOCs (8260C)	Hexavalent Chromium (7196A)	Lead, Chromium (6010C)	PAHs (8270D)	PCBs (8082A)	PCDD/PCDF (8290A)		Notes
	SHAD041DP013SS01NS	10/5/17	1423		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS02NS	10/5/17	1434		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS03NS	10/5/17	1444		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS04NS	10/5/17	1506		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS05NS	10/5/17	1510		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS05DS	10/5/17	1515		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS06NS	10/5/17	1518		X		7					1		6			X	X	X	X	X	X		
	TB-100617-7	10/6/17	1303	X			3	3									X							
	TB-100617-8	10/6/17	1303	X			3	3									X							
	TB-100617-9	10/6/17	1303	X			3	3									X							
	TB-100617-10	10/6/17	1303	X			3	3									X							
		10/__/17																						
		10/__/17																						
		10/__/17																						
		10/__/17																						

RK
RK
RK
RK

Turnaround Time: X : Standard ____ : 3-5 Day Rush ____ : 48 Hour Rush ____ : 24 Hour Rush

Shipment: Method: FedEx Tracking ID:

Comments:

Chain of Custody Tracking:

Relinquished By Sampler: B Fost	**Date/Time:** 10/6/17 @ 1545	**Received By:** Jill Clark	**Date/Time:** 10.7.17 0850
Relinquished By:	**Date/Time:**	**Received By:**	**Date/Time:**
Relinquished By:	**Date/Time:**	**Received By Laboratory:**	**Date/Time:**

Login Sample Receipt Checklist

Client: Ahtna Engineering Services LLC

Job Number: 160-24924-1

Login Number: 24924

List Source: TestAmerica St. Louis

List Number: 1

Creator: Clarke, Jill C

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 160-24924-2

Job Description: Sharpe Army Depot - Task 16

For:
Ahtna Engineering Services LLC
296 12th Street
Marina, CA 93933

Attention: Rachel Kerr

Rhonda Ridenhower

Approved for release.
Rhonda E Ridenhower
Manager of Project Management
12/7/2017 4:26 PM

Rhonda E Ridenhower, Manager of Project Management
13715 Rider Trail North, Earth City, MO, 63045
rhonda.ridenhower@testamericainc.com
12/07/2017

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. Pursuant to NELAP, this report shall not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager.

Louisiana Lab Certification ID (Non-Potable, Solid/Haz. Material): 106151
Florida Lab Certification ID (Drinking Water): E87689.

TestAmerica Laboratories, Inc.
TestAmerica St. Louis   13715 Rider Trail North, Earth City, MO 63045
Tel (314) 298-8566 Fax (314) 298-8757 www.testamericainc.com

Table of Contents

Table of Contents

Qualifiers

Dioxin

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
B	Blank contamination: The analyte was detected above one-half the reporting limit in an associated blank.
H	Sample was prepped or analyzed beyond the specified holding time
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: Ahtna Engineering Services LLC

Project: Sharpe Army Depot - Task 16

Report Number: 160-24924-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt
Manual Integrations were performed only when necessary and are in compliance with the laboratory's standard operating procedure. Detailed information can be found in the raw data section of the level IV report.

The following clean-up methods for Organic analyses may have been used on the samples in this data set. Specific methods employed are documented on the batch extraction logs:

Method 3600C: Cleanup
Method 3620C: Florisil Cleanup
Method 3630C: Silica Gel Cleanup
Method 3640A: Gel-Permeation Cleanup
Method 3650B: Acid-Base Partition Cleanup
Method 3660B: Sulfur Cleanup
Method 3665A: Sulfuric Acid/Permanganate Cleanup

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 10/07/2017; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 17 coolers at receipt time were 0.3º C, 1.1º C, 1.2º C, 1.3º C, 1.5º C, 1.5º C, 1.6º C, 1.7º C, 1.7º C, 1.8º C, 2.2º C, 2.7º C, 2.8º C, 3.1º C, 3.6º C, 4.4º C and 5.3º C.

DIOXINS AND FURANS

Samples SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS04NS (160-24924-3), SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS05DS (160-24924-5), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS01NS (160-24924-7), SHAD041DP022SS02NS (160-24924-8), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS01NS (160-24924-13), SHAD041DP013SS02NS (160-24924-14), SHAD041DP013SS03NS (160-24924-15), SHAD041DP013SS04NS (160-24924-16), SHAD041DP013SS05NS (160-24924-17), SHAD041DP013SS05DS (160-24924-18) and SHAD041DP013SS06NS (160-24924-19) were analyzed for Dioxins and Furans in accordance with SW846 8290A. The samples were prepared on 10/17/2017 and 11/16/2017 and analyzed on 11/07/2017, 11/08/2017, 11/11/2017, 11/12/2017, 11/14/2017, 11/18/2017, 11/19/2017 and 12/05/2017.

OCDD was detected in method blank MB 320-189721/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8-HxCDD and OCDF were detected in method blank MB 320-189721/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. OCDD was detected in method blank MB 320-195095/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,4,7,8-HxCDD and OCDF were detected in method blank MB 320-195095/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-189721 and analytical batch 320-194085 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

There are Isotope Dilution Analyte (IDA) recoveries associated with the following samples below the method recommended limit: SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS03NS (160-24924-9[MS]), SHAD041DP022SS03NS (160-24924-9[MSD]), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS05DS (160-24924-18) and SHAD041DP013SS06NS (160-24924-19). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples. Re-analysis confirms the result.

The following samples exhibited elevated noise or matrix interferences for one or more analytes causing elevation of the detection limit (EDL): SHAD041DP026SS02NS (160-24924-1) and SHAD041DP022SS01NS (160-24924-7) . The reporting limit (RL) for the affected analytes has been raised to be equal to the EDL.

The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS03NS (160-24924-9[MSD]), SHAD041DP013SS02NS (160-24924-14) and SHAD041DP013SS03NS (160-24924-15). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples. The results were either acceptable or confirmed in the initial extraction of these samples.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for 320-195095 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

The method blank (MB) for extraction batch 320-189721 contained OCDD above the reporting limit (RL). While OCDD and OCDF are considered common laboratory contaminants, DOD does not recognize this in the QSM. The associated samples were re-extracted and re-analyzed outside the recommended 30 day extraction holding time in extraction batch 195095 as a result. This subsequent extraction also has OCDD detected in the MB at the same level as the original extraction. After consultation with the client TestAmerica was instructed to report these data sets.

Two sets of data are reported here - the initial extraction from October 17, 2017 in extraction batch 189721 and the second extraction performed on November 16, 2017 in extraction batch 195095. Most of the samples have comparable results which show the contribution of any laboratory contamination as having minimal impact. There are a few samples that do not have comparable results, which could be due to contribution from the lab or possible sample matrix non-homogeneity, which is common with solid samples.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Dioxin Prep

Method(s) 8290: The following samples was re-prepared outside of preparation holding time due to MB contamination during initial extraction. SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS04NS (160-24924-3), SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS05DS (160-24924-5), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS01NS (160-24924-7), SHAD041DP022SS02NS (160-24924-8), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS03NS (160-24924-9[MS]), SHAD041DP022SS03NS (160-24924-9[MSD]), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS01NS (160-24924-13), SHAD041DP013SS02NS (160-24924-14), SHAD041DP013SS03NS (160-24924-15), SHAD041DP013SS04NS (160-24924-16), SHAD041DP013SS05NS (160-24924-17), SHAD041DP013SS05DS (160-24924-18) and SHAD041DP013SS06NS (160-24924-19).

Method(s) 8290: The following sample(s): SHAD041DP026SS02NS (160-24924-1), SHAD041DP026SS03NS (160-24924-2), SHAD041DP026SS04NS (160-24924-3), SHAD041DP026SS05NS (160-24924-4), SHAD041DP026SS05DS (160-24924-5), SHAD041DP026SS06NS (160-24924-6), SHAD041DP022SS01NS (160-24924-7), SHAD041DP022SS02NS (160-24924-8), SHAD041DP022SS03NS (160-24924-9), SHAD041DP022SS03NS (160-24924-9[MS]), SHAD041DP022SS03NS (160-24924-9[MSD]), SHAD041DP022SS04NS (160-24924-10), SHAD041DP022SS05NS (160-24924-11), SHAD041DP022SS06NS (160-24924-12), SHAD041DP013SS01NS (160-24924-13), SHAD041DP013SS02NS (160-24924-14), SHAD041DP013SS03NS (160-24924-15), SHAD041DP013SS04NS (160-24924-16), SHAD041DP013SS05NS (160-24924-17), SHAD041DP013SS05DS (160-24924-18) and SHAD041DP013SS06NS (160-24924-19) were re-prepped outside of preparation holding time due to MB contaminated with OCDD above 1/2 of the LOQ.

Detection Summary

Client Sample ID: SHAD041DP026SS02NS — Lab Sample ID: 160-24924-1

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	7.9		1.0	0.47	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	51		5.1	2.2	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	9.7		5.1	3.2	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	18		5.1	3.2	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	30		6.6	6.6	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	420		5.1	5.1	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	240		5.1	5.1	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	20	M	5.1	4.8	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	28		5.1	4.0	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	22		5.1	4.5	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	1800		36	36	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	320	M	8.9	8.9	pg/g	1	☼	8290A	Total/NA
OCDD	2800	B	10	4.3	pg/g	1	☼	8290A	Total/NA
OCDF	210		10	0.26	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF - RA	12		1.0	0.65	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDD - RE	6.7	H	1.0	0.65	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD - RE	41	H	5.0	2.6	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF - RE	7.4	H M	5.0	4.8	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF - RE	14	H	5.0	4.9	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	16	H	5.0	3.8	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	380	H	5.0	3.5	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	190	H	5.0	3.3	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF - RE	22	H M	5.0	3.0	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF - RE	33	H	5.0	2.7	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF - RE	24	H	5.0	2.9	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	1400	H	17	17	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	410	H	6.3	6.3	pg/g	1	☼	8290A	Total/NA
OCDD - RE	1300	H B	10	0.85	pg/g	1	☼	8290A	Total/NA
OCDF - RE	240	H	10	0.23	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF - RERA	15	H M	1.8	1.8	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP026SS03NS — Lab Sample ID: 160-24924-2

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.69	J	1.1	0.10	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	4.2	J	5.7	0.27	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	0.75	J	5.7	0.22	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	1.3	J	5.7	0.22	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	2.3	J M	5.7	0.84	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	47		5.7	0.64	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	23		5.7	0.64	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	2.1	J	5.7	0.31	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	1.8	J	5.7	0.34	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	130		5.7	2.7	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	33		5.7	1.0	pg/g	1	☼	8290A	Total/NA
OCDD	200	B	11	0.44	pg/g	1	☼	8290A	Total/NA
OCDF	25		11	0.11	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF - RA	0.96	J	1.1	0.19	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDD - RE	0.99	J H	1.1	0.16	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD - RE	4.9	J H M	5.7	0.37	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SHAD041DP026SS03NS (Continued) Lab Sample ID: 160-24924-2

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF - RE	0.93	J H M	5.7	0.30	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF - RE	1.5	J H	5.7	0.31	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	2.0	J H	5.7	0.53	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	44	H	5.7	0.48	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	23	H	5.7	0.46	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF - RE	3.7	J H	5.7	0.34	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF - RE	2.7	J H	5.7	0.31	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF - RE	2.0	J H	5.7	0.33	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	130	H	5.7	1.8	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	33	H	5.7	0.53	pg/g	1	☼	8290A	Total/NA
OCDD - RE	220	H B	11	0.28	pg/g	1	☼	8290A	Total/NA
OCDF - RE	26	H	11	0.12	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF - RERA	1.4	H	1.1	0.43	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP026SS04NS Lab Sample ID: 160-24924-3

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.20	J M	5.5	0.087	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.16	J M	5.5	0.067	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	0.94	J	5.5	0.085	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	0.18	J	5.5	0.11	pg/g	1	☼	8290A	Total/NA
OCDD	6.8	J B	11	0.085	pg/g	1	☼	8290A	Total/NA
OCDF	0.26	J	11	0.078	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.37	J H	5.5	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	0.29	J H	5.5	0.10	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	0.18	J H	5.5	0.097	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	21	H M	5.5	0.48	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	2.4	J H	5.5	0.22	pg/g	1	☼	8290A	Total/NA
OCDD - RE	590	H B	11	0.46	pg/g	1	☼	8290A	Total/NA
OCDF - RE	50	H	11	0.23	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP026SS05NS Lab Sample ID: 160-24924-4

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.47	J	6.1	0.089	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.34	J	6.1	0.068	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDF	0.064	J	6.1	0.044	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	1.7	J M	6.1	0.093	pg/g	1	☼	8290A	Total/NA
OCDD	8.8	J B	12	0.091	pg/g	1	☼	8290A	Total/NA
OCDF	0.51	J	12	0.093	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.59	J H	6.3	0.10	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	0.42	J H	6.3	0.091	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	3.6	J H M	6.3	0.18	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	0.39	J H	6.3	0.15	pg/g	1	☼	8290A	Total/NA
OCDD - RE	31	H B	13	0.23	pg/g	1	☼	8290A	Total/NA
OCDF - RE	2.7	J H	13	0.20	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP026SS05DS Lab Sample ID: 160-24924-5

Client Sample ID: SHAD041DP026SS05DS (Continued) Lab Sample ID: 160-24924-5

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.33	J	6.8	0.058	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.29	J	6.8	0.045	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.40	J	6.8	0.044	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDF	0.073	J	6.8	0.033	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	0.052	J M	6.8	0.031	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	3.1	J	6.8	0.081	pg/g	1	☼	8290A	Total/NA
OCDD	17	B	14	0.070	pg/g	1	☼	8290A	Total/NA
OCDF	0.77	J	14	0.045	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.38	J H	6.8	0.12	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	0.43	J H	6.8	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	0.49	J H M	6.8	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDF - RE	0.22	J H	6.8	0.12	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF - RE	0.22	J H	6.8	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	6.2	J H	6.8	0.24	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF - RE	1.8	J H	6.8	0.62	pg/g	1	☼	8290A	Total/NA
OCDD - RE	53	H B	14	0.26	pg/g	1	☼	8290A	Total/NA
OCDF - RE	6.9	J H	14	0.16	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP026SS06NS Lab Sample ID: 160-24924-6

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.41	J M	5.9	0.12	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.27	J M	5.9	0.091	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.52	J	5.9	0.090	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDF	0.29	J M	5.9	0.15	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	0.28	J	5.9	0.14	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	2.2	J	5.9	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	0.81	J M	5.9	0.14	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	1.7	J	5.9	0.17	pg/g	1	☼	8290A	Total/NA
OCDD	13	B	12	0.12	pg/g	1	☼	8290A	Total/NA
OCDF	6.8	J	12	0.20	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	0.13	J H	5.8	0.060	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	0.93	J H M	5.8	0.12	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	0.19	J H	5.8	0.072	pg/g	1	☼	8290A	Total/NA
OCDD - RE	10	J H B	12	0.13	pg/g	1	☼	8290A	Total/NA
OCDF - RE	1.3	J H	12	0.11	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP022SS01NS Lab Sample ID: 160-24924-7

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.78	J	1.0	0.30	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	7.3		5.0	1.3	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	62		5.0	1.0	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	30		5.0	1.0	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	4.8	J M	5.0	1.5	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	9.4		5.0	1.3	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	3.9	J	5.0	1.4	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	500		6.8	6.8	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	190		5.0	2.4	pg/g	1	☼	8290A	Total/NA
OCDD	2300	B	10	4.2	pg/g	1	☼	8290A	Total/NA

Detection Summary

Client Sample ID: SHAD041DP022SS01NS (Continued) Lab Sample ID: 160-24924-7

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDF	180		10	0.40	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF - RA	1.5	M	1.0	0.35	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDD - RE	1.1	H M	1.0	0.15	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD - RE	7.7	H	5.0	1.5	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	9.2	H	5.0	1.8	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	120	H	5.0	1.6	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	54	H	5.0	1.6	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF - RE	6.4	H M	5.0	1.8	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF - RE	16	H	5.0	1.6	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF - RE	6.4	H	5.0	1.7	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	840	H	8.7	8.7	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	340	H	8.3	8.3	pg/g	1	☼	8290A	Total/NA
OCDD - RE	3000	H B	10	1.9	pg/g	1	☼	8290A	Total/NA
OCDF - RE	150	H	10	0.28	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF - RERA	2.0	H M	1.0	0.85	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP022SS02NS Lab Sample ID: 160-24924-8

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.2		1.0	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	3.1	J	5.1	0.44	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	3.4	J	5.1	0.29	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	6.1		5.1	0.30	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	3.0	J	5.1	0.39	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	15		5.1	0.30	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	8.4	M	5.1	0.30	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	4.4	J M	5.1	0.69	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	5.6	M	5.1	0.57	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	5.1		5.1	0.64	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	130		5.1	1.6	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	45		5.1	0.84	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	1.6	J	5.1	1.0	pg/g	1	☼	8290A	Total/NA
OCDD	410	B	10	0.68	pg/g	1	☼	8290A	Total/NA
OCDF	23		10	0.22	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF - RA	7.9		1.0	0.29	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDD - RE	1.3	H	1.0	0.21	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD - RE	3.1	J H	5.1	0.58	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF - RE	3.6	J H	5.1	0.52	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF - RE	6.2	H	5.1	0.53	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	3.0	J H	5.1	0.23	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	14	H	5.1	0.20	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	7.9	M H	5.1	0.20	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF - RE	5.0	J M H	5.1	0.48	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF - RE	6.7	M H	5.1	0.44	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF - RE	5.3	H	5.1	0.47	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	120	H	5.1	1.4	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	44	H	5.1	0.74	pg/g	1	☼	8290A	Total/NA
OCDD - RE	400	H B	10	0.40	pg/g	1	☼	8290A	Total/NA
OCDF - RE	26	H	10	0.13	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF - RERA	7.4	H	1.0	0.52	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Client Sample ID: SHAD041DP022SS03NS

Lab Sample ID: 160-24924-9

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.60	J	5.1	0.19	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	0.56	J M	5.1	0.21	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	0.94	J	5.1	0.21	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.73	J	5.1	0.16	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	3.0	J	5.1	0.12	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	2.3	J	5.1	0.12	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	0.56	J M	5.1	0.28	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	1.3	J	5.1	0.23	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	0.83	J	5.1	0.26	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	25		5.1	0.33	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	42	J	5.1	0.71	pg/g	1	☼	8290A	Total/NA
OCDD	100	B	10	0.34	pg/g	1	☼	8290A	Total/NA
OCDF	25		10	0.25	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF - RA	1.3	M	1.0	0.18	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD - RE	0.42	J H	5.1	0.19	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF - RE	0.77	J H	5.1	0.22	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF - RE	0.75	J H	5.1	0.23	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.49	J H	5.1	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	2.8	J H	5.1	0.10	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	2.0	J H	5.1	0.097	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF - RE	1.3	J M H	5.1	0.25	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF - RE	1.4	J H	5.1	0.23	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF - RE	0.72	J H	5.1	0.24	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	23	H J	5.1	0.31	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	46	H	5.1	0.60	pg/g	1	☼	8290A	Total/NA
OCDD - RE	110	H B J	10	0.25	pg/g	1	☼	8290A	Total/NA
OCDF - RE	23	H	10	0.18	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF - RERA	0.43	J M H	1.0	0.38	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP022SS04NS

Lab Sample ID: 160-24924-10

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.44	J	5.8	0.083	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.21	J M	5.8	0.063	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDF	0.10	J	5.8	0.070	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	2.1	J	5.8	0.12	pg/g	1	☼	8290A	Total/NA
OCDD	17	B	12	0.15	pg/g	1	☼	8290A	Total/NA
OCDF	1.9	J	12	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	0.27	J H	5.7	0.077	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDF - RE	0.18	J H	5.7	0.088	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	1.7	J H	5.7	0.15	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	0.38	J H	5.7	0.12	pg/g	1	☼	8290A	Total/NA
OCDD - RE	15	H B	11	0.15	pg/g	1	☼	8290A	Total/NA
OCDF - RE	2.1	J H	11	0.13	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP022SS05NS

Lab Sample ID: 160-24924-11

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,4,7,8-PeCDF	0.13	J M	5.7	0.057	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.84	J M	5.7	0.084	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SHAD041DP022SS05NS (Continued) Lab Sample ID: 160-24924-11

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	0.78	J	5.7	0.065	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.93	J	5.7	0.064	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	0.30	J	5.7	0.060	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	0.33	J	5.7	0.049	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDF	0.71	J	5.7	0.059	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	0.87	J	5.7	0.055	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	2.6	J	5.7	0.098	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	1.6	J	5.7	0.081	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	1.9	J M	5.7	0.099	pg/g	1	☼	8290A	Total/NA
OCDD	9.8	J B	11	0.12	pg/g	1	☼	8290A	Total/NA
OCDF	5.2	J	11	0.14	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDD - RE	0.13	J H	1.1	0.075	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.23	J H	5.7	0.077	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	2.6	J H	5.7	0.18	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	0.46	J H	5.7	0.11	pg/g	1	☼	8290A	Total/NA
OCDD - RE	18	H B	11	0.14	pg/g	1	☼	8290A	Total/NA
OCDF - RE	2.2	J H	11	0.13	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP022SS06NS Lab Sample ID: 160-24924-12

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.33	J	5.5	0.087	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.28	J	5.5	0.067	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDF	0.18	J M	5.5	0.060	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	0.13	J	5.5	0.056	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	0.90	J M	5.5	0.084	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	0.32	J	5.5	0.062	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	0.42	J	5.5	0.076	pg/g	1	☼	8290A	Total/NA
OCDD	4.1	J B	11	0.12	pg/g	1	☼	8290A	Total/NA
OCDF	1.7	J	11	0.18	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.29	J H	5.7	0.087	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	0.24	J H	5.7	0.075	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	1.9	J H	5.7	0.20	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	0.39	J H	5.7	0.24	pg/g	1	☼	8290A	Total/NA
OCDD - RE	27	H B	11	0.29	pg/g	1	☼	8290A	Total/NA
OCDF - RE	3.3	J H	11	0.20	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP013SS01NS Lab Sample ID: 160-24924-13

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.15	J M	1.0	0.097	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	0.79	J	5.0	0.19	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.99	J	5.0	0.25	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	5.8		5.0	0.20	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	3.7	J	5.0	0.19	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	2.5	J M	5.0	0.30	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	0.70	J	5.0	0.33	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	63		5.0	0.91	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	32		5.0	0.43	pg/g	1	☼	8290A	Total/NA
OCDD	500	B	10	0.86	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client Sample ID: SHAD041DP013SS01NS (Continued) Lab Sample ID: 160-24924-13

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDF	31		10	0.23	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD - RE	0.99	J H	5.0	0.22	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.79	J H	5.0	0.16	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	5.5	H	5.0	0.14	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	3.4	J H	5.0	0.14	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF - RE	0.91	J H	5.0	0.39	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF - RE	2.9	J H	5.0	0.36	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF - RE	0.86	J H	5.0	0.38	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	55	H	5.0	0.59	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	30	H	5.0	0.39	pg/g	1	☼	8290A	Total/NA
OCDD - RE	430	H B	10	0.47	pg/g	1	☼	8290A	Total/NA
OCDF - RE	28	H	10	0.22	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP013SS02NS Lab Sample ID: 160-24924-14

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.25	J	5.2	0.094	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.33	J M	5.2	0.087	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.88	J M	5.2	0.067	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.98	J	5.2	0.066	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	0.54	J	5.2	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	6.8		5.2	0.13	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	2.2	J	5.2	0.12	pg/g	1	☼	8290A	Total/NA
OCDD	49	B	10	0.15	pg/g	1	☼	8290A	Total/NA
OCDF	3.2	J	10	0.086	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	0.88	J H	5.2	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	0.92	J H	5.2	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF - RE	0.36	J H M	5.2	0.10	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	5.0	J H	5.2	0.27	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	1.9	J H	5.2	0.20	pg/g	1	☼	8290A	Total/NA
OCDD - RE	36	H B	10	0.45	pg/g	1	☼	8290A	Total/NA
OCDF - RE	3.3	J H	10	0.26	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP013SS03NS Lab Sample ID: 160-24924-15

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.084	J	5.7	0.058	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.25	J	5.7	0.069	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.49	J	5.7	0.053	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.61	J	5.7	0.053	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	0.061	J	5.7	0.045	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDF	0.10	J	5.7	0.055	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	1.9	J	5.7	0.074	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	0.34	J	5.7	0.064	pg/g	1	☼	8290A	Total/NA
OCDD	9.4	J B	11	0.086	pg/g	1	☼	8290A	Total/NA
OCDF	1.2	J	11	0.072	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.26	J H	5.7	0.079	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	0.30	J H	5.7	0.072	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	0.52	J H	5.7	0.069	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	1.7	J H	5.7	0.15	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SHAD041DP013SS03NS (Continued) — Lab Sample ID: 160-24924-15

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDF - RE	0.45	J H	5.7	0.28	pg/g	1	☼	8290A	Total/NA
OCDD - RE	15	H B	11	0.20	pg/g	1	☼	8290A	Total/NA
OCDF - RE	1.2	J H	11	0.13	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP013SS04NS — Lab Sample ID: 160-24924-16

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.19	J	5.9	0.069	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.23	J	5.9	0.053	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.35	J	5.9	0.053	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	0.95	J	5.9	0.082	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	0.14	J	5.9	0.072	pg/g	1	☼	8290A	Total/NA
OCDD	4.0	J B	12	0.088	pg/g	1	☼	8290A	Total/NA
OCDF	0.25	J	12	0.10	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.23	J H M	6.0	0.075	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	0.33	J H	6.0	0.065	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF - RE	0.088	J H	6.0	0.056	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	1.5	J H	6.0	0.13	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	0.55	J H	6.0	0.098	pg/g	1	☼	8290A	Total/NA
OCDD - RE	15	H B	12	0.18	pg/g	1	☼	8290A	Total/NA
OCDF - RE	3.7	J H	12	0.13	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP013SS05NS — Lab Sample ID: 160-24924-17

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.22	J	6.6	0.096	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.41	J	6.6	0.074	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.49	J	6.6	0.073	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	2.8	J	6.6	0.097	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	0.41	J	6.6	0.071	pg/g	1	☼	8290A	Total/NA
OCDD	12	J B	13	0.10	pg/g	1	☼	8290A	Total/NA
OCDF	0.58	J	13	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.20	J H	6.6	0.072	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD - RE	0.18	J H	6.6	0.065	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD - RE	0.22	J H	6.6	0.062	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	2.7	J H	6.6	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	0.33	J H	6.6	0.089	pg/g	1	☼	8290A	Total/NA
OCDD - RE	20	H B	13	0.15	pg/g	1	☼	8290A	Total/NA
OCDF - RE	1.8	J H	13	0.081	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP013SS05DS — Lab Sample ID: 160-24924-18

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.21	J M	6.2	0.099	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.10	J M	6.2	0.076	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.22	J M	6.2	0.076	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	1.3	J M	6.2	0.090	pg/g	1	☼	8290A	Total/NA
OCDD	7.5	J B	12	0.12	pg/g	1	☼	8290A	Total/NA
OCDF	0.27	J	12	0.16	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.25	J H	6.1	0.078	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client Sample ID: SHAD041DP013SS05DS (Continued) Lab Sample ID: 160-24924-18

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8,9-HxCDD - RE	0.19	J H	6.1	0.068	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF - RE	0.31	J H M	6.1	0.12	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	2.0	J H	6.1	0.13	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	0.66	J H	6.1	0.098	pg/g	1	☼	8290A	Total/NA
OCDD - RE	17	H B	12	0.20	pg/g	1	☼	8290A	Total/NA
OCDF - RE	1.7	J H	12	0.16	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP013SS06NS Lab Sample ID: 160-24924-19

Analyte	Result	Qualifier	LOQ	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	0.45	J	5.9	0.059	pg/g	1	☼	8290A	Total/NA
OCDD	3.2	J B	12	0.090	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD - RE	0.17	J H	6.0	0.065	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD - RE	1.3	J H	6.0	0.14	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF - RE	0.44	J H	6.0	0.097	pg/g	1	☼	8290A	Total/NA
OCDD - RE	18	H B	12	0.17	pg/g	1	☼	8290A	Total/NA
OCDF - RE	3.1	J H	12	0.17	pg/g	1	☼	8290A	Total/NA

Client Sample ID: SHAD041DP026SS02NS

Date Collected: 10/05/17 16:04
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-1

Matrix: Solid
Percent Solids: 98.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**7.9**		1.0	0.47	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,7,8-PeCDD	**51**		5.1	2.2	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,7,8-PeCDF	**9.7**		5.1	3.2	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
2,3,4,7,8-PeCDF	**18**		5.1	3.2	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,4,7,8-HxCDD	**30**		6.6	6.6	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,6,7,8-HxCDD	**420**		5.1	5.1	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,7,8,9-HxCDD	**240**		5.1	5.1	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,4,7,8-HxCDF	**20**	**M**	5.1	4.8	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,6,7,8-HxCDF	**28**		5.1	4.0	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,7,8,9-HxCDF	1.0	U	5.1	4.8	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
2,3,4,6,7,8-HxCDF	**22**		5.1	4.5	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,4,6,7,8-HpCDD	**1800**		36	36	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,4,6,7,8-HpCDF	**320**	**M**	8.9	8.9	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
1,2,3,4,7,8,9-HpCDF	2.0	U M	11	11	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
OCDD	**2800**	**B**	10	4.3	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1
OCDF	**210**		10	0.26	pg/g	☼	10/17/17 11:29	11/11/17 06:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*64*		*40 - 135*	*10/17/17 11:29*	*11/11/17 06:52*	*1*
13C-1,2,3,7,8-PeCDD	*66*		*40 - 135*	*10/17/17 11:29*	*11/11/17 06:52*	*1*
13C-1,2,3,7,8-PeCDF	*68*		*40 - 135*	*10/17/17 11:29*	*11/11/17 06:52*	*1*
13C-1,2,3,6,7,8-HxCDD	*62*		*40 - 135*	*10/17/17 11:29*	*11/11/17 06:52*	*1*
13C-1,2,3,4,7,8-HxCDF	*68*		*40 - 135*	*10/17/17 11:29*	*11/11/17 06:52*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*54*		*40 - 135*	*10/17/17 11:29*	*11/11/17 06:52*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*26*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/11/17 06:52*	*1*
13C-OCDD	*45*		*40 - 135*	*10/17/17 11:29*	*11/11/17 06:52*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**12**		1.0	0.65	pg/g	☼	10/17/17 11:29	11/07/17 12:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*62*		*40 - 135*	*10/17/17 11:29*	*11/07/17 12:41*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**6.7**	**H**	1.0	0.65	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,7,8-PeCDD	**41**	**H**	5.0	2.6	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,7,8-PeCDF	**7.4**	**H M**	5.0	4.8	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
2,3,4,7,8-PeCDF	**14**	**H**	5.0	4.9	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,4,7,8-HxCDD	**16**	**H**	5.0	3.8	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,6,7,8-HxCDD	**380**	**H**	5.0	3.5	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,7,8,9-HxCDD	**190**	**H**	5.0	3.3	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,4,7,8-HxCDF	**22**	**H M**	5.0	3.0	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,6,7,8-HxCDF	**33**	**H**	5.0	2.7	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,7,8,9-HxCDF	1.0	U H	5.0	3.1	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
2,3,4,6,7,8-HxCDF	**24**	**H**	5.0	2.9	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,4,6,7,8-HpCDD	**1400**	**H**	17	17	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,4,6,7,8-HpCDF	**410**	**H**	6.3	6.3	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
1,2,3,4,7,8,9-HpCDF	2.0	U H M	8.1	8.1	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1
OCDD	**1300**	**H B**	10	0.85	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1

Client Sample ID: SHAD041DP026SS02NS

Lab Sample ID: 160-24924-1
Date Collected: 10/05/17 16:04
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 98.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDF	**240**	**H**	10	0.23	pg/g	☼	11/16/17 11:16	11/18/17 17:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*66*		*40 - 135*	*11/16/17 11:16*	*11/18/17 17:50*	*1*
13C-1,2,3,7,8-PeCDD	*66*		*40 - 135*	*11/16/17 11:16*	*11/18/17 17:50*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*	*11/16/17 11:16*	*11/18/17 17:50*	*1*
13C-1,2,3,6,7,8-HxCDD	*70*		*40 - 135*	*11/16/17 11:16*	*11/18/17 17:50*	*1*
13C-1,2,3,4,7,8-HxCDF	*64*		*40 - 135*	*11/16/17 11:16*	*11/18/17 17:50*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*69*		*40 - 135*	*11/16/17 11:16*	*11/18/17 17:50*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*61*		*40 - 135*	*11/16/17 11:16*	*11/18/17 17:50*	*1*
13C-OCDD	*65*		*40 - 135*	*11/16/17 11:16*	*11/18/17 17:50*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RERA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**15**	**H M**	1.8	1.8	pg/g	☼	11/16/17 11:16	12/05/17 13:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*65*		*40 - 135*	*11/16/17 11:16*	*12/05/17 13:27*	*1*

Client Sample ID: SHAD041DP026SS03NS

Lab Sample ID: 160-24924-2
Date Collected: 10/05/17 16:11
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 87.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.69**	**J**	1.1	0.10	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,7,8-PeCDD	**4.2**	**J**	5.7	0.27	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,7,8-PeCDF	**0.75**	**J**	5.7	0.22	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
2,3,4,7,8-PeCDF	**1.3**	**J**	5.7	0.22	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,4,7,8-HxCDD	**2.3**	**J M**	5.7	0.84	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,6,7,8-HxCDD	**47**		5.7	0.64	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,7,8,9-HxCDD	**23**		5.7	0.64	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,4,7,8-HxCDF	0.85	U	5.7	0.37	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,6,7,8-HxCDF	**2.1**	**J**	5.7	0.31	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,7,8,9-HxCDF	1.1	U	5.7	0.37	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
2,3,4,6,7,8-HxCDF	**1.8**	**J**	5.7	0.34	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,4,6,7,8-HpCDD	**130**		5.7	2.7	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,4,6,7,8-HpCDF	**33**		5.7	1.0	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
1,2,3,4,7,8,9-HpCDF	2.3	U	5.7	1.3	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
OCDD	**200**	**B**	11	0.44	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1
OCDF	**25**		11	0.11	pg/g	☼	10/17/17 11:29	11/11/17 07:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*60*		*40 - 135*	*10/17/17 11:29*	*11/11/17 07:38*	*1*
13C-1,2,3,7,8-PeCDD	*63*		*40 - 135*	*10/17/17 11:29*	*11/11/17 07:38*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*	*10/17/17 11:29*	*11/11/17 07:38*	*1*
13C-1,2,3,6,7,8-HxCDD	*57*		*40 - 135*	*10/17/17 11:29*	*11/11/17 07:38*	*1*
13C-1,2,3,4,7,8-HxCDF	*61*		*40 - 135*	*10/17/17 11:29*	*11/11/17 07:38*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*53*		*40 - 135*	*10/17/17 11:29*	*11/11/17 07:38*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*27*	Q	*40 - 135*	*10/17/17 11:29*	*11/11/17 07:38*	*1*
13C-OCDD	*43*		*40 - 135*	*10/17/17 11:29*	*11/11/17 07:38*	*1*

Client Sample ID: SHAD041DP026SS03NS

Lab Sample ID: 160-24924-2

Date Collected: 10/05/17 16:11
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 87.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.96**	**J**	1.1	0.19	pg/g	☼	10/17/17 11:29	11/07/17 13:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*56*		*40 - 135*	*10/17/17 11:29*	*11/07/17 13:18*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.99**	**J H**	1.1	0.16	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,7,8-PeCDD	**4.9**	**J H M**	5.7	0.37	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,7,8-PeCDF	**0.93**	**J H M**	5.7	0.30	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
2,3,4,7,8-PeCDF	**1.5**	**J H**	5.7	0.31	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,4,7,8-HxCDD	**2.0**	**J H**	5.7	0.53	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,6,7,8-HxCDD	**44**	**H**	5.7	0.48	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,7,8,9-HxCDD	**23**	**H**	5.7	0.46	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,4,7,8-HxCDF	**3.7**	**J H**	5.7	0.34	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,6,7,8-HxCDF	**2.7**	**J H**	5.7	0.31	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,7,8,9-HxCDF	1.1	U H	5.7	0.35	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
2,3,4,6,7,8-HxCDF	**2.0**	**J H**	5.7	0.33	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,4,6,7,8-HpCDD	**130**	**H**	5.7	1.8	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,4,6,7,8-HpCDF	**33**	**H**	5.7	0.53	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
1,2,3,4,7,8,9-HpCDF	2.3	U H	5.7	0.69	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
OCDD	**220**	**H B**	11	0.28	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1
OCDF	**26**	**H**	11	0.12	pg/g	☼	11/16/17 11:16	11/18/17 18:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*66*		*40 - 135*	*11/16/17 11:16*	*11/18/17 18:39*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*40 - 135*	*11/16/17 11:16*	*11/18/17 18:39*	*1*
13C-1,2,3,7,8-PeCDF	*64*		*40 - 135*	*11/16/17 11:16*	*11/18/17 18:39*	*1*
13C-1,2,3,6,7,8-HxCDD	*61*		*40 - 135*	*11/16/17 11:16*	*11/18/17 18:39*	*1*
13C-1,2,3,4,7,8-HxCDF	*60*		*40 - 135*	*11/16/17 11:16*	*11/18/17 18:39*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*64*		*40 - 135*	*11/16/17 11:16*	*11/18/17 18:39*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*57*		*40 - 135*	*11/16/17 11:16*	*11/18/17 18:39*	*1*
13C-OCDD	*61*		*40 - 135*	*11/16/17 11:16*	*11/18/17 18:39*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RERA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**1.4**	**H**	1.1	0.43	pg/g	☼	11/16/17 11:16	12/05/17 14:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*64*		*40 - 135*	*11/16/17 11:16*	*12/05/17 14:05*	*1*

Client Sample ID: SHAD041DP026SS04NS

Lab Sample ID: 160-24924-3

Date Collected: 10/05/17 16:15
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 90.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.44	U	1.1	0.053	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
2,3,7,8-TCDF	0.44	U	1.1	0.040	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
1,2,3,7,8-PeCDD	0.83	U	5.5	0.070	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
1,2,3,7,8-PeCDF	0.83	U	5.5	0.050	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
2,3,4,7,8-PeCDF	0.83	U	5.5	0.051	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1

Client Sample Results

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Client Sample ID: SHAD041DP026SS04NS

Date Collected: 10/05/17 16:15
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-3

Matrix: Solid
Percent Solids: 90.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDD	**0.20**	**J M**	5.5	0.087	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
1,2,3,6,7,8-HxCDD	**0.16**	**J M**	5.5	0.067	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
1,2,3,7,8,9-HxCDD	2.2	U	5.5	0.066	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
1,2,3,4,7,8-HxCDF	0.83	U	5.5	0.053	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
1,2,3,6,7,8-HxCDF	1.1	U	5.5	0.044	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
1,2,3,7,8,9-HxCDF	1.1	U	5.5	0.053	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
2,3,4,6,7,8-HxCDF	0.83	U	5.5	0.049	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
1,2,3,4,6,7,8-HpCDD	**0.94**	**J**	5.5	0.085	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
1,2,3,4,6,7,8-HpCDF	**0.18**	**J**	5.5	0.11	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
1,2,3,4,7,8,9-HpCDF	2.2	U	5.5	0.13	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
OCDD	**6.8**	**J B**	11	0.085	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1
OCDF	**0.26**	**J**	11	0.078	pg/g	☼	10/17/17 11:29	11/14/17 03:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*10/17/17 11:29*	*11/14/17 03:24*	*1*
13C-2,3,7,8-TCDF	*60*		*40 - 135*	*10/17/17 11:29*	*11/14/17 03:24*	*1*
13C-1,2,3,7,8-PeCDD	*62*		*40 - 135*	*10/17/17 11:29*	*11/14/17 03:24*	*1*
13C-1,2,3,7,8-PeCDF	*61*		*40 - 135*	*10/17/17 11:29*	*11/14/17 03:24*	*1*
13C-1,2,3,6,7,8-HxCDD	*60*		*40 - 135*	*10/17/17 11:29*	*11/14/17 03:24*	*1*
13C-1,2,3,4,7,8-HxCDF	*60*		*40 - 135*	*10/17/17 11:29*	*11/14/17 03:24*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*60*		*40 - 135*	*10/17/17 11:29*	*11/14/17 03:24*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*42*		*40 - 135*	*10/17/17 11:29*	*11/14/17 03:24*	*1*
13C-OCDD	*52*		*40 - 135*	*10/17/17 11:29*	*11/14/17 03:24*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.44	U H	1.1	0.11	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
2,3,7,8-TCDF	0.44	U H	1.1	0.084	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,7,8-PeCDD	0.83	U H	5.5	0.10	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,7,8-PeCDF	0.83	U H	5.5	0.080	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
2,3,4,7,8-PeCDF	0.83	U H	5.5	0.083	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,4,7,8-HxCDD	**0.37**	**J H**	5.5	0.11	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,6,7,8-HxCDD	**0.29**	**J H**	5.5	0.10	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,7,8,9-HxCDD	**0.18**	**J H**	5.5	0.097	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,4,7,8-HxCDF	0.83	U H	5.5	0.14	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,6,7,8-HxCDF	1.1	U H	5.5	0.13	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,7,8,9-HxCDF	1.1	U H	5.5	0.15	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
2,3,4,6,7,8-HxCDF	0.83	U H	5.5	0.14	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,4,6,7,8-HpCDD	**21**	**H M**	5.5	0.48	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,4,6,7,8-HpCDF	**2.4**	**J H**	5.5	0.22	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
1,2,3,4,7,8,9-HpCDF	2.2	U H	5.5	0.29	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
OCDD	**590**	**H B**	11	0.46	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1
OCDF	**50**	**H**	11	0.23	pg/g	☼	11/16/17 11:16	11/18/17 19:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*64*		*40 - 135*	*11/16/17 11:16*	*11/18/17 19:27*	*1*
13C-2,3,7,8-TCDF	*64*		*40 - 135*	*11/16/17 11:16*	*11/18/17 19:27*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*40 - 135*	*11/16/17 11:16*	*11/18/17 19:27*	*1*
13C-1,2,3,7,8-PeCDF	*68*		*40 - 135*	*11/16/17 11:16*	*11/18/17 19:27*	*1*
13C-1,2,3,6,7,8-HxCDD	*61*		*40 - 135*	*11/16/17 11:16*	*11/18/17 19:27*	*1*
13C-1,2,3,4,7,8-HxCDF	*63*		*40 - 135*	*11/16/17 11:16*	*11/18/17 19:27*	*1*

Client Sample ID: SHAD041DP026SS04NS
Lab Sample ID: 160-24924-3
Date Collected: 10/05/17 16:15
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 90.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*66*		*40 - 135*	*11/16/17 11:16*	*11/18/17 19:27*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*57*		*40 - 135*	*11/16/17 11:16*	*11/18/17 19:27*	*1*
13C-OCDD	*57*		*40 - 135*	*11/16/17 11:16*	*11/18/17 19:27*	*1*

Client Sample ID: SHAD041DP026SS05NS
Lab Sample ID: 160-24924-4
Date Collected: 10/05/17 16:22
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 79.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.49	U	1.2	0.058	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
2,3,7,8-TCDF	0.49	U	1.2	0.034	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,7,8-PeCDD	0.92	U	6.1	0.065	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,7,8-PeCDF	0.92	U	6.1	0.051	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
2,3,4,7,8-PeCDF	0.92	U	6.1	0.052	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,4,7,8-HxCDD	**0.47**	**J**	6.1	0.089	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,6,7,8-HxCDD	2.4	U	6.1	0.068	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,7,8,9-HxCDD	**0.34**	**J**	6.1	0.068	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,4,7,8-HxCDF	0.92	U	6.1	0.045	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,6,7,8-HxCDF	1.2	U	6.1	0.037	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,7,8,9-HxCDF	**0.064**	**J**	6.1	0.044	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
2,3,4,6,7,8-HxCDF	0.92	U	6.1	0.041	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,4,6,7,8-HpCDD	**1.7**	**J M**	6.1	0.093	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,4,6,7,8-HpCDF	1.2	U	6.1	0.12	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
1,2,3,4,7,8,9-HpCDF	2.4	U	6.1	0.15	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
OCDD	**8.8**	**J B**	12	0.091	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1
OCDF	**0.51**	**J**	12	0.093	pg/g	☼	10/17/17 11:29	11/11/17 09:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*53*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:10*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:10*	*1*
13C-1,2,3,7,8-PeCDD	*55*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:10*	*1*
13C-1,2,3,7,8-PeCDF	*57*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:10*	*1*
13C-1,2,3,6,7,8-HxCDD	*47*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:10*	*1*
13C-1,2,3,4,7,8-HxCDF	*52*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:10*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*44*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:10*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*26*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/11/17 09:10*	*1*
13C-OCDD	*33*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/11/17 09:10*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.50	U H	1.3	0.10	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
2,3,7,8-TCDF	0.50	U H	1.3	0.078	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
1,2,3,7,8-PeCDD	0.94	U H	6.3	0.14	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
1,2,3,7,8-PeCDF	0.94	U H	6.3	0.093	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
2,3,4,7,8-PeCDF	0.94	U H	6.3	0.096	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
1,2,3,4,7,8-HxCDD	**0.59**	**J H**	6.3	0.10	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
1,2,3,6,7,8-HxCDD	2.5	U H	6.3	0.094	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
1,2,3,7,8,9-HxCDD	**0.42**	**J H**	6.3	0.091	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
1,2,3,4,7,8-HxCDF	0.94	U H	6.3	0.11	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
1,2,3,6,7,8-HxCDF	1.3	U H	6.3	0.10	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1

Client Sample ID: SHAD041DP026SS05NS

Lab Sample ID: 160-24924-4
Date Collected: 10/05/17 16:22
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 79.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8,9-HxCDF	1.3	U H	6.3	0.12	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
2,3,4,6,7,8-HxCDF	0.94	U H	6.3	0.11	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
1,2,3,4,6,7,8-HpCDD	**3.6**	**J H M**	6.3	0.18	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
1,2,3,4,6,7,8-HpCDF	**0.39**	**J H**	6.3	0.15	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
1,2,3,4,7,8,9-HpCDF	2.5	U H	6.3	0.20	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
OCDD	**31**	**H B**	13	0.23	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1
OCDF	**2.7**	**J H**	13	0.20	pg/g	☼	11/16/17 11:16	11/18/17 20:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*59*		*40 - 135*	*11/16/17 11:16*	*11/18/17 20:16*	*1*
13C-2,3,7,8-TCDF	*59*		*40 - 135*	*11/16/17 11:16*	*11/18/17 20:16*	*1*
13C-1,2,3,7,8-PeCDD	*60*		*40 - 135*	*11/16/17 11:16*	*11/18/17 20:16*	*1*
13C-1,2,3,7,8-PeCDF	*60*		*40 - 135*	*11/16/17 11:16*	*11/18/17 20:16*	*1*
13C-1,2,3,6,7,8-HxCDD	*58*		*40 - 135*	*11/16/17 11:16*	*11/18/17 20:16*	*1*
13C-1,2,3,4,7,8-HxCDF	*57*		*40 - 135*	*11/16/17 11:16*	*11/18/17 20:16*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*57*		*40 - 135*	*11/16/17 11:16*	*11/18/17 20:16*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*49*		*40 - 135*	*11/16/17 11:16*	*11/18/17 20:16*	*1*
13C-OCDD	*51*		*40 - 135*	*11/16/17 11:16*	*11/18/17 20:16*	*1*

Client Sample ID: SHAD041DP026SS05DS

Lab Sample ID: 160-24924-5
Date Collected: 10/05/17 16:26
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 73.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.54	U	1.4	0.043	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
2,3,7,8-TCDF	0.54	U	1.4	0.030	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,7,8-PeCDD	1.0	U	6.8	0.054	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,7,8-PeCDF	1.0	U	6.8	0.038	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
2,3,4,7,8-PeCDF	1.0	U	6.8	0.039	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,4,7,8-HxCDD	**0.33**	**J**	6.8	0.058	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,6,7,8-HxCDD	**0.29**	**J**	6.8	0.045	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,7,8,9-HxCDD	**0.40**	**J**	6.8	0.044	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,4,7,8-HxCDF	1.0	U	6.8	0.034	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,6,7,8-HxCDF	1.4	U	6.8	0.028	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,7,8,9-HxCDF	**0.073**	**J**	6.8	0.033	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
2,3,4,6,7,8-HxCDF	**0.052**	**J M**	6.8	0.031	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,4,6,7,8-HpCDD	**3.1**	**J**	6.8	0.081	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,4,6,7,8-HpCDF	1.4	U	6.8	0.069	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
1,2,3,4,7,8,9-HpCDF	2.7	U	6.8	0.085	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
OCDD	**17**	**B**	14	0.070	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1
OCDF	**0.77**	**J**	14	0.045	pg/g	☼	10/17/17 11:29	11/11/17 09:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:56*	*1*
13C-2,3,7,8-TCDF	*74*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:56*	*1*
13C-1,2,3,7,8-PeCDD	*78*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:56*	*1*
13C-1,2,3,7,8-PeCDF	*80*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*71*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:56*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*72*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:56*	*1*

Client Sample ID: SHAD041DP026SS05DS Lab Sample ID: 160-24924-5

Date Collected: 10/05/17 16:26 **Matrix: Solid**
Date Received: 10/07/17 08:50 **Percent Solids: 73.5**

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDF	*40*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:56*	*1*
13C-OCDD	*62*		*40 - 135*	*10/17/17 11:29*	*11/11/17 09:56*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.54	U H	1.4	0.092	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
2,3,7,8-TCDF	0.54	U H	1.4	0.066	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,7,8-PeCDD	1.0	U H	6.8	0.12	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,7,8-PeCDF	1.0	U H	6.8	0.082	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
2,3,4,7,8-PeCDF	1.0	U H	6.8	0.085	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,4,7,8-HxCDD	**0.38**	**J H**	6.8	0.12	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,6,7,8-HxCDD	**0.43**	**J H**	6.8	0.11	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,7,8,9-HxCDD	**0.49**	**J H M**	6.8	0.11	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,4,7,8-HxCDF	1.0	U H	6.8	0.12	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,6,7,8-HxCDF	1.4	U H	6.8	0.11	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,7,8,9-HxCDF	**0.22**	**J H**	6.8	0.12	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
2,3,4,6,7,8-HxCDF	**0.22**	**J H**	6.8	0.11	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,4,6,7,8-HpCDD	**6.2**	**J H**	6.8	0.24	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,4,6,7,8-HpCDF	1.4	U H	6.8	0.48	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
1,2,3,4,7,8,9-HpCDF	**1.8**	**J H**	6.8	0.62	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
OCDD	**53**	**H B**	14	0.26	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1
OCDF	**6.9**	**J H**	14	0.16	pg/g	☼	11/16/17 11:16	11/18/17 21:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*61*		*40 - 135*	*11/16/17 11:16*	*11/18/17 21:04*	*1*
13C-2,3,7,8-TCDF	*59*		*40 - 135*	*11/16/17 11:16*	*11/18/17 21:04*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*11/16/17 11:16*	*11/18/17 21:04*	*1*
13C-1,2,3,7,8-PeCDF	*62*		*40 - 135*	*11/16/17 11:16*	*11/18/17 21:04*	*1*
13C-1,2,3,6,7,8-HxCDD	*62*		*40 - 135*	*11/16/17 11:16*	*11/18/17 21:04*	*1*
13C-1,2,3,4,7,8-HxCDF	*57*		*40 - 135*	*11/16/17 11:16*	*11/18/17 21:04*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*57*		*40 - 135*	*11/16/17 11:16*	*11/18/17 21:04*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*21*	*Q*	*40 - 135*	*11/16/17 11:16*	*11/18/17 21:04*	*1*
13C-OCDD	*51*		*40 - 135*	*11/16/17 11:16*	*11/18/17 21:04*	*1*

Client Sample ID: SHAD041DP026SS06NS Lab Sample ID: 160-24924-6

Date Collected: 10/05/17 16:31 **Matrix: Solid**
Date Received: 10/07/17 08:50 **Percent Solids: 86.1**

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.47	U	1.2	0.14	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
2,3,7,8-TCDF	0.47	U	1.2	0.068	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,7,8-PeCDD	0.88	U	5.9	0.14	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,7,8-PeCDF	0.88	U	5.9	0.098	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
2,3,4,7,8-PeCDF	0.88	U	5.9	0.10	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,4,7,8-HxCDD	**0.41**	**J M**	5.9	0.12	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,6,7,8-HxCDD	**0.27**	**J M**	5.9	0.091	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,7,8,9-HxCDD	**0.52**	**J**	5.9	0.090	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,4,7,8-HxCDF	0.88	U	5.9	0.15	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,6,7,8-HxCDF	1.2	U	5.9	0.13	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,7,8,9-HxCDF	**0.29**	**J M**	5.9	0.15	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1

Client Sample Results

Client Sample ID: SHAD041DP026SS06NS

Lab Sample ID: 160-24924-6

Date Collected: 10/05/17 16:31
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 86.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6,7,8-HxCDF	**0.28**	**J**	5.9	0.14	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,4,6,7,8-HpCDD	**2.2**	**J**	5.9	0.11	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,4,6,7,8-HpCDF	**0.81**	**J M**	5.9	0.14	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
1,2,3,4,7,8,9-HpCDF	**1.7**	**J**	5.9	0.17	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
OCDD	**13**	**B**	12	0.12	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1
OCDF	**6.8**	**J**	12	0.20	pg/g	☼	10/17/17 11:29	11/11/17 15:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*58*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:03*	*1*
13C-2,3,7,8-TCDF	*62*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:03*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:03*	*1*
13C-1,2,3,7,8-PeCDF	*62*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:03*	*1*
13C-1,2,3,6,7,8-HxCDD	*53*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:03*	*1*
13C-1,2,3,4,7,8-HxCDF	*57*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:03*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*52*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:03*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*32*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/11/17 15:03*	*1*
13C-OCDD	*44*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:03*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.46	U H	1.2	0.053	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
2,3,7,8-TCDF	0.46	U H	1.2	0.042	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,7,8-PeCDD	0.87	U H	5.8	0.083	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,7,8-PeCDF	0.87	U H	5.8	0.060	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
2,3,4,7,8-PeCDF	0.87	U H	5.8	0.061	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,4,7,8-HxCDD	2.3	U H	5.8	0.069	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,6,7,8-HxCDD	2.3	U H	5.8	0.062	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,7,8,9-HxCDD	**0.13**	**J H**	5.8	0.060	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,4,7,8-HxCDF	0.87	U H	5.8	0.080	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,6,7,8-HxCDF	1.2	U H	5.8	0.073	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,7,8,9-HxCDF	1.2	U H	5.8	0.083	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
2,3,4,6,7,8-HxCDF	0.87	U H	5.8	0.078	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,4,6,7,8-HpCDD	**0.93**	**J H M**	5.8	0.12	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,4,6,7,8-HpCDF	**0.19**	**J H**	5.8	0.072	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
1,2,3,4,7,8,9-HpCDF	2.3	U H	5.8	0.093	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
OCDD	**10**	**J H B**	12	0.13	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1
OCDF	**1.3**	**J H**	12	0.11	pg/g	☼	11/16/17 11:16	11/19/17 02:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*11/16/17 11:16*	*11/19/17 02:26*	*1*
13C-2,3,7,8-TCDF	*70*		*40 - 135*	*11/16/17 11:16*	*11/19/17 02:26*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*40 - 135*	*11/16/17 11:16*	*11/19/17 02:26*	*1*
13C-1,2,3,7,8-PeCDF	*68*		*40 - 135*	*11/16/17 11:16*	*11/19/17 02:26*	*1*
13C-1,2,3,6,7,8-HxCDD	*66*		*40 - 135*	*11/16/17 11:16*	*11/19/17 02:26*	*1*
13C-1,2,3,4,7,8-HxCDF	*67*		*40 - 135*	*11/16/17 11:16*	*11/19/17 02:26*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 02:26*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 02:26*	*1*
13C-OCDD	*55*		*40 - 135*	*11/16/17 11:16*	*11/19/17 02:26*	*1*

Client Sample Results

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Client Sample ID: SHAD041DP022SS01NS

Lab Sample ID: 160-24924-7

Date Collected: 10/05/17 16:45
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 99.7

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.78**	**J**	1.0	0.30	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,7,8-PeCDD	0.75	U	5.0	1.7	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,7,8-PeCDF	0.75	U	5.0	0.78	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
2,3,4,7,8-PeCDF	0.75	U	5.0	0.80	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,4,7,8-HxCDD	**7.3**		5.0	1.3	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,6,7,8-HxCDD	**62**		5.0	1.0	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,7,8,9-HxCDD	**30**		5.0	1.0	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,4,7,8-HxCDF	**4.8**	**J M**	5.0	1.5	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,6,7,8-HxCDF	**9.4**		5.0	1.3	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,7,8,9-HxCDF	1.0	U	5.0	1.5	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
2,3,4,6,7,8-HxCDF	**3.9**	**J**	5.0	1.4	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,4,6,7,8-HpCDD	**500**		6.8	6.8	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,4,6,7,8-HpCDF	**190**		5.0	2.4	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
1,2,3,4,7,8,9-HpCDF	2.0	U	5.0	3.0	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
OCDD	**2300**	**B**	10	4.2	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1
OCDF	**180**		10	0.40	pg/g	☼	10/17/17 11:29	11/11/17 15:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*63*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:49*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:49*	*1*
13C-1,2,3,7,8-PeCDF	*70*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:49*	*1*
13C-1,2,3,6,7,8-HxCDD	*67*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:49*	*1*
13C-1,2,3,4,7,8-HxCDF	*76*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:49*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:49*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*55*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:49*	*1*
13C-OCDD	*52*		*40 - 135*	*10/17/17 11:29*	*11/11/17 15:49*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**1.5**	**M**	1.0	0.35	pg/g	☼	10/17/17 11:29	11/07/17 16:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*63*		*40 - 135*	*10/17/17 11:29*	*11/07/17 16:28*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**1.1**	**H M**	1.0	0.15	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,7,8-PeCDD	**7.7**	**H**	5.0	1.5	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,7,8-PeCDF	0.76	U H	5.0	1.4	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
2,3,4,7,8-PeCDF	0.76	U H	5.0	1.5	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,4,7,8-HxCDD	**9.2**	**H**	5.0	1.8	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,6,7,8-HxCDD	**120**	**H**	5.0	1.6	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,7,8,9-HxCDD	**54**	**H**	5.0	1.6	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,4,7,8-HxCDF	**6.4**	**H M**	5.0	1.8	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,6,7,8-HxCDF	**16**	**H**	5.0	1.6	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,7,8,9-HxCDF	1.0	U H	5.0	1.9	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
2,3,4,6,7,8-HxCDF	**6.4**	**H**	5.0	1.7	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,4,6,7,8-HpCDD	**840**	**H**	8.7	8.7	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,4,6,7,8-HpCDF	**340**	**H**	8.3	8.3	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
1,2,3,4,7,8,9-HpCDF	2.0	U H M	11	11	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1
OCDD	**3000**	**H B**	10	1.9	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1

Client Sample ID: SHAD041DP022SS01NS — Lab Sample ID: 160-24924-7

Date Collected: 10/05/17 16:45 — **Matrix: Solid**
Date Received: 10/07/17 08:50 — **Percent Solids: 99.7**

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDF	**150**	**H**	10	0.28	pg/g	☼	11/16/17 11:16	11/19/17 03:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*68*		*40 - 135*	*11/16/17 11:16*	*11/19/17 03:14*	*1*
13C-1,2,3,7,8-PeCDD	*66*		*40 - 135*	*11/16/17 11:16*	*11/19/17 03:14*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 03:14*	*1*
13C-1,2,3,6,7,8-HxCDD	*69*		*40 - 135*	*11/16/17 11:16*	*11/19/17 03:14*	*1*
13C-1,2,3,4,7,8-HxCDF	*69*		*40 - 135*	*11/16/17 11:16*	*11/19/17 03:14*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 03:14*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*42*		*40 - 135*	*11/16/17 11:16*	*11/19/17 03:14*	*1*
13C-OCDD	*58*		*40 - 135*	*11/16/17 11:16*	*11/19/17 03:14*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RERA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**2.0**	**H M**	1.0	0.85	pg/g	☼	11/16/17 11:16	12/05/17 14:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*58*		*40 - 135*	*11/16/17 11:16*	*12/05/17 14:43*	*1*

Client Sample ID: SHAD041DP022SS02NS — Lab Sample ID: 160-24924-8

Date Collected: 10/05/17 16:55 — **Matrix: Solid**
Date Received: 10/07/17 08:50 — **Percent Solids: 99.0**

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**1.2**		1.0	0.17	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,7,8-PeCDD	**3.1**	**J**	5.1	0.44	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,7,8-PeCDF	**3.4**	**J**	5.1	0.29	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
2,3,4,7,8-PeCDF	**6.1**		5.1	0.30	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,4,7,8-HxCDD	**3.0**	**J**	5.1	0.39	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,6,7,8-HxCDD	**15**		5.1	0.30	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,7,8,9-HxCDD	**8.4**	**M**	5.1	0.30	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,4,7,8-HxCDF	**4.4**	**J M**	5.1	0.69	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,6,7,8-HxCDF	**5.6**	**M**	5.1	0.57	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,7,8,9-HxCDF	1.0	U	5.1	0.69	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
2,3,4,6,7,8-HxCDF	**5.1**		5.1	0.64	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,4,6,7,8-HpCDD	**130**		5.1	1.6	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,4,6,7,8-HpCDF	**45**		5.1	0.84	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
1,2,3,4,7,8,9-HpCDF	**1.6**	**J**	5.1	1.0	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
OCDD	**410**	**B**	10	0.68	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1
OCDF	**23**		10	0.22	pg/g	☼	10/17/17 11:29	11/11/17 16:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*72*		*40 - 135*	*10/17/17 11:29*	*11/11/17 16:35*	*1*
13C-1,2,3,7,8-PeCDD	*80*		*40 - 135*	*10/17/17 11:29*	*11/11/17 16:35*	*1*
13C-1,2,3,7,8-PeCDF	*81*		*40 - 135*	*10/17/17 11:29*	*11/11/17 16:35*	*1*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*	*10/17/17 11:29*	*11/11/17 16:35*	*1*
13C-1,2,3,4,7,8-HxCDF	*86*		*40 - 135*	*10/17/17 11:29*	*11/11/17 16:35*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*64*		*40 - 135*	*10/17/17 11:29*	*11/11/17 16:35*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*48*		*40 - 135*	*10/17/17 11:29*	*11/11/17 16:35*	*1*
13C-OCDD	*52*		*40 - 135*	*10/17/17 11:29*	*11/11/17 16:35*	*1*

Client Sample Results

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Client Sample ID: SHAD041DP022SS02NS

Lab Sample ID: 160-24924-8

Date Collected: 10/05/17 16:55
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 99.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**7.9**		1.0	0.29	pg/g	☼	10/17/17 11:29	11/07/17 17:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*72*		*40 - 135*	*10/17/17 11:29*	*11/07/17 17:05*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**1.3**	**H**	1.0	0.21	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,7,8-PeCDD	**3.1**	**J H**	5.1	0.58	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,7,8-PeCDF	**3.6**	**J H**	5.1	0.52	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
2,3,4,7,8-PeCDF	**6.2**	**H**	5.1	0.53	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,4,7,8-HxCDD	**3.0**	**J H**	5.1	0.23	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,6,7,8-HxCDD	**14**	**H**	5.1	0.20	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,7,8,9-HxCDD	**7.9**	**M H**	5.1	0.20	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,4,7,8-HxCDF	**5.0**	**J M H**	5.1	0.48	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,6,7,8-HxCDF	**6.7**	**M H**	5.1	0.44	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,7,8,9-HxCDF	1.0	U H	5.1	0.51	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
2,3,4,6,7,8-HxCDF	**5.3**	**H**	5.1	0.47	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,4,6,7,8-HpCDD	**120**	**H**	5.1	1.4	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,4,6,7,8-HpCDF	**44**	**H**	5.1	0.74	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
1,2,3,4,7,8,9-HpCDF	2.0	U H	5.1	0.96	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
OCDD	**400**	**H B**	10	0.40	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1
OCDF	**26**	**H**	10	0.13	pg/g	☼	11/16/17 11:16	11/19/17 04:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:03*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:03*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:03*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:03*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:03*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*66*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:03*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*50*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:03*	*1*
13C-OCDD	*59*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:03*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RERA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**7.4**	**H**	1.0	0.52	pg/g	☼	11/16/17 11:16	12/05/17 15:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*68*		*40 - 135*	*11/16/17 11:16*	*12/05/17 15:21*	*1*

Client Sample ID: SHAD041DP022SS03NS

Lab Sample ID: 160-24924-9

Date Collected: 10/05/17 16:59
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 98.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.41	U	1.0	0.14	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
1,2,3,7,8-PeCDD	**0.60**	**J**	5.1	0.19	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
1,2,3,7,8-PeCDF	**0.56**	**J M**	5.1	0.21	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
2,3,4,7,8-PeCDF	**0.94**	**J**	5.1	0.21	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
1,2,3,4,7,8-HxCDD	**0.73**	**J**	5.1	0.16	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1

Client Sample Results

Client Sample ID: SHAD041DP022SS03NS

Lab Sample ID: 160-24924-9

Date Collected: 10/05/17 16:59
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 98.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,6,7,8-HxCDD	**3.0**	**J**	5.1	0.12	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
1,2,3,7,8,9-HxCDD	**2.3**	**J**	5.1	0.12	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
1,2,3,4,7,8-HxCDF	**0.56**	**J M**	5.1	0.28	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
1,2,3,6,7,8-HxCDF	**1.3**	**J**	5.1	0.23	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
1,2,3,7,8,9-HxCDF	1.0	U	5.1	0.28	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
2,3,4,6,7,8-HxCDF	**0.83**	**J**	5.1	0.26	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
1,2,3,4,6,7,8-HpCDD	**25**		5.1	0.33	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
1,2,3,4,6,7,8-HpCDF	**42**	**J**	5.1	0.71	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
1,2,3,4,7,8,9-HpCDF	2.0	U J	5.1	0.87	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
OCDD	**100**	**B**	10	0.34	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1
OCDF	**25**		10	0.25	pg/g	☼	10/17/17 11:29	11/11/17 17:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*59*		*40 - 135*	*10/17/17 11:29*	*11/11/17 17:21*	*1*
13C-1,2,3,7,8-PeCDD	*62*		*40 - 135*	*10/17/17 11:29*	*11/11/17 17:21*	*1*
13C-1,2,3,7,8-PeCDF	*63*		*40 - 135*	*10/17/17 11:29*	*11/11/17 17:21*	*1*
13C-1,2,3,6,7,8-HxCDD	*52*		*40 - 135*	*10/17/17 11:29*	*11/11/17 17:21*	*1*
13C-1,2,3,4,7,8-HxCDF	*64*		*40 - 135*	*10/17/17 11:29*	*11/11/17 17:21*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*42*		*40 - 135*	*10/17/17 11:29*	*11/11/17 17:21*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*24*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/11/17 17:21*	*1*
13C-OCDD	*29*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/11/17 17:21*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**1.3**	**M**	1.0	0.18	pg/g	☼	10/17/17 11:29	11/07/17 17:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*60*		*40 - 135*	*10/17/17 11:29*	*11/07/17 17:43*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.40	U H	1.0	0.12	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,7,8-PeCDD	**0.42**	**J H**	5.1	0.19	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,7,8-PeCDF	**0.77**	**J H**	5.1	0.22	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
2,3,4,7,8-PeCDF	**0.75**	**J H**	5.1	0.23	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,4,7,8-HxCDD	**0.49**	**J H**	5.1	0.11	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,6,7,8-HxCDD	**2.8**	**J H**	5.1	0.10	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,7,8,9-HxCDD	**2.0**	**J H**	5.1	0.097	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,4,7,8-HxCDF	**1.3**	**J M H**	5.1	0.25	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,6,7,8-HxCDF	**1.4**	**J H**	5.1	0.23	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,7,8,9-HxCDF	1.0	U H	5.1	0.26	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
2,3,4,6,7,8-HxCDF	**0.72**	**J H**	5.1	0.24	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,4,6,7,8-HpCDD	**23**	**H J**	5.1	0.31	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,4,6,7,8-HpCDF	**46**	**H**	5.1	0.60	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
1,2,3,4,7,8,9-HpCDF	2.0	U H	5.1	0.77	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
OCDD	**110**	**H B J**	10	0.25	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1
OCDF	**23**	**H**	10	0.18	pg/g	☼	11/16/17 11:16	11/19/17 04:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:51*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:51*	*1*
13C-1,2,3,7,8-PeCDF	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:51*	*1*

Client Sample ID: SHAD041DP022SS03NS
Lab Sample ID: 160-24924-9
Date Collected: 10/05/17 16:59
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 98.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,6,7,8-HxCDD	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:51*	*1*
13C-1,2,3,4,7,8-HxCDF	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:51*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*55*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:51*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*38*	*Q*	*40 - 135*	*11/16/17 11:16*	*11/19/17 04:51*	*1*
13C-OCDD	*47*		*40 - 135*	*11/16/17 11:16*	*11/19/17 04:51*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RERA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.43**	**J M H**	1.0	0.38	pg/g	☼	11/16/17 11:16	12/05/17 15:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*62*		*40 - 135*	*11/16/17 11:16*	*12/05/17 15:58*	*1*

Client Sample ID: SHAD041DP022SS04NS
Lab Sample ID: 160-24924-10
Date Collected: 10/05/17 17:10
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 86.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.46	U	1.2	0.072	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
2,3,7,8-TCDF	0.46	U	1.2	0.044	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,7,8-PeCDD	0.86	U	5.8	0.089	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,7,8-PeCDF	0.86	U	5.8	0.061	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
2,3,4,7,8-PeCDF	0.86	U	5.8	0.062	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,4,7,8-HxCDD	**0.44**	**J**	5.8	0.083	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,6,7,8-HxCDD	2.3	U	5.8	0.064	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,7,8,9-HxCDD	**0.21**	**J M**	5.8	0.063	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,4,7,8-HxCDF	0.86	U	5.8	0.071	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,6,7,8-HxCDF	1.2	U	5.8	0.059	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,7,8,9-HxCDF	**0.10**	**J**	5.8	0.070	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
2,3,4,6,7,8-HxCDF	0.86	U	5.8	0.065	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,4,6,7,8-HpCDD	**2.1**	**J**	5.8	0.12	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,4,6,7,8-HpCDF	1.2	U	5.8	0.15	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
1,2,3,4,7,8,9-HpCDF	2.3	U	5.8	0.18	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
OCDD	**17**	**B**	12	0.15	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1
OCDF	**1.9**	**J**	12	0.11	pg/g	☼	10/17/17 11:29	11/11/17 19:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*56*		*40 - 135*	*10/17/17 11:29*	*11/11/17 19:40*	*1*
13C-2,3,7,8-TCDF	*62*		*40 - 135*	*10/17/17 11:29*	*11/11/17 19:40*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*40 - 135*	*10/17/17 11:29*	*11/11/17 19:40*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*40 - 135*	*10/17/17 11:29*	*11/11/17 19:40*	*1*
13C-1,2,3,6,7,8-HxCDD	*57*		*40 - 135*	*10/17/17 11:29*	*11/11/17 19:40*	*1*
13C-1,2,3,4,7,8-HxCDF	*68*		*40 - 135*	*10/17/17 11:29*	*11/11/17 19:40*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*53*		*40 - 135*	*10/17/17 11:29*	*11/11/17 19:40*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*27*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/11/17 19:40*	*1*
13C-OCDD	*44*		*40 - 135*	*10/17/17 11:29*	*11/11/17 19:40*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.46	U H	1.1	0.067	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
2,3,7,8-TCDF	0.46	U H	1.1	0.049	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1

Client Sample Results

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Client Sample ID: SHAD041DP022SS04NS

Lab Sample ID: 160-24924-10

Date Collected: 10/05/17 17:10
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 86.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8-PeCDD	0.86	U H	5.7	0.11	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
1,2,3,7,8-PeCDF	0.86	U H	5.7	0.060	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
2,3,4,7,8-PeCDF	0.86	U H	5.7	0.062	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
1,2,3,4,7,8-HxCDD	2.3	U H	5.7	0.089	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
1,2,3,6,7,8-HxCDD	2.3	U H	5.7	0.080	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
1,2,3,7,8,9-HxCDD	**0.27**	**J H**	5.7	0.077	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
1,2,3,4,7,8-HxCDF	0.86	U H	5.7	0.085	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
1,2,3,6,7,8-HxCDF	1.1	U H	5.7	0.077	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
1,2,3,7,8,9-HxCDF	**0.18**	**J H**	5.7	0.088	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
2,3,4,6,7,8-HxCDF	0.86	U H	5.7	0.083	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
1,2,3,4,6,7,8-HpCDD	**1.7**	**J H**	5.7	0.15	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
1,2,3,4,6,7,8-HpCDF	**0.38**	**J H**	5.7	0.12	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
1,2,3,4,7,8,9-HpCDF	2.3	U H	5.7	0.16	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
OCDD	**15**	**H B**	11	0.15	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1
OCDF	**2.1**	**J H**	11	0.13	pg/g	☼	11/16/17 11:16	11/19/17 07:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*54*		*40 - 135*	*11/16/17 11:16*	*11/19/17 07:17*	*1*
13C-2,3,7,8-TCDF	*54*		*40 - 135*	*11/16/17 11:16*	*11/19/17 07:17*	*1*
13C-1,2,3,7,8-PeCDD	*54*		*40 - 135*	*11/16/17 11:16*	*11/19/17 07:17*	*1*
13C-1,2,3,7,8-PeCDF	*53*		*40 - 135*	*11/16/17 11:16*	*11/19/17 07:17*	*1*
13C-1,2,3,6,7,8-HxCDD	*54*		*40 - 135*	*11/16/17 11:16*	*11/19/17 07:17*	*1*
13C-1,2,3,4,7,8-HxCDF	*54*		*40 - 135*	*11/16/17 11:16*	*11/19/17 07:17*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*55*		*40 - 135*	*11/16/17 11:16*	*11/19/17 07:17*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*49*		*40 - 135*	*11/16/17 11:16*	*11/19/17 07:17*	*1*
13C-OCDD	*48*		*40 - 135*	*11/16/17 11:16*	*11/19/17 07:17*	*1*

Client Sample ID: SHAD041DP022SS05NS

Lab Sample ID: 160-24924-11

Date Collected: 10/05/17 17:15
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 87.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.46	U	1.1	0.076	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
2,3,7,8-TCDF	0.46	U	1.1	0.043	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,7,8-PeCDD	0.86	U	5.7	0.083	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,7,8-PeCDF	0.86	U	5.7	0.056	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
2,3,4,7,8-PeCDF	**0.13**	**J M**	5.7	0.057	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,4,7,8-HxCDD	**0.84**	**J M**	5.7	0.084	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,6,7,8-HxCDD	**0.78**	**J**	5.7	0.065	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,7,8,9-HxCDD	**0.93**	**J**	5.7	0.064	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,4,7,8-HxCDF	**0.30**	**J**	5.7	0.060	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,6,7,8-HxCDF	**0.33**	**J**	5.7	0.049	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,7,8,9-HxCDF	**0.71**	**J**	5.7	0.059	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
2,3,4,6,7,8-HxCDF	**0.87**	**J**	5.7	0.055	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,4,6,7,8-HpCDD	**2.6**	**J**	5.7	0.098	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,4,6,7,8-HpCDF	**1.6**	**J**	5.7	0.081	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
1,2,3,4,7,8,9-HpCDF	**1.9**	**J M**	5.7	0.099	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
OCDD	**9.8**	**J B**	11	0.12	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1
OCDF	**5.2**	**J**	11	0.14	pg/g	☼	10/17/17 11:29	11/11/17 20:26	1

Client Sample Results

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Client Sample ID: SHAD041DP022SS05NS

Lab Sample ID: 160-24924-11

Date Collected: 10/05/17 17:15
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 87.9

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*55*		*40 - 135*	*10/17/17 11:29*	*11/11/17 20:26*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*10/17/17 11:29*	*11/11/17 20:26*	*1*
13C-1,2,3,7,8-PeCDD	*60*		*40 - 135*	*10/17/17 11:29*	*11/11/17 20:26*	*1*
13C-1,2,3,7,8-PeCDF	*61*		*40 - 135*	*10/17/17 11:29*	*11/11/17 20:26*	*1*
13C-1,2,3,6,7,8-HxCDD	*48*		*40 - 135*	*10/17/17 11:29*	*11/11/17 20:26*	*1*
13C-1,2,3,4,7,8-HxCDF	*58*		*40 - 135*	*10/17/17 11:29*	*11/11/17 20:26*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*45*		*40 - 135*	*10/17/17 11:29*	*11/11/17 20:26*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*37*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/11/17 20:26*	*1*
13C-OCDD	*34*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/11/17 20:26*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.13**	**J H**	1.1	0.075	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,7,8-PeCDD	0.86	U H	5.7	0.12	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,7,8-PeCDF	0.86	U H	5.7	0.082	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
2,3,4,7,8-PeCDF	0.86	U H	5.7	0.084	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,4,7,8-HxCDD	**0.23**	**J H**	5.7	0.077	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,6,7,8-HxCDD	2.3	U H	5.7	0.070	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,7,8,9-HxCDD	2.3	U H	5.7	0.067	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,4,7,8-HxCDF	0.86	U H	5.7	0.083	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,6,7,8-HxCDF	1.1	U H	5.7	0.076	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,7,8,9-HxCDF	1.1	U H	5.7	0.087	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
2,3,4,6,7,8-HxCDF	0.86	U H	5.7	0.081	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,4,6,7,8-HpCDD	**2.6**	**J H**	5.7	0.18	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,4,6,7,8-HpCDF	**0.46**	**J H**	5.7	0.11	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
1,2,3,4,7,8,9-HpCDF	2.3	U H	5.7	0.14	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
OCDD	**18**	**H B**	11	0.14	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1
OCDF	**2.2**	**J H**	11	0.13	pg/g	☼	11/16/17 11:16	11/19/17 08:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 08:05*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*	*11/16/17 11:16*	*11/19/17 08:05*	*1*
13C-1,2,3,7,8-PeCDF	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 08:05*	*1*
13C-1,2,3,6,7,8-HxCDD	*62*		*40 - 135*	*11/16/17 11:16*	*11/19/17 08:05*	*1*
13C-1,2,3,4,7,8-HxCDF	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 08:05*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 08:05*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*55*		*40 - 135*	*11/16/17 11:16*	*11/19/17 08:05*	*1*
13C-OCDD	*56*		*40 - 135*	*11/16/17 11:16*	*11/19/17 08:05*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RERA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.46	U H	1.1	0.38	pg/g	☼	11/16/17 11:16	12/05/17 17:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*64*		*40 - 135*	*11/16/17 11:16*	*12/05/17 17:52*	*1*

Client Sample ID: SHAD041DP022SS06NS

Lab Sample ID: 160-24924-12

Date Collected: 10/05/17 17:23
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 89.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.44	U	1.1	0.090	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1

Client Sample ID: SHAD041DP022SS06NS

Lab Sample ID: 160-24924-12

Date Collected: 10/05/17 17:23
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 89.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.44	U	1.1	0.062	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,7,8-PeCDD	0.83	U	5.5	0.11	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,7,8-PeCDF	0.83	U	5.5	0.086	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
2,3,4,7,8-PeCDF	0.83	U	5.5	0.088	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,4,7,8-HxCDD	**0.33**	**J**	5.5	0.087	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,6,7,8-HxCDD	2.2	U	5.5	0.067	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,7,8,9-HxCDD	**0.28**	**J**	5.5	0.067	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,4,7,8-HxCDF	0.83	U	5.5	0.061	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,6,7,8-HxCDF	1.1	U	5.5	0.050	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,7,8,9-HxCDF	**0.18**	**J M**	5.5	0.060	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
2,3,4,6,7,8-HxCDF	**0.13**	**J**	5.5	0.056	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,4,6,7,8-HpCDD	**0.90**	**J M**	5.5	0.084	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,4,6,7,8-HpCDF	**0.32**	**J**	5.5	0.062	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
1,2,3,4,7,8,9-HpCDF	**0.42**	**J**	5.5	0.076	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
OCDD	**4.1**	**J B**	11	0.12	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1
OCDF	**1.7**	**J**	11	0.18	pg/g	☼	10/17/17 11:29	11/12/17 01:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*52*		*40 - 135*	*10/17/17 11:29*	*11/12/17 01:33*	*1*
13C-2,3,7,8-TCDF	*58*		*40 - 135*	*10/17/17 11:29*	*11/12/17 01:33*	*1*
13C-1,2,3,7,8-PeCDD	*55*		*40 - 135*	*10/17/17 11:29*	*11/12/17 01:33*	*1*
13C-1,2,3,7,8-PeCDF	*56*		*40 - 135*	*10/17/17 11:29*	*11/12/17 01:33*	*1*
13C-1,2,3,6,7,8-HxCDD	*51*		*40 - 135*	*10/17/17 11:29*	*11/12/17 01:33*	*1*
13C-1,2,3,4,7,8-HxCDF	*58*		*40 - 135*	*10/17/17 11:29*	*11/12/17 01:33*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*48*		*40 - 135*	*10/17/17 11:29*	*11/12/17 01:33*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*40*		*40 - 135*	*10/17/17 11:29*	*11/12/17 01:33*	*1*
13C-OCDD	*35*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/12/17 01:33*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.45	U H	1.1	0.078	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
2,3,7,8-TCDF	0.45	U H	1.1	0.062	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,7,8-PeCDD	0.85	U H	5.7	0.14	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,7,8-PeCDF	0.85	U H	5.7	0.072	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
2,3,4,7,8-PeCDF	0.85	U H	5.7	0.074	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,4,7,8-HxCDD	**0.29**	**J H**	5.7	0.087	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,6,7,8-HxCDD	2.3	U H	5.7	0.078	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,7,8,9-HxCDD	**0.24**	**J H**	5.7	0.075	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,4,7,8-HxCDF	0.85	U H	5.7	0.086	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,6,7,8-HxCDF	1.1	U H	5.7	0.079	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,7,8,9-HxCDF	1.1	U H	5.7	0.090	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
2,3,4,6,7,8-HxCDF	0.85	U H	5.7	0.084	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,4,6,7,8-HpCDD	**1.9**	**J H**	5.7	0.20	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,4,6,7,8-HpCDF	**0.39**	**J H**	5.7	0.24	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
1,2,3,4,7,8,9-HpCDF	2.3	U H	5.7	0.31	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
OCDD	**27**	**H B**	11	0.29	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1
OCDF	**3.3**	**J H**	11	0.20	pg/g	☼	11/16/17 11:16	11/19/17 13:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 13:26*	*1*
13C-2,3,7,8-TCDF	*64*		*40 - 135*	*11/16/17 11:16*	*11/19/17 13:26*	*1*

Client Sample Results

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Client Sample ID: SHAD041DP022SS06NS

Lab Sample ID: 160-24924-12

Date Collected: 10/05/17 17:23
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 89.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8-PeCDD	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 13:26*	*1*
13C-1,2,3,7,8-PeCDF	*62*		*40 - 135*	*11/16/17 11:16*	*11/19/17 13:26*	*1*
13C-1,2,3,6,7,8-HxCDD	*57*		*40 - 135*	*11/16/17 11:16*	*11/19/17 13:26*	*1*
13C-1,2,3,4,7,8-HxCDF	*58*		*40 - 135*	*11/16/17 11:16*	*11/19/17 13:26*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*53*		*40 - 135*	*11/16/17 11:16*	*11/19/17 13:26*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*49*		*40 - 135*	*11/16/17 11:16*	*11/19/17 13:26*	*1*
13C-OCDD	*43*		*40 - 135*	*11/16/17 11:16*	*11/19/17 13:26*	*1*

Client Sample ID: SHAD041DP013SS01NS

Lab Sample ID: 160-24924-13

Date Collected: 10/05/17 14:23
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 99.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.15**	**J M**	1.0	0.097	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,7,8-PeCDD	**0.79**	**J**	5.0	0.19	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,7,8-PeCDF	0.75	U	5.0	0.23	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
2,3,4,7,8-PeCDF	0.75	U	5.0	0.23	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,4,7,8-HxCDD	**0.99**	**J**	5.0	0.25	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,6,7,8-HxCDD	**5.8**		5.0	0.20	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,7,8,9-HxCDD	**3.7**	**J**	5.0	0.19	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,4,7,8-HxCDF	0.75	U	5.0	0.36	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,6,7,8-HxCDF	**2.5**	**J M**	5.0	0.30	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,7,8,9-HxCDF	1.0	U	5.0	0.36	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
2,3,4,6,7,8-HxCDF	**0.70**	**J**	5.0	0.33	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,4,6,7,8-HpCDD	**63**		5.0	0.91	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,4,6,7,8-HpCDF	**32**		5.0	0.43	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
1,2,3,4,7,8,9-HpCDF	2.0	U	5.0	0.53	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
OCDD	**500**	**B**	10	0.86	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1
OCDF	**31**		10	0.23	pg/g	☼	10/17/17 11:29	11/12/17 02:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*80*		*40 - 135*	*10/17/17 11:29*	*11/12/17 02:19*	*1*
13C-1,2,3,7,8-PeCDD	*88*		*40 - 135*	*10/17/17 11:29*	*11/12/17 02:19*	*1*
13C-1,2,3,7,8-PeCDF	*88*		*40 - 135*	*10/17/17 11:29*	*11/12/17 02:19*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*	*10/17/17 11:29*	*11/12/17 02:19*	*1*
13C-1,2,3,4,7,8-HxCDF	*102*		*40 - 135*	*10/17/17 11:29*	*11/12/17 02:19*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*40 - 135*	*10/17/17 11:29*	*11/12/17 02:19*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*69*		*40 - 135*	*10/17/17 11:29*	*11/12/17 02:19*	*1*
13C-OCDD	*62*		*40 - 135*	*10/17/17 11:29*	*11/12/17 02:19*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.40	U	1.0	0.24	pg/g	☼	10/17/17 11:29	11/08/17 01:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*89*		*40 - 135*	*10/17/17 11:29*	*11/08/17 01:57*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.40	U H	1.0	0.12	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
2,3,7,8-TCDF	0.40	U H M	1.0	0.26	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1

Client Sample ID: SHAD041DP013SS01NS

Lab Sample ID: 160-24924-13

Date Collected: 10/05/17 14:23
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 99.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8-PeCDD	**0.99**	**J H**	5.0	0.22	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
1,2,3,7,8-PeCDF	0.76	U H	5.0	0.29	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
2,3,4,7,8-PeCDF	0.76	U H	5.0	0.30	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
1,2,3,4,7,8-HxCDD	**0.79**	**J H**	5.0	0.16	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
1,2,3,6,7,8-HxCDD	**5.5**	**H**	5.0	0.14	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
1,2,3,7,8,9-HxCDD	**3.4**	**J H**	5.0	0.14	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
1,2,3,4,7,8-HxCDF	**0.91**	**J H**	5.0	0.39	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
1,2,3,6,7,8-HxCDF	**2.9**	**J H**	5.0	0.36	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
1,2,3,7,8,9-HxCDF	1.0	U H	5.0	0.41	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
2,3,4,6,7,8-HxCDF	**0.86**	**J H**	5.0	0.38	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
1,2,3,4,6,7,8-HpCDD	**55**	**H**	5.0	0.59	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
1,2,3,4,6,7,8-HpCDF	**30**	**H**	5.0	0.39	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
1,2,3,4,7,8,9-HpCDF	2.0	U H	5.0	0.51	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
OCDD	**430**	**H B**	10	0.47	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1
OCDF	**28**	**H**	10	0.22	pg/g	☼	11/16/17 11:16	11/19/17 14:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*40 - 135*	*11/16/17 11:16*	*11/19/17 14:15*	*1*
13C-2,3,7,8-TCDF	*73*		*40 - 135*	*11/16/17 11:16*	*11/19/17 14:15*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*11/16/17 11:16*	*11/19/17 14:15*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*40 - 135*	*11/16/17 11:16*	*11/19/17 14:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*82*		*40 - 135*	*11/16/17 11:16*	*11/19/17 14:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*40 - 135*	*11/16/17 11:16*	*11/19/17 14:15*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*64*		*40 - 135*	*11/16/17 11:16*	*11/19/17 14:15*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*64*		*40 - 135*	*11/16/17 11:16*	*11/19/17 14:15*	*1*
13C-OCDD	*57*		*40 - 135*	*11/16/17 11:16*	*11/19/17 14:15*	*1*

Client Sample ID: SHAD041DP013SS02NS

Lab Sample ID: 160-24924-14

Date Collected: 10/05/17 14:34
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 94.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.42	U	1.0	0.093	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,7,8-PeCDD	**0.25**	**J**	5.2	0.094	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,7,8-PeCDF	0.79	U	5.2	0.12	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
2,3,4,7,8-PeCDF	0.79	U	5.2	0.12	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,4,7,8-HxCDD	**0.33**	**J M**	5.2	0.087	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,6,7,8-HxCDD	**0.88**	**J M**	5.2	0.067	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,7,8,9-HxCDD	**0.98**	**J**	5.2	0.066	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,4,7,8-HxCDF	0.79	U	5.2	0.13	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,6,7,8-HxCDF	**0.54**	**J**	5.2	0.11	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,7,8,9-HxCDF	1.0	U	5.2	0.13	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
2,3,4,6,7,8-HxCDF	0.79	U	5.2	0.10	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,4,6,7,8-HpCDD	**6.8**		5.2	0.13	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,4,6,7,8-HpCDF	**2.2**	**J**	5.2	0.12	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
1,2,3,4,7,8,9-HpCDF	2.1	U	5.2	0.14	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
OCDD	**49**	**B**	10	0.15	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1
OCDF	**3.2**	**J**	10	0.086	pg/g	☼	10/17/17 11:29	11/14/17 14:54	1

Client Sample ID: SHAD041DP013SS02NS

Date Collected: 10/05/17 14:34
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-14

Matrix: Solid
Percent Solids: 94.5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*58*		*40 - 135*	*10/17/17 11:29*	*11/14/17 14:54*	*1*
13C-1,2,3,7,8-PeCDD	*63*		*40 - 135*	*10/17/17 11:29*	*11/14/17 14:54*	*1*
13C-1,2,3,7,8-PeCDF	*61*		*40 - 135*	*10/17/17 11:29*	*11/14/17 14:54*	*1*
13C-1,2,3,6,7,8-HxCDD	*55*		*40 - 135*	*10/17/17 11:29*	*11/14/17 14:54*	*1*
13C-1,2,3,4,7,8-HxCDF	*62*		*40 - 135*	*10/17/17 11:29*	*11/14/17 14:54*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*56*		*40 - 135*	*10/17/17 11:29*	*11/14/17 14:54*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*42*		*40 - 135*	*10/17/17 11:29*	*11/14/17 14:54*	*1*
13C-OCDD	*46*		*40 - 135*	*10/17/17 11:29*	*11/14/17 14:54*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.42	U	1.0	0.25	pg/g	☼	10/17/17 11:29	11/08/17 02:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*67*		*40 - 135*	*10/17/17 11:29*	*11/08/17 02:35*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.41	U H	1.0	0.13	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,7,8-PeCDD	0.78	U H	5.2	0.15	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,7,8-PeCDF	0.78	U H	5.2	0.14	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
2,3,4,7,8-PeCDF	0.78	U H	5.2	0.15	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,4,7,8-HxCDD	2.1	U H	5.2	0.12	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,6,7,8-HxCDD	**0.88**	**J H**	5.2	0.11	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,7,8,9-HxCDD	**0.92**	**J H**	5.2	0.11	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,4,7,8-HxCDF	0.78	U H	5.2	0.11	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,6,7,8-HxCDF	**0.36**	**J H M**	5.2	0.10	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,7,8,9-HxCDF	1.0	U H	5.2	0.12	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
2,3,4,6,7,8-HxCDF	0.78	U H	5.2	0.11	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,4,6,7,8-HpCDD	**5.0**	**J H**	5.2	0.27	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,4,6,7,8-HpCDF	**1.9**	**J H**	5.2	0.20	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
1,2,3,4,7,8,9-HpCDF	2.1	U H	5.2	0.25	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
OCDD	**36**	**H B**	10	0.45	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1
OCDF	**3.3**	**J H**	10	0.26	pg/g	☼	11/16/17 11:16	11/19/17 15:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:03*	*1*
13C-1,2,3,7,8-PeCDD	*62*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:03*	*1*
13C-1,2,3,7,8-PeCDF	*62*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:03*	*1*
13C-1,2,3,6,7,8-HxCDD	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:03*	*1*
13C-1,2,3,4,7,8-HxCDF	*73*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:03*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*52*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:03*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*38*	*Q*	*40 - 135*	*11/16/17 11:16*	*11/19/17 15:03*	*1*
13C-OCDD	*42*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:03*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RERA

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.41	U H	1.0	0.23	pg/g	☼	11/16/17 11:16	12/05/17 19:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*63*		*40 - 135*	*11/16/17 11:16*	*12/05/17 19:08*	*1*

Client Sample Results

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Client Sample ID: SHAD041DP013SS03NS

Date Collected: 10/05/17 14:44
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-15

Matrix: Solid
Percent Solids: 86.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.46	U	1.1	0.052	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
2,3,7,8-TCDF	0.46	U	1.1	0.034	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,7,8-PeCDD	**0.084**	**J**	5.7	0.058	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,7,8-PeCDF	0.86	U	5.7	0.051	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
2,3,4,7,8-PeCDF	0.86	U	5.7	0.052	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,4,7,8-HxCDD	**0.25**	**J**	5.7	0.069	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,6,7,8-HxCDD	**0.49**	**J**	5.7	0.053	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,7,8,9-HxCDD	**0.61**	**J**	5.7	0.053	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,4,7,8-HxCDF	0.86	U	5.7	0.055	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,6,7,8-HxCDF	**0.061**	**J**	5.7	0.045	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,7,8,9-HxCDF	**0.10**	**J**	5.7	0.055	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
2,3,4,6,7,8-HxCDF	0.86	U	5.7	0.051	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,4,6,7,8-HpCDD	**1.9**	**J**	5.7	0.074	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,4,6,7,8-HpCDF	**0.34**	**J**	5.7	0.064	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
1,2,3,4,7,8,9-HpCDF	2.3	U	5.7	0.079	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
OCDD	**9.4**	**J B**	11	0.086	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1
OCDF	**1.2**	**J**	11	0.072	pg/g	☼	10/17/17 11:29	11/14/17 15:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*56*		*40 - 135*	*10/17/17 11:29*	*11/14/17 15:40*	*1*
13C-2,3,7,8-TCDF	*56*		*40 - 135*	*10/17/17 11:29*	*11/14/17 15:40*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*	*10/17/17 11:29*	*11/14/17 15:40*	*1*
13C-1,2,3,7,8-PeCDF	*60*		*40 - 135*	*10/17/17 11:29*	*11/14/17 15:40*	*1*
13C-1,2,3,6,7,8-HxCDD	*58*		*40 - 135*	*10/17/17 11:29*	*11/14/17 15:40*	*1*
13C-1,2,3,4,7,8-HxCDF	*62*		*40 - 135*	*10/17/17 11:29*	*11/14/17 15:40*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*60*		*40 - 135*	*10/17/17 11:29*	*11/14/17 15:40*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*43*		*40 - 135*	*10/17/17 11:29*	*11/14/17 15:40*	*1*
13C-OCDD	*54*		*40 - 135*	*10/17/17 11:29*	*11/14/17 15:40*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.46	U H	1.1	0.070	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
2,3,7,8-TCDF	0.46	U H	1.1	0.059	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,7,8-PeCDD	0.86	U H	5.7	0.093	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,7,8-PeCDF	0.86	U H	5.7	0.062	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
2,3,4,7,8-PeCDF	0.86	U H	5.7	0.064	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,4,7,8-HxCDD	**0.26**	**J H**	5.7	0.079	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,6,7,8-HxCDD	**0.30**	**J H**	5.7	0.072	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,7,8,9-HxCDD	**0.52**	**J H**	5.7	0.069	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,4,7,8-HxCDF	0.86	U H	5.7	0.060	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,6,7,8-HxCDF	1.1	U H	5.7	0.055	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,7,8,9-HxCDF	1.1	U H	5.7	0.063	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
2,3,4,6,7,8-HxCDF	0.86	U H	5.7	0.058	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,4,6,7,8-HpCDD	**1.7**	**J H**	5.7	0.15	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,4,6,7,8-HpCDF	**0.45**	**J H**	5.7	0.28	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
1,2,3,4,7,8,9-HpCDF	2.3	U H	5.7	0.37	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
OCDD	**15**	**H B**	11	0.20	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1
OCDF	**1.2**	**J H**	11	0.13	pg/g	☼	11/16/17 11:16	11/19/17 15:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*64*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:52*	*1*

Client Sample ID: SHAD041DP013SS03NS

Lab Sample ID: 160-24924-15

Date Collected: 10/05/17 14:44
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 86.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*62*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:52*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:52*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:52*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:52*	*1*
13C-1,2,3,4,7,8-HxCDF	*66*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:52*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*55*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:52*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*23*	*Q*	*40 - 135*	*11/16/17 11:16*	*11/19/17 15:52*	*1*
13C-OCDD	*50*		*40 - 135*	*11/16/17 11:16*	*11/19/17 15:52*	*1*

Client Sample ID: SHAD041DP013SS04NS

Lab Sample ID: 160-24924-16

Date Collected: 10/05/17 15:06
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 84.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.47	U	1.2	0.080	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
2,3,7,8-TCDF	0.47	U	1.2	0.055	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,7,8-PeCDD	0.89	U	5.9	0.10	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,7,8-PeCDF	0.89	U	5.9	0.067	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
2,3,4,7,8-PeCDF	0.89	U	5.9	0.068	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,4,7,8-HxCDD	**0.19**	**J**	5.9	0.069	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,6,7,8-HxCDD	**0.23**	**J**	5.9	0.053	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,7,8,9-HxCDD	**0.35**	**J**	5.9	0.053	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,4,7,8-HxCDF	0.89	U	5.9	0.049	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,6,7,8-HxCDF	1.2	U	5.9	0.041	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,7,8,9-HxCDF	1.2	U	5.9	0.049	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
2,3,4,6,7,8-HxCDF	0.89	U	5.9	0.045	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,4,6,7,8-HpCDD	**0.95**	**J**	5.9	0.082	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,4,6,7,8-HpCDF	**0.14**	**J**	5.9	0.072	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
1,2,3,4,7,8,9-HpCDF	2.4	U	5.9	0.089	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
OCDD	**4.0**	**J B**	12	0.088	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1
OCDF	**0.25**	**J**	12	0.10	pg/g	☼	10/17/17 11:29	11/12/17 04:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*55*		*40 - 135*	*10/17/17 11:29*	*11/12/17 04:37*	*1*
13C-2,3,7,8-TCDF	*60*		*40 - 135*	*10/17/17 11:29*	*11/12/17 04:37*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*	*10/17/17 11:29*	*11/12/17 04:37*	*1*
13C-1,2,3,7,8-PeCDF	*64*		*40 - 135*	*10/17/17 11:29*	*11/12/17 04:37*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*40 - 135*	*10/17/17 11:29*	*11/12/17 04:37*	*1*
13C-1,2,3,4,7,8-HxCDF	*68*		*40 - 135*	*10/17/17 11:29*	*11/12/17 04:37*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*57*		*40 - 135*	*10/17/17 11:29*	*11/12/17 04:37*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*44*		*40 - 135*	*10/17/17 11:29*	*11/12/17 04:37*	*1*
13C-OCDD	*48*		*40 - 135*	*10/17/17 11:29*	*11/12/17 04:37*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.48	U H	1.2	0.062	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
2,3,7,8-TCDF	0.48	U H	1.2	0.048	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
1,2,3,7,8-PeCDD	0.90	U H	6.0	0.084	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
1,2,3,7,8-PeCDF	0.90	U H	6.0	0.052	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
2,3,4,7,8-PeCDF	0.90	U H	6.0	0.054	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1

Client Sample ID: SHAD041DP013SS04NS

Lab Sample ID: 160-24924-16

Date Collected: 10/05/17 15:06
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 84.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDD	**0.23**	**J H M**	6.0	0.075	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
1,2,3,6,7,8-HxCDD	2.4	U H	6.0	0.068	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
1,2,3,7,8,9-HxCDD	**0.33**	**J H**	6.0	0.065	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
1,2,3,4,7,8-HxCDF	**0.088**	**J H**	6.0	0.056	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
1,2,3,6,7,8-HxCDF	1.2	U H	6.0	0.051	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
1,2,3,7,8,9-HxCDF	1.2	U H	6.0	0.059	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
2,3,4,6,7,8-HxCDF	0.90	U H	6.0	0.055	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
1,2,3,4,6,7,8-HpCDD	**1.5**	**J H**	6.0	0.13	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
1,2,3,4,6,7,8-HpCDF	**0.55**	**J H**	6.0	0.098	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
1,2,3,4,7,8,9-HpCDF	2.4	U H	6.0	0.13	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
OCDD	**15**	**H B**	12	0.18	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1
OCDF	**3.7**	**J H**	12	0.13	pg/g	☼	11/16/17 11:16	11/19/17 16:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*64*		*40 - 135*	*11/16/17 11:16*	*11/19/17 16:41*	*1*
13C-2,3,7,8-TCDF	*64*		*40 - 135*	*11/16/17 11:16*	*11/19/17 16:41*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*11/16/17 11:16*	*11/19/17 16:41*	*1*
13C-1,2,3,7,8-PeCDF	*64*		*40 - 135*	*11/16/17 11:16*	*11/19/17 16:41*	*1*
13C-1,2,3,6,7,8-HxCDD	*61*		*40 - 135*	*11/16/17 11:16*	*11/19/17 16:41*	*1*
13C-1,2,3,4,7,8-HxCDF	*61*		*40 - 135*	*11/16/17 11:16*	*11/19/17 16:41*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*40 - 135*	*11/16/17 11:16*	*11/19/17 16:41*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*46*		*40 - 135*	*11/16/17 11:16*	*11/19/17 16:41*	*1*
13C-OCDD	*52*		*40 - 135*	*11/16/17 11:16*	*11/19/17 16:41*	*1*

Client Sample ID: SHAD041DP013SS05NS

Lab Sample ID: 160-24924-17

Date Collected: 10/05/17 15:10
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 76.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.53	U	1.3	0.089	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
2,3,7,8-TCDF	0.53	U	1.3	0.056	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,7,8-PeCDD	0.99	U	6.6	0.095	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,7,8-PeCDF	0.99	U	6.6	0.072	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
2,3,4,7,8-PeCDF	0.99	U	6.6	0.073	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,4,7,8-HxCDD	**0.22**	**J**	6.6	0.096	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,6,7,8-HxCDD	**0.41**	**J**	6.6	0.074	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,7,8,9-HxCDD	**0.49**	**J**	6.6	0.073	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,4,7,8-HxCDF	0.99	U	6.6	0.054	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,6,7,8-HxCDF	1.3	U	6.6	0.044	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,7,8,9-HxCDF	1.3	U	6.6	0.053	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
2,3,4,6,7,8-HxCDF	0.99	U	6.6	0.049	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,4,6,7,8-HpCDD	**2.8**	**J**	6.6	0.097	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,4,6,7,8-HpCDF	**0.41**	**J**	6.6	0.071	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
1,2,3,4,7,8,9-HpCDF	2.6	U	6.6	0.088	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
OCDD	**12**	**J B**	13	0.10	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1
OCDF	**0.58**	**J**	13	0.11	pg/g	☼	10/17/17 11:29	11/12/17 05:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*51*		*40 - 135*	*10/17/17 11:29*	*11/12/17 05:23*	*1*
13C-2,3,7,8-TCDF	*56*		*40 - 135*	*10/17/17 11:29*	*11/12/17 05:23*	*1*

Client Sample ID: SHAD041DP013SS05NS

Lab Sample ID: 160-24924-17

Date Collected: 10/05/17 15:10
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 76.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8-PeCDD	*59*		*40 - 135*	*10/17/17 11:29*	*11/12/17 05:23*	*1*
13C-1,2,3,7,8-PeCDF	*59*		*40 - 135*	*10/17/17 11:29*	*11/12/17 05:23*	*1*
13C-1,2,3,6,7,8-HxCDD	*51*		*40 - 135*	*10/17/17 11:29*	*11/12/17 05:23*	*1*
13C-1,2,3,4,7,8-HxCDF	*61*		*40 - 135*	*10/17/17 11:29*	*11/12/17 05:23*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*54*		*40 - 135*	*10/17/17 11:29*	*11/12/17 05:23*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*46*		*40 - 135*	*10/17/17 11:29*	*11/12/17 05:23*	*1*
13C-OCDD	*42*		*40 - 135*	*10/17/17 11:29*	*11/12/17 05:23*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.53	U H	1.3	0.067	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
2,3,7,8-TCDF	0.53	U H	1.3	0.046	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,7,8-PeCDD	1.0	U H	6.6	0.083	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,7,8-PeCDF	1.0	U H	6.6	0.052	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
2,3,4,7,8-PeCDF	1.0	U H	6.6	0.053	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,4,7,8-HxCDD	**0.20**	**J H**	6.6	0.072	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,6,7,8-HxCDD	**0.18**	**J H**	6.6	0.065	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,7,8,9-HxCDD	**0.22**	**J H**	6.6	0.062	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,4,7,8-HxCDF	1.0	U H	6.6	0.051	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,6,7,8-HxCDF	1.3	U H	6.6	0.046	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,7,8,9-HxCDF	1.3	U H	6.6	0.053	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
2,3,4,6,7,8-HxCDF	1.0	U H	6.6	0.050	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,4,6,7,8-HpCDD	**2.7**	**J H**	6.6	0.11	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,4,6,7,8-HpCDF	**0.33**	**J H**	6.6	0.089	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
1,2,3,4,7,8,9-HpCDF	2.7	U H	6.6	0.11	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
OCDD	**20**	**H B**	13	0.15	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1
OCDF	**1.8**	**J H**	13	0.081	pg/g	☼	11/16/17 11:16	11/19/17 17:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 17:29*	*1*
13C-2,3,7,8-TCDF	*67*		*40 - 135*	*11/16/17 11:16*	*11/19/17 17:29*	*1*
13C-1,2,3,7,8-PeCDD	*62*		*40 - 135*	*11/16/17 11:16*	*11/19/17 17:29*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 17:29*	*1*
13C-1,2,3,6,7,8-HxCDD	*60*		*40 - 135*	*11/16/17 11:16*	*11/19/17 17:29*	*1*
13C-1,2,3,4,7,8-HxCDF	*62*		*40 - 135*	*11/16/17 11:16*	*11/19/17 17:29*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*65*		*40 - 135*	*11/16/17 11:16*	*11/19/17 17:29*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*57*		*40 - 135*	*11/16/17 11:16*	*11/19/17 17:29*	*1*
13C-OCDD	*55*		*40 - 135*	*11/16/17 11:16*	*11/19/17 17:29*	*1*

Client Sample ID: SHAD041DP013SS05DS

Lab Sample ID: 160-24924-18

Date Collected: 10/05/17 15:15
Matrix: Solid
Date Received: 10/07/17 08:50
Percent Solids: 80.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.49	U	1.2	0.094	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
2,3,7,8-TCDF	0.49	U	1.2	0.053	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
1,2,3,7,8-PeCDD	0.93	U	6.2	0.10	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
1,2,3,7,8-PeCDF	0.93	U	6.2	0.087	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
2,3,4,7,8-PeCDF	0.93	U	6.2	0.088	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
1,2,3,4,7,8-HxCDD	**0.21**	**J M**	6.2	0.099	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1

Client Sample ID: SHAD041DP013SS05DS

Date Collected: 10/05/17 15:15
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-18

Matrix: Solid
Percent Solids: 80.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,6,7,8-HxCDD	**0.10**	**J M**	6.2	0.076	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
1,2,3,7,8,9-HxCDD	**0.22**	**J M**	6.2	0.076	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
1,2,3,4,7,8-HxCDF	0.93	U	6.2	0.073	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
1,2,3,6,7,8-HxCDF	1.2	U	6.2	0.060	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
1,2,3,7,8,9-HxCDF	1.2	U	6.2	0.072	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
2,3,4,6,7,8-HxCDF	0.93	U	6.2	0.067	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
1,2,3,4,6,7,8-HpCDD	**1.3**	**J M**	6.2	0.090	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
1,2,3,4,6,7,8-HpCDF	1.2	U	6.2	0.067	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
1,2,3,4,7,8,9-HpCDF	2.5	U	6.2	0.083	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
OCDD	**7.5**	**J B**	12	0.12	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1
OCDF	**0.27**	**J**	12	0.16	pg/g	☼	10/17/17 11:29	11/12/17 06:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*47*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:09*	*1*
13C-2,3,7,8-TCDF	*55*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:09*	*1*
13C-1,2,3,7,8-PeCDD	*49*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:09*	*1*
13C-1,2,3,7,8-PeCDF	*51*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:09*	*1*
13C-1,2,3,6,7,8-HxCDD	*42*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:09*	*1*
13C-1,2,3,4,7,8-HxCDF	*49*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:09*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*40*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:09*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*36*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/12/17 06:09*	*1*
13C-OCDD	*30*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/12/17 06:09*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.49	U H	1.2	0.11	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
2,3,7,8-TCDF	0.49	U H	1.2	0.095	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,7,8-PeCDD	0.92	U H	6.1	0.11	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,7,8-PeCDF	0.92	U H	6.1	0.083	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
2,3,4,7,8-PeCDF	0.92	U H	6.1	0.086	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,4,7,8-HxCDD	**0.25**	**J H**	6.1	0.078	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,6,7,8-HxCDD	2.5	U H	6.1	0.071	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,7,8,9-HxCDD	**0.19**	**J H**	6.1	0.068	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,4,7,8-HxCDF	**0.31**	**J H M**	6.1	0.12	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,6,7,8-HxCDF	1.2	U H	6.1	0.11	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,7,8,9-HxCDF	1.2	U H	6.1	0.13	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
2,3,4,6,7,8-HxCDF	0.92	U H	6.1	0.12	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,4,6,7,8-HpCDD	**2.0**	**J H**	6.1	0.13	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,4,6,7,8-HpCDF	**0.66**	**J H**	6.1	0.098	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
1,2,3,4,7,8,9-HpCDF	2.5	U H	6.1	0.13	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
OCDD	**17**	**H B**	12	0.20	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1
OCDF	**1.7**	**J H**	12	0.16	pg/g	☼	11/16/17 11:16	11/19/17 18:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*61*		*40 - 135*	*11/16/17 11:16*	*11/19/17 18:18*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*11/16/17 11:16*	*11/19/17 18:18*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*	*11/16/17 11:16*	*11/19/17 18:18*	*1*
13C-1,2,3,7,8-PeCDF	*63*		*40 - 135*	*11/16/17 11:16*	*11/19/17 18:18*	*1*
13C-1,2,3,6,7,8-HxCDD	*56*		*40 - 135*	*11/16/17 11:16*	*11/19/17 18:18*	*1*
13C-1,2,3,4,7,8-HxCDF	*56*		*40 - 135*	*11/16/17 11:16*	*11/19/17 18:18*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*57*		*40 - 135*	*11/16/17 11:16*	*11/19/17 18:18*	*1*

Client Sample ID: SHAD041DP013SS05DS

Lab Sample ID: 160-24924-18

Date Collected: 10/05/17 15:15
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 80.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDF	*51*		*40 - 135*	*11/16/17 11:16*	*11/19/17 18:18*	*1*
13C-OCDD	*51*		*40 - 135*	*11/16/17 11:16*	*11/19/17 18:18*	*1*

Client Sample ID: SHAD041DP013SS06NS

Lab Sample ID: 160-24924-19

Date Collected: 10/05/17 15:18
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 83.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.47	U	1.2	0.089	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
2,3,7,8-TCDF	0.47	U	1.2	0.045	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,7,8-PeCDD	0.88	U	5.9	0.10	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,7,8-PeCDF	0.88	U	5.9	0.076	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
2,3,4,7,8-PeCDF	0.88	U	5.9	0.077	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,4,7,8-HxCDD	2.4	U	5.9	0.090	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,6,7,8-HxCDD	2.4	U	5.9	0.069	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,7,8,9-HxCDD	2.4	U	5.9	0.068	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,4,7,8-HxCDF	0.88	U	5.9	0.051	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,6,7,8-HxCDF	1.2	U	5.9	0.042	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,7,8,9-HxCDF	1.2	U	5.9	0.051	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
2,3,4,6,7,8-HxCDF	0.88	U	5.9	0.047	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,4,6,7,8-HpCDD	**0.45**	**J**	5.9	0.059	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,4,6,7,8-HpCDF	1.2	U	5.9	0.064	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
1,2,3,4,7,8,9-HpCDF	2.4	U	5.9	0.079	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
OCDD	**3.2**	**J B**	12	0.090	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1
OCDF	4.7	U	12	0.14	pg/g	☼	10/17/17 11:29	11/12/17 06:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*46*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:56*	*1*
13C-2,3,7,8-TCDF	*54*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:56*	*1*
13C-1,2,3,7,8-PeCDD	*50*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:56*	*1*
13C-1,2,3,7,8-PeCDF	*51*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*43*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*50*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:56*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*41*		*40 - 135*	*10/17/17 11:29*	*11/12/17 06:56*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*36*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/12/17 06:56*	*1*
13C-OCDD	*30*	*Q*	*40 - 135*	*10/17/17 11:29*	*11/12/17 06:56*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.48	U H	1.2	0.098	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
2,3,7,8-TCDF	0.48	U H	1.2	0.081	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,7,8-PeCDD	0.90	U H	6.0	0.11	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,7,8-PeCDF	0.90	U H	6.0	0.069	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
2,3,4,7,8-PeCDF	0.90	U H	6.0	0.071	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,4,7,8-HxCDD	**0.17**	**J H**	6.0	0.065	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,6,7,8-HxCDD	2.4	U H	6.0	0.059	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,7,8,9-HxCDD	2.4	U H	6.0	0.056	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,4,7,8-HxCDF	0.90	U H	6.0	0.11	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,6,7,8-HxCDF	1.2	U H	6.0	0.10	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,7,8,9-HxCDF	1.2	U H	6.0	0.12	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1

Client Sample ID: SHAD041DP013SS06NS

Date Collected: 10/05/17 15:18
Date Received: 10/07/17 08:50

Lab Sample ID: 160-24924-19

Matrix: Solid
Percent Solids: 83.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Analyte	Result	Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6,7,8-HxCDF	0.90	U H	6.0	0.11	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,4,6,7,8-HpCDD	**1.3**	**J H**	6.0	0.14	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,4,6,7,8-HpCDF	**0.44**	**J H**	6.0	0.097	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
1,2,3,4,7,8,9-HpCDF	2.4	U H	6.0	0.13	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
OCDD	**18**	**H B**	12	0.17	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1
OCDF	**3.1**	**J H**	12	0.17	pg/g	☼	11/16/17 11:16	11/19/17 19:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*60*		*40 - 135*	*11/16/17 11:16*	*11/19/17 19:06*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*11/16/17 11:16*	*11/19/17 19:06*	*1*
13C-1,2,3,7,8-PeCDD	*59*		*40 - 135*	*11/16/17 11:16*	*11/19/17 19:06*	*1*
13C-1,2,3,7,8-PeCDF	*59*		*40 - 135*	*11/16/17 11:16*	*11/19/17 19:06*	*1*
13C-1,2,3,6,7,8-HxCDD	*56*		*40 - 135*	*11/16/17 11:16*	*11/19/17 19:06*	*1*
13C-1,2,3,4,7,8-HxCDF	*56*		*40 - 135*	*11/16/17 11:16*	*11/19/17 19:06*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*57*		*40 - 135*	*11/16/17 11:16*	*11/19/17 19:06*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*50*		*40 - 135*	*11/16/17 11:16*	*11/19/17 19:06*	*1*
13C-OCDD	*48*		*40 - 135*	*11/16/17 11:16*	*11/19/17 19:06*	*1*

Default Detection Limits

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Prep: 8290

Analyte	LOQ		Units	Method
1,2,3,4,6,7,8-HpCDD	5.0		pg/g	8290A
1,2,3,4,6,7,8-HpCDF	5.0		pg/g	8290A
1,2,3,4,7,8,9-HpCDF	5.0		pg/g	8290A
1,2,3,4,7,8-HxCDD	5.0		pg/g	8290A
1,2,3,4,7,8-HxCDF	5.0		pg/g	8290A
1,2,3,6,7,8-HxCDD	5.0		pg/g	8290A
1,2,3,6,7,8-HxCDF	5.0		pg/g	8290A
1,2,3,7,8,9-HxCDD	5.0		pg/g	8290A
1,2,3,7,8,9-HxCDF	5.0		pg/g	8290A
1,2,3,7,8-PeCDD	5.0		pg/g	8290A
1,2,3,7,8-PeCDF	5.0		pg/g	8290A
2,3,4,6,7,8-HxCDF	5.0		pg/g	8290A
2,3,4,7,8-PeCDF	5.0		pg/g	8290A
2,3,7,8-TCDD	1.0		pg/g	8290A
2,3,7,8-TCDF	1.0		pg/g	8290A
OCDD	10		pg/g	8290A
OCDF	10		pg/g	8290A

Isotope Dilution Summary

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**TCDF (40-135)**
160-24924-1 - RA	SHAD041DP026SS02NS	62
160-24924-1 - RERA	SHAD041DP026SS02NS	65
160-24924-2 - RA	SHAD041DP026SS03NS	56
160-24924-2 - RERA	SHAD041DP026SS03NS	64
160-24924-7 - RA	SHAD041DP022SS01NS	63
160-24924-7 - RERA	SHAD041DP022SS01NS	58
160-24924-8 - RA	SHAD041DP022SS02NS	72
160-24924-8 - RERA	SHAD041DP022SS02NS	68
160-24924-9 - RA	SHAD041DP022SS03NS	60
160-24924-9 - RERA	SHAD041DP022SS03NS	62
160-24924-9 MS - RA	SHAD041DP022SS03NS	60
160-24924-9 MS - RERA	SHAD041DP022SS03NS	59
160-24924-9 MSD - RA	SHAD041DP022SS03NS	62
160-24924-9 MSD - RERA	SHAD041DP022SS03NS	71
160-24924-11 - RERA	SHAD041DP022SS05NS	64
160-24924-13 - RA	SHAD041DP013SS01NS	89
160-24924-14 - RA	SHAD041DP013SS02NS	67
160-24924-14 - RERA	SHAD041DP013SS02NS	63

Surrogate Legend

TCDF = 13C-2,3,7,8-TCDF

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**TCDD (40-135)**	**TCDF (40-135)**	**PeCDD (40-135)**	**PeCDF1 (40-135)**	**HxCDD2 (40-135)**	**HxCDF1 (40-135)**	**HpCDD (40-135)**	**HpCDF1 (40-135)**
160-24924-1	SHAD041DP026SS02NS	64		66	68	62	68	54	26 Q
160-24924-1 - RE	SHAD041DP026SS02NS	66		66	65	70	64	69	61
160-24924-2	SHAD041DP026SS03NS	60		63	65	57	61	53	27 Q
160-24924-2 - RE	SHAD041DP026SS03NS	66		65	64	61	60	64	57
160-24924-3	SHAD041DP026SS04NS	65	60	62	61	60	60	60	42
160-24924-3 - RE	SHAD041DP026SS04NS	64	64	69	68	61	63	66	57
160-24924-4	SHAD041DP026SS05NS	53	61	55	57	47	52	44	26 Q
160-24924-4 - RE	SHAD041DP026SS05NS	59	59	60	60	58	57	57	49
160-24924-5	SHAD041DP026SS05DS	69	74	78	80	71	84	72	40
160-24924-5 - RE	SHAD041DP026SS05DS	61	59	61	62	62	57	57	21 Q
160-24924-6	SHAD041DP026SS06NS	58	62	61	62	53	57	52	32 Q
160-24924-6 - RE	SHAD041DP026SS06NS	71	70	69	68	66	67	65	63
160-24924-7	SHAD041DP022SS01NS	63		72	70	67	76	61	55
160-24924-7 - RE	SHAD041DP022SS01NS	68		66	65	69	69	63	42
160-24924-8	SHAD041DP022SS02NS	72		80	81	72	86	64	48
160-24924-8 - RE	SHAD041DP022SS02NS	74		73	73	75	79	66	50
160-24924-9	SHAD041DP022SS03NS	59		62	63	52	64	42	24 Q
160-24924-9 - RE	SHAD041DP022SS03NS	65		65	63	63	65	55	38 Q
160-24924-9 MS	SHAD041DP022SS03NS	58		62	65	58	72	51	26 Q
160-24924-9 MS - RE	SHAD041DP022SS03NS	61		62	61	63	62	61	47
160-24924-9 MSD	SHAD041DP022SS03NS	59		65	66	57	70	49	24 Q

Isotope Dilution Summary

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**TCDD (40-135)**	**TCDF (40-135)**	**PeCDD (40-135)**	**PeCDF1 (40-135)**	**HxCDD2 (40-135)**	**HxCDF1 (40-135)**	**HpCDD (40-135)**	**HpCDF1 (40-135)**
160-24924-9 MSD - RE	SHAD041DP022SS03NS	70		68	66	63	64	50	39 Q
160-24924-10	SHAD041DP022SS04NS	56	62	65	66	57	68	53	27 Q
160-24924-10 - RE	SHAD041DP022SS04NS	54	54	54	53	54	54	55	49
160-24924-11	SHAD041DP022SS05NS	55	61	60	61	48	58	45	37 Q
160-24924-11 - RE	SHAD041DP022SS05NS	65		64	63	62	63	65	55
160-24924-12	SHAD041DP022SS06NS	52	58	55	56	51	58	48	40
160-24924-12 - RE	SHAD041DP022SS06NS	63	64	63	62	57	58	53	49
160-24924-13	SHAD041DP013SS01NS	80		88	88	83	102	70	69
160-24924-13 - RE	SHAD041DP013SS01NS	75	73	76	75	82	83	64	64
160-24924-14	SHAD041DP013SS02NS	58		63	61	55	62	56	42
160-24924-14 - RE	SHAD041DP013SS02NS	63		62	62	63	73	52	38 Q
160-24924-15	SHAD041DP013SS03NS	56	56	64	60	58	62	60	43
160-24924-15 - RE	SHAD041DP013SS03NS	64	62	64	65	59	66	55	23 Q
160-24924-16	SHAD041DP013SS04NS	55	60	64	64	59	68	57	44
160-24924-16 - RE	SHAD041DP013SS04NS	64	64	61	64	61	61	61	46
160-24924-17	SHAD041DP013SS05NS	51	56	59	59	51	61	54	46
160-24924-17 - RE	SHAD041DP013SS05NS	65	67	62	65	60	62	65	57
160-24924-18	SHAD041DP013SS05DS	47	55	49	51	42	49	40	36 Q
160-24924-18 - RE	SHAD041DP013SS05DS	61	61	64	63	56	56	57	51
160-24924-19	SHAD041DP013SS06NS	46	54	50	51	43	50	41	36 Q
160-24924-19 - RE	SHAD041DP013SS06NS	60	61	59	59	56	56	57	50
LCS 320-189721/2-A	Lab Control Sample	51	53	55	56	53	59	56	49
LCS 320-195095/2-A	Lab Control Sample	62	60	64	62	64	64	67	65
LCSD 320-189721/3-A	Lab Control Sample Dup	54	57	62	62	61	65	61	56
LCSD 320-195095/3-A	Lab Control Sample Dup	72	70	71	73	72	71	79	75
MB 320-189721/1-A	Method Blank	60	55	58	57	62	60	60	57
MB 320-195095/1-A	Method Blank	64	61	68	66	68	65	70	68

		Percent Isotope Dilution Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**OCDD (40-135)**
160-24924-1	SHAD041DP026SS02NS	45
160-24924-1 - RE	SHAD041DP026SS02NS	65
160-24924-2	SHAD041DP026SS03NS	43
160-24924-2 - RE	SHAD041DP026SS03NS	61
160-24924-3	SHAD041DP026SS04NS	52
160-24924-3 - RE	SHAD041DP026SS04NS	57
160-24924-4	SHAD041DP026SS05NS	33 Q
160-24924-4 - RE	SHAD041DP026SS05NS	51
160-24924-5	SHAD041DP026SS05DS	62
160-24924-5 - RE	SHAD041DP026SS05DS	51
160-24924-6	SHAD041DP026SS06NS	44
160-24924-6 - RE	SHAD041DP026SS06NS	55
160-24924-7	SHAD041DP022SS01NS	52
160-24924-7 - RE	SHAD041DP022SS01NS	58
160-24924-8	SHAD041DP022SS02NS	52
160-24924-8 - RE	SHAD041DP022SS02NS	59
160-24924-9	SHAD041DP022SS03NS	29 Q
160-24924-9 - RE	SHAD041DP022SS03NS	47
160-24924-9 MS	SHAD041DP022SS03NS	38 Q

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**OCDD (40-135)**
160-24924-9 MS - RE	SHAD041DP022SS03NS	58
160-24924-9 MSD	SHAD041DP022SS03NS	38 Q
160-24924-9 MSD - RE	SHAD041DP022SS03NS	36 Q
160-24924-10	SHAD041DP022SS04NS	44
160-24924-10 - RE	SHAD041DP022SS04NS	48
160-24924-11	SHAD041DP022SS05NS	34 Q
160-24924-11 - RE	SHAD041DP022SS05NS	56
160-24924-12	SHAD041DP022SS06NS	35 Q
160-24924-12 - RE	SHAD041DP022SS06NS	43
160-24924-13	SHAD041DP013SS01NS	62
160-24924-13 - RE	SHAD041DP013SS01NS	57
160-24924-14	SHAD041DP013SS02NS	46
160-24924-14 - RE	SHAD041DP013SS02NS	42
160-24924-15	SHAD041DP013SS03NS	54
160-24924-15 - RE	SHAD041DP013SS03NS	50
160-24924-16	SHAD041DP013SS04NS	48
160-24924-16 - RE	SHAD041DP013SS04NS	52
160-24924-17	SHAD041DP013SS05NS	42
160-24924-17 - RE	SHAD041DP013SS05NS	55
160-24924-18	SHAD041DP013SS05DS	30 Q
160-24924-18 - RE	SHAD041DP013SS05DS	51
160-24924-19	SHAD041DP013SS06NS	30 Q
160-24924-19 - RE	SHAD041DP013SS06NS	48
LCS 320-189721/2-A	Lab Control Sample	47
LCS 320-195095/2-A	Lab Control Sample	66
LCSD 320-189721/3-A	Lab Control Sample Dup	53
LCSD 320-195095/3-A	Lab Control Sample Dup	75
MB 320-189721/1-A	Method Blank	53
MB 320-195095/1-A	Method Blank	67

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF1 = 13C-1,2,3,7,8-PeCDF
HxCDD2 = 13C-1,2,3,6,7,8-HxCDD
HxCDF1 = 13C-1,2,3,4,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF1 = 13C-1,2,3,4,6,7,8-HpCDF
OCDD = 13C-OCDD

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-189721/1-A
Matrix: Solid
Analysis Batch: 194428

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 189721

Analyte	MB Result	MB Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.40	U	1.0	0.051	pg/g		10/17/17 11:29	11/14/17 01:05	1
2,3,7,8-TCDF	0.40	U	1.0	0.044	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,7,8-PeCDD	0.75	U	5.0	0.077	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,7,8-PeCDF	0.75	U	5.0	0.065	pg/g		10/17/17 11:29	11/14/17 01:05	1
2,3,4,7,8-PeCDF	0.75	U	5.0	0.066	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,4,7,8-HxCDD	0.323	J	5.0	0.071	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,6,7,8-HxCDD	2.0	U	5.0	0.054	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,7,8,9-HxCDD	2.0	U	5.0	0.054	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,4,7,8-HxCDF	0.75	U	5.0	0.056	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,6,7,8-HxCDF	1.0	U	5.0	0.046	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,7,8,9-HxCDF	1.0	U	5.0	0.056	pg/g		10/17/17 11:29	11/14/17 01:05	1
2,3,4,6,7,8-HxCDF	0.75	U	5.0	0.052	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,4,6,7,8-HpCDD	2.45	J	5.0	0.18	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,4,6,7,8-HpCDF	0.155	J	5.0	0.053	pg/g		10/17/17 11:29	11/14/17 01:05	1
1,2,3,4,7,8,9-HpCDF	2.0	U	5.0	0.066	pg/g		10/17/17 11:29	11/14/17 01:05	1
OCDD	15.2		10	0.11	pg/g		10/17/17 11:29	11/14/17 01:05	1
OCDF	0.738	J	10	0.079	pg/g		10/17/17 11:29	11/14/17 01:05	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*60*		*40 - 135*	*10/17/17 11:29*	*11/14/17 01:05*	*1*
13C-2,3,7,8-TCDF	*55*		*40 - 135*	*10/17/17 11:29*	*11/14/17 01:05*	*1*
13C-1,2,3,7,8-PeCDD	*58*		*40 - 135*	*10/17/17 11:29*	*11/14/17 01:05*	*1*
13C-1,2,3,7,8-PeCDF	*57*		*40 - 135*	*10/17/17 11:29*	*11/14/17 01:05*	*1*
13C-1,2,3,6,7,8-HxCDD	*62*		*40 - 135*	*10/17/17 11:29*	*11/14/17 01:05*	*1*
13C-1,2,3,4,7,8-HxCDF	*60*		*40 - 135*	*10/17/17 11:29*	*11/14/17 01:05*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*60*		*40 - 135*	*10/17/17 11:29*	*11/14/17 01:05*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*57*		*40 - 135*	*10/17/17 11:29*	*11/14/17 01:05*	*1*
13C-OCDD	*53*		*40 - 135*	*10/17/17 11:29*	*11/14/17 01:05*	*1*

Lab Sample ID: LCS 320-189721/2-A
Matrix: Solid
Analysis Batch: 194084

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 189721

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	20.0	20.0		pg/g		100	70 - 128
2,3,7,8-TCDF	20.0	20.3		pg/g		101	75 - 135
1,2,3,7,8-PeCDD	100	106		pg/g		106	74 - 125
1,2,3,7,8-PeCDF	100	106		pg/g		106	77 - 131
2,3,4,7,8-PeCDF	100	109		pg/g		109	75 - 128
1,2,3,4,7,8-HxCDD	100	115		pg/g		115	72 - 131
1,2,3,6,7,8-HxCDD	100	104		pg/g		104	74 - 134
1,2,3,7,8,9-HxCDD	100	104		pg/g		104	71 - 138
1,2,3,4,7,8-HxCDF	100	103		pg/g		103	77 - 130
1,2,3,6,7,8-HxCDF	100	98.6		pg/g		99	73 - 134
1,2,3,7,8,9-HxCDF	100	93.8		pg/g		94	74 - 135
2,3,4,6,7,8-HxCDF	100	101		pg/g		101	74 - 133
1,2,3,4,6,7,8-HpCDD	100	103		pg/g		103	76 - 125
1,2,3,4,6,7,8-HpCDF	100	108		pg/g		108	73 - 135

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-189721/2-A
Matrix: Solid
Analysis Batch: 194084

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 189721

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,4,7,8,9-HpCDF	100	112		pg/g		112	72 - 131
OCDD	200	204	B	pg/g		102	73 - 135
OCDF	200	217		pg/g		108	66 - 144

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*51*		*40 - 135*
13C-2,3,7,8-TCDF	*53*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*55*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*56*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*53*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*59*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*56*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*49*		*40 - 135*
13C-OCDD	*47*		*40 - 135*

Lab Sample ID: LCSD 320-189721/3-A
Matrix: Solid
Analysis Batch: 194084

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 189721

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	20.0	21.3		pg/g		107	70 - 128	6	20
2,3,7,8-TCDF	20.0	20.8		pg/g		104	75 - 135	2	20
1,2,3,7,8-PeCDD	100	106		pg/g		106	74 - 125	0	20
1,2,3,7,8-PeCDF	100	106		pg/g		106	77 - 131	0	20
2,3,4,7,8-PeCDF	100	109		pg/g		109	75 - 128	1	20
1,2,3,4,7,8-HxCDD	100	111		pg/g		111	72 - 131	4	20
1,2,3,6,7,8-HxCDD	100	98.9		pg/g		99	74 - 134	5	20
1,2,3,7,8,9-HxCDD	100	100		pg/g		100	71 - 138	4	20
1,2,3,4,7,8-HxCDF	100	104		pg/g		104	77 - 130	1	20
1,2,3,6,7,8-HxCDF	100	98.5		pg/g		98	73 - 134	0	20
1,2,3,7,8,9-HxCDF	100	93.4		pg/g		93	74 - 135	0	20
2,3,4,6,7,8-HxCDF	100	102		pg/g		102	74 - 133	1	20
1,2,3,4,6,7,8-HpCDD	100	102		pg/g		102	76 - 125	0	20
1,2,3,4,6,7,8-HpCDF	100	105		pg/g		105	73 - 135	3	20
1,2,3,4,7,8,9-HpCDF	100	110		pg/g		110	72 - 131	1	20
OCDD	200	204	B	pg/g		102	73 - 135	0	20
OCDF	200	213		pg/g		107	66 - 144	2	20

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*54*		*40 - 135*
13C-2,3,7,8-TCDF	*57*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*62*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*62*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*61*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*65*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*56*		*40 - 135*
13C-OCDD	*53*		*40 - 135*

QC Sample Results

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Analysis Batch: 194085

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 189721

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.41	U	20.3	20.5		pg/g	☼	101	70 - 128
1,2,3,7,8-PeCDD	0.60	J	102	105		pg/g	☼	102	74 - 125
1,2,3,7,8-PeCDF	0.56	J M	102	101		pg/g	☼	99	77 - 131
2,3,4,7,8-PeCDF	0.94	J	102	105		pg/g	☼	102	75 - 128
1,2,3,4,7,8-HxCDD	0.73	J	102	122		pg/g	☼	119	72 - 131
1,2,3,6,7,8-HxCDD	3.0	J	102	107		pg/g	☼	102	74 - 134
1,2,3,7,8,9-HxCDD	2.3	J	102	98.5		pg/g	☼	95	71 - 138
1,2,3,4,7,8-HxCDF	0.56	J M	102	102		pg/g	☼	100	77 - 130
1,2,3,6,7,8-HxCDF	1.3	J	102	91.4		pg/g	☼	89	73 - 134
1,2,3,7,8,9-HxCDF	1.0	U	102	83.4		pg/g	☼	82	74 - 135
2,3,4,6,7,8-HxCDF	0.83	J	102	92.1		pg/g	☼	90	74 - 133
1,2,3,4,6,7,8-HpCDD	25		102	123		pg/g	☼	96	76 - 125
1,2,3,4,6,7,8-HpCDF	42	J	102	107	J	pg/g	☼	64	73 - 135
1,2,3,4,7,8,9-HpCDF	2.0	U J	102	152	J	pg/g	☼	149	72 - 131
OCDD	100	B	203	280	B	pg/g	☼	87	73 - 135
OCDF	25		203	217		pg/g	☼	95	66 - 144

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*58*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*62*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*58*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*72*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*51*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*26*	*Q*	*40 - 135*
13C-OCDD	*38*	*Q*	*40 - 135*

Lab Sample ID: 160-24924-9 MSD
Matrix: Solid
Analysis Batch: 194085

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 189721

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	0.41	U	20.4	20.9		pg/g	☼	102	70 - 128	2	20
1,2,3,7,8-PeCDD	0.60	J	102	104		pg/g	☼	102	74 - 125	0	20
1,2,3,7,8-PeCDF	0.56	J M	102	99.5		pg/g	☼	97	77 - 131	2	20
2,3,4,7,8-PeCDF	0.94	J	102	107		pg/g	☼	104	75 - 128	2	20
1,2,3,4,7,8-HxCDD	0.73	J	102	117		pg/g	☼	114	72 - 131	4	20
1,2,3,6,7,8-HxCDD	3.0	J	102	105		pg/g	☼	100	74 - 134	2	20
1,2,3,7,8,9-HxCDD	2.3	J	102	97.1		pg/g	☼	93	71 - 138	1	20
1,2,3,4,7,8-HxCDF	0.56	J M	102	99.8		pg/g	☼	97	77 - 130	3	20
1,2,3,6,7,8-HxCDF	1.3	J	102	89.8		pg/g	☼	87	73 - 134	2	20
1,2,3,7,8,9-HxCDF	1.0	U	102	85.5		pg/g	☼	84	74 - 135	2	20
2,3,4,6,7,8-HxCDF	0.83	J	102	92.4		pg/g	☼	90	74 - 133	0	20
1,2,3,4,6,7,8-HpCDD	25		102	117		pg/g	☼	90	76 - 125	5	20
1,2,3,4,6,7,8-HpCDF	42	J	102	107	J	pg/g	☼	63	73 - 135	0	20
1,2,3,4,7,8,9-HpCDF	2.0	U J	102	158	J	pg/g	☼	155	72 - 131	4	20
OCDD	100	B	204	259	B	pg/g	☼	76	73 - 135	8	20
OCDF	25		204	199		pg/g	☼	86	66 - 144	9	20

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*59*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*65*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*66*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*57*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*70*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*49*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*24*	*Q*	*40 - 135*
13C-OCDD	*38*	*Q*	*40 - 135*

Lab Sample ID: MB 320-195095/1-A
Matrix: Solid
Analysis Batch: 195573

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 195095

Analyte	MB Result	MB Qualifier	LOQ	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.40	U	1.0	0.060	pg/g		11/16/17 11:16	11/18/17 15:25	1
2,3,7,8-TCDF	0.40	U	1.0	0.050	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,7,8-PeCDD	0.75	U	5.0	0.066	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,7,8-PeCDF	0.75	U	5.0	0.044	pg/g		11/16/17 11:16	11/18/17 15:25	1
2,3,4,7,8-PeCDF	0.75	U	5.0	0.046	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,4,7,8-HxCDD	0.184	J	5.0	0.054	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,6,7,8-HxCDD	2.0	U	5.0	0.049	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,7,8,9-HxCDD	2.0	U	5.0	0.047	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,4,7,8-HxCDF	0.75	U	5.0	0.061	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,6,7,8-HxCDF	1.0	U	5.0	0.056	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,7,8,9-HxCDF	1.0	U	5.0	0.064	pg/g		11/16/17 11:16	11/18/17 15:25	1
2,3,4,6,7,8-HxCDF	0.75	U	5.0	0.060	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,4,6,7,8-HpCDD	0.978	J M	5.0	0.097	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,4,6,7,8-HpCDF	0.170	J M	5.0	0.071	pg/g		11/16/17 11:16	11/18/17 15:25	1
1,2,3,4,7,8,9-HpCDF	0.189	J M	5.0	0.092	pg/g		11/16/17 11:16	11/18/17 15:25	1
OCDD	15.7		10	0.13	pg/g		11/16/17 11:16	11/18/17 15:25	1
OCDF	1.83	J	10	0.078	pg/g		11/16/17 11:16	11/18/17 15:25	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*64*		*40 - 135*	*11/16/17 11:16*	*11/18/17 15:25*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*11/16/17 11:16*	*11/18/17 15:25*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*40 - 135*	*11/16/17 11:16*	*11/18/17 15:25*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*40 - 135*	*11/16/17 11:16*	*11/18/17 15:25*	*1*
13C-1,2,3,6,7,8-HxCDD	*68*		*40 - 135*	*11/16/17 11:16*	*11/18/17 15:25*	*1*
13C-1,2,3,4,7,8-HxCDF	*65*		*40 - 135*	*11/16/17 11:16*	*11/18/17 15:25*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*40 - 135*	*11/16/17 11:16*	*11/18/17 15:25*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*68*		*40 - 135*	*11/16/17 11:16*	*11/18/17 15:25*	*1*
13C-OCDD	*67*		*40 - 135*	*11/16/17 11:16*	*11/18/17 15:25*	*1*

Lab Sample ID: LCS 320-195095/2-A
Matrix: Solid
Analysis Batch: 195573

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195095

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	20.0	18.2		pg/g		91	70 - 128
2,3,7,8-TCDF	20.0	17.9		pg/g		89	75 - 135
1,2,3,7,8-PeCDD	100	92.2		pg/g		92	74 - 125
1,2,3,7,8-PeCDF	100	93.7		pg/g		94	77 - 131
2,3,4,7,8-PeCDF	100	93.9		pg/g		94	75 - 128
1,2,3,4,7,8-HxCDD	100	93.2		pg/g		93	72 - 131

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-195095/2-A
Matrix: Solid
Analysis Batch: 195573

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195095

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,6,7,8-HxCDD	100	95.2		pg/g		95	74 - 134
1,2,3,7,8,9-HxCDD	100	96.5		pg/g		96	71 - 138
1,2,3,4,7,8-HxCDF	100	97.3		pg/g		97	77 - 130
1,2,3,6,7,8-HxCDF	100	97.2		pg/g		97	73 - 134
1,2,3,7,8,9-HxCDF	100	95.4		pg/g		95	74 - 135
2,3,4,6,7,8-HxCDF	100	98.3		pg/g		98	74 - 133
1,2,3,4,6,7,8-HpCDD	100	96.3		pg/g		96	76 - 125
1,2,3,4,6,7,8-HpCDF	100	97.2		pg/g		97	73 - 135
1,2,3,4,7,8,9-HpCDF	100	96.6		pg/g		97	72 - 131
OCDD	200	191		pg/g		96	73 - 135
OCDF	200	178		pg/g		89	66 - 144

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*62*		*40 - 135*
13C-2,3,7,8-TCDF	*60*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*62*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*64*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*64*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*67*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*40 - 135*
13C-OCDD	*66*		*40 - 135*

Lab Sample ID: LCSD 320-195095/3-A
Matrix: Solid
Analysis Batch: 195573

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 195095

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	20.0	18.2		pg/g		91	70 - 128	0	20
2,3,7,8-TCDF	20.0	17.7		pg/g		89	75 - 135	1	20
1,2,3,7,8-PeCDD	100	95.1		pg/g		95	74 - 125	3	20
1,2,3,7,8-PeCDF	100	89.4		pg/g		89	77 - 131	5	20
2,3,4,7,8-PeCDF	100	91.0		pg/g		91	75 - 128	3	20
1,2,3,4,7,8-HxCDD	100	93.8		pg/g		94	72 - 131	1	20
1,2,3,6,7,8-HxCDD	100	95.3		pg/g		95	74 - 134	0	20
1,2,3,7,8,9-HxCDD	100	96.7		pg/g		97	71 - 138	0	20
1,2,3,4,7,8-HxCDF	100	93.7		pg/g		94	77 - 130	4	20
1,2,3,6,7,8-HxCDF	100	96.5		pg/g		97	73 - 134	1	20
1,2,3,7,8,9-HxCDF	100	94.9		pg/g		95	74 - 135	1	20
2,3,4,6,7,8-HxCDF	100	95.4		pg/g		95	74 - 133	3	20
1,2,3,4,6,7,8-HpCDD	100	92.3		pg/g		92	76 - 125	4	20
1,2,3,4,6,7,8-HpCDF	100	95.3		pg/g		95	73 - 135	2	20
1,2,3,4,7,8,9-HpCDF	100	96.1		pg/g		96	72 - 131	1	20
OCDD	200	198		pg/g		99	73 - 135	3	20
OCDF	200	192		pg/g		96	66 - 144	7	20

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*72*		*40 - 135*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-195095/3-A
Matrix: Solid
Analysis Batch: 195573
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 195095

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDF	*70*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*71*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*73*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*71*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*75*		*40 - 135*
13C-OCDD	*75*		*40 - 135*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Analysis Batch: 193317
Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 189721

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDF - RA	1.3	M	20.3	23.5	M	pg/g	☼	110	75 - 135

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDF - RA	*60*		*40 - 135*

Lab Sample ID: 160-24924-9 MSD
Matrix: Solid
Analysis Batch: 193317
Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 189721

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDF - RA	1.3	M	20.4	23.5	M	pg/g	☼	109	75 - 135	0	20

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDF - RA	*62*		*40 - 135*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE

Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Analysis Batch: 195574
Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 195095

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD - RE	0.40	U H	20.1	19.2	H	pg/g	☼	96	70 - 128
1,2,3,7,8-PeCDD - RE	0.42	J H	101	96.0	H	pg/g	☼	95	74 - 125
1,2,3,7,8-PeCDF - RE	0.77	J H	101	96.5	H	pg/g	☼	95	77 - 131
2,3,4,7,8-PeCDF - RE	0.75	J H	101	96.6	H	pg/g	☼	95	75 - 128
1,2,3,4,7,8-HxCDD - RE	0.49	J H	101	97.6	H	pg/g	☼	97	72 - 131
1,2,3,6,7,8-HxCDD - RE	2.8	J H	101	104	H	pg/g	☼	100	74 - 134
1,2,3,7,8,9-HxCDD - RE	2.0	J H	101	97.1	H	pg/g	☼	95	71 - 138
1,2,3,4,7,8-HxCDF - RE	1.3	J M H	101	101	H	pg/g	☼	99	77 - 130
1,2,3,6,7,8-HxCDF - RE	1.4	J H	101	99.9	H	pg/g	☼	98	73 - 134
1,2,3,7,8,9-HxCDF - RE	1.0	U H	101	95.6	H	pg/g	☼	95	74 - 135

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RE (Continued)

Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Analysis Batch: 195574

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 195095

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,4,6,7,8-HxCDF - RE	0.72	J H	101	101	H	pg/g	☼	100	74 - 133
1,2,3,4,6,7,8-HpCDD - RE	23	H J	101	160	H J	pg/g	☼	136	76 - 125
1,2,3,4,6,7,8-HpCDF - RE	46	H	101	125	H	pg/g	☼	79	73 - 135
1,2,3,4,7,8,9-HpCDF - RE	2.0	U H	101	123	H	pg/g	☼	123	72 - 131
OCDD - RE	110	H B J	201	809	H J	pg/g	☼	350	73 - 135
OCDF - RE	23	H	201	244	H	pg/g	☼	110	66 - 144

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDD - RE	*61*		*40 - 135*
13C-1,2,3,7,8-PeCDD - RE	*62*		*40 - 135*
13C-1,2,3,7,8-PeCDF - RE	*61*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD - RE	*63*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF - RE	*62*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD - RE	*61*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF - RE	*47*		*40 - 135*
13C-OCDD - RE	*58*		*40 - 135*

Lab Sample ID: 160-24924-9 MSD
Matrix: Solid
Analysis Batch: 195574

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 195095

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD - RE	0.40	U H	20.7	19.6	H	pg/g	☼	94	70 - 128	2	20
1,2,3,7,8-PeCDD - RE	0.42	J H	104	96.1	H	pg/g	☼	92	74 - 125	0	20
1,2,3,7,8-PeCDF - RE	0.77	J H	104	98.8	M H	pg/g	☼	94	77 - 131	2	20
2,3,4,7,8-PeCDF - RE	0.75	J H	104	104	H	pg/g	☼	100	75 - 128	7	20
1,2,3,4,7,8-HxCDD - RE	0.49	J H	104	95.2	H	pg/g	☼	91	72 - 131	3	20
1,2,3,6,7,8-HxCDD - RE	2.8	J H	104	102	H	pg/g	☼	96	74 - 134	1	20
1,2,3,7,8,9-HxCDD - RE	2.0	J H	104	90.6	H	pg/g	☼	85	71 - 138	7	20
1,2,3,4,7,8-HxCDF - RE	1.3	J M H	104	101	H	pg/g	☼	96	77 - 130	0	20
1,2,3,6,7,8-HxCDF - RE	1.4	J H	104	102	H	pg/g	☼	97	73 - 134	2	20
1,2,3,7,8,9-HxCDF - RE	1.0	U H	104	97.4	H	pg/g	☼	94	74 - 135	2	20
2,3,4,6,7,8-HxCDF - RE	0.72	J H	104	100	H	pg/g	☼	96	74 - 133	1	20
1,2,3,4,6,7,8-HpCDD - RE	23	H J	104	129	H J	pg/g	☼	103	76 - 125	21	20
1,2,3,4,6,7,8-HpCDF - RE	46	H	104	126	H	pg/g	☼	77	73 - 135	1	20
1,2,3,4,7,8,9-HpCDF - RE	2.0	U H	104	126	H	pg/g	☼	122	72 - 131	2	20
OCDD - RE	110	H B J	207	495	H J	pg/g	☼	188	73 - 135	48	20
OCDF - RE	23	H	207	213	H	pg/g	☼	92	66 - 144	13	20

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD - RE	*70*		*40 - 135*
13C-1,2,3,7,8-PeCDD - RE	*68*		*40 - 135*
13C-1,2,3,7,8-PeCDF - RE	*66*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD - RE	*63*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF - RE	*64*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD - RE	*50*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF - RE	*39*	*Q*	*40 - 135*
13C-OCDD - RE	*36*	*Q*	*40 - 135*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) - RERA

Lab Sample ID: 160-24924-9 MS
Matrix: Solid
Analysis Batch: 198469

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 195095

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDF - RERA	0.43	J M H	20.1	20.2	H	pg/g	☼	98	75 - 135		

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDF - RERA	*59*		*40 - 135*

Lab Sample ID: 160-24924-9 MSD
Matrix: Solid
Analysis Batch: 198469

Client Sample ID: SHAD041DP022SS03NS
Prep Type: Total/NA
Prep Batch: 195095

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDF - RERA	0.43	J M H	20.7	20.1	H	pg/g	☼	95	75 - 135	1	20

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDF - RERA	*71*		*40 - 135*

QC Association Summary

Specialty Organics

Prep Batch: 189721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	8290	
160-24924-1 - RA	SHAD041DP026SS02NS	Total/NA	Solid	8290	
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	8290	
160-24924-2 - RA	SHAD041DP026SS03NS	Total/NA	Solid	8290	
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	8290	
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	8290	
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	8290	
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	8290	
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	8290	
160-24924-7 - RA	SHAD041DP022SS01NS	Total/NA	Solid	8290	
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	8290	
160-24924-8 - RA	SHAD041DP022SS02NS	Total/NA	Solid	8290	
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	8290	
160-24924-9 - RA	SHAD041DP022SS03NS	Total/NA	Solid	8290	
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	8290	
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	8290	
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	8290	
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	8290	
160-24924-13 - RA	SHAD041DP013SS01NS	Total/NA	Solid	8290	
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	8290	
160-24924-14 - RA	SHAD041DP013SS02NS	Total/NA	Solid	8290	
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	8290	
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	8290	
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	8290	
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	8290	
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	8290	
MB 320-189721/1-A	Method Blank	Total/NA	Solid	8290	
LCS 320-189721/2-A	Lab Control Sample	Total/NA	Solid	8290	
LCSD 320-189721/3-A	Lab Control Sample Dup	Total/NA	Solid	8290	
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	8290	
160-24924-9 MS - RA	SHAD041DP022SS03NS	Total/NA	Solid	8290	
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	8290	
160-24924-9 MSD - RA	SHAD041DP022SS03NS	Total/NA	Solid	8290	

Analysis Batch: 193317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1 - RA	SHAD041DP026SS02NS	Total/NA	Solid	8290A	189721
160-24924-2 - RA	SHAD041DP026SS03NS	Total/NA	Solid	8290A	189721
160-24924-7 - RA	SHAD041DP022SS01NS	Total/NA	Solid	8290A	189721
160-24924-8 - RA	SHAD041DP022SS02NS	Total/NA	Solid	8290A	189721
160-24924-9 - RA	SHAD041DP022SS03NS	Total/NA	Solid	8290A	189721
160-24924-9 MS - RA	SHAD041DP022SS03NS	Total/NA	Solid	8290A	189721
160-24924-9 MSD - RA	SHAD041DP022SS03NS	Total/NA	Solid	8290A	189721

Analysis Batch: 193641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-13 - RA	SHAD041DP013SS01NS	Total/NA	Solid	8290A	189721
160-24924-14 - RA	SHAD041DP013SS02NS	Total/NA	Solid	8290A	189721

Specialty Organics (Continued)

Analysis Batch: 194084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1	SHAD041DP026SS02NS	Total/NA	Solid	8290A	189721
160-24924-2	SHAD041DP026SS03NS	Total/NA	Solid	8290A	189721
160-24924-4	SHAD041DP026SS05NS	Total/NA	Solid	8290A	189721
160-24924-5	SHAD041DP026SS05DS	Total/NA	Solid	8290A	189721
LCS 320-189721/2-A	Lab Control Sample	Total/NA	Solid	8290A	189721
LCSD 320-189721/3-A	Lab Control Sample Dup	Total/NA	Solid	8290A	189721

Analysis Batch: 194085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-6	SHAD041DP026SS06NS	Total/NA	Solid	8290A	189721
160-24924-7	SHAD041DP022SS01NS	Total/NA	Solid	8290A	189721
160-24924-8	SHAD041DP022SS02NS	Total/NA	Solid	8290A	189721
160-24924-9	SHAD041DP022SS03NS	Total/NA	Solid	8290A	189721
160-24924-10	SHAD041DP022SS04NS	Total/NA	Solid	8290A	189721
160-24924-11	SHAD041DP022SS05NS	Total/NA	Solid	8290A	189721
160-24924-9 MS	SHAD041DP022SS03NS	Total/NA	Solid	8290A	189721
160-24924-9 MSD	SHAD041DP022SS03NS	Total/NA	Solid	8290A	189721

Analysis Batch: 194086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-12	SHAD041DP022SS06NS	Total/NA	Solid	8290A	189721
160-24924-13	SHAD041DP013SS01NS	Total/NA	Solid	8290A	189721
160-24924-16	SHAD041DP013SS04NS	Total/NA	Solid	8290A	189721
160-24924-17	SHAD041DP013SS05NS	Total/NA	Solid	8290A	189721
160-24924-18	SHAD041DP013SS05DS	Total/NA	Solid	8290A	189721
160-24924-19	SHAD041DP013SS06NS	Total/NA	Solid	8290A	189721

Analysis Batch: 194428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-3	SHAD041DP026SS04NS	Total/NA	Solid	8290A	189721
MB 320-189721/1-A	Method Blank	Total/NA	Solid	8290A	189721

Analysis Batch: 194429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-14	SHAD041DP013SS02NS	Total/NA	Solid	8290A	189721
160-24924-15	SHAD041DP013SS03NS	Total/NA	Solid	8290A	189721

Prep Batch: 195095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1 - RE	SHAD041DP026SS02NS	Total/NA	Solid	8290	
160-24924-1 - RERA	SHAD041DP026SS02NS	Total/NA	Solid	8290	
160-24924-2 - RE	SHAD041DP026SS03NS	Total/NA	Solid	8290	
160-24924-2 - RERA	SHAD041DP026SS03NS	Total/NA	Solid	8290	
160-24924-3 - RE	SHAD041DP026SS04NS	Total/NA	Solid	8290	
160-24924-4 - RE	SHAD041DP026SS05NS	Total/NA	Solid	8290	
160-24924-5 - RE	SHAD041DP026SS05DS	Total/NA	Solid	8290	
160-24924-6 - RE	SHAD041DP026SS06NS	Total/NA	Solid	8290	
160-24924-7 - RE	SHAD041DP022SS01NS	Total/NA	Solid	8290	
160-24924-7 - RERA	SHAD041DP022SS01NS	Total/NA	Solid	8290	
160-24924-8 - RE	SHAD041DP022SS02NS	Total/NA	Solid	8290	
160-24924-8 - RERA	SHAD041DP022SS02NS	Total/NA	Solid	8290	

Specialty Organics (Continued)

Prep Batch: 195095 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-9 - RE	SHAD041DP022SS03NS	Total/NA	Solid	8290	
160-24924-9 - RERA	SHAD041DP022SS03NS	Total/NA	Solid	8290	
160-24924-10 - RE	SHAD041DP022SS04NS	Total/NA	Solid	8290	
160-24924-11 - RE	SHAD041DP022SS05NS	Total/NA	Solid	8290	
160-24924-11 - RERA	SHAD041DP022SS05NS	Total/NA	Solid	8290	
160-24924-12 - RE	SHAD041DP022SS06NS	Total/NA	Solid	8290	
160-24924-13 - RE	SHAD041DP013SS01NS	Total/NA	Solid	8290	
160-24924-14 - RE	SHAD041DP013SS02NS	Total/NA	Solid	8290	
160-24924-14 - RERA	SHAD041DP013SS02NS	Total/NA	Solid	8290	
160-24924-15 - RE	SHAD041DP013SS03NS	Total/NA	Solid	8290	
160-24924-16 - RE	SHAD041DP013SS04NS	Total/NA	Solid	8290	
160-24924-17 - RE	SHAD041DP013SS05NS	Total/NA	Solid	8290	
160-24924-18 - RE	SHAD041DP013SS05DS	Total/NA	Solid	8290	
160-24924-19 - RE	SHAD041DP013SS06NS	Total/NA	Solid	8290	
MB 320-195095/1-A	Method Blank	Total/NA	Solid	8290	
LCS 320-195095/2-A	Lab Control Sample	Total/NA	Solid	8290	
LCSD 320-195095/3-A	Lab Control Sample Dup	Total/NA	Solid	8290	
160-24924-9 MS - RE	SHAD041DP022SS03NS	Total/NA	Solid	8290	
160-24924-9 MS - RERA	SHAD041DP022SS03NS	Total/NA	Solid	8290	
160-24924-9 MSD - RE	SHAD041DP022SS03NS	Total/NA	Solid	8290	
160-24924-9 MSD - RERA	SHAD041DP022SS03NS	Total/NA	Solid	8290	

Analysis Batch: 195573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1 - RE	SHAD041DP026SS02NS	Total/NA	Solid	8290A	195095
160-24924-2 - RE	SHAD041DP026SS03NS	Total/NA	Solid	8290A	195095
160-24924-3 - RE	SHAD041DP026SS04NS	Total/NA	Solid	8290A	195095
160-24924-4 - RE	SHAD041DP026SS05NS	Total/NA	Solid	8290A	195095
160-24924-5 - RE	SHAD041DP026SS05DS	Total/NA	Solid	8290A	195095
MB 320-195095/1-A	Method Blank	Total/NA	Solid	8290A	195095
LCS 320-195095/2-A	Lab Control Sample	Total/NA	Solid	8290A	195095
LCSD 320-195095/3-A	Lab Control Sample Dup	Total/NA	Solid	8290A	195095

Analysis Batch: 195574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-6 - RE	SHAD041DP026SS06NS	Total/NA	Solid	8290A	195095
160-24924-7 - RE	SHAD041DP022SS01NS	Total/NA	Solid	8290A	195095
160-24924-8 - RE	SHAD041DP022SS02NS	Total/NA	Solid	8290A	195095
160-24924-9 - RE	SHAD041DP022SS03NS	Total/NA	Solid	8290A	195095
160-24924-10 - RE	SHAD041DP022SS04NS	Total/NA	Solid	8290A	195095
160-24924-11 - RE	SHAD041DP022SS05NS	Total/NA	Solid	8290A	195095
160-24924-9 MS - RE	SHAD041DP022SS03NS	Total/NA	Solid	8290A	195095
160-24924-9 MSD - RE	SHAD041DP022SS03NS	Total/NA	Solid	8290A	195095

Analysis Batch: 195575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-12 - RE	SHAD041DP022SS06NS	Total/NA	Solid	8290A	195095
160-24924-13 - RE	SHAD041DP013SS01NS	Total/NA	Solid	8290A	195095
160-24924-14 - RE	SHAD041DP013SS02NS	Total/NA	Solid	8290A	195095
160-24924-15 - RE	SHAD041DP013SS03NS	Total/NA	Solid	8290A	195095
160-24924-16 - RE	SHAD041DP013SS04NS	Total/NA	Solid	8290A	195095

Specialty Organics (Continued)

Analysis Batch: 195575 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-17 - RE	SHAD041DP013SS05NS	Total/NA	Solid	8290A	195095
160-24924-18 - RE	SHAD041DP013SS05DS	Total/NA	Solid	8290A	195095
160-24924-19 - RE	SHAD041DP013SS06NS	Total/NA	Solid	8290A	195095

Analysis Batch: 198469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-24924-1 - RERA	SHAD041DP026SS02NS	Total/NA	Solid	8290A	195095
160-24924-2 - RERA	SHAD041DP026SS03NS	Total/NA	Solid	8290A	195095
160-24924-7 - RERA	SHAD041DP022SS01NS	Total/NA	Solid	8290A	195095
160-24924-8 - RERA	SHAD041DP022SS02NS	Total/NA	Solid	8290A	195095
160-24924-9 - RERA	SHAD041DP022SS03NS	Total/NA	Solid	8290A	195095
160-24924-11 - RERA	SHAD041DP022SS05NS	Total/NA	Solid	8290A	195095
160-24924-14 - RERA	SHAD041DP013SS02NS	Total/NA	Solid	8290A	195095
160-24924-9 MS - RERA	SHAD041DP022SS03NS	Total/NA	Solid	8290A	195095
160-24924-9 MSD - RERA	SHAD041DP022SS03NS	Total/NA	Solid	8290A	195095

Lab Chronicle

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Client Sample ID: SHAD041DP026SS02NS

Lab Sample ID: 160-24924-1

Date Collected: 10/05/17 16:04
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 98.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194084	11/11/17 06:52	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195573	11/18/17 17:50	SMA	TAL SAC
Total/NA	Prep	8290	RA		189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A	RA	1	193317	11/07/17 12:41	AS	TAL SAC
Total/NA	Prep	8290	RERA		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RERA	1	198469	12/05/17 13:27	ALM	TAL SAC

Client Sample ID: SHAD041DP026SS03NS

Lab Sample ID: 160-24924-2

Date Collected: 10/05/17 16:11
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194084	11/11/17 07:38	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195573	11/18/17 18:39	SMA	TAL SAC
Total/NA	Prep	8290	RA		189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A	RA	1	193317	11/07/17 13:18	AS	TAL SAC
Total/NA	Prep	8290	RERA		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RERA	1	198469	12/05/17 14:05	ALM	TAL SAC

Client Sample ID: SHAD041DP026SS04NS

Lab Sample ID: 160-24924-3

Date Collected: 10/05/17 16:15
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194428	11/14/17 03:24	AS	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195573	11/18/17 19:27	SMA	TAL SAC

Client Sample ID: SHAD041DP026SS05NS

Lab Sample ID: 160-24924-4

Date Collected: 10/05/17 16:22
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194084	11/11/17 09:10	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195573	11/18/17 20:16	SMA	TAL SAC

Lab Chronicle

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Client Sample ID: SHAD041DP026SS05DS

Lab Sample ID: 160-24924-5

Date Collected: 10/05/17 16:26
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 73.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194084	11/11/17 09:56	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195573	11/18/17 21:04	SMA	TAL SAC

Client Sample ID: SHAD041DP026SS06NS

Lab Sample ID: 160-24924-6

Date Collected: 10/05/17 16:31
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194085	11/11/17 15:03	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195574	11/19/17 02:26	SMA	TAL SAC

Client Sample ID: SHAD041DP022SS01NS

Lab Sample ID: 160-24924-7

Date Collected: 10/05/17 16:45
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194085	11/11/17 15:49	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195574	11/19/17 03:14	SMA	TAL SAC
Total/NA	Prep	8290	RA		189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A	RA	1	193317	11/07/17 16:28	AS	TAL SAC
Total/NA	Prep	8290	RERA		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RERA	1	198469	12/05/17 14:43	ALM	TAL SAC

Client Sample ID: SHAD041DP022SS02NS

Lab Sample ID: 160-24924-8

Date Collected: 10/05/17 16:55
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 99.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194085	11/11/17 16:35	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195574	11/19/17 04:03	SMA	TAL SAC
Total/NA	Prep	8290	RA		189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A	RA	1	193317	11/07/17 17:05	AS	TAL SAC
Total/NA	Prep	8290	RERA		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RERA	1	198469	12/05/17 15:21	ALM	TAL SAC

Client Sample ID: SHAD041DP022SS03NS

Lab Sample ID: 160-24924-9

Date Collected: 10/05/17 16:59
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 98.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194085	11/11/17 17:21	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195574	11/19/17 04:51	SMA	TAL SAC
Total/NA	Prep	8290	RA		189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A	RA	1	193317	11/07/17 17:43	AS	TAL SAC
Total/NA	Prep	8290	RERA		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RERA	1	198469	12/05/17 15:58	ALM	TAL SAC

Client Sample ID: SHAD041DP022SS04NS

Lab Sample ID: 160-24924-10

Date Collected: 10/05/17 17:10
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194085	11/11/17 19:40	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195574	11/19/17 07:17	SMA	TAL SAC

Client Sample ID: SHAD041DP022SS05NS

Lab Sample ID: 160-24924-11

Date Collected: 10/05/17 17:15
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194085	11/11/17 20:26	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195574	11/19/17 08:05	SMA	TAL SAC
Total/NA	Prep	8290	RERA		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RERA	1	198469	12/05/17 17:52	ALM	TAL SAC

Client Sample ID: SHAD041DP022SS06NS

Lab Sample ID: 160-24924-12

Date Collected: 10/05/17 17:23
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194086	11/12/17 01:33	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195575	11/19/17 13:26	SMA	TAL SAC

Client Sample ID: SHAD041DP013SS01NS

Lab Sample ID: 160-24924-13

Date Collected: 10/05/17 14:23
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 99.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194086	11/12/17 02:19	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195575	11/19/17 14:15	SMA	TAL SAC
Total/NA	Prep	8290	RA		189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A	RA	1	193641	11/08/17 01:57	AS	TAL SAC

Client Sample ID: SHAD041DP013SS02NS

Lab Sample ID: 160-24924-14

Date Collected: 10/05/17 14:34
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194429	11/14/17 14:54	ALM	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195575	11/19/17 15:03	SMA	TAL SAC
Total/NA	Prep	8290	RA		189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A	RA	1	193641	11/08/17 02:35	AS	TAL SAC
Total/NA	Prep	8290	RERA		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RERA	1	198469	12/05/17 19:08	ALM	TAL SAC

Client Sample ID: SHAD041DP013SS03NS

Lab Sample ID: 160-24924-15

Date Collected: 10/05/17 14:44
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194429	11/14/17 15:40	ALM	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195575	11/19/17 15:52	SMA	TAL SAC

Client Sample ID: SHAD041DP013SS04NS

Lab Sample ID: 160-24924-16

Date Collected: 10/05/17 15:06
Date Received: 10/07/17 08:50

Matrix: Solid
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194086	11/12/17 04:37	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195575	11/19/17 16:41	SMA	TAL SAC

Lab Chronicle

Client Sample ID: SHAD041DP013SS05NS

Lab Sample ID: 160-24924-17

Date Collected: 10/05/17 15:10
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 76.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194086	11/12/17 05:23	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195575	11/19/17 17:29	SMA	TAL SAC

Client Sample ID: SHAD041DP013SS05DS

Lab Sample ID: 160-24924-18

Date Collected: 10/05/17 15:15
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 80.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194086	11/12/17 06:09	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195575	11/19/17 18:18	SMA	TAL SAC

Client Sample ID: SHAD041DP013SS06NS

Lab Sample ID: 160-24924-19

Date Collected: 10/05/17 15:18
Date Received: 10/07/17 08:50
Matrix: Solid
Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			189721	10/17/17 11:29	ADN	TAL SAC
Total/NA	Analysis	8290A		1	194086	11/12/17 06:56	JD1	TAL SAC
Total/NA	Prep	8290	RE		195095	11/16/17 11:16	SXS	TAL SAC
Total/NA	Analysis	8290A	RE	1	195575	11/19/17 19:06	SMA	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Laboratory: TestAmerica St. Louis

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
L-A-B	DoD ELAP		L2305	04-06-19

Laboratory: TestAmerica Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-055	12-18-17
Arizona	State Program	9	AZ0708	08-11-18
Arkansas DEQ	State Program	6	88-0691	06-17-18
California	State Program	9	2897	01-31-18
Colorado	State Program	8	CA00044	08-31-18
Connecticut	State Program	1	PH-0691	06-30-19
Florida	NELAP	4	E87570	06-30-18
Georgia	State Program	4	N/A	01-28-19
Hawaii	State Program	9	N/A	01-29-18
Illinois	NELAP	5	200060	03-17-18
Kansas	NELAP	7	E-10375	12-31-17
L-A-B	DoD ELAP		L2468	01-20-18
Louisiana	NELAP	6	30612	06-30-18
Maine	State Program	1	CA0004	04-18-18
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA00044	07-31-18
New Hampshire	NELAP	1	2997	04-18-18
New Jersey	NELAP	2	CA005	06-30-18
New York	NELAP	2	11666	04-01-18
Oregon	NELAP	10	4040	01-28-18
Pennsylvania	NELAP	3	68-01272	03-31-18
Texas	NELAP	6	T104704399	05-31-18
US Fish & Wildlife	Federal		LE148388-0	07-31-18
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-18
Utah	NELAP	8	CA00044	02-28-18
Virginia	NELAP	3	460278	03-14-18
Washington	State Program	10	C581	05-05-18
West Virginia (DW)	State Program	3	9930C	12-31-17
Wyoming	State Program	8	8TMS-L	01-28-19

Method Summary

Client: Ahtna Engineering Services LLC
Project/Site: Sharpe Army Depot - Task 16

TestAmerica Job ID: 160-24924-2

Method	Method Description	Protocol	Laboratory
8290A	Dioxins and Furans (HRGC/HRMS)	SW846	TAL SAC

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-24924-1	SHAD041DP026SS02NS	Solid	10/05/17 16:04	10/07/17 08:50
160-24924-2	SHAD041DP026SS03NS	Solid	10/05/17 16:11	10/07/17 08:50
160-24924-3	SHAD041DP026SS04NS	Solid	10/05/17 16:15	10/07/17 08:50
160-24924-4	SHAD041DP026SS05NS	Solid	10/05/17 16:22	10/07/17 08:50
160-24924-5	SHAD041DP026SS05DS	Solid	10/05/17 16:26	10/07/17 08:50
160-24924-6	SHAD041DP026SS06NS	Solid	10/05/17 16:31	10/07/17 08:50
160-24924-7	SHAD041DP022SS01NS	Solid	10/05/17 16:45	10/07/17 08:50
160-24924-8	SHAD041DP022SS02NS	Solid	10/05/17 16:55	10/07/17 08:50
160-24924-9	SHAD041DP022SS03NS	Solid	10/05/17 16:59	10/07/17 08:50
160-24924-10	SHAD041DP022SS04NS	Solid	10/05/17 17:10	10/07/17 08:50
160-24924-11	SHAD041DP022SS05NS	Solid	10/05/17 17:15	10/07/17 08:50
160-24924-12	SHAD041DP022SS06NS	Solid	10/05/17 17:23	10/07/17 08:50
160-24924-13	SHAD041DP013SS01NS	Solid	10/05/17 14:23	10/07/17 08:50
160-24924-14	SHAD041DP013SS02NS	Solid	10/05/17 14:34	10/07/17 08:50
160-24924-15	SHAD041DP013SS03NS	Solid	10/05/17 14:44	10/07/17 08:50
160-24924-16	SHAD041DP013SS04NS	Solid	10/05/17 15:06	10/07/17 08:50
160-24924-17	SHAD041DP013SS05NS	Solid	10/05/17 15:10	10/07/17 08:50
160-24924-18	SHAD041DP013SS05DS	Solid	10/05/17 15:15	10/07/17 08:50
160-24924-19	SHAD041DP013SS06NS	Solid	10/05/17 15:18	10/07/17 08:50

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 194084

Lab Sample ID: 160-24924-1 Client Sample ID: SHAD041DP026SS02NS

Date Analyzed: 11/11/17 06:52 Lab File ID: 09NO1710D5_59.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDF	30.58	Split Peak	dadunj	11/13/17 10:55
1,2,3,4,6,7,8-HpCDF	33.78	Split Peak	dadunj	11/13/17 10:56
1,2,3,4,7,8,9-HpCDF	34.86	Assign Peak	dadunj	11/13/17 10:56

Lab Sample ID: 160-24924-2 Client Sample ID: SHAD041DP026SS03NS

Date Analyzed: 11/11/17 07:38 Lab File ID: 09NO1710D5_60.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	31.78	Split Peak	dadunj	11/13/17 11:10

Lab Sample ID: 160-24924-4 Client Sample ID: SHAD041DP026SS05NS

Date Analyzed: 11/11/17 09:10 Lab File ID: 09NO1710D5_62.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,6,7,8-HpCDD	34.56	Split Peak	dadunj	11/13/17 11:17

Lab Sample ID: 160-24924-5 Client Sample ID: SHAD041DP026SS05DS

Date Analyzed: 11/11/17 09:56 Lab File ID: 09NO1710D5_63.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,4,6,7,8-HxCDF	31.57	Split Peak	dadunj	11/13/17 11:20

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DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 194085

Lab Sample ID: 160-24924-6 Client Sample ID: SHAD041DP026SS06NS

Date Analyzed: 11/11/17 15:03 Lab File ID: 09NO1710D5_69.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	31.76	Split Peak	dadunj	11/13/17 11:25
1,2,3,6,7,8-HxCDD	31.87	Split Peak	dadunj	11/13/17 11:26
1,2,3,7,8,9-HxCDF	32.38	Split Peak	dadunj	11/13/17 11:27
1,2,3,4,6,7,8-HpCDF	33.81	Split Peak	dadunj	11/13/17 11:26

Lab Sample ID: 160-24924-7 Client Sample ID: SHAD041DP022SS01NS

Date Analyzed: 11/11/17 15:49 Lab File ID: 09NO1710D5_70.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDF	30.62	Split Peak	dadunj	11/13/17 11:31

Lab Sample ID: 160-24924-8 Client Sample ID: SHAD041DP022SS02NS

Date Analyzed: 11/11/17 16:35 Lab File ID: 09NO1710D5_71.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDF	30.61	Split Peak	dadunj	11/13/17 12:28
1,2,3,6,7,8-HxCDF	30.81	Split Peak	dadunj	11/13/17 12:28
1,2,3,7,8,9-HxCDD	32.20	Split Peak	dadunj	11/13/17 12:29

Lab Sample ID: 160-24924-9 Client Sample ID: SHAD041DP022SS03NS

Date Analyzed: 11/11/17 17:21 Lab File ID: 09NO1710D5_72.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	22.48	Split Peak	dadunj	11/13/17 12:36
1,2,3,4,7,8-HxCDF	30.61	Split Peak	dadunj	11/13/17 12:37

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 194085

Lab Sample ID: 160-24924-10 Client Sample ID: SHAD041DP022SS04NS

Date Analyzed: 11/11/17 19:40 Lab File ID: 09NO1710D5_75.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8,9-HxCDD	32.18	Split Peak	dadunj	11/13/17 12:59

Lab Sample ID: 160-24924-11 Client Sample ID: SHAD041DP022SS05NS

Date Analyzed: 11/11/17 20:26 Lab File ID: 09NO1710D5_76.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,4,7,8-PeCDF	23.83	Split Peak	dadunj	11/13/17 13:02
1,2,3,4,7,8-HxCDD	31.76	Split Peak	dadunj	11/13/17 13:03
1,2,3,4,7,8,9-HpCDF	34.85	Split Peak	dadunj	11/13/17 13:02

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 194086

Lab Sample ID: 160-24924-12 Client Sample ID: SHAD041DP022SS06NS

Date Analyzed: 11/12/17 01:33 Lab File ID: 09NO1710D5_82.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8,9-HxCDF	32.35	Split Peak	dadunj	11/13/17 13:06
1,2,3,4,6,7,8-HpCDD	34.56	Split Peak	dadunj	11/13/17 13:06

Lab Sample ID: 160-24924-13 Client Sample ID: SHAD041DP013SS01NS

Date Analyzed: 11/12/17 02:19 Lab File ID: 09NO1710D5_83.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDD	18.14	Split Peak	dadunj	11/13/17 13:09
1,2,3,6,7,8-HxCDF	30.82	Split Peak	dadunj	11/13/17 13:12

Lab Sample ID: 160-24924-18 Client Sample ID: SHAD041DP013SS05DS

Date Analyzed: 11/12/17 06:09 Lab File ID: 09NO1710D5_88.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	31.75	Split Peak	dadunj	11/13/17 13:28
1,2,3,6,7,8-HxCDD	31.87	Split Peak	dadunj	11/13/17 13:28
1,2,3,7,8,9-HxCDD	32.18	Split Peak	dadunj	11/13/17 13:28
1,2,3,4,6,7,8-HpCDD	34.55	Split Peak	dadunj	11/13/17 13:28

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 194428

Lab Sample ID: 160-24924-3 Client Sample ID: SHAD041DP026SS04NS

Date Analyzed: 11/14/17 03:24 Lab File ID: 13NO1710D5_20.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	31.70	Split Peak	krongsingn	11/15/17 08:17
1,2,3,6,7,8-HxCDD	31.79	Split Peak	krongsingn	11/15/17 08:17

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 194429

Lab Sample ID: 160-24924-14 Client Sample ID: SHAD041DP013SS02NS

Date Analyzed: 11/14/17 14:54 Lab File ID: 13NO1710D5_34.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	31.70	Split Peak	pimtongp	11/16/17 10:03
1,2,3,6,7,8-HxCDD	31.82	Split Peak	pimtongp	11/16/17 10:03

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Instrument ID: 3D5
Analysis Batch Number: 195573
Lab Sample ID: MB 320-195095/1-A
Client Sample ID:
Date Analyzed: 11/18/17 15:25
Lab File ID: 16NO173D5_57.d
GC Column: DB-5
ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,6,7,8-HpCDF	34.02	Split Peak	dadunj	12/06/17 13:43
1,2,3,4,6,7,8-HpCDD	34.85	Split Peak	dadunj	12/06/17 13:43
1,2,3,4,7,8,9-HpCDF	35.14	Split Peak	dadunj	12/06/17 13:43

Lab Sample ID: 160-24924-1 RE
Client Sample ID: SHAD041DP026SS02NS RE
Date Analyzed: 11/18/17 17:50
Lab File ID: 16NO173D5_60.d
GC Column: DB-5
ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	22.92	Split Peak	dadunj	12/06/17 13:49
1,2,3,4,7,8-HxCDF	30.92	Split Peak	dadunj	12/06/17 13:51
1,2,3,4,7,8,9-HpCDF	35.14	Assign Peak	dadunj	12/06/17 13:53

Lab Sample ID: 160-24924-2 RE
Client Sample ID: SHAD041DP026SS03NS RE
Date Analyzed: 11/18/17 18:39
Lab File ID: 16NO173D5_61.d
GC Column: DB-5
ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	22.92	Split Peak	dadunj	12/06/17 13:59
1,2,3,7,8-PeCDD	25.07	Incomplete Integration	dadunj	12/06/17 14:01

Lab Sample ID: 160-24924-3 RE
Client Sample ID: SHAD041DP026SS04NS RE
Date Analyzed: 11/18/17 19:27
Lab File ID: 16NO173D5_62.d
GC Column: DB-5
ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,6,7,8-HpCDD	34.84	Split Peak	dadunj	12/06/17 14:08

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 195573

Lab Sample ID: 160-24924-4 RE Client Sample ID: SHAD041DP026SS05NS RE

Date Analyzed: 11/18/17 20:16 Lab File ID: 16NO173D5_63.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,6,7,8-HpCDD	34.82	Split Peak	dadunj	12/06/17 14:10

Lab Sample ID: 160-24924-5 RE Client Sample ID: SHAD041DP026SS05DS RE

Date Analyzed: 11/18/17 21:04 Lab File ID: 16NO173D5_64.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8,9-HxCDD	32.44	Split Peak	dadunj	12/06/17 14:12

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 195574

Lab Sample ID: 160-24924-6 RE Client Sample ID: SHAD041DP026SS06NS RE

Date Analyzed: 11/19/17 02:26 Lab File ID: 16NO173D5_70.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,6,7,8-HpCDD	34.84	Split Peak	dadunj	12/06/17 14:17

Lab Sample ID: 160-24924-7 RE Client Sample ID: SHAD041DP022SS01NS RE

Date Analyzed: 11/19/17 03:14 Lab File ID: 16NO173D5_71.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDD	18.46	Split Peak	dadunj	12/06/17 14:25
1,2,3,4,7,8-HxCDF	30.93	Split Peak	dadunj	12/06/17 14:27
1,2,3,4,7,8,9-HpCDF	35.14	Assign Peak	dadunj	12/06/17 14:28

Lab Sample ID: 160-24924-8 RE Client Sample ID: SHAD041DP022SS02NS RE

Date Analyzed: 11/19/17 04:03 Lab File ID: 16NO173D5_72.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDF	30.93	Split Peak	krenns	12/06/17 07:48
1,2,3,6,7,8-HxCDF	31.11	Split Peak	krenns	12/06/17 07:49
1,2,3,7,8,9-HxCDD	32.42	Split Peak	krenns	12/06/17 07:49

Lab Sample ID: 160-24924-9 RE Client Sample ID: SHAD041DP022SS03NS RE

Date Analyzed: 11/19/17 04:51 Lab File ID: 16NO173D5_73.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDF	30.89	Split Peak	dadunj	12/06/17 14:37

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 195574

Lab Sample ID: 160-24924-9 MSD RE Client Sample ID: SHAD041DP022SS03NS MSD RE

Date Analyzed: 11/19/17 06:28 Lab File ID: 16NO173D5_75.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	22.91	Baseline	dadunj	12/06/17 14:49

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 195575

Lab Sample ID: 160-24924-13 RE Client Sample ID: SHAD041DP013SS01NS RE

Date Analyzed: 11/19/17 14:15 Lab File ID: 16NO173D5_84.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	17.77	Missed Peak	arghestanis	11/20/17 11:40

Lab Sample ID: 160-24924-14 RE Client Sample ID: SHAD041DP013SS02NS RE

Date Analyzed: 11/19/17 15:03 Lab File ID: 16NO173D5_85.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDF	31.12	Split Peak	dadunj	12/06/17 15:08

Lab Sample ID: 160-24924-16 RE Client Sample ID: SHAD041DP013SS04NS RE

Date Analyzed: 11/19/17 16:41 Lab File ID: 16NO173D5_87.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	32.01	Split Peak	dadunj	12/06/17 15:14

Lab Sample ID: 160-24924-18 RE Client Sample ID: SHAD041DP013SS05DS RE

Date Analyzed: 11/19/17 18:18 Lab File ID: 16NO173D5_89.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDF	30.92	Split Peak	dadunj	12/06/17 15:18

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 9D2 Analysis Batch Number: 193317

Lab Sample ID: 160-24924-7 RA Client Sample ID: SHAD041DP022SS01NS RA

Date Analyzed: 11/07/17 16:28 Lab File ID: 07NO179D2_011.d GC Column: DB-225 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.13	Missed Peak	shardaa	11/09/17 16:41

Lab Sample ID: 160-24924-9 RA Client Sample ID: SHAD041DP022SS03NS RA

Date Analyzed: 11/07/17 17:43 Lab File ID: 07NO179D2_013.d GC Column: DB-225 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.13	Missed Peak	shardaa	11/09/17 16:45

Lab Sample ID: 160-24924-9 MS RA Client Sample ID: SHAD041DP022SS03NS MS RA

Date Analyzed: 11/07/17 18:21 Lab File ID: 07NO179D2_014.d GC Column: DB-225 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.17	Poor chromatography	shardaa	11/09/17 16:45

Lab Sample ID: 160-24924-9 MSD RA Client Sample ID: SHAD041DP022SS03NS MSD RA

Date Analyzed: 11/07/17 18:59 Lab File ID: 07NO179D2_015.d GC Column: DB-225 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.15	Poor chromatography	shardaa	11/09/17 16:50

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 9D2 Analysis Batch Number: 198469

Lab Sample ID: 160-24924-1 RERA Client Sample ID: SHAD041DP026SS02NS RERA

Date Analyzed: 12/05/17 13:27 Lab File ID: 05DE179D2_004.d GC Column: DB-225 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.13	Split Peak	messecara	12/05/17 23:18

Lab Sample ID: 160-24924-7 RERA Client Sample ID: SHAD041DP022SS01NS RERA

Date Analyzed: 12/05/17 14:43 Lab File ID: 05DE179D2_006.d GC Column: DB-225 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.11	Split Peak	messecara	12/05/17 23:28

Lab Sample ID: 160-24924-9 RERA Client Sample ID: SHAD041DP022SS03NS RERA

Date Analyzed: 12/05/17 15:58 Lab File ID: 05DE179D2_008.d GC Column: DB-225 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.13	Split Peak	messecara	12/05/17 23:33

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00031	08/11/17	08/11/16	C14, Lot STBF5986V	6 mL	HRDXNCP_00030	1.2 mL	13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00030	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNCP_00034	08/21/18	08/21/17	C14, Lot STBF5986V	6 mL	HRDXNCP_00033	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00033	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00031	09/21/17	02/28/17	C14, Lot STBF5986V	0.5 mL	HRDXNIDA_00276	0.25 mL	13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
					HRDXNSU_00145	0.025 mL	37Cl4-2,3,7,8-TCDD	20 ng/mL
					HRDXNTA_00016	0.05 mL	2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
.HRDXNIDA_00276	10/07/17	02/27/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00269	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00270	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
..HRDXNIDA_00269	03/01/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00270	09/01/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
.HRDXNSU_00145	09/21/17	09/21/16	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00144	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00144	09/21/17	09/21/16	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00120	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00120	05/31/20		CIL, Lot ER052010-02		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00016	03/31/20		CIL, Lot ER031010-01		(Purchased Reagent)		2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
HRDXNIC_00032	07/26/18	09/21/17	C14, Lot STBF5986V	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00304	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-OCDD	200 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
					HRDXNSU_00170	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00075	0.05 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00304	01/31/19	09/20/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00069	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00279	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00280	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00281	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00282	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00283	10 mL	13C-OCDD	0.4 ug/mL
					HRDXNIDA_00298	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00300	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
..HRDXNIDA_00069	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00279	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00280	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00281	01/31/19		CIL, Lot ER010209-01		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00282	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00283	06/30/26		CIL, Lot ER06061601		(Purchased Reagent)		13C-OCDD	10 ug/mL
..HRDXNIDA_00298	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00300	01/01/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
.HRDXNSU_00170	07/31/25	09/19/17	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00123	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00075	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNIDA_00306	10/11/18	10/11/17	Acetone, Lot 0000170015	500 mL	HRDXNIDA_00303	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
					HRDXNIDA_00304	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-OCDD	4 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26		CIL, Lot ER053107-02		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21		CIL, Lot ER102711-01		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00304	01/31/19	09/20/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00069	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00279	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00280	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00281	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00282	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00283	10 mL	13C-OCDD	0.4 ug/mL
					HRDXNIDA_00295	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00296	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00298	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00299	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00300	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
..HRDXNIDA_00069	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00279	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00280	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00281	01/31/19		CIL, Lot ER010209-01		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00282	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00283	06/30/26		CIL, Lot ER06061601		(Purchased Reagent)		13C-OCDD	10 ug/mL
..HRDXNIDA_00295	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00296	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00298	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00299	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00300	01/01/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
HRDXNIDA_00307	10/24/18	10/24/17	Acetone, Lot 0000170015	500 mL	HRDXNIDA_00303	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
					HRDXNIDA_00304	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-OCDD	4 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26		CIL, Lot ER053107-02		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21		CIL, Lot ER102711-01		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00304	01/31/19	09/20/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00069	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00279	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00280	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00281	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00282	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00283	10 mL	13C-OCDD	0.4 ug/mL
					HRDXNIDA_00295	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00296	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00298	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00299	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00300	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
..HRDXNIDA_00069	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00279	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00280	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00281	01/31/19		CIL, Lot ER010209-01		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00282	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00283	06/30/26		CIL, Lot ER06061601		(Purchased Reagent)		13C-OCDD	10 ug/mL
..HRDXNIDA_00295	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00296	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00298	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00299	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00300	01/01/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
HRDXNIS_00101	07/26/18	07/26/17	C14, Lot STBG1101V	100 mL	HRDXNIS_00098	2 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
							13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
.HRDXNIS_00098	06/30/20	03/08/17	Isooctane, Lot 0000134126	10 mL	HRDXNIS_00065	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
					HRDXNIS_00083	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
..HRDXNIS_00065	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
..HRDXNIS_00083	02/28/23		CIL, Lot ER021313-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNL2_00020	09/21/17	02/28/17	C14, Lot STBF5986V	1 mL	HRDXNIDA_00276	0.5 mL	13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
					HRDXNIS_00096	1 mL	13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00154	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00077	0.125 mL	2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
.HRDXNIDA_00276	10/07/17	02/27/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00269	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00270	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
..HRDXNIDA_00269	03/01/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00270	09/01/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
.HRDXNIS_00096	12/16/17	12/16/16	C14, Lot STBG1101V	50 mL	HRDXNIS_00062	1 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00062	06/30/20	04/14/15	Isooctane, Lot 0000073536	10 mL	HRDXNIS_00054	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00054	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00154	09/21/17	02/14/17	Isooctane, Lot 0000134126	500 mL	HRDXNSU_00145	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00145	09/21/17	09/21/16	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00144	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00144	09/21/17	09/21/16	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00120	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00120	05/31/20		CIL, Lot ER052010-02		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00077	02/20/18	02/20/17	Acetone, Lot 00000156575	25 mL	HRDXNTA_00075	0.25 mL	2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
..HRDXNTA_00075	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
HRDXNL2_00021	07/26/18	09/21/17	C14, Lot STBF5986V	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00304	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-OCDD	200 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
					HRDXNIS_00101	1 mL	13C-1,2,3,4-TCDD	100 ng/mL
							13C-1,2,3,7,8,9-HxCDD	100 ng/mL
					HRDXNSU_00171	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00081	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00304	01/31/19	09/20/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00069	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00279	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00280	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00281	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00282	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00283	10 mL	13C-OCDD	0.4 ug/mL
					HRDXNIDA_00298	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00300	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
..HRDXNIDA_00069	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00279	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00280	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00281	01/31/19		CIL, Lot ER010209-01		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00282	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00283	06/30/26		CIL, Lot ER06061601		(Purchased Reagent)		13C-OCDD	10 ug/mL
..HRDXNIDA_00298	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00300	01/01/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
.HRDXNIS_00101	07/26/18	07/26/17	C14, Lot STBG1101V	100 mL	HRDXNIS_00098	2 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
							13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
..HRDXNIS_00098	06/30/20	03/08/17	Isooctane, Lot 0000134126	10 mL	HRDXNIS_00065	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
					HRDXNIS_00083	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
...HRDXNIS_00065	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
...HRDXNIS_00083	02/28/23		CIL, Lot ER021313-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
.HRDXNSU_00171	09/20/18	09/20/17	Isooctane, Lot 0000134126	500 mL	HRDXNSU_00170	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00170	07/31/25	09/19/17	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00123	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00081	08/01/18	08/01/17	Acetone, Lot 00000158570	25 mL	HRDXNTA_00076	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00076	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00018	09/21/17	02/28/17	C14, Lot STBF5986V	0.5 mL	HRDXNIDA_00276	0.25 mL	13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
					HRDXNIS_00096	0.5 mL	13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00154	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00077	0.25 mL	2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
.HRDXNIDA_00276	10/07/17	02/27/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00269	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00270	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
..HRDXNIDA_00269	03/01/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00270	09/01/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
.HRDXNIS_00096	12/16/17	12/16/16	C14, Lot STBG1101V	50 mL	HRDXNIS_00062	1 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00062	06/30/20	04/14/15	Isooctane, Lot 0000073536	10 mL	HRDXNIS_00054	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00054	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00154	09/21/17	02/14/17	Isooctane, Lot 0000134126	500 mL	HRDXNSU_00145	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00145	09/21/17	09/21/16	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00144	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...HRDXNSU_00144	09/21/17	09/21/16	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00120	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00120	05/31/20		CIL, Lot ER052010-02		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00077	02/20/18	02/20/17	Acetone, Lot 00000156575	25 mL	HRDXNTA_00075	0.25 mL	2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
..HRDXNTA_00075	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
HRDXNL3_00019	07/26/18	09/21/17	C14, Lot STBF5986V	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00304	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-OCDD	200 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
					HRDXNIS_00101	0.5 mL	13C-1,2,3,4-TCDD	100 ng/mL
							13C-1,2,3,7,8,9-HxCDD	100 ng/mL
					HRDXNSU_00171	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00081	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00304	01/31/19	09/20/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00069	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00279	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00280	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00281	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00282	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00283	10 mL	13C-OCDD	0.4 ug/mL
					HRDXNIDA_00298	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00300	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
..HRDXNIDA_00069	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00279	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00280	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00281	01/31/19		CIL, Lot ER010209-01		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00282	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00283	06/30/26		CIL, Lot ER06061601		(Purchased Reagent)		13C-OCDD	10 ug/mL
..HRDXNIDA_00298	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00300	01/01/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
.HRDXNIS_00101	07/26/18	07/26/17	C14, Lot STBG1101V	100 mL	HRDXNIS_00098	2 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
							13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
..HRDXNIS_00098	06/30/20	03/08/17	Isooctane, Lot 0000134126	10 mL	HRDXNIS_00065	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
					HRDXNIS_00083	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
...HRDXNIS_00065	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
...HRDXNIS_00083	02/28/23		CIL, Lot ER021313-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
.HRDXNSU_00171	09/20/18	09/20/17	Isooctane, Lot 0000134126	500 mL	HRDXNSU_00170	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00170	07/31/25	09/19/17	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00123	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00081	08/01/18	08/01/17	Acetone, Lot 00000158570	25 mL	HRDXNTA_00076	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00076	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00052	09/21/17	02/28/17	C14, Lot STBF5986V	1 mL	HRDXNIDA_00276	0.5 mL	13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
					HRDXNIS_00096	1 mL	13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00145	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00075	0.025 mL	2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
.HRDXNIDA_00276	10/07/17	02/27/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00269	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00270	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
..HRDXNIDA_00269	03/01/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00270	09/01/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
.HRDXNIS_00096	12/16/17	12/16/16	C14, Lot STBG1101V	50 mL	HRDXNIS_00062	1 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00062	06/30/20	04/14/15	Isooctane, Lot 0000073536	10 mL	HRDXNIS_00054	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00054	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00145	09/21/17	09/21/16	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00144	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00144	09/21/17	09/21/16	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00120	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00120	05/31/20		CIL, Lot ER052010-02		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00075	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
HRDXNL4_00059	07/26/18	09/21/17	C14, Lot STBF5986V	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00304	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-OCDD	200 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
					HRDXNIS_00101	1 mL	13C-1,2,3,4-TCDD	100 ng/mL
							13C-1,2,3,7,8,9-HxCDD	100 ng/mL
					HRDXNSU_00170	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00075	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00304	01/31/19	09/20/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00069	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00279	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00280	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00281	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00282	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00283	10 mL	13C-OCDD	0.4 ug/mL
					HRDXNIDA_00298	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00300	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
..HRDXNIDA_00069	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00279	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00280	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00281	01/31/19		CIL, Lot ER010209-01		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00282	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00283	06/30/26		CIL, Lot ER06061601		(Purchased Reagent)		13C-OCDD	10 ug/mL
..HRDXNIDA_00298	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00300	01/01/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
.HRDXNIS_00101	07/26/18	07/26/17	C14, Lot STBG1101V	100 mL	HRDXNIS_00098	2 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
							13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
..HRDXNIS_00098	06/30/20	03/08/17	Isooctane, Lot 0000134126	10 mL	HRDXNIS_00065	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
					HRDXNIS_00083	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
...HRDXNIS_00065	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
...HRDXNIS_00083	02/28/23		CIL, Lot ER021313-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
.HRDXNSU_00170	07/31/25	09/19/17	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00123	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00075	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00060	07/26/18	11/09/17	C14, Lot STBF5986V	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00304	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-OCDD	200 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
					HRDXNIS_00101	1 mL	13C-1,2,3,4-TCDD	100 ng/mL
							13C-1,2,3,7,8,9-HxCDD	100 ng/mL
					HRDXNSU_00170	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00076	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00304	01/31/19	09/20/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00069	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00279	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00280	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00281	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00282	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00283	10 mL	13C-OCDD	0.4 ug/mL
					HRDXNIDA_00298	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00300	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
..HRDXNIDA_00069	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00279	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00280	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00281	01/31/19		CIL, Lot ER010209-01		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00282	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00283	06/30/26		CIL, Lot ER06061601		(Purchased Reagent)		13C-OCDD	10 ug/mL
..HRDXNIDA_00298	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00300	01/01/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
.HRDXNIS_00101	07/26/18	07/26/17	C14, Lot STBG1101V	100 mL	HRDXNIS_00098	2 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
							13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
..HRDXNIS_00098	06/30/20	03/08/17	Isooctane, Lot 0000134126	10 mL	HRDXNIS_00065	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
					HRDXNIS_00083	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
...HRDXNIS_00065	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
...HRDXNIS_00083	02/28/23		CIL, Lot ER021313-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
.HRDXNSU_00170	07/31/25	09/19/17	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00123	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00076	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00061	07/26/18	11/09/17	C14, Lot STBF5986V	1 mL	HRDXNIDA_00304	0.5 mL	13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
					HRDXNSU_00170	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00076	0.025 mL	2,3,7,8-TCDD	10 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent: Reagent ID	Parent Reagent: Volume Added	Analyte	Concentration
							2,3,7,8-TCDF	10 ng/mL
.HRDXNIDA_00304	01/31/19	09/20/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00279	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00280	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
..HRDXNIDA_00279	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00280	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
.HRDXNSU_00170	07/31/25	09/19/17	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00123	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00076	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
HRDXNL5_00021	09/21/17	03/02/17	C14, Lot STBF5986V	0.2 mL	HRDXNIDA_00276	0.1 mL	13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
					HRDXNIS_00096	0.2 mL	13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00145	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00075	0.02 mL	2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
.HRDXNIDA_00276	10/07/17	02/27/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00269	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00270	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
..HRDXNIDA_00269	03/01/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00270	09/01/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
.HRDXNIS_00096	12/16/17	12/16/16	C14, Lot STBG1101V	50 mL	HRDXNIS_00062	1 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00062	06/30/20	04/14/15	Isooctane, Lot 0000073536	10 mL	HRDXNIS_00054	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00054	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00145	09/21/17	09/21/16	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00144	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00144	09/21/17	09/21/16	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00120	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00120	05/31/20		CIL, Lot ER052010-02		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00075	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
HRDXNL5_00022	07/26/18	09/21/17	C14, Lot STBF5986V	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00304	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-OCDD	200 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
					HRDXNIS_00101	0.2 mL	13C-1,2,3,4-TCDD	100 ng/mL
							13C-1,2,3,7,8,9-HxCDD	100 ng/mL
					HRDXNSU_00170	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00075	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00304	01/31/19	09/20/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00069	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00279	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00280	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00281	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00282	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00283	10 mL	13C-OCDD	0.4 ug/mL
					HRDXNIDA_00298	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00300	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
..HRDXNIDA_00069	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00279	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00280	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00281	01/31/19		CIL, Lot ER010209-01		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00282	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00283	06/30/26		CIL, Lot ER06061601		(Purchased Reagent)		13C-OCDD	10 ug/mL
..HRDXNIDA_00298	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00300	01/01/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
.HRDXNIS_00101	07/26/18	07/26/17	C14, Lot STBG1101V	100 mL	HRDXNIS_00098	2 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
							13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
..HRDXNIS_00098	06/30/20	03/08/17	Isooctane, Lot 0000134126	10 mL	HRDXNIS_00065	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
					HRDXNIS_00083	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
...HRDXNIS_00065	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
...HRDXNIS_00083	02/28/23		CIL, Lot ER021313-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
.HRDXNSU_00170	07/31/25	09/19/17	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00123	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.HRDXNTA_00075	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00017	09/21/17	02/28/17	C14, Lot STBF5986V	0.2 mL	HRDXNIDA_00276	0.1 mL	13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
					HRDXNIS_00096	0.2 mL	13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00145	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00075	0.1 mL	2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
.HRDXNIDA_00276	10/07/17	02/27/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00269	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00270	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
..HRDXNIDA_00269	03/01/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00270	09/01/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
.HRDXNIS_00096	12/16/17	12/16/16	C14, Lot STBG1101V	50 mL	HRDXNIS_00062	1 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00062	06/30/20	04/14/15	Isooctane, Lot 0000073536	10 mL	HRDXNIS_00054	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00054	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00145	09/21/17	09/21/16	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00144	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00144	09/21/17	09/21/16	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00120	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00120	05/31/20		CIL, Lot ER052010-02		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00075	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
HRDXNL6_00018	07/26/18	09/21/17	C14, Lot STBF5986V	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00304	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-OCDD	200 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIS_00101	0.2 mL	13C-1,2,3,4-TCDD	100 ng/mL
							13C-1,2,3,7,8,9-HxCDD	100 ng/mL
					HRDXNSU_00170	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00075	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00304	01/31/19	09/20/17	Isooctane, Lot 0000134126	250 mL	HRDXNIDA_00069	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00279	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00280	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00281	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00282	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00283	10 mL	13C-OCDD	0.4 ug/mL
					HRDXNIDA_00298	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00300	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
..HRDXNIDA_00069	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00279	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00280	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00281	01/31/19		CIL, Lot ER010209-01		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00282	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00283	06/30/26		CIL, Lot ER06061601		(Purchased Reagent)		13C-OCDD	10 ug/mL
..HRDXNIDA_00298	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00300	01/01/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
.HRDXNIS_00101	07/26/18	07/26/17	C14, Lot STBG1101V	100 mL	HRDXNIS_00098	2 mL	13C-1,2,3,4-TCDD	0.1 ug/mL
							13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
..HRDXNIS_00098	06/30/20	03/08/17	Isooctane, Lot 0000134126	10 mL	HRDXNIS_00065	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
					HRDXNIS_00083	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
...HRDXNIS_00065	06/30/20		CIL, Lot ER06071001		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
...HRDXNIS_00083	02/28/23		CIL, Lot ER021313-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.HRDXNSU_00170	07/31/25	09/19/17	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00123	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00075	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00172	10/11/18	10/11/17	Isooctane, Lot 0000134126	500 mL	HRDXNSU_00170	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00170	07/31/25	09/19/17	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00123	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNSU_00173	10/31/18	10/31/17	Isooctane, Lot 0000134126	500 mL	HRDXNSU_00170	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00170	07/31/25	09/19/17	Isooctane, Lot 0000134126	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00123	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00083	10/02/18	10/02/17	Acetone, Lot 00000158570	25 mL	HRDXNTA_00076	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00076	02/18/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

Reagent

HRDXNCP_00030

r: 7/29/16

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Revision 0
Page 1 of 6

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-4147
Solution Lot: ER03111502
Expiration Date: March 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/MS
Column: DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min
200°C to 300°C at 4°C/min
Injector Temp: Cool-on-Column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

	Verified Concentration		%RSD - Homogeneity	
Compound	**ng/mL**	**Acceptance Criteria**	**%**	**Acceptance Criteria**
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200.4	± 10%	1.6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1.6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196.8	± 10%	2.7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197.2	± 10%	2.8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194.6	± 10%	2.8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194.7	± 10%	2.3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195.3	± 10%	1.7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2.3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2.5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196.7	± 10%	2.1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202.3	± 10%	2.1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194.4	± 10%	2.4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198.0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198.9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195.0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

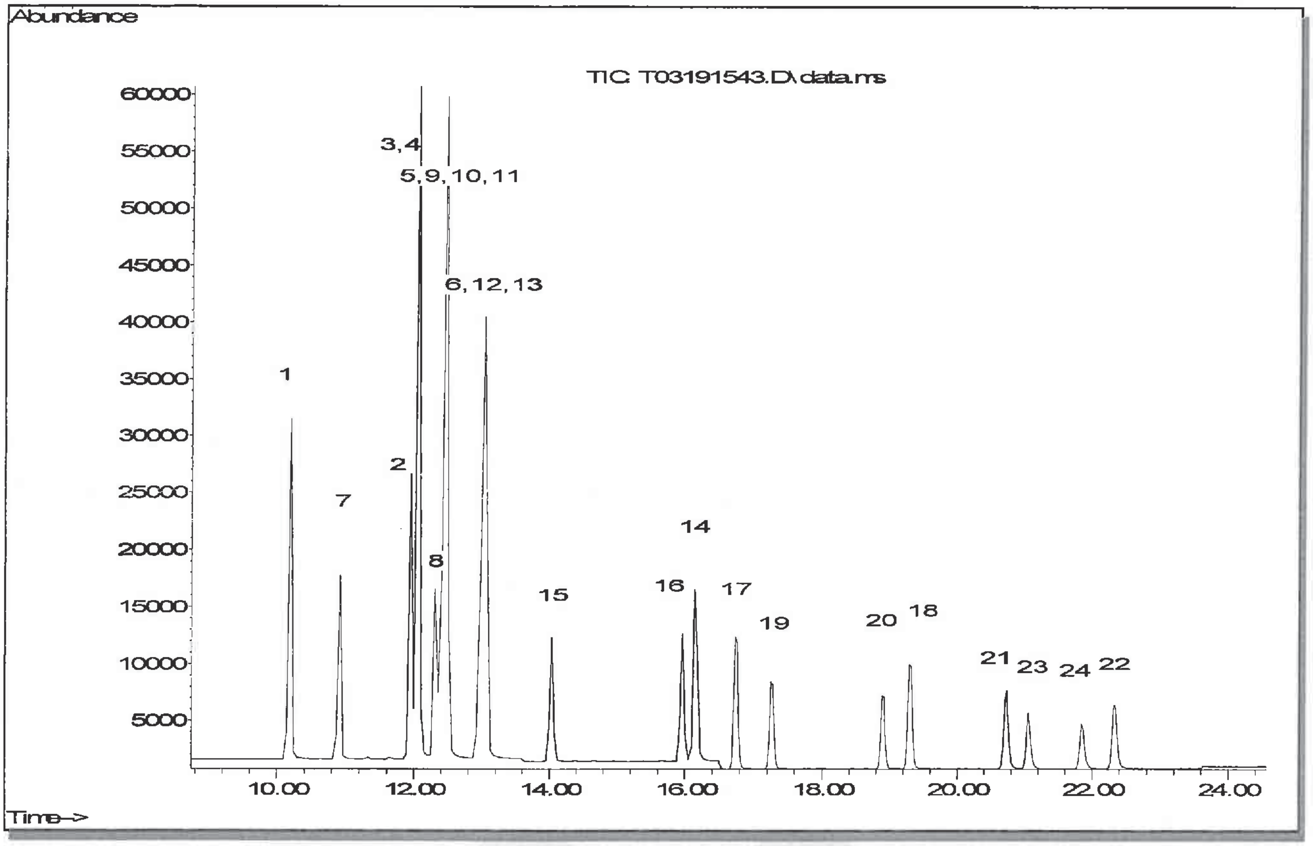
- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis



1	1,3,6,8-Tetrachlorodibenzofuran
2	2,3,4,7-Tetrachlorodibenzofuran
3	2,3,7,8-Tetrachlorodibenzofuran
4	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5	1,2,3,9-Tetrachlorodibenzofuran
6	1,2,8,9-Tetrachlorodibenzofuran
7	1,3,6,8-Tetrachlorodibenzo-p-dioxin
8	1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9	1,2,3,9-Tetrachlorodibenzo-p-dioxin
10	2,3,7,8-Tetrachlorodibenzo-p-dioxin
11	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12	1,2,8,9-Tetrachlorodibenzo-p-dioxin
13	1,3,4,6,8-Pentachlorodibenzofuran
14	1,2,3,8,9-Pentachlorodibenzofuran
15	1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16	1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17	1,2,3,4,6,8-Hexachlorodibenzofuran
18	1,2,3,4,8,9-Hexachlorodibenzofuran
19	1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20	1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21	1,2,3,4,6,7,8-Heptachlorodibenzofuran
22	1,2,3,4,7,8,9-Heptachlorodibenzofuran
23	1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNCP_00033

r: 8/21/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Revision 0
Page 1 of 6

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

	Verified Concentration		%RSD - Homogeneity	
Compound	**ng/mL**	**Acceptance Criteria**	**%**	**Acceptance Criteria**
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200.4	± 10%	1.6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1.6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196.8	± 10%	2.7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197.2	± 10%	2.8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194.6	± 10%	2.8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194.7	± 10%	2.3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195.3	± 10%	1.7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2.3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2.5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196.7	± 10%	2.1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202.3	± 10%	2.1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194.4	± 10%	2.4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198.0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198.9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195.0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

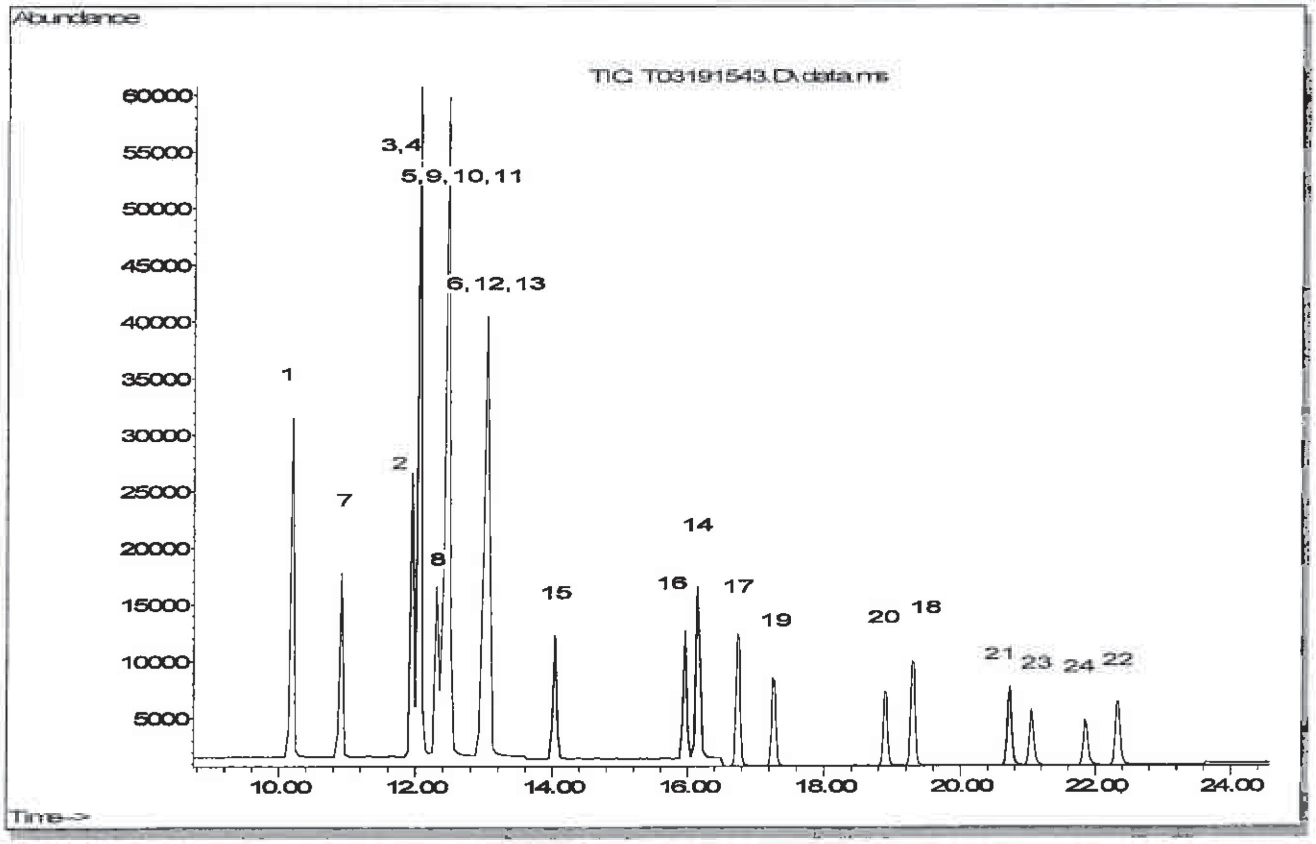
- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis



1	1,3,6,8-Tetrachlorodibenzofuran
2	2,3,4,7-Tetrachlorodibenzofuran
3	2,3,7,8-Tetrachlorodibenzofuran
4	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5	1,2,3,9-Tetrachlorodibenzofuran
6	1,2,8,9-Tetrachlorodibenzofuran
7	1,3,6,8-Tetrachlorodibenzo-p-dioxin
8	1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9	1,2,3,9-Tetrachlorodibenzo-p-dioxin
10	2,3,7,8-Tetrachlorodibenzo-p-dioxin
11	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12	1,2,8,9-Tetrachlorodibenzo-p-dioxin
13	1,3,4,6,8-Pentachlorodibenzofuran
14	1,2,3,8,9-Pentachlorodibenzofuran
15	1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16	1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17	1,2,3,4,6,8-Hexachlorodibenzofuran
18	1,2,3,4,8,9-Hexachlorodibenzofuran
19	1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20	1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21	1,2,3,4,6,7,8-Heptachlorodibenzofuran
22	1,2,3,4,7,8,9-Heptachlorodibenzofuran
23	1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00247

Recd 8-17-16

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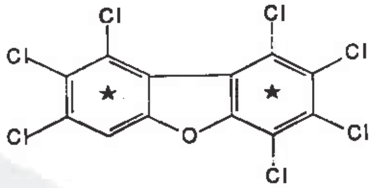
Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF



Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Criteria	Actual Results	Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	ER04041602
Chemical Formula:	$^{13}C_{12}HCl_7O$
CAS Number:	109719-94-0
Molecular Weight:	421.22

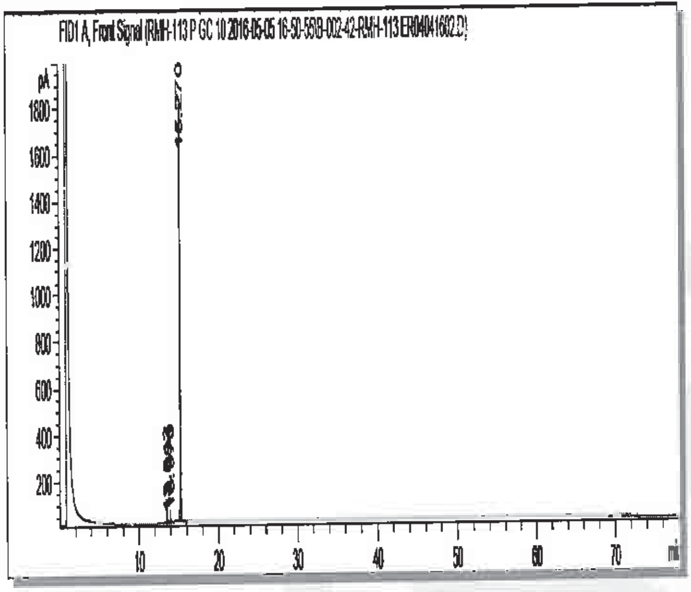
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID



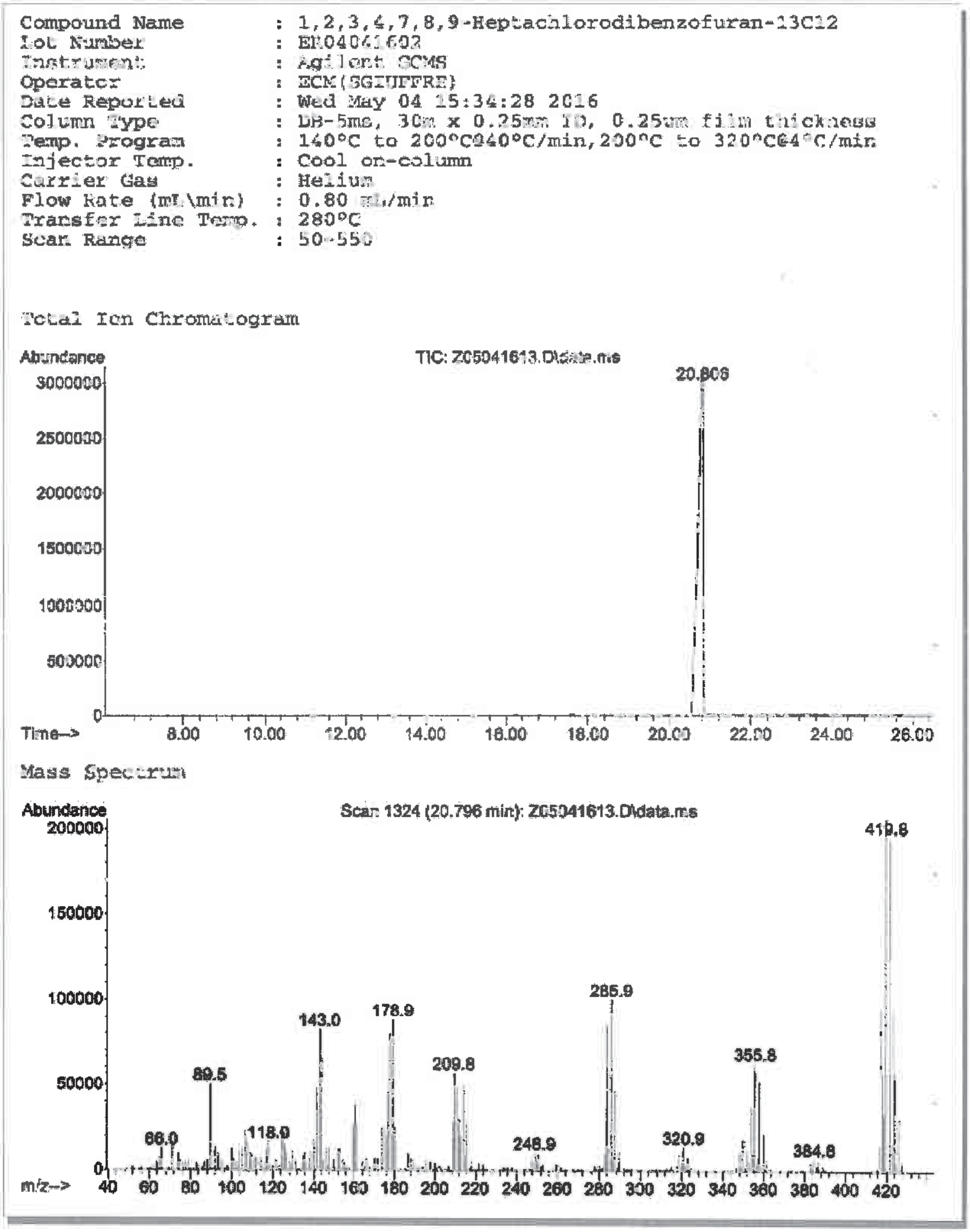
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 65 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument: GC#10
Sample Name: ER04041602
Acquired: May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS



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Compound Name          : 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number             : ER04041602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Wed May 04 15:34:28 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

Mass Spectrum

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00269

R: 2/17/17

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Revision 0
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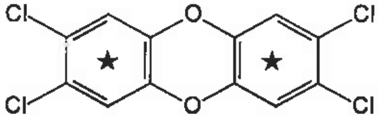
Certificate of Analysis

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP



Catalog Number:	ED-900
Solution Lot:	ER03031601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Criteria	Actual Results	Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

March 24, 2016

Darron Ellsworth, Quality Assurance Manager
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER01201405

Chemical Formula: $^{13}C_{12}H_4Cl_4O_2$
CAS Number: 76523-40-5
Molecular Weight: 333.88

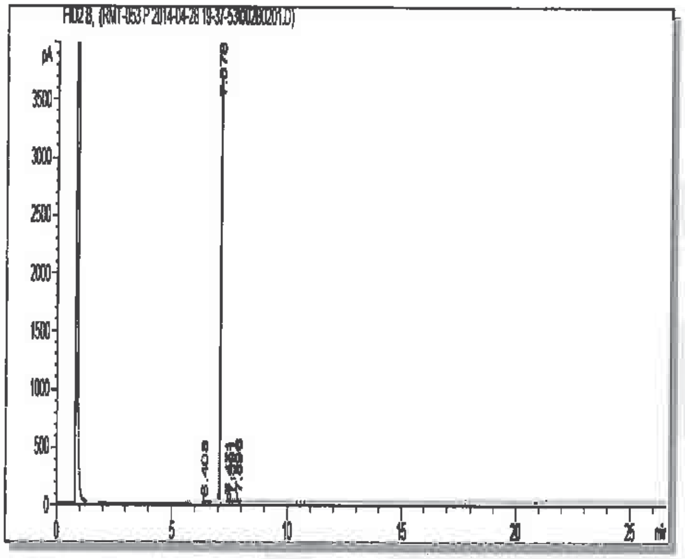
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	**99.3%**
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$ 0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0 5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID



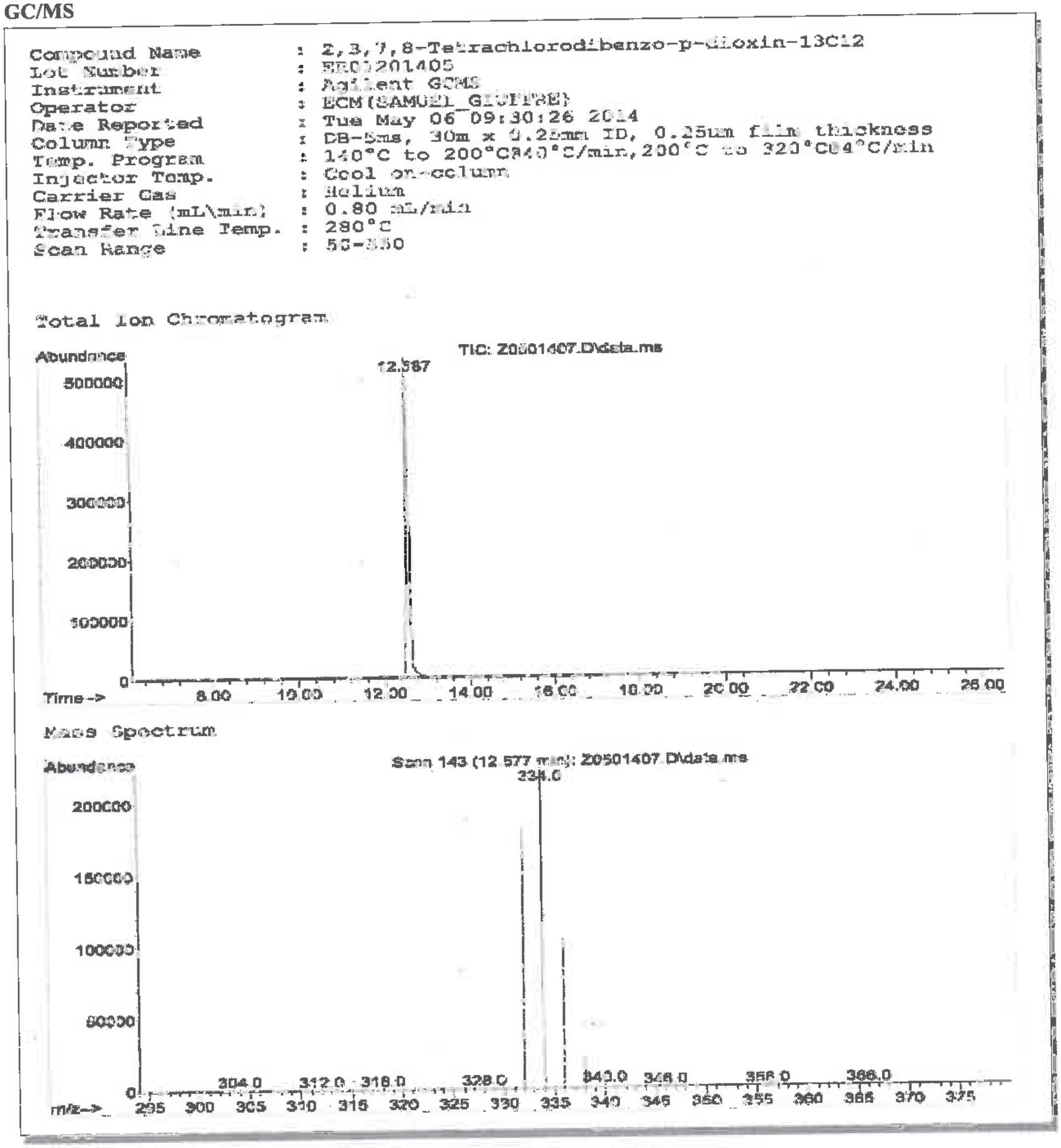
Column: DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument: GC#6
Sample Name: ER01201405
Acquired: April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4.36	2.80	0.08
2	7.08	5225.21	3678.99	99.32
3	7.47	5.29	3.00	0.10
4	7.59	9.11	4.81	0.17
5	7.90	17.05	9.22	0.32

Spectral and Physical Data (cont.)

GC/MS



Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number : ER03201405
Instrument : Agilent GCMS
Operator : ECM(SAMUEL_GIUFFRE)
Date Reported : Tue May 06 09:30:26 2014
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

Reagent

HRDXNIDA_00270

r: 2/17/17 SKV

Cerilliant
Analytical Reference Standards
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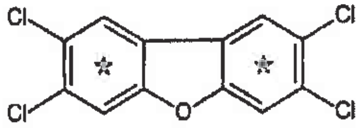
Revision 00
Page 1 of 5

Certificate of Analysis

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP



Catalog Number:	EF-904
Solution Lot:	ER09131601
Expiration Date:	September 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER01161401

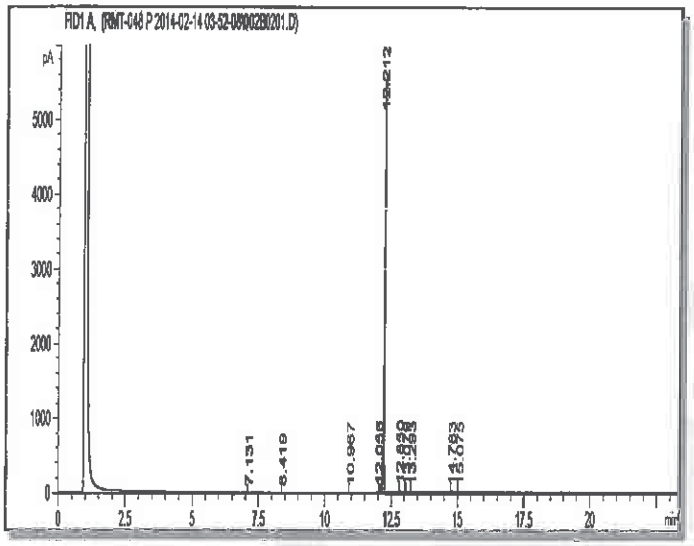
Chemical Formula: $^{13}C_{12}H_4Cl_4O$
CAS Number: 89059-46-1
Molecular Weight: 317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	**99.2%**
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF $\geq$ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

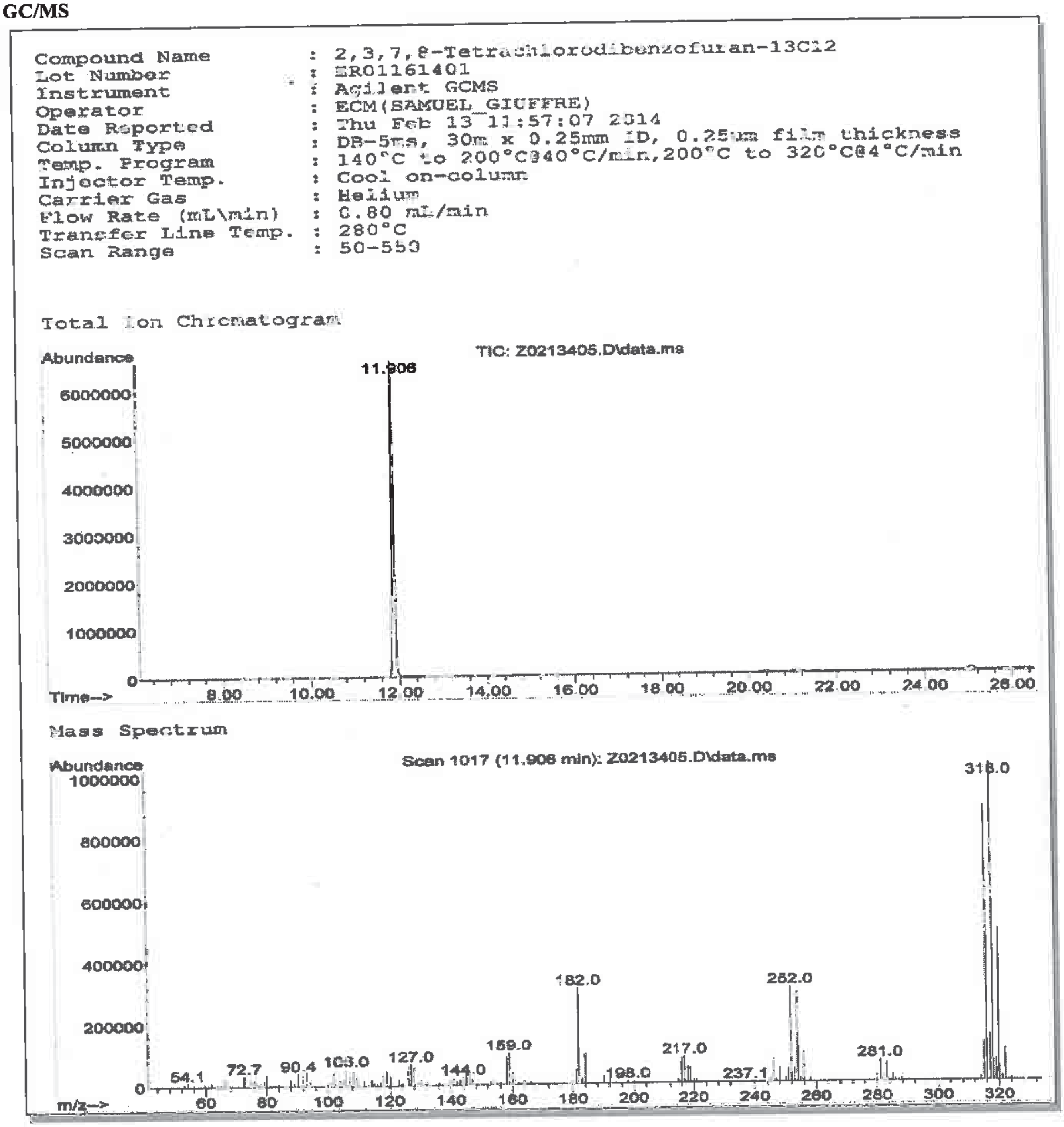


Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument: GC#10
Sample Name: ER01161401
Acquired: February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8 42	3.23	1.42	0.03
3	10 97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764 70	5466.96	99.29
6	12.85	30 72	15.48	0.26
7	13 08	7 62	4.03	0.06
8	13 29	5 47	2.91	0.05
9	14 78	7 62	2.76	0.06
10	15.08	3 87	1.33	0.03

GC/MS



Compound Name : 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number : SR01161401
Instrument : Agilent GCMS
Operator : ECM(SAMUEL_GIUFFRE)
Date Reported : Thu Feb 13 11:57:07 2014
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00279

Recd 3-10-17

8: 03/10/17

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

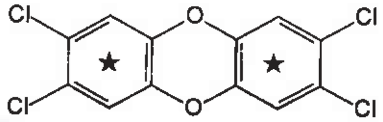
CIL

Certificate of Analysis

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	ED-900
Solution Lot:	ER03031601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**



- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Criteria	Actual Results	Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

[illegible]

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER01201405
Chemical Formula:	$^{13}C_{12}H_4Cl_4O_2$
CAS Number:	76523-40-5
Molecular Weight:	333.88

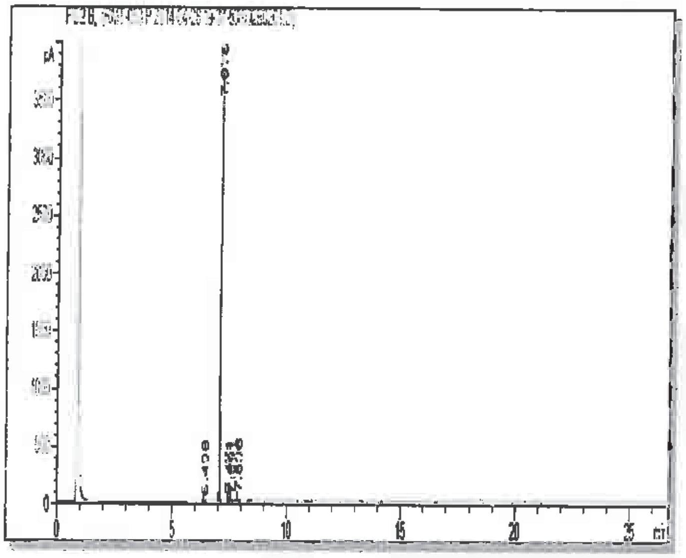
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	**99.3%**
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$ 0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

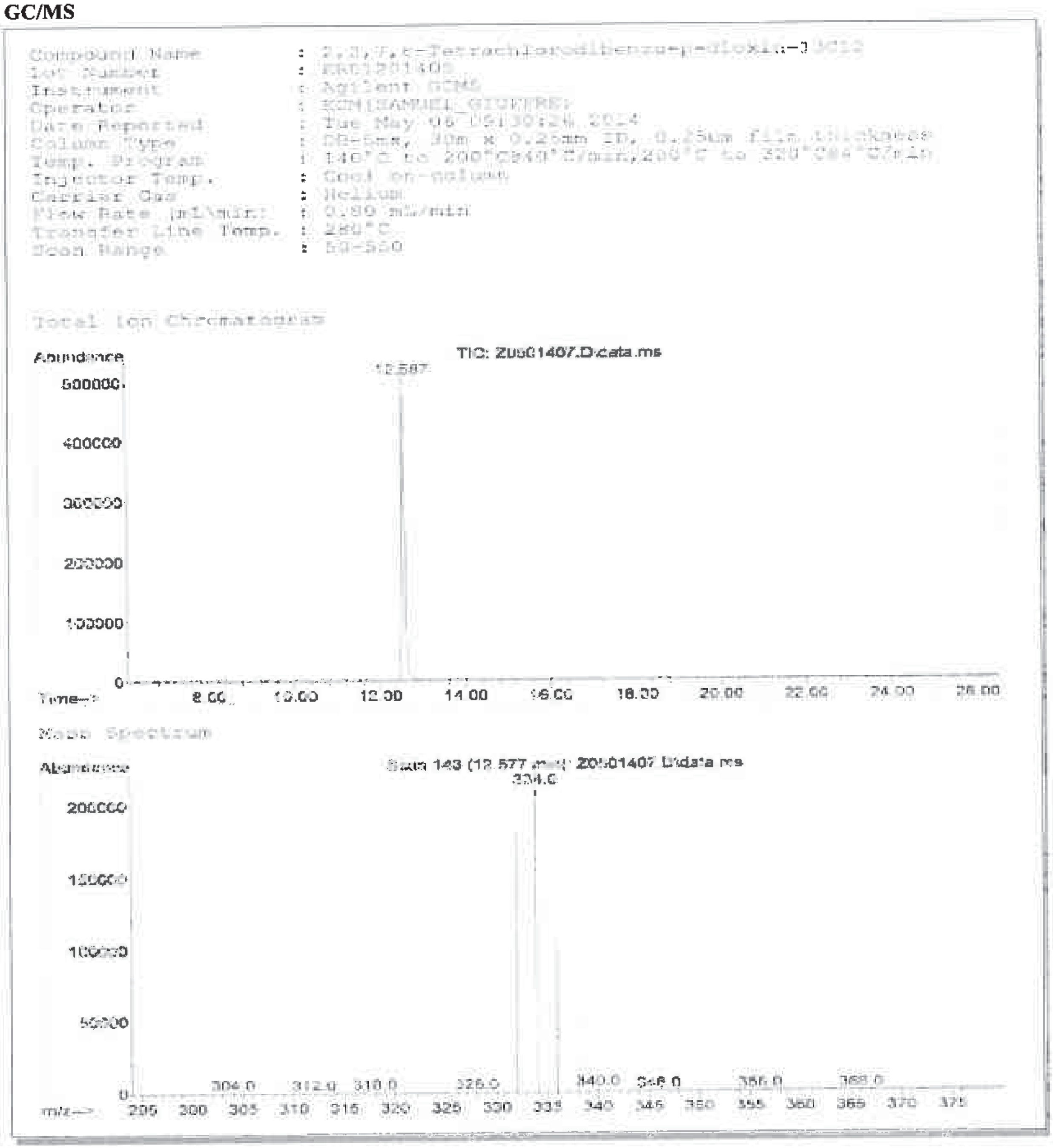


Column: DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument: GC#6
Sample Name: ER01201405
Acquired: April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4.36	2.80	0.08
2	7.08	5225.21	3678.99	99.32
3	7.47	5.29	3.00	0.10
4	7.59	9.11	4.81	0.17
5	7.90	17.05	9.22	0.32

GC/MS



```
Compound Name             : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number                : ERC1201405
Instrument                : Agilent GCMS
Operator                  : KGM(SAMUEL_GIUFFRE)
Date Reported             : Tue May 06 05:30:24 2014
Column Type               : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program             : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.            : Cool on-column
Carrier Gas               : Helium
Flow Rate (mL\min)        : 0.80 mL/min
Transfer Line Temp.       : 280°C
Scan Range                : 50-550
```

Total Ion Chromatogram

Mass Spectrum

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

SAFETY DATA SHEET

Version 5.1
Revision Date 03/19/2015
Print Date 04/24/2015

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : 2,3,7,8-TCDD-13C12

Product Number : ED-900
Brand : Cerilliant

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Acute toxicity, Inhalation (Category 4), H332
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
Aspiration hazard (Category 1), H304
Acute aquatic toxicity (Category 3), H402
Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word : Danger

Hazard statement(s)

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.

P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear eye protection/ face protection.
P280	Wear protective gloves.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Component	Classification	Concentration
Nonane CAS-No. 111-84-2 EC-No. 203-913-4	Flam. Liq. 3; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Asp. Tox. 1; Aquatic Chronic 4; H226, H304, H315, H319, H332, H336, H413	>= 90 - <= 100 %
2378-TCDD-13C12 CAS-No. 76523-40-5	Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1; H302, H410	< 0.1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Nonane	111-84-2	TWA	200.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment		

		TWA	200.000000 ppm 1,050.000000 mg/m3	USA. NIOSH Recommended Exposure Limits

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	No data available
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n-	No data available

octanol/water

p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information

No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Other decomposition products - No data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available

Dermal: No data available

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Central nervous system -

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1920 Class: 3 Packing group: III
Proper shipping name: Nonanes
Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG
UN number: 1920 Class: 3 Packing group: III EMS-No: F-E, S-E
Proper shipping name: NONANES

IATA
UN number: 1920 Class: 3 Packing group: III
Proper shipping name: Nonanes

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
Skin Irrit.	Skin irritation

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	
Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	2

Fire Hazard:	0
Reactivity Hazard:	0

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.1 Revision Date: 03/19/2015 Print Date: 04/24/2015

Reagent

HRDXNIDA_00280

Rec'd 3-10-17

S: 03/10/17

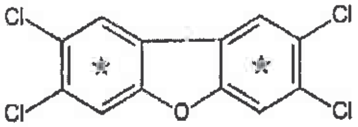
Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP



Catalog Number:	EF-904
Solution Lot:	ER09131601
Expiration Date:	September 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Criteria	Actual Results	Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER01161401

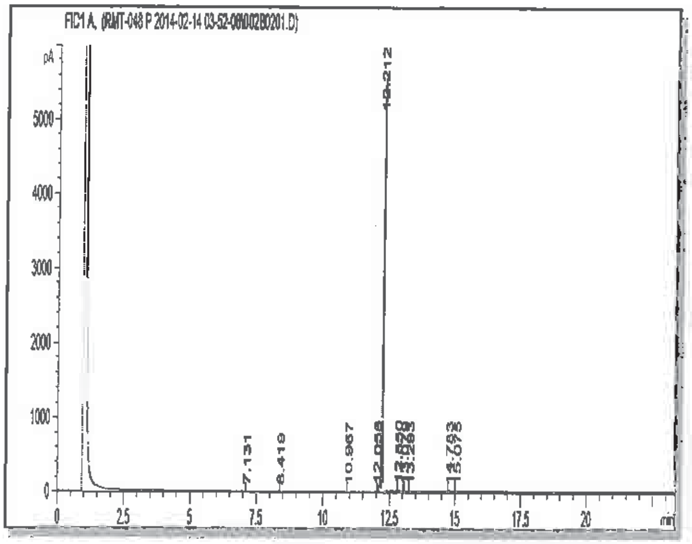
Chemical Formula: $^{13}C_{12}H_4Cl_4O$
CAS Number: 89059-46-1
Molecular Weight: 317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

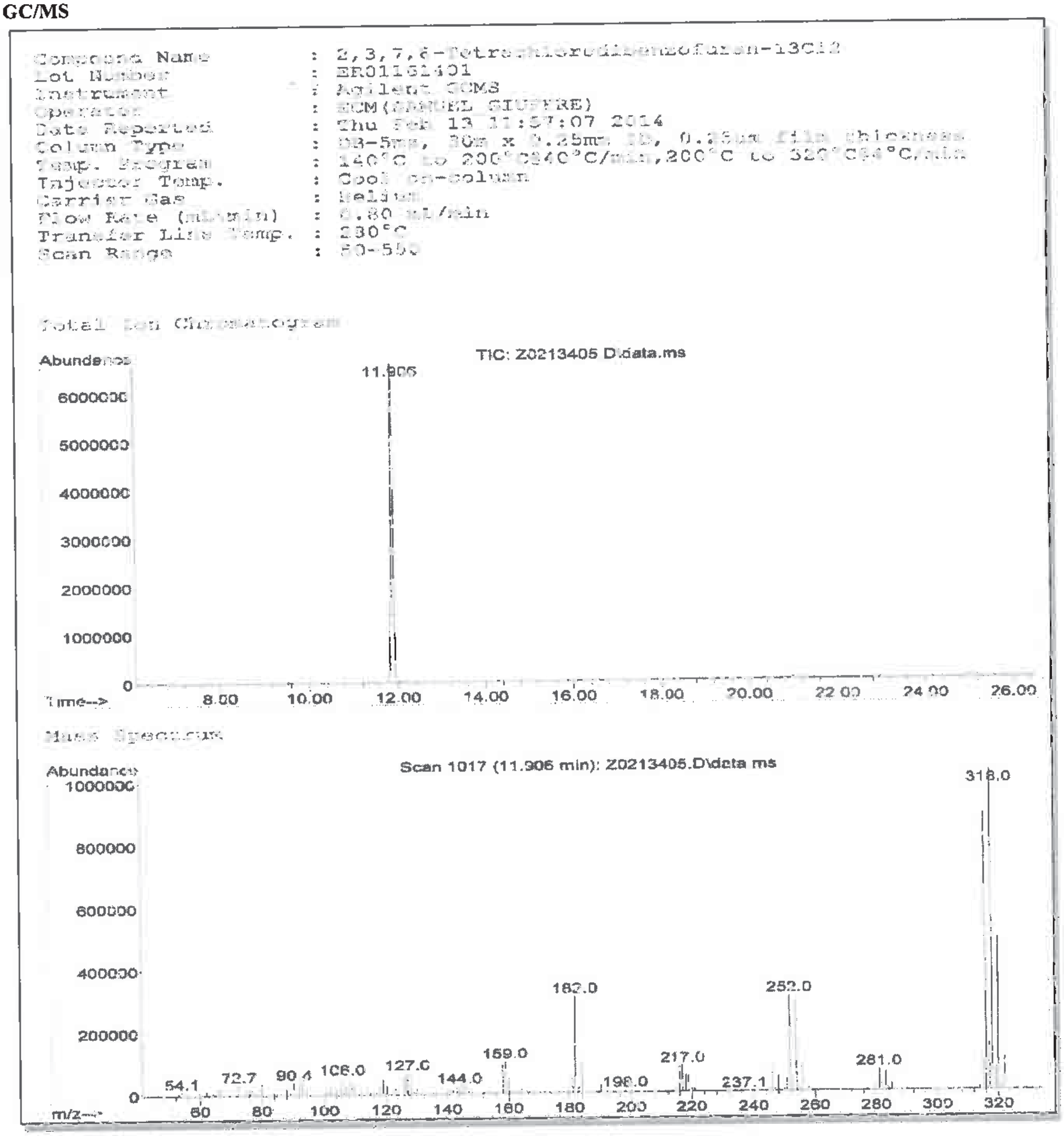


Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument: GC#10
Sample Name: ER01161401
Acquired: February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS



```
Compound Name          : 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number             : ER01161401
Instrument             : Agilent GCMS
Operator               : SCM(SAMUEL GIUFFRE)
Date Reported          : Thu Feb 13 11:57:07 2014
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL/min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

Mass Spectrum

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Cerilliant®
Analytical Reference Standards
a SIGMA-ALDRICH company

SAFETY DATA SHEET

Version 5.1
Revision Date 03/19/2015
Print Date 04/24/2015

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : 2,3,7,8-TCDF-13C

Product Number : EF-904
Brand : Cerilliant

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Acute toxicity, Inhalation (Category 4), H332
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
Aspiration hazard (Category 1), H304
Chronic aquatic toxicity (Category 4), H413

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H413	May cause long lasting harmful effects to aquatic life.

Precautionary statement(s)

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.

P273	Avoid release to the environment.
P280	Wear eye protection/ face protection.
P280	Wear protective gloves.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Component		Classification	Concentration
Nonane			
CAS-No. EC-No.	111-84-2 203-913-4	Flam. Liq. 3; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Asp. Tox. 1; Aquatic Chronic 4; H226, H304, H315, H319, H332, H336, H413	>= 90 - <= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Nonane	111-84-2	TWA	200.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment		

		TWA	200.000000 ppm 1,050.000000 mg/m3	USA. NIOSH Recommended Exposure Limits

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	No data available
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n-	No data available

	octanol/water	
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information
No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
No data available

10.6 Hazardous decomposition products
Other decomposition products - No data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
No data available

Dermal: No data available

No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Central nervous system -

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1920 Class: 3 Packing group: III
Proper shipping name: Nonanes
Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG
UN number: 1920 Class: 3 Packing group: III EMS-No: F-E, S-E
Proper shipping name: NONANES

IATA

UN number: 1920 Class: 3 Packing group: III
Proper shipping name: Nonanes

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Chronic	Chronic aquatic toxicity
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H413	May cause long lasting harmful effects to aquatic life.
Skin Irrit.	Skin irritation
STOT SE	Specific target organ toxicity - single exposure

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	
Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

Further information

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.1 Revision Date: 03/19/2015 Print Date: 04/24/2015

Reagent

HRDXNIDA_00281

Rec'd 3-10-17

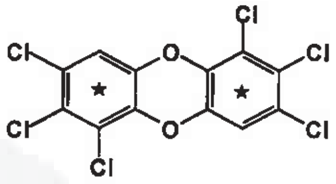
S: 03/10/17

Revision 01

Cerilliant Quality
ISO 9001:2000

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-966
Solution Lot:	ER010209-01
Expiration Date:	January 2019
Solvent:	n-Nonane::Toluene (80::20)
Volume per Ampule:	Not less than 1.2 mL [4]
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Handling:	Refer to the MSDS for handling instructions
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

Component	Chromatographic Purity[1]	Prepared Concentration[2]
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99%	50.0 ± 0.3 µg/mL

Standard Solution Homogeneity and Comparability

Standard Solution	*Lot Number*	*Analyzed Concentration[3] (µg/mL)*	*%RSD[5]*
New Lot	ER010209-01	47.6	0.1%
Previous Lot	ER121806-01	46.3	2.9%

[1] See following pages for more information.

[2] The prepared concentration is corrected for chromatographic purity, residual water, and residual solvents (see data on following pages). The range of the prepared concentration is determined by statistical analysis of our production system with 95% confidence.

[3] Concentration values are confirmed by comparison to an independent calibration curve. The concentration is calculated as the average of multiple analyses compared to the calibration curve.

[4] Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

[5] The %RSD of the new lot demonstrates homogeneity across the lot. The %RSD of the previous lot represents variability of the analysis.

Cerilliant certifies that this standard meets the specifications stated in this data sheet. Accuracy is ensured by purity determinations and gravimetric preparation using qualified balances calibrated with NIST traceable weights. Precision and homogeneity are confirmed by triplicate analysis and comparison to the calibration curve. Homogeneity of the lot is confirmed by analytically verifying the concentration of randomly selected ampules. The %RSD of multiple analyses confirms homogeneity of the new lot.

Authorized Signature: Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

[illegible]

Standard Solution Assay Parameters

Analysis Method:	GC/FID	**Calibration Curve:**	Linear Regression
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness	**Number of Points:**	4
Temp Program:	60°C to 300°C at 40°C/min hold 10 min	**Linearity (r):**	1.000
Injector Temp:	Cool-on-Column		
Detector Temp:	325°C		

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2O_2Cl_6$
Compound Lot:	ER111706-01	**CAS Number:**	109719-81-5
Chromatographic Purity:	99%	**Molecular Weight:**	402.77

Neat Material Characterization Data Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.5%[6]
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$

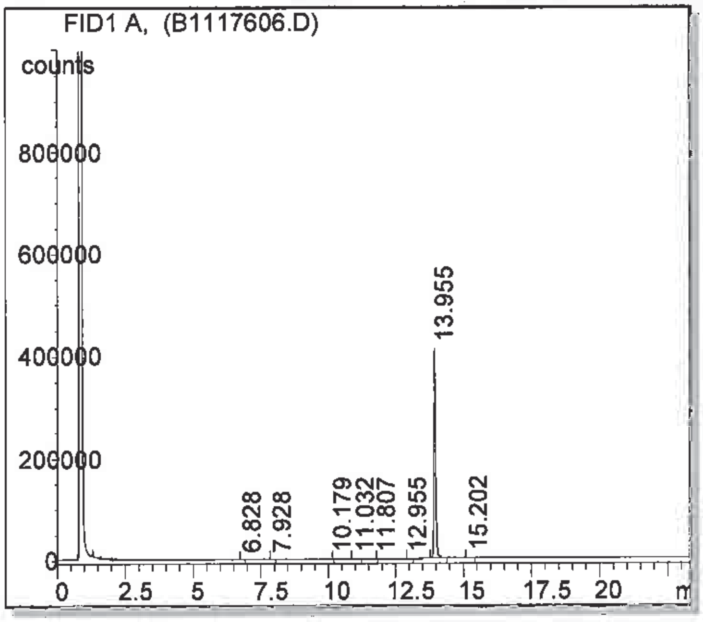
[6] Purity is the average of two independent analyses.

Purity Factor = 99.5%

Purity Factor = [(100 - wt% residual solvent - wt% residual water - wt% residual inorganics) x Chromatographic Purity/100]

Spectral and Physical Data

GC/FID



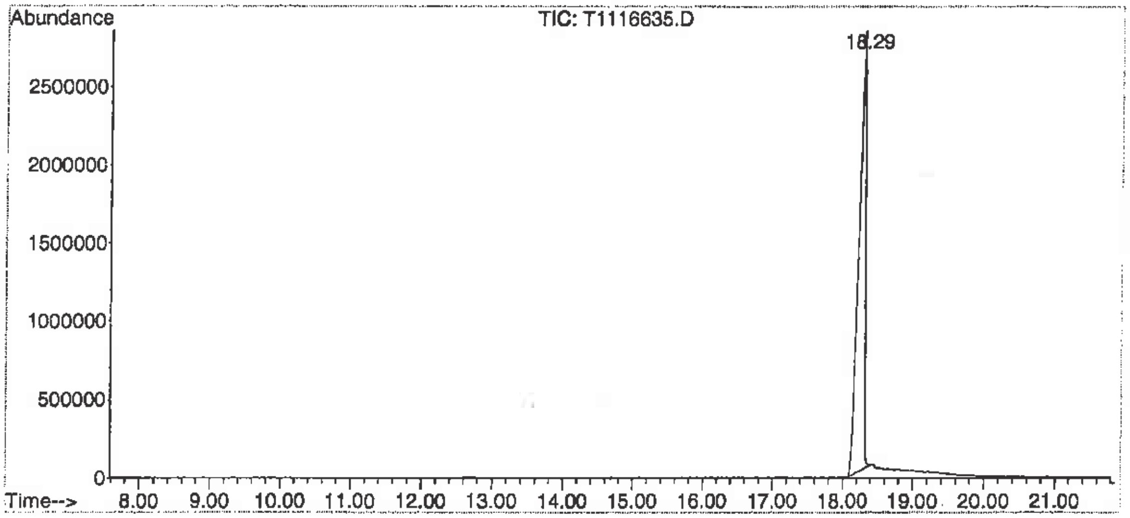
Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B1117606.D
Instrument:	GC#2
Sample Name:	ER111706-01
Acquired:	November 11, 2006

Peak #	Ret Time	Area	Height	Area %
1	6.83	1793.57	689.84	0.10
2	7.93	1467.81	474.73	0.09
3	10.18	470.71	234.63	0.03
4	11.03	3152.74	523.30	0.18
5	11.81	288.45	154.82	0.02
6	12.96	1091.06	245.19	0.06
7	13.96	1702730.00	410959.00	99.38
8	15.20	2304.77	405.90	0.13

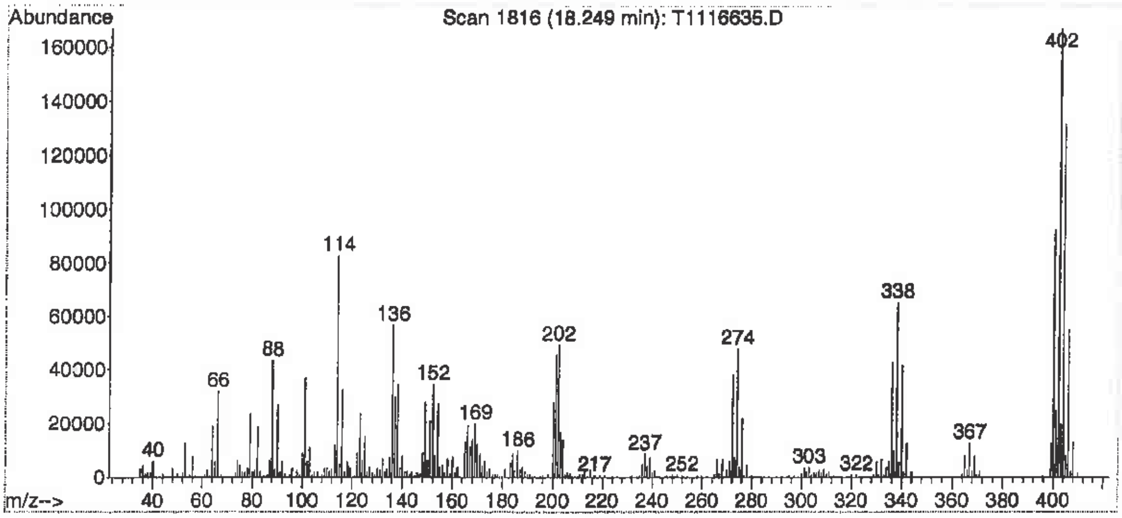
Compound Name : 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : ER111706-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Reported : Fri Nov 17 16:54:39 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min (5 min)
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram



Mass Spectrum



COA Revision History

Revision No.	Date	Reason for Revision
00	January 16, 2009	Initial version
01	December 03, 2015	Added Stability Section

Cerilliant®
Analytical Reference Standards
a SIGMA-ALDRICH company

SAFETY DATA SHEET

Version 5.1
Revision Date 03/19/2015
Print Date 04/24/2015

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : 1,2,3,6,7,8-HxCDD-13C12

Product Number : ED-966
Brand : Cerilliant

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Reproductive toxicity (Category 2), H361
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
Specific target organ toxicity - repeated exposure (Category 2), H373
Aspiration hazard (Category 1), H304
Acute aquatic toxicity (Category 2), H401
Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H401	Toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear eye protection/ face protection.
P280	Wear protective gloves.
P281	Use personal protective equipment as required.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Component		Classification	Concentration
Nonane			
CAS-No. EC-No.	111-84-2 203-913-4	Flam. Liq. 3; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Asp. Tox. 1; Aquatic Chronic 4; H226, H304, H315, H319, H332, H336, H413	>= 70 - < 90 %
Toluene			
CAS-No. EC-No. Index-No. Registration number	108-88-3 203-625-9 601-021-00-3 01-2119471310-51-XXXX	Flam. Liq. 2; Skin Irrit. 2; Repr. 2; STOT SE 3; STOT RE 2; Asp. Tox. 1; Aquatic Acute 2; H225, H304, H315, H336, H361, H373, H401	>= 20 - < 30 %
1,2,3,7,8,9-Hexachlorodibenzodioxin-13C12			
CAS-No.	109719-82-6	Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1; H302, H410	< 0.1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Nonane	111-84-2	TWA	200.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment		
		TWA	200.000000 ppm 1,050.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
Toluene	108-88-3	TWA	100 ppm 375 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	150 ppm 560 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	200 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z-2
		Z37.12-1967		
		CEIL	300 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z-2
		Z37.12-1967		
		Peak	500 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z-2
		Z37.12-1967		
		TWA	20 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Visual impairment Female reproductive Pregnancy loss 2014 Adoption Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		
		TWA	100 ppm 375 mg/m3	USA. NIOSH Recommended Exposure Limits
		ST	150 ppm 560 mg/m3	USA. NIOSH Recommended Exposure Limits

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Toluene	108-88-3	Toluene	0.0200 mg/l	In blood	ACGIH - Biological Exposure Indices (BEI)
	Remarks	Prior to last shift of workweek			
		Toluene	0.0300 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			
		o-Cresol	0.3000 mg/g	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	No data available
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition	No data available

temperature

r) Viscosity No data available

s) Explosive properties No data available

t) Oxidizing properties No data available

9.2 Other safety information

No data available

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10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Other decomposition products - No data available
In the event of fire: see section 5

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11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available

Dermal: No data available

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Toluene)
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available
No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence
Central nervous system - (Nonane)
Stomach - Irregularities - Based on Human Evidence (Toluene)

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1993 Class: 3 Packing group: III
Proper shipping name: Flammable liquids, n.o.s. (Nonane)
Reportable Quantity (RQ): 5000 lbs

Poison Inhalation Hazard: No

IMDG
UN number: 1993 Class: 3 Packing group: III EMS-No: F-E, S-E
Proper shipping name: FLAMMABLE LIQUID, N.O.S. (Nonane)

IATA
UN number: 1993 Class: 3 Packing group: III
Proper shipping name: Flammable liquid, n.o.s. (Nonane)

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Toluene	108-88-3	2007-07-01

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01
Toluene	108-88-3	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01
Toluene	108-88-3	2007-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01
Toluene	108-88-3	2007-07-01

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer. 1,2,3,7,8,9-Hexachlorodibenzodioxin-13C12	109719-82-6	2007-09-28

	CAS-No.	Revision Date
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Toluene	108-88-3	2009-02-01

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H401	Toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
Repr.	Reproductive toxicity
Skin Irrit.	Skin irritation
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.1 Revision Date: 03/19/2015 Print Date: 04/24/2015

Reagent

HRDXNIDA_00282

Rec'ed 3-10-17

8: 03/10/17

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Revision 01
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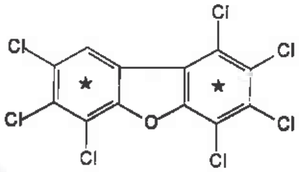
Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

Catalog Number:	EF-974
Solution Lot:	ER08101404
Expiration Date:	November 2024
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**



- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Criteria	Actual Results	Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

[illegible]

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	**98.7%**
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

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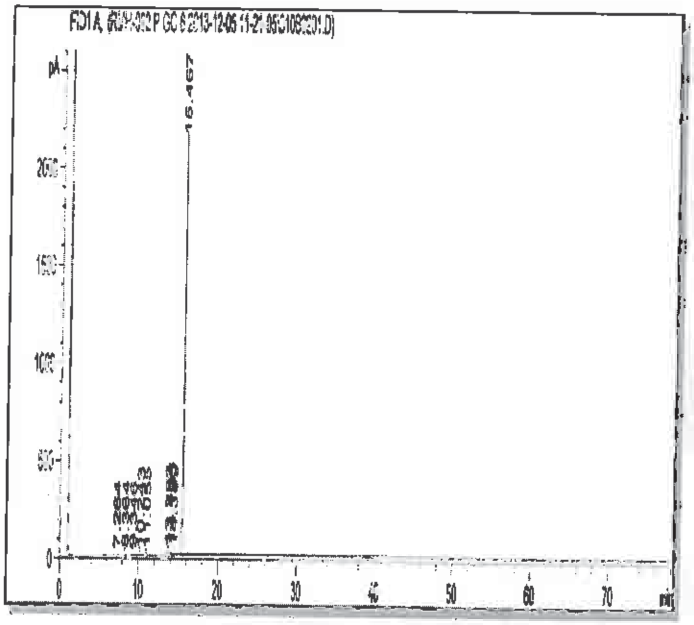
Spectral and Physical Data

GC/FID



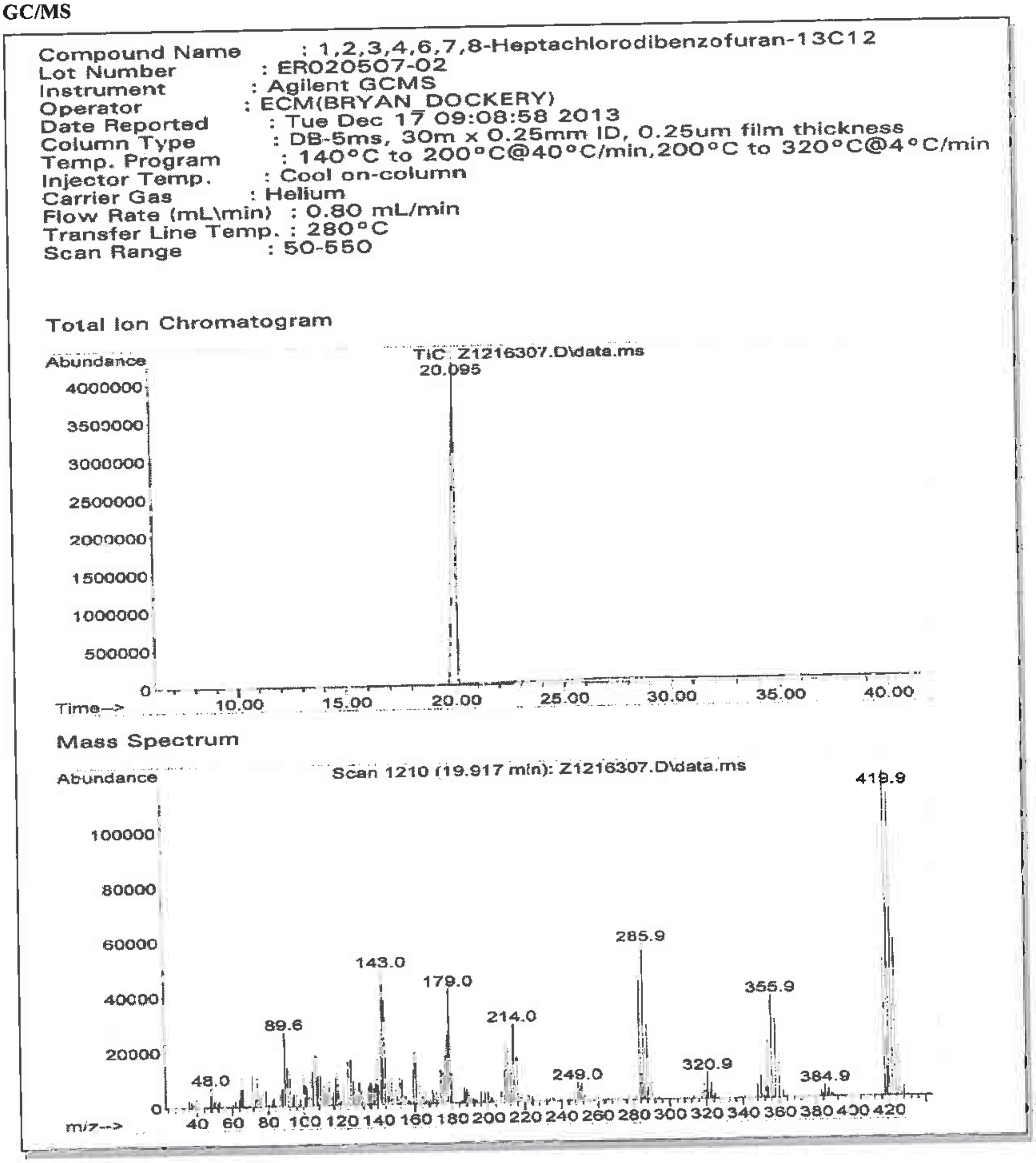
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 65 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument: GC#6
Sample Name: ER020507-02
Acquired: December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11.76	5.45	0.12
3	9.35	5.20	2.32	0.05
4	10.24	1.47	0.62	0.02
5	11.06	0.34	0.17	0.00
6	13.75	8.81	4.38	0.09
7	13.80	23.67	9.98	0.25
8	14.13	43.07	16.42	0.45
9	14.20	21.73	8.77	0.23
10	14.39	4.79	1.81	0.05
11	15.47	9349.36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS



Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Cerilliant®
Analytical Reference Standards
a SIGMA-ALDRICH company

SAFETY DATA SHEET

Version 5.1
Revision Date 03/19/2015
Print Date 04/24/2015

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : 1,2,3,4,6,7,8-HpCDF-13C12

Product Number : EF-974
Brand : Cerilliant

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 3), H226
Acute toxicity, Inhalation (Category 4), H332
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
Aspiration hazard (Category 1), H304
Chronic aquatic toxicity (Category 4), H413

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H413	May cause long lasting harmful effects to aquatic life.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

---

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Component	Classification	Concentration
Nonane		
CAS-No. 111-84-2 EC-No. 203-913-4	Flam. Liq. 3; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Asp. Tox. 1; Aquatic Chronic 4; H226, H304, H315, H319, H332, H336, H413	>= 90 - <= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

---

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Nonane	111-84-2	TWA	200.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment		
		TWA	200.000000 ppm 1,050.000000 mg/m3	USA. NIOSH Recommended Exposure Limits

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	No data available
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available

k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information

No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Other decomposition products - No data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
No data available

Inhalation: No data available

Dermal: No data available

No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Central nervous system -

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1920 Class: 3 Packing group: III
Proper shipping name: Nonanes

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG
UN number: 1920 Class: 3 Packing group: III EMS-No: F-E, S-E
Proper shipping name: NONANES

IATA
UN number: 1920 Class: 3 Packing group: III
Proper shipping name: Nonanes

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Chronic	Chronic aquatic toxicity
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H413	May cause long lasting harmful effects to aquatic life.
Skin Irrit.	Skin irritation
STOT SE	Specific target organ toxicity - single exposure

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	
Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

Further information

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.1 Revision Date: 03/19/2015 Print Date: 04/24/2015

Reagent

HRDXNIDA_00283

Rec'd 3-10-17

S: 03/10/17

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

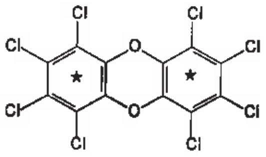
CIL

Revision 00
Page 1 of 4

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-981
Solution Lot:	ER06061601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.5%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Criteria	Actual Results	Acceptance Criteria
New Lot	ER06061601	10.33	± 5%	2.8	≤ 5%
Previous Lot	ER071610-01	10.70	± 5%	2.7	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 03, 2016
Date

[illegible]

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: Rxi-5ms, 15 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program: 70°C to 280°C at 40°C/min hold 8 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: Octachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER04041601

Chemical Formula: $^{13}C_{12}Cl_8O_2$
CAS Number: 114423-97-1
Molecular Weight: 471.66

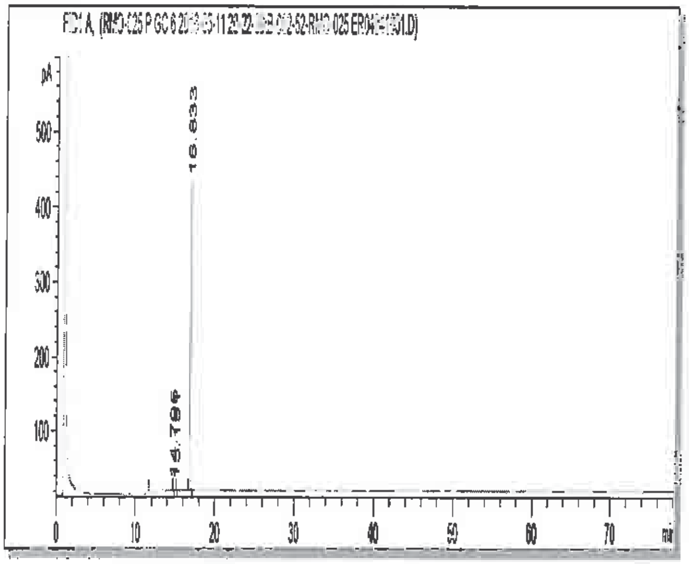
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

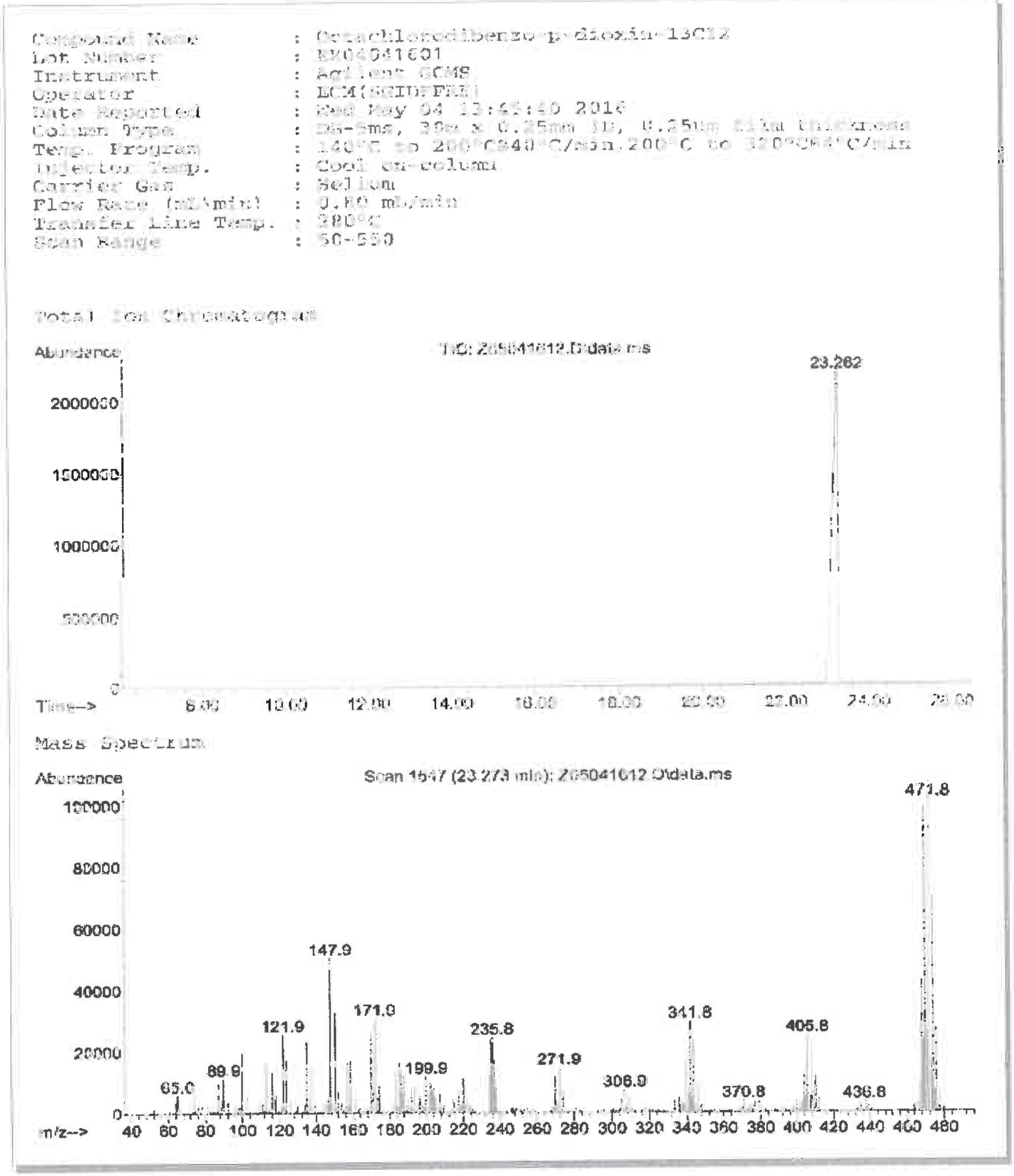


Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS



Compound Name : Octachlorodibenzo-p-dioxin-13C12
Lot Number : EX04041601
Instrument : Agilent GCMS
Operator : ECM(SCIUFFRE)
Date Reported : Wed May 04 13:45:40 2016
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

Cerilliant®
Analytical Reference Standards
a SIGMA-ALDRICH company

SAFETY DATA SHEET

Version 5.1
Revision Date 03/19/2015
Print Date 04/24/2015

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : OCDD-13C12

Product Number : ED-981
Brand : Cerilliant

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 3), H226
Acute toxicity, Inhalation (Category 4), H332
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
Aspiration hazard (Category 1), H304
Chronic aquatic toxicity (Category 4), H413

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H413	May cause long lasting harmful effects to aquatic life.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Component	Classification	Concentration
Nonane		
CAS-No. 111-84-2 EC-No. 203-913-4	Flam. Liq. 3; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Asp. Tox. 1; Aquatic Chronic 4; H226, H304, H315, H319, H332, H336, H413	>= 90 - <= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

---

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

---

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

---

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

---

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

---

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Nonane	111-84-2	TWA	200.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment		
		TWA	200.000000 ppm 1,050.000000 mg/m3	USA. NIOSH Recommended Exposure Limits

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	No data available
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available

k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information

No data available

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10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Other decomposition products - No data available
In the event of fire: see section 5

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11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
No data available

Inhalation: No data available

Dermal: No data available

No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Central nervous system -

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1920 Class: 3 Packing group: III

Proper shipping name: Nonanes
Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG
UN number: 1920 Class: 3 Packing group: III EMS-No: F-E, S-E
Proper shipping name: NONANES

IATA
UN number: 1920 Class: 3 Packing group: III
Proper shipping name: Nonanes

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Nonane	111-84-2	1994-04-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Chronic	Chronic aquatic toxicity
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H413	May cause long lasting harmful effects to aquatic life.
Skin Irrit.	Skin irritation
STOT SE	Specific target organ toxicity - single exposure

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	

Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.1 Revision Date: 03/19/2015 Print Date: 04/24/2015

Reagent

HRDXNIDA_00295

r: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

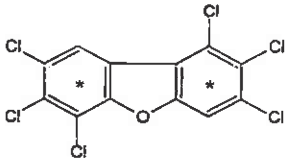
1042063
ID: HRDXNIDA_00295
Exp: 04/30/26 Prpd: SKV
13C-1,2,3,6,7,8-HxCDF [50

CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$



Catalog Number:	EF-985
Solution Lot:	ER02241603
Expiration Date:	April 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	ER051607-01
Chemical Formula:	$^{13}C_{12}H_2Cl_6O$
CAS Number:	116843-03-9
Molecular Weight:	386.77

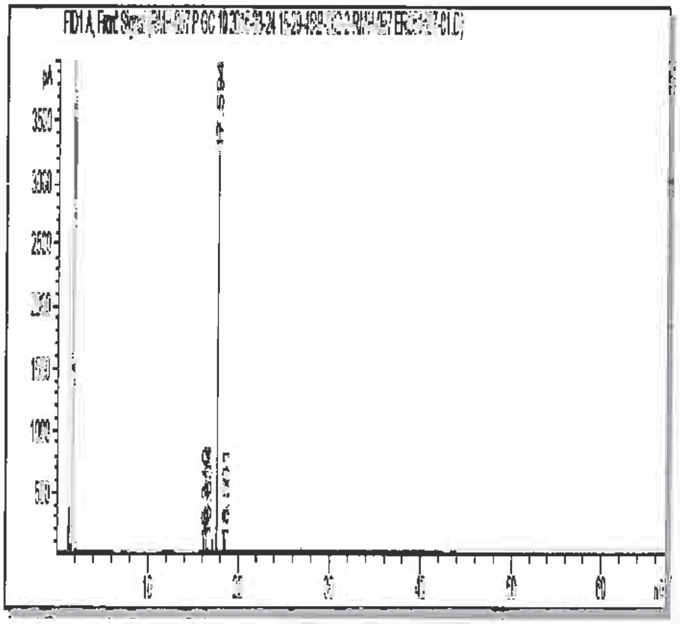
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID



Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 40°C to 300°C at 15°C/min hold 50 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument: GC#10
Sample Name: ER051607-01
Acquired: March 24, 2016

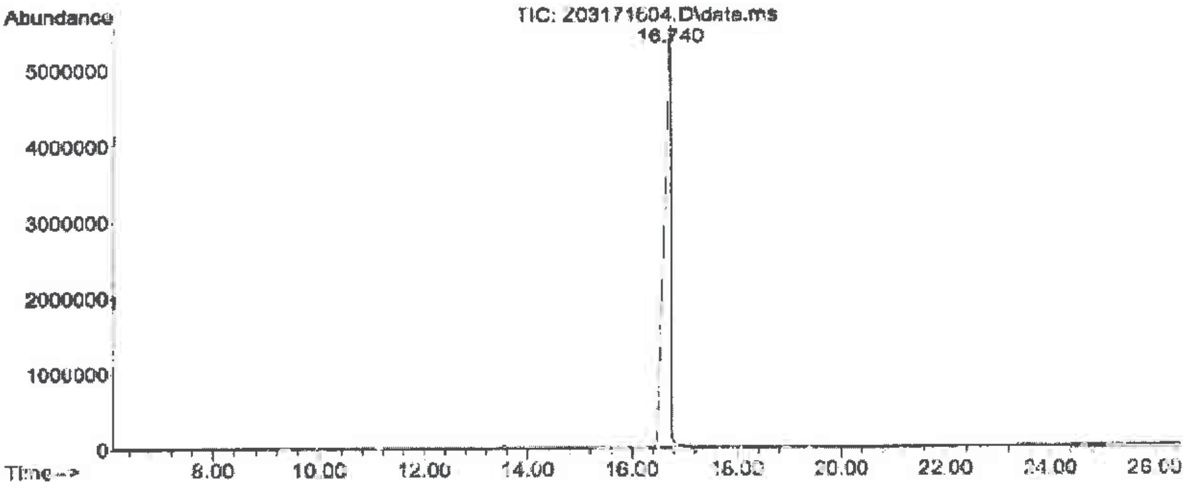
Peak #	Ret Time	Area	Height	Area %
1	16 31	6.97	3.21	0.08
2	16 60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8 48	2.69	0.09

Spectral and Physical Data (cont.)

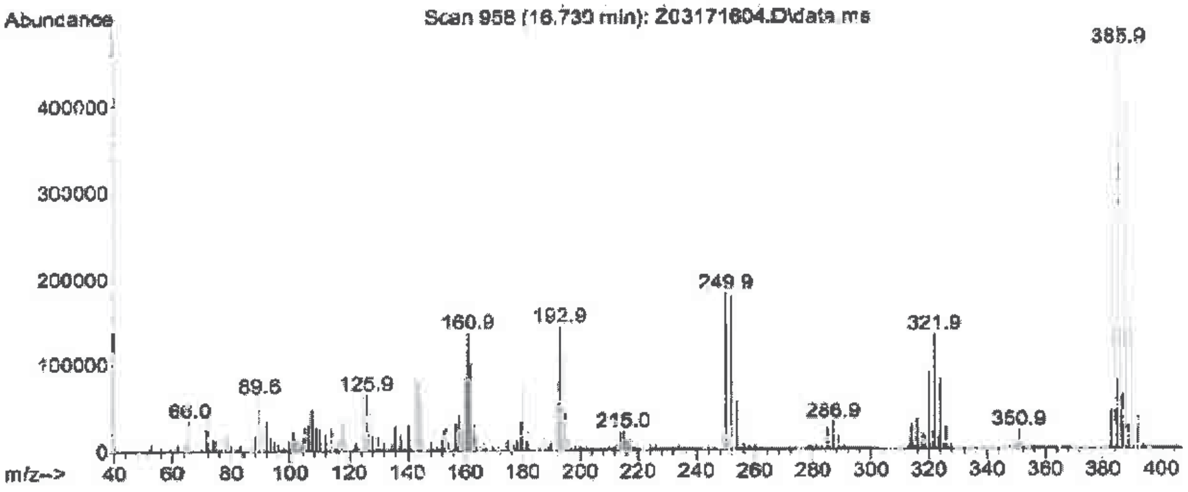
GC/MS

```
Compound Name          : 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number             : ER051607-01
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Fri Mar 18 07:08:54 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram



Mass Spectrum



COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00296

R: 9|20|17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042064
ID: HRDXN/DA_00296
Exp: 12/31/20 Prpd: SKV
13C-1,2,3,7,8,9-HxCDF [50

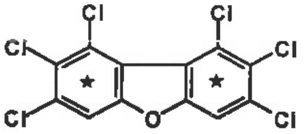
CIL

Revision 02
Page 1 of 4

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

Certificate of Analysis

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$



Catalog Number:	EF-986
Solution Lot:	ER100610-01
Expiration Date:	December 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Crtieria	Actual Results	Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER080108-03
Chemical Formula: $^{13}C_{12}H_2OCl_6$
CAS Number: 116843-04-0
Molecular Weight: 386.77

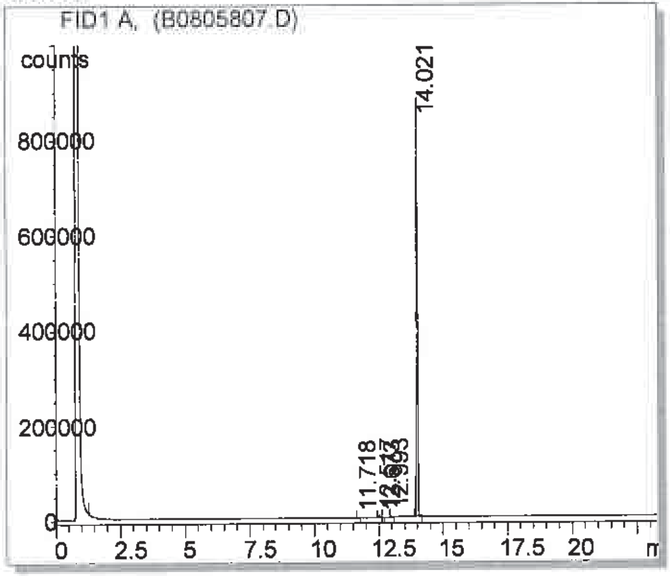
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



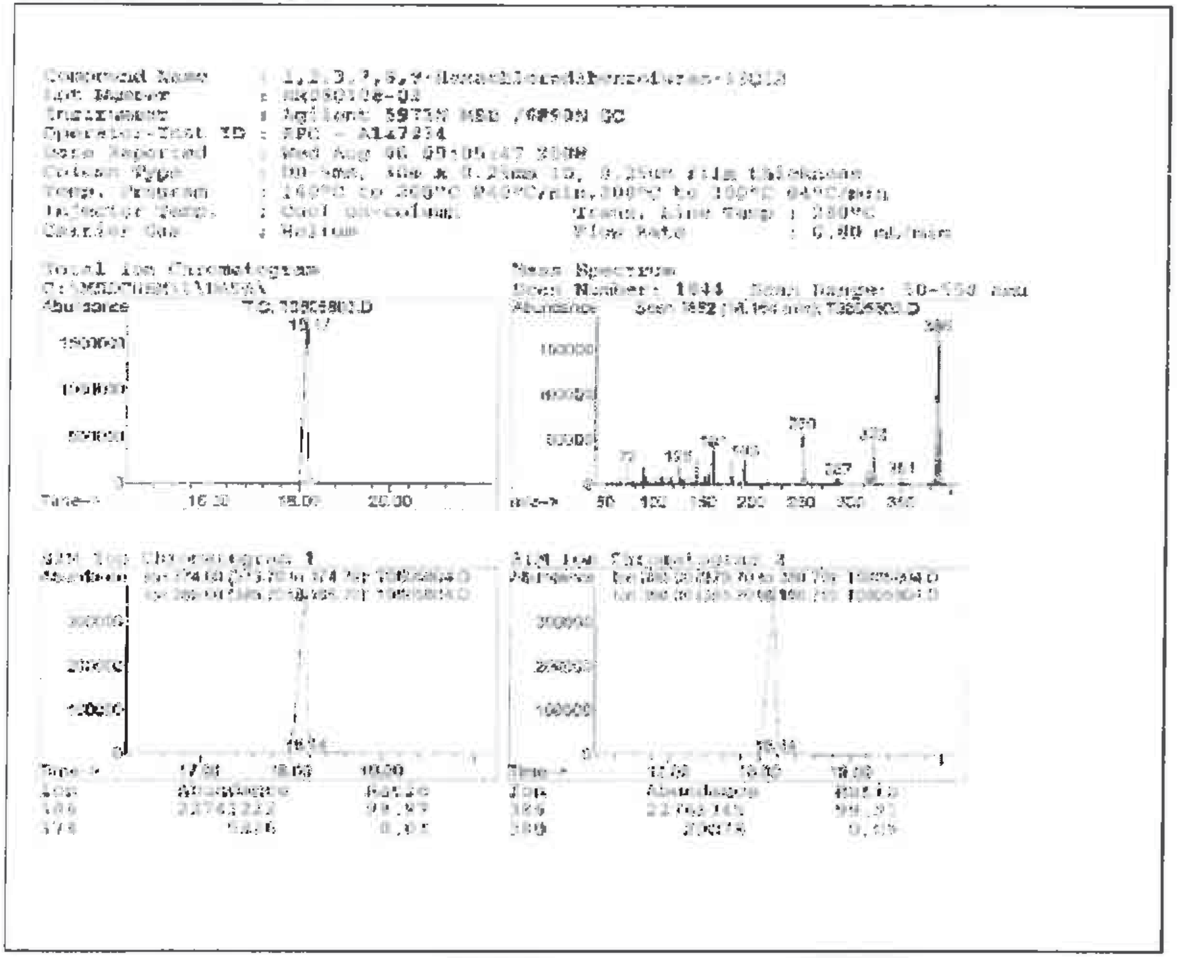
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: C:\HPCHEM\1\DATA\B0805807.D
Instrument: GC#2
Sample Name: ER080108-03
Acquired: August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis



COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00297

r: 9/28/17 -

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

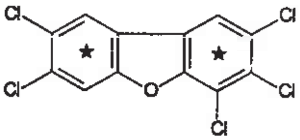
1042065
ID: HRDXN!DA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$



Catalog Number:	EF-958
Solution Lot:	ER01061701
Expiration Date:	January 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**97.9%**	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Criteria	Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER11101601

Chemical Formula: $^{13}C_{12}H_3Cl_5O$
CAS Number: 116843-02-8
Molecular Weight: 352.33

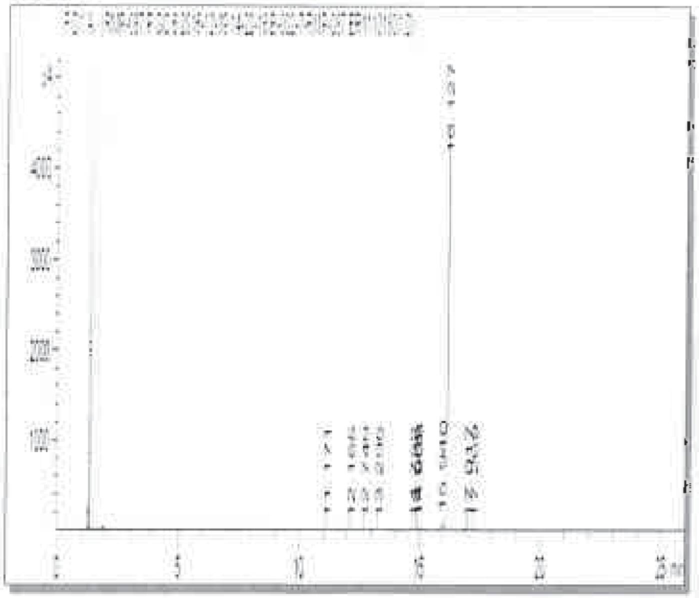
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$ 0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID



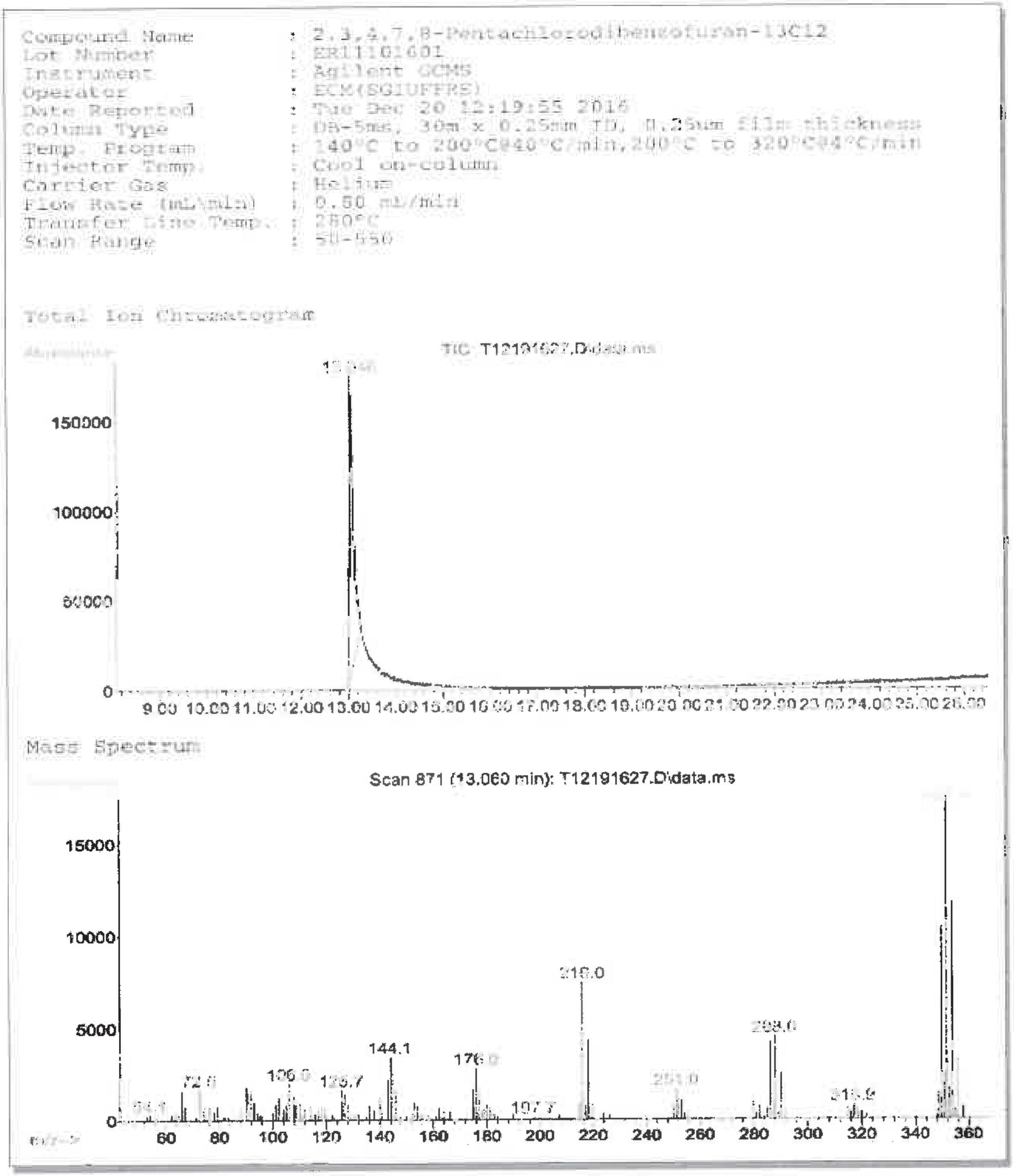
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS



Compound Name : 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number : ER11101601
Instrument : Agilent GCMS
Operator : ECM(SGIUFFRS)
Date Reported : Tue Dec 20 12:19:55 2016
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.50 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

Scan 871 (13.060 min): T12191627.D\data.ms

Reagent

HRDXNIDA_00298

r: 9/22/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

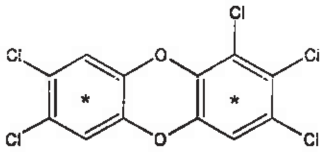
1042066
ID: HRDXNIDA_00298
Exp: 08/31/24 Prpd: SKV
13C-1,2,3,7,8-PeCDD [50ug

CIL

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-955
Solution Lot:	ER08041401
Expiration Date:	August 2024
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard		Verified Concentration (µg/mL)		%RSD - Homogeneity	
Solution	Lot Number	Actual Results	Acceptance Criteria	Actual Results	Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER06241403

Chemical Formula: $^{13}C_{12}H_3Cl_5O_2$
CAS Number: 109719-79-1
Molecular Weight: 368.33

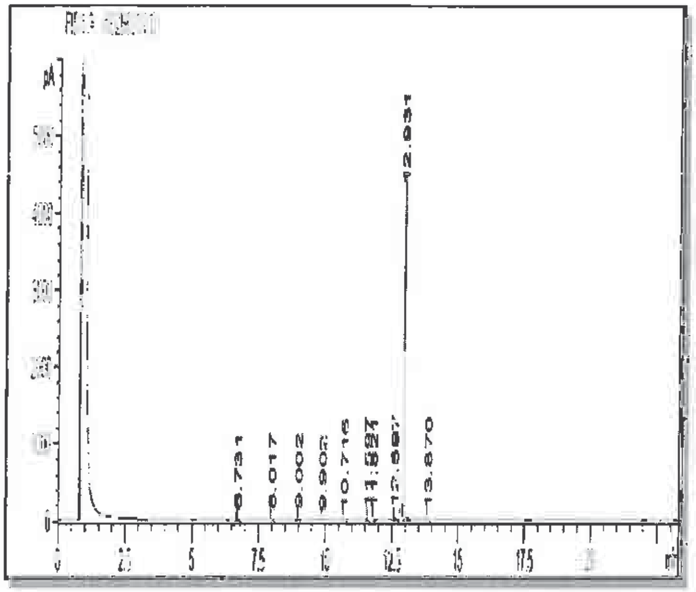
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$ 0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



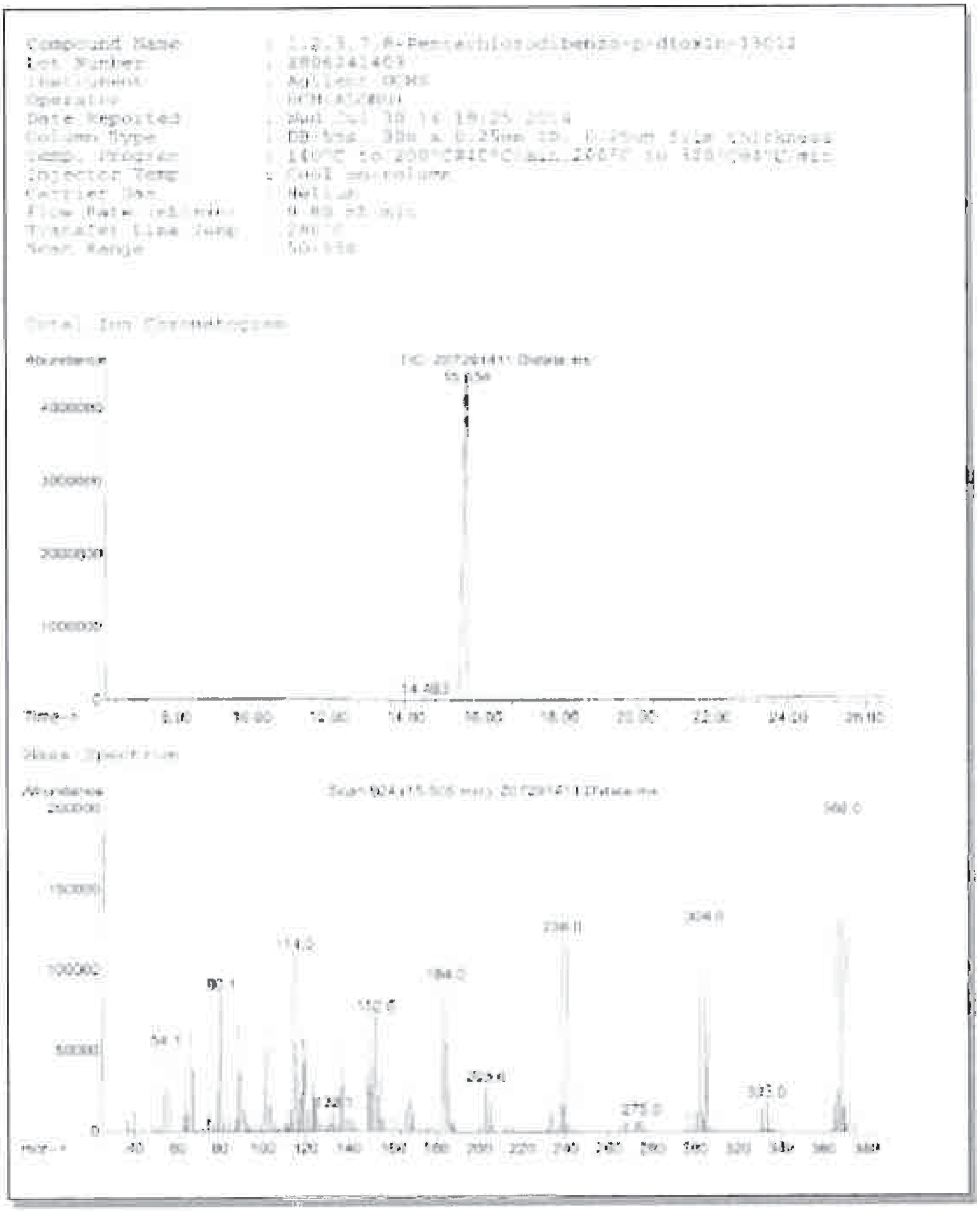
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min, hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument: GC#6
Sample Name: ER06241403
Acquired: July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.73	7.32	3.42	0.07
2	8.02	3.79	1.60	0.04
3	9.00	8.74	3.64	0.08
4	9.90	3.38	1.35	0.03
5	10.72	1.31	0.45	0.01
6	11.60	14.46	6.69	0.14
7	11.82	2.21	1.11	0.02
8	12.60	68.05	28.10	0.64
9	12.93	10594.10	4235.85	98.91
10	13.87	7.09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS



```
Compound Name        : 1,2,3,7,8-Pentachlorodibenzo-p-dioxin-33012
Lot Number           : ER06241403
Instrument           : Agilent GCMS
Operator             : [illegible]
Date Reported        : Wed Jul 30 14 19:25 2014
Column Type          : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program        : 100°C to 200°C@15°C/min, 200°C to 325°C@5°C/min
Injector Temp        : Cool on-column
Carrier Gas          : Helium
Flow Rate (mL/min)   : 0.80 mL/min
Transfer Line Temp   : 280°C
Scan Range           : 50-550
```

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00299

r: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042068
ID: HRDXNIDA_00299
Exp: 12/31/20 Prpd: SKV
13C-2,3,4,6,7,8-HxCDF [50

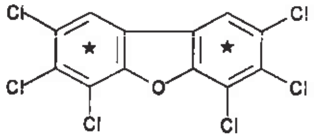
CIL

Revision 01
Page 1 of 5

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$



Catalog Number:	EF-987
Solution Lot:	ER100610-02
Expiration Date:	December 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Crtieria	%RSD - Homogeneity Actual Results	Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER061906-02

Chemical Formula: $^{13}C_{12}H_2Cl_6O$
CAS Number: 116843-05-1
Molecular Weight: 386.73

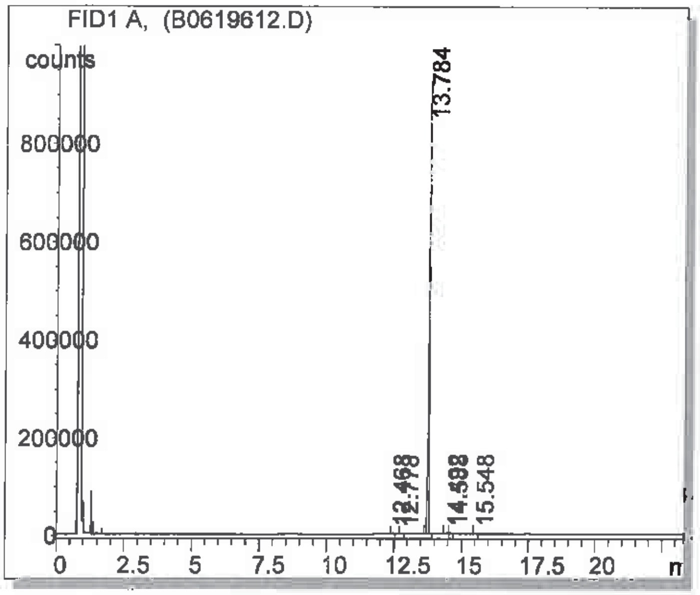
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



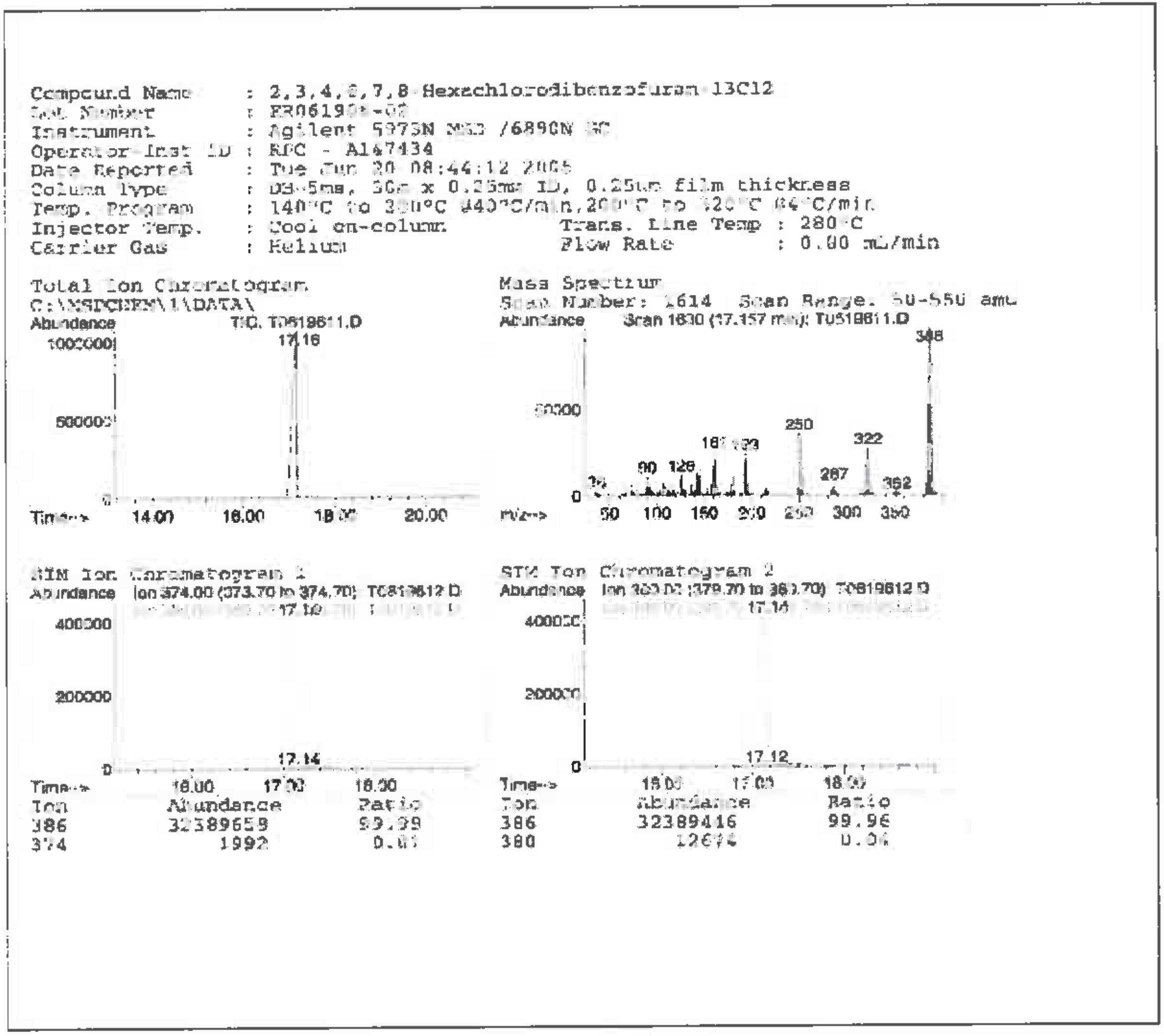
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: C:\HPCHEM\1\DATA\B0619612.D
Instrument: GC#2
Sample Name: ER061906-02
Acquired: June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS



```
Compound Name        : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number           : ER061904-02
Instrument           : Agilent 5973N MSD /6890N GC
Operator-Inst ID     : RPC - A147434
Date Reported        : Tue Jun 20 08:44:12 2006
Column Type          : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program        : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp.       : Cool on-column        Trans. Line Temp : 280°C
Carrier Gas          : Helium                Flow Rate        : 0.80 mL/min
```

```
Total Ion Chromatogram                       Mass Spectrum
C:\MSDCHEM\1\DATA\                           Scan Number: 1614  Scan Range: 50-550 amu
```

```
SIM Ion Chromatogram 1                       SIM Ion Chromatogram 2
```

```
Ion     Abundance     Ratio              Ion     Abundance     Ratio
386     32389659      99.99              386     32389416      99.96
374         1992       0.01              380        12674       0.04
```

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00300

r: 9/22/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042071
ID: HRDXNIDA_00300
Exp: 01/01/21 Prpd: SKV
13C-1,2,3,7,8-PeCDF [50 u

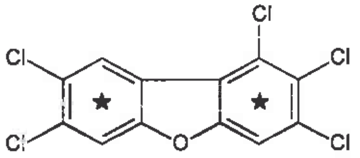
CIL

Revision 02
Page 1 of 5

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

Certificate of Analysis

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$



Catalog Number:	EF-952
Solution Lot:	ER012111-01
Expiration Date:	January 2021
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Crtieria	Actual Results	Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER090110-01

Chemical Formula: $^{13}C_{12}H_3OCl_5$
CAS Number: 109719-77-9
Molecular Weight: 352.33

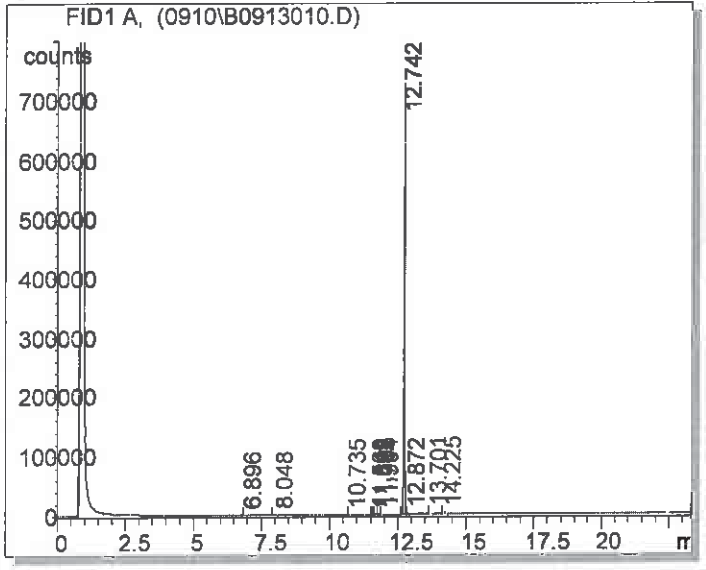
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$ 0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



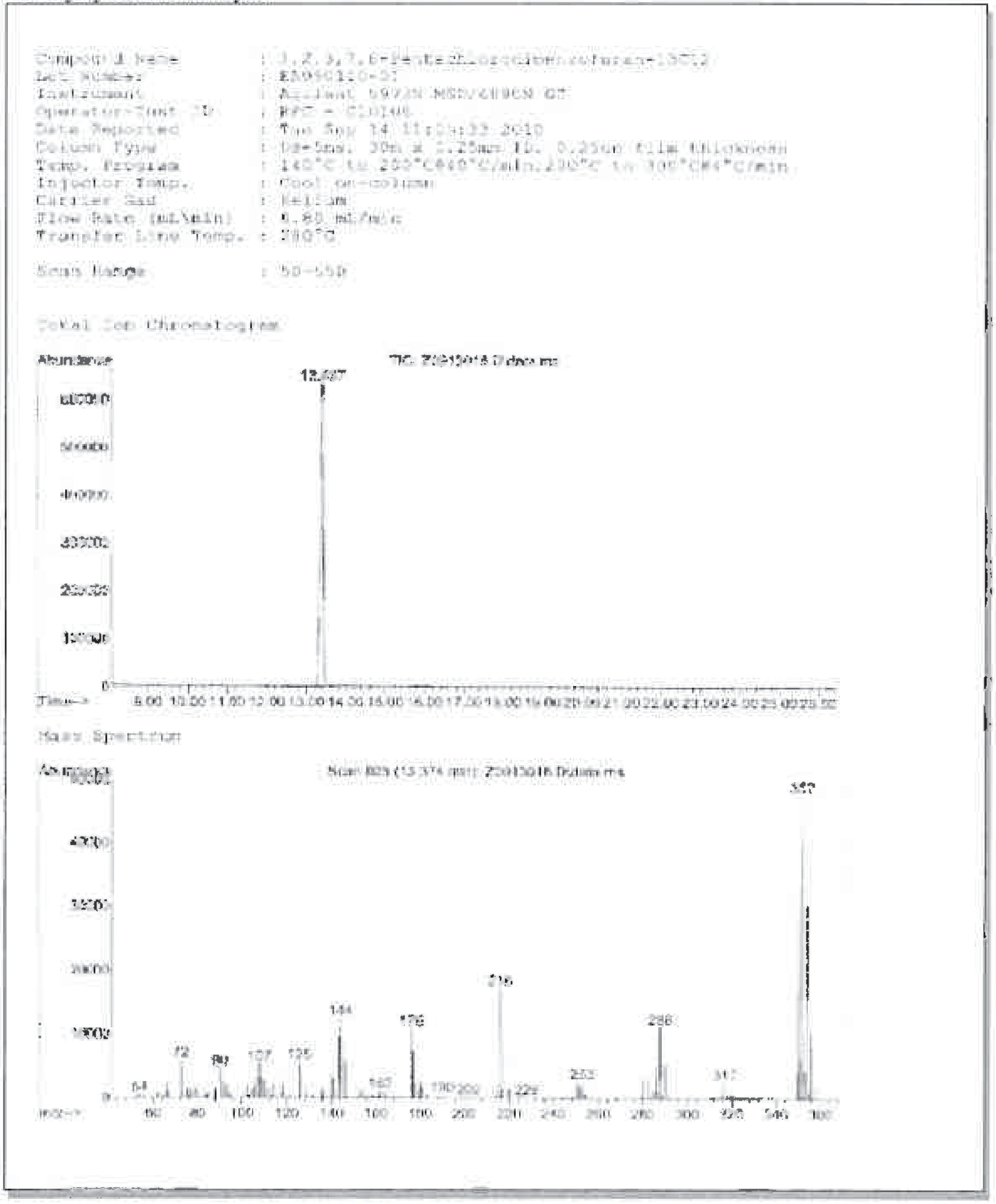
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: S:\GC\GC2\2010\0910\B0913010.D
Instrument: GC#2
Sample Name: ER090110-01
Acquired: September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254.50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11.62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis



```
Compound Name          : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number             : ED090110-37
Instrument             : Agilent 5973N MSD/6890N GC
Operator-Inst ID       : RPC - C10148
Date Reported          : Tue Sep 14 11:05:33 2010
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C

Scan Range             : 50-550

Total Ion Chromatogram
```

```
Mass Spectrum
```

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00301

r: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

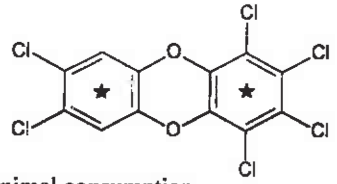
CIL

Revision 01
Page 1 of 5

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-946
Solution Lot:	ER102711-01
Expiration Date:	October 2021
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Crtieria	Actual Results	Acceptance Crtieria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS
ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER011008-01

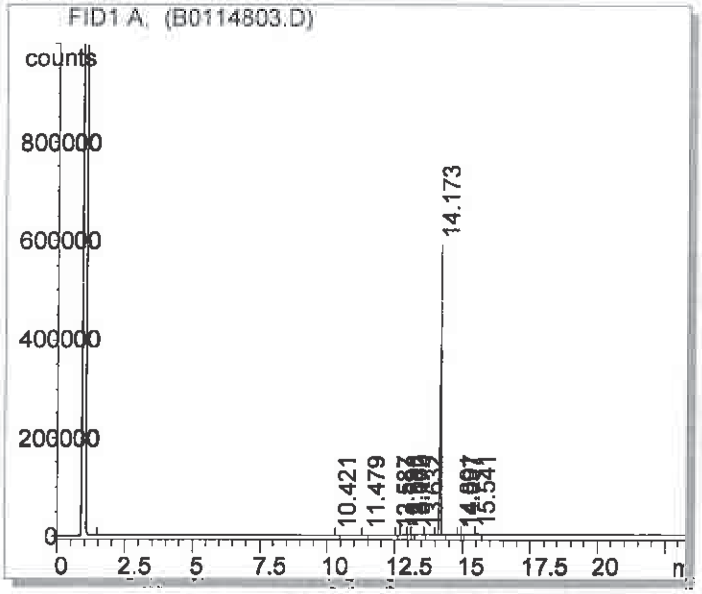
Chemical Formula:	$^{13}C_{12}H_2Cl_6O_2$
CAS Number:	109719-80-4
Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$ 0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

GC/FID



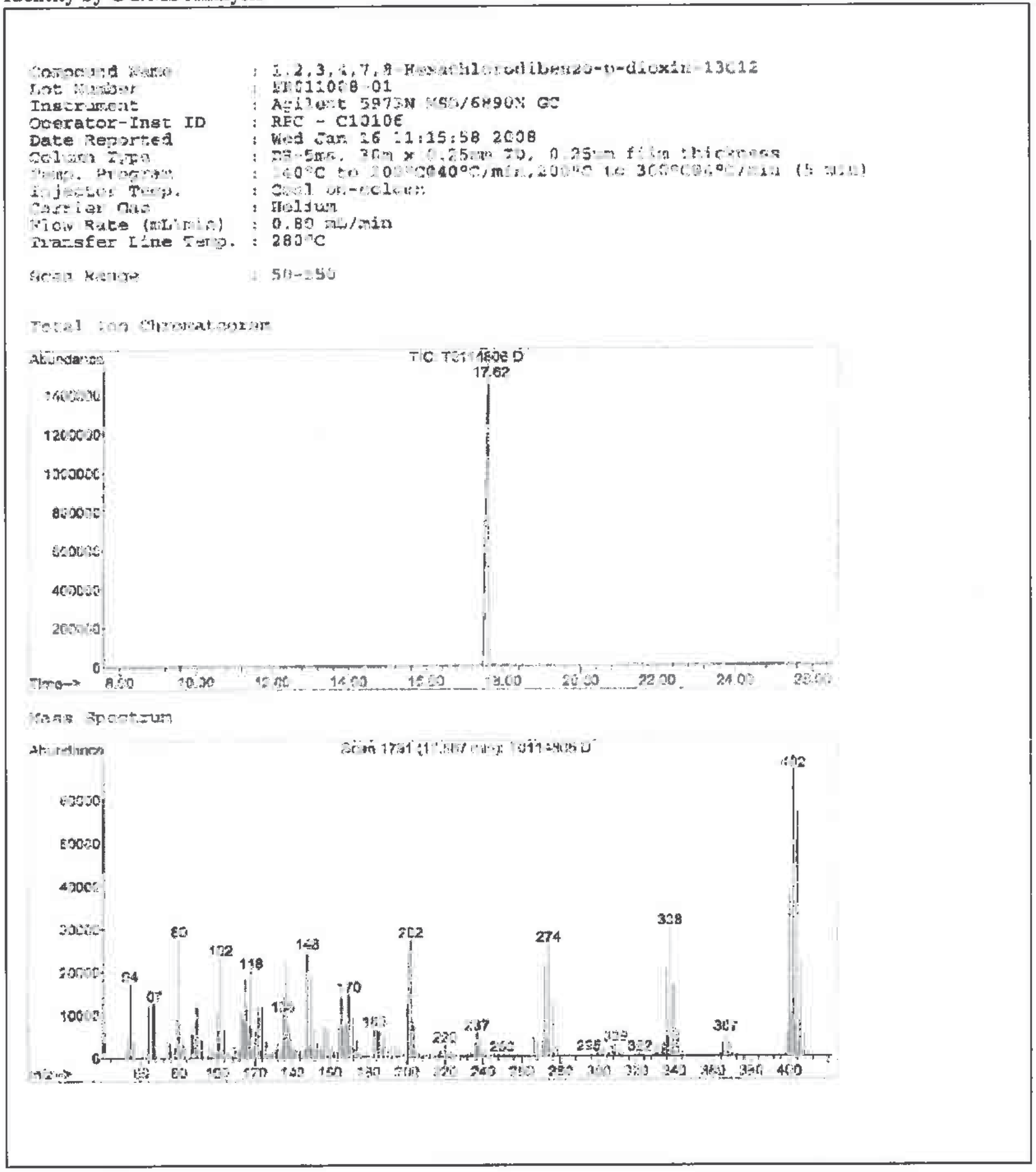
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 μm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: C:\HPCHEM\1\DATA\B0114803.D
Instrument: GC#2
Sample Name: ER011008-01
Acquired: January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis



```
Compound Name          : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number             : ERC11008-01
Instrument             : Agilent 5973N MSD/6890N GC
Operator-Inst ID       : RFC - C1010E
Date Reported          : Wed Jan 16 11:15:58 2008
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min (5 min)
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL/min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C

Scan Range             : 50-550
```

Total Ion Chromatogram

Mass Spectrum

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

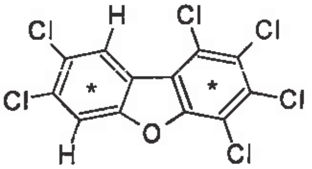
1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

Certificate of Analysis

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$



Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Crtieria	Actual Results	Acceptance Crtieria
New Lot	FR072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	——	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

November 15, 2016

Darron Ellsworth, Quality Assurance Manager
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: 35135-45

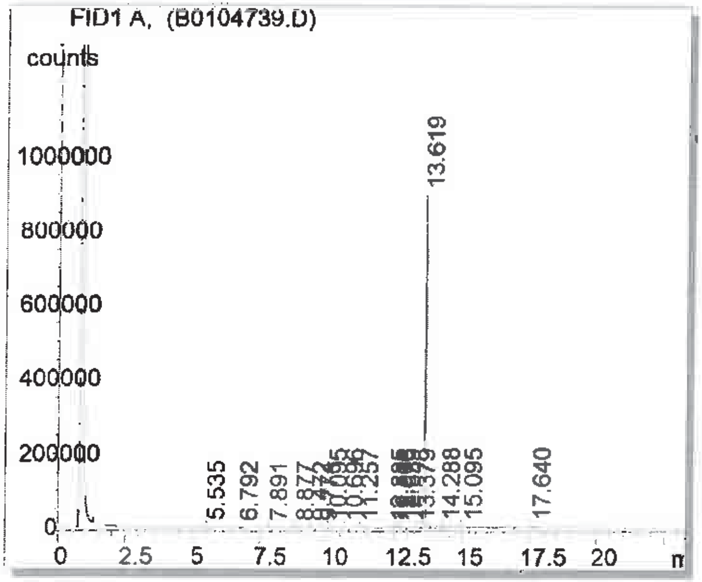
Chemical Formula: $^{13}C_{12}H_2OCl_6$
CAS Number: 114423-98-2
Molecular Weight: 386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12} 0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

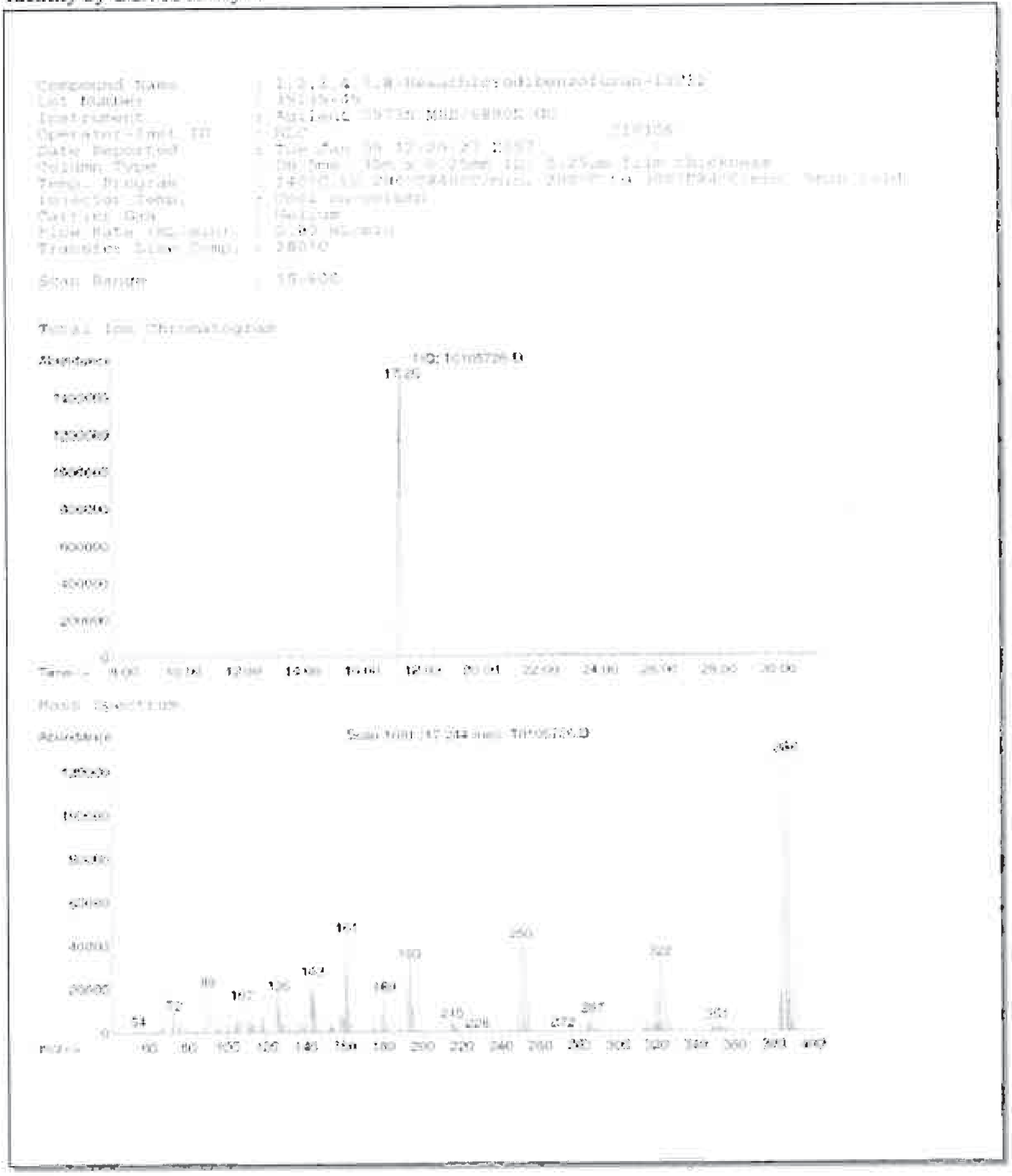


Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5 21	1024.94	292.85	0.04
3	6 09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169 71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8 97	123 76	38.29	0.00
8	12 30	2684 80	1153.73	0.10
9	12.48	1162 83	467.42	0.04
10	12.56	1893 94	719.41	0.07
11	12.68	466 69	180.24	0.02
12	12.86	690 32	301.63	0.03
13	13.62	2651450 00	979725.00	99.58
14	14.34	274 11	82.01	0.01
15	15.17	1208 09	320.67	0.05
16	19 00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis



Compound Name : 1,2,3,4,7,8-Hexachlorodibenzofuran-[illegible]
Lot Number : [illegible]
Instrument : Agilent 5973N MSD/6890N GC
Operator-Init. ID : [illegible]
Date Reported : [illegible]
Column Type : [illegible]
Temp. Program : [illegible]
Injector Temp. : [illegible]
Carrier Gas : Helium
Flow Rate (mL/min) : [illegible]
Transfer Line Temp. : 280°C

Scan Range : [illegible]

Total Ion Chromatogram

Mass Spectrum

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIS_00054

Rec 9/24/14 SKU

Cerilliant®
Analytical Reference Standards

CIL

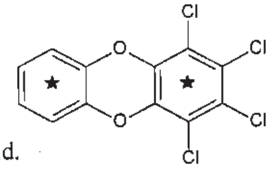
Revision 0
Page 1 of 4

Cerilliant Quality
ISO GUIDE 34
CERTIFICATE AR1353
ISO/IEC 17025
CERTIFICATE AT1352
ISO 9001:2008
CERTIFICATE 3854

Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-911
Solution Lot: ER060710-01
Expiration Date: June 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Protect from air and light, store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: Flammable



- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4-TCDD-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER060710-01	49.1	± 3%	0.6	≤ 3%
Previous Lot	ER122203-01	49.8	± 3%	1.0	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Lara Sparks
Lara Sparks, Quality Assurance Director

June 17, 2010
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min (hold 10 min)
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	29699-24

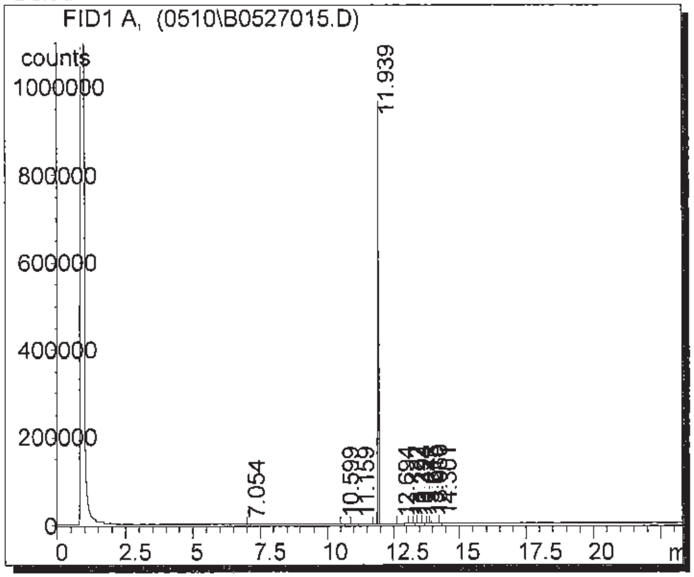
Chemical Formula:	$^{13}C_{12}H_4O_2Cl_4$
CAS Number:	114423-99-3
Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$ 0.02% $^{13}C_6$ vs $^{13}C_{12}$

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.

GC/FID



Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min (hold 10 min)
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: S:\GC\GC2\2010\0510\B0527015.D
Operator: LN
Instrument: GC#2
Sample Name: 29699-24
Method File: DIOXP.M
Acquired: May 28, 2010 9:03 AM

Peak #	Ret Time	Area	Height	Area %
1	7.05	826	417	0.04
2	10.60	706	340	0.03
3	11.16	421	119	0.02
4	11.94	2057520	965112	99.50
5	12.69	468	234	0.02
6	13.12	582	294	0.03
7	13.29	2189	1100	0.11
8	13.42	150	82	0.01
9	13.64	276	103	0.01
10	13.82	185	75	0.01
11	13.96	4228	1731	0.20
12	14.30	309	120	0.01

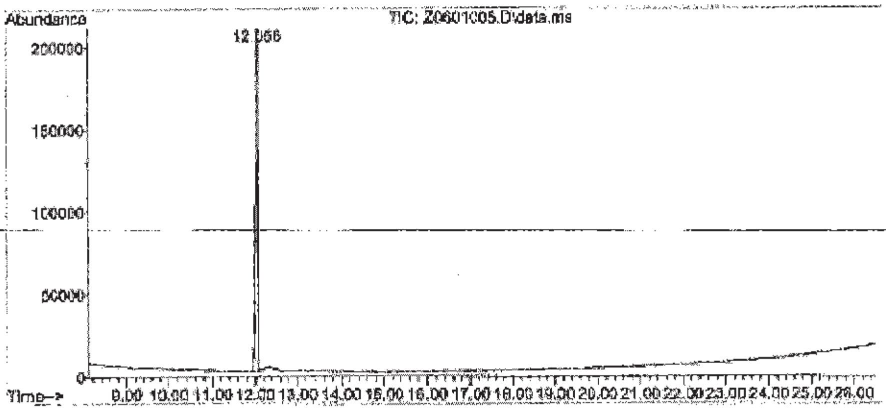
Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

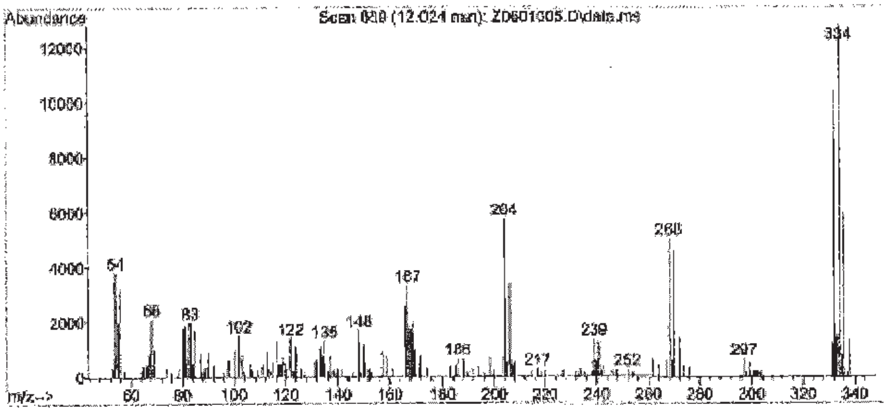
```
Compound Name          : 1,2,3,4-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number             : 29699-24
Instrument             : Agilent 5973N MSD/6890N GC
Operator-Inst ID       : RPC - C10106
Date Reported          : Tue Jun 01 13:44:23 2010
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C

Scan Range             : 50-550
```

Total Ion Chromatogram



Mass Spectrum



Reagent

HRDXNIS_00065

Rec 5/20/15 SL

Cerilliant
Analytical Reference Standards

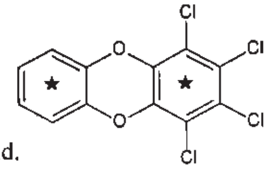
CIL

Revision 0
Page 1 of 4

Cerilliant Quality
ISO GUIDE 34 CERTIFICATE AR1363
ISO/IEC 17025 CERTIFICATE AT1362
ISO 9001:2008 CERTIFICATE 3354

Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number: ED-911
Solution Lot: ER060710-01
Expiration Date: June 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Protect from air and light, store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: Flammable

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4-TCDD-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Crtieria	Actual Results	Acceptance Crtieria
New Lot	ER060710-01	49.1	± 3%	0.6	≤ 3%
Previous Lot	ER122203-01	49.8	± 3%	1.0	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Lara Sparks
Lara Sparks, Quality Assurance Director

June 17, 2010
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min (hold 10 min)
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: 29699-24

Chemical Formula: $^{13}C_{12}H_4O_2Cl_4$
CAS Number: 114423-99-3
Molecular Weight: 333.88

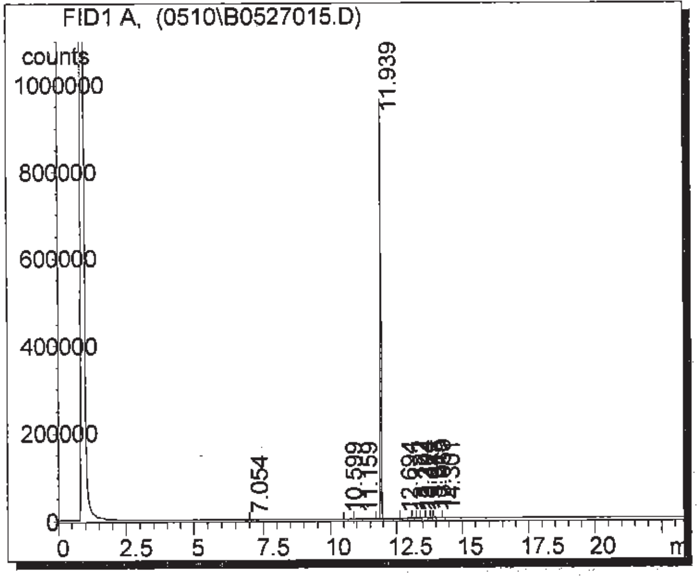
Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.

Spectral and Physical Data

GC/FID



Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min (hold 10 min)
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0510\B0527015.D
Operator:	LN
Instrument:	GC#2
Sample Name:	29699-24
Method File:	DIOXP.M
Acquired:	May 28, 2010 9:03 AM

Peak #	Ret Time	Area	Height	Area %
1	7.05	826	417	0.04
2	10.60	706	340	0.03
3	11.16	421	119	0.02
4	11.94	2057520	965112	99.50
5	12.69	468	234	0.02
6	13.12	582	294	0.03
7	13.29	2189	1100	0.11
8	13.42	150	82	0.01
9	13.64	276	103	0.01
10	13.82	185	75	0.01
11	13.96	4228	1731	0.20
12	14.30	309	120	0.01

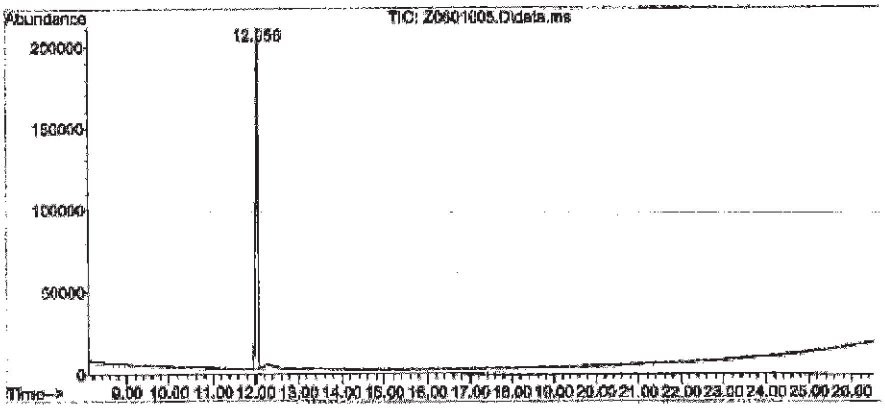
Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

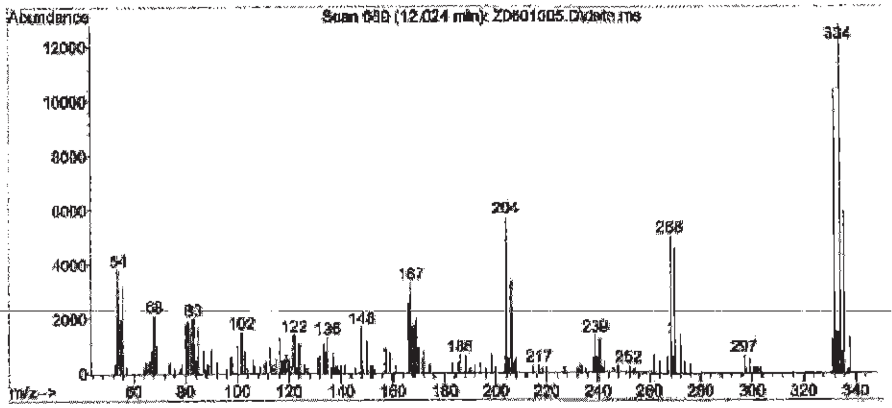
```
Compound Name          : 1,2,3,4-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number             : 29699-24
Instrument             : Agilent 5973N MSD/6890N GC
Operator-Inst ID       : RPC - C10106
Date Reported          : Tue Jun 01 13:44:23 2010
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C

Scan Range             : 50-550
```

Total Ion Chromatogram



Mass Spectrum



Reagent

HRDXNIS_00083

r: 7/21/15 SV

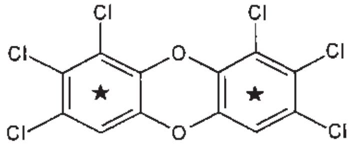
Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$



Catalog Number:	ED-996
Solution Lot:	ER021313-01
Expiration Date:	February 2023
Solvent:	n-Nonane::Toluene (80::20)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	Flammable

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume can be transferred when using Class A volumetric pipettes. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	100.0%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interva using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL)		%RSD - Homogeneity	
		Actual Results	Acceptance Crtieria	Actual Results	Acceptance Crtieria
New Lot	ER021313-01	50.47	± 5%	0.4	≤ 3%
Previous Lot	ER020111-02	51.13	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Lara Sparks
Lara Sparks, Quality Assurance Director

April 26, 2013
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER110510-01
Chemical Formula:	$^{13}C_{12}H_2O_2Cl_6$
CAS Number:	109719-82-6
Molecular Weight:	402.77

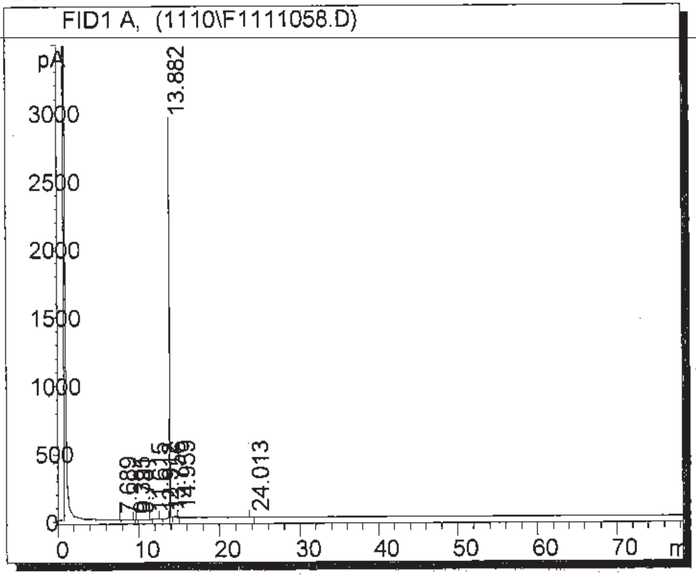
Neat Material Characterization Summary

Analytical Test	**Method**	**Results**
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_0$ vs $^{13}C_{12}$
Purity Factor		99.02%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



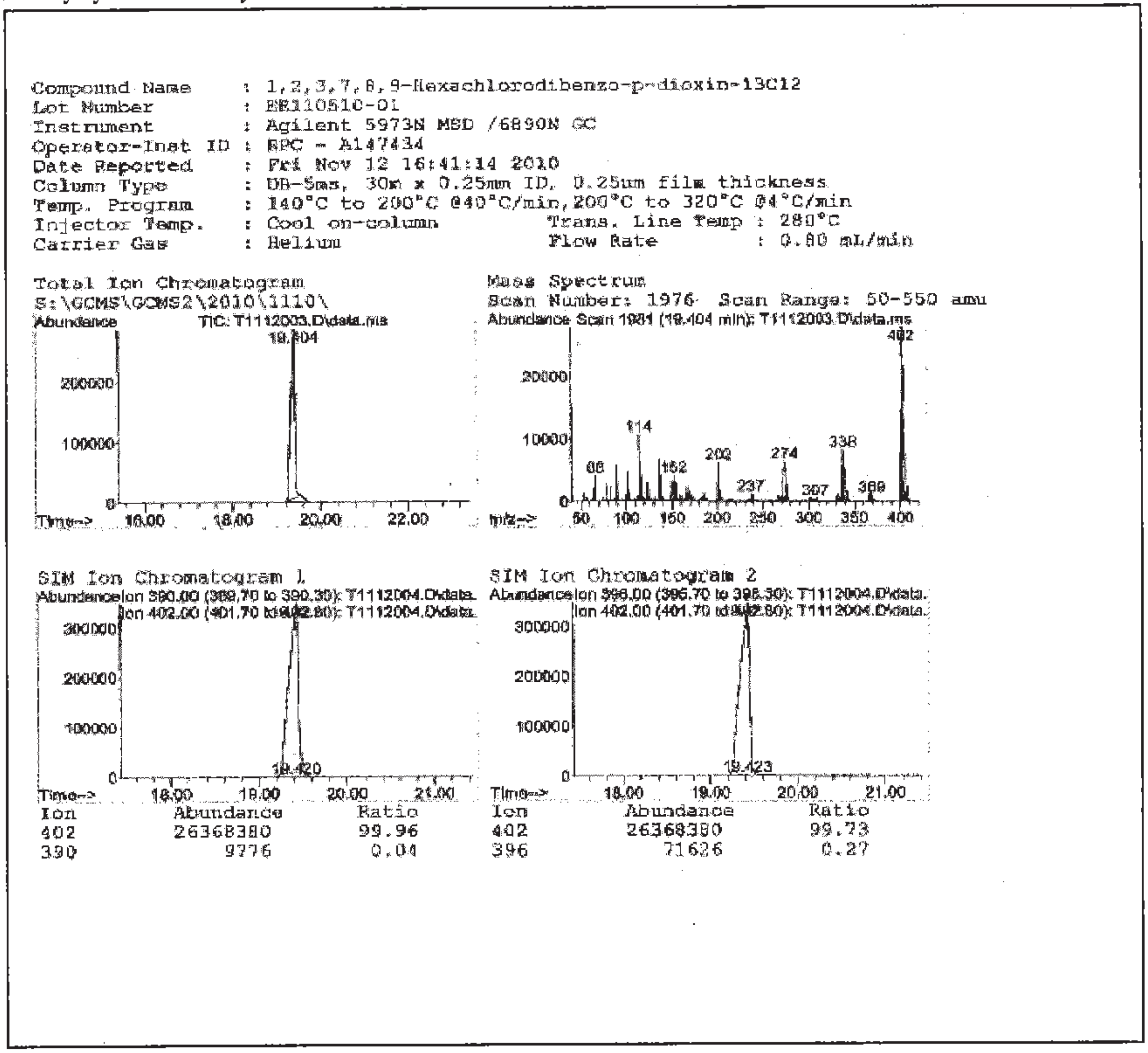
Column: DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min (hold 65 min)
Injector Temp: Cool-on-column
Detector Temp: 325°C

Data File Name: S:\GC\GC6\2010\1110\F1111058.D
Operator: RPC
Instrument: GC#6
Sample Name: ER110510-01
Method File: DIOXPL.M
Acquired: November 12, 2010 11:31 AM

Peak #	Ret Time	Area	Height	Area %
1	4.69	0.45	0.10	0.01
2	9.40	0.72	0.14	0.01
3	9.78	0.80	0.13	0.01
4	11.62	7.34	2.54	0.09
5	12.91	2.59	0.23	0.03
6	13.76	1.91	1.00	0.02
7	13.88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis



```
Compound Name      : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number         : EB110510-01
Instrument         : Agilent 5973N MSD /6890N GC
Operator-Inst ID   : BPC - A147434
Date Reported      : Fri Nov 12 16:41:14 2010
Column Type        : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program      : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp.     : Cool on-column          Trans. Line Temp : 280°C
Carrier Gas        : Helium                  Flow Rate        : 0.80 mL/min

Total Ion Chromatogram                     Mass Spectrum
S:\GCMS\GCMS2\2010\1110\                   Scan Number: 1976  Scan Range: 50-550 amu

SIM Ion Chromatogram 1                     SIM Ion Chromatogram 2

Ion        Abundance        Ratio          Ion        Abundance        Ratio
402        26368380         99.96          402        26368380         99.73
390            9776          0.04          396           71626          0.27
```

COA Revision History

Revision No.	Date	Reason for Revision
00	4/1/2013	Initial version
01	4/26/2013	Revised expanded uncertainty value from ± 0.4% to ± 0.5%.

Reagent

HRDXNSU_00120

Rec'd 8-17-15
GLB

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Analytical Reference Standards
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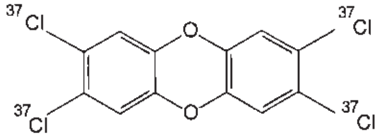
CIL

Cerilliant Quality
ISO GUIDE 34
CERTIFICATE AR1353
ISO/IEC 17025
CERTIFICATE AT1362
ISO 9001:2008
CERTIFICATE 3854

Certificate of Analysis

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

2,3,7,8-TCDD-$^{37}Cl_4$



Catalog Number:	ED-907
Solution Lot:	ER052010-02
Expiration Date:	May 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	Flammable

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	**Chromatographic Purity**	**Certified Concentration**
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.3%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	**Lot Number**	**Verified Concentration (µg/mL)**		**%RSD - Homogeneity**	
		Actual Results	**Acceptance Crtieria**	**Actual Results**	**Acceptance Crtieria**
New Lot	ER052010-02	55.3	± 10%	0.7	≤ 3%
Previous Lot	ER103106-01	52.6	± 10%	2.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Lara Sparks

Lara Sparks, Quality Assurance Director

April 11, 2011
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$
Compound Lot:	ER040510-01
Chemical Formula:	$C_{12}H_4O_2{}^{37}Cl_4$
CAS Number:	85508-50-5
Molecular Weight:	328.16

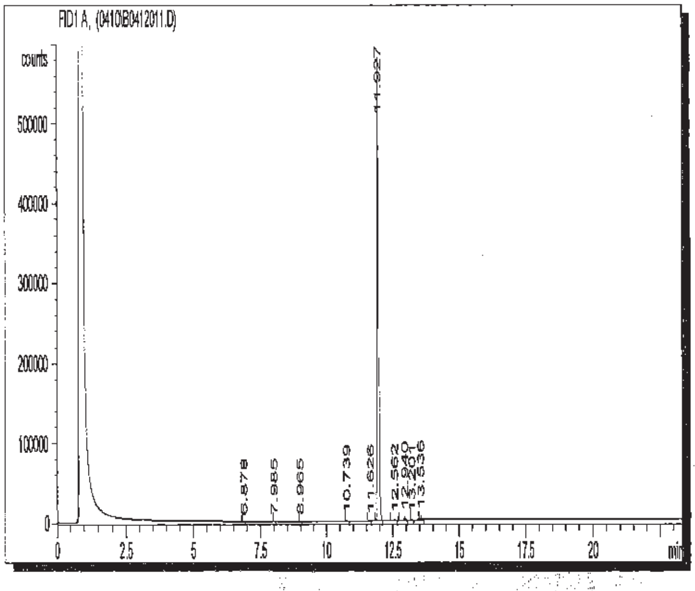
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.32%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.002% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



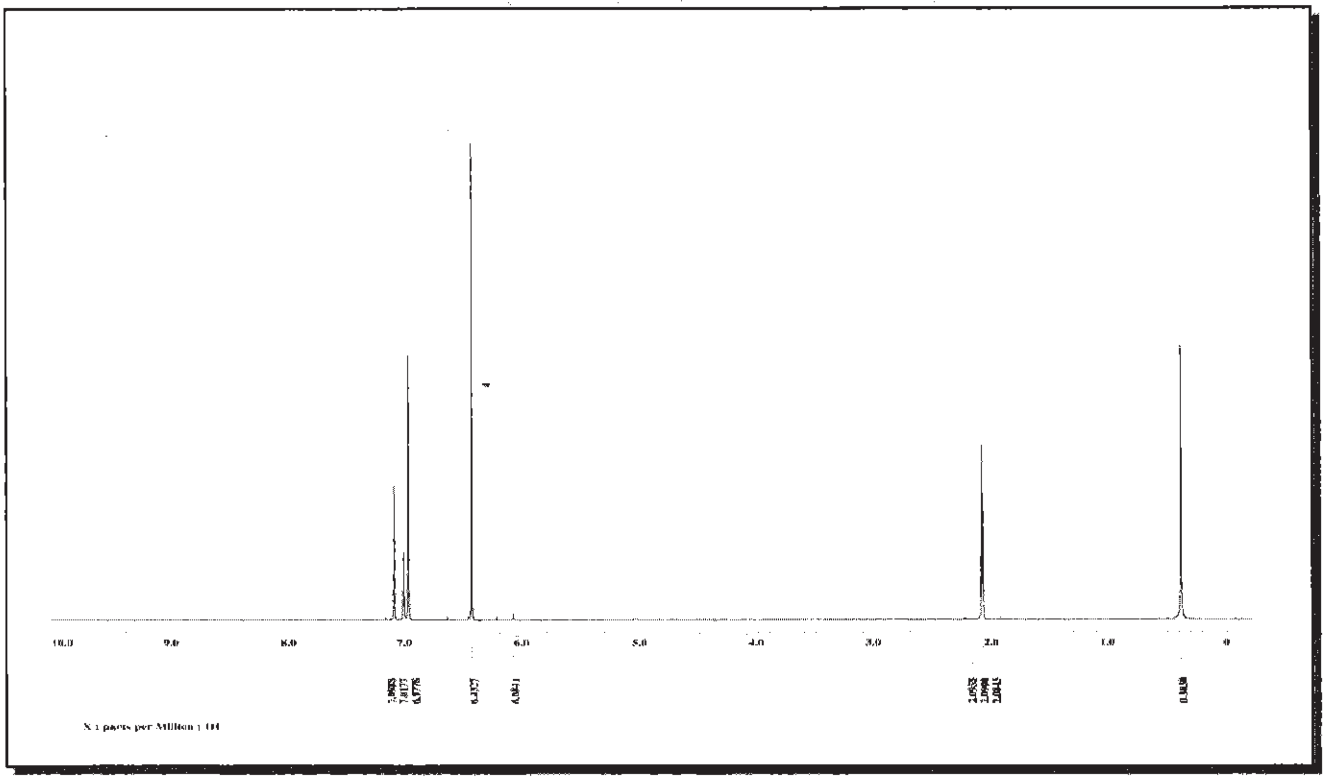
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min (hold 10 min)
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: S:\GC\GC2\2010\0410\B0412011.D
Operator: RPC
Instrument: GC#2
Sample Name: ER040510-01
Method File: AM1045.M
Acquired: April 12, 2010 5:10 PM

Peak #	Ret Time	Area	Height	Area %
1	6.88	246	89	0.01
2	7.99	304	131	0.01
3	8.97	234	72	0.01
4	10.74	931	265	0.04
5	11.63	128	47	0.01
6	11.93	2261830	580792	98.34
7	12.56	6436	1838	0.28
8	12.94	13337	4374	0.58
9	13.20	2178	730	0.09
10	13.54	14484	5038	0.63

^{1}H NMR

Instrument: JEOL ECS 400
Solvent: Toluene-D_8



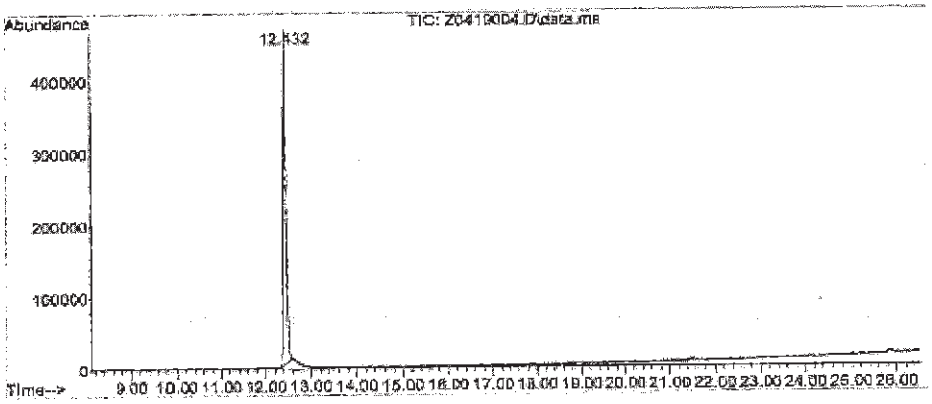
Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

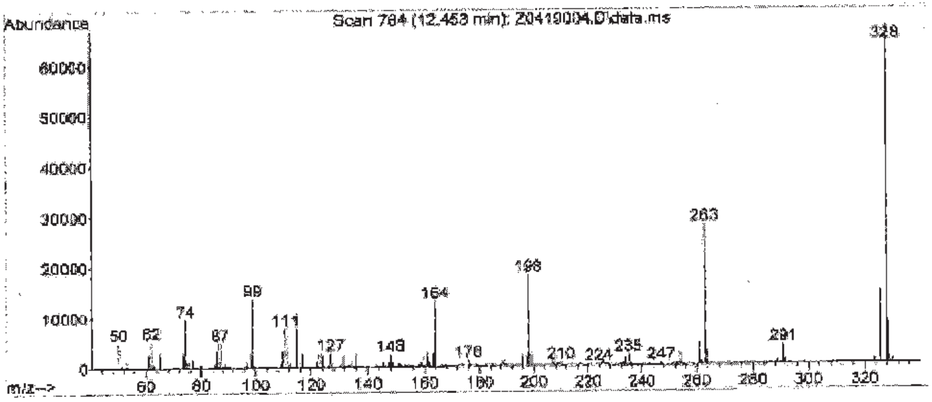
```
Compound Name         : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37Cl4
Lot Number            : ER040510-01
Instrument            : Agilent 5973N MSD/6890N GC
Operator-Inst ID      : RPC - C10106
Date Reported         : Mon Apr 19 13:23:09 2010
Column Type           : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program         : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.        : Cool on-column
Carrier Gas           : Helium
Flow Rate (mL\min)    : 0.80 mL/min
Transfer Line Temp.   : 280°C

Scan Range            : 50-550
```

Total Ion Chromatogram



Mass Spectrum



Reagent

HRDXNSU_00123

Cerilliant
Analytical Reference Standards
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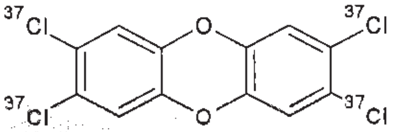
CIL

Revision 0
Page 1 of 4

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$



Catalog Number:	ED-907
Solution Lot:	ER05211501
Expiration Date:	July 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Shipping:	Ambient.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use:	Sonicate before use.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	**Solution Purity**	**Certified Concentration**
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$
Compound Lot:	ER040510-01
Chemical Formula:	$C_{12}H_4O_2{}^{37}Cl_4$
CAS Number:	85508-50-5
Molecular Weight:	328.02

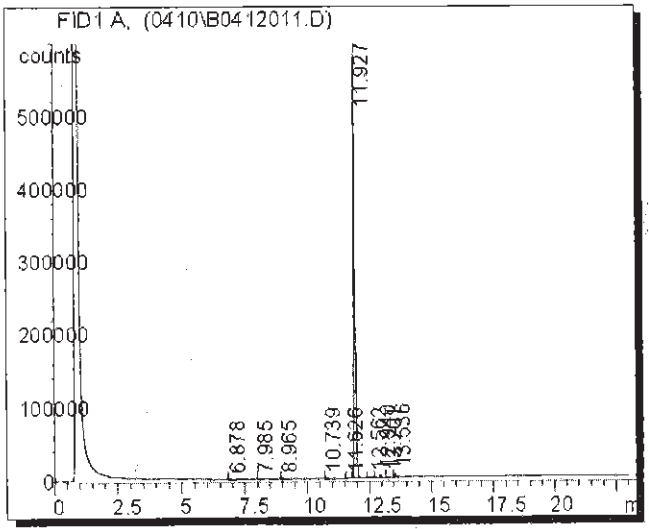
Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID



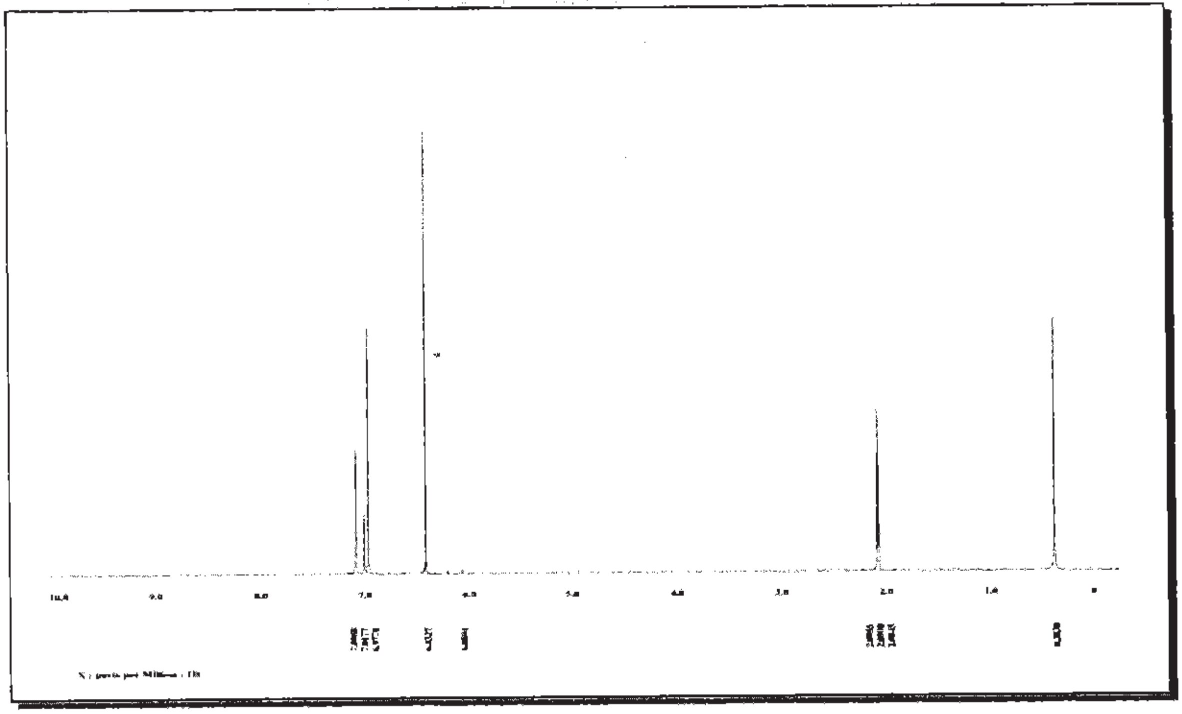
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: S:\GC\GC2\2010\0410\B0412011.D
Instrument: GC#2
Sample Name: ER040510-01
Acquired: April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.30	5038.43	0.63

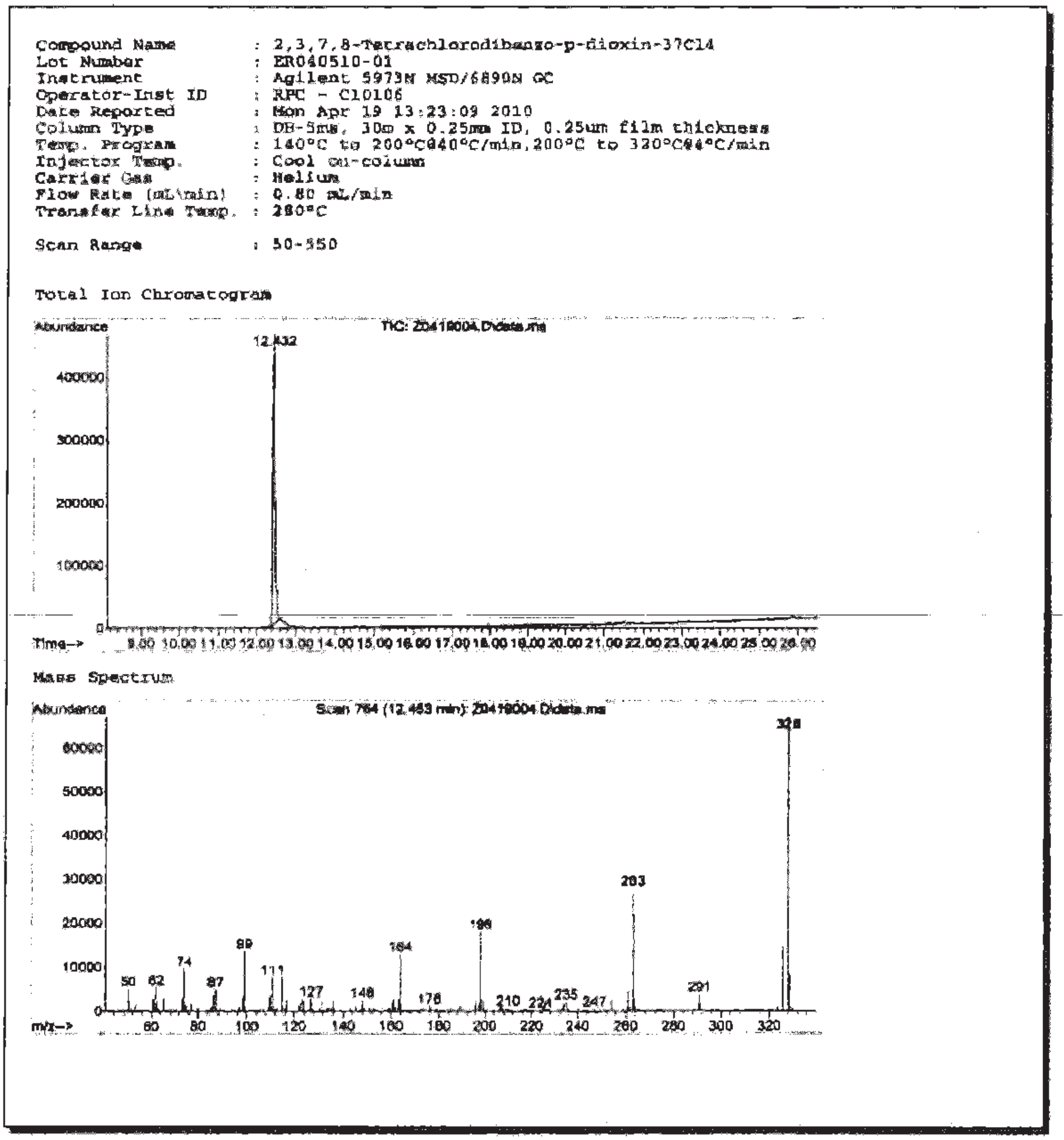
^{1}H NMR

Instrument: JEOL ECS 400
Solvent: Toluene-D_8



Spectral and Physical Data (cont.)

Identity by GC/MS Analysis



```
Compound Name          : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37Cl4
Lot Number             : ER040510-01
Instrument             : Agilent 5973N MSD/6890N GC
Operator-Inst ID       : RPC - C10106
Date Reported          : Mon Apr 19 13:23:09 2010
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 330°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C

Scan Range             : 50-550

Total Ion Chromatogram

Mass Spectrum
```

Reagent

HRDXNTA_00075

P. 2/17/17 SV

Cerilliant®
Analytical Reference Standards
a SIGMA-ALDRICH company

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-7999-10X
Solution Lot:	ER02241602
Expiration Date:	April 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/ECD
Column:	DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp:	Cool on-column
Detector Temp:	280°C

Calibration Curve

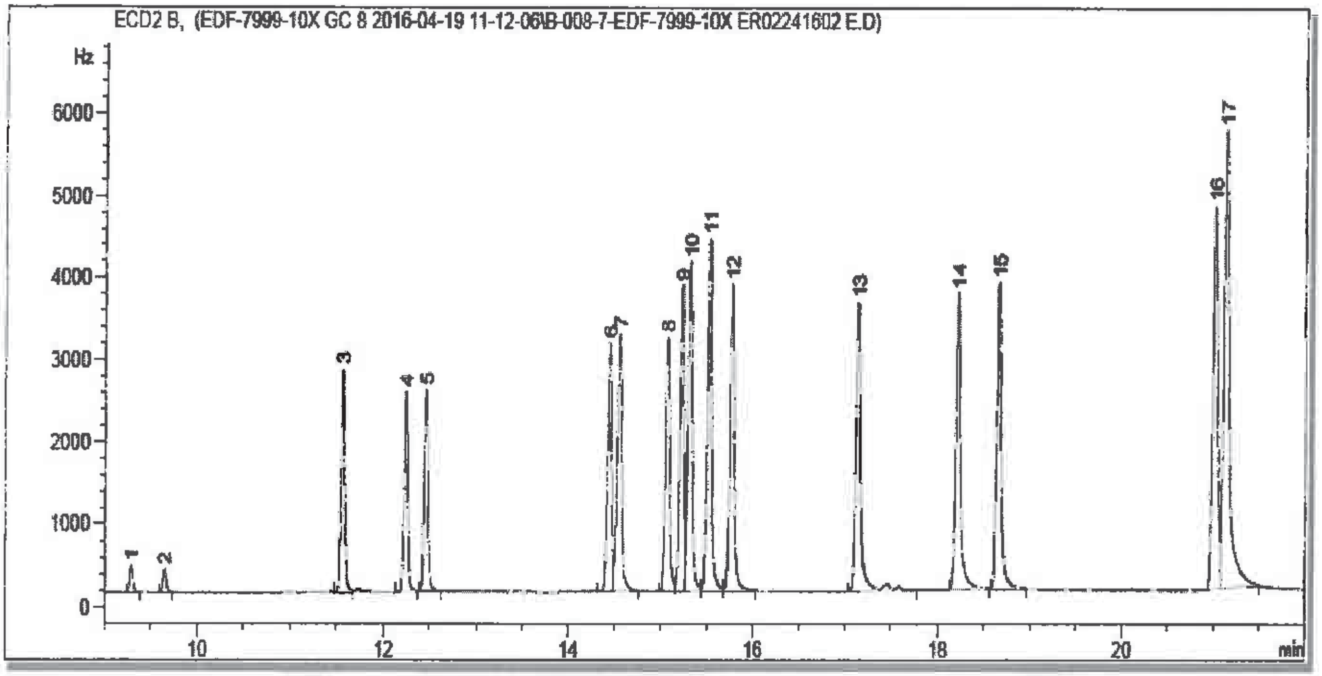
Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration		%RSD - Homogeneity	
	ng/mL	Acceptance Criteria	%	Acceptance Criteria
2,3,7,8-TeCDD	397.1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386.6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0.8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0.8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0.7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1,2,3,4,6,7,8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis



Peak:	**Analyte:**
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00076

P. 2/17/17 SV

Cerilliant®
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Revision 01
Page 1 of 4

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-7999-10X
Solution Lot:	ER02241602
Expiration Date:	April 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
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OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

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ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

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- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
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Injector Temp:	Cool on-column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

	Verified Concentration		%RSD - Homogeneity	
Compound	**ng/mL**	**Acceptance Criteria**	**%**	**Acceptance Criteria**
2,3,7,8-TeCDD	397.1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386.6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0.8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0.8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0.7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1,2,3,4,6,7,8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
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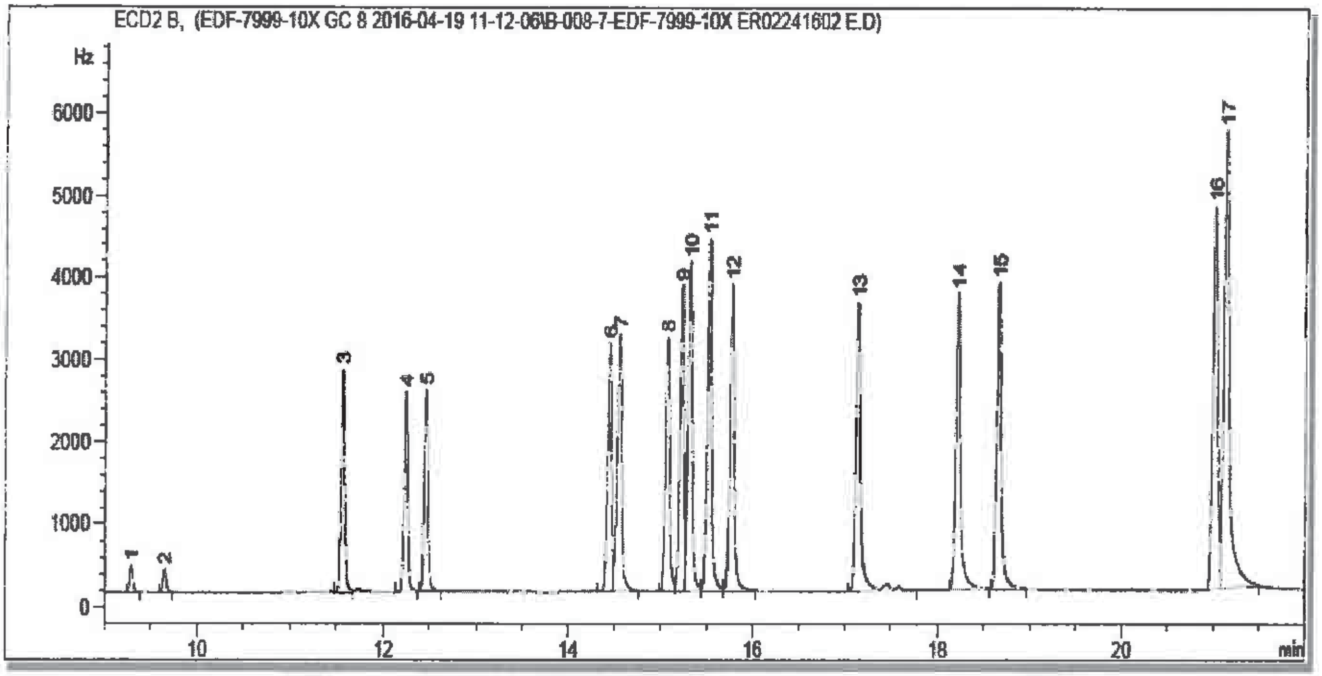
Product Analysis



Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Method 8290A

Dioxins and Furans (HRGC/HRMS) by Method 8290A

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Matrix: Solid
Level: Low
GC Column (1): DB-5
ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDD	#	PeCDF	#	PeCDD	#	HxCDF	#	HxDD	#	HpCDF	#	HpCDD	#	OCDD	#
SHAD041DP026SS02NS	160-24924-1	64		68		66		68		62		26	Q	54		45	
SHAD041DP026SS02NS RE	160-24924-1 RE	66		65		66		64		70		61		69		65	
SHAD041DP026SS03NS	160-24924-2	60		65		63		61		57		27	Q	53		43	
SHAD041DP026SS03NS RE	160-24924-2 RE	66		64		65		60		61		57		64		61	
SHAD041DP022SS01NS	160-24924-7	63		70		72		76		67		55		61		52	
SHAD041DP022SS01NS RE	160-24924-7 RE	68		65		66		69		69		42		63		58	
SHAD041DP022SS02NS	160-24924-8	72		81		80		86		72		48		64		52	
SHAD041DP022SS02NS RE	160-24924-8 RE	74		73		73		79		75		50		66		59	
SHAD041DP022SS03NS	160-24924-9	59		63		62		64		52		24	Q	42		29	Q
SHAD041DP022SS03NS RE	160-24924-9 RE	65		63		65		65		63		38	Q	55		47	
SHAD041DP022SS05NS RE	160-24924-11 RE	65		63		64		63		62		55		65		56	
SHAD041DP013SS01NS	160-24924-13	80		88		88		102		83		69		70		62	
SHAD041DP013SS02NS	160-24924-14	58		61		63		62		55		42		56		46	
SHAD041DP013SS02NS RE	160-24924-14 RE	63		62		62		73		63		38	Q	52		42	
SHAD041DP022SS03NS MS	160-24924-9 MS	58		65		62		72		58		26	Q	51		38	Q
SHAD041DP022SS03NS MS RE	160-24924-9 MS RE	61		61		62		62		63		47		61		58	
SHAD041DP022SS03NS MSD	160-24924-9 MSD	59		66		65		70		57		24	Q	49		38	Q
SHAD041DP022SS03NS MSD RE	160-24924-9 MSD RE	70		66		68		64		63		39	Q	50		36	Q

	QC LIMITS
TCDD = 13C-2,3,7,8-TCDD	40-135
PeCDF = 13C-1,2,3,7,8-PeCDF	40-135
PeCDD = 13C-1,2,3,7,8-PeCDD	40-135
HxCDF = 13C-1,2,3,4,7,8-HxCDF	40-135
HxDD = 13C-1,2,3,6,7,8-HxCDD	40-135
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	40-135
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	40-135
OCDD = 13C-OCDD	40-135

Column to be used to flag recovery values

FORM II 8290A

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low

GC Column (1): DB-225 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #
SHAD041DP026SS02NS RA	160-24924-1 RA	62
SHAD041DP026SS02NS RERA	160-24924-1 RERA	65
SHAD041DP026SS03NS RA	160-24924-2 RA	56
SHAD041DP026SS03NS RERA	160-24924-2 RERA	64
SHAD041DP022SS01NS RA	160-24924-7 RA	63
SHAD041DP022SS01NS RERA	160-24924-7 RERA	58
SHAD041DP022SS02NS RA	160-24924-8 RA	72
SHAD041DP022SS02NS RERA	160-24924-8 RERA	68
SHAD041DP022SS03NS RA	160-24924-9 RA	60
SHAD041DP022SS03NS RERA	160-24924-9 RERA	62
SHAD041DP022SS05NS RERA	160-24924-11 RERA	64
SHAD041DP013SS01NS RA	160-24924-13 RA	89
SHAD041DP013SS02NS RA	160-24924-14 RA	67
SHAD041DP013SS02NS RERA	160-24924-14 RERA	63
SHAD041DP022SS03NS MS RA	160-24924-9 MS RA	60
SHAD041DP022SS03NS MS RERA	160-24924-9 MS RERA	59
SHAD041DP022SS03NS MSD RA	160-24924-9 MSD RA	62
SHAD041DP022SS03NS MSD RERA	160-24924-9 MSD RERA	71

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	40-135

Column to be used to flag recovery values

FORM II 8290A

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF	#	TCDD	#	PeCDF	#	PeCDD	#	HxCDF	#	HxDD	#	HpCDF	#	HpCDD	#
SHAD041DP026SS04NS	160-24924-3	60		65		61		62		60		60		42		60	
SHAD041DP026SS04NS RE	160-24924-3 RE	64		64		68		69		63		61		57		66	
SHAD041DP026SS05NS	160-24924-4	61		53		57		55		52		47		26	Q	44	
SHAD041DP026SS05NS RE	160-24924-4 RE	59		59		60		60		57		58		49		57	
SHAD041DP026SS05DS	160-24924-5	74		69		80		78		84		71		40		72	
SHAD041DP026SS05DS RE	160-24924-5 RE	59		61		62		61		57		62		21	Q	57	
SHAD041DP026SS06NS	160-24924-6	62		58		62		61		57		53		32	Q	52	
SHAD041DP026SS06NS RE	160-24924-6 RE	70		71		68		69		67		66		63		65	
SHAD041DP022SS04NS	160-24924-10	62		56		66		65		68		57		27	Q	53	
SHAD041DP022SS04NS RE	160-24924-10 RE	54		54		53		54		54		54		49		55	
SHAD041DP022SS05NS	160-24924-11	61		55		61		60		58		48		37	Q	45	
SHAD041DP022SS06NS	160-24924-12	58		52		56		55		58		51		40		48	
SHAD041DP022SS06NS RE	160-24924-12 RE	64		63		62		63		58		57		49		53	
SHAD041DP013SS01NS RE	160-24924-13 RE	73		75		75		76		83		82		64		64	
SHAD041DP013SS03NS	160-24924-15	56		56		60		64		62		58		43		60	
SHAD041DP013SS03NS RE	160-24924-15 RE	62		64		65		64		66		59		23	Q	55	
SHAD041DP013SS04NS	160-24924-16	60		55		64		64		68		59		44		57	
SHAD041DP013SS04NS RE	160-24924-16 RE	64		64		64		61		61		61		46		61	
SHAD041DP013SS05NS	160-24924-17	56		51		59		59		61		51		46		54	
SHAD041DP013SS05NS RE	160-24924-17 RE	67		65		65		62		62		60		57		65	
SHAD041DP013SS05DS	160-24924-18	55		47		51		49		49		42		36	Q	40	
SHAD041DP013SS05DS RE	160-24924-18 RE	61		61		63		64		56		56		51		57	
SHAD041DP013SS06NS	160-24924-19	54		46		51		50		50		43		36	Q	41	
SHAD041DP013SS06NS RE	160-24924-19 RE	61		60		59		59		56		56		50		57	
	MB 320-189721/1-A	55		60		57		58		60		62		57		60	
	MB 320-195095/1-A	61		64		66		68		65		68		68		70	
	LCS 320-189721/2-A	53		51		56		55		59		53		49		56	
	LCS 320-195095/2-A	60		62		62		64		64		64		65		67	

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	40-135
TCDD = 13C-2,3,7,8-TCDD	40-135
PeCDF = 13C-1,2,3,7,8-PeCDF	40-135
PeCDD = 13C-1,2,3,7,8-PeCDD	40-135
HxCDF = 13C-1,2,3,4,7,8-HxCDF	40-135
HxDD = 13C-1,2,3,6,7,8-HxCDD	40-135
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	40-135
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	40-135

Column to be used to flag recovery values

FORM II 8290A

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento   Job No.: 160-24924-2

SDG No.:

Matrix: Solid   Level: Low

GC Column (1): DB-5   ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	PeCDF #	PeCDD #	HxCDF #	HxDD #	HpCDF #	HpCDD #
	LCSD 320-189721/3-A	57	54	62	62	65	61	56	61
	LCSD 320-195095/3-A	70	72	73	71	71	72	75	79

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	40-135
TCDD = 13C-2,3,7,8-TCDD	40-135
PeCDF = 13C-1,2,3,7,8-PeCDF	40-135
PeCDD = 13C-1,2,3,7,8-PeCDD	40-135
HxCDF = 13C-1,2,3,4,7,8-HxCDF	40-135
HxDD = 13C-1,2,3,6,7,8-HxCDD	40-135
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	40-135
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	40-135

Column to be used to flag recovery values

FORM II 8290A

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	OCDD	#
SHAD041DP026SS04NS	160-24924-3	52	
SHAD041DP026SS04NS RE	160-24924-3 RE	57	
SHAD041DP026SS05NS	160-24924-4	33	Q
SHAD041DP026SS05NS RE	160-24924-4 RE	51	
SHAD041DP026SS05DS	160-24924-5	62	
SHAD041DP026SS05DS RE	160-24924-5 RE	51	
SHAD041DP026SS06NS	160-24924-6	44	
SHAD041DP026SS06NS RE	160-24924-6 RE	55	
SHAD041DP022SS04NS	160-24924-10	44	
SHAD041DP022SS04NS RE	160-24924-10 RE	48	
SHAD041DP022SS05NS	160-24924-11	34	Q
SHAD041DP022SS06NS	160-24924-12	35	Q
SHAD041DP022SS06NS RE	160-24924-12 RE	43	
SHAD041DP013SS01NS RE	160-24924-13 RE	57	
SHAD041DP013SS03NS	160-24924-15	54	
SHAD041DP013SS03NS RE	160-24924-15 RE	50	
SHAD041DP013SS04NS	160-24924-16	48	
SHAD041DP013SS04NS RE	160-24924-16 RE	52	
SHAD041DP013SS05NS	160-24924-17	42	
SHAD041DP013SS05NS RE	160-24924-17 RE	55	
SHAD041DP013SS05DS	160-24924-18	30	Q
SHAD041DP013SS05DS RE	160-24924-18 RE	51	
SHAD041DP013SS06NS	160-24924-19	30	Q
SHAD041DP013SS06NS RE	160-24924-19 RE	48	
	MB 320-189721/1-A	53	
	MB 320-195095/1-A	67	
	LCS 320-189721/2-A	47	
	LCS 320-195095/2-A	66	

	QC LIMITS
OCDD = 13C-OCDD	40-135

Column to be used to flag recovery values

FORM II 8290A

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	OCDD #
	LCSD 320-189721/3-A	53
	LCSD 320-195095/3-A	75

	QC LIMITS
OCDD = 13C-OCDD	40-135

Column to be used to flag recovery values

FORM II 8290A

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low Lab File ID: 09NO1710D5_57.d

Lab ID: LCS 320-189721/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/g)	LCS CONCENTRATION (pg/g)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	20.0	20.0	100	70-128	
2,3,7,8-TCDF	20.0	20.3	101	75-135	
1,2,3,7,8-PeCDD	100	106	106	74-125	
1,2,3,7,8-PeCDF	100	106	106	77-131	
2,3,4,7,8-PeCDF	100	109	109	75-128	
1,2,3,4,7,8-HxCDD	100	115	115	72-131	
1,2,3,6,7,8-HxCDD	100	104	104	74-134	
1,2,3,7,8,9-HxCDD	100	104	104	71-138	
1,2,3,4,7,8-HxCDF	100	103	103	77-130	
1,2,3,6,7,8-HxCDF	100	98.6	99	73-134	
1,2,3,7,8,9-HxCDF	100	93.8	94	74-135	
2,3,4,6,7,8-HxCDF	100	101	101	74-133	
1,2,3,4,6,7,8-HpCDD	100	103	103	76-125	
1,2,3,4,6,7,8-HpCDF	100	108	108	73-135	
1,2,3,4,7,8,9-HpCDF	100	112	112	72-131	
OCDD	200	204	102	73-135	
OCDF	200	217	108	66-144	
13C-2,3,7,8-TCDD	200	102	51	40-135	
13C-2,3,7,8-TCDF	200	106	53	40-135	
13C-1,2,3,7,8-PeCDD	200	111	55	40-135	
13C-1,2,3,7,8-PeCDF	200	112	56	40-135	
13C-1,2,3,6,7,8-HxCDD	200	106	53	40-135	
13C-1,2,3,4,7,8-HxCDF	200	118	59	40-135	
13C-1,2,3,4,6,7,8-HpCDD	200	112	56	40-135	
13C-1,2,3,4,6,7,8-HpCDF	200	98.0	49	40-135	
13C-OCDD	400	188	47	40-135	

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Matrix: Solid Level: Low	Lab File ID: 16NO173D5_58.d
Lab ID: LCS 320-195095/2-A	Client ID:

COMPOUND	SPIKE ADDED (pg/g)	LCS CONCENTRATION (pg/g)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	20.0	18.2	91	70-128	
2,3,7,8-TCDF	20.0	17.9	89	75-135	
1,2,3,7,8-PeCDD	100	92.2	92	74-125	
1,2,3,7,8-PeCDF	100	93.7	94	77-131	
2,3,4,7,8-PeCDF	100	93.9	94	75-128	
1,2,3,4,7,8-HxCDD	100	93.2	93	72-131	
1,2,3,6,7,8-HxCDD	100	95.2	95	74-134	
1,2,3,7,8,9-HxCDD	100	96.5	96	71-138	
1,2,3,4,7,8-HxCDF	100	97.3	97	77-130	
1,2,3,6,7,8-HxCDF	100	97.2	97	73-134	
1,2,3,7,8,9-HxCDF	100	95.4	95	74-135	
2,3,4,6,7,8-HxCDF	100	98.3	98	74-133	
1,2,3,4,6,7,8-HpCDD	100	96.3	96	76-125	
1,2,3,4,6,7,8-HpCDF	100	97.2	97	73-135	
1,2,3,4,7,8,9-HpCDF	100	96.6	97	72-131	
OCDD	200	191	96	73-135	
OCDF	200	178	89	66-144	
13C-2,3,7,8-TCDD	200	125	62	40-135	
13C-2,3,7,8-TCDF	200	120	60	40-135	
13C-1,2,3,7,8-PeCDD	200	129	64	40-135	
13C-1,2,3,7,8-PeCDF	200	125	62	40-135	
13C-1,2,3,6,7,8-HxCDD	200	128	64	40-135	
13C-1,2,3,4,7,8-HxCDF	200	127	64	40-135	
13C-1,2,3,4,6,7,8-HpCDD	200	134	67	40-135	
13C-1,2,3,4,6,7,8-HpCDF	200	130	65	40-135	
13C-OCDD	400	264	66	40-135	

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Matrix: Solid
Level: Low
Lab File ID: 09NO1710D5_58.d
Lab ID: LCSD 320-189721/3-A
Client ID:

COMPOUND	SPIKE ADDED (pg/g)	LCSD CONCENTRATION (pg/g)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2,3,7,8-TCDD	20.0	21.3	107	6	20	70-128	
2,3,7,8-TCDF	20.0	20.8	104	2	20	75-135	
1,2,3,7,8-PeCDD	100	106	106	0	20	74-125	
1,2,3,7,8-PeCDF	100	106	106	0	20	77-131	
2,3,4,7,8-PeCDF	100	109	109	1	20	75-128	
1,2,3,4,7,8-HxCDD	100	111	111	4	20	72-131	
1,2,3,6,7,8-HxCDD	100	98.9	99	5	20	74-134	
1,2,3,7,8,9-HxCDD	100	100	100	4	20	71-138	
1,2,3,4,7,8-HxCDF	100	104	104	1	20	77-130	
1,2,3,6,7,8-HxCDF	100	98.5	98	0	20	73-134	
1,2,3,7,8,9-HxCDF	100	93.4	93	0	20	74-135	
2,3,4,6,7,8-HxCDF	100	102	102	1	20	74-133	
1,2,3,4,6,7,8-HpCDD	100	102	102	0	20	76-125	
1,2,3,4,6,7,8-HpCDF	100	105	105	3	20	73-135	
1,2,3,4,7,8,9-HpCDF	100	110	110	1	20	72-131	
OCDD	200	204	102	0	20	73-135	
OCDF	200	213	107	2	20	66-144	
13C-2,3,7,8-TCDD	200	109	54			40-135	
13C-2,3,7,8-TCDF	200	114	57			40-135	
13C-1,2,3,7,8-PeCDD	200	125	62			40-135	
13C-1,2,3,7,8-PeCDF	200	124	62			40-135	
13C-1,2,3,6,7,8-HxCDD	200	122	61			40-135	
13C-1,2,3,4,7,8-HxCDF	200	130	65			40-135	
13C-1,2,3,4,6,7,8-HpCDD	200	123	61			40-135	
13C-1,2,3,4,6,7,8-HpCDF	200	113	56			40-135	
13C-OCDD	400	214	53			40-135	

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low Lab File ID: 16NO173D5_59.d

Lab ID: LCSD 320-195095/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/g)	LCSD CONCENTRATION (pg/g)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2,3,7,8-TCDD	20.0	18.2	91	0	20	70-128	
2,3,7,8-TCDF	20.0	17.7	89	1	20	75-135	
1,2,3,7,8-PeCDD	100	95.1	95	3	20	74-125	
1,2,3,7,8-PeCDF	100	89.4	89	5	20	77-131	
2,3,4,7,8-PeCDF	100	91.0	91	3	20	75-128	
1,2,3,4,7,8-HxCDD	100	93.8	94	1	20	72-131	
1,2,3,6,7,8-HxCDD	100	95.3	95	0	20	74-134	
1,2,3,7,8,9-HxCDD	100	96.7	97	0	20	71-138	
1,2,3,4,7,8-HxCDF	100	93.7	94	4	20	77-130	
1,2,3,6,7,8-HxCDF	100	96.5	97	1	20	73-134	
1,2,3,7,8,9-HxCDF	100	94.9	95	1	20	74-135	
2,3,4,6,7,8-HxCDF	100	95.4	95	3	20	74-133	
1,2,3,4,6,7,8-HpCDD	100	92.3	92	4	20	76-125	
1,2,3,4,6,7,8-HpCDF	100	95.3	95	2	20	73-135	
1,2,3,4,7,8,9-HpCDF	100	96.1	96	1	20	72-131	
OCDD	200	198	99	3	20	73-135	
OCDF	200	192	96	7	20	66-144	
13C-2,3,7,8-TCDD	200	144	72			40-135	
13C-2,3,7,8-TCDF	200	141	70			40-135	
13C-1,2,3,7,8-PeCDD	200	143	71			40-135	
13C-1,2,3,7,8-PeCDF	200	147	73			40-135	
13C-1,2,3,6,7,8-HxCDD	200	144	72			40-135	
13C-1,2,3,4,7,8-HxCDF	200	142	71			40-135	
13C-1,2,3,4,6,7,8-HpCDD	200	158	79			40-135	
13C-1,2,3,4,6,7,8-HpCDF	200	150	75			40-135	
13C-OCDD	400	302	75			40-135	

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento   Job No.: 160-24924-2

SDG No.:

Matrix: Solid   Level: Low   Lab File ID: 07NO179D2_014.d

Lab ID: 160-24924-9 MS RA   Client ID: SHAD041DP022SS03NS MS RA

COMPOUND	SPIKE ADDED (pg/g)	SAMPLE CONCENTRATION (pg/g)	MS CONCENTRATION (pg/g)	MS % REC	QC LIMITS REC	#
2,3,7,8-TCDF	20.3	1.3	23.5	110	75-135	M
13C-2,3,7,8-TCDF	203	120	121	60	40-135	

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low Lab File ID: 09NO1710D5_73.d

Lab ID: 160-24924-9 MS Client ID: SHAD041DP022SS03NS MS

COMPOUND	SPIKE ADDED (pg/g)	SAMPLE CONCENTRATION (pg/g)	MS CONCENTRATION (pg/g)	MS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	20.3	0.41 U	20.5	101	70-128	
1,2,3,7,8-PeCDD	102	0.60 J	105	102	74-125	
1,2,3,7,8-PeCDF	102	0.56 J	101	99	77-131	
2,3,4,7,8-PeCDF	102	0.94 J	105	102	75-128	
1,2,3,4,7,8-HxCDD	102	0.73 J	122	119	72-131	
1,2,3,6,7,8-HxCDD	102	3.0 J	107	102	74-134	
1,2,3,7,8,9-HxCDD	102	2.3 J	98.5	95	71-138	
1,2,3,4,7,8-HxCDF	102	0.56 J	102	100	77-130	
1,2,3,6,7,8-HxCDF	102	1.3 J	91.4	89	73-134	
1,2,3,7,8,9-HxCDF	102	1.0 U	83.4	82	74-135	
2,3,4,6,7,8-HxCDF	102	0.83 J	92.1	90	74-133	
1,2,3,4,6,7,8-HpCDD	102	25	123	96	76-125	
1,2,3,4,6,7,8-HpCDF	102	42	107	64	73-135	J
1,2,3,4,7,8,9-HpCDF	102	2.0 U	152	149	72-131	J
OCDD	203	100	280	87	73-135	
OCDF	203	25	217	95	66-144	
13C-2,3,7,8-TCDD	203	120	118	58	40-135	
13C-1,2,3,7,8-PeCDD	203	130	127	62	40-135	
13C-1,2,3,7,8-PeCDF	203	130	132	65	40-135	
13C-1,2,3,6,7,8-HxCDD	203	110	117	58	40-135	
13C-1,2,3,4,7,8-HxCDF	203	130	146	72	40-135	
13C-1,2,3,4,6,7,8-HpCDD	203	86	103	51	40-135	
13C-1,2,3,4,6,7,8-HpCDF	203	48	53.7	26	40-135	Q
13C-OCDD	406	120	154	38	40-135	Q

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low Lab File ID: 16NO173D5_74.d

Lab ID: 160-24924-9 MS RE Client ID: SHAD041DP022SS03NS MS RE

COMPOUND	SPIKE ADDED (pg/g)	SAMPLE CONCENTRATION (pg/g)	MS CONCENTRATION (pg/g)	MS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	20.1	0.40 U	19.2	96	70-128	H
1,2,3,7,8-PeCDD	101	0.42 J	96.0	95	74-125	H
1,2,3,7,8-PeCDF	101	0.77 J	96.5	95	77-131	H
2,3,4,7,8-PeCDF	101	0.75 J	96.6	95	75-128	H
1,2,3,4,7,8-HxCDD	101	0.49 J	97.6	97	72-131	H
1,2,3,6,7,8-HxCDD	101	2.8 J	104	100	74-134	H
1,2,3,7,8,9-HxCDD	101	2.0 J	97.1	95	71-138	H
1,2,3,4,7,8-HxCDF	101	1.3 J	101	99	77-130	H
1,2,3,6,7,8-HxCDF	101	1.4 J	99.9	98	73-134	H
1,2,3,7,8,9-HxCDF	101	1.0 U	95.6	95	74-135	H
2,3,4,6,7,8-HxCDF	101	0.72 J	101	100	74-133	H
1,2,3,4,6,7,8-HpCDD	101	23	160	136	76-125	H J
1,2,3,4,6,7,8-HpCDF	101	46	125	79	73-135	H
1,2,3,4,7,8,9-HpCDF	101	2.0 U	123	123	72-131	H
OCDD	201	110	809	350	73-135	H J
OCDF	201	23	244	110	66-144	H
13C-2,3,7,8-TCDD	201	130	124	61	40-135	
13C-1,2,3,7,8-PeCDD	201	130	125	62	40-135	
13C-1,2,3,7,8-PeCDF	201	130	123	61	40-135	
13C-1,2,3,6,7,8-HxCDD	201	130	126	63	40-135	
13C-1,2,3,4,7,8-HxCDF	201	130	126	62	40-135	
13C-1,2,3,4,6,7,8-HpCDD	201	110	122	61	40-135	
13C-1,2,3,4,6,7,8-HpCDF	201	77	94.5	47	40-135	
13C-OCDD	402	190	234	58	40-135	

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low Lab File ID: 05DE179D2_009.d

Lab ID: 160-24924-9 MS RERA Client ID: SHAD041DP022SS03NS MS RERA

COMPOUND	SPIKE ADDED (pg/g)	SAMPLE CONCENTRATION (pg/g)	MS CONCENTRATION (pg/g)	MS % REC	QC LIMITS REC	#
2,3,7,8-TCDF	20.1	0.43 J	20.2	98	75-135	H
13C-2,3,7,8-TCDF	201	130	119	59	40-135	

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low Lab File ID: 07NO179D2_015.d

Lab ID: 160-24924-9 MSD RA Client ID: SHAD041DP022SS03NS MSD RA

COMPOUND	SPIKE ADDED (pg/g)	MSD CONCENTRATION (pg/g)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDF	20.4	23.5	109	0	20	75-135	M
13C-2,3,7,8-TCDF	204	126	62			40-135	

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low Lab File ID: 09NO1710D5_74.d

Lab ID: 160-24924-9 MSD Client ID: SHAD041DP022SS03NS MSD

COMPOUND	SPIKE ADDED (pg/g)	MSD CONCENTRATION (pg/g)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2,3,7,8-TCDD	20.4	20.9	102	2	20	70-128	
1,2,3,7,8-PeCDD	102	104	102	0	20	74-125	
1,2,3,7,8-PeCDF	102	99.5	97	2	20	77-131	
2,3,4,7,8-PeCDF	102	107	104	2	20	75-128	
1,2,3,4,7,8-HxCDD	102	117	114	4	20	72-131	
1,2,3,6,7,8-HxCDD	102	105	100	2	20	74-134	
1,2,3,7,8,9-HxCDD	102	97.1	93	1	20	71-138	
1,2,3,4,7,8-HxCDF	102	99.8	97	3	20	77-130	
1,2,3,6,7,8-HxCDF	102	89.8	87	2	20	73-134	
1,2,3,7,8,9-HxCDF	102	85.5	84	2	20	74-135	
2,3,4,6,7,8-HxCDF	102	92.4	90	0	20	74-133	
1,2,3,4,6,7,8-HpCDD	102	117	90	5	20	76-125	
1,2,3,4,6,7,8-HpCDF	102	107	63	0	20	73-135	J
1,2,3,4,7,8,9-HpCDF	102	158	155	4	20	72-131	J
OCDD	204	259	76	8	20	73-135	
OCDF	204	199	86	9	20	66-144	
13C-2,3,7,8-TCDD	204	120	59			40-135	
13C-1,2,3,7,8-PeCDD	204	132	65			40-135	
13C-1,2,3,7,8-PeCDF	204	135	66			40-135	
13C-1,2,3,6,7,8-HxCDD	204	116	57			40-135	
13C-1,2,3,4,7,8-HxCDF	204	142	70			40-135	
13C-1,2,3,4,6,7,8-HpCDD	204	100	49			40-135	
13C-1,2,3,4,6,7,8-HpCDF	204	49.9	24			40-135	Q
13C-OCDD	408	157	38			40-135	Q

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Matrix: Solid Level: Low Lab File ID: 16NO173D5_75.d

Lab ID: 160-24924-9 MSD RE Client ID: SHAD041DP022SS03NS MSD RE

COMPOUND	SPIKE ADDED (pg/g)	MSD CONCENTRATION (pg/g)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2,3,7,8-TCDD	20.7	19.6	94	2	20	70-128	H
1,2,3,7,8-PeCDD	104	96.1	92	0	20	74-125	H
1,2,3,7,8-PeCDF	104	98.8	94	2	20	77-131	M H
2,3,4,7,8-PeCDF	104	104	100	7	20	75-128	H
1,2,3,4,7,8-HxCDD	104	95.2	91	3	20	72-131	H
1,2,3,6,7,8-HxCDD	104	102	96	1	20	74-134	H
1,2,3,7,8,9-HxCDD	104	90.6	85	7	20	71-138	H
1,2,3,4,7,8-HxCDF	104	101	96	0	20	77-130	H
1,2,3,6,7,8-HxCDF	104	102	97	2	20	73-134	H
1,2,3,7,8,9-HxCDF	104	97.4	94	2	20	74-135	H
2,3,4,6,7,8-HxCDF	104	100	96	1	20	74-133	H
1,2,3,4,6,7,8-HpCDD	104	129	103	21	20	76-125	H J
1,2,3,4,6,7,8-HpCDF	104	126	77	1	20	73-135	H
1,2,3,4,7,8,9-HpCDF	104	126	122	2	20	72-131	H
OCDD	207	495	188	48	20	73-135	H J
OCDF	207	213	92	13	20	66-144	H
13C-2,3,7,8-TCDD	207	145	70			40-135	
13C-1,2,3,7,8-PeCDD	207	140	68			40-135	
13C-1,2,3,7,8-PeCDF	207	137	66			40-135	
13C-1,2,3,6,7,8-HxCDD	207	131	63			40-135	
13C-1,2,3,4,7,8-HxCDF	207	132	64			40-135	
13C-1,2,3,4,6,7,8-HpCDD	207	104	50			40-135	
13C-1,2,3,4,6,7,8-HpCDF	207	79.9	39			40-135	Q
13C-OCDD	415	148	36			40-135	Q

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM III
DIOXIN MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Matrix: Solid

Level: Low

Lab File ID: 05DE179D2_010.d

Lab ID: 160-24924-9 MSD RERA

Client ID: SHAD041DP022SS03NS MSD RERA

COMPOUND	SPIKE ADDED (pg/g)	MSD CONCENTRATION (pg/g)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2,3,7,8-TCDF	20.7	20.1	95	1	20	75-135	H
13C-2,3,7,8-TCDF	207	147	71			40-135	

Column to be used to flag recovery and RPD values

FORM III 8290A

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab File ID: 13NO1710D5_17.d

Lab Sample ID: MB 320-189721/1-A

Matrix: Solid

Date Extracted: 10/17/2017 11:29

Instrument ID: 10D5

Date Analyzed: 11/14/2017 01:05

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
SHAD041DP026SS02NS RA	160-24924-1 RA	07NO179D2_005.d	11/07/2017 12:41
SHAD041DP026SS03NS RA	160-24924-2 RA	07NO179D2_006.d	11/07/2017 13:18
SHAD041DP022SS01NS RA	160-24924-7 RA	07NO179D2_011.d	11/07/2017 16:28
SHAD041DP022SS02NS RA	160-24924-8 RA	07NO179D2_012.d	11/07/2017 17:05
SHAD041DP022SS03NS RA	160-24924-9 RA	07NO179D2_013.d	11/07/2017 17:43
SHAD041DP022SS03NS MS RA	160-24924-9 MS RA	07NO179D2_014.d	11/07/2017 18:21
SHAD041DP022SS03NS MSD RA	160-24924-9 MSD RA	07NO179D2_015.d	11/07/2017 18:59
SHAD041DP013SS01NS RA	160-24924-13 RA	07NO17A9D2_006.d	11/08/2017 01:57
SHAD041DP013SS02NS RA	160-24924-14 RA	07NO17A9D2_007.d	11/08/2017 02:35
	LCS 320-189721/2-A	09NO1710D5_57.d	11/11/2017 05:20
	LCSD 320-189721/3-A	09NO1710D5_58.d	11/11/2017 06:06
SHAD041DP026SS02NS	160-24924-1	09NO1710D5_59.d	11/11/2017 06:52
SHAD041DP026SS03NS	160-24924-2	09NO1710D5_60.d	11/11/2017 07:38
SHAD041DP026SS05NS	160-24924-4	09NO1710D5_62.d	11/11/2017 09:10
SHAD041DP026SS05DS	160-24924-5	09NO1710D5_63.d	11/11/2017 09:56
SHAD041DP026SS06NS	160-24924-6	09NO1710D5_69.d	11/11/2017 15:03
SHAD041DP022SS01NS	160-24924-7	09NO1710D5_70.d	11/11/2017 15:49
SHAD041DP022SS02NS	160-24924-8	09NO1710D5_71.d	11/11/2017 16:35
SHAD041DP022SS03NS	160-24924-9	09NO1710D5_72.d	11/11/2017 17:21
SHAD041DP022SS03NS MS	160-24924-9 MS	09NO1710D5_73.d	11/11/2017 18:07
SHAD041DP022SS03NS MSD	160-24924-9 MSD	09NO1710D5_74.d	11/11/2017 18:54
SHAD041DP022SS04NS	160-24924-10	09NO1710D5_75.d	11/11/2017 19:40

FORM IV 8290A

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab File ID: 13NO1710D5_17.d

Lab Sample ID: MB 320-189721/1-A

Matrix: Solid

Date Extracted: 10/17/2017 11:29

Instrument ID: 10D5

Date Analyzed: 11/14/2017 01:05

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
SHAD041DP022SS05NS	160-24924-11	09NO1710D5_76.d	11/11/2017 20:26
SHAD041DP022SS06NS	160-24924-12	09NO1710D5_82.d	11/12/2017 01:33
SHAD041DP013SS01NS	160-24924-13	09NO1710D5_83.d	11/12/2017 02:19
SHAD041DP013SS04NS	160-24924-16	09NO1710D5_86.d	11/12/2017 04:37
SHAD041DP013SS05NS	160-24924-17	09NO1710D5_87.d	11/12/2017 05:23
SHAD041DP013SS05DS	160-24924-18	09NO1710D5_88.d	11/12/2017 06:09
SHAD041DP013SS06NS	160-24924-19	09NO1710D5_89.d	11/12/2017 06:56
SHAD041DP026SS04NS	160-24924-3	13NO1710D5_20.d	11/14/2017 03:24
SHAD041DP013SS02NS	160-24924-14	13NO1710D5_34.d	11/14/2017 14:54
SHAD041DP013SS03NS	160-24924-15	13NO1710D5_35.d	11/14/2017 15:40

FORM IV 8290A

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab File ID: 16NO173D5_57.d Lab Sample ID: MB 320-195095/1-A

Matrix: Solid Date Extracted: 11/16/2017 11:16

Instrument ID: 3D5 Date Analyzed: 11/18/2017 15:25

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-195095/2-A	16NO173D5_58.d	11/18/2017 16:13
	LCSD 320-195095/3-A	16NO173D5_59.d	11/18/2017 17:02
SHAD041DP026SS02NS RE	160-24924-1 RE	16NO173D5_60.d	11/18/2017 17:50
SHAD041DP026SS03NS RE	160-24924-2 RE	16NO173D5_61.d	11/18/2017 18:39
SHAD041DP026SS04NS RE	160-24924-3 RE	16NO173D5_62.d	11/18/2017 19:27
SHAD041DP026SS05NS RE	160-24924-4 RE	16NO173D5_63.d	11/18/2017 20:16
SHAD041DP026SS05DS RE	160-24924-5 RE	16NO173D5_64.d	11/18/2017 21:04
SHAD041DP026SS06NS RE	160-24924-6 RE	16NO173D5_70.d	11/19/2017 02:26
SHAD041DP022SS01NS RE	160-24924-7 RE	16NO173D5_71.d	11/19/2017 03:14
SHAD041DP022SS02NS RE	160-24924-8 RE	16NO173D5_72.d	11/19/2017 04:03
SHAD041DP022SS03NS RE	160-24924-9 RE	16NO173D5_73.d	11/19/2017 04:51
SHAD041DP022SS03NS MS RE	160-24924-9 MS RE	16NO173D5_74.d	11/19/2017 05:40
SHAD041DP022SS03NS MSD RE	160-24924-9 MSD RE	16NO173D5_75.d	11/19/2017 06:28
SHAD041DP022SS04NS RE	160-24924-10 RE	16NO173D5_76.d	11/19/2017 07:17
SHAD041DP022SS05NS RE	160-24924-11 RE	16NO173D5_77.d	11/19/2017 08:05
SHAD041DP022SS06NS RE	160-24924-12 RE	16NO173D5_83.d	11/19/2017 13:26
SHAD041DP013SS01NS RE	160-24924-13 RE	16NO173D5_84.d	11/19/2017 14:15
SHAD041DP013SS02NS RE	160-24924-14 RE	16NO173D5_85.d	11/19/2017 15:03
SHAD041DP013SS03NS RE	160-24924-15 RE	16NO173D5_86.d	11/19/2017 15:52
SHAD041DP013SS04NS RE	160-24924-16 RE	16NO173D5_87.d	11/19/2017 16:41
SHAD041DP013SS05NS RE	160-24924-17 RE	16NO173D5_88.d	11/19/2017 17:29
SHAD041DP013SS05DS RE	160-24924-18 RE	16NO173D5_89.d	11/19/2017 18:18

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab File ID: 16NO173D5_57.d Lab Sample ID: MB 320-195095/1-A

Matrix: Solid Date Extracted: 11/16/2017 11:16

Instrument ID: 3D5 Date Analyzed: 11/18/2017 15:25

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
SHAD041DP013SS06NS RE	160-24924-19 RE	16NO173D5_90.d	11/19/2017 19:06
SHAD041DP026SS02NS RERA	160-24924-1 RERA	05DE179D2_004.d	12/05/2017 13:27
SHAD041DP026SS03NS RERA	160-24924-2 RERA	05DE179D2_005.d	12/05/2017 14:05
SHAD041DP022SS01NS RERA	160-24924-7 RERA	05DE179D2_006.d	12/05/2017 14:43
SHAD041DP022SS02NS RERA	160-24924-8 RERA	05DE179D2_007.d	12/05/2017 15:21
SHAD041DP022SS03NS RERA	160-24924-9 RERA	05DE179D2_008.d	12/05/2017 15:58
SHAD041DP022SS03NS MS RERA	160-24924-9 MS RERA	05DE179D2_009.d	12/05/2017 16:36
SHAD041DP022SS03NS MSD RERA	160-24924-9 MSD RERA	05DE179D2_010.d	12/05/2017 17:14
SHAD041DP022SS05NS RERA	160-24924-11 RERA	05DE179D2_011.d	12/05/2017 17:52
SHAD041DP013SS02NS RERA	160-24924-14 RERA	05DE179D2_013.d	12/05/2017 19:08

FORM IV 8290A

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP026SS02NS RA

Lab Sample ID: 160-24924-1 RA

Matrix: Solid

Lab File ID: 07NO179D2_005.d

Analysis Method: 8290A

Date Collected: 10/05/2017 16:04

Extract. Method: 8290

Date Extracted: 10/17/2017 11:29

Sample wt/vol: 10.03(g)

Date Analyzed: 11/07/2017 12:41

Con. Extract Vol.: 20.00(uL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 1.4

GPC Cleanup:(Y/N) N

Analysis Batch No.: 193317

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	2,3,7,8-TCDF	12		1.0	0.40	0.65

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	62		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_005.d
Lims ID: 160-24924-G-1-A
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 07-Nov-2017 12:41:04 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-1-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:40:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.022	415350529	0.79	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.147	322111637	0.79	1.2599	61.6	61.6	0.1743	0.1743	61.56	
2,3,7,8-TCDF	16.174	20880960	0.78	1.0784	6.011	6.011	0.3197	0.3197		
D 13C-2,3,7,8-TCDD	14.747	250239979	0.78	0.9567	63.0	63.0	0.3832	0.3832	62.97	
2,3,7,8-TCDD	14.789	23593403	0.75	1.1123	8.476	8.476	0.1546	0.1546		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Report Date: 09-Nov-2017 16:51:20 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_005.d
Lims ID: 160-24924-G-1-A
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 07-Nov-2017 12:41:04 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-1-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:40:21

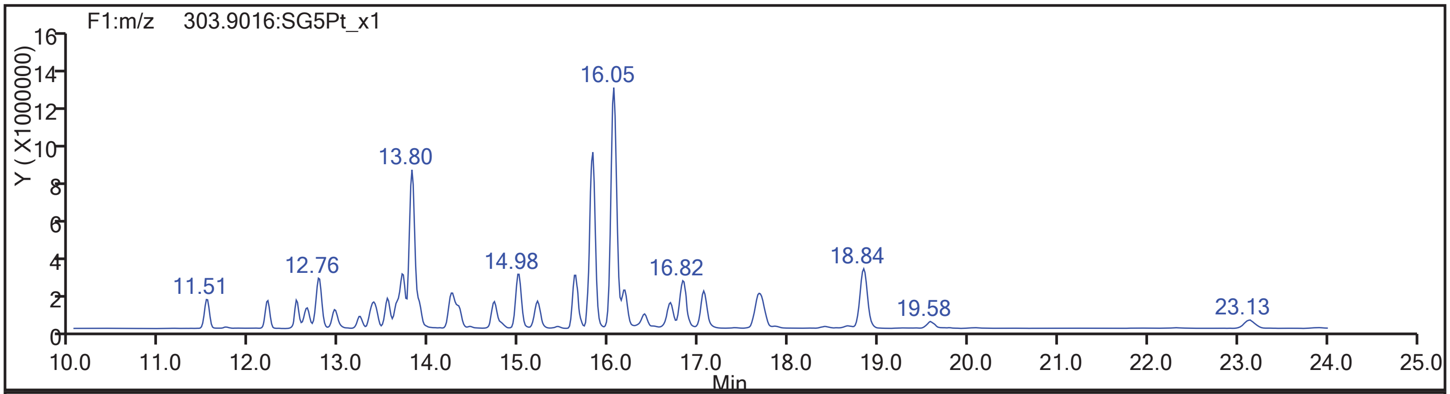
Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.022	14.991	2		183458312	40053591	87583	218957	457		
333.9339	15.022	14.991	2		231892217	50715481	45537	113842	1114	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.147	16.130	1	1.075	141686648	28519612	42077	105192	678		
317.9389	16.147	16.130	1	1.075	180424989	37098769	37653	94132	985	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.174	16.144	2	1.002	9177205	2045984	42124	105310	49		
305.8987	16.160	16.144	1	1.001	11703755	2751110	48381	120952	57	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.747	14.731	1	0.982	109467779	24559901	87583	218957	280		
333.9339	14.747	14.731	1	0.982	140772200	31065401	45537	113842	682	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.789	14.744	3	1.003	10143452	1503314	15080	37700	100		
321.8936	14.789	14.744	3	1.003	13449951	2005700	23181	57952	87	0.75(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				42124	105310			
Total Dioxins & Furans											
303.9016		0.0	0				42124	105310			

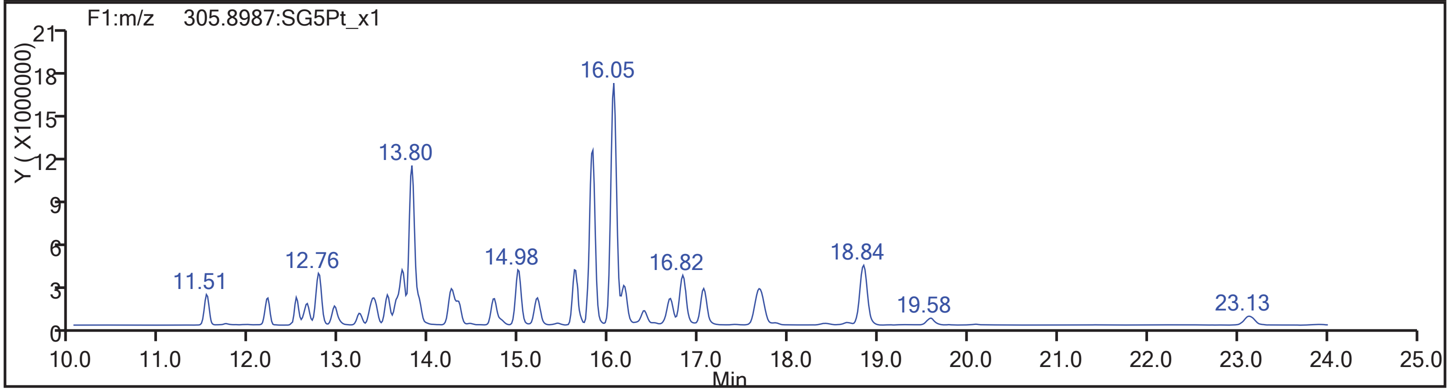
Report Date: 09-Nov-2017 16:51:20 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

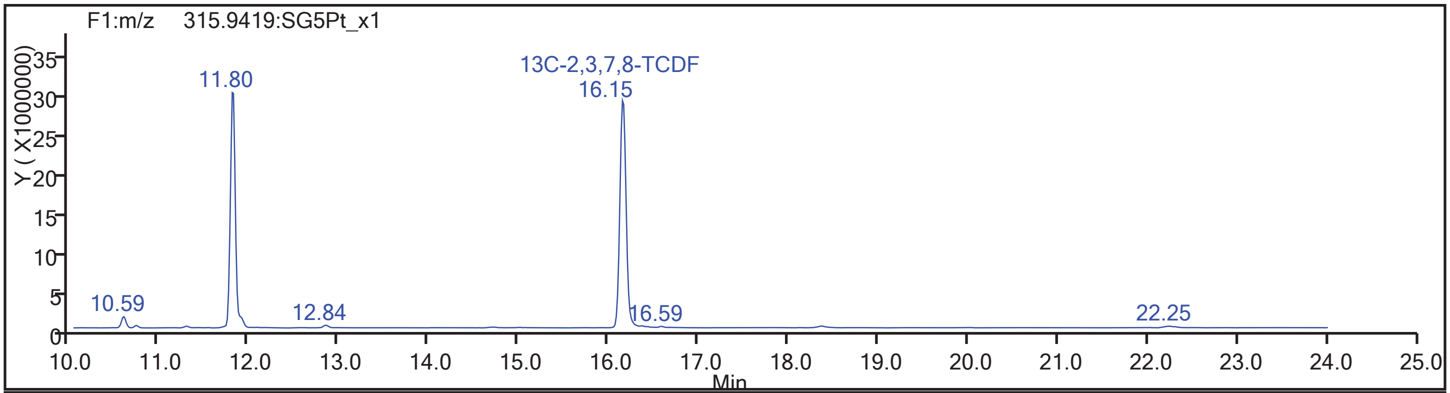
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_005.d
Injection Date: 07-Nov-2017 12:41:04
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
Worklist#: 193317
Sample Line#: 5
Column Type: DB-225
Column Dia: 0.32 mm

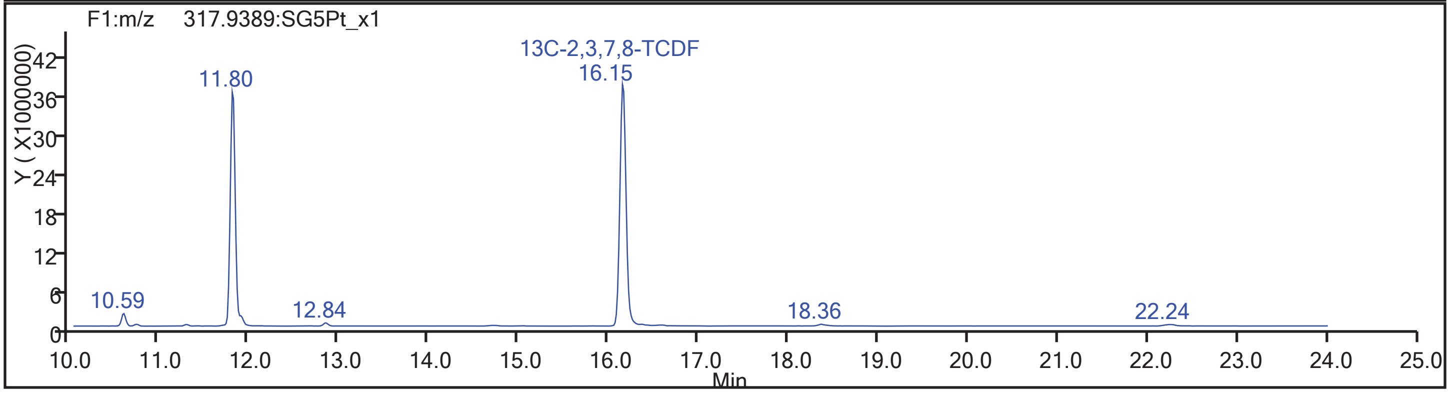
TCDF





TCDF Standards





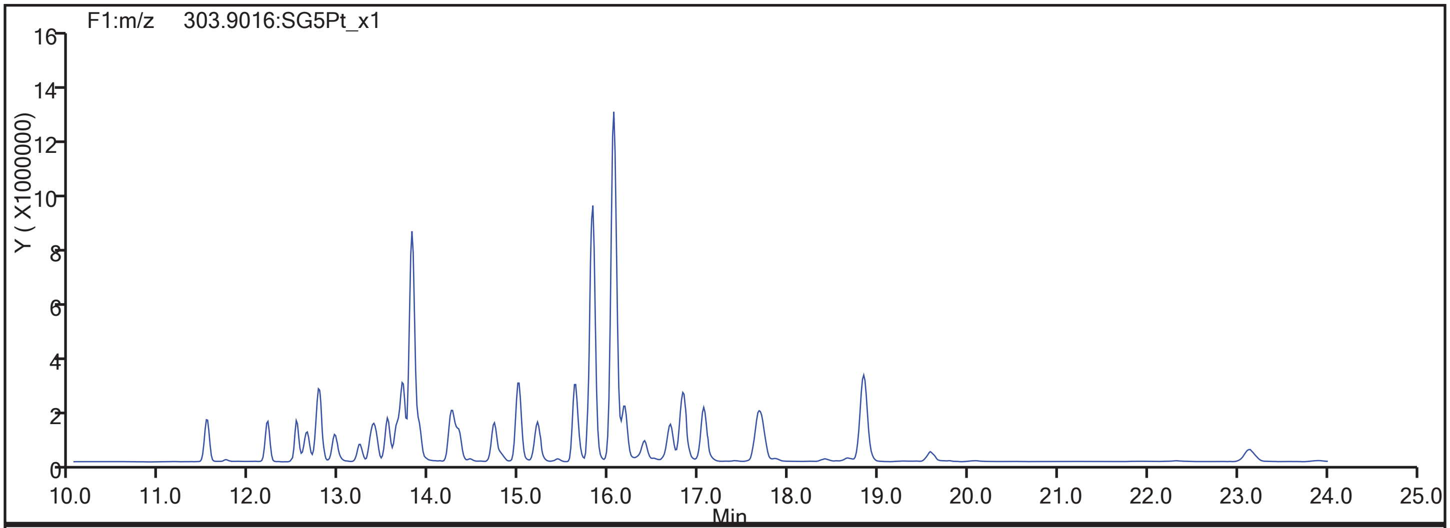
Report Date: 09-Nov-2017 16:51:20 Chrom Revision: 2.2 16-Aug-2017 16:24:46

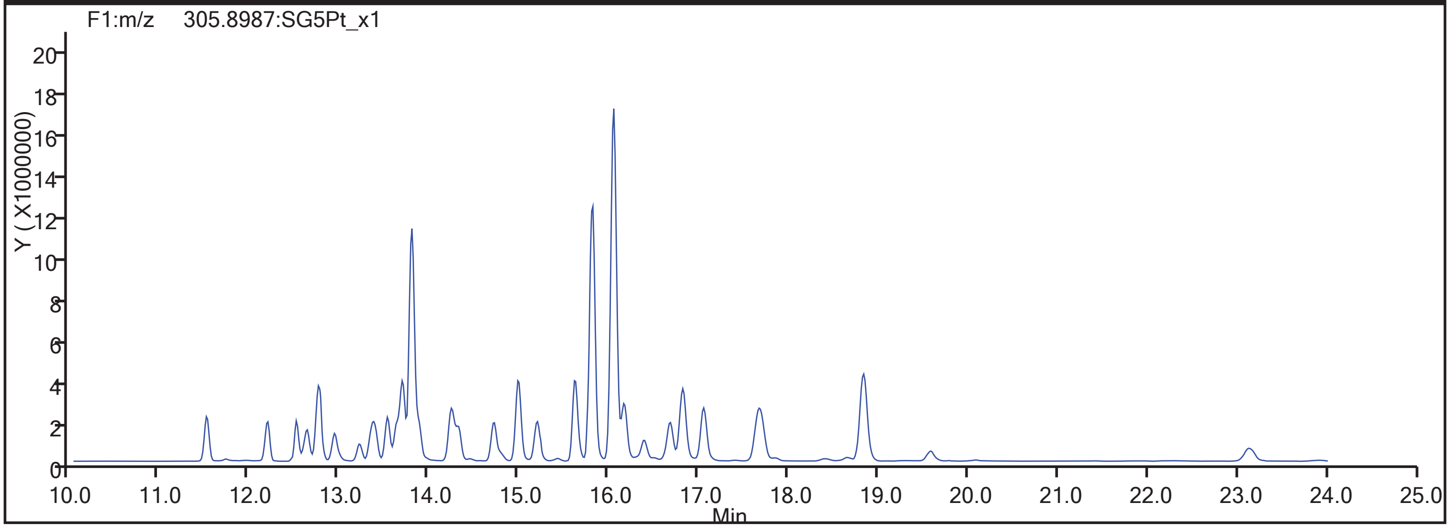
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_005.d

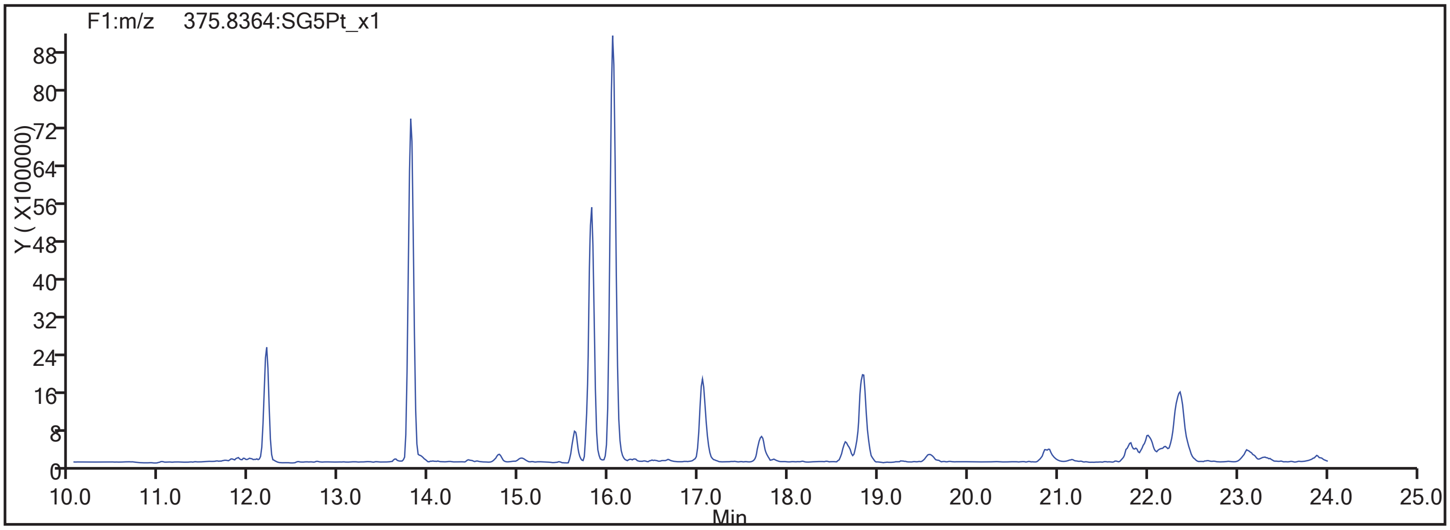
Injection Date:	07-Nov-2017 12:41:04	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	193317	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Report Date: 09-Nov-2017 16:51:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_005.d

Injection Date: 07-Nov-2017 12:41:04 Injection Vol: 2.0 ul

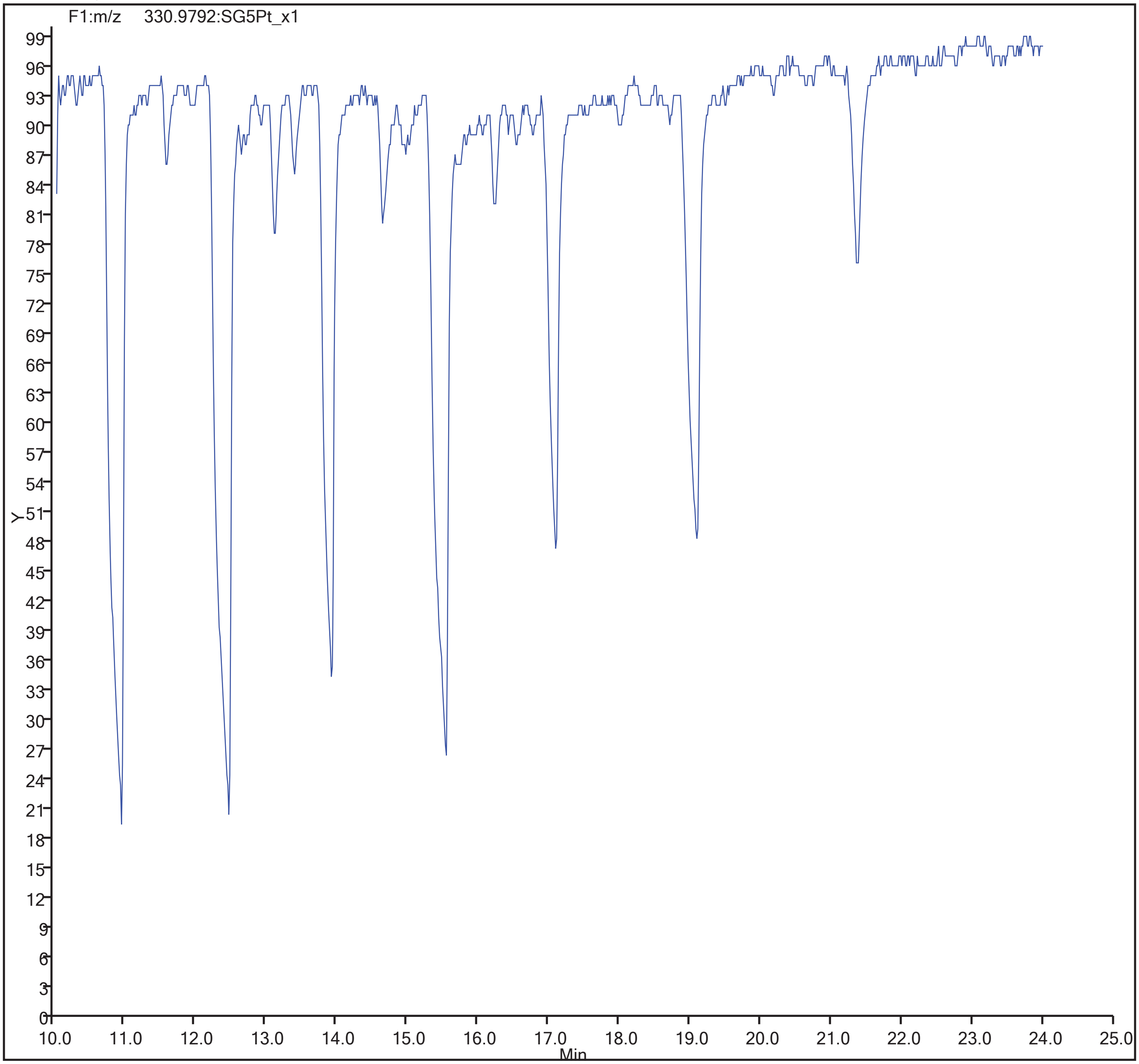
Instrument ID: 9D2 Operator ID:

Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS02NS

Worklist#: 193317 Sample Line#: 5

Column Type: DB-225 Column Dia: 0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP026SS02NS
Lab Sample ID: 160-24924-1
Matrix: Solid
Lab File ID: 09NO1710D5_59.d
Analysis Method: 8290A
Date Collected: 10/05/2017 16:04
Extract. Method: 8290
Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.03(g)
Date Analyzed: 11/11/2017 06:52
Con. Extract Vol.: 20.00(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 1.4
GPC Cleanup:(Y/N) N
Analysis Batch No.: 194084
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	7.9		1.0	0.40	0.47
40321-76-4	1,2,3,7,8-PeCDD	51		5.1	0.76	2.2
57117-41-6	1,2,3,7,8-PeCDF	9.7		5.1	0.76	3.2
57117-31-4	2,3,4,7,8-PeCDF	18		5.1	0.76	3.2
39227-28-6	1,2,3,4,7,8-HxCDD	30		6.6	2.0	6.6
57653-85-7	1,2,3,6,7,8-HxCDD	420		5.1	2.0	5.1
19408-74-3	1,2,3,7,8,9-HxCDD	240		5.1	2.0	5.1
70648-26-9	1,2,3,4,7,8-HxCDF	20	M	5.1	0.76	4.8
57117-44-9	1,2,3,6,7,8-HxCDF	28		5.1	1.0	4.0
72918-21-9	1,2,3,7,8,9-HxCDF	1.0	U	5.1	1.0	4.8
60851-34-5	2,3,4,6,7,8-HxCDF	22		5.1	0.76	4.5
35822-46-9	1,2,3,4,6,7,8-HpCDD	1800		36	1.0	36
67562-39-4	1,2,3,4,6,7,8-HpCDF	320	M	8.9	1.0	8.9
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.0	U M	11	2.0	11
3268-87-9	OCDD	2800	B	10	4.0	4.3
39001-02-0	OCDF	210		10	4.0	0.26

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	64		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	66		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	68		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	62		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	68		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	54		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	26	Q	40-135
114423-97-1	13C-OCDD	45		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d
Lims ID: 160-24924-G-1-A
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 11-Nov-2017 06:52:17 ALS Bottle#: 32 Worklist Smp#: 59
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-1-a 160-24924-g-1-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 10:59:36 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: arghestanis Date: 11-Nov-2017 13:35:04

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	112620265	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	97749048	0.79	1.2741	68.1	68.1	0.1929	0.1929	68.12	
2,3,7,8-TCDF	17.445	19132059	0.77	1.1341	17.3	17.3	1.066	1.066		
A Non-2,3,7,8-sub-TCDF	17.113	92596985	0.78	1.1341	83.5	83.5	1.066	17.2		M
S Total TCDF					100.8	100.8	1.066	1.066		
D 13C-2,3,7,8-TCDD	18.110	71622352	0.77	0.9921	64.1	64.1	0.2118	0.2118	64.10	
2,3,7,8-TCDD	18.125	2789219	0.79	0.9993	3.897	3.897	0.2320	0.2320		
A Non-2,3,7,8-sub-TCDD	17.566	50993738	0.78	0.9993	71.2	71.2	0.2320	18.4		
S Total TCDD					75.1	75.1	0.2320	0.2320		
D 13C-1,2,3,7,8-PeCDF	22.451	74283112	1.55	0.9696	68.0	68.0	0.1945	0.1945	68.02	
1,2,3,7,8-PeCDF	22.464	4124413	1.53	1.1627	4.775	4.775	1.558	1.558		
2,3,4,7,8-PeCDF	23.828	7446931	1.61	1.1395	8.797	8.797	1.590	1.590		
A F1 PeCDFs	20.001	37816856	1.61	1.1511	44.2	44.2	0.0683	44.2		
A Non-2,3,7,8-sub-PeCDF	23.175	69637335	1.60	1.1511	81.4	81.4	1.574	36.8		
S Total PeCDF					139.2	139.2	1.574	1.574		
D 13C-1,2,3,7,8-PeCDD	24.537	56576968	1.61	0.7588	66.2	66.2	0.0981	0.0981	66.21	
1,2,3,7,8-PeCDD	24.551	13444828	1.56	0.9490	25.0	25.0	1.083	1.083		
A Non-2,3,7,8-sub-PeCDD	23.433	142618513	1.54	0.9490	265.6	265.6	1.083	66.2		M
S Total PeCDD					290.7	290.7	1.083	1.083		
D 13C-1,2,3,4,7,8-HxCDF	30.593	58863983	0.52	0.9644	68.0	68.0	0.4564	0.4564	68.01	
1,2,3,4,7,8-HxCDF	30.580	8009400	1.38	1.4012	9.710	9.710	2.396	2.396		M
1,2,3,6,7,8-HxCDF	30.793	14006364	1.33	1.6951	14.0	14.0	1.981	1.981		
2,3,4,6,7,8-HxCDF	31.591	9779287	1.29	1.5205	10.9	10.9	2.208	2.208		
D 13C-1,2,3,7,8,9-HxCDF	32.363	56370815	0.52							
1,2,3,7,8,9-HxCDF	32.377						2.381	2.381		
A Non-2,3,7,8-sub-HxCDF	30.267	201427735	1.27	1.5067	227.1	227.1	2.228	121.5		M
S Total HxCDF					261.8	261.8	2.241	2.241		
* 13C-1,2,3,7,8,9-HxCDD	32.177	89749653	1.26	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.764	6800598	1.26	0.9505	14.7	14.7	3.282	3.282		
D 13C-1,2,3,6,7,8-HxCDD	31.858	48679822	1.26	0.8791	61.7	61.7	0.3261	0.3261	61.70	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.871	124252857	1.27	1.2343	206.8	206.8	2.528	2.528		
1,2,3,7,8,9-HxCDD	32.190	70865474	1.28	1.2467	116.8	116.8	2.503	2.503		
A Non-2,3,7,8-sub-HxCDD	30.913	766716972	1.26	1.1438	1377.0	1377.0	2.728	917.5		
S Total HxCDD					1715.2	1715.2	2.771	2.771		
D 13C-1,2,3,4,6,7,8-HpCDF	33.770	17474861	0.42	0.7618	25.6	25.6	0.7772	0.7772	25.56	
1,2,3,4,6,7,8-HpCDF	33.782	45854625	1.06	1.6399	160.0	160.0	4.415	4.415		M
1,2,3,4,7,8,9-HpCDF	34.863	963613	1.02	1.3302	4.145	4.145	5.443	5.443		nM
A Non-2,3,7,8-sub-HpCDF	34.311	177229623	1.06	1.4851	682.9	682.9	4.876	682.9		
S Total HpCDF					847.1	847.1	4.929	4.929		
D 13C-1,2,3,4,6,7,8-HpCDD	34.572	37811844	1.04	0.7762	54.3	54.3	0.4036	0.4036	54.28	
1,2,3,4,6,7,8-HpCDD	34.584	332297290	1.04	0.9932	884.9	884.9	17.6	17.6		
A Non-2,3,7,8-sub-HpCDD	34.287	669818006	1.04	0.9932	1783.6	1783.6	17.6	1783.6		
S Total HpCDD					2668.5	2668.5	17.6	17.6		
D 13C-OCDD	36.906	50557142	0.90	0.6314	89.2	89.2	0.1686	0.1686	44.61	
OCDF	37.002	35835986	0.90	1.3460	105.3	105.3	0.1279	0.1279		
OCDD	36.918	369606708	0.90	1.0604	1378.8	1378.8	2.148	2.148		

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test
Review Flags
M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d
Lims ID: 160-24924-G-1-A
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 11-Nov-2017 06:52:17 ALS Bottle#: 32 Worklist Smp#: 59
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-1-a 160-24924-g-1-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 10:59:36 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: arghestanis Date: 11-Nov-2017 13:35:04

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		49225956	12232028	11721	29302	1044		
333.9339	17.914	17.914	0		63394309	15757490	11804	29510	1335	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	43084815	10862426	16561	41402	656		
317.9389	17.400	17.400	0	0.971	54664233	13630133	10961	27402	1244	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.445	17.415	2	1.003	8302880	1797760	46321	115802	39		
305.8987	17.430	17.415	1	1.002	10829179	2370126	72105	180262	33	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											M
303.9016	14.981	17.113	-128	0.861	1815809	560786	46321	115802	12		
305.8987	14.981	17.113	-128	0.861	2286481	703901	72105	180262	10	0.79(0.65-0.89)	
303.9016	15.328	17.113	-107	0.881	2212375	662387	46321	115802	14		
305.8987	15.328	17.113	-107	0.881	2874391	860431	72105	180262	12	0.77(0.65-0.89)	
303.9016	15.495	17.113	-97	0.891	3025505	882597	46321	115802	19		
305.8987	15.495	17.113	-97	0.891	3800816	1121247	72105	180262	16	0.80(0.65-0.89)	
303.9016	15.737	17.113	-82	0.904	8293770	1463169	46321	115802	32		
305.8987	15.737	17.113	-82	0.904	10732808	1877693	72105	180262	26	0.77(0.65-0.89)	
303.9016	15.994	17.113	-67	0.919	3670784	534782	46321	115802	12		M
305.8987	15.994	17.113	-67	0.919	4602631	687865	72105	180262	10	0.80(0.65-0.89)	
303.9016	16.281	17.113	-50	0.936	2119291	724210	46321	115802	16		M
305.8987	16.281	17.113	-50	0.936	2695149	941316	72105	180262	13	0.79(0.65-0.89)	M
303.9016	16.508	17.113	-36	0.949	5672604	1476123	46321	115802	32		
305.8987	16.508	17.113	-36	0.949	7363612	1891511	72105	180262	26	0.77(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	16.719	17.113	-24	0.961	6019011	779167	46321	115802	17		
305.8987	16.719	17.113	-24	0.961	7983251	1024954	72105	180262	14	0.75(0.65-0.89)	
303.9016	17.264	17.113	9	0.992	1386099	343129	46321	115802	7		M
305.8987	17.249	17.113	8	0.991	1703815	455776	72105	180262	6	0.81(0.65-0.89)	M
303.9016	17.853	17.113	44	1.026	4141073	1028480	46321	115802	22		
305.8987	17.853	17.113	44	1.026	5160980	1291417	72105	180262	18	0.80(0.65-0.89)	
303.9016	18.065	17.113	57	1.038	2263376	521591	46321	115802	11		
305.8987	18.065	17.113	57	1.038	2773354	645810	72105	180262	9	0.82(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.110	18.111	0	1.011	31168178	7146641	11721	29302	610		
333.9339	18.110	18.111	0	1.011	40454174	9288304	11804	29510	787	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.125	18.125	0	1.001	1231227	299348	7959	19897	38		
321.8936	18.125	18.125	0	1.001	1557992	370330	7283	18207	51	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	15.903	17.566	-100	0.878	2525420	748177	7959	19897	94		
321.8936	15.903	17.566	-100	0.878	3213040	928350	7283	18207	127	0.79(0.65-0.89)	
319.8965	16.190	17.566	-82	0.894	1136187	326449	7959	19897	41		
321.8936	16.190	17.566	-82	0.894	1419801	402683	7283	18207	55	0.80(0.65-0.89)	
319.8965	16.432	17.566	-68	0.907	1495844	419530	7959	19897	53		
321.8936	16.432	17.566	-68	0.907	1926847	522373	7283	18207	72	0.78(0.65-0.89)	
319.8965	16.992	17.566	-34	0.938	5816077	1335458	7959	19897	168		
321.8936	16.992	17.566	-34	0.938	7377561	1693931	7283	18207	233	0.79(0.65-0.89)	
319.8965	17.173	17.566	-24	0.948	3675445	307984	7959	19897	39		
321.8936	17.173	17.566	-24	0.948	4734050	413632	7283	18207	57	0.78(0.65-0.89)	
319.8965	17.611	17.566	3	0.972	988383	232189	7959	19897	29		
321.8936	17.611	17.566	3	0.972	1297134	303271	7283	18207	42	0.76(0.65-0.89)	
319.8965	17.899	17.566	20	0.988	1564302	327692	7959	19897	41		
321.8936	17.884	17.566	19	0.987	1911312	401776	7283	18207	55	0.82(0.65-0.89)	
319.8965	18.020	17.566	27	0.995	1598969	366273	7959	19897	46		
321.8936	18.020	17.566	27	0.995	2125980	502952	7283	18207	69	0.75(0.65-0.89)	
319.8965	18.292	17.566	43	1.010	473496	102548	7959	19897	13		
321.8936	18.292	17.566	43	1.010	604642	126760	7283	18207	17	0.78(0.65-0.89)	
319.8965	18.488	17.566	55	1.021	1954562	447534	7959	19897	56		
321.8936	18.488	17.566	55	1.021	2539973	568583	7283	18207	78	0.77(0.65-0.89)	
319.8965	18.745	17.566	71	1.035	385899	79006	7959	19897	10		
321.8936	18.745	17.566	71	1.035	481915	98929	7283	18207	14	0.80(0.65-0.89)	
319.8965	19.244	17.566	100	1.063	753504	160705	7959	19897	20		
321.8936	19.244	17.566	100	1.063	993395	209575	7283	18207	29	0.76(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.451	22.451	0	1.253	45190492	7762144	12270	30675	633		
353.8970	22.437	22.451	-1	1.252	29092620	4925840	8849	22122	557	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.464	22.465	0	1.001	2491393	411846	59728	149320	7		
341.8567	22.464	22.465	0	1.001	1633020	255855	32207	80517	8	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	23.828	23.828	0	1.061	4599078	773298	59728	149320	13		
341.8567	23.828	23.828	0	1.061	2847853	484799	32207	80517	15	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.547	20.001	-27	0.871	23299917	5089181	2260	5650	2252		
341.8567	19.547	20.001	-27	0.871	14516939	3167322	1730	4325	1831	1.61(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	20.896	23.175	-136	0.931	1407028	308101	59728	149320	5		
341.8567	20.896	23.175	-136	0.931	873767	186395	32207	80517	6	1.61(1.32-1.78)	
339.8597	21.101	23.175	-124	0.940	19461401	3139030	59728	149320	53		
341.8567	21.101	23.175	-124	0.940	12031453	1920051	32207	80517	60	1.62(1.32-1.78)	
339.8597	21.346	23.175	-110	0.951	3017090	545066	59728	149320	9		
341.8567	21.346	23.175	-110	0.951	1830108	325990	32207	80517	10	1.65(1.32-1.78)	
339.8597	21.905	23.175	-76	0.976	10496685	1005987	59728	149320	17		
341.8567	21.905	23.175	-76	0.976	6696243	633528	32207	80517	20	1.57(1.32-1.78)	
339.8597	22.342	23.175	-50	0.995	1348137	267642	59728	149320	4		
341.8567	22.342	23.175	-50	0.995	960944	183584	32207	80517	6	1.40(1.32-1.78)	
339.8597	24.114	23.175	56	1.074	7117229	963424	59728	149320	16		
341.8567	24.114	23.175	56	1.074	4397250	613855	32207	80517	19	1.62(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.537	24.524	1	1.370	34871503	5450169	4332	10830	1258		
369.8919	24.523	24.524	0	1.369	21705465	3389958	4004	10010	847	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551	24.551	0	1.001	8202414	1308741	19837	49592	66		
357.8516	24.551	24.551	0	1.001	5242414	838257	16512	41280	51	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											M
355.8546	21.305	23.433	-127	0.868	21012179	3864948	19837	49592	195		
357.8516	21.305	23.433	-127	0.868	14555204	2572794	16512	41280	156	1.44(1.32-1.78)	
355.8546	22.069	23.433	-82	0.899	7703404	1484609	19837	49592	75		
357.8516	22.055	23.433	-82	0.899	5034856	974665	16512	41280	59	1.53(1.32-1.78)	
355.8546	22.505	23.433	-56	0.917	9773793	1837115	19837	49592	93		
357.8516	22.492	23.433	-56	0.917	6426124	1176124	16512	41280	71	1.52(1.32-1.78)	
355.8546	22.751	23.433	-41	0.927	11876033	2183687	19837	49592	110		
357.8516	22.751	23.433	-41	0.927	7496385	1363358	16512	41280	83	1.58(1.32-1.78)	
355.8546	23.064	23.433	-22	0.940	4481048	784160	19837	49592	40		
357.8516	23.064	23.433	-22	0.940	2809225	505082	16512	41280	31	1.60(1.32-1.78)	
355.8546	23.378	23.433	-3	0.953	4615982	831063	19837	49592	42		M
357.8516	23.378	23.433	-3	0.953	2891770	511202	16512	41280	31	1.60(1.32-1.78)	M
355.8546	23.569	23.433	8	0.961	14650818	2089539	19837	49592	105		
357.8516	23.569	23.433	8	0.961	9356093	1344759	16512	41280	81	1.57(1.32-1.78)	
355.8546	23.937	23.433	30	0.976	1592980	248925	19837	49592	13		M
357.8516	23.937	23.433	30	0.976	960811	163898	16512	41280	10	1.66(1.32-1.78)	M
355.8546	24.155	23.433	43	0.984	643916	117020	19837	49592	6		
357.8516	24.169	23.433	44	0.985	385037	69673	16512	41280	4	1.67(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
355.8546	24.864	23.433	86	1.013	4973518	802348	19837	49592	40		
357.8516	24.864	23.433	86	1.013	3157603	495981	16512	41280	30	1.58(1.32-1.78)	
355.8546	25.573	23.433	128	1.042	5208804	763463	19837	49592	38		
357.8516	25.573	23.433	128	1.042	3012930	457370	16512	41280	28	1.73(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.593	30.593	0	0.951	20164149	3774619	13161	32902	287		
385.8610	30.593	30.593	0	0.951	38699834	7310215	24396	60990	300	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											M
373.8208	30.580	30.606	-2	1.000	4650170	1153976	84205	210512	14		M
375.8178	30.580	30.606	-2	1.000	3359230	873527	64655	161637	14	1.38(1.05-1.43)	M
1,2,3,6,7,8-HxCDF											
373.8208	30.793	30.793	0	1.007	7992682	1630610	84205	210512	19		
375.8178	30.793	30.793	0	1.007	6013682	1303195	64655	161637	20	1.33(1.05-1.43)	
2,3,4,6,7,8-HxCDF											
373.8208	31.591	31.591	0	1.033	5516504	1393702	84205	210512	17		
375.8178	31.591	31.591	0	1.033	4262783	1060874	64655	161637	16	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.363	32.363	0	1.006	19198406	4702933	13161	32902	357		
385.8610	32.363	32.363	0	1.006	37172409	9085602	24396	60990	372	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.377						84205	210512			
375.8178	32.377						64655	161637			
A Non-2,3,7,8-sub-HxCDF											M
373.8208	28.091	30.267	-130	0.918	7465552	1059627	84205	210512	13		
375.8178	28.091	30.267	-130	0.918	6359194	841900	64655	161637	13	1.17(1.05-1.43)	
373.8208	28.477	30.267	-107	0.931	39562540	4912184	84205	210512	58		
375.8178	28.477	30.267	-107	0.931	31012552	3870338	64655	161637	60	1.28(1.05-1.43)	
373.8208	29.808	30.267	-28	0.974	60278529	8566724	84205	210512	102		
375.8178	29.808	30.267	-28	0.974	47483362	6864408	64655	161637	106	1.27(1.05-1.43)	
373.8208	30.553	30.267	17	0.999	5282889	1203297	84205	210512	14		M
375.8178	30.553	30.267	17	0.999	3983117	936391	64655	161637	14	1.33(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.177	32.177	0		50065206	11846539	12846	32115	922		
403.8529	32.177	32.177	0		39684447	9484003	11614	29035	817	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.764	31.764	0	0.997	3791575	1077845	77204	193010	14		
391.8127	31.764	31.764	0	0.997	3009023	850434	63137	157842	13	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.858	31.858	0	0.990	27093828	6262808	12846	32115	488		
403.8529	31.858	31.858	0	0.990	21585994	4982972	11614	29035	429	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.871	31.871	0	1.000	69492248	17078699	77204	193010	221		
391.8127	31.871	31.871	0	1.000	54760609	13624910	63137	157842	216	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.190	32.190	0	1.010	39739174	8077615	77204	193010	105		
391.8127	32.190	32.190	0	1.010	31126300	6331199	63137	157842	100	1.28(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.661	30.913	-75	0.931	102887228	13567025	77204	193010	176		
391.8127	29.661	30.913	-75	0.931	81496064	10759370	63137	157842	170	1.26(1.05-1.43)	
389.8157	30.673	30.913	-14	0.963	28510489	5437752	77204	193010	70		
391.8127	30.660	30.913	-15	0.962	22337655	4275703	63137	157842	68	1.28(1.05-1.43)	
389.8157	31.032	30.913	7	0.974	284840006	58334782	77204	193010	756		
391.8127	31.032	30.913	7	0.974	226010655	46420088	63137	157842	735	1.26(1.05-1.43)	
389.8157	31.219	30.913	18	0.980	11438736	1986830	77204	193010	26		
391.8127	31.219	30.913	18	0.980	9196139	1571689	63137	157842	25	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.770	33.770	0	1.050	5128460	1487248	11915	29787	125		
419.8220	33.770	33.770	0	1.050	12346401	3581212	38605	96512	93	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.782	33.782	0	1.000	23641096	7973105	85866	214665	93		M
409.7789	33.782	33.782	0	1.000	22213529	7474772	60933	152332	123	1.06(0.88-1.20)	M
1,2,3,4,7,8,9-HpCDF											nM
407.7818	34.863	34.863	0	1.032	485394	172247	85866	214665	2		M
409.7789	34.863	34.863	0	1.032	478219	164779	60933	152332	3	1.02(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.086	34.311	-13	1.009	91150163	27362338	85866	214665	319		
409.7789	34.086	34.311	-13	1.009	86079460	26189171	60933	152332	430	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.572	34.560	1	1.074	19247479	5586938	13533	33832	413		
437.8140	34.572	34.560	1	1.074	18564365	5339606	13193	32982	405	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.584	34.572	1	1.000	169344860	47862299	373128	932820	128		
425.7737	34.584	34.572	1	1.000	162952430	45218717	390703	976757	116	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.037	34.287	-15	0.985	341149210	103433623	373128	932820	277		
425.7737	34.025	34.287	-16	0.984	328668796	98510777	390703	976757	252	1.04(0.88-1.20)	
13C-OCDD											
469.7779	36.906	36.894	1	1.147	23976179	6229365	5690	14225	1095		
471.7750	36.906	36.894	1	1.147	26580963	6880167	3392	8480	2028	0.90(0.76-1.02)	
OCDF											
441.7428	37.002	36.990	1	1.003	16937110	3669919	2145	5362	1711		
443.7399	37.002	36.990	1	1.003	18898876	4016972	2369	5922	1696	0.90(0.76-1.02)	
OCDD											
457.7377	36.918	36.906	1	1.000	175424012	44512198	38075	95187	1169		
459.7348	36.906	36.906	0	1.000	194182696	48424085	21654	54135	2236	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test
Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 10:59:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Lims ID:	160-24924-G-1-A		
Client ID:	SHAD041DP026SS02NS		
Inject. Date:	11-Nov-2017 06:52:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	59

Non-2,3,7,8-sub-TCDF, RT: 17.113

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	100.000	97749048	24492559

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	97749048	24492559

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
14.981	1815809	560786	2286481	703901	3.70	0.79	
15.328	2212375	662387	2874391	860431	4.59	0.77	
15.495	3025505	882597	3800816	1121247	6.16	0.80	
15.737	8293770	1463169	10732808	1877693	17.2	0.77	
15.994	3670784	534782	4602631	687865	7.46	0.80	M
16.281	2119291	724210	2695149	941316	4.34	0.79	M
16.508	5672604	1476123	7363612	1891511	11.8	0.77	
16.719	6019011	779167	7983251	1024954	12.6	0.75	
17.264	1386099	343129	1703815	455776	2.79	0.81	M
17.853	4141073	1028480	5160980	1291417	8.39	0.80	
18.065	2263376	521591	2773354	645810	4.54	0.82	
Signal Totals:							
	40619697	8976421	51977288	11501921			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	92596985	20478342				0.78	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 83.525 = (92596985 * 100.000) / (97749048 * 1.134)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Lims ID:	160-24924-G-1-A		
Client ID:	SHAD041DP026SS02NS		
Inject. Date:	11-Nov-2017 06:52:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	59

Non-2,3,7,8-sub-TCDD, RT: 17.566

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	71622352	16434945

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	71622352	16434945

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.903	2525420	748177	3213040	928350	8.02	0.79	
16.190	1136187	326449	1419801	402683	3.57	0.80	
16.432	1495844	419530	1926847	522373	4.78	0.78	
16.992	5816077	1335458	7377561	1693931	18.4	0.79	
17.173	3675445	307984	4734050	413632	11.7	0.78	
17.611	988383	232189	1297134	303271	3.19	0.76	
17.899	1564302	327692	1911312	401776	4.86	0.82	
18.020	1598969	366273	2125980	502952	5.20	0.75	
18.292	473496	102548	604642	126760	1.51	0.78	
18.488	1954562	447534	2539973	568583	6.28	0.77	
18.745	385899	79006	481915	98929	1.21	0.80	
19.244	753504	160705	993395	209575	2.44	0.76	
Signal Totals:							
	22368088	4853545	28625650	6172815			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	50993738	11026360				0.78	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 71.246 = (50993738 * 100.000) / (71622352 * 0.999)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Lims ID:	160-24924-G-1-A		
Client ID:	SHAD041DP026SS02NS		
Inject. Date:	11-Nov-2017 06:52:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	59

F1 PeCDFs, RT: 20.001

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	74283112	12687984
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	74283112	12687984

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.547	23299917	5089181	14516939	3167322	44.2	1.61	
Signal Totals:							
	23299917	5089181	14516939	3167322			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	37816856	8256503				1.61	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 44.226 = (37816856 * 100.000) / (74283112 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d
Lims ID: 160-24924-G-1-A
Client ID: SHAD041DP026SS02NS
Inject. Date: 11-Nov-2017 06:52:17
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194084
Lims Sample ID: 59

Non-2,3,7,8-sub-PeCDF, RT: 23.175

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	74283112	12687984
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	74283112	12687984

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.896	1407028	308101	873767	186395	2.67	1.61	
21.101	19461401	3139030	12031453	1920051	36.8	1.62	
21.346	3017090	545066	1830108	325990	5.67	1.65	
21.905	10496685	1005987	6696243	633528	20.1	1.57	
22.342	1348137	267642	960944	183584	2.70	1.40	
24.114	7117229	963424	4397250	613855	13.5	1.62	
Signal Totals:							
	42847570	6229250	26789765	3863403			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	69637335	10092653				1.60	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 81.439 = (69637335 * 100.000) / (74283112 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Lims ID:	160-24924-G-1-A		
Client ID:	SHAD041DP026SS02NS		
Inject. Date:	11-Nov-2017 06:52:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	59

Non-2,3,7,8-sub-PeCDD, RT: 23.433

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	56576968	8840127

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	56576968	8840127

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.305	21012179	3864948	14555204	2572794	66.2	1.44	
22.069	7703404	1484609	5034856	974665	23.7	1.53	
22.505	9773793	1837115	6426124	1176124	30.2	1.52	
22.751	11876033	2183687	7496385	1363358	36.1	1.58	
23.064	4481048	784160	2809225	505082	13.6	1.60	
23.378	4615982	831063	2891770	511202	14.0	1.60	M
23.569	14650818	2089539	9356093	1344759	44.7	1.57	
23.937	1592980	248925	960811	163898	4.76	1.66	M
24.155	643916	117020	385037	69673	1.92	1.67	
24.864	4973518	802348	3157603	495981	15.1	1.58	
25.573	5208804	763463	3012930	457370	15.3	1.73	
Signal Totals:							
	86532475	15006877	56086038	9634906			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	142618513	24641783				1.54	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 265.631 = (142618513 * 100.000) / (56576968 * 0.949)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d
Lims ID: 160-24924-G-1-A
Client ID: SHAD041DP026SS02NS
Inject. Date: 11-Nov-2017 06:52:17
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194084
Lims Sample ID: 59

Non-2,3,7,8-sub-HxCDF, RT: 30.267

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	58863983	11084834
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	58863983	11084834

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.091	7465552	1059627	6359194	841900	15.6	1.17	
28.477	39562540	4912184	31012552	3870338	79.6	1.28	
29.808	60278529	8566724	47483362	6864408	121.5	1.27	
30.553	5282889	1203297	3983117	936391	10.4	1.33	M
Signal Totals:							
	112589510	15741832	88838225	12513037			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	201427735	28254869				1.27	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 227.114 = (201427735 * 100.000) / (58863983 * 1.507)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d
Lims ID: 160-24924-G-1-A
Client ID: SHAD041DP026SS02NS
Inject. Date: 11-Nov-2017 06:52:17
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194084
Lims Sample ID: 59

Non-2,3,7,8-sub-HxCDD, RT: 30.913

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	48679822	11245780
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	48679822	11245780

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.661	102887228	13567025	81496064	10759370	331.1	1.26	
30.673	28510489	5437752	22337655	4275703	91.3	1.28	
31.032	284840006	58334782	226010655	46420088	917.5	1.26	
31.219	11438736	1986830	9196139	1571689	37.1	1.24	
Signal Totals:							
	427676459	79326389	339040513	63026850			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	766716972	142353239				1.26	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1377.0 = (766716972 * 100.000) / (48679822 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d
Lims ID: 160-24924-G-1-A
Client ID: SHAD041DP026SS02NS
Inject. Date: 11-Nov-2017 06:52:17
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194084
Lims Sample ID: 59

Non-2,3,7,8-sub-HpCDF, RT: 34.311

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	17474861	5068460
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	17474861	5068460

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.086	91150163	27362338	86079460	26189171	682.9	1.06	
Signal Totals:							
	91150163	27362338	86079460	26189171			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	177229623	53551509				1.06	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 682.928 = (177229623 * 100.000) / (17474861 * 1.485)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Lims ID:	160-24924-G-1-A		
Client ID:	SHAD041DP026SS02NS		
Inject. Date:	11-Nov-2017 06:52:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	59

Non-2,3,7,8-sub-HpCDD, RT: 34.287

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	37811844	10926544

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	37811844	10926544

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.037	341149210	103433623	328668796	98510777	1783.6	1.04	
Signal Totals:							
	341149210	103433623	328668796	98510777			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	669818006	201944400				1.04	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1783.6 = (669818006 * 100.000) / (37811844 * 0.993)

Report Date: 13-Nov-2017 10:59:52

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d

Injection Date: 11-Nov-2017 06:52:17

Instrument ID: 10D5

Lims ID: 160-24924-G-1-A

Lab Sample ID: 320-24924-1

Client ID: SHAD041DP026SS02NS

Operator ID: AJS

ALS Bottle#: 32

Worklist Smp#: 59

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Column: DB-5 (0.32 mm)

Detector F3:HRSIR

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

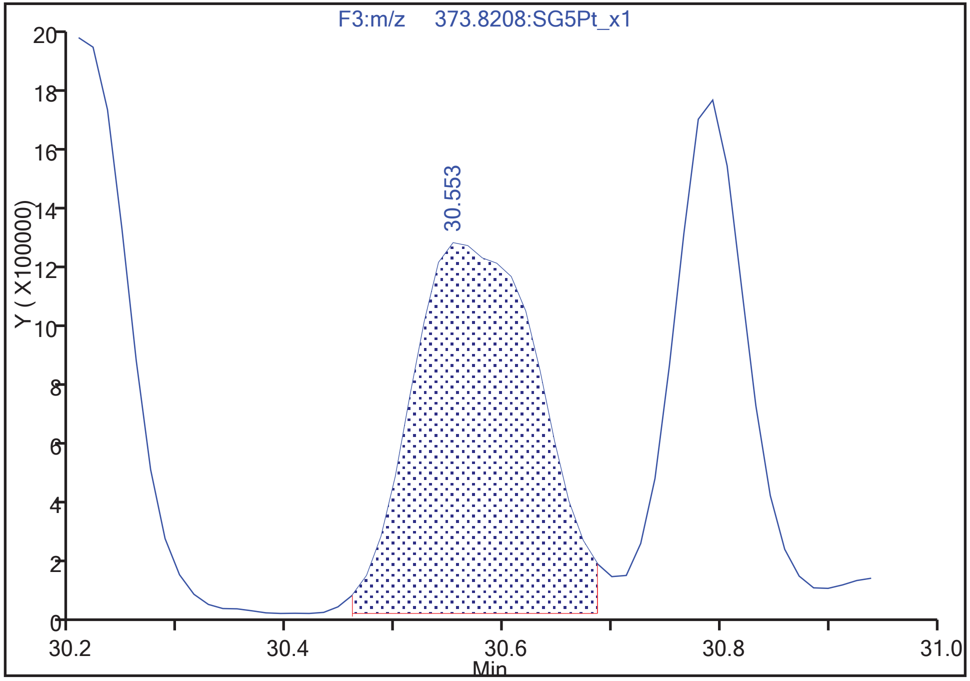
Processing Integration Results

RT: 30.55

Area: 9933060

Amount: 20.944344

Amount Units: pg/ul



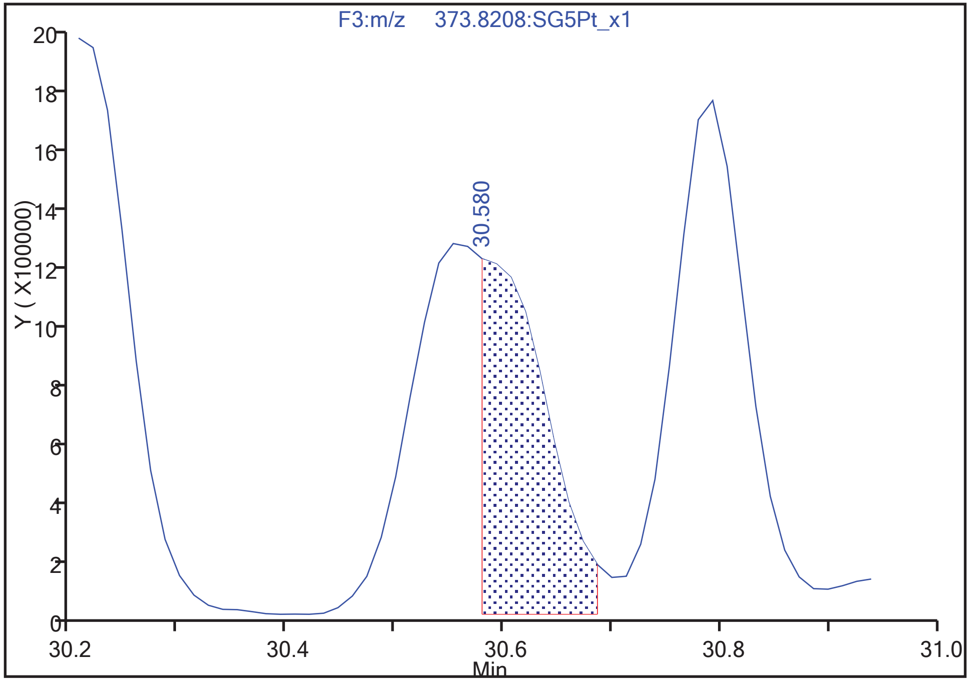
Manual Integration Results

RT: 30.58

Area: 4650170

Amount: 9.710430

Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 10:55:07

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Report Date: 13-Nov-2017 10:59:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

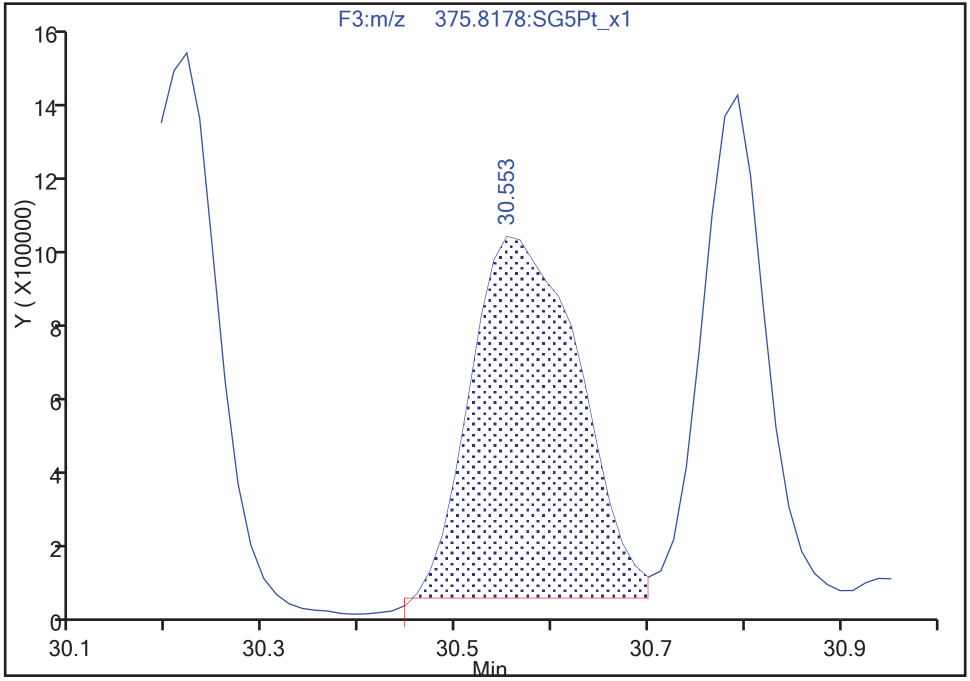
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d				
Injection Date:	11-Nov-2017 06:52:17	Instrument ID:	10D5		
Lims ID:	160-24924-G-1-A	Lab Sample ID:	320-24924-1		
Client ID:	SHAD041DP026SS02NS				
Operator ID:	AJS	ALS Bottle#:	32	Worklist Smp#:	59
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

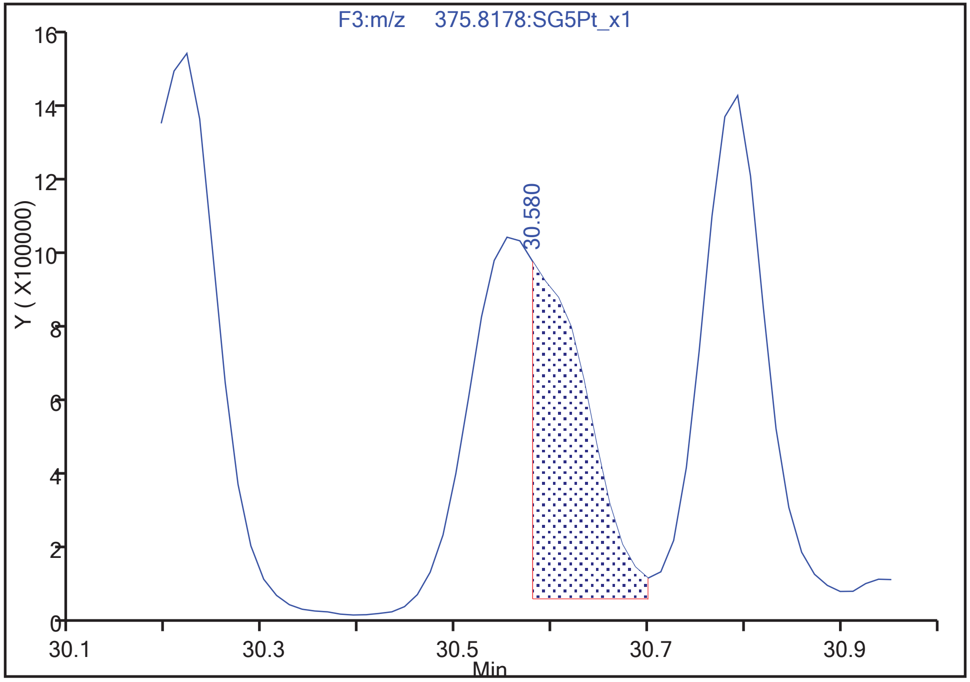
RT:	30.55
Area:	7342347
Amount:	20.944344
Amount Units:	pg/ul

Processing Integration Results



RT:	30.58
Area:	3359230
Amount:	9.710430
Amount Units:	pg/ul

Manual Integration Results



Reviewer: dadunj, 13-Nov-2017 10:55:09

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 10:59:52

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

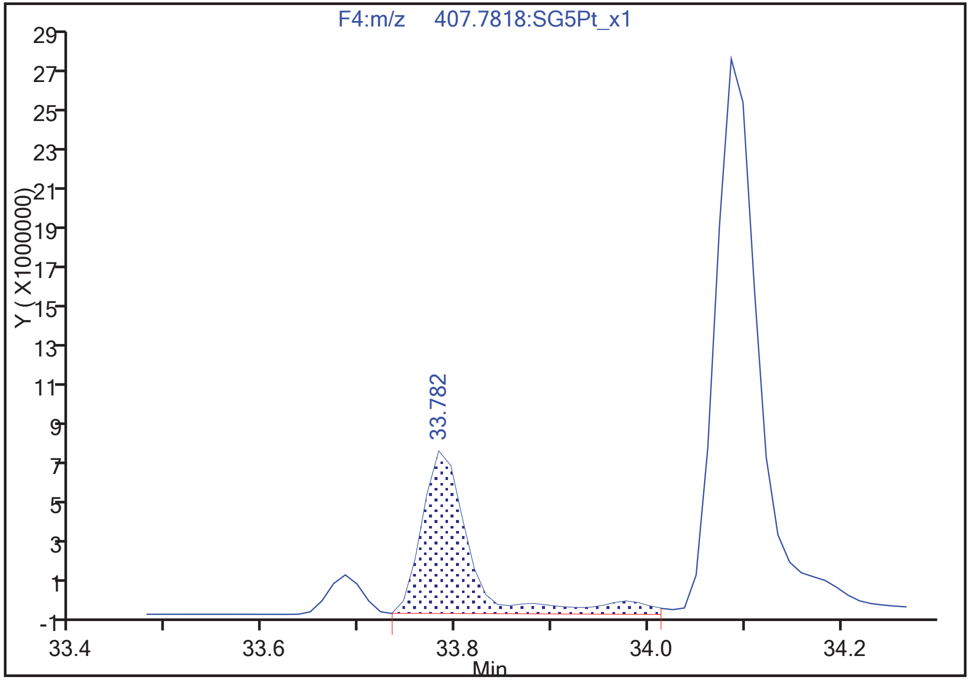
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Injection Date:	11-Nov-2017 06:52:17	Instrument ID:	10D5
Lims ID:	160-24924-G-1-A	Lab Sample ID:	320-24924-1
Client ID:	SHAD041DP026SS02NS		
Operator ID:	AJS	ALS Bottle#:	32 Worklist Smp#: 59
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

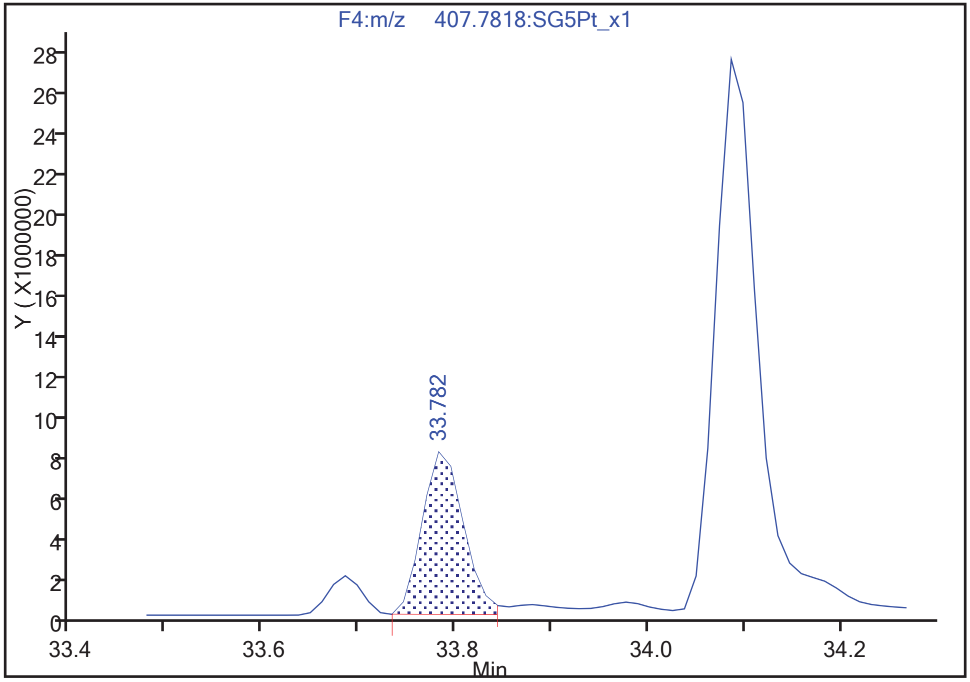
RT:	33.78
Area:	28065399
Amount:	190.1183
Amount Units:	pg/ul

Processing Integration Results



RT:	33.78
Area:	23641096
Amount:	160.0121
Amount Units:	pg/ul

Manual Integration Results



Reviewer: dadunj, 13-Nov-2017 10:56:36

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

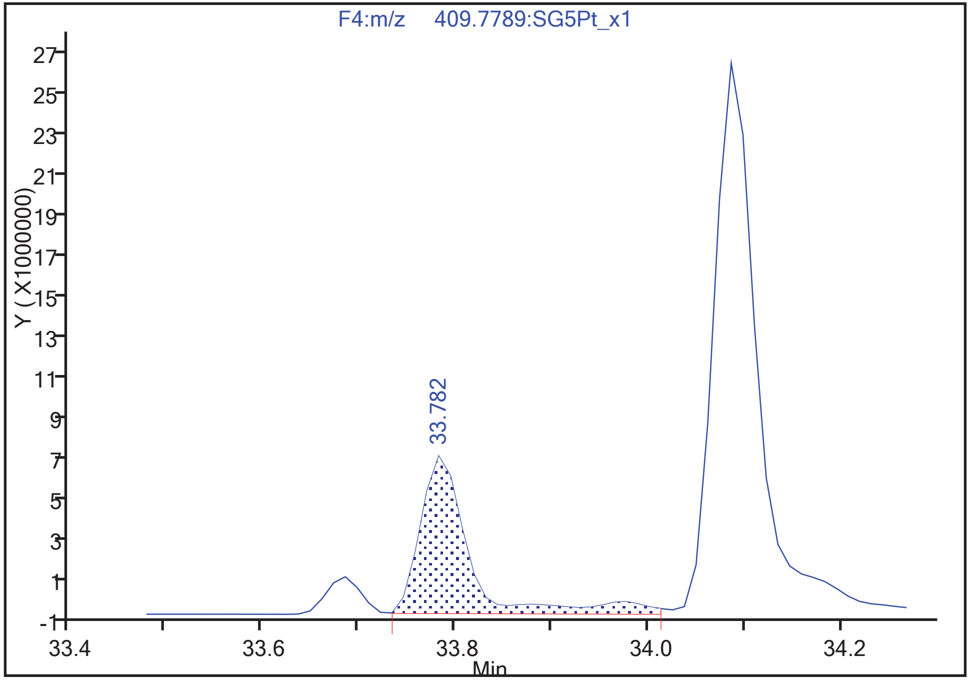
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Injection Date:	11-Nov-2017 06:52:17	Instrument ID:	10D5
Lims ID:	160-24924-G-1-A	Lab Sample ID:	320-24924-1
Client ID:	SHAD041DP026SS02NS		
Operator ID:	AJS	ALS Bottle#:	32 Worklist Smp#: 59
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

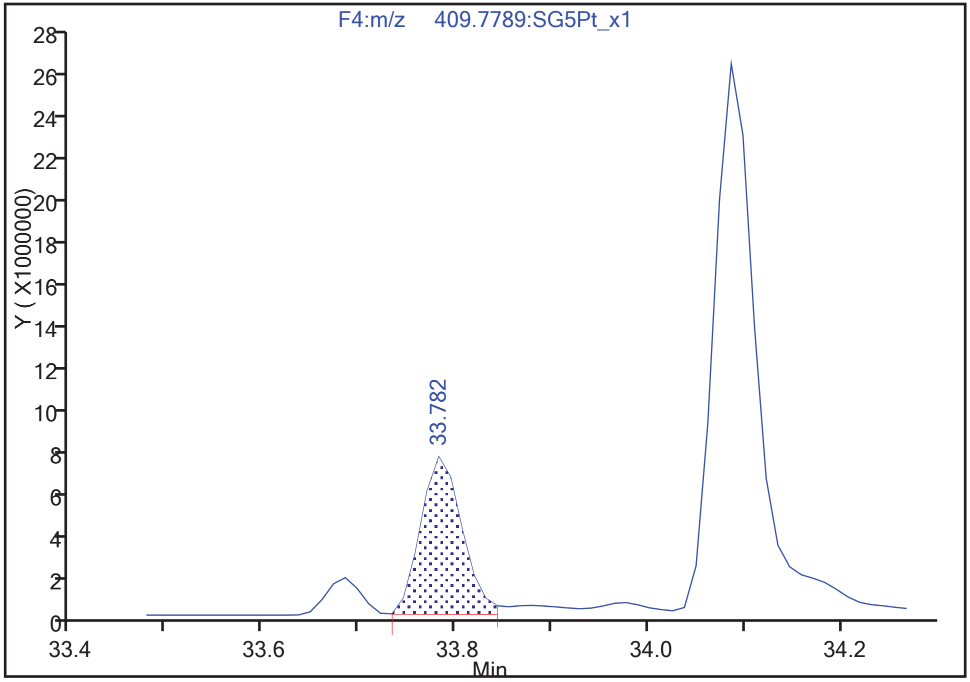
Processing Integration Results

RT:	33.78
Area:	26416748
Amount:	190.1183
Amount Units:	pg/ul



Manual Integration Results

RT:	33.78
Area:	22213529
Amount:	160.0121
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 10:56:38

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 10:59:52

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d

Injection Date:	11-Nov-2017 06:52:17	Instrument ID:	10D5		
Lims ID:	160-24924-G-1-A	Lab Sample ID:	320-24924-1		
Client ID:	SHAD041DP026SS02NS				
Operator ID:	AJS	ALS Bottle#:	32	Worklist Smp#:	59
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

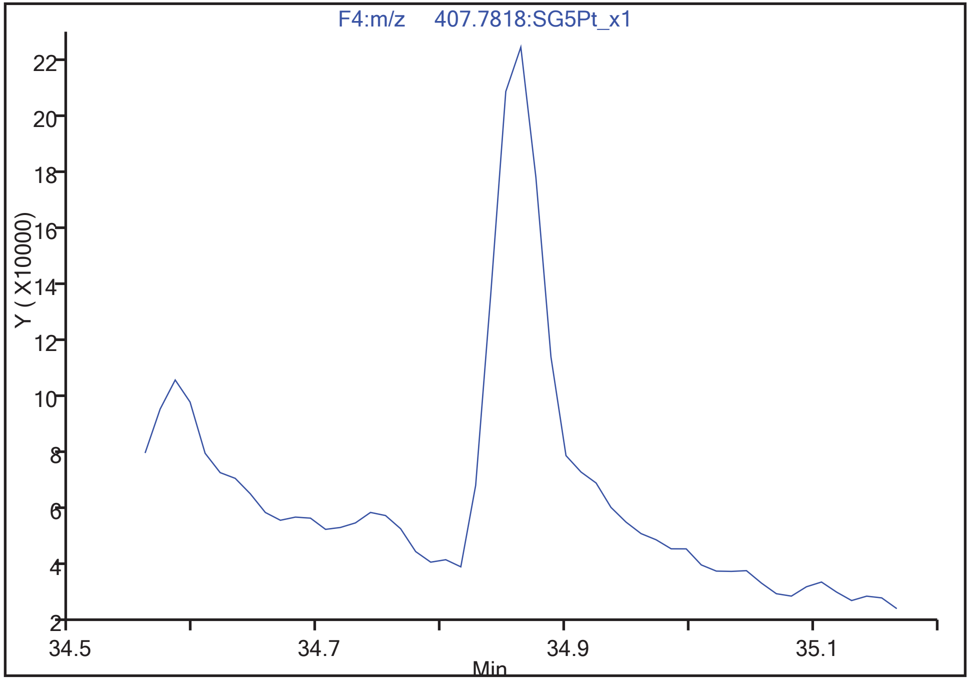
1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Not Detected

Expected RT: 34.86

Processing Integration Results



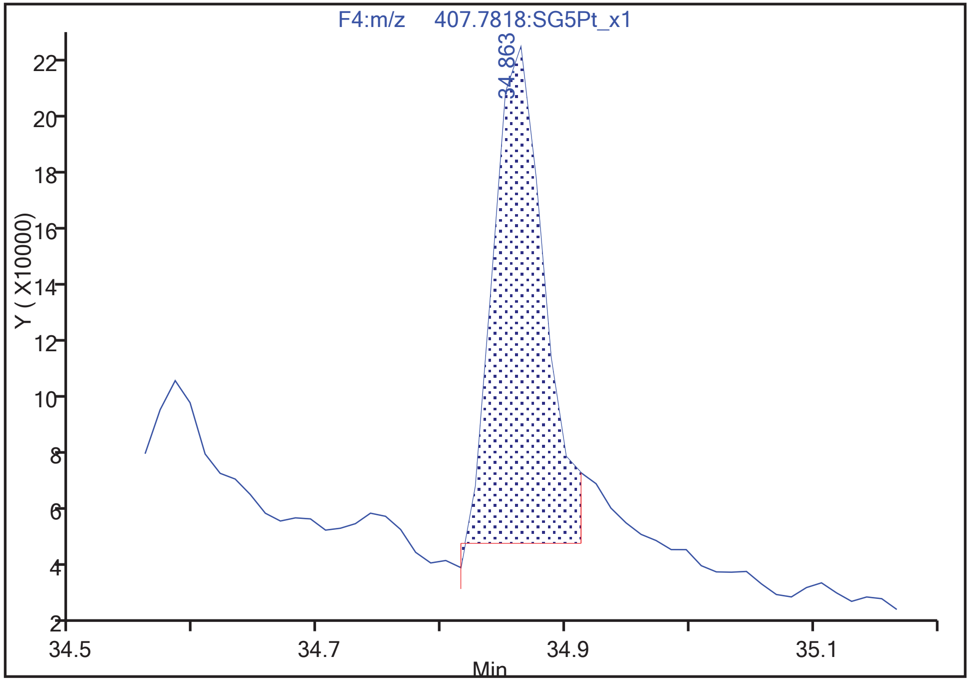
Manual Integration Results

RT: 34.86

Area: 485394

Amount: 4.145297

Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 10:56:56

Audit Action: Manually Integrated

Audit Reason: Assign Peak

TestAmerica Sacramento

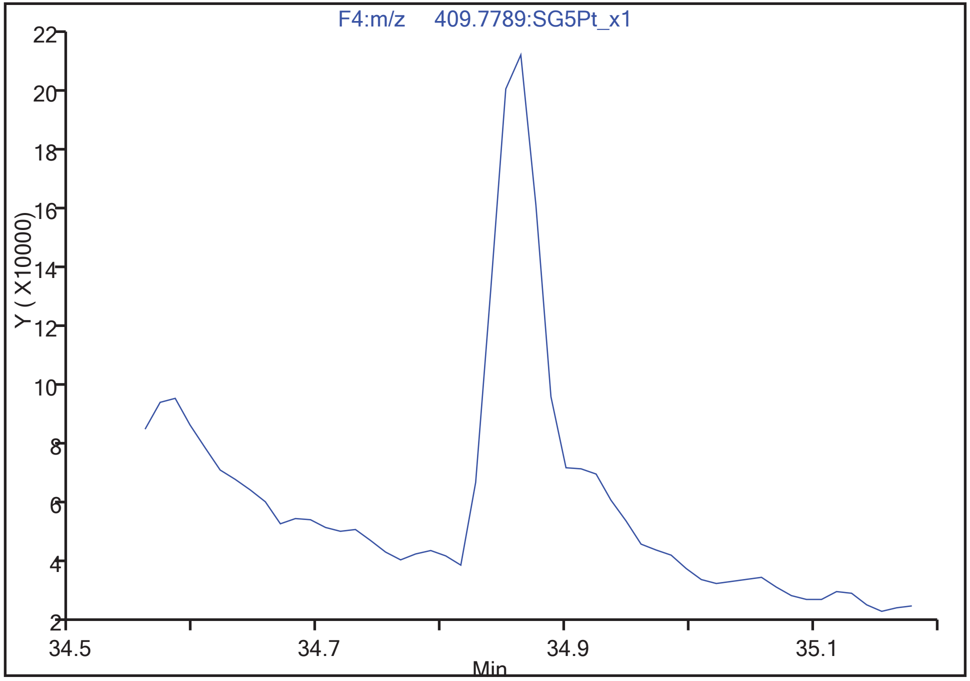
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Injection Date:	11-Nov-2017 06:52:17	Instrument ID:	10D5
Lims ID:	160-24924-G-1-A	Lab Sample ID:	320-24924-1
Client ID:	SHAD041DP026SS02NS		
Operator ID:	AJS	ALS Bottle#:	32 Worklist Smp#: 59
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

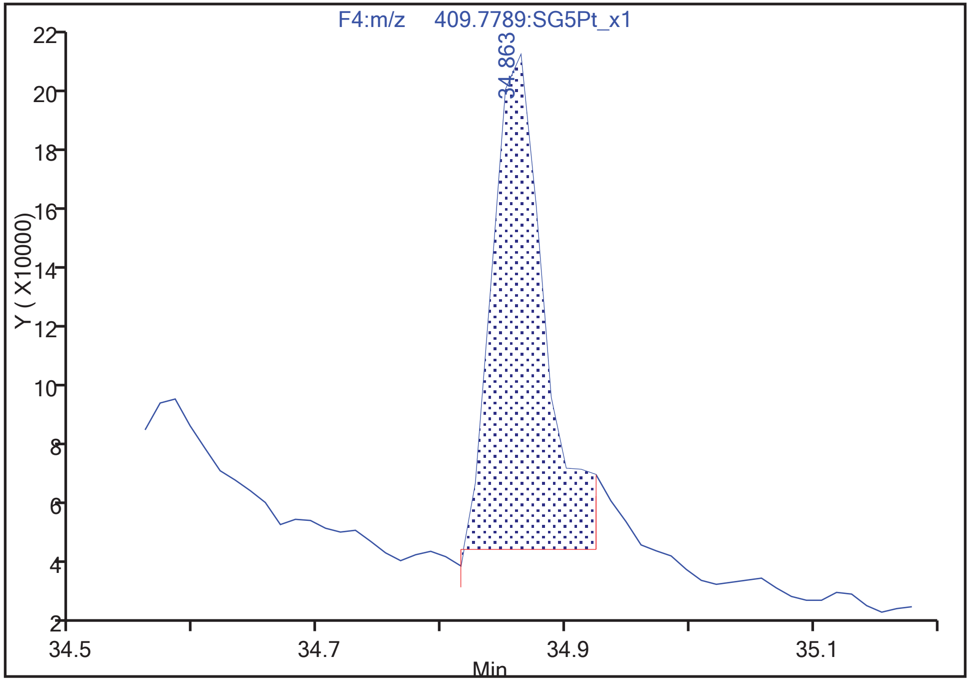
Not Detected
Expected RT: 34.86

Processing Integration Results



RT: 34.86
Area: 478219
Amount: 4.145297
Amount Units: pg/ul

Manual Integration Results



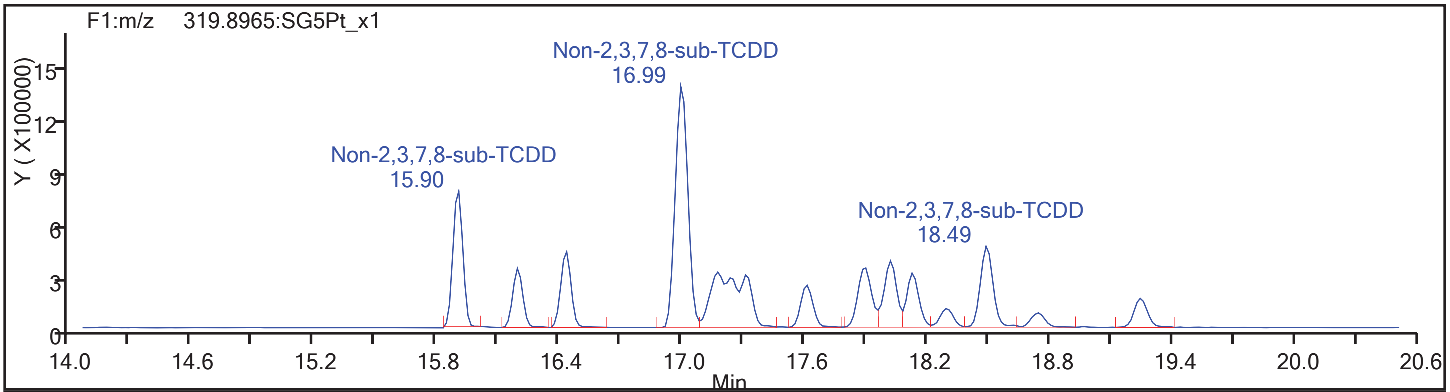
Reviewer: dadunj, 13-Nov-2017 10:57:01
Audit Action: Manually Integrated Audit Reason: Assign Peak

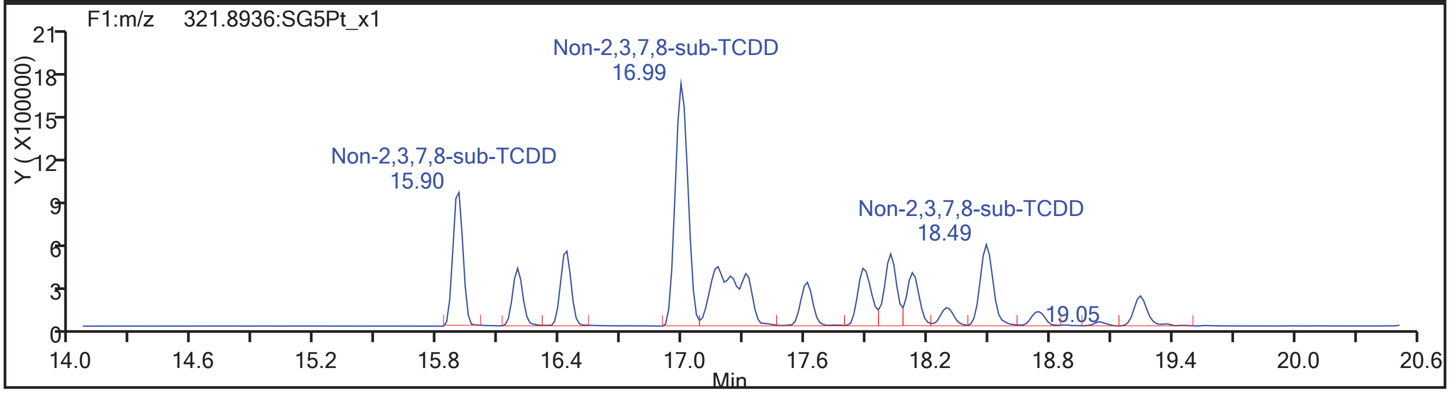
Report Date: 13-Nov-2017 10:59:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

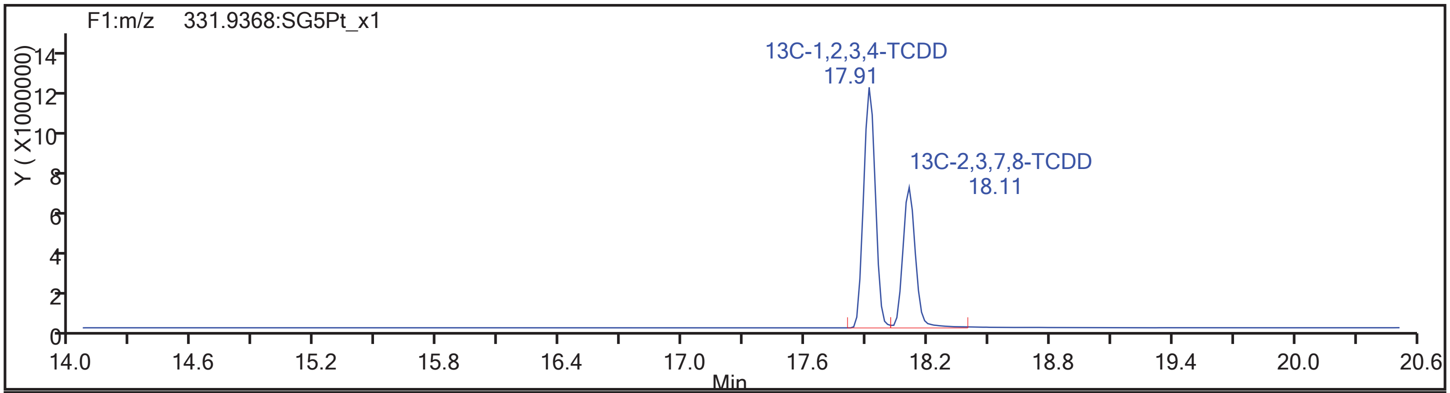
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d
Injection Date: 11-Nov-2017 06:52:17
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
Worklist#: 194084
Sample Line#: 59
Column Type: DB-5
Column Dia: 0.32 mm

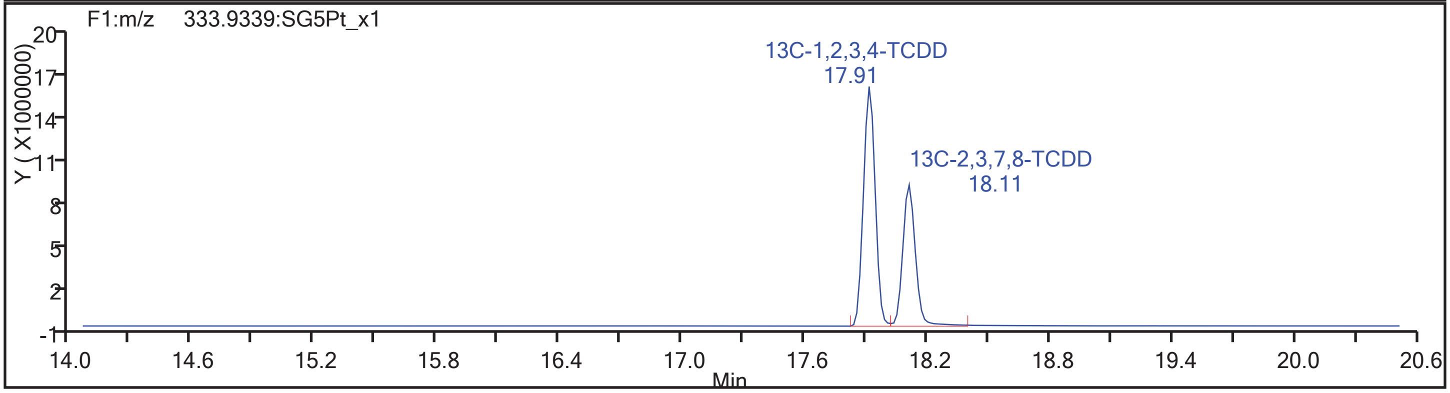
TCDD





TCDD Standards



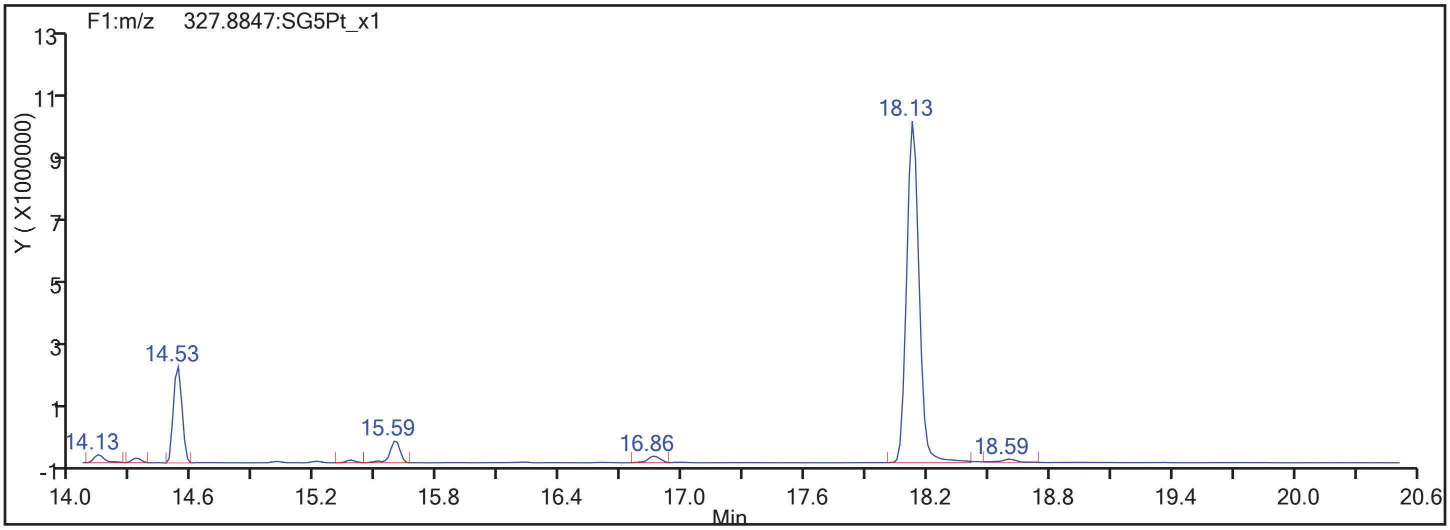


Report Date: 13-Nov-2017 10:59:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

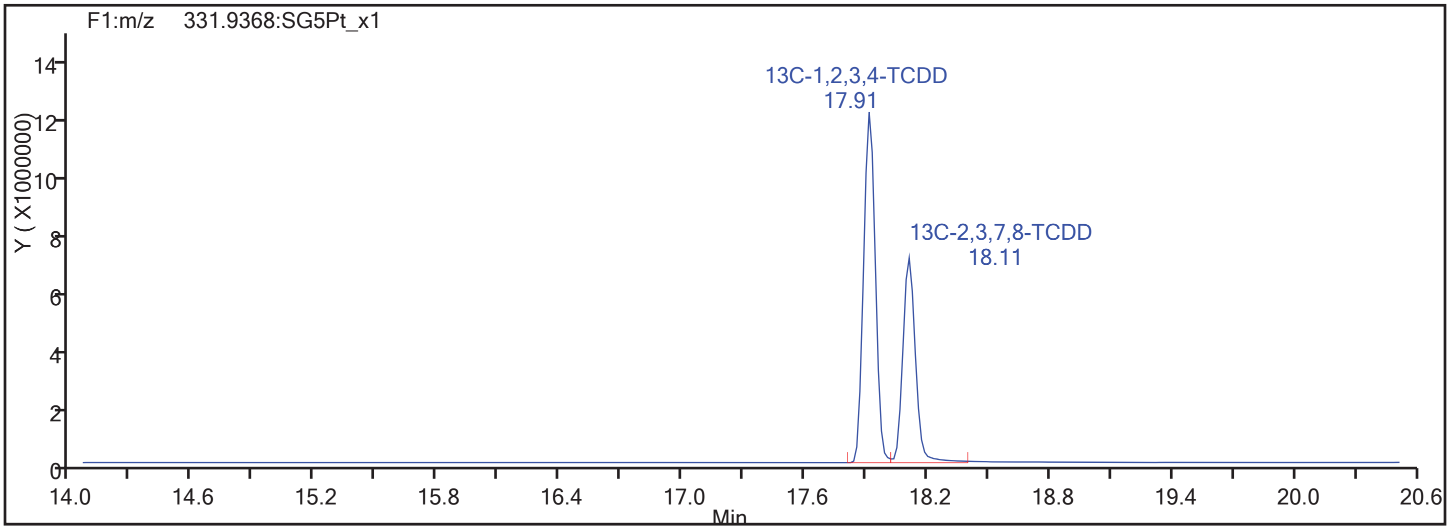
TestAmerica Sacramento

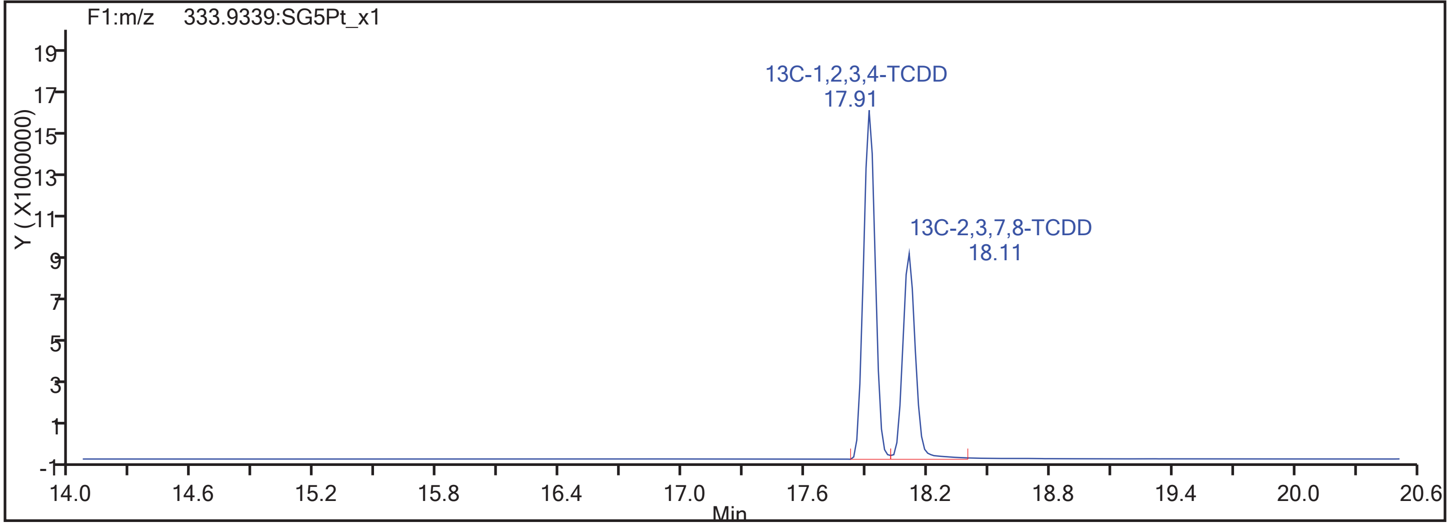
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d
Injection Date: 11-Nov-2017 06:52:17
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
Worklist#: 194084
Sample Line#: 59
Column Type: DB-5
Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d

Injection Date: 11-Nov-2017 06:52:17

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS02NS

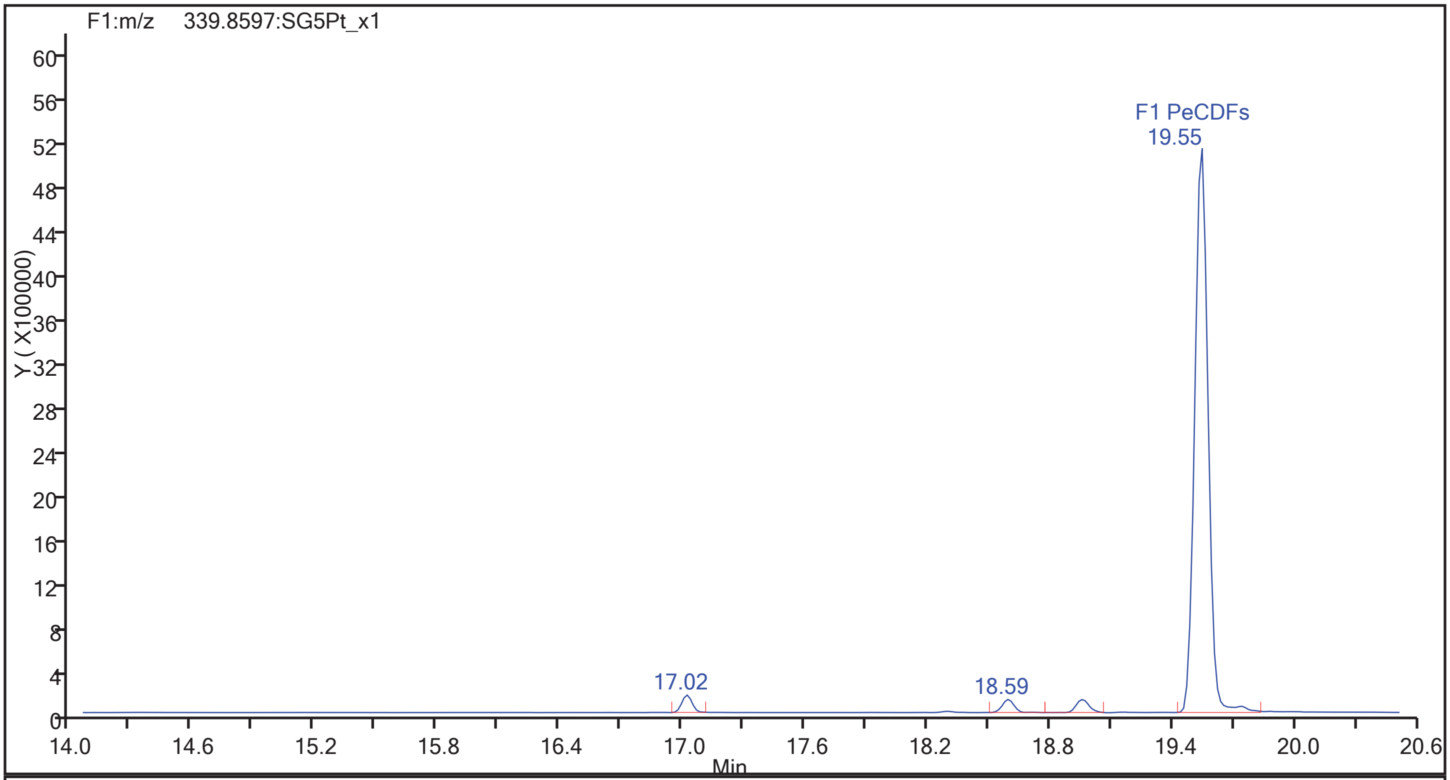
Worklist#: 194084

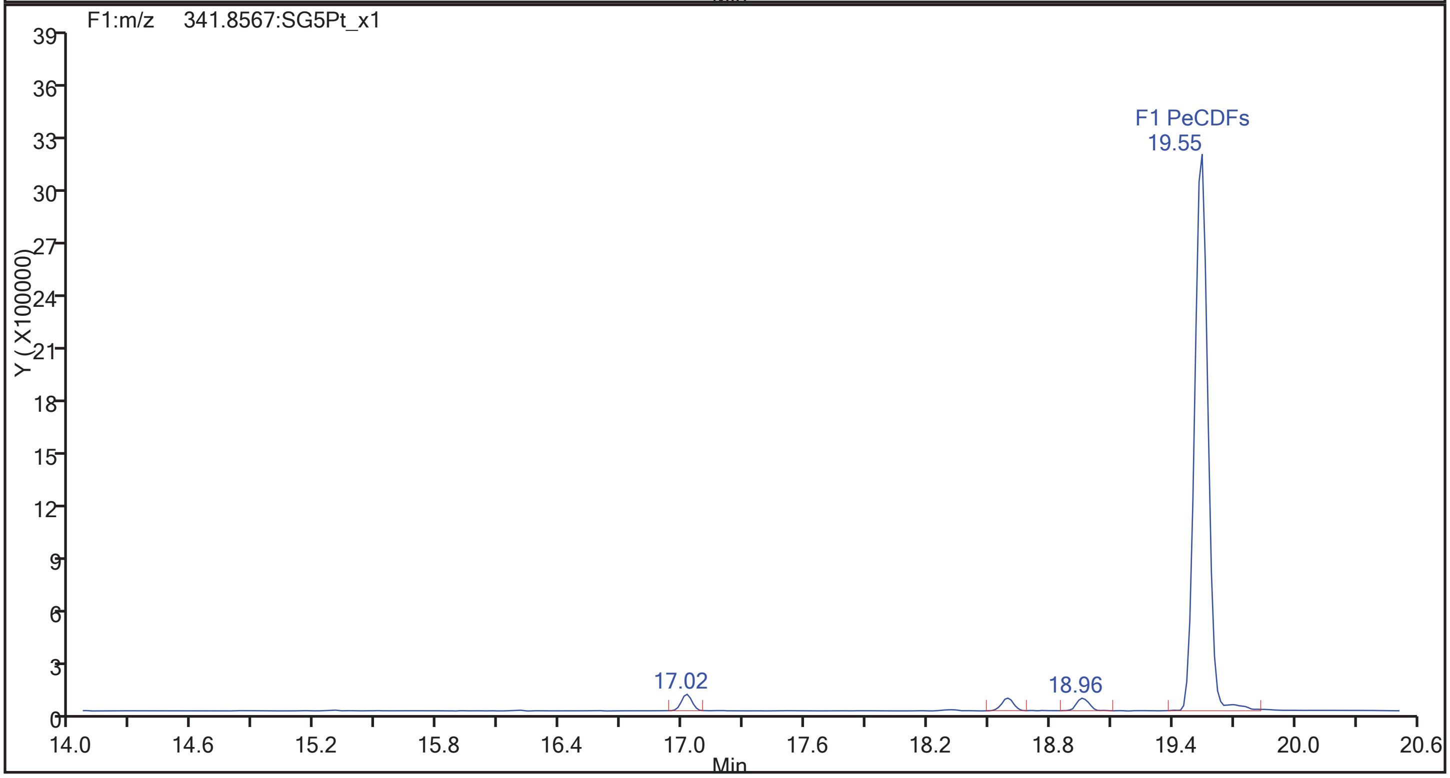
Sample Line#: 59

Column Type: DB-5

Column Dia: 0.32 mm

F1 PeCDFs

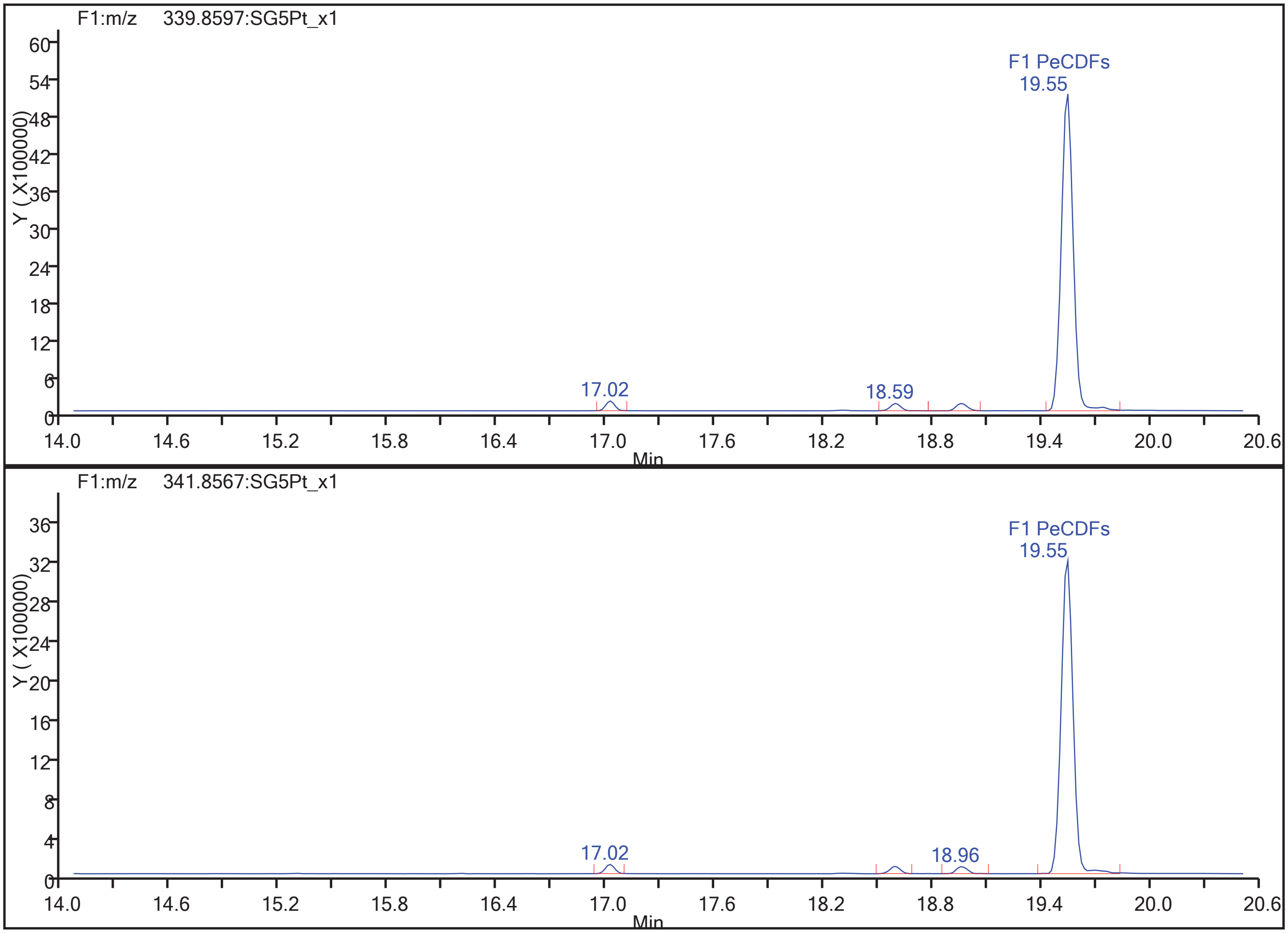




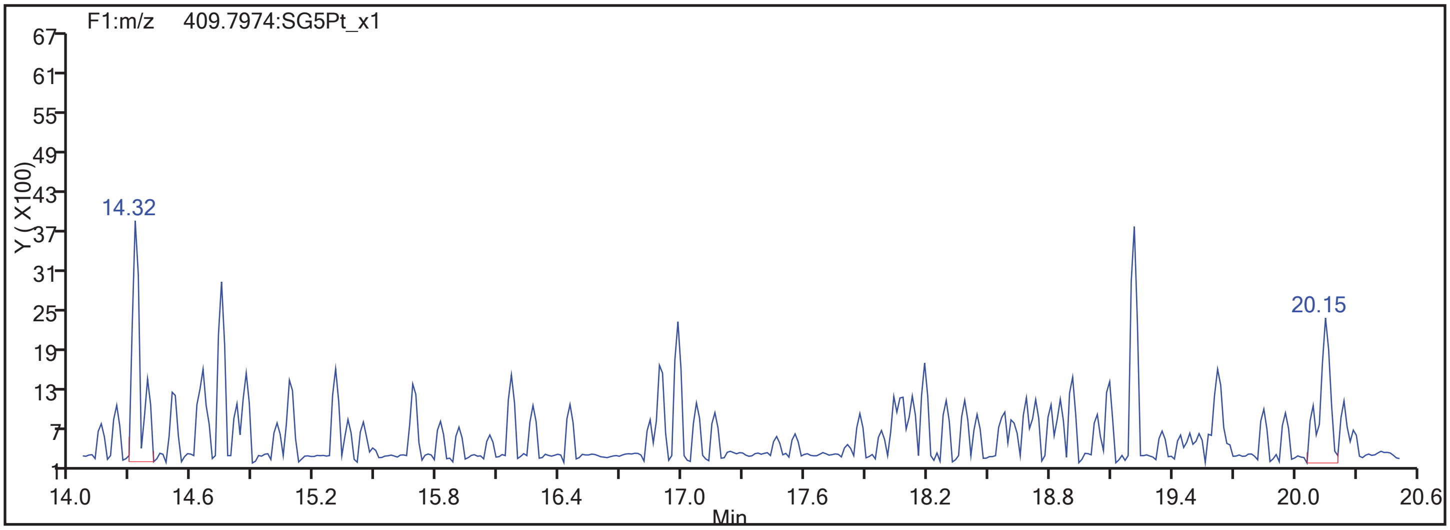
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Injection Date:	11-Nov-2017 06:52:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	194084	Sample Line#:	59
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



F1 PeCDFs Interference Mass



Report Date: 13-Nov-2017 10:59:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Injection Date:	11-Nov-2017 06:52:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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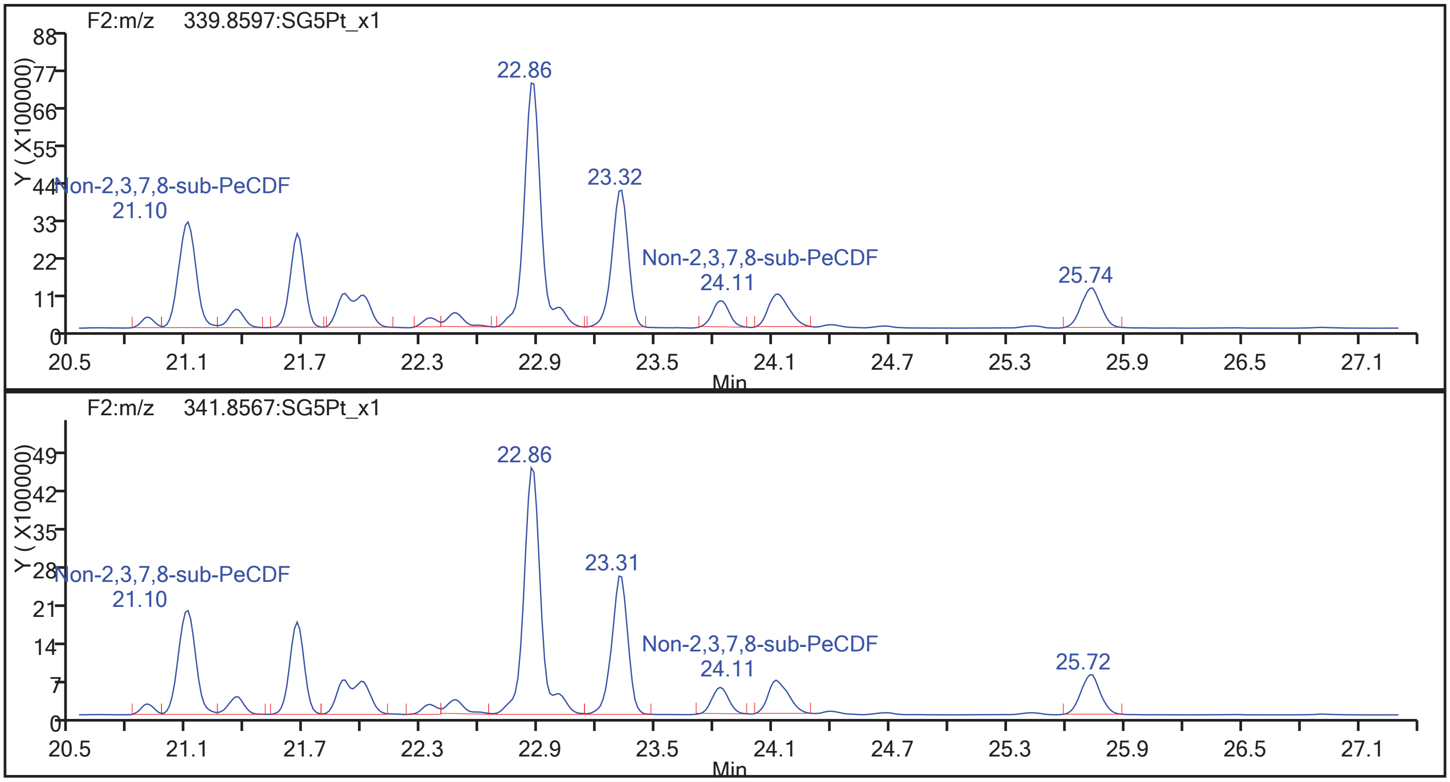
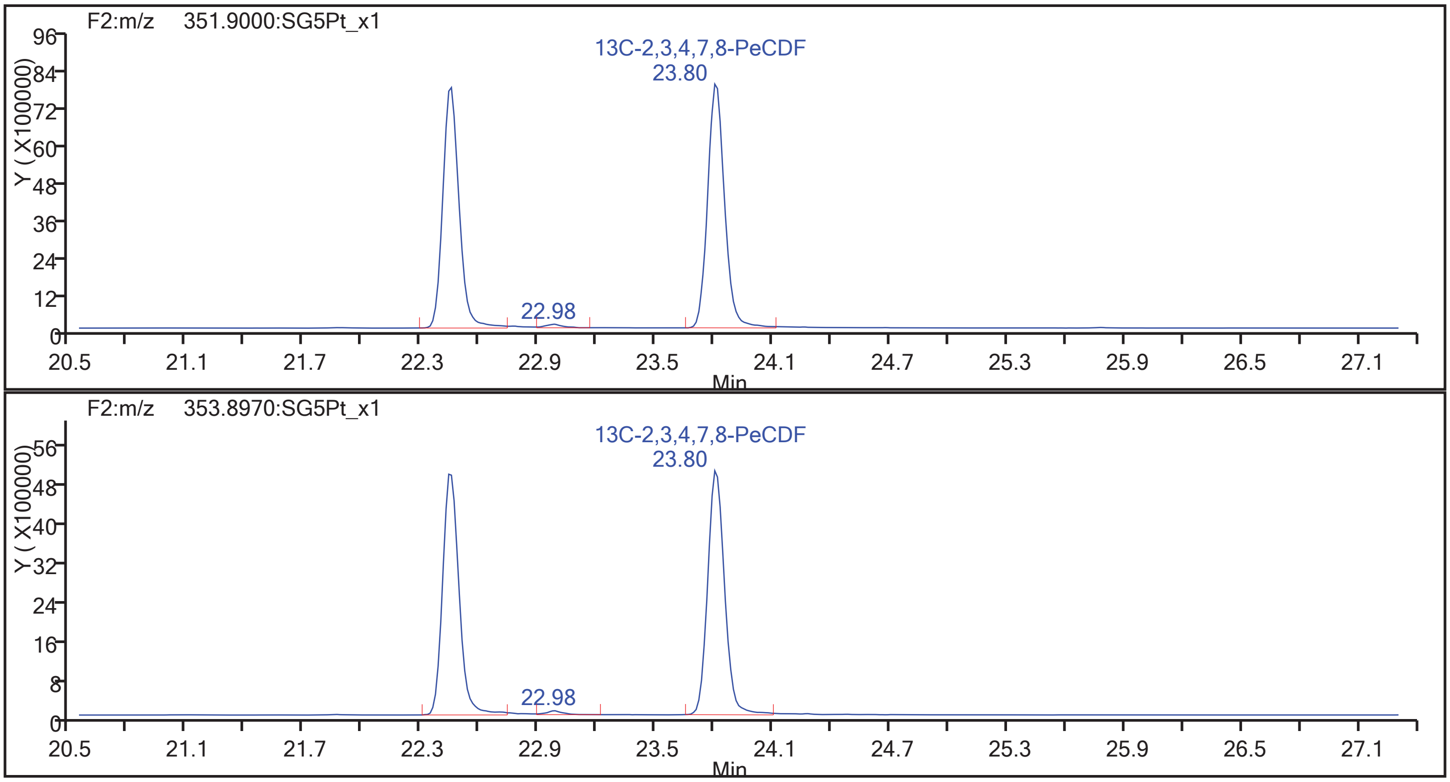
Worklist#:	194084	Sample Line#:	59
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Report Date: 13-Nov-2017 10:59:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 11-Nov-2017 06:52:17 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
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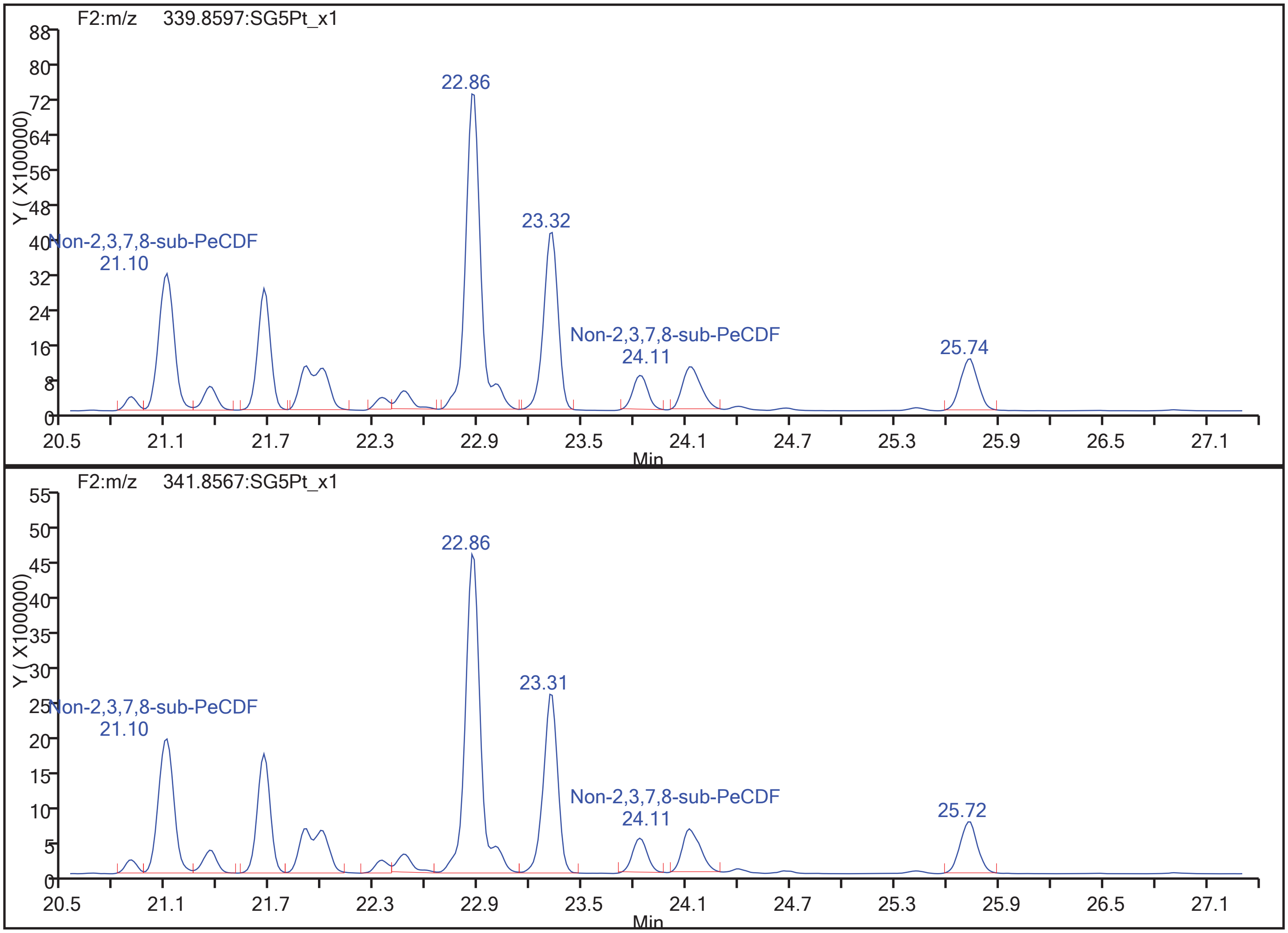
PeCDF



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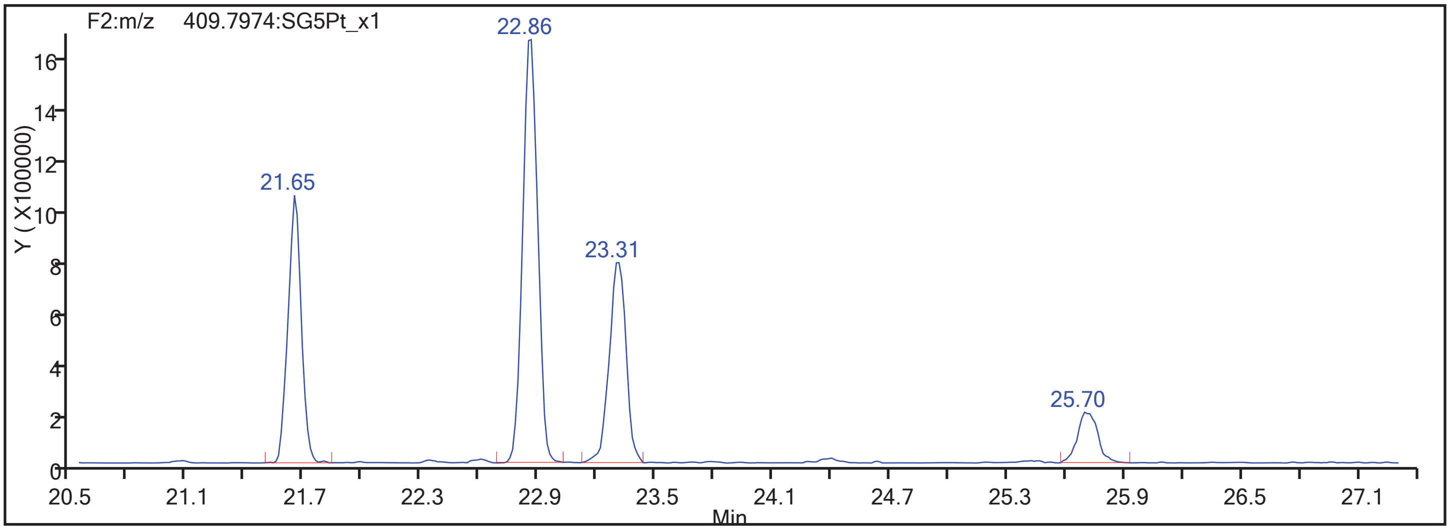

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TestAmerica Sacramento

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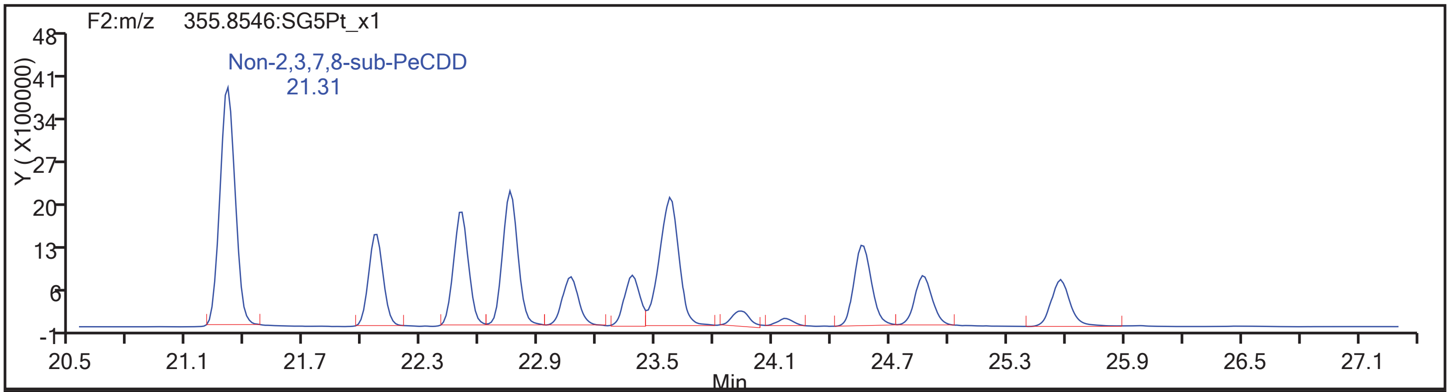

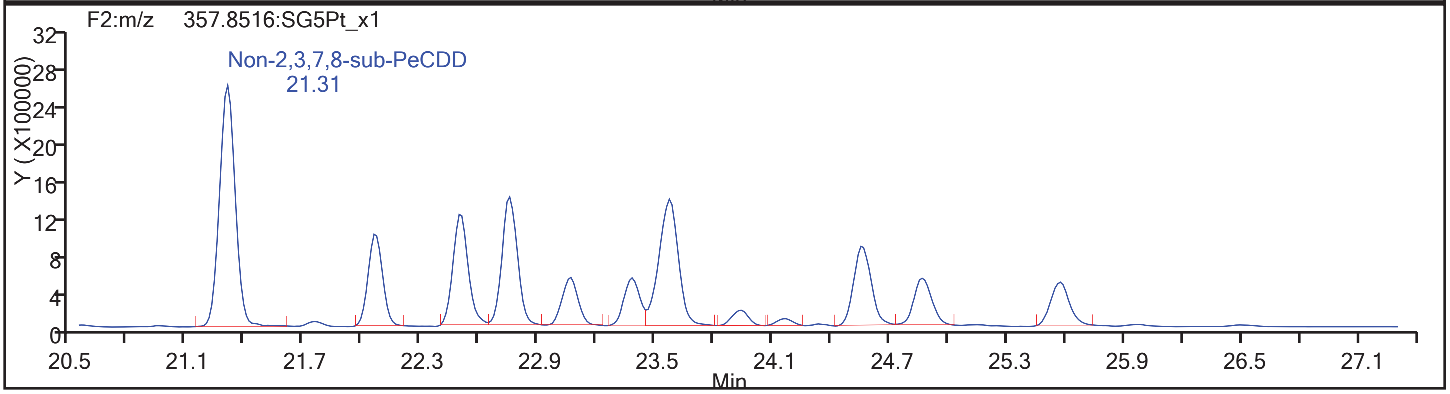

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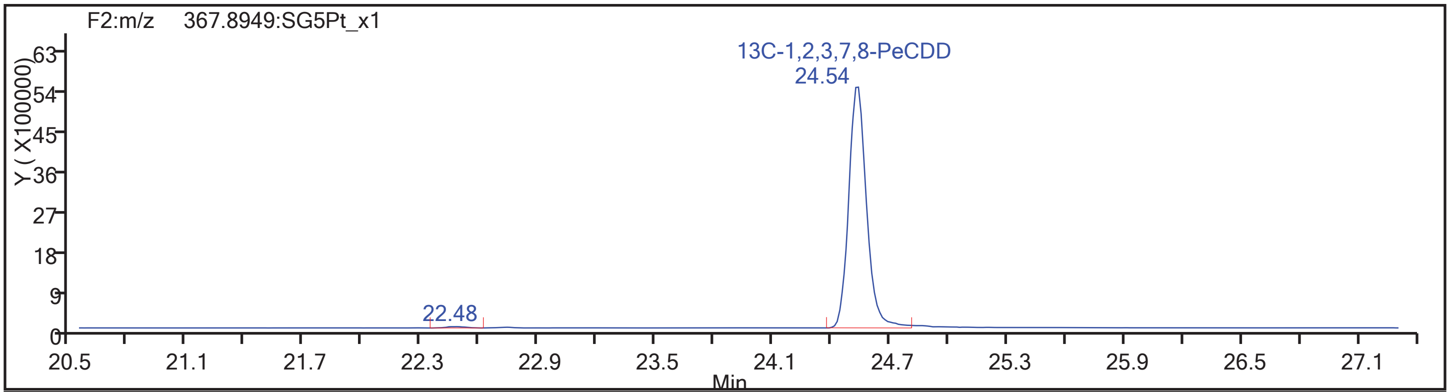

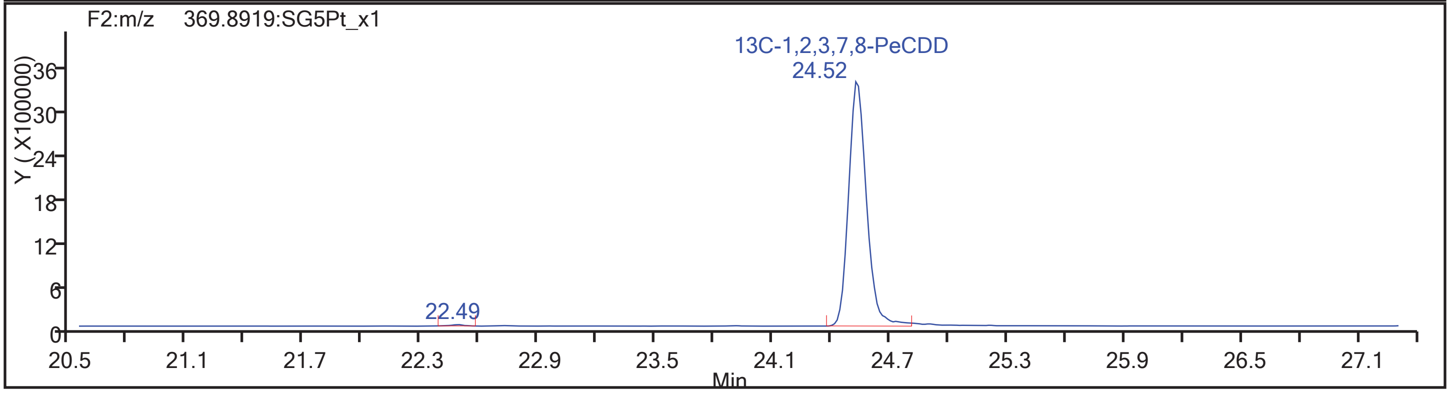

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TestAmerica Sacramento

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Injection Date: 11-Nov-2017 06:52:17 Injection Vol: 2.0 ul
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Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
Worklist#: 194084 Sample Line#: 59
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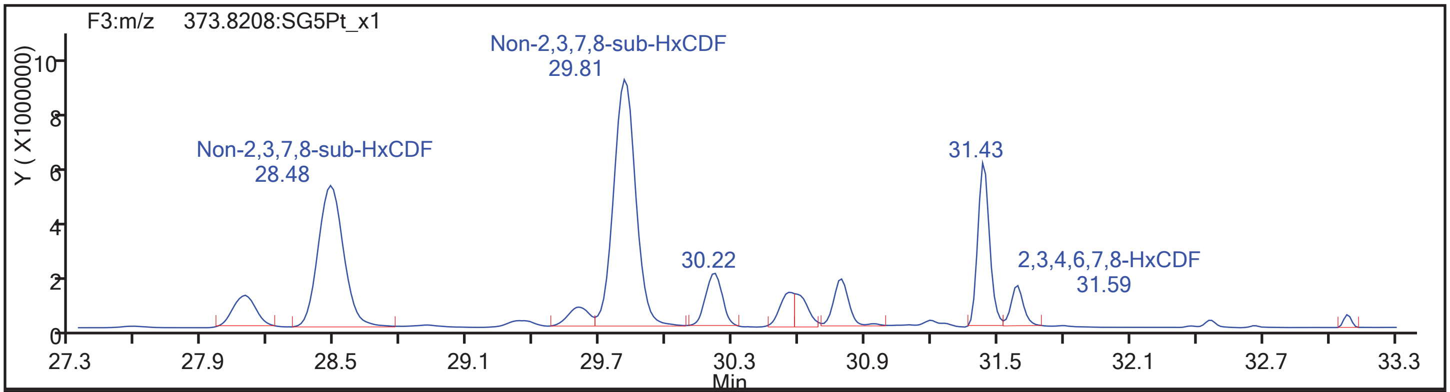
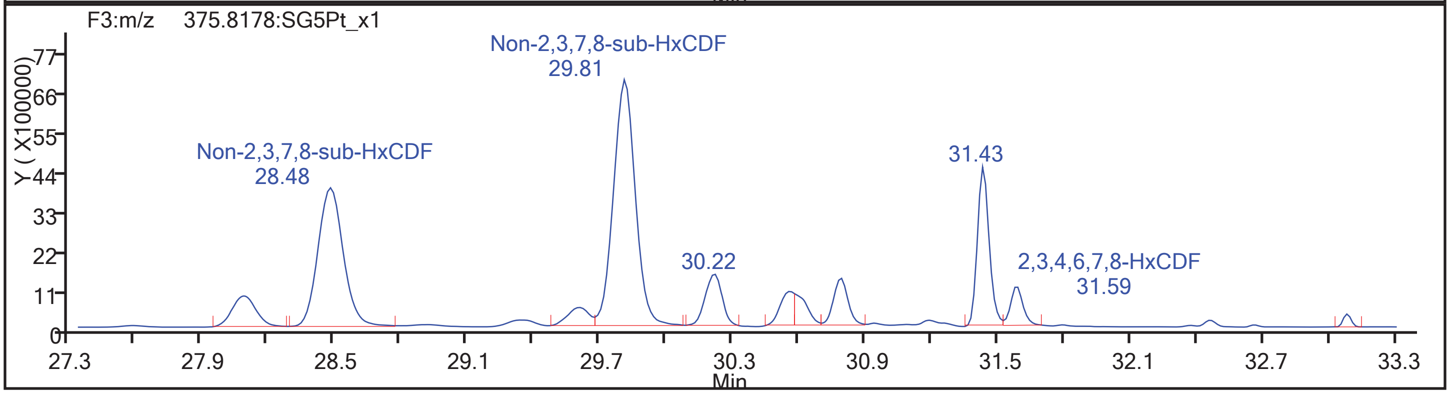
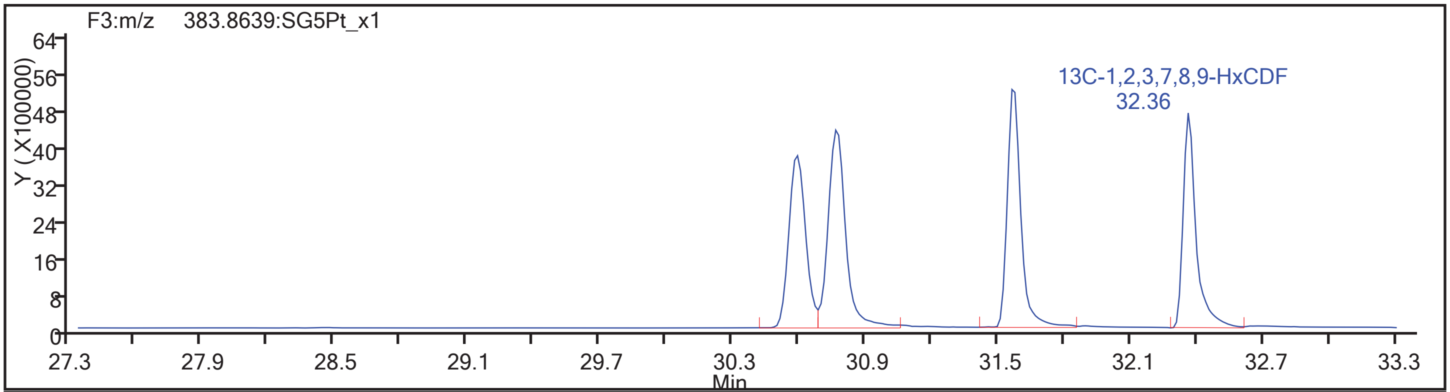
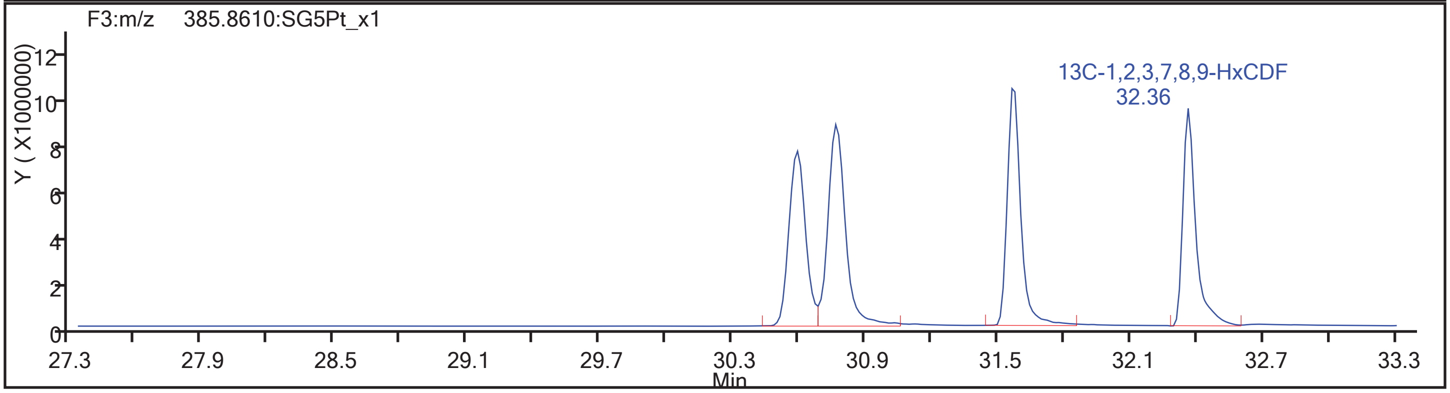
HxCDF





HxCDF Standards





Report Date: 13-Nov-2017 10:59:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d		
Injection Date:	11-Nov-2017 06:52:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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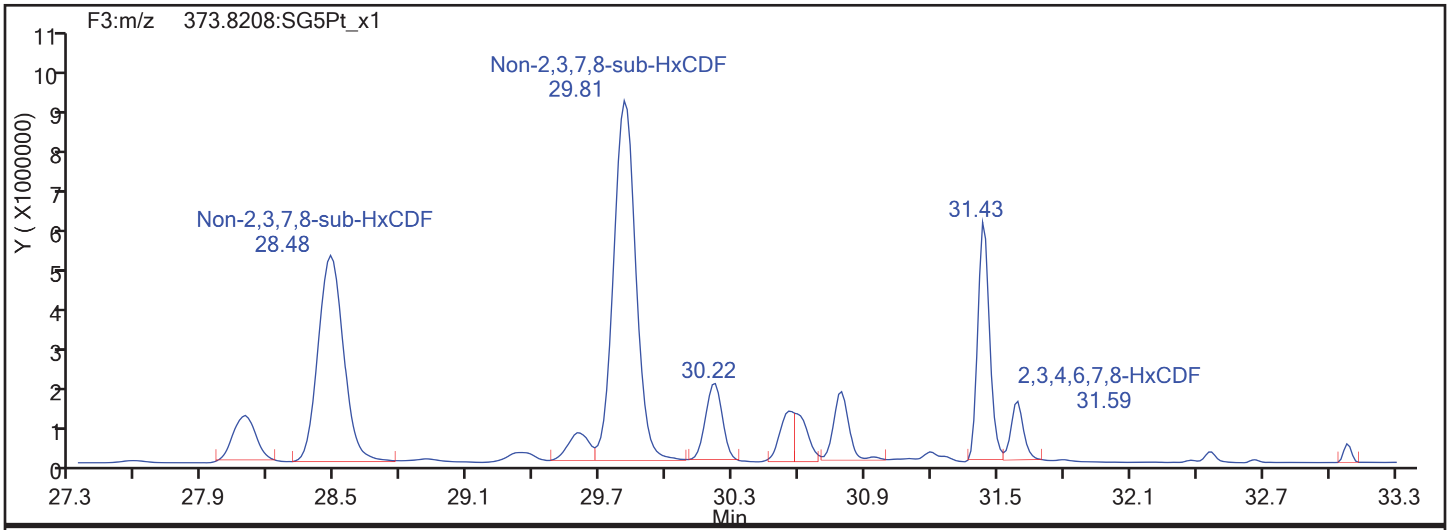
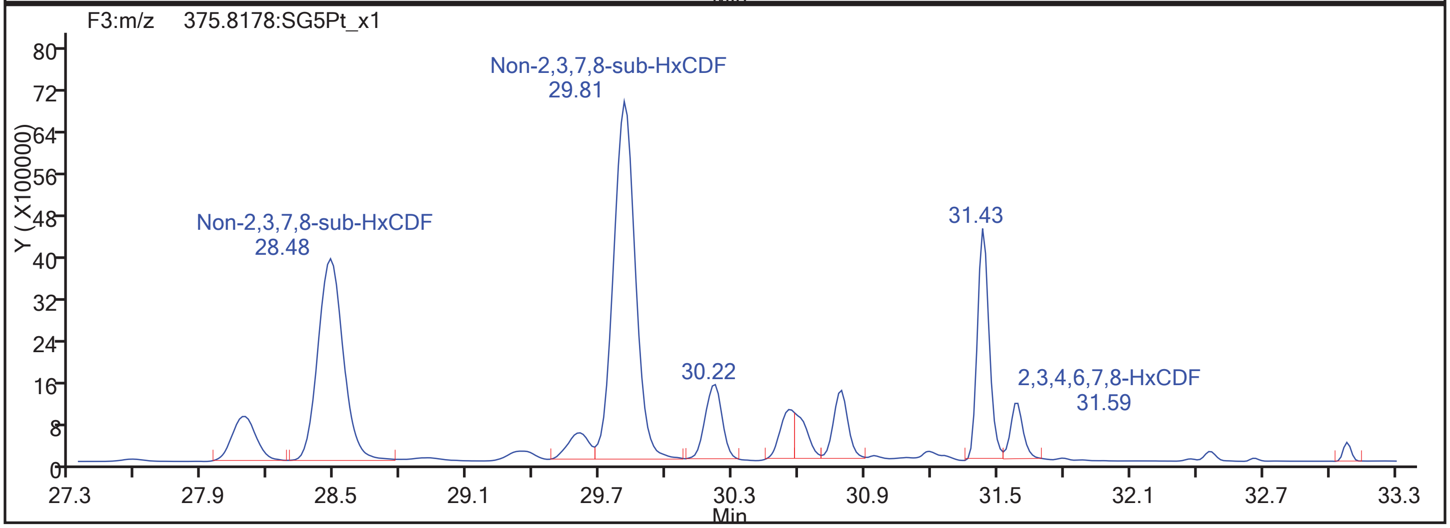
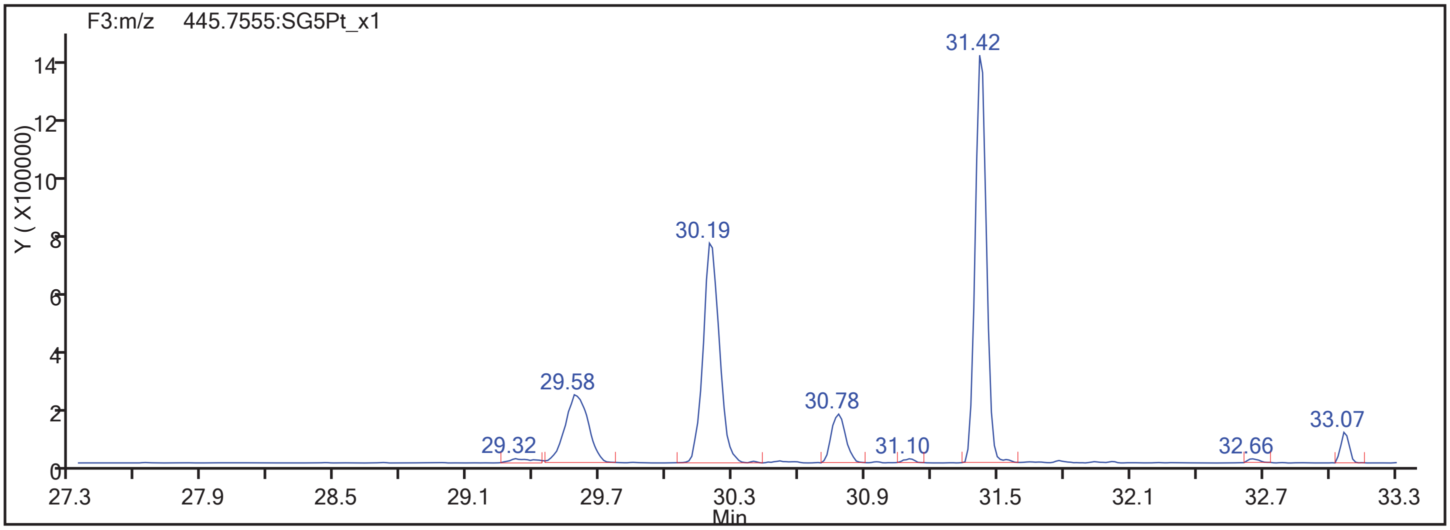
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Report Date: 13-Nov-2017 10:59:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d

Injection Date: 11-Nov-2017 06:52:17 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

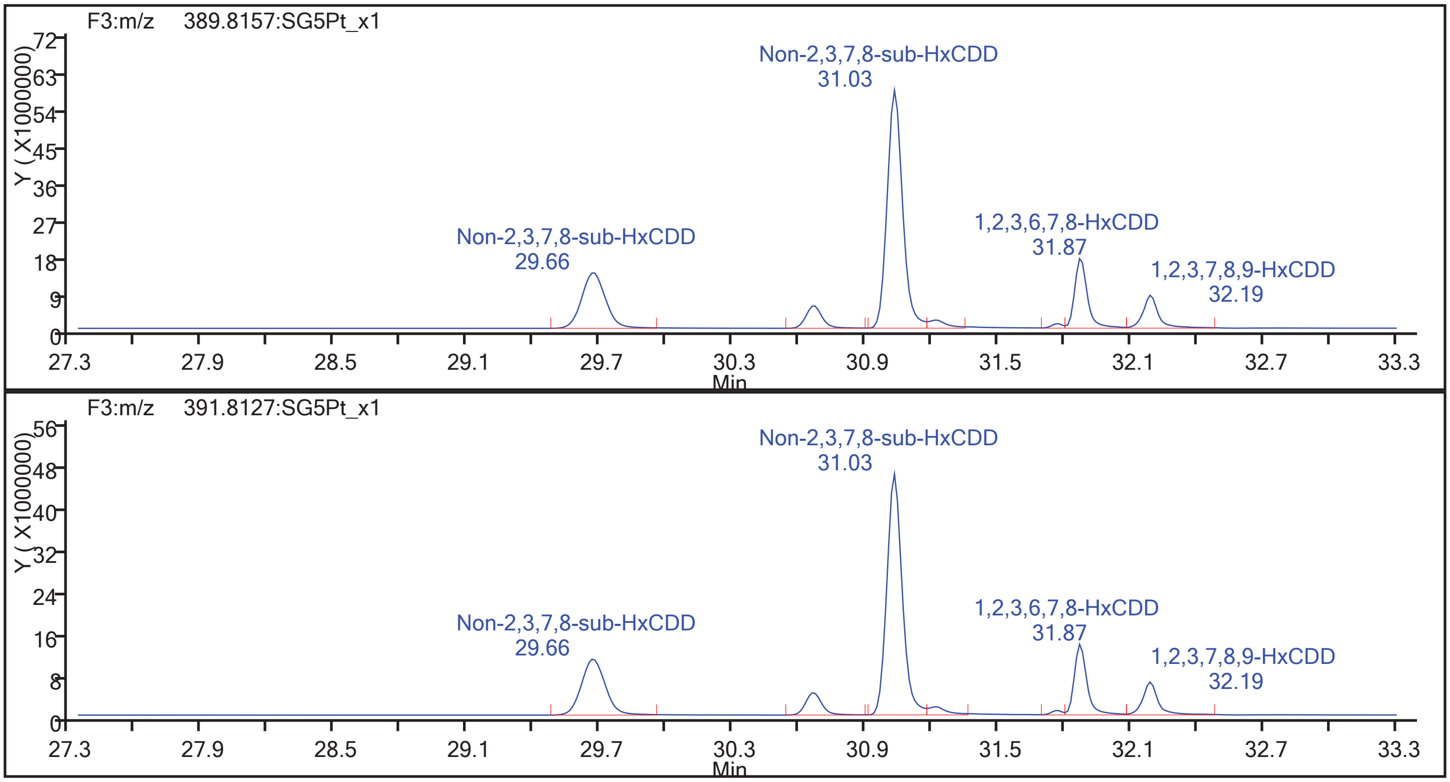
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS02NS

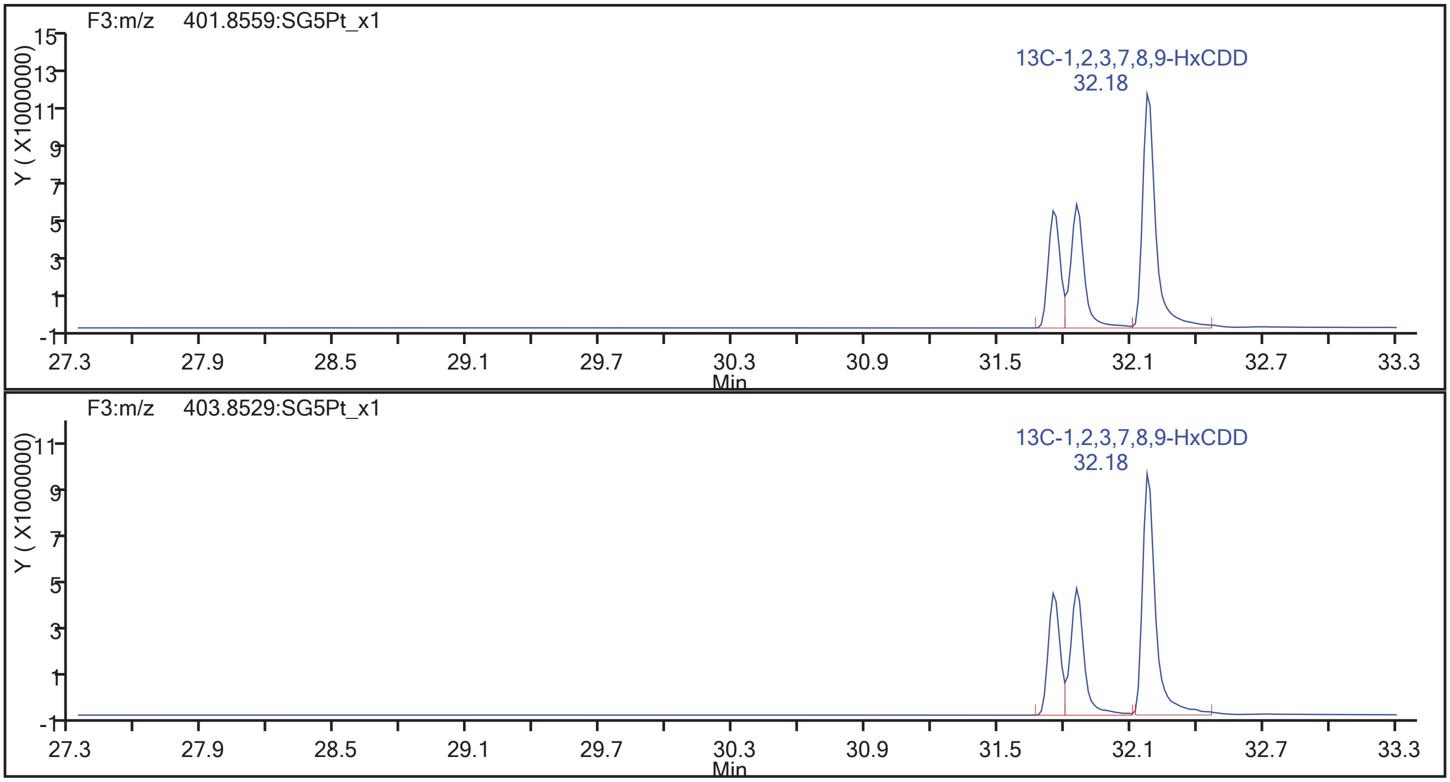
Worklist#: 194084 Sample Line#: 59

Column Type: DB-5 Column Dia: 0.32 mm

HxCDD



HxCDD Standards



Report Date: 13-Nov-2017 10:59:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_59.d

Injection Date: 11-Nov-2017 06:52:17

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS02NS

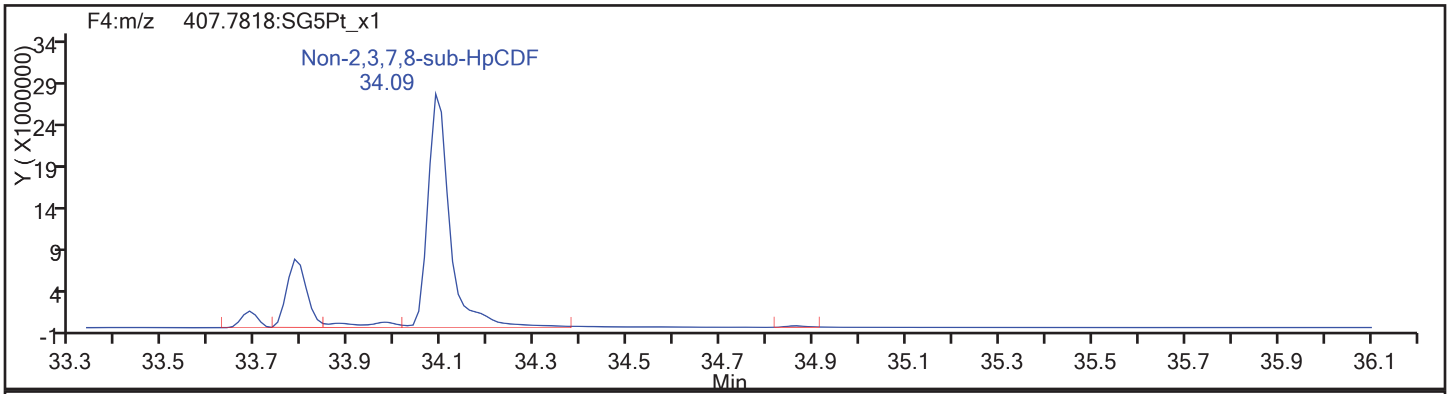
Worklist#: 194084

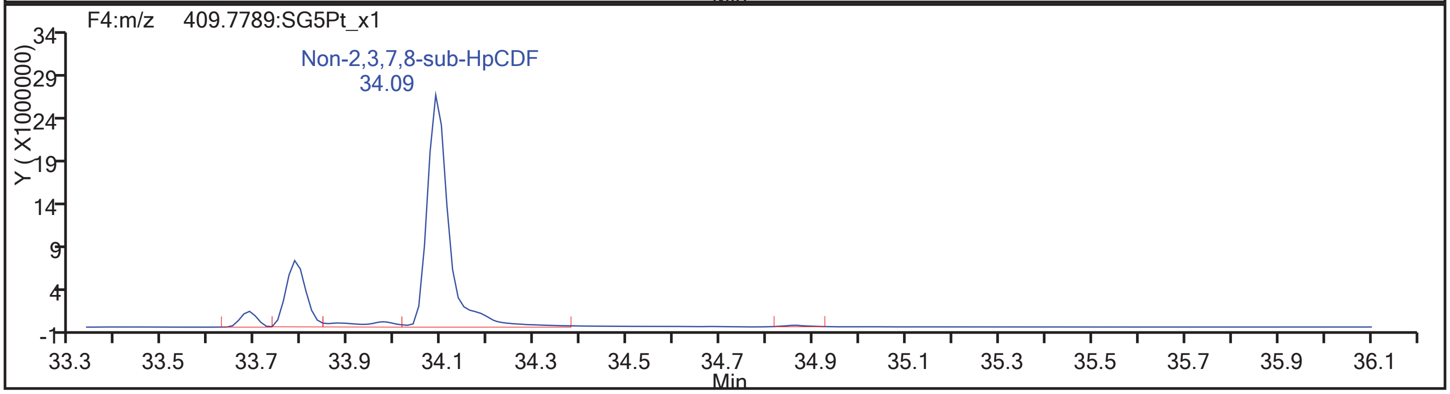
Sample Line#: 59

Column Type: DB-5

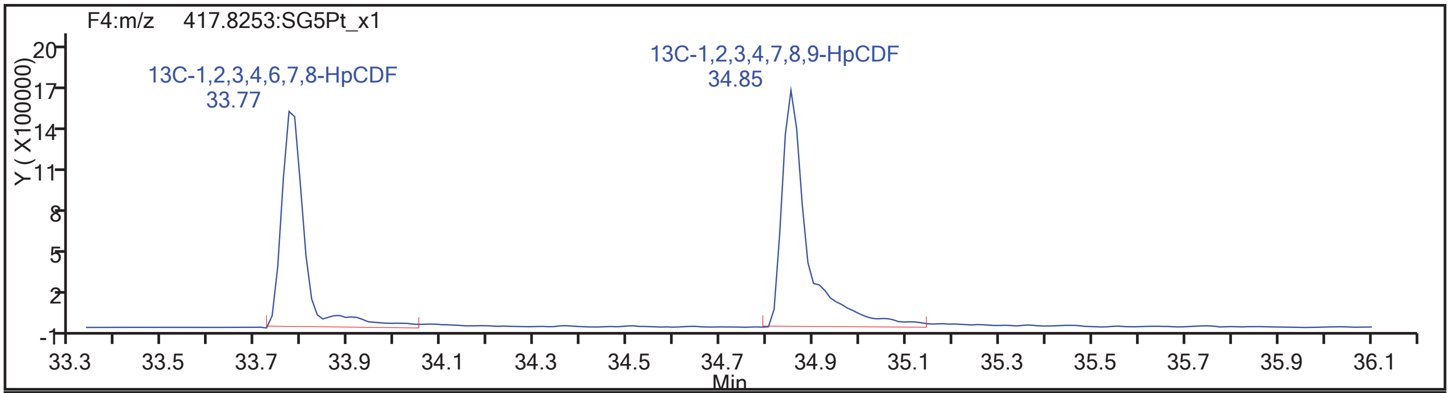
Column Dia: 0.32 mm

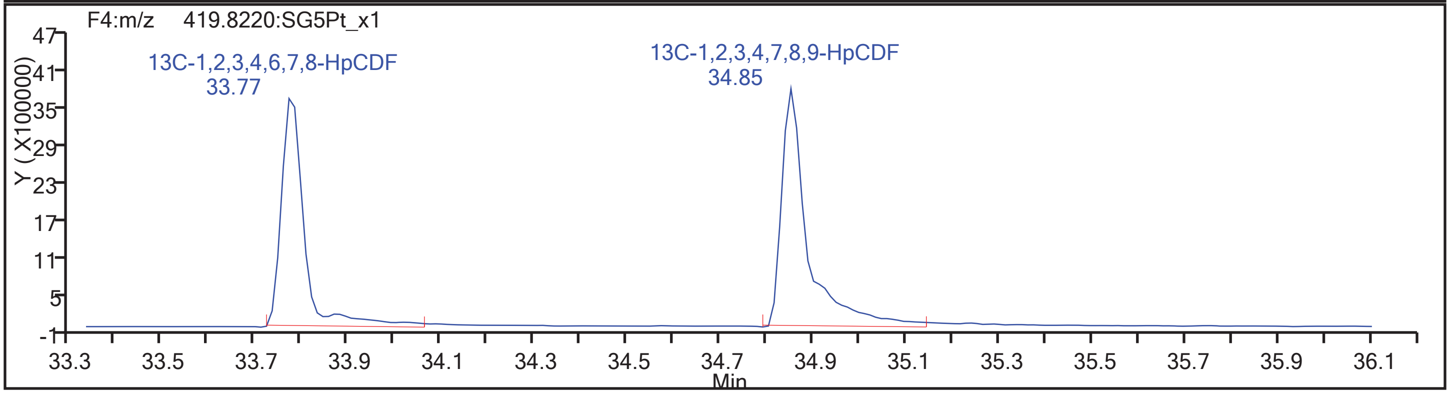
HpCDF





HpCDF Standards





Report Date: 13-Nov-2017 10:59:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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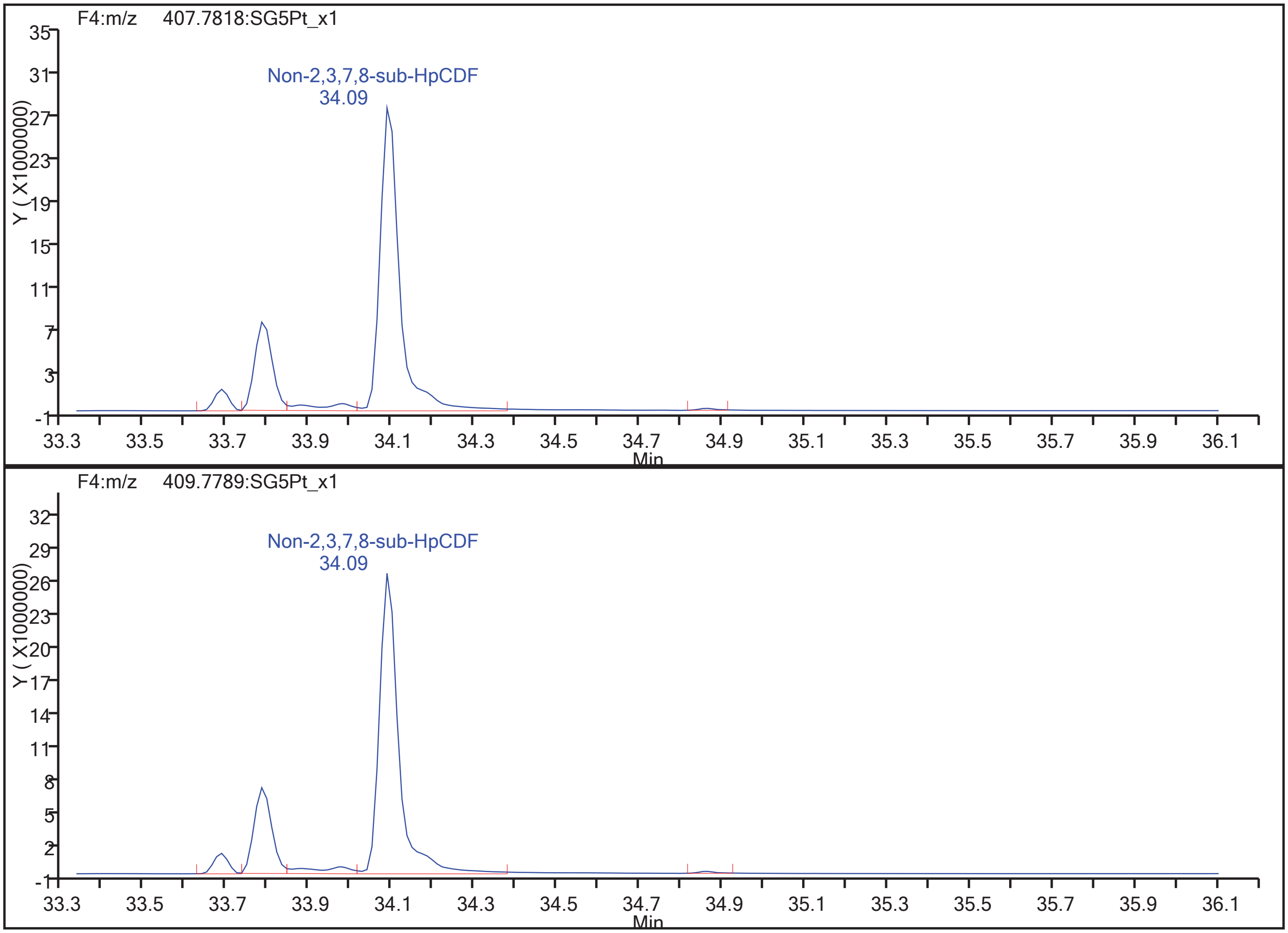
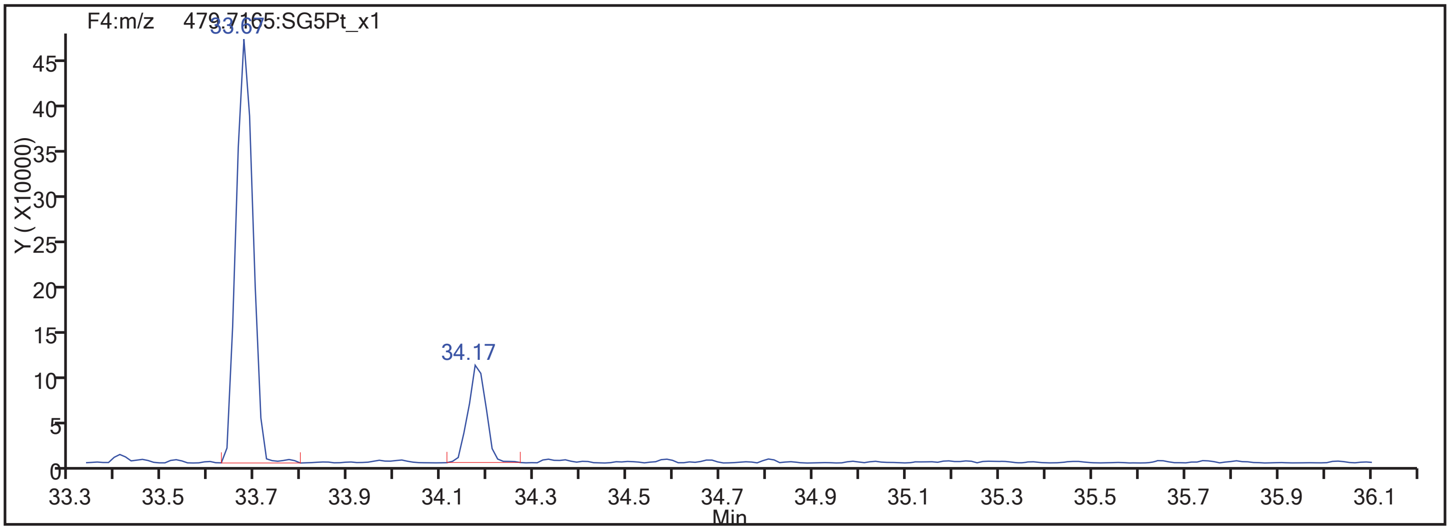
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF



HpCDF Interference Mass



TestAmerica Sacramento

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Injection Date:	11-Nov-2017 06:52:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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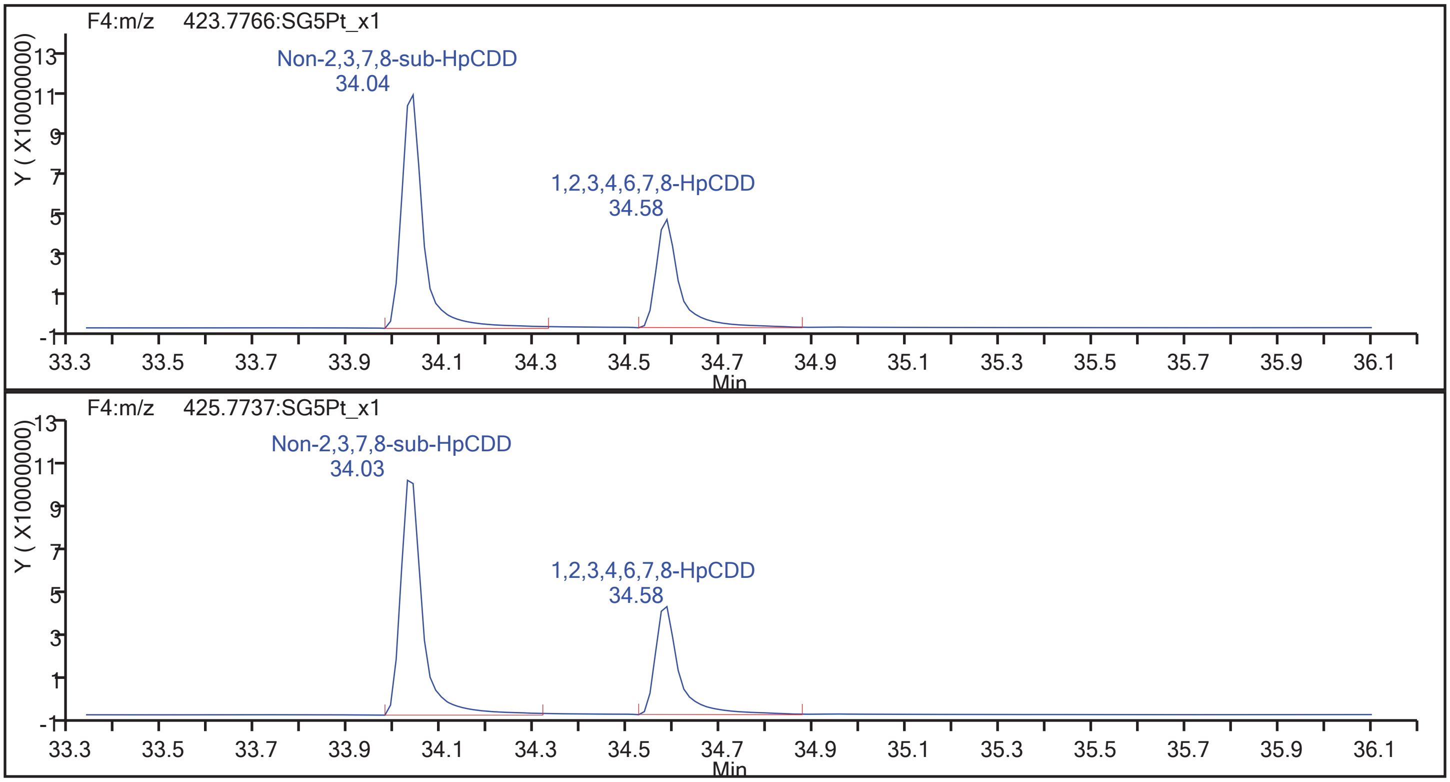
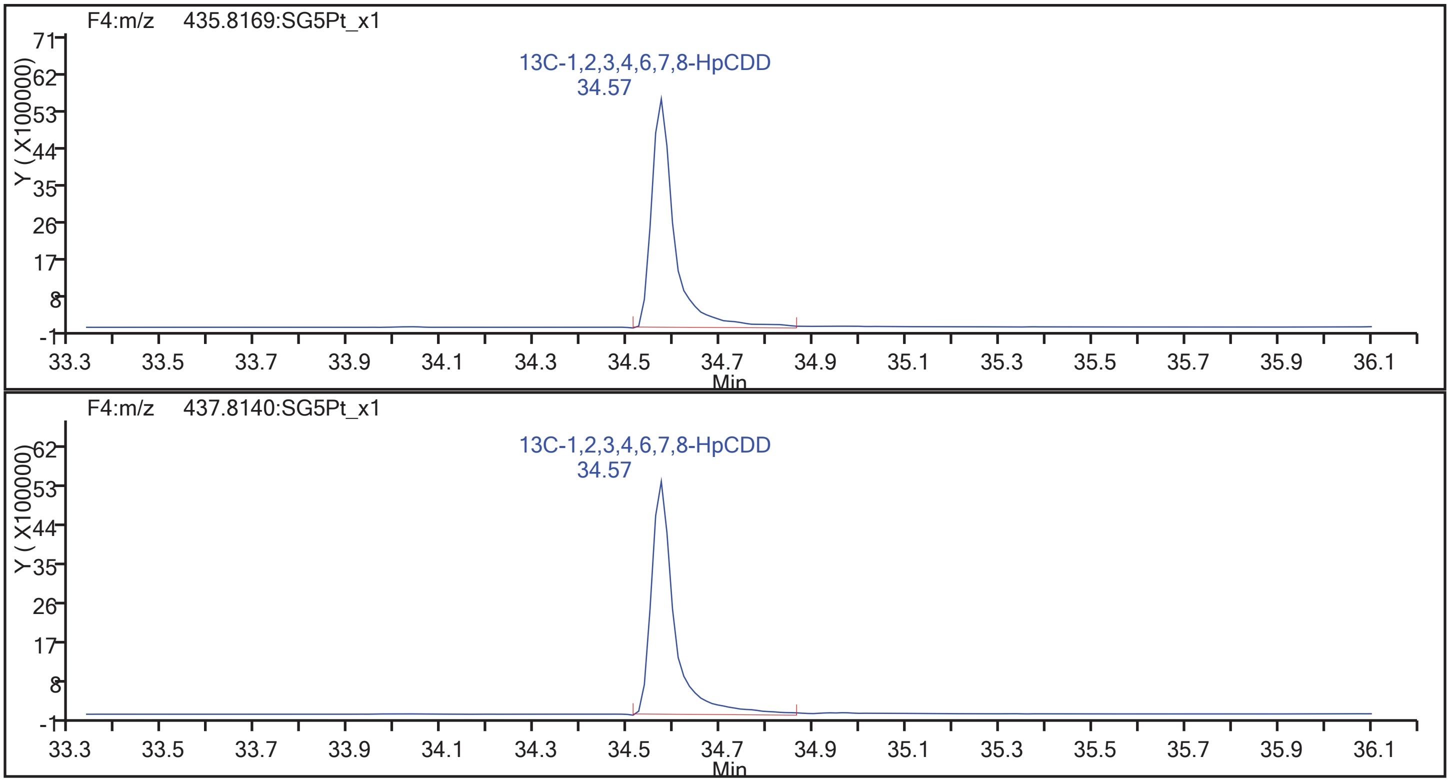
HpCDD



HpCDD Standards



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TestAmerica Sacramento

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Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
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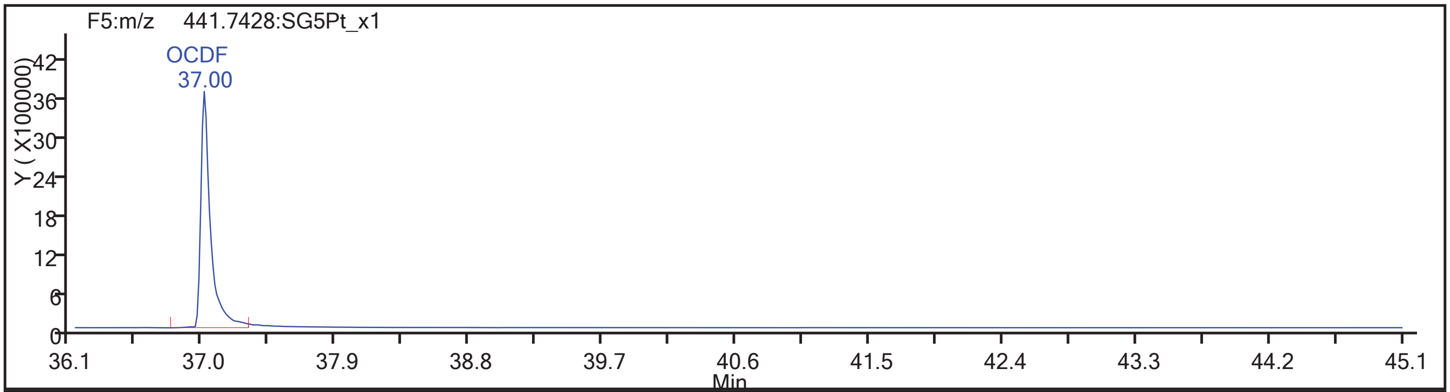
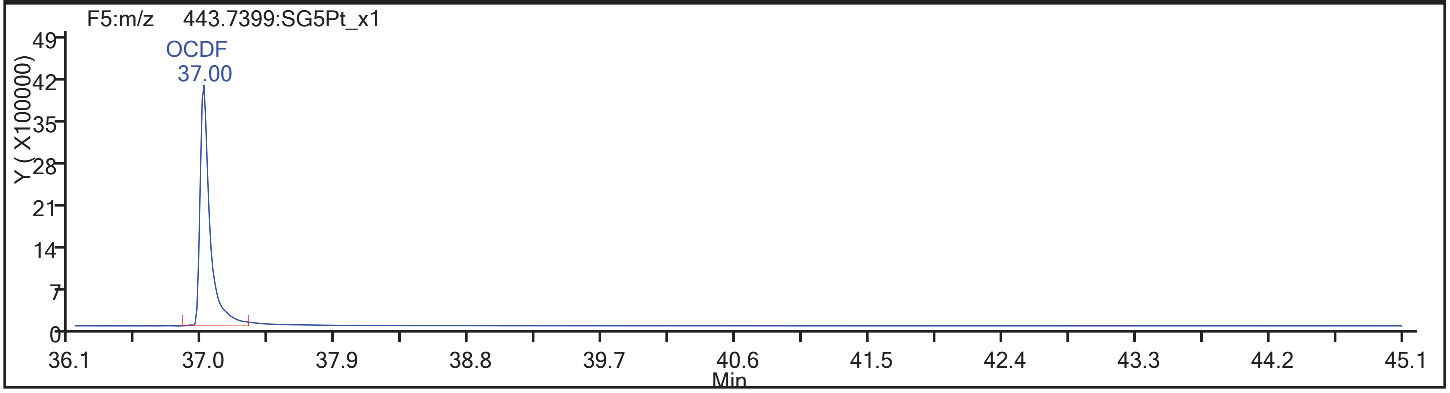
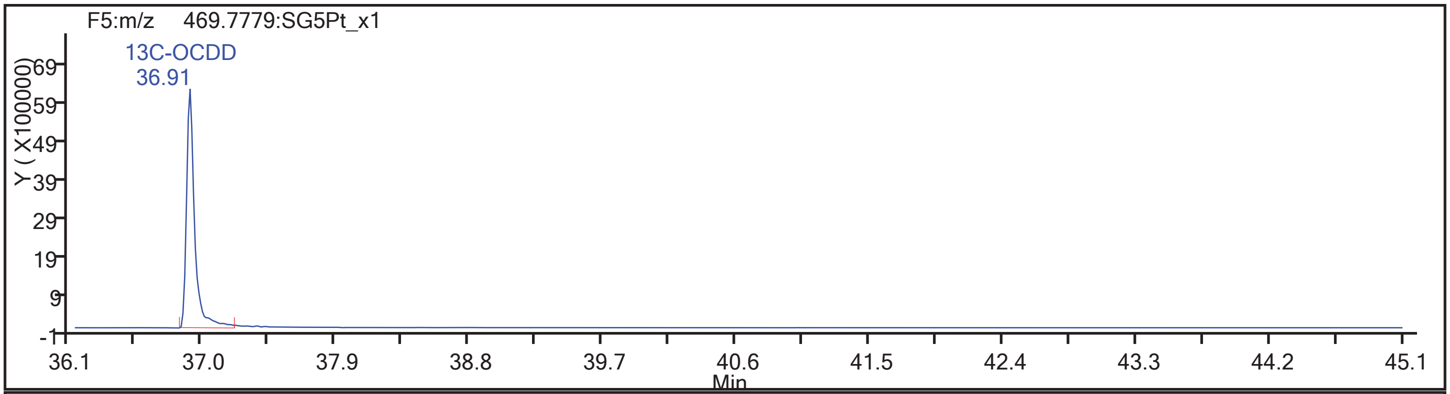
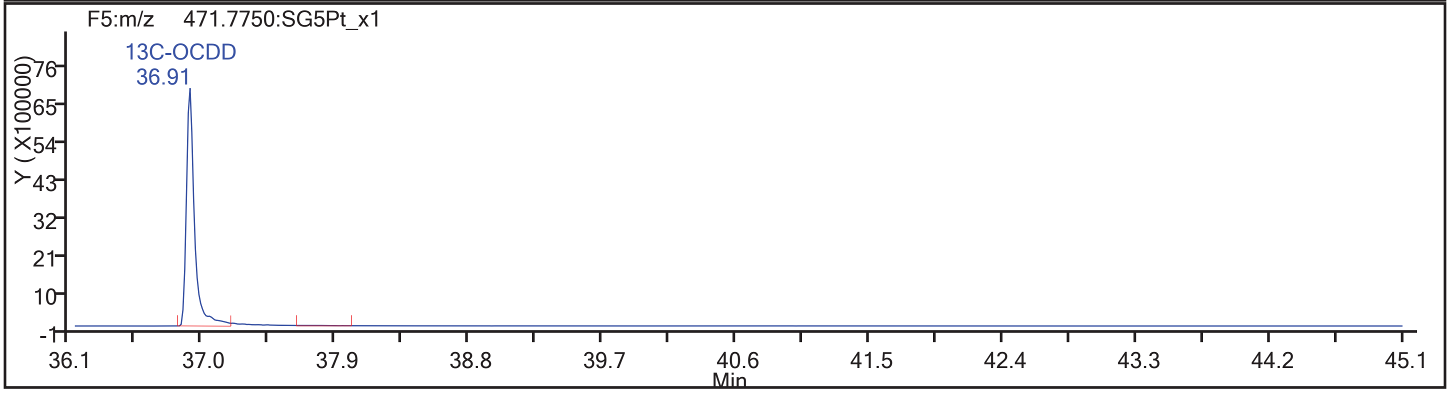
OCDF





OCDF Standards





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TestAmerica Sacramento

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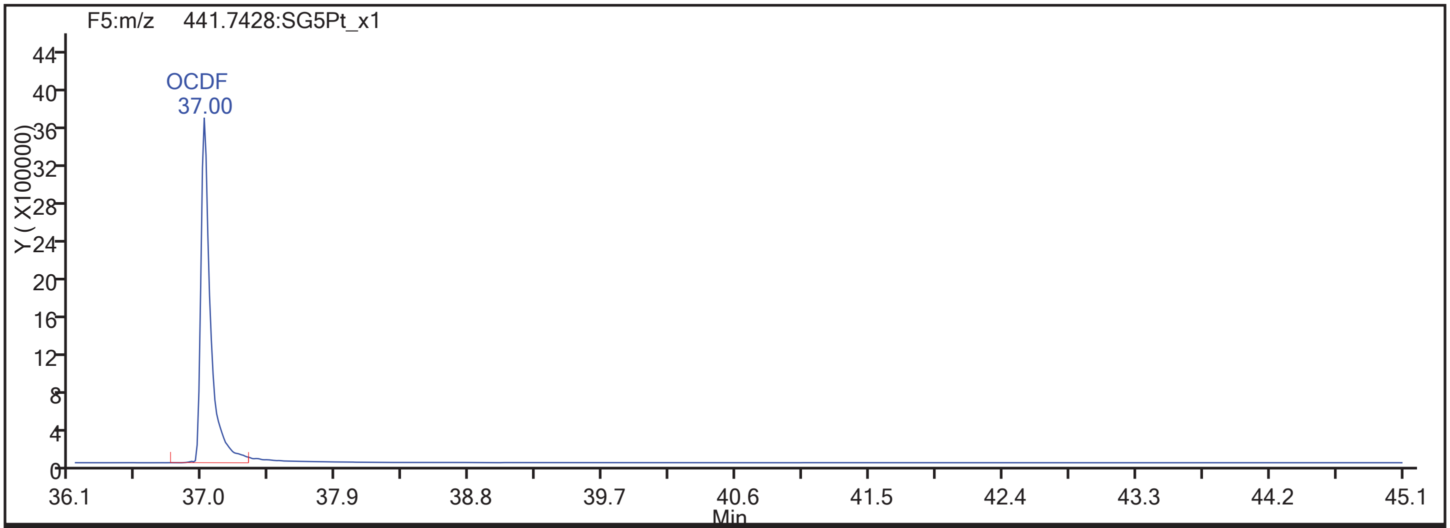
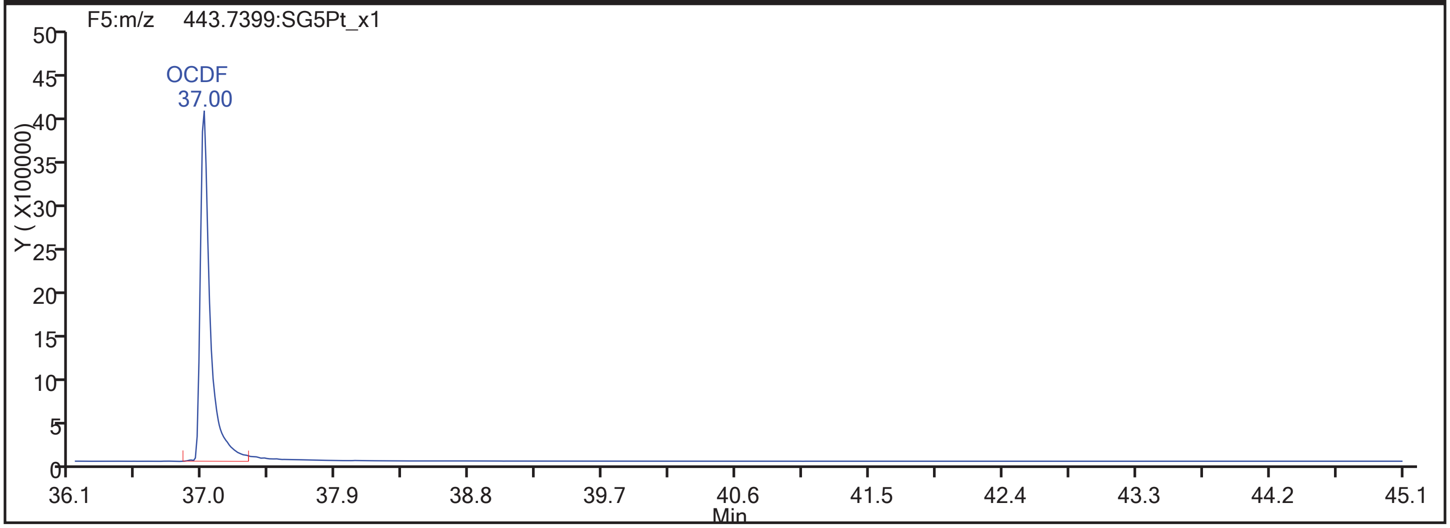
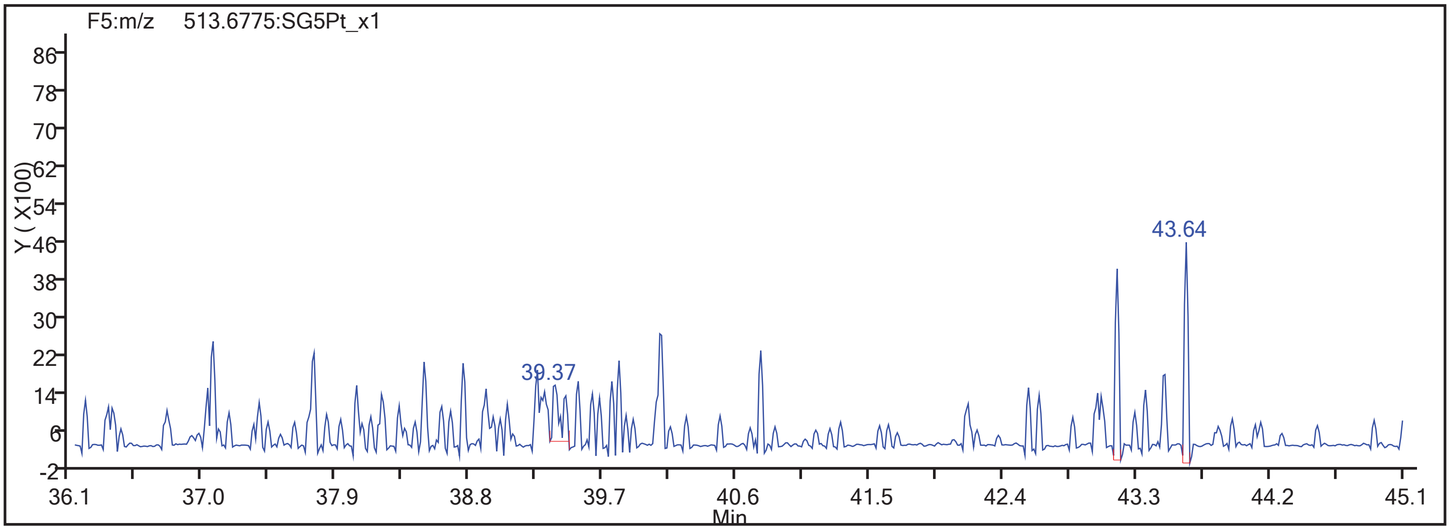
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 11-Nov-2017 06:52:17
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
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Worklist#: 194084
Sample Line#: 59
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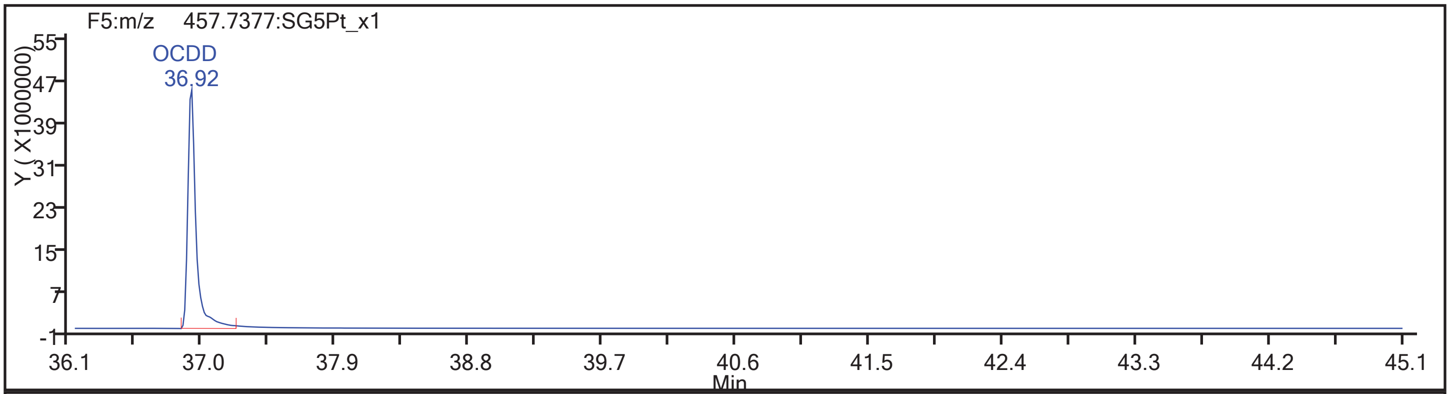
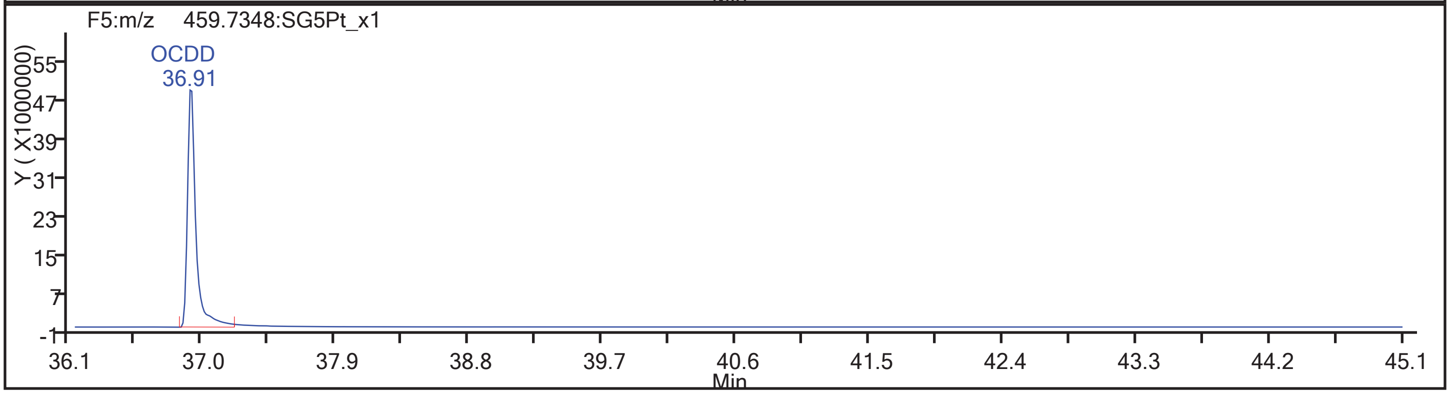
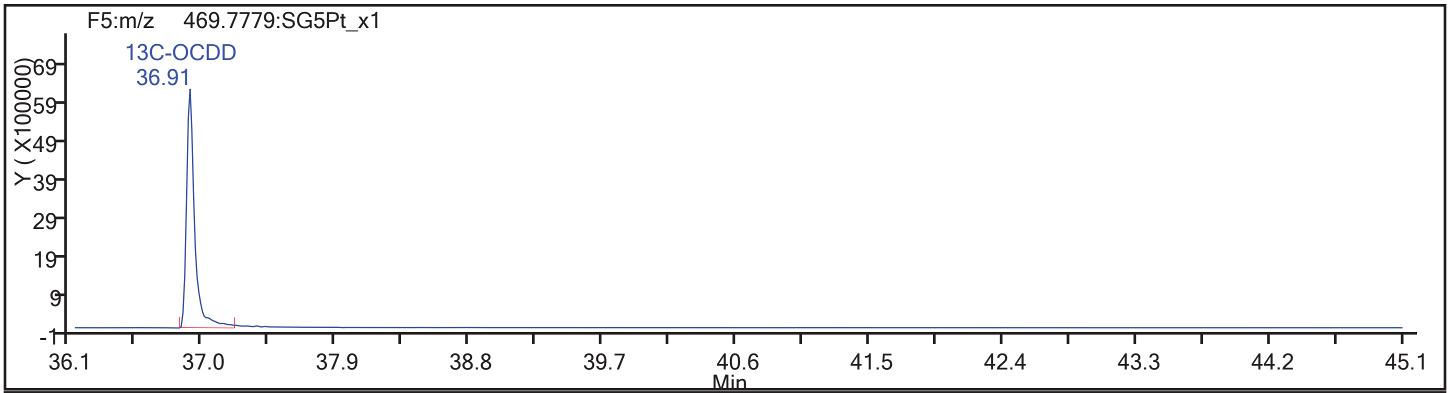
Column Dia: 0.32 mm

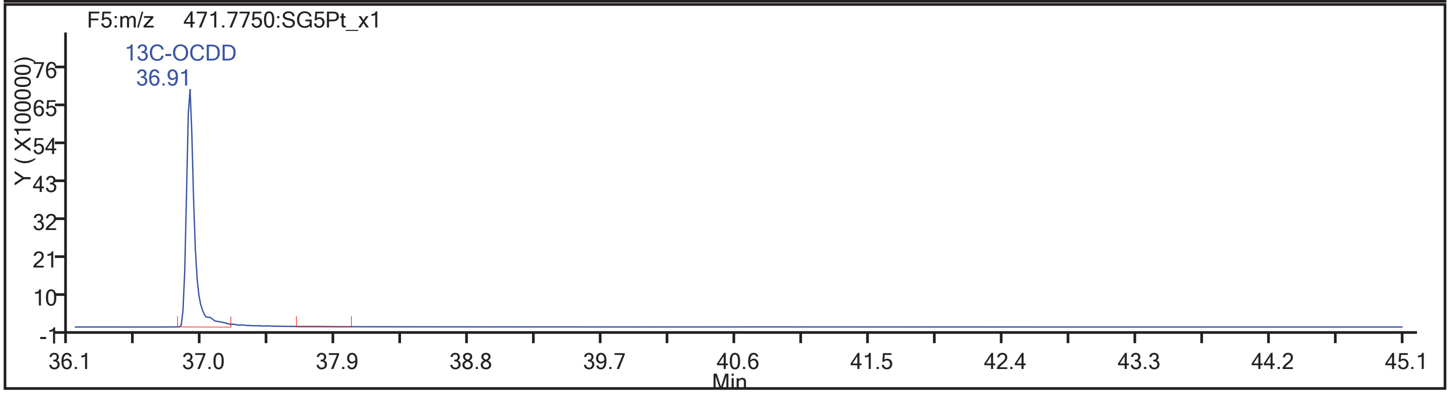
OCDD





OCDD Standards





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TestAmerica Sacramento

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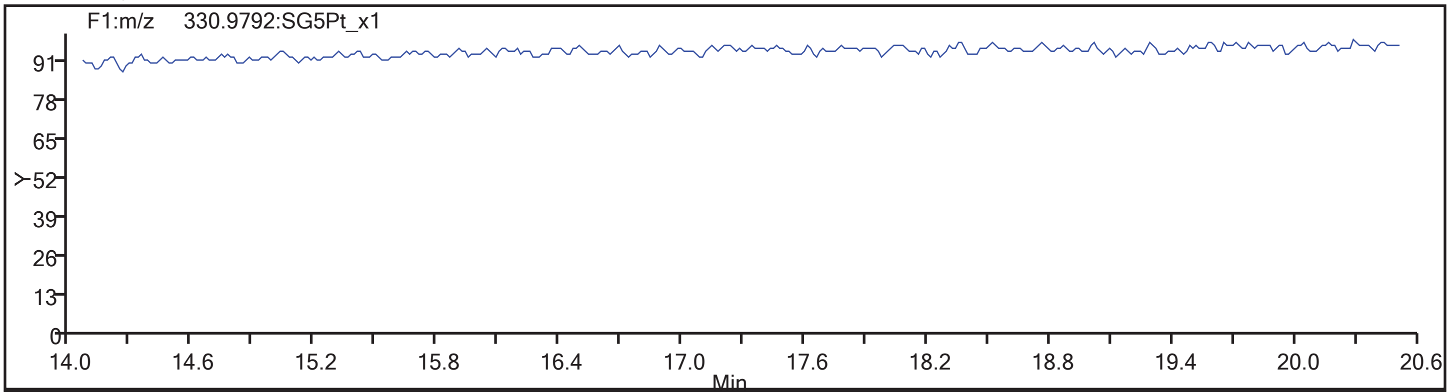

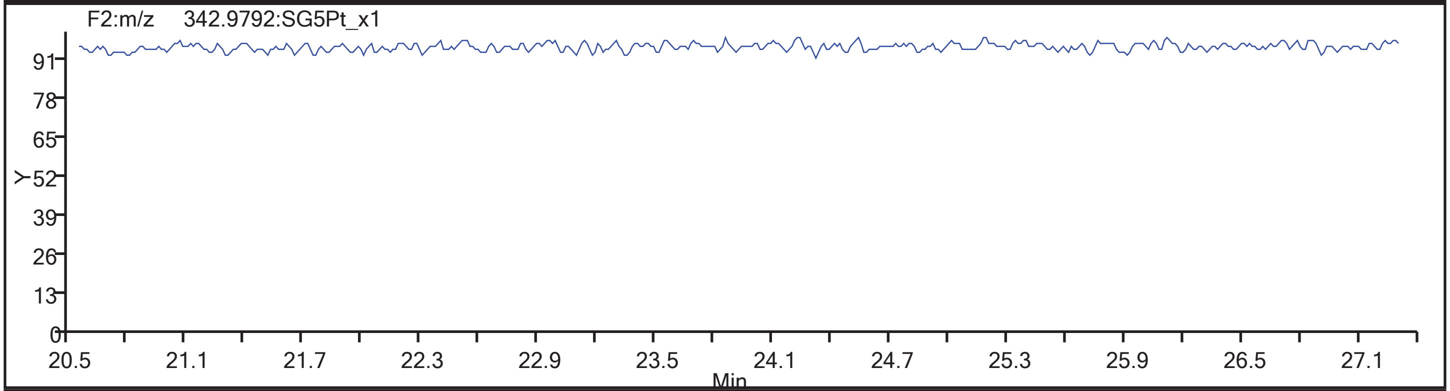

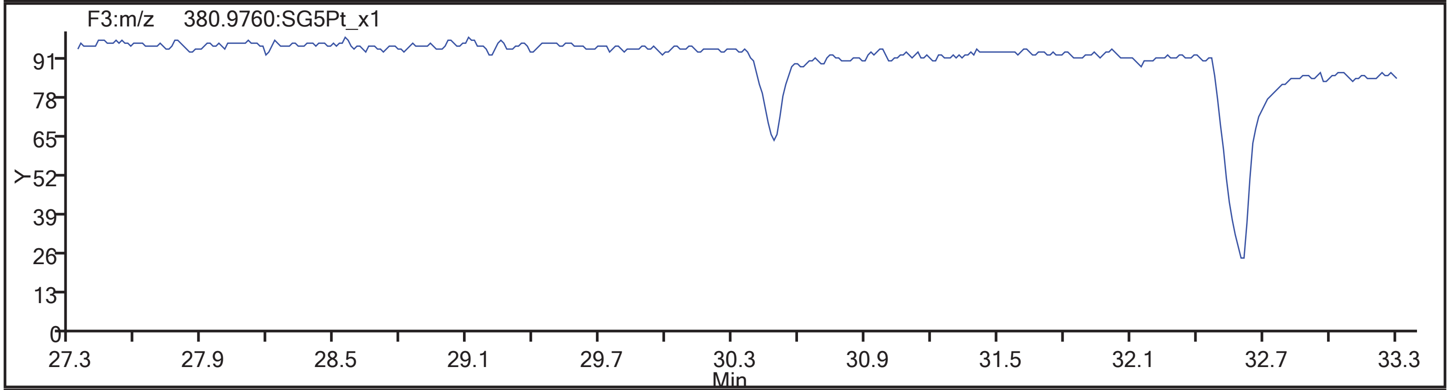

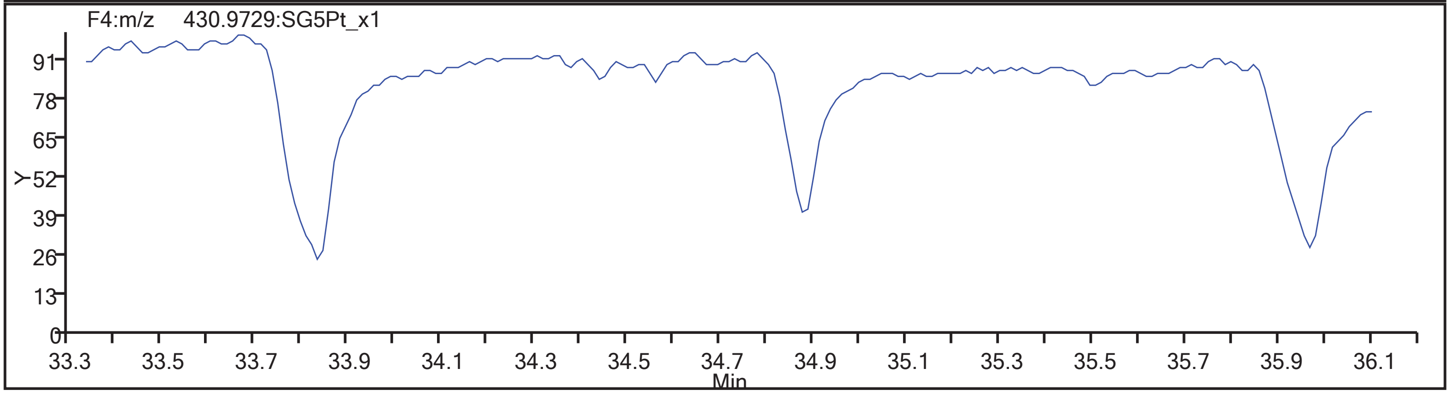

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TestAmerica Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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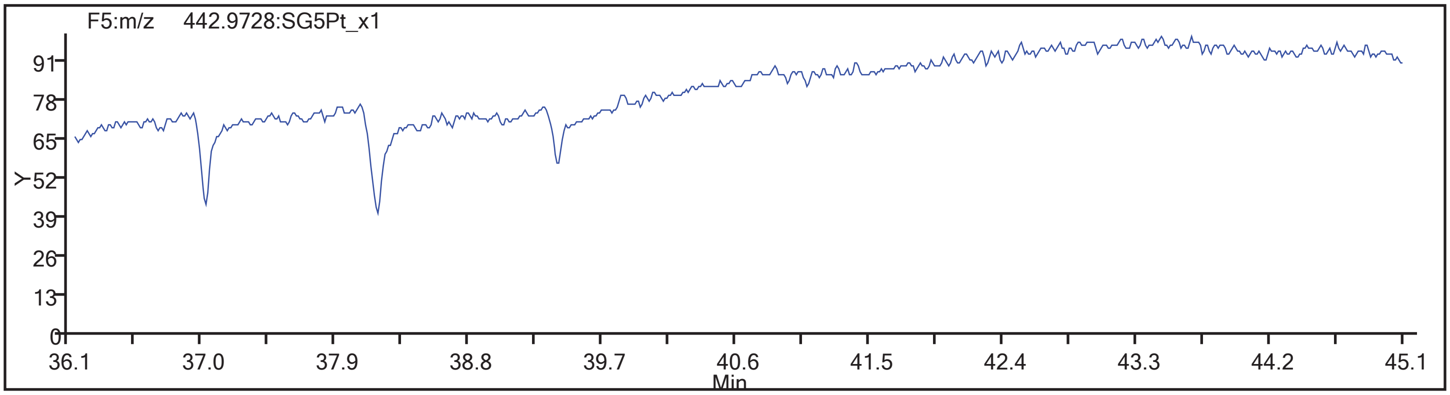


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP026SS02NS RE	Lab Sample ID: 160-24924-1 RE
Matrix: Solid	Lab File ID: 16NO173D5_60.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:04
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.06(g)	Date Analyzed: 11/18/2017 17:50
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 1.4	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195573	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*6.7*	*H*	*1.0*	0.40	*0.65*
40321-76-4	*1,2,3,7,8-PeCDD*	*41*	*H*	*5.0*	0.76	*2.6*
57117-41-6	*1,2,3,7,8-PeCDF*	*7.4*	*H M*	*5.0*	0.76	*4.8*
57117-31-4	*2,3,4,7,8-PeCDF*	*14*	*H*	*5.0*	0.76	*4.9*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*16*	*H*	*5.0*	2.0	*3.8*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*380*	*H*	*5.0*	2.0	*3.5*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*190*	*H*	*5.0*	2.0	*3.3*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*22*	*H M*	*5.0*	0.76	*3.0*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*33*	*H*	*5.0*	1.0	*2.7*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.0*	*U H*	*5.0*	1.0	*3.1*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*24*	*H*	*5.0*	0.76	*2.9*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*1400*	*H*	*17*	1.0	*17*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*410*	*H*	*6.3*	1.0	*6.3*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.0*	*U H M*	*8.1*	2.0	*8.1*
3268-87-9	*OCDD*	*1300*	*H B*	*10*	4.0	*0.85*
39001-02-0	*OCDF*	*240*	*H*	*10*	4.0	*0.23*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	66		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	66		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	65		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	70		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	64		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	69		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	61		40-135
114423-97-1	13C-OCDD	65		40-135

Report Date: 06-Dec-2017 13:55:59   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 18-Nov-2017 17:50:49   ALS Bottle#: 40   Worklist Smp#: 60
Injection Vol: 2.0 ul   Dil. Factor: 1.0000
Sample Info: 160-24924-G-1-B 160-24924-G-1-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM   Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 13:55:58   Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution   Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 :   Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis   Date: 19-Nov-2017 09:40:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	140154729	0.76	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	137112193	0.77	1.5089	64.8	64.8	0.2493	0.2493	64.84	
2,3,7,8-TCDF	17.765	22209539	0.75	1.0971	14.8	14.8	1.796	1.796		
A Non-2,3,7,8-sub-TCDF	17.402	85901514	0.75	1.0971	57.1	57.1	1.796	15.5		M
S Total TCDF					71.9	71.9	1.796	1.796		
D 13C-2,3,7,8-TCDD	18.445	92132936	0.84	0.9906	66.4	66.4	0.2169	0.2169	66.36	
2,3,7,8-TCDD	18.476	3582623	0.71	1.1645	3.339	3.339	0.3236	0.3236		
A Non-2,3,7,8-sub-TCDD	17.871	65360575	0.77	1.1645	61.1	60.9	0.3236	15.9		RQ
S Total TCDD					64.5	64.3	0.3236	0.3236		RQ
D 13C-1,2,3,7,8-PeCDF	22.896	102596158	1.63	1.1280	64.9	64.9	0.2395	0.2395	64.89	
1,2,3,7,8-PeCDF	22.924	4325085	1.45	1.1422	3.691	3.691	2.378	2.378		M
2,3,4,7,8-PeCDF	24.315	7774250	1.50	1.1102	6.825	6.825	2.447	2.447		
A F1 PeCDFs	20.426	51708696	1.66	1.1262	44.8	44.8	0.1171	44.8		
A Non-2,3,7,8-sub-PeCDF	23.668	84795203	1.55	1.1262	73.5	73.4	2.412	36.0		RQM
S Total PeCDF					128.8	128.7	2.413	2.413		RQ
D 13C-1,2,3,7,8-PeCDD	25.024	67536368	1.66	0.7269	66.3	66.3	0.0881	0.0881	66.29	
1,2,3,7,8-PeCDD	25.051	15658559	1.62	1.1272	20.6	20.6	1.275	1.275		
A Non-2,3,7,8-sub-PeCDD	23.878	180916091	1.55	1.1272	239.1	237.6	1.275	63.6		RQM
S Total PeCDD					259.7	258.2	1.275	1.275		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.932	76539308	0.50	1.0279	64.3	64.3	0.3061	0.3061	64.33	
1,2,3,4,7,8-HxCDF	30.919	11354676	1.28	1.3475	11.0	11.0	1.490	1.490		M
1,2,3,6,7,8-HxCDF	31.105	18649717	1.23	1.4794	16.5	16.5	1.357	1.357		
2,3,4,6,7,8-HxCDF	31.851	12748958	1.27	1.3833	12.0	12.0	1.452	1.452		
D 13C-1,2,3,7,8,9-HxCDF	32.597	77073449	0.49							
1,2,3,7,8,9-HxCDF	32.690						1.556	1.556		U
A Non-2,3,7,8-sub-HxCDF	30.653	253171216	1.27	1.3751	240.5	240.5	1.460	132.1		M
S Total HxCDF					280.1	280.1	1.464	1.464		
* 13C-1,2,3,7,8,9-HxCDD	32.410	115750665	1.27	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.024	5651913	1.27	1.0646	7.737	7.737	1.900	1.900		
D 13C-1,2,3,6,7,8-HxCDD	32.104	68614067	1.28	0.8502	69.7	69.7	0.2420	0.2420	69.73	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.117	153470550	1.26	1.1809	189.4	189.4	1.713	1.713		
1,2,3,7,8,9-HxCDD	32.424	78548928	1.25	1.2311	93.0	93.0	1.643	1.643		
A Non-2,3,7,8-sub-HxCDD	31.252	888013037	1.26	1.1589	1116.8	1116.8	1.745	785.8		
S Total HxCDD					1406.9	1406.9	1.752	1.752		
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	45725343	0.44	0.6490	60.9	60.9	0.6284	0.6284	60.87	
1,2,3,4,6,7,8-HpCDF	34.022	146665760	1.05	1.5871	202.1	202.1	3.105	3.105		
1,2,3,4,7,8,9-HpCDF	35.140	2205743	0.98	1.2290	3.925	3.925	4.010	4.010		nM
A Non-2,3,7,8-sub-HpCDF	34.569	227866338	1.07	1.4080	353.9	353.9	3.500	353.9		
S Total HpCDF					560.0	560.0	3.558	3.558		
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	42773251	1.06	0.5387	68.6	68.6	0.3471	0.3471	68.60	
1,2,3,4,6,7,8-HpCDD	34.836	355612041	1.07	1.1631	714.8	714.8	8.221	8.221		
A Non-2,3,7,8-sub-HpCDD	35.261	685912200	1.07	1.1631	1378.7	1378.7	8.221	1378.7		
S Total HpCDD					2093.5	2093.5	8.221	8.221		
D 13C-OCDD	37.257	60275422	0.90	0.4009	129.9	129.9	0.1979	0.1979	64.94	
OCDF	37.365	45389028	0.88	1.2649	119.1	119.1	0.1160	0.1160		
OCDD	37.269	204051943	0.88	1.0390	651.6	651.6	0.4207	0.4207		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 18-Nov-2017 17:50:49 ALS Bottle#: 40 Worklist Smp#: 60
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-1-B 160-24924-G-1-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 13:55:58 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 19-Nov-2017 09:40:49

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		60615654	14461082	15280	38200	946		
333.9339	18.249	18.234	1		79539075	18612508	13143	32857	1416	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.971	59536625	13663248	31627	79067	432		
317.9389	17.720	17.705	1	0.971	77575568	18717853	18127	45317	1033	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.765	17.720	3	1.003	9482497	2032040	113023	282557	18		
305.8987	17.765	17.720	3	1.003	12727042	2725070	142183	355457	19	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											M
303.9016	15.240	17.402	-129	0.860	2223321	711247	113023	282557	6		
305.8987	15.240	17.402	-129	0.860	2915009	911909	142183	355457	6	0.76(0.65-0.89)	
303.9016	15.588	17.402	-109	0.880	2981785	901162	113023	282557	8		
305.8987	15.588	17.402	-109	0.880	3776716	1069762	142183	355457	8	0.79(0.65-0.89)	
303.9016	15.754	17.402	-99	0.889	4500142	1307340	113023	282557	12		
305.8987	15.754	17.402	-99	0.889	5852156	1744999	142183	355457	12	0.77(0.65-0.89)	
303.9016	16.011	17.402	-83	0.904	9931725	1645892	113023	282557	15		
305.8987	16.011	17.402	-83	0.904	13350316	2262209	142183	355457	16	0.74(0.65-0.89)	
303.9016	16.283	17.402	-67	0.919	4766022	699640	113023	282557	6		M
305.8987	16.268	17.402	-68	0.918	6648422	987155	142183	355457	7	0.72(0.65-0.89)	
303.9016	16.570	17.402	-50	0.935	2813090	909789	113023	282557	8		M
305.8987	16.570	17.402	-50	0.935	3726903	1181456	142183	355457	8	0.75(0.65-0.89)	M
303.9016	16.813	17.402	-35	0.949	6793600	1591535	113023	282557	14		
305.8987	16.797	17.402	-36	0.948	9237693	2176427	142183	355457	15	0.74(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	18.400	17.402	60	1.038	2779145	662680	113023	282557	6		
305.8987	18.400	17.402	60	1.038	3605469	797299	142183	355457	6	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.011	42064975	8943325	15280	38200	585		
333.9339	18.445	18.430	1	1.011	50067961	11062813	13143	32857	842	0.84(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.476	18.461	1	1.002	1488657	335855	18873	47182	18		
321.8936	18.476	18.461	1	1.002	2093966	465461	11286	28215	41	0.71(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	16.177	17.871	-101	0.877	3570753	1008441	18873	47182	53		
321.8936	16.177	17.871	-101	0.877	4728454	1290030	11286	28215	114	0.76(0.65-0.89)	
319.8965	16.480	17.871	-83	0.893	1559243	420535	18873	47182	22		
321.8936	16.480	17.871	-83	0.893	1847541	479760	11286	28215	43	0.84(0.65-0.89)	
319.8965	16.722	17.871	-69	0.907	1816001	493245	18873	47182	26		
321.8936	16.722	17.871	-69	0.907	2498169	656172	11286	28215	58	0.73(0.65-0.89)	
319.8965	17.311	17.871	-34	0.939	7431801	1548765	18873	47182	82		
321.8936	17.296	17.871	-34	0.938	9587773	2075340	11286	28215	184	0.78(0.65-0.89)	
319.8965	17.478	17.871	-24	0.948	4600259	380703	18873	47182	20		
321.8936	17.478	17.871	-24	0.948	6470576	516057	11286	28215	46	0.71(0.65-0.89)	
319.8965	17.931	17.871	4	0.972	1084747	273995	18873	47182	15		
321.8936	17.931	17.871	4	0.972	1548053	345516	11286	28215	31	0.70(0.65-0.89)	
319.8965	18.219	17.871	21	0.988	1825639	372760	18873	47182	20		
321.8936	18.219	17.871	21	0.988	2518855	496115	11286	28215	44	0.72(0.65-0.89)	
319.8965	18.355	17.871	29	0.995	1918187	416121	18873	47182	22		
321.8936	18.355	17.871	29	0.995	2513386	596610	11286	28215	53	0.76(0.65-0.89)	
319.8965	18.642	17.871	46	1.011	585658	119299	18873	47182	6		
321.8936	18.627	17.871	45	1.010	819856	156081	11286	28215	14	0.71(0.65-0.89)	
319.8965	18.838	17.871	58	1.021	2373346	576723	18873	47182	31		
321.8936	18.838	17.871	58	1.021	3026161	624892	11286	28215	55	0.78(0.65-0.89)	
319.8965	19.096	17.871	73	1.035	488644	97778	18873	47182	5		
321.8936	19.096	17.871	73	1.035	589362	122281	11286	28215	11	0.83(0.65-0.89)	
319.8965	19.610	17.871	104	1.063	851834	176035	18873	47182	9		
321.8936	19.610	17.871	104	1.063	1345392	255149	11286	28215	23	0.63(0.65-0.89)	
	Empc Correction				1106277	228616	11286	28215	20		
13C-1,2,3,7,8-PeCDF											
351.9000	22.896	22.883	1	1.255	63541582	10265348	20799	51997	494		
353.8970	22.896	22.883	1	1.255	39054576	6456768	14942	37355	432	1.63(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	22.924	22.910	1	1.001	2558288	423568	112720	281800	4		M
341.8567	22.924	22.910	1	1.001	1766797	364673	68993	172482	5	1.45(1.32-1.78)	M
2,3,4,7,8-PeCDF											
339.8597	24.315	24.301	1	1.062	4660985	788867	112720	281800	7		
341.8567	24.315	24.301	1	1.062	3113265	517240	68993	172482	7	1.50(1.32-1.78)	
A F1 PeCDFs											

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	19.927	20.426	-30	0.870	32301861	6333065	5677	14192	1116		
341.8567	19.927	20.426	-30	0.870	19406835	4028181	3146	7865	1280	1.66(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQM
339.8597	21.519	23.668	-129	0.940	25764977	4072172	112720	281800	36		
341.8567	21.519	23.668	-129	0.940	15877541	2464449	68993	172482	36	1.62(1.32-1.78)	M
339.8597	21.778	23.668	-113	0.951	3826943	692435	112720	281800	6		
341.8567	21.778	23.668	-113	0.951	2421181	410126	68993	172482	6	1.58(1.32-1.78)	
339.8597	22.337	23.668	-80	0.976	12624112	1263180	112720	281800	11		
341.8567	22.351	23.668	-79	0.976	8217181	736856	68993	172482	11	1.54(1.32-1.78)	
339.8597	22.801	23.668	-52	0.996	1329131	286974	112720	281800	3		M
341.8567	22.787	23.668	-53	0.995	1043294	182561	68993	172482	3	1.27(1.32-1.78)	
	Empc Correction				857503	185144	68993	172482	3		
339.8597	24.601	23.668	56	1.074	8235864	1124917	112720	281800	10		
341.8567	24.587	23.668	55	1.074	5640770	682565	68993	172482	10	1.46(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.024	25.010	1	1.371	42117653	5759368	3917	9792	1470		
369.8919	25.024	25.010	1	1.371	25418715	3511862	4551	11377	772	1.66(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.051	25.037	1	1.001	9672677	1380395	29663	74157	47		
357.8516	25.051	25.037	1	1.001	5985882	821261	23647	59117	35	1.62(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQM
355.8546	21.723	23.878	-129	0.868	29008586	4550901	29663	74157	153		
357.8516	21.723	23.878	-129	0.868	19401385	3070424	23647	59117	130	1.50(1.32-1.78)	
355.8546	22.501	23.878	-82	0.899	10158082	1789769	29663	74157	60		
357.8516	22.501	23.878	-82	0.899	6256040	1064233	23647	59117	45	1.62(1.32-1.78)	
355.8546	22.951	23.878	-56	0.917	12257921	2091806	29663	74157	71		
357.8516	22.951	23.878	-56	0.917	7871858	1273255	23647	59117	54	1.56(1.32-1.78)	
355.8546	23.210	23.878	-40	0.928	14821669	2355503	29663	74157	79		
357.8516	23.210	23.878	-40	0.928	9849646	1542385	23647	59117	65	1.50(1.32-1.78)	
355.8546	23.524	23.878	-21	0.940	5975670	849763	29663	74157	29		
357.8516	23.524	23.878	-21	0.940	3798492	562096	23647	59117	24	1.57(1.32-1.78)	
355.8546	23.851	23.878	-2	0.953	5164087	841852	29663	74157	28		
357.8516	23.837	23.878	-2	0.953	3497634	592126	23647	59117	25	1.48(1.32-1.78)	
355.8546	24.042	23.878	10	0.961	19271745	2445460	29663	74157	82		
357.8516	24.028	23.878	9	0.960	11879218	1520253	23647	59117	64	1.62(1.32-1.78)	
355.8546	24.396	23.878	31	0.975	1332394	205822	29663	74157	7		M
357.8516	24.410	23.878	32	0.975	873709	137240	23647	59117	6	1.52(1.32-1.78)	
355.8546	25.365	23.878	89	1.014	7140006	935710	29663	74157	32		
357.8516	25.365	23.878	89	1.014	4144201	559049	23647	59117	24	1.72(1.32-1.78)	
355.8546	26.087	23.878	132	1.043	6107399	777065	29663	74157	26		
	Empc Correction				4992670	769816	29663	74157	26		
357.8516	26.101	23.878	133	1.043	3221078	496656	23647	59117	21	1.90(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.932	30.919	1	0.954	25618178	5581215	12557	31392	444		
385.8610	30.932	30.919	1	0.954	50921130	10896807	25241	63102	432	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDF											M
373.8208	30.919	30.932	-1	1.000	6365863	1682385	73490	183725	23		M
375.8178	30.919	30.932	-1	1.000	4988813	1375241	58858	147145	23	1.28(1.05-1.43)	M
1,2,3,6,7,8-HxCDF											
373.8208	31.105	31.092	1	1.006	10301743	2228750	73490	183725	30		
375.8178	31.105	31.092	1	1.006	8347974	1751891	58858	147145	30	1.23(1.05-1.43)	
2,3,4,6,7,8-HxCDF											
373.8208	31.851	31.838	1	1.030	7121281	1843746	73490	183725	25		
375.8178	31.851	31.838	1	1.030	5627677	1436433	58858	147145	24	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.006	25513393	6938129	12557	31392	553		
385.8610	32.597	32.583	1	1.006	51560056	14134401	25241	63102	560	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											U
373.8208	32.597						73490	183725			
375.8178	32.597						58858	147145			
A Non-2,3,7,8-sub-HxCDF											M
373.8208	28.669	30.653	-119	0.927	8677986	1092444	73490	183725	15		
375.8178	28.655	30.653	-120	0.926	7382793	850122	58858	147145	14	1.18(1.05-1.43)	
373.8208	29.081	30.653	-94	0.940	47745772	5511075	73490	183725	75		
375.8178	29.081	30.653	-94	0.940	36775964	4206862	58858	147145	71	1.30(1.05-1.43)	
373.8208	30.267	30.653	-23	0.978	77561976	12641521	73490	183725	172		
375.8178	30.267	30.653	-23	0.978	61498179	10135048	58858	147145	172	1.26(1.05-1.43)	
373.8208	30.892	30.653	14	0.999	6719598	1795547	73490	183725	24		M
375.8178	30.906	30.653	15	0.999	5424728	1455185	58858	147145	25	1.24(1.05-1.43)	
373.8208	32.690	30.653	122	1.057	738656	260428	73490	183725	4		a
375.8178	32.690	30.653	122	1.057	645564	246821	58858	147145	4	1.14(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.410	0		64698609	16945946	13528	33820	1253		
403.8529	32.410	32.410	0		51052056	13081251	11179	27947	1170	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.024	32.011	1	0.998	3157958	1028347	77500	193750	13		
391.8127	32.024	32.011	1	0.998	2493955	798086	64843	162107	12	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.991	38544235	9875236	13528	33820	730		
403.8529	32.104	32.091	1	0.991	30069832	7720063	11179	27947	691	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.117	32.117	0	1.000	85440080	22944725	77500	193750	296		
391.8127	32.117	32.117	0	1.000	68030470	18188567	64843	162107	281	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.424	32.424	0	1.010	43642222	10024072	77500	193750	129		
391.8127	32.424	32.424	0	1.010	34906706	8199964	64843	162107	126	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.160	31.252	-65	0.939	115173927	17689375	77500	193750	228		
391.8127	30.160	31.252	-65	0.939	89325544	13769992	64843	162107	212	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
389.8157	30.999	31.252	-15	0.966	33130880	7018943	77500	193750	91		
391.8127	30.999	31.252	-15	0.966	25562696	5390325	64843	162107	83	1.30(1.05-1.43)	
389.8157	31.332	31.252	5	0.976	347420153	74362122	77500	193750	960		
391.8127	31.332	31.252	5	0.976	277399837	58201350	64843	162107	898	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	13917459	4754582	16823	42057	283		
419.8220	34.010	33.998	1	1.049	31807884	10983673	32160	80400	342	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.010	1	1.000	75089937	25549781	162214	405535	158		
409.7789	34.022	34.010	1	1.000	71575823	23928558	148035	370087	162	1.05(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											nM
407.7818	35.140	35.128	1	1.033	1092391	353271	162214	405535	2		M
409.7789	35.140	35.128	1	1.033	1113352	373211	148035	370087	3	0.98(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.326	34.569	-15	1.009	117905219	37671903	162214	405535	232		
409.7789	34.326	34.569	-15	1.009	109961119	35364682	148035	370087	239	1.07(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.812	1	1.074	22006692	6860438	12205	30512	562		
437.8140	34.824	34.812	1	1.074	20766559	6628298	10250	25625	647	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.000	183850536	57518253	255456	638640	225		
425.7737	34.836	34.824	1	1.000	171761505	53591234	260461	651152	206	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.265	35.261	-60	0.984	354716702	115214314	255456	638640	451		a
425.7737	34.265	35.261	-60	0.984	331195498	108118960	260461	651152	415	1.07(0.88-1.20)	
13C-OCDD											
469.7779	37.257	37.245	1	1.150	28554606	7956847	4766	11915	1670		
471.7750	37.257	37.245	1	1.150	31720816	9015042	4766	11915	1892	0.90(0.76-1.02)	
OCDF											
441.7428	37.365	37.353	1	1.003	21208788	6014781	2136	5340	2816		
443.7399	37.365	37.353	1	1.003	24180240	6518010	2845	7112	2291	0.88(0.76-1.02)	
OCDD											
457.7377	37.269	37.257	1	1.000	95528453	26727418	7607	19017	3514		
459.7348	37.269	37.257	1	1.000	108523490	29784655	7231	18077	4119	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Inject. Date: 18-Nov-2017 17:50:49
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195573
Lims Sample ID: 60

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF | IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	137112193	32381101

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	137112193	32381101

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.240	2223321	711247	2915009	911909	3.42	0.76	
15.588	2981785	901162	3776716	1069762	4.49	0.79	
15.754	4500142	1307340	5852156	1744999	6.88	0.77	
16.011	9931725	1645892	13350316	2262209	15.5	0.74	
16.283	4766022	699640	6648422	987155	7.59	0.72	M
16.570	2813090	909789	3726903	1181456	4.35	0.75	M
16.813	6793600	1591535	9237693	2176427	10.7	0.74	
18.400	2779145	662680	3605469	797299	4.24	0.77	
Signal Totals:							
	36788830	8429285	49112684	11131216			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	85901514	19560501				0.75	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 57.105 = (85901514 * 100.000) / (137112193 * 1.097)

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Inject. Date: 18-Nov-2017 17:50:49 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195573 Lims Sample ID: 60

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	92132936	20006138

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	92132936	20006138

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.177	3570753	1008441	4728454	1290030	7.74	0.76	
16.480	1559243	420535	1847541	479760	3.18	0.84	
16.722	1816001	493245	2498169	656172	4.02	0.73	
17.311	7431801	1548765	9587773	2075340	15.9	0.78	
17.478	4600259	380703	6470576	516057	10.3	0.71	
17.931	1084747	273995	1548053	345516	2.45	0.70	
18.219	1825639	372760	2518855	496115	4.05	0.72	
18.355	1918187	416121	2513386	596610	4.13	0.76	
18.642	585658	119299	819856	156081	1.31	0.71	
18.838	2373346	576723	3026161	624892	5.03	0.78	
19.096	488644	97778	589362	122281	1.00	0.83	
19.610	851834	176035	1345392	255149	2.05	0.63	RQ
19.610	851834	176035	1106277	228616	1.83		Empc Correction
Signal Totals:							
	28106112	5884400	37254463	7587470			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	65599690	13498403				0.75	RQ
	65360575	13471870					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 61.146 = (65599690 * 100.000) / (92132936 * 1.164)
Empc Amount: 60.923 = (65360575 * 100.000) / (92132936 * 1.164)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Inject. Date: 18-Nov-2017 17:50:49 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195573 Lims Sample ID: 60

F1 PeCDFs, RT: 20.426

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	102596158	16722116
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	102596158	16722116

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.927	32301861	6333065	19406835	4028181	44.8	1.66	
Signal Totals:							
	32301861	6333065	19406835	4028181			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	51708696	10361246				1.66	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 44.752 = (51708696 * 100.000) / (102596158 * 1.126)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Inject. Date: 18-Nov-2017 17:50:49 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195573 Lims Sample ID: 60

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	102596158	16722116
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	102596158	16722116

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.519	25764977	4072172	15877541	2464449	36.0	1.62	M
21.778	3826943	692435	2421181	410126	5.41	1.58	
22.337	12624112	1263180	8217181	736856	18.0	1.54	
22.801	1329131	286974	1043294	182561	2.05	1.27	RQM
22.801	1329131	286974	857503	185144	1.89		Empc Correction
24.601	8235864	1124917	5640770	682565	12.0	1.46	
Signal Totals:							
	51781027	7439678	33014176	4479140			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	84980994	11916235				1.56	RQM
	84795203	11918818					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 73.548 = (84980994 * 100.000) / (102596158 * 1.126)
Empc Amount: 73.387 = (84795203 * 100.000) / (102596158 * 1.126)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Inject. Date: 18-Nov-2017 17:50:49 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195573 Lims Sample ID: 60

Non-2,3,7,8-sub-PeCDD, RT: 23.878

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.127	D 13C-1,2,3,7,8-PeCDD	100.000	67536368	9271230

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.127		100.000	67536368	9271230

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.723	29008586	4550901	19401385	3070424	63.6	1.50	
22.501	10158082	1789769	6256040	1064233	21.6	1.62	
22.951	12257921	2091806	7871858	1273255	26.4	1.56	
23.210	14821669	2355503	9849646	1542385	32.4	1.50	
23.524	5975670	849763	3798492	562096	12.8	1.57	
23.851	5164087	841852	3497634	592126	11.4	1.48	
24.042	19271745	2445460	11879218	1520253	40.9	1.62	
24.396	1332394	205822	873709	137240	2.90	1.52	M
25.365	7140006	935710	4144201	559049	14.8	1.72	
26.087	6107399	777065	3221078	496656	12.3	1.90	RQ
26.087	4992670	769816	3221078	496656	10.8		Empc Correction
Signal Totals:							
	110122830	16836402	70793261	10817717			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	182030820	27661368				1.57	RQM
	180916091	27654119					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 239.112 = (182030820 * 100.000) / (67536368 * 1.127)
Empc Amount: 237.648 = (180916091 * 100.000) / (67536368 * 1.127)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Lims ID:	160-24924-G-1-B		
Client ID:	SHAD041DP026SS02NS		
Inject. Date:	18-Nov-2017 17:50:49	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	60

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	76539308	16478022
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	76539308	16478022

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.669	8677986	1092444	7382793	850122	15.3	1.18	
29.081	47745772	5511075	36775964	4206862	80.3	1.30	
30.267	77561976	12641521	61498179	10135048	132.1	1.26	
30.892	6719598	1795547	5424728	1455185	11.5	1.24	M
32.690	738656	260428	645564	246821	1.32	1.14	
Signal Totals:							
	141443988	21301015	111727228	16894038			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	253171216	38195053				1.27	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 240.540 = (253171216 * 100.000) / (76539308 * 1.375)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Lims ID:	160-24924-G-1-B		
Client ID:	SHAD041DP026SS02NS		
Inject. Date:	18-Nov-2017 17:50:49	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	60

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	68614067	17595299
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	68614067	17595299

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.160	115173927	17689375	89325544	13769992	257.2	1.29	
30.999	33130880	7018943	25562696	5390325	73.8	1.30	
31.332	347420153	74362122	277399837	58201350	785.8	1.25	
Signal Totals:							
	495724960	99070440	392288077	77361667			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	888013037	176432107				1.26	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1116.8 = (888013037 * 100.000) / (68614067 * 1.159)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Inject. Date: 18-Nov-2017 17:50:49
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195573
Lims Sample ID: 60

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	45725343	15738255
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	45725343	15738255

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	117905219	37671903	109961119	35364682	353.9	1.07	
Signal Totals:							
	117905219	37671903	109961119	35364682			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	227866338	73036585				1.07	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 353.930 = (227866338 * 100.000) / (45725343 * 1.408)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Inject. Date: 18-Nov-2017 17:50:49
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195573
Lims Sample ID: 60

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	42773251	13488736

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	42773251	13488736

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.265	354716702	115214314	331195498	108118960	1378.7	1.07	
Signal Totals:							
	354716702	115214314	331195498	108118960			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	685912200	223333274				1.07	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1378.7 = (685912200 * 100.000) / (42773251 * 1.163)

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

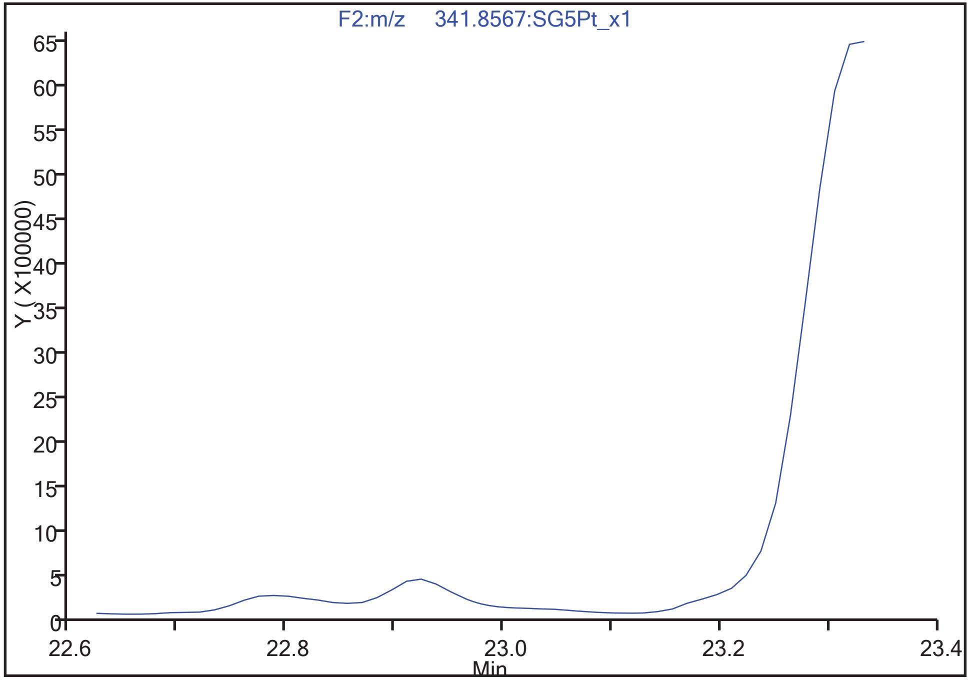
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Injection Date: 18-Nov-2017 17:50:49
Instrument ID: 3D5
Lims ID: 160-24924-G-1-B
Lab Sample ID: 320-24924-1
Client ID: SHAD041DP026SS02NS
Operator ID: SMA, ALM
ALS Bottle#: 40
Worklist Smp#: 60
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Column:
Detector F2:HRSIR

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

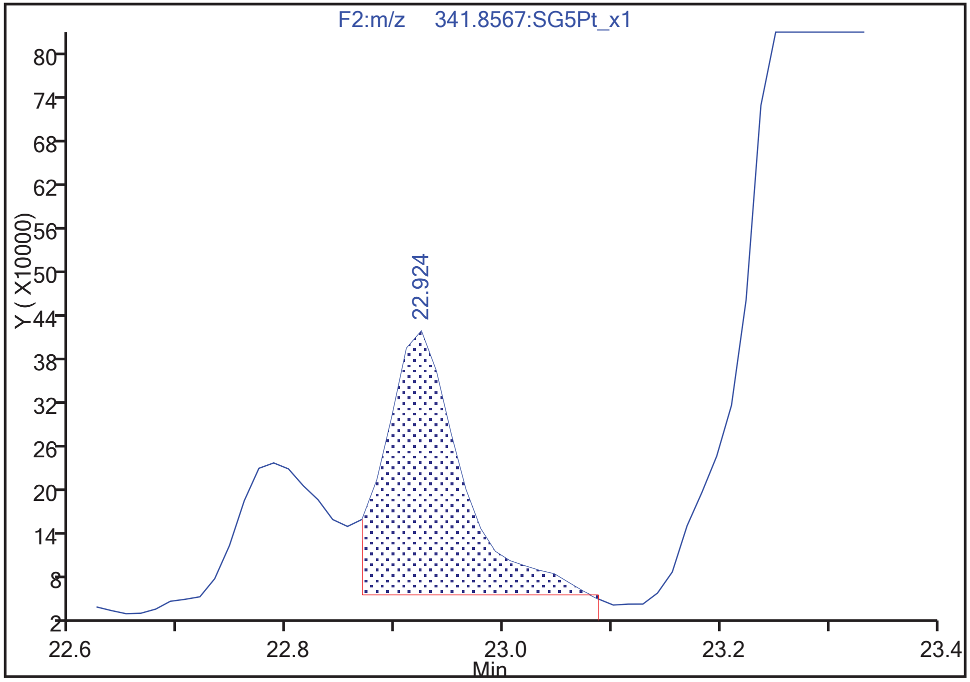
Not Detected
Expected RT: 22.91

Processing Integration Results



RT: 22.92
Area: 1766797
Amount: 3.690896
Amount Units: pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 13:49:43
Audit Action: Assigned Compound ID
Audit Reason: Assign Peak

Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d

Injection Date: 18-Nov-2017 17:50:49 Instrument ID: 3D5

Lims ID: 160-24924-G-1-B Lab Sample ID: 320-24924-1

Client ID: SHAD041DP026SS02NS

Operator ID: SMA, ALM ALS Bottle#: 40 Worklist Smp#: 60

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Column: Detector F2:HRSIR

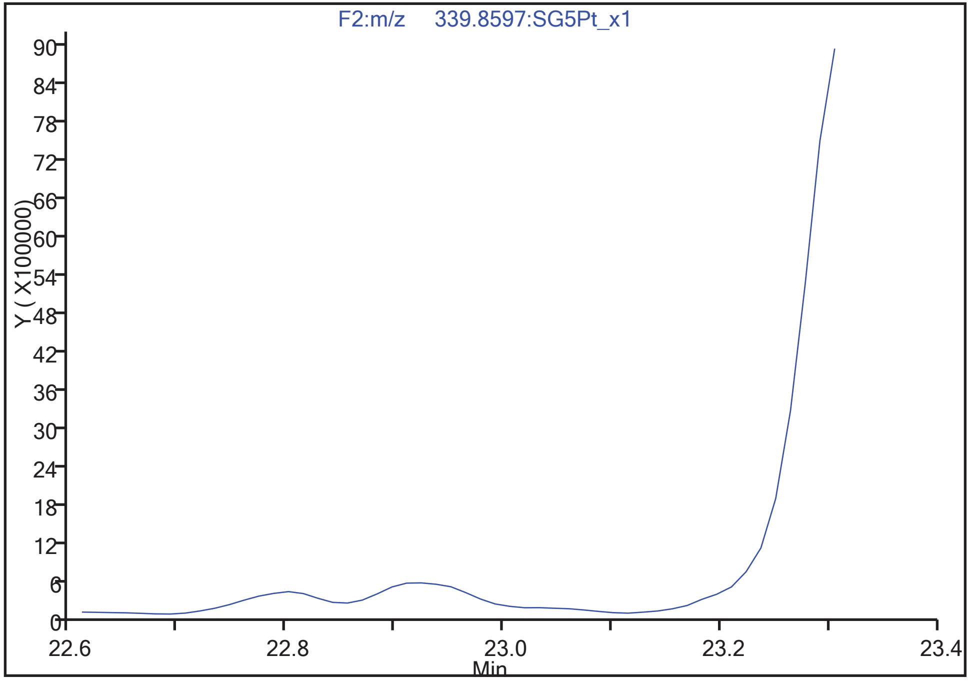
1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

Not Detected

Expected RT: 22.91

Processing Integration Results



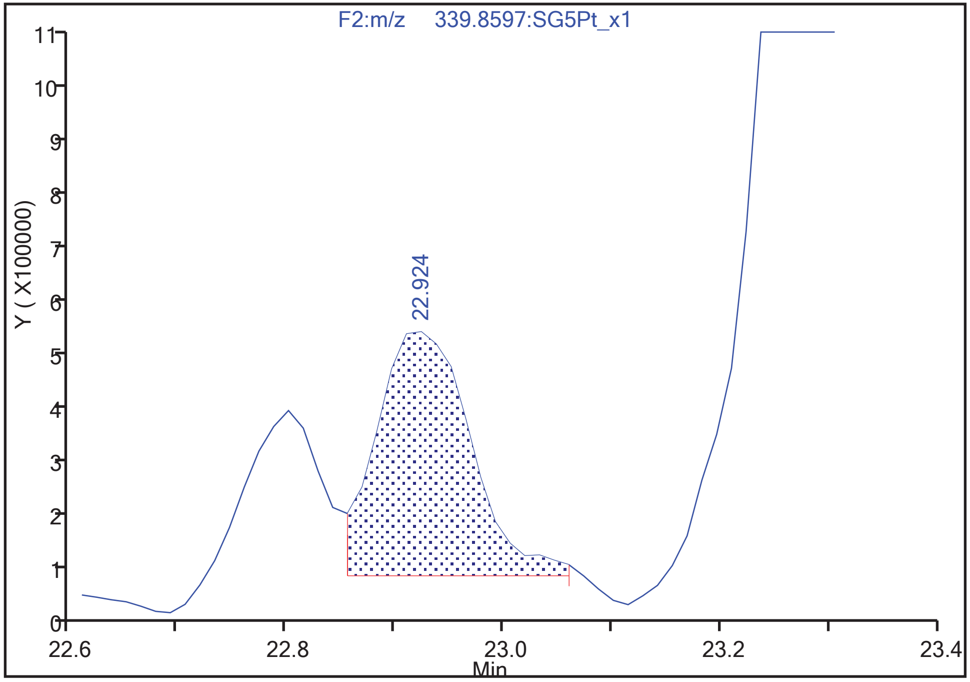
RT: 22.92

Area: 2558288

Amount: 3.690896

Amount Units: pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 13:49:51

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d				
Injection Date:	18-Nov-2017 17:50:49	Instrument ID:	3D5		
Lims ID:	160-24924-G-1-B	Lab Sample ID:	320-24924-1		
Client ID:	SHAD041DP026SS02NS				
Operator ID:	SMA, ALM	ALS Bottle#:	40	Worklist Smp#:	60
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F2:HRSIR		

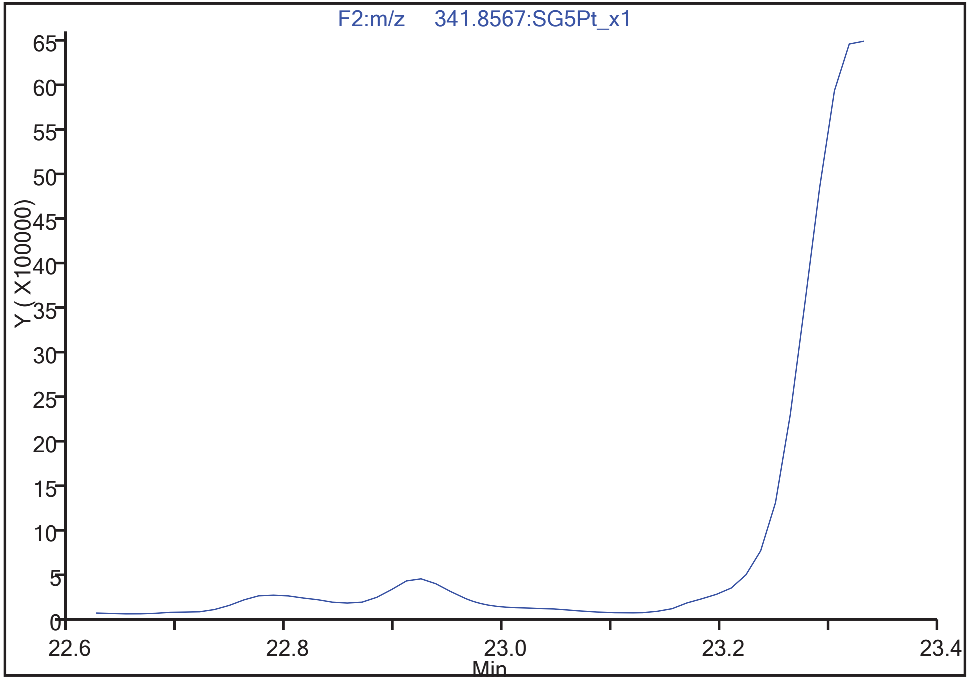
1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

Not Detected

Expected RT: 22.91

Processing Integration Results



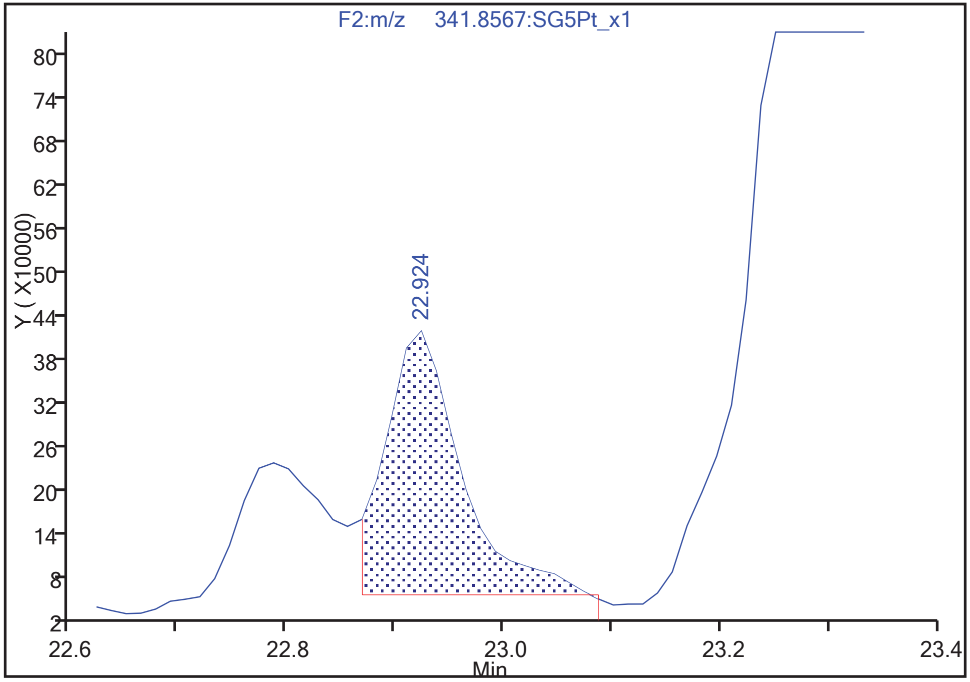
RT: 22.92

Area: 1766797

Amount: 3.690896

Amount Units: pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 13:49:55

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

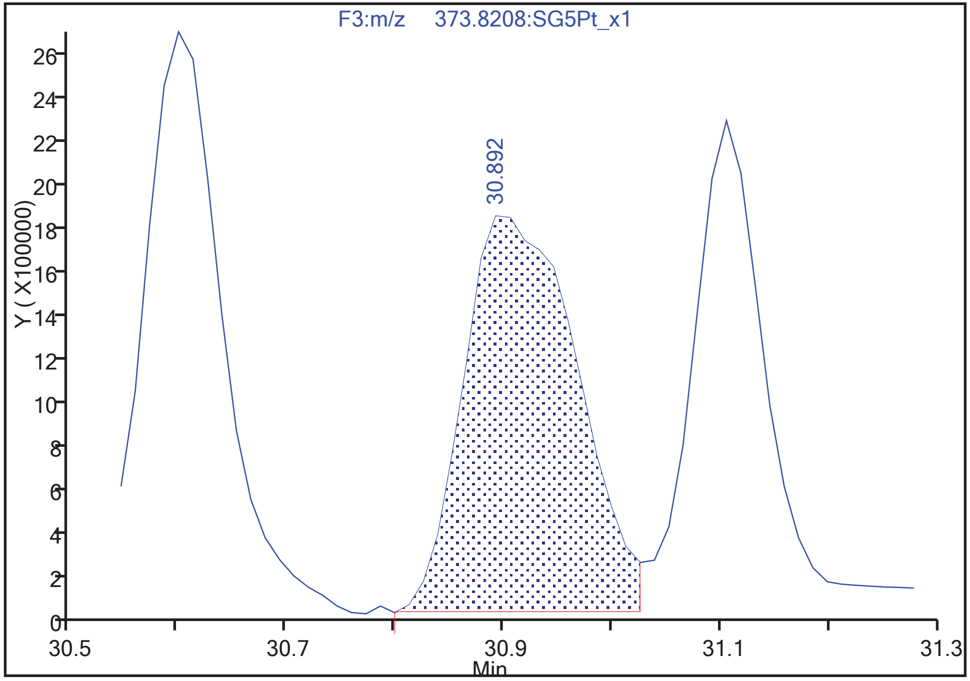
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Instrument ID:	3D5
Lims ID:	160-24924-G-1-B	Lab Sample ID:	320-24924-1
Client ID:	SHAD041DP026SS02NS		
Operator ID:	SMA, ALM	ALS Bottle#:	40 Worklist Smp#: 60
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F3:HRSIR

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

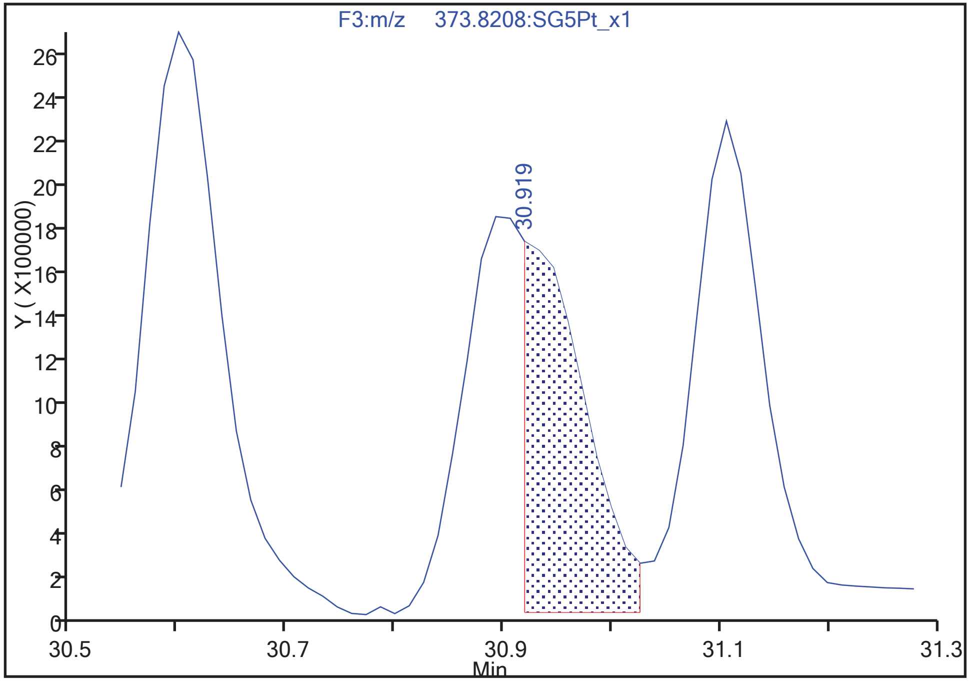
Processing Integration Results

RT:	30.89
Area:	13085462
Amount:	22.783616
Amount Units:	pg/ul



Manual Integration Results

RT:	30.92
Area:	6365863
Amount:	11.009002
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 13:51:29

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

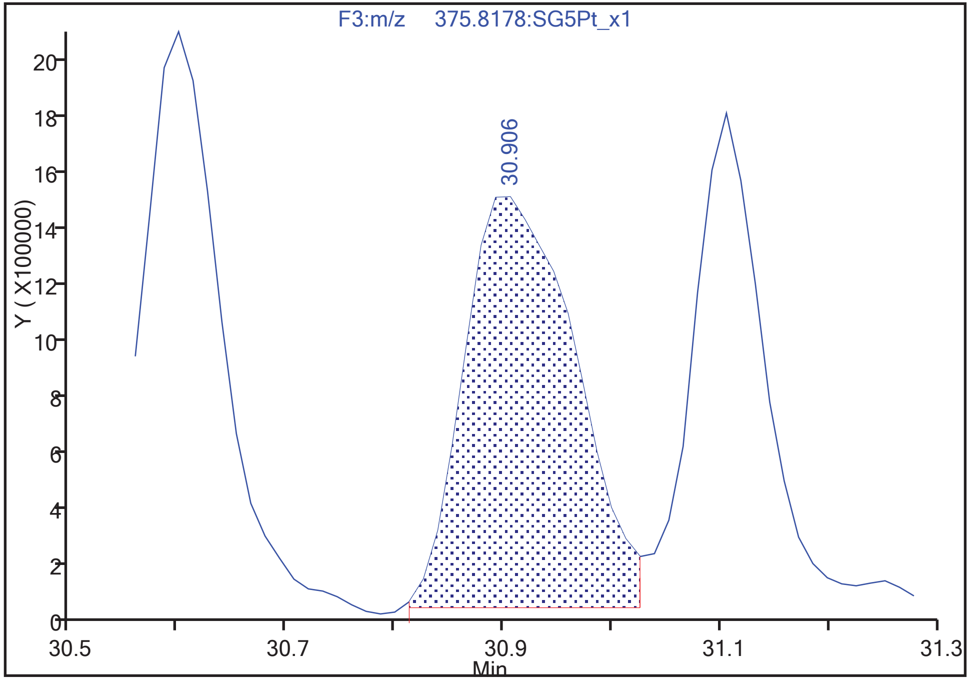
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Instrument ID:	3D5
Lims ID:	160-24924-G-1-B	Lab Sample ID:	320-24924-1
Client ID:	SHAD041DP026SS02NS		
Operator ID:	SMA, ALM	ALS Bottle#:	40 Worklist Smp#: 60
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F3:HRSIR

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

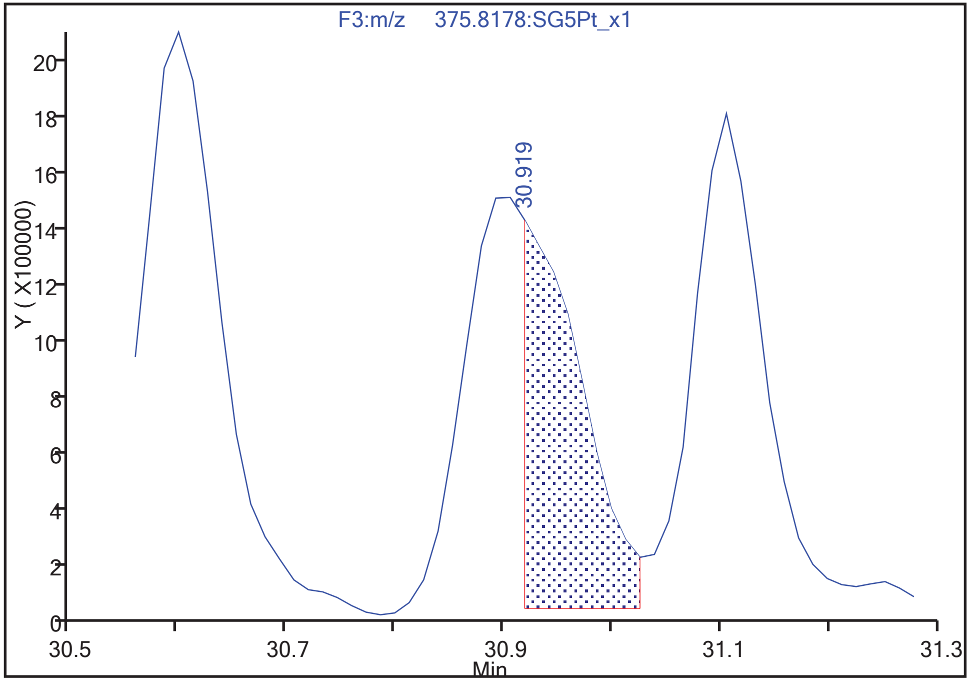
Processing Integration Results

RT:	30.91
Area:	10413542
Amount:	22.783616
Amount Units:	pg/ul



Manual Integration Results

RT:	30.92
Area:	4988813
Amount:	11.009002
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 13:51:32

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Sacramento

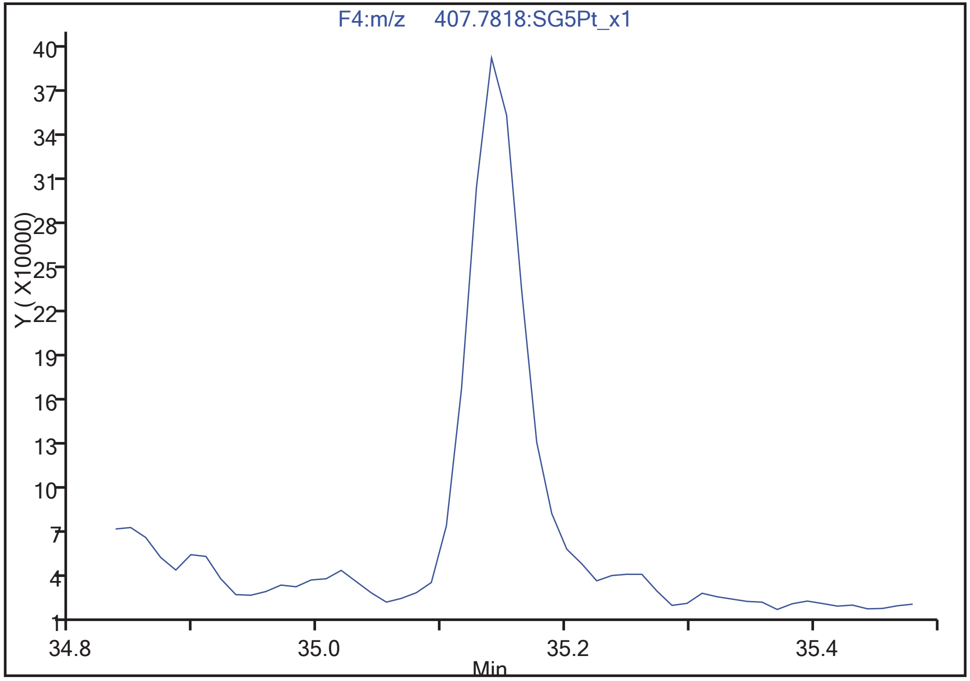
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Instrument ID:	3D5
Lims ID:	160-24924-G-1-B	Lab Sample ID:	320-24924-1
Client ID:	SHAD041DP026SS02NS		
Operator ID:	SMA, ALM	ALS Bottle#:	40 Worklist Smp#: 60
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F4:HRSIR

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

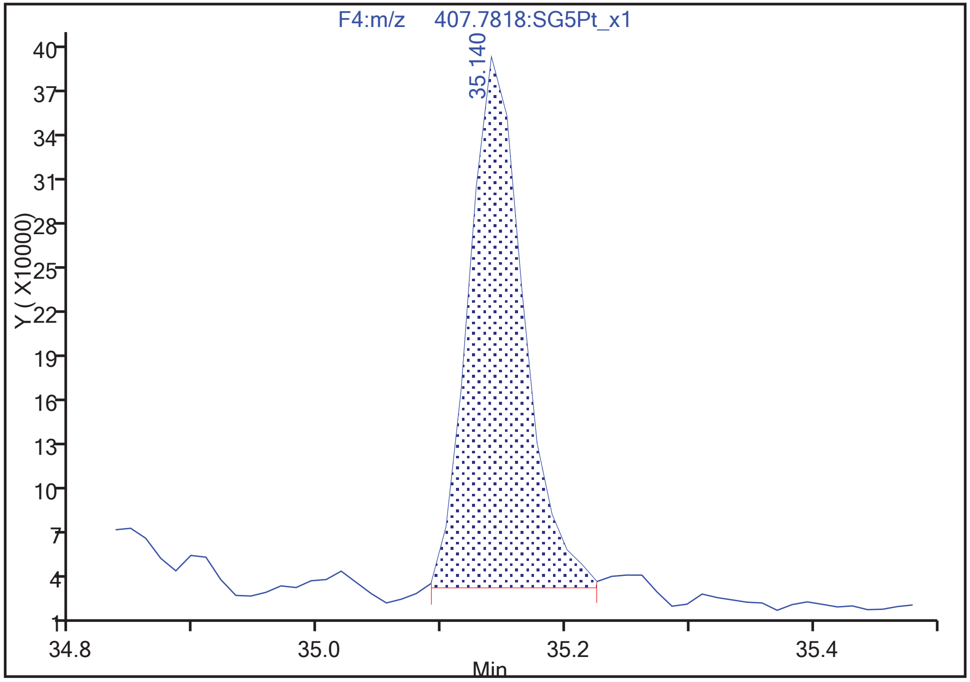
Processing Integration Results

Not Detected
Expected RT: 35.13



Manual Integration Results

RT: 35.14
Area: 1092391
Amount: 3.925178
Amount Units: pg/ul



Reviewer: dadunj, 06-Dec-2017 13:53:27
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Instrument ID:	3D5
Lims ID:	160-24924-G-1-B	Lab Sample ID:	320-24924-1
Client ID:	SHAD041DP026SS02NS		
Operator ID:	SMA, ALM	ALS Bottle#:	40 Worklist Smp#: 60
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F4:HRSIR

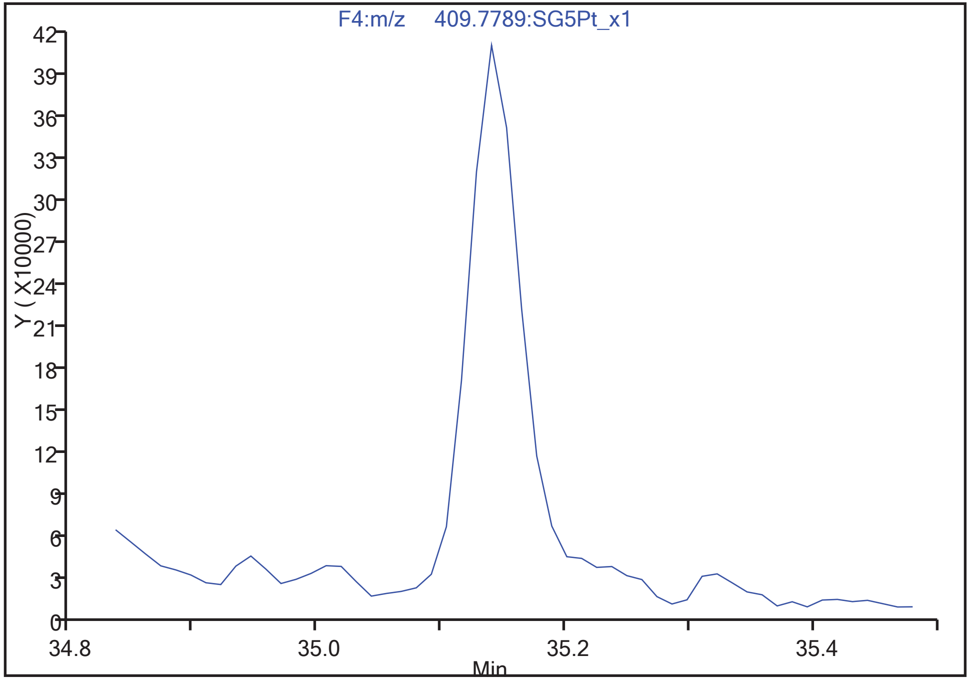
1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

Not Detected

Expected RT: 35.13

Processing Integration Results



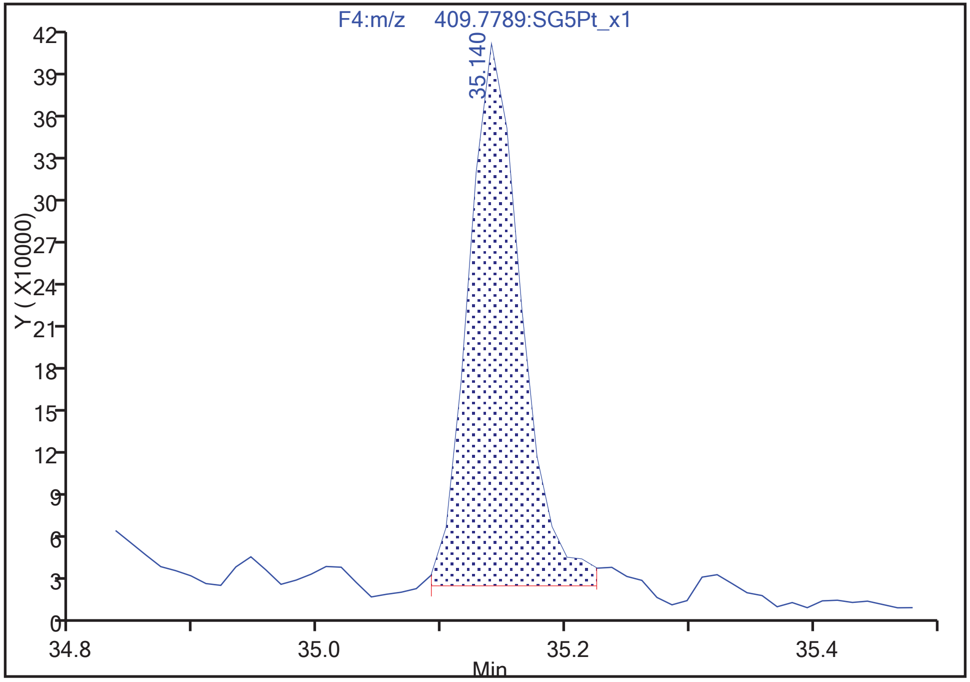
RT: 35.14

Area: 1113352

Amount: 3.925178

Amount Units: pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 13:53:36

Audit Action: Manually Integrated

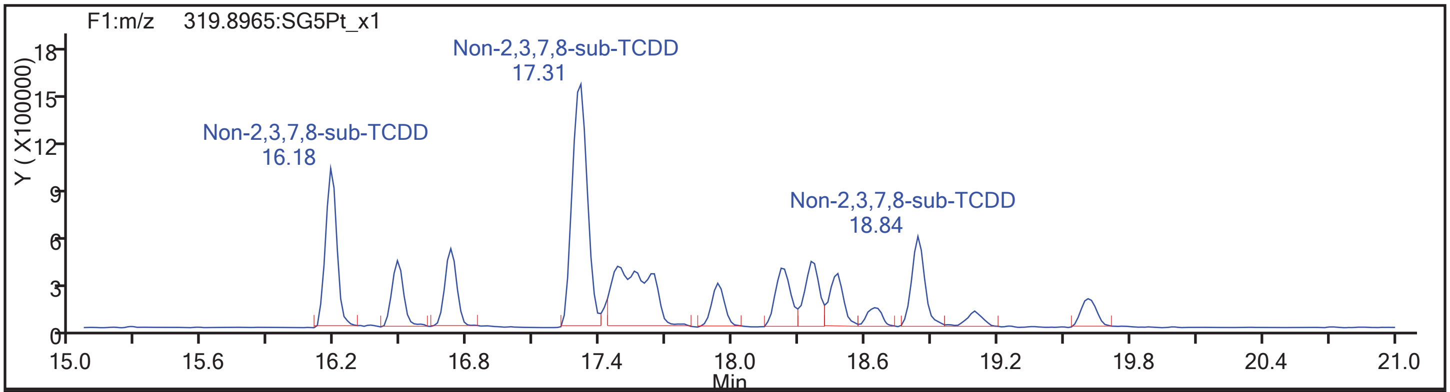
Audit Reason: Assign Peak

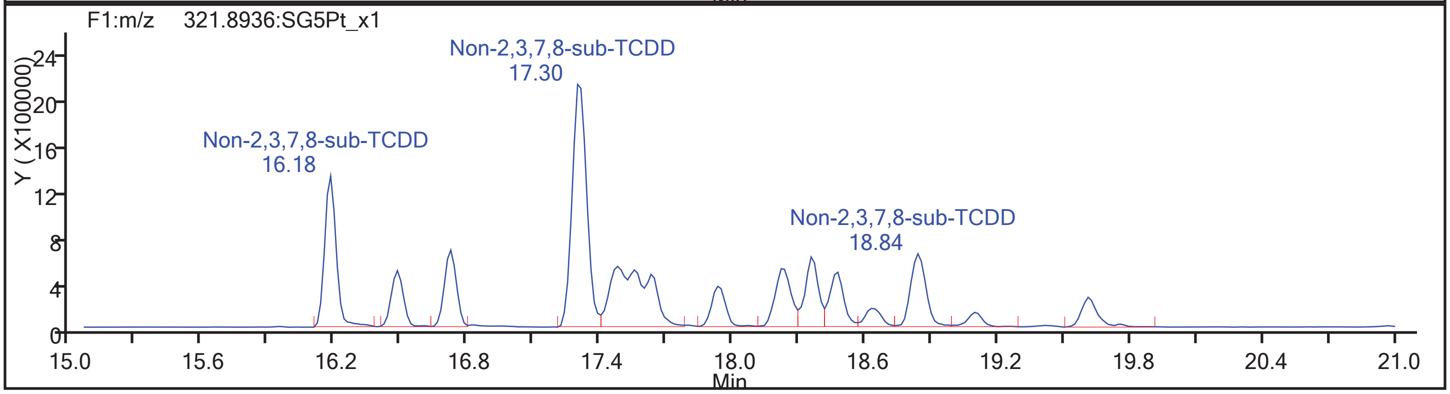
Report Date: 06-Dec-2017 13:55:59   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

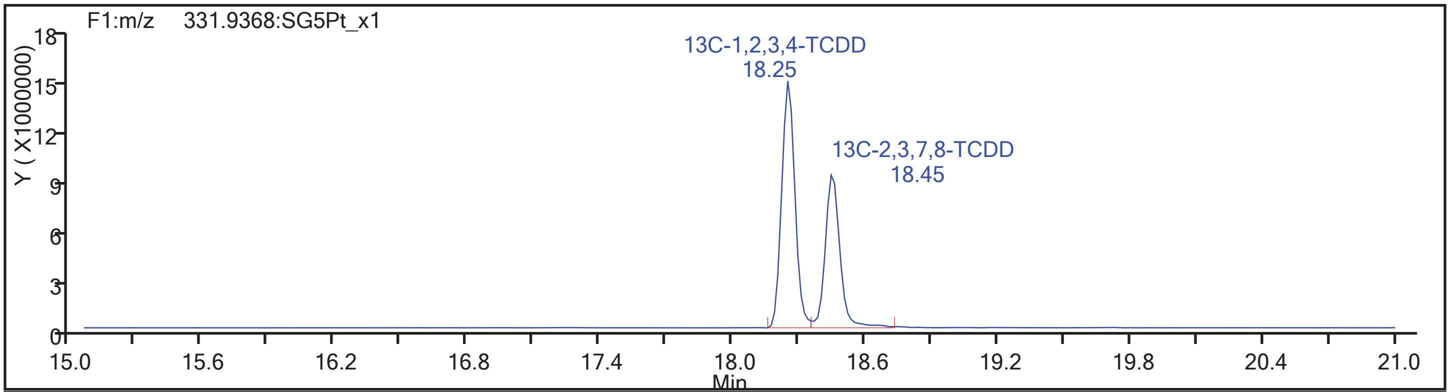
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Injection Date: 18-Nov-2017 17:50:49   Injection Vol: 2.0 ul
Instrument ID: 3D5   Operator ID: SMA, ALM
Method: Dioxin_3D5   Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
Worklist#: 195573   Sample Line#: 60
Column Type: Column Dia:

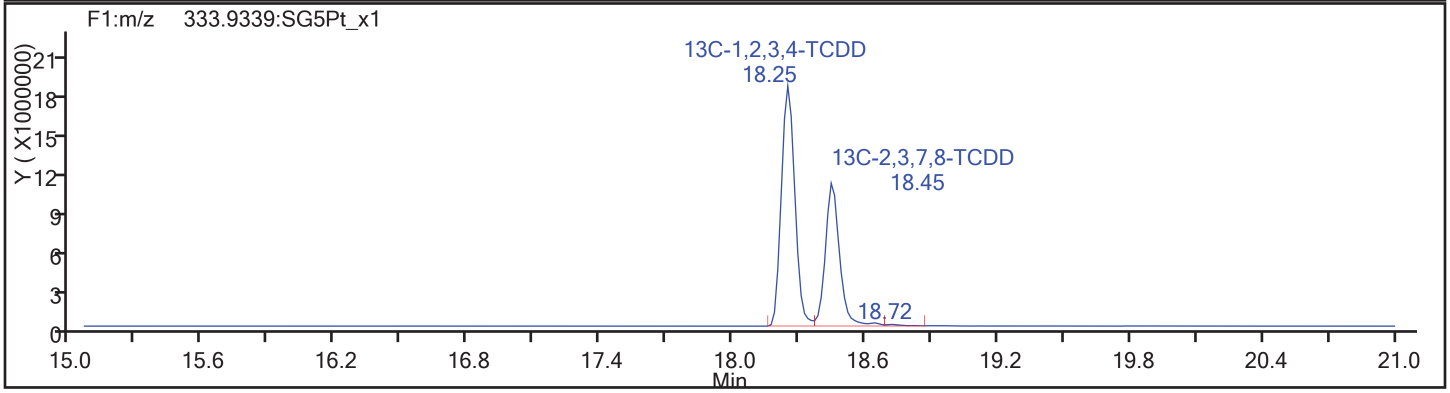
TCDD





TCDD Standards



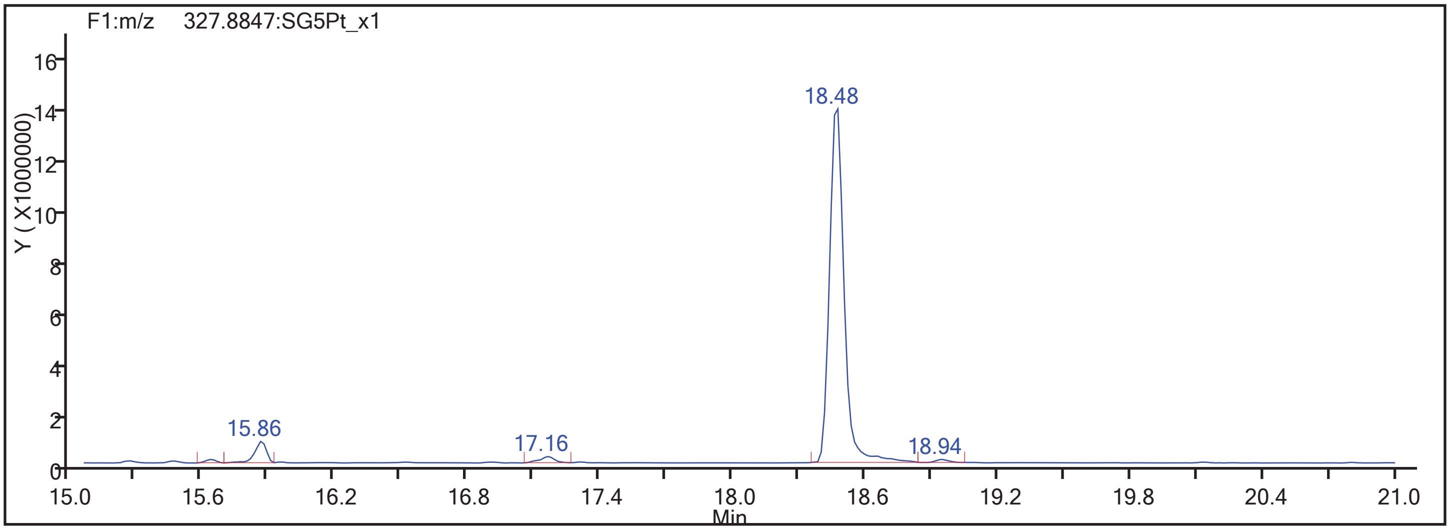


Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

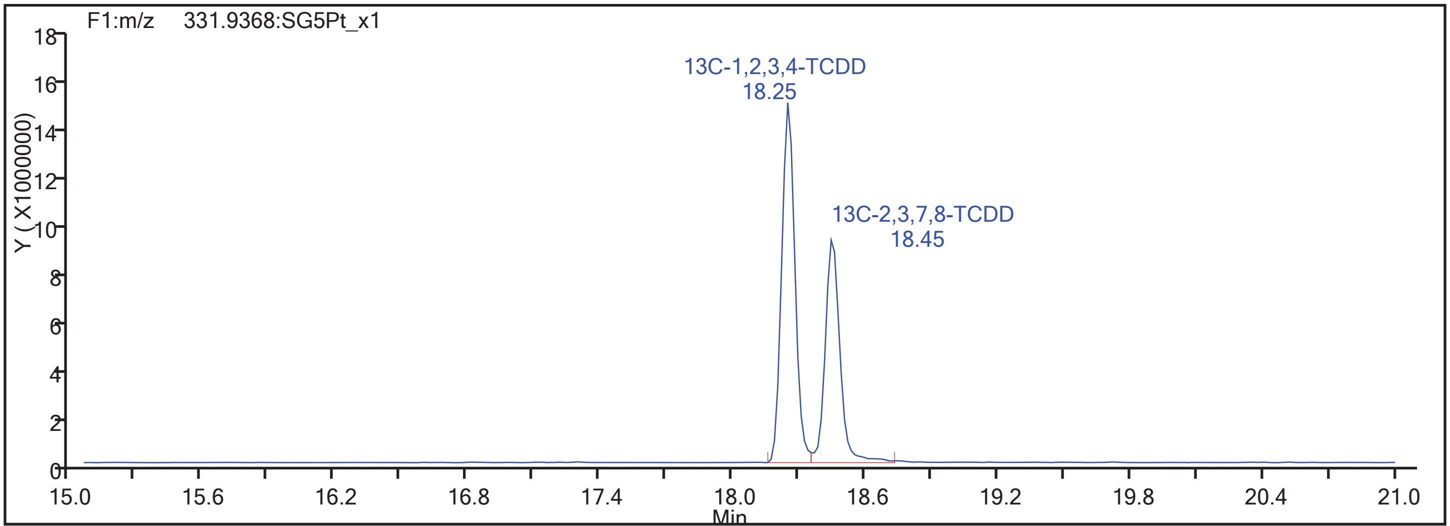
TestAmerica Sacramento

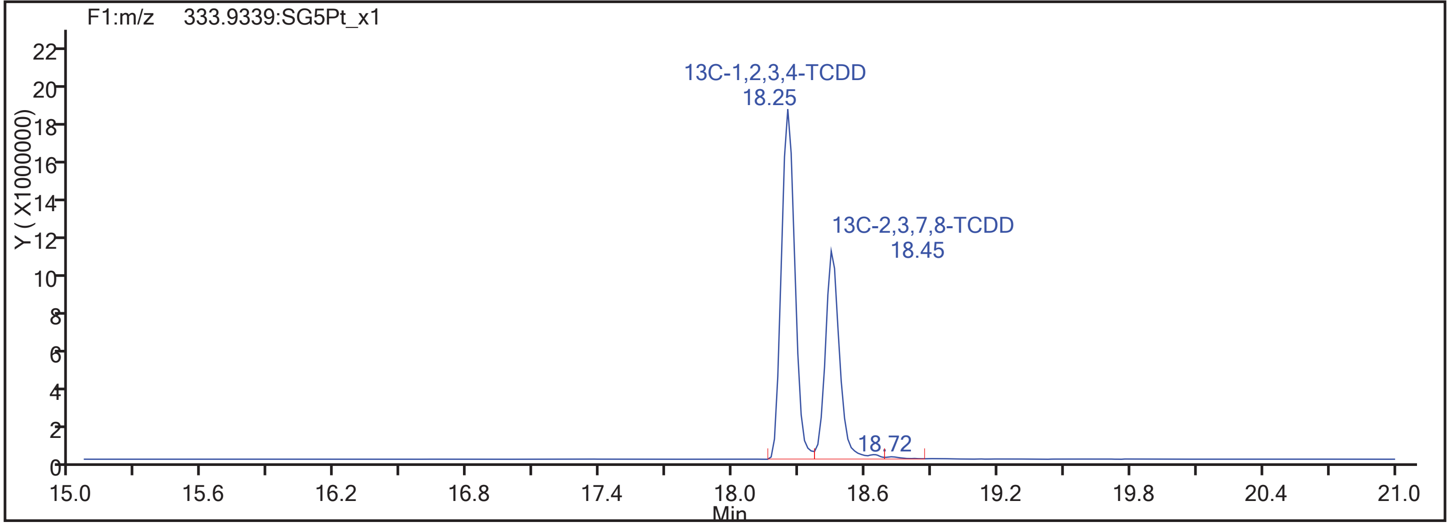
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	195573	Sample Line#:	60
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards





Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d

Injection Date: 18-Nov-2017 17:50:49 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

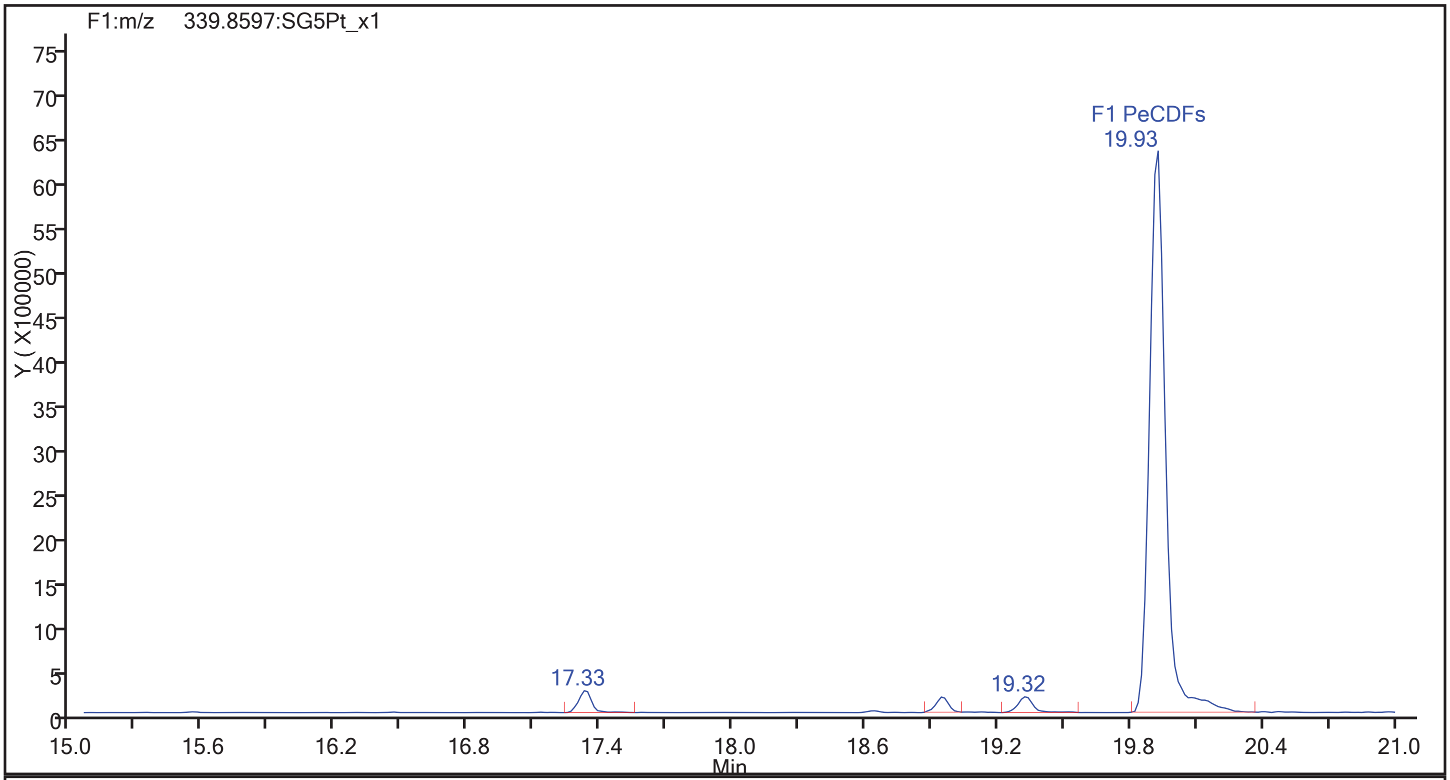
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

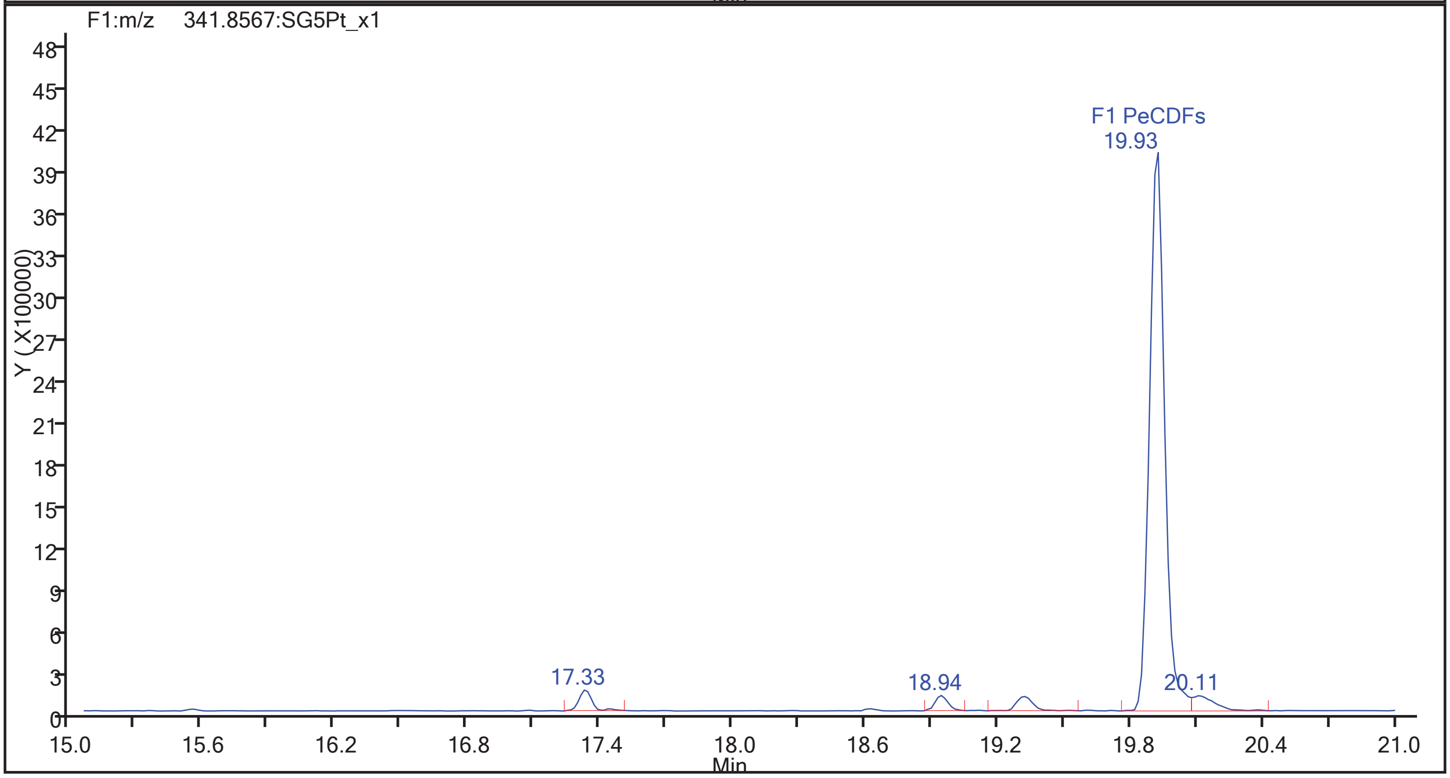
Client ID: SHAD041DP026SS02NS

Worklist#: 195573 Sample Line#: 60

Column Type: Column Dia:

F1 PeCDFs



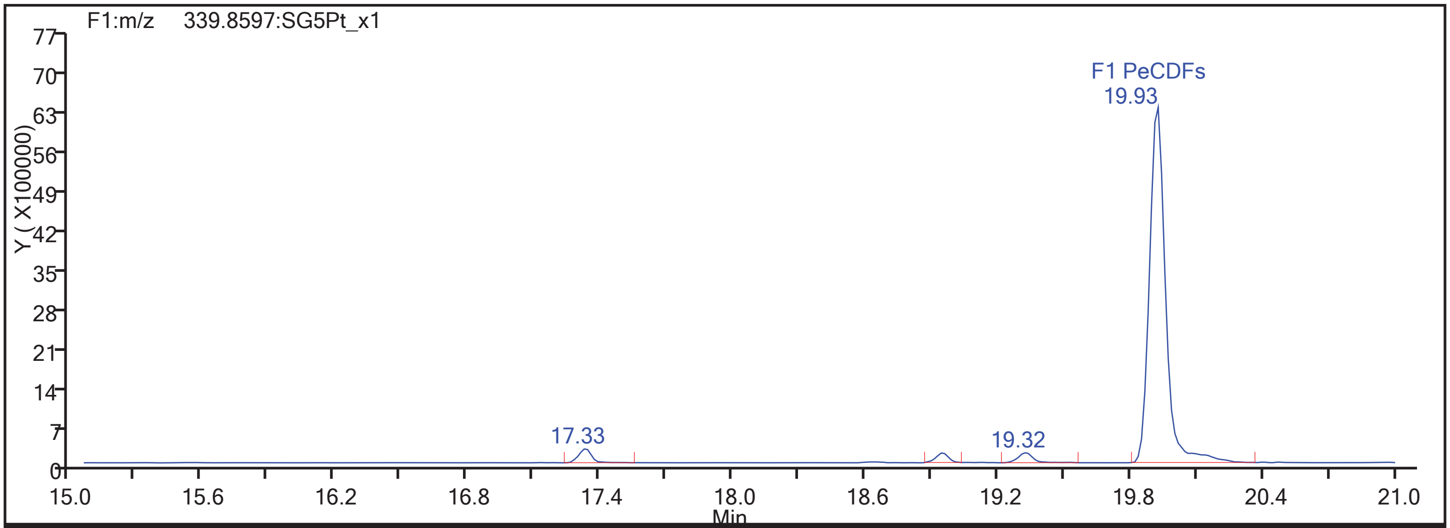


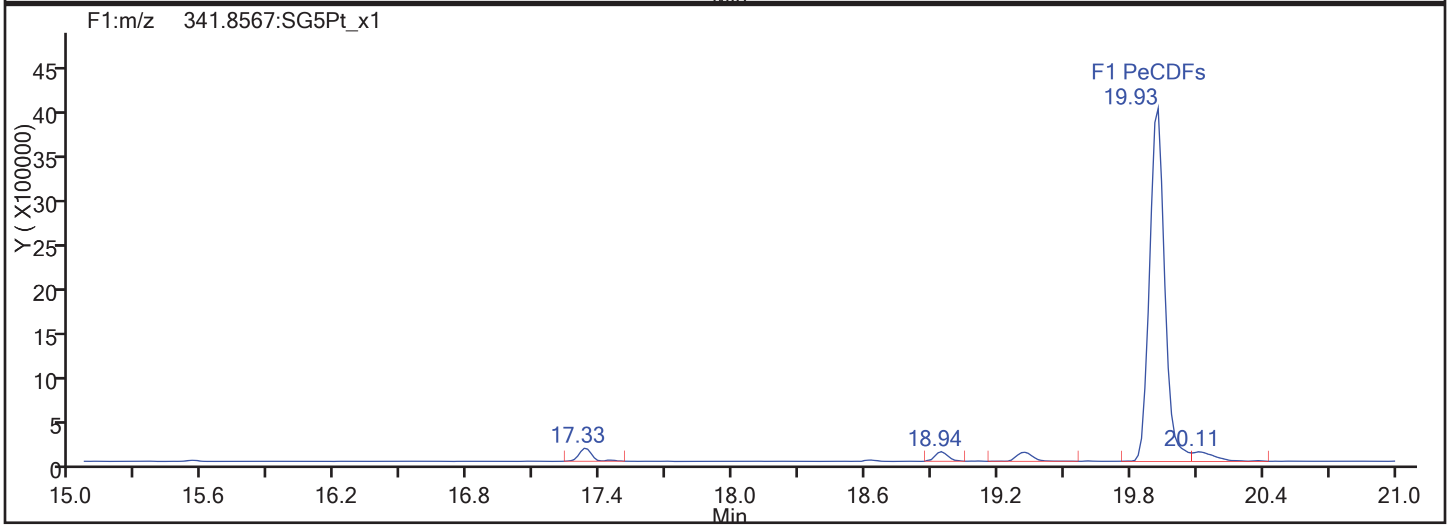
Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

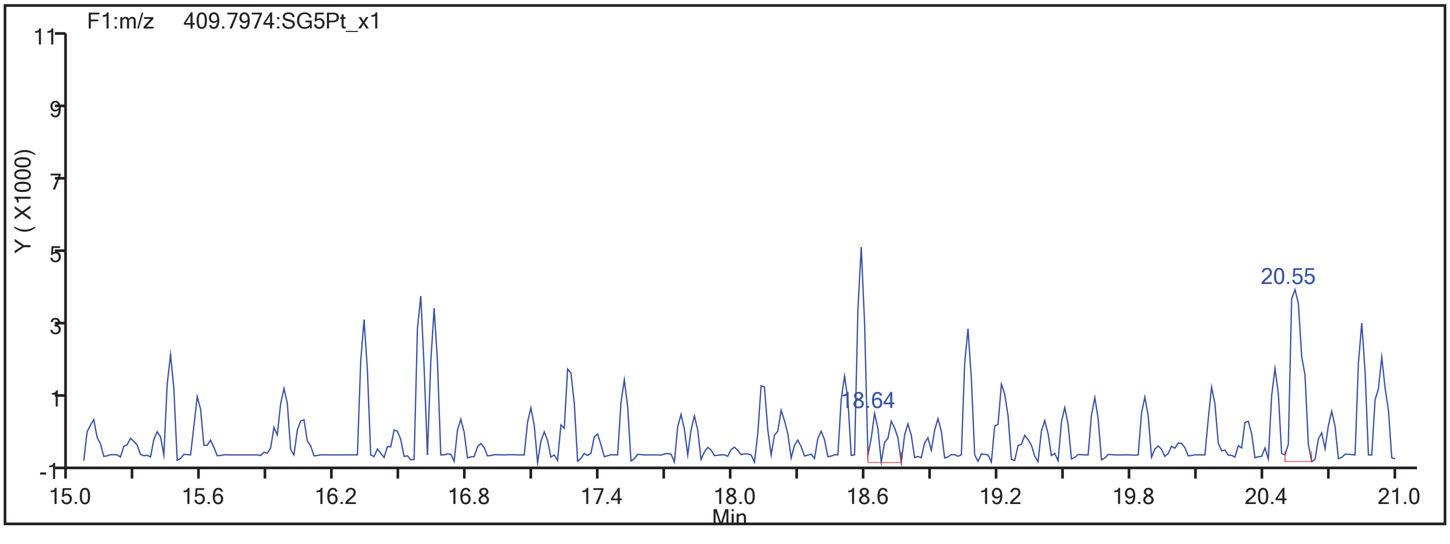
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Injection Date: 18-Nov-2017 17:50:49 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
Worklist#: 195573 Sample Line#: 60
Column Type: Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass

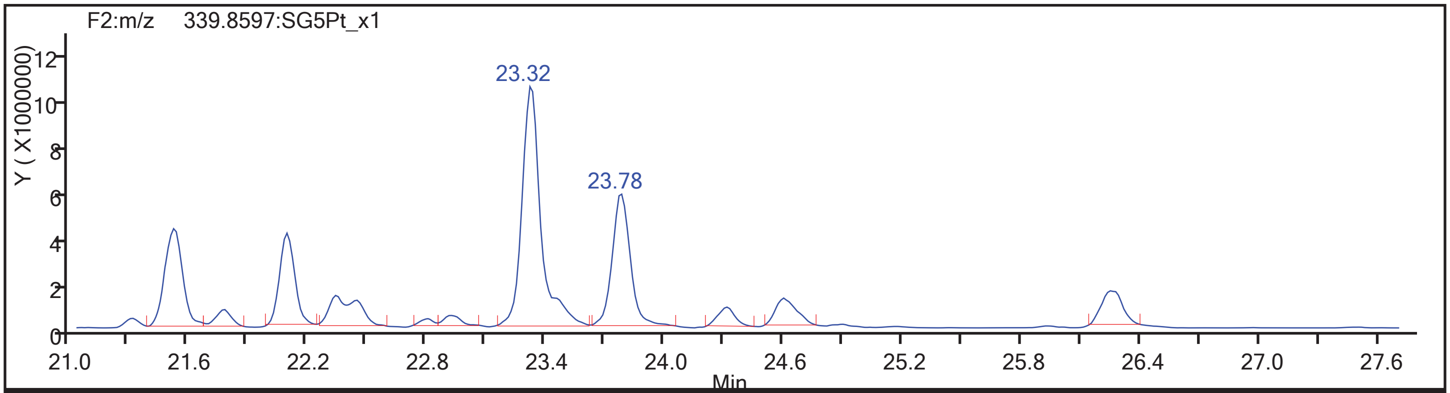


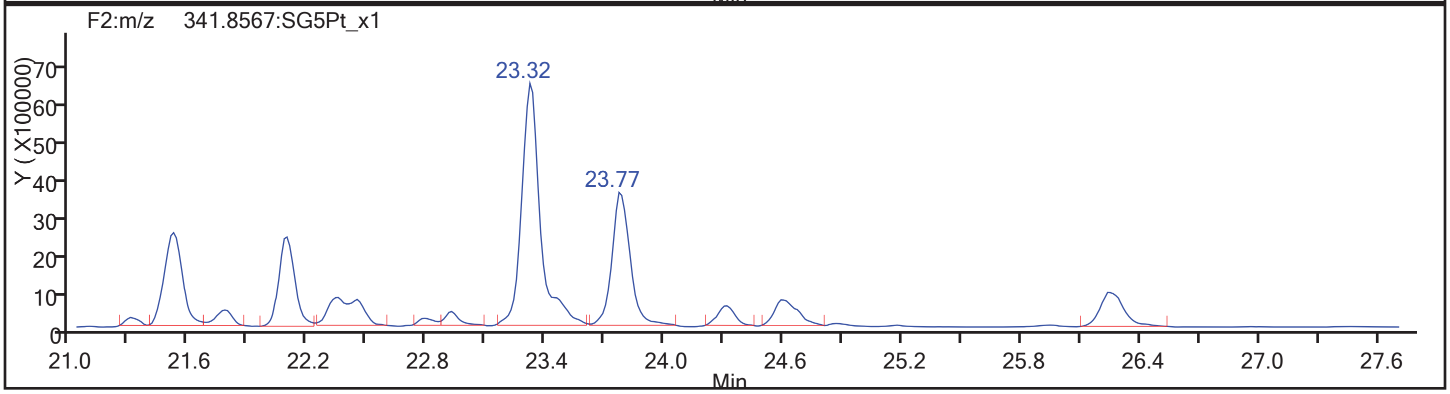
Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

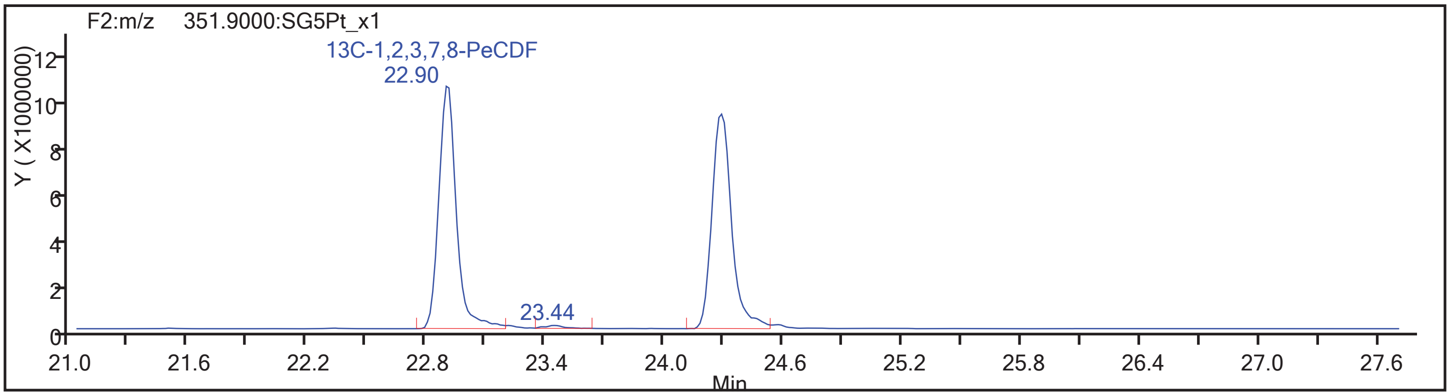
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Injection Date: 18-Nov-2017 17:50:49
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
Worklist#: 195573
Sample Line#: 60
Column Type:
Column Dia:

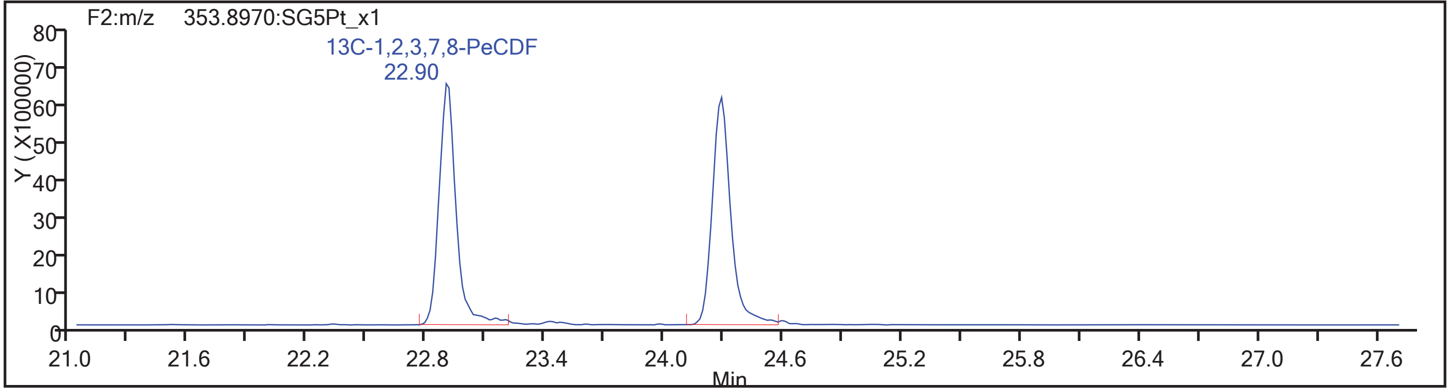
PeCDF





PeCDF Standards



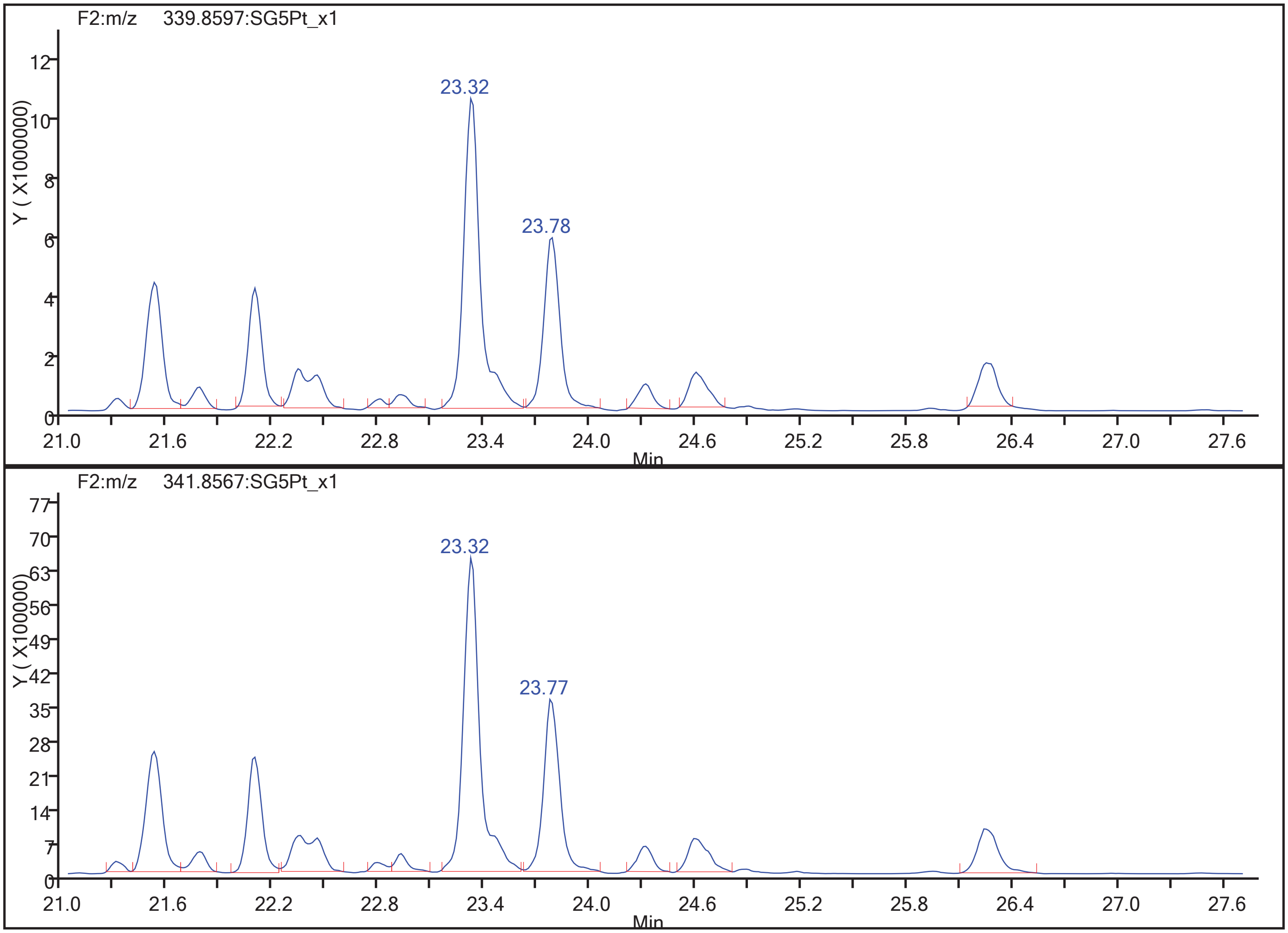


Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

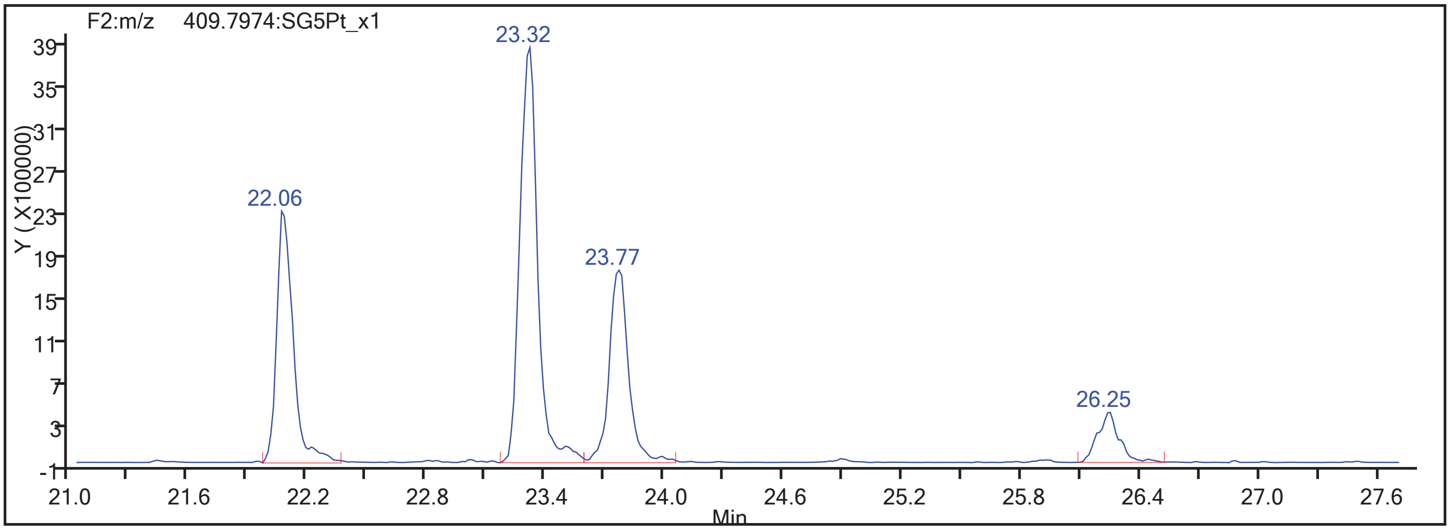
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	195573	Sample Line#:	60
Column Type:		Column Dia:	

PeCDF



PeCDF Interference Mass



Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
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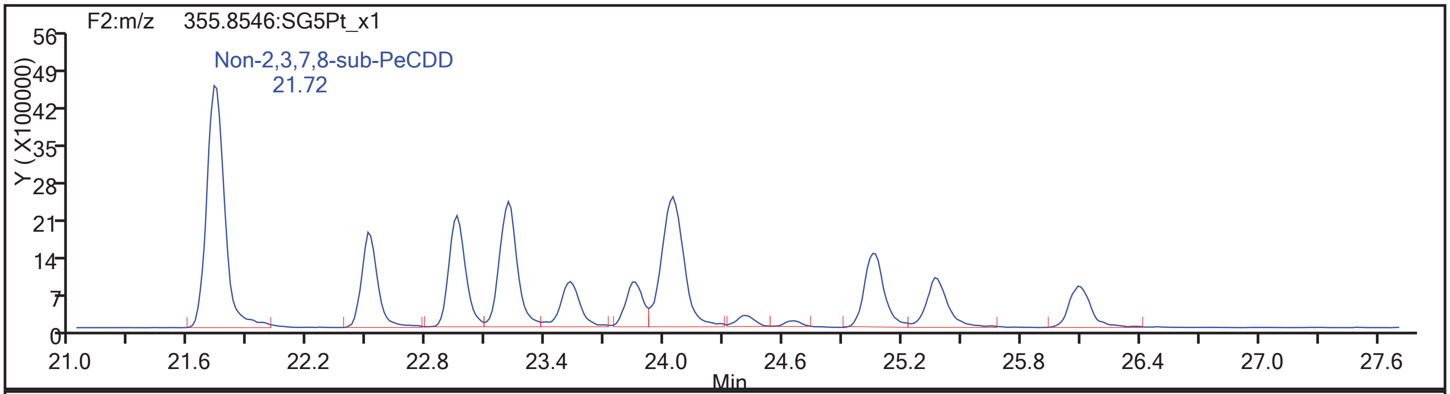
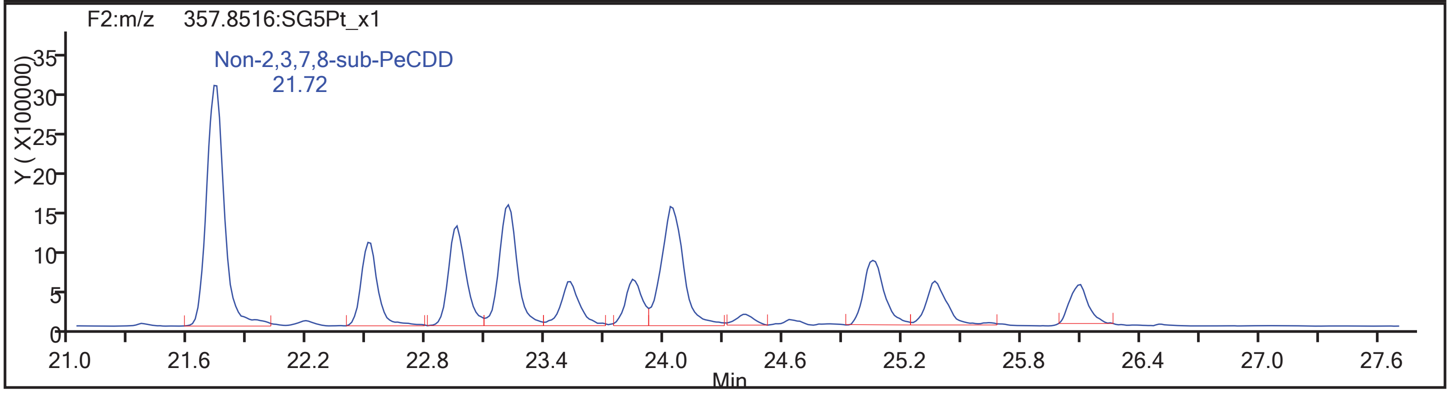
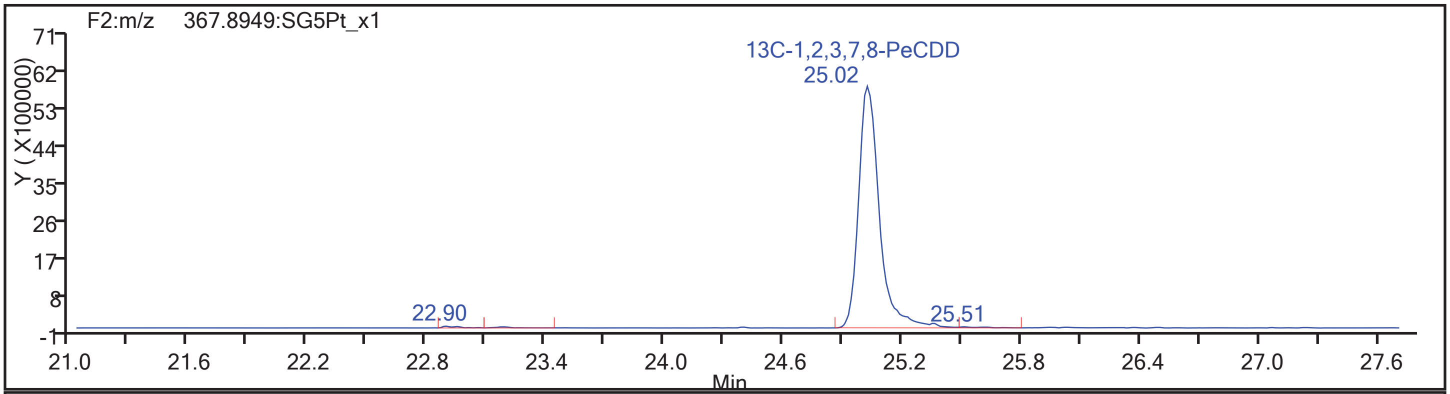
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	195573	Sample Line#:	60
Column Type:		Column Dia:	

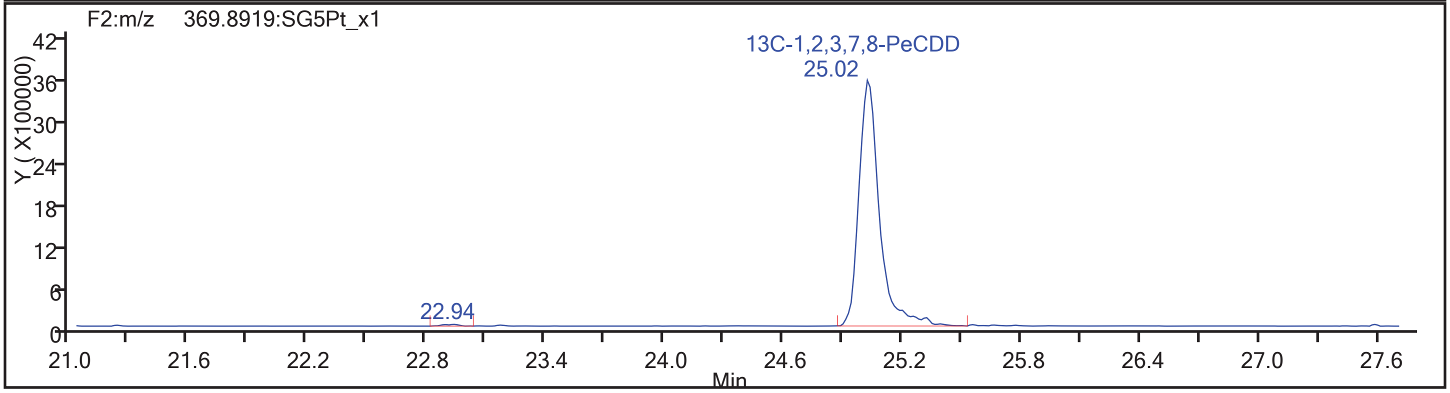
PeCDD





PeCDD Standards



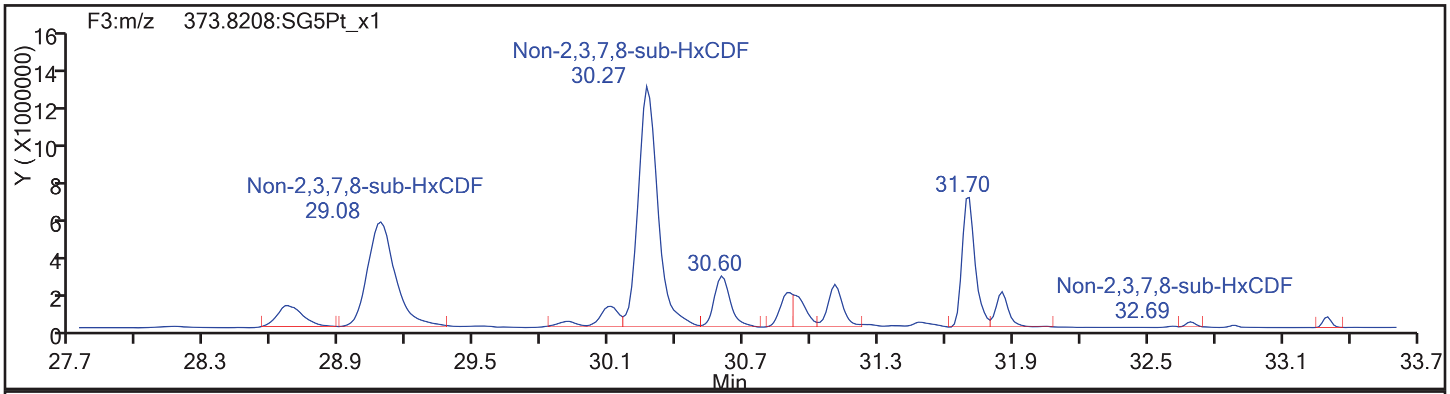


Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	195573	Sample Line#:	60
Column Type:		Column Dia:	

HxCDF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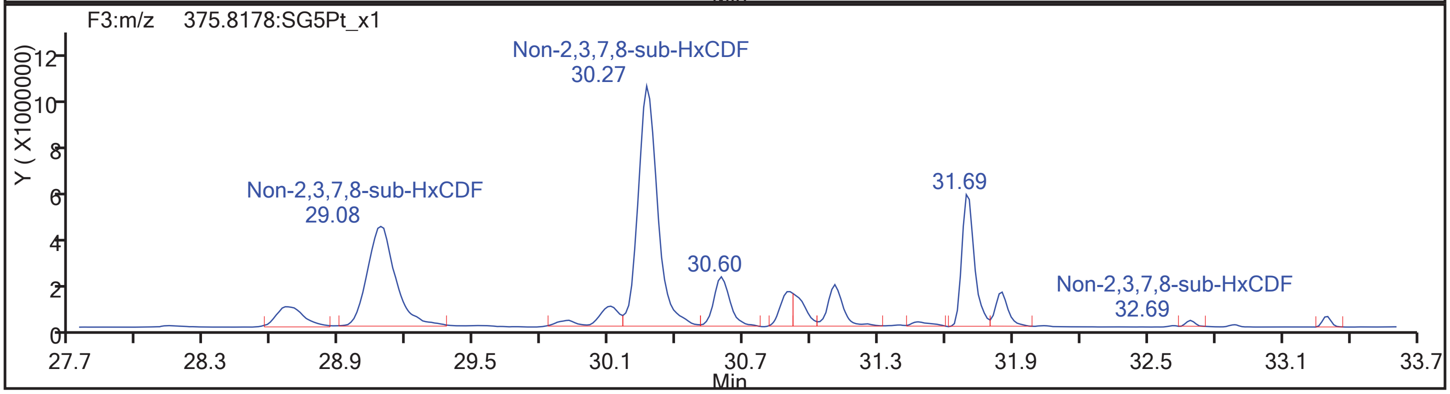
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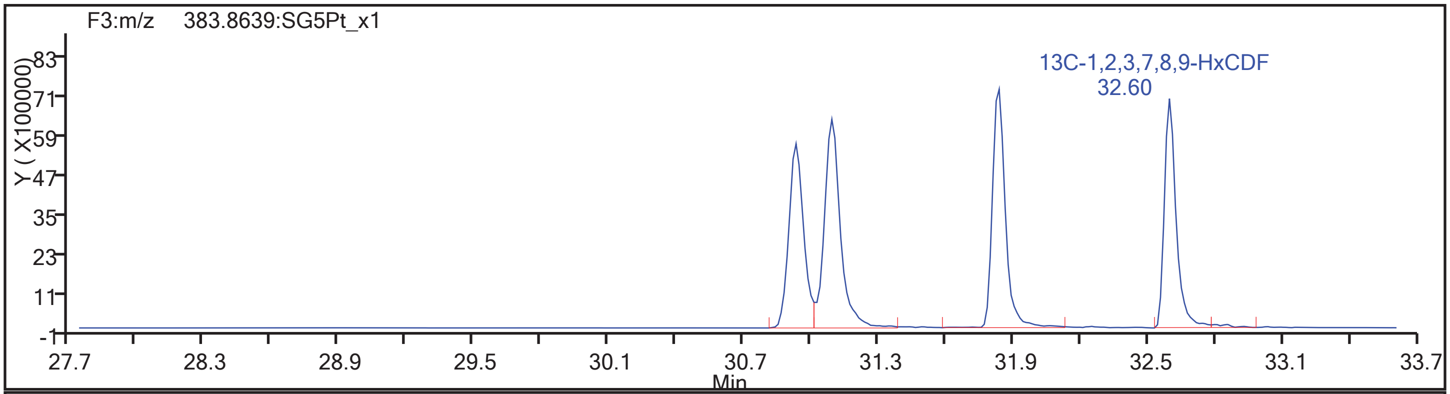
HxCDF Standards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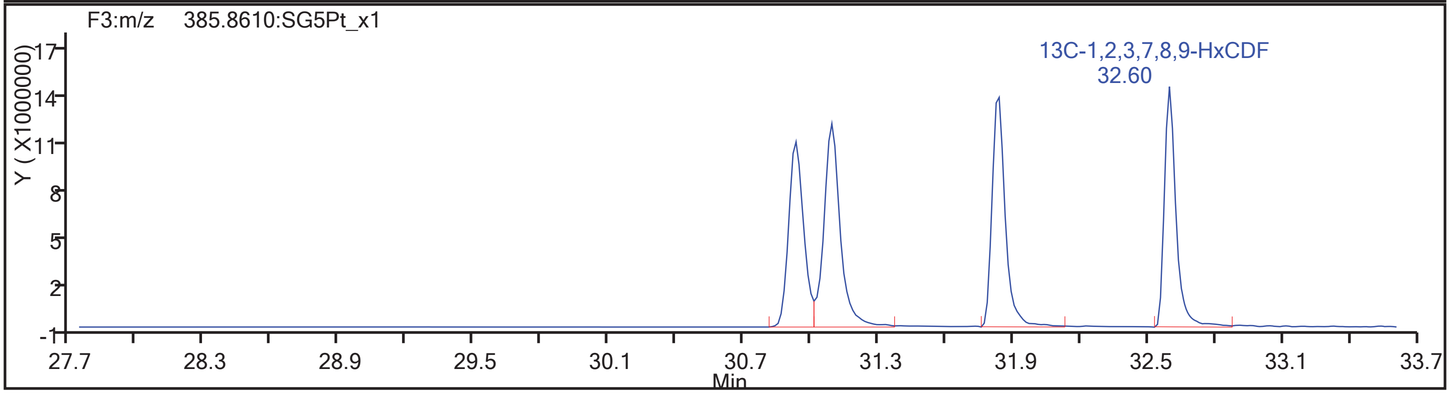
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Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d

Injection Date: 18-Nov-2017 17:50:49
Injection Vol: 2.0 ul

Instrument ID: 3D5
Operator ID: SMA, ALM

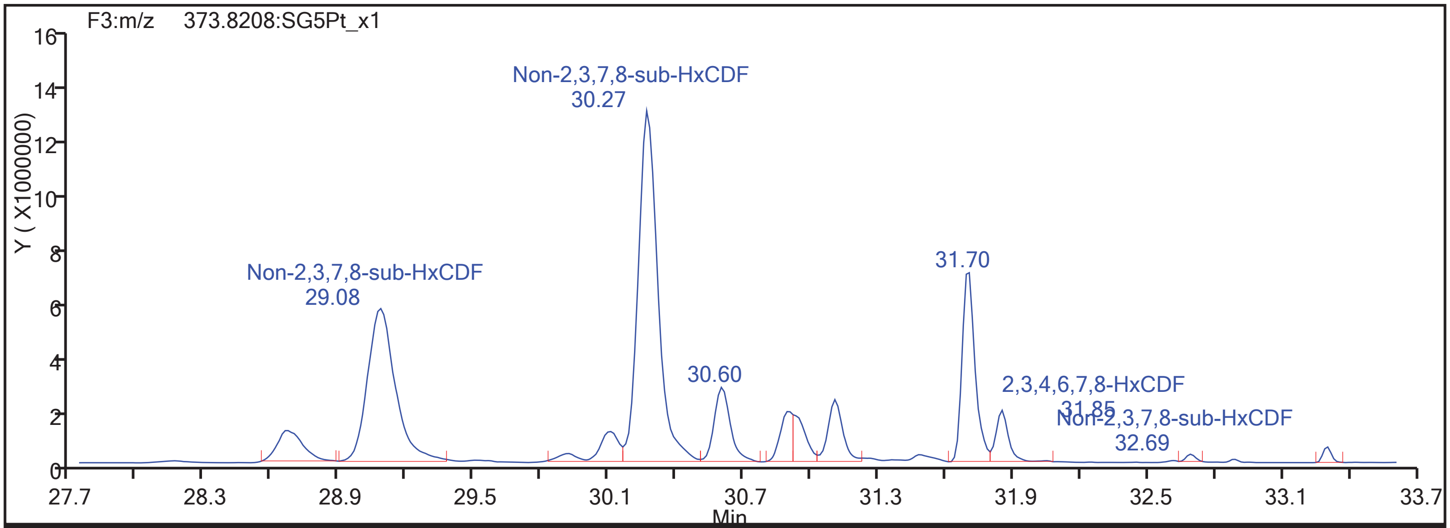
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL

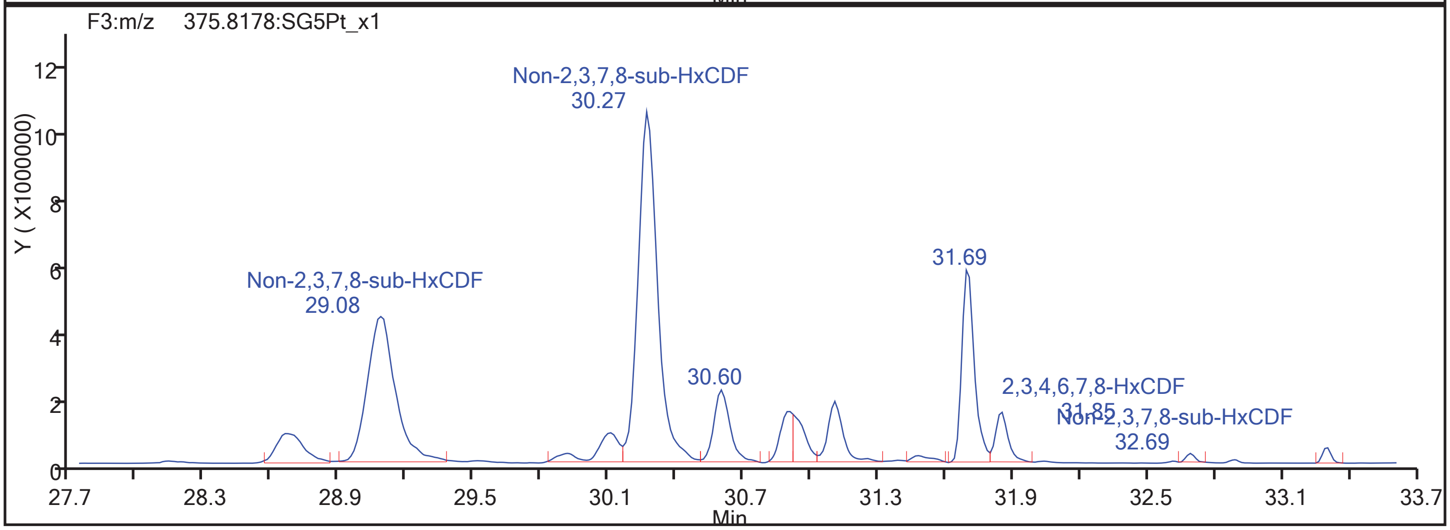
Client ID: SHAD041DP026SS02NS

Worklist#: 195573
Sample Line#: 60

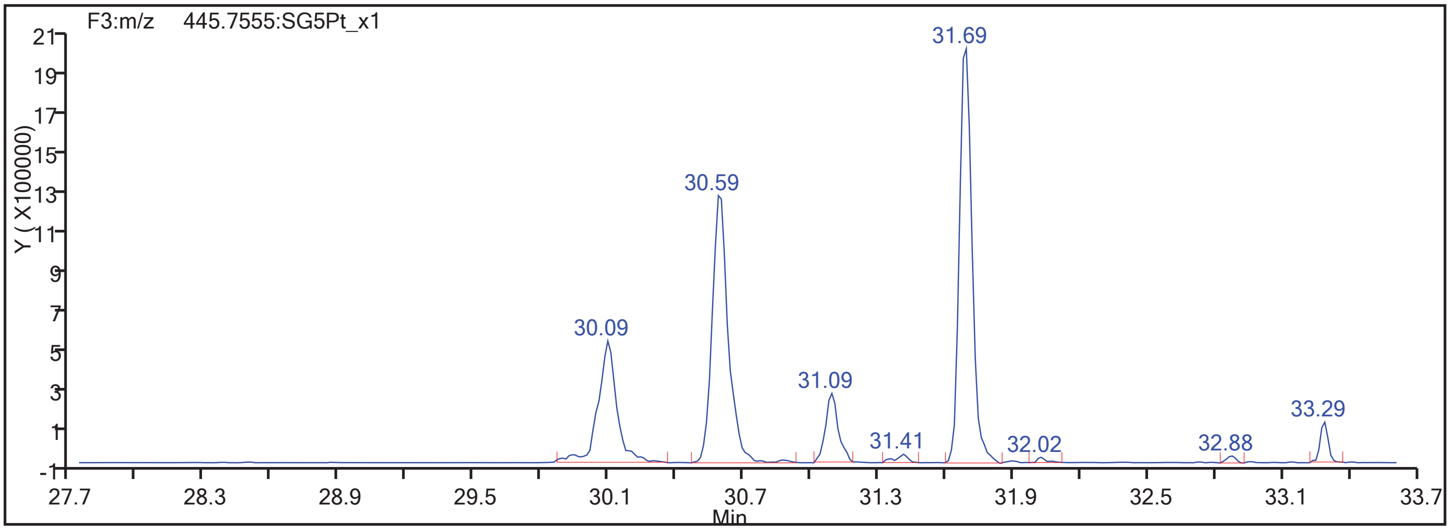
Column Type:
Column Dia:

HxCDF





HxCDF Interference Mass



Report Date: 06-Dec-2017 13:55:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d

Injection Date: 18-Nov-2017 17:50:49

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS02NS

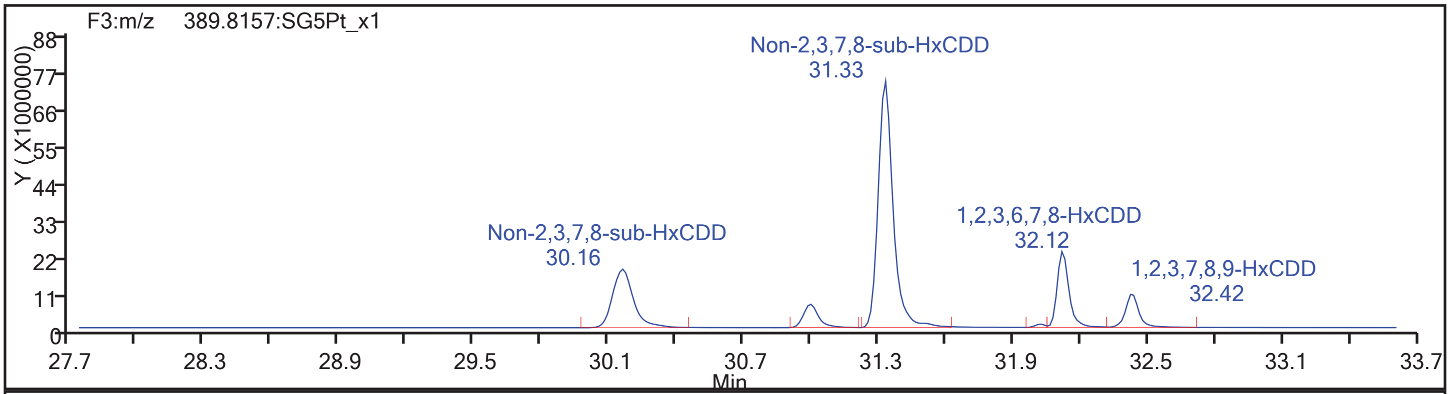
Worklist#: 195573

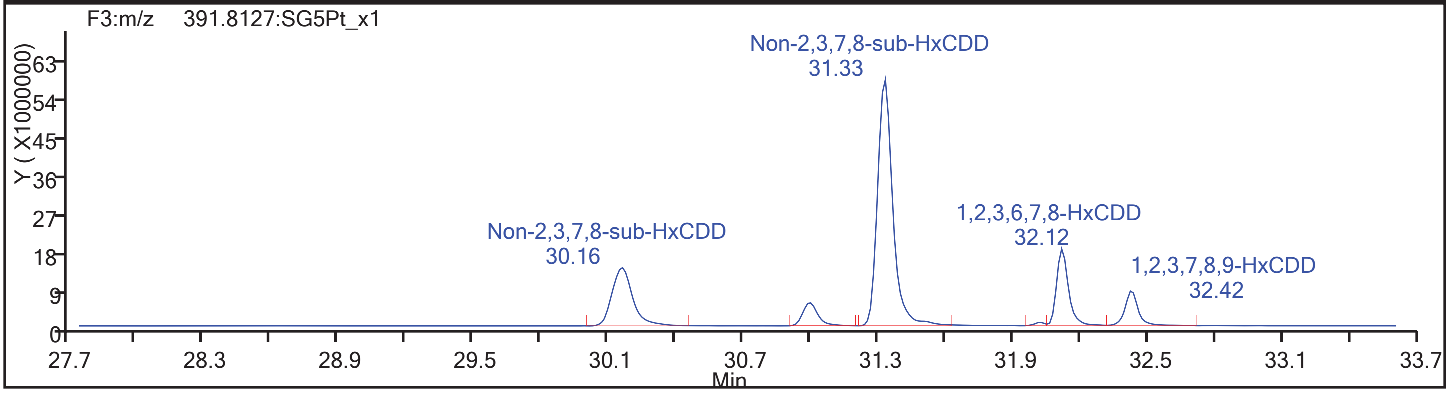
Sample Line#: 60

Column Type:

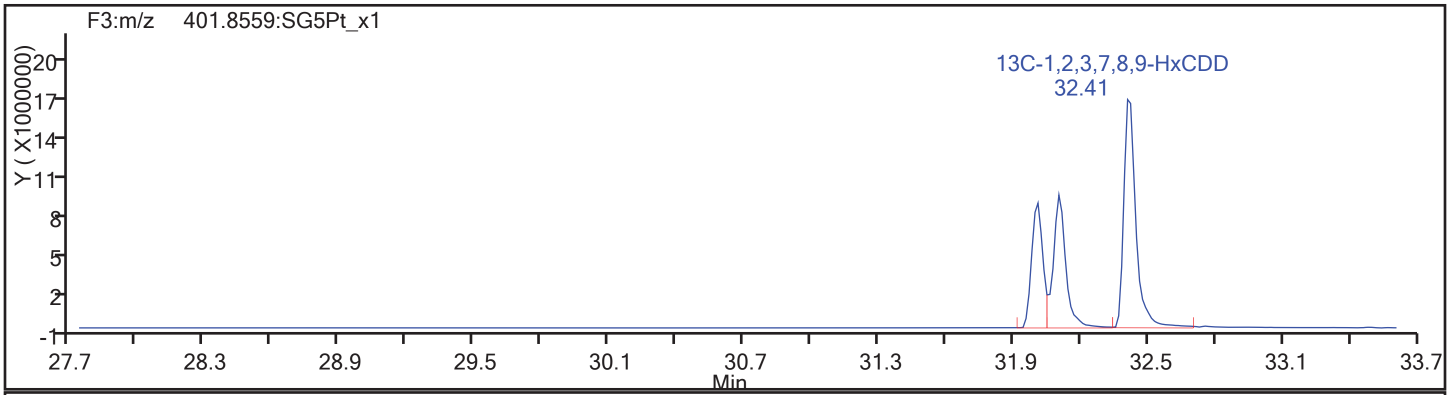
Column Dia:

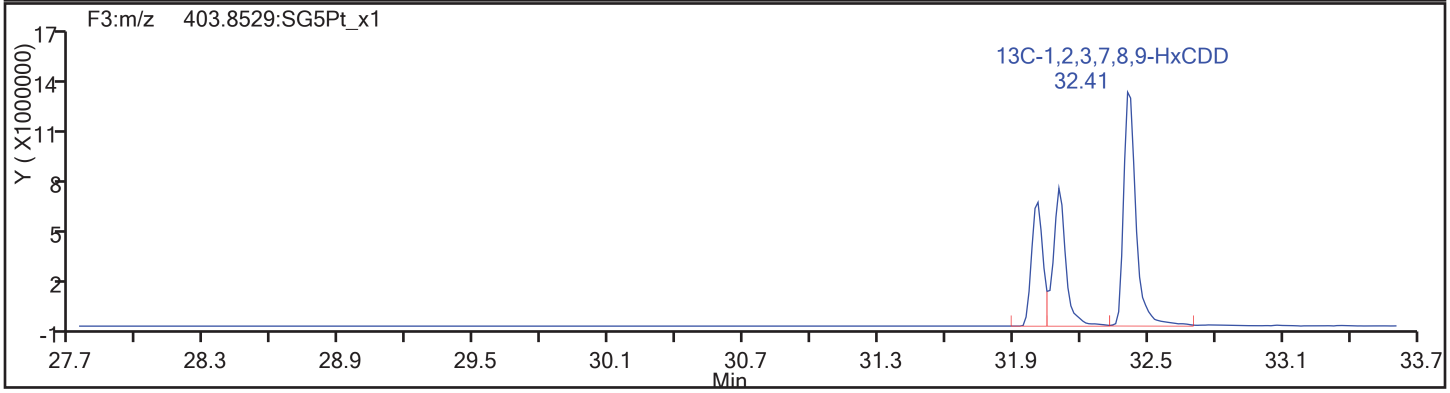
HxCDD





HxCDD Standards





Report Date: 06-Dec-2017 13:55:59	Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d

Injection Date: 18-Nov-2017 17:50:49	Injection Vol: 2.0 ul

Instrument ID: 3D5	Operator ID: SMA, ALM

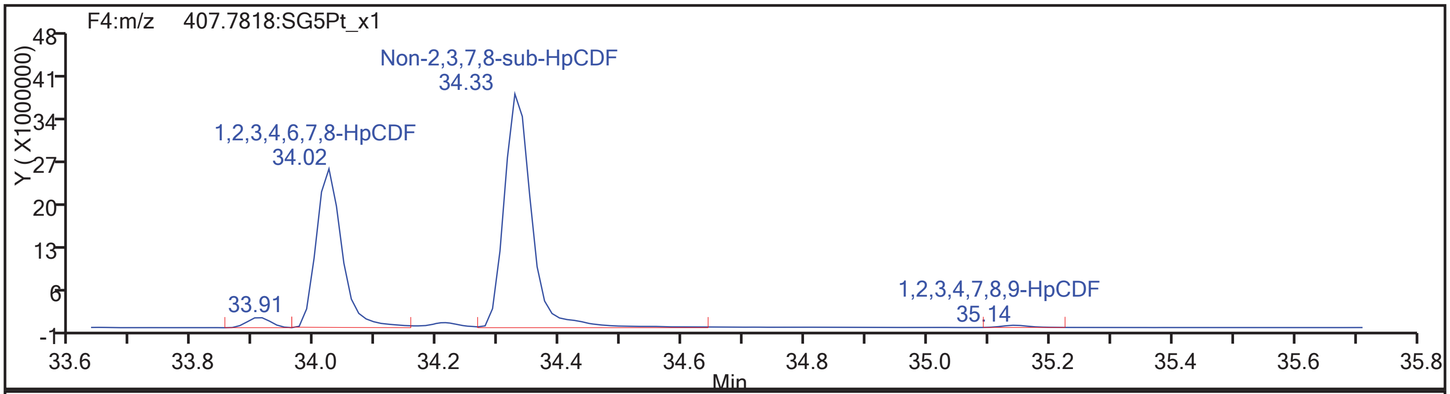
Method: Dioxin_3D5	Limit Group: HR - 8290A_D5 - ICAL

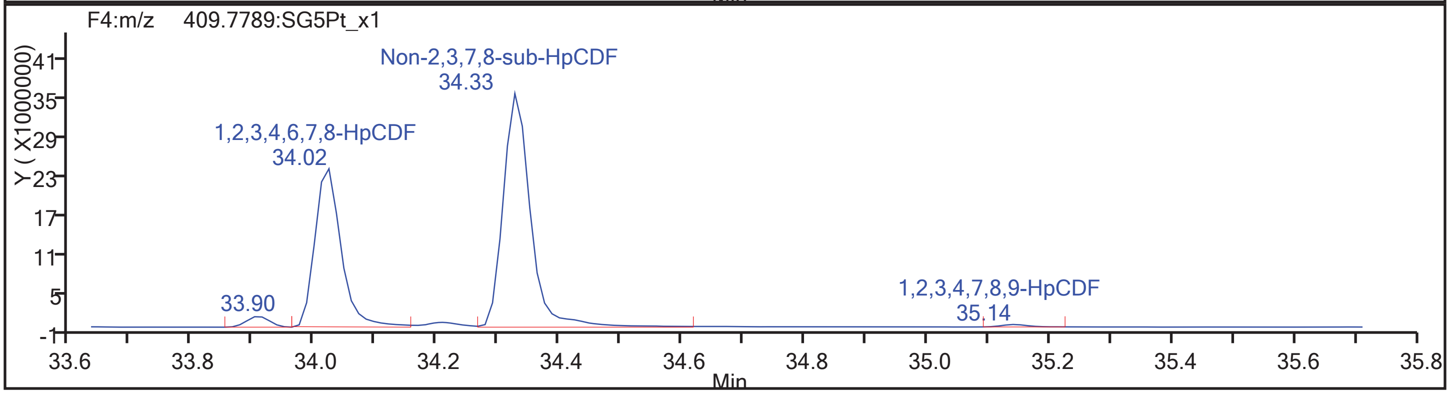
Client ID: SHAD041DP026SS02NS

Worklist#: 195573	Sample Line#: 60

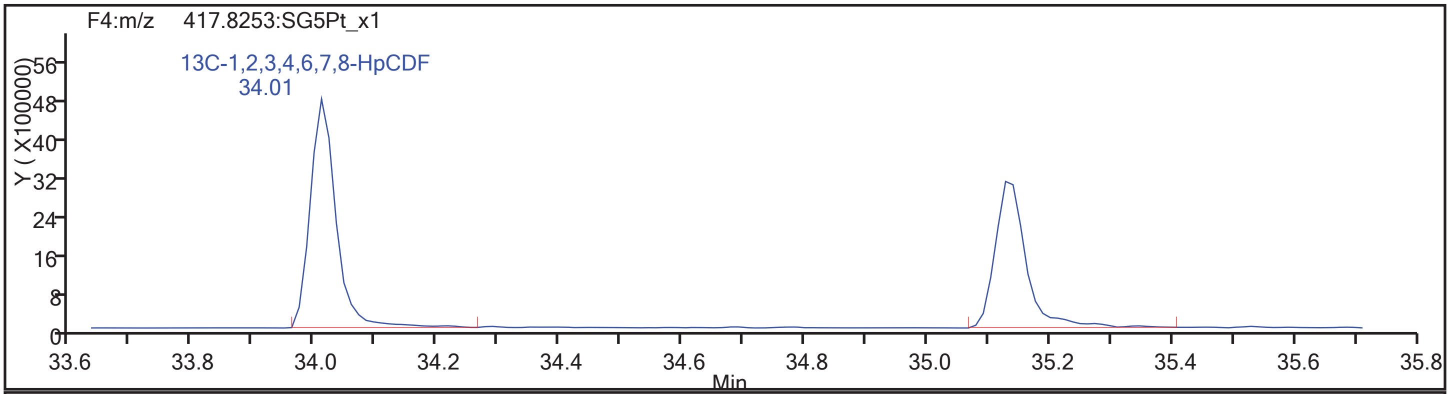
Column Type:	Column Dia:

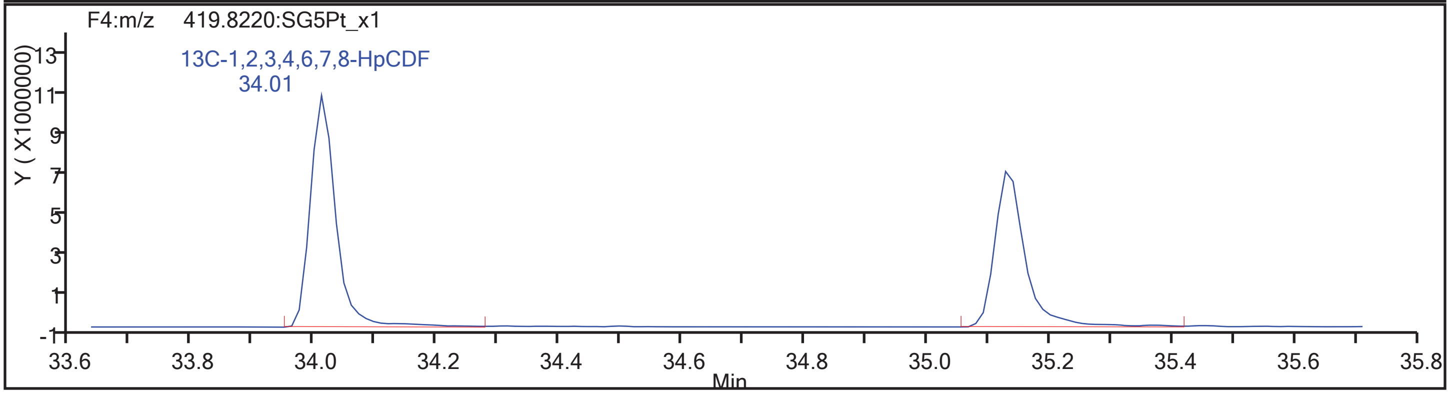
HpCDF





HpCDF Standards





Report Date: 06-Dec-2017 13:56:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d

Injection Date: 18-Nov-2017 17:50:49
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
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Client ID: SHAD041DP026SS02NS
Worklist#: 195573
Sample Line#: 60
Column Type:
Column Dia:

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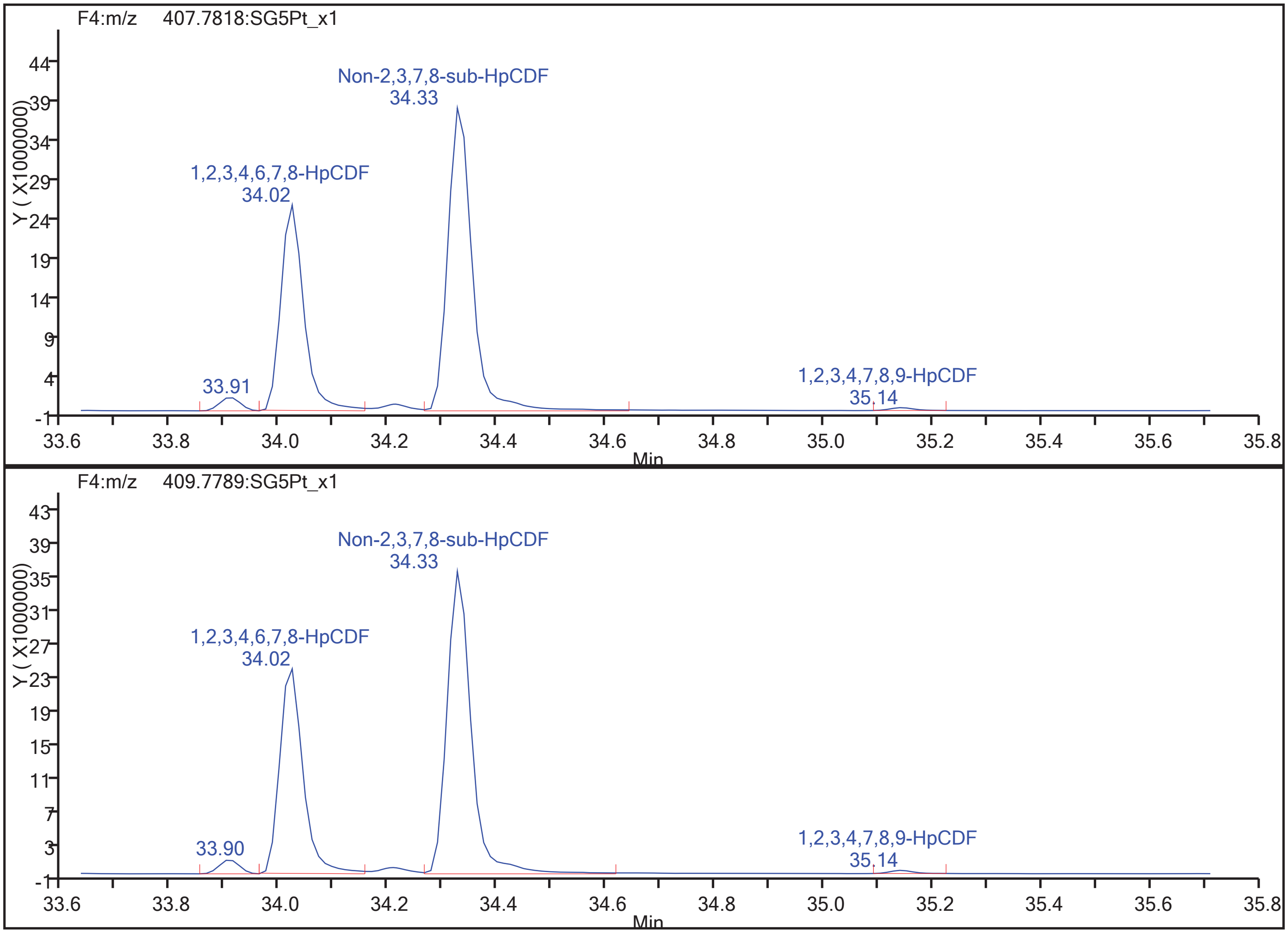
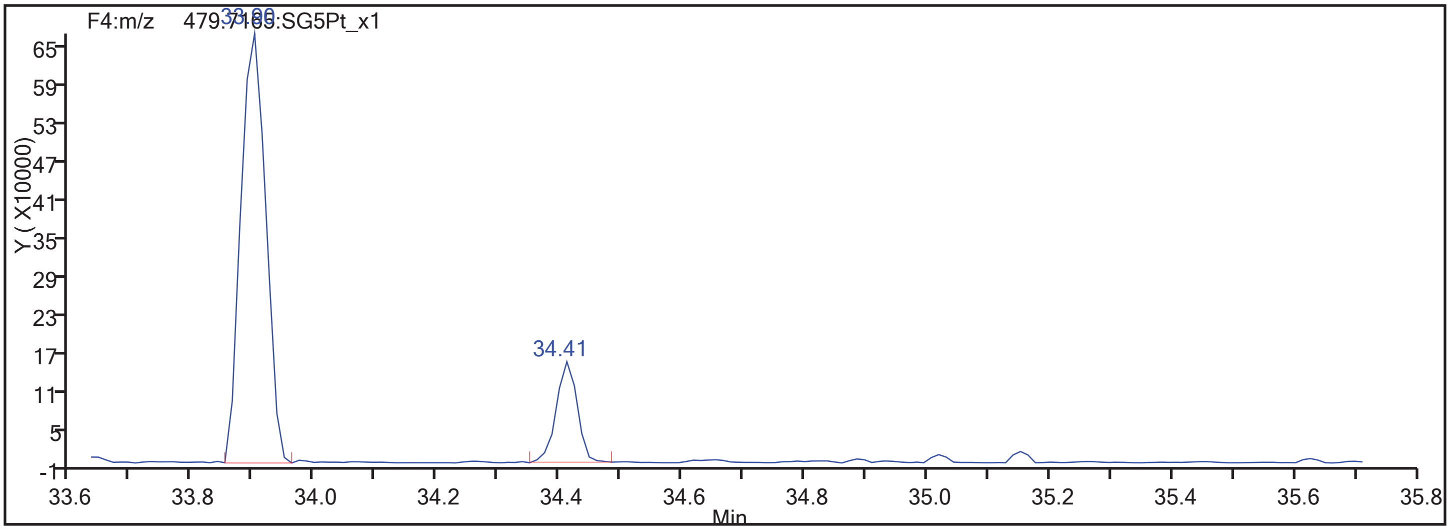


HpCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
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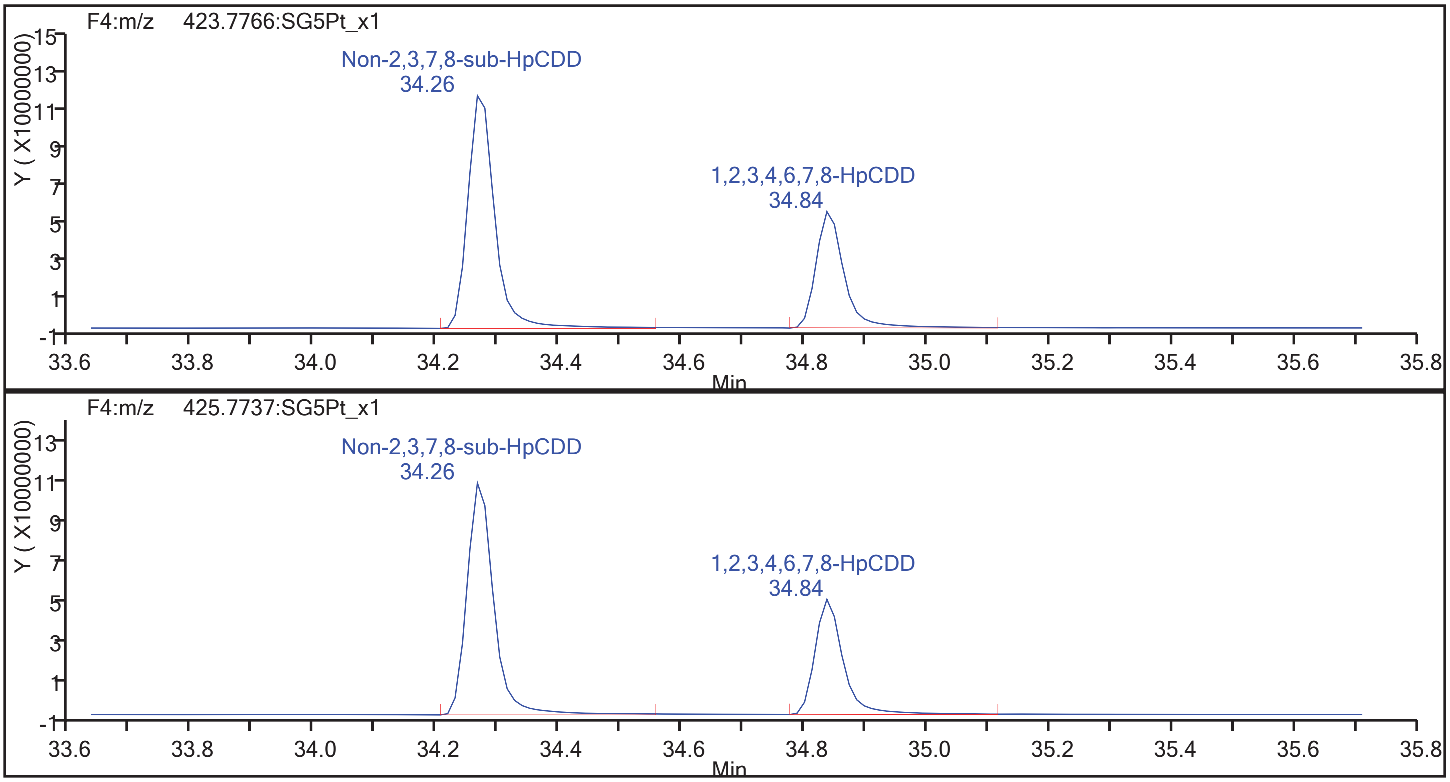
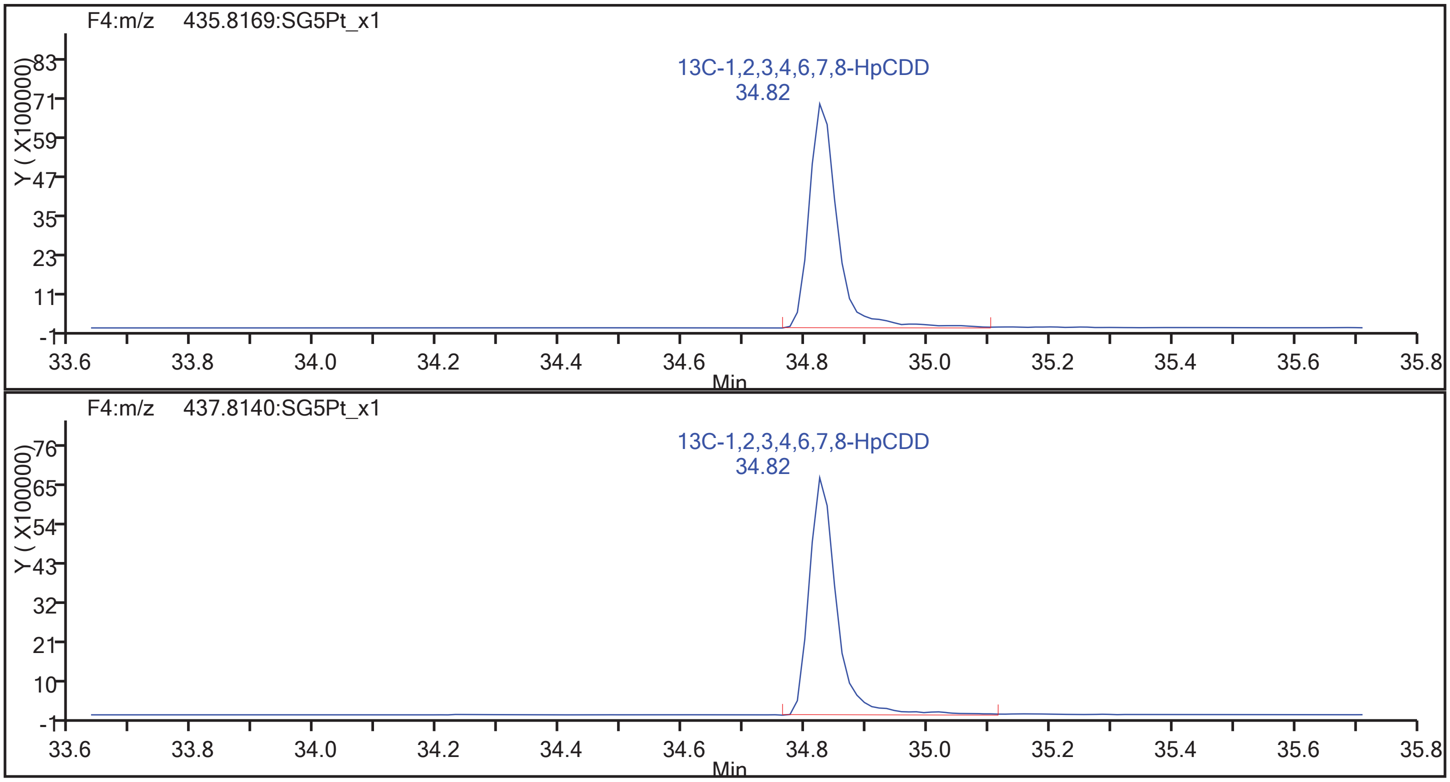
Column Type:		Column Dia:	

HpCDD



HpCDD Standards

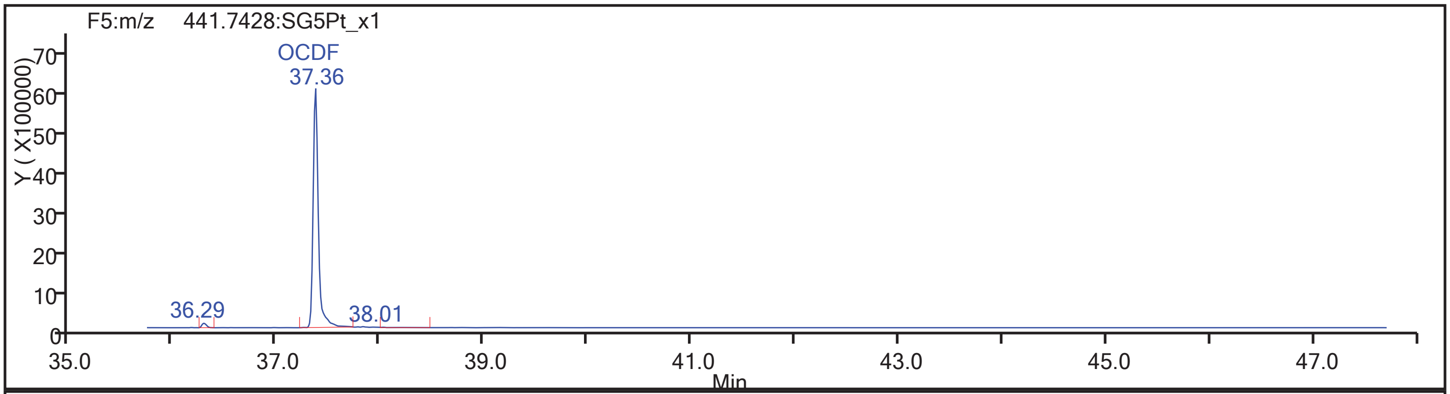


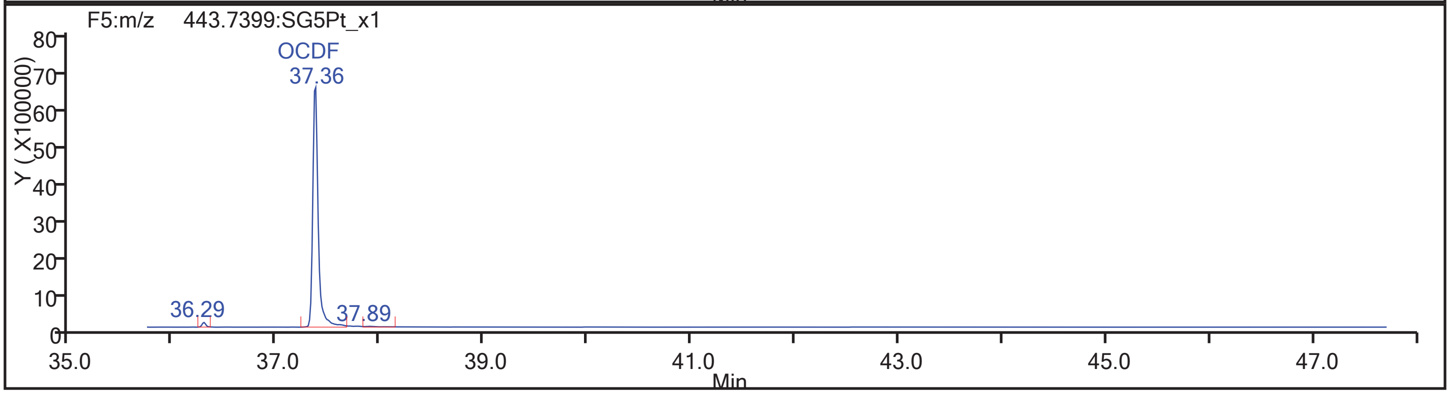
Report Date: 06-Dec-2017 13:56:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

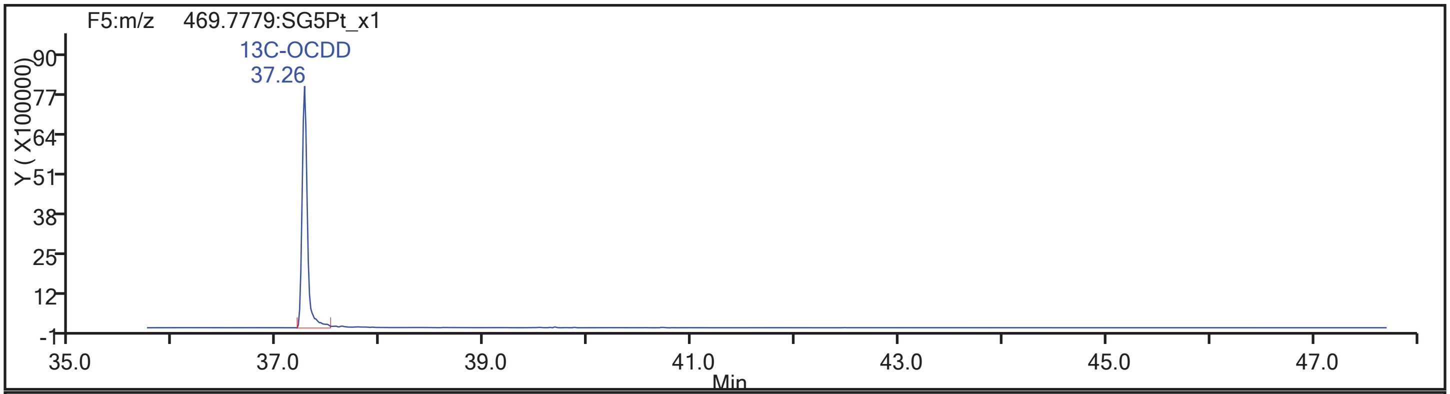
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	195573	Sample Line#:	60
Column Type:		Column Dia:	

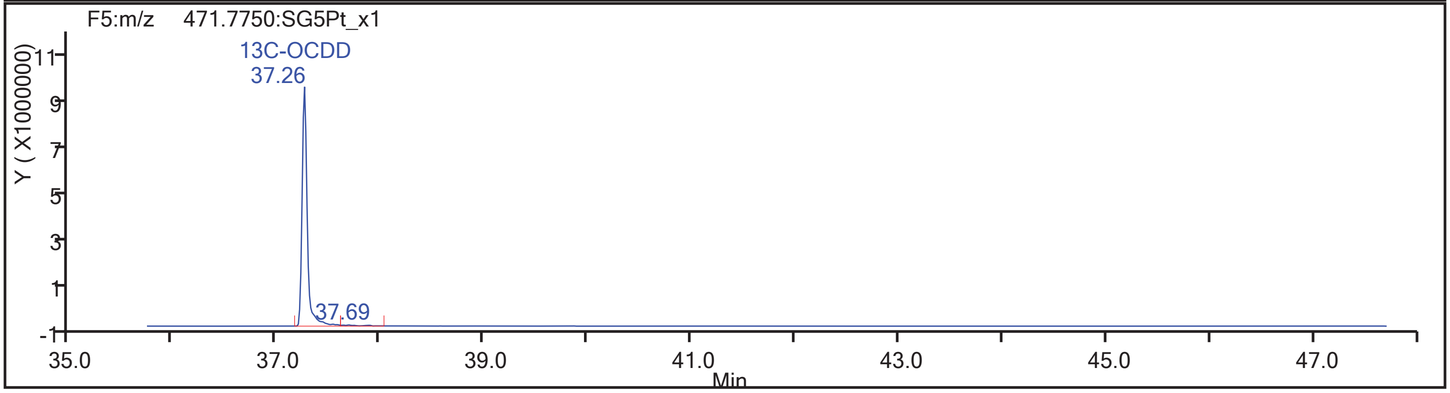
OCDF





OCDF Standards

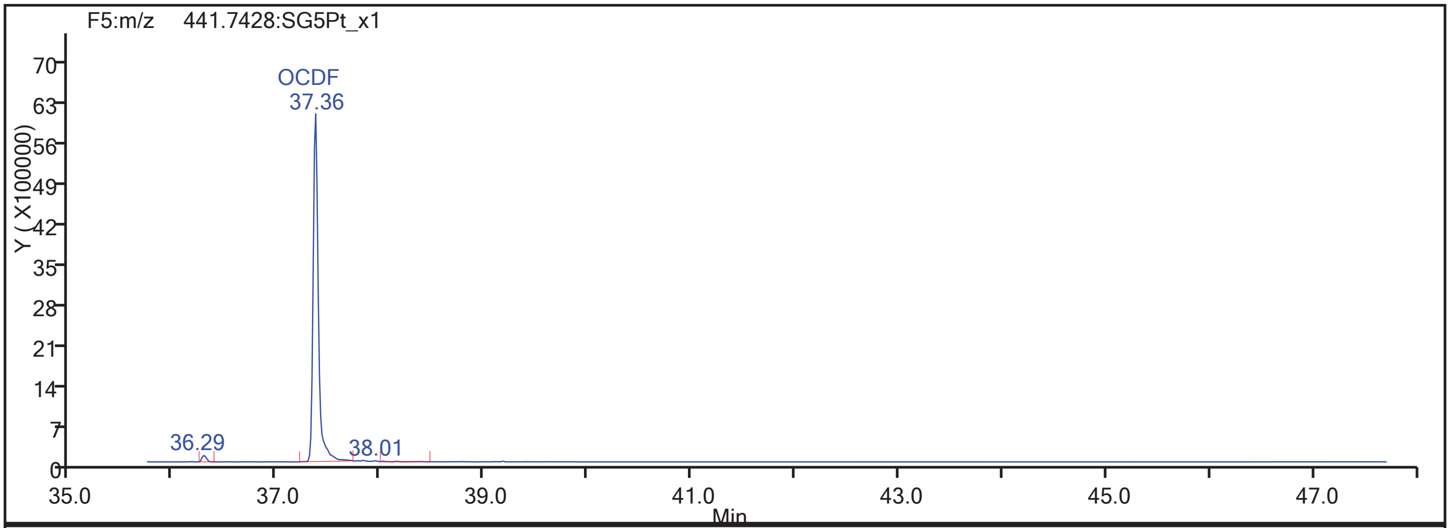


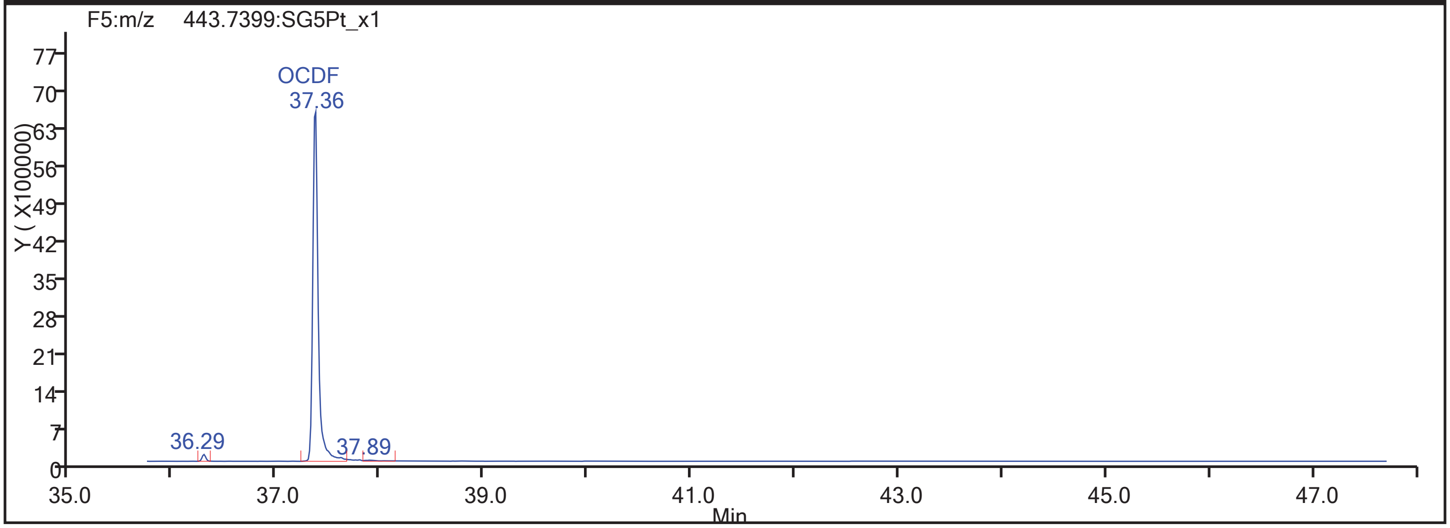


TestAmerica Sacramento

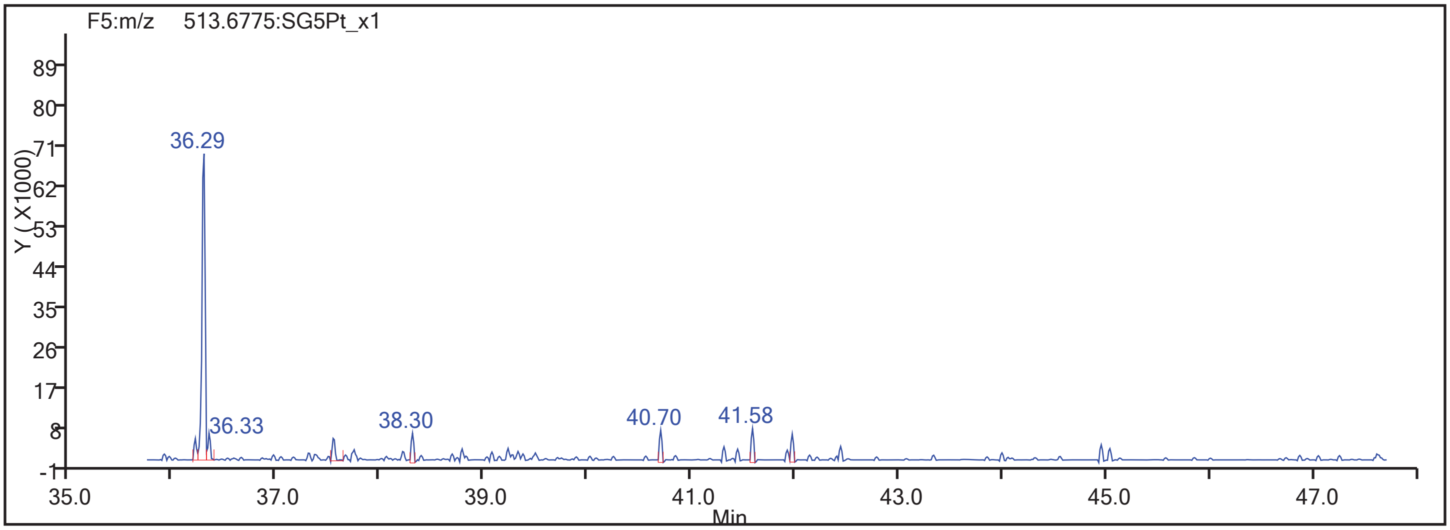
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	195573	Sample Line#:	60
Column Type:		Column Dia:	

OCDF





OCDF Interference Mass



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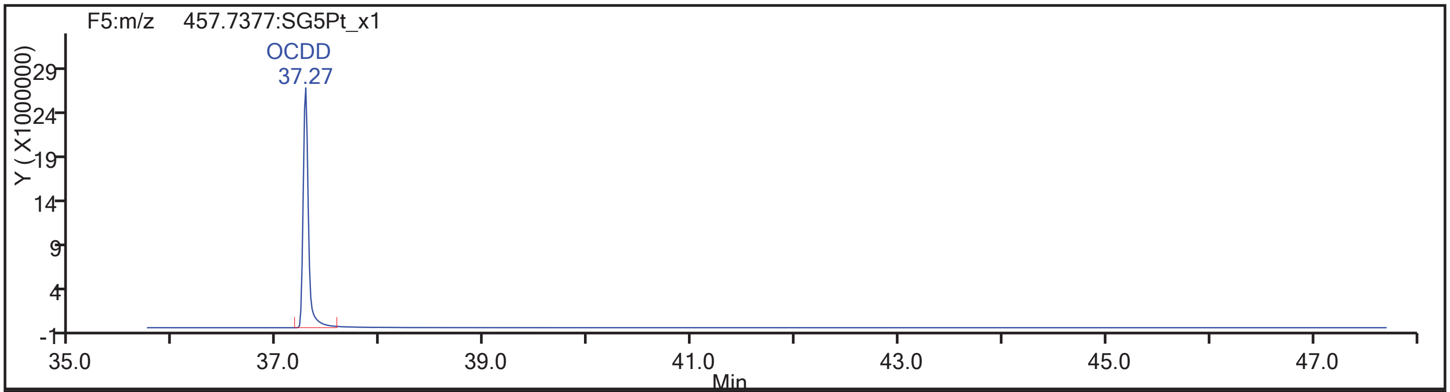
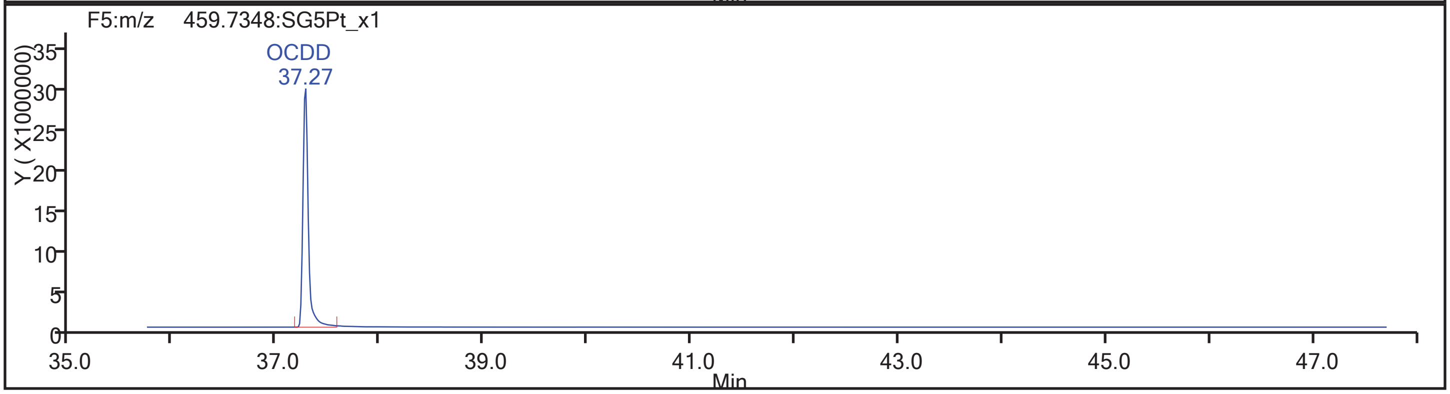
TestAmerica Sacramento

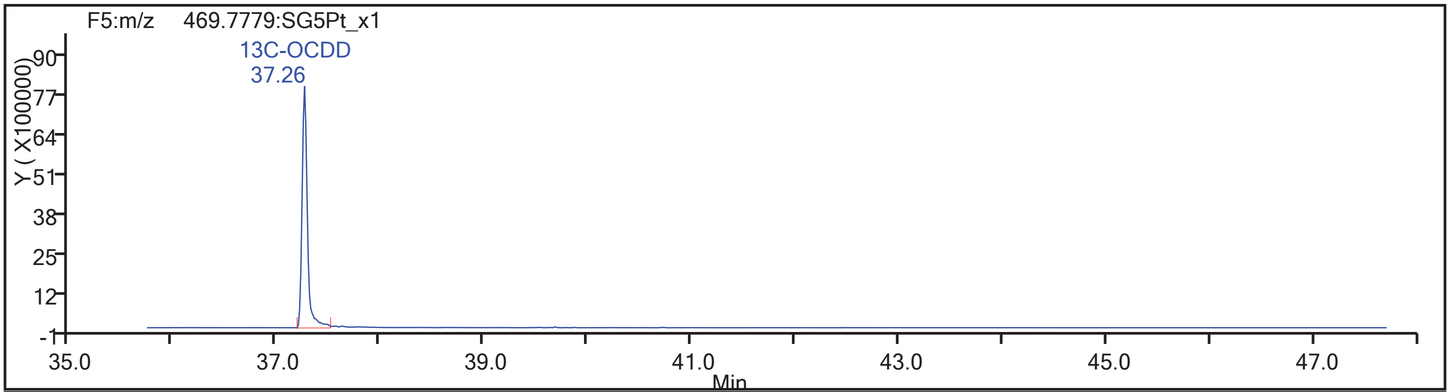
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d		
Injection Date:	18-Nov-2017 17:50:49	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	195573	Sample Line#:	60
Column Type:		Column Dia:	

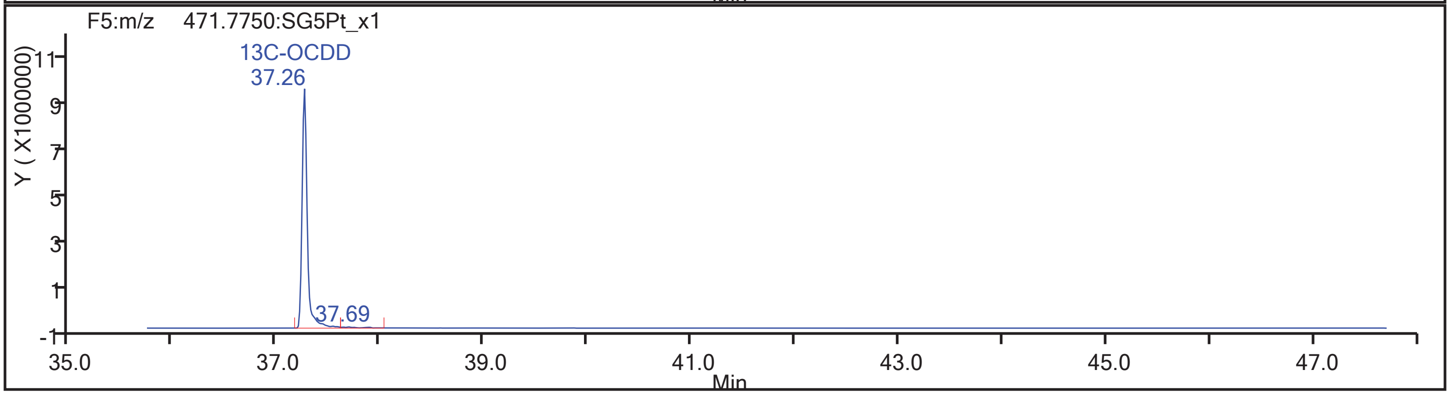
OCDD





OCDD Standards

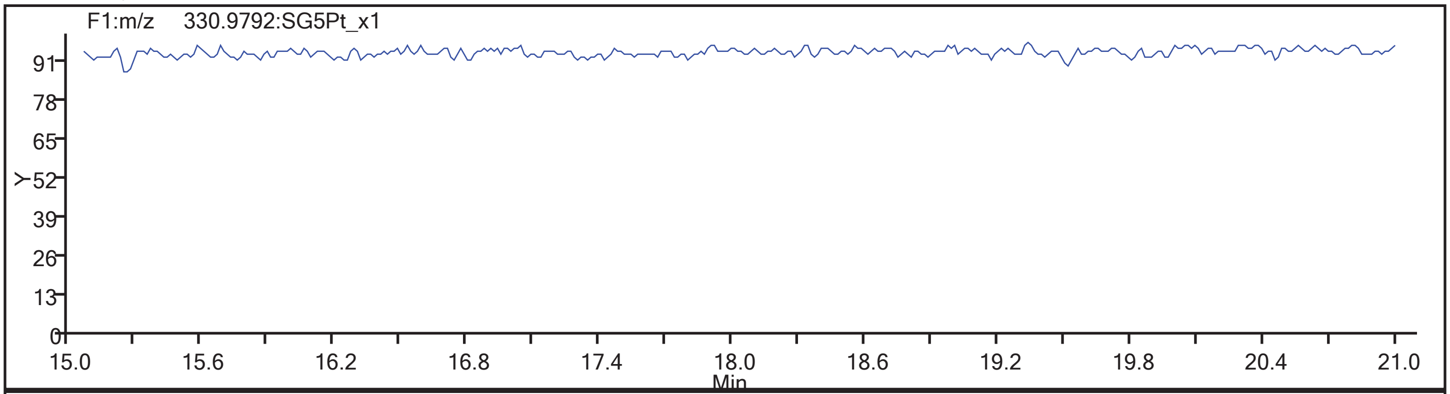


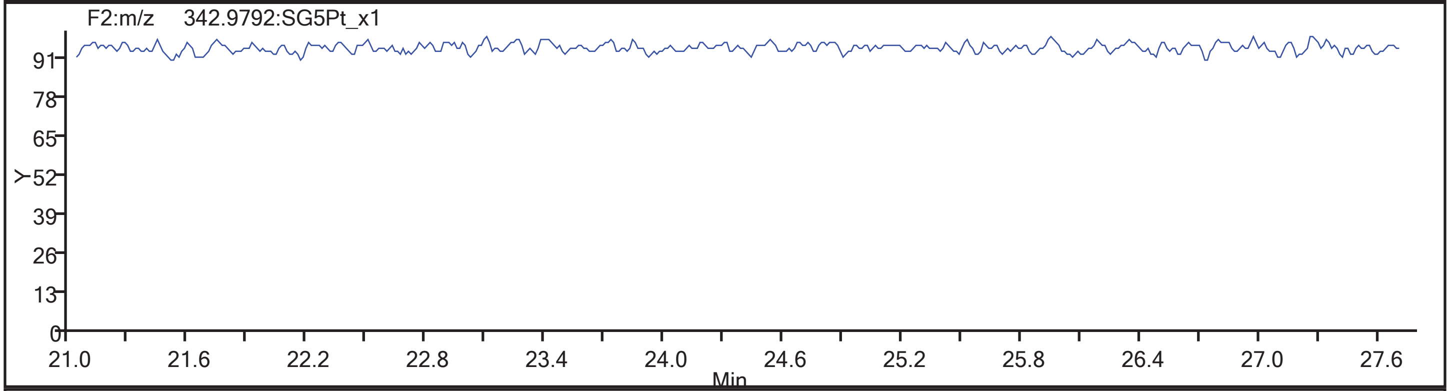


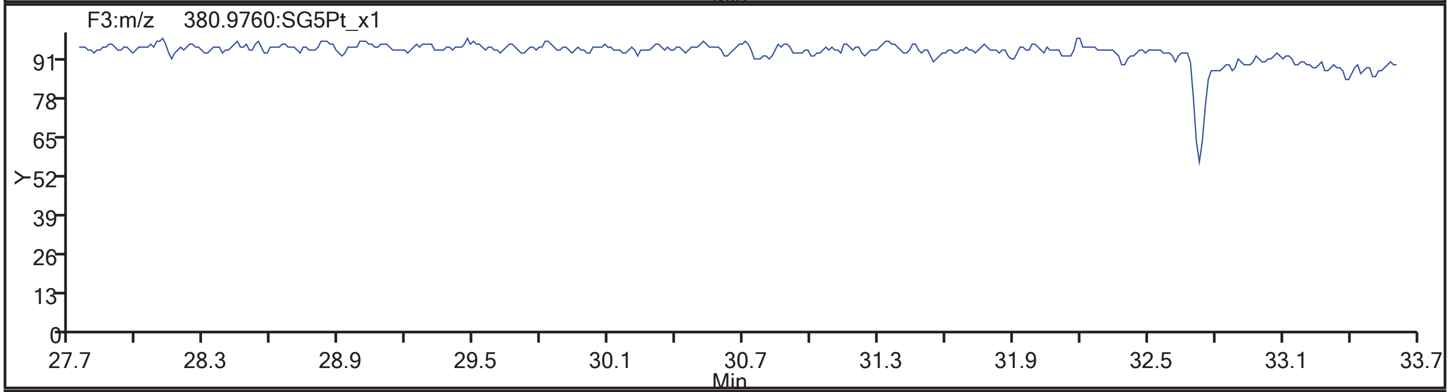
Report Date: 06-Dec-2017 13:56:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

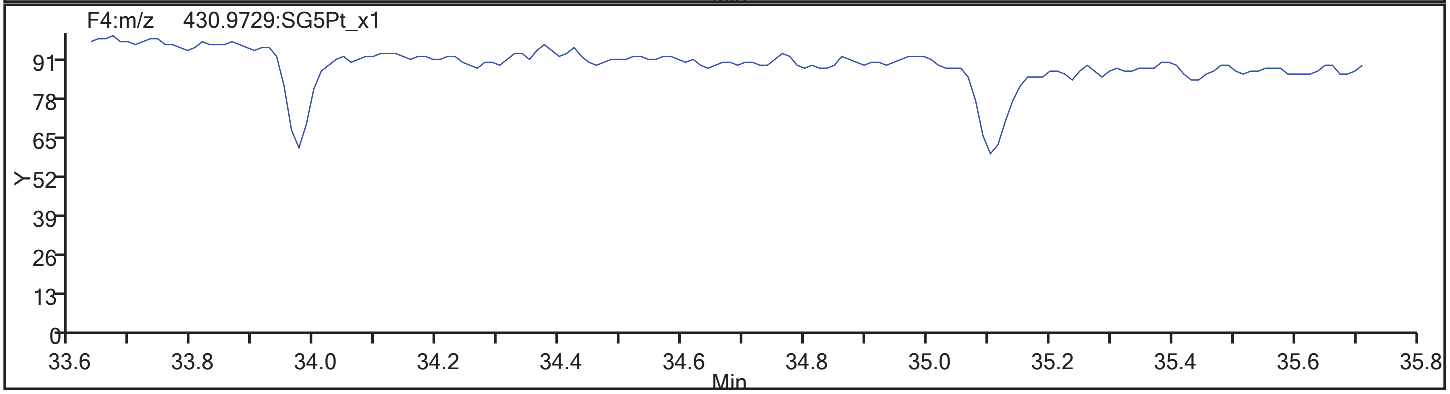
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d
Injection Date: 18-Nov-2017 17:50:49
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
Worklist#: 195573
Sample Line#: 60
Column Type:
Column Dia:









TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_60.d

Injection Date: 18-Nov-2017 17:50:49 Injection Vol: 2.0 ul

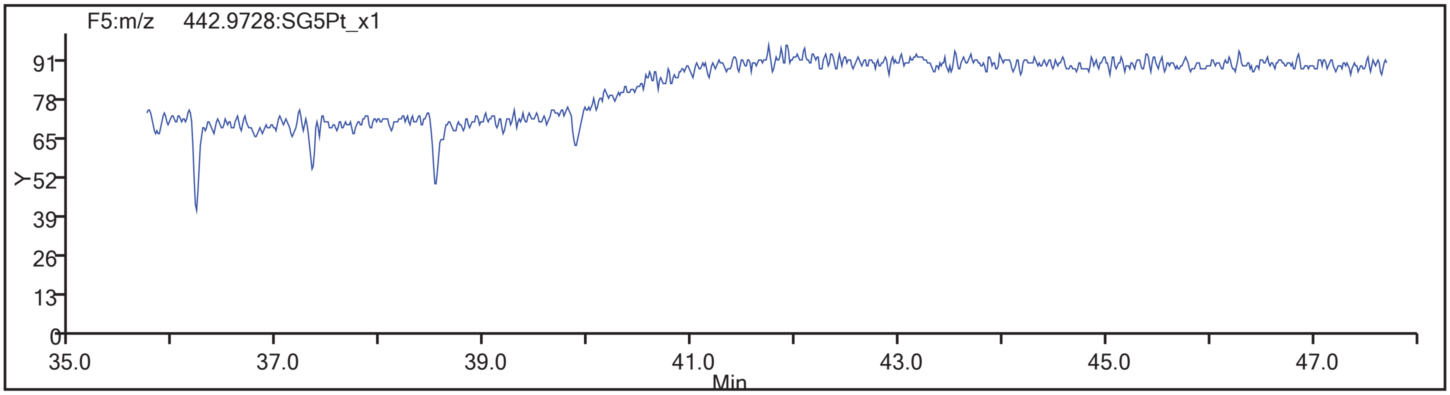
Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS02NS

Worklist#: 195573 Sample Line#: 60

Column Type: Column Dia:



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP026SS02NS RERA

Lab Sample ID: 160-24924-1 RERA

Matrix: Solid

Lab File ID: 05DE179D2_004.d

Analysis Method: 8290A

Date Collected: 10/05/2017 16:04

Extract. Method: 8290

Date Extracted: 11/16/2017 11:16

Sample wt/vol: 10.06(g)

Date Analyzed: 12/05/2017 13:27

Con. Extract Vol.: 20.0(uL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 1.4

GPC Cleanup:(Y/N) N

Analysis Batch No.: 198469

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	*2,3,7,8-TCDF*	*15*	*H M*	*1.8*	0.40	*1.8*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	65		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_004.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 05-Dec-2017 13:27:26 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-1-B
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:44 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

First Level Reviewer: messecara Date: 05-Dec-2017 23:19:38

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.978	99419290	0.78	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.116	80794011	0.78	1.2599	64.5	64.5	0.3909	0.3909	64.50	
2,3,7,8-TCDF	16.130	6373132	0.70	1.0784	7.314	7.314	0.8821	0.8821		M
D 13C-2,3,7,8-TCDD	14.717	62046916	0.76	0.9567	65.2	65.2	1.605	1.605	65.23	
2,3,7,8-TCDD	14.758	5077820	0.87	1.1123	7.357	7.357	0.3401	0.3401		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

QC Flag Legend
Review Flags
M - Manually Integrated

Report Date: 05-Dec-2017 23:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_004.d
Lims ID: 160-24924-G-1-B
Client ID: SHAD041DP026SS02NS
Sample Type: Client
Inject. Date: 05-Dec-2017 13:27:26 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-1-B
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:44 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

First Level Reviewer: messecara Date: 05-Dec-2017 23:19:38

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.978	14.967	1		43443383	8697321	78558	196395	111		
333.9339	14.964	14.967	0		55975907	11406919	44922	112305	254	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.116	16.106	1	1.076	35475089	7046822	22394	55985	315		
317.9389	16.103	16.106	0	1.075	45318922	8959831	17208	43020	521	0.78(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.130	16.119	1	1.001	2626220	419751	29949	74872	14		
305.8987	16.116	16.119	0	1.000	3746912	602964	30961	77402	19	0.70(0.65-0.89)	M
13C-2,3,7,8-TCDD											
331.9368	14.717	14.706	1	0.983	26788277	5510792	78558	196395	70		
333.9339	14.717	14.706	1	0.983	35258639	7554705	44922	112305	168	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.758	14.734	1	1.003	2361732	395070	9135	22837	43		
321.8936	14.745	14.734	1	1.002	2716088	499536	10633	26582	47	0.87(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				29949	74872			
Total Dioxins & Furans											
303.9016		0.0	0				29949	74872			

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_004.d				
Injection Date:	05-Dec-2017 13:27:26	Instrument ID:	9D2		
Lims ID:	160-24924-G-1-B	Lab Sample ID:	320-24924-1		
Client ID:	SHAD041DP026SS02NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

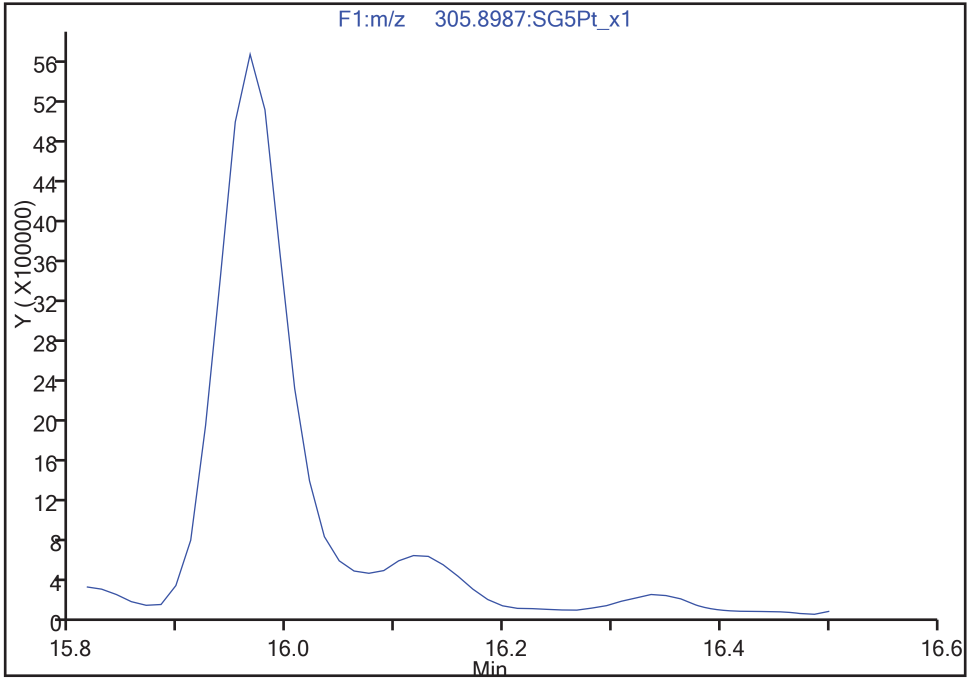
2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Not Detected

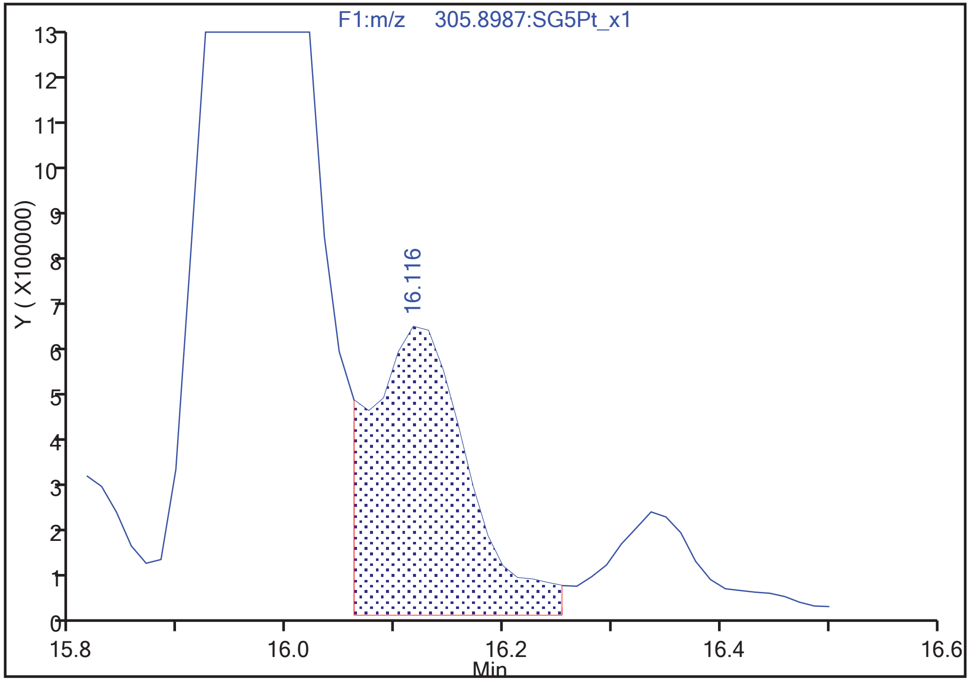
Expected RT: 16.12

Processing Integration Results



RT:	16.12
Area:	3746912
Amount:	7.314375
Amount Units:	pg/ul

Manual Integration Results



Reviewer: messecara, 05-Dec-2017 23:18:34

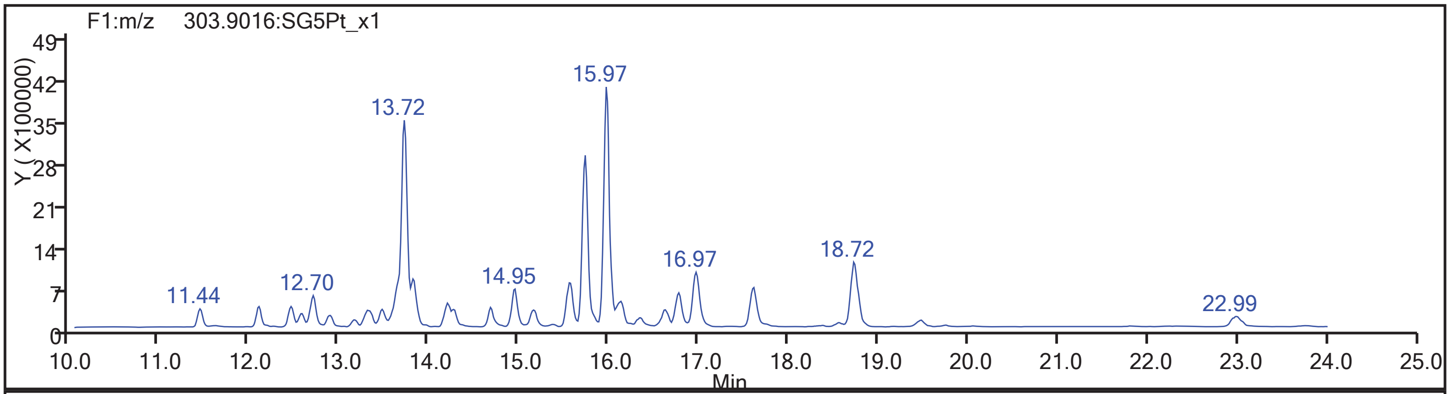
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

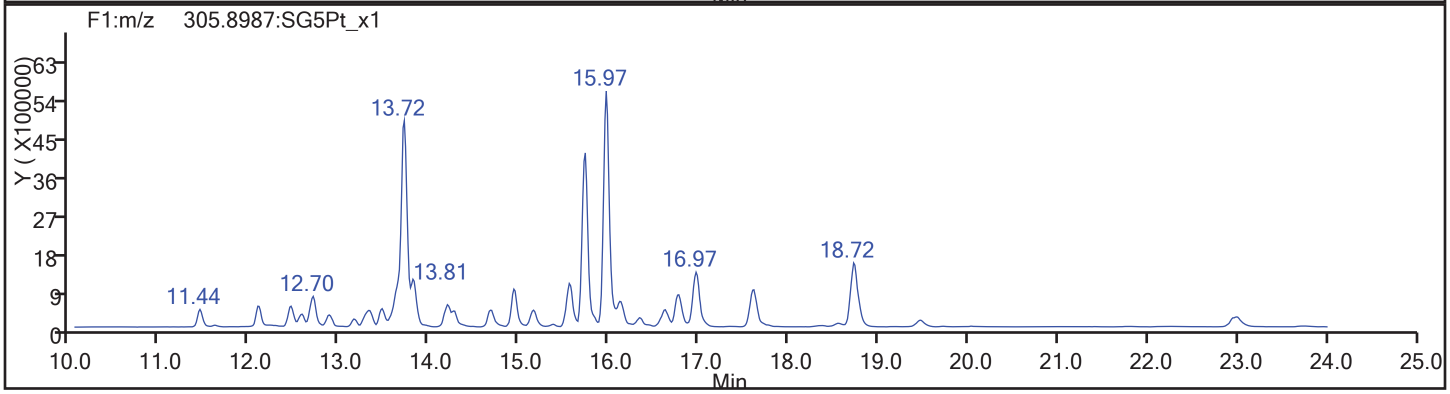
Report Date: 05-Dec-2017 23:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

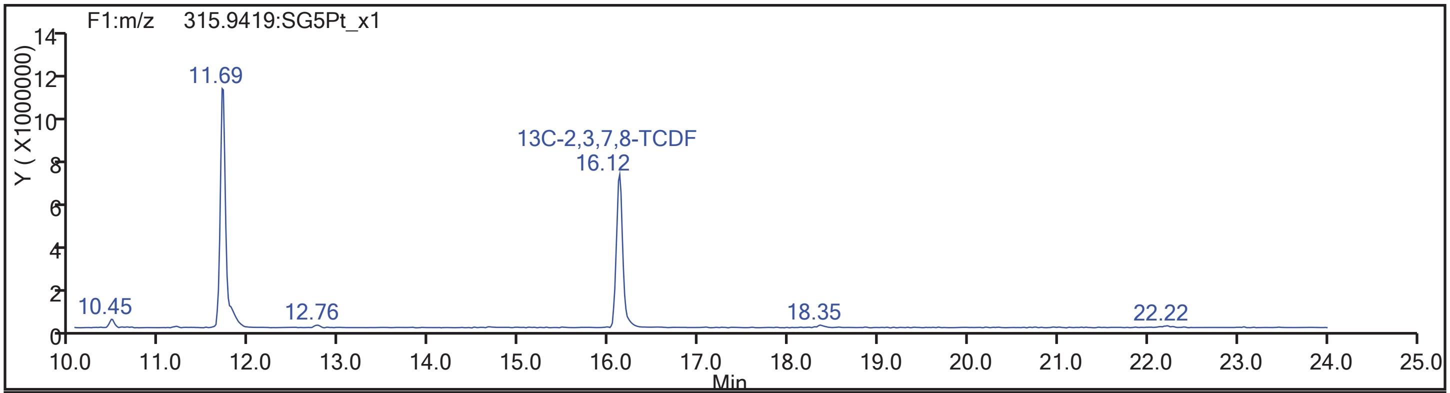
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_004.d		
Injection Date:	05-Dec-2017 13:27:26	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	198469	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

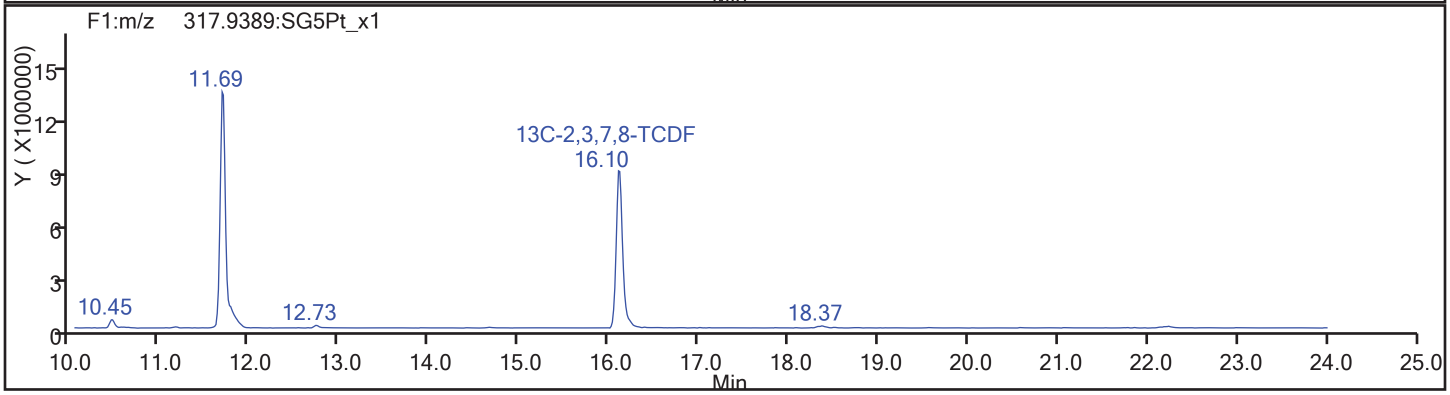
TCDF





TCDF Standards



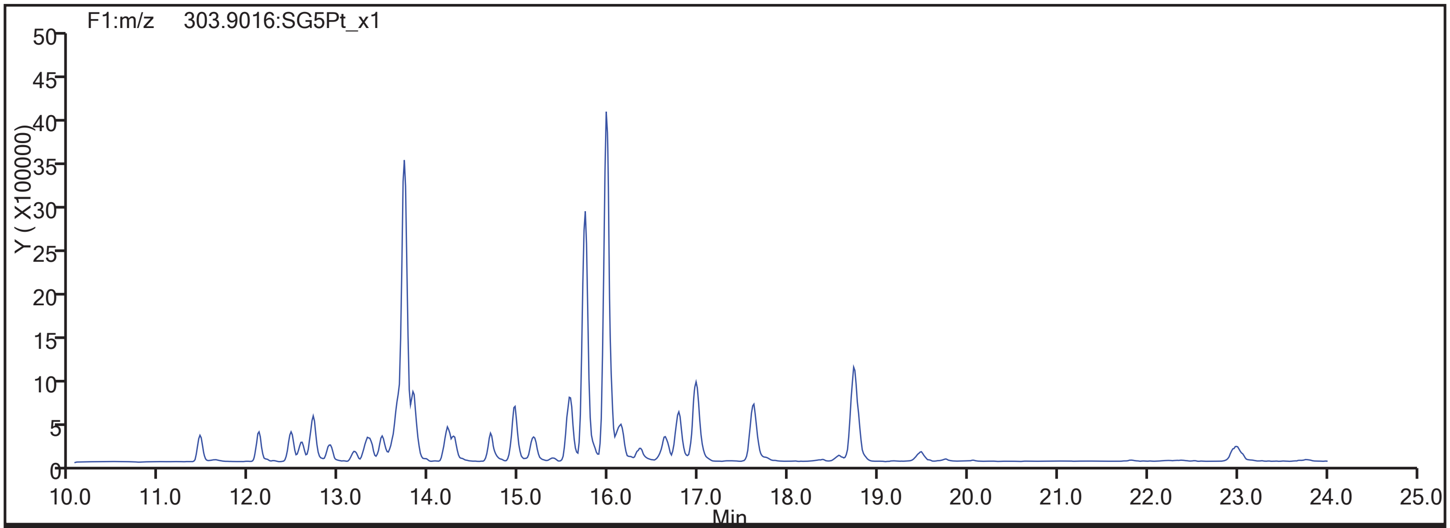


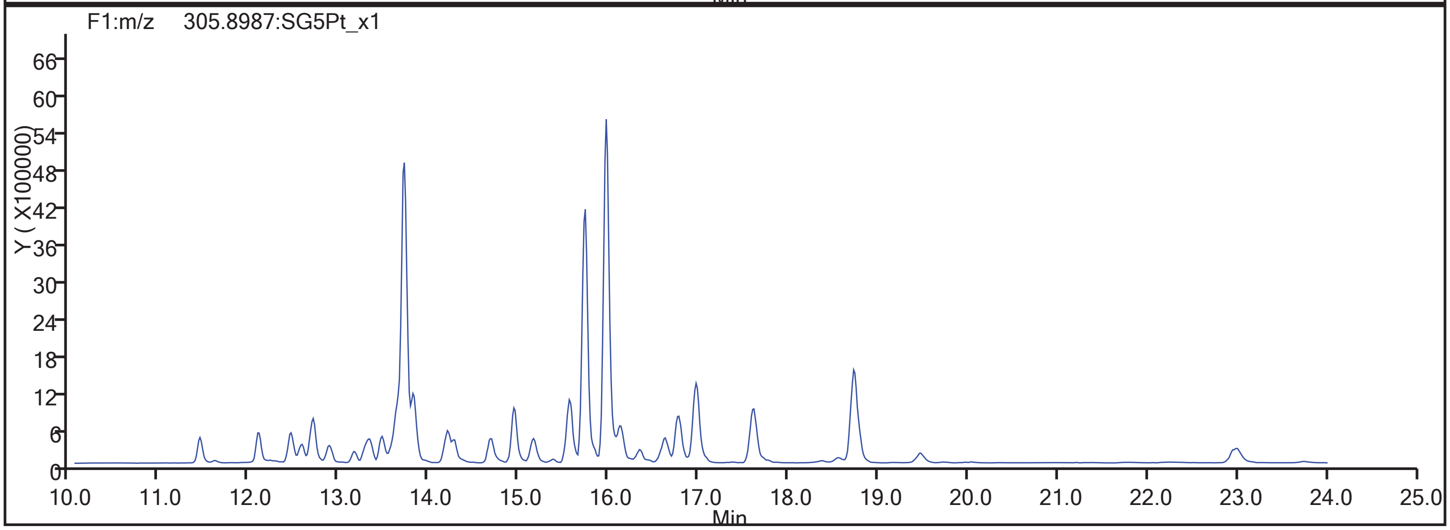
Report Date: 05-Dec-2017 23:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

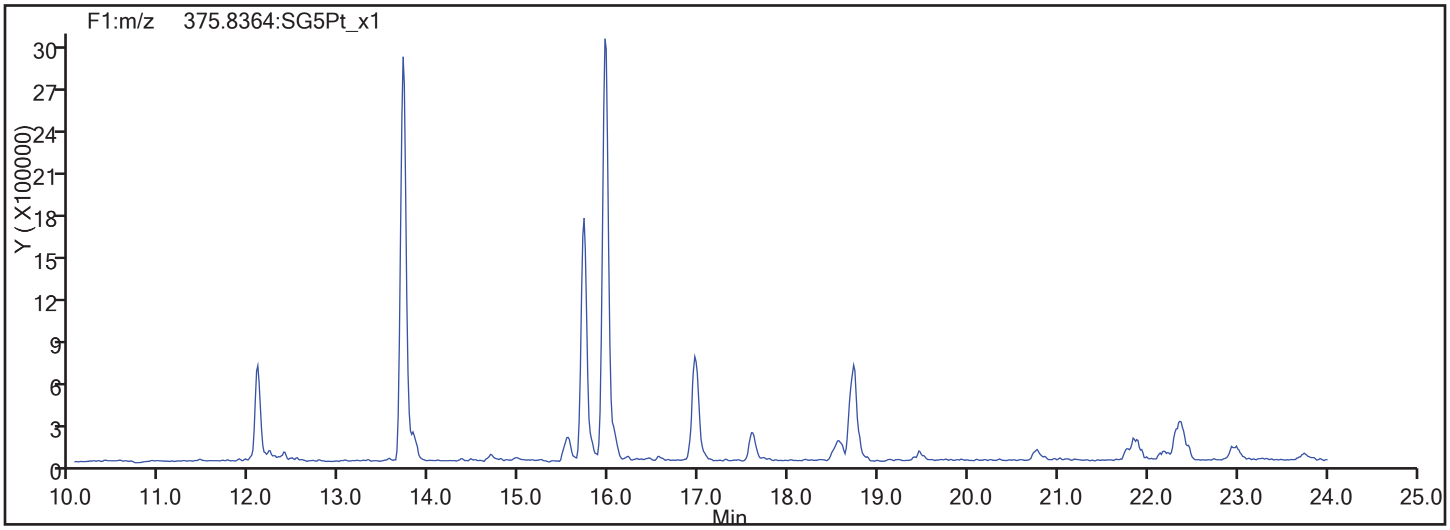
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_004.d
Injection Date: 05-Dec-2017 13:27:26 Injection Vol: 2.0 ul
Instrument ID: 9D2 Operator ID:
Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS02NS
Worklist#: 198469 Sample Line#: 4
Column Type: DB-225 Column Dia: 0.32 mm

TCDF





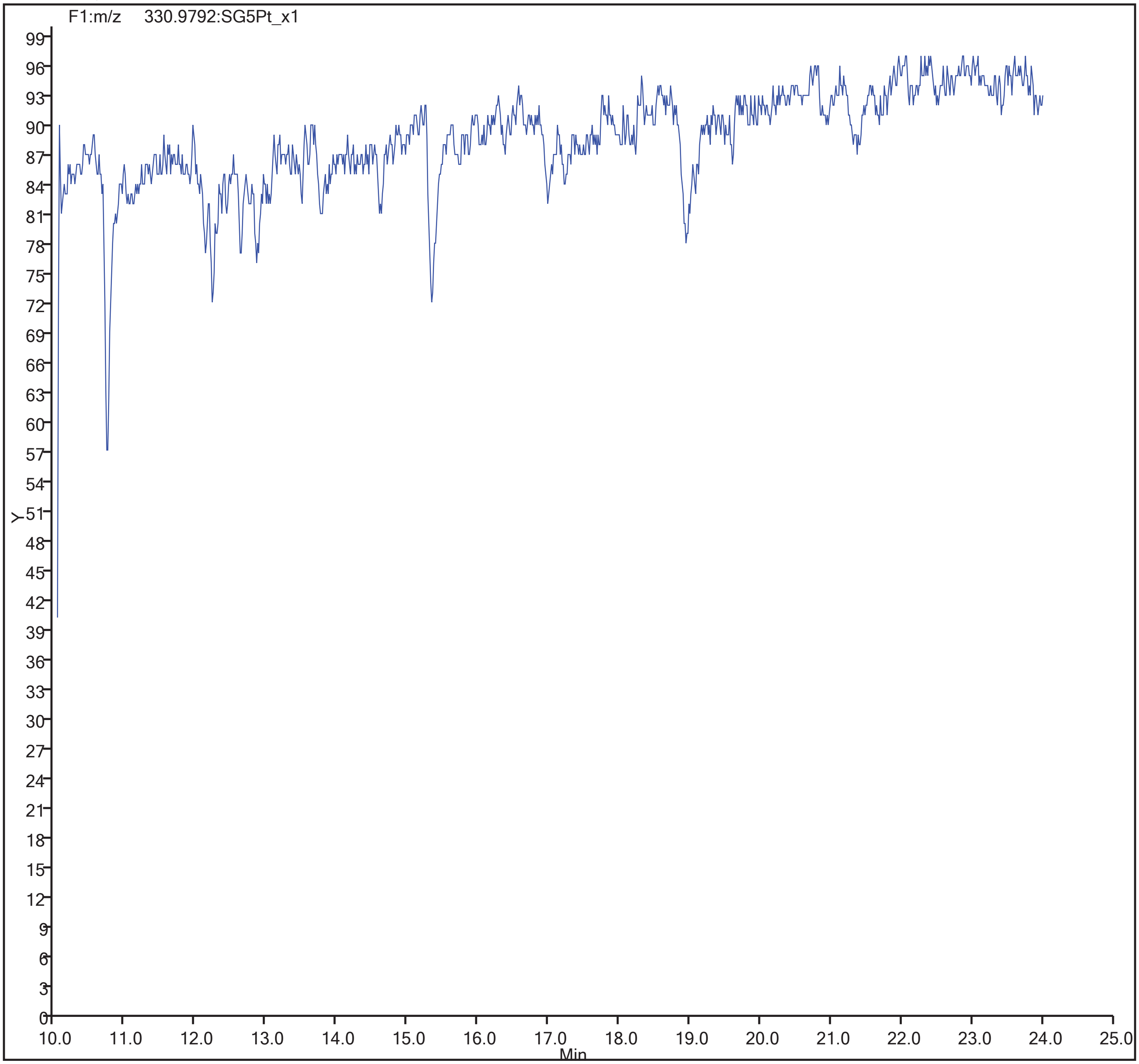
TCDF Interference Mass



Report Date: 05-Dec-2017 23:47:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_004.d		
Injection Date:	05-Dec-2017 13:27:26	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS02NS		
Worklist#:	198469	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP026SS03NS RA Lab Sample ID: 160-24924-2 RA

Matrix: Solid Lab File ID: 07NO179D2_006.d

Analysis Method: 8290A Date Collected: 10/05/2017 16:11

Extract. Method: 8290 Date Extracted: 10/17/2017 11:29

Sample wt/vol: 10.03(g) Date Analyzed: 11/07/2017 13:18

Con. Extract Vol.: 20.00(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 12.1 GPC Cleanup:(Y/N) N

Analysis Batch No.: 193317 Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	2,3,7,8-TCDF	0.96	J	1.1	0.45	0.19

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	56		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_006.d
Lims ID: 160-24924-G-2-A
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 07-Nov-2017 13:18:53 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-2-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:40:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.018	396788022	0.79	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.143	281689379	0.79	1.2599	56.3	56.3	0.2025	0.2025	56.35	
2,3,7,8-TCDF	16.157	1284813	0.85	1.0784	0.4229	0.4229	0.0829	0.0829		
D 13C-2,3,7,8-TCDD	14.744	224529596	0.78	0.9567	59.1	59.1	0.4027	0.4027	59.15	
2,3,7,8-TCDD	14.771	1572556	0.71	1.1123	0.6297	0.6297	0.0554	0.0554		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Report Date: 09-Nov-2017 16:51:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_006.d
Lims ID: 160-24924-G-2-A
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 07-Nov-2017 13:18:53 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-2-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:40:28

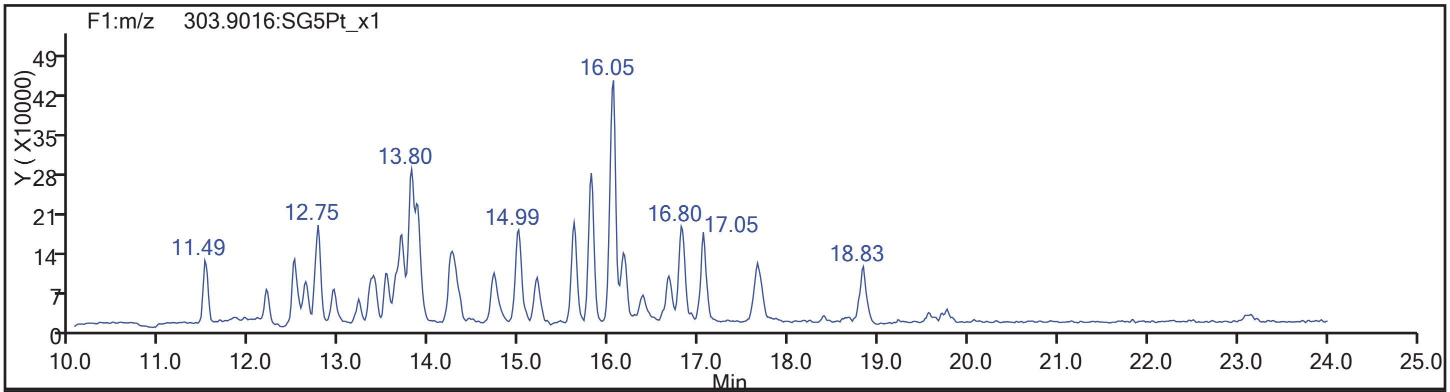
Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.018	14.991	2		175601408	37560063	86207	215517	436		
333.9339	15.018	14.991	2		221186614	47298451	44569	111422	1061	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.143	16.130	1	1.075	124441475	24893239	45925	114812	542		
317.9389	16.143	16.130	1	1.075	157247904	31383468	40689	101722	771	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.157	16.144	1	1.001	588438	121567	11581	28952	10		
305.8987	16.157	16.144	1	1.001	696375	152778	8543	21357	18	0.85(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.744	14.731	1	0.982	98333800	22070500	86207	215517	256		
333.9339	14.744	14.731	1	0.982	126195796	28156492	44569	111422	632	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.771	14.744	2	1.002	653443	104808	5885	14712	18		
321.8936	14.771	14.744	2	1.002	919113	149250	6503	16257	23	0.71(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				11581	28952			
Total Dioxins & Furans											
303.9016		0.0	0				11581	28952			

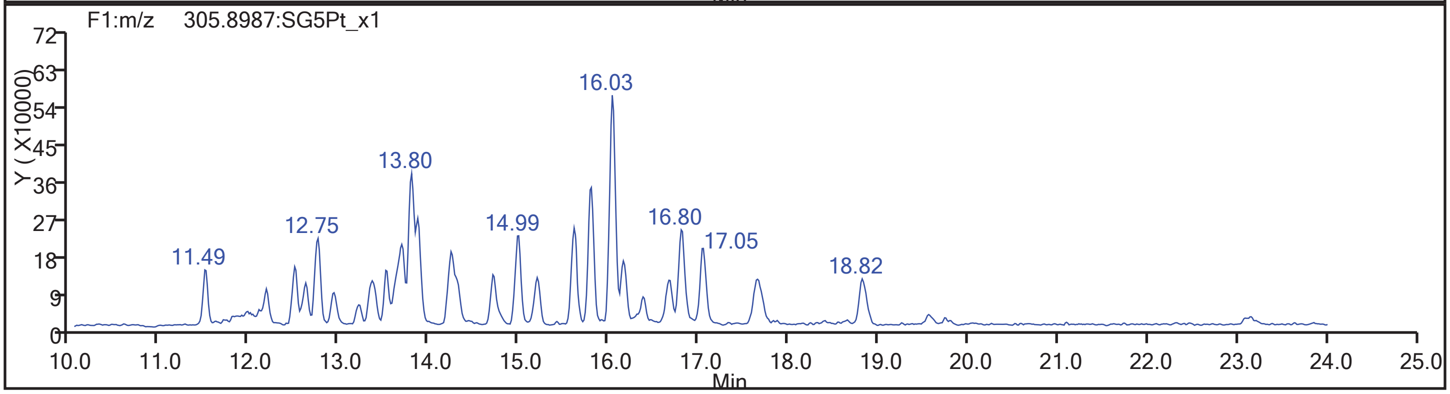
Report Date: 09-Nov-2017 16:51:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

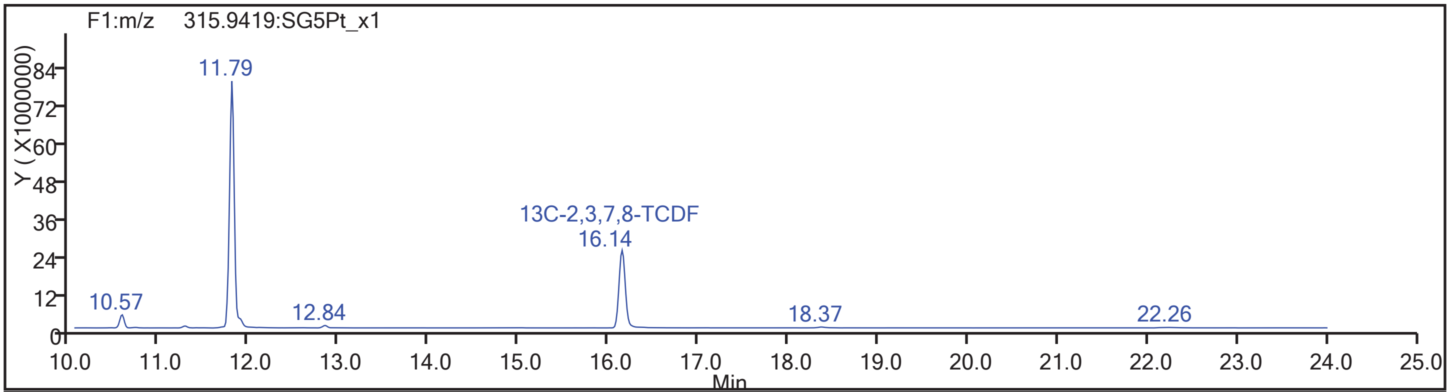
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_006.d		
Injection Date:	07-Nov-2017 13:18:53	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	193317	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

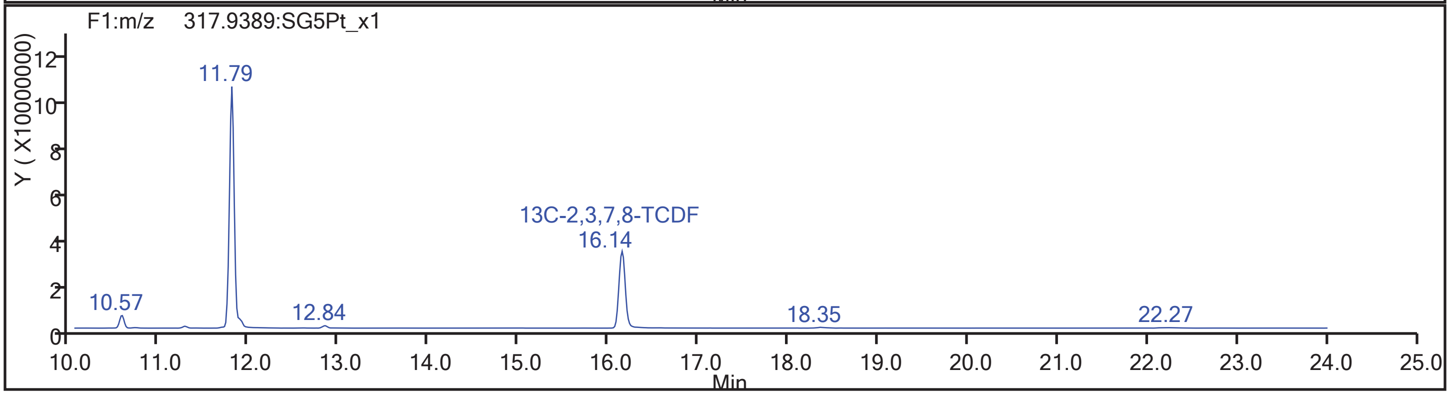
TCDF





TCDF Standards



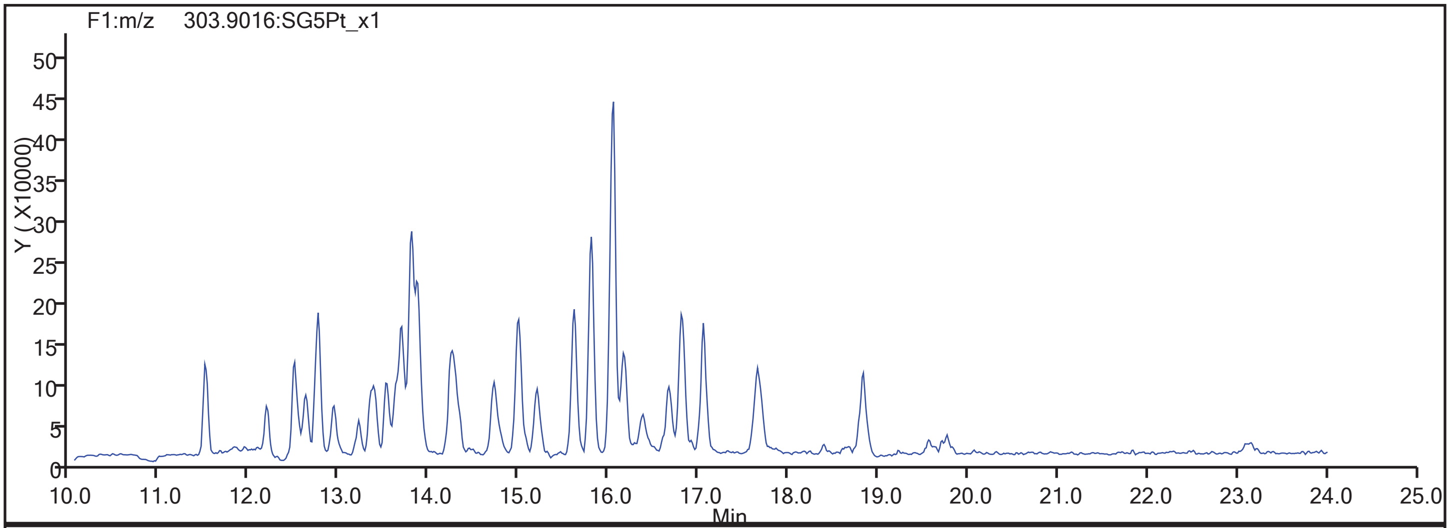


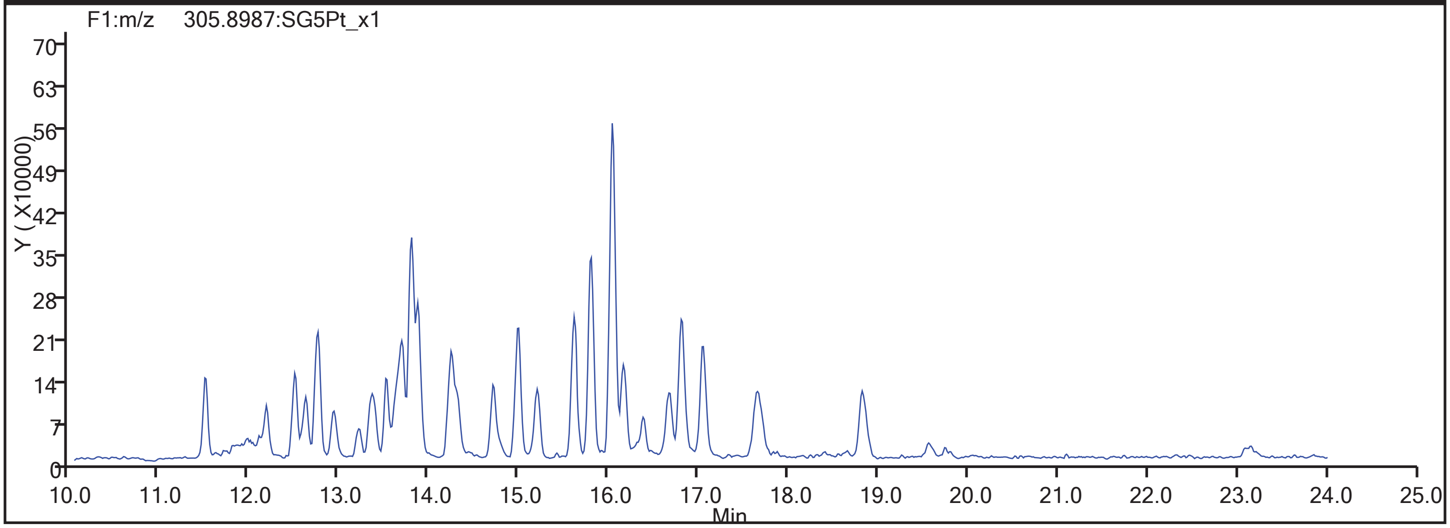
Report Date: 09-Nov-2017 16:51:22	Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

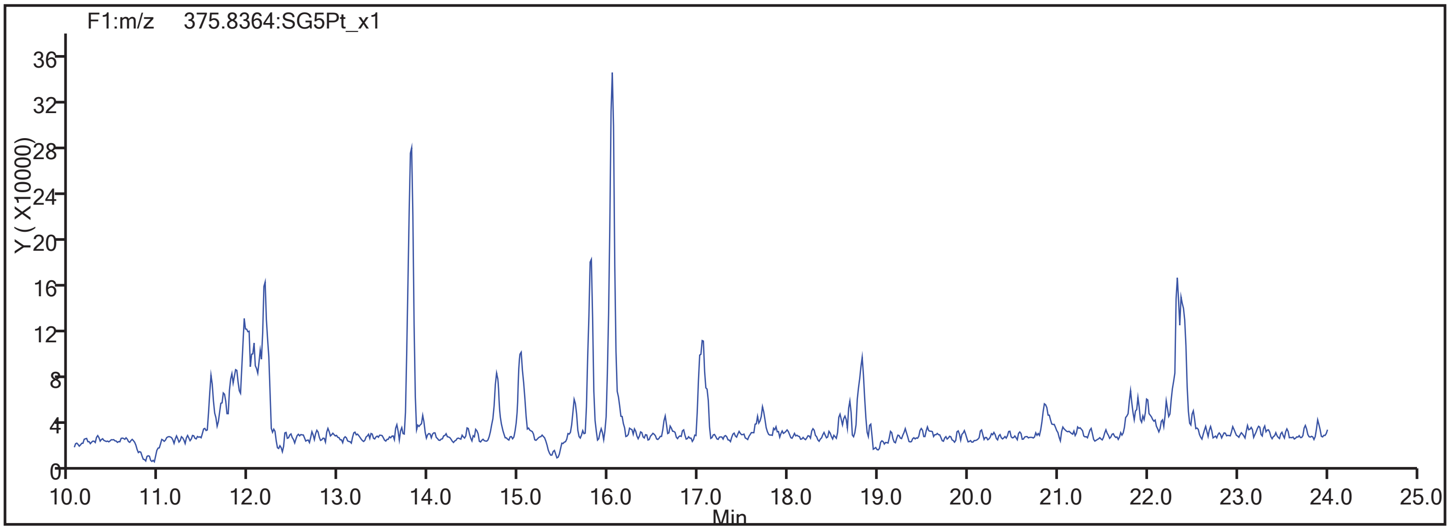
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_006.d		
Injection Date:	07-Nov-2017 13:18:53	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	193317	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





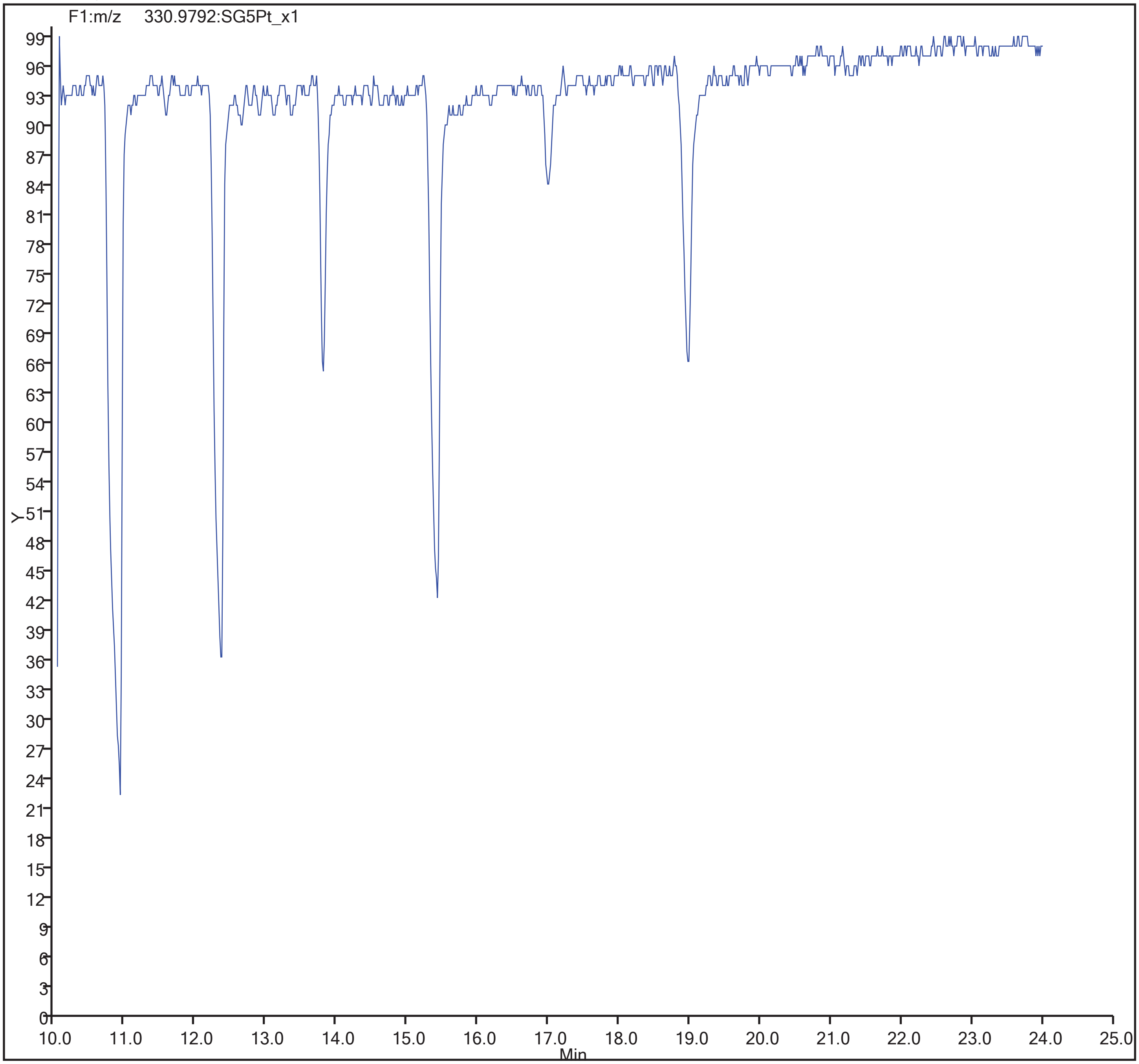
TCDF Interference Mass



Report Date: 09-Nov-2017 16:51:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_006.d		
Injection Date:	07-Nov-2017 13:18:53	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	193317	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP026SS03NS	Lab Sample ID: 160-24924-2
Matrix: Solid	Lab File ID: 09NO1710D5_60.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:11
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.03(g)	Date Analyzed: 11/11/2017 07:38
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 12.1	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194084	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.69	J	1.1	0.45	0.10
40321-76-4	1,2,3,7,8-PeCDD	4.2	J	5.7	0.85	0.27
57117-41-6	1,2,3,7,8-PeCDF	0.75	J	5.7	0.85	0.22
57117-31-4	2,3,4,7,8-PeCDF	1.3	J	5.7	0.85	0.22
39227-28-6	1,2,3,4,7,8-HxCDD	2.3	J M	5.7	2.3	0.84
57653-85-7	1,2,3,6,7,8-HxCDD	47		5.7	2.3	0.64
19408-74-3	1,2,3,7,8,9-HxCDD	23		5.7	2.3	0.64
70648-26-9	1,2,3,4,7,8-HxCDF	0.85	U	5.7	0.85	0.37
57117-44-9	1,2,3,6,7,8-HxCDF	2.1	J	5.7	1.1	0.31
72918-21-9	1,2,3,7,8,9-HxCDF	1.1	U	5.7	1.1	0.37
60851-34-5	2,3,4,6,7,8-HxCDF	1.8	J	5.7	0.85	0.34
35822-46-9	1,2,3,4,6,7,8-HpCDD	130		5.7	1.1	2.7
67562-39-4	1,2,3,4,6,7,8-HpCDF	33		5.7	1.1	1.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.3	U	5.7	2.3	1.3
3268-87-9	OCDD	200	B	11	4.5	0.44
39001-02-0	OCDF	25		11	4.5	0.11

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	60		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	63		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	65		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	57		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	61		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	53		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	27	Q	40-135
114423-97-1	13C-OCDD	43		40-135

Report Date: 13-Nov-2017 11:13:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d
Lims ID: 160-24924-G-2-A
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 11-Nov-2017 07:38:25 ALS Bottle#: 33 Worklist Smp#: 60
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-2-a 160-24924-g-2-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 11:13:08 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 11:13:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	111010965	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	88303261	0.80	1.2741	62.4	62.4	1.345	1.345	62.43	
2,3,7,8-TCDF	17.430	1123989	0.70	1.1341	1.122	1.122	0.0658	0.0658		M
A Non-2,3,7,8-sub-TCDF	17.113	5888434	0.77	1.1341	5.940	5.880	0.0658	0.7080		RQM
S Total TCDF					7.062	7.002	0.0658	0.0658		RQ
D 13C-2,3,7,8-TCDD	18.110	65898052	0.78	0.9921	59.8	59.8	0.2117	0.2117	59.84	
2,3,7,8-TCDD	18.125	199175	0.77	0.9993	0.3702	0.3025	0.0454	0.0454		RQ
A Non-2,3,7,8-sub-TCDD	17.566	3574352	0.77	0.9993	5.467	5.428	0.0454	1.328		RQM
S Total TCDD					5.837	5.730	0.0454	0.0454		RQ
D 13C-1,2,3,7,8-PeCDF	22.451	70447738	1.56	0.9696	65.4	65.4	0.1804	0.1804	65.45	
1,2,3,7,8-PeCDF	22.465	271124	1.70	1.1627	0.3310	0.3310	0.0963	0.0963		
2,3,4,7,8-PeCDF	23.814	457636	1.52	1.1395	0.5701	0.5701	0.0983	0.0983		
A F1 PeCDFs	20.001	1604308	1.54	1.1511	1.978	1.978	0.0361	1.978		
A Non-2,3,7,8-sub-PeCDF	23.175	3671413	1.55	1.1511	4.543	4.527	0.0973	2.086		RQM
S Total PeCDF					7.423	7.407	0.0973	0.0973		RQ
D 13C-1,2,3,7,8-PeCDD	24.510	53279023	1.59	0.7588	63.3	63.3	0.0842	0.0842	63.25	
1,2,3,7,8-PeCDD	24.551	939372	1.51	0.9490	1.858	1.858	0.1190	0.1190		
A Non-2,3,7,8-sub-PeCDD	23.433	10279378	1.55	0.9490	20.4	20.3	0.1190	5.205		RQM
S Total PeCDD					22.3	22.2	0.1190	0.1190		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.593	50760070	0.52	0.9644	61.0	61.0	0.4313	0.4313	60.98	
1,2,3,4,7,8-HxCDF	30.606						0.1639	0.1639		
1,2,3,6,7,8-HxCDF	30.793	793670	1.09	1.6951	0.9224	0.9224	0.1355	0.1355		
2,3,4,6,7,8-HxCDF	31.591	602716	1.18	1.5205	0.7809	0.7809	0.1510	0.1510		
D 13C-1,2,3,7,8,9-HxCDF	32.363	53163051	0.51							
1,2,3,7,8,9-HxCDF	32.377						0.1629	0.1629		
A Non-2,3,7,8-sub-HxCDF	30.267	11914008	1.27	1.5067	15.6	15.6	0.1524	8.717		
S Total HxCDF					17.3	17.3	0.1533	0.1533		
* 13C-1,2,3,7,8,9-HxCDD	32.190	86317329	1.26	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.778	416409	1.28	0.9505	1.016	1.016	0.3683	0.3683		M
D 13C-1,2,3,6,7,8-HxCDD	31.858	43101232	1.19	0.8791	56.8	56.8	0.2986	0.2986	56.80	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.871	11028960	1.35	1.2343	20.7	20.7	0.2836	0.2836		
1,2,3,7,8,9-HxCDD	32.204	5464314	1.29	1.2467	10.2	10.2	0.2808	0.2808		
A Non-2,3,7,8-sub-HxCDD	30.913	59299624	1.26	1.1438	120.3	120.3	0.3061	88.0		
S Total HxCDD					152.2	152.2	0.3109	0.3109		
D 13C-1,2,3,4,6,7,8-HpCDF	33.770	17888203	0.43	0.7618	27.2	27.2	0.6742	0.6742	27.20	
1,2,3,4,6,7,8-HpCDF	33.783	4204066	1.08	1.6399	14.3	14.3	0.4574	0.4574		
1,2,3,4,7,8,9-HpCDF	34.863						0.5639	0.5639		
A Non-2,3,7,8-sub-HpCDF	34.311	12562140	1.05	1.4851	47.3	47.3	0.5051	47.3		
S Total HpCDF					61.6	61.6	0.5107	0.5107		
D 13C-1,2,3,4,6,7,8-HpCDD	34.560	35290259	1.04	0.7762	52.7	52.7	0.4855	0.4855	52.67	
1,2,3,4,6,7,8-HpCDD	34.572	20548335	1.04	0.9932	58.6	58.6	1.170	1.170		
A Non-2,3,7,8-sub-HpCDD	34.287	35203080	1.04	0.9932	100.4	100.4	1.170	100.4		
S Total HpCDD					159.1	159.1	1.170	1.170		
D 13C-OCDD	36.894	46726471	0.88	0.6314	85.7	85.7	0.1843	0.1843	42.87	
OCDF	36.990	3398033	0.87	1.3460	10.8	10.8	0.0500	0.0500		
OCDD	36.906	22142294	0.90	1.0604	89.4	89.4	0.1940	0.1940		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Report Date: 13-Nov-2017 11:13:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d
Lims ID: 160-24924-G-2-A
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 11-Nov-2017 07:38:25 ALS Bottle#: 33 Worklist Smp#: 60
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-2-a 160-24924-g-2-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 11:13:08 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 11:13:08

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		48742664	12321082	10241	25602	1203		
333.9339	17.914	17.914	0		62268301	15627173	13239	33097	1180	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	39285603	9846459	72715	181787	135		
317.9389	17.400	17.400	0	0.971	49017658	11974315	118888	297220	101	0.80(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	17.430	17.415	1	1.002	463022	97134	3167	7917	31		
305.8987	17.430	17.415	1	1.002	660967	139070	3345	8362	42	0.70(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	14.981	17.113	-128	0.861	122833	38493	3167	7917	12		
305.8987	14.981	17.113	-128	0.861	147173	46461	3345	8362	14	0.83(0.65-0.89)	
303.9016	15.313	17.113	-108	0.880	109279	32320	3167	7917	10		
305.8987	15.313	17.113	-108	0.880	151873	43339	3345	8362	13	0.72(0.65-0.89)	
303.9016	15.480	17.113	-98	0.890	230588	71515	3167	7917	23		
305.8987	15.480	17.113	-98	0.890	295897	84239	3345	8362	25	0.78(0.65-0.89)	
303.9016	15.737	17.113	-82	0.904	297306	81283	3167	7917	26		
305.8987	15.737	17.113	-82	0.904	409863	102363	3345	8362	31	0.73(0.65-0.89)	M
303.9016	15.828	17.113	-77	0.910	194285	44956	3167	7917	14		M
305.8987	15.828	17.113	-77	0.910	250724	61153	3345	8362	18	0.77(0.65-0.89)	
303.9016	15.979	17.113	-68	0.918	210847	31535	3167	7917	10		
305.8987	15.994	17.113	-67	0.919	282386	41361	3345	8362	12	0.75(0.65-0.89)	
303.9016	16.266	17.113	-51	0.935	101437	36179	3167	7917	11		M
305.8987	16.281	17.113	-50	0.936	191605	55534	3345	8362	17	0.53(0.65-0.89)	
	Empc Correction				131736	46985	3345	8362	14		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	16.508	17.113	-36	0.949	300285	77647	3167	7917	25		
305.8987	16.508	17.113	-36	0.949	408735	104035	3345	8362	31	0.73(0.65-0.89)	M
303.9016	16.704	17.113	-24	0.960	257747	44910	3167	7917	14		M
305.8987	16.704	17.113	-24	0.960	394993	69367	3345	8362	21	0.65(0.65-0.89)	
303.9016	16.855	17.113	-15	0.969	136114	31824	3167	7917	10		M
305.8987	16.855	17.113	-15	0.969	187866	43745	3345	8362	13	0.72(0.65-0.89)	
303.9016	17.249	17.113	8	0.991	105843	20419	3167	7917	6		
305.8987	17.249	17.113	8	0.991	145316	29195	3345	8362	9	0.73(0.65-0.89)	M
303.9016	17.853	17.113	44	1.026	273467	62608	3167	7917	20		
305.8987	17.853	17.113	44	1.026	369060	84331	3345	8362	25	0.74(0.65-0.89)	
303.9016	18.050	17.113	56	1.037	146365	34871	3167	7917	11		
305.8987	18.065	17.113	57	1.038	226416	44314	3345	8362	13	0.65(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.110	18.111	0	1.011	28958558	6648213	10241	25602	649		
333.9339	18.110	18.111	0	1.011	36939494	8407556	13239	33097	635	0.78(0.65-0.89)	
2,3,7,8-TCDD											RQ
319.8965	18.125	18.125	0	1.001	86647	21429	1772	4430	12		
321.8936	18.125	18.125	0	1.001	157149	34294	962	2405	36	0.55(0.65-0.89)	
	Empc Correction				112528	27829	962	2405	29		
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	15.888	17.566	-100	0.877	229839	63013	1772	4430	36		
321.8936	15.888	17.566	-100	0.877	292423	82237	962	2405	85	0.79(0.65-0.89)	
319.8965	16.190	17.566	-82	0.894	119408	31685	1772	4430	18		
321.8936	16.190	17.566	-82	0.894	148625	38675	962	2405	40	0.80(0.65-0.89)	
319.8965	16.432	17.566	-68	0.907	116711	28410	1772	4430	16		
	Empc Correction				90950	24787	1772	4430	14		
321.8936	16.417	17.566	-69	0.906	118118	32192	962	2405	33	0.99(0.65-0.89)	
319.8965	16.992	17.566	-34	0.938	392682	83896	1772	4430	47		
321.8936	16.992	17.566	-34	0.938	481963	107978	962	2405	112	0.81(0.65-0.89)	
319.8965	17.158	17.566	-24	0.947	247799	20917	1772	4430	12		M
321.8936	17.309	17.566	-15	0.956	313441	26190	962	2405	27	0.79(0.65-0.89)	
319.8965	17.611	17.566	3	0.972	60913	17130	1772	4430	10		
321.8936	17.611	17.566	3	0.972	88297	22355	962	2405	23	0.69(0.65-0.89)	
319.8965	17.899	17.566	20	0.988	112645	21440	1772	4430	12		
321.8936	17.884	17.566	19	0.987	148039	27855	962	2405	29	0.76(0.65-0.89)	
319.8965	18.005	17.566	26	0.994	114970	24235	1772	4430	14		
321.8936	18.020	17.566	27	0.995	132367	31472	962	2405	33	0.87(0.65-0.89)	
319.8965	18.292	17.566	43	1.010	28595	6903	1772	4430	4		
321.8936	18.277	17.566	43	1.009	32373	7778	962	2405	8	0.88(0.65-0.89)	
319.8965	18.488	17.566	55	1.021	139338	32639	1772	4430	18		
321.8936	18.488	17.566	55	1.021	171694	41488	962	2405	43	0.81(0.65-0.89)	
319.8965	19.244	17.566	100	1.063	50788	12216	1772	4430	7		
321.8936	19.244	17.566	100	1.063	59085	11723	962	2405	12	0.86(0.65-0.89)	M
13C-1,2,3,7,8-PeCDF											
351.9000	22.451	22.451	0	1.253	42890195	7383442	11618	29045	636		
353.8970	22.437	22.451	-1	1.253	27557543	4730441	7938	19845	596	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.465	22.465	0	1.001	170764	25057	3100	7750	8		
341.8567	22.478	22.465	1	1.001	100360	17724	2326	5815	8	1.70(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.814	23.828	-1	1.061	276248	48856	3100	7750	16		
341.8567	23.814	23.828	-1	1.061	181388	28217	2326	5815	12	1.52(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.547	20.001	-27	0.871	972368	190054	799	1997	238		
341.8567	19.547	20.001	-27	0.871	631940	128720	1214	3035	106	1.54(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQM
339.8597	20.896	23.175	-136	0.931	100741	22596	3100	7750	7		
341.8567	20.896	23.175	-136	0.931	60342	12138	2326	5815	5	1.67(1.32-1.78)	
339.8597	21.087	23.175	-125	0.939	1029115	159783	3100	7750	52		M
341.8567	21.101	23.175	-124	0.940	662801	104992	2326	5815	45	1.55(1.32-1.78)	
339.8597	21.987	23.175	-71	0.979	570382	53848	3100	7750	17		
341.8567	21.987	23.175	-71	0.979	378281	36491	2326	5815	16	1.51(1.32-1.78)	
339.8597	22.328	23.175	-51	0.995	77896	15862	3100	7750	5		
341.8567	22.342	23.175	-50	0.995	63197	12192	2326	5815	5	1.23(1.32-1.78)	
	Empc Correction				50255	10233	2326	5815	4		
339.8597	24.128	23.175	57	1.075	454900	55486	3100	7750	18		
341.8567	24.114	23.175	56	1.074	286700	35300	2326	5815	15	1.59(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.510	24.524	-1	1.368	32691980	4963577	3791	9477	1309		
369.8919	24.510	24.524	-1	1.368	20587043	3096809	3353	8382	924	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551	24.551	0	1.002	565044	87118	2043	5107	43		
357.8516	24.551	24.551	0	1.002	374328	56774	1597	3992	36	1.51(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQM
355.8546	21.305	23.433	-127	0.869	1511211	260390	2043	5107	127		
357.8516	21.319	23.433	-127	0.870	1120422	186274	1597	3992	117	1.35(1.32-1.78)	
355.8546	22.069	23.433	-82	0.900	539619	99651	2043	5107	49		
357.8516	22.069	23.433	-82	0.900	335193	64266	1597	3992	40	1.61(1.32-1.78)	
355.8546	22.492	23.433	-56	0.918	723813	128360	2043	5107	63		
357.8516	22.492	23.433	-56	0.918	521482	88932	1597	3992	56	1.39(1.32-1.78)	
355.8546	22.751	23.433	-41	0.928	854284	147397	2043	5107	72		
357.8516	22.751	23.433	-41	0.928	541001	90453	1597	3992	57	1.58(1.32-1.78)	
355.8546	23.051	23.433	-23	0.940	385483	65549	2043	5107	32		
357.8516	23.051	23.433	-23	0.940	275180	43533	1597	3992	27	1.40(1.32-1.78)	M
355.8546	23.378	23.433	-3	0.954	316121	56827	2043	5107	28		
357.8516	23.364	23.433	-4	0.953	198595	36943	1597	3992	23	1.59(1.32-1.78)	
355.8546	23.569	23.433	8	0.962	1040164	134335	2043	5107	66		
357.8516	23.569	23.433	8	0.962	678291	82986	1597	3992	52	1.53(1.32-1.78)	
355.8546	23.910	23.433	29	0.976	74038	13526	2043	5107	7		
357.8516	23.924	23.433	29	0.976	44747	7517	1597	3992	5	1.65(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
355.8546	24.851	23.433	85	1.014	423326	53738	2043	5107	26		
	Empc Correction				366883	54214	2043	5107	27		
357.8516	24.864	23.433	86	1.014	236699	34977	1597	3992	22	1.79(1.32-1.78)	
355.8546	25.573	23.433	128	1.043	318218	45911	2043	5107	22		
357.8516	25.560	23.433	127	1.043	197934	30354	1597	3992	19	1.61(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.593	30.593	0	0.950	17302531	3434785	12476	31190	275		
385.8610	30.593	30.593	0	0.950	33457539	6571788	22197	55492	296	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.606						6055	15137			
375.8178	30.606						3137	7842			
1,2,3,6,7,8-HxCDF											
373.8208	30.793	30.793	0	1.007	414064	90937	6055	15137	15		
375.8178	30.793	30.793	0	1.007	379606	80314	3137	7842	26	1.09(1.05-1.43)	
2,3,4,6,7,8-HxCDF											
373.8208	31.591	31.591	0	1.033	325970	81876	6055	15137	14		
375.8178	31.591	31.591	0	1.033	276746	64491	3137	7842	21	1.18(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.363	32.363	0	1.005	18031078	4417131	12476	31190	354		
385.8610	32.363	32.363	0	1.005	35131973	8650925	22197	55492	390	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.377						6055	15137			
375.8178	32.377						3137	7842			
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.091	30.267	-130	0.918	453208	67566	6055	15137	11		
375.8178	28.104	30.267	-130	0.919	395991	53499	3137	7842	17	1.14(1.05-1.43)	
373.8208	28.477	30.267	-107	0.931	2447669	312123	6055	15137	52		
375.8178	28.490	30.267	-106	0.931	1950181	235363	3137	7842	75	1.26(1.05-1.43)	
373.8208	29.821	30.267	-27	0.975	3761691	531037	6055	15137	88		
375.8178	29.821	30.267	-27	0.975	2905268	411255	3137	7842	131	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.190	32.177	1		48041180	11633098	11187	27967	1040		
403.8529	32.190	32.177	1		38276149	9207322	10694	26735	861	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.778	31.764	1	0.997	233656	69604	7945	19862	9		M
391.8127	31.778	31.764	1	0.997	182753	54757	6538	16345	8	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.858	31.858	0	0.990	23377712	5705294	11187	27967	510		
403.8529	31.858	31.858	0	0.990	19723520	4637121	10694	26735	434	1.19(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.871	31.871	0	1.000	6326775	1505591	7945	19862	190		
391.8127	31.871	31.871	0	1.000	4702185	1161178	6538	16345	178	1.35(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.204	32.190	1	1.011	3077902	681380	7945	19862	86		
391.8127	32.190	32.190	0	1.010	2386412	512551	6538	16345	78	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.675	30.913	-74	0.931	7083853	950715	7945	19862	120		
391.8127	29.661	30.913	-75	0.931	5599296	725938	6538	16345	111	1.27(1.05-1.43)	
389.8157	30.673	30.913	-14	0.963	1827505	352239	7945	19862	44		
391.8127	30.673	30.913	-14	0.963	1416831	269941	6538	16345	41	1.29(1.05-1.43)	
389.8157	31.032	30.913	7	0.974	24103835	4841171	7945	19862	609		
391.8127	31.032	30.913	7	0.974	19268304	3917885	6538	16345	599	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.770	33.770	0	1.049	5382260	1481301	11072	27680	134		
419.8220	33.770	33.770	0	1.049	12505943	3340435	31741	79352	105	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.783	33.782	0	1.000	2183862	522766	7890	19725	66		
409.7789	33.783	33.782	0	1.000	2020204	492740	6578	16445	75	1.08(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.863						7890	19725			
409.7789	34.863						6578	16445			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.086	34.311	-13	1.009	6427311	2017514	7890	19725	256		
409.7789	34.086	34.311	-13	1.009	6134829	1879271	6578	16445	286	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.560	34.560	0	1.074	17964895	5232353	13565	33912	386		
437.8140	34.560	34.560	0	1.074	17325364	4955888	17847	44617	278	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.572	34.572	0	1.000	10496503	3077800	24199	60497	127		
425.7737	34.572	34.572	0	1.000	10051832	2931814	23144	57860	127	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.026	34.287	-16	0.985	17914849	5436770	24199	60497	225		
425.7737	34.026	34.287	-16	0.985	17288231	5386934	23144	57860	233	1.04(0.88-1.20)	
13C-OCDD											
469.7779	36.894	36.894	0	1.146	21858579	5287871	4468	11170	1183		
471.7750	36.894	36.894	0	1.146	24867892	5918150	5231	13077	1131	0.88(0.76-1.02)	
OCDF											
441.7428	36.990	36.990	0	1.003	1580864	366023	533	1332	687		
443.7399	36.990	36.990	0	1.003	1817169	438328	976	2440	449	0.87(0.76-1.02)	
OCDD											
457.7377	36.906	36.906	0	1.000	10516498	2546146	2299	5747	1108		
459.7348	36.906	36.906	0	1.000	11625796	2752771	2311	5777	1191	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Report Date: 13-Nov-2017 11:13:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d
Lims ID: 160-24924-G-2-A
Client ID: SHAD041DP026SS03NS
Inject. Date: 11-Nov-2017 07:38:25 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194084 Lims Sample ID: 60

Non-2,3,7,8-sub-TCDF, RT: 17.113

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	100.000	88303261	21820774
Averages:					
	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	88303261	21820774

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
14.981	122833	38493	147173	46461	0.2696	0.83	
15.313	109279	32320	151873	43339	0.2608	0.72	
15.480	230588	71515	295897	84239	0.5257	0.78	
15.737	297306	81283	409863	102363	0.7061	0.73	M
15.828	194285	44956	250724	61153	0.4444	0.77	M
15.979	210847	31535	282386	41361	0.4925	0.75	
16.266	101437	36179	191605	55534	0.2926	0.53	RQM
16.266	101437	36179	131736	46985	0.2328		Empc Correction
16.508	300285	77647	408735	104035	0.7080	0.73	M
16.704	257747	44910	394993	69367	0.6518	0.65	M
16.855	136114	31824	187866	43745	0.3235	0.72	M
17.249	105843	20419	145316	29195	0.2508	0.73	M
17.853	273467	62608	369060	84331	0.6416	0.74	
18.050	146365	34871	226416	44314	0.3722	0.65	
Signal Totals:							
	2486396	608560	3402038	800888			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5948303	1417997				0.72	RQM
	5888434	1409448					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.940 = (5948303 * 100.000) / (88303261 * 1.134)
Empc Amount: 5.880 = (5888434 * 100.000) / (88303261 * 1.134)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Lims ID:	160-24924-G-2-A		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	11-Nov-2017 07:38:25	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	60

Non-2,3,7,8-sub-TCDD, RT: 17.566

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	65898052	15055769

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	65898052	15055769

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.888	229839	63013	292423	82237	0.7931	0.79	
16.190	119408	31685	148625	38675	0.4070	0.80	
16.432	116711	28410	118118	32192	0.3566	0.99	RQ
16.432	90950	24787	118118	32192	0.3175		Empc Correction
16.992	392682	83896	481963	107978	1.33	0.81	
17.158	247799	20917	313441	26190	0.8523	0.79	M
17.611	60913	17130	88297	22355	0.2266	0.69	
17.899	112645	21440	148039	27855	0.3959	0.76	
18.005	114970	24235	132367	31472	0.3756	0.87	
18.292	28595	6903	32373	7778	0.0926	0.88	
18.488	139338	32639	171694	41488	0.4723	0.81	
19.244	50788	12216	59085	11723	0.1668	0.86	M
Signal Totals:							
	1587927	338861	1986425	429943			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3600113	772427				0.81	RQM
	3574352	768804					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.467 = (3600113 * 100.000) / (65898052 * 0.999)
Empc Amount: 5.428 = (3574352 * 100.000) / (65898052 * 0.999)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 11:13:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d
Lims ID: 160-24924-G-2-A
Client ID: SHAD041DP026SS03NS
Inject. Date: 11-Nov-2017 07:38:25 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194084 Lims Sample ID: 60

F1 PeCDFs, RT: 20.001

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	70447738	12113883
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	70447738	12113883

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.547	972368	190054	631940	128720	1.98	1.54	
Signal Totals:							
	972368	190054	631940	128720			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1604308	318774				1.54	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.978 = (1604308 * 100.000) / (70447738 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Lims ID:	160-24924-G-2-A		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	11-Nov-2017 07:38:25	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	60

Non-2,3,7,8-sub-PeCDF, RT: 23.175

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	70447738	12113883
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	70447738	12113883

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.896	100741	22596	60342	12138	0.1986	1.67	
21.087	1029115	159783	662801	104992	2.09	1.55	M
21.987	570382	53848	378281	36491	1.17	1.51	
22.328	77896	15862	63197	12192	0.1740	1.23	RQ
22.328	77896	15862	50255	10233	0.1580		Empc Correction
24.128	454900	55486	286700	35300	0.9145	1.59	
Signal Totals:							
	2233034	307575	1438379	199154			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3684355	508688				1.54	RQM
	3671413	506729					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.543 = (3684355 * 100.000) / (70447738 * 1.151)
Empc Amount: 4.527 = (3671413 * 100.000) / (70447738 * 1.151)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Lims ID:	160-24924-G-2-A		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	11-Nov-2017 07:38:25	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	60

Non-2,3,7,8-sub-PeCDD, RT: 23.433

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	53279023	8060386

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	53279023	8060386

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.305	1511211	260390	1120422	186274	5.20	1.35	
22.069	539619	99651	335193	64266	1.73	1.61	
22.492	723813	128360	521482	88932	2.46	1.39	
22.751	854284	147397	541001	90453	2.76	1.58	
23.051	385483	65549	275180	43533	1.31	1.40	M
23.378	316121	56827	198595	36943	1.02	1.59	
23.569	1040164	134335	678291	82986	3.40	1.53	
23.910	74038	13526	44747	7517	0.2349	1.65	
24.851	423326	53738	236699	34977	1.31	1.79	RQ
24.851	366883	54214	236699	34977	1.19		Empc Correction
25.573	318218	45911	197934	30354	1.02	1.61	
Signal Totals:							
	6129834	1006160	4149544	666235			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10335821	1671919				1.49	RQM
	10279378	1672395					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 20.442 = (10335821 * 100.000) / (53279023 * 0.949)
Empc Amount: 20.331 = (10279378 * 100.000) / (53279023 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Lims ID:	160-24924-G-2-A		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	11-Nov-2017 07:38:25	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	60

Non-2,3,7,8-sub-HxCDF, RT: 30.267

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	50760070	10006573
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	50760070	10006573

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.091	453208	67566	395991	53499	1.11	1.14	
28.477	2447669	312123	1950181	235363	5.75	1.26	
29.821	3761691	531037	2905268	411255	8.72	1.29	
Signal Totals:							
	6662568	910726	5251440	700117			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11914008	1610843				1.27	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 15.578 = (11914008 * 100.000) / (50760070 * 1.507)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Lims ID:	160-24924-G-2-A		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	11-Nov-2017 07:38:25	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	60

Non-2,3,7,8-sub-HxCDD, RT: 30.913

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	43101232	10342415
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	43101232	10342415

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.675	7083853	950715	5599296	725938	25.7	1.27	
30.673	1827505	352239	1416831	269941	6.58	1.29	
31.032	24103835	4841171	19268304	3917885	88.0	1.25	
Signal Totals:							
	33015193	6144125	26284431	4913764			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	59299624	11057889				1.26	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 120.283 = (59299624 * 100.000) / (43101232 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d
Lims ID: 160-24924-G-2-A
Client ID: SHAD041DP026SS03NS
Inject. Date: 11-Nov-2017 07:38:25
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194084
Lims Sample ID: 60

Non-2,3,7,8-sub-HpCDF, RT: 34.311

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	17888203	4821736
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	17888203	4821736

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.086	6427311	2017514	6134829	1879271	47.3	1.05	
Signal Totals:							
	6427311	2017514	6134829	1879271			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12562140	3896785				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 47.288 = (12562140 * 100.000) / (17888203 * 1.485)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Lims ID:	160-24924-G-2-A		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	11-Nov-2017 07:38:25	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	60

Non-2,3,7,8-sub-HpCDD, RT: 34.287

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	35290259	10188241

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	35290259	10188241

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.026	17914849	5436770	17288231	5386934	100.4	1.04	
Signal Totals:							
	17914849	5436770	17288231	5386934			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	35203080	10823704				1.04	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 100.438 = (35203080 * 100.000) / (35290259 * 0.993)

TestAmerica Sacramento

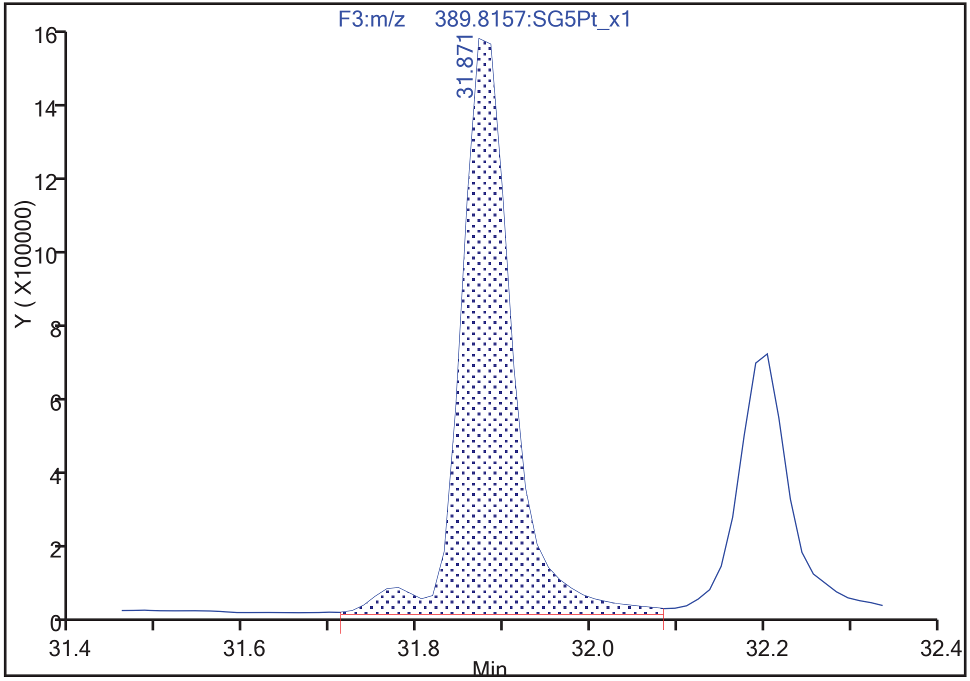
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d				
Injection Date:	11-Nov-2017 07:38:25	Instrument ID:	10D5		
Lims ID:	160-24924-G-2-A	Lab Sample ID:	320-24924-2		
Client ID:	SHAD041DP026SS03NS				
Operator ID:	AJS	ALS Bottle#:	33	Worklist Smp#:	60
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

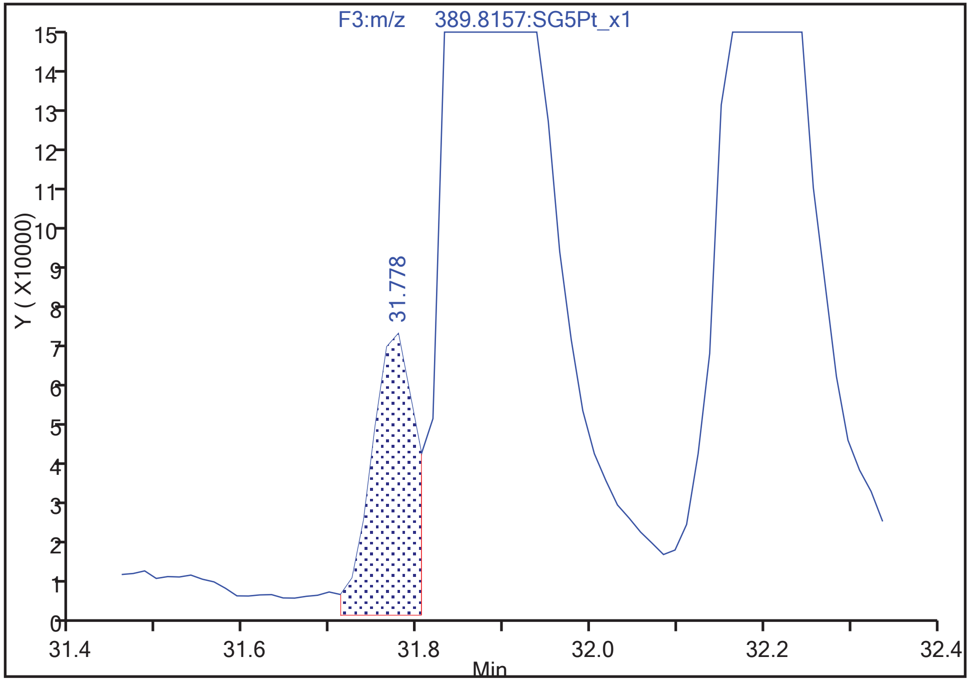
Processing Integration Results

RT:	31.87
Area:	6326775
Amount:	26.922255
Amount Units:	pg/ul



Manual Integration Results

RT:	31.78
Area:	233656
Amount:	1.016476
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 11:10:19

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

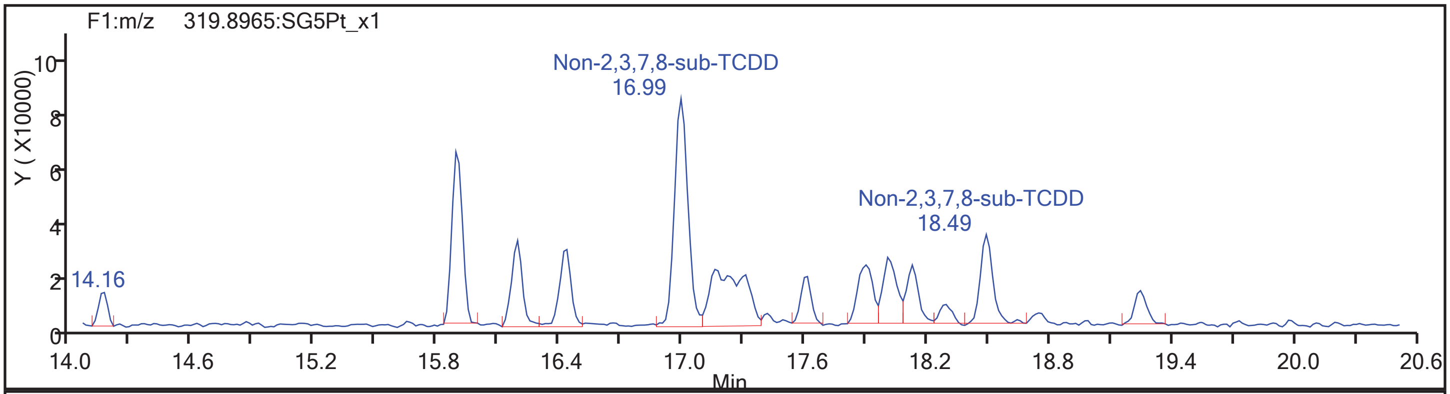
Report Date: 13-Nov-2017 11:13:10

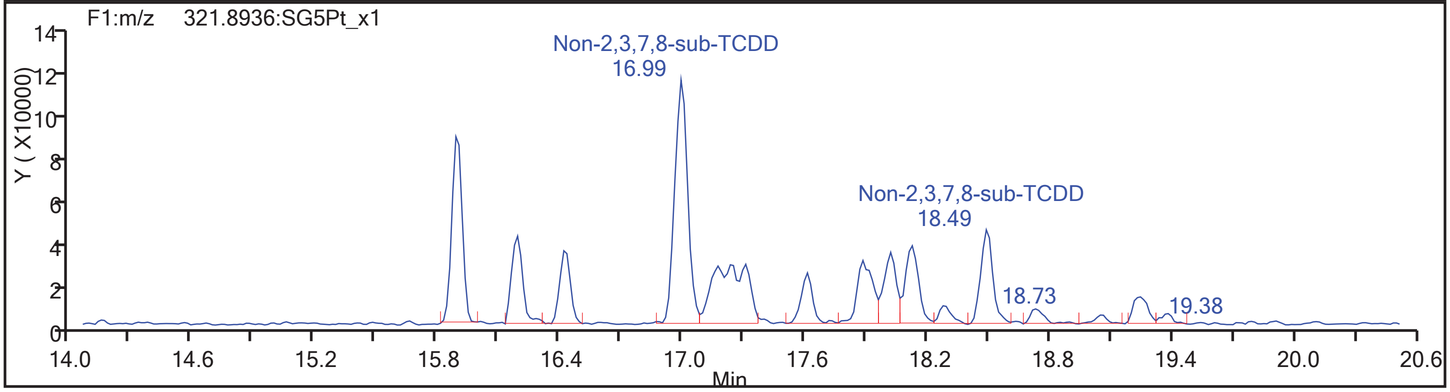
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

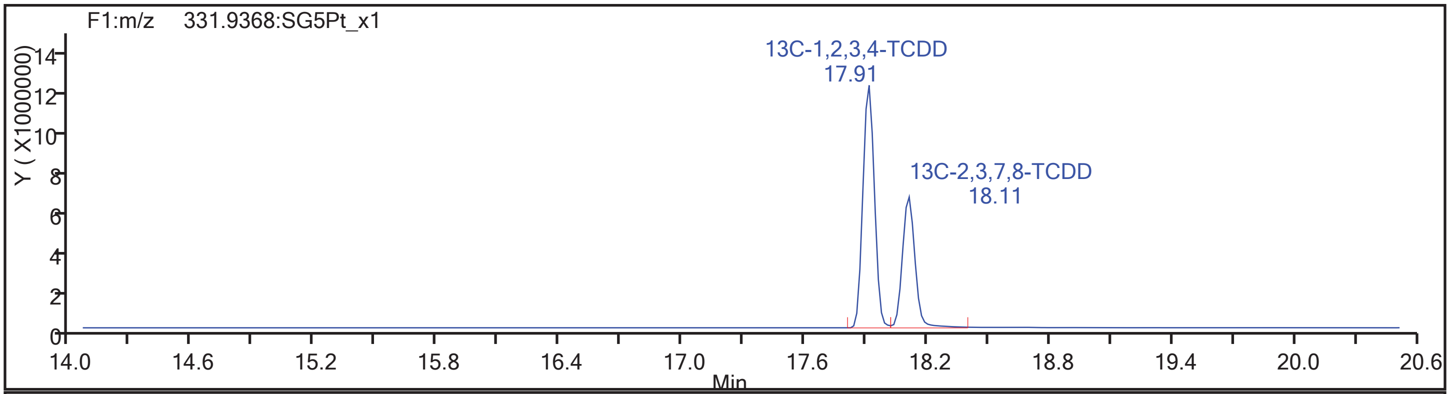
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Injection Date:	11-Nov-2017 07:38:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	194084	Sample Line#:	60
Column Type:	DB-5	Column Dia:	0.32 mm

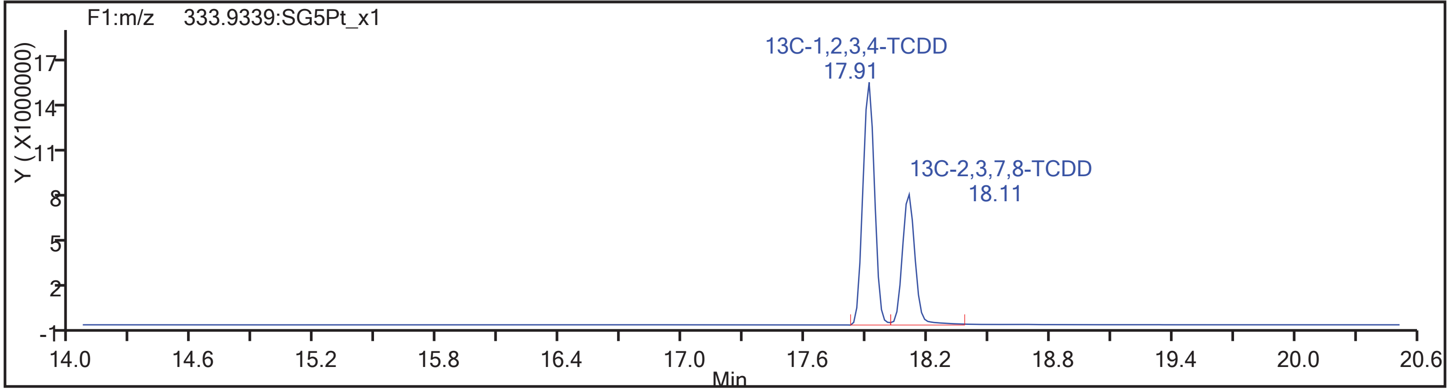
TCDD





TCDD Standards



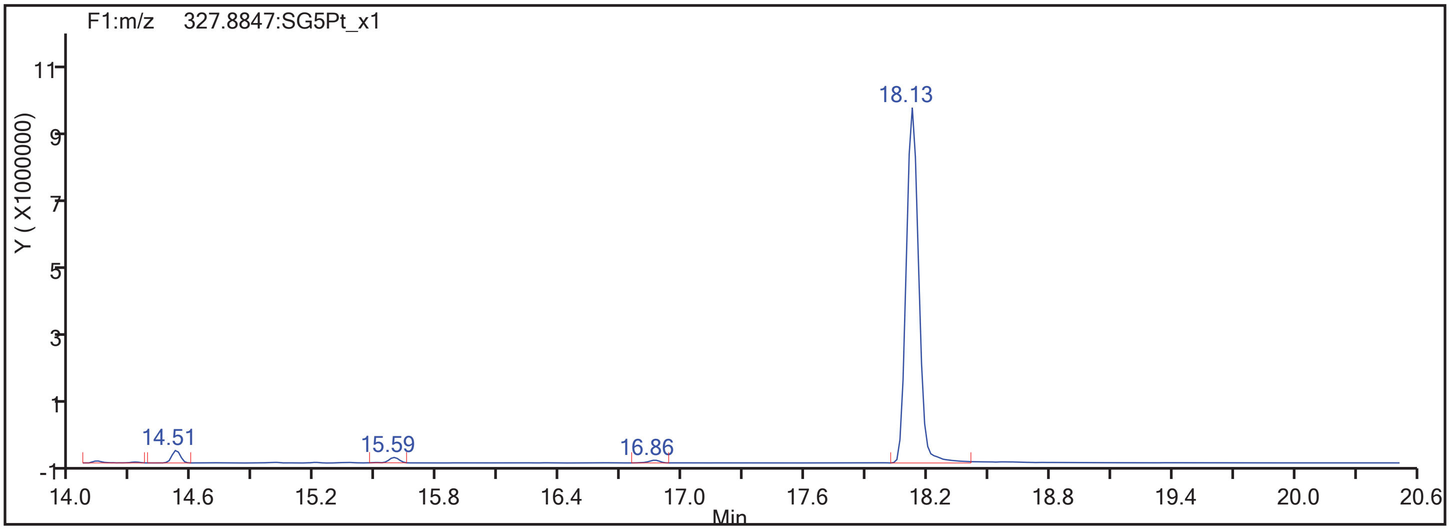


Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

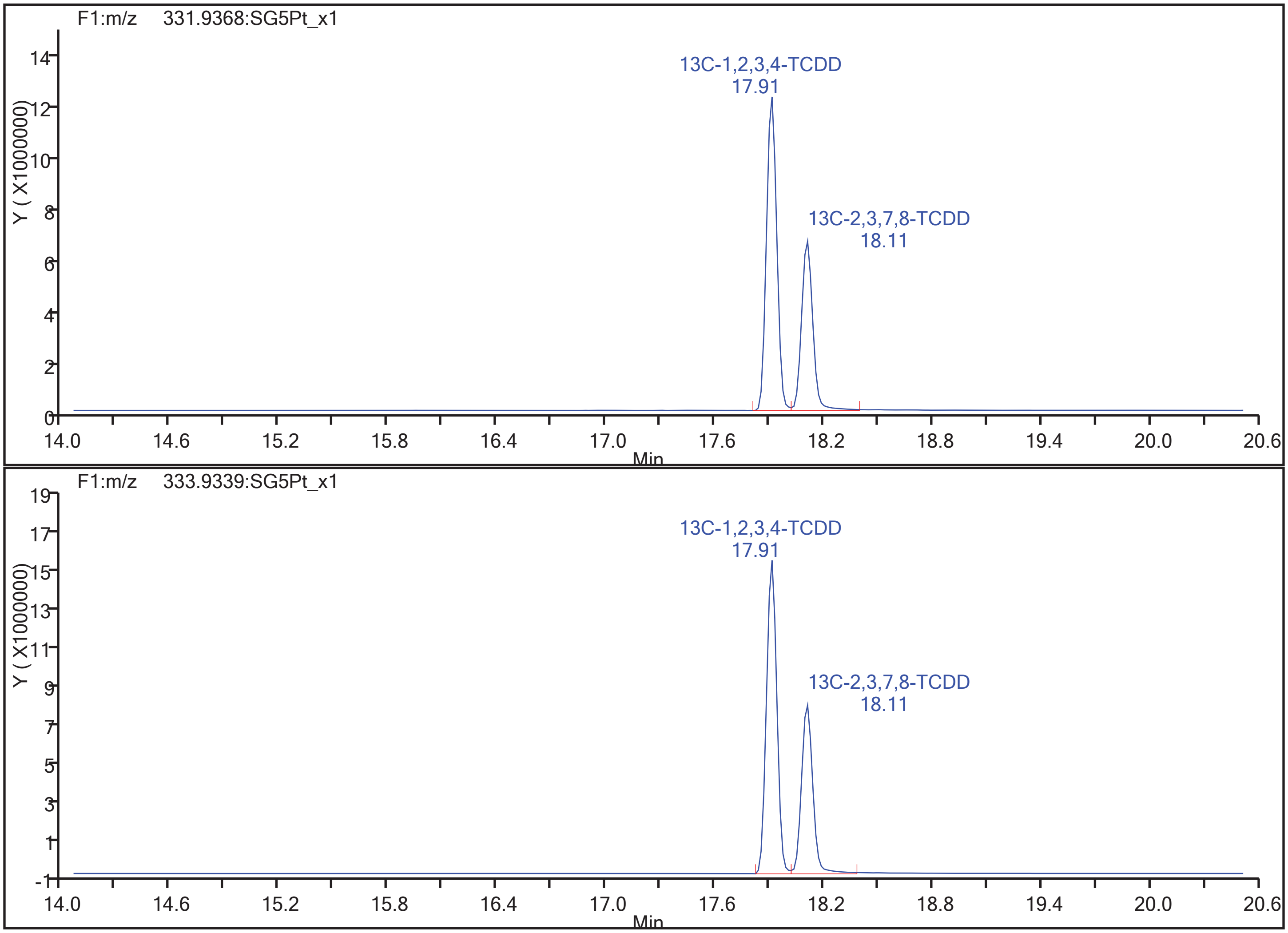
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d
Injection Date: 11-Nov-2017 07:38:25 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS03NS
Worklist#: 194084 Sample Line#: 60
Column Type: DB-5 Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards

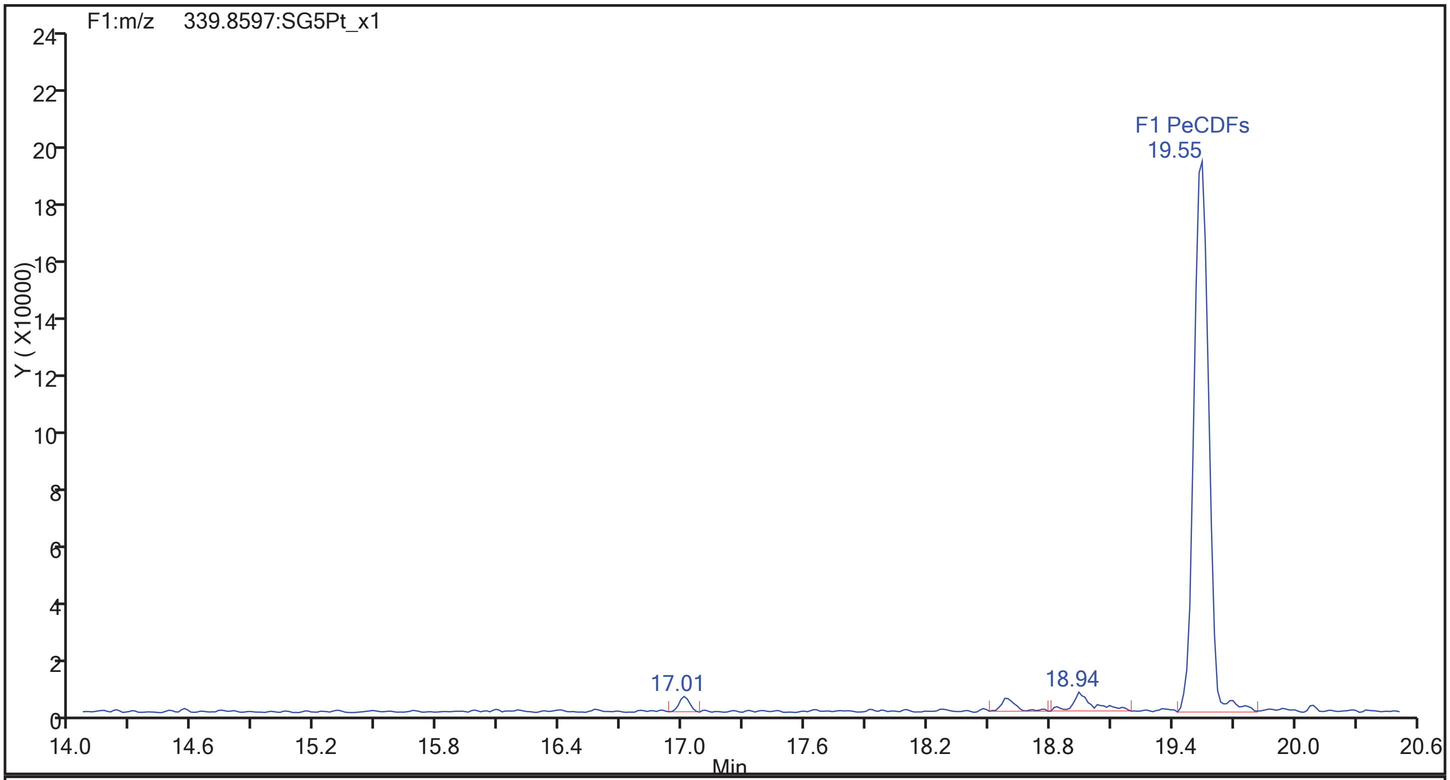


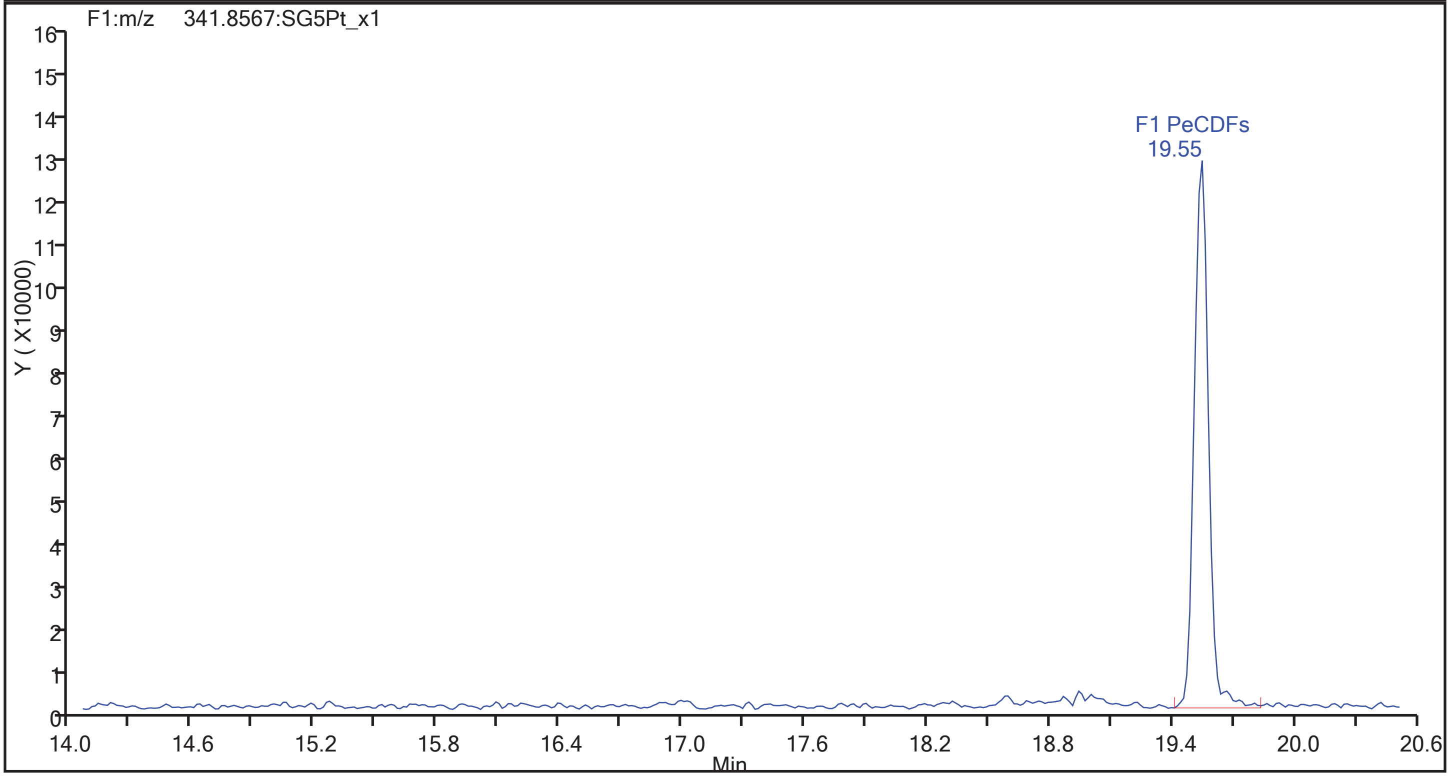
Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Injection Date:	11-Nov-2017 07:38:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	194084	Sample Line#:	60
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



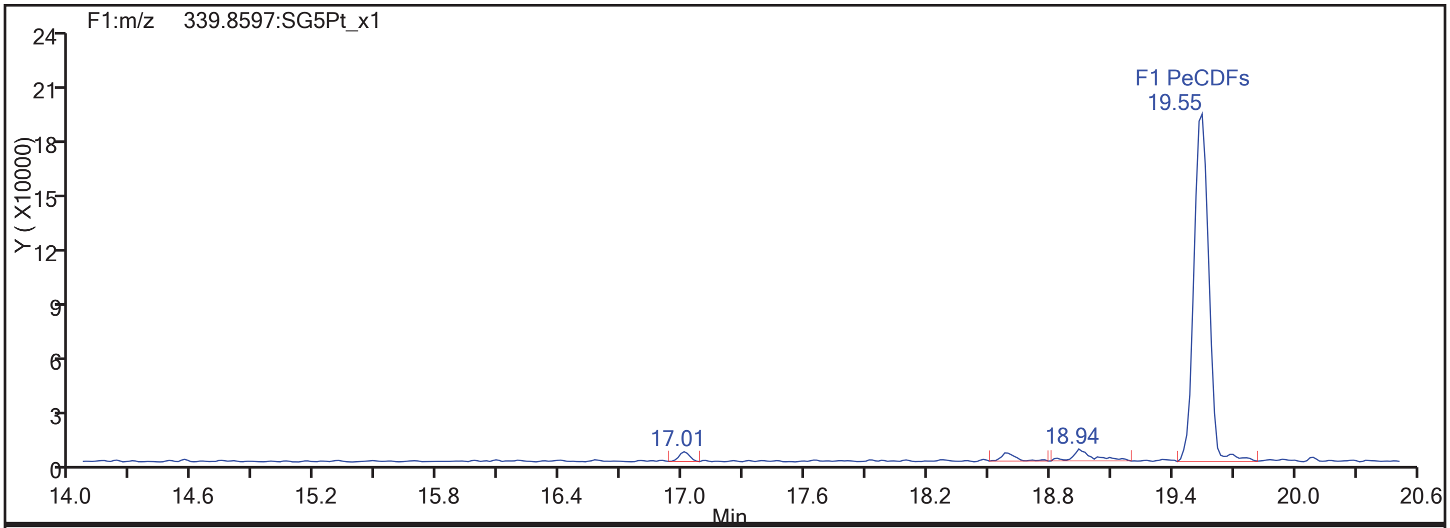


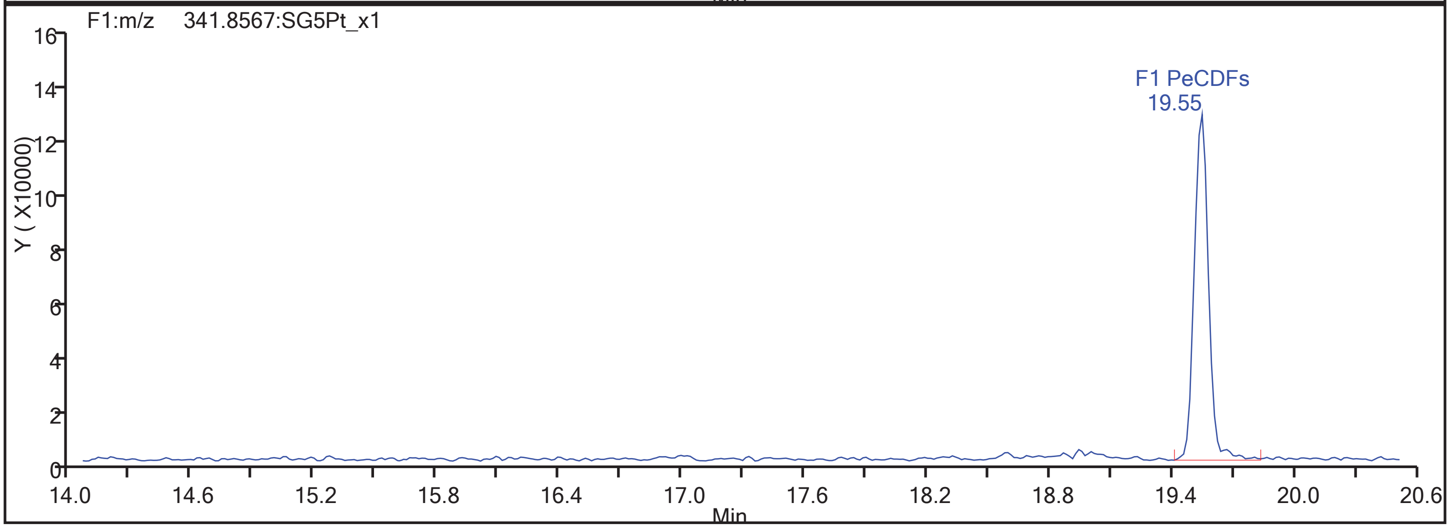
Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

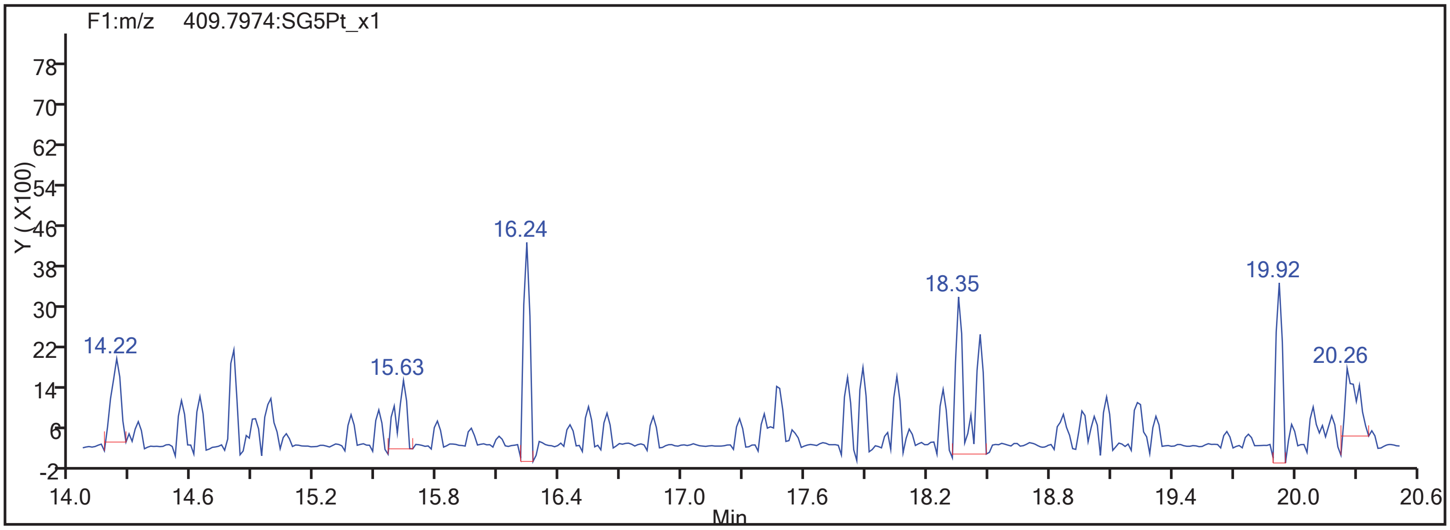
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Injection Date:	11-Nov-2017 07:38:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	194084	Sample Line#:	60
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Injection Date:	11-Nov-2017 07:38:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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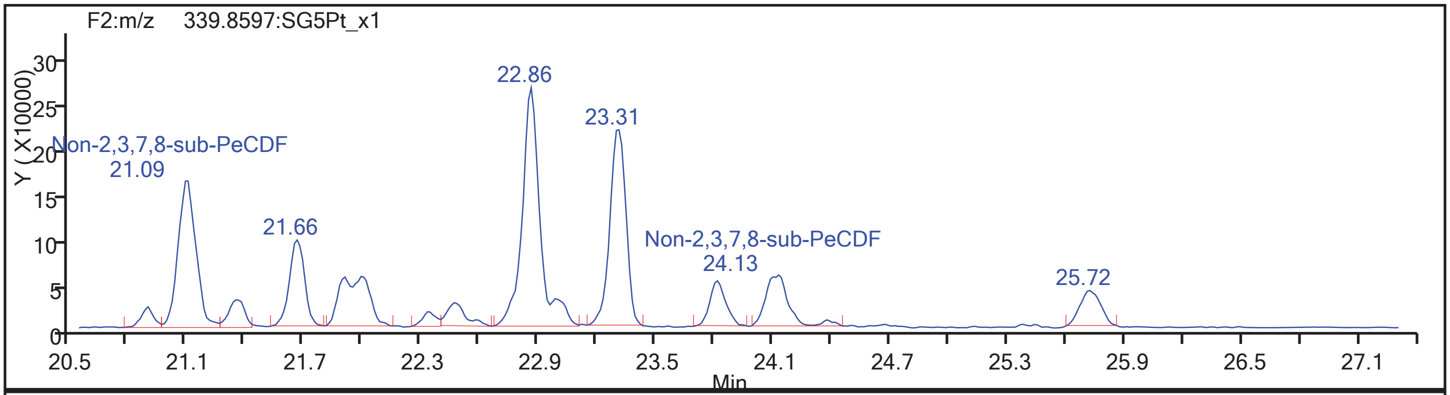
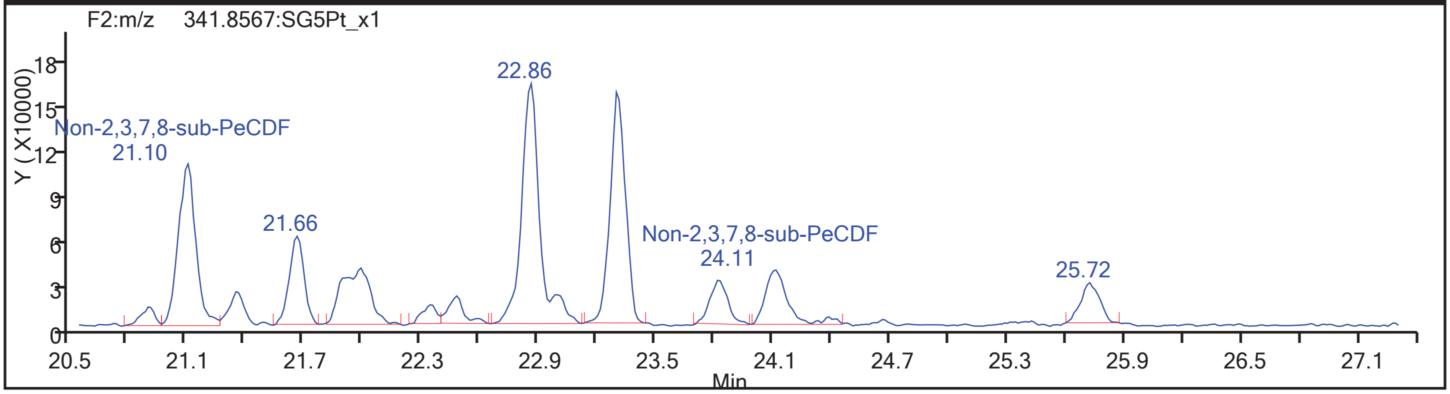
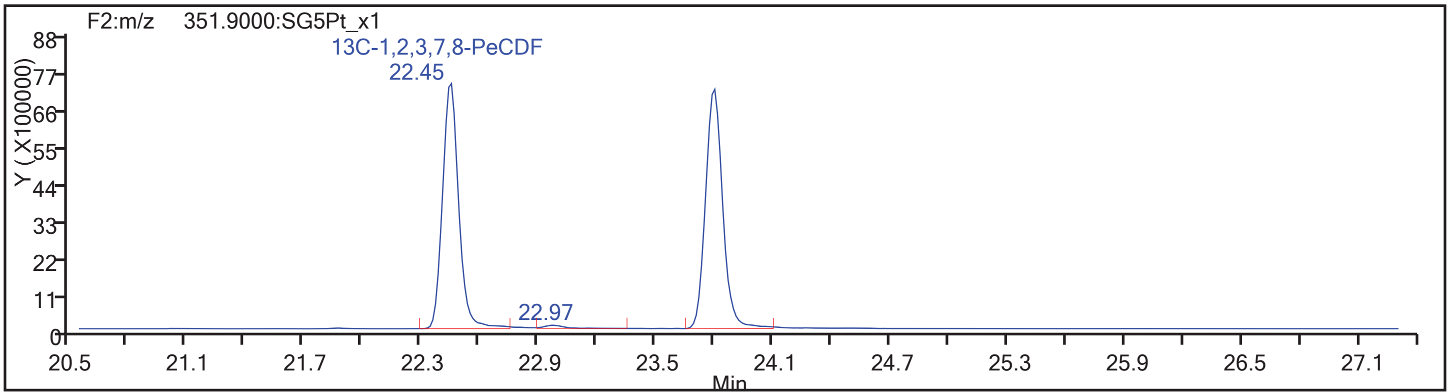
Worklist#:	194084	Sample Line#:	60
Column Type:	DB-5	Column Dia:	0.32 mm

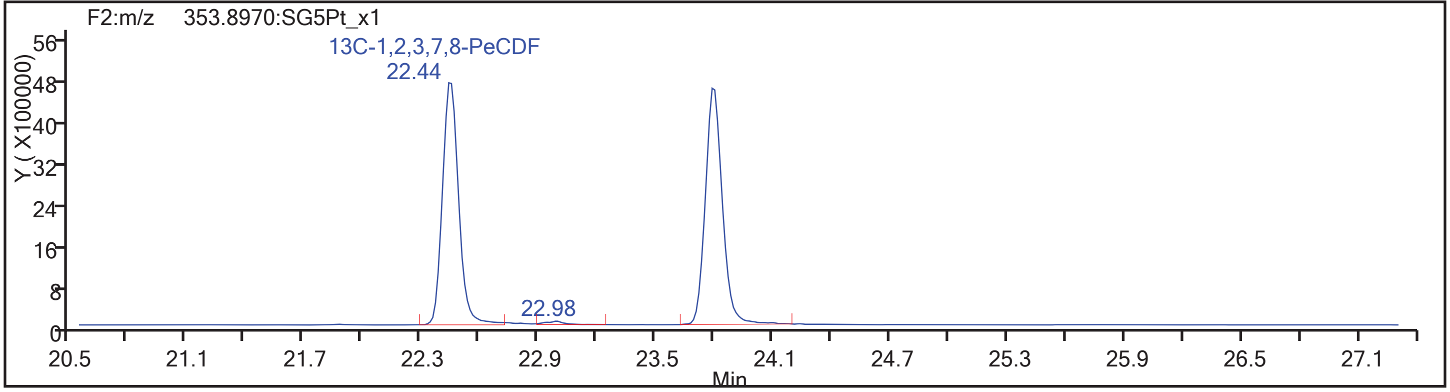
PeCDF





PeCDF Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
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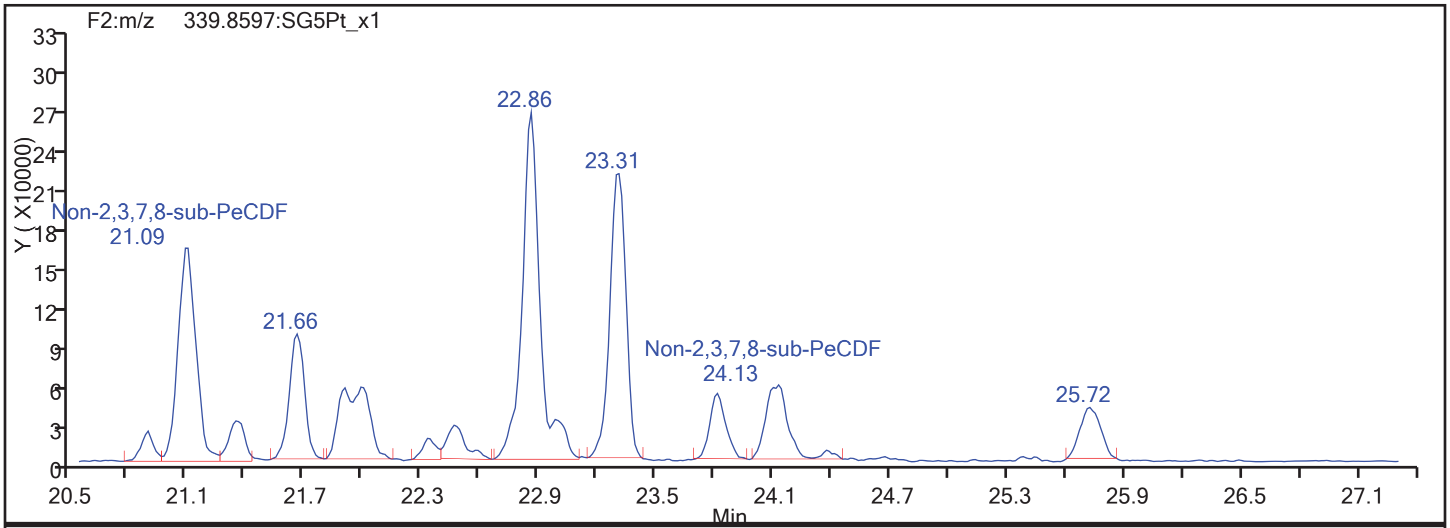
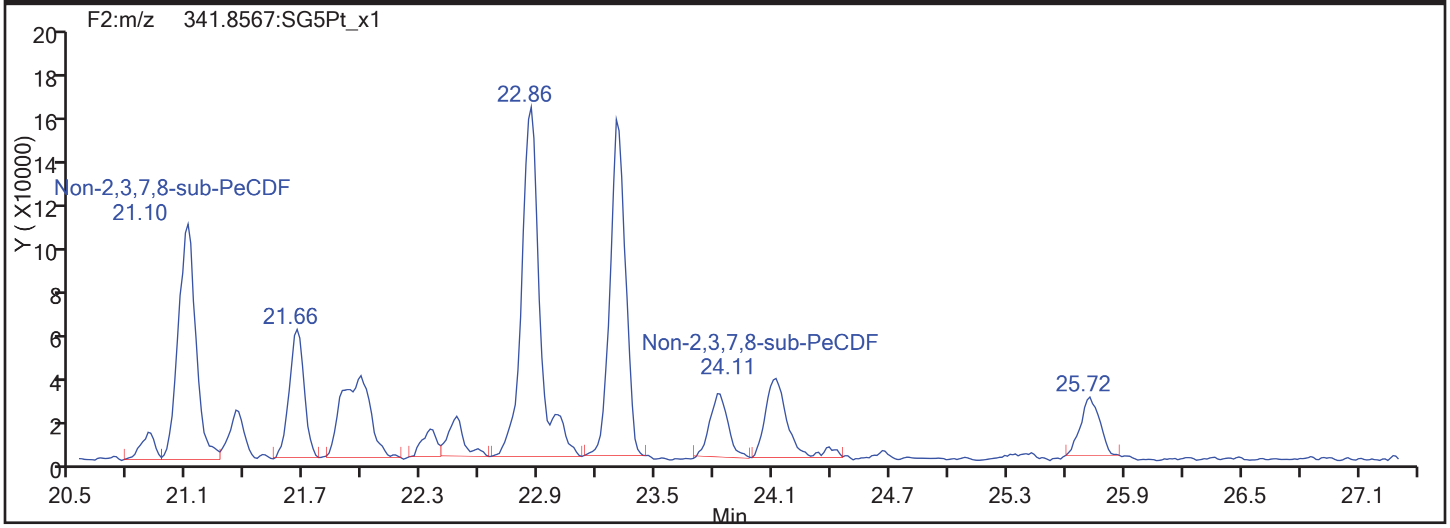
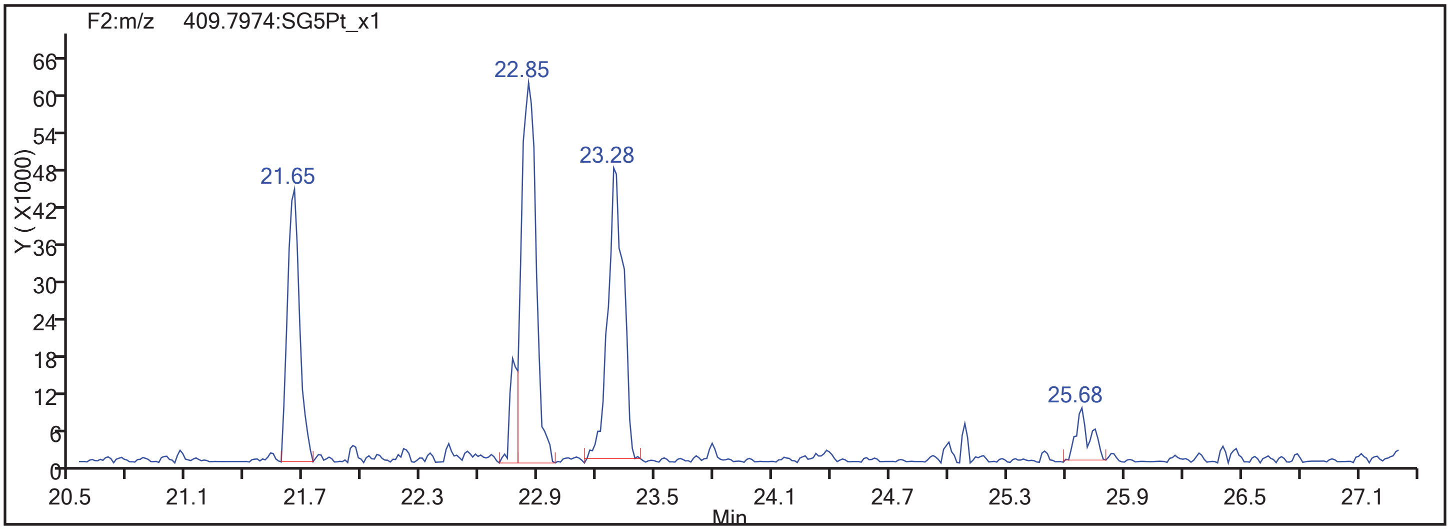
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	194084	Sample Line#:	60
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass

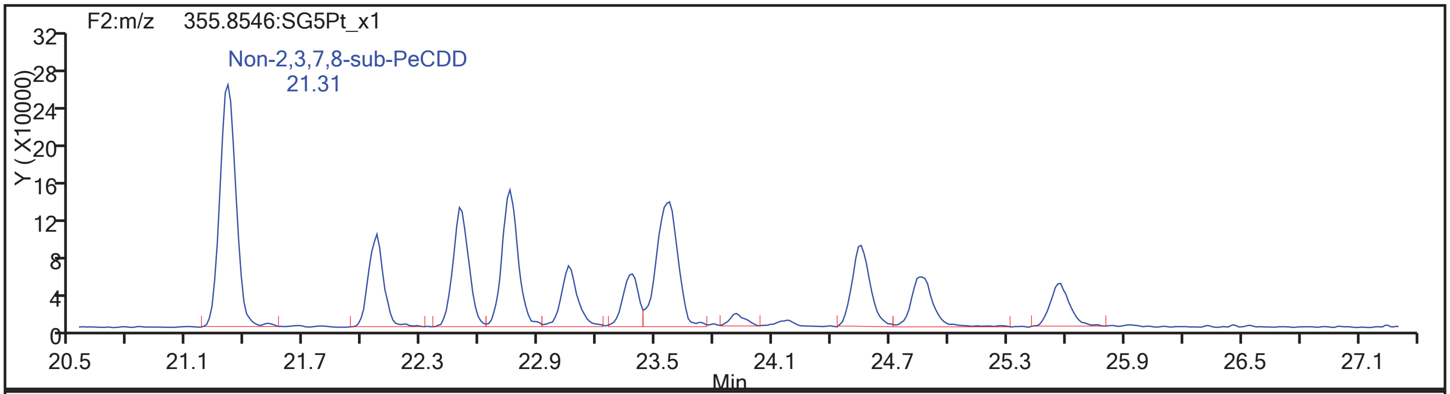


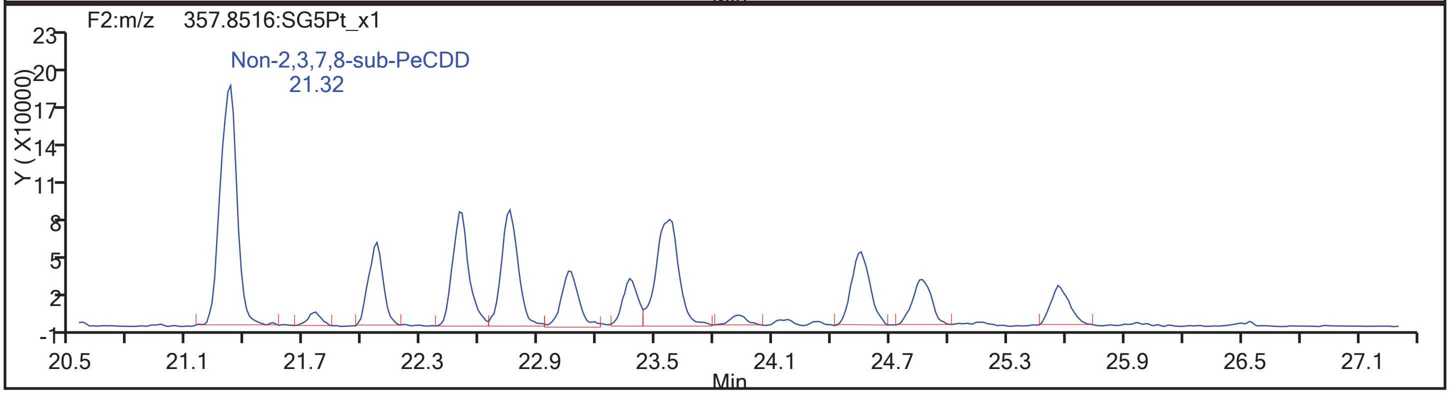
Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

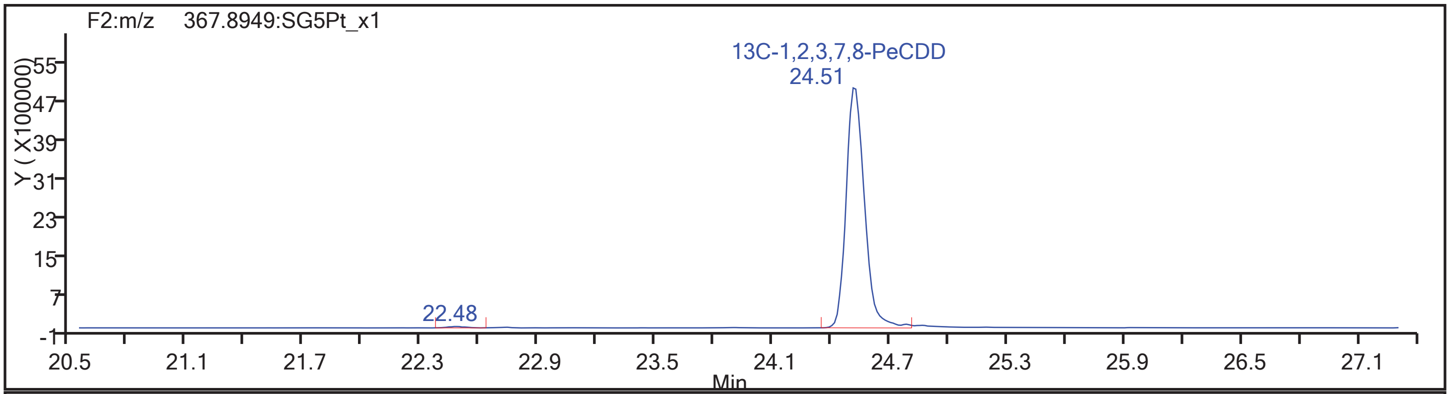
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d
Injection Date: 11-Nov-2017 07:38:25
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS03NS
Worklist#: 194084
Sample Line#: 60
Column Type: DB-5
Column Dia: 0.32 mm

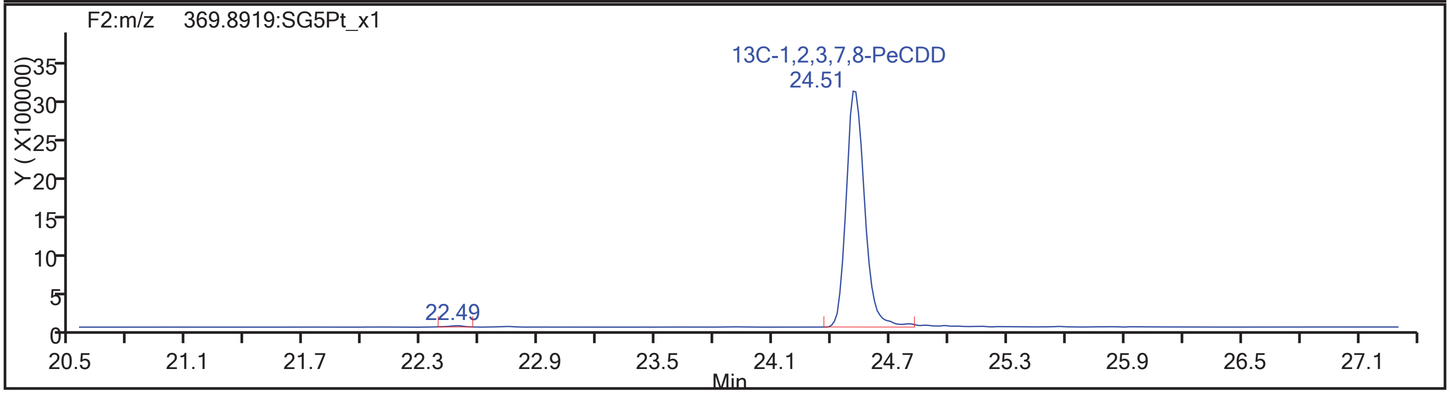
PeCDD





PeCDD Standards





Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d

Injection Date: 11-Nov-2017 07:38:25 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

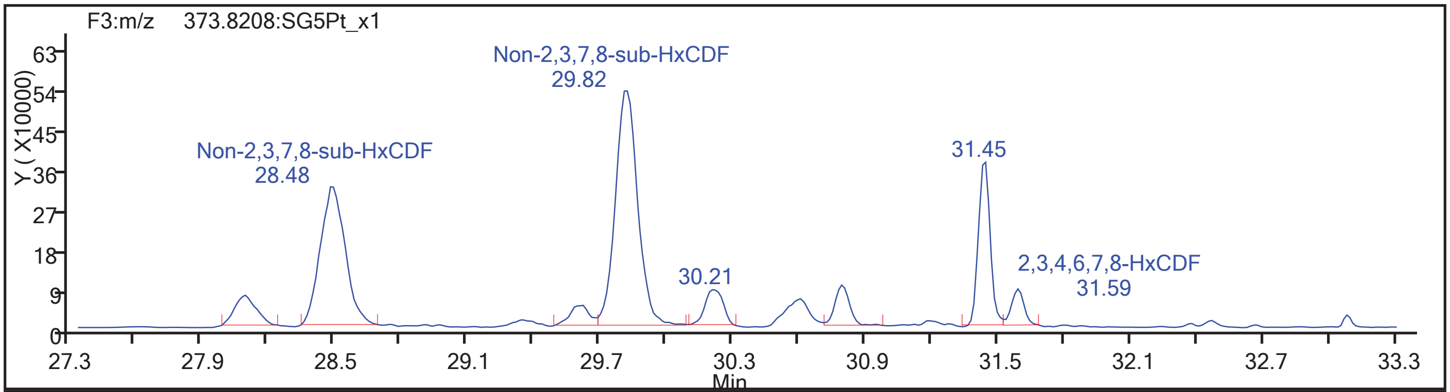
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

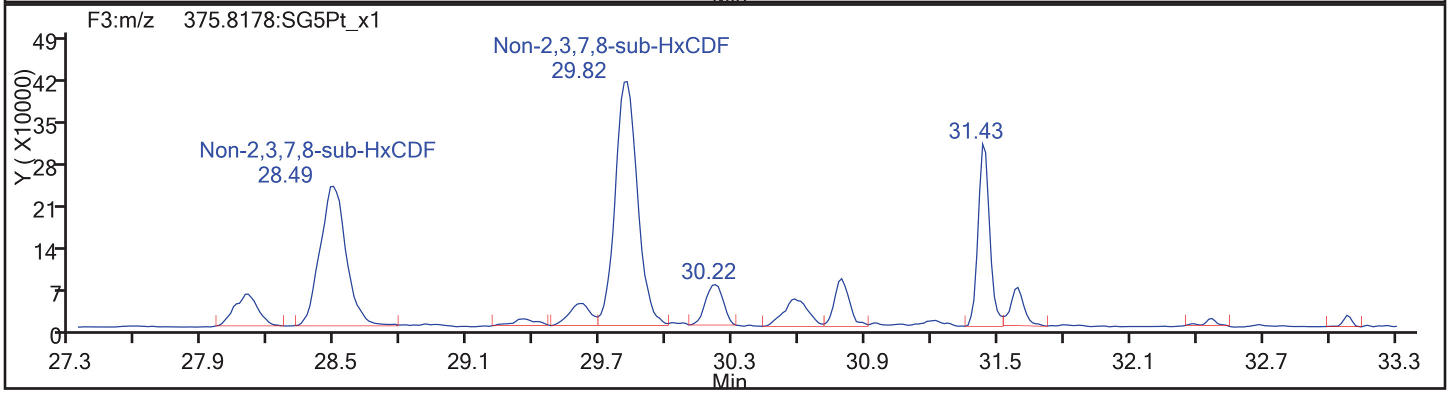
Client ID: SHAD041DP026SS03NS

Worklist#: 194084 Sample Line#: 60

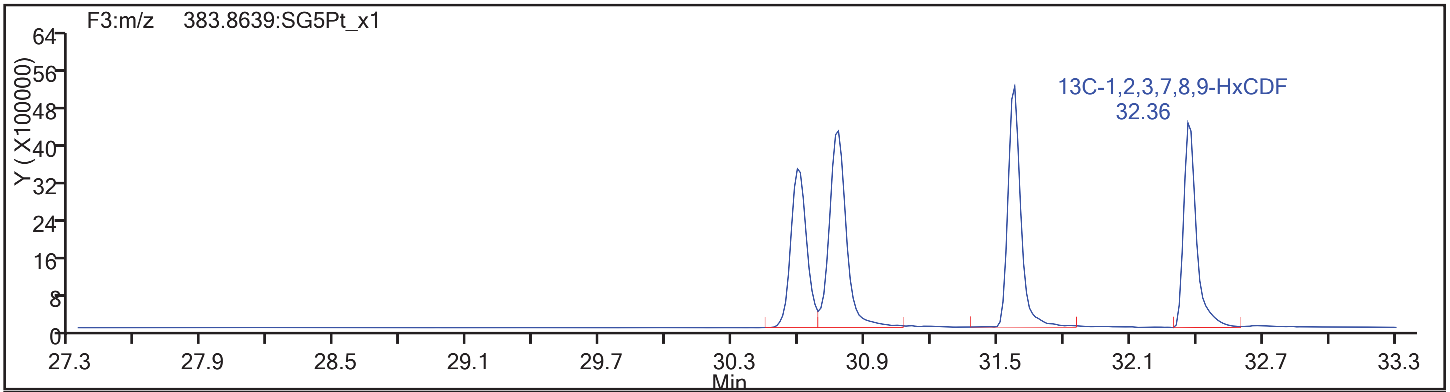
Column Type: DB-5 Column Dia: 0.32 mm

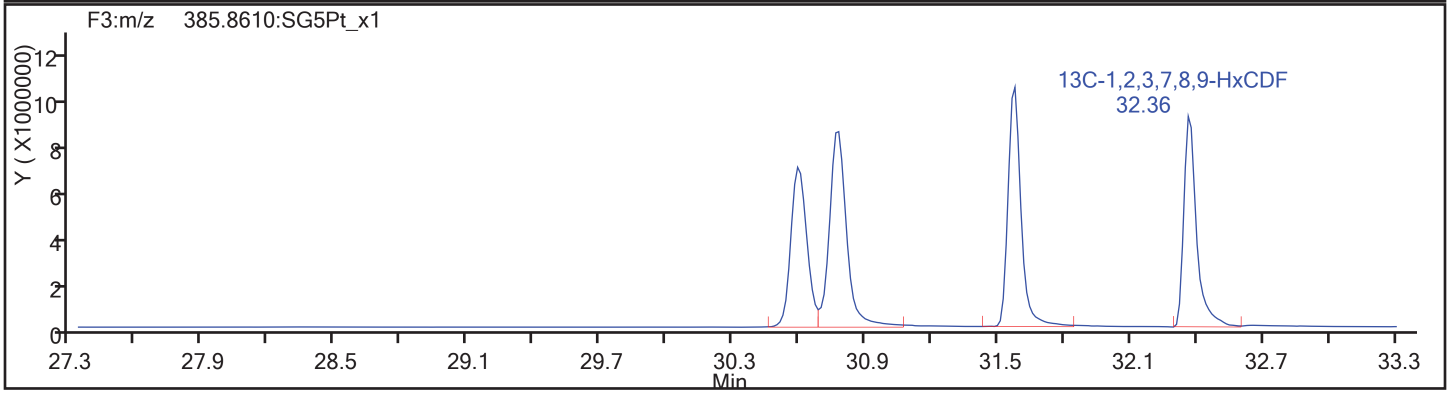
HxCDF





HxCDF Standards





Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d

Injection Date: 11-Nov-2017 07:38:25 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

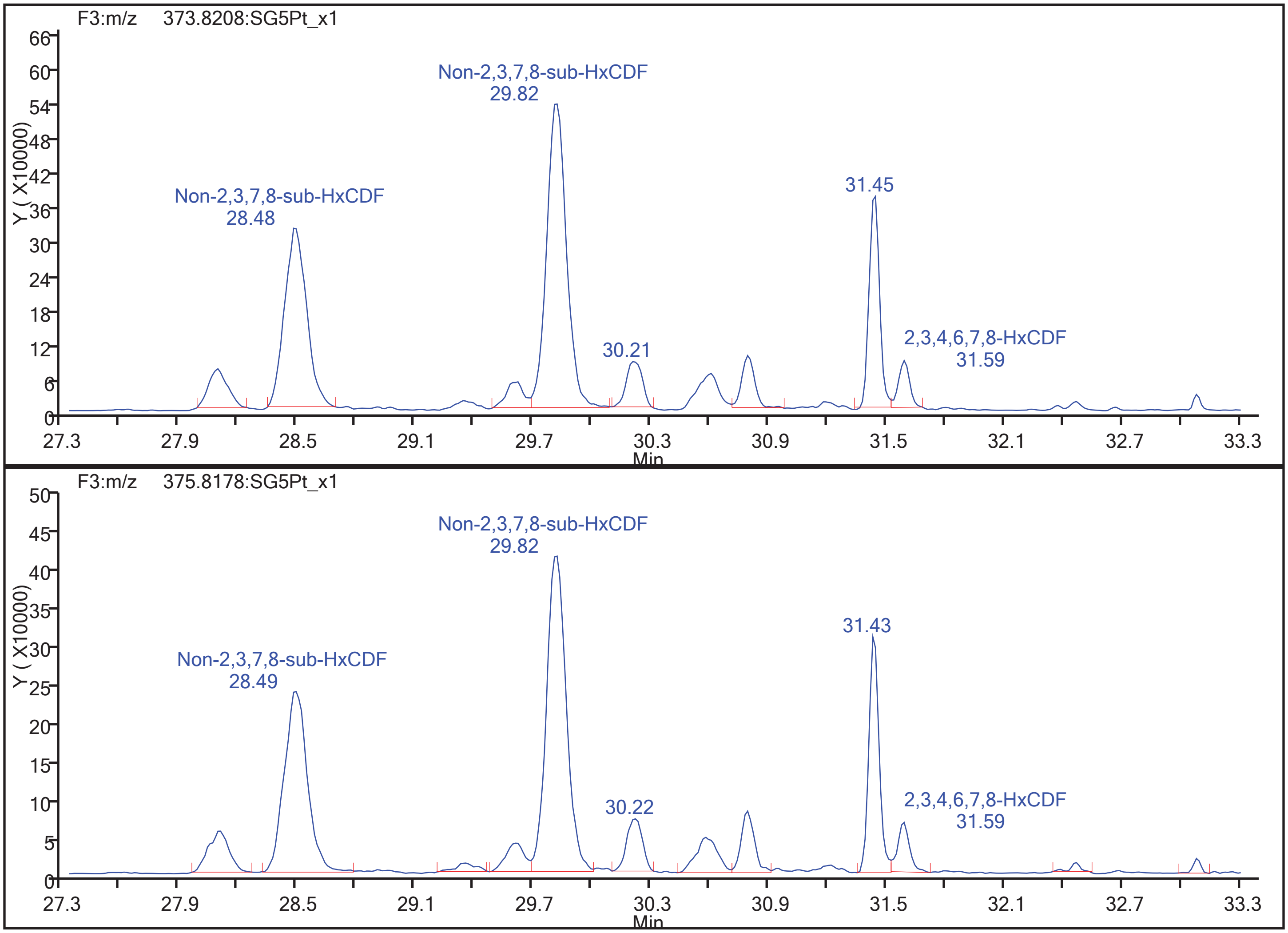
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS03NS

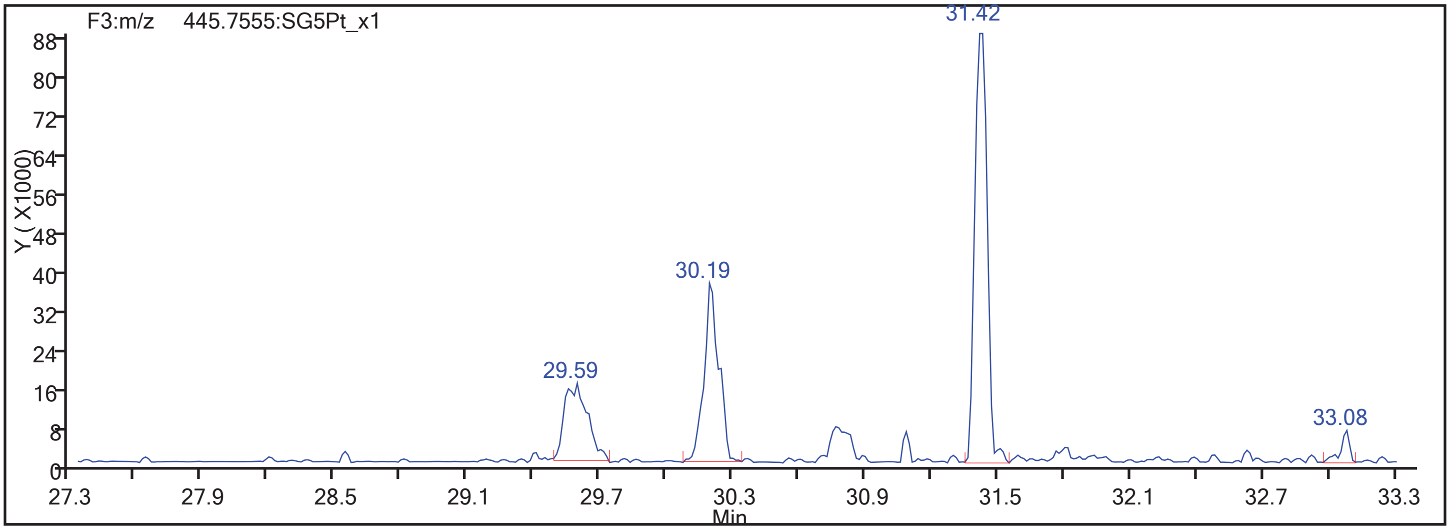
Worklist#: 194084 Sample Line#: 60

Column Type: DB-5 Column Dia: 0.32 mm

HxCDF



HxCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
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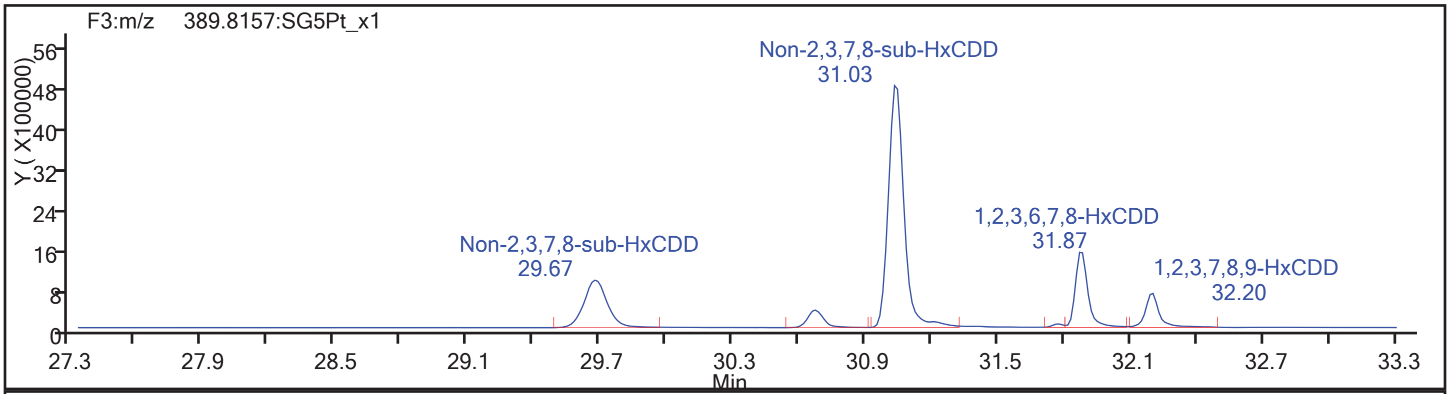
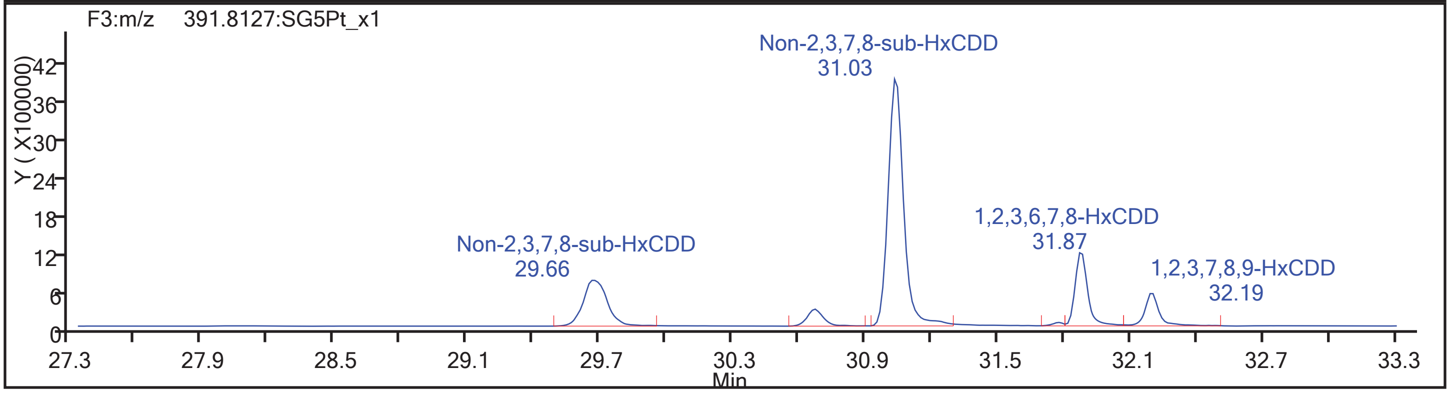
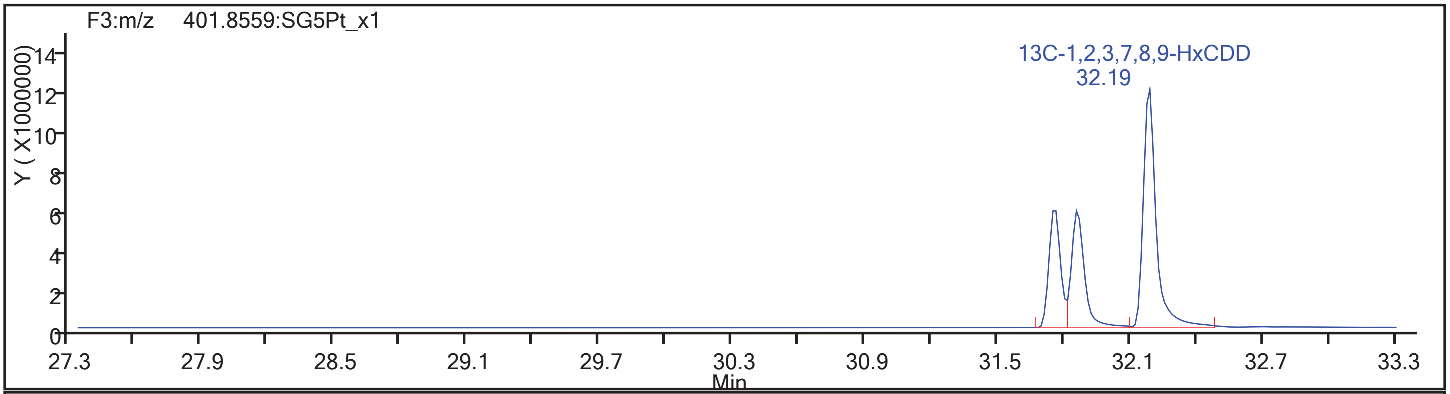
Column Type:	DB-5	Column Dia:	0.32 mm

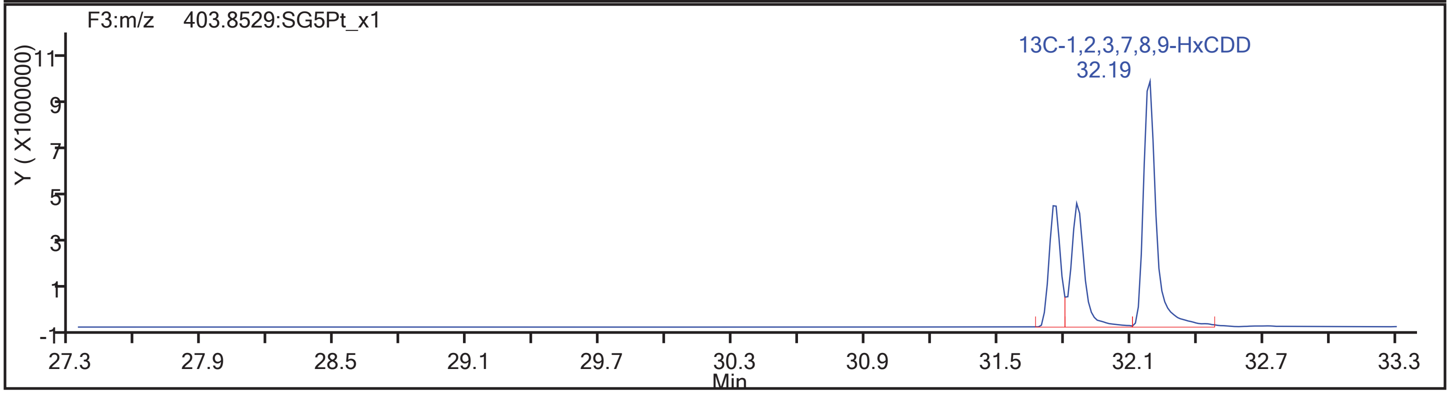
HxCDD





HxCDD Standards



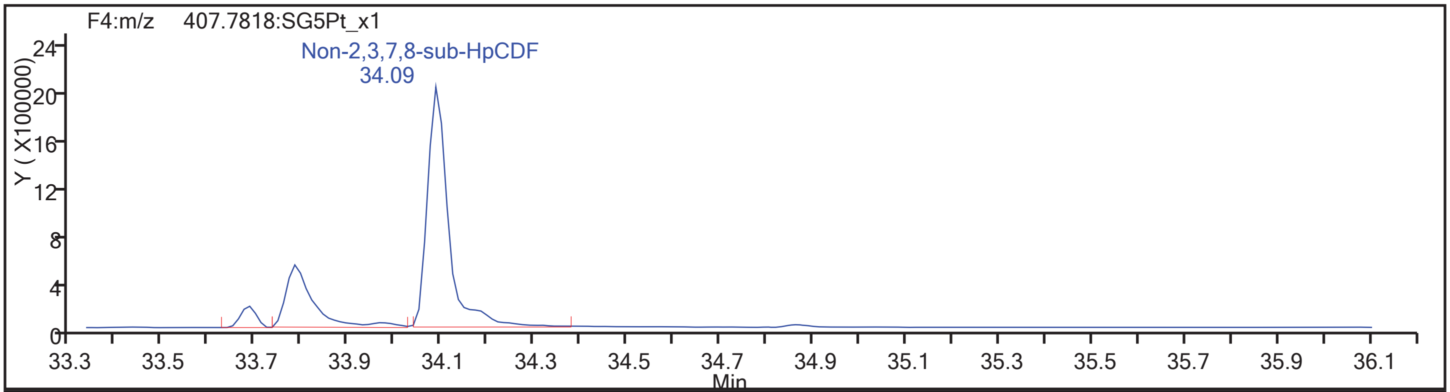


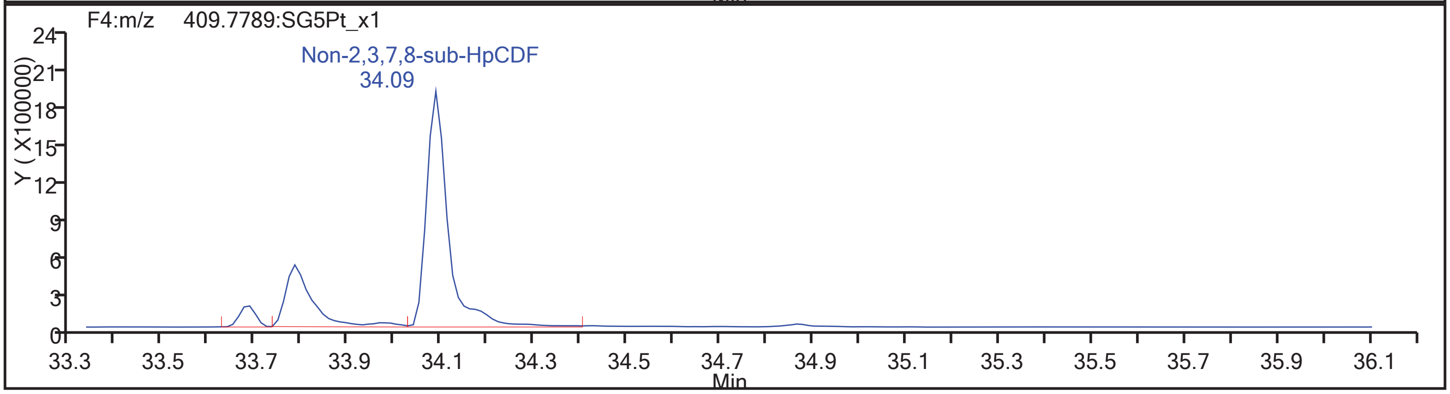
Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

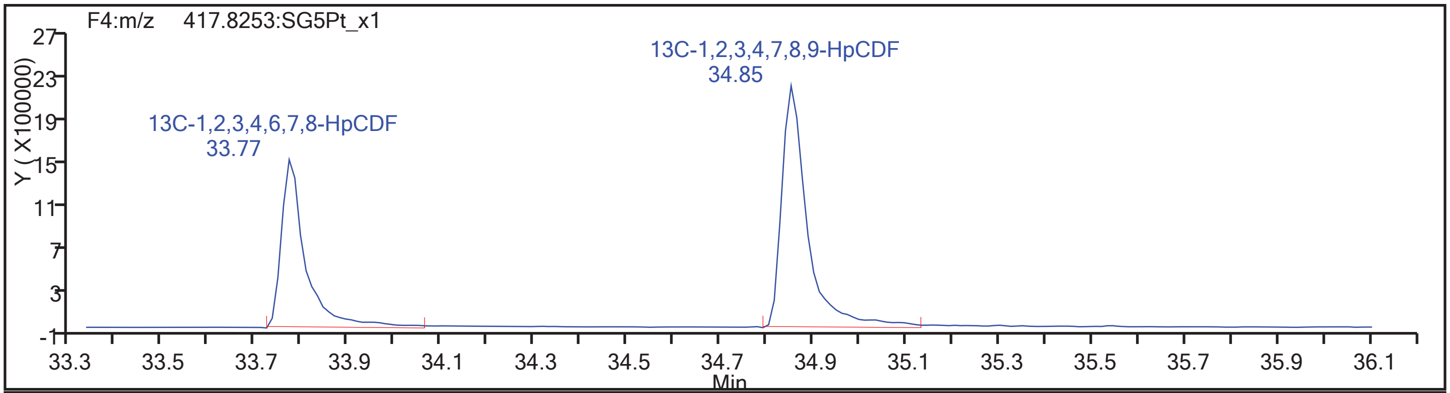
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Injection Date:	11-Nov-2017 07:38:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	194084	Sample Line#:	60
Column Type:	DB-5	Column Dia:	0.32 mm

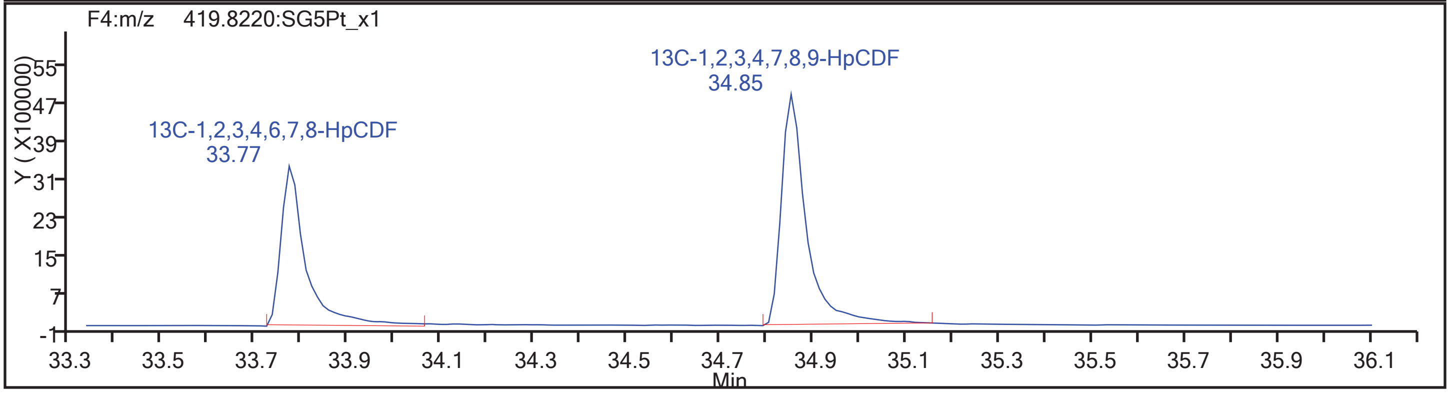
HpCDF





HpCDF Standards



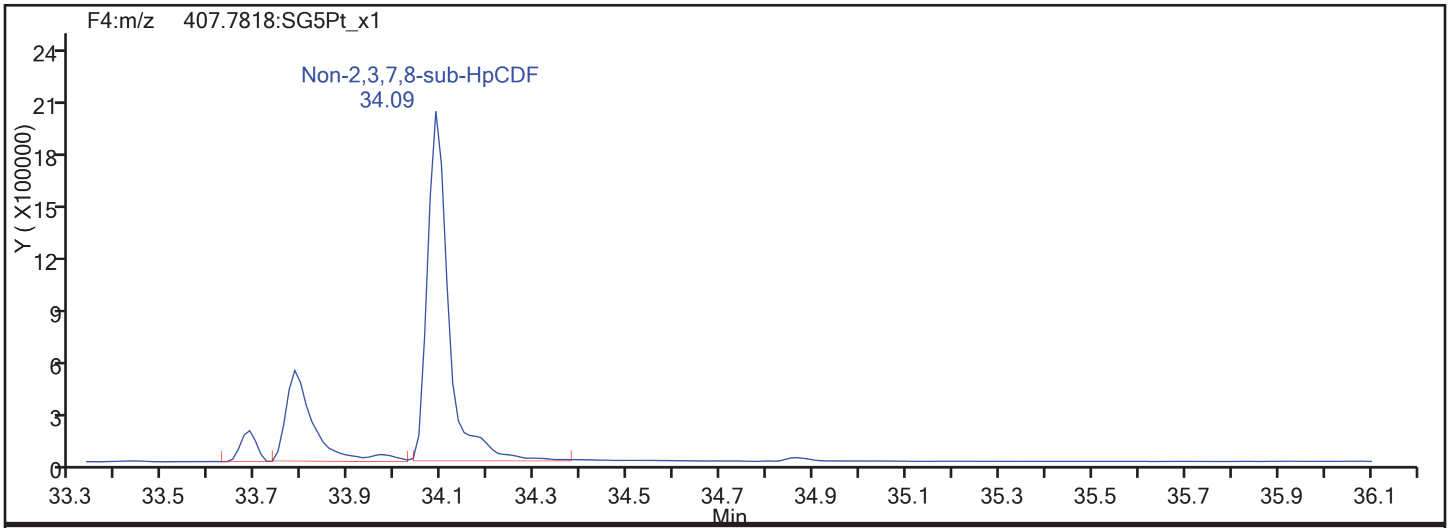


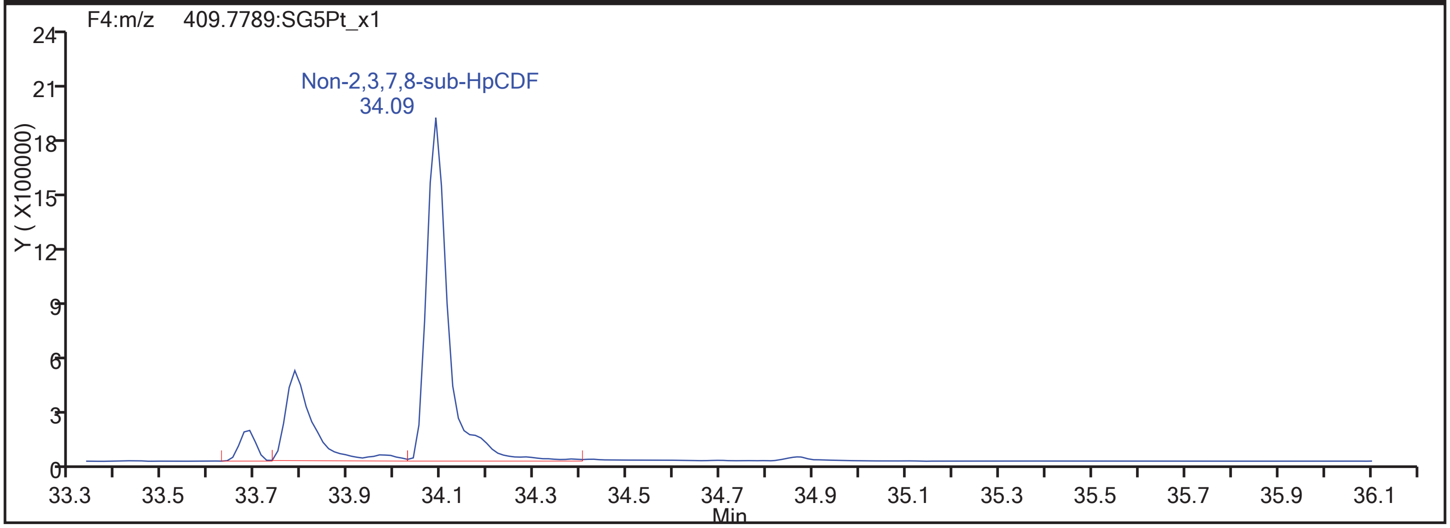
Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

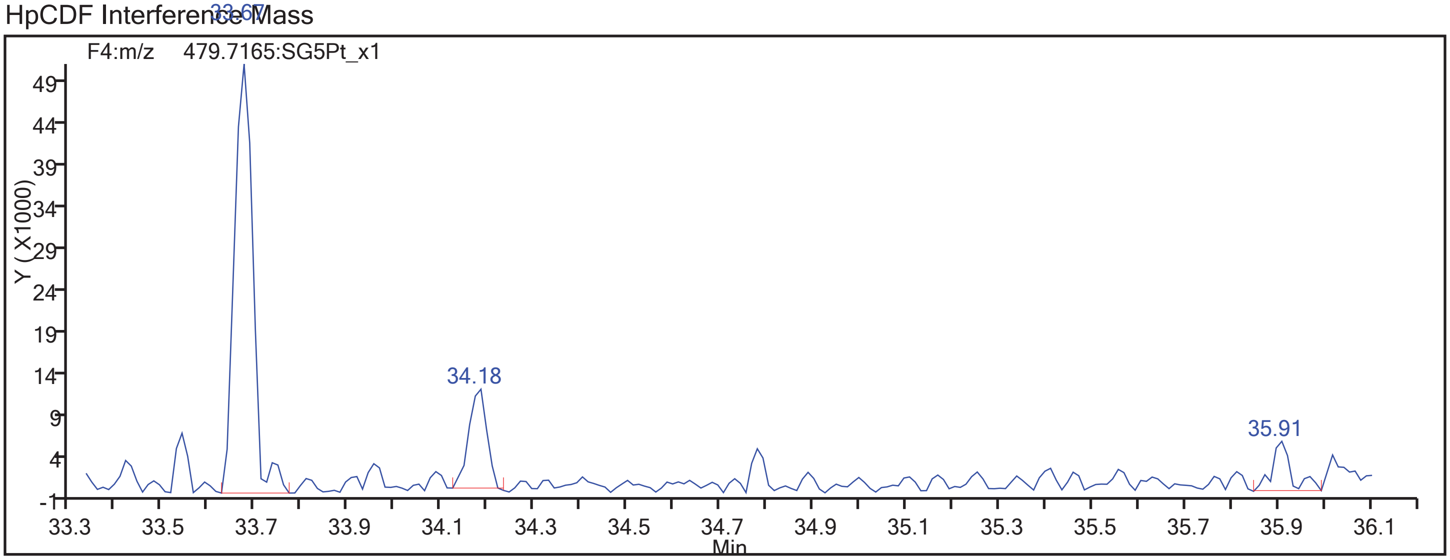
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Injection Date:	11-Nov-2017 07:38:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	194084	Sample Line#:	60
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





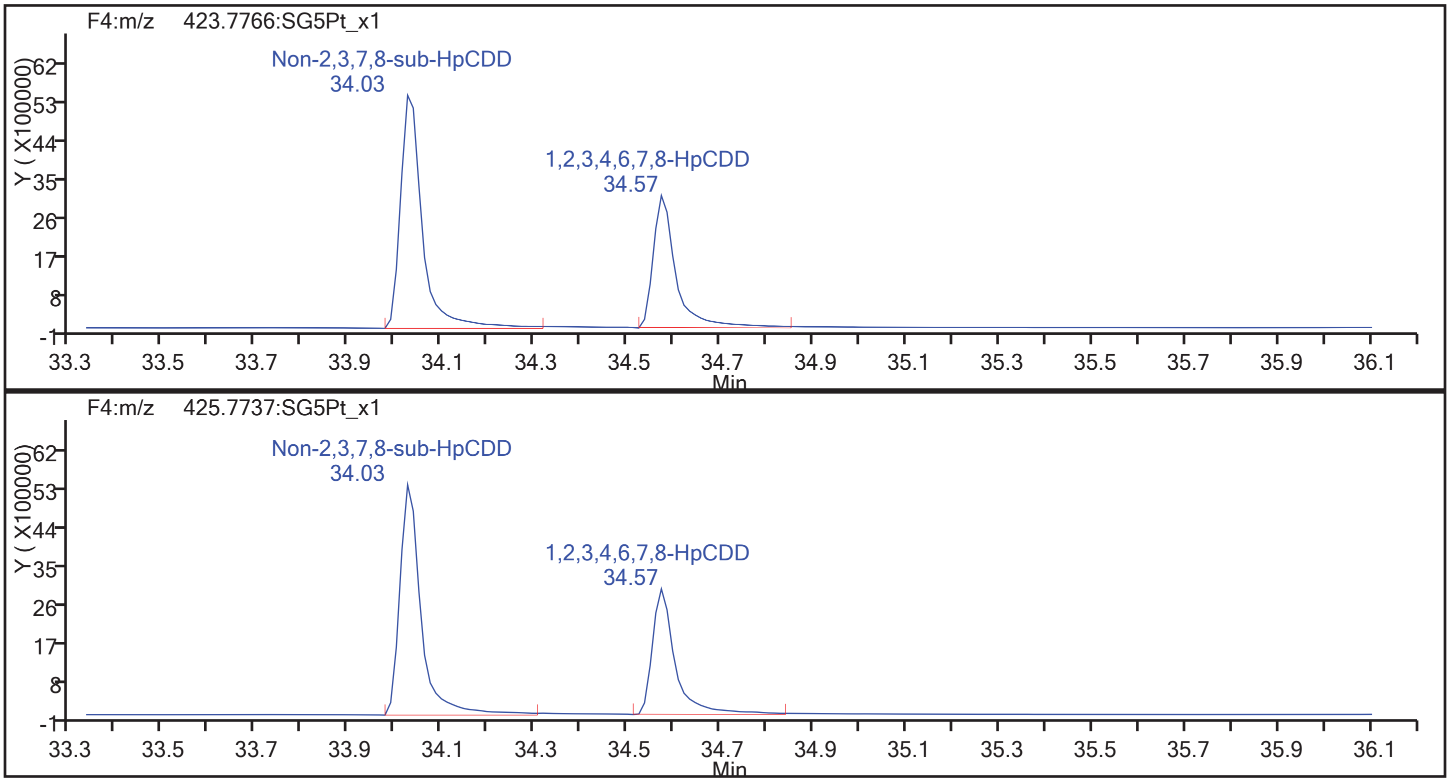
HpCDF Interference Mass



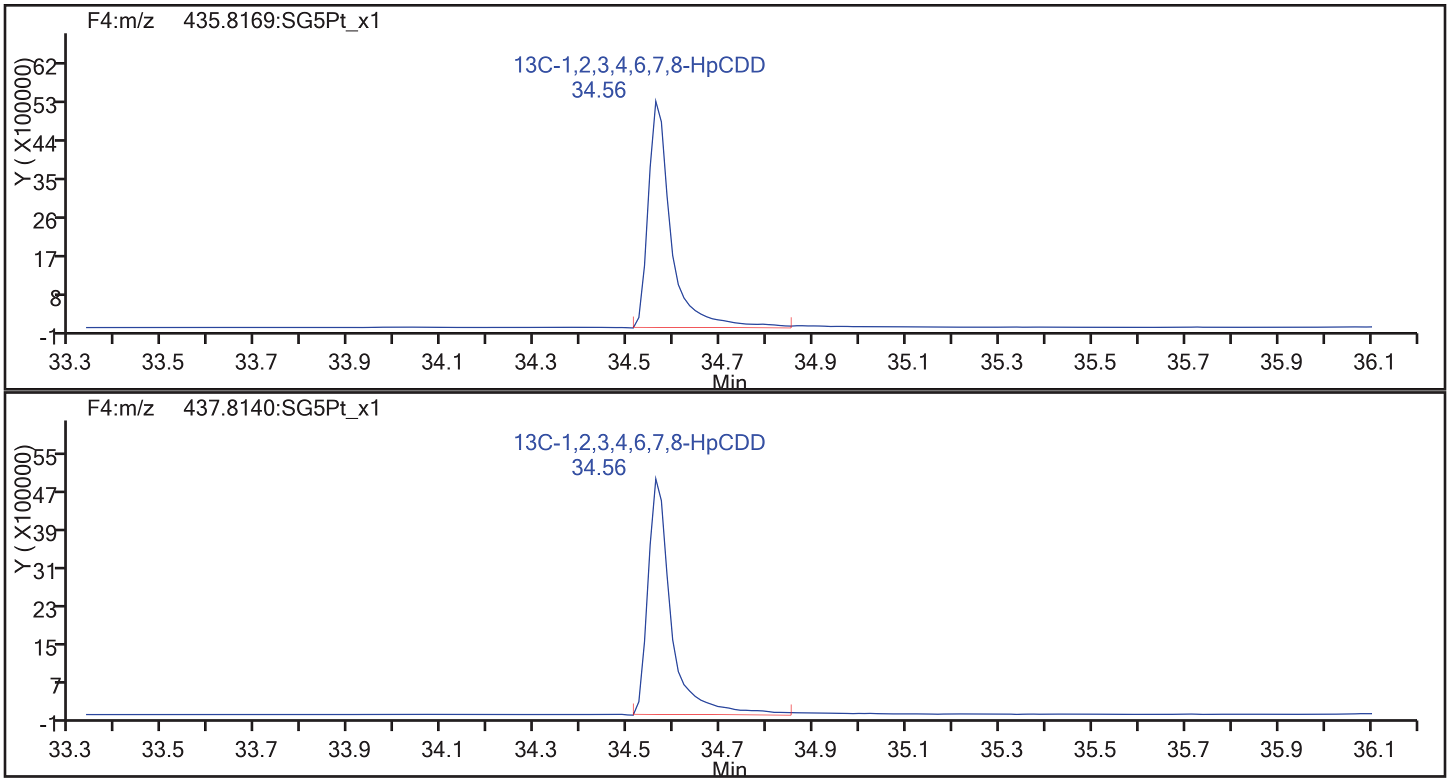
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Injection Date:	11-Nov-2017 07:38:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	194084	Sample Line#:	60
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD



HpCDD Standards



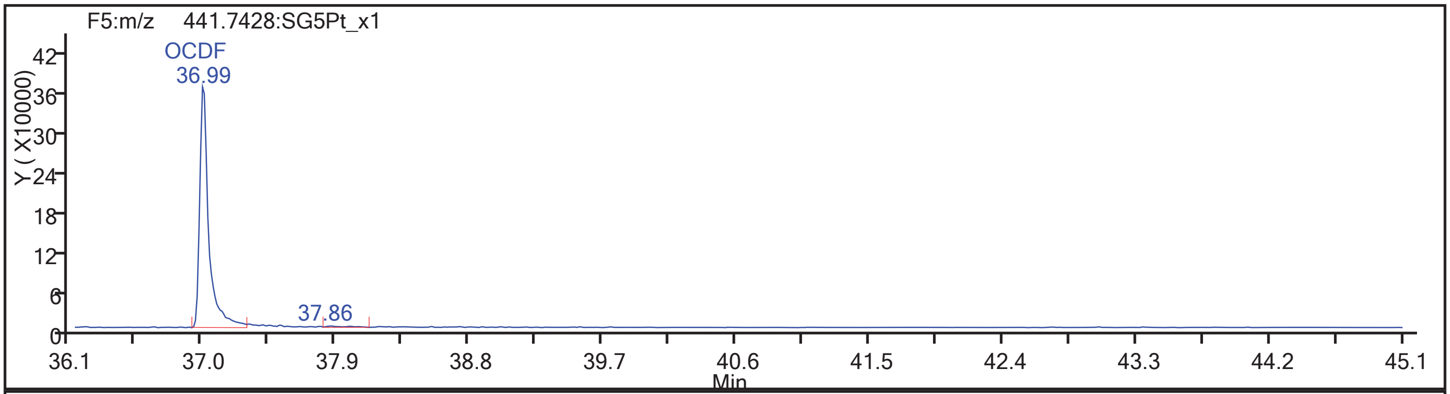
Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

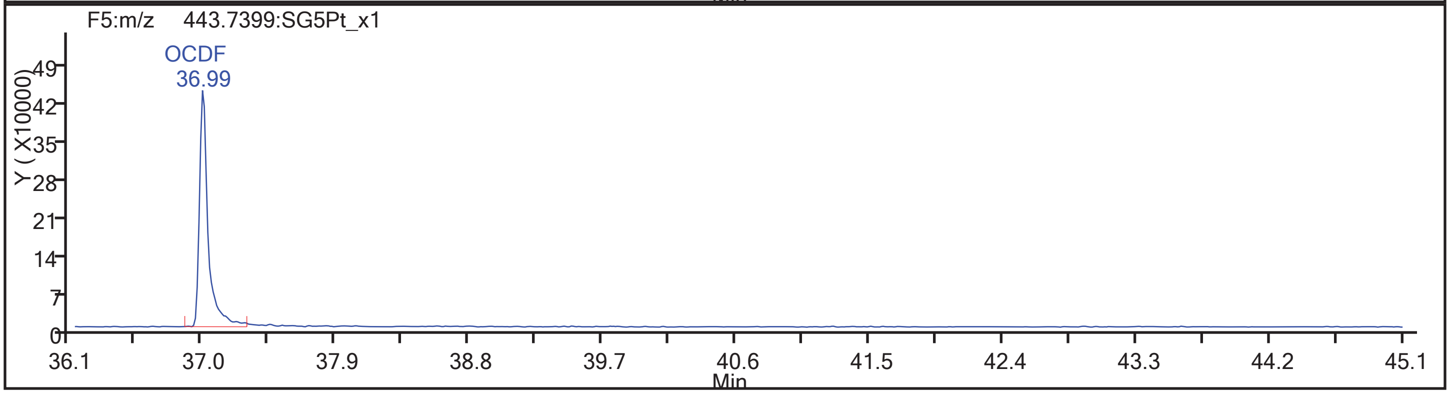
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d

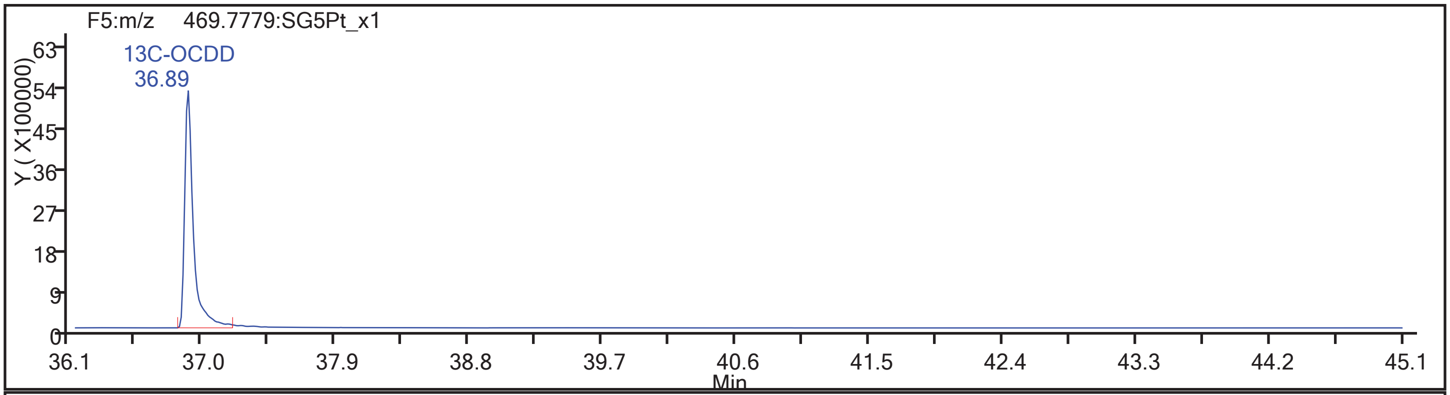
Injection Date: 11-Nov-2017 07:38:25
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS03NS
Worklist#: 194084
Sample Line#: 60
Column Type: DB-5
Column Dia: 0.32 mm

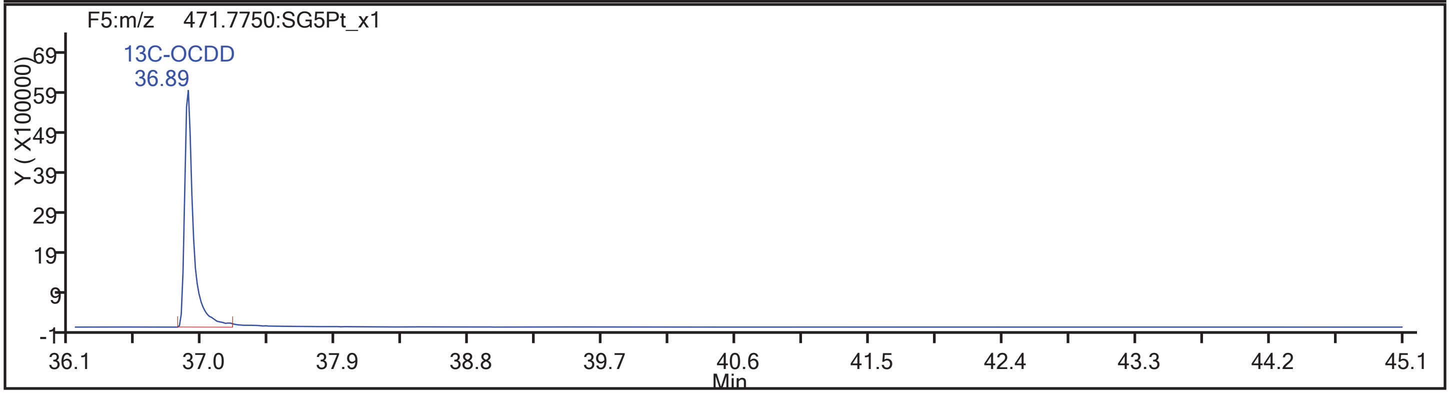
OCDF





OCDF Standards

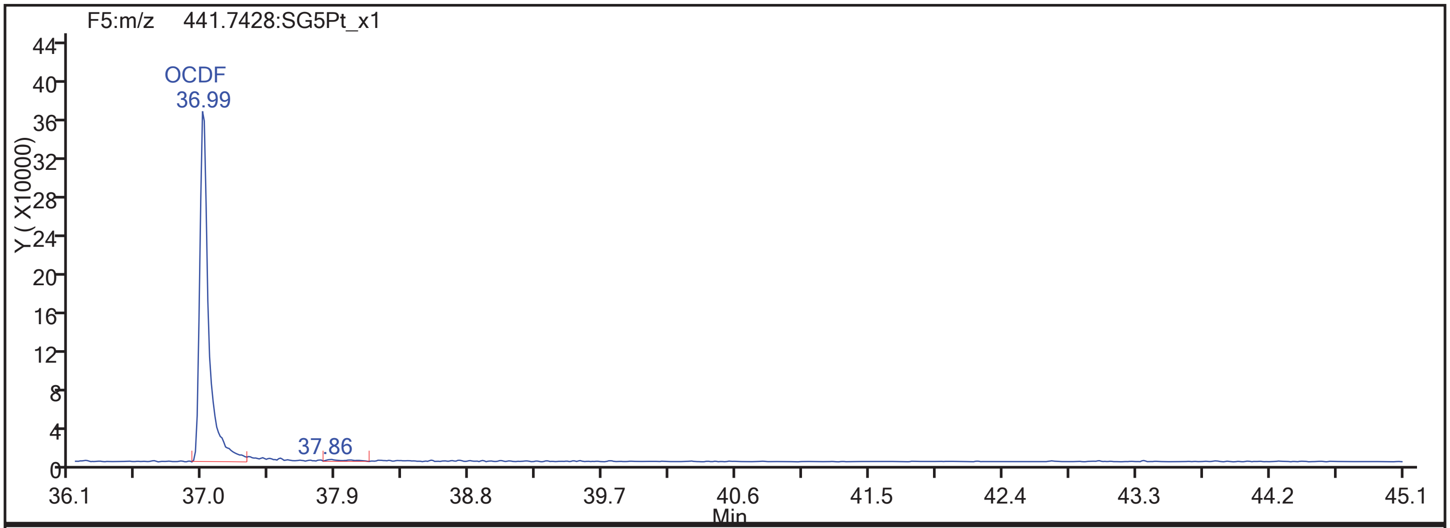


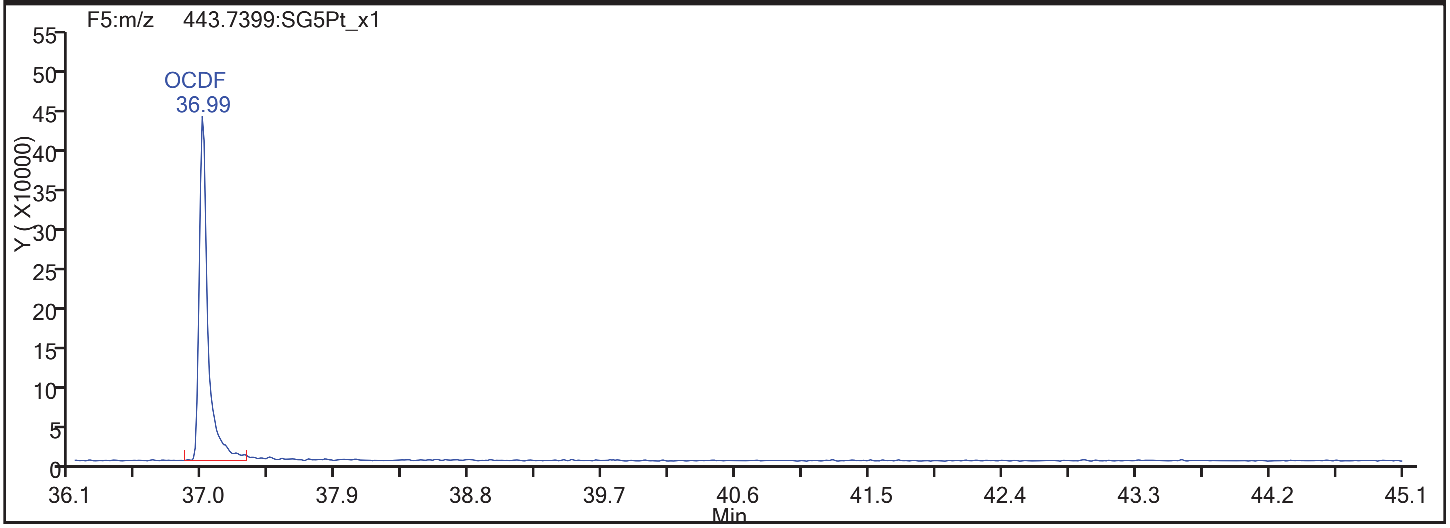


TestAmerica Sacramento

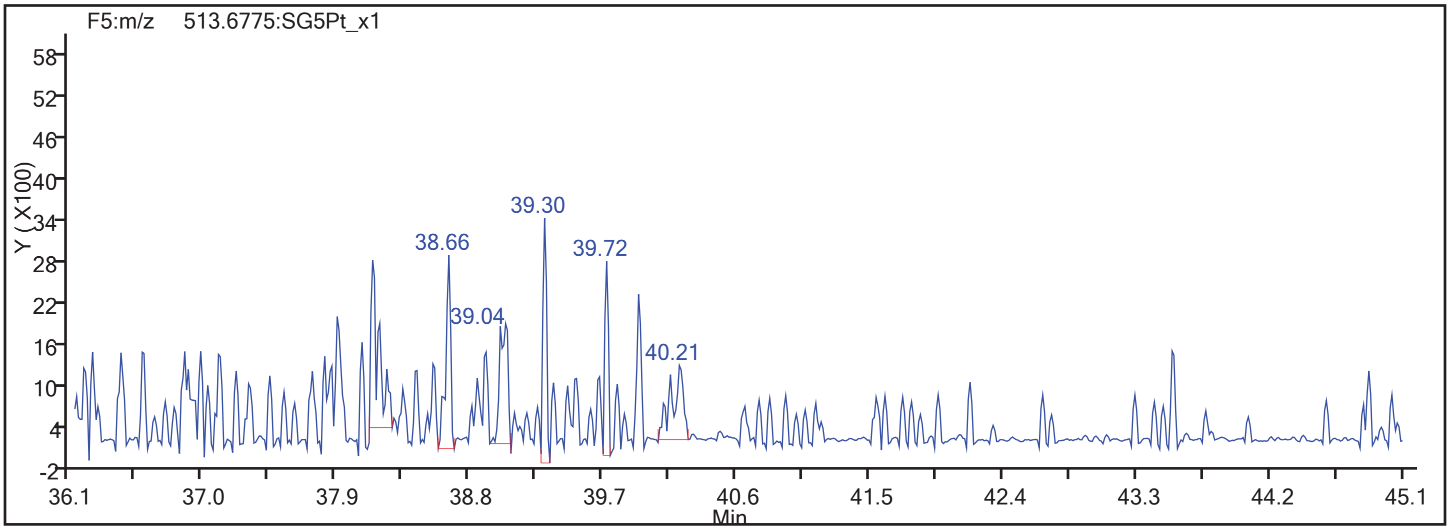
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d
Injection Date: 11-Nov-2017 07:38:25
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS03NS
Worklist#: 194084
Sample Line#: 60
Column Type: DB-5
Column Dia: 0.32 mm

OCDF





OCDF Interference Mass

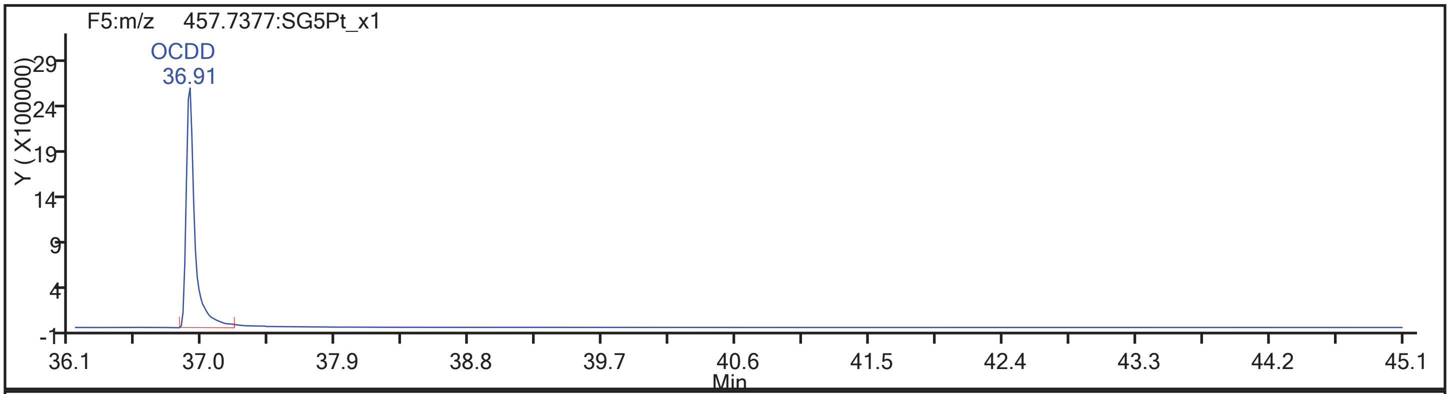


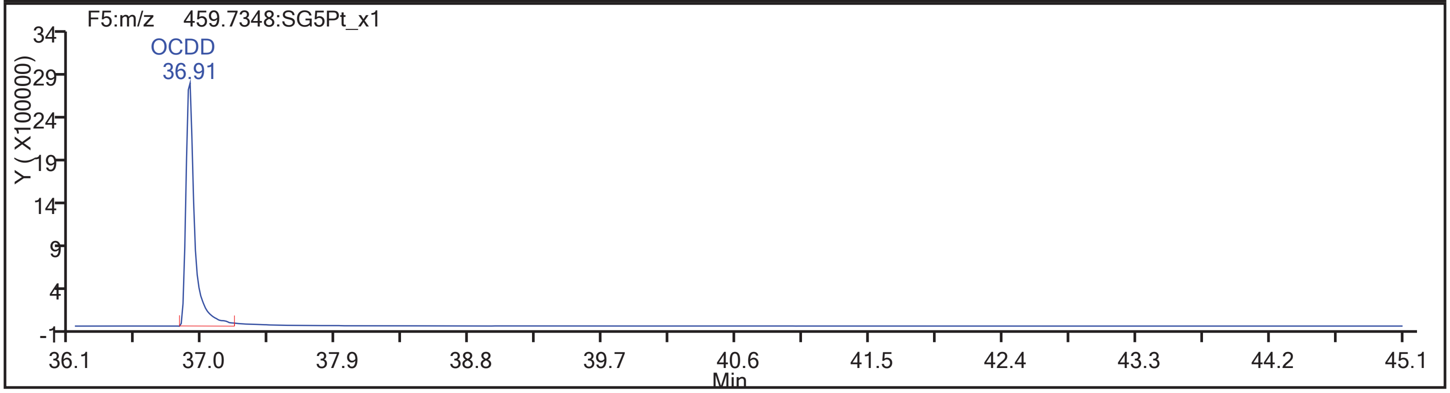
Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

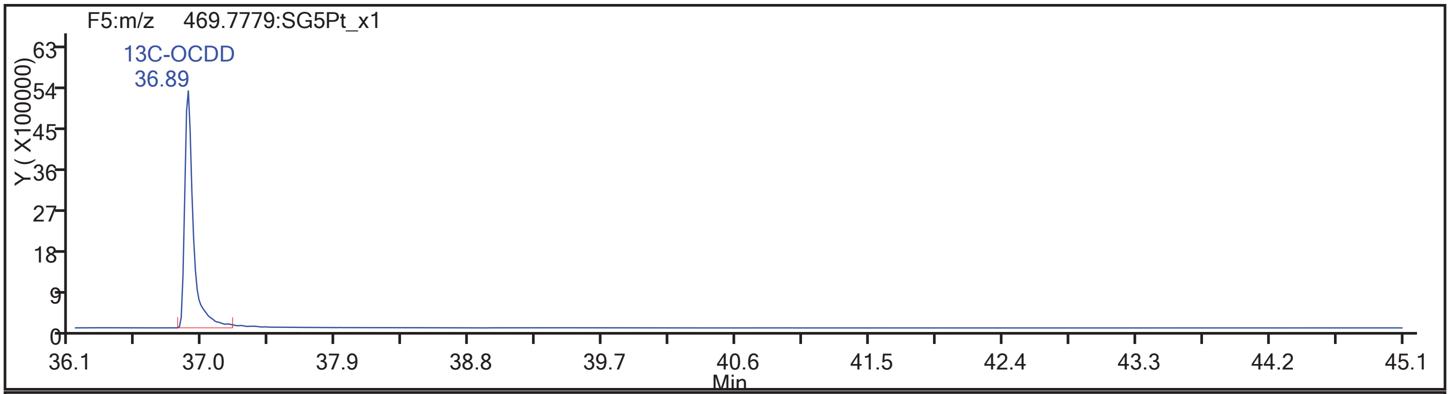
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d		
Injection Date:	11-Nov-2017 07:38:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	194084	Sample Line#:	60
Column Type:	DB-5	Column Dia:	0.32 mm

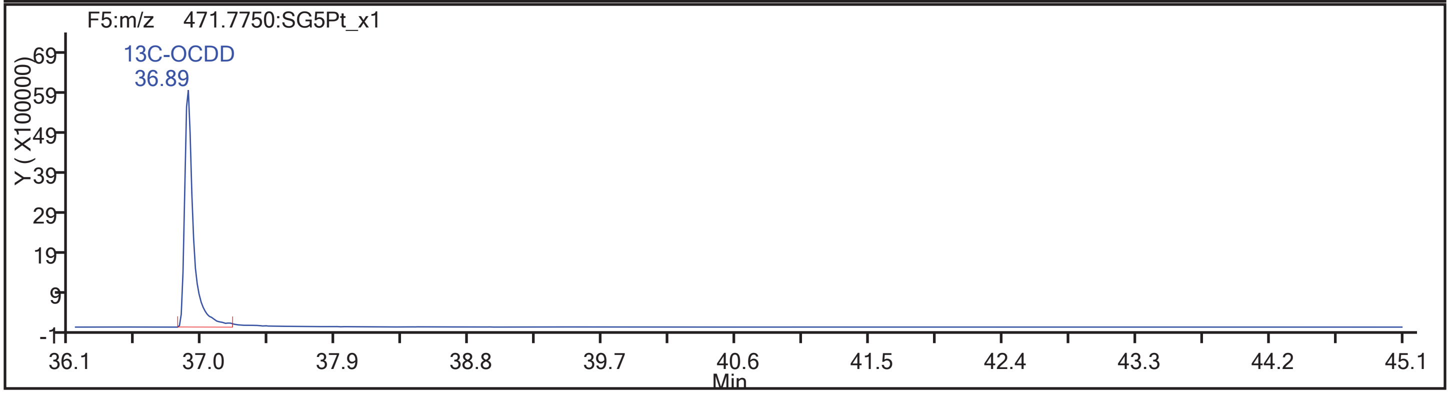
OCDD





OCDD Standards

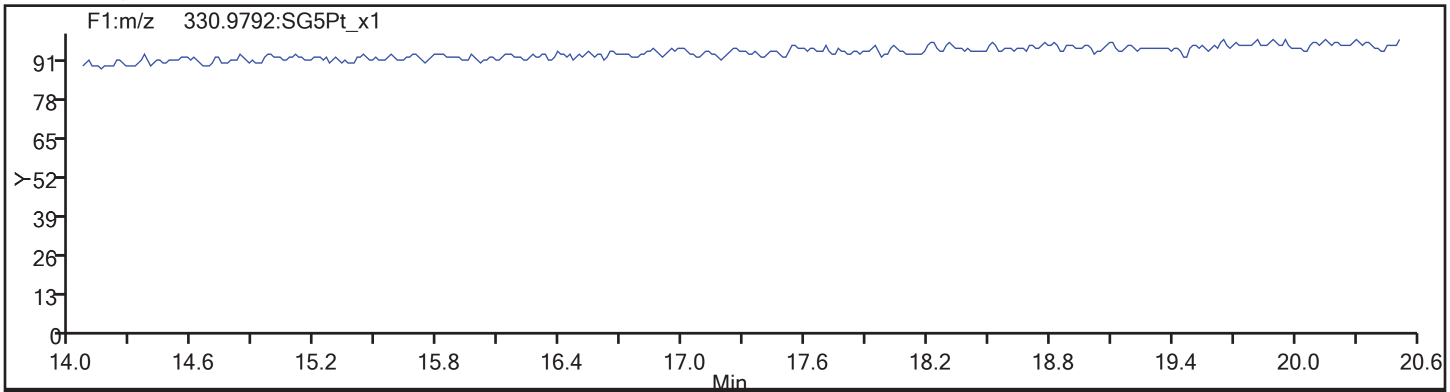


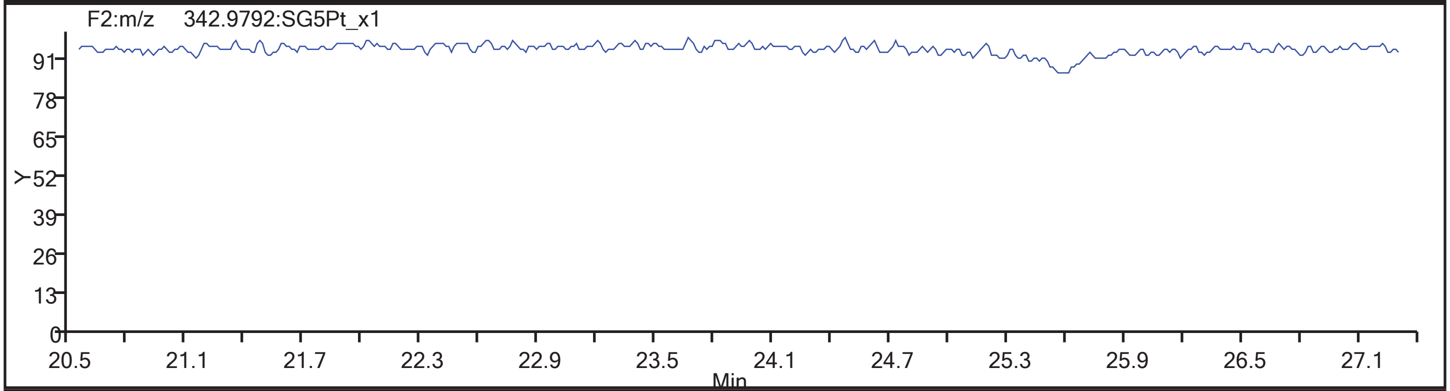


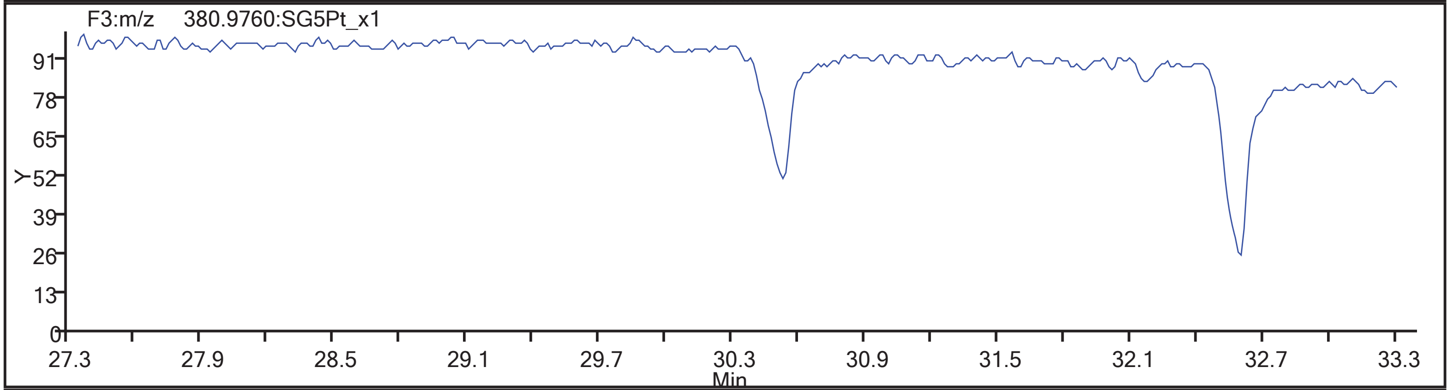
Report Date: 13-Nov-2017 11:13:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

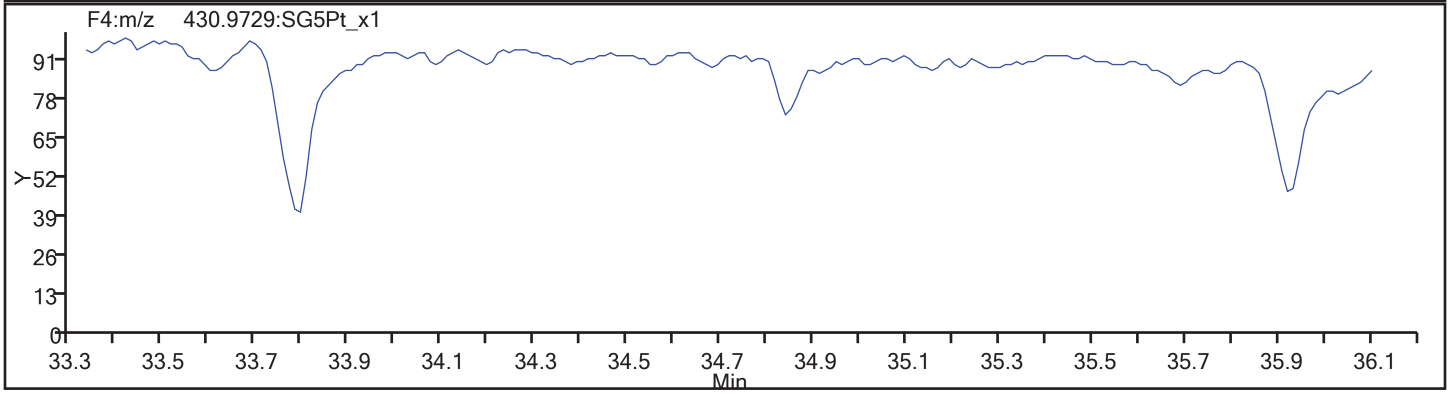
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d
Injection Date: 11-Nov-2017 07:38:25 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS03NS
Worklist#: 194084 Sample Line#: 60
Column Type: DB-5 Column Dia: 0.32 mm





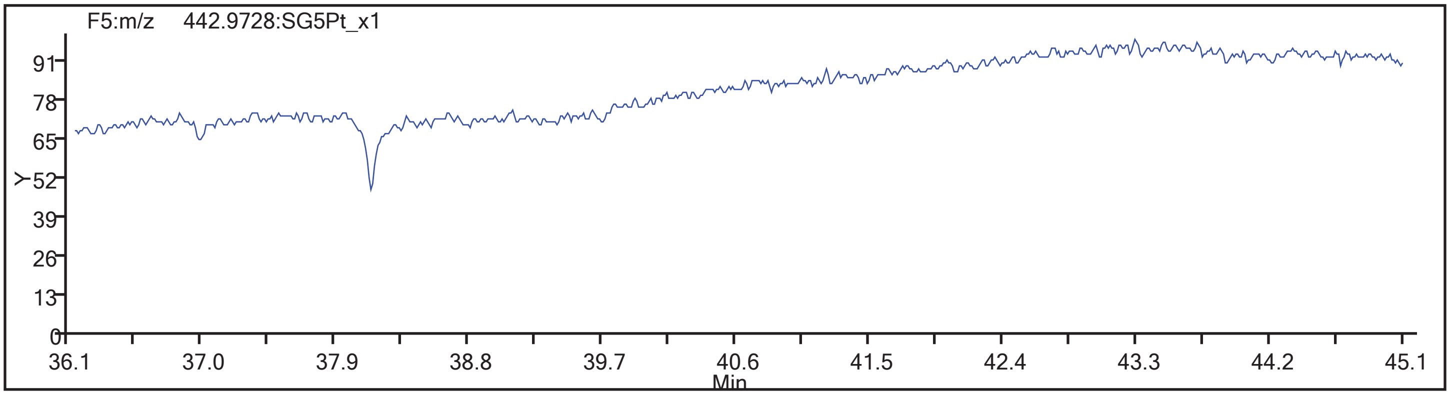




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_60.d

Injection Date:	11-Nov-2017 07:38:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	194084	Sample Line#:	60
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP026SS03NS RE

Lab Sample ID: 160-24924-2 RE

Matrix: Solid

Lab File ID: 16NO173D5_61.d

Analysis Method: 8290A

Date Collected: 10/05/2017 16:11

Extract. Method: 8290

Date Extracted: 11/16/2017 11:16

Sample wt/vol: 10.03(g)

Date Analyzed: 11/18/2017 18:39

Con. Extract Vol.: 20.0(uL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 12.1

GPC Cleanup:(Y/N) N

Analysis Batch No.: 195573

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.99*	*J H*	*1.1*	0.45	*0.16*
40321-76-4	*1,2,3,7,8-PeCDD*	*4.9*	*J H M*	*5.7*	0.85	*0.37*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.93*	*J H M*	*5.7*	0.85	*0.30*
57117-31-4	*2,3,4,7,8-PeCDF*	*1.5*	*J H*	*5.7*	0.85	*0.31*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*2.0*	*J H*	*5.7*	2.3	*0.53*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*44*	*H*	*5.7*	2.3	*0.48*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*23*	*H*	*5.7*	2.3	*0.46*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*3.7*	*J H*	*5.7*	0.85	*0.34*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*2.7*	*J H*	*5.7*	1.1	*0.31*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.1*	*U H*	*5.7*	1.1	*0.35*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*2.0*	*J H*	*5.7*	0.85	*0.33*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*130*	*H*	*5.7*	1.1	*1.8*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*33*	*H*	*5.7*	1.1	*0.53*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.3*	*U H*	*5.7*	2.3	*0.69*
3268-87-9	*OCDD*	*220*	*H B*	*11*	4.5	*0.28*
39001-02-0	*OCDF*	*26*	*H*	*11*	4.5	*0.12*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	66		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	65		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	64		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	61		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	60		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	64		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	57		40-135
114423-97-1	13C-OCDD	61		40-135

Report Date: 06-Dec-2017 14:06:13 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d
Lims ID: 160-24924-G-2-B
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 18-Nov-2017 18:39:20 ALS Bottle#: 41 Worklist Smp#: 61
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-2-B 160-24924-G-2-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:06:12 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:23:13

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	170980695	0.84	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.735	167300070	0.79	1.5089	64.8	64.8	0.1938	0.1938	64.85	
2,3,7,8-TCDF	17.780	2679309	0.70	1.0971	1.460	1.460	0.0925	0.0925		
A Non-2,3,7,8-sub-TCDF	17.402	14733837	0.78	1.0971	8.027	8.027	0.0925	1.552		M
S Total TCDF					9.487	9.487	0.0925	0.0925		
D 13C-2,3,7,8-TCDD	18.461	112226268	0.86	0.9906	66.3	66.3	0.1556	0.1556	66.26	
2,3,7,8-TCDD	18.461	567737	0.79	1.1645	0.4344	0.4344	0.0688	0.0688		
A Non-2,3,7,8-sub-TCDD	17.871	9700141	0.77	1.1645	7.702	7.423	0.0688	1.857		RQ
S Total TCDD					8.137	7.857	0.0688	0.0688		RQ
D 13C-1,2,3,7,8-PeCDF	22.910	122839248	1.62	1.1280	63.7	63.7	0.2066	0.2066	63.69	
1,2,3,7,8-PeCDF	22.924	574805	1.51	1.1422	0.4097	0.4097	0.1338	0.1338		M
2,3,4,7,8-PeCDF	24.315	880371	1.48	1.1102	0.6455	0.6455	0.1377	0.1377		
A F1 PeCDFs	20.426	3170939	1.43	1.1262	2.292	2.292	0.0362	2.292		
A Non-2,3,7,8-sub-PeCDF	23.668	7224846	1.55	1.1262	5.524	5.222	0.1357	2.367		RQM
S Total PeCDF					8.872	8.570	0.1357	0.1357		RQ
D 13C-1,2,3,7,8-PeCDD	25.037	80440692	1.65	0.7269	64.7	64.7	0.0944	0.0944	64.73	
1,2,3,7,8-PeCDD	25.065	1958088	1.59	1.1272	2.159	2.159	0.1619	0.1619		M
A Non-2,3,7,8-sub-PeCDD	23.878	22361710	1.49	1.1272	24.7	24.7	0.1619	6.792		M
S Total PeCDD					26.8	26.8	0.1619	0.1619		
D 13C-1,2,3,4,7,8-HxCDF	30.932	90889684	0.50	1.0279	59.7	59.7	0.2656	0.2656	59.73	
1,2,3,4,7,8-HxCDF	30.906	1998699	1.27	1.3475	1.632	1.632	0.1491	0.1491		
1,2,3,6,7,8-HxCDF	31.119	1580706	1.24	1.4794	1.176	1.176	0.1358	0.1358		
2,3,4,6,7,8-HxCDF	31.851	1094218	1.15	1.3833	0.8703	0.8703	0.1452	0.1452		
D 13C-1,2,3,7,8,9-HxCDF	32.597	96722611	0.53							
1,2,3,7,8,9-HxCDF	32.597						0.1557	0.1557		
A Non-2,3,7,8-sub-HxCDF	30.653	20610422	1.28	1.3751	16.5	16.5	0.1461	9.320		M
S Total HxCDF					20.2	20.2	0.1465	0.1465		
* 13C-1,2,3,7,8,9-HxCDD	32.424	148027693	1.29	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.024	711058	1.24	1.0646	0.9893	0.8702	0.2355	0.2355		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.104	76749231	1.30	0.8502	61.0	61.0	0.2286	0.2286	60.99	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.117	17721365	1.32	1.1809	19.6	19.6	0.2123	0.2123		
1,2,3,7,8,9-HxCDD	32.437	9537852	1.23	1.2311	10.1	10.1	0.2036	0.2036		
A Non-2,3,7,8-sub-HxCDD	31.252	97865911	1.25	1.1589	110.0	110.0	0.2163	78.7		
S Total HxCDD					140.7	140.6	0.2171	0.2171		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	55061247	0.43	0.6490	57.3	57.3	0.5827	0.5827	57.32	
1,2,3,4,6,7,8-HpCDF	34.022	12875093	1.08	1.5871	14.7	14.7	0.2348	0.2348		
1,2,3,4,7,8,9-HpCDF	35.128						0.3032	0.3032		
A Non-2,3,7,8-sub-HpCDF	34.569	19803615	1.09	1.4080	25.5	25.5	0.2646	25.5		M
S Total HpCDF					40.3	40.3	0.2690	0.2690		
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	51117860	1.06	0.5387	64.1	64.1	0.3691	0.3691	64.11	
1,2,3,4,6,7,8-HpCDD	34.836	34512870	1.07	1.1631	58.0	58.0	0.8066	0.8066		
A Non-2,3,7,8-sub-HpCDD	35.261	56911559	1.05	1.1631	95.7	95.7	0.8066	95.7		
S Total HpCDD					153.8	153.8	0.8066	0.8066		
D 13C-OCDD	37.257	72164906	0.90	0.4009	121.6	121.6	0.1659	0.1659	60.80	
OCDF	37.365	5175132	0.89	1.2649	11.3	11.3	0.0522	0.0522		
OCDD	37.269	36934272	0.92	1.0390	98.5	98.5	0.1236	0.1236		

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d
Lims ID: 160-24924-G-2-B
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 18-Nov-2017 18:39:20 ALS Bottle#: 41 Worklist Smp#: 61
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-2-B 160-24924-G-2-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:06:12 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:23:13

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		77824407	18266904	13377	33442	1366		
333.9339	18.249	18.234	1		93156288	22041006	11482	28705	1920	0.84(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.735	17.705	2	0.972	73965953	17016691	25675	64187	663		
317.9389	17.720	17.705	1	0.971	93334117	21732859	21463	53657	1013	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.780	17.720	4	1.003	1098737	207127	7336	18340	28		
305.8987	17.765	17.720	3	1.002	1580572	323411	8393	20982	39	0.70(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											M
303.9016	15.240	17.402	-129	0.859	312227	88218	7336	18340	12		
305.8987	15.240	17.402	-129	0.859	392946	122234	8393	20982	15	0.79(0.65-0.89)	
303.9016	15.588	17.402	-109	0.879	362862	108790	7336	18340	15		
305.8987	15.588	17.402	-109	0.879	444838	130975	8393	20982	16	0.82(0.65-0.89)	
303.9016	15.754	17.402	-99	0.888	541742	129117	7336	18340	18		
305.8987	15.769	17.402	-98	0.889	707447	202054	8393	20982	24	0.77(0.65-0.89)	
303.9016	16.011	17.402	-83	0.903	1212018	186694	7336	18340	25		
305.8987	16.011	17.402	-83	0.903	1637427	250597	8393	20982	30	0.74(0.65-0.89)	M
303.9016	16.253	17.402	-69	0.916	565243	94803	7336	18340	13		
305.8987	16.283	17.402	-67	0.918	771929	107498	8393	20982	13	0.73(0.65-0.89)	
303.9016	16.570	17.402	-50	0.934	445371	100238	7336	18340	14		M
305.8987	16.570	17.402	-50	0.934	544139	132454	8393	20982	16	0.82(0.65-0.89)	M
303.9016	16.813	17.402	-35	0.948	718280	155938	7336	18340	21		
305.8987	16.813	17.402	-35	0.948	877586	194662	8393	20982	23	0.82(0.65-0.89)	M

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.024	17.402	-23	0.960	973692	116312	7336	18340	16		M
305.8987	17.024	17.402	-23	0.960	1265004	151267	8393	20982	18	0.77(0.65-0.89)	
303.9016	17.584	17.402	11	0.991	310103	69616	7336	18340	9		
305.8987	17.584	17.402	11	0.991	424106	85128	8393	20982	10	0.73(0.65-0.89)	
303.9016	18.188	17.402	47	1.026	616791	157883	7336	18340	22		
305.8987	18.188	17.402	47	1.026	769374	182359	8393	20982	22	0.80(0.65-0.89)	
303.9016	18.400	17.402	60	1.038	387138	80545	7336	18340	11		
305.8987	18.415	17.402	61	1.038	453574	101289	8393	20982	12	0.85(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.461	18.430	2	1.012	51839633	11763039	13377	33442	879		
333.9339	18.461	18.430	2	1.012	60386635	13355493	11482	28705	1163	0.86(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461	18.461	0	1.000	250311	59703	3142	7855	19		
321.8936	18.476	18.461	1	1.001	317426	79015	4908	12270	16	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	16.177	17.871	-101	0.876	648313	175221	3142	7855	56		
321.8936	16.177	17.871	-101	0.876	795442	210240	4908	12270	43	0.82(0.65-0.89)	
319.8965	16.480	17.871	-83	0.893	305956	76512	3142	7855	24		
321.8936	16.480	17.871	-83	0.893	357559	99465	4908	12270	20	0.86(0.65-0.89)	
319.8965	16.737	17.871	-68	0.907	262905	67215	3142	7855	21		
321.8936	16.722	17.871	-69	0.906	323150	88040	4908	12270	18	0.81(0.65-0.89)	
319.8965	17.312	17.871	-33	0.938	1125057	232989	3142	7855	74		
321.8936	17.312	17.871	-33	0.938	1301513	279765	4908	12270	57	0.86(0.65-0.89)	
319.8965	17.629	17.871	-14	0.955	731655	57749	3142	7855	18		
	Empc Correction				539735	47465	3142	7855	15		
321.8936	17.553	17.871	-19	0.951	700955	61643	4908	12270	13	1.04(0.65-0.89)	
319.8965	17.947	17.871	5	0.972	214081	45191	3142	7855	14		
	Empc Correction				176992	47362	3142	7855	15		
321.8936	17.947	17.871	5	0.972	229861	61510	4908	12270	13	0.93(0.65-0.89)	
319.8965	18.219	17.871	21	0.987	283305	60144	3142	7855	19		
321.8936	18.234	17.871	22	0.988	415892	78849	4908	12270	16	0.68(0.65-0.89)	
319.8965	18.370	17.871	30	0.995	302002	76532	3142	7855	24		
321.8936	18.370	17.871	30	0.995	355185	70455	4908	12270	14	0.85(0.65-0.89)	
319.8965	18.642	17.871	46	1.010	105525	25615	3142	7855	8		
	Empc Correction				71616	19805	3142	7855	6		
321.8936	18.642	17.871	46	1.010	93009	25722	4908	12270	5	1.13(0.65-0.89)	
319.8965	18.854	17.871	59	1.021	424452	90939	3142	7855	29		
321.8936	18.854	17.871	59	1.021	507618	108788	4908	12270	22	0.84(0.65-0.89)	
319.8965	19.096	17.871	73	1.034	96919	18111	3142	7855	6		
	Empc Correction				71033	19263	3142	7855	6		
321.8936	19.111	17.871	74	1.035	92251	25017	4908	12270	5	1.05(0.65-0.89)	
319.8965	19.625	17.871	105	1.063	137617	27911	3142	7855	9		
321.8936	19.610	17.871	104	1.062	255031	50199	4908	12270	10	0.54(0.65-0.89)	
	Empc Correction				178723	36248	4908	12270	7		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.910	22.883	2	1.255	75865086	12774479	22891	57227	558		
353.8970	22.896	22.883	1	1.255	46974162	8059515	14693	36732	549	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	22.924	22.910	1	1.001	345538	61371	8251	20627	7		M
341.8567	22.910	22.910	0	1.000	229267	33326	4487	11217	7	1.51(1.32-1.78)	M
2,3,4,7,8-PeCDF											
339.8597	24.315	24.301	1	1.061	524736	84606	8251	20627	10		
341.8567	24.315	24.301	1	1.061	355635	53510	4487	11217	12	1.48(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.927	20.426	-30	0.870	1864677	363730	1676	4190	217		
341.8567	19.927	20.426	-30	0.870	1306262	232097	1725	4312	135	1.43(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQM
339.8597	21.301	23.668	-142	0.930	135517	35879	8251	20627	4		
341.8567	21.328	23.668	-140	0.931	131536	31156	4487	11217	7	1.03(1.32-1.78)	
	Empc Correction				87430	23147	4487	11217	5		
339.8597	21.519	23.668	-129	0.939	1990219	289126	8251	20627	35		
341.8567	21.519	23.668	-129	0.939	1553244	211263	4487	11217	47	1.28(1.32-1.78)	
	Empc Correction				1284012	186532	4487	11217	42		
339.8597	21.778	23.668	-113	0.951	334742	62375	8251	20627	8		
341.8567	21.778	23.668	-113	0.951	292203	50238	4487	11217	11	1.15(1.32-1.78)	
	Empc Correction				215962	40241	4487	11217	9		
339.8597	22.460	23.668	-72	0.980	1207080	115265	8251	20627	14		
341.8567	22.433	23.668	-74	0.979	825588	76199	4487	11217	17	1.46(1.32-1.78)	
339.8597	22.787	23.668	-53	0.995	160425	30770	8251	20627	4		M
341.8567	22.801	23.668	-52	0.995	131733	21728	4487	11217	5	1.22(1.32-1.78)	
	Empc Correction				103500	19851	4487	11217	4		
339.8597	24.315	23.668	39	1.061	524736	84606	8251	20627	10		a
341.8567	24.315	23.668	39	1.061	355635	53510	4487	11217	12	1.48(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.037	25.010	2	1.372	50108896	7358384	5647	14117	1303		
369.8919	25.024	25.010	1	1.371	30331796	4429002	5417	13542	818	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											M
355.8546	25.065	25.037	2	1.001	1202054	191518	4117	10292	47		
357.8516	25.051	25.037	1	1.001	756034	118627	4489	11222	26	1.59(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDD											M
355.8546	21.737	23.878	-128	0.868	3518024	577865	4117	10292	140		
357.8516	21.737	23.878	-128	0.868	2640317	432895	4489	11222	96	1.33(1.32-1.78)	
355.8546	22.514	23.878	-82	0.899	1212487	206660	4117	10292	50		
357.8516	22.501	23.878	-82	0.899	804751	121965	4489	11222	27	1.51(1.32-1.78)	
355.8546	22.951	23.878	-56	0.917	1545096	259411	4117	10292	63		
357.8516	22.951	23.878	-56	0.917	961065	143290	4489	11222	32	1.61(1.32-1.78)	
355.8546	23.210	23.878	-40	0.927	1835649	295259	4117	10292	72		
357.8516	23.224	23.878	-39	0.928	1218025	194386	4489	11222	43	1.51(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
355.8546	23.537	23.878	-20	0.940	768402	129115	4117	10292	31		
357.8516	23.524	23.878	-21	0.940	515319	91914	4489	11222	20	1.49(1.32-1.78)	
355.8546	23.851	23.878	-2	0.953	631740	106446	4117	10292	26		
357.8516	23.851	23.878	-2	0.953	381631	64029	4489	11222	14	1.66(1.32-1.78)	
355.8546	24.028	23.878	9	0.960	2206517	285726	4117	10292	69		M
357.8516	24.028	23.878	9	0.960	1441868	187902	4489	11222	42	1.53(1.32-1.78)	
355.8546	25.378	23.878	90	1.014	846440	116828	4117	10292	28		
357.8516	25.392	23.878	91	1.014	530099	76023	4489	11222	17	1.60(1.32-1.78)	M
355.8546	26.074	23.878	131	1.041	829453	105355	4117	10292	26		
357.8516	26.074	23.878	131	1.041	474827	62431	4489	11222	14	1.75(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.932	30.919	1	0.954	30342932	6786569	15541	38852	437		
385.8610	30.932	30.919	1	0.954	60546752	13396186	27968	69920	479	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.906	30.932	-2	0.999	1118524	162787	10107	25267	16		
375.8178	30.906	30.932	-2	0.999	880175	133074	6114	15285	22	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDF											
373.8208	31.119	31.092	2	1.006	876033	192607	10107	25267	19		
375.8178	31.105	31.092	1	1.006	704673	170559	6114	15285	28	1.24(1.05-1.43)	
2,3,4,6,7,8-HxCDF											
373.8208	31.851	31.838	1	1.030	584693	145438	10107	25267	14		
375.8178	31.851	31.838	1	1.030	509525	132942	6114	15285	22	1.15(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.005	33390913	9031945	15541	38852	581		
385.8610	32.597	32.583	1	1.005	63331698	17522300	27968	69920	627	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						10107	25267			
375.8178	32.597						6114	15285			
A Non-2,3,7,8-sub-HxCDF											M
373.8208	28.695	30.653	-117	0.928	922724	111995	10107	25267	11		
375.8178	28.682	30.653	-118	0.927	692804	94909	6114	15285	16	1.33(1.05-1.43)	
373.8208	29.095	30.653	-93	0.941	4125080	490670	10107	25267	49		
375.8178	29.081	30.653	-94	0.940	3220671	371793	6114	15285	61	1.28(1.05-1.43)	
373.8208	30.267	30.653	-23	0.978	6522544	1086114	10107	25267	107		
375.8178	30.267	30.653	-23	0.978	5126599	850751	6114	15285	139	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.424	32.410	1		83470066	22594895	16799	41997	1345		
403.8529	32.424	32.410	1		64557627	17249664	14176	35440	1217	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	32.024	32.011	1	0.998	490931	150086	11548	28870	13		
	Empc Correction				393621	125165	11548	28870	11		
391.8127	32.024	32.011	1	0.998	317437	100940	8334	20835	12	1.55(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.990	43368062	11224709	16799	41997	668		
403.8529	32.104	32.091	1	0.990	33381169	8601617	14176	35440	607	1.30(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8157	32.117	32.117	0	1.000	10080586	2666829	11548	28870	231		
391.8127	32.117	32.117	0	1.000	7640779	2024931	8334	20835	243	1.32(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.437	32.424	1	1.010	5264844	1243644	11548	28870	108		
391.8127	32.437	32.424	1	1.010	4273008	969136	8334	20835	116	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.160	31.252	-65	0.939	12310995	1912765	11548	28870	166		
391.8127	30.160	31.252	-65	0.939	9936344	1634487	8334	20835	196	1.24(1.05-1.43)	
389.8157	30.999	31.252	-15	0.966	3261395	703086	11548	28870	61		
391.8127	30.999	31.252	-15	0.966	2402608	508871	8334	20835	61	1.36(1.05-1.43)	
389.8157	31.332	31.252	5	0.976	38746884	8431306	11548	28870	730		
391.8127	31.332	31.252	5	0.976	31207685	6694366	8334	20835	803	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	16625483	5538669	18033	45082	307		
419.8220	34.010	33.998	1	1.049	38435764	12645615	42236	105590	299	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.010	1	1.000	6680128	2177982	14584	36460	149		
409.7789	34.022	34.010	1	1.000	6194965	2025526	12518	31295	162	1.08(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						14584	36460			
409.7789	35.128						12518	31295			
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.326	34.569	-15	1.009	10335262	3435235	14584	36460	236		M
409.7789	34.326	34.569	-15	1.009	9468353	3114288	12518	31295	249	1.09(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.812	1	1.074	26342619	7954541	18189	45472	437		
437.8140	34.824	34.812	1	1.074	24775241	7528331	13503	33757	558	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.000	17853914	5334652	25430	63575	210		
425.7737	34.836	34.824	1	1.000	16658956	5202992	32672	81680	159	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.277	35.261	-59	0.984	29180375	9216731	25430	63575	362		a
425.7737	34.265	35.261	-60	0.984	27731184	8750186	32672	81680	268	1.05(0.88-1.20)	
13C-OCDD											
469.7779	37.257	37.245	1	1.149	34091751	9357297	5217	13042	1794		
471.7750	37.257	37.245	1	1.149	38073155	10358630	5386	13465	1923	0.90(0.76-1.02)	
OCDF											
441.7428	37.365	37.353	1	1.003	2438283	631165	1003	2507	629		
443.7399	37.365	37.353	1	1.003	2736849	752413	1600	4000	470	0.89(0.76-1.02)	
OCDD											
457.7377	37.269	37.257	1	1.000	17743585	4920527	2289	5722	2150		
459.7348	37.269	37.257	1	1.000	19190687	5064238	2775	6937	1825	0.92(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Lims ID:	160-24924-G-2-B		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	18-Nov-2017 18:39:20	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	61

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	167300070	38749550

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	167300070	38749550

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.240	312227	88218	392946	122234	0.3842	0.79	
15.588	362862	108790	444838	130975	0.4401	0.82	
15.754	541742	129117	707447	202054	0.6806	0.77	
16.011	1212018	186694	1637427	250597	1.55	0.74	M
16.253	565243	94803	771929	107498	0.7285	0.73	
16.570	445371	100238	544139	132454	0.5391	0.82	M
16.813	718280	155938	877586	194662	0.8695	0.82	M
17.024	973692	116312	1265004	151267	1.22	0.77	M
17.584	310103	69616	424106	85128	0.4000	0.73	
18.188	616791	157883	769374	182359	0.7552	0.80	
18.400	387138	80545	453574	101289	0.4580	0.85	
Signal Totals:							
	6445467	1288154	8288370	1660517			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	14733837	2948671				0.78	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 8.027 = (14733837 * 100.000) / (167300070 * 1.097)

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 06-Dec-2017 14:06:13 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Lims ID:	160-24924-G-2-B		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	18-Nov-2017 18:39:20	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	61

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	112226268	25118532

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	112226268	25118532

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.177	648313	175221	795442	210240	1.10	0.82	
16.480	305956	76512	357559	99465	0.5077	0.86	
16.737	262905	67215	323150	88040	0.4485	0.81	
17.312	1125057	232989	1301513	279765	1.86	0.86	
17.629	731655	57749	700955	61643	1.10	1.04	RQ
17.629	539735	47465	700955	61643	0.9494		Empc Correction
17.947	214081	45191	229861	61510	0.3397	0.93	RQ
17.947	176992	47362	229861	61510	0.3113		Empc Correction
18.219	283305	60144	415892	78849	0.5350	0.68	
18.370	302002	76532	355185	70455	0.5029	0.85	
18.642	105525	25615	93009	25722	0.1519	1.13	RQ
18.642	71616	19805	93009	25722	0.1260		Empc Correction
18.854	424452	90939	507618	108788	0.7132	0.84	
19.096	96919	18111	92251	25017	0.1448	1.05	RQ
19.096	71033	19263	92251	25017	0.1249		Empc Correction
19.625	137617	27911	255031	50199	0.3005	0.54	RQ
19.625	137617	27911	178723	36248	0.2421		Empc Correction
Signal Totals:							
	4348983	941358	5351158	1145742			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10065253	2113822				0.85	RQ
	9700141	2087100					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 7.702 = (10065253 * 100.000) / (112226268 * 1.164)

Empc Amount: 7.423 = (9700141 * 100.000) / (112226268 * 1.164)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Lims ID:	160-24924-G-2-B		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	18-Nov-2017 18:39:20	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	61

F1 PeCDFs, RT: 20.426

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	122839248	20833994
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	122839248	20833994

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.927	1864677	363730	1306262	232097	2.29	1.43	
Signal Totals:							
	1864677	363730	1306262	232097			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3170939	595827				1.43	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.292 = (3170939 * 100.000) / (122839248 * 1.126)

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Lims ID:	160-24924-G-2-B		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	18-Nov-2017 18:39:20	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	61

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	122839248	20833994
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	122839248	20833994

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.301	135517	35879	131536	31156	0.1930	1.03	RQ
21.301	135517	35879	87430	23147	0.1612		Empc Correction
21.519	1990219	289126	1553244	211263	2.56	1.28	RQ
21.519	1990219	289126	1284012	186532	2.37		Empc Correction
21.778	334742	62375	292203	50238	0.4532	1.15	RQ
21.778	334742	62375	215962	40241	0.3981		Empc Correction
22.460	1207080	115265	825588	76199	1.47	1.46	
22.787	160425	30770	131733	21728	0.2112	1.22	RQM
22.787	160425	30770	103500	19851	0.1908		Empc Correction
24.315	524736	84606	355635	53510	0.6364	1.48	
Signal Totals:							
	4352719	618021	2872127	399480			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7642658	1062115				1.32	RQM
	7224846	1017501					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 5.524 = (7642658 * 100.000) / (122839248 * 1.126)

Empc Amount: 5.222 = (7224846 * 100.000) / (122839248 * 1.126)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d
Lims ID: 160-24924-G-2-B
Client ID: SHAD041DP026SS03NS
Inject. Date: 18-Nov-2017 18:39:20
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195573
Lims Sample ID: 61

Non-2,3,7,8-sub-PeCDD, RT: 23.878

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.127	D 13C-1,2,3,7,8-PeCDD	100.000	80440692	11787386

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.127		100.000	80440692	11787386

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.737	3518024	577865	2640317	432895	6.79	1.33	
22.514	1212487	206660	804751	121965	2.22	1.51	
22.951	1545096	259411	961065	143290	2.76	1.61	
23.210	1835649	295259	1218025	194386	3.37	1.51	
23.537	768402	129115	515319	91914	1.42	1.49	
23.851	631740	106446	381631	64029	1.12	1.66	
24.028	2206517	285726	1441868	187902	4.02	1.53	M
25.378	846440	116828	530099	76023	1.52	1.60	M
26.074	829453	105355	474827	62431	1.44	1.75	
Signal Totals:							
	13393808	2082665	8967902	1374835			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	22361710	3457500				1.49	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 24.662 = (22361710 * 100.000) / (80440692 * 1.127)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Lims ID:	160-24924-G-2-B		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	18-Nov-2017 18:39:20	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	61

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	90889684	20182755
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	90889684	20182755

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.695	922724	111995	692804	94909	1.29	1.33	
29.095	4125080	490670	3220671	371793	5.88	1.28	
30.267	6522544	1086114	5126599	850751	9.32	1.27	
Signal Totals:							
	11570348	1688779	9040074	1317453			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	20610422	3006232				1.28	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 16.490 = (20610422 * 100.000) / (90889684 * 1.375)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Lims ID:	160-24924-G-2-B		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	18-Nov-2017 18:39:20	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	61

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	76749231	19826326
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	76749231	19826326

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.160	12310995	1912765	9936344	1634487	25.0	1.24	
30.999	3261395	703086	2402608	508871	6.37	1.36	
31.332	38746884	8431306	31207685	6694366	78.7	1.24	
Signal Totals:							
	54319274	11047157	43546637	8837724			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	97865911	19884881				1.25	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 110.033 = (97865911 * 100.000) / (76749231 * 1.159)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Lims ID:	160-24924-G-2-B		
Client ID:	SHAD041DP026SS03NS		
Inject. Date:	18-Nov-2017 18:39:20	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	61

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	55061247	18184284
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	55061247	18184284

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	10335262	3435235	9468353	3114288	25.5	1.09	M
Signal Totals:							
	10335262	3435235	9468353	3114288			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	19803615	6549523				1.09	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 25.544 = (19803615 * 100.000) / (55061247 * 1.408)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d
Lims ID: 160-24924-G-2-B
Client ID: SHAD041DP026SS03NS
Inject. Date: 18-Nov-2017 18:39:20
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195573
Lims Sample ID: 61

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	51117860	15482872

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	51117860	15482872

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.277	29180375	9216731	27731184	8750186	95.7	1.05	
Signal Totals:							
	29180375	9216731	27731184	8750186			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	56911559	17966917				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 95.720 = (56911559 * 100.000) / (51117860 * 1.163)

Report Date: 06-Dec-2017 14:06:13

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d

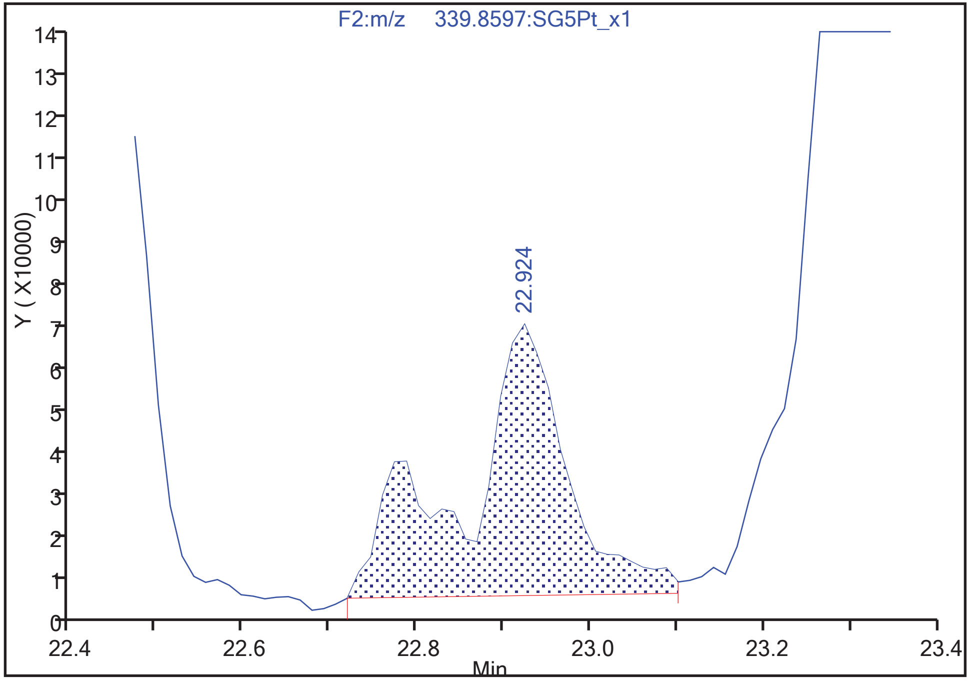
Injection Date:	18-Nov-2017 18:39:20	Instrument ID:	3D5		
Lims ID:	160-24924-G-2-B	Lab Sample ID:	320-24924-2		
Client ID:	SHAD041DP026SS03NS				
Operator ID:	SMA, ALM	ALS Bottle#:	41	Worklist Smp#:	61
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

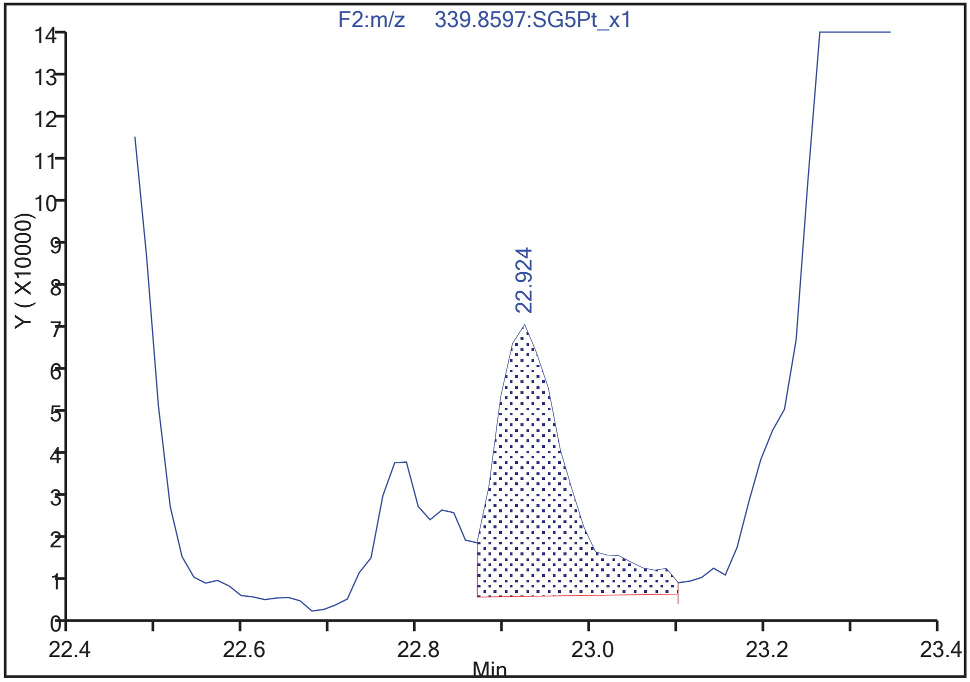
Processing Integration Results

RT:	22.92
Area:	505864
Amount:	0.617849
Amount Units:	pg/ul



Manual Integration Results

RT:	22.92
Area:	345538
Amount:	0.409686
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 13:59:59

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Report Date: 06-Dec-2017 14:06:13 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

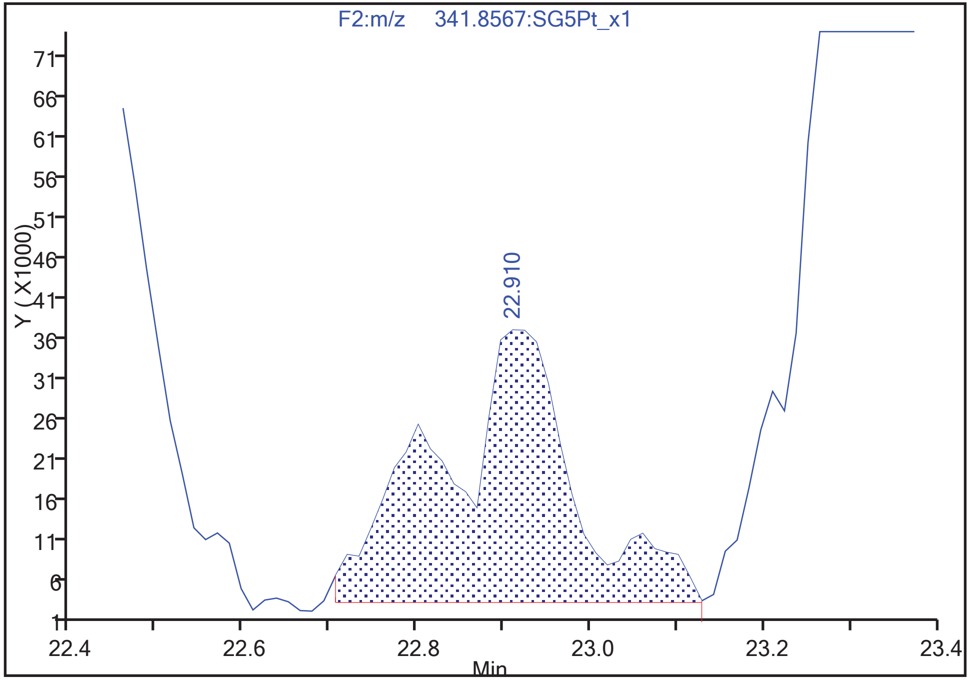
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Injection Date:	18-Nov-2017 18:39:20	Instrument ID:	3D5
Lims ID:	160-24924-G-2-B	Lab Sample ID:	320-24924-2
Client ID:	SHAD041DP026SS03NS		
Operator ID:	SMA, ALM	ALS Bottle#:	41 Worklist Smp#: 61
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F2:HRSIR

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

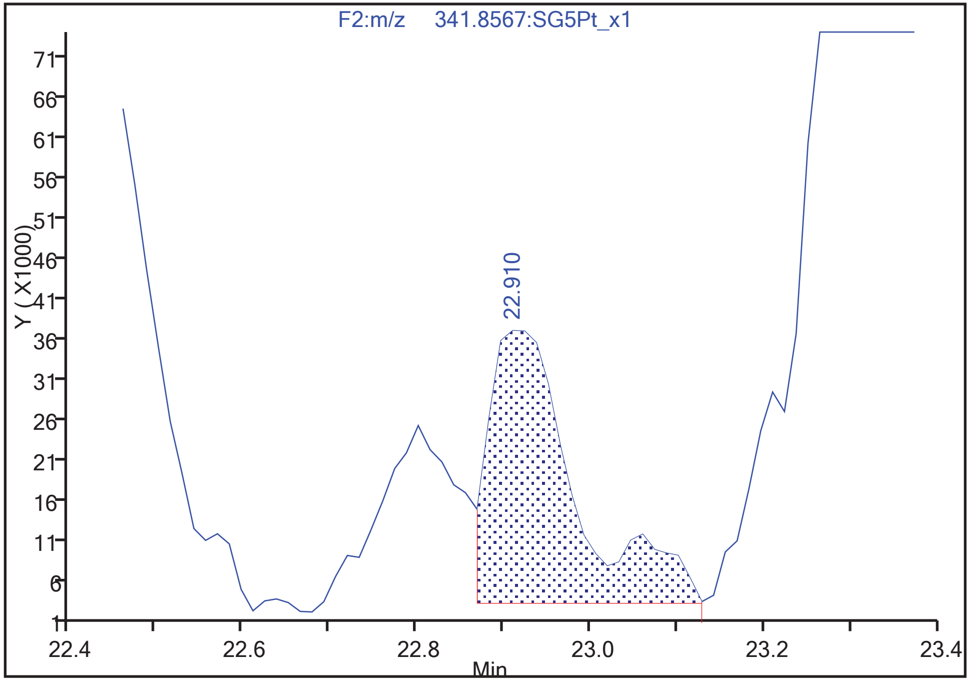
Processing Integration Results

RT:	22.91
Area:	361000
Amount:	0.617849
Amount Units:	pg/ul



Manual Integration Results

RT:	22.91
Area:	229267
Amount:	0.409686
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 14:00:01

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

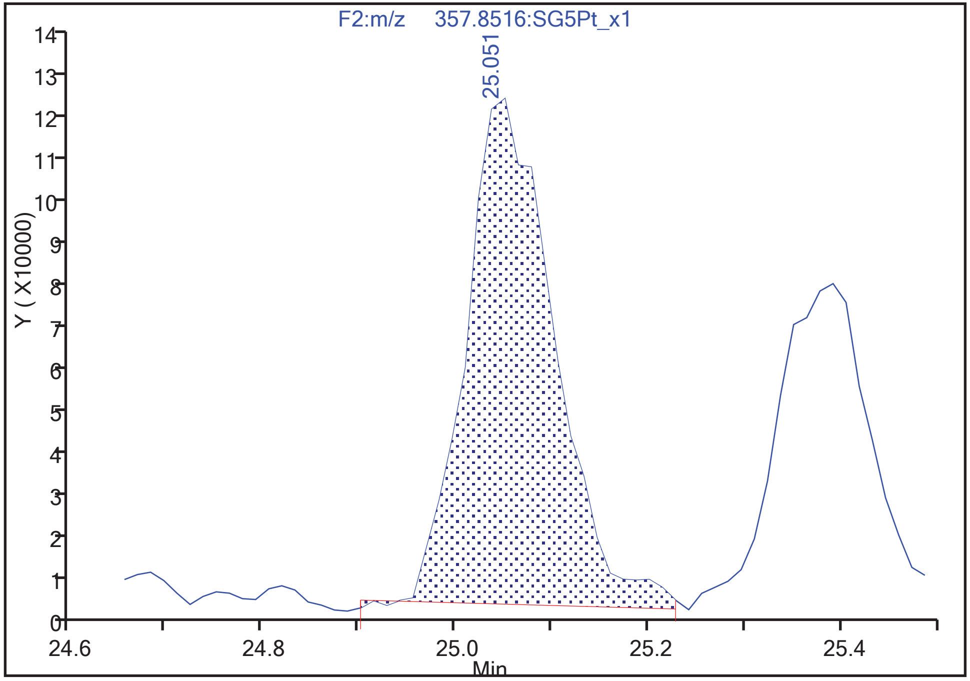
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Injection Date:	18-Nov-2017 18:39:20	Instrument ID:	3D5
Lims ID:	160-24924-G-2-B	Lab Sample ID:	320-24924-2
Client ID:	SHAD041DP026SS03NS		
Operator ID:	SMA, ALM	ALS Bottle#:	41 Worklist Smp#: 61
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F2:HRSIR

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

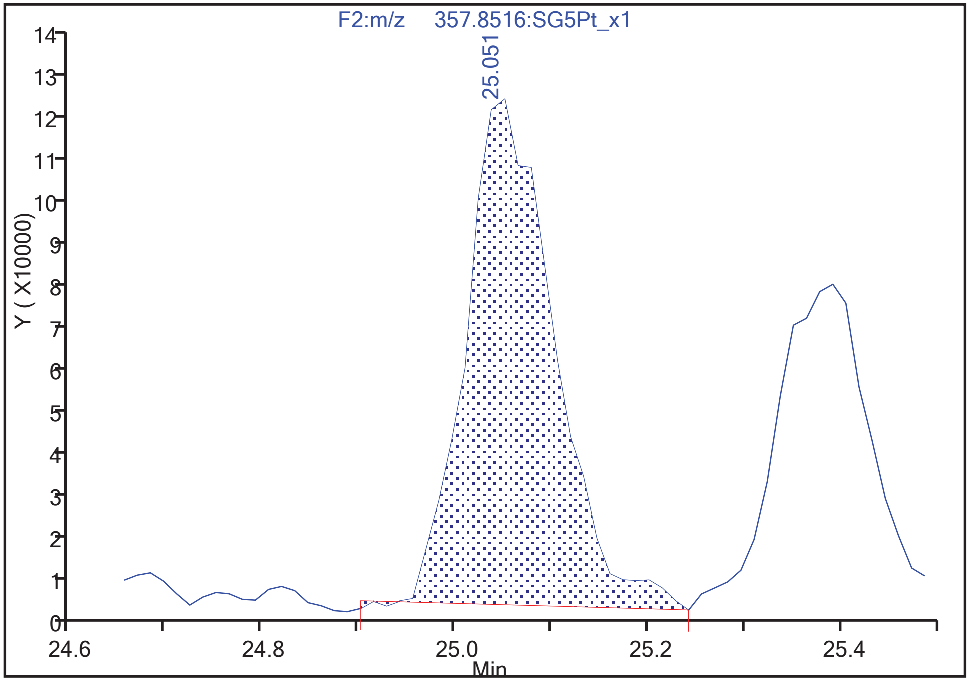
Processing Integration Results

RT:	25.05
Area:	755347
Amount:	2.158728
Amount Units:	pg/ul



Manual Integration Results

RT:	25.05
Area:	756034
Amount:	2.159486
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 14:01:45

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

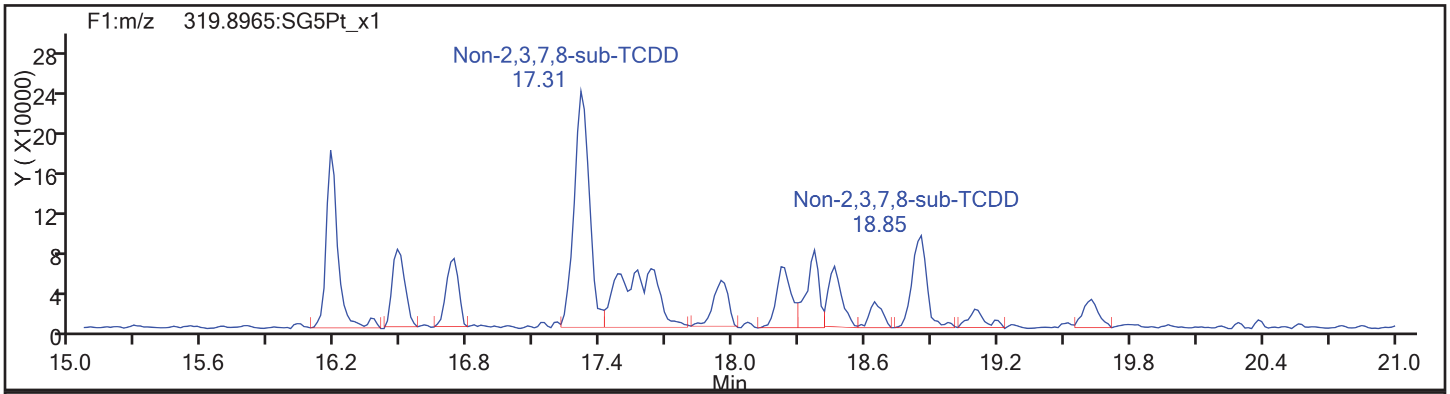
Report Date: 06-Dec-2017 14:06:13 Chrom Revision: 2.2 16-Aug-2017 16:24:46

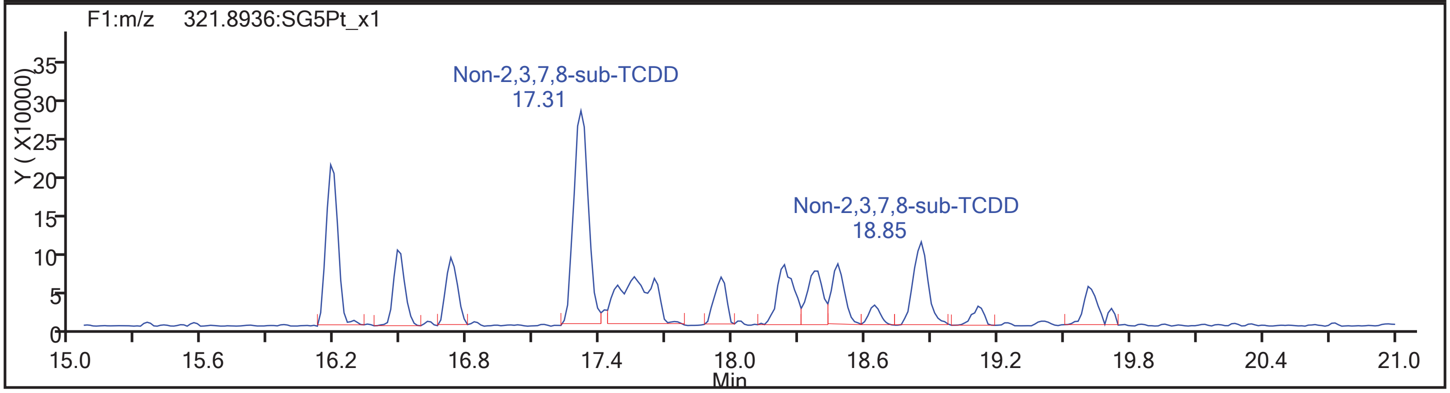
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d

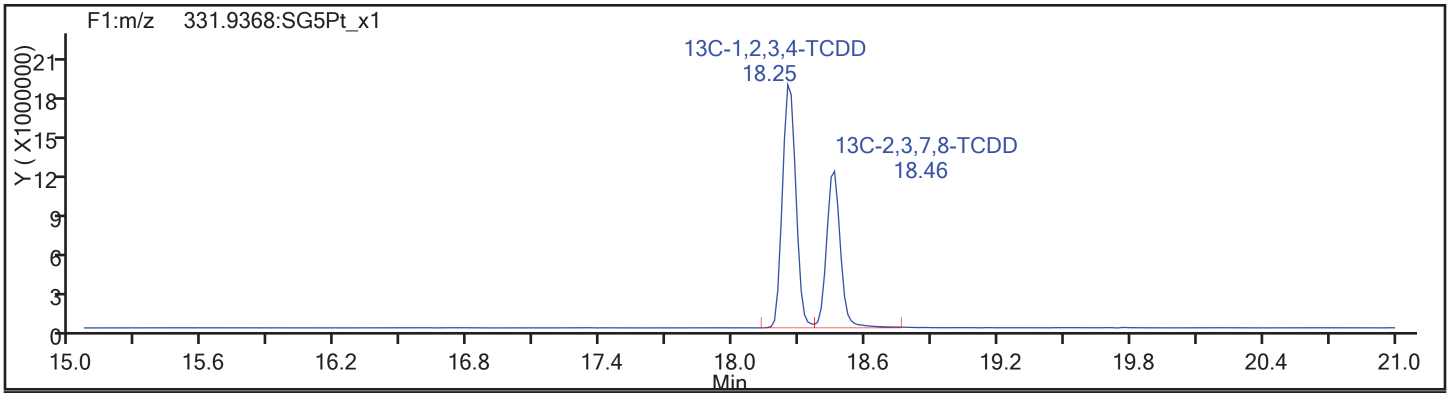
Injection Date: 18-Nov-2017 18:39:20
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS03NS
Worklist#: 195573
Sample Line#: 61
Column Type:
Column Dia:

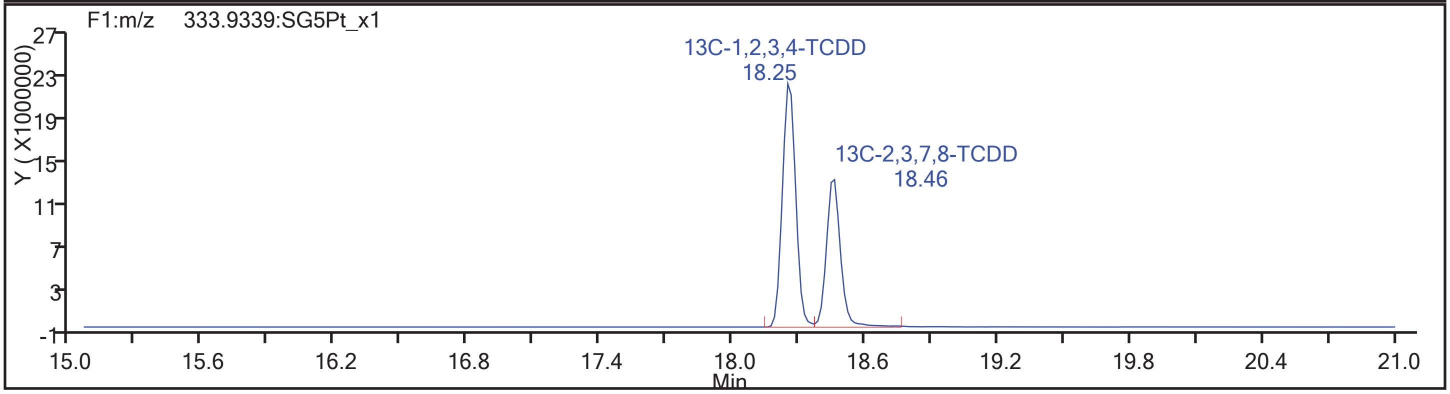
TCDD





TCDD Standards



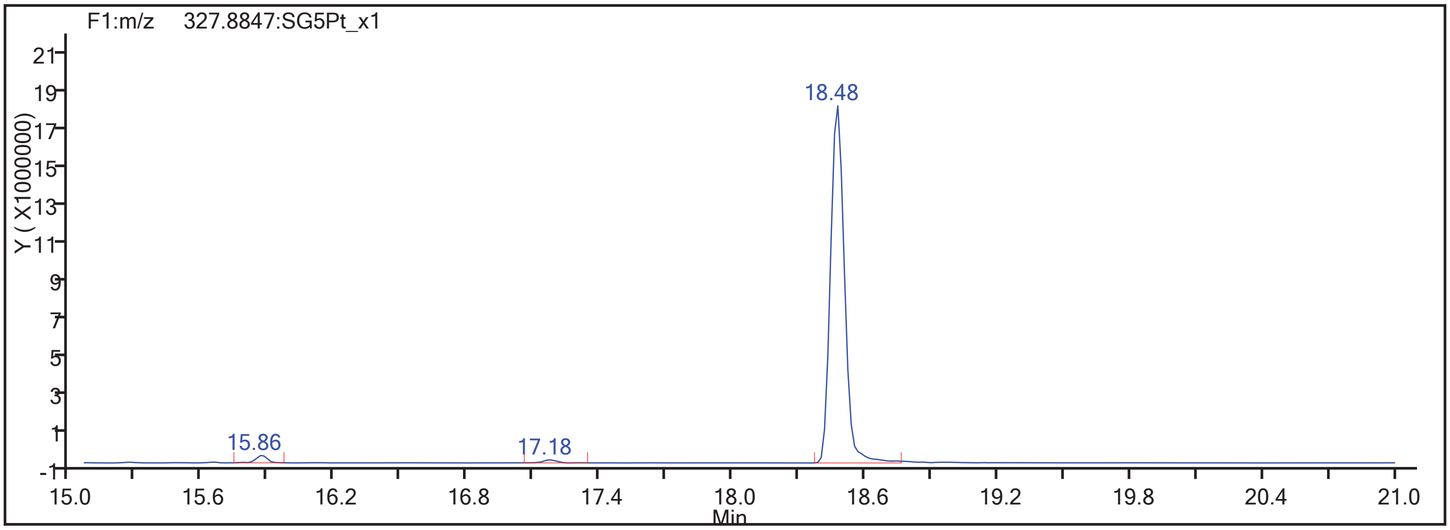


Report Date: 06-Dec-2017 14:06:14 Chrom Revision: 2.2 16-Aug-2017 16:24:46

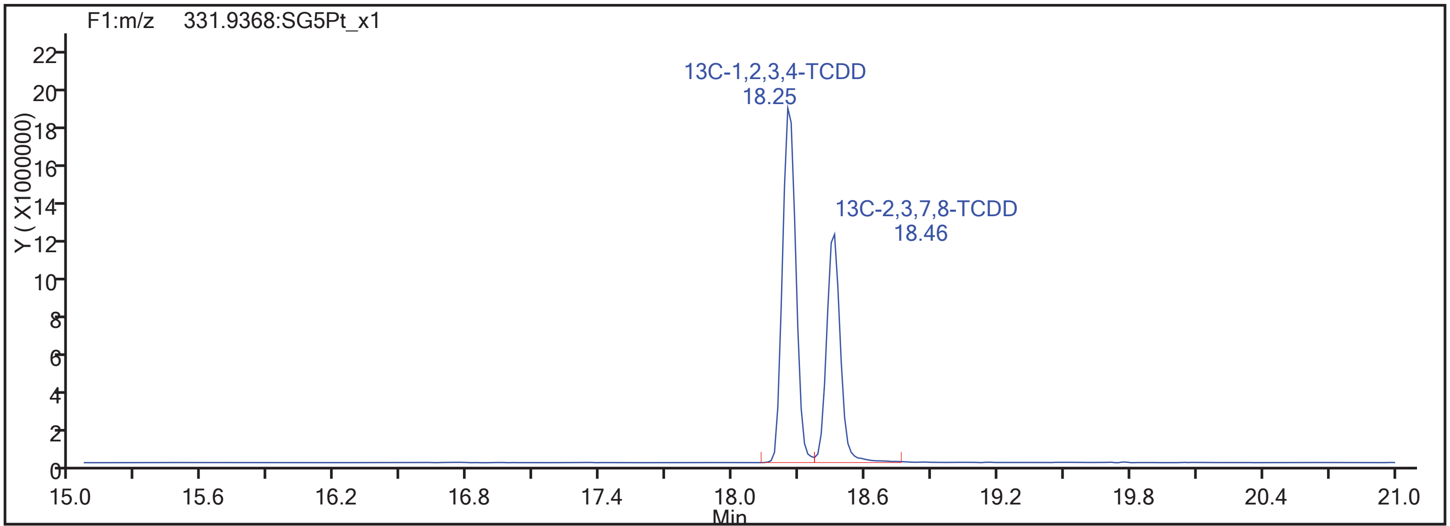
TestAmerica Sacramento

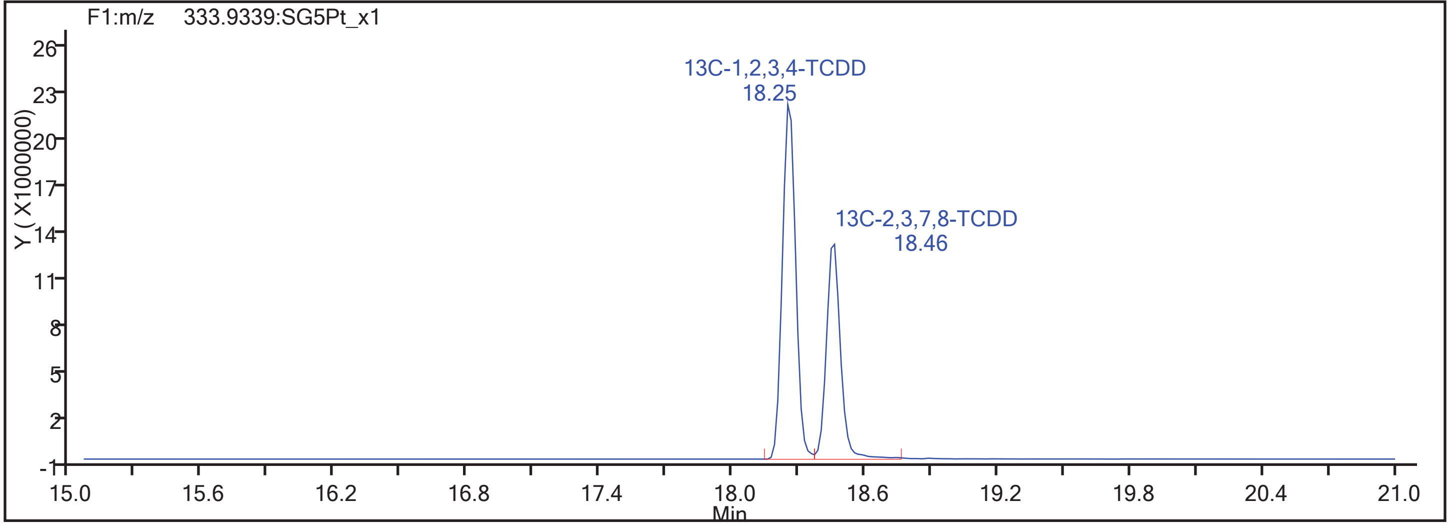
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Injection Date:	18-Nov-2017 18:39:20	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	195573	Sample Line#:	61
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 06-Dec-2017 14:06:14 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	195573	Sample Line#:	61
Column Type:		Column Dia:	

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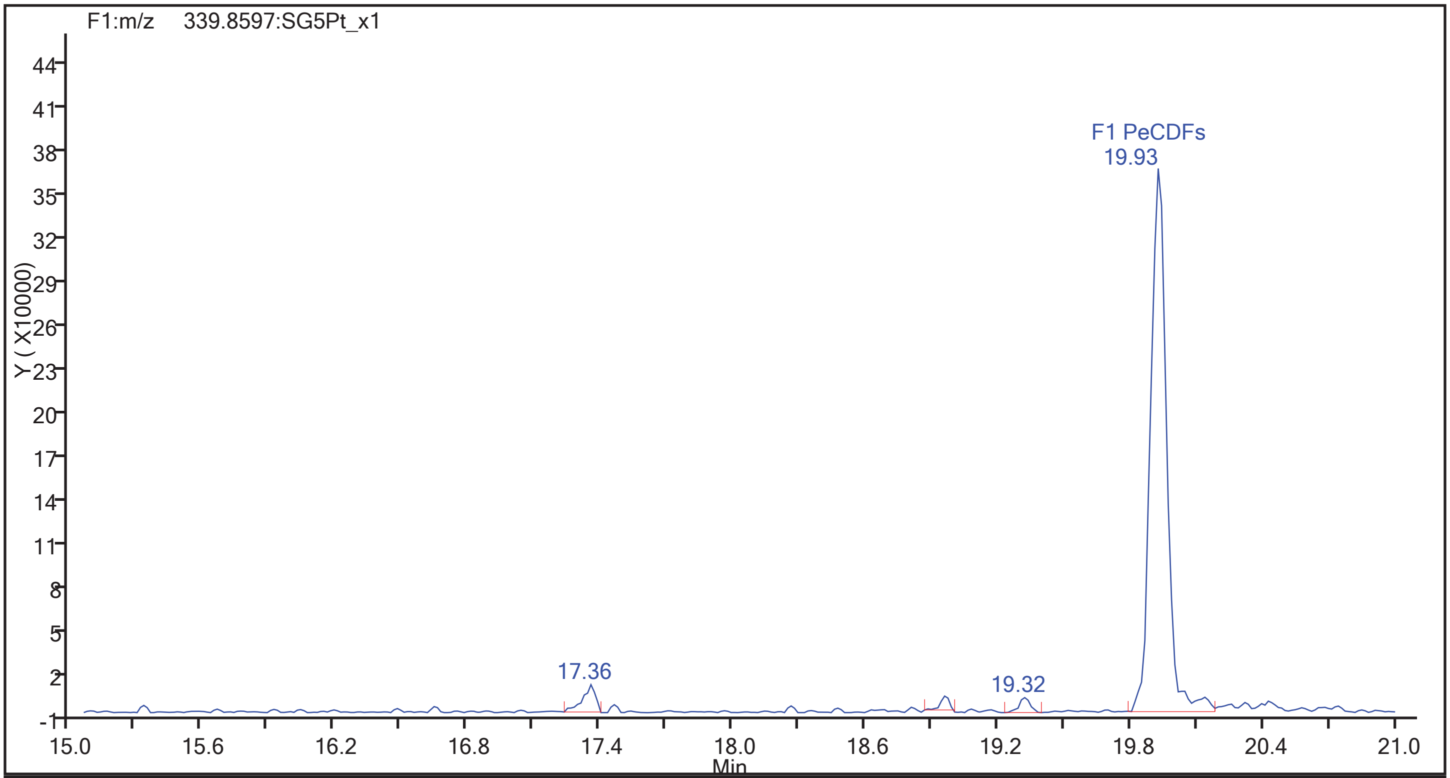

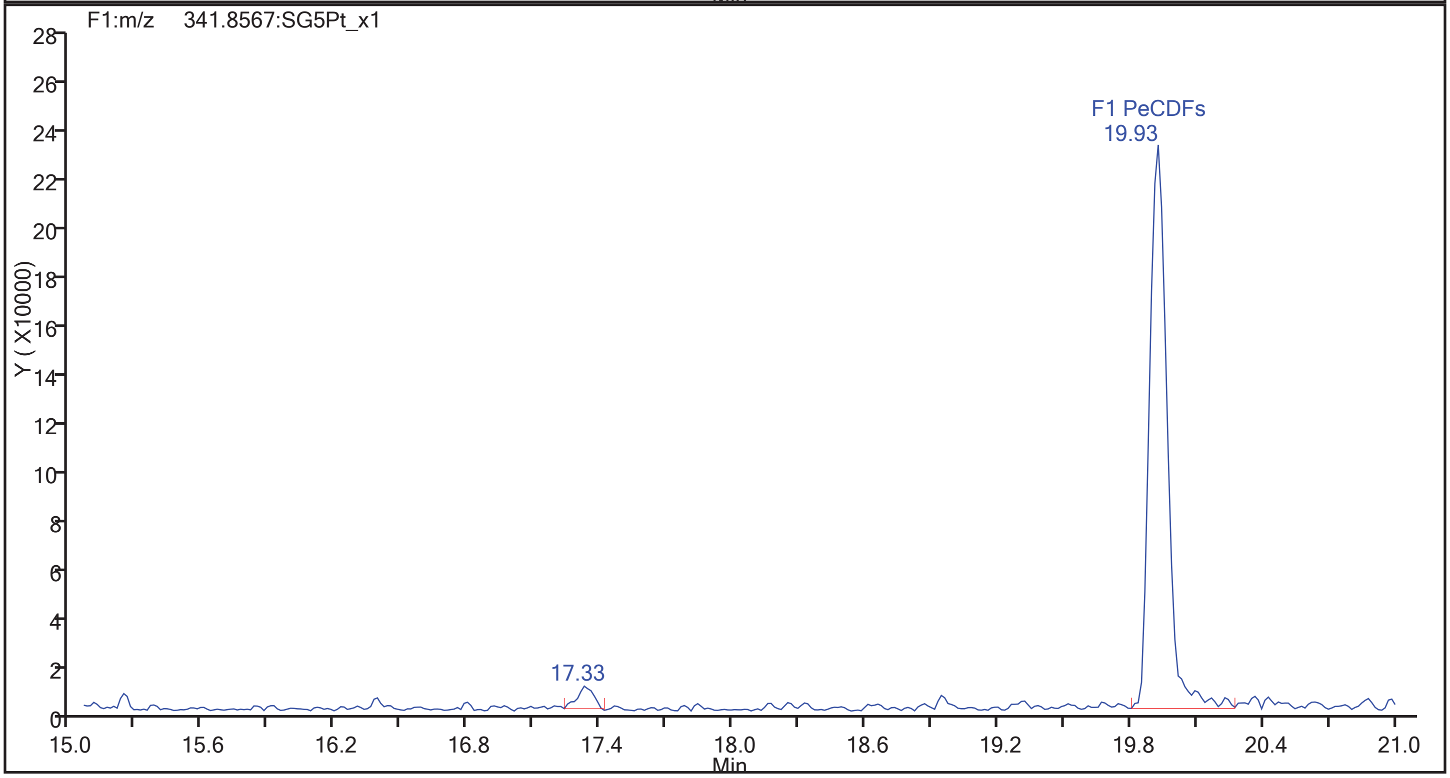

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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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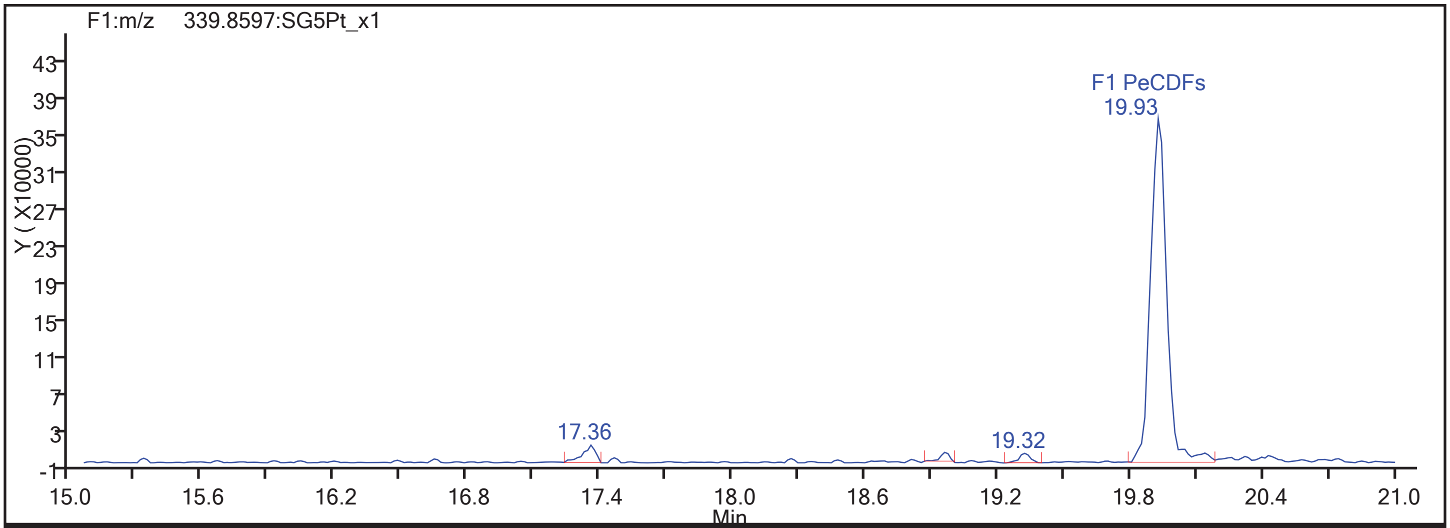

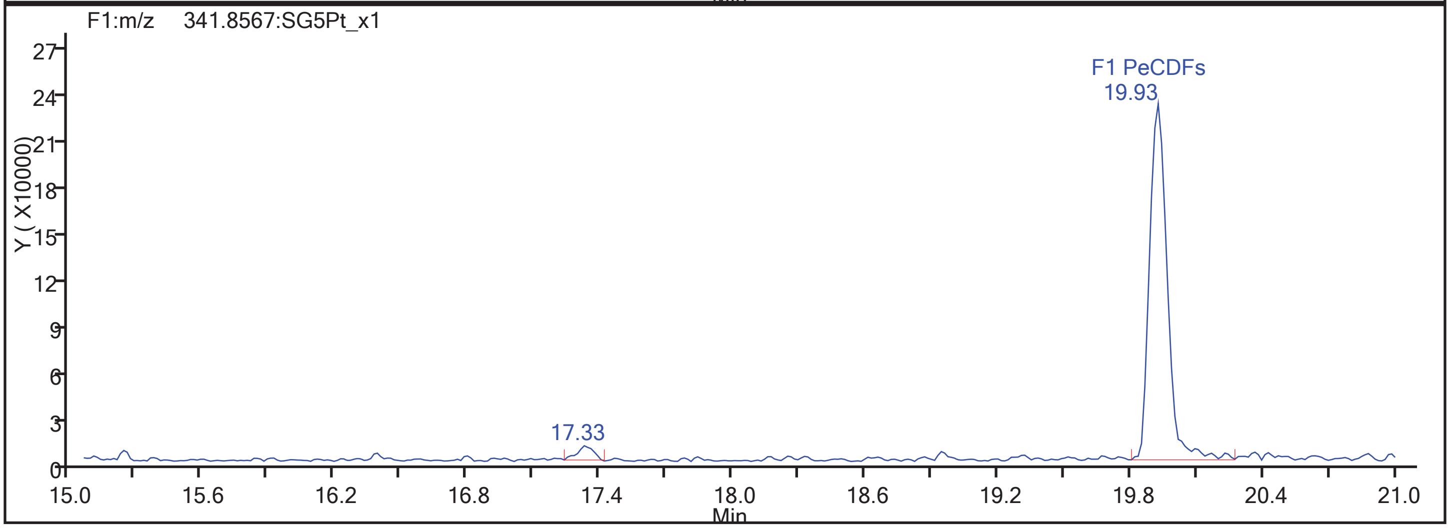

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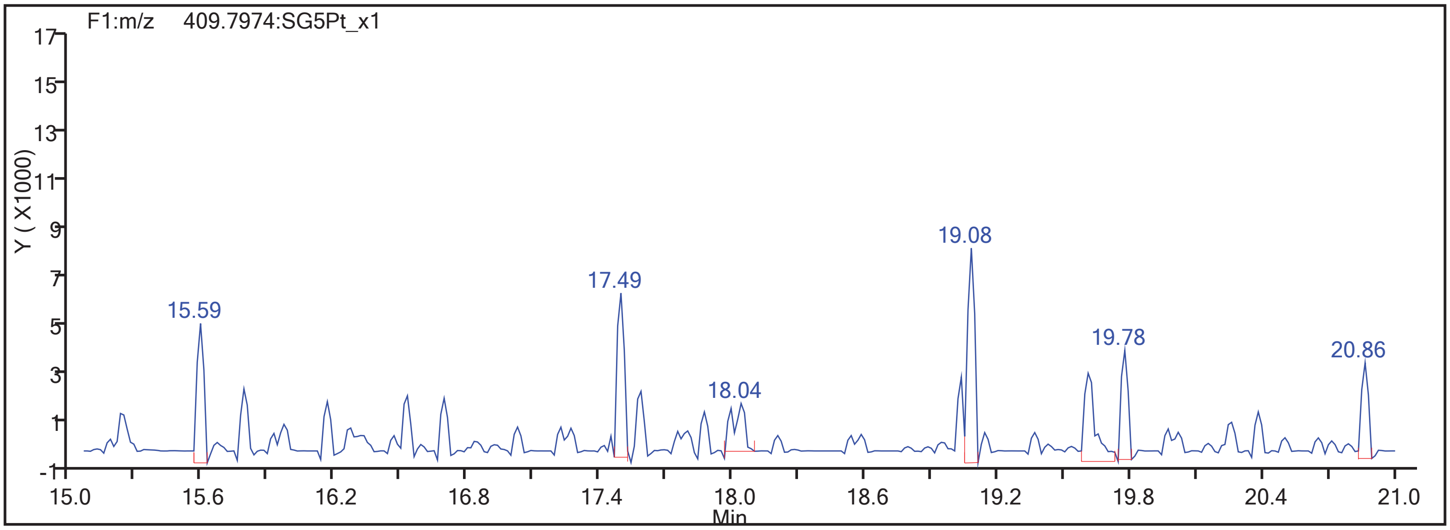

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TestAmerica Sacramento

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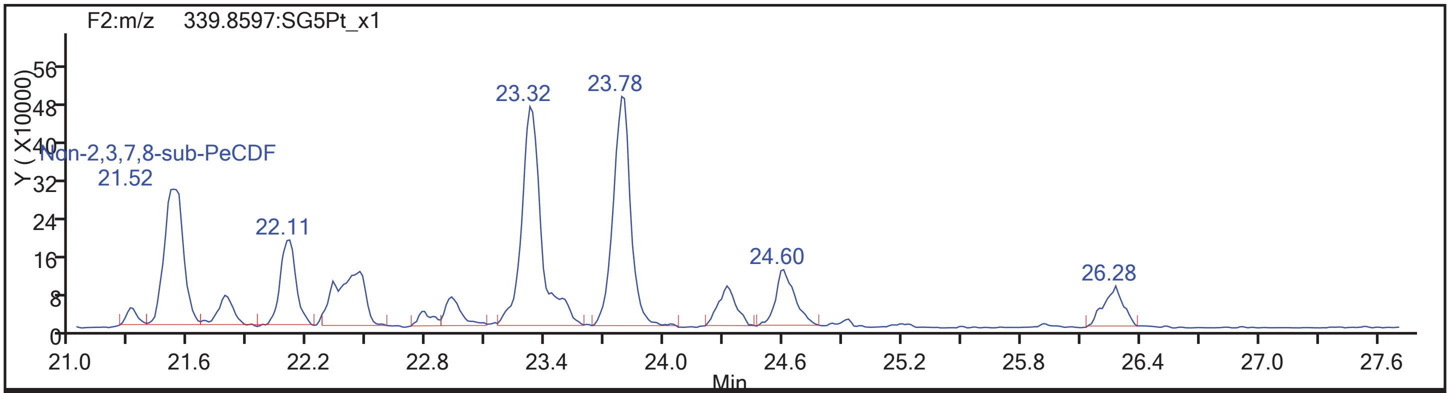
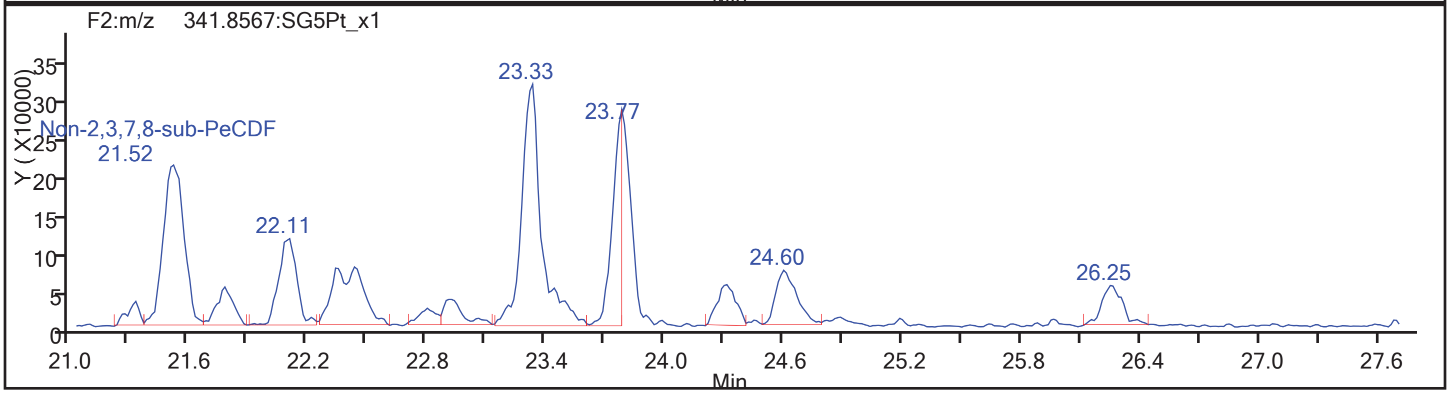
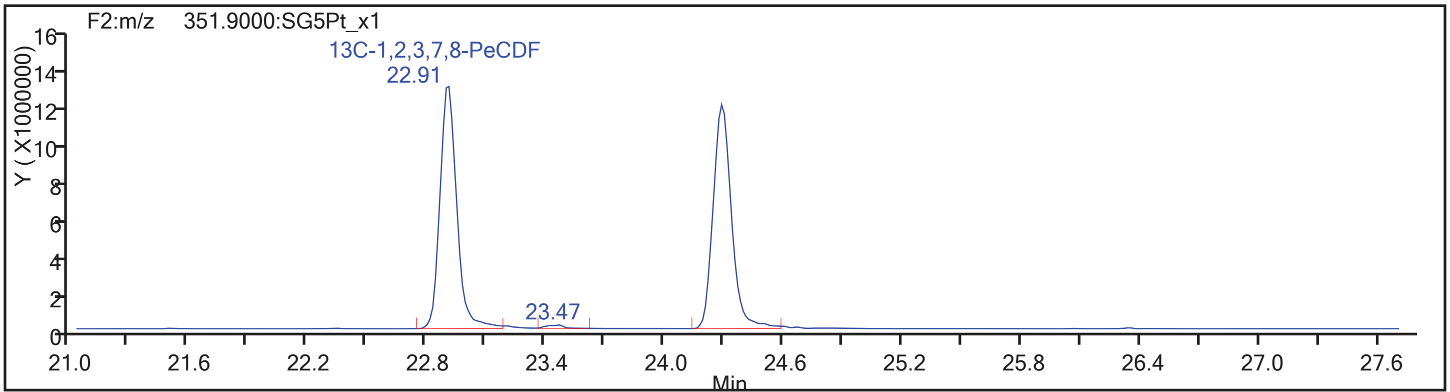
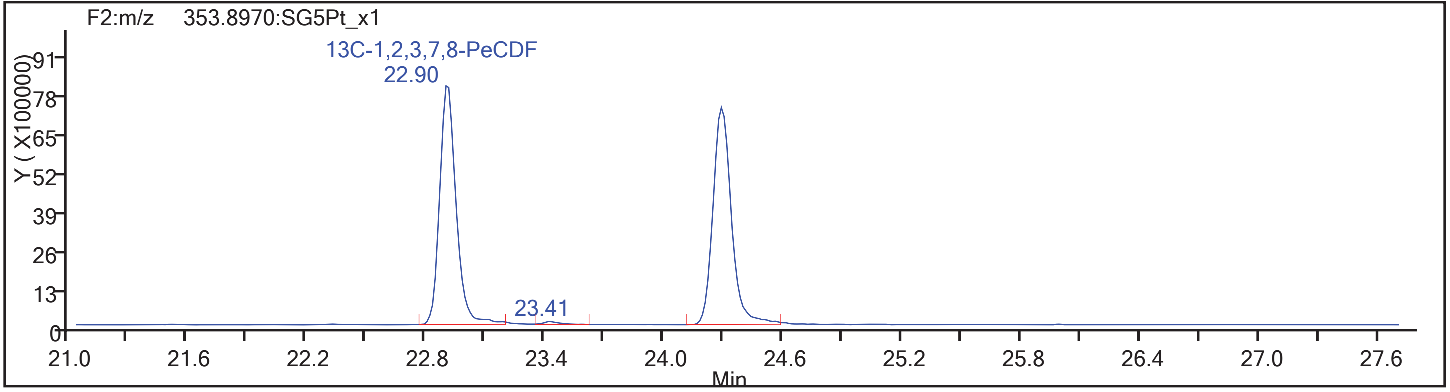




PeCDF Standards





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TestAmerica Sacramento

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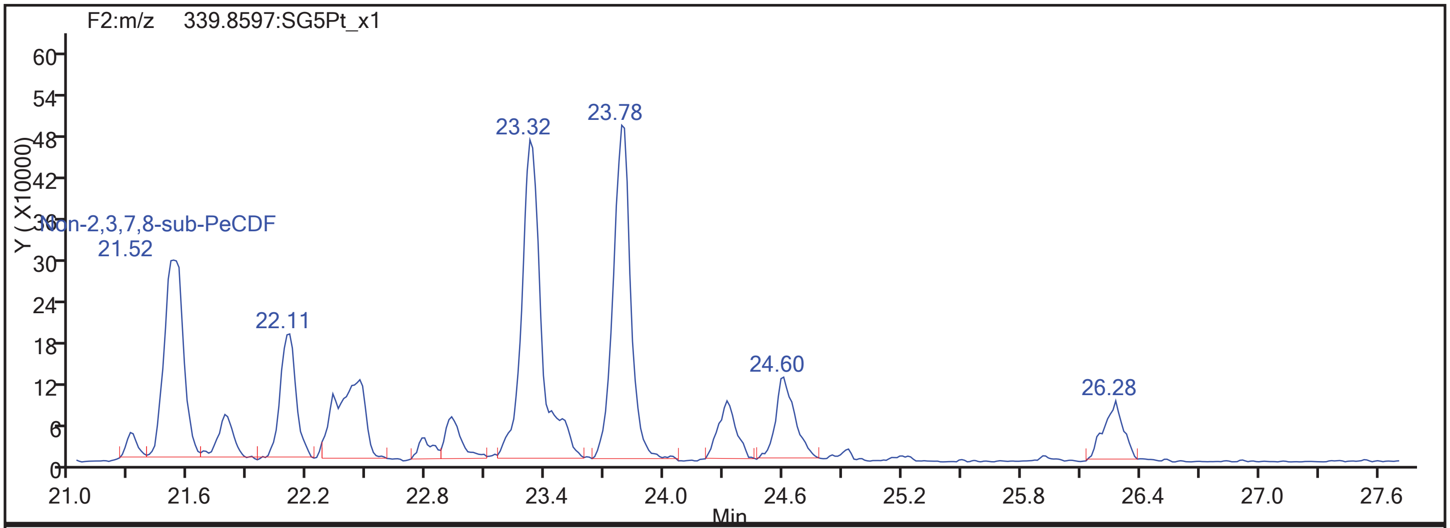
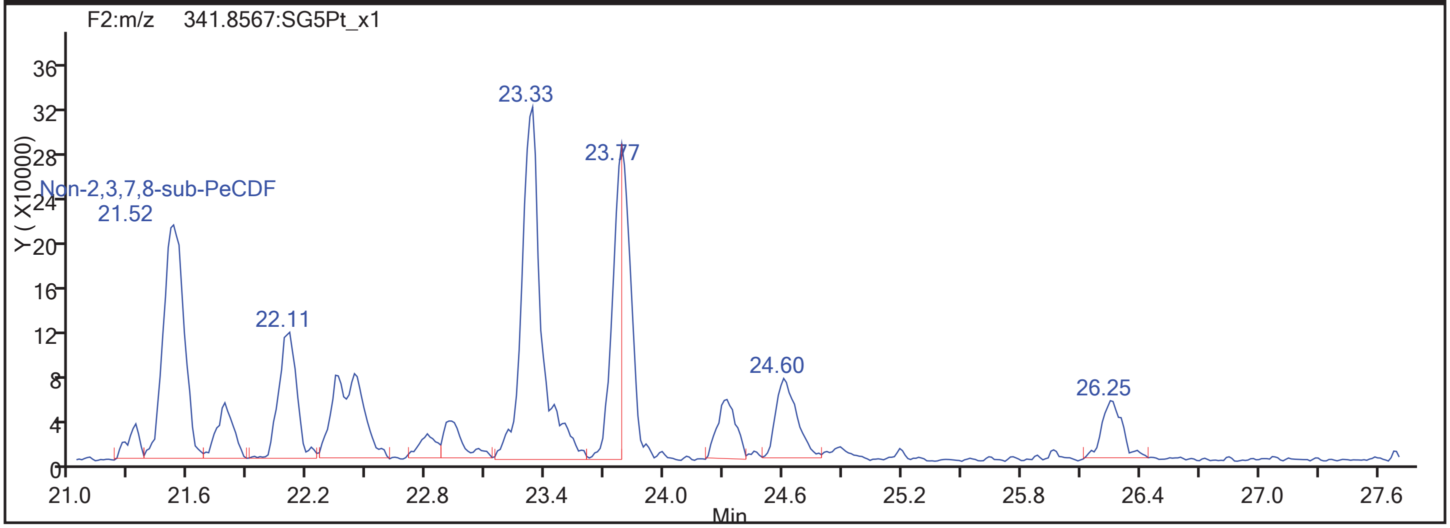
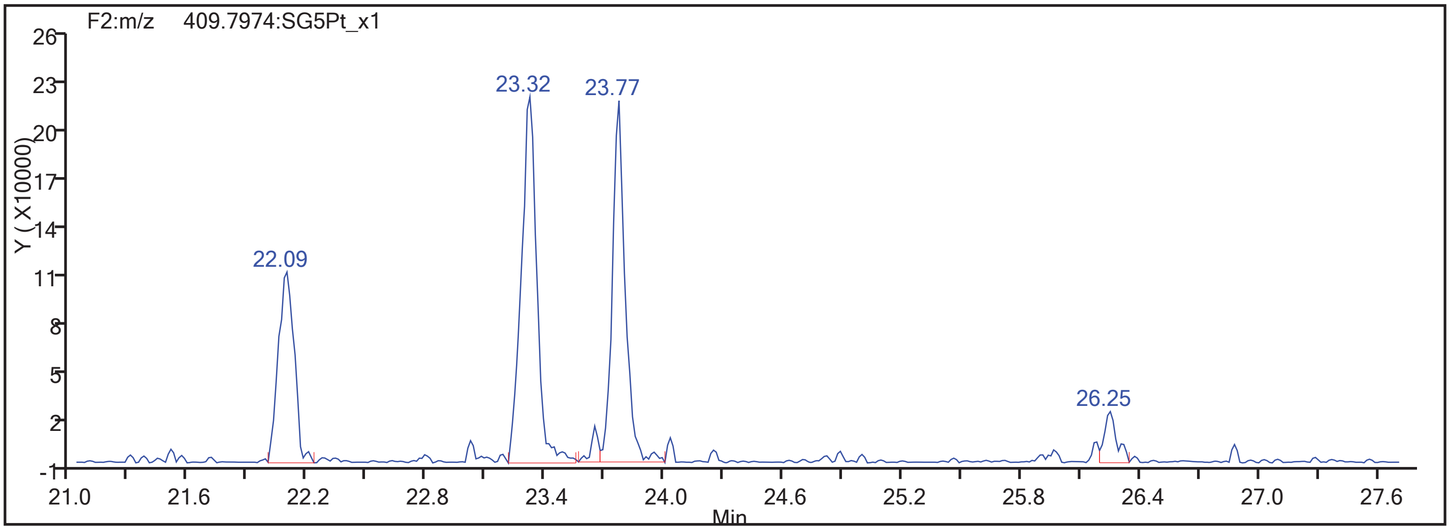




PeCDF Interference Mass



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TestAmerica Sacramento

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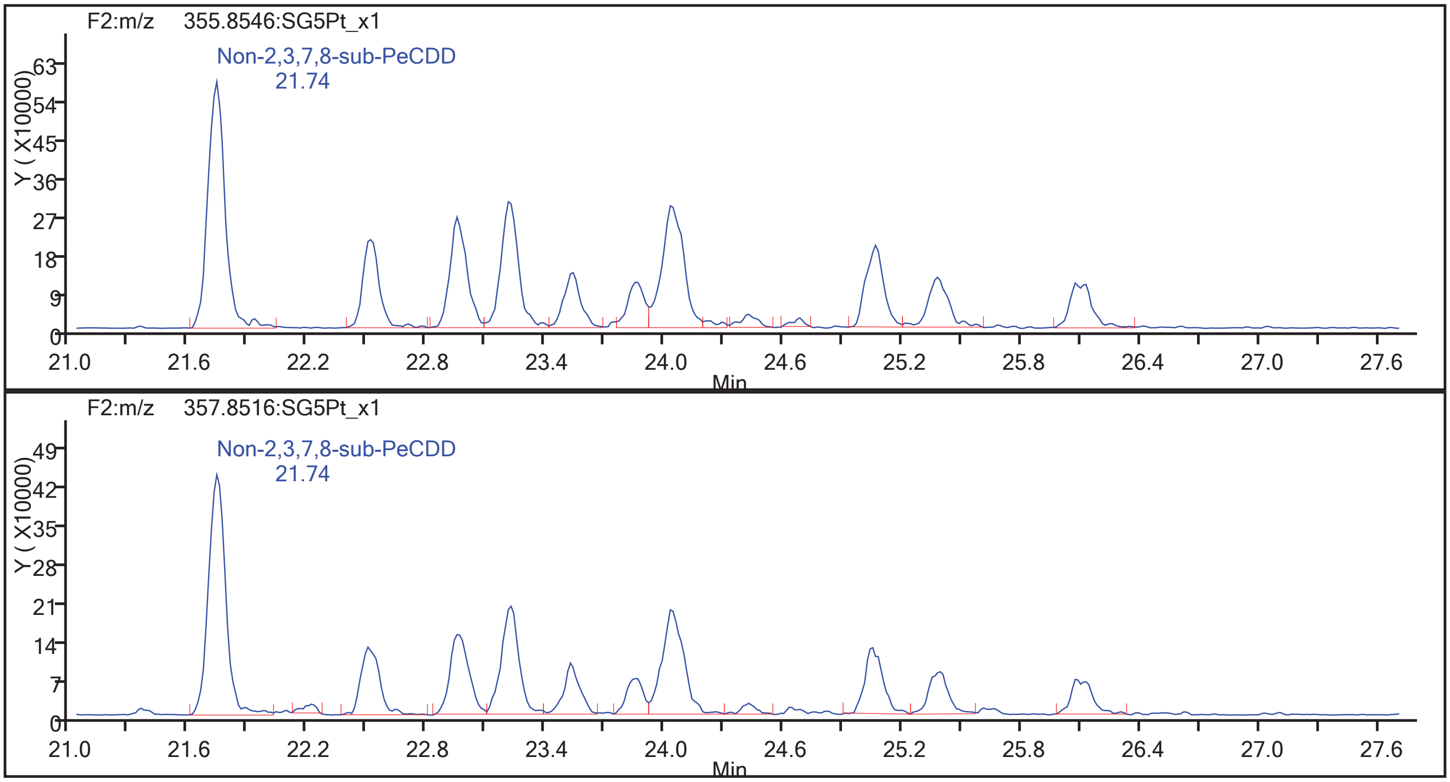

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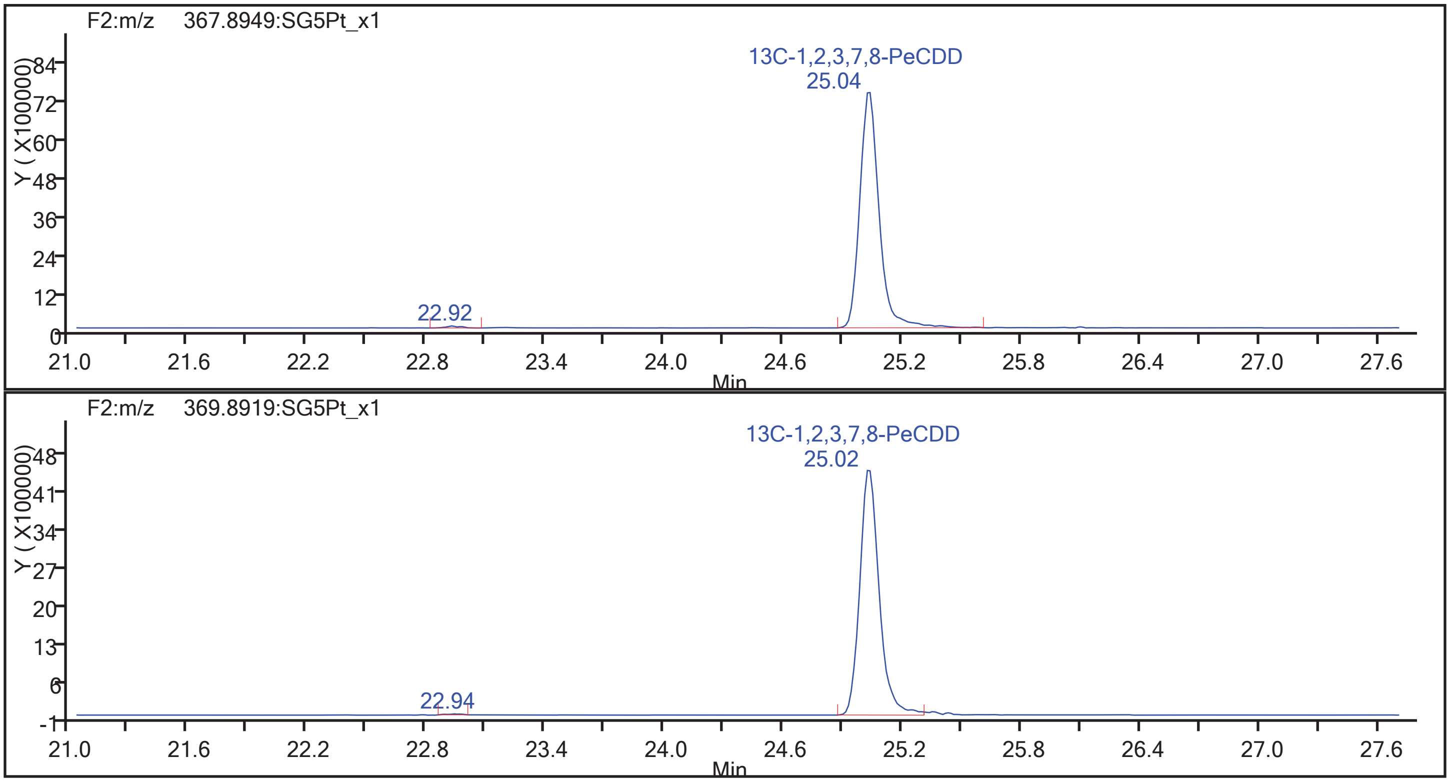

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TestAmerica Sacramento

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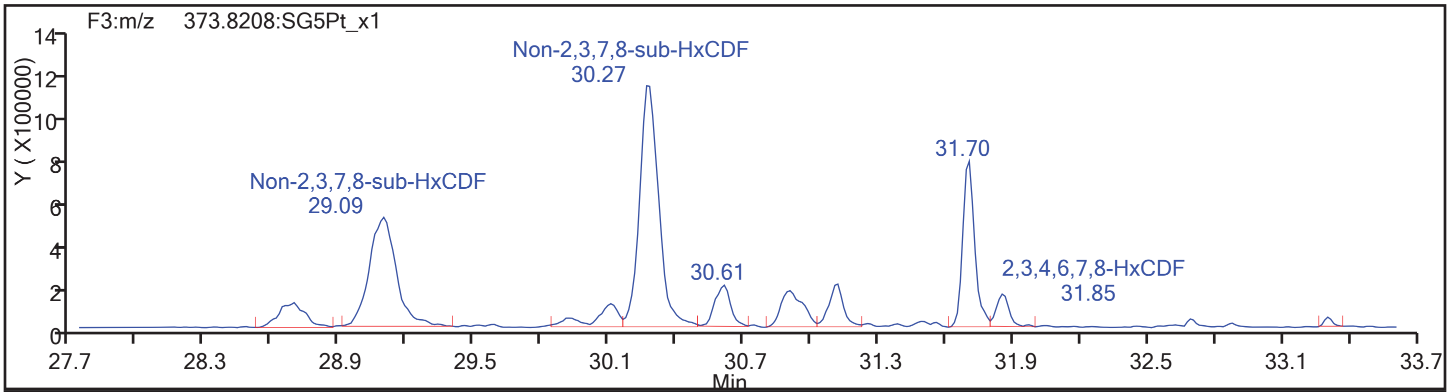

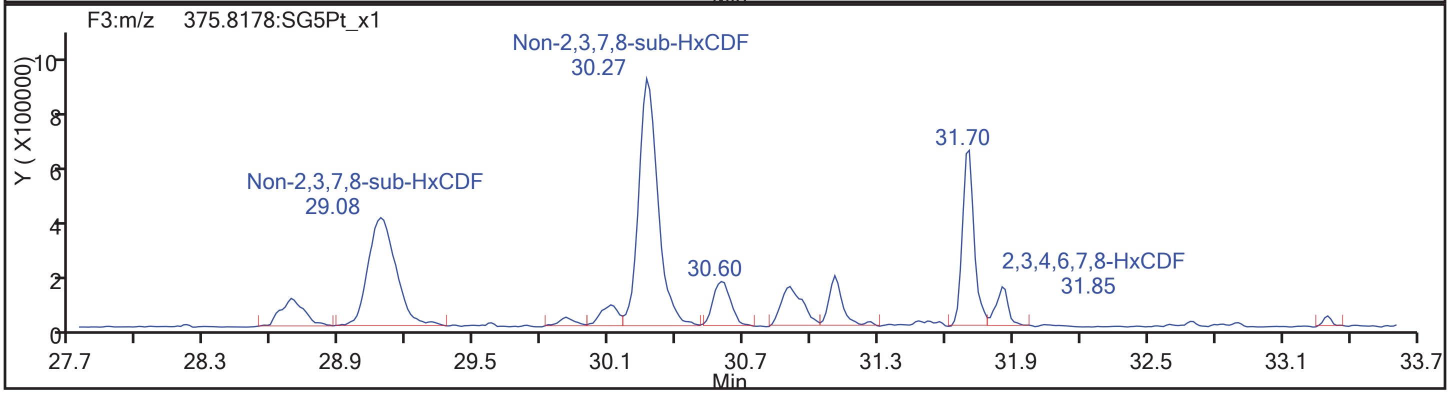

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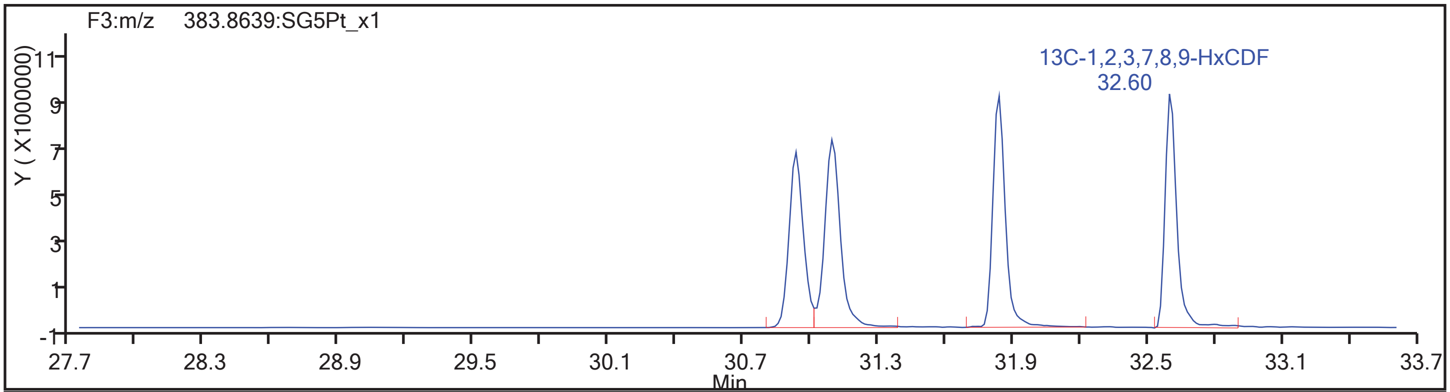

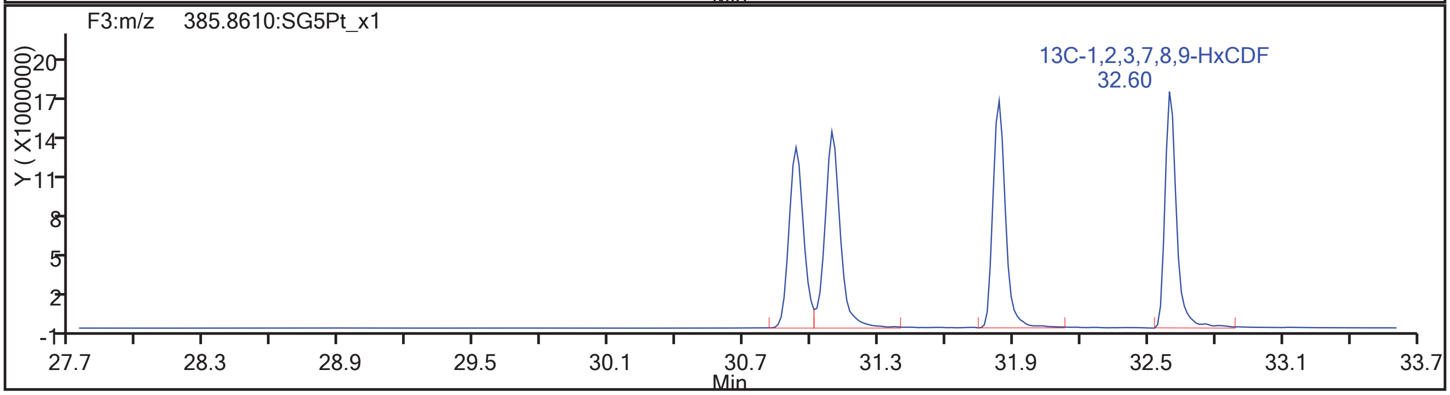

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TestAmerica Sacramento

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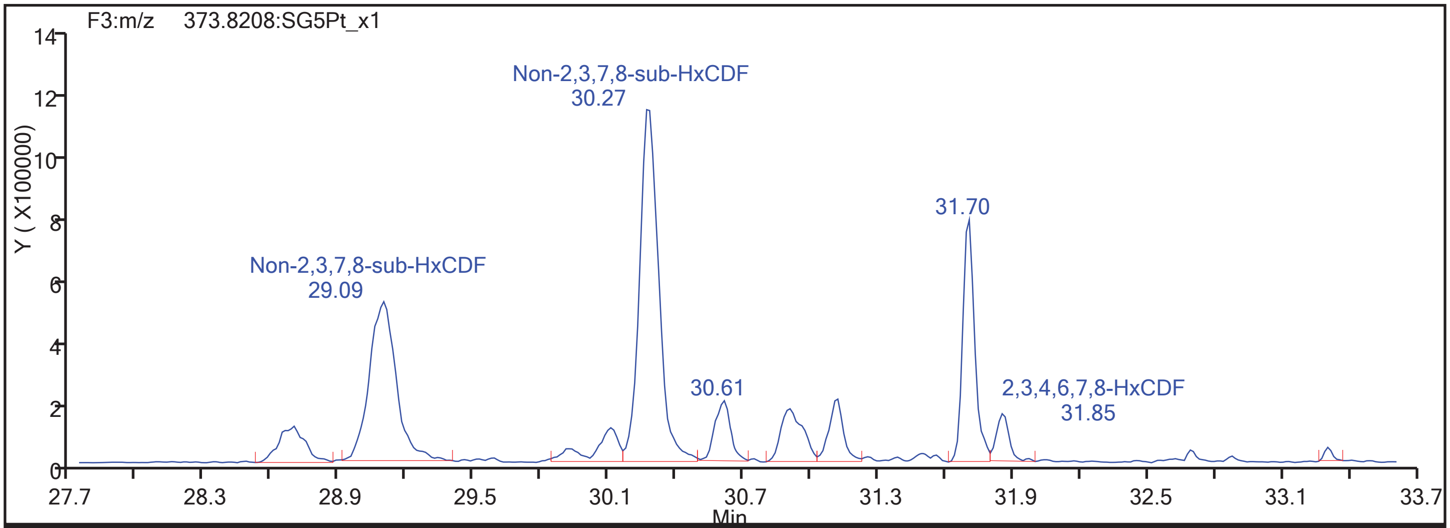
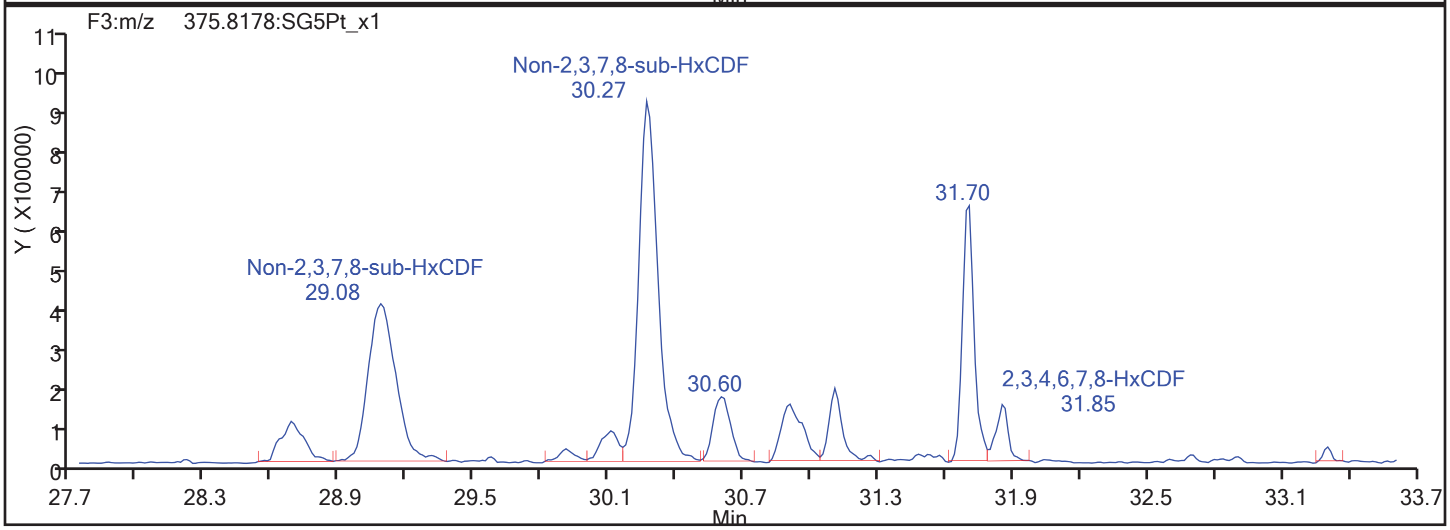
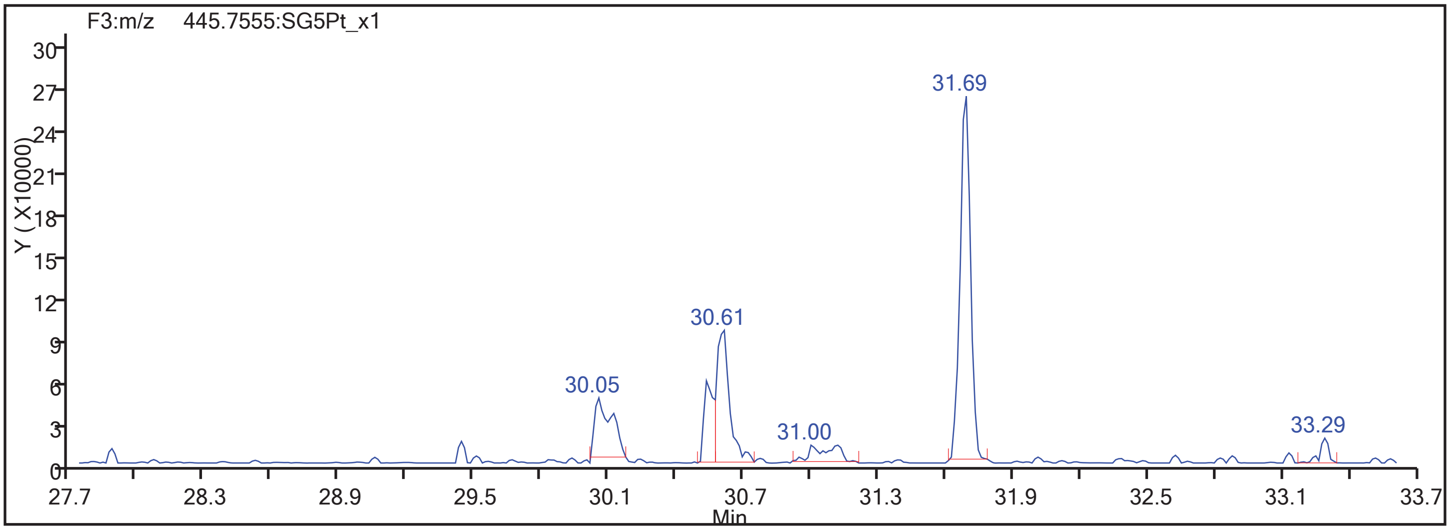




HxCDF Interference Mass



TestAmerica Sacramento

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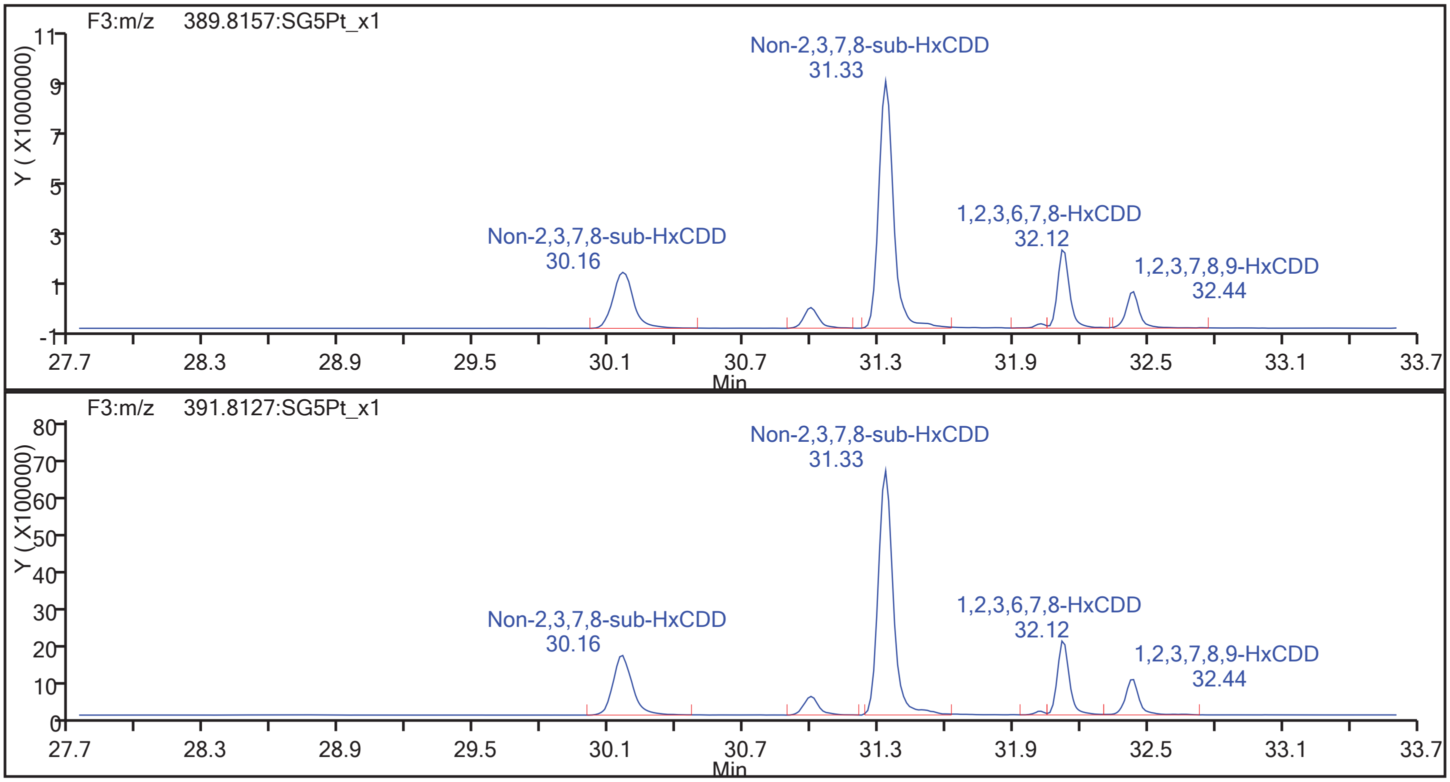
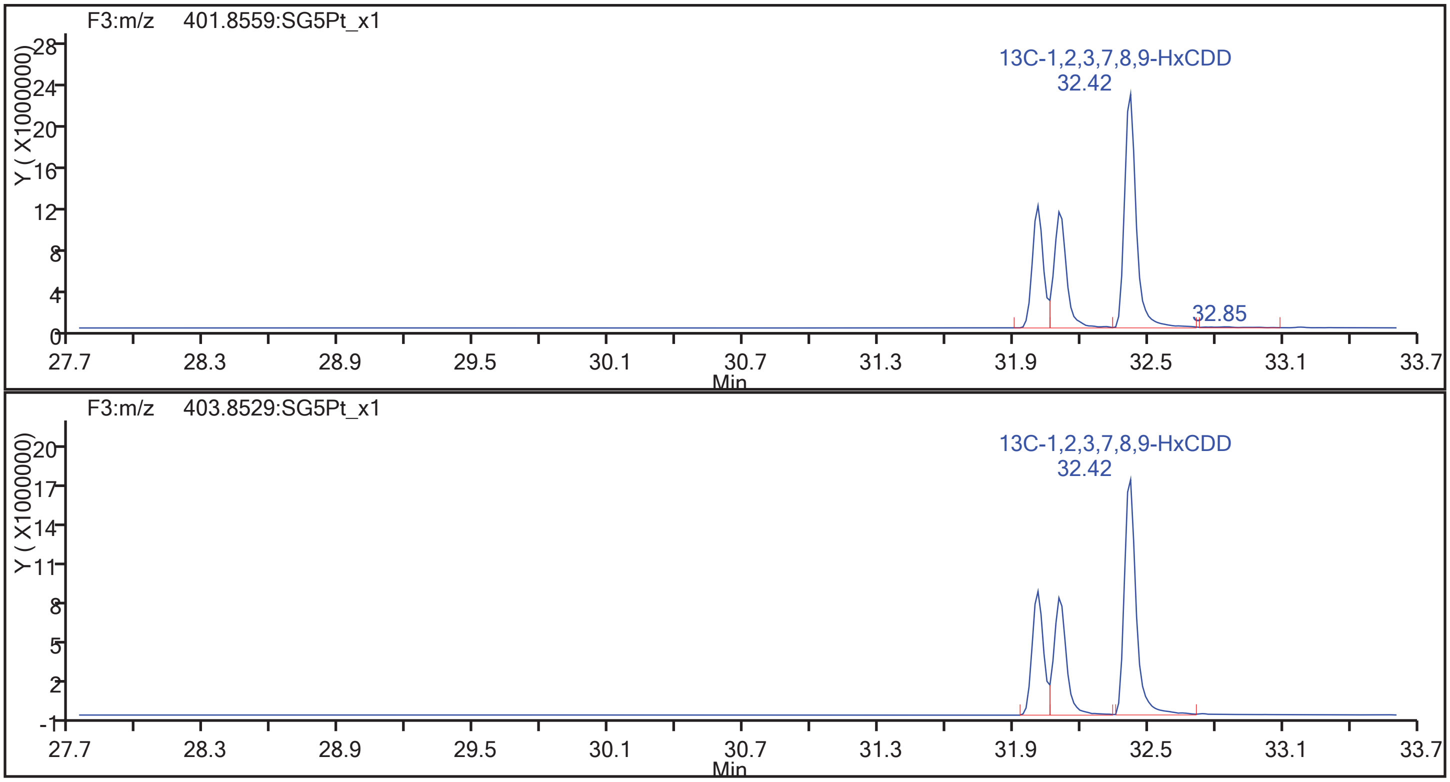


HxCDD Standards



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TestAmerica Sacramento

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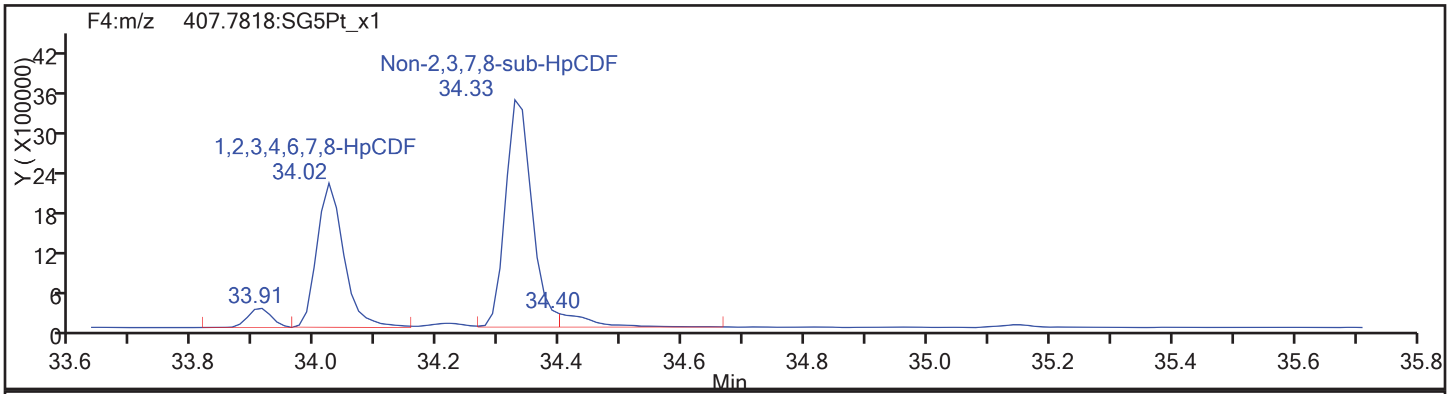

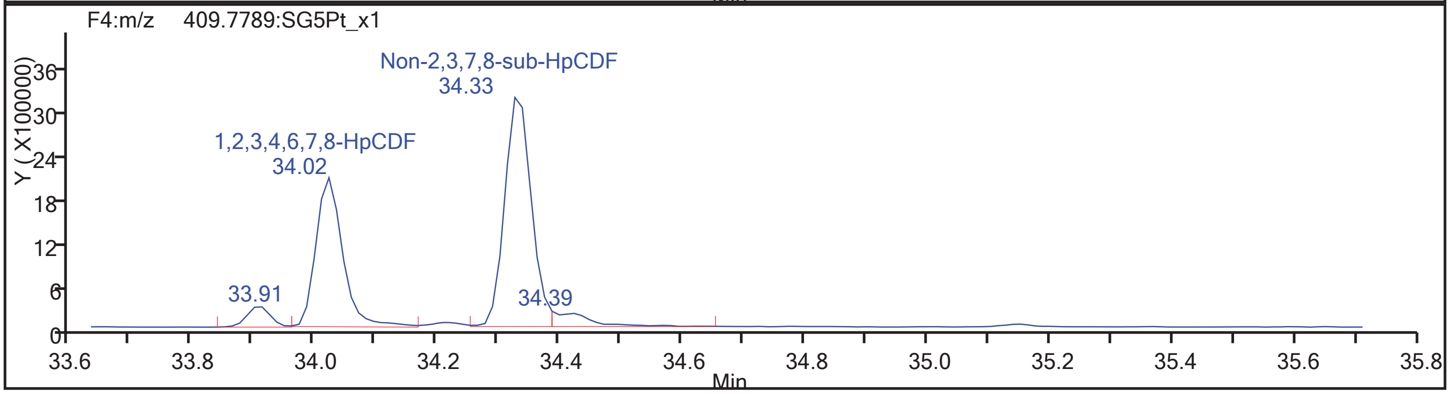

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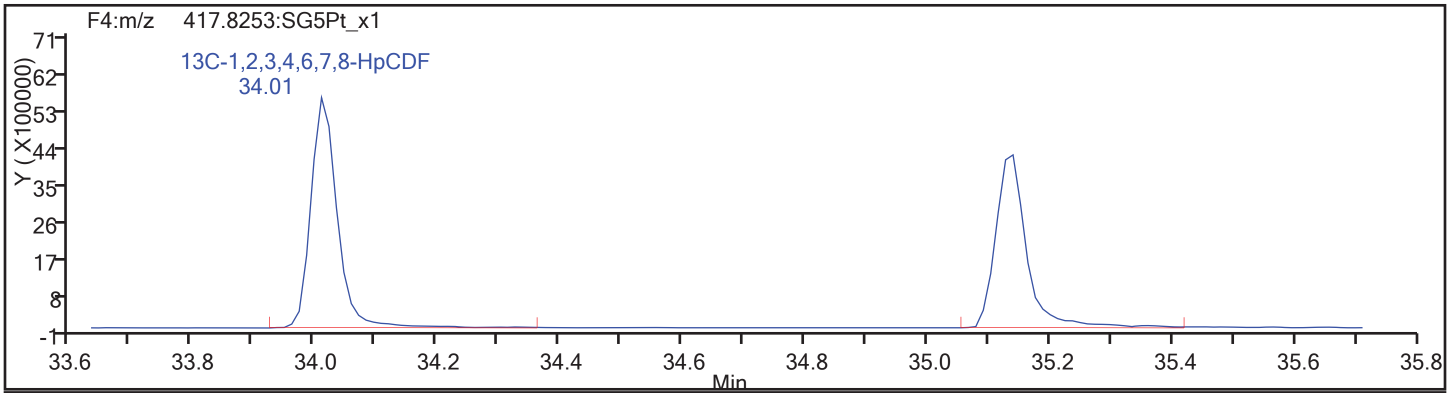

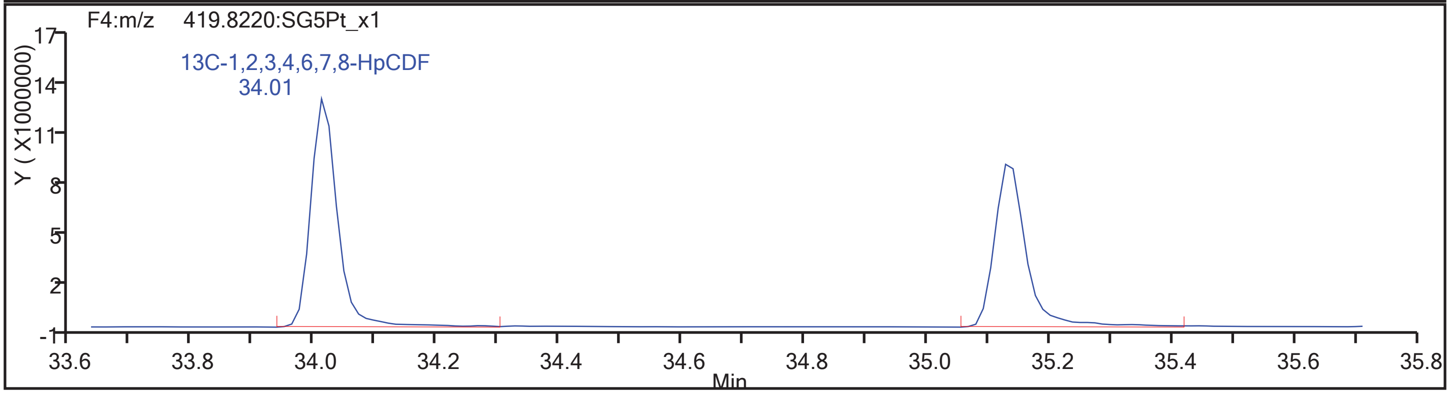

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TestAmerica Sacramento

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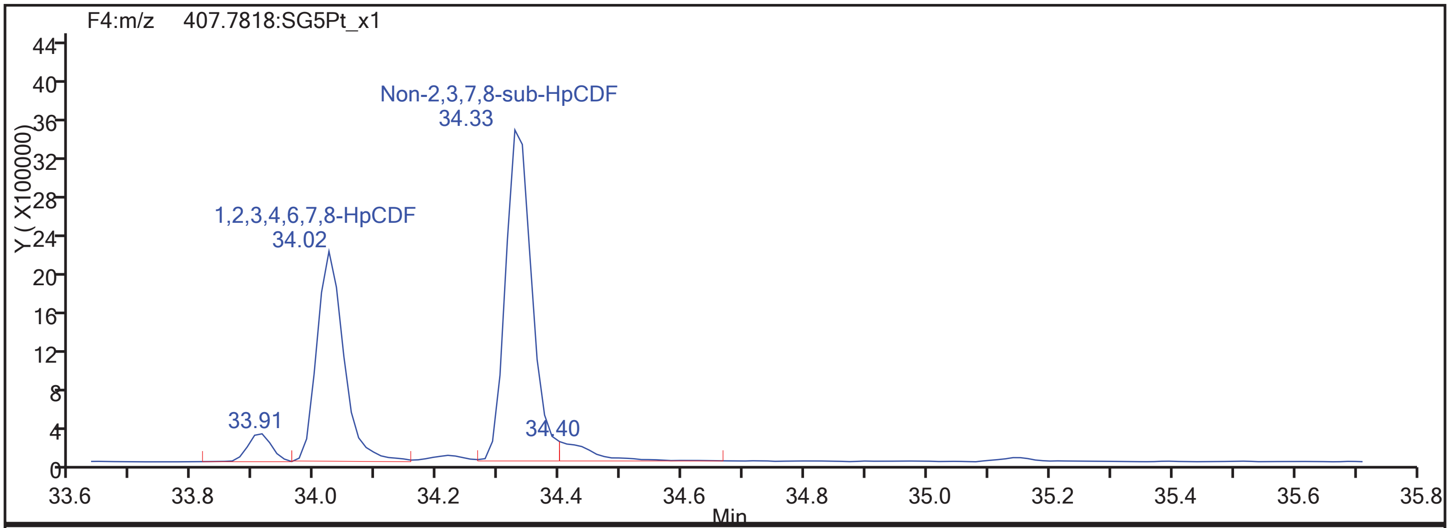
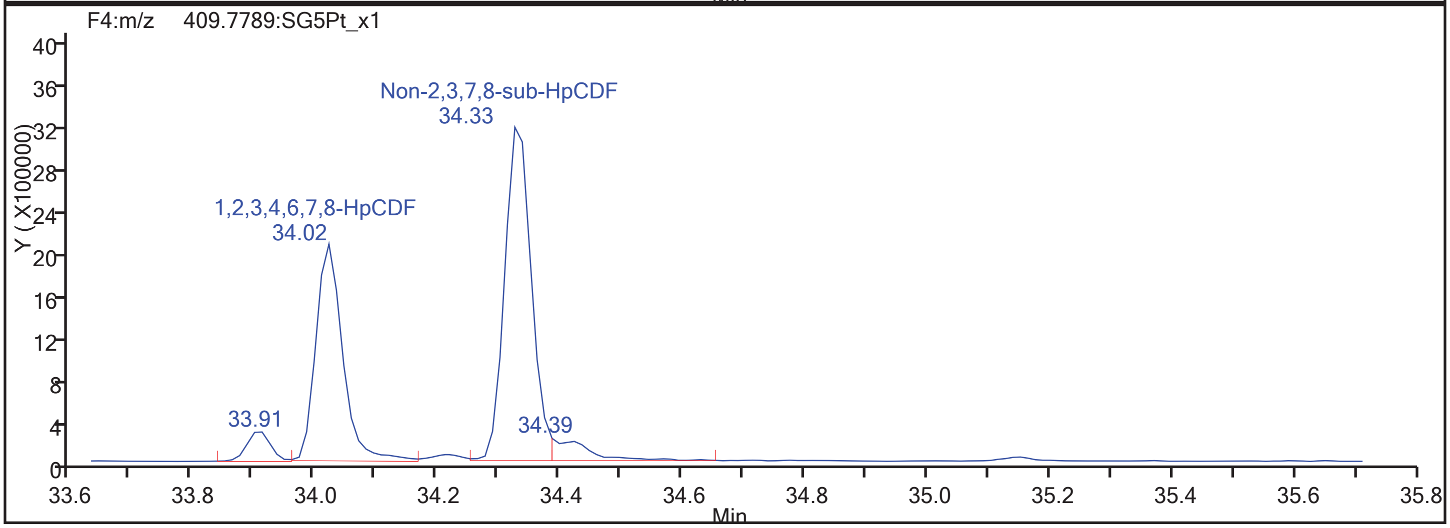
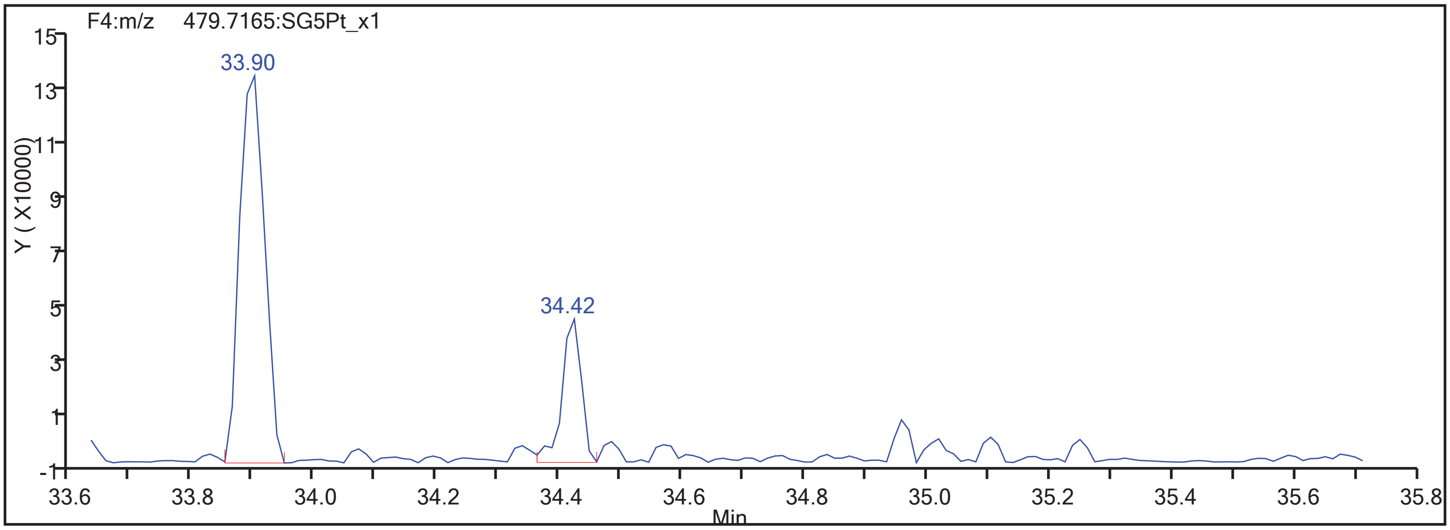




HpCDF Interference Mass



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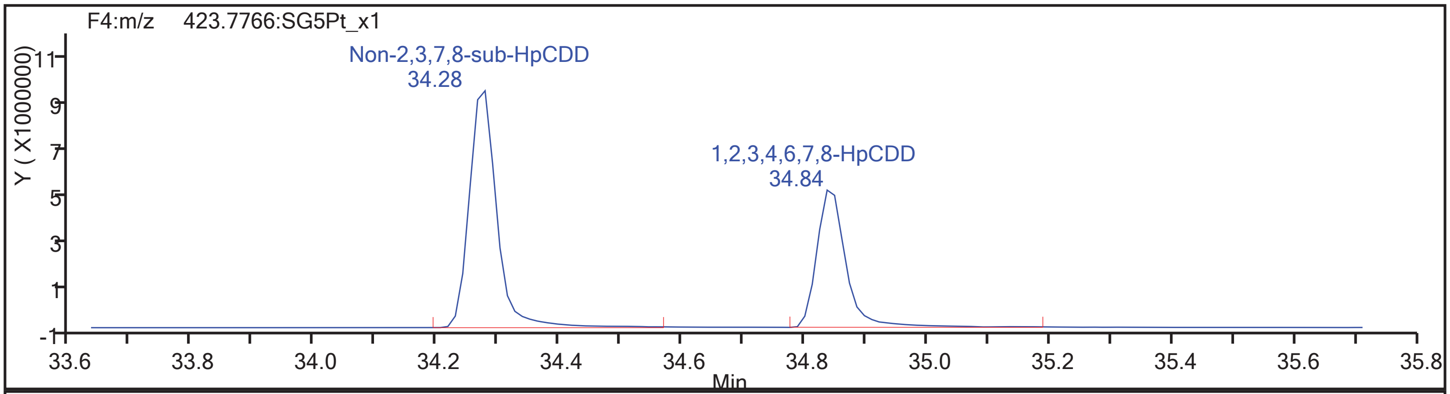

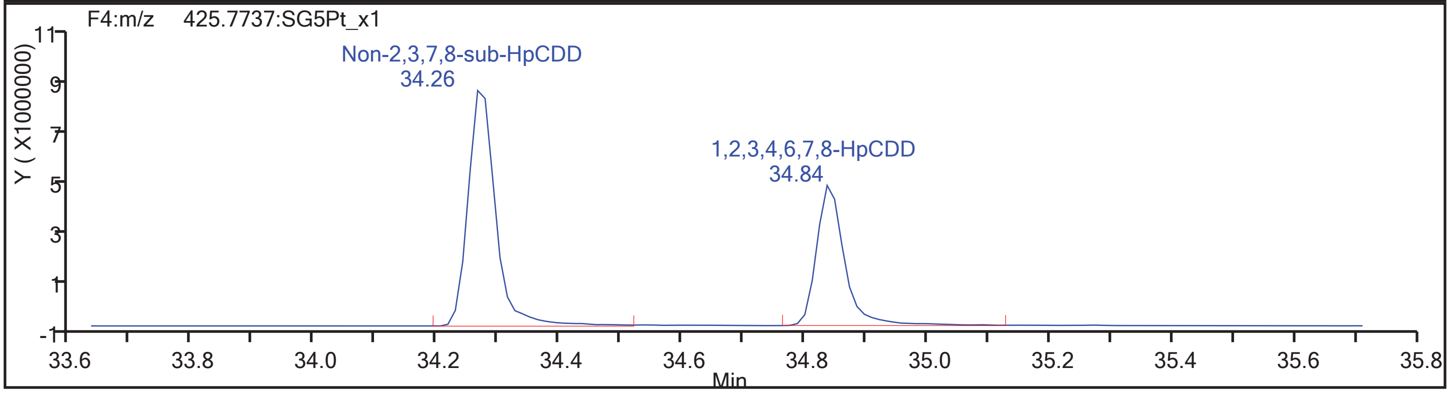

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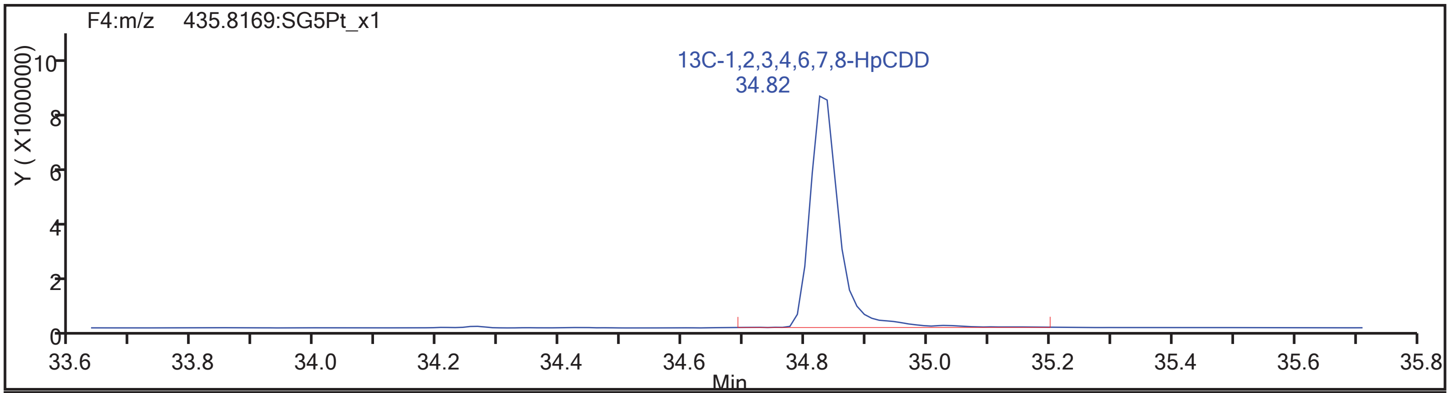

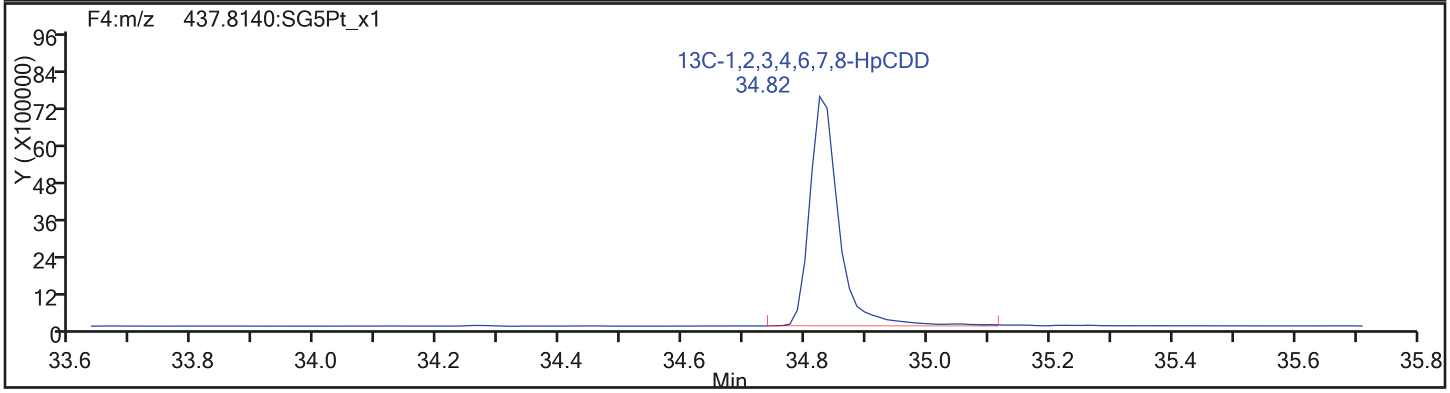

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Injection Vol: 2.0 ul

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Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS03NS

Worklist#: 195573

Sample Line#: 61

Column Type:

Column Dia:

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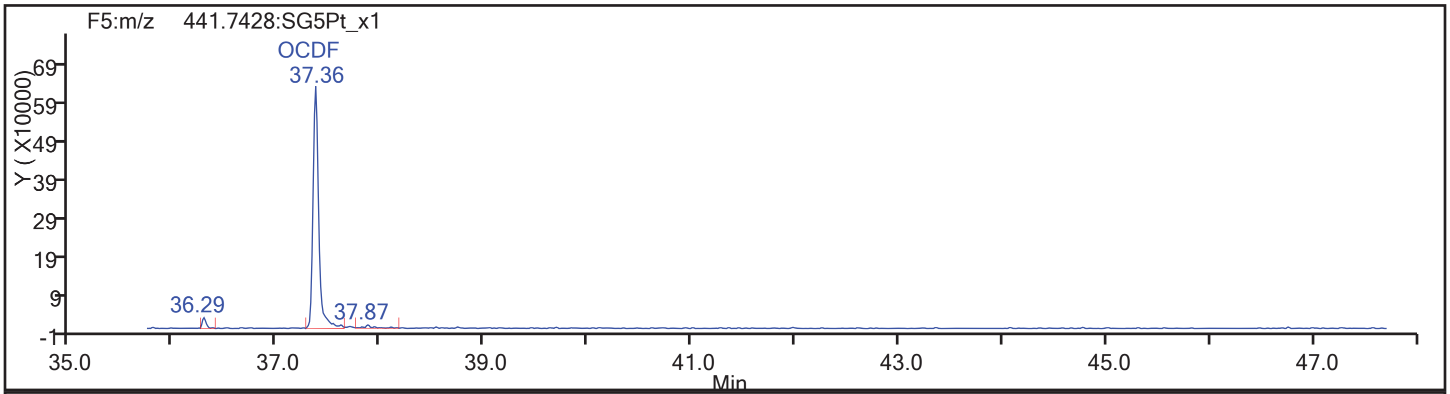
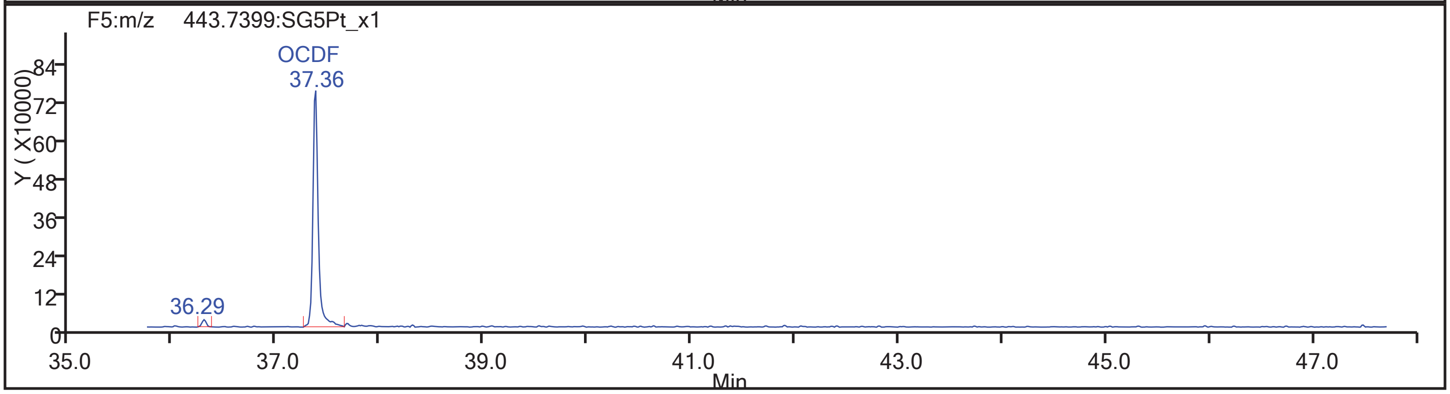
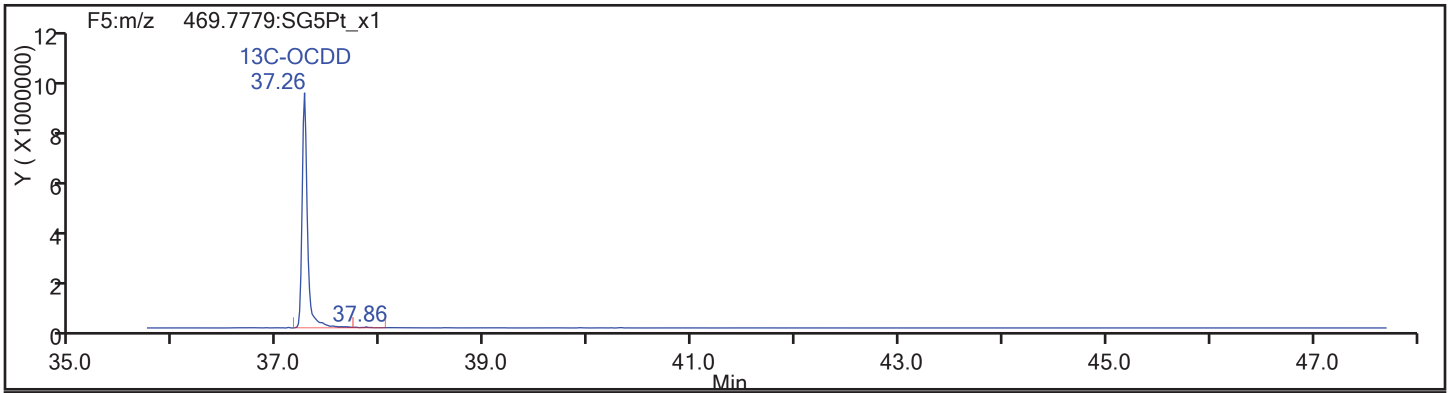
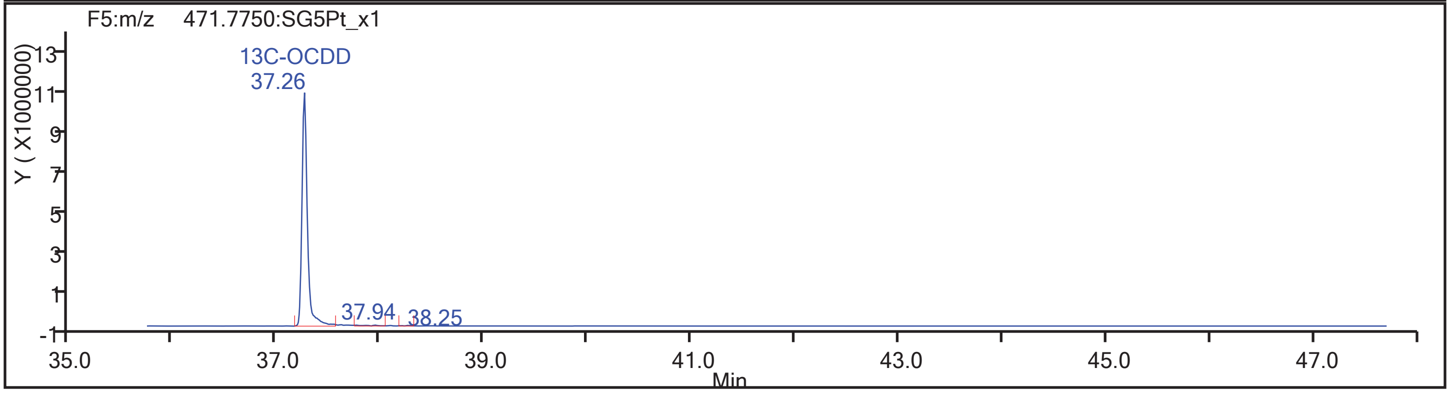




OCDF Standards





TestAmerica Sacramento

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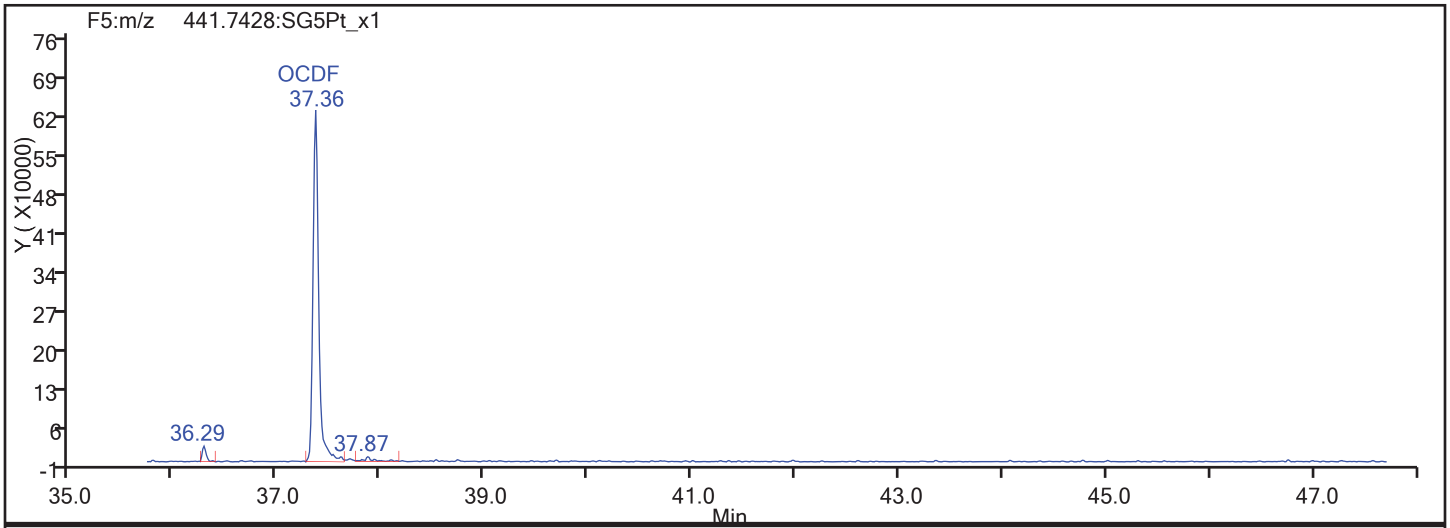
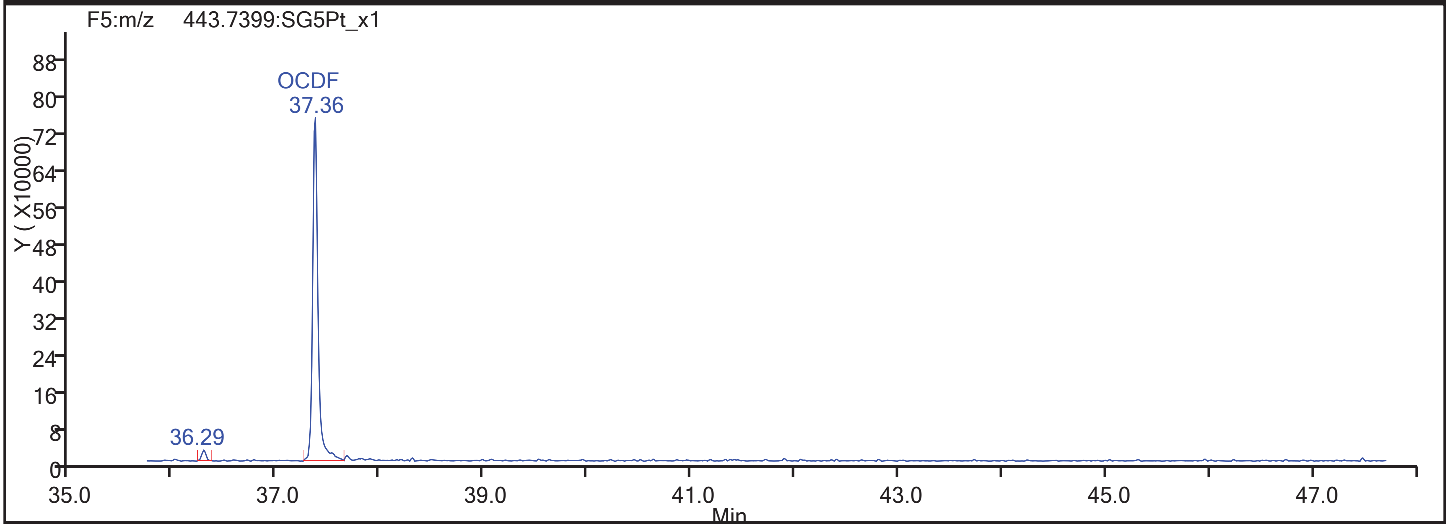
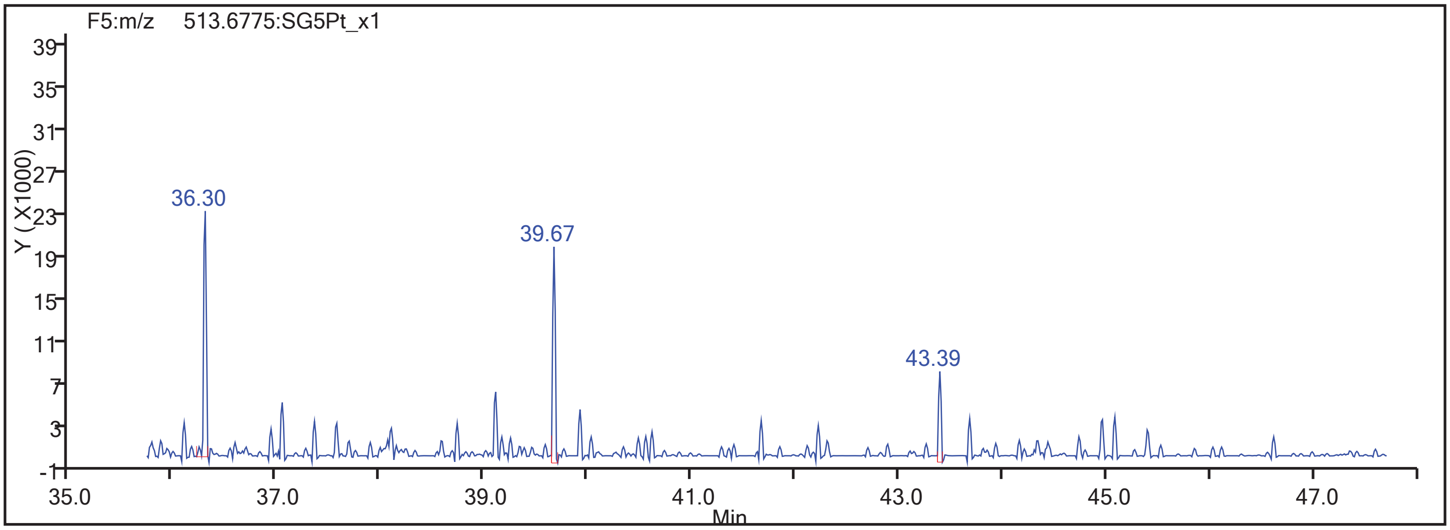




OCDF Interference Mass



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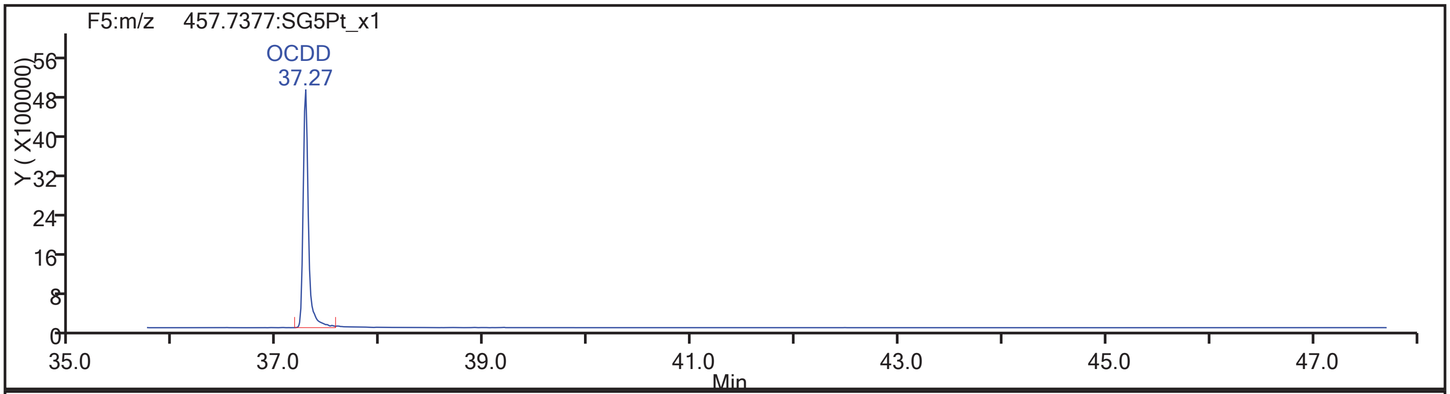

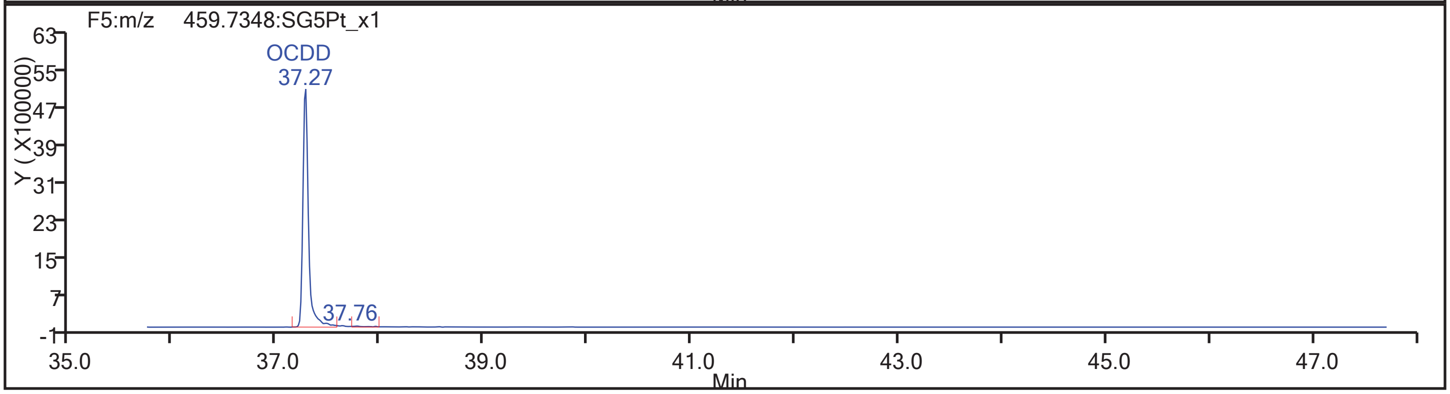

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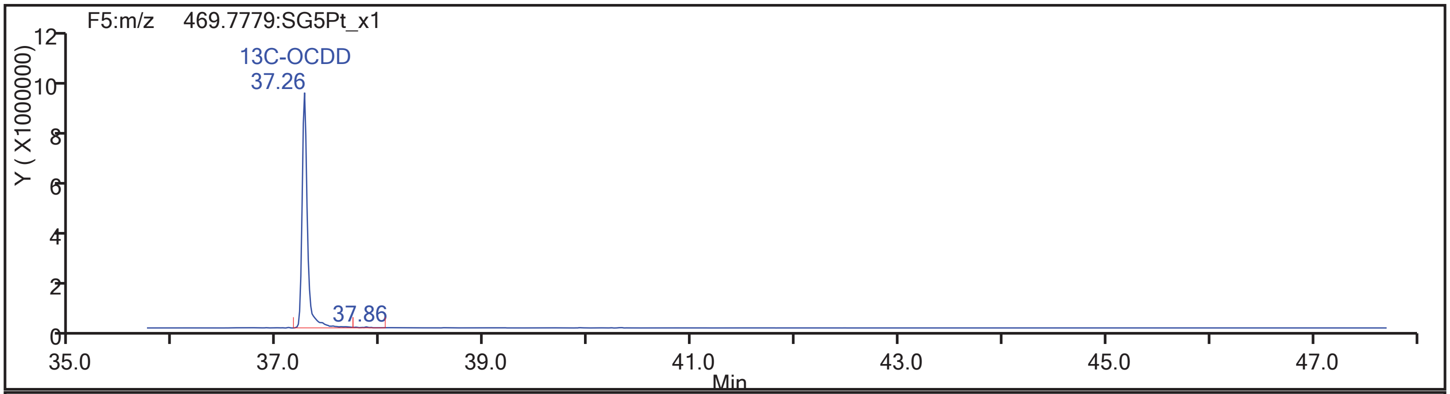

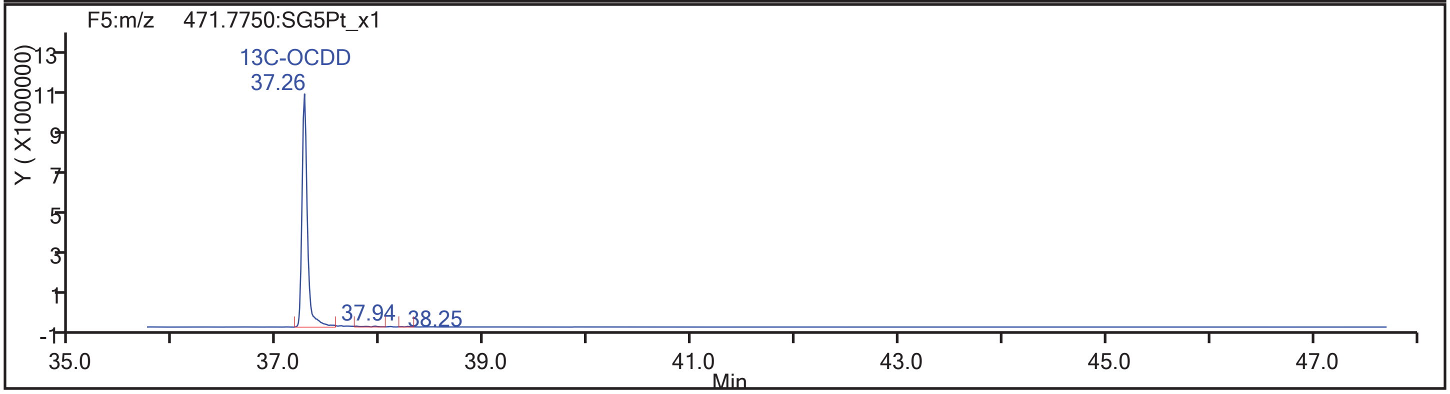

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TestAmerica Sacramento

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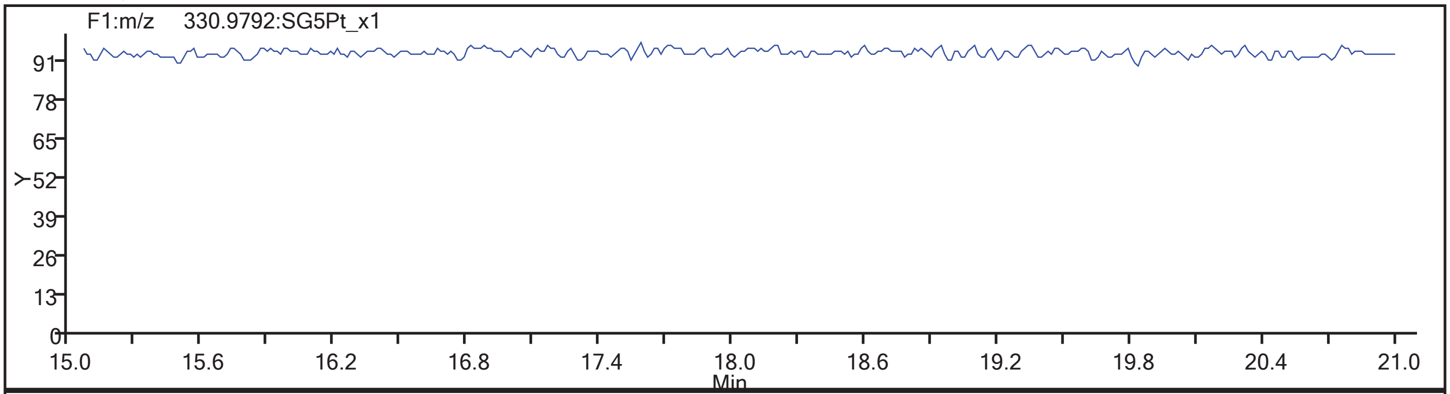
Column Type:
Column Dia: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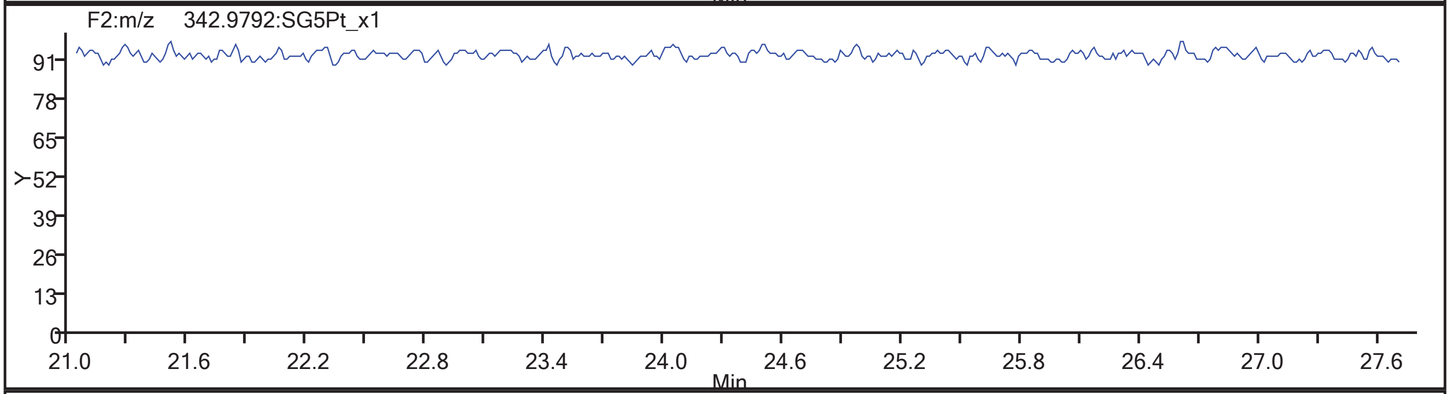
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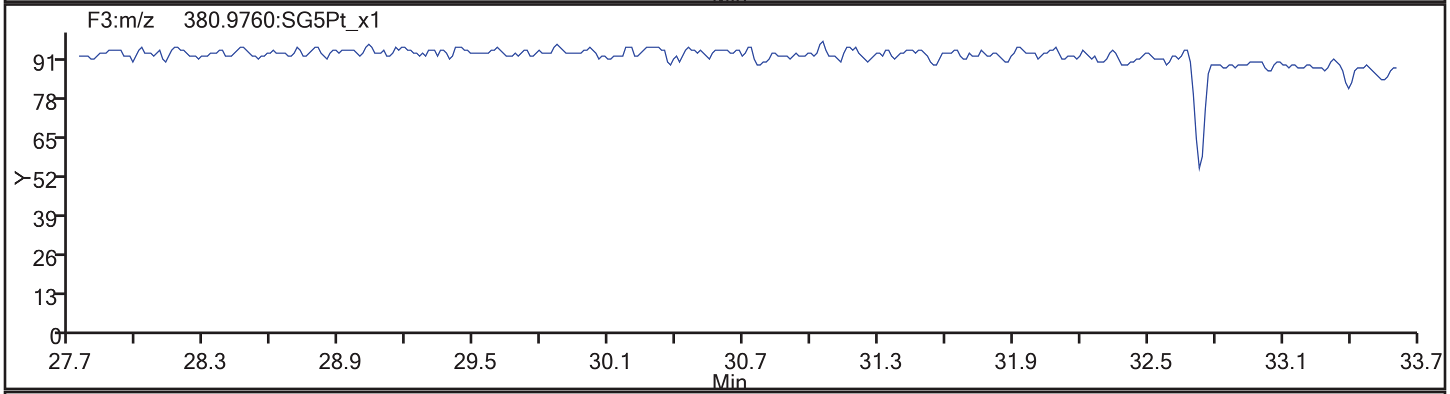
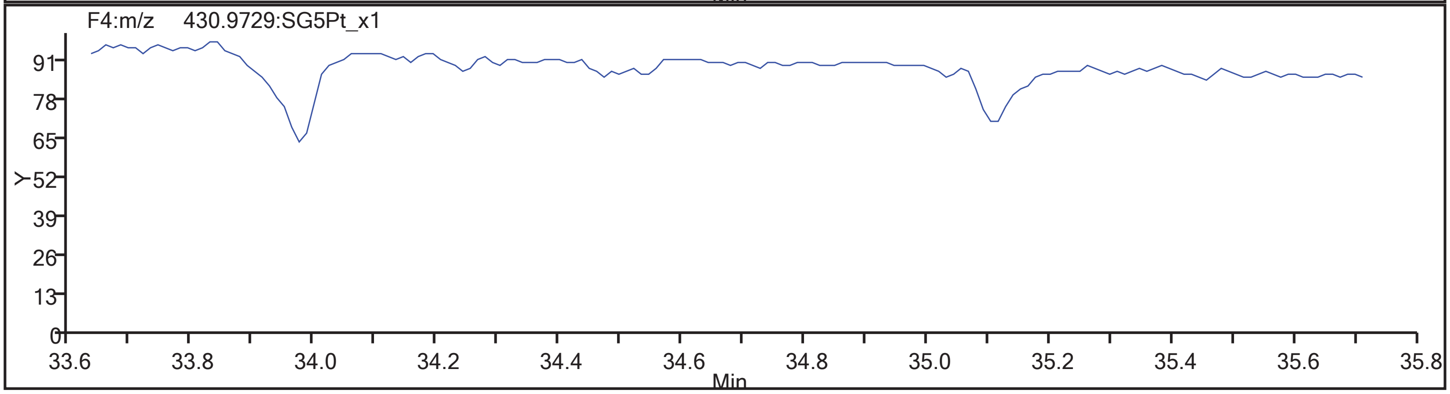
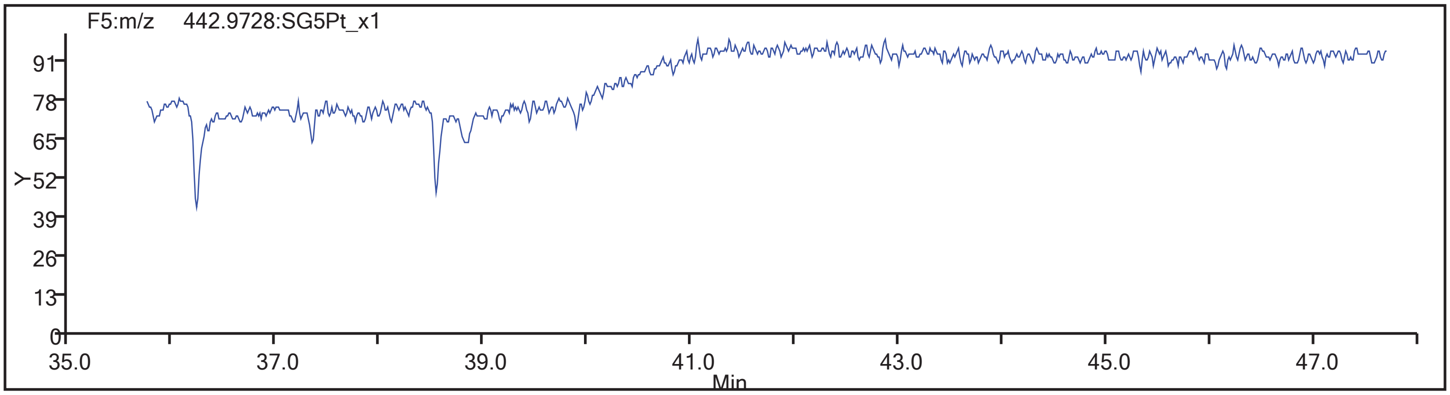

F3:m/z 380.9760:SG5Pt_x1


F4:m/z 430.9729:SG5Pt_x1

Report Date: 06-Dec-2017 14:06:14	Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_61.d		
Injection Date:	18-Nov-2017 18:39:20	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	195573	Sample Line#:	61
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP026SS03NS RERA
Lab Sample ID: 160-24924-2 RERA
Matrix: Solid
Lab File ID: 05DE179D2_005.d
Analysis Method: 8290A
Date Collected: 10/05/2017 16:11
Extract. Method: 8290
Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.03(g)
Date Analyzed: 12/05/2017 14:05
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 12.1
GPC Cleanup:(Y/N) N
Analysis Batch No.: 198469
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	*2,3,7,8-TCDF*	*1.4*	*H*	*1.1*	0.45	*0.43*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	64		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_005.d				
Lims ID:	160-24924-G-2-B				
Client ID:	SHAD041DP026SS03NS				
Sample Type:	Client				
Inject. Date:	05-Dec-2017 14:05:14	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-2-B				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	05-Dec-2017 23:47:44	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK005				

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.981	104453903	0.75	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.120	84510636	0.79	1.2599	64.2	64.2	0.3893	0.3893	64.22	
2,3,7,8-TCDF	16.147	575736	0.72	1.0784	0.6317	0.6317	0.1907	0.1907		
D 13C-2,3,7,8-TCDD	14.721	61827141	0.74	0.9567	61.9	61.9	0.9198	0.9198	61.87	
2,3,7,8-TCDD	14.748	625378	0.75	1.1123	0.9094	0.9094	0.1305	0.1305		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Report Date: 05-Dec-2017 23:47:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_005.d
Lims ID: 160-24924-G-2-B
Client ID: SHAD041DP026SS03NS
Sample Type: Client
Inject. Date: 05-Dec-2017 14:05:14 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-2-B
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:44 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

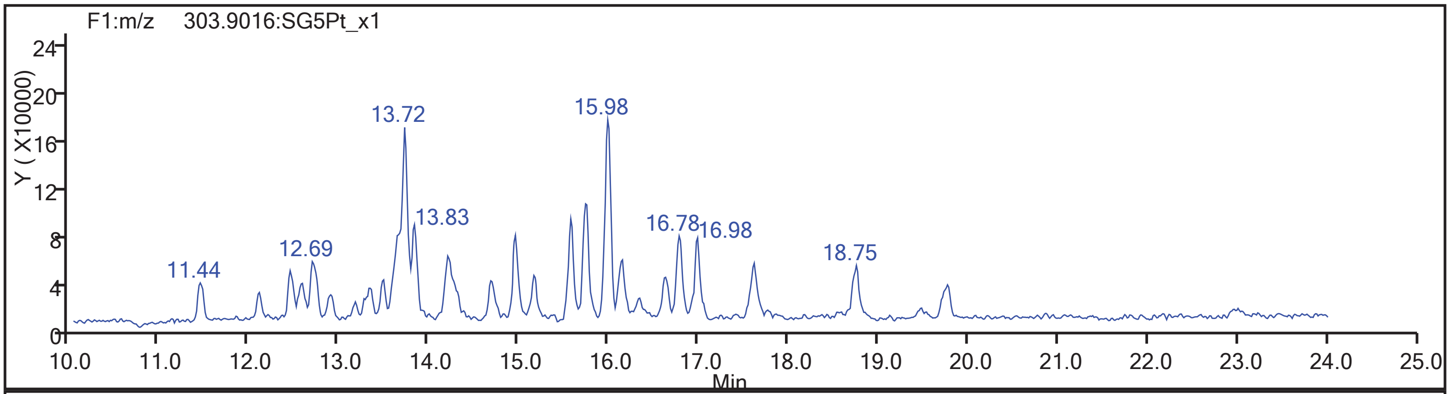
Signal	RT (min.)	Adj RT (min.)	M Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.981	14.967	1		44820165	9268930	46814	117035	198		
333.9339	14.981	14.967	1		59633738	12584932	30109	75272	418	0.75(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.120	16.106	1	1.076	37266776	7612705	21767	54417	350		
317.9389	16.120	16.106	1	1.076	47243860	9755227	21103	52757	462	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.147	16.119	2	1.002	241296	45960	7910	19775	6		
305.8987	16.133	16.119	1	1.001	334440	62170	6381	15952	10	0.72(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.721	14.706	1	0.983	26375458	5619102	46814	117035	120		
333.9339	14.721	14.706	1	0.983	35451683	7846619	30109	75272	261	0.74(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.748	14.734	1	1.002	269006	48623	4465	11162	11		
321.8936	14.748	14.734	1	1.002	356372	68930	3353	8382	21	0.75(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				7910	19775			
Total Dioxins & Furans											
303.9016		0.0	0				7910	19775			

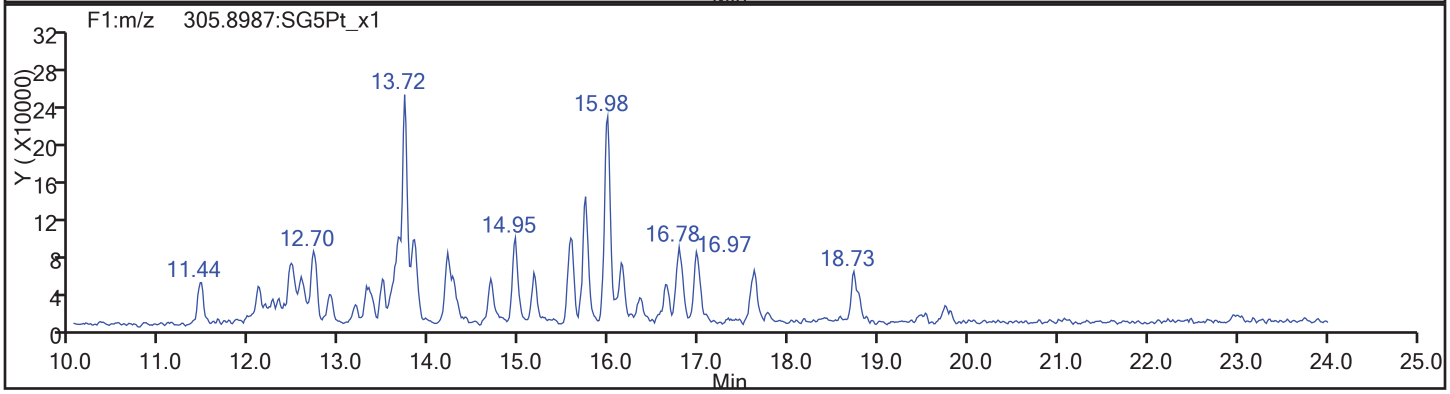
Report Date: 05-Dec-2017 23:47:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

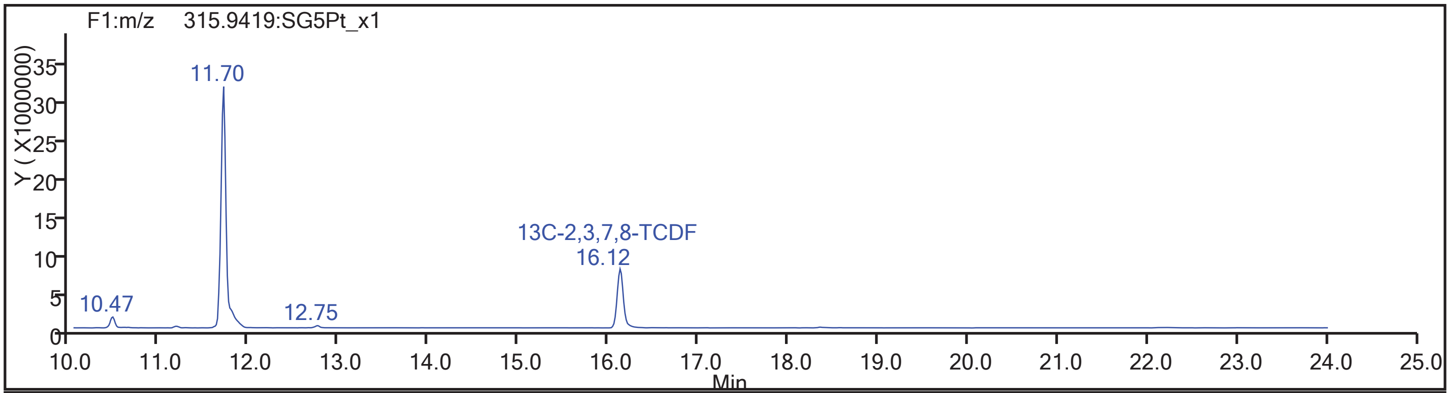
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_005.d		
Injection Date:	05-Dec-2017 14:05:14	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	198469	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

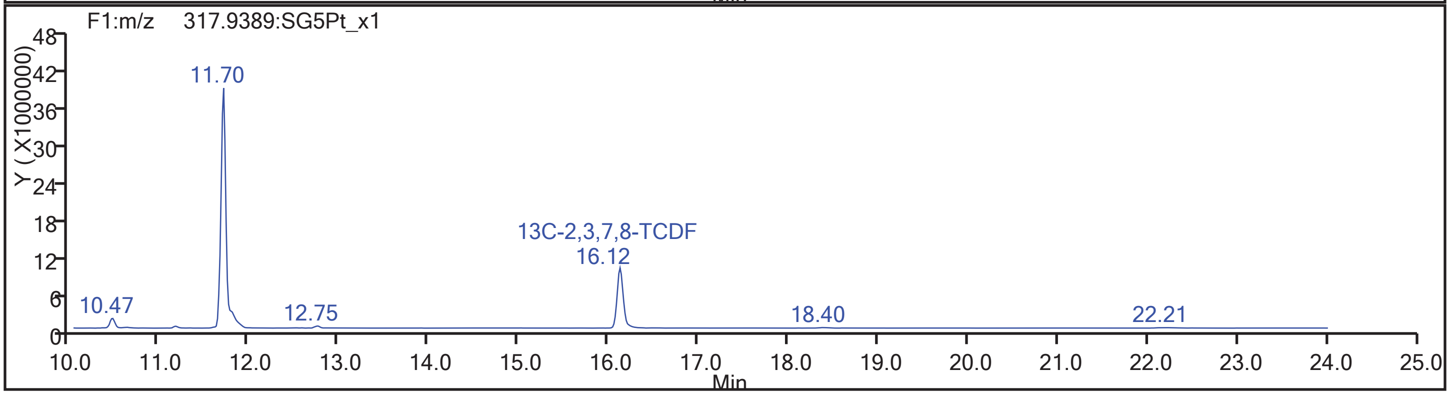
TCDF





TCDF Standards





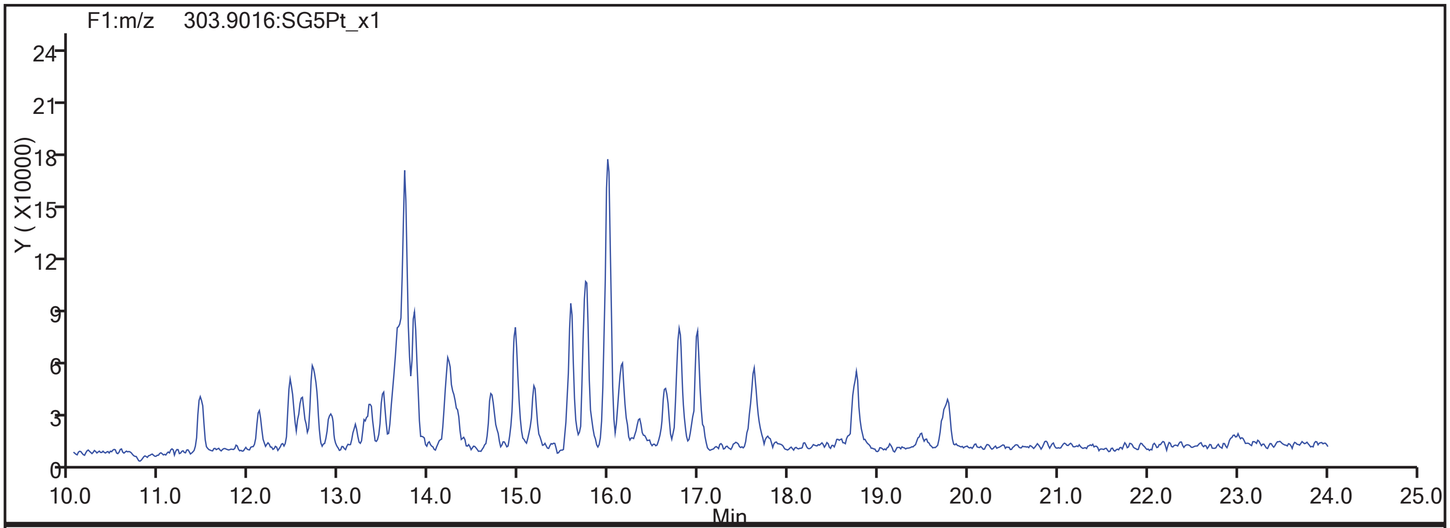
Report Date: 05-Dec-2017 23:47:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

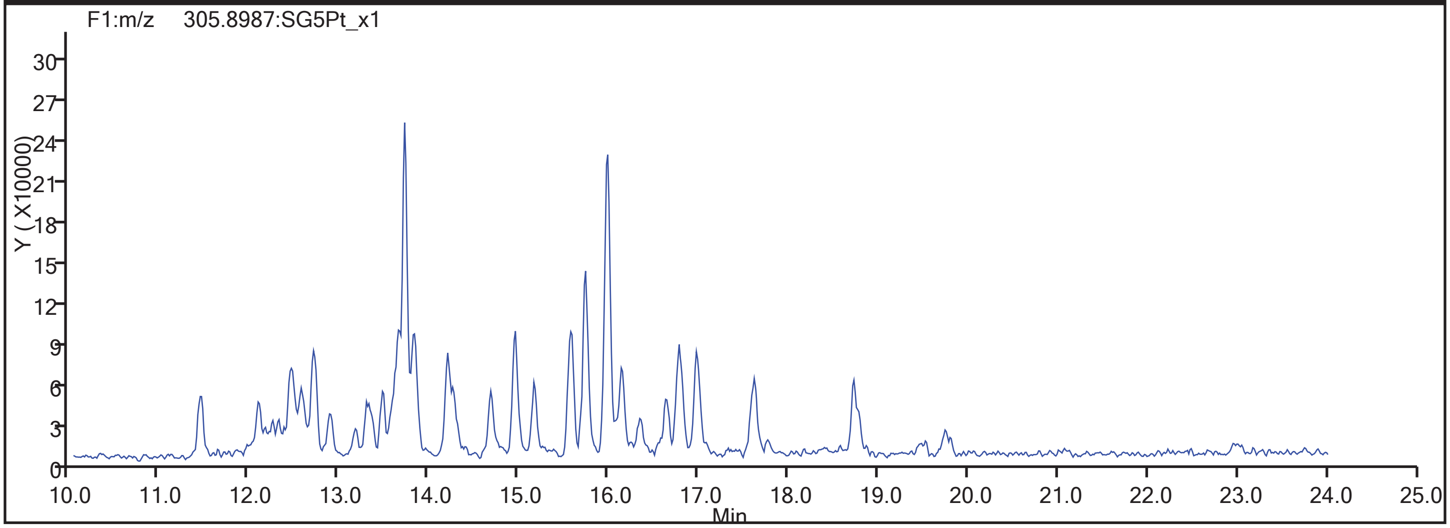
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_005.d

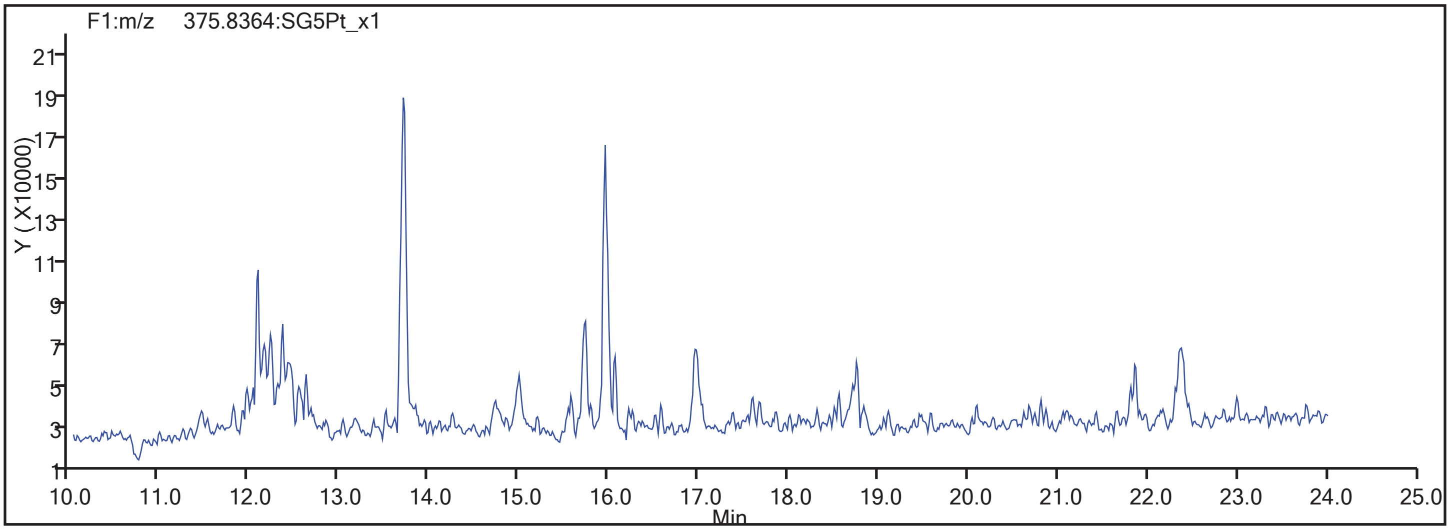
Injection Date:	05-Dec-2017 14:05:14	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	198469	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF



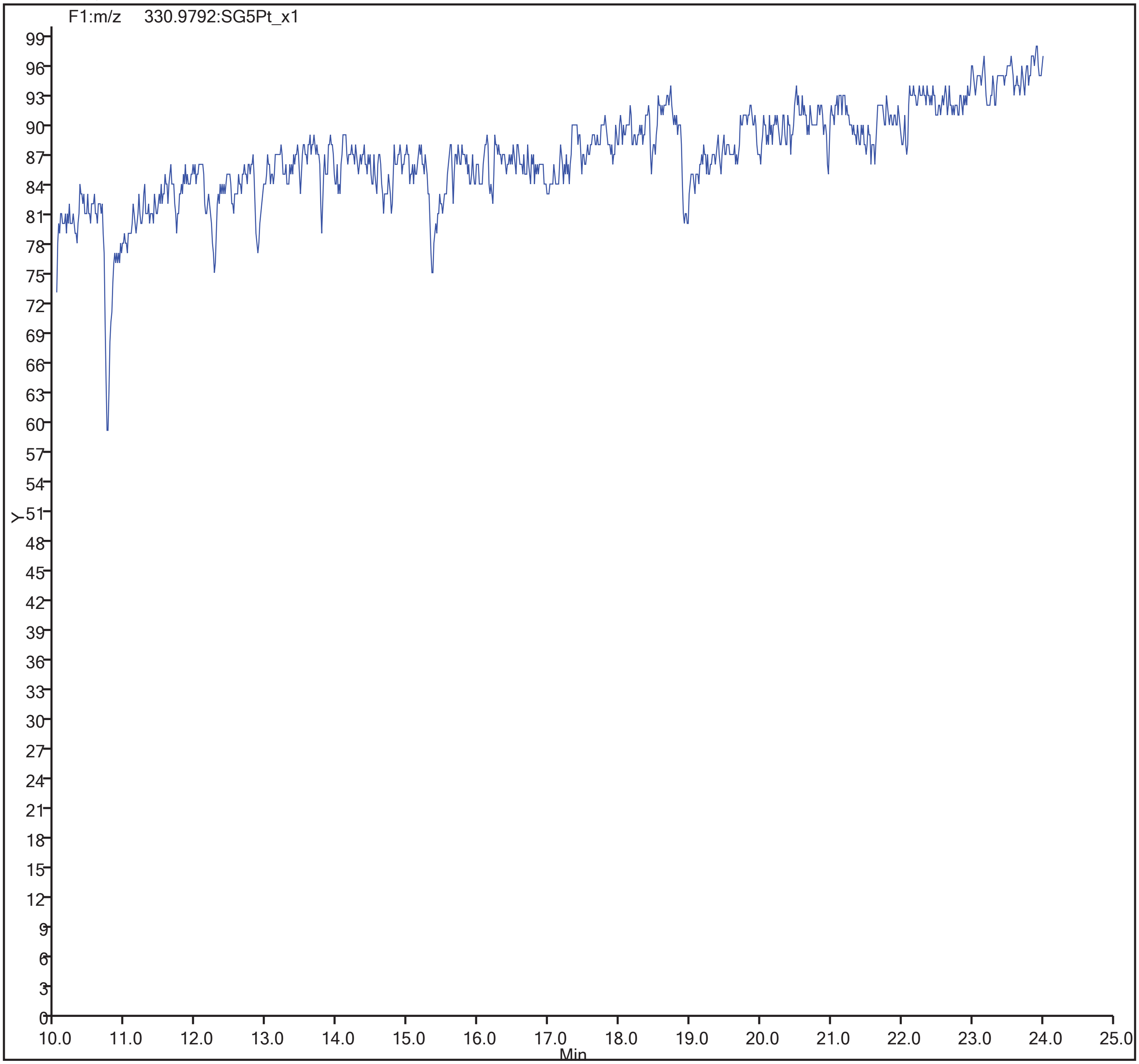


TCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_005.d		
Injection Date:	05-Dec-2017 14:05:14	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS03NS		
Worklist#:	198469	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP026SS04NS	Lab Sample ID: 160-24924-3
Matrix: Solid	Lab File ID: 13NO1710D5_20.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:15
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 9.99(g)	Date Analyzed: 11/14/2017 03:24
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 9.6	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194428	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.44	U	1.1	0.44	0.053
51207-31-9	2,3,7,8-TCDF	0.44	U	1.1	0.44	0.040
40321-76-4	1,2,3,7,8-PeCDD	0.83	U	5.5	0.83	0.070
57117-41-6	1,2,3,7,8-PeCDF	0.83	U	5.5	0.83	0.050
57117-31-4	2,3,4,7,8-PeCDF	0.83	U	5.5	0.83	0.051
39227-28-6	1,2,3,4,7,8-HxCDD	0.20	J M	5.5	2.2	0.087
57653-85-7	1,2,3,6,7,8-HxCDD	0.16	J M	5.5	2.2	0.067
19408-74-3	1,2,3,7,8,9-HxCDD	2.2	U	5.5	2.2	0.066
70648-26-9	1,2,3,4,7,8-HxCDF	0.83	U	5.5	0.83	0.053
57117-44-9	1,2,3,6,7,8-HxCDF	1.1	U	5.5	1.1	0.044
72918-21-9	1,2,3,7,8,9-HxCDF	1.1	U	5.5	1.1	0.053
60851-34-5	2,3,4,6,7,8-HxCDF	0.83	U	5.5	0.83	0.049
35822-46-9	1,2,3,4,6,7,8-HpCDD	0.94	J	5.5	1.1	0.085
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.18	J	5.5	1.1	0.11
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.2	U	5.5	2.2	0.13
3268-87-9	OCDD	6.8	J B	11	4.4	0.085
39001-02-0	OCDF	0.26	J	11	4.4	0.078

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	65		40-135
89059-46-1	13C-2,3,7,8-TCDF	60		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	62		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	61		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	60		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	60		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	60		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	42		40-135
114423-97-1	13C-OCDD	52		40-135

Report Date: 15-Nov-2017 08:19:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d
Lims ID: 160-24924-G-3-A
Client ID: SHAD041DP026SS04NS
Sample Type: Client
Inject. Date: 14-Nov-2017 03:24:03 ALS Bottle#: 18 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-3-a RI 160-24924-g-3-a RI
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 15-Nov-2017 08:19:21 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK023

First Level Reviewer: krongsingn Date: 15-Nov-2017 08:19:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.823	132120083	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.309	100496322	0.76	1.2741	59.7	59.7	0.2628	0.2628	59.70	
2,3,7,8-TCDF	17.324						0.0182	0.0182		
A Non-2,3,7,8-sub-TCDF	17.022						0.0	0.0		
S Total TCDF							0.0182	0.0182		
D 13C-2,3,7,8-TCDD	18.020	85042999	0.78	0.9921	64.9	64.9	0.4071	0.4071	64.88	
2,3,7,8-TCDD	18.035						0.0241	0.0241		
A Non-2,3,7,8-sub-TCDD	17.468						0.0	0.0		
S Total TCDD							0.0241	0.0241		
D 13C-1,2,3,7,8-PeCDF	22.328	78358882	1.55	0.9696	61.2	61.2	0.3679	0.3679	61.17	
1,2,3,7,8-PeCDF	22.342						0.0225	0.0225		
2,3,4,7,8-PeCDF	23.692						0.0230	0.0230		
A F1 PeCDFs	19.948						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.086						0.0	0.0		
S Total PeCDF							0.0230	0.0230		
D 13C-1,2,3,7,8-PeCDD	24.374	62302621	1.66	0.7588	62.1	62.1	0.1483	0.1483	62.15	
1,2,3,7,8-PeCDD	24.415						0.0315	0.0315		
A Non-2,3,7,8-sub-PeCDD	23.290						0.0	0.0		
S Total PeCDD							0.0315	0.0315		
D 13C-1,2,3,4,7,8-HxCDF	30.486	57419253	0.52	0.9644	60.0	60.0	0.6561	0.6561	60.03	
1,2,3,4,7,8-HxCDF	30.500						0.0239	0.0239		
1,2,3,6,7,8-HxCDF	30.687						0.0198	0.0198		
2,3,4,6,7,8-HxCDF	31.512						0.0220	0.0220		
D 13C-1,2,3,7,8,9-HxCDF	32.297	59617106	0.51							
1,2,3,7,8,9-HxCDF	32.311						0.0238	0.0238		
A Non-2,3,7,8-sub-HxCDF	30.141						0.0	0.0		
S Total HxCDF							0.0239	0.0239		
* 13C-1,2,3,7,8,9-HxCDD	32.110	99182420	1.25	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.698	44687	1.05	0.9505	0.0899	0.0899	0.0393	0.0393		M
D 13C-1,2,3,6,7,8-HxCDD	31.791	52290223	1.24	0.8791	60.0	60.0	0.4983	0.4983	59.97	
1,2,3,6,7,8-HxCDD	31.791	45761	1.22	1.2343	0.0709	0.0709	0.0303	0.0303		M

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.124						0.0300	0.0300		
A Non-2,3,7,8-sub-HxCDD	30.779	189345	1.17	1.1438	0.3166	0.3166	0.0327	0.1790		
S Total HxCDD					0.4774	0.4774	0.0332	0.0332		
1,2,3,4,6,7,8-HpCDF	33.734	43132	0.90	1.6399	0.0826	0.0826	0.0477	0.0477		
D 13C-1,2,3,4,6,7,8-HpCDF	33.721	31854236	0.44	0.7618	42.2	42.2	0.8190	0.8190	42.16	
1,2,3,4,7,8,9-HpCDF	34.803						0.0588	0.0588		
A Non-2,3,7,8-sub-HpCDF	34.268						0.0	0.0		
S Total HpCDF					0.0826	0.0826	0.0532	0.0532		
D 13C-1,2,3,4,6,7,8-HpCDD	34.511	46105777	1.06	0.7762	59.9	59.9	0.5185	0.5185	59.89	
1,2,3,4,6,7,8-HpCDD	34.511	194515	1.04	0.9932	0.4248	0.4248	0.0386	0.0386		
A Non-2,3,7,8-sub-HpCDD	34.238	306642	1.11	0.9932	0.6697	0.6697	0.0386	0.6697		
S Total HpCDD					1.094	1.094	0.0386	0.0386		
D 13C-OCDD	36.834	64522280	0.88	0.6314	103.0	103.0	0.2182	0.2182	51.52	
OCDF	36.930	50021	0.89	1.3460	0.1352	0.1152	0.0354	0.0354		RQ
OCDD	36.846	1057980	0.91	1.0604	3.093	3.093	0.0383	0.0383		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d
Lims ID: 160-24924-G-3-A
Client ID: SHAD041DP026SS04NS
Sample Type: Client
Inject. Date: 14-Nov-2017 03:24:03 ALS Bottle#: 18 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-3-a RI 160-24924-g-3-a RI
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 15-Nov-2017 08:19:21 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK023

First Level Reviewer: krongsingn Date: 15-Nov-2017 08:19:21

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.823	17.823	0		58055857	14411767	23680	59200	609		
333.9339	17.823	17.823	0		74064226	18438457	29387	73467	627	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.309	17.309	0	0.971	43285377	10295159	27558	68895	374		
317.9389	17.309	17.309	0	0.971	57210945	13640803	16446	41115	829	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.324						638	1595			
305.8987	17.324						1335	3337			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.022						638	1595			
305.8987	17.022						1335	3337			
13C-2,3,7,8-TCDD											
331.9368	18.020	18.020	0	1.011	37379566	7834463	23680	59200	331		
333.9339	18.020	18.020	0	1.011	47663433	9872936	29387	73467	336	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.035						960	2400			
321.8936	18.035						745	1862			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.468						960	2400			
321.8936	17.468						745	1862			
13C-1,2,3,7,8-PeCDF											
351.9000	22.328	22.328	0	1.253	47591357	8141954	28382	70955	287		
353.8970	22.328	22.328	0	1.253	30767525	5160471	18487	46217	279	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.342						450	1125			
341.8567	22.342						944	2360			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	23.692						450	1125			
341.8567	23.692						944	2360			
A F1 PeCDFs											
339.8597	19.948						588	1470			
341.8567	19.948						1289	3222			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.086						450	1125			
341.8567	23.086						944	2360			
13C-1,2,3,7,8-PeCDD											
367.8949	24.374	24.387	-1	1.368	38852765	5886980	7424	18560	793		
369.8919	24.374	24.387	-1	1.368	23449856	3582973	7362	18405	487	1.66(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.415						819	2047			
357.8516	24.415						312	780			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.290						819	2047			
357.8516	23.290						312	780			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.486	30.474	1	0.949	19590466	3600700	20147	50367	179		
385.8610	30.486	30.474	1	0.949	37828787	6943955	37467	93667	185	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.500						744	1860			
375.8178	30.500						669	1672			
1,2,3,6,7,8-HxCDF											
373.8208	30.687						744	1860			
375.8178	30.687						669	1672			
2,3,4,6,7,8-HxCDF											
373.8208	31.512						744	1860			
375.8178	31.512						669	1672			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.297	32.297	0	1.006	20232907	4944017	20147	50367	245		
385.8610	32.297	32.297	0	1.006	39384199	9553141	37467	93667	255	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.311						744	1860			
375.8178	32.311						669	1672			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.141						744	1860			
375.8178	30.141						669	1672			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.110	32.111	0		55062673	12569336	23926	59815	525		
403.8529	32.110	32.111	0		44119747	10195309	15964	39910	639	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.698	31.698	0	0.997	22891	5760	948	2370	6		M
391.8127	31.698	31.698	0	0.997	21796	4752	821	2052	6	1.05(1.05-1.43)	M

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.791	31.791	0	0.990	28986546	6530172	23926	59815	273		
403.8529	31.791	31.791	0	0.990	23303677	5295107	15964	39910	332	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											M
389.8157	31.791	31.805	-1	1.000	25149	5228	948	2370	6		M
391.8127	31.804	31.805	0	1.000	20612	4787	821	2052	6	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.124						948	2370			
391.8127	32.124						821	2052			
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.501	30.779	-77	0.928	42599	6879	948	2370	7		
391.8127	29.501	30.779	-77	0.928	39700	5758	821	2052	7	1.07(1.05-1.43)	
389.8157	30.952	30.779	10	0.974	59518	9971	948	2370	11		
391.8127	30.939	30.779	10	0.973	47528	6961	821	2052	8	1.25(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.734	33.722	1	1.000	20433	6270	1680	4200	4		
409.7789	33.734	33.722	1	1.000	22699	5989	1054	2635	6	0.90(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.721	33.722	0	1.050	9719045	2659044	18964	47410	140		
419.8220	33.721	33.722	0	1.050	22135191	6086644	37850	94625	161	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.803						1680	4200			
409.7789	34.803						1054	2635			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.268						1680	4200			
409.7789	34.268						1054	2635			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.511	34.500	1	1.075	23763481	6133283	19256	48140	319		
437.8140	34.499	34.500	0	1.074	22342296	5836805	17394	43485	336	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.511	34.512	0	1.000	99165	20746	1018	2545	20		
425.7737	34.511	34.512	0	1.000	95350	23423	818	2045	29	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.977	34.238	-16	0.985	161214	38540	1018	2545	38		
425.7737	33.977	34.238	-16	0.985	145428	38198	818	2045	47	1.11(0.88-1.20)	
13C-OCDD											
469.7779	36.834	36.834	0	1.147	30191700	6904607	7034	17585	982		
471.7750	36.834	36.834	0	1.147	34330580	7680942	5512	13780	1393	0.88(0.76-1.02)	
OCDF											RQ
441.7428	36.930	36.930	0	1.003	23555	4968	417	1042	12		
443.7399	36.930	36.930	0	1.003	35144	5424	973	2432	6	0.67(0.76-1.02)	
	Empc Correction				26466	5582	973	2432	6		
OCDD											
457.7377	36.846	36.834	1	1.000	504081	104534	646	1615	162		
459.7348	36.834	36.834	0	1.000	553899	113314	540	1350	210	0.91(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d		
Lims ID:	160-24924-G-3-A		
Client ID:	SHAD041DP026SS04NS		
Inject. Date:	14-Nov-2017 03:24:03	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194428	Lims Sample ID:	20

Non-2,3,7,8-sub-HxCDD, RT: 30.779

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	52290223	11825279
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	52290223	11825279

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.501	42599	6879	39700	5758	0.1376	1.07	
30.952	59518	9971	47528	6961	0.1790	1.25	
Signal Totals:							
	102117	16850	87228	12719			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	189345	29569				1.17	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3166 = (189345 * 100.000) / (52290223 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d		
Lims ID:	160-24924-G-3-A		
Client ID:	SHAD041DP026SS04NS		
Inject. Date:	14-Nov-2017 03:24:03	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194428	Lims Sample ID:	20

Non-2,3,7,8-sub-HpCDD, RT: 34.238

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	46105777	11970088

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	46105777	11970088

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.977	161214	38540	145428	38198	0.6697	1.11	
Signal Totals:							
	161214	38540	145428	38198			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	306642	76738				1.11	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6697 = (306642 * 100.000) / (46105777 * 0.993)

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

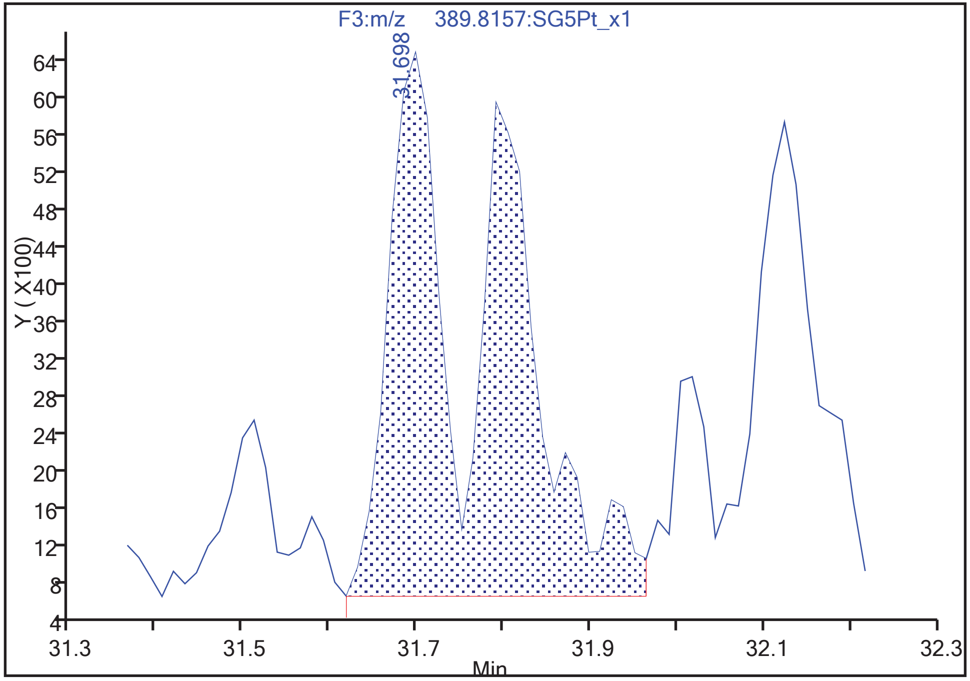
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d		
Injection Date:	14-Nov-2017 03:24:03	Instrument ID:	10D5
Lims ID:	160-24924-G-3-A	Lab Sample ID:	320-24924-3
Client ID:	SHAD041DP026SS04NS		
Operator ID:	AJS	ALS Bottle#:	18 Worklist Smp#: 20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

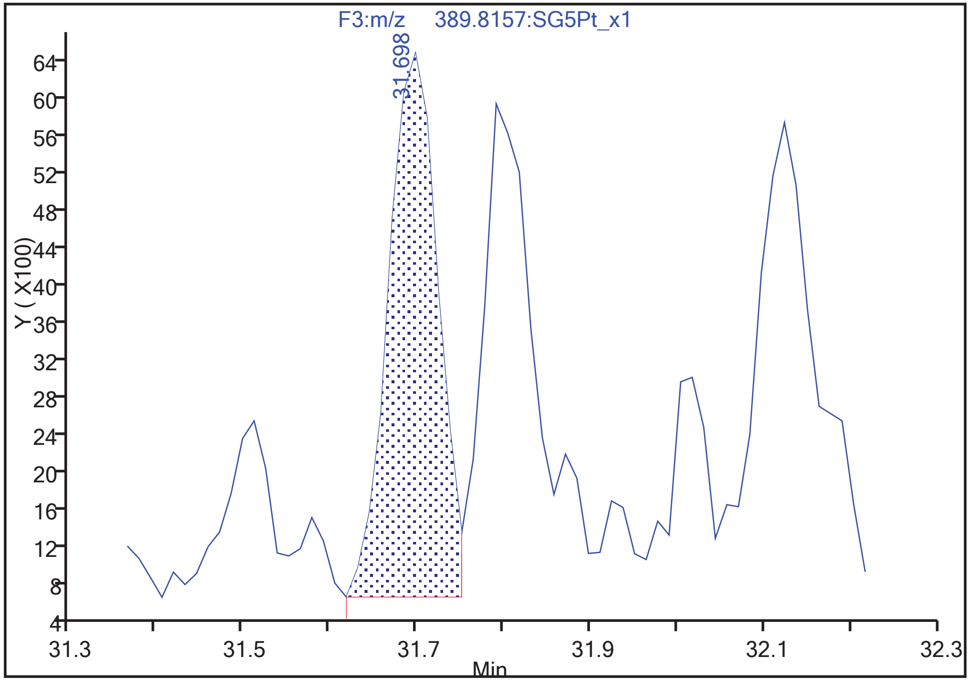
Processing Integration Results

RT:	31.70
Area:	48041
Amount:	0.181993
Amount Units:	pg/ul



Manual Integration Results

RT:	31.70
Area:	22891
Amount:	0.089914
Amount Units:	pg/ul



Reviewer: krongsingn, 15-Nov-2017 08:17:47

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 15-Nov-2017 08:19:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

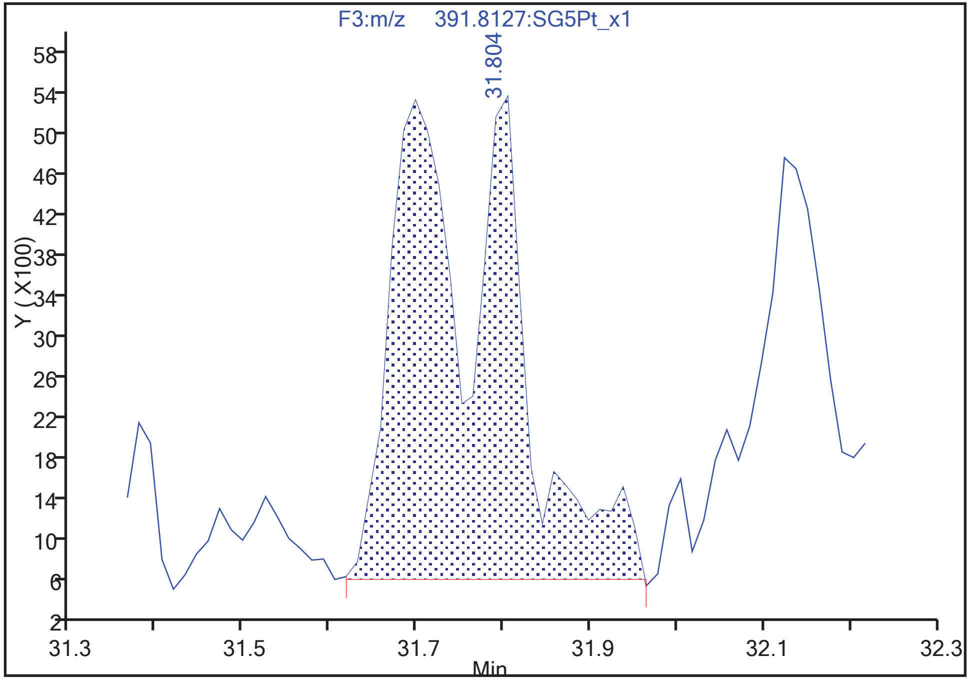
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d				
Injection Date:	14-Nov-2017 03:24:03	Instrument ID:	10D5		
Lims ID:	160-24924-G-3-A	Lab Sample ID:	320-24924-3		
Client ID:	SHAD041DP026SS04NS				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

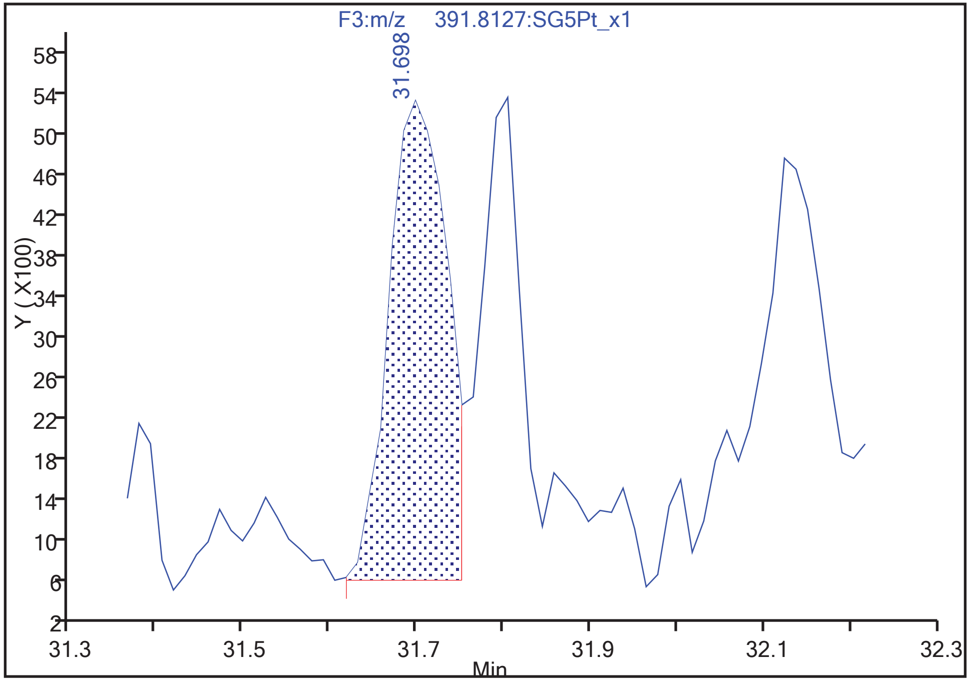
RT:	31.80
Area:	42409
Amount:	0.181993
Amount Units:	pg/ul

Processing Integration Results



RT:	31.70
Area:	21796
Amount:	0.089914
Amount Units:	pg/ul

Manual Integration Results



Reviewer: krongsingn, 15-Nov-2017 08:17:49

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

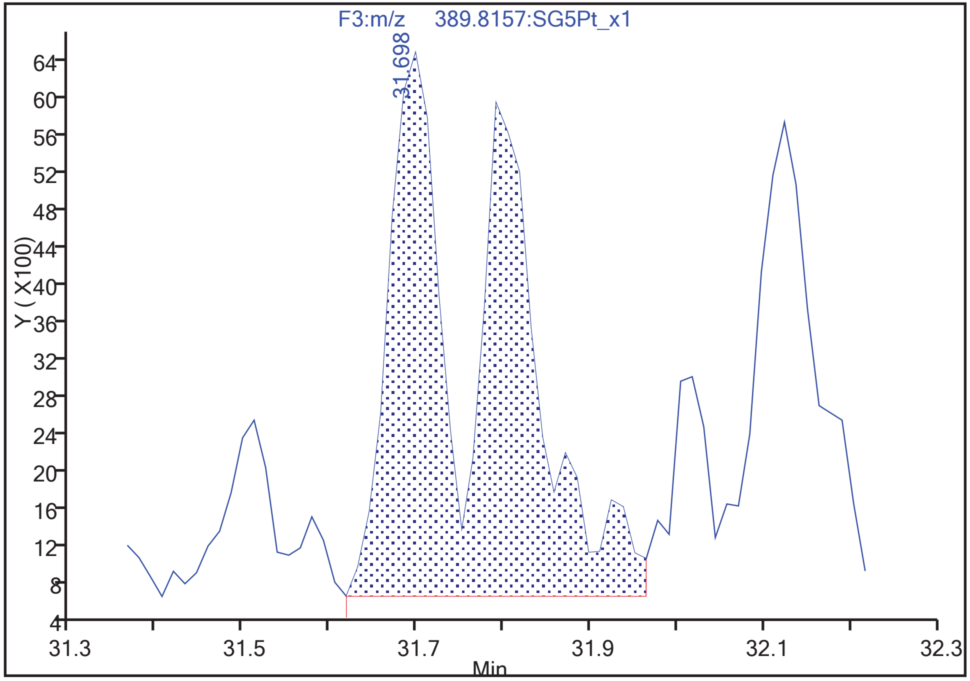
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d				
Injection Date:	14-Nov-2017 03:24:03	Instrument ID:	10D5		
Lims ID:	160-24924-G-3-A	Lab Sample ID:	320-24924-3		
Client ID:	SHAD041DP026SS04NS				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

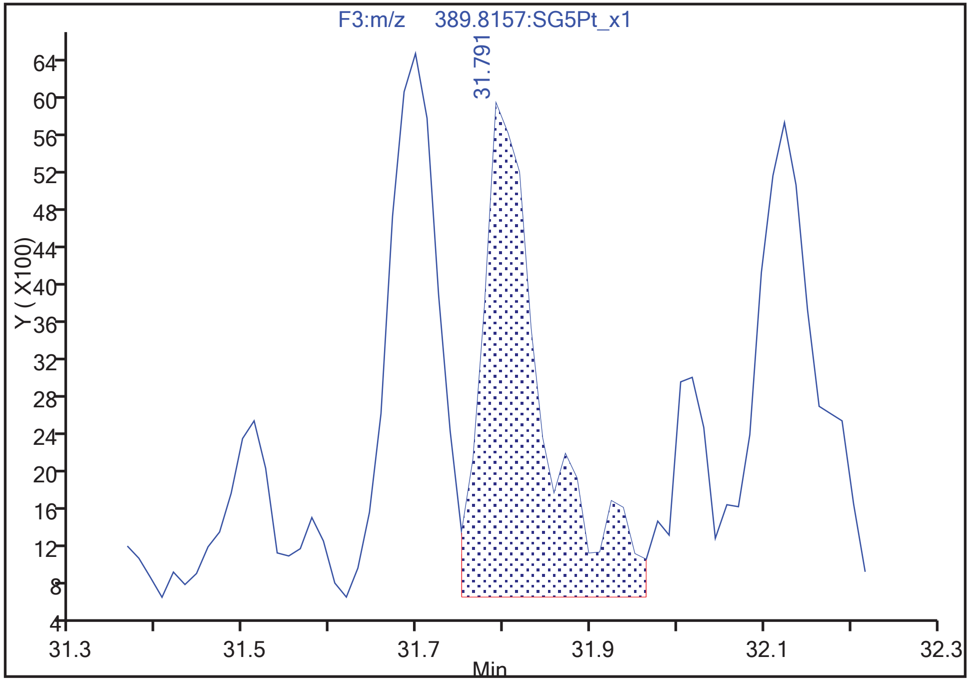
RT:	31.70
Area:	48041
Amount:	0.140139
Amount Units:	pg/ul

Processing Integration Results



RT:	31.79
Area:	25149
Amount:	0.070900
Amount Units:	pg/ul

Manual Integration Results



Reviewer: krongsingn, 15-Nov-2017 08:17:55

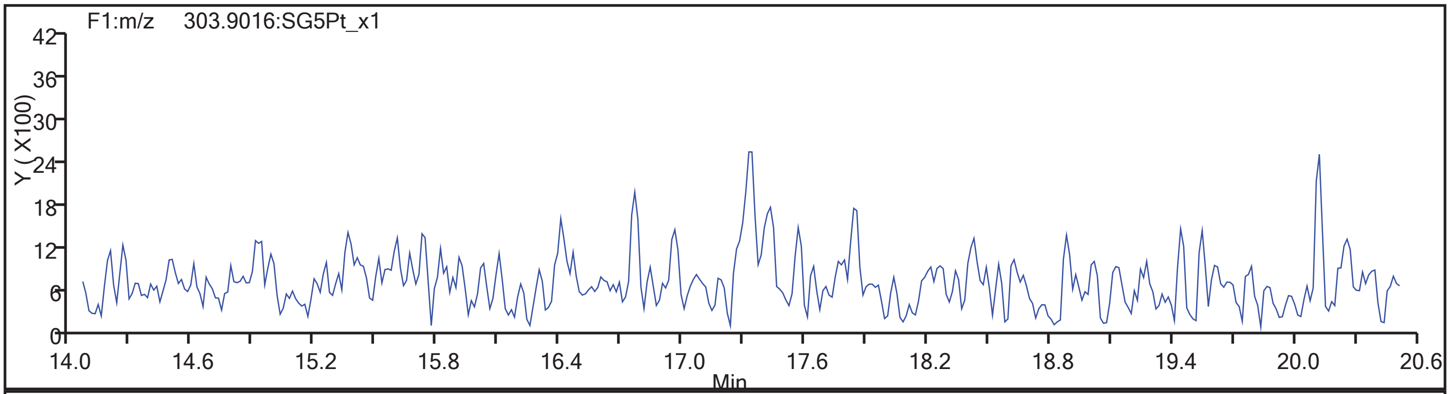
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

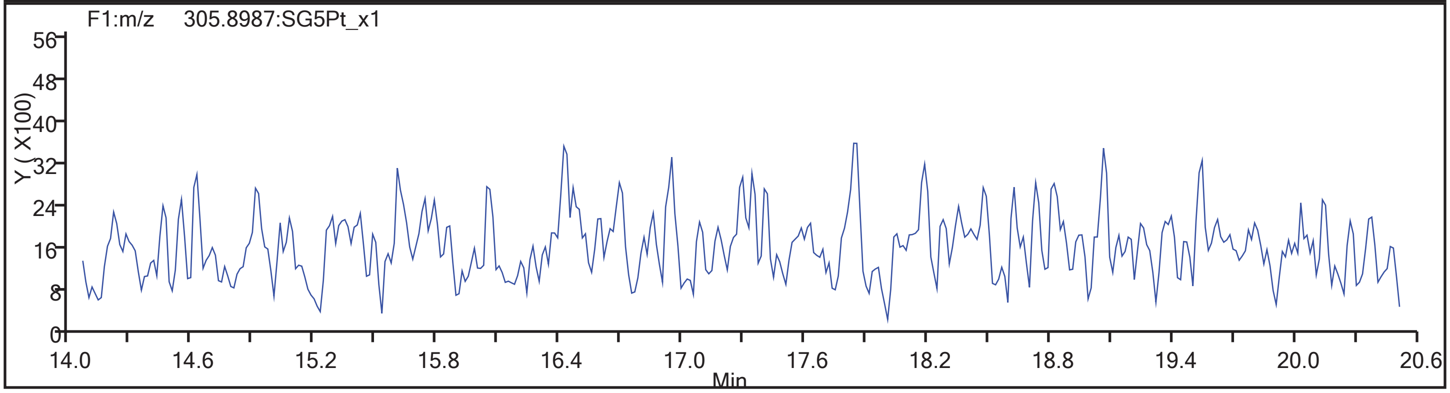
Report Date: 15-Nov-2017 08:19:23　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

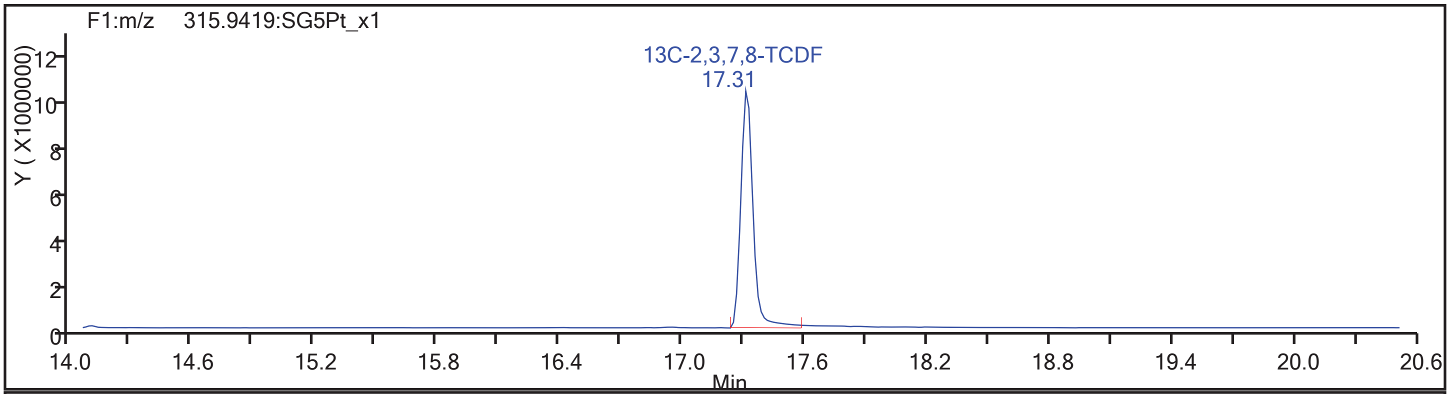
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d
Injection Date: 14-Nov-2017 03:24:03　　Injection Vol: 2.0 ul
Instrument ID: 10D5　　Operator ID: AJS
Method: Dioxin_10D5　　Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS04NS
Worklist#: 194428　　Sample Line#: 20
Column Type: DB-5　　Column Dia: 0.32 mm

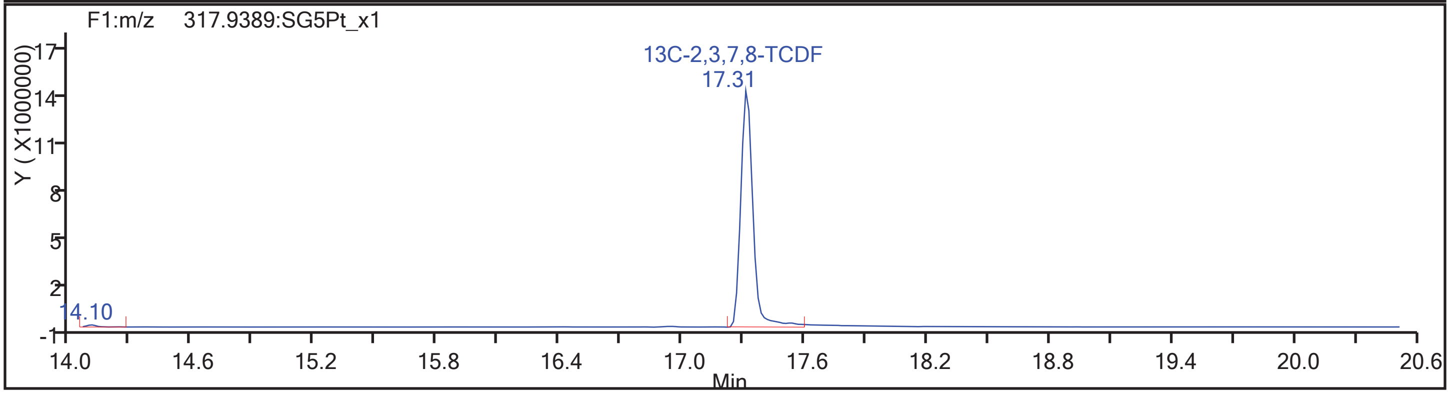
TCDF





TCDF Standards



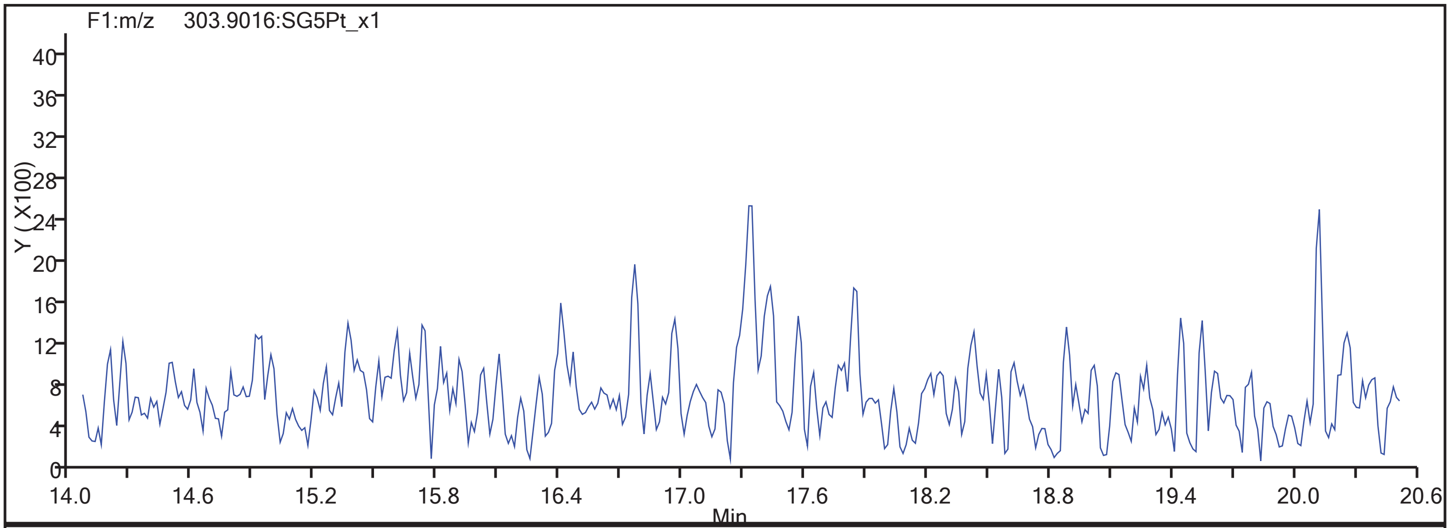


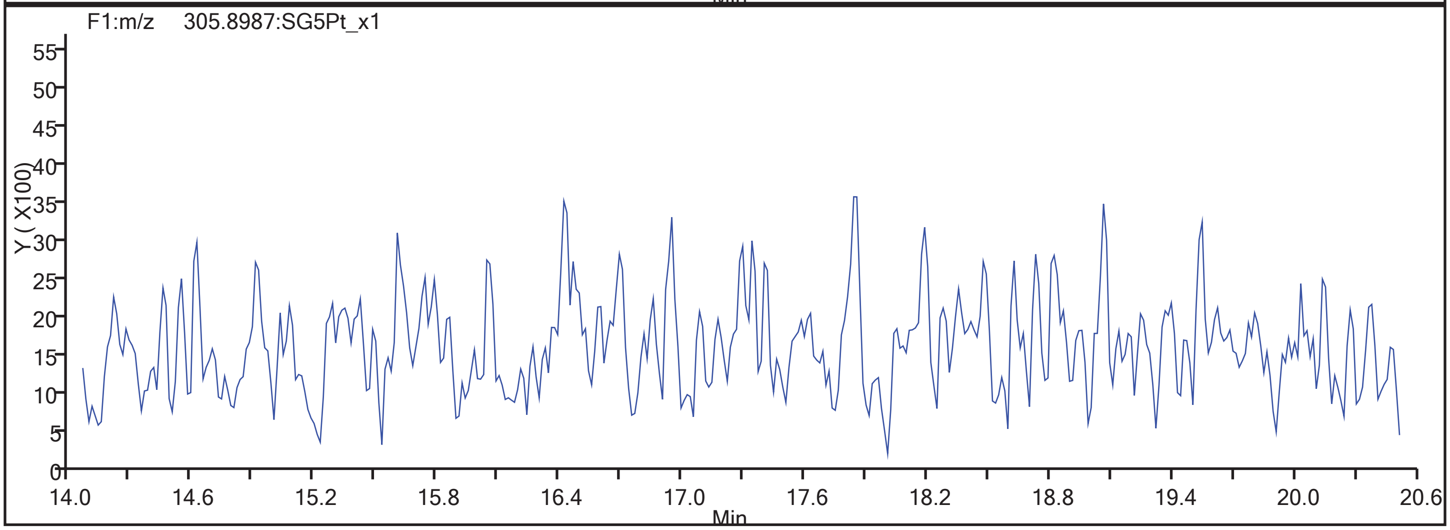
Report Date: 15-Nov-2017 08:19:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

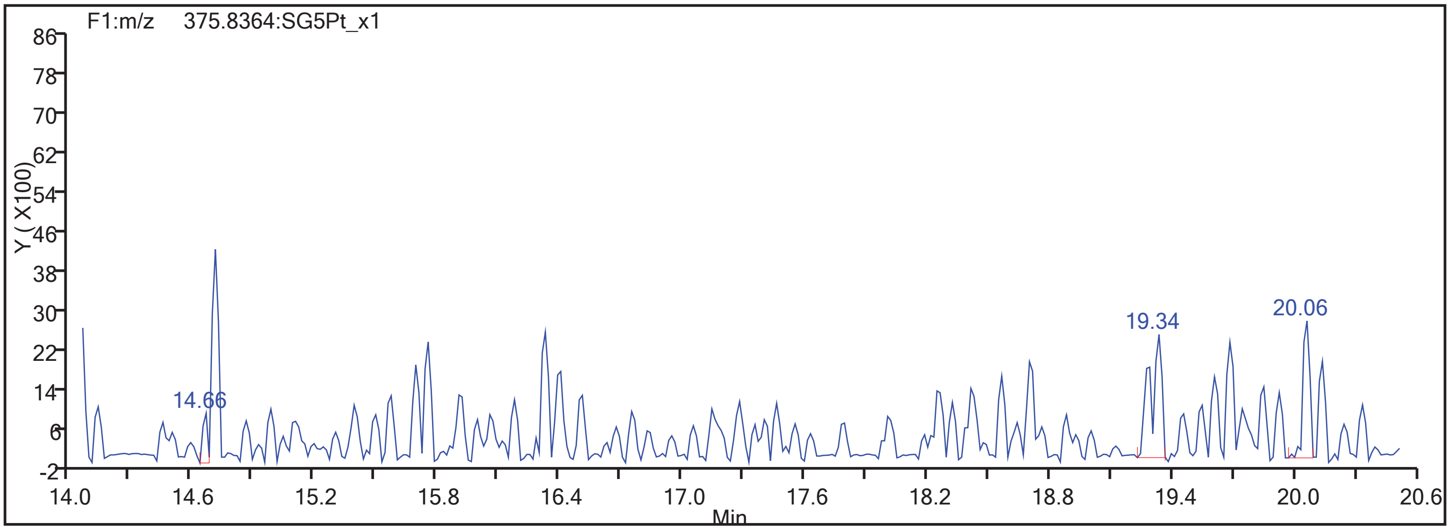
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d		
Injection Date:	14-Nov-2017 03:24:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	194428	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

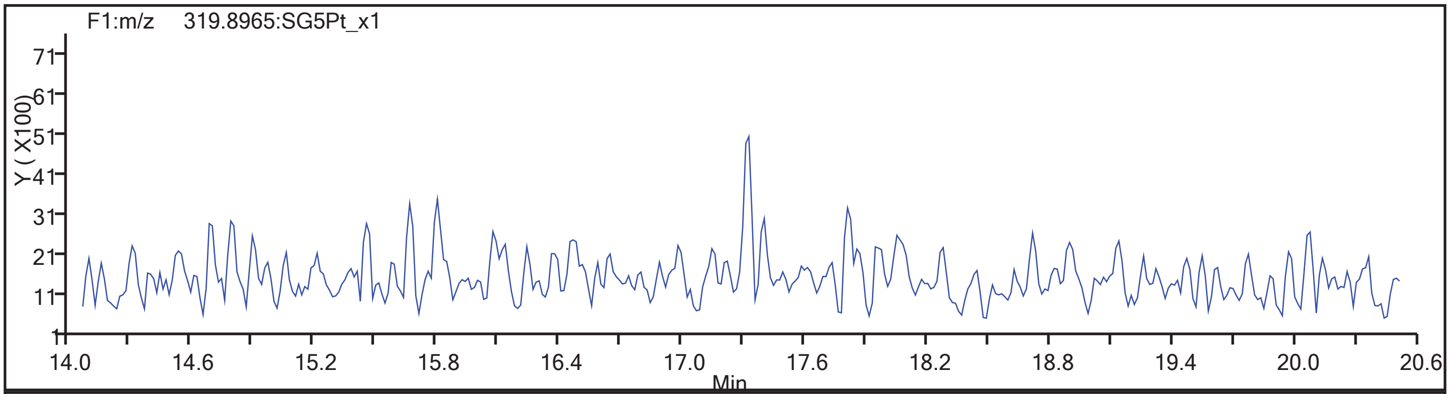


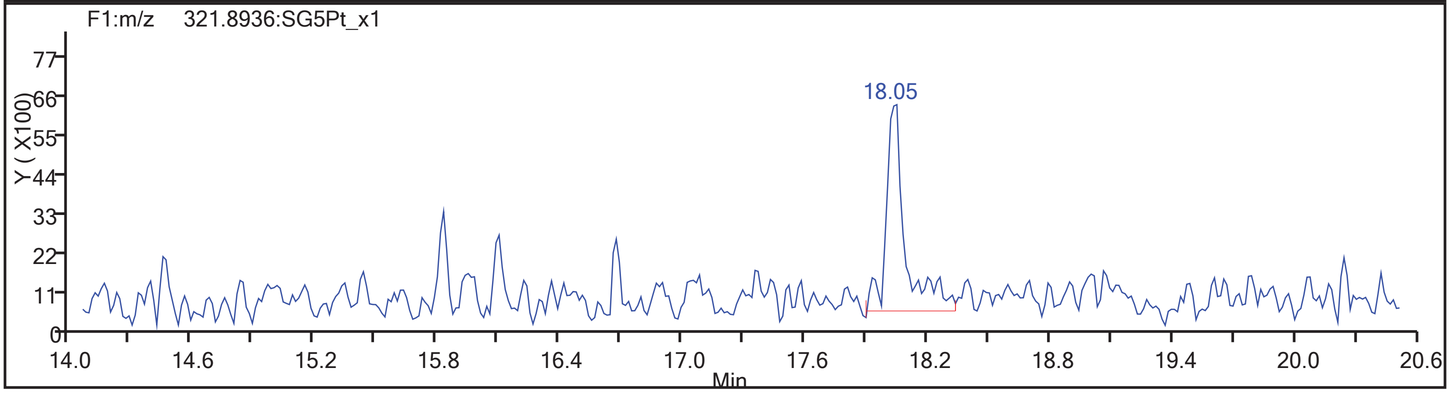
Report Date: 15-Nov-2017 08:19:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

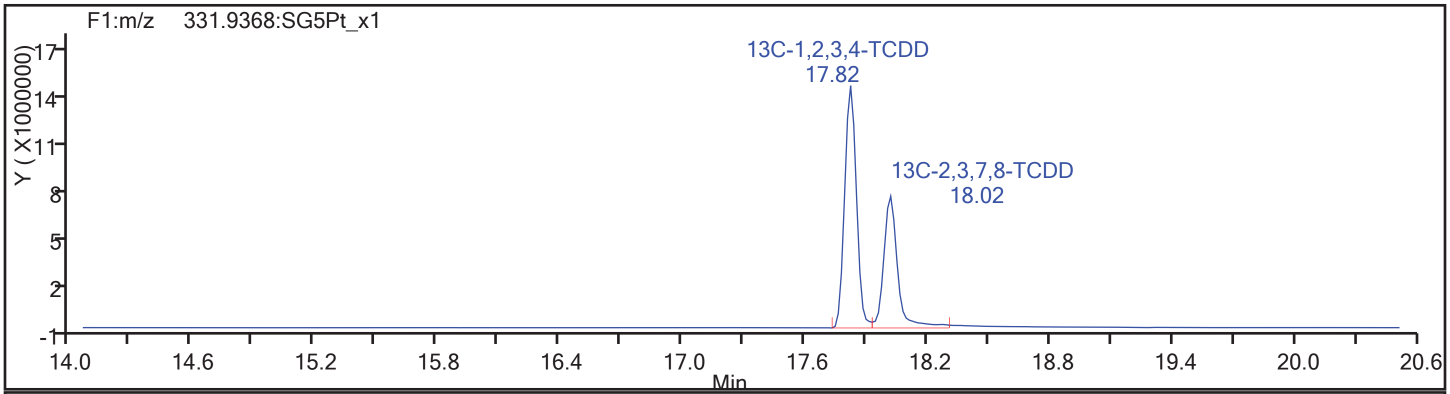
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d		
Injection Date:	14-Nov-2017 03:24:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	194428	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

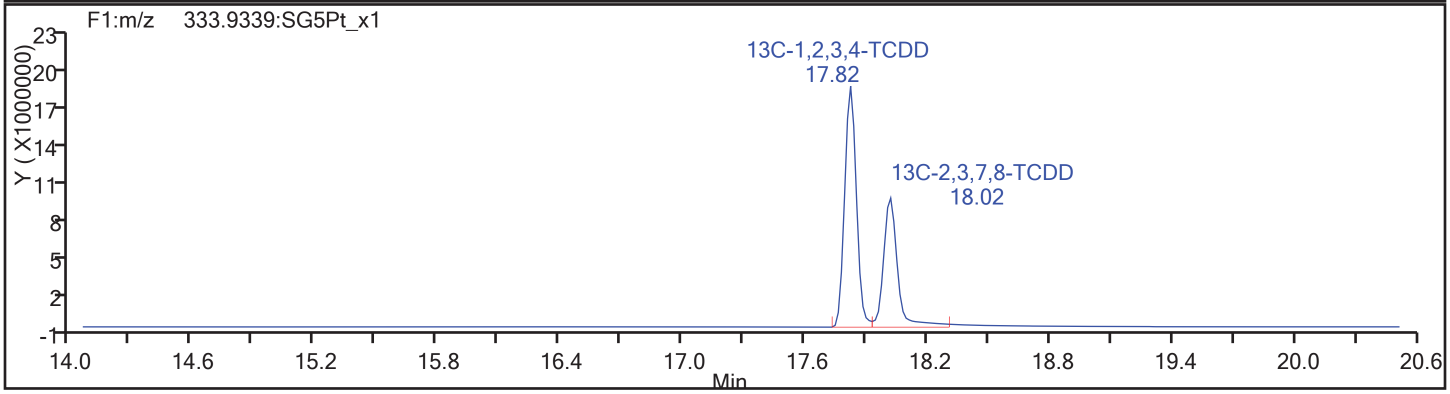
TCDD





TCDD Standards





Report Date: 15-Nov-2017 08:19:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d
Injection Date: 14-Nov-2017 03:24:03
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
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Limit Group: HR - 8290A_D5 - ICAL
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Sample Line#: 20
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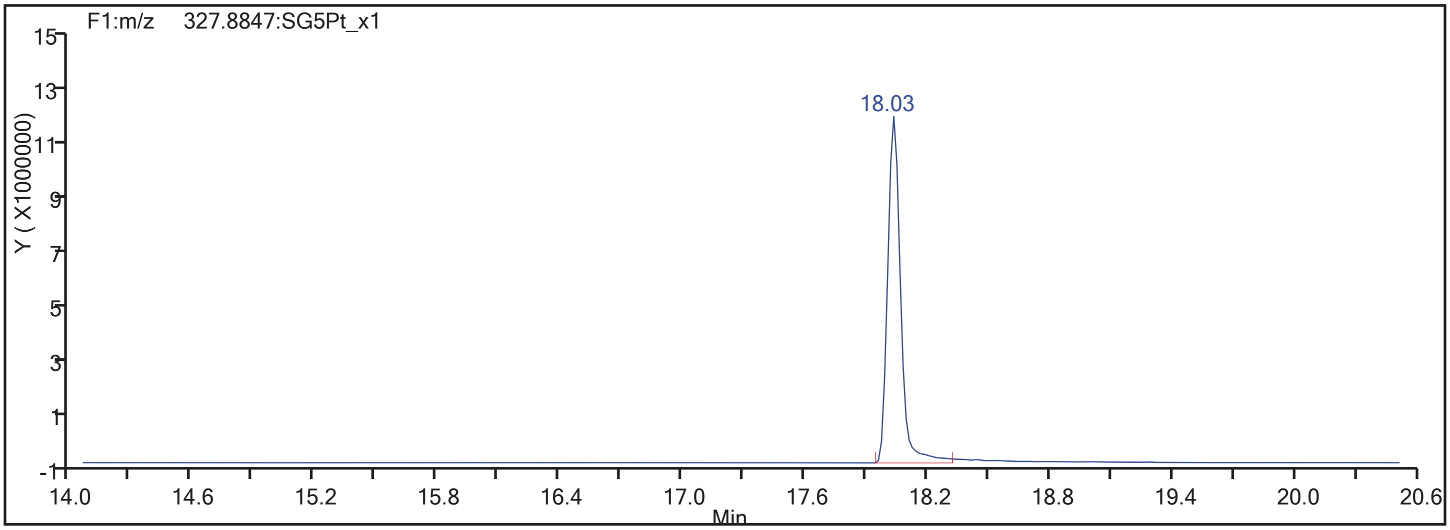
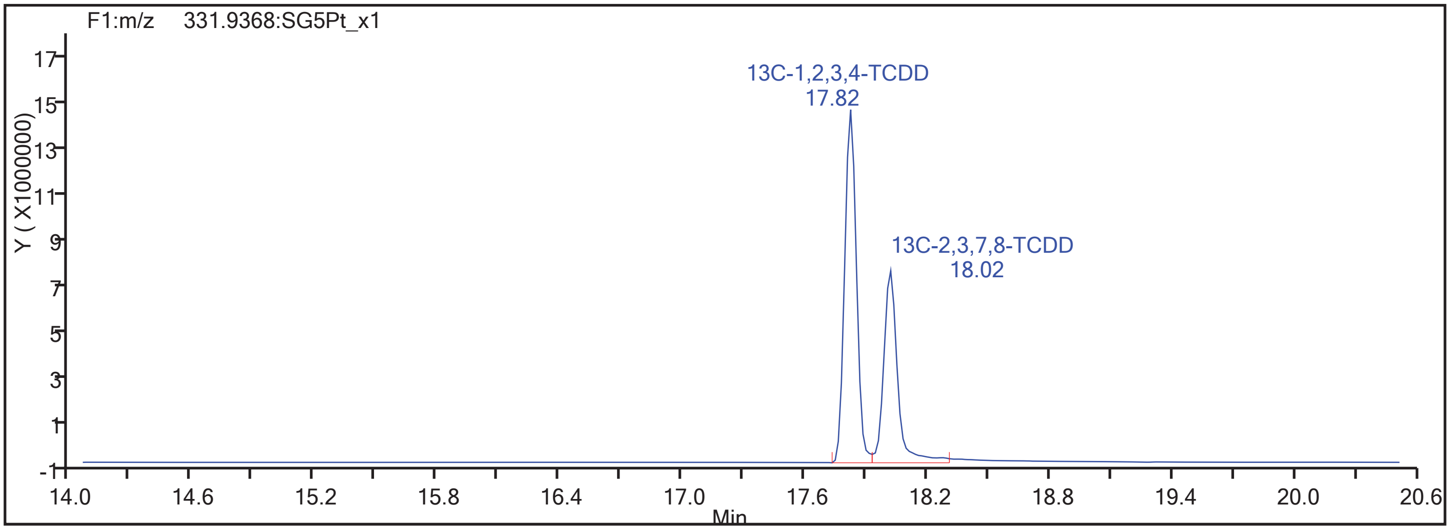
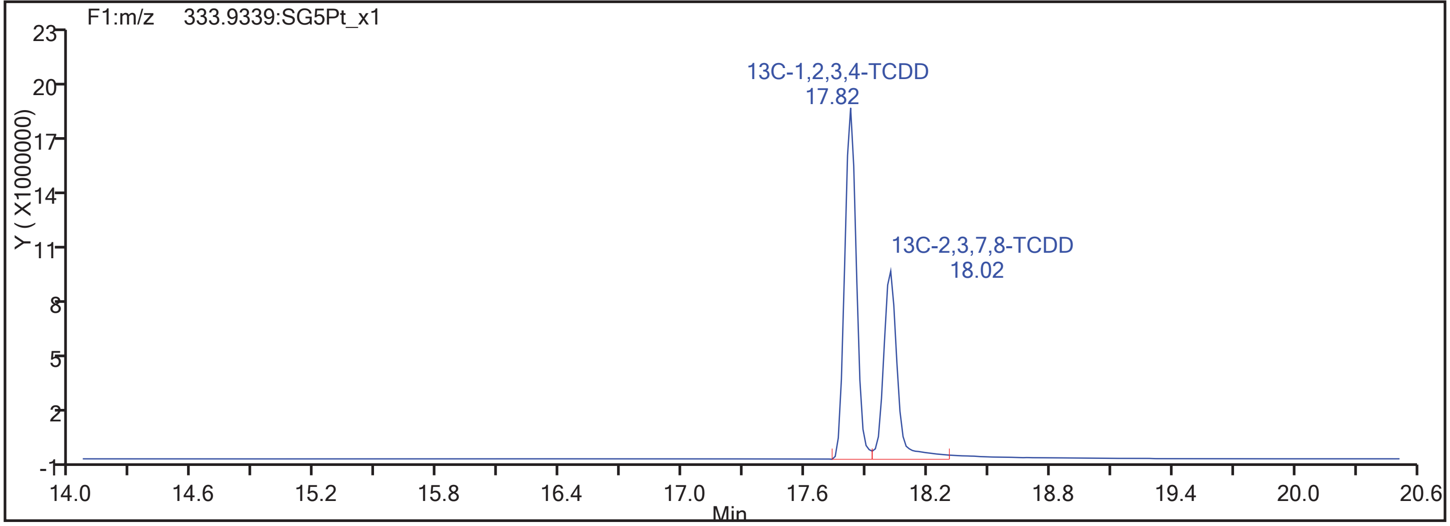
Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

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Injection Date: 14-Nov-2017 03:24:03

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS04NS

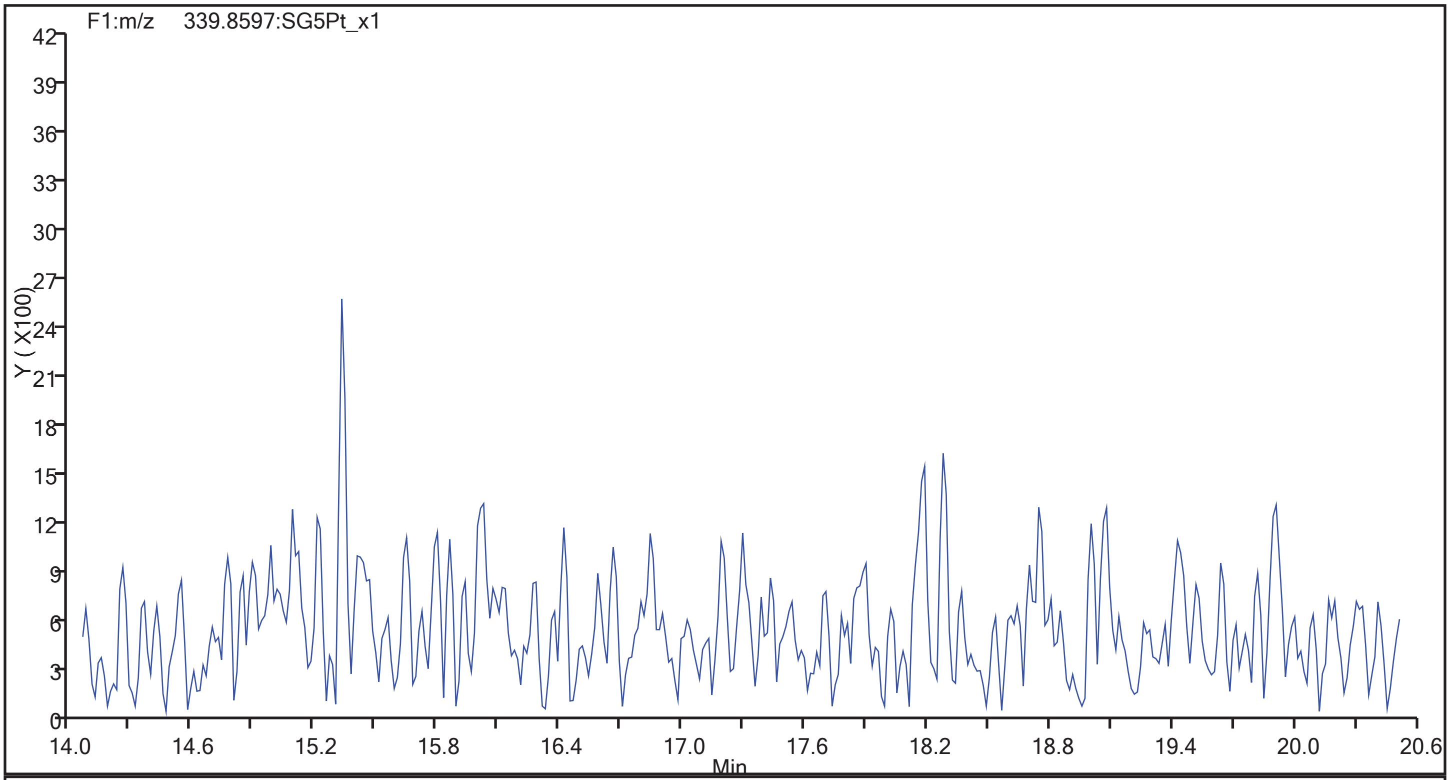
Worklist#: 194428

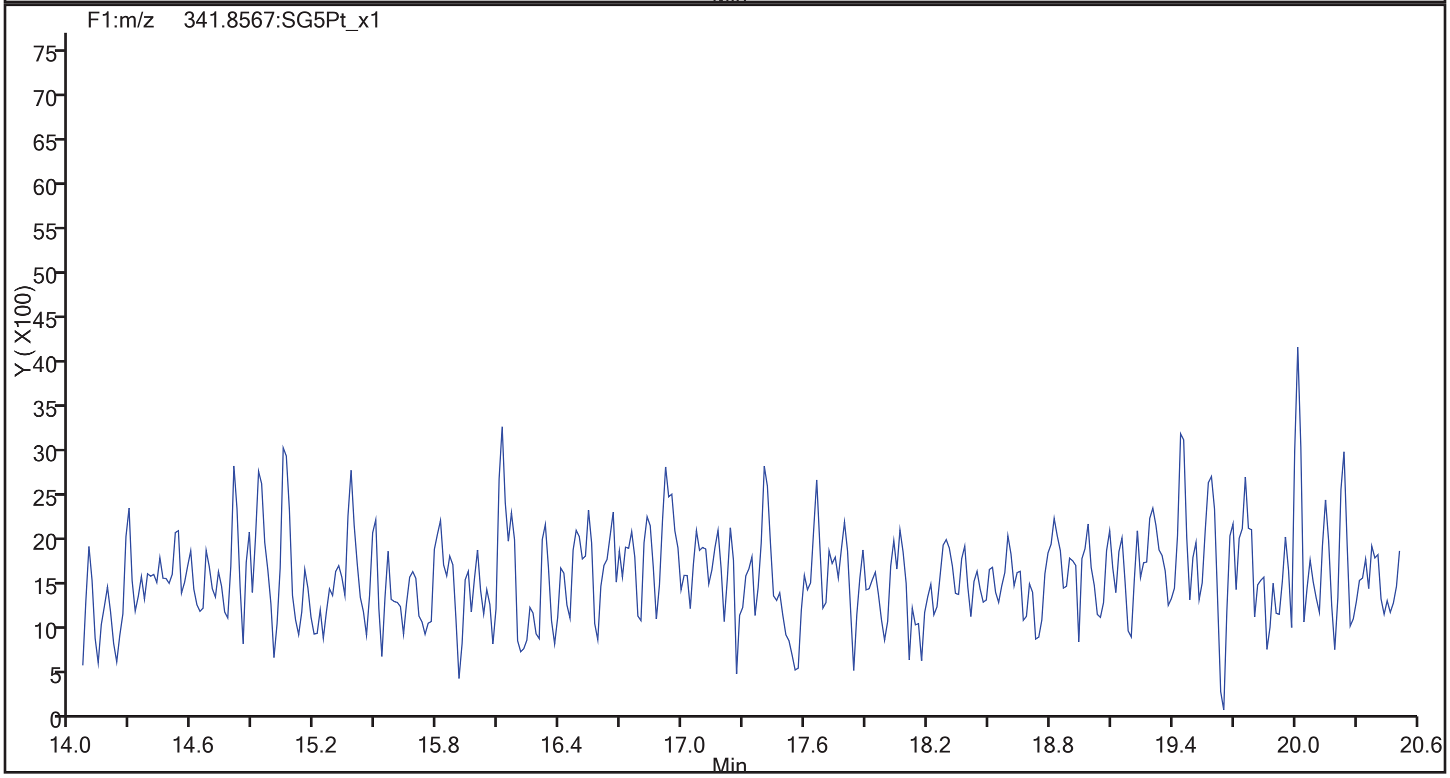
Sample Line#: 20

Column Type: DB-5

Column Dia: 0.32 mm

F1 PeCDFs





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TestAmerica Sacramento

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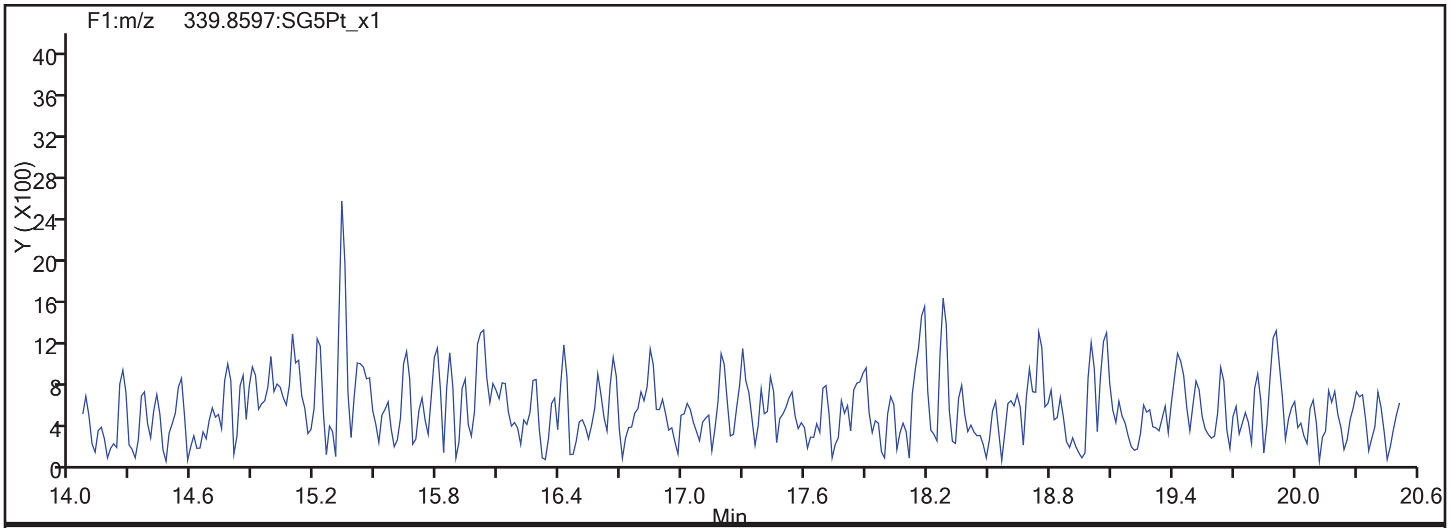
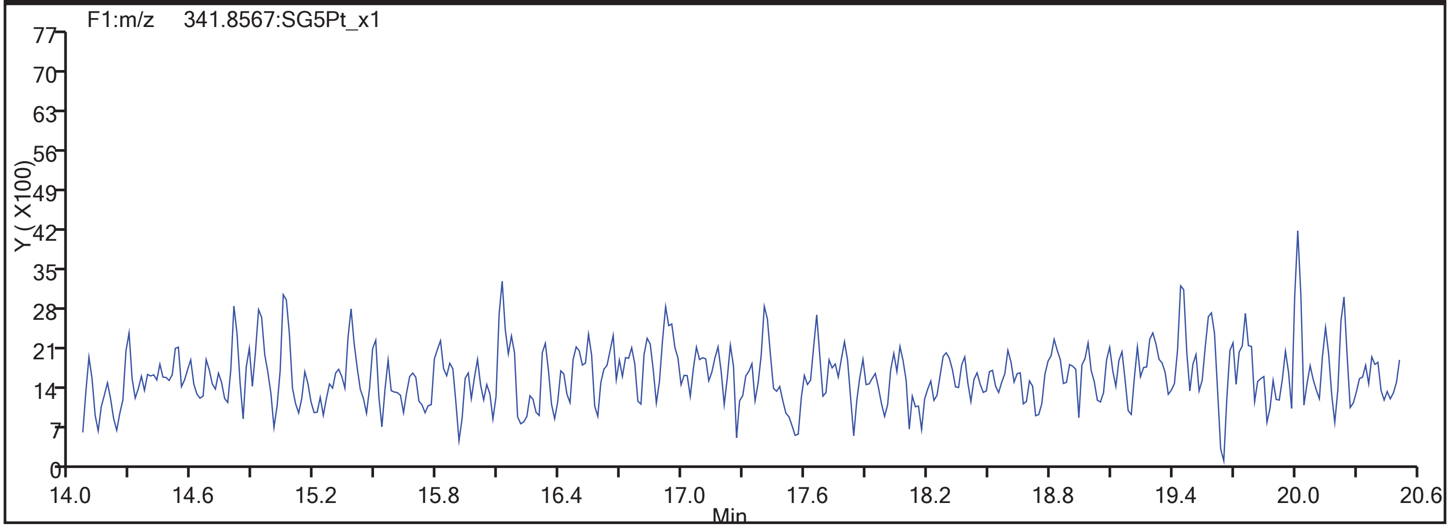
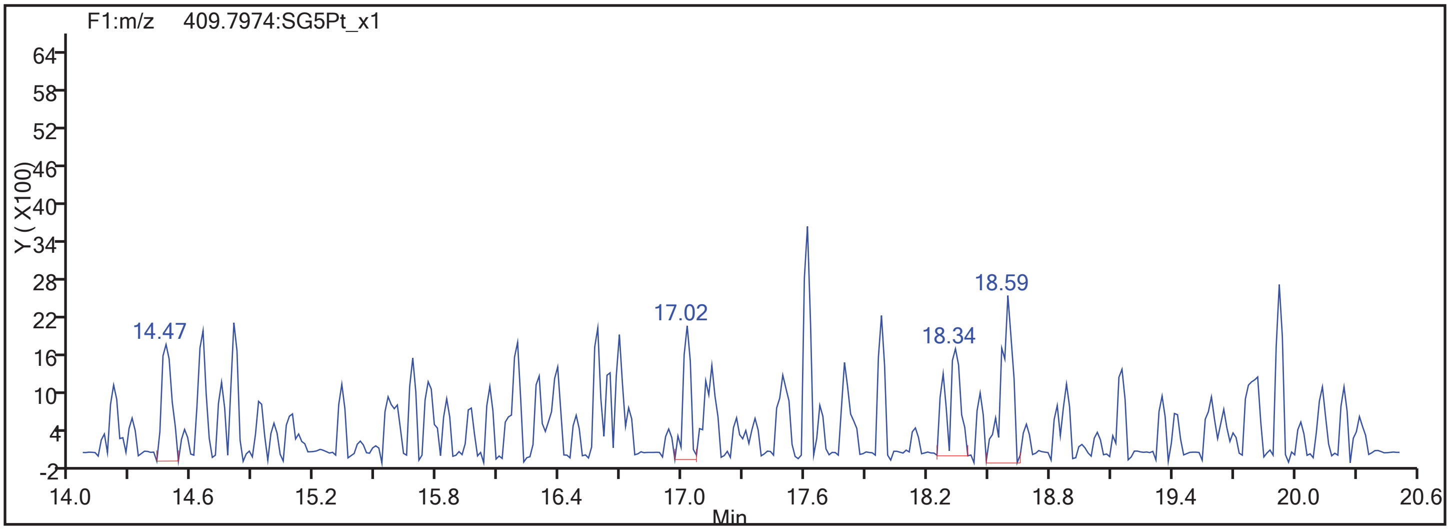
F1 PeCDFs





F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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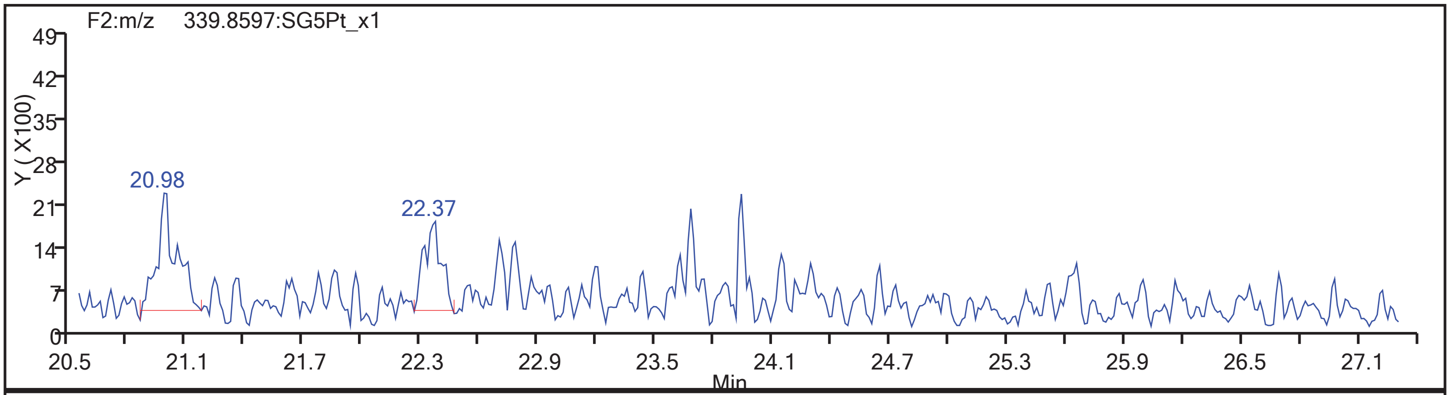
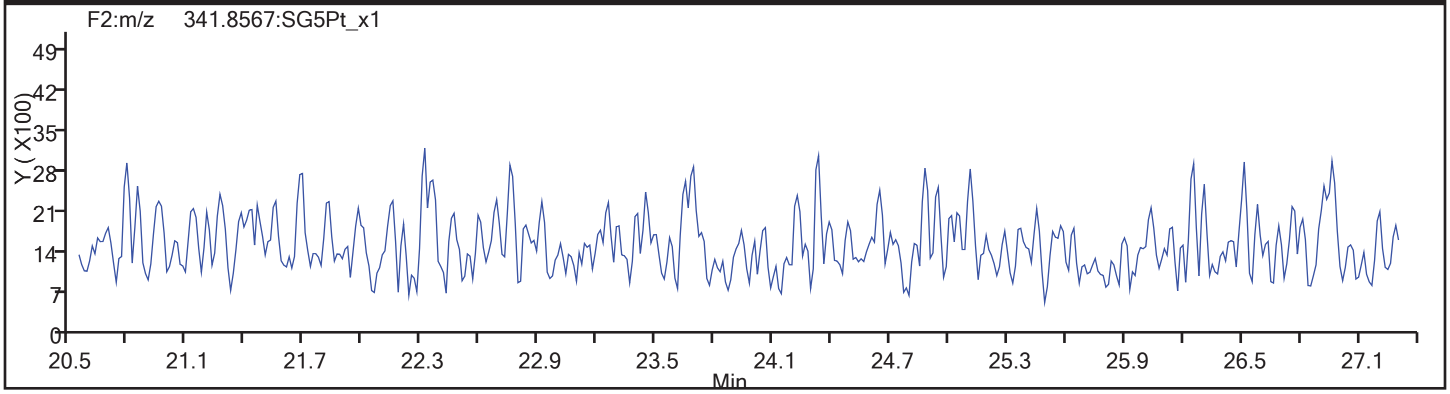
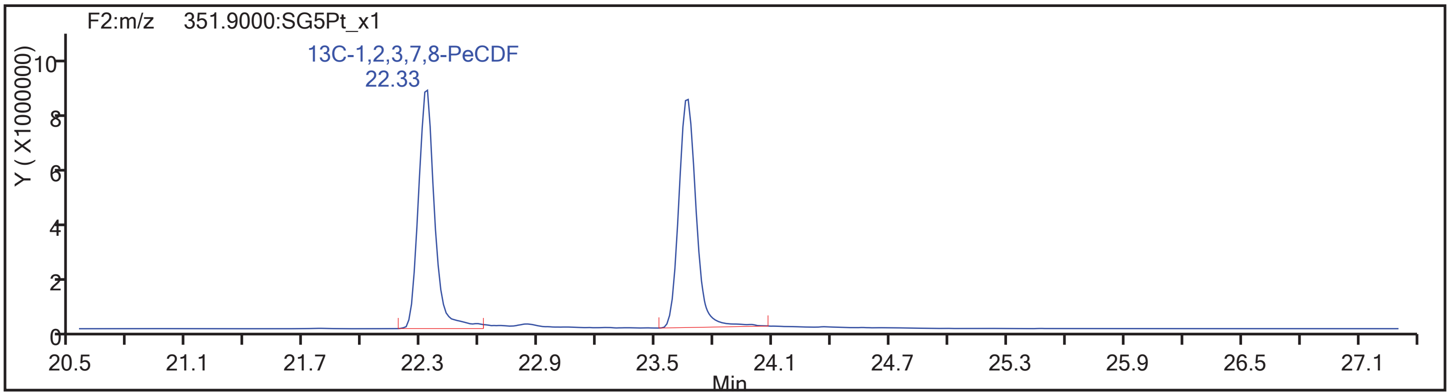
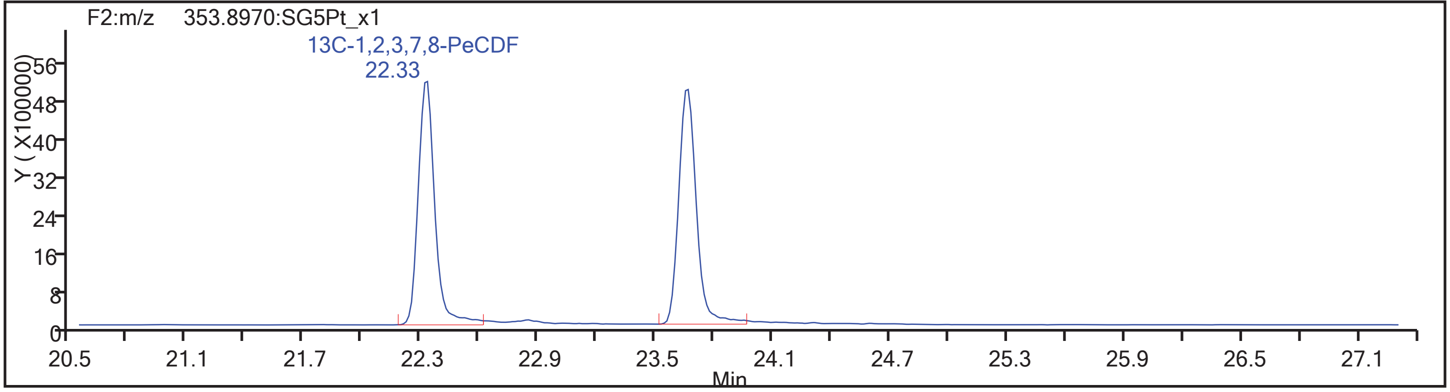
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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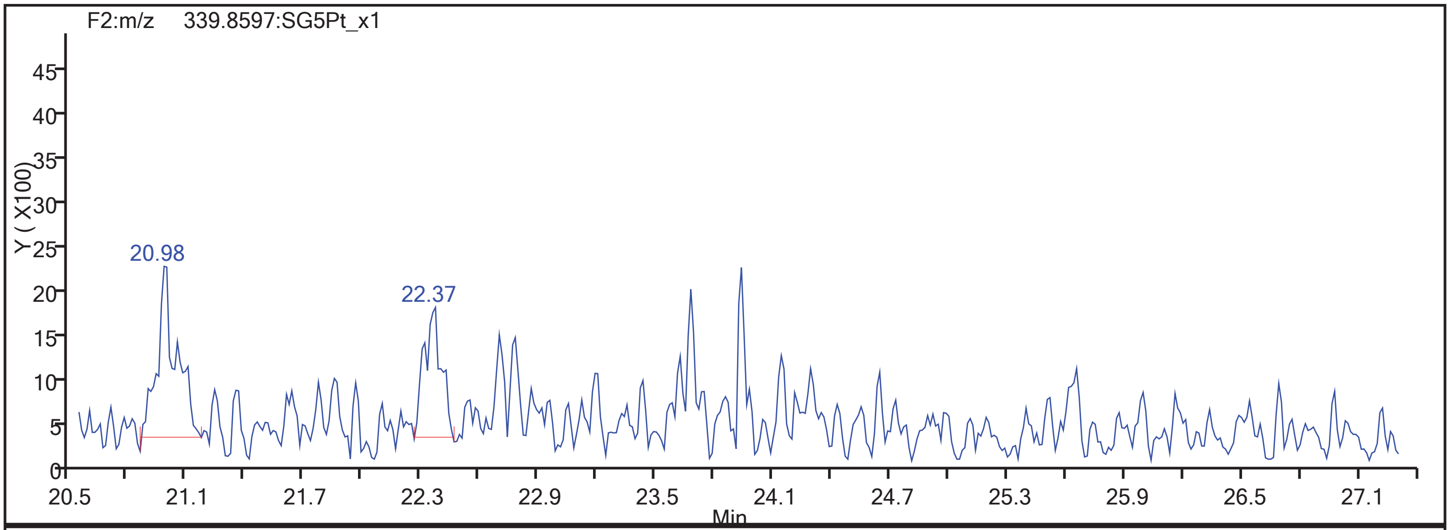
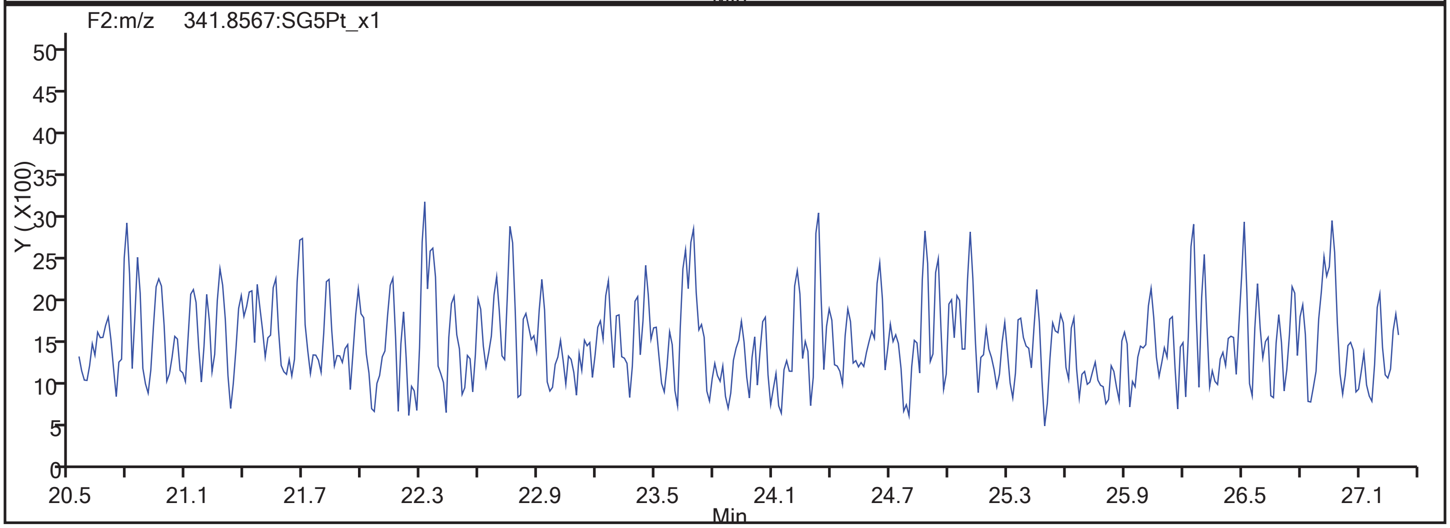
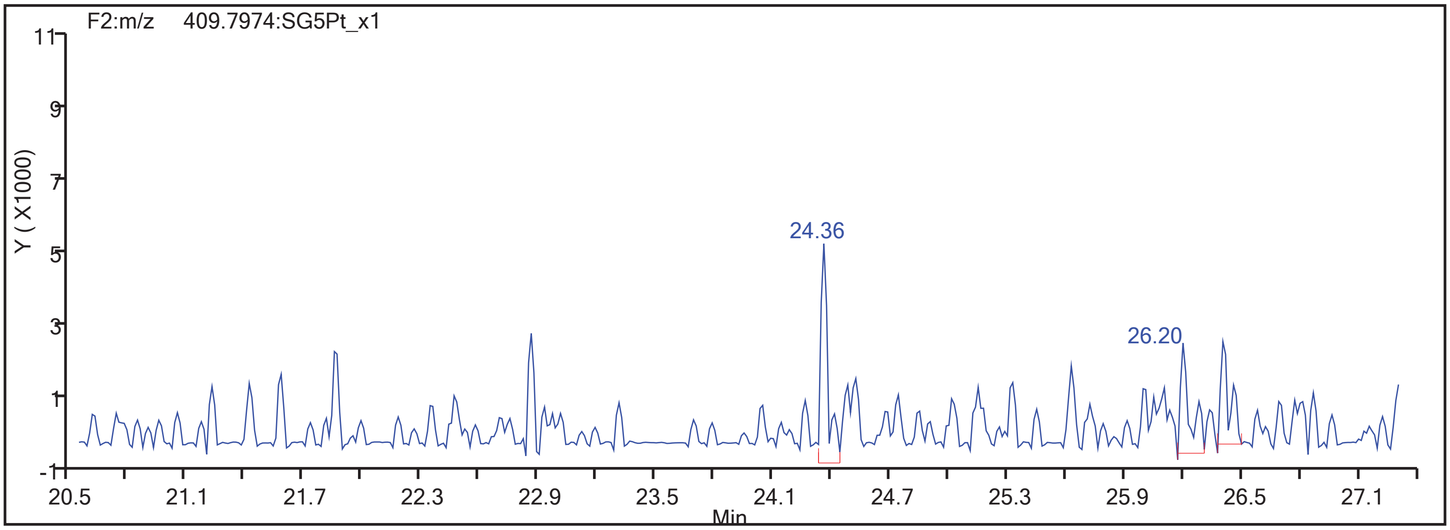
PeCDF





PeCDF Interference Mass



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TestAmerica Sacramento

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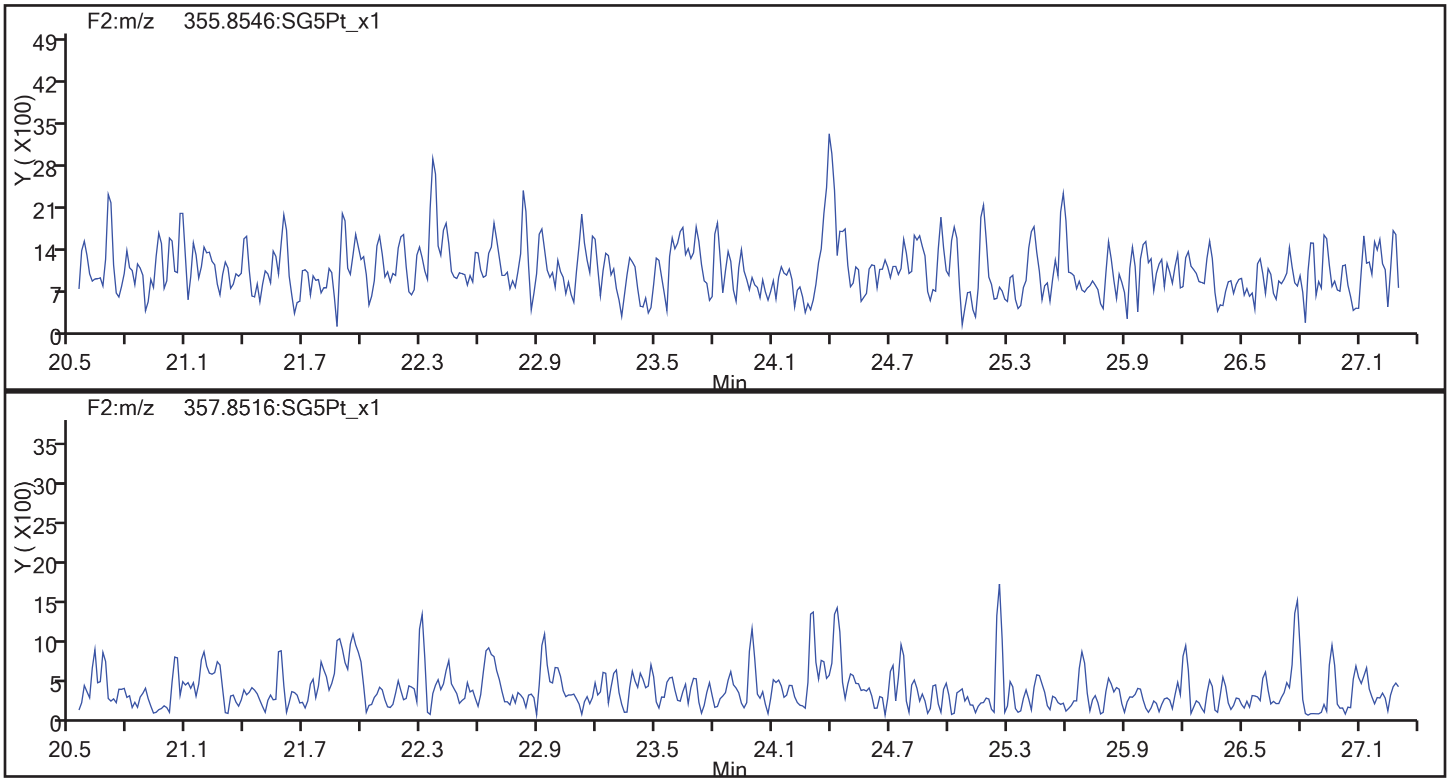
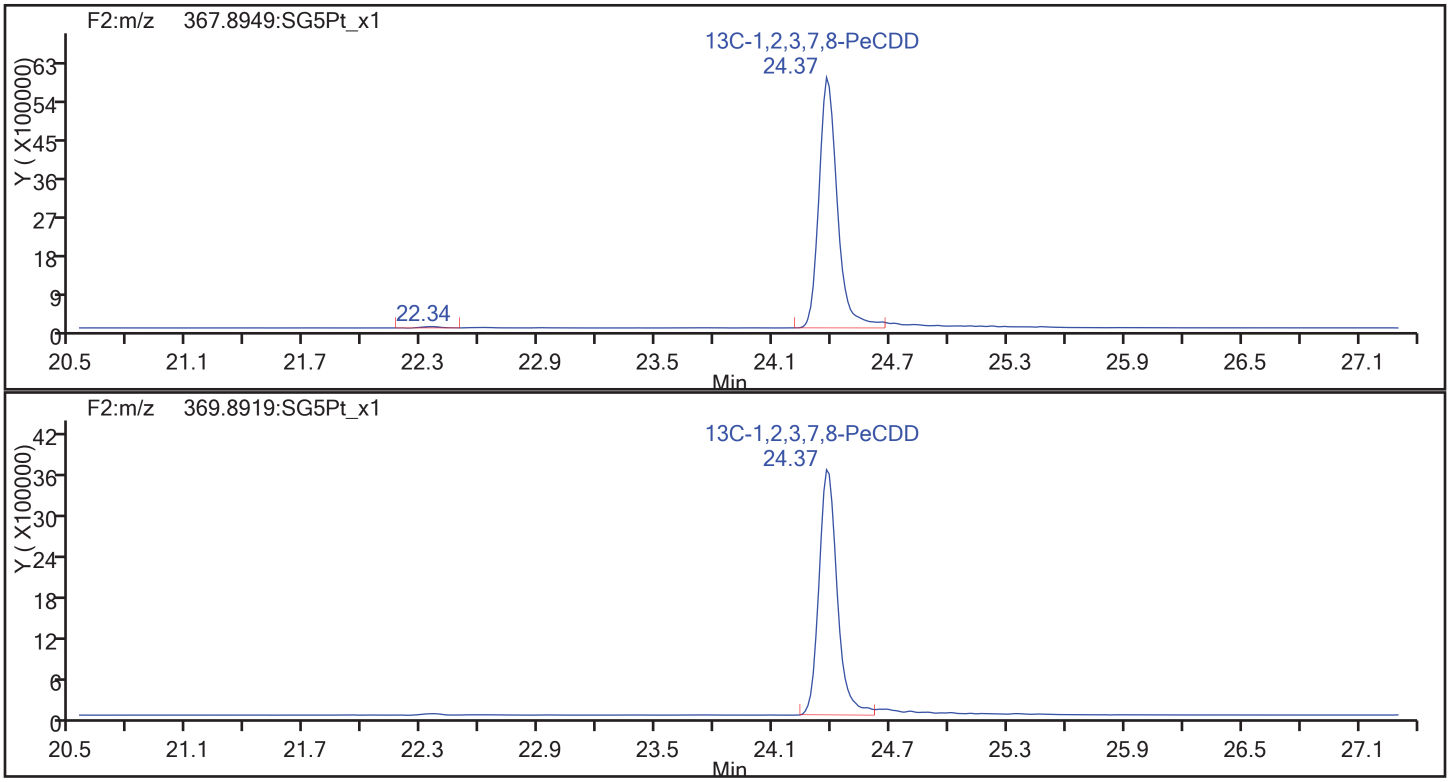
PeCDD



PeCDD Standards



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TestAmerica Sacramento

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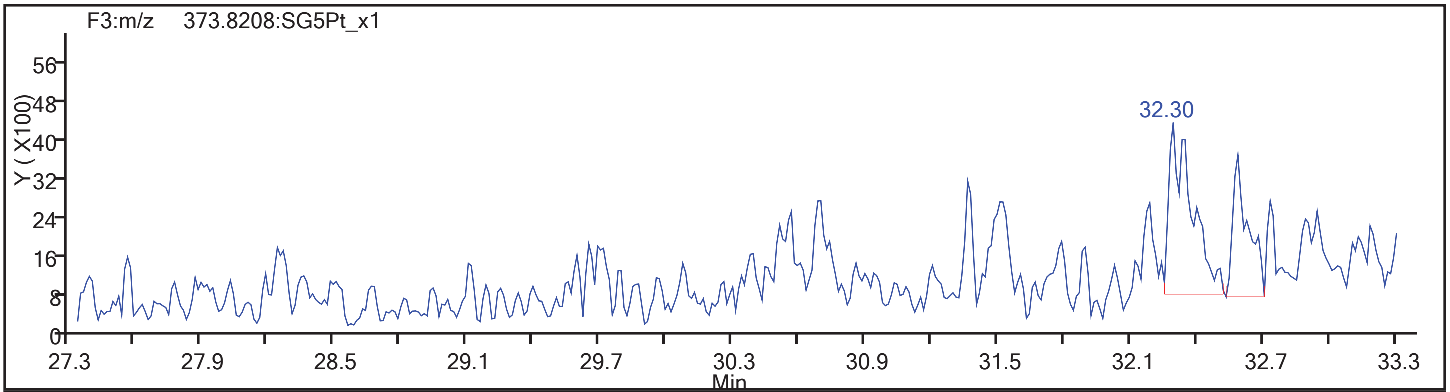
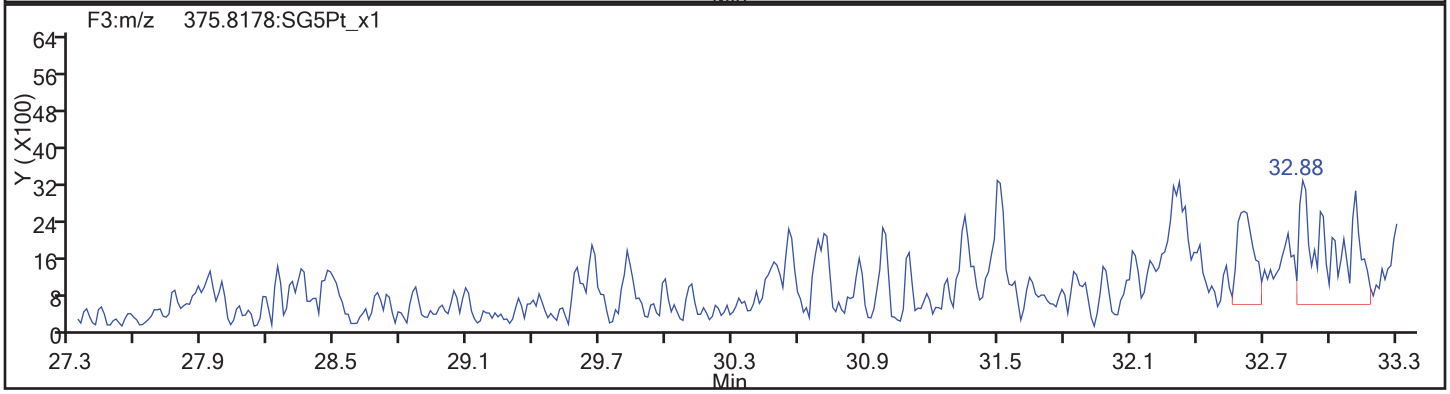
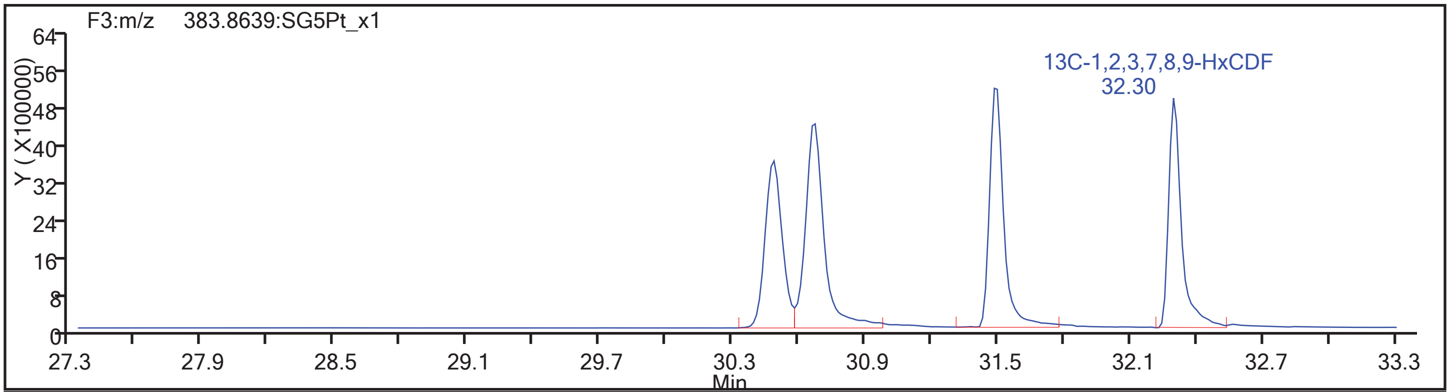
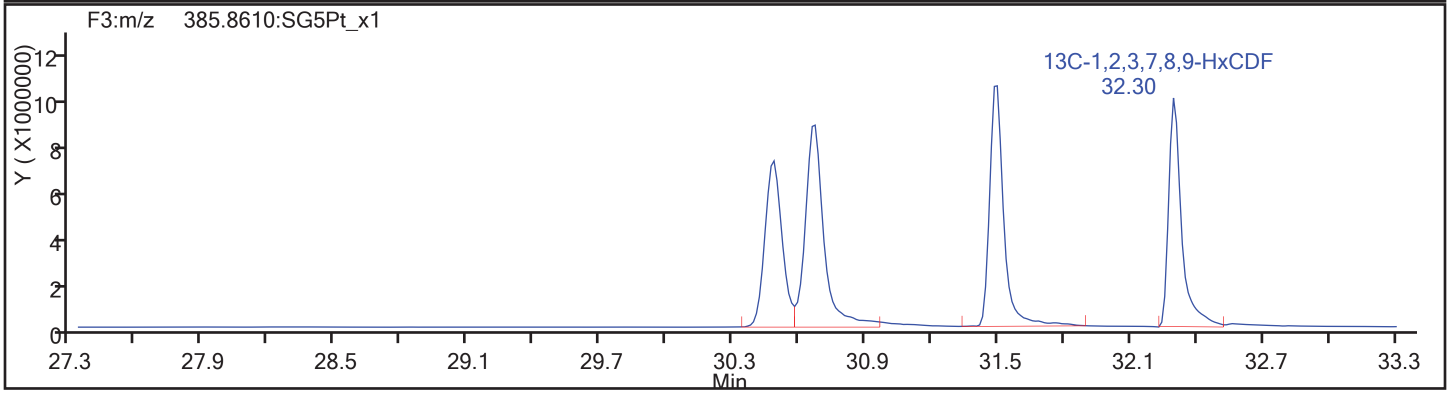
HxCDF





HxCDF Standards





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TestAmerica Sacramento

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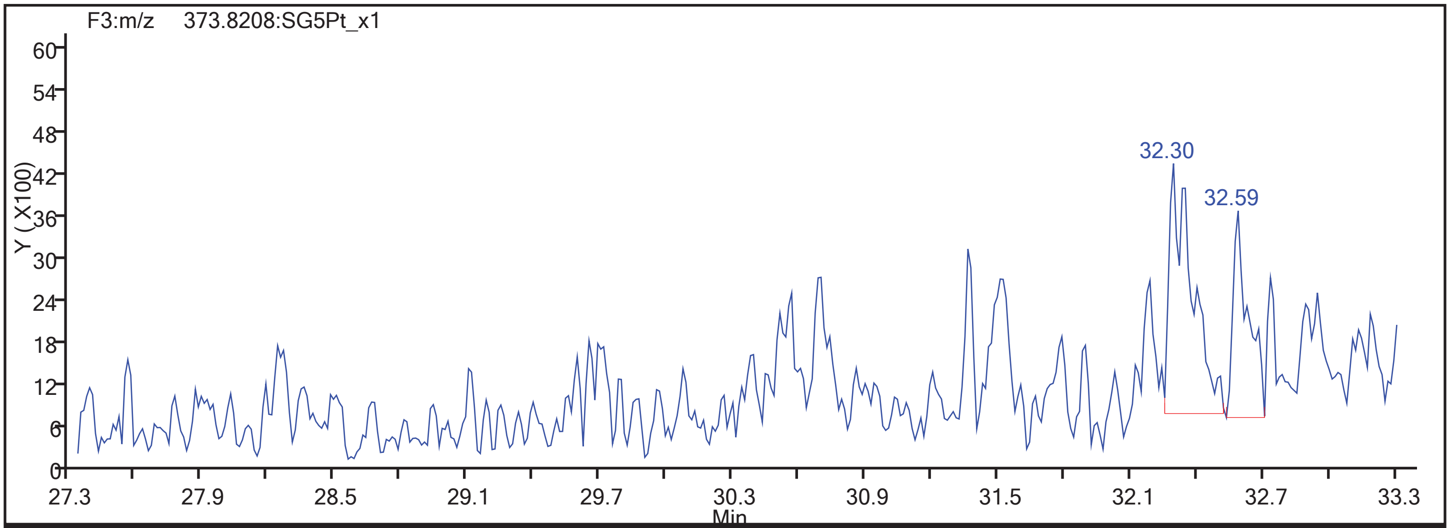
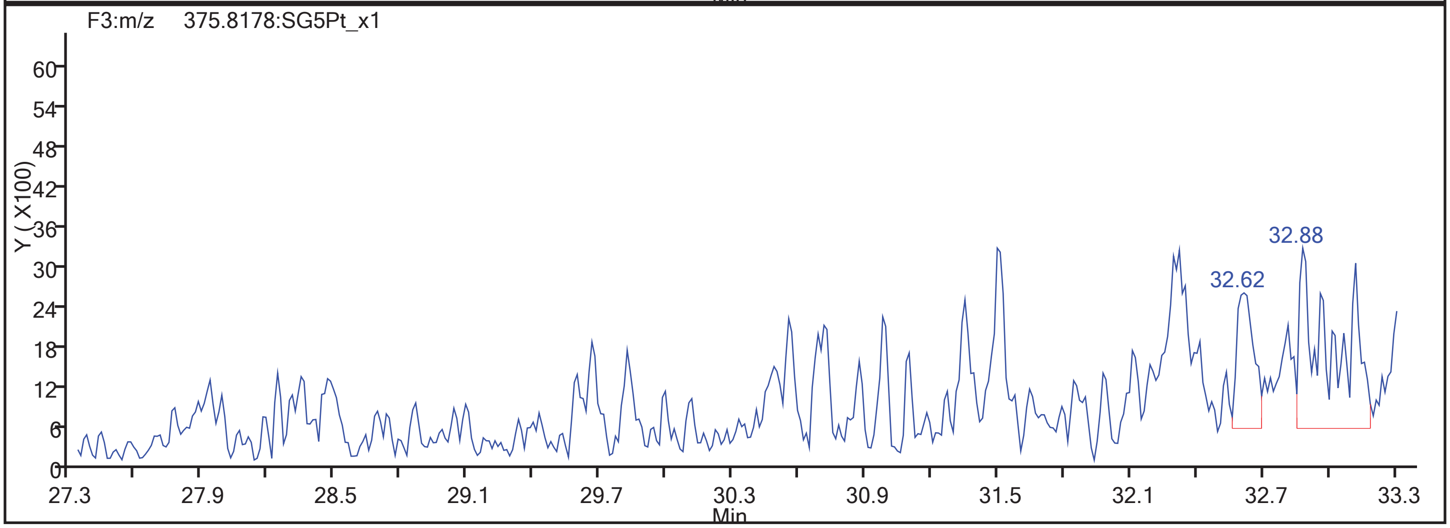
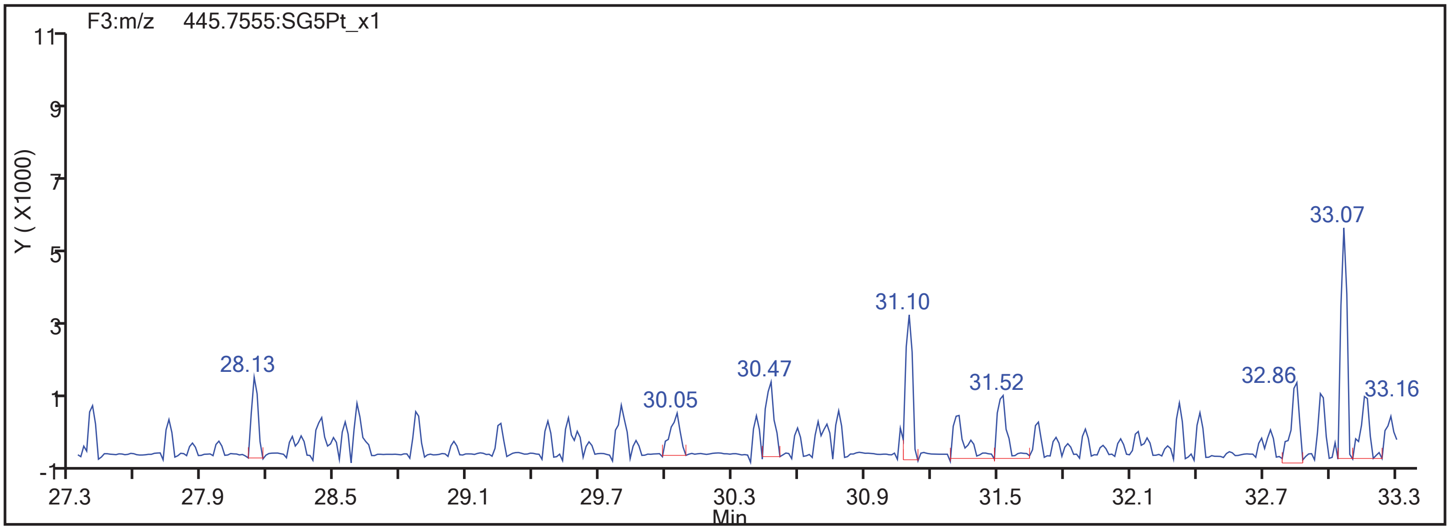




HxCDF Interference Mass



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TestAmerica Sacramento

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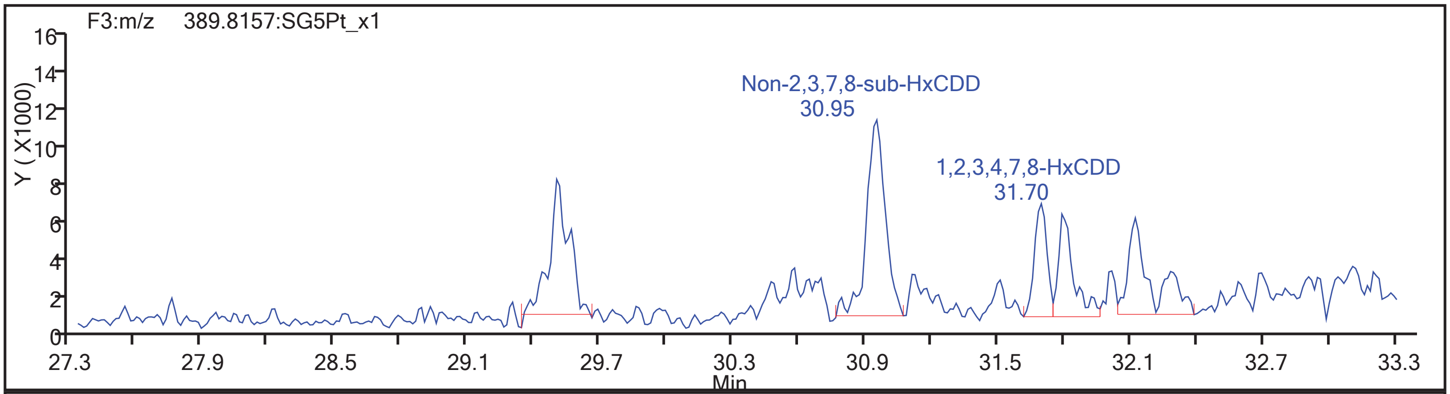
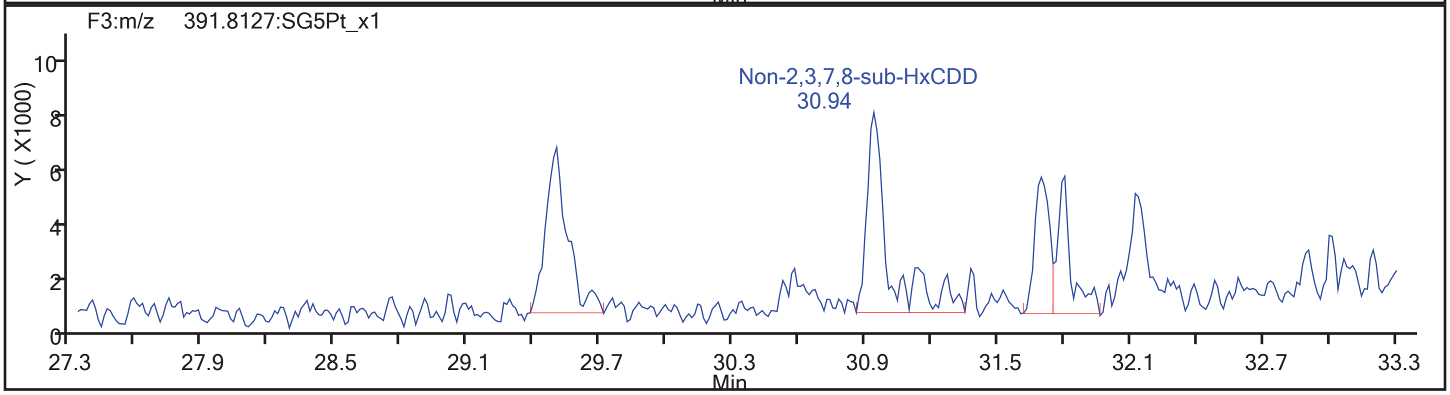
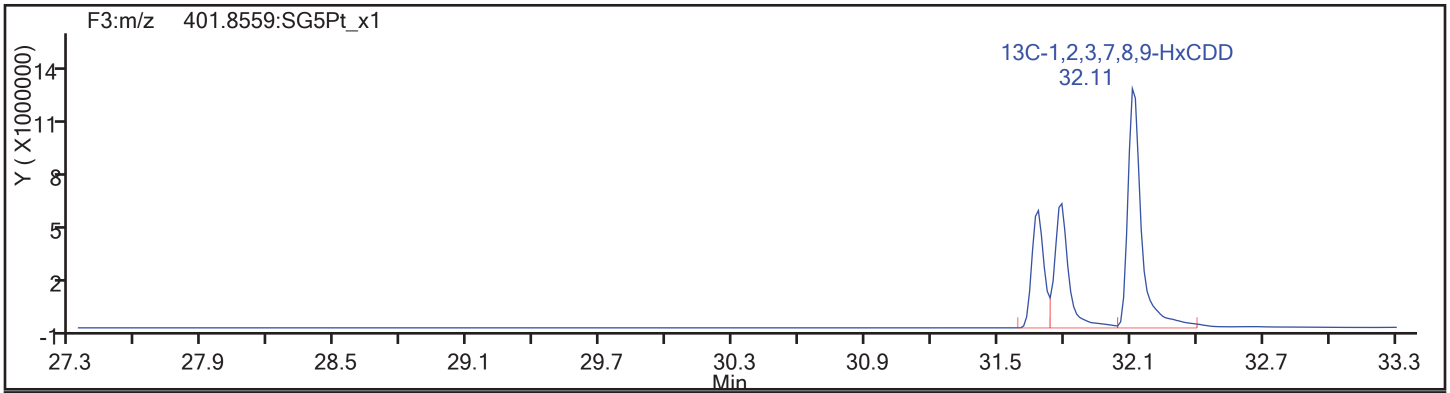
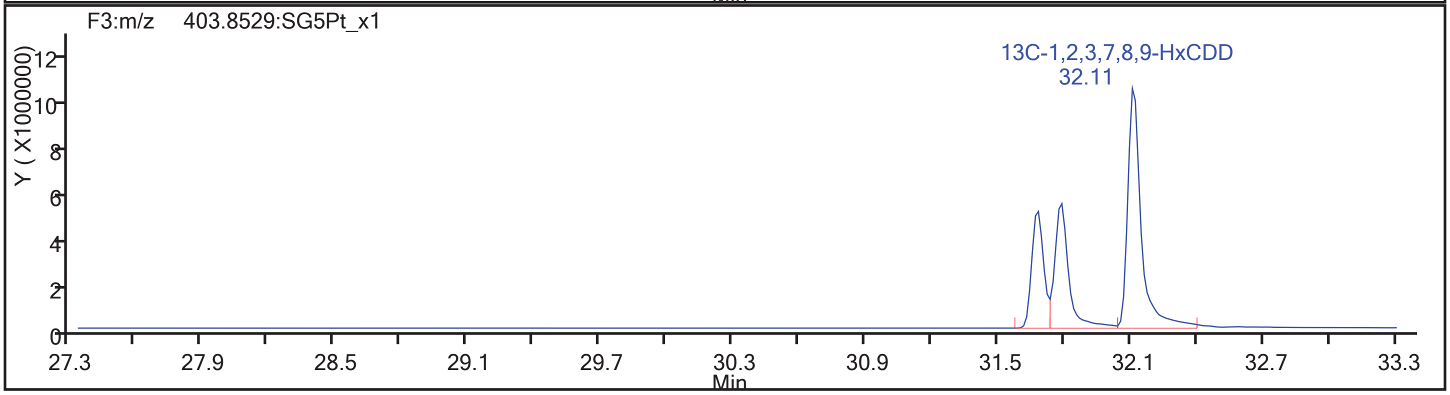
HxCDD





HxCDD Standards





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TestAmerica Sacramento

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Instrument ID: 10D5

Operator ID: AJS

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Limit Group: HR - 8290A_D5 - ICAL

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Worklist#: 194428

Sample Line#: 20

Column Type: DB-5

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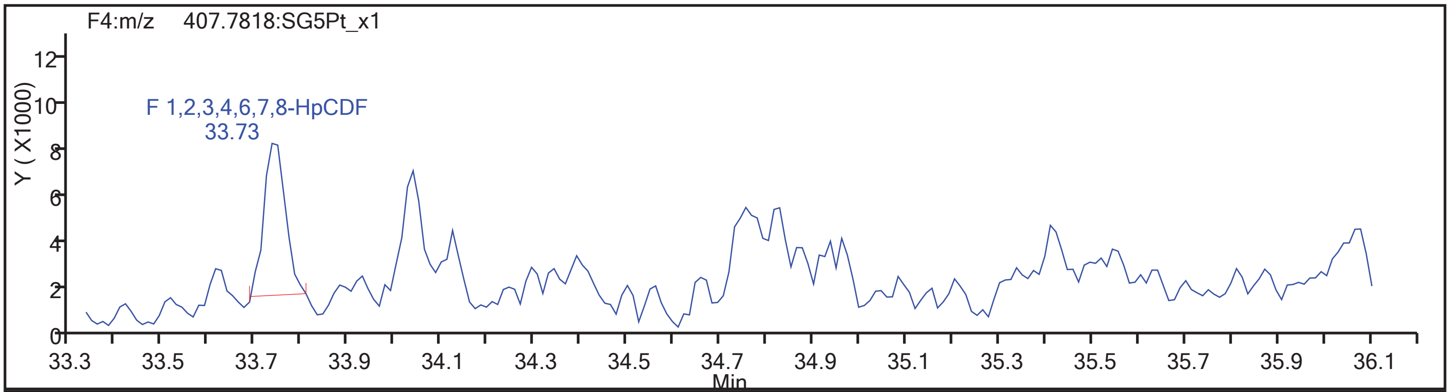
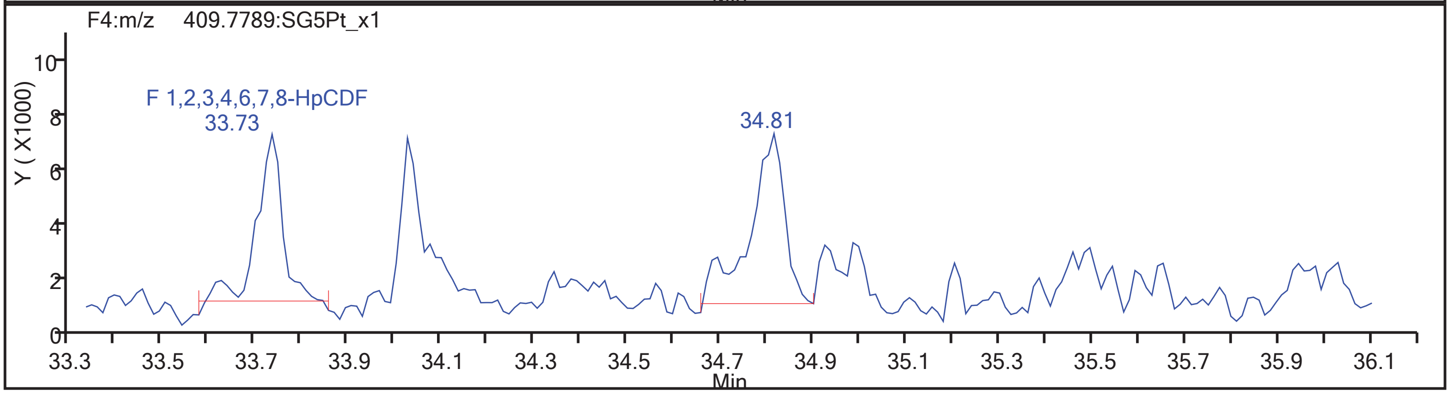
HpCDF





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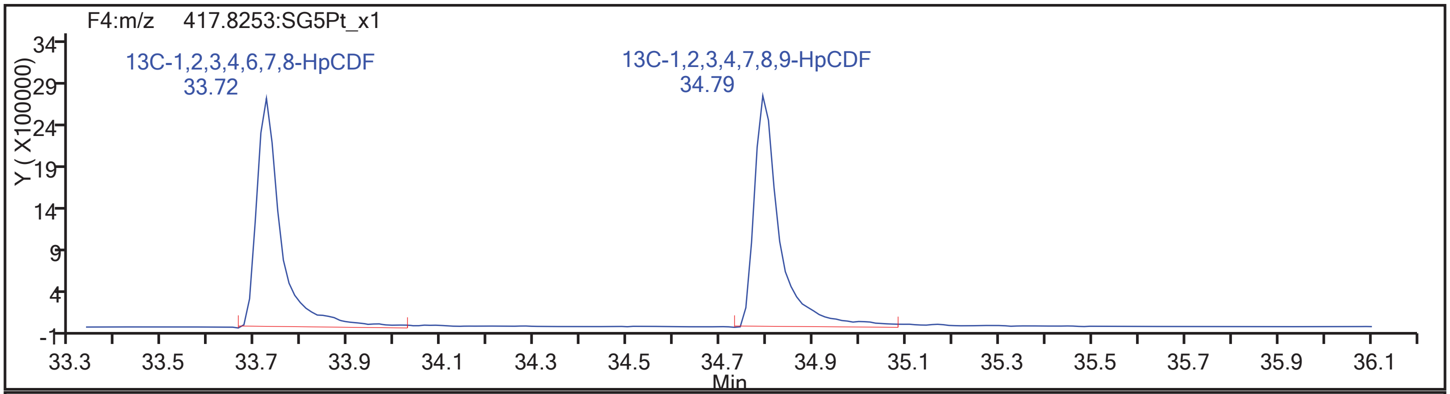

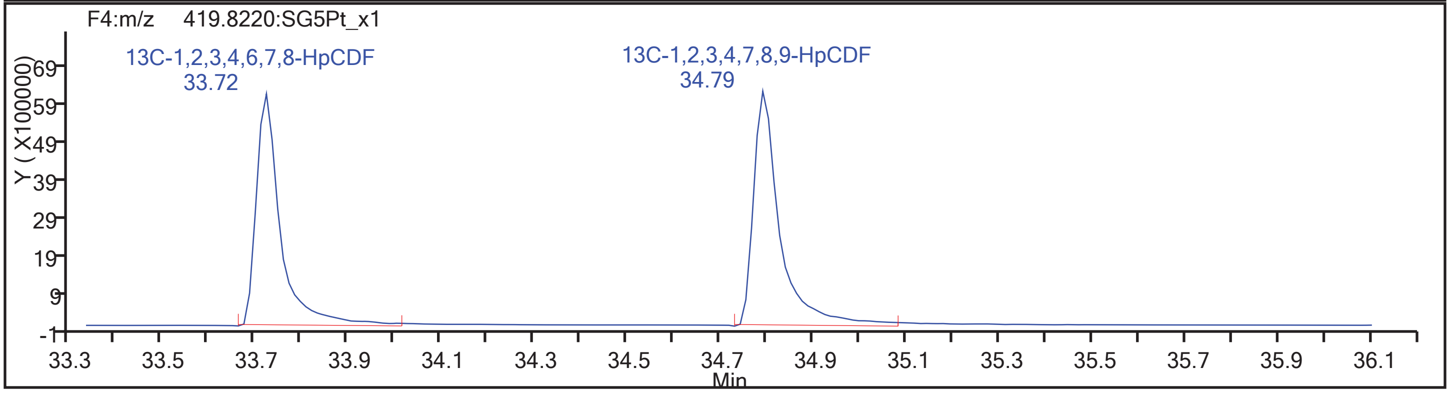

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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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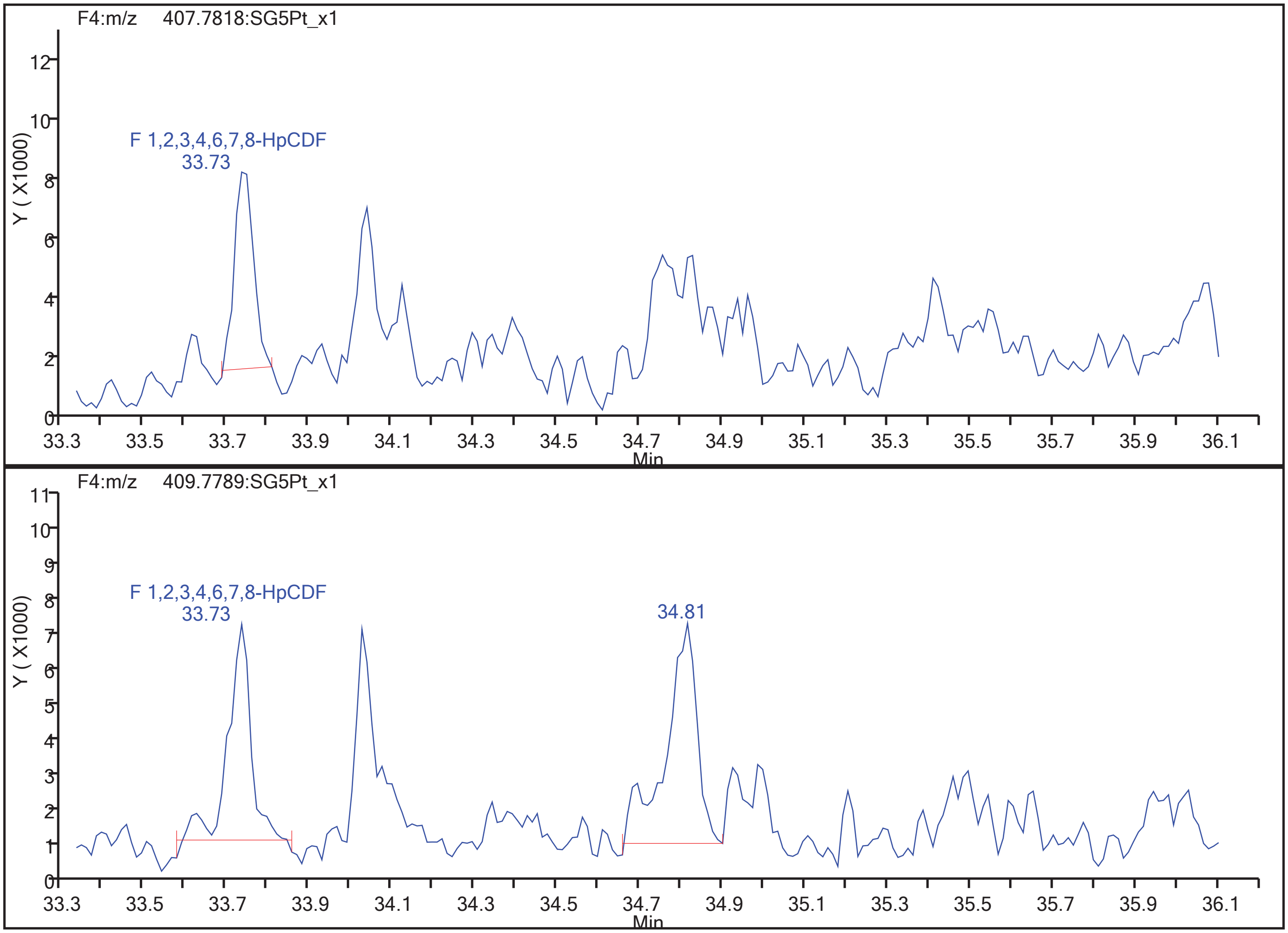
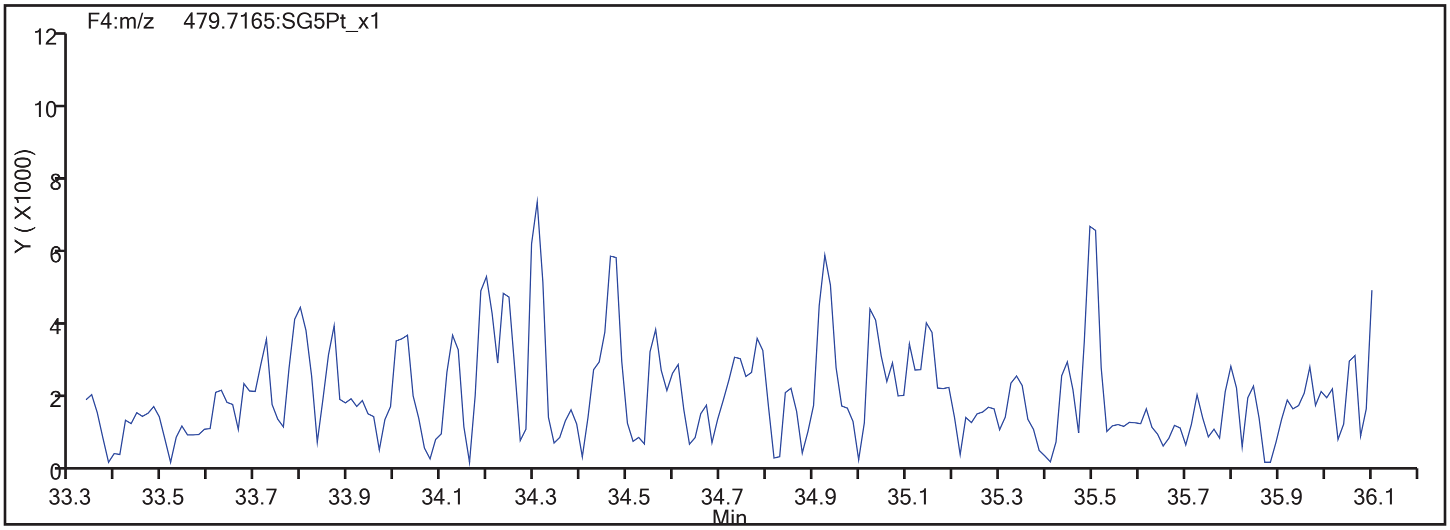


HpCDF Interference Mass



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TestAmerica Sacramento

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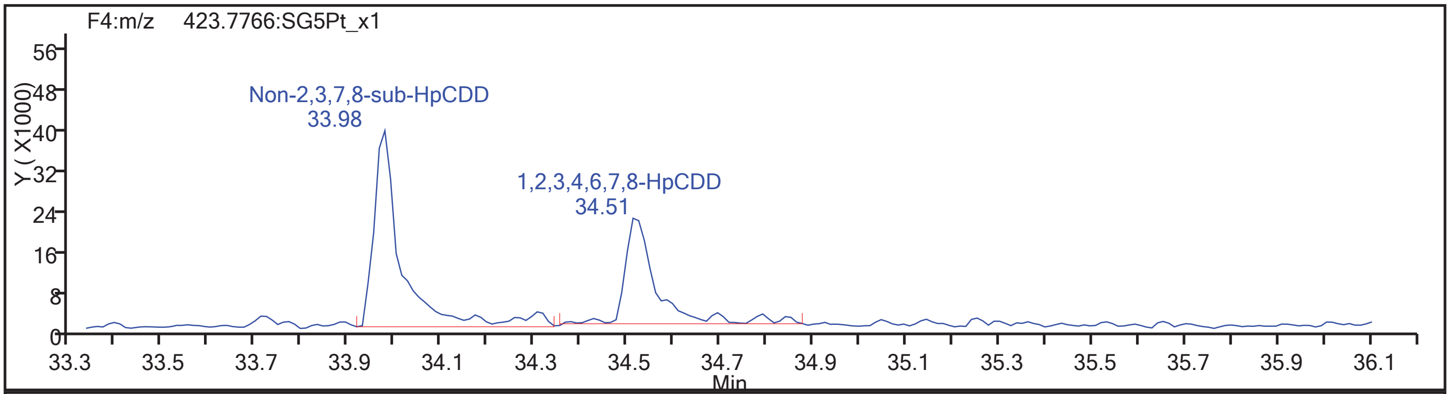
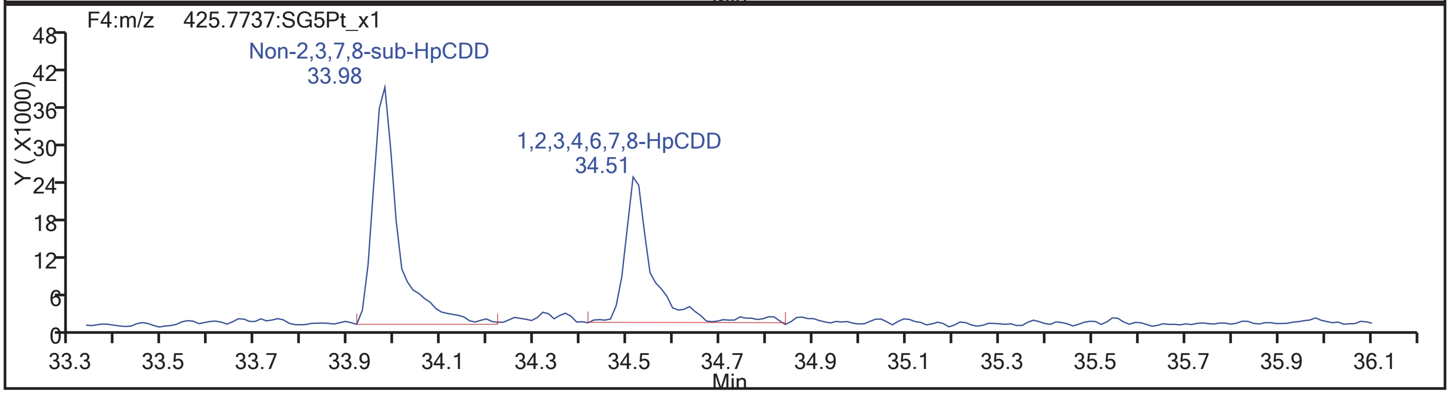
HpCDD





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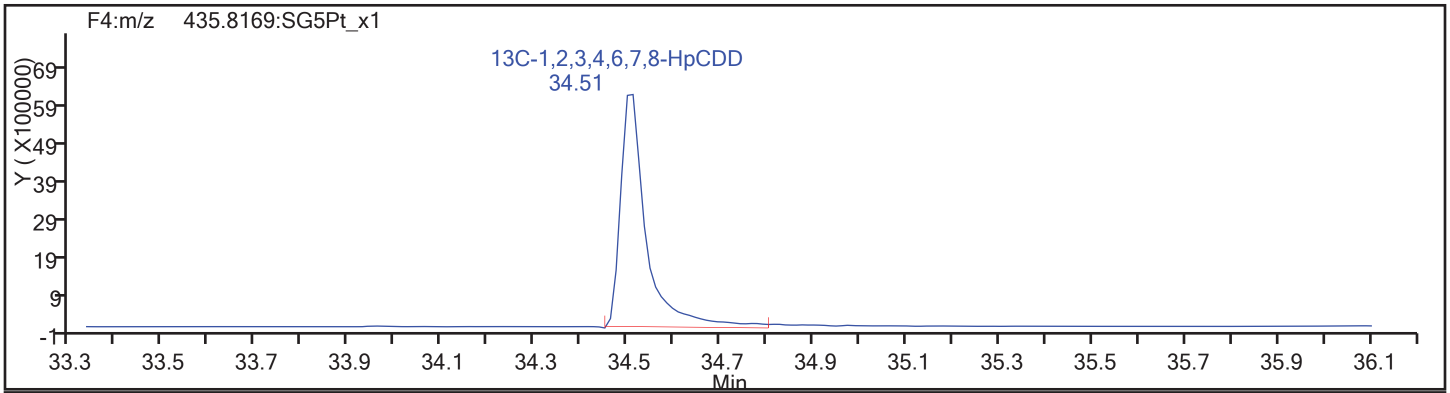

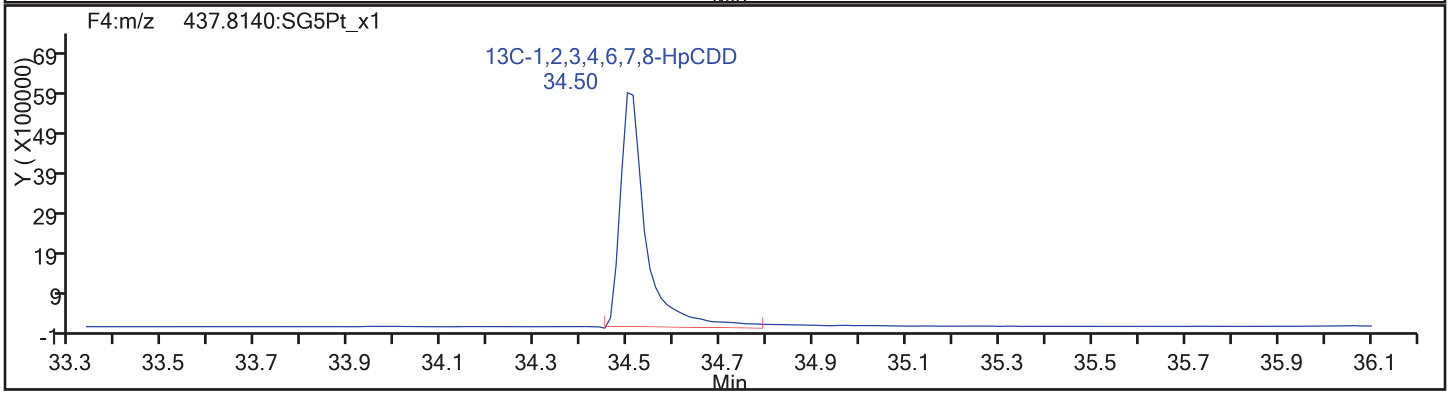

TestAmerica Sacramento

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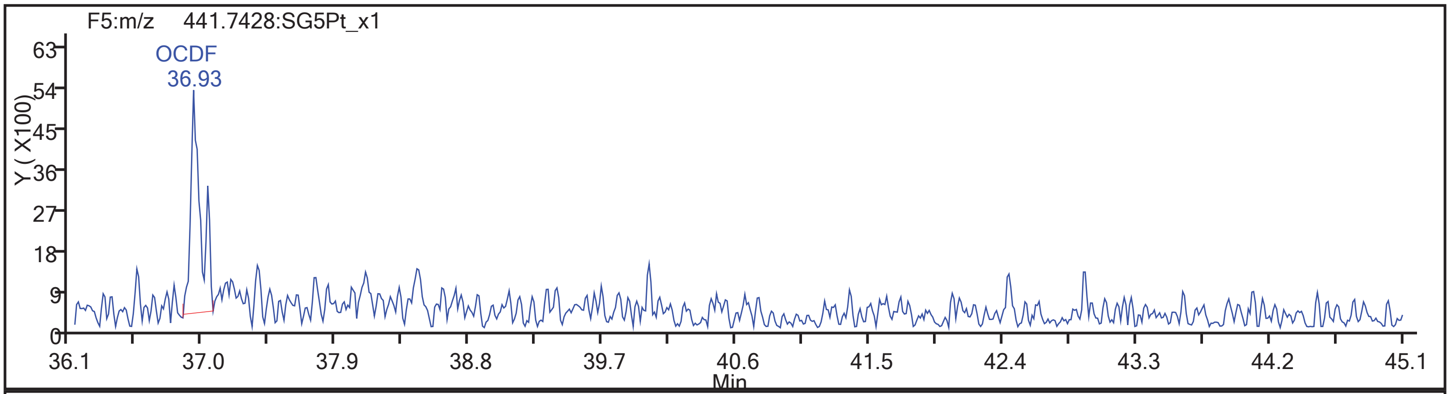
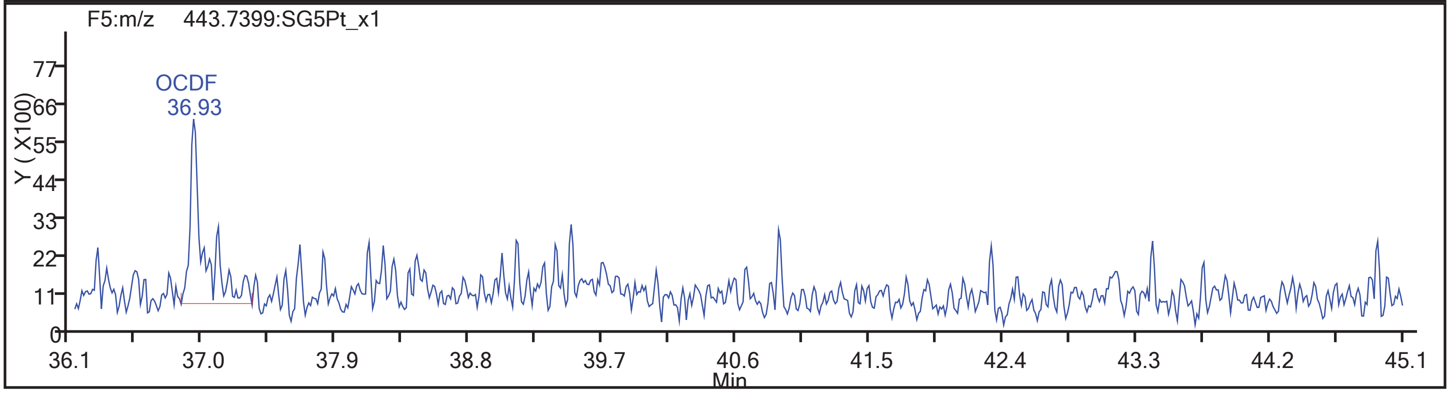
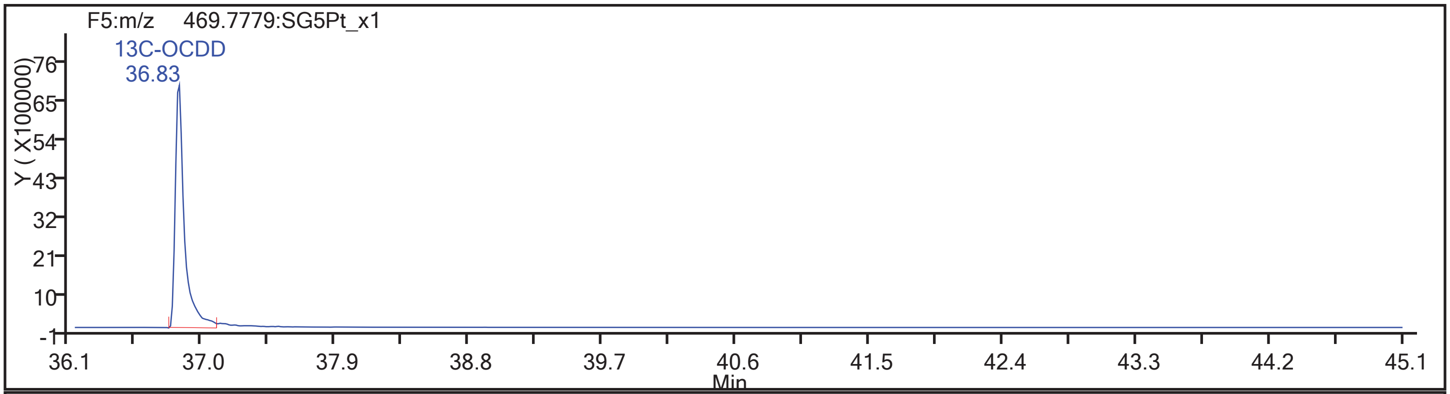
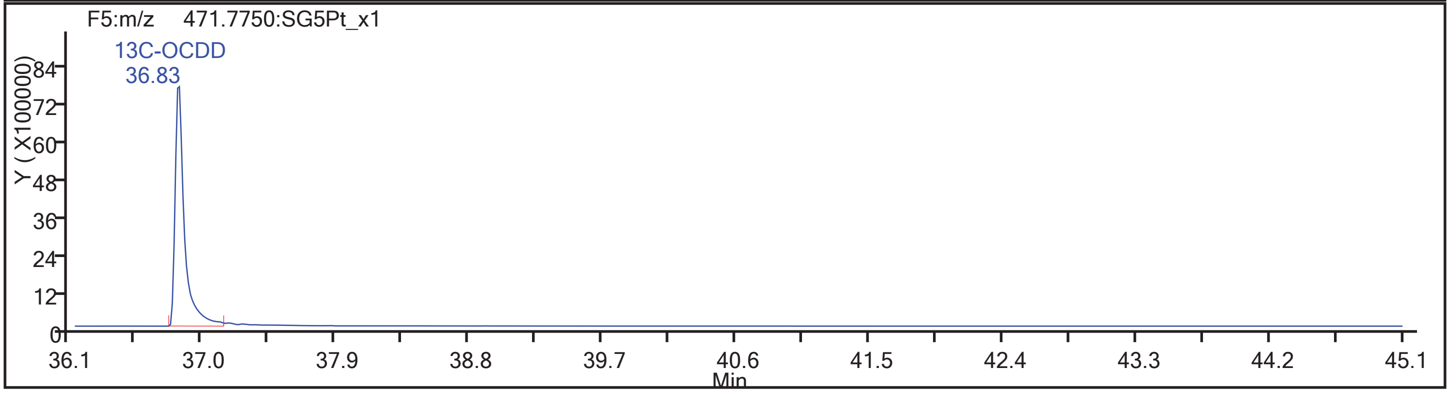
OCDF





OCDF Standards





TestAmerica Sacramento

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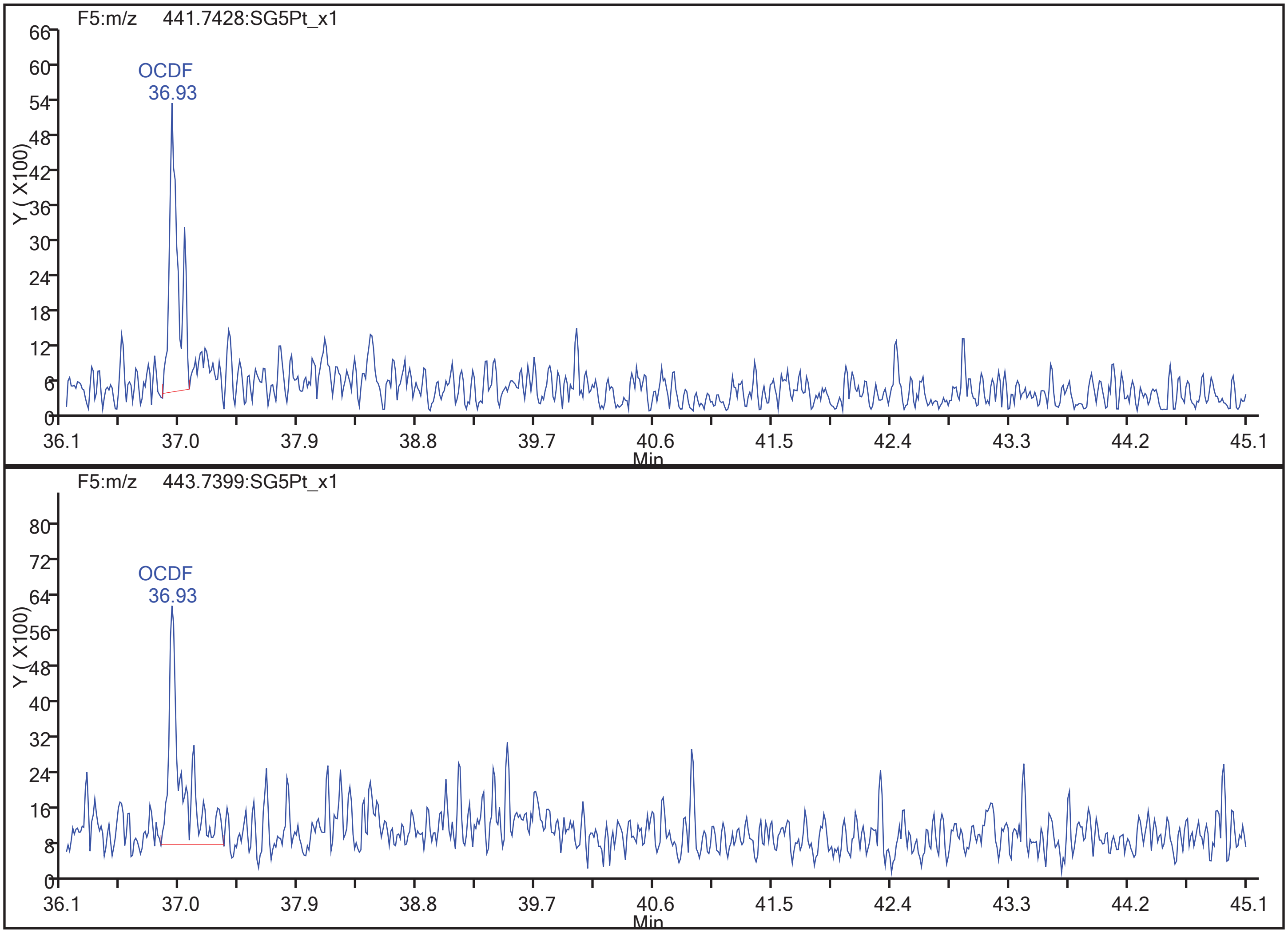
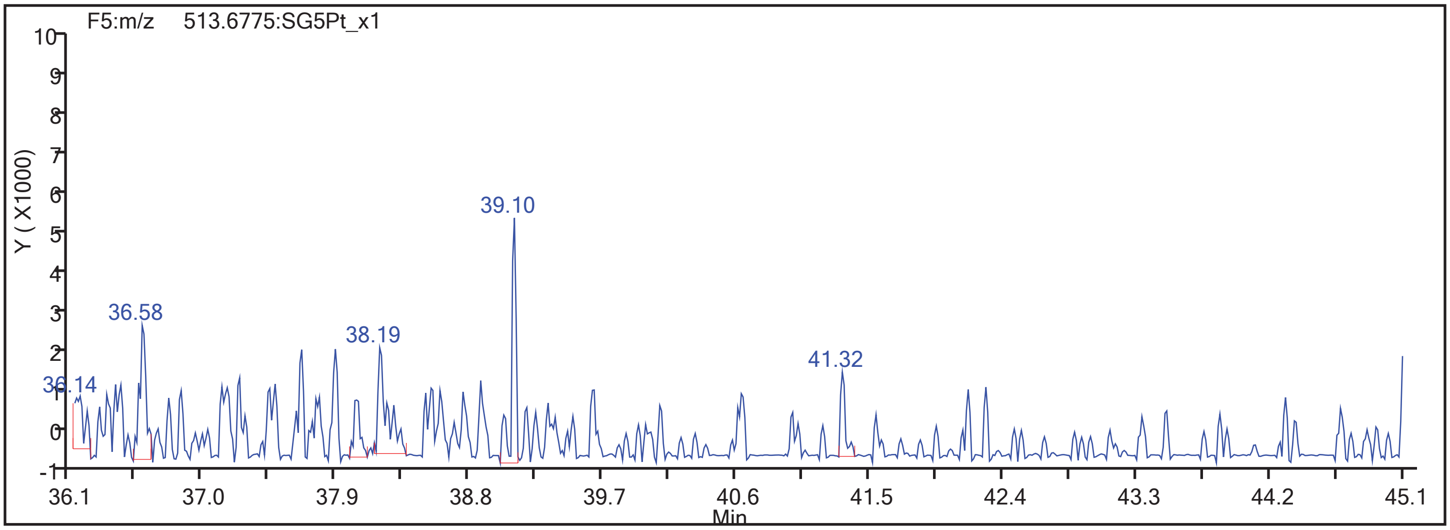
OCDF



OCDF Interference Mass



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TestAmerica Sacramento

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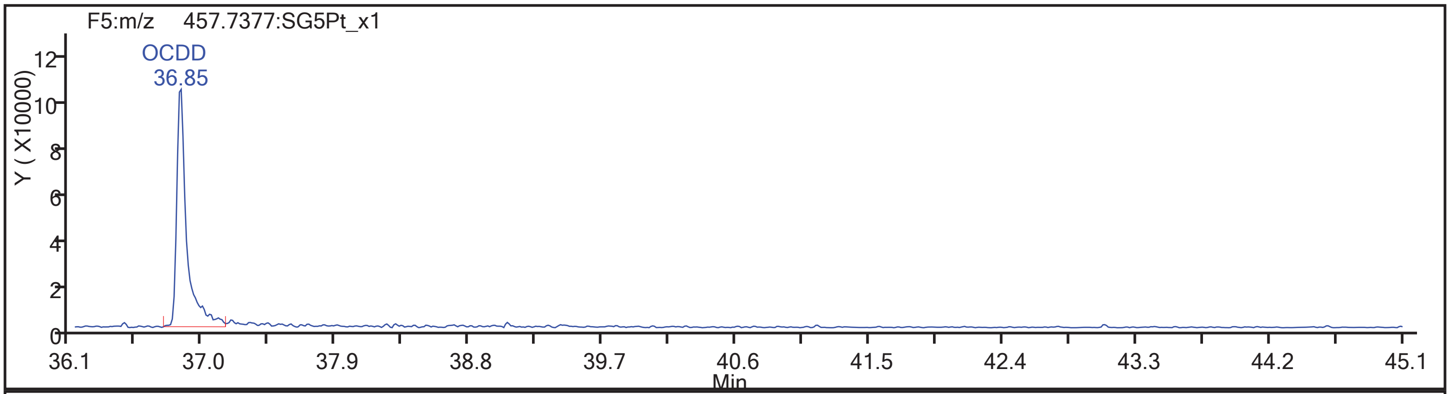
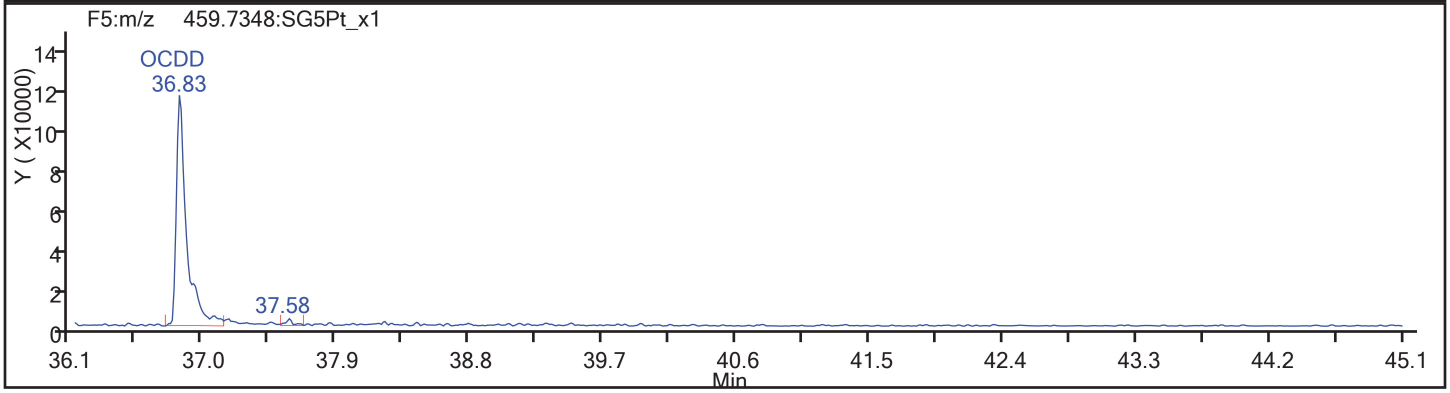
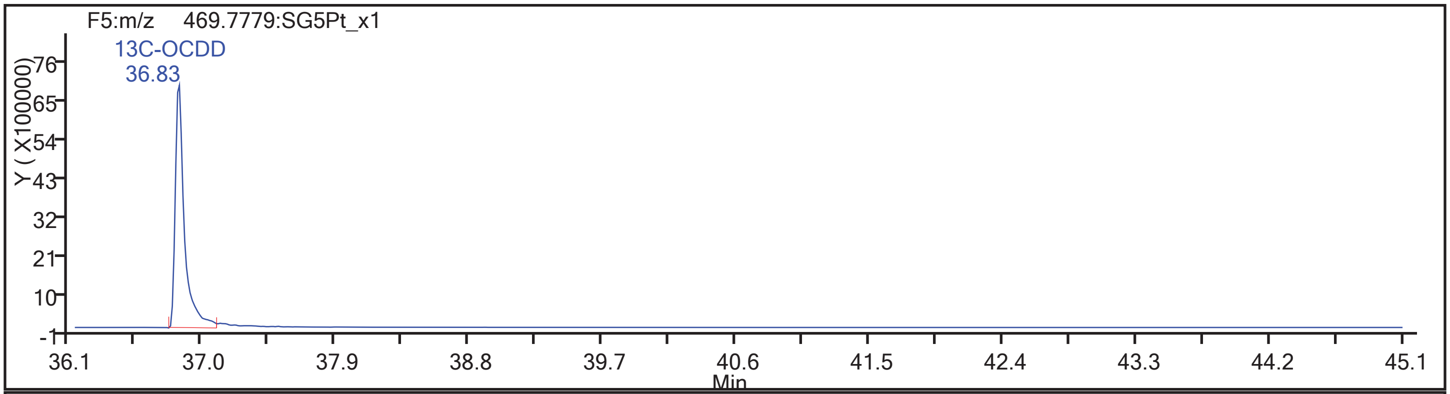
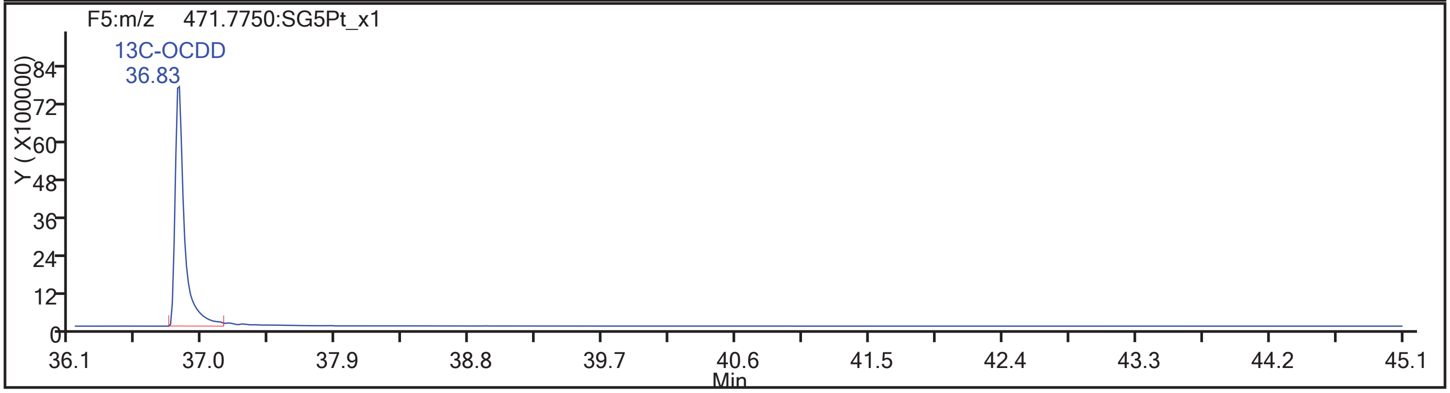
OCDD





OCDD Standards

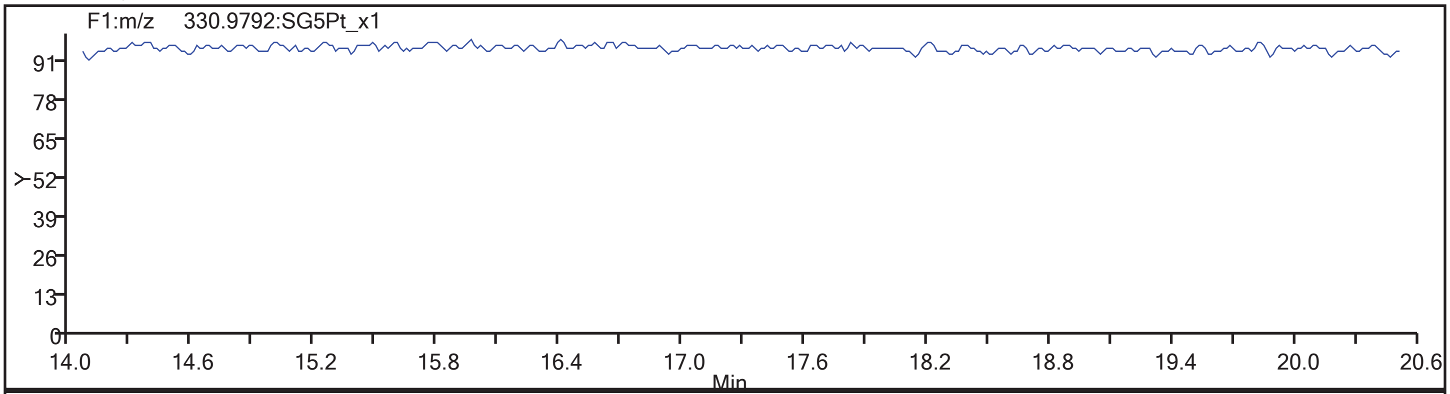


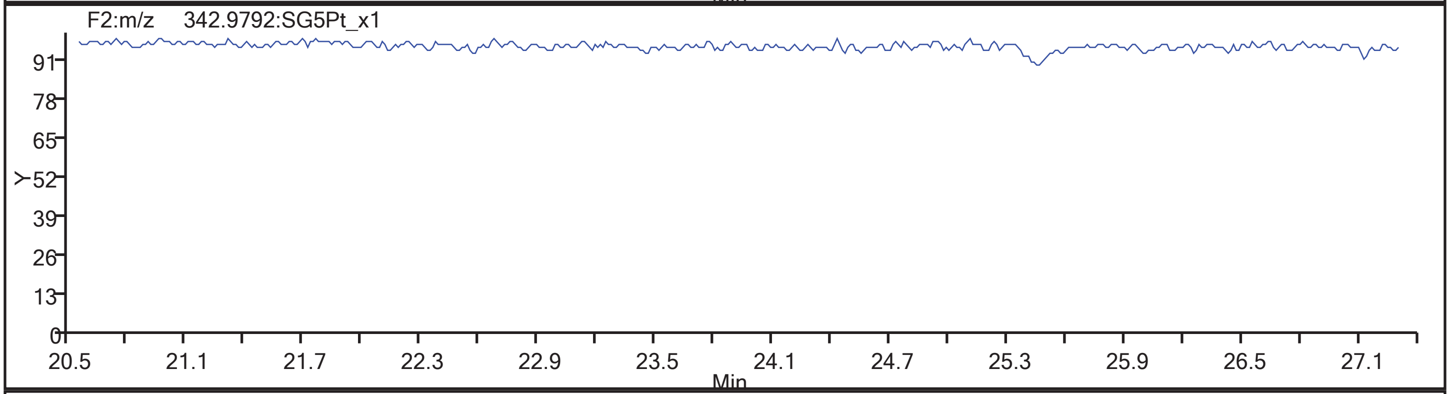


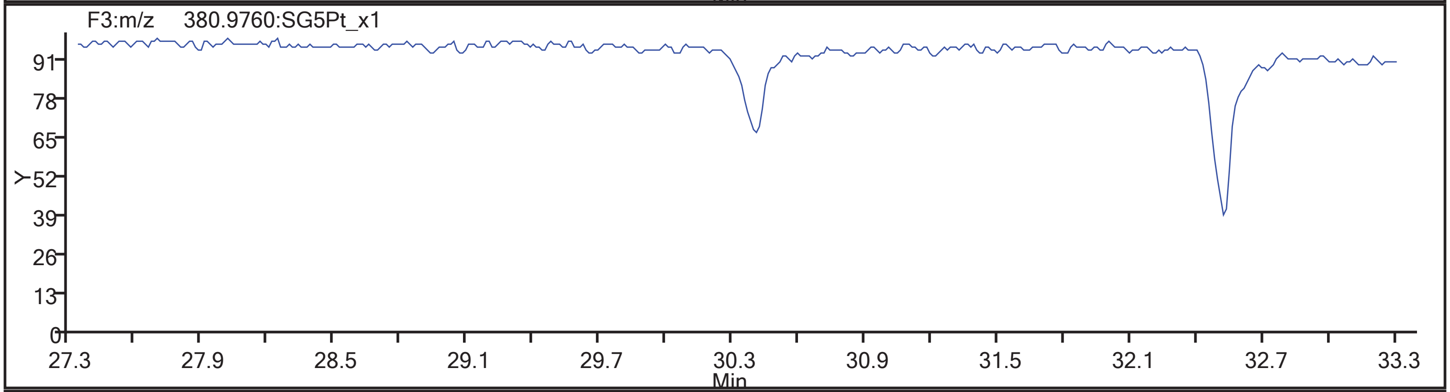
Report Date: 15-Nov-2017 08:19:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

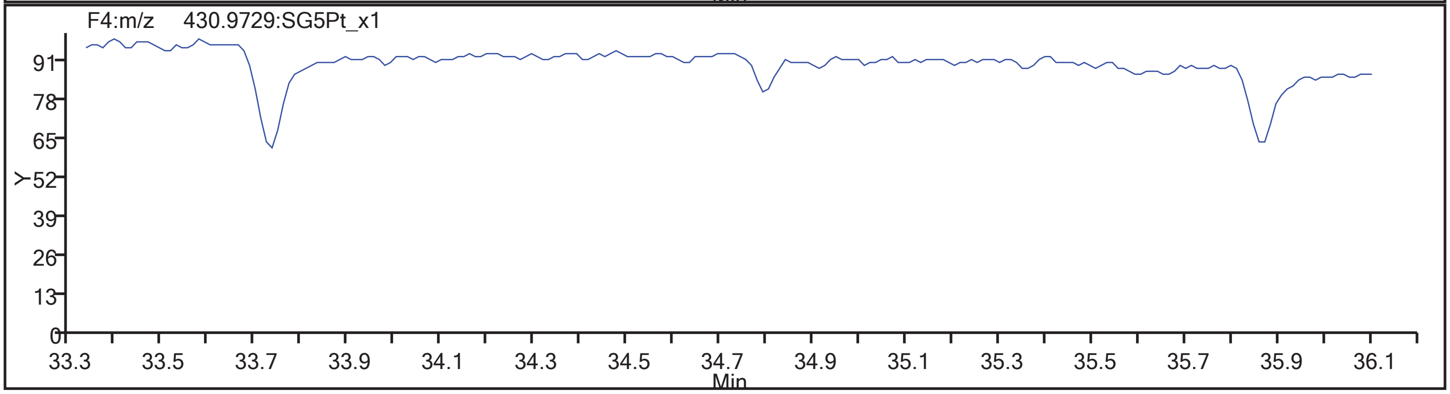
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d		
Injection Date:	14-Nov-2017 03:24:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	194428	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm



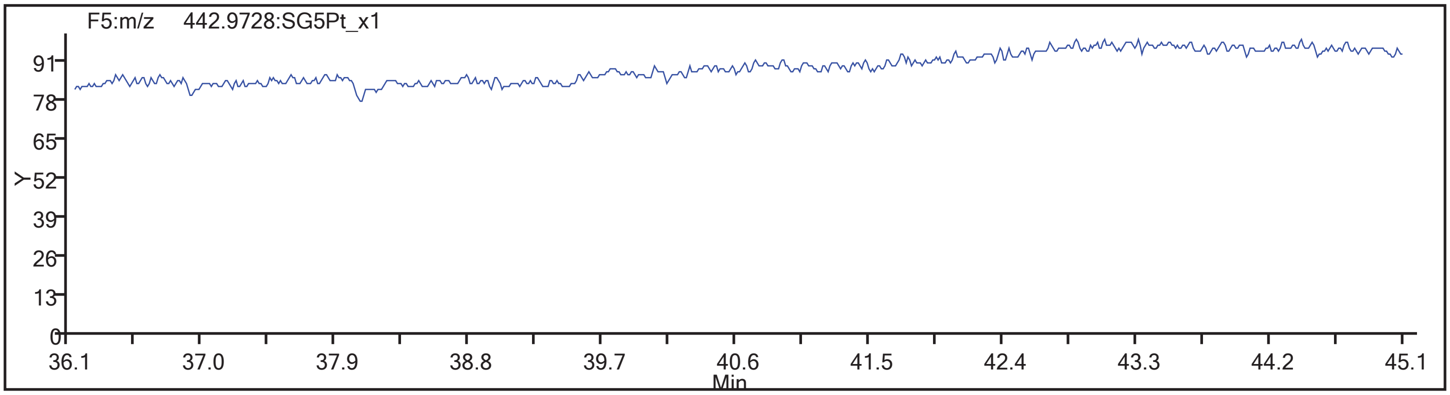






TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_20.d
Injection Date: 14-Nov-2017 03:24:03
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS04NS
Worklist#: 194428
Sample Line#: 20
Column Type: DB-5
Column Dia: 0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP026SS04NS RE
Lab Sample ID: 160-24924-3 RE
Matrix: Solid
Lab File ID: 16NO173D5_62.d
Analysis Method: 8290A
Date Collected: 10/05/2017 16:15
Extract. Method: 8290
Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.02(g)
Date Analyzed: 11/18/2017 19:27
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 9.6
GPC Cleanup:(Y/N) N
Analysis Batch No.: 195573
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.44*	*U H*	*1.1*	0.44	*0.11*
51207-31-9	*2,3,7,8-TCDF*	*0.44*	*U H*	*1.1*	0.44	*0.084*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.83*	*U H*	*5.5*	0.83	*0.10*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.83*	*U H*	*5.5*	0.83	*0.080*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.83*	*U H*	*5.5*	0.83	*0.083*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*0.37*	*J H*	*5.5*	2.2	*0.11*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*0.29*	*J H*	*5.5*	2.2	*0.10*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*0.18*	*J H*	*5.5*	2.2	*0.097*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.83*	*U H*	*5.5*	0.83	*0.14*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.1*	*U H*	*5.5*	1.1	*0.13*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.1*	*U H*	*5.5*	1.1	*0.15*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.83*	*U H*	*5.5*	0.83	*0.14*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*21*	*H M*	*5.5*	1.1	*0.48*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*2.4*	*J H*	*5.5*	1.1	*0.22*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.2*	*U H*	*5.5*	2.2	*0.29*
3268-87-9	*OCDD*	*590*	*H B*	*11*	4.4	*0.46*
39001-02-0	*OCDF*	*50*	*H*	*11*	4.4	*0.23*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	64		40-135
89059-46-1	13C-2,3,7,8-TCDF	64		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	69		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	68		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	61		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	63		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	66		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	57		40-135
114423-97-1	13C-OCDD	57		40-135

Report Date: 06-Dec-2017 14:09:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d
Lims ID: 160-24924-G-3-B
Client ID: SHAD041DP026SS04NS
Sample Type: Client
Inject. Date: 18-Nov-2017 19:27:51 ALS Bottle#: 42 Worklist Smp#: 62
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-3-B 160-24924-G-3-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:09:01 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:24:04

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	117156448	0.80	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	112472380	0.81	1.5089	63.6	63.6	0.3604	0.3604	63.63	
2,3,7,8-TCDF	17.720						0.0378	0.0378		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF							0.0378	0.0378		
D 13C-2,3,7,8-TCDD	18.461	74244000	0.79	0.9906	64.0	64.0	0.2415	0.2415	63.97	
2,3,7,8-TCDD	18.461						0.0490	0.0490		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD							0.0490	0.0490		
D 13C-1,2,3,7,8-PeCDF	22.896	89980937	1.60	1.1280	68.1	68.1	0.2303	0.2303	68.09	
1,2,3,7,8-PeCDF	22.910						0.0364	0.0364		
2,3,4,7,8-PeCDF	24.301						0.0374	0.0374		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF							0.0374	0.0374		
D 13C-1,2,3,7,8-PeCDD	25.024	58643498	1.63	0.7269	68.9	68.9	0.1365	0.1365	68.87	
1,2,3,7,8-PeCDD	25.037						0.0462	0.0462		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0462	0.0462		
D 13C-1,2,3,4,7,8-HxCDF	30.932	70687983	0.53	1.0279	62.7	62.7	0.3020	0.3020	62.68	
1,2,3,4,7,8-HxCDF	30.932						0.0635	0.0635		
1,2,3,6,7,8-HxCDF	31.092						0.0578	0.0578		
2,3,4,6,7,8-HxCDF	31.705						0.0619	0.0619		U
D 13C-1,2,3,7,8,9-HxCDF	32.597	73680409	0.49							
1,2,3,7,8,9-HxCDF	32.597						0.0663	0.0663		
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		U
S Total HxCDF							0.0663	0.0663		
* 13C-1,2,3,7,8,9-HxCDD	32.424	109711939	1.27	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.037	102602	1.19	1.0646	0.1684	0.1684	0.0506	0.0506		
D 13C-1,2,3,6,7,8-HxCDD	32.104	57218240	1.27	0.8502	61.3	61.3	0.2375	0.2375	61.35	
1,2,3,6,7,8-HxCDD	32.117	89860	1.24	1.1809	0.1534	0.1330	0.0457	0.0457		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.424	58880	1.24	1.2311	0.1046	0.0836	0.0438	0.0438		RQ
A Non-2,3,7,8-sub-HxCDD	31.252	245445	1.24	1.1589	0.4247	0.3702	0.0465	0.3702		RQ
S Total HxCDD					0.8511	0.7552	0.0467	0.0467		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	40623741	0.43	0.6490	57.1	57.1	0.6021	0.6021	57.06	
1,2,3,4,6,7,8-HpCDF	34.022	704275	1.04	1.5871	1.092	1.092	0.1006	0.1006		
1,2,3,4,7,8,9-HpCDF	35.128						0.1299	0.1299		
A Non-2,3,7,8-sub-HpCDF	34.569	2976283	1.07	1.4080	5.203	5.203	0.1134	5.203		
S Total HpCDF					6.296	6.296	0.1153	0.1153		
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	39042594	1.08	0.5387	66.1	66.1	0.3126	0.3126	66.06	
1,2,3,4,6,7,8-HpCDD	34.836	4361221	1.04	1.1631	9.604	9.604	0.2171	0.2171		M
A Non-2,3,7,8-sub-HpCDD	35.261	2042124	1.13	1.1631	4.497	4.497	0.2171	4.497		
S Total HpCDD					14.1	14.1	0.2171	0.2171		
D 13C-OCDD	37.245	50129814	0.88	0.4009	114.0	114.0	0.1784	0.1784	56.98	
OCDF	37.365	7137848	0.89	1.2649	22.5	22.5	0.1044	0.1044		
OCDD	37.257	69812884	0.91	1.0390	268.1	268.1	0.2091	0.2091		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d
Lims ID: 160-24924-G-3-B
Client ID: SHAD041DP026SS04NS
Sample Type: Client
Inject. Date: 18-Nov-2017 19:27:51 ALS Bottle#: 42 Worklist Smp#: 62
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-3-B 160-24924-G-3-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:09:01 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:24:04

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		52158659	12679369	18004	45010	704		
333.9339	18.249	18.234	1		64997789	15714624	9168	22920	1714	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.971	50408611	11879701	41884	104710	284		
317.9389	17.720	17.705	1	0.971	62063769	14599452	19884	49710	734	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						1279	3197			
305.8987	17.720						3119	7797			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						1279	3197			
305.8987	17.402						3119	7797			
13C-2,3,7,8-TCDD											
331.9368	18.461	18.430	2	1.012	32801845	7302955	18004	45010	406		
333.9339	18.445	18.430	1	1.011	41442155	9362020	9168	22920	1021	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461						2822	7055			
321.8936	18.461						980	2450			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						2822	7055			
321.8936	17.871						980	2450			
13C-1,2,3,7,8-PeCDF											
351.9000	22.896	22.883	1	1.255	55326132	9318976	16936	42340	550		
353.8970	22.896	22.883	1	1.255	34654805	5768036	12568	31420	459	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						948	2370			
341.8567	22.910						1558	3895			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	24.301						948	2370			
341.8567	24.301						1558	3895			
A F1 PeCDFs											
339.8597	20.426						547	1367			
341.8567	20.426						1583	3957			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						948	2370			
341.8567	23.668						1558	3895			
13C-1,2,3,7,8-PeCDD											
367.8949	25.024	25.010	1	1.371	36373449	5656742	6761	16902	837		
369.8919	25.024	25.010	1	1.371	22270049	3173962	4511	11277	704	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037						1266	3165			
357.8516	25.037						574	1435			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1266	3165			
357.8516	23.878						574	1435			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.932	30.919	1	0.954	24508670	5461992	13167	32917	415		
385.8610	30.932	30.919	1	0.954	46179313	10286039	23732	59330	433	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						3670	9175			
375.8178	30.932						1721	4302			
1,2,3,6,7,8-HxCDF											
373.8208	31.092						3670	9175			
375.8178	31.092						1721	4302			
2,3,4,6,7,8-HxCDF											U
373.8208	31.838						3670	9175			
375.8178	31.838						1721	4302			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.005	24324484	6861264	13167	32917	521		
385.8610	32.597	32.583	1	1.005	49355925	13666542	23732	59330	576	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						3670	9175			
375.8178	32.597						1721	4302			
A Non-2,3,7,8-sub-HxCDF											U
373.8208	30.653						3670	9175			
375.8178	30.653						1721	4302			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.424	32.410	1		61461422	16506370	13313	33282	1240		
403.8529	32.424	32.410	1		48250517	13213354	10692	26730	1236	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.037	32.011	2	0.998	55832	12536	1710	4275	7		
391.8127	32.024	32.011	1	0.998	46770	19388	1692	4230	11	1.19(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.990	32033042	8648803	13313	33282	650		
403.8529	32.104	32.091	1	0.990	25185198	7124834	10692	26730	666	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQ
389.8157	32.117	32.117	0	1.000	49744	14001	1710	4275	8		
391.8127	32.104	32.117	-1	1.000	53893	10775	1692	4230	6	0.92(1.05-1.43)	
	Empc Correction				40116	11291	1692	4230	7		
1,2,3,7,8,9-HxCDD											RQ
389.8157	32.424	32.424	0	1.010	47394	12751	1710	4275	7		
	Empc Correction				32594	10034	1710	4275	6		
391.8127	32.437	32.424	1	1.010	26286	8092	1692	4230	5	1.80(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	31.358	31.252	6	0.977	172010	27490	1710	4275	16		
	Empc Correction				135871	32775	1710	4275	19		
391.8127	31.332	31.252	5	0.976	109574	26432	1692	4230	16	1.57(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	12303208	4161819	15406	38515	270		
419.8220	34.010	33.998	1	1.049	28320533	9527411	31043	77607	307	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.010	1	1.000	358739	129773	4331	10827	30		
409.7789	34.022	34.010	1	1.000	345536	127322	4411	11027	29	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						4331	10827			
409.7789	35.128						4411	11027			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.338	34.569	-14	1.010	1537642	486633	4331	10827	112		
409.7789	34.326	34.569	-15	1.009	1438641	485512	4411	11027	110	1.07(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.812	1	1.074	20256648	6039440	12425	31062	486		
437.8140	34.824	34.812	1	1.074	18785946	5875924	7595	18987	774	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.836	34.824	1	1.000	2226337	730552	5954	14885	123		M
425.7737	34.836	34.824	1	1.000	2134884	675621	6083	15207	111	1.04(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.277	35.261	-59	0.984	1081257	337603	5954	14885	57		a
425.7737	34.265	35.261	-60	0.984	960867	321152	6083	15207	53	1.13(0.88-1.20)	
13C-OCDD											
469.7779	37.245	37.245	0	1.149	23449672	6530749	4754	11885	1374		
471.7750	37.245	37.245	0	1.149	26680142	7217251	3748	9370	1926	0.88(0.76-1.02)	
OCDF											
441.7428	37.365	37.353	1	1.003	3365945	870339	1505	3762	578		
443.7399	37.353	37.353	0	1.003	3771903	967241	2125	5312	455	0.89(0.76-1.02)	
OCDD											
457.7377	37.257	37.257	0	1.000	33263952	9406201	2888	7220	3257		
459.7348	37.257	37.257	0	1.000	36548932	10469027	3086	7715	3392	0.91(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Lims ID:	160-24924-G-3-B		
Client ID:	SHAD041DP026SS04NS		
Inject. Date:	18-Nov-2017 19:27:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	62

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	70687983	15748031
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags

Compound is Marked ND

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Lims ID:	160-24924-G-3-B		
Client ID:	SHAD041DP026SS04NS		
Inject. Date:	18-Nov-2017 19:27:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	62

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	57218240	15773637
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	57218240	15773637

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.358	172010	27490	109574	26432	0.4247	1.57	RQ
31.358	135871	32775	109574	26432	0.3702		Empc Correction
Signal Totals:							
	135871	32775	109574	26432			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	281584	53922				1.57	RQ
	245445	59207					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4247 = (281584 * 100.000) / (57218240 * 1.159)
Empc Amount: 0.3702 = (245445 * 100.000) / (57218240 * 1.159)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Lims ID:	160-24924-G-3-B		
Client ID:	SHAD041DP026SS04NS		
Inject. Date:	18-Nov-2017 19:27:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	62

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	40623741	13689230
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	40623741	13689230

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.338	1537642	486633	1438641	485512	5.20	1.07	
Signal Totals:							
	1537642	486633	1438641	485512			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2976283	972145				1.07	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.203 = (2976283 * 100.000) / (40623741 * 1.408)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Lims ID:	160-24924-G-3-B		
Client ID:	SHAD041DP026SS04NS		
Inject. Date:	18-Nov-2017 19:27:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	62

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF / IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	39042594	11915364

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	39042594	11915364

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.277	1081257	337603	960867	321152	4.50	1.13	
Signal Totals:							
	1081257	337603	960867	321152			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2042124	658755				1.13	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.497 = (2042124 * 100.000) / (39042594 * 1.163)

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

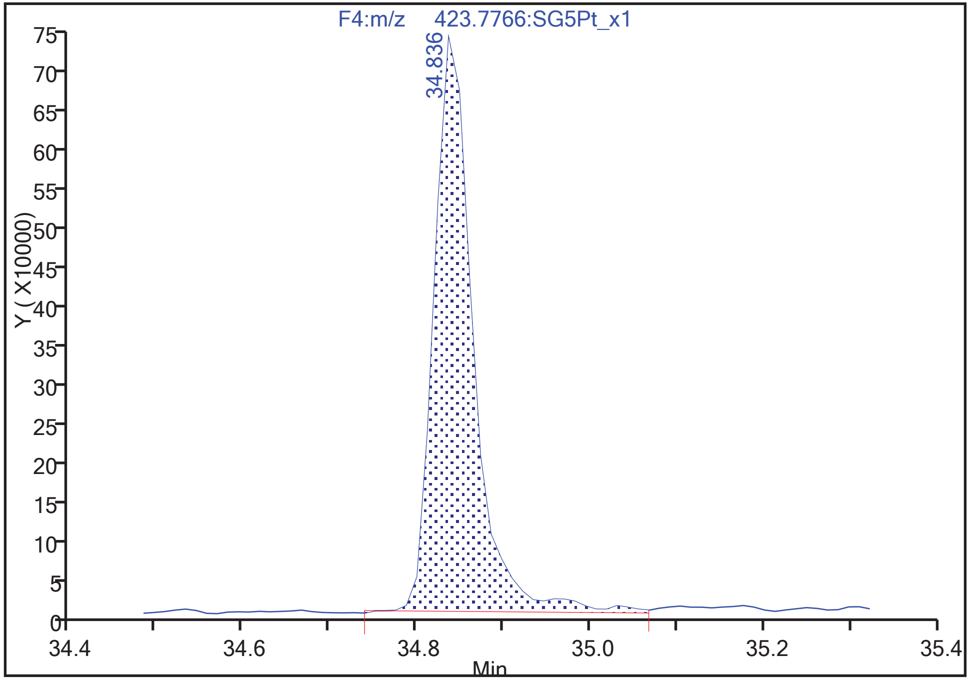
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Injection Date:	18-Nov-2017 19:27:51	Instrument ID:	3D5
Lims ID:	160-24924-G-3-B	Lab Sample ID:	320-24924-3
Client ID:	SHAD041DP026SS04NS		
Operator ID:	SMA, ALM	ALS Bottle#:	42 Worklist Smp#: 62
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F4:HRSIR

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

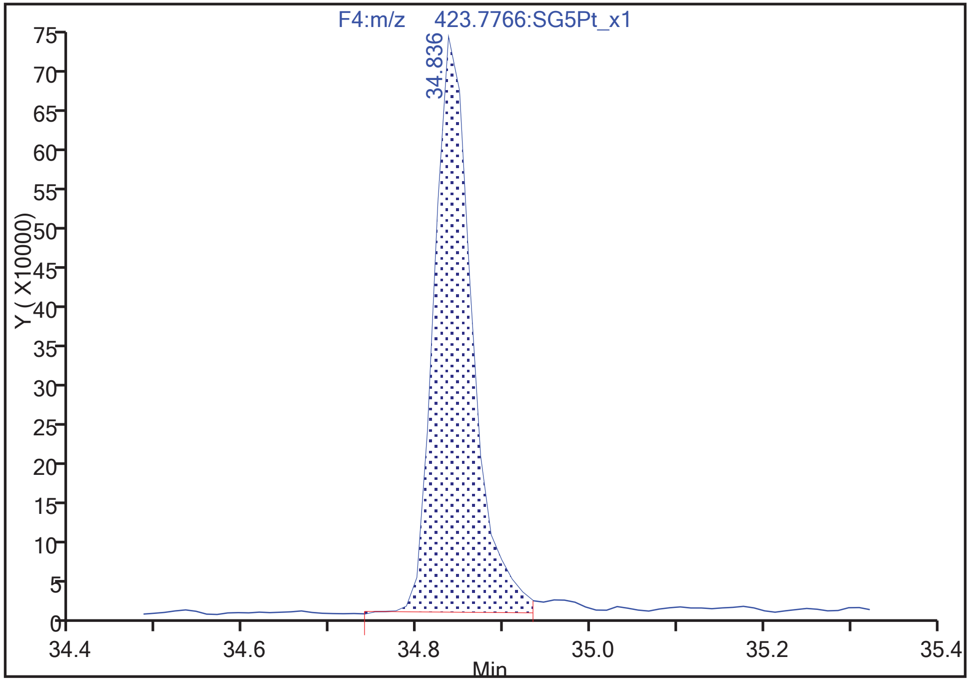
Processing Integration Results

RT:	34.84
Area:	2304854
Amount:	10.163932
Amount Units:	pg/ul



Manual Integration Results

RT:	34.84
Area:	2226337
Amount:	9.603839
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 14:08:43

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 14:09:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

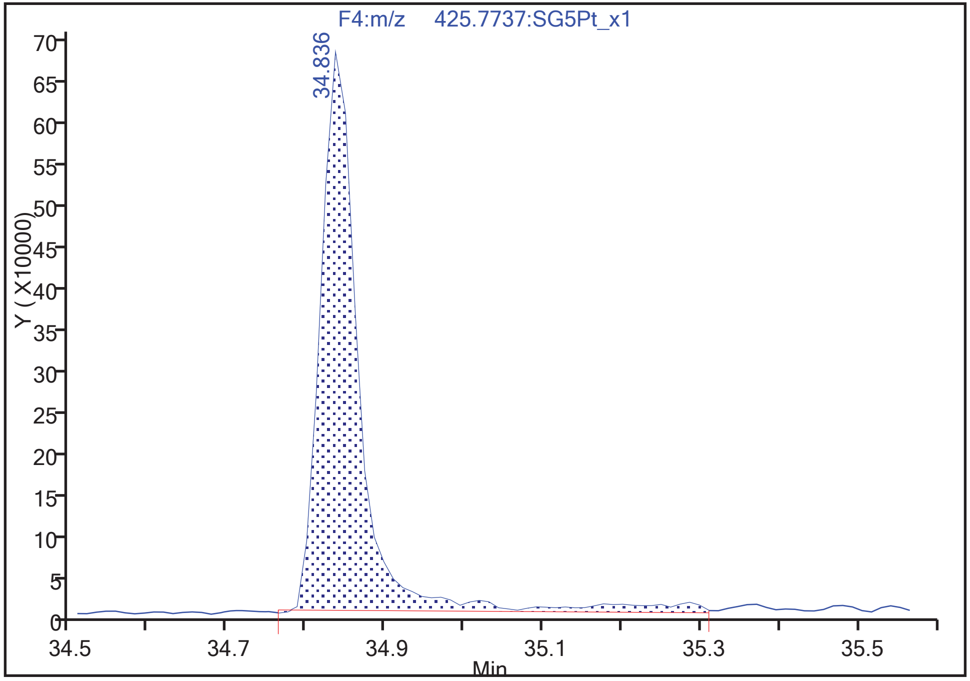
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d				
Injection Date:	18-Nov-2017 19:27:51	Instrument ID:	3D5		
Lims ID:	160-24924-G-3-B	Lab Sample ID:	320-24924-3		
Client ID:	SHAD041DP026SS04NS				
Operator ID:	SMA, ALM	ALS Bottle#:	42	Worklist Smp#:	62
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

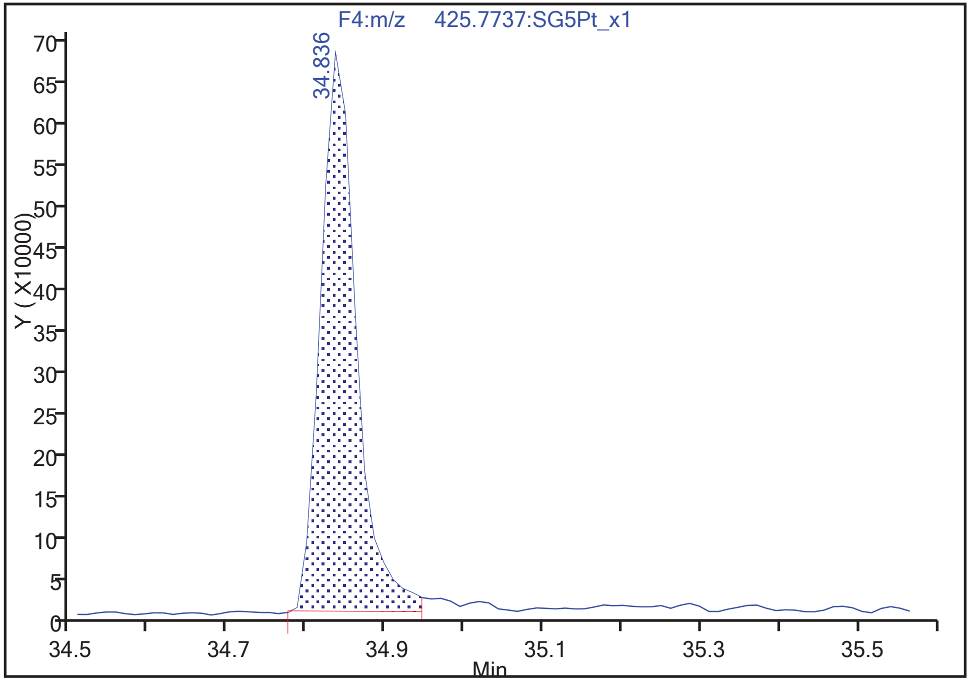
RT:	34.84
Area:	2310712
Amount:	10.163932
Amount Units:	pg/ul

Processing Integration Results



RT:	34.84
Area:	2134884
Amount:	9.603839
Amount Units:	pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 14:08:47

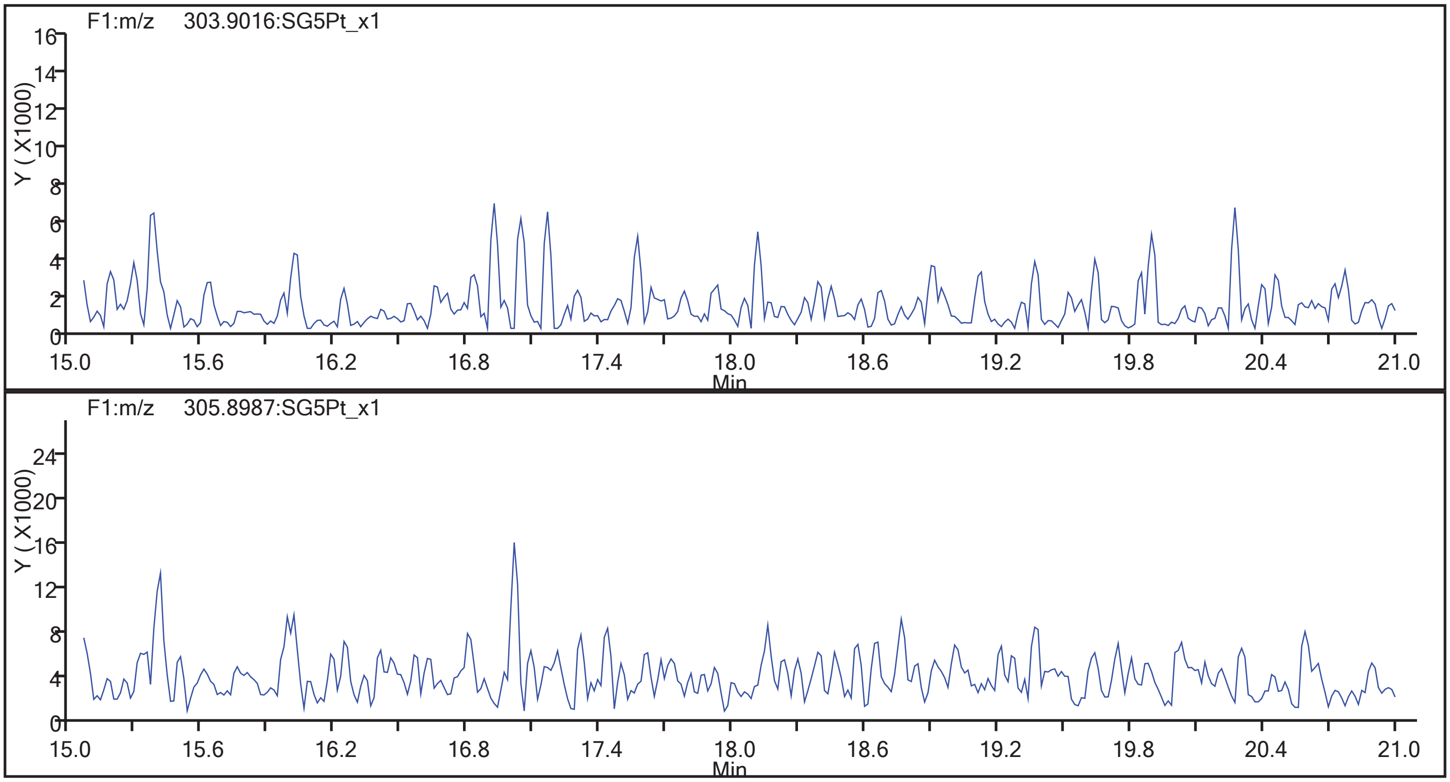
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 14:09:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

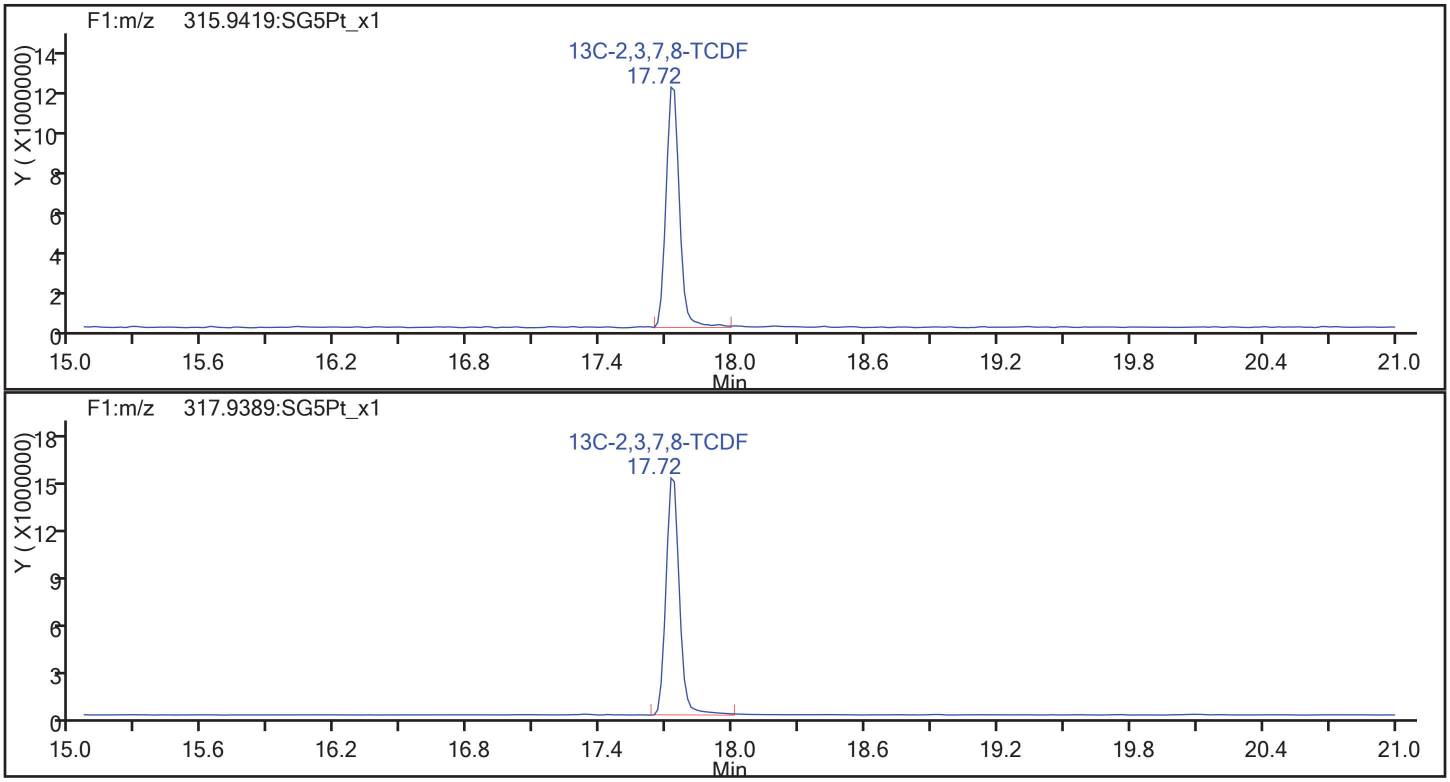
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Injection Date:	18-Nov-2017 19:27:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	195573	Sample Line#:	62
Column Type:		Column Dia:	

TCDF



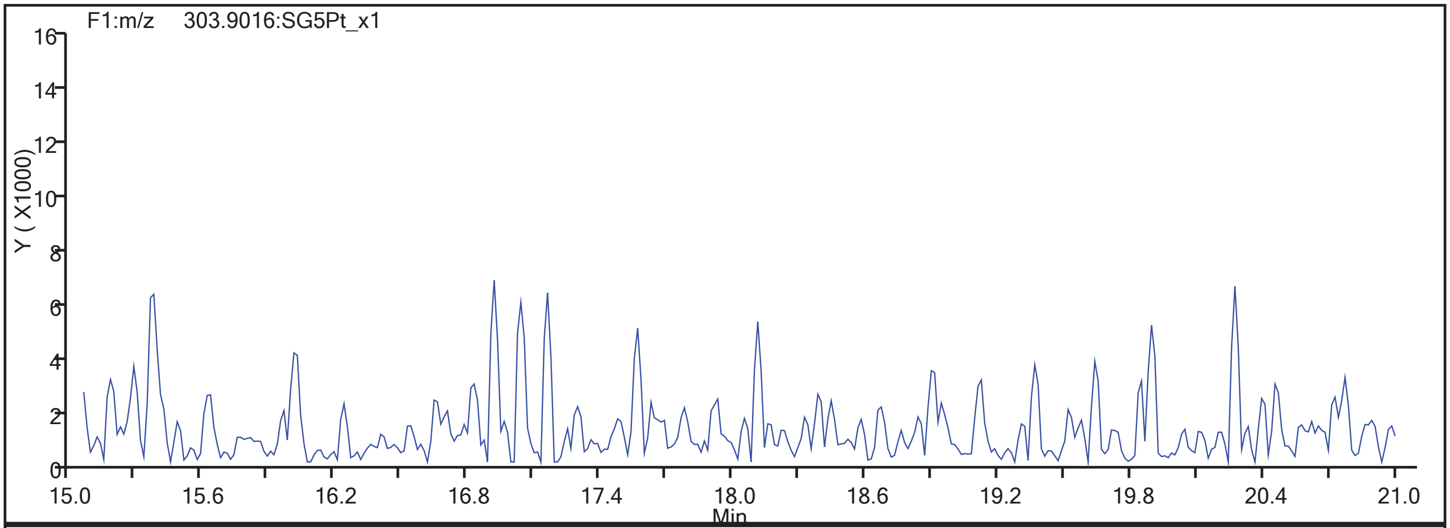
TCDF Standards

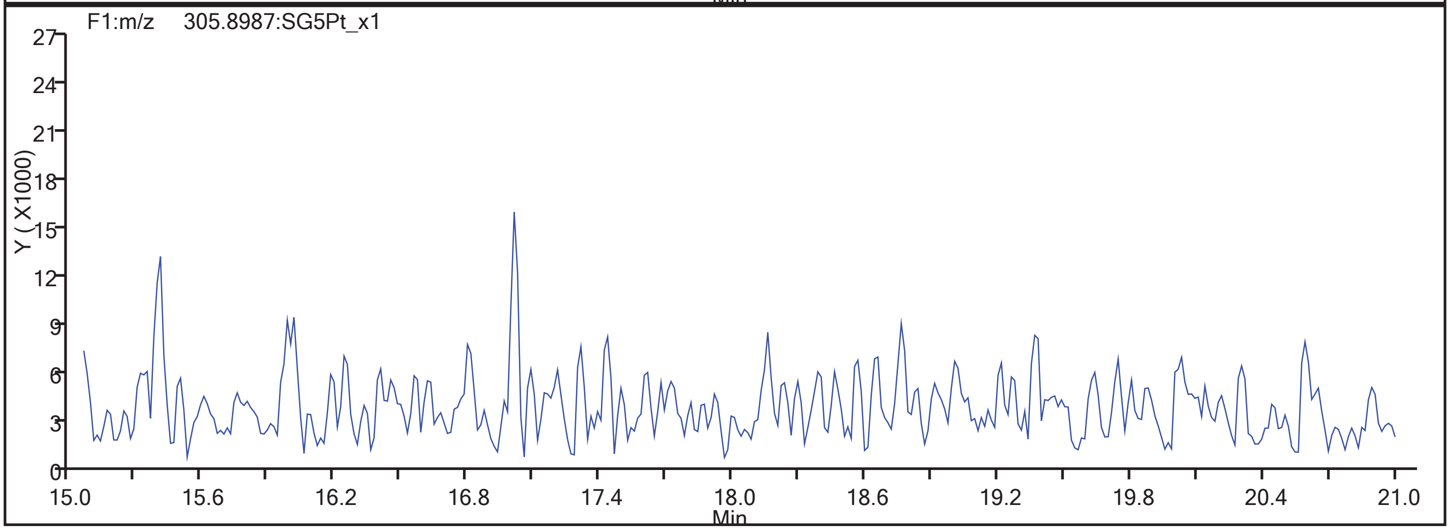


TestAmerica Sacramento

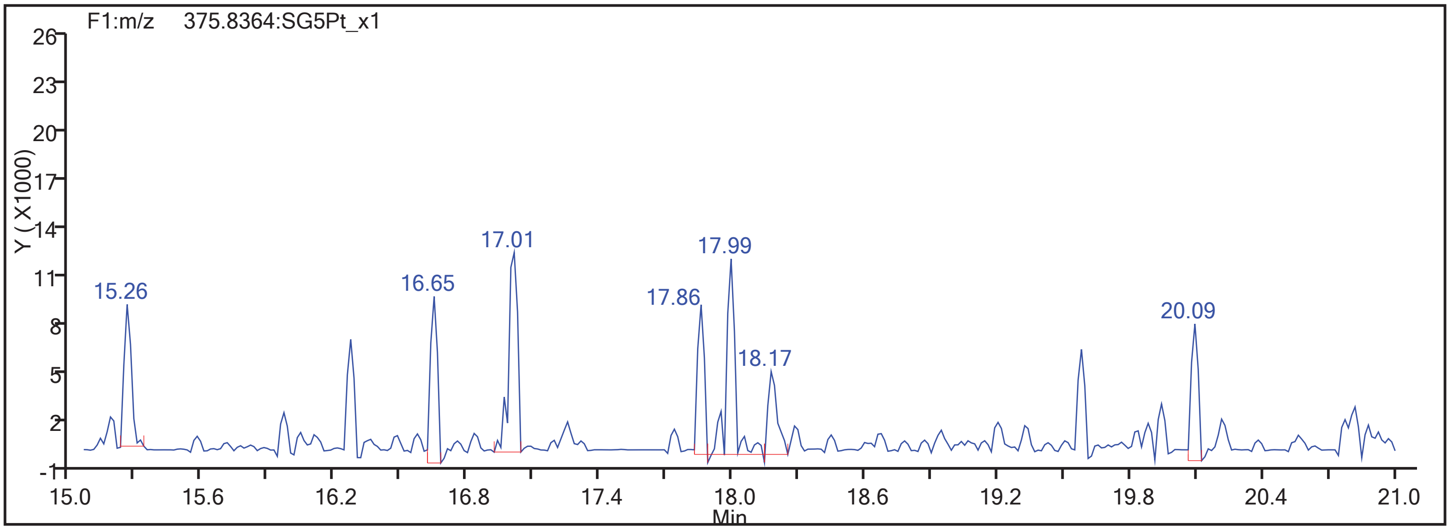
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d
Injection Date: 18-Nov-2017 19:27:51
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS04NS
Worklist#: 195573
Sample Line#: 62
Column Type:
Column Dia:

TCDF





TCDF Interference Mass

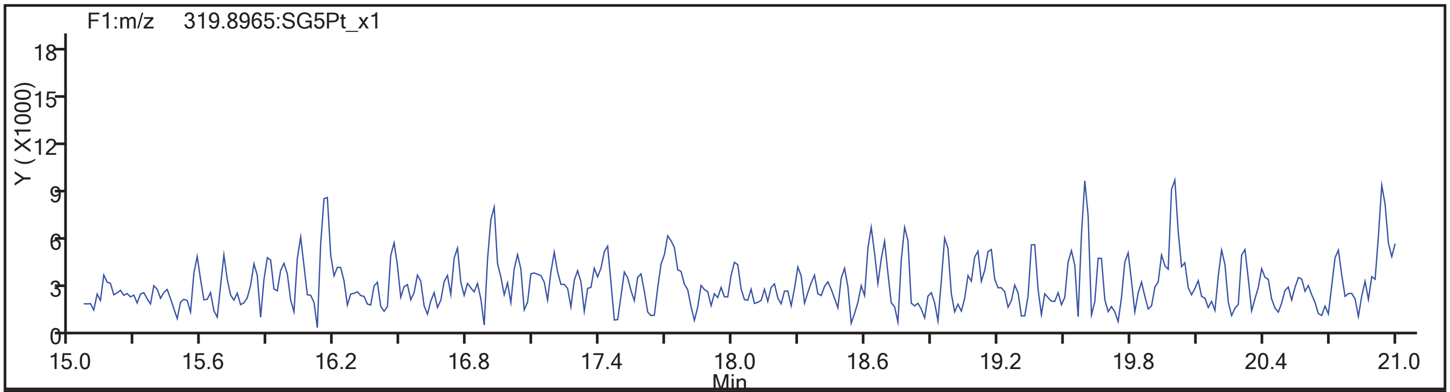


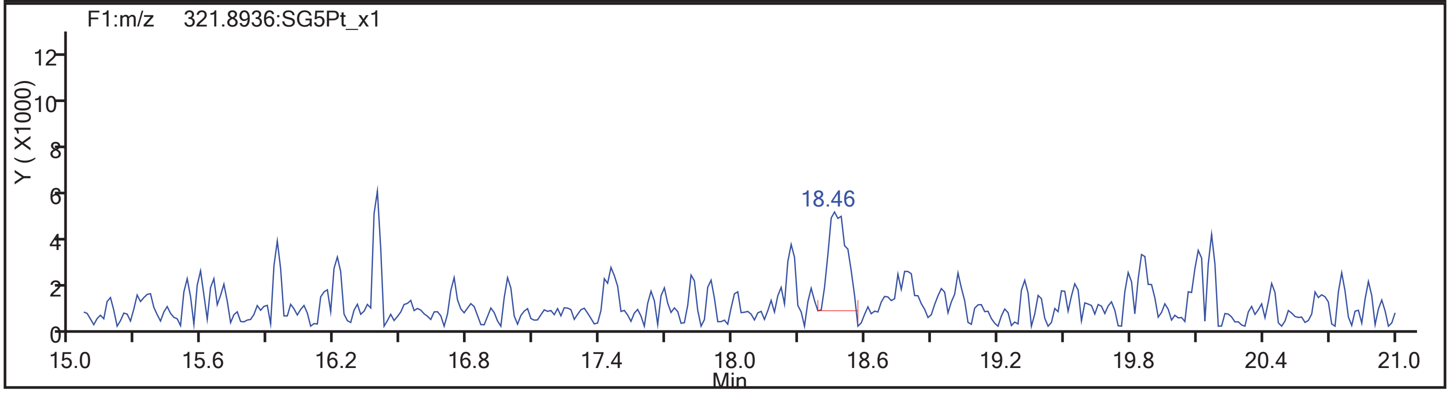
Report Date: 06-Dec-2017 14:09:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

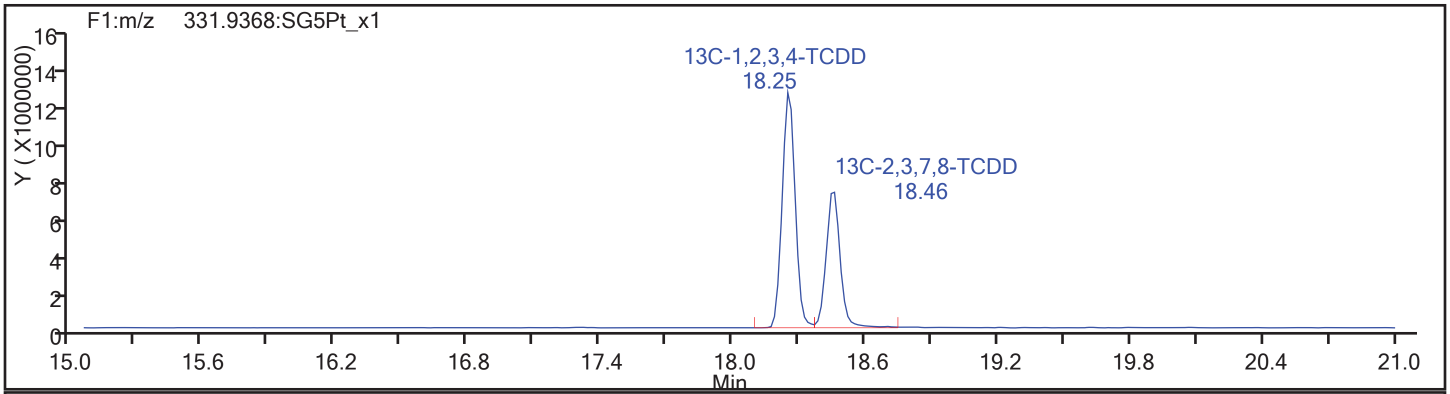
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Injection Date:	18-Nov-2017 19:27:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	195573	Sample Line#:	62
Column Type:		Column Dia:	

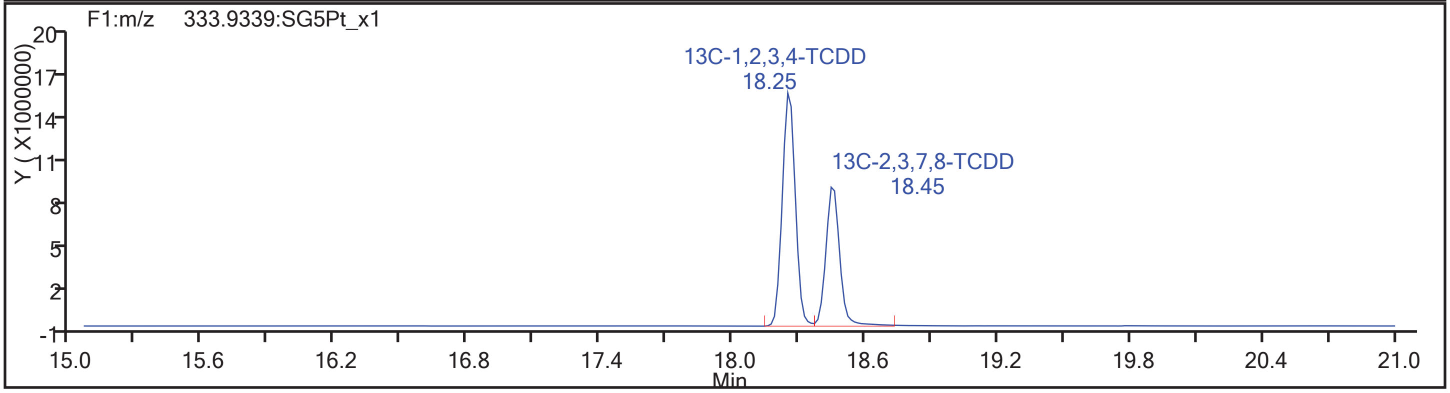
TCDD





TCDD Standards

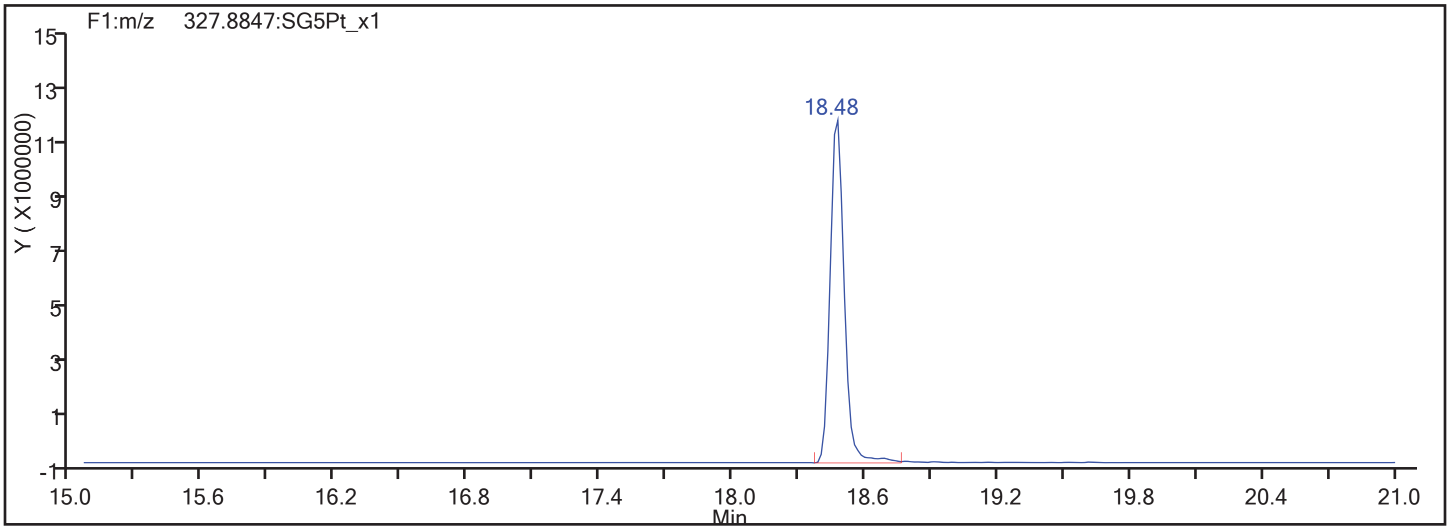




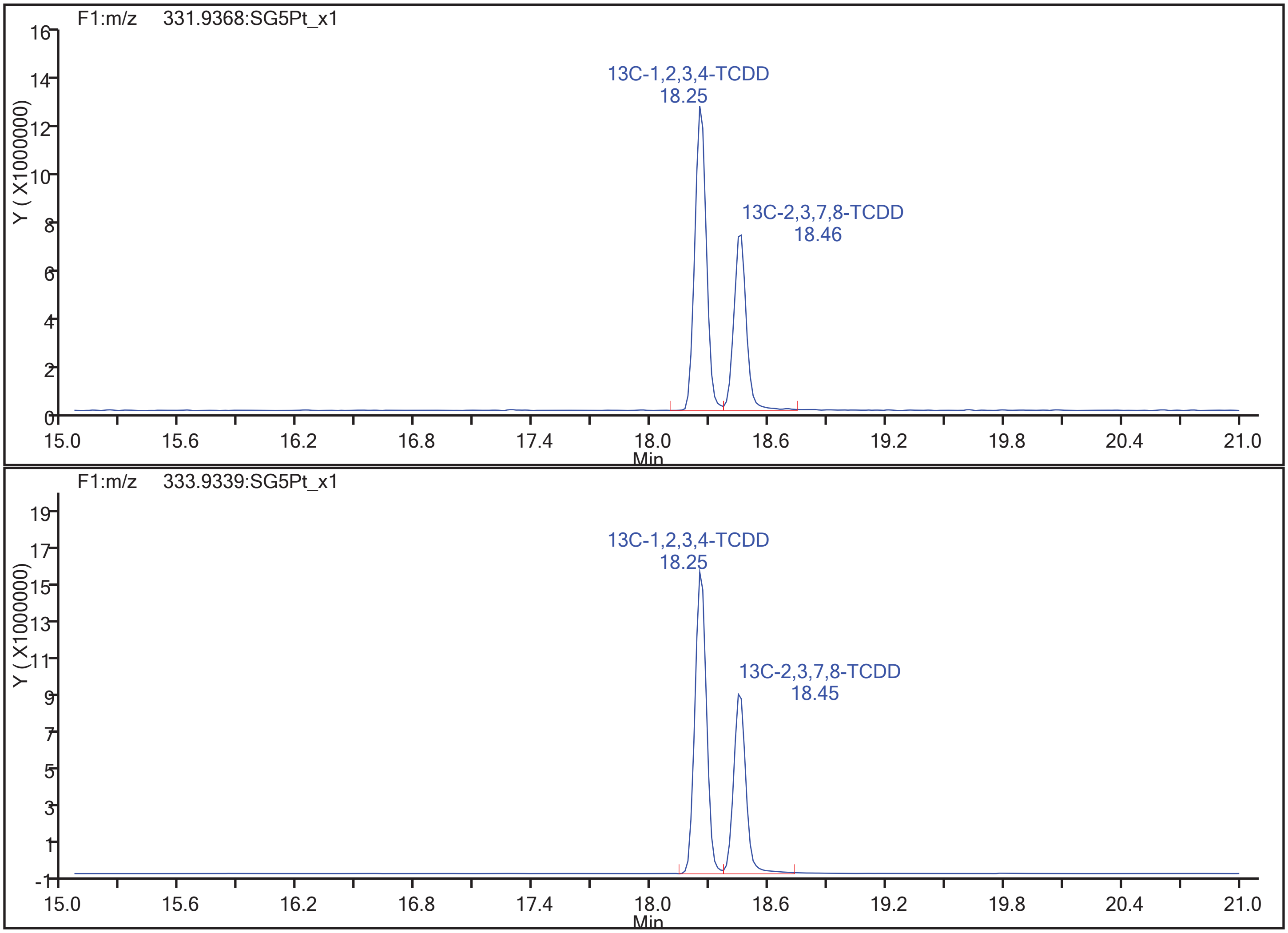
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Injection Date:	18-Nov-2017 19:27:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	195573	Sample Line#:	62
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d

Injection Date: 18-Nov-2017 19:27:51

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS04NS

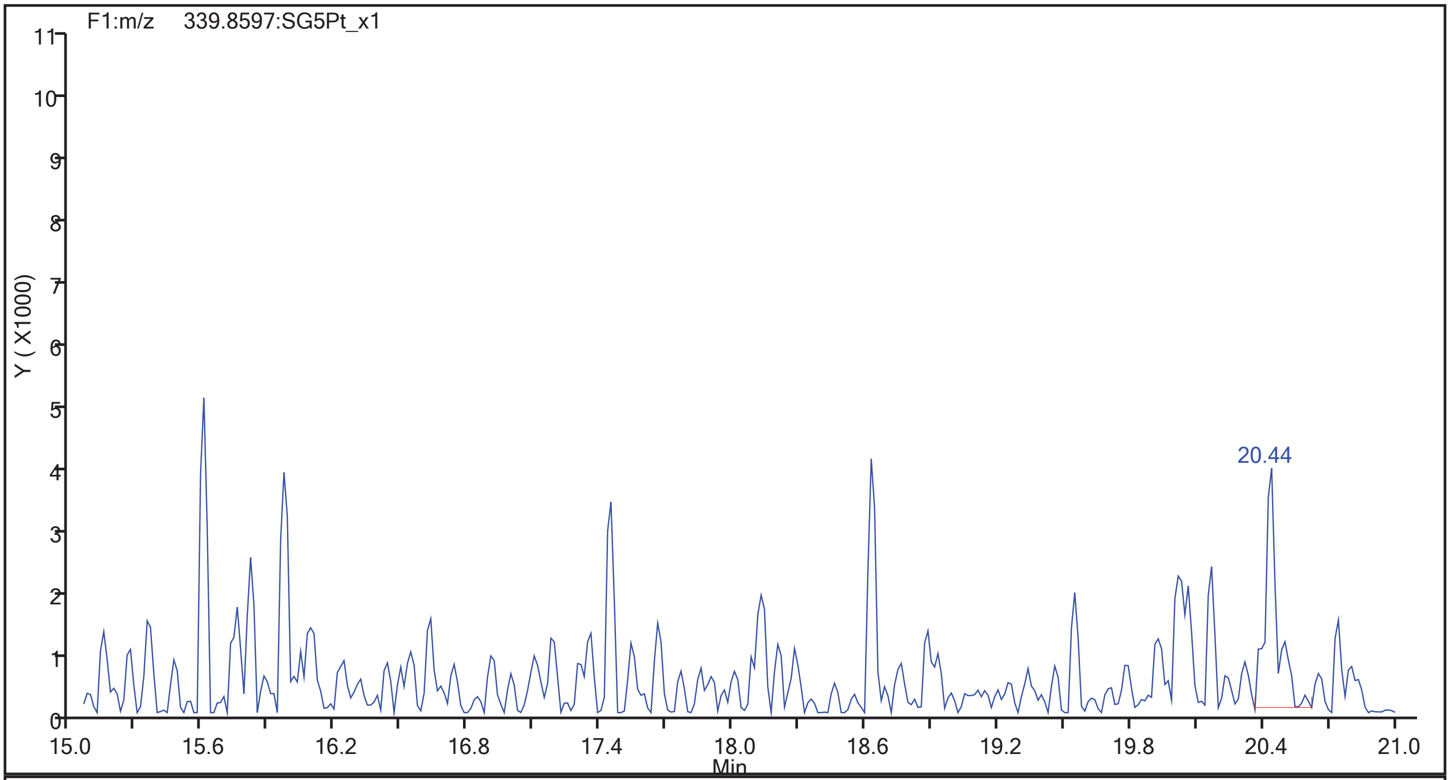
Worklist#: 195573

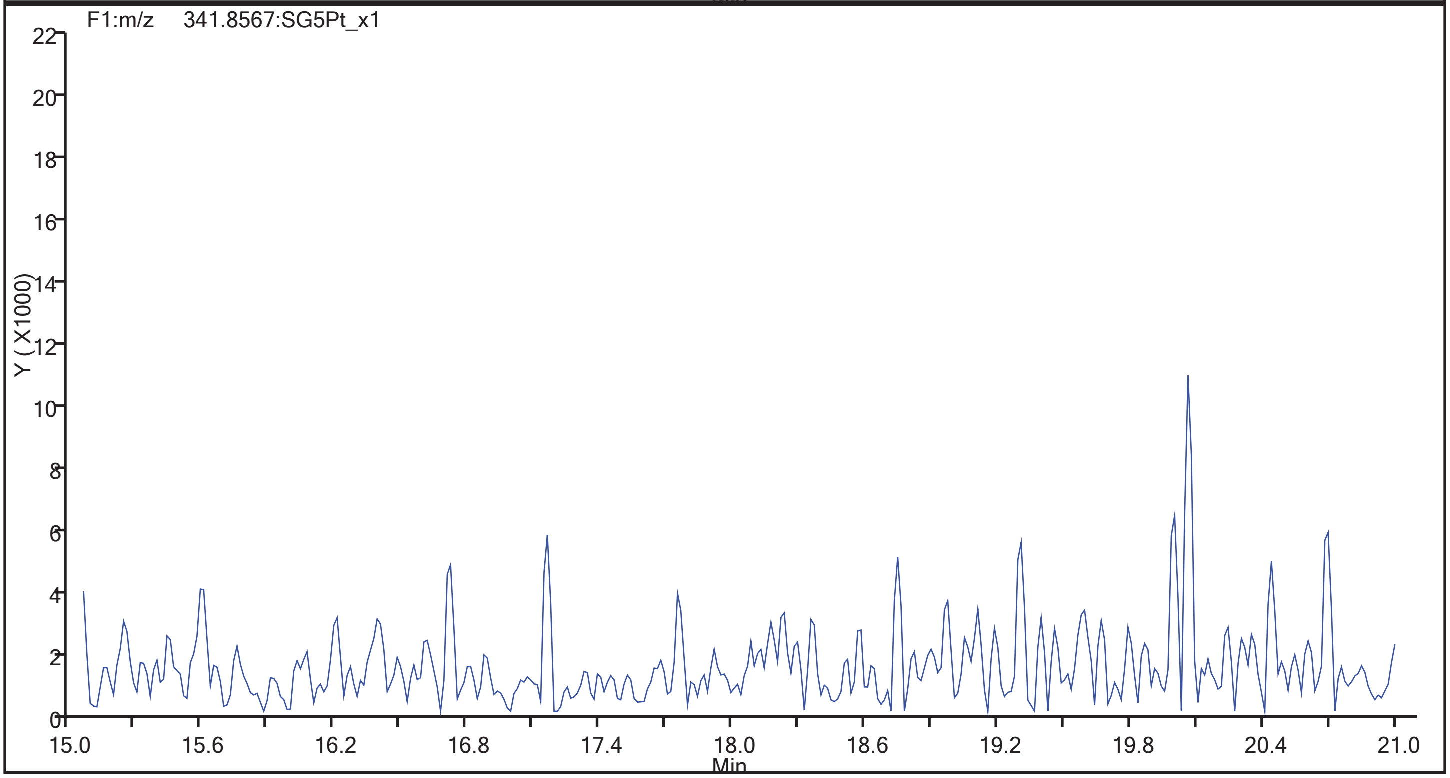
Sample Line#: 62

Column Type:

Column Dia:

F1 PeCDFs



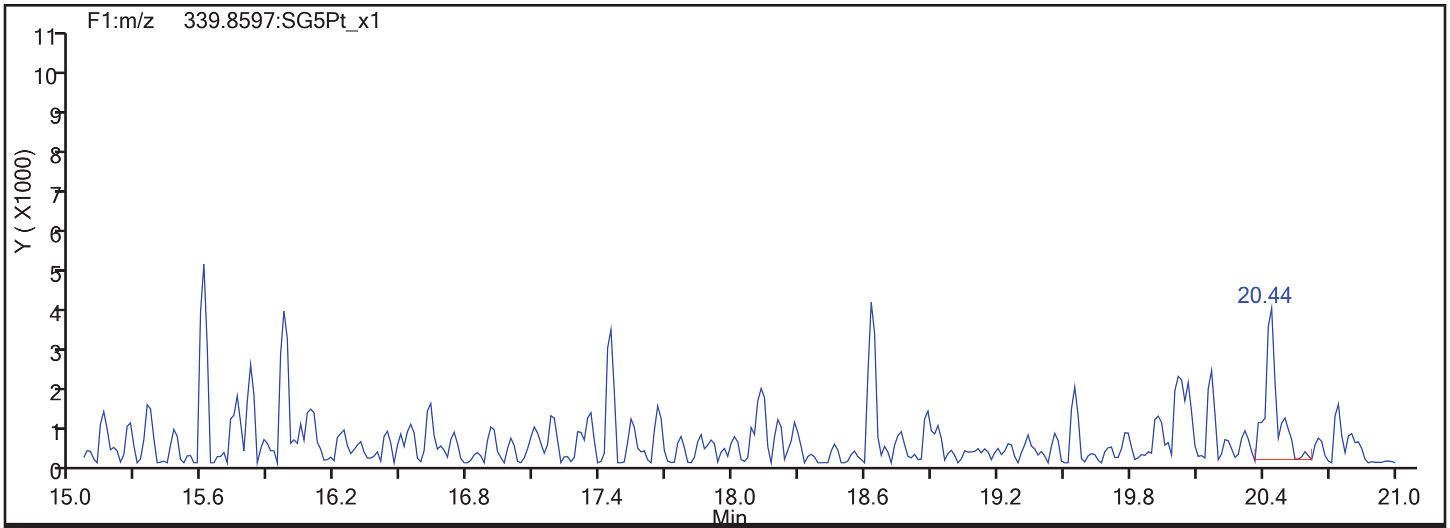


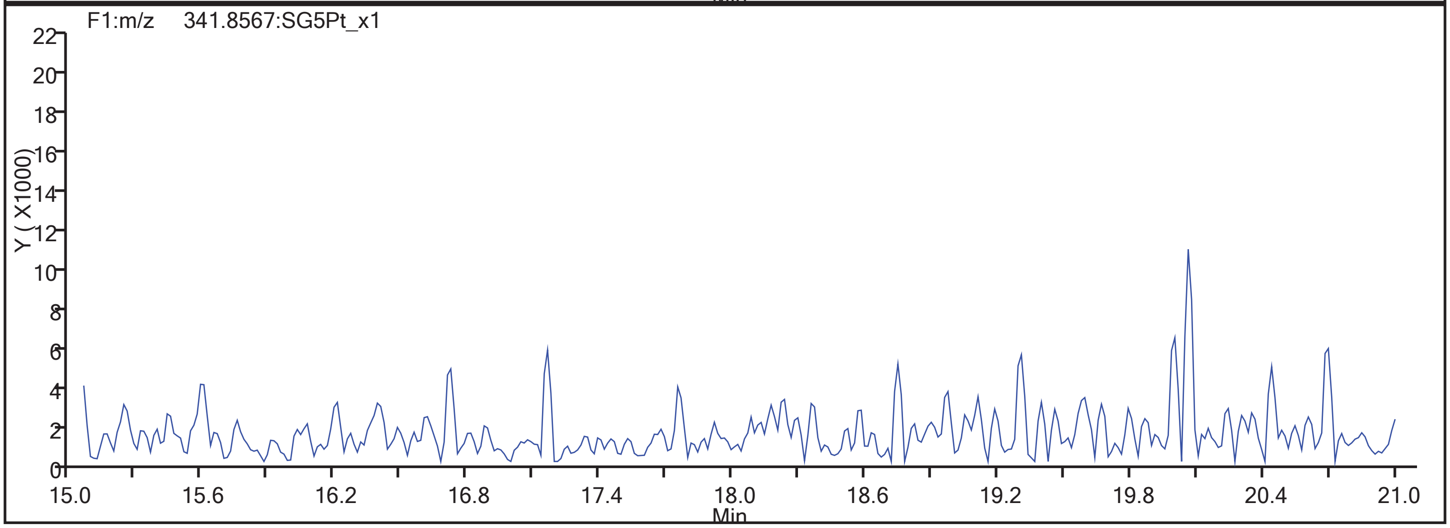
Report Date: 06-Dec-2017 14:09:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

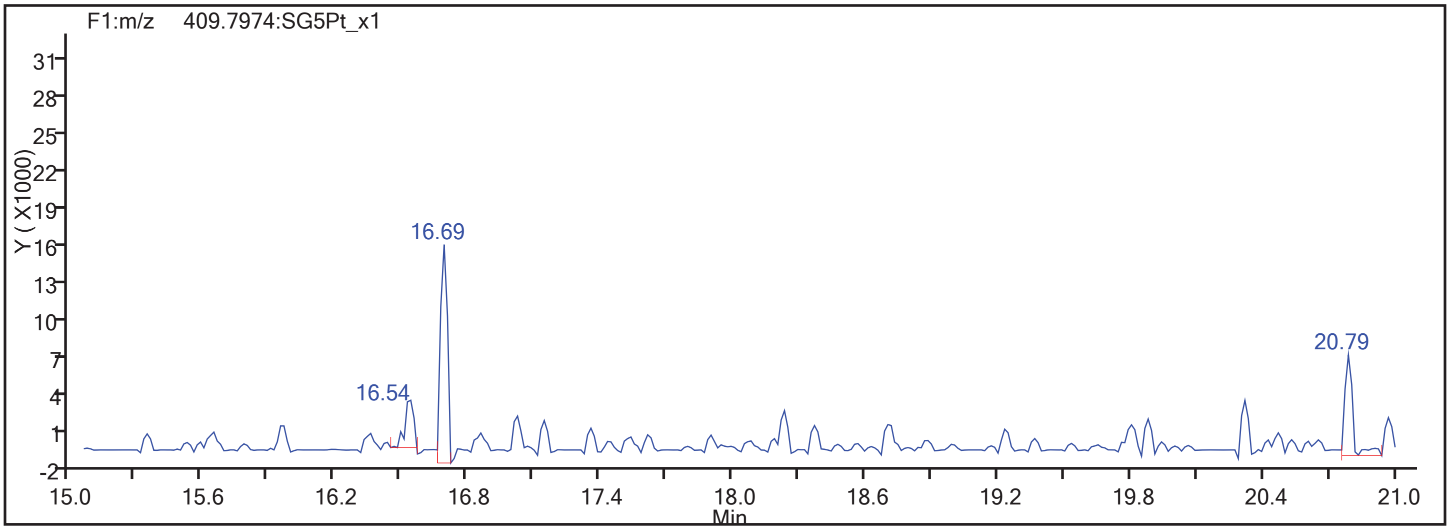
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Injection Date:	18-Nov-2017 19:27:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	195573	Sample Line#:	62
Column Type:		Column Dia:	

F1 PeCDFs





F1 PeCDFs Interference Mass



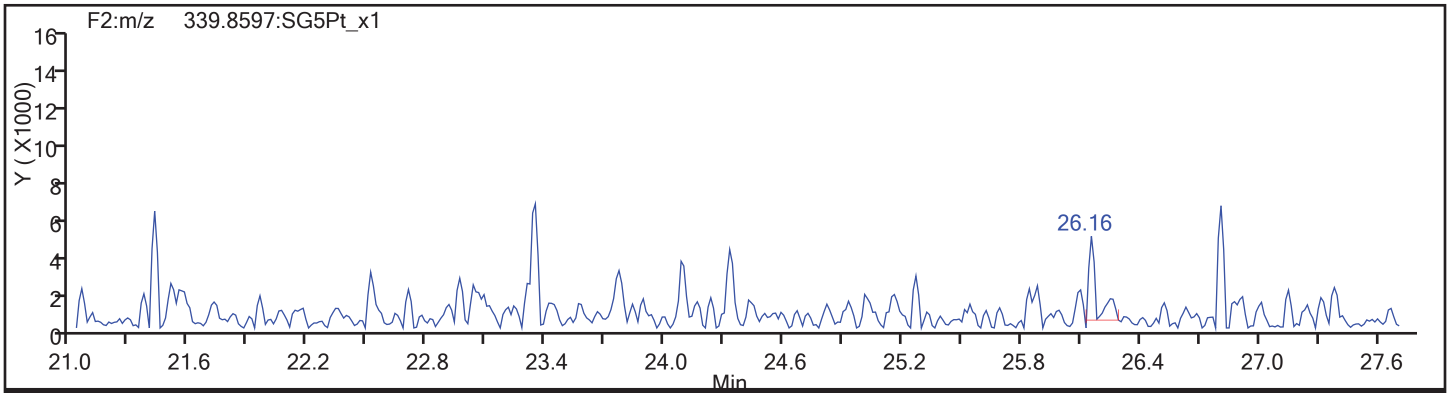
Report Date: 06-Dec-2017 14:09:02

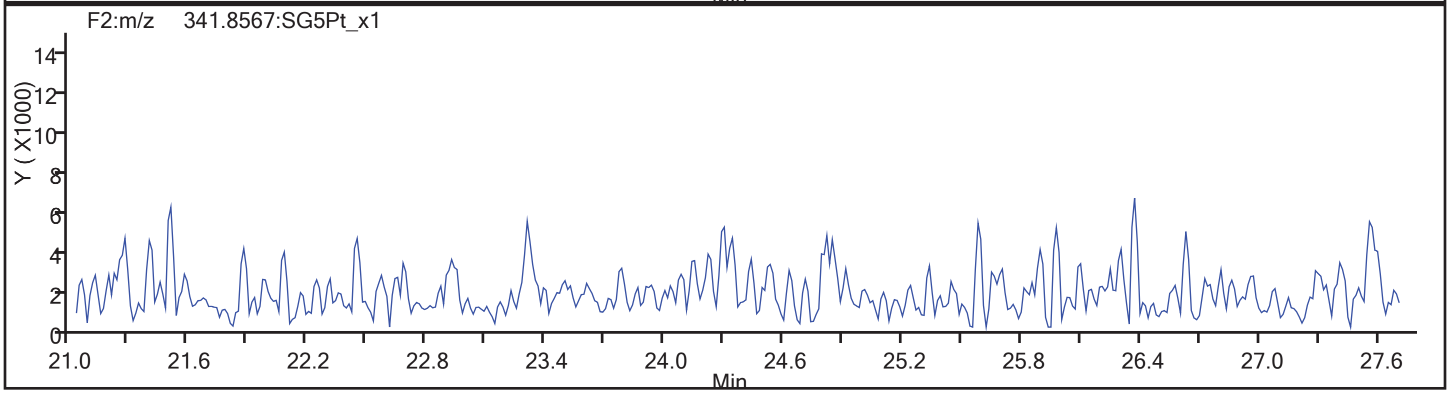
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

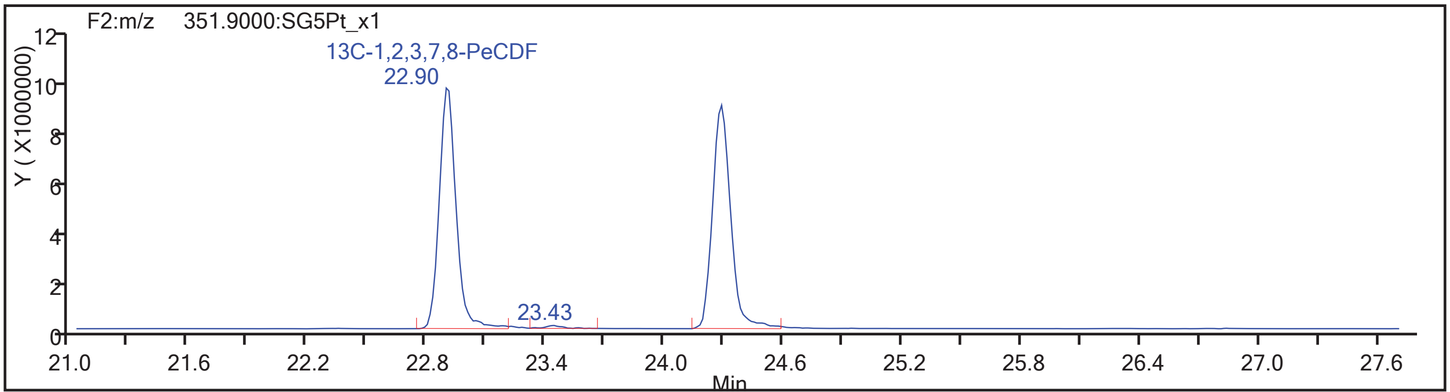
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Injection Date:	18-Nov-2017 19:27:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	195573	Sample Line#:	62
Column Type:		Column Dia:	

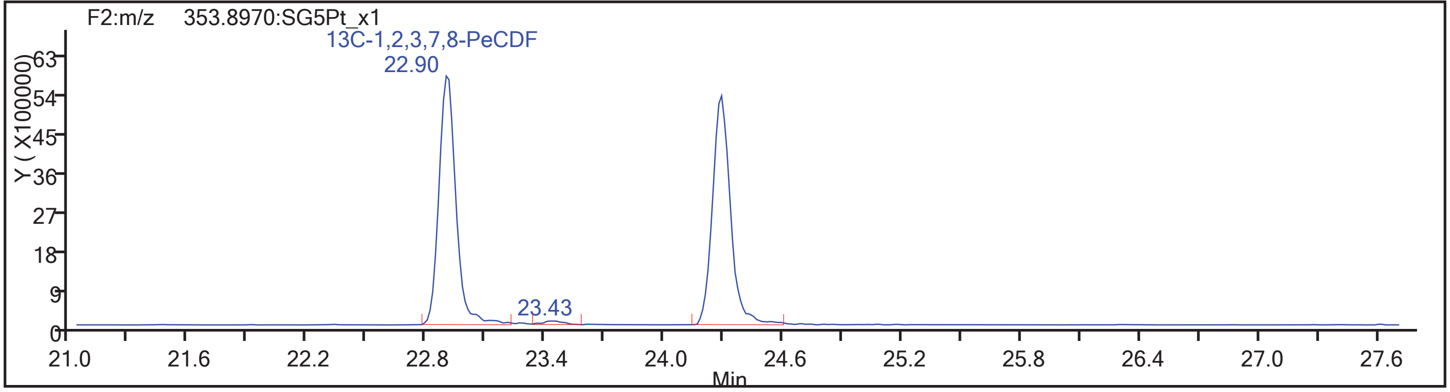
PeCDF





PeCDF Standards



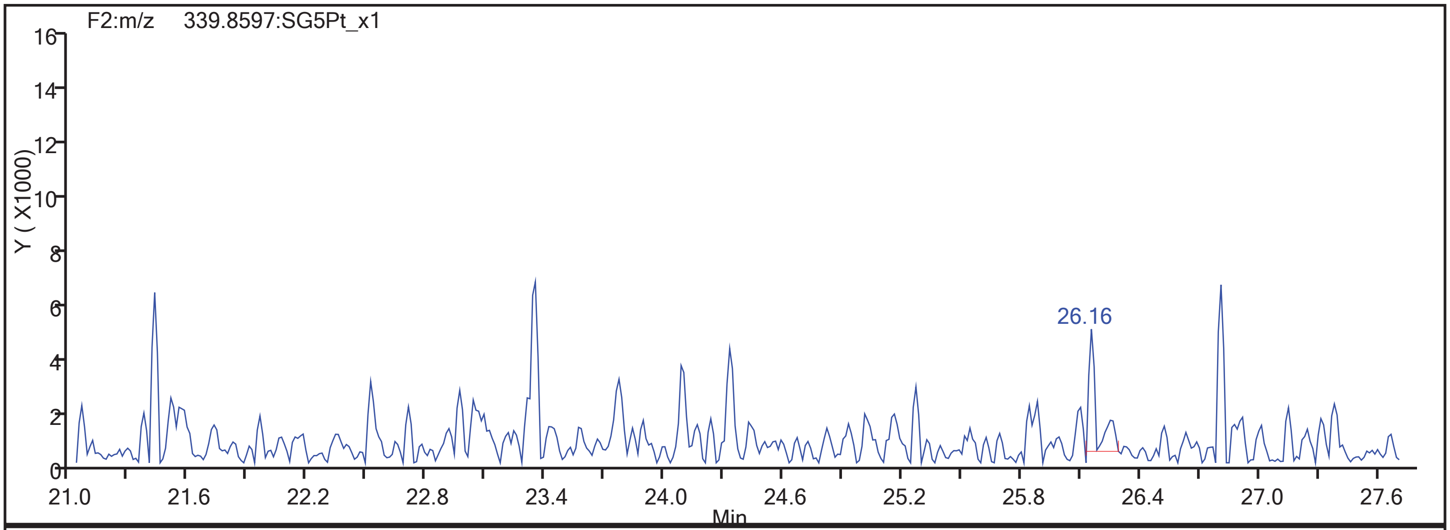


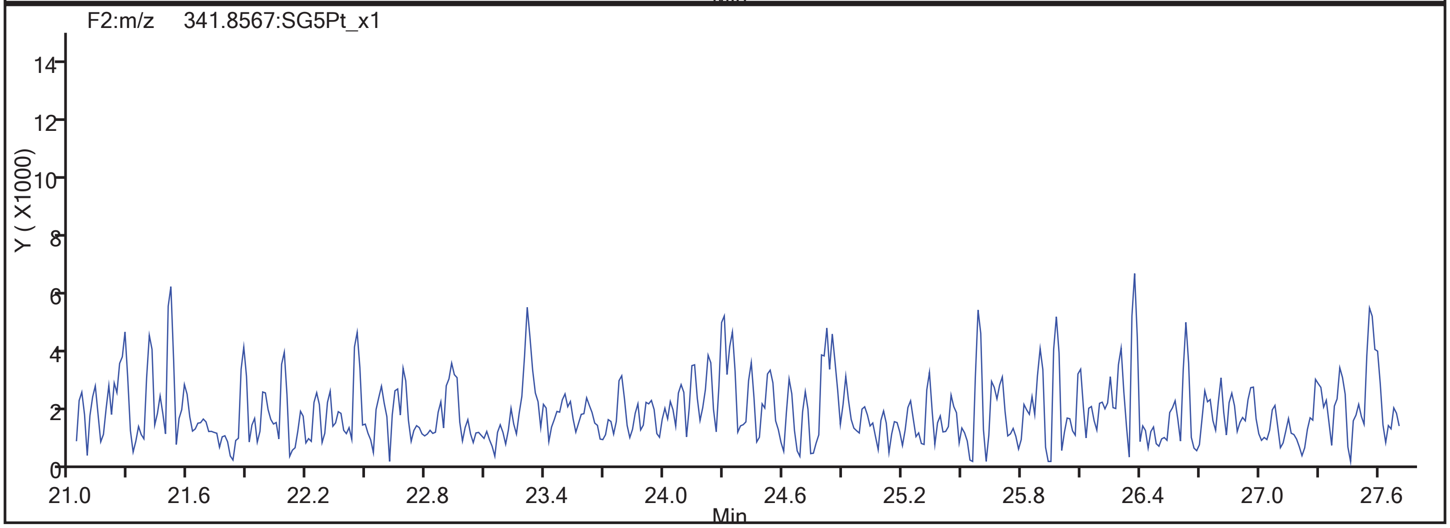
Report Date: 06-Dec-2017 14:09:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

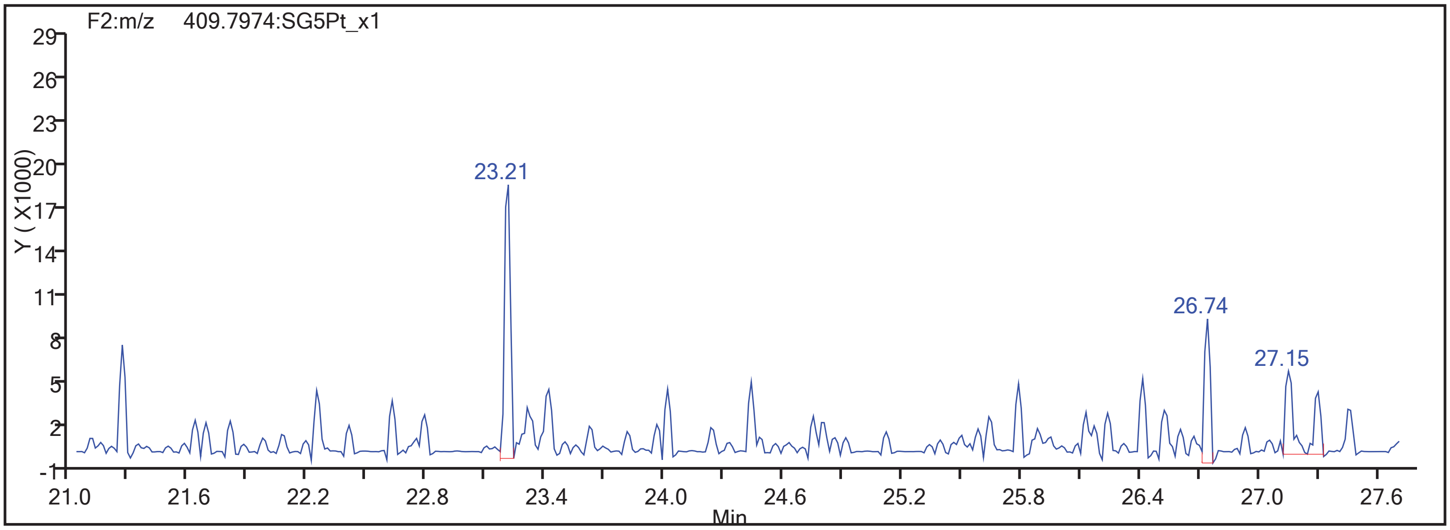
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_62.d		
Injection Date:	18-Nov-2017 19:27:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	195573	Sample Line#:	62
Column Type:		Column Dia:	

PeCDF





PeCDF Interference Mass



Report Date: 06-Dec-2017 14:09:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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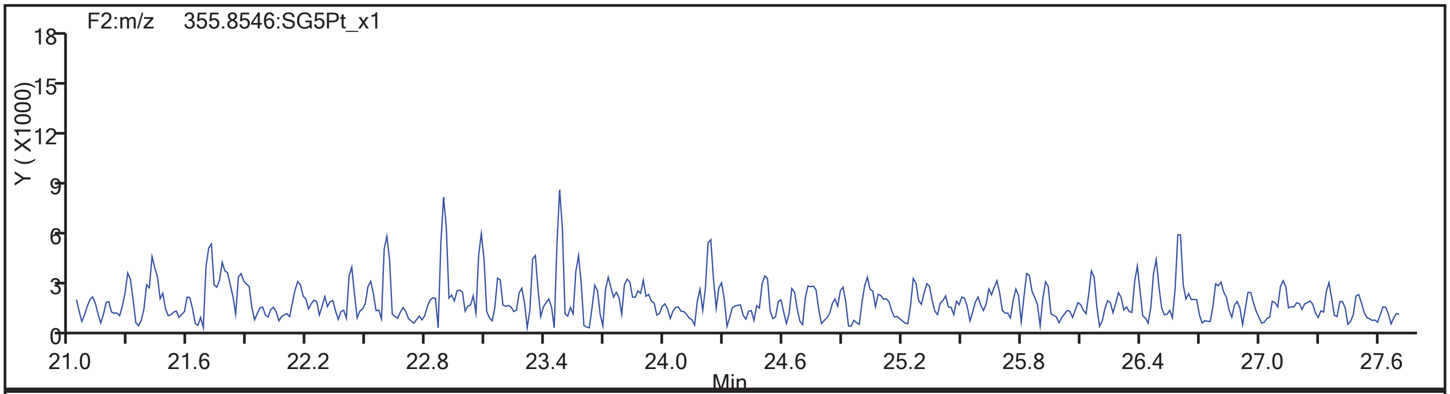
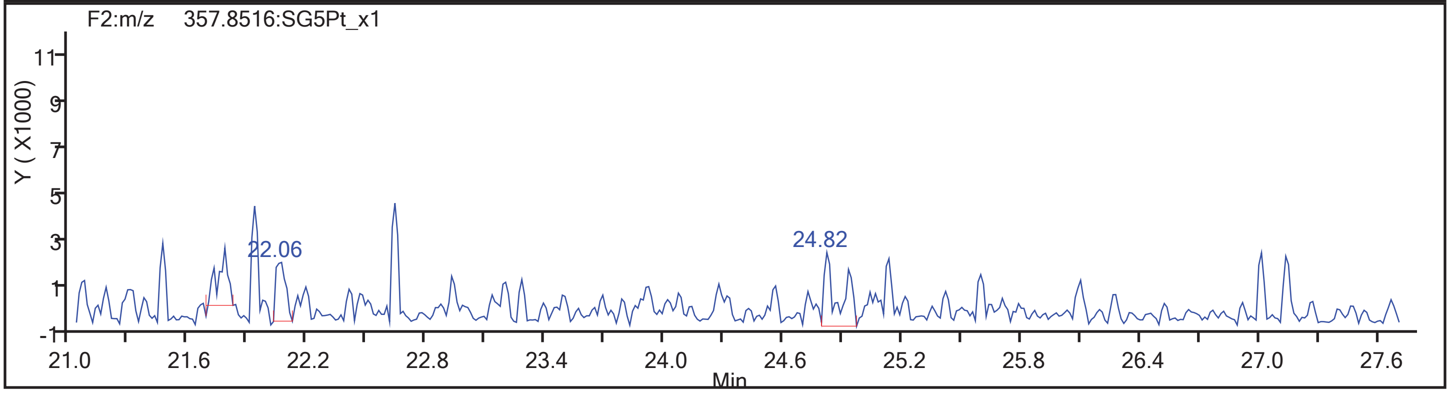
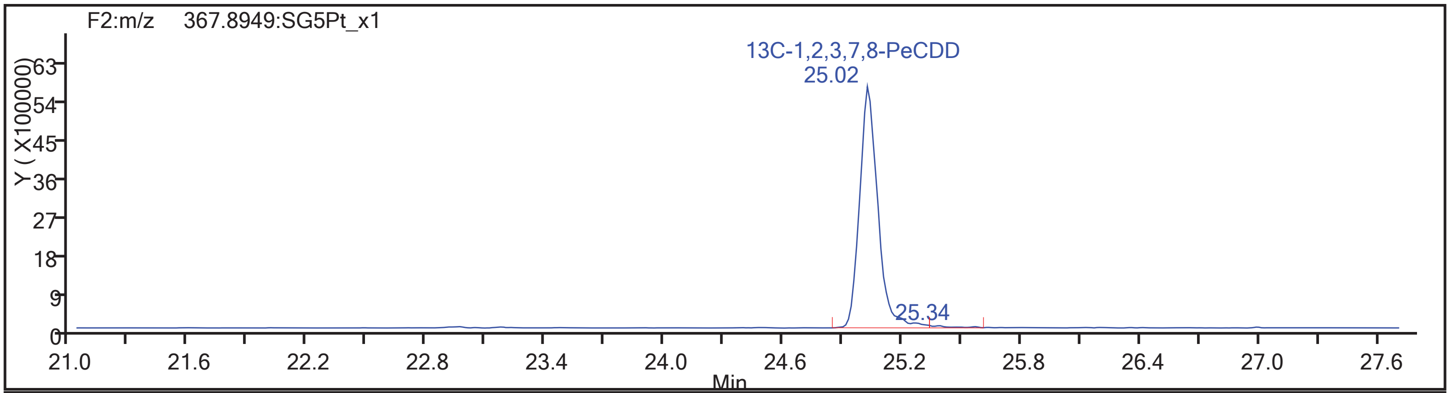
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	195573	Sample Line#:	62
Column Type:		Column Dia:	

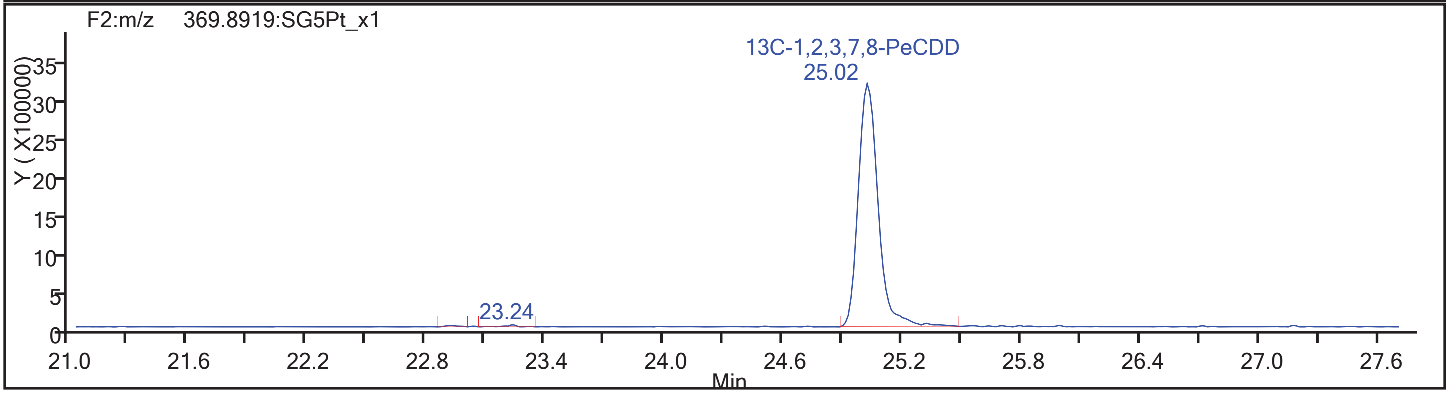
PeCDD





PeCDD Standards





Report Date: 06-Dec-2017 14:09:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	195573	Sample Line#:	62
Column Type:		Column Dia:	

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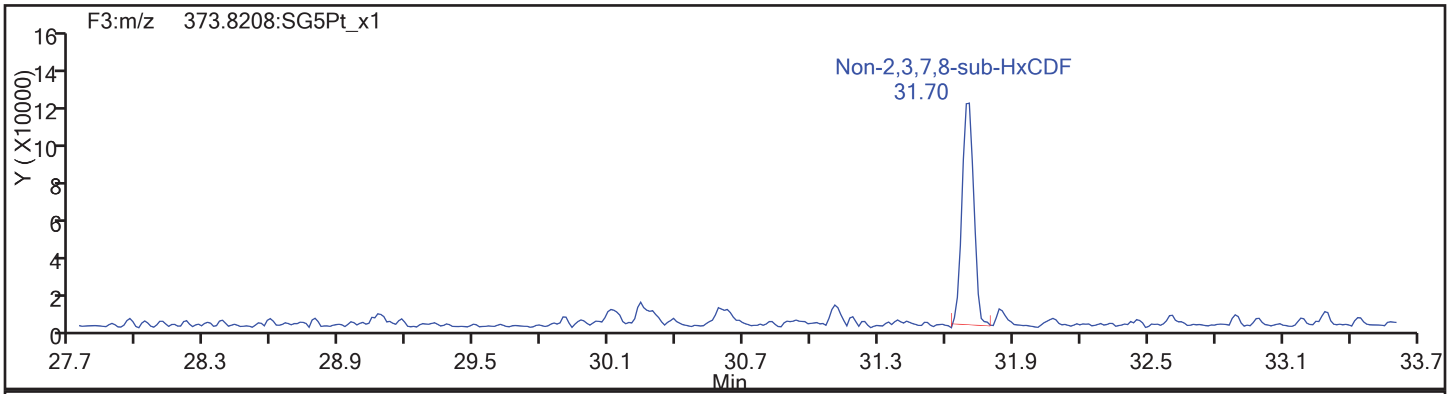
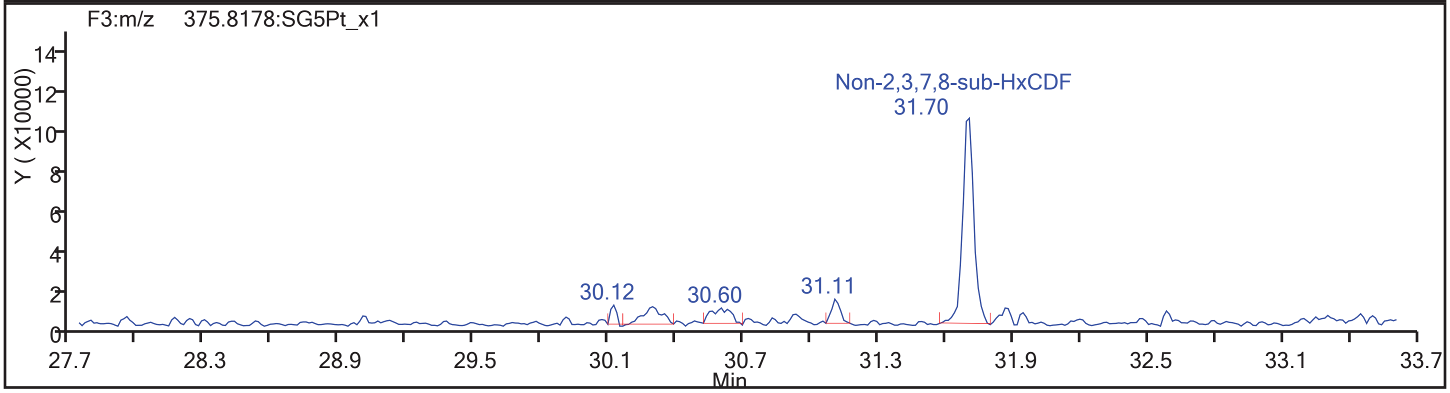
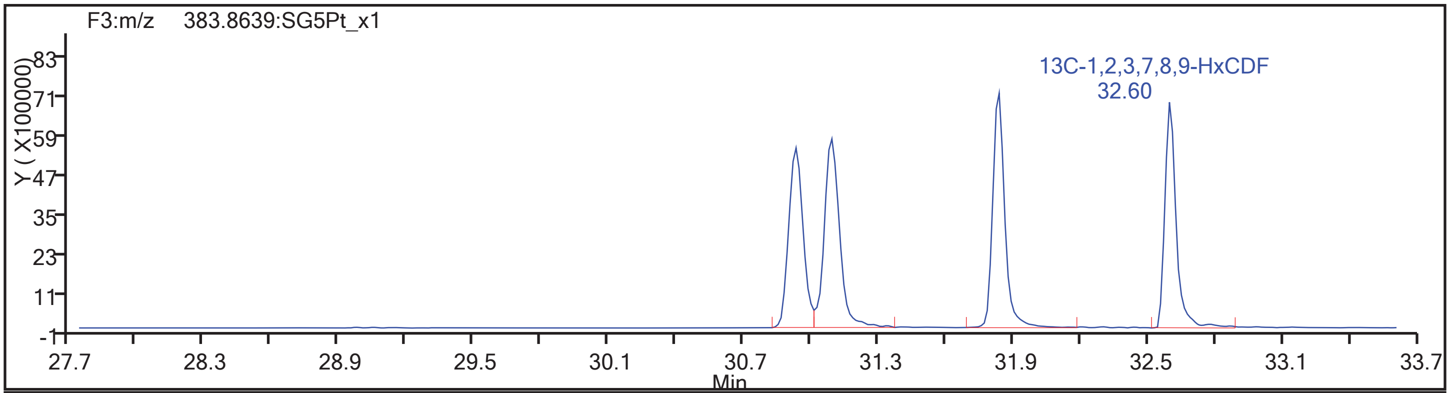
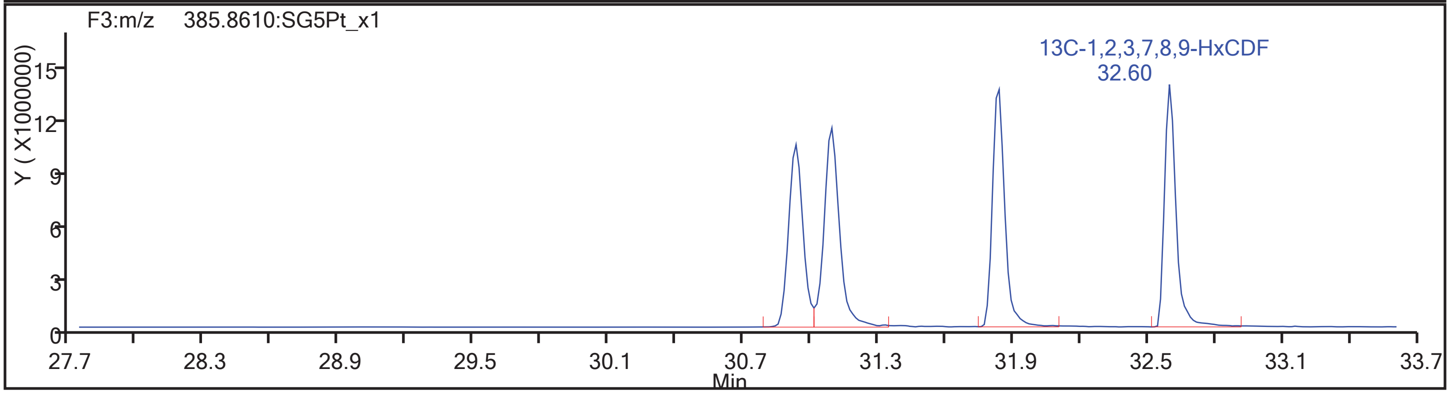




HxCDF Standards





Report Date: 06-Dec-2017 14:09:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Method: Dioxin_3D5
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Worklist#: 195573
Sample Line#: 62
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Column Dia:

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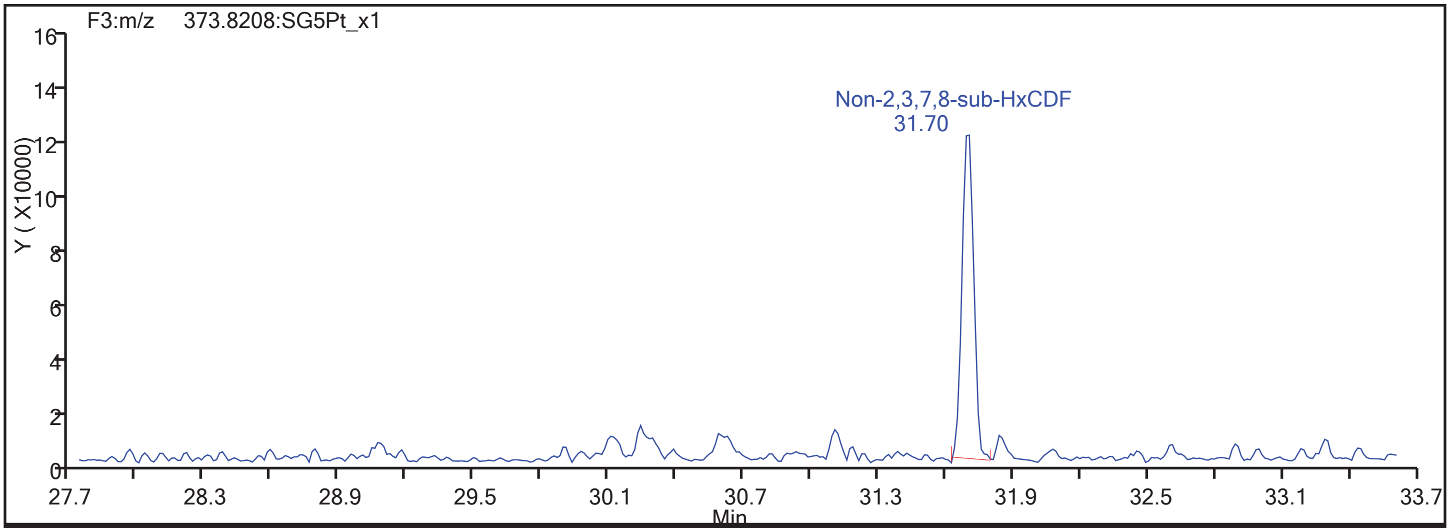
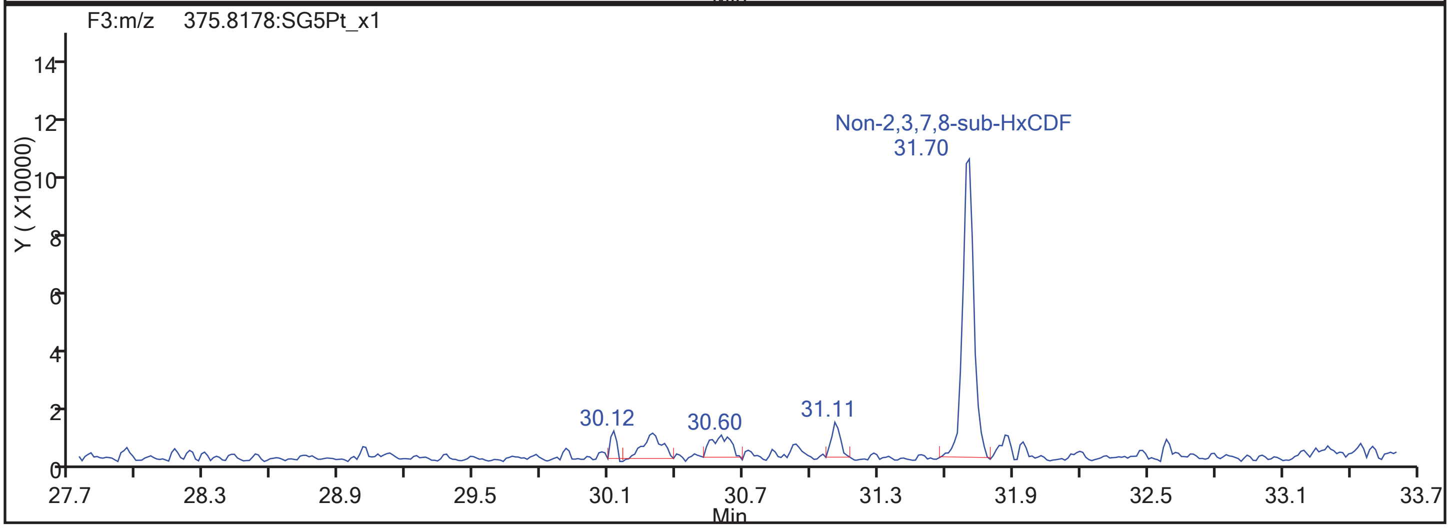
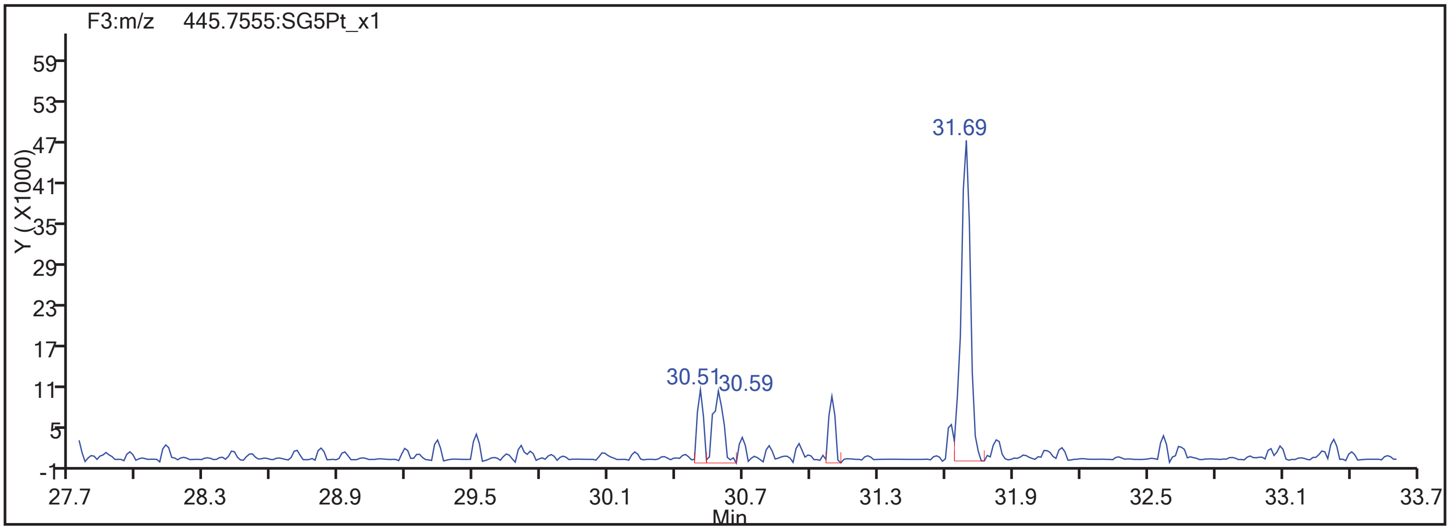




HxCDF Interference Mass



Report Date: 06-Dec-2017 14:09:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 18-Nov-2017 19:27:51 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS04NS

Worklist#: 195573 Sample Line#: 62

Column Type: Column Dia:

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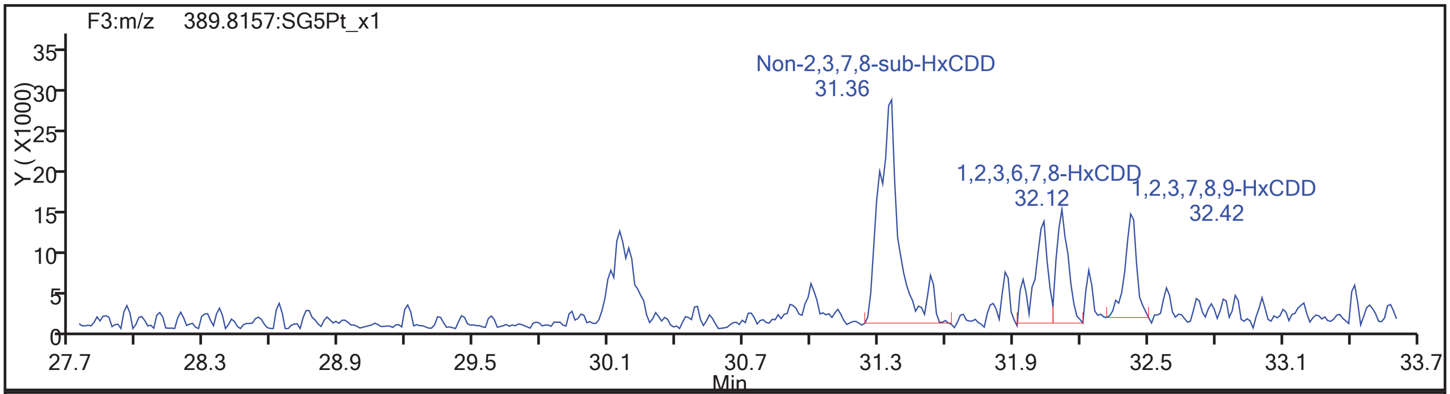
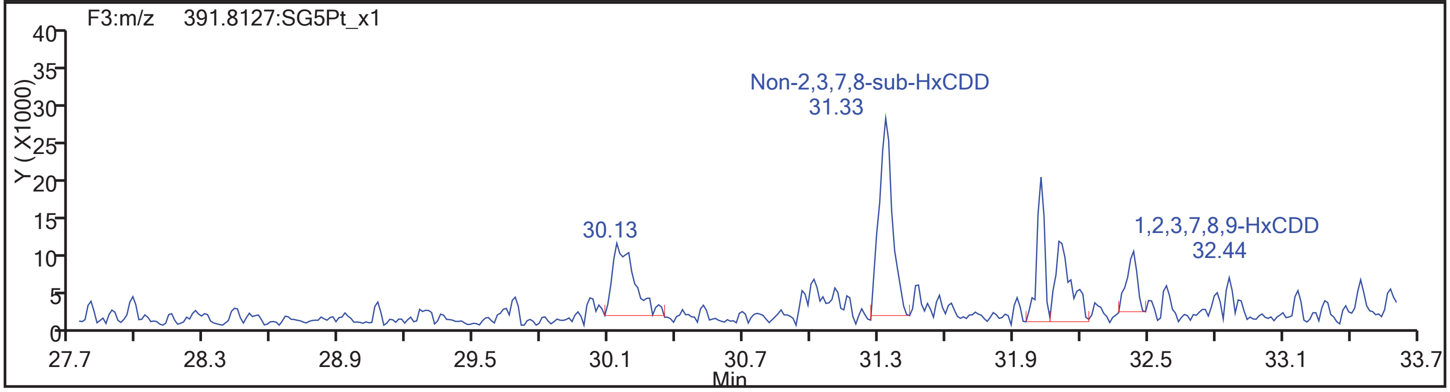
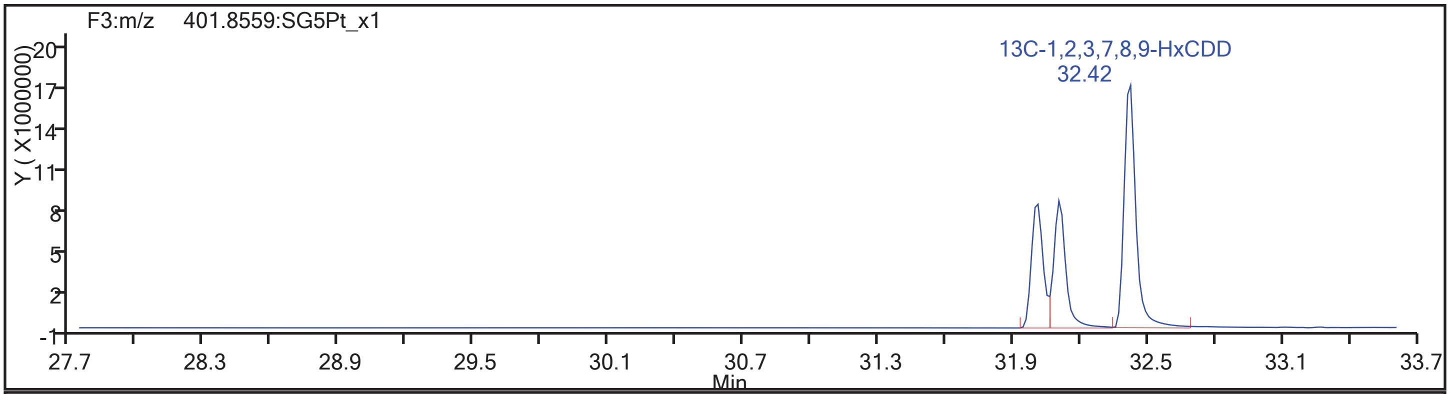
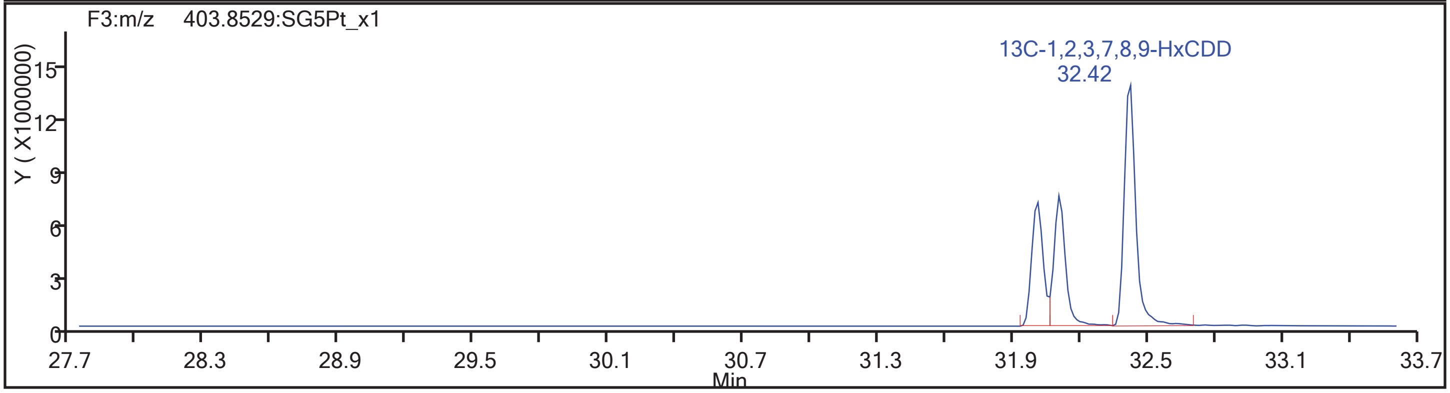




HxCDD Standards





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TestAmerica Sacramento

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Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
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Worklist#: 195573 Sample Line#: 62
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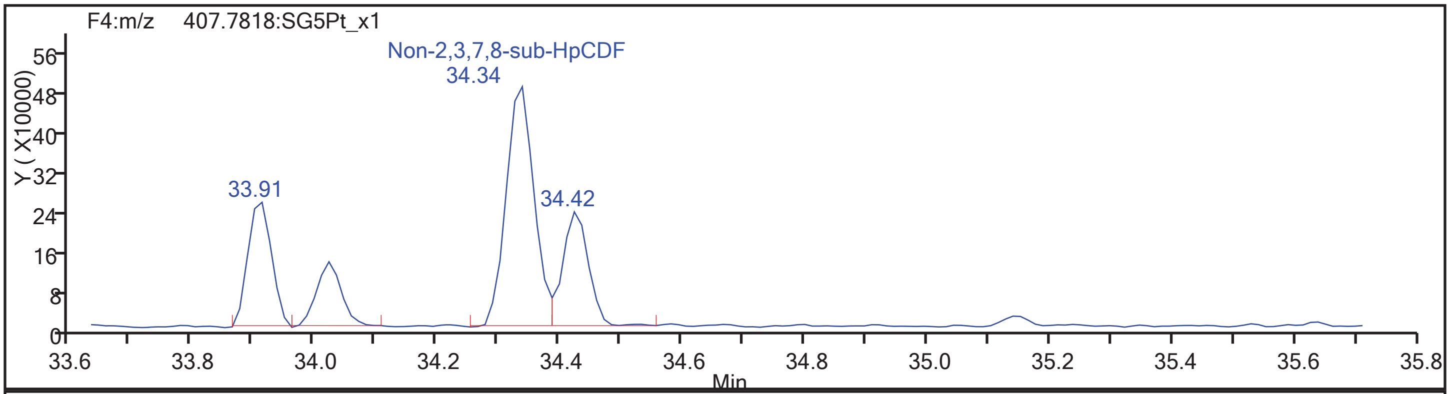
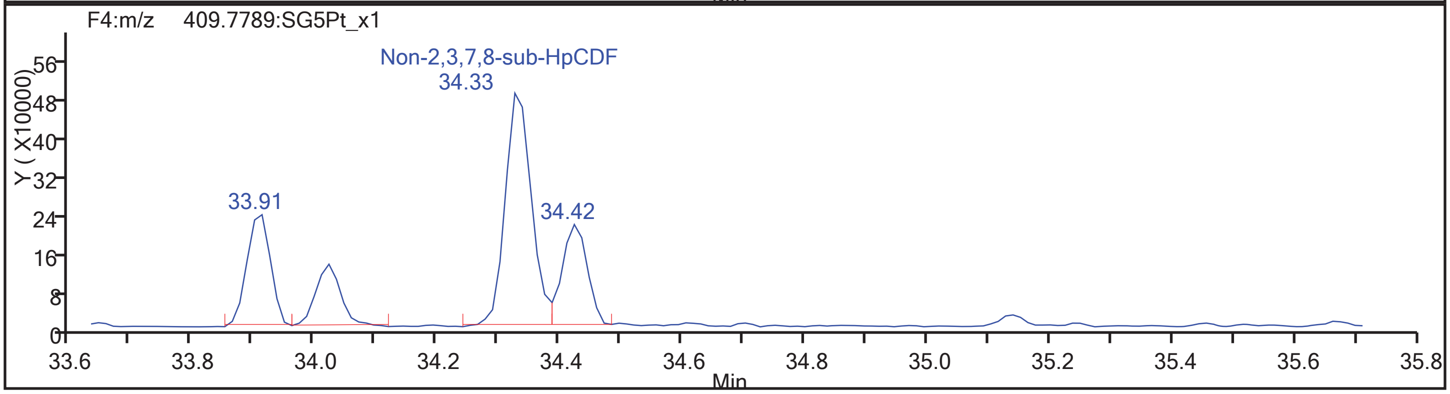
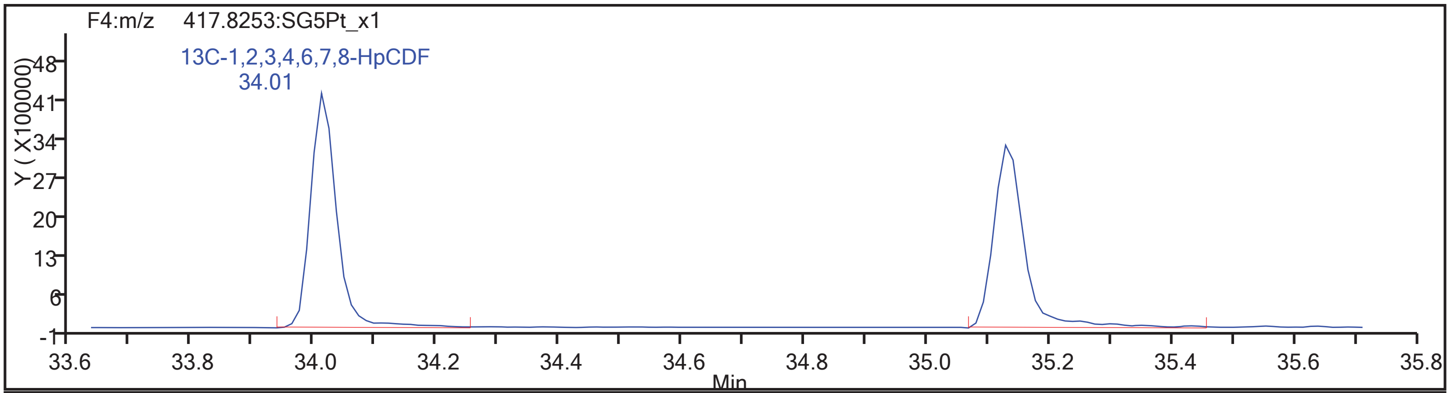
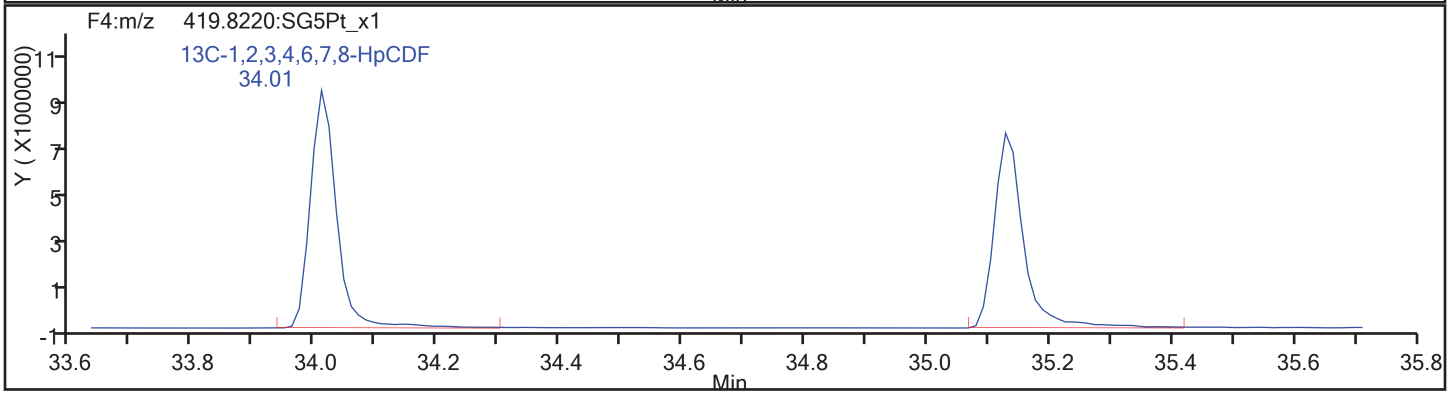




HpCDF Standards





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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	195573	Sample Line#:	62
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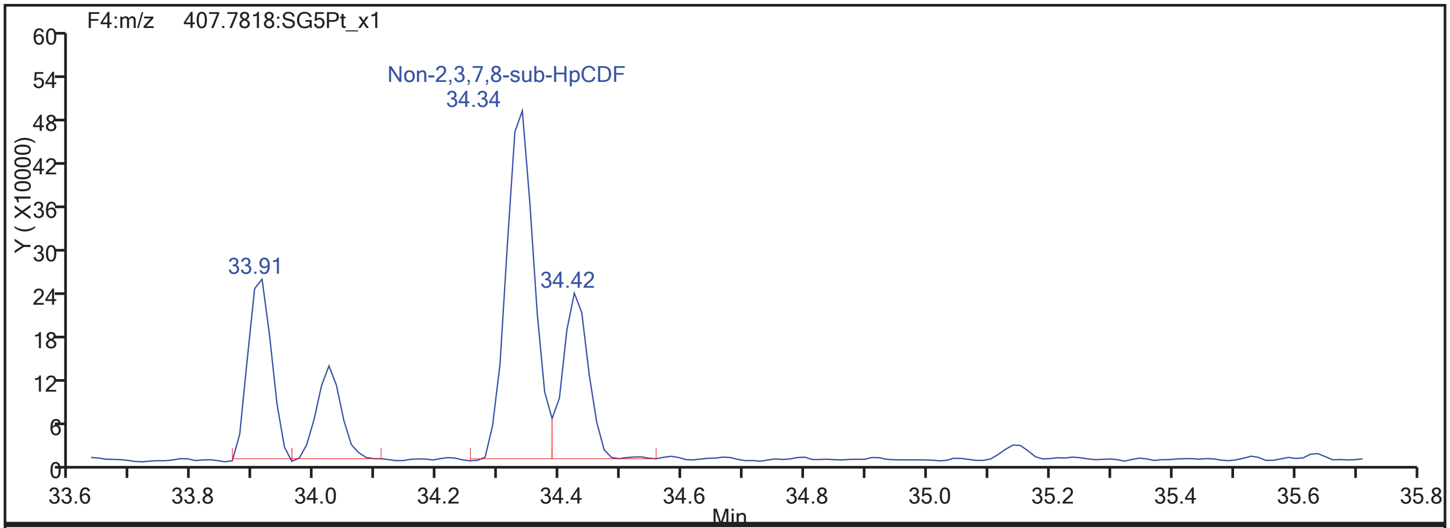
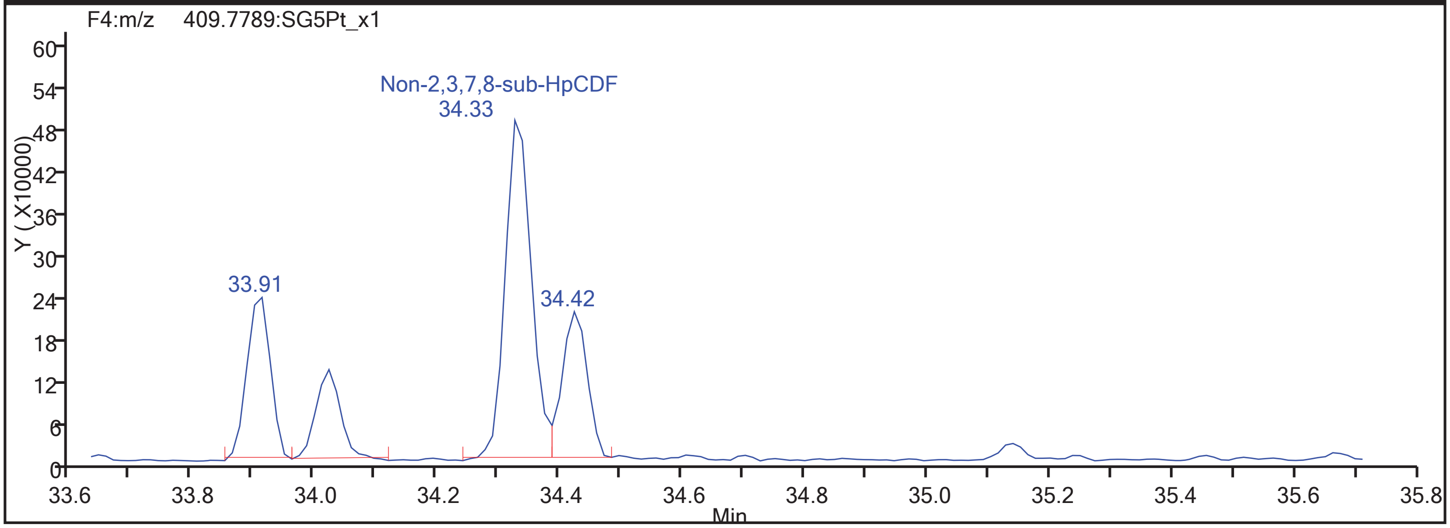
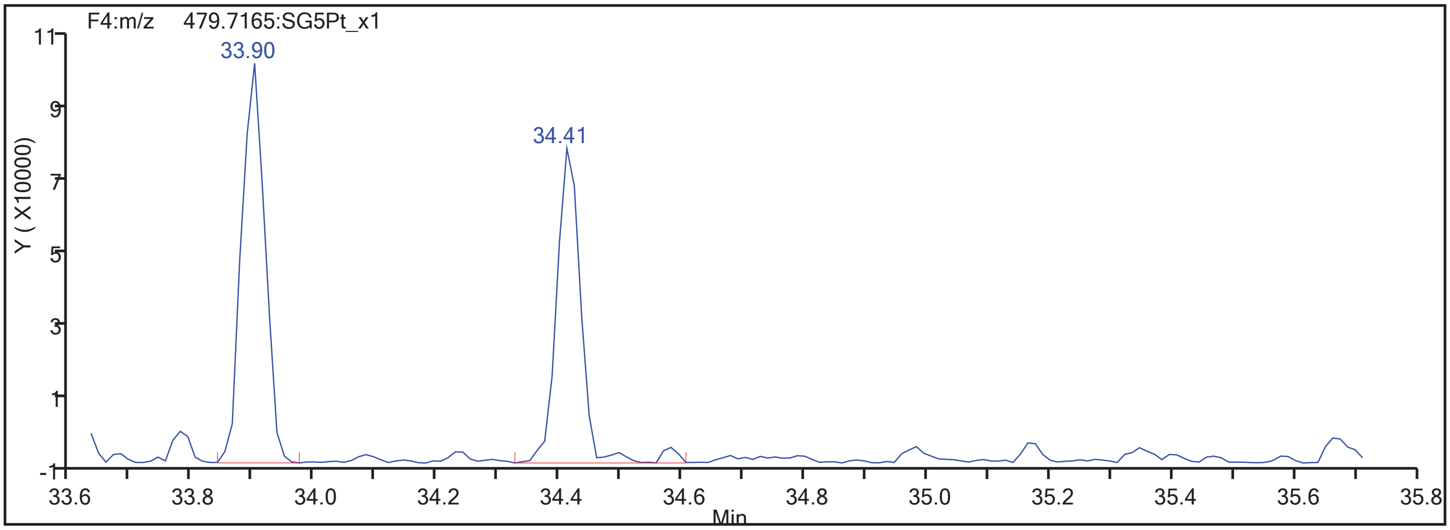




HpCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 19:27:51
Injection Vol: 2.0 ul

Instrument ID: 3D5
Operator ID: SMA, ALM

Method: Dioxin_3D5
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Client ID: SHAD041DP026SS04NS

Worklist#: 195573
Sample Line#: 62

Column Type:
Column Dia:

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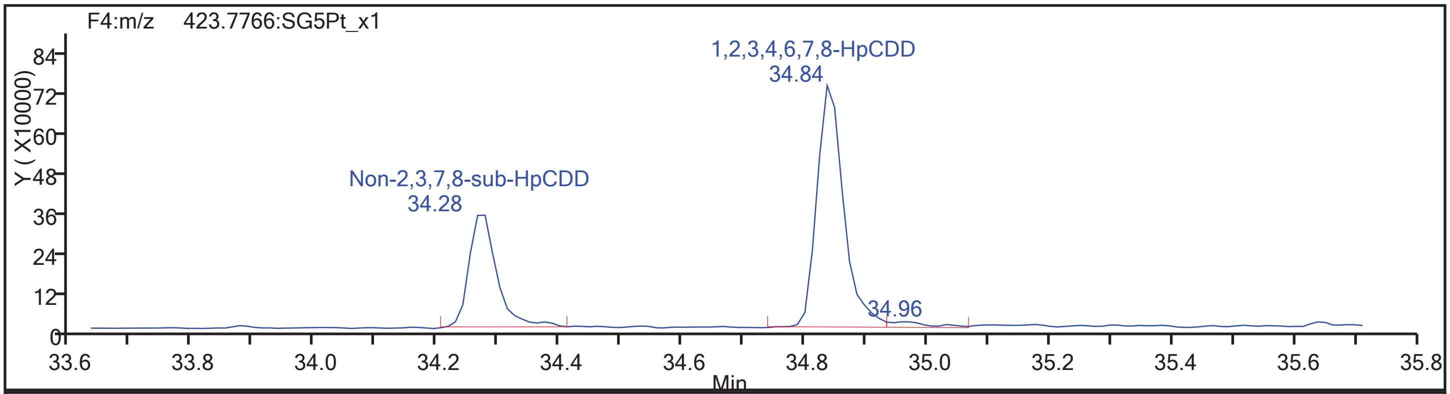

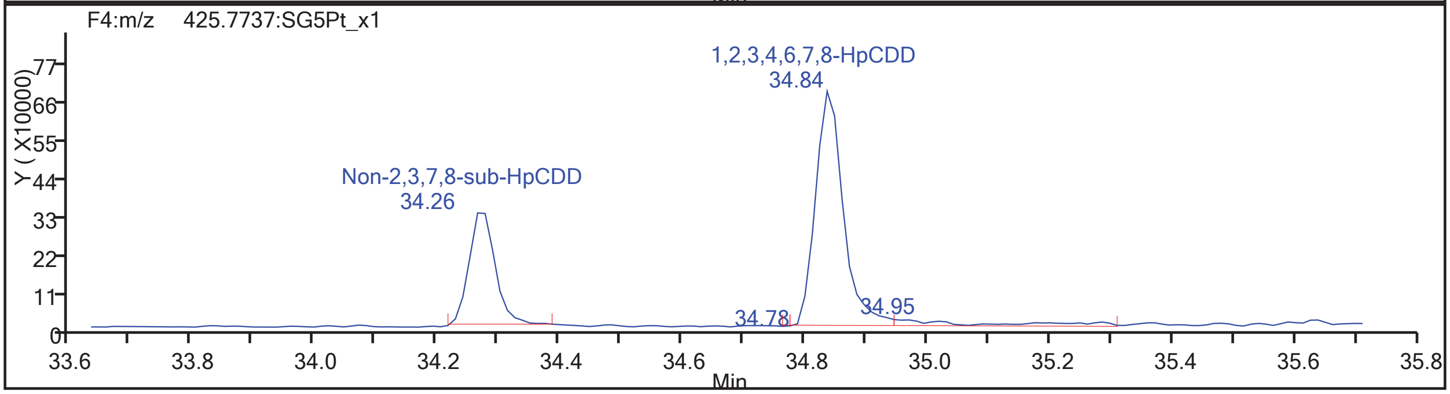

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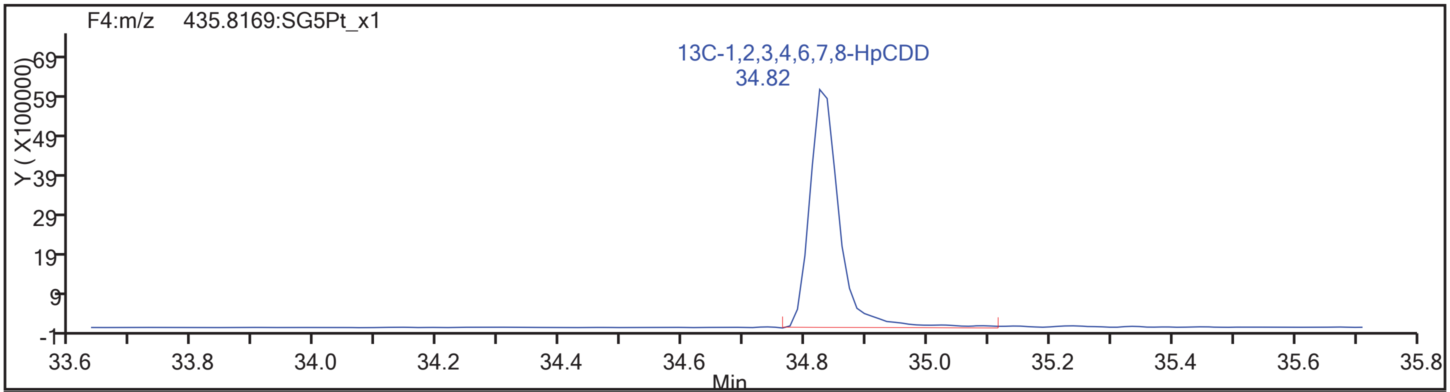

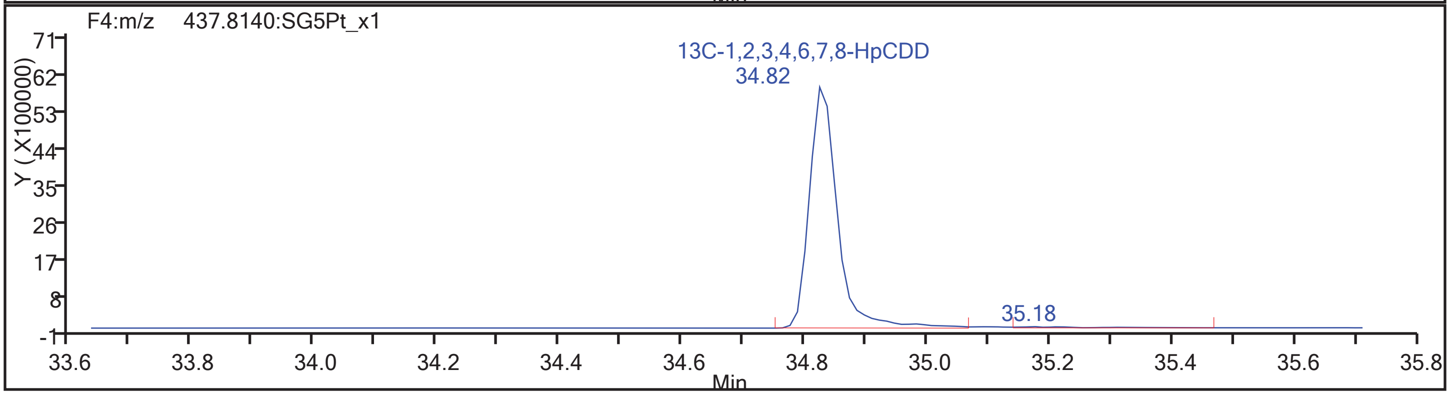

TestAmerica Sacramento

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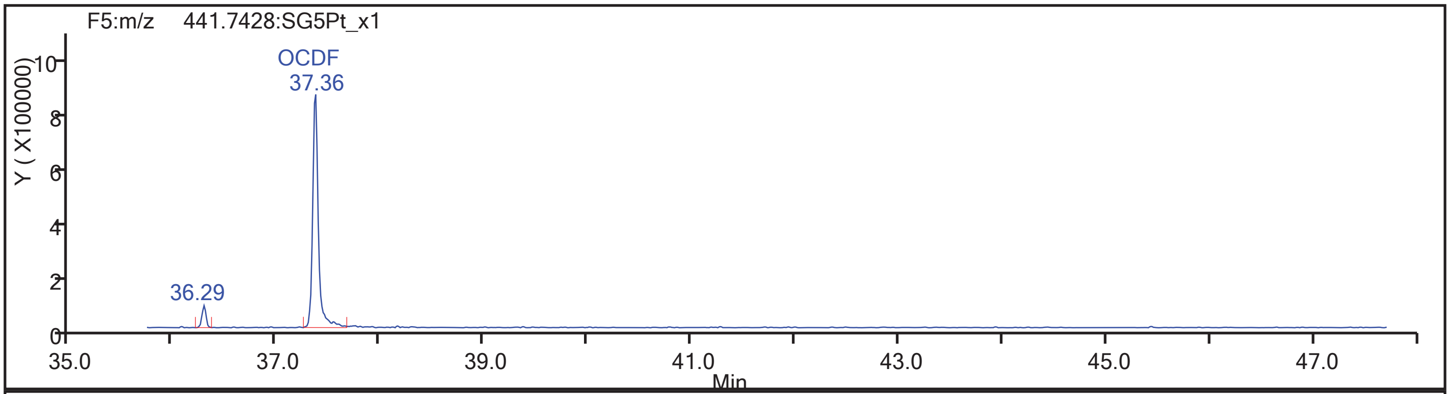
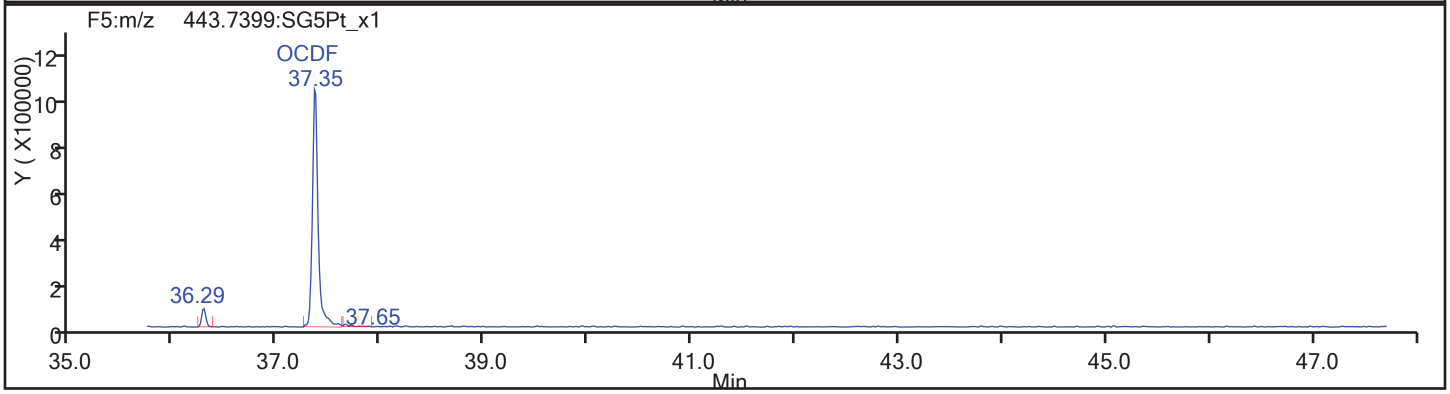
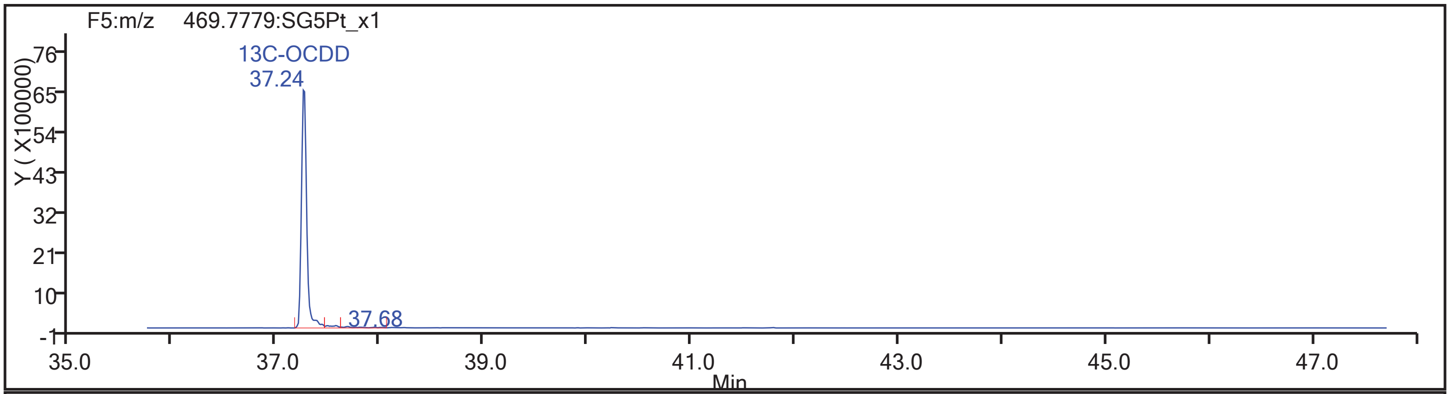
Client ID: SHAD041DP026SS04NS
Worklist#: 195573 Sample Line#: 62
Column Type: Column Dia:

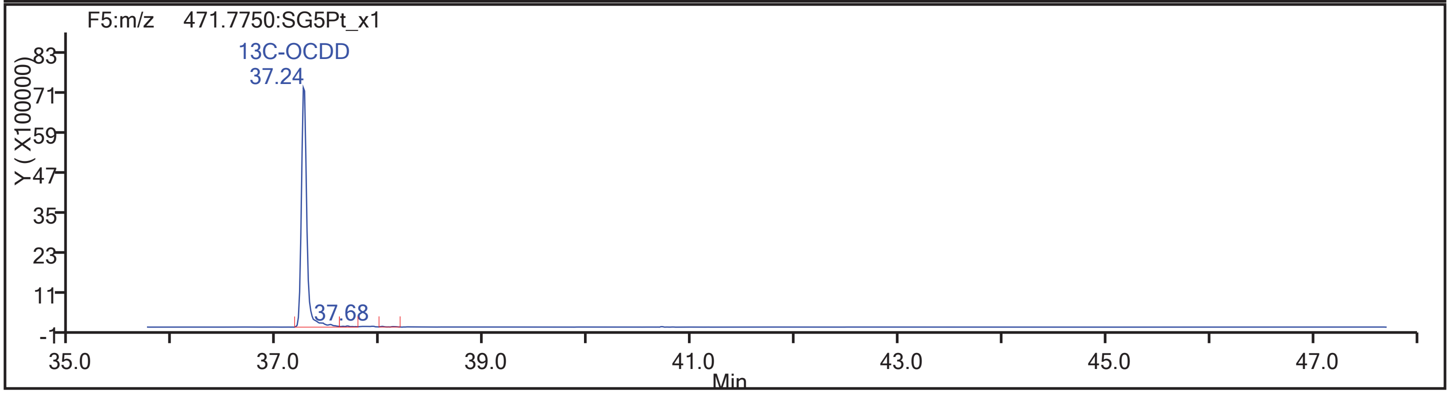
OCDF





OCDF Standards





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TestAmerica Sacramento

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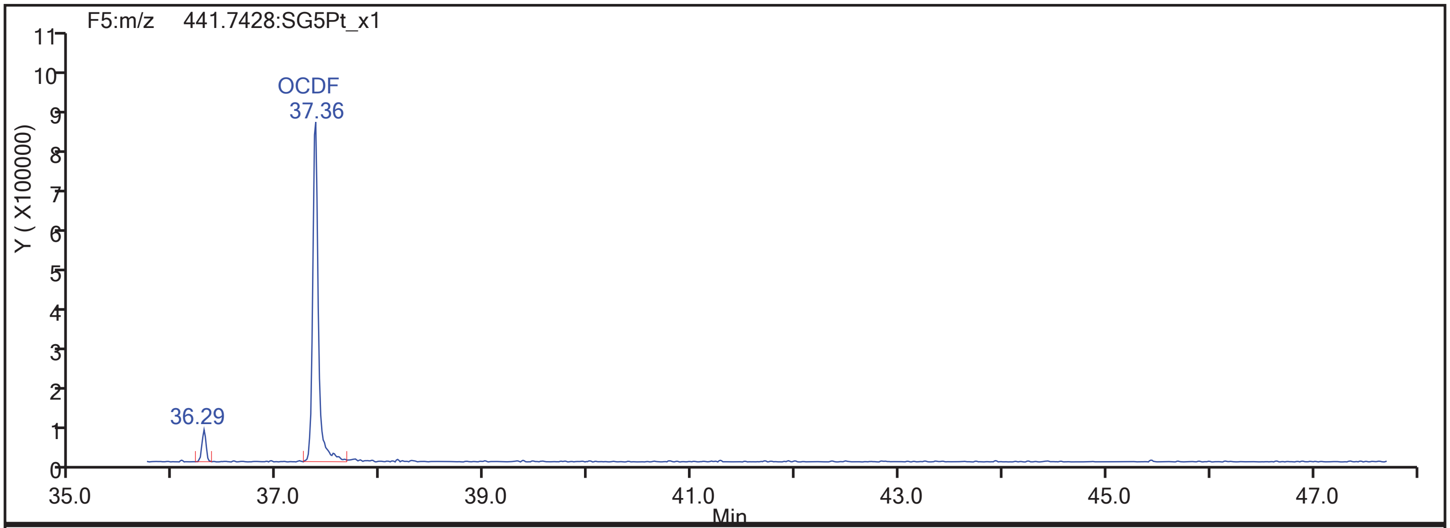
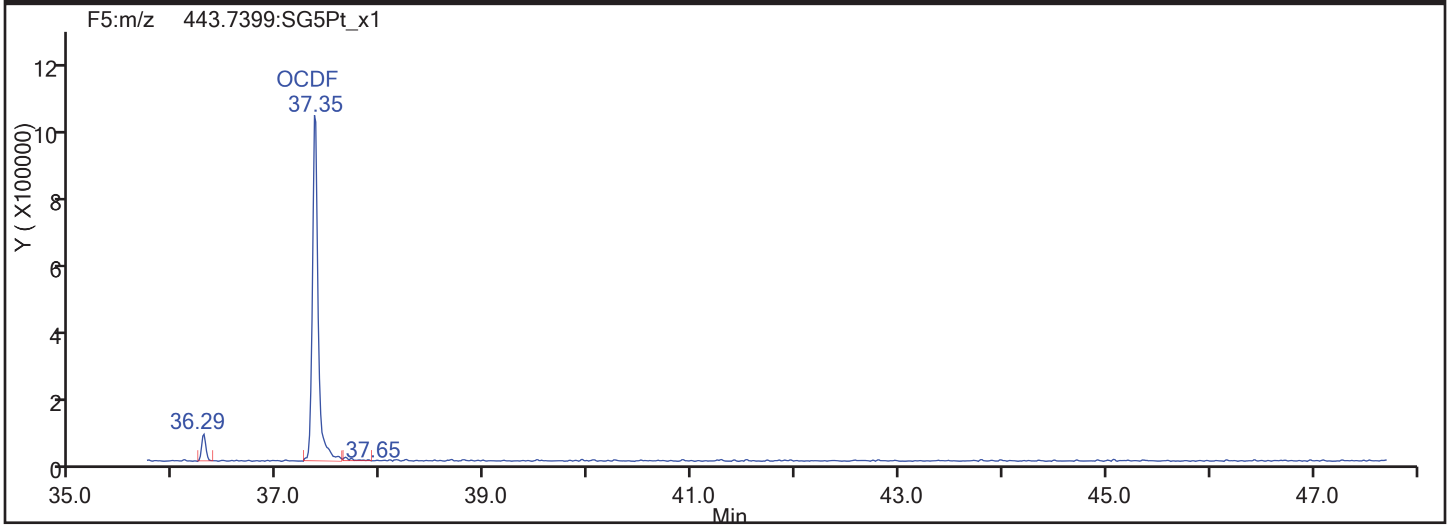
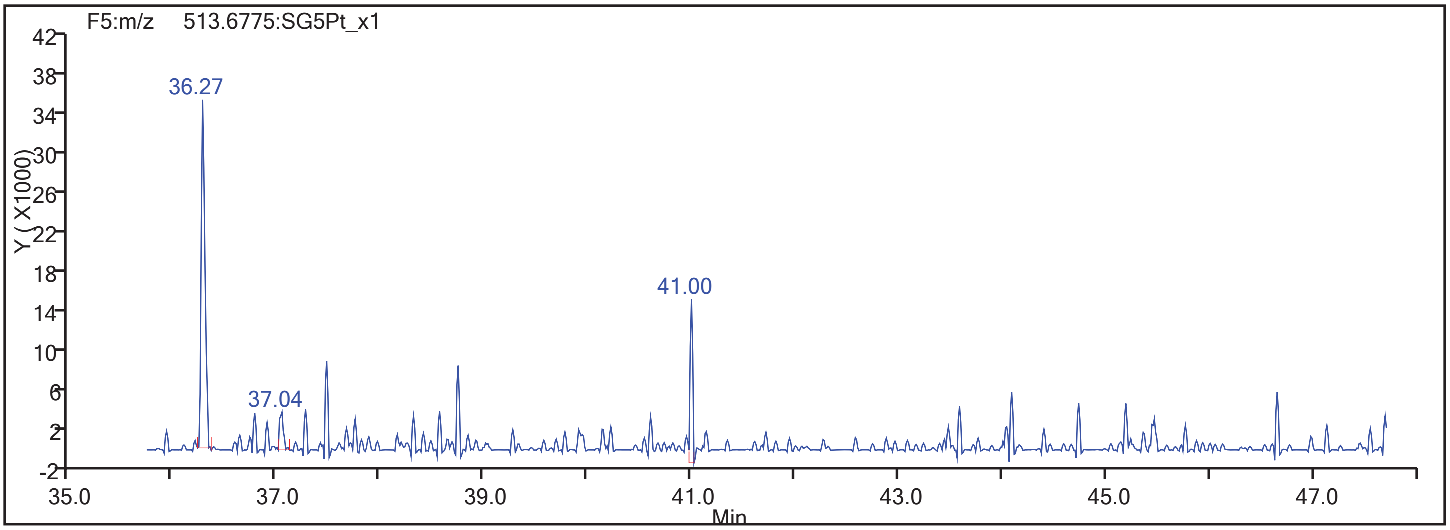
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS04NS		
Worklist#:	195573	Sample Line#:	62
Column Type:		Column Dia:	

OCDF





OCDF Interference Mass



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TestAmerica Sacramento

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Method: Dioxin_3D5
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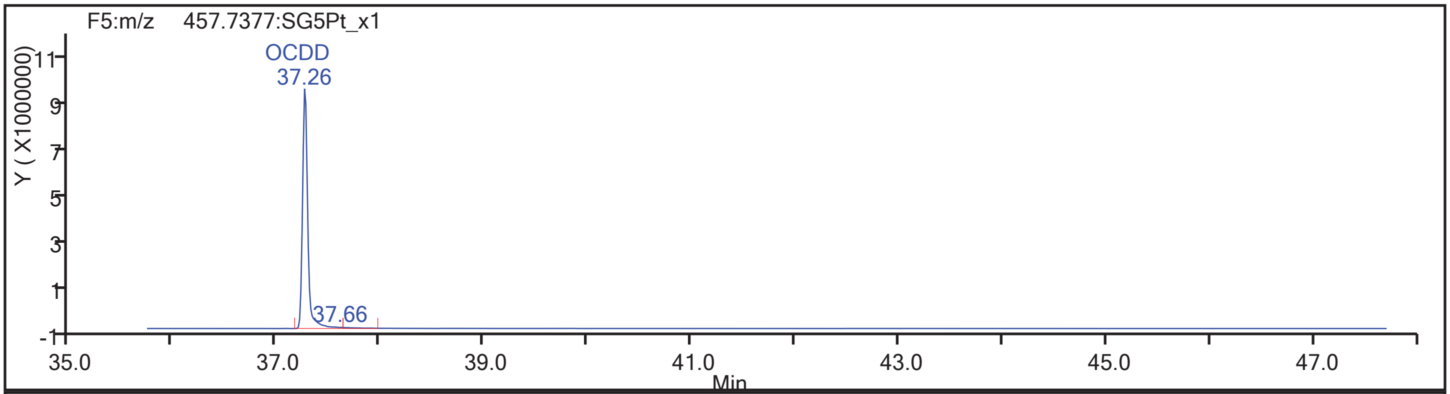
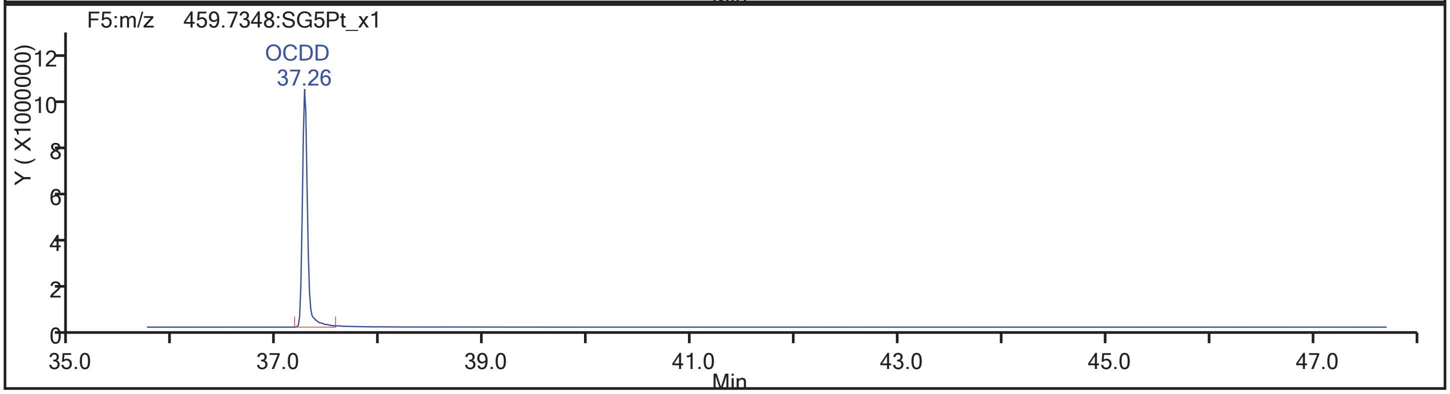
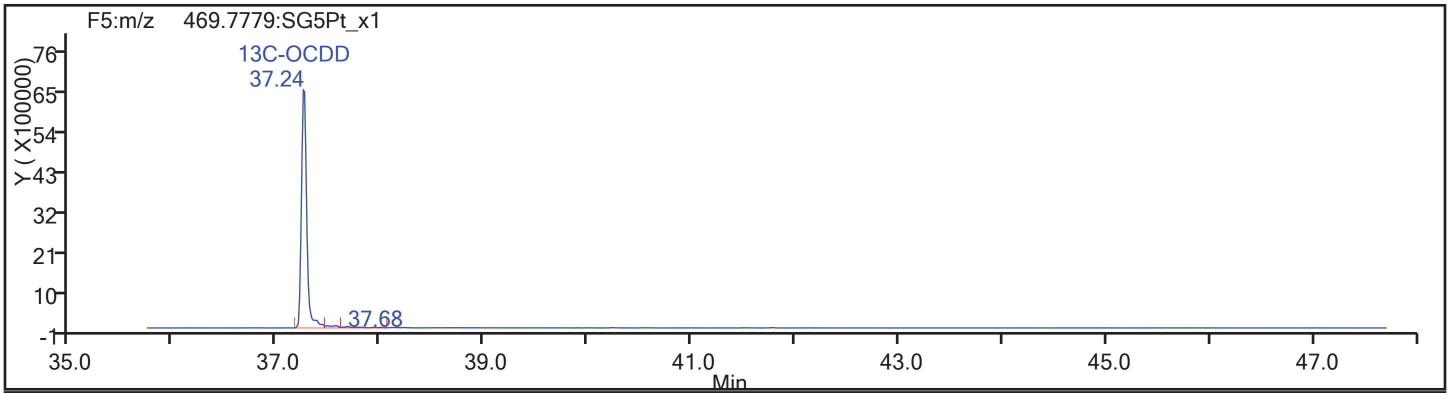
Client ID: SHAD041DP026SS04NS
Worklist#: 195573
Sample Line#: 62
Column Type:
Column Dia:

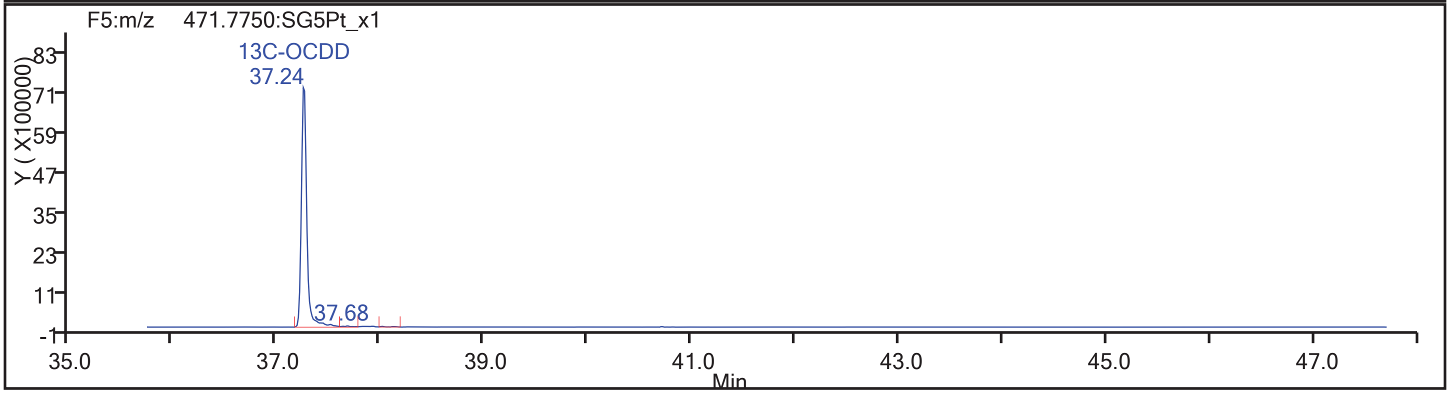
OCDD





OCDD Standards





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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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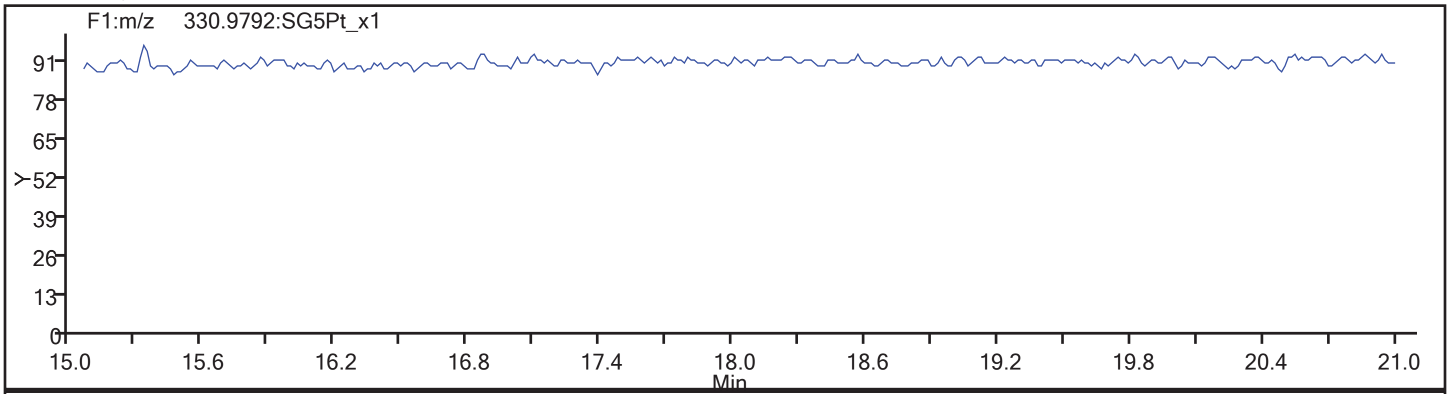

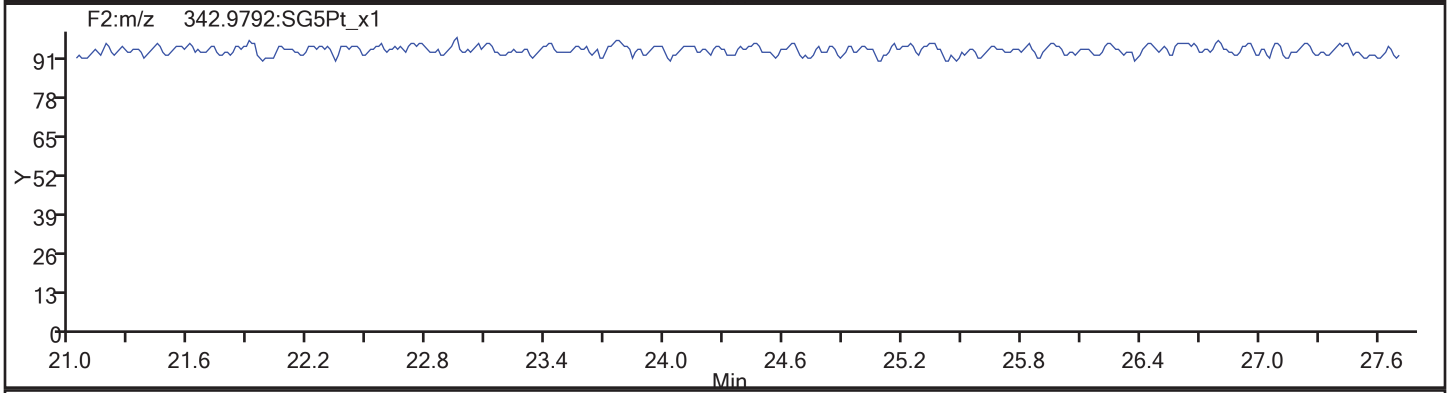

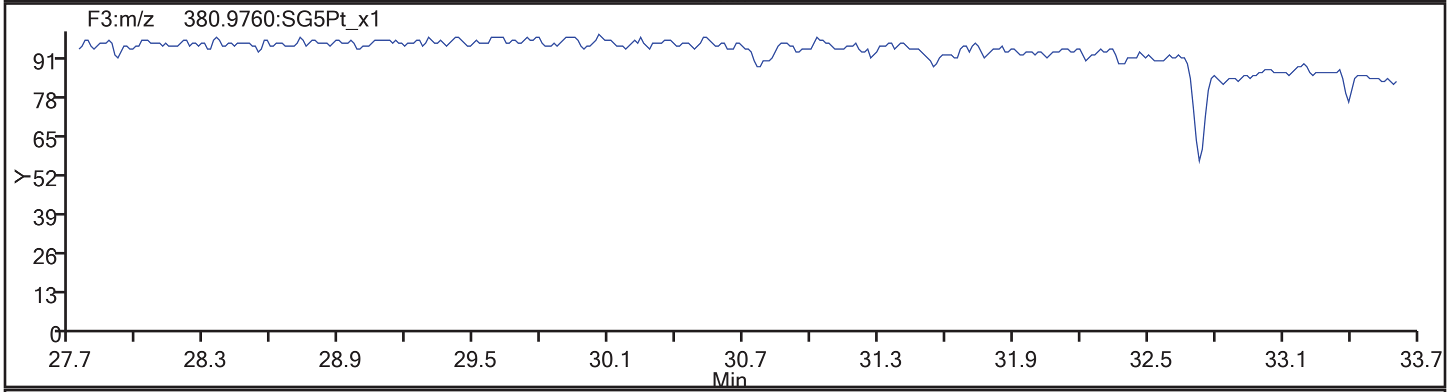

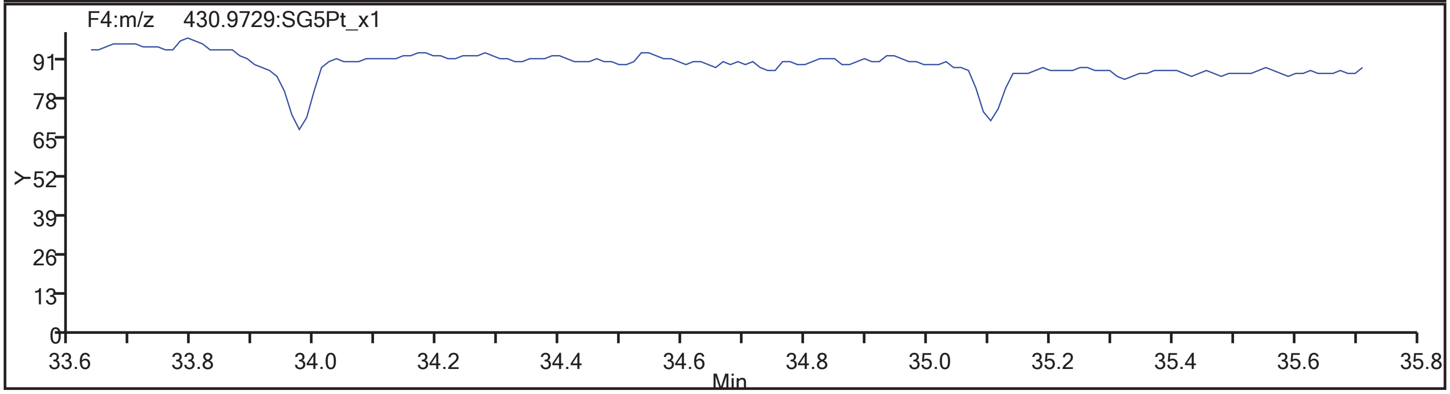

TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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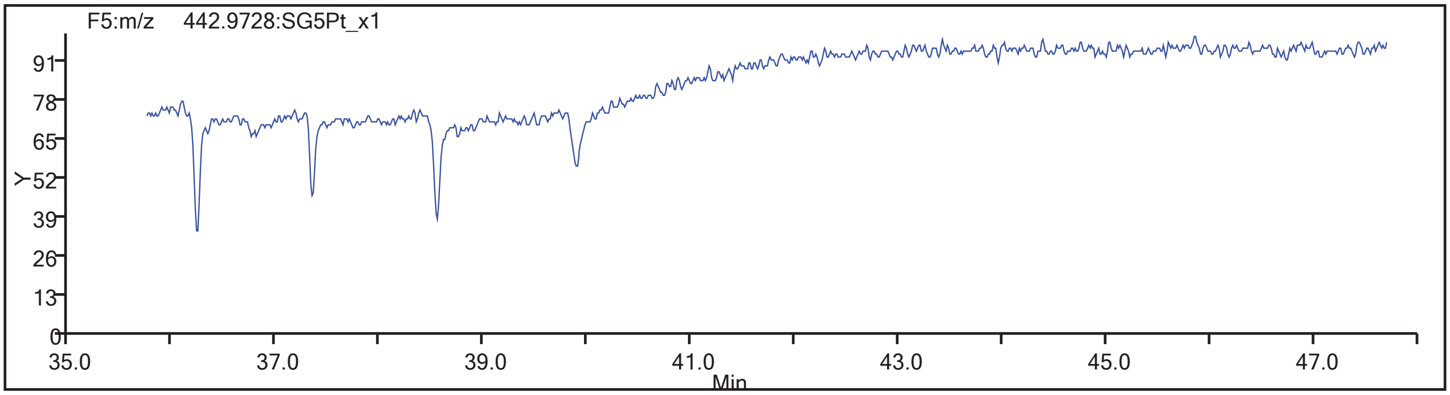


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP026SS05NS	Lab Sample ID: 160-24924-4
Matrix: Solid	Lab File ID: 09NO1710D5_62.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:22
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.23(g)	Date Analyzed: 11/11/2017 09:10
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 20.1	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194084	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.49	U	1.2	0.49	0.058
51207-31-9	2,3,7,8-TCDF	0.49	U	1.2	0.49	0.034
40321-76-4	1,2,3,7,8-PeCDD	0.92	U	6.1	0.92	0.065
57117-41-6	1,2,3,7,8-PeCDF	0.92	U	6.1	0.92	0.051
57117-31-4	2,3,4,7,8-PeCDF	0.92	U	6.1	0.92	0.052
39227-28-6	1,2,3,4,7,8-HxCDD	0.47	J	6.1	2.4	0.089
57653-85-7	1,2,3,6,7,8-HxCDD	2.4	U	6.1	2.4	0.068
19408-74-3	1,2,3,7,8,9-HxCDD	0.34	J	6.1	2.4	0.068
70648-26-9	1,2,3,4,7,8-HxCDF	0.92	U	6.1	0.92	0.045
57117-44-9	1,2,3,6,7,8-HxCDF	1.2	U	6.1	1.2	0.037
72918-21-9	1,2,3,7,8,9-HxCDF	0.064	J	6.1	1.2	0.044
60851-34-5	2,3,4,6,7,8-HxCDF	0.92	U	6.1	0.92	0.041
35822-46-9	1,2,3,4,6,7,8-HpCDD	1.7	J M	6.1	1.2	0.093
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.2	U	6.1	1.2	0.12
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.4	U	6.1	2.4	0.15
3268-87-9	OCDD	8.8	J B	12	4.9	0.091
39001-02-0	OCDF	0.51	J	12	4.9	0.093

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	53		40-135
89059-46-1	13C-2,3,7,8-TCDF	61		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	55		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	57		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	47		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	52		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	44		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	26	Q	40-135
114423-97-1	13C-OCDD	33	Q	40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d
Lims ID: 160-24924-G-4-A
Client ID: SHAD041DP026SS05NS
Sample Type: Client
Inject. Date: 11-Nov-2017 09:10:38 ALS Bottle#: 35 Worklist Smp#: 62
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-4-a 160-24924-g-4-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 11:18:17 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 11:18:17

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.899	117081043	0.77	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.385	90955991	0.78	1.2741	61.0	61.0	0.1219	0.1219	60.97	
2,3,7,8-TCDF	17.415						0.0137	0.0137		
A Non-2,3,7,8-sub-TCDF	17.113						0.0	0.0		
S Total TCDF							0.0137	0.0137		
D 13C-2,3,7,8-TCDD	18.095	61783702	0.77	0.9921	53.2	53.2	0.1459	0.1459	53.19	
2,3,7,8-TCDD	18.125						0.0237	0.0237		
A Non-2,3,7,8-sub-TCDD	17.566						0.0	0.0		
S Total TCDD							0.0237	0.0237		
D 13C-1,2,3,7,8-PeCDF	22.424	64470015	1.57	0.9696	56.8	56.8	0.1570	0.1570	56.79	
1,2,3,7,8-PeCDF	22.465						0.0210	0.0210		
2,3,4,7,8-PeCDF	23.828						0.0214	0.0214		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.175						0.0	0.0		
S Total PeCDF							0.0214	0.0214		
D 13C-1,2,3,7,8-PeCDD	24.496	48599025	1.60	0.7588	54.7	54.7	0.0669	0.0669	54.70	
1,2,3,7,8-PeCDD	24.551						0.0268	0.0268		
A Non-2,3,7,8-sub-PeCDD	23.433						0.0	0.0		
S Total PeCDD							0.0268	0.0268		
D 13C-1,2,3,4,7,8-HxCDF	30.580	48022108	0.50	0.9644	52.1	52.1	0.3306	0.3306	52.14	
1,2,3,4,7,8-HxCDF	30.606						0.0182	0.0182		
1,2,3,6,7,8-HxCDF	30.793						0.0151	0.0151		
2,3,4,6,7,8-HxCDF	31.591						0.0168	0.0168		
D 13C-1,2,3,7,8,9-HxCDF	32.350	52786204	0.52							
1,2,3,7,8,9-HxCDF	32.390	17686	1.24	1.4099	0.0310	0.0261	0.0181	0.0181		RQ
A Non-2,3,7,8-sub-HxCDF	30.267						0.0	0.0		
S Total HxCDF					0.0310	0.0261	0.0171	0.0171		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.164	95505923	1.24	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.751	72298	1.24	0.9505	0.2156	0.1915	0.0363	0.0363		RQ
D 13C-1,2,3,6,7,8-HxCDD	31.845	39720183	1.27	0.8791	47.3	47.3	0.2534	0.2534	47.31	
1,2,3,6,7,8-HxCDD	31.751						0.0279	0.0279		RQU

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.177	69724	1.12	1.2467	0.1408	0.1408	0.0277	0.0277		
A Non-2,3,7,8-sub-HxCDD	30.913	327679	1.35	1.1438	0.7212	0.7212	0.0301	0.4758		M
S Total HxCDD					1.078	1.054	0.0306	0.0306		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.758	19001320	0.42	0.7618	26.1	26.1	0.5221	0.5221	26.12	
1,2,3,4,6,7,8-HpCDF	33.782						0.0510	0.0510		
1,2,3,4,7,8,9-HpCDF	34.863						0.0628	0.0628		
A Non-2,3,7,8-sub-HpCDF	34.311						0.0	0.0		
S Total HpCDF							0.0628	0.0628		
D 13C-1,2,3,4,6,7,8-HpCDD	34.548	32341694	1.04	0.7762	43.6	43.6	0.2592	0.2592	43.63	
1,2,3,4,6,7,8-HpCDD	34.560	228296	1.07	0.9932	0.7107	0.7107	0.0381	0.0381		M
A Non-2,3,7,8-sub-HpCDD	34.287	380323	0.95	0.9932	1.184	1.184	0.0381	1.184		M
S Total HpCDD					1.895	1.895	0.0381	0.0381		
D 13C-OCDD	36.882	39693434	0.89	0.6314	65.8	65.8	0.1902	0.1902	32.91	
OCDF	36.978	56183	0.88	1.3460	0.2103	0.2103	0.0379	0.0379		
OCDD	36.882	753929	0.98	1.0604	3.582	3.582	0.0371	0.0371		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d
Lims ID: 160-24924-G-4-A
Client ID: SHAD041DP026SS05NS
Sample Type: Client
Inject. Date: 11-Nov-2017 09:10:38 ALS Bottle#: 35 Worklist Smp#: 62
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-4-a 160-24924-g-4-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 11:18:17 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 11:18:17

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.899	17.914	-1		51072851	12761091	8214	20535	1554		
333.9339	17.899	17.914	-1		66008192	16426824	8682	21705	1892	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.385	17.400	-1	0.971	39804895	9865994	9350	23375	1055		
317.9389	17.385	17.400	-1	0.971	51151096	12551094	8777	21942	1430	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415						481	1202			
305.8987	17.415						913	2282			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.113						481	1202			
305.8987	17.113						913	2282			
13C-2,3,7,8-TCDD											
331.9368	18.095	18.111	-1	1.011	26870744	6334903	8214	20535	771		
333.9339	18.095	18.111	-1	1.011	34912958	8160189	8682	21705	940	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.125						816	2040			
321.8936	18.125						559	1397			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.566						816	2040			
321.8936	17.566						559	1397			
13C-1,2,3,7,8-PeCDF											
351.9000	22.424	22.451	-2	1.253	39367240	6847244	10657	26642	643		
353.8970	22.424	22.451	-2	1.253	25102775	4432843	7120	17800	623	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.465						342	855			
341.8567	22.465						759	1897			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	23.828						342	855			
341.8567	23.828						759	1897			
A F1 PeCDFs											
339.8597	20.001						274	685			
341.8567	20.001						876	2190			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.175						342	855			
341.8567	23.175						759	1897			
13C-1,2,3,7,8-PeCDD											
367.8949	24.496	24.524	-2	1.369	29940012	4693437	4163	10407	1127		
369.8919	24.510	24.524	-1	1.369	18659013	2931293	1761	4402	1665	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551						553	1382			
357.8516	24.551						222	555			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.433						553	1382			
357.8516	23.433						222	555			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.580	30.593	-1	0.951	16049013	3128264	10247	25617	305		
385.8610	30.580	30.593	-1	0.951	31973095	6276617	20179	50447	311	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.606						514	1285			
375.8178	30.606						447	1117			
1,2,3,6,7,8-HxCDF											
373.8208	30.793						514	1285			
375.8178	30.793						447	1117			
2,3,4,6,7,8-HxCDF											
373.8208	31.591						514	1285			
375.8178	31.591						447	1117			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.350	32.363	-1	1.006	18012417	4644594	10247	25617	453		
385.8610	32.350	32.363	-1	1.006	34773787	8923188	20179	50447	442	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											RQ
373.8208	32.390	32.377	1	1.059	9791	2184	514	1285	4		
375.8178	32.377	32.377	0	1.059	11182	2839	447	1117	6	0.88(1.05-1.43)	
	Empc Correction				7895	1761	447	1117	4		
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.267						514	1285			
375.8178	30.267						447	1117			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.164	32.177	-1		52863805	13208367	11623	29057	1136		
403.8529	32.164	32.177	-1		42642118	10650618	9635	24087	1105	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	31.751	31.764	-1	0.997	49132	6346	617	1542	10		
	Empc Correction				40022	5143	617	1542	8		
391.8127	31.765	31.764	0	0.997	32276	4148	737	1842	6	1.52(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.845	31.858	-1	0.990	22186930	5436554	11623	29057	468		
403.8529	31.845	31.858	-1	0.990	17533253	4381893	9635	24087	455	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	31.871						617	1542			
391.8127	31.871						737	1842			
1,2,3,7,8,9-HxCDD											
389.8157	32.177	32.190	-1	1.010	36765	6384	617	1542	10		
391.8127	32.191	32.190	0	1.011	32959	7263	737	1842	10	1.12(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											M
389.8157	29.662	30.913	-75	0.931	127090	18262	617	1542	30		M
391.8127	29.635	30.913	-76	0.931	89072	10333	737	1842	14	1.43(1.05-1.43)	
389.8157	31.033	30.913	7	0.975	61164	9797	617	1542	16		a
391.8127	31.033	30.913	7	0.975	50353	10035	737	1842	14	1.21(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.758	33.770	-1	1.050	5638813	1427414	10720	26800	133		
419.8220	33.758	33.770	-1	1.050	13362507	3426386	27242	68105	126	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.782						1000	2500			
409.7789	33.782						623	1557			
1,2,3,4,7,8,9-HpCDF											
407.7818	34.863						1000	2500			
409.7789	34.863						623	1557			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.311						1000	2500			
409.7789	34.311						623	1557			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.548	34.560	-1	1.074	16478509	4963254	9742	24355	509		
437.8140	34.548	34.560	-1	1.074	15863185	4840516	9459	23647	512	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.560	34.572	-1	1.000	118094	35859	765	1912	47		M
425.7737	34.560	34.572	-1	1.000	110202	34720	718	1795	48	1.07(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											M
423.7766	34.014	34.287	-16	0.985	185677	62397	765	1912	82		
425.7737	34.014	34.287	-16	0.985	194646	59045	718	1795	82	0.95(0.88-1.20)	M
13C-OCDD											
469.7779	36.882	36.894	-1	1.147	18652067	4528307	3901	9752	1161		
471.7750	36.882	36.894	-1	1.147	21041367	5063591	7563	18907	670	0.89(0.76-1.02)	
OCDF											
441.7428	36.978	36.990	-1	1.003	26361	5536	380	950	15		
443.7399	36.954	36.990	-2	1.002	29822	4784	598	1495	8	0.88(0.76-1.02)	
OCDD											
457.7377	36.882	36.906	-1	1.000	373481	92029	326	815	282		
459.7348	36.882	36.906	-1	1.000	380448	98146	428	1070	229	0.98(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
Lims ID:	160-24924-G-4-A		
Client ID:	SHAD041DP026SS05NS		
Inject. Date:	11-Nov-2017 09:10:38	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	62

Non-2,3,7,8-sub-HxCDD, RT: 30.913

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	39720183	9818447
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	39720183	9818447

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.662	127090	18262	89072	10333	0.4758	1.43	M
31.033	61164	9797	50353	10035	0.2455	1.21	
Signal Totals:							
	188254	28059	139425	20368			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	327679	48427				1.35	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7212 = (327679 * 100.000) / (39720183 * 1.144)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
Lims ID:	160-24924-G-4-A		
Client ID:	SHAD041DP026SS05NS		
Inject. Date:	11-Nov-2017 09:10:38	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	62

Non-2,3,7,8-sub-HpCDD, RT: 34.287

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	32341694	9803770

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	32341694	9803770

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.014	185677	62397	194646	59045	1.18	0.95	M
Signal Totals:							
	185677	62397	194646	59045			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	380323	121442				0.95	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.184 = (380323 * 100.000) / (32341694 * 0.993)

QC Flag Legend

Review Flags
M - Manually Integrated

Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

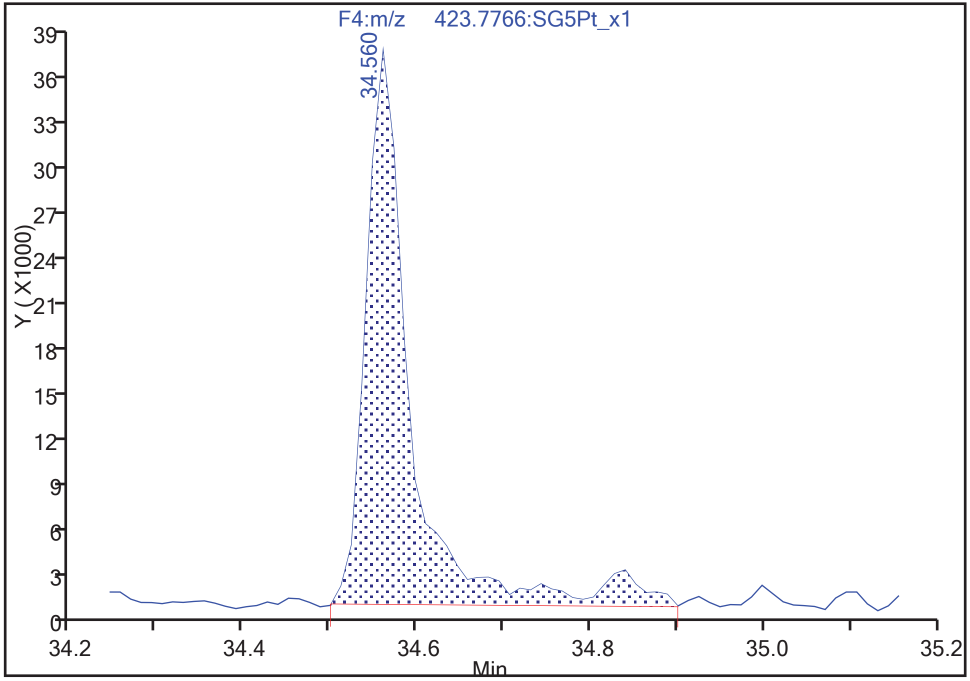
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d				
Injection Date:	11-Nov-2017 09:10:38	Instrument ID:	10D5		
Lims ID:	160-24924-G-4-A	Lab Sample ID:	320-24924-4		
Client ID:	SHAD041DP026SS05NS				
Operator ID:	AJS	ALS Bottle#:	35	Worklist Smp#:	62
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

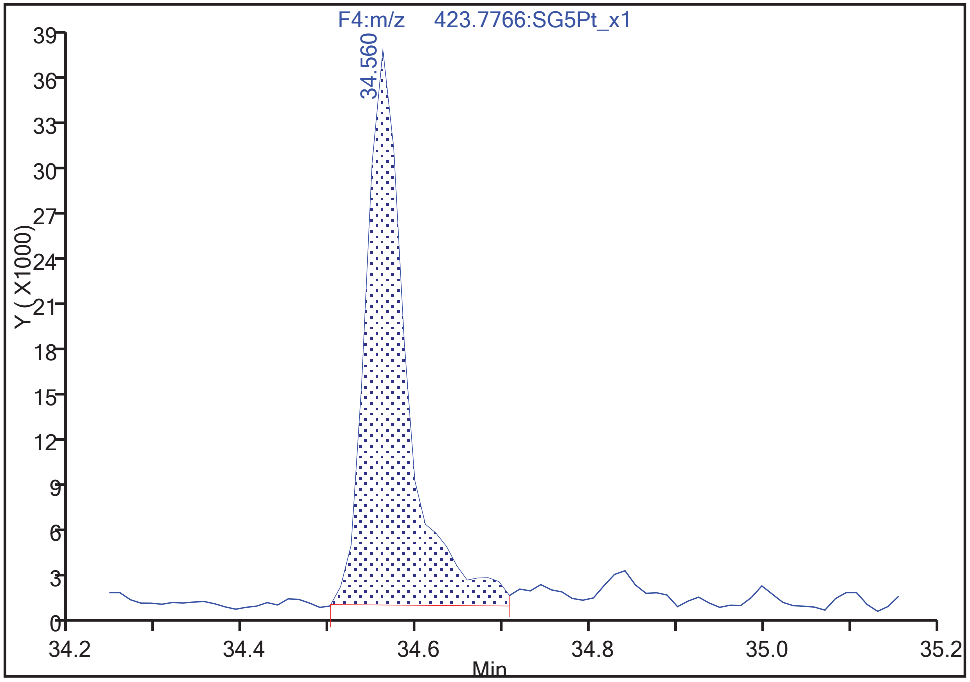
RT:	34.56
Area:	130696
Amount:	0.767208
Amount Units:	pg/ul

Processing Integration Results



RT:	34.56
Area:	118094
Amount:	0.710735
Amount Units:	pg/ul

Manual Integration Results



Reviewer: dadunj, 13-Nov-2017 11:17:07

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

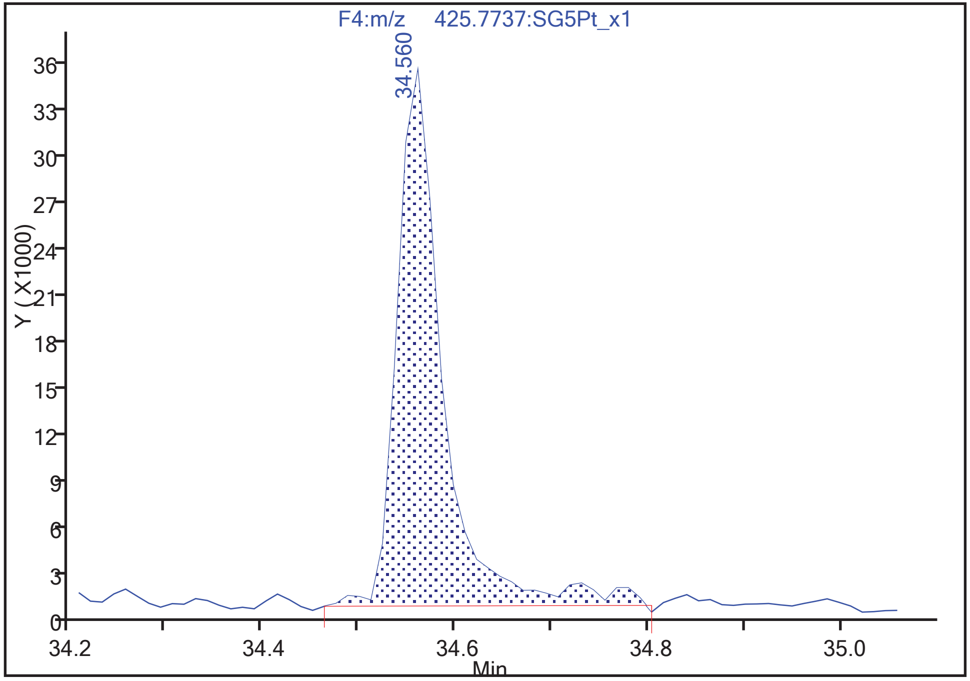
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
Injection Date:	11-Nov-2017 09:10:38	Instrument ID:	10D5
Lims ID:	160-24924-G-4-A	Lab Sample ID:	320-24924-4
Client ID:	SHAD041DP026SS05NS		
Operator ID:	AJS	ALS Bottle#:	35 Worklist Smp#: 62
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

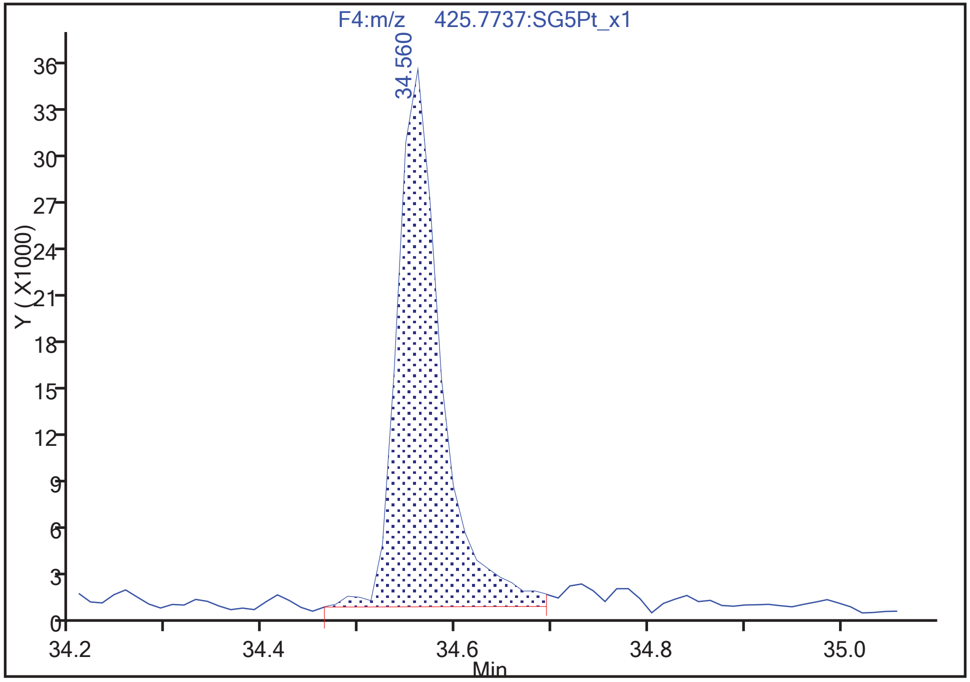
Processing Integration Results

RT: 34.56
Area: 115740
Amount: 0.767208
Amount Units: pg/ul



Manual Integration Results

RT: 34.56
Area: 110202
Amount: 0.710735
Amount Units: pg/ul



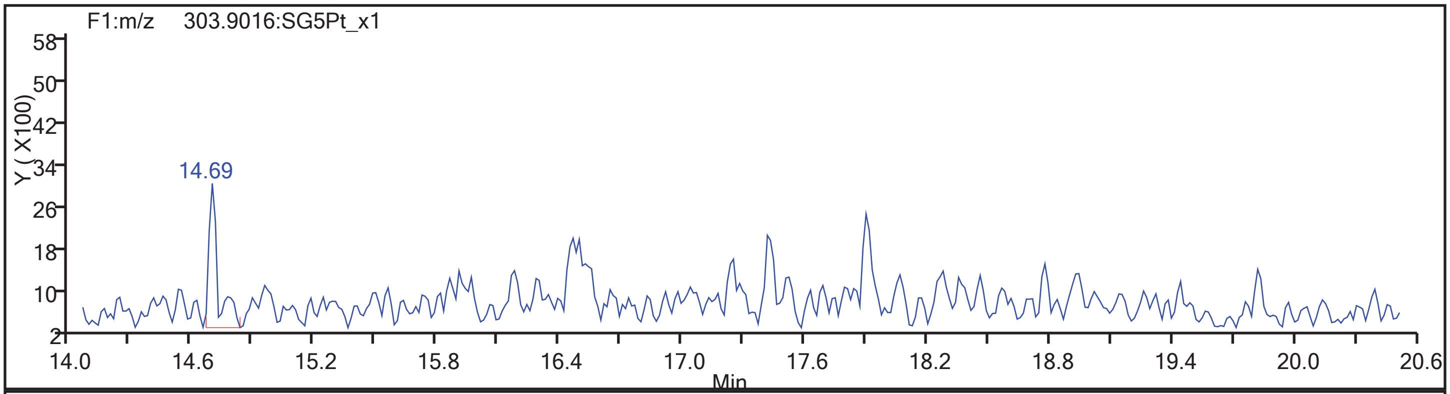
Reviewer: dadunj, 13-Nov-2017 11:17:09

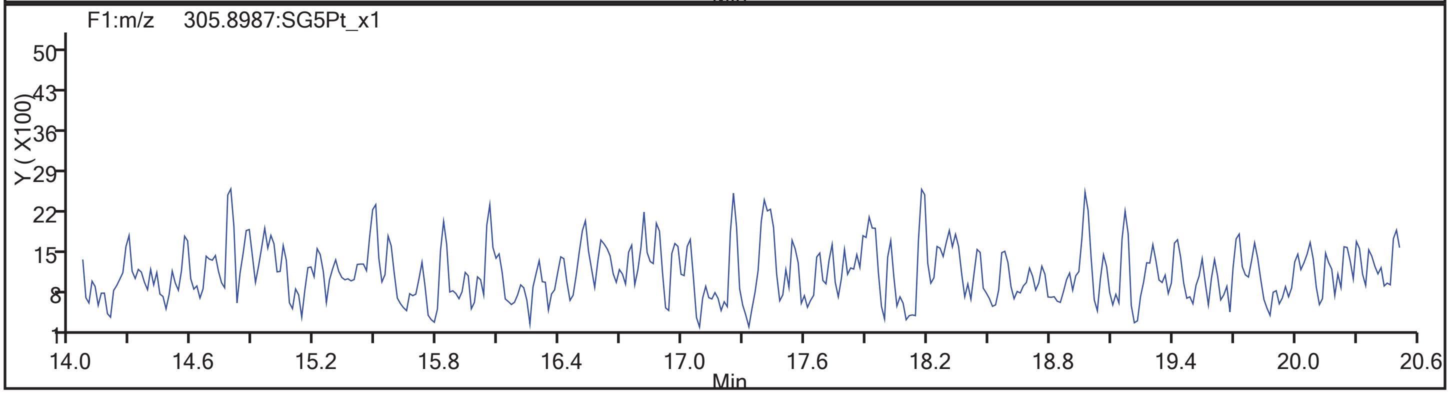
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Sacramento

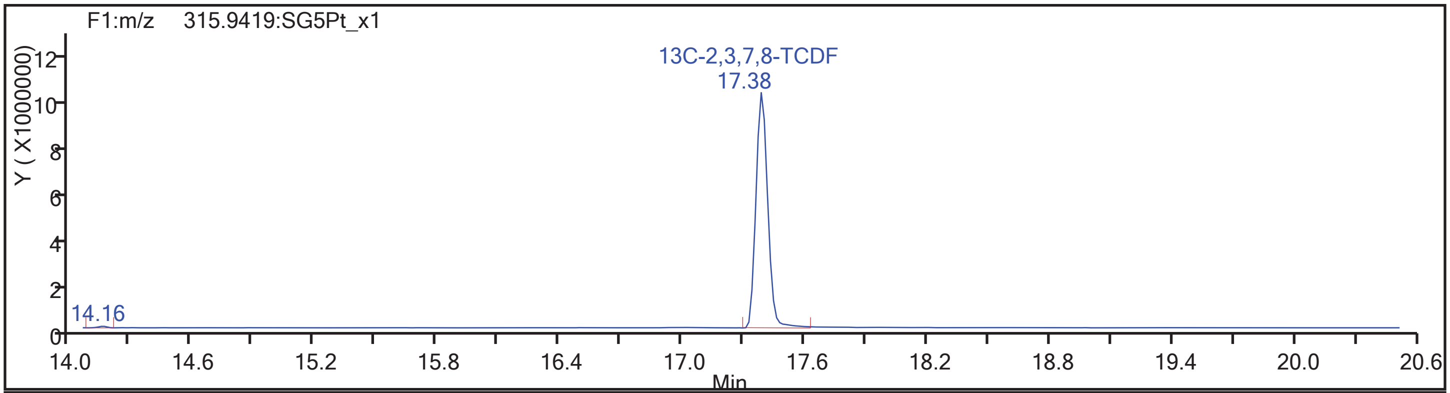
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d
Injection Date: 11-Nov-2017 09:10:38
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05NS
Worklist#: 194084
Sample Line#: 62
Column Type: DB-5
Column Dia: 0.32 mm

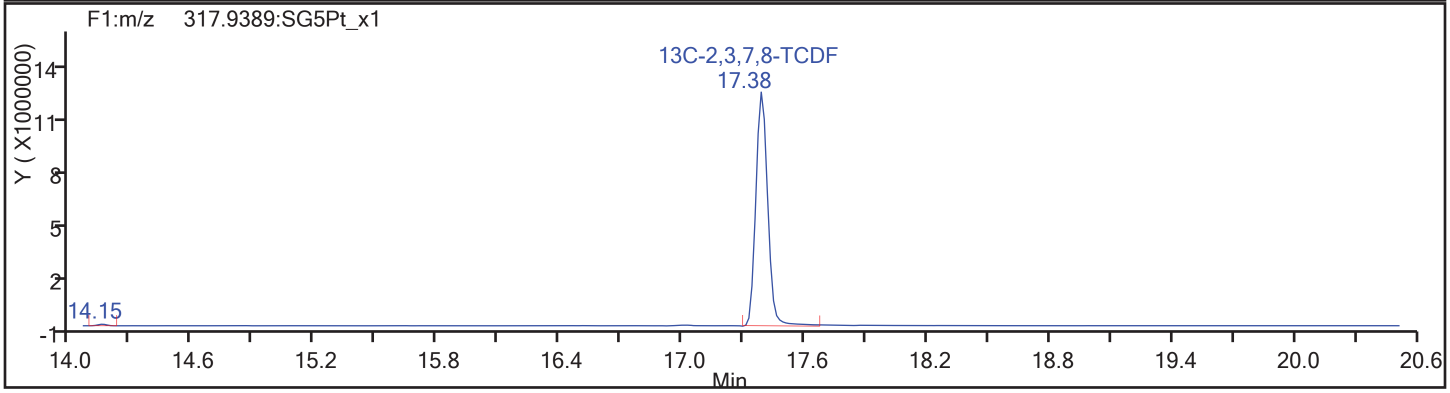
TCDF





TCDF Standards



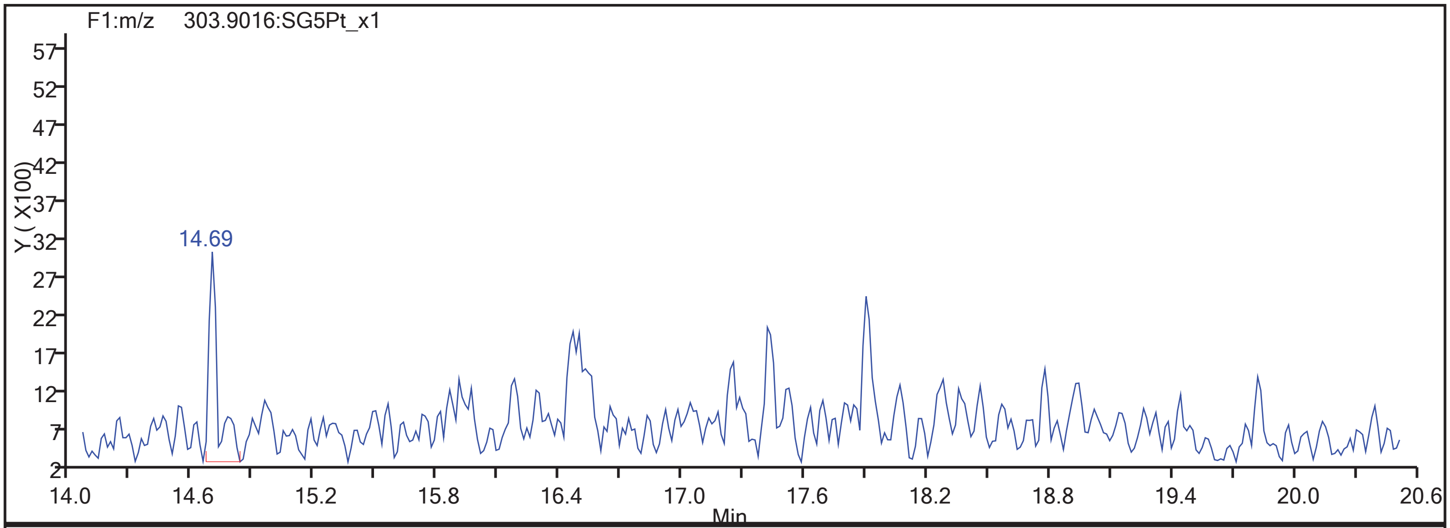


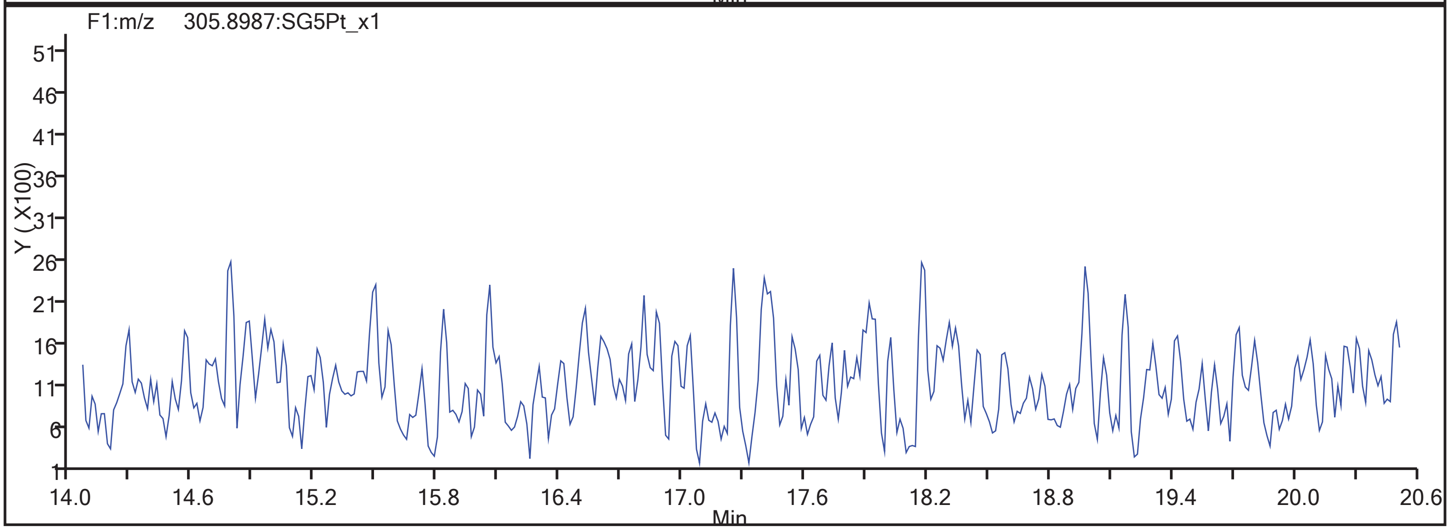
Report Date: 13-Nov-2017 11:18:21
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

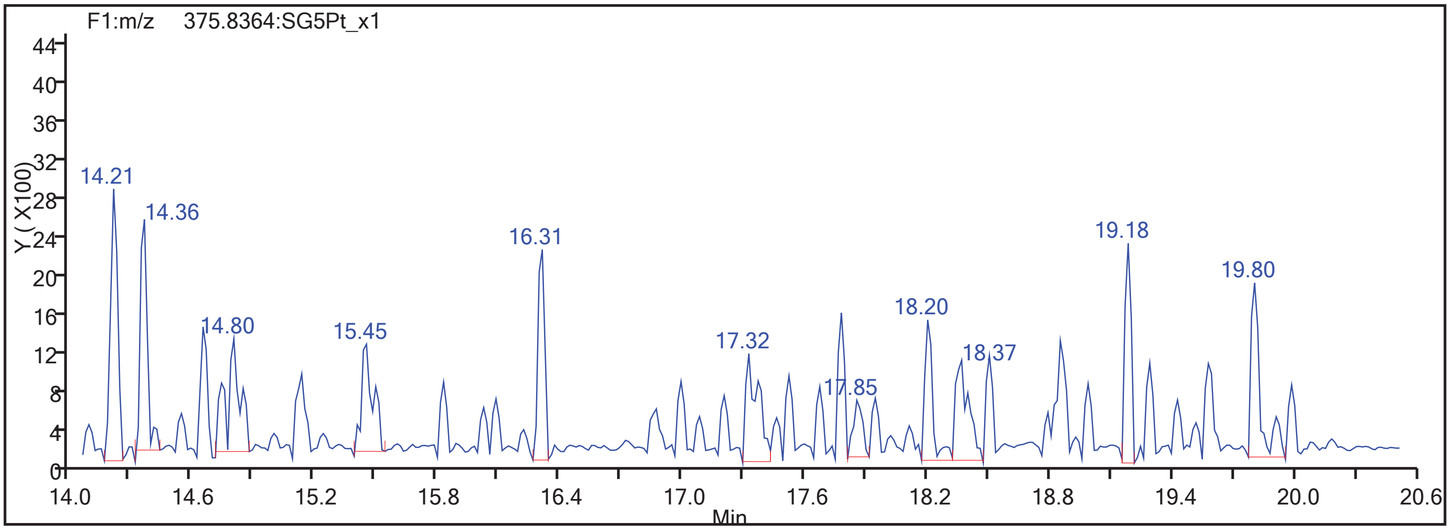
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d
Injection Date: 11-Nov-2017 09:10:38
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05NS
Worklist#: 194084
Sample Line#: 62
Column Type: DB-5
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



Report Date: 13-Nov-2017 11:18:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
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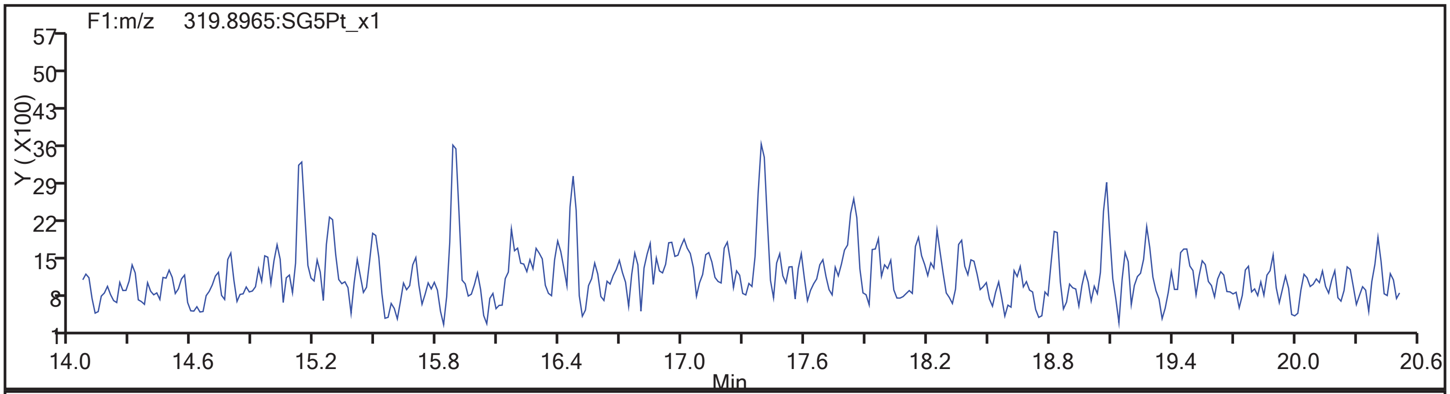
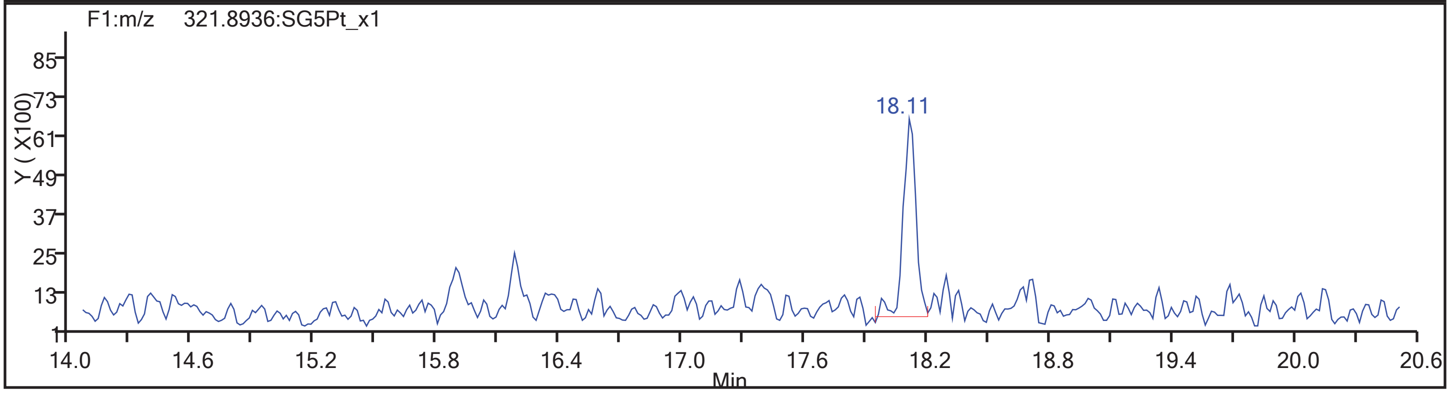
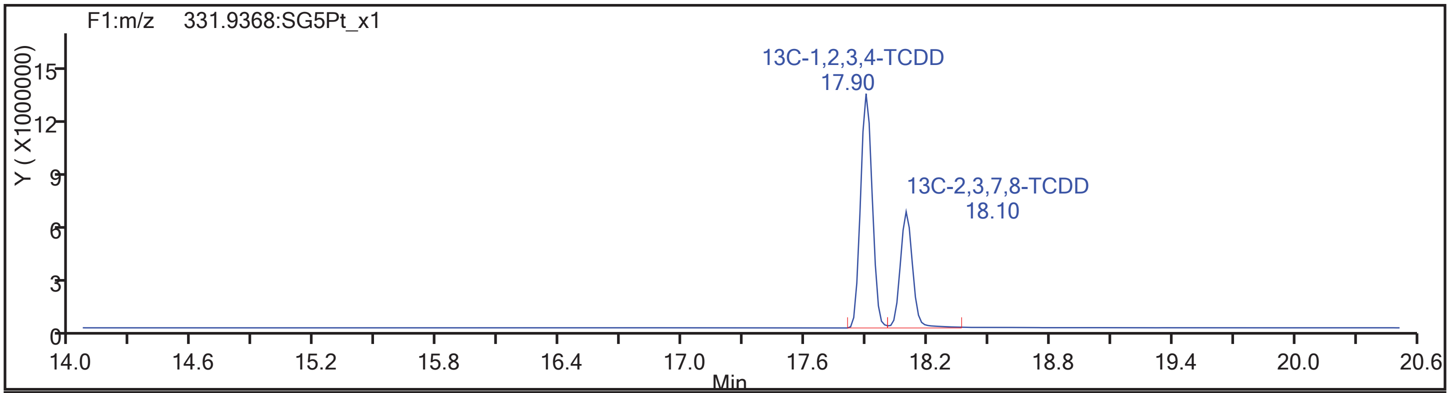
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	194084	Sample Line#:	62
Column Type:	DB-5	Column Dia:	0.32 mm

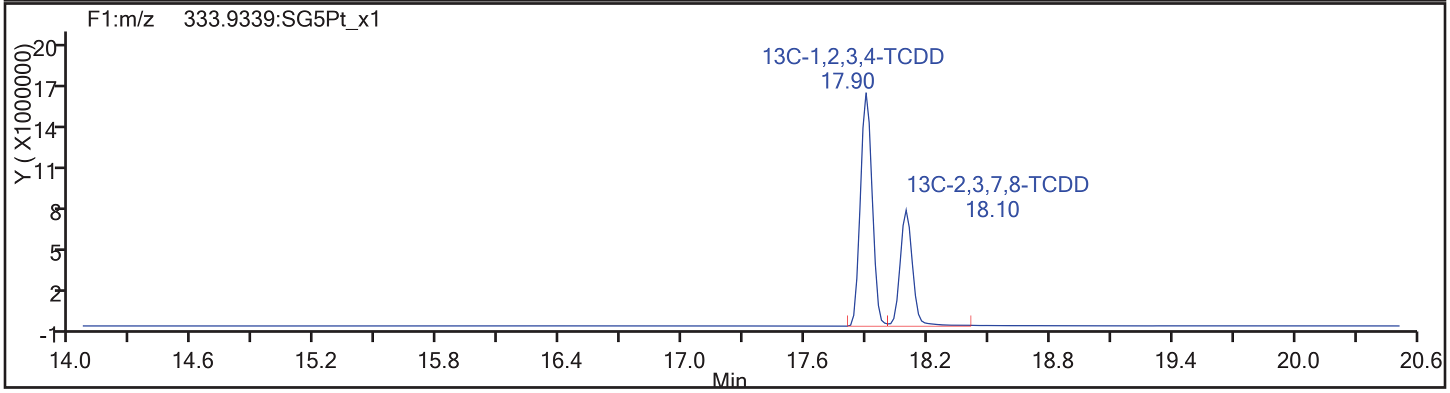
TCDD





TCDD Standards





Report Date: 13-Nov-2017 11:18:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 11-Nov-2017 09:10:38
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
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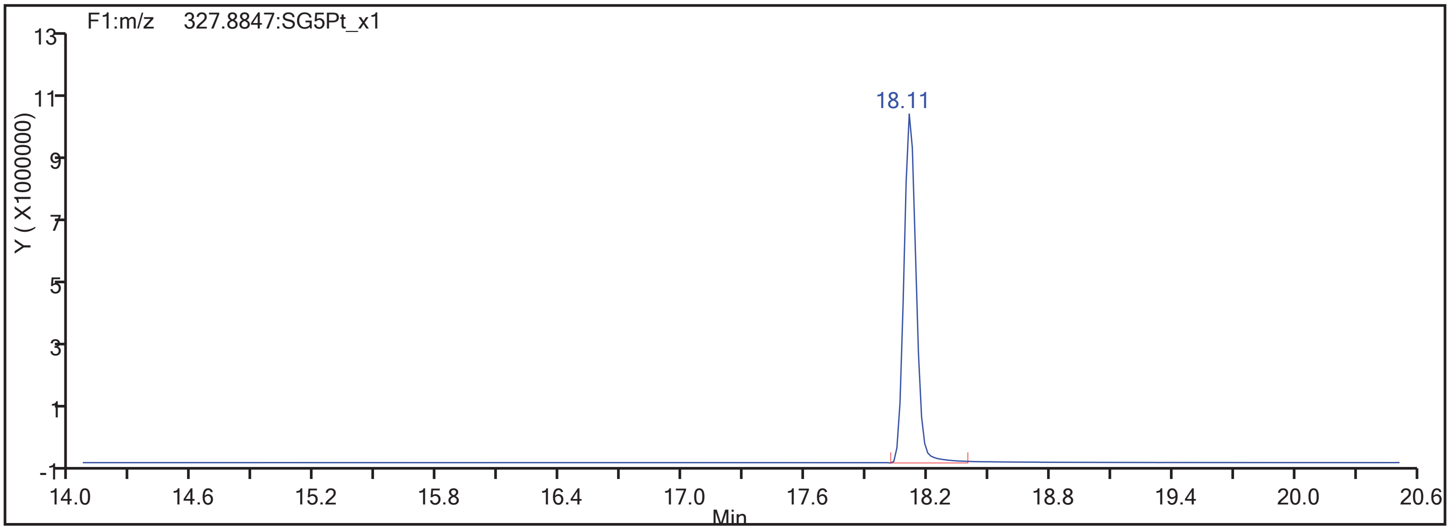
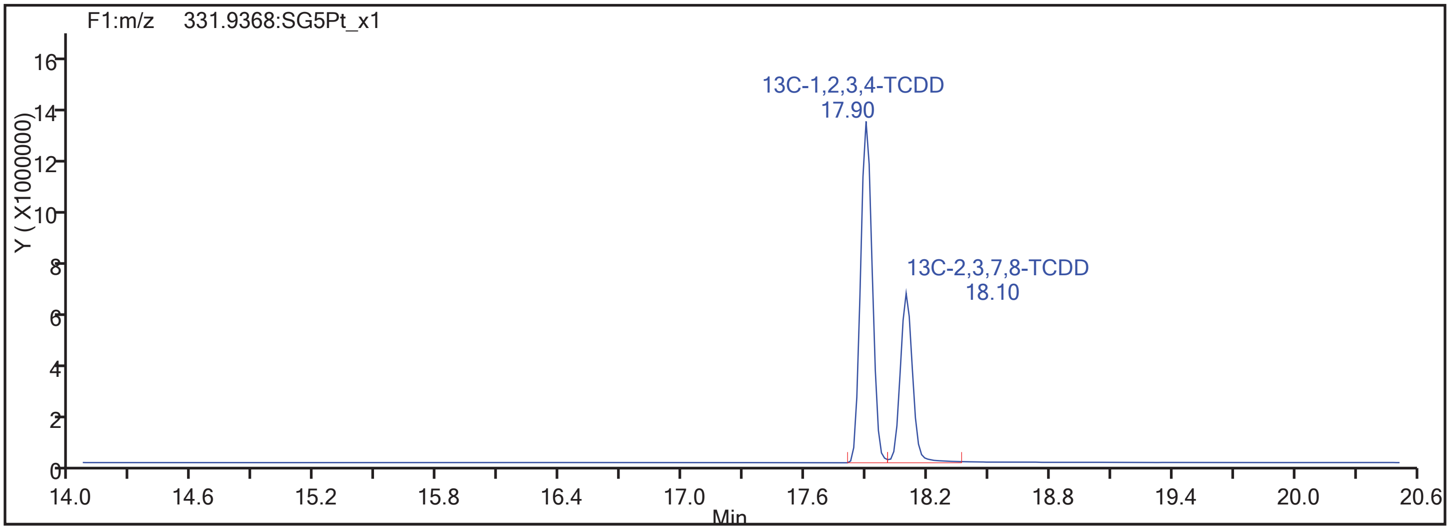
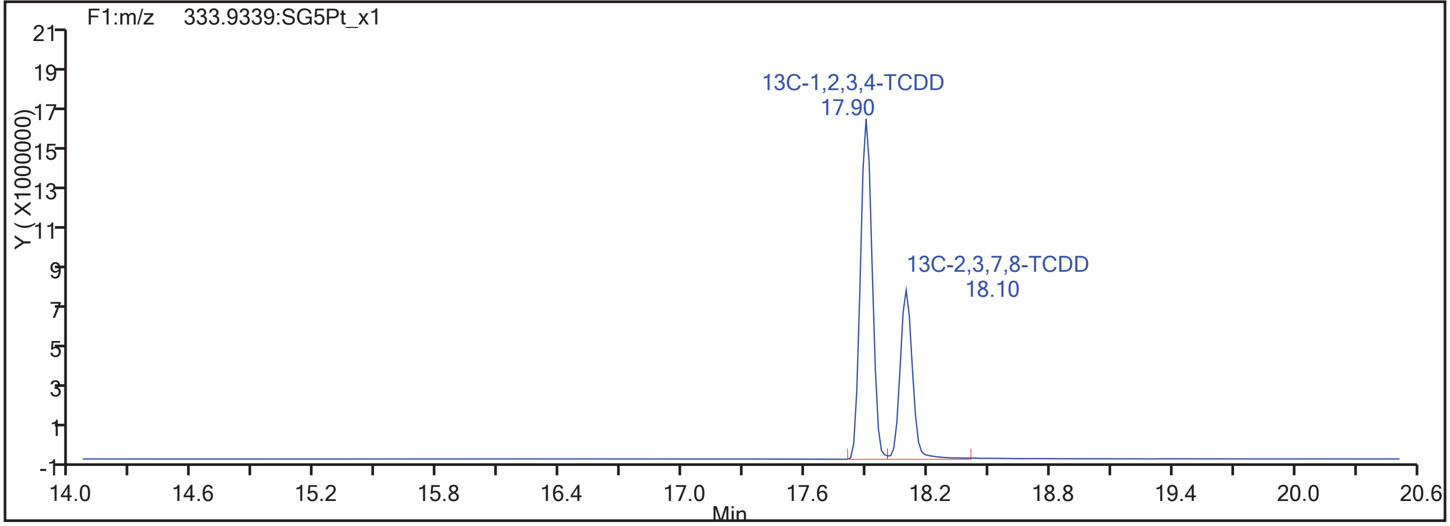
Worklist#: 194084
Sample Line#: 62
Column Type: DB-5
Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



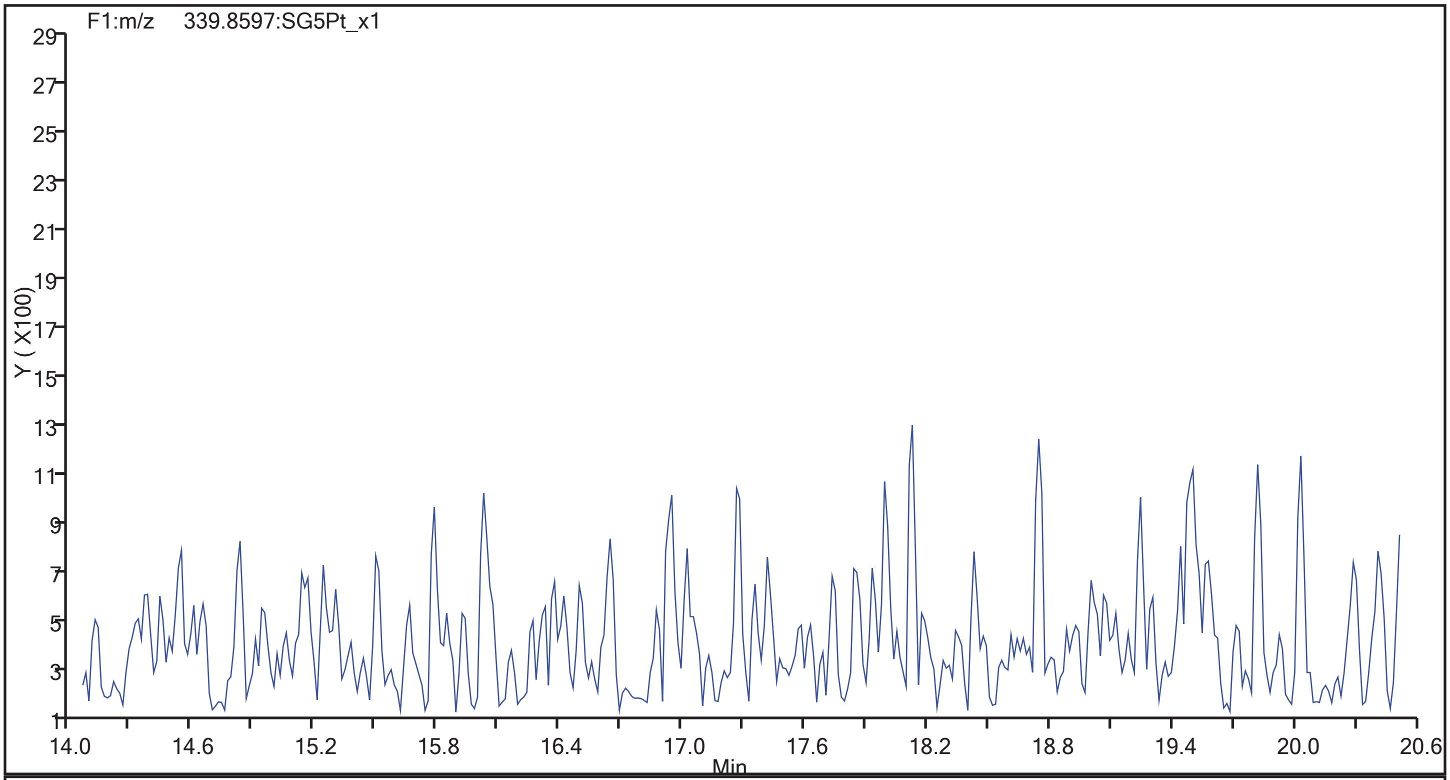


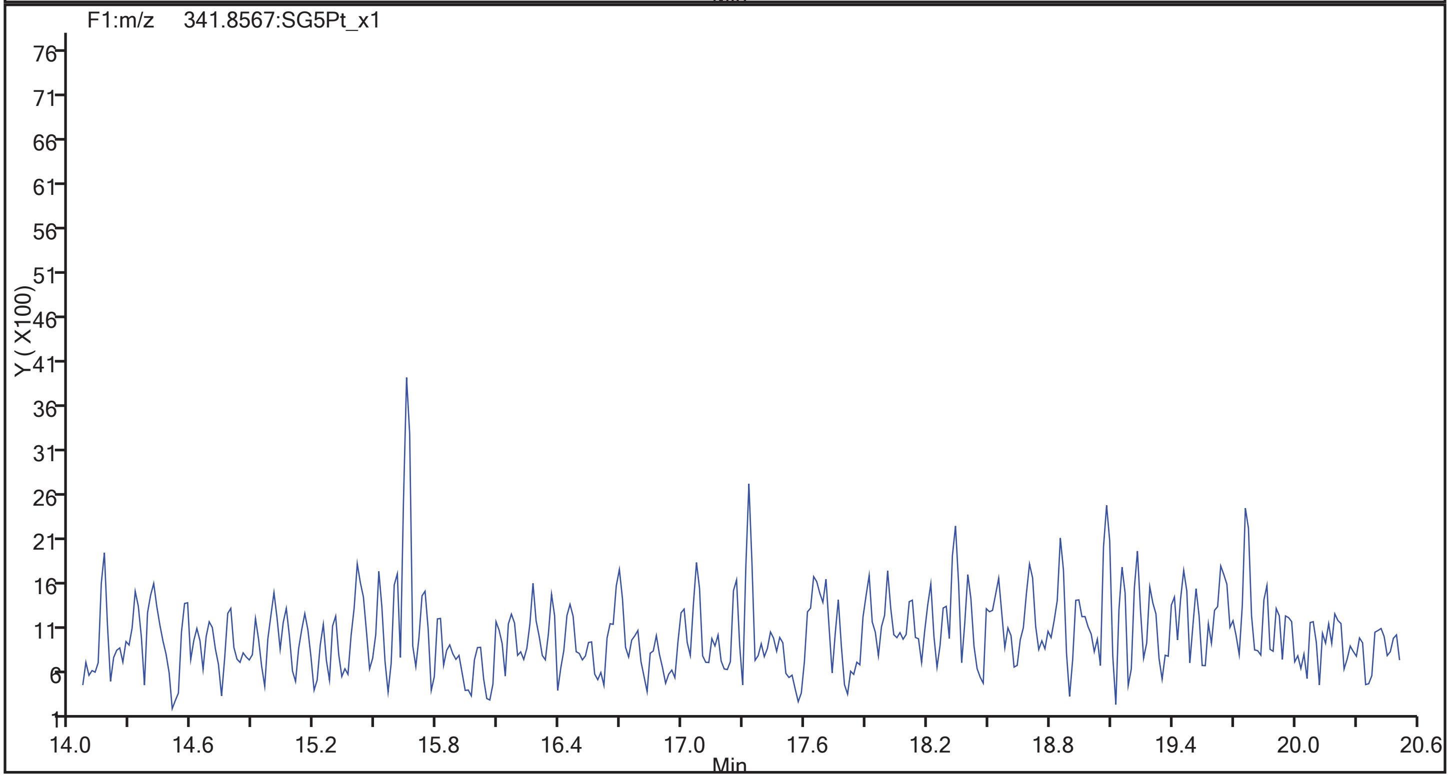
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d

Injection Date:	11-Nov-2017 09:10:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	194084	Sample Line#:	62
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Report Date: 13-Nov-2017 11:18:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
Injection Date:	11-Nov-2017 09:10:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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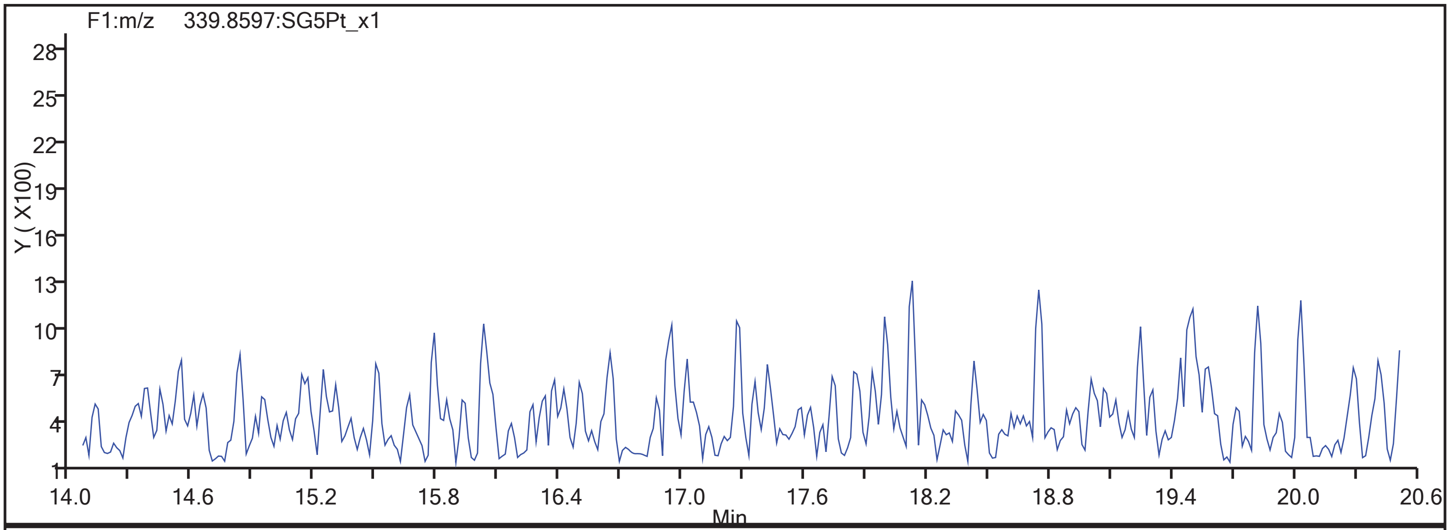
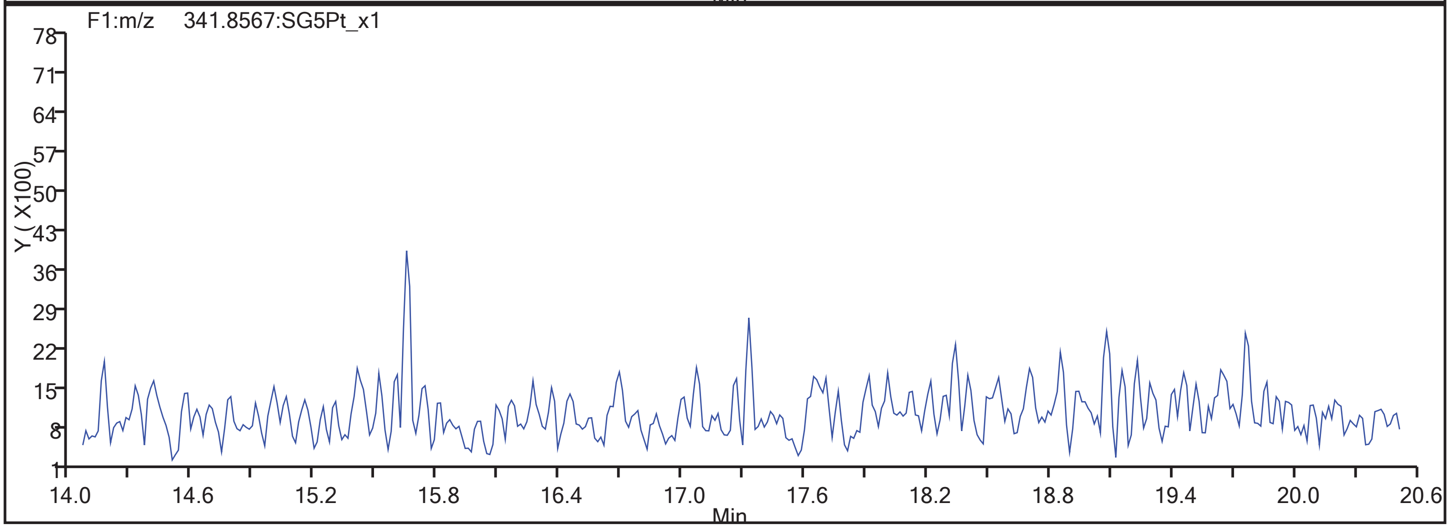
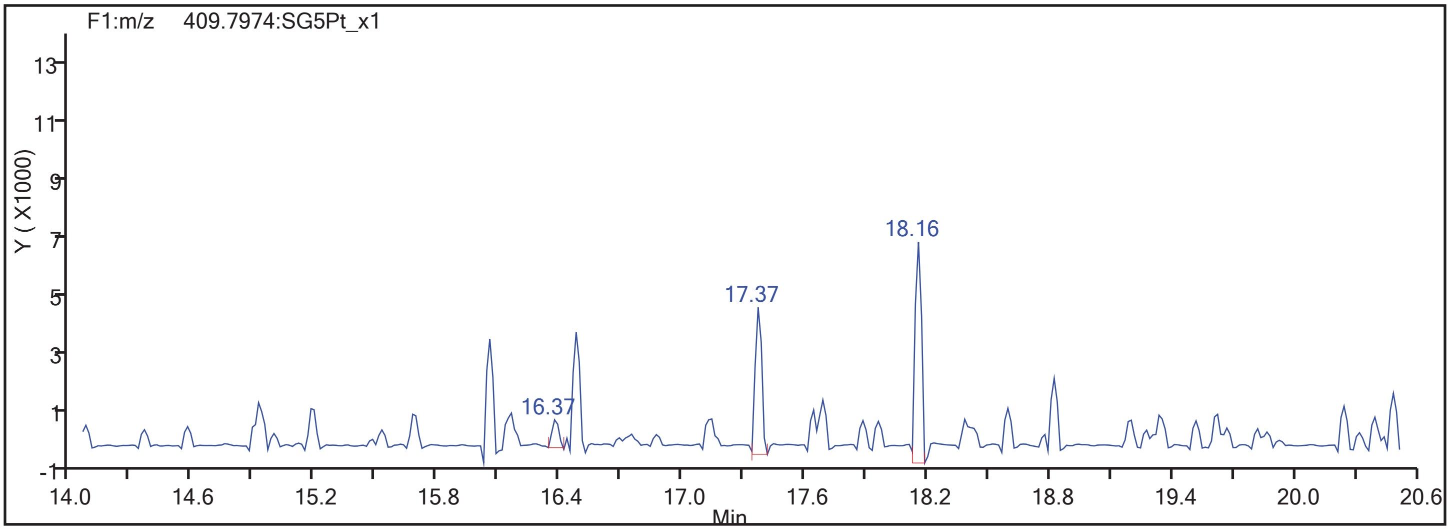
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 13-Nov-2017 11:18:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
Injection Date:	11-Nov-2017 09:10:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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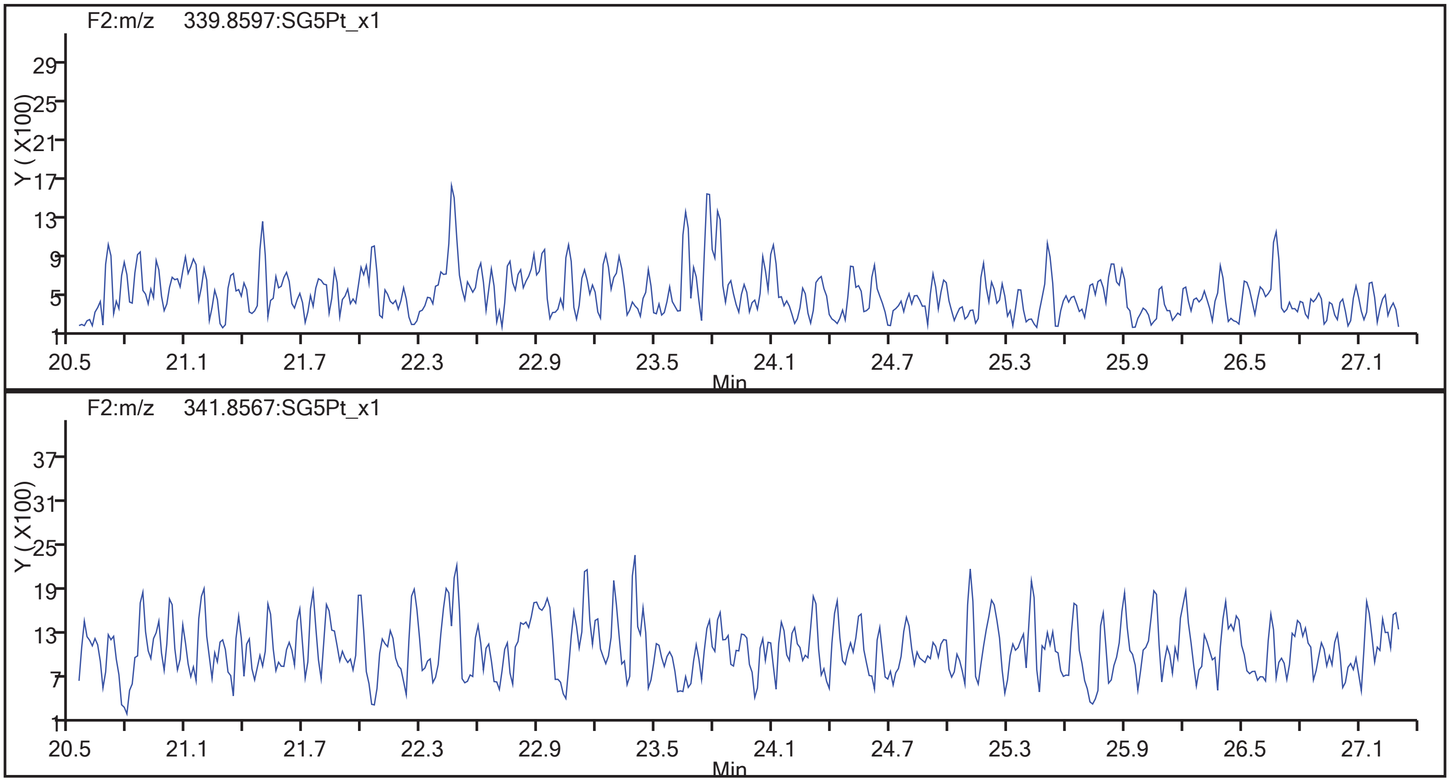
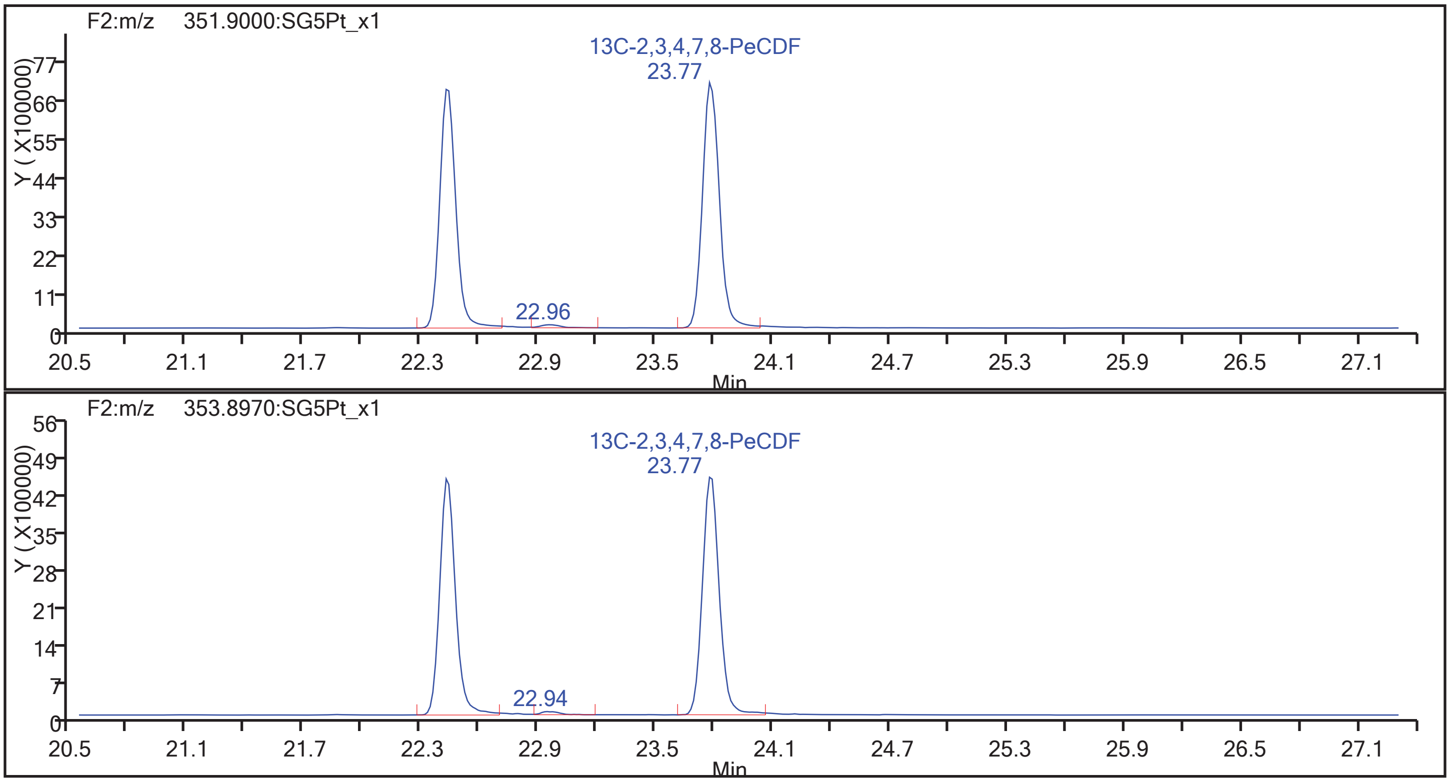
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



Report Date: 13-Nov-2017 11:18:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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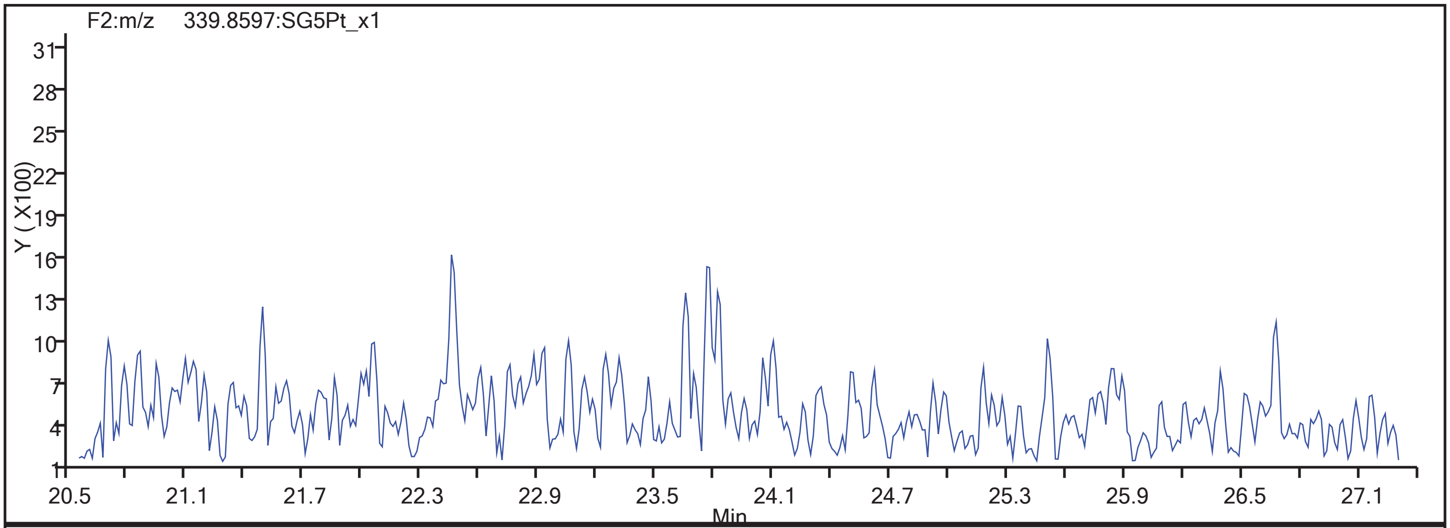
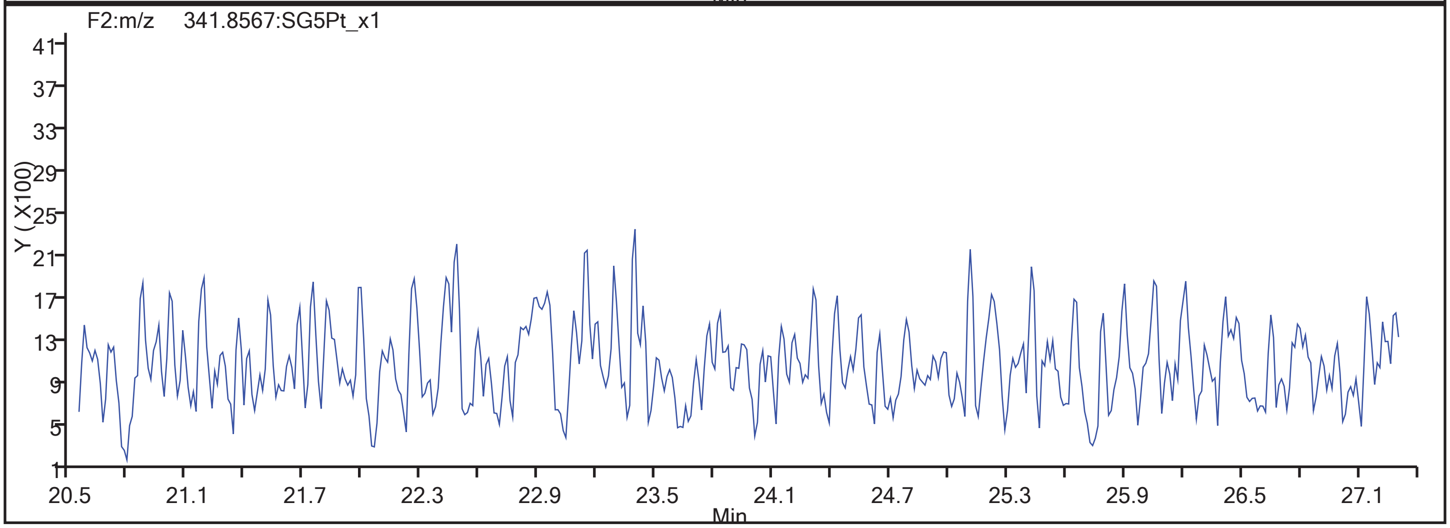
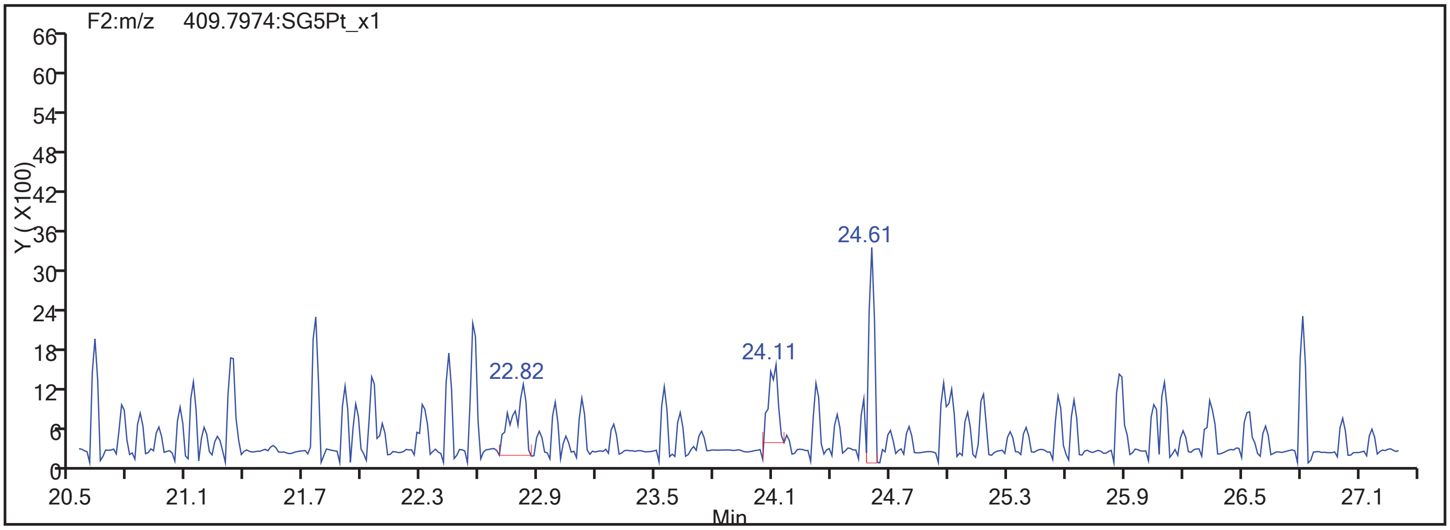
PeCDF





PeCDF Interference Mass



Report Date: 13-Nov-2017 11:18:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d
Injection Date: 11-Nov-2017 09:10:38
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
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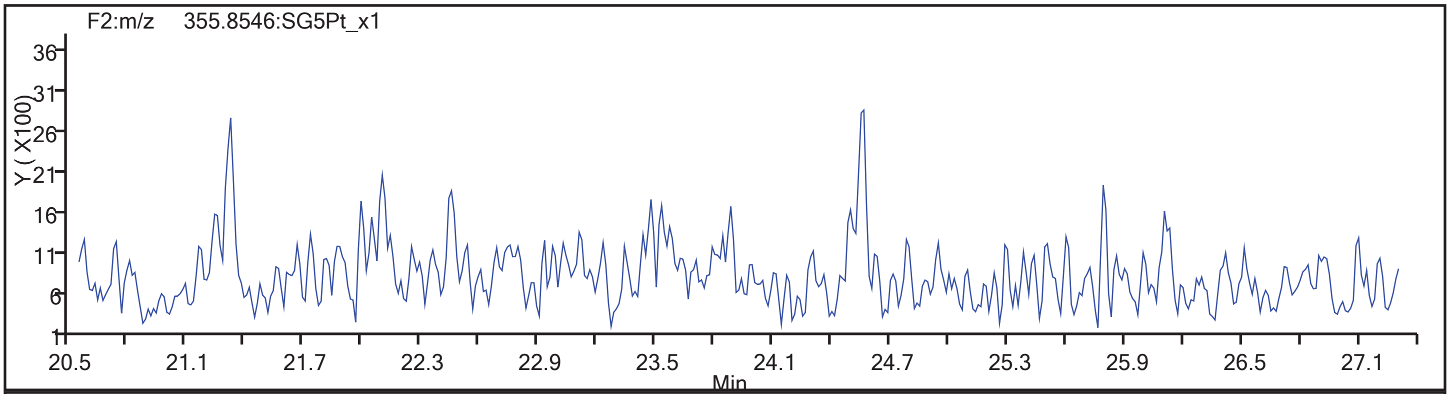
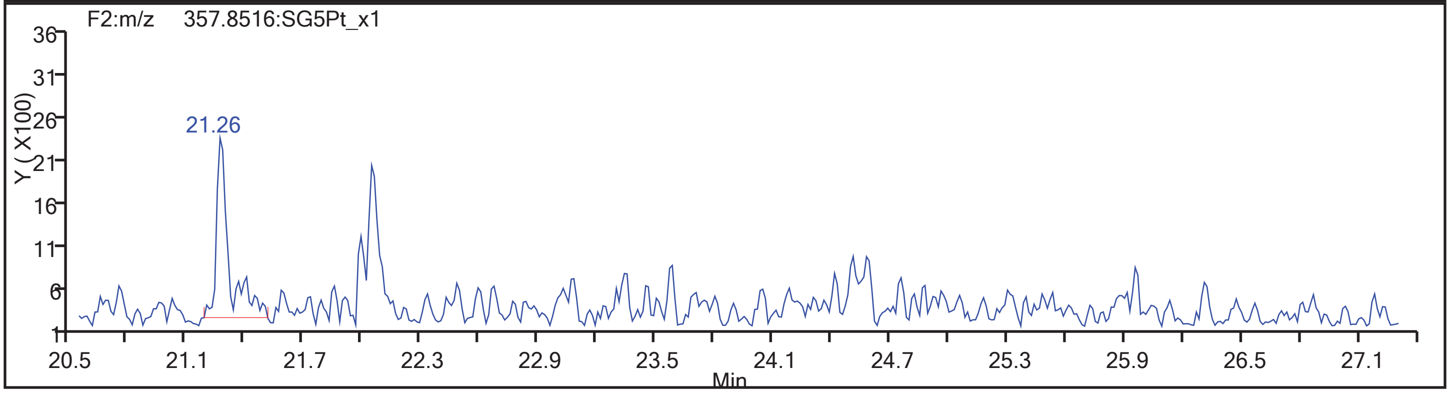
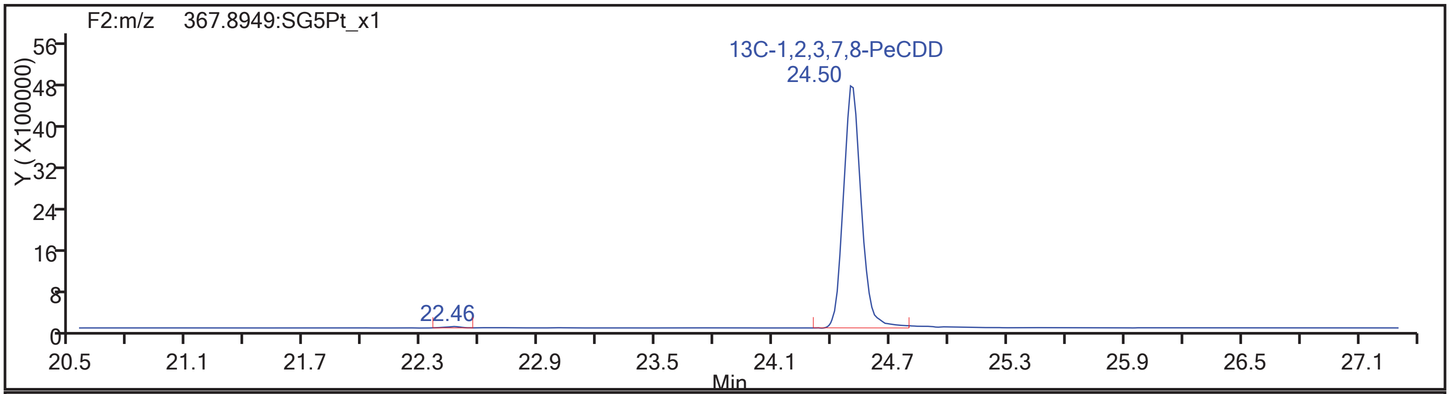
Sample Line#: 62
Column Type: DB-5
Column Dia: 0.32 mm

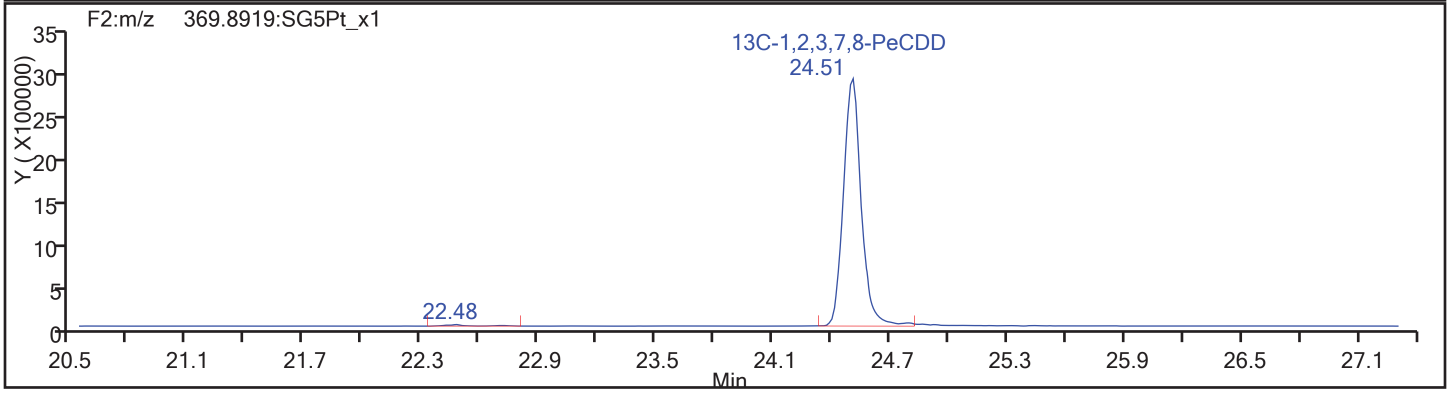
PeCDD





PeCDD Standards





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TestAmerica Sacramento

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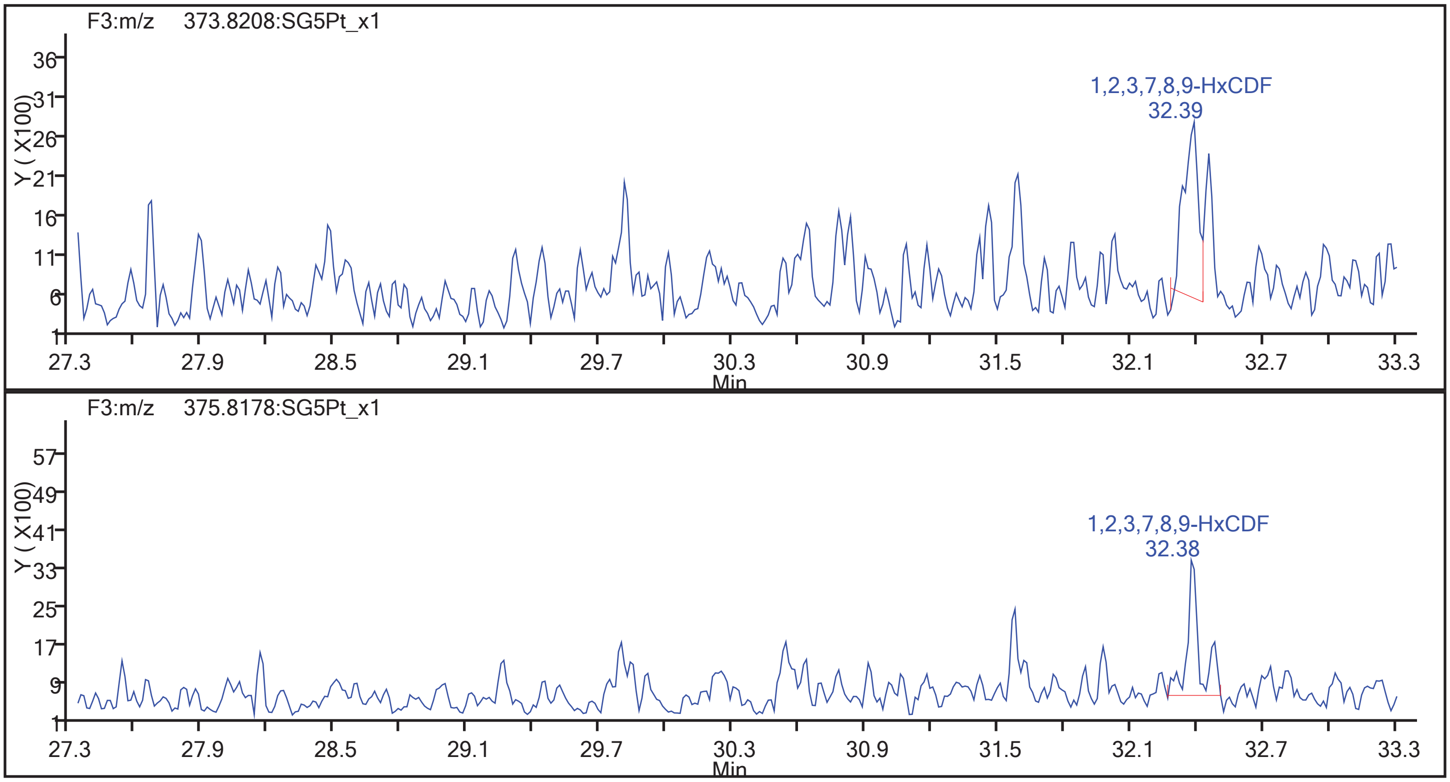
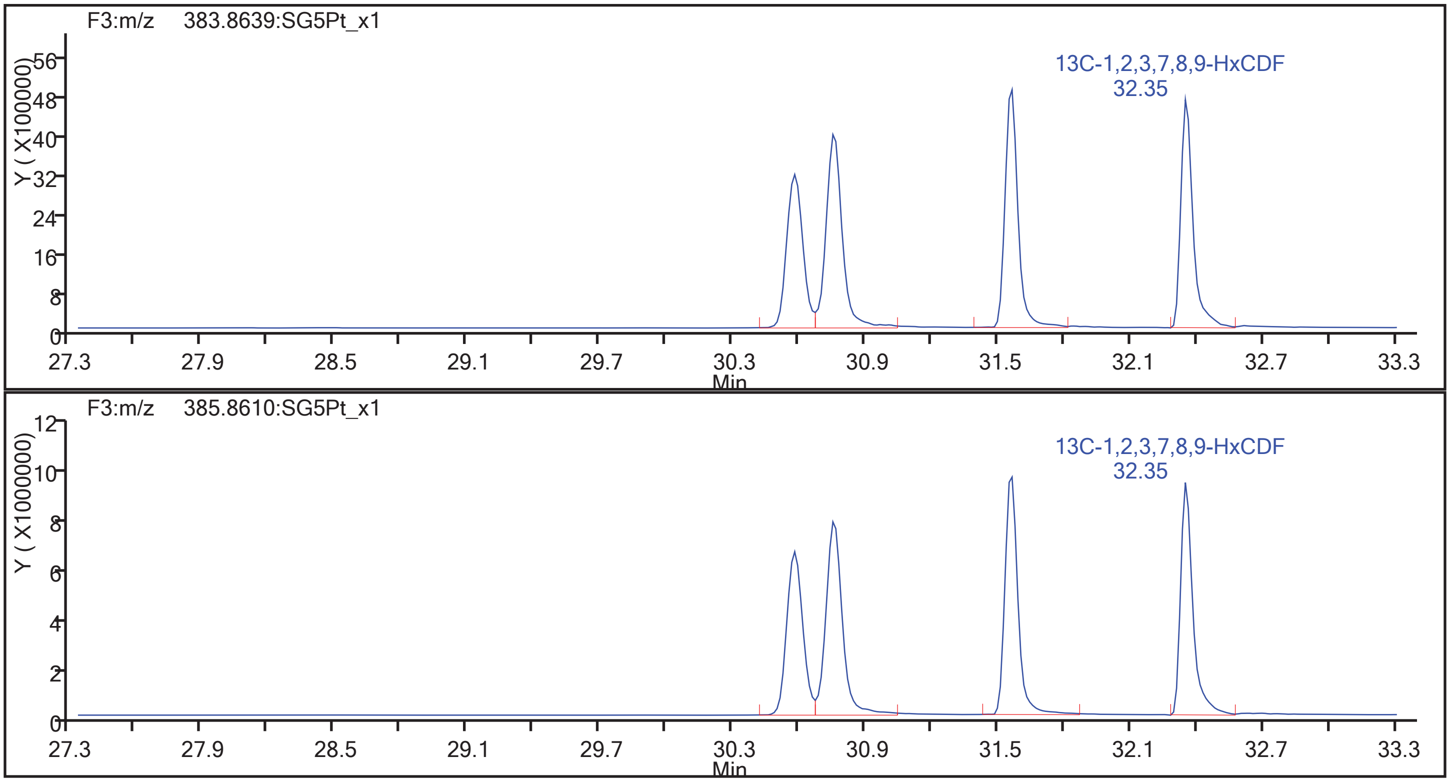
Injection Date: 11-Nov-2017 09:10:38
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05NS
Worklist#: 194084
Sample Line#: 62
Column Type: DB-5
Column Dia: 0.32 mm

HxCDF



HxCDF Standards



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
Injection Date:	11-Nov-2017 09:10:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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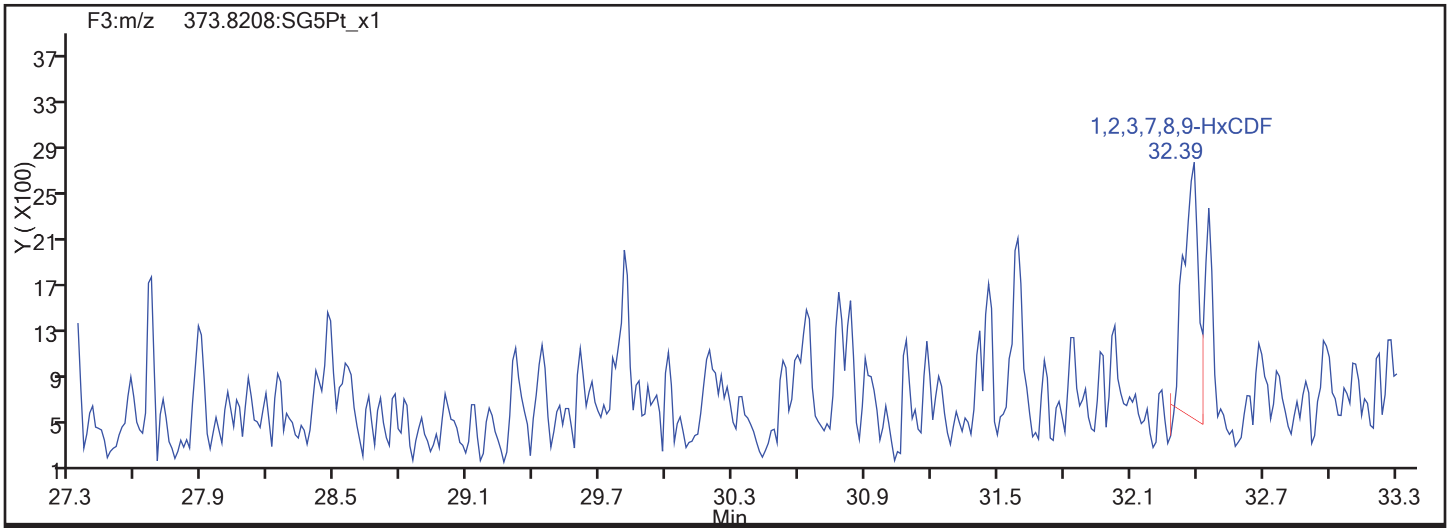
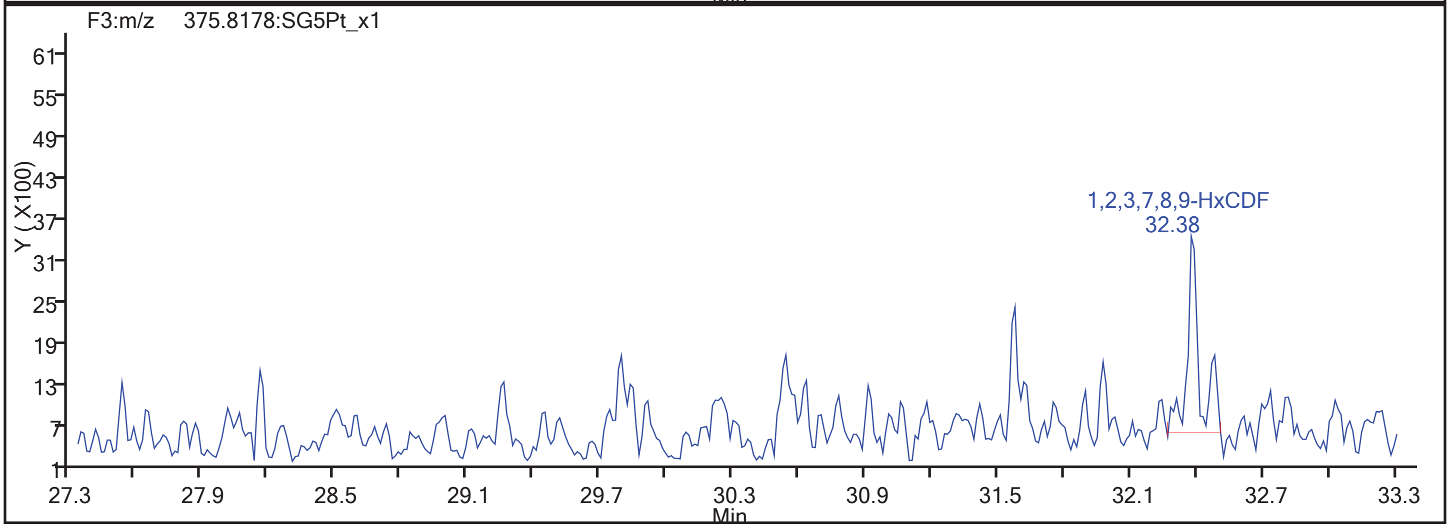
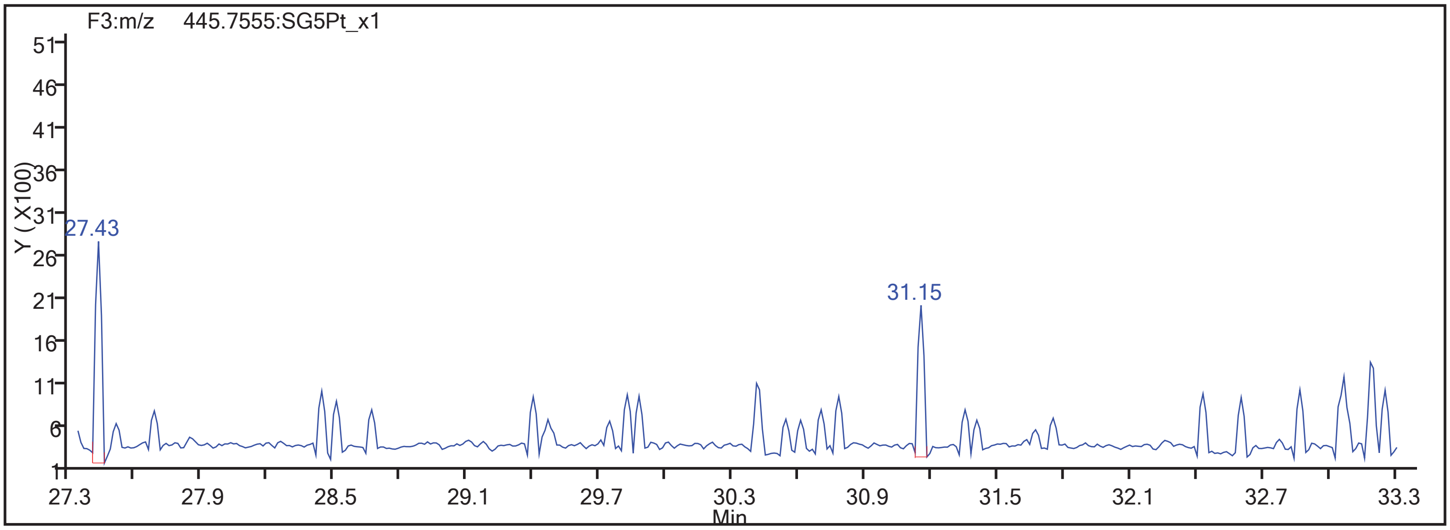
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



TestAmerica Sacramento

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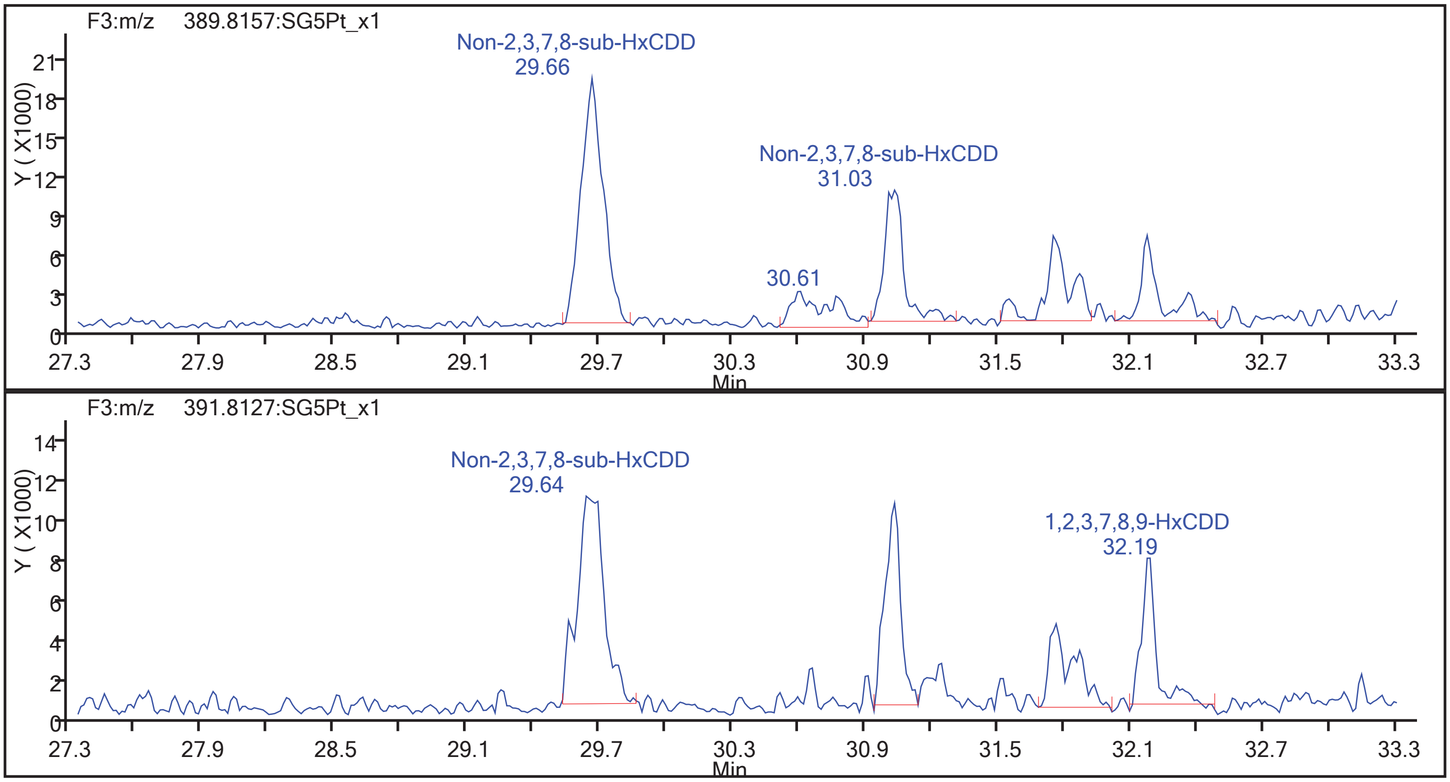
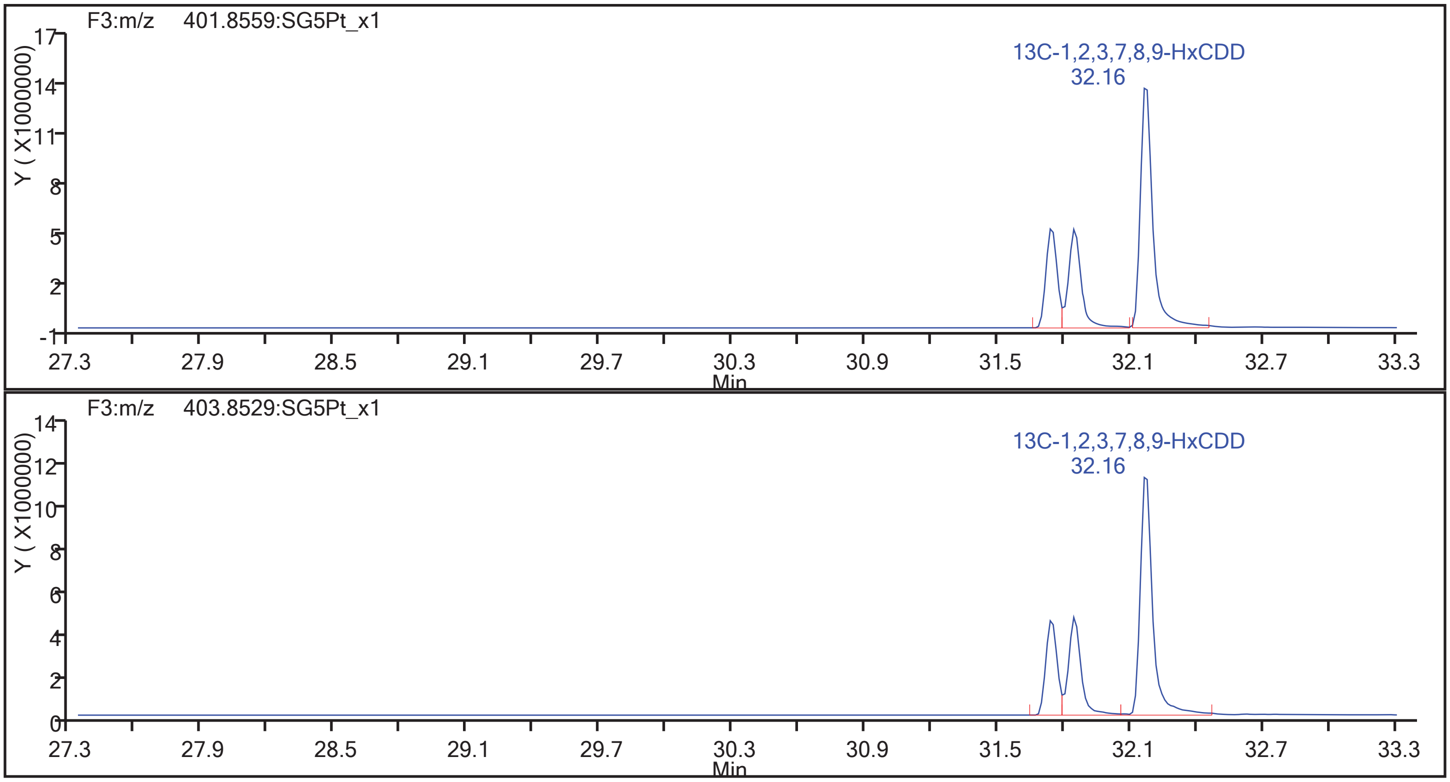
Injection Date: 11-Nov-2017 09:10:38 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05NS
Worklist#: 194084 Sample Line#: 62
Column Type: DB-5 Column Dia: 0.32 mm

HxCDD



HxCDD Standards

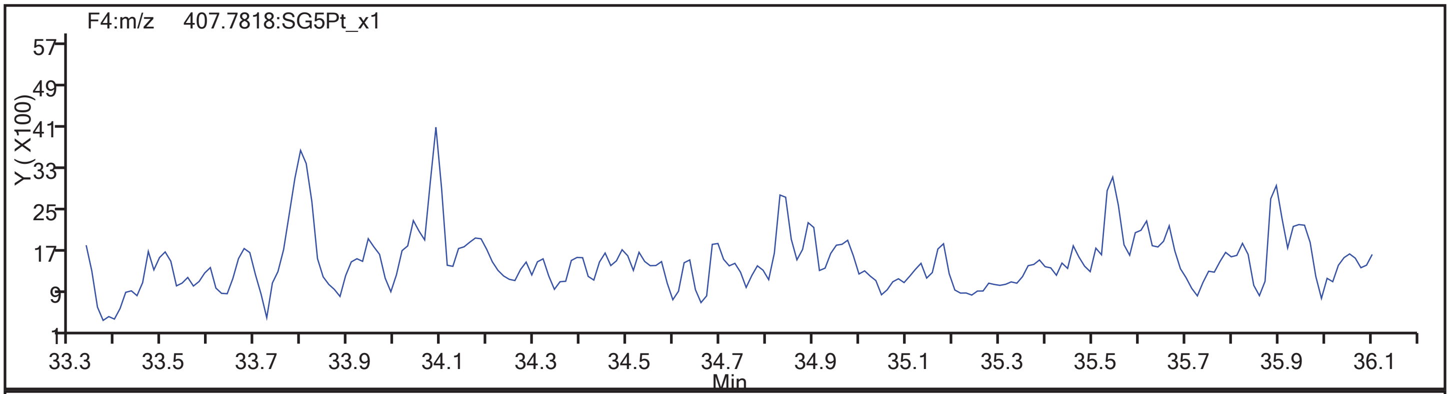


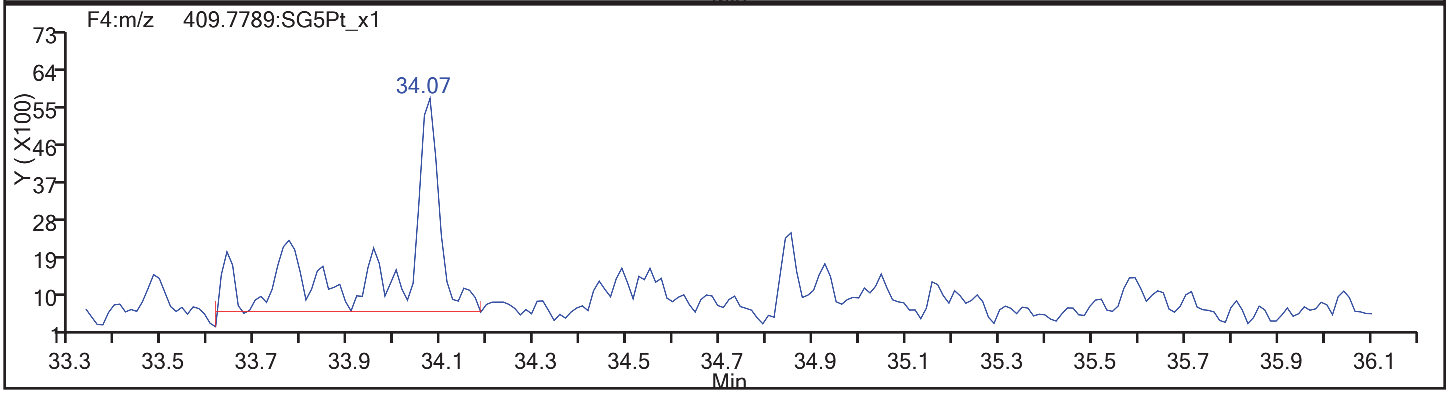
Report Date: 13-Nov-2017 11:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

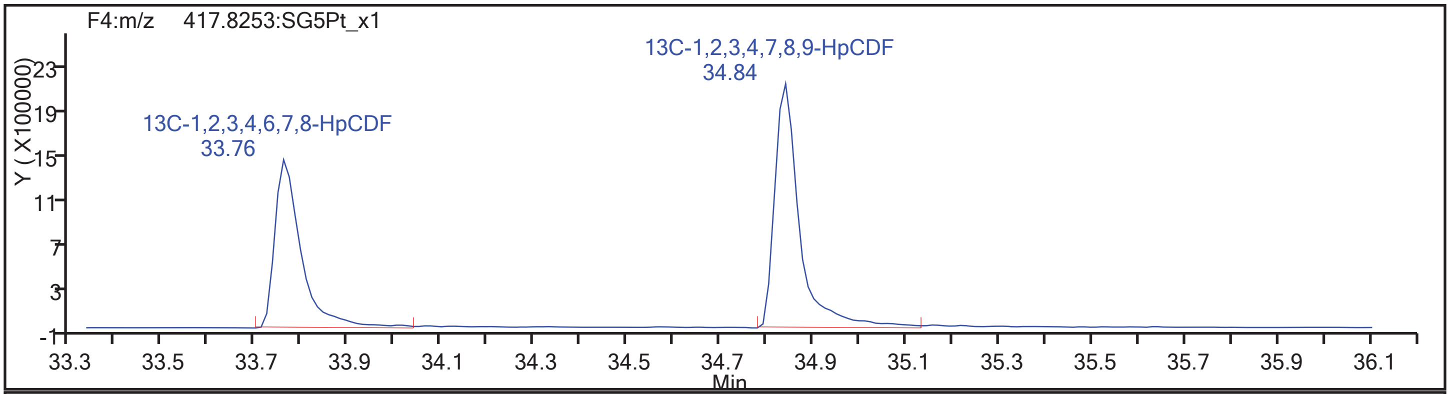
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d
Injection Date: 11-Nov-2017 09:10:38 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05NS
Worklist#: 194084 Sample Line#: 62
Column Type: DB-5 Column Dia: 0.32 mm

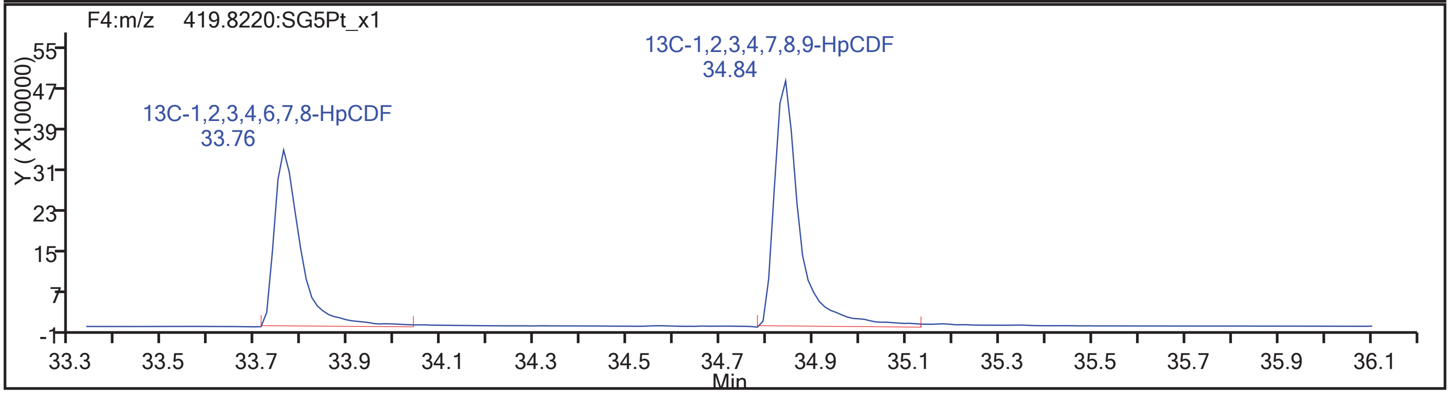
HpCDF





HpCDF Standards



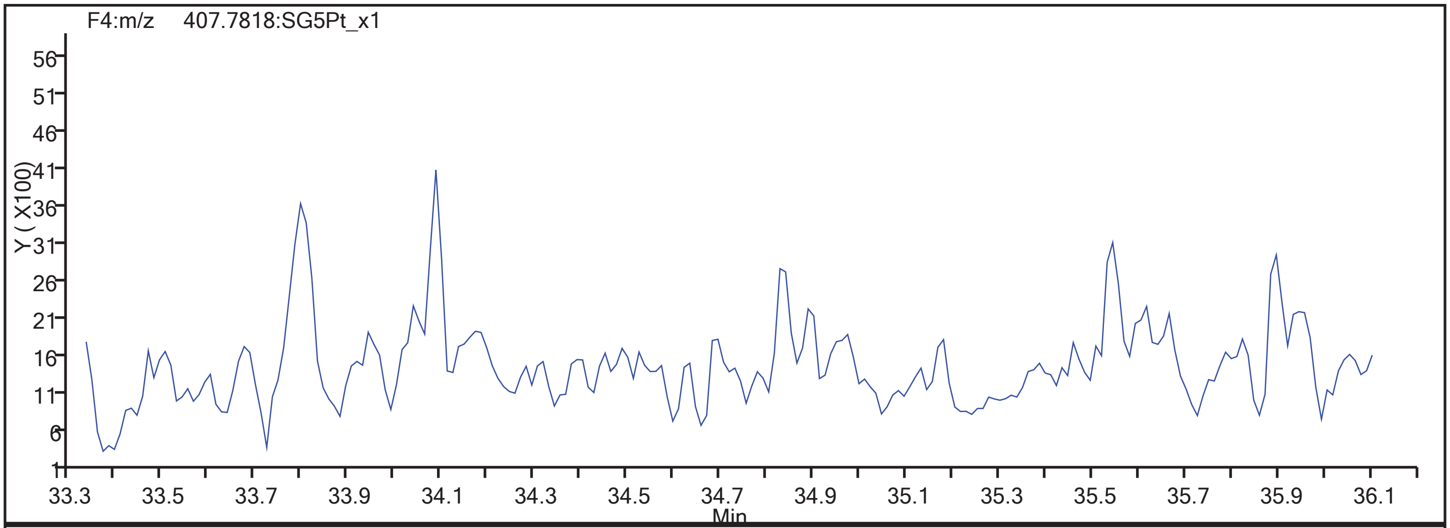


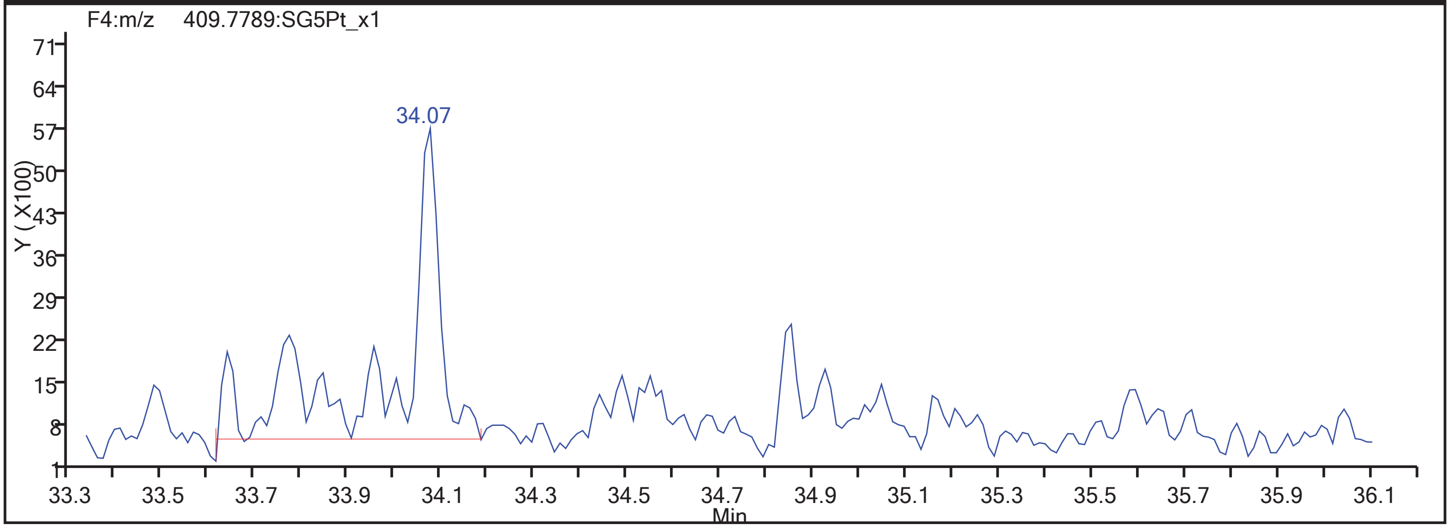
Report Date: 13-Nov-2017 11:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

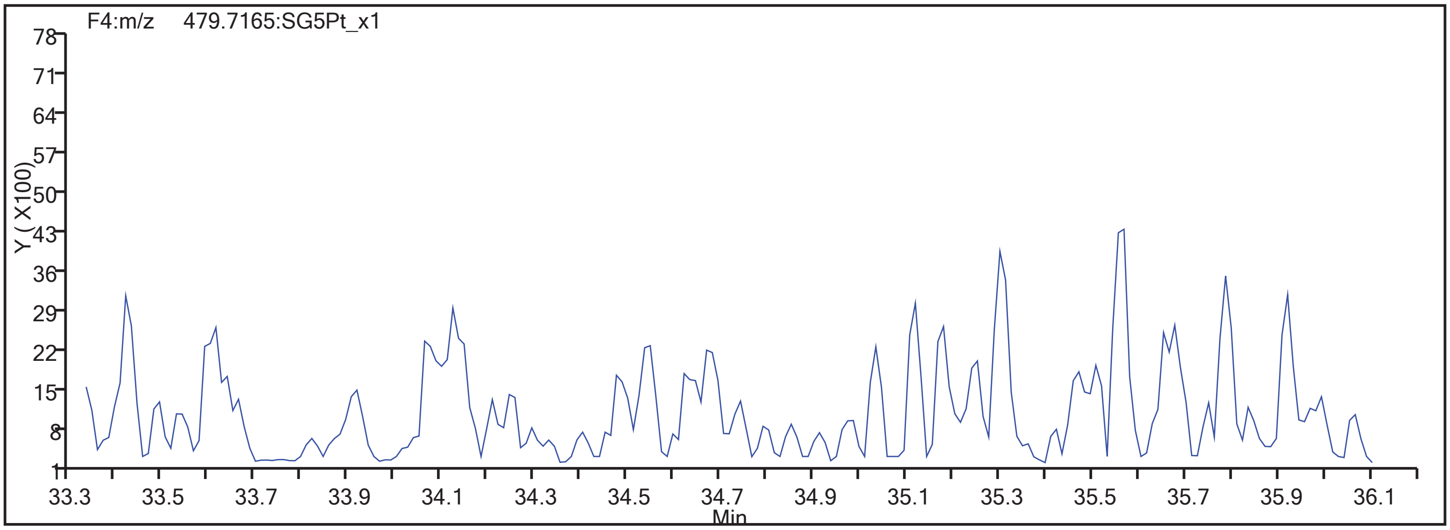
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
Injection Date:	11-Nov-2017 09:10:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	194084	Sample Line#:	62
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



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TestAmerica Sacramento

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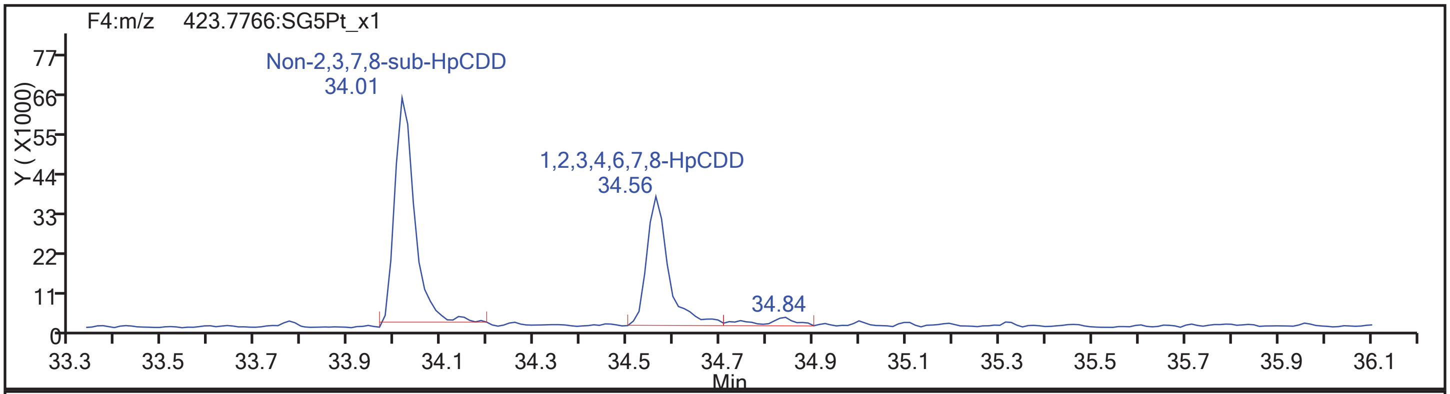
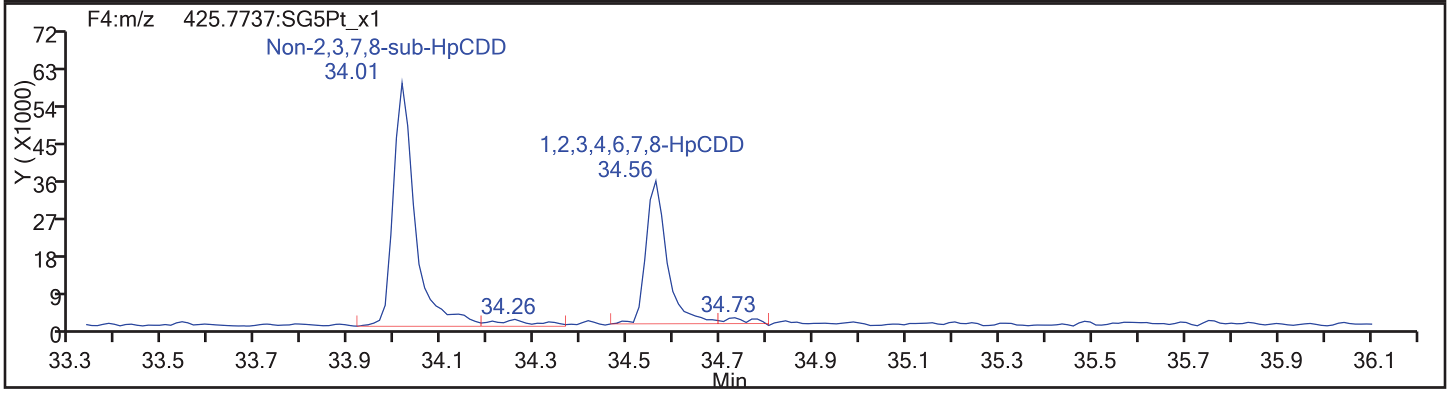
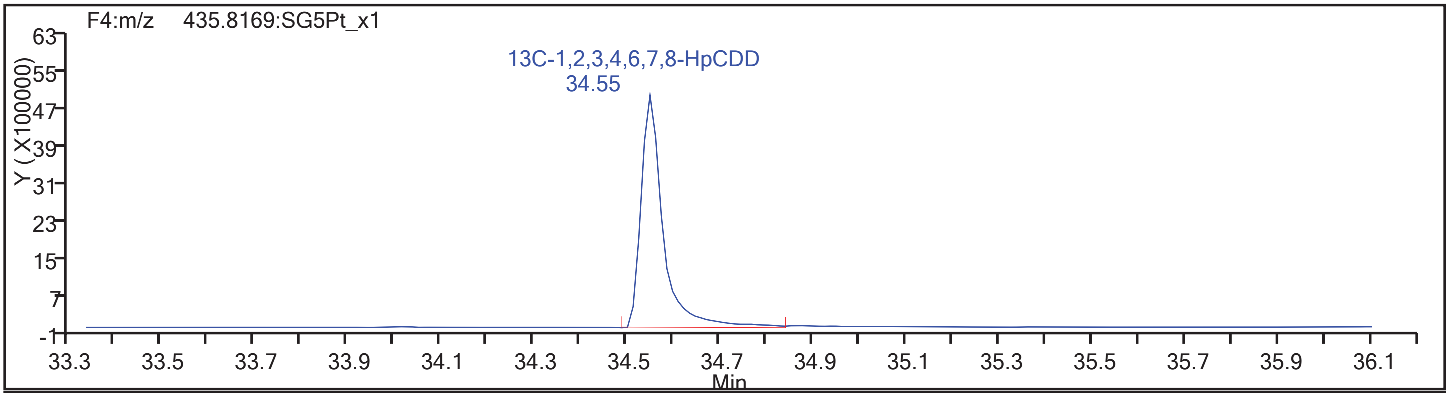
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	194084	Sample Line#:	62
Column Type:	DB-5	Column Dia:	0.32 mm

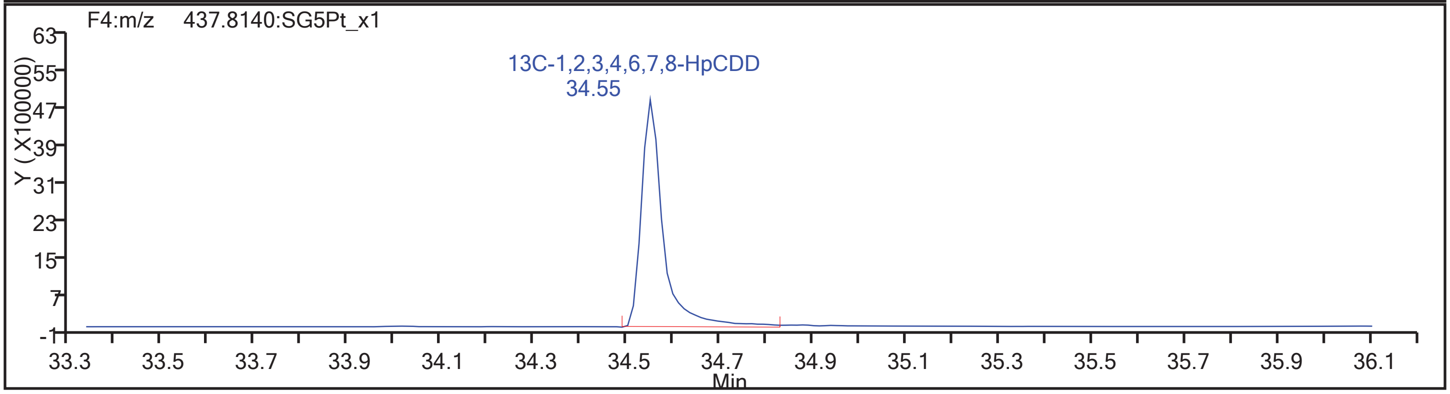
HpCDD





HpCDD Standards



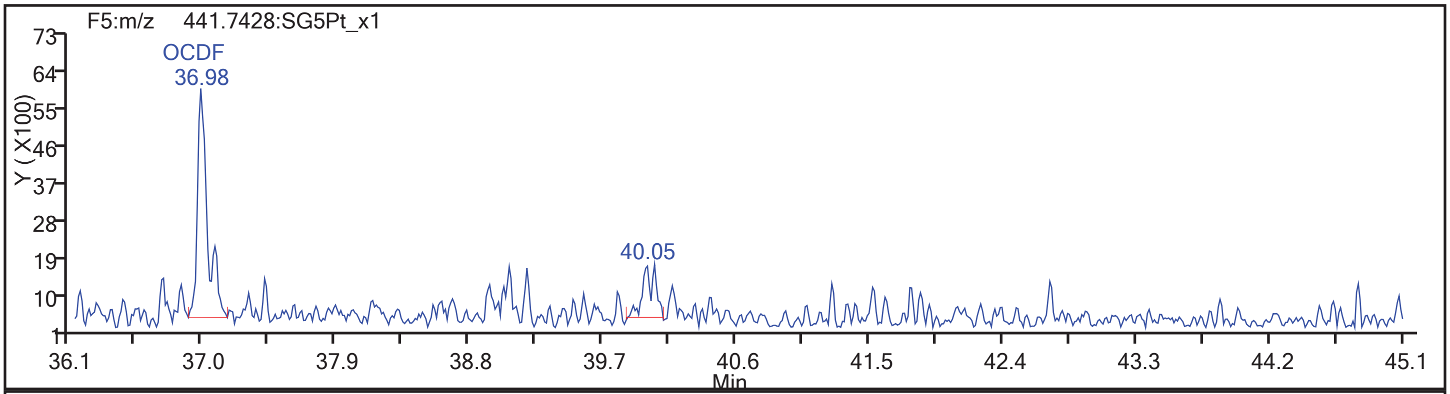


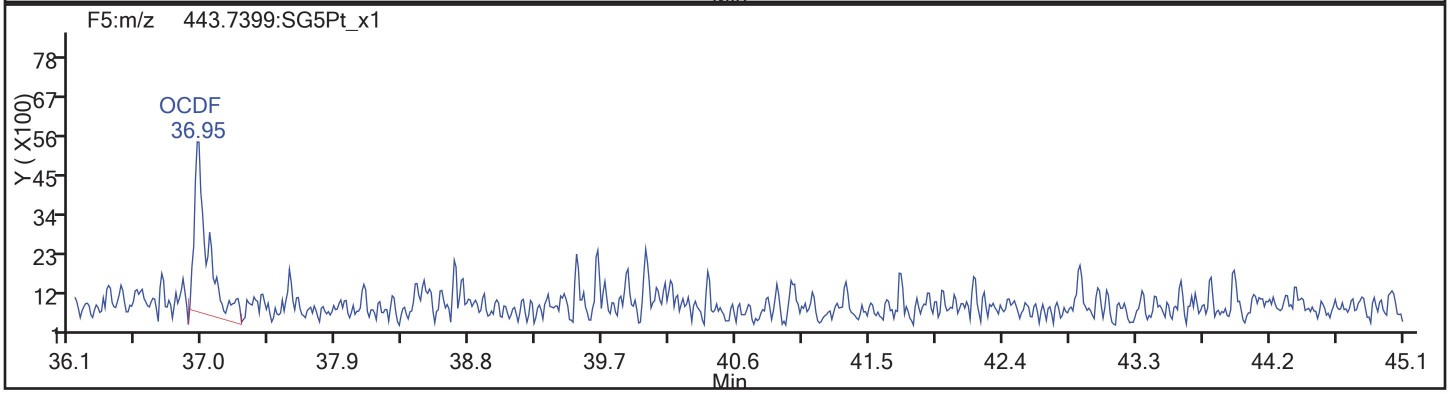
Report Date: 13-Nov-2017 11:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

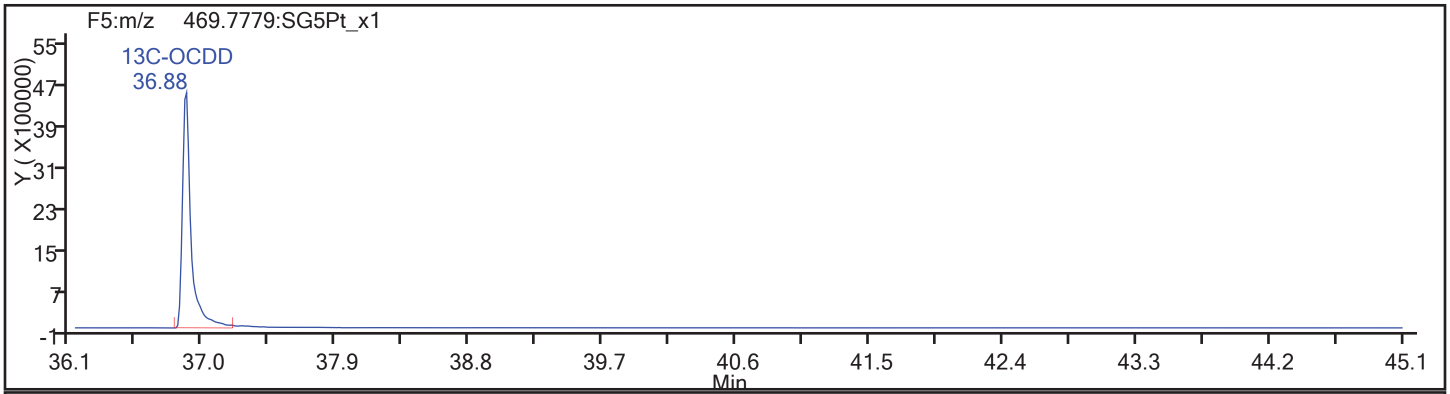
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d
Injection Date: 11-Nov-2017 09:10:38
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05NS
Worklist#: 194084
Sample Line#: 62
Column Type: DB-5
Column Dia: 0.32 mm

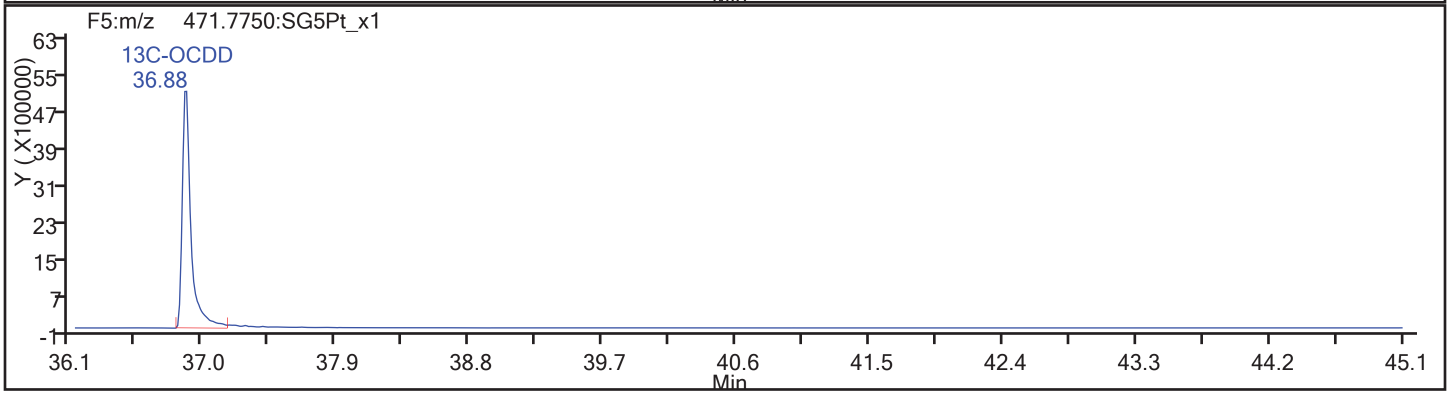
OCDF





OCDF Standards

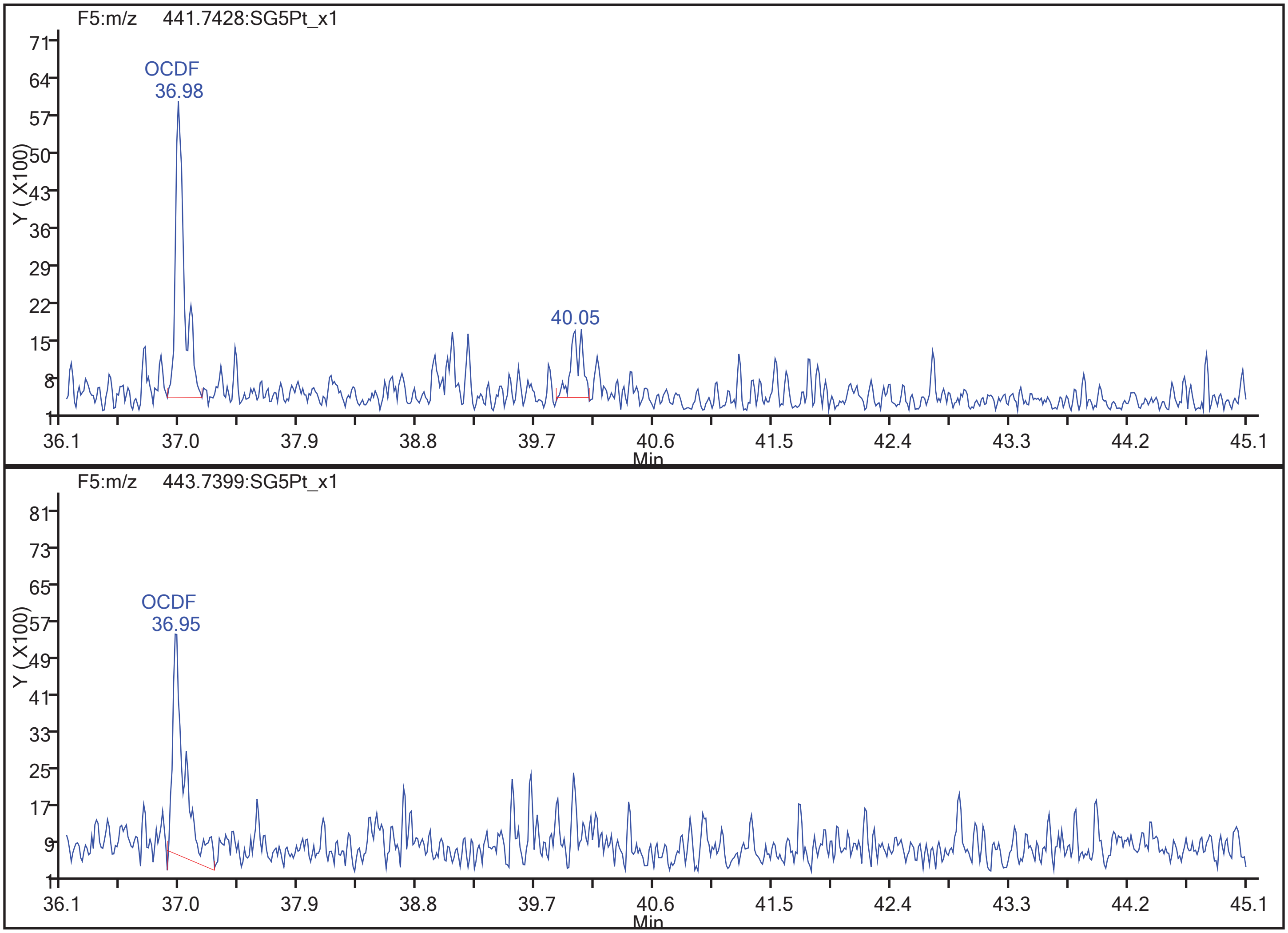




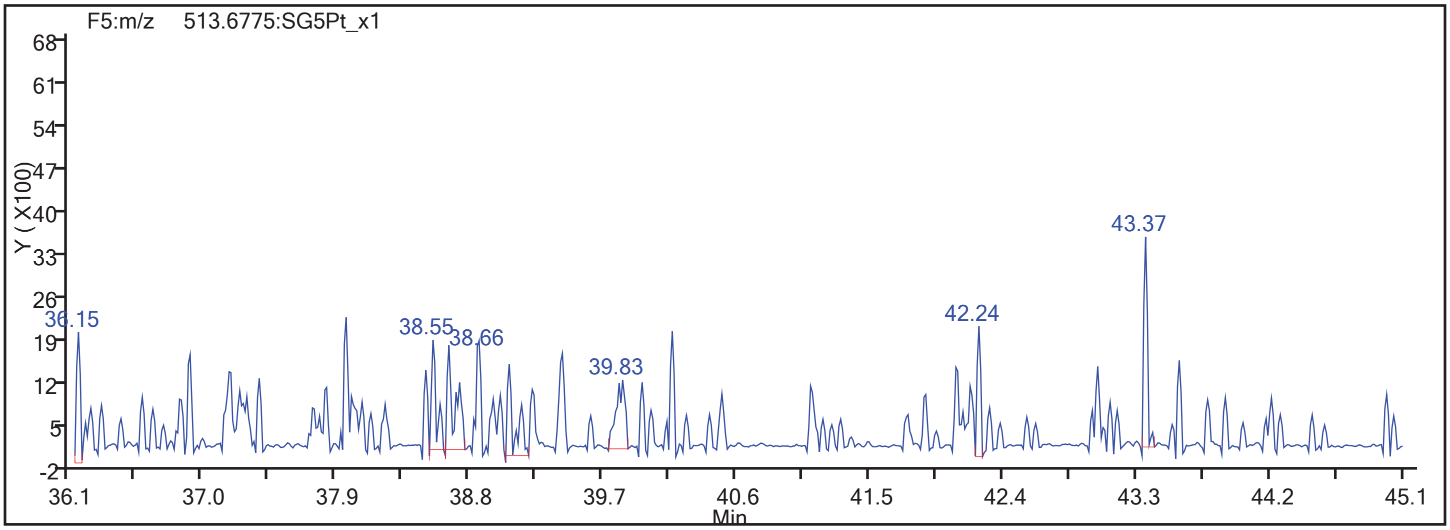
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d
Injection Date: 11-Nov-2017 09:10:38
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05NS
Worklist#: 194084
Sample Line#: 62
Column Type: DB-5
Column Dia: 0.32 mm

OCDF



OCDF Interference Mass

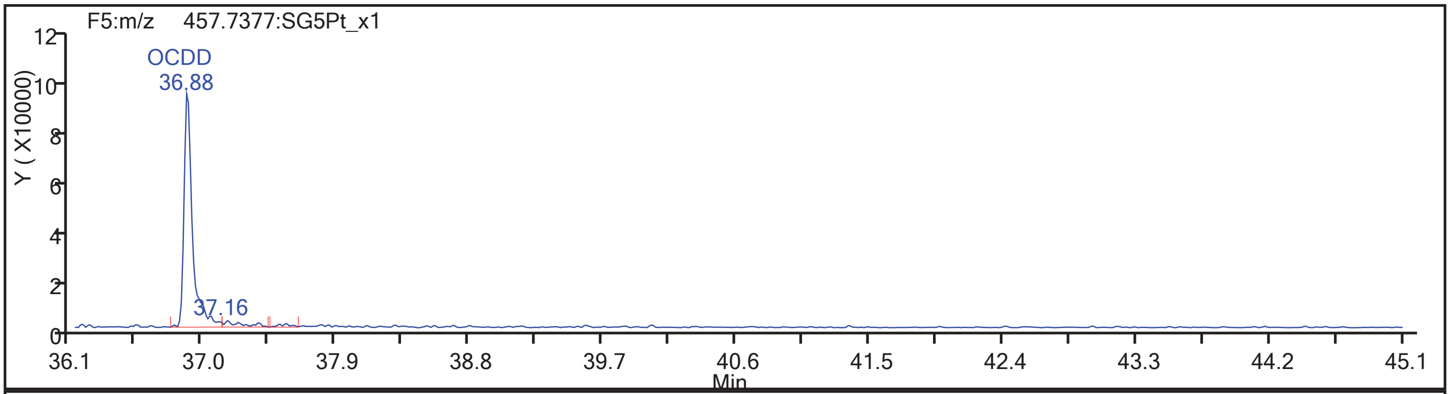


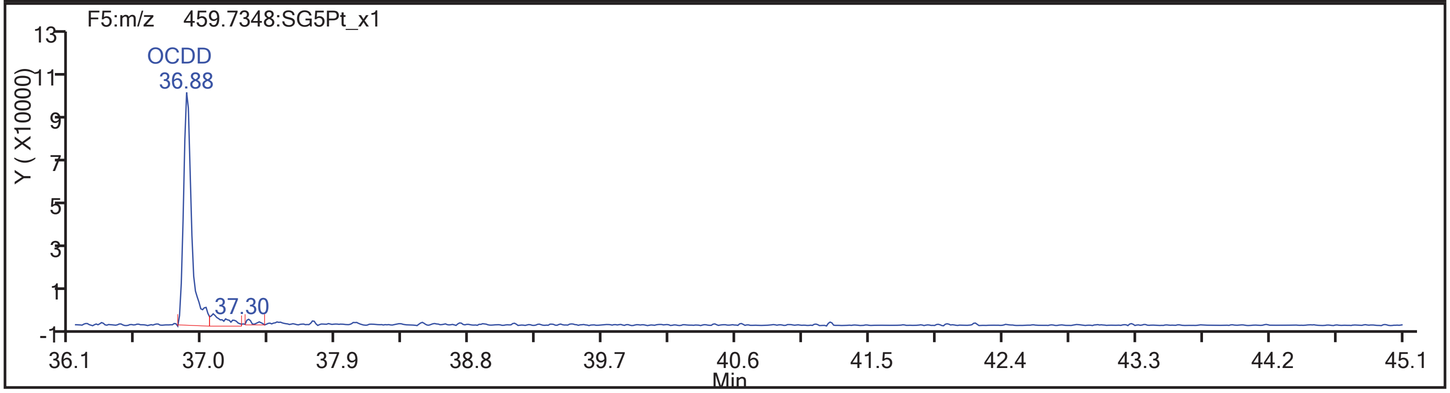
Report Date: 13-Nov-2017 11:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

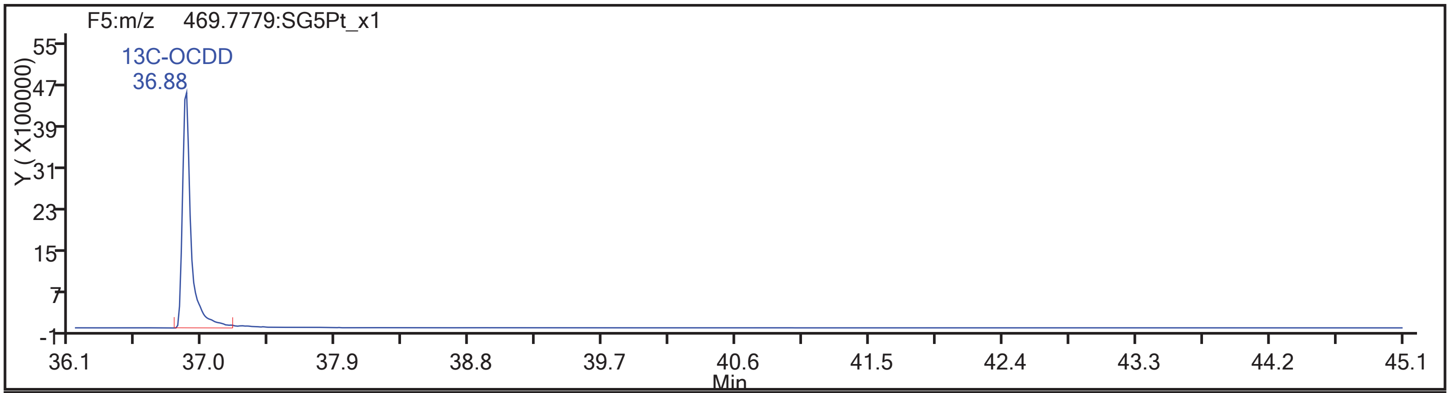
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
Injection Date:	11-Nov-2017 09:10:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	194084	Sample Line#:	62
Column Type:	DB-5	Column Dia:	0.32 mm

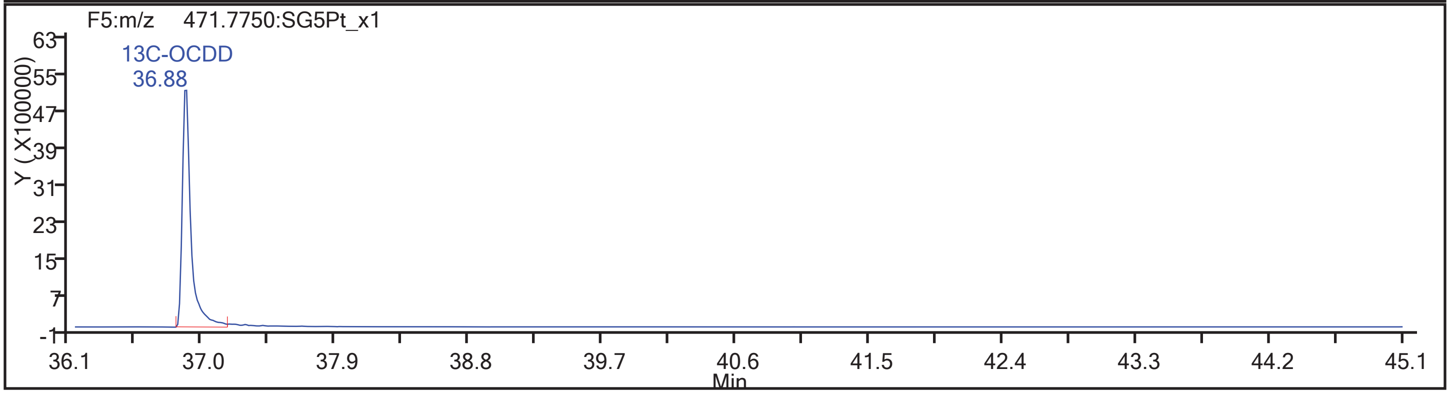
OCDD





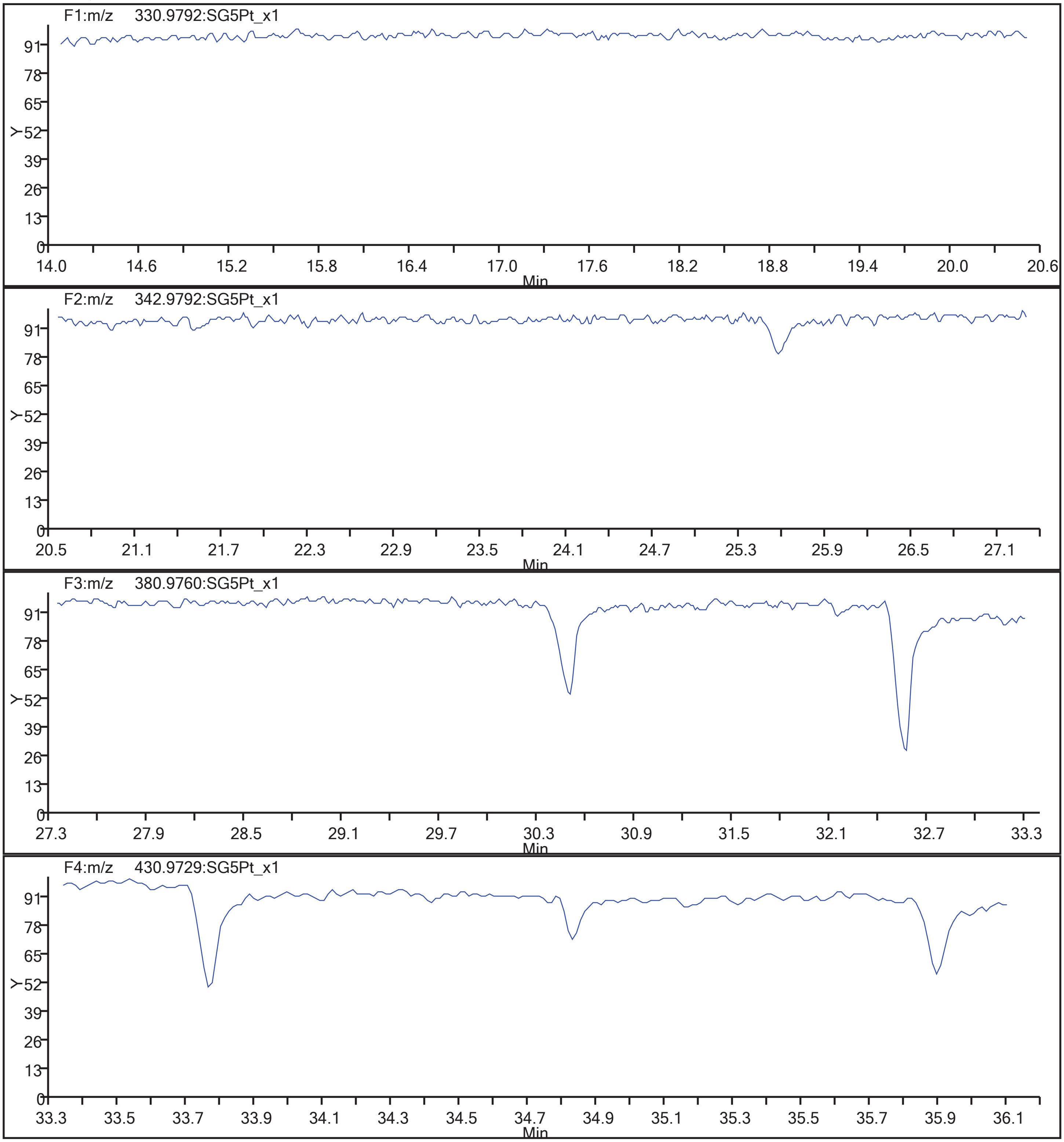
OCDD Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d		
Injection Date:	11-Nov-2017 09:10:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	194084	Sample Line#:	62
Column Type:	DB-5	Column Dia:	0.32 mm

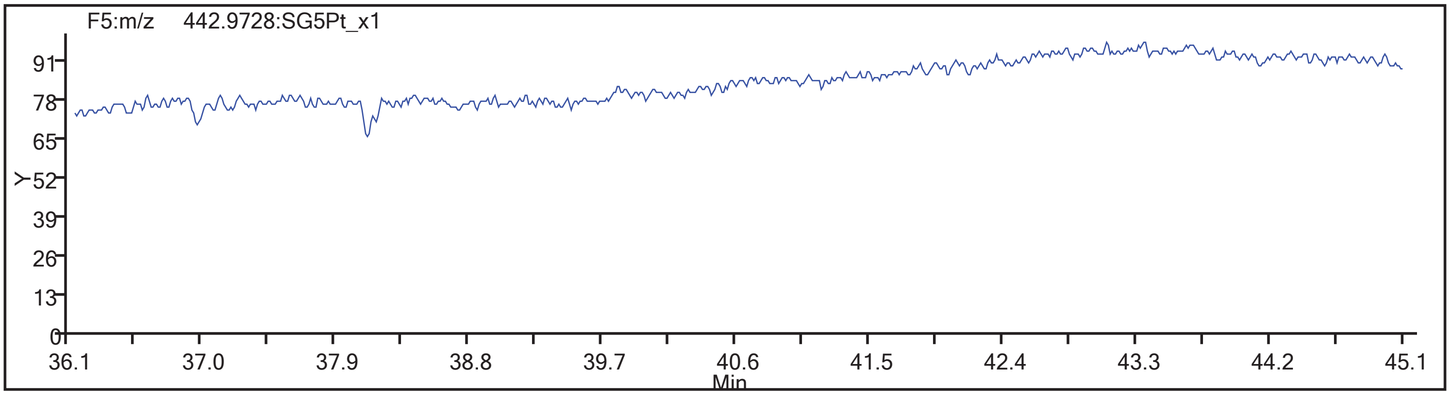


Report Date: 13-Nov-2017 11:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_62.d

Injection Date:	11-Nov-2017 09:10:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	194084	Sample Line#:	62
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP026SS03NS RE	Lab Sample ID: 160-24924-4 RE
Matrix: Solid	Lab File ID: 16NO175D3_65.d
Analysis Method: 8290A	Date Collected: 10/03/2017 16:22
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 9.97(g)	Date Analyzed: 11/18/2017 20:16
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 20.1	GPC Cleanup:(Y/N) N
Analysis Batch No.: 193375	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.50*	*U H*	*1.3*	0.30	*0.10*
51207-31-9	*2,3,7,8-TCDF*	*0.50*	*U H*	*1.3*	0.30	*0.078*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.94*	*U H*	*6.3*	0.94	*0.14*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.94*	*U H*	*6.3*	0.94	*0.093*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.94*	*U H*	*6.3*	0.94	*0.096*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*0.59*	*J H*	*6.3*	2.3	*0.10*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*2.5*	*U H*	*6.3*	2.3	*0.094*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*0.42*	*J H*	*6.3*	2.3	*0.091*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.94*	*U H*	*6.3*	0.94	*0.11*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.3*	*U H*	*6.3*	1.5	*0.10*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.3*	*U H*	*6.3*	1.5	*0.12*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.94*	*U H*	*6.3*	0.94	*0.11*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*3.6*	*J H M*	*6.3*	1.5	*0.18*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*0.39*	*J H*	*6.3*	1.5	*0.15*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.5*	*U H*	*6.3*	2.3	*0.20*
3268-87-9	*OCDD*	*31*	*H B*	*13*	3.0	*0.23*
39001-02-0	*OCDF*	*2.7*	*J H*	*13*	3.0	*0.20*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76325-40-3	15C-2,5,7,8-TCDD	39		40-153
89039-46-1	15C-2,5,7,8-TCDF	39		40-153
109719-79-1	15C-1,2,5,7,8-PeCDD	60		40-153
109719-77-9	15C-1,2,5,7,8-PeCDF	60		40-153
109719-81-3	15C-1,2,5,6,7,8-HxCDD	38		40-153
114425-98-2	15C-1,2,5,4,7,8-HxCDF	37		40-153
109719-85-7	15C-1,2,5,4,6,7,8-HpCDD	37		40-153
109719-84-8	15C-1,2,5,4,6,7,8-HpCDF	49		40-153
114425-97-1	15C-OCDD	31		40-153

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d
Lims ID: 160-24924-G-4-B
Client ID: SHAD041DP026SS05NS
Sample Type: Client
Inject. Date: 18-Nov-2017 20:16:23 ALS Bottle#: 43 Worklist Smp#: 63
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-4-B 160-24924-G-4-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:11:48 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:24:39

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	130124391	0.82	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	115762603	0.81	1.5089	59.0	59.0	0.3029	0.3029	58.96	
2,3,7,8-TCDF	17.720						0.0312	0.0312		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF							0.0312	0.0312		
D 13C-2,3,7,8-TCDD	18.445	75439010	0.84	0.9906	58.5	58.5	0.1968	0.1968	58.53	
2,3,7,8-TCDD	18.461						0.0416	0.0416		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD							0.0416	0.0416		
D 13C-1,2,3,7,8-PeCDF	22.883	88132356	1.58	1.1280	60.0	60.0	0.1955	0.1955	60.04	
1,2,3,7,8-PeCDF	22.910						0.0371	0.0371		
2,3,4,7,8-PeCDF	24.301						0.0381	0.0381		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF							0.0381	0.0381		
D 13C-1,2,3,7,8-PeCDD	25.010	56451774	1.64	0.7269	59.7	59.7	0.1624	0.1624	59.69	
1,2,3,7,8-PeCDD	25.037						0.0576	0.0576		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0576	0.0576		
D 13C-1,2,3,4,7,8-HxCDF	30.919	66576983	0.52	1.0279	56.7	56.7	0.2797	0.2797	56.66	
1,2,3,4,7,8-HxCDF	30.932						0.0451	0.0451		
1,2,3,6,7,8-HxCDF	31.092						0.0411	0.0411		
2,3,4,6,7,8-HxCDF	31.838						0.0439	0.0439		
D 13C-1,2,3,7,8,9-HxCDF	32.583	69259017	0.51							
1,2,3,7,8,9-HxCDF	32.597						0.0471	0.0471		
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF							0.0471	0.0471		
* 13C-1,2,3,7,8,9-HxCDD	32.397	114317367	1.27	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.117	141058	1.24	1.0646	0.2576	0.2354	0.0417	0.0417		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.091	56294068	1.30	0.8502	57.9	57.9	0.2145	0.2145	57.92	
1,2,3,6,7,8-HxCDD	32.117						0.0376	0.0376		RQU

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.397	116653	1.11	1.2311	0.1683	0.1683	0.0361	0.0361		
A Non-2,3,7,8-sub-HxCDD	31.252	476194	1.24	1.1589	0.7971	0.7299	0.0383	0.5284		RQ
S Total HxCDD					1.223	1.134	0.0385	0.0385		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	36576705	0.45	0.6490	49.3	49.3	0.5506	0.5506	49.30	
1,2,3,4,6,7,8-HpCDF	34.010	90275	1.15	1.5871	0.1555	0.1555	0.0607	0.0607		
1,2,3,4,7,8,9-HpCDF	35.128						0.0784	0.0784		
A Non-2,3,7,8-sub-HpCDF	34.569	210214	0.89	1.4080	0.4082	0.4082	0.0684	0.4082		M
S Total HpCDF					0.5637	0.5637	0.0695	0.0695		
D 13C-1,2,3,4,6,7,8-HpCDD	34.812	34811082	1.04	0.5387	56.5	56.5	0.3304	0.3304	56.53	
1,2,3,4,6,7,8-HpCDD	34.824	573271	1.04	1.1631	1.564	1.416	0.0729	0.0729		RQM
A Non-2,3,7,8-sub-HpCDD	35.261	823471	1.04	1.1631	2.034	2.034	0.0729	2.034		M
S Total HpCDD					3.598	3.450	0.0729	0.0729		RQ
D 13C-OCDD	37.233	46586313	0.90	0.4009	101.6	101.6	0.1673	0.1673	50.82	
OCDF	37.353	319836	0.89	1.2649	1.199	1.086	0.0795	0.0795		RQ
OCDD	37.245	3008762	0.90	1.0390	12.4	12.4	0.0907	0.0907		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d
Lims ID: 160-24924-G-4-B
Client ID: SHAD041DP026SS05NS
Sample Type: Client
Inject. Date: 18-Nov-2017 20:16:23 ALS Bottle#: 43 Worklist Smp#: 63
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-4-B 160-24924-G-4-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:11:48 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:24:39

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		58699033	13899407	14944	37360	930		
333.9339	18.234	18.234	0		71425358	17370512	9437	23592	1841	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.972	51690054	11924743	39147	97867	305		
317.9389	17.705	17.705	0	0.971	64072549	14737351	18024	45060	818	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						1127	2817			
305.8987	17.720						2520	6300			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						1127	2817			
305.8987	17.402						2520	6300			
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.012	34530672	7677765	14944	37360	514		
333.9339	18.445	18.430	1	1.012	40908338	9009326	9437	23592	955	0.84(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461						2061	5152			
321.8936	18.461						1170	2925			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						2061	5152			
321.8936	17.871						1170	2925			
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.883	0	1.255	54011901	9113442	16086	40215	567		
353.8970	22.883	22.883	0	1.255	34120455	5925085	11497	28742	515	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						918	2295			
341.8567	22.910						1629	4072			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	24.301						918	2295			
341.8567	24.301						1629	4072			
A F1 PeCDFs											
339.8597	20.426						625	1562			
341.8567	20.426						1411	3527			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						918	2295			
341.8567	23.668						1629	4072			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.372	35077198	5291412	7197	17992	735		
369.8919	25.010	25.010	0	1.372	21374576	3218615	7566	18915	425	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037						1562	3905			
357.8516	25.037						647	1617			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1562	3905			
357.8516	23.878						647	1617			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.919	0	0.954	22818288	4880937	12647	31617	386		
385.8610	30.919	30.919	0	0.954	43758695	9342747	23140	57850	404	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						1594	3985			
375.8178	30.932						1864	4660			
1,2,3,6,7,8-HxCDF											
373.8208	31.092						1594	3985			
375.8178	31.092						1864	4660			
2,3,4,6,7,8-HxCDF											
373.8208	31.838						1594	3985			
375.8178	31.838						1864	4660			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.006	23279058	6561448	12647	31617	519		
385.8610	32.583	32.583	0	1.006	45979959	12744012	23140	57850	551	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						1594	3985			
375.8178	32.597						1864	4660			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						1594	3985			
375.8178	30.653						1864	4660			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.397	32.410	-1		63886144	17357715	13989	34972	1241		
403.8529	32.397	32.410	-1		50431223	13761735	8716	21790	1579	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	32.117	32.011	6	1.001	78086	11802	1391	3477	8		
391.8127	32.104	32.011	6	1.000	76319	11285	1250	3125	9	1.02(1.05-1.43)	
	Empc Correction				62972	9517	1250	3125	8		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.991	31793934	8381997	13989	34972	599		
403.8529	32.091	32.091	0	0.991	24500134	6477528	8716	21790	743	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	32.117						1391	3477			
391.8127	32.117						1250	3125			
1,2,3,7,8,9-HxCDD											
389.8157	32.397	32.424	-2	1.010	61393	12579	1391	3477	9		
391.8127	32.410	32.424	-1	1.010	55260	9119	1250	3125	7	1.11(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.147	31.252	-66	0.939	185110	26236	1391	3477	19		
391.8127	30.147	31.252	-66	0.939	159633	22978	1250	3125	18	1.16(1.05-1.43)	
389.8157	31.319	31.252	4	0.976	72768	18122	1391	3477	13		
391.8127	31.332	31.252	5	0.976	102498	20379	1250	3125	16	0.71(1.05-1.43)	
	Empc Correction				58683	14614	1250	3125	12		
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	11284914	3550955	15572	38930	228		
419.8220	33.998	33.998	0	1.049	25291791	8377528	28906	72265	290	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.010	34.010	0	1.000	48383	17679	2504	6260	7		
409.7789	33.998	34.010	-1	1.000	41892	14207	2093	5232	7	1.15(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						2504	6260			
409.7789	35.128						2093	5232			
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.313	34.569	-15	1.009	98858	29163	2504	6260	12		M
409.7789	34.313	34.569	-15	1.009	111356	30476	2093	5232	15	0.89(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.812	34.812	0	1.075	17746780	5463435	11610	29025	471		
437.8140	34.812	34.812	0	1.075	17064302	5325105	10546	26365	505	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RQM
423.7766	34.824	34.824	0	1.000	292256	93303	1944	4860	48		M
425.7737	34.824	34.824	0	1.000	340896	108065	1714	4285	63	0.86(0.88-1.20)	M
	Empc Correction				281015	89714	1714	4285	52		
A Non-2,3,7,8-sub-HpCDD											M
423.7766	34.253	35.261	-60	0.984	420066	153964	1944	4860	79		M
425.7737	34.253	35.261	-60	0.984	403405	123058	1714	4285	72	1.04(0.88-1.20)	M
13C-OCDD											
469.7779	37.233	37.245	-1	1.149	22013085	5752196	5027	12567	1144		
471.7750	37.233	37.245	-1	1.149	24573228	6433751	3320	8300	1938	0.90(0.76-1.02)	
OCDF											RQ
441.7428	37.353	37.353	0	1.003	150611	36278	715	1787	51		
443.7399	37.341	37.353	-1	1.003	202706	57435	1737	4342	33	0.74(0.76-1.02)	
	Empc Correction				169225	40761	1737	4342	23		
OCDD											
457.7377	37.245	37.257	-1	1.000	1423672	369773	1224	3060	302		
459.7348	37.245	37.257	-1	1.000	1585090	420993	1073	2682	392	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d		
Lims ID:	160-24924-G-4-B		
Client ID:	SHAD041DP026SS05NS		
Inject. Date:	18-Nov-2017 20:16:23	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	63

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	56294068	14859525
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	56294068	14859525

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.147	185110	26236	159633	22978	0.5284	1.16	
31.319	72768	18122	102498	20379	0.2687	0.71	RQ
31.319	72768	18122	58683	14614	0.2015		Empc Correction
Signal Totals:							
	257878	44358	218316	37592			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	520009	87715				0.98	RQ
	476194	81950					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7971 = (520009 * 100.000) / (56294068 * 1.159)
Empc Amount: 0.7299 = (476194 * 100.000) / (56294068 * 1.159)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d
Lims ID: 160-24924-G-4-B
Client ID: SHAD041DP026SS05NS
Inject. Date: 18-Nov-2017 20:16:23
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195573
Lims Sample ID: 63

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	36576705	11928483
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	36576705	11928483

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.313	98858	29163	111356	30476	0.4082	0.89	M
Signal Totals:							
	98858	29163	111356	30476			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	210214	59639				0.89	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4082 = (210214 * 100.000) / (36576705 * 1.408)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d		
Lims ID:	160-24924-G-4-B		
Client ID:	SHAD041DP026SS05NS		
Inject. Date:	18-Nov-2017 20:16:23	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	63

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF   IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	34811082	10788540

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	34811082	10788540

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.253	420066	153964	403405	123058	2.03	1.04	M
Signal Totals:							
	420066	153964	403405	123058			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	823471	277022				1.04	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.034 = (823471 * 100.000) / (34811082 * 1.163)

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 06-Dec-2017 14:11:52

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

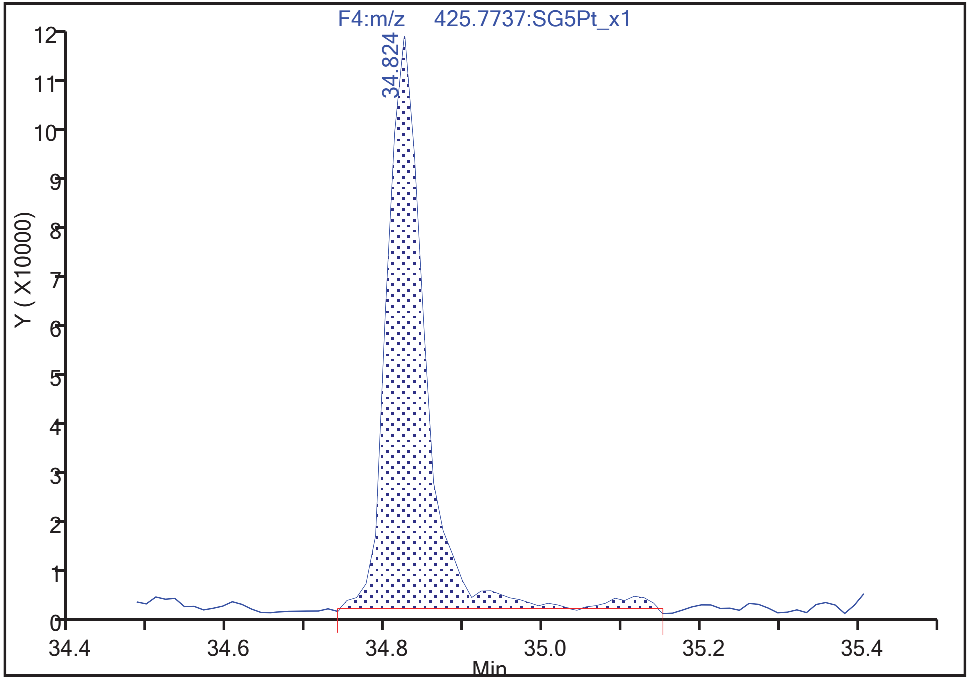
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d				
Injection Date:	18-Nov-2017 20:16:23	Instrument ID:	3D5		
Lims ID:	160-24924-G-4-B	Lab Sample ID:	320-24924-4		
Client ID:	SHAD041DP026SS05NS				
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	63
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

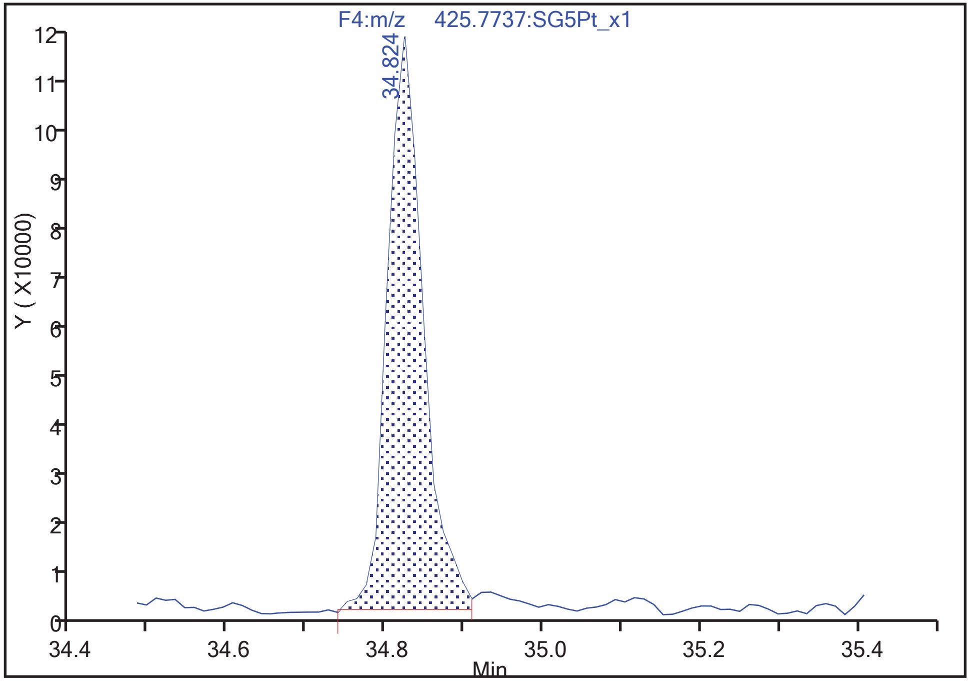
RT:	34.82
Area:	360149
Amount:	1.640824
Amount Units:	pg/ul

Processing Integration Results



RT:	34.82
Area:	340896
Amount:	1.563745
Amount Units:	pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 14:10:55

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

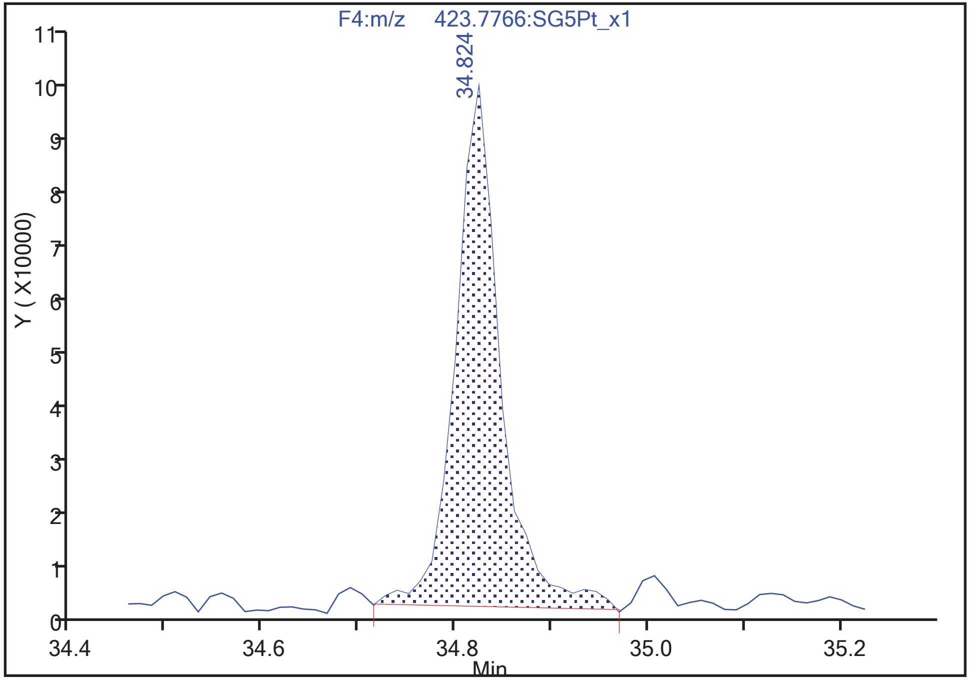
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d				
Injection Date:	18-Nov-2017 20:16:23	Instrument ID:	3D5		
Lims ID:	160-24924-G-4-B	Lab Sample ID:	320-24924-4		
Client ID:	SHAD041DP026SS05NS				
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	63
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

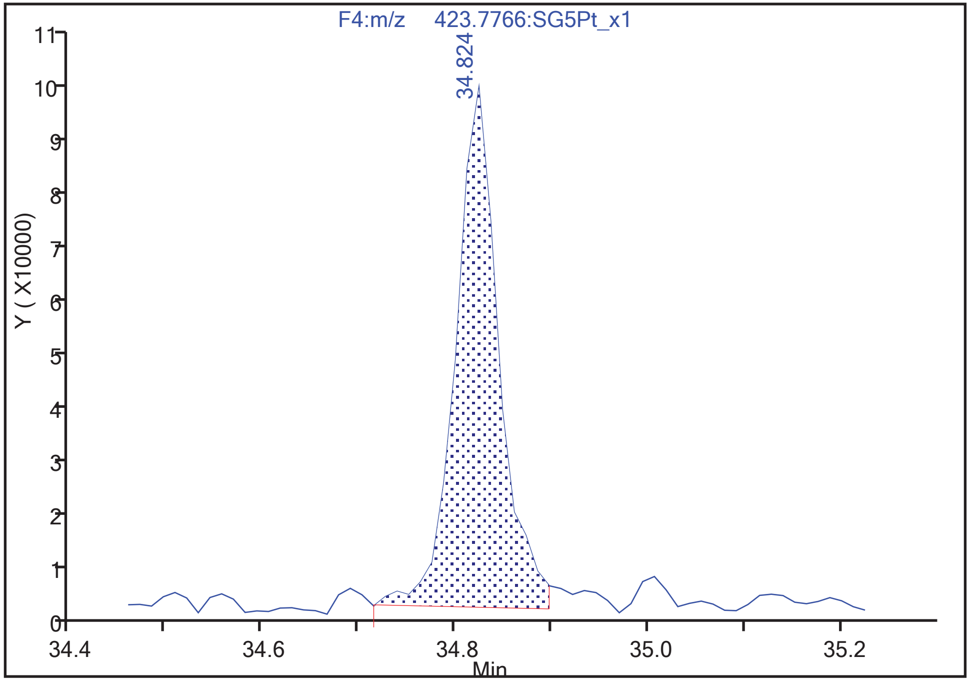
Processing Integration Results

RT: 34.82
Area: 304212
Amount: 1.640824
Amount Units: pg/ul



Manual Integration Results

RT: 34.82
Area: 292256
Amount: 1.563745
Amount Units: pg/ul



Reviewer: dadunj, 06-Dec-2017 14:10:58

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 14:11:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d

Injection Date: 18-Nov-2017 20:16:23 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

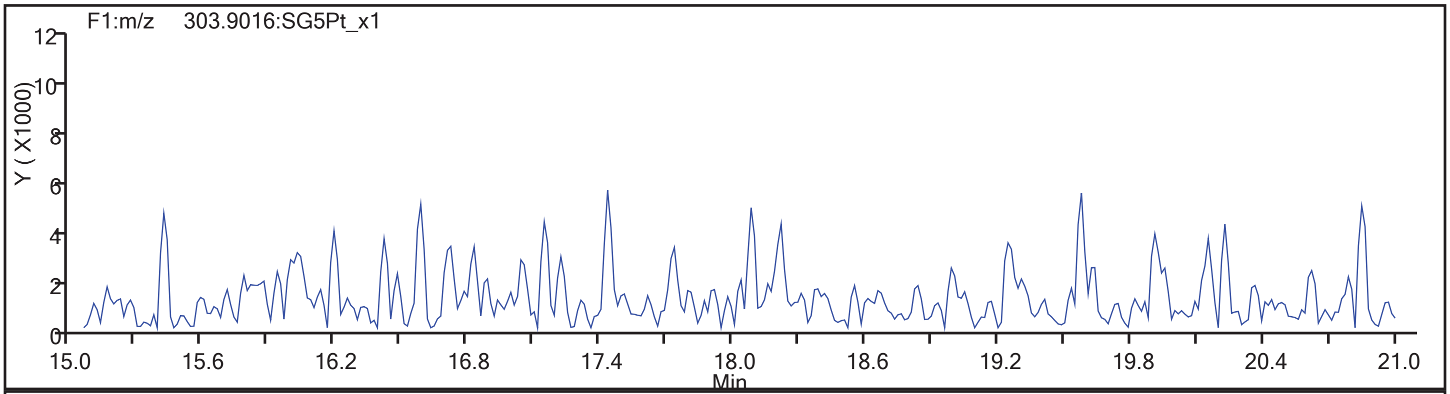
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

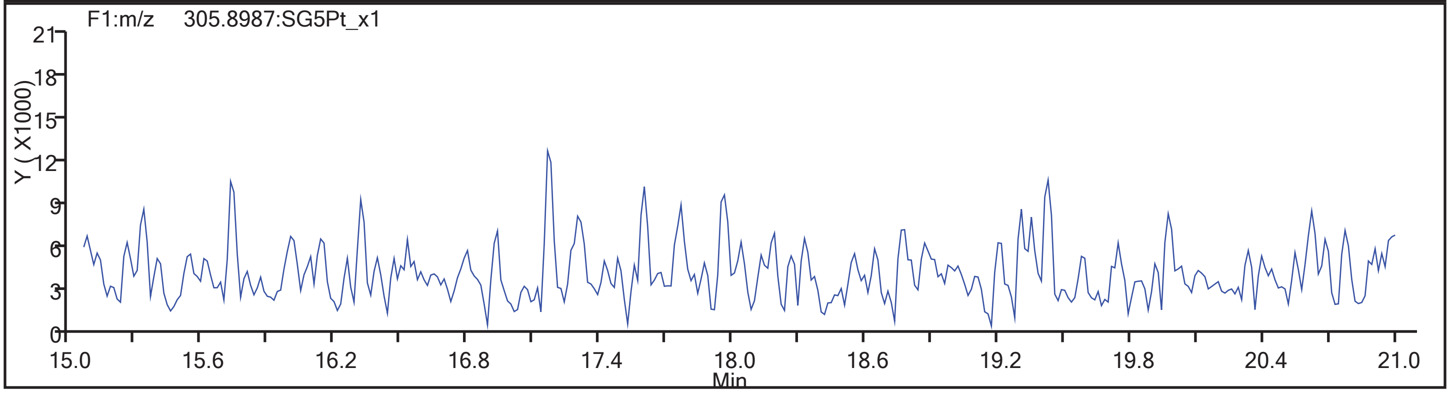
Client ID: SHAD041DP026SS05NS

Worklist#: 195573 Sample Line#: 63

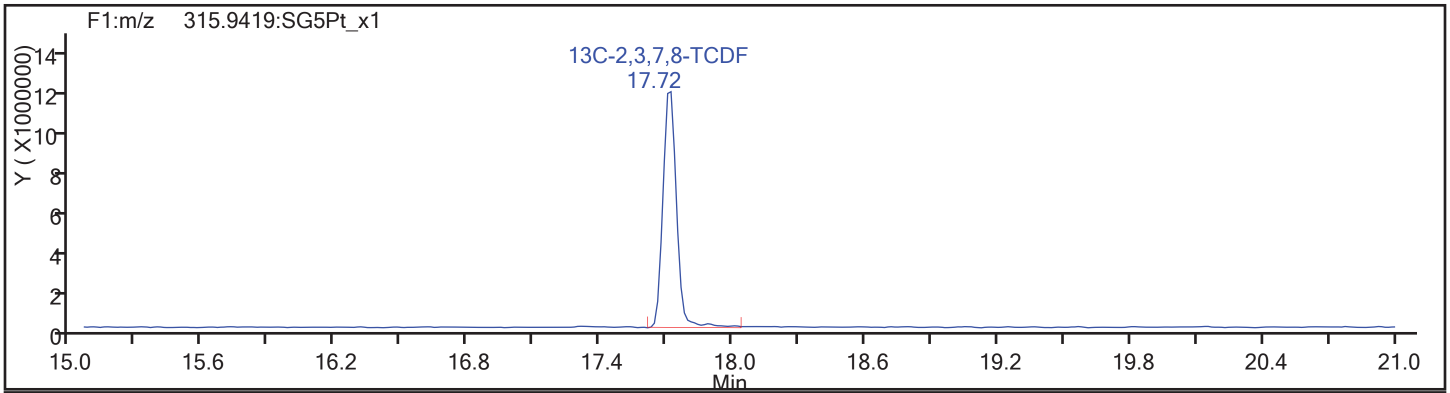
Column Type: Column Dia:

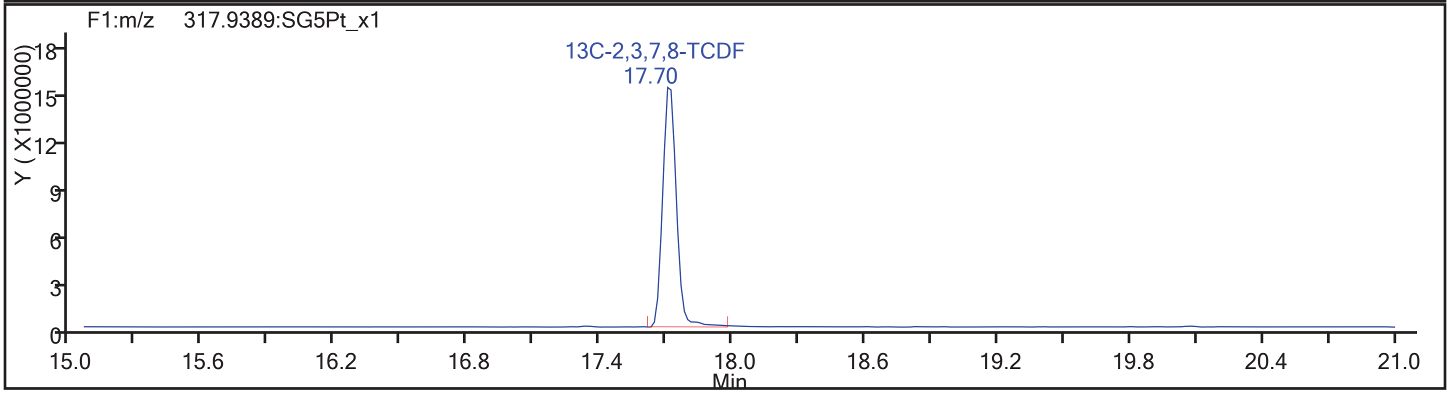
TCDF





TCDF Standards





Report Date: 06-Dec-2017 14:11:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d

Injection Date: 18-Nov-2017 20:16:23 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

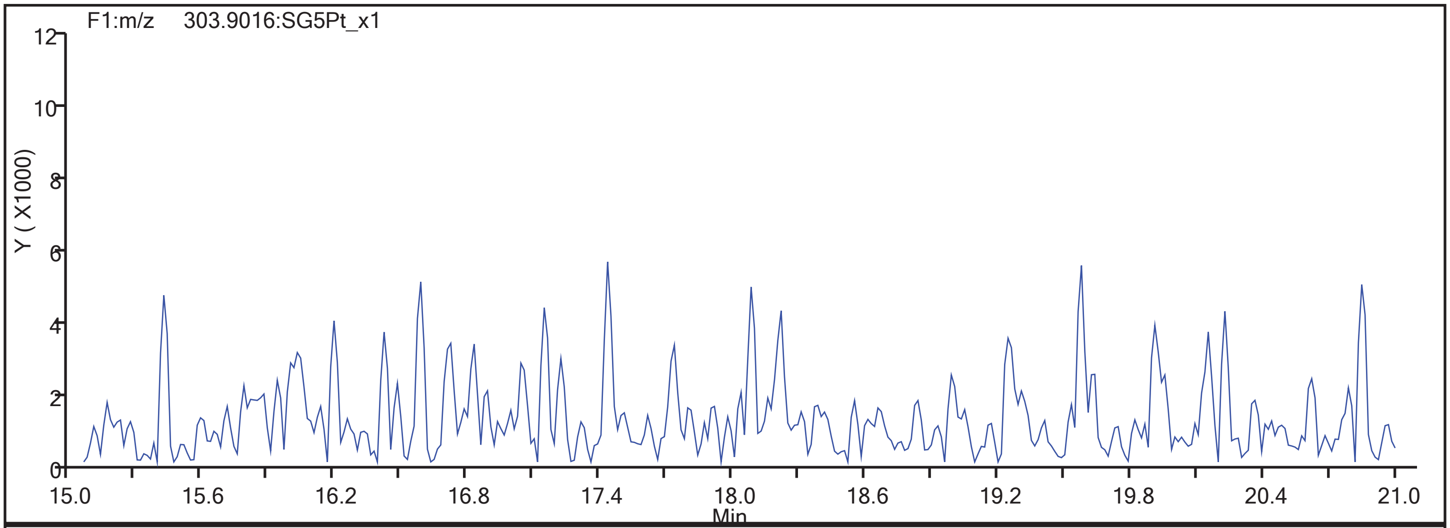
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

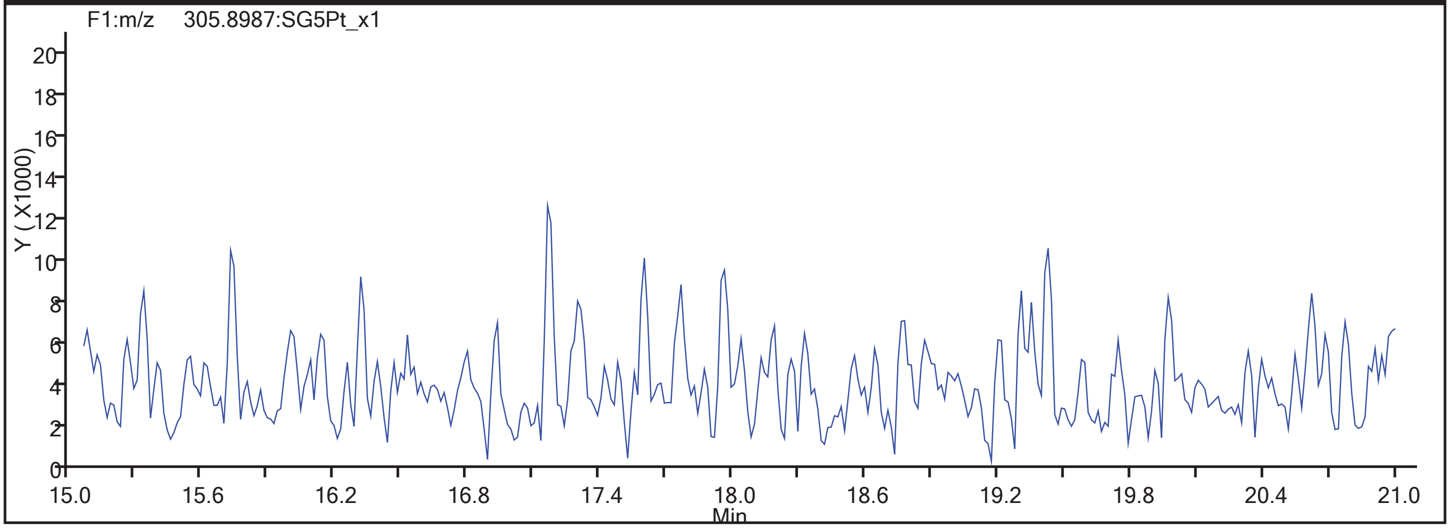
Client ID: SHAD041DP026SS05NS

Worklist#: 195573 Sample Line#: 63

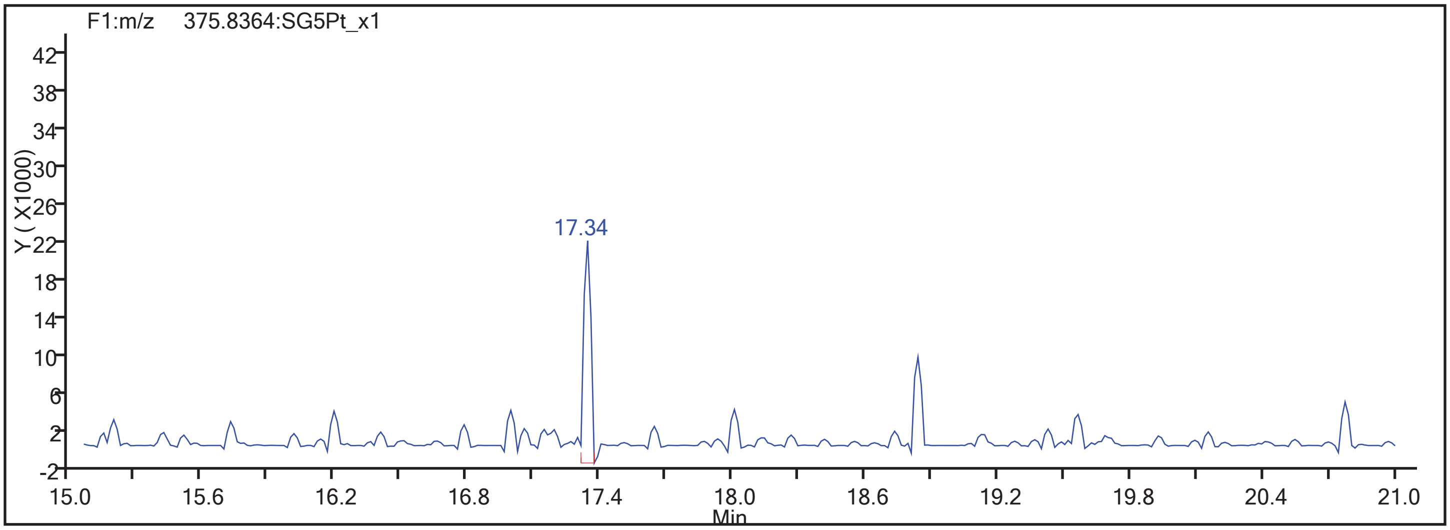
Column Type: Column Dia:

TCDF





TCDF Interference Mass

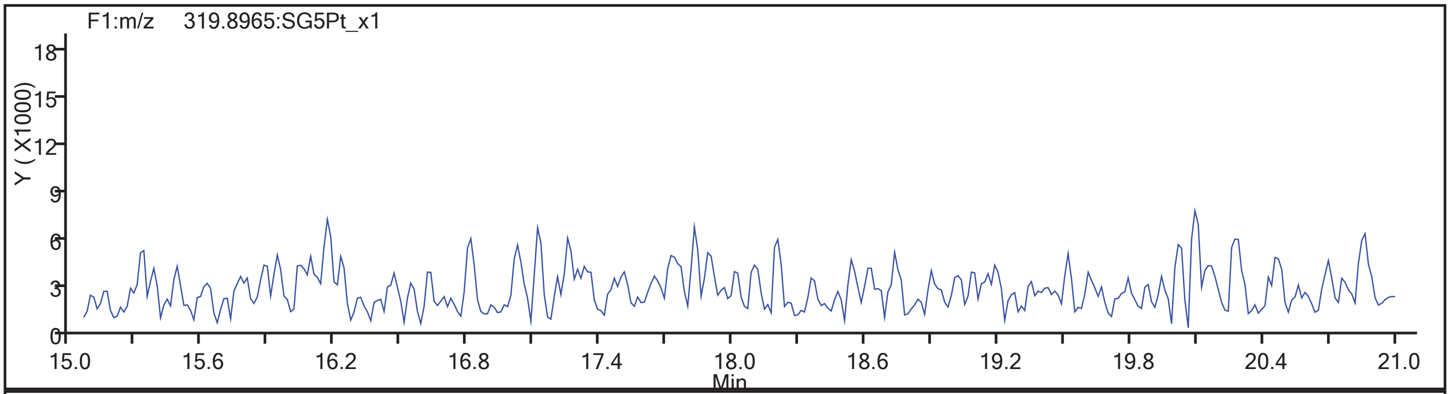


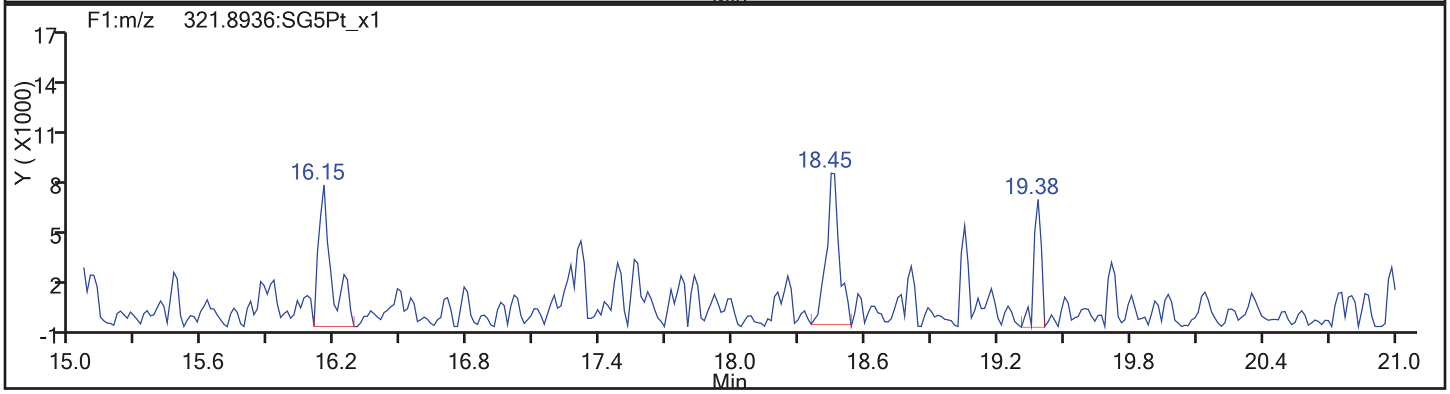
Report Date: 06-Dec-2017 14:11:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

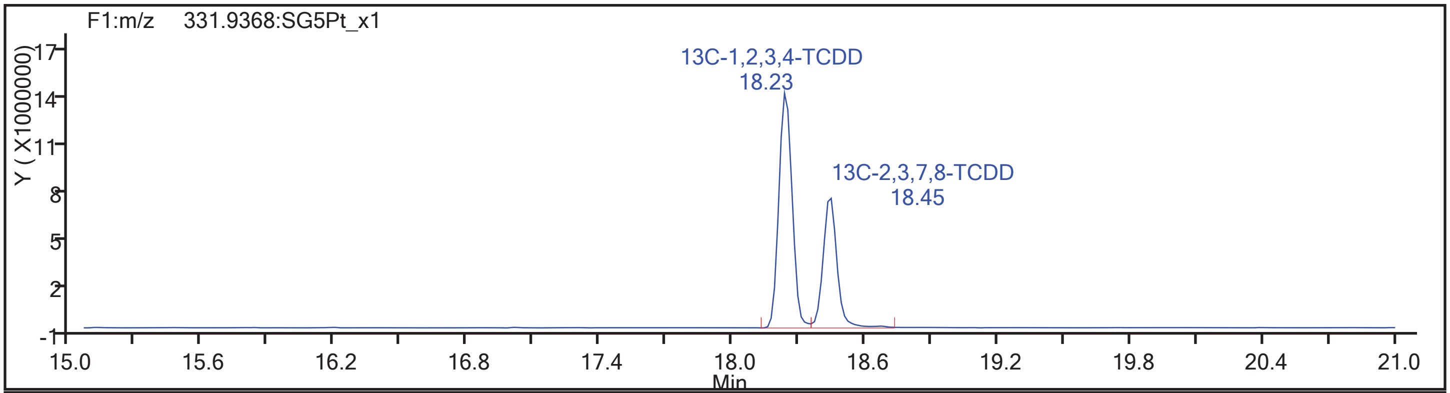
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d		
Injection Date:	18-Nov-2017 20:16:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	195573	Sample Line#:	63
Column Type:		Column Dia:	

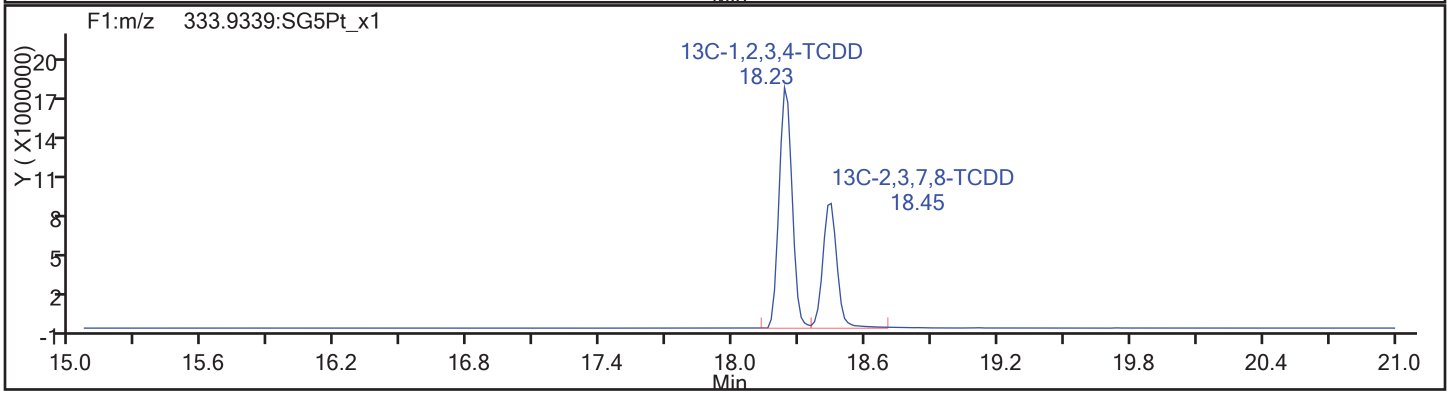
TCDD





TCDD Standards



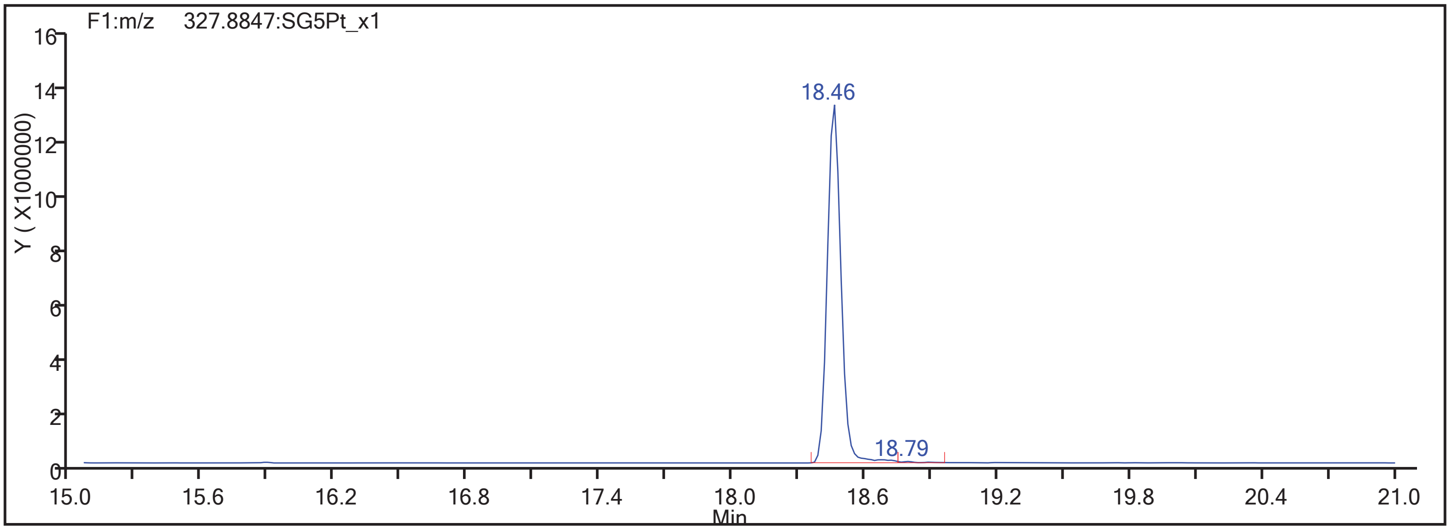


Report Date: 06-Dec-2017 14:11:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

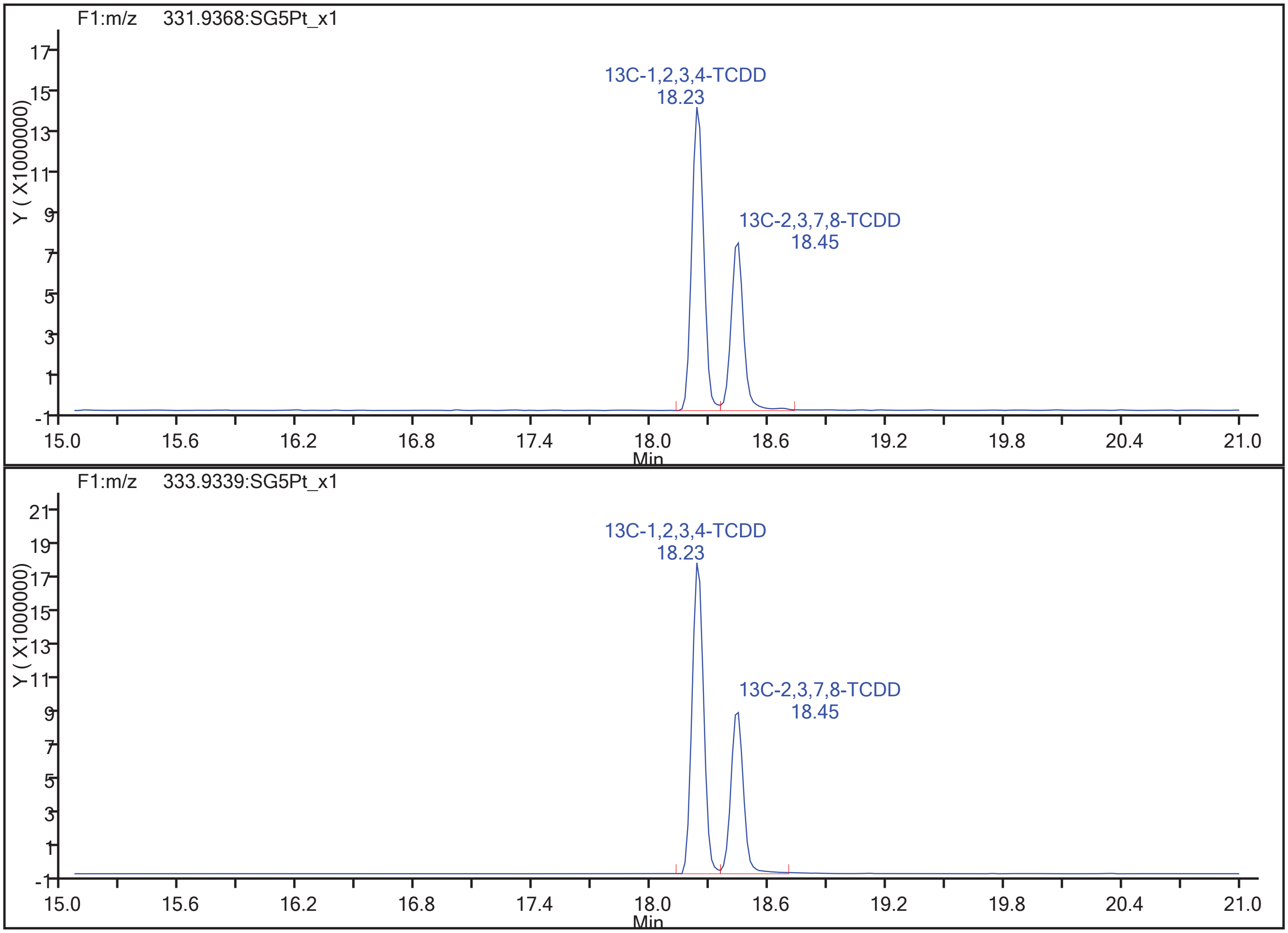
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d		
Injection Date:	18-Nov-2017 20:16:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	195573	Sample Line#:	63
Column Type:		Column Dia:	

37Cl4-TCDD



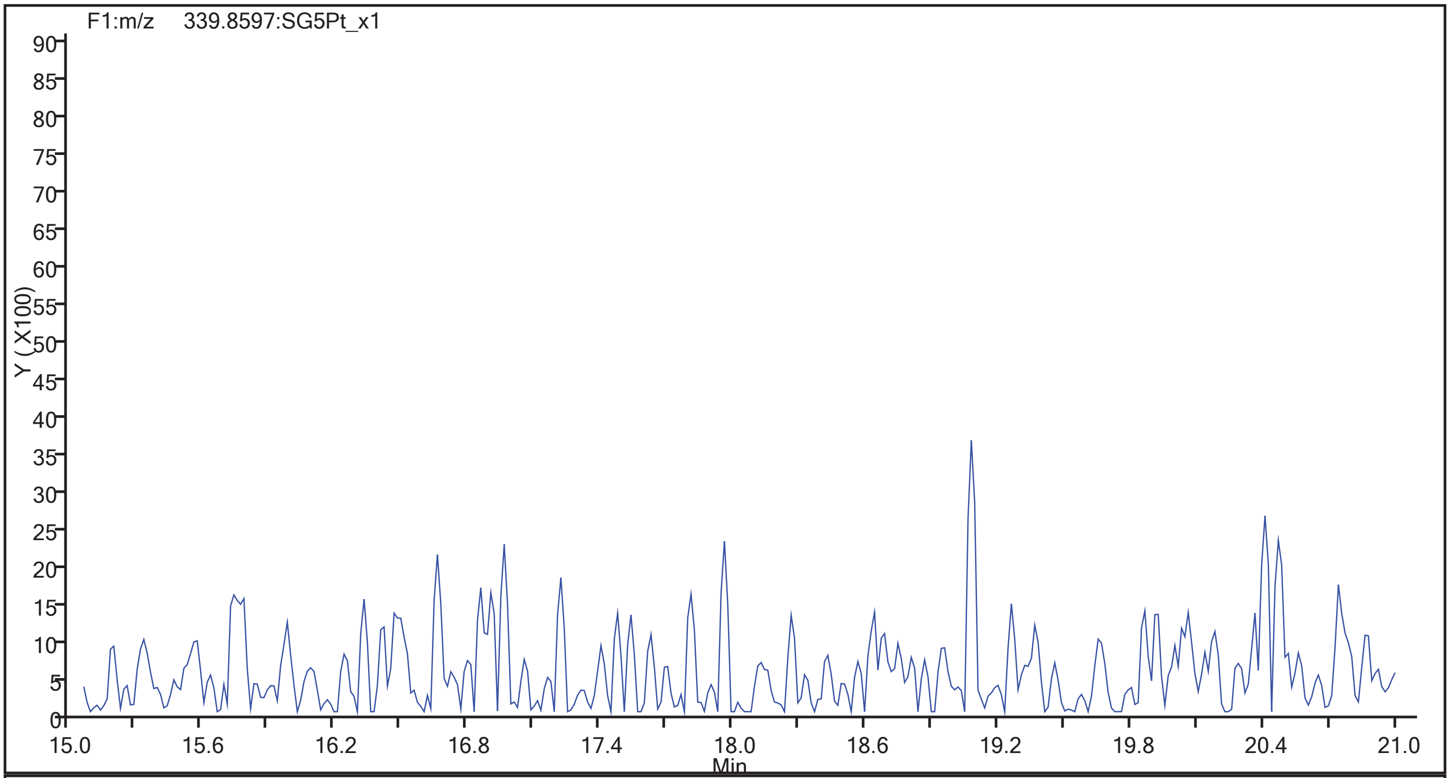
37Cl4-TCDD Standards

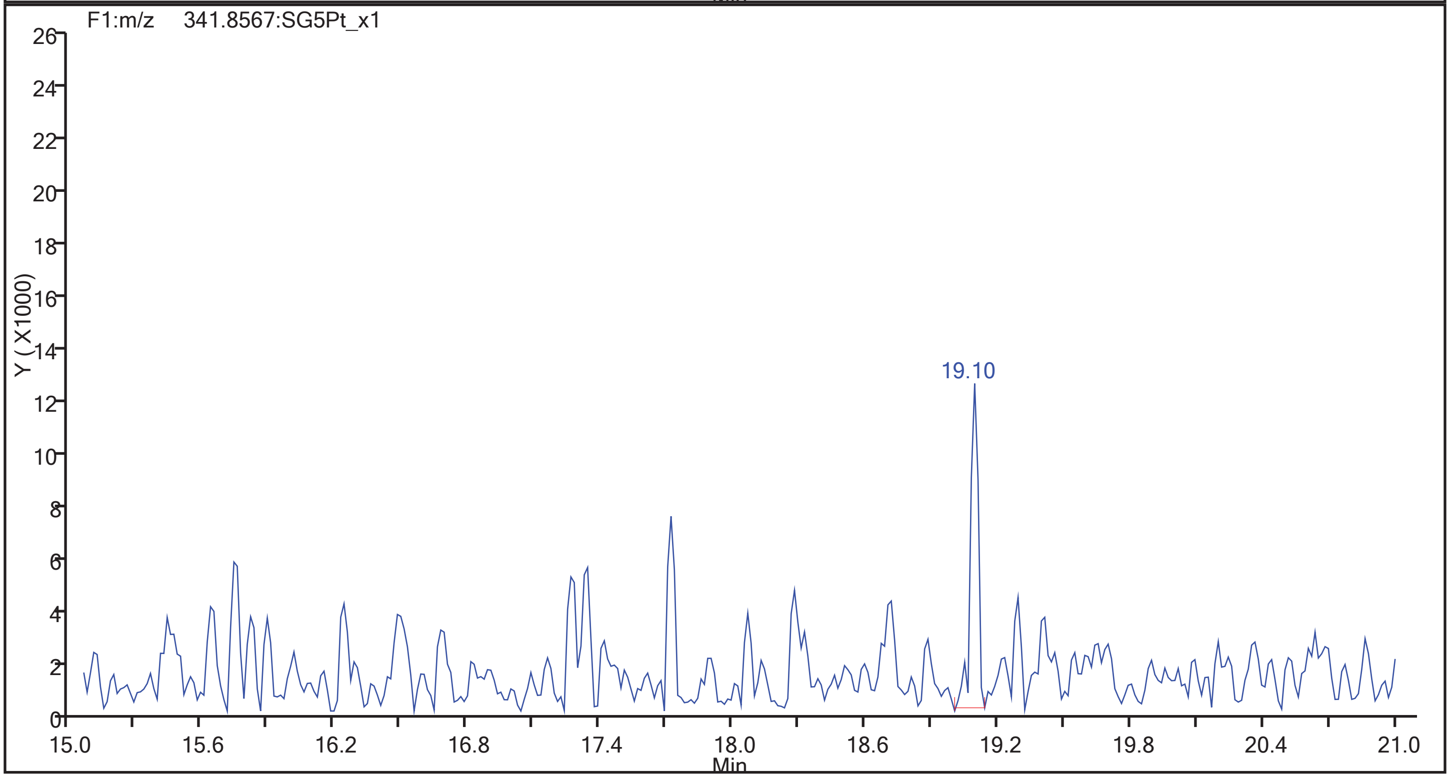


TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d		
Injection Date:	18-Nov-2017 20:16:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	195573	Sample Line#:	63
Column Type:		Column Dia:	

F1 PeCDFs

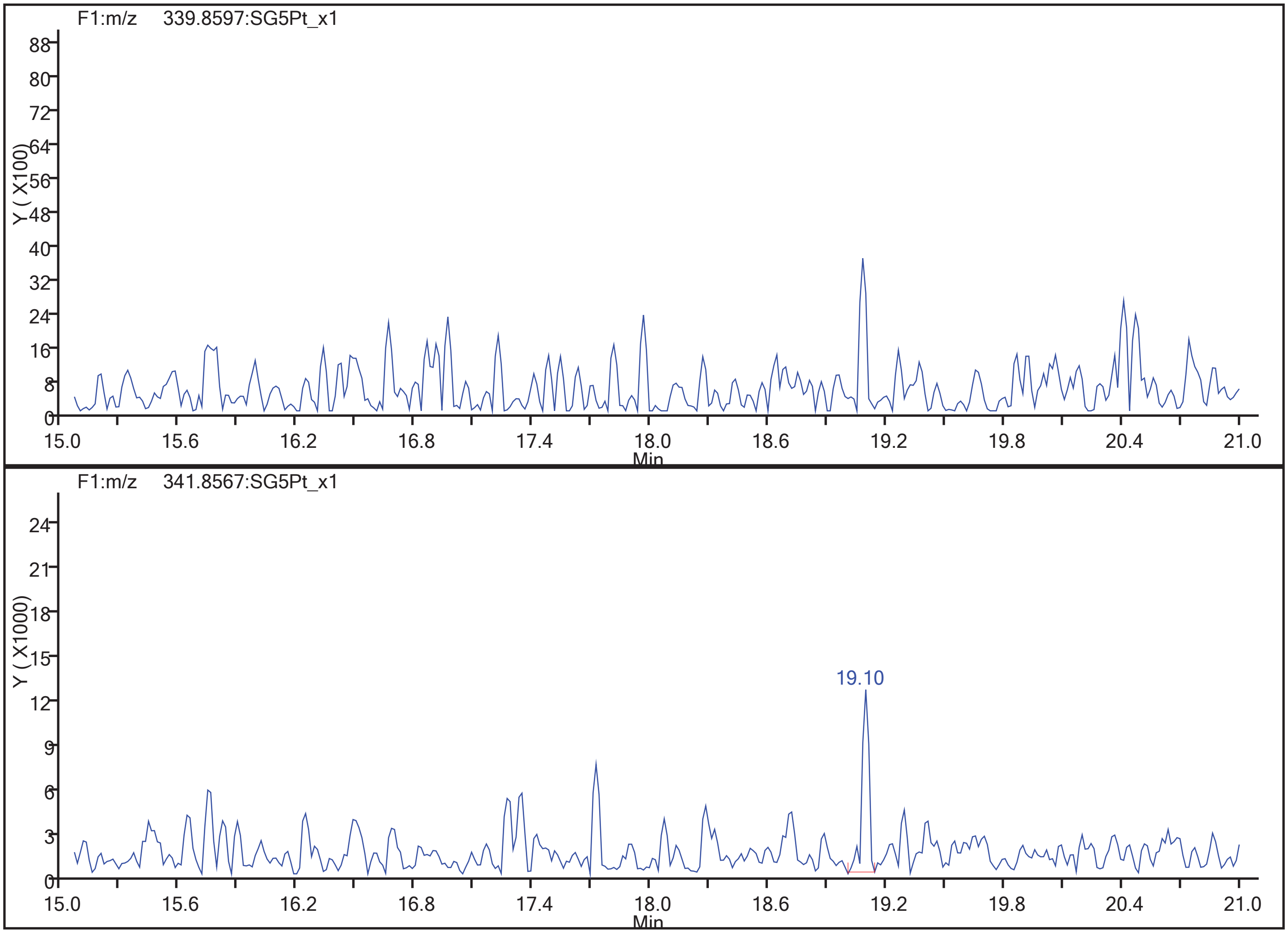




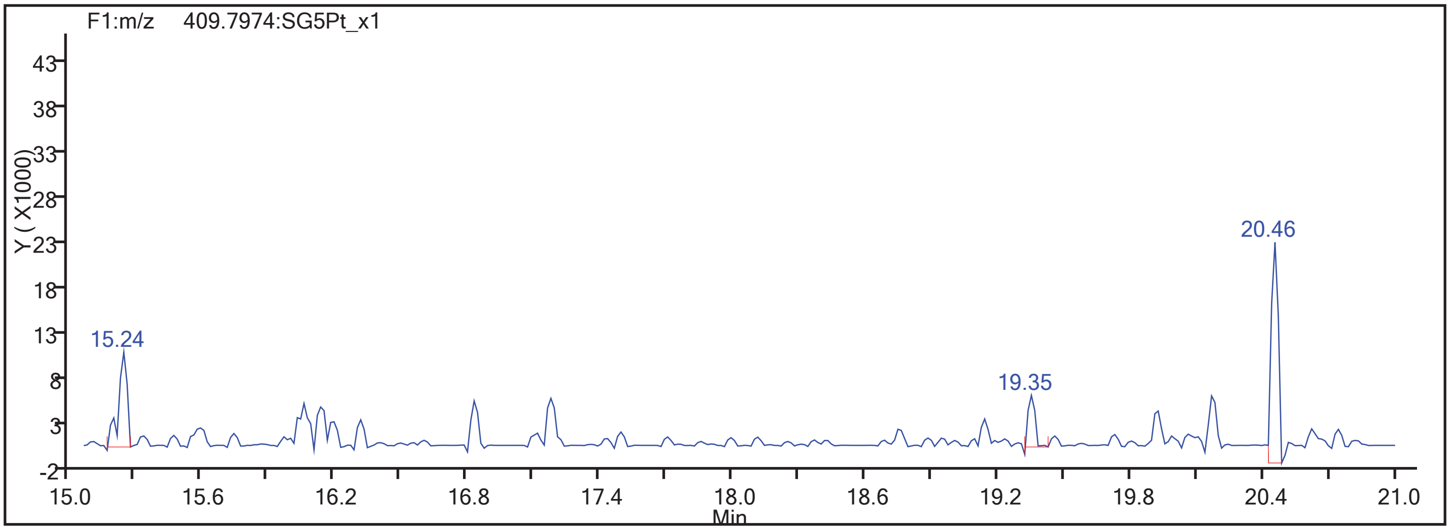
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d		
Injection Date:	18-Nov-2017 20:16:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	195573	Sample Line#:	63
Column Type:		Column Dia:	

F1 PeCDFs



F1 PeCDFs Interference Mass



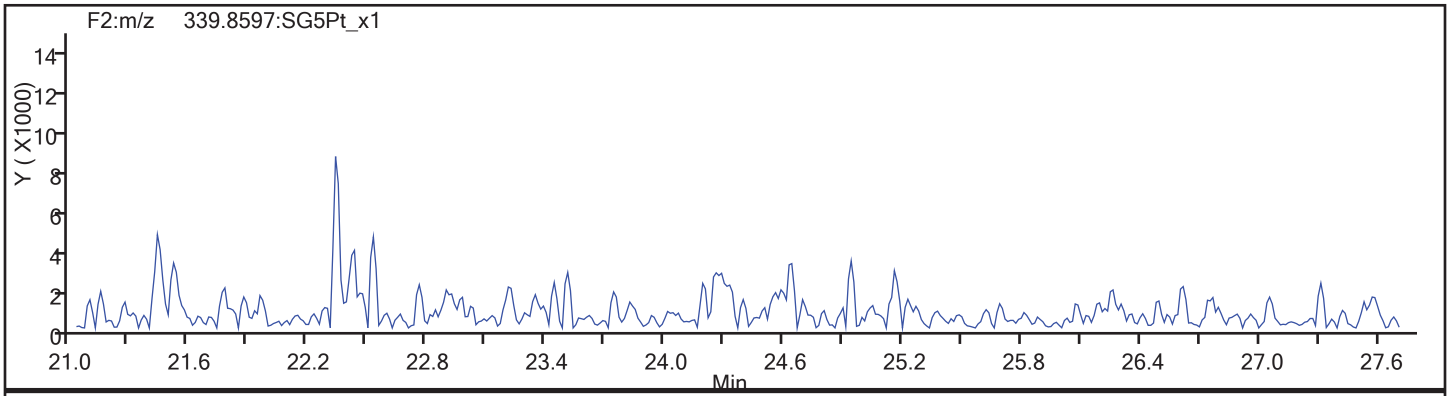
Report Date: 06-Dec-2017 14:11:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

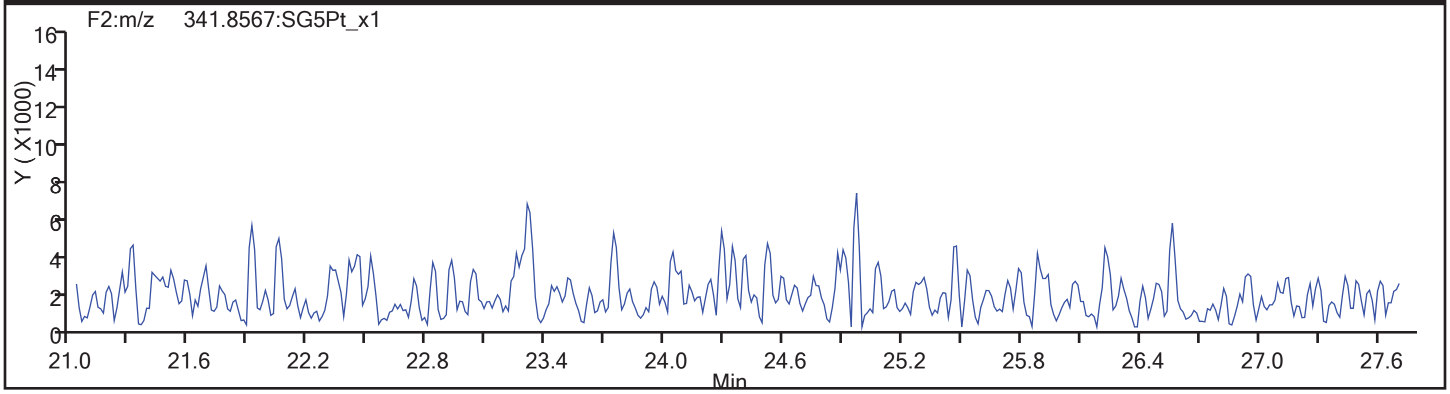
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d

Injection Date:	18-Nov-2017 20:16:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05NS		
Worklist#:	195573	Sample Line#:	63
Column Type:		Column Dia:	

PeCDF





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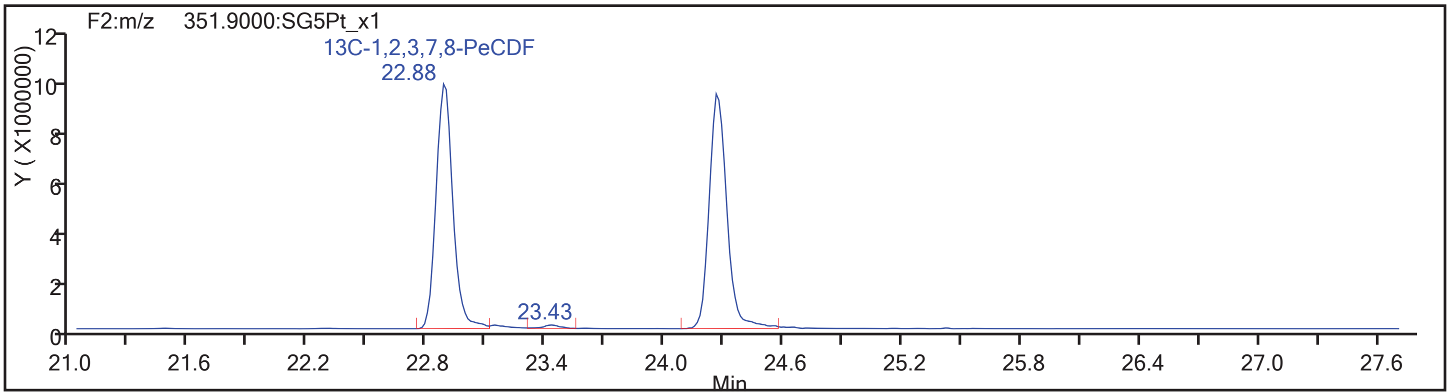

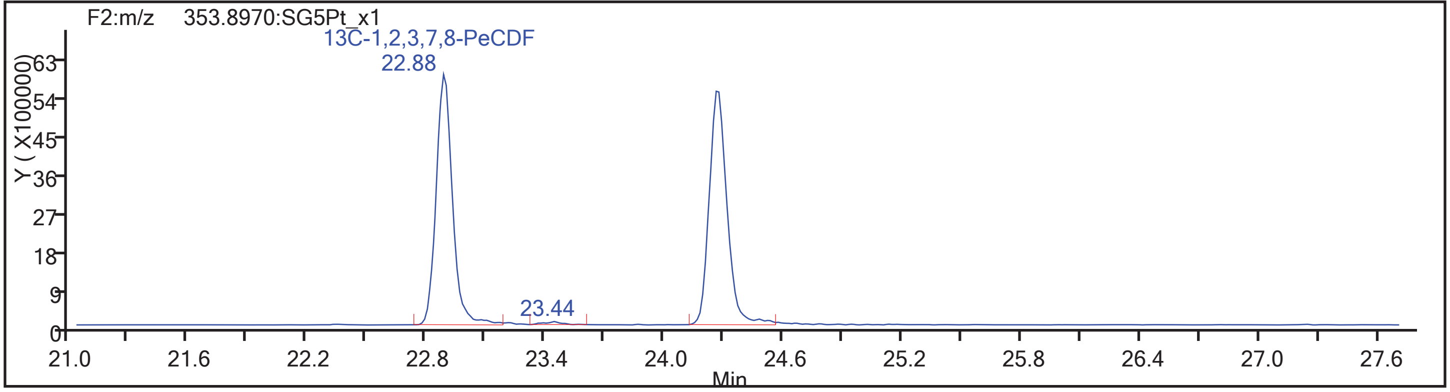

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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 20:16:23 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS05NS

Worklist#: 195573 Sample Line#: 63

Column Type: Column Dia:

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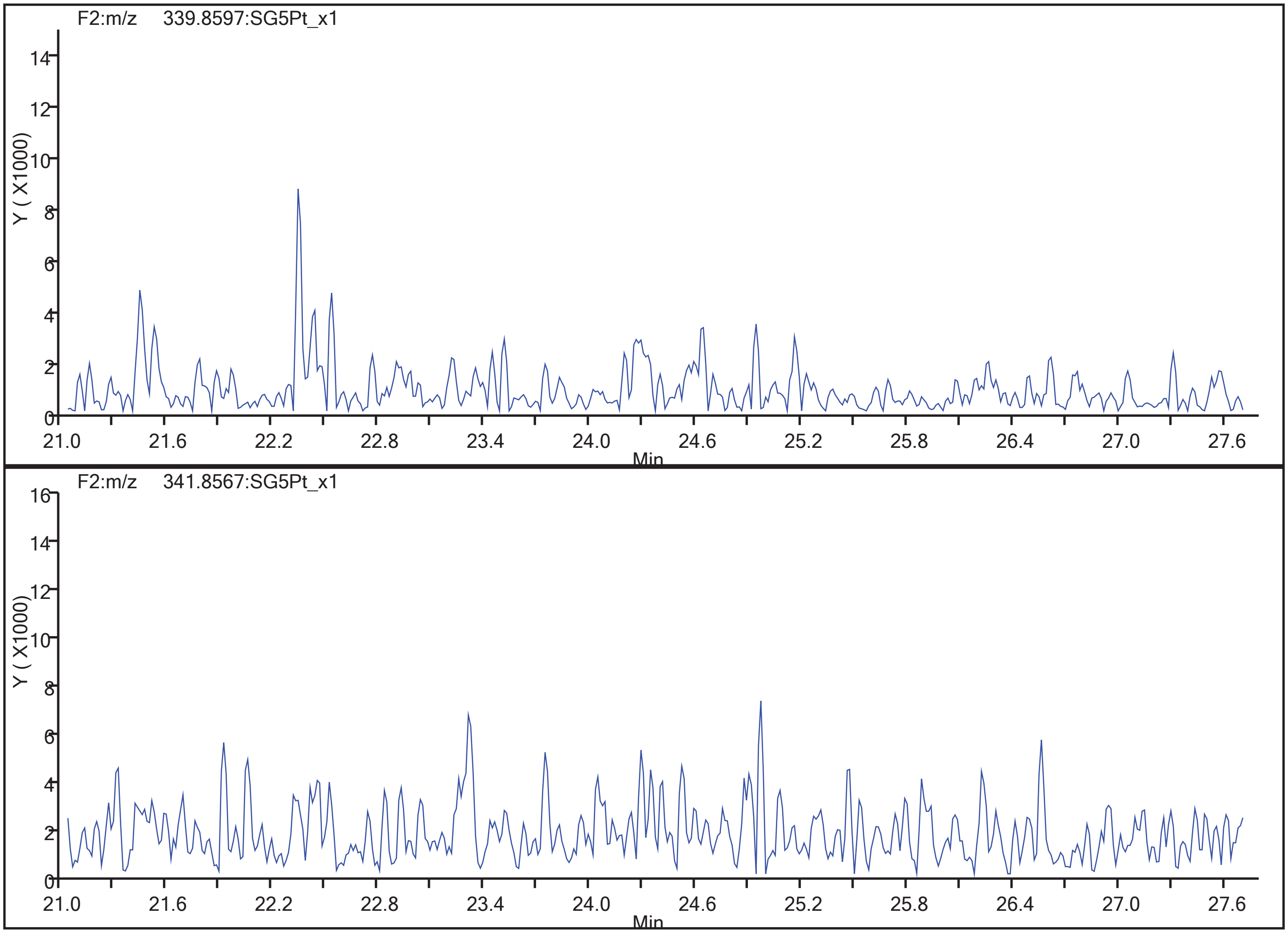
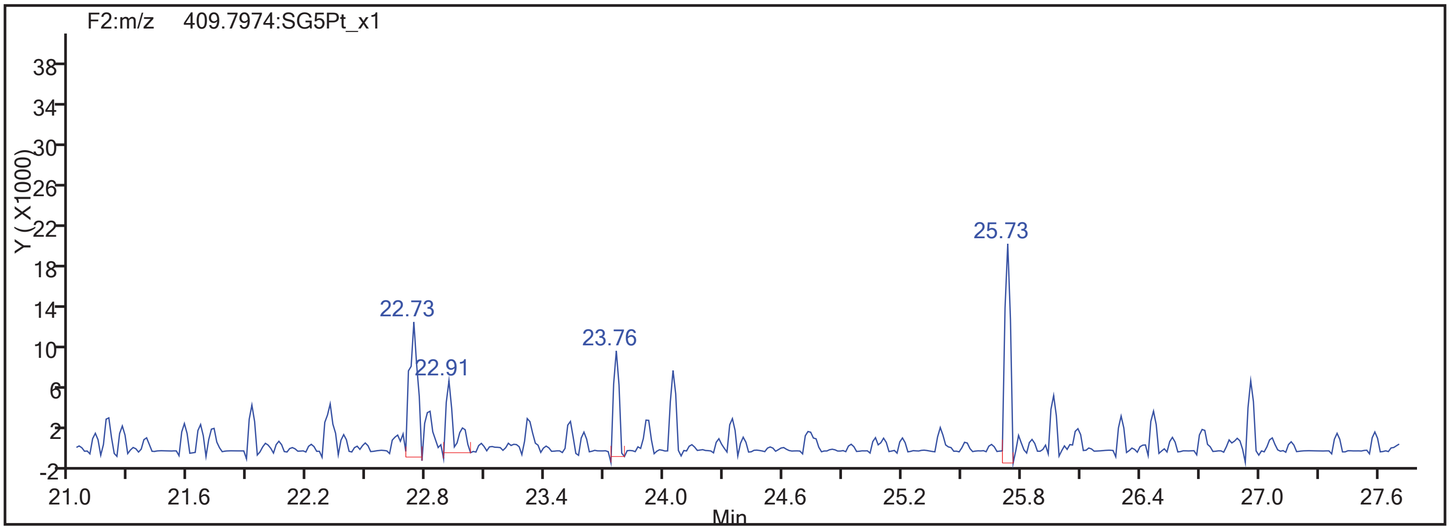


PeCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 20:16:23 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
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Worklist#: 195573 Sample Line#: 63
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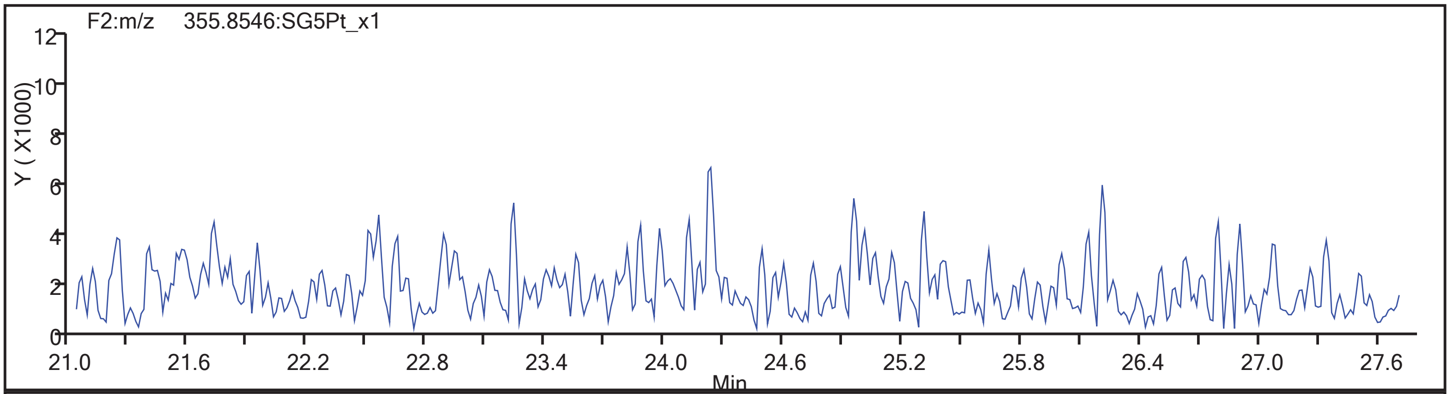

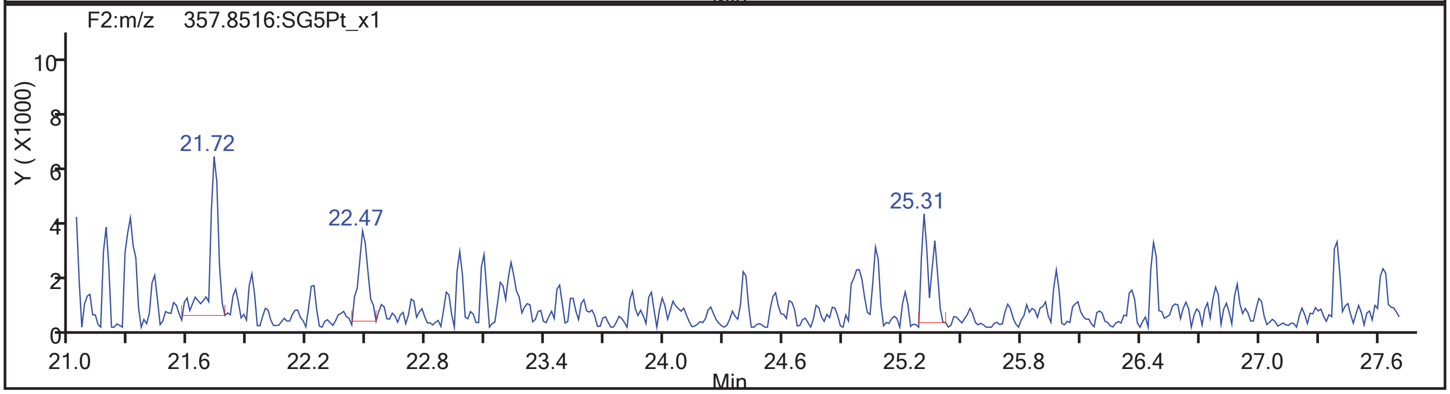

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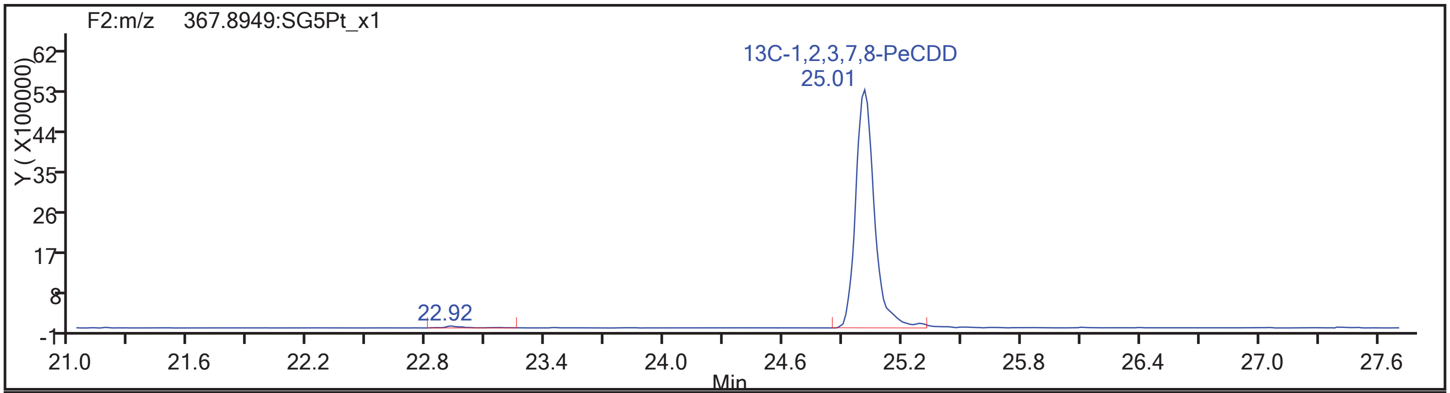

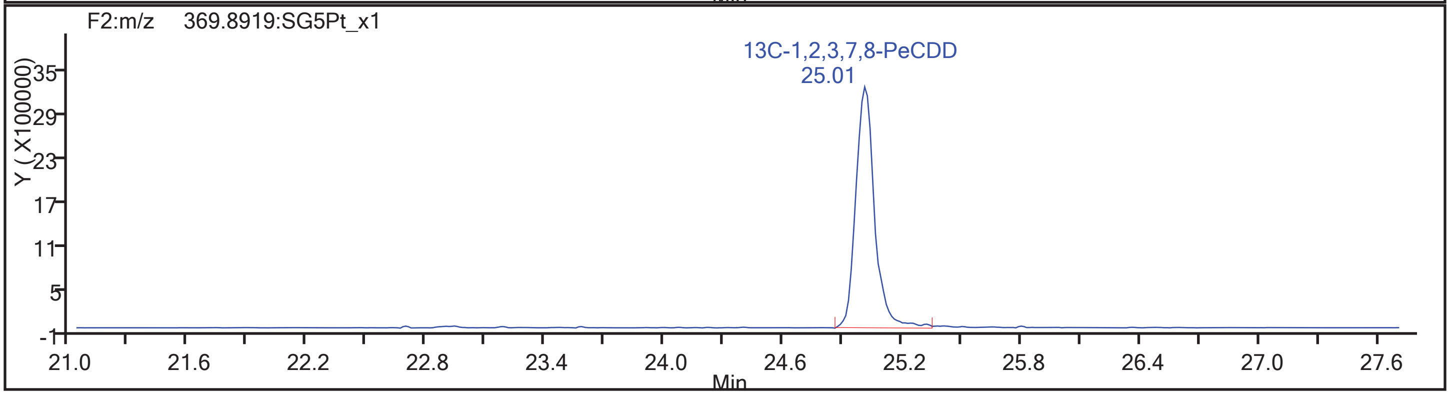

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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d
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Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
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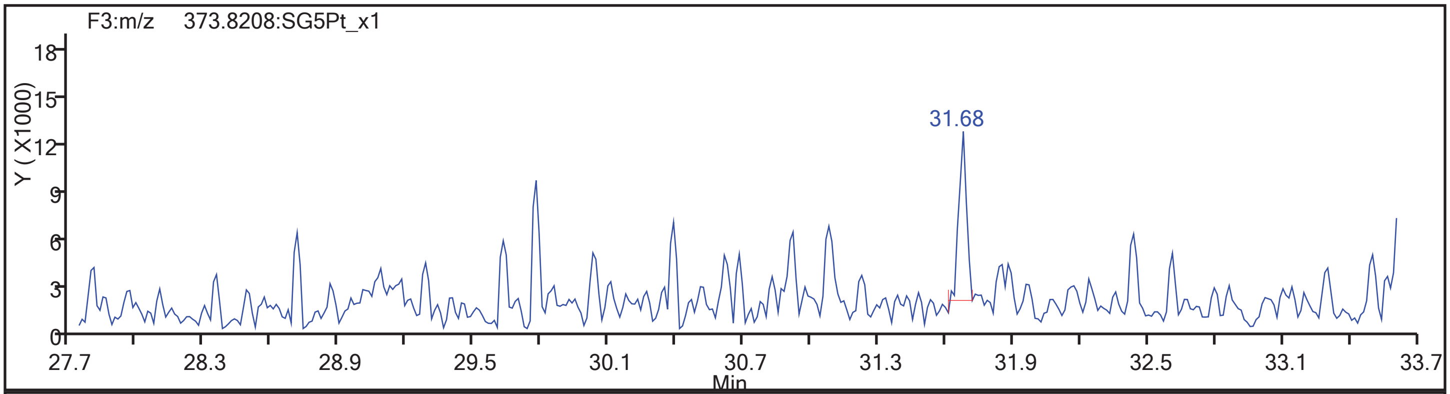

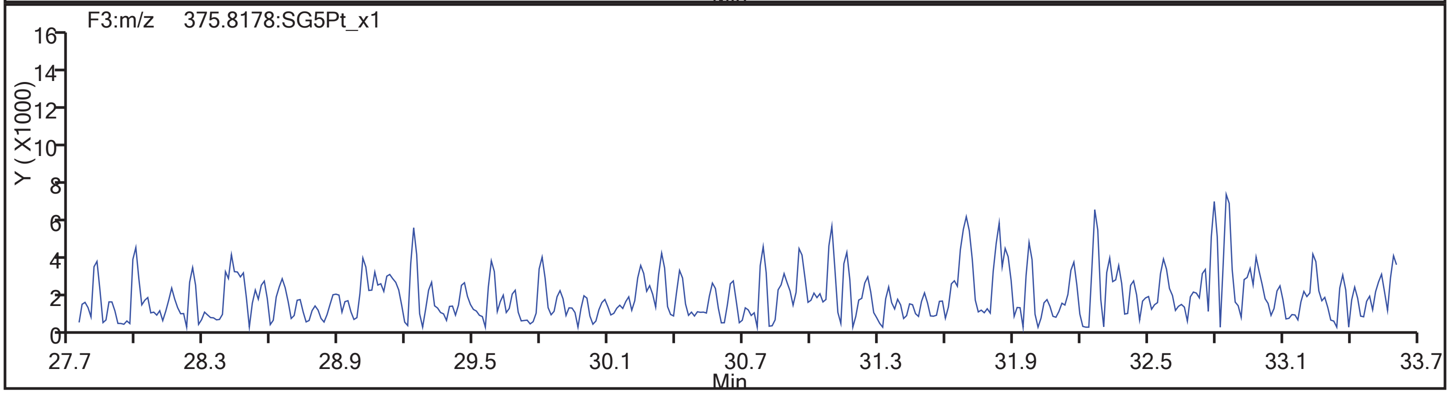

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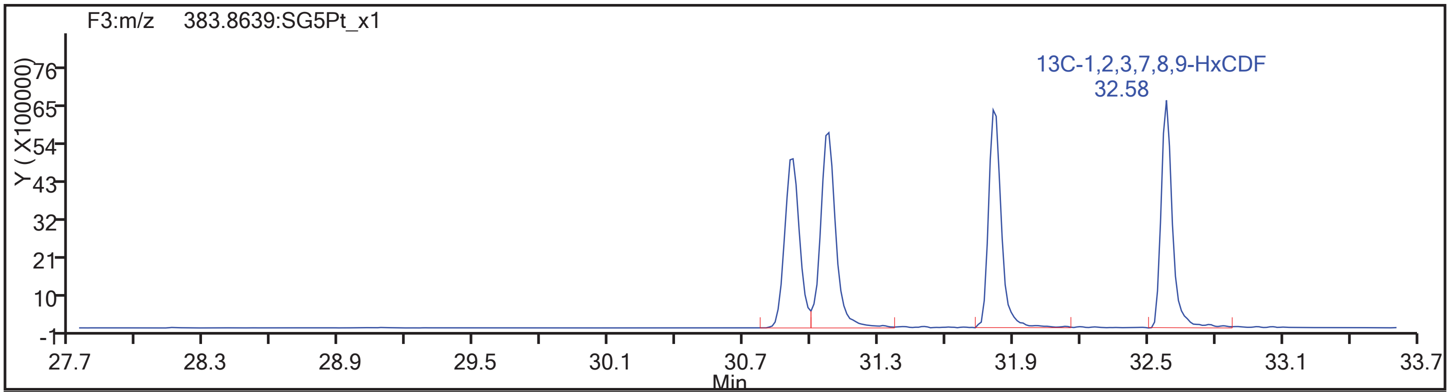

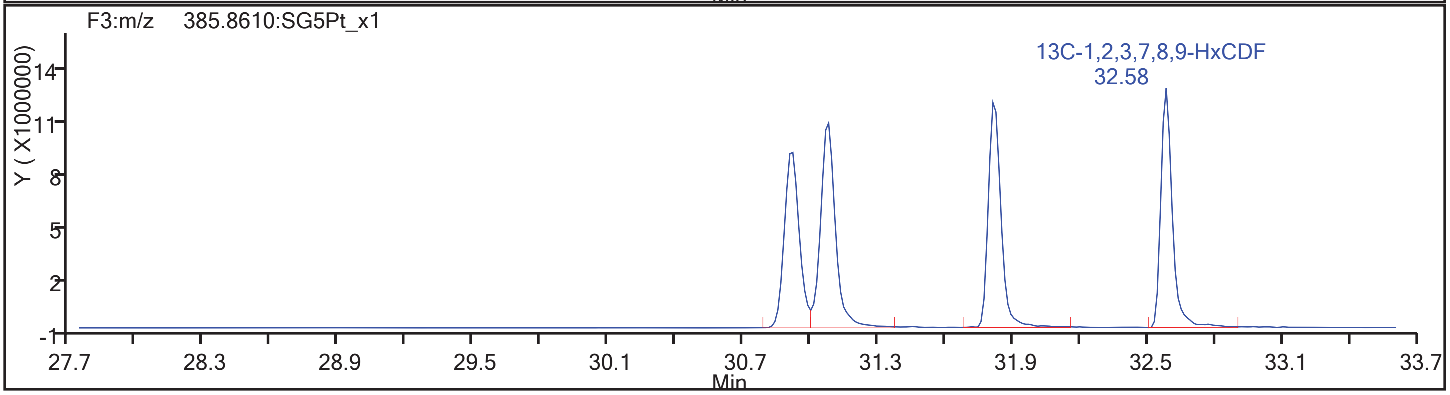

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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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Worklist#:	195573	Sample Line#:	63
Column Type:		Column Dia:	

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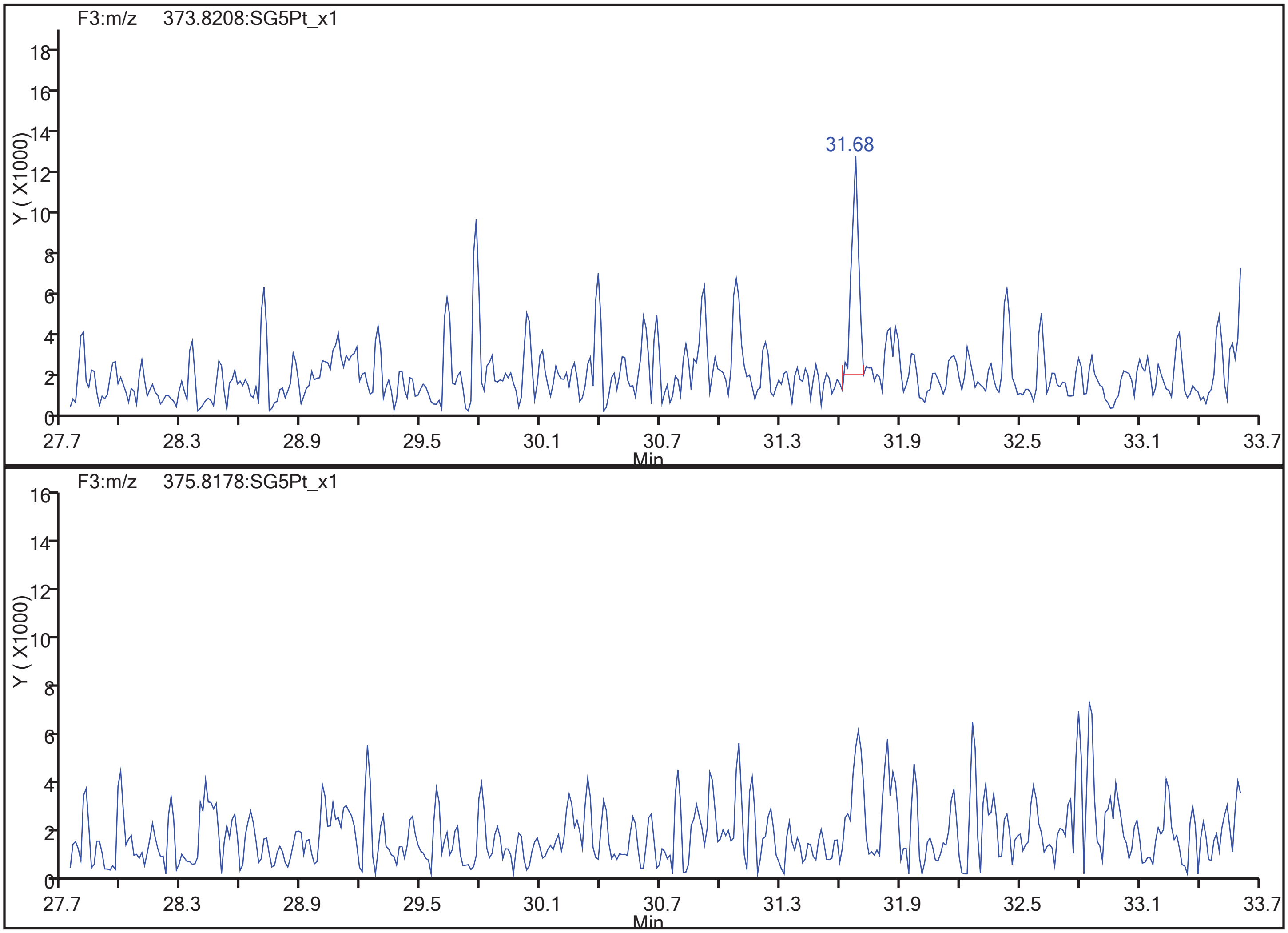
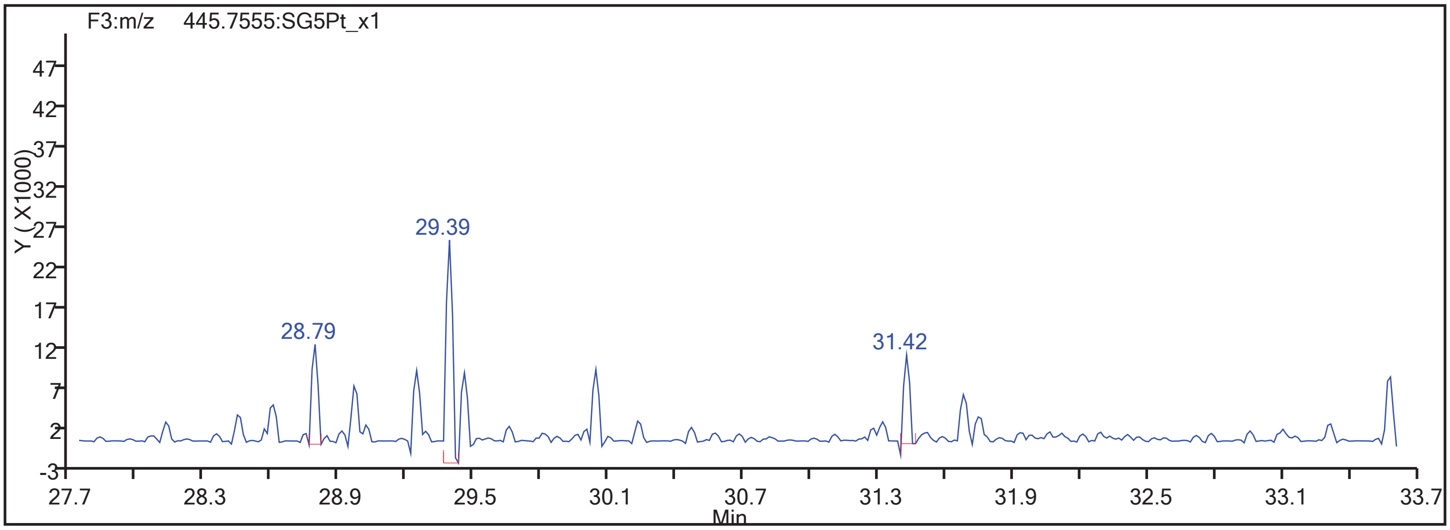


HxCDF Interference Mass



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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Column Dia:

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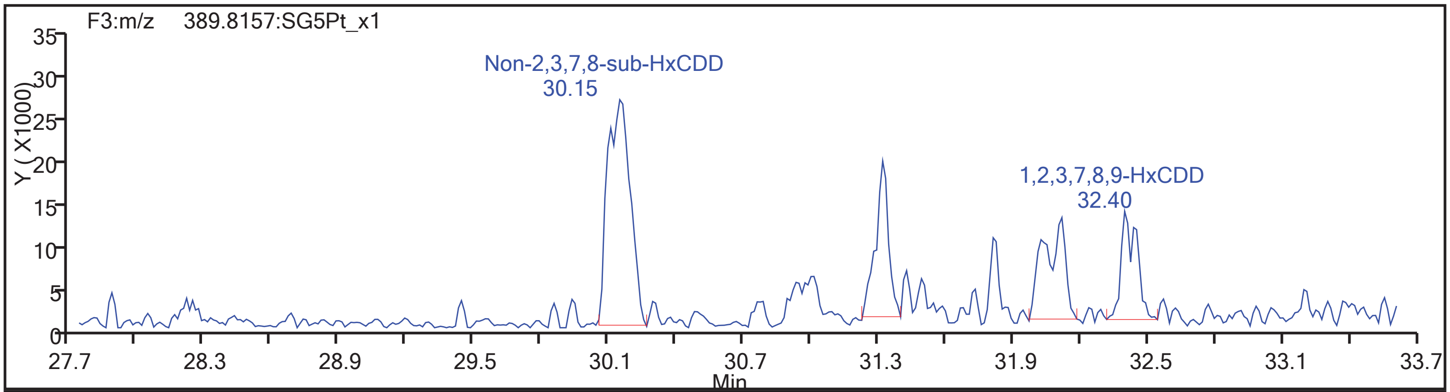

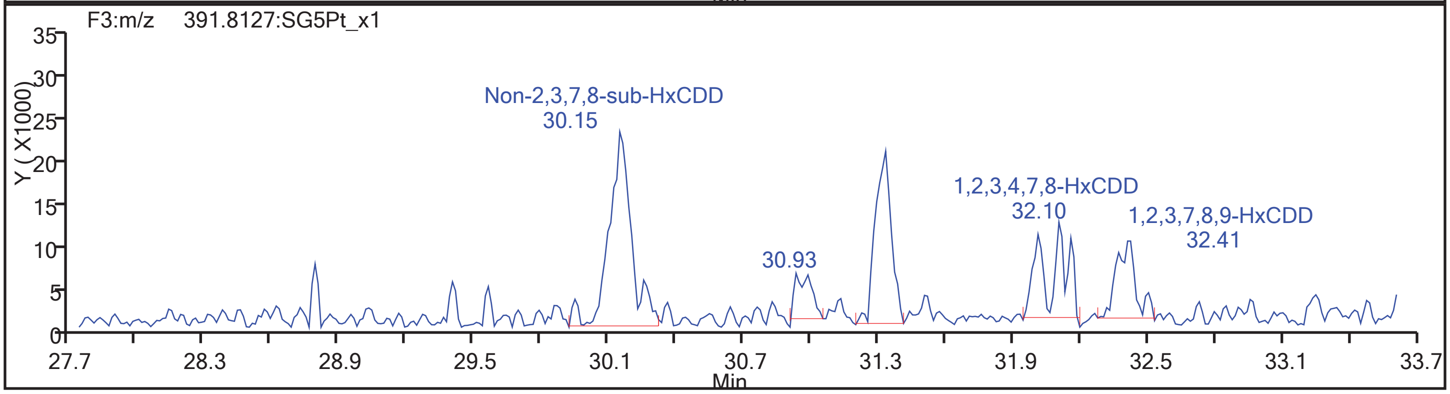

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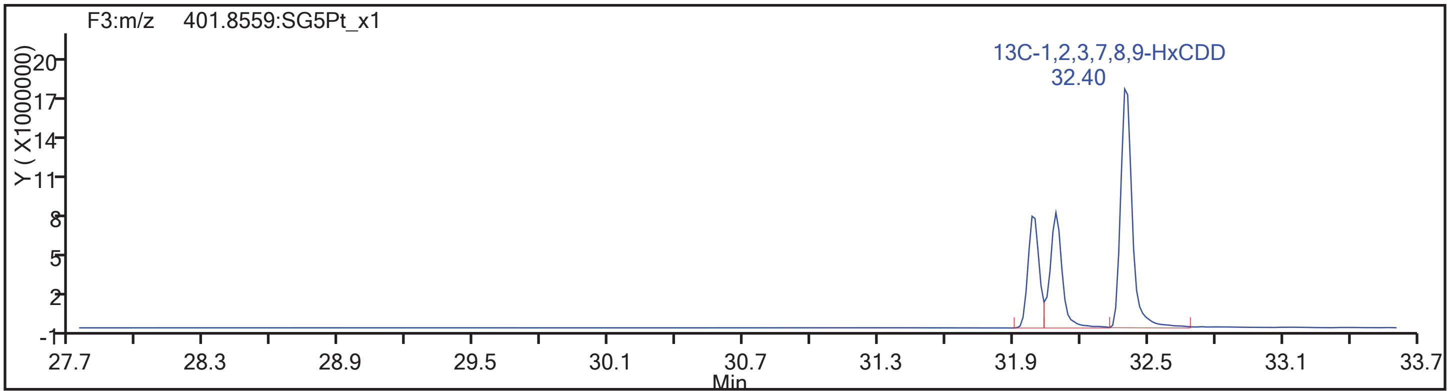

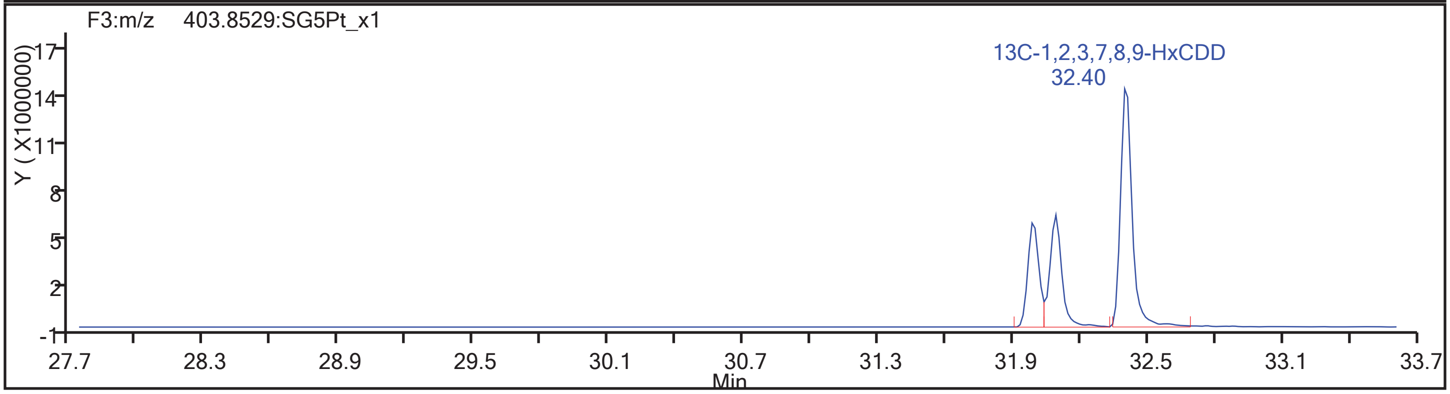

Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_63.d		
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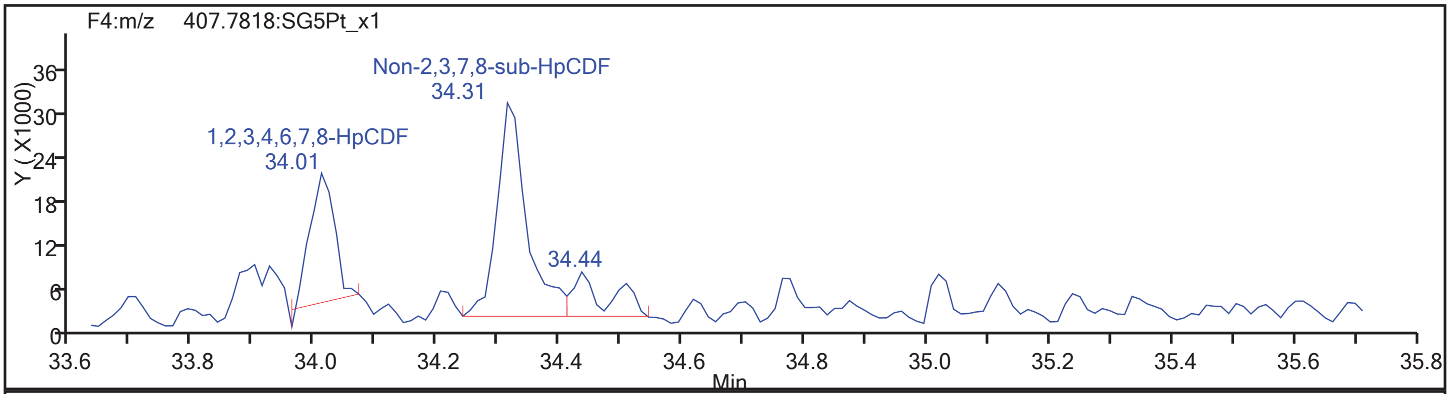
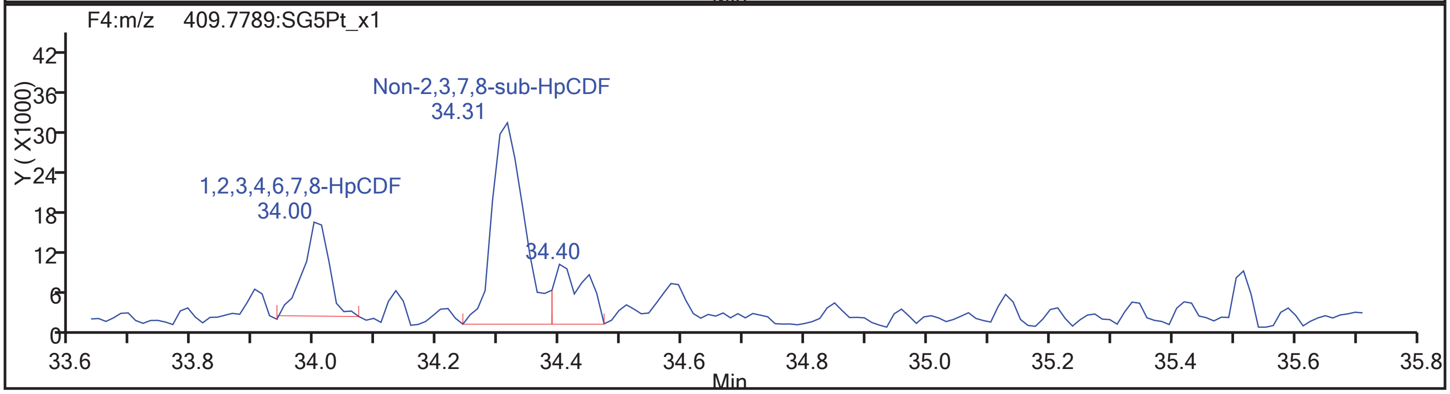
HpCDF





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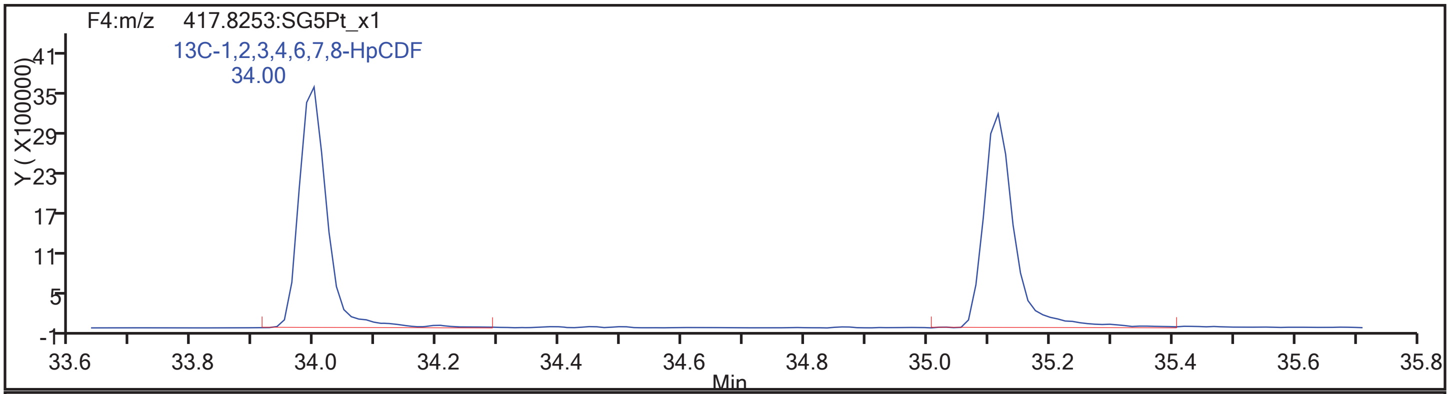

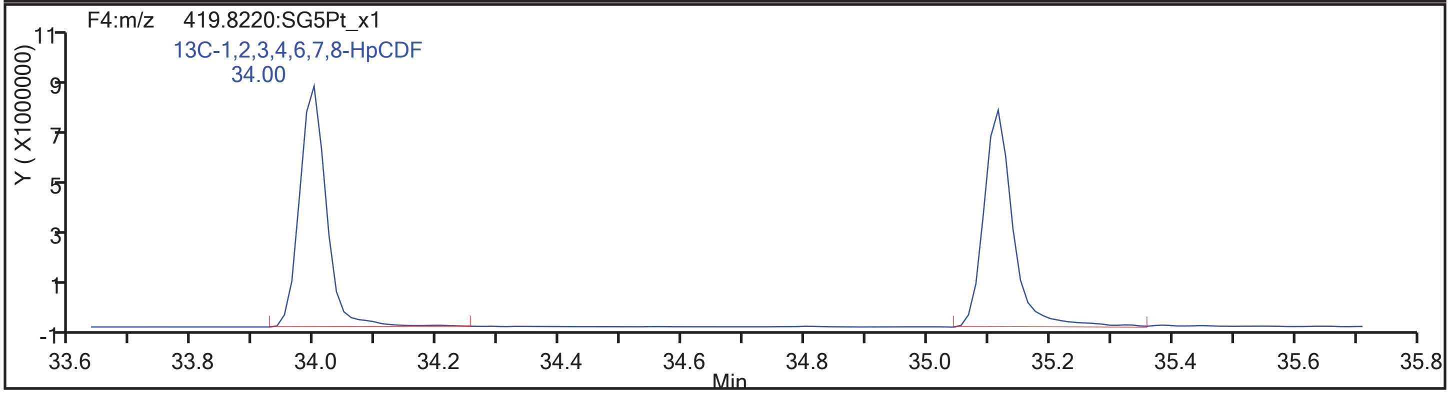

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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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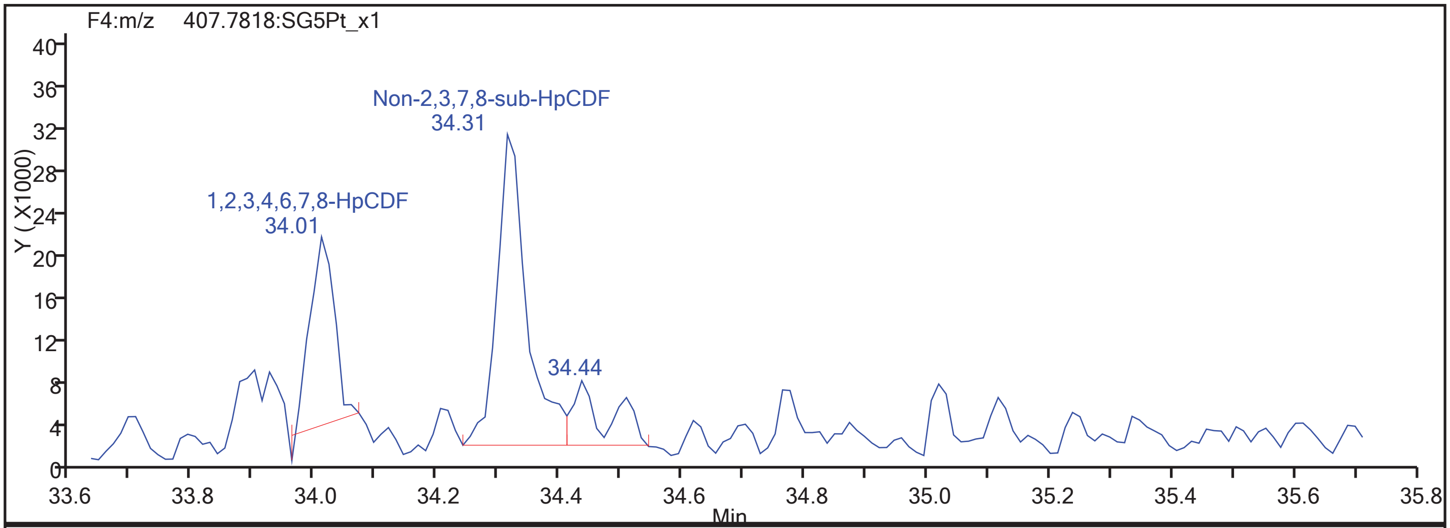
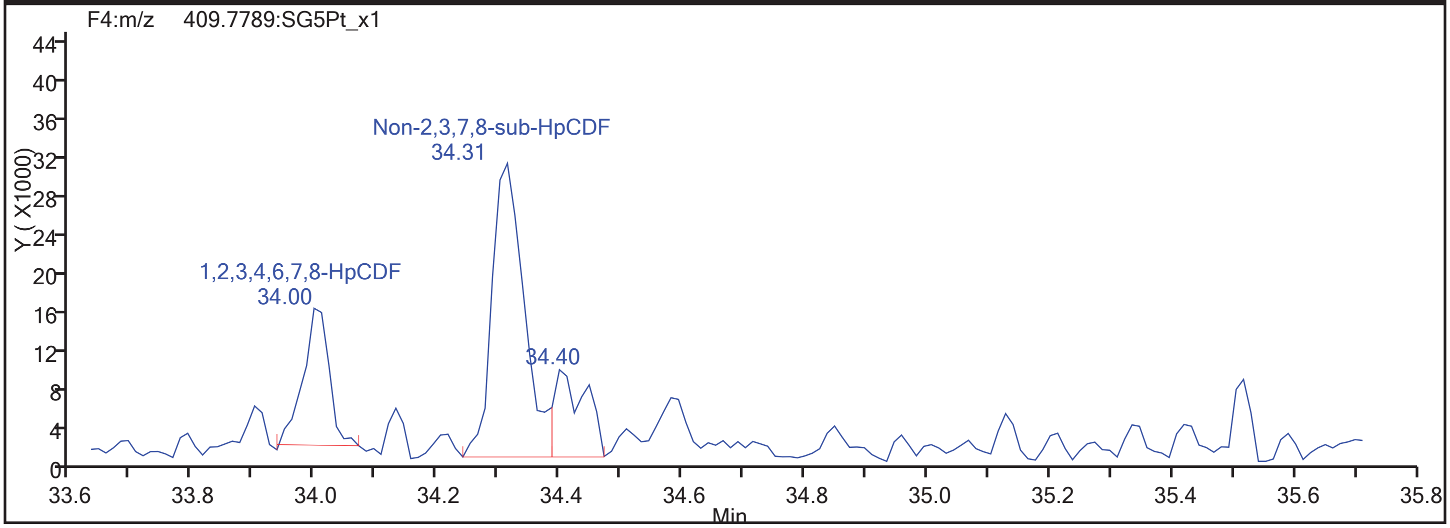
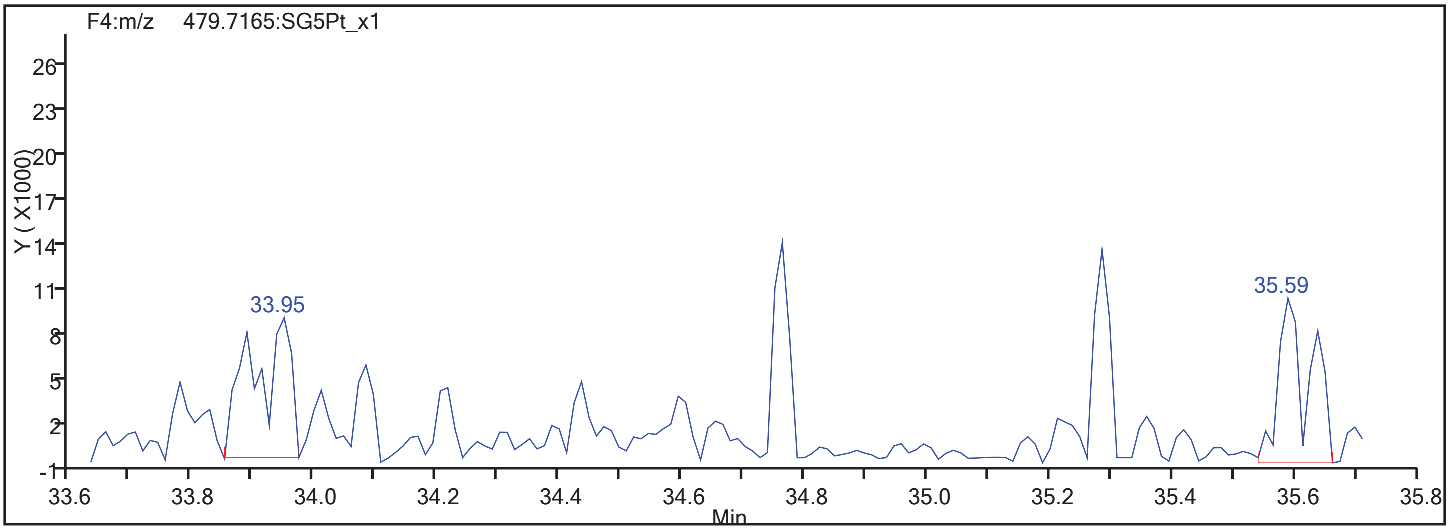




HpCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 20:16:23 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS05NS

Worklist#: 195573 Sample Line#: 63

Column Type: Column Dia:

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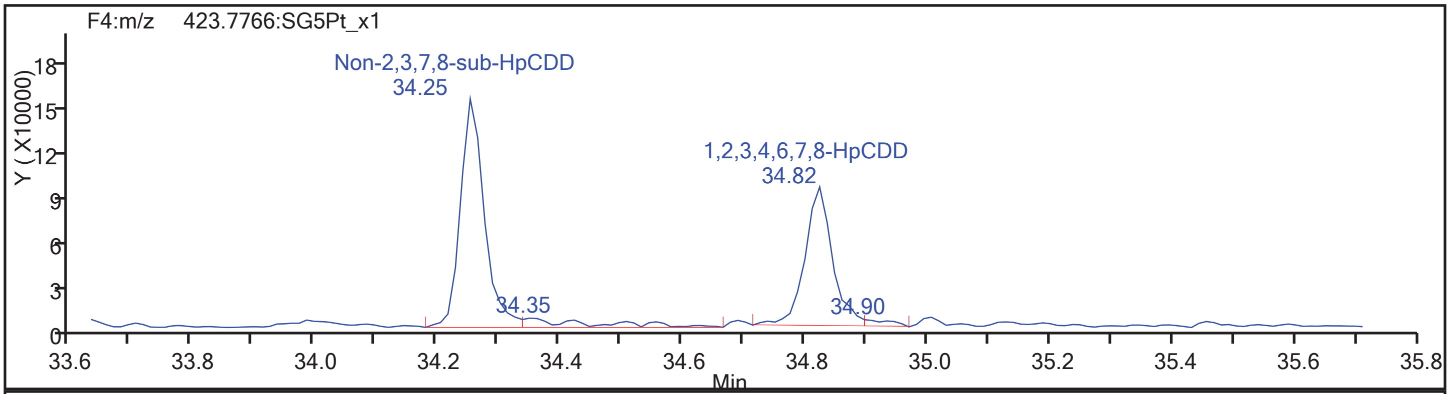

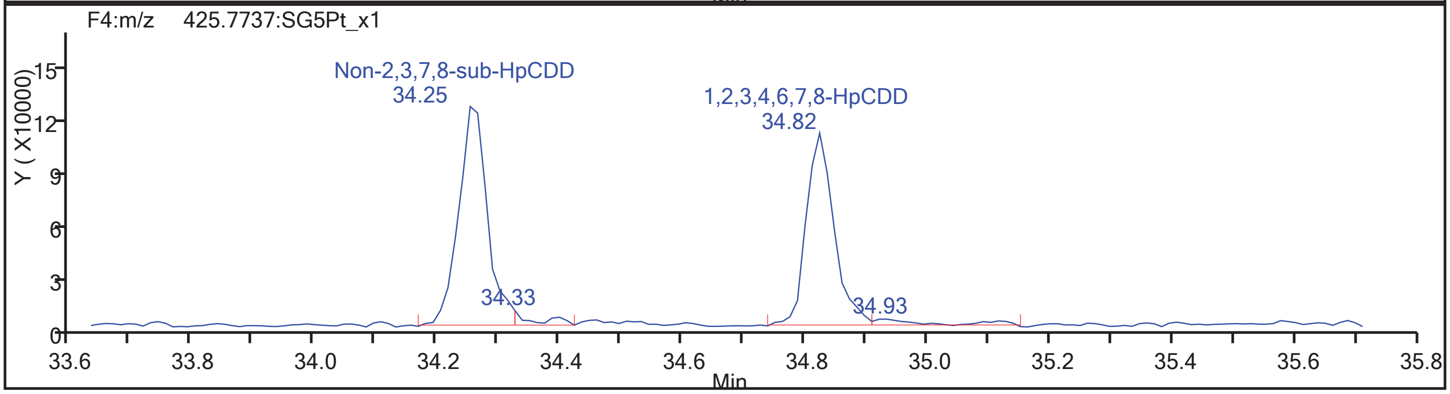

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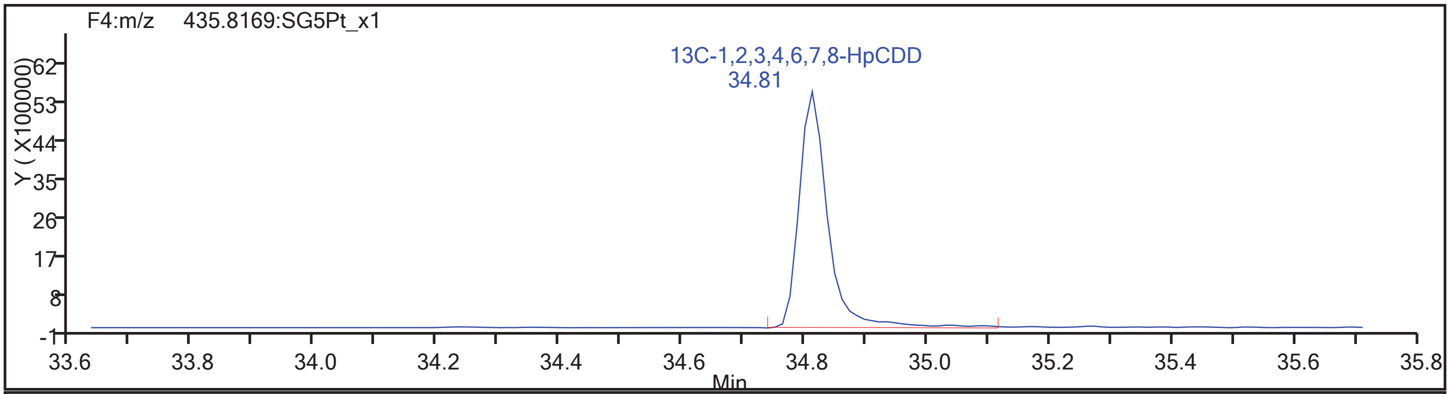

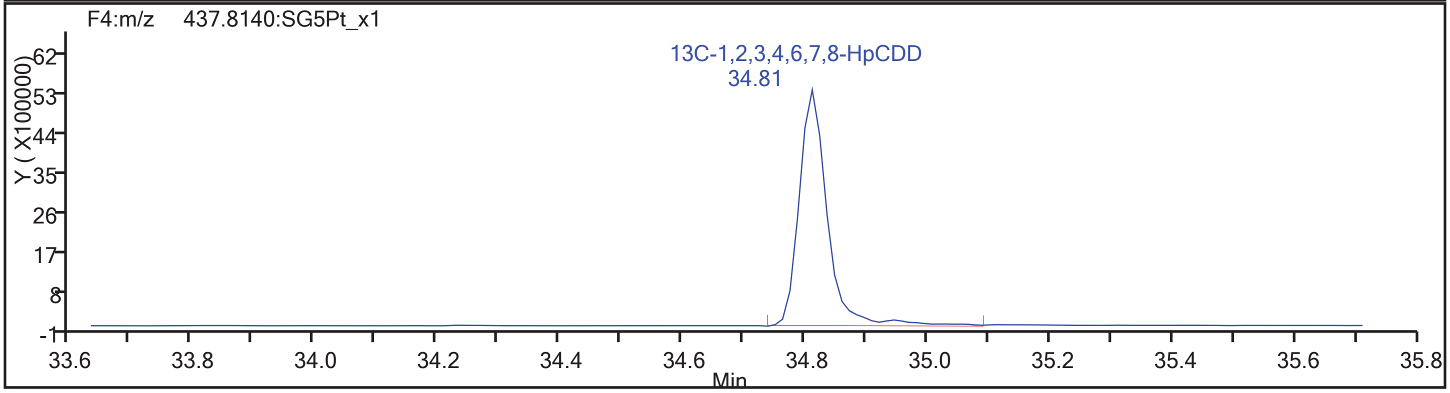

TestAmerica Sacramento

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Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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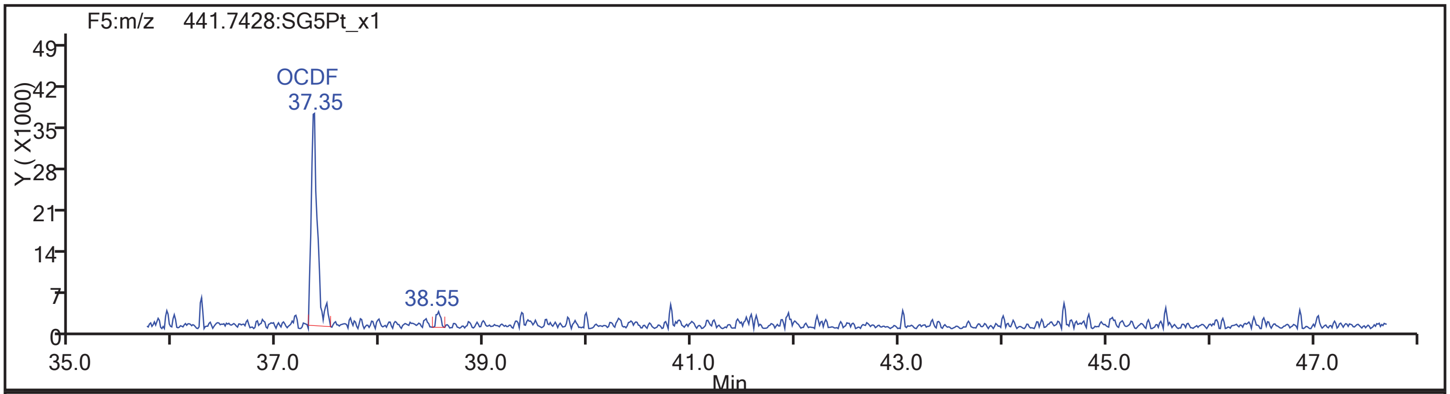

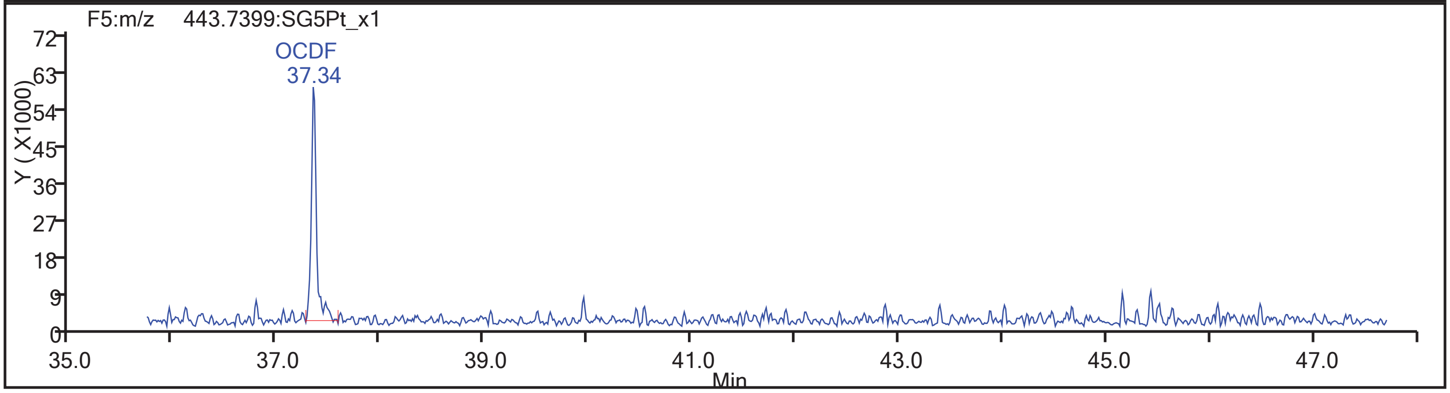

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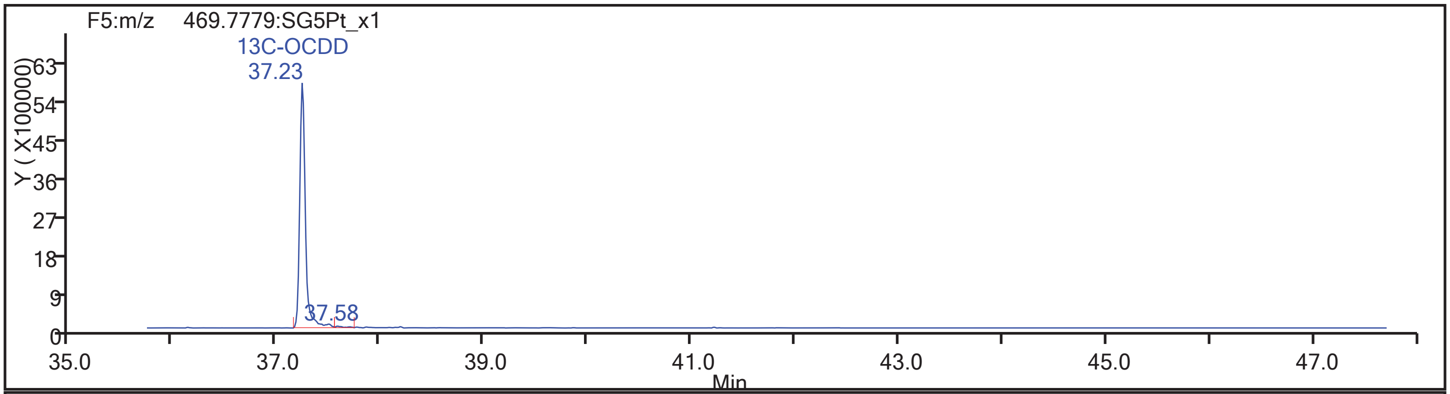

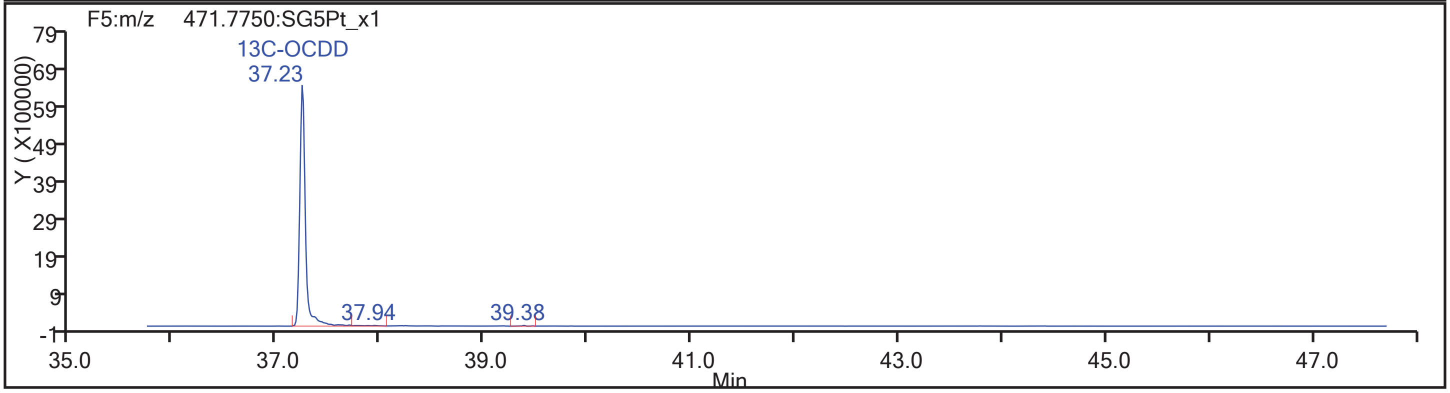

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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 20:16:23
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
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Worklist#: 195573
Sample Line#: 63
Column Type:
Column Dia:

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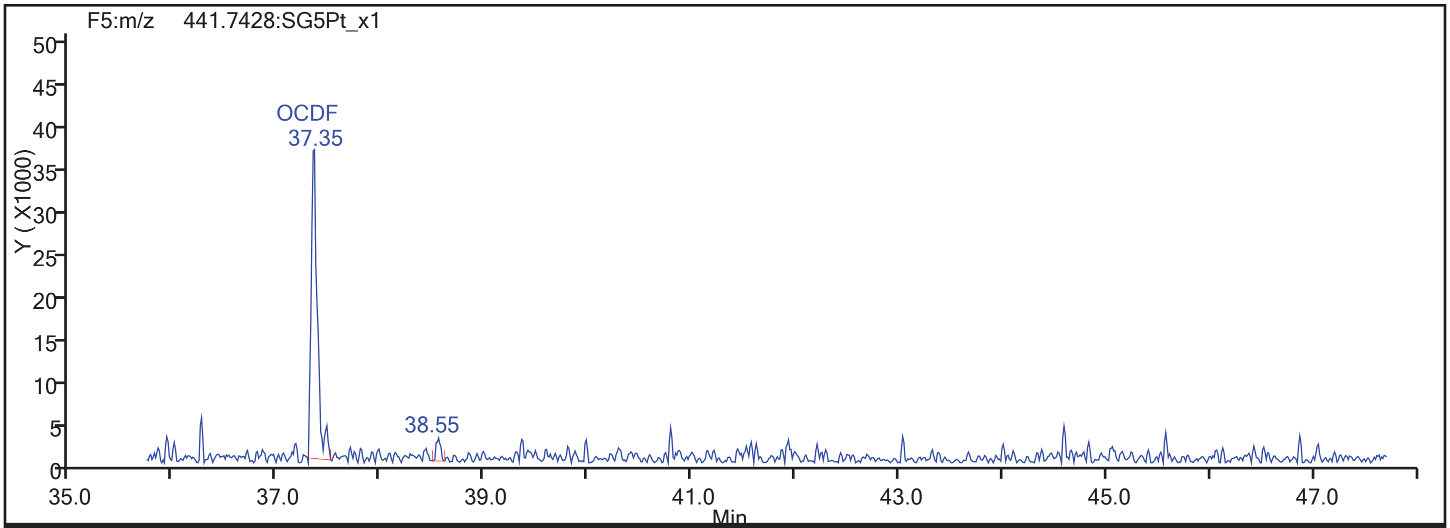
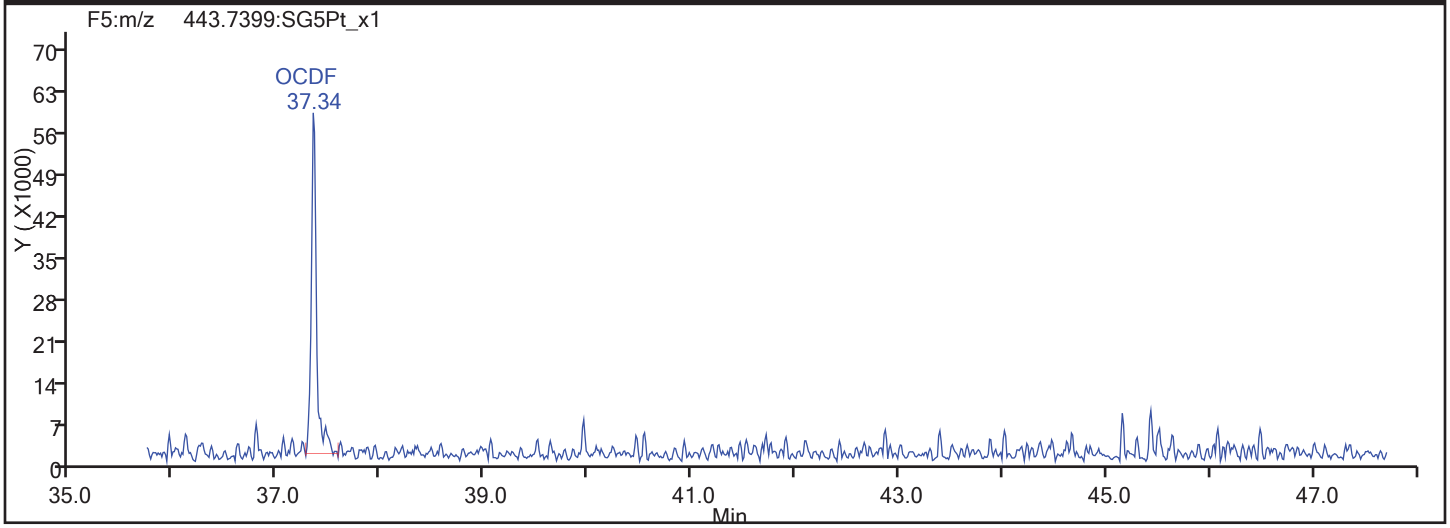
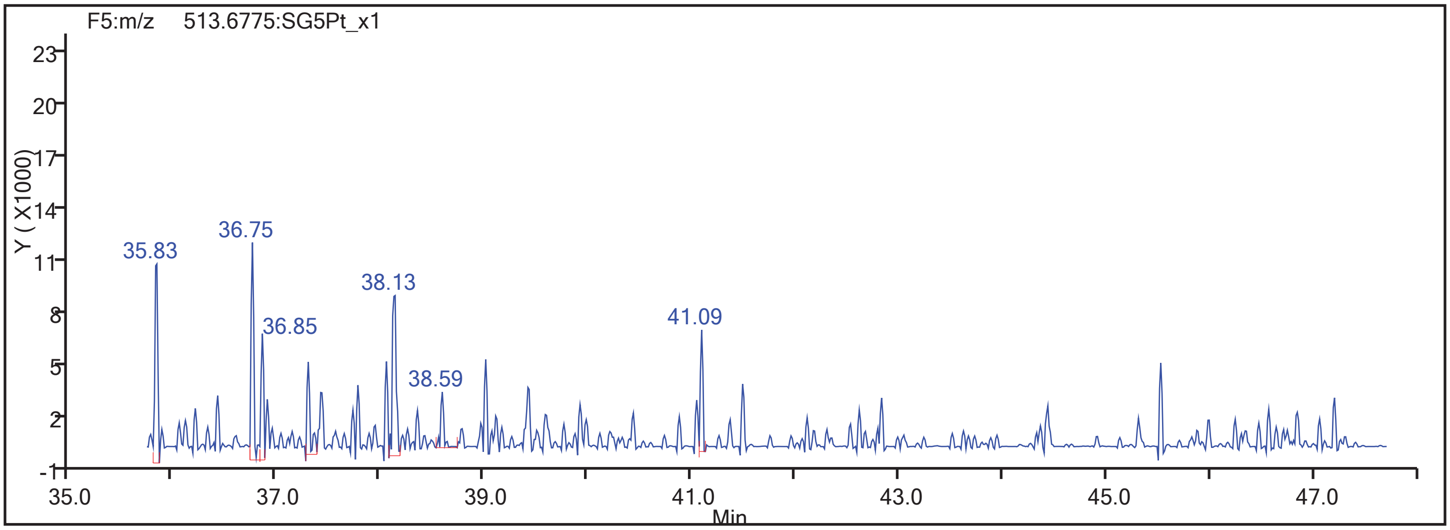




OCDF Interference Mass



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TestAmerica Sacramento

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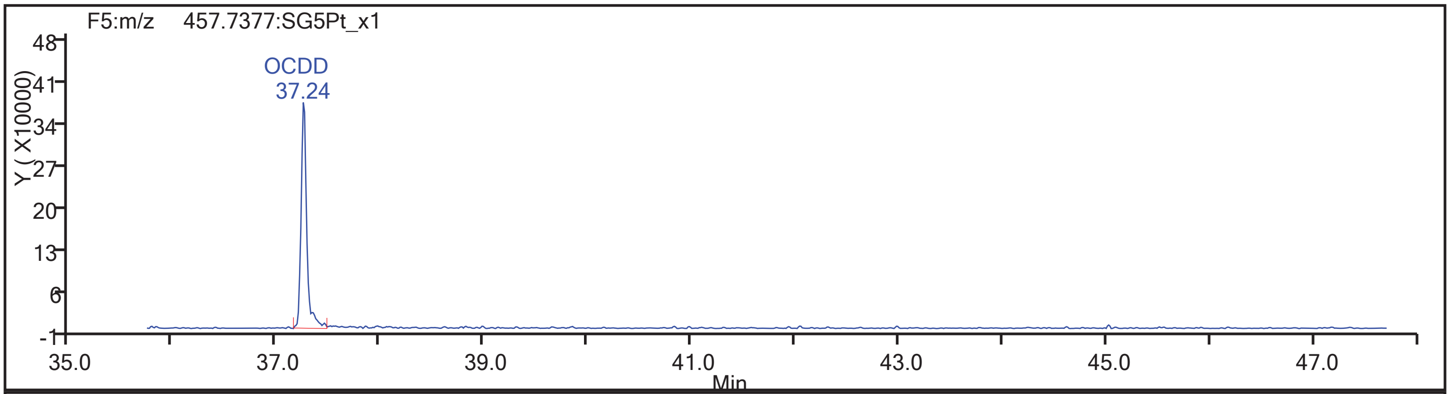

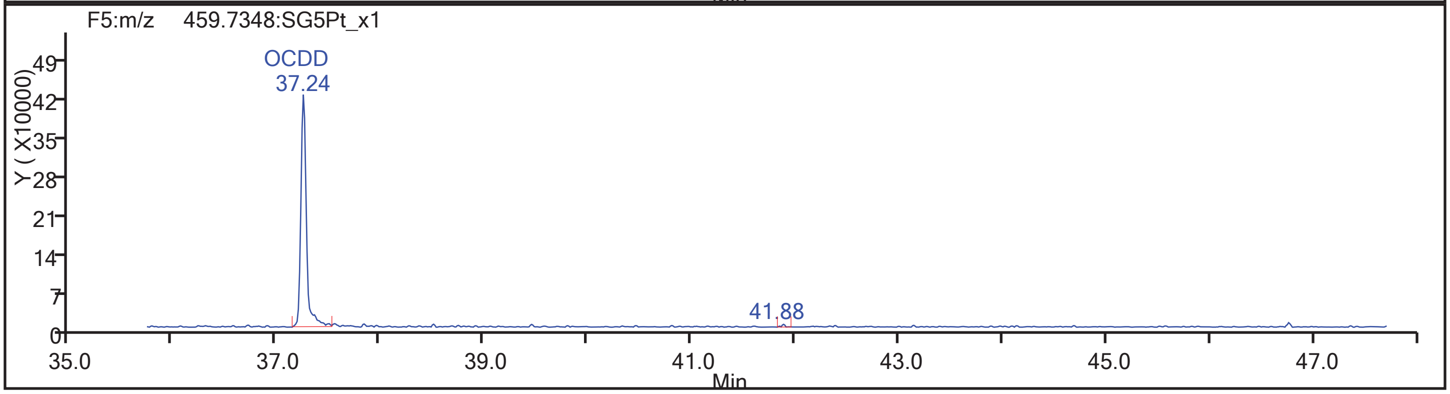

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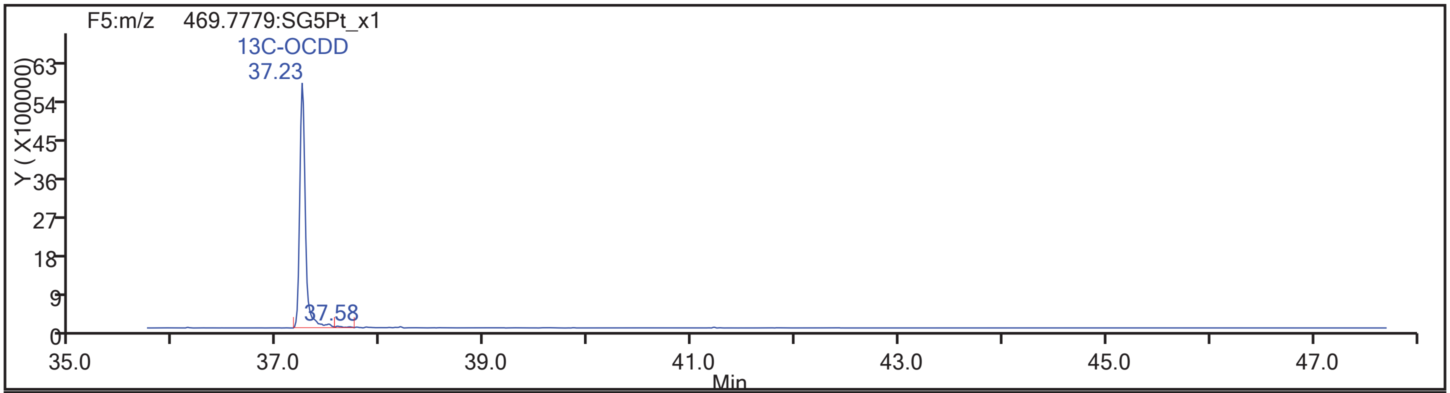

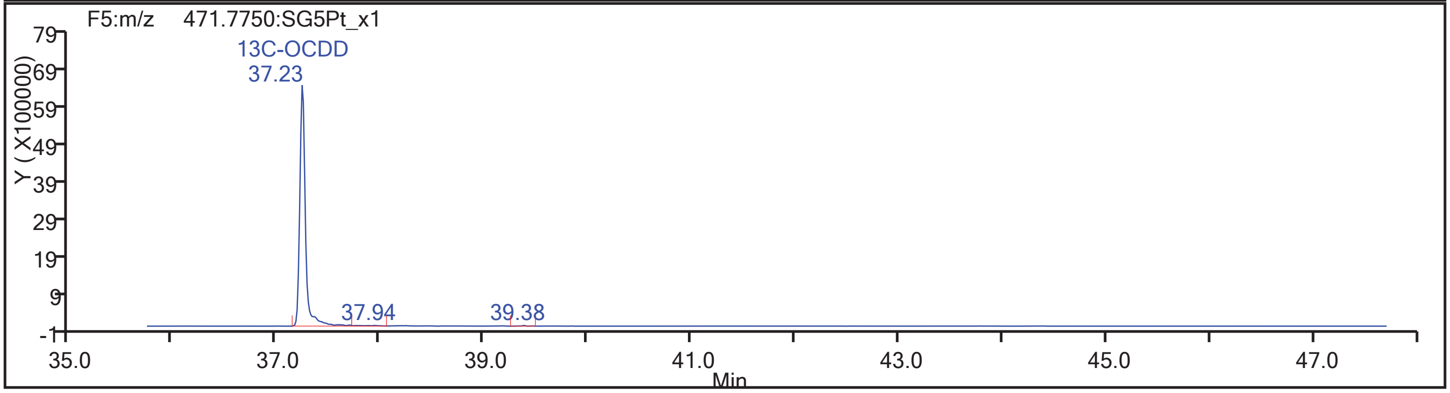

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TestAmerica Sacramento

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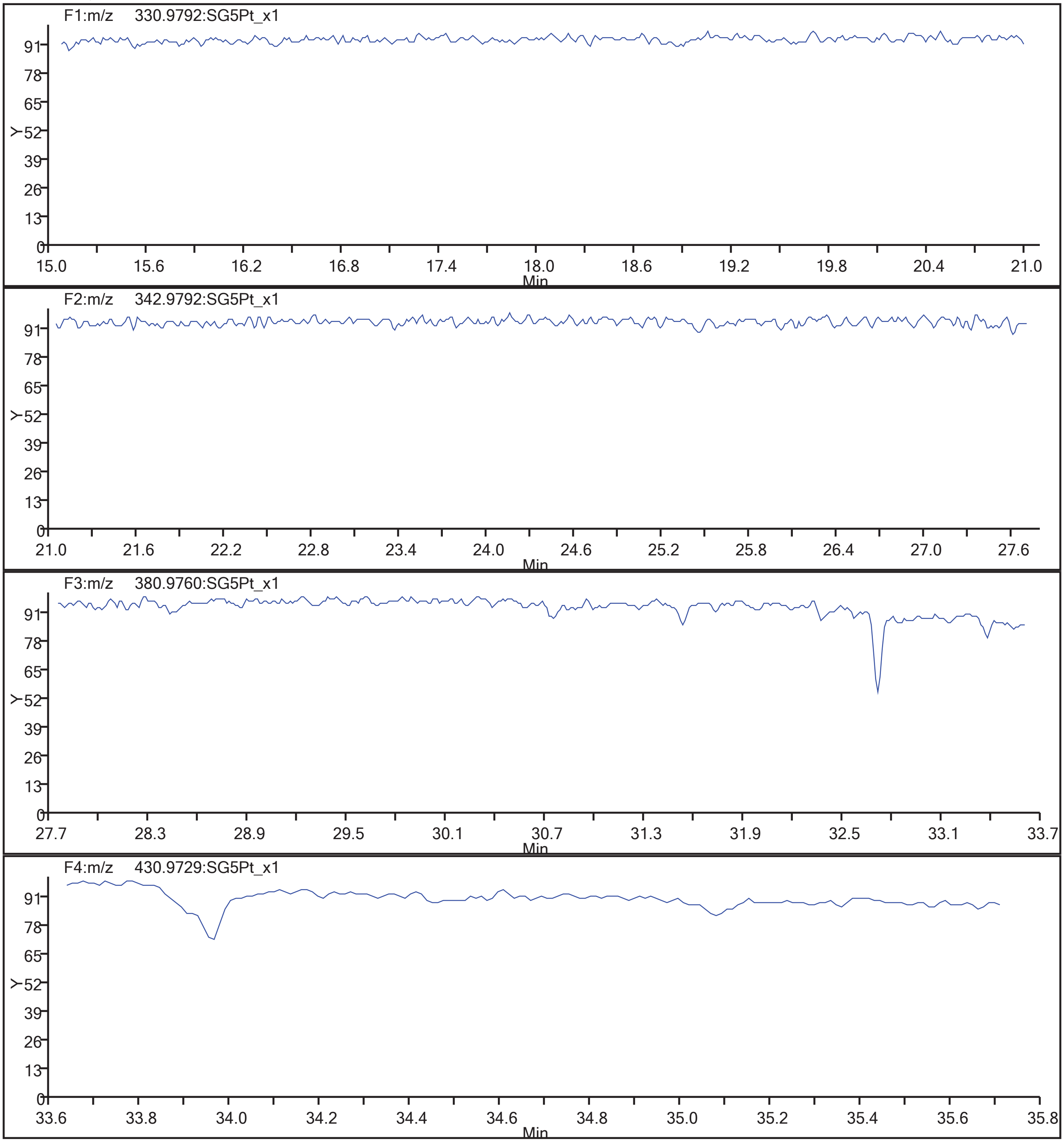

TestAmerica Sacramento

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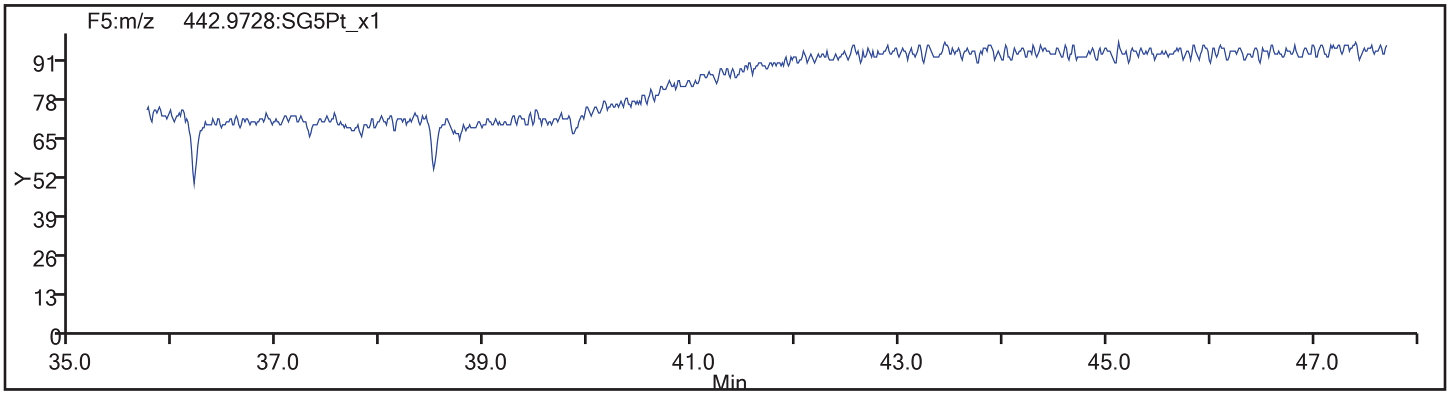


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP026SS05DS	Lab Sample ID: 160-24924-5
Matrix: Solid	Lab File ID: 09NO1710D5_63.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:26
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.03(g)	Date Analyzed: 11/11/2017 09:56
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 26.5	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194084	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.54	U	1.4	0.54	0.043
51207-31-9	2,3,7,8-TCDF	0.54	U	1.4	0.54	0.030
40321-76-4	1,2,3,7,8-PeCDD	1.0	U	6.8	1.0	0.054
57117-41-6	1,2,3,7,8-PeCDF	1.0	U	6.8	1.0	0.038
57117-31-4	2,3,4,7,8-PeCDF	1.0	U	6.8	1.0	0.039
39227-28-6	1,2,3,4,7,8-HxCDD	0.33	J	6.8	2.7	0.058
57653-85-7	1,2,3,6,7,8-HxCDD	0.29	J	6.8	2.7	0.045
19408-74-3	1,2,3,7,8,9-HxCDD	0.40	J	6.8	2.7	0.044
70648-26-9	1,2,3,4,7,8-HxCDF	1.0	U	6.8	1.0	0.034
57117-44-9	1,2,3,6,7,8-HxCDF	1.4	U	6.8	1.4	0.028
72918-21-9	1,2,3,7,8,9-HxCDF	0.073	J	6.8	1.4	0.033
60851-34-5	2,3,4,6,7,8-HxCDF	0.052	J M	6.8	1.0	0.031
35822-46-9	1,2,3,4,6,7,8-HpCDD	3.1	J	6.8	1.4	0.081
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.4	U	6.8	1.4	0.069
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.7	U	6.8	2.7	0.085
3268-87-9	OCDD	17	B	14	5.4	0.070
39001-02-0	OCDF	0.77	J	14	5.4	0.045

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	69		40-135
89059-46-1	13C-2,3,7,8-TCDF	74		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	78		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	80		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	71		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	84		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	72		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	40		40-135
114423-97-1	13C-OCDD	62		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Lims ID: 160-24924-G-5-A
Client ID: SHAD041DP026SS05DS
Sample Type: Client
Inject. Date: 11-Nov-2017 09:56:46 ALS Bottle#: 36 Worklist Smp#: 63
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-5-a 160-24924-g-5-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 11:21:50 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 11:21:50

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.899	112143163	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.385	105715258	0.78	1.2741	74.0	74.0	0.1193	0.1193	73.99	
2,3,7,8-TCDF	17.415						0.0112	0.0112		
A Non-2,3,7,8-sub-TCDF	17.113						0.0	0.0		
S Total TCDF							0.0112	0.0112		
D 13C-2,3,7,8-TCDD	18.095	76966498	0.78	0.9921	69.2	69.2	0.1915	0.1915	69.18	
2,3,7,8-TCDD	18.125						0.0157	0.0157		
A Non-2,3,7,8-sub-TCDD	17.566						0.0	0.0		
S Total TCDD							0.0157	0.0157		
D 13C-1,2,3,7,8-PeCDF	22.424	87295843	1.56	0.9696	80.3	80.3	0.2004	0.2004	80.28	
1,2,3,7,8-PeCDF	22.465						0.0140	0.0140		
2,3,4,7,8-PeCDF	23.828						0.0143	0.0143		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.175	11629	1.55	1.1511	0.0141	0.0116	0.0141	0.0141		RQ
S Total PeCDF					0.0141	0.0116	0.0141	0.0141		RQ
D 13C-1,2,3,7,8-PeCDD	24.510	66648860	1.59	0.7588	78.3	78.3	0.1091	0.1091	78.33	
1,2,3,7,8-PeCDD	24.551						0.0197	0.0197		
A Non-2,3,7,8-sub-PeCDD	23.433	25110	1.55	0.9490	0.0539	0.0397	0.0197	0.0199		RQ
S Total PeCDD					0.0539	0.0397	0.0197	0.0197		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.580	76683015	0.52	0.9644	84.1	84.1	0.4599	0.4599	84.13	
1,2,3,4,7,8-HxCDF	30.606						0.0124	0.0124		
1,2,3,6,7,8-HxCDF	30.793						0.0102	0.0102		
2,3,4,6,7,8-HxCDF	31.565	22336	1.24	1.5205	0.0208	0.0192	0.0114	0.0114		RQM
D 13C-1,2,3,7,8,9-HxCDF	32.350	75861998	0.52							
1,2,3,7,8,9-HxCDF	32.364	29250	1.32	1.4099	0.0271	0.0271	0.0123	0.0123		
A Non-2,3,7,8-sub-HxCDF	30.267						0.0	0.0		U
S Total HxCDF					0.0479	0.0462	0.0116	0.0116		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.164	94514590	1.26	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.765	69397	1.16	0.9505	0.1235	0.1235	0.0213	0.0213		
D 13C-1,2,3,6,7,8-HxCDD	31.844	59120297	1.24	0.8791	71.2	71.2	0.3579	0.3579	71.16	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.858	76864	1.06	1.2343	0.1053	0.1053	0.0164	0.0164		
1,2,3,7,8,9-HxCDD	32.191	109684	1.24	1.2467	0.1614	0.1488	0.0163	0.0163		RQ
A Non-2,3,7,8-sub-HxCDD	30.913	578602	1.23	1.1438	0.8556	0.8556	0.0177	0.4875		
S Total HxCDD					1.246	1.233	0.0180	0.0180		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.758	28982602	0.43	0.7618	40.3	40.3	0.9573	0.9573	40.25	
1,2,3,4,6,7,8-HpCDF	33.782						0.0254	0.0254		
1,2,3,4,7,8,9-HpCDF	34.863						0.0313	0.0313		
A Non-2,3,7,8-sub-HpCDF	34.311	66782	0.88	1.4851	0.1552	0.1552	0.0280	0.1552		M
S Total HpCDF					0.1552	0.1552	0.0283	0.0283		
D 13C-1,2,3,4,6,7,8-HpCDD	34.548	52760539	1.04	0.7762	71.9	71.9	0.5217	0.5217	71.92	
1,2,3,4,6,7,8-HpCDD	34.560	592246	0.98	0.9932	1.130	1.130	0.0299	0.0299		
A Non-2,3,7,8-sub-HpCDD	34.287	1170422	1.06	0.9932	2.234	2.234	0.0299	2.234		
S Total HpCDD					3.364	3.364	0.0299	0.0299		
D 13C-OCDD	36.882	73486906	0.91	0.6314	123.1	123.1	0.1550	0.1550	61.57	
OCDF	36.990	139805	0.82	1.3460	0.2827	0.2827	0.0165	0.0165		
OCDD	36.894	2434824	0.90	1.0604	6.249	6.249	0.0260	0.0260		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Report Date: 13-Nov-2017 11:21:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Lims ID: 160-24924-G-5-A
Client ID: SHAD041DP026SS05DS
Sample Type: Client
Inject. Date: 11-Nov-2017 09:56:46 ALS Bottle#: 36 Worklist Smp#: 63
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-5-a 160-24924-g-5-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 11:21:50 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 11:21:50

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.899	17.914	-1		49114785	12322943	9722	24305	1268		
333.9339	17.899	17.914	-1		63028378	15842472	11685	29212	1356	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.385	17.400	-1	0.971	46450976	11448678	9437	23592	1213		
317.9389	17.385	17.400	-1	0.971	59264282	14708413	7681	19202	1915	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415						433	1082			
305.8987	17.415						898	2245			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.113						433	1082			
305.8987	17.113						898	2245			
13C-2,3,7,8-TCDD											
331.9368	18.095	18.111	-1	1.011	33623167	7852143	9722	24305	808		
333.9339	18.095	18.111	-1	1.011	43343331	10187252	11685	29212	872	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.125						604	1510			
321.8936	18.125						528	1320			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.566						604	1510			
321.8936	17.566						528	1320			
13C-1,2,3,7,8-PeCDF											
351.9000	22.424	22.451	-2	1.253	53231826	9284406	12890	32225	720		
353.8970	22.424	22.451	-2	1.253	34064017	5887586	9003	22507	654	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.465						354	885			
341.8567	22.465						633	1582			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	23.828						354	885			
341.8567	23.828						633	1582			
A F1 PeCDFs											
339.8597	20.001						232	580			
341.8567	20.001						877	2192			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.846	23.175	-20	1.019	7069	1743	354	885	5		
341.8567	22.846	23.175	-20	1.019	7067	2186	633	1582	3	1.00(1.32-1.78)	
	Empc Correction				4560	1124	633	1582	2		
13C-1,2,3,7,8-PeCDD											
367.8949	24.510	24.524	-1	1.369	40954752	6311404	5613	14032	1124		
369.8919	24.510	24.524	-1	1.369	25694108	4045432	3713	9282	1090	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551						541	1352			
357.8516	24.551						235	587			
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.306	23.433	-127	0.869	7667	1782	541	1352	3		
357.8516	21.278	23.433	-129	0.868	11075	1941	235	587	8	0.69(1.32-1.78)	
	Empc Correction				4946	1149	235	587	5		
355.8546	22.042	23.433	-83	0.899	10467	2209	541	1352	4		
	Empc Correction				7596	2631	541	1352	5		
357.8516	22.042	23.433	-83	0.899	4901	1698	235	587	7	2.14(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.580	30.593	-1	0.951	26310578	5069461	15621	39052	325		
385.8610	30.580	30.593	-1	0.951	50372437	9675715	27741	69352	349	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.606						686	1715			
375.8178	30.606						335	837			
1,2,3,6,7,8-HxCDF											
373.8208	30.793						686	1715			
375.8178	30.793						335	837			
2,3,4,6,7,8-HxCDF											RQM
373.8208	31.565	31.591	-2	1.032	12365	2823	686	1715	4		M
375.8178	31.565	31.591	-2	1.032	11887	2766	335	837	8	1.04(1.05-1.43)	
	Empc Correction				9971	2276	335	837	7		
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.350	32.363	-1	1.006	25887568	6762805	15621	39052	433		
385.8610	32.350	32.363	-1	1.006	49974430	12900642	27741	69352	465	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.364	32.377	-1	1.058	16619	4059	686	1715	6		
375.8178	32.364	32.377	-1	1.058	12631	3691	335	837	11	1.32(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											U
373.8208	30.267						686	1715			
375.8178	30.267						335	837			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.164	32.177	-1		52735475	13559814	15495	38737	875		
403.8529	32.164	32.177	-1		41779115	10880289	15263	38157	713	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.765	31.764	0	0.997	37208	10569	588	1470	18		
391.8127	31.765	31.764	0	0.997	32189	8977	618	1545	15	1.16(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.844	31.858	-1	0.990	32742169	8168060	15495	38737	527		
403.8529	31.844	31.858	-1	0.990	26378128	6692584	15263	38157	438	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.858	31.871	-1	1.000	39630	9071	588	1470	15		
391.8127	31.858	31.871	-1	1.000	37234	9158	618	1545	15	1.06(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQ
389.8157	32.191	32.190	0	1.011	60718	16214	588	1470	28		
391.8127	32.177	32.190	-1	1.010	58235	12606	618	1545	20	1.04(1.05-1.43)	
	Empc Correction				48966	13075	618	1545	21		
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.648	30.913	-76	0.931	179030	22571	588	1470	38		
391.8127	29.635	30.913	-76	0.931	150650	20320	618	1545	33	1.19(1.05-1.43)	
389.8157	31.019	30.913	6	0.974	126273	24310	588	1470	41		
391.8127	31.019	30.913	6	0.974	97947	21789	618	1545	35	1.29(1.05-1.43)	
389.8157	31.206	30.913	18	0.980	13438	4419	588	1470	8		
391.8127	31.206	30.913	18	0.980	11264	2344	618	1545	4	1.19(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.758	33.770	-1	1.050	8783207	2741123	24134	60335	114		
419.8220	33.758	33.770	-1	1.050	20199395	6082904	47163	117907	129	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.782						914	2285			
409.7789	33.782						554	1385			
1,2,3,4,7,8,9-HpCDF											
407.7818	34.863						914	2285			
409.7789	34.863						554	1385			
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.074	34.311	-14	1.009	31168	9079	914	2285	10		
409.7789	34.074	34.311	-14	1.009	35614	9261	554	1385	17	0.88(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.548	34.560	-1	1.074	26955882	7928828	26048	65120	304		
437.8140	34.548	34.560	-1	1.074	25804657	7627071	13542	33855	563	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.560	34.572	-1	1.000	292889	82678	991	2477	83		
425.7737	34.560	34.572	-1	1.000	299357	85714	854	2135	100	0.98(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.014	34.287	-16	0.985	601125	191064	991	2477	193		
425.7737	34.014	34.287	-16	0.985	569297	175945	854	2135	206	1.06(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-OCDD											
469.7779	36.882	36.894	-1	1.147	35013594	8435842	3265	8162	2584		
471.7750	36.882	36.894	-1	1.147	38473312	9471399	6302	15755	1503	0.91(0.76-1.02)	
OCDF											
441.7428	36.990	36.990	0	1.003	62881	14726	262	655	56		
443.7399	36.978	36.990	-1	1.003	76924	17980	532	1330	34	0.82(0.76-1.02)	
OCDD											
457.7377	36.894	36.906	-1	1.000	1151984	275860	464	1160	595		
459.7348	36.894	36.906	-1	1.000	1282840	305886	522	1305	586	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Lims ID: 160-24924-G-5-A
Client ID: SHAD041DP026SS05DS
Inject. Date: 11-Nov-2017 09:56:46 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194084 Lims Sample ID: 63

Non-2,3,7,8-sub-PeCDF, RT: 23.175

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	87295843	15171992
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	87295843	15171992

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.846	7069	1743	7067	2186	0.0141	1.00	RQ
22.846	7069	1743	4560	1124	0.0116		Empc Correction
Signal Totals:							
	7069	1743	4560	1124			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	14136	3929				1.00	RQ
	11629	2867					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0141 = (14136 * 100.000) / (87295843 * 1.151)
Empc Amount: 0.0116 = (11629 * 100.000) / (87295843 * 1.151)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 13-Nov-2017 11:21:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Lims ID: 160-24924-G-5-A
Client ID: SHAD041DP026SS05DS
Inject. Date: 11-Nov-2017 09:56:46 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194084 Lims Sample ID: 63

Non-2,3,7,8-sub-PeCDD, RT: 23.433

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	66648860	10356836

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	66648860	10356836

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.306	7667	1782	11075	1941	0.0296	0.69	RQ
21.306	7667	1782	4946	1149	0.0199		Empc Correction
22.042	10467	2209	4901	1698	0.0243	2.14	RQ
22.042	7596	2631	4901	1698	0.0198		Empc Correction
Signal Totals:							
	15263	4413	9847	2847			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	34110	7630				1.14	RQ
	25110	7260					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0539 = (34110 * 100.000) / (66648860 * 0.949)
Empc Amount: 0.0397 = (25110 * 100.000) / (66648860 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Lims ID: 160-24924-G-5-A
Client ID: SHAD041DP026SS05DS
Inject. Date: 11-Nov-2017 09:56:46
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194084
Lims Sample ID: 63

Non-2,3,7,8-sub-HxCDF, RT: 30.267

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	76683015	14745176
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags

Compound is Marked ND

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Lims ID: 160-24924-G-5-A
Client ID: SHAD041DP026SS05DS
Inject. Date: 11-Nov-2017 09:56:46 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194084 Lims Sample ID: 63

Non-2,3,7,8-sub-HxCDD, RT: 30.913

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	59120297	14860644
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	59120297	14860644

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.648	179030	22571	150650	20320	0.4875	1.19	
31.019	126273	24310	97947	21789	0.3316	1.29	
31.206	13438	4419	11264	2344	0.0365	1.19	
Signal Totals:							
	318741	51300	259861	44453			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	578602	95753				1.23	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8556 = (578602 * 100.000) / (59120297 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d		
Lims ID:	160-24924-G-5-A		
Client ID:	SHAD041DP026SS05DS		
Inject. Date:	11-Nov-2017 09:56:46	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194084	Lims Sample ID:	63

Non-2,3,7,8-sub-HpCDF, RT: 34.311

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	28982602	8824027
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	28982602	8824027

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.074	31168	9079	35614	9261	0.1552	0.88	M
Signal Totals:							
	31168	9079	35614	9261			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	66782	18340				0.88	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1552 = (66782 * 100.000) / (28982602 * 1.485)

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 11:21:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Lims ID: 160-24924-G-5-A
Client ID: SHAD041DP026SS05DS
Inject. Date: 11-Nov-2017 09:56:46 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194084 Lims Sample ID: 63

Non-2,3,7,8-sub-HpCDD, RT: 34.287

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	52760539	15555899

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	52760539	15555899

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.014	601125	191064	569297	175945	2.23	1.06	
Signal Totals:							
	601125	191064	569297	175945			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1170422	367009				1.06	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.234 = (1170422 * 100.000) / (52760539 * 0.993)

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

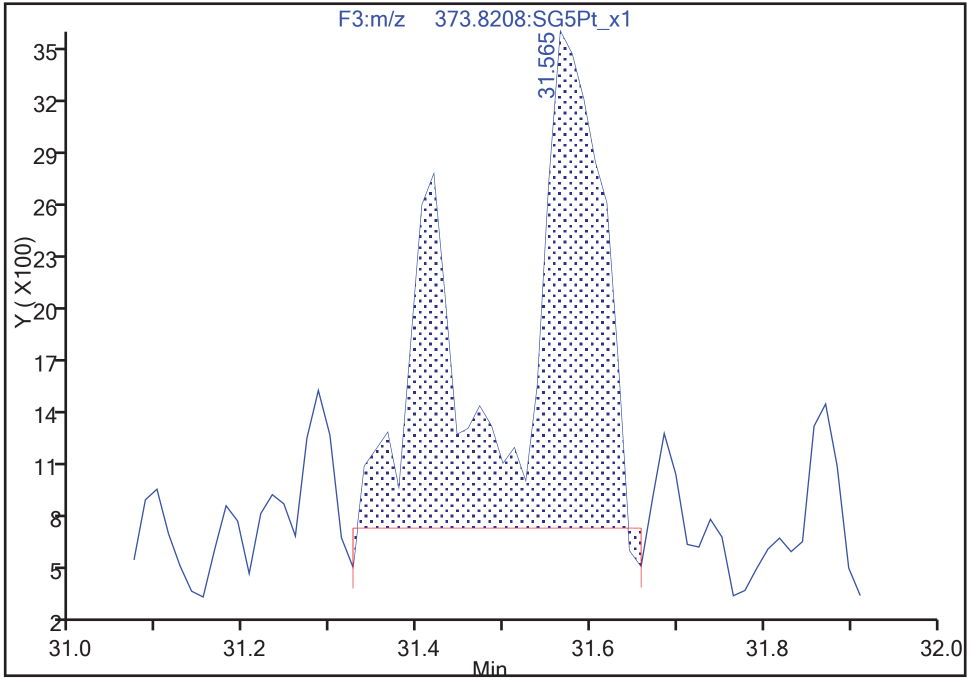
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d				
Injection Date:	11-Nov-2017 09:56:46	Instrument ID:	10D5		
Lims ID:	160-24924-G-5-A	Lab Sample ID:	320-24924-5		
Client ID:	SHAD041DP026SS05DS				
Operator ID:	AJS	ALS Bottle#:	36	Worklist Smp#:	63
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

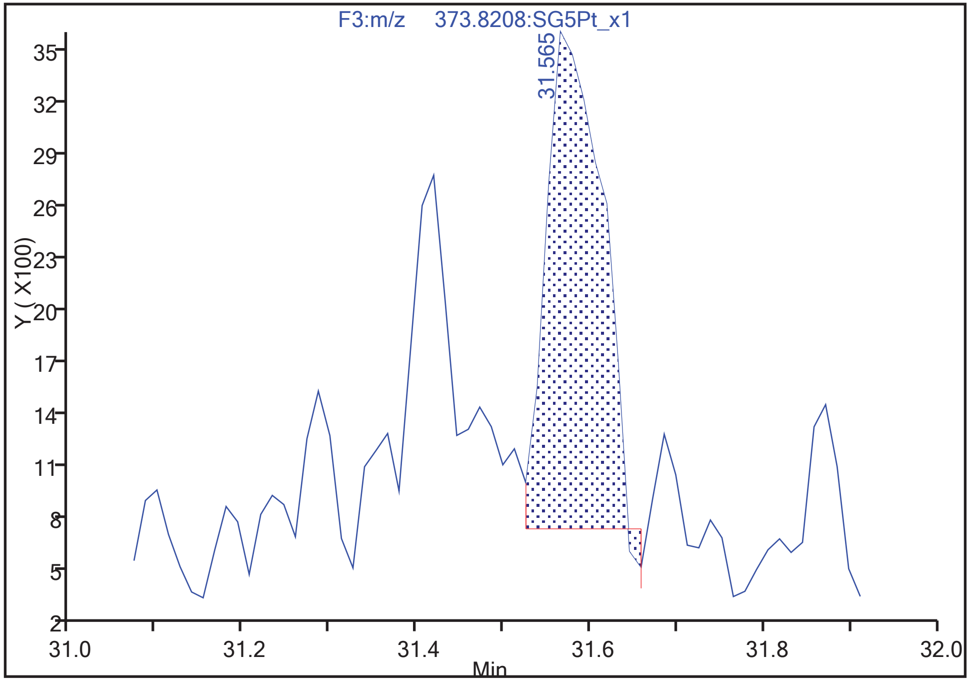
Processing Integration Results

RT:	31.57
Area:	21097
Amount:	0.028288
Amount Units:	pg/ul



Manual Integration Results

RT:	31.57
Area:	12365
Amount:	0.020799
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 11:20:07

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 11:21:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d

Injection Date: 11-Nov-2017 09:56:46 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

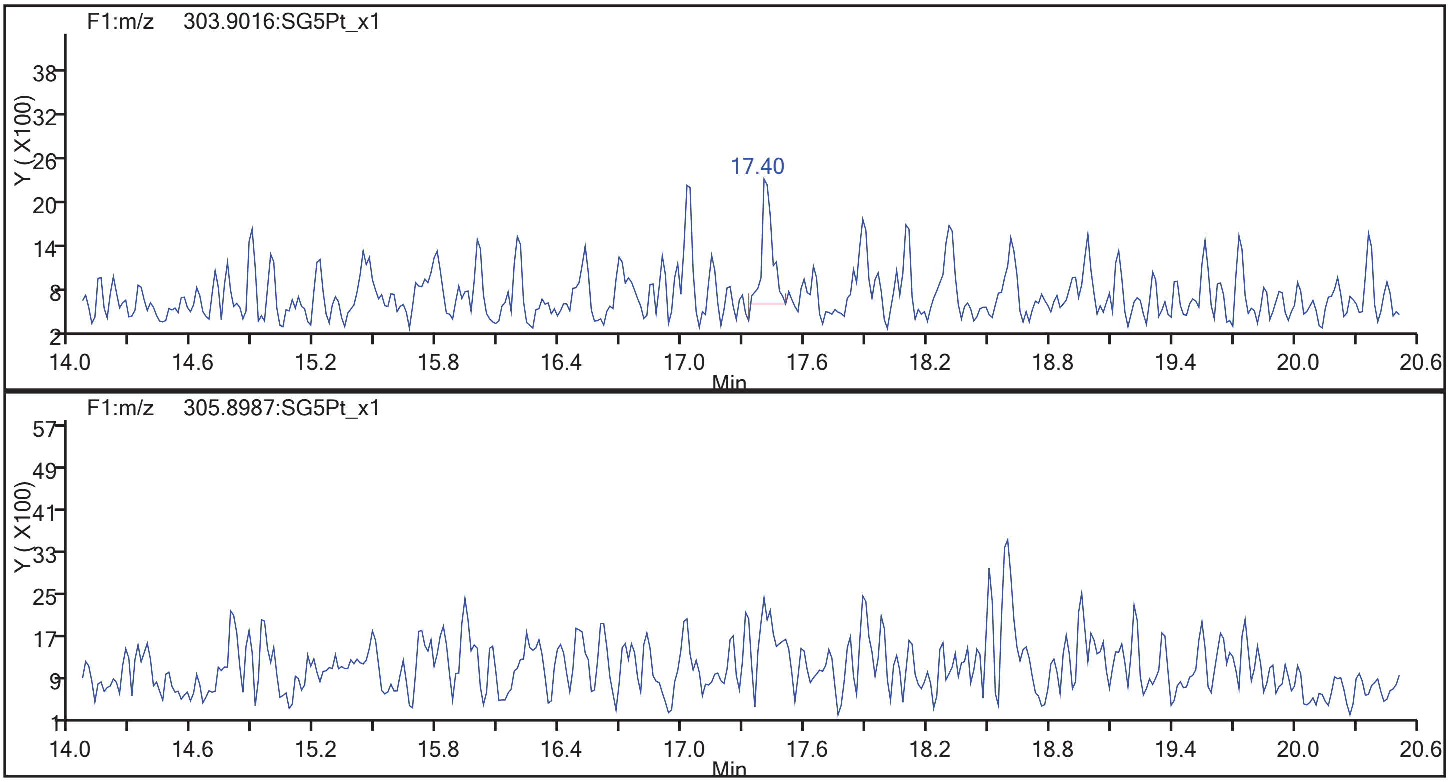
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS05DS

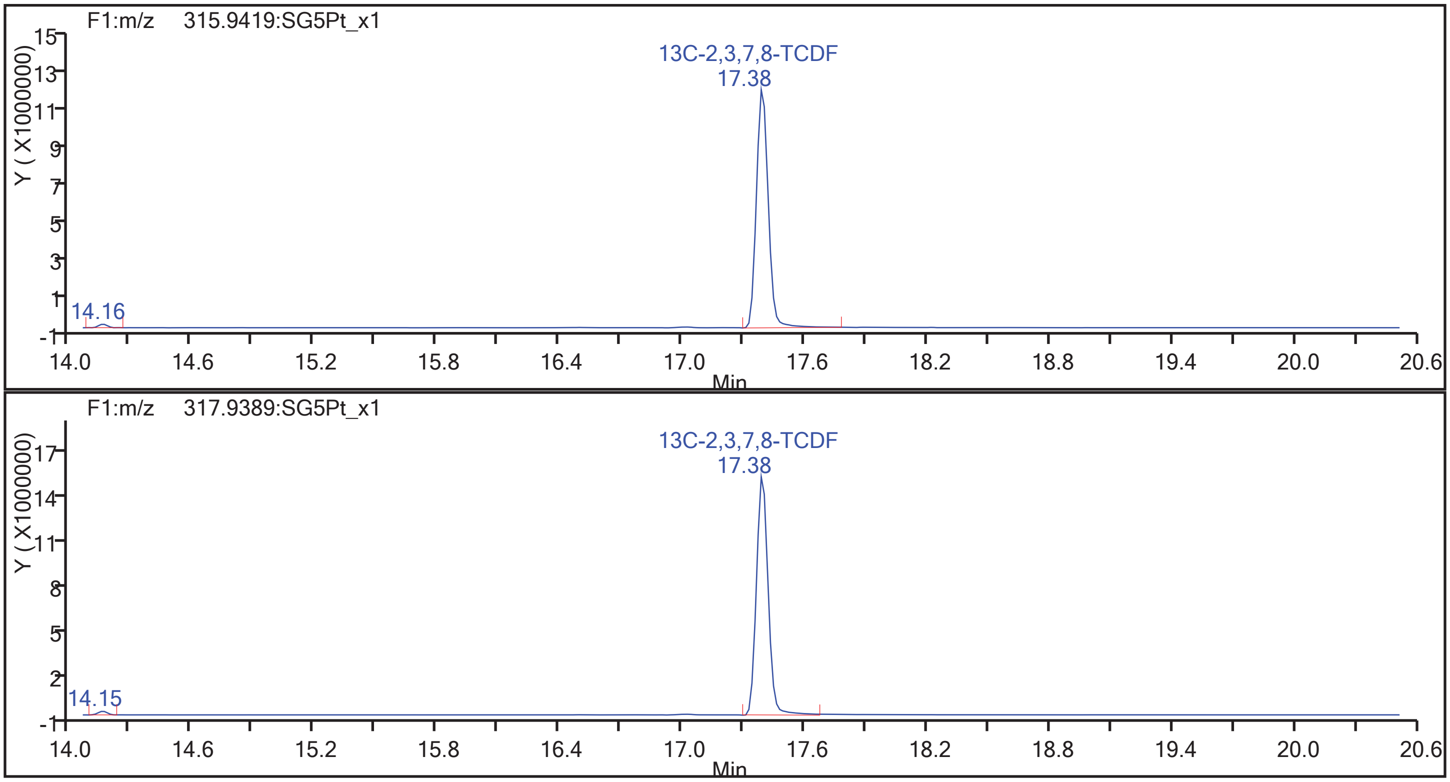
Worklist#: 194084 Sample Line#: 63

Column Type: DB-5 Column Dia: 0.32 mm

TCDF



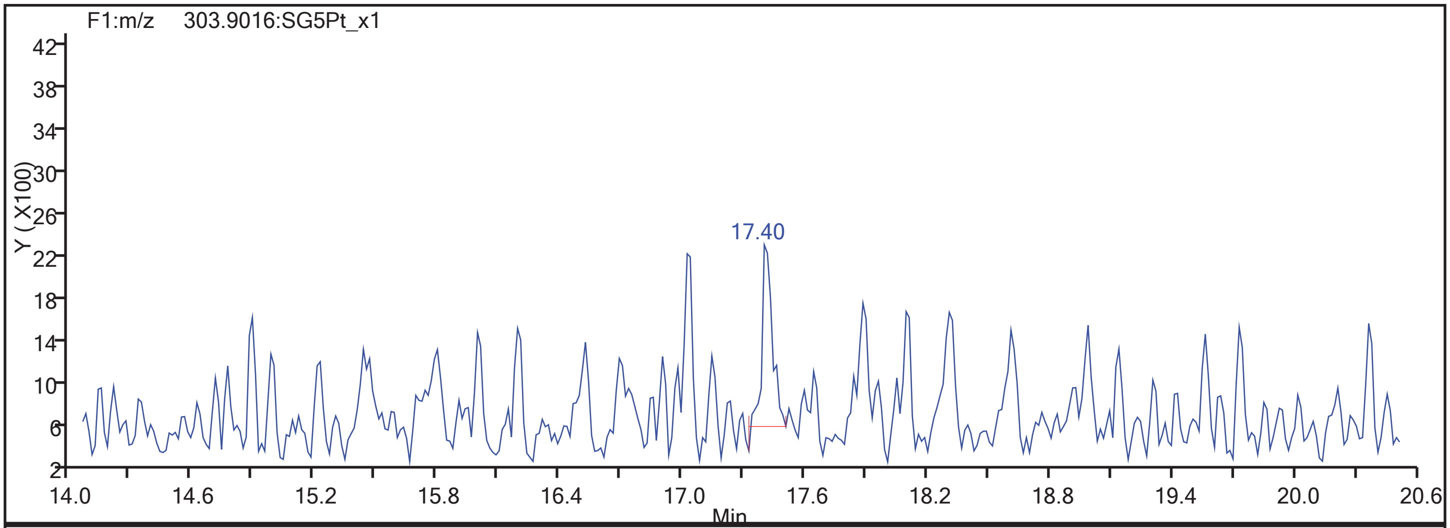
TCDF Standards

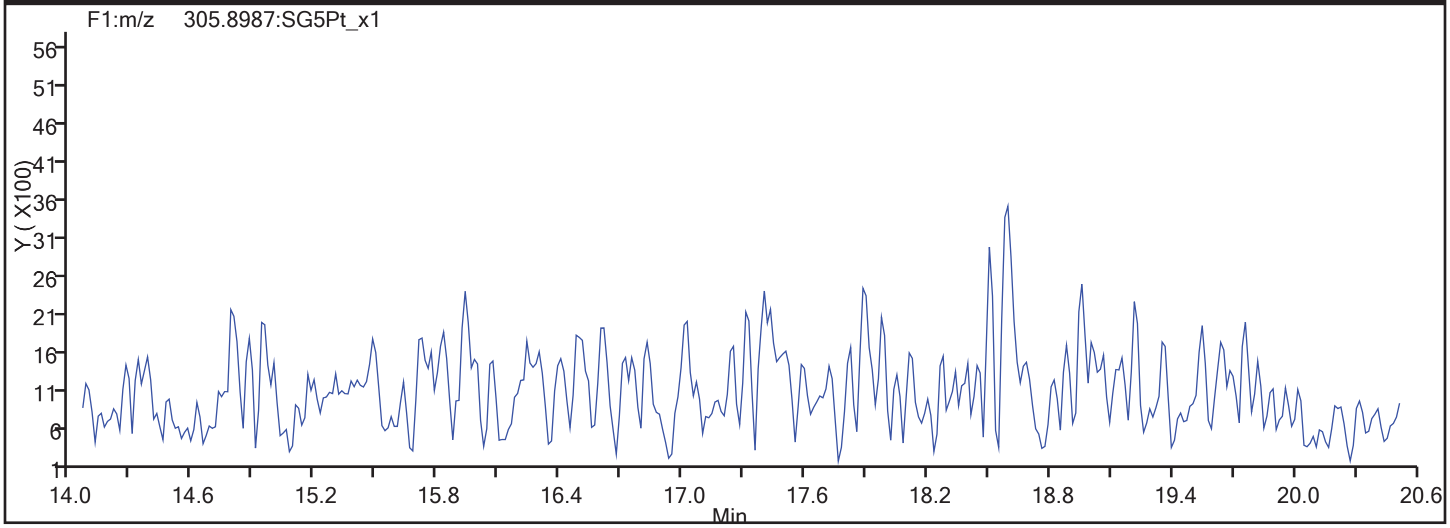


TestAmerica Sacramento

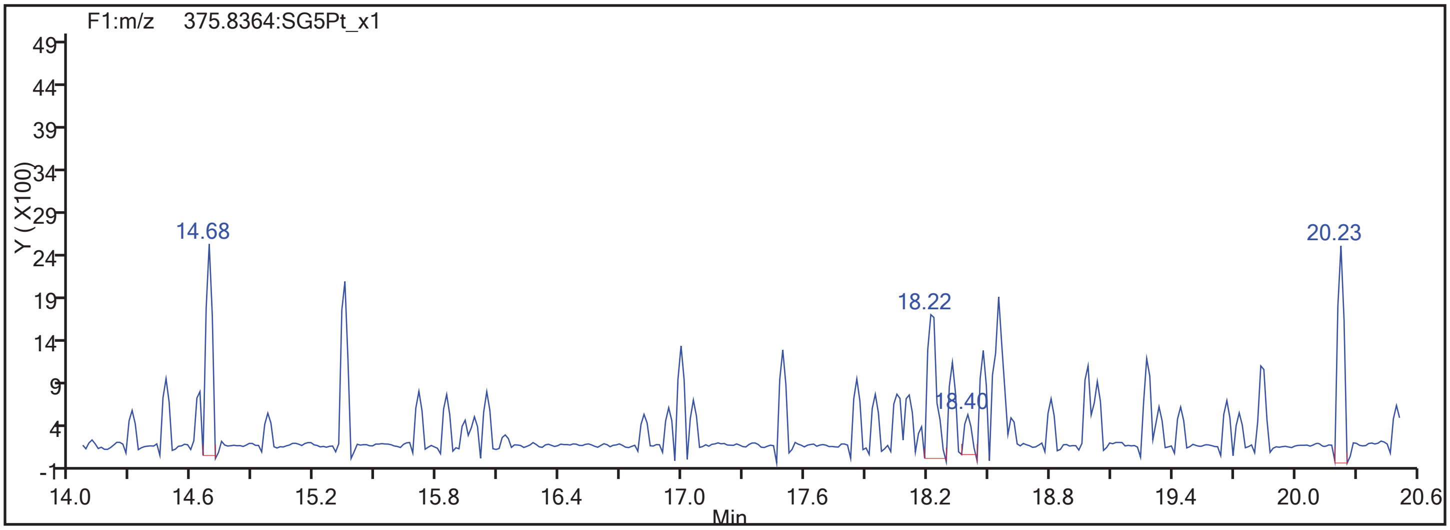
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d		
Injection Date:	11-Nov-2017 09:56:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	194084	Sample Line#:	63
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Report Date: 13-Nov-2017 11:21:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d

Injection Date: 11-Nov-2017 09:56:46

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS05DS

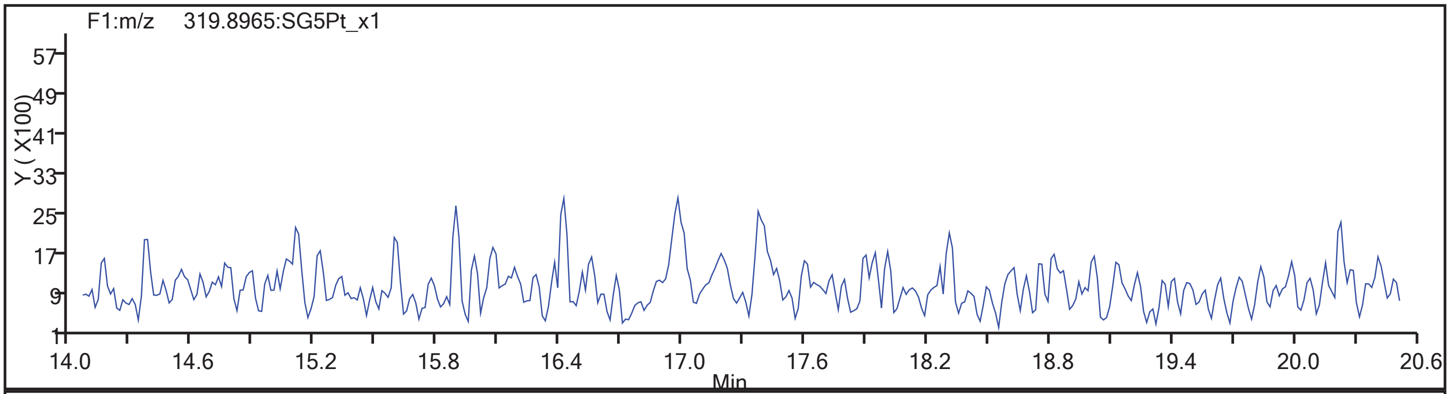
Worklist#: 194084

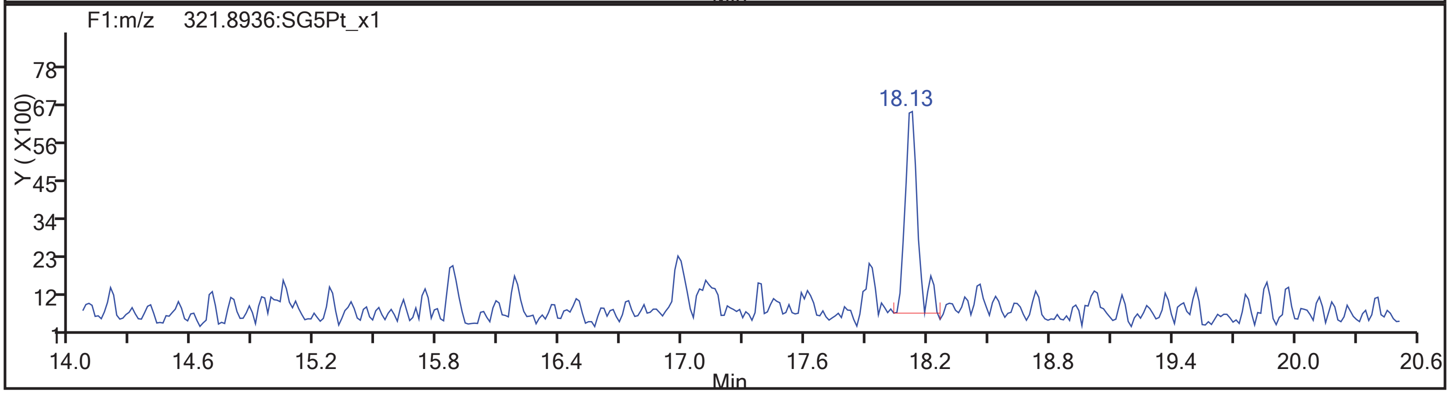
Sample Line#: 63

Column Type: DB-5

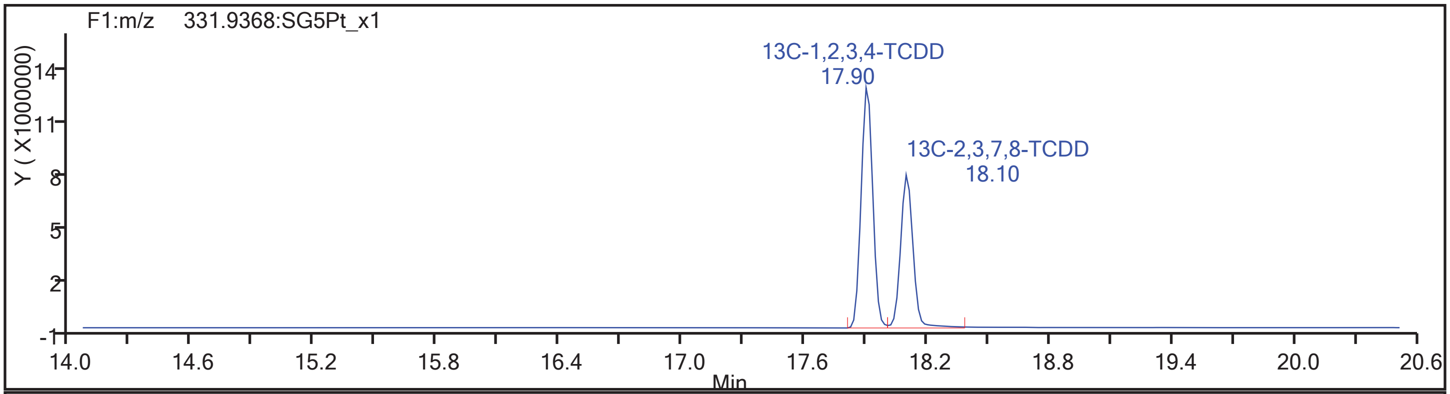
Column Dia: 0.32 mm

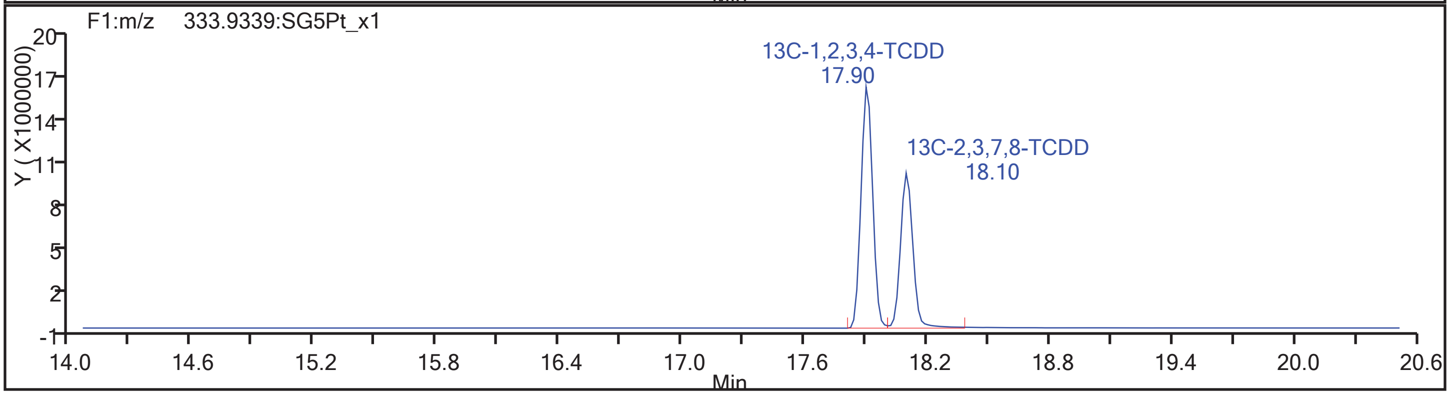
TCDD





TCDD Standards



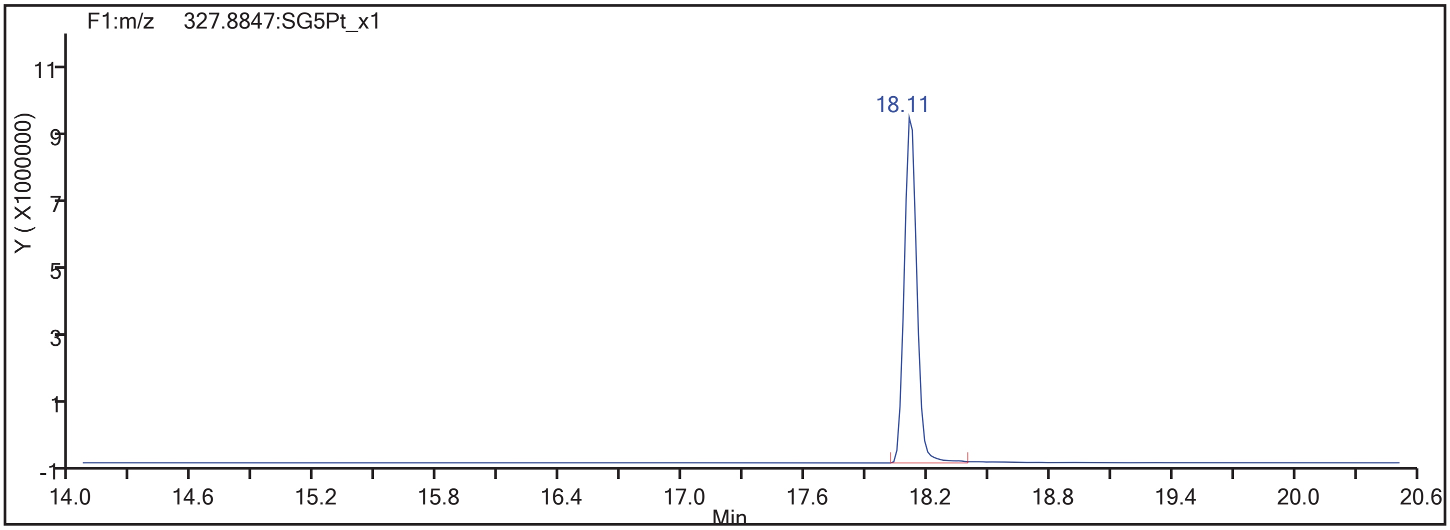


Report Date: 13-Nov-2017 11:21:57
Chrom Revision: 2.2 16-Aug-2017 16:24:46

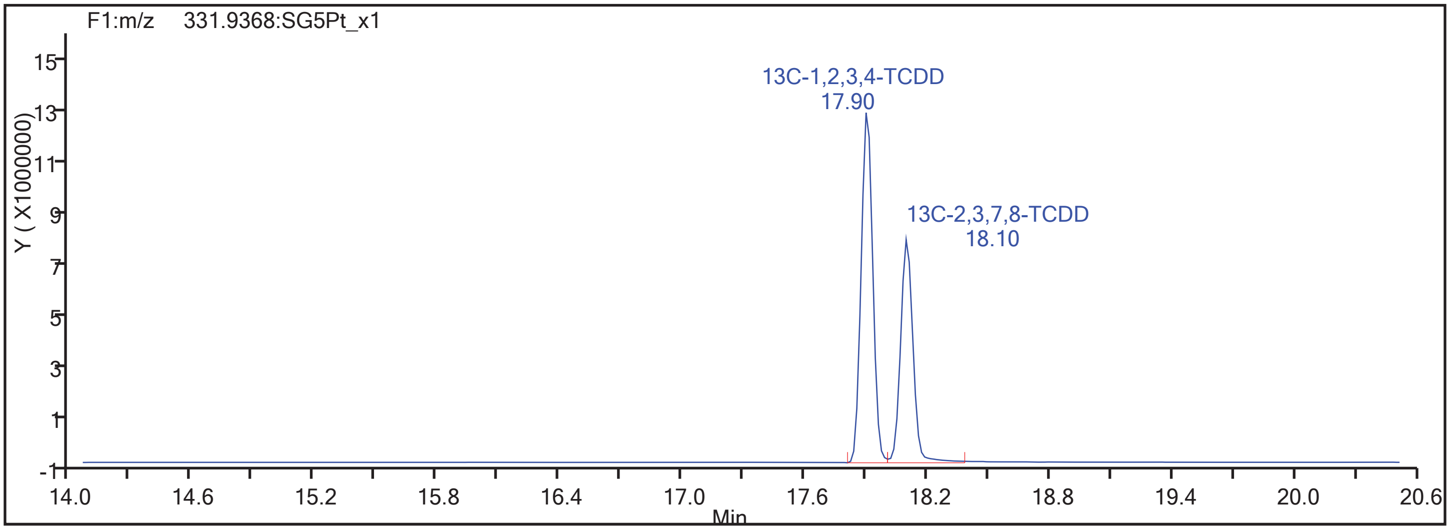
TestAmerica Sacramento

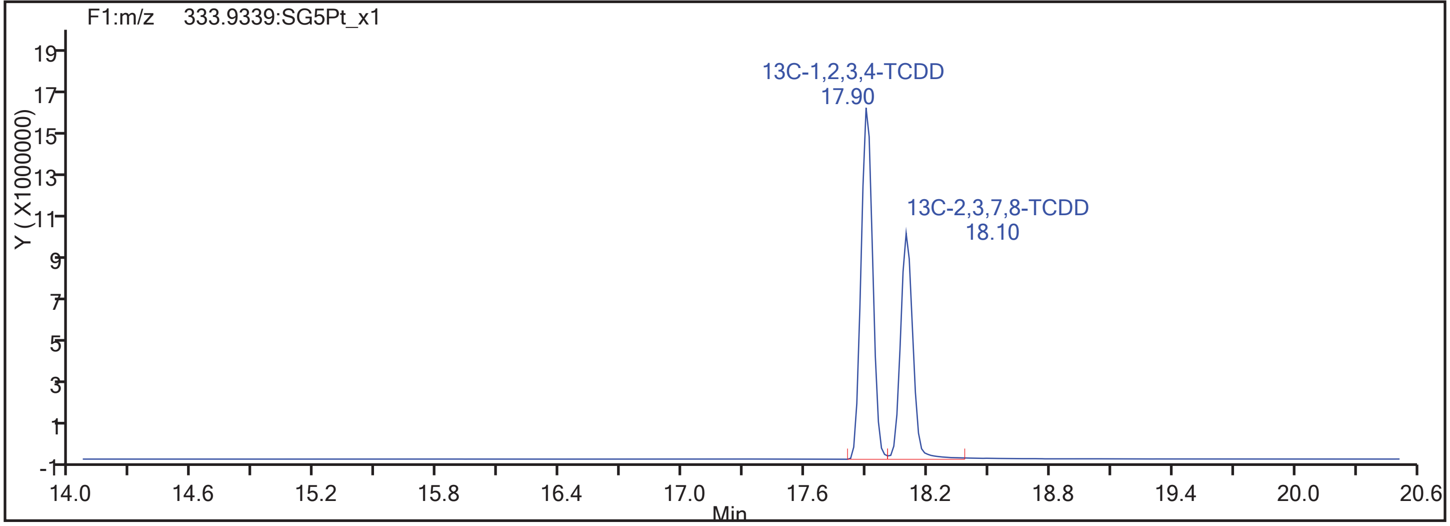
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d		
Injection Date:	11-Nov-2017 09:56:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	194084	Sample Line#:	63
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



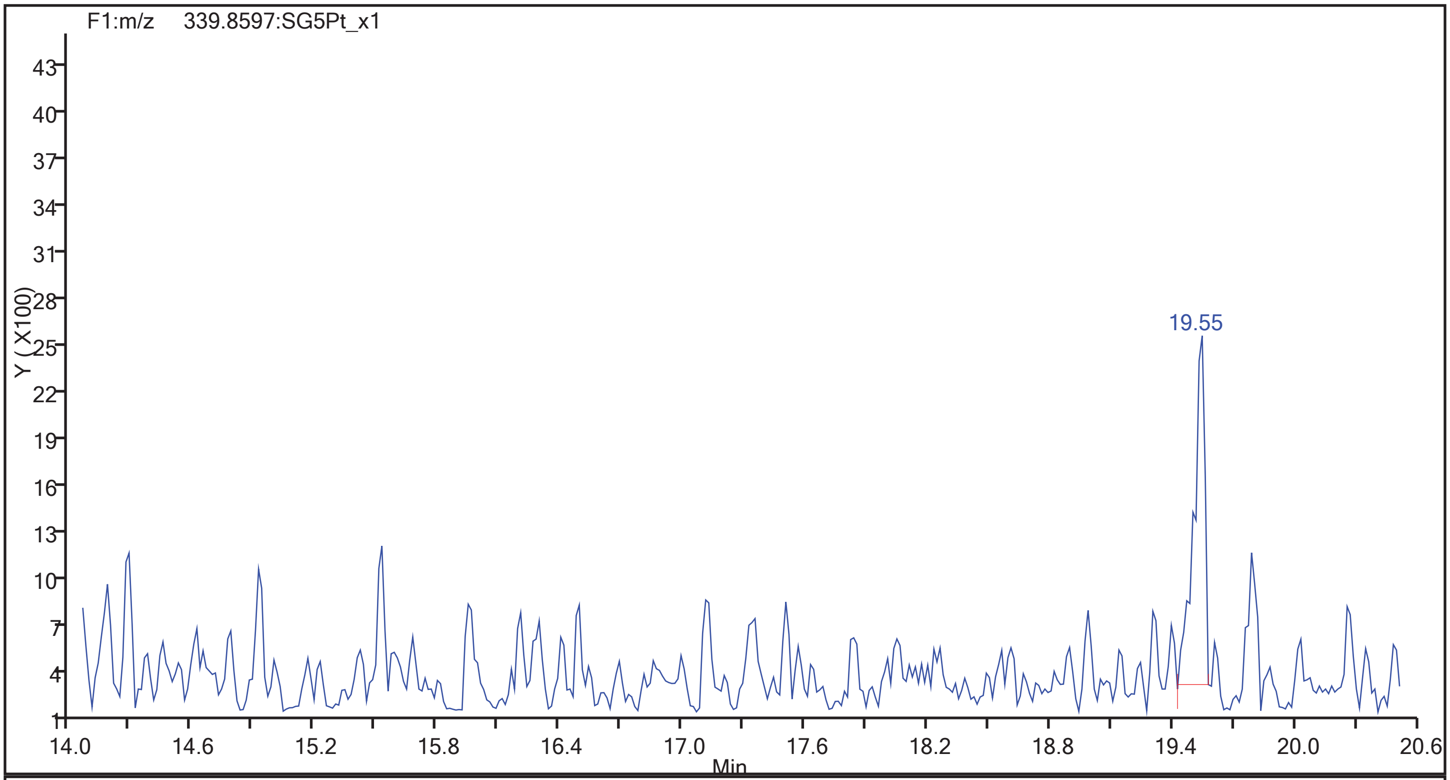


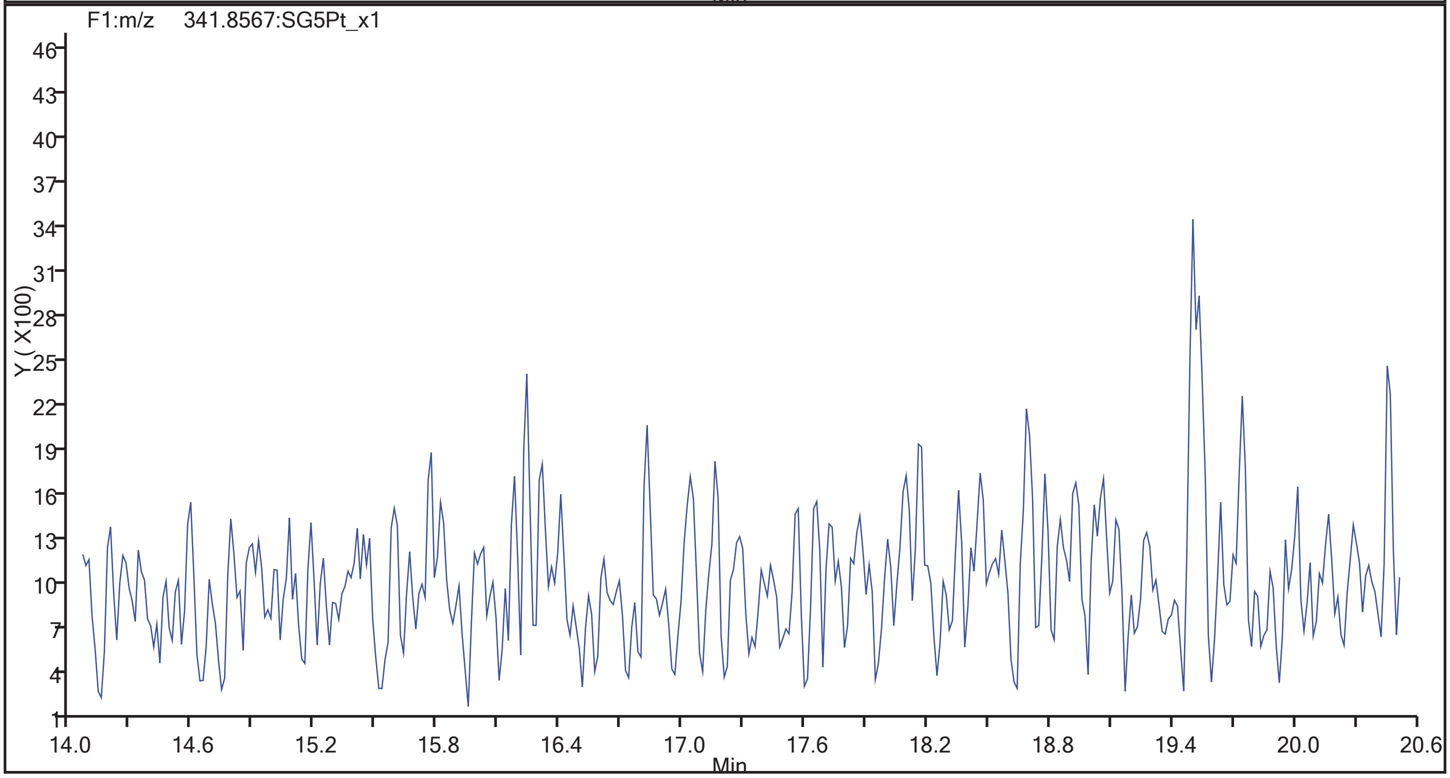
Report Date: 13-Nov-2017 11:21:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d		
Injection Date:	11-Nov-2017 09:56:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	194084	Sample Line#:	63
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



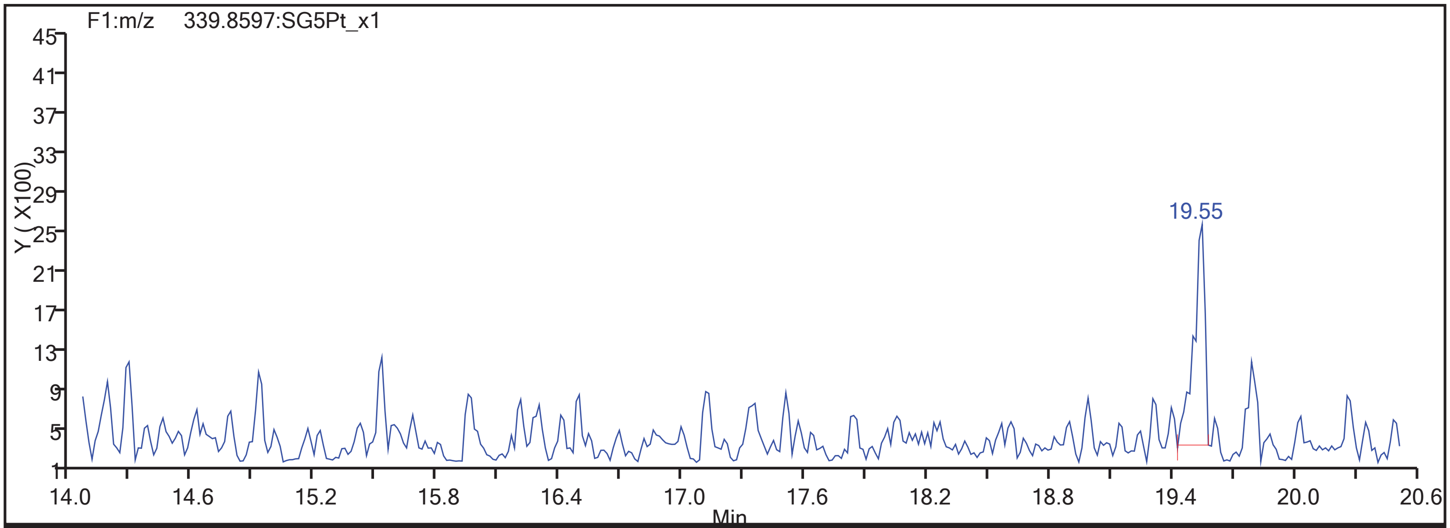


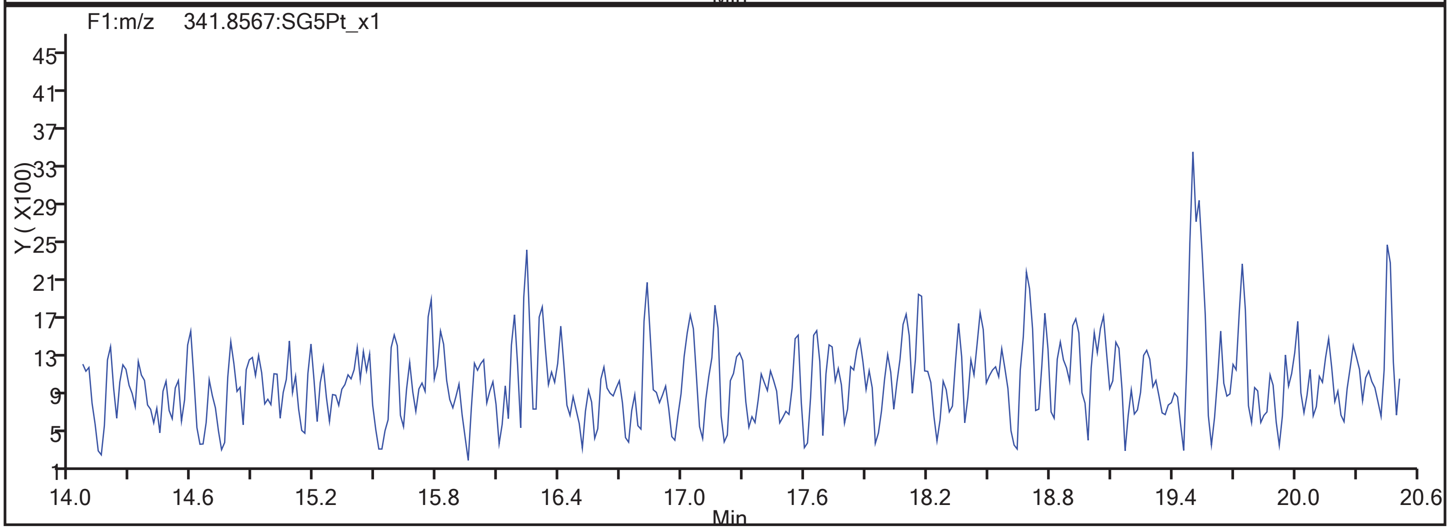
Report Date: 13-Nov-2017 11:21:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

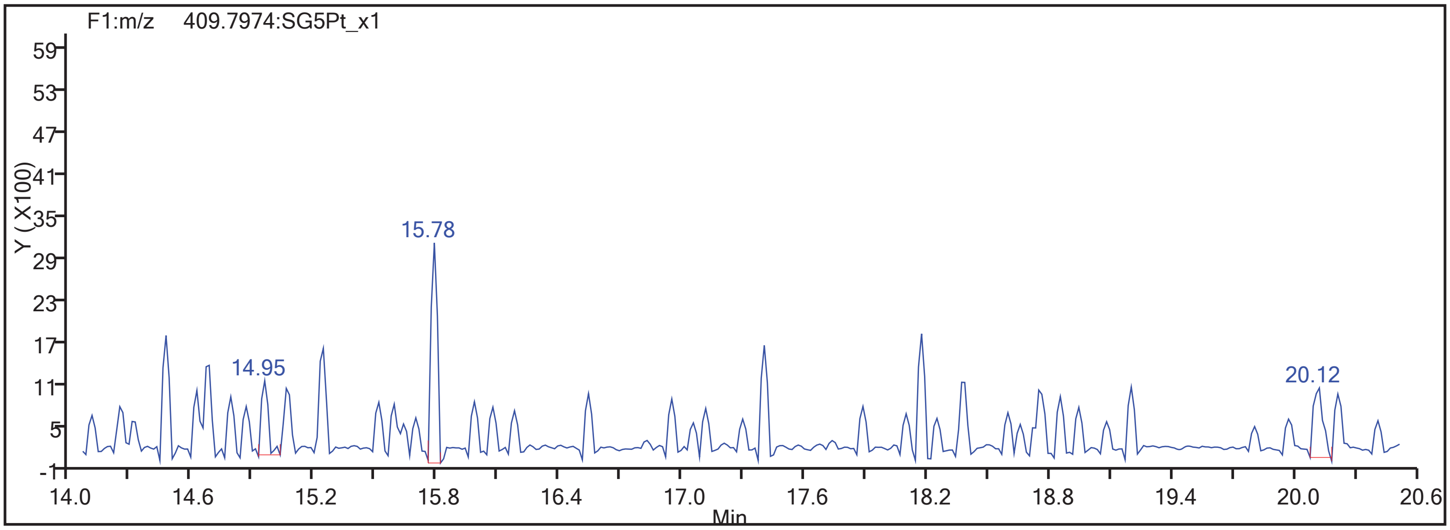
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Injection Date: 11-Nov-2017 09:56:46
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 194084
Sample Line#: 63
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

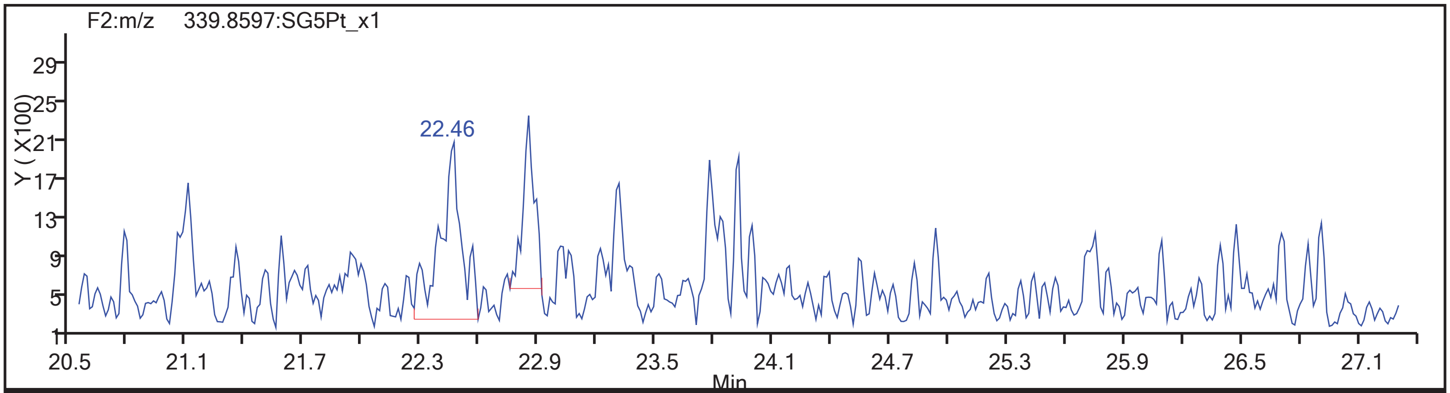


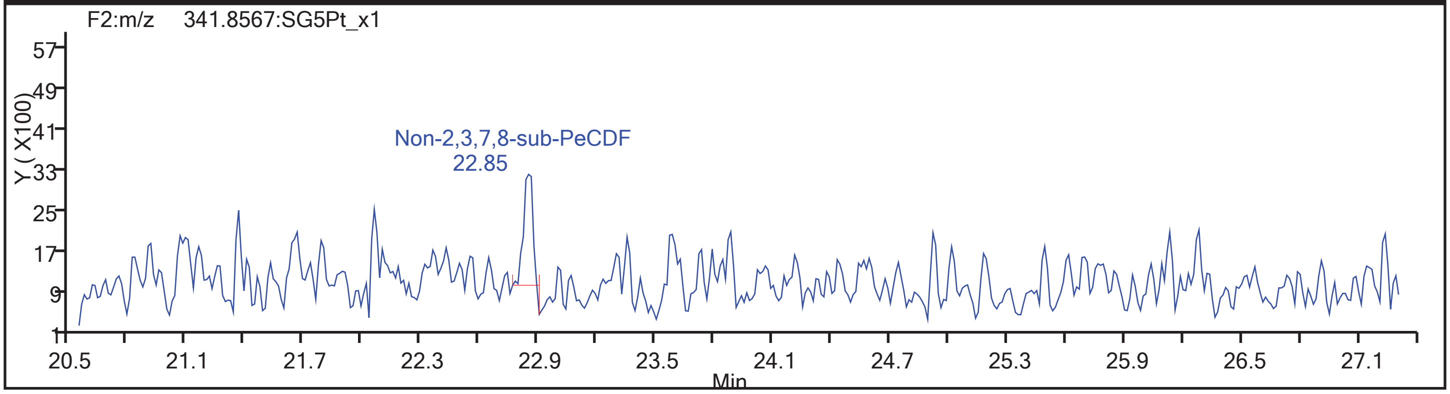
Report Date: 13-Nov-2017 11:21:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

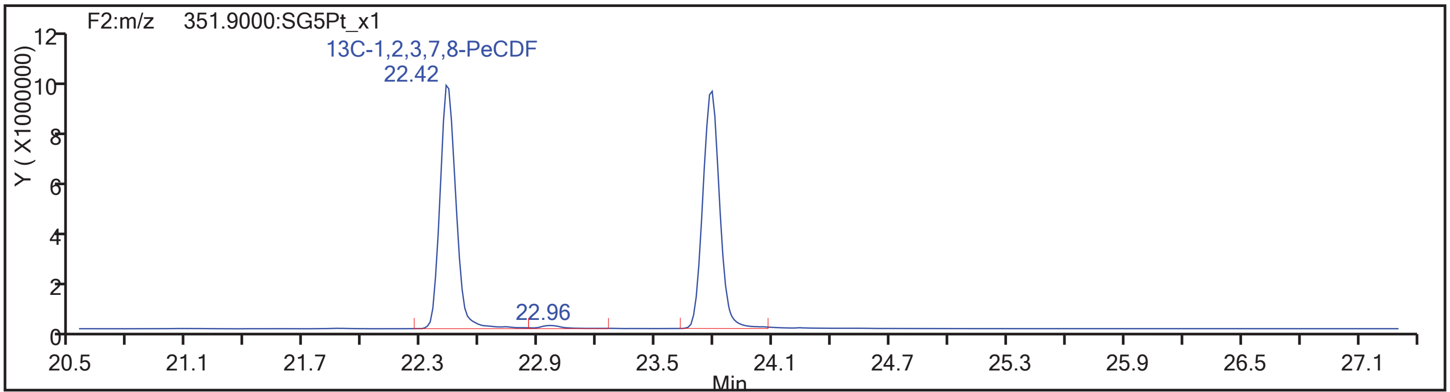
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Injection Date: 11-Nov-2017 09:56:46
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 194084
Sample Line#: 63
Column Type: DB-5
Column Dia: 0.32 mm

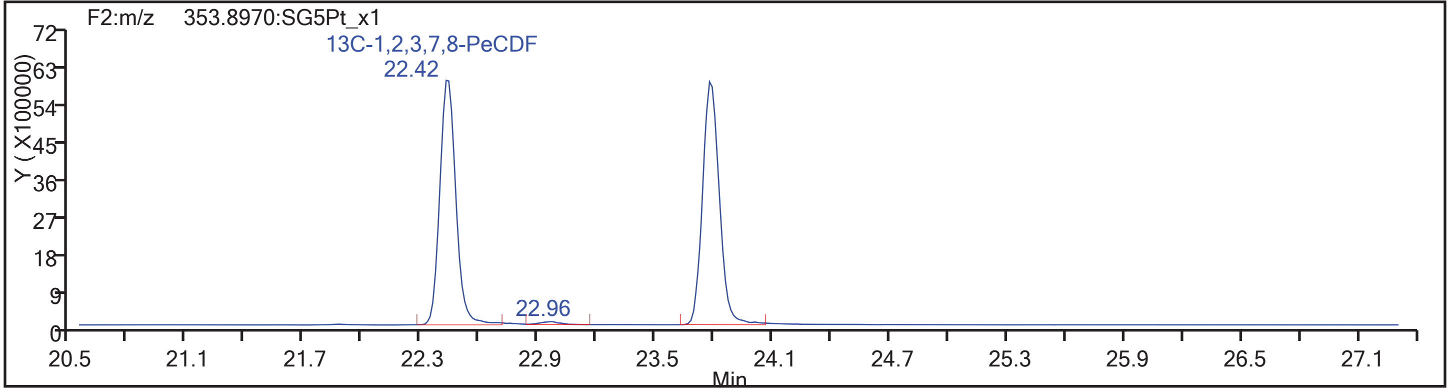
PeCDF





PeCDF Standards



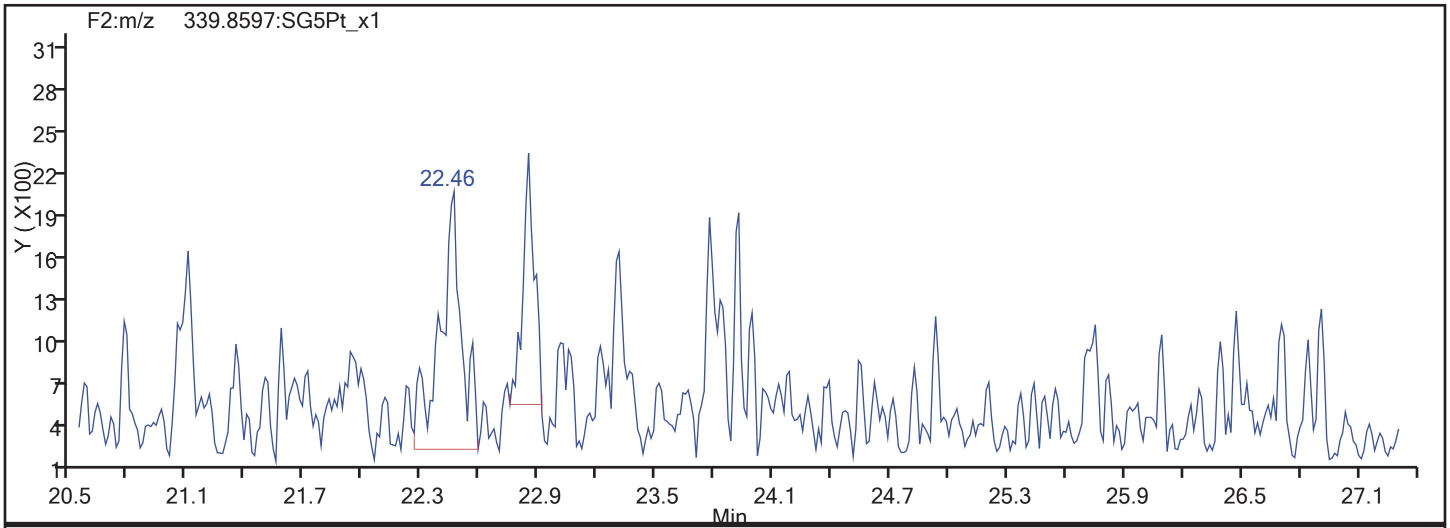


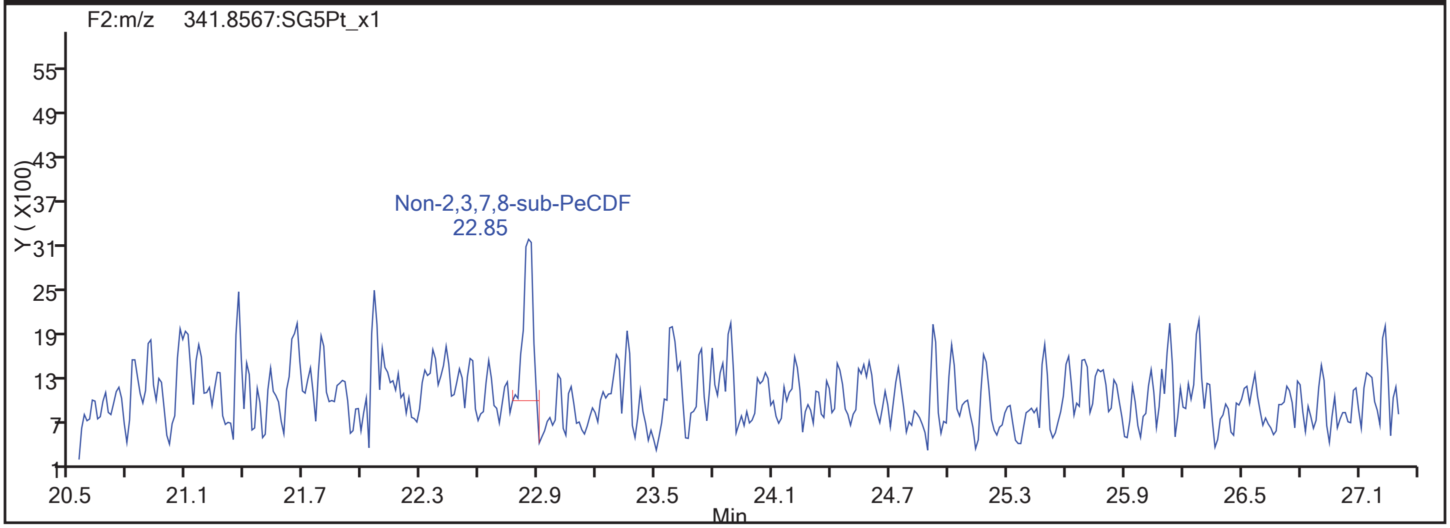
Report Date: 13-Nov-2017 11:21:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

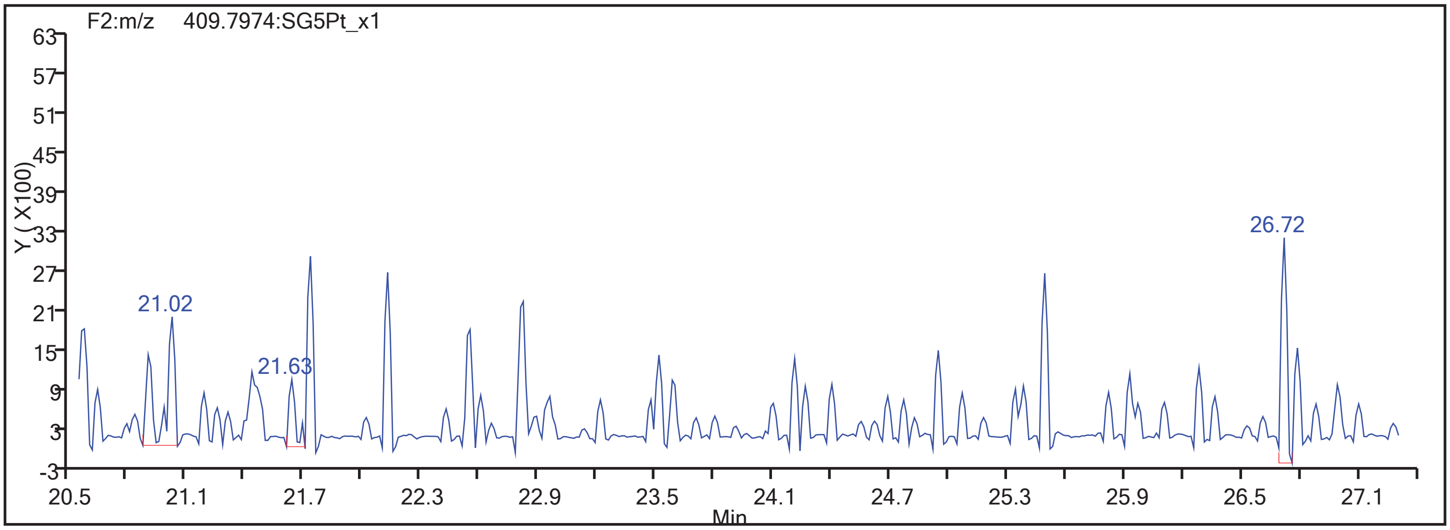
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Injection Date: 11-Nov-2017 09:56:46 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 194084 Sample Line#: 63
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass

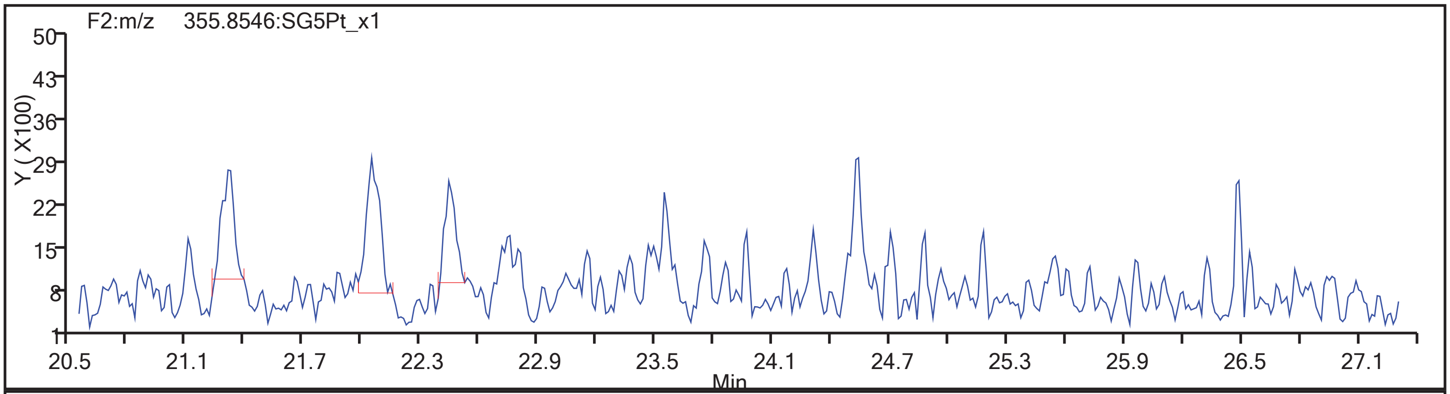


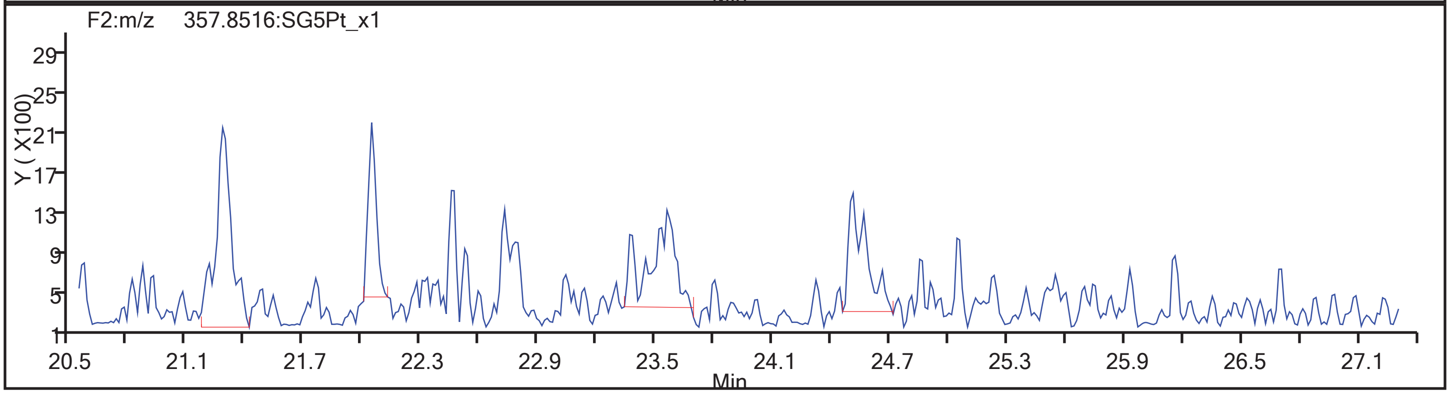
Report Date: 13-Nov-2017 11:21:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

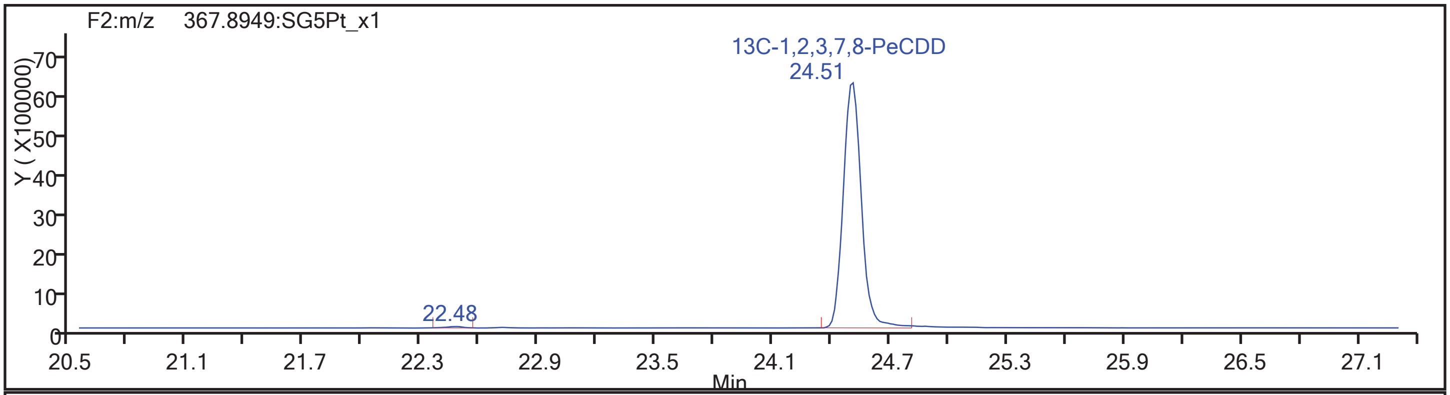
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Injection Date: 11-Nov-2017 09:56:46
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 194084
Sample Line#: 63
Column Type: DB-5
Column Dia: 0.32 mm

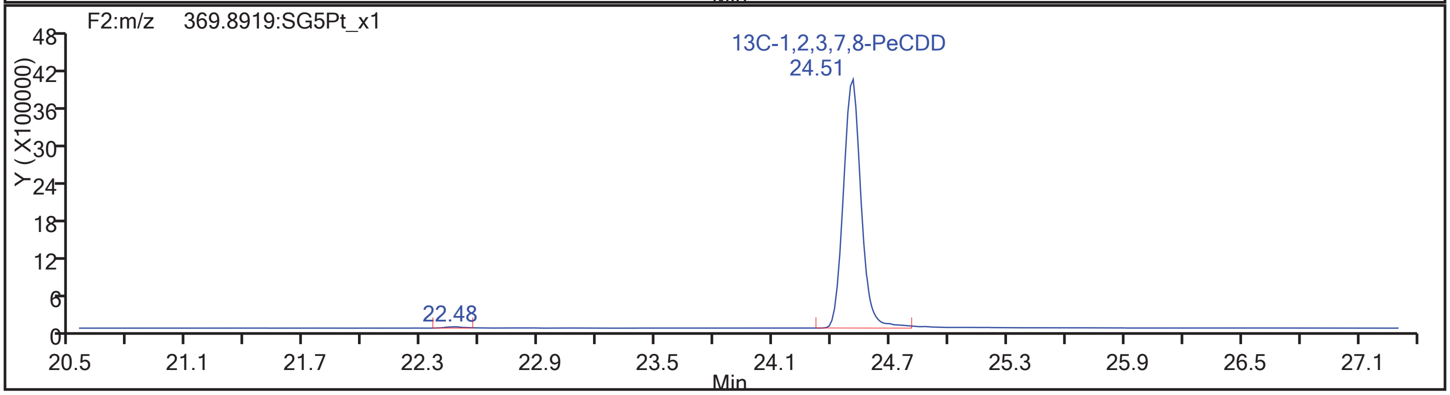
PeCDD





PeCDD Standards



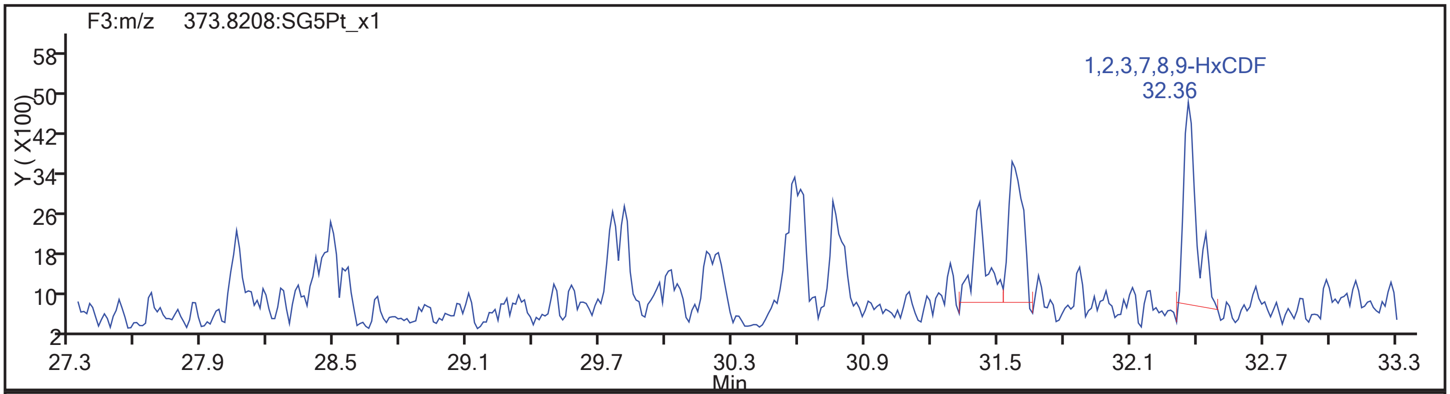


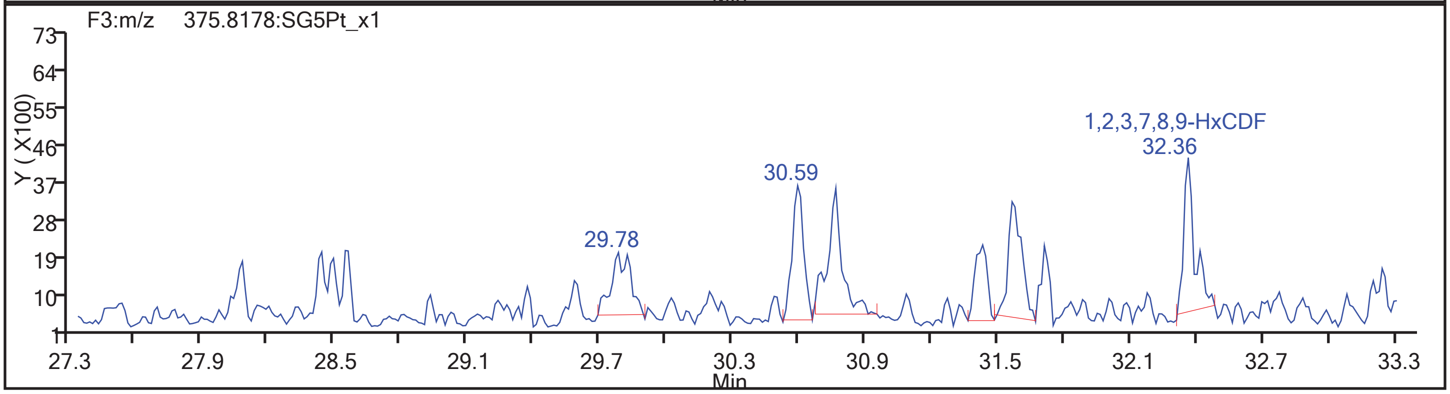
Report Date: 13-Nov-2017 11:21:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

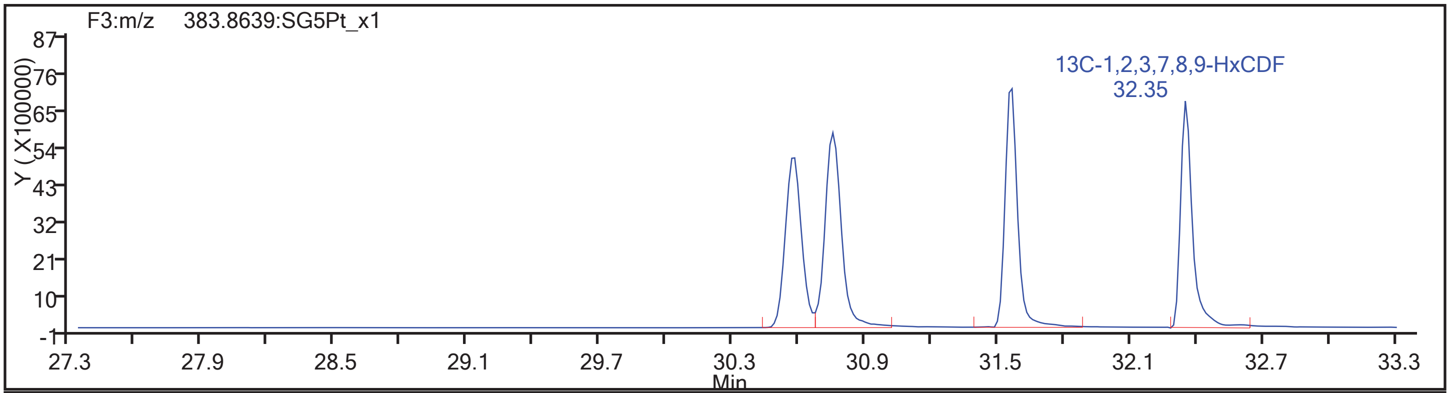
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d		
Injection Date:	11-Nov-2017 09:56:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	194084	Sample Line#:	63
Column Type:	DB-5	Column Dia:	0.32 mm

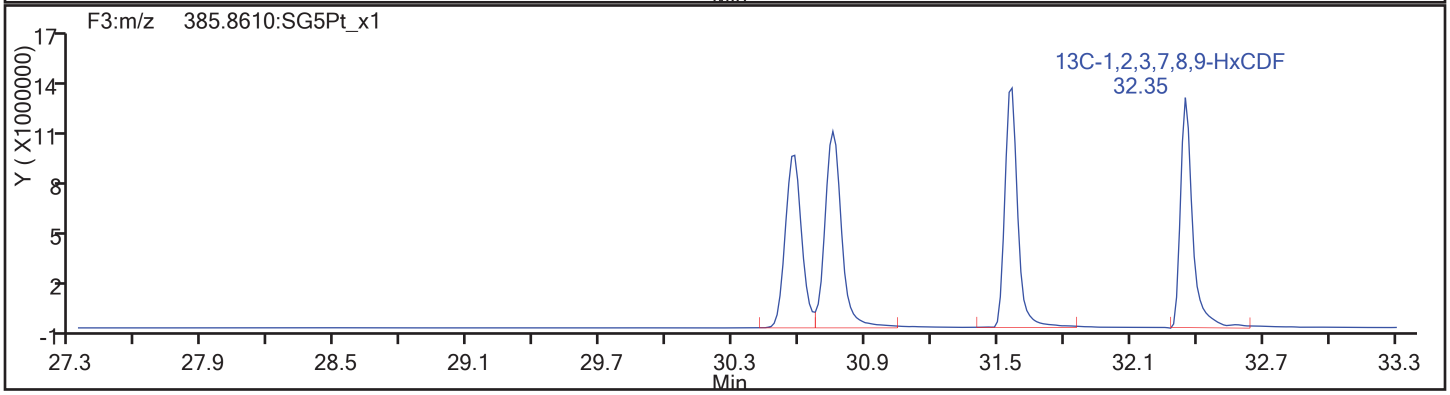
HxCDF





HxCDF Standards



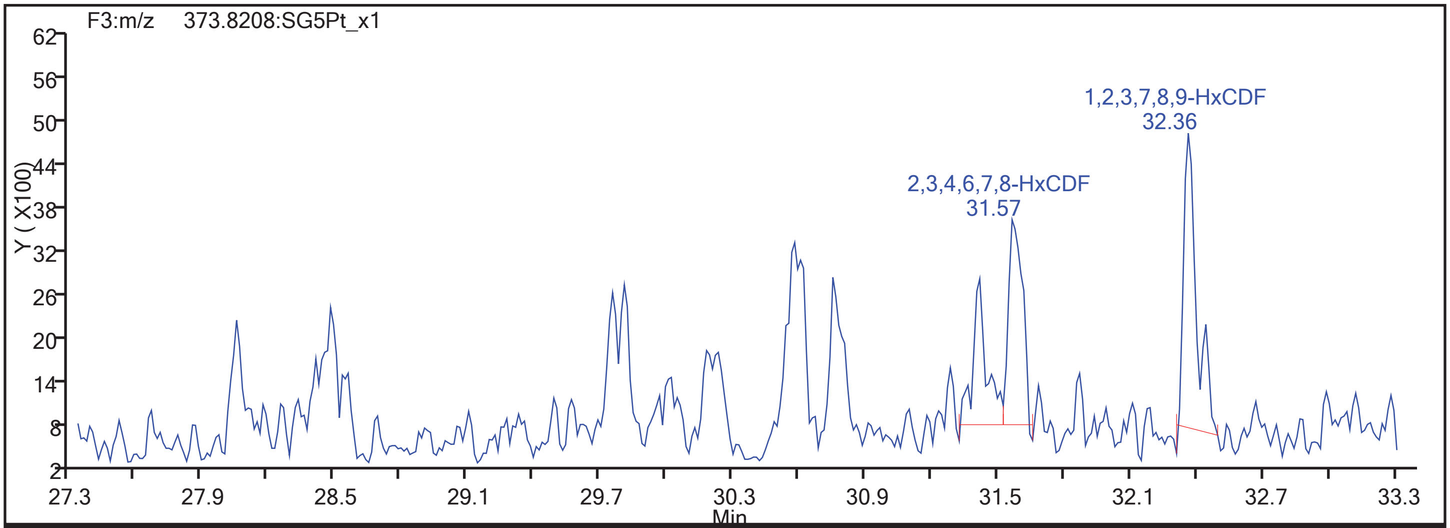


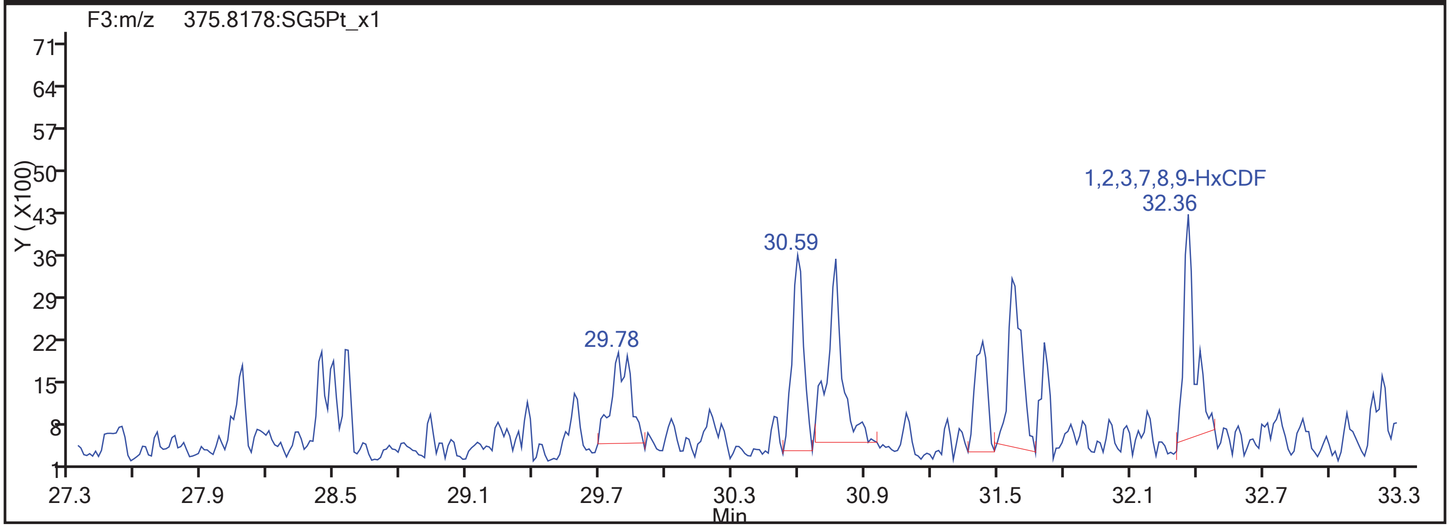
Report Date: 13-Nov-2017 11:21:58
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

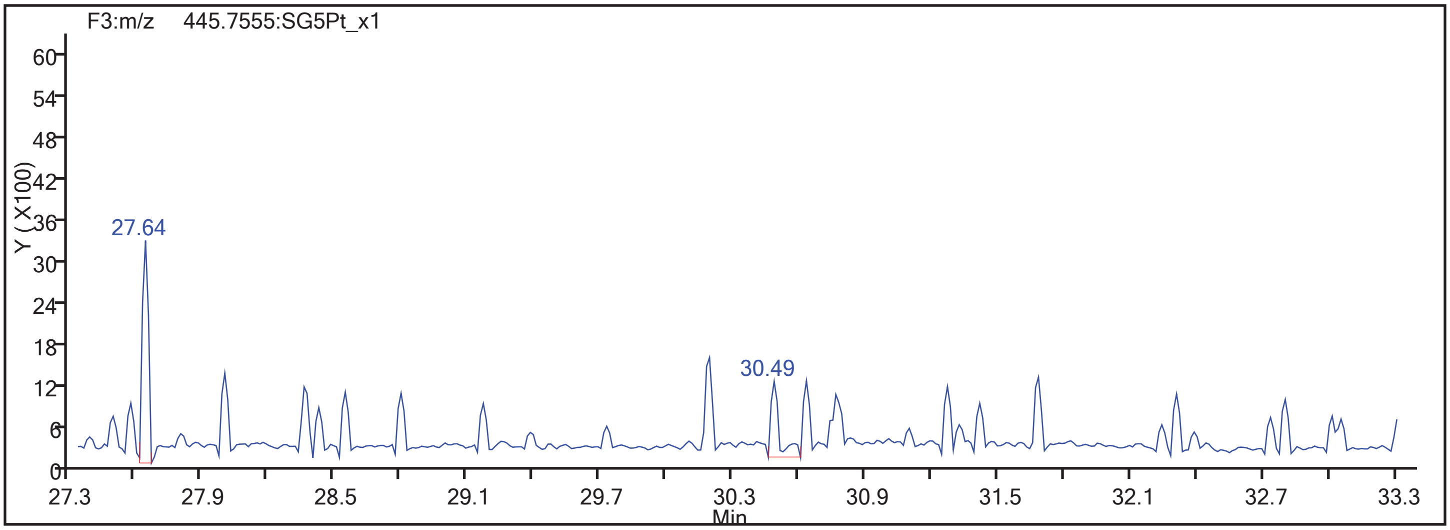
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Injection Date: 11-Nov-2017 09:56:46
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 194084
Sample Line#: 63
Column Type: DB-5
Column Dia: 0.32 mm

HxCDF





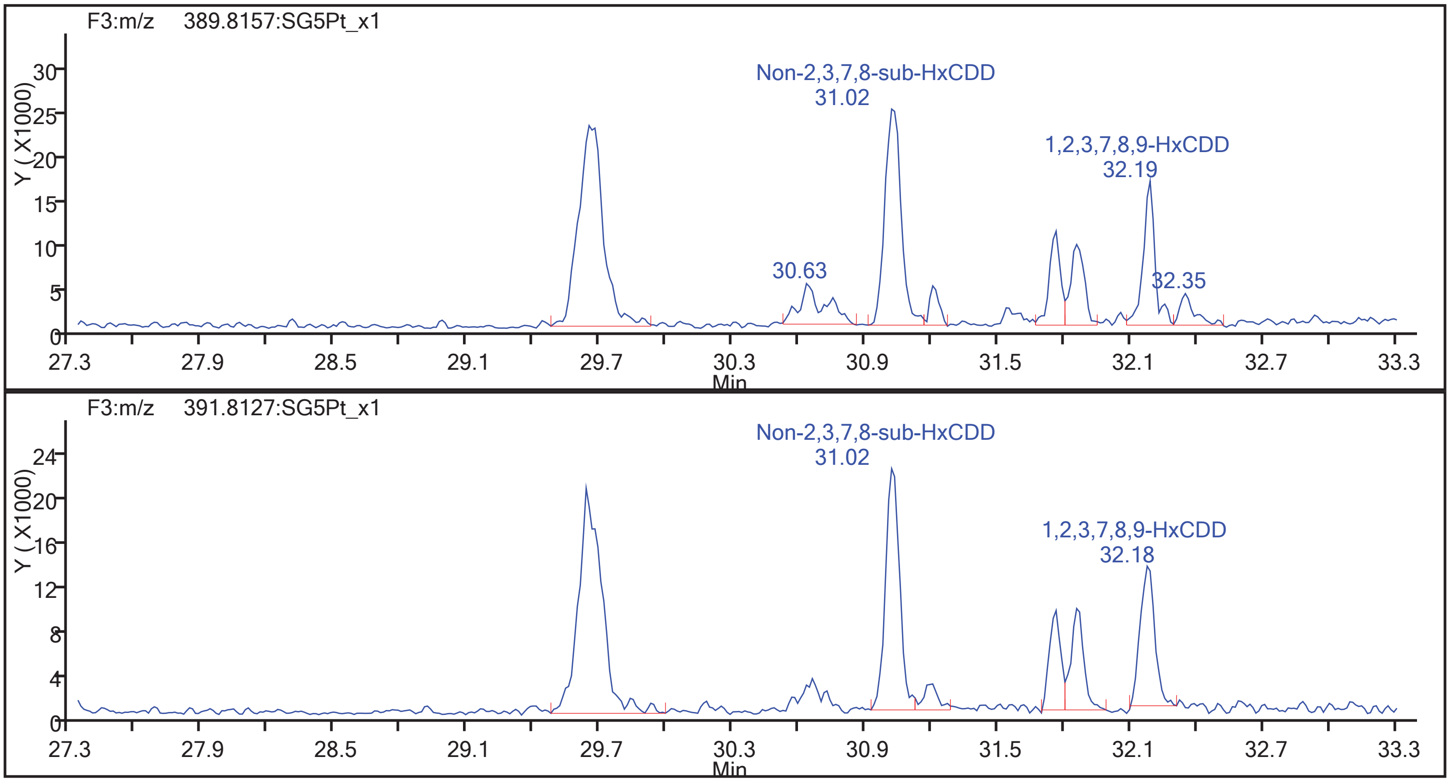
HxCDF Interference Mass



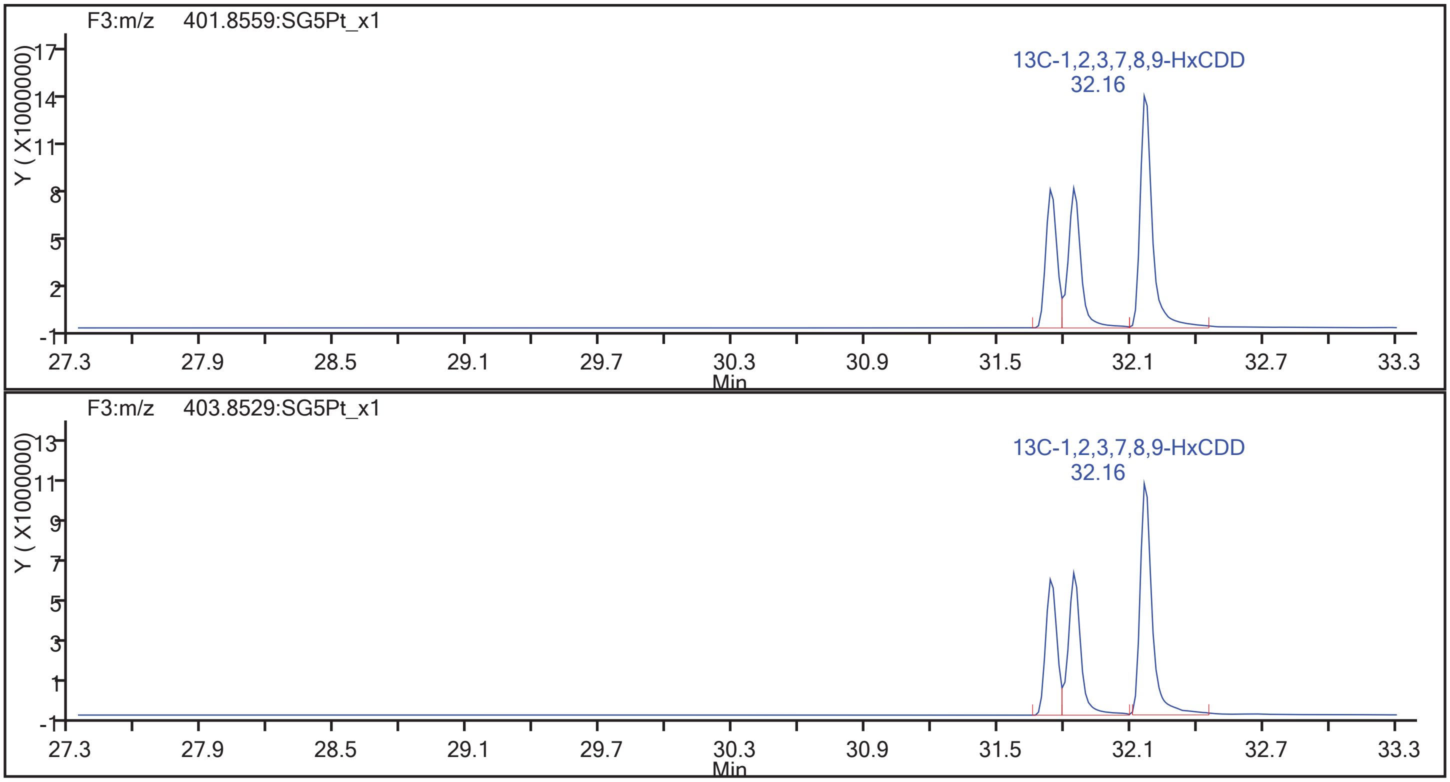
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d		
Injection Date:	11-Nov-2017 09:56:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	194084	Sample Line#:	63
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD



HxCDD Standards



Report Date: 13-Nov-2017 11:21:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d

Injection Date: 11-Nov-2017 09:56:46

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS05DS

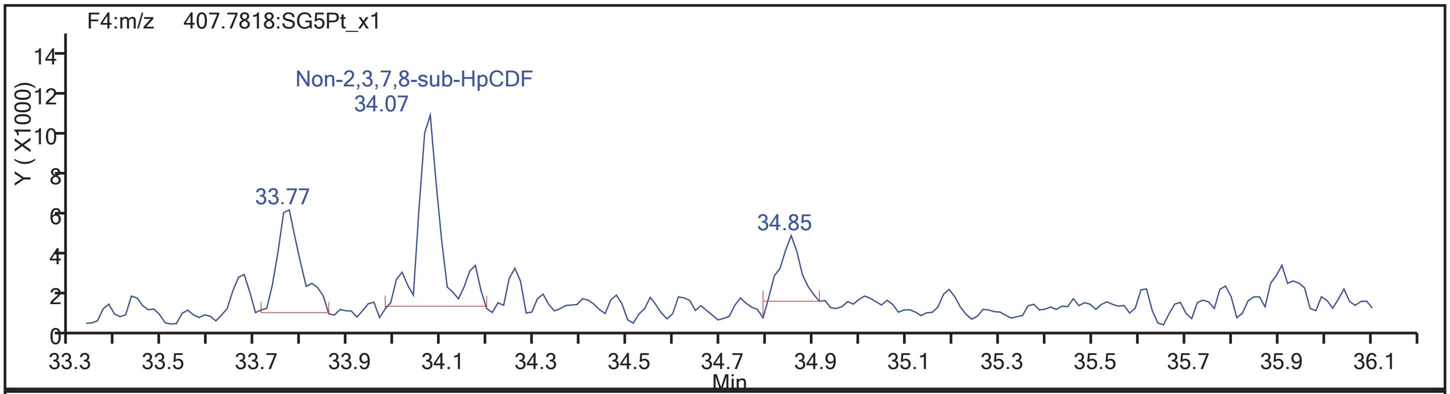
Worklist#: 194084

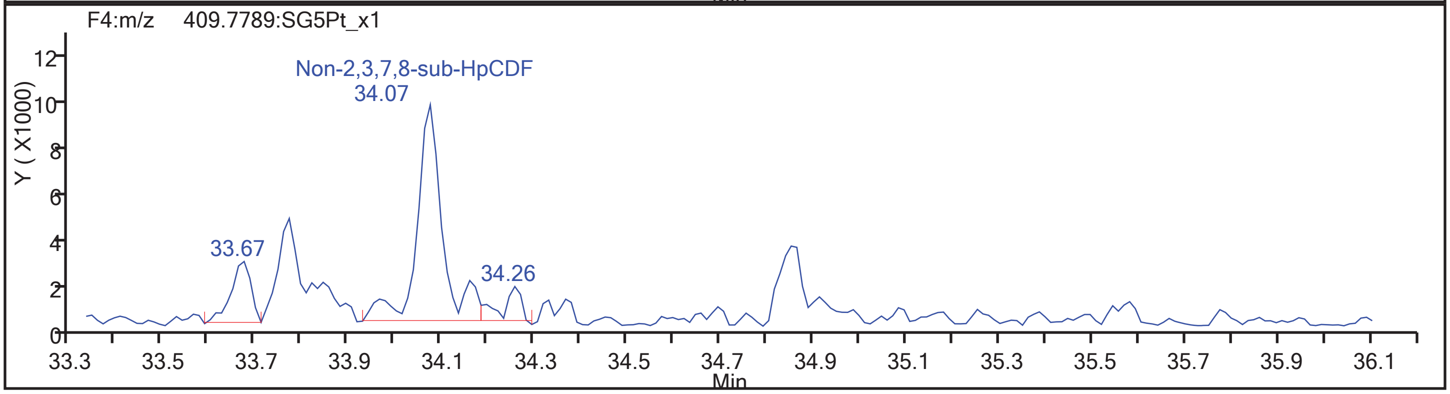
Sample Line#: 63

Column Type: DB-5

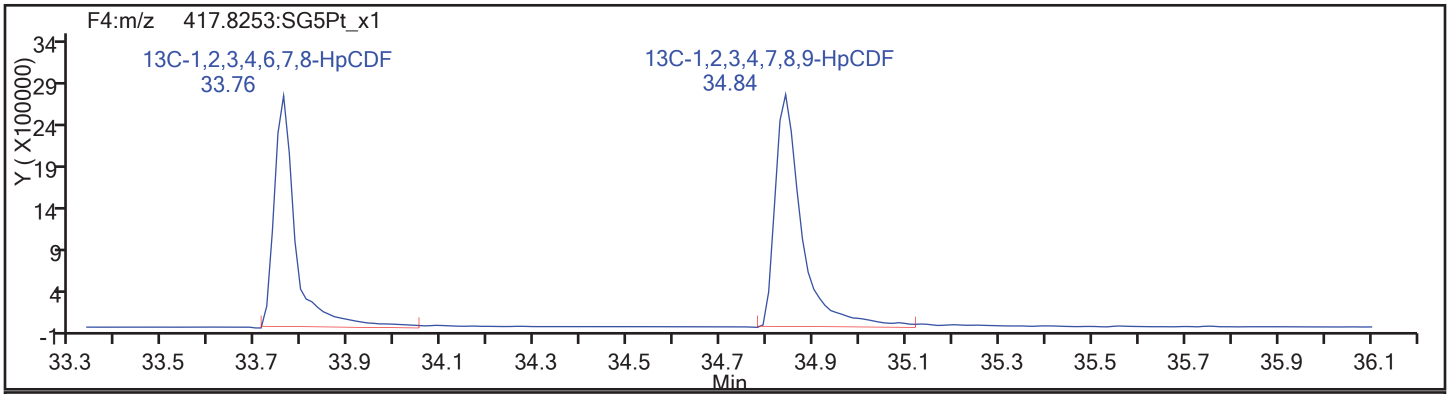
Column Dia: 0.32 mm

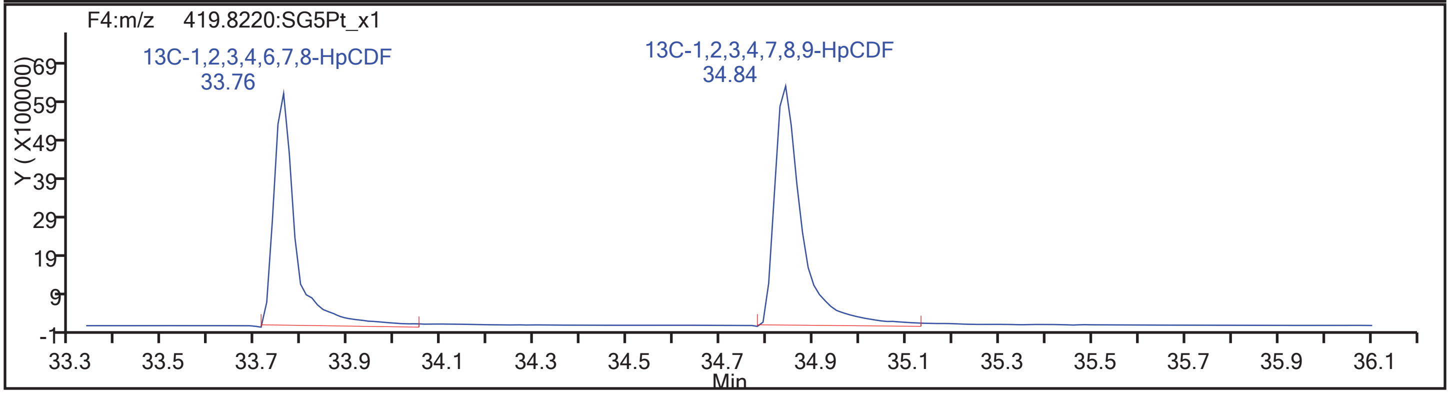
HpCDF





HpCDF Standards





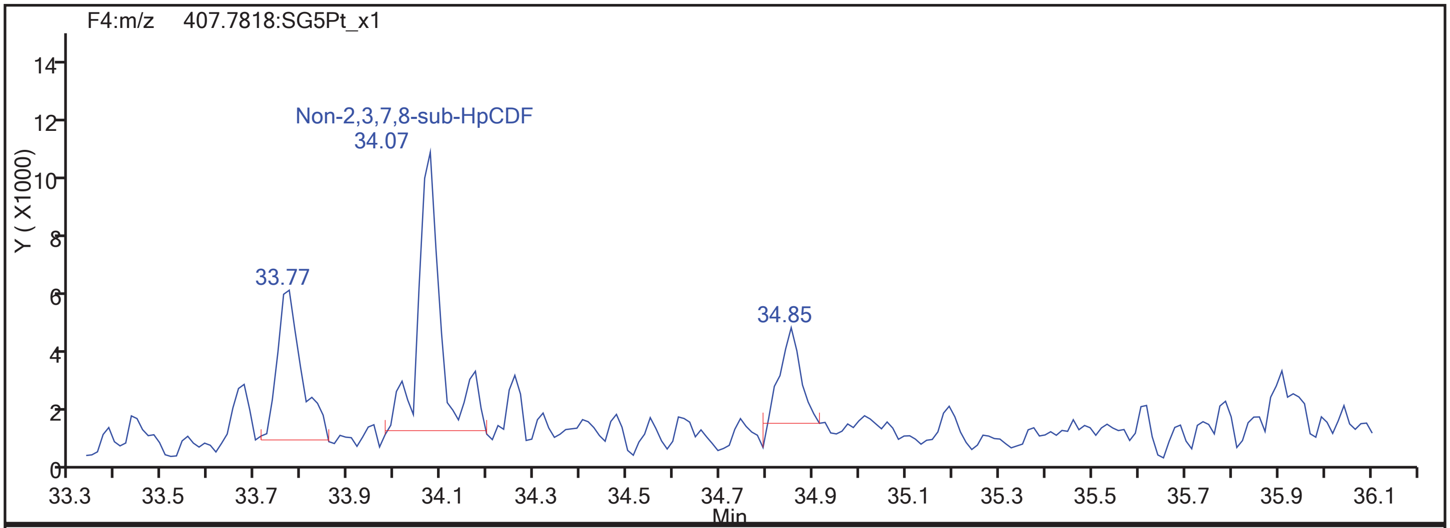
Report Date: 13-Nov-2017 11:21:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

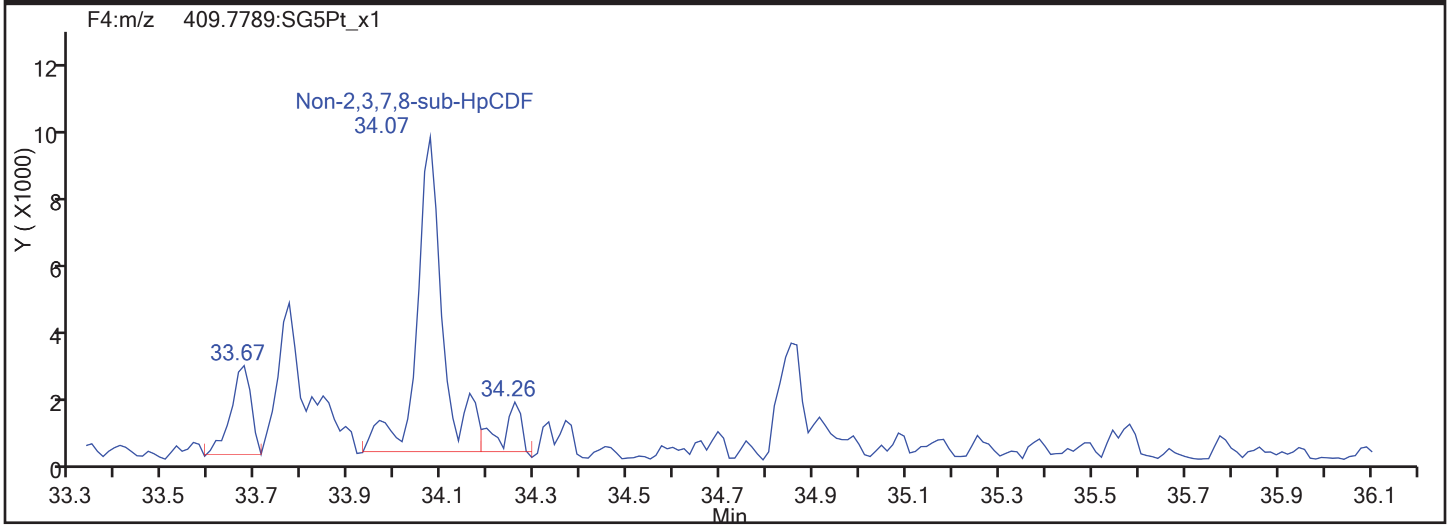
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d

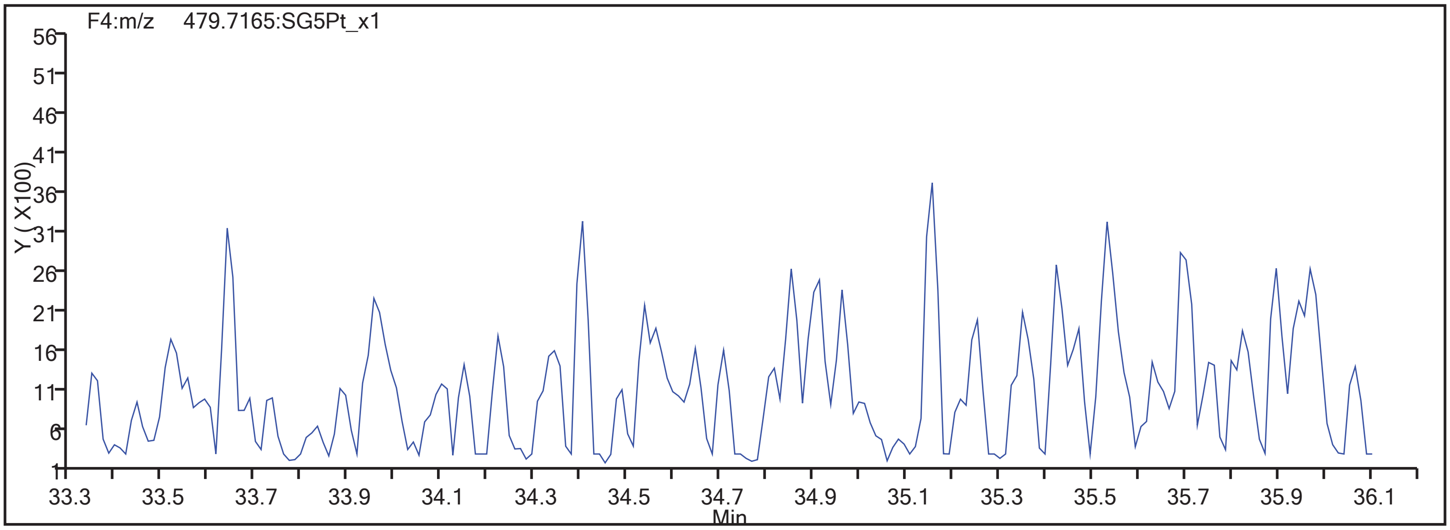
Injection Date:	11-Nov-2017 09:56:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	194084	Sample Line#:	63
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Report Date: 13-Nov-2017 11:21:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d

Injection Date: 11-Nov-2017 09:56:46

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS05DS

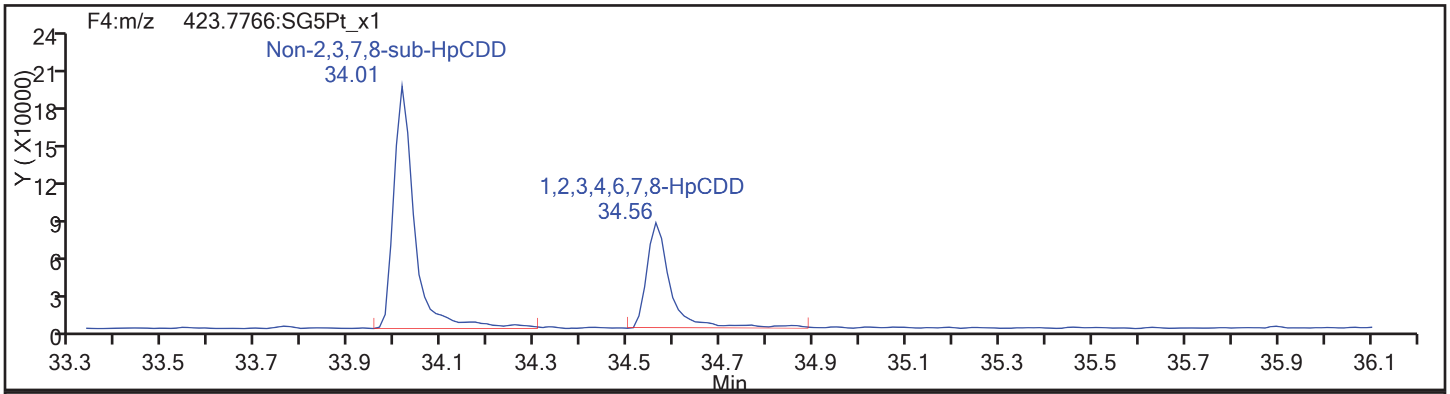
Worklist#: 194084

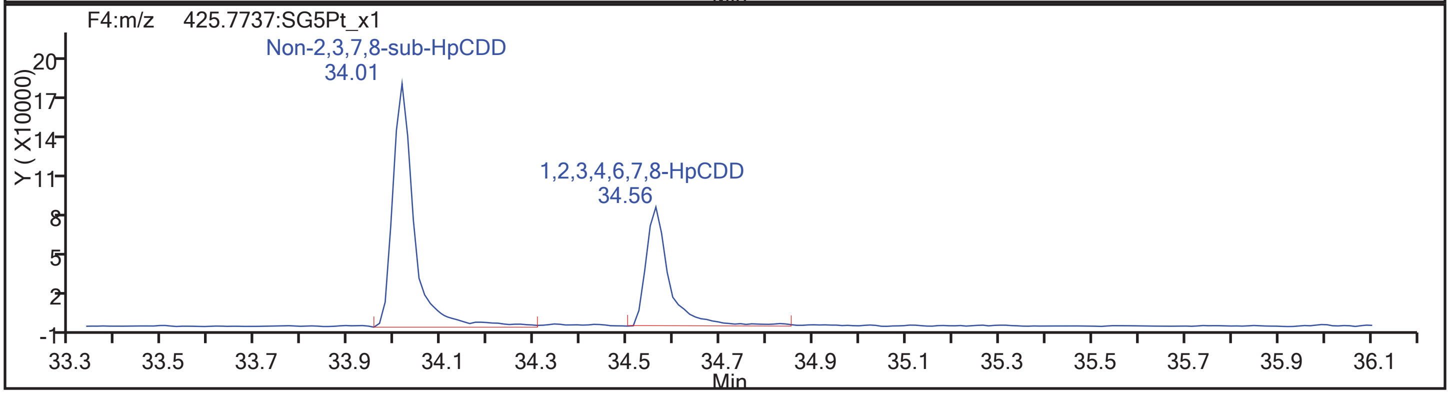
Sample Line#: 63

Column Type: DB-5

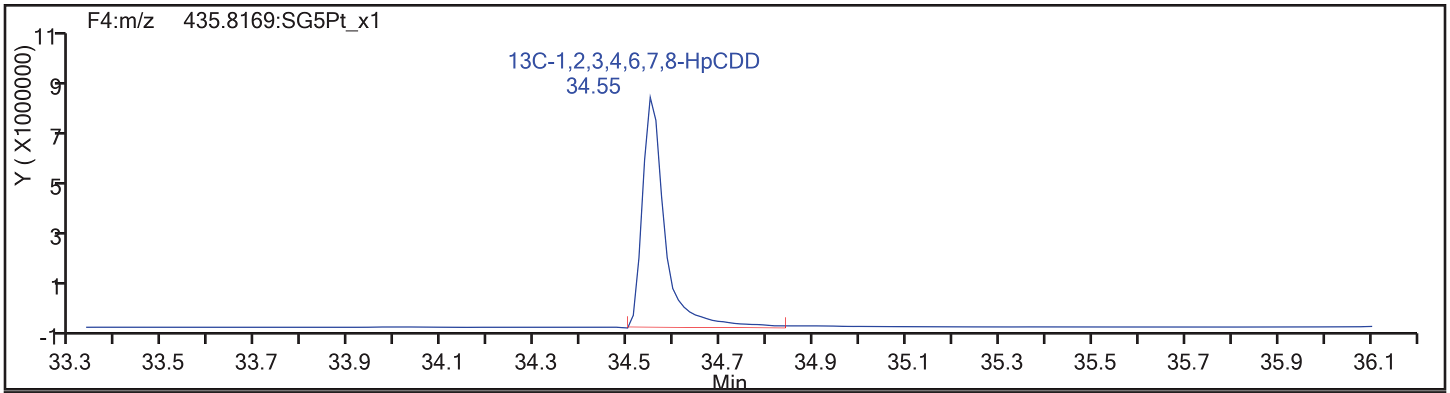
Column Dia: 0.32 mm

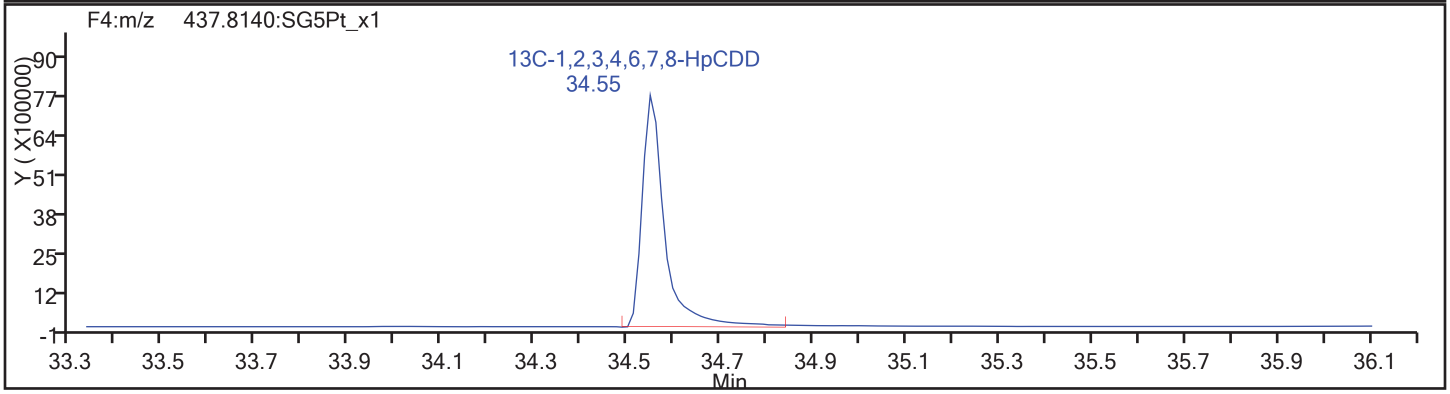
HpCDD





HpCDD Standards

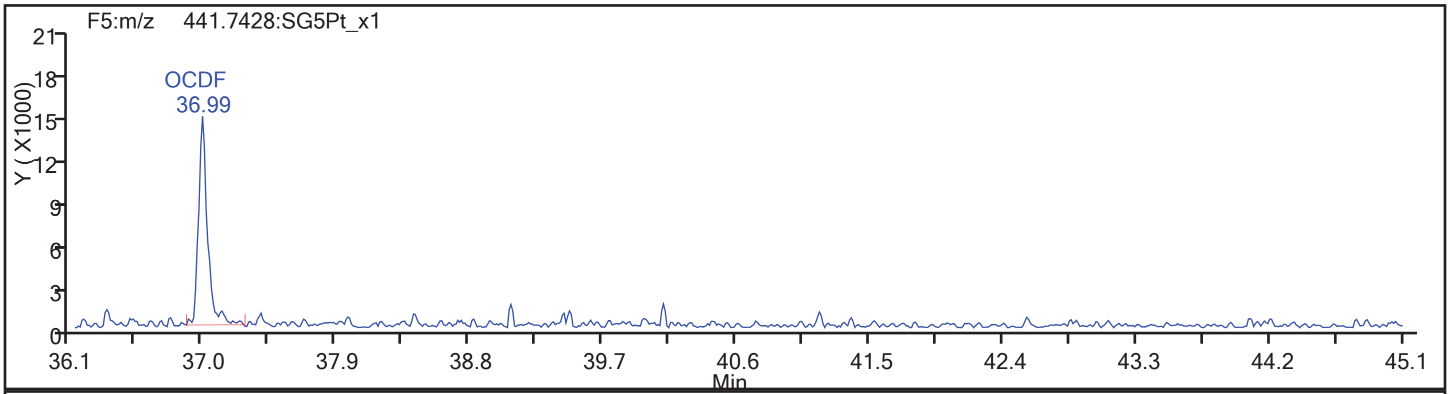


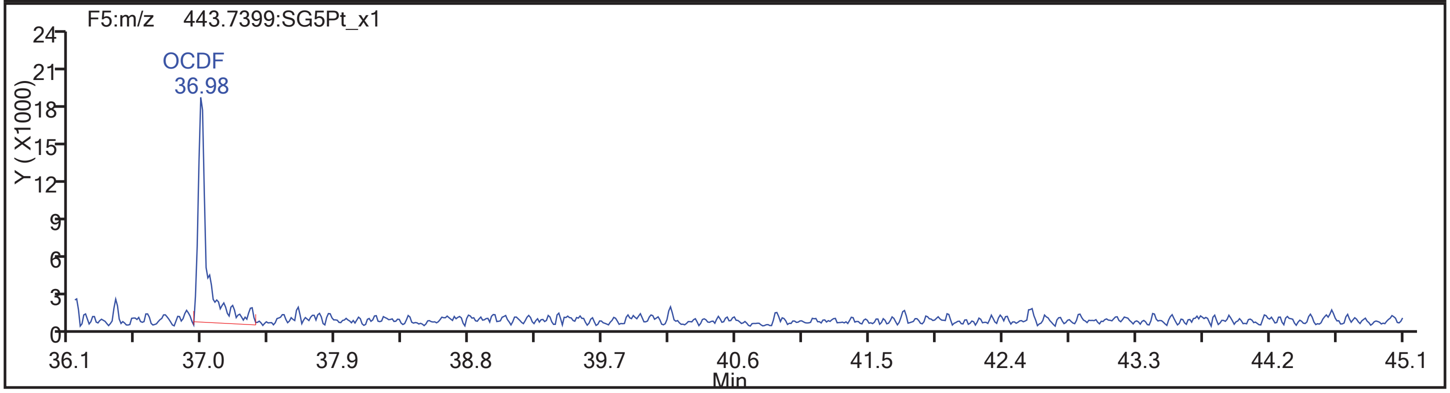


TestAmerica Sacramento

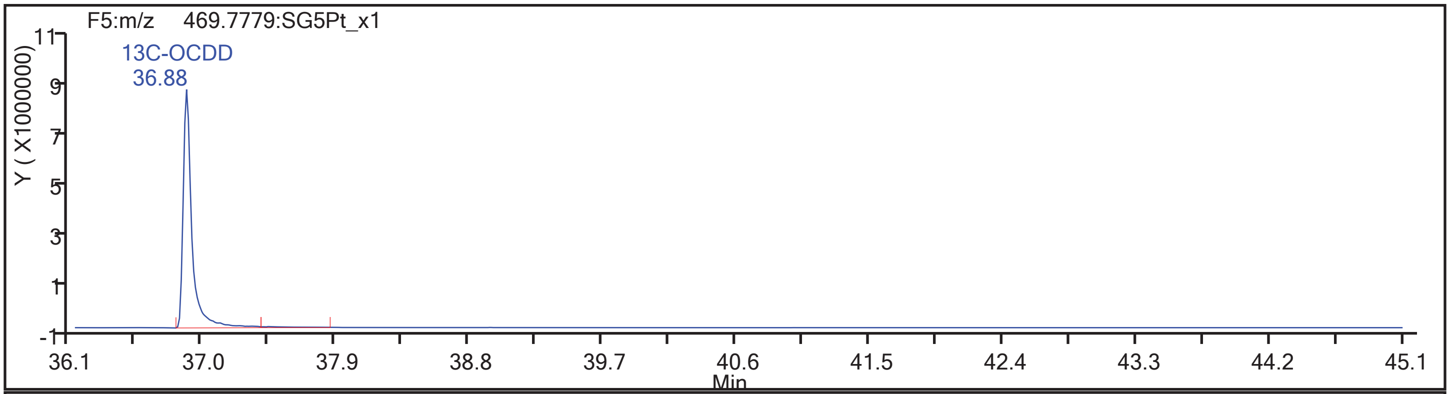
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d		
Injection Date:	11-Nov-2017 09:56:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	194084	Sample Line#:	63
Column Type:	DB-5	Column Dia:	0.32 mm

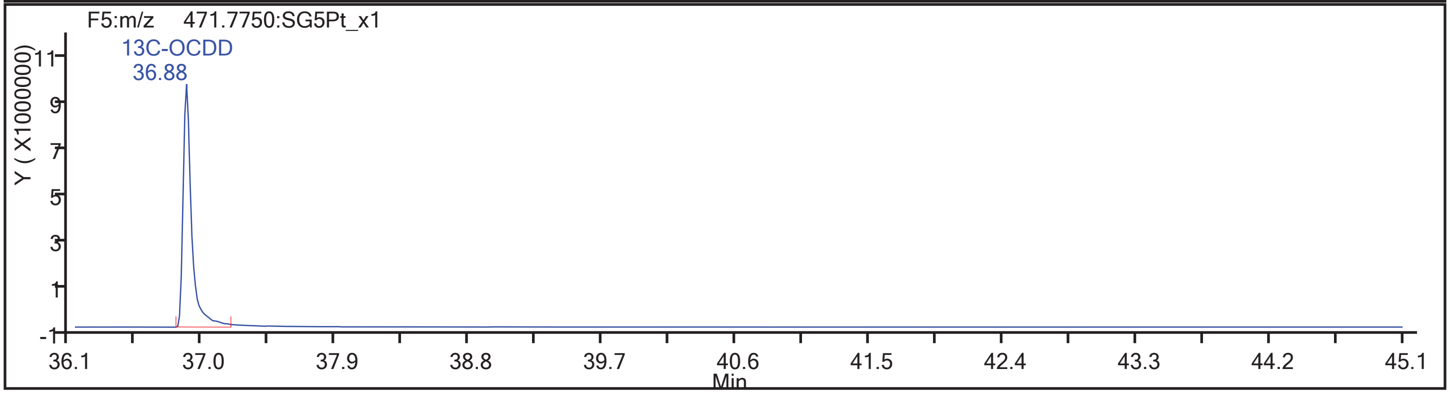
OCDF





OCDF Standards





Report Date: 13-Nov-2017 11:21:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d

Injection Date: 11-Nov-2017 09:56:46

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS05DS

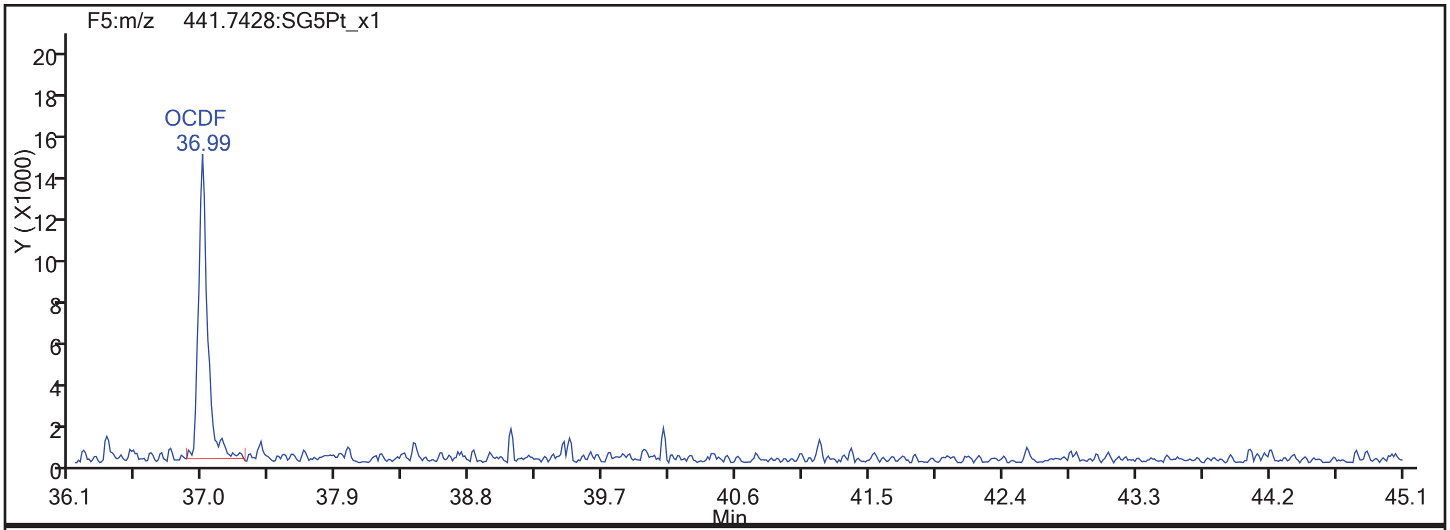
Worklist#: 194084

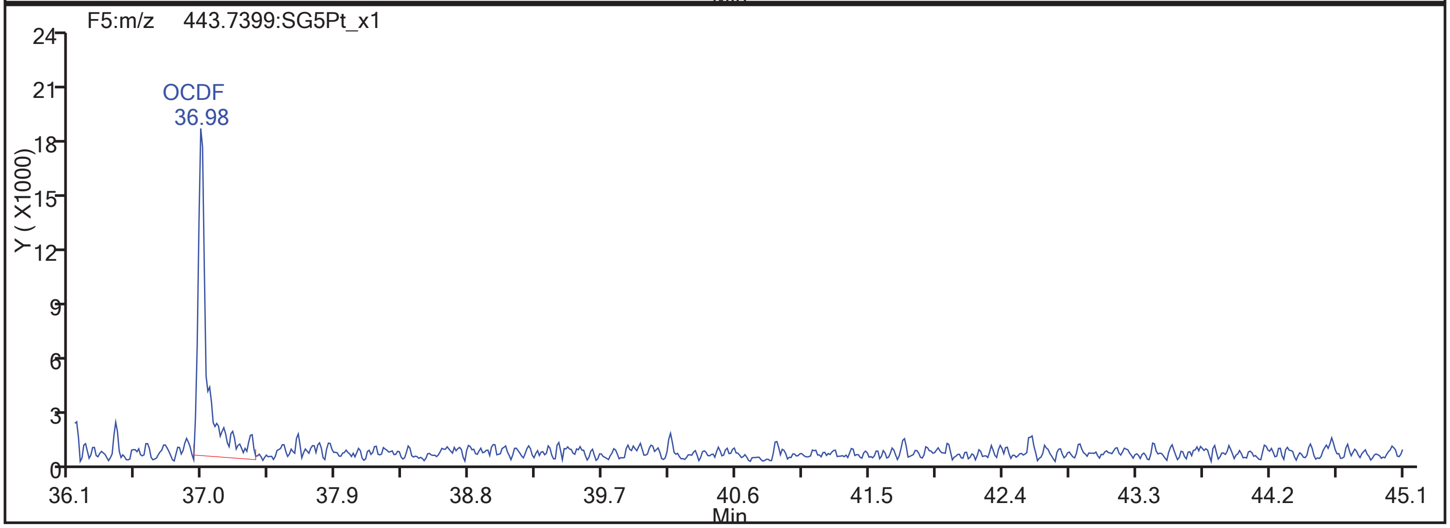
Sample Line#: 63

Column Type: DB-5

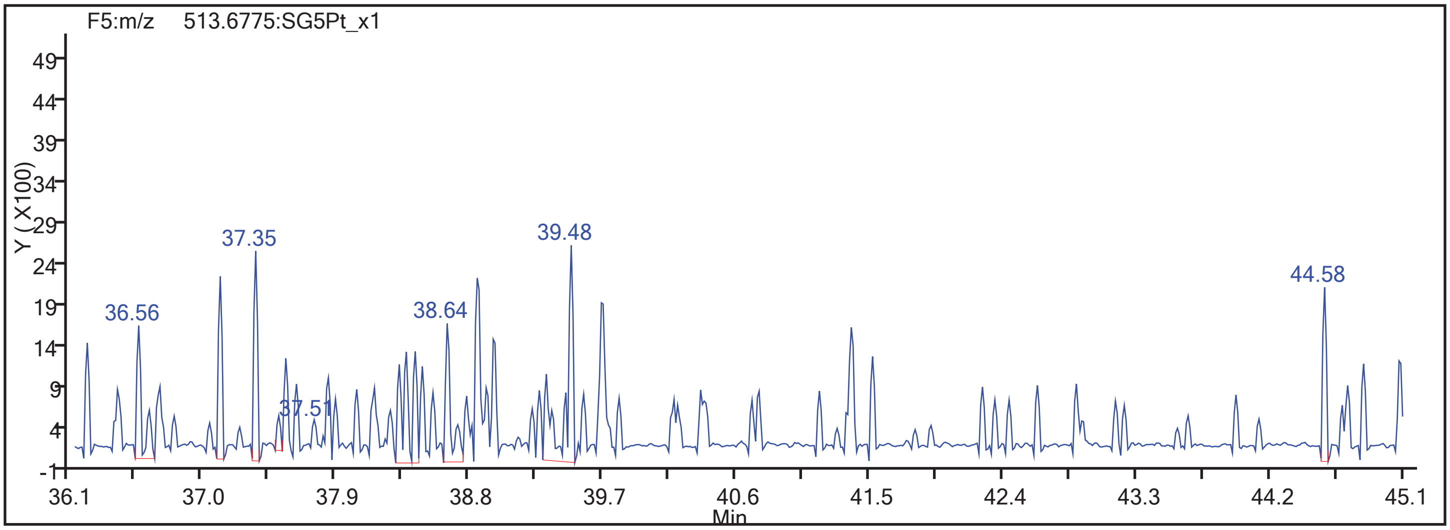
Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d		
Injection Date:	11-Nov-2017 09:56:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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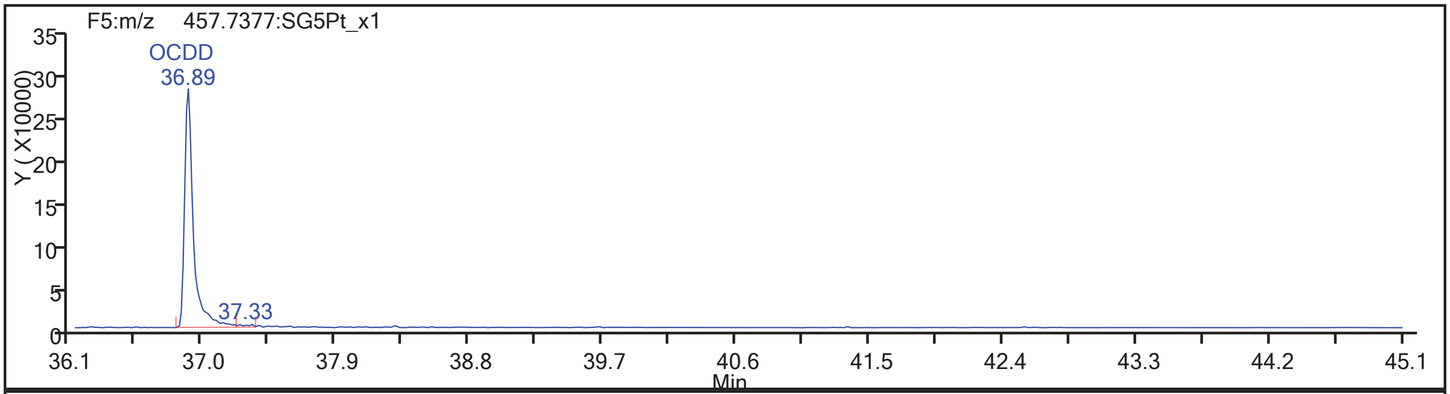
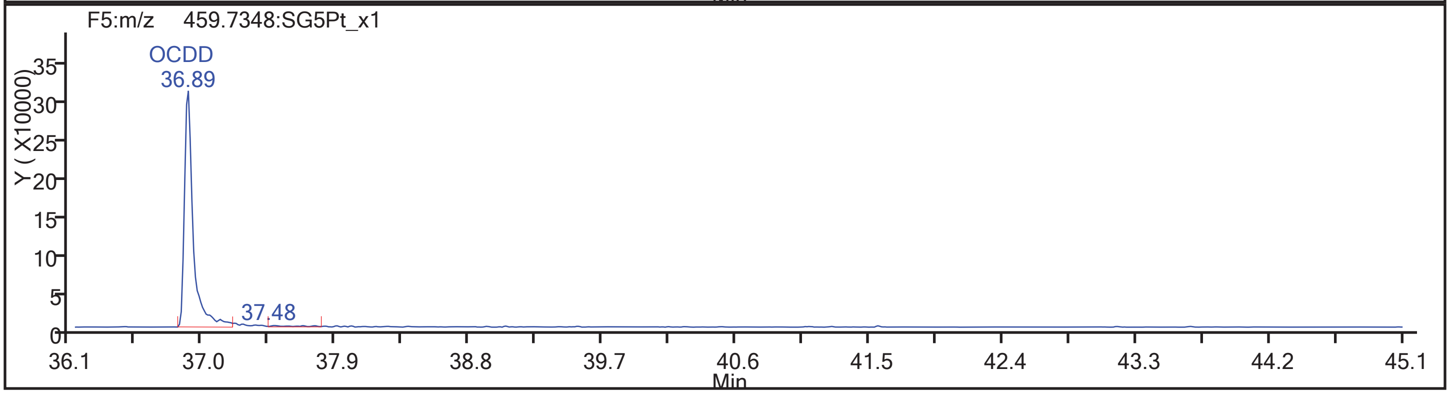
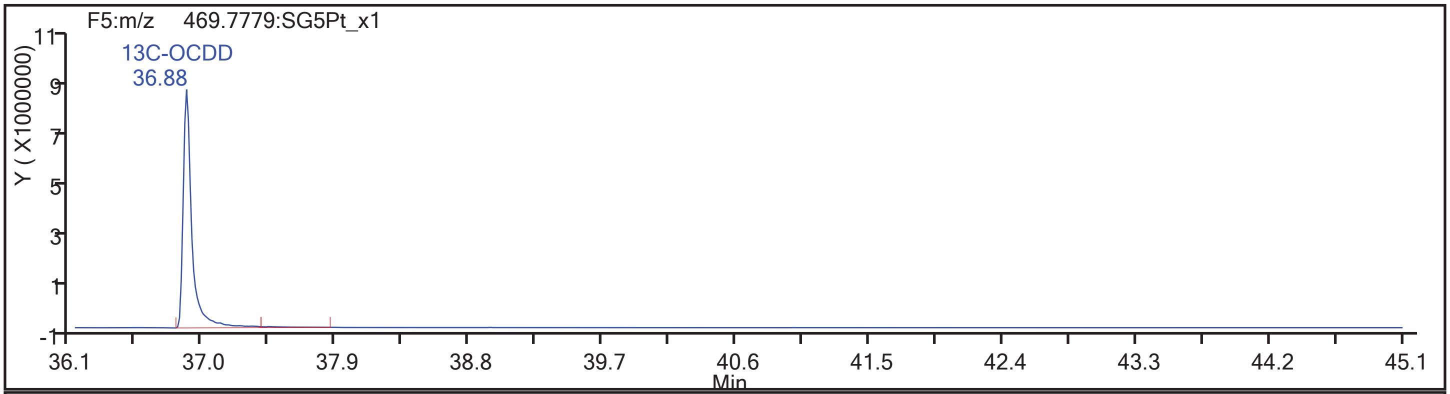
Worklist#:	194084	Sample Line#:	63
Column Type:	DB-5	Column Dia:	0.32 mm

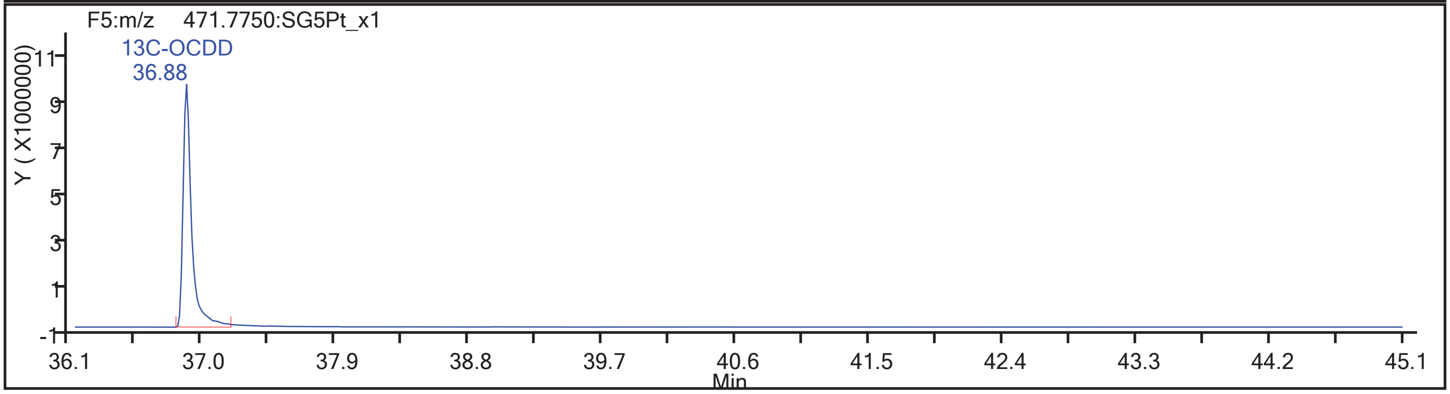
OCDD





OCDD Standards





Report Date: 13-Nov-2017 11:21:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d
Injection Date: 11-Nov-2017 09:56:46
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 194084
Sample Line#: 63
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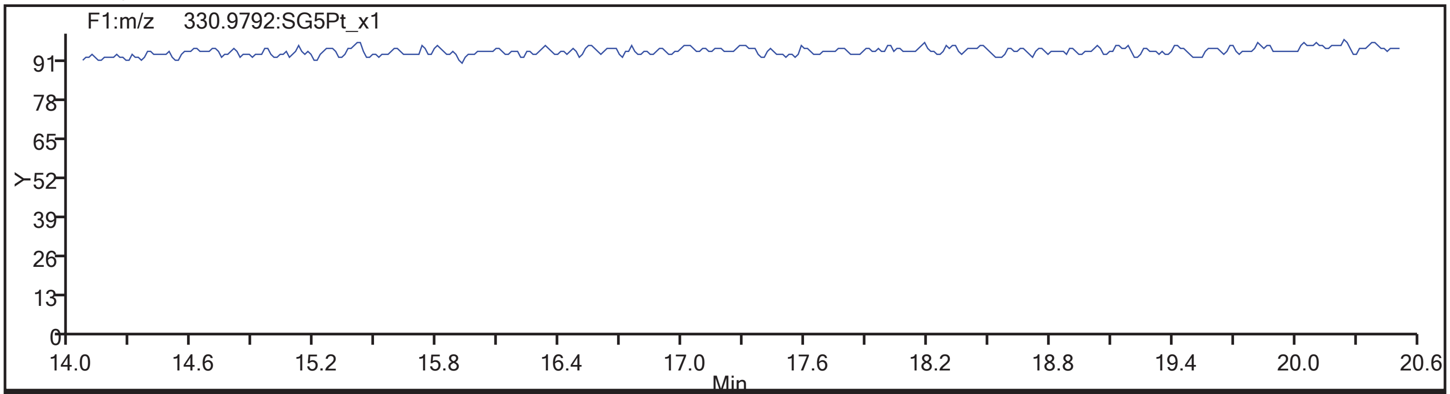
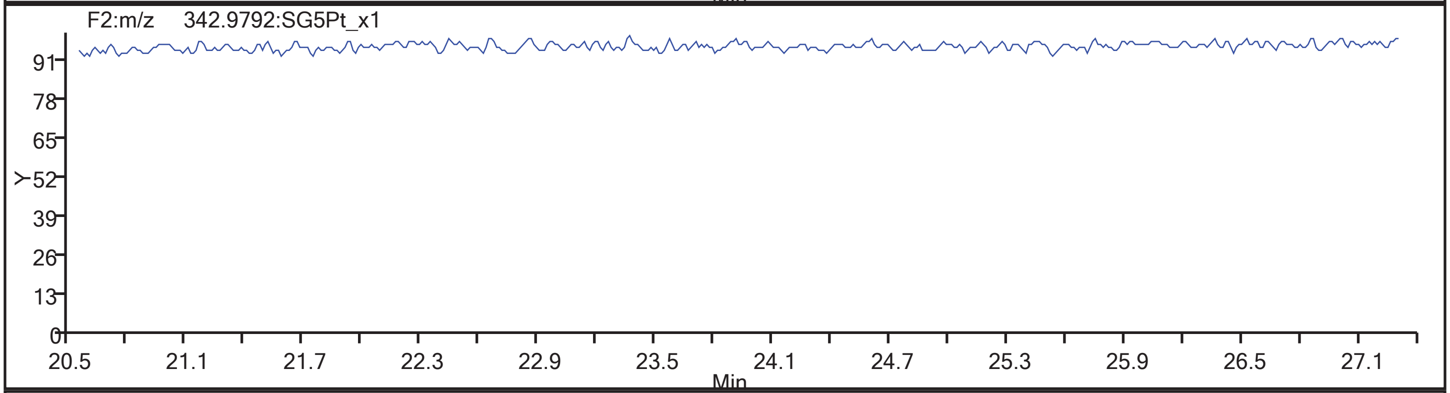
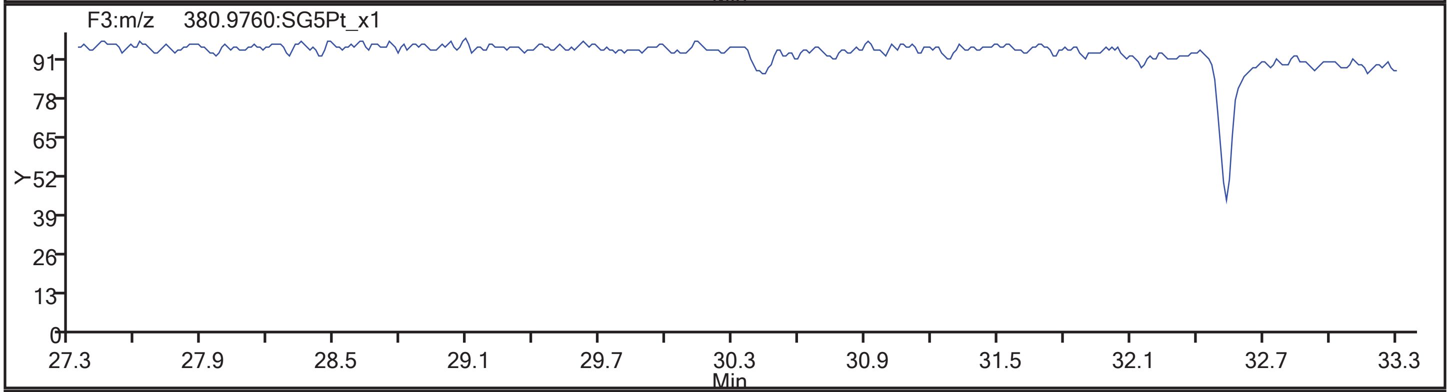
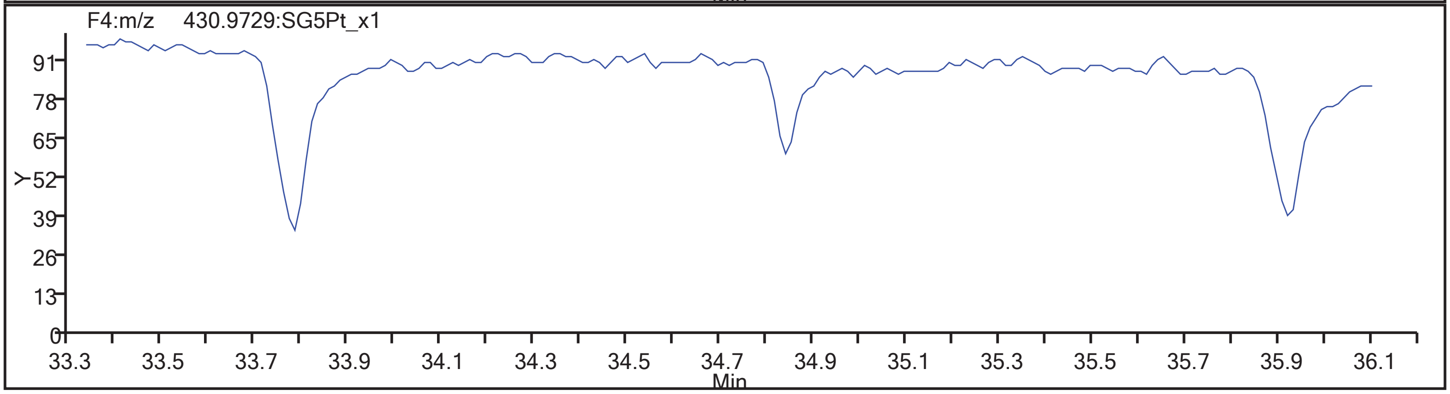
Column Dia: 0.32 mm









TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_63.d		
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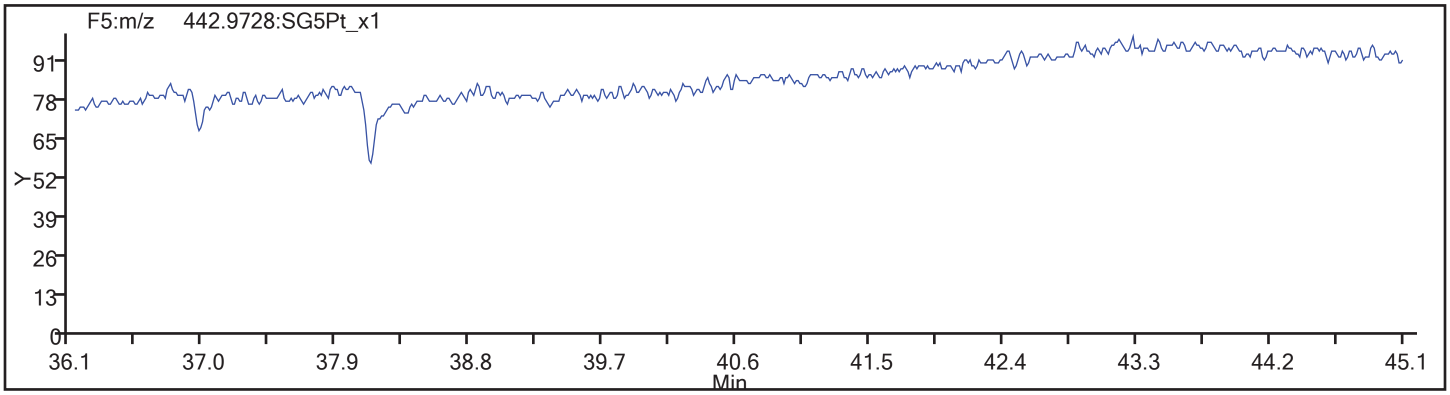
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	194084	Sample Line#:	63
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP026SS03DS RE
Lab Sample ID: 160-24924-3 RE

Matrix: Solid
Lab File ID: 16NO175D3_64.d

Analysis Method: 8290A
Date Collected: 10/03/2017 16:26

Extract. Method: 8290
Date Extracted: 11/16/2017 11:16

Sample wt/vol: 10.04(g)
Date Analyzed: 11/18/2017 21:04

Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1

Injection Volume: 2(uL)
Level: (low/med) Low

% Moisture: 26.3
GPC Cleanup:(Y/N) N

Analysis Batch No.: 193375
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.54	U H	1.4	0.34	0.092
51207-31-9	2,3,7,8-TCDF	0.54	U H	1.4	0.34	0.066
40321-76-4	1,2,3,7,8-PeCDD	1.0	U H	6.8	1.0	0.12
57117-41-6	1,2,3,7,8-PeCDF	1.0	U H	6.8	1.0	0.082
57117-31-4	2,3,4,7,8-PeCDF	1.0	U H	6.8	1.0	0.085
39227-28-6	1,2,3,4,7,8-HxCDD	0.38	J H	6.8	2.7	0.12
57653-85-7	1,2,3,6,7,8-HxCDD	0.43	J H	6.8	2.7	0.11
19408-74-3	1,2,3,7,8,9-HxCDD	0.49	J H M	6.8	2.7	0.11
70648-26-9	1,2,3,4,7,8-HxCDF	1.0	U H	6.8	1.0	0.12
57117-44-9	1,2,3,6,7,8-HxCDF	1.4	U H	6.8	1.4	0.11
72918-21-9	1,2,3,7,8,9-HxCDF	0.22	J H	6.8	1.4	0.12
60851-34-5	2,3,4,6,7,8-HxCDF	0.22	J H	6.8	1.0	0.11
35822-46-9	1,2,3,4,6,7,8-HpCDD	6.2	J H	6.8	1.4	0.24
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.4	U H	6.8	1.4	0.48
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.8	J H	6.8	2.7	0.62
3268-87-9	OCDD	53	H B	14	3.4	0.26
39001-02-0	OCDF	6.9	J H	14	3.4	0.16

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76325-40-3	15C-2,5,7,8-TCDD	61		40-153
89039-46-1	15C-2,5,7,8-TCDF	39		40-153
109719-79-1	15C-1,2,5,7,8-PeCDD	61		40-153
109719-77-9	15C-1,2,5,7,8-PeCDF	62		40-153
109719-81-3	15C-1,2,5,6,7,8-HxCDD	62		40-153
114425-98-2	15C-1,2,5,4,7,8-HxCDF	37		40-153
109719-85-7	15C-1,2,5,4,6,7,8-HpCDD	37		40-153
109719-84-8	15C-1,2,5,4,6,7,8-HpCDF	21	Q	40-153
114425-97-1	15C-OCDD	31		40-153

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Lims ID: 160-24924-G-5-B
Client ID: SHAD041DP026SS05DS
Sample Type: Client
Inject. Date: 18-Nov-2017 21:04:56 ALS Bottle#: 44 Worklist Smp#: 64
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-5-B 160-24924-G-5-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:13:50 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:25:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	145815742	0.82	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	129572630	0.77	1.5089	58.9	58.9	0.2683	0.2683	58.89	
2,3,7,8-TCDF	17.720						0.0242	0.0242		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF							0.0242	0.0242		
D 13C-2,3,7,8-TCDD	18.445	88051155	0.83	0.9906	61.0	61.0	0.1725	0.1725	60.96	
2,3,7,8-TCDD	18.461						0.0339	0.0339		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD							0.0339	0.0339		
D 13C-1,2,3,7,8-PeCDF	22.883	101787662	1.63	1.1280	61.9	61.9	0.2024	0.2024	61.88	
1,2,3,7,8-PeCDF	22.910						0.0303	0.0303		
2,3,4,7,8-PeCDF	24.301						0.0312	0.0312		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF							0.0312	0.0312		
D 13C-1,2,3,7,8-PeCDD	25.010	65129001	1.65	0.7269	61.4	61.4	0.1279	0.1279	61.45	
1,2,3,7,8-PeCDD	25.037						0.0456	0.0456		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0456	0.0456		
D 13C-1,2,3,4,7,8-HxCDF	30.932	74794824	0.51	1.0279	57.1	57.1	0.2635	0.2635	57.08	
1,2,3,4,7,8-HxCDF	30.932						0.0427	0.0427		
1,2,3,6,7,8-HxCDF	31.092						0.0389	0.0389		
2,3,4,6,7,8-HxCDF	31.864	85279	1.24	1.3833	0.0943	0.0824	0.0416	0.0416		RQ
D 13C-1,2,3,7,8,9-HxCDF	32.597	75181113	0.53							
1,2,3,7,8,9-HxCDF	32.623	80002	1.24	1.2903	0.0941	0.0829	0.0446	0.0446		RQ
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF					0.1883	0.1653	0.0420	0.0420		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.410	127463859	1.29	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.037	100154	1.24	1.0646	0.1540	0.1409	0.0449	0.0449		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.104	66760192	1.24	0.8502	61.6	61.6	0.2157	0.2157	61.61	
1,2,3,6,7,8-HxCDD	32.104	125201	1.42	1.1809	0.1588	0.1588	0.0405	0.0405		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.437	149596	1.24	1.2311	0.2106	0.1820	0.0389	0.0389		RQM
A Non-2,3,7,8-sub-HxCDD	31.252	649788	1.24	1.1589	0.8666	0.8399	0.0413	0.5213		RQ
S Total HxCDD					1.390	1.322	0.0414	0.0414		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	17425861	0.46	0.6490	21.1	21.1	0.4777	0.4777	21.07	
1,2,3,4,6,7,8-HpCDF	34.010						0.1785	0.1785		
1,2,3,4,7,8,9-HpCDF	35.152	141013	1.02	1.2290	0.6585	0.6585	0.2305	0.2305		
A Non-2,3,7,8-sub-HpCDF	34.569	237940	1.04	1.4080	1.090	0.9698	0.2012	0.9698		RQ
S Total HpCDF					1.748	1.628	0.2045	0.2045		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.836	38851010	1.12	0.5387	56.6	56.6	0.3396	0.3396	56.58	
1,2,3,4,6,7,8-HpCDD	34.848	1032955	1.16	1.1631	2.286	2.286	0.0884	0.0884		
A Non-2,3,7,8-sub-HpCDD	35.261	884731	1.04	1.1631	2.195	1.958	0.0884	1.958		RQ
S Total HpCDD					4.481	4.244	0.0884	0.0884		RQ
D 13C-OCDD	37.245	52046305	0.96	0.4009	101.8	101.8	0.1547	0.1547	50.92	
OCDF	37.365	835159	0.88	1.2649	2.537	2.537	0.0591	0.0591		
OCDD	37.257	5258352	0.91	1.0390	19.4	19.4	0.0970	0.0970		

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Lims ID: 160-24924-G-5-B
Client ID: SHAD041DP026SS05DS
Sample Type: Client
Inject. Date: 18-Nov-2017 21:04:56 ALS Bottle#: 44 Worklist Smp#: 64
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-5-B 160-24924-G-5-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:13:50 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:25:28

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		65874765	15914259	14273	35682	1115		
333.9339	18.249	18.234	1		79940977	18915288	9540	23850	1983	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.971	56174456	13263076	36297	90742	365		
317.9389	17.720	17.705	1	0.971	73398174	17416776	20111	50277	866	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						967	2417			
305.8987	17.720						2290	5725			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						967	2417			
305.8987	17.402						2290	5725			
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.011	39826037	8905500	14273	35682	624		
333.9339	18.445	18.430	1	1.011	48225118	10882247	9540	23850	1141	0.83(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461						2251	5627			
321.8936	18.461						876	2190			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						2251	5627			
321.8936	17.871						876	2190			
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.883	0	1.254	63032663	10484934	18874	47185	556		
353.8970	22.883	22.883	0	1.254	38754999	6558433	12937	32342	507	1.63(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						953	2382			
341.8567	22.910						1410	3525			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	24.301						953	2382			
341.8567	24.301						1410	3525			
A F1 PeCDFs											
339.8597	20.426						549	1372			
341.8567	20.426						1311	3277			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						953	2382			
341.8567	23.668						1410	3525			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.370	40576286	6105121	5366	13415	1138		
369.8919	25.024	25.010	1	1.371	24552715	3760506	7590	18975	495	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037						1290	3225			
357.8516	25.037						737	1842			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1290	3225			
357.8516	23.878						737	1842			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.932	30.919	1	0.954	25238947	5234317	11697	29242	447		
385.8610	30.932	30.919	1	0.954	49555877	10538897	24258	60645	434	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						2101	5252			
375.8178	30.932						1532	3830			
1,2,3,6,7,8-HxCDF											
373.8208	31.092						2101	5252			
375.8178	31.092						1532	3830			
2,3,4,6,7,8-HxCDF											RQ
373.8208	31.864	31.838	2	1.030	59468	17732	2101	5252	8		
	Empc Correction				47208	12951	2101	5252	6		
375.8178	31.851	31.838	1	1.030	38071	10445	1532	3830	7	1.56(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.006	26159473	7233375	11697	29242	618		
385.8610	32.597	32.583	1	1.006	49021640	13359698	24258	60645	551	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											RQ
373.8208	32.623	32.597	2	1.055	44287	10912	2101	5252	5		
375.8178	32.610	32.597	1	1.054	46501	16313	1532	3830	11	0.95(1.05-1.43)	
	Empc Correction				35715	8799	1532	3830	6		
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						2101	5252			
375.8178	30.653						1532	3830			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.410	0		71881160	18851208	13609	34022	1385		
403.8529	32.410	32.410	0		55582699	14329529	10726	26815	1336	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	32.037	32.011	2	0.998	64762	14939	1513	3782	10		
	Empc Correction				55442	13186	1513	3782	9		
391.8127	32.011	32.011	0	0.997	44712	10634	1595	3987	7	1.45(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.991	36944513	8873938	13609	34022	652		
403.8529	32.104	32.091	1	0.991	29815679	7366321	10726	26815	687	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.104	32.117	-1	1.000	73385	19495	1513	3782	13		
391.8127	32.117	32.117	0	1.000	51816	13163	1595	3987	8	1.42(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQM
389.8157	32.437	32.424	1	1.010	106304	32237	1513	3782	21		M
	Empc Correction				82812	23589	1513	3782	16		
391.8127	32.424	32.424	0	1.010	66784	19024	1595	3987	12	1.59(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.147	31.252	-66	0.939	226561	34975	1513	3782	23		
391.8127	30.160	31.252	-65	0.939	176725	38202	1595	3987	24	1.28(1.05-1.43)	
389.8157	31.319	31.252	4	0.976	136457	26242	1513	3782	17		
391.8127	31.319	31.252	4	0.976	130685	24333	1595	3987	15	1.04(1.05-1.43)	
	Empc Correction				110045	21162	1595	3987	13		
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	5510244	1329304	10891	27227	122		
419.8220	34.010	33.998	1	1.049	11915617	2861065	30258	75645	95	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.010						2206	5515			
409.7789	34.010						2542	6355			
1,2,3,4,7,8,9-HpCDF											
407.7818	35.152	35.128	1	1.034	71326	18867	2206	5515	9		
409.7789	35.152	35.128	1	1.034	69687	20129	2542	6355	8	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											RQ
407.7818	34.338	34.569	-14	1.010	121303	38782	2206	5515	18		
409.7789	34.350	34.569	-13	1.010	146112	40429	2542	6355	16	0.83(0.88-1.20)	
	Empc Correction				116637	37290	2542	6355	15		
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.836	34.812	1	1.075	20485737	6379956	13957	34892	457		
437.8140	34.836	34.812	1	1.075	18365273	5746784	10326	25815	557	1.12(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.848	34.824	1	1.000	554343	154996	2818	7045	55		
425.7737	34.848	34.824	1	1.000	478612	138533	2169	5422	64	1.16(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											RQ
423.7766	34.277	35.261	-59	0.984	558385	164246	2818	7045	58		a
	Empc Correction				451039	137751	2818	7045	49		
425.7737	34.277	35.261	-59	0.984	433692	132453	2169	5422	61	1.29(0.88-1.20)	
13C-OCDD											
469.7779	37.245	37.245	0	1.149	25434843	7234041	3725	9312	1942		
471.7750	37.245	37.245	0	1.149	26611462	8048363	4506	11265	1786	0.96(0.76-1.02)	
OCDF											
441.7428	37.365	37.353	1	1.003	389779	98275	909	2272	108		
443.7399	37.365	37.353	1	1.003	445380	109104	1377	3442	79	0.88(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	37.257	37.257	0	1.000	2508209	721309	1465	3662	492		
459.7348	37.257	37.257	0	1.000	2750143	855699	1617	4042	529	0.91(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Lims ID: 160-24924-G-5-B
Client ID: SHAD041DP026SS05DS
Inject. Date: 18-Nov-2017 21:04:56
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195573
Lims Sample ID: 64

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	66760192	16240259
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	66760192	16240259

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.147	226561	34975	176725	38202	0.5213	1.28	
31.319	136457	26242	130685	24333	0.3453	1.04	RQ
31.319	136457	26242	110045	21162	0.3186		Empc Correction
Signal Totals:							
	363018	61217	286770	59364			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	670428	123752				1.18	RQ
	649788	120581					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8666 = (670428 * 100.000) / (66760192 * 1.159)
Empc Amount: 0.8399 = (649788 * 100.000) / (66760192 * 1.159)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Lims ID:	160-24924-G-5-B		
Client ID:	SHAD041DP026SS05DS		
Inject. Date:	18-Nov-2017 21:04:56	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	64

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	17425861	4190369
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	17425861	4190369

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.338	121303	38782	146112	40429	1.09	0.83	RQ
34.338	121303	38782	116637	37290	0.9698		Empc Correction
Signal Totals:							
	121303	38782	116637	37290			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	267415	79211				0.83	RQ
	237940	76072					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.090 = (267415 * 100.000) / (17425861 * 1.408)
Empc Amount: 0.9698 = (237940 * 100.000) / (17425861 * 1.408)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Lims ID:	160-24924-G-5-B		
Client ID:	SHAD041DP026SS05DS		
Inject. Date:	18-Nov-2017 21:04:56	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	64

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	38851010	12126740

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	38851010	12126740

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.277	558385	164246	433692	132453	2.20	1.29	RQ
34.277	451039	137751	433692	132453	1.96		Empc Correction
Signal Totals:							
	451039	137751	433692	132453			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	992077	296699				1.29	RQ
	884731	270204					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.195 = (992077 * 100.000) / (38851010 * 1.163)
Empc Amount: 1.958 = (884731 * 100.000) / (38851010 * 1.163)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

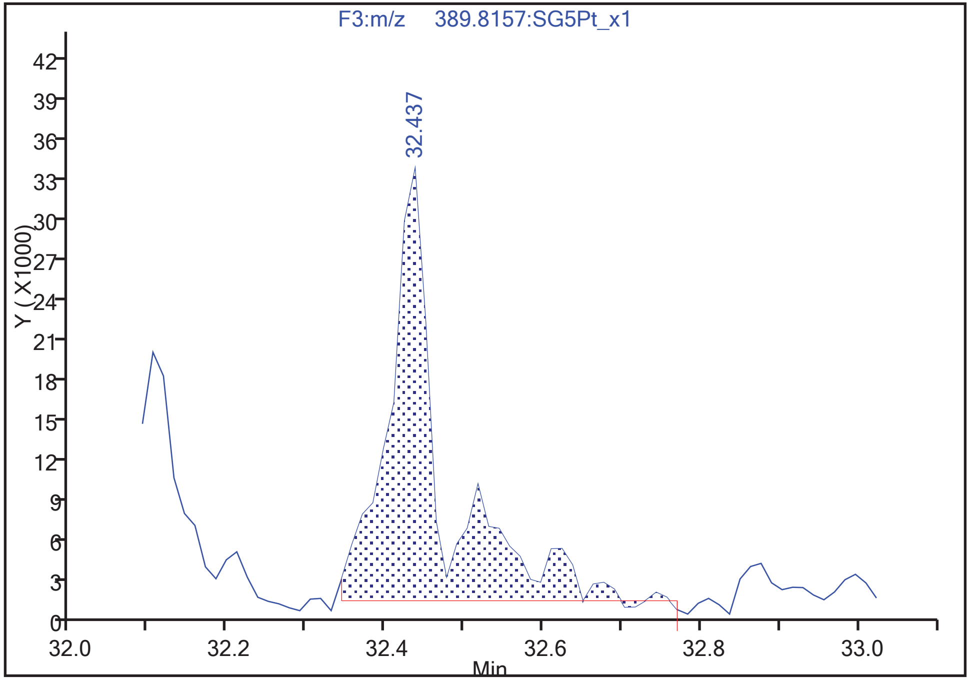
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Injection Date:	18-Nov-2017 21:04:56	Instrument ID:	3D5
Lims ID:	160-24924-G-5-B	Lab Sample ID:	320-24924-5
Client ID:	SHAD041DP026SS05DS		
Operator ID:	SMA, ALM	ALS Bottle#:	44 Worklist Smp#: 64
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F3:HRSIR

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

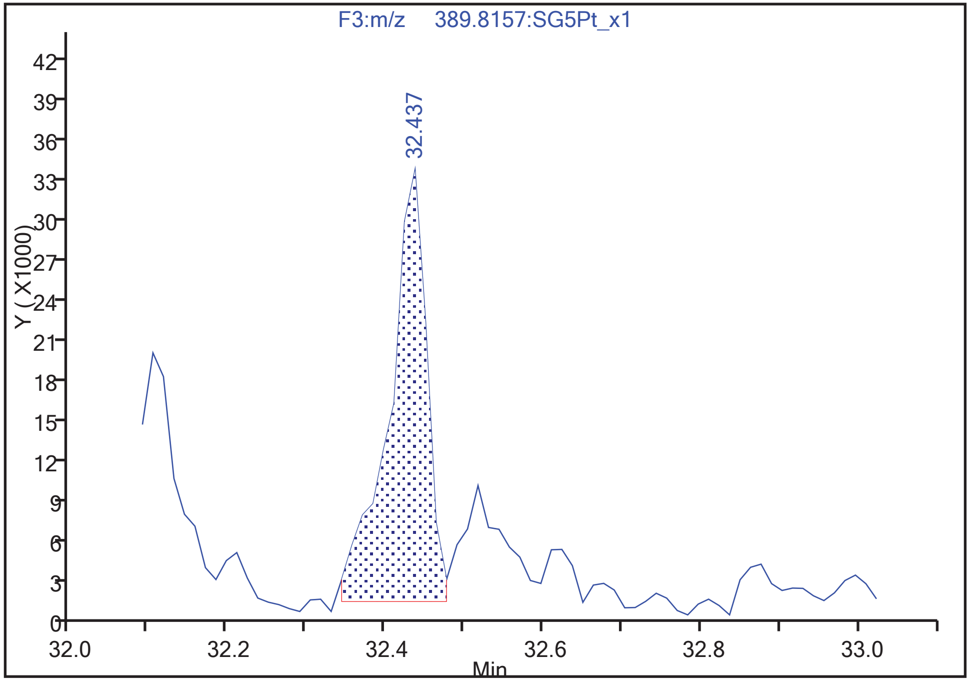
Processing Integration Results

RT: 32.44
Area: 149385
Amount: 0.277475
Amount Units: pg/ul



Manual Integration Results

RT: 32.44
Area: 106304
Amount: 0.210604
Amount Units: pg/ul



Reviewer: dadunj, 06-Dec-2017 14:12:52

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Sacramento

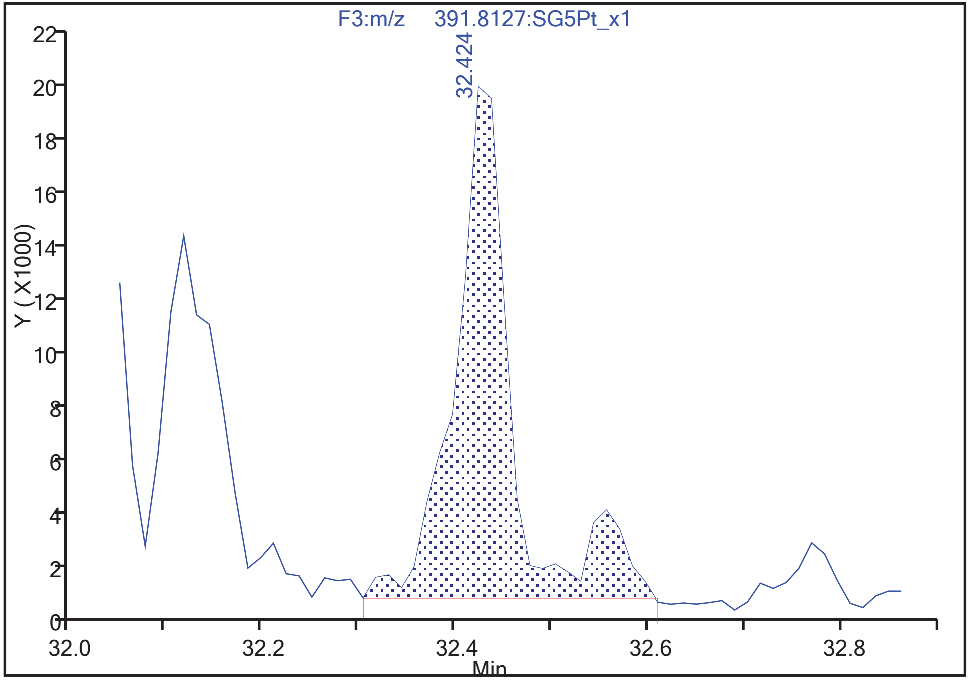
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d				
Injection Date:	18-Nov-2017 21:04:56	Instrument ID:	3D5		
Lims ID:	160-24924-G-5-B	Lab Sample ID:	320-24924-5		
Client ID:	SHAD041DP026SS05DS				
Operator ID:	SMA, ALM	ALS Bottle#:	44	Worklist Smp#:	64
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

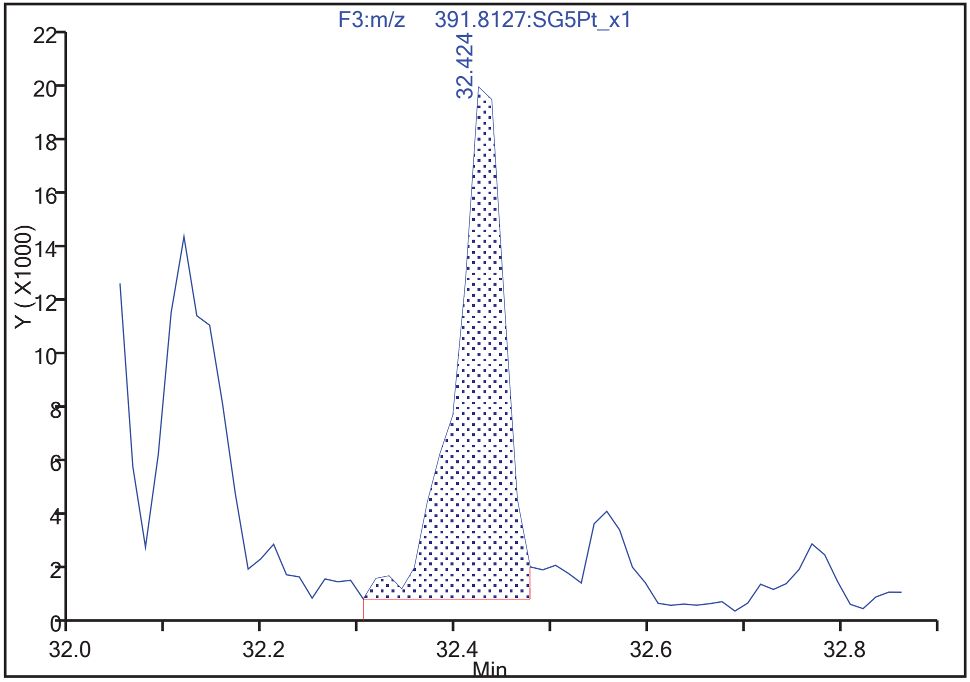
RT:	32.42
Area:	78662
Amount:	0.277475
Amount Units:	pg/ul

Processing Integration Results



RT:	32.42
Area:	66784
Amount:	0.210604
Amount Units:	pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 14:12:54

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 14:13:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d

Injection Date: 18-Nov-2017 21:04:56 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

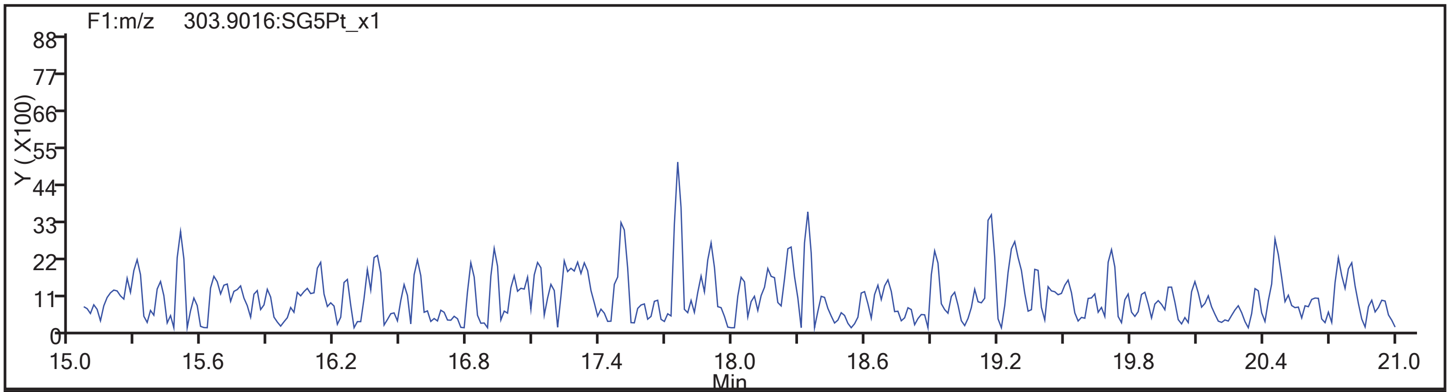
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

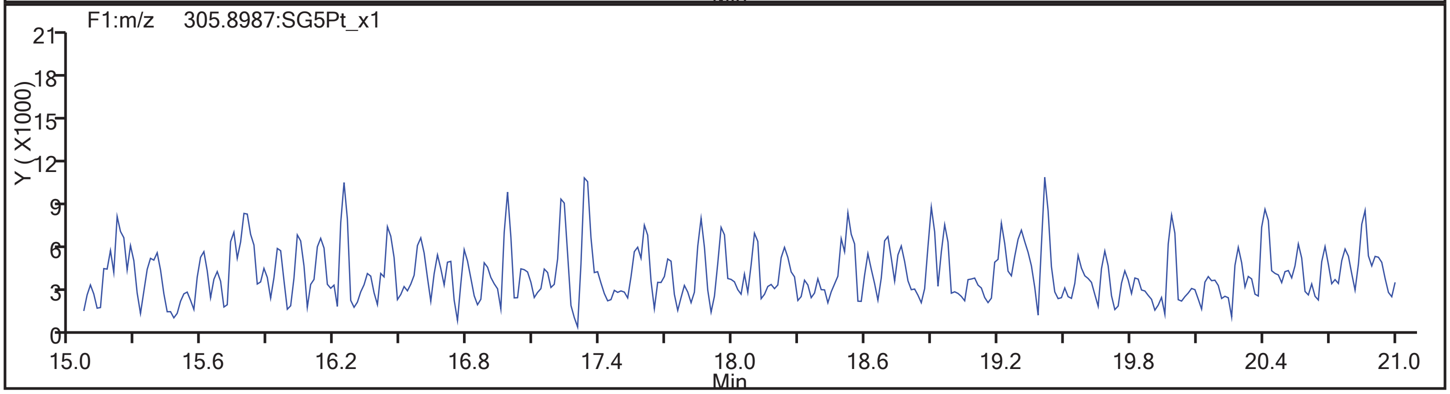
Client ID: SHAD041DP026SS05DS

Worklist#: 195573 Sample Line#: 64

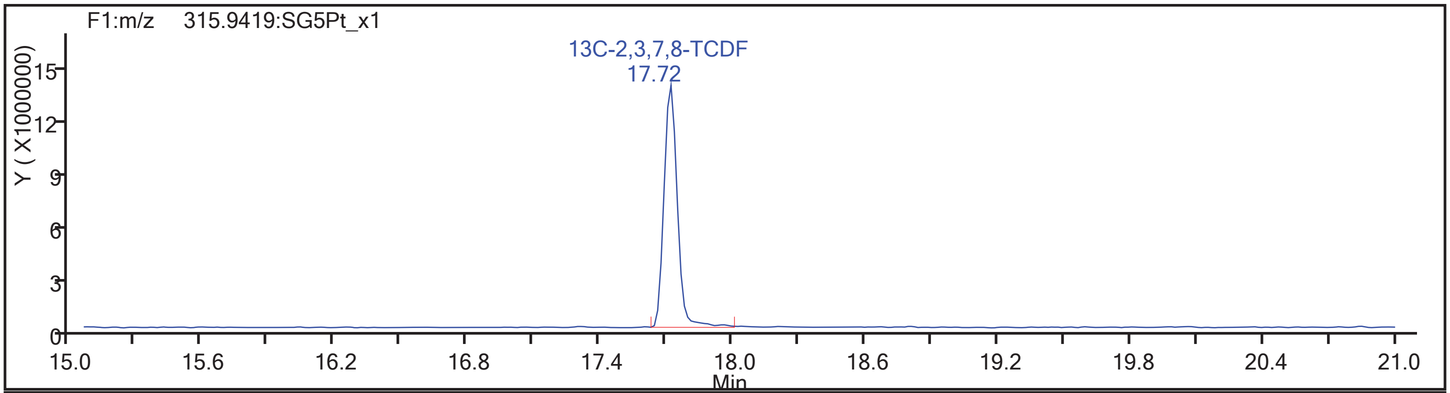
Column Type: Column Dia:

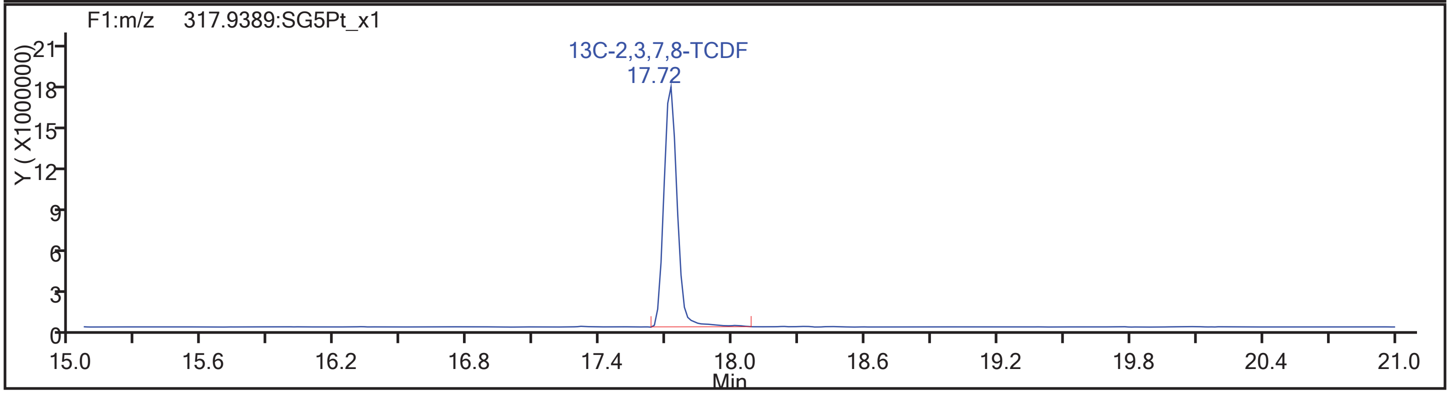
TCDF





TCDF Standards



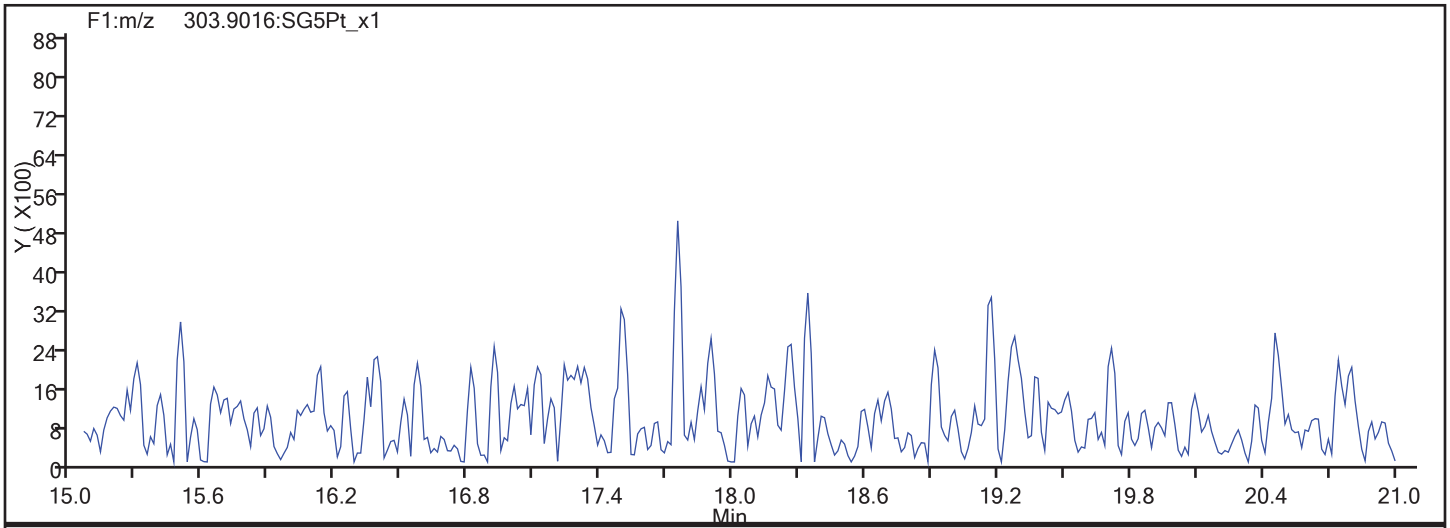


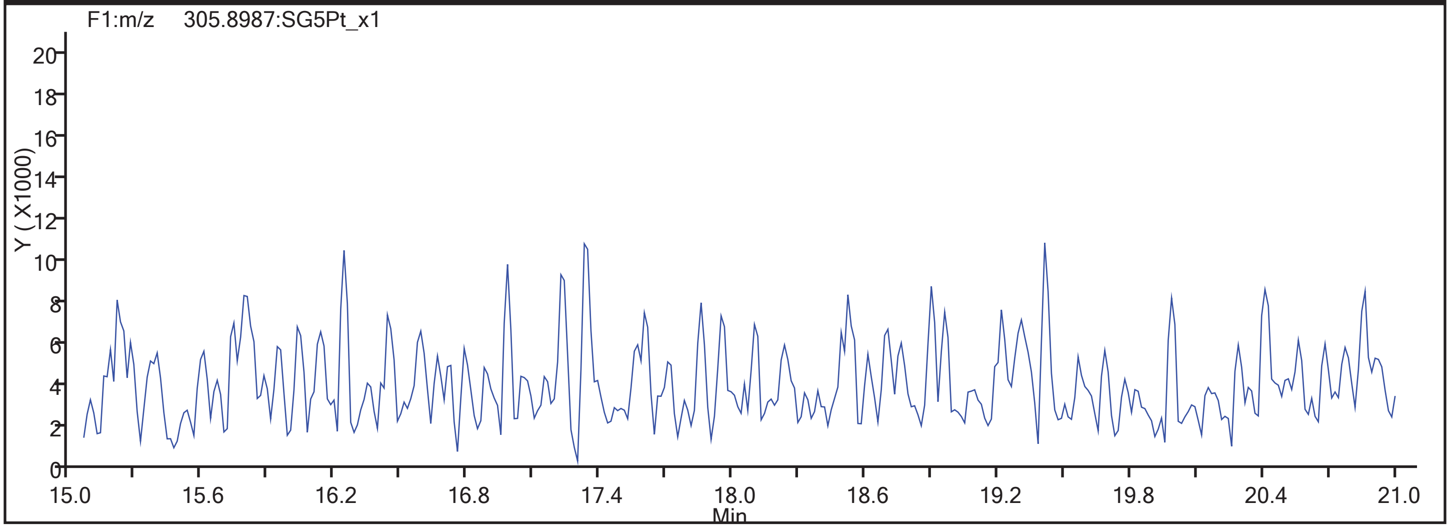
Report Date: 06-Dec-2017 14:13:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

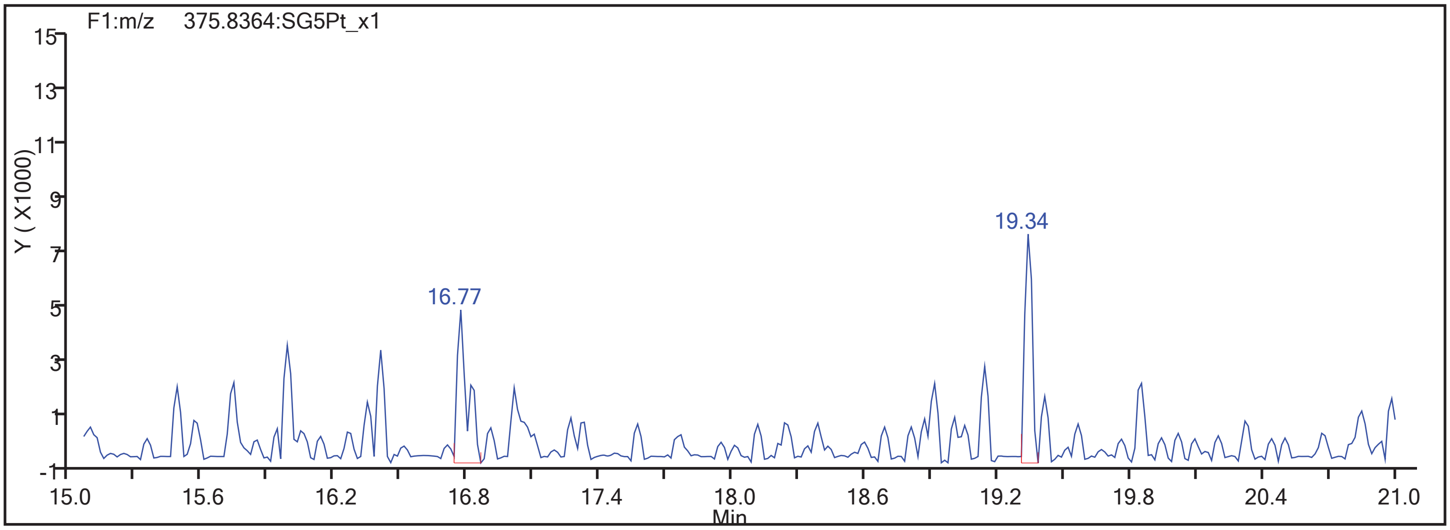
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Injection Date:	18-Nov-2017 21:04:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	195573	Sample Line#:	64
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass

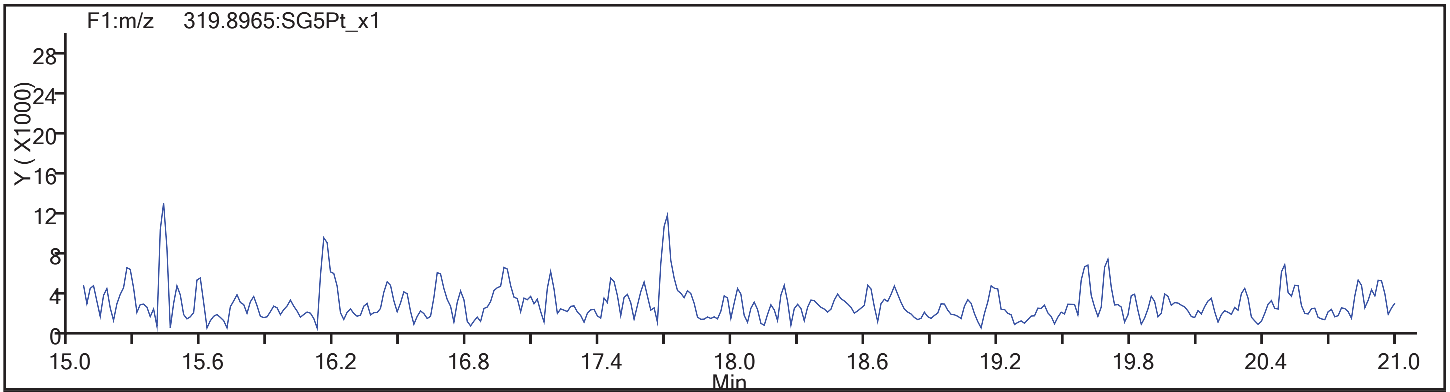


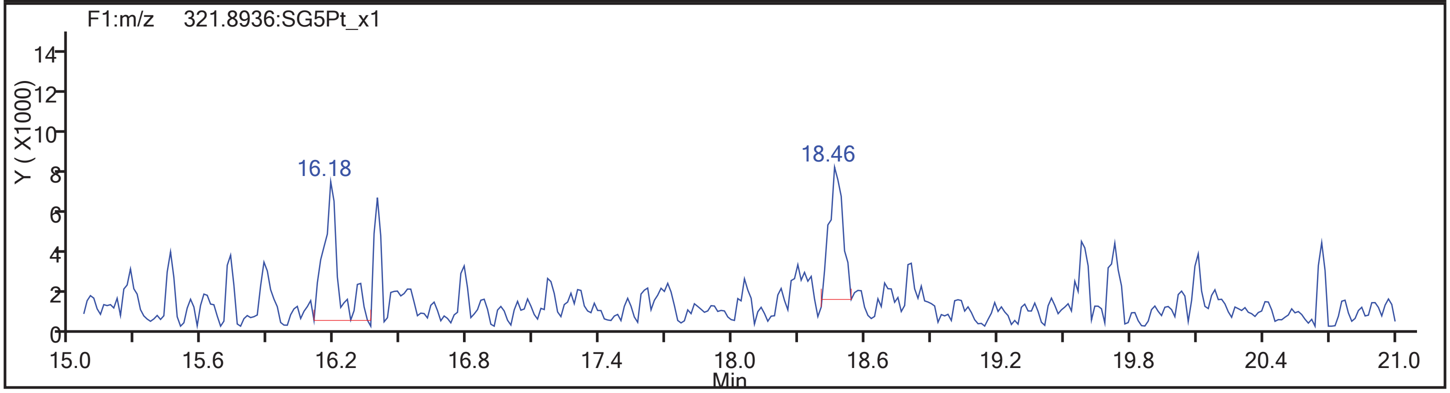
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

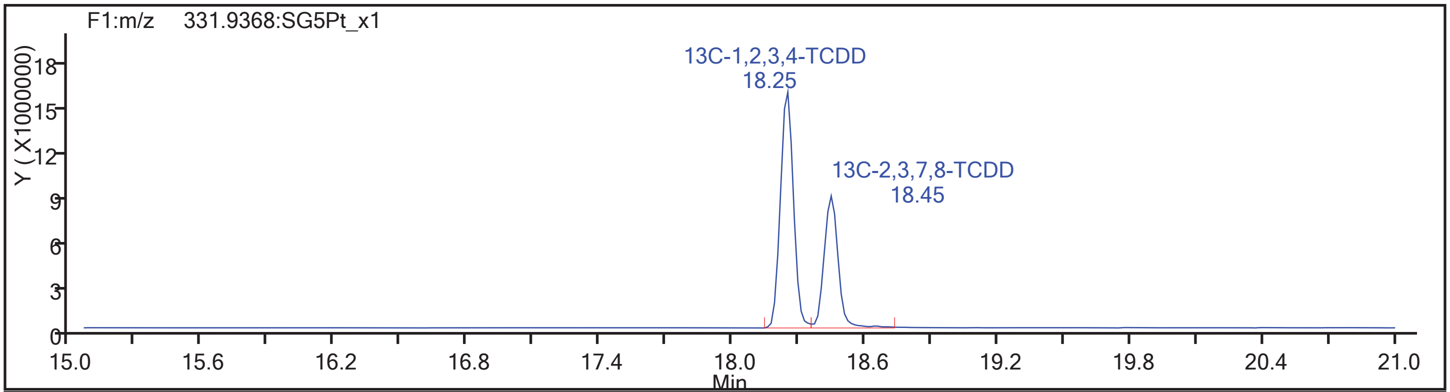
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Injection Date:	18-Nov-2017 21:04:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	195573	Sample Line#:	64
Column Type:		Column Dia:	

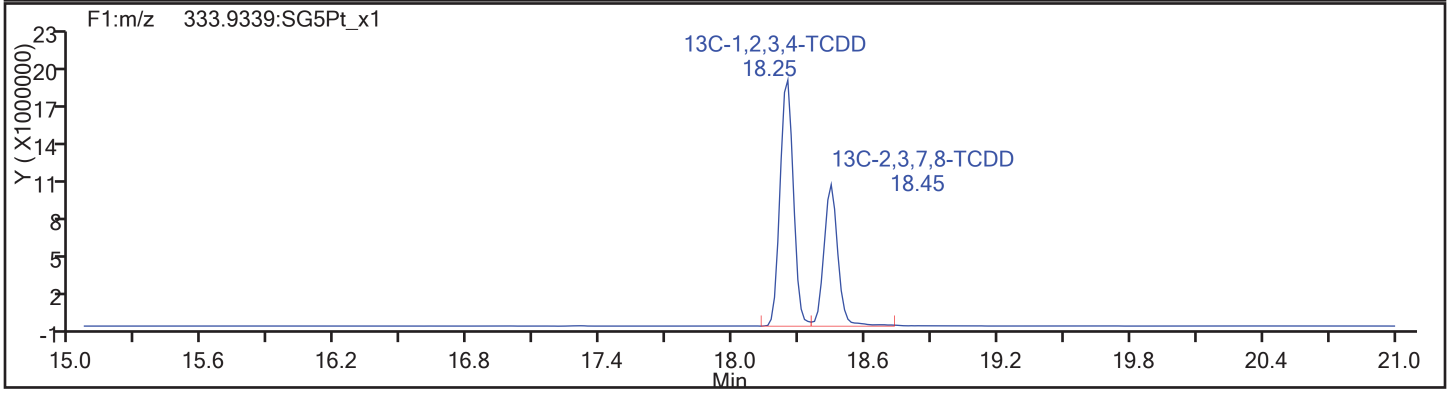
TCDD





TCDD Standards





Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d

Injection Date: 18-Nov-2017 21:04:56 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

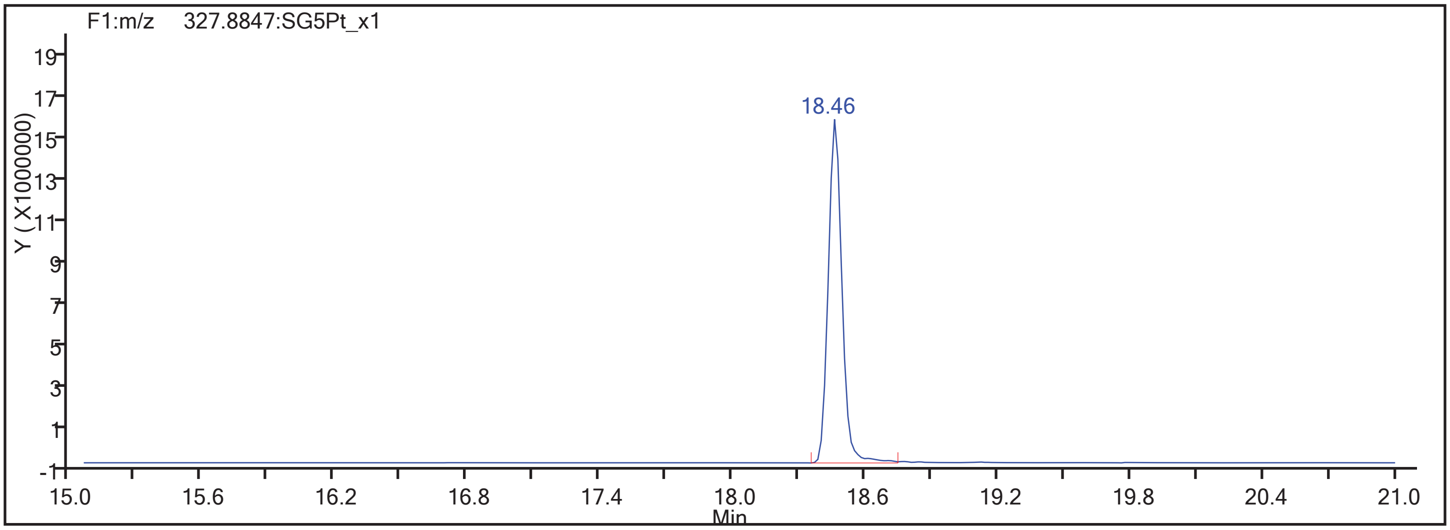
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS05DS

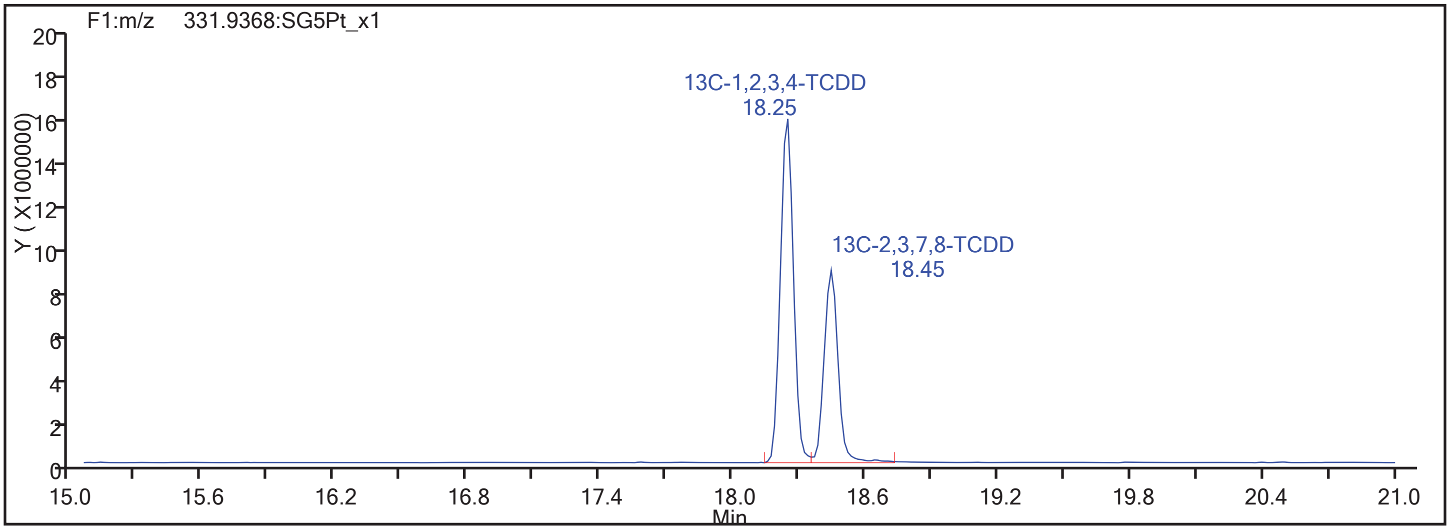
Worklist#: 195573 Sample Line#: 64

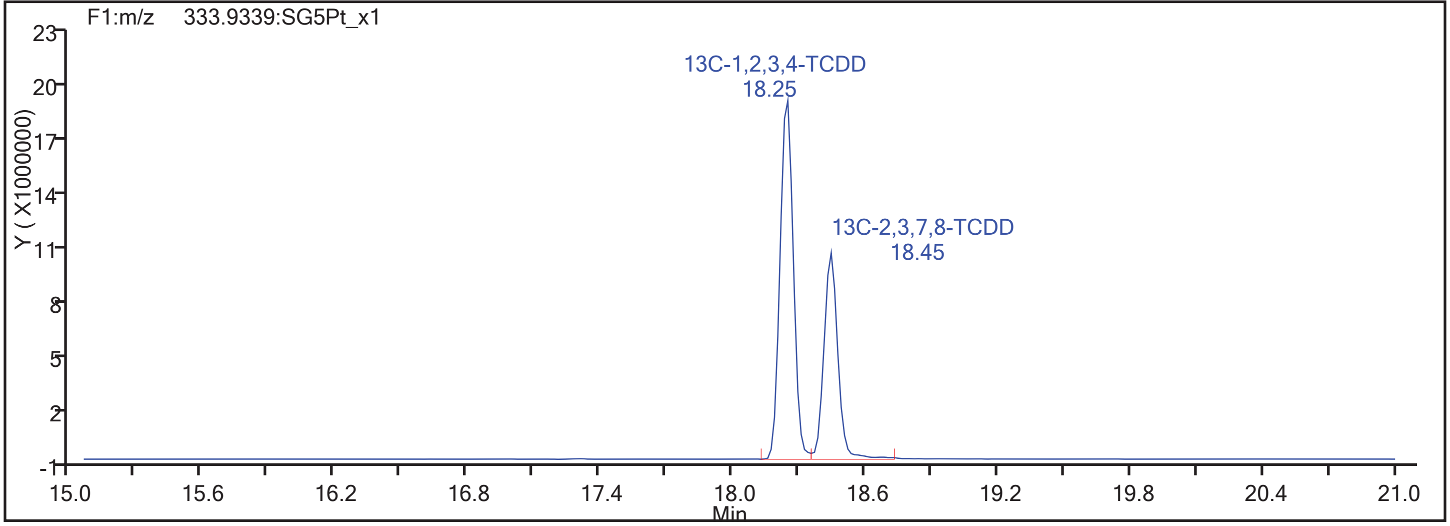
Column Type: Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards



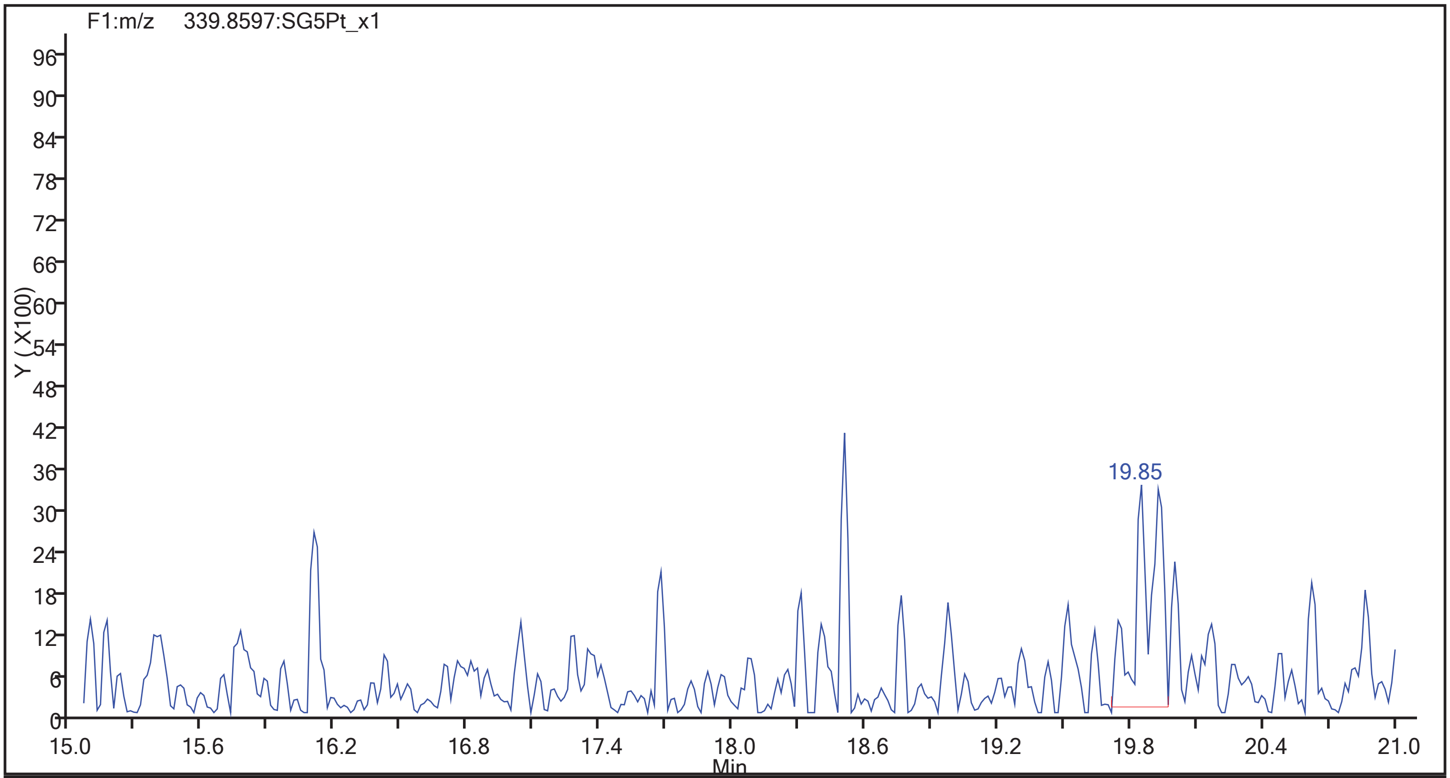


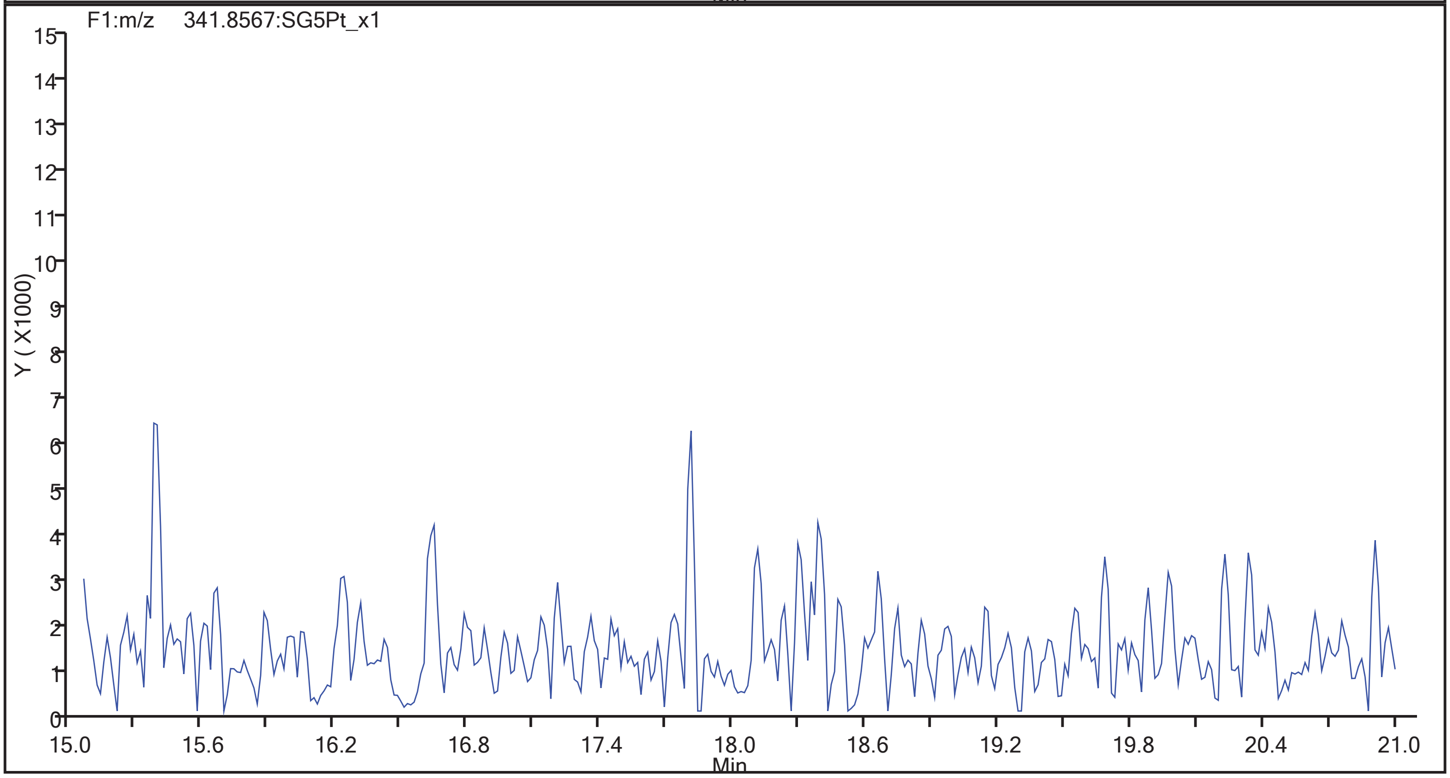
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Injection Date:	18-Nov-2017 21:04:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	195573	Sample Line#:	64
Column Type:		Column Dia:	

F1 PeCDFs



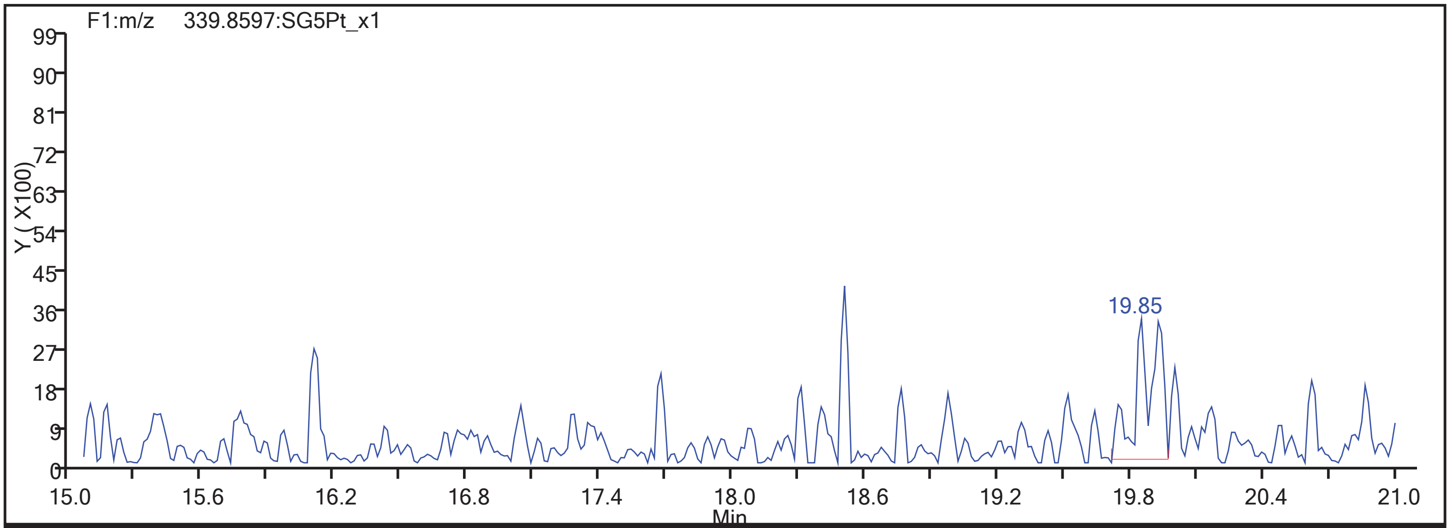


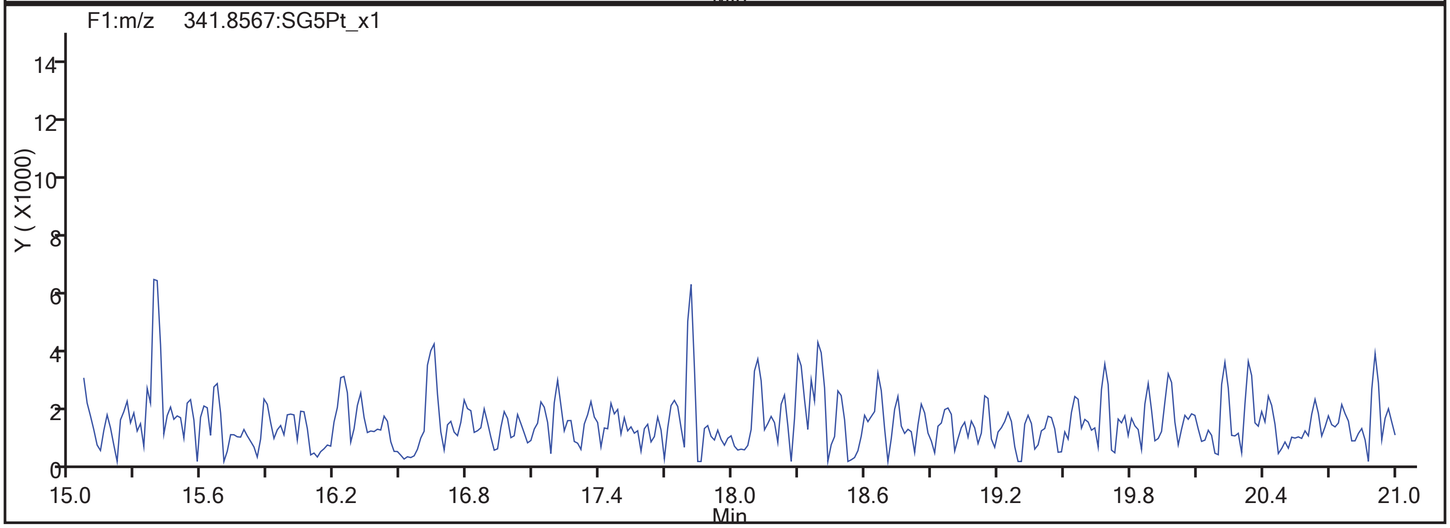
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

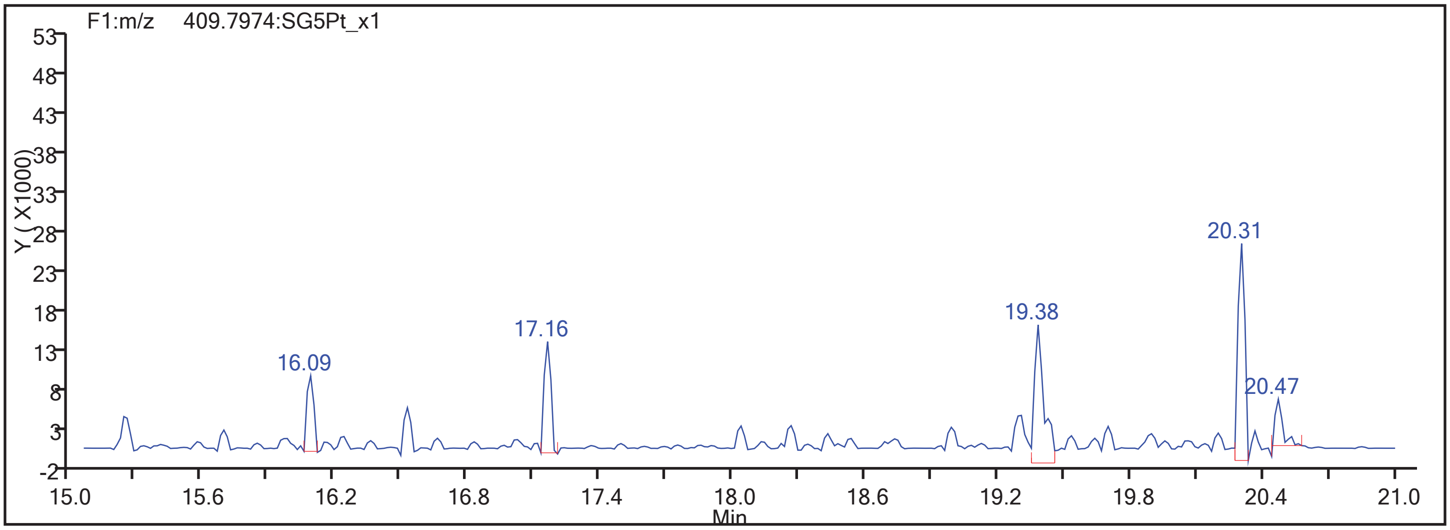
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Injection Date: 18-Nov-2017 21:04:56
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 195573
Sample Line#: 64
Column Type:
Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass

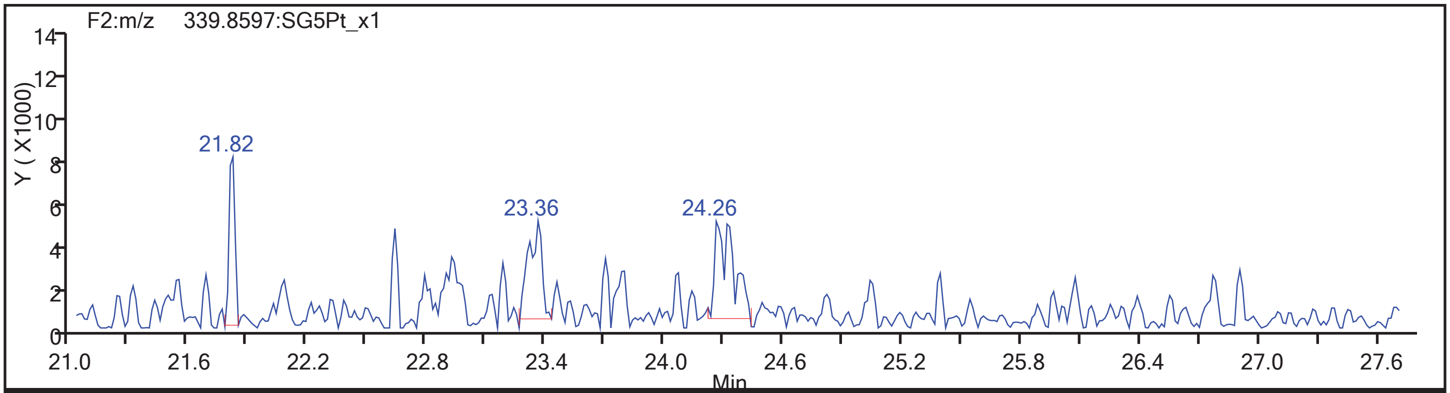


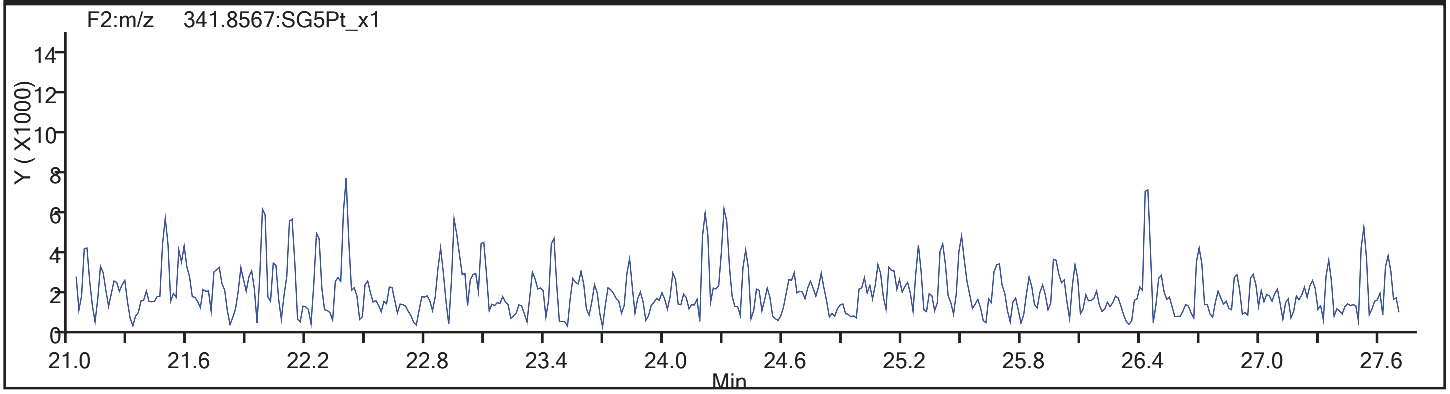
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

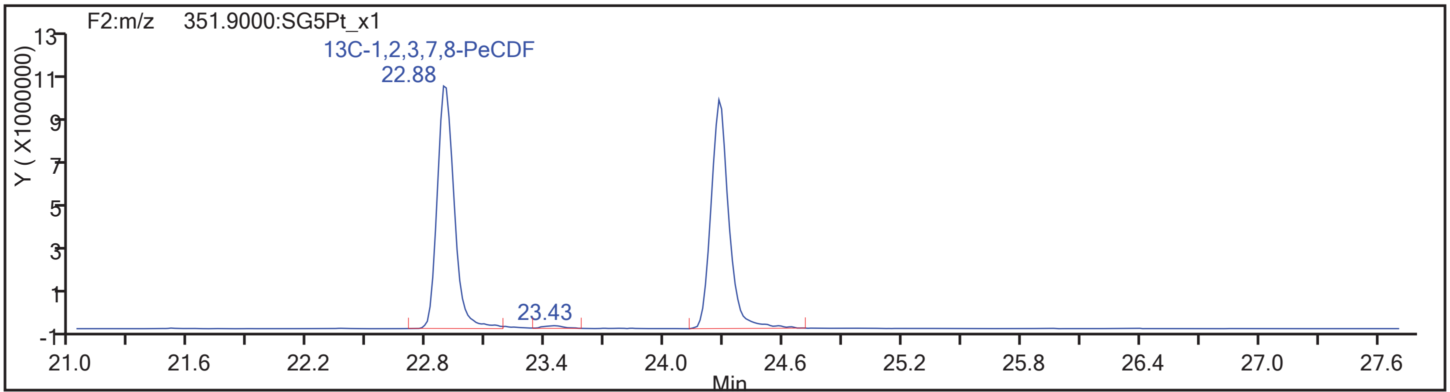
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Injection Date: 18-Nov-2017 21:04:56
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 195573
Sample Line#: 64
Column Type:
Column Dia:

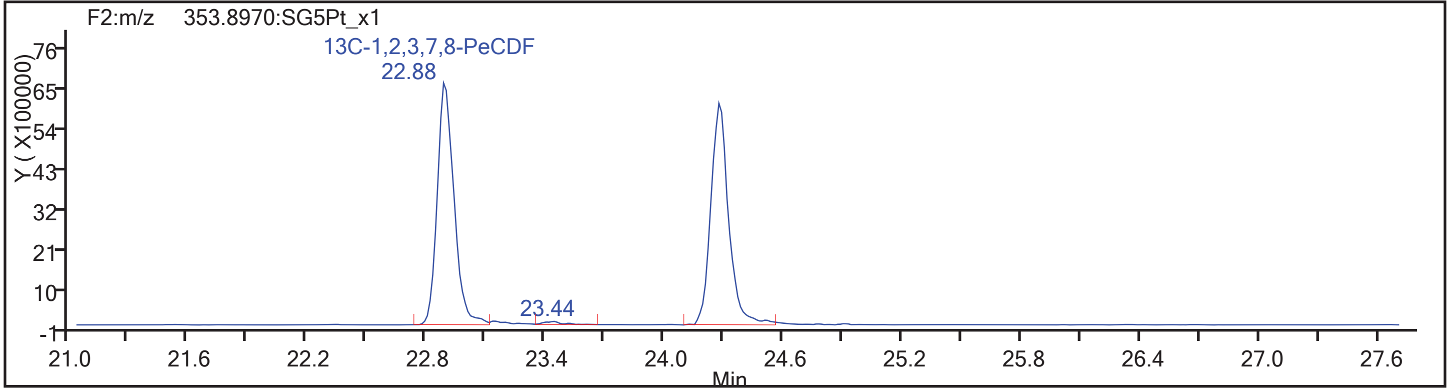
PeCDF





PeCDF Standards

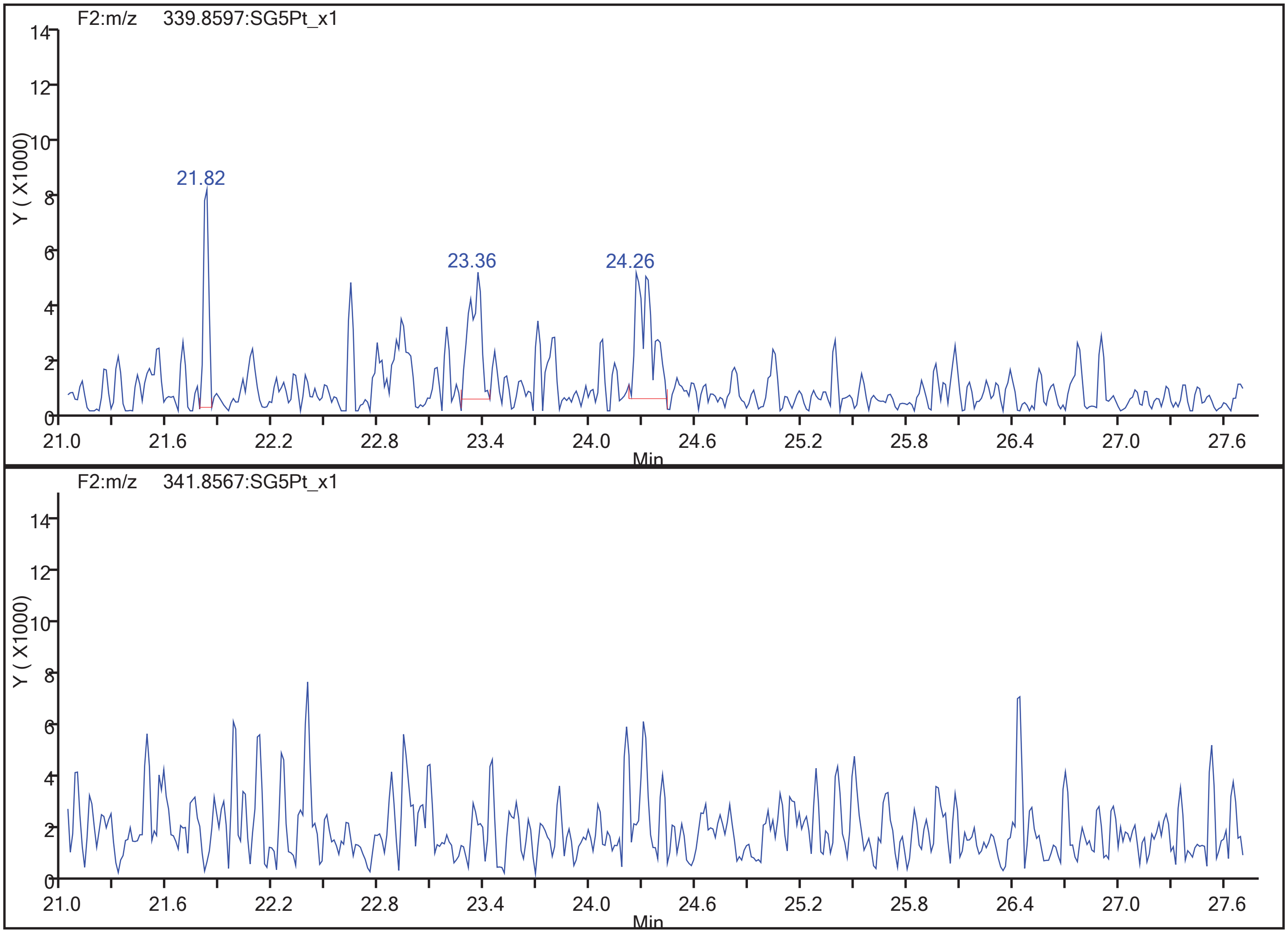




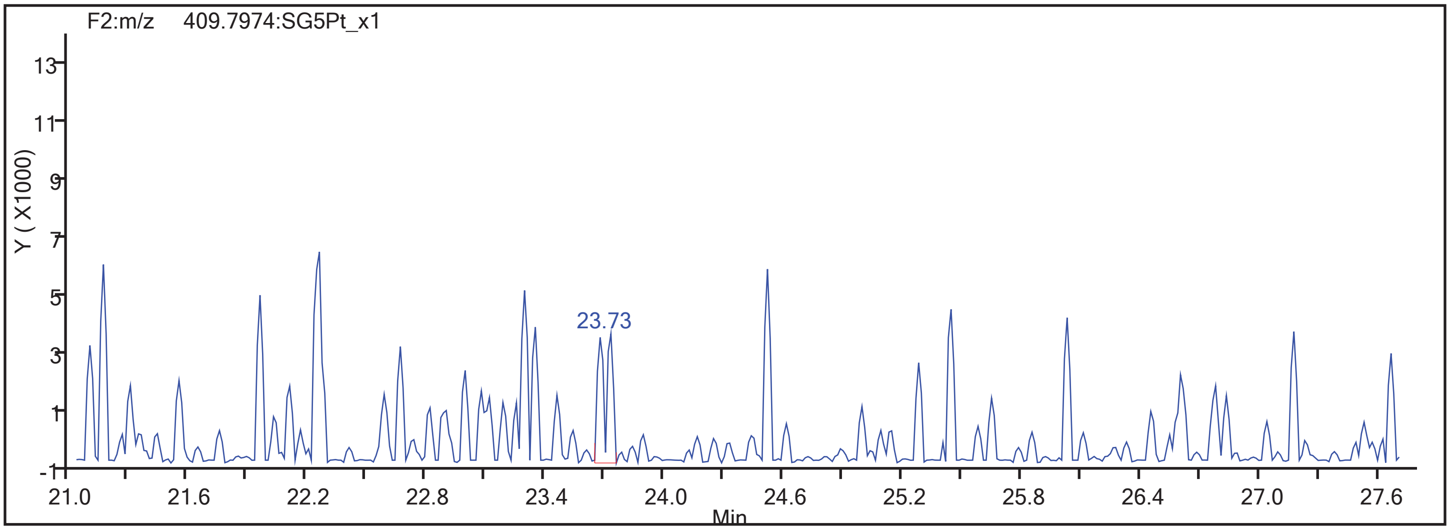
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Injection Date:	18-Nov-2017 21:04:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	195573	Sample Line#:	64
Column Type:		Column Dia:	

PeCDF



PeCDF Interference Mass



Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Injection Date:	18-Nov-2017 21:04:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
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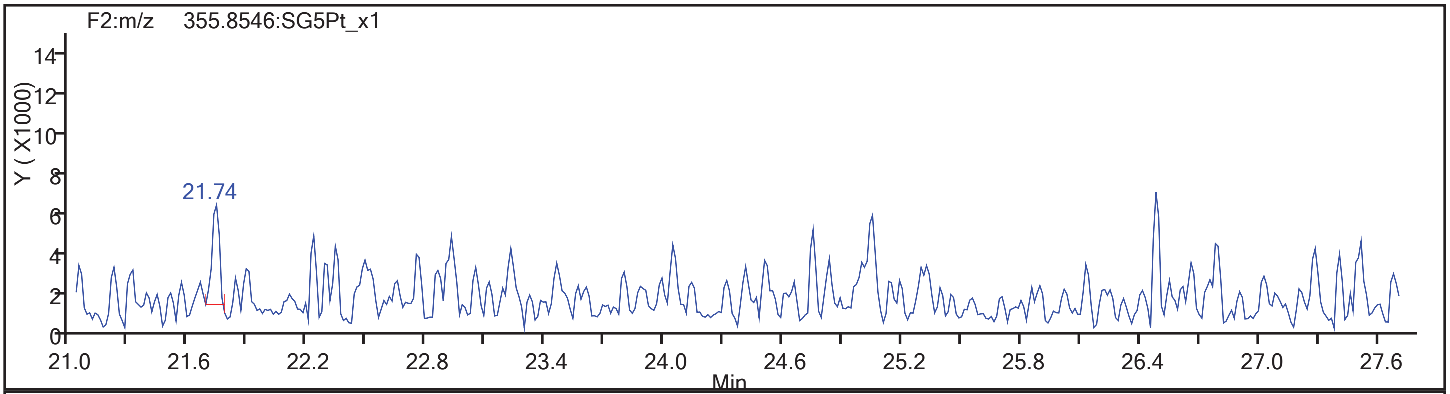
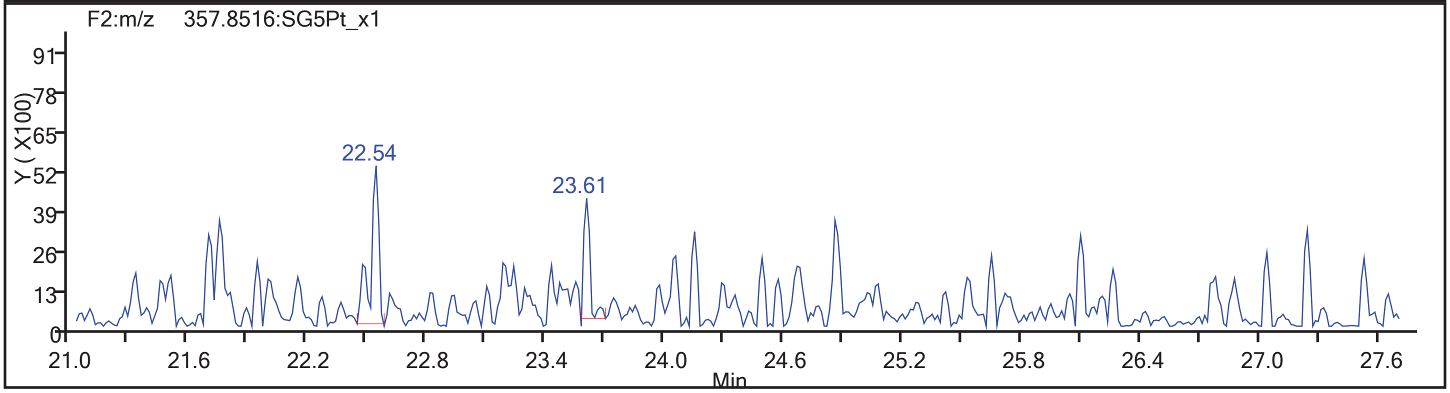
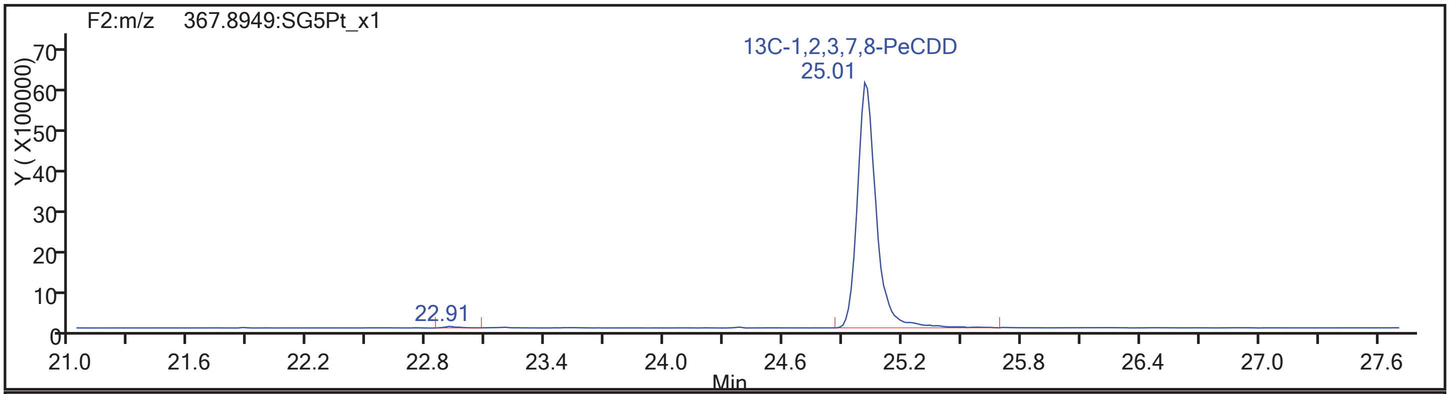
Column Type:		Column Dia:	

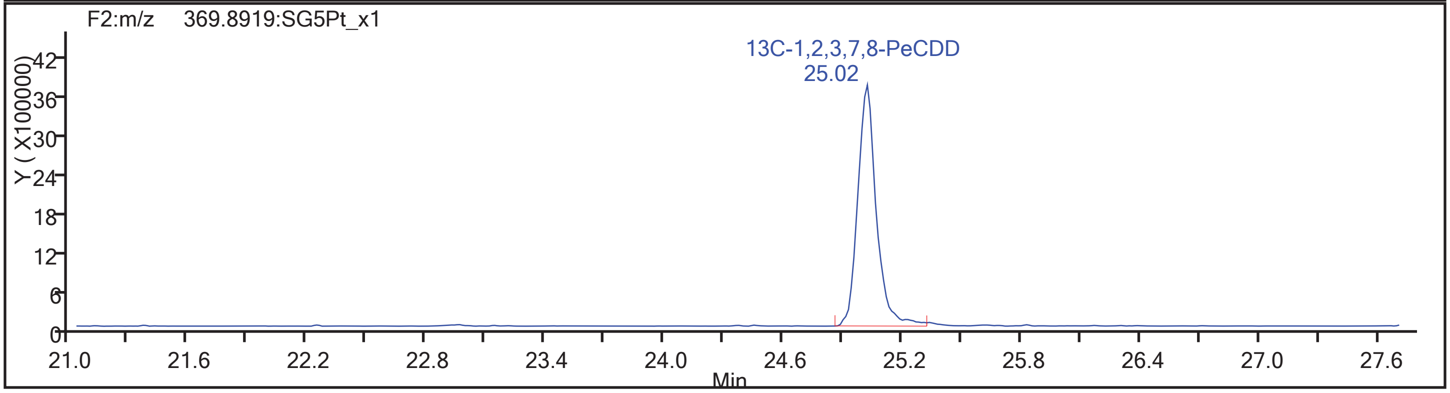
PeCDD





PeCDD Standards



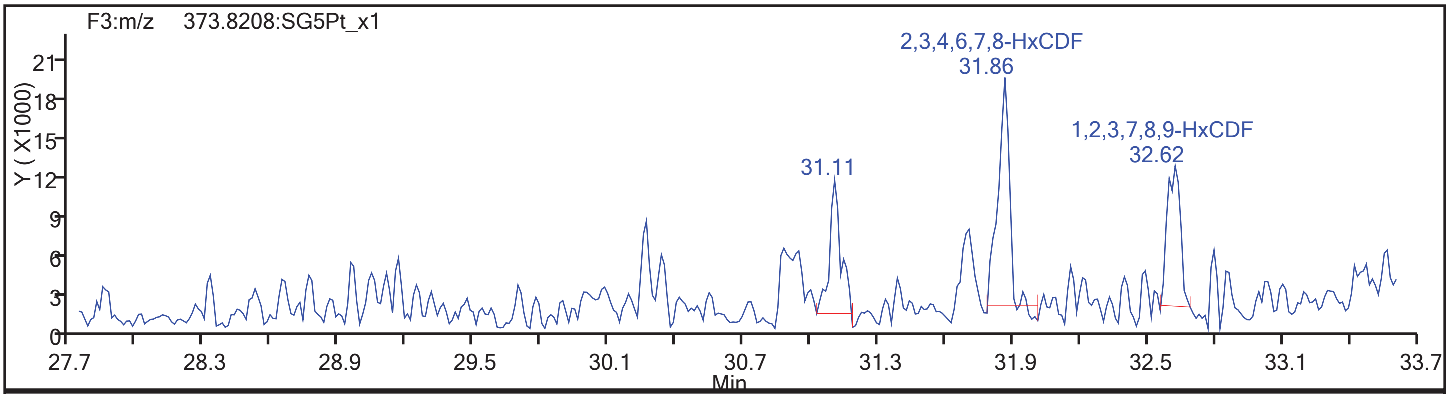


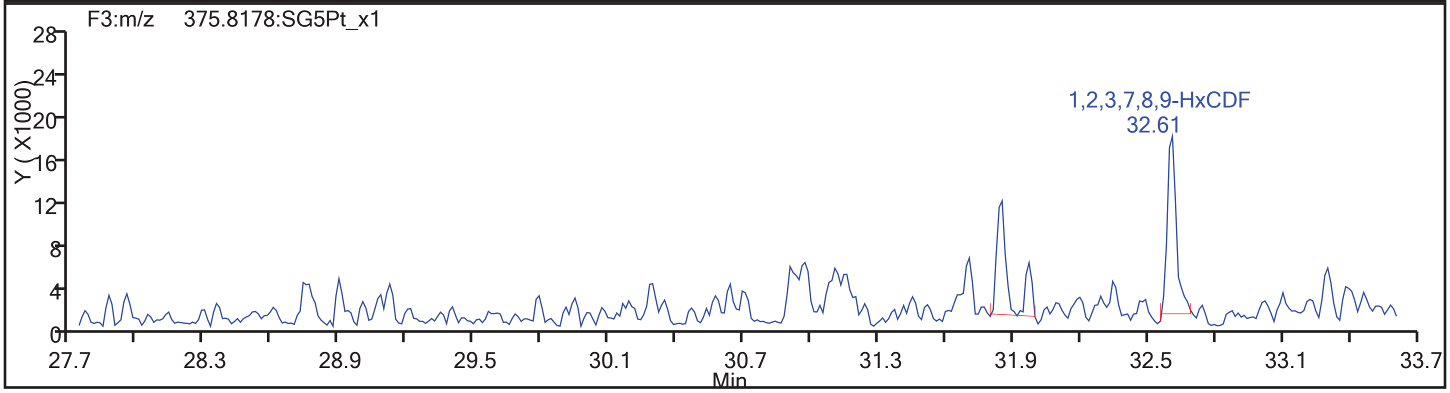
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

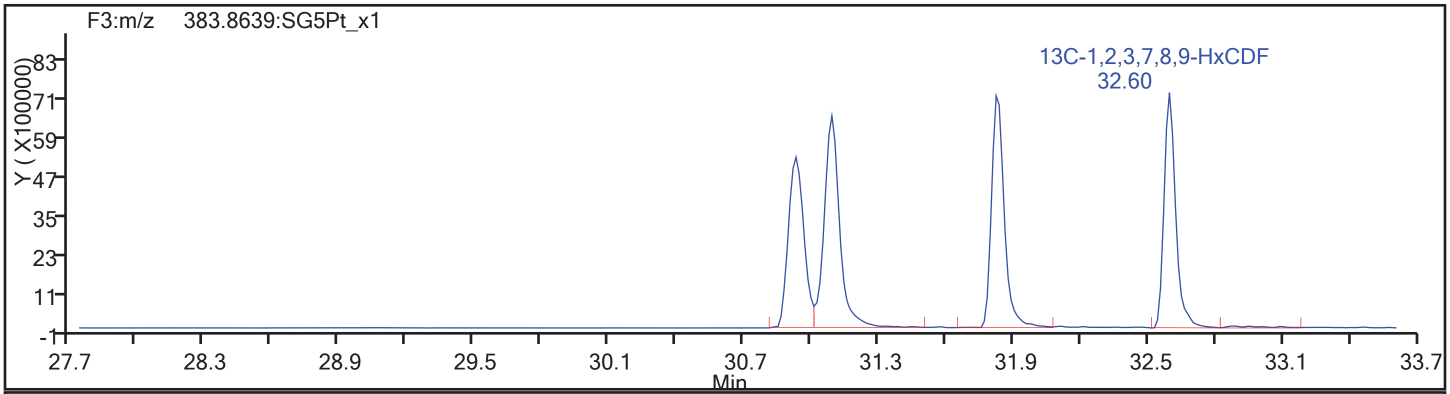
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Injection Date: 18-Nov-2017 21:04:56 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 195573 Sample Line#: 64
Column Type: Column Dia:

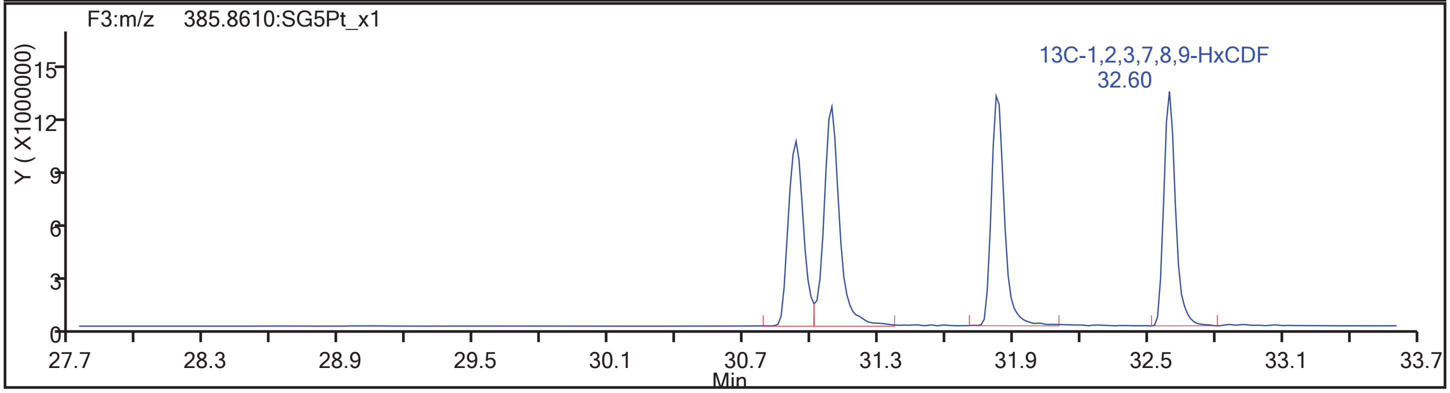
HxCDF





HxCDF Standards



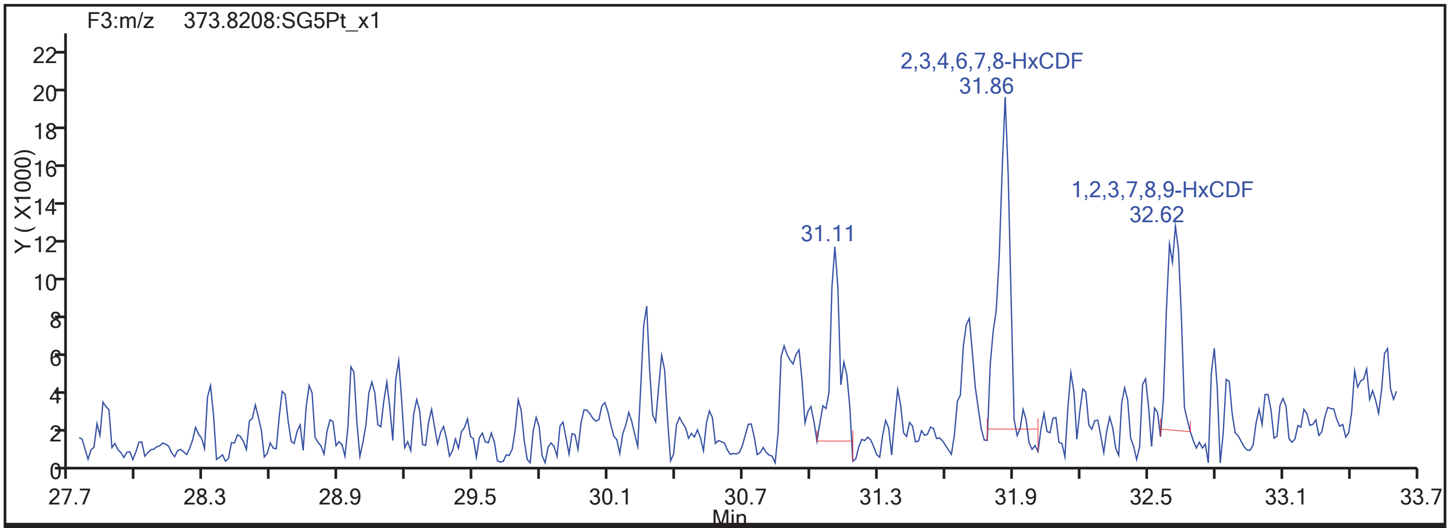


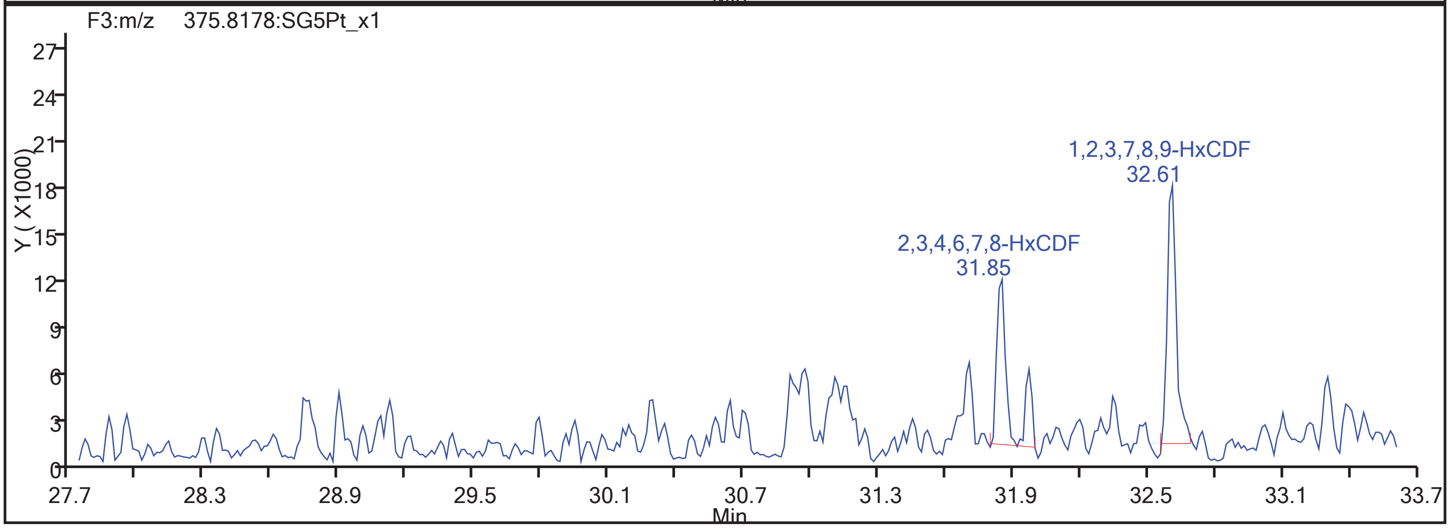
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

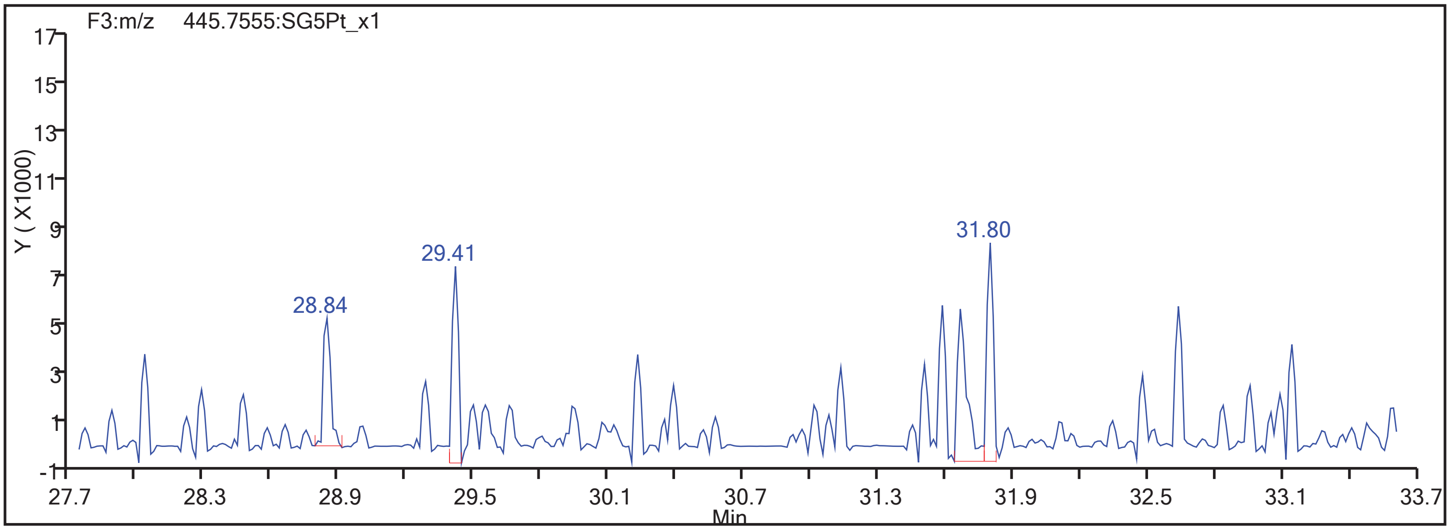
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Injection Date: 18-Nov-2017 21:04:56 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 195573 Sample Line#: 64
Column Type: Column Dia:

HxCDF





HxCDF Interference Mass

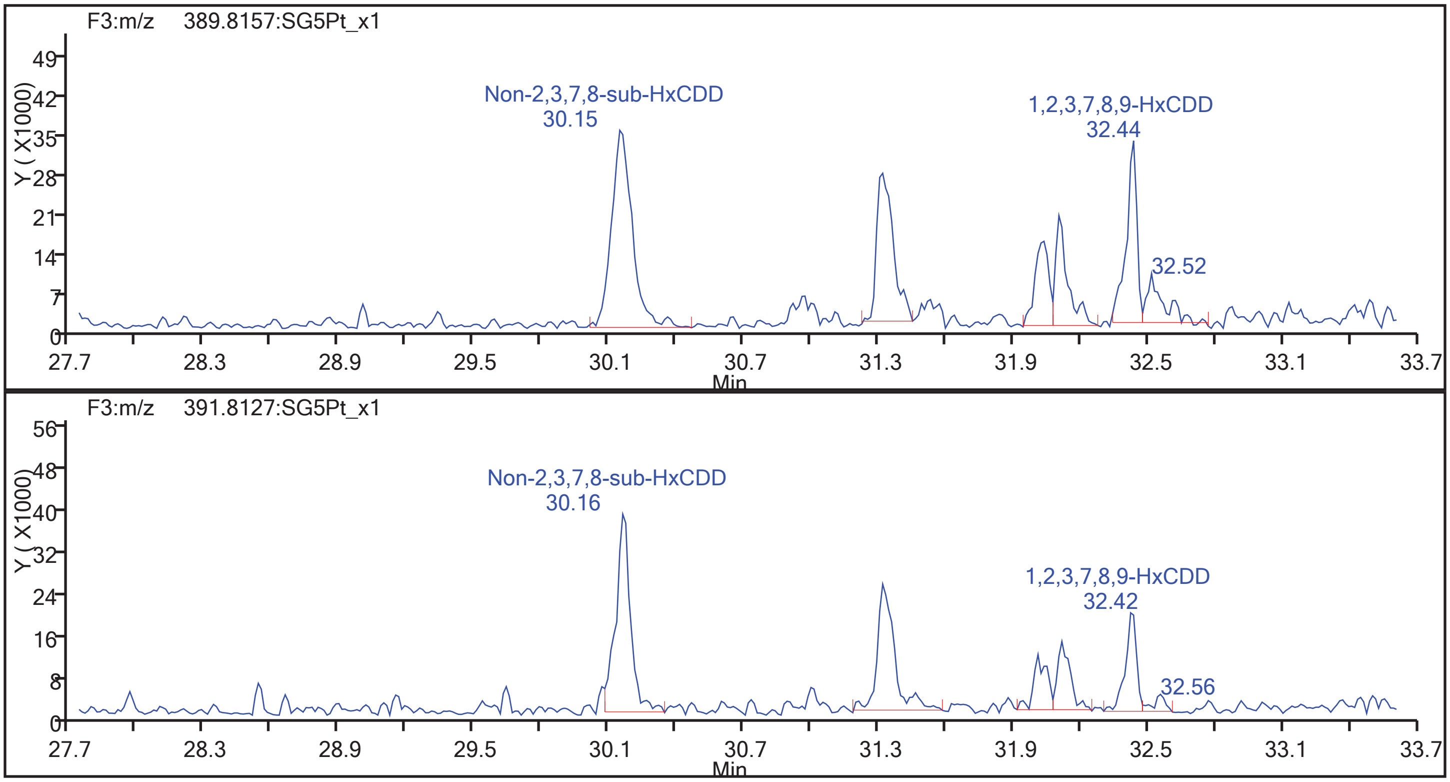


Report Date: 06-Dec-2017 14:13:54   Chrom Revision: 2.2 16-Aug-2017 16:24:46

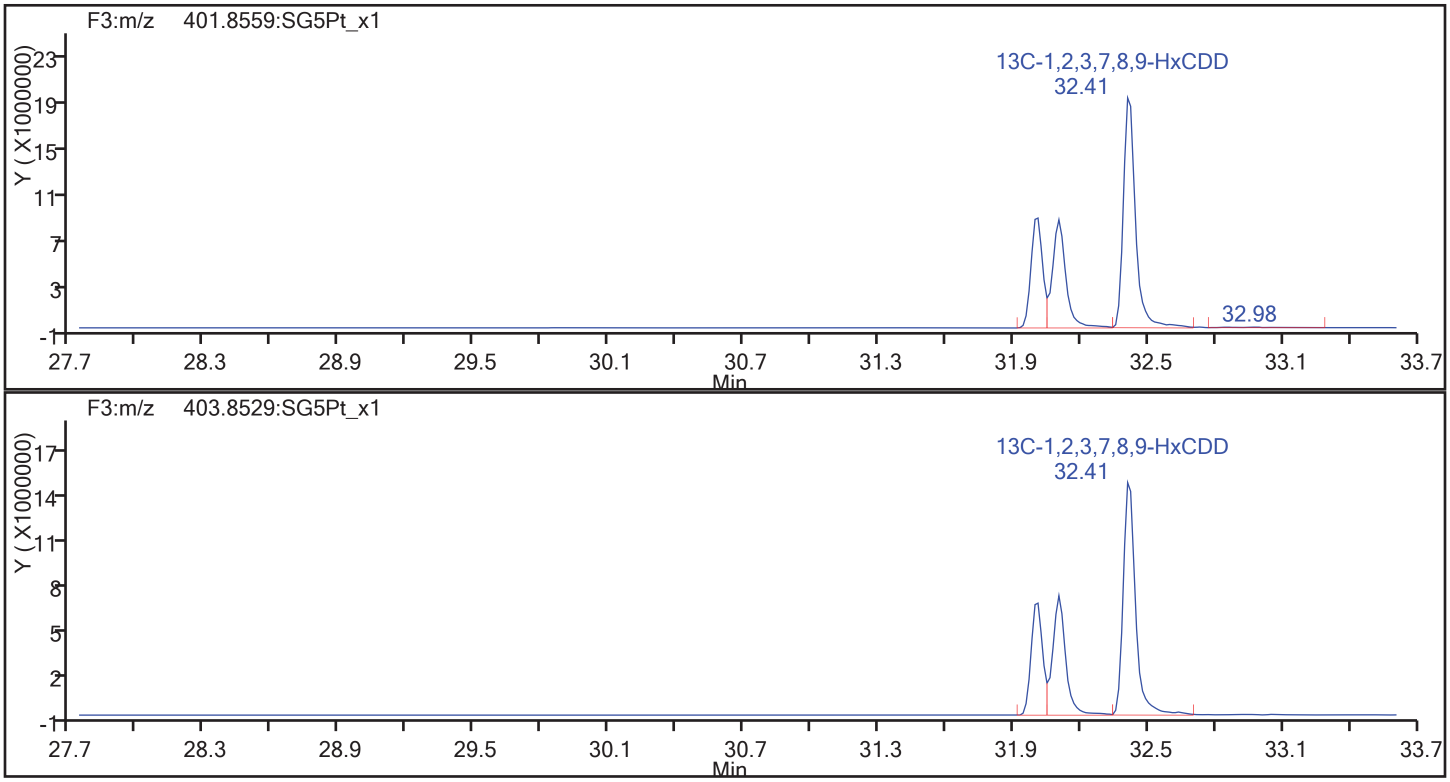
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Injection Date:	18-Nov-2017 21:04:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	195573	Sample Line#:	64
Column Type:		Column Dia:	

HxCDD



HxCDD Standards

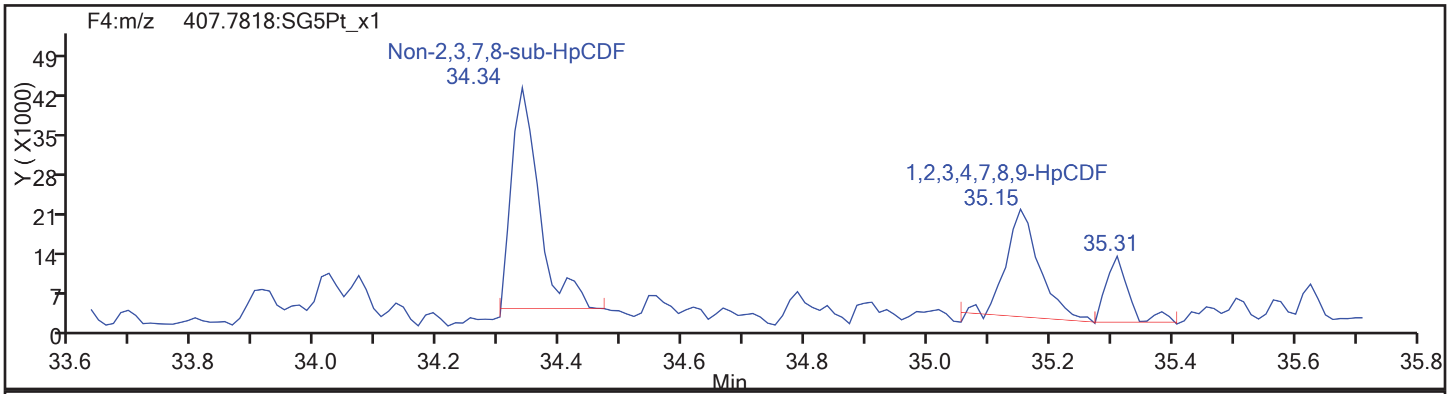


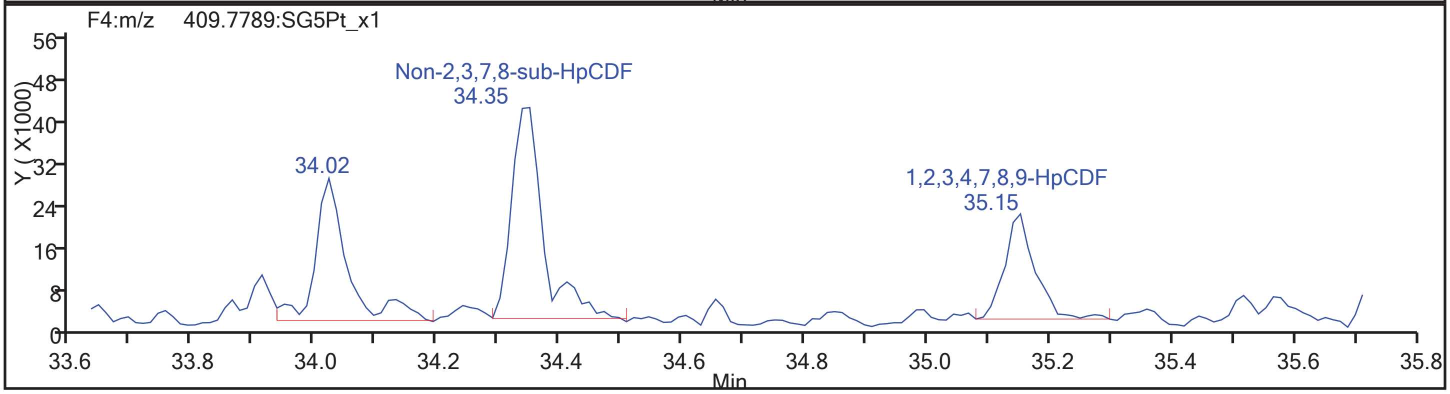
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

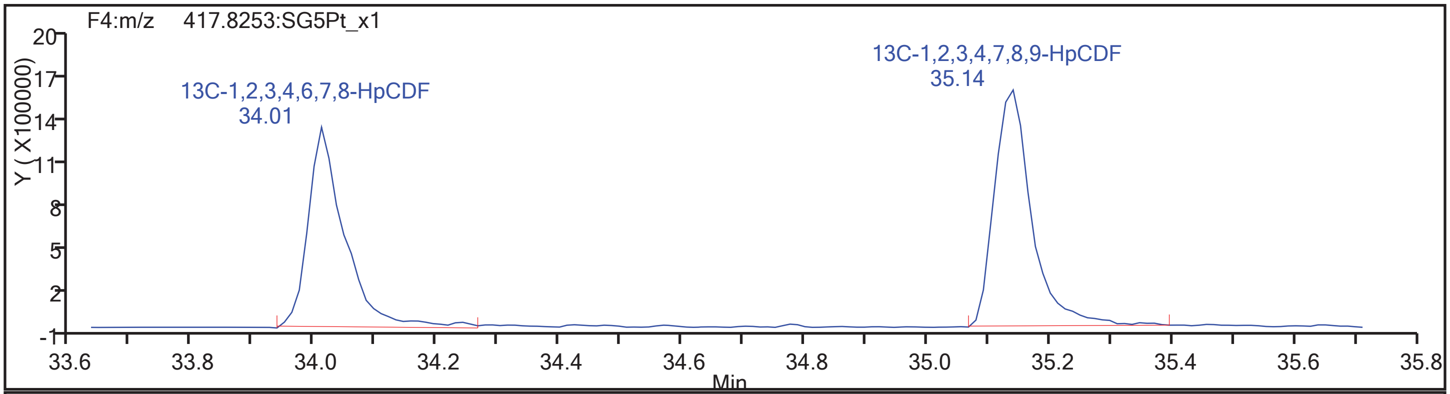
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Injection Date:	18-Nov-2017 21:04:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	195573	Sample Line#:	64
Column Type:		Column Dia:	

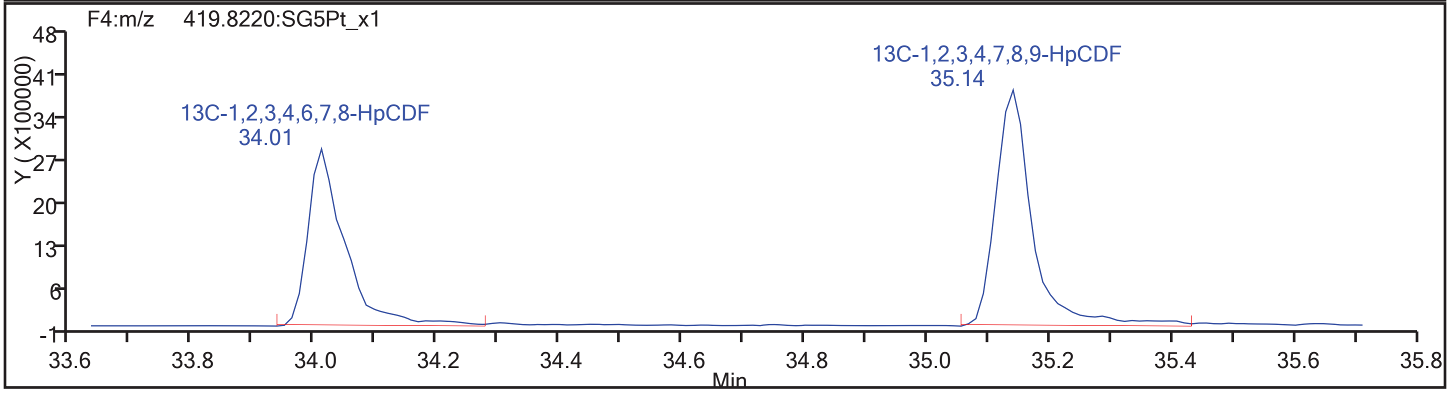
HpCDF





HpCDF Standards





Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d

Injection Date: 18-Nov-2017 21:04:56 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

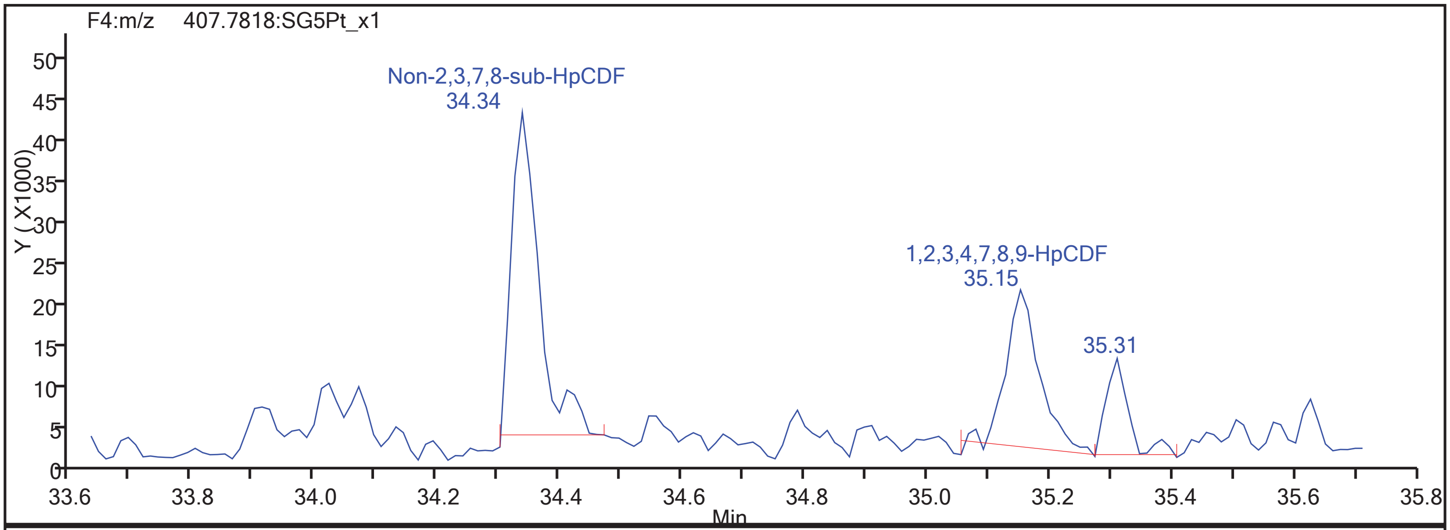
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

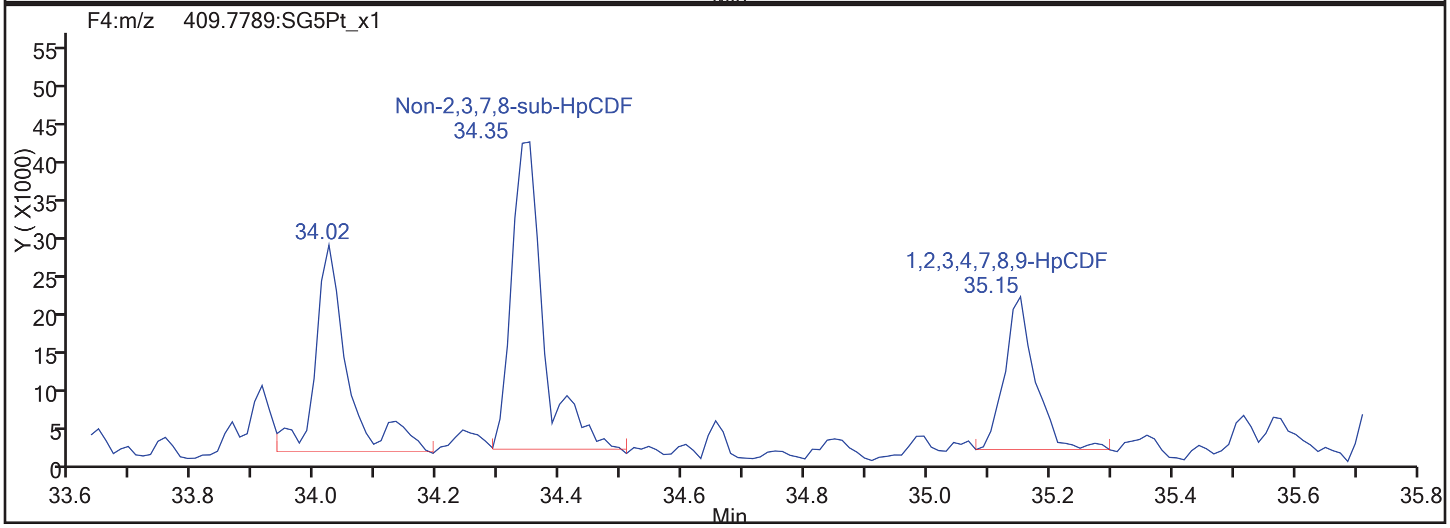
Client ID: SHAD041DP026SS05DS

Worklist#: 195573 Sample Line#: 64

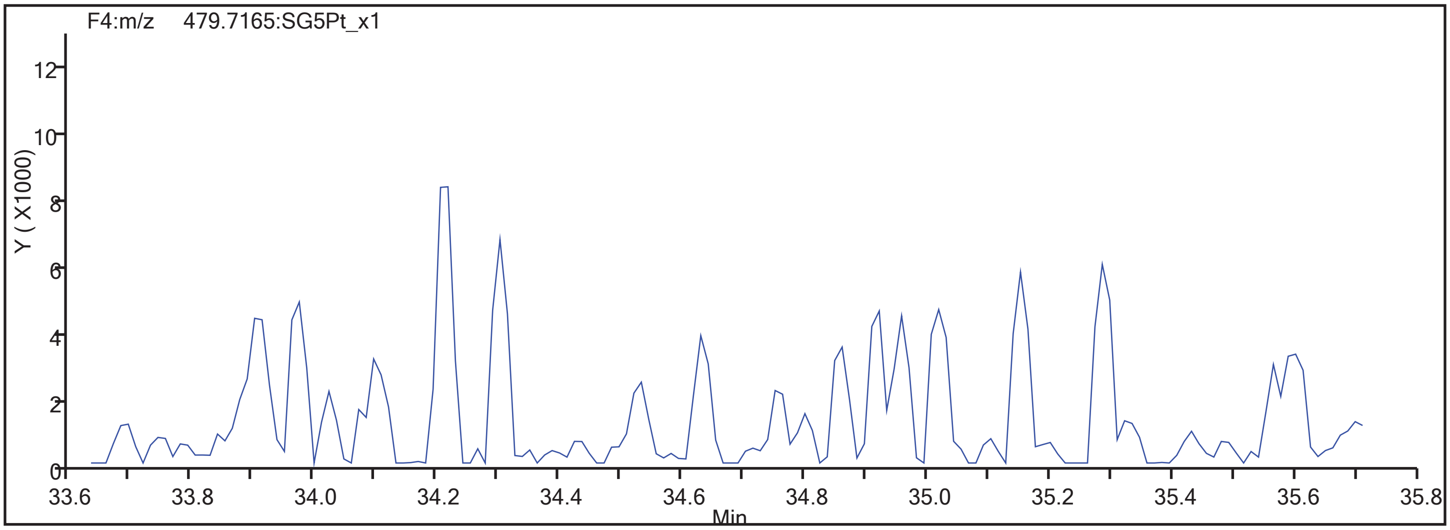
Column Type: Column Dia:

HpCDF





HpCDF Interference Mass

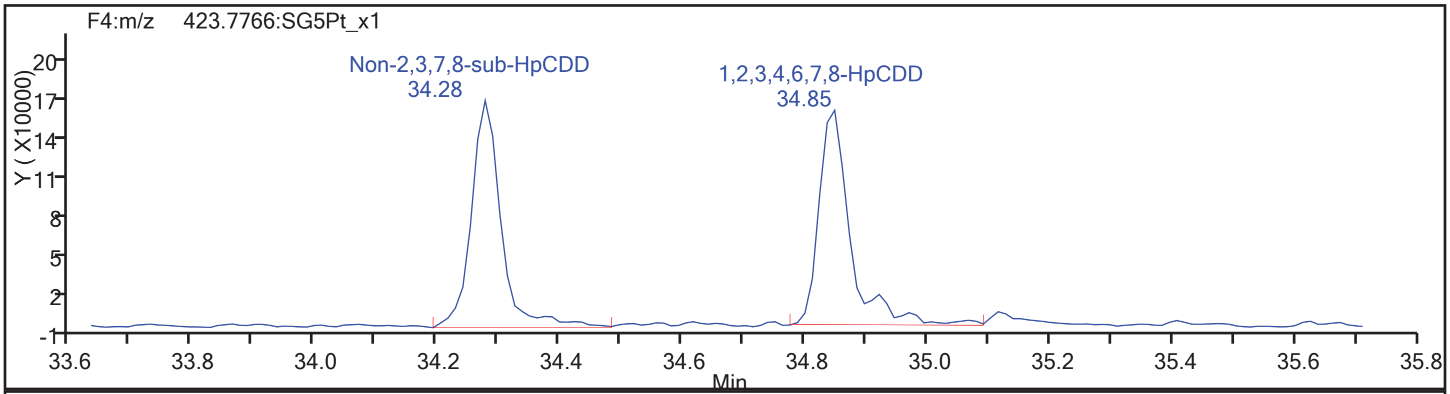


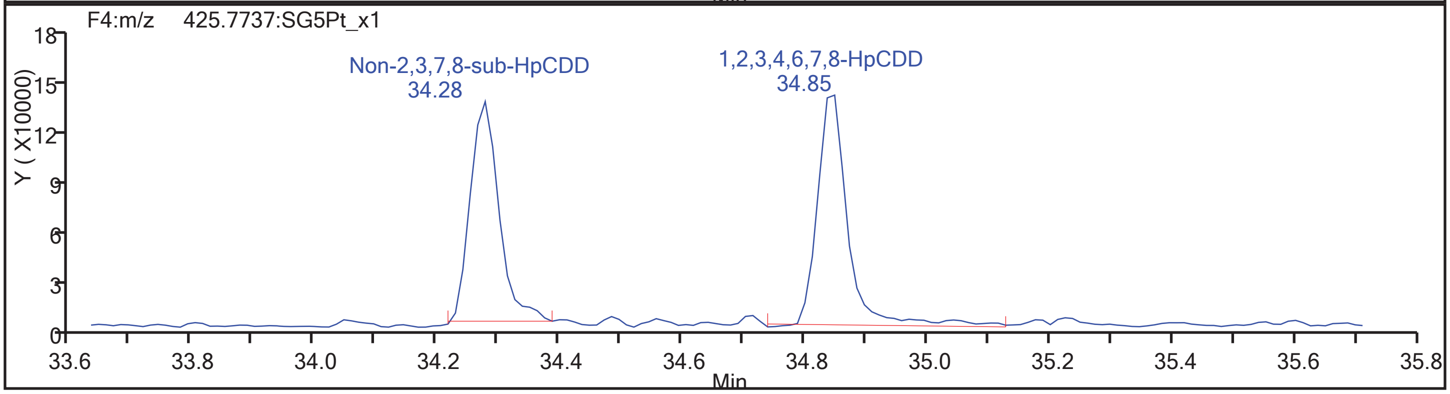
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

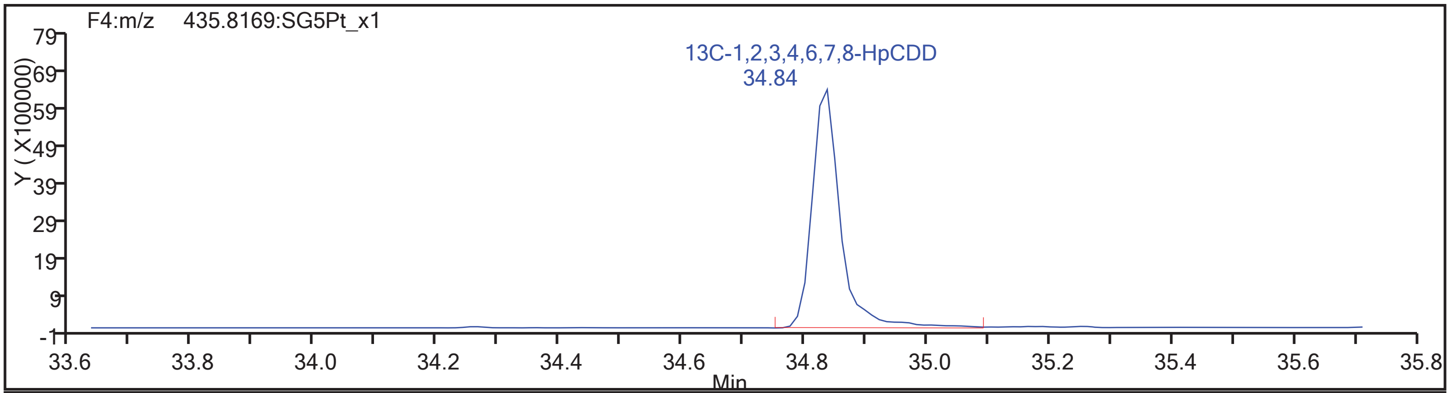
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Injection Date: 18-Nov-2017 21:04:56
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 195573
Sample Line#: 64
Column Type:
Column Dia:

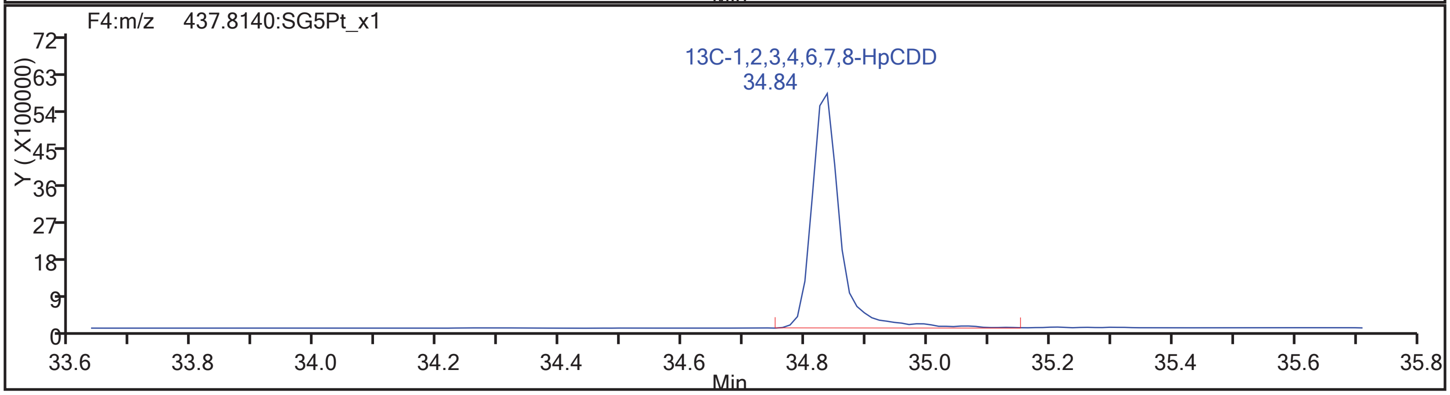
HpCDD





HpCDD Standards



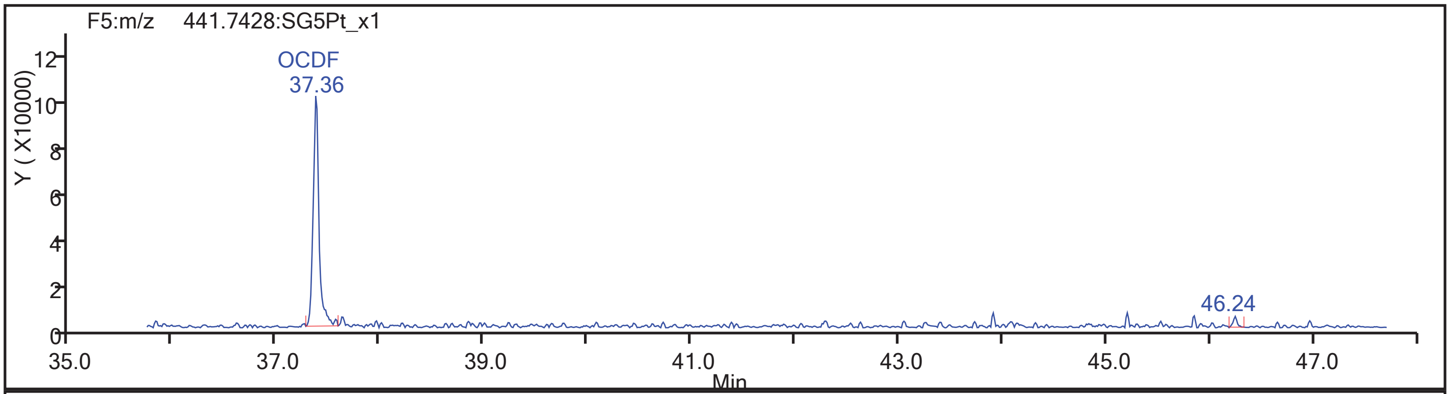


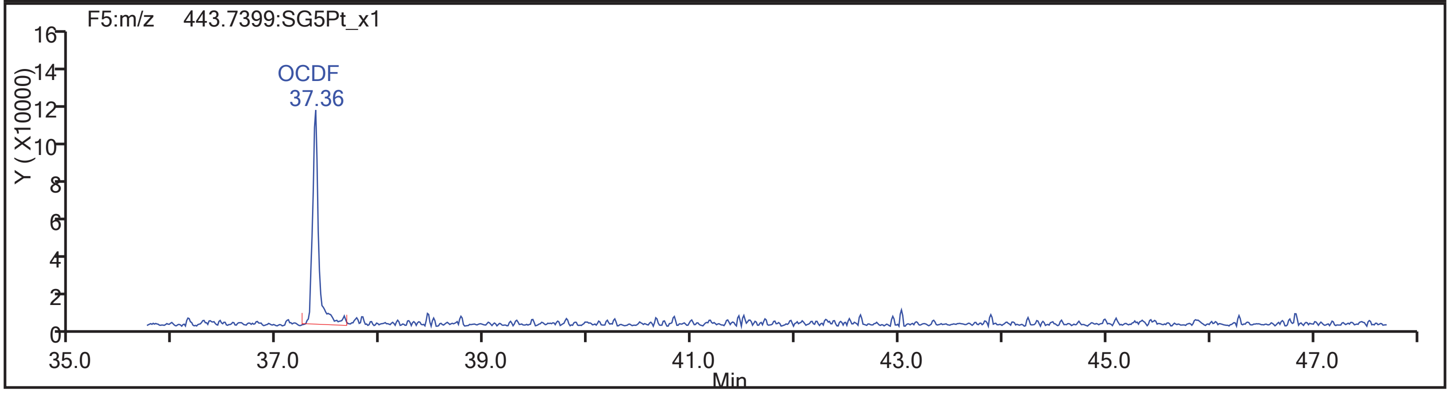
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

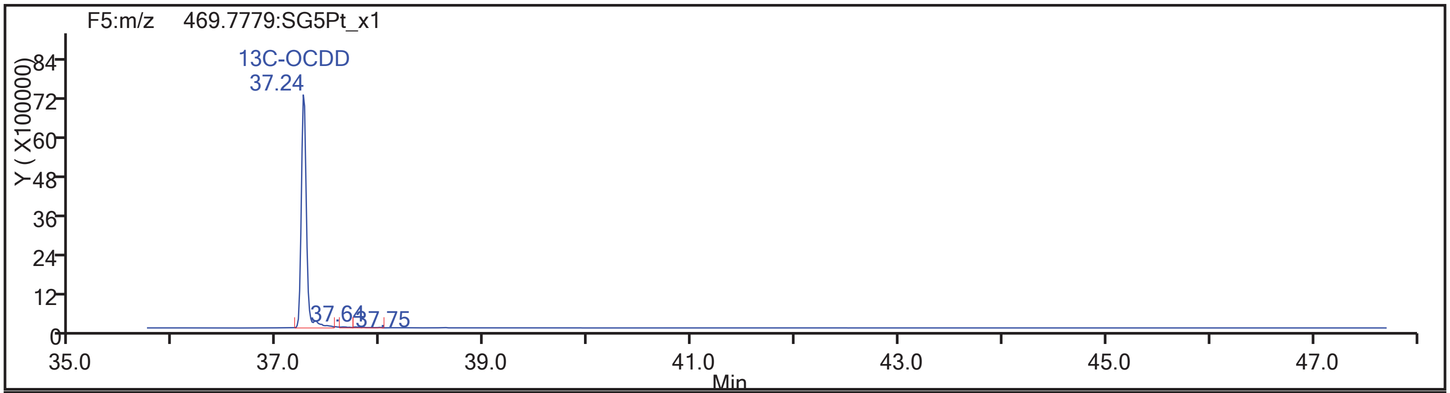
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Injection Date: 18-Nov-2017 21:04:56
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 195573
Sample Line#: 64
Column Type:
Column Dia:

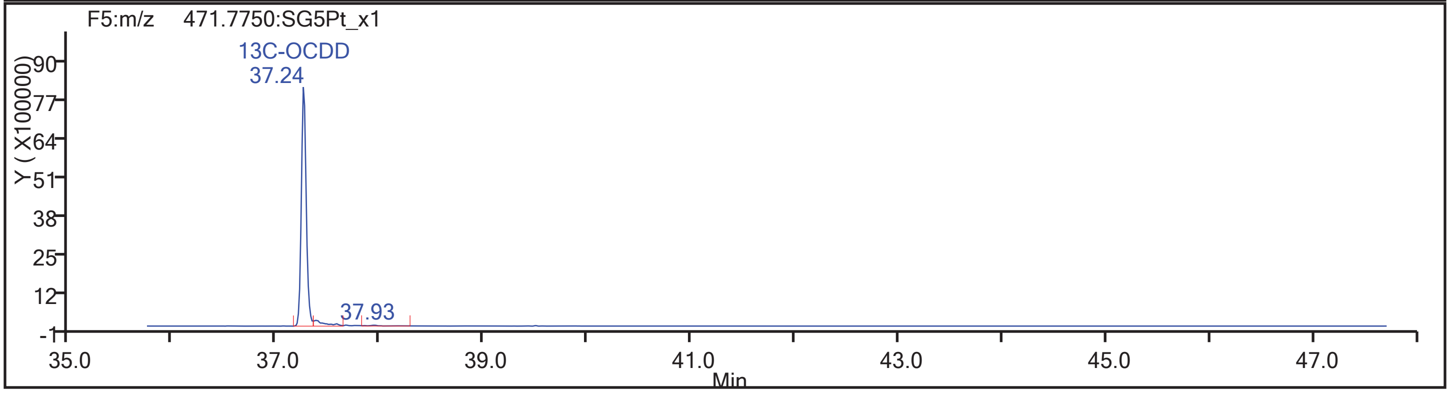
OCDF





OCDF Standards



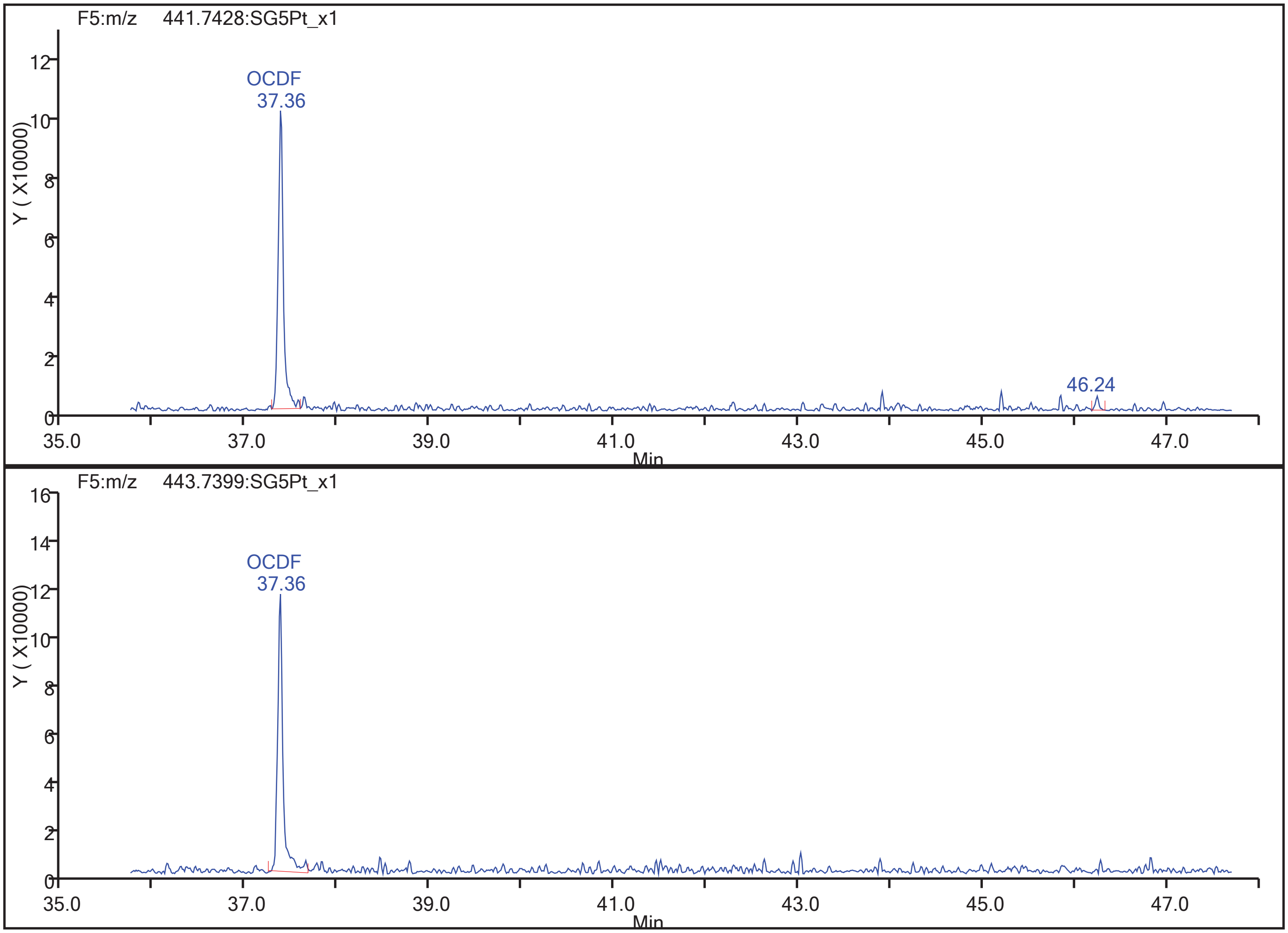


Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

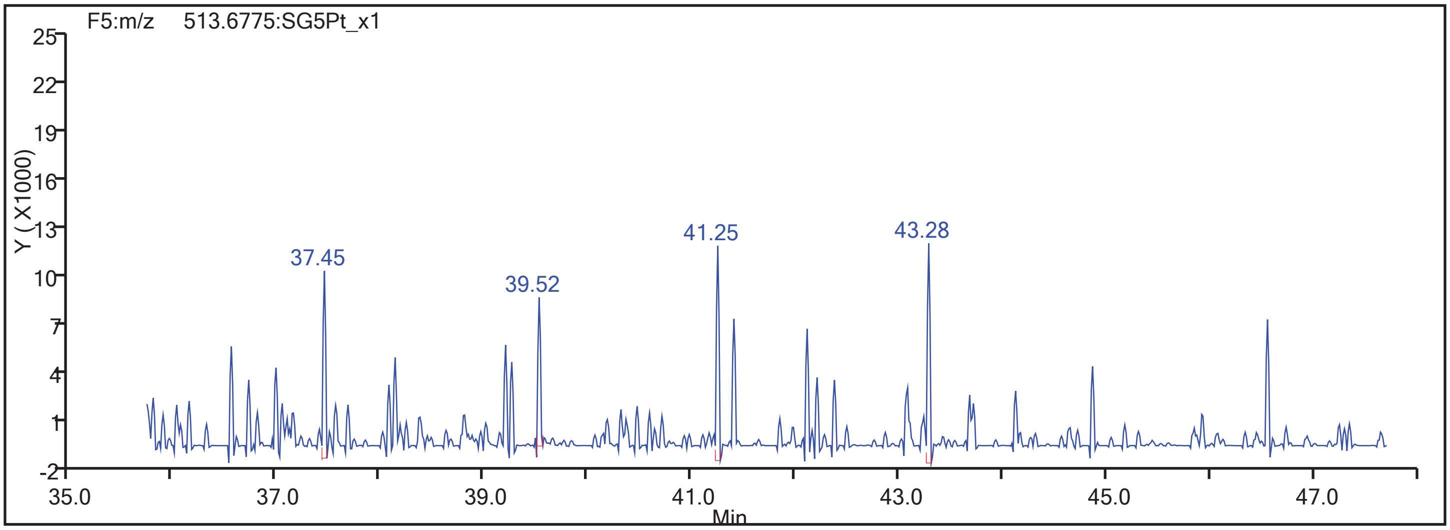
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d		
Injection Date:	18-Nov-2017 21:04:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS05DS		
Worklist#:	195573	Sample Line#:	64
Column Type:		Column Dia:	

OCDF



OCDF Interference Mass

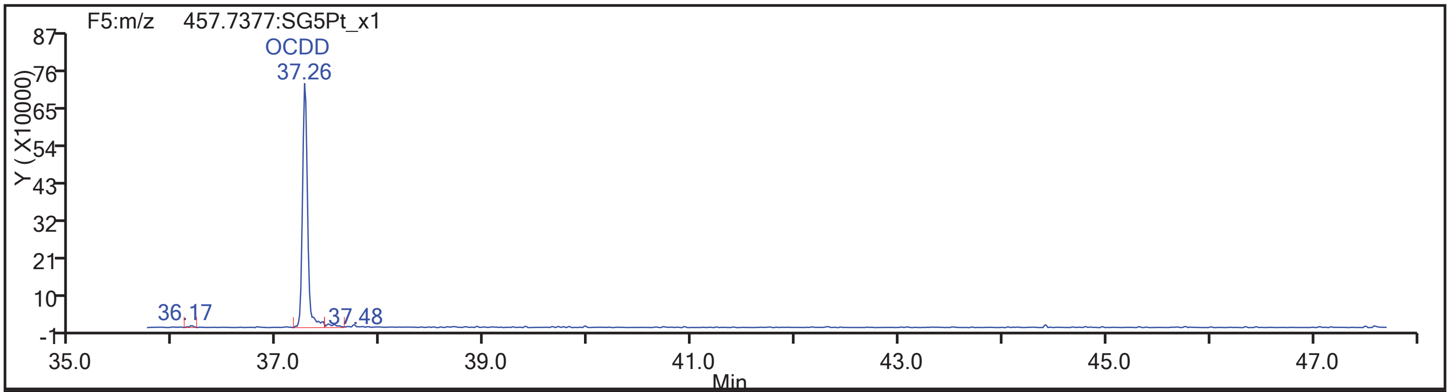


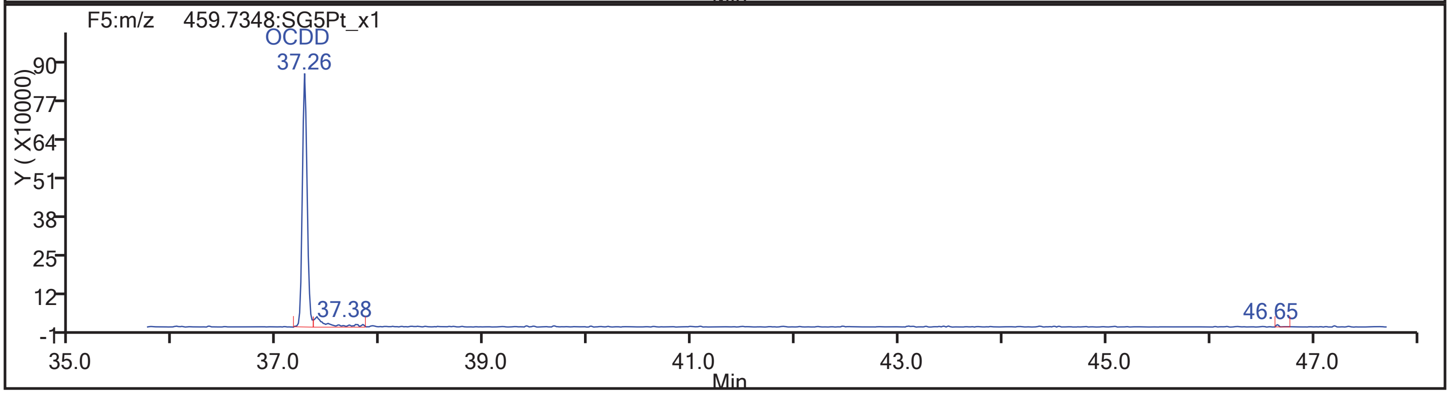
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

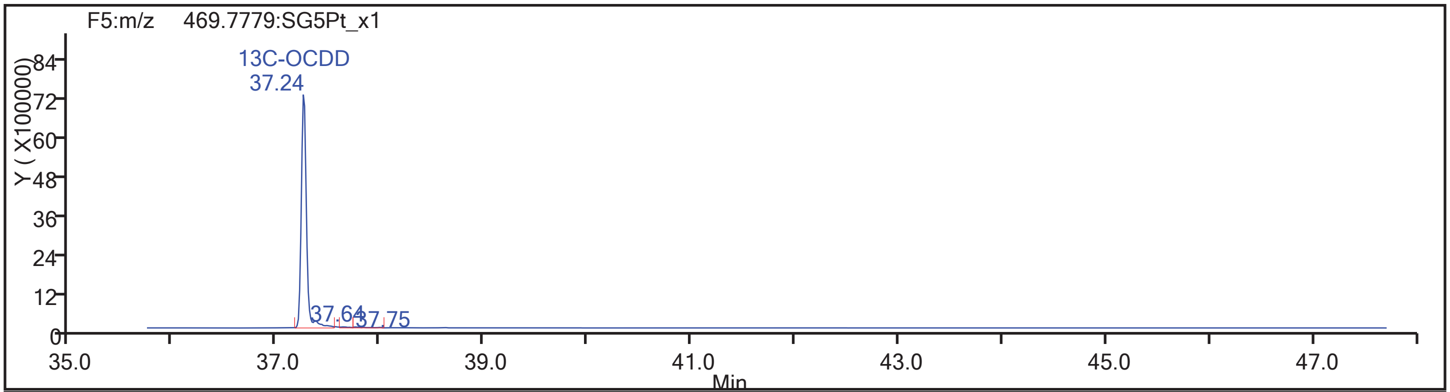
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Injection Date: 18-Nov-2017 21:04:56
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 195573
Sample Line#: 64
Column Type:
Column Dia:

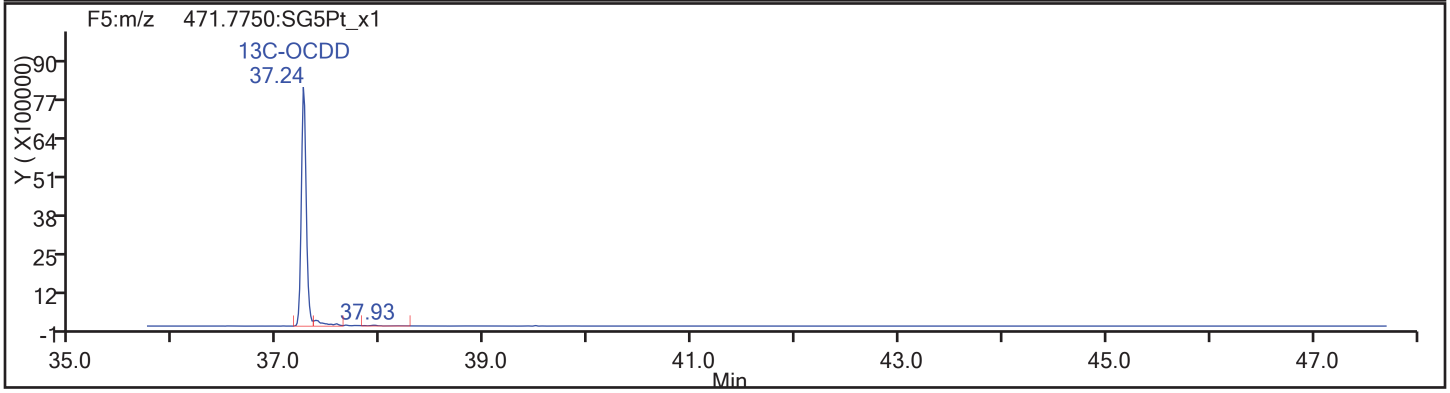
OCDD





OCDD Standards

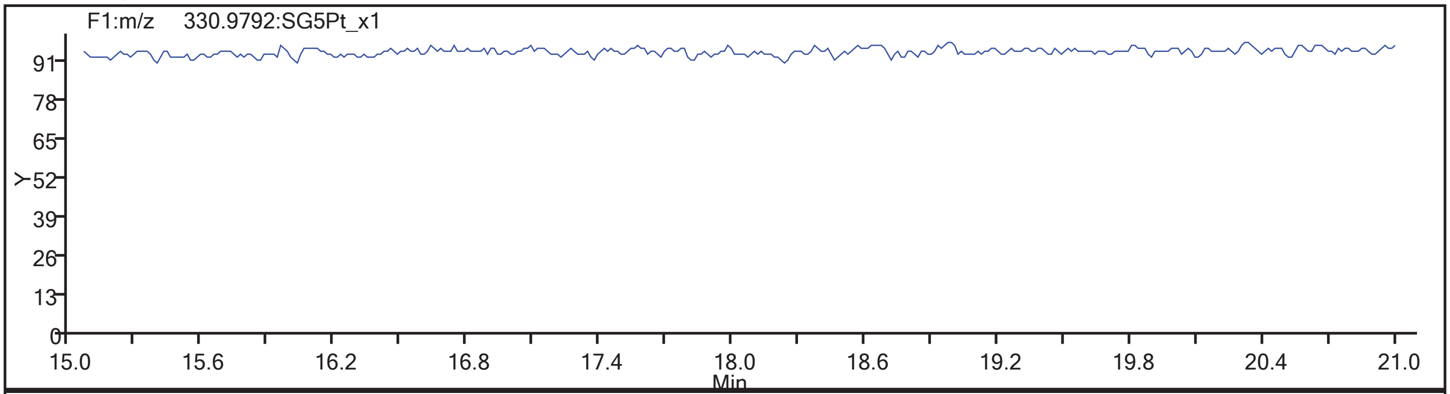


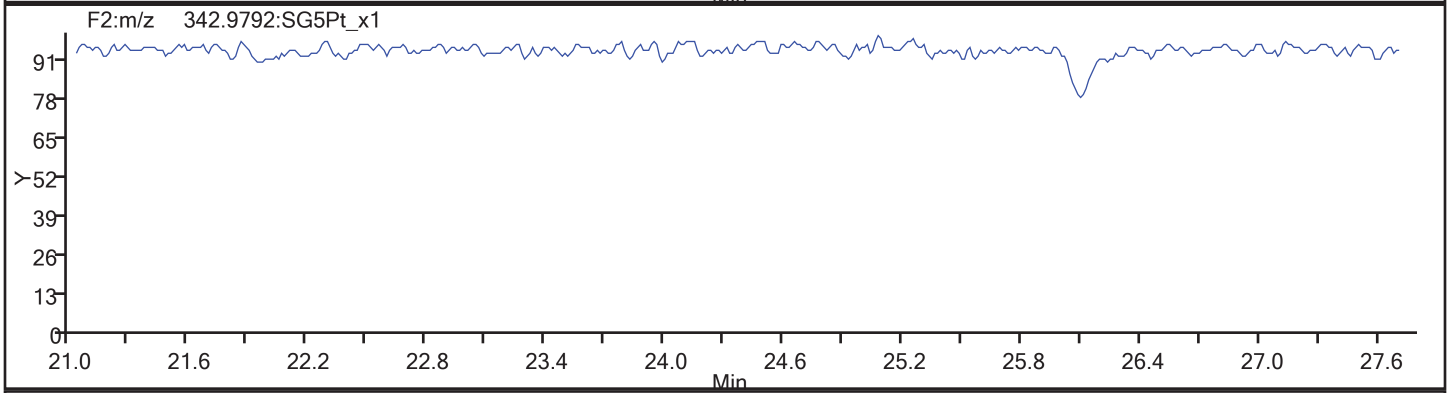


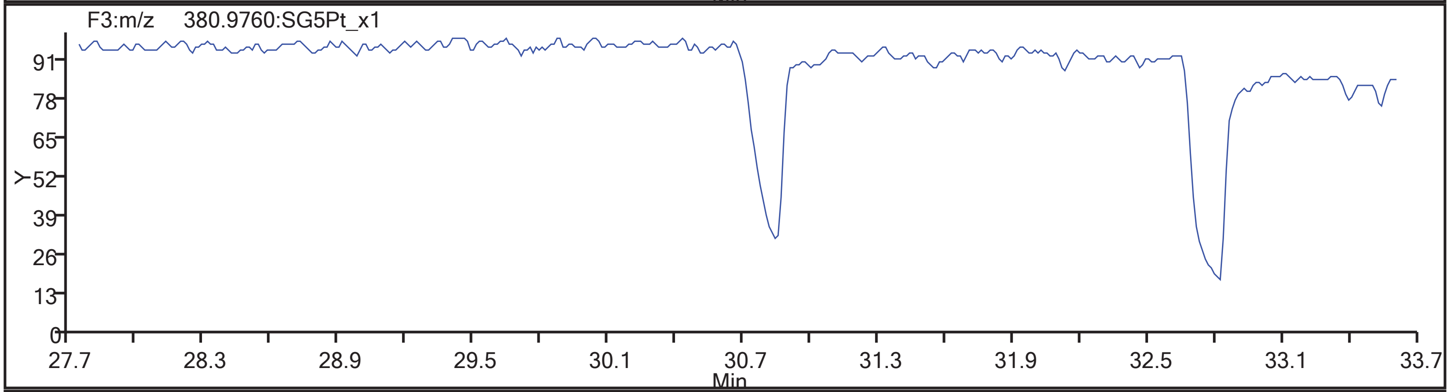
Report Date: 06-Dec-2017 14:13:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

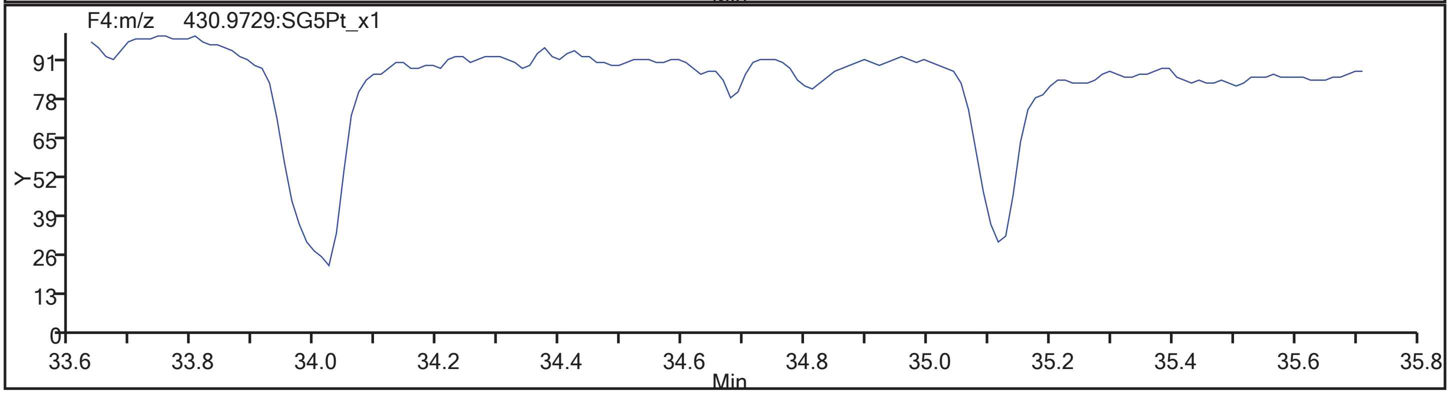
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d
Injection Date: 18-Nov-2017 21:04:56
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS05DS
Worklist#: 195573
Sample Line#: 64
Column Type:
Column Dia:









TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_64.d

Injection Date: 18-Nov-2017 21:04:56 Injection Vol: 2.0 ul

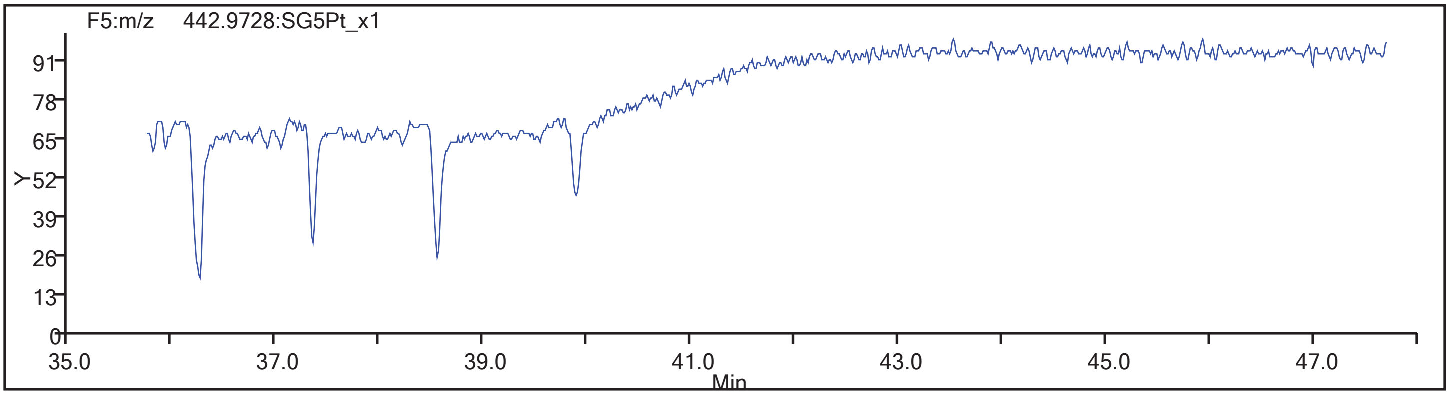
Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS05DS

Worklist#: 195573 Sample Line#: 64

Column Type: Column Dia:



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP026SS06NS	Lab Sample ID: 160-24924-6
Matrix: Solid	Lab File ID: 09NO1710D5_69.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:31
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 9.92(g)	Date Analyzed: 11/11/2017 15:03
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 13.9	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194085	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.47	U	1.2	0.47	0.14
51207-31-9	2,3,7,8-TCDF	0.47	U	1.2	0.47	0.068
40321-76-4	1,2,3,7,8-PeCDD	0.88	U	5.9	0.88	0.14
57117-41-6	1,2,3,7,8-PeCDF	0.88	U	5.9	0.88	0.098
57117-31-4	2,3,4,7,8-PeCDF	0.88	U	5.9	0.88	0.10
39227-28-6	1,2,3,4,7,8-HxCDD	0.41	J M	5.9	2.3	0.12
57653-85-7	1,2,3,6,7,8-HxCDD	0.27	J M	5.9	2.3	0.091
19408-74-3	1,2,3,7,8,9-HxCDD	0.52	J	5.9	2.3	0.090
70648-26-9	1,2,3,4,7,8-HxCDF	0.88	U	5.9	0.88	0.15
57117-44-9	1,2,3,6,7,8-HxCDF	1.2	U	5.9	1.2	0.13
72918-21-9	1,2,3,7,8,9-HxCDF	0.29	J M	5.9	1.2	0.15
60851-34-5	2,3,4,6,7,8-HxCDF	0.28	J	5.9	0.88	0.14
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.2	J	5.9	1.2	0.11
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.81	J M	5.9	1.2	0.14
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.7	J	5.9	2.3	0.17
3268-87-9	OCDD	13	B	12	4.7	0.12
39001-02-0	OCDF	6.8	J	12	4.7	0.20

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	58		40-135
89059-46-1	13C-2,3,7,8-TCDF	62		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	61		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	62		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	53		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	57		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	52		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	32	Q	40-135
114423-97-1	13C-OCDD	44		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d
Lims ID: 160-24924-G-6-A
Client ID: SHAD041DP026SS06NS
Sample Type: Client
Inject. Date: 11-Nov-2017 15:03:32 ALS Bottle#: 43 Worklist Smp#: 69
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-6-a 160-24924-g-6-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 11:27:56 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 11:27:56

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	83610961	0.79	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	66109766	0.78	1.2741	62.1	62.1	0.2401	0.2401	62.06	
2,3,7,8-TCDF	17.415						0.0292	0.0292		
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF							0.0292	0.0292		
D 13C-2,3,7,8-TCDD	18.111	48206115	0.78	0.9921	58.1	58.1	0.2526	0.2526	58.12	
2,3,7,8-TCDD	18.126						0.0599	0.0599		
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD							0.0599	0.0599		
D 13C-1,2,3,7,8-PeCDF	22.451	50122770	1.55	0.9696	61.8	61.8	0.1821	0.1821	61.82	
1,2,3,7,8-PeCDF	22.465						0.0421	0.0421		
2,3,4,7,8-PeCDF	23.815						0.0429	0.0429		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF							0.0429	0.0429		
D 13C-1,2,3,7,8-PeCDD	24.523	38819824	1.62	0.7588	61.2	61.2	0.0994	0.0994	61.19	
1,2,3,7,8-PeCDD	24.551						0.0610	0.0610		
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD							0.0610	0.0610		
D 13C-1,2,3,4,7,8-HxCDF	30.593	37088920	0.52	0.9644	56.7	56.7	0.4721	0.4721	56.74	
1,2,3,4,7,8-HxCDF	30.607						0.0652	0.0652		
1,2,3,6,7,8-HxCDF	30.780						0.0539	0.0539		
2,3,4,6,7,8-HxCDF	31.591	67751	1.29	1.5205	0.1201	0.1201	0.0601	0.0601		
D 13C-1,2,3,7,8,9-HxCDF	32.363	39895899	0.52							
1,2,3,7,8,9-HxCDF	32.376	64876	1.08	1.4099	0.1241	0.1241	0.0648	0.0648		M
A Non-2,3,7,8-sub-HxCDF	30.254						0.0	0.0		
S Total HxCDF					0.2442	0.2442	0.0610	0.0610		
* 13C-1,2,3,7,8,9-HxCDD	32.190	67785304	1.26	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.764	53585	1.14	0.9505	0.1769	0.1769	0.0504	0.0504		M
D 13C-1,2,3,6,7,8-HxCDD	31.857	31867269	1.24	0.8791	53.5	53.5	0.3617	0.3617	53.48	
1,2,3,6,7,8-HxCDD	31.871	44856	1.24	1.2343	0.1452	0.1140	0.0388	0.0388		RQM

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.190	88666	1.16	1.2467	0.2232	0.2232	0.0384	0.0384		
A Non-2,3,7,8-sub-HxCDD	30.893						0.0	0.0		
S Total HxCDD					0.5453	0.5141	0.0425	0.0425		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.770	16489910	0.41	0.7618	31.9	31.9	0.8798	0.8798	31.93	
1,2,3,4,6,7,8-HpCDF	33.806	93878	1.02	1.6399	0.3472	0.3472	0.0592	0.0592		M
1,2,3,4,7,8,9-HpCDF	34.851	156559	1.17	1.3302	0.7137	0.7137	0.0729	0.0729		
A Non-2,3,7,8-sub-HpCDF	34.305	115647	1.04	1.4851	0.5243	0.4722	0.0653	0.4722		RQ
S Total HpCDF					1.585	1.533	0.0661	0.0661		RQ
1,2,3,4,6,7,8-HpCDD	34.572	258617	1.06	0.9932	0.9481	0.9481	0.0481	0.0481		
D 13C-1,2,3,4,6,7,8-HpCDD	34.560	27464814	1.01	0.7762	52.2	52.2	0.6383	0.6383	52.20	
A Non-2,3,7,8-sub-HpCDD	34.286	144570	1.11	0.9932	0.5300	0.5300	0.0481	0.5300		M
S Total HpCDD					1.478	1.478	0.0481	0.0481		
D 13C-OCDD	36.894	37290590	0.88	0.6314	87.1	87.1	0.1921	0.1921	43.56	
OCDF	36.989	723902	0.97	1.3460	2.884	2.884	0.0851	0.0851		
OCDD	36.894	1061201	0.89	1.0604	5.367	5.367	0.0532	0.0532		

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 11:27:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d
Lims ID: 160-24924-G-6-A
Client ID: SHAD041DP026SS06NS
Sample Type: Client
Inject. Date: 11-Nov-2017 15:03:32 ALS Bottle#: 43 Worklist Smp#: 69
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-6-a 160-24924-g-6-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 11:27:56 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 11:27:56

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		36959979	9452945	13566	33915	697		
333.9339	17.914	17.914	0		46650982	11664885	7603	19007	1534	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	28914936	7282894	16299	40747	447		
317.9389	17.400	17.400	0	0.971	37194830	9253173	9547	23867	969	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415						688	1720			
305.8987	17.415						1502	3755			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						688	1720			
305.8987	17.105						1502	3755			
13C-2,3,7,8-TCDD											
331.9368	18.111	18.111	0	1.011	21157517	4846823	13566	33915	357		
333.9339	18.111	18.111	0	1.011	27048598	6179076	7603	19007	813	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.126						1924	4810			
321.8936	18.126						714	1785			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						1924	4810			
321.8936	17.559						714	1785			
13C-1,2,3,7,8-PeCDF											
351.9000	22.451	22.437	1	1.253	30471708	5206072	8710	21775	598		
353.8970	22.437	22.437	0	1.252	19651062	3362240	6205	15512	542	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.465						452	1130			
341.8567	22.465						1224	3060			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	23.815						452	1130			
341.8567	23.815						1224	3060			
A F1 PeCDFs											
339.8597	20.001						372	930			
341.8567	20.001						1370	3425			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						452	1130			
341.8567	23.161						1224	3060			
13C-1,2,3,7,8-PeCDD											
367.8949	24.523	24.524	0	1.369	23999178	3556137	3838	9595	927		
369.8919	24.523	24.524	0	1.369	14820646	2247268	2530	6325	888	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551						1082	2705			
357.8516	24.551						261	652			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						1082	2705			
357.8516	23.419						261	652			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.593	30.580	1	0.950	12666987	2454885	10326	25815	238		
385.8610	30.593	30.580	1	0.950	24421933	4793943	18216	45540	263	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.607						2081	5202			
375.8178	30.607						570	1425			
1,2,3,6,7,8-HxCDF											
373.8208	30.780						2081	5202			
375.8178	30.780						570	1425			
2,3,4,6,7,8-HxCDF											
373.8208	31.591	31.578	1	1.033	38107	9048	2081	5202	4		
375.8178	31.591	31.578	1	1.033	29644	8299	570	1425	15	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.363	32.364	0	1.005	13666092	3372238	10326	25815	327		
385.8610	32.363	32.364	0	1.005	26229807	6413892	18216	45540	352	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	32.376	32.377	0	1.058	33743	9769	2081	5202	5		M
375.8178	32.376	32.377	0	1.058	31133	7737	570	1425	14	1.08(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.254						2081	5202			
375.8178	30.254						570	1425			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.190	32.177	1		37822050	8740015	11347	28367	770		
403.8529	32.177	32.177	0		29963254	6933956	8589	21472	807	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.764	31.765	0	0.997	28519	7679	628	1570	12		M
391.8127	31.764	31.765	0	0.997	25066	6266	817	2042	8	1.14(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.857	31.858	0	0.990	17648491	4183099	11347	28367	369		
403.8529	31.857	31.858	0	0.990	14218778	3358614	8589	21472	391	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQM
389.8157	31.871	31.871	0	1.000	37082	6043	628	1570	10		M
	Empc Correction				24831	5413	628	1570	9		
391.8127	31.871	31.871	0	1.000	20025	4366	817	2042	5	1.85(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.190	32.190	0	1.010	47583	8387	628	1570	13		
391.8127	32.190	32.190	0	1.010	41083	8772	817	2042	11	1.16(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.893						628	1570			
391.8127	30.893						817	2042			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.770	33.770	0	1.049	4834527	1170460	13430	33575	87		
419.8220	33.770	33.770	0	1.049	11655383	2845814	28591	71477	100	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.806	33.783	1	1.001	47316	11285	923	2307	12		M
409.7789	33.782	33.783	0	1.000	46562	10123	636	1590	16	1.02(0.88-1.20)	M
1,2,3,4,7,8,9-HpCDF											
407.7818	34.851	34.852	0	1.032	84547	20891	923	2307	23		
409.7789	34.863	34.852	1	1.032	72012	15724	636	1590	25	1.17(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											RQ
407.7818	34.086	34.305	-13	1.009	71707	19928	923	2307	22		
	Empc Correction				58957	16067	923	2307	17		
409.7789	34.086	34.305	-13	1.009	56690	15450	636	1590	24	1.26(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.572	34.560	1	1.000	132821	36464	837	2092	44		
425.7737	34.572	34.560	1	1.000	125796	33394	622	1555	54	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.560	34.560	0	1.074	13824122	3906741	16964	42410	230		
437.8140	34.560	34.560	0	1.074	13640692	3727860	14098	35245	264	1.01(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7766	34.037	34.286	-15	0.985	76101	21784	837	2092	26		M
425.7737	34.037	34.286	-15	0.985	68469	18772	622	1555	30	1.11(0.88-1.20)	M
13C-OCDD											
469.7779	36.894	36.894	0	1.146	17436896	4057962	3717	9292	1092		
471.7750	36.894	36.894	0	1.146	19853694	4470537	3887	9717	1150	0.88(0.76-1.02)	
OCDF											
441.7428	36.989	36.990	0	1.003	355763	73330	670	1675	109		
443.7399	36.989	36.990	0	1.003	368139	83779	1283	3207	65	0.97(0.76-1.02)	
OCDD											
457.7377	36.894	36.894	0	1.000	499796	105855	419	1047	253		
459.7348	36.894	36.894	0	1.000	561405	120544	543	1357	222	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags

- M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d
Lims ID: 160-24924-G-6-A
Client ID: SHAD041DP026SS06NS
Inject. Date: 11-Nov-2017 15:03:32
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194085
Lims Sample ID: 69

Non-2,3,7,8-sub-HpCDF, RT: 34.305

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	16489910	4016274
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	16489910	4016274

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.086	71707	19928	56690	15450	0.5243	1.26	RQ
34.086	58957	16067	56690	15450	0.4722		Empc Correction
Signal Totals:							
	58957	16067	56690	15450			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	128397	35378				1.26	RQ
	115647	31517					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5243 = (128397 * 100.000) / (16489910 * 1.485)
Empc Amount: 0.4722 = (115647 * 100.000) / (16489910 * 1.485)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d		
Lims ID:	160-24924-G-6-A		
Client ID:	SHAD041DP026SS06NS		
Inject. Date:	11-Nov-2017 15:03:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	69

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	27464814	7634601

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	27464814	7634601

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.037	76101	21784	68469	18772	0.5300	1.11	M
Signal Totals:							
	76101	21784	68469	18772			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	144570	40556				1.11	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5300 = (144570 * 100.000) / (27464814 * 0.993)

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 11:27:57　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

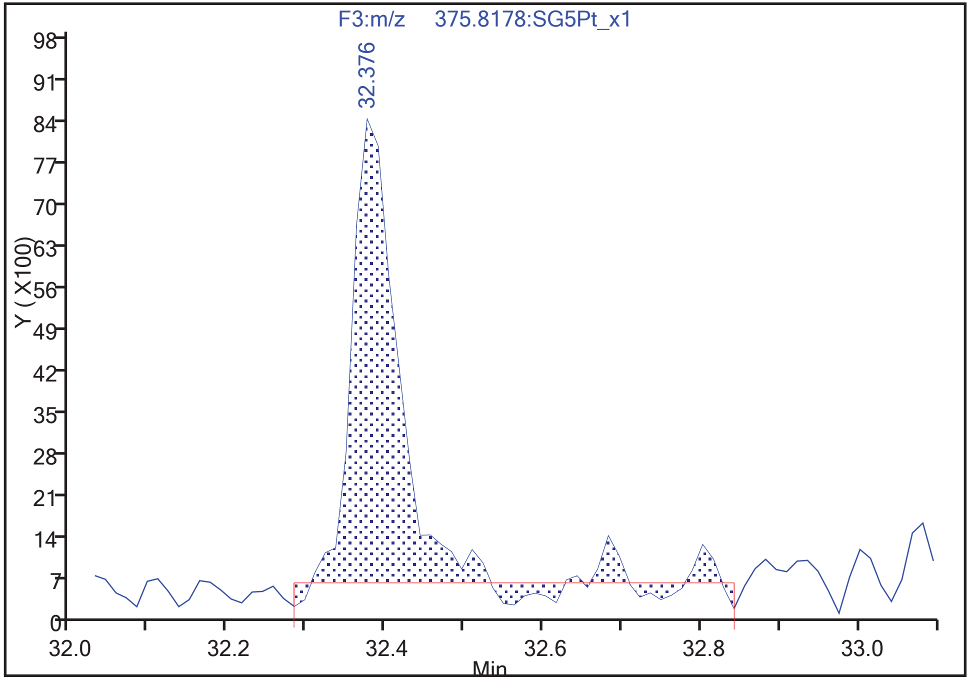
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d				
Injection Date:	11-Nov-2017 15:03:32	Instrument ID:	10D5		
Lims ID:	160-24924-G-6-A	Lab Sample ID:	320-24924-6		
Client ID:	SHAD041DP026SS06NS				
Operator ID:	AJS	ALS Bottle#:	43	Worklist Smp#:	69
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

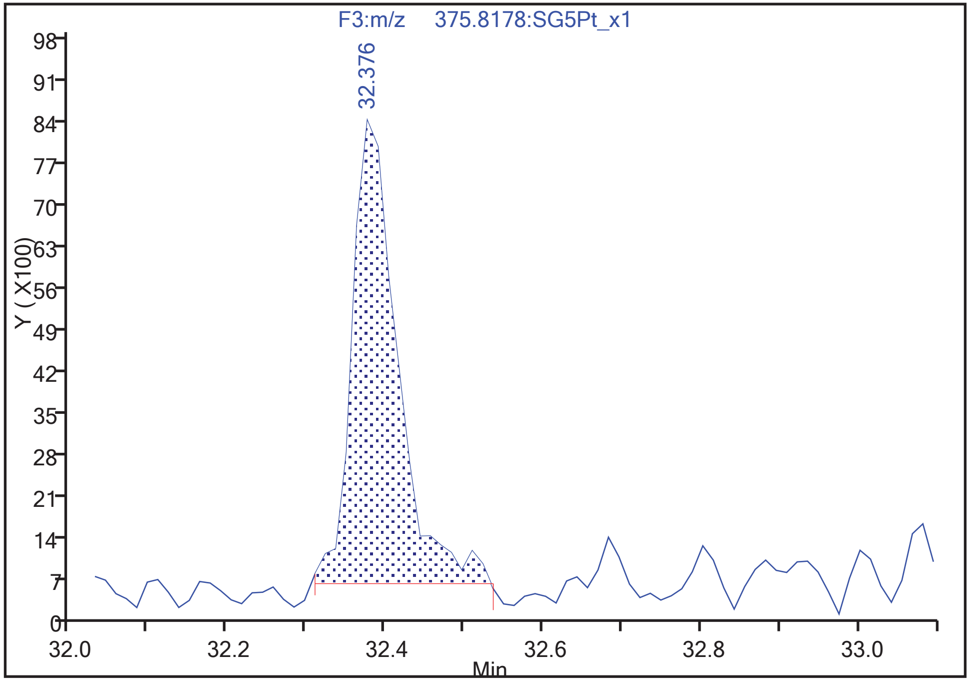
Processing Integration Results

RT:	32.38
Area:	30719
Amount:	0.123815
Amount Units:	pg/ul



Manual Integration Results

RT:	32.38
Area:	31133
Amount:	0.124064
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 11:27:24

Audit Action: Split an Integrated Peak　　Audit Reason: Split Peak

Report Date: 13-Nov-2017 11:27:57

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d

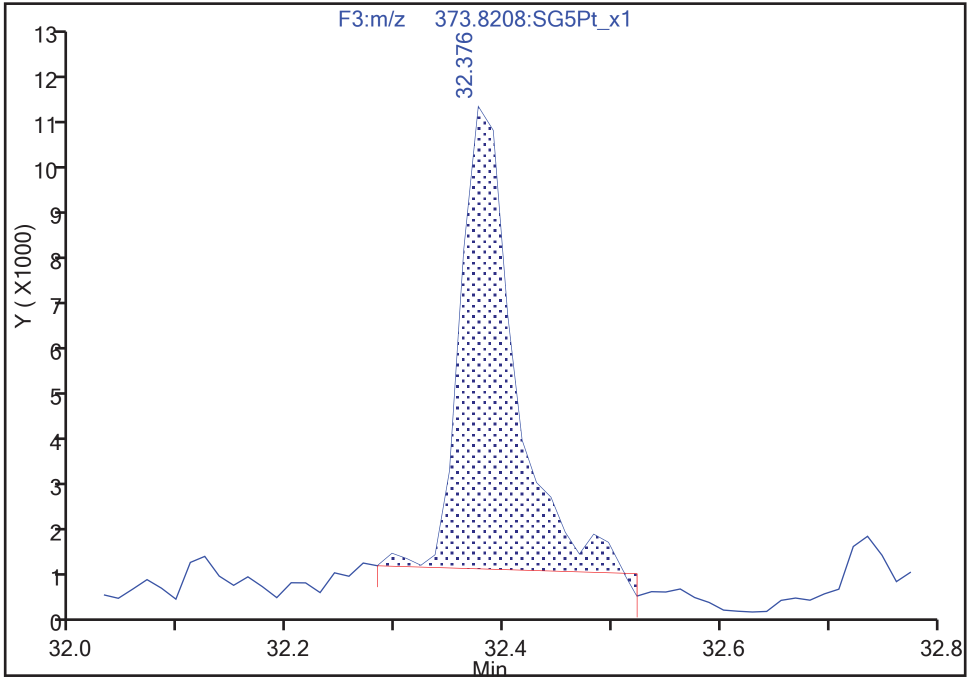
Injection Date:	11-Nov-2017 15:03:32	Instrument ID:	10D5		
Lims ID:	160-24924-G-6-A	Lab Sample ID:	320-24924-6		
Client ID:	SHAD041DP026SS06NS				
Operator ID:	AJS	ALS Bottle#:	43	Worklist Smp#:	69
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

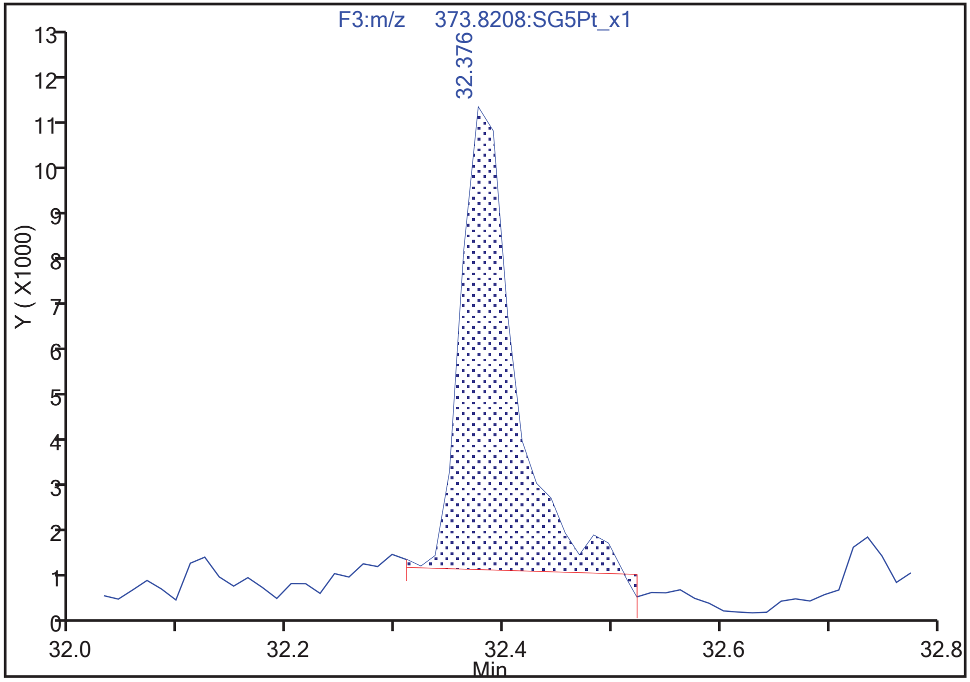
RT: 32.38
Area: 34027
Amount: 0.123815
Amount Units: pg/ul

Processing Integration Results



RT: 32.38
Area: 33743
Amount: 0.124064
Amount Units: pg/ul

Manual Integration Results



Reviewer: dadunj, 13-Nov-2017 11:27:26

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

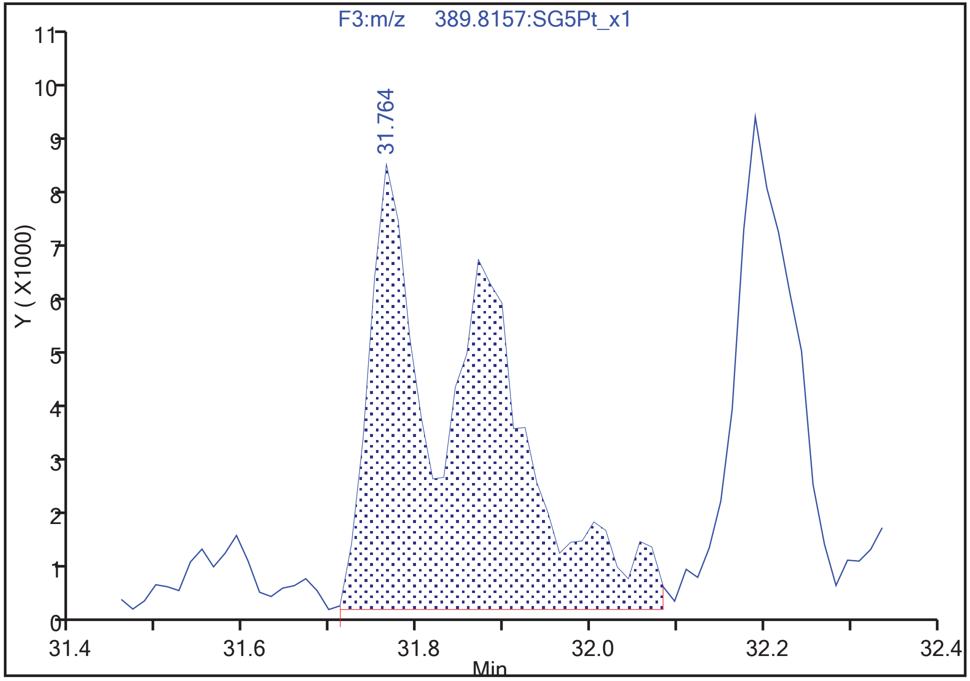
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d				
Injection Date:	11-Nov-2017 15:03:32	Instrument ID:	10D5		
Lims ID:	160-24924-G-6-A	Lab Sample ID:	320-24924-6		
Client ID:	SHAD041DP026SS06NS				
Operator ID:	AJS	ALS Bottle#:	43	Worklist Smp#:	69
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

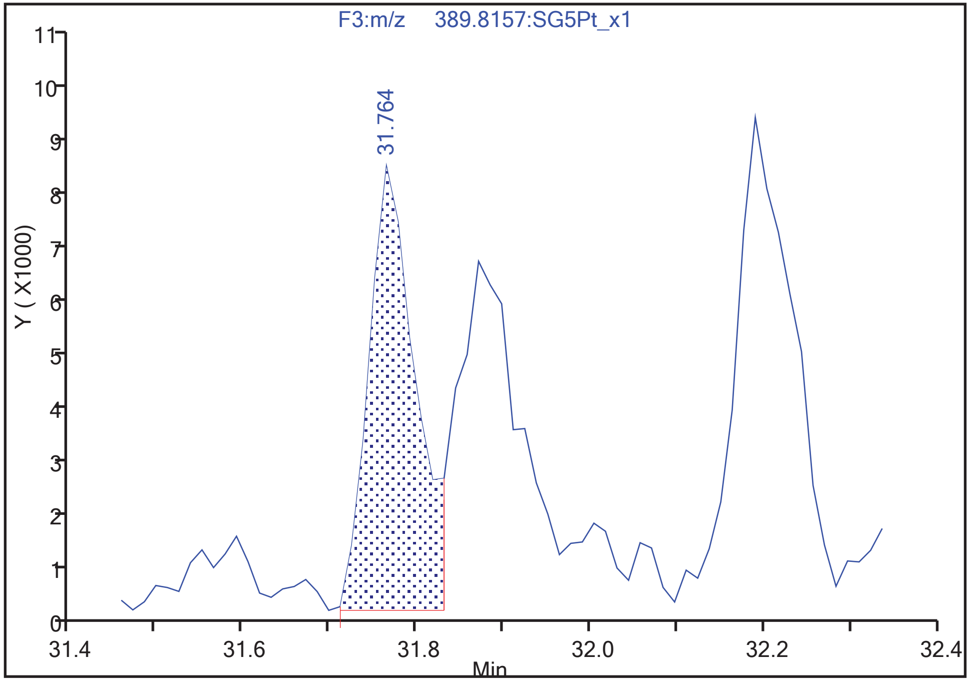
Processing Integration Results

RT:	31.76
Area:	65601
Amount:	0.299344
Amount Units:	pg/ul



Manual Integration Results

RT:	31.76
Area:	28519
Amount:	0.176915
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 11:25:53

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Report Date: 13-Nov-2017 11:27:57　　Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

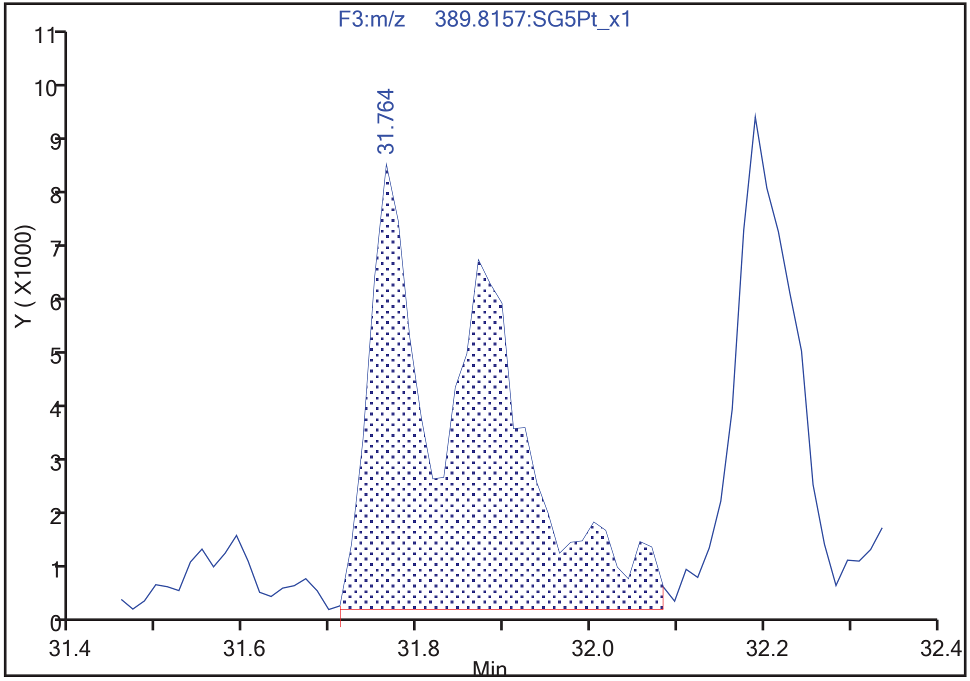
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d				
Injection Date:	11-Nov-2017 15:03:32	Instrument ID:	10D5		
Lims ID:	160-24924-G-6-A	Lab Sample ID:	320-24924-6		
Client ID:	SHAD041DP026SS06NS				
Operator ID:	AJS	ALS Bottle#:	43	Worklist Smp#:	69
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

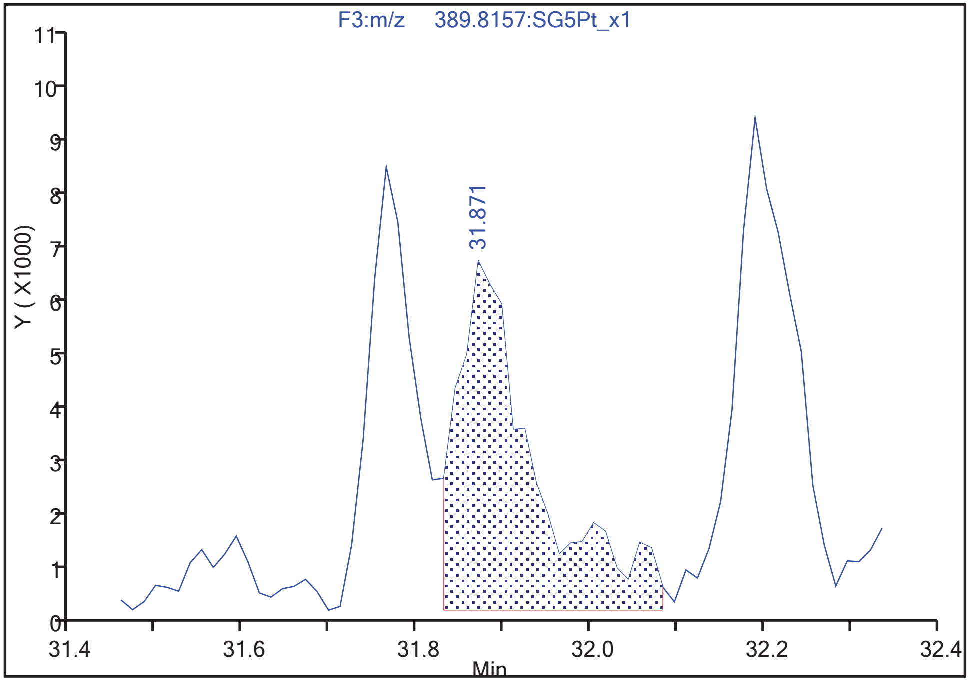
Processing Integration Results

RT: 31.76
Area: 65601
Amount: 0.230502
Amount Units: pg/ul



Manual Integration Results

RT: 31.87
Area: 37082
Amount: 0.145183
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 11:26:02
Audit Action: Manually Integrated/Assigned Compound ID　Audit Reason: Split Peak

Report Date: 13-Nov-2017 11:27:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

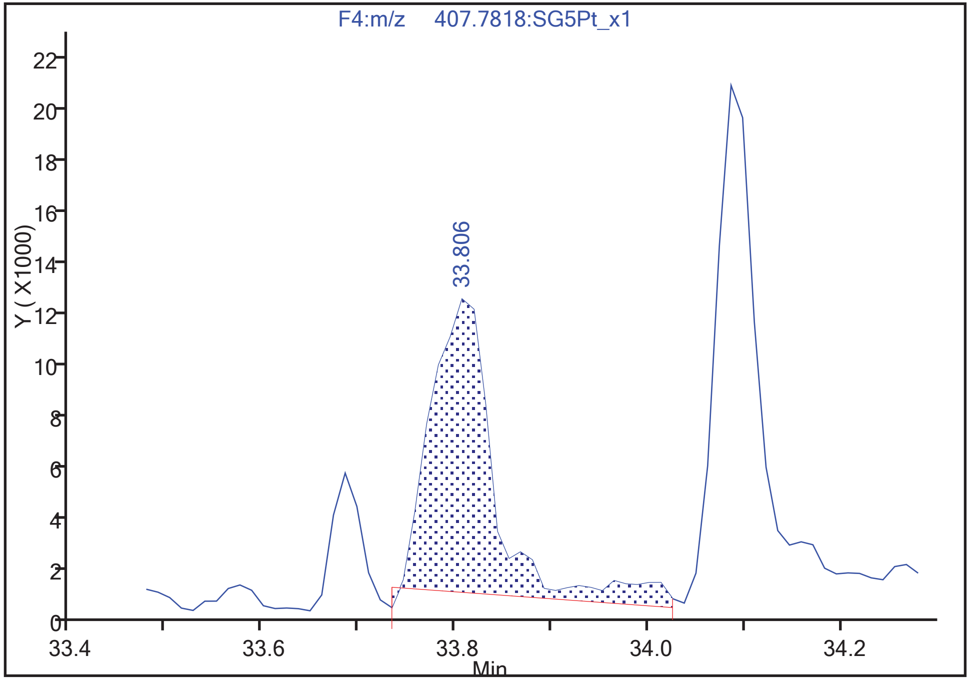
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d		
Injection Date:	11-Nov-2017 15:03:32	Instrument ID:	10D5
Lims ID:	160-24924-G-6-A	Lab Sample ID:	320-24924-6
Client ID:	SHAD041DP026SS06NS		
Operator ID:	AJS	ALS Bottle#:	43 Worklist Smp#: 69
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

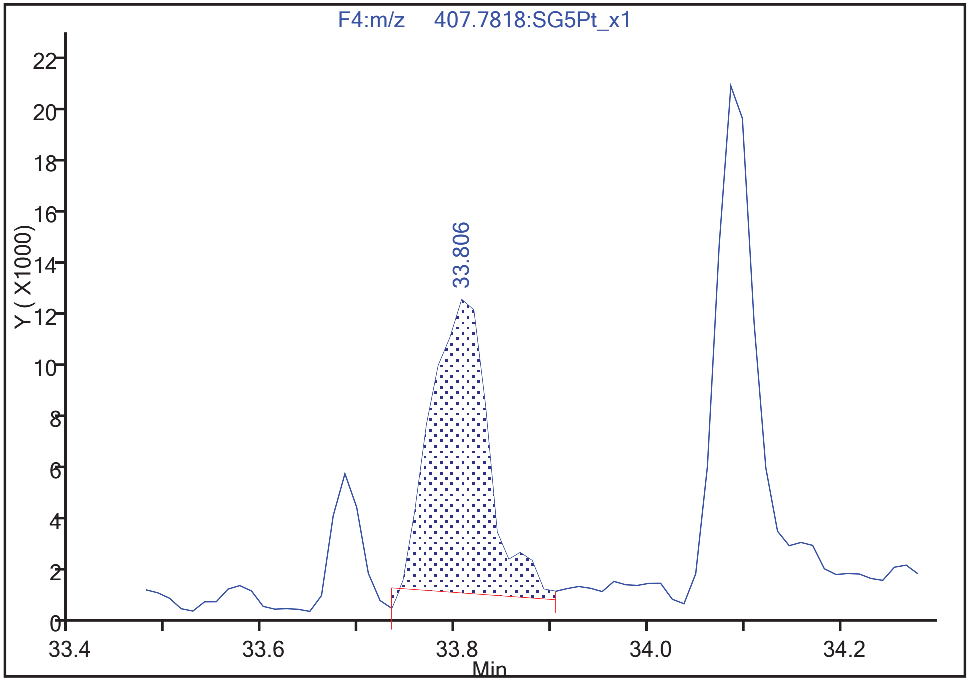
Processing Integration Results

RT: 33.81
Area: 52121
Amount: 0.368659
Amount Units: pg/ul



Manual Integration Results

RT: 33.81
Area: 47316
Amount: 0.347159
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 11:26:18

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Sacramento

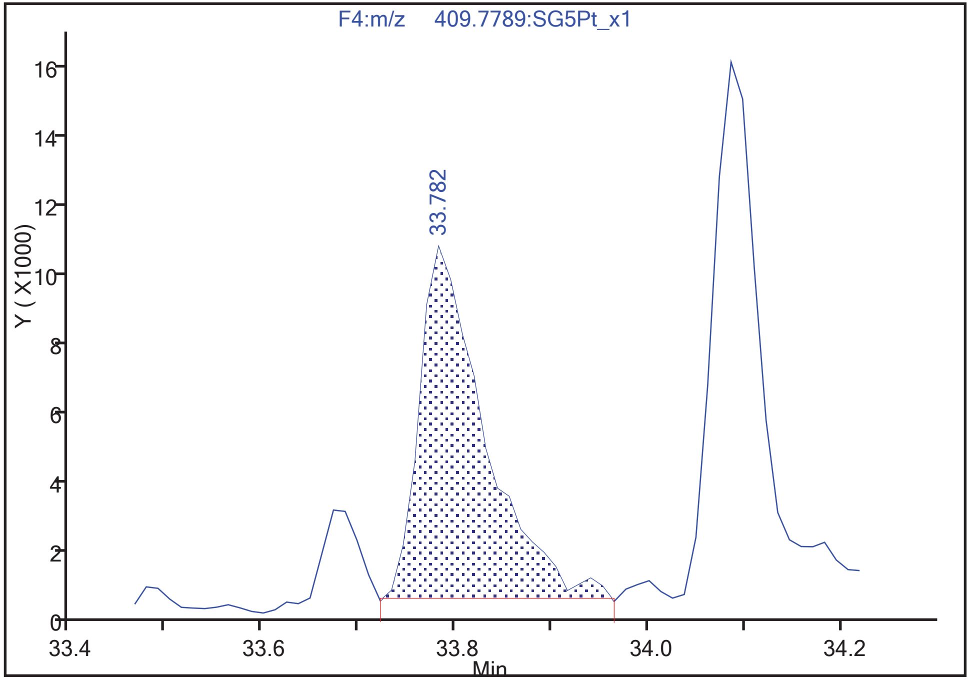
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d				
Injection Date:	11-Nov-2017 15:03:32	Instrument ID:	10D5		
Lims ID:	160-24924-G-6-A	Lab Sample ID:	320-24924-6		
Client ID:	SHAD041DP026SS06NS				
Operator ID:	AJS	ALS Bottle#:	43	Worklist Smp#:	69
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

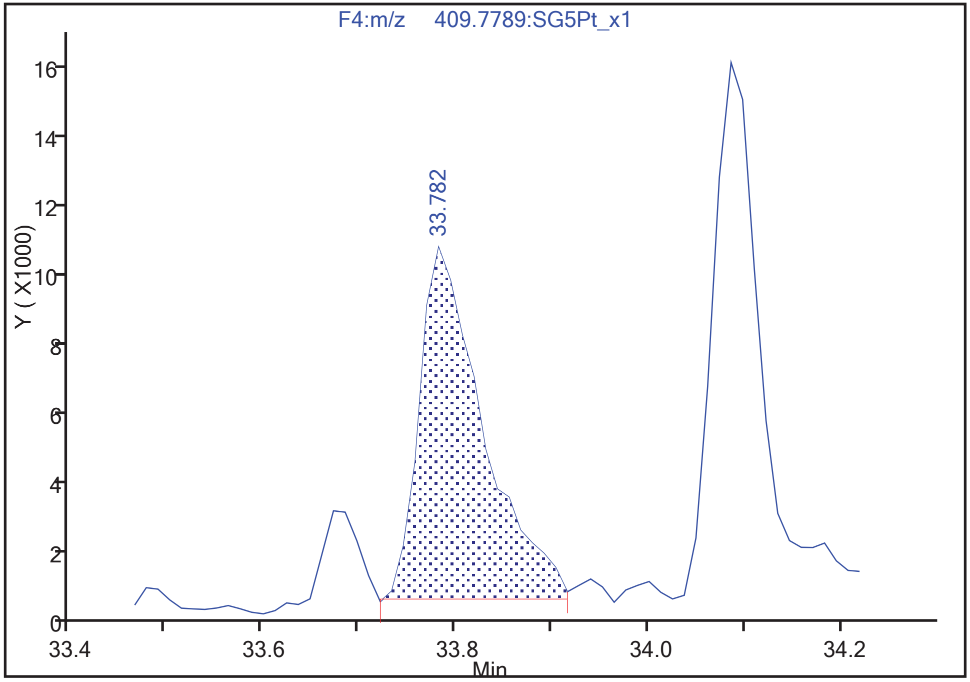
Processing Integration Results

RT:	33.78
Area:	47571
Amount:	0.368659
Amount Units:	pg/ul



Manual Integration Results

RT:	33.78
Area:	46562
Amount:	0.347159
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 11:26:20

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 11:27:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d

Injection Date: 11-Nov-2017 15:03:32 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

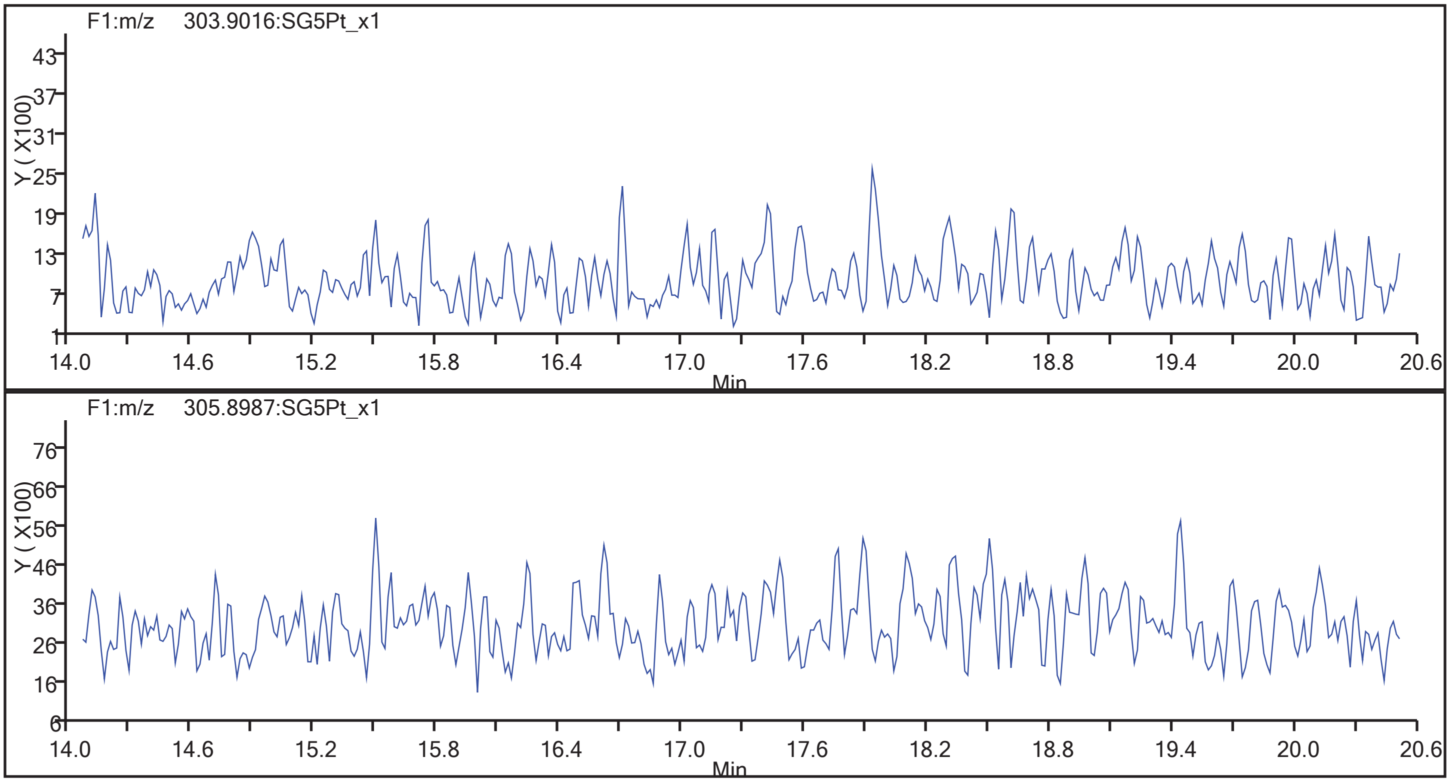
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS06NS

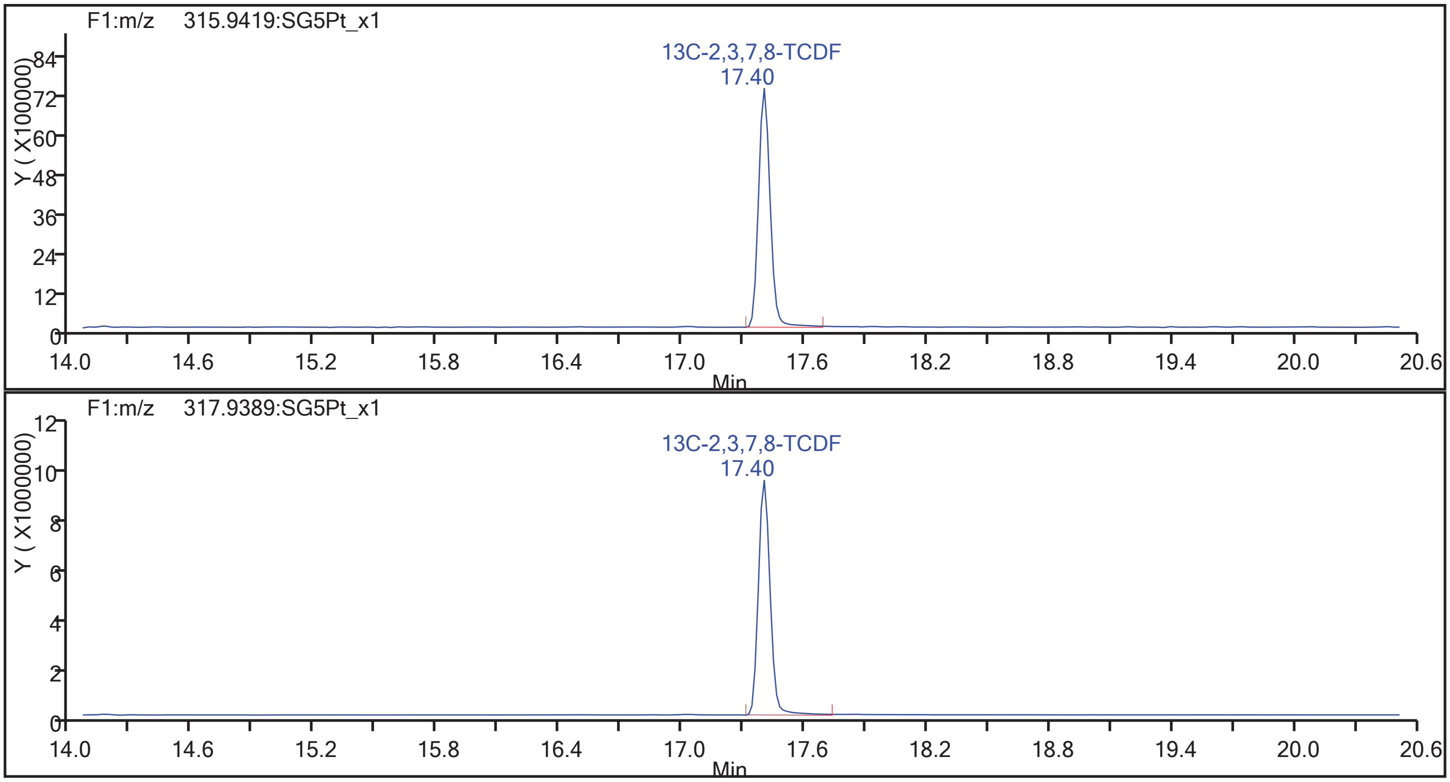
Worklist#: 194085 Sample Line#: 69

Column Type: DB-5 Column Dia: 0.32 mm

TCDF



TCDF Standards

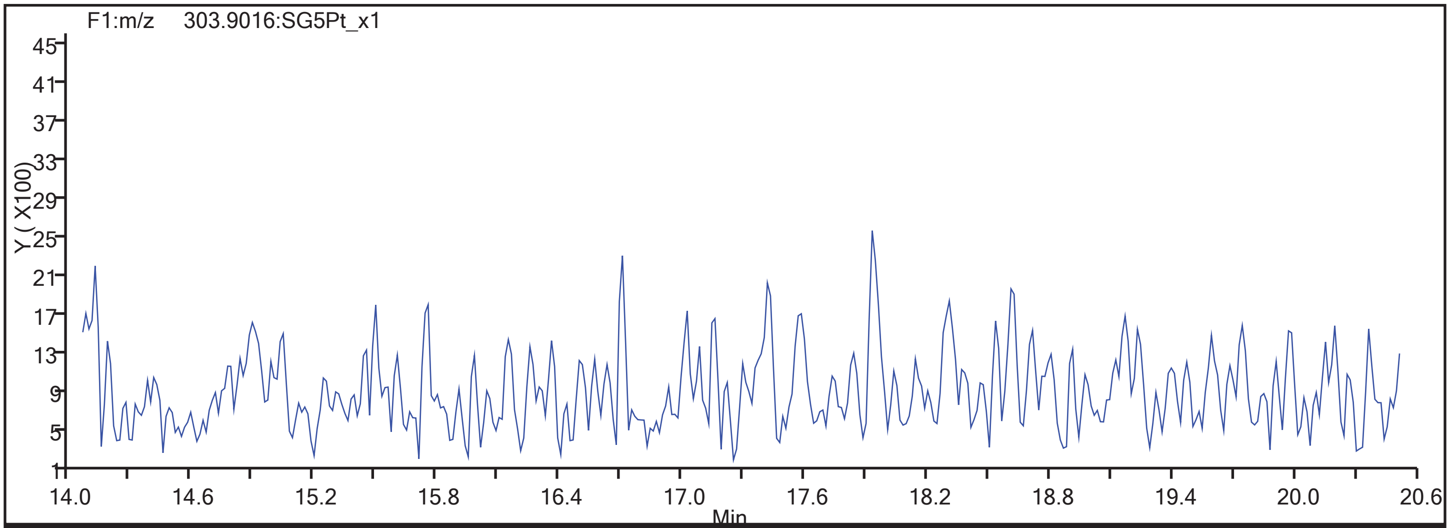


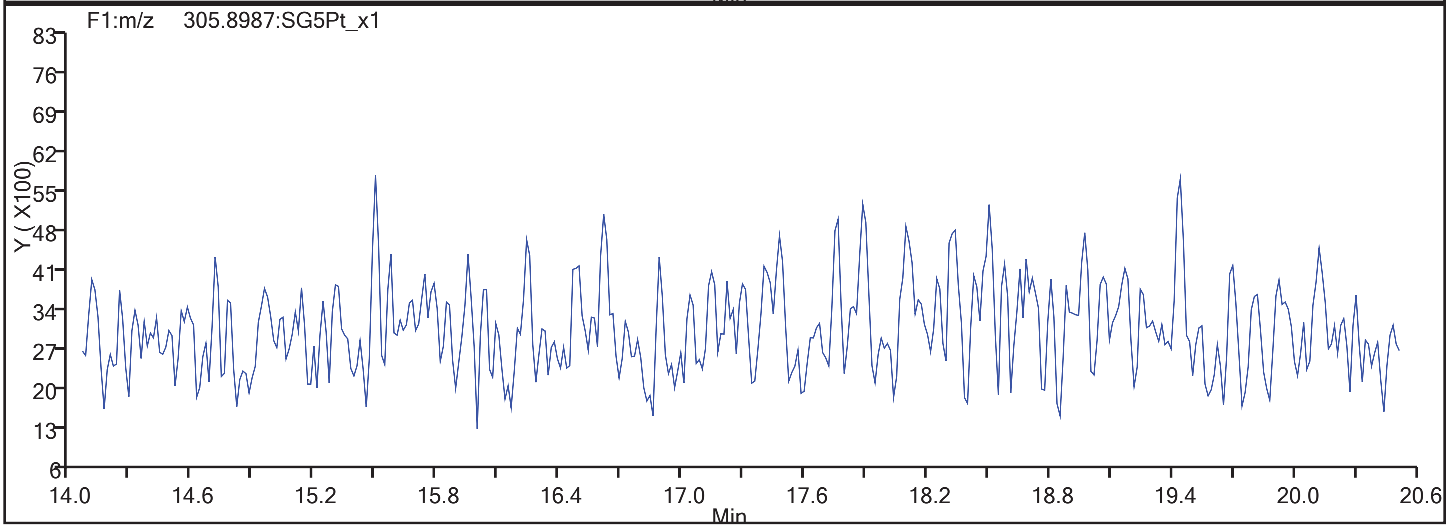
Report Date: 13-Nov-2017 11:27:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

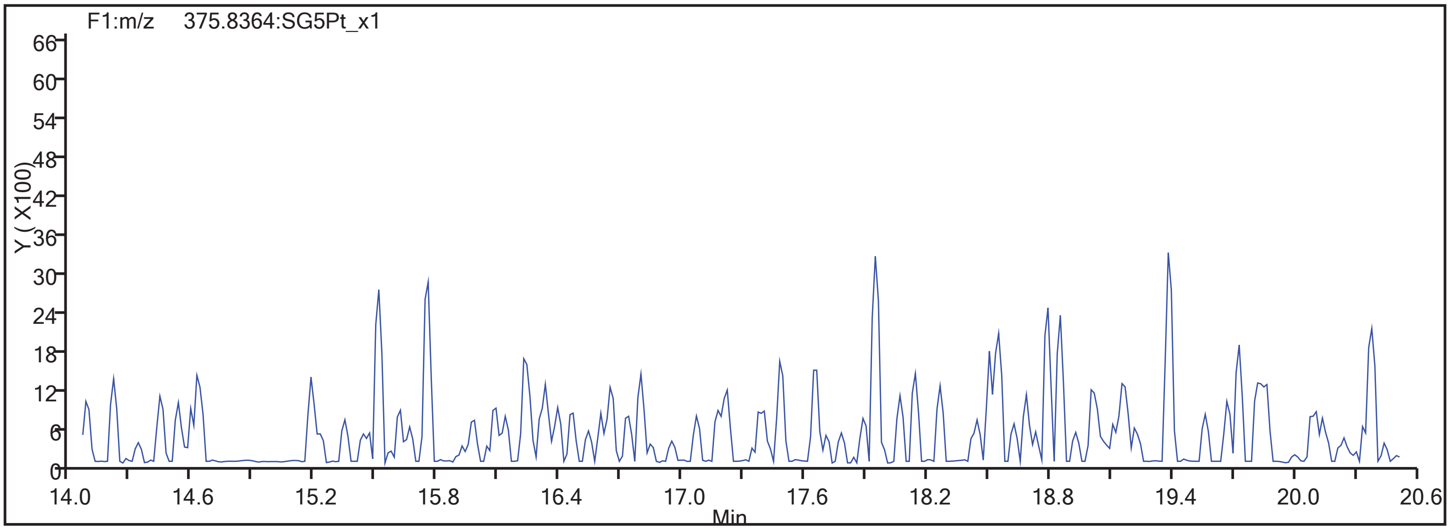
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d
Injection Date: 11-Nov-2017 15:03:32
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 194085
Sample Line#: 69
Column Type: DB-5
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



TestAmerica Sacramento

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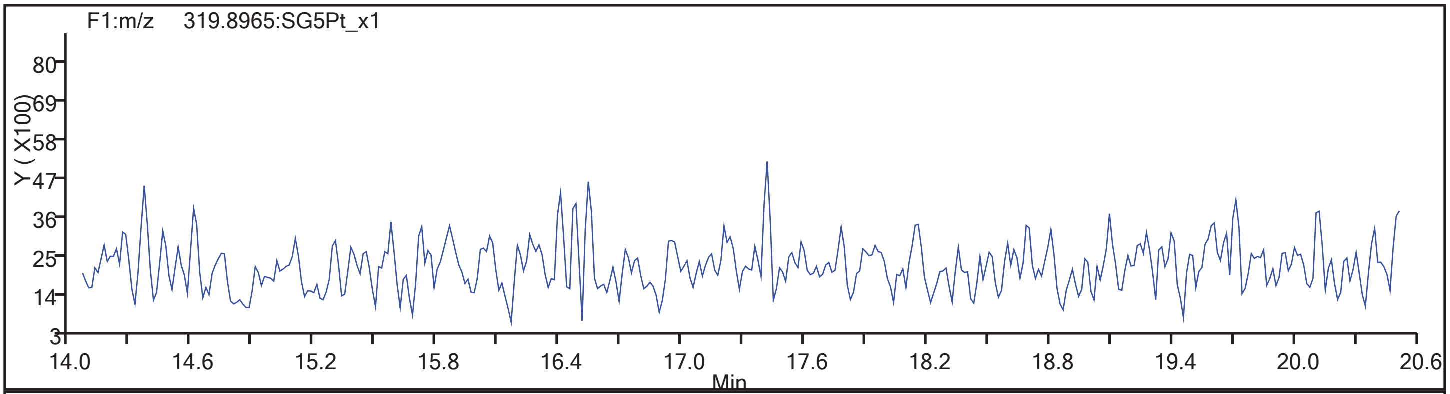
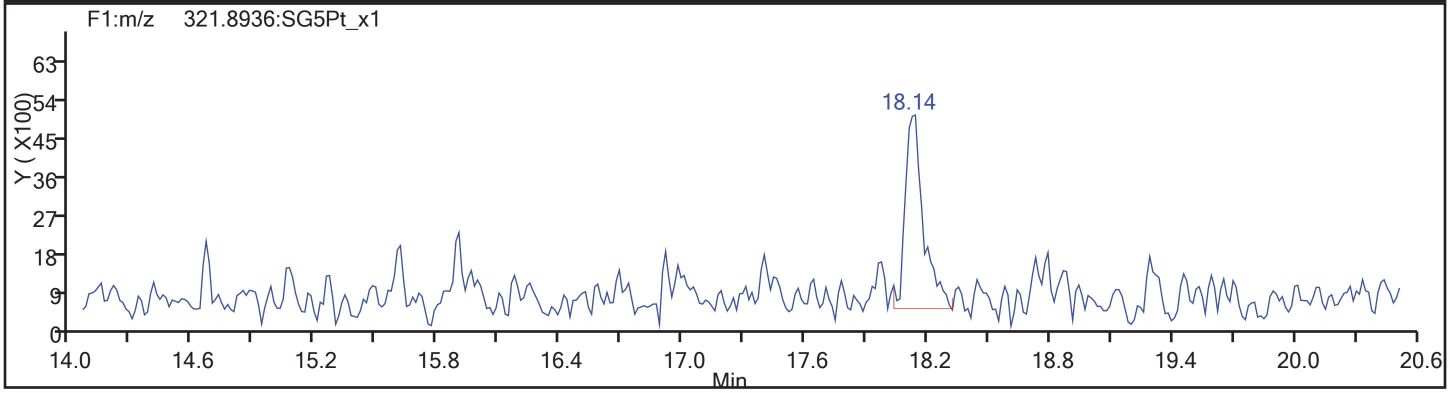
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 194085
Sample Line#: 69
Column Type: DB-5
Column Dia: 0.32 mm

TCDD





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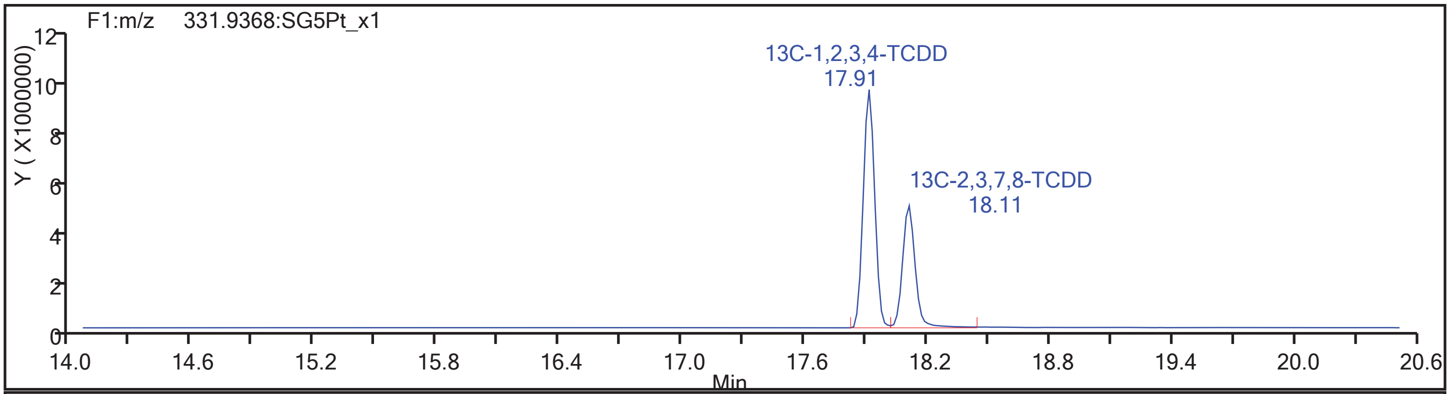

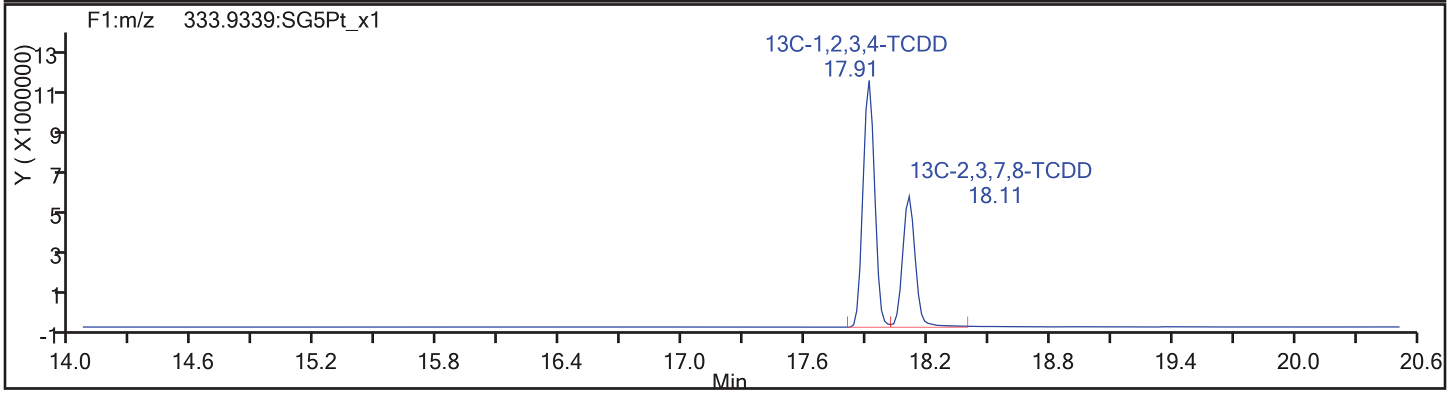

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TestAmerica Sacramento

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Limit Group: HR - 8290A_D5 - ICAL
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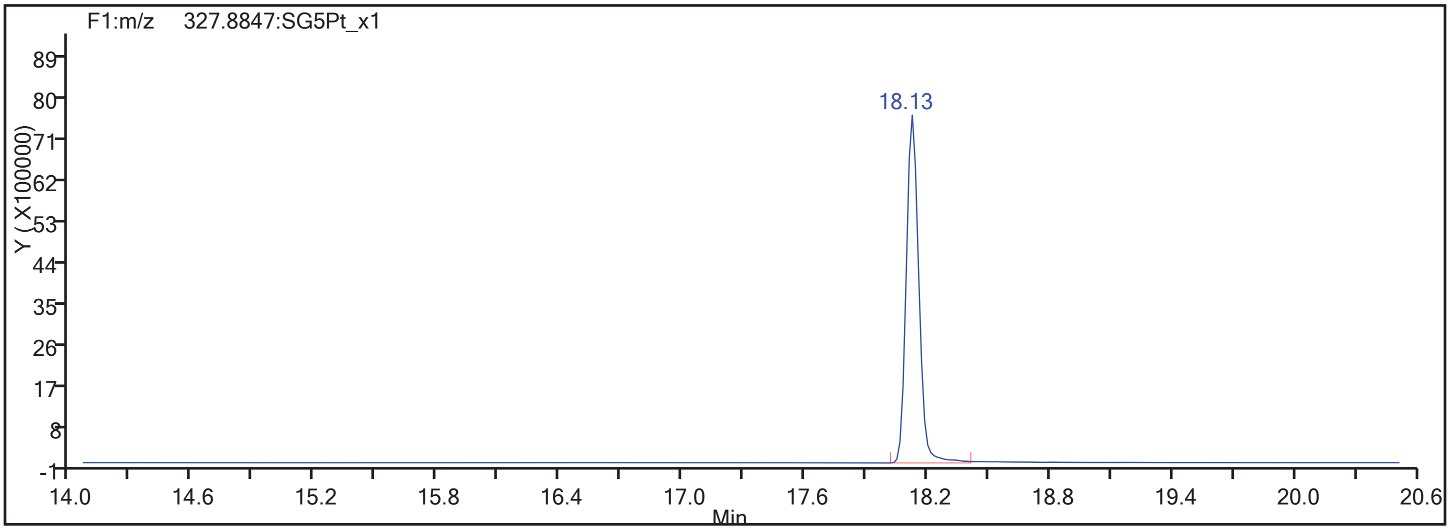
37Cl4-TCDD



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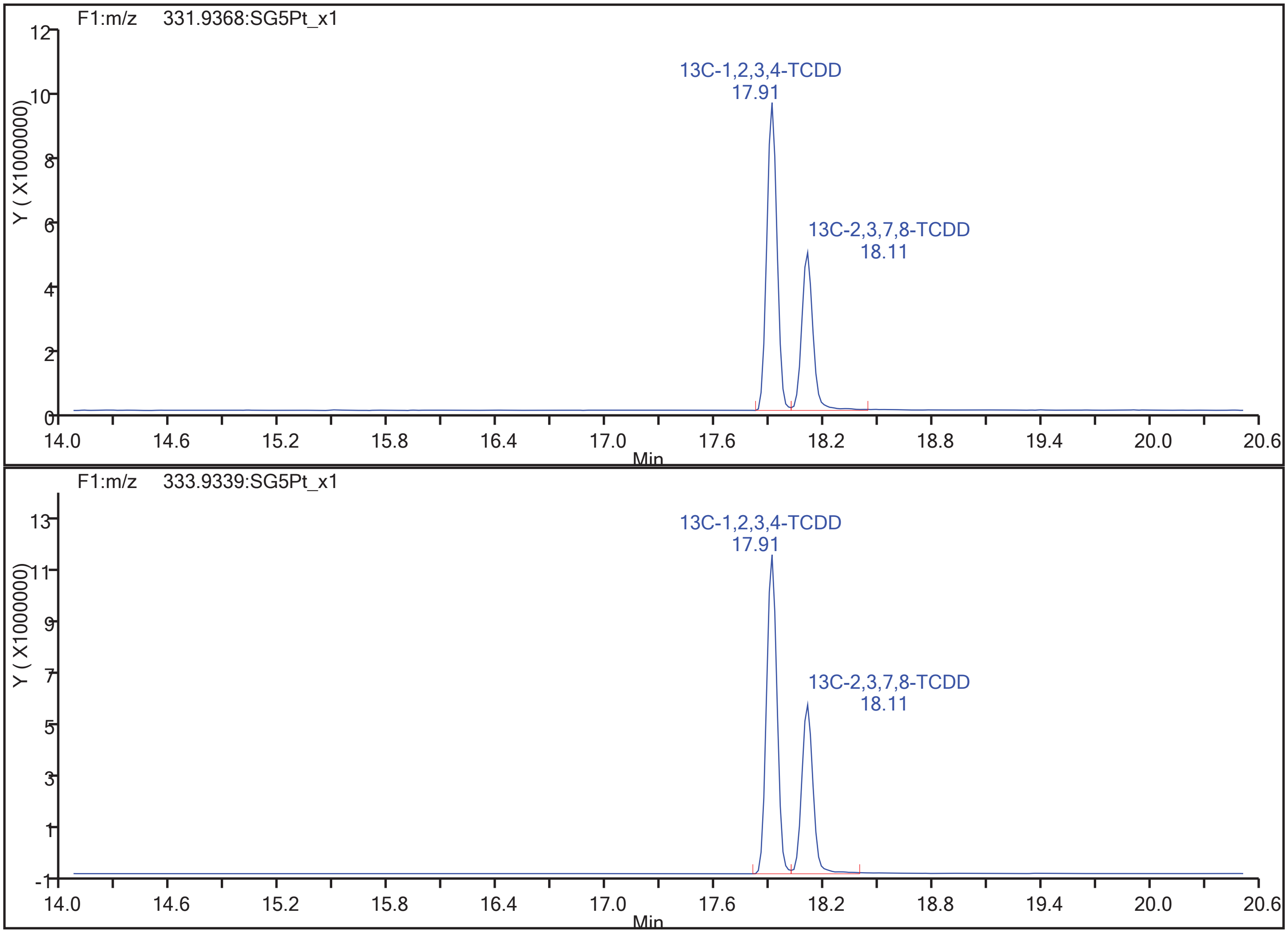

TestAmerica Sacramento

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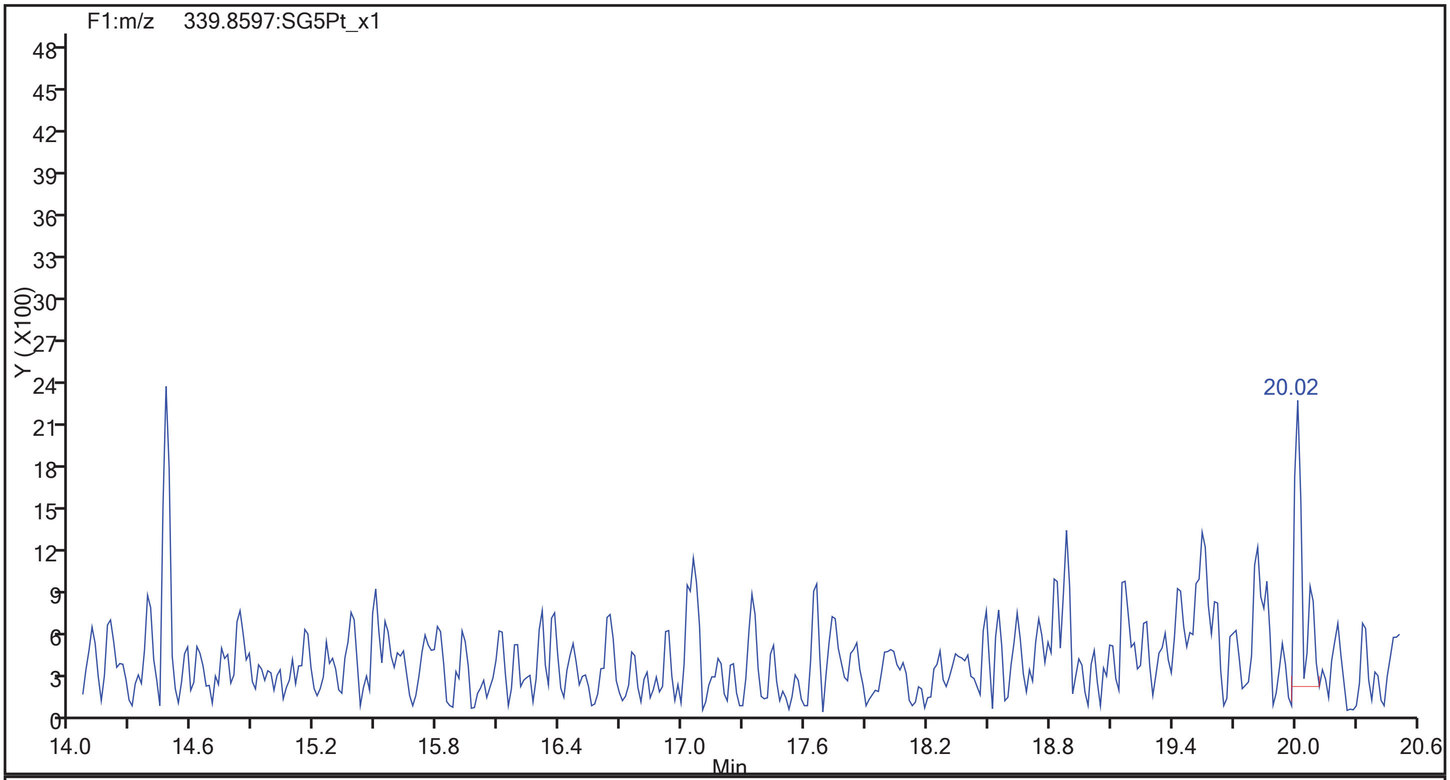
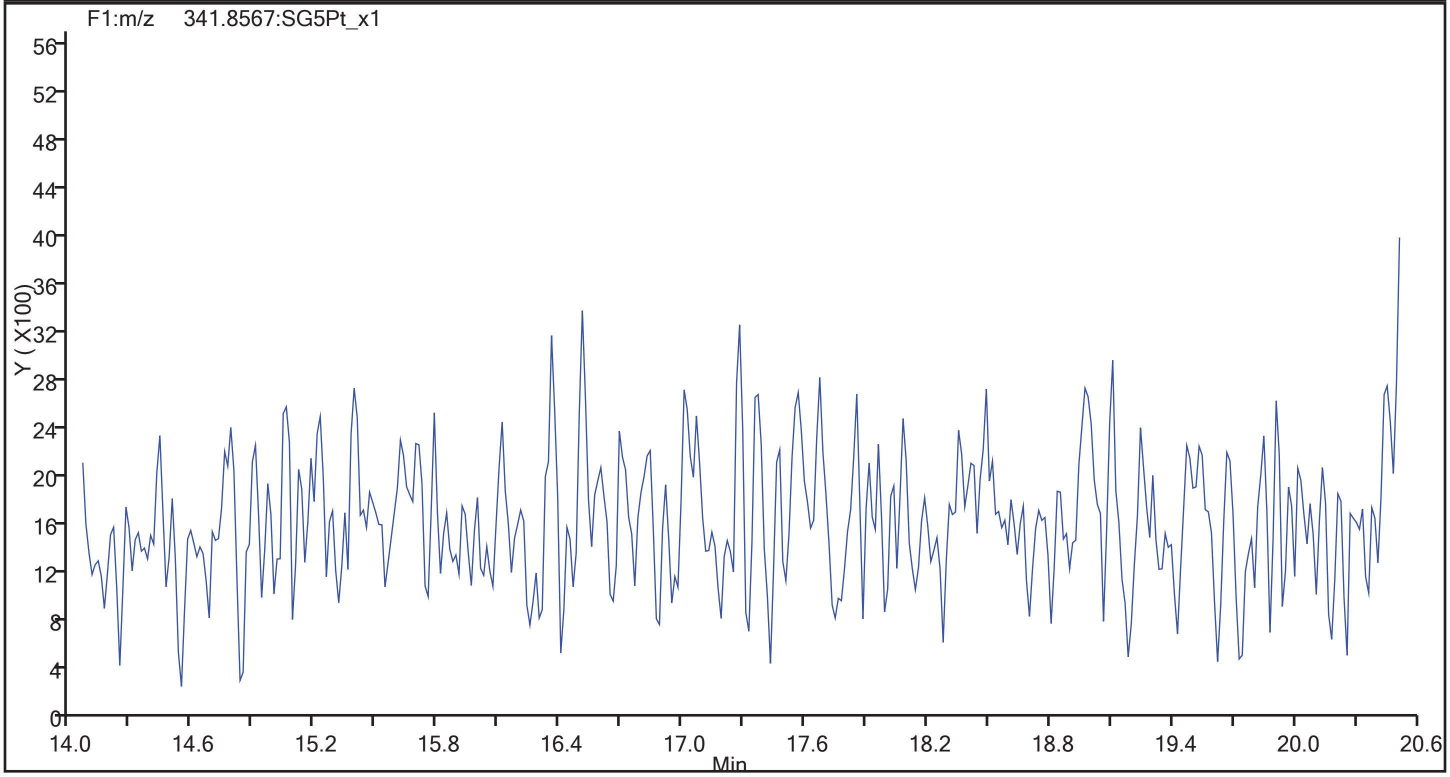
Column Dia: 0.32 mm

F1 PeCDFs





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TestAmerica Sacramento

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Injection Date:	11-Nov-2017 15:03:32	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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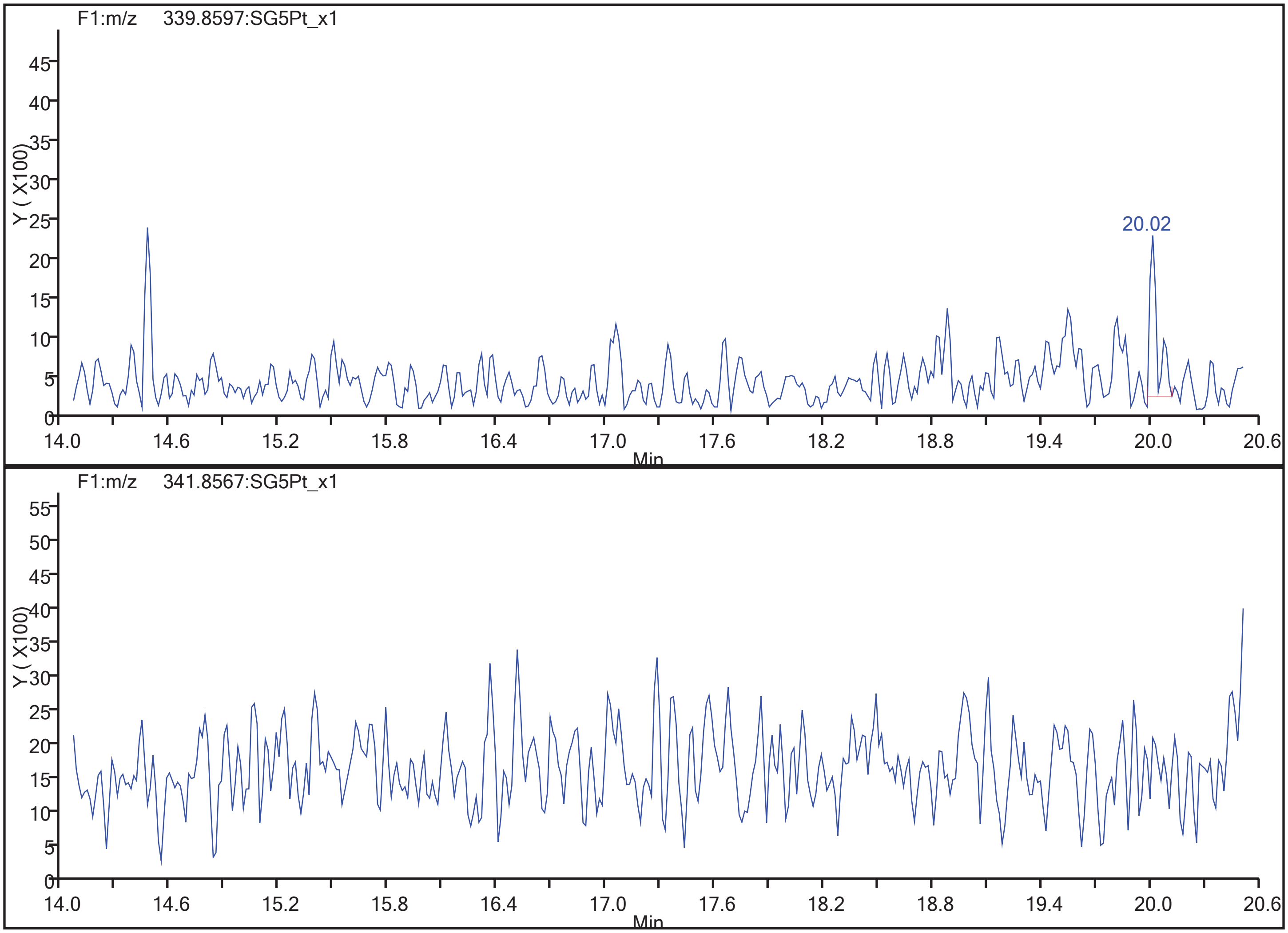
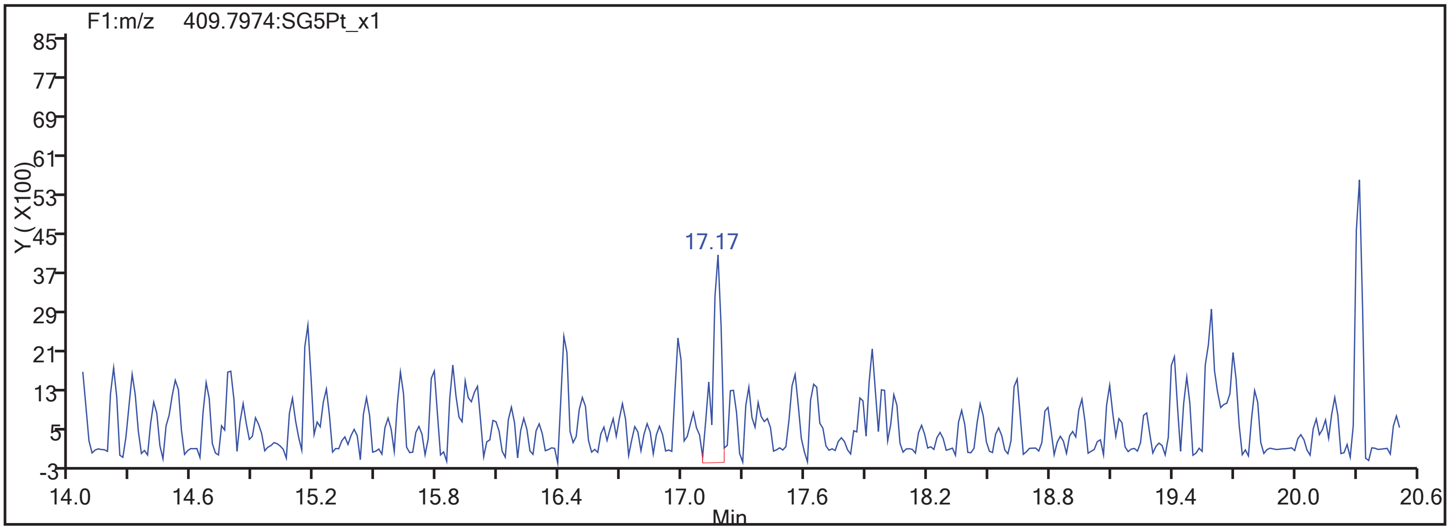
Worklist#:	194085	Sample Line#:	69
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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Injection Date: 11-Nov-2017 15:03:32

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS06NS

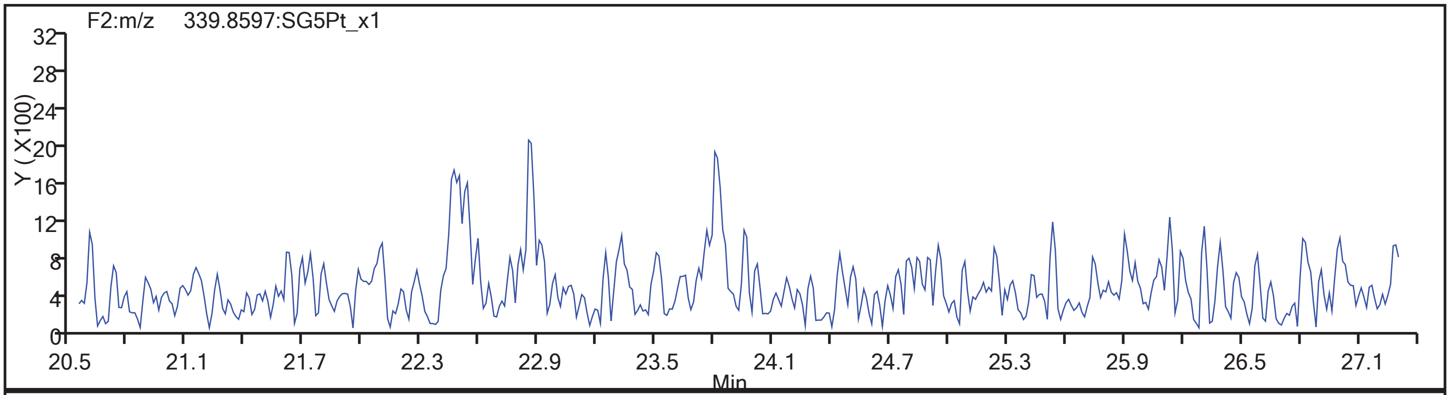
Worklist#: 194085

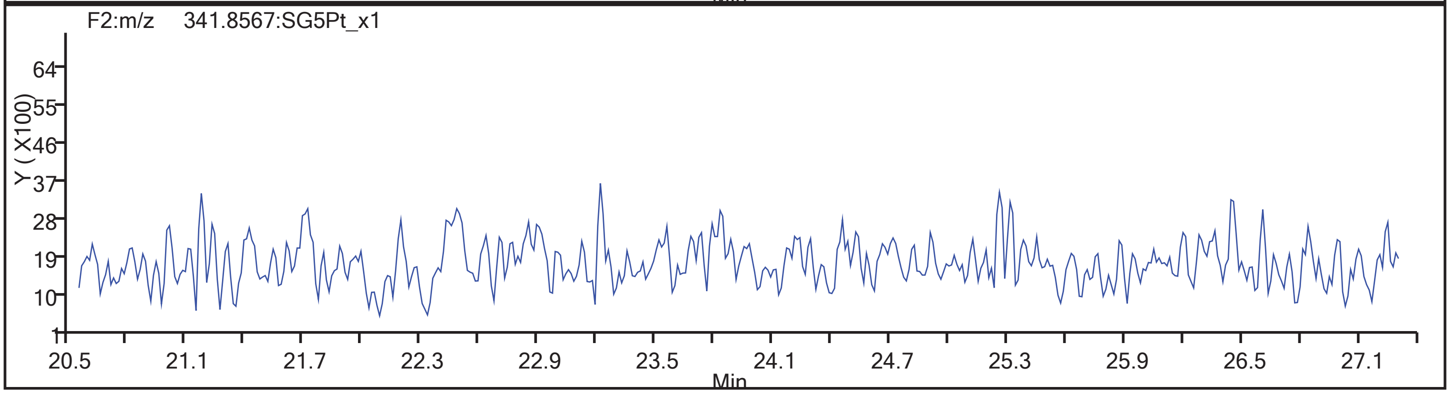
Sample Line#: 69

Column Type: DB-5

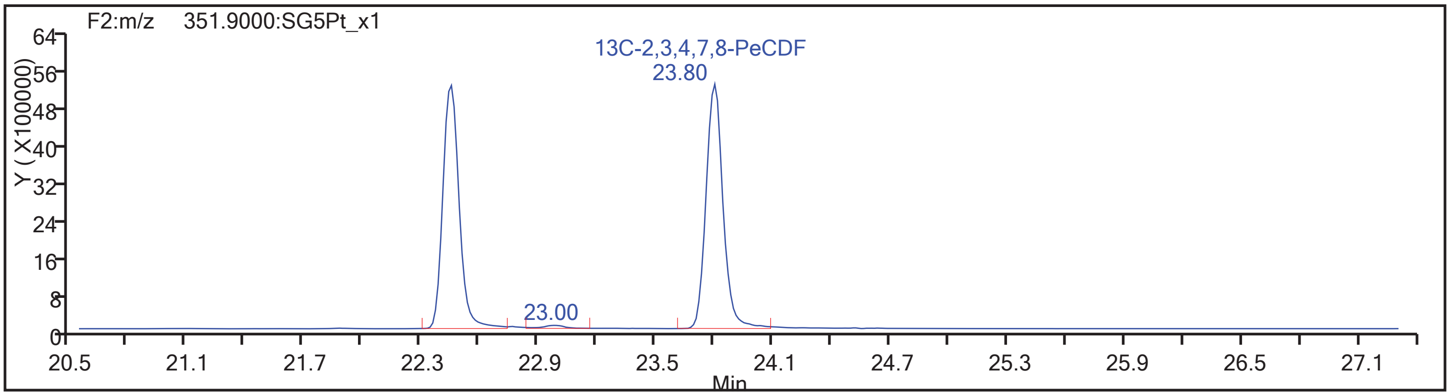
Column Dia: 0.32 mm

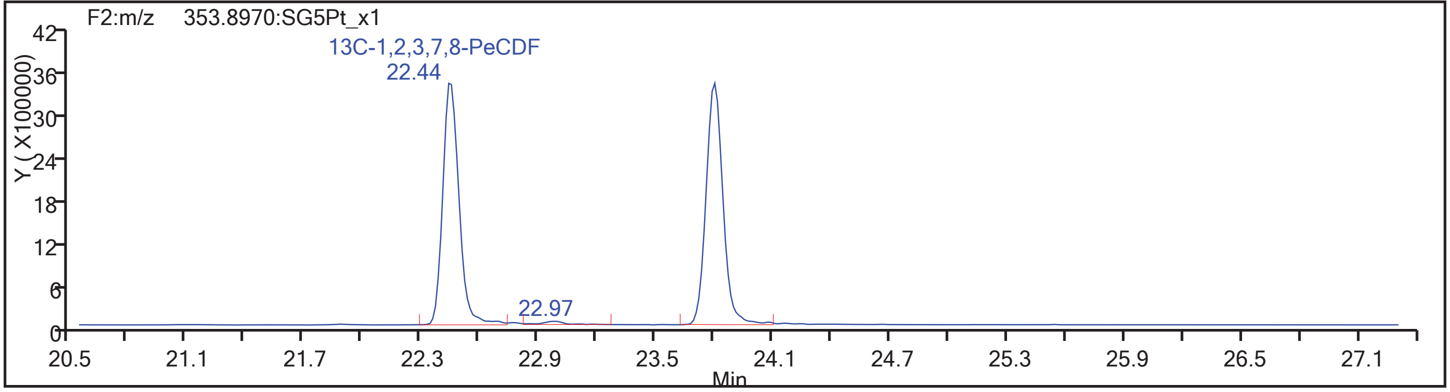
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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Injection Date: 11-Nov-2017 15:03:32 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

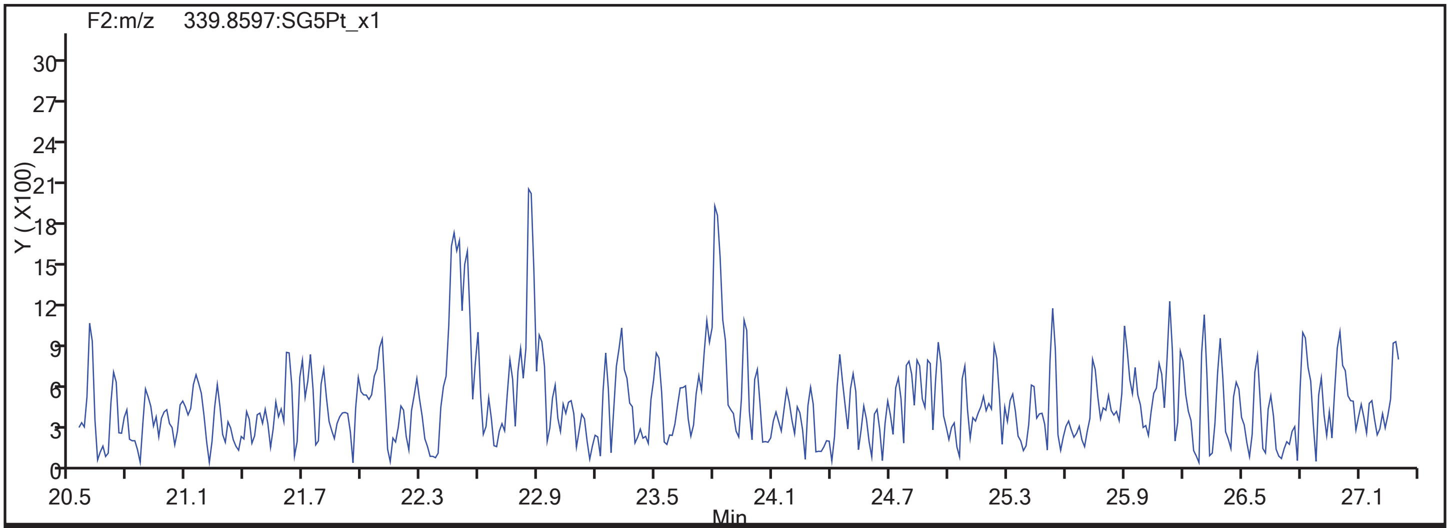
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

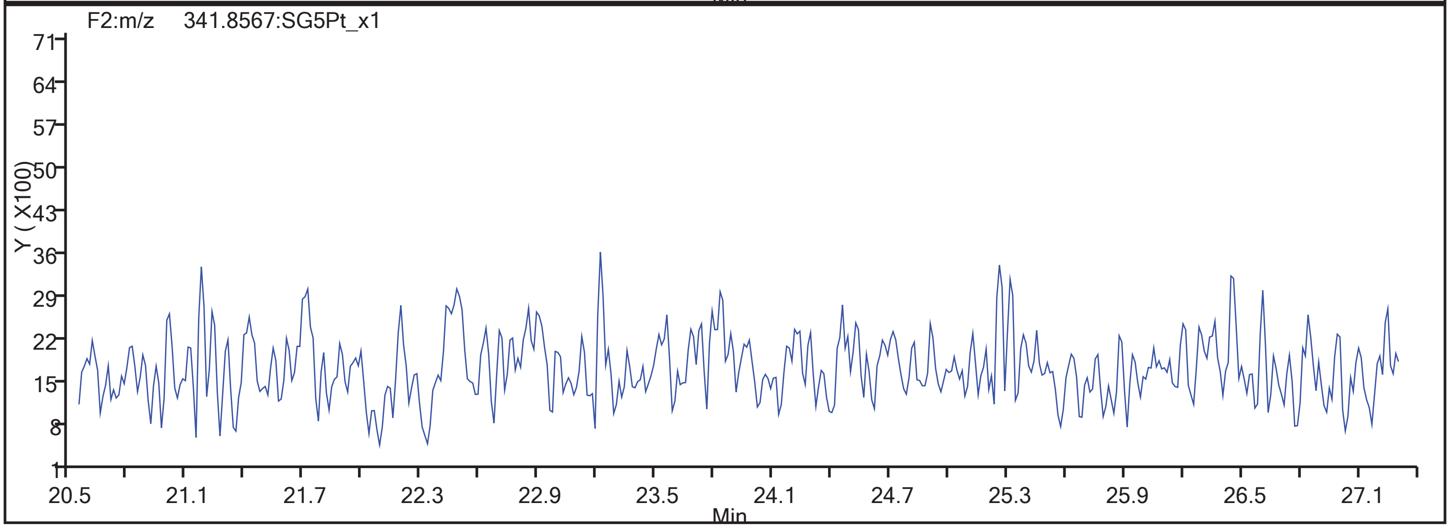
Client ID: SHAD041DP026SS06NS

Worklist#: 194085 Sample Line#: 69

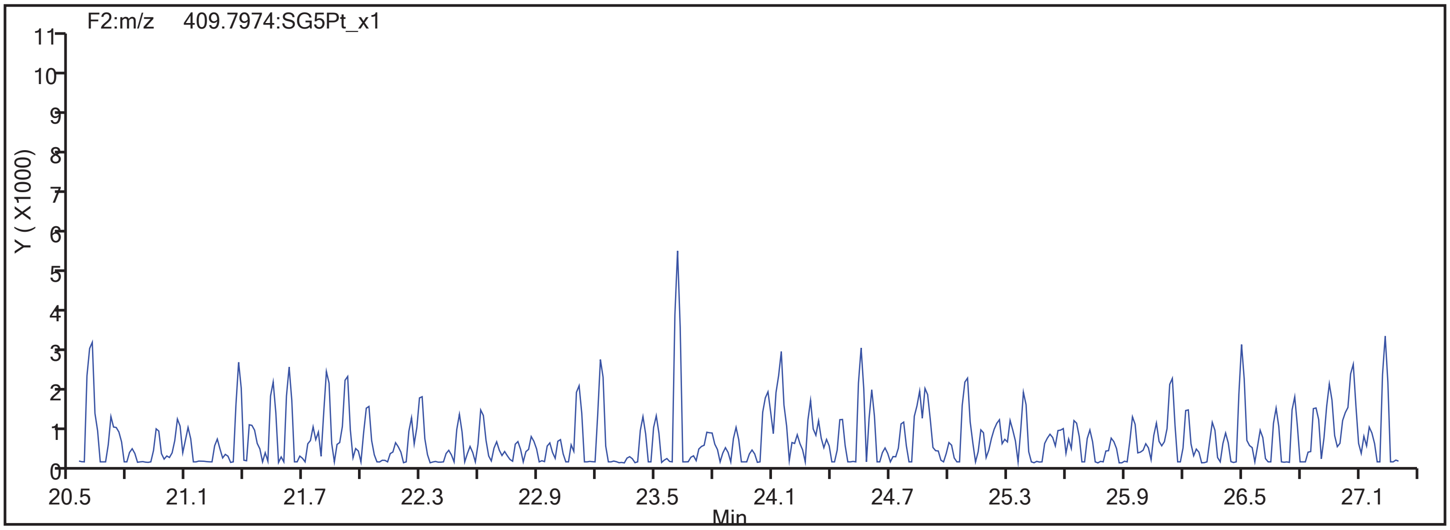
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass



Report Date: 13-Nov-2017 11:27:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
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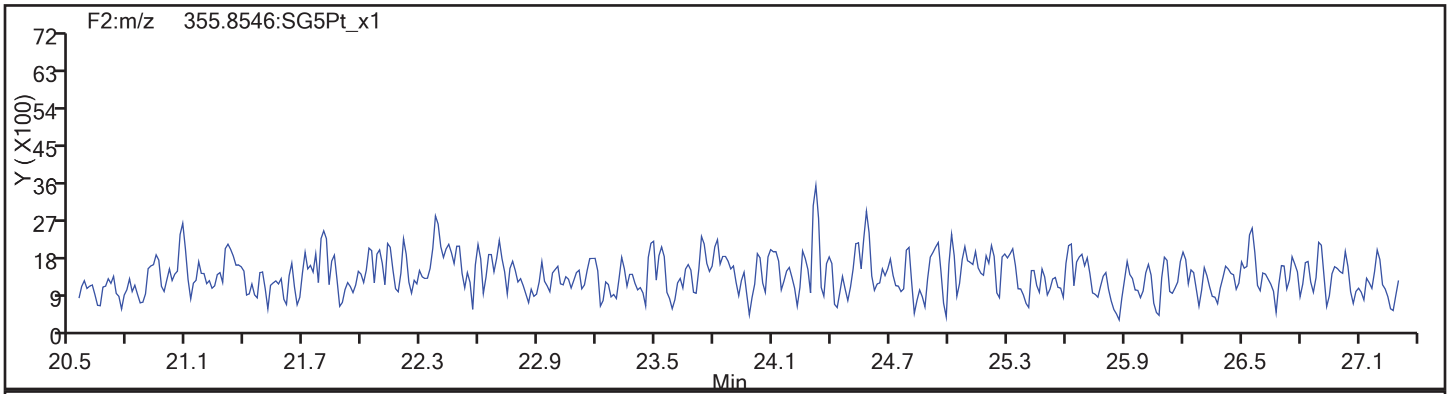
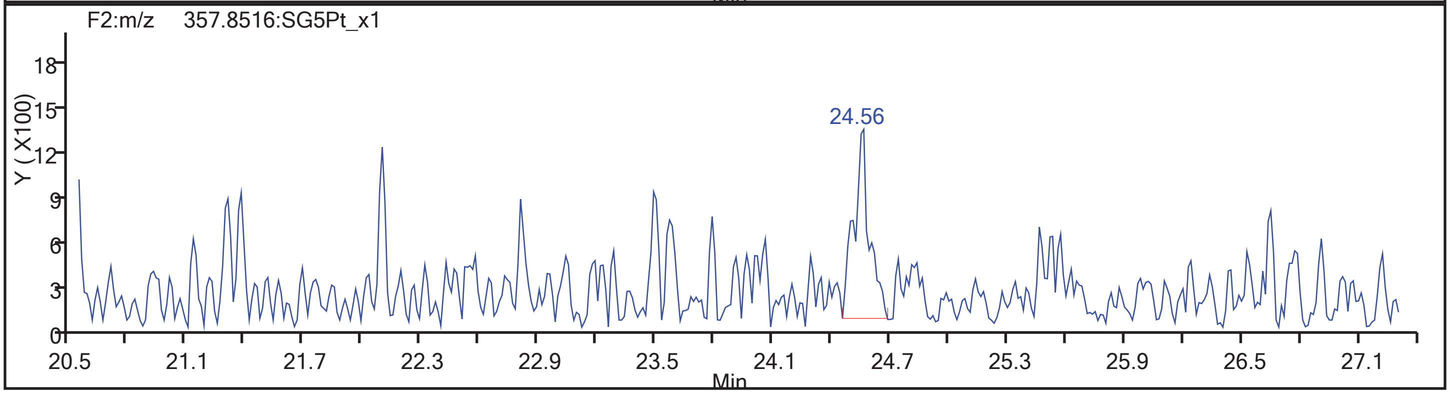
Worklist#: 194085
Sample Line#: 69
Column Type: DB-5
Column Dia: 0.32 mm

PeCDD





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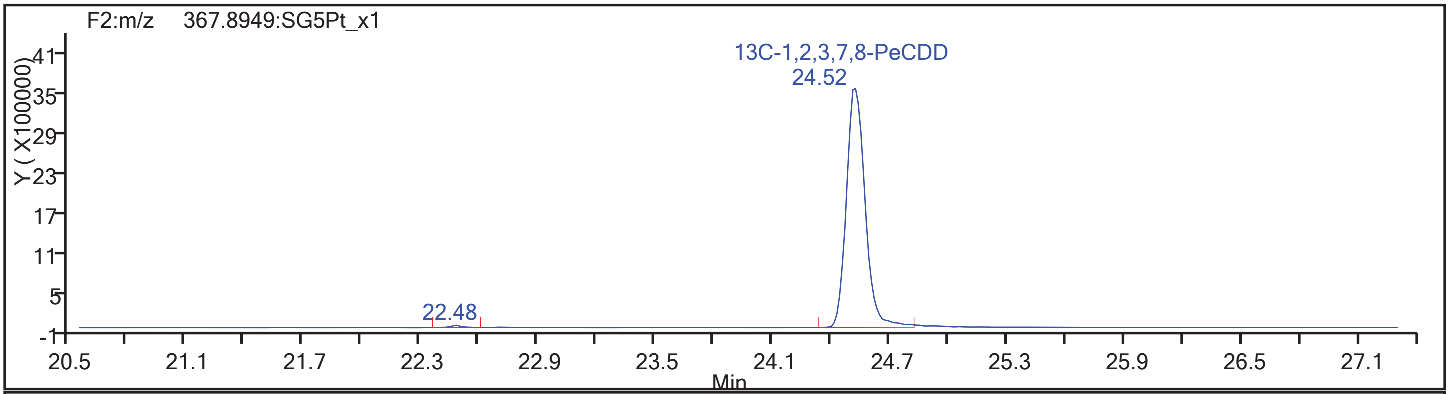

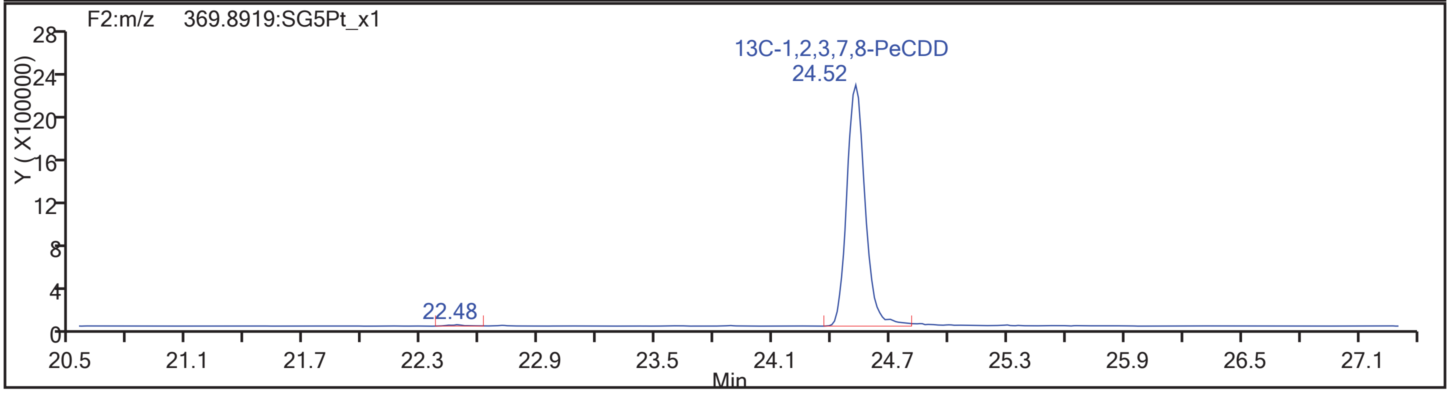

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TestAmerica Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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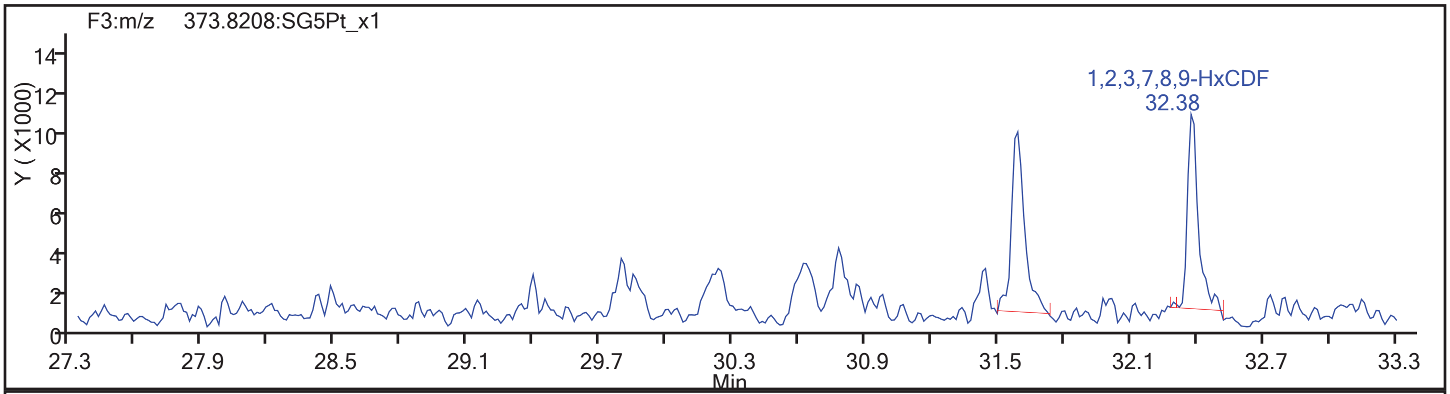
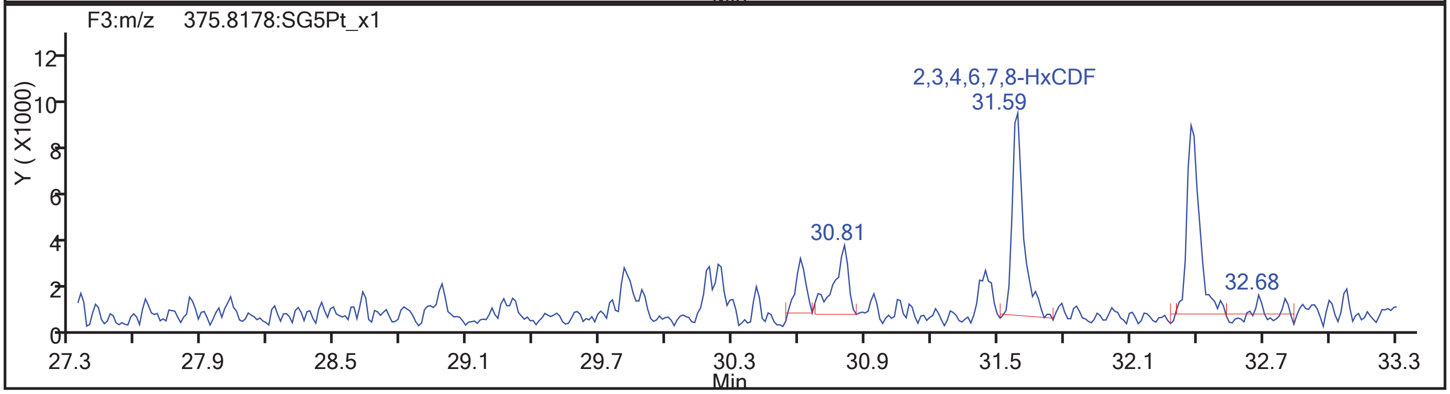
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





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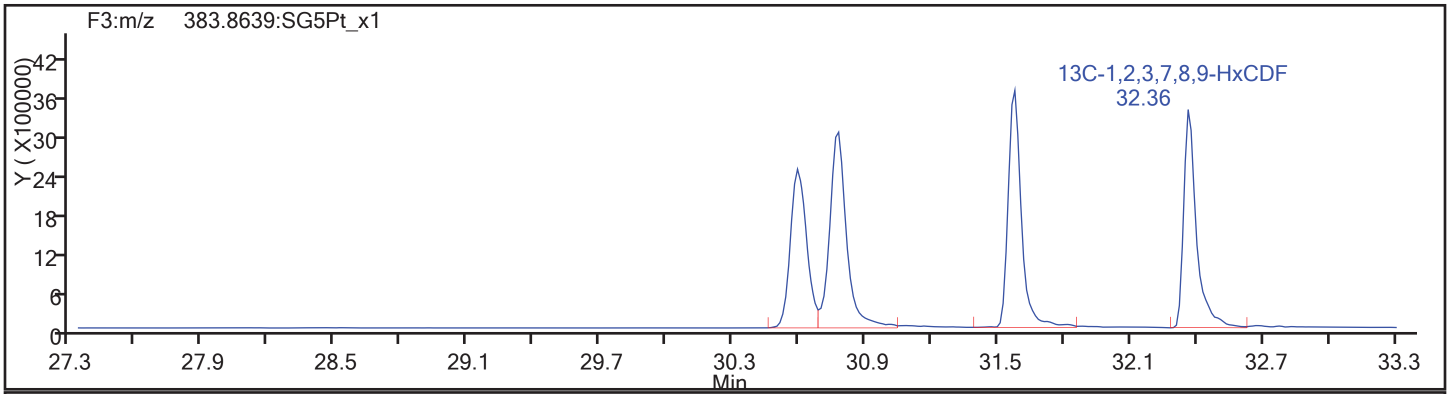

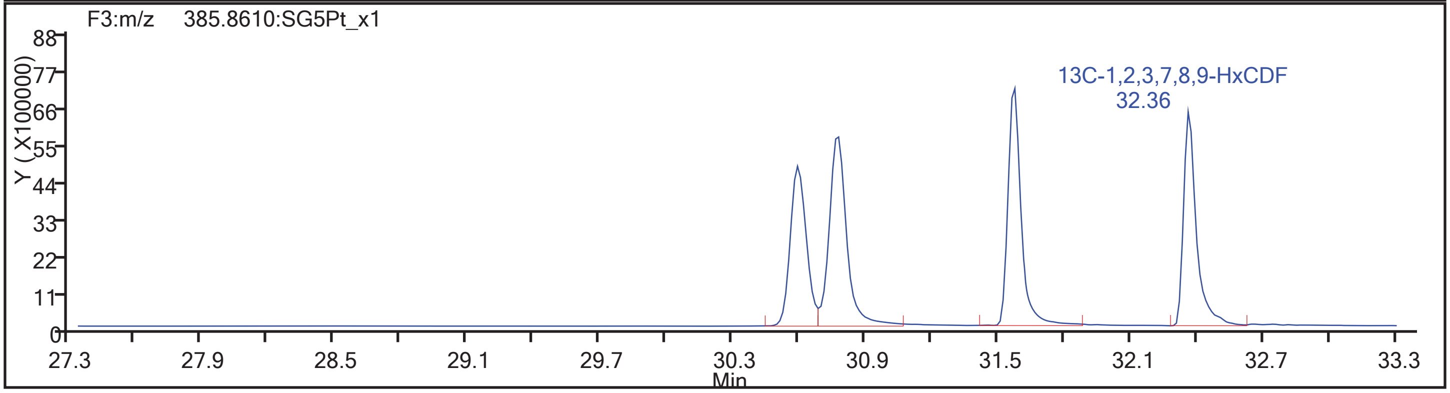

TestAmerica Sacramento

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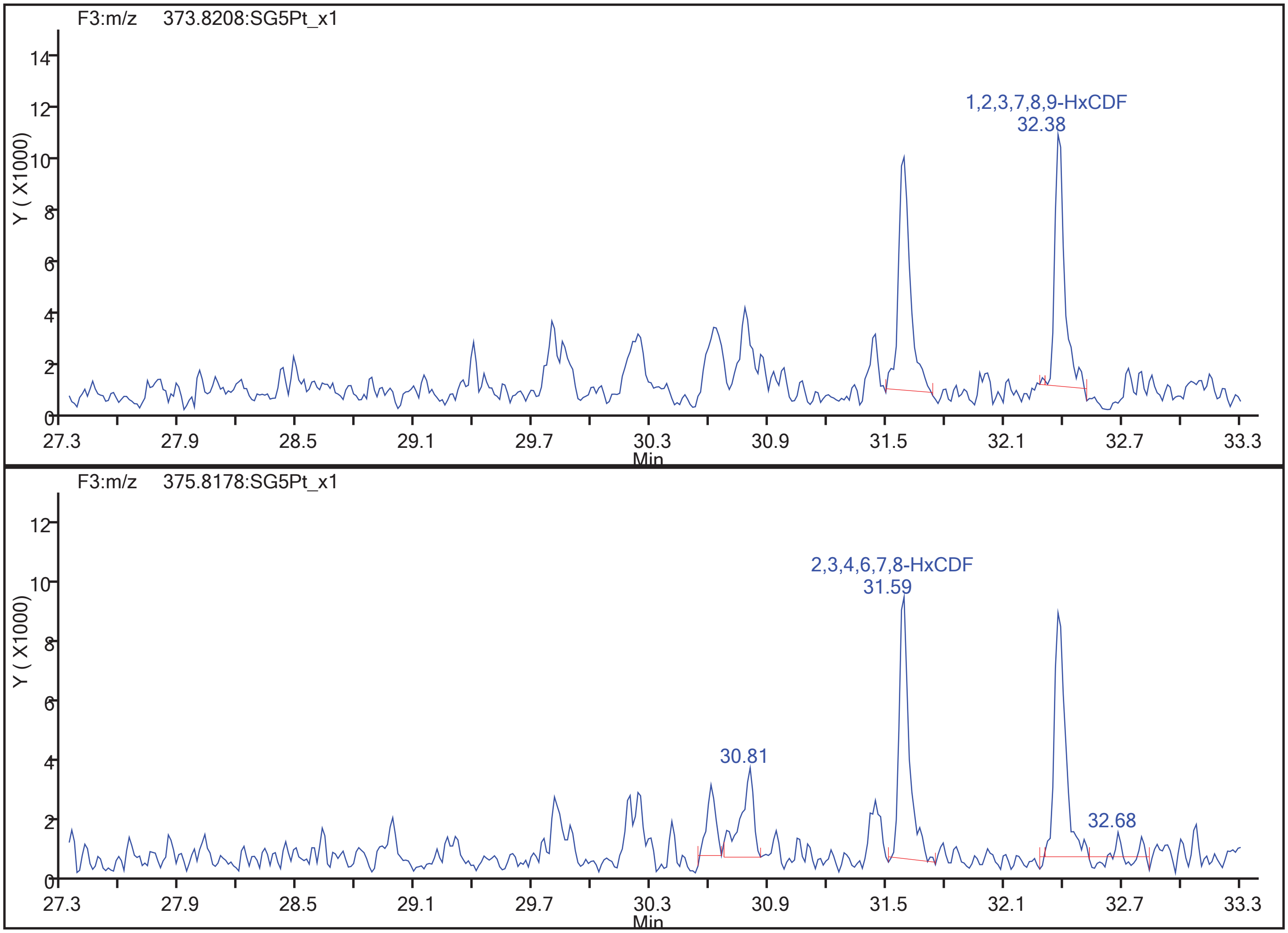
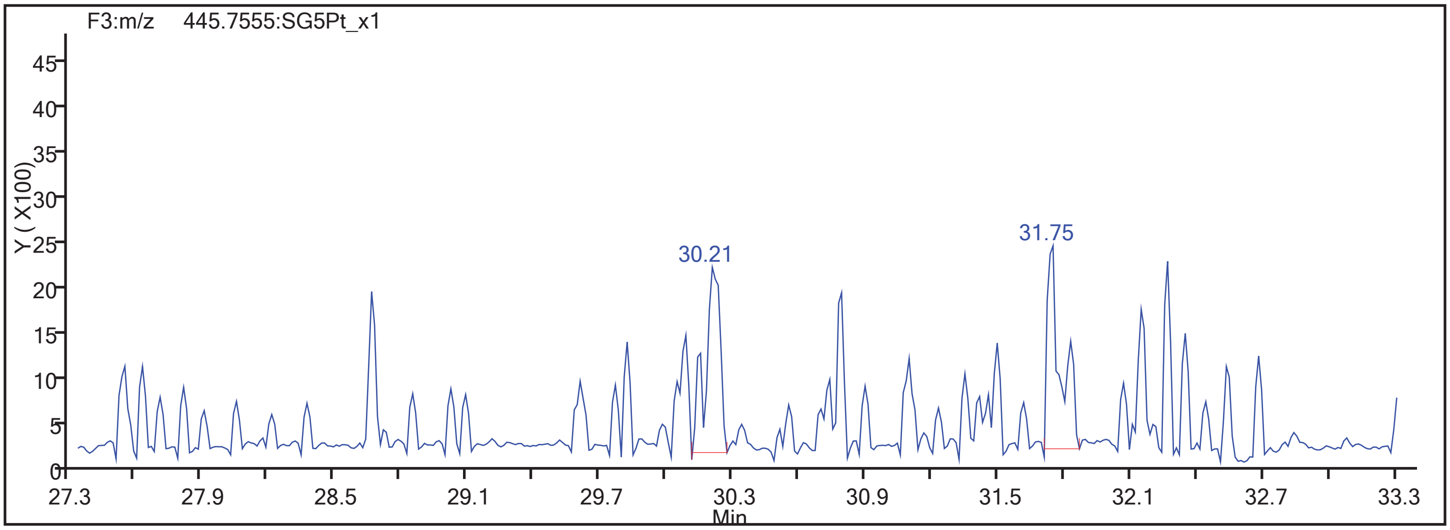
HxCDF



HxCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 11-Nov-2017 15:03:32

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS06NS

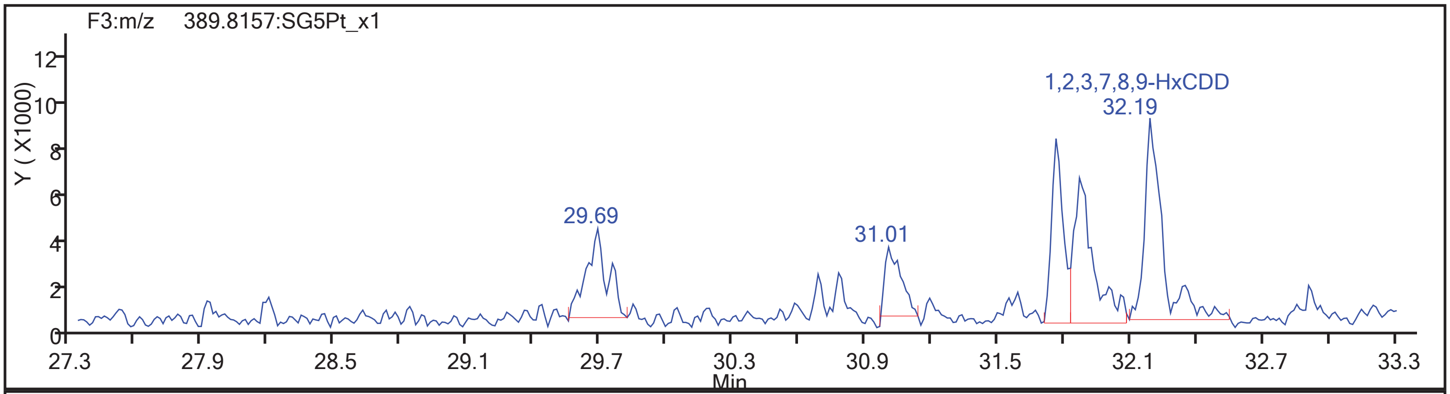
Worklist#: 194085

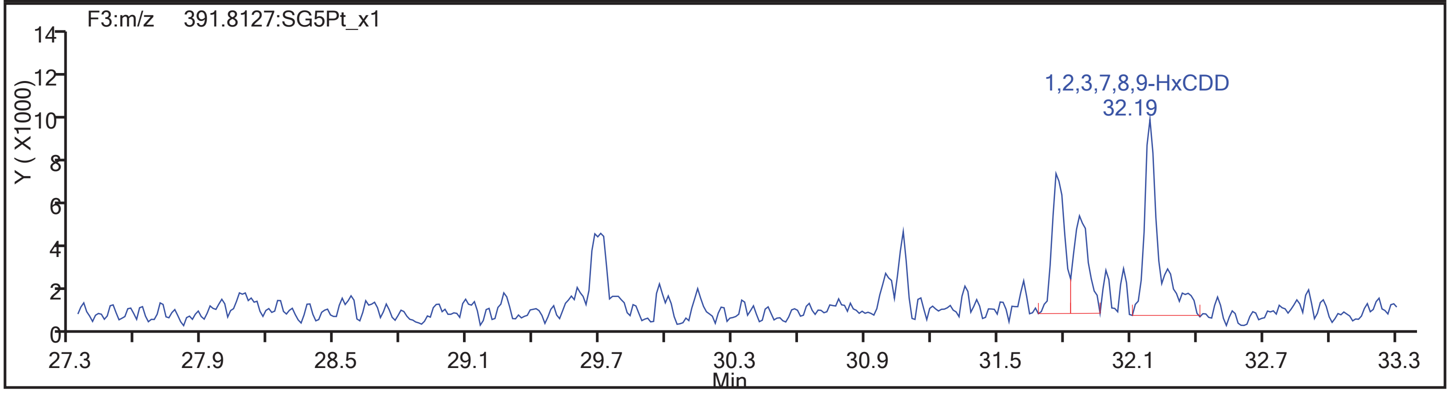
Sample Line#: 69

Column Type: DB-5

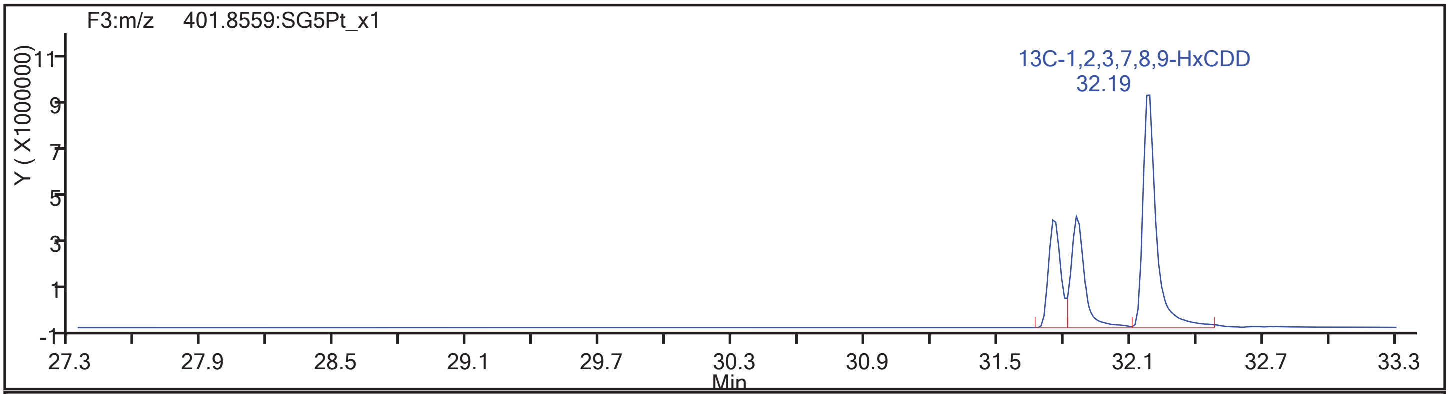
Column Dia: 0.32 mm

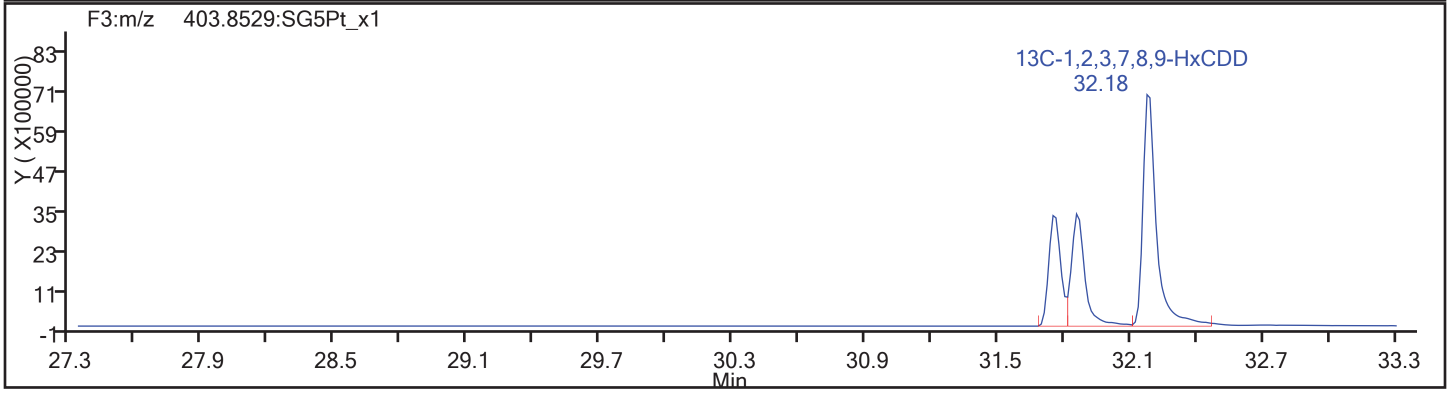
HxCDD





HxCDD Standards





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TestAmerica Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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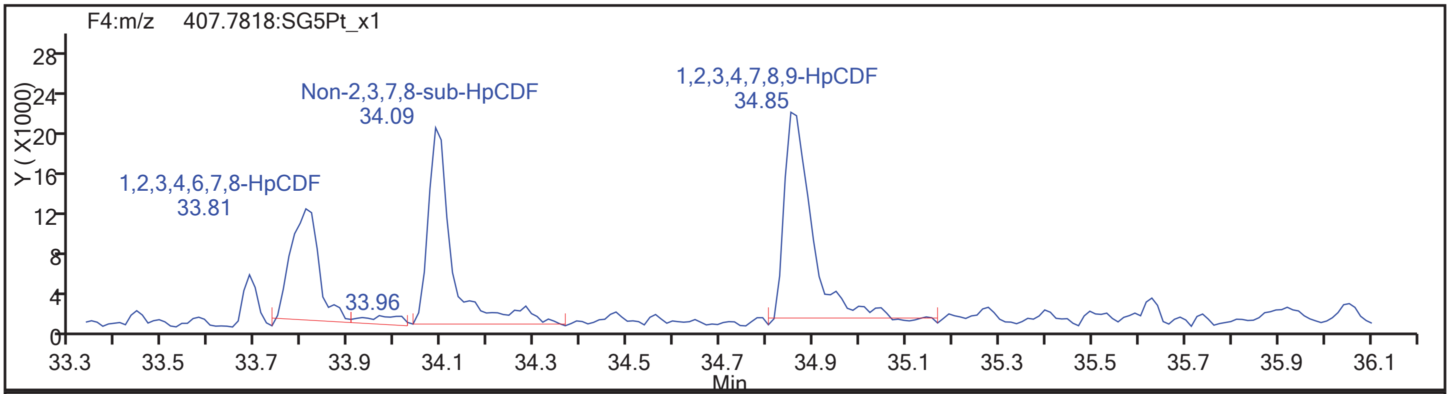
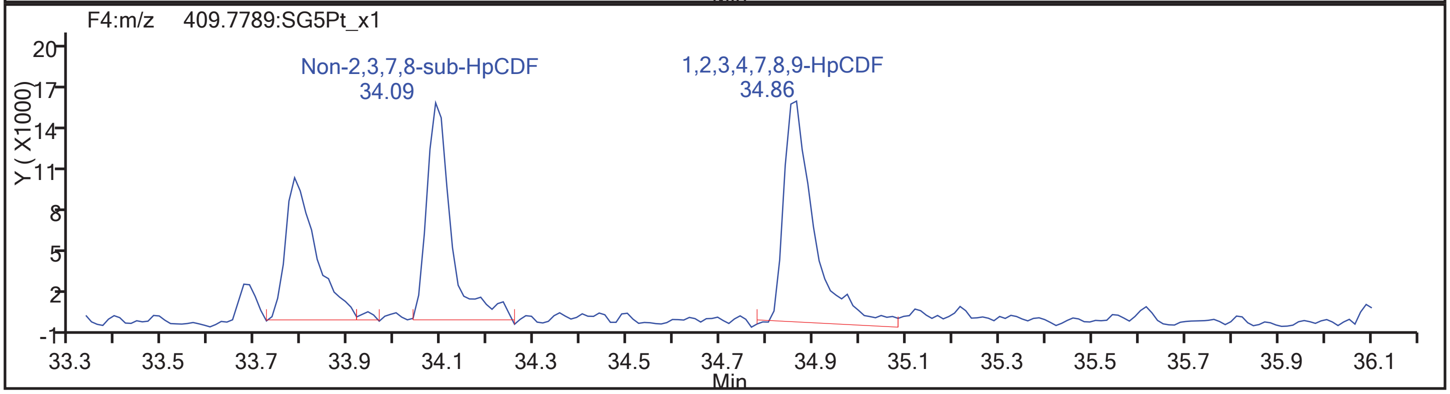
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





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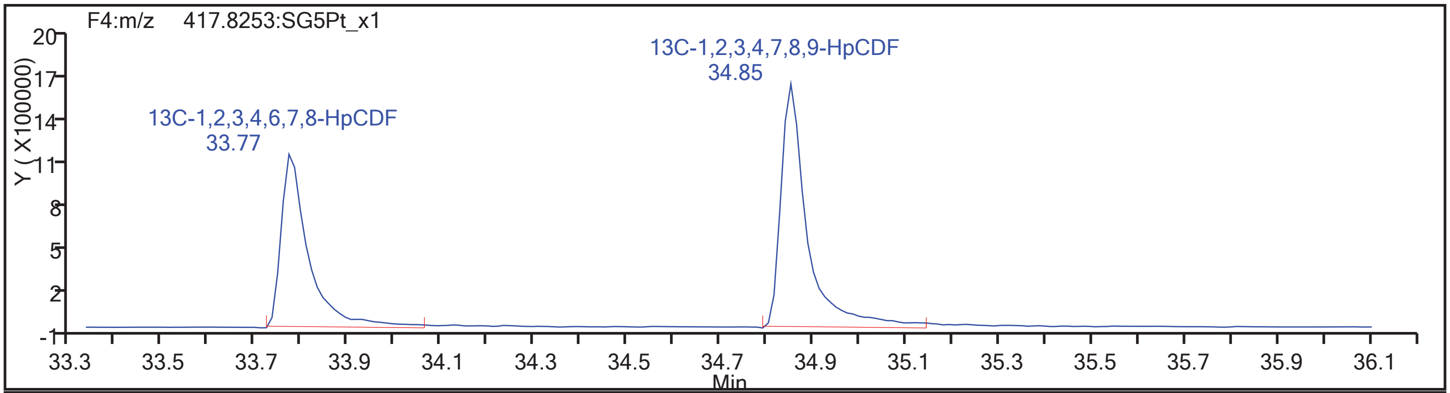

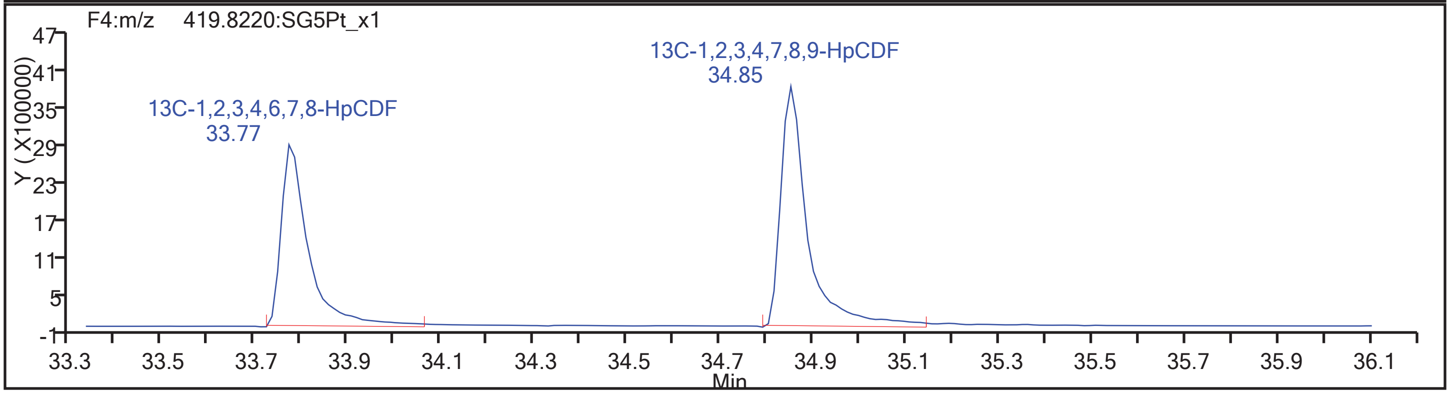

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TestAmerica Sacramento

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Injection Date: 11-Nov-2017 15:03:32 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

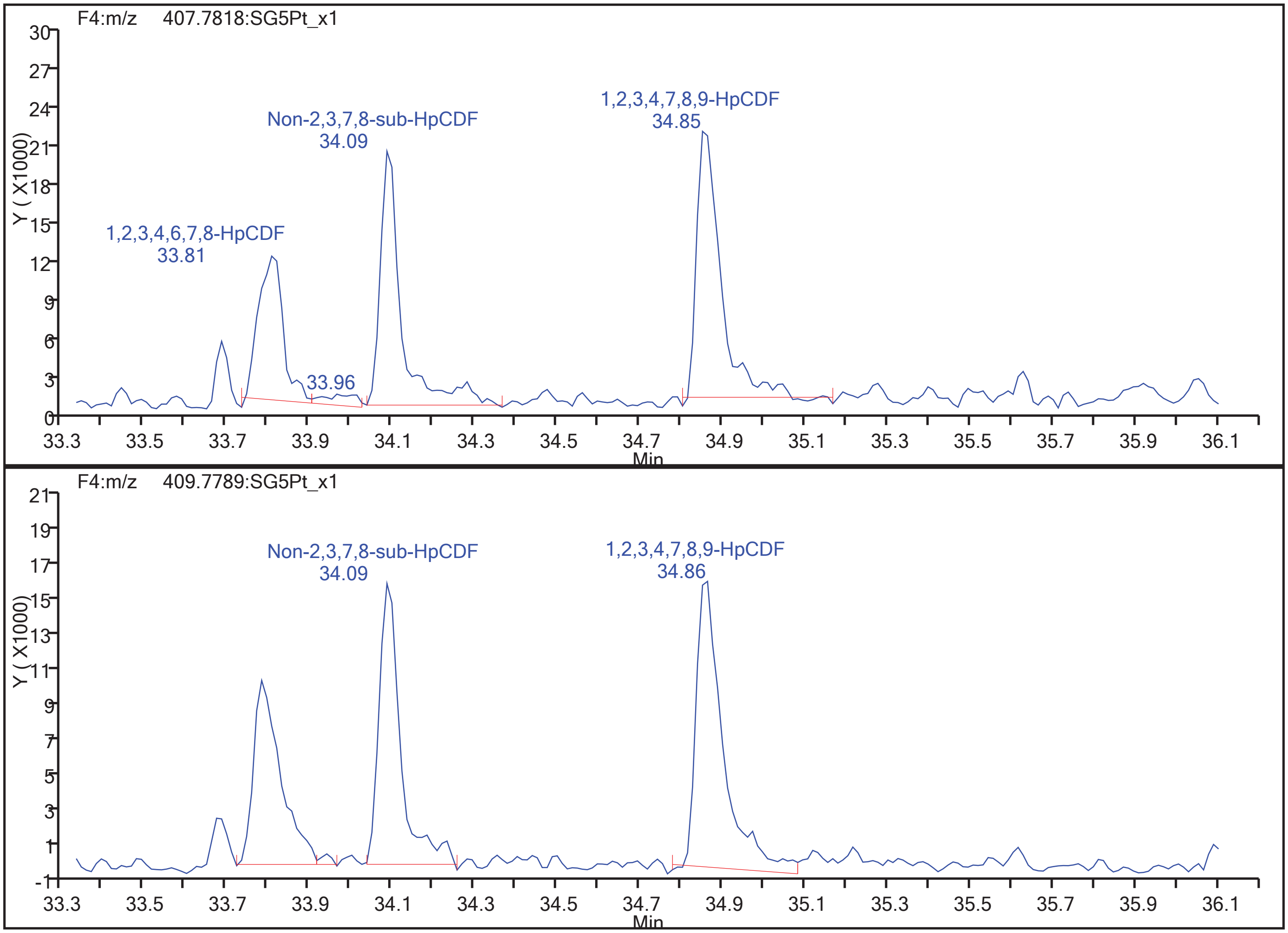
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS06NS

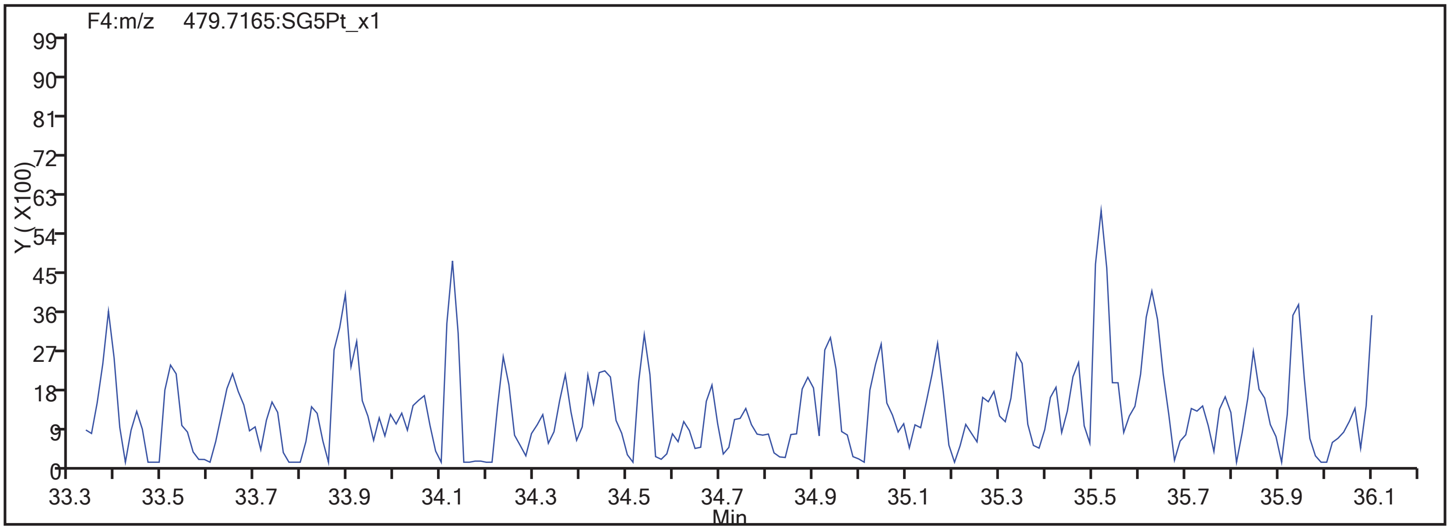
Worklist#: 194085 Sample Line#: 69

Column Type: DB-5 Column Dia: 0.32 mm

HpCDF



HpCDF Interference Mass



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TestAmerica Sacramento

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Injection Date:	11-Nov-2017 15:03:32	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
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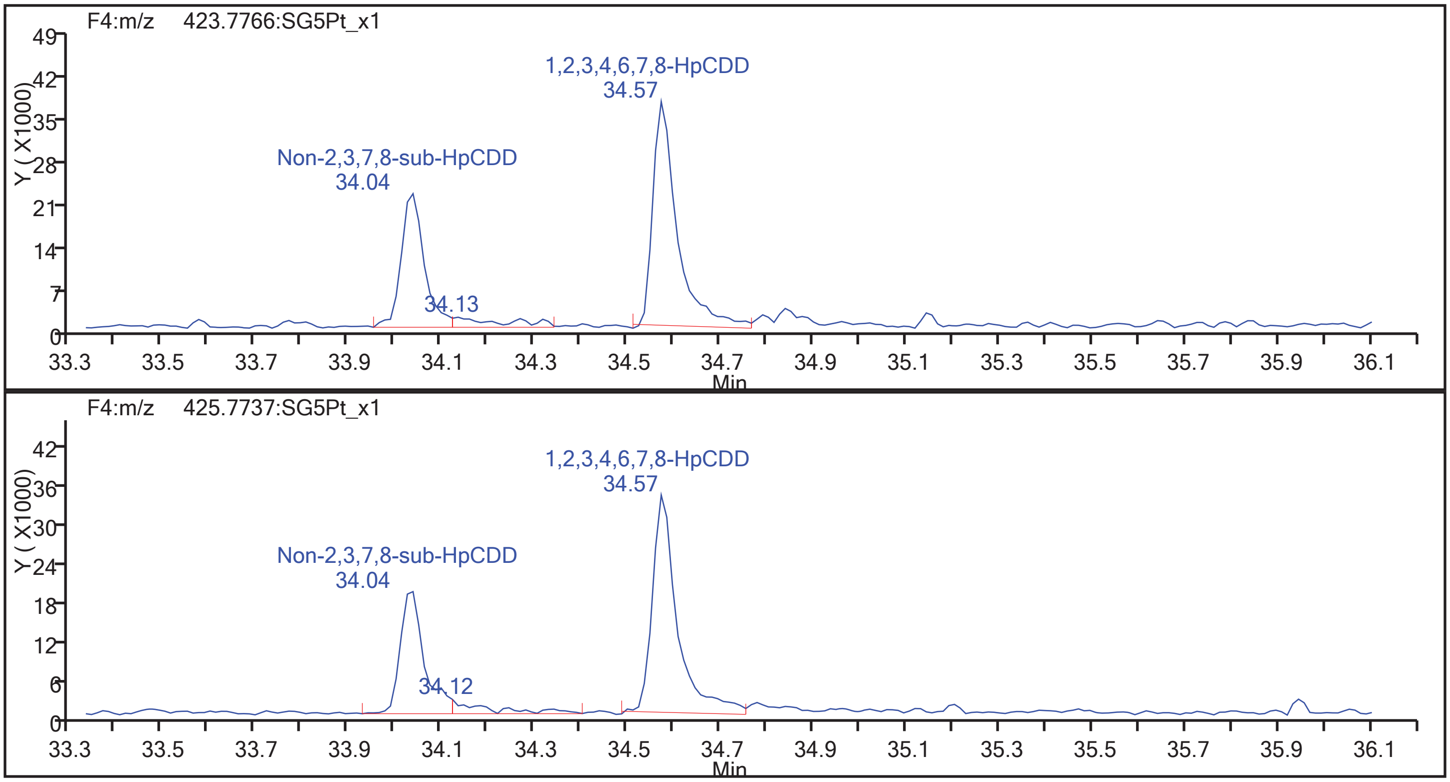
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD



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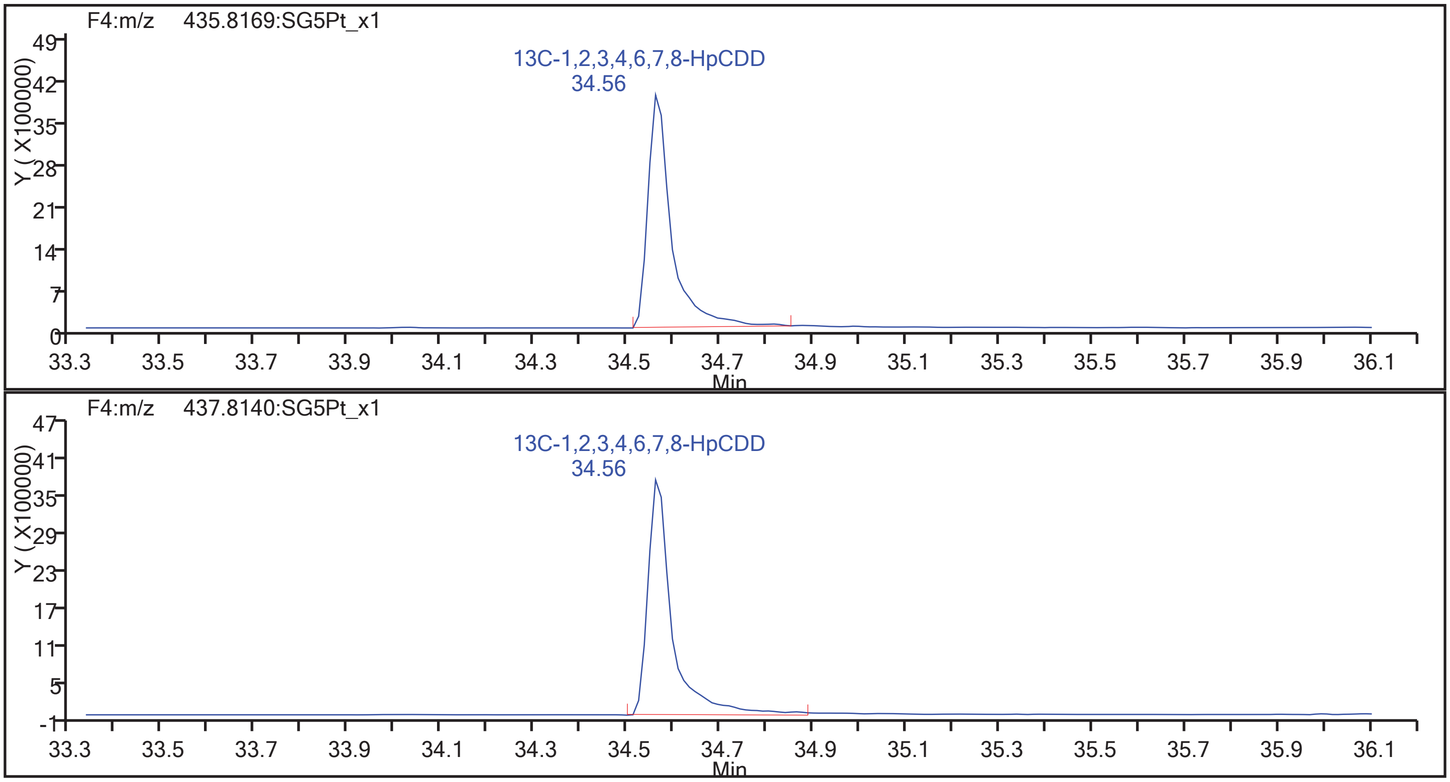

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TestAmerica Sacramento

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Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
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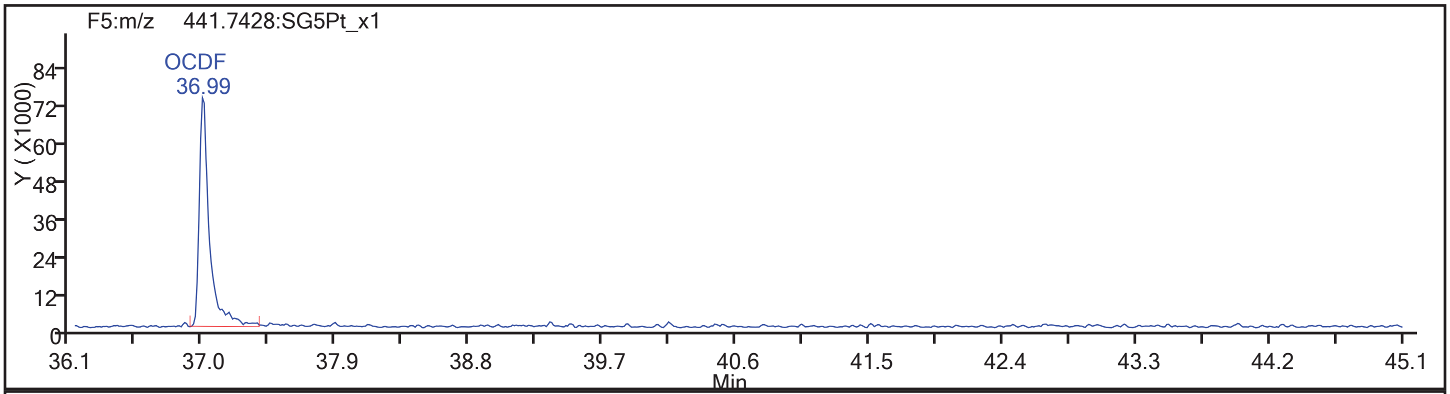
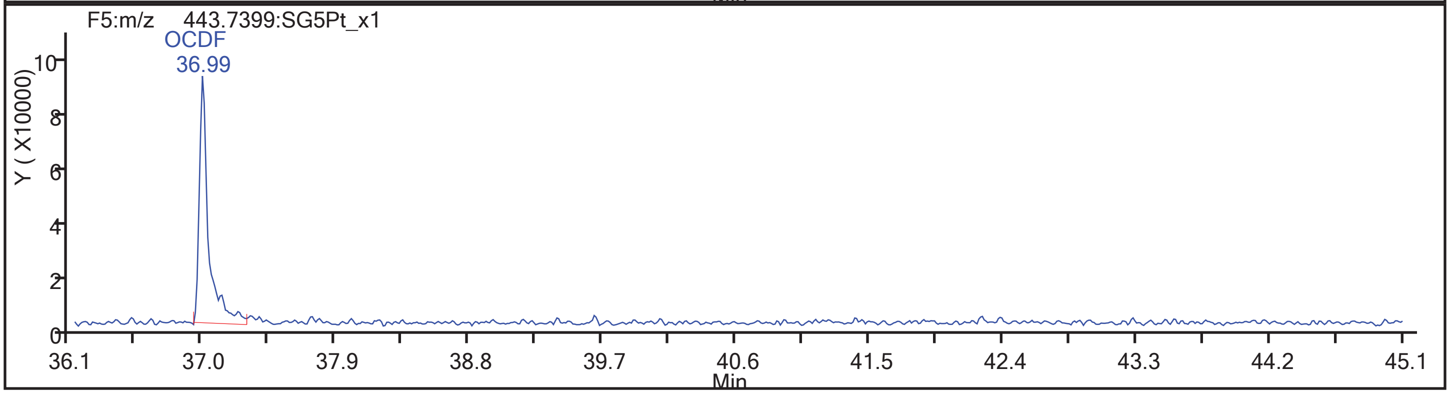
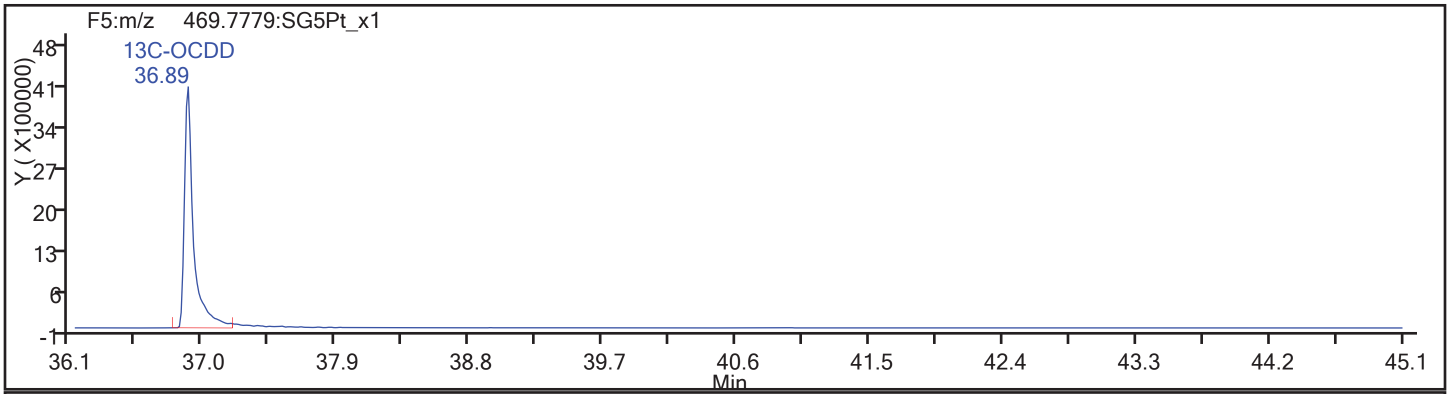
Worklist#: 194085
Sample Line#: 69
Column Type: DB-5
Column Dia: 0.32 mm

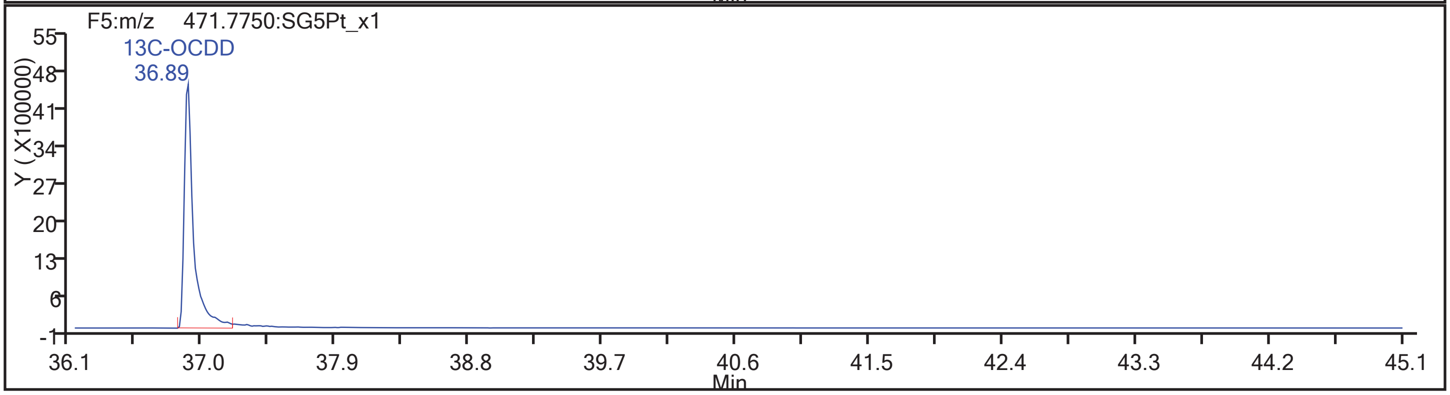
OCDF





OCDF Standards





TestAmerica Sacramento

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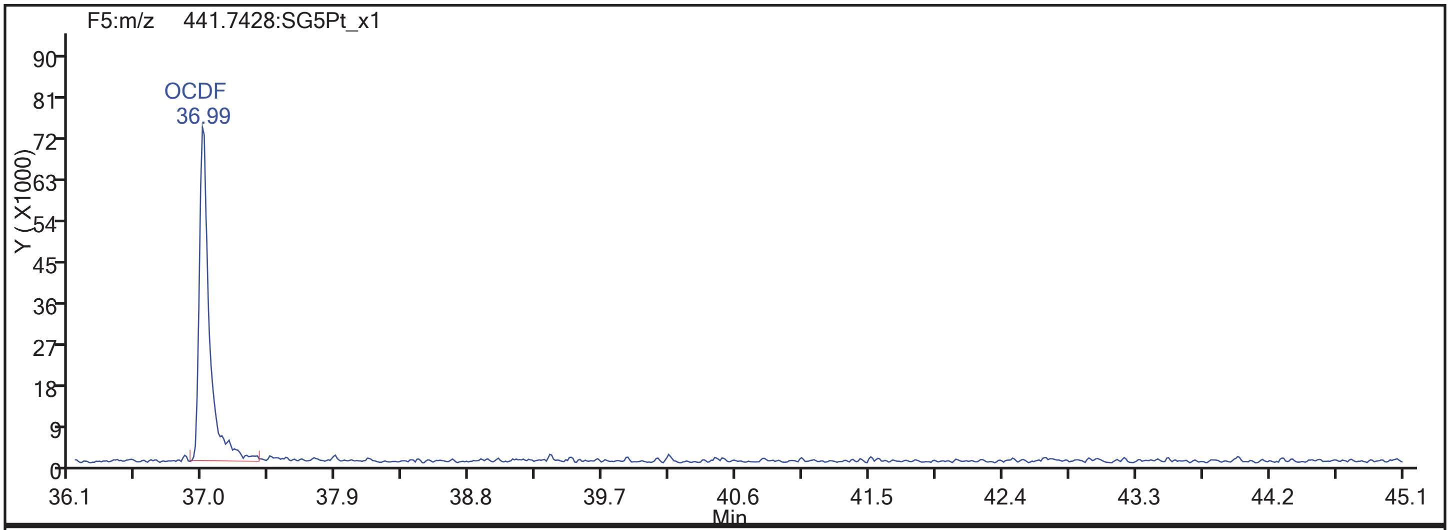
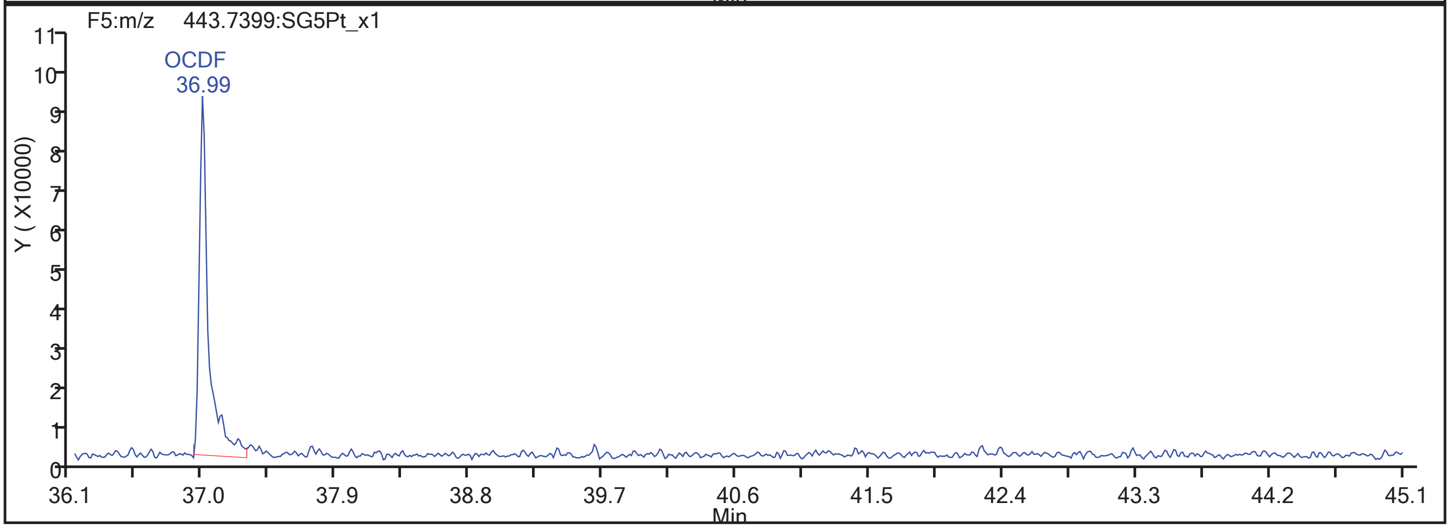
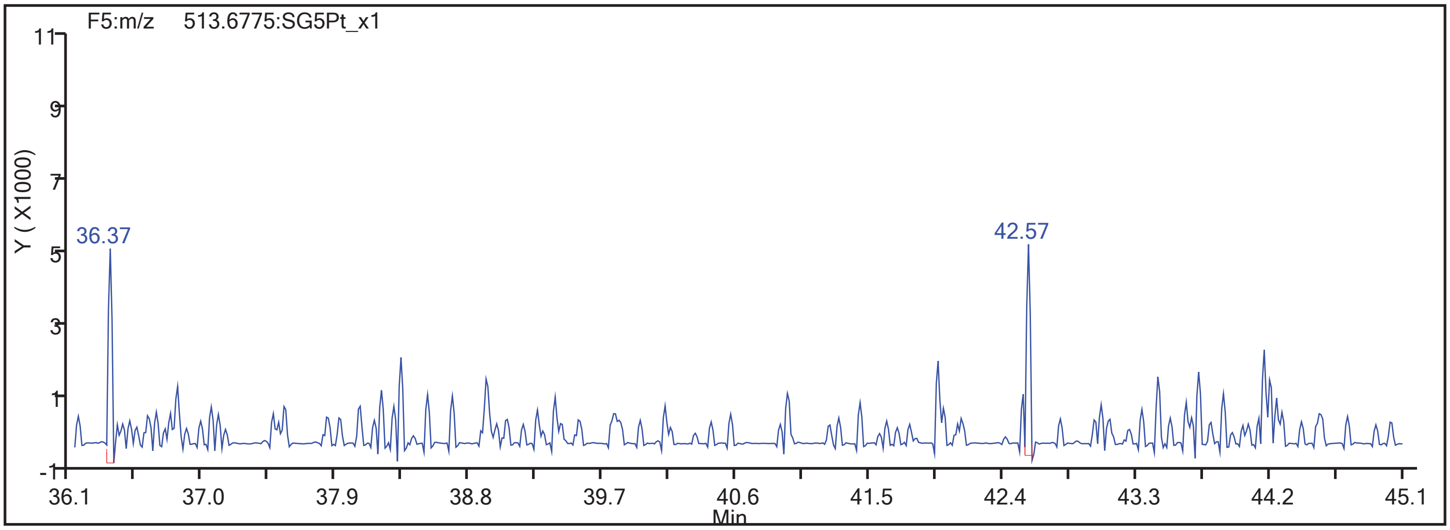
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS06NS		
Worklist#:	194085	Sample Line#:	69
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

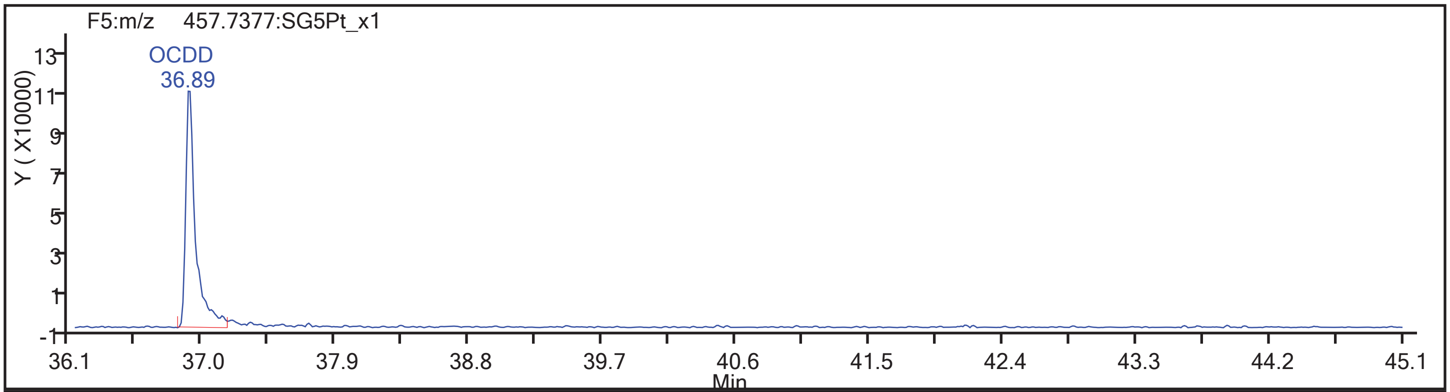


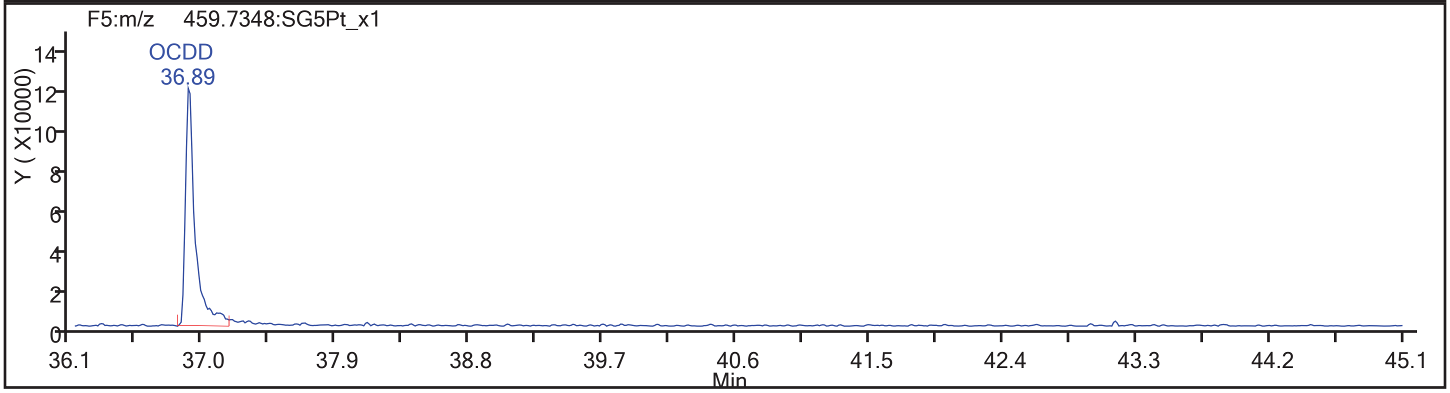
Report Date: 13-Nov-2017 11:27:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

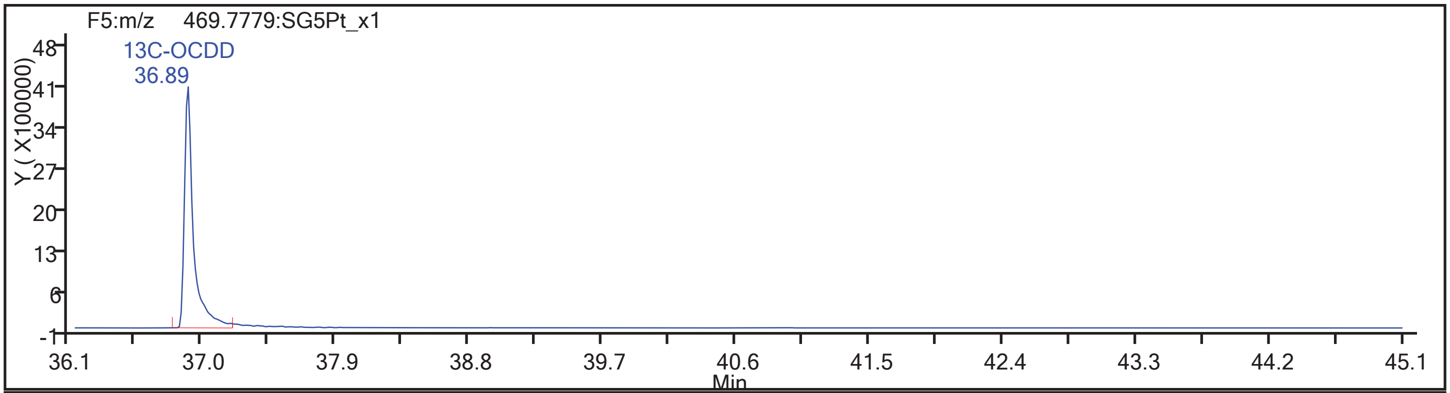
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d
Injection Date: 11-Nov-2017 15:03:32
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 194085
Sample Line#: 69
Column Type: DB-5
Column Dia: 0.32 mm

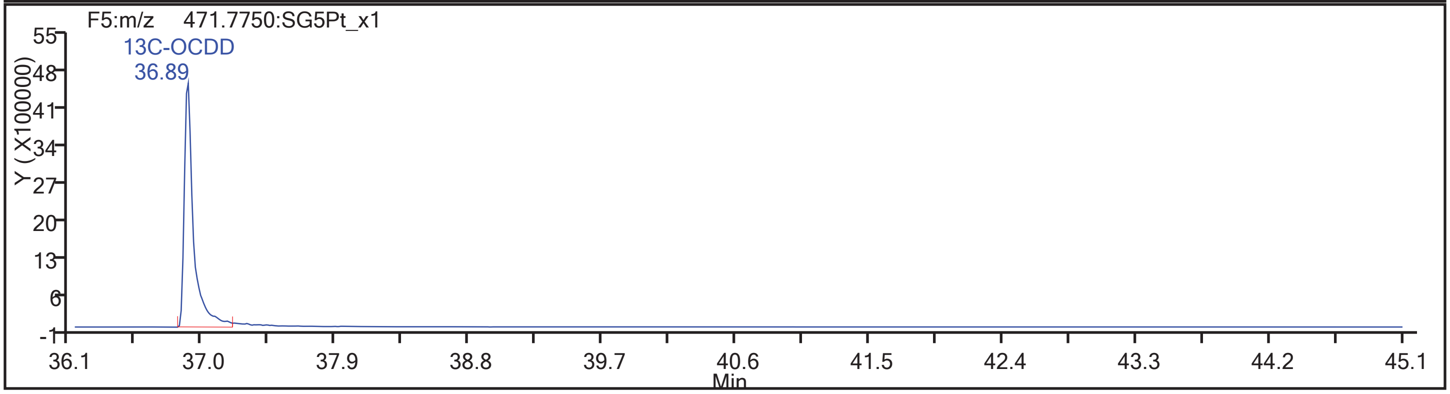
OCDD





OCDD Standards

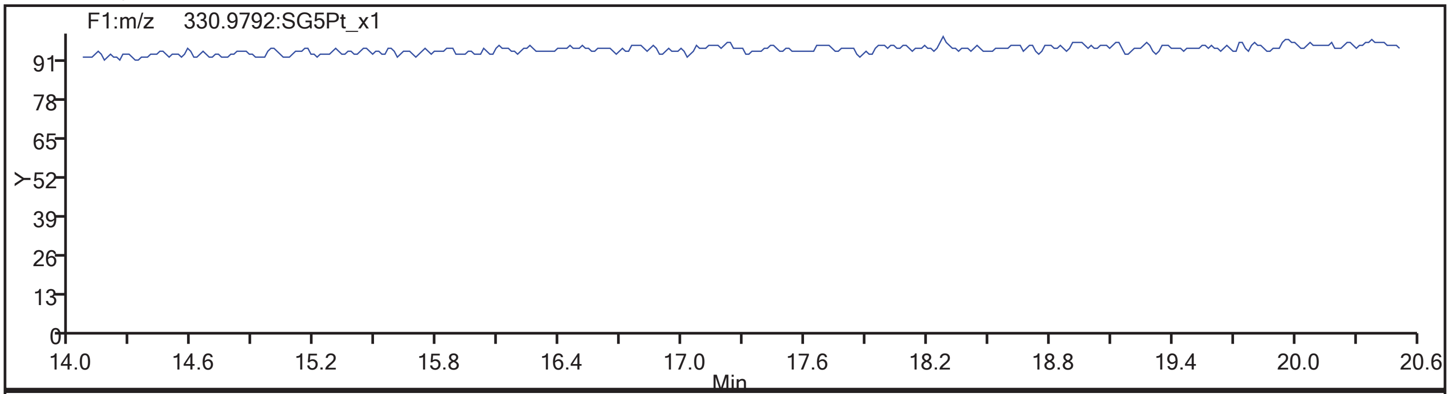


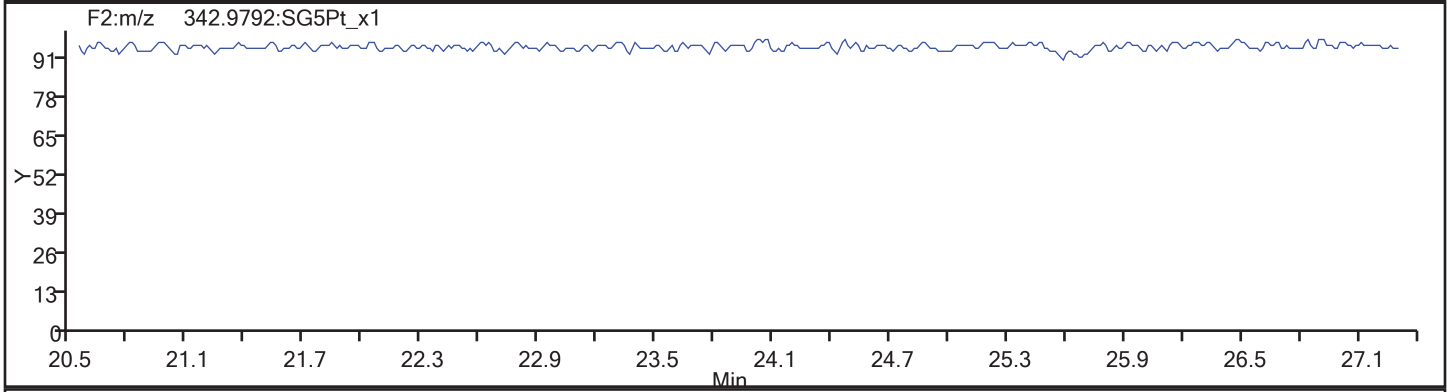


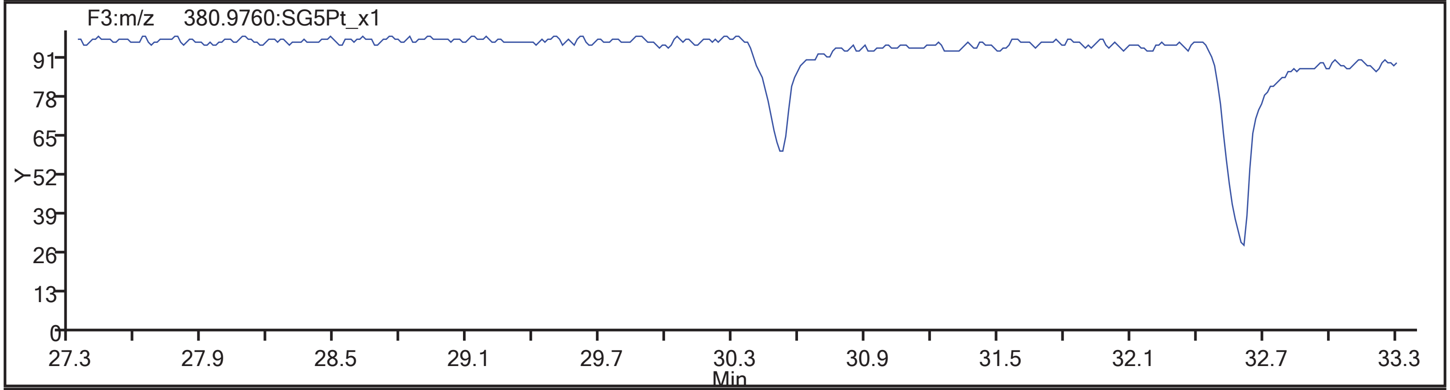
Report Date: 13-Nov-2017 11:27:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

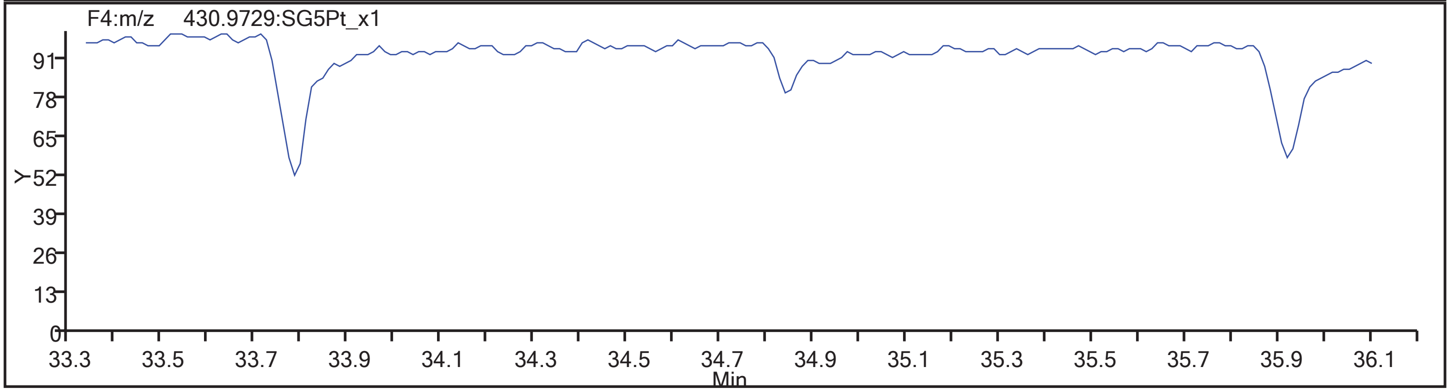
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d		
Injection Date:	11-Nov-2017 15:03:32	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS06NS		
Worklist#:	194085	Sample Line#:	69
Column Type:	DB-5	Column Dia:	0.32 mm







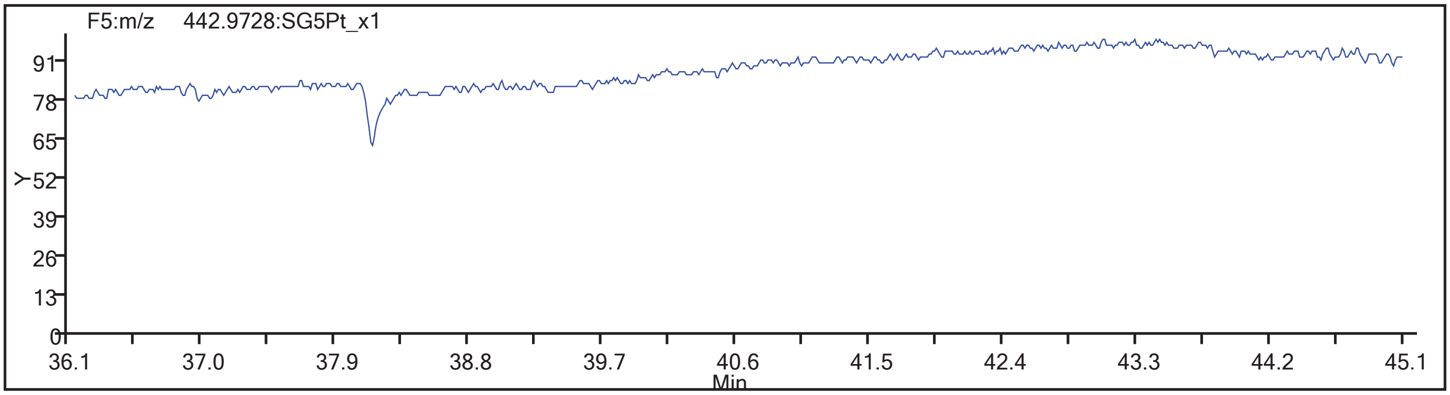


Report Date: 13-Nov-2017 11:27:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_69.d

Injection Date:	11-Nov-2017 15:03:32	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS06NS		
Worklist#:	194085	Sample Line#:	69
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP026SS06NS RE
Lab Sample ID: 160-24924-6 RE

Matrix: Solid
Lab File ID: 16NO173D5_70.d

Analysis Method: 8290A
Date Collected: 10/05/2017 16:31

Extract. Method: 8290
Date Extracted: 11/16/2017 11:16

Sample wt/vol: 10.01(g)
Date Analyzed: 11/19/2017 02:26

Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1

Injection Volume: 2(uL)
Level: (low/med) Low

% Moisture: 13.9
GPC Cleanup:(Y/N) N

Analysis Batch No.: 195574
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.46*	*U H*	*1.2*	0.46	*0.053*
51207-31-9	*2,3,7,8-TCDF*	*0.46*	*U H*	*1.2*	0.46	*0.042*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.87*	*U H*	*5.8*	0.87	*0.083*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.87*	*U H*	*5.8*	0.87	*0.060*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.87*	*U H*	*5.8*	0.87	*0.061*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*2.3*	*U H*	*5.8*	2.3	*0.069*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*2.3*	*U H*	*5.8*	2.3	*0.062*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*0.13*	*J H*	*5.8*	2.3	*0.060*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.87*	*U H*	*5.8*	0.87	*0.080*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.2*	*U H*	*5.8*	1.2	*0.073*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.2*	*U H*	*5.8*	1.2	*0.083*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.87*	*U H*	*5.8*	0.87	*0.078*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*0.93*	*J H M*	*5.8*	1.2	*0.12*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*0.19*	*J H*	*5.8*	1.2	*0.072*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.3*	*U H*	*5.8*	2.3	*0.093*
3268-87-9	*OCDD*	*10*	*J H B*	*12*	4.6	*0.13*
39001-02-0	*OCDF*	*1.3*	*J H*	*12*	4.6	*0.11*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	71		40-135
89059-46-1	13C-2,3,7,8-TCDF	70		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	69		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	68		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	66		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	67		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	65		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	63		40-135
114423-97-1	13C-OCDD	55		40-135

Report Date: 06-Dec-2017 14:19:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d
Lims ID: 160-24924-G-6-B
Client ID: SHAD041DP026SS06NS
Sample Type: Client
Inject. Date: 19-Nov-2017 02:26:01 ALS Bottle#: 45 Worklist Smp#: 70
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-6-B 160-24924-G-6-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:19:28 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:31:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	136114337	0.76	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	143122572	0.79	1.5089	69.7	69.7	0.2594	0.2594	69.69	
2,3,7,8-TCDF	17.720						0.0181	0.0181		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF							0.0181	0.0181		
D 13C-2,3,7,8-TCDD	18.445	95284337	0.76	0.9906	70.7	70.7	0.2156	0.2156	70.67	
2,3,7,8-TCDD	18.445						0.0227	0.0227		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD							0.0227	0.0227		
D 13C-1,2,3,7,8-PeCDF	22.896	104653486	1.60	1.1280	68.2	68.2	0.2050	0.2050	68.16	
1,2,3,7,8-PeCDF	22.896						0.0257	0.0257		
2,3,4,7,8-PeCDF	24.274						0.0265	0.0265		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF							0.0265	0.0265		
D 13C-1,2,3,7,8-PeCDD	25.024	68317147	1.59	0.7269	69.1	69.1	0.1167	0.1167	69.05	
1,2,3,7,8-PeCDD	25.024						0.0356	0.0356		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0356	0.0356		
D 13C-1,2,3,4,7,8-HxCDF	30.919	78634024	0.52	1.0279	66.5	66.5	0.3741	0.3741	66.53	
1,2,3,4,7,8-HxCDF	30.932						0.0344	0.0344		
1,2,3,6,7,8-HxCDF	31.092						0.0313	0.0313		
2,3,4,6,7,8-HxCDF	31.824						0.0335	0.0335		
D 13C-1,2,3,7,8,9-HxCDF	32.597	80400572	0.51							
1,2,3,7,8,9-HxCDF	32.597						0.0359	0.0359		
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF							0.0359	0.0359		
* 13C-1,2,3,7,8,9-HxCDD	32.410	114982552	1.26	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.997						0.0299	0.0299		
D 13C-1,2,3,6,7,8-HxCDD	32.104	64373705	1.23	0.8502	65.9	65.9	0.3421	0.3421	65.85	
1,2,3,6,7,8-HxCDD	32.104						0.0269	0.0269		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.397	44585	1.24	1.2311	0.0698	0.0563	0.0258	0.0258		RQ
A Non-2,3,7,8-sub-HxCDD	31.252	73990	1.24	1.1589	0.1090	0.0992	0.0274	0.0992		RQ
S Total HxCDD					0.1787	0.1554	0.0275	0.0275		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	46707181	0.45	0.6490	62.6	62.6	0.8690	0.8690	62.59	
1,2,3,4,6,7,8-HpCDF	34.046	61789	1.04	1.5871	0.1041	0.0834	0.0311	0.0311		RQ
1,2,3,4,7,8,9-HpCDF	35.128						0.0402	0.0402		
A Non-2,3,7,8-sub-HpCDF	34.569	142477	1.05	1.4080	0.2166	0.2166	0.0351	0.2166		M
S Total HpCDF					0.3207	0.3000	0.0357	0.0357		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	40386767	1.10	0.5387	65.2	65.2	0.4123	0.4123	65.20	
1,2,3,4,6,7,8-HpCDD	34.836	187633	1.04	1.1631	0.4838	0.3994	0.0507	0.0507		RQM
A Non-2,3,7,8-sub-HpCDD	35.261	238266	1.04	1.1631	0.5942	0.5072	0.0507	0.5072		RQM
S Total HpCDD					1.078	0.9067	0.0507	0.0507		RQ
D 13C-OCDD	37.245	50742881	0.89	0.4009	110.1	110.1	0.1918	0.1918	55.04	
OCDF	37.365	184270	0.89	1.2649	0.6334	0.5742	0.0455	0.0455		RQ
OCDD	37.257	1173054	0.96	1.0390	4.450	4.450	0.0573	0.0573		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d
Lims ID: 160-24924-G-6-B
Client ID: SHAD041DP026SS06NS
Sample Type: Client
Inject. Date: 19-Nov-2017 02:26:01 ALS Bottle#: 45 Worklist Smp#: 70
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-6-B 160-24924-G-6-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:19:28 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:31:11

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		58670102	13793438	13800	34500	1000		
333.9339	18.249	18.234	1		77444235	18171599	13511	33777	1345	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.971	63243039	14933779	24513	61282	609		
317.9389	17.720	17.705	1	0.971	79879533	19071096	25539	63847	747	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						701	1752			
305.8987	17.720						2003	5007			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						701	1752			
305.8987	17.402						2003	5007			
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.011	41103782	9351409	13800	34500	678		
333.9339	18.445	18.430	1	1.011	54180555	12440388	13511	33777	921	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.445						1362	3405			
321.8936	18.445						944	2360			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						1362	3405			
321.8936	17.871						944	2360			
13C-1,2,3,7,8-PeCDF											
351.9000	22.896	22.869	2	1.255	64391146	10705605	16558	41395	647		
353.8970	22.883	22.869	1	1.254	40262340	6729205	13006	32515	517	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.896						598	1495			
341.8567	22.896						1451	3627			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	24.274						598	1495			
341.8567	24.274						1451	3627			
A F1 PeCDFs											
339.8597	20.426						446	1115			
341.8567	20.426						978	2445			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						598	1495			
341.8567	23.668						1451	3627			
13C-1,2,3,7,8-PeCDD											
367.8949	25.024	24.996	2	1.371	41957302	6052655	6043	15107	1002		
369.8919	25.010	24.996	1	1.370	26359845	3909647	4806	12015	813	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.024						1063	2657			
357.8516	25.024						537	1342			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1063	2657			
357.8516	23.878						537	1342			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.906	1	0.954	27000749	5863868	17037	42592	344		
385.8610	30.919	30.906	1	0.954	51633275	11136547	29762	74405	374	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						2204	5510			
375.8178	30.932						948	2370			
1,2,3,6,7,8-HxCDF											
373.8208	31.092						2204	5510			
375.8178	31.092						948	2370			
2,3,4,6,7,8-HxCDF											
373.8208	31.824						2204	5510			
375.8178	31.824						948	2370			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.006	27147213	7152818	17037	42592	420		
385.8610	32.597	32.583	1	1.006	53253359	14583768	29762	74405	490	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						2204	5510			
375.8178	32.597						948	2370			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						2204	5510			
375.8178	30.653						948	2370			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.397	1		64125257	17031538	17679	44197	963		
403.8529	32.410	32.397	1		50857295	13392957	17713	44282	756	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.997						769	1922			
391.8127	31.997						1254	3135			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.991	35494139	8771314	17679	44197	496		
403.8529	32.104	32.091	1	0.991	28879566	7139494	17713	44282	403	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.104						769	1922			
391.8127	32.104						1254	3135			
1,2,3,7,8,9-HxCDD											RQ
389.8157	32.397	32.410	-1	1.009	24681	5651	769	1922	7		
391.8127	32.424	32.410	1	1.010	30606	9408	1254	3135	8	0.81(1.05-1.43)	
	Empc Correction				19904	4557	1254	3135	4		
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.173	31.252	-65	0.940	40959	9532	769	1922	12		
391.8127	30.120	31.252	-68	0.938	40320	9383	1254	3135	7	1.02(1.05-1.43)	
	Empc Correction				33031	7687	1254	3135	6		
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	14542416	4627238	18726	46815	247		
419.8220	34.010	33.998	1	1.049	32164765	9970163	49904	124760	200	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7818	34.046	34.010	2	1.001	46845	13019	1643	4107	8		
	Empc Correction				31500	7994	1643	4107	5		
409.7789	34.022	34.010	1	1.000	30289	7687	1241	3102	6	1.55(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						1643	4107			
409.7789	35.128						1241	3102			
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.326	34.569	-15	1.009	73137	16459	1643	4107	10		
409.7789	34.338	34.569	-14	1.010	69340	17736	1241	3102	14	1.05(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.812	1	1.074	21175767	6280257	13168	32920	477		
437.8140	34.824	34.812	1	1.074	19211000	5857153	13860	34650	423	1.10(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RQM
423.7766	34.836	34.824	1	1.000	135287	40932	1308	3270	31		M
	Empc Correction				95656	35274	1308	3270	27		
425.7737	34.836	34.824	1	1.000	91977	33918	1553	3882	22	1.47(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											RQM
423.7766	34.277	35.261	-59	0.984	121469	34918	1308	3270	27		M
425.7737	34.265	35.261	-60	0.984	157675	49313	1553	3882	32	0.77(0.88-1.20)	
	Empc Correction				116797	33575	1553	3882	22		
13C-OCDD											
469.7779	37.245	37.233	1	1.149	23860428	6496388	4490	11225	1447		
471.7750	37.245	37.233	1	1.149	26882453	7318910	4869	12172	1503	0.89(0.76-1.02)	
OCDF											RQ
441.7428	37.365	37.341	1	1.003	86773	24052	589	1472	41		
443.7399	37.353	37.341	1	1.003	116491	29679	1002	2505	30	0.74(0.76-1.02)	
	Empc Correction				97497	27024	1002	2505	27		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	37.257	37.245	1	1.000	573780	160457	853	2132	188		
459.7348	37.257	37.245	1	1.000	599274	145597	791	1977	184	0.96(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d
Lims ID: 160-24924-G-6-B
Client ID: SHAD041DP026SS06NS
Inject. Date: 19-Nov-2017 02:26:01
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 70

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	64373705	15910808
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	64373705	15910808

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.173	40959	9532	40320	9383	0.1090	1.02	RQ
30.173	40959	9532	33031	7687	0.0992		Empc Correction
Signal Totals:							
	40959	9532	33031	7687			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	81279	18915				1.02	RQ
	73990	17219					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1090 = (81279 * 100.000) / (64373705 * 1.159)
Empc Amount: 0.0992 = (73990 * 100.000) / (64373705 * 1.159)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d
Lims ID: 160-24924-G-6-B
Client ID: SHAD041DP026SS06NS
Inject. Date: 19-Nov-2017 02:26:01
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 70

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	46707181	14597401
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	46707181	14597401

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	73137	16459	69340	17736	0.2166	1.05	M
Signal Totals:							
	73137	16459	69340	17736			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	142477	34195				1.05	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2166 = (142477 * 100.000) / (46707181 * 1.408)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d
Lims ID: 160-24924-G-6-B
Client ID: SHAD041DP026SS06NS
Inject. Date: 19-Nov-2017 02:26:01
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 70

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	40386767	12137410

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	40386767	12137410

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.277	121469	34918	157675	49313	0.5942	0.77	RQM
34.277	121469	34918	116797	33575	0.5072		Empc Correction
Signal Totals:							
	121469	34918	116797	33575			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	279144	84231				0.77	RQM
	238266	68493					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5942 = (279144 * 100.000) / (40386767 * 1.163)
Empc Amount: 0.5072 = (238266 * 100.000) / (40386767 * 1.163)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Report Date: 06-Dec-2017 14:19:32

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

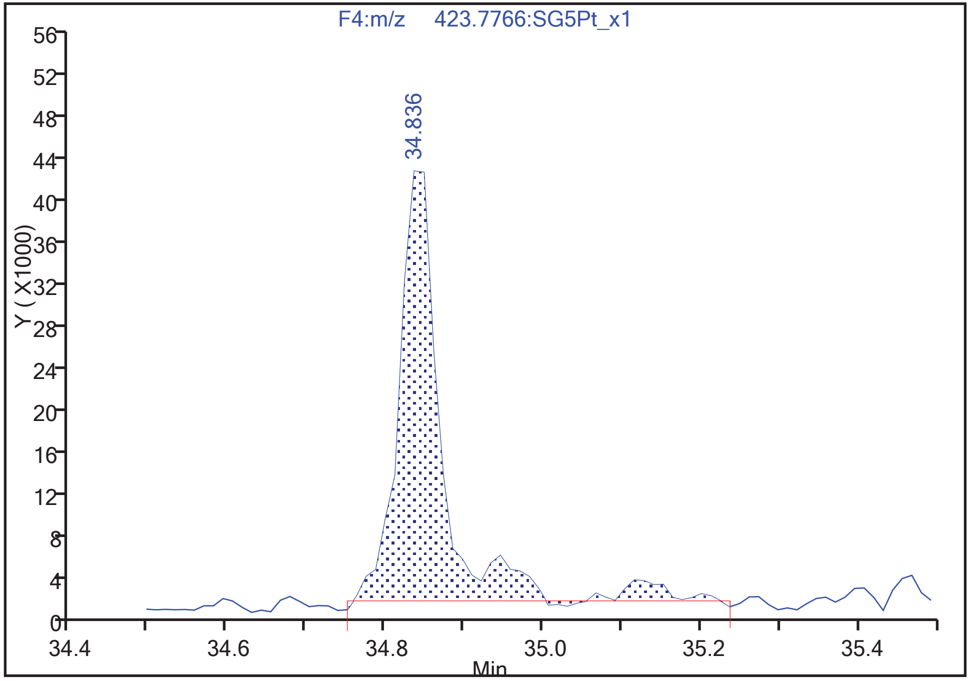
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d				
Injection Date:	19-Nov-2017 02:26:01	Instrument ID:	3D5		
Lims ID:	160-24924-G-6-B	Lab Sample ID:	320-24924-6		
Client ID:	SHAD041DP026SS06NS				
Operator ID:	SMA, ALM	ALS Bottle#:	45	Worklist Smp#:	70
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

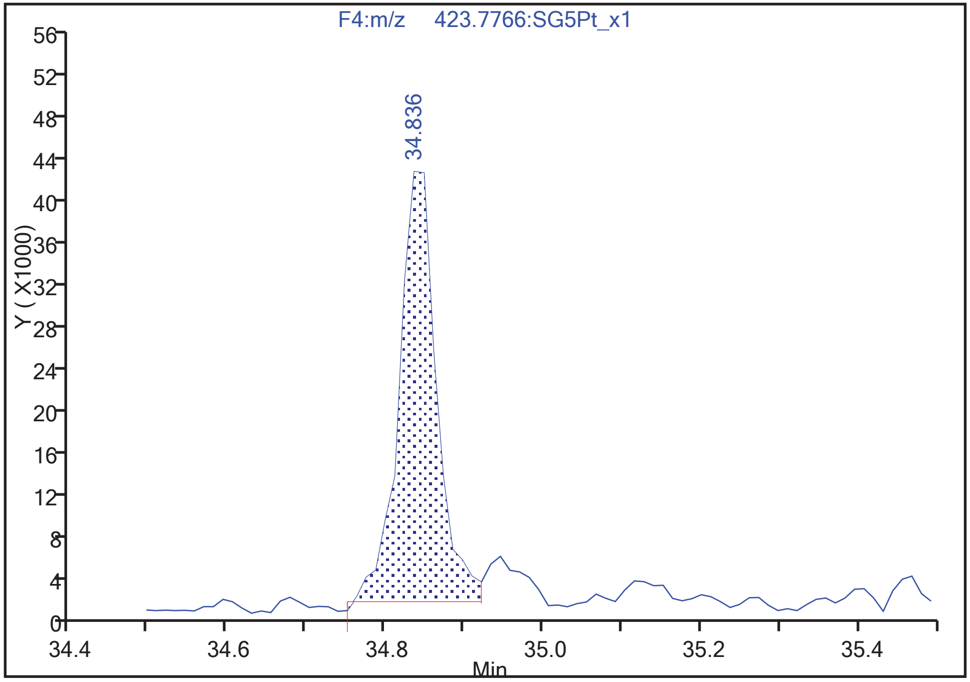
Processing Integration Results

RT:	34.84
Area:	155249
Amount:	0.570286
Amount Units:	pg/ul



Manual Integration Results

RT:	34.84
Area:	135287
Amount:	0.483801
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 14:17:36

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Report Date: 06-Dec-2017 14:19:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

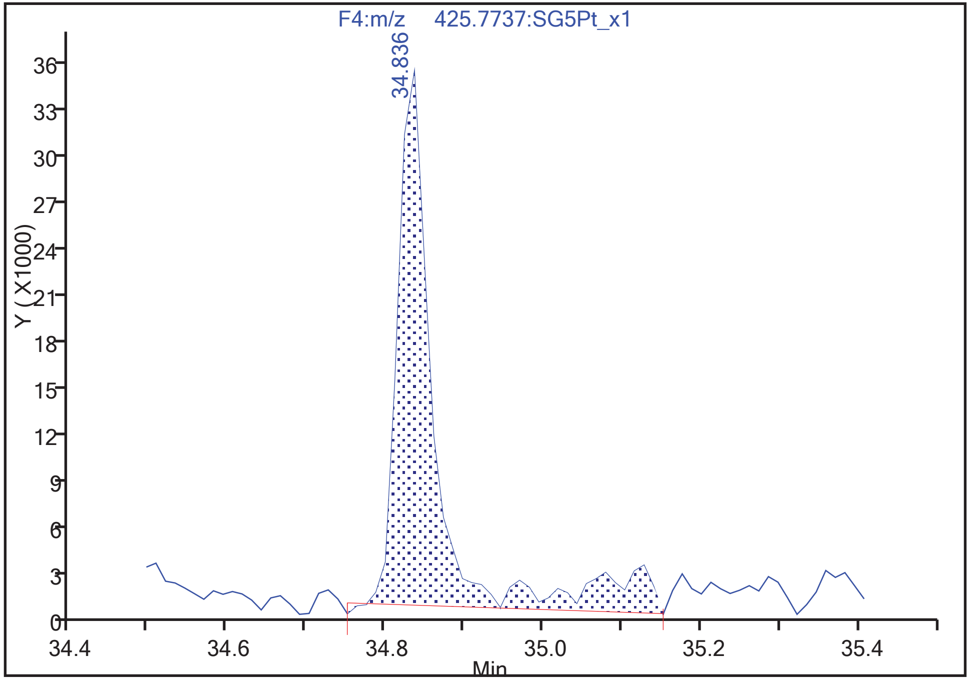
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d				
Injection Date:	19-Nov-2017 02:26:01	Instrument ID:	3D5		
Lims ID:	160-24924-G-6-B	Lab Sample ID:	320-24924-6		
Client ID:	SHAD041DP026SS06NS				
Operator ID:	SMA, ALM	ALS Bottle#:	45	Worklist Smp#:	70
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

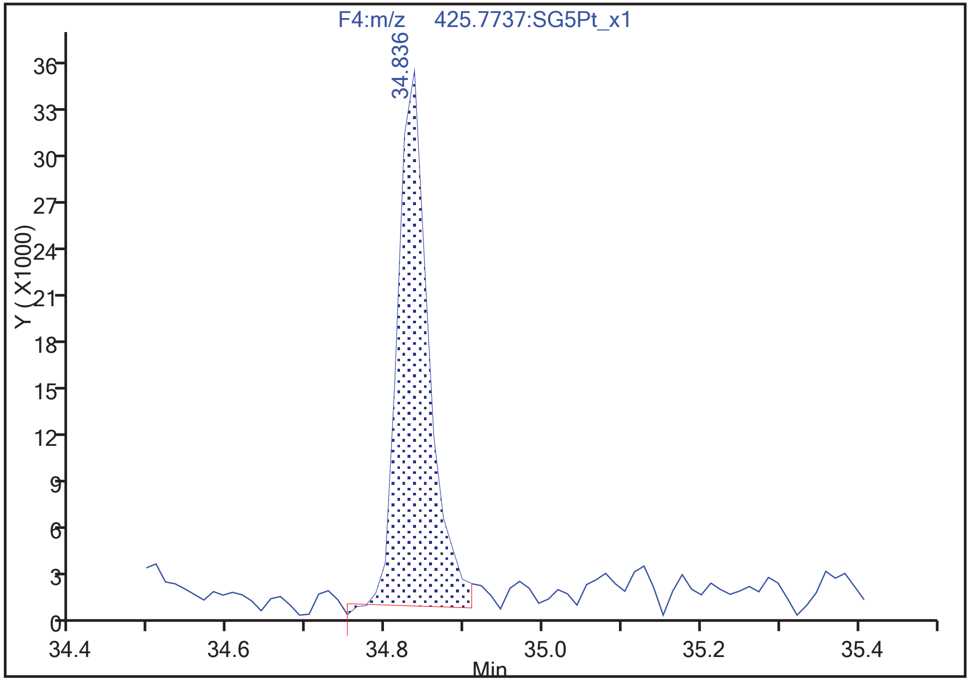
Processing Integration Results

RT:	34.84
Area:	112641
Amount:	0.570286
Amount Units:	pg/ul



Manual Integration Results

RT:	34.84
Area:	91977
Amount:	0.483801
Amount Units:	pg/ul



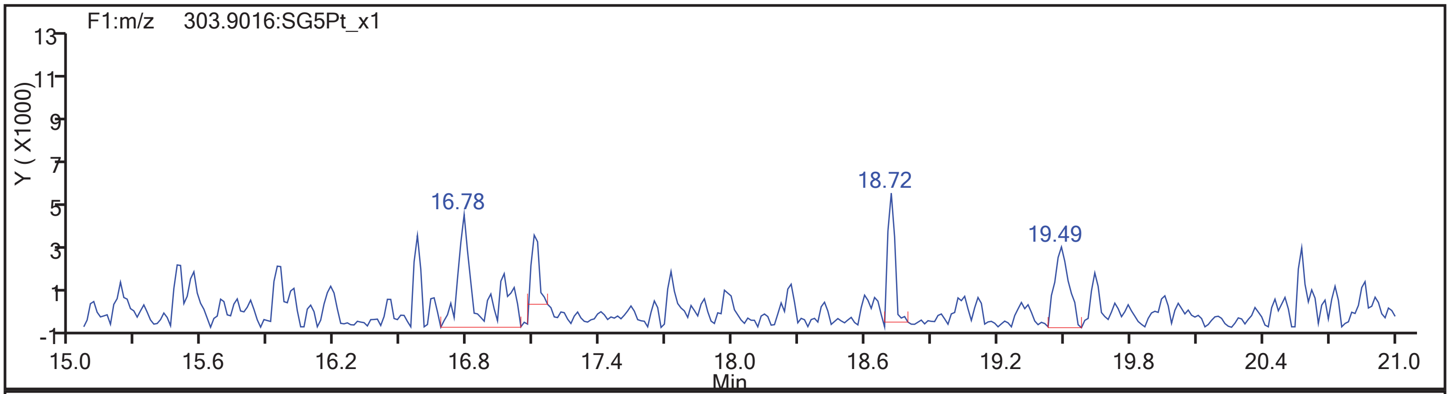
Reviewer: dadunj, 06-Dec-2017 14:17:38
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

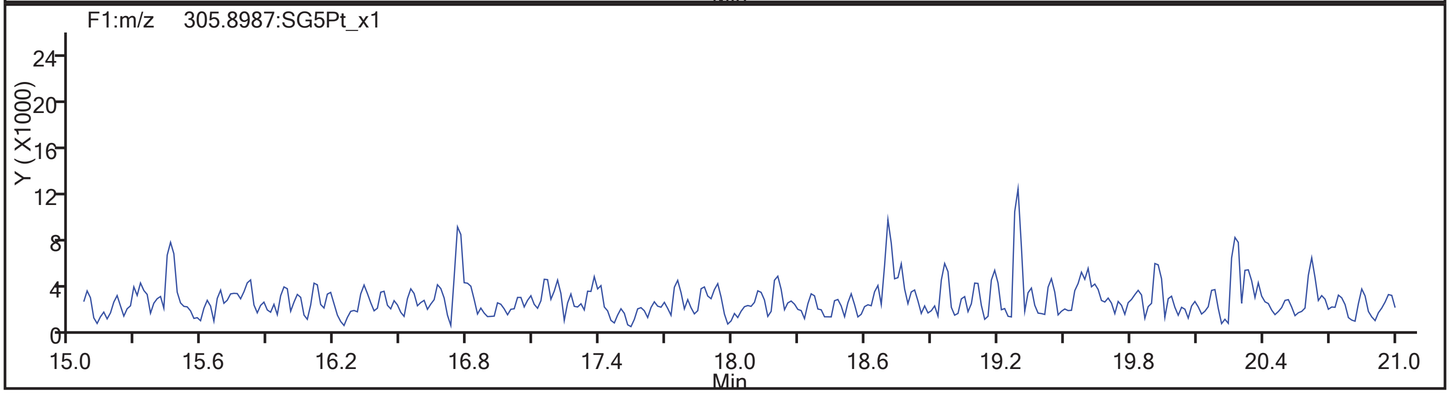
Report Date: 06-Dec-2017 14:19:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

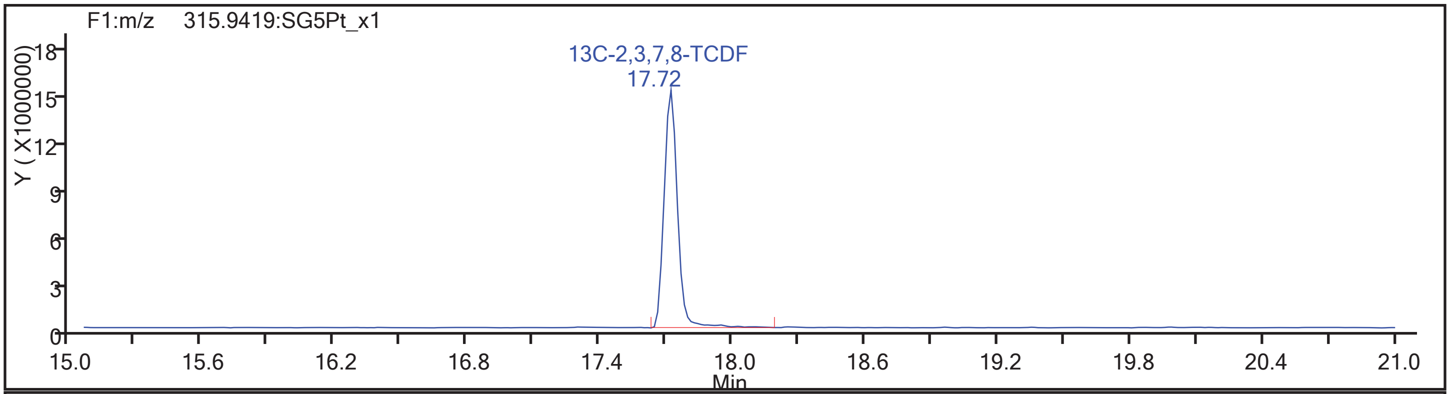
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d		
Injection Date:	19-Nov-2017 02:26:01	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS06NS		
Worklist#:	195574	Sample Line#:	70
Column Type:		Column Dia:	

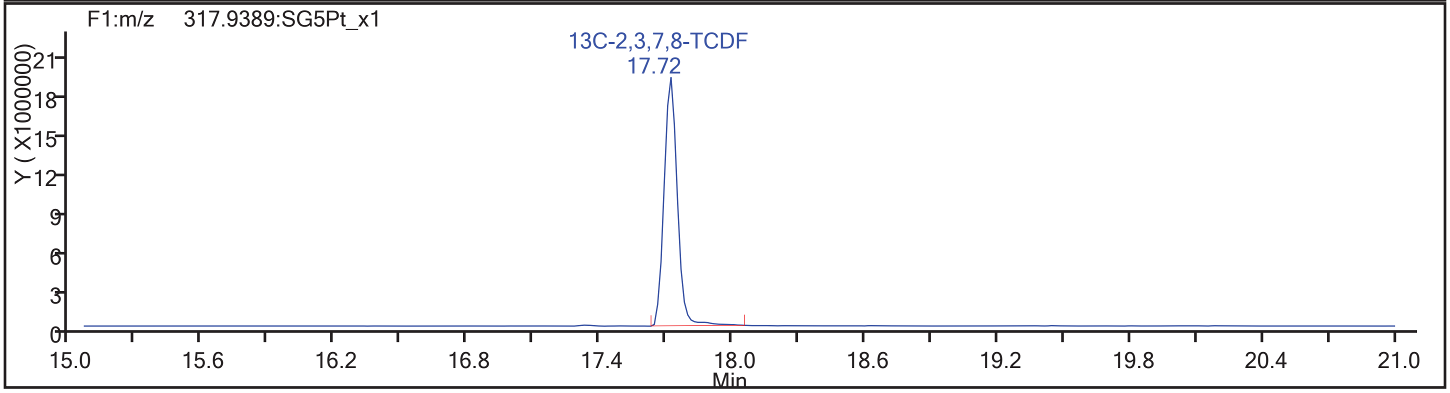
TCDF





TCDF Standards

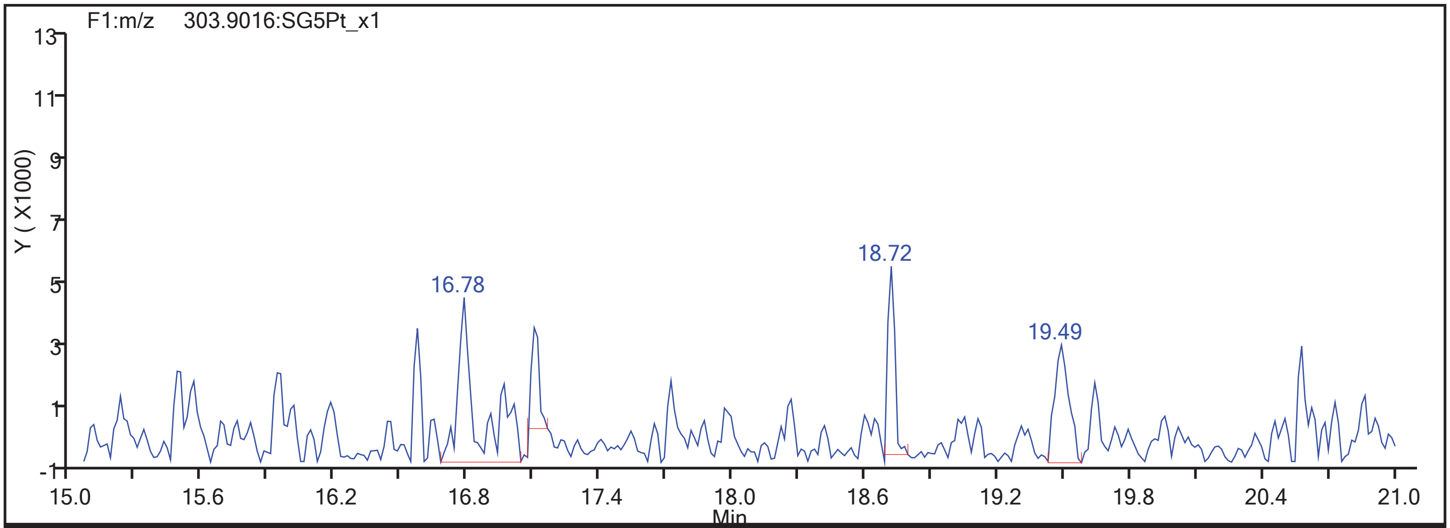


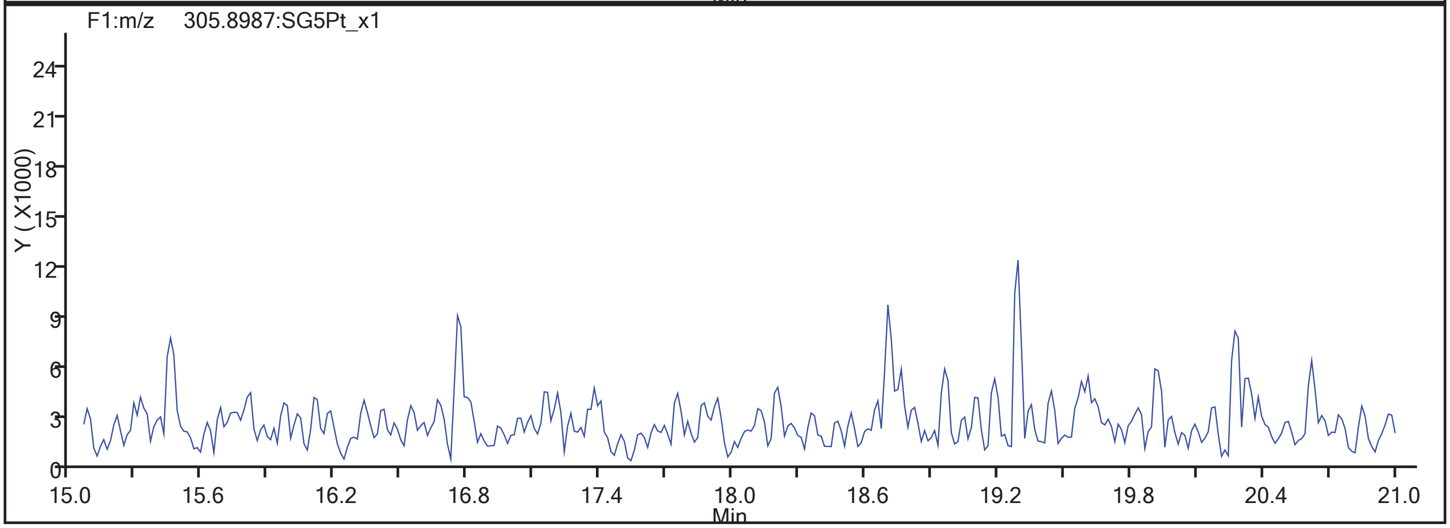


TestAmerica Sacramento

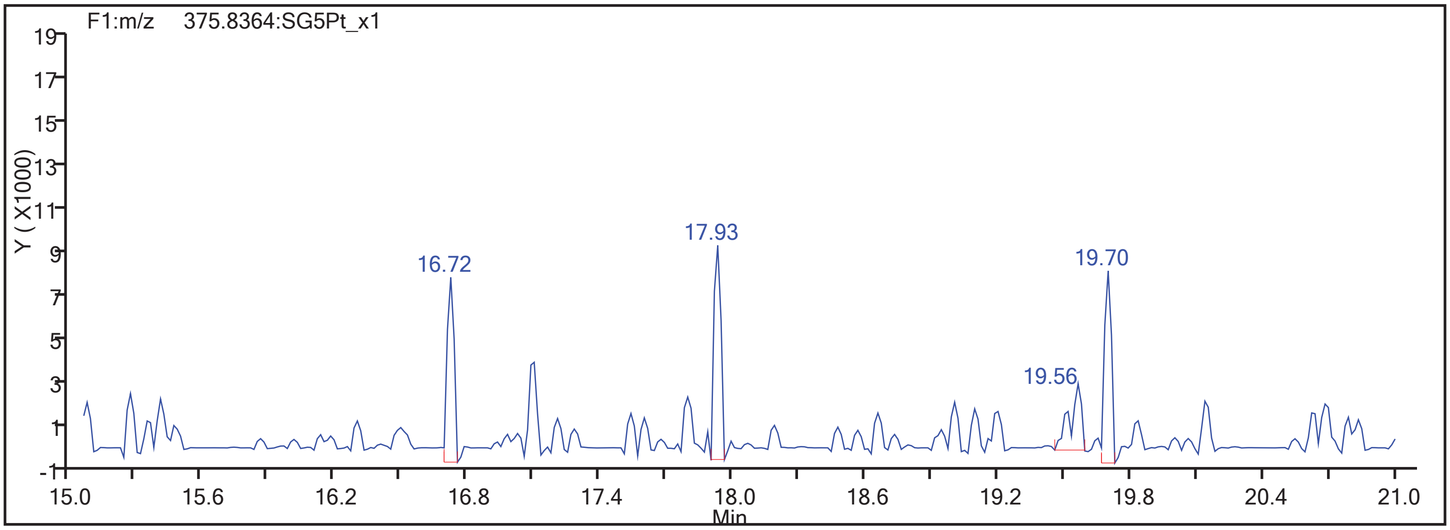
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d
Injection Date: 19-Nov-2017 02:26:01
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 195574
Sample Line#: 70
Column Type:
Column Dia:

TCDF





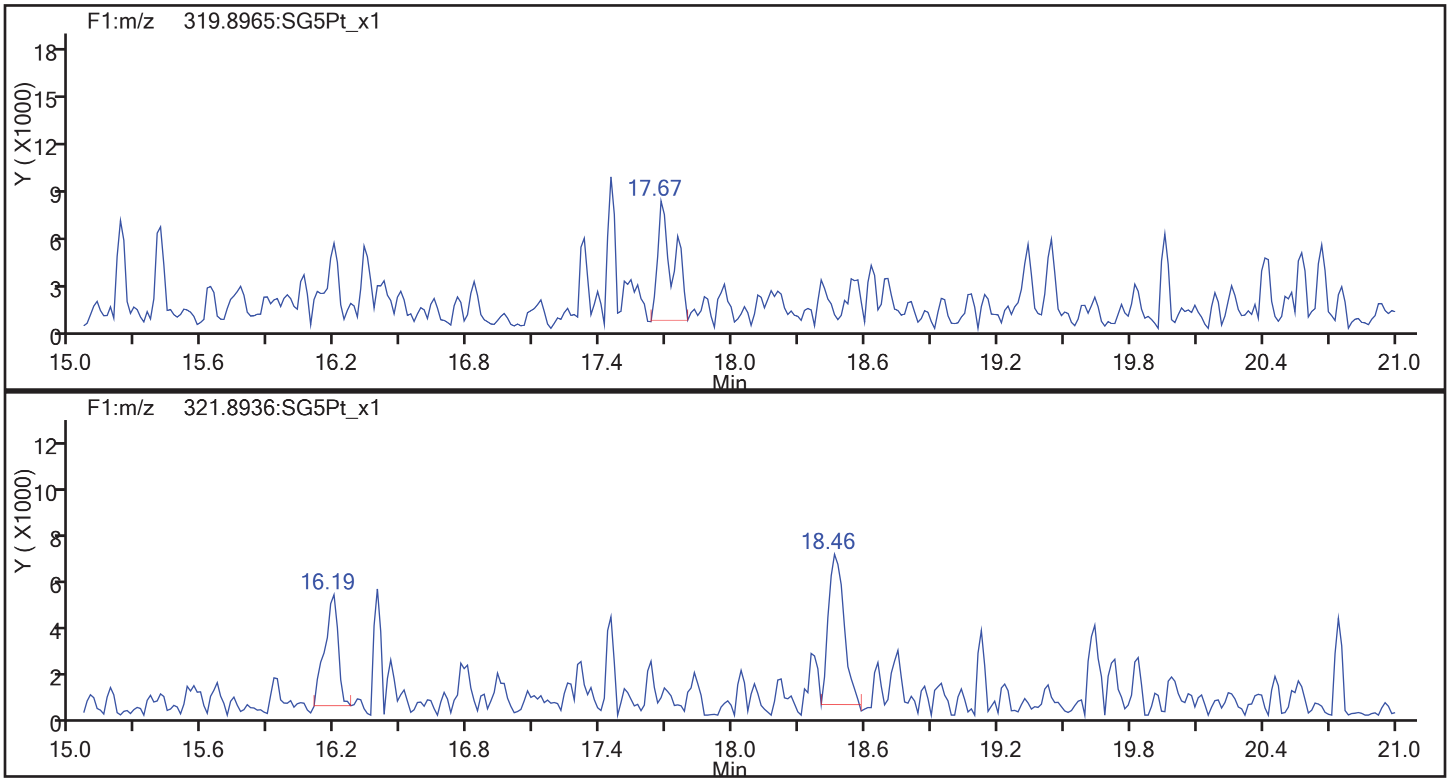
TCDF Interference Mass



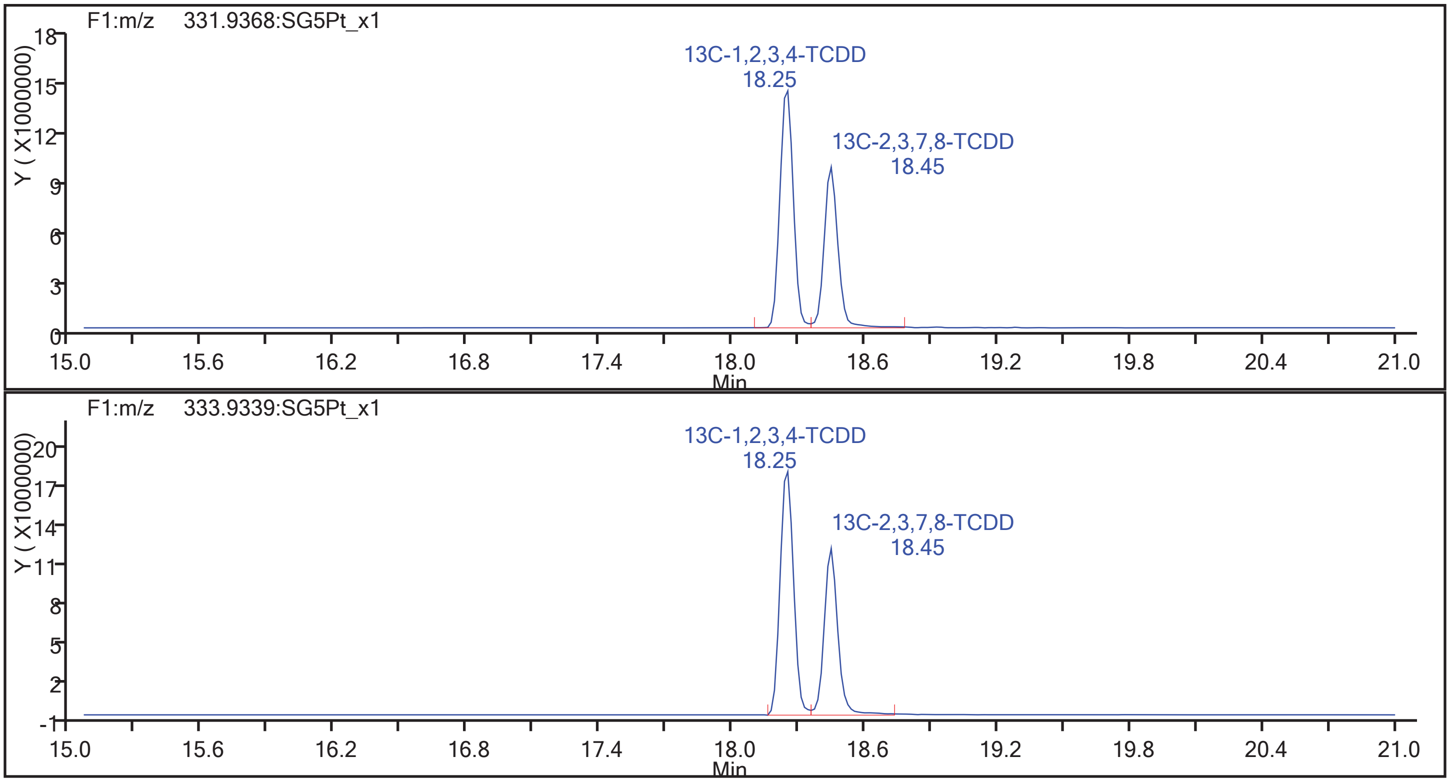
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d		
Injection Date:	19-Nov-2017 02:26:01	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS06NS		
Worklist#:	195574	Sample Line#:	70
Column Type:		Column Dia:	

TCDD



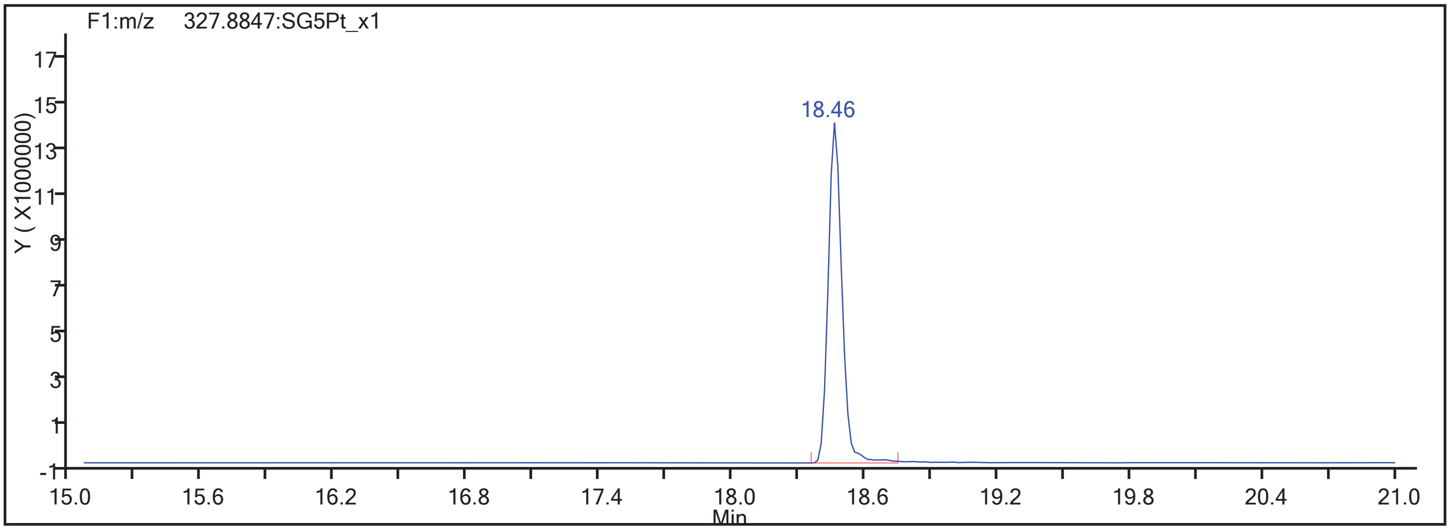
TCDD Standards



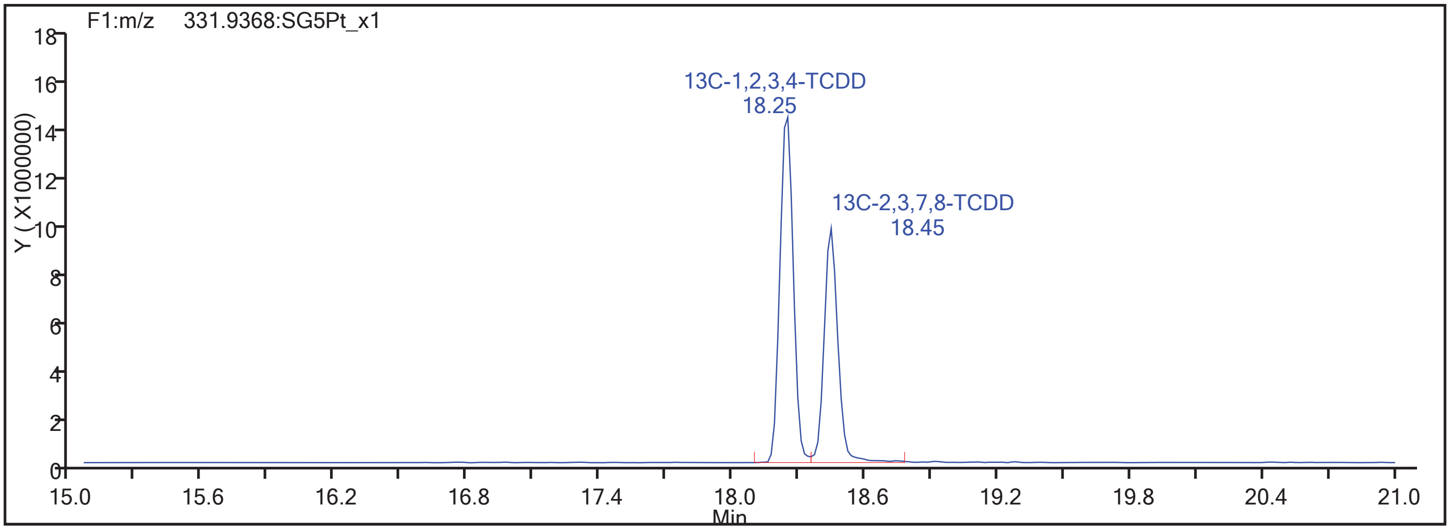
TestAmerica Sacramento

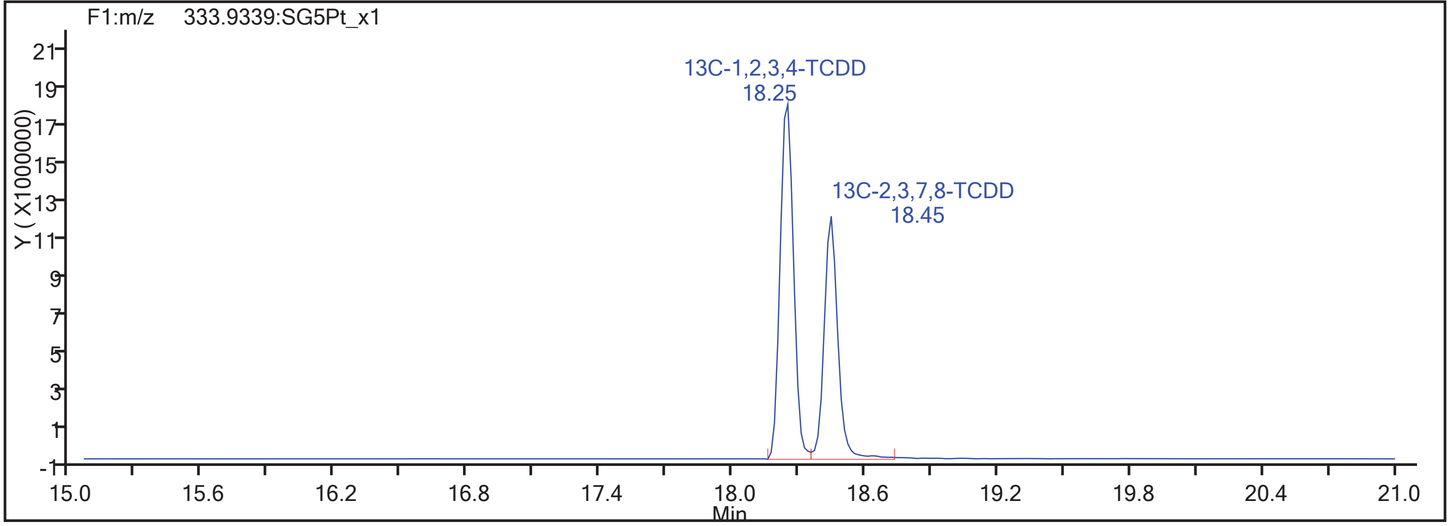
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d
Injection Date: 19-Nov-2017 02:26:01
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 195574
Sample Line#: 70
Column Type:
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards





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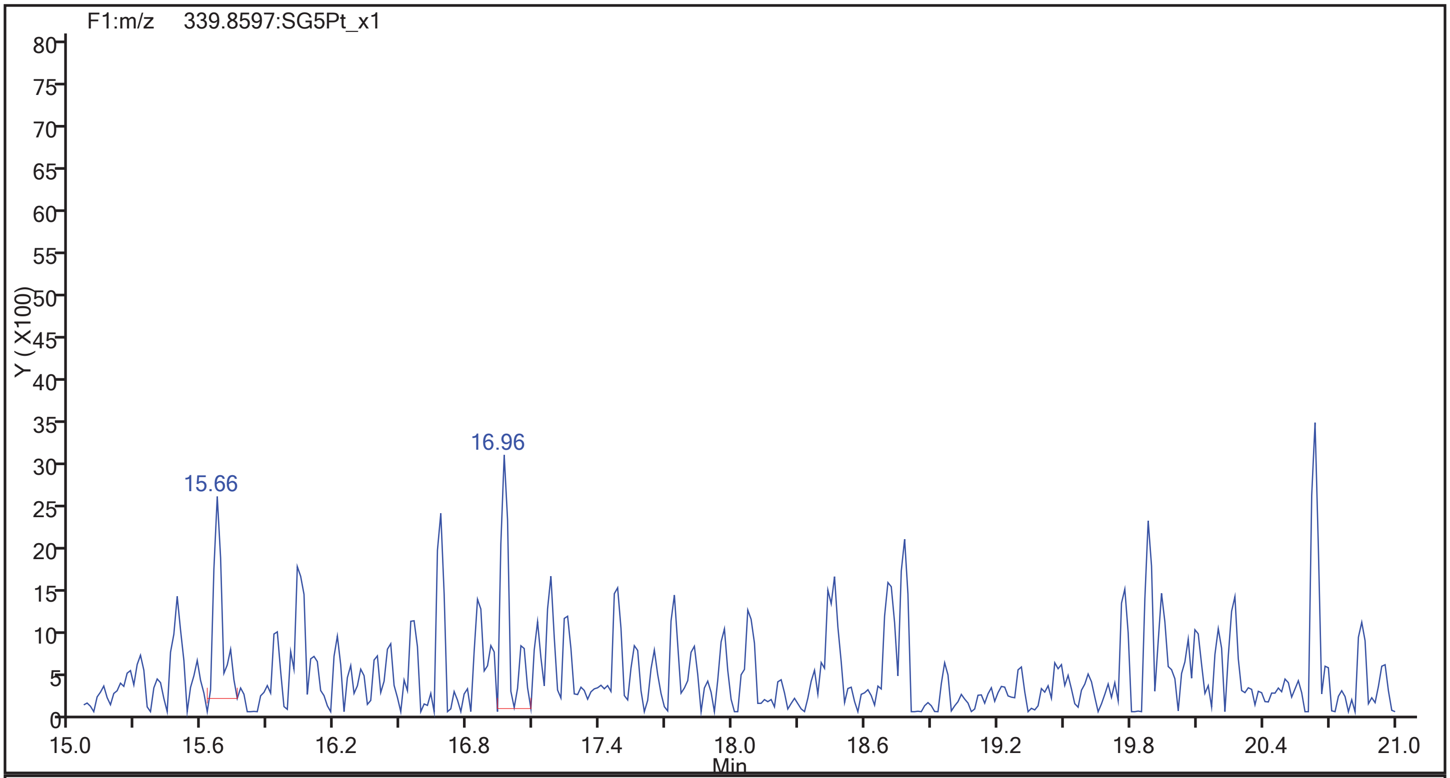
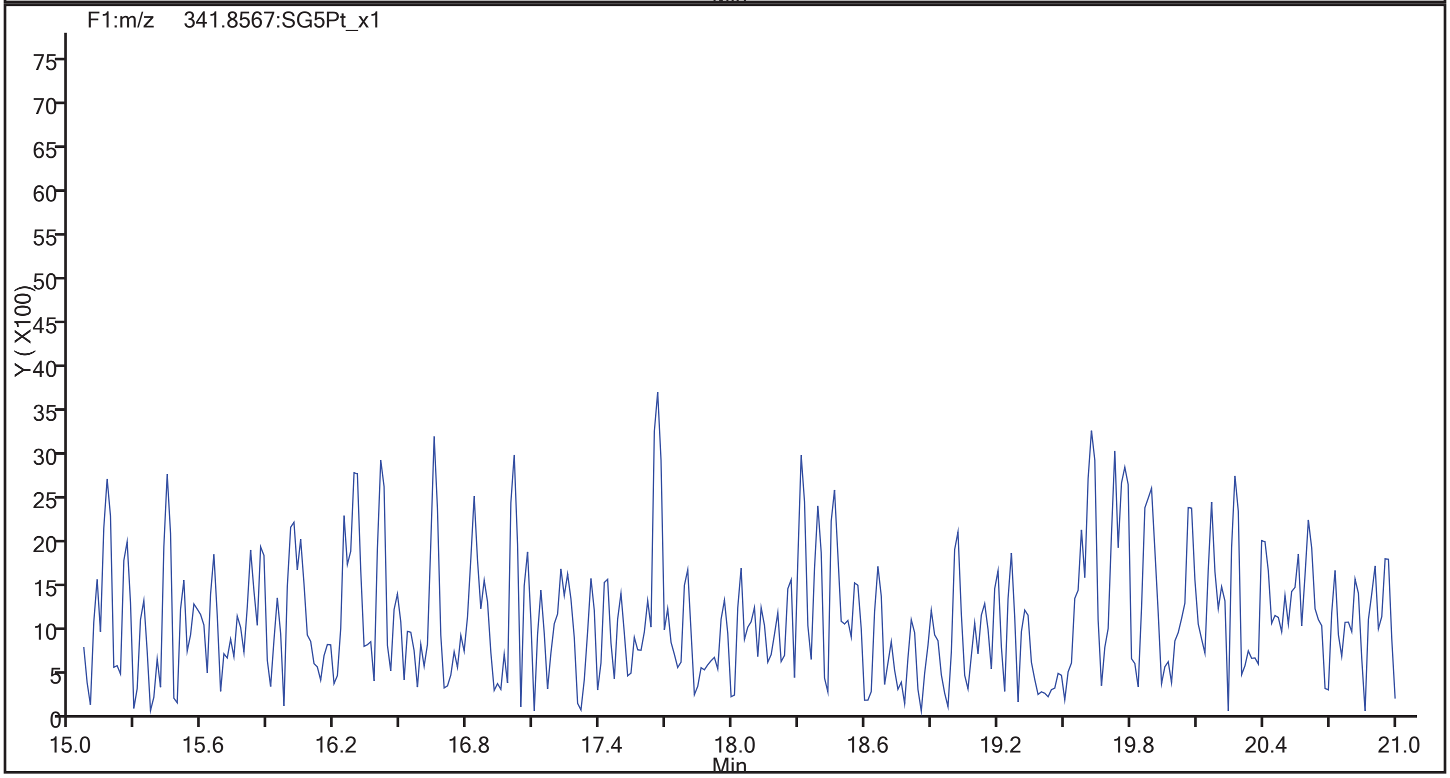
Injection Date: 19-Nov-2017 02:26:01
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 195574
Sample Line#: 70
Column Type:
Column Dia:

F1 PeCDFs



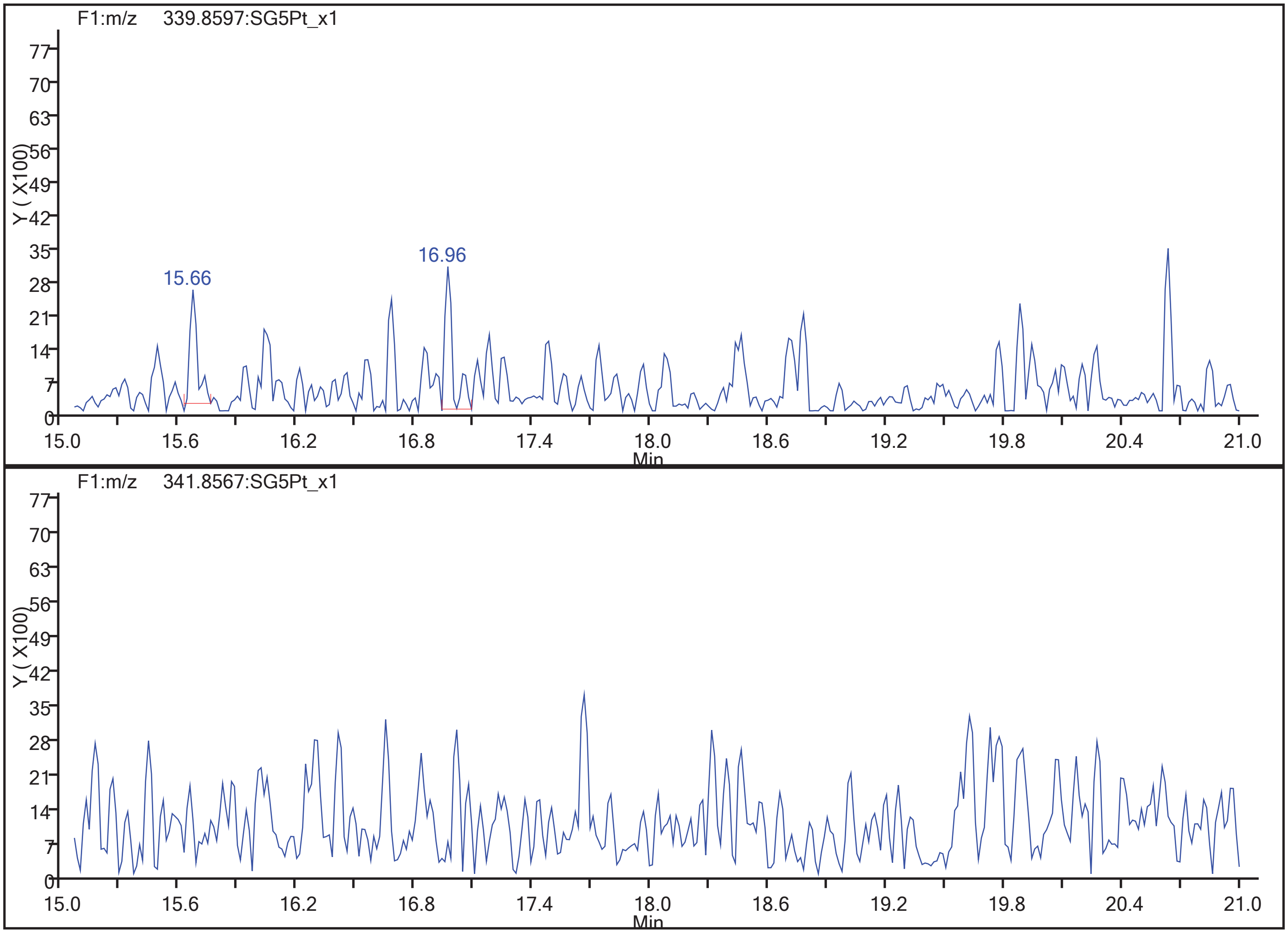


Report Date: 06-Dec-2017 14:19:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

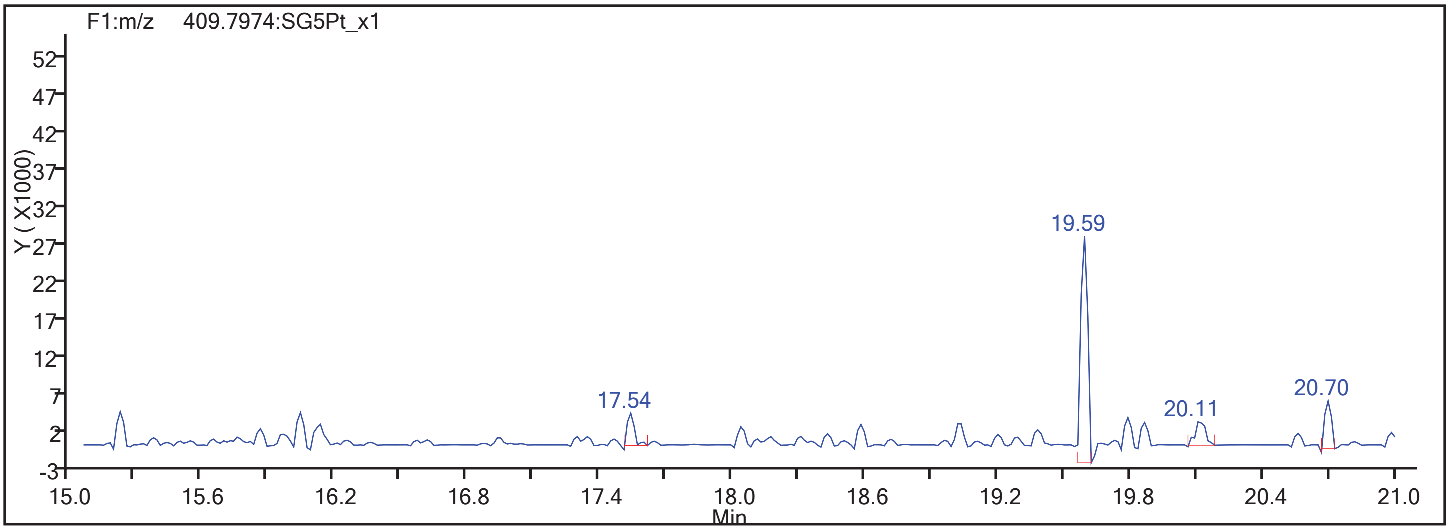
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d
Injection Date: 19-Nov-2017 02:26:01
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 195574
Sample Line#: 70
Column Type:
Column Dia:

F1 PeCDFs



F1 PeCDFs Interference Mass



Report Date: 06-Dec-2017 14:19:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d

Injection Date: 19-Nov-2017 02:26:01 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

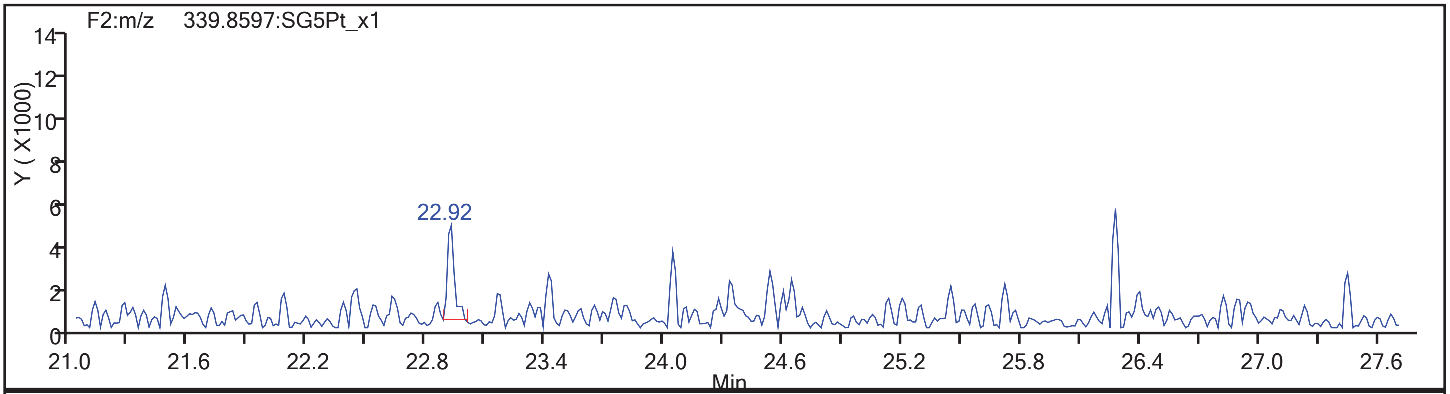
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

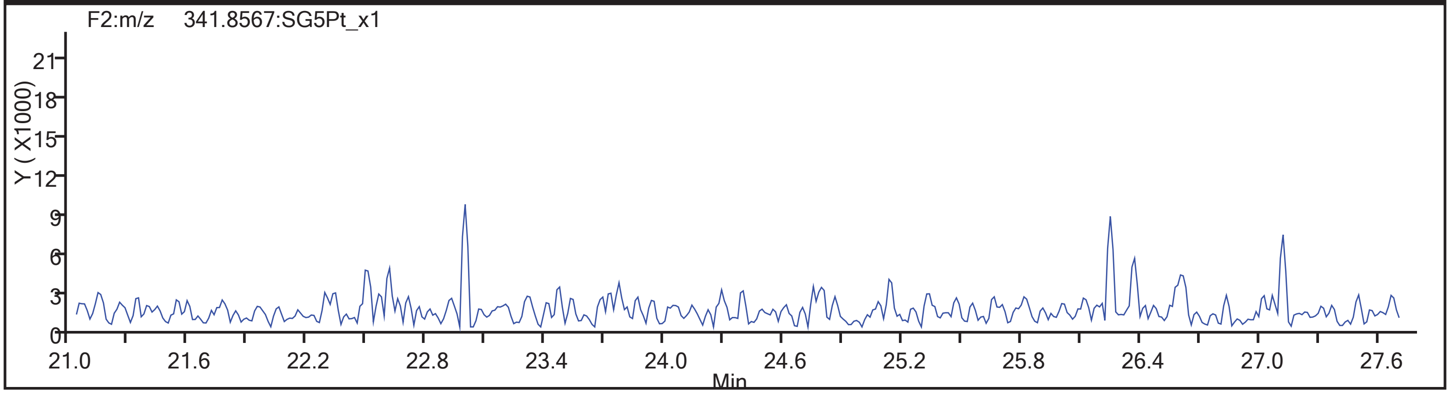
Client ID: SHAD041DP026SS06NS

Worklist#: 195574 Sample Line#: 70

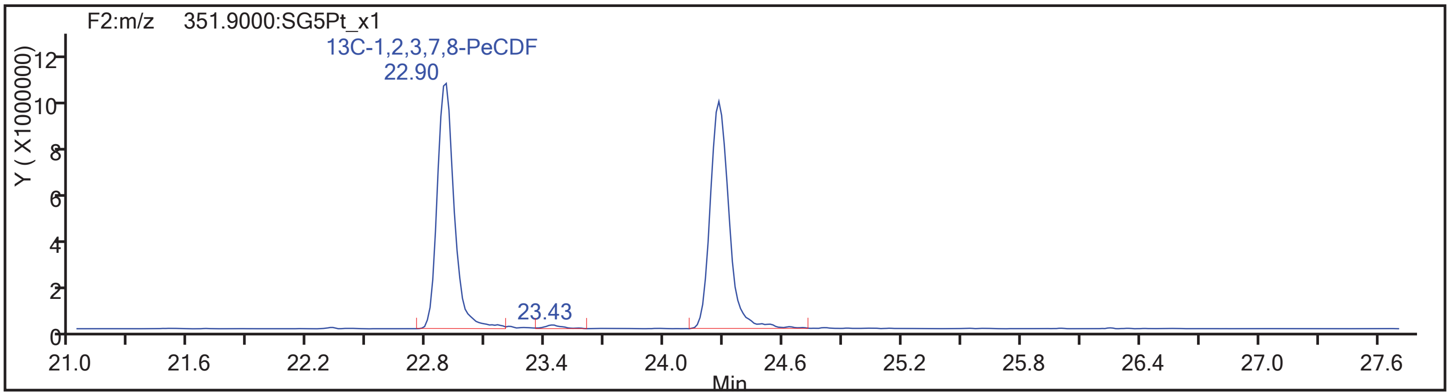
Column Type: Column Dia:

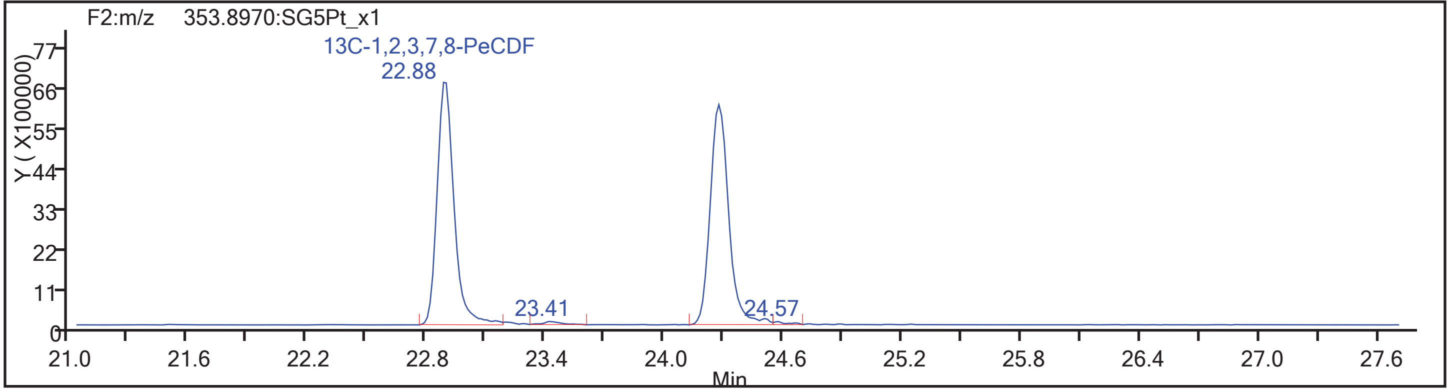
PeCDF





PeCDF Standards



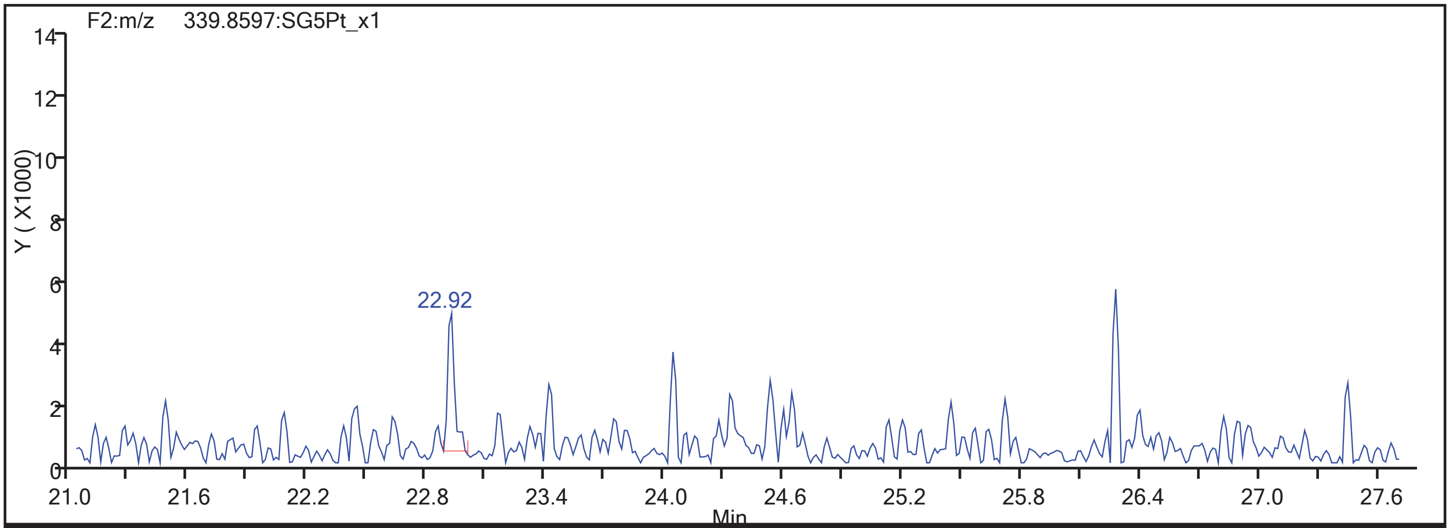


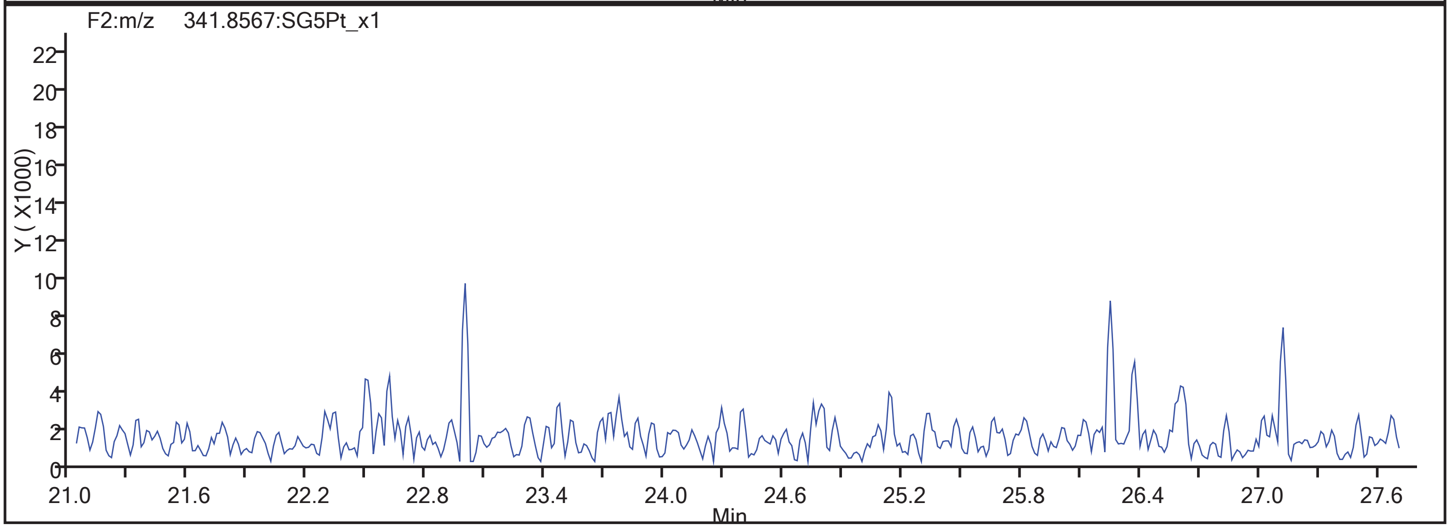
Report Date: 06-Dec-2017 14:19:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

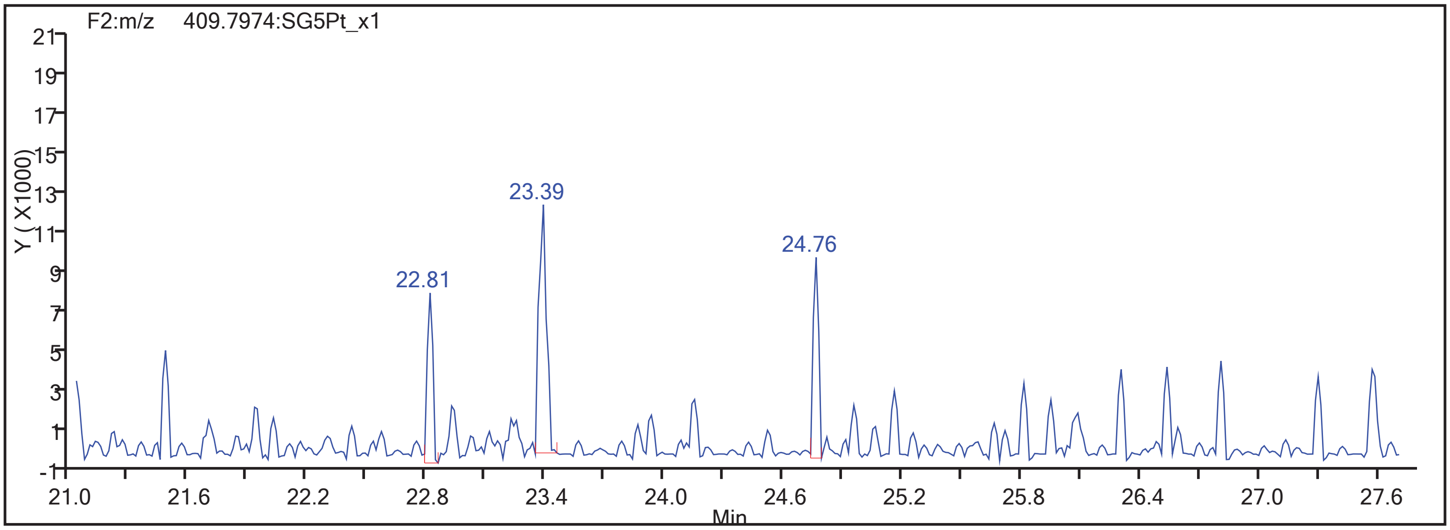
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d		
Injection Date:	19-Nov-2017 02:26:01	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS06NS		
Worklist#:	195574	Sample Line#:	70
Column Type:		Column Dia:	

PeCDF





PeCDF Interference Mass



Report Date: 06-Dec-2017 14:19:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d
Injection Date: 19-Nov-2017 02:26:01 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 195574 Sample Line#: 70
Column Type: Column Dia:

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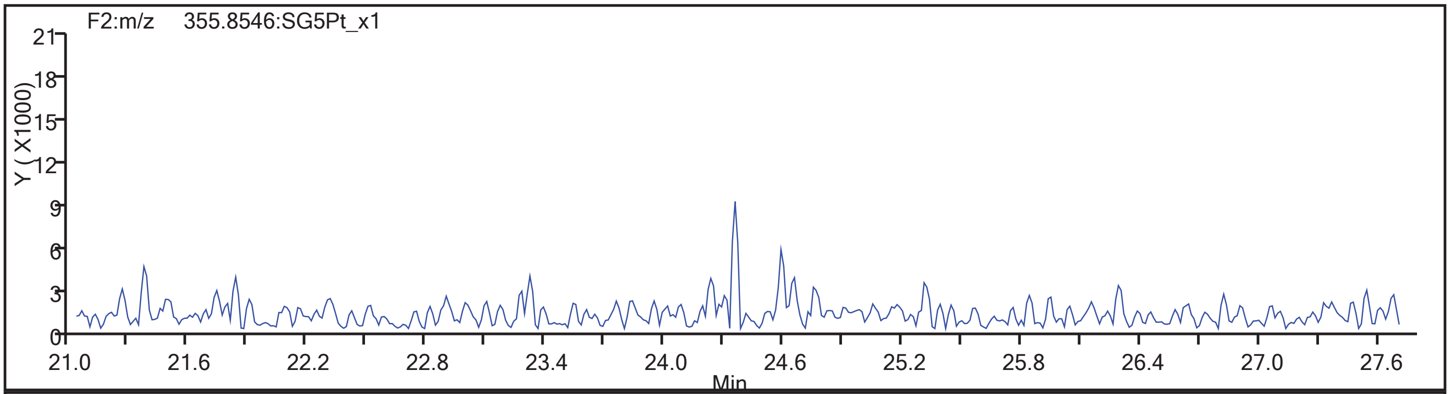
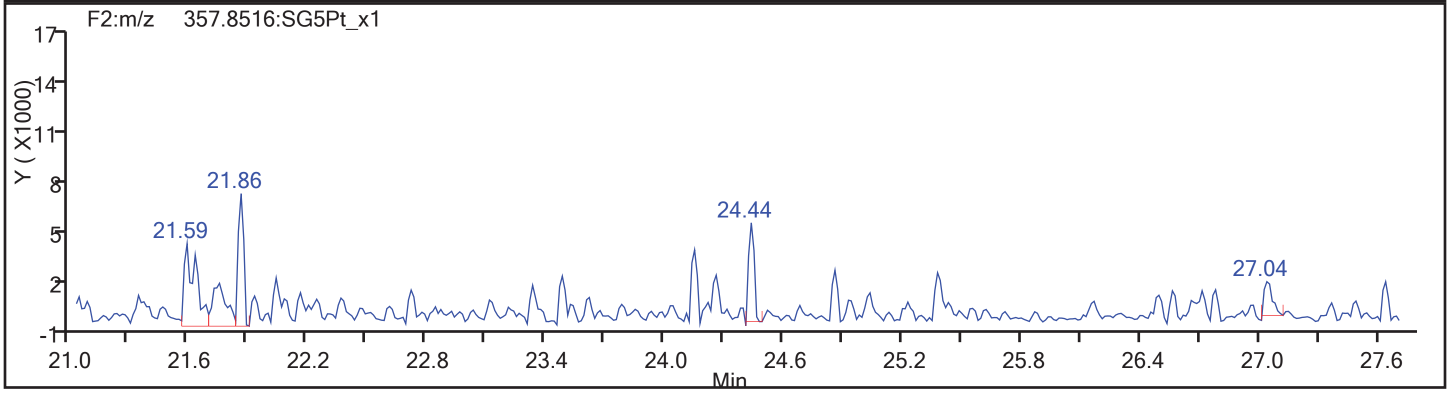
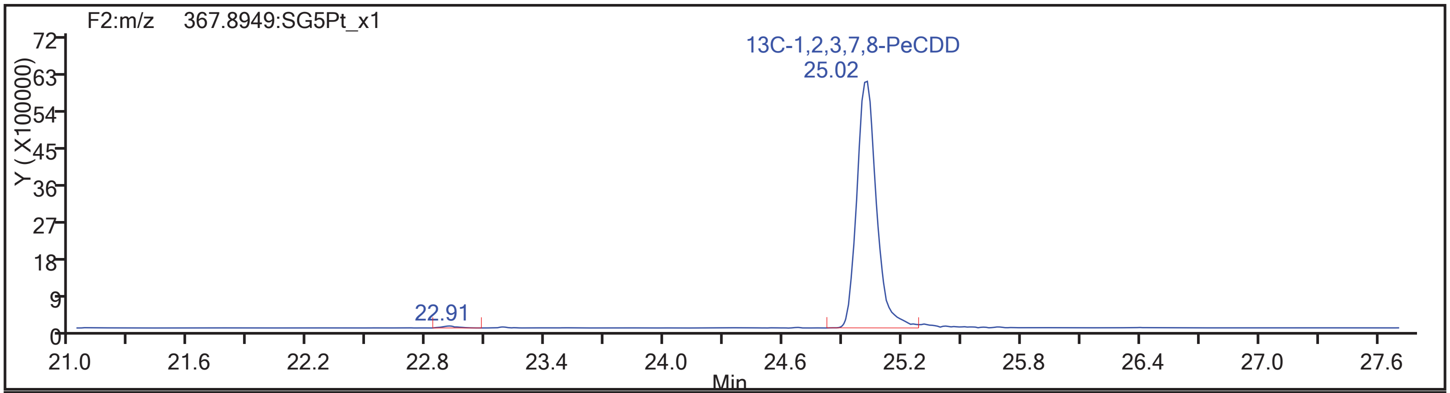
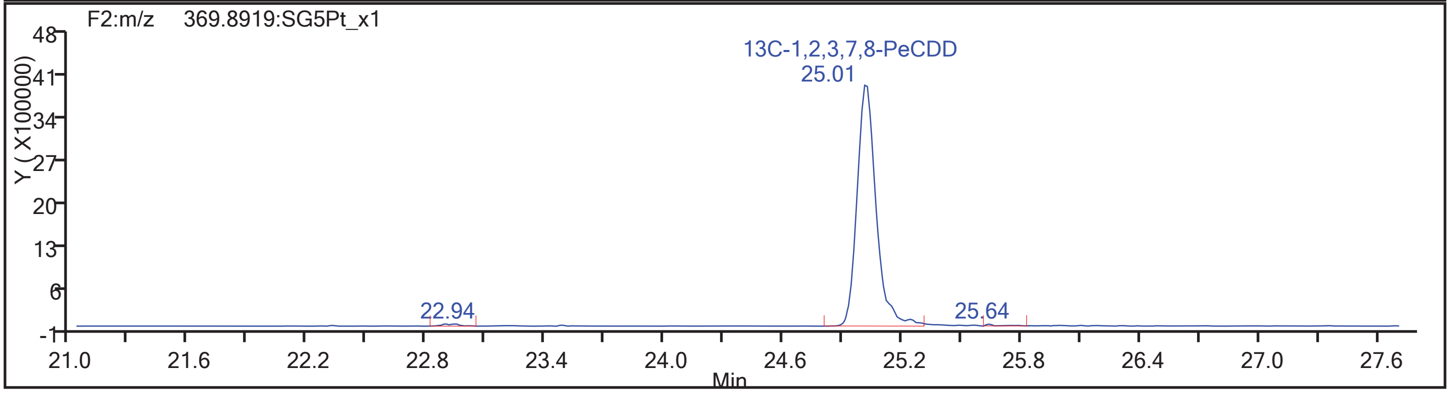




PeCDD Standards





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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d

Injection Date: 19-Nov-2017 02:26:01 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS06NS

Worklist#: 195574 Sample Line#: 70

Column Type: Column Dia:

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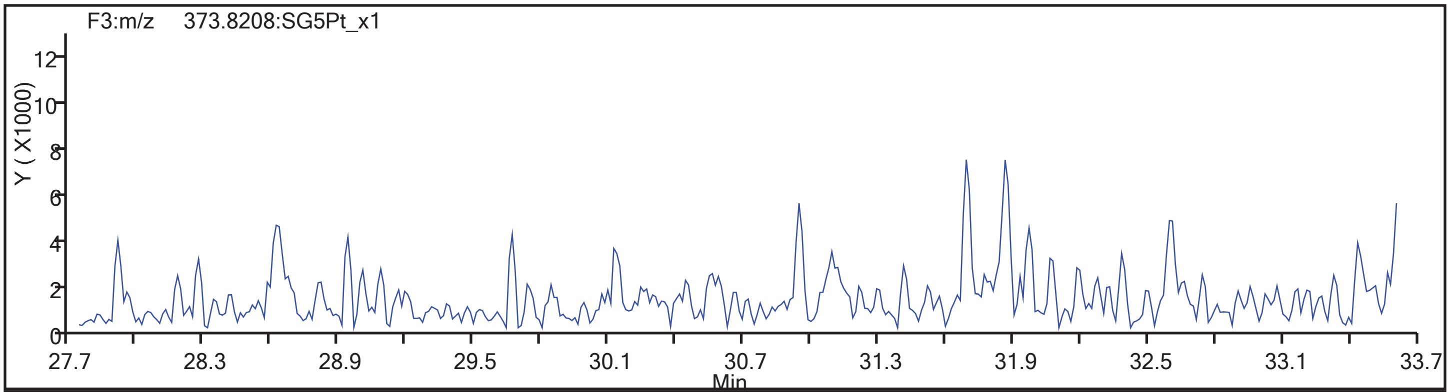
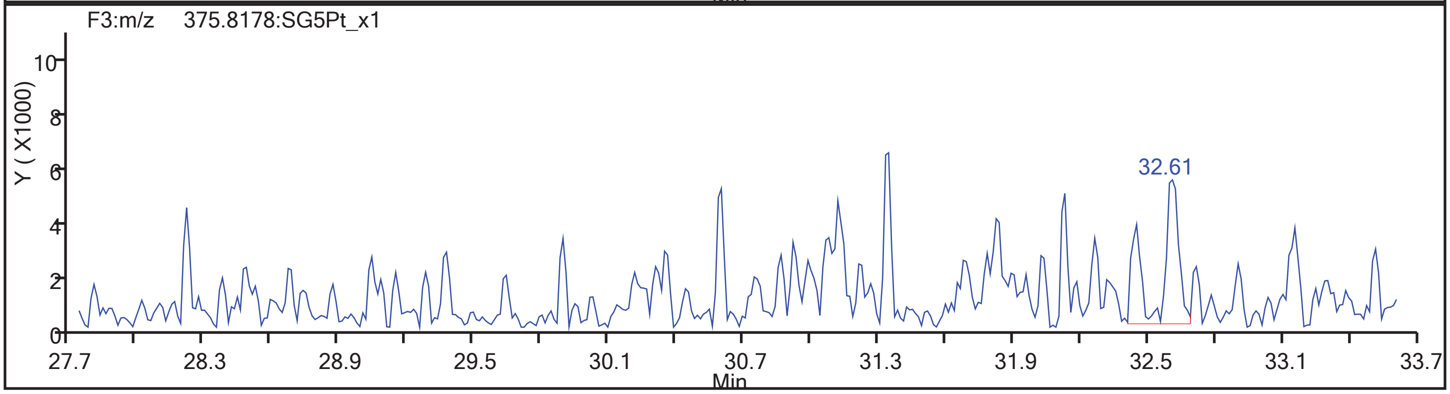
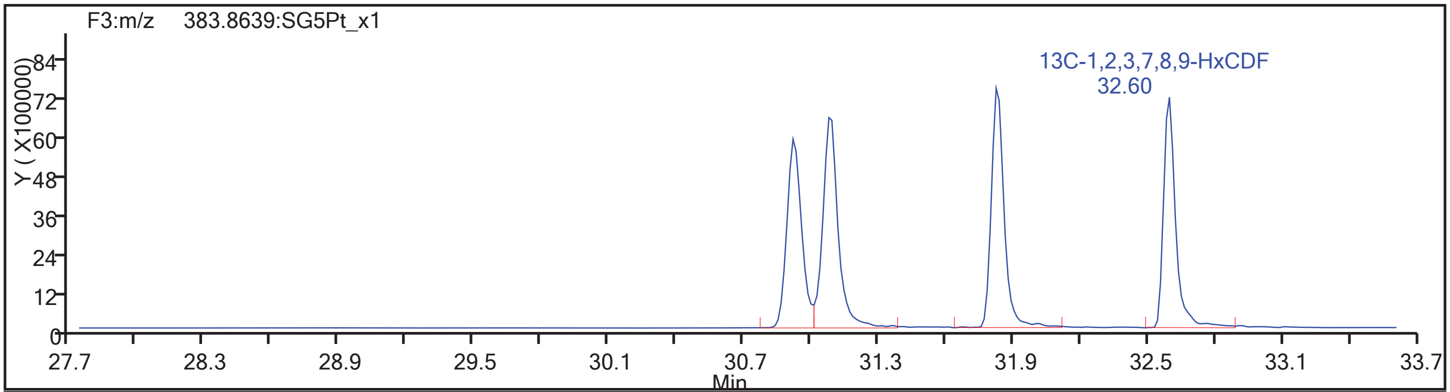
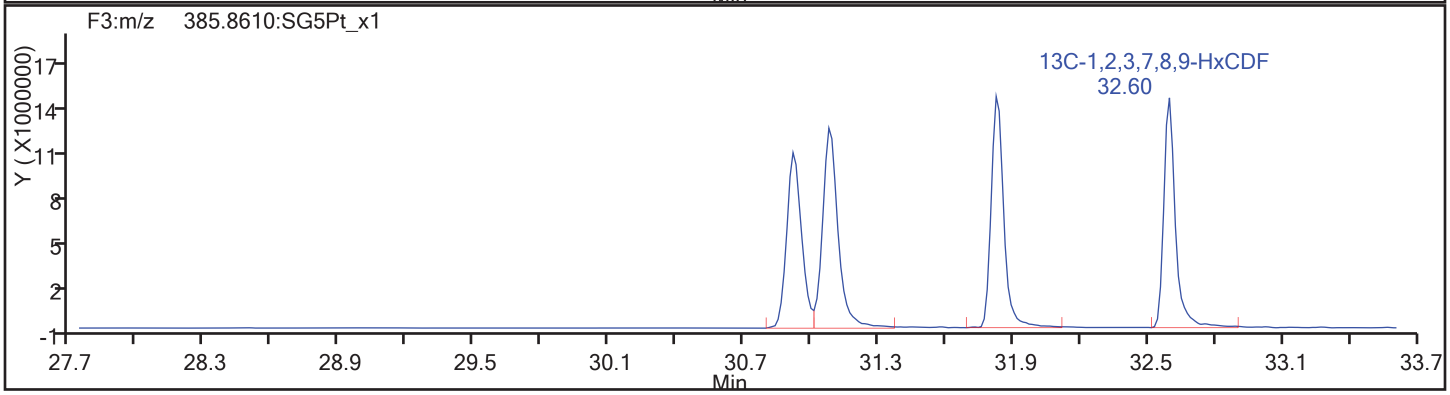




HxCDF Standards





TestAmerica Sacramento

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Injection Date:	19-Nov-2017 02:26:01	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS06NS		
Worklist#:	195574	Sample Line#:	70
Column Type:		Column Dia:	

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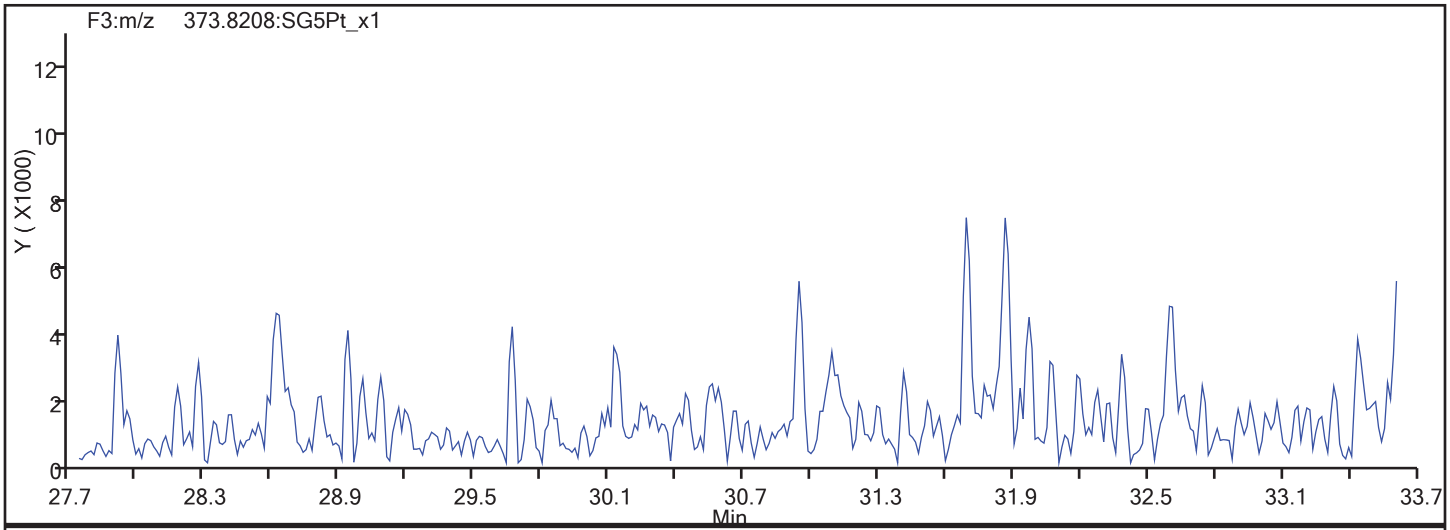
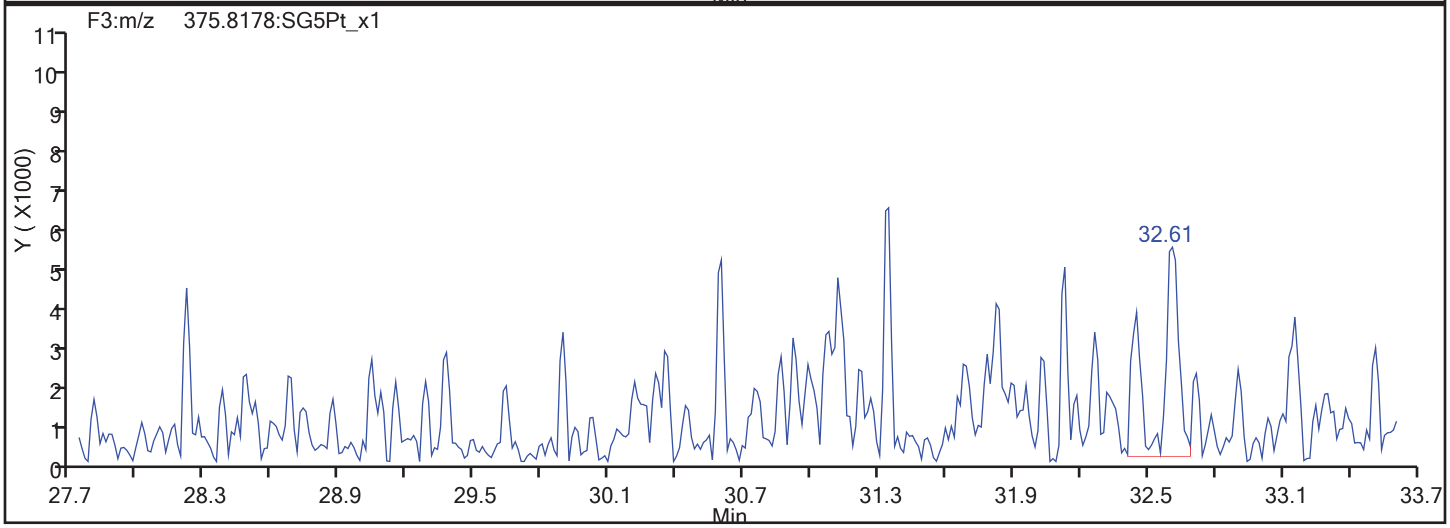
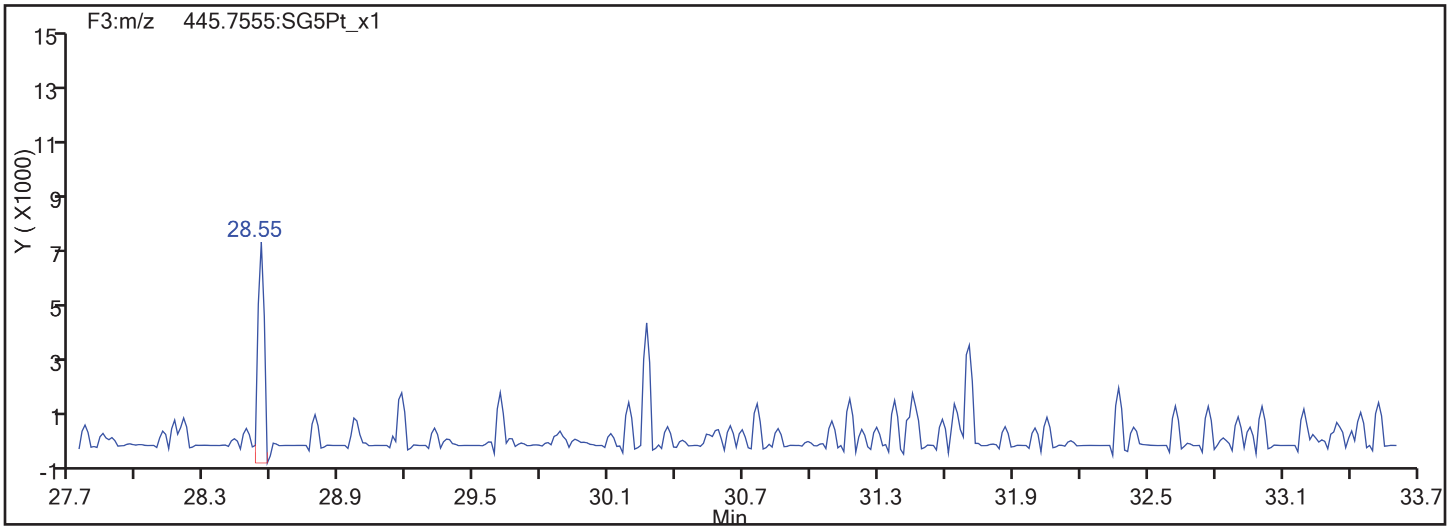




HxCDF Interference Mass



Report Date: 06-Dec-2017 14:19:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 19-Nov-2017 02:26:01
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Operator ID: SMA, ALM
Method: Dioxin_3D5
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Client ID: SHAD041DP026SS06NS
Worklist#: 195574
Sample Line#: 70
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Column Dia:

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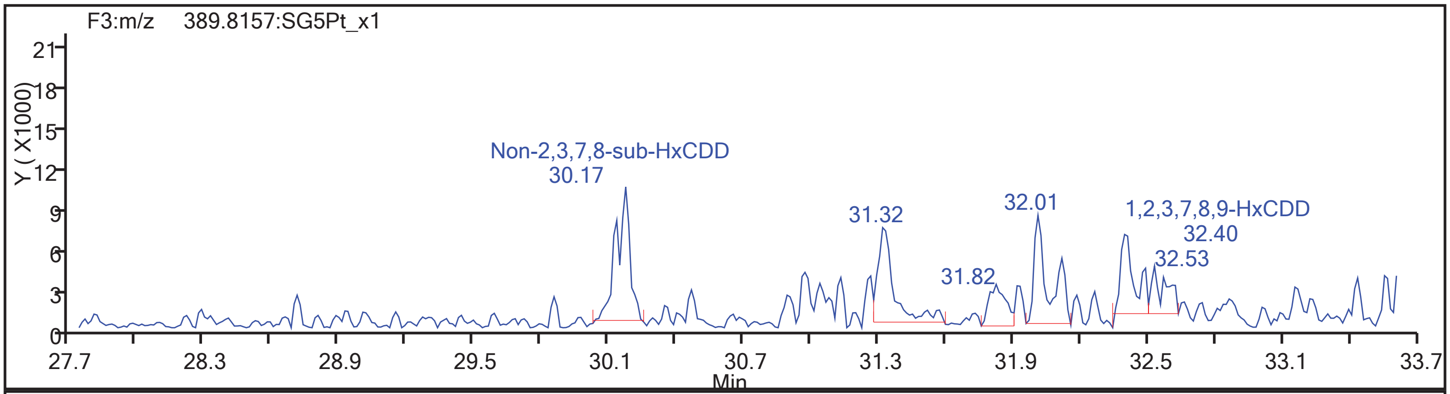
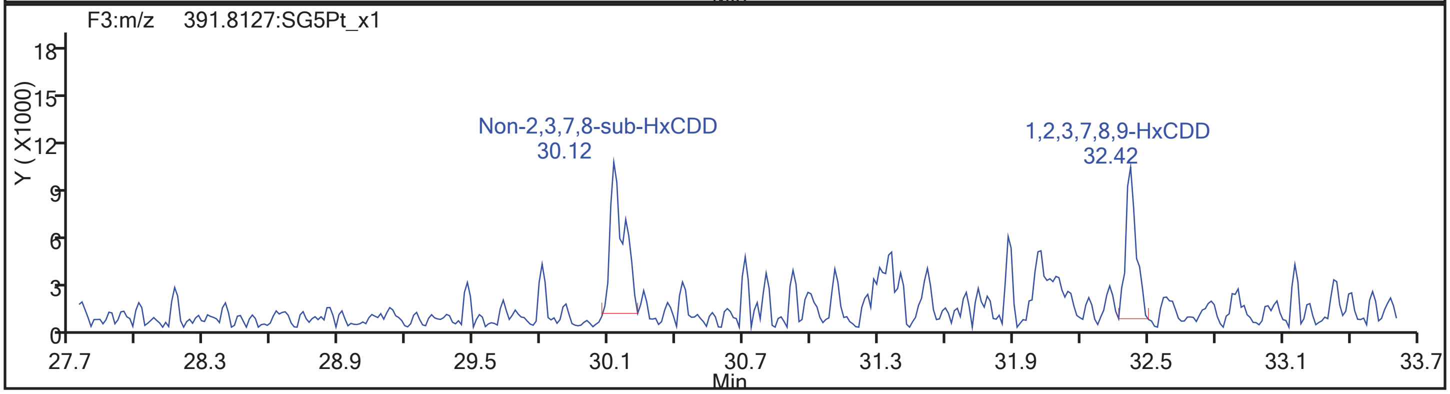
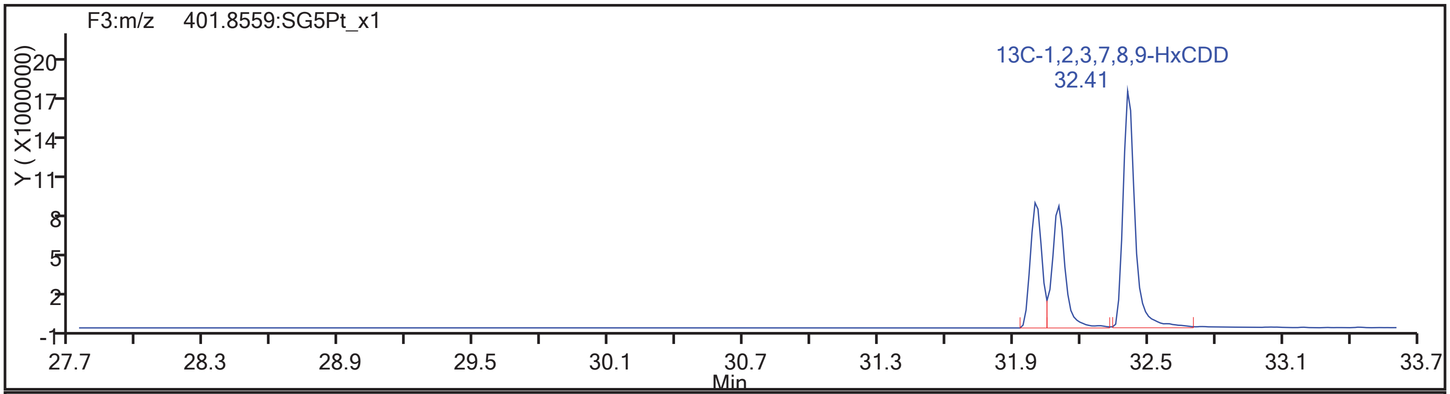
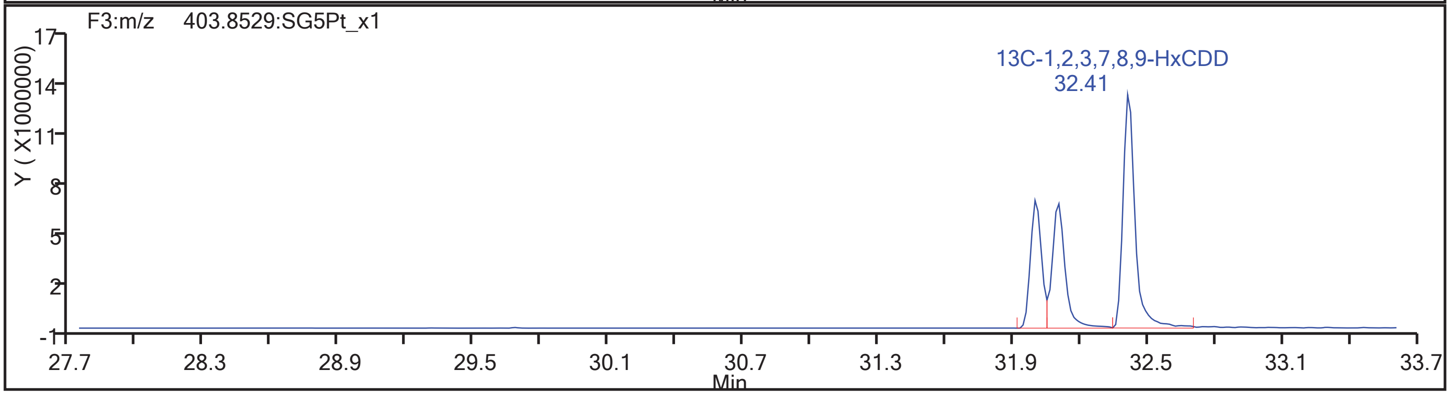




HxCDD Standards





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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d
Injection Date: 19-Nov-2017 02:26:01 Injection Vol: 2.0 ul
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Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 195574 Sample Line#: 70
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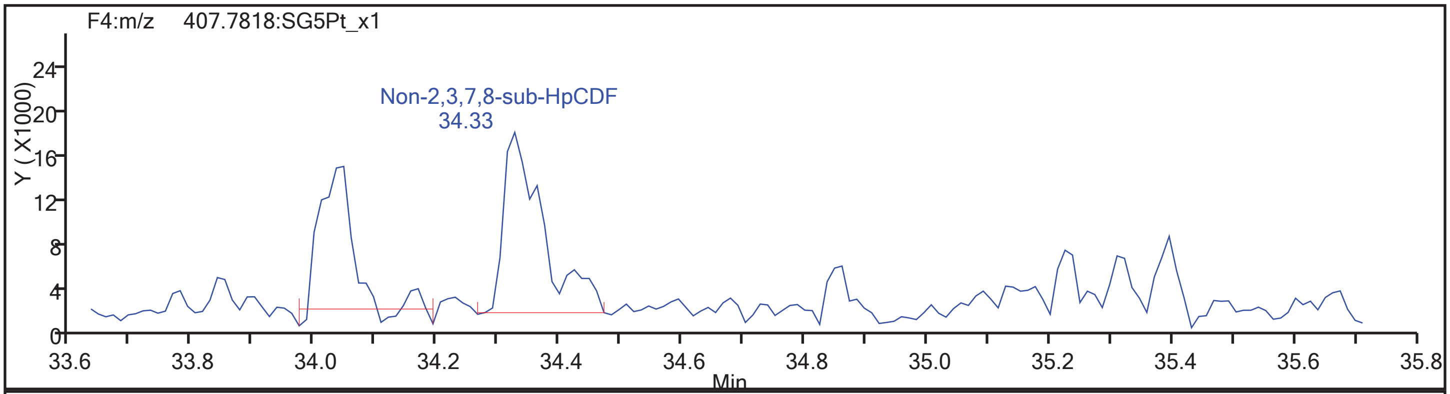
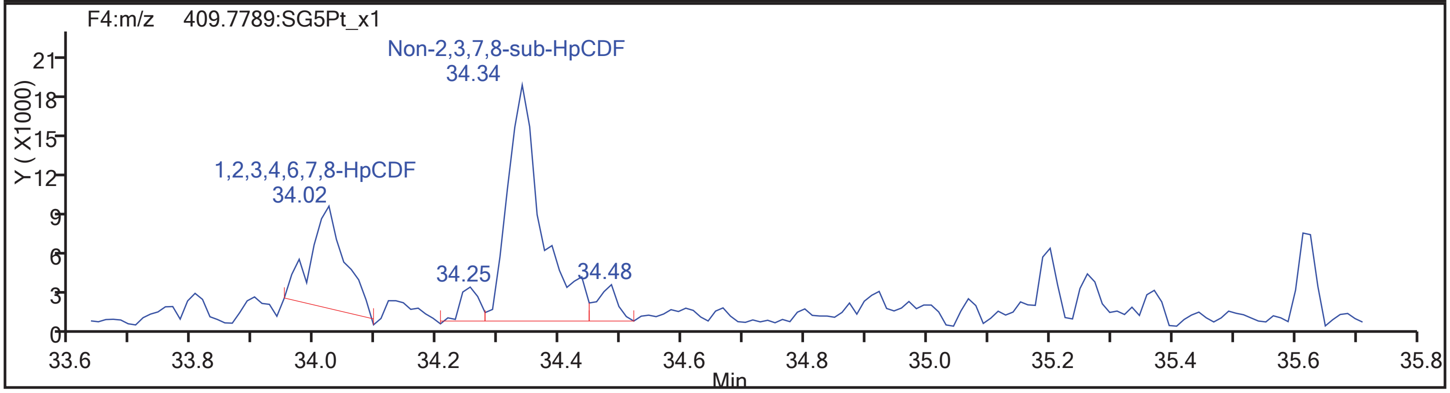
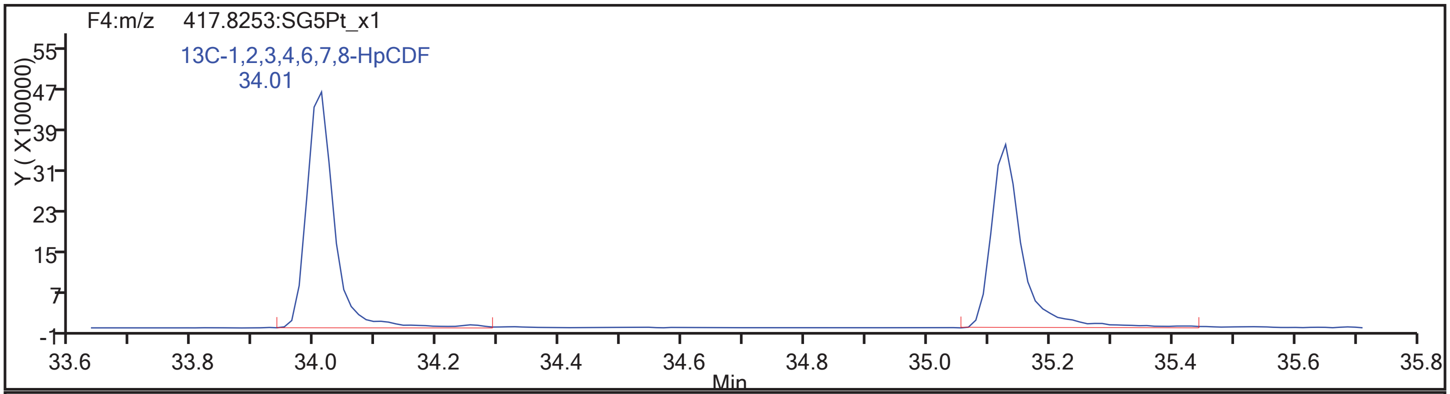
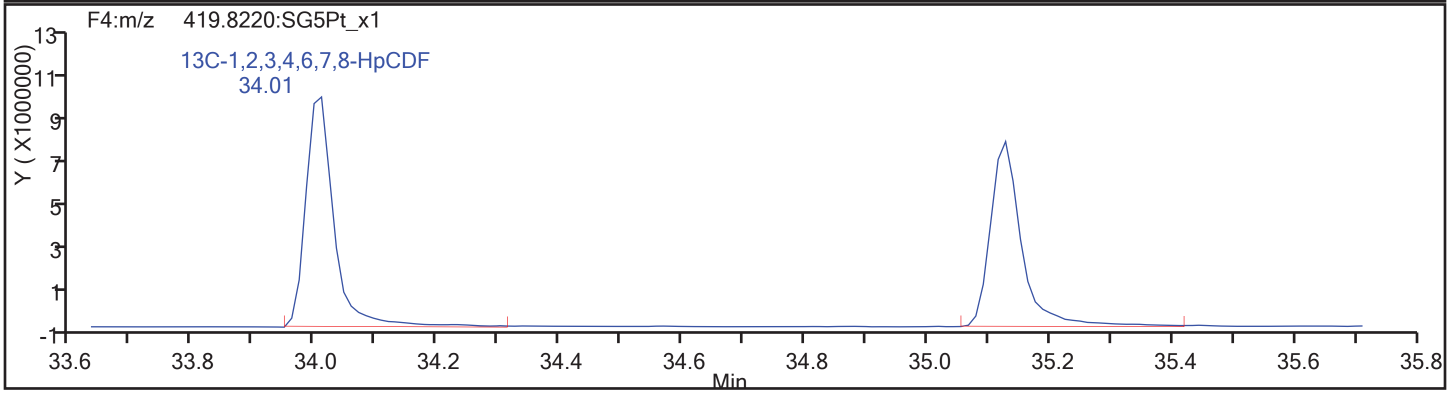




HpCDF Standards





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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_70.d

Injection Date: 19-Nov-2017 02:26:01

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP026SS06NS

Worklist#: 195574

Sample Line#: 70

Column Type:

Column Dia:

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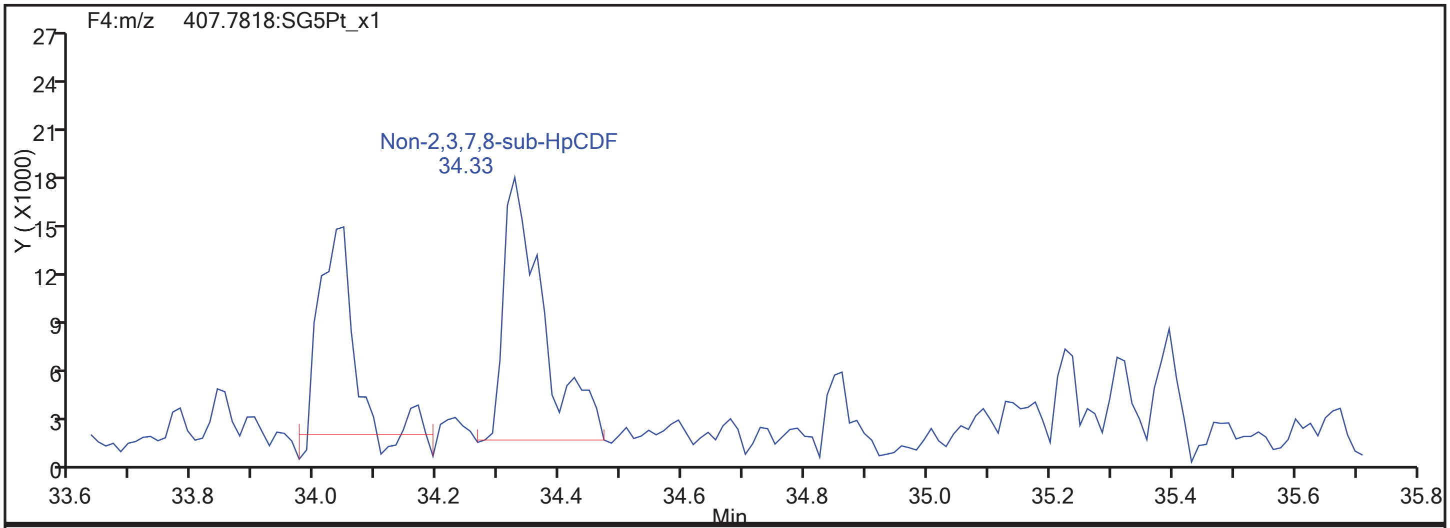
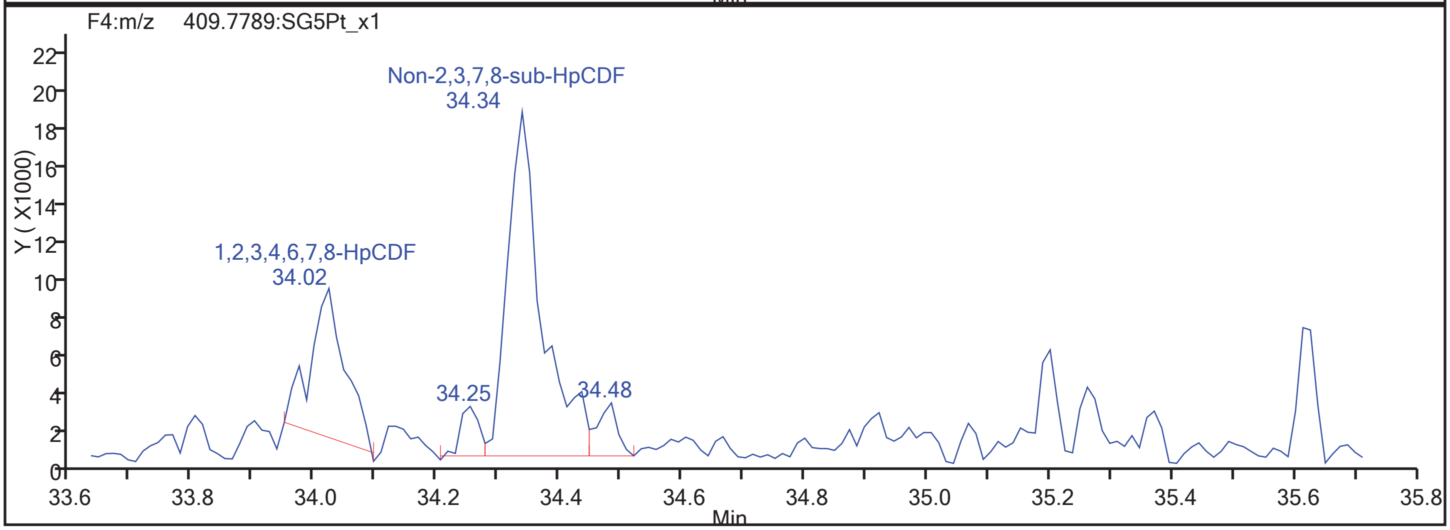
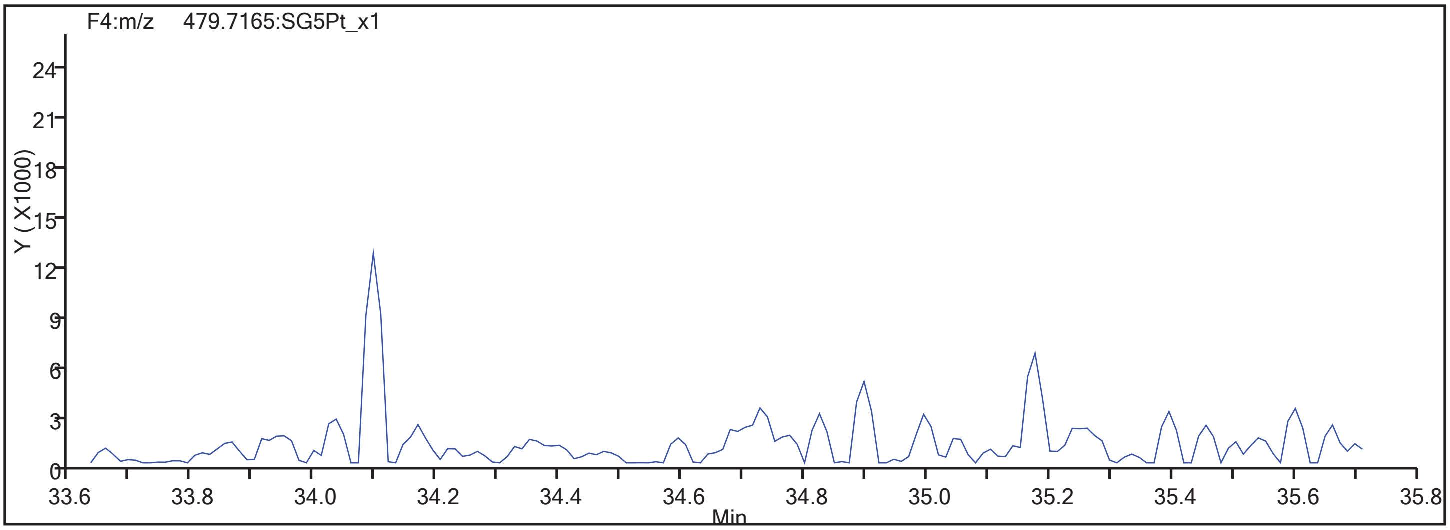




HpCDF Interference Mass



TestAmerica Sacramento

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Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 195574 Sample Line#: 70
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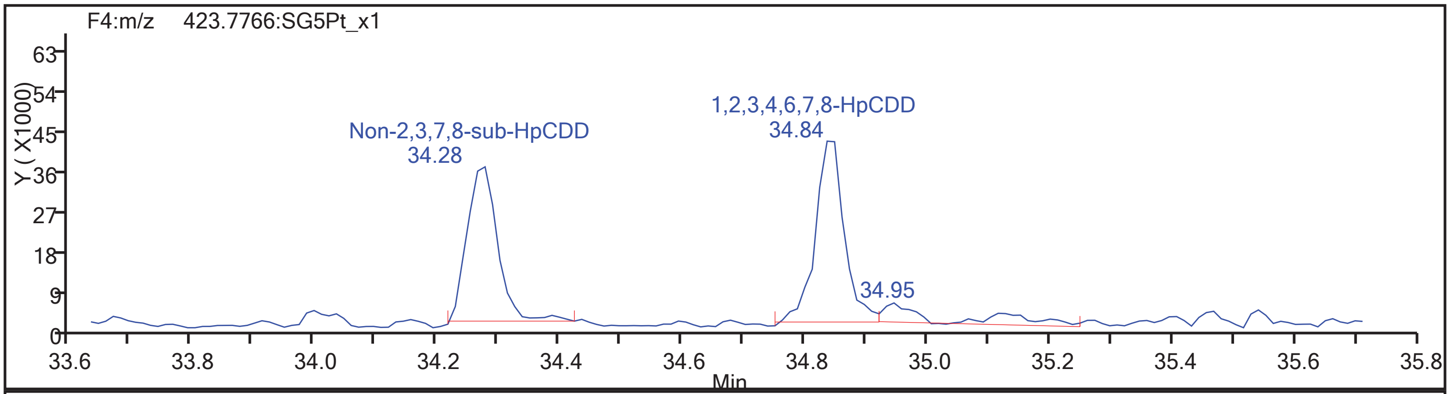

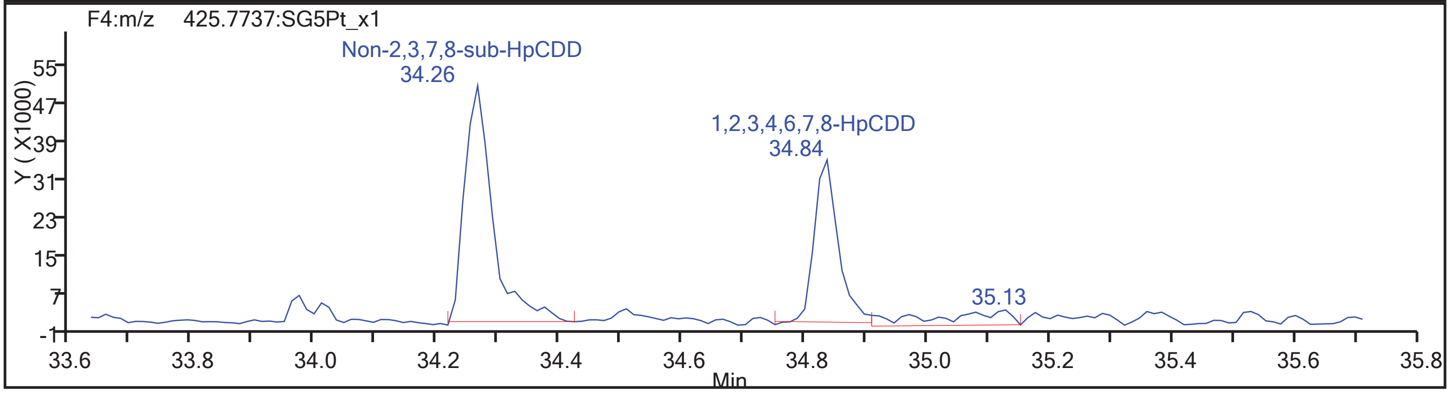

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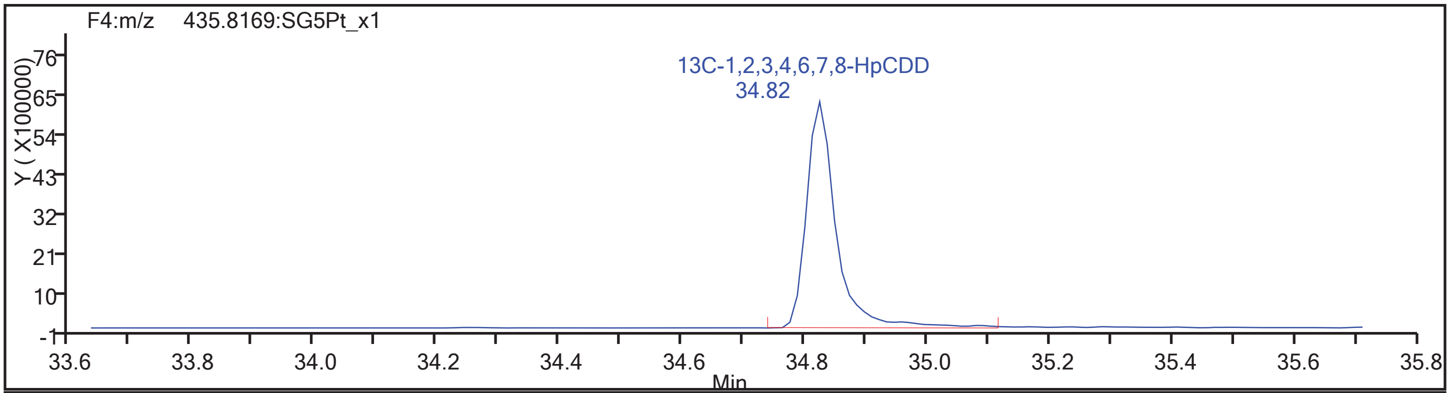

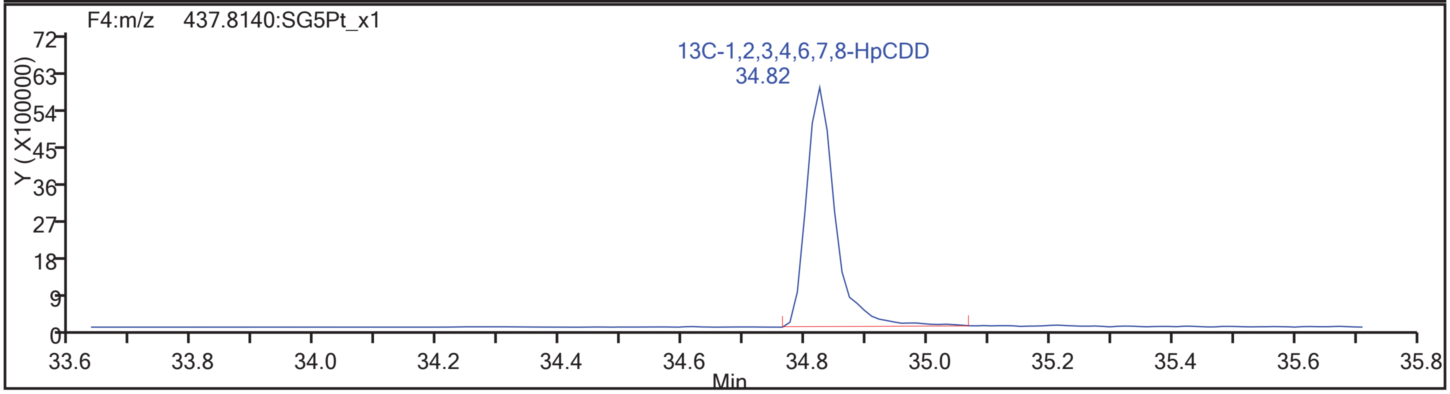

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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 02:26:01 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
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Client ID: SHAD041DP026SS06NS
Worklist#: 195574 Sample Line#: 70
Column Type: Column Dia:

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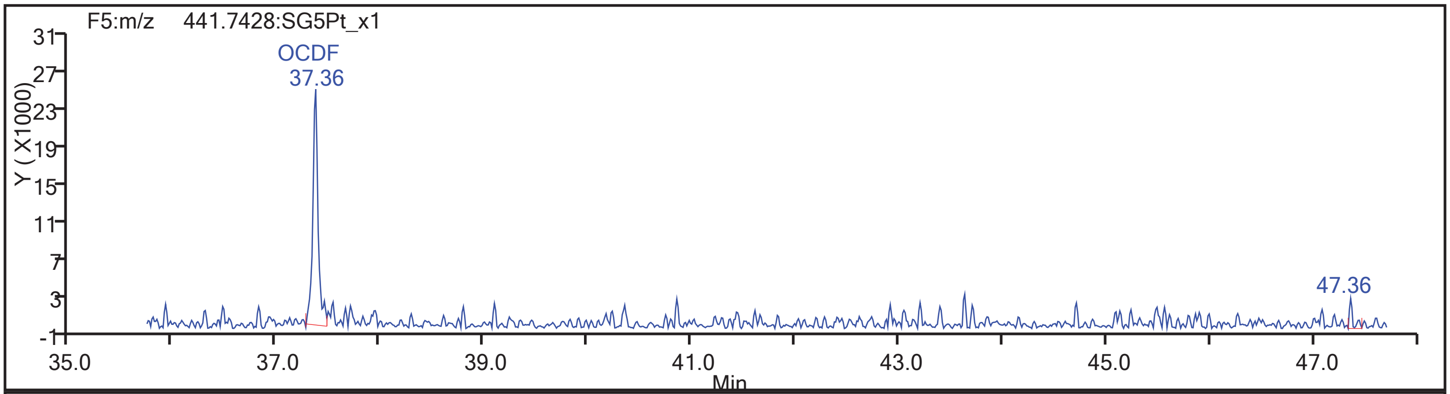
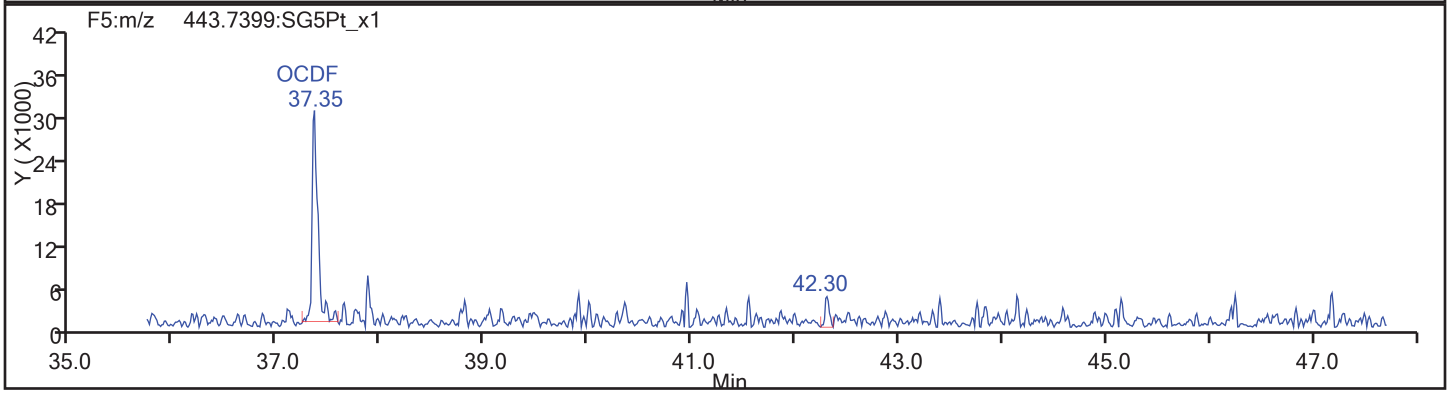
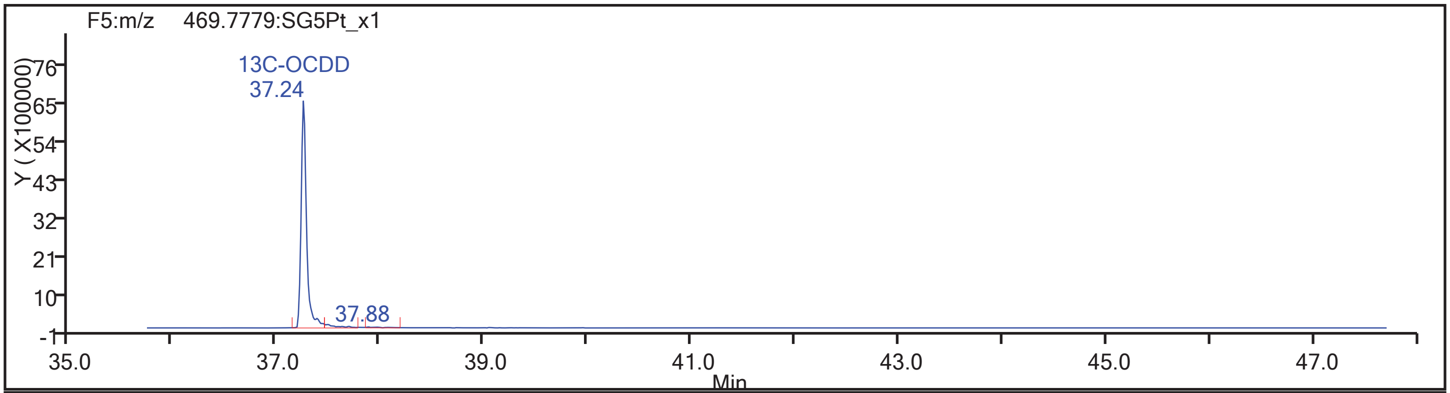
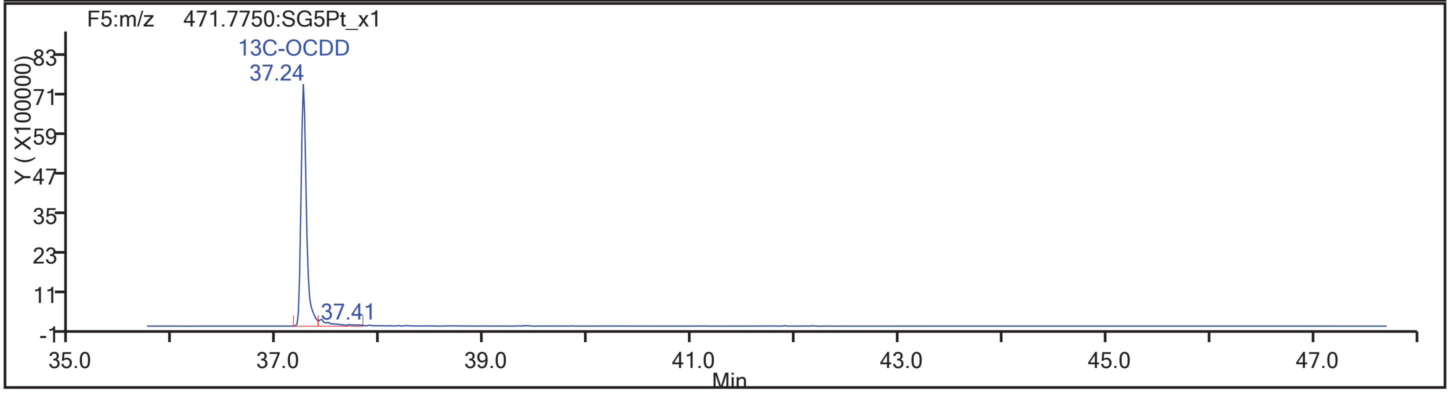




OCDF Standards





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TestAmerica Sacramento

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Injection Vol: 2.0 ul
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Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP026SS06NS
Worklist#: 195574
Sample Line#: 70
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Column Dia:

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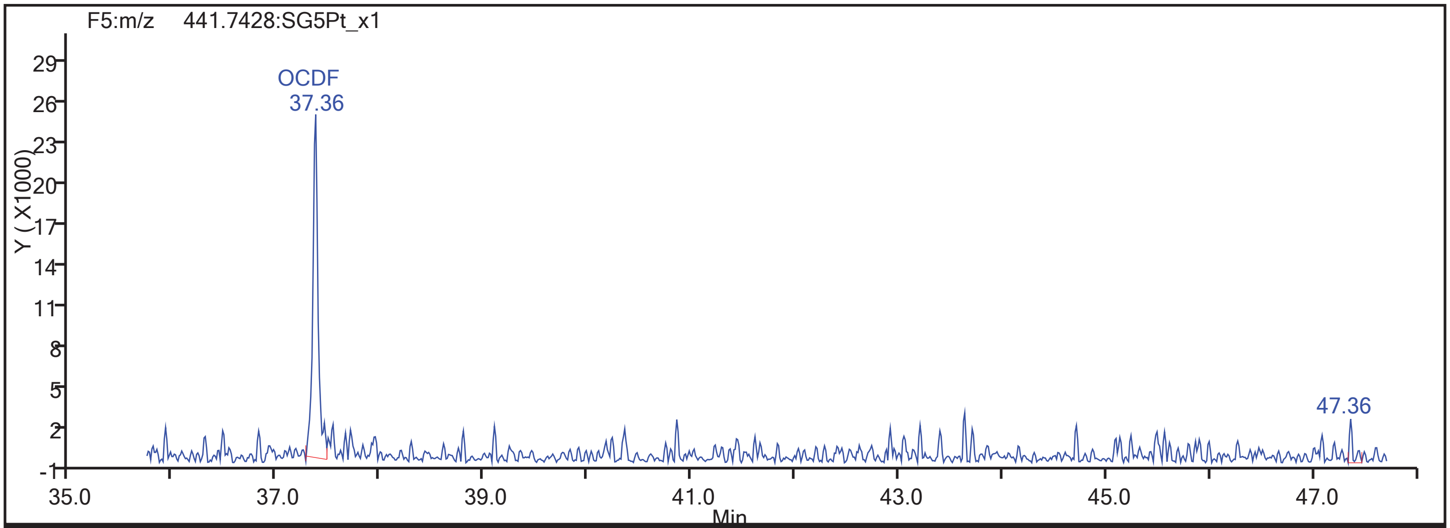

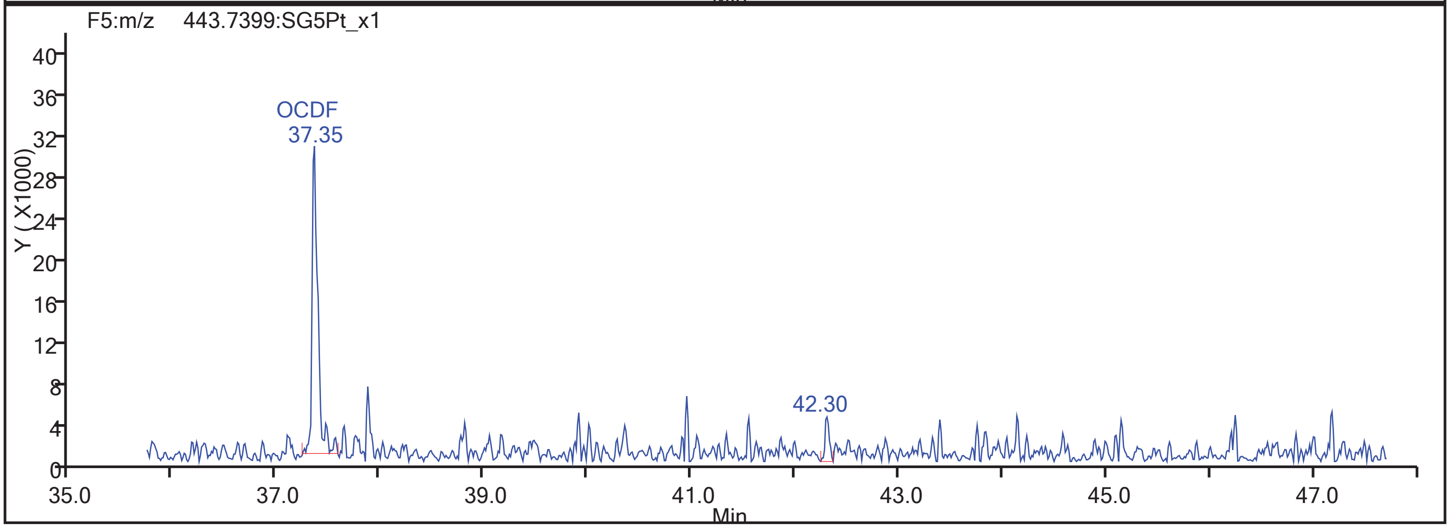

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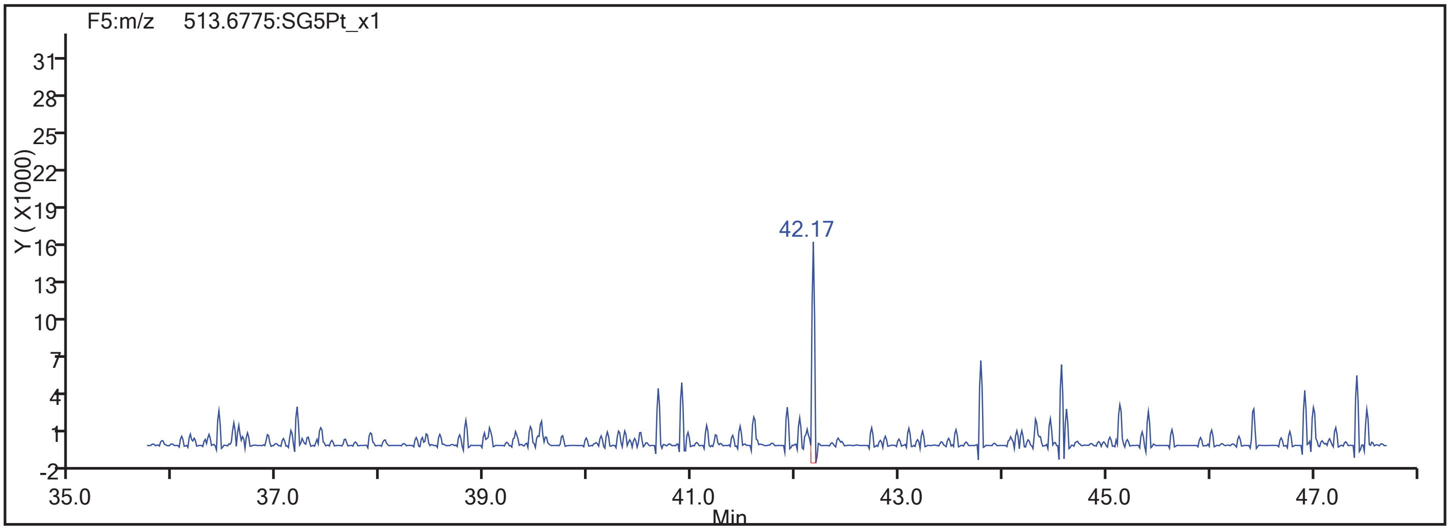

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TestAmerica Sacramento

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Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS06NS		
Worklist#:	195574	Sample Line#:	70
Column Type:		Column Dia:	

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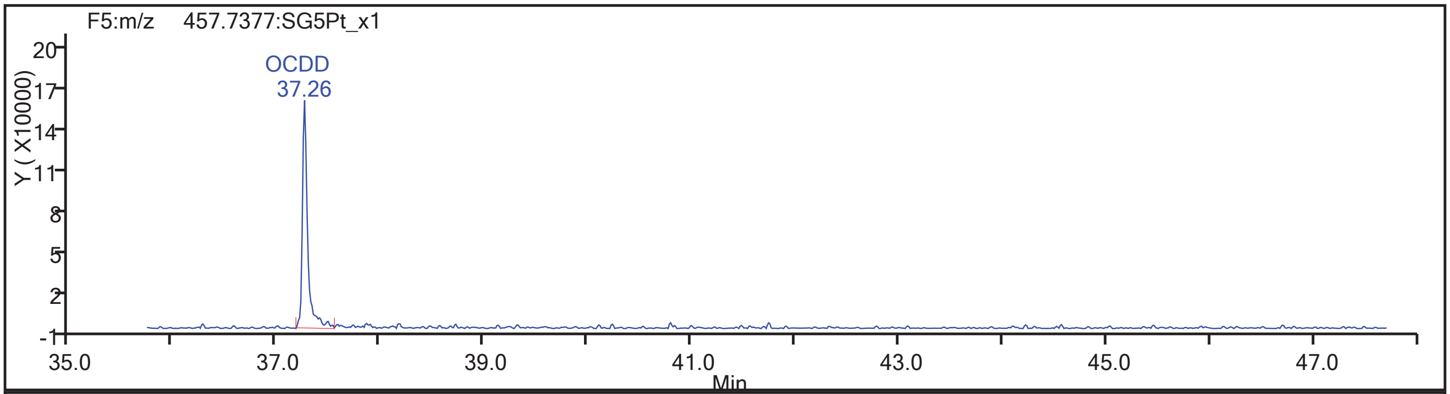
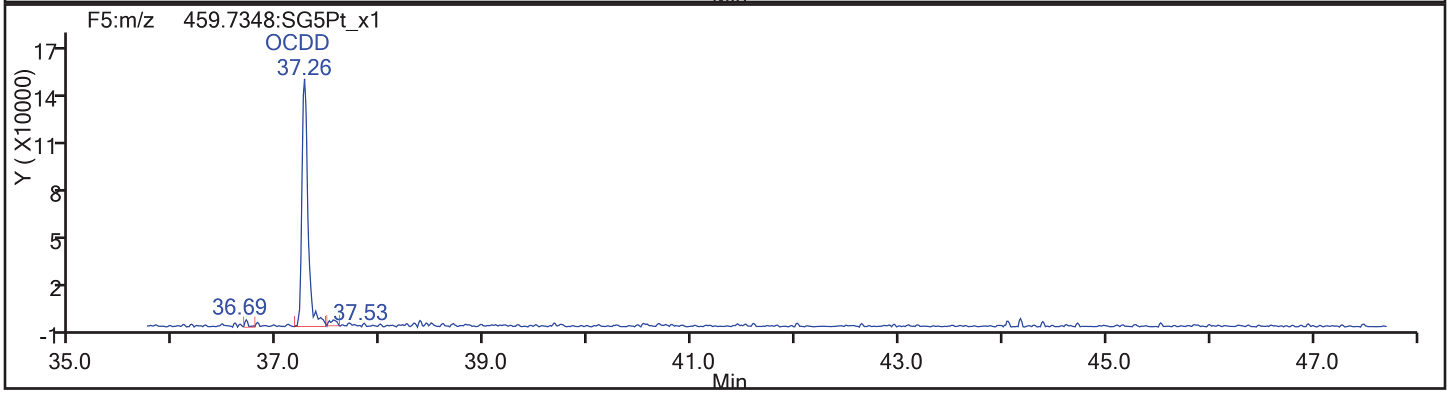
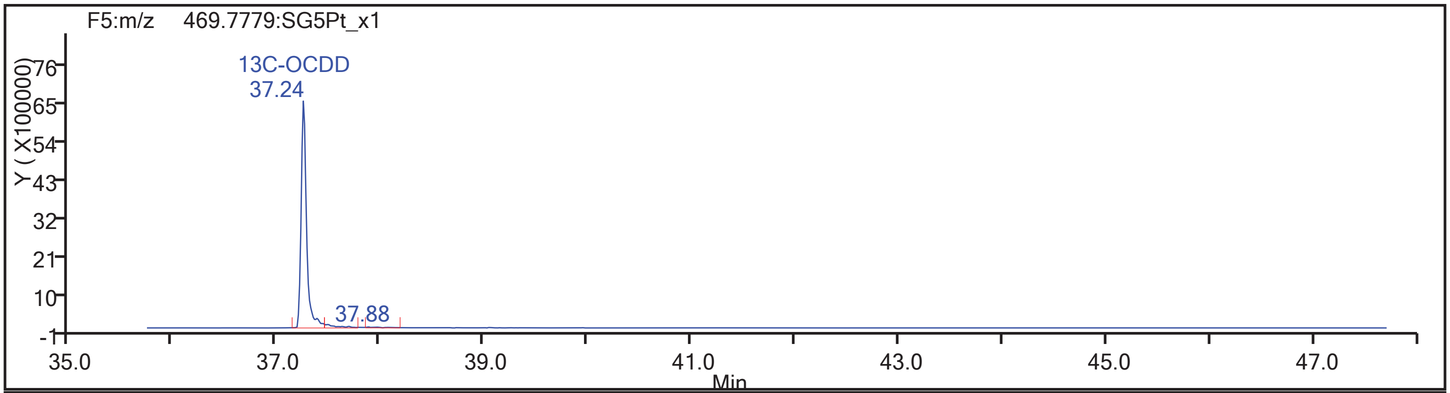
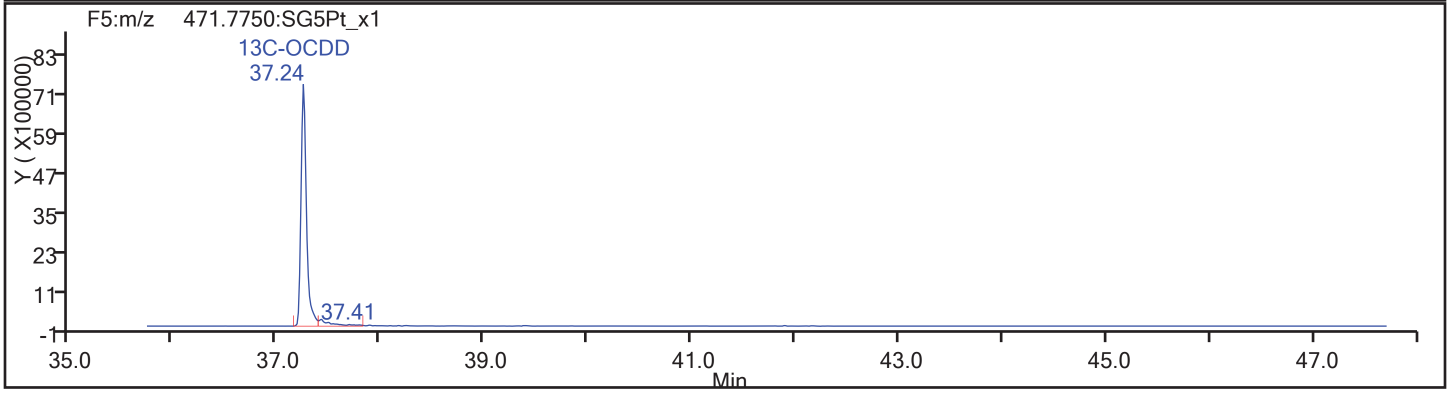




OCDD Standards





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TestAmerica Sacramento

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Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP026SS06NS		
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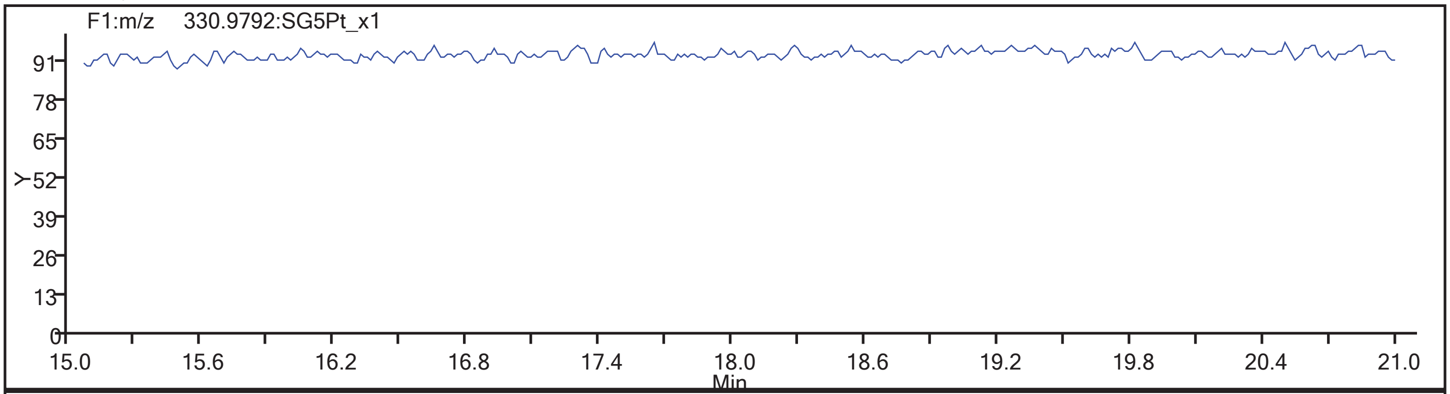

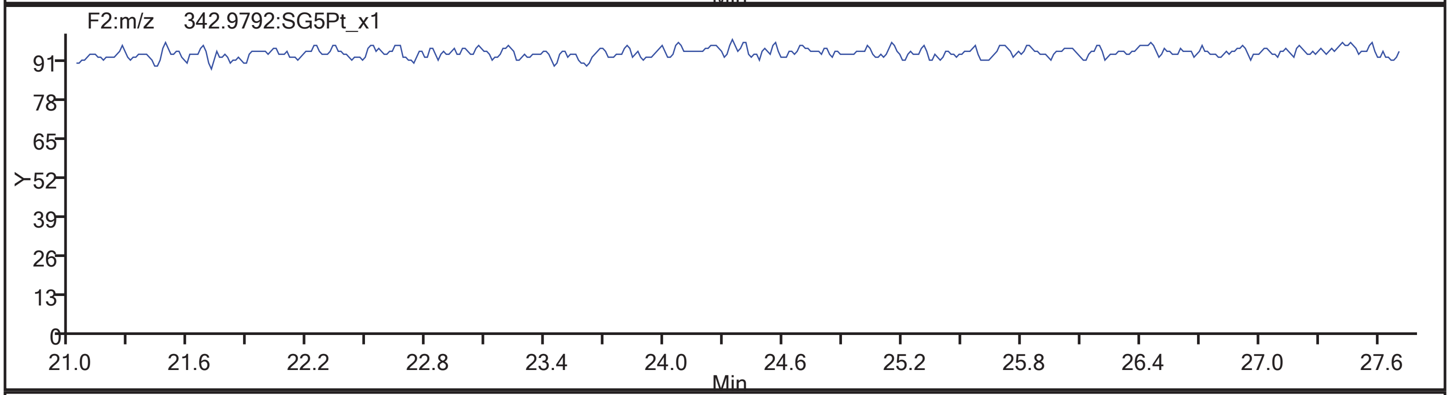

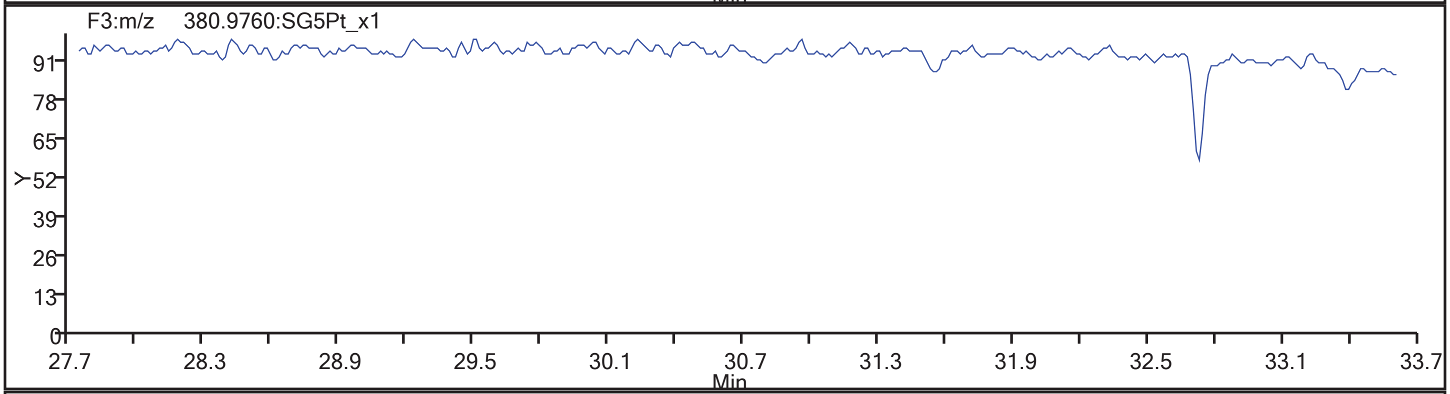

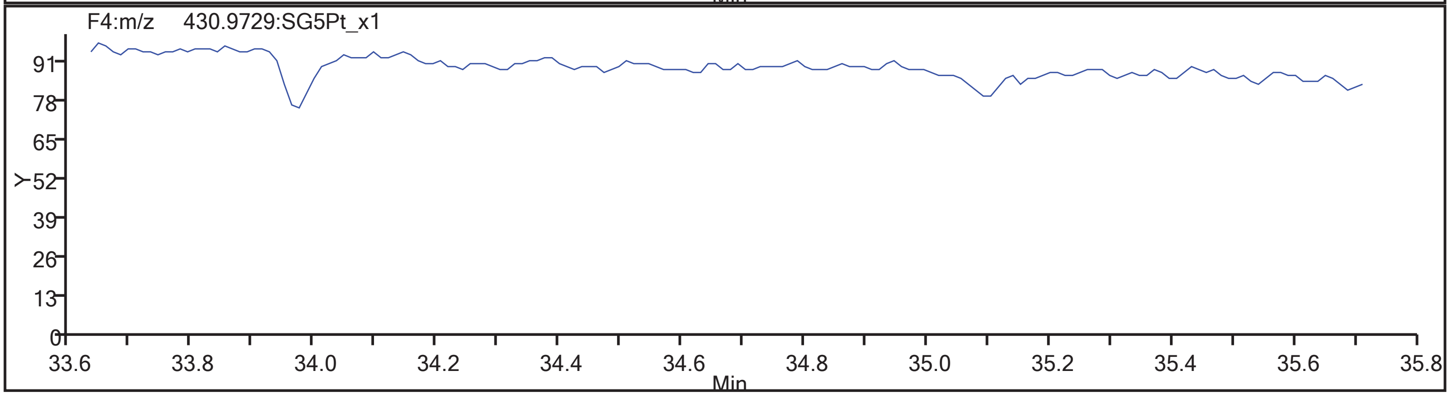

TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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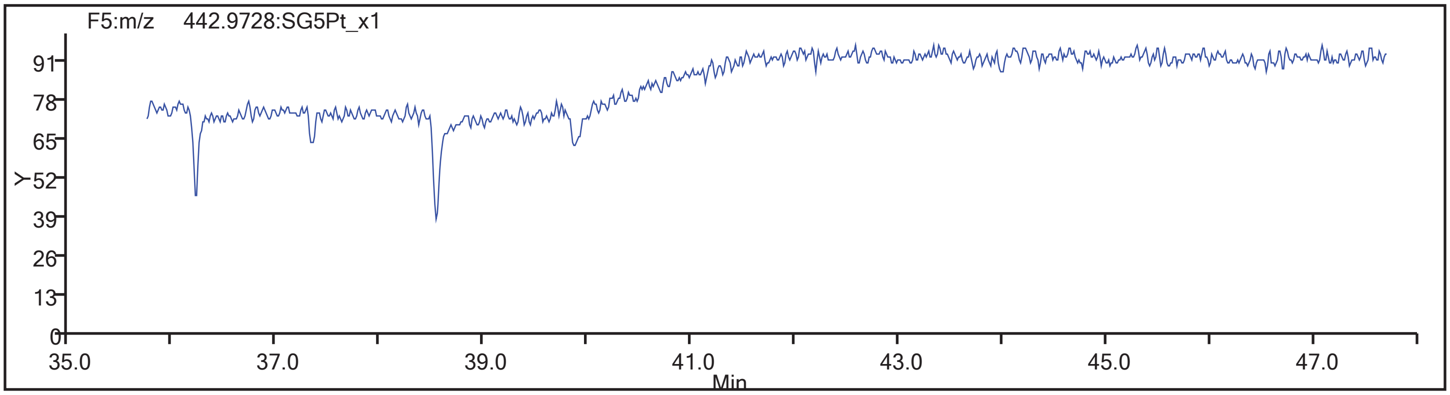


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP022SS01NS RA
Lab Sample ID: 160-24924-7 RA
Matrix: Solid
Lab File ID: 07NO179D2_011.d
Analysis Method: 8290A
Date Collected: 10/05/2017 16:45
Extract. Method: 8290
Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.02(g)
Date Analyzed: 11/07/2017 16:28
Con. Extract Vol.: 20.00(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 0.3
GPC Cleanup:(Y/N) N
Analysis Batch No.: 193317
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	2,3,7,8-TCDF	1.5	M	1.0	0.40	0.35

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	63		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_011.d				
Lims ID:	160-24924-G-7-A				
Client ID:	SHAD041DP022SS01NS				
Sample Type:	Client				
Inject. Date:	07-Nov-2017 16:28:00	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-7-A				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 16:51:06	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				

First Level Reviewer: shardaa Date: 09-Nov-2017 16:41:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.007	360579241	0.80	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.132	286628240	0.79	1.2599	63.1	63.1	3.518	3.518	63.09	
2,3,7,8-TCDF	16.132	2247980	0.81	1.0784	0.7272	0.7272	0.1744	0.1744		M
D 13C-2,3,7,8-TCDD	14.733	223011267	0.79	0.9567	64.6	64.6	0.2772	0.2772	64.65	
2,3,7,8-TCDD	14.774	1812062	0.69	1.1123	0.7305	0.7305	0.0918	0.0918		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_011.d
Lims ID: 160-24924-G-7-A
Client ID: SHAD041DP022SS01NS
Sample Type: Client
Inject. Date: 07-Nov-2017 16:28:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-7-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:41:45

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.007	14.991	1		160026321	34770852	51866	129665	670		
333.9339	15.007	14.991	1		200552920	43023084	30649	76622	1404	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.132	16.130	0	1.075	126513511	25857890	730528	1826320	35		
317.9389	16.132	16.130	0	1.075	160114729	32290044	648808	1622020	50	0.79(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.132	16.144	-1	1.000	1006342	239857	20808	52020	12		M
305.8987	16.132	16.144	-1	1.000	1241638	312959	22937	57342	14	0.81(0.65-0.89)	M
13C-2,3,7,8-TCDD											
331.9368	14.733	14.731	0	0.982	98598750	22117132	51866	129665	426		
333.9339	14.733	14.731	0	0.982	124412517	27859774	30649	76622	909	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.774	14.744	2	1.003	742039	114563	10756	26890	11		
321.8936	14.760	14.744	1	1.002	1070023	183452	9649	24122	19	0.69(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				20808	52020			
Total Dioxins & Furans											
303.9016		0.0	0				20808	52020			

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_011.d				
Injection Date:	07-Nov-2017 16:28:00	Instrument ID:	9D2		
Lims ID:	160-24924-G-7-A	Lab Sample ID:	320-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

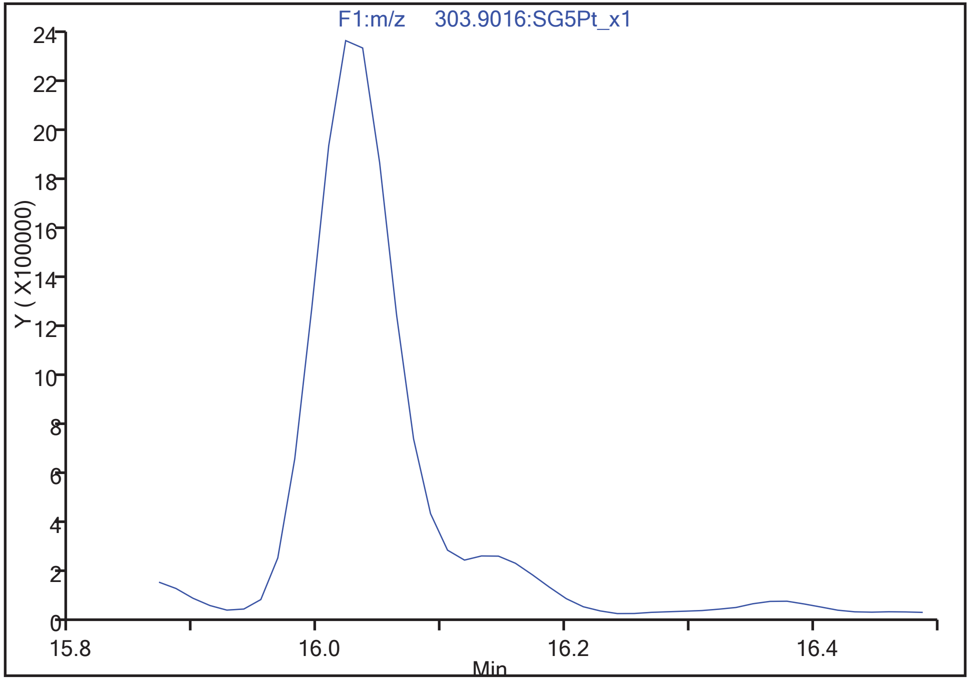
2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

Not Detected

Expected RT: 16.14

Processing Integration Results



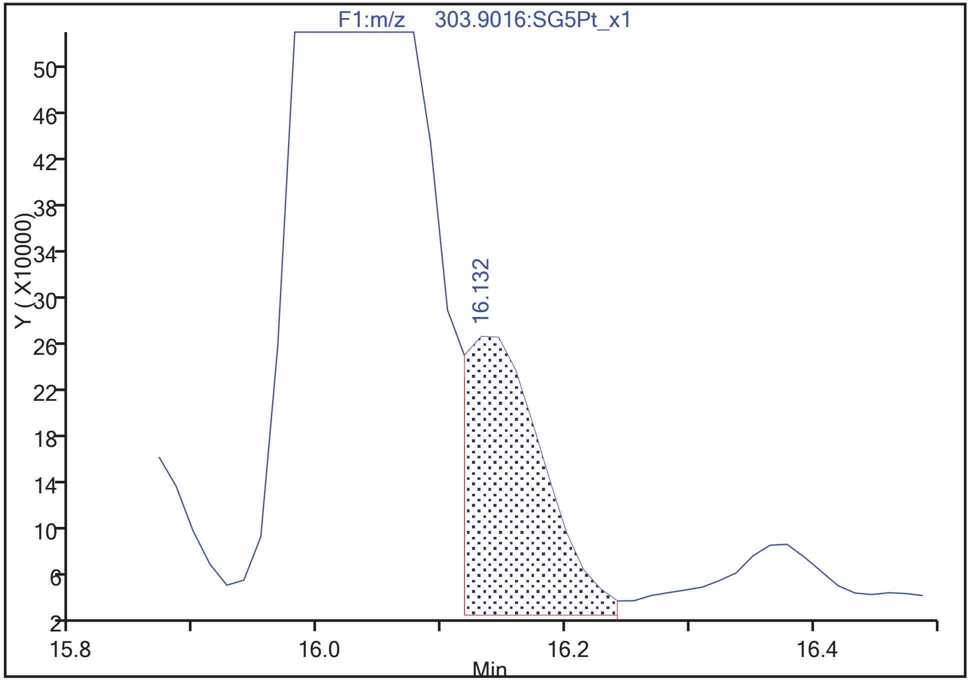
RT: 16.13

Area: 1006342

Amount: 0.727239

Amount Units: pg/ul

Manual Integration Results



Reviewer: shardaa, 09-Nov-2017 16:41:12

Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

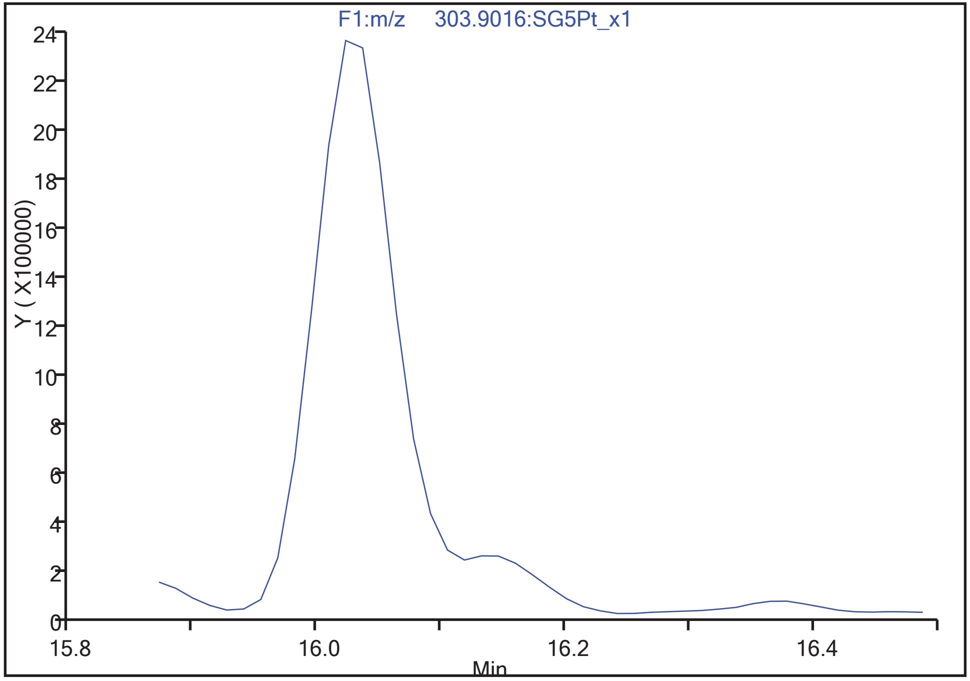
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_011.d				
Injection Date:	07-Nov-2017 16:28:00	Instrument ID:	9D2		
Lims ID:	160-24924-G-7-A	Lab Sample ID:	320-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

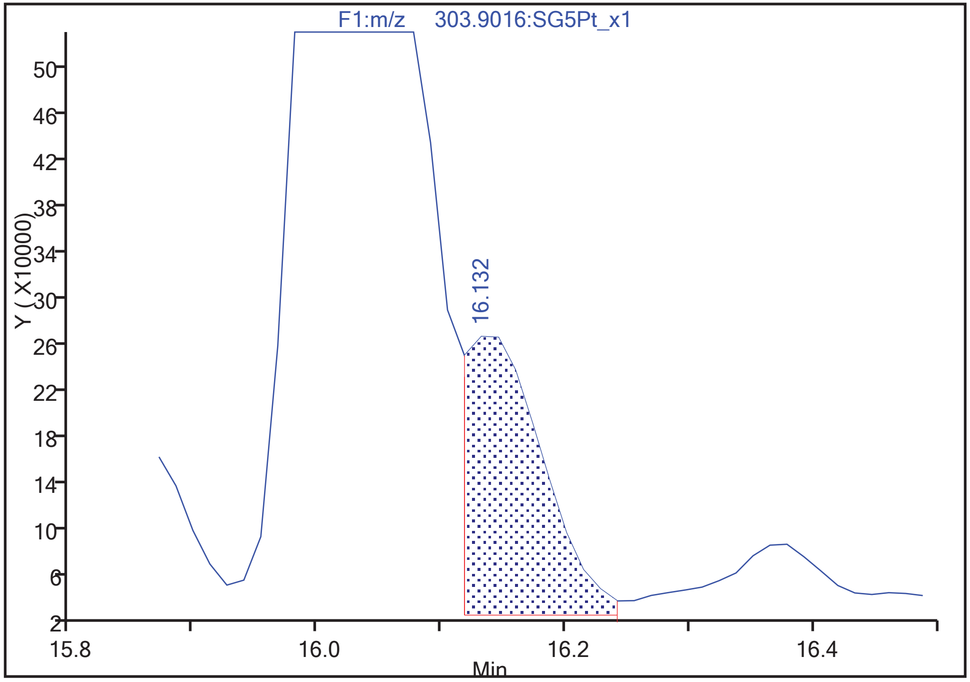
Not Detected
Expected RT: 16.14

Processing Integration Results



Manual Integration Results

RT: 16.13
Area: 1006342
Amount: 0.727239
Amount Units: pg/ul



Reviewer: shardaa, 09-Nov-2017 16:41:33

Audit Action: Split an Integrated Peak Audit Reason: Missed Peak

Report Date: 09-Nov-2017 16:51:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_011.d				
Injection Date:	07-Nov-2017 16:28:00	Instrument ID:	9D2		
Lims ID:	160-24924-G-7-A	Lab Sample ID:	320-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

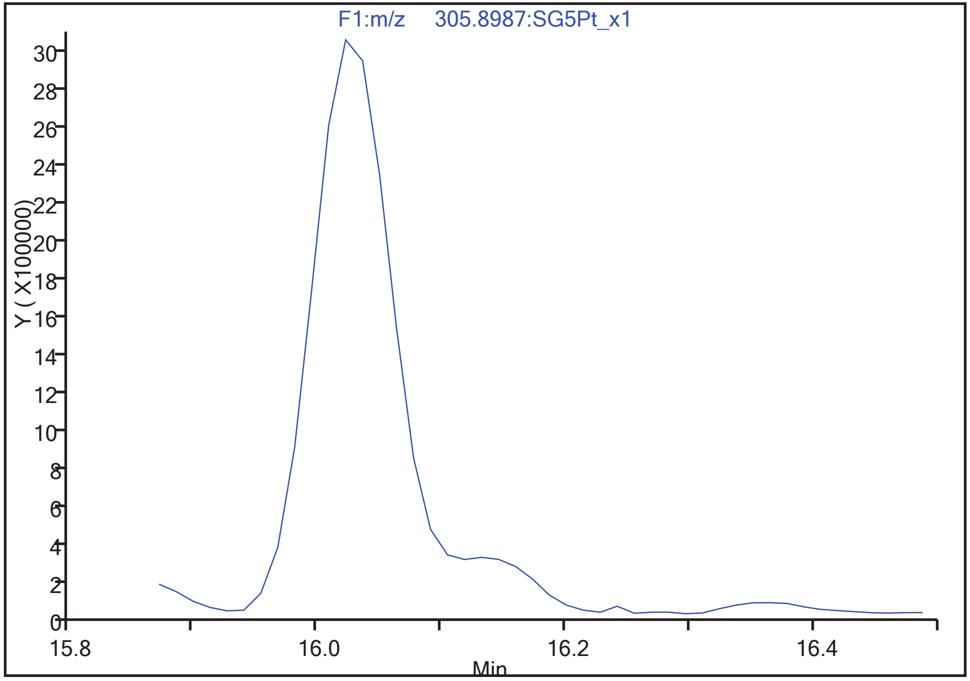
2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Not Detected

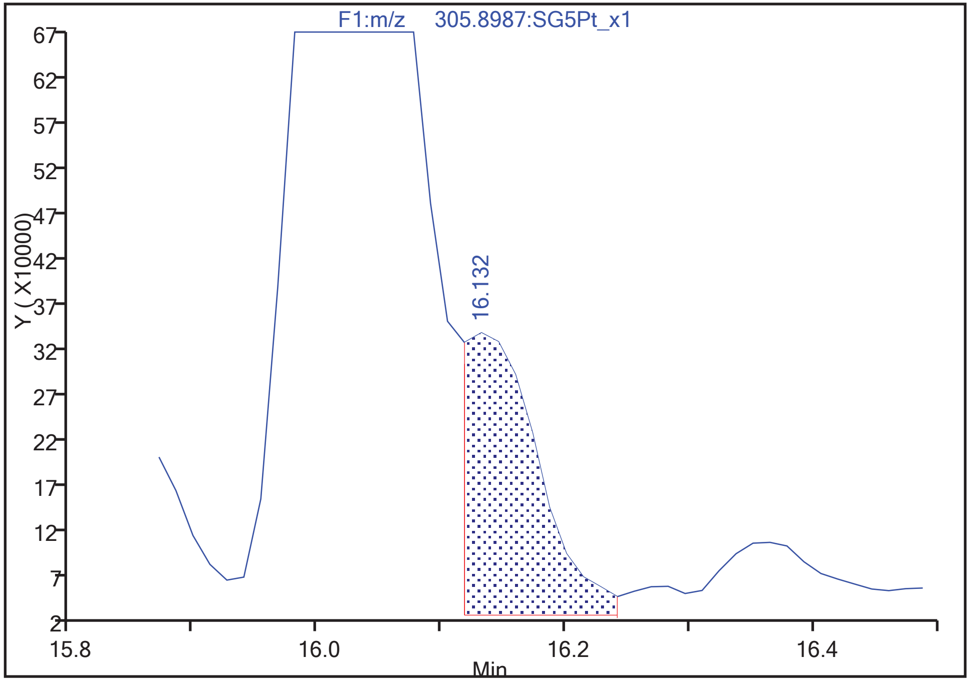
Expected RT: 16.14

Processing Integration Results



RT:	16.13
Area:	1241638
Amount:	0.727239
Amount Units:	pg/ul

Manual Integration Results



Reviewer: shardaa, 09-Nov-2017 16:41:37

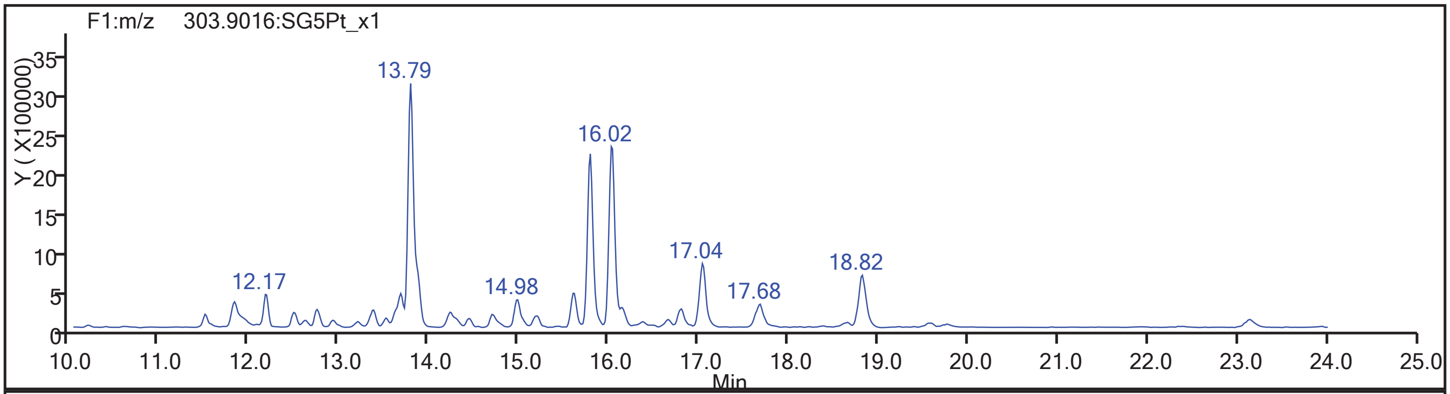
Audit Action: Split an Integrated Peak Audit Reason: Missed Peak

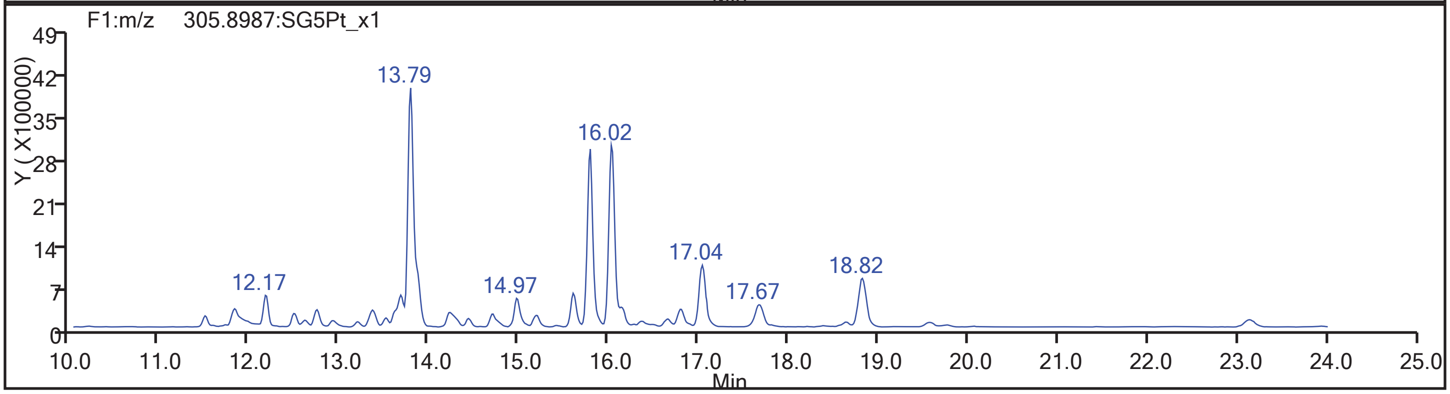
Report Date: 09-Nov-2017 16:51:27
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

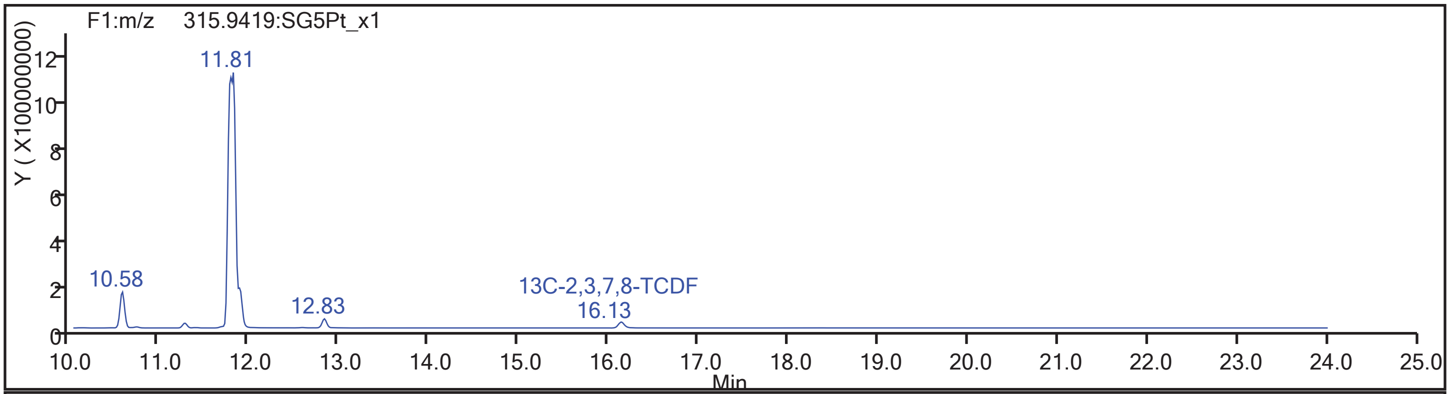
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_011.d
Injection Date: 07-Nov-2017 16:28:00
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 193317
Sample Line#: 11
Column Type: DB-225
Column Dia: 0.32 mm

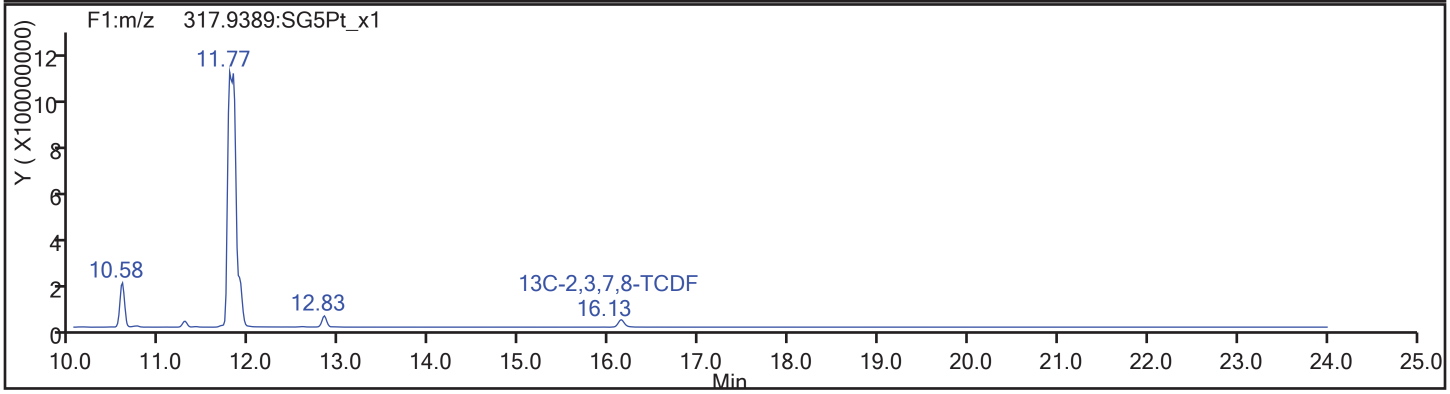
TCDF





TCDF Standards





Report Date: 09-Nov-2017 16:51:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_011.d

Injection Date: 07-Nov-2017 16:28:00 Injection Vol: 2.0 ul

Instrument ID: 9D2 Operator ID:

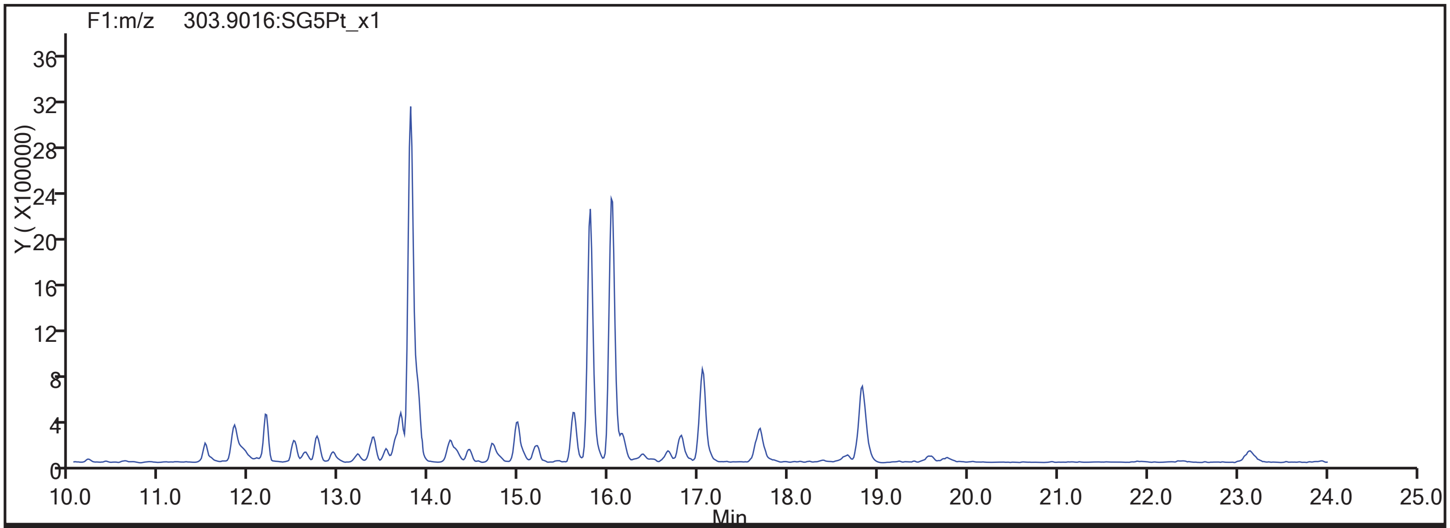
Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL

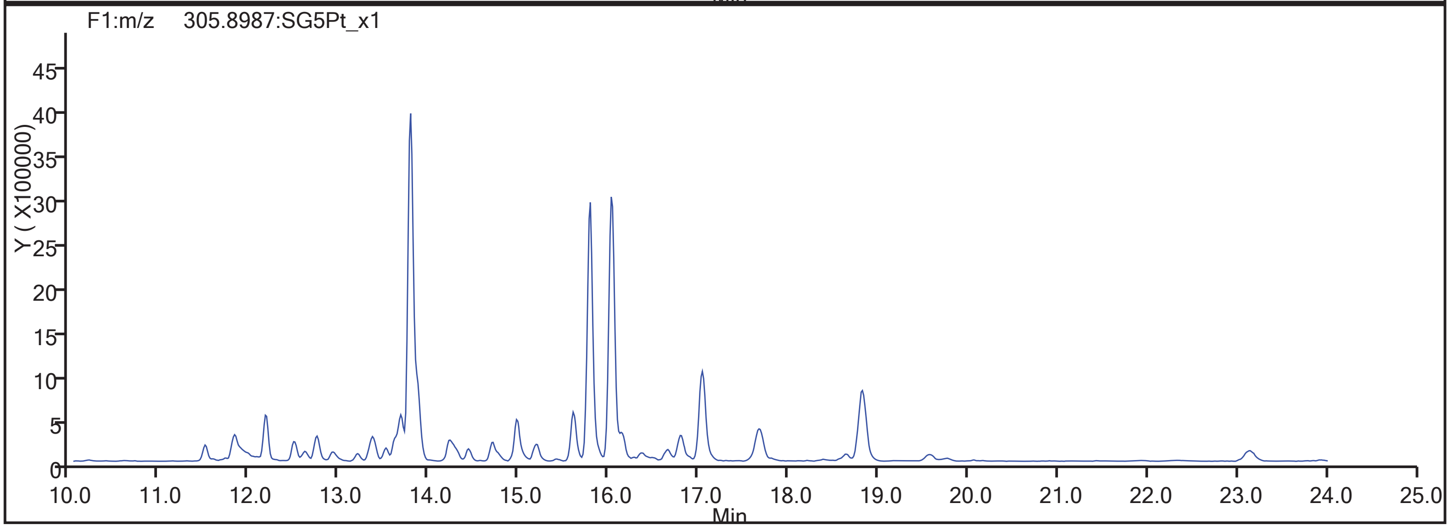
Client ID: SHAD041DP022SS01NS

Worklist#: 193317 Sample Line#: 11

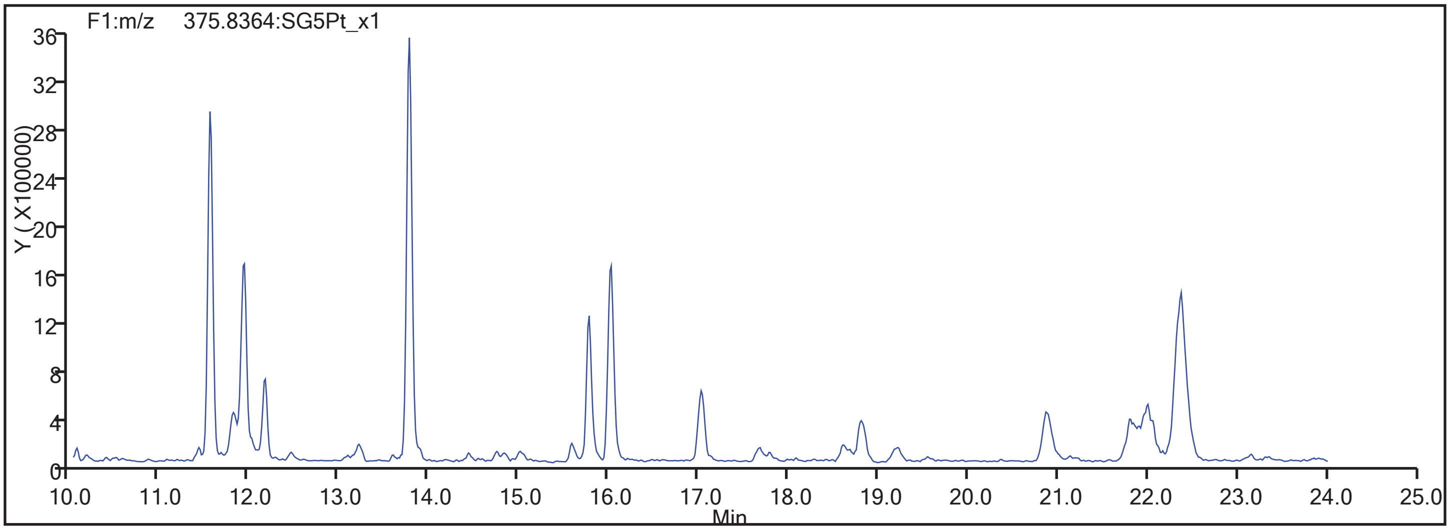
Column Type: DB-225 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



Report Date: 09-Nov-2017 16:51:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_011.d

Injection Date: 07-Nov-2017 16:28:00

Injection Vol: 2.0 ul

Instrument ID: 9D2

Operator ID:

Method: DXN_DB225_9D2

Limit Group: HR - 8290A_D5 - ICAL

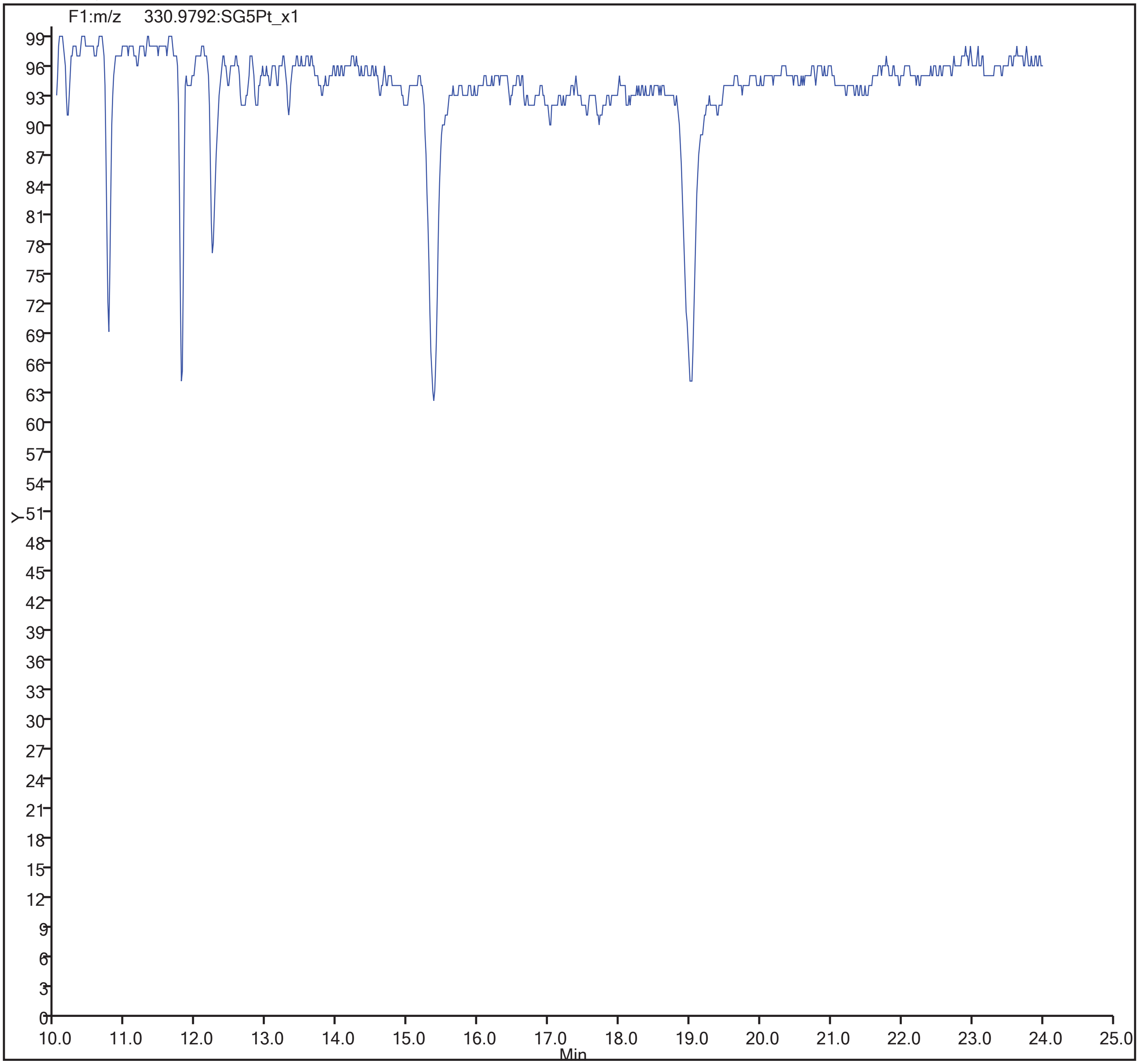
Client ID: SHAD041DP022SS01NS

Worklist#: 193317

Sample Line#: 11

Column Type: DB-225

Column Dia: 0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS01NS	Lab Sample ID: 160-24924-7
Matrix: Solid	Lab File ID: 09NO1710D5_70.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:45
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.02(g)	Date Analyzed: 11/11/2017 15:49
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 0.3	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194085	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.78	J	1.0	0.40	0.30
40321-76-4	1,2,3,7,8-PeCDD	0.75	U	5.0	0.75	1.7
57117-41-6	1,2,3,7,8-PeCDF	0.75	U	5.0	0.75	0.78
57117-31-4	2,3,4,7,8-PeCDF	0.75	U	5.0	0.75	0.80
39227-28-6	1,2,3,4,7,8-HxCDD	7.3		5.0	2.0	1.3
57653-85-7	1,2,3,6,7,8-HxCDD	62		5.0	2.0	1.0
19408-74-3	1,2,3,7,8,9-HxCDD	30		5.0	2.0	1.0
70648-26-9	1,2,3,4,7,8-HxCDF	4.8	J M	5.0	0.75	1.5
57117-44-9	1,2,3,6,7,8-HxCDF	9.4		5.0	1.0	1.3
72918-21-9	1,2,3,7,8,9-HxCDF	1.0	U	5.0	1.0	1.5
60851-34-5	2,3,4,6,7,8-HxCDF	3.9	J	5.0	0.75	1.4
35822-46-9	1,2,3,4,6,7,8-HpCDD	500		6.8	1.0	6.8
67562-39-4	1,2,3,4,6,7,8-HpCDF	190		5.0	1.0	2.4
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.0	U	5.0	2.0	3.0
3268-87-9	OCDD	2300	B	10	4.0	4.2
39001-02-0	OCDF	180		10	4.0	0.40

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	63		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	72		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	70		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	67		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	76		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	61		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	55		40-135
114423-97-1	13C-OCDD	52		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d
Lims ID: 160-24924-G-7-A
Client ID: SHAD041DP022SS01NS
Sample Type: Client
Inject. Date: 11-Nov-2017 15:49:39 ALS Bottle#: 44 Worklist Smp#: 70
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-7-a 160-24924-g-7-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 11:34:41 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 11:34:41

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	75372045	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	58753332	0.78	1.2741	61.2	61.2	17.6	17.6	61.18	
2,3,7,8-TCDF	17.445	1015214	0.71	1.1341	1.524	1.524	0.2796	0.2796		
A Non-2,3,7,8-sub-TCDF	17.105	5043248	0.77	1.1341	8.097	7.569	0.2796	1.594		RQM
S Total TCDF					9.621	9.092	0.2796	0.2796		RQ
D 13C-2,3,7,8-TCDD	18.126	47005909	0.77	0.9921	62.9	62.9	0.2216	0.2216	62.86	
2,3,7,8-TCDD	18.126	183601	0.77	0.9993	0.4529	0.3909	0.1486	0.1486		RQ
A Non-2,3,7,8-sub-TCDD	17.559	1972971	0.77	0.9993	4.447	4.200	0.1486	1.201		RQ
S Total TCDD					4.900	4.591	0.1486	0.1486		RQ
D 13C-1,2,3,7,8-PeCDF	22.465	51420375	1.54	0.9696	70.4	70.4	0.2168	0.2168	70.36	
1,2,3,7,8-PeCDF	22.465						0.3919	0.3919		
2,3,4,7,8-PeCDF	23.815						0.3999	0.3999		
A F1 PeCDFs	20.001	8255063	1.61	1.1511	13.9	13.9	0.0873	13.9		
A Non-2,3,7,8-sub-PeCDF	23.161	5437316	1.45	1.1511	9.186	9.186	0.3959	6.736		
S Total PeCDF					23.1	23.1	0.3959	0.3959		
D 13C-1,2,3,7,8-PeCDD	24.537	41049261	1.58	0.7588	71.8	71.8	0.1313	0.1313	71.78	
1,2,3,7,8-PeCDD	24.551						0.8725	0.8725		
A Non-2,3,7,8-sub-PeCDD	23.419	4506418	1.55	0.9490	57.5	11.6	0.8725	5.808		RQ
S Total PeCDD					57.5	11.6	0.8725	0.8725		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.607	42962961	0.51	0.9644	76.0	76.0	0.5876	0.5876	76.02	
1,2,3,4,7,8-HxCDF	30.620	1446111	1.24	1.4012	2.402	2.402	0.7624	0.7624		M
1,2,3,6,7,8-HxCDF	30.806	3424840	1.26	1.6951	4.703	4.703	0.6302	0.6302		
2,3,4,6,7,8-HxCDF	31.605	1289170	1.31	1.5205	1.973	1.973	0.7026	0.7026		
D 13C-1,2,3,7,8,9-HxCDF	32.377	39840389	0.53							
1,2,3,7,8,9-HxCDF	32.377						0.7577	0.7577		
A Non-2,3,7,8-sub-HxCDF	30.254	56127051	1.28	1.5067	86.7	86.7	0.7090	44.4		M
S Total HxCDF					95.8	95.8	0.7132	0.7132		
* 13C-1,2,3,7,8,9-HxCDD	32.190	58604751	1.23	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.791	1193131	1.29	0.9505	3.655	3.655	0.6679	0.6679		
D 13C-1,2,3,6,7,8-HxCDD	31.871	34342414	1.31	0.8791	66.7	66.7	0.3782	0.3782	66.66	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.897	13157682	1.27	1.2343	31.0	31.0	0.5143	0.5143		
1,2,3,7,8,9-HxCDD	32.204	6321000	1.32	1.2467	14.8	14.8	0.5092	0.5092		
A Non-2,3,7,8-sub-HxCDD	30.893	73349912	1.27	1.1438	186.7	186.7	0.5550	136.8		
S Total HxCDD					236.2	236.2	0.5638	0.5638		
D 13C-1,2,3,4,6,7,8-HpCDF	33.794	24687854	0.43	0.7618	55.3	55.3	0.8642	0.8642	55.30	
1,2,3,4,6,7,8-HpCDF	33.807	37471689	1.06	1.6399	92.6	92.6	1.217	1.217		
1,2,3,4,7,8,9-HpCDF	34.852						1.500	1.500		
A Non-2,3,7,8-sub-HpCDF	34.305	52000930	1.04	1.4851	141.8	141.8	1.343	141.8		M
S Total HpCDF					234.4	234.4	1.358	1.358		
1,2,3,4,6,7,8-HpCDD	34.597	68956955	1.03	0.9932	250.2	250.2	3.384	3.384		
D 13C-1,2,3,4,6,7,8-HpCDD	34.584	27751319	1.05	0.7762	61.0	61.0	0.5040	0.5040	61.01	
A Non-2,3,7,8-sub-HpCDD	34.286	91938375	1.03	0.9932	333.6	333.6	3.384	333.6		
S Total HpCDD					583.8	583.8	3.384	3.384		
D 13C-OCDD	36.942	38824167	0.87	0.6314	104.9	104.9	0.2600	0.2600	52.46	
OCDF	37.050	23617654	0.89	1.3460	90.4	90.4	0.2005	0.2005		
OCDD	36.954	231610344	0.90	1.0604	1125.1	1125.1	2.118	2.118		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d
Lims ID: 160-24924-G-7-A
Client ID: SHAD041DP022SS01NS
Sample Type: Client
Inject. Date: 11-Nov-2017 15:49:39 ALS Bottle#: 44 Worklist Smp#: 70
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-7-a 160-24924-g-7-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 11:34:41 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 11:34:41

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		33144865	8073792	9271	23177	871		
333.9339	17.914	17.914	0		42227180	10263909	6855	17137	1497	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	25722604	6647489	651936	1629840	10		
317.9389	17.400	17.400	0	0.971	33030728	8465741	989439	2473597	9	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.445	17.415	2	1.003	421587	89734	8280	20700	11		
305.8987	17.445	17.415	2	1.003	593627	130891	10889	27222	12	0.71(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	15.495	17.105	-96	0.891	470878	136358	8280	20700	16		
305.8987	15.480	17.105	-97	0.890	591212	169816	10889	27222	16	0.80(0.65-0.89)	
303.9016	15.737	17.105	-82	0.904	419314	67155	8280	20700	8		
305.8987	15.737	17.105	-82	0.904	498461	90557	10889	27222	8	0.84(0.65-0.89)	
303.9016	15.994	17.105	-67	0.919	269297	50607	8280	20700	6		
305.8987	15.994	17.105	-67	0.919	331006	65434	10889	27222	6	0.81(0.65-0.89)	
303.9016	16.281	17.105	-49	0.936	153467	46460	8280	20700	6		M
	Empc Correction				126773	47039	8280	20700	6		
305.8987	16.281	17.105	-49	0.936	164641	61090	10889	27222	6	0.93(0.65-0.89)	M
303.9016	16.508	17.105	-36	0.949	324070	90242	8280	20700	11		
305.8987	16.508	17.105	-36	0.949	471604	131890	10889	27222	12	0.69(0.65-0.89)	
303.9016	16.719	17.105	-23	0.961	190713	36890	8280	20700	4		
305.8987	16.719	17.105	-23	0.961	526595	53878	10889	27222	5	0.36(0.65-0.89)	
	Empc Correction				247679	47909	10889	27222	4		
303.9016	17.854	17.105	45	1.026	219663	54609	8280	20700	7		M
305.8987	17.854	17.105	45	1.026	303059	75502	10889	27222	7	0.72(0.65-0.89)	M

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	18.065	17.105	57	1.038	180484	34277	8280	20700	4		
305.8987	18.065	17.105	57	1.038	281111	44913	10889	27222	4	0.64(0.65-0.89)	
	Empc Correction				234394	44515	10889	27222	4		
13C-2,3,7,8-TCDD											
331.9368	18.126	18.111	1	1.012	20466189	4603756	9271	23177	497		
333.9339	18.111	18.111	0	1.011	26539720	5943119	6855	17137	867	0.77(0.65-0.89)	
2,3,7,8-TCDD											RQ
319.8965	18.126	18.126	0	1.000	79872	19066	3460	8650	6		
321.8936	18.126	18.126	0	1.000	132859	30469	2803	7007	11	0.60(0.65-0.89)	
	Empc Correction				103729	24761	2803	7007	9		
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	15.903	17.559	-99	0.877	154871	42412	3460	8650	12		
321.8936	15.903	17.559	-99	0.877	203535	58520	2803	7007	21	0.76(0.65-0.89)	
319.8965	16.190	17.559	-82	0.893	85050	24065	3460	8650	7		
	Empc Correction				69725	22778	3460	8650	7		
321.8936	16.190	17.559	-82	0.893	90553	29582	2803	7007	11	0.94(0.65-0.89)	
319.8965	16.432	17.559	-67	0.907	72596	21602	3460	8650	6		
321.8936	16.432	17.559	-67	0.907	86527	26389	2803	7007	9	0.84(0.65-0.89)	
319.8965	17.007	17.559	-33	0.938	265113	62300	3460	8650	18		
321.8936	17.007	17.559	-33	0.938	299214	71834	2803	7007	26	0.89(0.65-0.89)	
319.8965	17.611	17.559	3	0.972	66767	15251	3460	8650	4		
321.8936	17.611	17.559	3	0.972	77533	21796	2803	7007	8	0.86(0.65-0.89)	
319.8965	17.899	17.559	20	0.987	72806	15469	3460	8650	4		
321.8936	17.899	17.559	20	0.987	104342	16043	2803	7007	6	0.70(0.65-0.89)	
319.8965	18.035	17.559	29	0.995	78516	18825	3460	8650	5		
321.8936	18.035	17.559	29	0.995	116536	28783	2803	7007	10	0.67(0.65-0.89)	
319.8965	18.504	17.559	57	1.021	93243	21669	3460	8650	6		
321.8936	18.489	17.559	56	1.020	221693	30275	2803	7007	11	0.42(0.65-0.89)	
	Empc Correction				121094	28141	2803	7007	10		
13C-1,2,3,7,8-PeCDF											
351.9000	22.465	22.437	2	1.254	31199133	5301978	9095	22737	583		
353.8970	22.465	22.437	2	1.254	20221242	3461073	6324	15810	547	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.465						9671	24177			
341.8567	22.465						6302	15755			
2,3,4,7,8-PeCDF											
339.8597	23.815						9671	24177			
341.8567	23.815						6302	15755			
A F1 PeCDFs											
339.8597	19.547	20.001	-27	0.870	5086330	1090358	1578	3945	691		
341.8567	19.547	20.001	-27	0.870	3168733	708873	1943	4857	365	1.61(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	21.115	23.161	-123	0.940	2334558	396551	9671	24177	41		
341.8567	21.115	23.161	-123	0.940	1652789	234876	6302	15755	37	1.41(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	21.905	23.161	-75	0.975	881031	117380	9671	24177	12		
341.8567	21.905	23.161	-75	0.975	568938	73507	6302	15755	12	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.537	24.524	1	1.370	25151379	3823818	4566	11415	837		
369.8919	24.537	24.524	1	1.370	15897882	2414253	2740	6850	881	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551						2867	7167			
357.8516	24.551						17793	44482			
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.319	23.419	-126	0.869	1375332	236149	2867	7167	82		
357.8516	21.346	23.419	-124	0.870	18059084	3715393	17793	44482	209	0.08(1.32-1.78)	
	Empc Correction				887310	152354	17793	44482	9		
355.8546	22.505	23.419	-55	0.917	557031	110381	2867	7167	39		
357.8516	22.587	23.419	-50	0.921	1099108	162661	17793	44482	9	0.51(1.32-1.78)	
	Empc Correction				359374	71213	17793	44482	4		
355.8546	22.764	23.419	-39	0.928	814101	142423	2867	7167	50		
357.8516	22.764	23.419	-39	0.928	513270	90095	17793	44482	5	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.607	30.580	2	0.951	14521249	2755017	10815	27037	255		
385.8610	30.607	30.580	2	0.951	28441712	5382933	19552	48880	275	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											M
373.8208	30.620	30.607	1	1.000	800432	153423	20293	50732	8		M
375.8178	30.620	30.607	1	1.000	645679	125296	14481	36202	9	1.24(1.05-1.43)	M
1,2,3,6,7,8-HxCDF											
373.8208	30.806	30.780	2	1.007	1907609	422657	20293	50732	21		
375.8178	30.806	30.780	2	1.007	1517231	327449	14481	36202	23	1.26(1.05-1.43)	
2,3,4,6,7,8-HxCDF											
373.8208	31.605	31.578	2	1.033	731924	177687	20293	50732	9		
375.8178	31.605	31.578	2	1.033	557246	127934	14481	36202	9	1.31(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.377	32.364	1	1.006	13728158	3257705	10815	27037	301		
385.8610	32.377	32.364	1	1.006	26112231	6266375	19552	48880	320	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.377						20293	50732			
375.8178	32.377						14481	36202			
A Non-2,3,7,8-sub-HxCDF											M
373.8208	28.118	30.254	-128	0.919	2721604	363211	20293	50732	18		
375.8178	28.118	30.254	-128	0.919	2121867	286457	14481	36202	20	1.28(1.05-1.43)	
373.8208	28.503	30.254	-105	0.931	12404205	1508026	20293	50732	74		
375.8178	28.503	30.254	-105	0.931	9586742	1196413	14481	36202	83	1.29(1.05-1.43)	
373.8208	29.834	30.254	-25	0.975	16122823	2252285	20293	50732	111		
375.8178	29.834	30.254	-25	0.975	12601807	1758685	14481	36202	121	1.28(1.05-1.43)	
373.8208	30.580	30.254	20	0.999	308443	110919	20293	50732	5		M
375.8178	30.580	30.254	20	0.999	259560	84731	14481	36202	6	1.19(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.190	32.177	1		32344683	7314503	10046	25115	728		
403.8529	32.190	32.177	1		26260068	6082763	7773	19432	783	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.791	31.765	2	0.997	672996	181488	9026	22565	20		
391.8127	31.791	31.765	2	0.997	520135	147231	11092	27730	13	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.871	31.858	1	0.990	19495563	4429440	10046	25115	441		
403.8529	31.871	31.858	1	0.990	14846851	3493660	7773	19432	449	1.31(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.897	31.871	2	1.001	7369069	1756094	9026	22565	195		
391.8127	31.884	31.871	1	1.000	5788613	1389596	11092	27730	125	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.204	32.190	1	1.010	3597182	744079	9026	22565	82		
391.8127	32.204	32.190	1	1.010	2723818	608402	11092	27730	55	1.32(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.701	30.893	-71	0.932	9312838	1207546	9026	22565	134		
391.8127	29.701	30.893	-71	0.932	7212522	939619	11092	27730	85	1.29(1.05-1.43)	
389.8157	30.686	30.893	-12	0.963	1785871	334729	9026	22565	37		
391.8127	30.686	30.893	-12	0.963	1293410	255342	11092	27730	23	1.38(1.05-1.43)	
389.8157	31.046	30.893	9	0.974	29965554	5668011	9026	22565	628		
391.8127	31.046	30.893	9	0.974	23779717	4447413	11092	27730	401	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.794	33.770	1	1.050	7412651	2158433	11087	27717	195		
419.8220	33.794	33.770	1	1.050	17275203	4916961	24192	60480	203	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.807	33.783	1	1.000	19273460	5469982	29844	74610	183		
409.7789	33.794	33.783	1	1.000	18198229	5190824	26616	66540	195	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.852						29844	74610			
409.7789	34.852						26616	66540			
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.098	34.305	-12	1.009	26549908	8649059	29844	74610	290		
409.7789	34.098	34.305	-12	1.009	25451022	8136667	26616	66540	306	1.04(0.88-1.20)	M
1,2,3,4,6,7,8-HpCDD											
423.7766	34.597	34.560	2	1.000	35026094	9146665	49625	124062	184		
425.7737	34.597	34.560	2	1.000	33930861	8736053	49211	123027	178	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.584	34.560	1	1.074	14193227	3755906	8403	21007	447		
437.8140	34.584	34.560	1	1.074	13558092	3595692	12560	31400	286	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.037	34.286	-15	0.984	46619229	12892586	49625	124062	260		
425.7737	34.037	34.286	-15	0.984	45319146	12679321	49211	123027	258	1.03(0.88-1.20)	
13C-OCDD											
469.7779	36.942	36.894	3	1.148	18016606	4174726	4346	10865	961		
471.7750	36.942	36.894	3	1.148	20807561	4871667	4450	11125	1095	0.87(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDF											
441.7428	37.050	36.990	4	1.003	11111808	2591563	2499	6247	1037		
443.7399	37.038	36.990	3	1.003	12505846	2954880	2385	5962	1239	0.89(0.76-1.02)	
OCDD											
457.7377	36.954	36.894	4	1.000	109537745	25286023	18962	47405	1334		
459.7348	36.954	36.894	4	1.000	122072599	28284423	21672	54180	1305	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d		
Lims ID:	160-24924-G-7-A		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	11-Nov-2017 15:49:39	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	70

Non-2,3,7,8-sub-TCDF, RT: 17.105

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	100.000	58753332	15113230

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	58753332	15113230

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.495	470878	136358	591212	169816	1.59	0.80	
15.737	419314	67155	498461	90557	1.38	0.84	
15.994	269297	50607	331006	65434	0.9009	0.81	
16.281	153467	46460	164641	61090	0.4774	0.93	RQM
16.281	126773	47039	164641	61090	0.4373		Empc Correction
16.508	324070	90242	471604	131890	1.19	0.69	
16.719	190713	36890	526595	53878	1.08	0.36	RQ
16.719	190713	36890	247679	47909	0.6579		Empc Correction
17.854	219663	54609	303059	75502	0.7845	0.72	M
18.065	180484	34277	281111	44913	0.6927	0.64	RQ
18.065	180484	34277	234394	44515	0.6226		Empc Correction
Signal Totals:							
	2201192	517177	2842056	686713			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5395575	1209678				0.70	RQM
	5043248	1203890					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 8.097 = (5395575 * 100.000) / (58753332 * 1.134)
Empc Amount: 7.569 = (5043248 * 100.000) / (58753332 * 1.134)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d
Lims ID: 160-24924-G-7-A
Client ID: SHAD041DP022SS01NS
Inject. Date: 11-Nov-2017 15:49:39
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194085
Lims Sample ID: 70

Non-2,3,7,8-sub-TCDD, RT: 17.559

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	47005909	10546875

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	47005909	10546875

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.903	154871	42412	203535	58520	0.7630	0.76	
16.190	85050	24065	90553	29582	0.3738	0.94	RQ
16.190	69725	22778	90553	29582	0.3412		Empc Correction
16.432	72596	21602	86527	26389	0.3387	0.84	
17.007	265113	62300	299214	71834	1.20	0.89	
17.611	66767	15251	77533	21796	0.3072	0.86	
17.899	72806	15469	104342	16043	0.3771	0.70	
18.035	78516	18825	116536	28783	0.4152	0.67	
18.504	93243	21669	221693	30275	0.6704	0.42	RQ
18.504	93243	21669	121094	28141	0.4563		Empc Correction
Signal Totals:							
	873637	220306	1099334	281088			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2088895	504815				0.74	RQ
	1972971	501394					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.447 = (2088895 * 100.000) / (47005909 * 0.999)
Empc Amount: 4.200 = (1972971 * 100.000) / (47005909 * 0.999)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d		
Lims ID:	160-24924-G-7-A		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	11-Nov-2017 15:49:39	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	70

F1 PeCDFs, RT: 20.001

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	51420375	8763051
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	51420375	8763051

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.547	5086330	1090358	3168733	708873	13.9	1.61	
Signal Totals:							
	5086330	1090358	3168733	708873			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8255063	1799231				1.61	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 13.947 = (8255063 * 100.000) / (51420375 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d		
Lims ID:	160-24924-G-7-A		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	11-Nov-2017 15:49:39	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	70

Non-2,3,7,8-sub-PeCDF, RT: 23.161

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	51420375	8763051
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	51420375	8763051

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.115	2334558	396551	1652789	234876	6.74	1.41	
21.905	881031	117380	568938	73507	2.45	1.55	
Signal Totals:							
	3215589	513931	2221727	308383			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5437316	822314				1.45	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 9.186 = (5437316 * 100.000) / (51420375 * 1.151)

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TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d
Lims ID: 160-24924-G-7-A
Client ID: SHAD041DP022SS01NS
Inject. Date: 11-Nov-2017 15:49:39 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 70

Non-2,3,7,8-sub-PeCDD, RT: 23.419

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	41049261	6238071

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	41049261	6238071

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.319	1375332	236149	18059084	3715393	49.9	0.08	RQ
21.319	1375332	236149	887310	152354	5.81		Empc Correction
22.505	557031	110381	1099108	162661	4.25	0.51	RQ
22.505	557031	110381	359374	71213	2.35		Empc Correction
22.764	814101	142423	513270	90095	3.41	1.59	
Signal Totals:							
	2746464	488953	1759954	313662			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	22417926	4457102				0.14	RQ
	4506418	802615					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 57.548 = (22417926 * 100.000) / (41049261 * 0.949)
Empc Amount: 11.568 = (4506418 * 100.000) / (41049261 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d		
Lims ID:	160-24924-G-7-A		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	11-Nov-2017 15:49:39	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	70

Non-2,3,7,8-sub-HxCDF, RT: 30.254

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	42962961	8137950
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	42962961	8137950

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.118	2721604	363211	2121867	286457	7.48	1.28	
28.503	12404205	1508026	9586742	1196413	34.0	1.29	
29.834	16122823	2252285	12601807	1758685	44.4	1.28	
30.580	308443	110919	259560	84731	0.8775	1.19	M
Signal Totals:							
	31557075	4234441	24569976	3326286			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	56127051	7560727				1.28	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 86.706 = (56127051 * 100.000) / (42962961 * 1.507)

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 11:34:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d
Lims ID: 160-24924-G-7-A
Client ID: SHAD041DP022SS01NS
Inject. Date: 11-Nov-2017 15:49:39 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 70

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	34342414	7923100
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	34342414	7923100

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.701	9312838	1207546	7212522	939619	42.1	1.29	
30.686	1785871	334729	1293410	255342	7.84	1.38	
31.046	29965554	5668011	23779717	4447413	136.8	1.26	
Signal Totals:							
	41064263	7210286	32285649	5642374			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	73349912	12852660				1.27	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 186.728 = (73349912 * 100.000) / (34342414 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d		
Lims ID:	160-24924-G-7-A		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	11-Nov-2017 15:49:39	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	70

Non-2,3,7,8-sub-HpCDF, RT: 34.305

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	24687854	7075394
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	24687854	7075394

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.098	26549908	8649059	25451022	8136667	141.8	1.04	M
Signal Totals:							
	26549908	8649059	25451022	8136667			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	52000930	16785726				1.04	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 141.834 = (52000930 * 100.000) / (24687854 * 1.485)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d		
Lims ID:	160-24924-G-7-A		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	11-Nov-2017 15:49:39	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	70

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	27751319	7351598

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	27751319	7351598

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.037	46619229	12892586	45319146	12679321	333.6	1.03	
Signal Totals:							
	46619229	12892586	45319146	12679321			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	91938375	25571907				1.03	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 333.569 = (91938375 * 100.000) / (27751319 * 0.993)

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Manual Integration/User Assign Peak Report

TestAmerica Sacramento

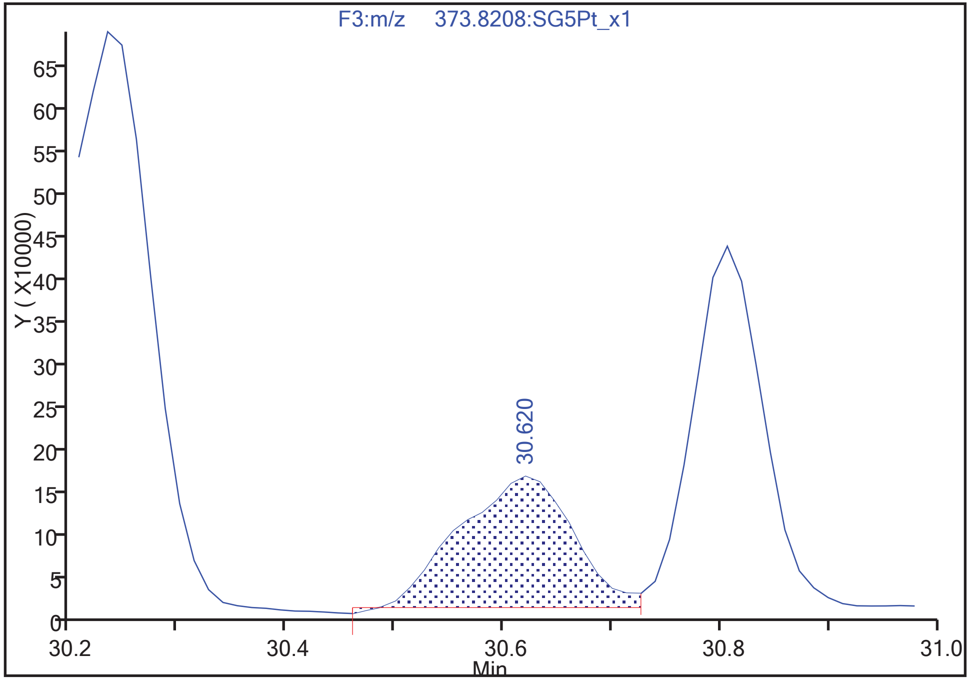
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d				
Injection Date:	11-Nov-2017 15:49:39	Instrument ID:	10D5		
Lims ID:	160-24924-G-7-A	Lab Sample ID:	320-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:	AJS	ALS Bottle#:	44	Worklist Smp#:	70
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

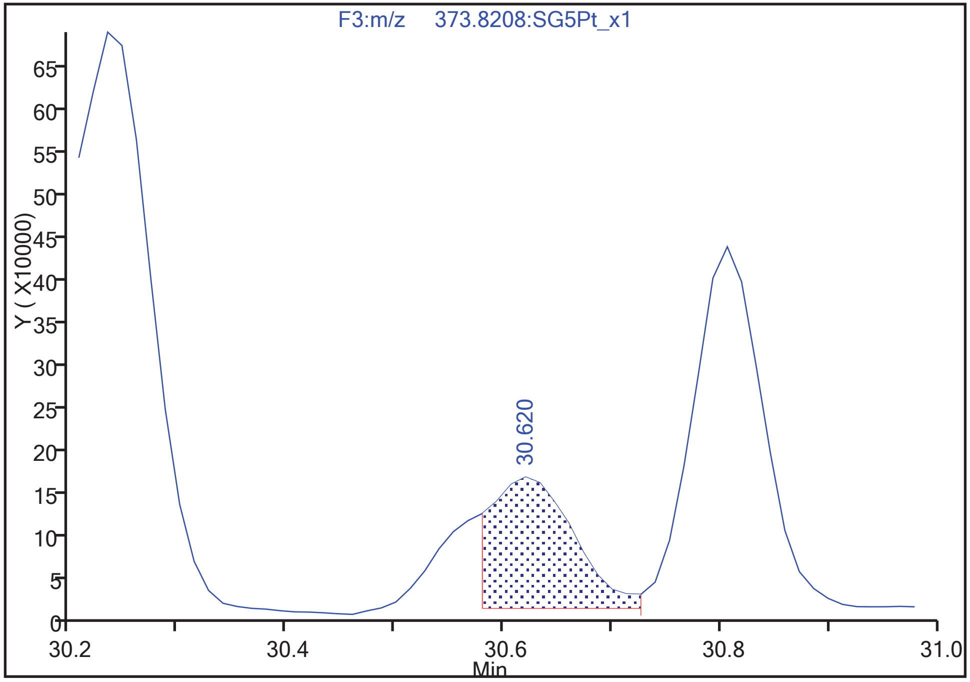
Processing Integration Results

RT:	30.62
Area:	1108875
Amount:	3.345630
Amount Units:	pg/ul



Manual Integration Results

RT:	30.62
Area:	800432
Amount:	2.402125
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 11:31:58

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

TestAmerica Sacramento

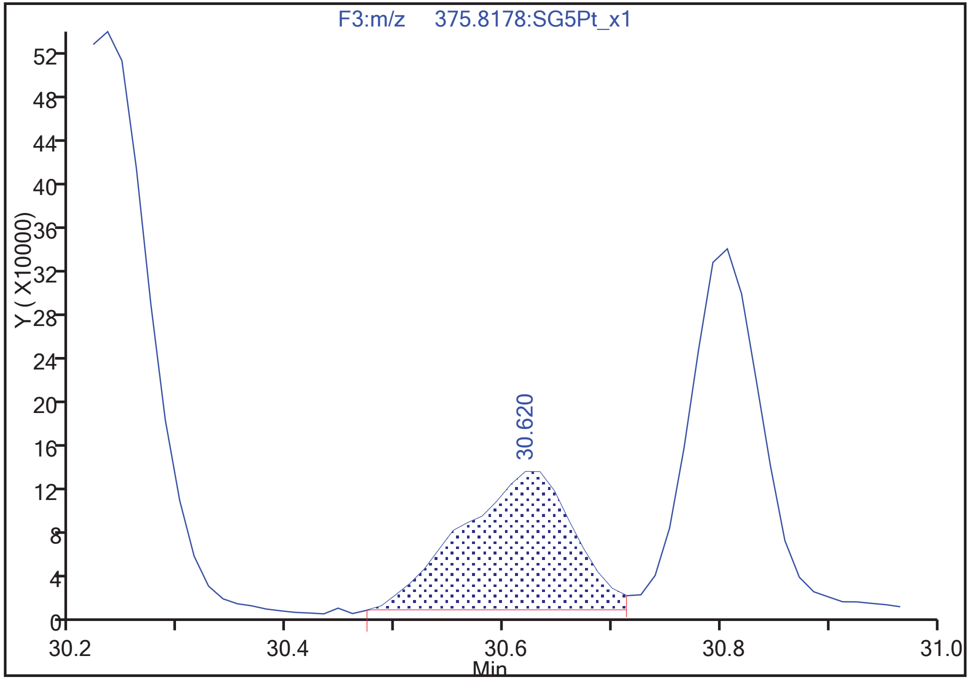
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d				
Injection Date:	11-Nov-2017 15:49:39	Instrument ID:	10D5		
Lims ID:	160-24924-G-7-A	Lab Sample ID:	320-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:	AJS	ALS Bottle#:	44	Worklist Smp#:	70
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

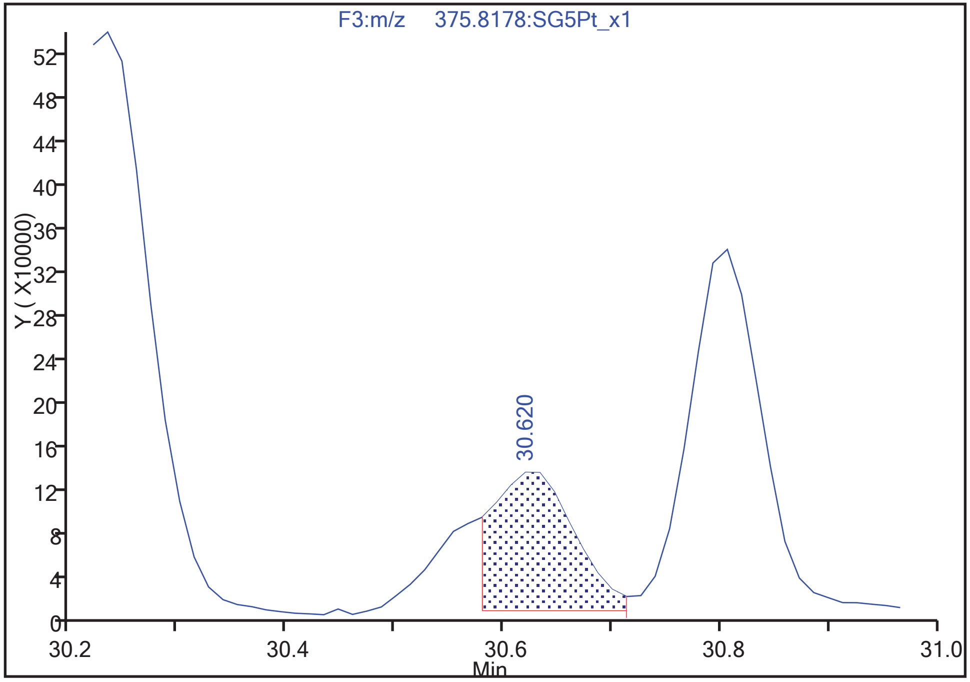
Processing Integration Results

RT: 30.62
Area: 905239
Amount: 3.345630
Amount Units: pg/ul



Manual Integration Results

RT: 30.62
Area: 645679
Amount: 2.402125
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 11:32:03
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

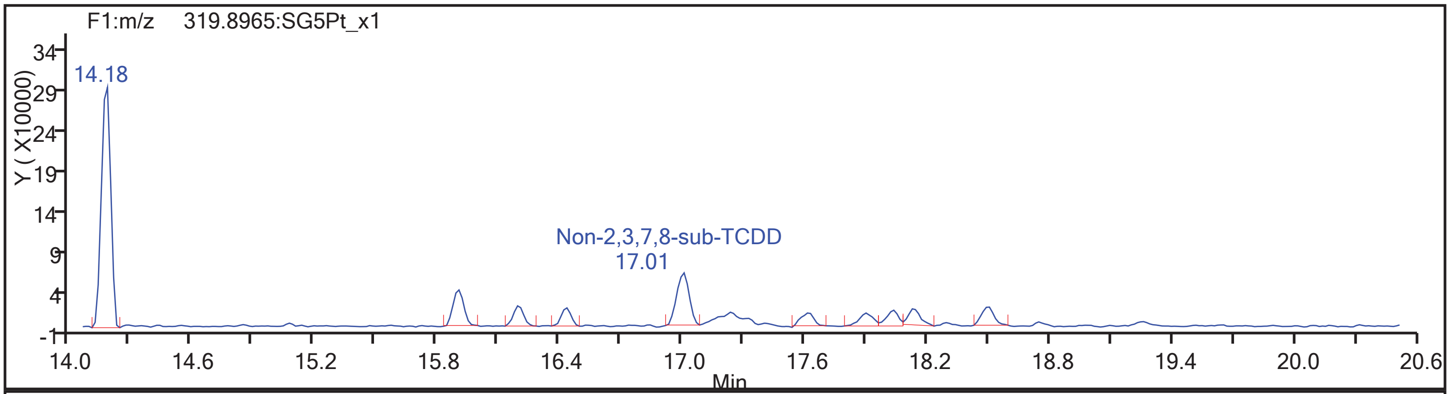
Report Date: 13-Nov-2017 11:34:43

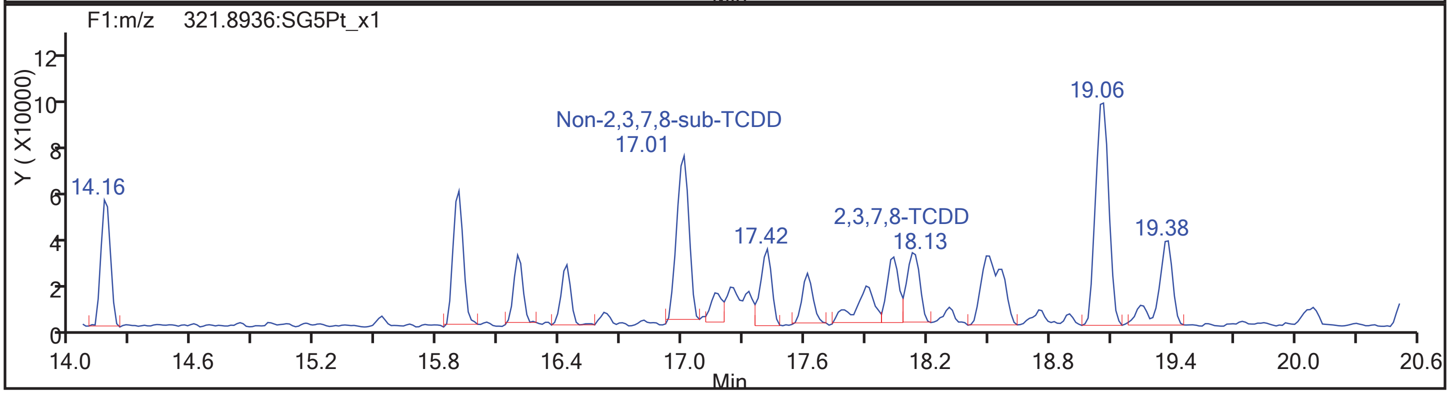
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

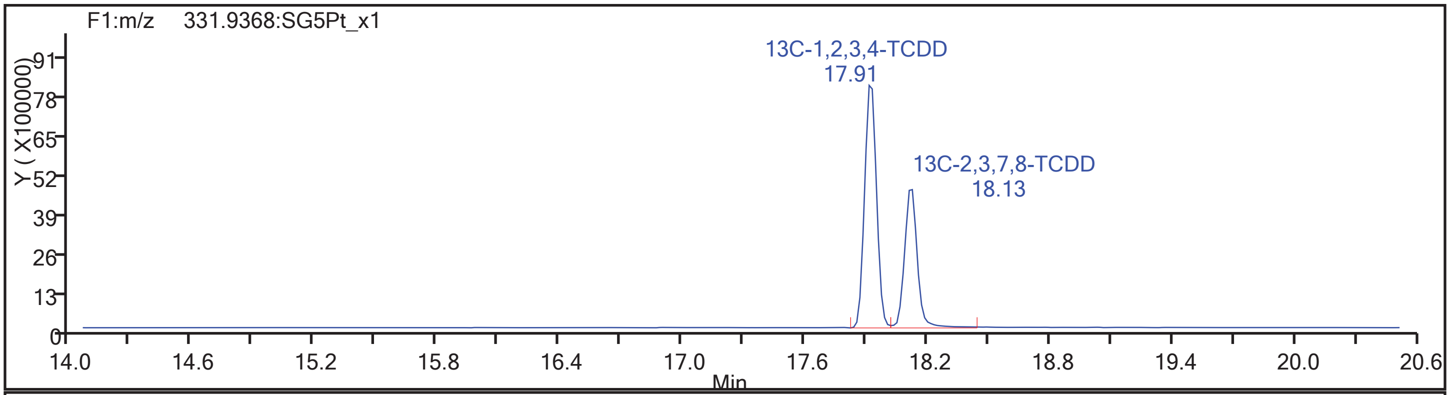
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d
Injection Date: 11-Nov-2017 15:49:39
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 194085
Sample Line#: 70
Column Type: DB-5
Column Dia: 0.32 mm

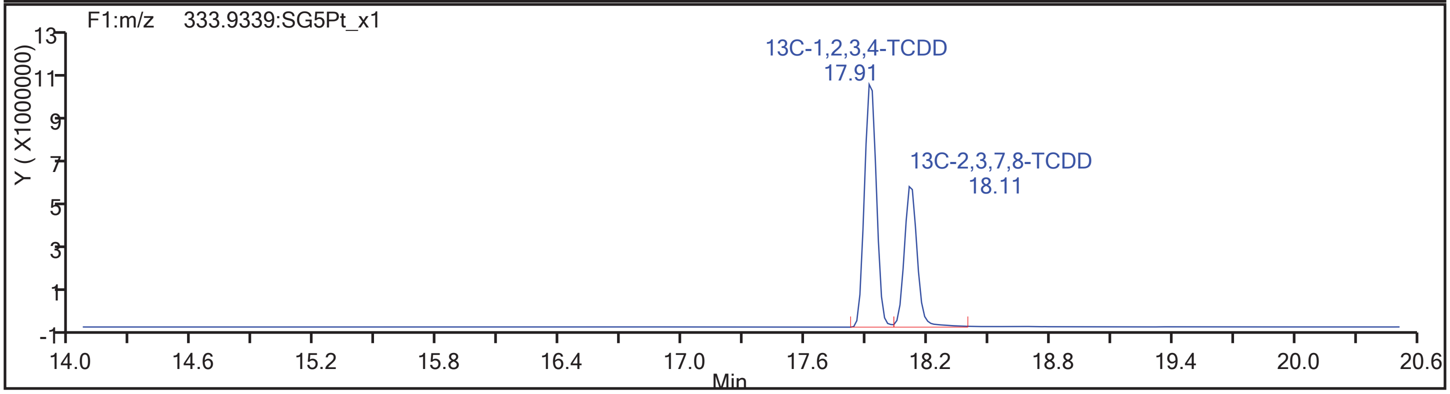
TCDD





TCDD Standards



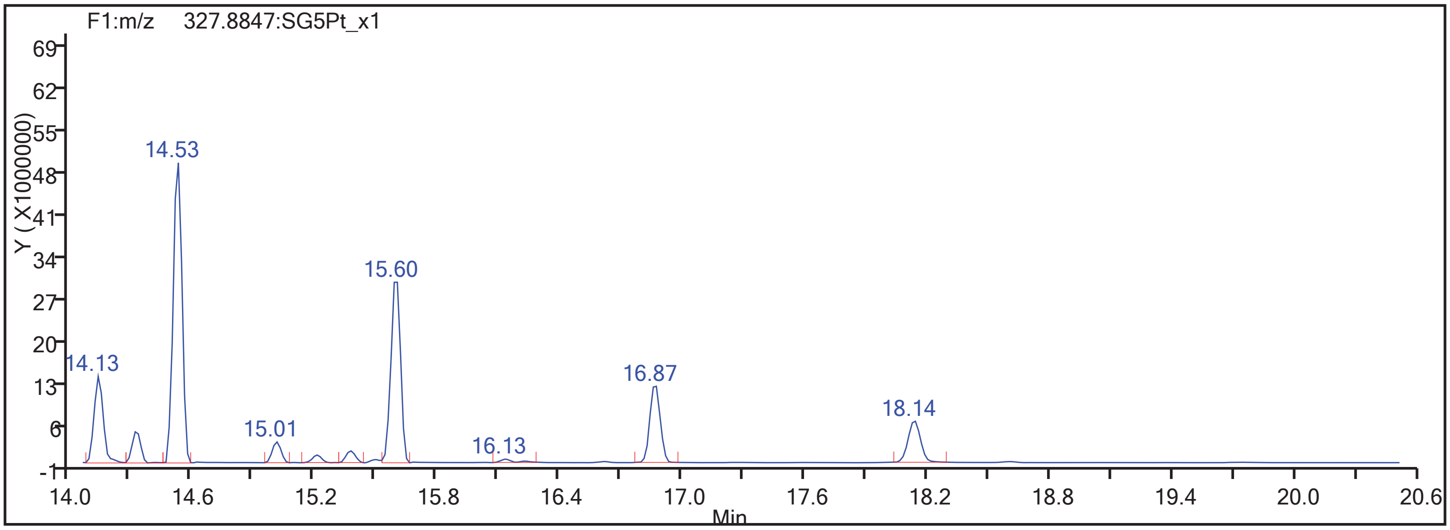


Report Date: 13-Nov-2017 11:34:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

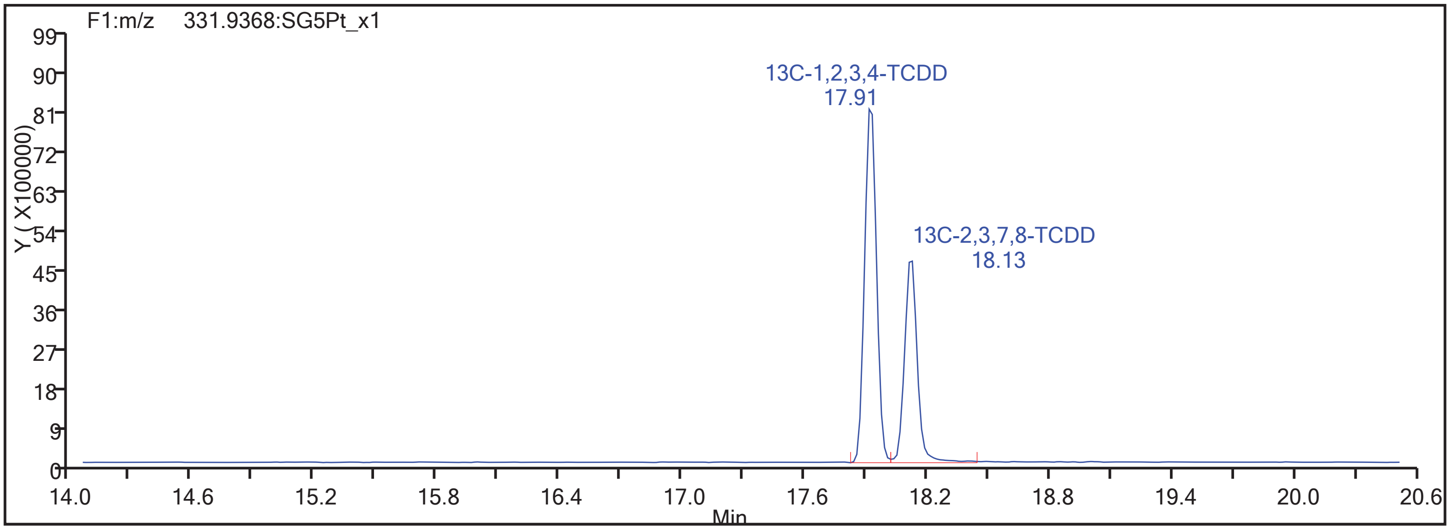
TestAmerica Sacramento

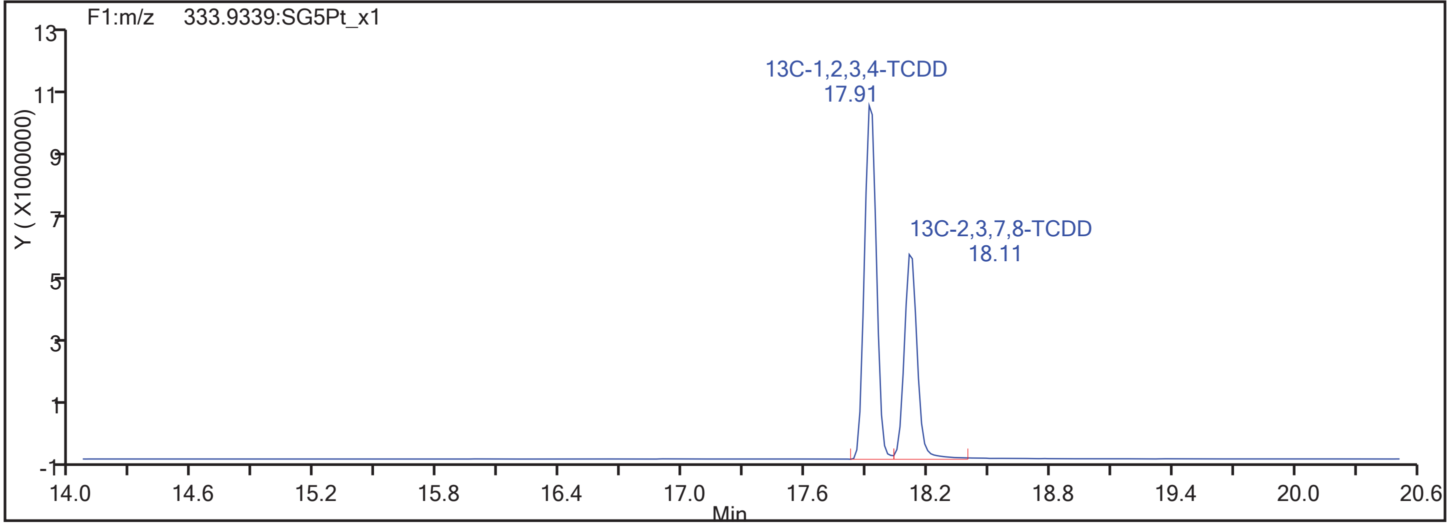
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d		
Injection Date:	11-Nov-2017 15:49:39	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	194085	Sample Line#:	70
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards

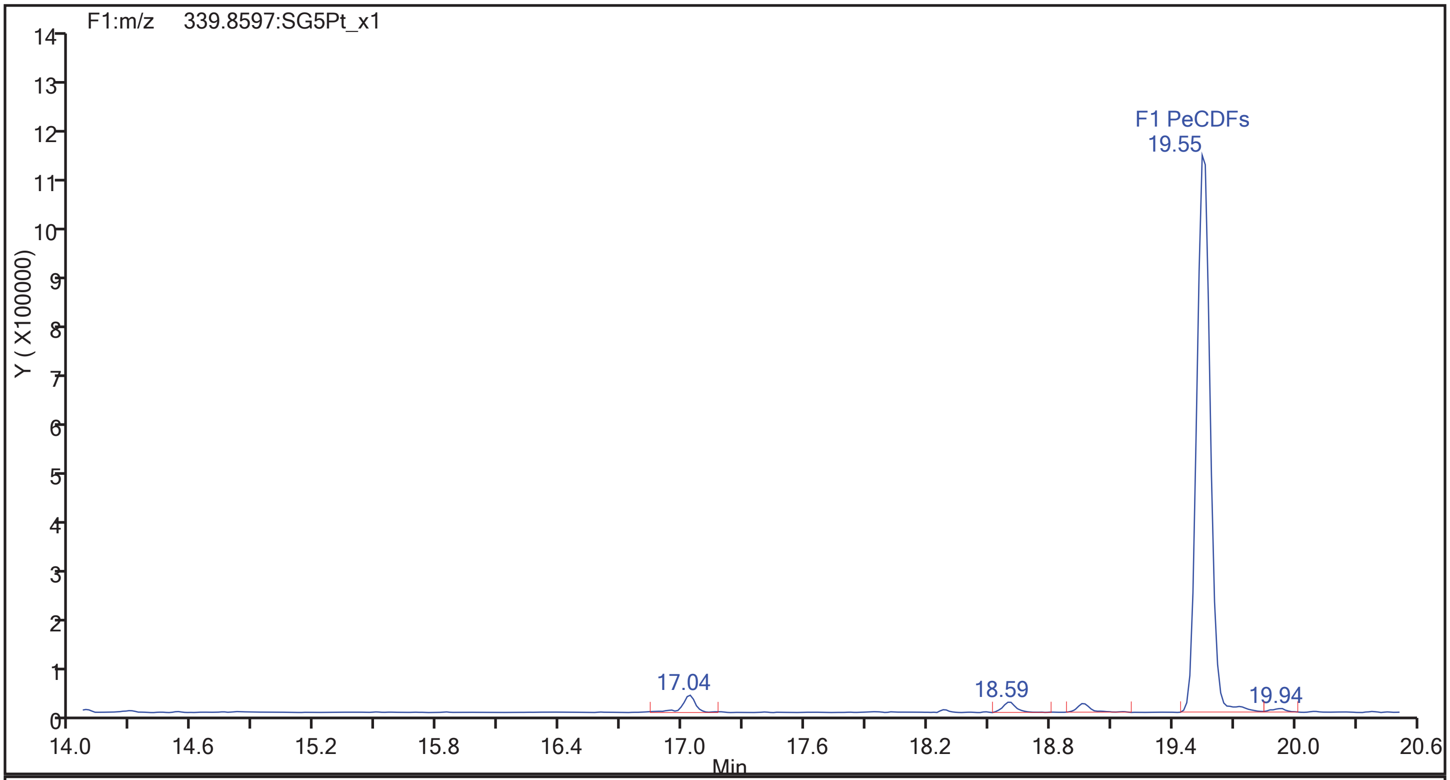


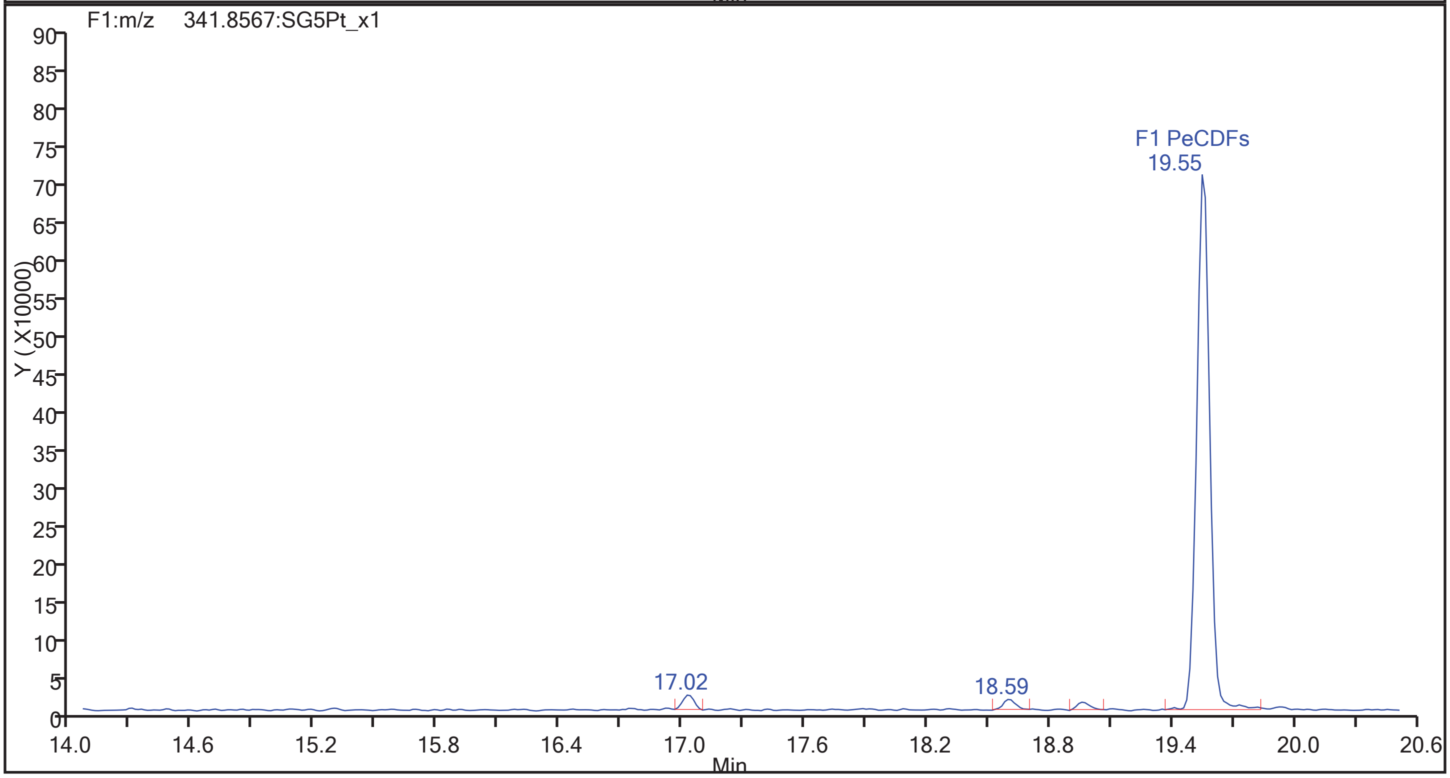


TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d
Injection Date: 11-Nov-2017 15:49:39
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 194085
Sample Line#: 70
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs



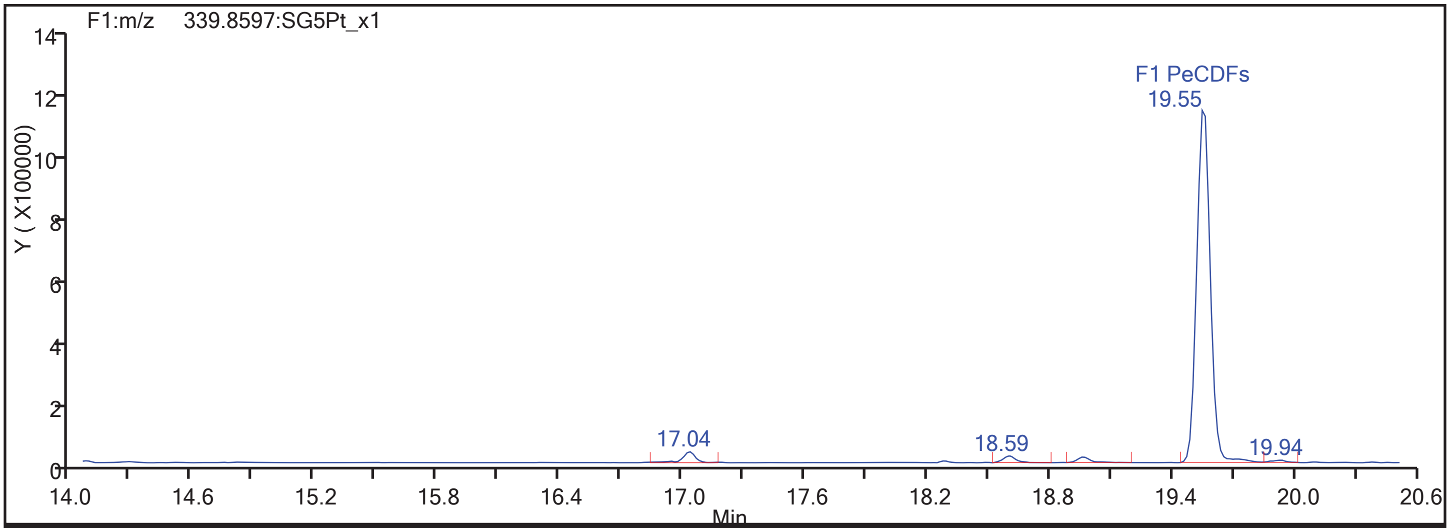


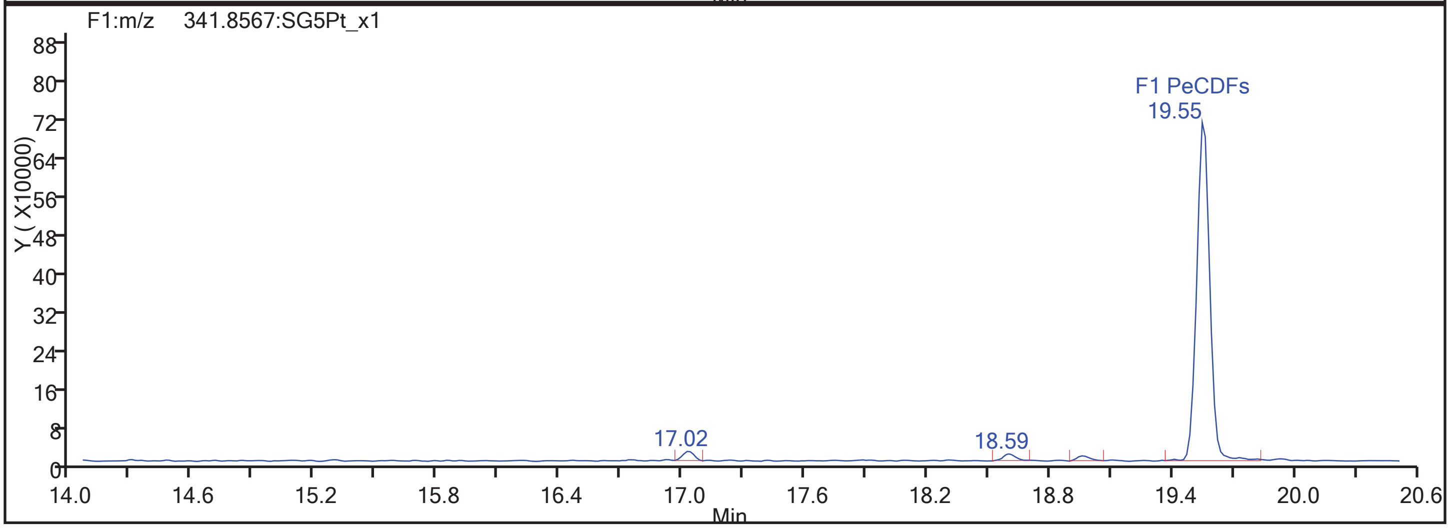
Report Date: 13-Nov-2017 11:34:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

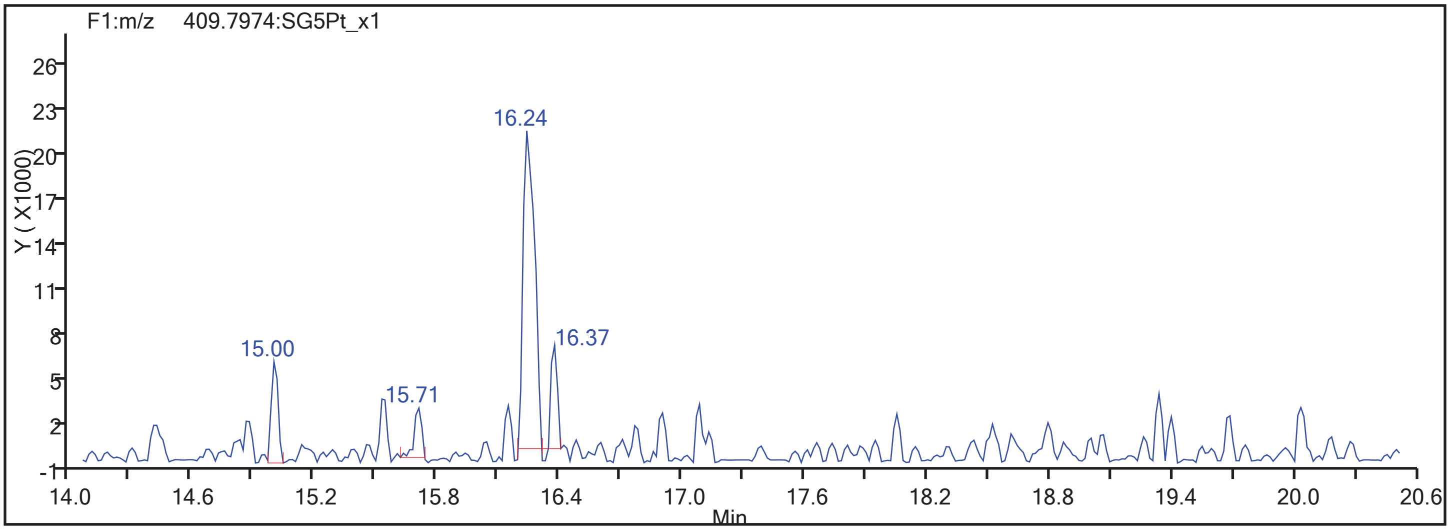
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d		
Injection Date:	11-Nov-2017 15:49:39	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	194085	Sample Line#:	70
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

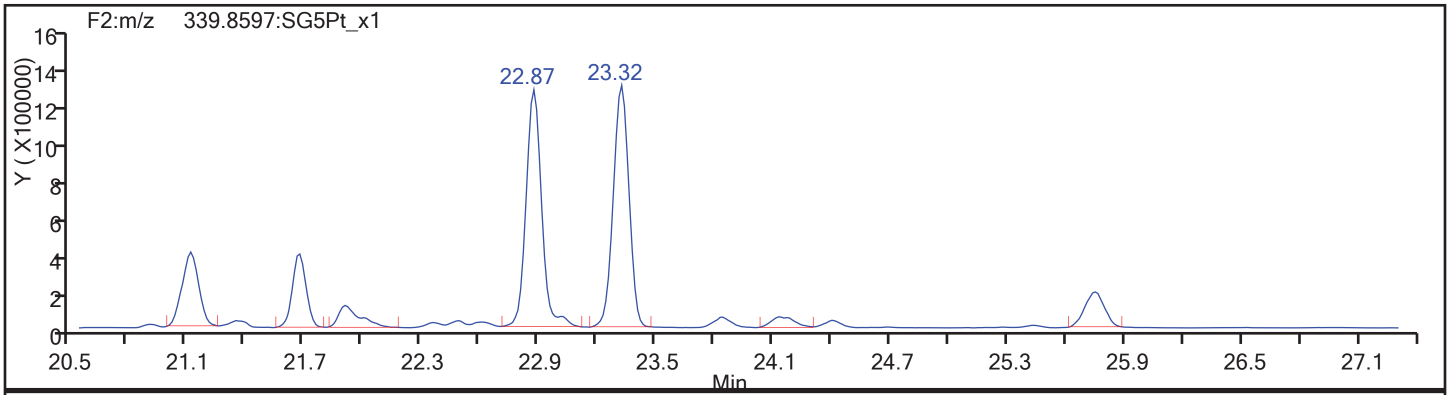


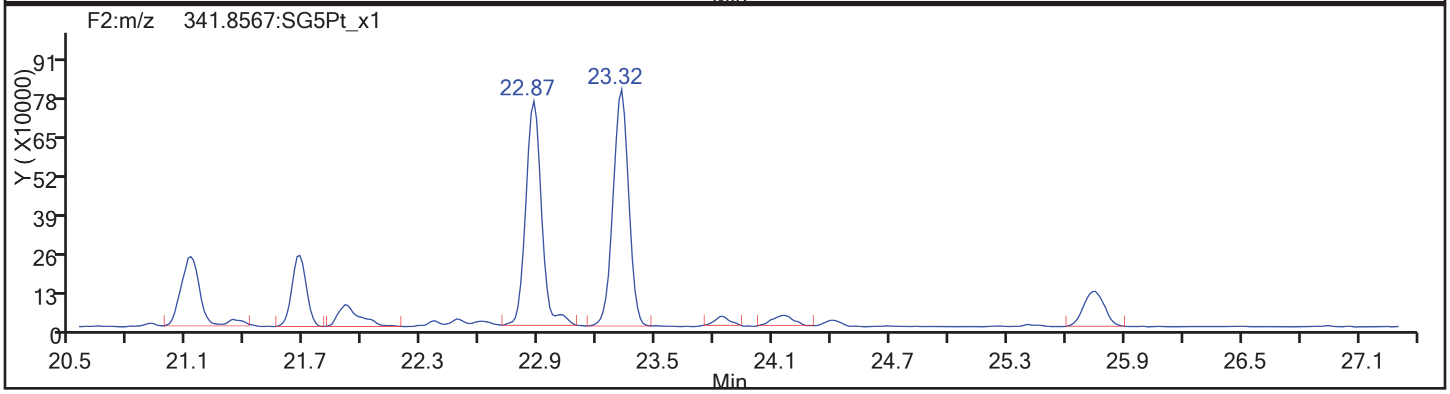
Report Date: 13-Nov-2017 11:34:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

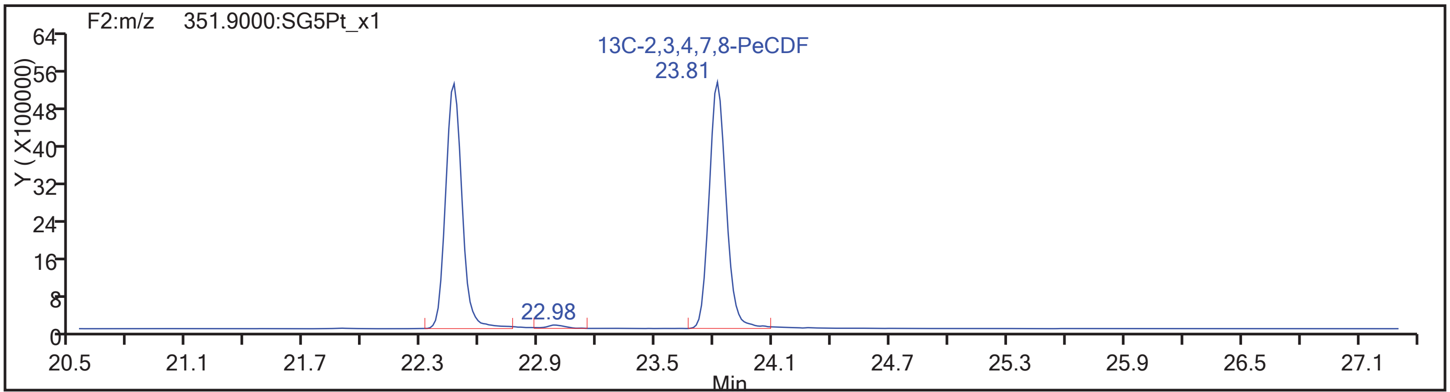
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_70.d
Injection Date: 11-Nov-2017 15:49:39
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 194085
Sample Line#: 70
Column Type: DB-5
Column Dia: 0.32 mm

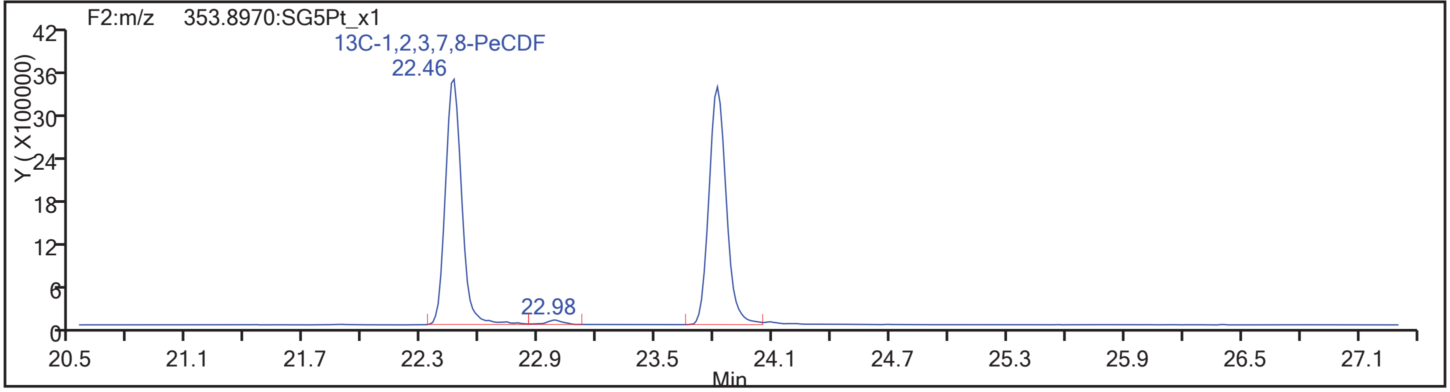
PeCDF





PeCDF Standards





Report Date: 13-Nov-2017 11:34:43   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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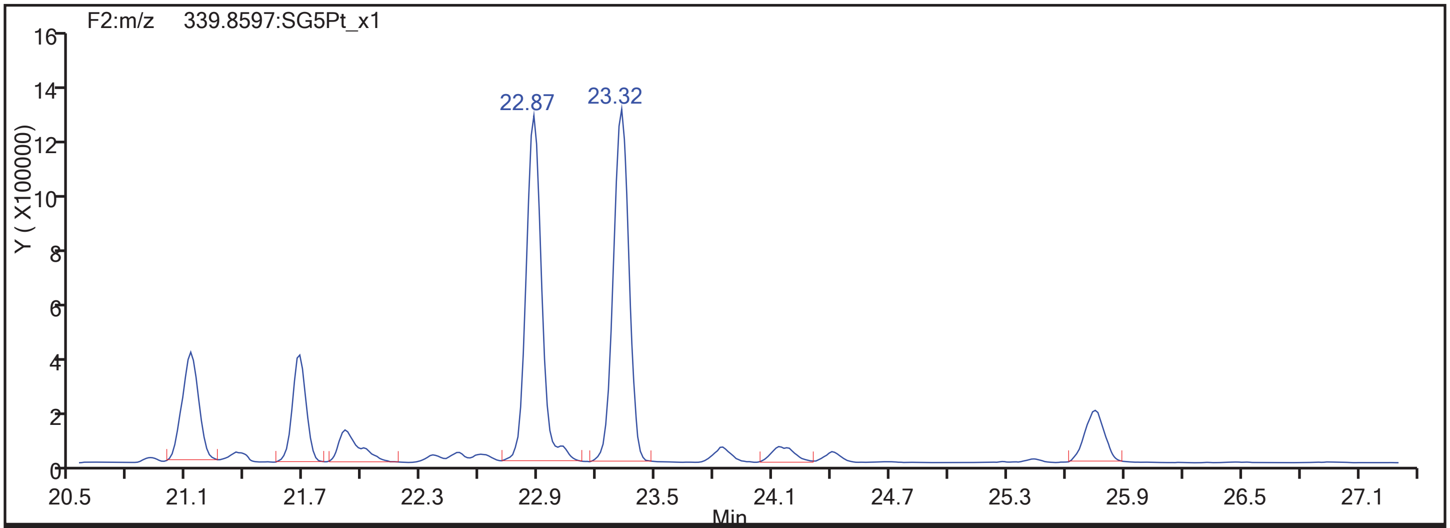
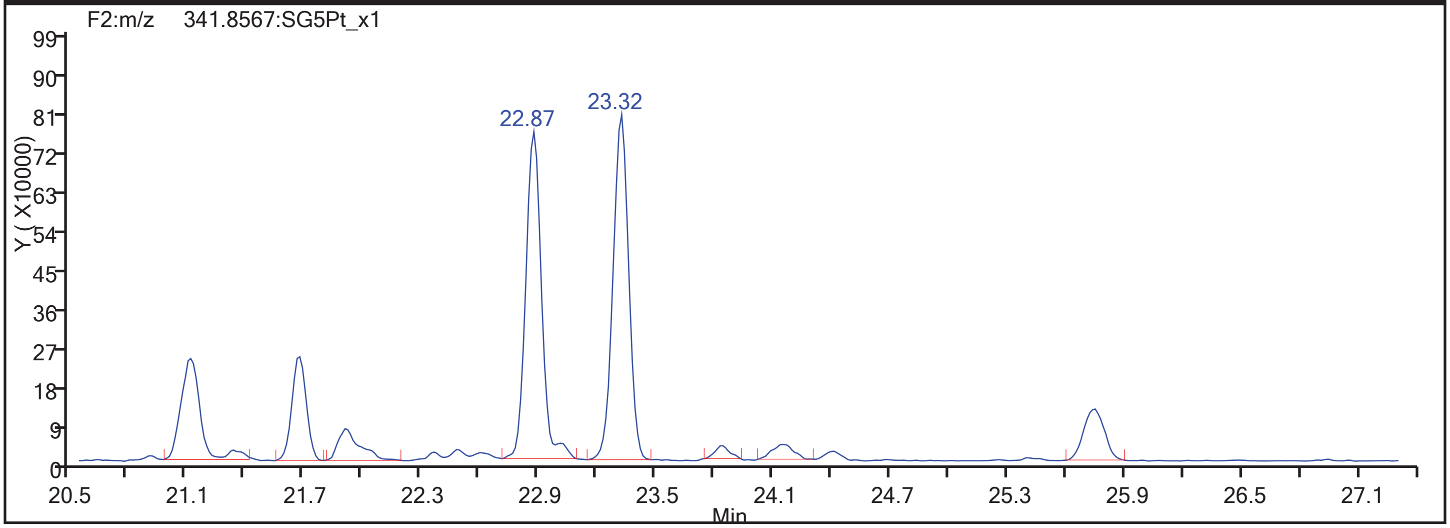
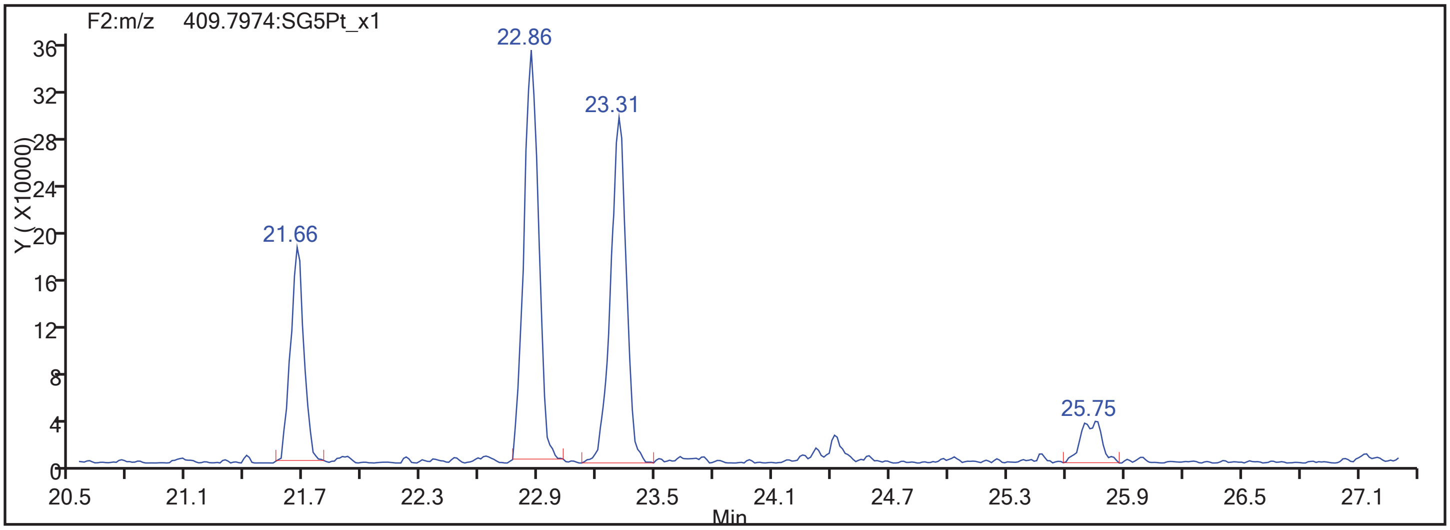
Injection Date: 11-Nov-2017 15:49:39   Injection Vol: 2.0 ul
Instrument ID: 10D5   Operator ID: AJS
Method: Dioxin_10D5   Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 194085   Sample Line#: 70
Column Type: DB-5   Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass



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TestAmerica Sacramento

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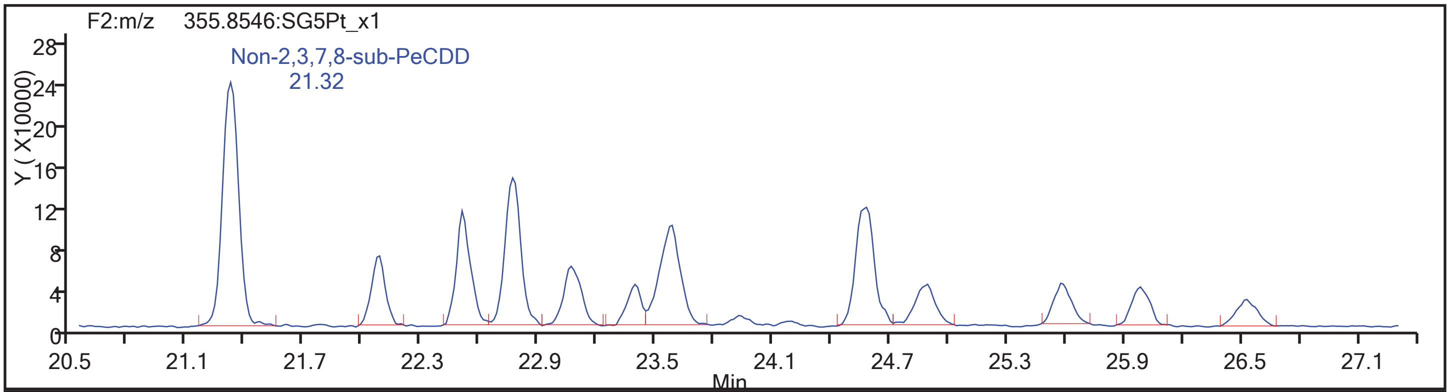

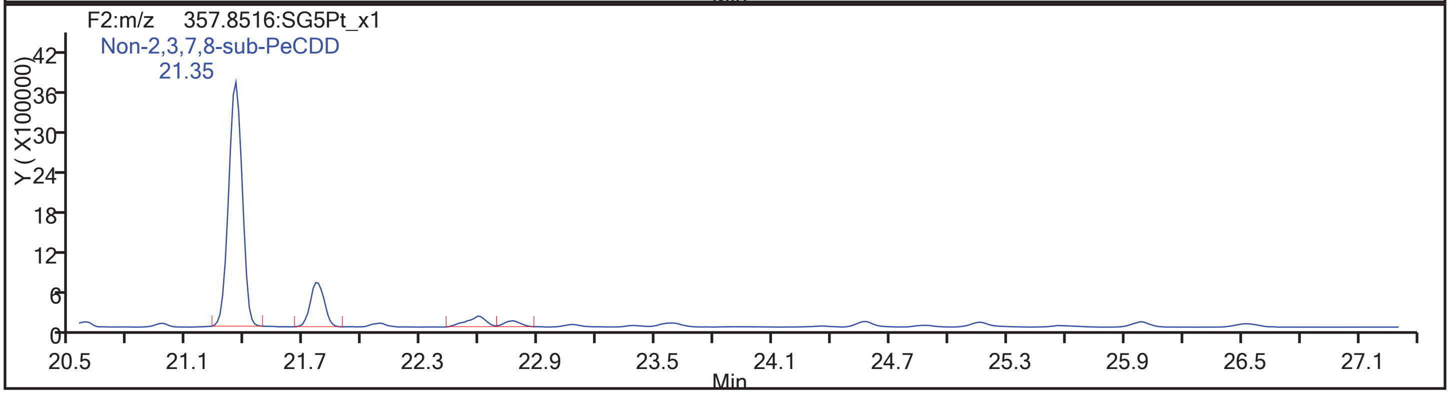

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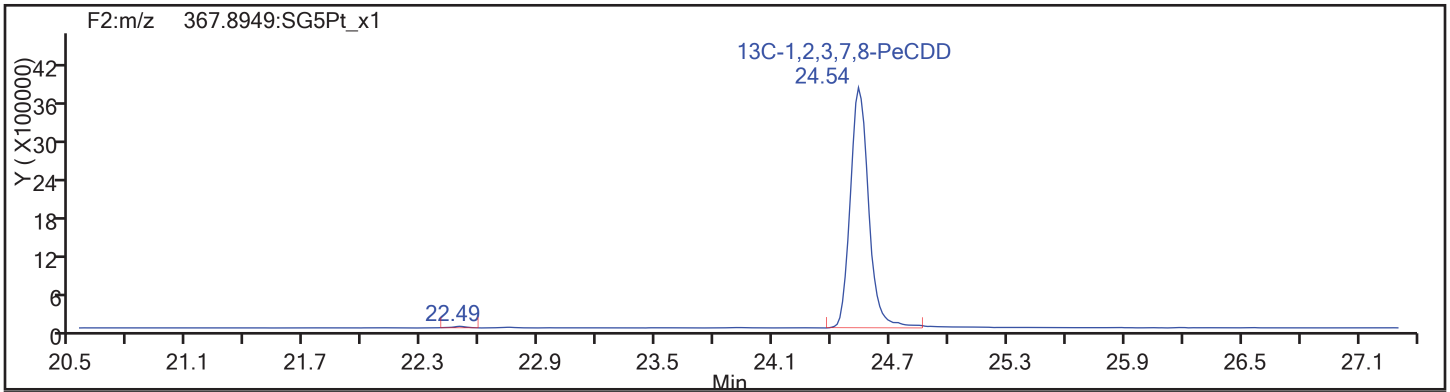

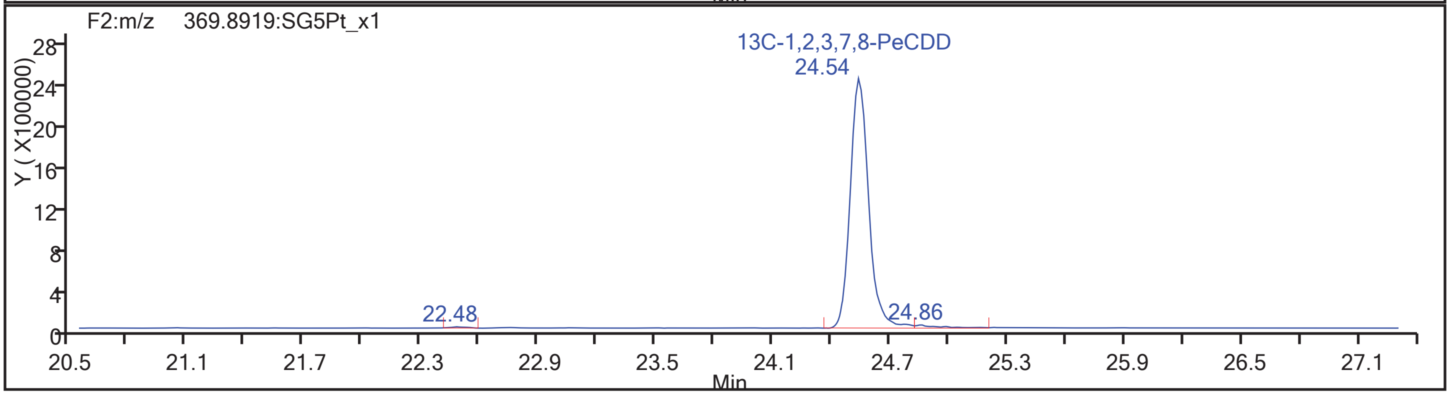

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TestAmerica Sacramento

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Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS01NS

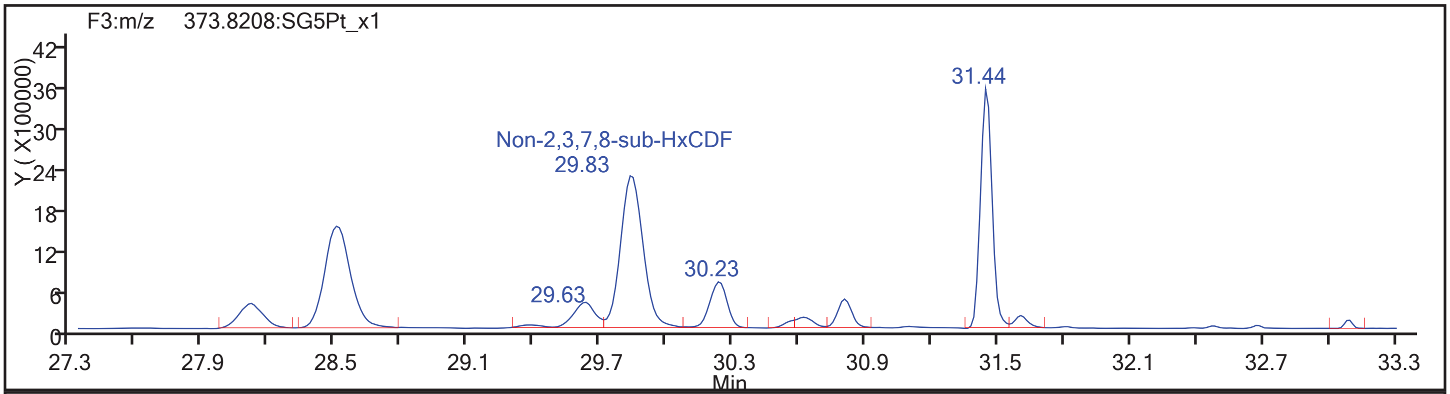
Worklist#: 194085

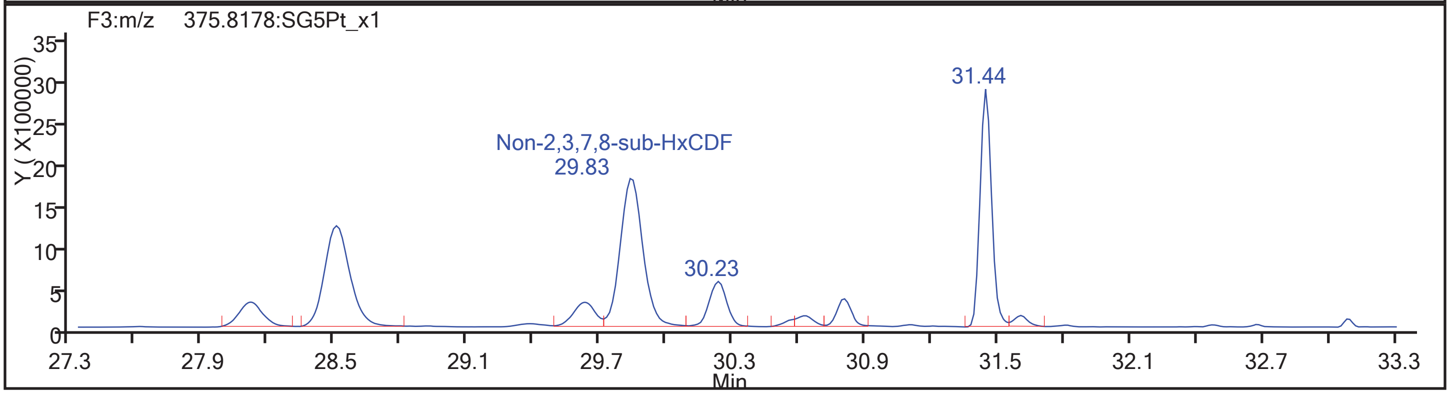
Sample Line#: 70

Column Type: DB-5

Column Dia: 0.32 mm

HxCDF





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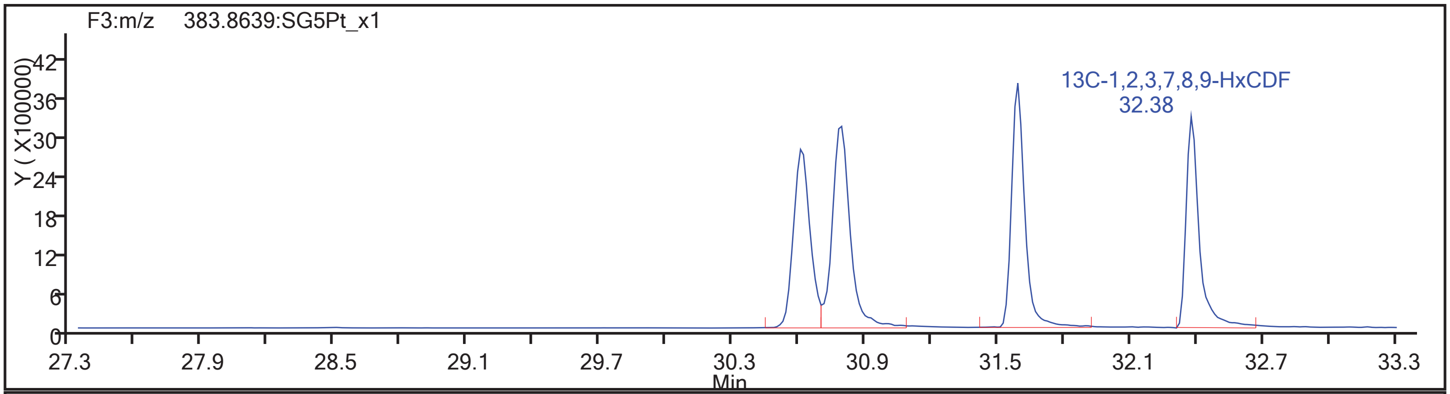

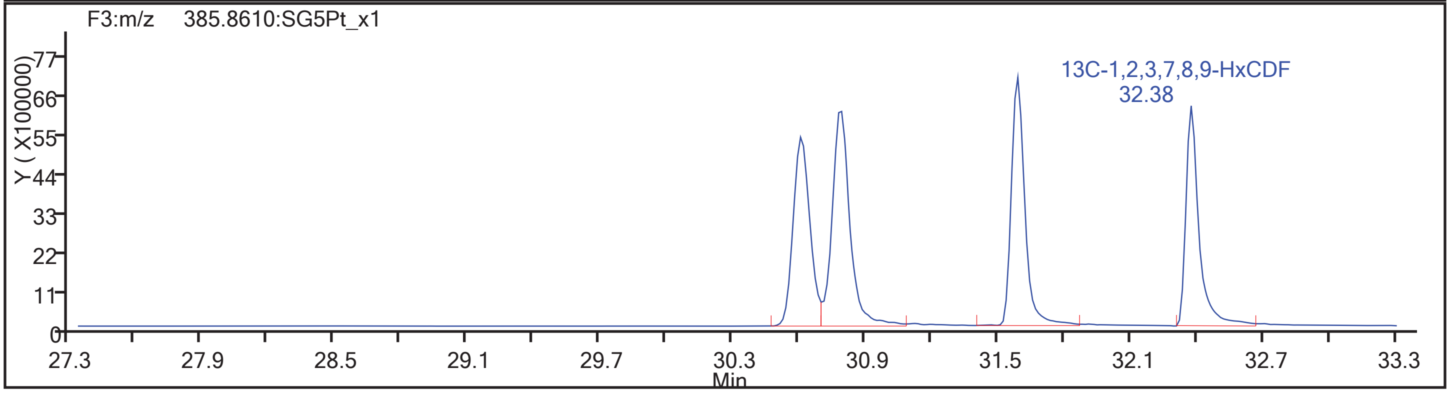

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TestAmerica Sacramento

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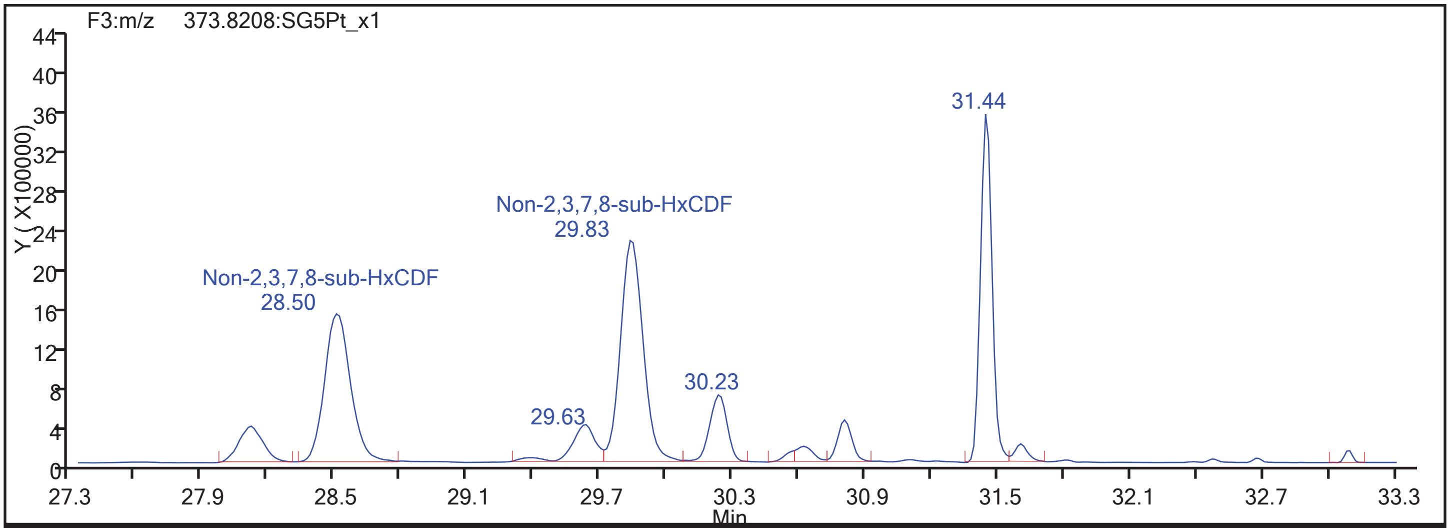
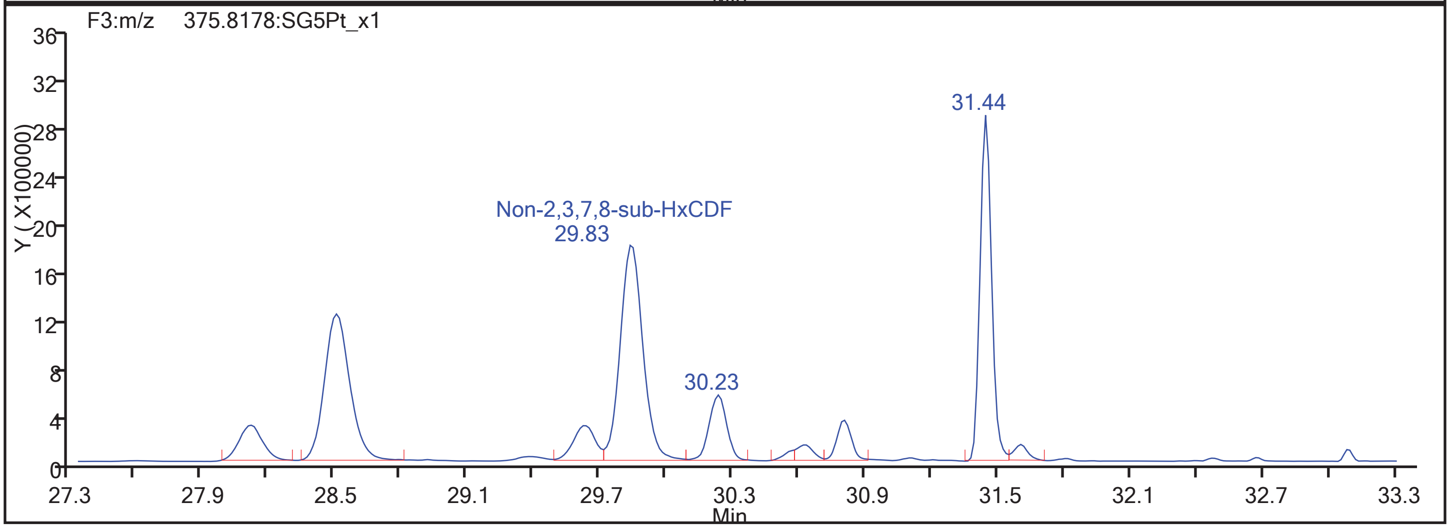
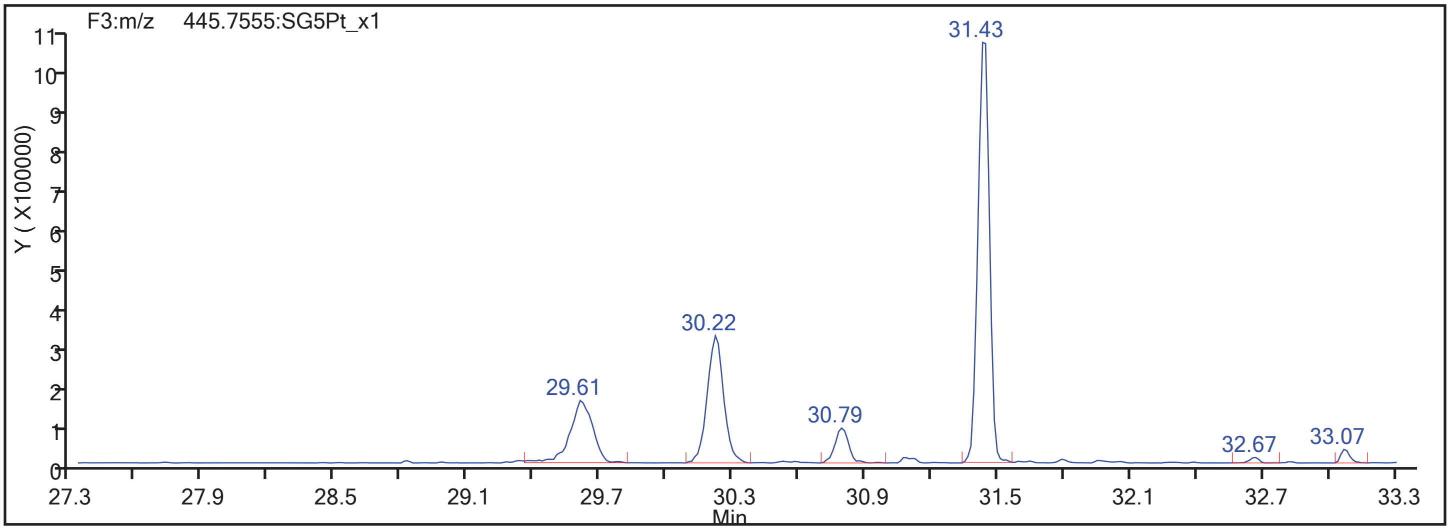




HxCDF Interference Mass



TestAmerica Sacramento

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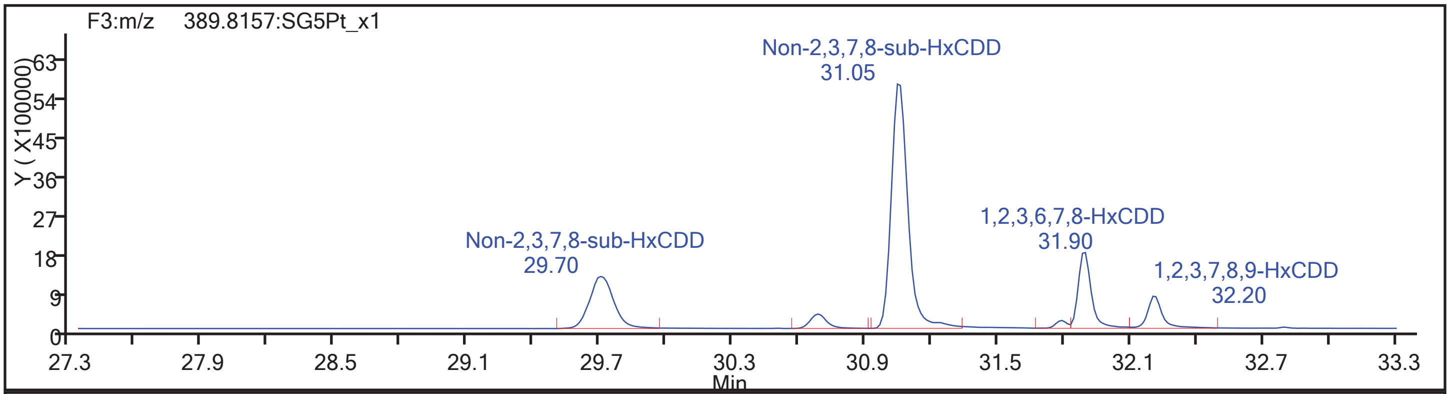
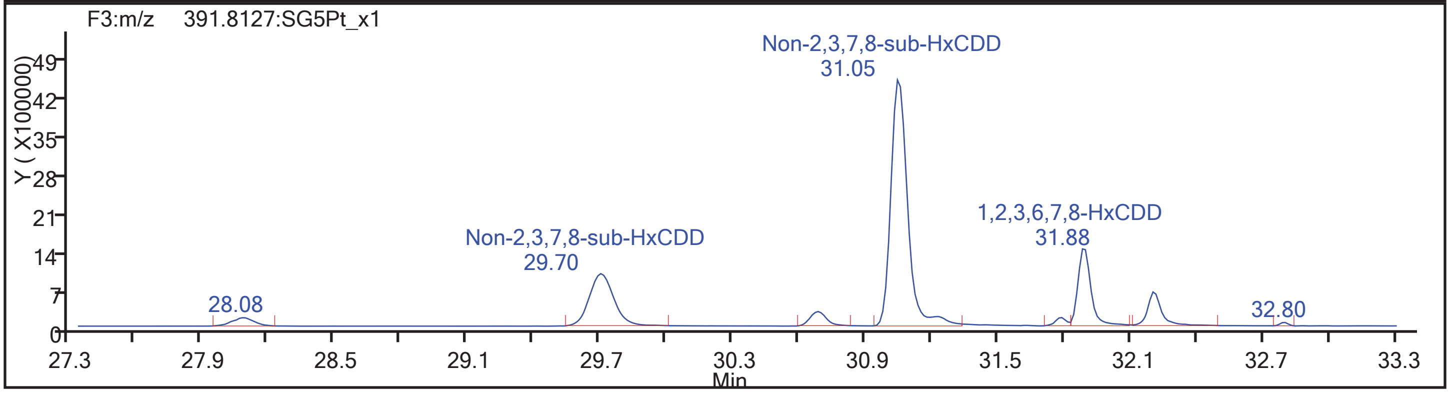
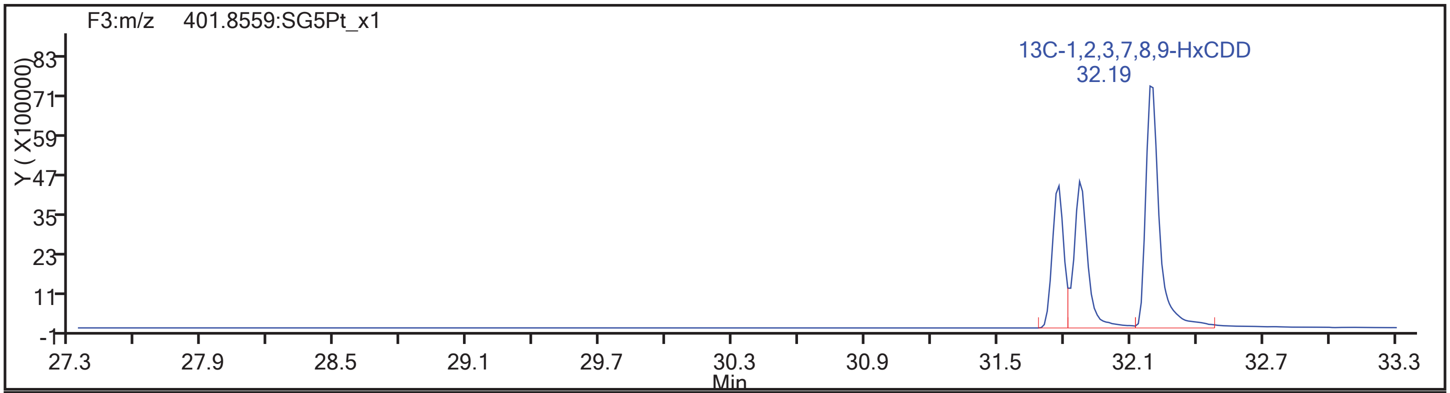
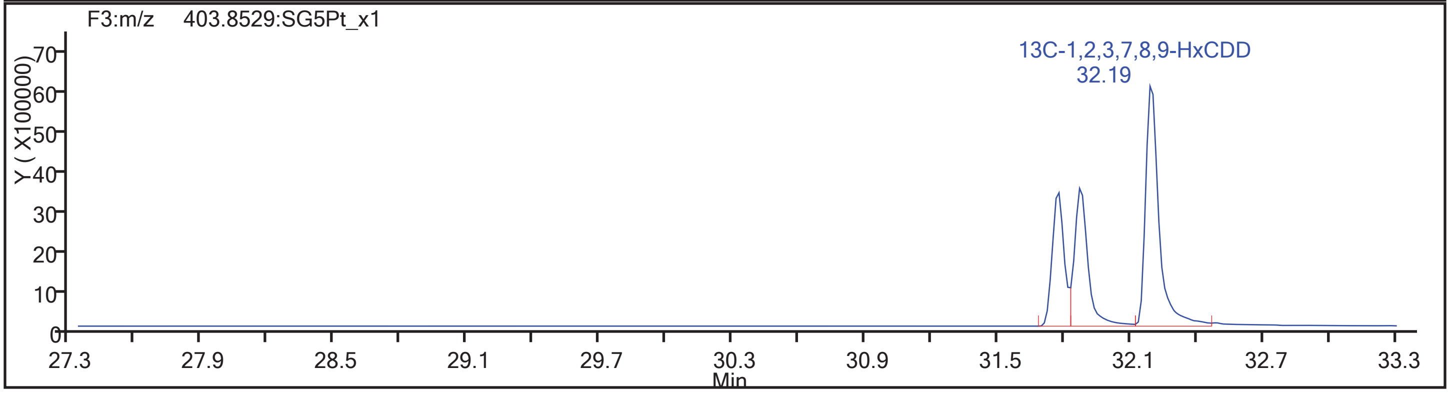
HxCDD





HxCDD Standards





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TestAmerica Sacramento

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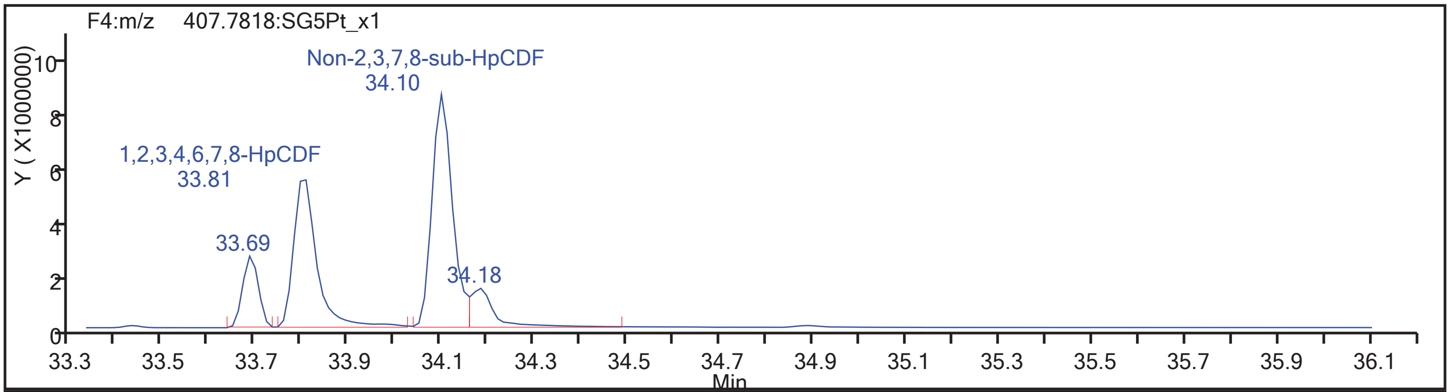

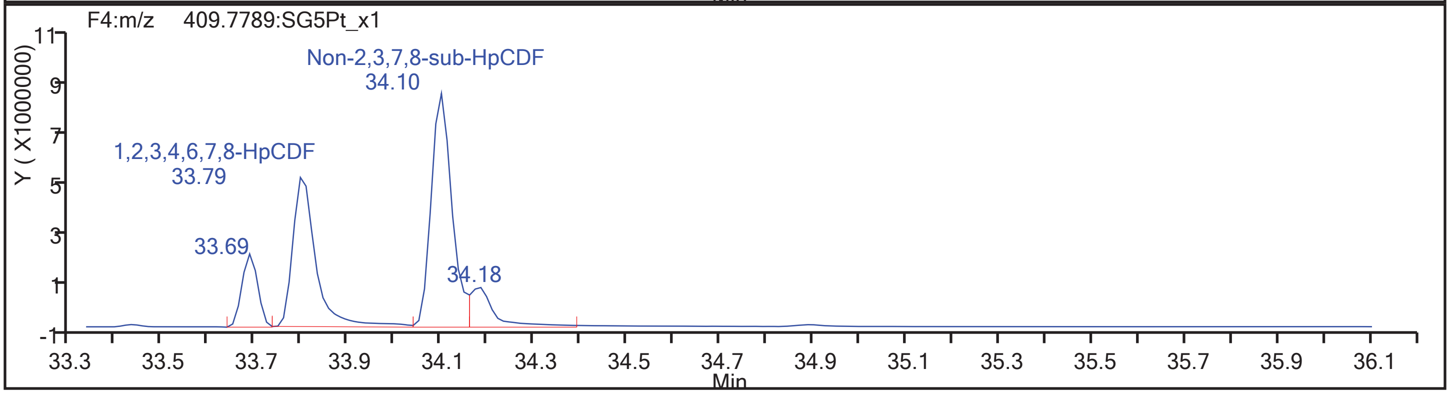

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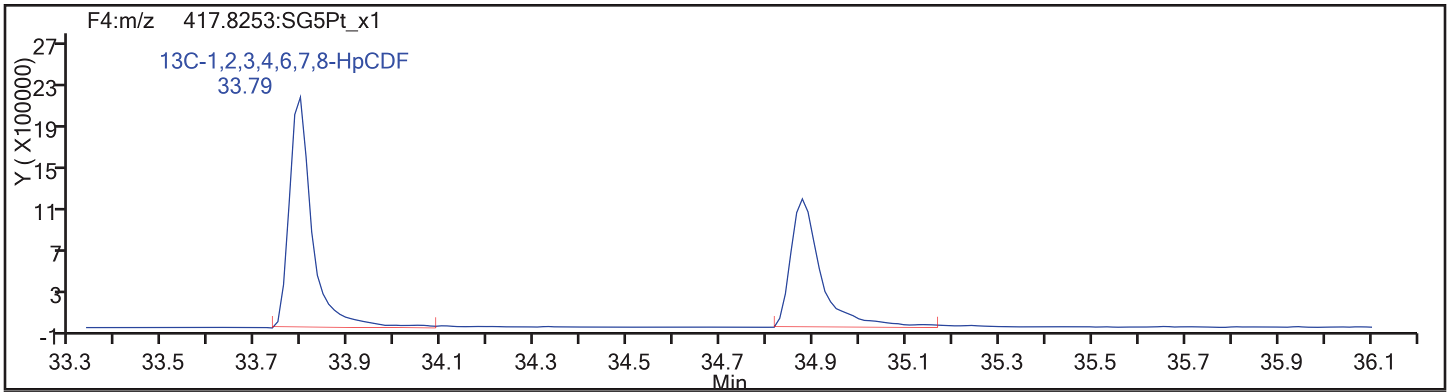

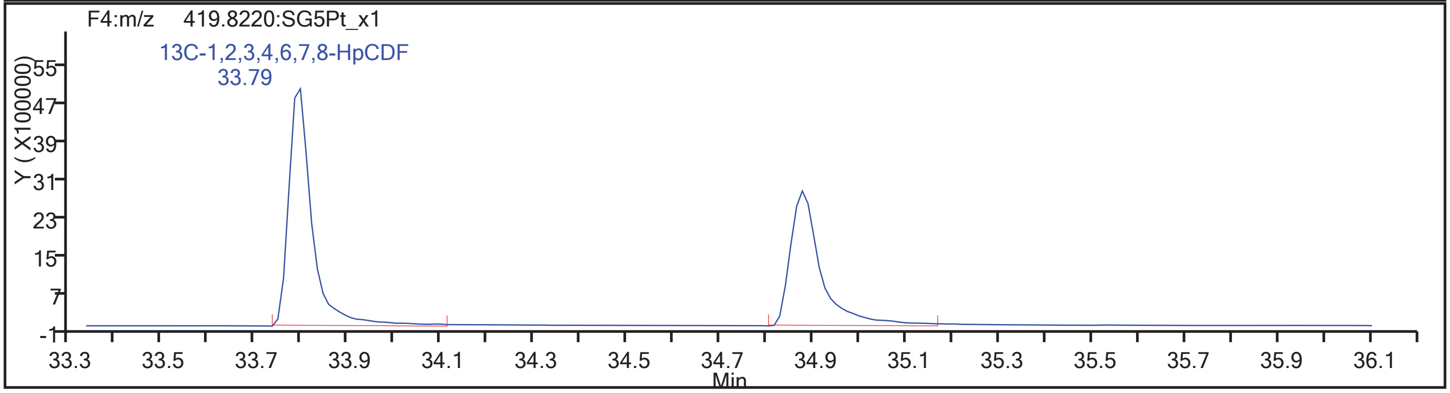

TestAmerica Sacramento

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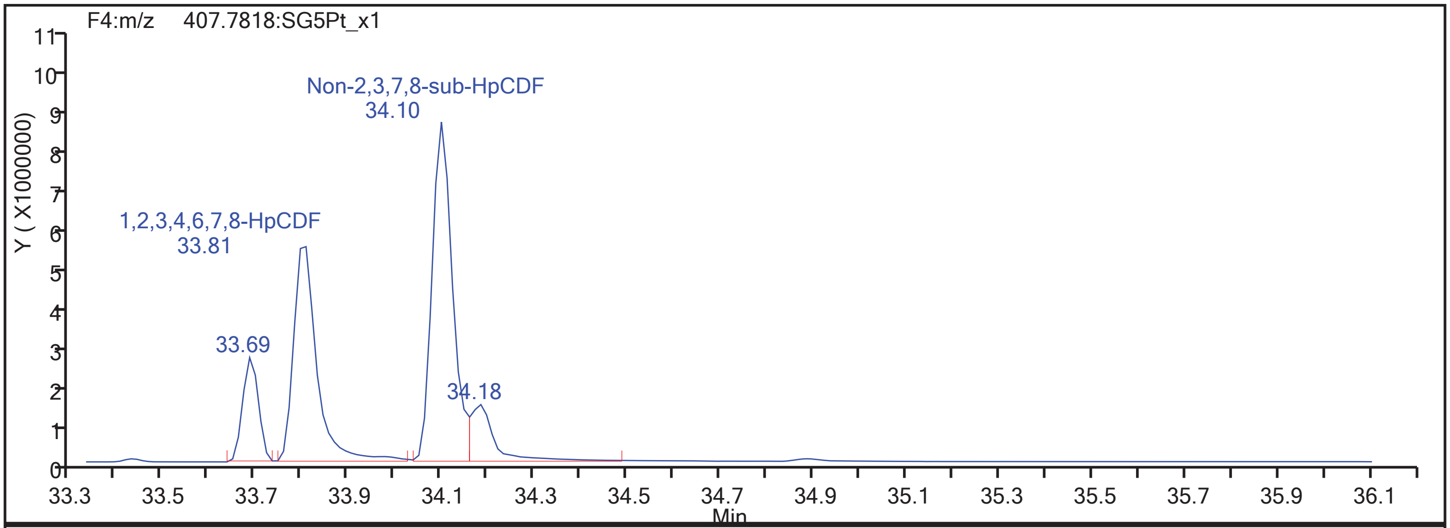
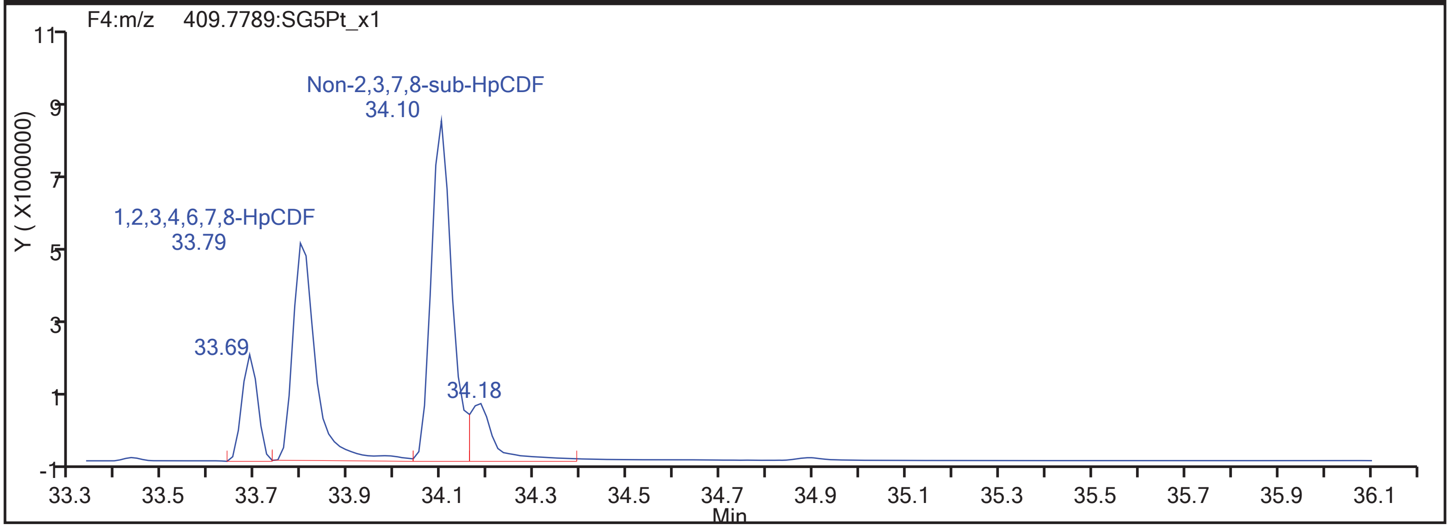
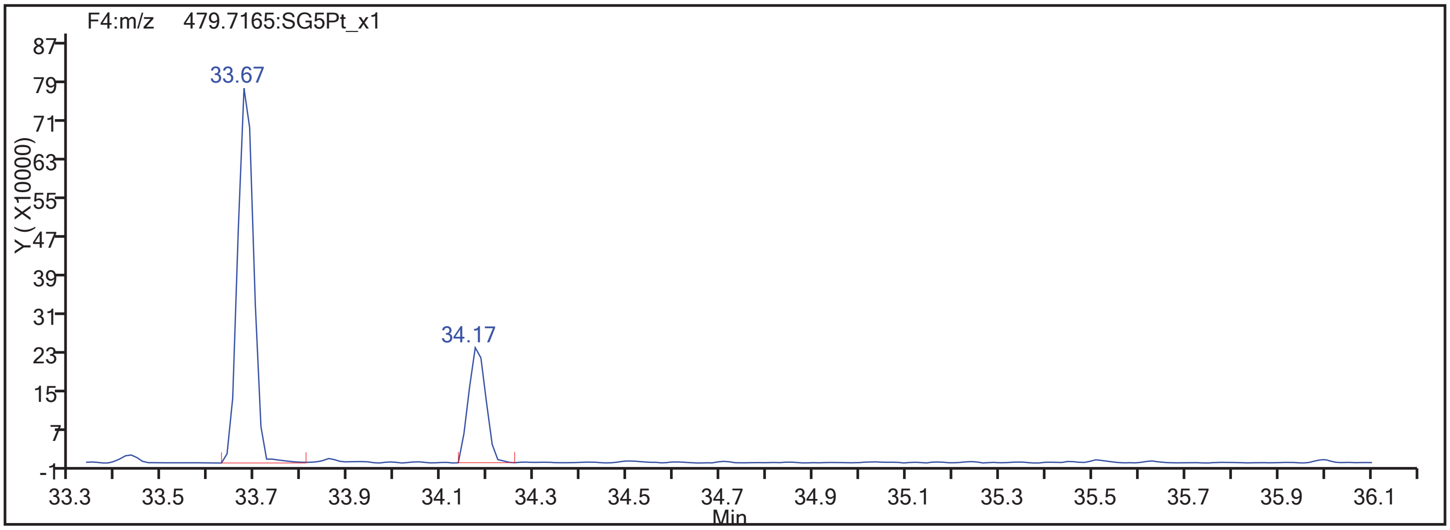
HpCDF





HpCDF Interference Mass



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TestAmerica Sacramento

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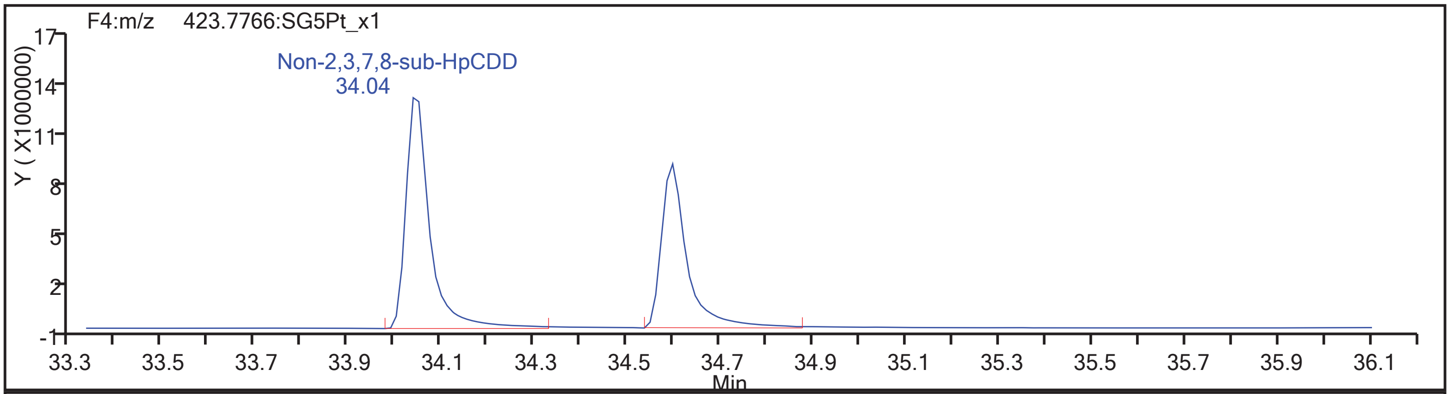

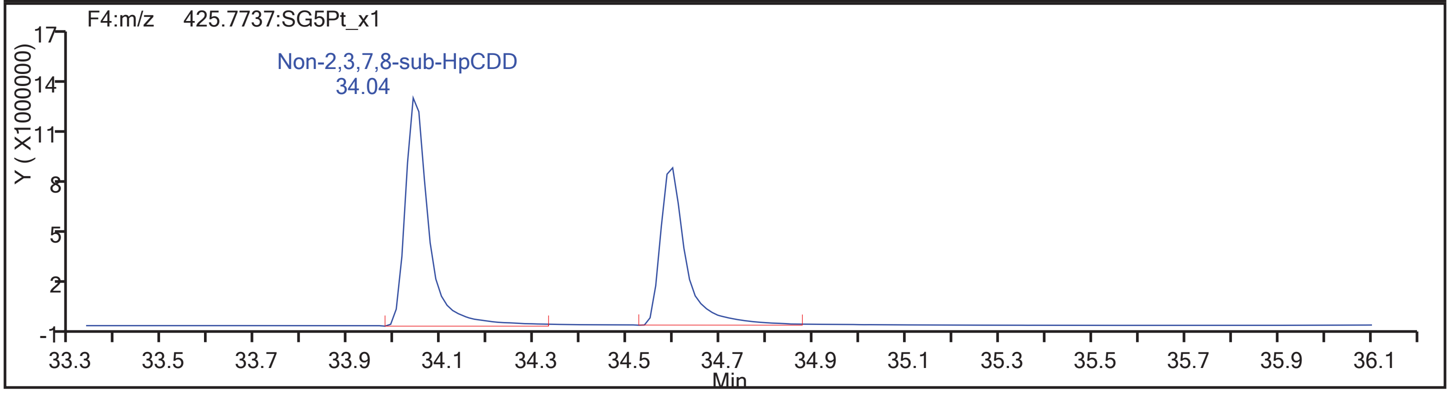

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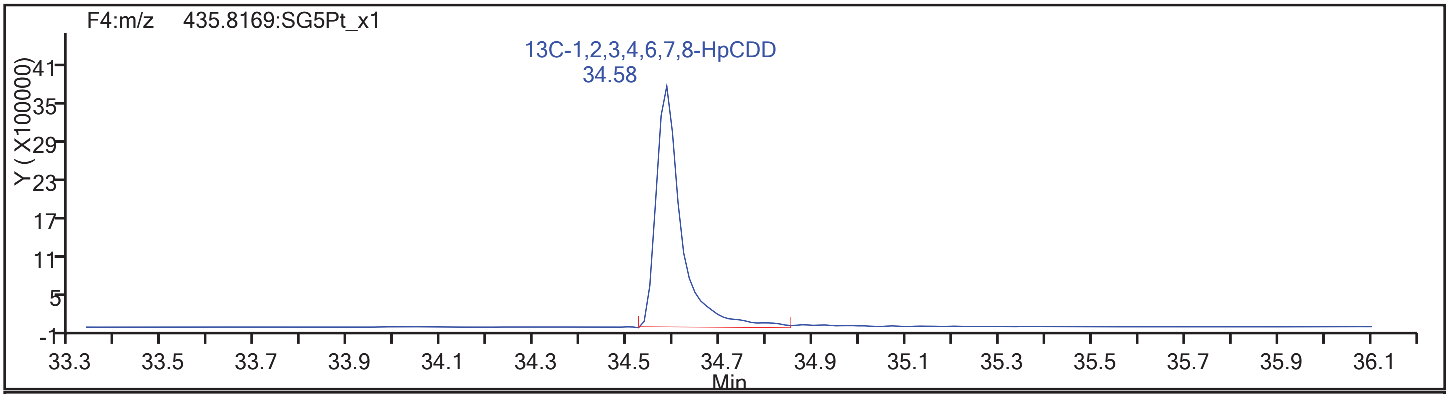

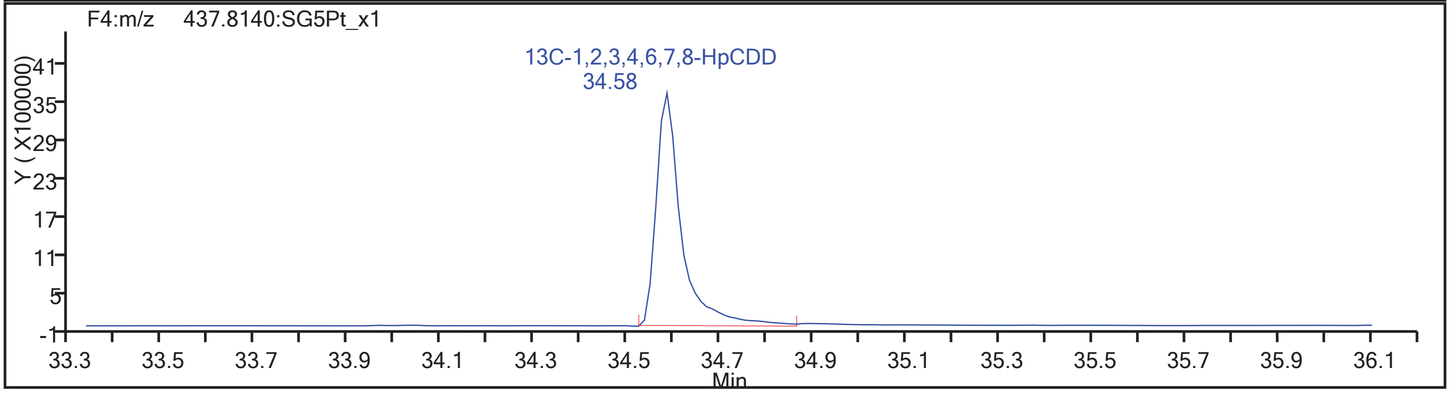

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TestAmerica Sacramento

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Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
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Worklist#: 194085
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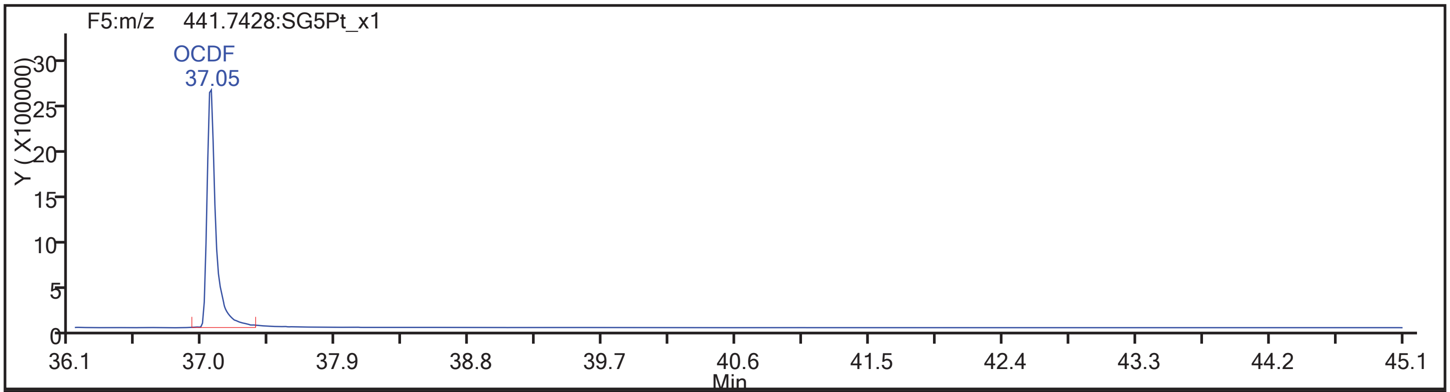
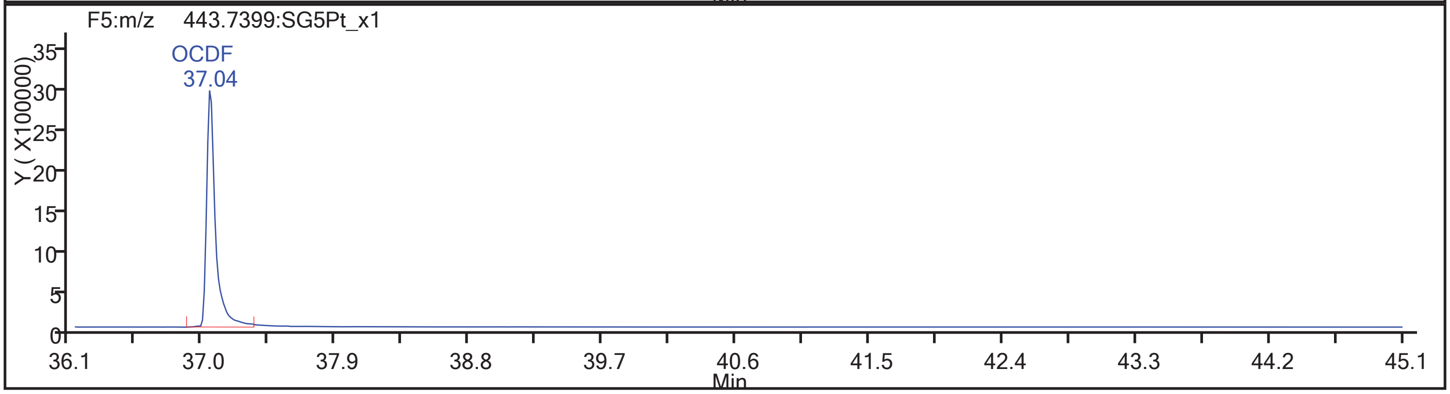
OCDF





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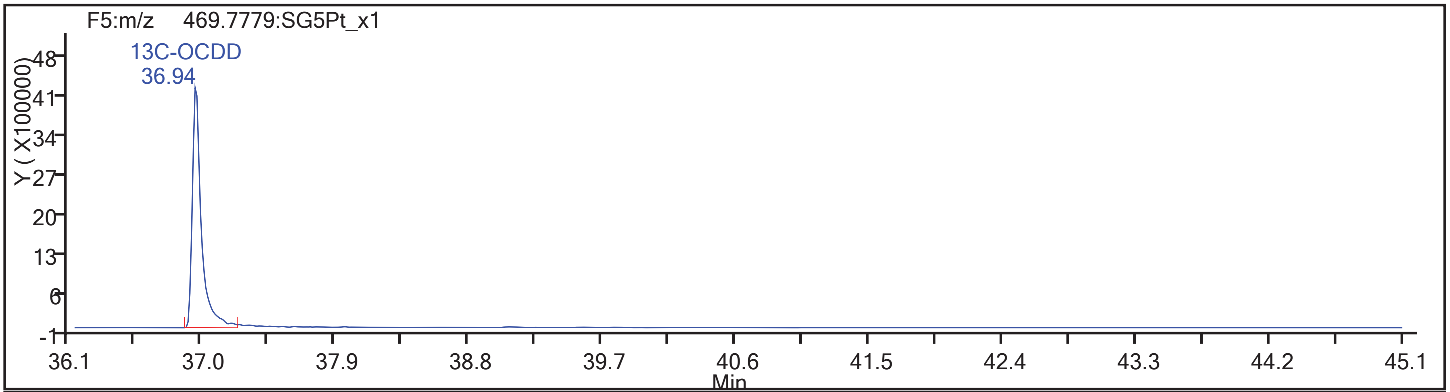

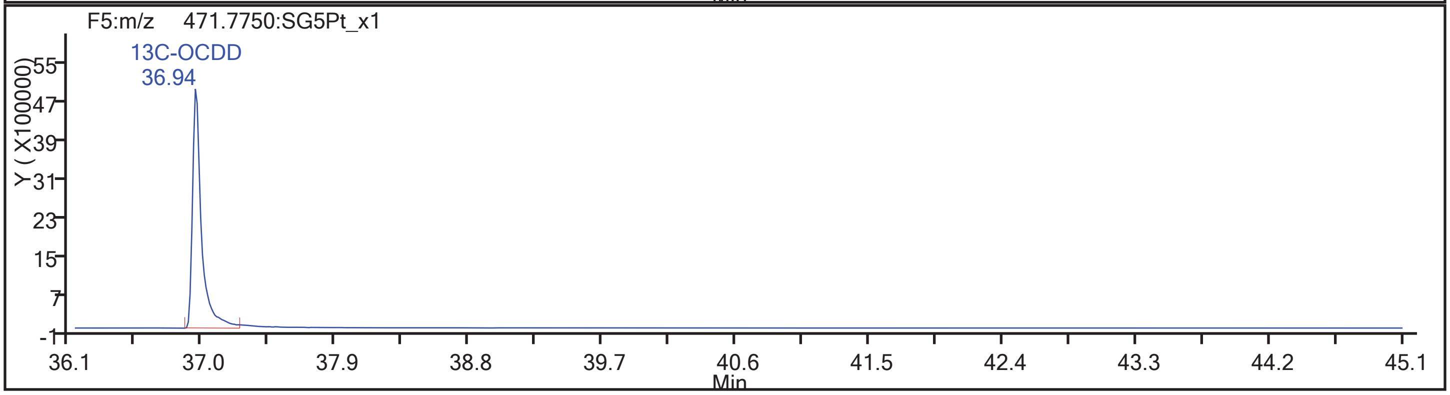

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Column Type:	DB-5	Column Dia:	0.32 mm

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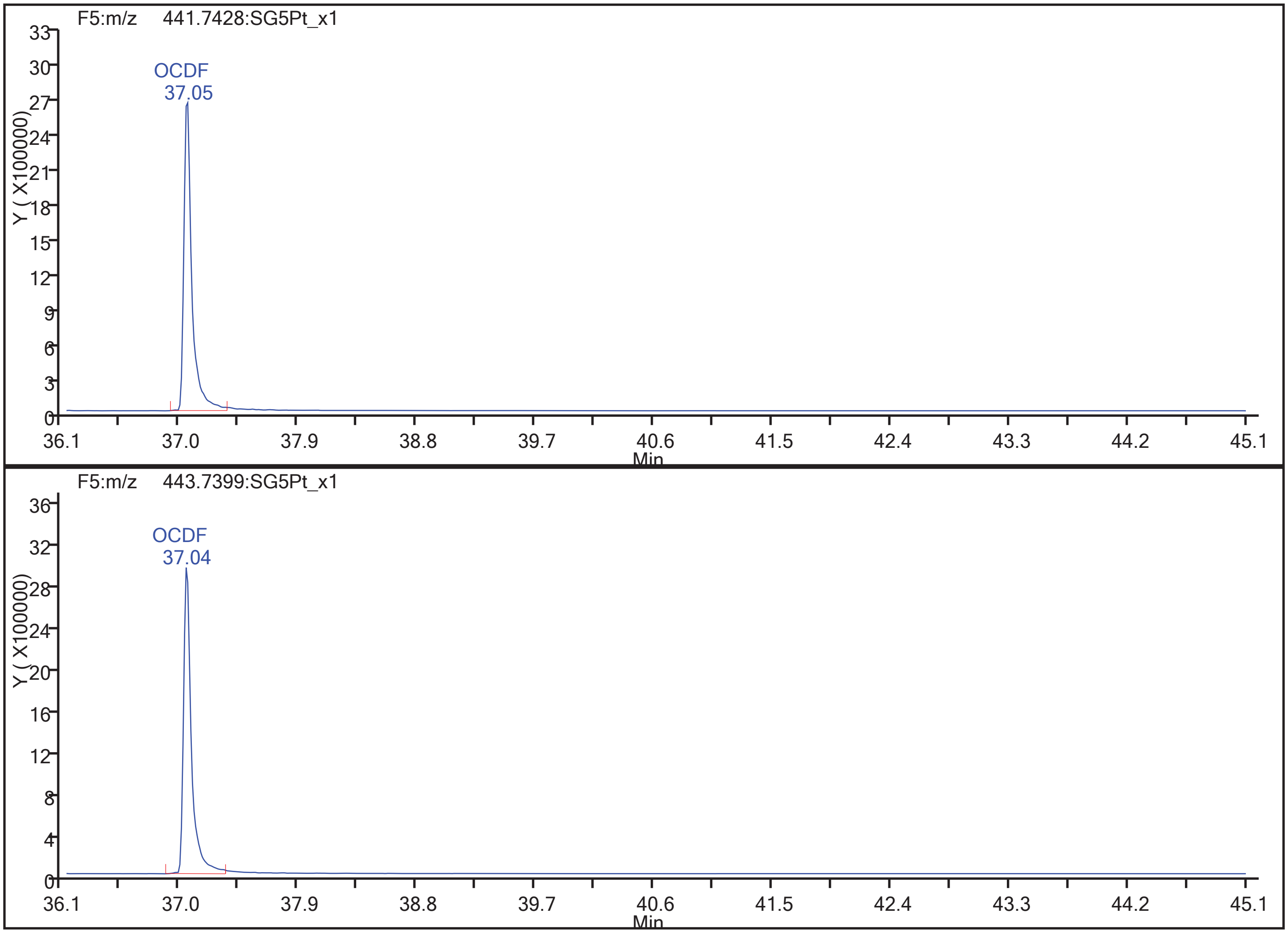
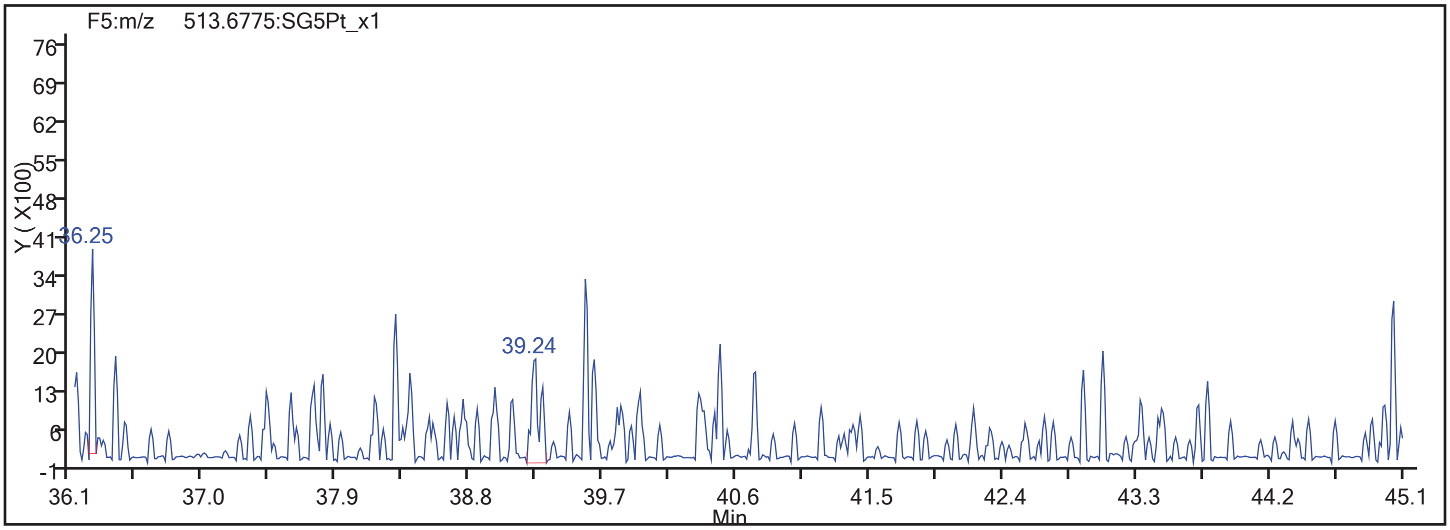


OCDF Interference Mass



TestAmerica Sacramento

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Instrument ID: 10D5 Operator ID: AJS

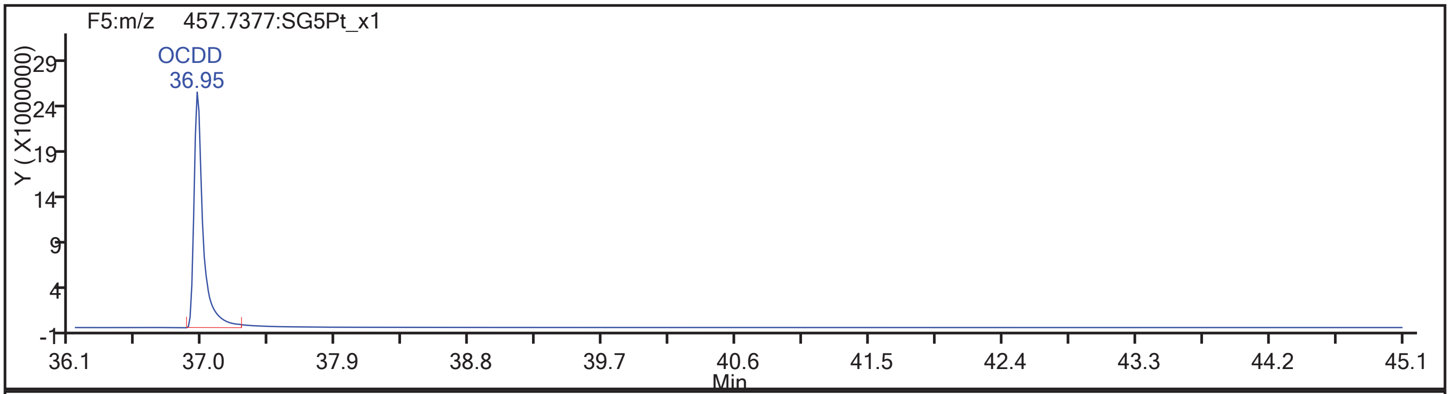
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

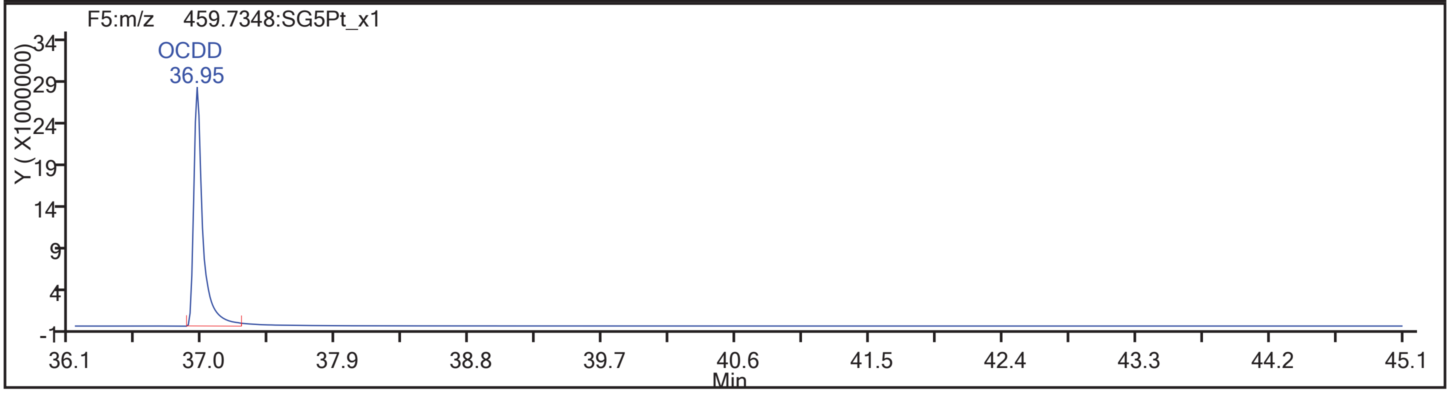
Client ID: SHAD041DP022SS01NS

Worklist#: 194085 Sample Line#: 70

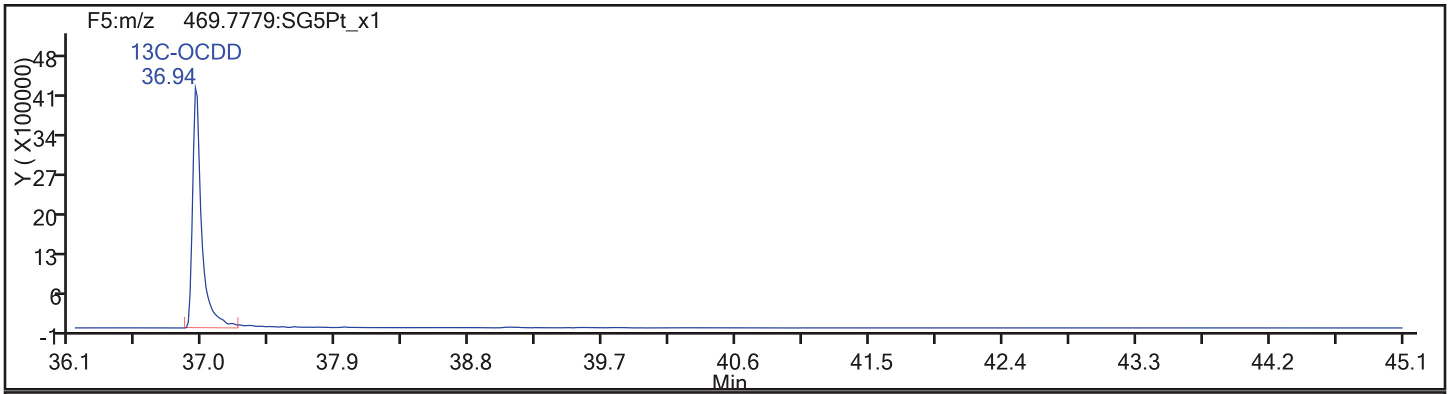
Column Type: DB-5 Column Dia: 0.32 mm

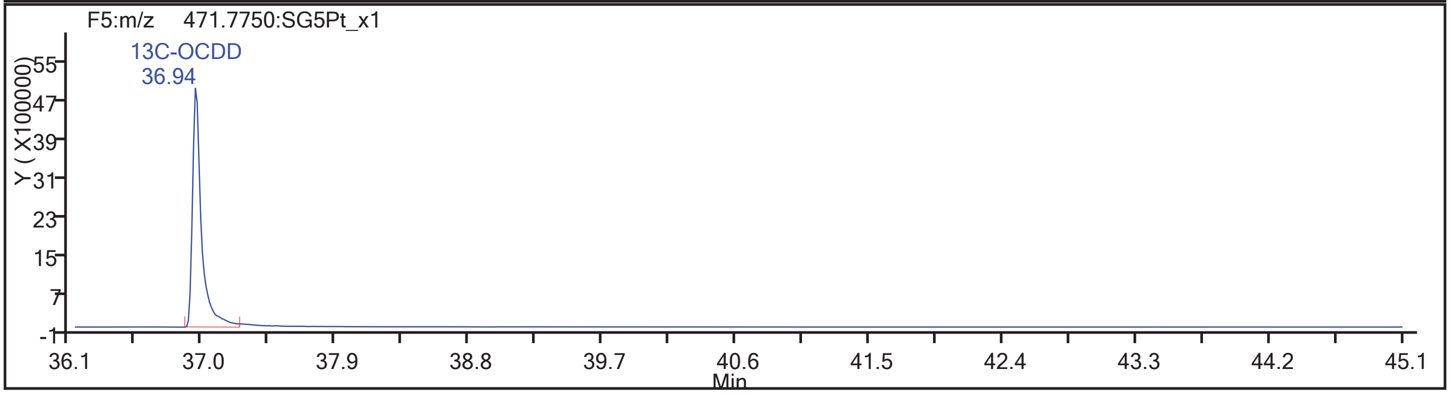
OCDD





OCDD Standards





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Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

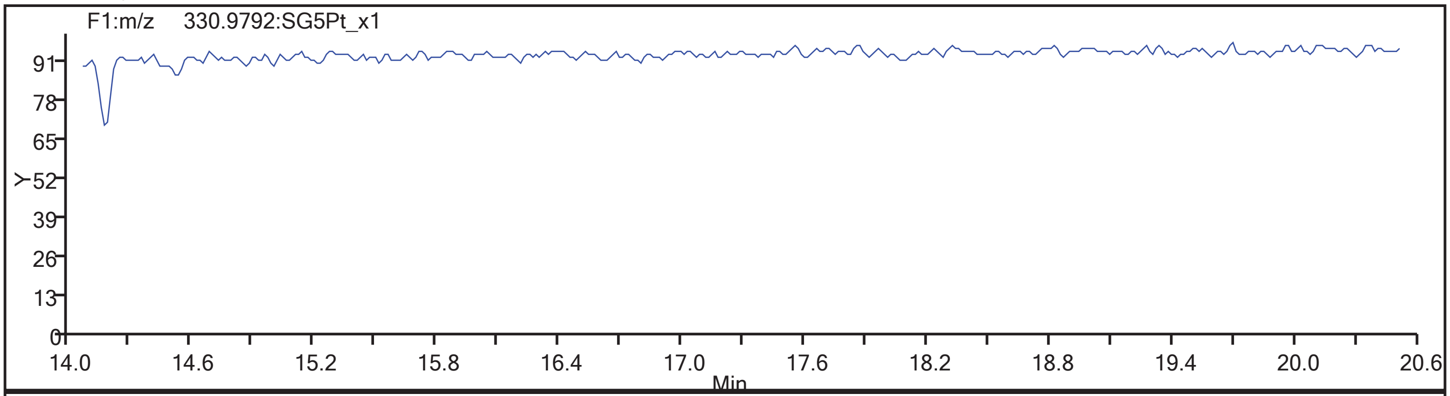
Client ID: SHAD041DP022SS01NS

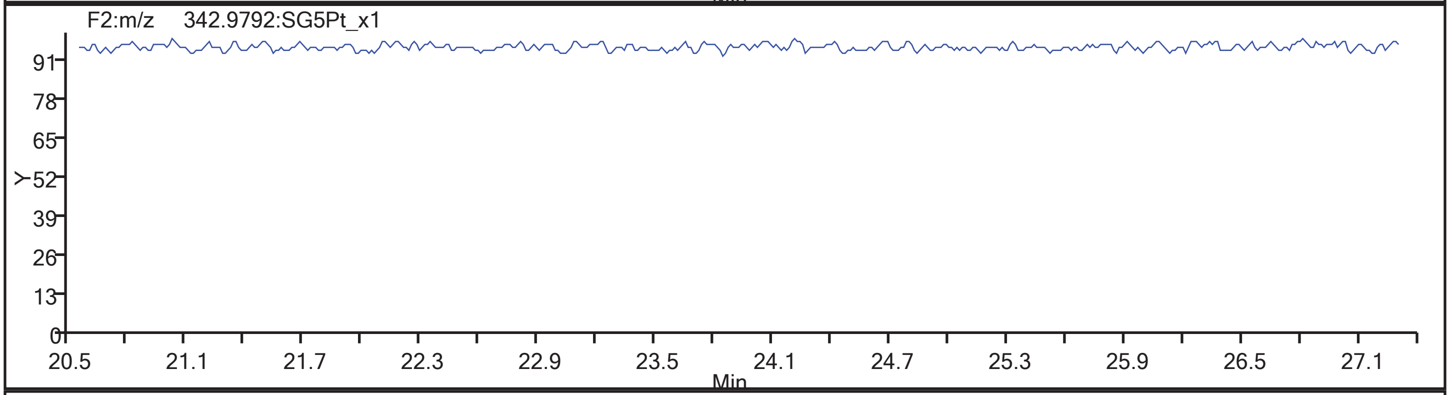
Worklist#: 194085

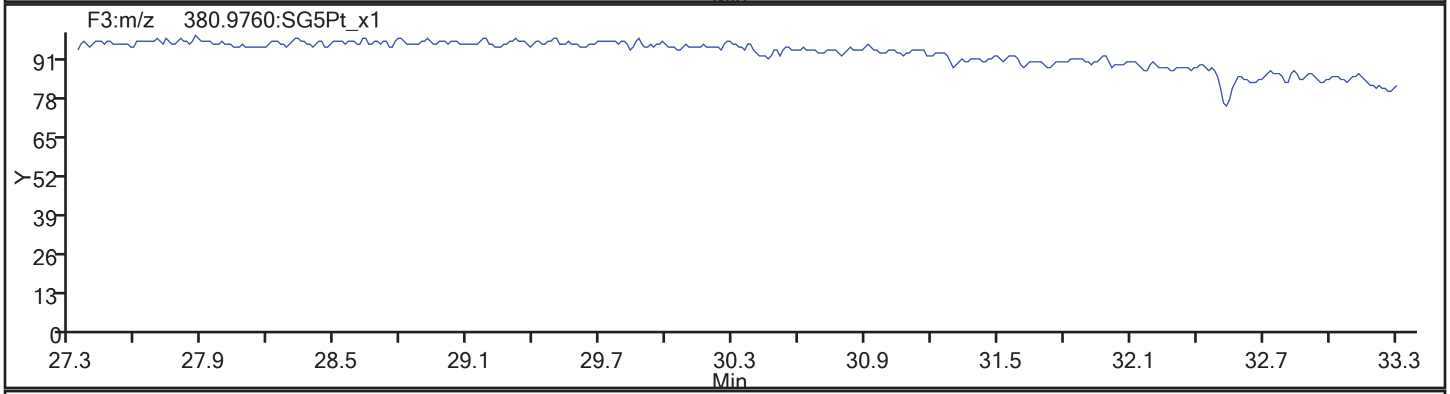
Sample Line#: 70

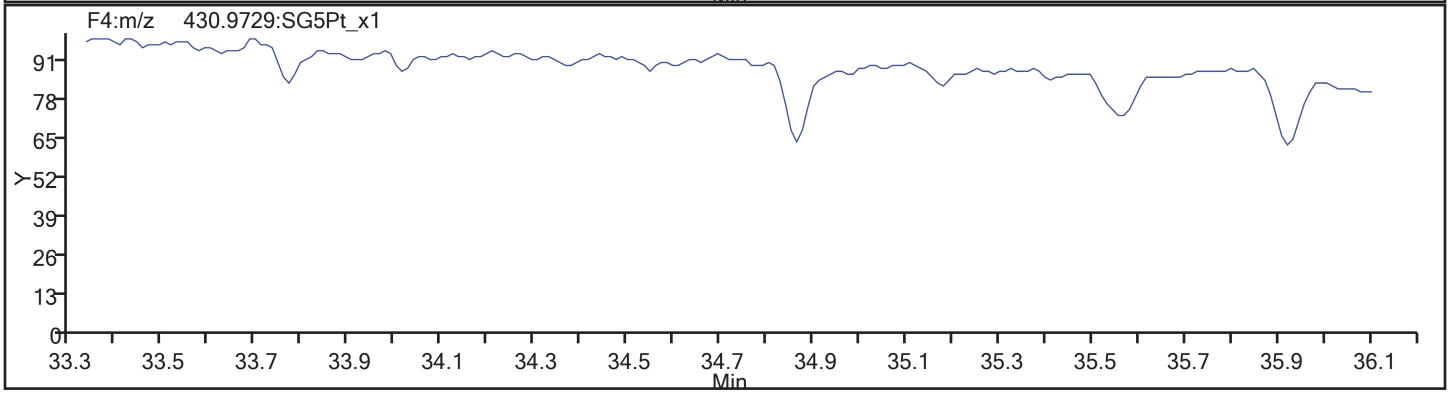
Column Type: DB-5

Column Dia: 0.32 mm









TestAmerica Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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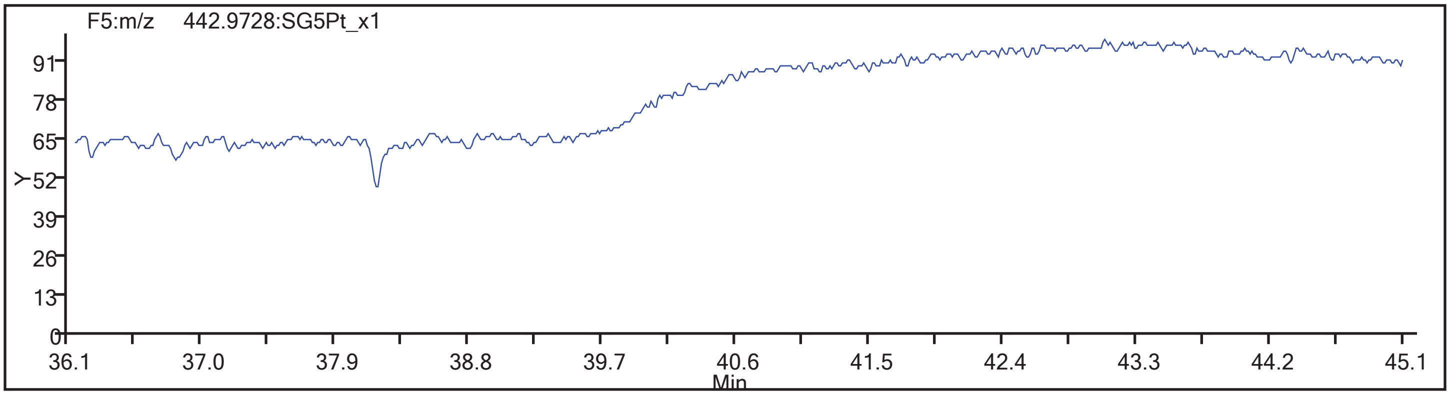


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS01NS RE	Lab Sample ID: 160-24924-7 RE
Matrix: Solid	Lab File ID: 16NO173D5_71.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:45
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 9.94(g)	Date Analyzed: 11/19/2017 03:14
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 0.3	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195574	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*1.1*	*H M*	*1.0*	0.40	*0.15*
40321-76-4	*1,2,3,7,8-PeCDD*	*7.7*	*H*	*5.0*	0.76	*1.5*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.76*	*U H*	*5.0*	0.76	*1.4*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.76*	*U H*	*5.0*	0.76	*1.5*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*9.2*	*H*	*5.0*	2.0	*1.8*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*120*	*H*	*5.0*	2.0	*1.6*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*54*	*H*	*5.0*	2.0	*1.6*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*6.4*	*H M*	*5.0*	0.76	*1.8*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*16*	*H*	*5.0*	1.0	*1.6*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.0*	*U H*	*5.0*	1.0	*1.9*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*6.4*	*H*	*5.0*	0.76	*1.7*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*840*	*H*	*8.7*	1.0	*8.7*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*340*	*H*	*8.3*	1.0	*8.3*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.0*	*U H M*	*11*	2.0	*11*
3268-87-9	*OCDD*	*3000*	*H B*	*10*	4.0	*1.9*
39001-02-0	*OCDF*	*150*	*H*	*10*	4.0	*0.28*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	68		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	66		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	65		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	69		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	69		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	63		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	42		40-135
114423-97-1	13C-OCDD	58		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d
Lims ID: 160-24924-G-7-B
Client ID: SHAD041DP022SS01NS
Sample Type: Client
Inject. Date: 19-Nov-2017 03:14:32 ALS Bottle#: 46 Worklist Smp#: 71
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-7-B 160-24924-G-7-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:31:39 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:32:48

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	133602982	0.76	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.705	129773926	0.79	1.5089	64.4	64.4	0.5873	0.5873	64.38	
2,3,7,8-TCDF	17.765	2448191	0.80	1.0971	1.720	1.720	0.5463	0.5463		
A Non-2,3,7,8-sub-TCDF	17.402	11955927	0.77	1.0971	8.667	8.397	0.5463	2.587		RQM
S Total TCDF					10.4	10.1	0.5463	0.5463		RQ
D 13C-2,3,7,8-TCDD	18.445	89743574	0.84	0.9906	67.8	67.8	0.2088	0.2088	67.81	
2,3,7,8-TCDD	18.461	548037	0.77	1.1645	0.6090	0.5244	0.0726	0.0726		RQM
A Non-2,3,7,8-sub-TCDD	17.871	6264847	0.77	1.1645	6.307	5.995	0.0726	1.827		RQM
S Total TCDD					6.916	6.519	0.0726	0.0726		RQ
D 13C-1,2,3,7,8-PeCDF	22.883	98333352	1.62	1.1280	65.2	65.2	0.2519	0.2519	65.25	
1,2,3,7,8-PeCDF	22.896						0.7106	0.7106		
2,3,4,7,8-PeCDF	24.274						0.7310	0.7310		
A F1 PeCDFs	20.426	21926854	1.58	1.1262	19.8	19.8	0.1025	19.8		
A Non-2,3,7,8-sub-PeCDF	23.668	14757970	1.55	1.1262	13.7	13.3	0.7207	10.0		RQ
S Total PeCDF					33.5	33.1	0.7208	0.7208		RQ
D 13C-1,2,3,7,8-PeCDD	25.010	64379468	1.58	0.7269	66.3	66.3	0.1205	0.1205	66.29	
1,2,3,7,8-PeCDD	25.051	2784105	1.55	1.1272	4.266	3.836	0.7612	0.7612		RQ
A Non-2,3,7,8-sub-PeCDD	23.878	19259643	1.55	1.1272	47.8	26.5	0.7612	9.305		RQ
S Total PeCDD					52.0	30.4	0.7612	0.7612		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.919	76443086	0.54	1.0279	68.7	68.7	0.3893	0.3893	68.71	
1,2,3,4,7,8-HxCDF	30.932	3242557	1.26	1.3475	3.148	3.148	0.8848	0.8848		M
1,2,3,6,7,8-HxCDF	31.092	9034716	1.31	1.4794	7.989	7.989	0.8059	0.8059		
2,3,4,6,7,8-HxCDF	31.838	3353109	1.27	1.3833	3.171	3.171	0.8619	0.8619		
D 13C-1,2,3,7,8,9-HxCDF	32.597	71198072	0.53							
1,2,3,7,8,9-HxCDF	32.597						0.9241	0.9241		
A Non-2,3,7,8-sub-HxCDF	30.653	156647225	1.27	1.3751	149.0	149.0	0.8670	80.2		M
S Total HxCDF					163.3	163.3	0.8692	0.8692		
* 13C-1,2,3,7,8,9-HxCDD	32.410	108228115	1.29	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.011	3069517	1.32	1.0646	4.570	4.570	0.8938	0.8938		
D 13C-1,2,3,6,7,8-HxCDD	32.091	63093278	1.28	0.8502	68.6	68.6	0.2530	0.2530	68.57	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.117	44586708	1.26	1.1809	59.8	59.8	0.8058	0.8058		
1,2,3,7,8,9-HxCDD	32.424	20922778	1.33	1.2311	26.9	26.9	0.7729	0.7729		
A Non-2,3,7,8-sub-HxCDD	31.252	241487187	1.23	1.1589	330.3	330.3	0.8211	247.2		
S Total HxCDD					421.6	421.6	0.8241	0.8241		
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	29580112	0.43	0.6490	42.1	42.1	0.6502	0.6502	42.11	
1,2,3,4,6,7,8-HpCDF	34.022	80066298	1.04	1.5871	170.6	170.6	4.134	4.134		
1,2,3,4,7,8,9-HpCDF	35.140	1173730	1.24	1.2290	3.229	3.229	5.339	5.339		RnM
A Non-2,3,7,8-sub-HpCDF	34.569	147082208	1.06	1.4080	353.1	353.1	4.660	353.1		
S Total HpCDF					526.9	526.9	4.737	4.737		R
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	36868491	1.09	0.5387	63.2	63.2	0.3435	0.3435	63.24	
1,2,3,4,6,7,8-HpCDD	34.836	177491661	1.04	1.1631	413.9	413.9	4.299	4.299		
A Non-2,3,7,8-sub-HpCDD	35.261	252394248	1.06	1.1631	588.6	588.6	4.299	588.6		
S Total HpCDD					1002.5	1002.5	4.299	4.299		
D 13C-OCDD	37.257	50020992	0.84	0.4009	115.3	115.3	0.2918	0.2918	57.64	
OCDF	37.365	24211754	0.92	1.2649	76.5	76.5	0.1401	0.1401		
OCDD	37.269	388139344	0.92	1.0390	1493.6	1493.6	0.9644	0.9644		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d
Lims ID: 160-24924-G-7-B
Client ID: SHAD041DP022SS01NS
Sample Type: Client
Inject. Date: 19-Nov-2017 03:14:32 ALS Bottle#: 46 Worklist Smp#: 71
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-7-B 160-24924-G-7-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:31:39 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:32:48

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		57858569	13604335	13576	33940	1002		
333.9339	18.234	18.234	0		75744413	17998427	12571	31427	1432	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	0.971	57394857	13089898	53385	133462	245		
317.9389	17.705	17.705	0	0.971	72379069	16981933	58639	146597	290	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.765	17.720	3	1.003	1091596	240755	32055	80137	8		
305.8987	17.750	17.720	2	1.003	1356595	317051	40042	100105	8	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	15.739	17.402	-100	0.889	1666332	435719	32055	80137	14		M
305.8987	15.739	17.402	-100	0.889	2017459	558795	40042	100105	14	0.83(0.65-0.89)	
303.9016	16.011	17.402	-83	0.904	1341627	228725	32055	80137	7		
	Empc Correction				957287	185693	32055	80137	6		
305.8987	15.996	17.402	-84	0.903	1243230	241160	40042	100105	6	1.08(0.65-0.89)	
303.9016	16.555	17.402	-51	0.935	460207	144969	32055	80137	5		M
305.8987	16.540	17.402	-52	0.934	707192	200906	40042	100105	5	0.65(0.65-0.89)	M
303.9016	16.797	17.402	-36	0.949	1042121	260583	32055	80137	8		
305.8987	16.797	17.402	-36	0.949	1413908	364811	40042	100105	9	0.74(0.65-0.89)	
303.9016	17.765	17.402	22	1.003	1091596	240755	32055	80137	8		M
305.8987	17.750	17.402	21	1.003	1356595	317051	40042	100105	8	0.80(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.012	40847338	8961491	13576	33940	660		
333.9339	18.445	18.430	1	1.012	48896236	10519209	12571	31427	837	0.84(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,7,8-TCDD											RQM
319.8965	18.461	18.445	1	1.001	238412	62151	3264	8160	19		M
321.8936	18.445	18.445	0	1.000	397989	74437	3326	8315	22	0.60(0.65-0.89)	M
	Empc Correction				309625	80715	3326	8315	24		
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	16.162	17.871	-102	0.876	612060	167998	3264	8160	51		
	Empc Correction				434972	126260	3264	8160	39		
321.8936	16.162	17.871	-102	0.876	564899	163975	3326	8315	49	1.08(0.65-0.89)	
319.8965	16.465	17.871	-84	0.893	264702	68168	3264	8160	21		
321.8936	16.465	17.871	-84	0.893	310883	80377	3326	8315	24	0.85(0.65-0.89)	
319.8965	16.707	17.871	-70	0.906	220274	53251	3264	8160	16		
321.8936	16.707	17.871	-70	0.906	248874	68830	3326	8315	21	0.89(0.65-0.89)	
319.8965	17.296	17.871	-34	0.938	827500	178126	3264	8160	55		
321.8936	17.296	17.871	-34	0.938	1081611	229146	3326	8315	69	0.77(0.65-0.89)	
319.8965	17.931	17.871	4	0.972	195051	42391	3264	8160	13		
	Empc Correction				164082	41837	3264	8160	13		
321.8936	17.916	17.871	3	0.971	213094	54334	3326	8315	16	0.92(0.65-0.89)	
319.8965	18.355	17.871	29	0.995	524752	64819	3264	8160	20		M
	Empc Correction				448216	62873	3264	8160	19		
321.8936	18.355	17.871	29	0.995	582100	81654	3326	8315	25	0.90(0.65-0.89)	
319.8965	18.823	17.871	57	1.020	356567	67093	3264	8160	21		
321.8936	18.839	17.871	58	1.021	474178	84034	3326	8315	25	0.75(0.65-0.89)	
319.8965	19.096	17.871	73	1.035	73158	21018	3264	8160	6		
	Empc Correction				31711	9951	3264	8160	3		
321.8936	19.080	17.871	72	1.034	41184	12924	3326	8315	4	1.78(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.869	1	1.255	60808966	9759747	21163	52907	461		
353.8970	22.883	22.869	1	1.255	37524386	6074447	14751	36877	412	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.896						30783	76957			
341.8567	22.896						20622	51555			
2,3,4,7,8-PeCDF											
339.8597	24.274						30783	76957			
341.8567	24.274						20622	51555			
A F1 PeCDFs											
339.8597	19.912	20.426	-31	0.870	13437936	2719139	4032	10080	674		
341.8567	19.912	20.426	-31	0.870	8488918	1748389	3282	8205	533	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.505	23.668	-130	0.940	6719676	1003924	30783	76957	33		
341.8567	21.505	23.668	-130	0.940	4389668	628926	20622	51555	30	1.53(1.32-1.78)	
339.8597	22.324	23.668	-81	0.976	2642526	300203	30783	76957	10		
	Empc Correction				2217792	261533	30783	76957	8		
341.8567	22.310	23.668	-81	0.975	1430834	168731	20622	51555	8	1.85(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	24.996	1	1.372	39389155	5538602	7538	18845	735		
369.8919	25.010	24.996	1	1.372	24990313	3587728	3530	8825	1016	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDD											RQ
355.8546	25.051	25.024	2	1.002	2004196	299605	7448	18620	40		
	Empc Correction				1692299	287007	7448	18620	39		
357.8516	25.037	25.024	1	1.001	1091806	185166	23873	59682	8	1.84(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.710	23.878	-130	0.868	4104570	687849	7448	18620	92		
357.8516	21.737	23.878	-128	0.869	15181609	2826174	23873	59682	118	0.27(1.32-1.78)	
	Empc Correction				2648109	443773	23873	59682	19		
355.8546	22.501	23.878	-82	0.900	888889	177550	7448	18620	24		
357.8516	22.501	23.878	-82	0.900	675472	123736	23873	59682	5	1.32(1.32-1.78)	
355.8546	22.951	23.878	-56	0.918	1631651	259001	7448	18620	35		
357.8516	22.992	23.878	-53	0.919	3133618	375147	23873	59682	16	0.52(1.32-1.78)	
	Empc Correction				1052678	167097	23873	59682	7		
355.8546	23.210	23.878	-40	0.928	2460874	397725	7448	18620	53		
357.8516	23.196	23.878	-41	0.927	1490877	248527	23873	59682	10	1.65(1.32-1.78)	
355.8546	23.524	23.878	-21	0.941	1178601	174227	7448	18620	23		
	Empc Correction				929136	149833	7448	18620	20		
357.8516	23.510	23.878	-22	0.940	599443	96667	23873	59682	4	1.97(1.32-1.78)	
355.8546	24.042	23.878	10	0.961	2233100	282685	7448	18620	38		
	Empc Correction				1688554	243576	7448	18620	33		
357.8516	24.001	23.878	7	0.960	1089390	157146	23873	59682	7	2.05(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.906	1	0.954	26787250	5719215	17447	43617	328		
385.8610	30.919	30.906	1	0.954	49655836	10447723	28341	70852	369	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											M
373.8208	30.932	30.932	0	1.000	1806448	459862	42498	106245	11		M
375.8178	30.932	30.932	0	1.000	1436109	360917	34604	86510	10	1.26(1.05-1.43)	M
1,2,3,6,7,8-HxCDF											
373.8208	31.092	31.092	0	1.006	5126786	1115249	42498	106245	26		
375.8178	31.092	31.092	0	1.006	3907930	908890	34604	86510	26	1.31(1.05-1.43)	
2,3,4,6,7,8-HxCDF											
373.8208	31.838	31.824	1	1.030	1878153	480840	42498	106245	11		
375.8178	31.838	31.824	1	1.030	1474956	395170	34604	86510	11	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.006	24777348	6282348	17447	43617	360		
385.8610	32.583	32.583	0	1.005	46420724	12099123	28341	70852	427	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						42498	106245			
375.8178	32.597						34604	86510			
A Non-2,3,7,8-sub-HxCDF											M
373.8208	28.669	30.653	-119	0.927	6395280	832835	42498	106245	20		
375.8178	28.655	30.653	-120	0.927	5041072	616924	34604	86510	18	1.27(1.05-1.43)	
373.8208	29.055	30.653	-96	0.940	32888074	3826995	42498	106245	90		
375.8178	29.055	30.653	-96	0.940	26202387	3071859	34604	86510	89	1.26(1.05-1.43)	
373.8208	30.253	30.653	-24	0.978	47295495	7659737	42498	106245	180		
375.8178	30.253	30.653	-24	0.978	37031256	5907338	34604	86510	171	1.28(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
373.8208	30.906	30.653	15	1.000	1003711	308160	42498	106245	7		M
375.8178	30.906	30.653	15	1.000	789950	292683	34604	86510	8	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.397	1		61032647	16113602	14174	35435	1137		
403.8529	32.410	32.397	1		47195468	12491853	10435	26087	1197	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.011	31.997	1	0.998	1744206	492625	25797	64492	19		
391.8127	32.011	31.997	1	0.998	1325311	396198	34001	85002	12	1.32(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.990	35382522	8824332	14174	35435	623		
403.8529	32.091	32.091	0	0.990	27710756	6886776	10435	26087	660	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.117	32.104	1	1.001	24891095	6378550	25797	64492	247		
391.8127	32.104	32.104	0	1.000	19695613	5144753	34001	85002	151	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.424	32.410	1	1.010	11930719	2915339	25797	64492	113		
391.8127	32.424	32.410	1	1.010	8992059	2202806	34001	85002	65	1.33(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.133	31.252	-67	0.939	27319348	4221847	25797	64492	164		
391.8127	30.133	31.252	-67	0.939	22881376	3513574	34001	85002	103	1.19(1.05-1.43)	
389.8157	30.986	31.252	-16	0.966	5659158	1126699	25797	64492	44		
391.8127	30.986	31.252	-16	0.966	4859624	976259	34001	85002	29	1.16(1.05-1.43)	
389.8157	31.318	31.252	4	0.976	100267295	21048942	25797	64492	816		
391.8127	31.318	31.252	4	0.976	80500386	16754013	34001	85002	493	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	8855070	2982988	15244	38110	196		
419.8220	34.010	33.998	1	1.049	20725042	6619011	33034	82585	200	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.010	1	1.000	40878944	13339076	131763	329407	101		
409.7789	34.010	34.010	0	1.000	39187354	12816070	120242	300605	107	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											RnM
407.7818	35.140	35.128	1	1.033	649197	201455	131763	329407	2		M
409.7789	35.140	35.128	1	1.033	524533	175321	120242	300605	1	1.24(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.326	34.569	-15	1.009	75754404	24640316	131763	329407	187		
409.7789	34.326	34.569	-15	1.009	71327804	22609872	120242	300605	188	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.812	1	1.074	19187089	5695794	12377	30942	460		
437.8140	34.824	34.812	1	1.074	17681402	5279940	8798	21995	600	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.000	90632896	26973311	114271	285677	236		
425.7737	34.836	34.824	1	1.000	86858765	25157352	105276	263190	239	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.265	35.261	-60	0.984	130046414	40141838	114271	285677	351		a
425.7737	34.265	35.261	-60	0.984	122347834	37823241	105276	263190	359	1.06(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-OCDD											
469.7779	37.257	37.233	1	1.150	22889475	6801661	4394	10985	1548		
471.7750	37.257	37.233	1	1.150	27131517	8104823	8991	22477	901	0.84(0.76-1.02)	
OCDF											
441.7428	37.365	37.341	1	1.003	11599018	2291052	2052	5130	1116		
443.7399	37.353	37.341	1	1.003	12612736	2454415	3233	8082	759	0.92(0.76-1.02)	
OCDD											
457.7377	37.269	37.245	1	1.000	186054937	56700981	13647	34117	4155		
459.7348	37.269	37.245	1	1.000	202084407	60711883	16228	40570	3741	0.92(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Lims ID:	160-24924-G-7-B		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	19-Nov-2017 03:14:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	71

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	129773926	30071831
Averages:					
	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	129773926	30071831

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.739	1666332	435719	2017459	558795	2.59	0.83	M
16.011	1341627	228725	1243230	241160	1.82	1.08	RQ
16.011	957287	185693	1243230	241160	1.55		Empc Correction
16.555	460207	144969	707192	200906	0.8199	0.65	M
16.797	1042121	260583	1413908	364811	1.73	0.74	
17.765	1091596	240755	1356595	317051	1.72	0.80	M
Signal Totals:							
	5217543	1267719	6738384	1682723			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12340267	2993474				0.83	RQM
	11955927	2950442					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 8.667 = (12340267 * 100.000) / (129773926 * 1.097)
Empc Amount: 8.397 = (11955927 * 100.000) / (129773926 * 1.097)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d
Lims ID: 160-24924-G-7-B
Client ID: SHAD041DP022SS01NS
Inject. Date: 19-Nov-2017 03:14:32 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195574 Lims Sample ID: 71

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	89743574	19480700

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	89743574	19480700

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.162	612060	167998	564899	163975	1.13	1.08	RQ
16.162	434972	126260	564899	163975	0.9568		Empc Correction
16.465	264702	68168	310883	80377	0.5508	0.85	
16.707	220274	53251	248874	68830	0.4489	0.89	
17.296	827500	178126	1081611	229146	1.83	0.77	
17.931	195051	42391	213094	54334	0.3906	0.92	RQ
17.931	164082	41837	213094	54334	0.3609		Empc Correction
18.355	524752	64819	582100	81654	1.06	0.90	RQM
18.355	448216	62873	582100	81654	0.9859		Empc Correction
18.823	356567	67093	474178	84034	0.7950	0.75	
19.096	73158	21018	41184	12924	0.1094	1.78	RQ
19.096	31711	9951	41184	12924	0.0698		Empc Correction
Signal Totals:							
	2748024	607559	3516823	775274			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6590887	1438138				0.87	RQM
	6264847	1382833					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 6.307 = (6590887 * 100.000) / (89743574 * 1.164)
Empc Amount: 5.995 = (6264847 * 100.000) / (89743574 * 1.164)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Lims ID:	160-24924-G-7-B		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	19-Nov-2017 03:14:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	71

F1 PeCDFs, RT: 20.426

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	98333352	15834194
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	98333352	15834194

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.912	13437936	2719139	8488918	1748389	19.8	1.58	
Signal Totals:							
	13437936	2719139	8488918	1748389			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	21926854	4467528				1.58	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 19.800 = (21926854 * 100.000) / (98333352 * 1.126)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Lims ID:	160-24924-G-7-B		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	19-Nov-2017 03:14:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	71

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF | IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	98333352	15834194
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	98333352	15834194

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.505	6719676	1003924	4389668	628926	10.0	1.53	
22.324	2642526	300203	1430834	168731	3.68	1.85	RQ
22.324	2217792	261533	1430834	168731	3.29		Empc Correction
Signal Totals:							
	8937468	1265457	5820502	797657			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	15182704	2101784				1.61	RQ
	14757970	2063114					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 13.710 = (15182704 * 100.000) / (98333352 * 1.126)
Empc Amount: 13.326 = (14757970 * 100.000) / (98333352 * 1.126)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 06-Dec-2017 14:31:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Lims ID:	160-24924-G-7-B		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	19-Nov-2017 03:14:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	71

Non-2,3,7,8-sub-PeCDD, RT: 23.878

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.127	D 13C-1,2,3,7,8-PeCDD	100.000	64379468	9126330

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.127		100.000	64379468	9126330

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.710	4104570	687849	15181609	2826174	26.6	0.27	RQ
21.710	4104570	687849	2648109	443773	9.31		Empc Correction
22.501	888889	177550	675472	123736	2.16	1.32	
22.951	1631651	259001	3133618	375147	6.57	0.52	RQ
22.951	1631651	259001	1052678	167097	3.70		Empc Correction
23.210	2460874	397725	1490877	248527	5.45	1.65	
23.524	1178601	174227	599443	96667	2.45	1.97	RQ
23.524	929136	149833	599443	96667	2.11		Empc Correction
24.042	2233100	282685	1089390	157146	4.58	2.05	RQ
24.042	1688554	243576	1089390	157146	3.83		Empc Correction
Signal Totals:							
	11703674	1915534	7555969	1236946			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	34668094	5806434				0.56	RQ
	19259643	3152480					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 47.772 = (34668094 * 100.000) / (64379468 * 1.127)

Empc Amount: 26.540 = (19259643 * 100.000) / (64379468 * 1.127)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Lims ID:	160-24924-G-7-B		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	19-Nov-2017 03:14:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	71

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	76443086	16166938
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	76443086	16166938

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.669	6395280	832835	5041072	616924	10.9	1.27	
29.055	32888074	3826995	26202387	3071859	56.2	1.26	
30.253	47295495	7659737	37031256	5907338	80.2	1.28	
30.906	1003711	308160	789950	292683	1.71	1.27	M
Signal Totals:							
	87582560	12627727	69064665	9888804			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	156647225	22516531				1.27	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 149.019 = (156647225 * 100.000) / (76443086 * 1.375)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Lims ID:	160-24924-G-7-B		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	19-Nov-2017 03:14:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	71

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	63093278	15711108
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	63093278	15711108

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.133	27319348	4221847	22881376	3513574	68.7	1.19	
30.986	5659158	1126699	4859624	976259	14.4	1.16	
31.318	100267295	21048942	80500386	16754013	247.2	1.25	
Signal Totals:							
	133245801	26397488	108241386	21243846			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	241487187	47641334				1.23	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 330.274 = (241487187 * 100.000) / (63093278 * 1.159)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Lims ID:	160-24924-G-7-B		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	19-Nov-2017 03:14:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	71

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	29580112	9601999
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	29580112	9601999

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	75754404	24640316	71327804	22609872	353.1	1.06	
Signal Totals:							
	75754404	24640316	71327804	22609872			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	147082208	47250188				1.06	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 353.146 = (147082208 * 100.000) / (29580112 * 1.408)

Report Date: 06-Dec-2017 14:31:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Lims ID:	160-24924-G-7-B		
Client ID:	SHAD041DP022SS01NS		
Inject. Date:	19-Nov-2017 03:14:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	71

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	36868491	10975734

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	36868491	10975734

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.265	130046414	40141838	122347834	37823241	588.6	1.06	
Signal Totals:							
	130046414	40141838	122347834	37823241			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	252394248	77965079				1.06	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 588.572 = (252394248 * 100.000) / (36868491 * 1.163)

Report Date: 06-Dec-2017 14:31:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

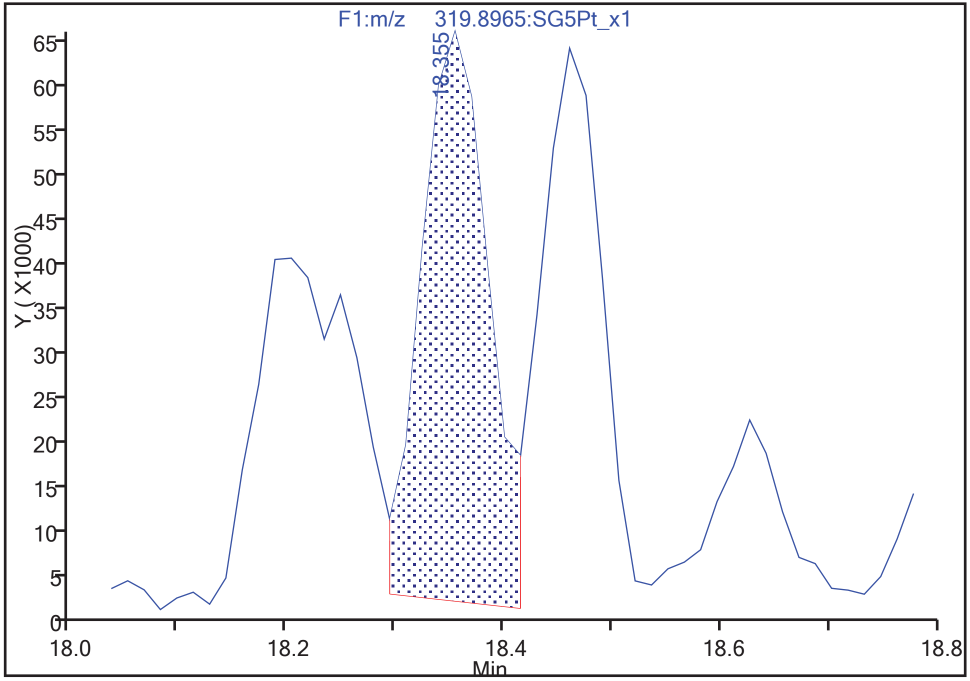
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Injection Date:	19-Nov-2017 03:14:32	Instrument ID:	3D5
Lims ID:	160-24924-G-7-B	Lab Sample ID:	320-24924-7
Client ID:	SHAD041DP022SS01NS		
Operator ID:	SMA, ALM	ALS Bottle#:	46 Worklist Smp#: 71
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F1:HRSIR

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

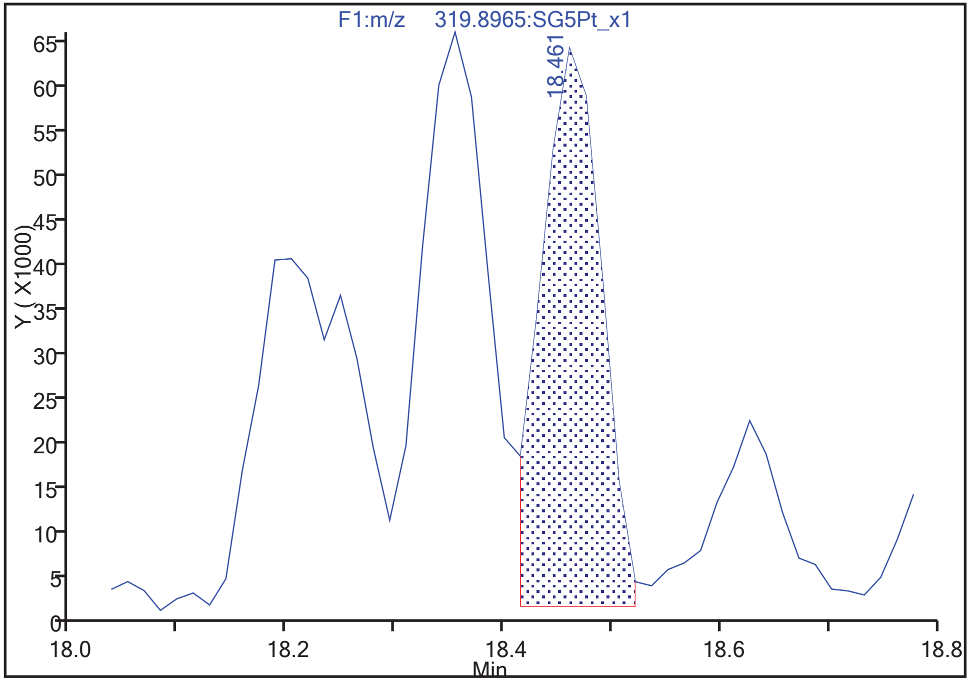
Processing Integration Results

RT:	18.35
Area:	274756
Amount:	1.036630
Amount Units:	pg/ul



Manual Integration Results

RT:	18.46
Area:	238412
Amount:	0.608985
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 14:25:15

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 14:31:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

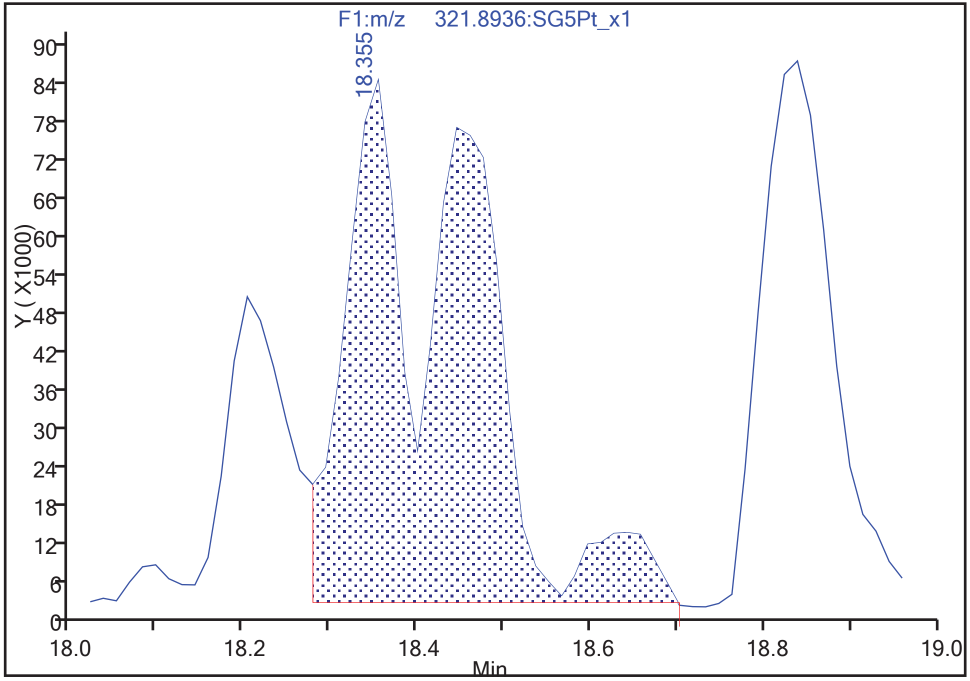
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Injection Date:	19-Nov-2017 03:14:32	Instrument ID:	3D5
Lims ID:	160-24924-G-7-B	Lab Sample ID:	320-24924-7
Client ID:	SHAD041DP022SS01NS		
Operator ID:	SMA, ALM	ALS Bottle#:	46 Worklist Smp#: 71
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F1:HRSIR

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

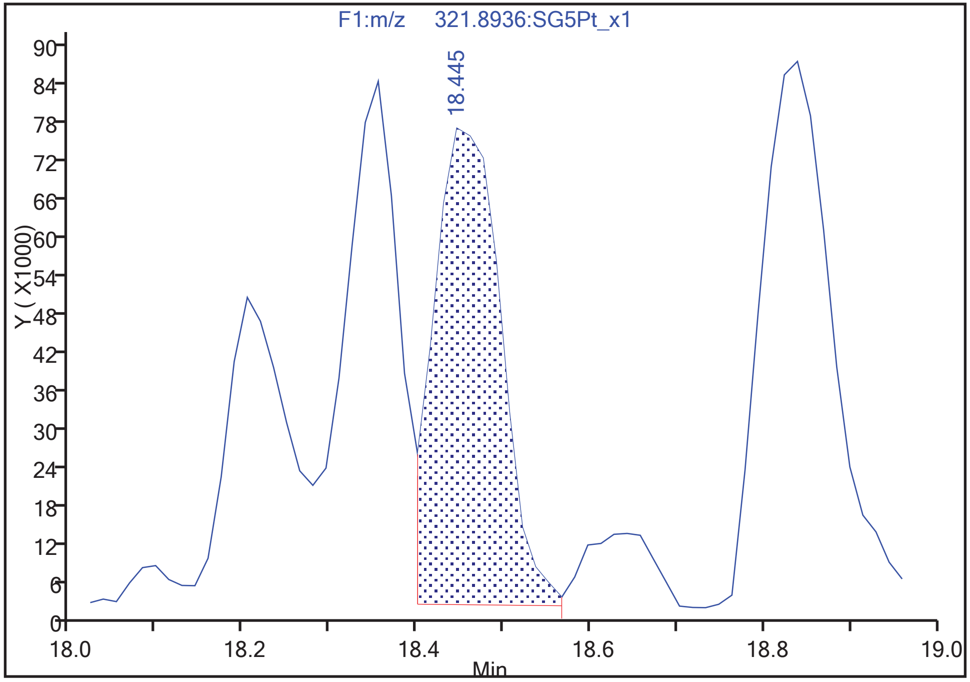
Processing Integration Results

RT:	18.35
Area:	808543
Amount:	1.036630
Amount Units:	pg/ul



Manual Integration Results

RT:	18.45
Area:	397989
Amount:	0.608985
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 14:25:17

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 14:31:41

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

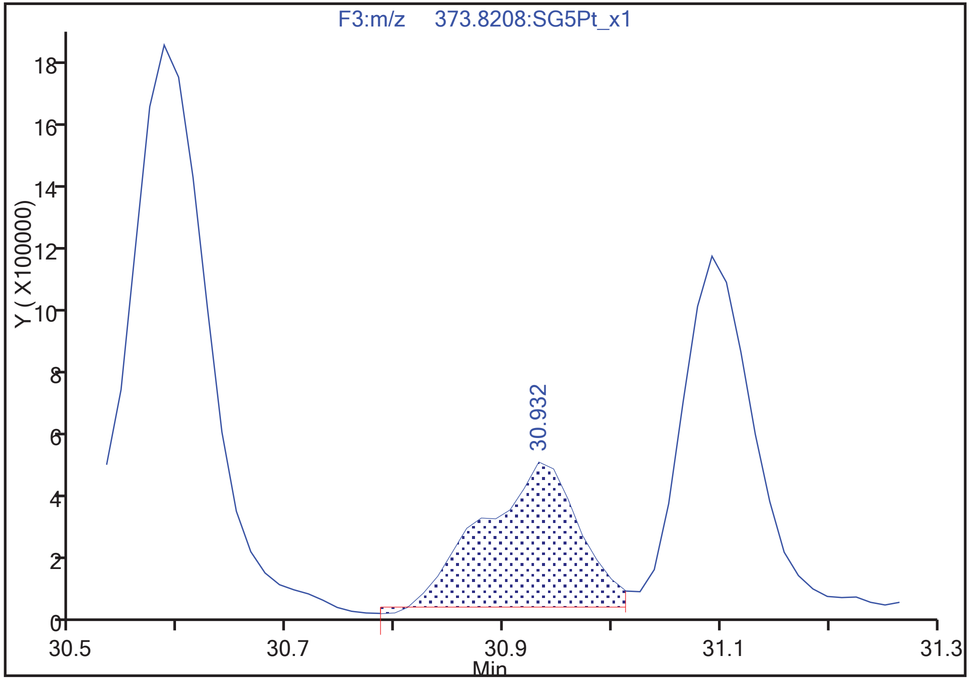
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d				
Injection Date:	19-Nov-2017 03:14:32	Instrument ID:	3D5		
Lims ID:	160-24924-G-7-B	Lab Sample ID:	320-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:	SMA, ALM	ALS Bottle#:	46	Worklist Smp#:	71
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

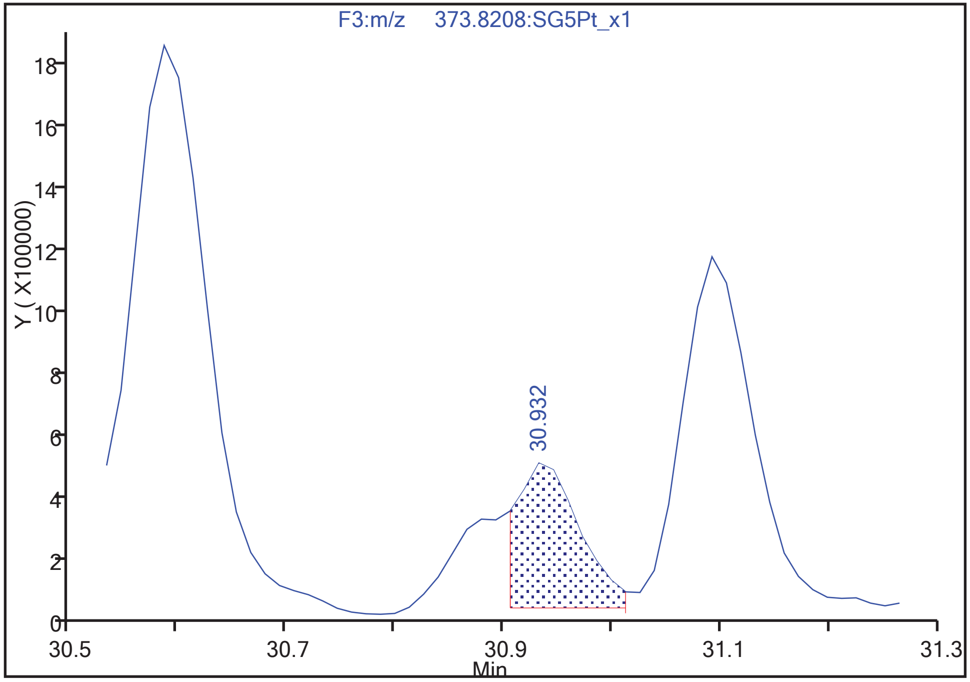
Processing Integration Results

RT: 30.93
Area: 2810160
Amount: 4.889047
Amount Units: pg/ul



Manual Integration Results

RT: 30.93
Area: 1806448
Amount: 3.147800
Amount Units: pg/ul



Reviewer: dadunj, 06-Dec-2017 14:27:09

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

TestAmerica Sacramento

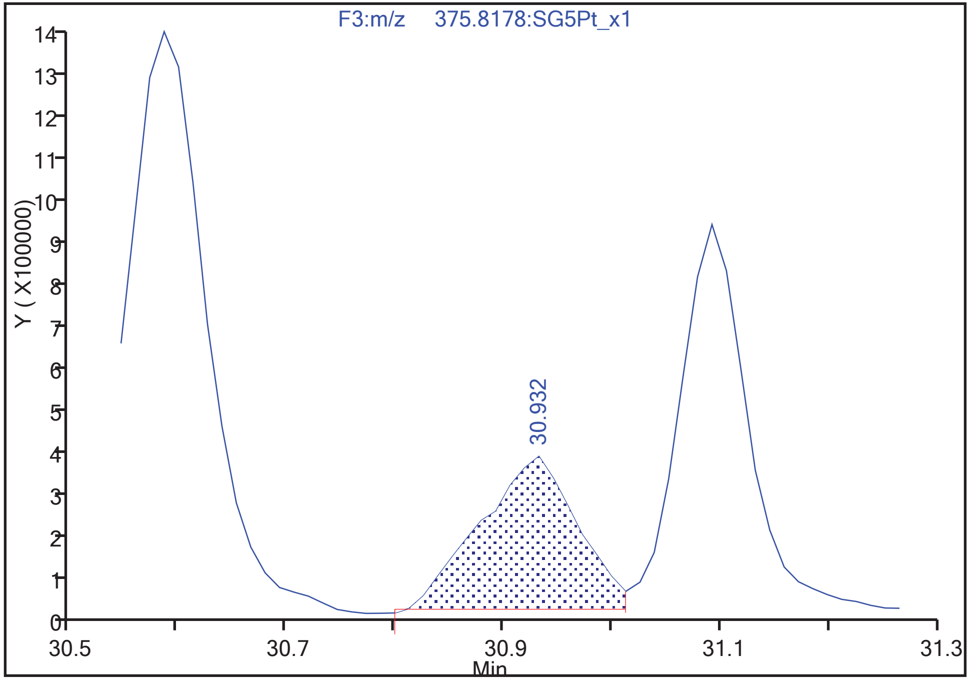
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d				
Injection Date:	19-Nov-2017 03:14:32	Instrument ID:	3D5		
Lims ID:	160-24924-G-7-B	Lab Sample ID:	320-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:	SMA, ALM	ALS Bottle#:	46	Worklist Smp#:	71
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

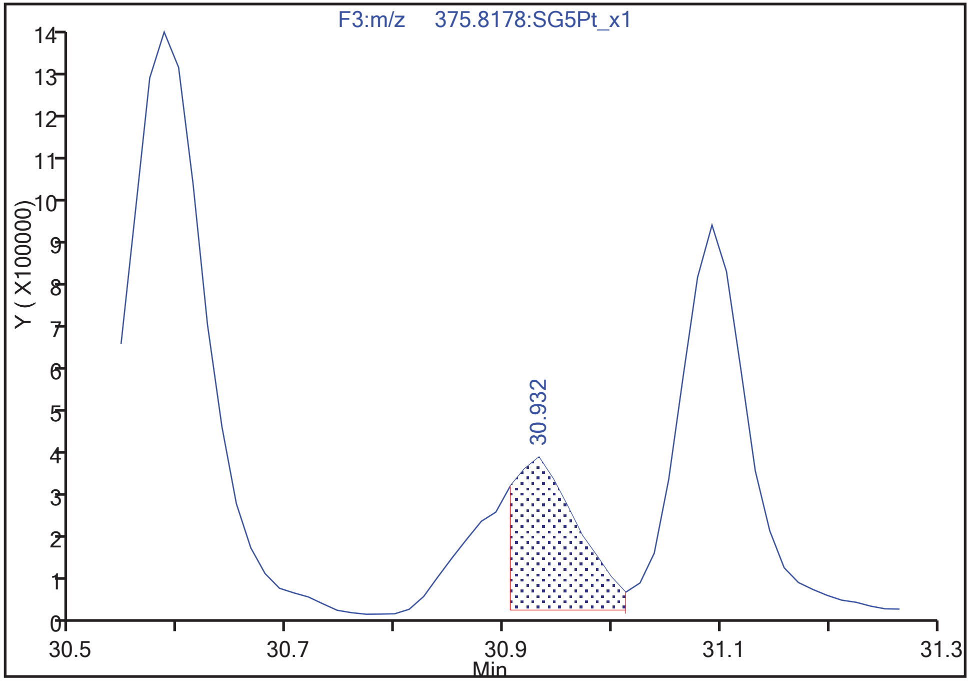
Processing Integration Results

RT: 30.93
Area: 2226060
Amount: 4.889047
Amount Units: pg/ul



Manual Integration Results

RT: 30.93
Area: 1436109
Amount: 3.147800
Amount Units: pg/ul



Reviewer: dadunj, 06-Dec-2017 14:27:12
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

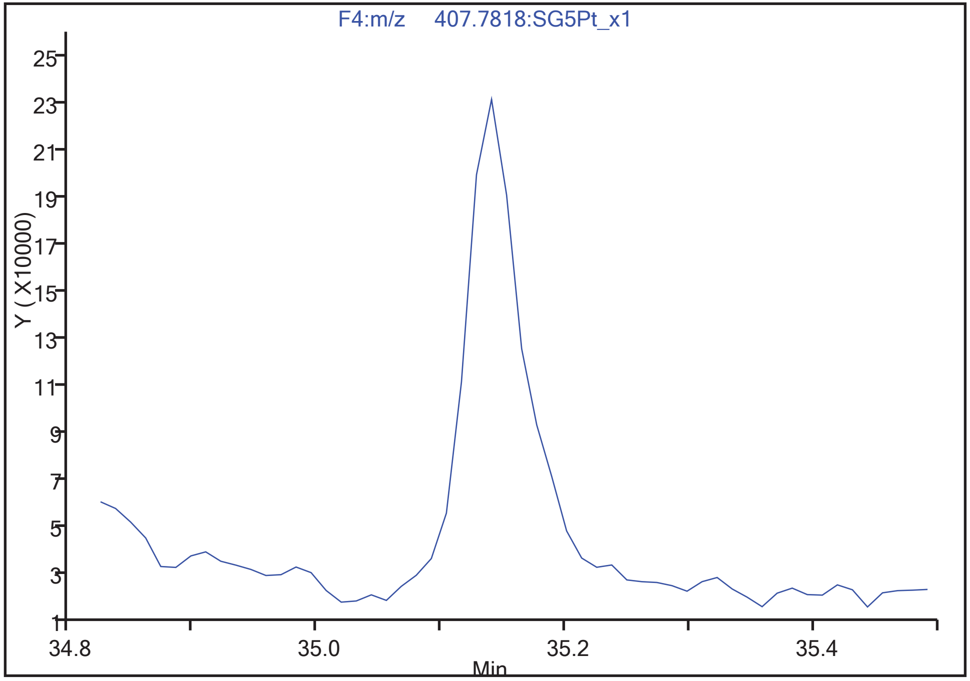
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d				
Injection Date:	19-Nov-2017 03:14:32	Instrument ID:	3D5		
Lims ID:	160-24924-G-7-B	Lab Sample ID:	320-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:	SMA, ALM	ALS Bottle#:	46	Worklist Smp#:	71
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

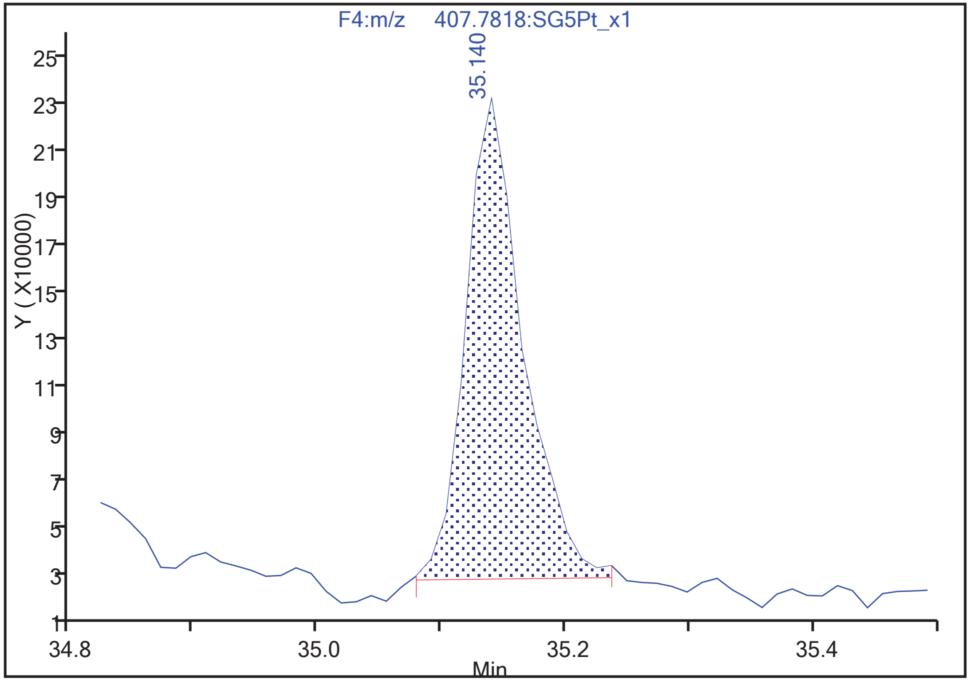
Not Detected
Expected RT: 35.13

Processing Integration Results



RT: 35.14
Area: 649197
Amount: 3.228716
Amount Units: pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 14:28:36
Audit Action: Manually Integrated
Audit Reason: Assign Peak

Report Date: 06-Dec-2017 14:31:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

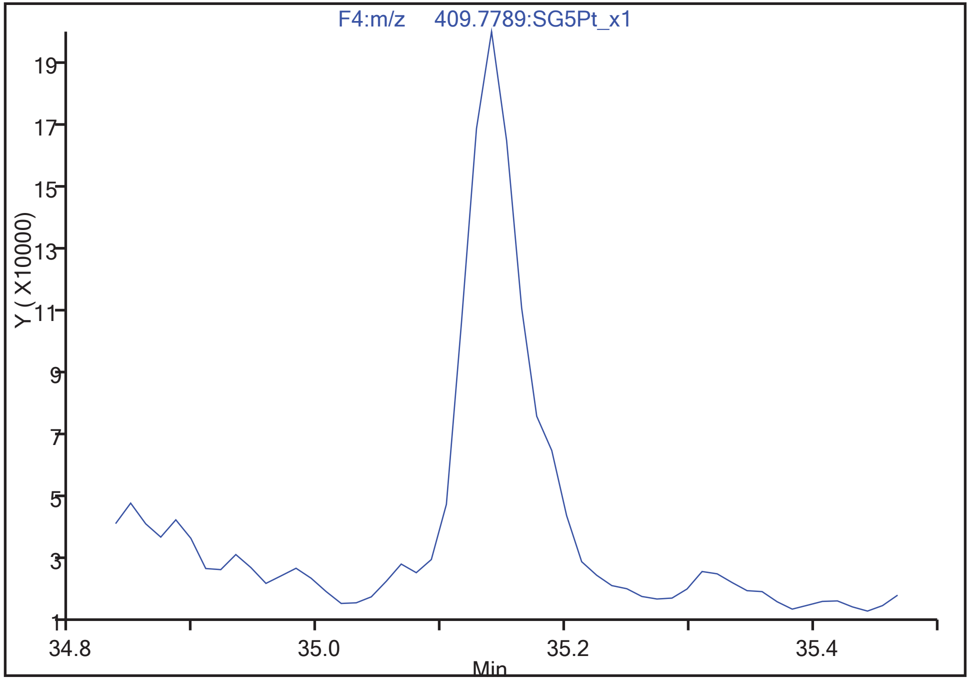
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d
Injection Date: 19-Nov-2017 03:14:32
Instrument ID: 3D5
Lims ID: 160-24924-G-7-B
Lab Sample ID: 320-24924-7
Client ID: SHAD041DP022SS01NS
Operator ID: SMA, ALM
ALS Bottle#: 46
Worklist Smp#: 71
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Column:
Detector F4:HRSIR

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

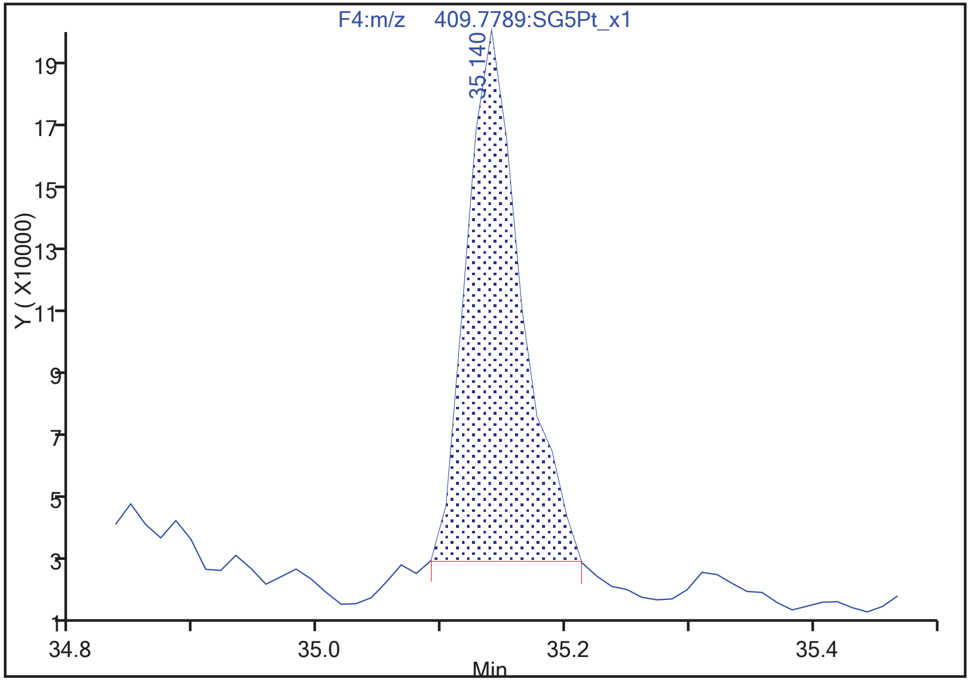
Not Detected
Expected RT: 35.13

Processing Integration Results



Manual Integration Results

RT: 35.14
Area: 524533
Amount: 3.228716
Amount Units: pg/ul



Reviewer: dadunj, 06-Dec-2017 14:28:50
Audit Action: Manually Integrated
Audit Reason: Assign Peak

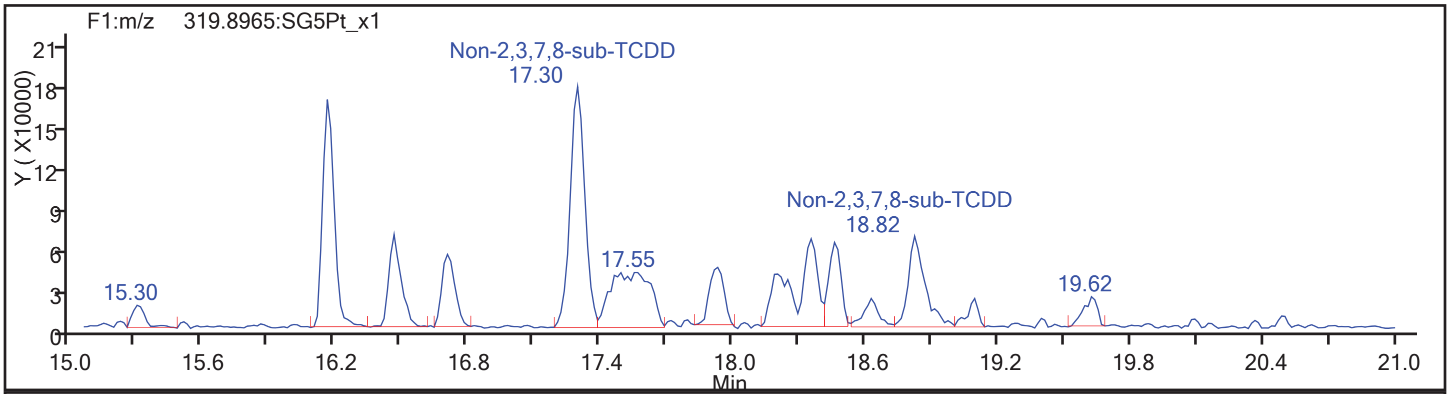
Report Date: 06-Dec-2017 14:31:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

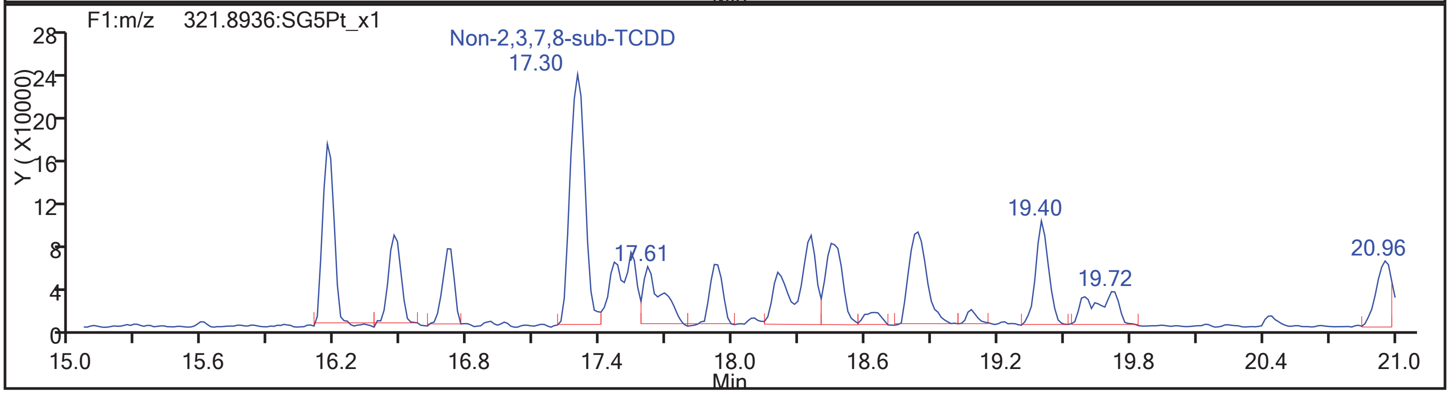
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d

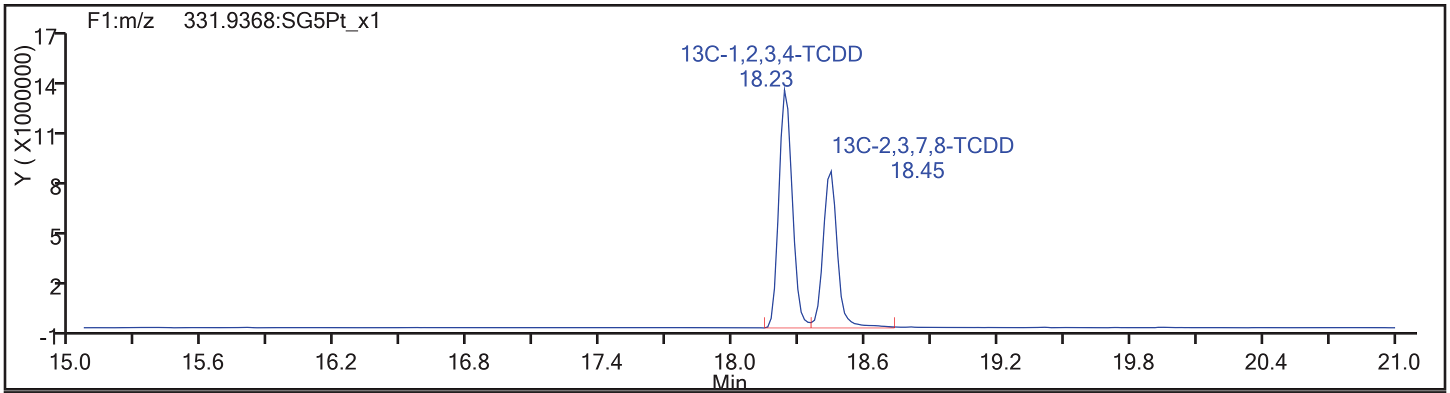
Injection Date: 19-Nov-2017 03:14:32
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 195574
Sample Line#: 71
Column Type:
Column Dia:

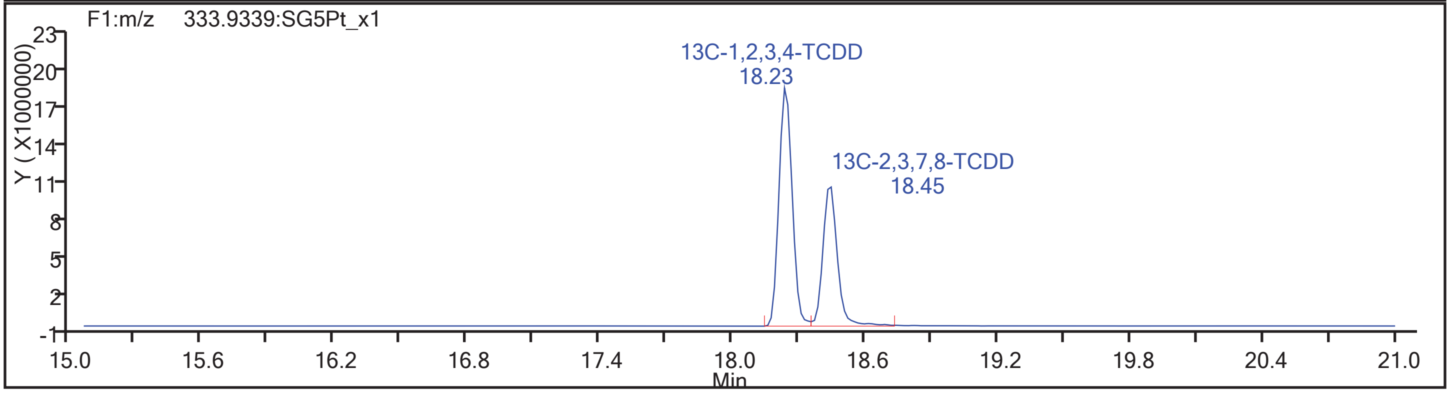
TCDD





TCDD Standards





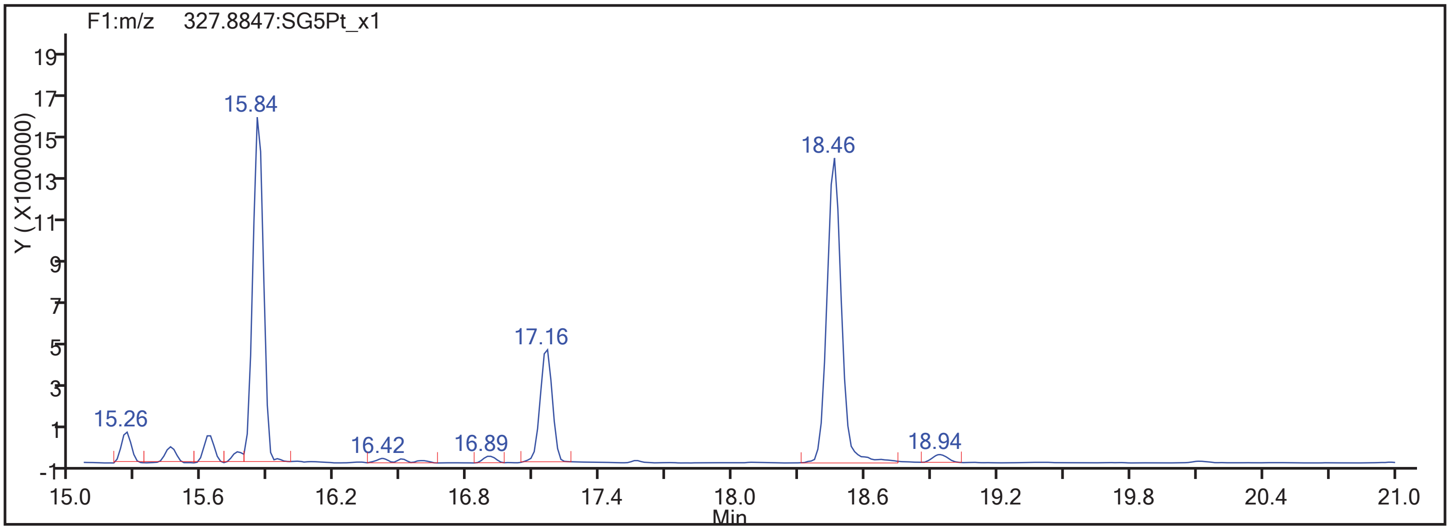
Report Date: 06-Dec-2017 14:31:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

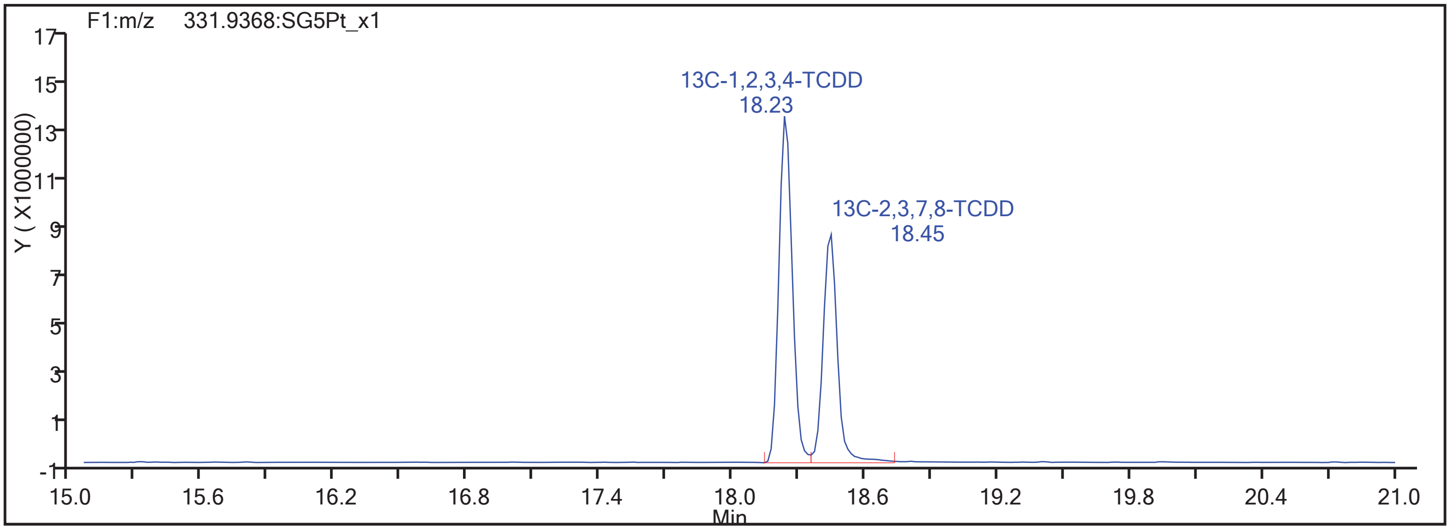
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d

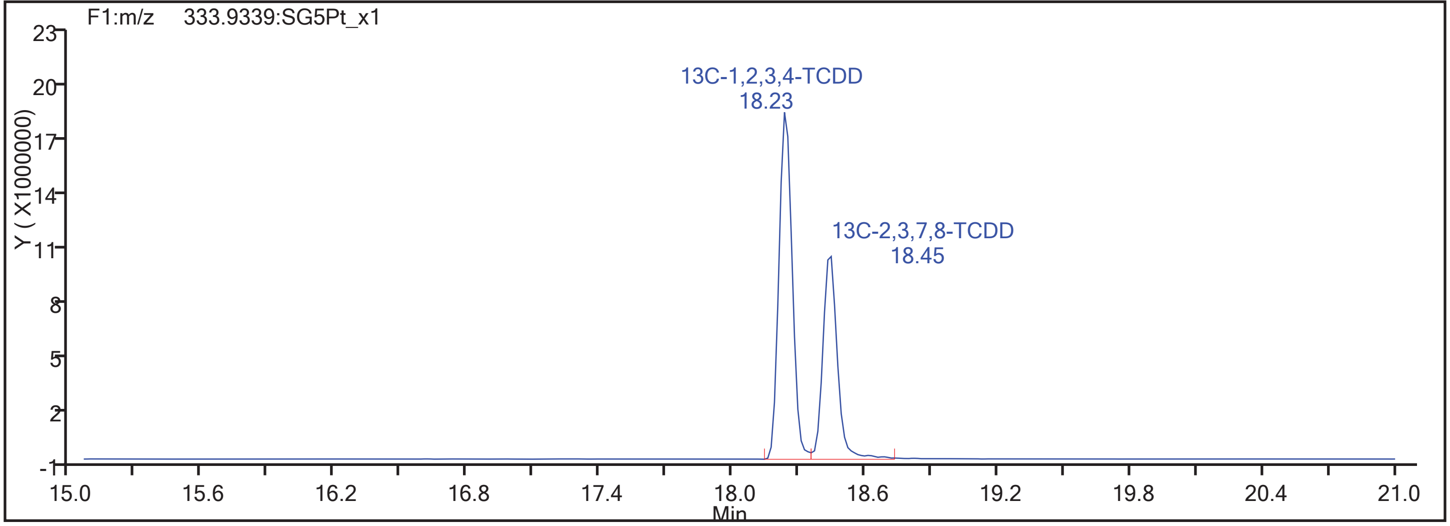
Injection Date: 19-Nov-2017 03:14:32
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 195574
Sample Line#: 71
Column Type:
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards



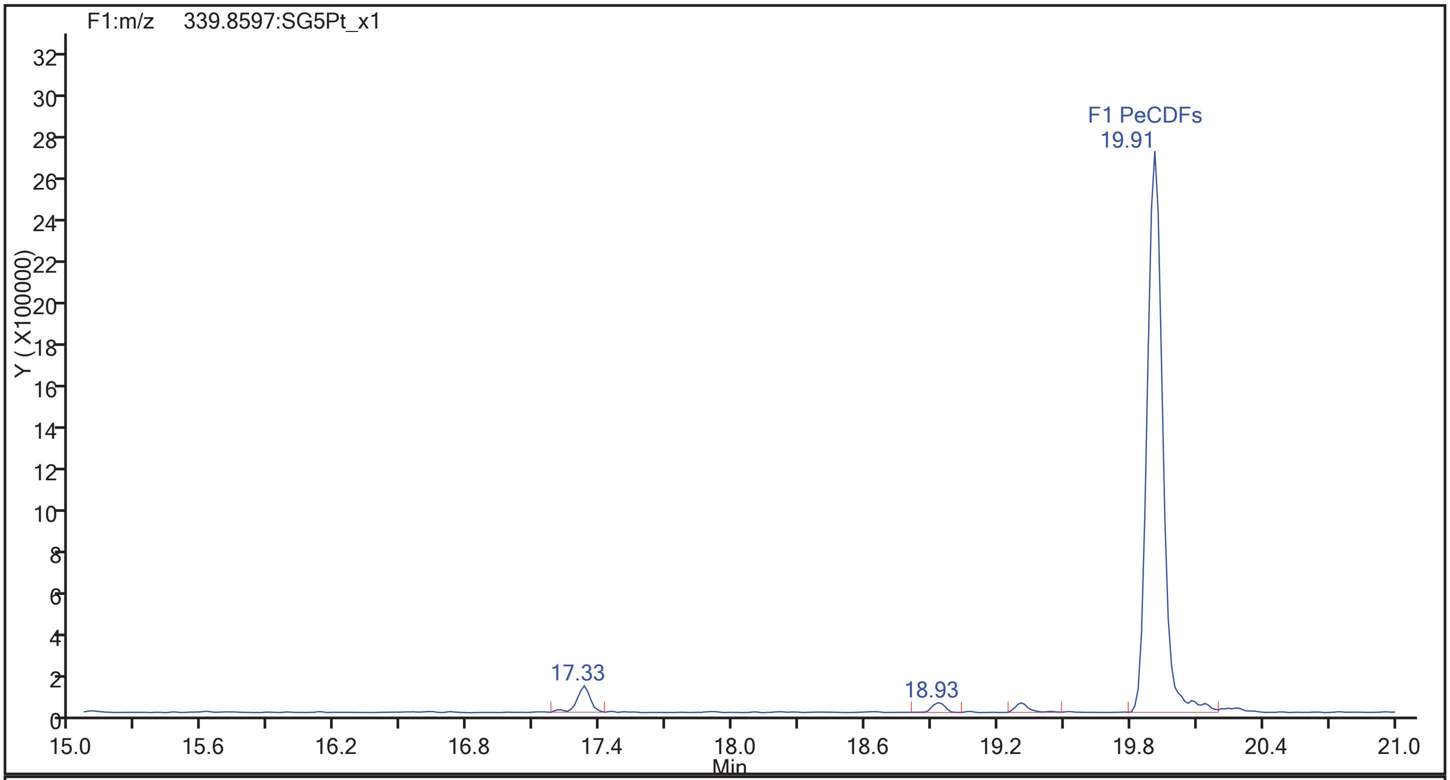


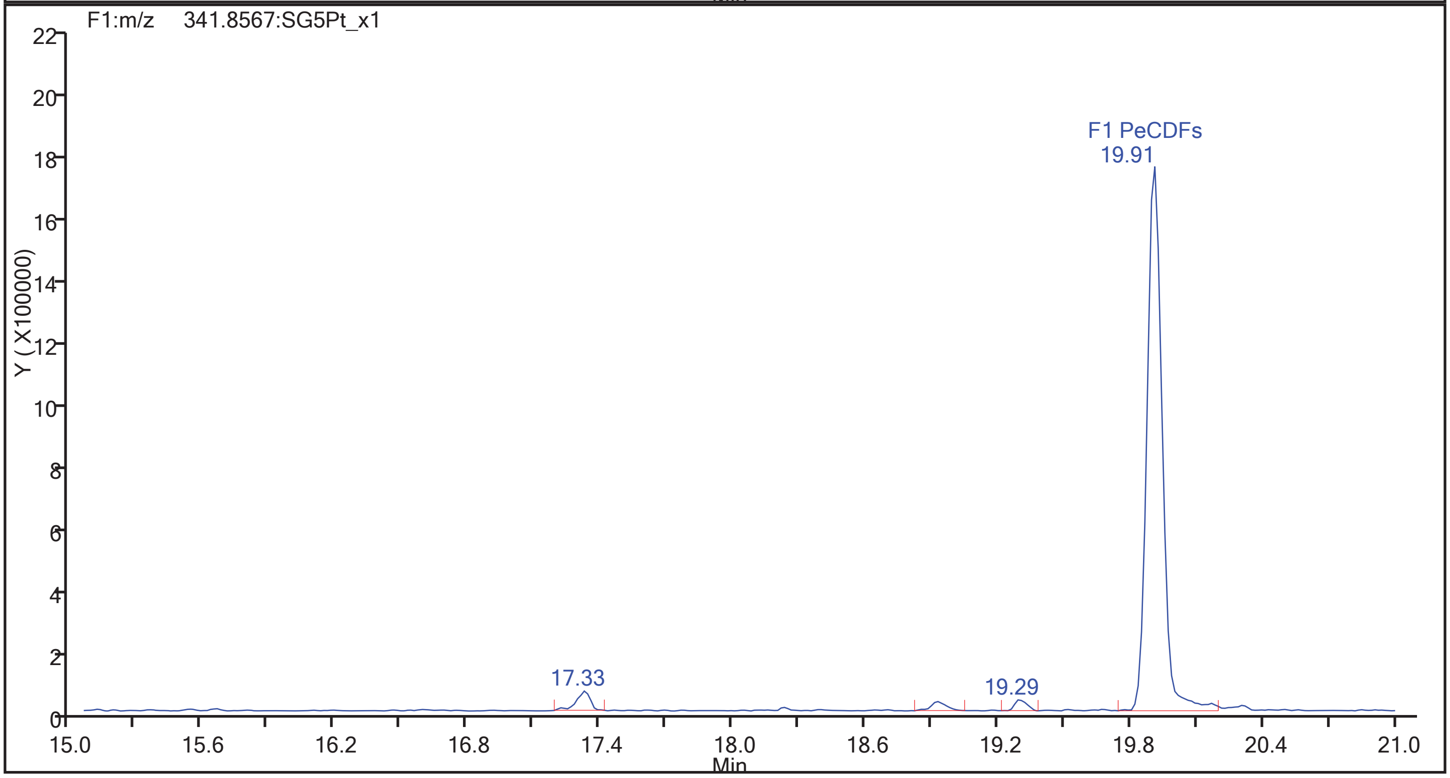
Report Date: 06-Dec-2017 14:31:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d
Injection Date: 19-Nov-2017 03:14:32 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 195574 Sample Line#: 71
Column Type: Column Dia:

F1 PeCDFs



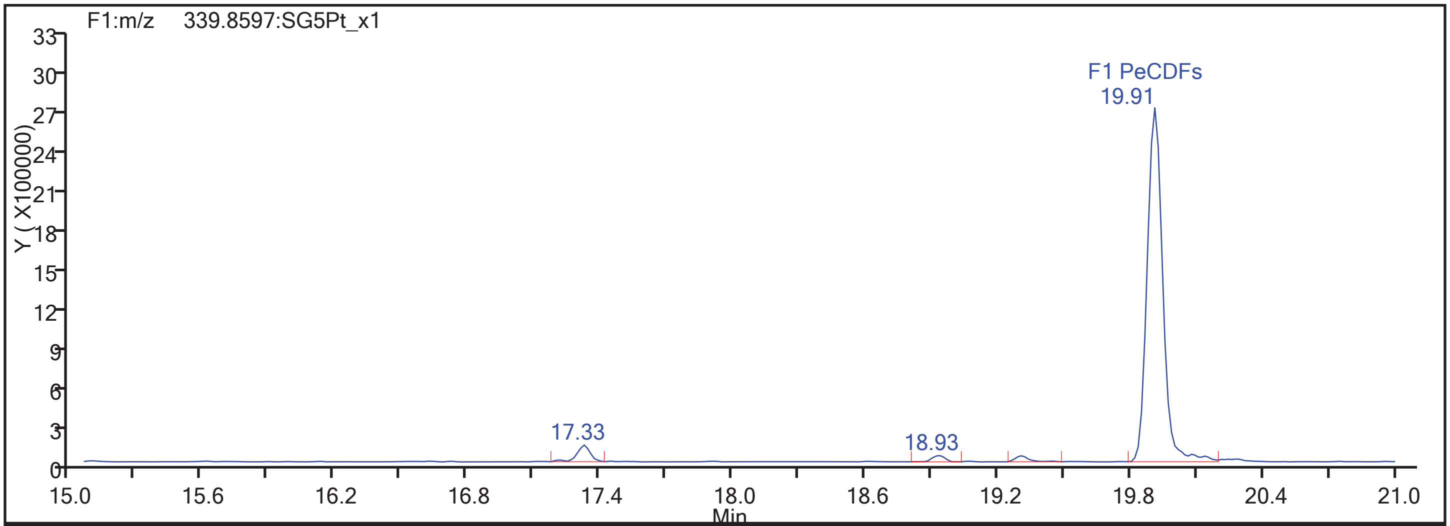


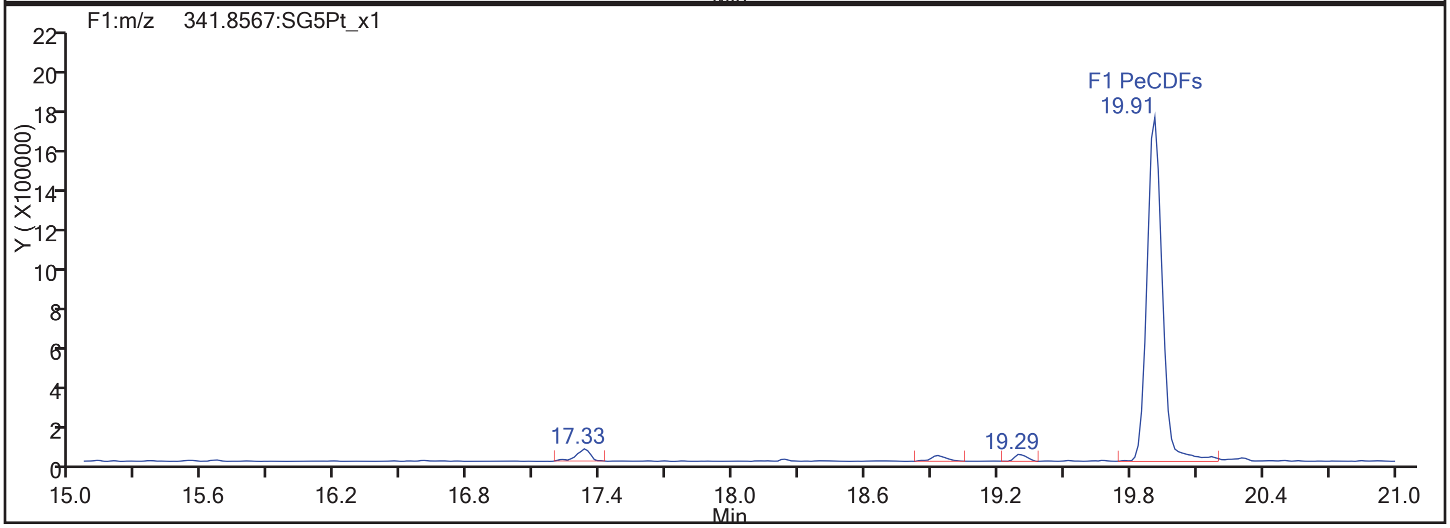
Report Date: 06-Dec-2017 14:31:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

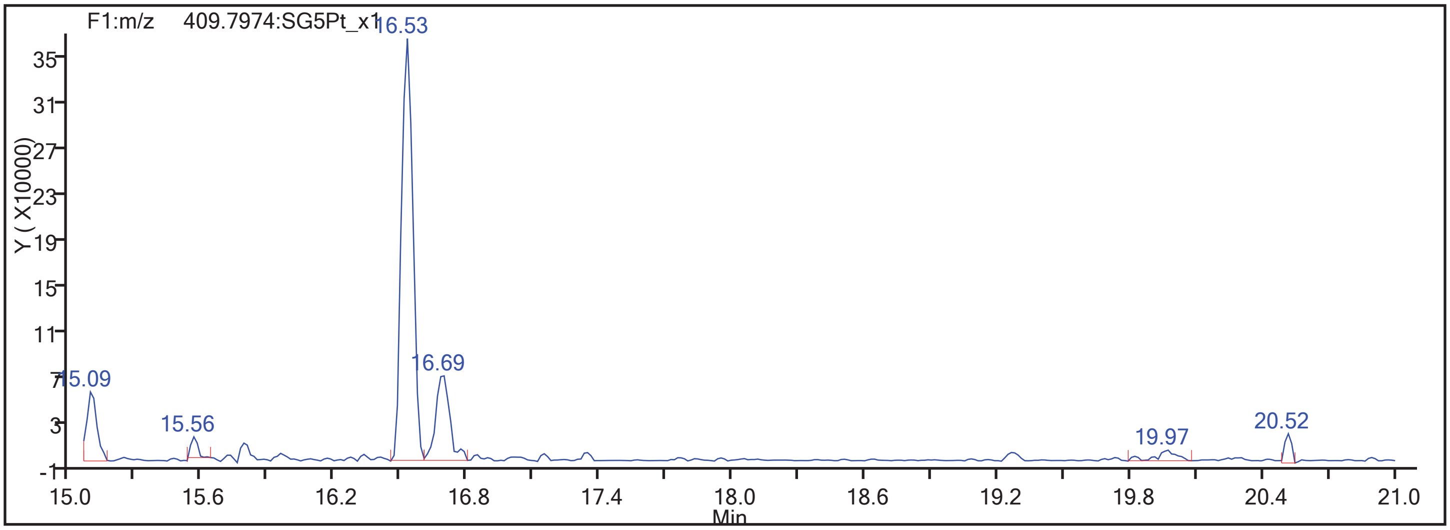
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d
Injection Date: 19-Nov-2017 03:14:32
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 195574
Sample Line#: 71
Column Type:
Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass

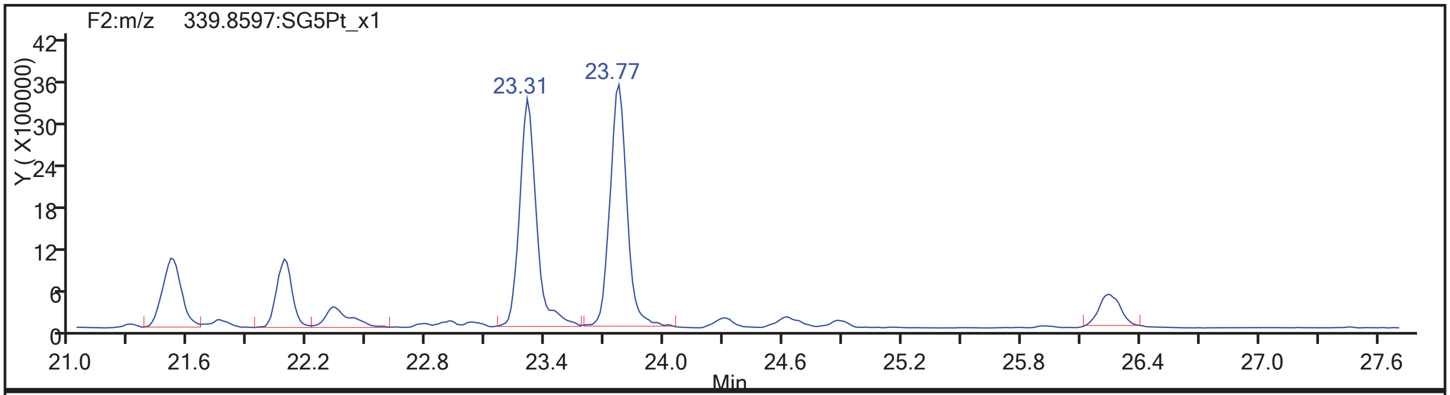


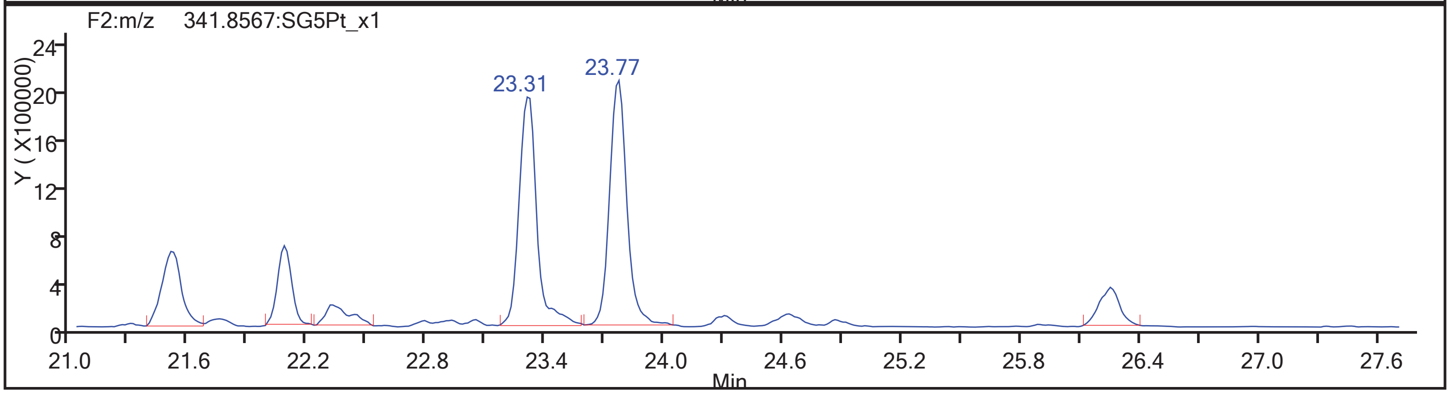
Report Date: 06-Dec-2017 14:31:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

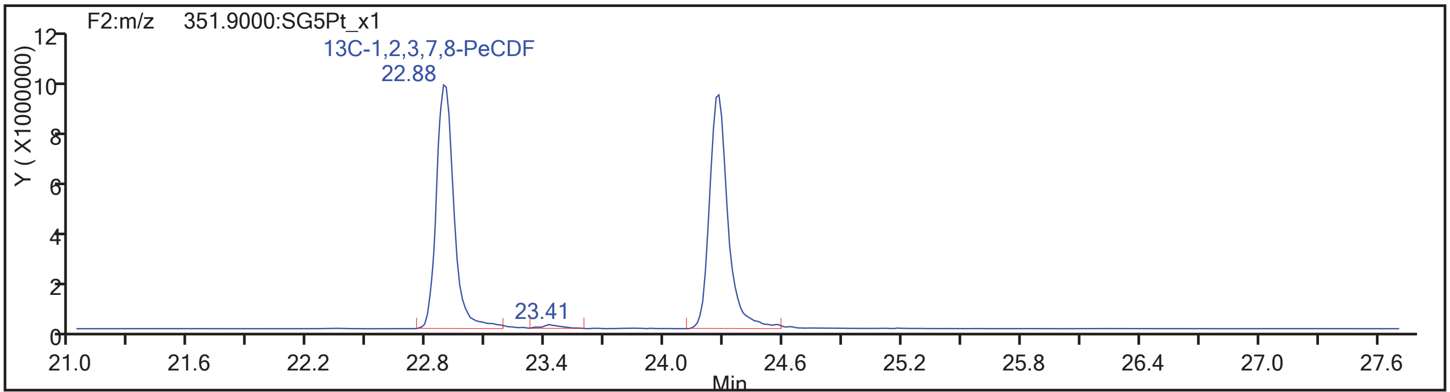
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d
Injection Date: 19-Nov-2017 03:14:32
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 195574
Sample Line#: 71
Column Type:
Column Dia:

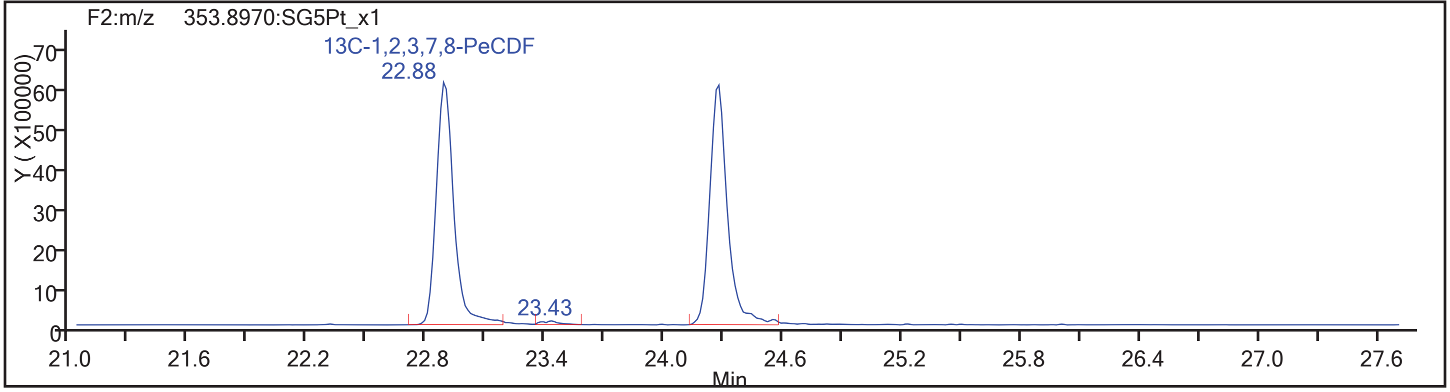
PeCDF





PeCDF Standards



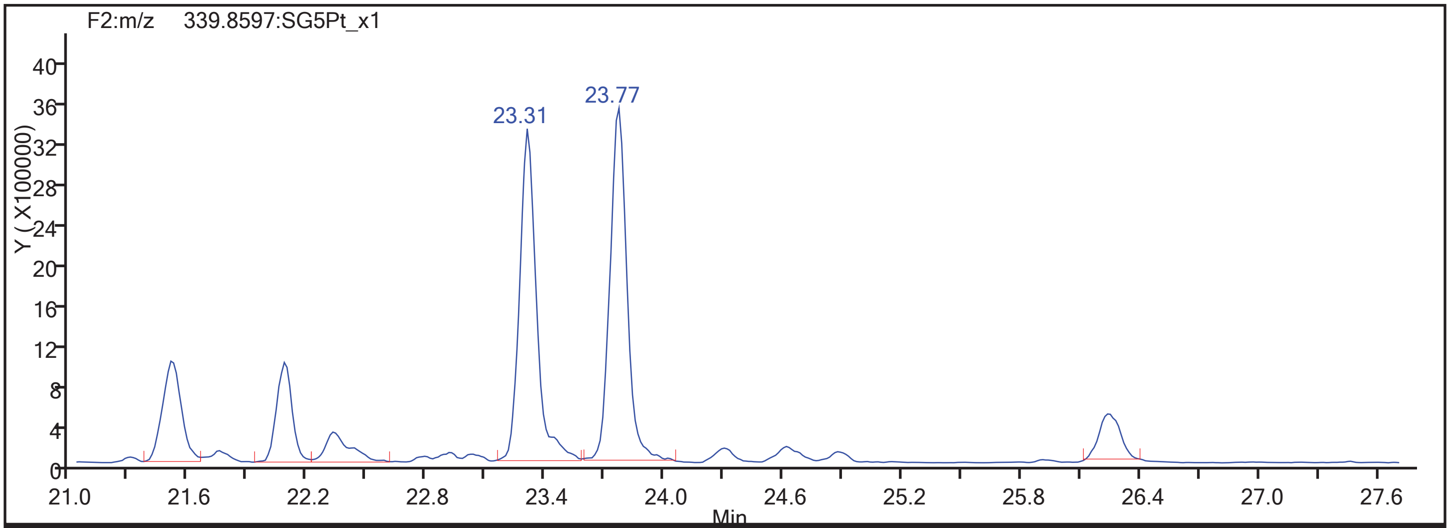


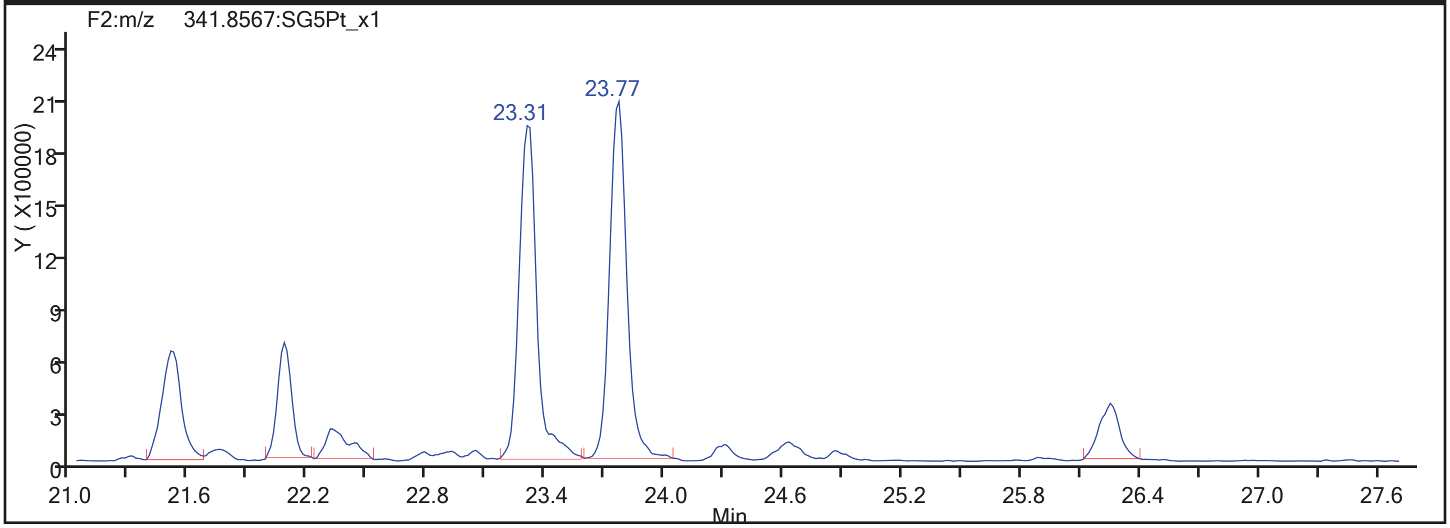
Report Date: 06-Dec-2017 14:31:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

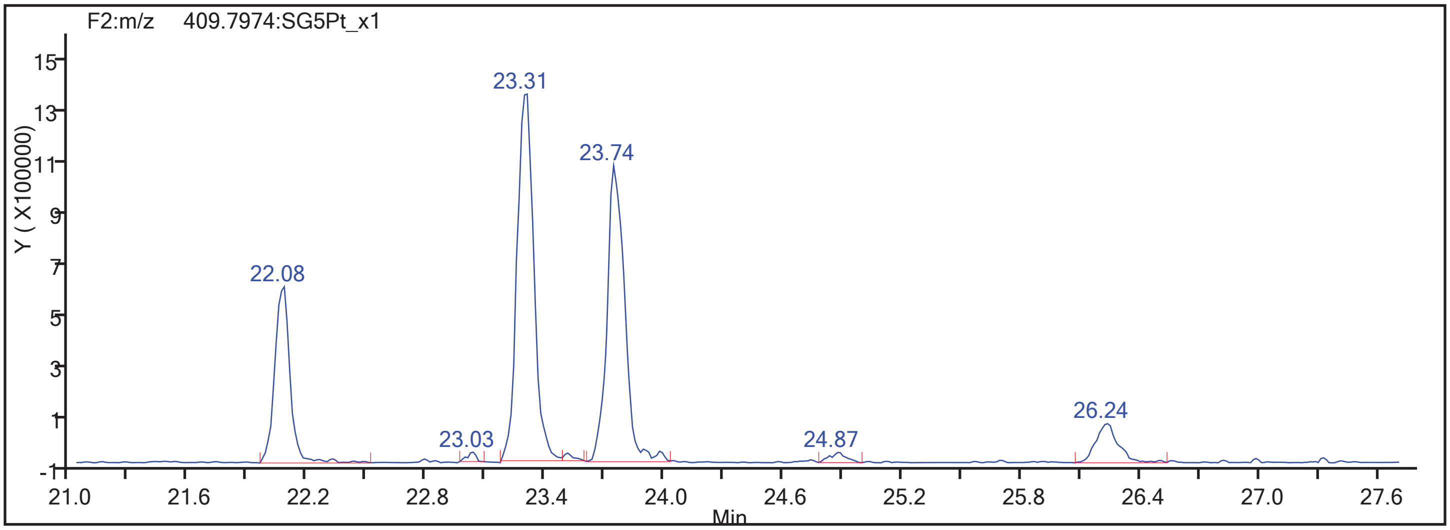
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Injection Date:	19-Nov-2017 03:14:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	195574	Sample Line#:	71
Column Type:		Column Dia:	

PeCDF





PeCDF Interference Mass



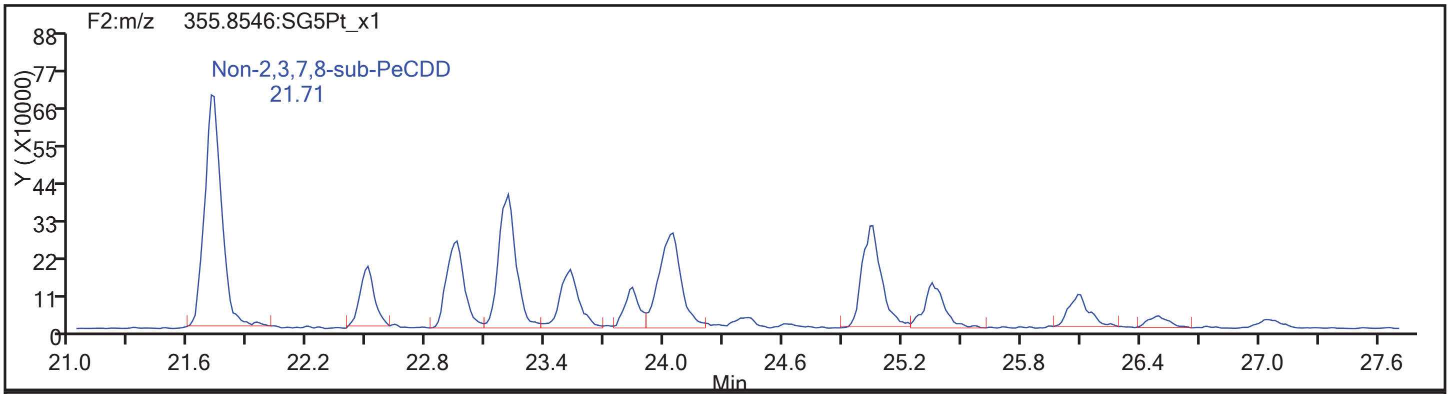
Report Date: 06-Dec-2017 14:31:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

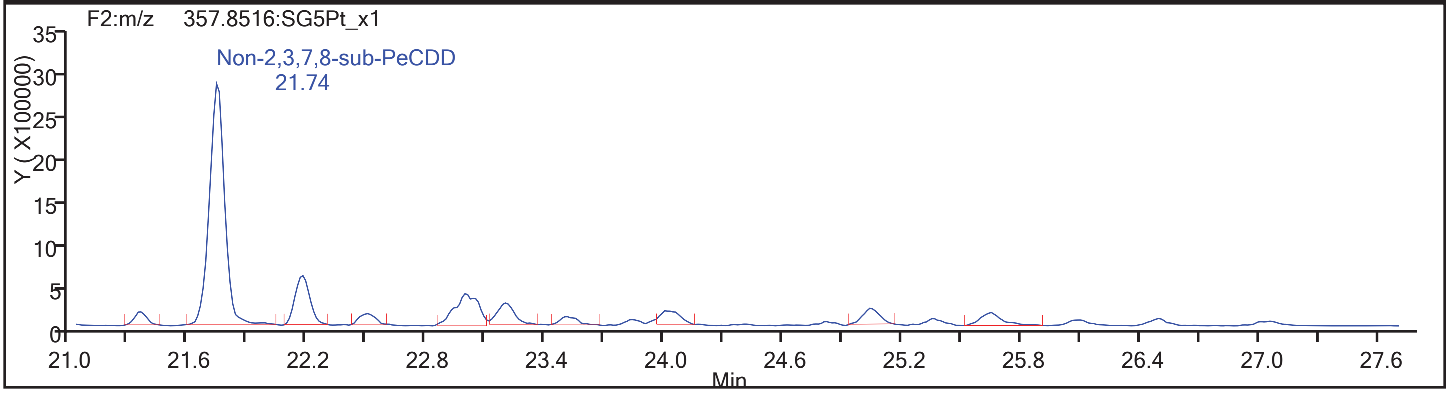
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d

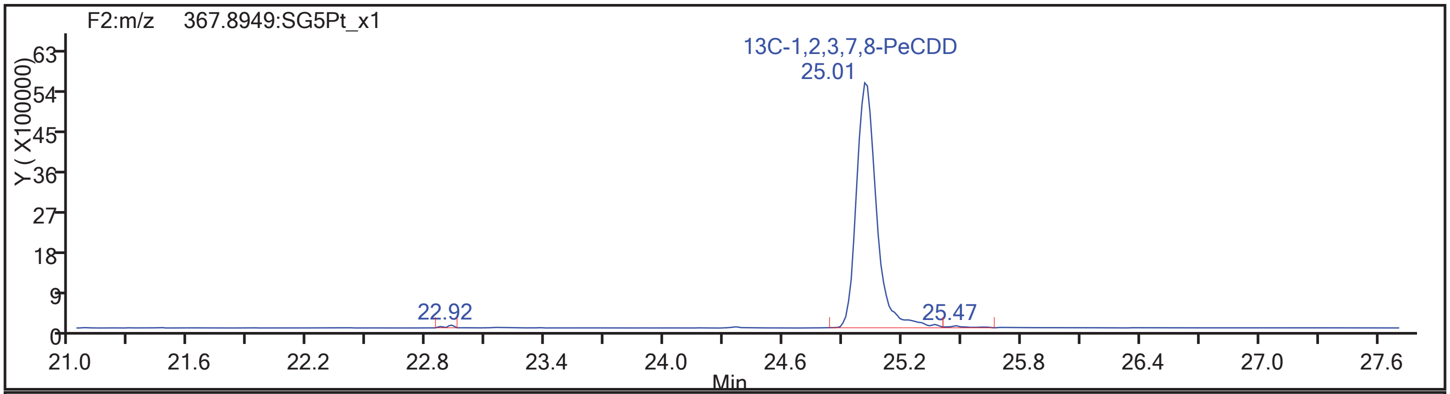
Injection Date:	19-Nov-2017 03:14:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	195574	Sample Line#:	71
Column Type:		Column Dia:	

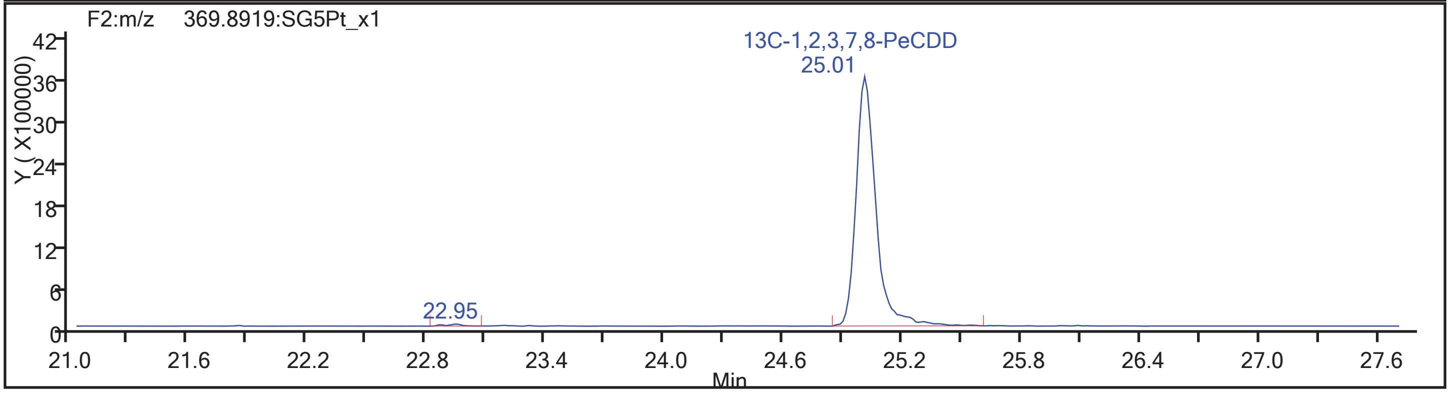
PeCDD





PeCDD Standards



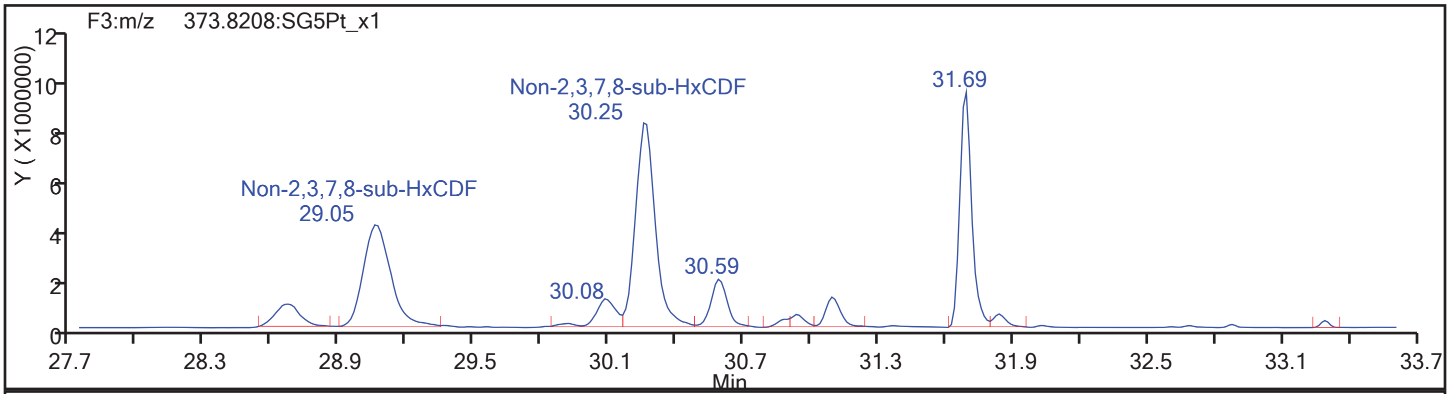


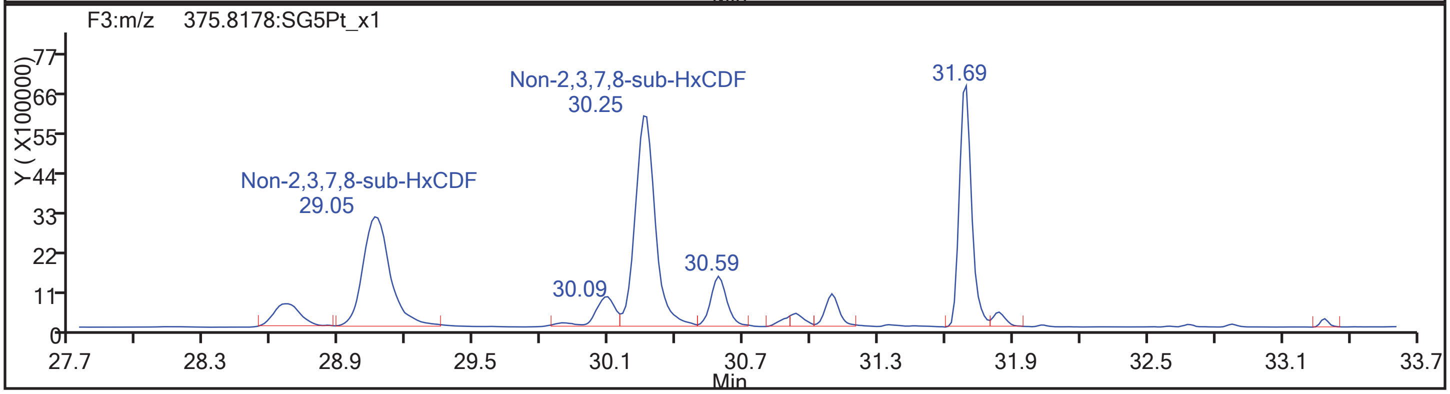
Report Date: 06-Dec-2017 14:31:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

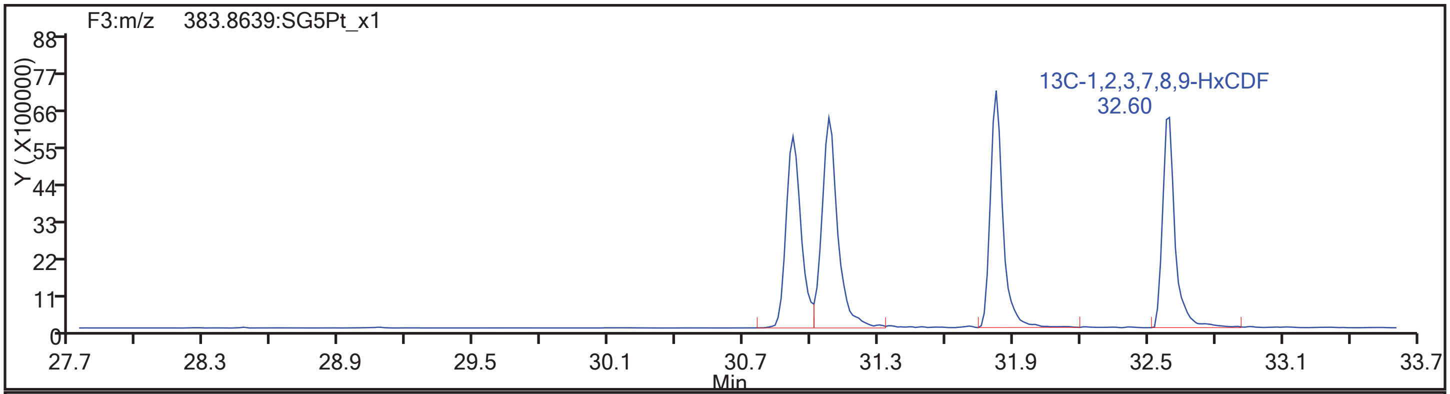
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d
Injection Date: 19-Nov-2017 03:14:32 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 195574 Sample Line#: 71
Column Type: Column Dia:

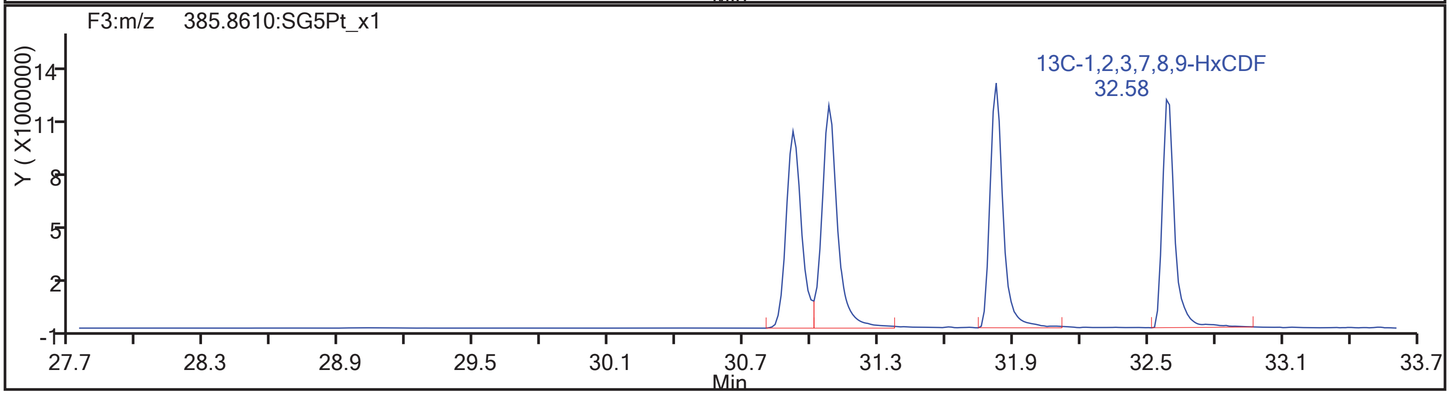
HxCDF





HxCDF Standards



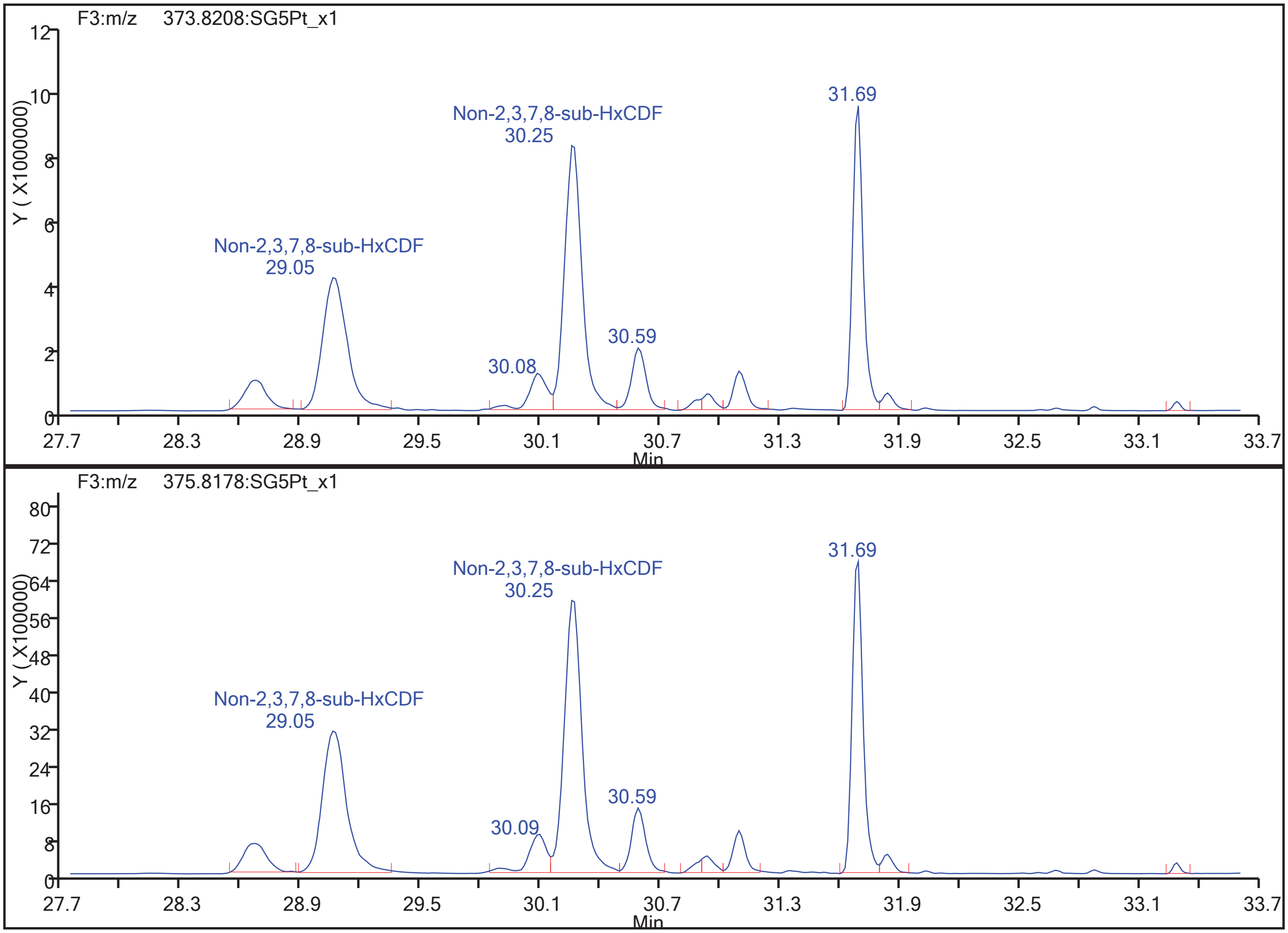


Report Date: 06-Dec-2017 14:31:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

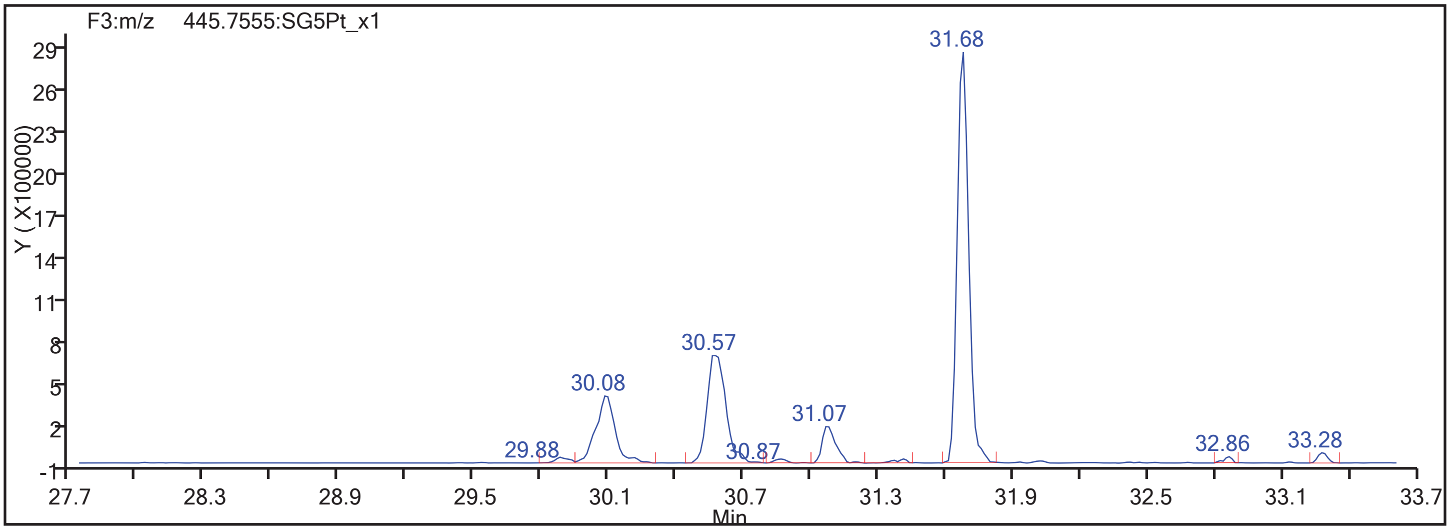
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Injection Date:	19-Nov-2017 03:14:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	195574	Sample Line#:	71
Column Type:		Column Dia:	

HxCDF



HxCDF Interference Mass



Report Date: 06-Dec-2017 14:31:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d

Injection Date: 19-Nov-2017 03:14:32 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

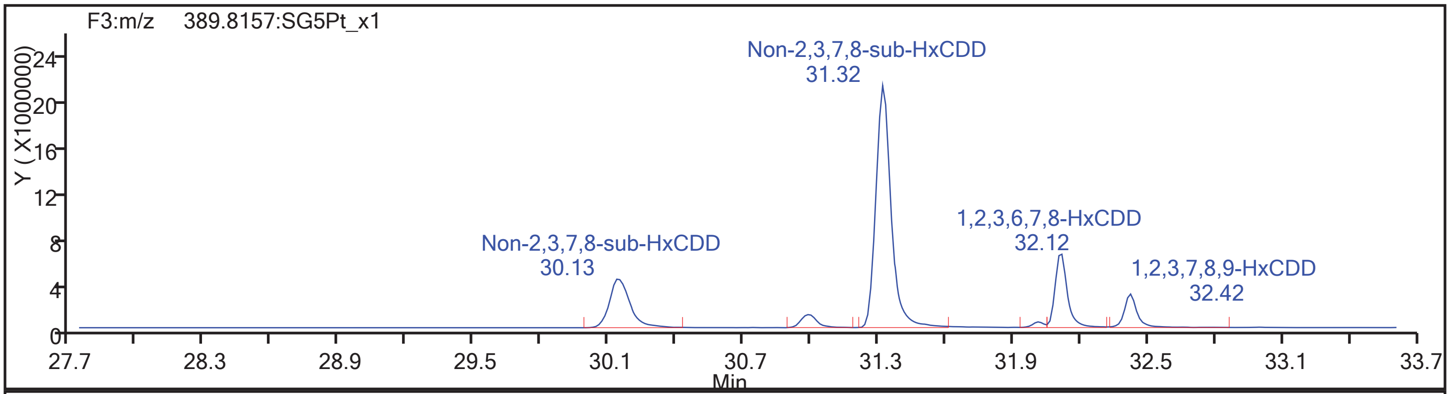
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

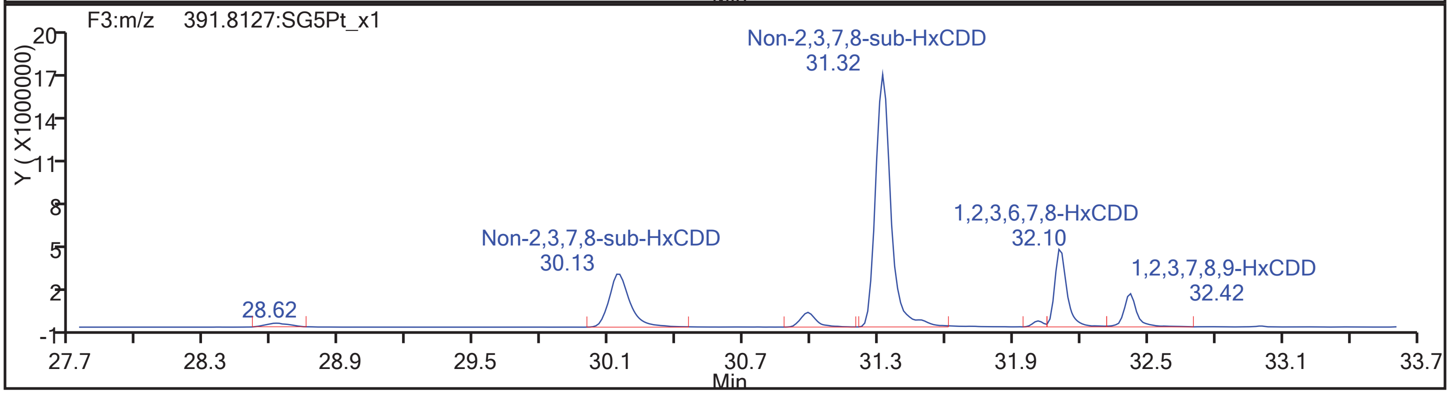
Client ID: SHAD041DP022SS01NS

Worklist#: 195574 Sample Line#: 71

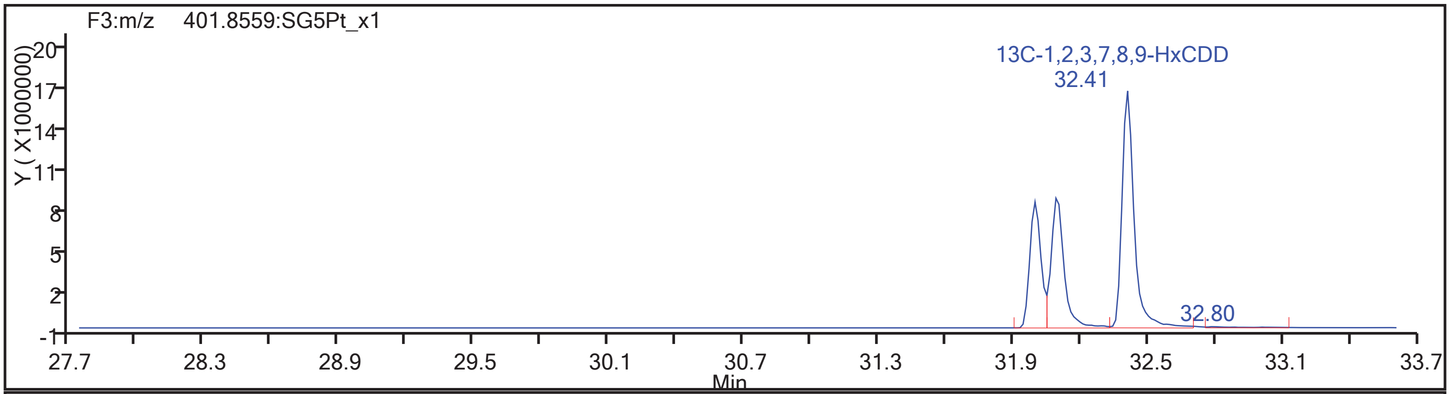
Column Type: Column Dia:

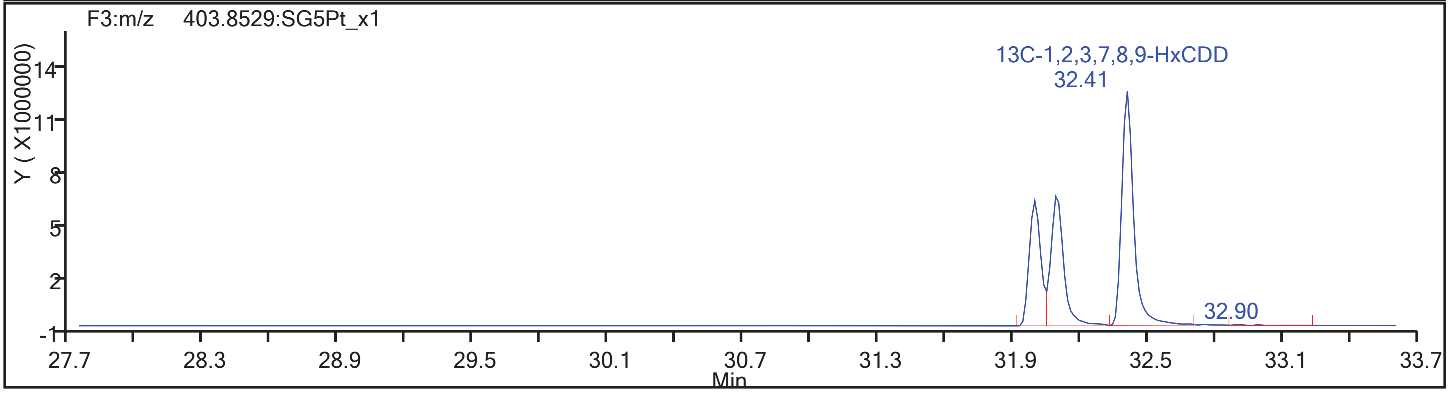
HxCDD





HxCDD Standards





Report Date: 06-Dec-2017 14:31:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d

Injection Date: 19-Nov-2017 03:14:32 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

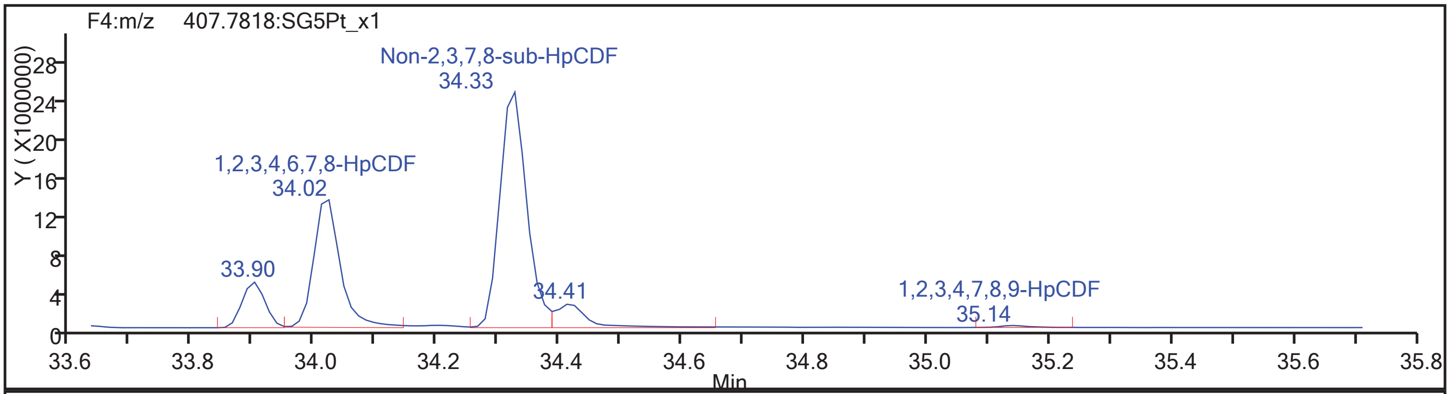
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

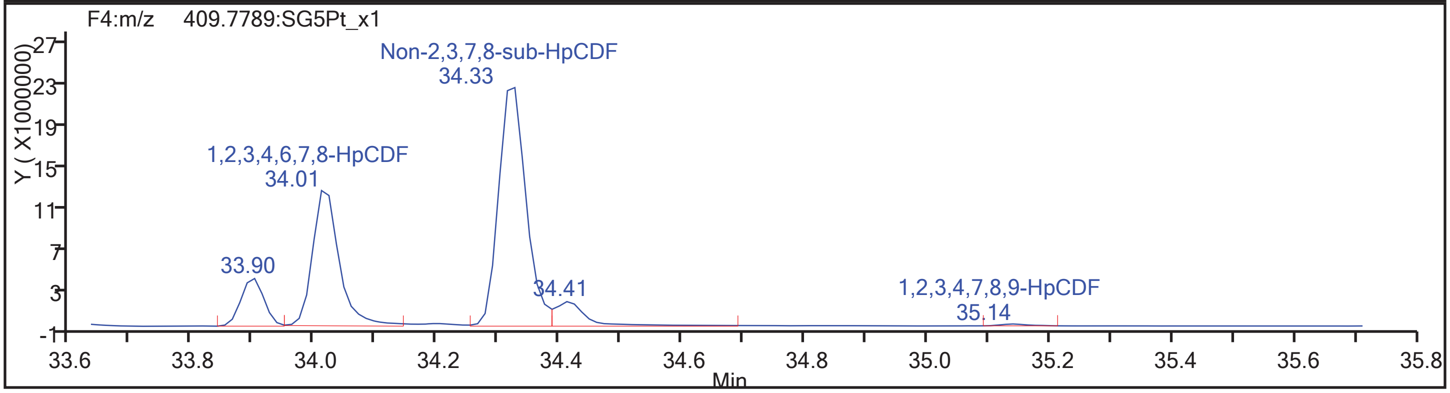
Client ID: SHAD041DP022SS01NS

Worklist#: 195574 Sample Line#: 71

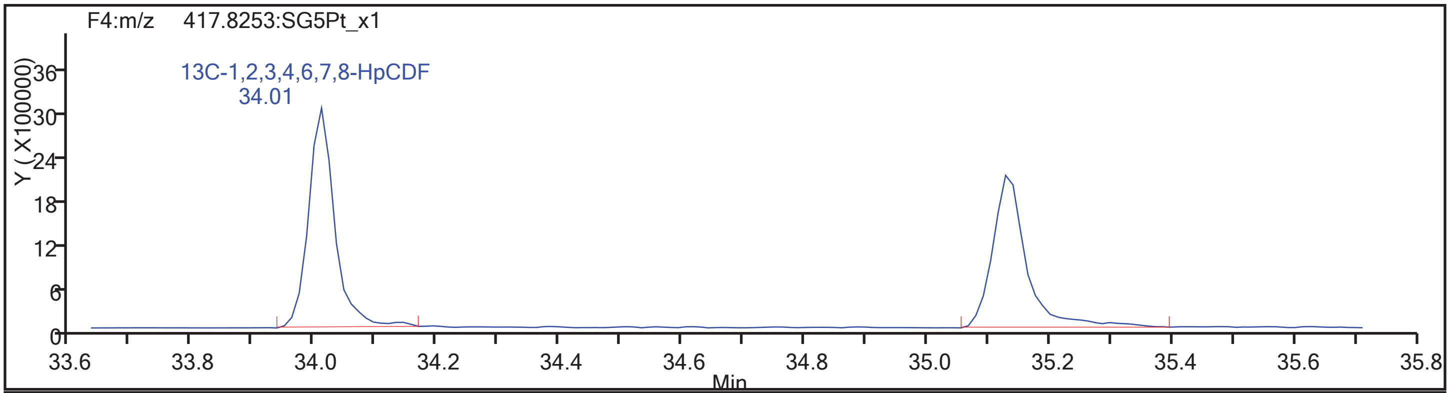
Column Type: Column Dia:

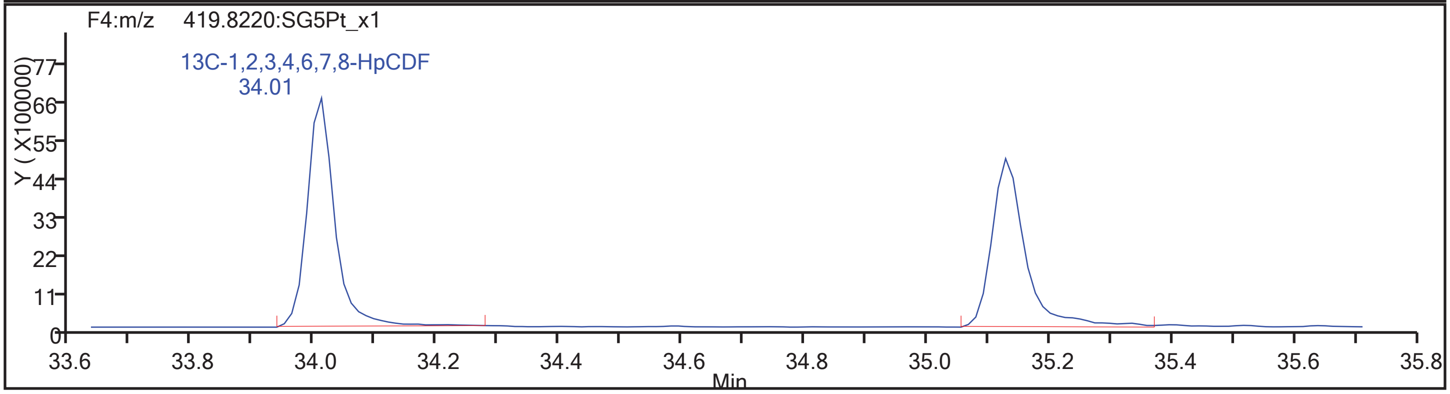
HpCDF





HpCDF Standards



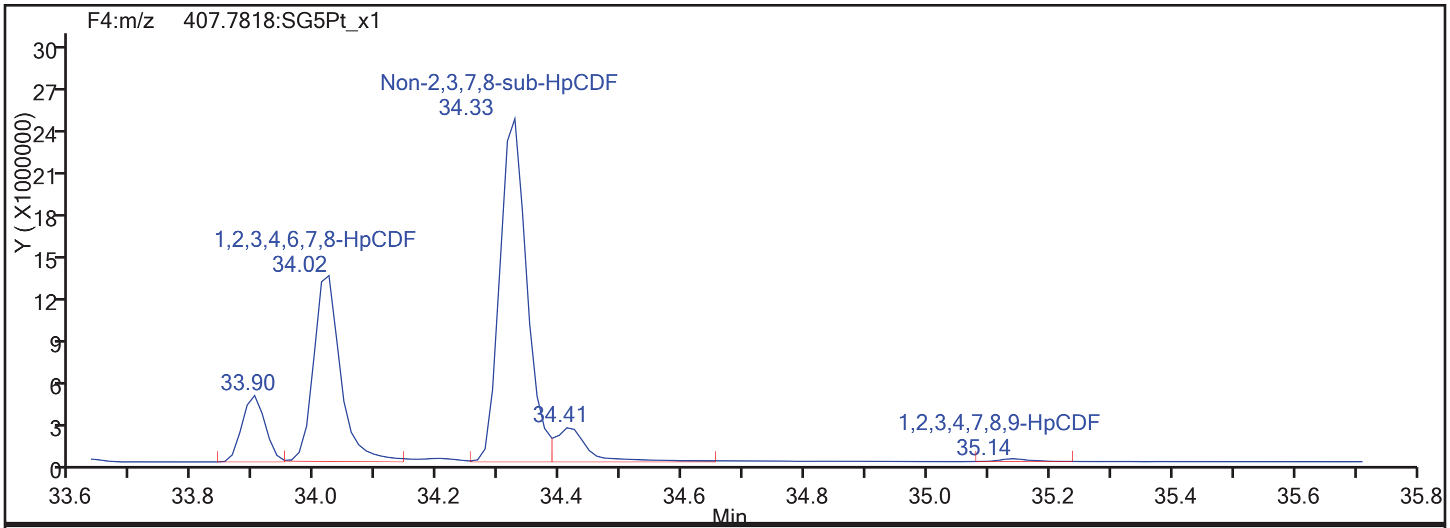


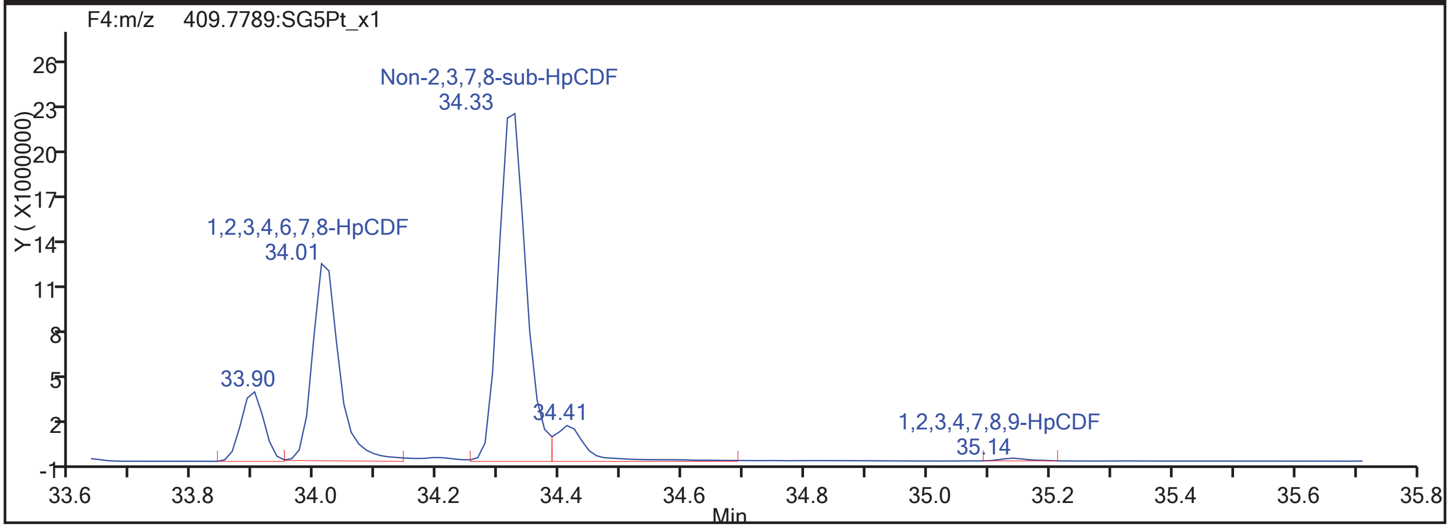
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d

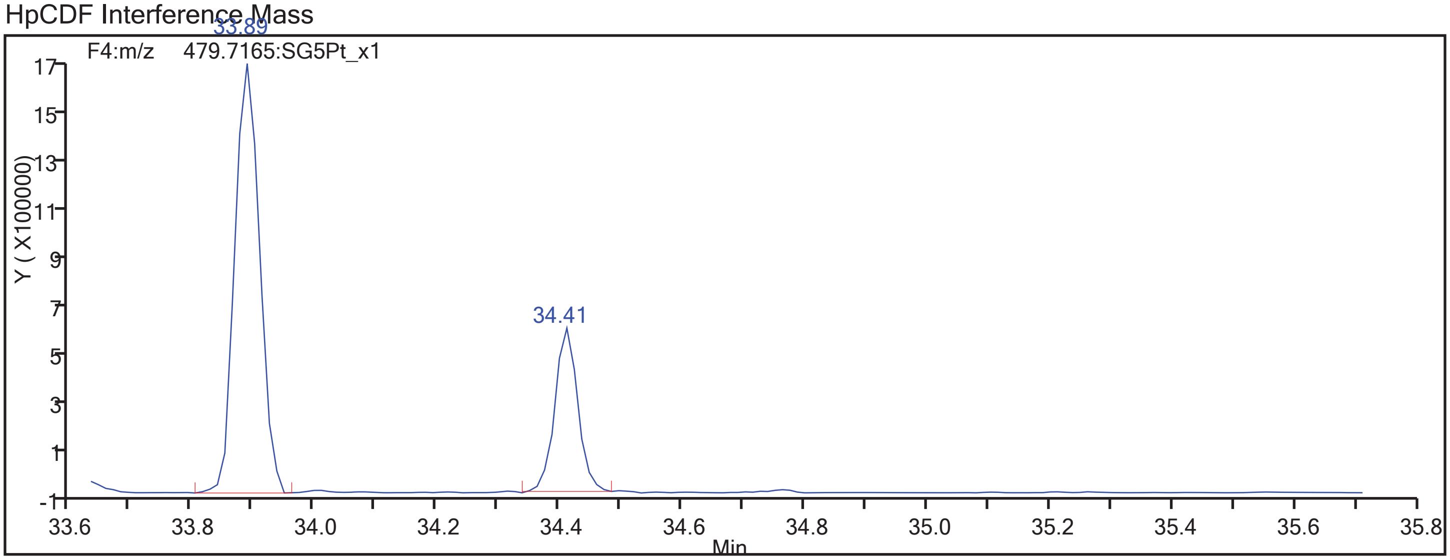
Injection Date:	19-Nov-2017 03:14:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	195574	Sample Line#:	71
Column Type:		Column Dia:	

HpCDF





HpCDF Interference Mass

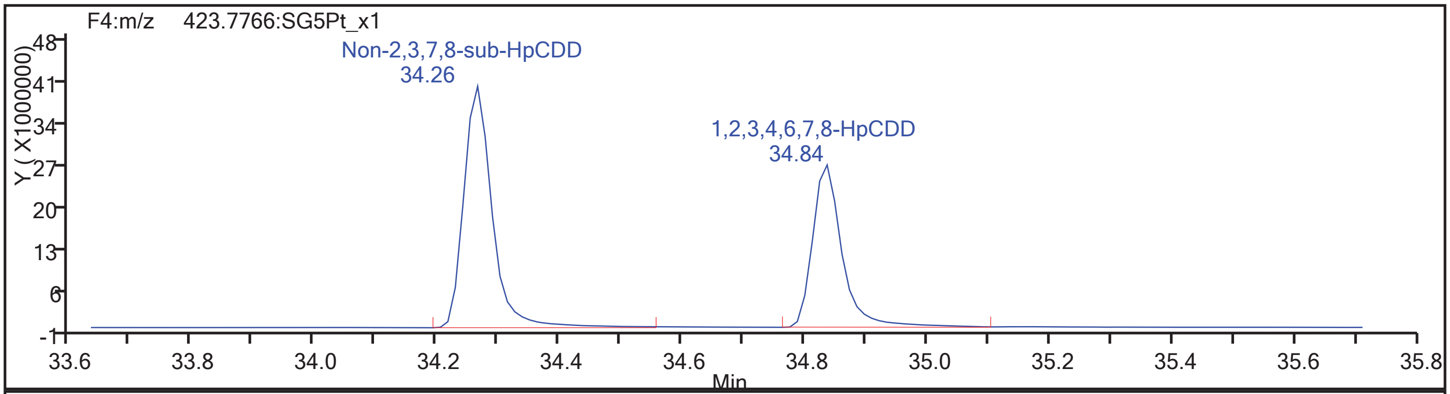


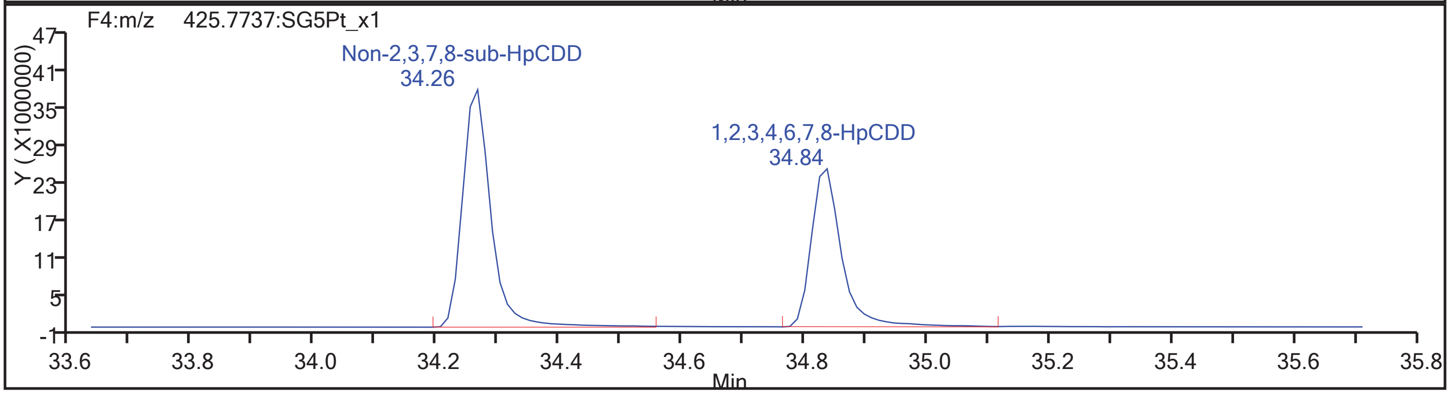
Report Date: 06-Dec-2017 14:31:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

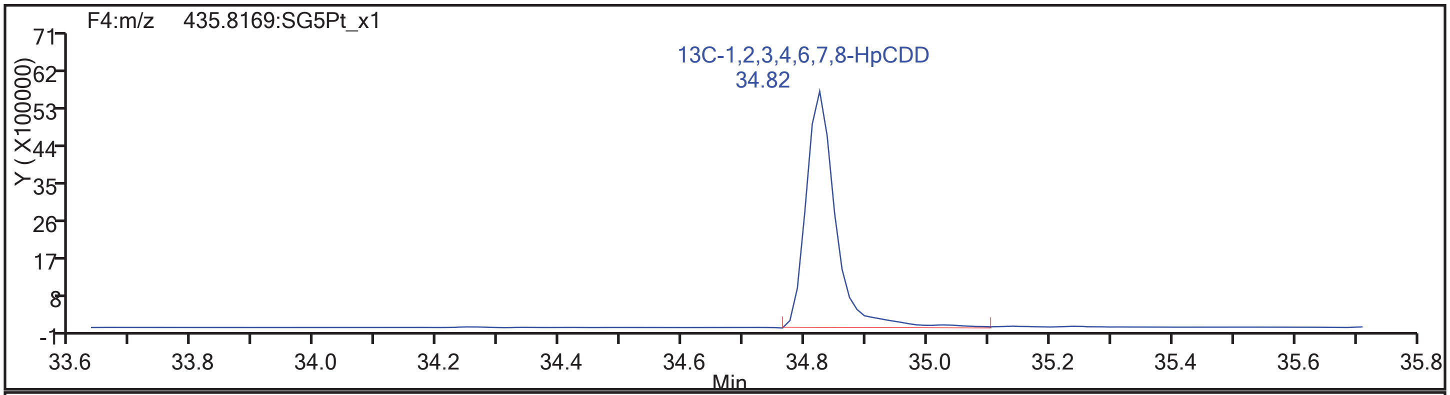
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Injection Date:	19-Nov-2017 03:14:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	195574	Sample Line#:	71
Column Type:		Column Dia:	

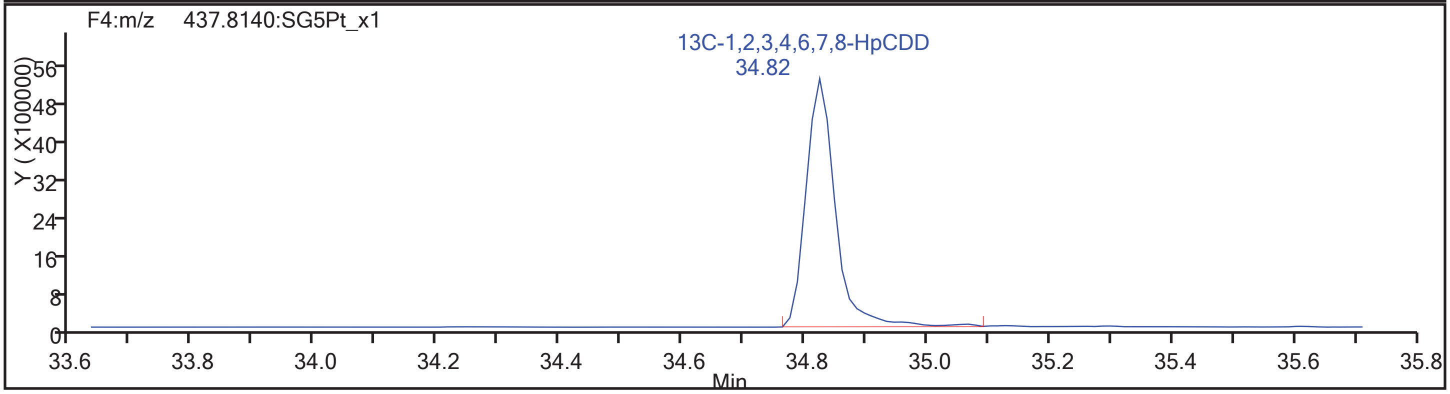
HpCDD





HpCDD Standards



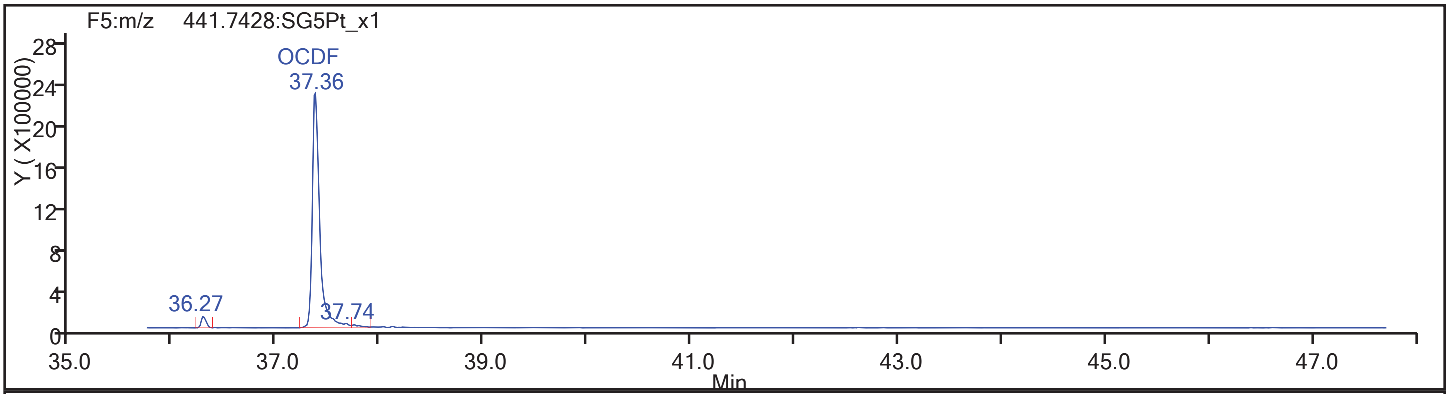


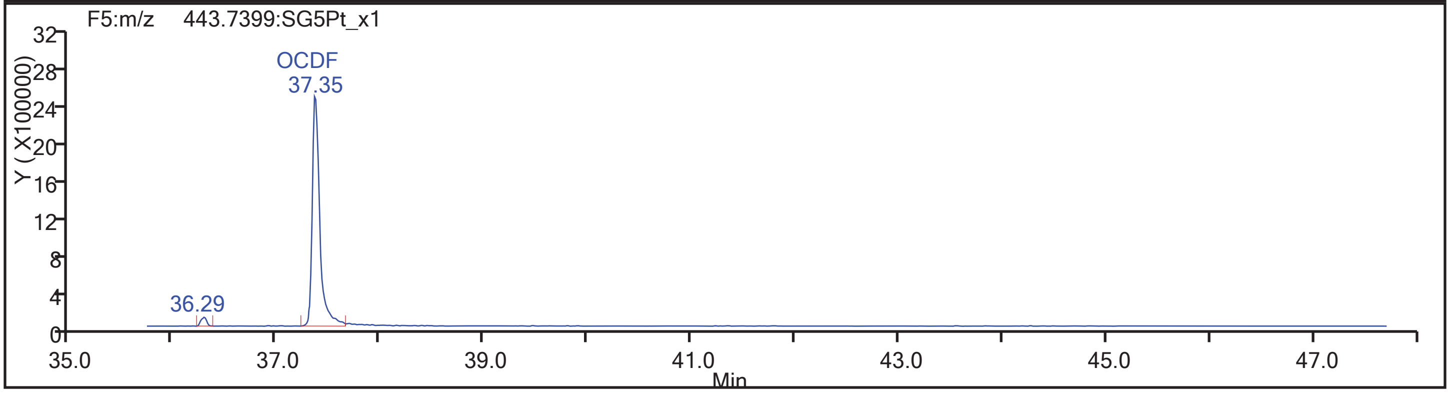
Report Date: 06-Dec-2017 14:31:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

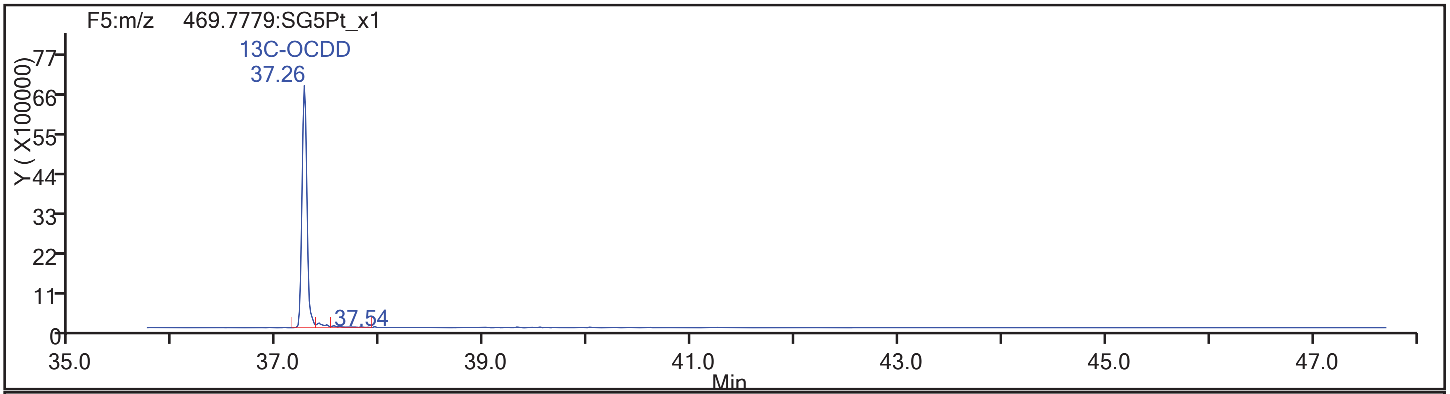
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d
Injection Date: 19-Nov-2017 03:14:32
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS01NS
Worklist#: 195574
Sample Line#: 71
Column Type:
Column Dia:

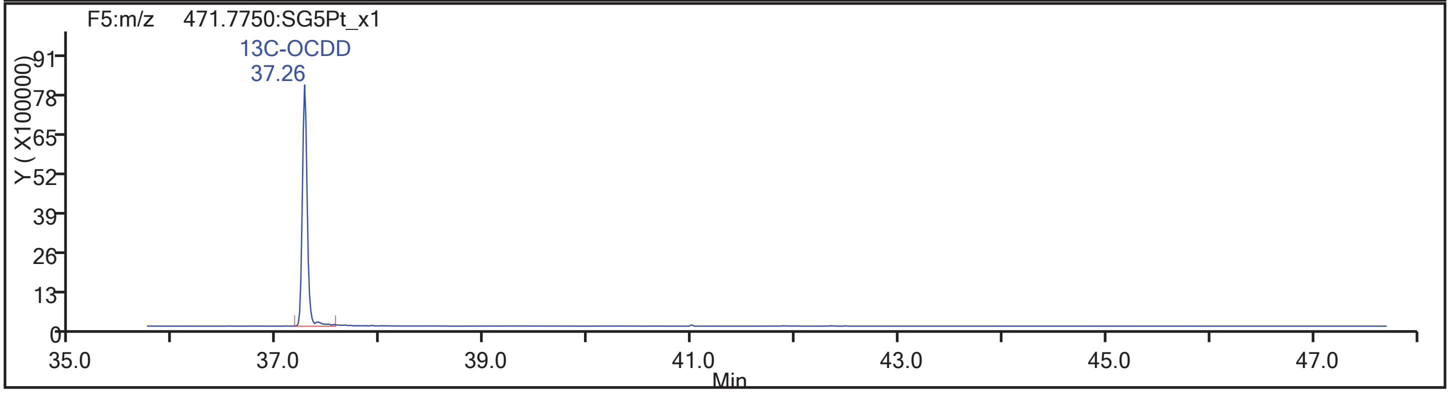
OCDF





OCDF Standards



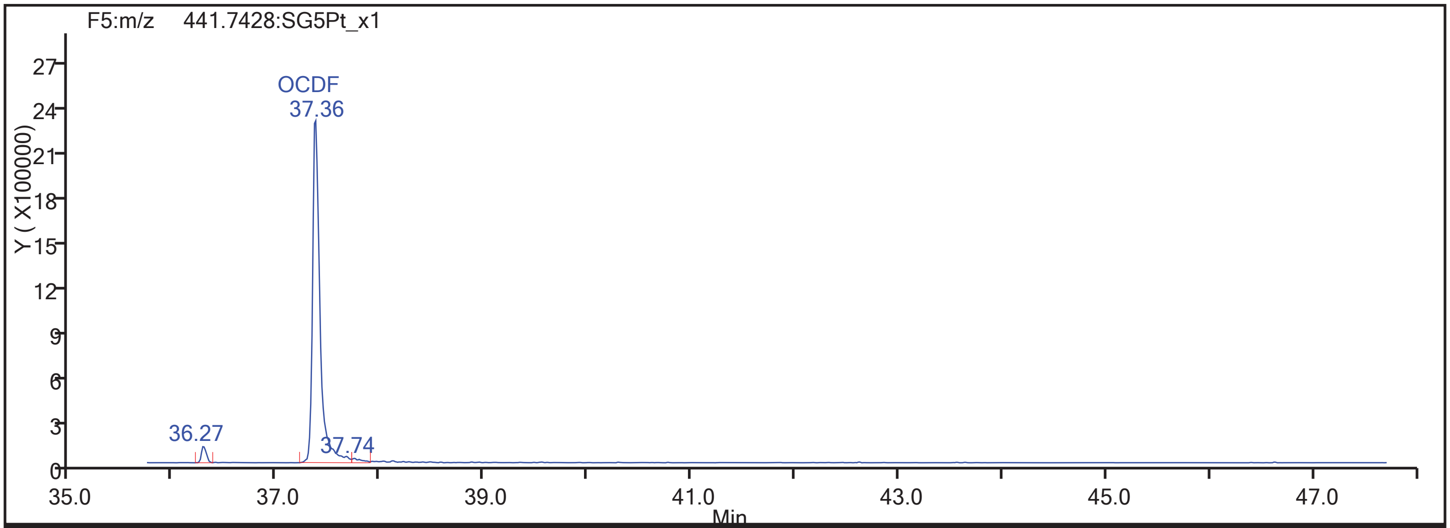


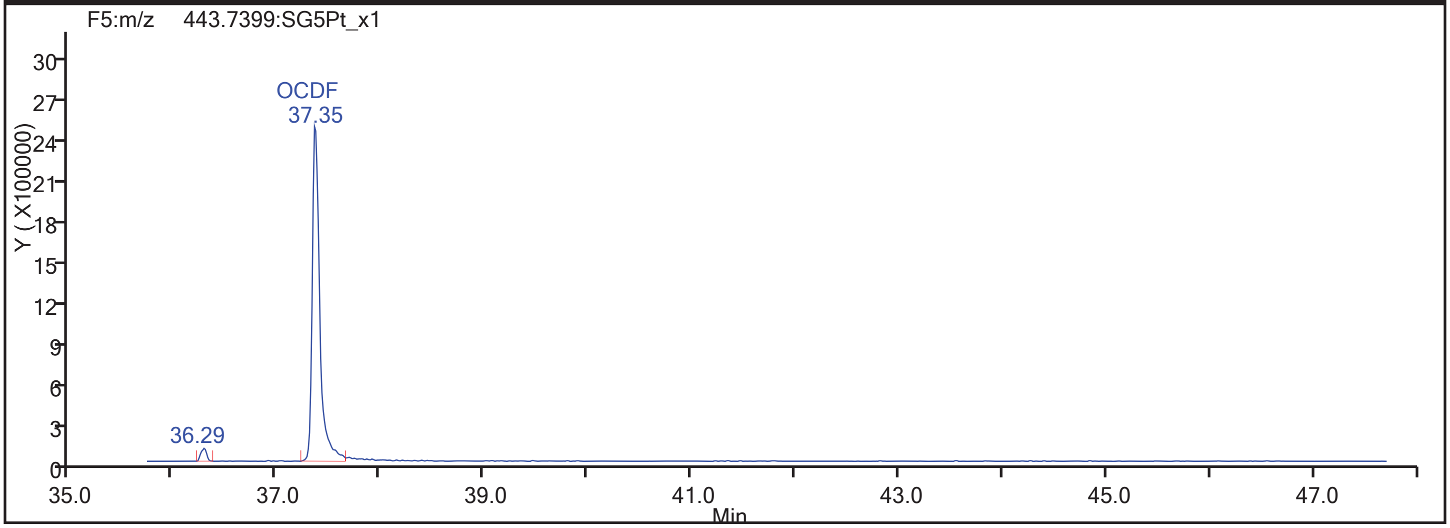
Report Date: 06-Dec-2017 14:31:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

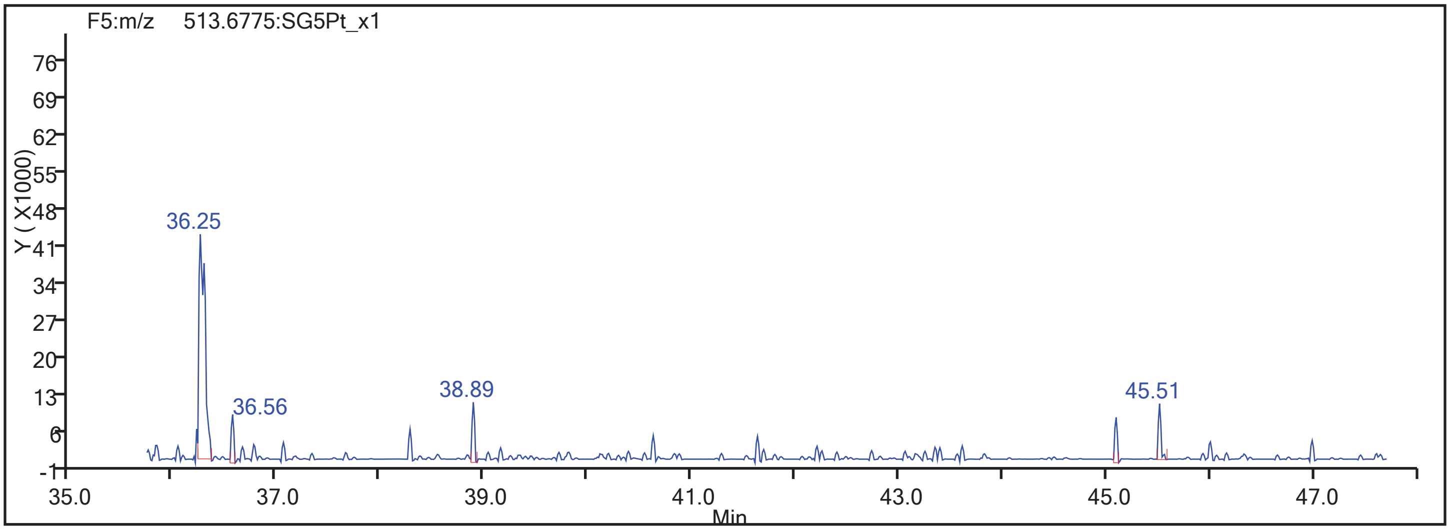
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Injection Date:	19-Nov-2017 03:14:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	195574	Sample Line#:	71
Column Type:		Column Dia:	

OCDF





OCDF Interference Mass

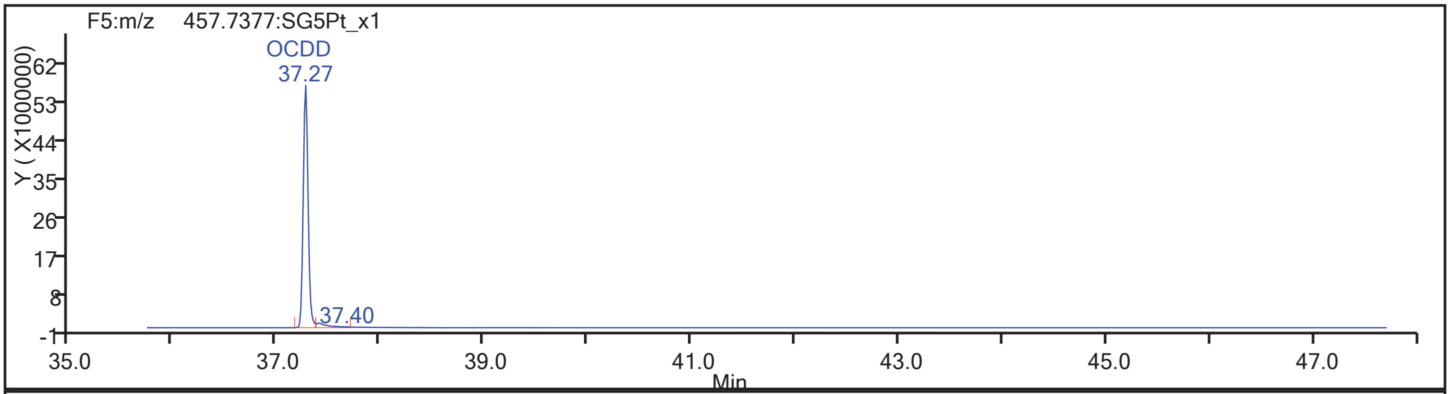


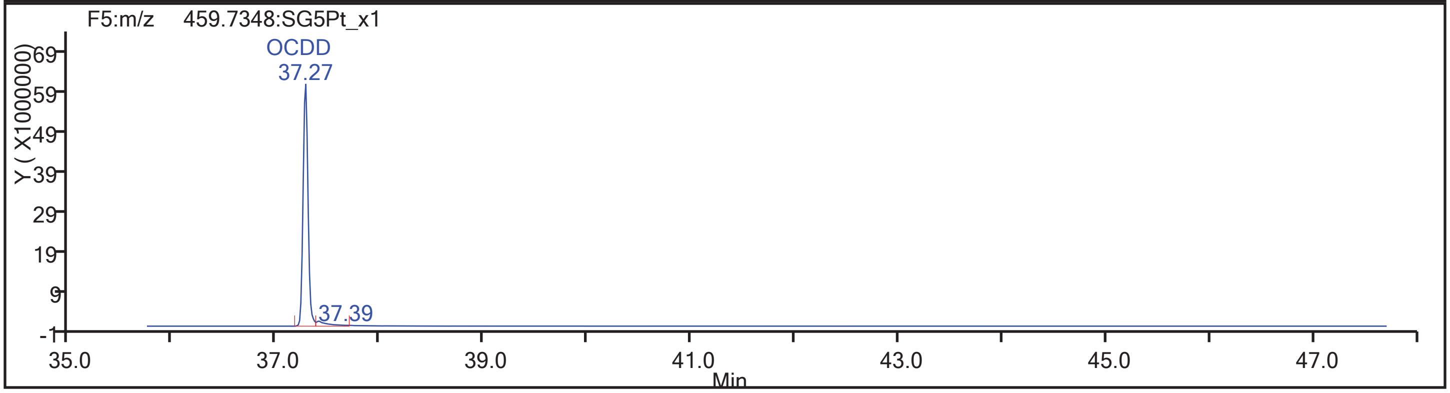
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d

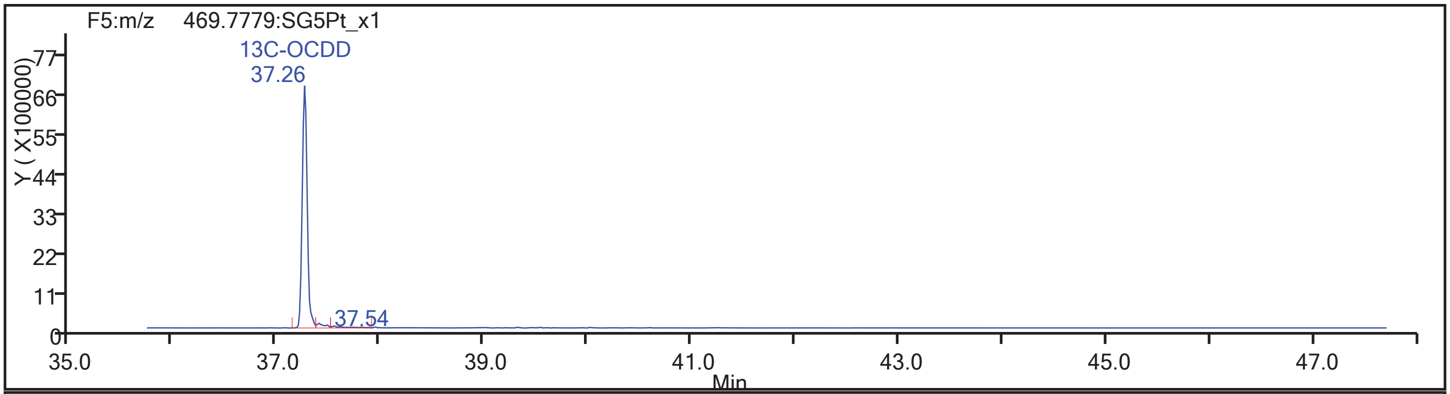
Injection Date:	19-Nov-2017 03:14:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	195574	Sample Line#:	71
Column Type:		Column Dia:	

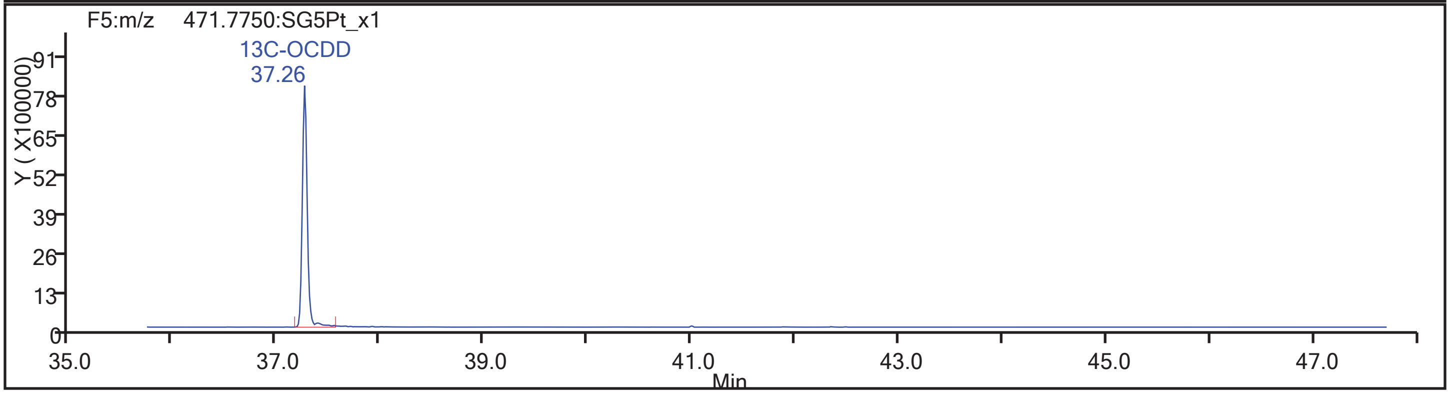
OCDD





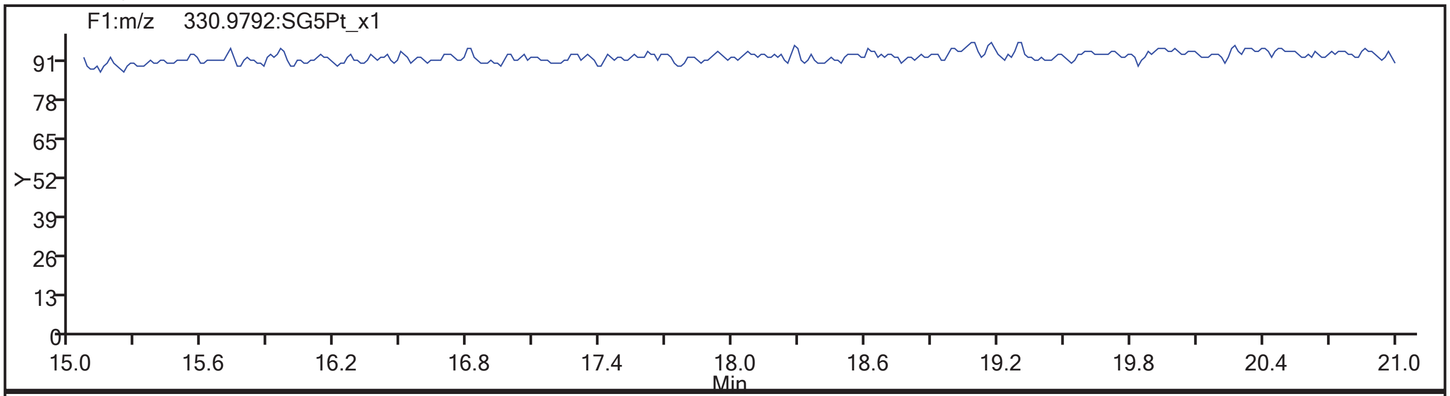
OCDD Standards

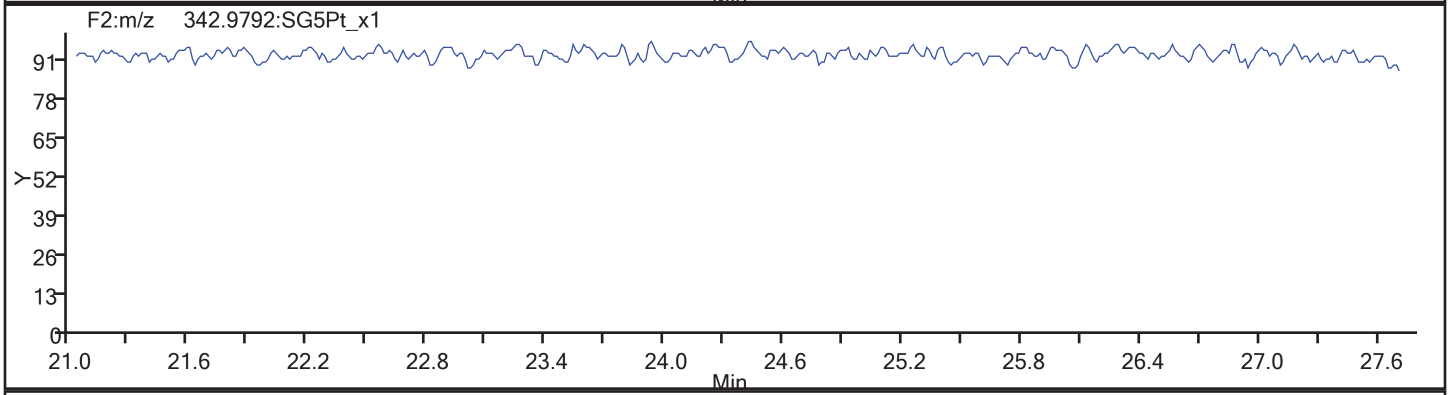


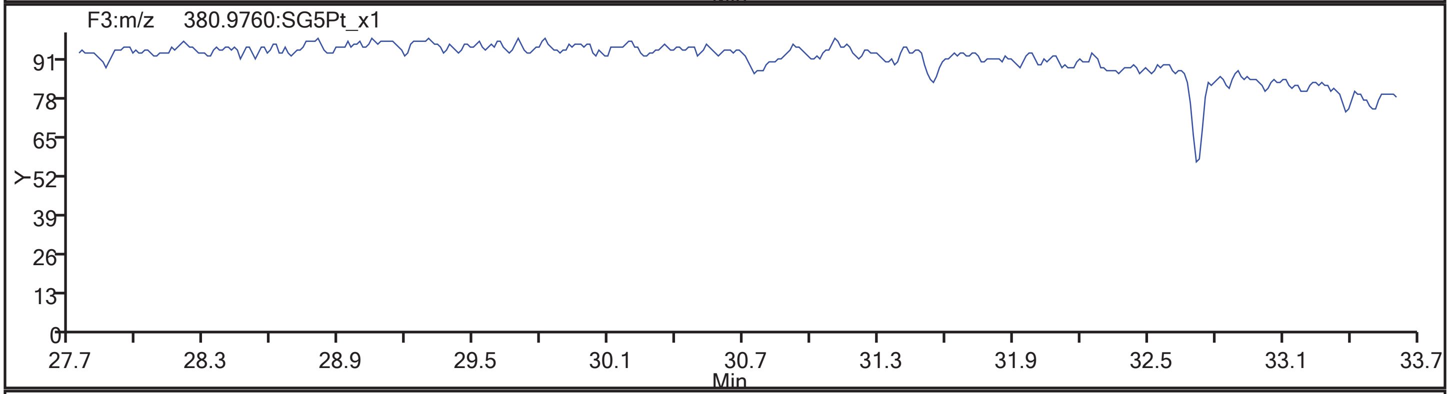


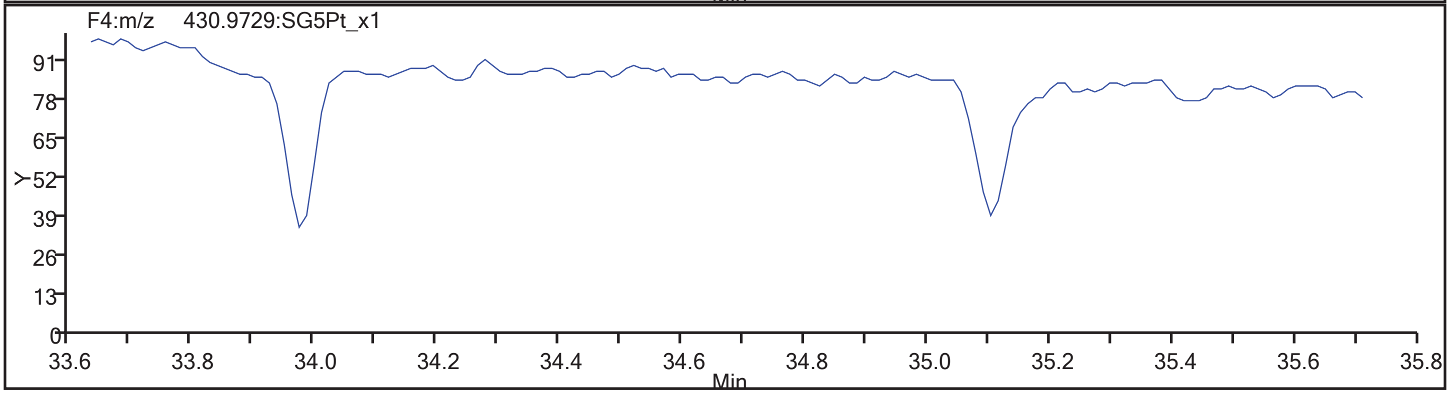
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Injection Date:	19-Nov-2017 03:14:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	195574	Sample Line#:	71
Column Type:		Column Dia:	



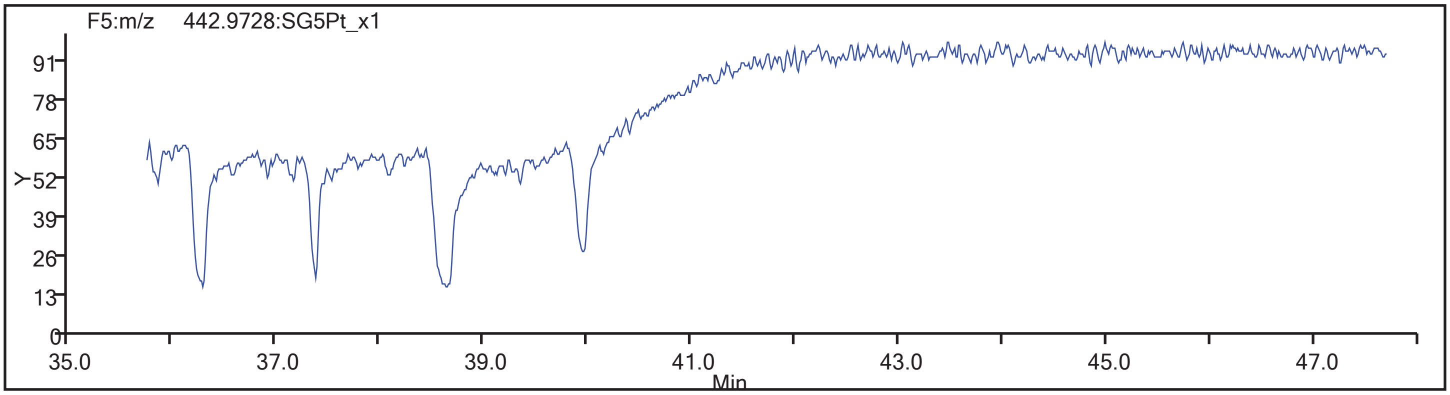






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_71.d		
Injection Date:	19-Nov-2017 03:14:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	195574	Sample Line#:	71
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP022SS01NS RERA

Lab Sample ID: 160-24924-7 RERA

Matrix: Solid

Lab File ID: 05DE179D2_006.d

Analysis Method: 8290A

Date Collected: 10/05/2017 16:45

Extract. Method: 8290

Date Extracted: 11/16/2017 11:16

Sample wt/vol: 9.94(g)

Date Analyzed: 12/05/2017 14:43

Con. Extract Vol.: 20.0(uL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 0.3

GPC Cleanup:(Y/N) N

Analysis Batch No.: 198469

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	*2,3,7,8-TCDF*	*2.0*	*H M*	*1.0*	0.40	*0.85*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	58		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_006.d				
Lims ID:	160-24924-G-7-B				
Client ID:	SHAD041DP022SS01NS				
Sample Type:	Client				
Inject. Date:	05-Dec-2017 14:43:07	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-7-B				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	05-Dec-2017 23:47:44	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK005				

First Level Reviewer: messecara Date: 05-Dec-2017 23:29:36

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.975	95506599	0.77	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.113	69944626	0.76	1.2599	58.1	58.1	5.283	5.283	58.13	
2,3,7,8-TCDF	16.113	748232	0.77	1.0784	0.992	0.992	0.4190	0.4190		M
D 13C-2,3,7,8-TCDD	14.714	59338150	0.73	0.9567	64.9	64.9	1.927	1.927	64.94	
2,3,7,8-TCDD	14.742	635274	0.74	1.1123	0.9625	0.9625	0.2485	0.2485		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 05-Dec-2017 23:47:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_006.d
Lims ID: 160-24924-G-7-B
Client ID: SHAD041DP022SS01NS
Sample Type: Client
Inject. Date: 05-Dec-2017 14:43:07 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-7-B
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:44 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

First Level Reviewer: messecara Date: 05-Dec-2017 23:29:36

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.975	14.967	0		41452672	8213187	97482	243705	84		
333.9339	14.975	14.967	0		54053927	10983455	44115	110287	249	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.113	16.106	0	1.076	30280224	6537533	234169	585422	28		
317.9389	16.113	16.106	0	1.076	39664402	8472805	276875	692187	31	0.76(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.113	16.119	0	1.000	326598	58496	15064	37660	4		M
305.8987	16.113	16.119	0	1.000	421634	77937	12066	30165	6	0.77(0.65-0.89)	M
13C-2,3,7,8-TCDD											
331.9368	14.714	14.706	0	0.983	25113518	5357591	97482	243705	55		
333.9339	14.714	14.706	0	0.983	34224632	7422942	44115	110287	168	0.73(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.742	14.734	0	1.002	269721	51637	7612	19030	7		
321.8936	14.742	14.734	0	1.002	365553	64991	6518	16295	10	0.74(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				15064	37660			
Total Dioxins & Furans											
303.9016		0.0	0				15064	37660			

QC Flag Legend

Review Flags

M - Manually Integrated

TestAmerica Sacramento

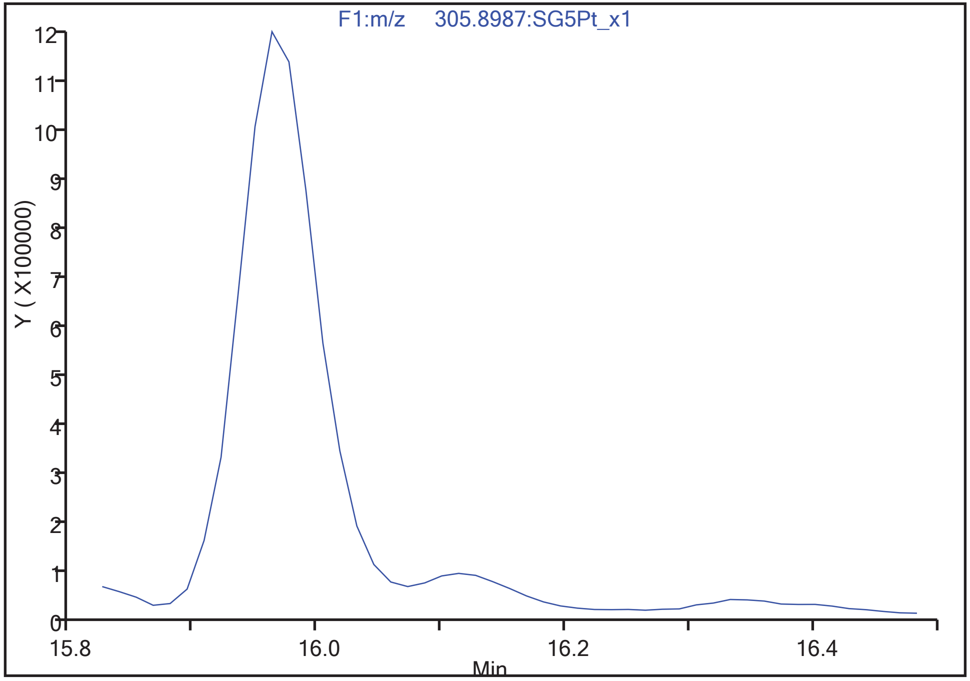
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_006.d				
Injection Date:	05-Dec-2017 14:43:07	Instrument ID:	9D2		
Lims ID:	160-24924-G-7-B	Lab Sample ID:	320-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

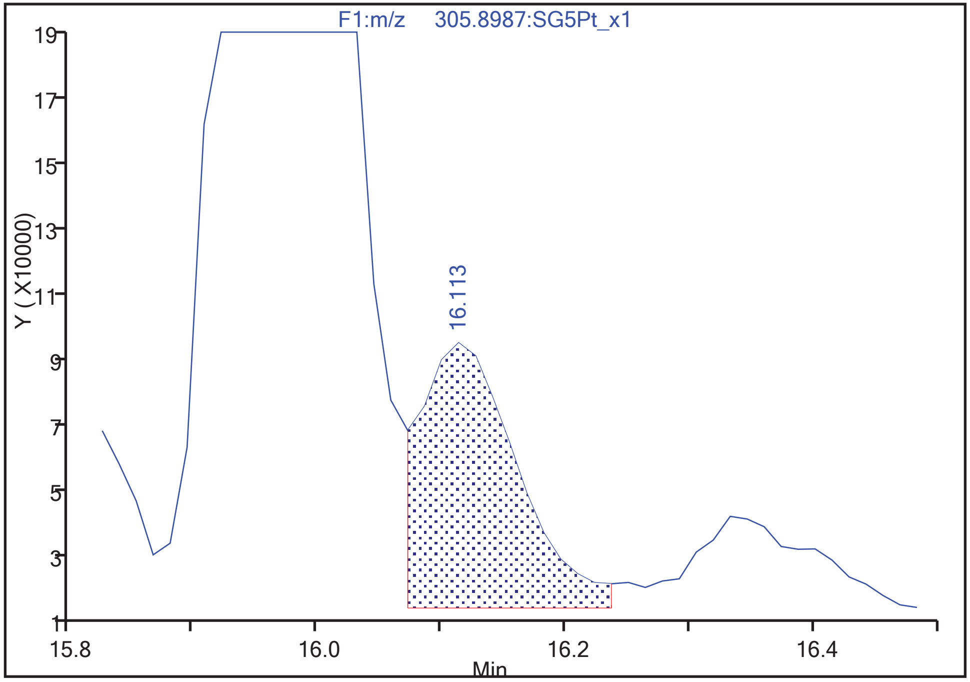
Not Detected
Expected RT: 16.12

Processing Integration Results



Manual Integration Results

RT: 16.11
Area: 421634
Amount: 0.991940
Amount Units: pg/ul



Reviewer: messecara, 05-Dec-2017 23:28:26
Audit Action: Manually Integrated Audit Reason: Split Peak

Report Date: 05-Dec-2017 23:47:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_006.d				
Injection Date:	05-Dec-2017 14:43:07	Instrument ID:	9D2		
Lims ID:	160-24924-G-7-B	Lab Sample ID:	320-24924-7		
Client ID:	SHAD041DP022SS01NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

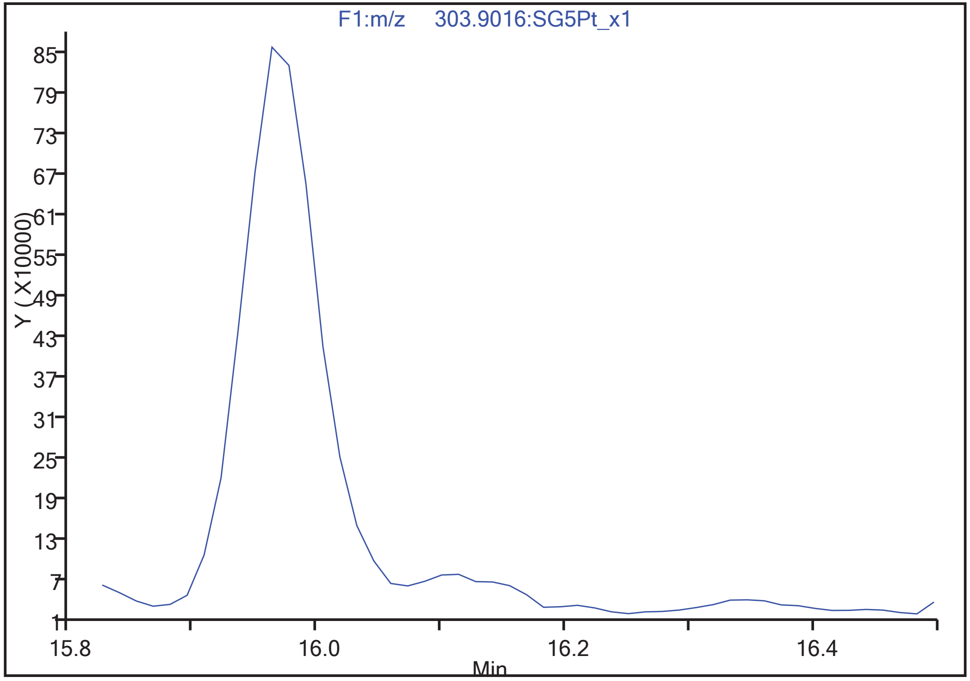
2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

Not Detected

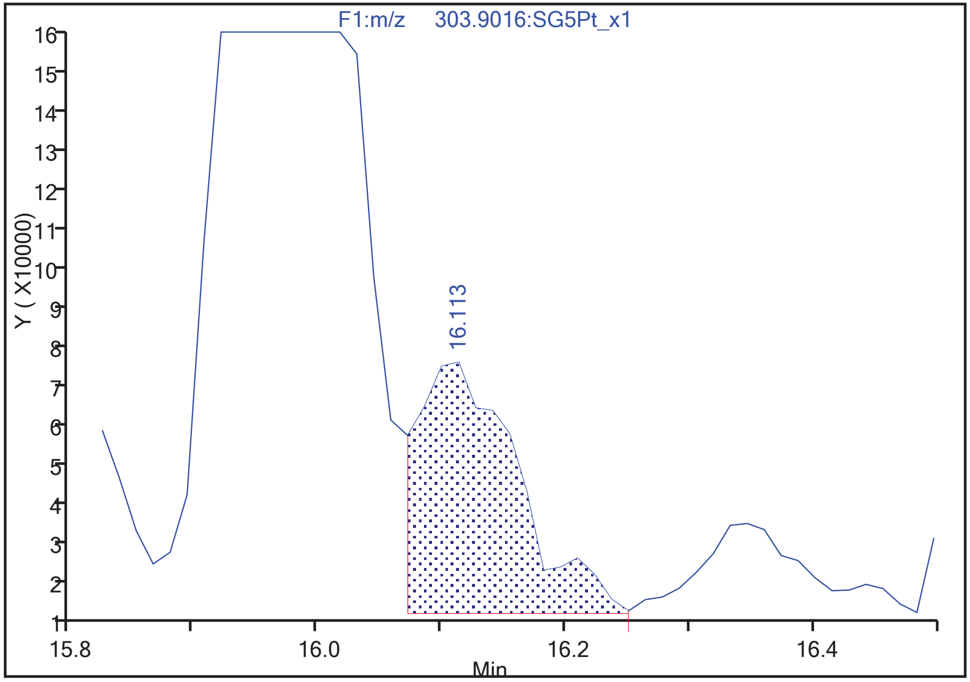
Expected RT: 16.12

Processing Integration Results



RT:	16.11
Area:	326598
Amount:	0.991940
Amount Units:	pg/ul

Manual Integration Results



Reviewer: messecara, 05-Dec-2017 23:28:55

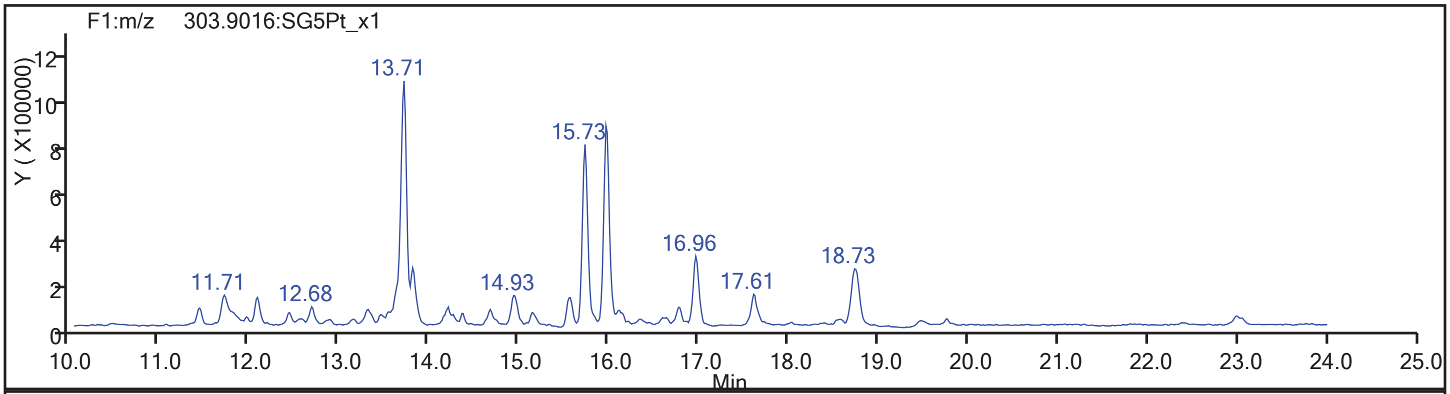
Audit Action: Manually Integrated Audit Reason: Split Peak

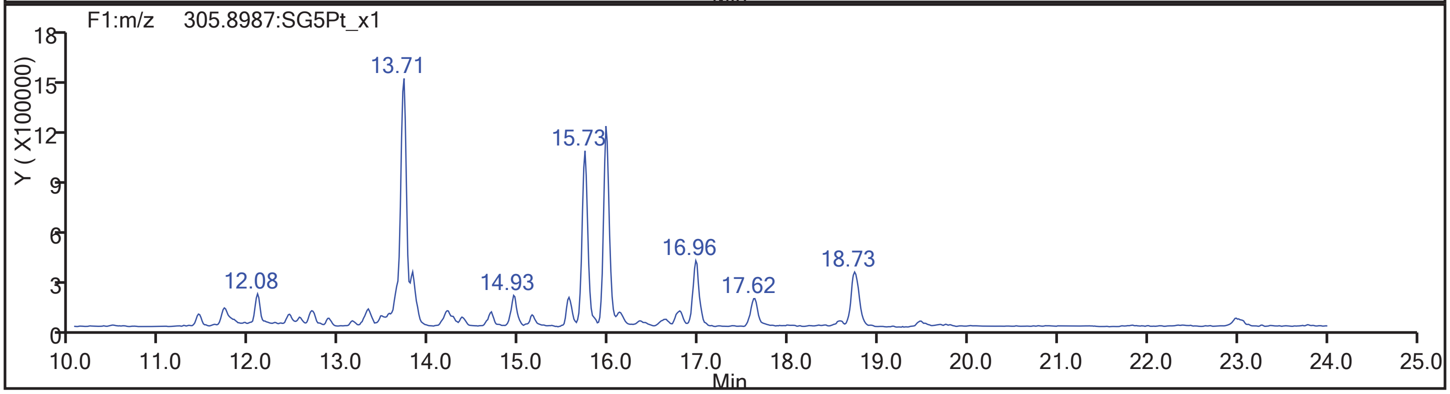
Report Date: 05-Dec-2017 23:47:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

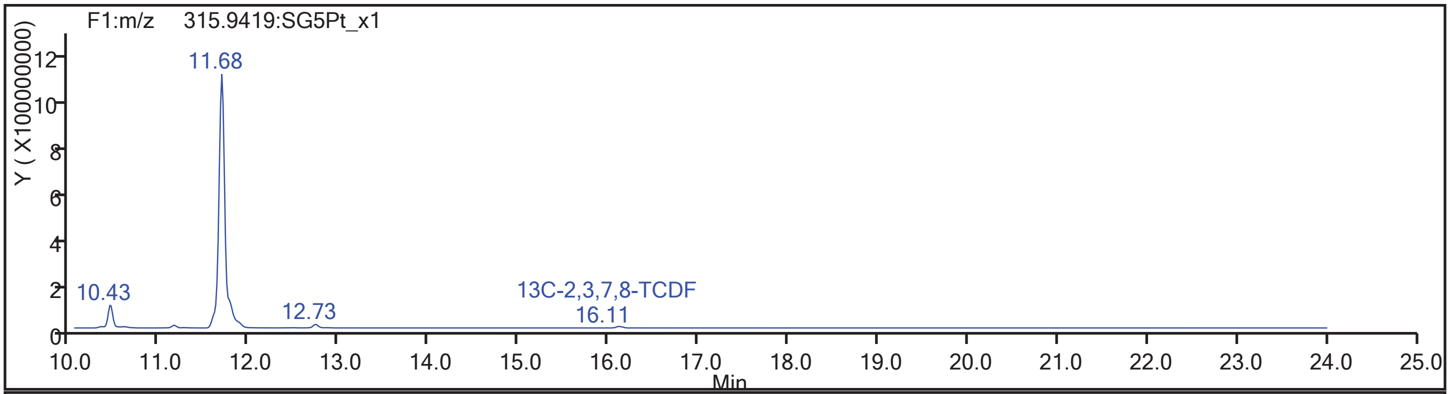
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_006.d		
Injection Date:	05-Dec-2017 14:43:07	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	198469	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

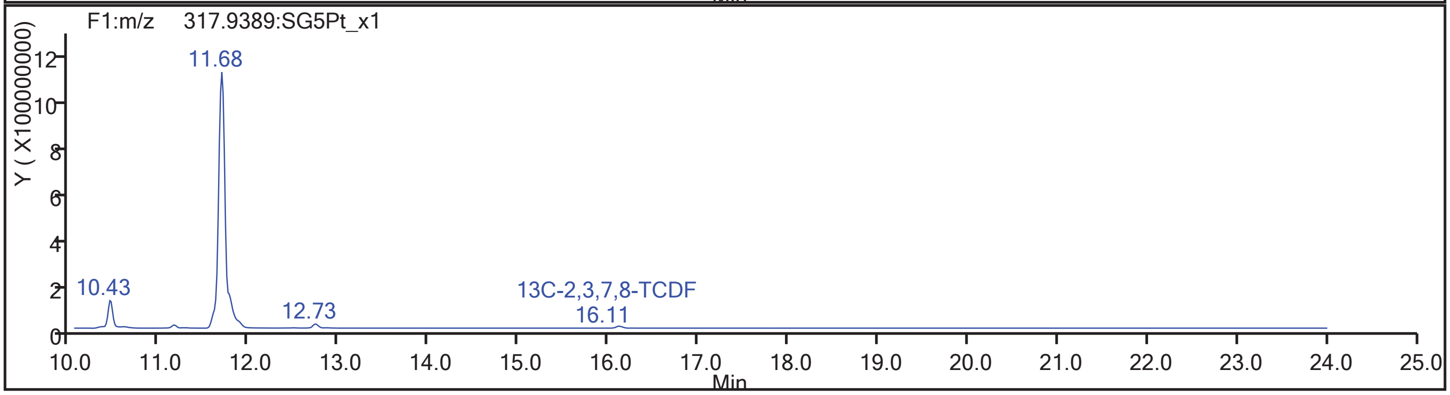
TCDF





TCDF Standards

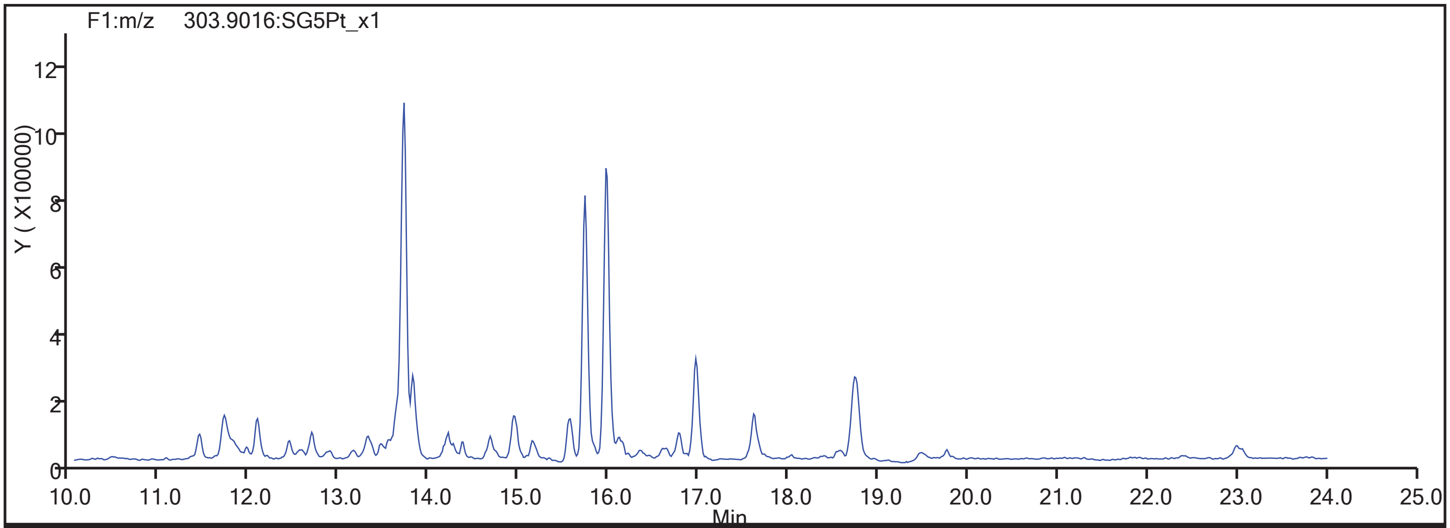


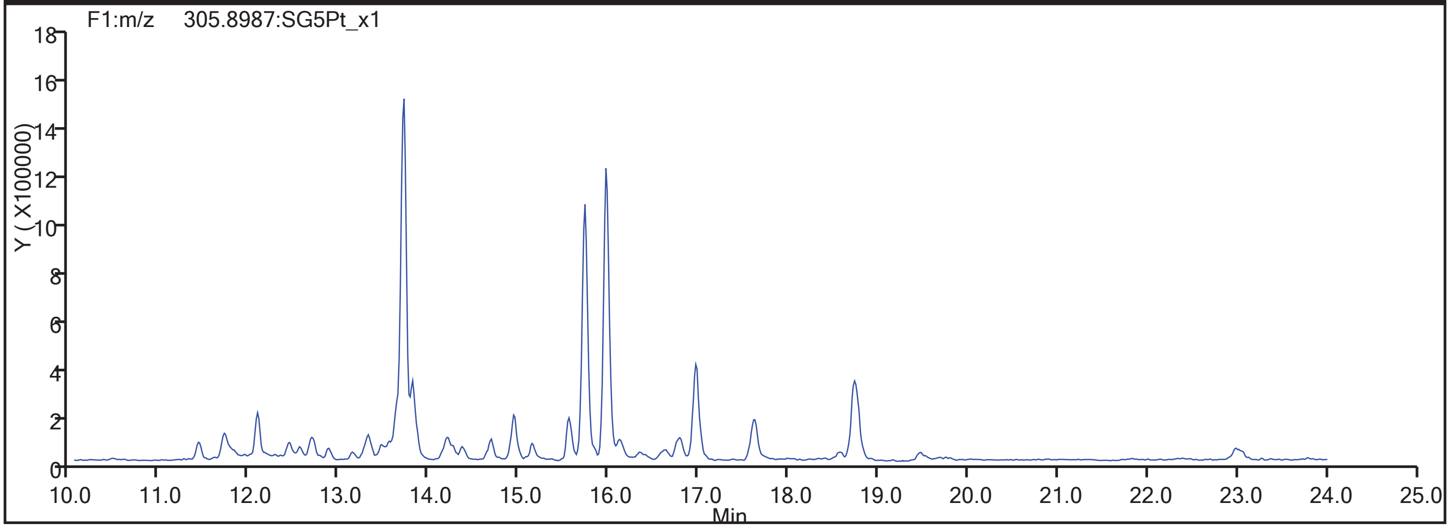


TestAmerica Sacramento

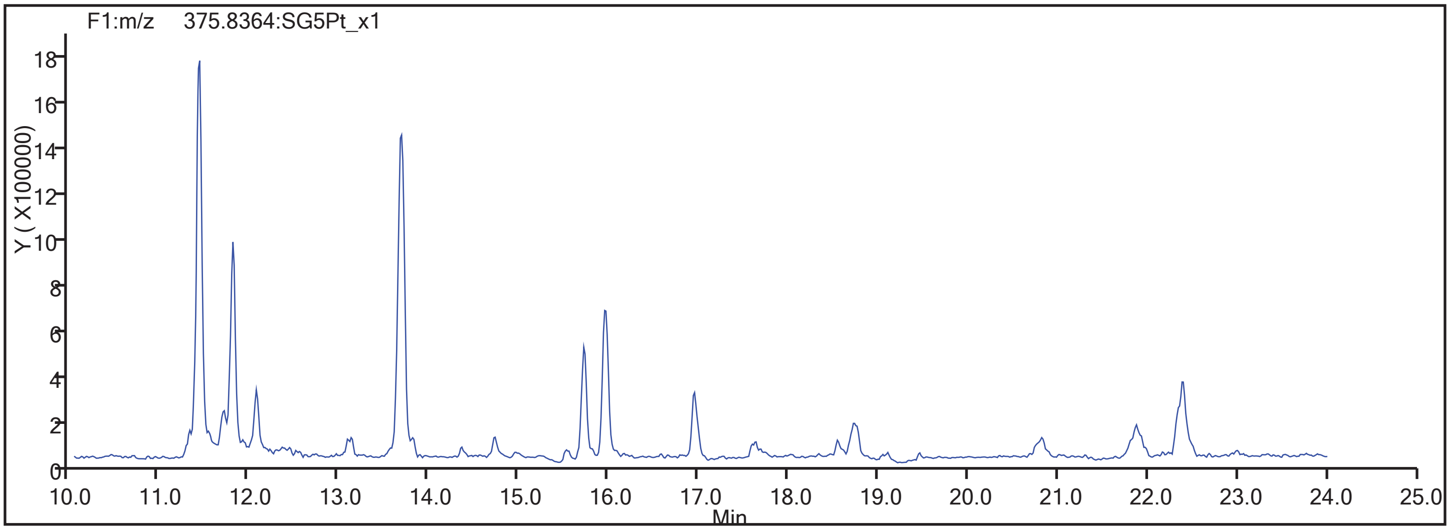
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_006.d		
Injection Date:	05-Dec-2017 14:43:07	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	198469	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF



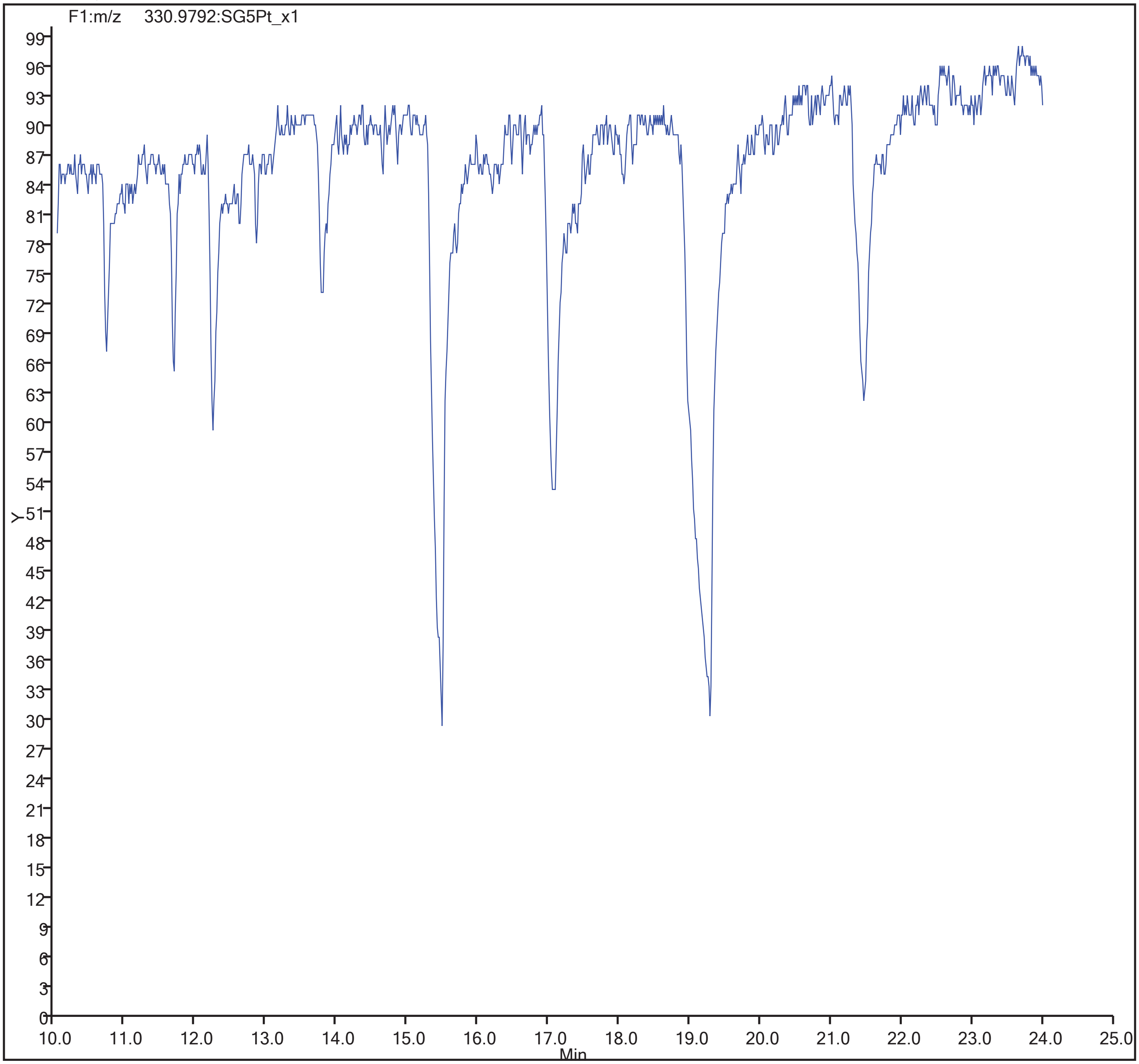


TCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_006.d		
Injection Date:	05-Dec-2017 14:43:07	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS01NS		
Worklist#:	198469	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP022SS02NS RA
Lab Sample ID: 160-24924-8 RA
Matrix: Solid
Lab File ID: 07NO179D2_012.d
Analysis Method: 8290A
Date Collected: 10/05/2017 16:55
Extract. Method: 8290
Date Extracted: 10/17/2017 11:29
Sample wt/vol: 9.96(g)
Date Analyzed: 11/07/2017 17:05
Con. Extract Vol.: 20.00(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 1.0
GPC Cleanup:(Y/N) N
Analysis Batch No.: 193317
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	2,3,7,8-TCDF	7.9		1.0	0.41	0.29

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	72		40-135

FORM I 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_012.d
Lims ID: 160-24924-G-8-A
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 07-Nov-2017 17:05:49 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-8-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:41:52

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.992	445551370	0.80	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.117	404785492	0.80	1.2599	72.1	72.1	0.2439	0.2439	72.11	
2,3,7,8-TCDF	16.131	17090599	0.78	1.0784	3.915	3.915	0.1442	0.1442		
D 13C-2,3,7,8-TCDD	14.732	313106303	0.78	0.9567	73.5	73.5	0.3241	0.3241	73.45	
2,3,7,8-TCDD	14.746	3613735	0.72	1.1123	1.038	1.038	0.0759	0.0759		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Report Date: 09-Nov-2017 16:51:28   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_012.d				
Lims ID:	160-24924-G-8-A				
Client ID:	SHAD041DP022SS02NS				
Sample Type:	Client				
Inject. Date:	07-Nov-2017 17:05:49	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-8-A				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 16:51:06	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				
First Level Reviewer: shardaa		Date:	09-Nov-2017 16:41:52		

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.992	14.991	0		198571896	44270136	84021	210052	527		
333.9339	14.992	14.991	0		246979474	54951467	39060	97650	1407	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.117	16.130	-1	1.075	179563954	35972104	59045	147612	609		
317.9389	16.117	16.130	-1	1.075	225221538	44976287	62924	157310	715	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.131	16.144	-1	1.001	7471804	1441663	20792	51980	69		
305.8987	16.131	16.144	-1	1.001	9618795	1824286	29569	73922	62	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.732	14.731	0	0.983	137335871	30918857	84021	210052	368		
333.9339	14.732	14.731	0	0.983	175770432	39760901	39060	97650	1018	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.746	14.744	0	1.001	1518757	232764	9333	23332	25		
321.8936	14.759	14.744	1	1.002	2094978	338569	14533	36332	23	0.72(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				20792	51980			
Total Dioxins & Furans											
303.9016		0.0	0				20792	51980			

Report Date: 09-Nov-2017 16:51:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_012.d

Injection Date: 07-Nov-2017 17:05:49

Injection Vol: 2.0 ul

Instrument ID: 9D2

Operator ID:

Method: DXN_DB225_9D2

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS02NS

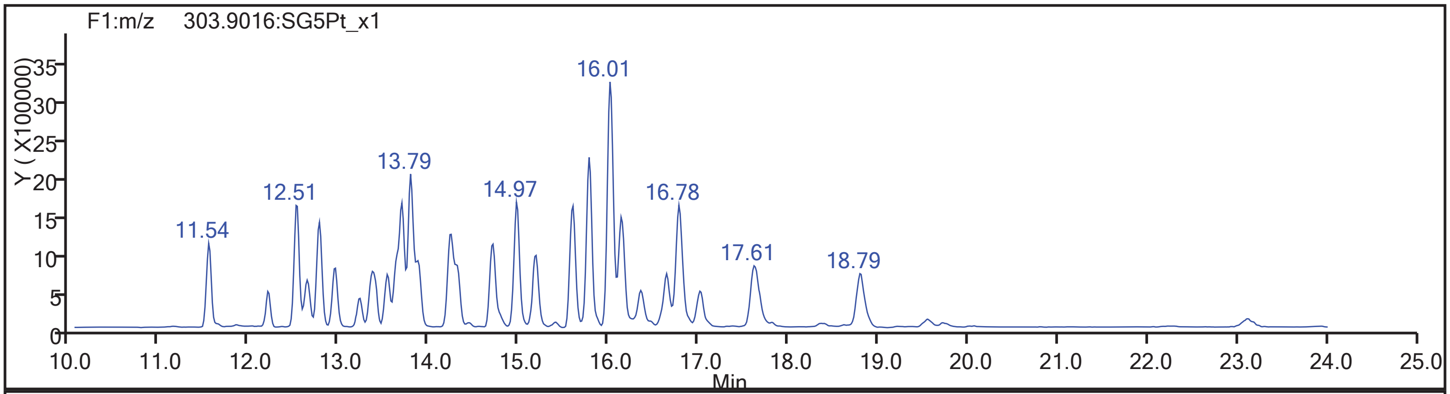
Worklist#: 193317

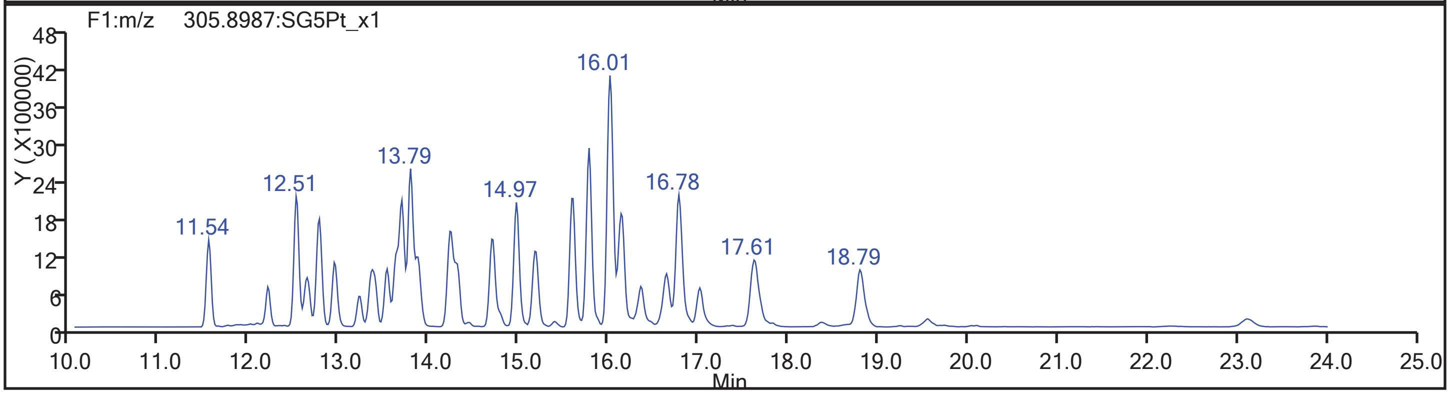
Sample Line#: 12

Column Type: DB-225

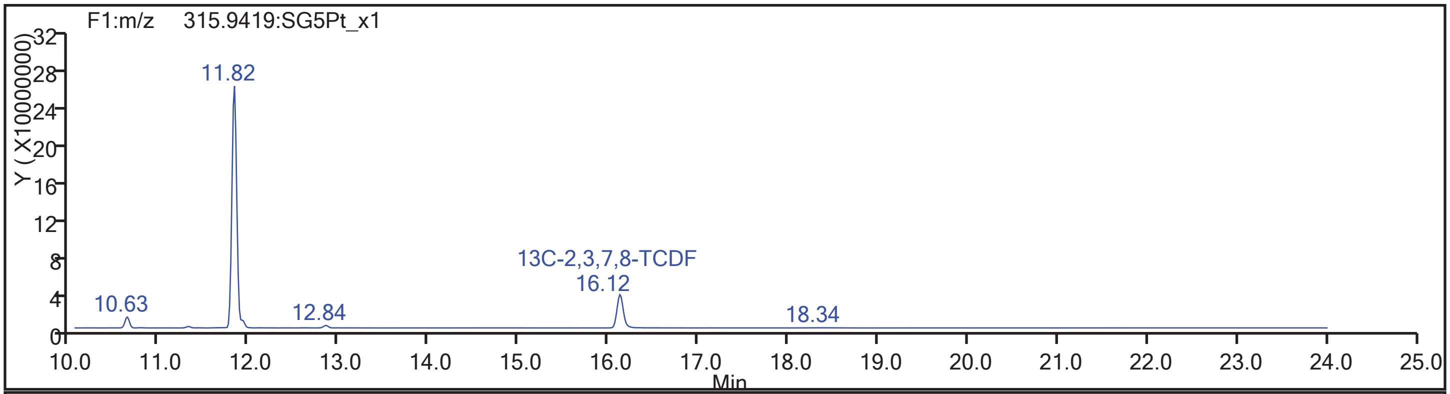
Column Dia: 0.32 mm

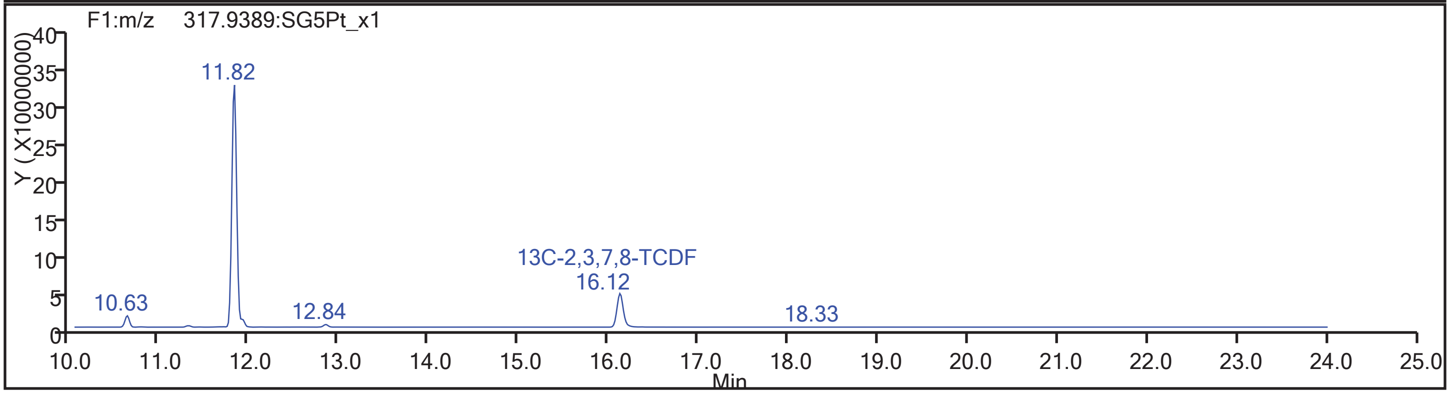
TCDF





TCDF Standards



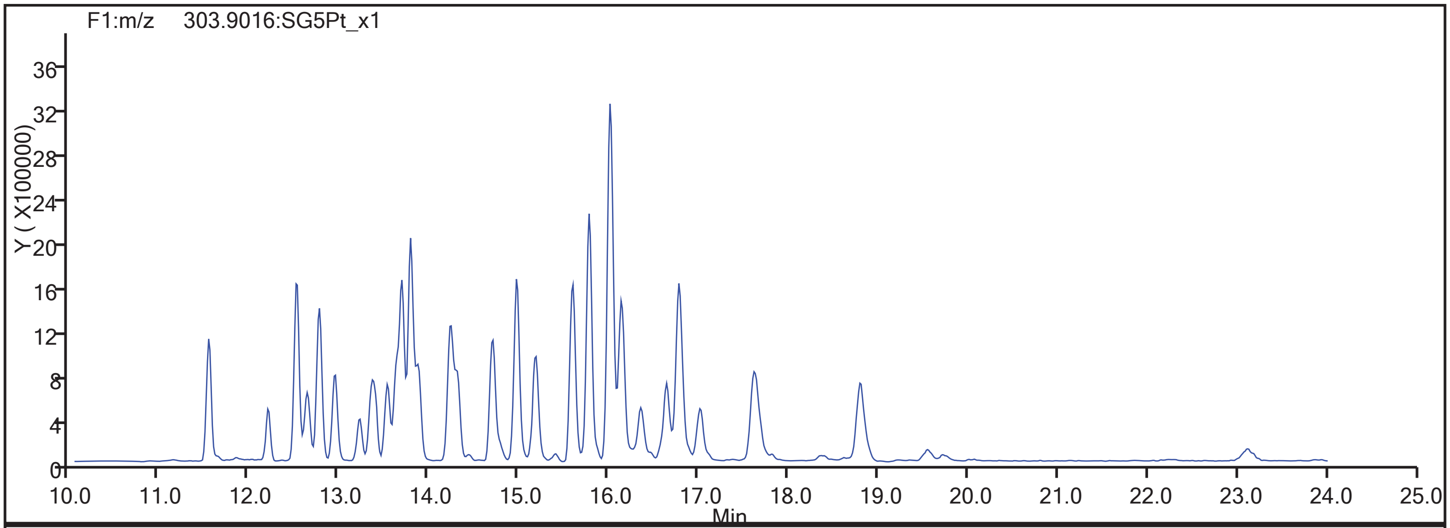


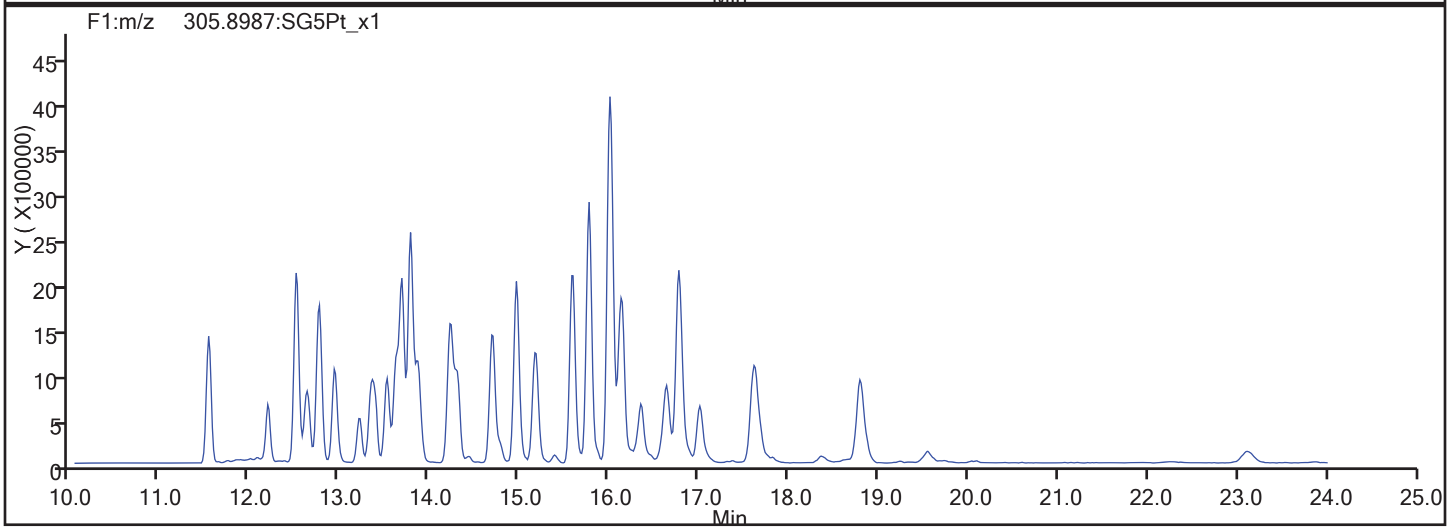
Report Date: 09-Nov-2017 16:51:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

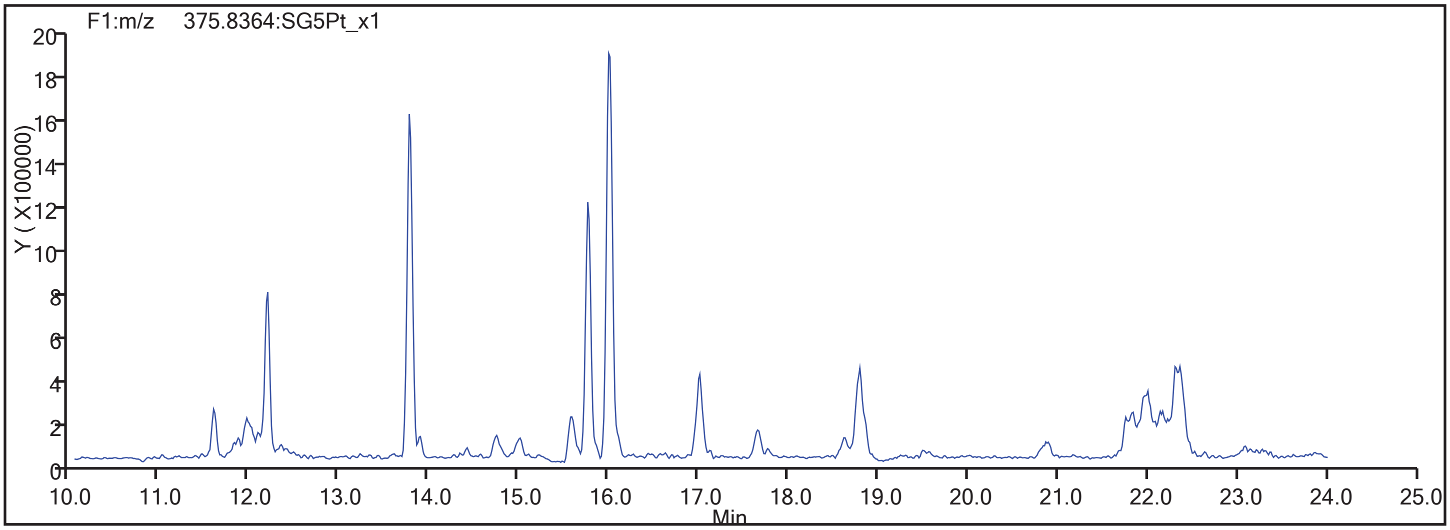
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_012.d		
Injection Date:	07-Nov-2017 17:05:49	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	193317	Sample Line#:	12
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_012.d

Injection Date: 07-Nov-2017 17:05:49 Injection Vol: 2.0 ul

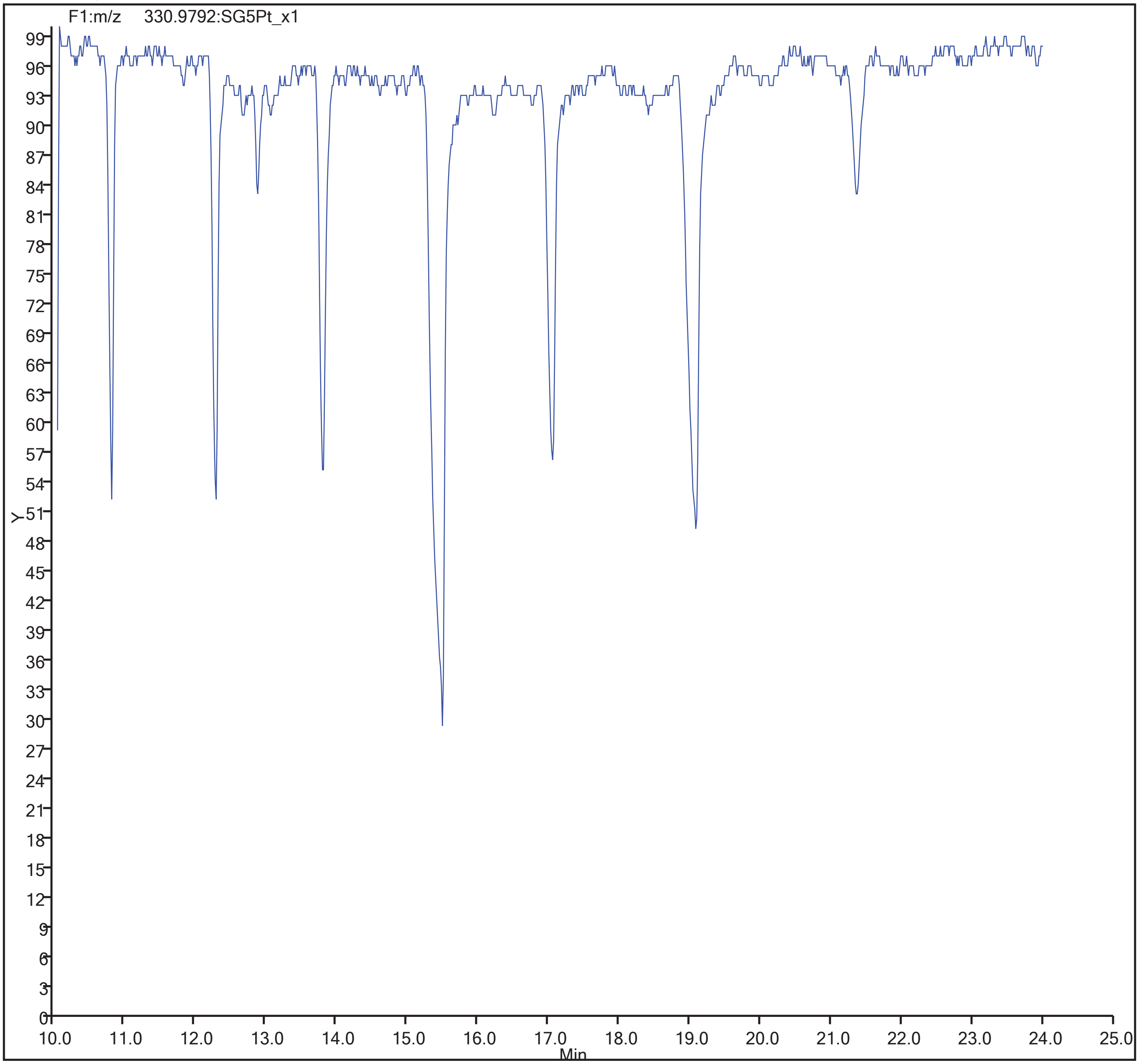
Instrument ID: 9D2 Operator ID:

Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS02NS

Worklist#: 193317 Sample Line#: 12

Column Type: DB-225 Column Dia: 0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS02NS	Lab Sample ID: 160-24924-8
Matrix: Solid	Lab File ID: 09NO1710D5_71.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:55
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 9.96(g)	Date Analyzed: 11/11/2017 16:35
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 1.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194085	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	1.2		1.0	0.41	0.17
40321-76-4	1,2,3,7,8-PeCDD	3.1	J	5.1	0.76	0.44
57117-41-6	1,2,3,7,8-PeCDF	3.4	J	5.1	0.76	0.29
57117-31-4	2,3,4,7,8-PeCDF	6.1		5.1	0.76	0.30
39227-28-6	1,2,3,4,7,8-HxCDD	3.0	J	5.1	2.0	0.39
57653-85-7	1,2,3,6,7,8-HxCDD	15		5.1	2.0	0.30
19408-74-3	1,2,3,7,8,9-HxCDD	8.4	M	5.1	2.0	0.30
70648-26-9	1,2,3,4,7,8-HxCDF	4.4	J M	5.1	0.76	0.69
57117-44-9	1,2,3,6,7,8-HxCDF	5.6	M	5.1	1.0	0.57
72918-21-9	1,2,3,7,8,9-HxCDF	1.0	U	5.1	1.0	0.69
60851-34-5	2,3,4,6,7,8-HxCDF	5.1		5.1	0.76	0.64
35822-46-9	1,2,3,4,6,7,8-HpCDD	130		5.1	1.0	1.6
67562-39-4	1,2,3,4,6,7,8-HpCDF	45		5.1	1.0	0.84
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.6	J	5.1	2.0	1.0
3268-87-9	OCDD	410	B	10	4.1	0.68
39001-02-0	OCDF	23		10	4.1	0.22

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	72		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	80		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	81		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	72		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	86		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	64		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	48		40-135
114423-97-1	13C-OCDD	52		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Lims ID: 160-24924-G-8-A
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 11-Nov-2017 16:35:46 ALS Bottle#: 45 Worklist Smp#: 71
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-8-a 160-24924-g-8-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 12:32:59 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 12:32:59

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.929	87777033	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.415	82519162	0.77	1.2741	73.8	73.8	3.505	3.505	73.79	
2,3,7,8-TCDF	17.445	7596289	0.80	1.1341	8.117	8.117	0.3216	0.3216		
A Non-2,3,7,8-sub-TCDF	17.105	33992943	0.77	1.1341	36.5	36.3	0.3216	5.921		RQM
S Total TCDF					44.6	44.4	0.3216	0.3216		RQ
D 13C-2,3,7,8-TCDD	18.125	62882303	0.77	0.9921	72.2	72.2	0.2212	0.2212	72.21	
2,3,7,8-TCDD	18.141	357971	0.73	0.9993	0.5697	0.5697	0.0818	0.0818		
A Non-2,3,7,8-sub-TCDD	17.559	8642675	0.77	0.9993	13.8	13.8	0.0818	4.050		RQM
S Total TCDD					14.3	14.3	0.0818	0.0818		RQ
D 13C-1,2,3,7,8-PeCDF	22.465	68633591	1.56	0.9696	80.6	80.6	0.2106	0.2106	80.64	
1,2,3,7,8-PeCDF	22.492	1326769	1.62	1.1627	1.663	1.663	0.1446	0.1446		
2,3,4,7,8-PeCDF	23.855	2356762	1.61	1.1395	3.013	3.013	0.1475	0.1475		
A F1 PeCDFs	20.001	4436069	1.55	1.1511	5.615	5.615	0.0533	5.615		
A Non-2,3,7,8-sub-PeCDF	23.161	19398957	1.55	1.1511	24.6	24.6	0.1461	9.343		RQ
S Total PeCDF					34.9	34.8	0.1461	0.1461		RQ
D 13C-1,2,3,7,8-PeCDD	24.551	53466977	1.59	0.7588	80.3	80.3	0.1056	0.1056	80.28	
1,2,3,7,8-PeCDD	24.578	770772	1.68	0.9490	1.519	1.519	0.2174	0.2174		
A Non-2,3,7,8-sub-PeCDD	23.419	10027923	1.55	0.9490	20.9	19.8	0.2174	5.722		RQ
S Total PeCDD					22.4	21.3	0.2174	0.2174		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.607	57438990	0.52	0.9644	86.2	86.2	0.4905	0.4905	86.18	
1,2,3,4,7,8-HxCDF	30.607	1763430	1.33	1.4012	2.191	2.191	0.3414	0.3414		M
1,2,3,6,7,8-HxCDF	30.806	2694099	1.28	1.6951	2.767	2.767	0.2823	0.2823		M
2,3,4,6,7,8-HxCDF	31.605	2182089	1.28	1.5205	2.498	2.498	0.3147	0.3147		
D 13C-1,2,3,7,8,9-HxCDF	32.377	51597269	0.51							
1,2,3,7,8,9-HxCDF	32.377						0.3393	0.3393		
A Non-2,3,7,8-sub-HxCDF	30.254	17750244	1.26	1.5067	20.5	20.5	0.3175	9.570		RM
S Total HxCDF					28.0	28.0	0.3194	0.3194		R
* 13C-1,2,3,7,8,9-HxCDD	32.191	69112384	1.23	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.778	613375	1.32	0.9505	1.479	1.479	0.1921	0.1921		
D 13C-1,2,3,6,7,8-HxCDD	31.871	43626559	1.24	0.8791	71.8	71.8	0.3433	0.3433	71.81	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.885	3860143	1.31	1.2343	7.168	7.168	0.1479	0.1479		
1,2,3,7,8,9-HxCDD	32.204	2263354	1.31	1.2467	4.161	4.161	0.1465	0.1465		M
A Non-2,3,7,8-sub-HxCDD	30.893	28280436	1.27	1.1438	56.7	56.7	0.1596	32.3		M
S Total HxCDD					69.5	69.5	0.1622	0.1622		
D 13C-1,2,3,4,6,7,8-HpCDF	33.783	25352720	0.43	0.7618	48.2	48.2	0.6862	0.6862	48.15	
1,2,3,4,6,7,8-HpCDF	33.795	9296948	1.07	1.6399	22.4	22.4	0.4137	0.4137		
1,2,3,4,7,8,9-HpCDF	34.864	267187	1.07	1.3302	0.7922	0.7922	0.5100	0.5100		
A Non-2,3,7,8-sub-HpCDF	34.305	7009575	1.07	1.4851	18.6	18.6	0.4569	18.6		M
S Total HpCDF					41.8	41.8	0.4619	0.4619		
1,2,3,4,6,7,8-HpCDD	34.584	21098431	1.05	0.9932	62.3	62.3	0.7957	0.7957		
D 13C-1,2,3,4,6,7,8-HpCDD	34.572	34106394	1.07	0.7762	63.6	63.6	0.4685	0.4685	63.58	
A Non-2,3,7,8-sub-HpCDD	34.286	21809202	1.05	0.9932	64.4	64.4	0.7957	64.4		
S Total HpCDD					126.7	126.7	0.7957	0.7957		
D 13C-OCDD	36.906	45807291	0.89	0.6314	105.0	105.0	0.2953	0.2953	52.49	
OCDF	37.014	3468482	0.88	1.3460	11.3	11.3	0.1075	0.1075		
OCDD	36.918	49225638	0.90	1.0604	202.7	202.7	0.3374	0.3374		

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 12:33:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Lims ID: 160-24924-G-8-A
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 11-Nov-2017 16:35:46 ALS Bottle#: 45 Worklist Smp#: 71
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-8-a 160-24924-g-8-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 12:32:59 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 12:32:59

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.929	17.914	1		38384349	9684839	12171	30427	796		
333.9339	17.929	17.914	1		49392684	12441601	7248	18120	1717	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.415	17.400	1	0.971	35859738	9099552	173666	434165	52		
317.9389	17.415	17.400	1	0.971	46659424	11803994	221537	553842	53	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.445	17.415	2	1.002	3364898	695436	7156	17890	97		
305.8987	17.445	17.415	2	1.002	4231391	928671	23342	58355	40	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	14.981	17.105	-127	0.860	729036	219292	7156	17890	31		
305.8987	14.981	17.105	-127	0.860	941548	283877	23342	58355	12	0.77(0.65-0.89)	
303.9016	15.328	17.105	-106	0.880	626186	190404	7156	17890	27		
305.8987	15.328	17.105	-106	0.880	737128	223548	23342	58355	10	0.85(0.65-0.89)	
303.9016	15.495	17.105	-96	0.890	603690	179854	7156	17890	25		
305.8987	15.495	17.105	-96	0.890	758371	226847	23342	58355	10	0.80(0.65-0.89)	
303.9016	15.752	17.105	-81	0.904	2187831	579654	7156	17890	81		
305.8987	15.737	17.105	-82	0.904	2878829	771790	23342	58355	33	0.76(0.65-0.89)	M
303.9016	15.828	17.105	-77	0.909	853809	209141	7156	17890	29		M
305.8987	15.828	17.105	-77	0.909	1130334	288116	23342	58355	12	0.76(0.65-0.89)	
303.9016	15.948	17.105	-69	0.916	1474710	216229	7156	17890	30		
305.8987	15.948	17.105	-69	0.916	1808053	278219	23342	58355	12	0.82(0.65-0.89)	
303.9016	16.296	17.105	-48	0.936	846152	254098	7156	17890	36		M
305.8987	16.296	17.105	-48	0.936	1049689	317291	23342	58355	14	0.81(0.65-0.89)	M

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	16.523	17.105	-35	0.949	2148514	516535	7156	17890	72		
305.8987	16.508	17.105	-36	0.948	2637725	650702	23342	58355	28	0.81(0.65-0.89)	
303.9016	16.719	17.105	-23	0.960	2485422	335553	7156	17890	47		
305.8987	16.719	17.105	-23	0.960	3055877	407963	23342	58355	17	0.81(0.65-0.89)	
303.9016	17.264	17.105	9	0.991	699649	166004	7156	17890	23		M
305.8987	17.264	17.105	9	0.991	784388	203380	23342	58355	9	0.89(0.65-0.89)	M
303.9016	17.868	17.105	46	1.026	1731791	403038	7156	17890	56		
305.8987	17.854	17.105	45	1.025	2034619	504365	23342	58355	22	0.85(0.65-0.89)	
303.9016	18.065	17.105	57	1.037	947132	203838	7156	17890	28		
	Empc Correction				778523	180000	7156	17890	25		
305.8987	18.065	17.105	57	1.037	1011069	233767	23342	58355	10	0.94(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.125	18.111	1	1.011	27401735	6500888	12171	30427	534		
333.9339	18.125	18.111	1	1.011	35480568	8408659	7248	18120	1160	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.141	18.126	1	1.001	151290	37177	2000	5000	19		
321.8936	18.141	18.126	1	1.001	206681	53552	2876	7190	19	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	15.903	17.559	-99	0.877	1121840	328995	2000	5000	164		
321.8936	15.903	17.559	-99	0.877	1423161	418970	2876	7190	146	0.79(0.65-0.89)	
319.8965	16.205	17.559	-81	0.894	461925	124259	2000	5000	62		
321.8936	16.190	17.559	-82	0.893	592672	160722	2876	7190	56	0.78(0.65-0.89)	
319.8965	16.432	17.559	-67	0.907	177514	46632	2000	5000	23		
321.8936	16.432	17.559	-67	0.907	232214	64179	2876	7190	22	0.76(0.65-0.89)	
319.8965	17.007	17.559	-33	0.938	674358	155579	2000	5000	78		
321.8936	17.007	17.559	-33	0.938	858286	199096	2876	7190	69	0.79(0.65-0.89)	
319.8965	17.249	17.559	-19	0.952	354996	37816	2000	5000	19		
321.8936	17.249	17.559	-19	0.952	532711	53036	2876	7190	18	0.67(0.65-0.89)	
319.8965	17.627	17.559	4	0.972	143974	35100	2000	5000	18		
321.8936	17.611	17.559	3	0.972	180374	46524	2876	7190	16	0.80(0.65-0.89)	
319.8965	17.914	17.559	21	0.988	180413	37351	2000	5000	19		
321.8936	17.914	17.559	21	0.988	227984	43426	2876	7190	15	0.79(0.65-0.89)	
319.8965	18.035	17.559	29	0.995	288103	66693	2000	5000	33		
321.8936	18.035	17.559	29	0.995	334415	78329	2876	7190	27	0.86(0.65-0.89)	
319.8965	18.307	17.559	45	1.010	45587	11521	2000	5000	6		
321.8936	18.307	17.559	45	1.010	55162	13766	2876	7190	5	0.83(0.65-0.89)	
319.8965	18.503	17.559	57	1.021	233635	51770	2000	5000	26		
321.8936	18.503	17.559	57	1.021	299324	69983	2876	7190	24	0.78(0.65-0.89)	
319.8965	18.746	17.559	71	1.034	49592	11292	2000	5000	6		
	Empc Correction				42591	11020	2000	5000	6		
321.8936	18.760	17.559	72	1.035	55314	14312	2876	7190	5	0.90(0.65-0.89)	
319.8965	19.244	17.559	101	1.062	52193	11866	2000	5000	6		
321.8936	19.260	17.559	102	1.063	73929	15493	2876	7190	5	0.71(0.65-0.89)	M
13C-1,2,3,7,8-PeCDF											
351.9000	22.465	22.437	2	1.253	41871076	7215358	10598	26495	681		
353.8970	22.465	22.437	2	1.253	26762515	4636687	7472	18680	621	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.492	22.465	2	1.001	821023	132354	4123	10307	32		
341.8567	22.492	22.465	2	1.001	505746	86081	3848	9620	22	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.855	23.815	2	1.062	1455411	225226	4123	10307	55		
341.8567	23.842	23.815	2	1.061	901351	147565	3848	9620	38	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.562	20.001	-26	0.871	2696047	571895	1116	2790	512		
341.8567	19.562	20.001	-26	0.871	1740022	352699	1794	4485	197	1.55(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	20.910	23.161	-135	0.931	617090	123929	4123	10307	30		
341.8567	20.924	23.161	-134	0.931	372646	80075	3848	9620	21	1.66(1.32-1.78)	
339.8597	21.115	23.161	-123	0.940	4566368	715709	4123	10307	174		
341.8567	21.115	23.161	-123	0.940	2815001	461089	3848	9620	120	1.62(1.32-1.78)	
339.8597	21.374	23.161	-107	0.951	899114	152655	4123	10307	37		
341.8567	21.374	23.161	-107	0.951	563384	94141	3848	9620	24	1.60(1.32-1.78)	
339.8597	21.933	23.161	-74	0.976	2431218	229593	4123	10307	56		
341.8567	21.933	23.161	-74	0.976	1508142	144057	3848	9620	37	1.61(1.32-1.78)	
339.8597	22.369	23.161	-47	0.996	428940	72344	4123	10307	18		
	Empc Correction				359183	70803	4123	10307	17		
341.8567	22.355	23.161	-48	0.995	231731	45680	3848	9620	12	1.85(1.32-1.78)	
339.8597	23.024	23.161	-8	1.025	900759	148967	4123	10307	36		
341.8567	23.024	23.161	-8	1.025	572751	98859	3848	9620	26	1.57(1.32-1.78)	
339.8597	24.128	23.161	58	1.074	2221049	309621	4123	10307	75		
341.8567	24.128	23.161	58	1.074	1340521	191090	3848	9620	50	1.66(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.551	24.524	2	1.369	32846054	5110337	4604	11510	1110		
369.8919	24.551	24.524	2	1.369	20620923	3157077	2485	6212	1270	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.578	24.551	2	1.001	482741	73841	2642	6605	28		
357.8516	24.578	24.551	2	1.001	288031	49927	4182	10455	12	1.68(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.319	23.419	-126	0.868	1764859	306128	2642	6605	116		
357.8516	21.333	23.419	-125	0.869	1447544	252123	4182	10455	60	1.22(1.32-1.78)	
	Empc Correction				1138618	197501	4182	10455	47		
355.8546	22.083	23.419	-80	0.899	373147	77661	2642	6605	29		
357.8516	22.083	23.419	-80	0.899	251568	50351	4182	10455	12	1.48(1.32-1.78)	
355.8546	22.519	23.419	-54	0.917	1090522	196606	2642	6605	74		
357.8516	22.519	23.419	-54	0.917	845991	126135	4182	10455	30	1.29(1.32-1.78)	
	Empc Correction				703562	126842	4182	10455	30		
355.8546	22.778	23.419	-38	0.928	625130	113810	2642	6605	43		
357.8516	22.778	23.419	-38	0.928	393375	71068	4182	10455	17	1.59(1.32-1.78)	
355.8546	23.078	23.419	-20	0.940	626183	108598	2642	6605	41		
357.8516	23.092	23.419	-20	0.941	376101	65690	4182	10455	16	1.66(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
355.8546	23.392	23.419	-2	0.953	231496	45385	2642	6605	17		
357.8516	23.392	23.419	-2	0.953	155085	31531	4182	10455	8	1.49(1.32-1.78)	
355.8546	23.569	23.419	9	0.960	682498	91793	2642	6605	35		
357.8516	23.583	23.419	10	0.961	447058	64176	4182	10455	15	1.53(1.32-1.78)	
355.8546	23.951	23.419	32	0.976	264814	48981	2642	6605	19		
357.8516	23.951	23.419	32	0.976	151207	27223	4182	10455	7	1.75(1.32-1.78)	
355.8546	24.892	23.419	88	1.014	253077	39732	2642	6605	15		
357.8516	24.878	23.419	87	1.013	165561	25483	4182	10455	6	1.53(1.32-1.78)	
355.8546	25.587	23.419	130	1.042	302988	41437	2642	6605	16		a
	Empc Correction				203057	36708	2642	6605	14		
357.8516	25.587	23.419	130	1.042	131005	23683	4182	10455	6	2.31(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.607	30.580	2	0.951	19631364	3879817	11623	29057	334		
385.8610	30.620	30.580	2	0.951	37807626	7368570	22518	56295	327	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											M
373.8208	30.607	30.607	0	1.000	1008107	280468	11865	29662	24		M
375.8178	30.620	30.607	1	1.000	755323	201534	9662	24155	21	1.33(1.05-1.43)	M
1,2,3,6,7,8-HxCDF											M
373.8208	30.806	30.780	2	1.007	1512196	326238	11865	29662	27		M
375.8178	30.806	30.780	2	1.007	1181903	253170	9662	24155	26	1.28(1.05-1.43)	M
2,3,4,6,7,8-HxCDF											
373.8208	31.605	31.578	2	1.033	1227112	327192	11865	29662	28		
375.8178	31.605	31.578	2	1.033	954977	257762	9662	24155	27	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.377	32.364	1	1.006	17528492	4571707	11623	29057	393		
385.8610	32.377	32.364	1	1.006	34068777	8832661	22518	56295	392	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.377						11865	29662			
375.8178	32.377						9662	24155			
A Non-2,3,7,8-sub-HxCDF											RM
373.8208	28.118	30.254	-128	0.919	1417575	186060	11865	29662	16		
375.8178	28.131	30.254	-127	0.919	1104854	145635	9662	24155	15	1.28(1.05-1.43)	
373.8208	28.517	30.254	-104	0.932	4543216	568516	11865	29662	48		
375.8178	28.517	30.254	-104	0.932	3739009	465870	9662	24155	48	1.22(1.05-1.43)	
373.8208	29.848	30.254	-24	0.975	2275151	350678	11865	29662	30		
375.8178	29.848	30.254	-24	0.975	1705446	255271	9662	24155	26	1.33(1.05-1.43)	
373.8208	30.580	30.254	20	0.999	1581210	332610	11865	29662	28		M
375.8178	30.567	30.254	19	0.999	1253792	276184	9662	24155	29	1.26(1.05-1.43)	
373.8208	30.966	30.254	43	1.012	81016	20797	11865	29662	2		M
375.8178	30.966	30.254	43	1.012	48975	13446	9662	24155	1	1.65(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.191	32.177	1		38138276	10060268	12469	31172	807		
403.8529	32.191	32.177	1		30974108	7984514	9314	23285	857	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.778	31.765	1	0.997	348867	100913	3314	8285	30		
391.8127	31.778	31.765	1	0.997	264508	75258	4662	11655	16	1.32(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.871	31.858	1	0.990	24181065	6037872	12469	31172	484		
403.8529	31.871	31.858	1	0.990	19445494	4882685	9314	23285	524	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.885	31.871	1	1.000	2186929	574274	3314	8285	173		
391.8127	31.885	31.871	1	1.000	1673214	448125	4662	11655	96	1.31(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8157	32.204	32.190	1	1.010	1285428	331601	3314	8285	100		M
391.8127	32.204	32.190	1	1.010	977926	266346	4662	11655	57	1.31(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											M
389.8157	29.715	30.893	-71	0.932	3363461	441755	3314	8285	133		
391.8127	29.701	30.893	-71	0.932	2711196	372894	4662	11655	80	1.24(1.05-1.43)	
389.8157	30.687	30.893	-12	0.963	2499680	502773	3314	8285	152		
391.8127	30.687	30.893	-12	0.963	1975900	388454	4662	11655	83	1.27(1.05-1.43)	
389.8157	31.046	30.893	9	0.974	9036041	1862381	3314	8285	562		
391.8127	31.046	30.893	9	0.974	7078015	1462600	4662	11655	314	1.28(1.05-1.43)	
389.8157	31.246	30.893	21	0.980	512679	82582	3314	8285	25		
391.8127	31.246	30.893	21	0.980	397075	76221	4662	11655	16	1.29(1.05-1.43)	
389.8157	32.177	30.893	77	1.010	401300	227479	3314	8285	69		M
391.8127	32.177	30.893	77	1.010	305089	175663	4662	11655	38	1.32(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.783	33.770	1	1.049	7598622	2208045	11665	29162	189		
419.8220	33.783	33.770	1	1.049	17754098	5241170	26068	65170	201	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.795	33.783	1	1.000	4798947	1526199	11812	29530	129		
409.7789	33.795	33.783	1	1.000	4498001	1418530	8404	21010	169	1.07(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.864	34.852	1	1.032	137848	40443	11812	29530	3		
409.7789	34.864	34.852	1	1.032	129339	35738	8404	21010	4	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.086	34.305	-13	1.009	3620561	1264786	11812	29530	107		M
409.7789	34.086	34.305	-13	1.009	3389014	1177668	8404	21010	140	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.584	34.560	1	1.000	10795424	3169042	15479	38697	205		
425.7737	34.584	34.560	1	1.000	10303007	2928858	15982	39955	183	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.572	34.560	1	1.074	17608756	5168690	15660	39150	330		
437.8140	34.572	34.560	1	1.074	16497638	4783429	10590	26475	452	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.026	34.286	-16	0.984	11195151	3347241	15479	38697	216		
425.7737	34.026	34.286	-16	0.984	10614051	3256965	15982	39955	204	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.906	36.894	1	1.146	21610704	5396410	8406	21015	642		
471.7750	36.906	36.894	1	1.146	24196587	6105855	5052	12630	1209	0.89(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDF											
441.7428	37.014	36.990	1	1.003	1622036	355126	1492	3730	238		
443.7399	37.014	36.990	1	1.003	1846446	399990	1837	4592	218	0.88(0.76-1.02)	
OCDD											
457.7377	36.918	36.894	1	1.000	23365388	6035177	4424	11060	1364		
459.7348	36.918	36.894	1	1.000	25860250	6543590	3807	9517	1719	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Report Date: 13-Nov-2017 12:33:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Lims ID:	160-24924-G-8-A		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	11-Nov-2017 16:35:46	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	71

Non-2,3,7,8-sub-TCDF, RT: 17.105

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	100.000	82519162	20903546

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	82519162	20903546

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
14.981	729036	219292	941548	283877	1.79	0.77	
15.328	626186	190404	737128	223548	1.46	0.85	
15.495	603690	179854	758371	226847	1.46	0.80	
15.752	2187831	579654	2878829	771790	5.41	0.76	M
15.828	853809	209141	1130334	288116	2.12	0.76	M
15.948	1474710	216229	1808053	278219	3.51	0.82	
16.296	846152	254098	1049689	317291	2.03	0.81	M
16.523	2148514	516535	2637725	650702	5.11	0.81	
16.719	2485422	335553	3055877	407963	5.92	0.81	
17.264	699649	166004	784388	203380	1.59	0.89	M
17.868	1731791	403038	2034619	504365	4.02	0.85	
18.065	947132	203838	1011069	233767	2.09	0.94	RQ
18.065	778523	180000	1011069	233767	1.91		Empc Correction
Signal Totals:							
	15165313	3449802	18827630	4389865			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	34161552	7863505				0.81	RQM
	33992943	7839667					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 36.502 = (34161552 * 100.000) / (82519162 * 1.134)
Empc Amount: 36.322 = (33992943 * 100.000) / (82519162 * 1.134)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 12:33:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Lims ID: 160-24924-G-8-A
Client ID: SHAD041DP022SS02NS
Inject. Date: 11-Nov-2017 16:35:46 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 71

Non-2,3,7,8-sub-TCDD, RT: 17.559

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	62882303	14909547

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	62882303	14909547

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.903	1121840	328995	1423161	418970	4.05	0.79	
16.205	461925	124259	592672	160722	1.68	0.78	
16.432	177514	46632	232214	64179	0.6520	0.76	
17.007	674358	155579	858286	199096	2.44	0.79	
17.249	354996	37816	532711	53036	1.41	0.67	
17.627	143974	35100	180374	46524	0.5161	0.80	
17.914	180413	37351	227984	43426	0.6499	0.79	
18.035	288103	66693	334415	78329	0.99	0.86	
18.307	45587	11521	55162	13766	0.1603	0.83	
18.503	233635	51770	299324	69983	0.8481	0.78	
18.746	49592	11292	55314	14312	0.1669	0.90	RQ
18.746	42591	11020	55314	14312	0.1558		Empc Correction
19.244	52193	11866	73929	15493	0.2007	0.71	M
Signal Totals:							
	3777129	918602	4865546	1177836			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8649676	2096710				0.78	RQM
	8642675	2096438					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 13.765 = (8649676 * 100.000) / (62882303 * 0.999)
Empc Amount: 13.753 = (8642675 * 100.000) / (62882303 * 0.999)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Lims ID:	160-24924-G-8-A		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	11-Nov-2017 16:35:46	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	71

F1 PeCDFs, RT: 20.001

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	68633591	11852045
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	68633591	11852045

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.562	2696047	571895	1740022	352699	5.61	1.55	
Signal Totals:							
	2696047	571895	1740022	352699			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4436069	924594				1.55	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.615 = (4436069 * 100.000) / (68633591 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Lims ID: 160-24924-G-8-A
Client ID: SHAD041DP022SS02NS
Inject. Date: 11-Nov-2017 16:35:46
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194085
Lims Sample ID: 71

Non-2,3,7,8-sub-PeCDF, RT: 23.161

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	68633591	11852045
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	68633591	11852045

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.910	617090	123929	372646	80075	1.25	1.66	
21.115	4566368	715709	2815001	461089	9.34	1.62	
21.374	899114	152655	563384	94141	1.85	1.60	
21.933	2431218	229593	1508142	144057	4.99	1.61	
22.369	428940	72344	231731	45680	0.8362	1.85	RQ
22.369	359183	70803	231731	45680	0.7479		Empc Correction
23.024	900759	148967	572751	98859	1.87	1.57	
24.128	2221049	309621	1340521	191090	4.51	1.66	
Signal Totals:							
	11994781	1751277	7404176	1114991			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	19468714	2867809				1.63	RQ
	19398957	2866268					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 24.642 = (19468714 * 100.000) / (68633591 * 1.151)
Empc Amount: 24.554 = (19398957 * 100.000) / (68633591 * 1.151)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Lims ID: 160-24924-G-8-A
Client ID: SHAD041DP022SS02NS
Inject. Date: 11-Nov-2017 16:35:46
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194085
Lims Sample ID: 71

Non-2,3,7,8-sub-PeCDD, RT: 23.419

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	53466977	8267414

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	53466977	8267414

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.319	1764859	306128	1447544	252123	6.33	1.22	RQ
21.319	1764859	306128	1138618	197501	5.72		Empc Correction
22.083	373147	77661	251568	50351	1.23	1.48	
22.519	1090522	196606	845991	126135	3.82	1.29	RQ
22.519	1090522	196606	703562	126842	3.54		Empc Correction
22.778	625130	113810	393375	71068	2.01	1.59	
23.078	626183	108598	376101	65690	1.98	1.66	
23.392	231496	45385	155085	31531	0.7619	1.49	
23.569	682498	91793	447058	64176	2.23	1.53	
23.951	264814	48981	151207	27223	0.8199	1.75	
24.892	253077	39732	165561	25483	0.8251	1.53	
25.587	302988	41437	131005	23683	0.8553	2.31	RQ
25.587	203057	36708	131005	23683	0.6584		Empc Correction
Signal Totals:							
	6114783	1065402	3913140	683548			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10579209	1807594				1.42	RQ
	10027923	1748950					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 20.850 = (10579209 * 100.000) / (53466977 * 0.949)
Empc Amount: 19.764 = (10027923 * 100.000) / (53466977 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Lims ID:	160-24924-G-8-A		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	11-Nov-2017 16:35:46	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	71

Non-2,3,7,8-sub-HxCDF, RT: 30.254

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	57438990	11248387
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	57438990	11248387

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.118	1417575	186060	1104854	145635	2.91	1.28	
28.517	4543216	568516	3739009	465870	9.57	1.22	
29.848	2275151	350678	1705446	255271	4.60	1.33	
30.580	1581210	332610	1253792	276184	3.28	1.26	M
30.966	81016	20797	48975	13446	0.1502	1.65	RnM
Signal Totals:							
	9898168	1458661	7852076	1156406			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	17750244	2615067				1.26	RM

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 20.510 = (17750244 * 100.000) / (57438990 * 1.507)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
n - Failed Sig-To-Noise Test

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Lims ID:	160-24924-G-8-A		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	11-Nov-2017 16:35:46	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	71

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	43626559	10920557
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	43626559	10920557

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.715	3363461	441755	2711196	372894	12.2	1.24	
30.687	2499680	502773	1975900	388454	8.97	1.27	
31.046	9036041	1862381	7078015	1462600	32.3	1.28	
31.246	512679	82582	397075	76221	1.82	1.29	
32.177	401300	227479	305089	175663	1.42	1.32	M
Signal Totals:							
	15813161	3116970	12467275	2475832			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	28280436	5592802				1.27	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 56.673 = (28280436 * 100.000) / (43626559 * 1.144)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Lims ID:	160-24924-G-8-A		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	11-Nov-2017 16:35:46	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	71

Non-2,3,7,8-sub-HpCDF, RT: 34.305

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	25352720	7449215
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	25352720	7449215

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.086	3620561	1264786	3389014	1177668	18.6	1.07	M
Signal Totals:							
	3620561	1264786	3389014	1177668			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7009575	2442454				1.07	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 18.617 = (7009575 * 100.000) / (25352720 * 1.485)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Lims ID:	160-24924-G-8-A		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	11-Nov-2017 16:35:46	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	71

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	34106394	9952119

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	34106394	9952119

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.026	11195151	3347241	10614051	3256965	64.4	1.05	
Signal Totals:							
	11195151	3347241	10614051	3256965			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	21809202	6604206				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 64.384 = (21809202 * 100.000) / (34106394 * 0.993)

TestAmerica Sacramento

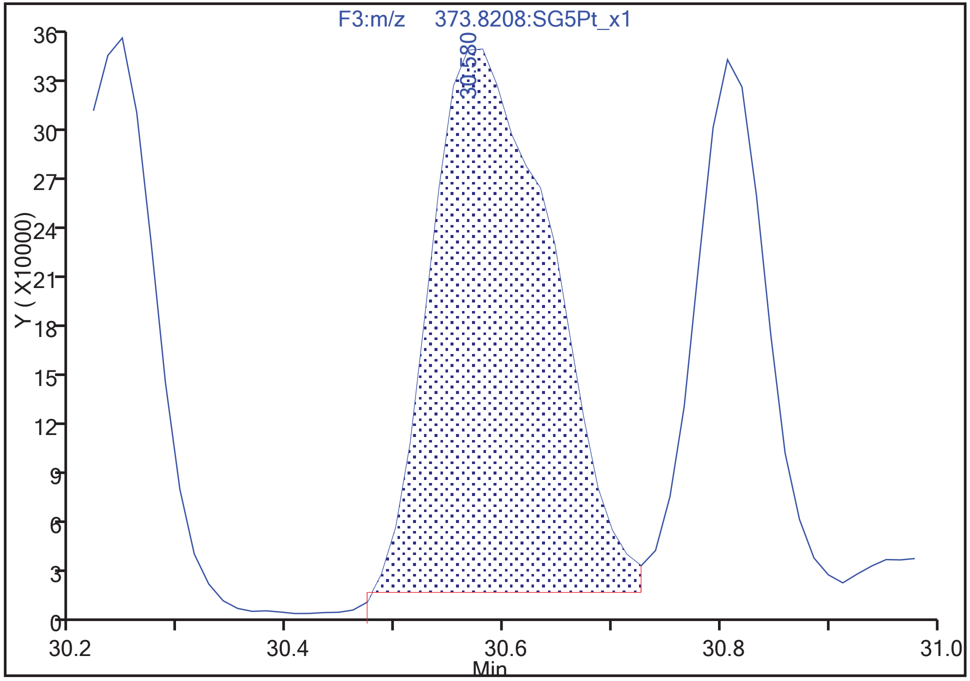
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d				
Injection Date:	11-Nov-2017 16:35:46	Instrument ID:	10D5		
Lims ID:	160-24924-G-8-A	Lab Sample ID:	320-24924-8		
Client ID:	SHAD041DP022SS02NS				
Operator ID:	AJS	ALS Bottle#:	45	Worklist Smp#:	71
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

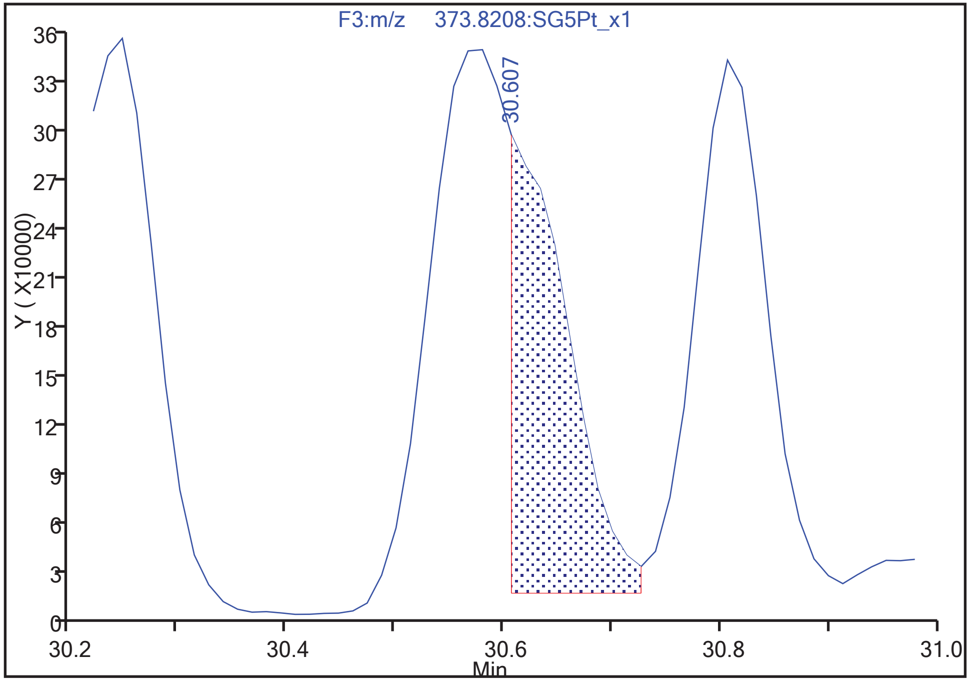
Processing Integration Results

RT: 30.58
Area: 2589318
Amount: 5.713356
Amount Units: pg/ul



Manual Integration Results

RT: 30.61
Area: 1008107
Amount: 2.190986
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 12:28:04
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

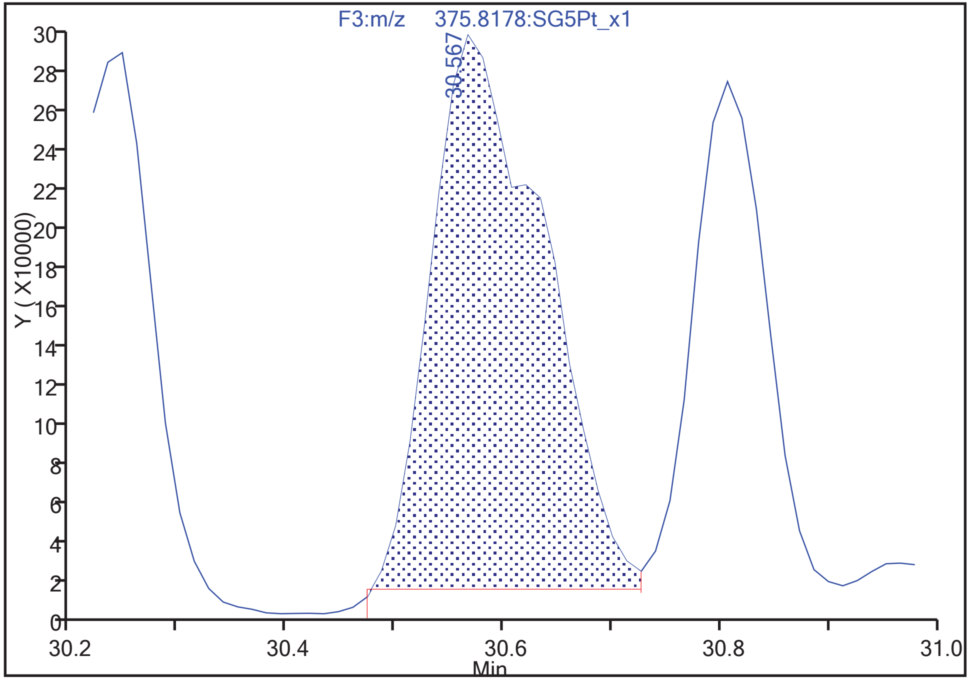
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Instrument ID:	10D5
Lims ID:	160-24924-G-8-A	Lab Sample ID:	320-24924-8
Client ID:	SHAD041DP022SS02NS		
Operator ID:	AJS	ALS Bottle#:	45 Worklist Smp#: 71
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

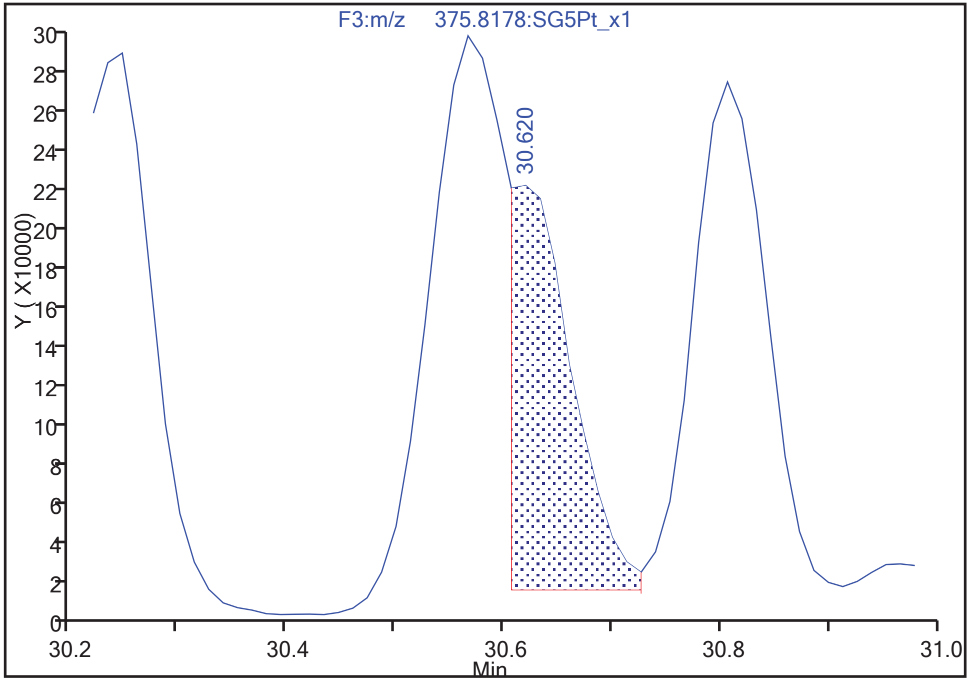
RT:	30.57
Area:	2009116
Amount:	5.713356
Amount Units:	pg/ul

Processing Integration Results



RT:	30.62
Area:	755323
Amount:	2.190986
Amount Units:	pg/ul

Manual Integration Results



Reviewer: dadunj, 13-Nov-2017 12:28:08

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 12:33:01

Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

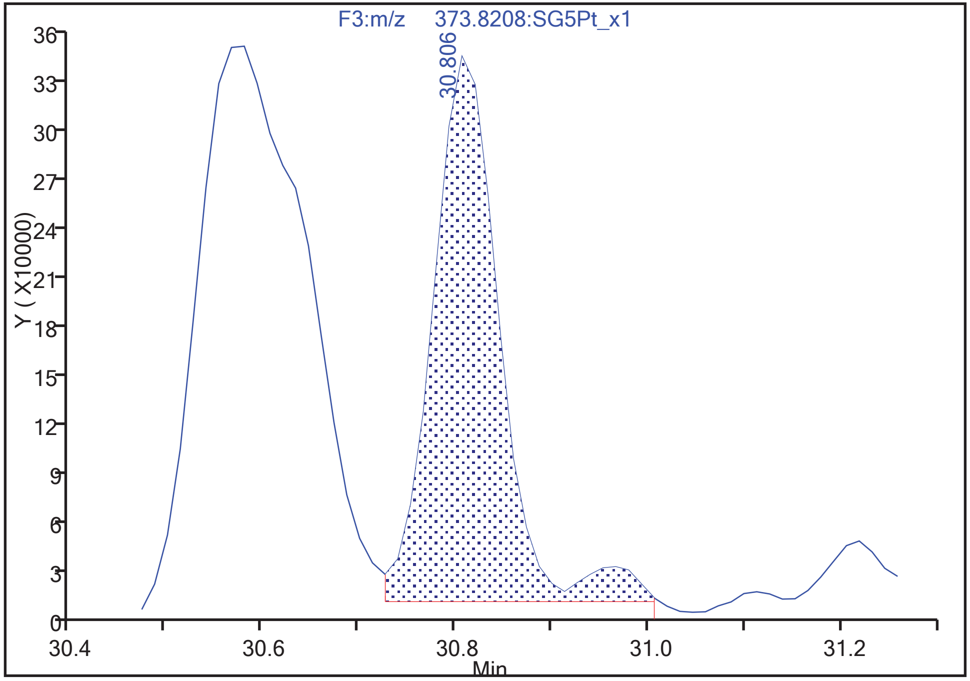
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Injection Date: 11-Nov-2017 16:35:46
Instrument ID: 10D5
Lims ID: 160-24924-G-8-A
Lab Sample ID: 320-24924-8
Client ID: SHAD041DP022SS02NS
Operator ID: AJS
ALS Bottle#: 45
Worklist Smp#: 71
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Column: DB-5 (0.32 mm)
Detector F3:HRSIR

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

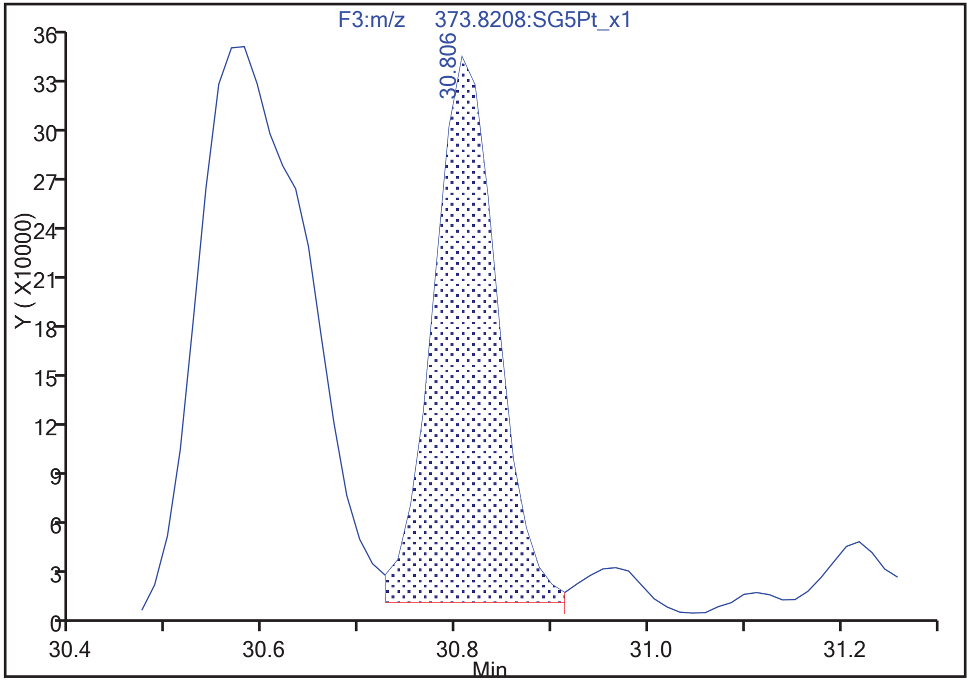
Processing Integration Results

RT: 30.81
Area: 1593212
Amount: 2.900530
Amount Units: pg/ul



Manual Integration Results

RT: 30.81
Area: 1512196
Amount: 2.767019
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 12:28:19
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

Report Date: 13-Nov-2017 12:33:01   Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d

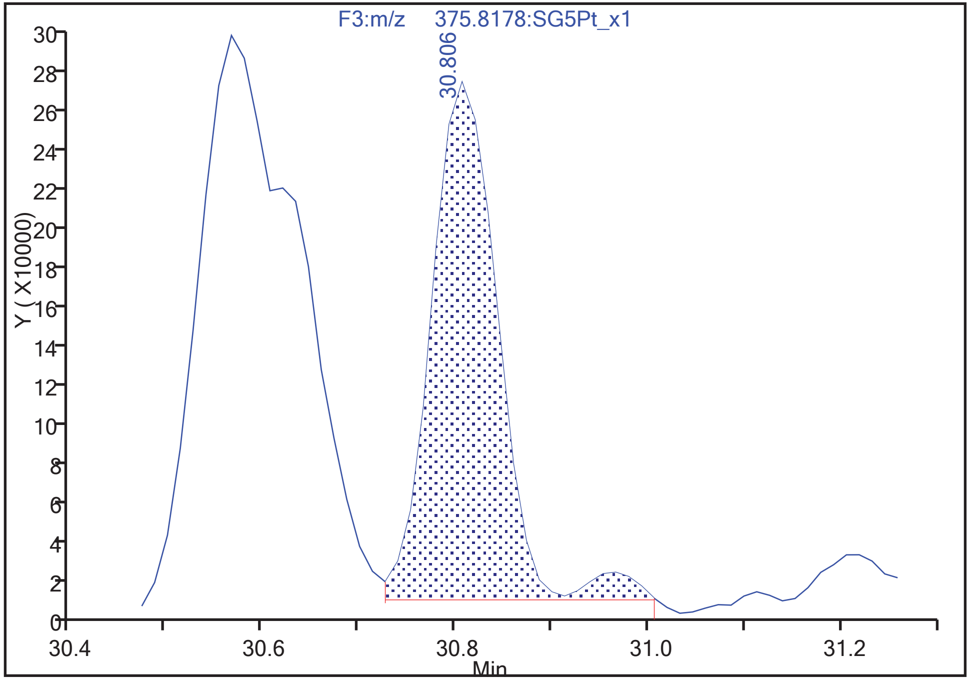
Injection Date:	11-Nov-2017 16:35:46	Instrument ID:	10D5		
Lims ID:	160-24924-G-8-A	Lab Sample ID:	320-24924-8		
Client ID:	SHAD041DP022SS02NS				
Operator ID:	AJS	ALS Bottle#:	45	Worklist Smp#:	71
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

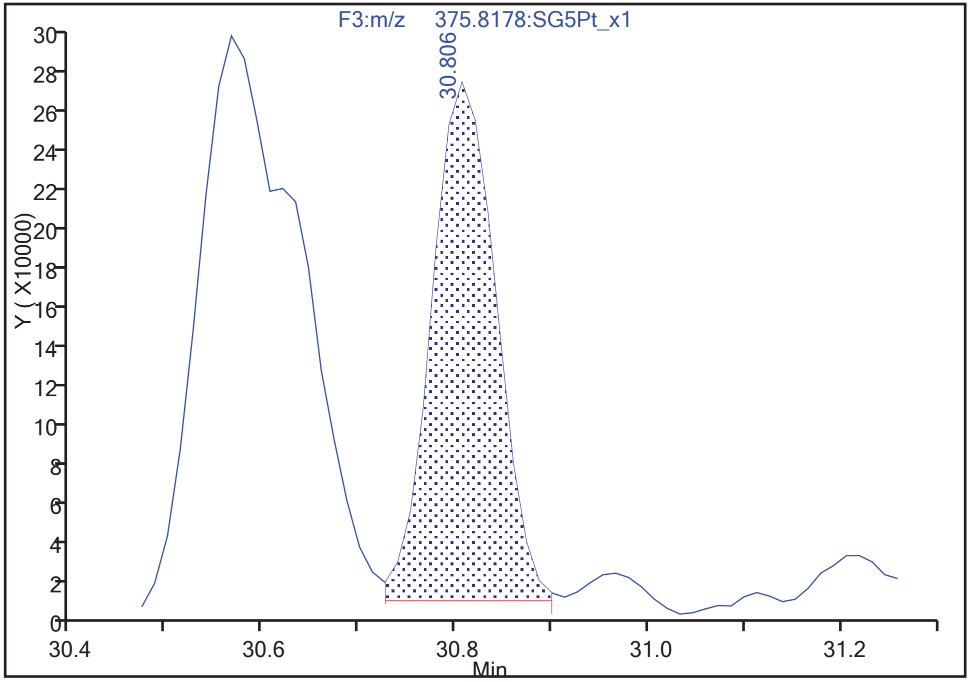
Processing Integration Results

RT:	30.81
Area:	1230879
Amount:	2.900530
Amount Units:	pg/ul



Manual Integration Results

RT:	30.81
Area:	1181903
Amount:	2.767019
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 12:28:21

Audit Action: Split an Integrated Peak   Audit Reason: Split Peak

Report Date: 13-Nov-2017 12:33:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

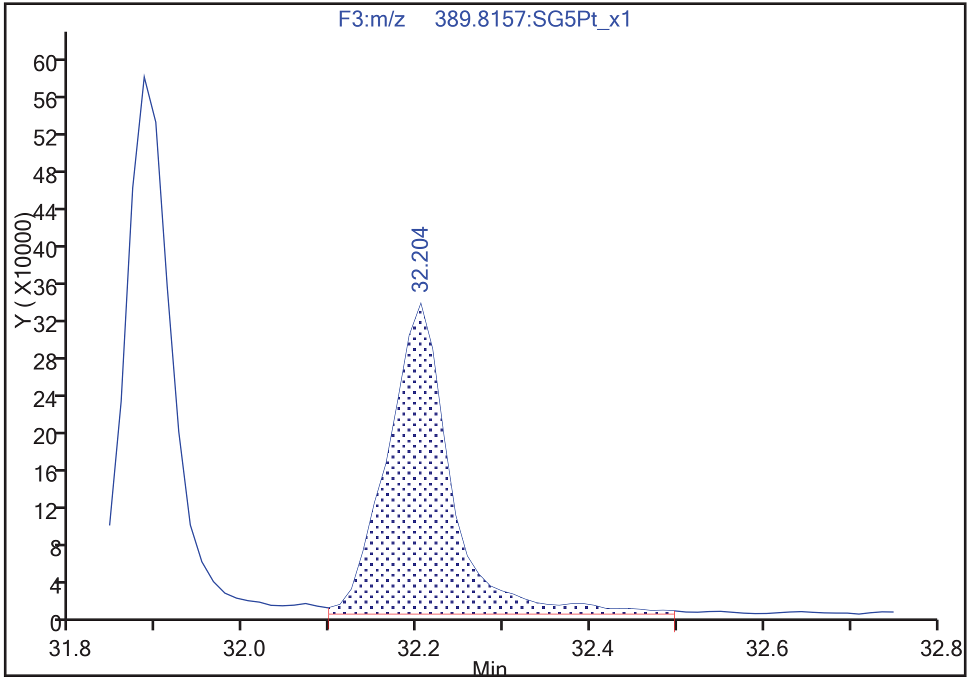
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d				
Injection Date:	11-Nov-2017 16:35:46	Instrument ID:	10D5		
Lims ID:	160-24924-G-8-A	Lab Sample ID:	320-24924-8		
Client ID:	SHAD041DP022SS02NS				
Operator ID:	AJS	ALS Bottle#:	45	Worklist Smp#:	71
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

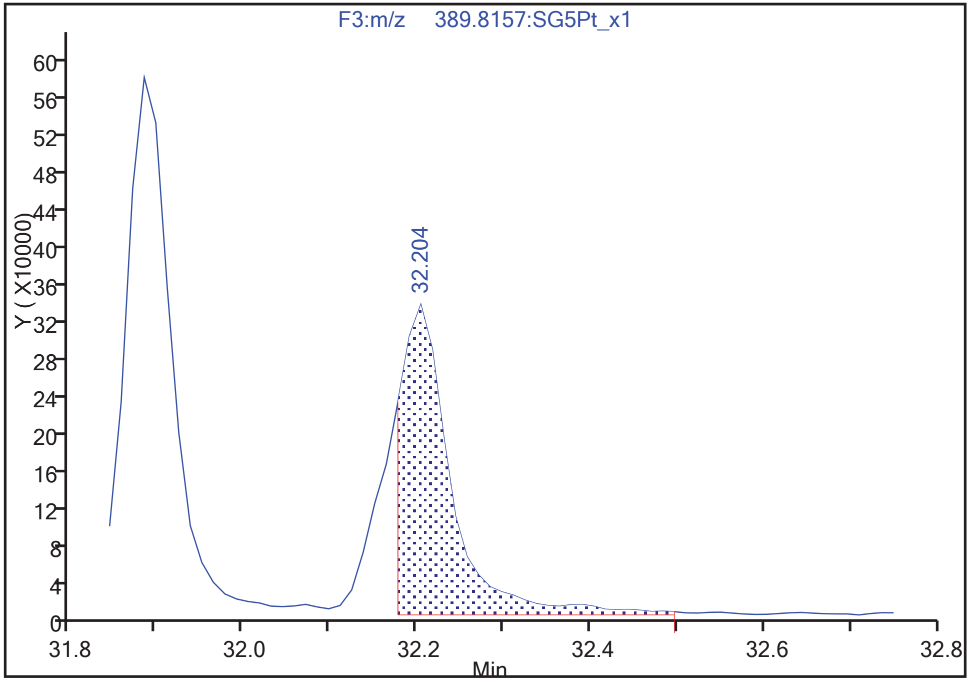
Processing Integration Results

RT:	32.20
Area:	1686729
Amount:	5.460219
Amount Units:	pg/ul



Manual Integration Results

RT:	32.20
Area:	1285428
Amount:	4.161438
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 12:29:28

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

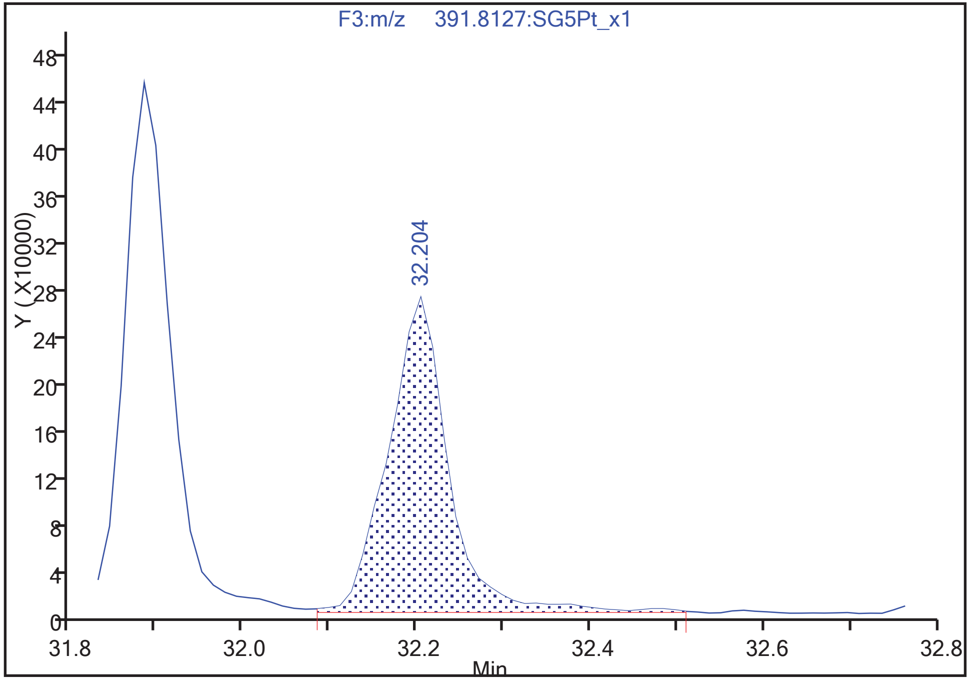
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d				
Injection Date:	11-Nov-2017 16:35:46	Instrument ID:	10D5		
Lims ID:	160-24924-G-8-A	Lab Sample ID:	320-24924-8		
Client ID:	SHAD041DP022SS02NS				
Operator ID:	AJS	ALS Bottle#:	45	Worklist Smp#:	71
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

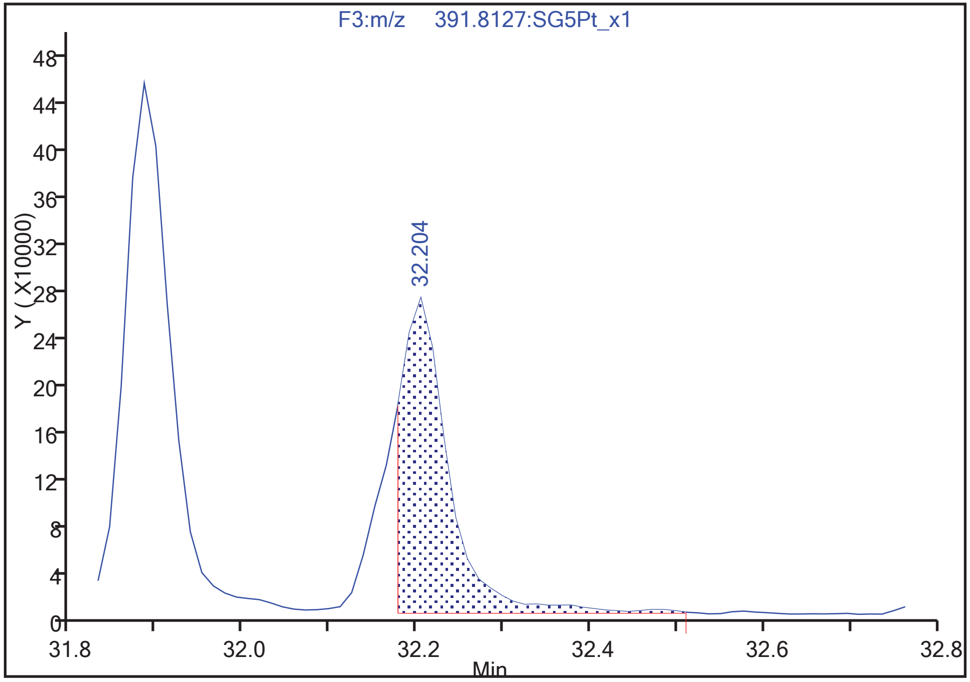
Processing Integration Results

RT:	32.20
Area:	1283016
Amount:	5.460219
Amount Units:	pg/ul



Manual Integration Results

RT:	32.20
Area:	977926
Amount:	4.161438
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 12:29:30

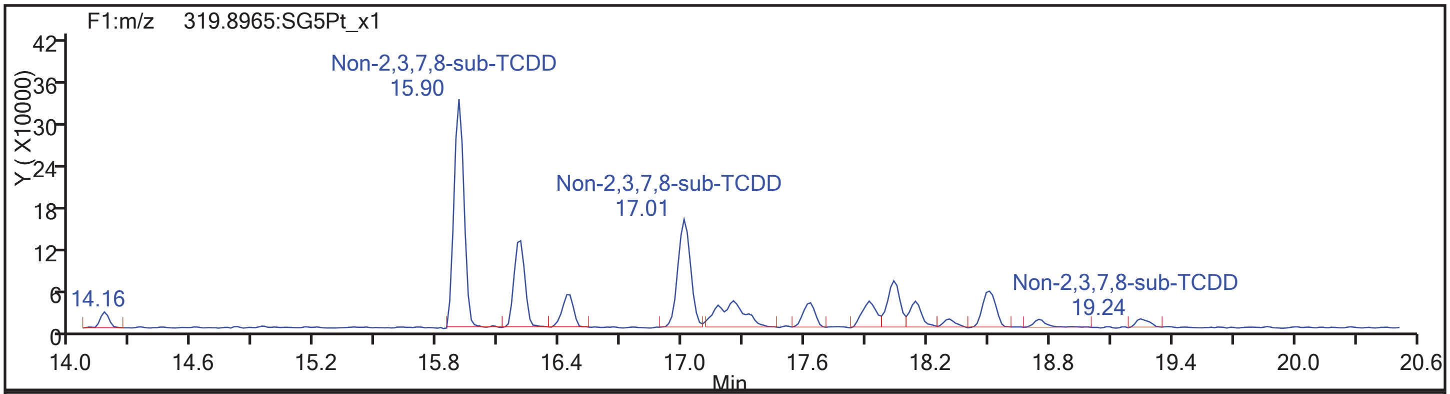
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

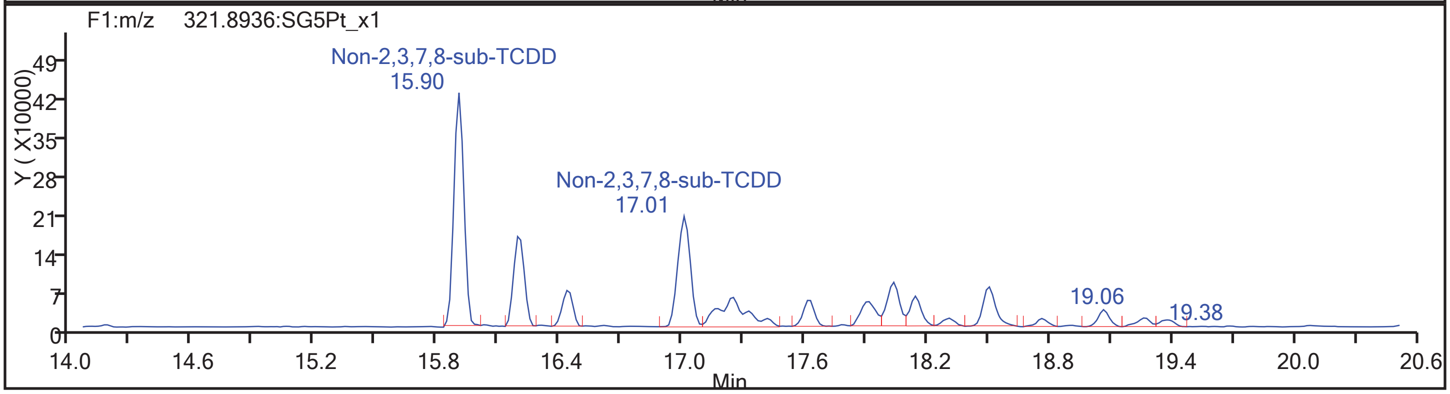
Report Date: 13-Nov-2017 12:33:02
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

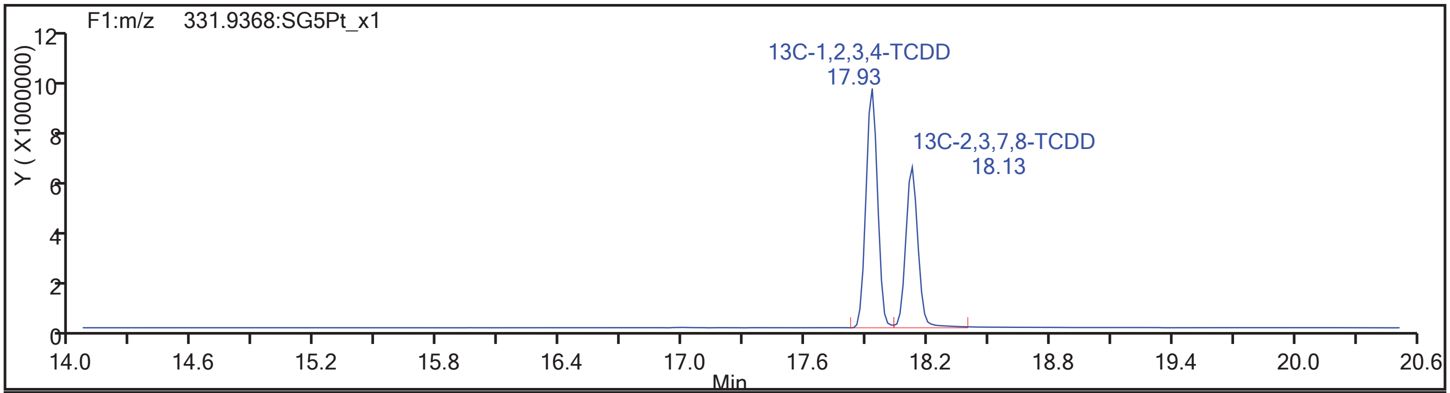
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Injection Date: 11-Nov-2017 16:35:46
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 194085
Sample Line#: 71
Column Type: DB-5
Column Dia: 0.32 mm

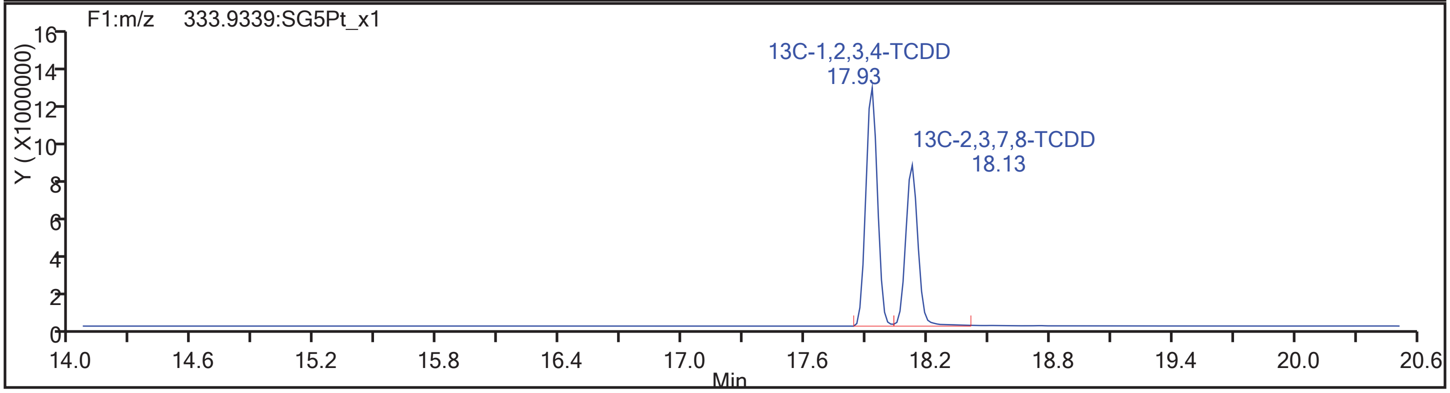
TCDD





TCDD Standards



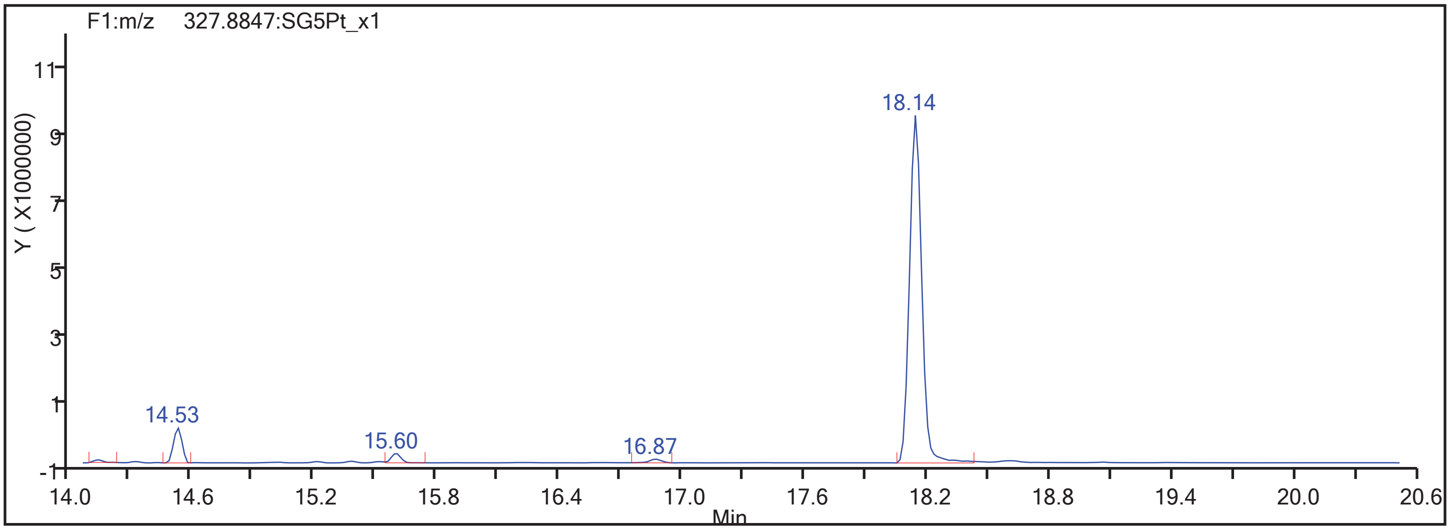


Report Date: 13-Nov-2017 12:33:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

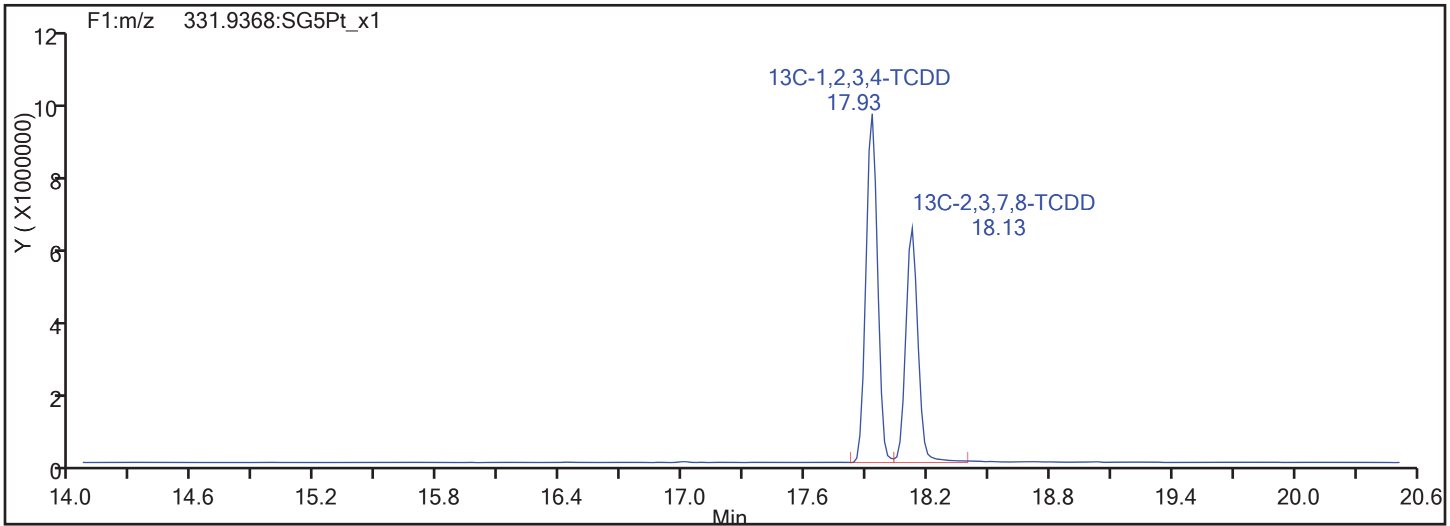
TestAmerica Sacramento

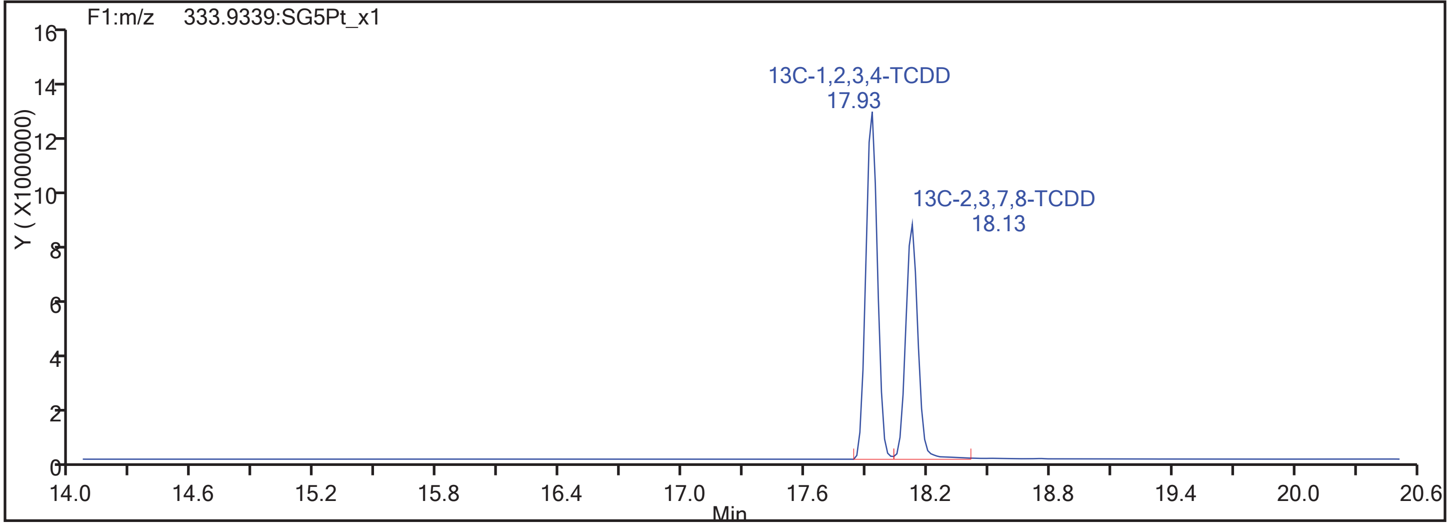
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards

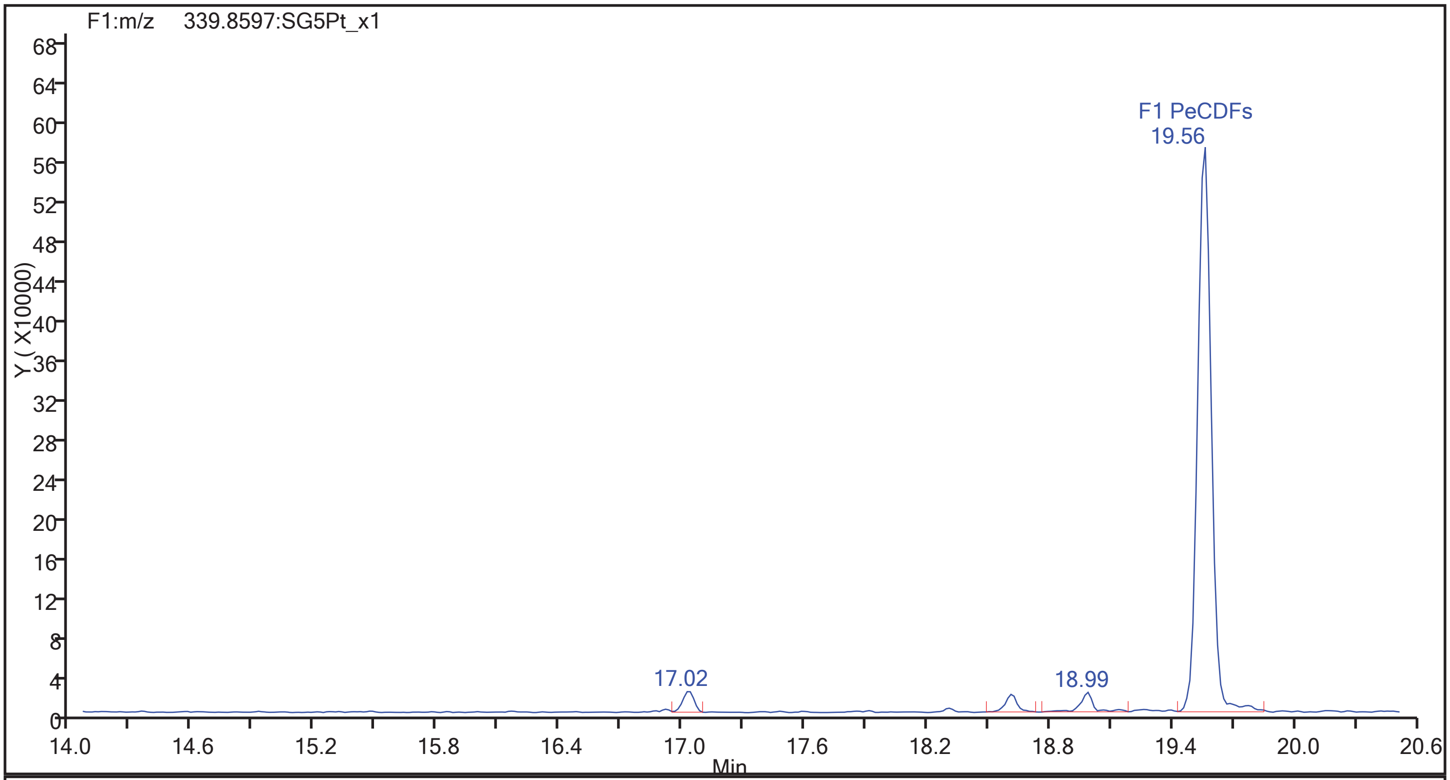


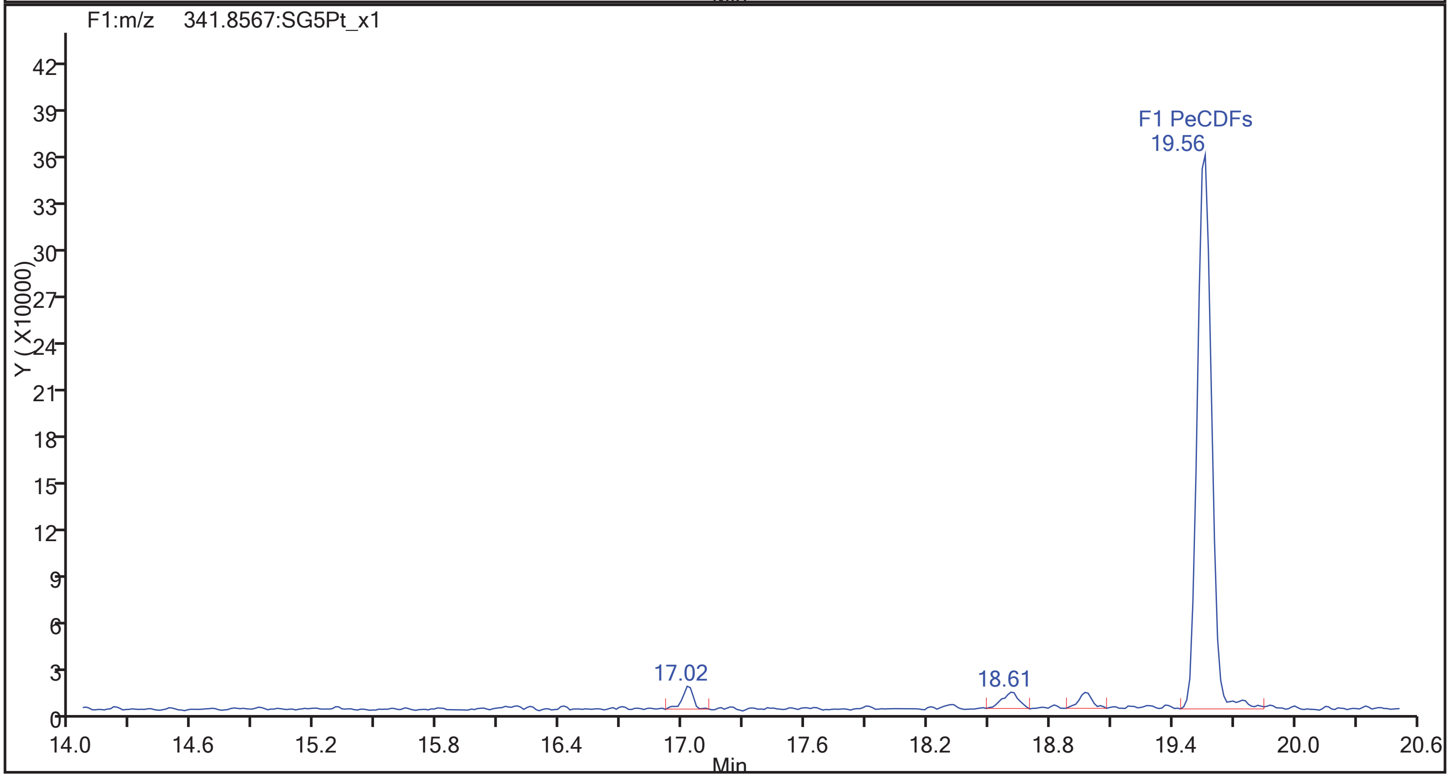


TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



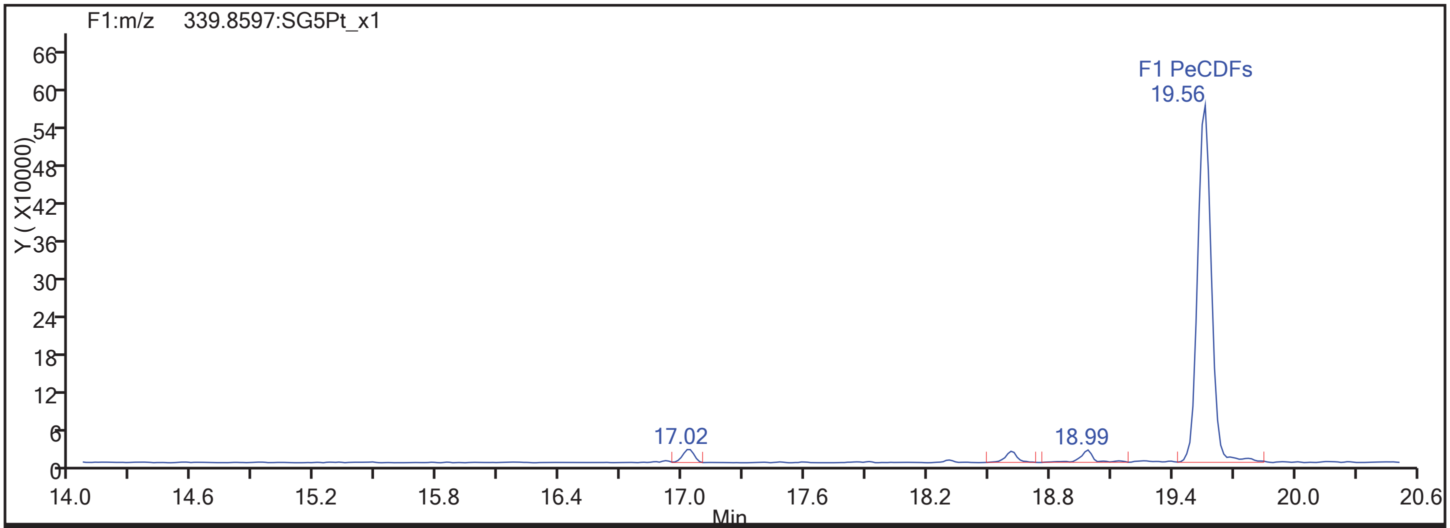


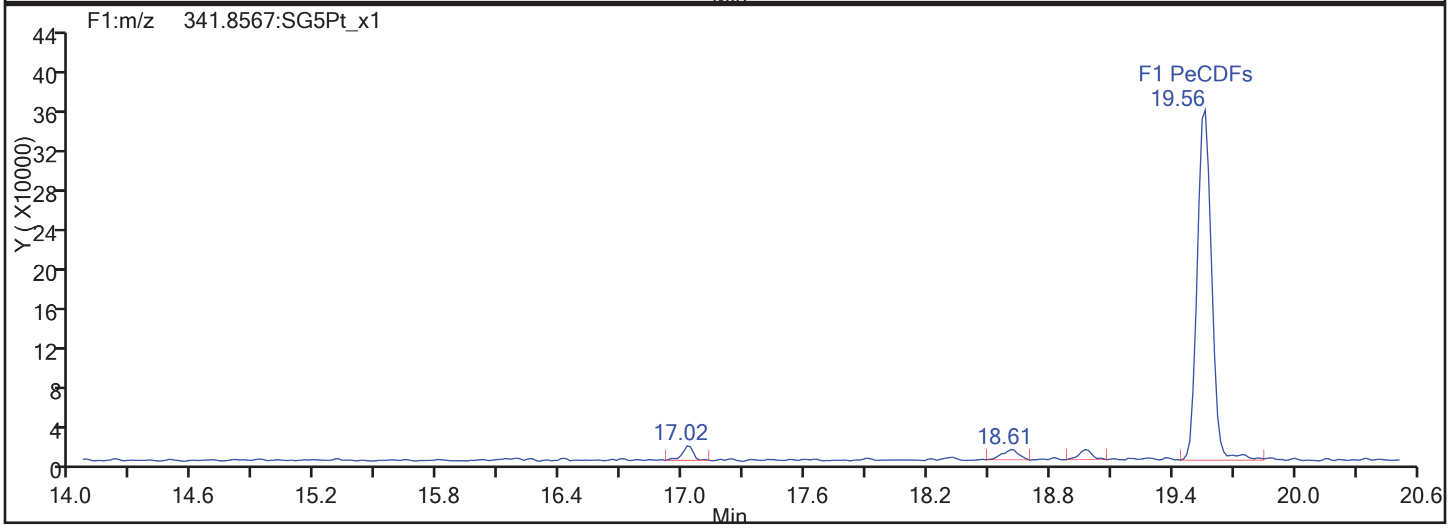
Report Date: 13-Nov-2017 12:33:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

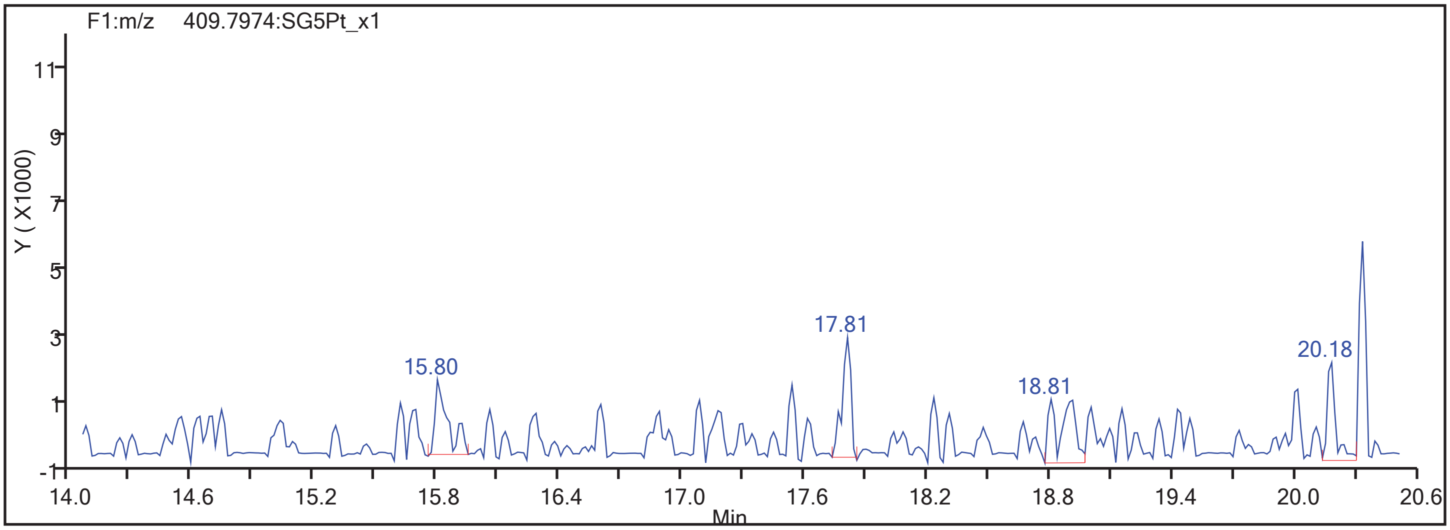
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

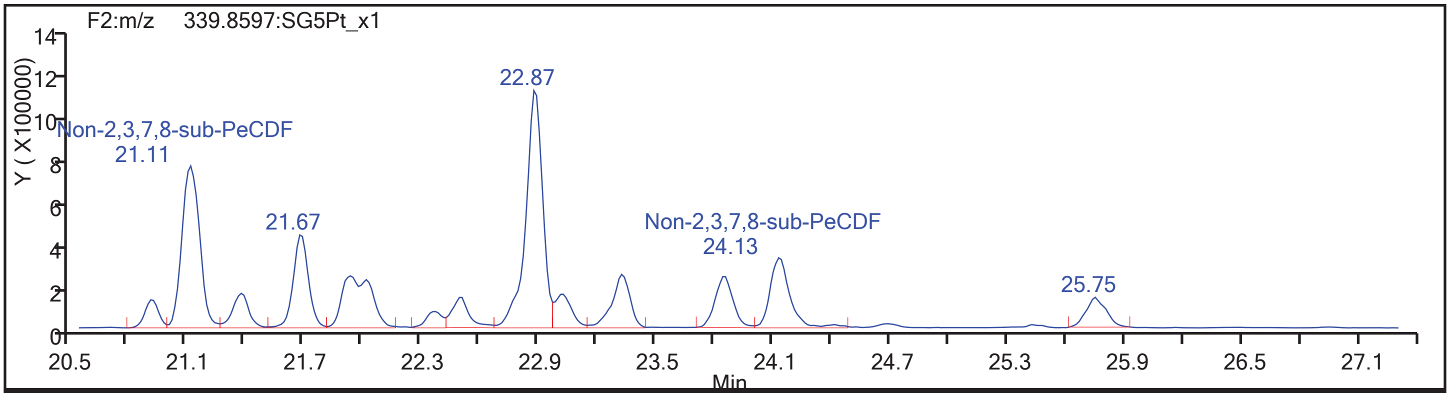


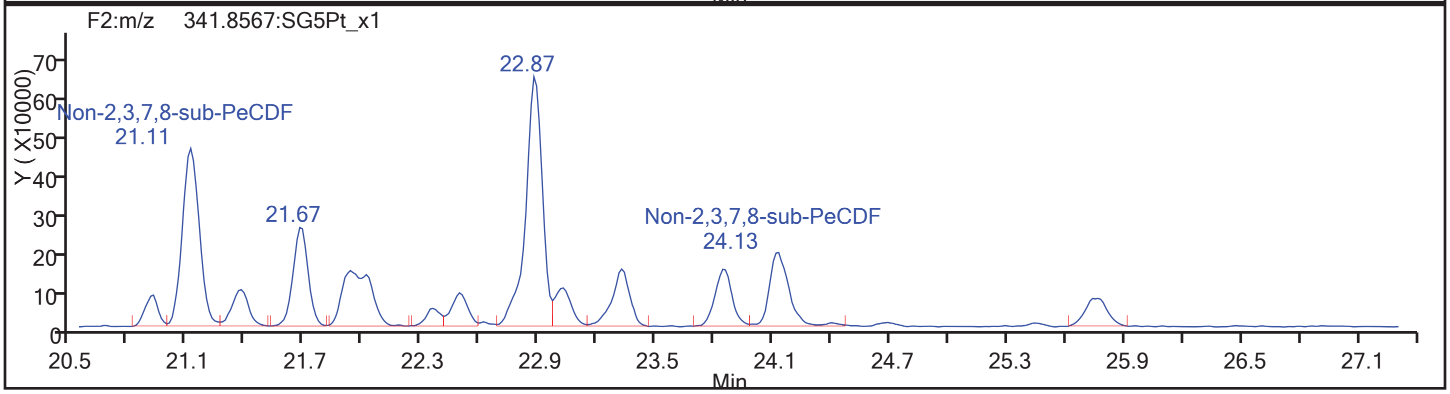
Report Date: 13-Nov-2017 12:33:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

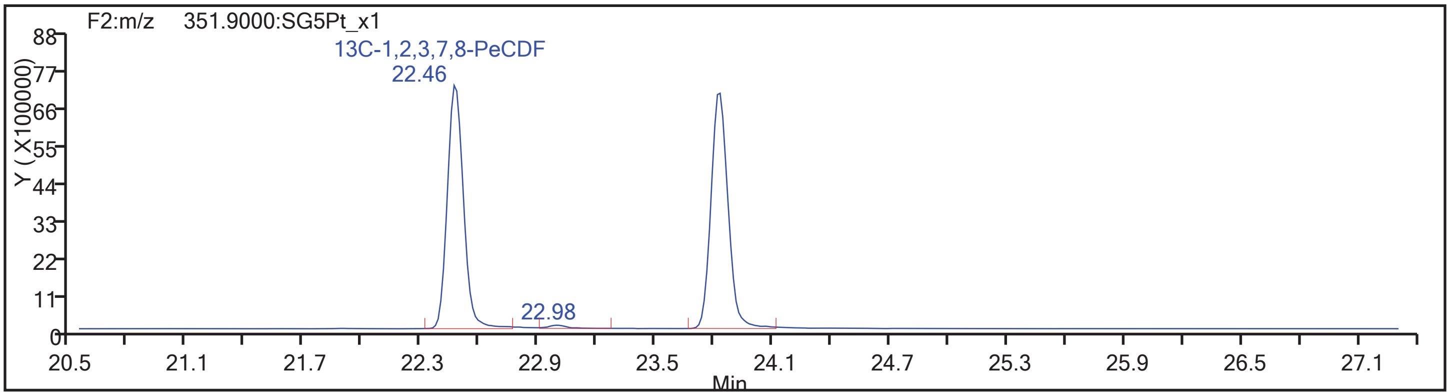
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Injection Date: 11-Nov-2017 16:35:46 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 194085 Sample Line#: 71
Column Type: DB-5 Column Dia: 0.32 mm

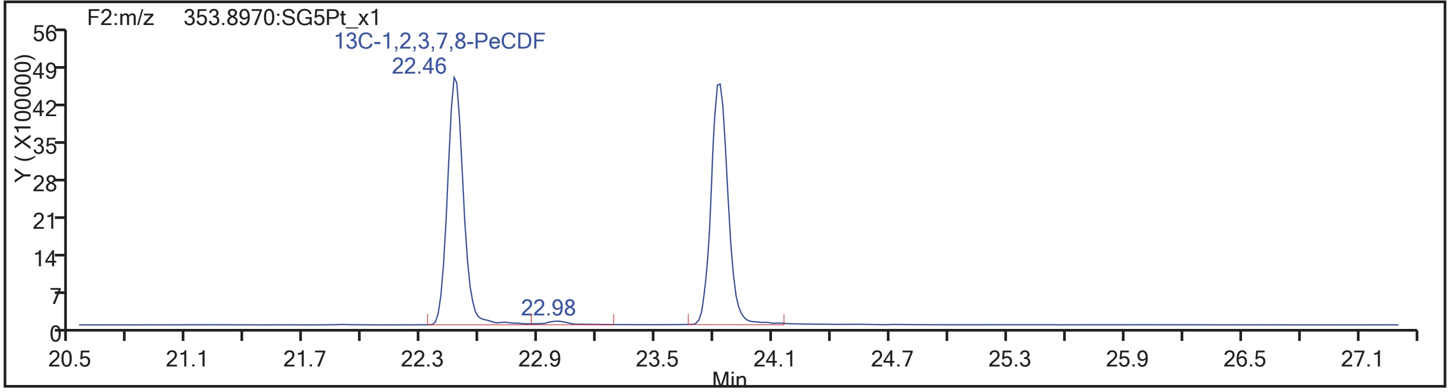
PeCDF





PeCDF Standards



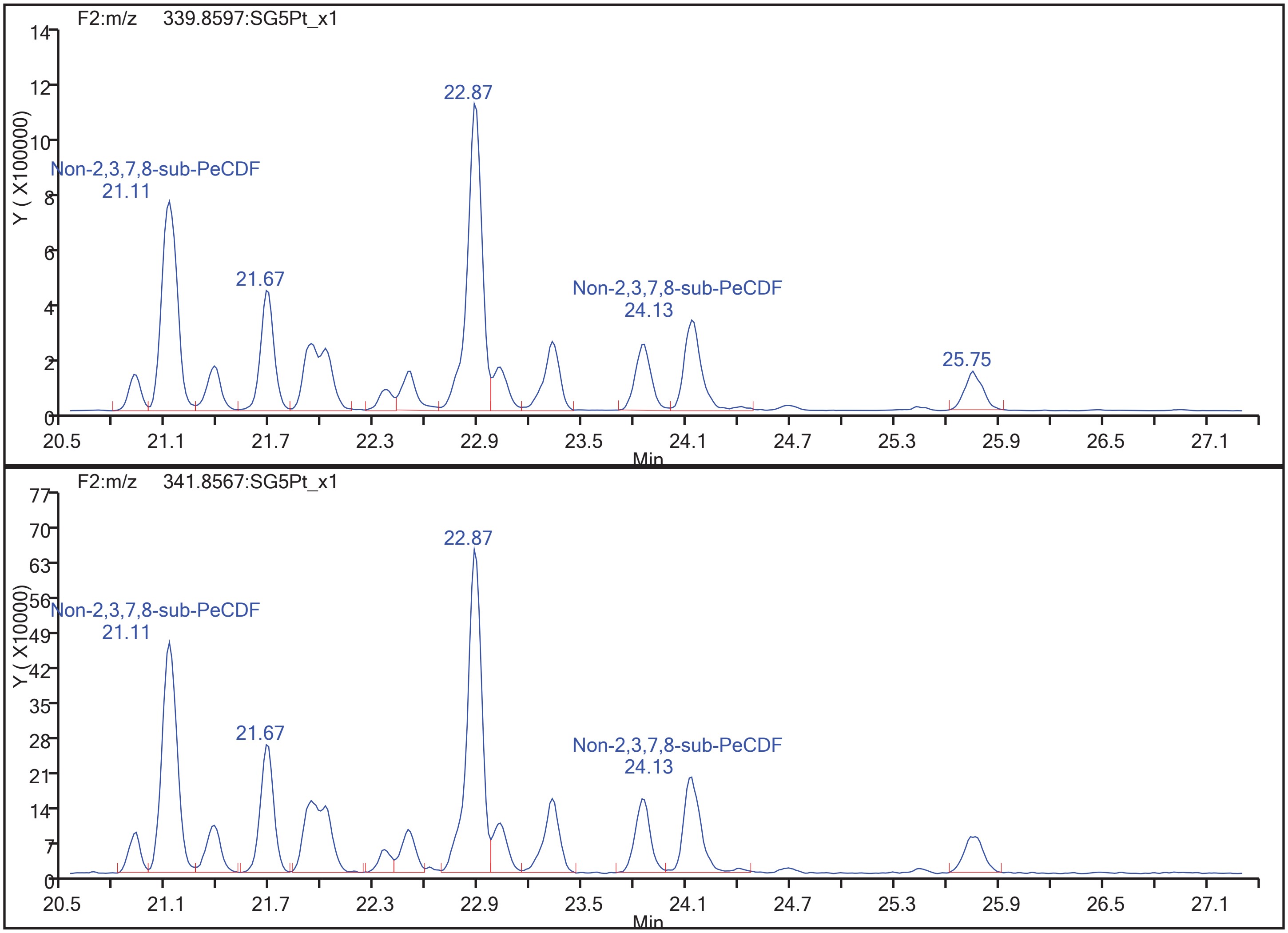


Report Date: 13-Nov-2017 12:33:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

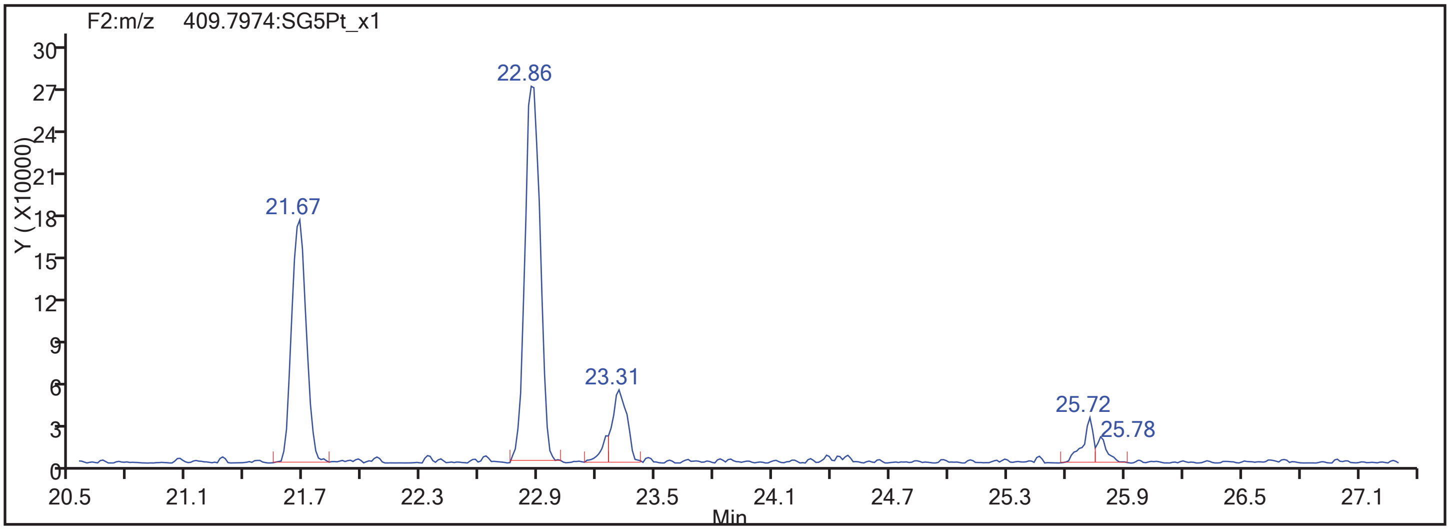
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Interference Mass

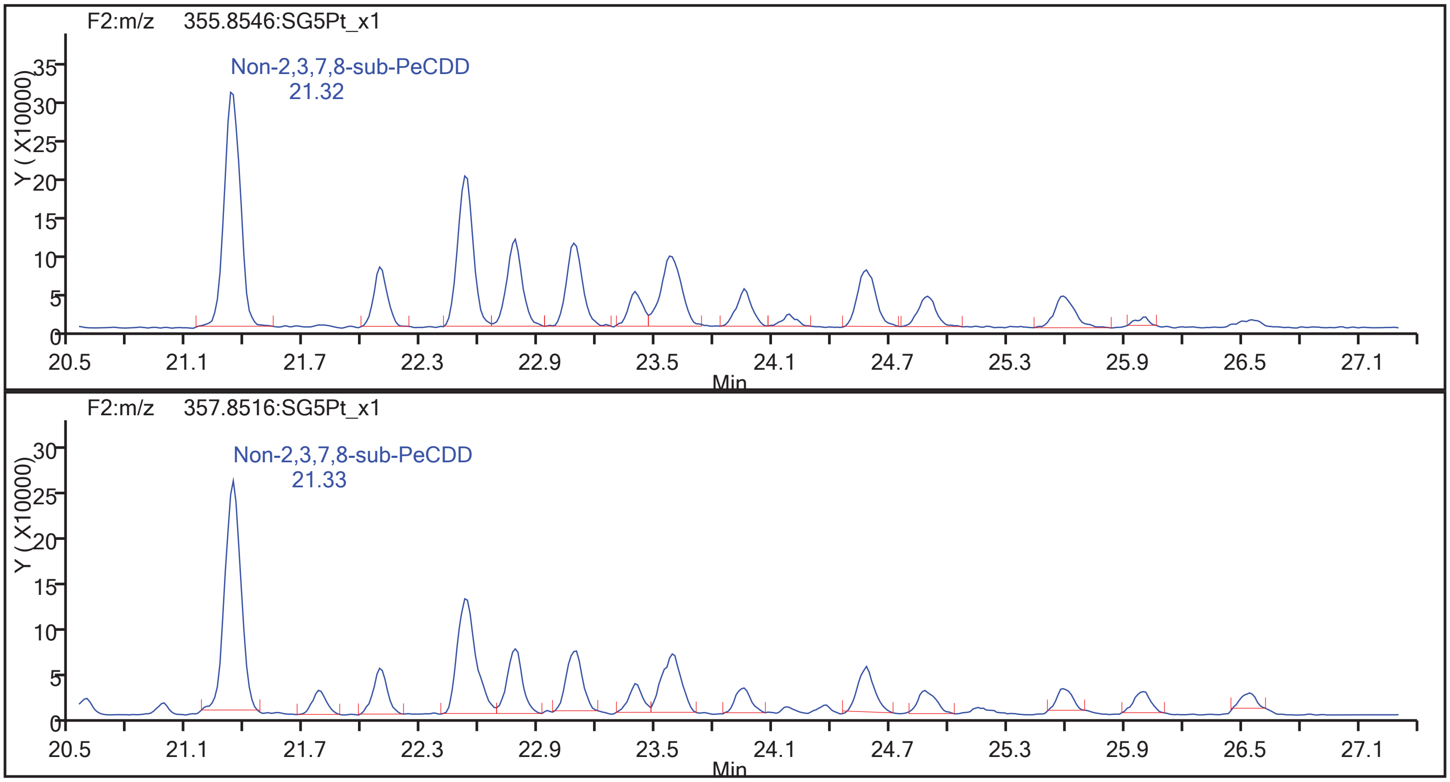


TestAmerica Sacramento

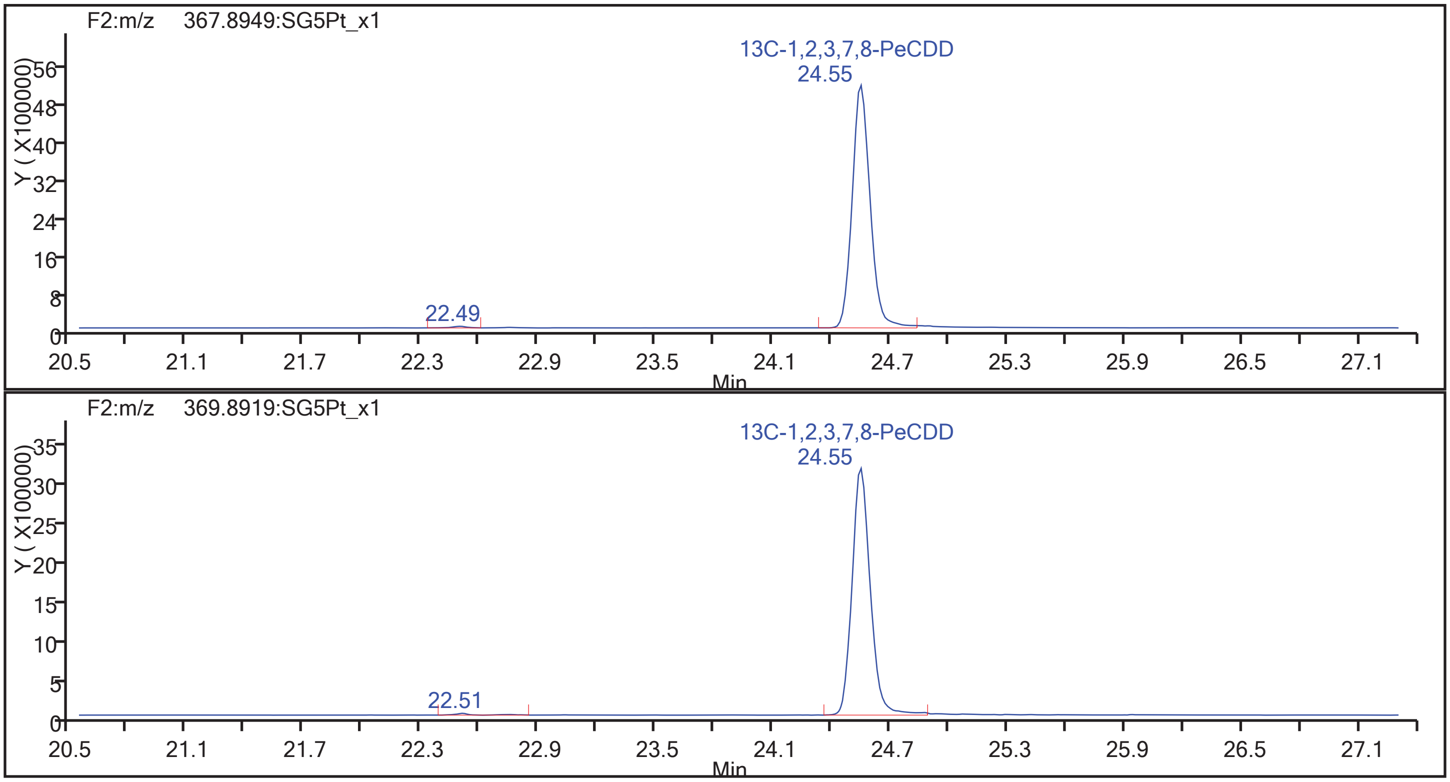
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d

Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD



PeCDD Standards

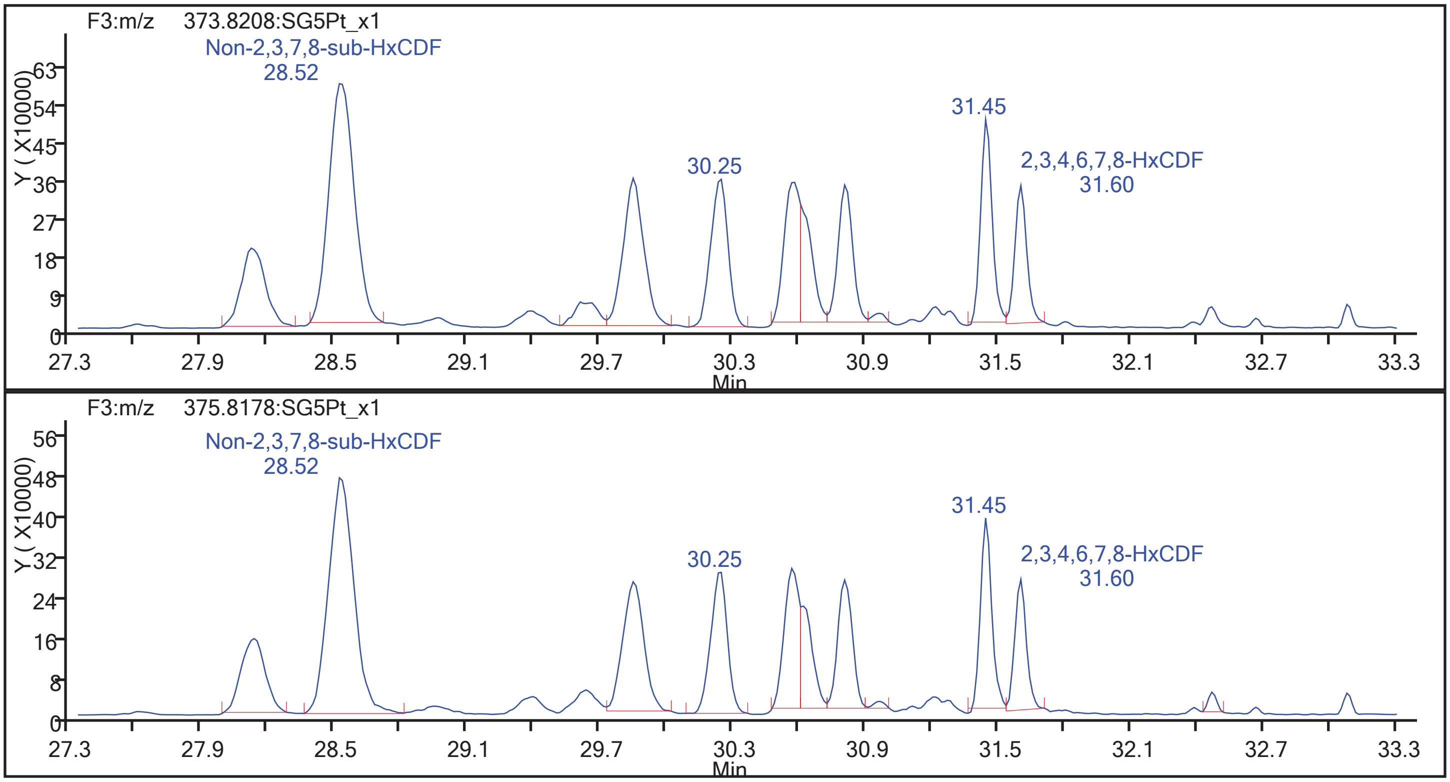


Report Date: 13-Nov-2017 12:33:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

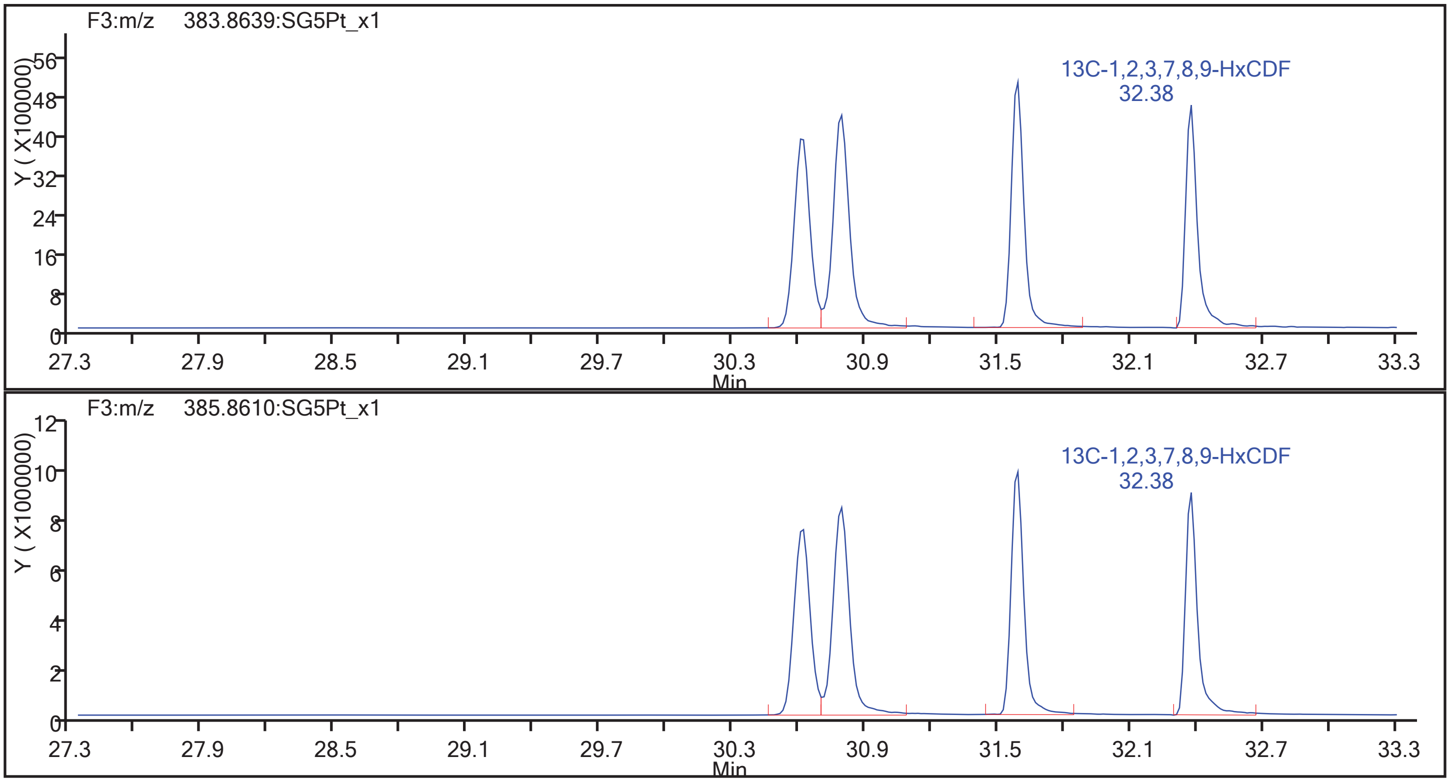
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



HxCDF Standards



Report Date: 13-Nov-2017 12:33:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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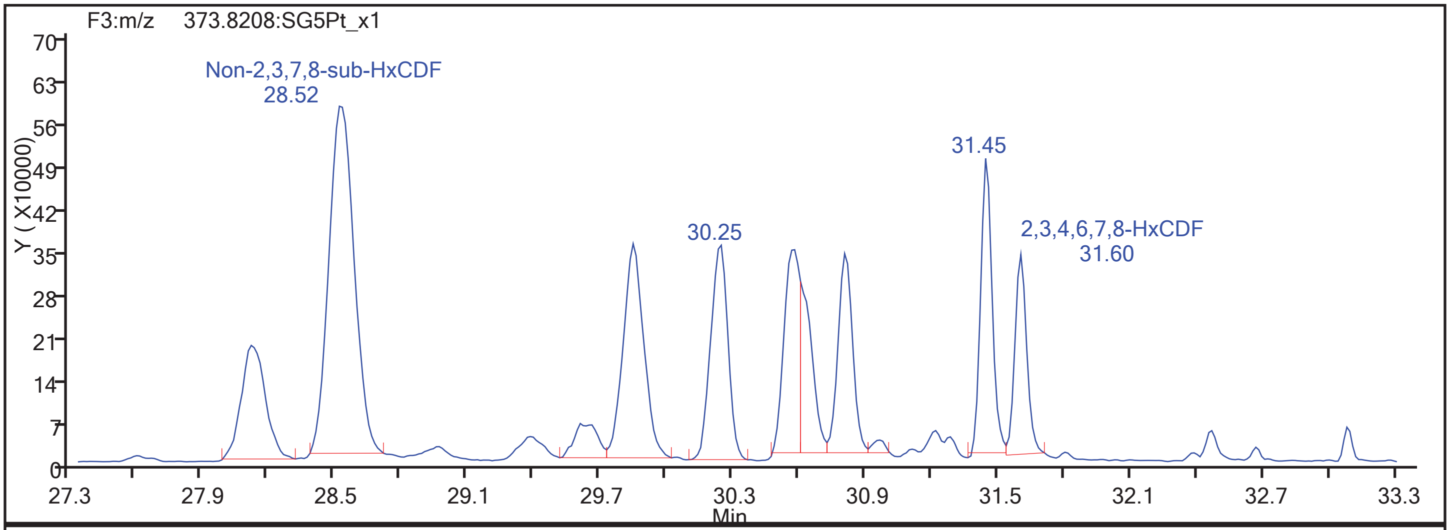
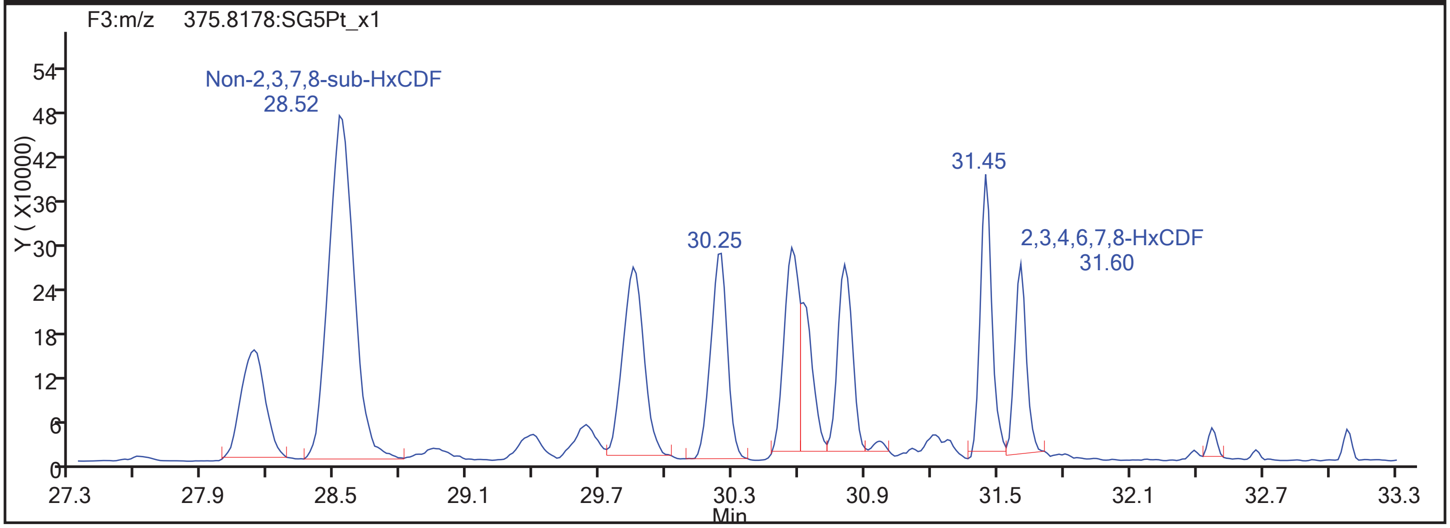
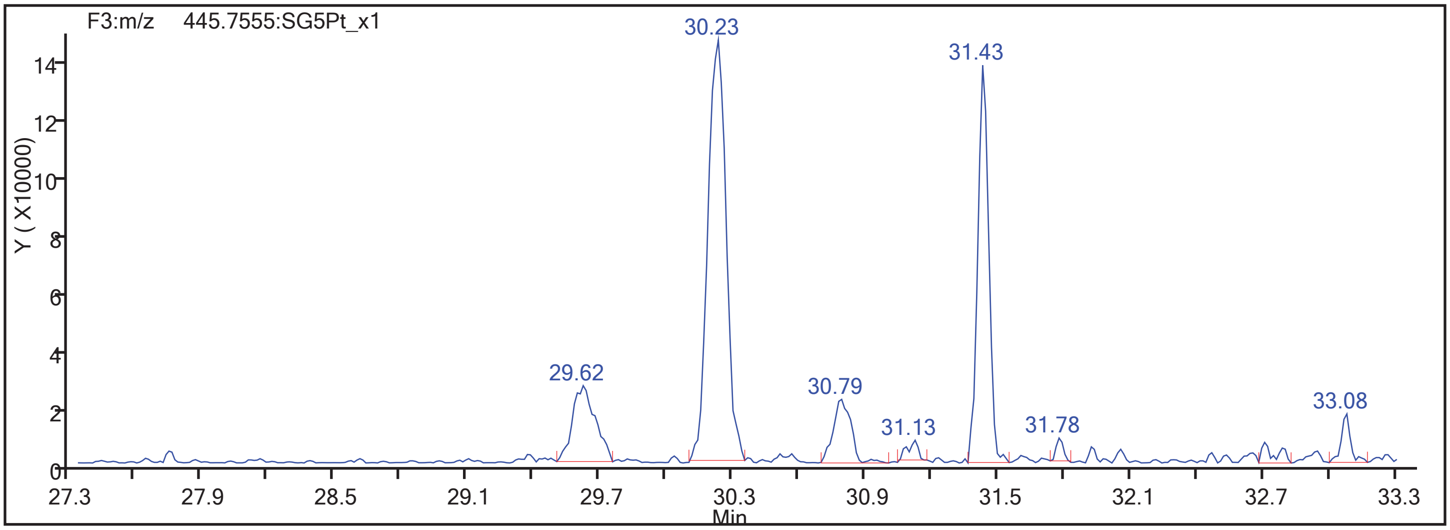
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass

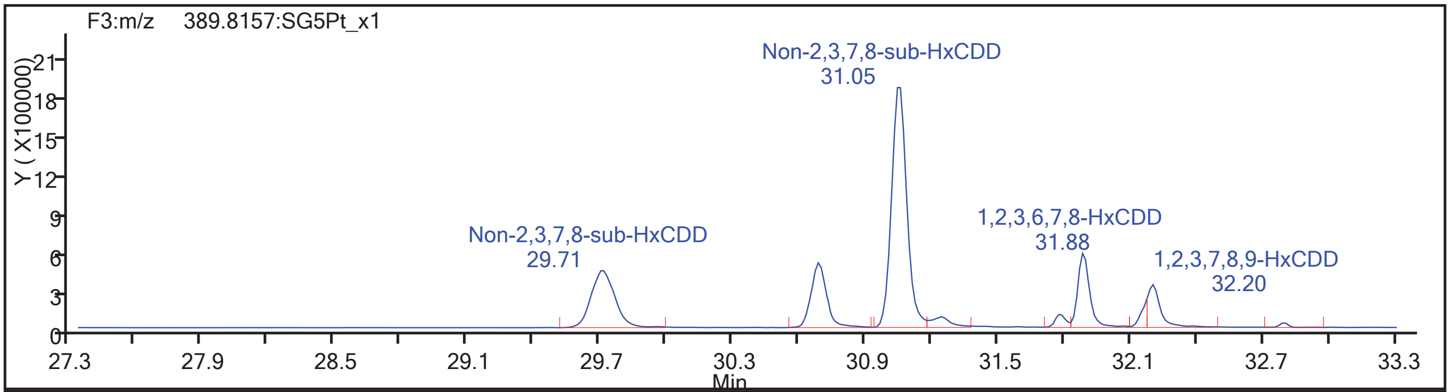


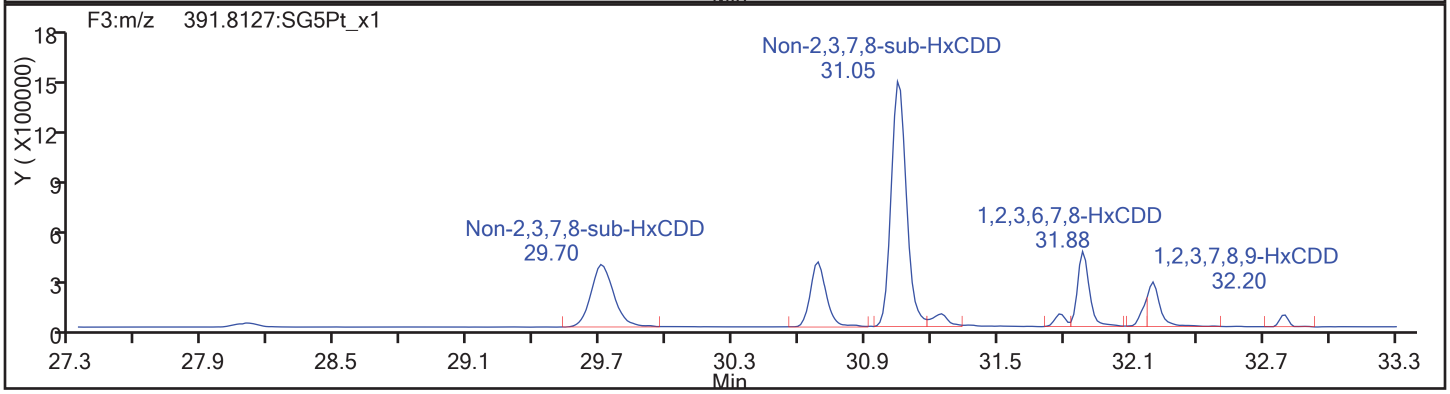
Report Date: 13-Nov-2017 12:33:02
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

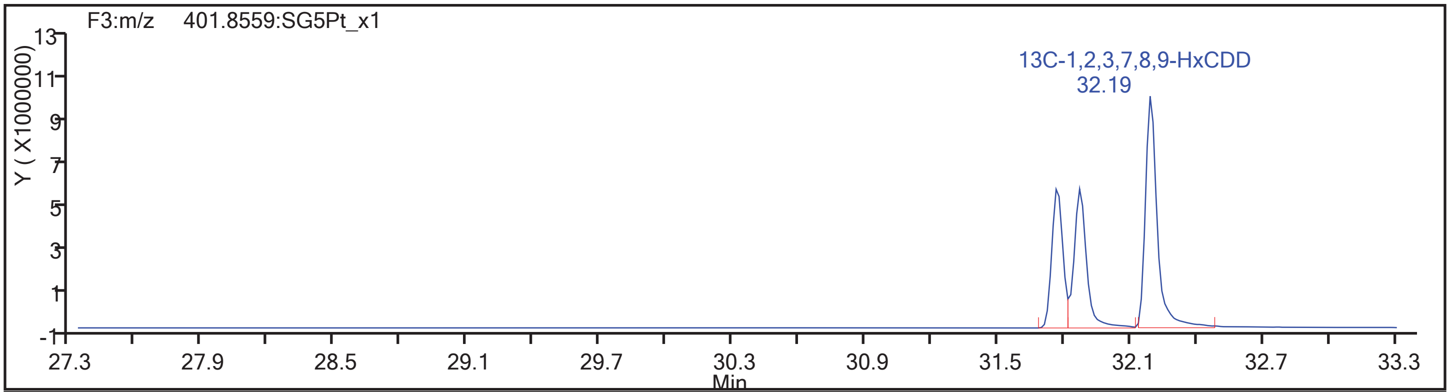
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

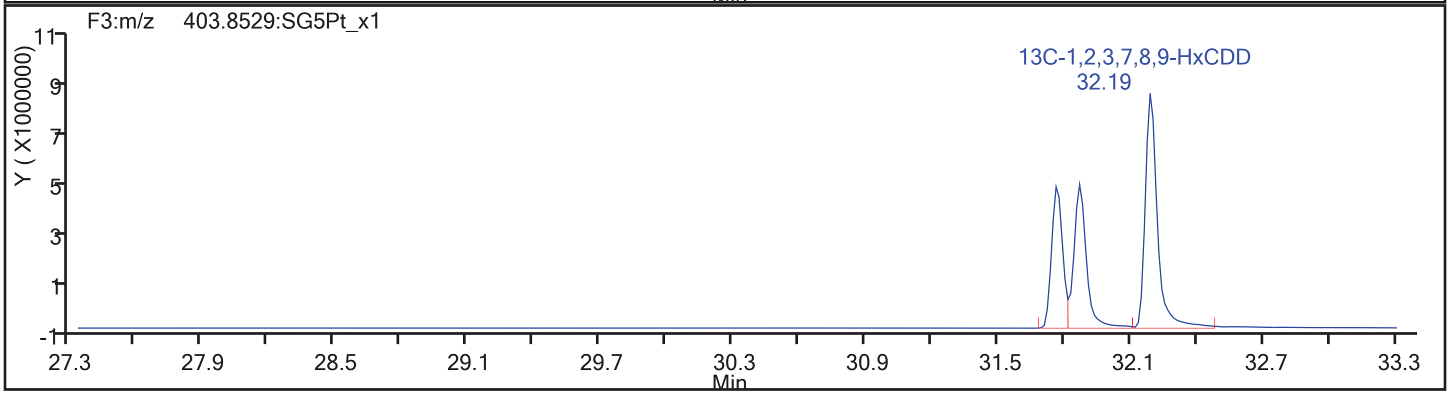
HxCDD





HxCDD Standards



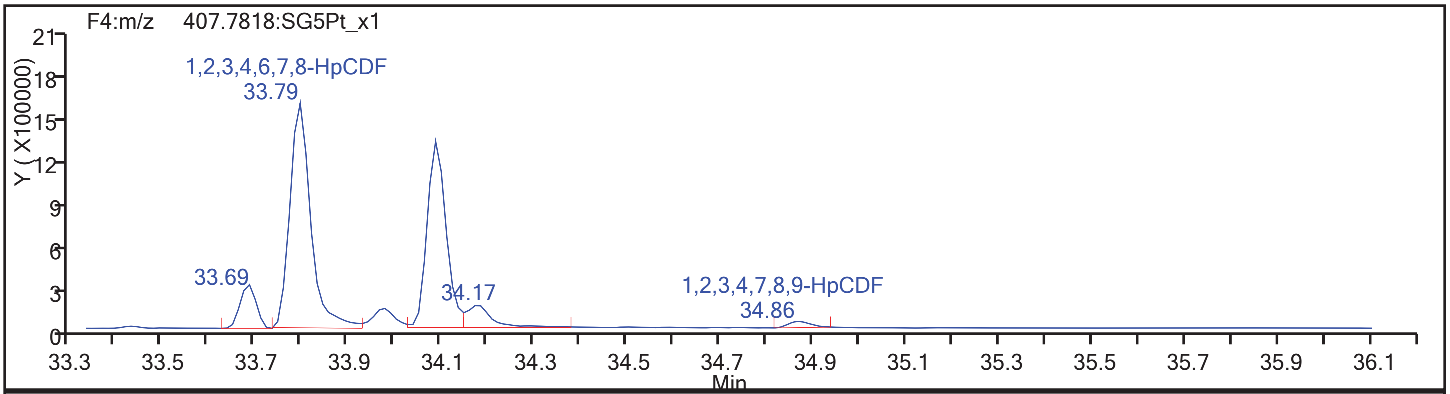


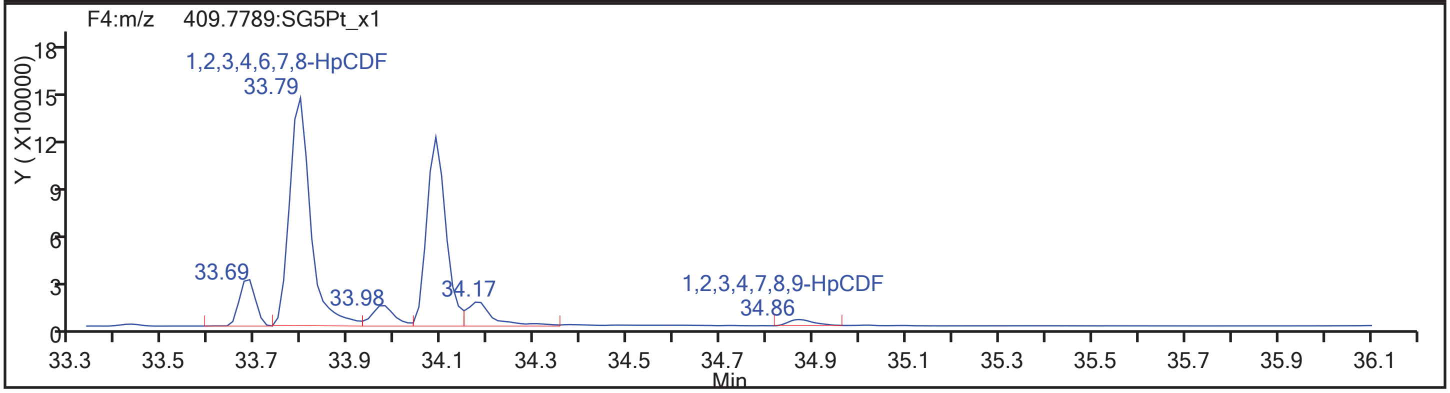
Report Date: 13-Nov-2017 12:33:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

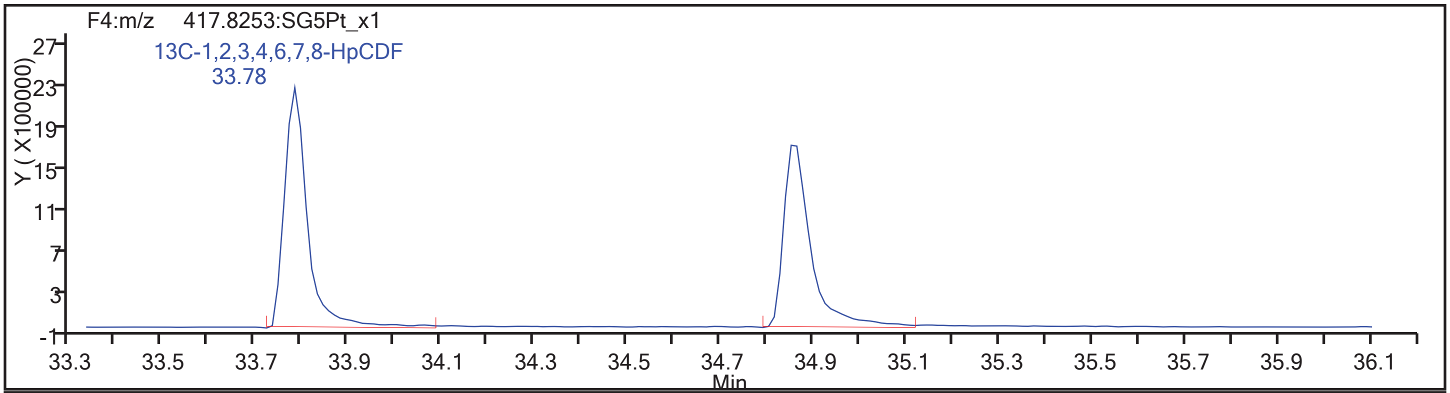
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Injection Date: 11-Nov-2017 16:35:46 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 194085 Sample Line#: 71
Column Type: DB-5 Column Dia: 0.32 mm

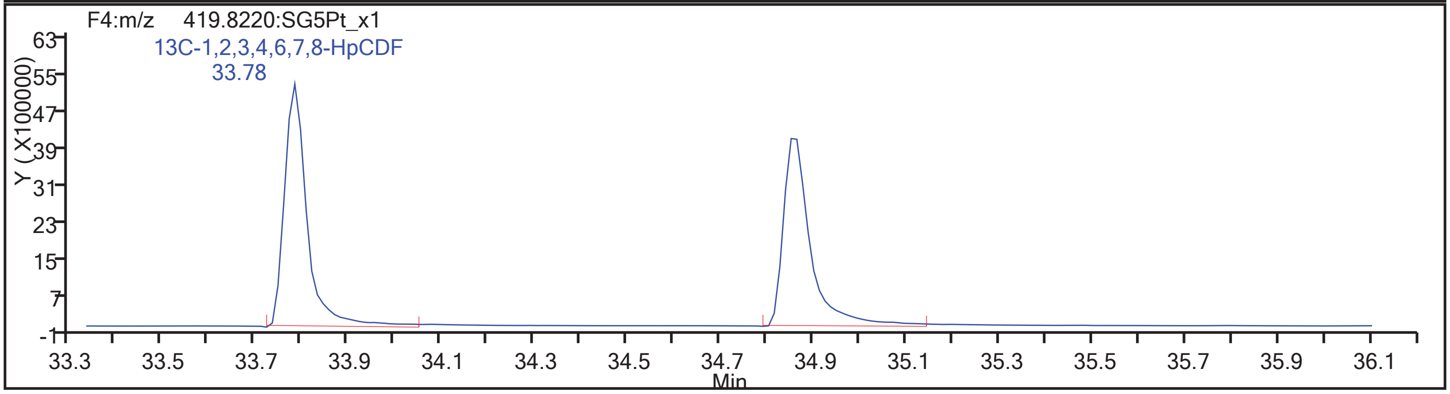
HpCDF





HpCDF Standards

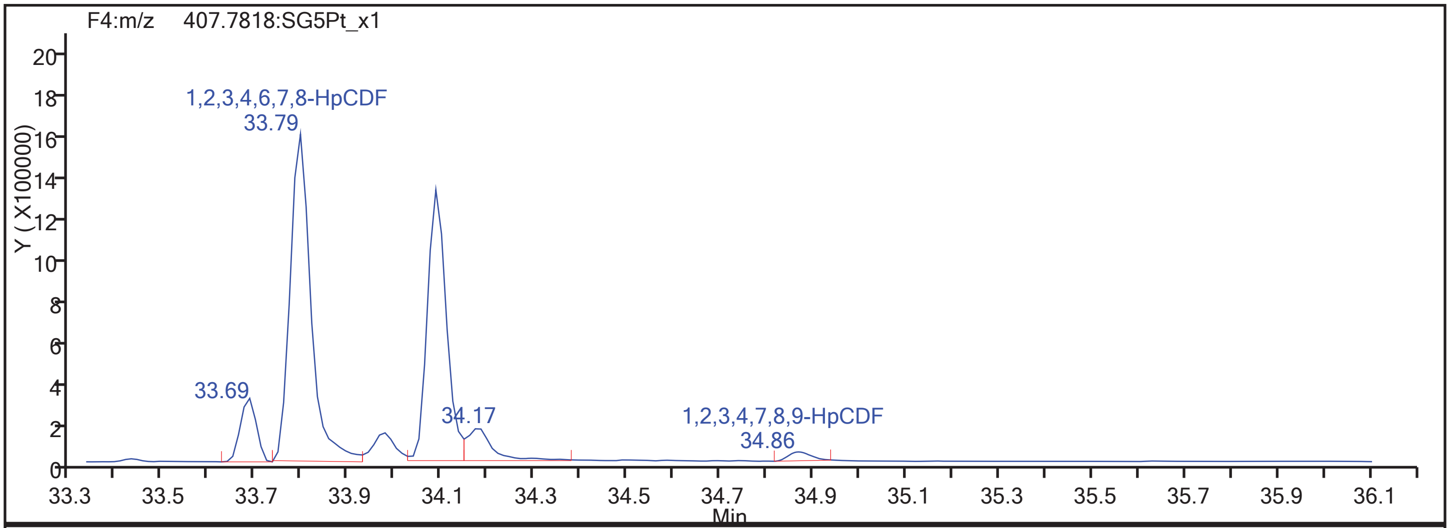


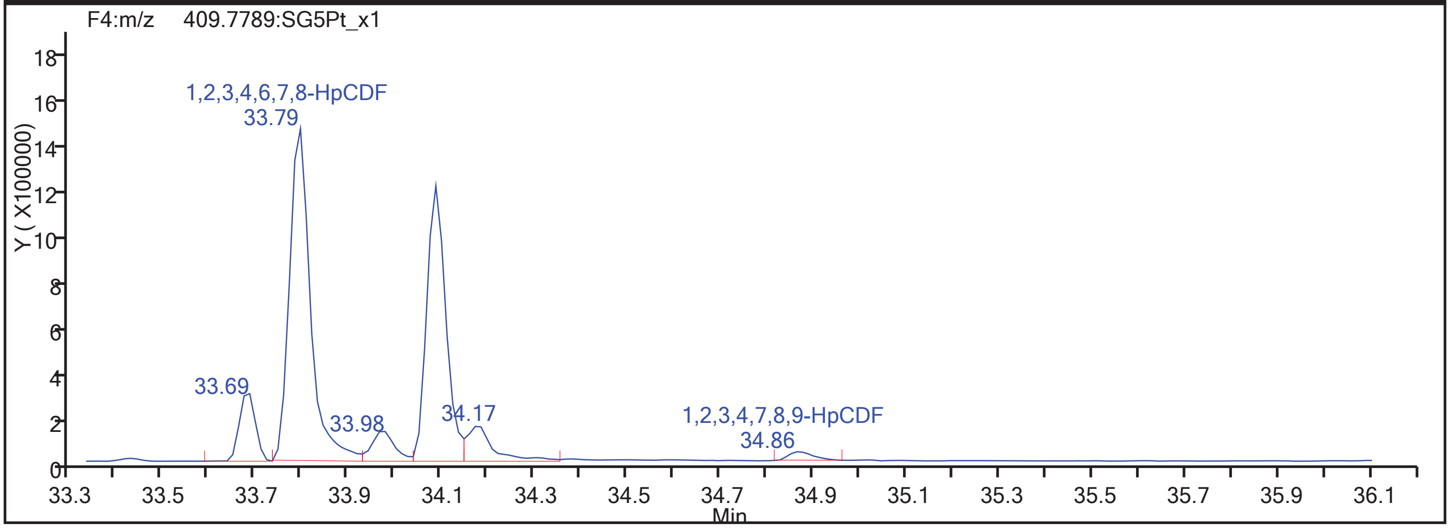


TestAmerica Sacramento

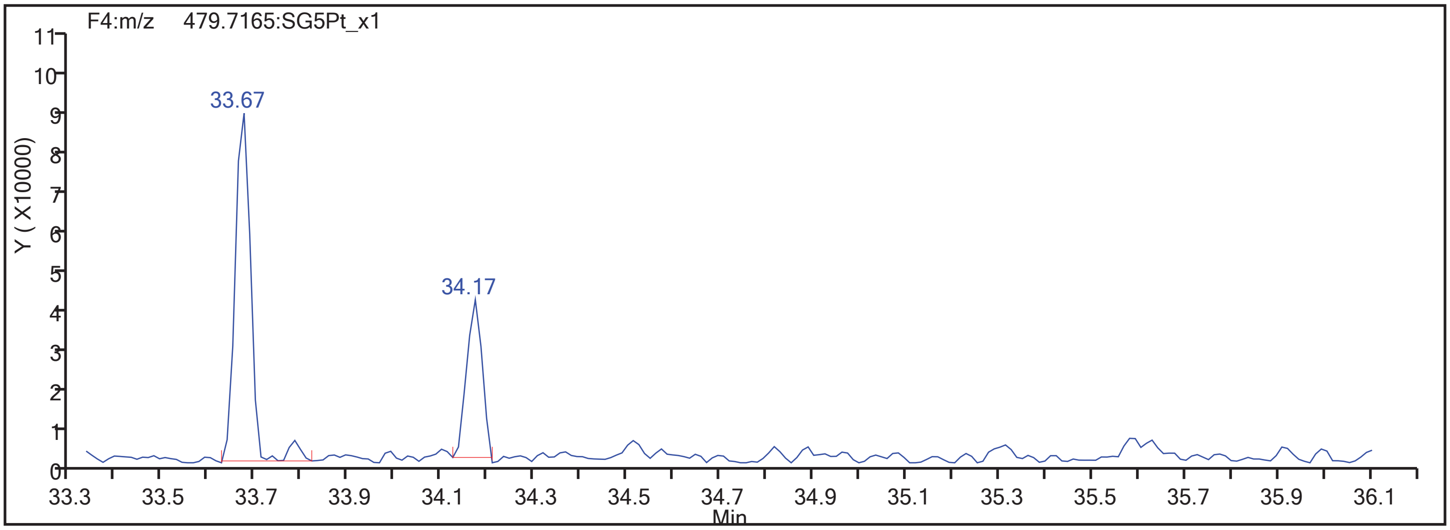
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass

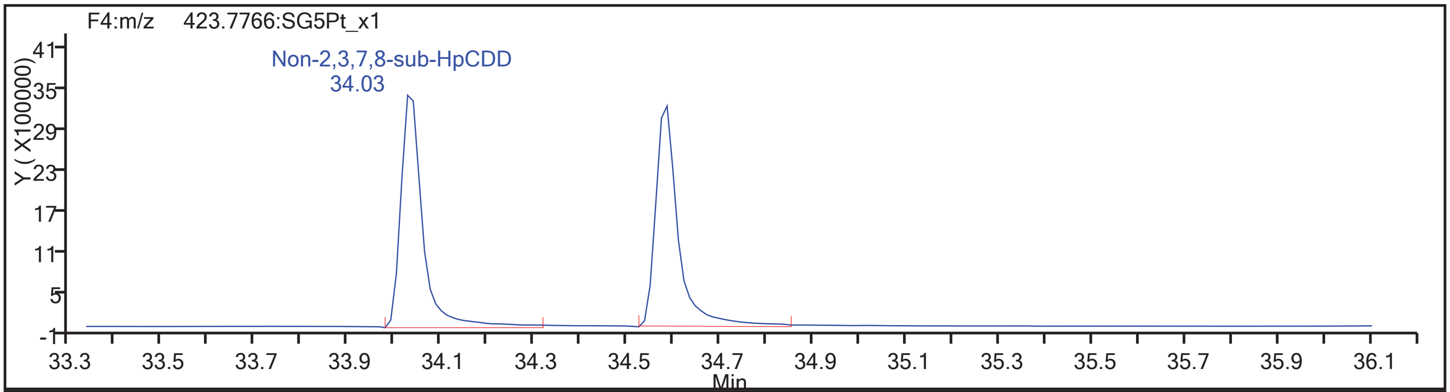


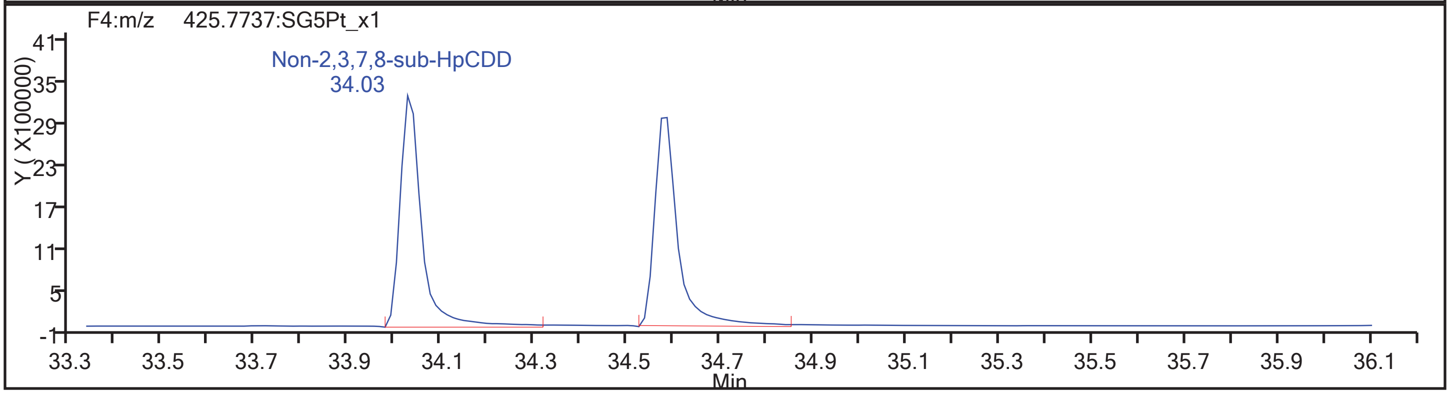
Report Date: 13-Nov-2017 12:33:02　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

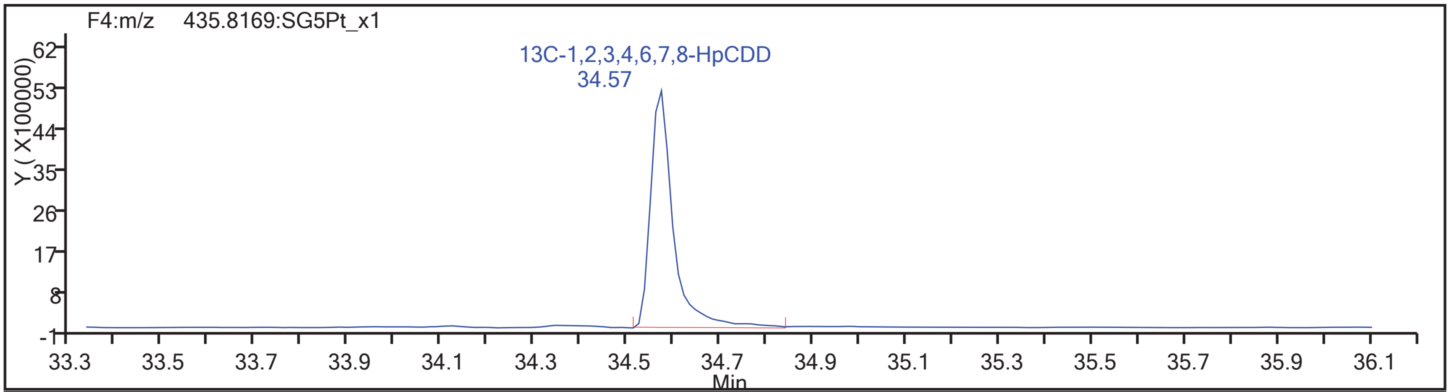
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Injection Date: 11-Nov-2017 16:35:46　　Injection Vol: 2.0 ul
Instrument ID: 10D5　　Operator ID: AJS
Method: Dioxin_10D5　　Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 194085　　Sample Line#: 71
Column Type: DB-5　　Column Dia: 0.32 mm

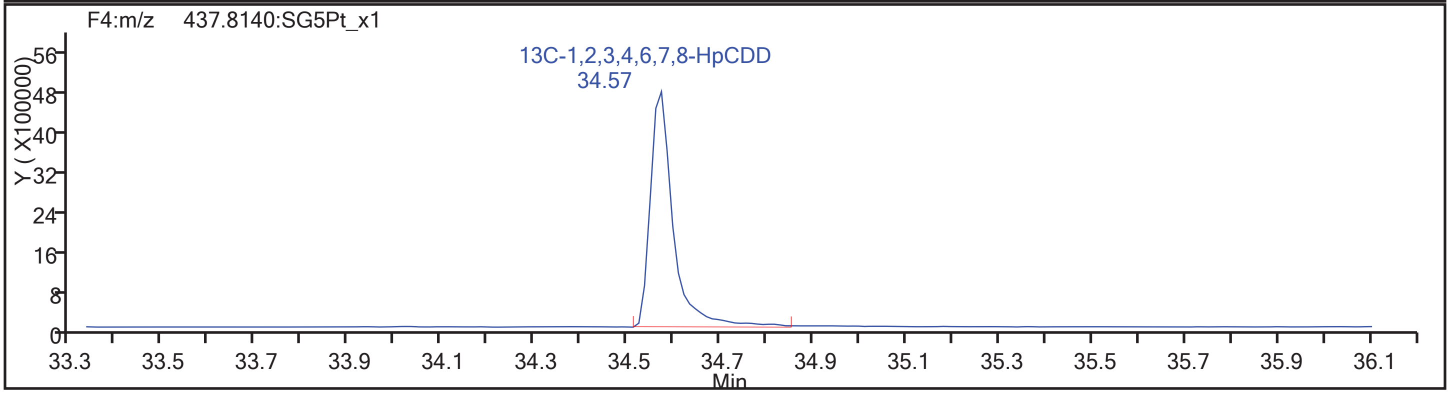
HpCDD





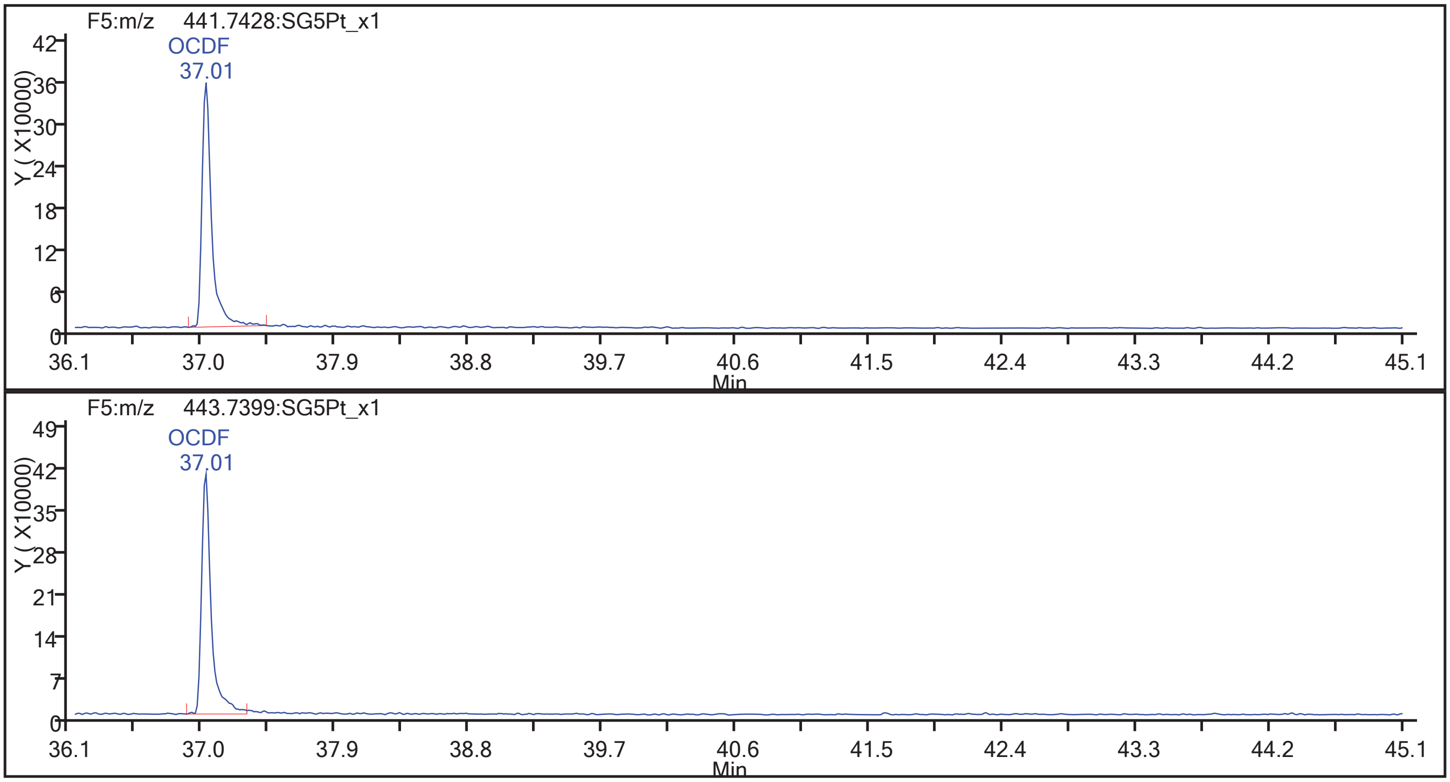
HpCDD Standards



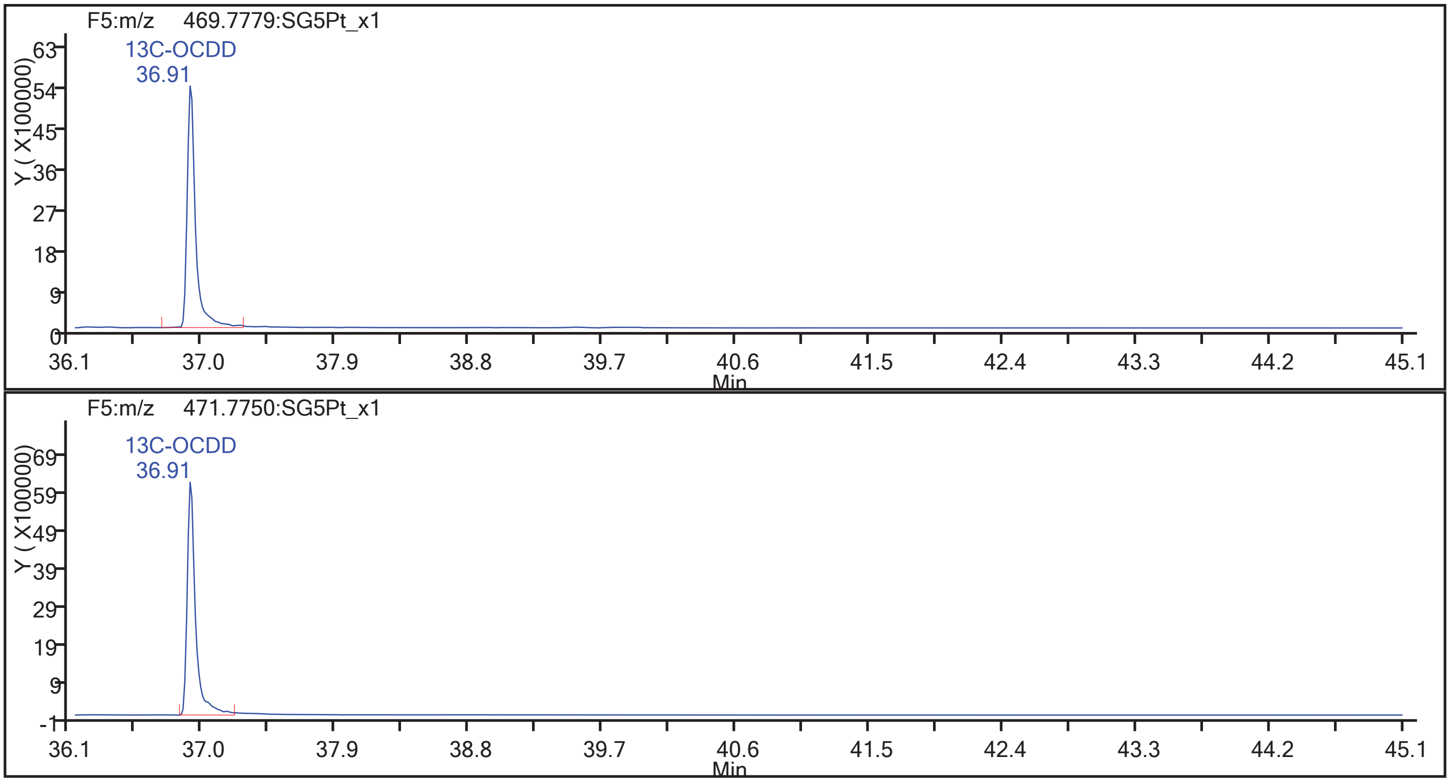


Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Standards



Report Date: 13-Nov-2017 12:33:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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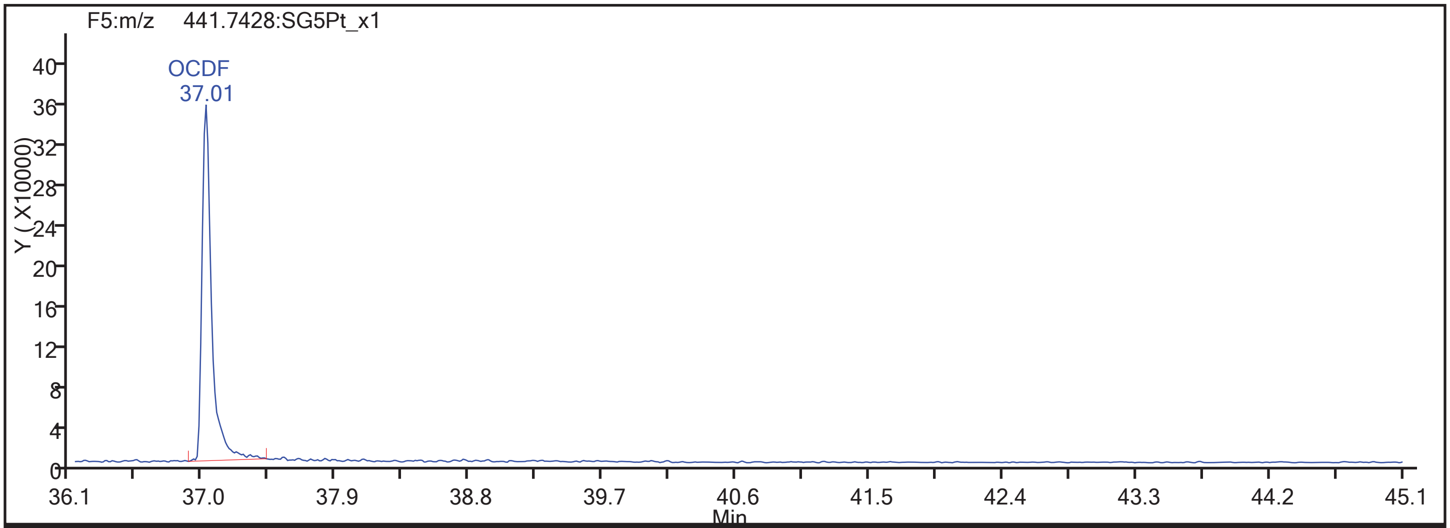
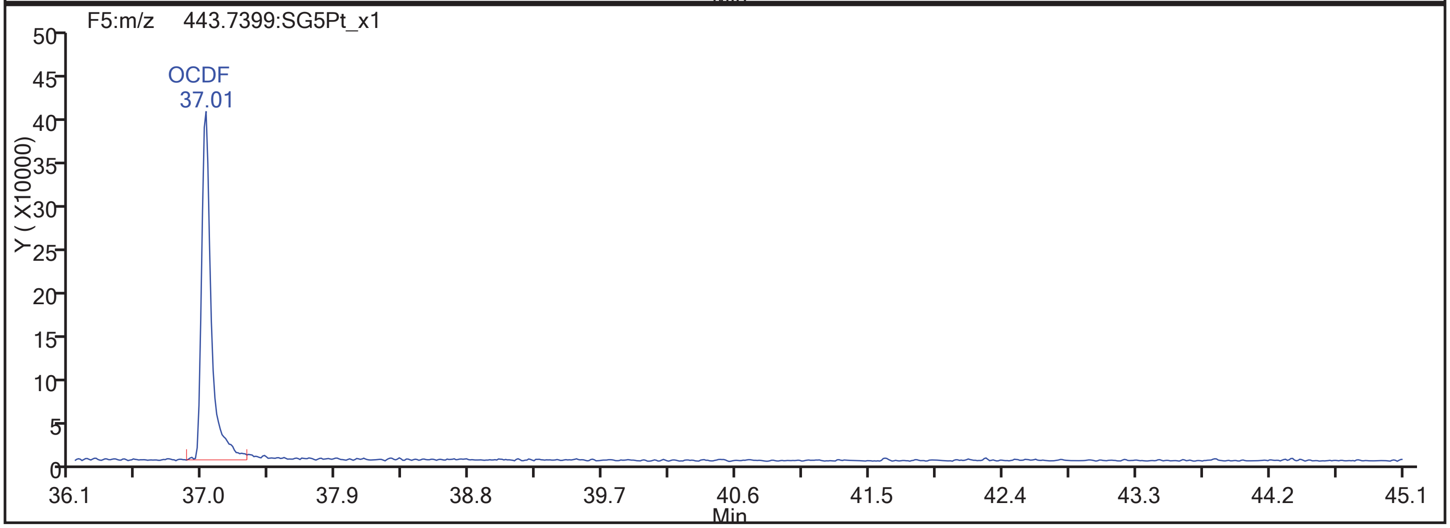
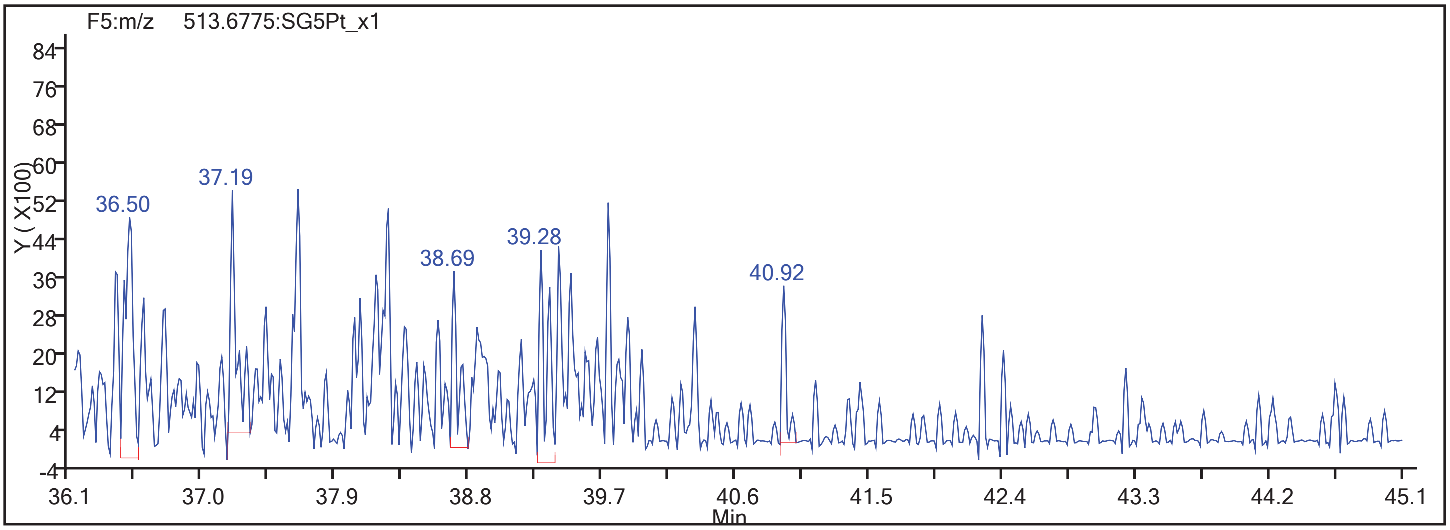
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

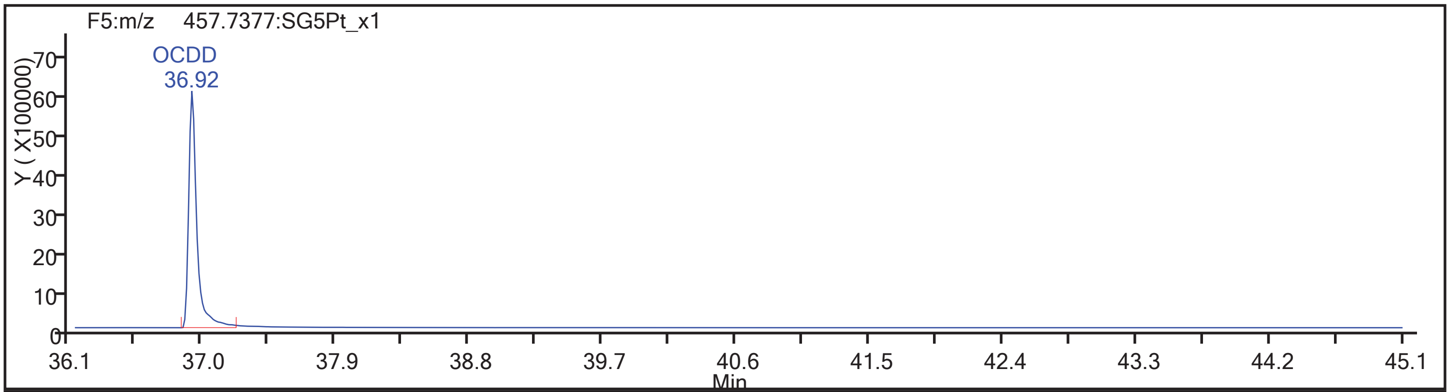


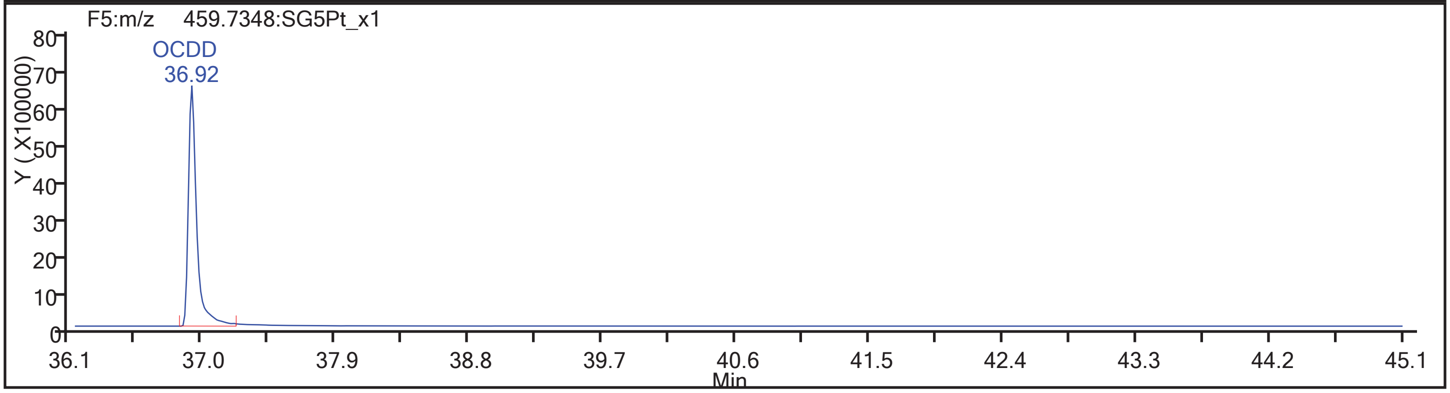
Report Date: 13-Nov-2017 12:33:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

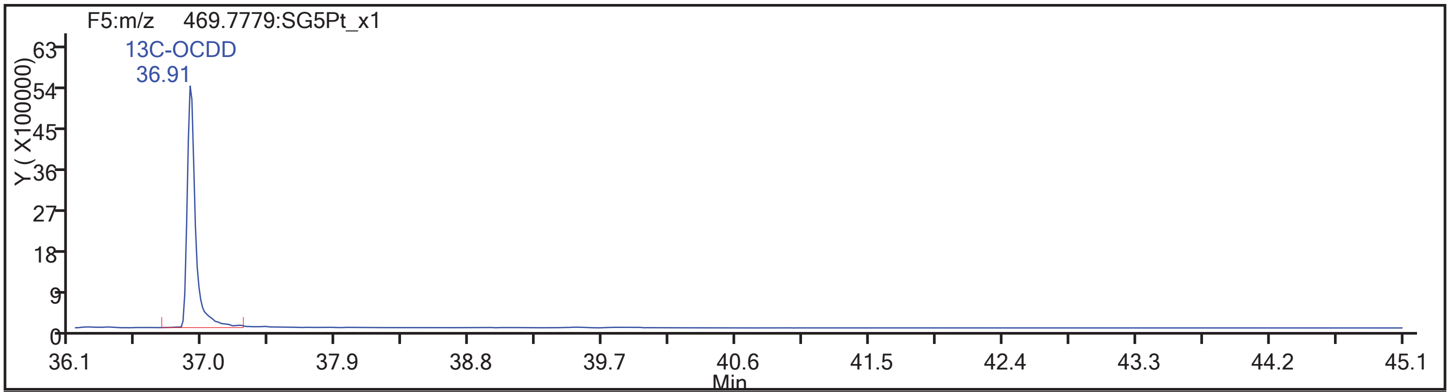
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d
Injection Date: 11-Nov-2017 16:35:46
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 194085
Sample Line#: 71
Column Type: DB-5
Column Dia: 0.32 mm

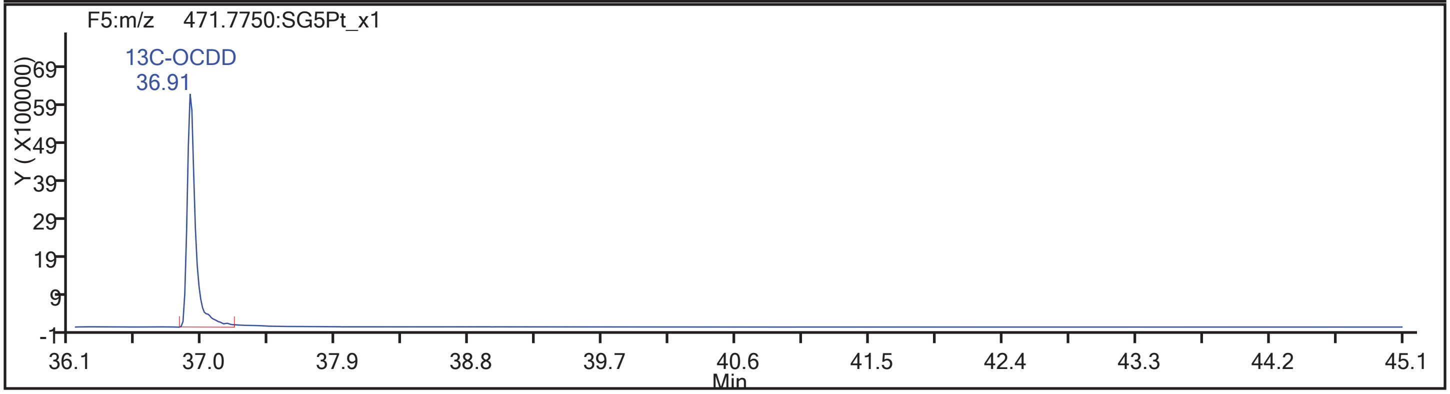
OCDD





OCDD Standards

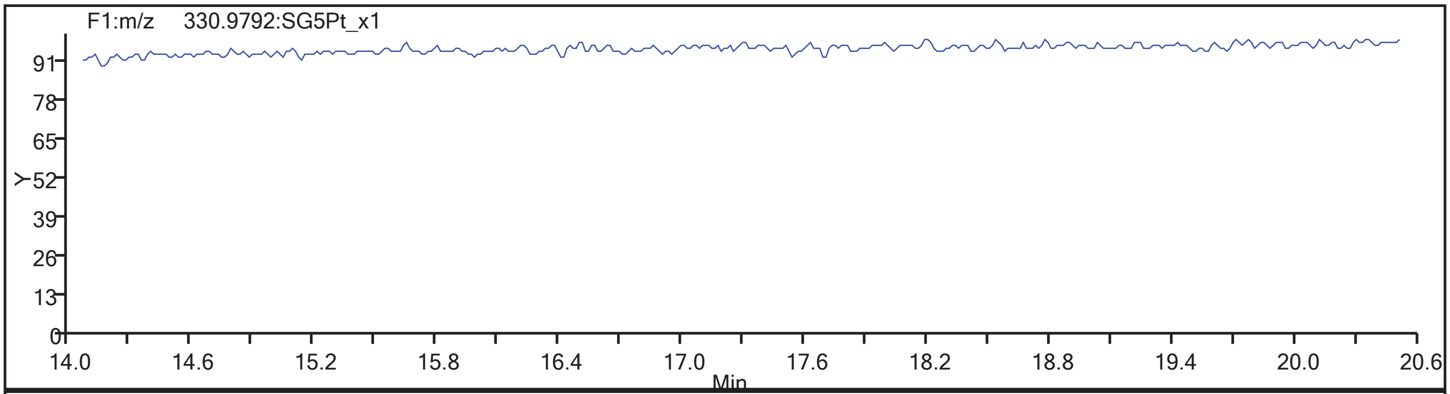


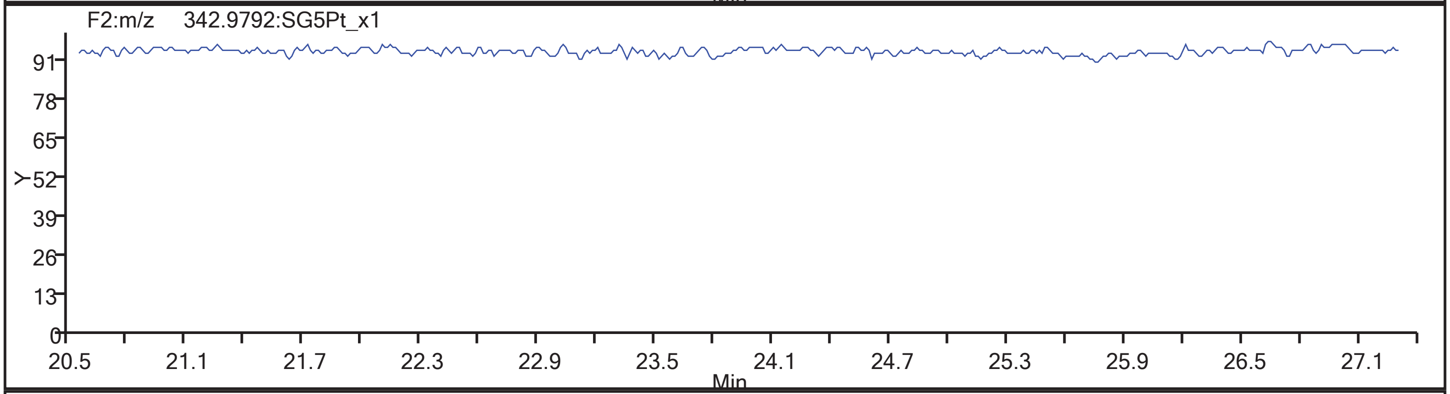


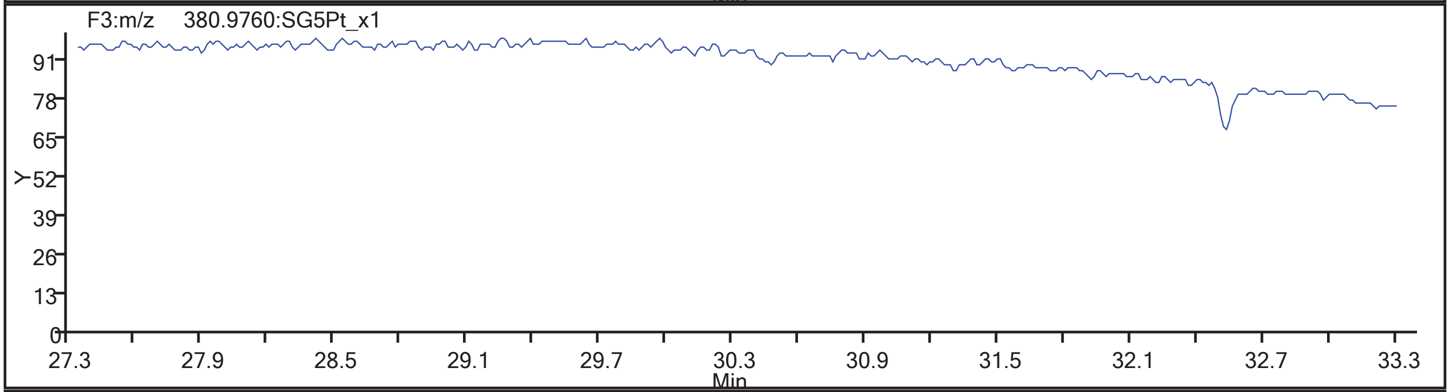
Report Date: 13-Nov-2017 12:33:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

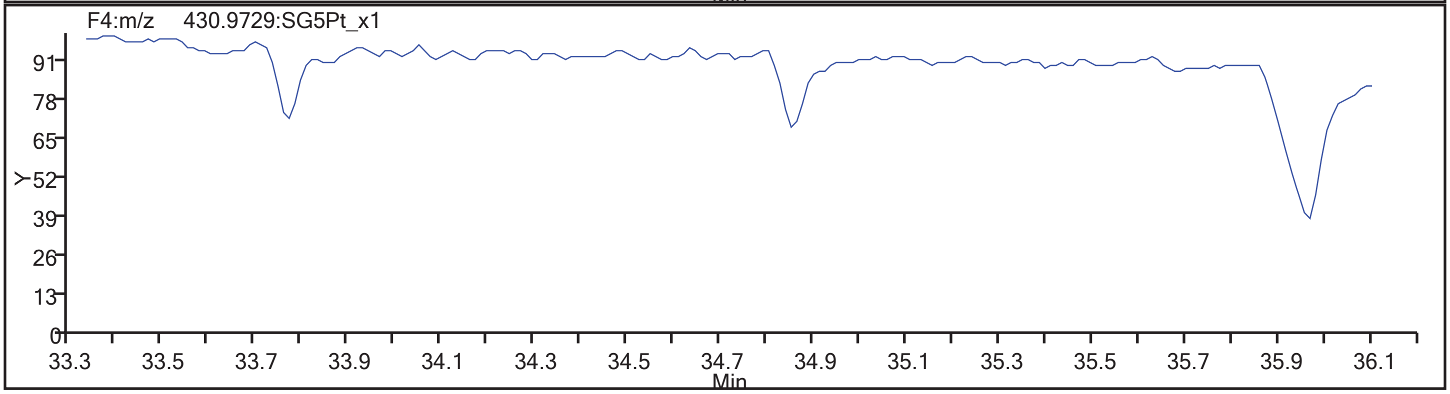
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm



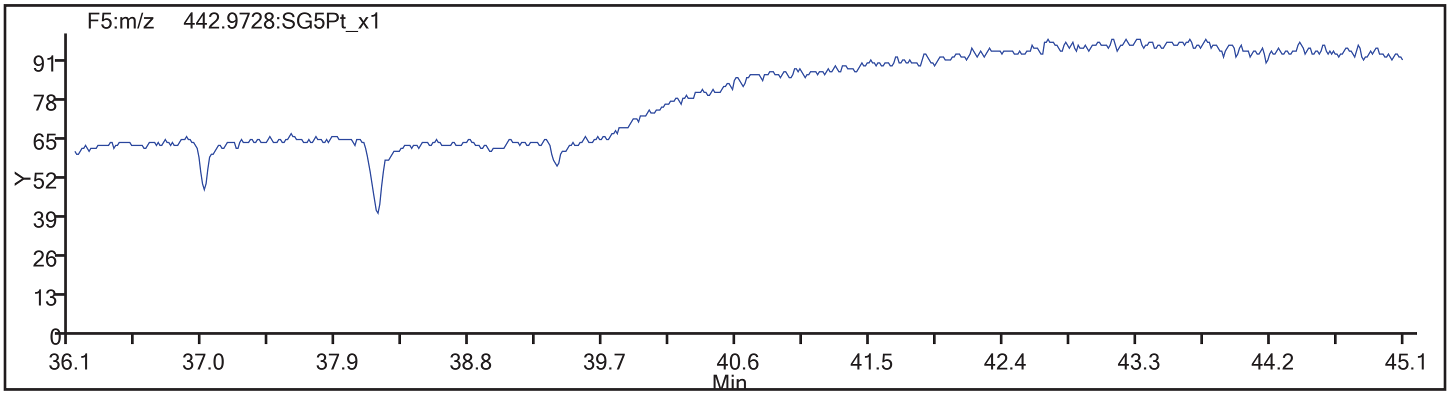






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_71.d		
Injection Date:	11-Nov-2017 16:35:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	194085	Sample Line#:	71
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS02NS RE	Lab Sample ID: 160-24924-8 RE
Matrix: Solid	Lab File ID: 16NO173D5_72.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:55
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 9.90(g)	Date Analyzed: 11/19/2017 04:03
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 1.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195574	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*1.3*	*H*	*1.0*	0.41	*0.21*
40321-76-4	*1,2,3,7,8-PeCDD*	*3.1*	*J H*	*5.1*	0.77	*0.58*
57117-41-6	*1,2,3,7,8-PeCDF*	*3.6*	*J H*	*5.1*	0.77	*0.52*
57117-31-4	*2,3,4,7,8-PeCDF*	*6.2*	*H*	*5.1*	0.77	*0.53*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*3.0*	*J H*	*5.1*	2.0	*0.23*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*14*	*H*	*5.1*	2.0	*0.20*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*7.9*	*M H*	*5.1*	2.0	*0.20*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*5.0*	*J M H*	*5.1*	0.77	*0.48*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*6.7*	*M H*	*5.1*	1.0	*0.44*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.0*	*U H*	*5.1*	1.0	*0.51*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*5.3*	*H*	*5.1*	0.77	*0.47*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*120*	*H*	*5.1*	1.0	*1.4*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*44*	*H*	*5.1*	1.0	*0.74*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.0*	*U H*	*5.1*	2.0	*0.96*
3268-87-9	*OCDD*	*400*	*H B*	*10*	4.1	*0.40*
39001-02-0	*OCDF*	*26*	*H*	*10*	4.1	*0.13*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	74		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	73		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	73		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	75		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	79		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	66		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	50		40-135
114423-97-1	13C-OCDD	59		40-135

Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d				
Lims ID:	160-24924-G-8-B				
Client ID:	SHAD041DP022SS02NS				
Sample Type:	Client				
Inject. Date:	19-Nov-2017 04:03:05	ALS Bottle#:	47	Worklist Smp#:	72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-8-B 160-24924-G-8-B				
Misc. Info.:	16NO173D5				
Operator ID:	SMA, ALM	Instrument ID:	3D5		
Method:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	06-Dec-2017 07:50:00	Calib Date:	15-Nov-2017 15:05:45		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d				
Column 1 :		Det: F1:HRSIR			
Process Host:	XAWRK017				

First Level Reviewer: krenns Date: 06-Dec-2017 07:50:00

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	130258659	0.79	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	136623186	0.79	1.5089	69.5	69.5	0.2204	0.2204	69.51	
2,3,7,8-TCDF	17.765	13083013	0.73	1.0971	8.728	8.728	0.3778	0.3778		
A Non-2,3,7,8-sub-TCDF	17.402	93709332	0.77	1.0971	62.5	62.5	0.3778	8.745		
S Total TCDF					71.2	71.2	0.3778	0.3778		
D 13C-2,3,7,8-TCDD	18.445	95300552	0.80	0.9906	73.9	73.9	0.2192	0.2192	73.86	
2,3,7,8-TCDD	18.476	685119	0.72	1.1645	0.6174	0.6174	0.1015	0.1015		
A Non-2,3,7,8-sub-TCDD	17.871	14965132	0.77	1.1645	13.8	13.5	0.1015	4.200		RQ
S Total TCDD					14.4	14.1	0.1015	0.1015		RQ
D 13C-1,2,3,7,8-PeCDF	22.910	106548727	1.57	1.1280	72.5	72.5	0.2251	0.2251	72.51	
1,2,3,7,8-PeCDF	22.951	2130312	1.46	1.1422	1.751	1.751	0.2534	0.2534		
2,3,4,7,8-PeCDF	24.301	3620127	1.50	1.1102	3.060	3.060	0.2607	0.2607		
A F1 PeCDFs	20.426	6455201	1.54	1.1262	5.380	5.380	0.0577	5.380		
A Non-2,3,7,8-sub-PeCDF	23.668	57320329	1.59	1.1262	47.8	47.8	0.2570	15.5		
S Total PeCDF					58.0	58.0	0.2571	0.2571		
D 13C-1,2,3,7,8-PeCDD	25.037	69287588	1.57	0.7269	73.2	73.2	0.1616	0.1616	73.18	
1,2,3,7,8-PeCDD	25.078	1169638	1.50	1.1272	1.498	1.498	0.2855	0.2855		
A Non-2,3,7,8-sub-PeCDD	23.878	13823009	1.55	1.1272	18.7	17.7	0.2855	5.269		RQ
S Total PeCDD					20.2	19.2	0.2855	0.2855		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.932	79745306	0.50	1.0279	78.6	78.6	0.3045	0.3045	78.61	
1,2,3,4,7,8-HxCDF	30.932	2644431	1.36	1.3475	2.461	2.461	0.2374	0.2374		M
1,2,3,6,7,8-HxCDF	31.105	3898556	1.28	1.4794	3.305	3.305	0.2163	0.2163		M
2,3,4,6,7,8-HxCDF	31.851	2885376	1.33	1.3833	2.616	2.616	0.2313	0.2313		
D 13C-1,2,3,7,8,9-HxCDF	32.597	71309135	0.52							
1,2,3,7,8,9-HxCDF	32.597						0.2480	0.2480		
A Non-2,3,7,8-sub-HxCDF	30.653	29558889	1.26	1.3751	27.0	27.0	0.2327	9.645		
S Total HxCDF					35.3	35.3	0.2332	0.2332		
* 13C-1,2,3,7,8,9-HxCDD	32.424	98687858	1.28	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.024	985435	1.06	1.0646	1.477	1.477	0.1111	0.1111		
D 13C-1,2,3,6,7,8-HxCDD	32.104	62671635	1.29	0.8502	74.7	74.7	0.2936	0.2936	74.70	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.131	5118470	1.24	1.1809	6.916	6.916	0.1002	0.1002		
1,2,3,7,8,9-HxCDD	32.424	2995092	1.16	1.2311	3.882	3.882	0.0961	0.0961		M
A Non-2,3,7,8-sub-HxCDD	31.252	35512868	1.24	1.1589	48.9	48.9	0.1021	29.0		
S Total HxCDD					61.2	61.2	0.1025	0.1025		
D 13C-1,2,3,4,6,7,8-HpCDF	34.022	31906809	0.45	0.6490	49.8	49.8	0.6171	0.6171	49.82	
1,2,3,4,6,7,8-HpCDF	34.022	10996134	1.04	1.5871	21.7	21.7	0.3639	0.3639		
1,2,3,4,7,8,9-HpCDF	35.128						0.4699	0.4699		
A Non-2,3,7,8-sub-HpCDF	34.569	12132211	1.05	1.4080	27.0	27.0	0.4101	21.4		
S Total HpCDF					48.7	48.7	0.4169	0.4169		
D 13C-1,2,3,4,6,7,8-HpCDD	34.836	34838351	1.13	0.5387	65.5	65.5	0.5408	0.5408	65.53	
1,2,3,4,6,7,8-HpCDD	34.848	24141277	1.04	1.1631	59.6	59.6	0.6673	0.6673		
A Non-2,3,7,8-sub-HpCDD	35.261	23730473	1.03	1.1631	58.6	58.6	0.6673	58.6		
S Total HpCDD					118.1	118.1	0.6673	0.6673		
D 13C-OCDD	37.269	46789429	0.88	0.4009	118.3	118.3	0.2389	0.2389	59.13	
OCDF	37.377	3829701	0.90	1.2649	12.9	12.9	0.0648	0.0648		
OCDD	37.281	47907748	0.92	1.0390	197.1	197.1	0.1954	0.1954		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d				
Lims ID:	160-24924-G-8-B				
Client ID:	SHAD041DP022SS02NS				
Sample Type:	Client				
Inject. Date:	19-Nov-2017 04:03:05	ALS Bottle#:	47	Worklist Smp#:	72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-8-B 160-24924-G-8-B				
Misc. Info.:	16NO173D5				
Operator ID:	SMA, ALM	Instrument ID:	3D5		
Method:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	06-Dec-2017 07:50:00	Calib Date:	15-Nov-2017 15:05:45		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d				
Column 1 :		Det: F1:HRSIR			
Process Host:	XAWRK017				
First Level Reviewer: krenns		Date:	06-Dec-2017 07:50:00		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		57495780	13809395	16796	41990	822		
333.9339	18.249	18.234	1		72762879	17107030	10059	25147	1701	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.971	60441523	14322659	23983	59957	597		
317.9389	17.720	17.705	1	0.971	76181663	18188229	17135	42837	1061	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.765	17.720	3	1.003	5515967	1102698	32413	81032	34		
305.8987	17.750	17.720	2	1.002	7567046	1526246	21495	53737	71	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	15.240	17.402	-129	0.860	1263200	404366	32413	81032	12		
305.8987	15.240	17.402	-129	0.860	1672628	485516	21495	53737	23	0.76(0.65-0.89)	
303.9016	15.588	17.402	-109	0.880	999327	280689	32413	81032	9		
305.8987	15.588	17.402	-109	0.880	1328444	397513	21495	53737	18	0.75(0.65-0.89)	
303.9016	15.754	17.402	-99	0.889	960007	289973	32413	81032	9		
305.8987	15.754	17.402	-99	0.889	1219750	386921	21495	53737	18	0.79(0.65-0.89)	
303.9016	16.011	17.402	-83	0.904	5377342	1028300	32413	81032	32		
305.8987	16.011	17.402	-83	0.904	6759363	1306906	21495	53737	61	0.80(0.65-0.89)	
303.9016	16.223	17.402	-71	0.916	2608342	365642	32413	81032	11		
305.8987	16.253	17.402	-69	0.917	3273337	441498	21495	53737	21	0.80(0.65-0.89)	
303.9016	16.570	17.402	-50	0.935	3199779	427002	32413	81032	13		
305.8987	16.570	17.402	-50	0.935	4079014	572751	21495	53737	27	0.78(0.65-0.89)	
303.9016	16.813	17.402	-35	0.949	3172574	703941	32413	81032	22		
305.8987	16.797	17.402	-36	0.948	4364068	1015068	21495	53737	47	0.73(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.024	17.402	-23	0.961	4152971	506016	32413	81032	16		
305.8987	17.009	17.402	-24	0.960	5114489	597401	21495	53737	28	0.81(0.65-0.89)	
303.9016	17.342	17.402	-4	0.979	5685559	1476214	32413	81032	46		
305.8987	17.342	17.402	-4	0.979	7422768	1925946	21495	53737	90	0.77(0.65-0.89)	
303.9016	17.569	17.402	10	0.991	1552785	300161	32413	81032	9		
305.8987	17.569	17.402	10	0.991	2020457	441751	21495	53737	21	0.77(0.65-0.89)	
303.9016	18.188	17.402	47	1.026	3067495	708382	32413	81032	22		
305.8987	18.188	17.402	47	1.026	3850367	898220	21495	53737	42	0.80(0.65-0.89)	
303.9016	18.400	17.402	60	1.038	1498984	320608	32413	81032	10		
305.8987	18.400	17.402	60	1.038	1852484	398587	21495	53737	19	0.81(0.65-0.89)	
303.9016	18.642	17.402	74	1.052	664414	141030	32413	81032	4		
305.8987	18.642	17.402	74	1.052	859988	206328	21495	53737	10	0.77(0.65-0.89)	
303.9016	18.959	17.402	93	1.070	3226078	764396	32413	81032	24		
305.8987	18.959	17.402	93	1.070	3993747	973707	21495	53737	45	0.81(0.65-0.89)	
303.9016	19.337	17.402	116	1.091	3478574	840208	32413	81032	26		
305.8987	19.337	17.402	116	1.091	4990997	1091688	21495	53737	51	0.70(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.011	42291111	9210131	16796	41990	548		
333.9339	18.445	18.430	1	1.011	53009441	11611304	10059	25147	1154	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.476	18.445	2	1.002	285897	72890	5107	12767	14		
321.8936	18.461	18.445	1	1.001	399222	77379	4738	11845	16	0.72(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	16.177	17.871	-101	0.877	2074856	556383	5107	12767	109		
321.8936	16.177	17.871	-101	0.877	2586268	706445	4738	11845	149	0.80(0.65-0.89)	
319.8965	16.480	17.871	-83	0.893	866302	250912	5107	12767	49		
321.8936	16.480	17.871	-83	0.893	1119228	290189	4738	11845	61	0.77(0.65-0.89)	
319.8965	16.722	17.871	-69	0.907	288674	74492	5107	12767	15		
321.8936	16.722	17.871	-69	0.907	410863	99130	4738	11845	21	0.70(0.65-0.89)	
319.8965	17.312	17.871	-33	0.939	1218397	274413	5107	12767	54		
321.8936	17.312	17.871	-33	0.939	1408523	319890	4738	11845	68	0.87(0.65-0.89)	
319.8965	17.569	17.871	-18	0.952	511075	80946	5107	12767	16		
321.8936	17.553	17.871	-19	0.952	814529	88276	4738	11845	19	0.63(0.65-0.89)	
	Empc Correction				663733	105124	4738	11845	22		
319.8965	17.931	17.871	4	0.972	307123	66380	5107	12767	13		
321.8936	17.931	17.871	4	0.972	372113	104890	4738	11845	22	0.83(0.65-0.89)	
319.8965	18.249	17.871	23	0.989	380085	94384	5107	12767	18		
	Empc Correction				301990	54701	5107	12767	11		
321.8936	18.249	17.871	23	0.989	392196	71041	4738	11845	15	0.97(0.65-0.89)	
319.8965	18.370	17.871	30	0.996	502580	97218	5107	12767	19		
	Empc Correction				424206	91183	5107	12767	18		
321.8936	18.355	17.871	29	0.995	550917	118420	4738	11845	25	0.91(0.65-0.89)	
319.8965	18.839	17.871	58	1.021	469619	100879	5107	12767	20		
321.8936	18.839	17.871	58	1.021	582925	117206	4738	11845	25	0.81(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
319.8965	19.111	17.871	74	1.036	127364	28192	5107	12767	6		
	Empc Correction				96751	23056	5107	12767	5		
321.8936	19.096	17.871	73	1.035	125651	29944	4738	11845	6	1.01(0.65-0.89)	
319.8965	19.610	17.871	104	1.063	100546	19178	5107	12767	4		
	Empc Correction				84274	24665	5107	12767	5		
321.8936	19.610	17.871	104	1.063	109448	32033	4738	11845	7	0.92(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.910	22.869	2	1.255	65071893	10735196	18806	47015	571		
353.8970	22.910	22.869	2	1.255	41476834	6964006	12597	31492	553	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.951	22.896	3	1.002	1263660	188149	11994	29985	16		
341.8567	22.924	22.896	2	1.001	866652	126642	8499	21247	15	1.46(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.301	24.274	2	1.061	2173965	307976	11994	29985	26		
341.8567	24.315	24.274	2	1.061	1446162	226006	8499	21247	27	1.50(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.927	20.426	-30	0.870	3913556	742186	1936	4840	383		
341.8567	19.927	20.426	-30	0.870	2541645	523138	2664	6660	196	1.54(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	21.301	23.668	-142	0.930	775771	155840	11994	29985	13		
341.8567	21.315	23.668	-141	0.930	548579	116489	8499	21247	14	1.41(1.32-1.78)	
339.8597	21.519	23.668	-129	0.939	6976526	1118601	11994	29985	93		
341.8567	21.519	23.668	-129	0.939	4346186	675320	8499	21247	79	1.61(1.32-1.78)	
339.8597	21.792	23.668	-112	0.951	1444186	222232	11994	29985	19		
341.8567	21.764	23.668	-114	0.950	818964	128996	8499	21247	15	1.76(1.32-1.78)	
339.8597	22.092	23.668	-94	0.964	3527527	616017	11994	29985	51		
341.8567	22.092	23.668	-94	0.964	2275672	416808	8499	21247	49	1.55(1.32-1.78)	
339.8597	22.419	23.668	-75	0.979	3577407	325956	11994	29985	27		
341.8567	22.351	23.668	-79	0.976	2266702	206119	8499	21247	24	1.58(1.32-1.78)	
339.8597	22.801	23.668	-52	0.995	515433	81516	11994	29985	7		
341.8567	22.774	23.668	-54	0.994	360234	69963	8499	21247	8	1.43(1.32-1.78)	
339.8597	23.333	23.668	-20	1.018	11400654	1617588	11994	29985	135		
341.8567	23.319	23.668	-21	1.018	7141378	925458	8499	21247	109	1.60(1.32-1.78)	
339.8597	23.783	23.668	7	1.038	2310548	312086	11994	29985	26		
341.8567	23.783	23.668	7	1.038	1469818	192653	8499	21247	23	1.57(1.32-1.78)	
339.8597	24.615	23.668	57	1.074	3056607	434097	11994	29985	36		
341.8567	24.615	23.668	57	1.074	1981790	256408	8499	21247	30	1.54(1.32-1.78)	
339.8597	26.278	23.668	156	1.147	1580881	185037	11994	29985	15		
341.8567	26.278	23.668	156	1.147	945466	117539	8499	21247	14	1.67(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.037	24.996	2	1.372	42369120	6396795	9746	24365	656		
369.8919	25.037	24.996	2	1.372	26918468	3970711	4779	11947	831	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.078	25.024	3	1.002	701246	103596	9010	22525	11		
357.8516	25.078	25.024	3	1.002	468392	69180	4335	10837	16	1.50(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.737	23.878	-128	0.868	2501270	421838	9010	22525	47		
357.8516	21.737	23.878	-128	0.868	2319971	397902	4335	10837	92	1.08(1.32-1.78)	
	Empc Correction				1613722	272153	4335	10837	63		
355.8546	22.514	23.878	-82	0.899	427879	94122	9010	22525	10		
357.8516	22.501	23.878	-82	0.899	325599	60087	4335	10837	14	1.31(1.32-1.78)	
	Empc Correction				276050	60723	4335	10837	14		
355.8546	22.951	23.878	-56	0.917	1586712	275346	9010	22525	31		
357.8516	22.951	23.878	-56	0.917	1179732	156710	4335	10837	36	1.34(1.32-1.78)	
355.8546	23.223	23.878	-39	0.928	899294	151032	9010	22525	17		
357.8516	23.210	23.878	-40	0.927	621854	105713	4335	10837	24	1.45(1.32-1.78)	
355.8546	23.524	23.878	-21	0.940	972278	160126	9010	22525	18		
357.8516	23.537	23.878	-20	0.940	590372	98829	4335	10837	23	1.65(1.32-1.78)	
355.8546	23.837	23.878	-2	0.952	314349	63083	9010	22525	7		
357.8516	23.837	23.878	-2	0.952	186955	35048	4335	10837	8	1.68(1.32-1.78)	
355.8546	24.014	23.878	8	0.959	921781	120886	9010	22525	13		
357.8516	24.055	23.878	11	0.961	659432	95653	4335	10837	22	1.40(1.32-1.78)	
355.8546	24.410	23.878	32	0.975	340529	55604	9010	22525	6		
357.8516	24.437	23.878	33	0.976	211212	32466	4335	10837	7	1.61(1.32-1.78)	
355.8546	25.392	23.878	91	1.014	316586	55974	9010	22525	6		
357.8516	25.378	23.878	90	1.014	203002	39750	4335	10837	9	1.56(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.932	30.906	2	0.954	26704997	5913862	12147	30367	487		
385.8610	30.932	30.906	2	0.954	53040309	11108364	21304	53260	521	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											M
373.8208	30.932	30.932	0	1.000	1525966	471977	12343	30857	38		M
375.8178	30.932	30.932	0	1.000	1118465	324624	9442	23605	34	1.36(1.05-1.43)	M
1,2,3,6,7,8-HxCDF											M
373.8208	31.105	31.092	1	1.006	2188119	473102	12343	30857	38		M
375.8178	31.105	31.092	1	1.006	1710437	364482	9442	23605	39	1.28(1.05-1.43)	M
2,3,4,6,7,8-HxCDF											
373.8208	31.851	31.824	2	1.030	1648639	434212	12343	30857	35		
375.8178	31.851	31.824	2	1.030	1236737	345610	9442	23605	37	1.33(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.005	24479163	7094257	12147	30367	584		
385.8610	32.597	32.583	1	1.005	46829972	13606782	21304	53260	639	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						12343	30857			
375.8178	32.597						9442	23605			
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.682	30.653	-118	0.927	1765392	252377	12343	30857	20		
375.8178	28.695	30.653	-117	0.928	1486094	203142	9442	23605	22	1.19(1.05-1.43)	
373.8208	29.095	30.653	-93	0.941	5858044	660563	12343	30857	54		
375.8178	29.095	30.653	-93	0.941	4718114	549163	9442	23605	58	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
373.8208	30.280	30.653	-22	0.979	2978768	517303	12343	30857	42		
375.8178	30.280	30.653	-22	0.979	2343104	422188	9442	23605	45	1.27(1.05-1.43)	
373.8208	30.599	30.653	-3	0.989	2822512	592401	12343	30857	48		
375.8178	30.599	30.653	-3	0.989	2128114	445578	9442	23605	47	1.33(1.05-1.43)	
373.8208	31.492	30.653	50	1.018	425582	70048	12343	30857	6		
375.8178	31.505	30.653	51	1.019	357374	55633	9442	23605	6	1.19(1.05-1.43)	
373.8208	31.705	30.653	63	1.025	2625040	629350	12343	30857	51		
375.8178	31.691	30.653	62	1.025	2050751	492804	9442	23605	52	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.424	32.397	2		55339696	14810091	13803	34507	1073		
403.8529	32.424	32.397	2		43348162	11906166	12867	32167	925	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.024	31.997	2	0.998	506791	154161	3487	8717	44		
391.8127	32.024	31.997	2	0.998	478644	131715	4122	10305	32	1.06(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.990	35360253	9177053	13803	34507	665		
403.8529	32.104	32.091	1	0.990	27311382	6901161	12867	32167	536	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.131	32.104	2	1.001	2831758	744162	3487	8717	213		
391.8127	32.117	32.104	1	1.000	2286712	581430	4122	10305	141	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8157	32.424	32.410	1	1.010	1605841	437245	3487	8717	125		M
391.8127	32.437	32.410	2	1.010	1389251	414452	4122	10305	101	1.16(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.160	31.252	-65	0.939	4145765	669026	3487	8717	192		
391.8127	30.160	31.252	-65	0.939	3577076	565412	4122	10305	137	1.16(1.05-1.43)	
389.8157	30.999	31.252	-15	0.966	3296934	698980	3487	8717	200		
391.8127	30.999	31.252	-15	0.966	2546046	547453	4122	10305	133	1.29(1.05-1.43)	
389.8157	31.332	31.252	5	0.976	11711116	2491074	3487	8717	714		
391.8127	31.332	31.252	5	0.976	9346932	2050051	4122	10305	497	1.25(1.05-1.43)	
389.8157	31.505	31.252	15	0.981	477301	101410	3487	8717	29		
391.8127	31.518	31.252	16	0.982	411698	106233	4122	10305	26	1.16(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.022	33.998	1	1.049	9854924	3165441	14741	36852	215		
419.8220	34.010	33.998	1	1.049	22051885	6994834	28057	70142	249	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.010	1	1.000	5607611	1875775	12673	31682	148		
409.7789	34.022	34.010	1	1.000	5388523	1770760	10797	26992	164	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						12673	31682			
409.7789	35.128						10797	26992			
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.900	34.569	-40	0.996	794779	301237	12673	31682	24		
409.7789	33.900	34.569	-40	0.996	763645	286668	10797	26992	27	1.04(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
407.7818	34.216	34.569	-21	1.006	484961	139246	12673	31682	11		
409.7789	34.216	34.569	-21	1.006	452913	129618	10797	26992	12	1.07(0.88-1.20)	
407.7818	34.338	34.569	-14	1.009	4926782	1470537	12673	31682	116		
409.7789	34.338	34.569	-14	1.009	4709131	1426510	10797	26992	132	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.836	34.812	1	1.074	18446405	5568330	20550	51375	271		
437.8140	34.836	34.812	1	1.074	16391946	4978306	10580	26450	471	1.13(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.848	34.824	1	1.000	12329084	3803731	15617	39042	244		
425.7737	34.848	34.824	1	1.000	11812193	3515656	17127	42817	205	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.277	35.261	-59	0.984	12032502	3980182	15617	39042	255		a
425.7737	34.277	35.261	-59	0.984	11697971	3809858	17127	42817	222	1.03(0.88-1.20)	
13C-OCDD											
469.7779	37.269	37.233	2	1.149	21954866	6616867	5591	13977	1183		
471.7750	37.269	37.233	2	1.149	24834563	7117486	4646	11615	1532	0.88(0.76-1.02)	
OCDF											
441.7428	37.377	37.341	2	1.003	1816628	525032	942	2355	557		
443.7399	37.377	37.341	2	1.003	2013073	589335	1310	3275	450	0.90(0.76-1.02)	
OCDD											
457.7377	37.281	37.245	2	1.000	22916525	6648701	2504	6260	2655		
459.7348	37.281	37.245	2	1.000	24991223	7508184	3072	7680	2444	0.92(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Lims ID: 160-24924-G-8-B
Client ID: SHAD041DP022SS02NS
Inject. Date: 19-Nov-2017 04:03:05 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195574 Lims Sample ID: 72

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	136623186	32510888

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	136623186	32510888

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.240	1263200	404366	1672628	485516	1.96	0.76	
15.588	999327	280689	1328444	397513	1.55	0.75	
15.754	960007	289973	1219750	386921	1.45	0.79	
16.011	5377342	1028300	6759363	1306906	8.10	0.80	
16.223	2608342	365642	3273337	441498	3.92	0.80	
16.570	3199779	427002	4079014	572751	4.86	0.78	
16.813	3172574	703941	4364068	1015068	5.03	0.73	
17.024	4152971	506016	5114489	597401	6.18	0.81	
17.342	5685559	1476214	7422768	1925946	8.75	0.77	
17.569	1552785	300161	2020457	441751	2.38	0.77	
18.188	3067495	708382	3850367	898220	4.62	0.80	
18.400	1498984	320608	1852484	398587	2.24	0.81	
18.642	664414	141030	859988	206328	1.02	0.77	
18.959	3226078	764396	3993747	973707	4.82	0.81	
19.337	3478574	840208	4990997	1091688	5.65	0.70	
Signal Totals:							
	40907431	8556928	52801901	11139801			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	93709332	19696729				0.77	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 62.518 = (93709332 * 100.000) / (136623186 * 1.097)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Lims ID:	160-24924-G-8-B		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	19-Nov-2017 04:03:05	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	72

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	95300552	20821435

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	95300552	20821435

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.177	2074856	556383	2586268	706445	4.20	0.80	
16.480	866302	250912	1119228	290189	1.79	0.77	
16.722	288674	74492	410863	99130	0.6304	0.70	
17.312	1218397	274413	1408523	319890	2.37	0.87	
17.569	511075	80946	814529	88276	1.19	0.63	RQ
17.569	511075	80946	663733	105124	1.06		Empc Correction
17.931	307123	66380	372113	104890	0.6121	0.83	
18.249	380085	94384	392196	71041	0.6959	0.97	RQ
18.249	301990	54701	392196	71041	0.6255		Empc Correction
18.370	502580	97218	550917	118420	0.9493	0.91	RQ
18.370	424206	91183	550917	118420	0.8787		Empc Correction
18.839	469619	100879	582925	117206	0.9485	0.81	
19.111	127364	28192	125651	29944	0.2280	1.01	RQ
19.111	96751	23056	125651	29944	0.2004		Empc Correction
19.610	100546	19178	109448	32033	0.1892	0.92	RQ
19.610	84274	24665	109448	32033	0.1746		Empc Correction
Signal Totals:							
	6643267	1598010	8321865	1994312			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	15319282	3620841				0.81	RQ
	14965132	3592322					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 13.805 = (15319282 * 100.000) / (95300552 * 1.164)
Empc Amount: 13.485 = (14965132 * 100.000) / (95300552 * 1.164)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Lims ID:	160-24924-G-8-B		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	19-Nov-2017 04:03:05	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	72

F1 PeCDFs, RT: 20.426

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	106548727	17699202
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	106548727	17699202

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.927	3913556	742186	2541645	523138	5.38	1.54	
Signal Totals:							
	3913556	742186	2541645	523138			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6455201	1265324				1.54	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.380 = (6455201 * 100.000) / (106548727 * 1.126)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Lims ID: 160-24924-G-8-B
Client ID: SHAD041DP022SS02NS
Inject. Date: 19-Nov-2017 04:03:05
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 72

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF | IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	106548727	17699202
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	106548727	17699202

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.301	775771	155840	548579	116489	1.10	1.41	
21.519	6976526	1118601	4346186	675320	9.44	1.61	
21.792	1444186	222232	818964	128996	1.89	1.76	
22.092	3527527	616017	2275672	416808	4.84	1.55	
22.419	3577407	325956	2266702	206119	4.87	1.58	
22.801	515433	81516	360234	69963	0.7297	1.43	
23.333	11400654	1617588	7141378	925458	15.5	1.60	
23.783	2310548	312086	1469818	192653	3.15	1.57	
24.615	3056607	434097	1981790	256408	4.20	1.54	
26.278	1580881	185037	945466	117539	2.11	1.67	
Signal Totals:							
	35165540	5068970	22154789	3105753			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	57320329	8174723				1.59	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 47.769 = (57320329 * 100.000) / (106548727 * 1.126)

Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Lims ID:	160-24924-G-8-B		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	19-Nov-2017 04:03:05	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	72

Non-2,3,7,8-sub-PeCDD, RT: 23.878

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.127	D 13C-1,2,3,7,8-PeCDD	100.000	69287588	10367506

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.127		100.000	69287588	10367506

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.737	2501270	421838	2319971	397902	6.17	1.08	RQ
21.737	2501270	421838	1613722	272153	5.27		Empc Correction
22.514	427879	94122	325599	60087	0.9647	1.31	RQ
22.514	427879	94122	276050	60723	0.9013		Empc Correction
22.951	1586712	275346	1179732	156710	3.54	1.34	
23.223	899294	151032	621854	105713	1.95	1.45	
23.524	972278	160126	590372	98829	2.00	1.65	
23.837	314349	63083	186955	35048	0.6419	1.68	
24.014	921781	120886	659432	95653	2.02	1.40	
24.410	340529	55604	211212	32466	0.7064	1.61	
25.392	316586	55974	203002	39750	0.6653	1.56	
Signal Totals:							
	8280678	1398011	5542331	897045			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	14578807	2420169				1.31	RQ
	13823009	2295056					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 18.666 = (14578807 * 100.000) / (69287588 * 1.127)

Empc Amount: 17.699 = (13823009 * 100.000) / (69287588 * 1.127)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Lims ID:	160-24924-G-8-B		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	19-Nov-2017 04:03:05	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	72

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	79745306	17022226
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	79745306	17022226

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.682	1765392	252377	1486094	203142	2.97	1.19	
29.095	5858044	660563	4718114	549163	9.64	1.24	
30.280	2978768	517303	2343104	422188	4.85	1.27	
30.599	2822512	592401	2128114	445578	4.51	1.33	
31.492	425582	70048	357374	55633	0.7140	1.19	
31.705	2625040	629350	2050751	492804	4.26	1.28	
Signal Totals:							
	16475338	2722042	13083551	2168508			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	29558889	4890550				1.26	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 26.955 = (29558889 * 100.000) / (79745306 * 1.375)

Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Lims ID: 160-24924-G-8-B
Client ID: SHAD041DP022SS02NS
Inject. Date: 19-Nov-2017 04:03:05
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 72

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF / IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	62671635	16078214
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	62671635	16078214

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.160	4145765	669026	3577076	565412	10.6	1.16	
30.999	3296934	698980	2546046	547453	8.05	1.29	
31.332	11711116	2491074	9346932	2050051	29.0	1.25	
31.505	477301	101410	411698	106233	1.22	1.16	
Signal Totals:							
	19631116	3960490	15881752	3269149			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	35512868	7229639				1.24	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 48.897 = (35512868 * 100.000) / (62671635 * 1.159)

Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Lims ID: 160-24924-G-8-B
Client ID: SHAD041DP022SS02NS
Inject. Date: 19-Nov-2017 04:03:05 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195574 Lims Sample ID: 72

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	31906809	10160275
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	31906809	10160275

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.900	794779	301237	763645	286668	3.47	1.04	
34.216	484961	139246	452913	129618	2.09	1.07	
34.338	4926782	1470537	4709131	1426510	21.4	1.05	
Signal Totals:							
	6206522	1911020	5925689	1842796			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12132211	3753816				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 27.005 = (12132211 * 100.000) / (31906809 * 1.408)

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Lims ID:	160-24924-G-8-B		
Client ID:	SHAD041DP022SS02NS		
Inject. Date:	19-Nov-2017 04:03:05	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	72

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	34838351	10546636

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	34838351	10546636

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.277	12032502	3980182	11697971	3809858	58.6	1.03	
Signal Totals:							
	12032502	3980182	11697971	3809858			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	23730473	7790040				1.03	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 58.563 = (23730473 * 100.000) / (34838351 * 1.163)

Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

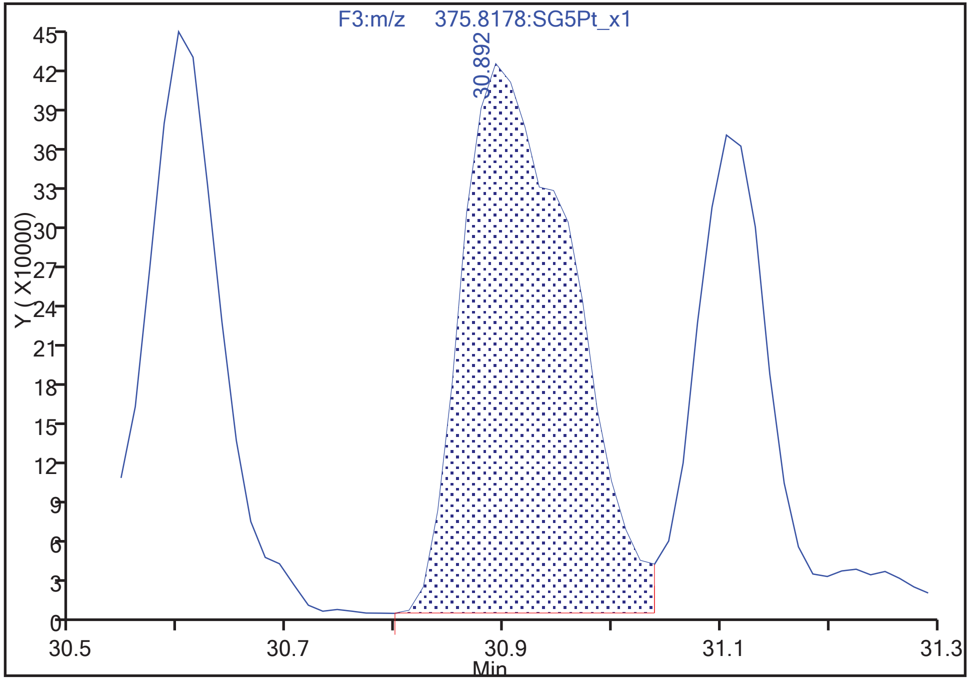
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Injection Date:	19-Nov-2017 04:03:05	Instrument ID:	3D5
Lims ID:	160-24924-G-8-B	Lab Sample ID:	320-24924-8
Client ID:	SHAD041DP022SS02NS		
Operator ID:	SMA, ALM	ALS Bottle#:	47 Worklist Smp#: 72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F3:HRSIR

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

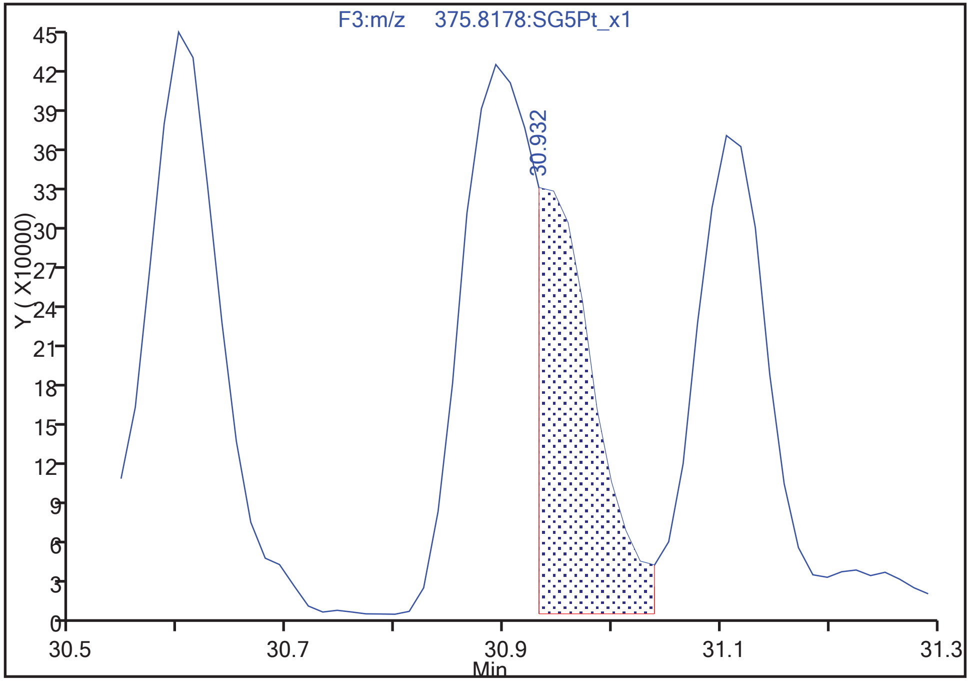
Processing Integration Results

RT:	30.89
Area:	2972808
Amount:	6.183422
Amount Units:	pg/ul



Manual Integration Results

RT:	30.93
Area:	1118465
Amount:	2.460848
Amount Units:	pg/ul



Reviewer: krenns, 06-Dec-2017 07:48:56

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

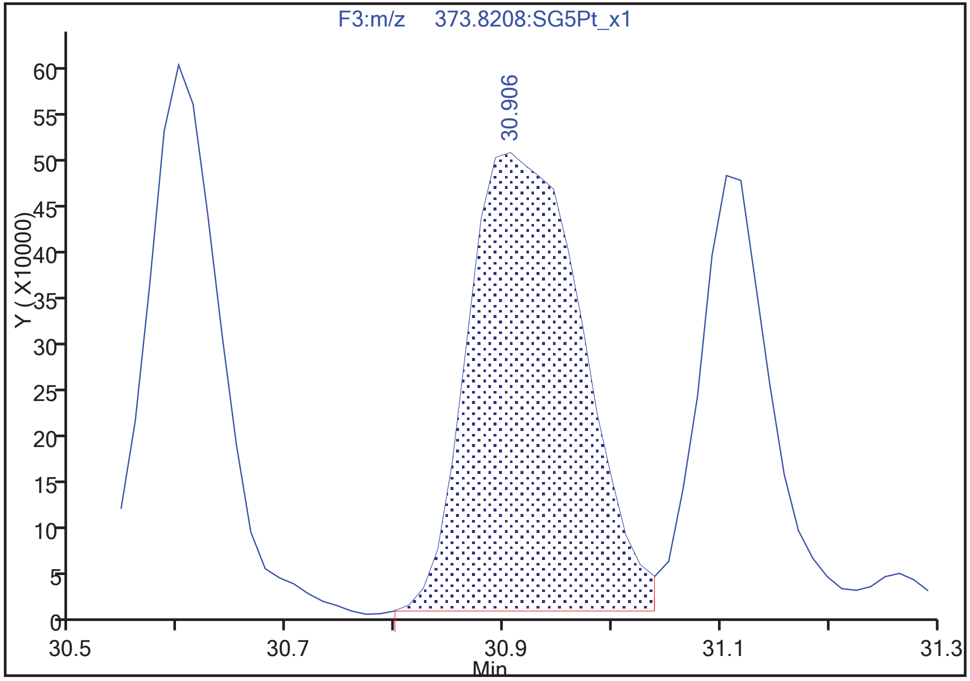
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d				
Injection Date:	19-Nov-2017 04:03:05	Instrument ID:	3D5		
Lims ID:	160-24924-G-8-B	Lab Sample ID:	320-24924-8		
Client ID:	SHAD041DP022SS02NS				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

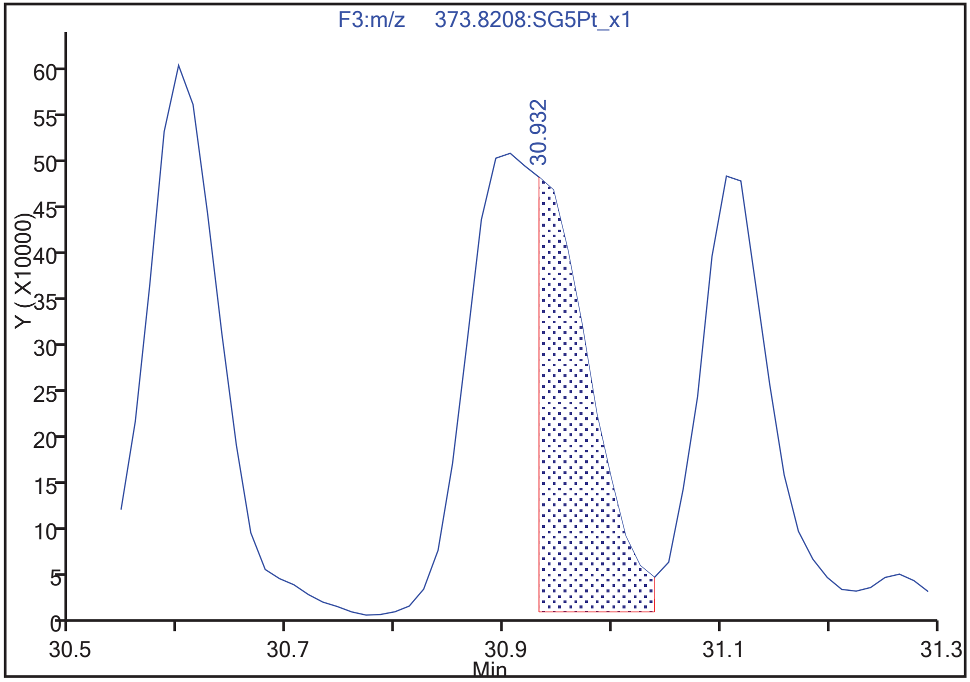
RT:	30.91
Area:	3671906
Amount:	6.183422
Amount Units:	pg/ul

Processing Integration Results



RT:	30.93
Area:	1525966
Amount:	2.460848
Amount Units:	pg/ul

Manual Integration Results



Reviewer: krenns, 06-Dec-2017 07:48:57

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

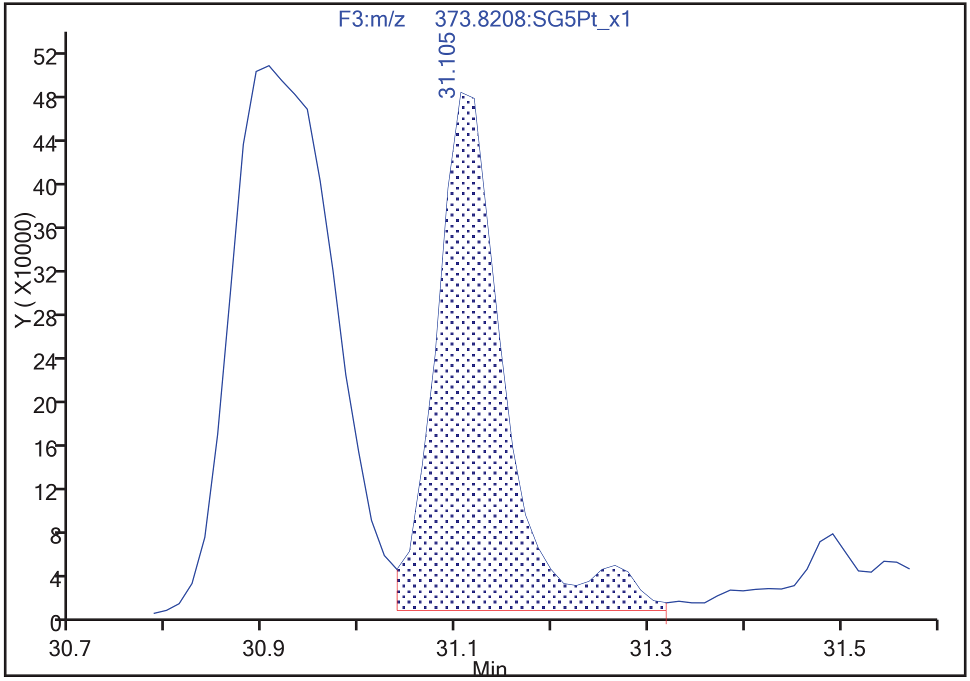
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d				
Injection Date:	19-Nov-2017 04:03:05	Instrument ID:	3D5		
Lims ID:	160-24924-G-8-B	Lab Sample ID:	320-24924-8		
Client ID:	SHAD041DP022SS02NS				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

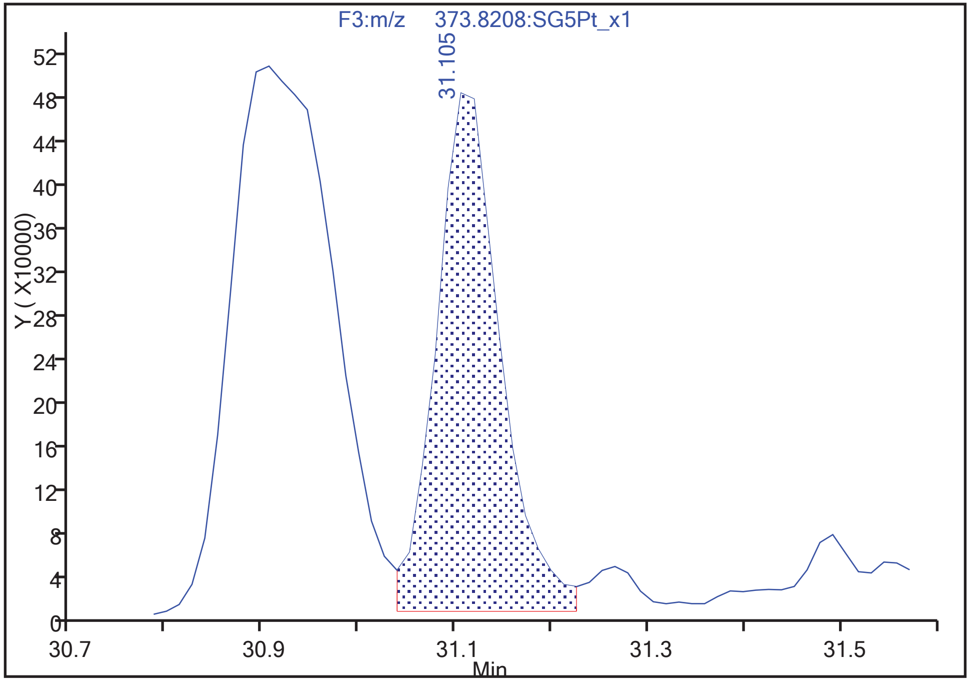
Processing Integration Results

RT:	31.11
Area:	2333336
Amount:	3.538519
Amount Units:	pg/ul



Manual Integration Results

RT:	31.11
Area:	2188119
Amount:	3.304621
Amount Units:	pg/ul



Reviewer: krenns, 06-Dec-2017 07:49:11

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Sacramento

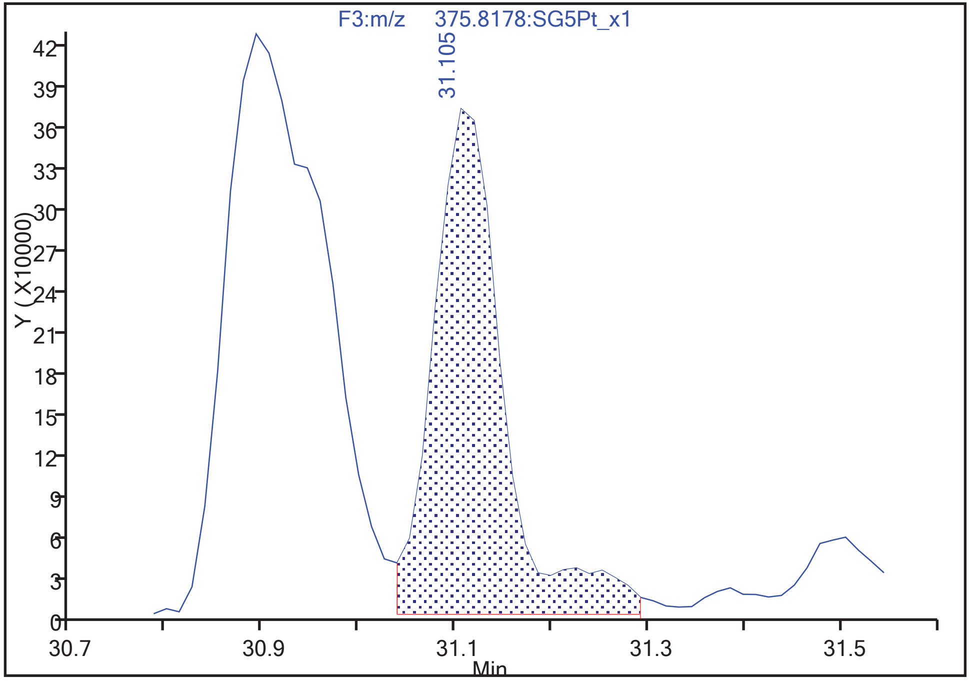
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d				
Injection Date:	19-Nov-2017 04:03:05	Instrument ID:	3D5		
Lims ID:	160-24924-G-8-B	Lab Sample ID:	320-24924-8		
Client ID:	SHAD041DP022SS02NS				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

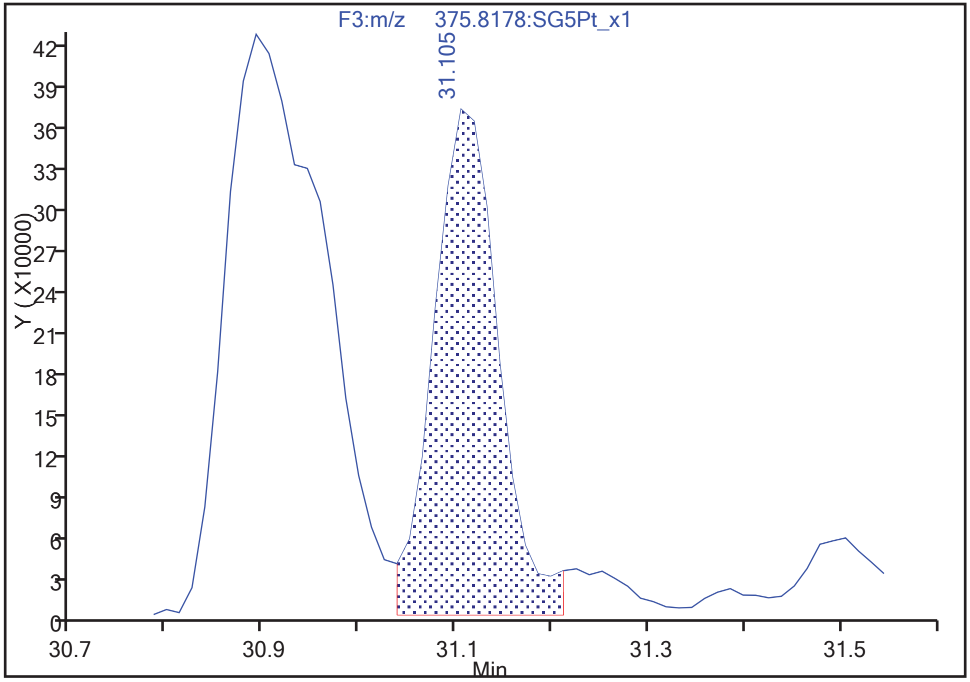
Processing Integration Results

RT: 31.11
Area: 1841157
Amount: 3.538519
Amount Units: pg/ul



Manual Integration Results

RT: 31.11
Area: 1710437
Amount: 3.304621
Amount Units: pg/ul



Reviewer: krenns, 06-Dec-2017 07:49:13
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

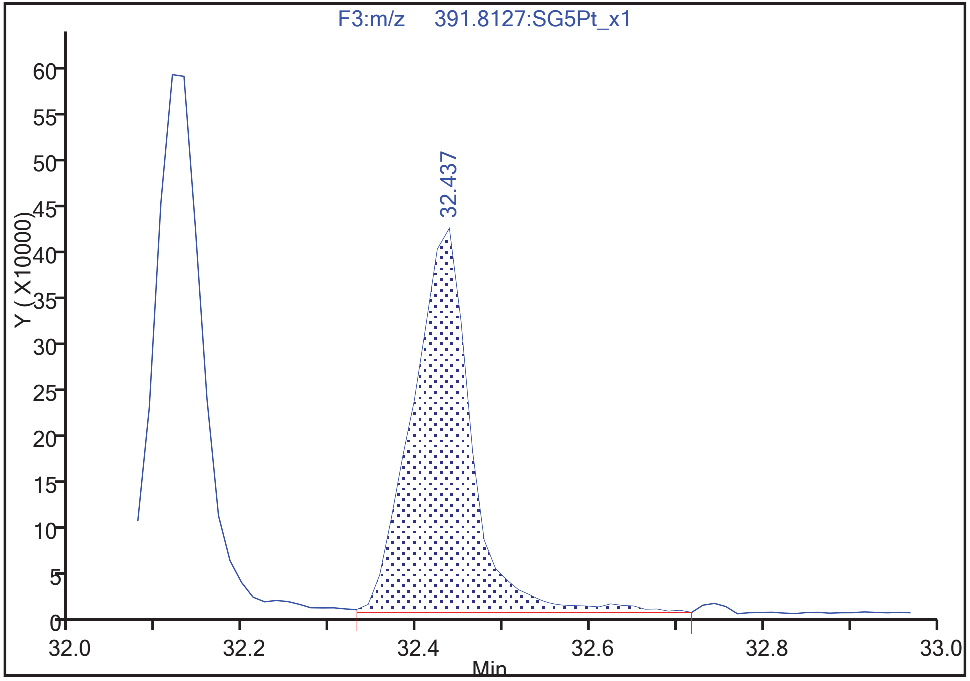
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Injection Date:	19-Nov-2017 04:03:05	Instrument ID:	3D5
Lims ID:	160-24924-G-8-B	Lab Sample ID:	320-24924-8
Client ID:	SHAD041DP022SS02NS		
Operator ID:	SMA, ALM	ALS Bottle#:	47 Worklist Smp#: 72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F3:HRSIR

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

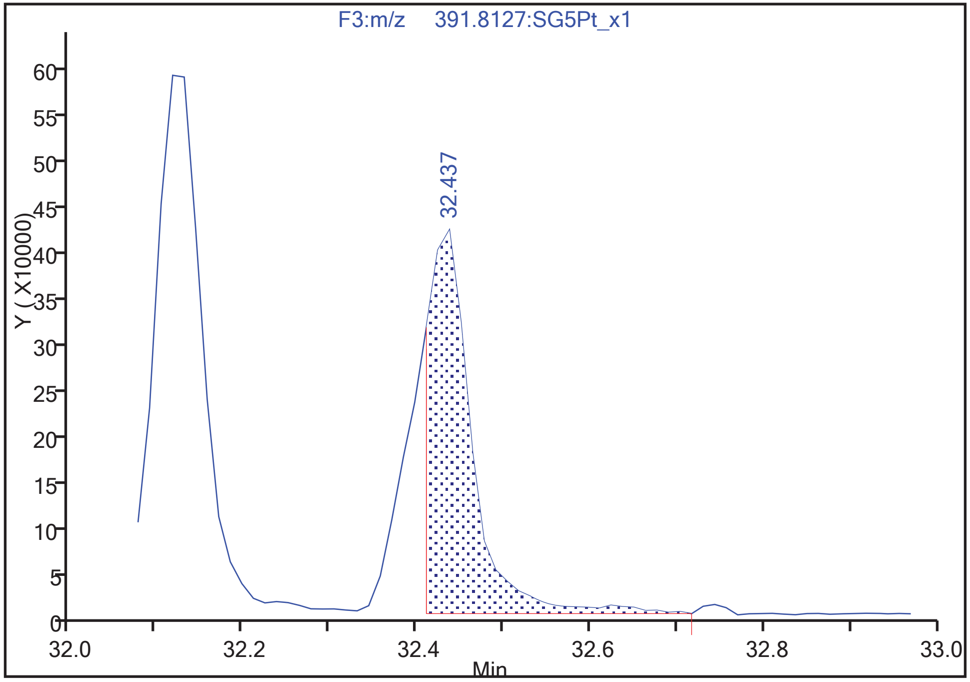
RT:	32.44
Area:	1950936
Amount:	5.455325
Amount Units:	pg/ul

Processing Integration Results



RT:	32.44
Area:	1389251
Amount:	3.882006
Amount Units:	pg/ul

Manual Integration Results



Reviewer: krenns, 06-Dec-2017 07:49:34

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

TestAmerica Sacramento

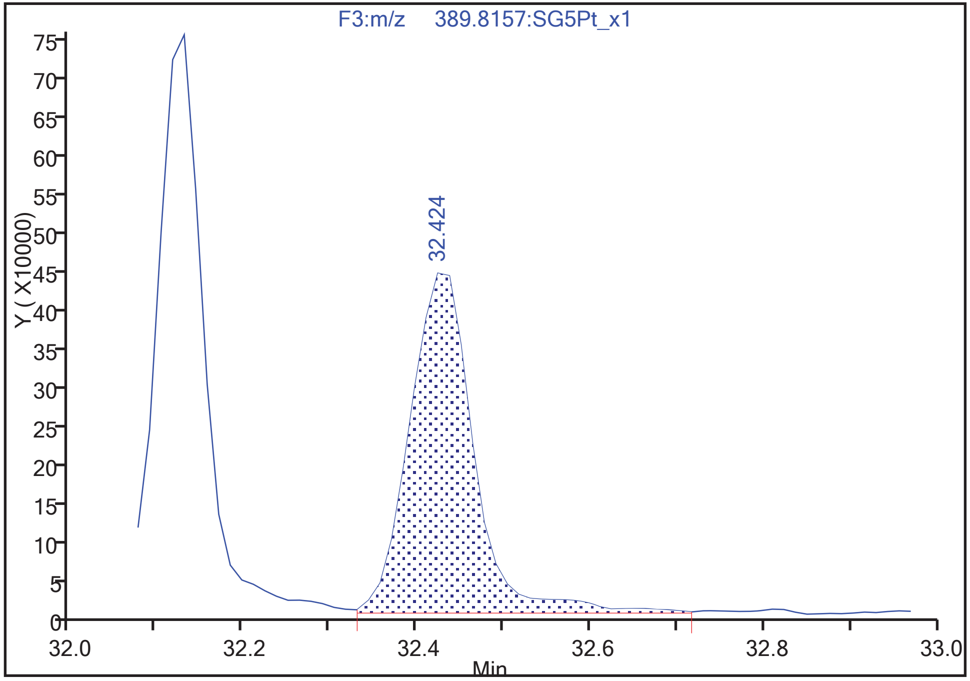
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d				
Injection Date:	19-Nov-2017 04:03:05	Instrument ID:	3D5		
Lims ID:	160-24924-G-8-B	Lab Sample ID:	320-24924-8		
Client ID:	SHAD041DP022SS02NS				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

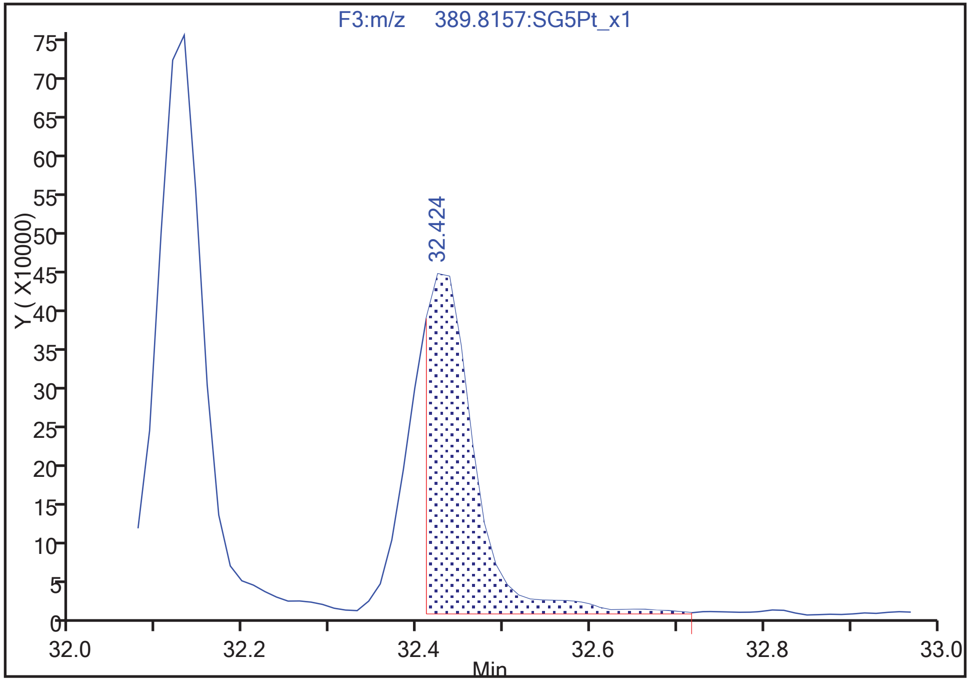
Processing Integration Results

RT: 32.42
Area: 2258022
Amount: 5.455325
Amount Units: pg/ul



Manual Integration Results

RT: 32.42
Area: 1605841
Amount: 3.882006
Amount Units: pg/ul



Reviewer: krenns, 06-Dec-2017 07:49:35

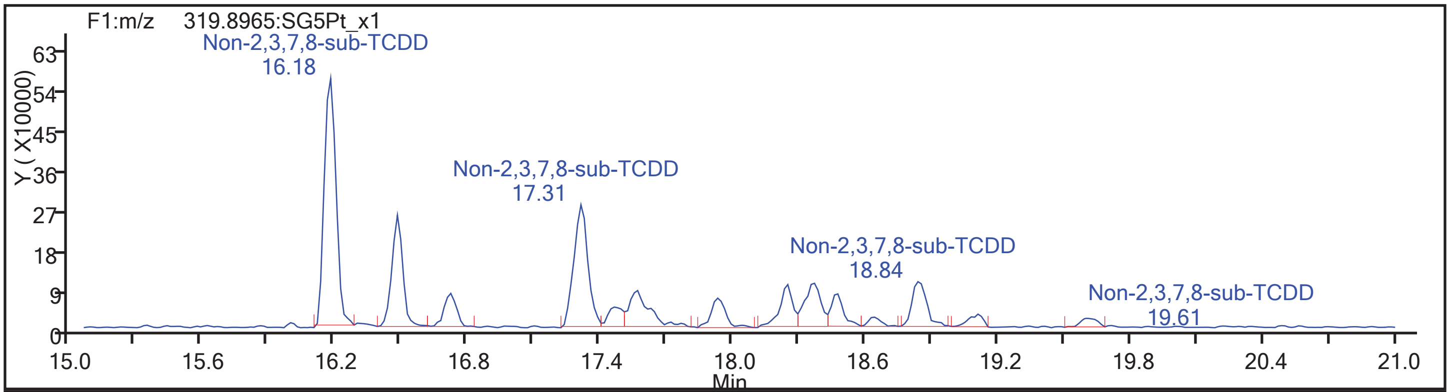
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

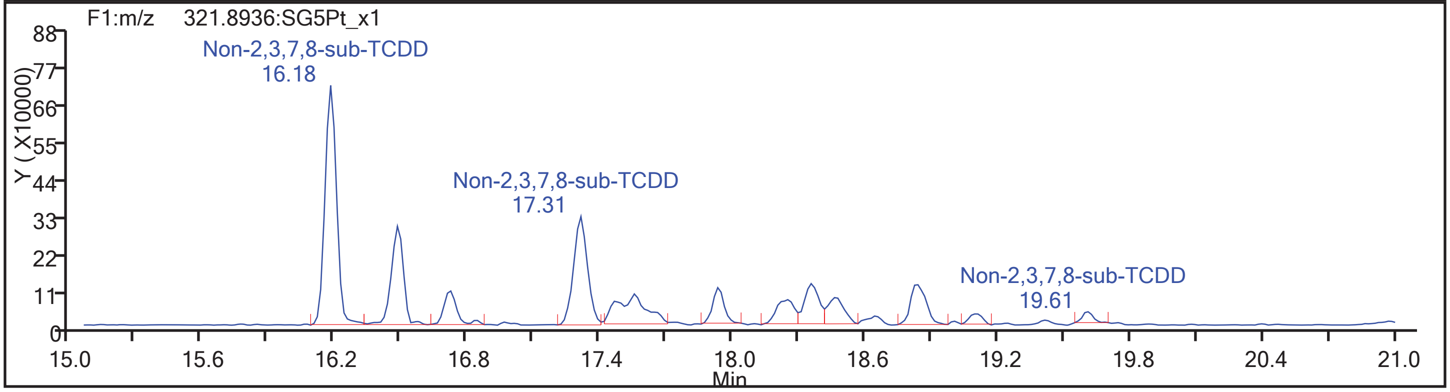
Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

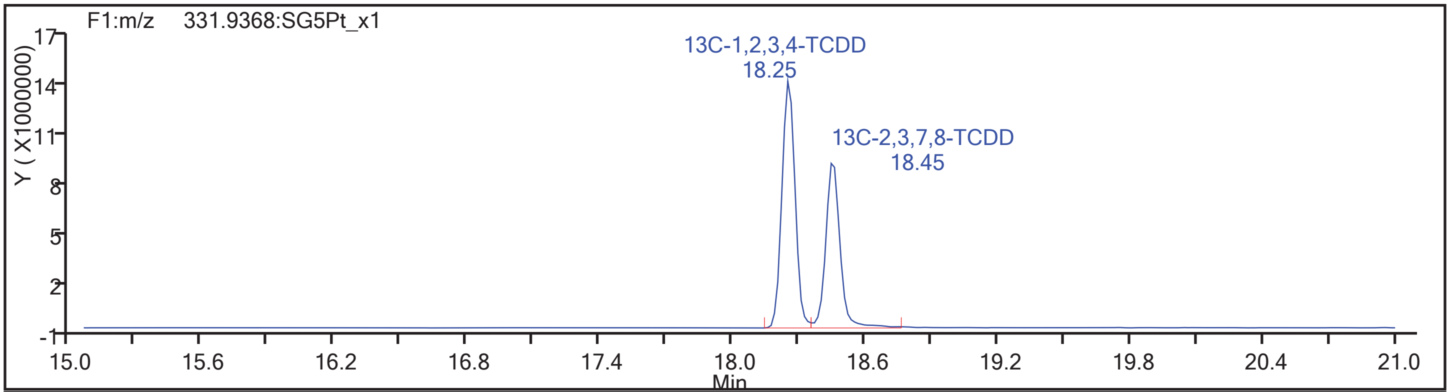
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Injection Date:	19-Nov-2017 04:03:05	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	195574	Sample Line#:	72
Column Type:		Column Dia:	

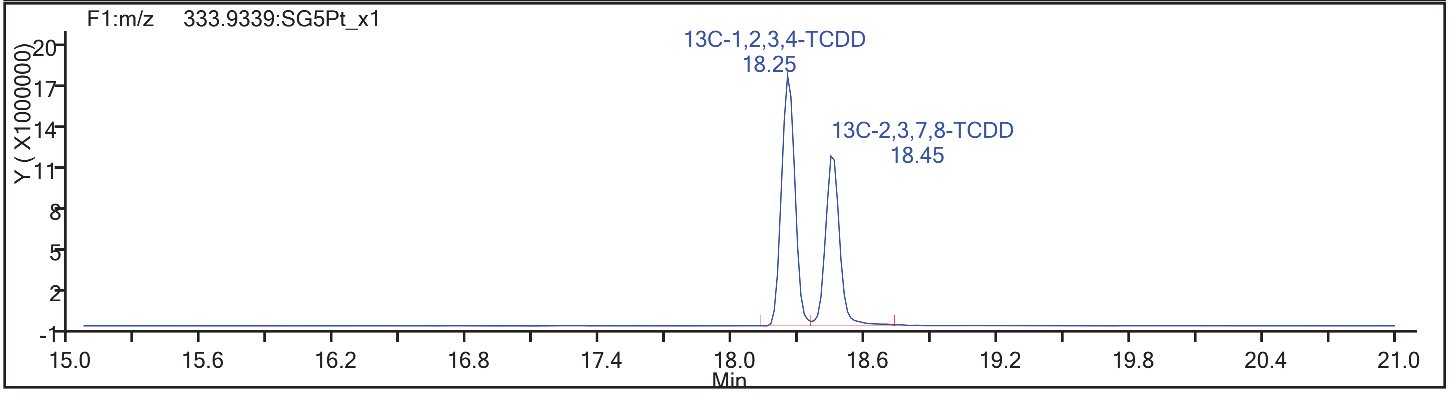
TCDD





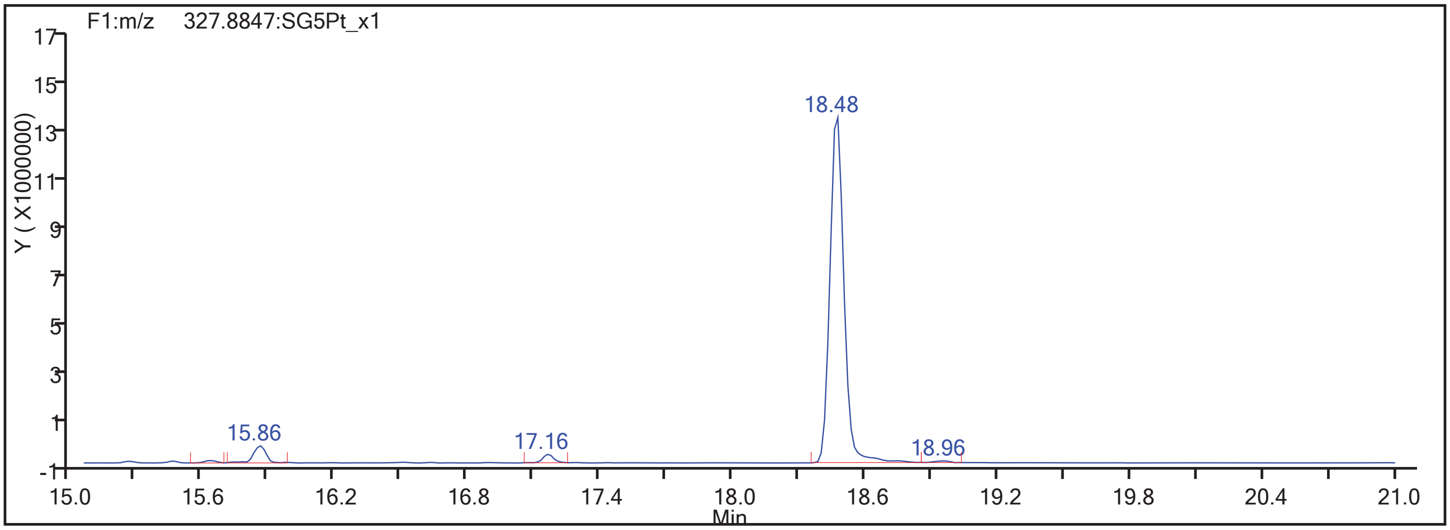
TCDD Standards



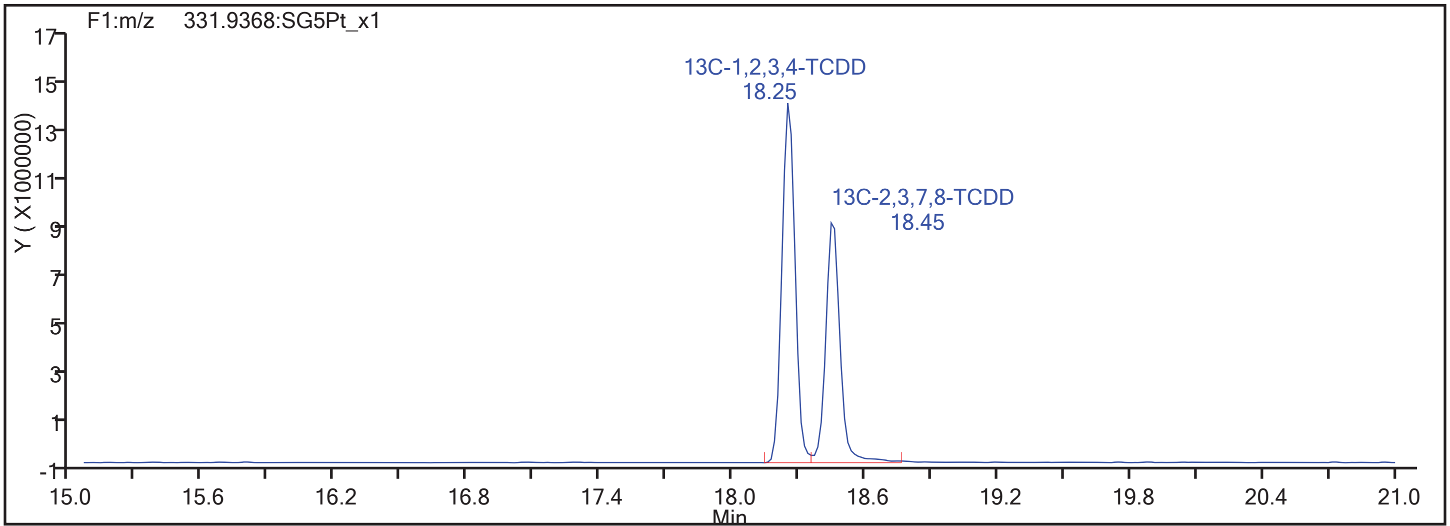


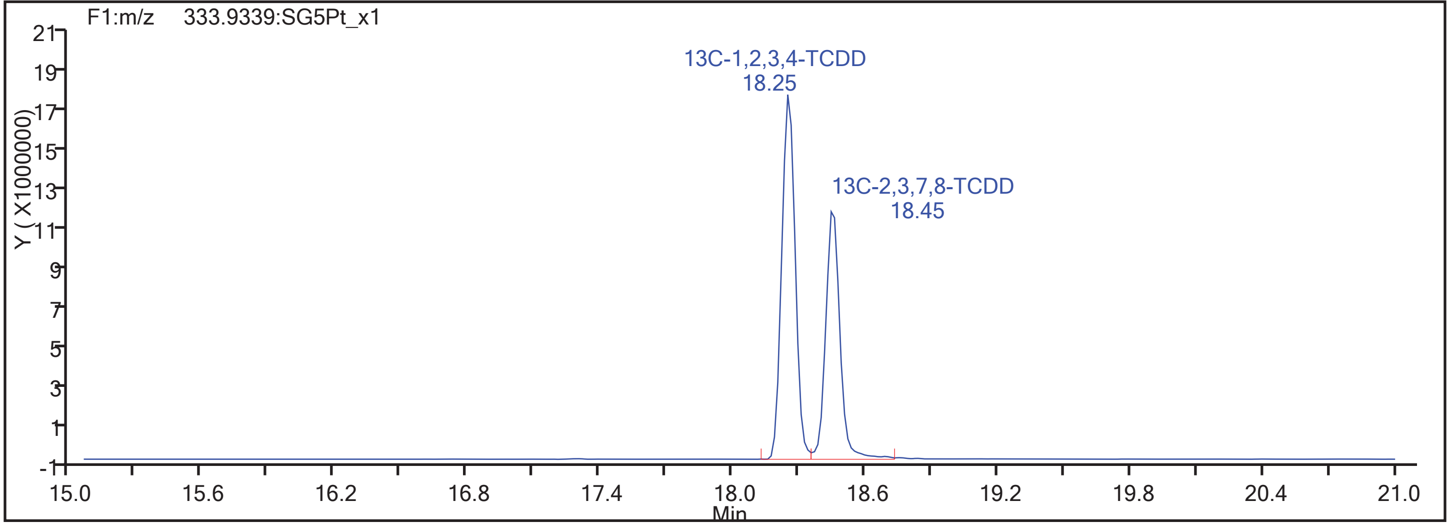
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Injection Date: 19-Nov-2017 04:03:05 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 195574 Sample Line#: 72
Column Type: Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards



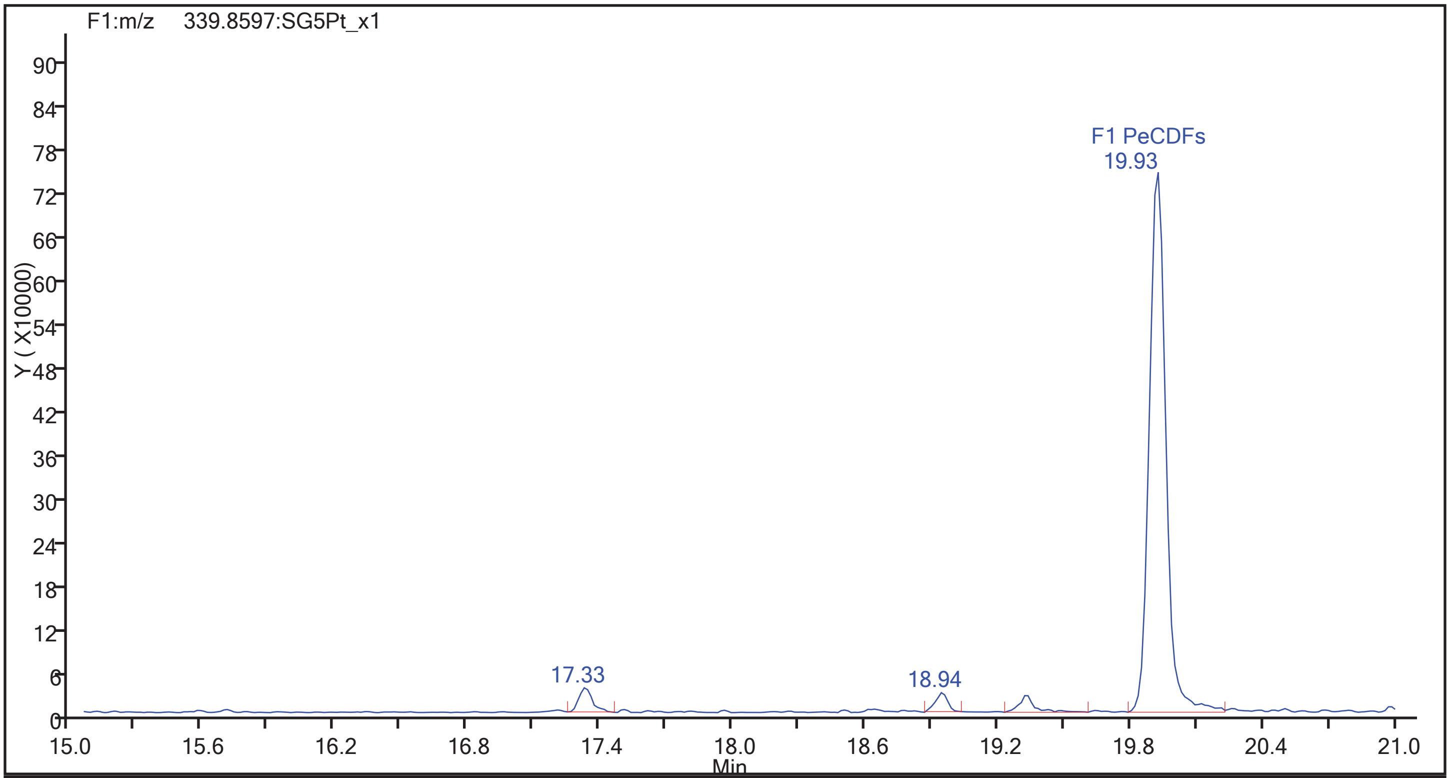


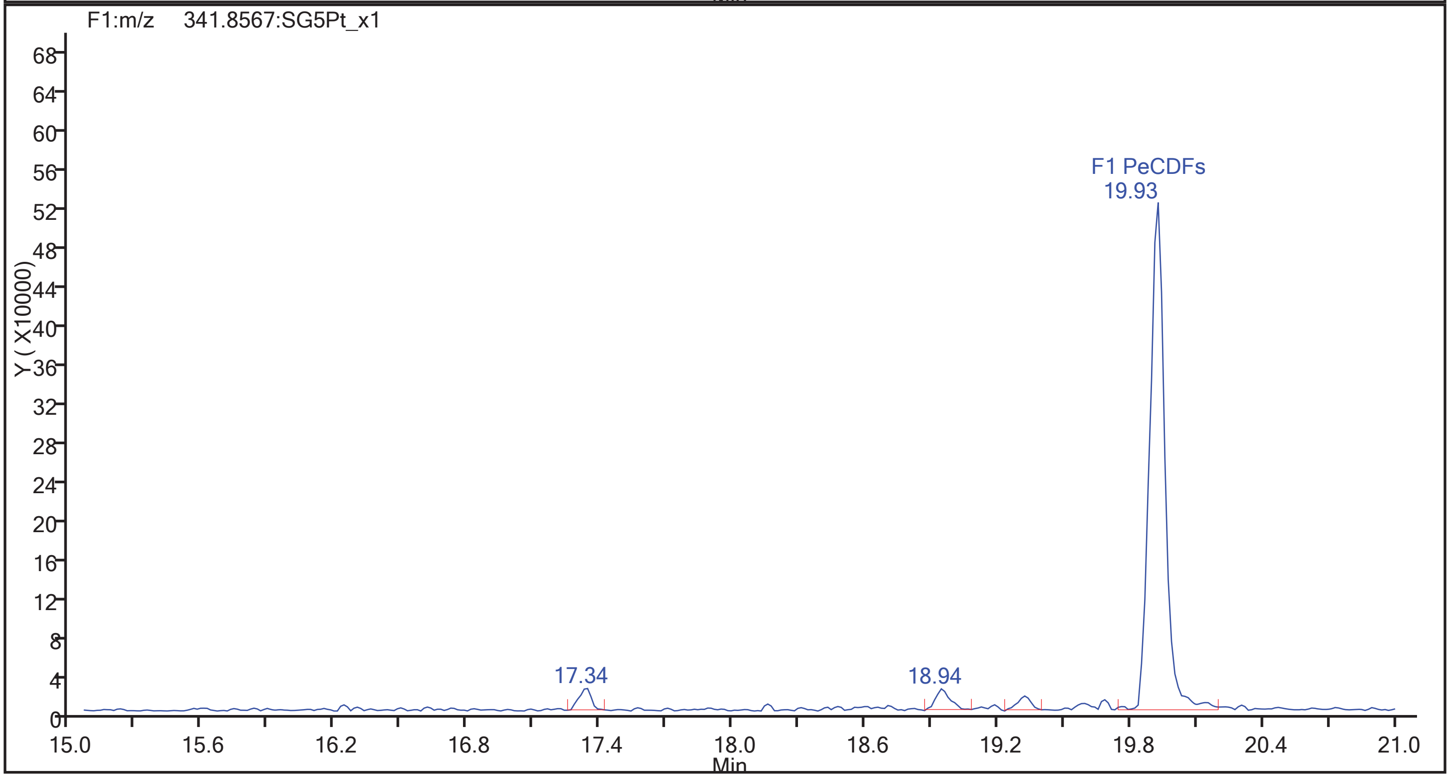
Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Injection Date:	19-Nov-2017 04:03:05	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	195574	Sample Line#:	72
Column Type:		Column Dia:	

F1 PeCDFs



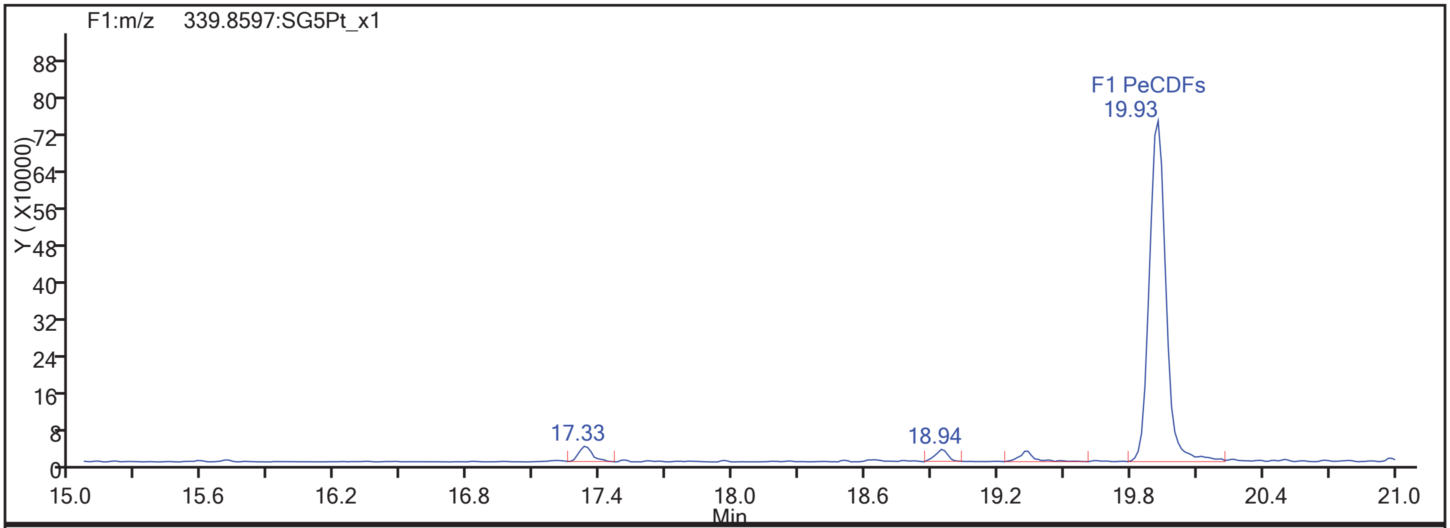


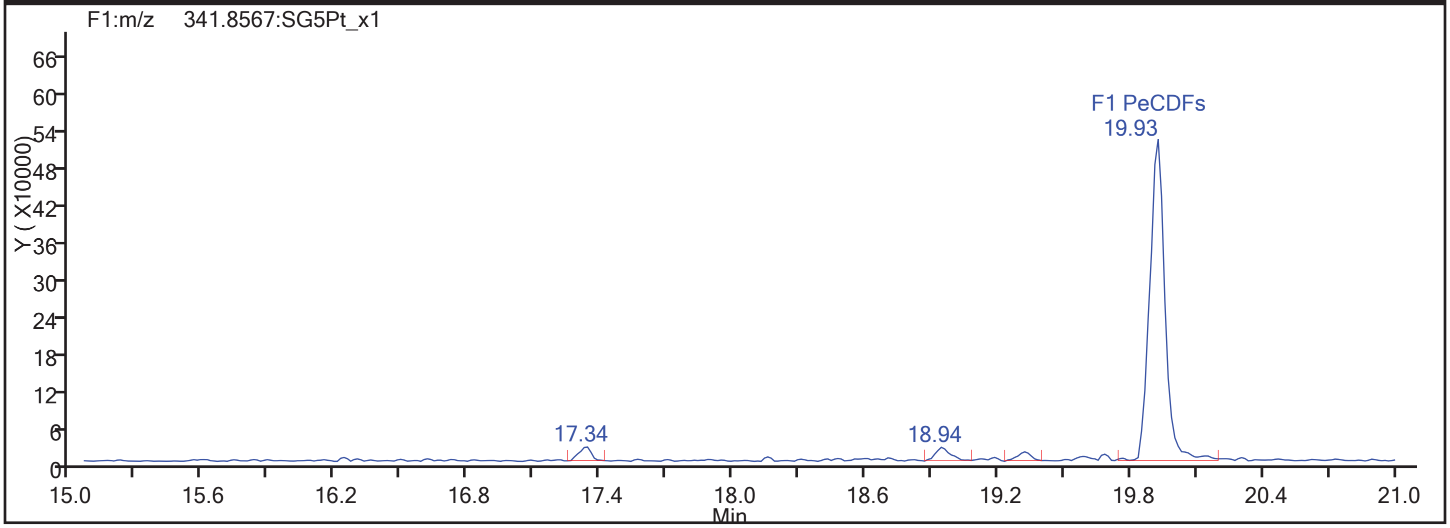
Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

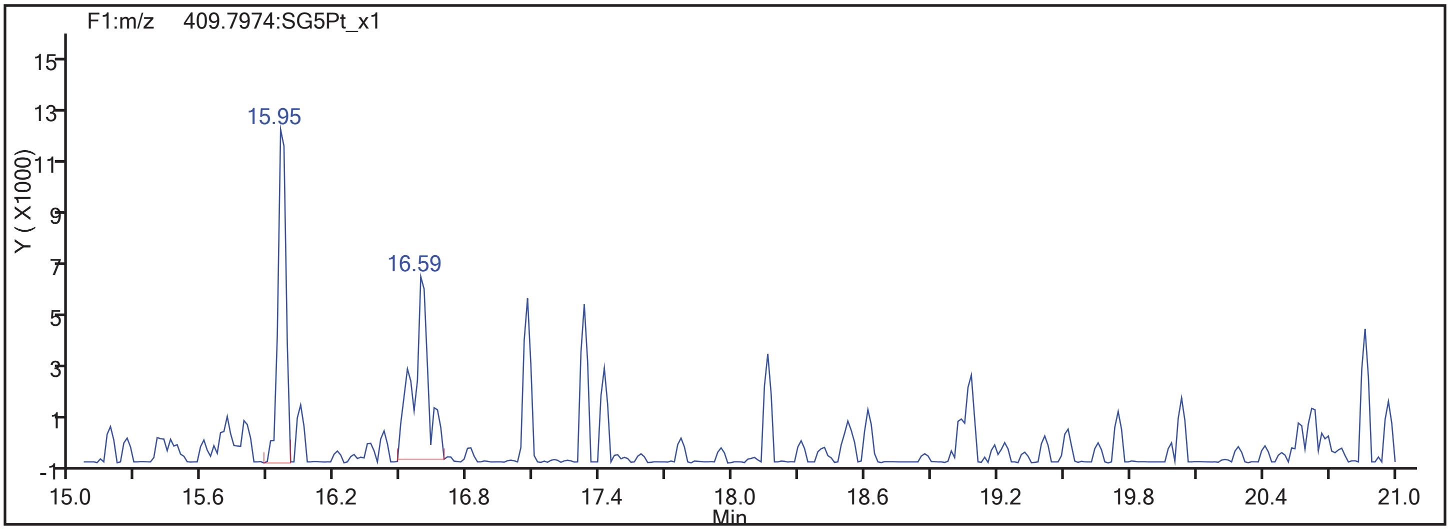
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Injection Date:	19-Nov-2017 04:03:05	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	195574	Sample Line#:	72
Column Type:		Column Dia:	

F1 PeCDFs





F1 PeCDFs Interference Mass

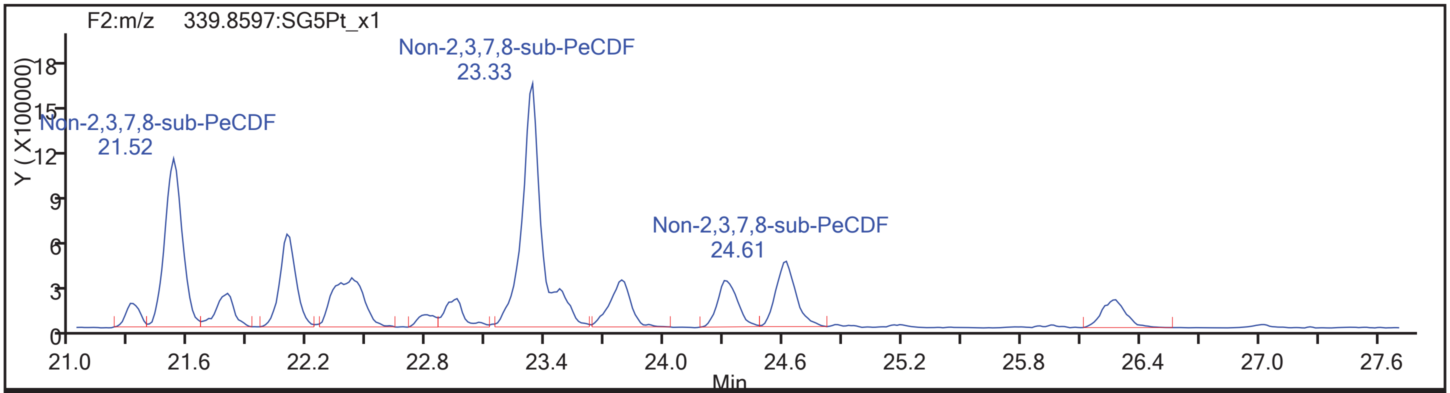


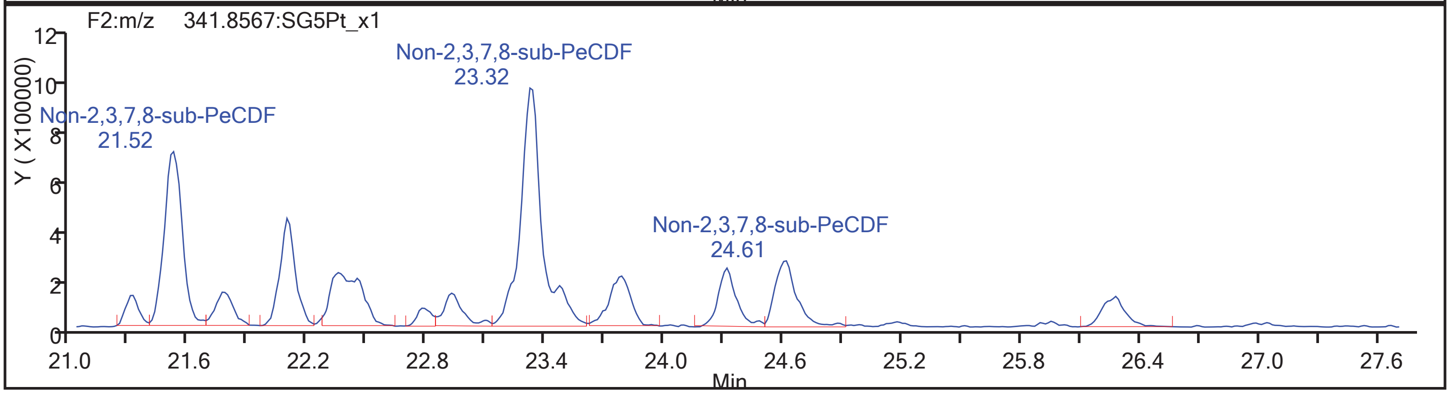
Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

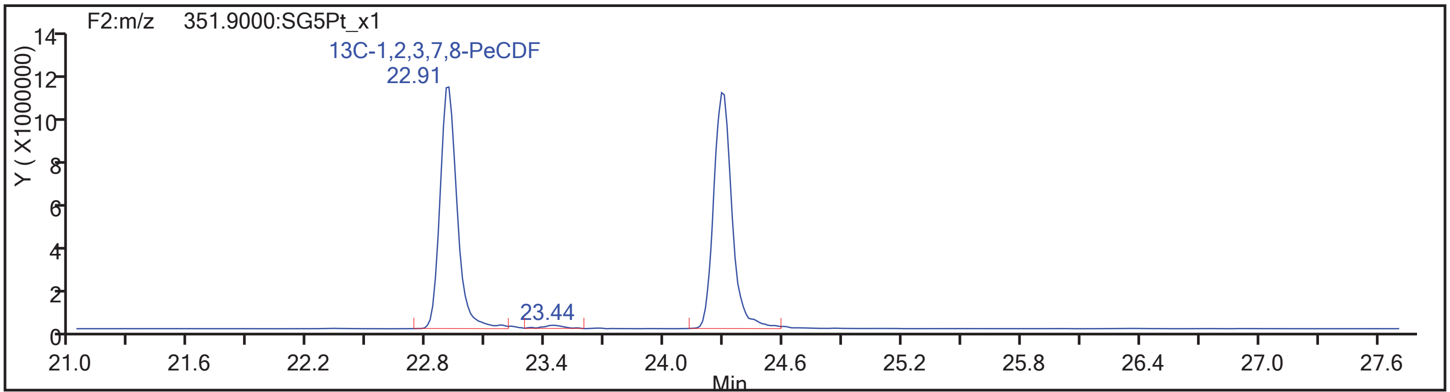
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Injection Date: 19-Nov-2017 04:03:05 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 195574 Sample Line#: 72
Column Type: Column Dia:

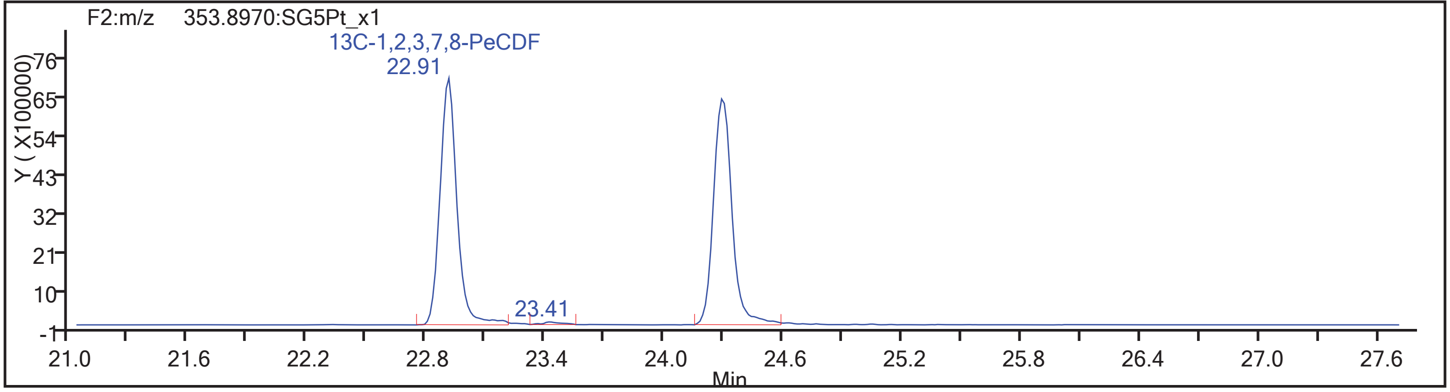
PeCDF





PeCDF Standards



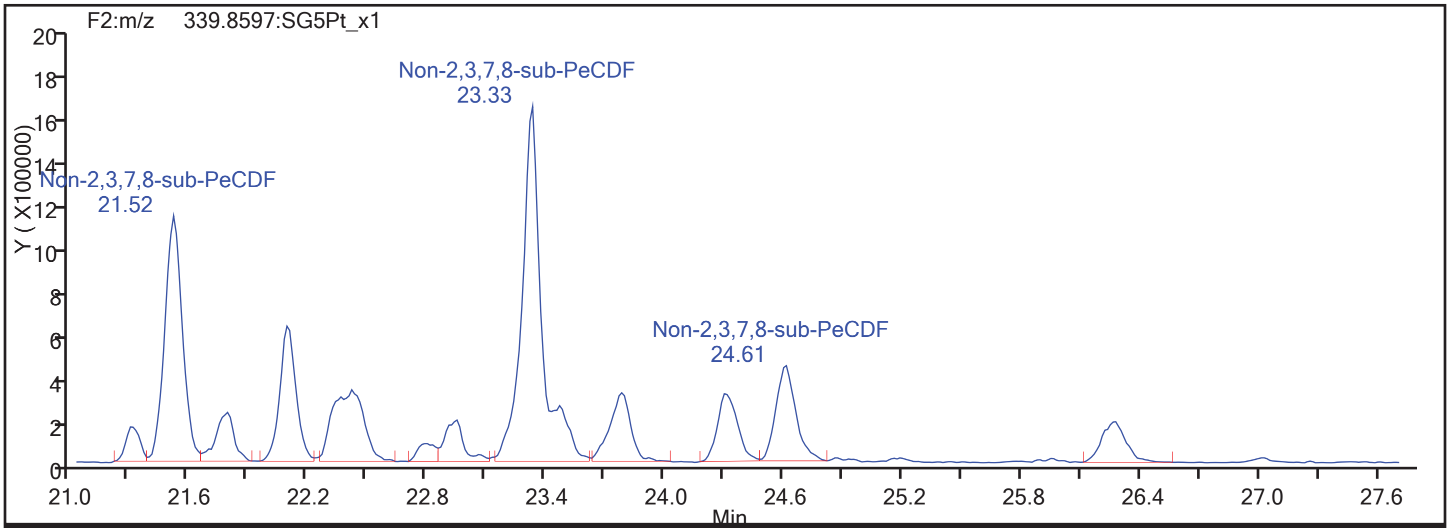


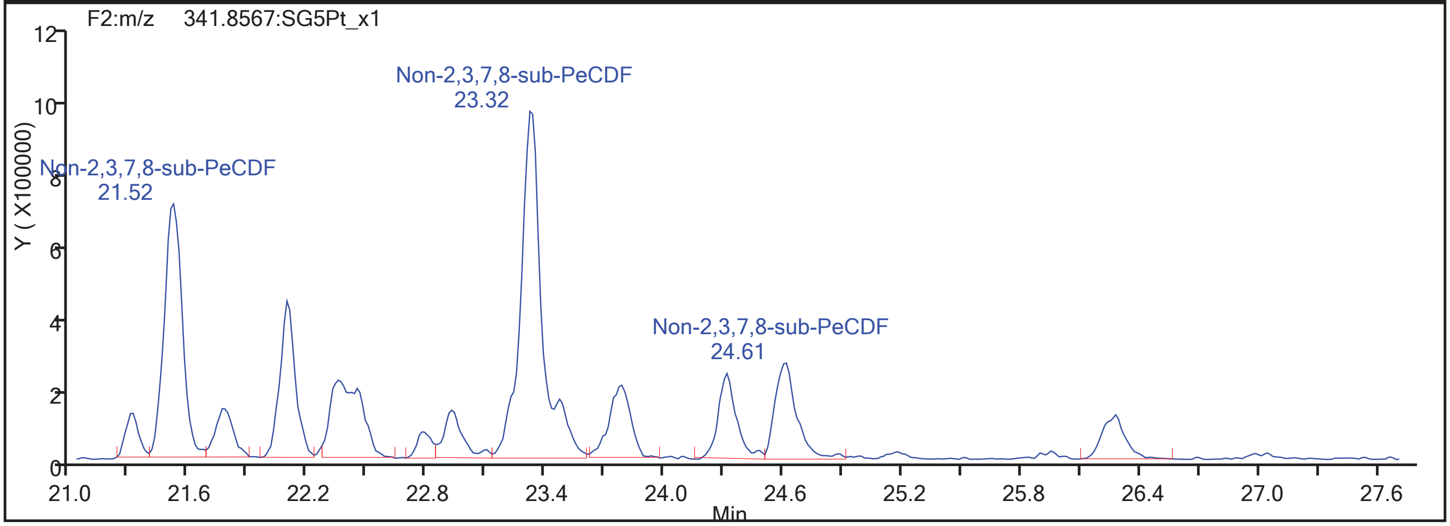
Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

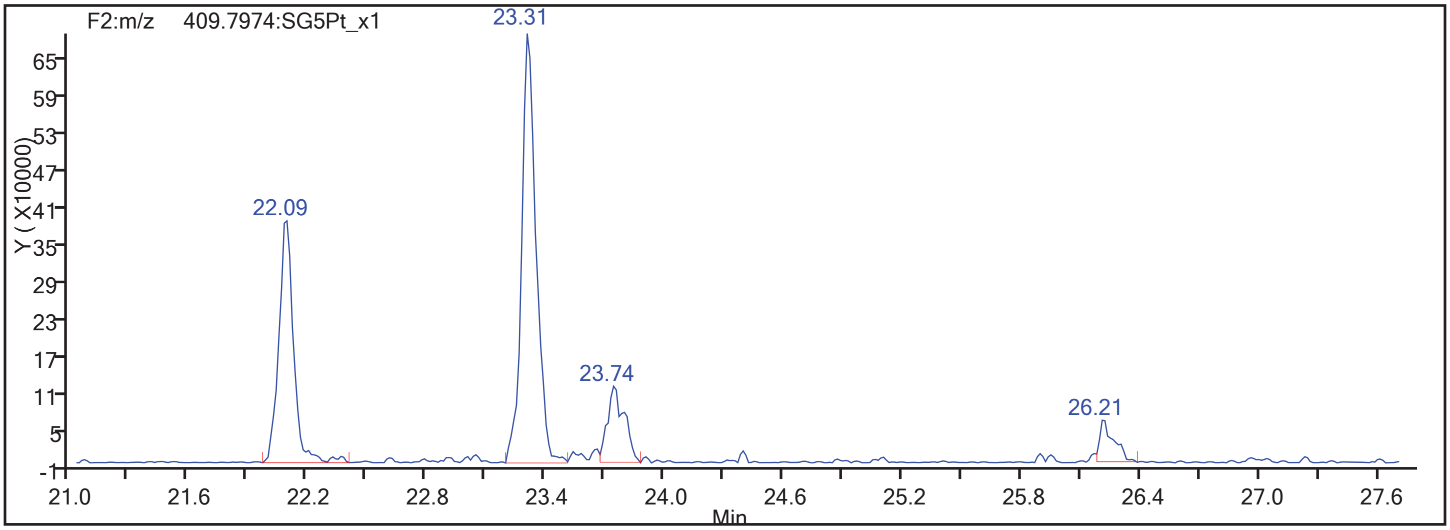
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Injection Date: 19-Nov-2017 04:03:05
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 195574
Sample Line#: 72
Column Type:
Column Dia:

PeCDF





PeCDF Interference Mass

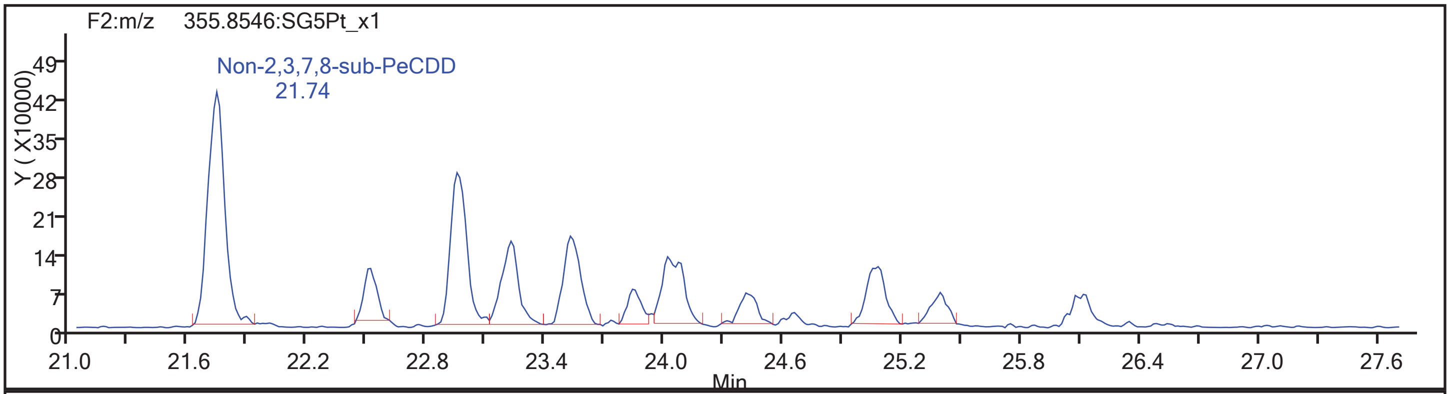


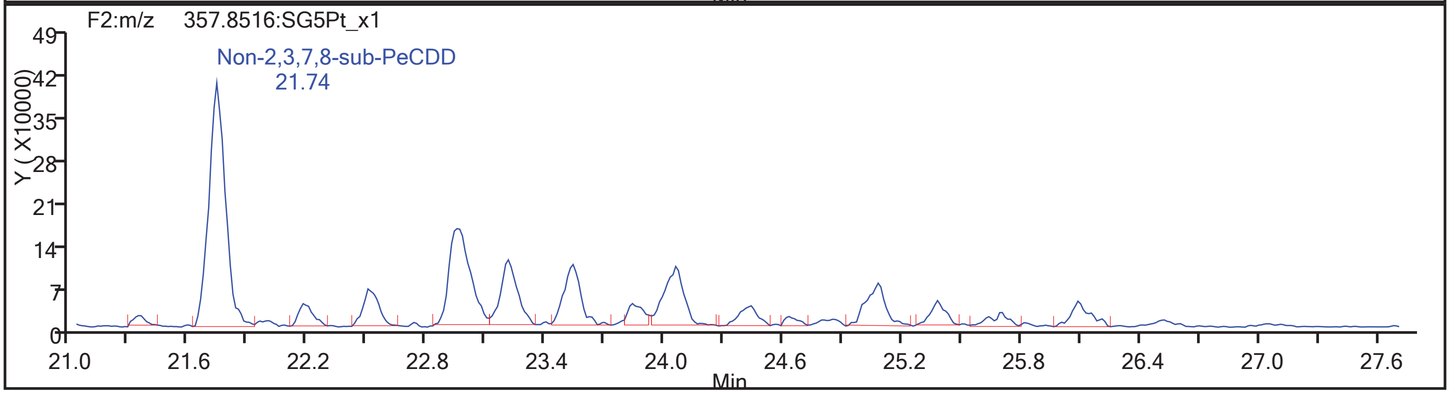
Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

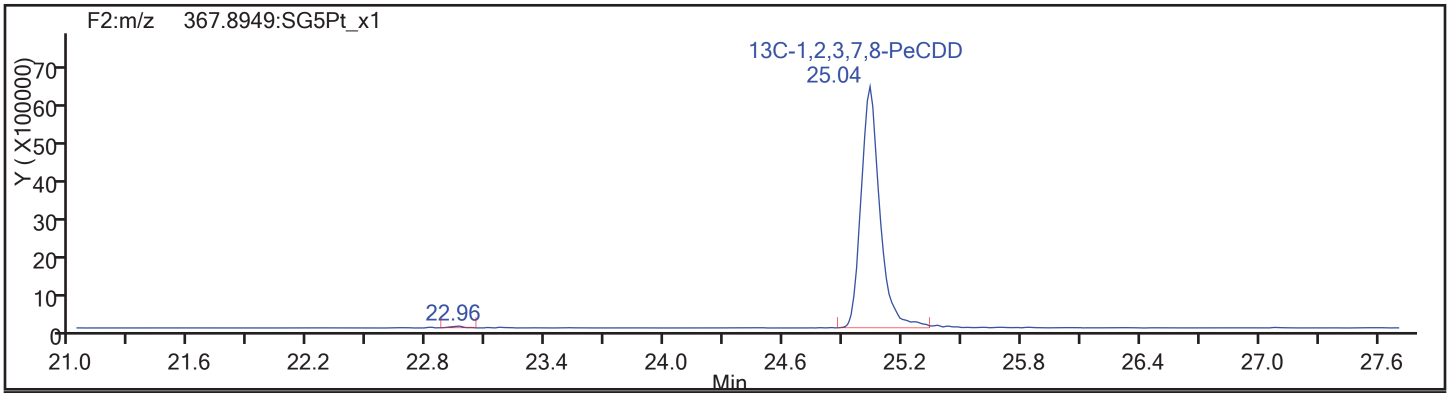
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Injection Date: 19-Nov-2017 04:03:05
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 195574
Sample Line#: 72
Column Type:
Column Dia:

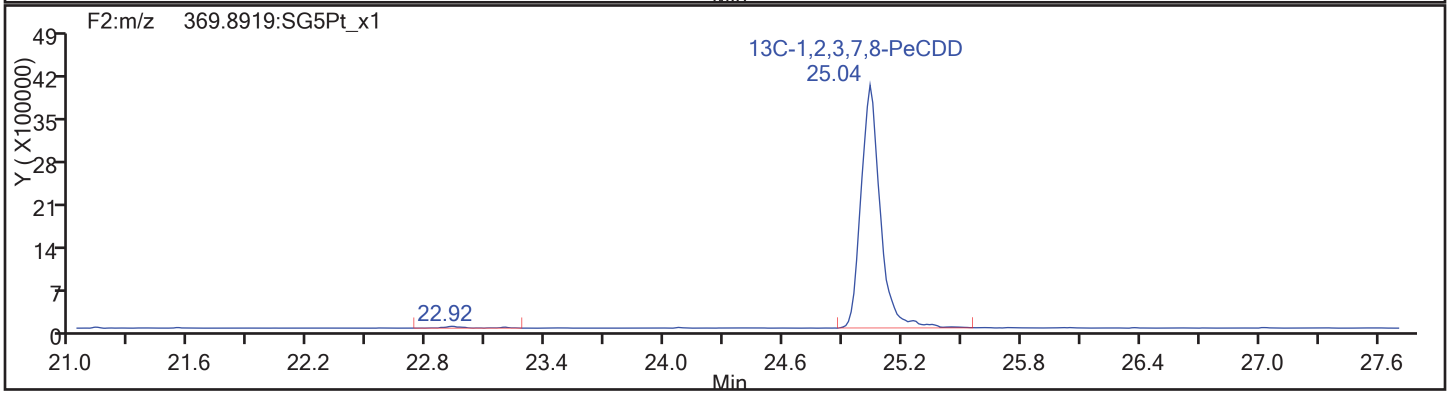
PeCDD





PeCDD Standards





Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d

Injection Date: 19-Nov-2017 04:03:05 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

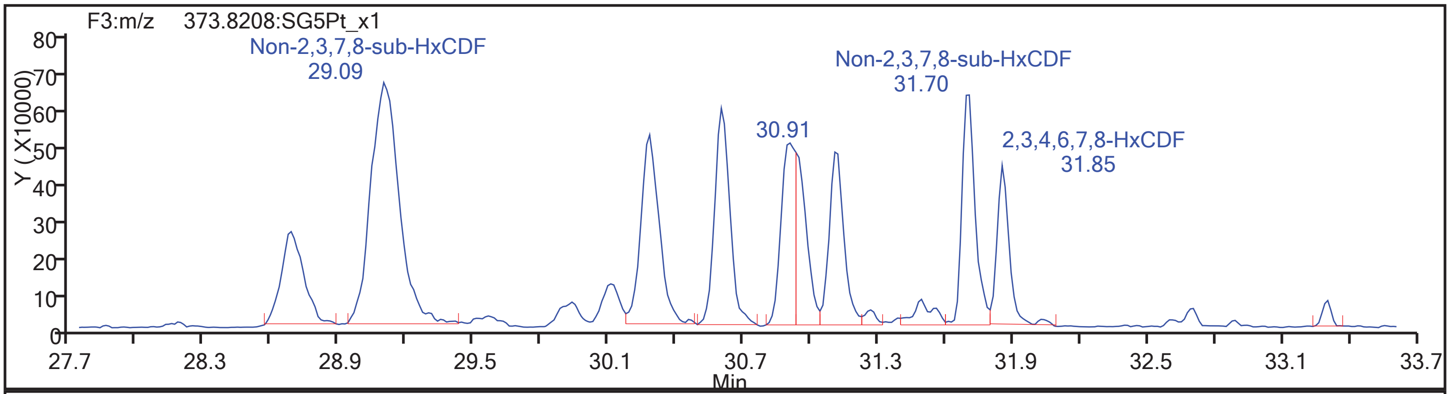
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

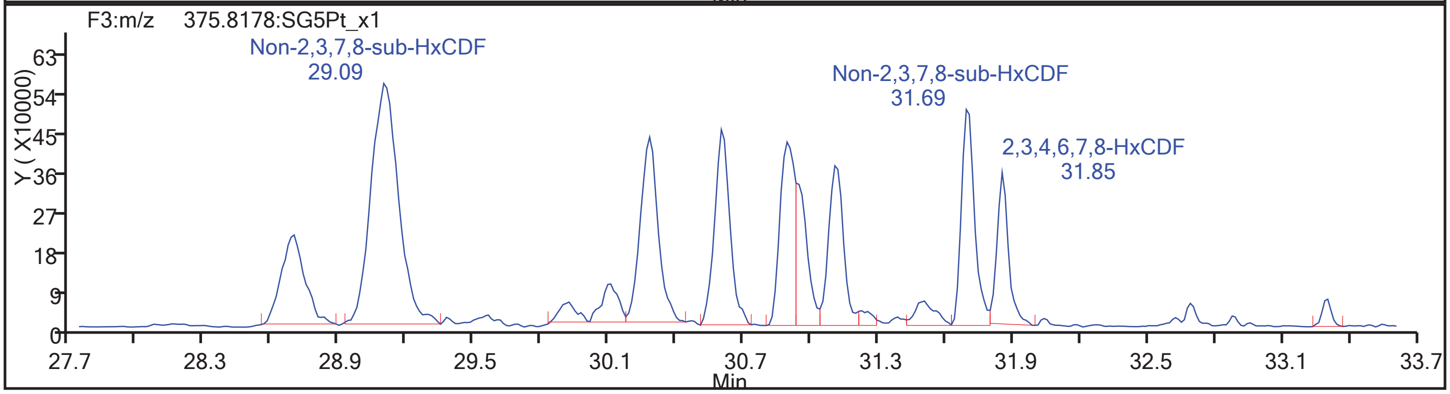
Client ID: SHAD041DP022SS02NS

Worklist#: 195574 Sample Line#: 72

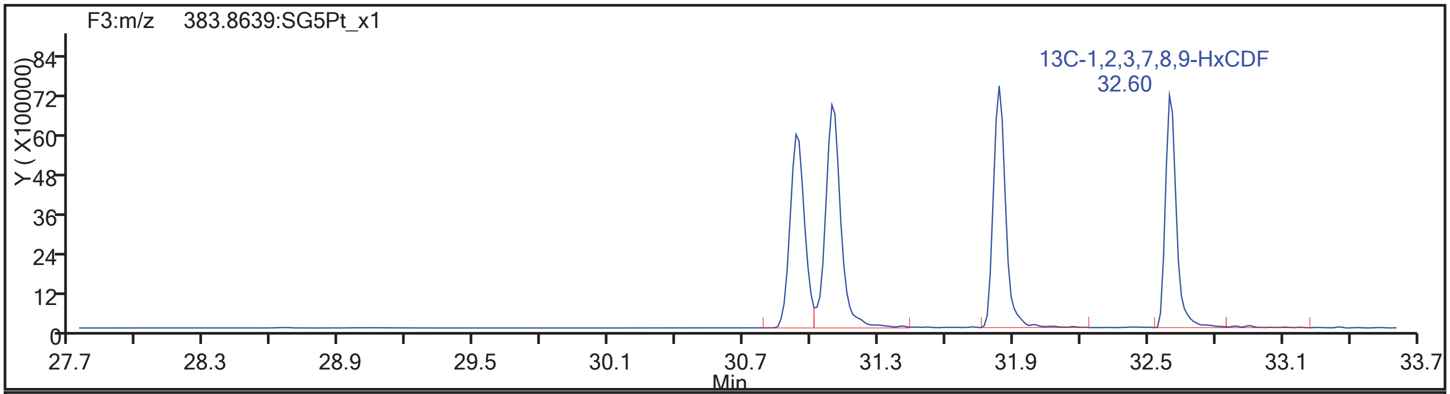
Column Type: Column Dia:

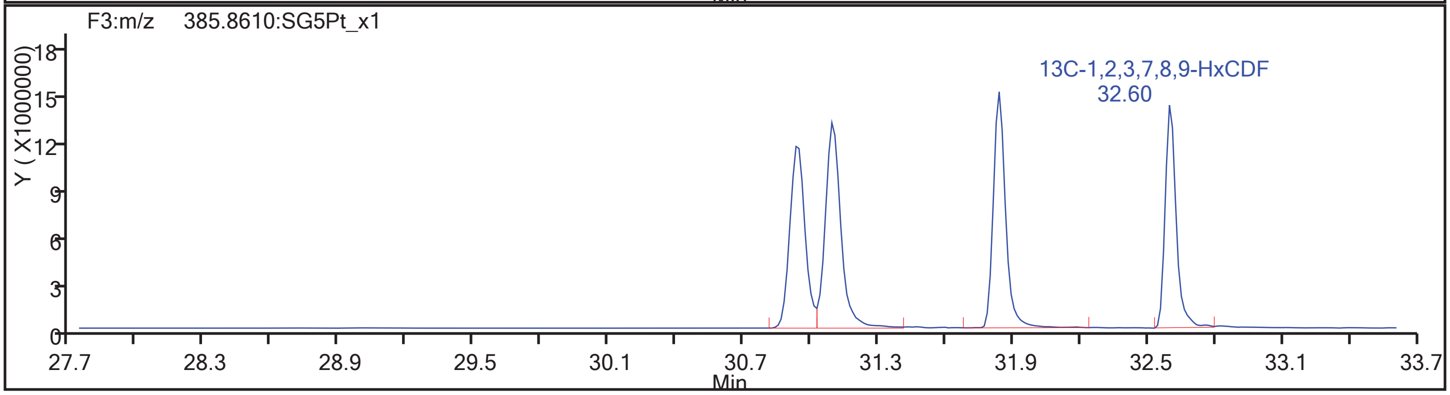
HxCDF





HxCDF Standards





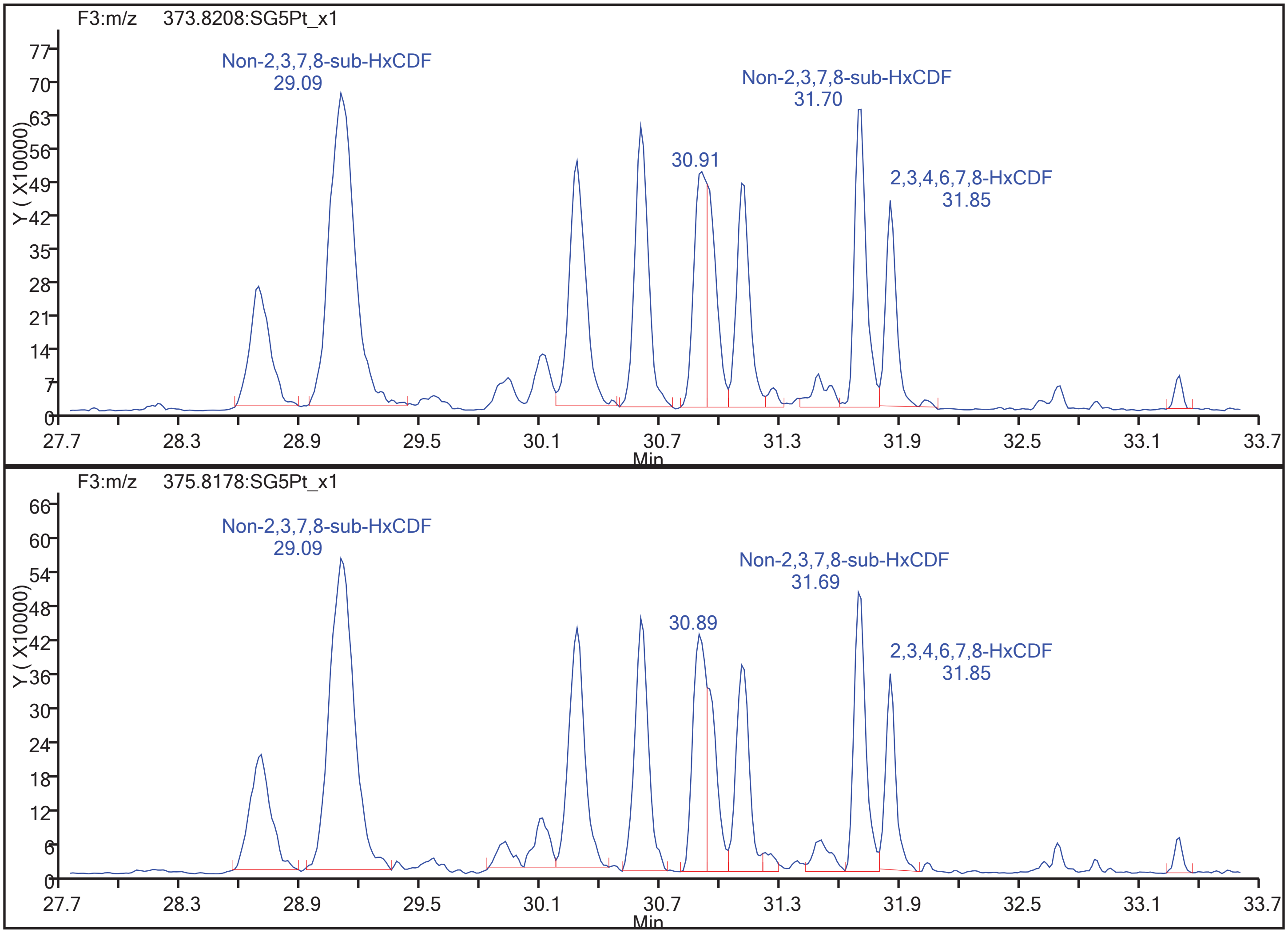
Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

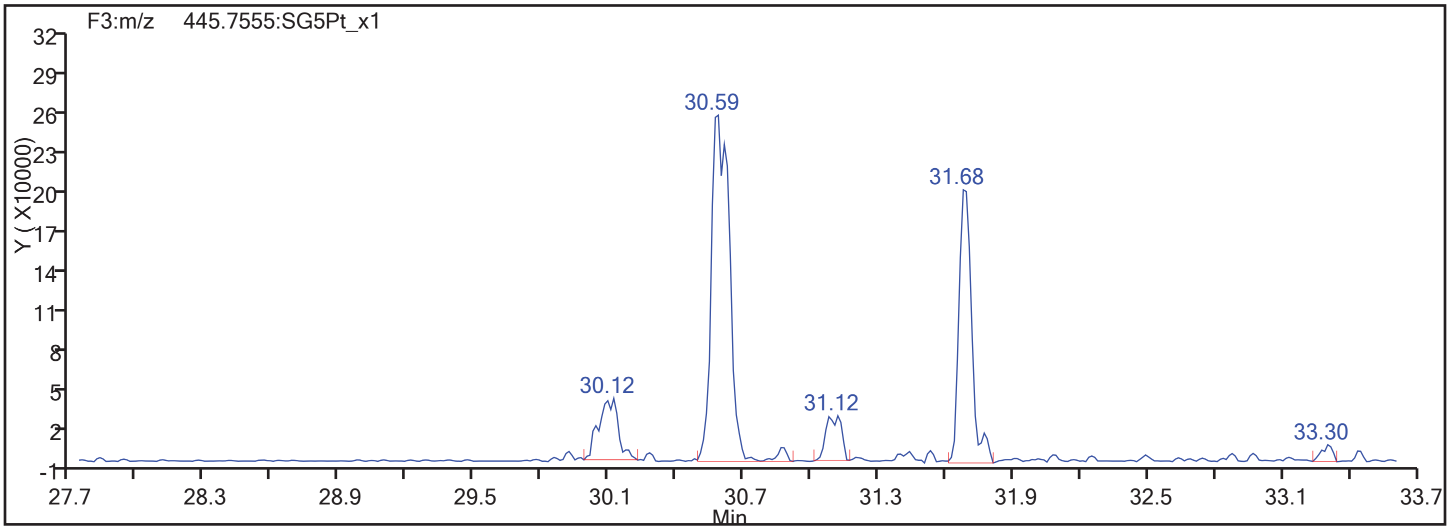
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d

Injection Date:	19-Nov-2017 04:03:05	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	195574	Sample Line#:	72
Column Type:		Column Dia:	

HxCDF

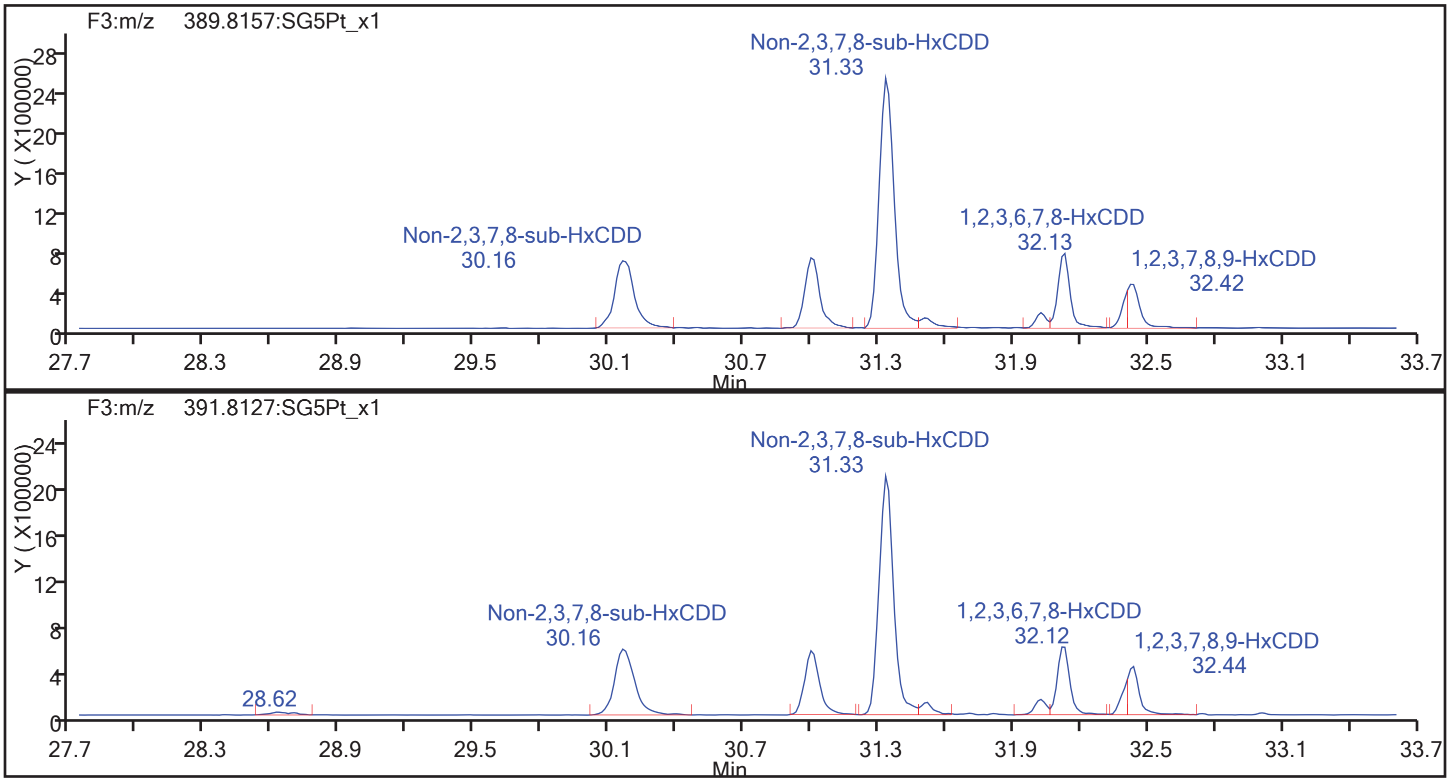


HxCDF Interference Mass

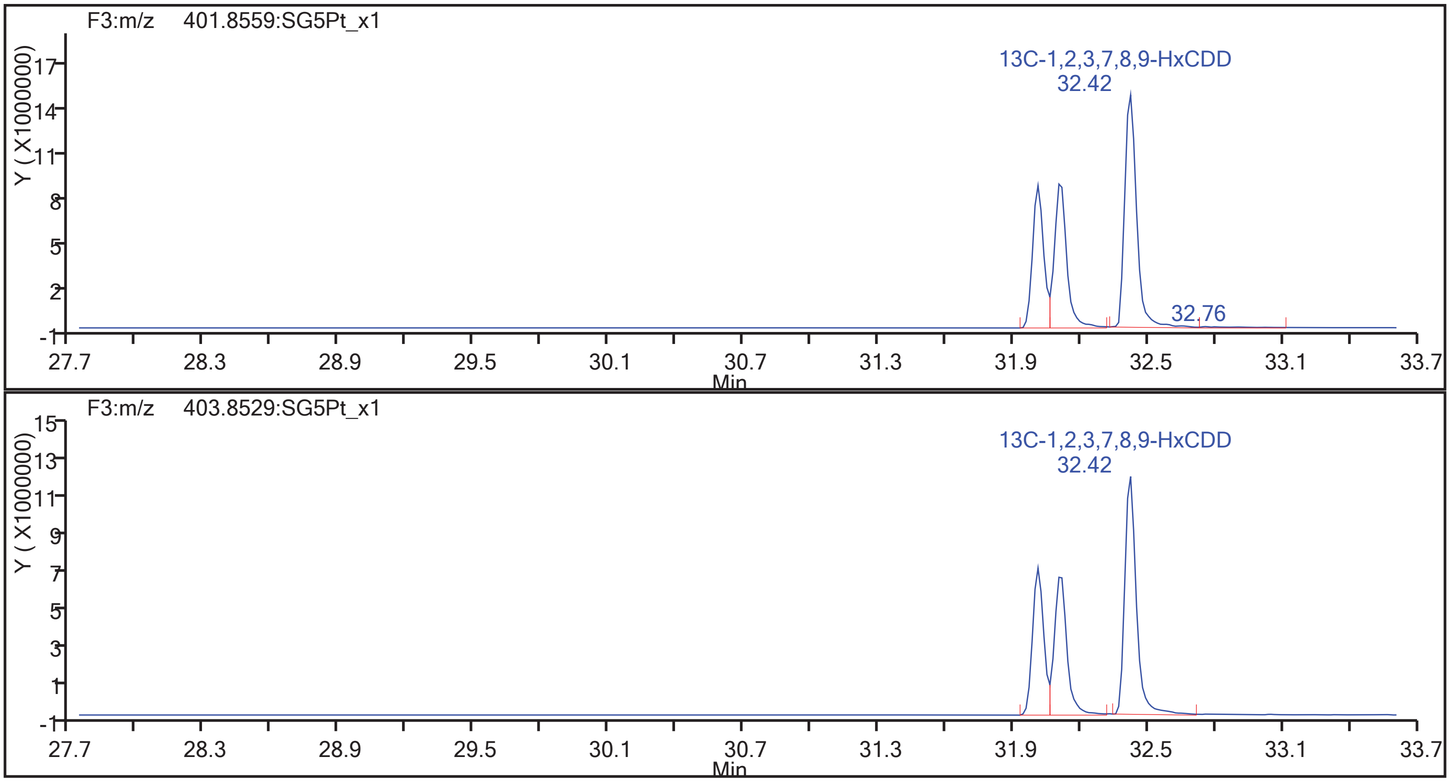


Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Injection Date:	19-Nov-2017 04:03:05	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	195574	Sample Line#:	72
Column Type:		Column Dia:	

HxCDD



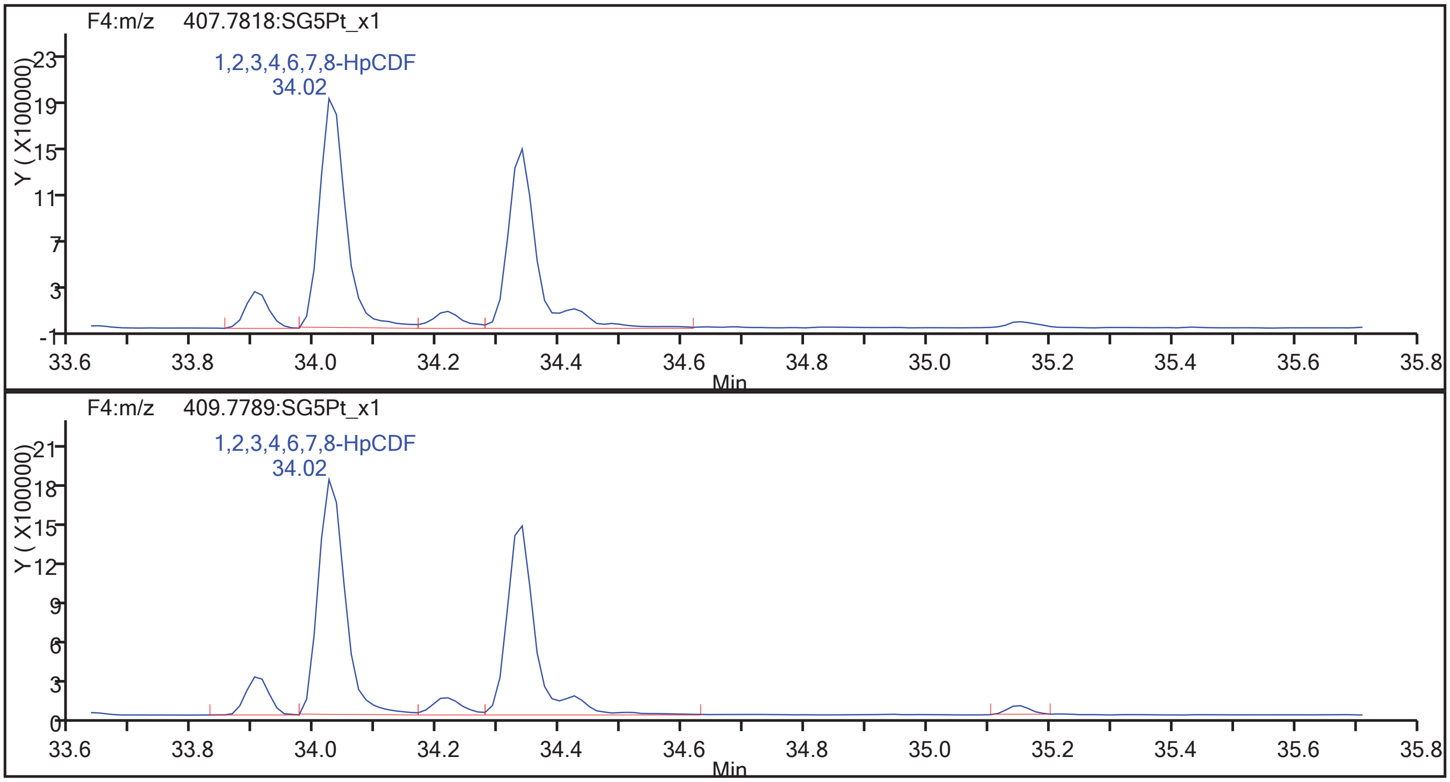
HxCDD Standards



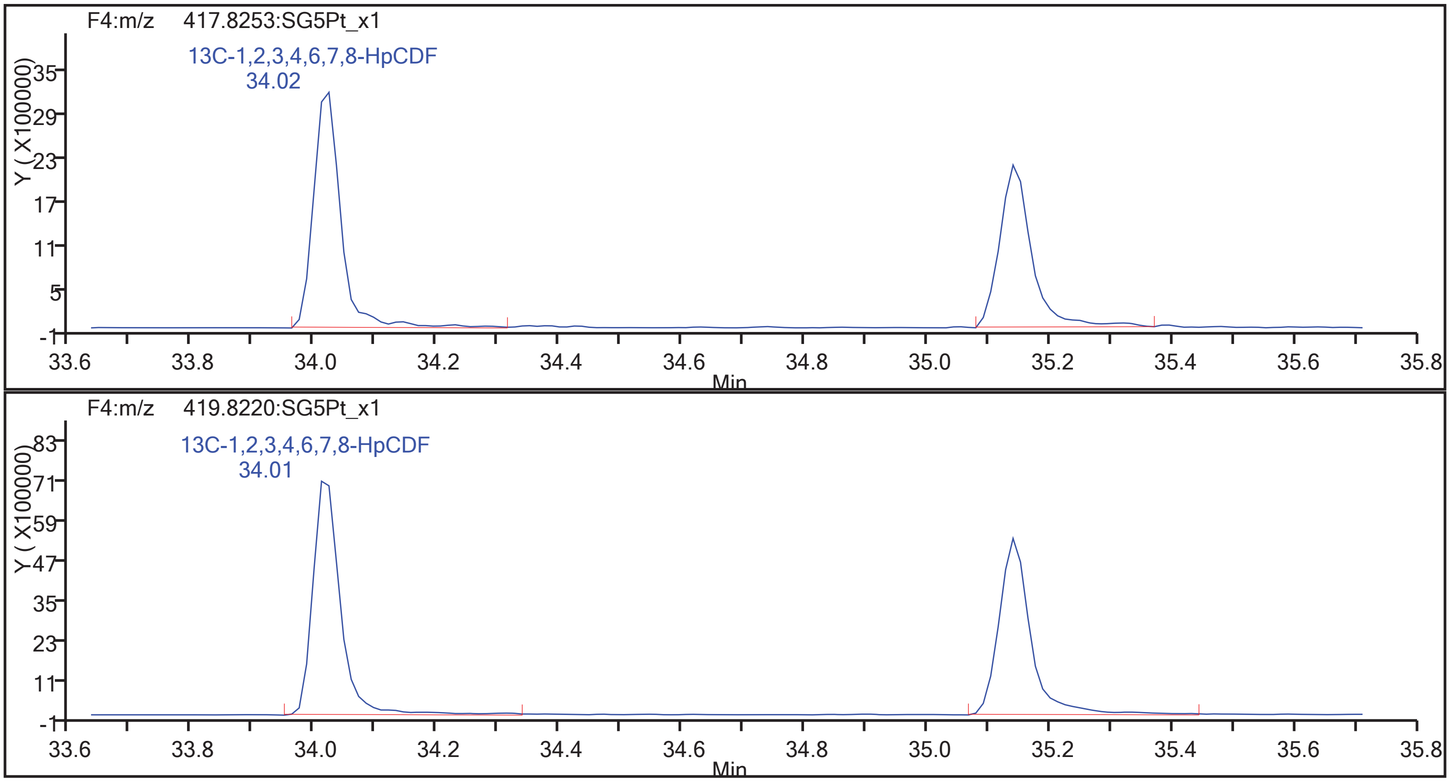
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Injection Date: 19-Nov-2017 04:03:05 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 195574 Sample Line#: 72
Column Type: Column Dia:

HpCDF



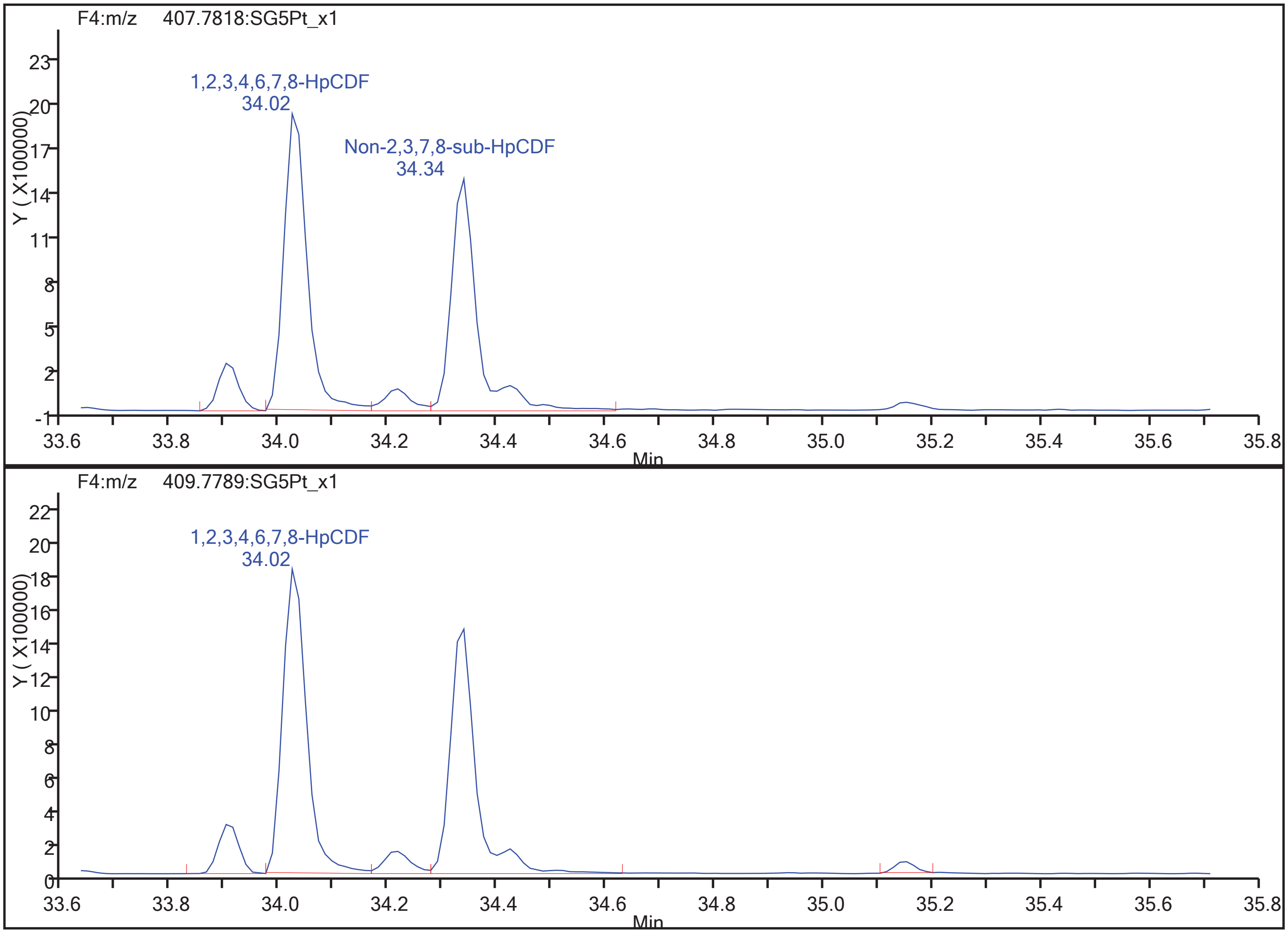
HpCDF Standards



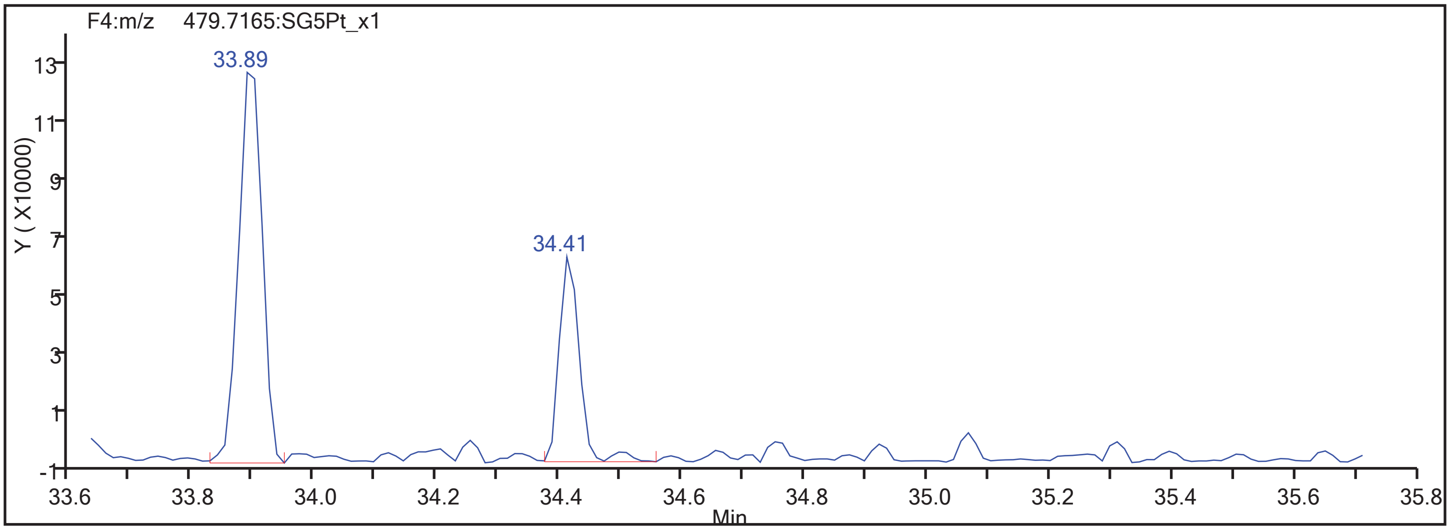
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d		
Injection Date:	19-Nov-2017 04:03:05	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	195574	Sample Line#:	72
Column Type:		Column Dia:	

HpCDF



HpCDF Interference Mass



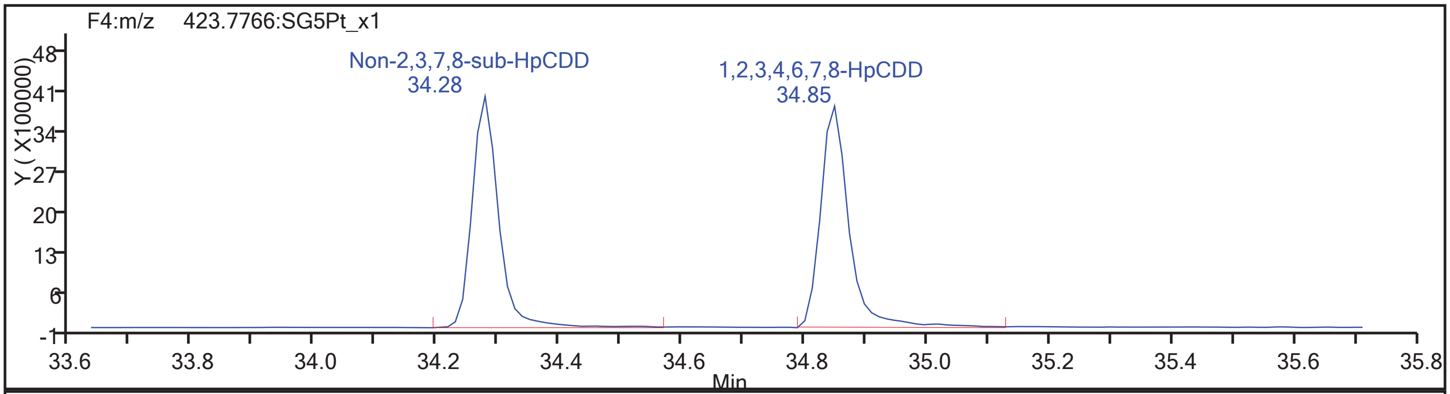
Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

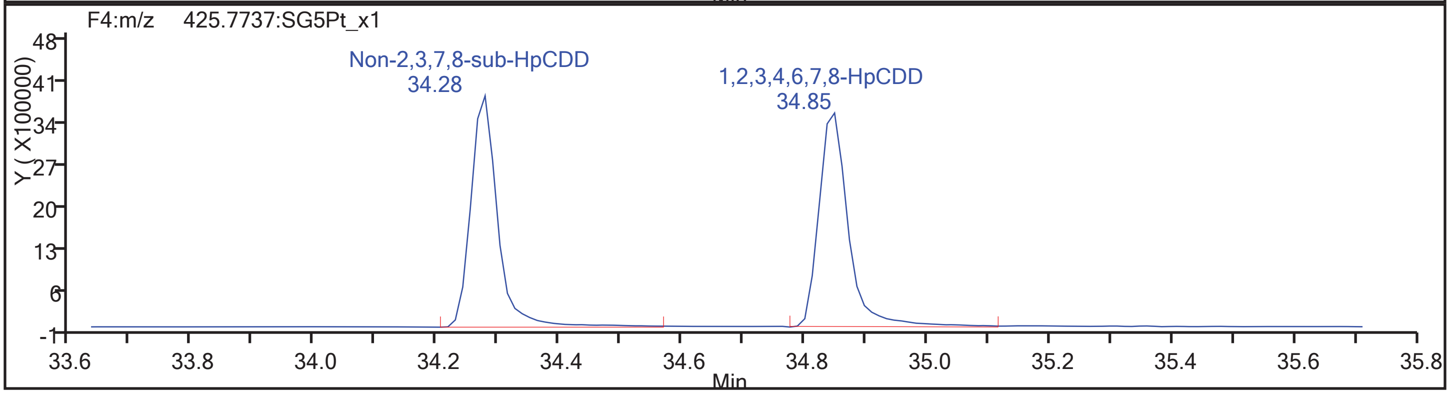
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d

Injection Date: 19-Nov-2017 04:03:05
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 195574
Sample Line#: 72
Column Type:
Column Dia:

HpCDD





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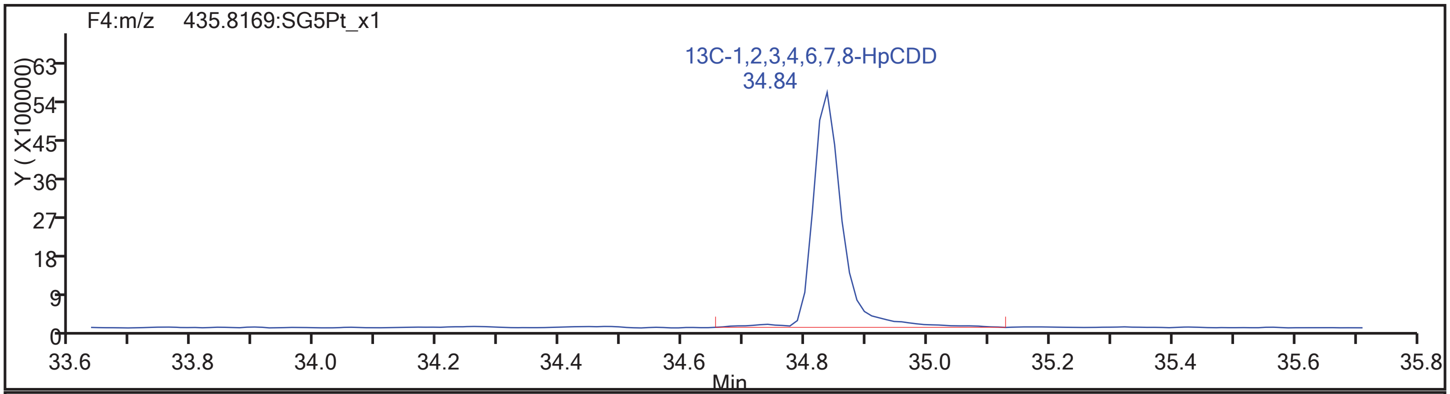
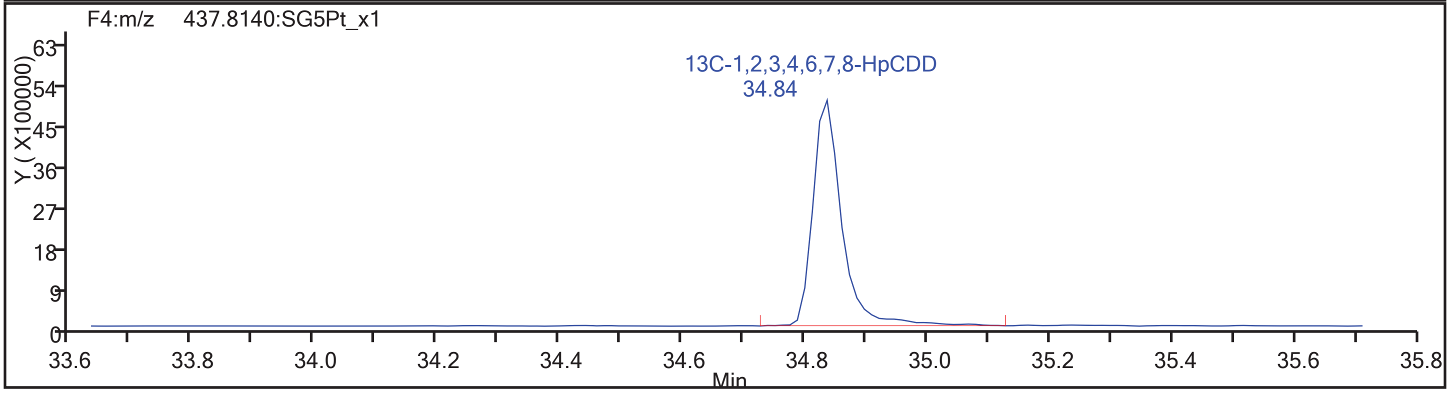




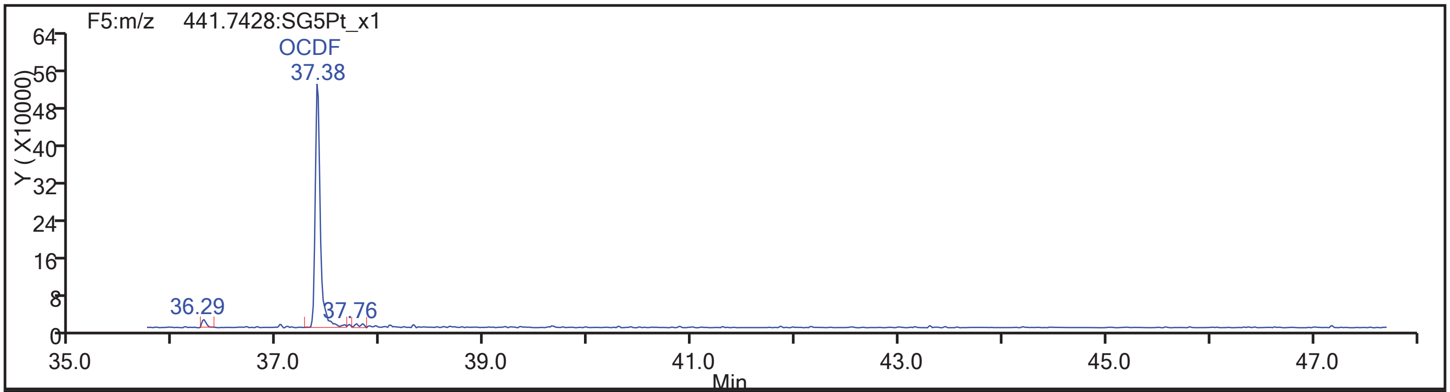
Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

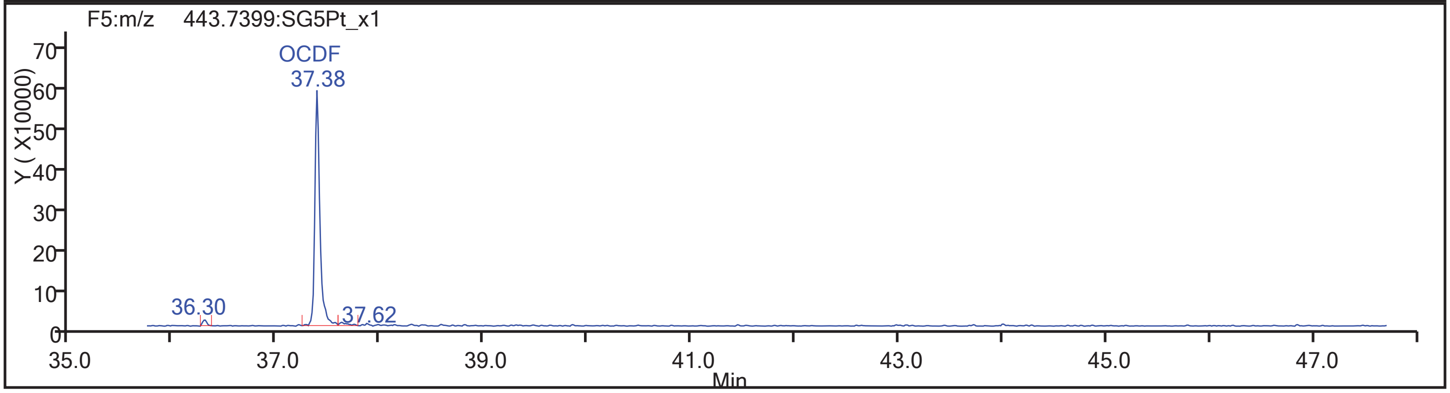
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d

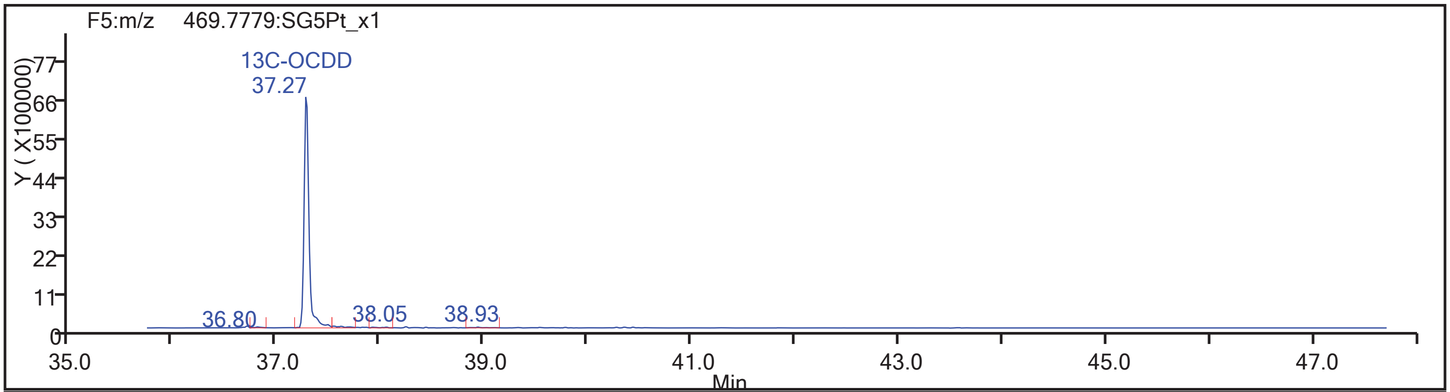
Injection Date:	19-Nov-2017 04:03:05	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	195574	Sample Line#:	72
Column Type:		Column Dia:	

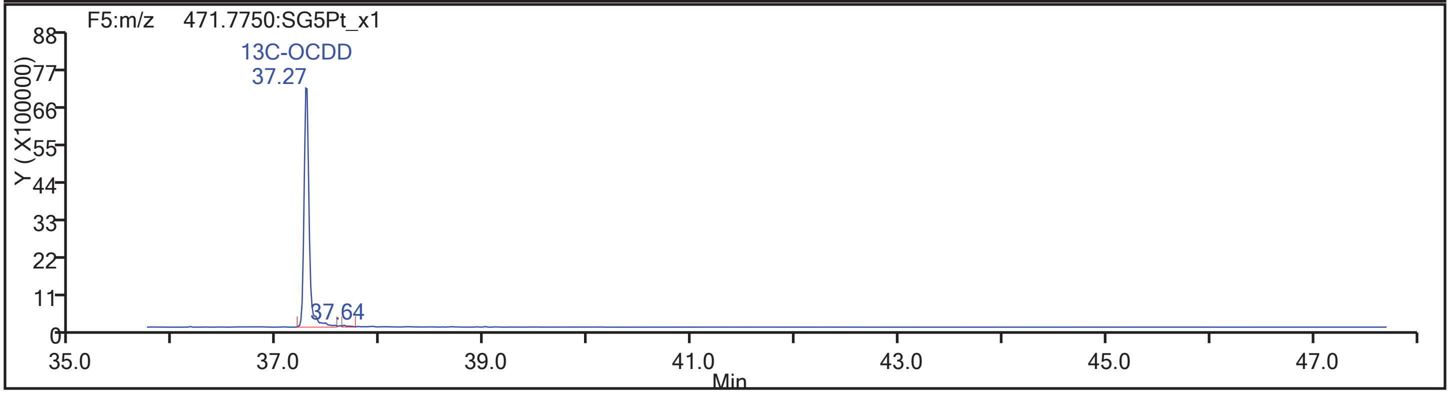
OCDF





OCDF Standards



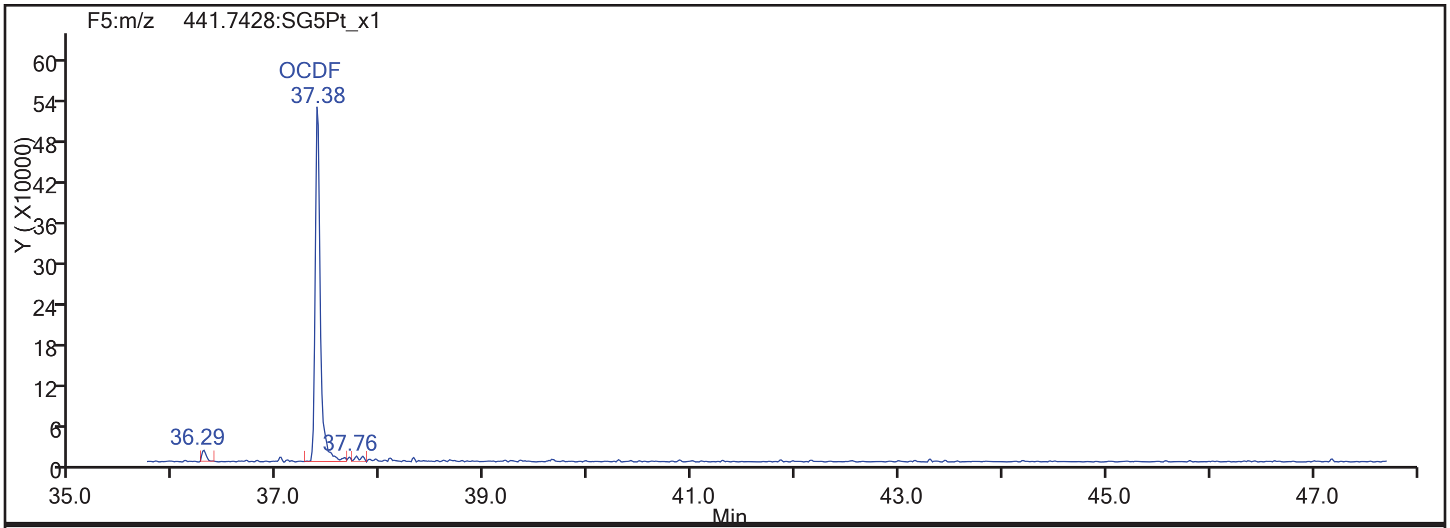


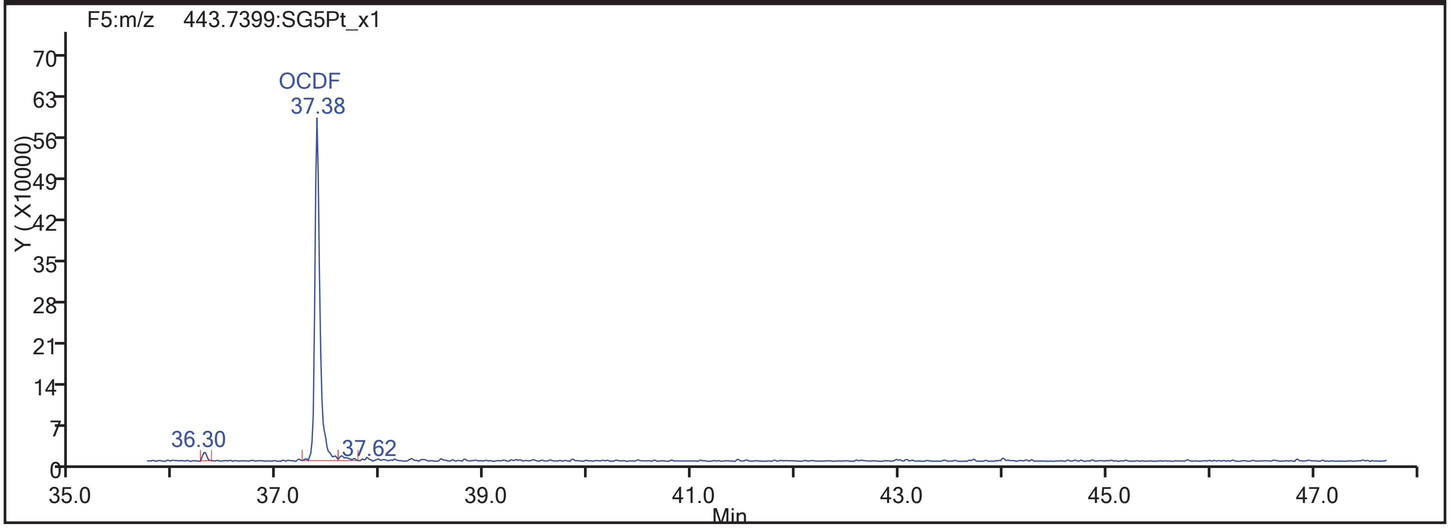
Report Date: 06-Dec-2017 07:50:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

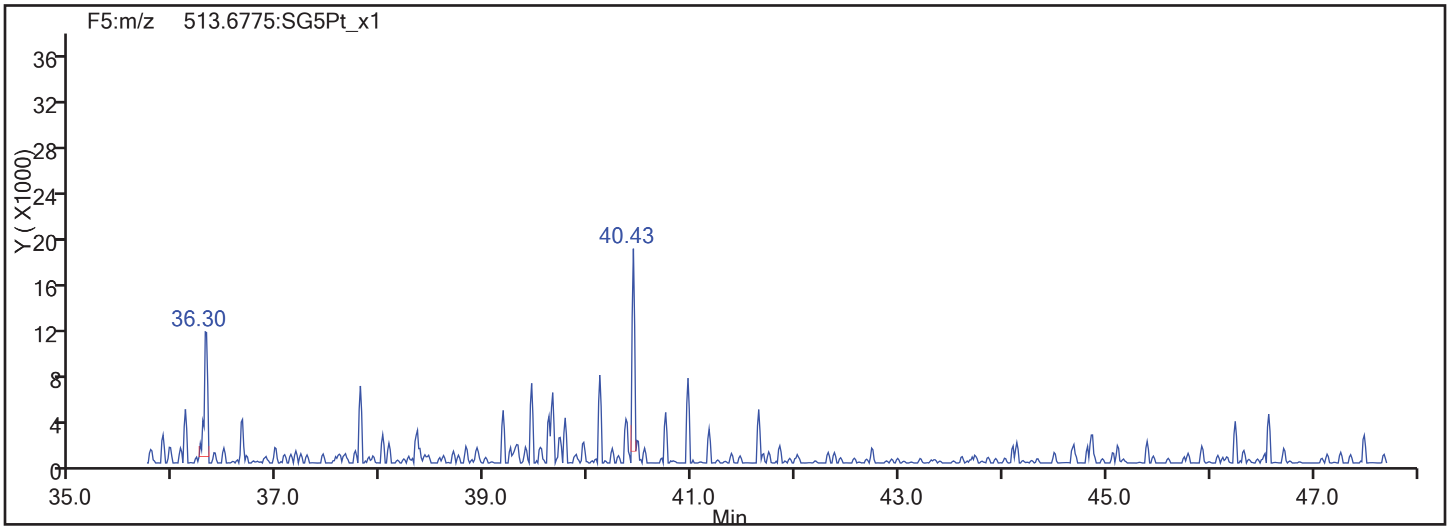
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Injection Date: 19-Nov-2017 04:03:05
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 195574
Sample Line#: 72
Column Type:
Column Dia:

OCDF





OCDF Interference Mass

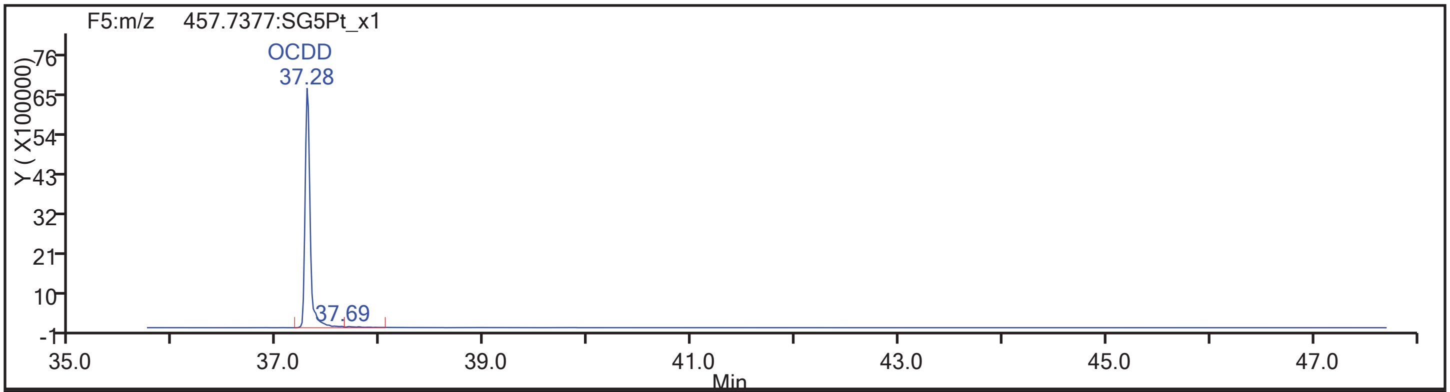


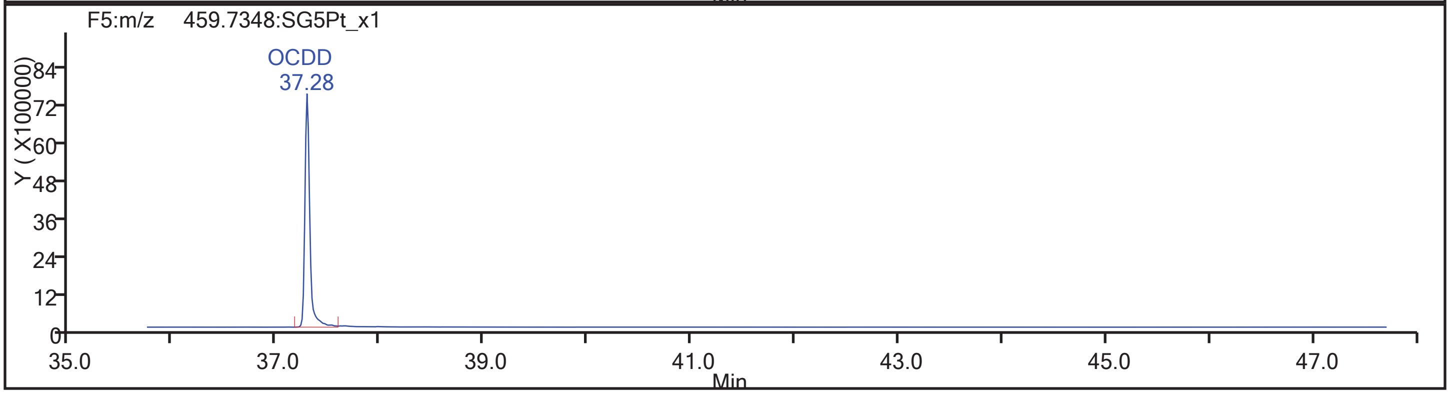
Report Date: 06-Dec-2017 07:50:03   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

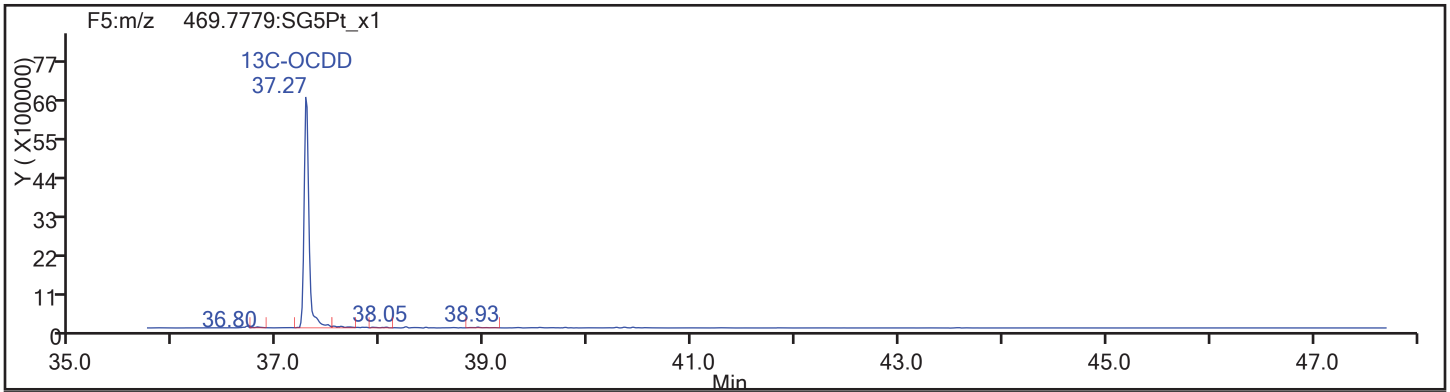
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Injection Date: 19-Nov-2017 04:03:05   Injection Vol: 2.0 ul
Instrument ID: 3D5   Operator ID: SMA, ALM
Method: Dioxin_3D5   Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 195574   Sample Line#: 72
Column Type: Column Dia:

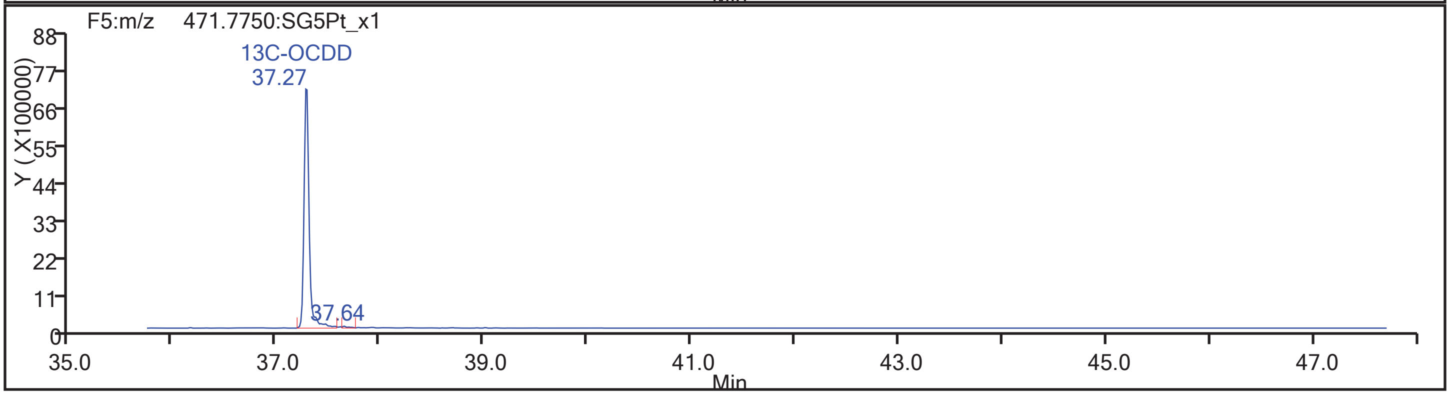
OCDD





OCDD Standards





Report Date: 06-Dec-2017 07:50:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d
Injection Date: 19-Nov-2017 04:03:05
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
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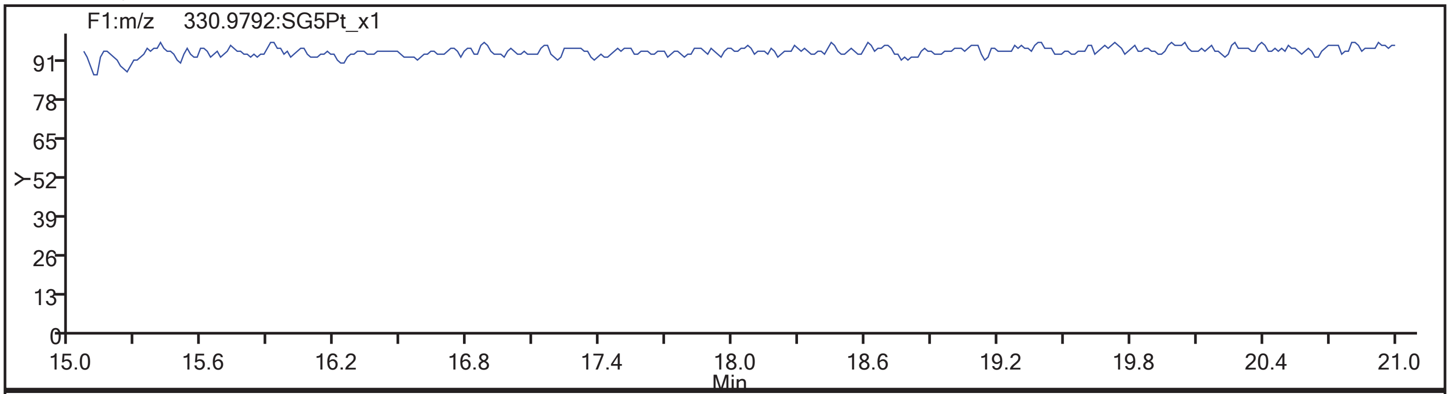
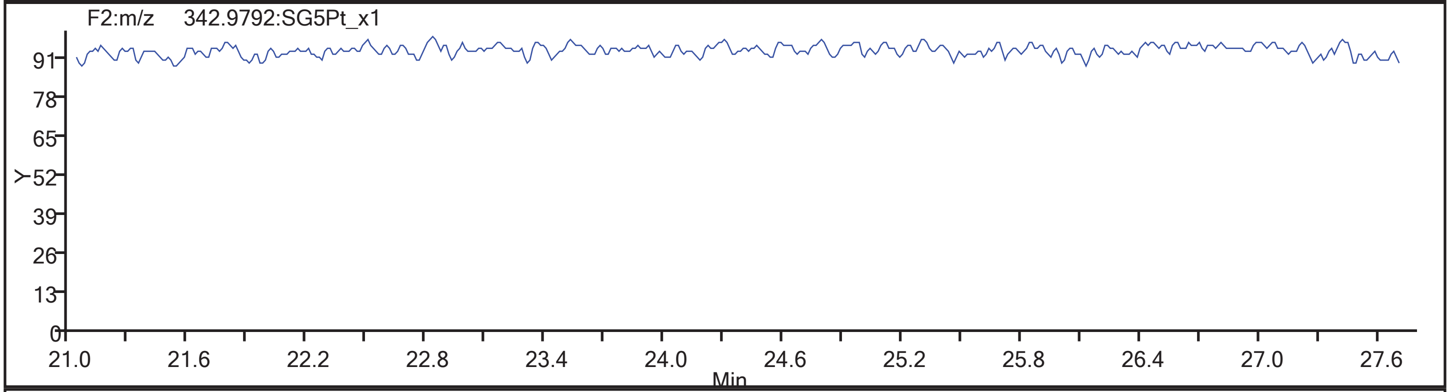
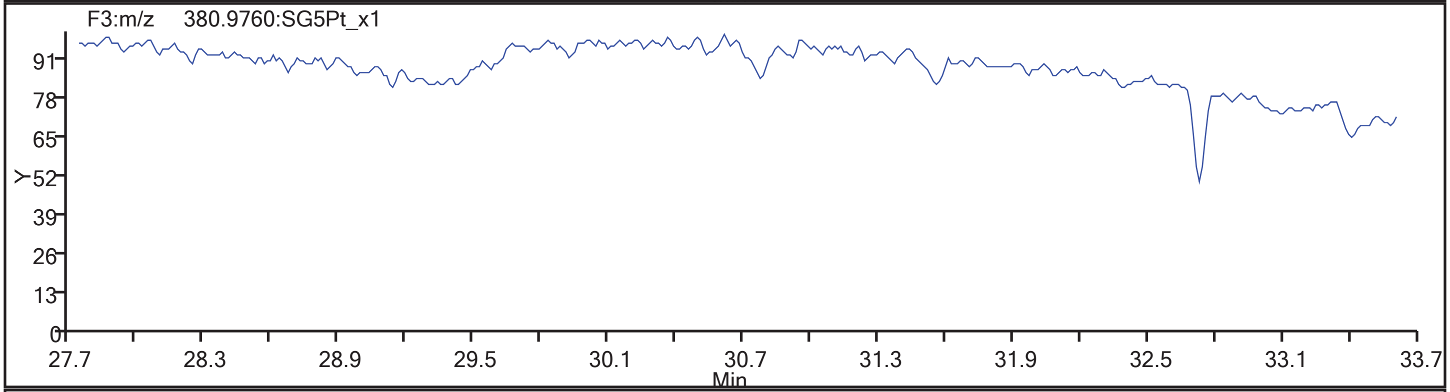
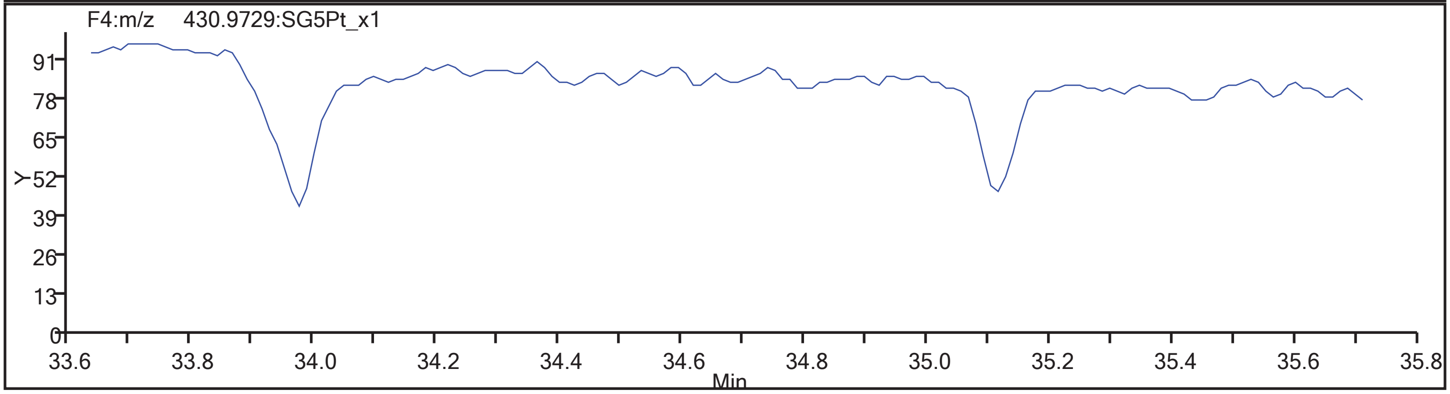
Worklist#: 195574
Sample Line#: 72
Column Type:
Column Dia:





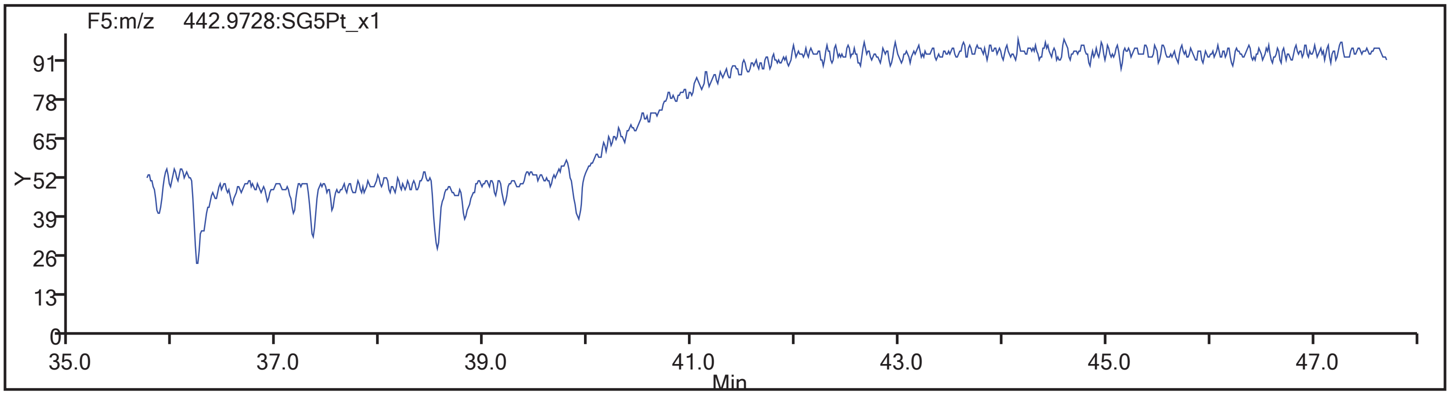




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_72.d

Injection Date:	19-Nov-2017 04:03:05	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	195574	Sample Line#:	72
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP022SS02NS RERA

Lab Sample ID: 160-24924-8 RERA

Matrix: Solid

Lab File ID: 05DE179D2_007.d

Analysis Method: 8290A

Date Collected: 10/05/2017 16:55

Extract. Method: 8290

Date Extracted: 11/16/2017 11:16

Sample wt/vol: 9.90(g)

Date Analyzed: 12/05/2017 15:21

Con. Extract Vol.: 20.0(uL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 1.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 198469

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	*2,3,7,8-TCDF*	*7.4*	*H*	*1.0*	0.41	*0.52*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	68		40-135

FORM I 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_007.d
Lims ID: 160-24924-G-8-B
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 05-Dec-2017 15:21:01 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-8-B
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:44 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.980	106132542	0.75	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.118	91441163	0.76	1.2599	68.4	68.4	0.5204	0.5204	68.39	
2,3,7,8-TCDF	16.146	3591405	0.70	1.0784	3.642	3.642	0.2526	0.2526		
D 13C-2,3,7,8-TCDD	14.733	69822971	0.76	0.9567	68.8	68.8	0.8773	0.8773	68.77	
2,3,7,8-TCDD	14.760	798760	0.82	1.1123	1.028	1.028	0.1512	0.1512		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_007.d
Lims ID: 160-24924-G-8-B
Client ID: SHAD041DP022SS02NS
Sample Type: Client
Inject. Date: 05-Dec-2017 15:21:01 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-8-B
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:44 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

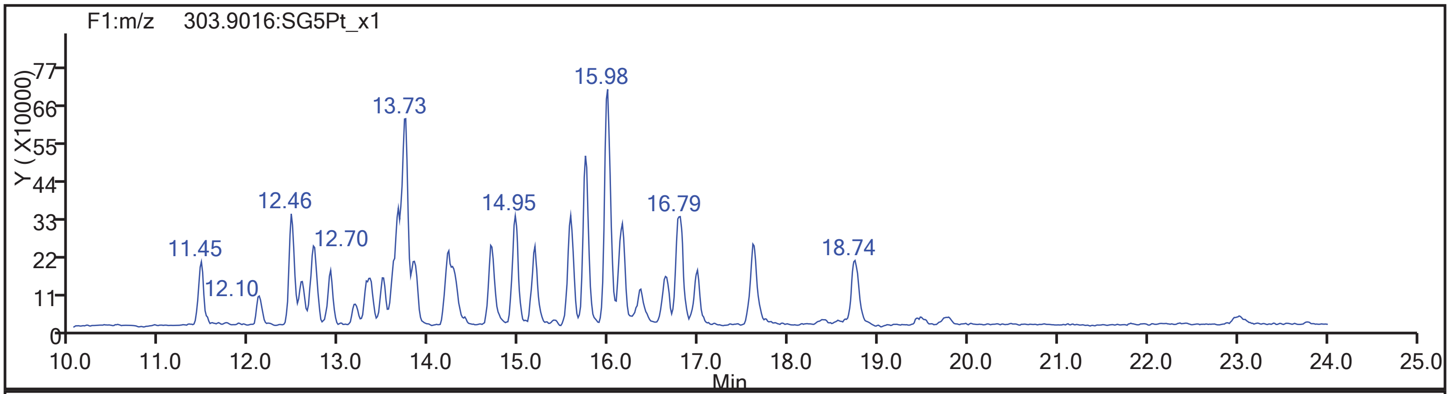
Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

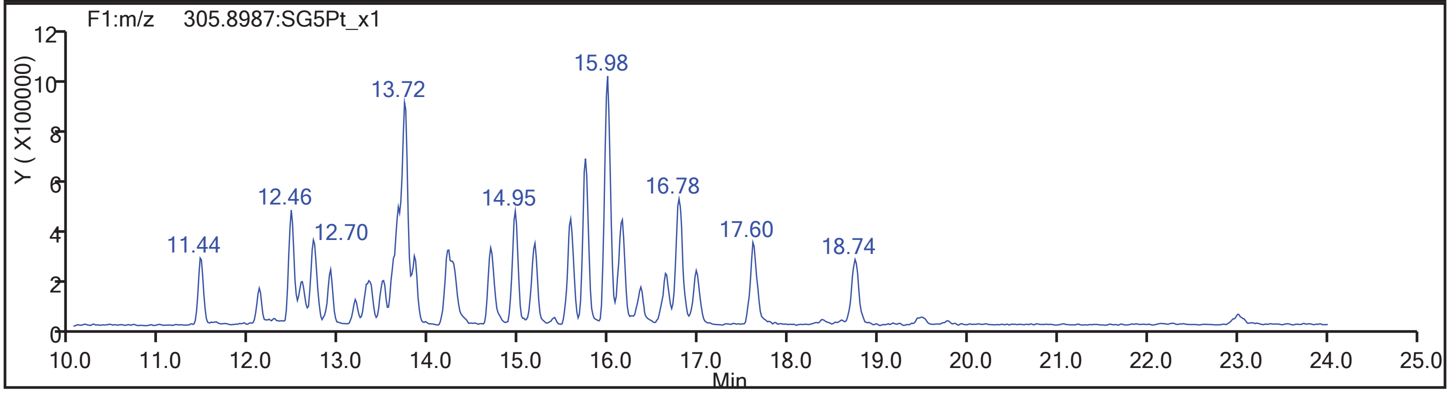
Signal	RT (min.)	Adj RT (min.)	M Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.980	14.967	1		45608028	9812943	48265	120662	203		
333.9339	14.980	14.967	1		60524514	12812514	27693	69232	463	0.75(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.118	16.106	1	1.076	39362350	7979484	29142	72855	274		
317.9389	16.118	16.106	1	1.076	52078813	10389315	30193	75482	344	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.146	16.119	2	1.002	1474385	292112	10880	27200	27		
305.8987	16.146	16.119	2	1.002	2117020	412121	9136	22840	45	0.70(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.733	14.706	2	0.984	30140397	6495607	48265	120662	135		
333.9339	14.733	14.706	2	0.984	39682574	8495233	27693	69232	307	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.760	14.734	2	1.002	359365	62757	5284	13210	12		
321.8936	14.747	14.734	1	1.001	439395	84652	4803	12007	18	0.82(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				10880	27200			
Total Dioxins & Furans											
303.9016		0.0	0				10880	27200			

TestAmerica Sacramento

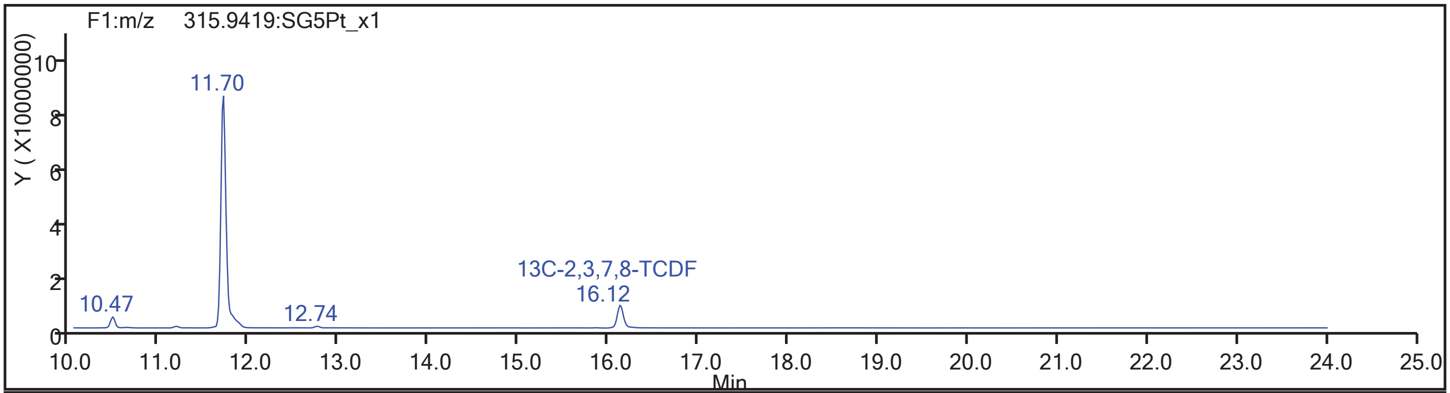
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_007.d
Injection Date: 05-Dec-2017 15:21:01
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS02NS
Worklist#: 198469
Sample Line#: 7
Column Type: DB-225
Column Dia: 0.32 mm

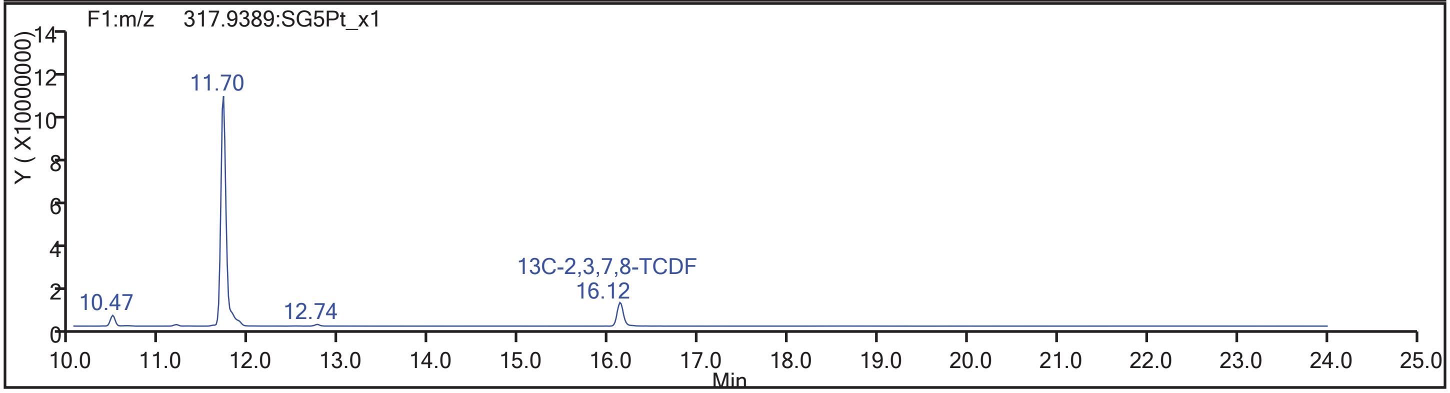
TCDF





TCDF Standards



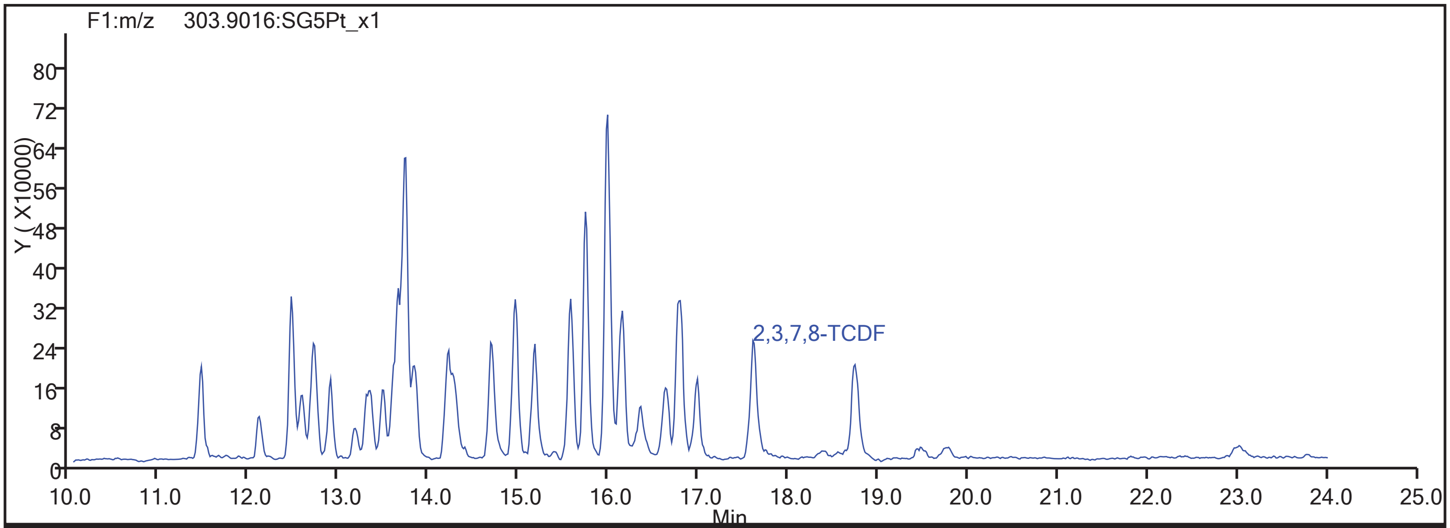


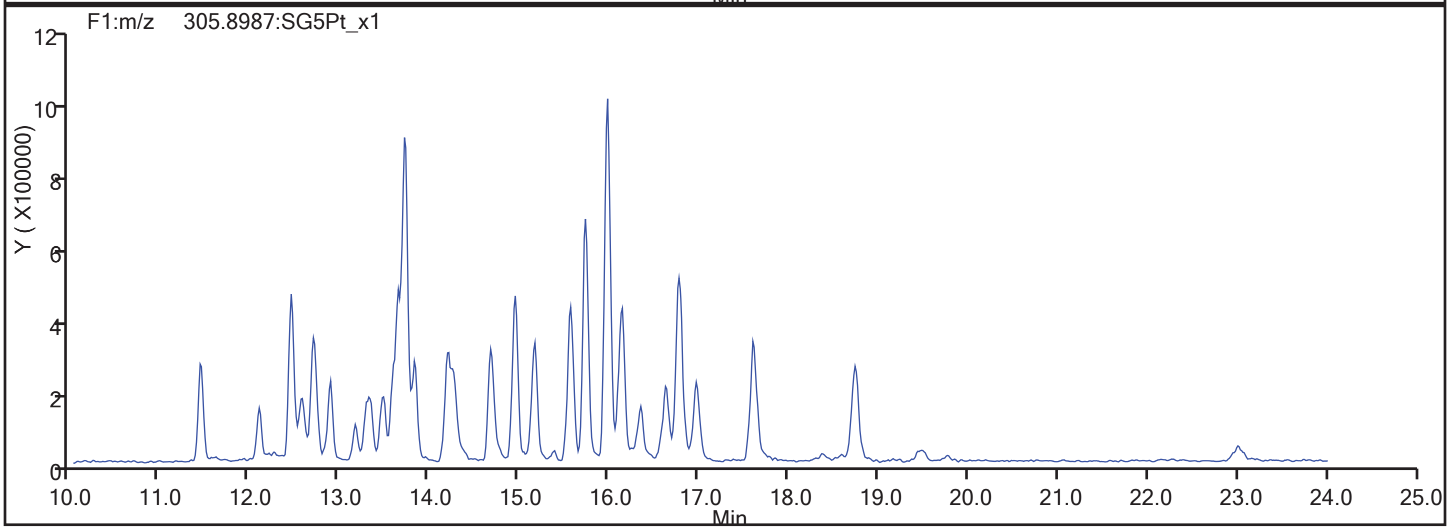
Report Date: 05-Dec-2017 23:47:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

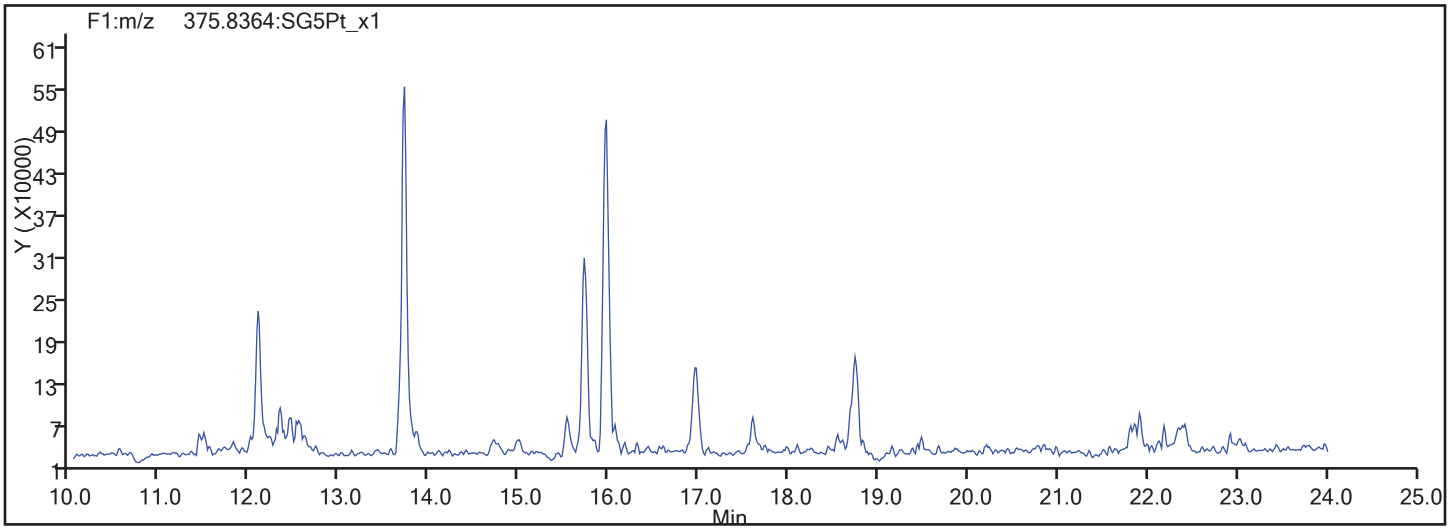
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_007.d		
Injection Date:	05-Dec-2017 15:21:01	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	198469	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





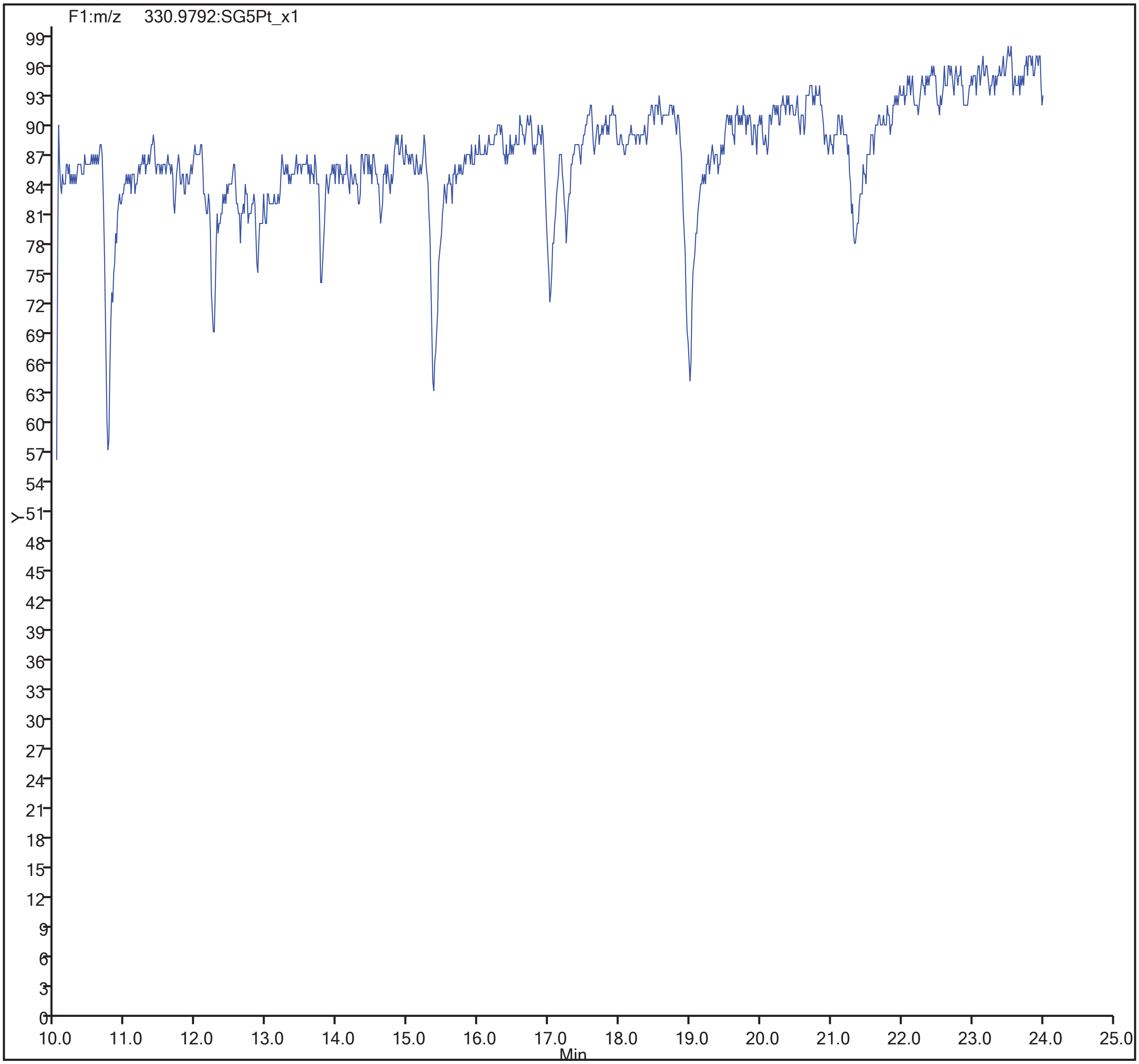
TCDF Interference Mass



Report Date: 05-Dec-2017 23:47:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_007.d		
Injection Date:	05-Dec-2017 15:21:01	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS02NS		
Worklist#:	198469	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP022SS03NS RA
Lab Sample ID: 160-24924-9 RA
Matrix: Solid
Lab File ID: 07NO179D2_013.d
Analysis Method: 8290A
Date Collected: 10/05/2017 16:59
Extract. Method: 8290
Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.04(g)
Date Analyzed: 11/07/2017 17:43
Con. Extract Vol.: 20.00(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 2.0
GPC Cleanup:(Y/N) N
Analysis Batch No.: 193317
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	2,3,7,8-TCDF	1.3	M	1.0	0.41	0.18

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	60		40-135

Report Date: 09-Nov-2017 16:51:29　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_013.d				
Lims ID:	160-24924-G-9-A				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	Client				
Inject. Date:	07-Nov-2017 17:43:39	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-9-A				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 16:51:06	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				

First Level Reviewer: shardaa　　Date: 09-Nov-2017 16:45:24

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.991	450831582	0.79	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.116	338854215	0.80	1.2599	59.7	59.7	0.2015	0.2015	59.66	
2,3,7,8-TCDF	16.130	2265985	0.81	1.0784	0.6201	0.6201	0.0895	0.0895		M
D 13C-2,3,7,8-TCDD	14.731	243898880	0.79	0.9567	56.5	56.5	0.3336	0.3336	56.55	
$ 37Cl4-2,3,7,8-TCDD	14.744	173228052		1.1208	34.3	34.3	0.0474	0.0474	85.71	
2,3,7,8-TCDD	14.772	491997	0.77	1.1123	0.2183	0.1814	0.0481	0.0481		RQ
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Report Date: 09-Nov-2017 16:51:29　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_013.d
Lims ID: 160-24924-G-9-A
Client ID: SHAD041DP022SS03NS
Sample Type: Client
Inject. Date: 07-Nov-2017 17:43:39　ALS Bottle#: 0　Worklist Smp#: 13
Injection Vol: 2.0 ul　Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-A
Misc. Info.: DB225RES
Operator ID:　Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06　Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution　Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm)　Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa　Date: 09-Nov-2017 16:45:24

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.991	14.991	0		198858168	44948636	88688	221720	507		
333.9339	14.991	14.991	0		251973414	57780422	42470	106175	1361	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.116	16.130	-1	1.075	150575921	31716154	51620	129050	614		
317.9389	16.116	16.130	-1	1.075	188278294	39327622	52710	131775	746	0.80(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.130	16.144	-1	1.001	1016074	205108	13463	33657	15		M
305.8987	16.130	16.144	-1	1.001	1249911	279446	13966	34915	20	0.81(0.65-0.89)	M
13C-2,3,7,8-TCDD											
331.9368	14.731	14.731	0	0.983	107456843	24102742	88688	221720	272		
333.9339	14.731	14.731	0	0.983	136442037	30711775	42470	106175	723	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.744	14.744	0	0.984	173228052	39088061	21839	54597	1790		
2,3,7,8-TCDD											RQ
319.8965	14.772	14.744	2	1.003	214033	34882	5164	12910	7		
321.8936	14.758	14.744	1	1.002	378104	59490	6576	16440	9	0.57(0.65-0.89)	
	Empc Correction				277964	45301	6576	16440	7		
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				13463	33657			
Total Dioxins & Furans											
303.9016		0.0	0				13463	33657			

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento

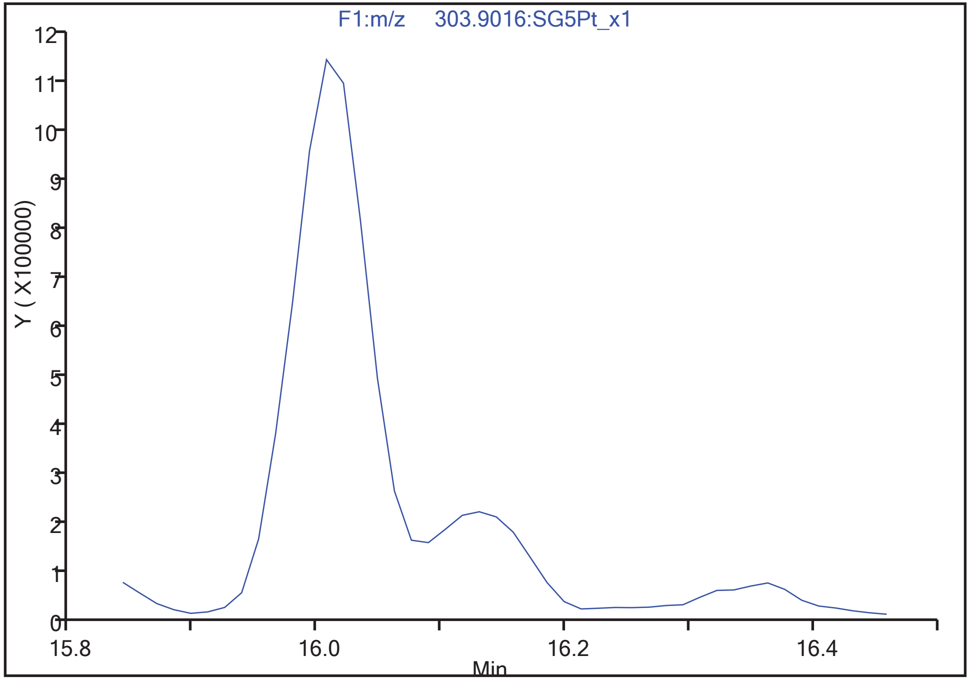
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_013.d				
Injection Date:	07-Nov-2017 17:43:39	Instrument ID:	9D2		
Lims ID:	160-24924-G-9-A	Lab Sample ID:	320-24924-9		
Client ID:	SHAD041DP022SS03NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

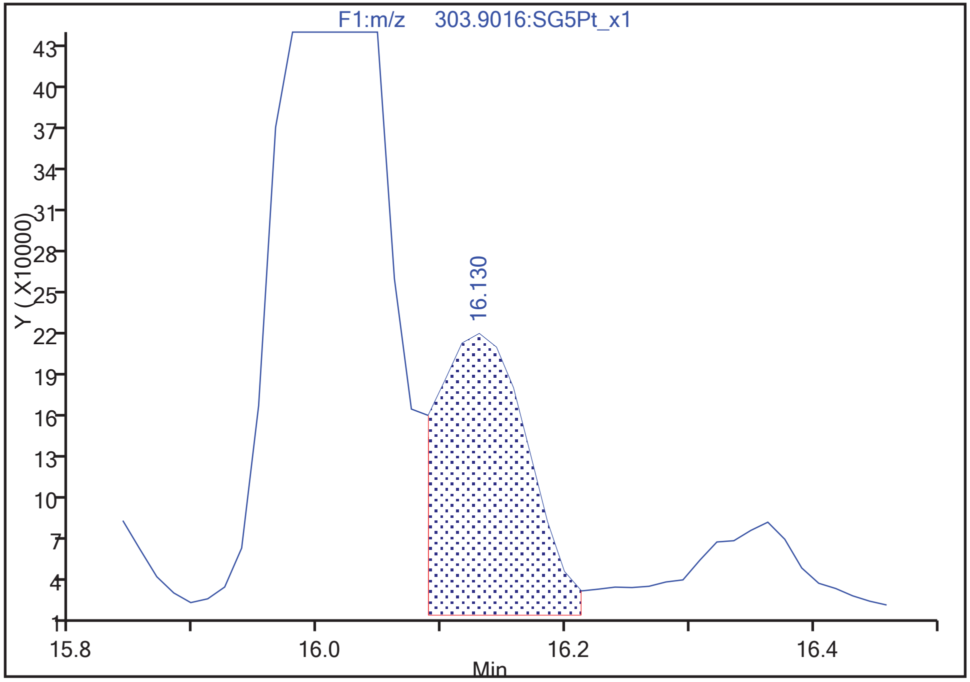
Not Detected
Expected RT: 16.14

Processing Integration Results



RT: 16.13
Area: 1016074
Amount: 0.620080
Amount Units: pg/ul

Manual Integration Results



Reviewer: shardaa, 09-Nov-2017 16:45:02
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_013.d				
Injection Date:	07-Nov-2017 17:43:39	Instrument ID:	9D2		
Lims ID:	160-24924-G-9-A	Lab Sample ID:	320-24924-9		
Client ID:	SHAD041DP022SS03NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

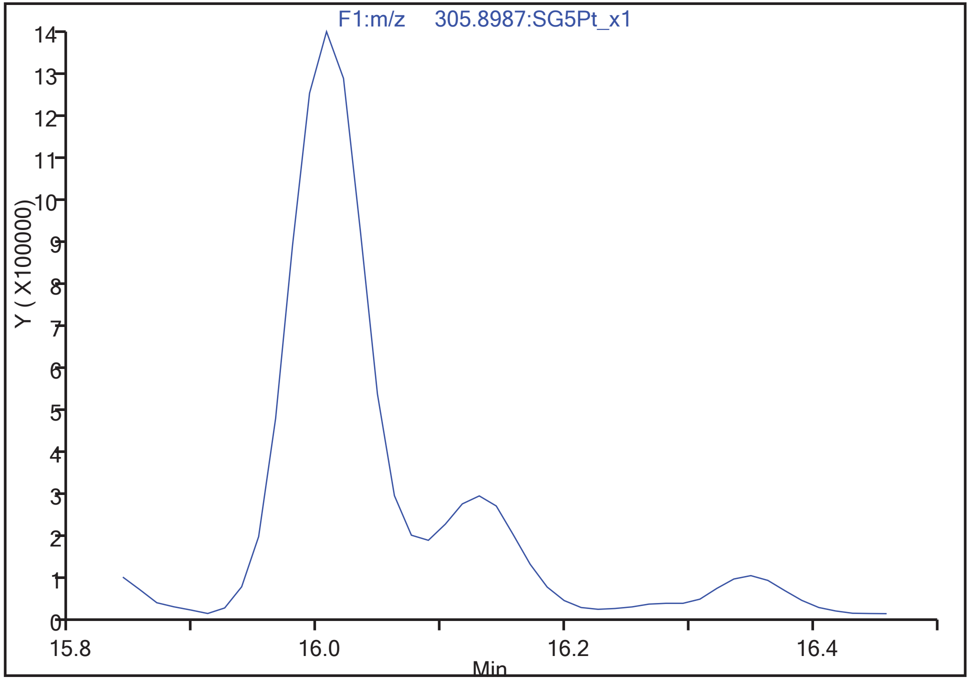
2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Not Detected

Expected RT: 16.14

Processing Integration Results



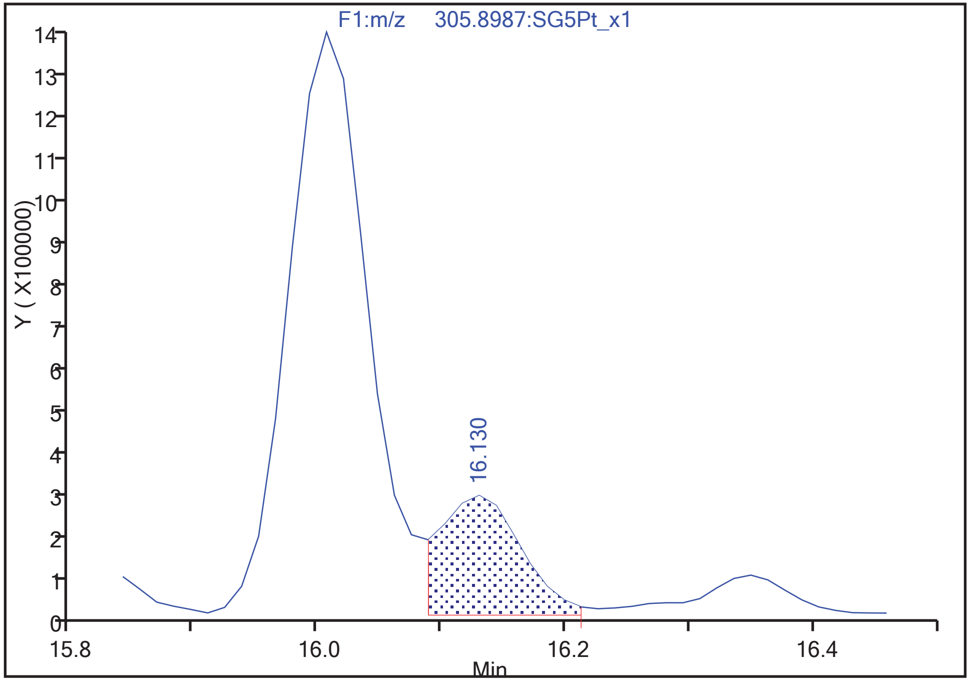
RT: 16.13

Area: 1249911

Amount: 0.620080

Amount Units: pg/ul

Manual Integration Results



Reviewer: shardaa, 09-Nov-2017 16:45:14

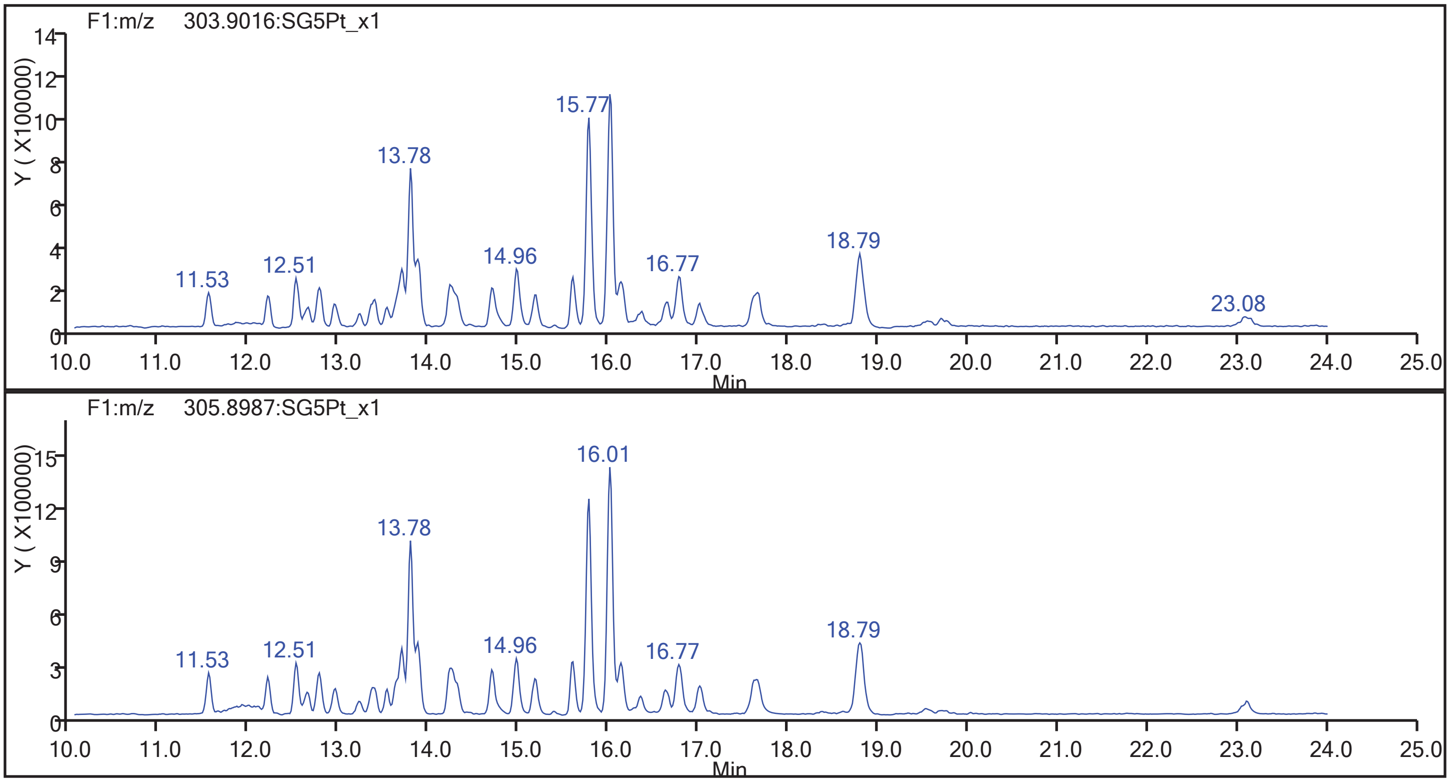
Audit Action: Manually Integrated Audit Reason: Missed Peak

Report Date: 09-Nov-2017 16:51:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

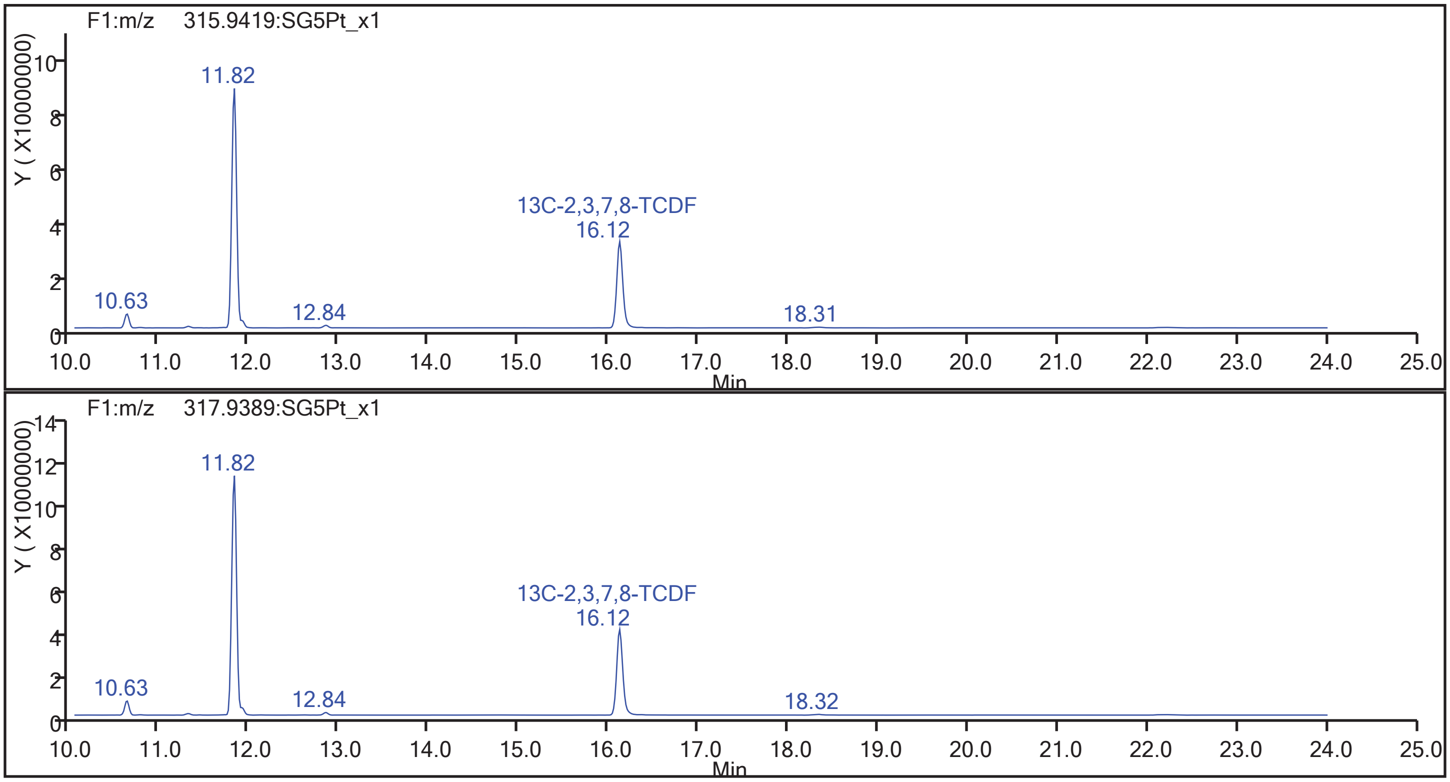
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_013.d		
Injection Date:	07-Nov-2017 17:43:39	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	193317	Sample Line#:	13
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF



TCDF Standards

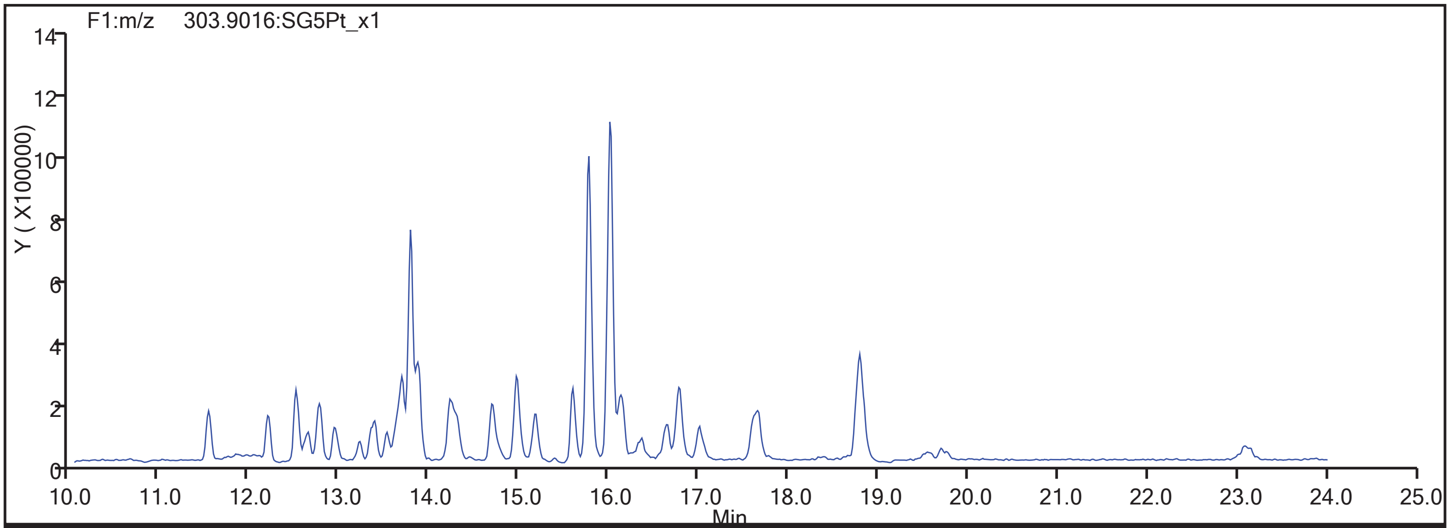


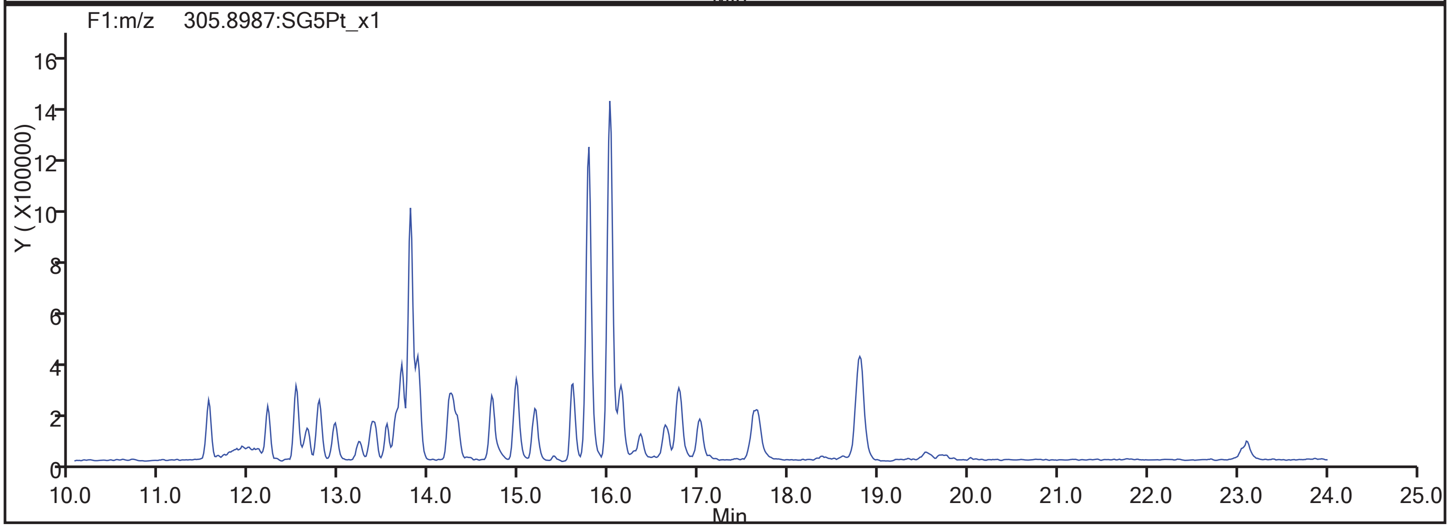
Report Date: 09-Nov-2017 16:51:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

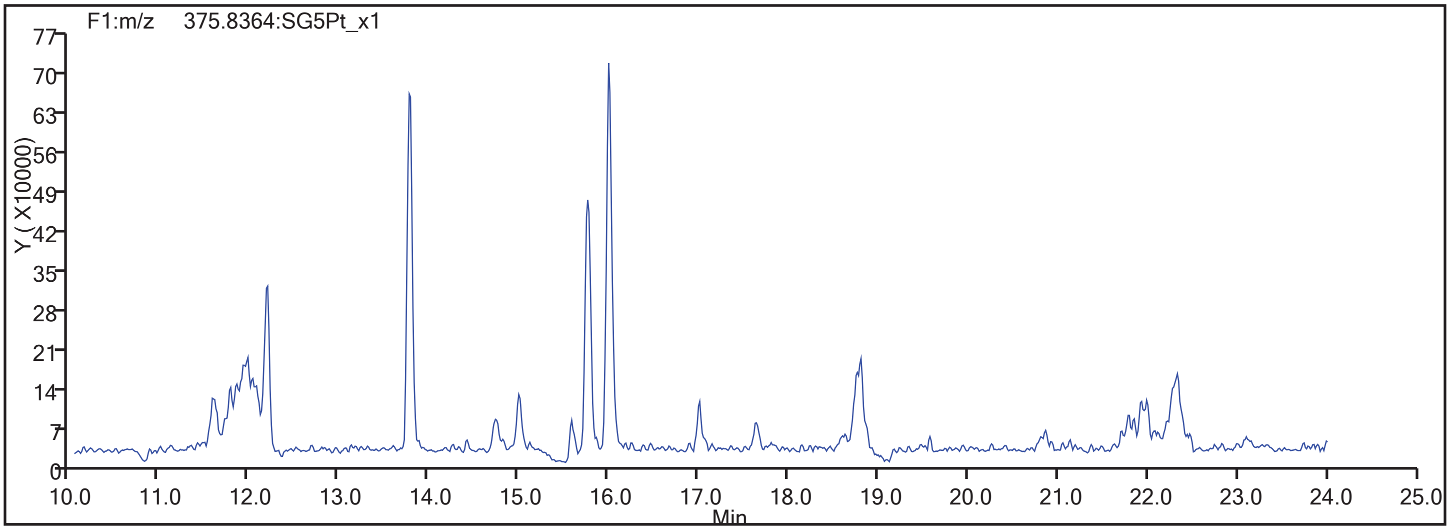
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_013.d		
Injection Date:	07-Nov-2017 17:43:39	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	193317	Sample Line#:	13
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

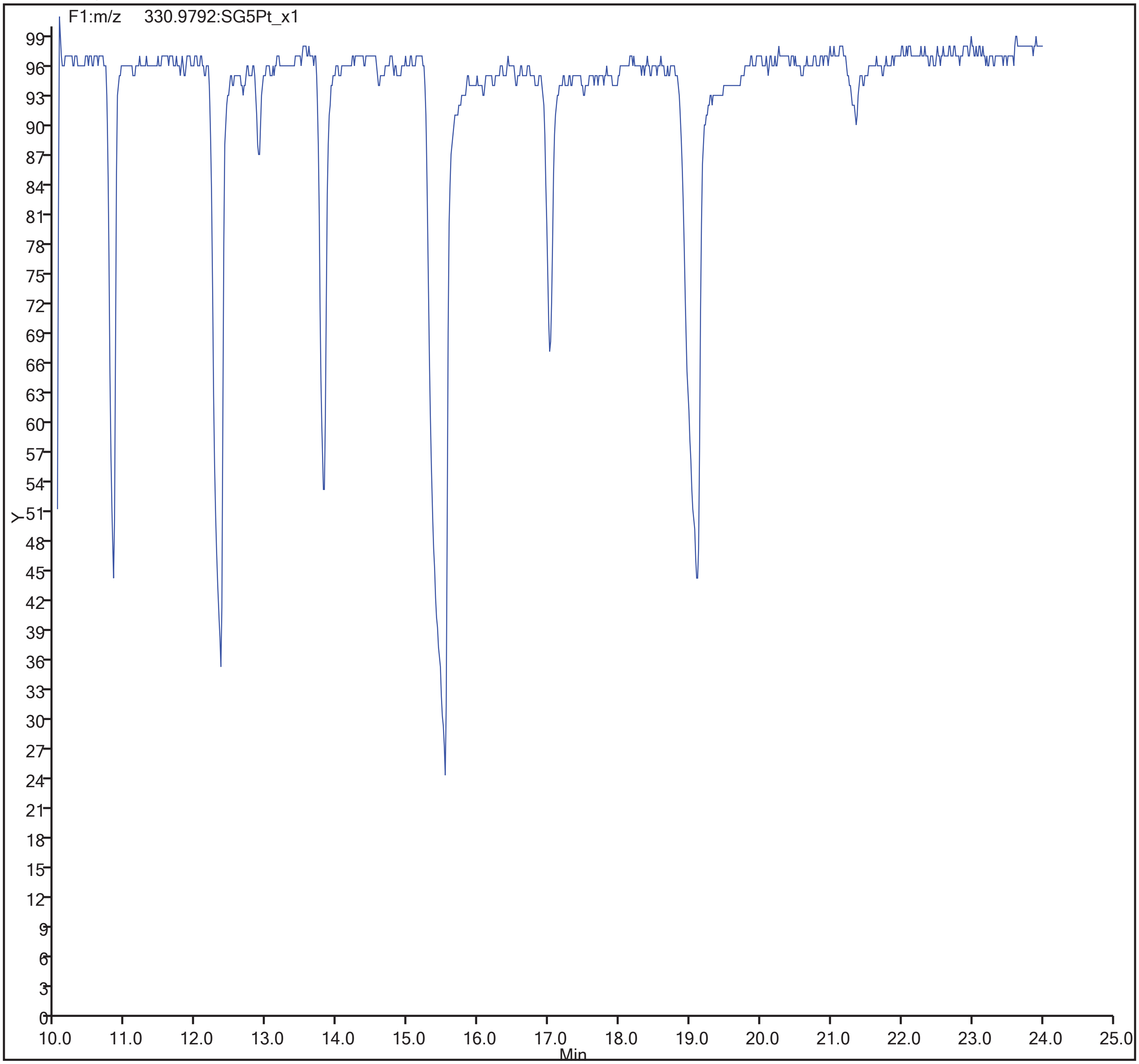


Report Date: 09-Nov-2017 16:51:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_013.d

Injection Date:	07-Nov-2017 17:43:39	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	193317	Sample Line#:	13
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS03NS	Lab Sample ID: 160-24924-9
Matrix: Solid	Lab File ID: 09NO1710D5_72.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:59
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.04(g)	Date Analyzed: 11/11/2017 17:21
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 2.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194085	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.41	U	1.0	0.41	0.14
40321-76-4	1,2,3,7,8-PeCDD	0.60	J	5.1	0.76	0.19
57117-41-6	1,2,3,7,8-PeCDF	0.56	J M	5.1	0.76	0.21
57117-31-4	2,3,4,7,8-PeCDF	0.94	J	5.1	0.76	0.21
39227-28-6	1,2,3,4,7,8-HxCDD	0.73	J	5.1	2.0	0.16
57653-85-7	1,2,3,6,7,8-HxCDD	3.0	J	5.1	2.0	0.12
19408-74-3	1,2,3,7,8,9-HxCDD	2.3	J	5.1	2.0	0.12
70648-26-9	1,2,3,4,7,8-HxCDF	0.56	J M	5.1	0.76	0.28
57117-44-9	1,2,3,6,7,8-HxCDF	1.3	J	5.1	1.0	0.23
72918-21-9	1,2,3,7,8,9-HxCDF	1.0	U	5.1	1.0	0.28
60851-34-5	2,3,4,6,7,8-HxCDF	0.83	J	5.1	0.76	0.26
35822-46-9	1,2,3,4,6,7,8-HpCDD	25		5.1	1.0	0.33
67562-39-4	1,2,3,4,6,7,8-HpCDF	42	J	5.1	1.0	0.71
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.0	U J	5.1	2.0	0.87
3268-87-9	OCDD	100	B	10	4.1	0.34
39001-02-0	OCDF	25		10	4.1	0.25

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	59		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	62		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	63		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	52		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	64		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	42		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	24	Q	40-135
114423-97-1	13C-OCDD	29	Q	40-135

FORM I 8290A

Report Date: 13-Nov-2017 12:41:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d
Lims ID: 160-24924-G-9-A
Client ID: SHAD041DP022SS03NS
Sample Type: Client
Inject. Date: 11-Nov-2017 17:21:51 ALS Bottle#: 46 Worklist Smp#: 72
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-9-a 160-24924-g-9-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 12:41:45 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 12:41:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	90338175	0.77	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	71588117	0.78	1.2741	62.2	62.2	0.7861	0.7861	62.20	
2,3,7,8-TCDF	17.445	1065688	0.75	1.1341	1.313	1.313	0.1049	0.1049		
A Non-2,3,7,8-sub-TCDF	17.105	5748192	0.77	1.1341	7.147	7.080	0.1049	1.210		RQM
S Total TCDF					8.460	8.392	0.1049	0.1049		RQ
D 13C-2,3,7,8-TCDD	18.111	52457752	0.76	0.9921	58.5	58.5	0.1802	0.1802	58.53	
$ 37Cl4-2,3,7,8-TCDD	18.141	34964261		1.0466	37.0	37.0	0.0603	0.0603	92.45	
2,3,7,8-TCDD	18.126						0.0668	0.0668		
A Non-2,3,7,8-sub-TCDD	17.559	2338252	0.77	0.9993	4.521	4.460	0.0668	2.136		RQM
S Total TCDD					4.521	4.460	0.0668	0.0668		RQ
D 13C-1,2,3,7,8-PeCDF	22.451	55241647	1.58	0.9696	63.1	63.1	0.1759	0.1759	63.06	
1,2,3,7,8-PeCDF	22.478	177347	1.55	1.1627	0.3091	0.2761	0.1022	0.1022		RQM
D 13C-2,3,4,7,8-PeCDF	23.801	57525783	1.57							
2,3,4,7,8-PeCDF	23.842	291565	1.47	1.1395	0.4632	0.4632	0.1043	0.1043		
A F1 PeCDFs	20.001	1445292	1.51	1.1511	2.273	2.273	0.0421	2.273		
A Non-2,3,7,8-sub-PeCDF	23.161	2567480	1.55	1.1511	4.169	4.038	0.1033	1.921		RQM
S Total PeCDF					7.214	7.050	0.1033	0.1033		RQ
D 13C-1,2,3,7,8-PeCDD	24.537	42506915	1.63	0.7588	62.0	62.0	0.1148	0.1148	62.01	
1,2,3,7,8-PeCDD	24.537	119110	1.57	0.9490	0.2953	0.2953	0.0957	0.0957		
A Non-2,3,7,8-sub-PeCDD	23.419	1216484	1.55	0.9490	3.366	3.016	0.0957	0.8432		RQM
S Total PeCDD					3.661	3.311	0.0957	0.0957		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.593	45024377	0.51	0.9644	63.7	63.7	0.3806	0.3806	63.72	
1,2,3,4,7,8-HxCDF	30.606	172846	1.24	1.4012	0.3048	0.2740	0.1396	0.1396		RQM
D 13C-1,2,3,6,7,8-HxCDF	30.779	52274655	0.52							
1,2,3,6,7,8-HxCDF	30.806	505278	1.34	1.6951	0.6620	0.6620	0.1154	0.1154		
D 13C-2,3,4,6,7,8-HxCDF	31.578	46946289	0.53							
2,3,4,6,7,8-HxCDF	31.591	280355	1.21	1.5205	0.4095	0.4095	0.1287	0.1287		
D 13C-1,2,3,7,8,9-HxCDF	32.363	42326777	0.51							
1,2,3,7,8,9-HxCDF	32.377						0.1388	0.1388		
A Non-2,3,7,8-sub-HxCDF	30.254	5534771	1.26	1.5067	8.159	8.159	0.1299	3.730		M

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					9.535	9.504	0.1306	0.1306		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.177	73270215	1.24	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.764	30780195	1.30							
1,2,3,4,7,8-HxCDD	31.778	115897	1.24	0.9505	0.3611	0.3611	0.0791	0.0791		
D 13C-1,2,3,6,7,8-HxCDD	31.858	33765054	1.18	0.8791	52.4	52.4	0.3201	0.3201	52.42	
1,2,3,6,7,8-HxCDD	31.884	622201	1.20	1.2343	1.493	1.493	0.0609	0.0609		
1,2,3,7,8,9-HxCDD	32.190	477714	1.23	1.2467	1.135	1.135	0.0603	0.0603		
A Non-2,3,7,8-sub-HxCDD	30.893	3946534	1.29	1.1438	10.2	10.2	0.0657	6.038		
S Total HxCDD					13.2	13.2	0.0668	0.0668		
D 13C-1,2,3,4,6,7,8-HpCDF	33.770	13121442	0.43	0.7618	23.5	23.5	0.3837	0.3837	23.51	
1,2,3,4,6,7,8-HpCDF	33.770	4463360	1.07	1.6399	20.7	20.7	0.3473	0.3473		
D 13C-1,2,3,4,7,8,9-HpCDF	34.851	18243634	0.43							
1,2,3,4,7,8,9-HpCDF	34.852						0.4281	0.4281		
A Non-2,3,7,8-sub-HpCDF	34.305	5577428	1.03	1.4851	28.6	28.6	0.3835	28.6		
S Total HpCDF					49.4	49.4	0.3877	0.3877		
1,2,3,4,6,7,8-HpCDD	34.572	2940328	1.05	0.9932	12.4	12.4	0.1599	0.1599		
D 13C-1,2,3,4,6,7,8-HpCDD	34.560	23936466	1.06	0.7762	42.1	42.1	0.2797	0.2797	42.09	
A Non-2,3,7,8-sub-HpCDD	34.286	3041135	0.99	0.9932	12.8	12.8	0.1599	12.8		
S Total HpCDD					25.2	25.2	0.1599	0.1599		
D 13C-OCDD	36.894	26726166	0.86	0.6314	57.8	57.8	0.1739	0.1739	28.89	
OCDF	37.001	2170700	0.95	1.3460	12.1	12.1	0.1250	0.1250		
OCDD	36.906	7167155	0.92	1.0604	50.6	50.6	0.1693	0.1693		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Report Date: 13-Nov-2017 12:41:45　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d
Lims ID: 160-24924-G-9-A
Client ID: SHAD041DP022SS03NS
Sample Type: Client
Inject. Date: 11-Nov-2017 17:21:51　ALS Bottle#: 46　Worklist Smp#: 72
Injection Vol: 2.0 ul　Dil. Factor: 1.0000
Sample Info: 160-24924-g-9-a 160-24924-g-9-a
Misc. Info.: 09NO1710D5
Operator ID: AJS　Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 12:41:45　Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution　Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm)　Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj　Date: 13-Nov-2017 12:41:45

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		39417026	9803862	9326	23315	1051		
333.9339	17.914	17.914	0		50921149	12778394	6820	17050	1874	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	31343733	7728538	39412	98530	196		
317.9389	17.400	17.400	0	0.971	40244384	9950025	51056	127640	195	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.445	17.415	2	1.003	457060	95145	3666	9165	26		
305.8987	17.445	17.415	2	1.003	608628	131306	4750	11875	28	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	14.981	17.105	-127	0.861	122330	37062	3666	9165	10		
305.8987	14.981	17.105	-127	0.861	157222	47246	4750	11875	10	0.78(0.65-0.89)	
303.9016	15.313	17.105	-107	0.880	88526	27211	3666	9165	7		
	Empc Correction				72360	20726	3666	9165	6		
305.8987	15.313	17.105	-107	0.880	93975	26918	4750	11875	6	0.94(0.65-0.89)	
303.9016	15.480	17.105	-97	0.890	223759	64106	3666	9165	17		
305.8987	15.480	17.105	-97	0.890	309067	85677	4750	11875	18	0.72(0.65-0.89)	
303.9016	15.737	17.105	-82	0.904	443941	79936	3666	9165	22		
305.8987	15.737	17.105	-82	0.904	538312	108746	4750	11875	23	0.82(0.65-0.89)	
303.9016	15.964	17.105	-68	0.917	215263	30801	3666	9165	8		M
305.8987	15.964	17.105	-68	0.917	325333	45668	4750	11875	10	0.66(0.65-0.89)	
303.9016	16.281	17.105	-49	0.936	140475	45552	3666	9165	12		M
305.8987	16.281	17.105	-49	0.936	220921	60428	4750	11875	13	0.64(0.65-0.89)	M
	Empc Correction				182435	59158	4750	11875	12		
303.9016	16.508	17.105	-36	0.949	294855	70098	3666	9165	19		
305.8987	16.508	17.105	-36	0.949	399921	100008	4750	11875	21	0.74(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	16.704	17.105	-24	0.960	398266	42278	3666	9165	12		
305.8987	16.719	17.105	-23	0.961	503530	54182	4750	11875	11	0.79(0.65-0.89)	
303.9016	17.264	17.105	10	0.992	134858	21899	3666	9165	6		
305.8987	17.264	17.105	10	0.992	166905	35301	4750	11875	7	0.81(0.65-0.89)	
303.9016	17.854	17.105	45	1.026	224697	52868	3666	9165	14		
305.8987	17.854	17.105	45	1.026	300054	72855	4750	11875	15	0.75(0.65-0.89)	
303.9016	18.065	17.105	57	1.038	117381	28154	3666	9165	8		
305.8987	18.065	17.105	57	1.038	163654	36776	4750	11875	8	0.72(0.65-0.89)	
303.9016	18.307	17.105	72	1.052	92526	24756	3666	9165	7		
305.8987	18.307	17.105	72	1.052	127073	32686	4750	11875	7	0.73(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.111	18.111	0	1.011	22730882	5226891	9326	23315	560		
333.9339	18.111	18.111	0	1.011	29726870	6776407	6820	17050	994	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.141	18.126	1	1.013	34964261	8024685	5700	14250	1408		
2,3,7,8-TCDD											
319.8965	18.126						1794	4485			
321.8936	18.126						1412	3530			
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	15.903	17.559	-99	0.878	492679	132510	1794	4485	74		
321.8936	15.903	17.559	-99	0.878	627008	173348	1412	3530	123	0.79(0.65-0.89)	
319.8965	16.190	17.559	-82	0.894	336078	91240	1794	4485	51		
321.8936	16.190	17.559	-82	0.894	447194	127018	1412	3530	90	0.75(0.65-0.89)	
319.8965	16.992	17.559	-34	0.938	87957	20702	1794	4485	12		
321.8936	17.007	17.559	-33	0.939	114688	24492	1412	3530	17	0.77(0.65-0.89)	
319.8965	18.020	17.559	28	0.995	132783	15518	1794	4485	9		M
	Empc Correction				101208	13023	1794	4485	7		
321.8936	18.020	17.559	28	0.995	131440	16914	1412	3530	12	1.01(0.65-0.89)	M
13C-1,2,3,7,8-PeCDF											
351.9000	22.451	22.437	1	1.253	33819134	5908262	8990	22475	657		
353.8970	22.451	22.437	1	1.253	21422513	3792577	6421	16052	591	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											RQM
339.8597	22.478	22.465	1	1.001	128963	21174	2254	5635	9		
	Empc Correction				107799	21425	2254	5635	10		
341.8567	22.478	22.465	1	1.001	69548	13823	2359	5897	6	1.85(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	23.801	23.801	0	1.329	35103864	5679062	8990	22475	632		
353.8970	23.815	23.801	1	1.329	22421919	3649226	6421	16052	568	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.842	23.815	2	1.062	173394	27736	2254	5635	12		
341.8567	23.828	23.815	1	1.061	118171	22125	2359	5897	9	1.47(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.547	20.001	-27	0.871	870370	178663	663	1657	269		
341.8567	19.547	20.001	-27	0.871	574922	124317	1219	3047	102	1.51(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDF											RQM
339.8597	20.910	23.161	-135	0.931	78380	18155	2254	5635	8		
	Empc Correction				45576	12604	2254	5635	6		
341.8567	20.896	23.161	-136	0.931	29404	8132	2359	5897	3	2.67(1.32-1.78)	
339.8597	21.115	23.161	-123	0.940	748311	113328	2254	5635	50		
341.8567	21.115	23.161	-123	0.940	472979	73438	2359	5897	31	1.58(1.32-1.78)	
339.8597	21.360	23.161	-108	0.951	116663	18024	2254	5635	8		
	Empc Correction				66191	14532	2254	5635	6		
341.8567	21.374	23.161	-107	0.952	42704	9376	2359	5897	4	2.73(1.32-1.78)	
339.8597	21.919	23.161	-74	0.976	357718	38799	2254	5635	17		
341.8567	21.973	23.161	-71	0.979	236748	23562	2359	5897	10	1.51(1.32-1.78)	
339.8597	22.355	23.161	-48	0.996	65854	11955	2254	5635	5		M
341.8567	22.355	23.161	-48	0.996	42053	8052	2359	5897	3	1.57(1.32-1.78)	
339.8597	24.128	23.161	58	1.075	284875	40707	2254	5635	18		
341.8567	24.142	23.161	59	1.075	175067	23922	2359	5897	10	1.63(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.537	24.524	1	1.370	26371250	4101411	4892	12230	838		
369.8919	24.537	24.524	1	1.370	16135665	2504180	2975	7437	842	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.537	24.551	-1	1.000	72794	10280	1476	3690	7		
357.8516	24.564	24.551	1	1.001	46316	7963	923	2307	9	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQM
355.8546	21.319	23.419	-126	0.869	206747	36612	1476	3690	25		
357.8516	21.319	23.419	-126	0.869	252010	41515	923	2307	45	0.82(1.32-1.78)	
	Empc Correction				133385	23620	923	2307	26		
355.8546	22.055	23.419	-82	0.899	35985	7391	1476	3690	5		
357.8516	22.069	23.419	-81	0.899	24884	6267	923	2307	7	1.45(1.32-1.78)	
355.8546	22.519	23.419	-54	0.918	154009	29126	1476	3690	20		
357.8516	22.505	23.419	-55	0.917	121860	17989	923	2307	19	1.26(1.32-1.78)	
	Empc Correction				99360	18790	923	2307	20		
355.8546	22.764	23.419	-39	0.928	74202	14214	1476	3690	10		
357.8516	22.764	23.419	-39	0.928	47695	10864	923	2307	12	1.56(1.32-1.78)	
355.8546	23.078	23.419	-20	0.941	93953	18065	1476	3690	12		
357.8516	23.078	23.419	-20	0.941	54732	9800	923	2307	11	1.72(1.32-1.78)	
355.8546	23.378	23.419	-2	0.953	26219	4245	1476	3690	3		M
357.8516	23.378	23.419	-2	0.953	16889	4878	923	2307	5	1.55(1.32-1.78)	
355.8546	23.569	23.419	9	0.961	76568	12380	1476	3690	8		M
357.8516	23.555	23.419	8	0.960	47398	5877	923	2307	6	1.62(1.32-1.78)	
355.8546	23.951	23.419	32	0.976	76512	13016	1476	3690	9		
357.8516	23.937	23.419	31	0.976	47946	8407	923	2307	9	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.593	30.580	1	0.951	15271697	2997215	9081	22702	330		
385.8610	30.593	30.580	1	0.951	29752680	5879190	18353	45882	320	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											RQM
373.8208	30.606	30.607	0	1.000	95683	30036	4145	10362	7		M
375.8178	30.606	30.607	0	1.000	96588	25122	2802	7005	9	0.99(1.05-1.43)	M
	Empc Correction				77163	24222	2802	7005	9		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.779	30.766	1	0.957	17830635	3507501	9081	22702	386		
385.8610	30.779	30.766	1	0.957	34444020	6670999	18353	45882	363	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.806	30.780	2	1.007	289765	59383	4145	10362	14		
375.8178	30.793	30.780	1	1.007	215513	46570	2802	7005	17	1.34(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.578	31.565	1	0.981	16166806	4071435	9081	22702	448		
385.8610	31.578	31.565	1	0.981	30779483	7849126	18353	45882	428	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.591	31.578	1	1.033	153339	41395	4145	10362	10		
375.8178	31.591	31.578	1	1.033	127016	32242	2802	7005	12	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.363	32.364	0	1.006	14365964	3784909	9081	22702	417		
385.8610	32.363	32.364	0	1.006	27960813	7333239	18353	45882	400	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.377						4145	10362			
375.8178	32.377						2802	7005			
A Non-2,3,7,8-sub-HxCDF											M
373.8208	28.104	30.254	-129	0.919	392544	48670	4145	10362	12		
375.8178	28.091	30.254	-130	0.918	298439	40449	2802	7005	14	1.32(1.05-1.43)	
373.8208	28.503	30.254	-105	0.932	1113879	143944	4145	10362	35		
375.8178	28.490	30.254	-106	0.931	850259	112644	2802	7005	40	1.31(1.05-1.43)	
373.8208	29.834	30.254	-25	0.975	1373949	198176	4145	10362	48		
375.8178	29.821	30.254	-26	0.975	1156421	170243	2802	7005	61	1.19(1.05-1.43)	
373.8208	30.553	30.254	18	0.999	204305	37288	4145	10362	9		M
375.8178	30.553	30.254	18	0.999	144975	33333	2802	7005	12	1.41(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.177	32.177	0		40500596	10259442	10984	27460	934		
403.8529	32.177	32.177	0		32769619	8427206	10047	25117	839	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.764	31.751	1	0.987	17414719	4724103	10984	27460	430		
403.8529	31.764	31.751	1	0.987	13365476	3831057	10047	25117	381	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.778	31.765	1	0.997	64235	18848	1133	2832	17		
391.8127	31.778	31.765	1	0.997	51662	13325	1430	3575	9	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.858	31.858	0	0.990	18307115	4680214	10984	27460	426		
403.8529	31.858	31.858	0	0.990	15457939	3844103	10047	25117	383	1.18(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.884	31.871	1	1.001	339332	84514	1133	2832	75		
391.8127	31.871	31.871	0	1.000	282869	74733	1430	3575	52	1.20(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.190	32.190	0	1.010	263464	52111	1133	2832	46		
391.8127	32.190	32.190	0	1.010	214250	46327	1430	3575	32	1.23(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.701	30.893	-71	0.932	406874	53667	1133	2832	47		
391.8127	29.701	30.893	-71	0.932	317055	40803	1430	3575	29	1.28(1.05-1.43)	
389.8157	30.686	30.893	-12	0.963	504608	97852	1133	2832	86		
391.8127	30.673	30.893	-13	0.963	386053	79749	1430	3575	56	1.31(1.05-1.43)	
389.8157	31.045	30.893	9	0.975	1309329	256054	1133	2832	226		
391.8127	31.045	30.893	9	0.975	1022615	199856	1430	3575	140	1.28(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.770	33.770	0	1.050	3917962	1210100	6622	16555	183		
419.8220	33.770	33.770	0	1.050	9203480	2802484	15225	38062	184	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.770	33.783	-1	1.000	2305239	625662	4807	12017	130		
409.7789	33.770	33.783	-1	1.000	2158121	593409	4333	10832	137	1.07(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.851	34.840	1	1.083	5460985	1318277	6622	16555	199		
419.8220	34.851	34.840	1	1.083	12782649	3155892	15225	38062	207	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.852						4807	12017			
409.7789	34.852						4333	10832			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.074	34.305	-14	1.009	2828431	849894	4807	12017	177		
409.7789	34.074	34.305	-14	1.009	2748997	830634	4333	10832	192	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.572	34.560	1	1.000	1503344	433399	2317	5792	187		
425.7737	34.572	34.560	1	1.000	1436984	400293	2191	5477	183	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.560	34.560	0	1.074	12330396	3646794	9503	23757	384		
437.8140	34.560	34.560	0	1.074	11606070	3450987	6726	16815	513	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.025	34.286	-16	0.985	1510409	498351	2317	5792	215		
425.7737	34.025	34.286	-16	0.985	1530726	495407	2191	5477	226	0.99(0.88-1.20)	
13C-OCDD											
469.7779	36.894	36.894	0	1.147	12355155	3098525	4497	11242	689		
471.7750	36.894	36.894	0	1.147	14371011	3549539	3709	9272	957	0.86(0.76-1.02)	
OCDF											
441.7428	37.001	36.990	1	1.003	1056279	237841	818	2045	291		
443.7399	37.001	36.990	1	1.003	1114421	261260	1420	3550	184	0.95(0.76-1.02)	
OCDD											
457.7377	36.906	36.894	1	1.000	3427375	840618	1176	2940	715		
459.7348	36.906	36.894	1	1.000	3739780	921312	1211	3027	761	0.92(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Lims ID:	160-24924-G-9-A		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 17:21:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	72

Non-2,3,7,8-sub-TCDF, RT: 17.105

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	100.000	71588117	17678563

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	71588117	17678563

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
14.981	122330	37062	157222	47246	0.3443	0.78	
15.313	88526	27211	93975	26918	0.2248	0.94	RQ
15.313	72360	20726	93975	26918	0.2049		Empc Correction
15.480	223759	64106	309067	85677	0.6563	0.72	
15.737	443941	79936	538312	108746	1.21	0.82	
15.964	215263	30801	325333	45668	0.6658	0.66	M
16.281	140475	45552	220921	60428	0.4451	0.64	RQM
16.281	140475	45552	182435	59158	0.3977		Empc Correction
16.508	294855	70098	399921	100008	0.8557	0.74	
16.704	398266	42278	503530	54182	1.11	0.79	
17.264	134858	21899	166905	35301	0.3717	0.81	
17.854	224697	52868	300054	72855	0.6463	0.75	
18.065	117381	28154	163654	36776	0.3461	0.72	
18.307	92526	24756	127073	32686	0.2705	0.73	
Signal Totals:							
	2480711	518236	3267481	705221			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5802844	1231212				0.76	RQM
	5748192	1223457					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 7.147 = (5802844 * 100.000) / (71588117 * 1.134)
Empc Amount: 7.080 = (5748192 * 100.000) / (71588117 * 1.134)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 12:41:46   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d
Lims ID: 160-24924-G-9-A
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 17:21:51   Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5   Operator: AJS
Lims Batch ID: 194085   Lims Sample ID: 72

Non-2,3,7,8-sub-TCDD, RT: 17.559

Initial Calibration RRF   IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	52457752	12003298

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	52457752	12003298

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.903	492679	132510	627008	173348	2.14	0.79	
16.190	336078	91240	447194	127018	1.49	0.75	
16.992	87957	20702	114688	24492	0.3866	0.77	
18.020	132783	15518	131440	16914	0.5040	1.01	RQM
18.020	101208	13023	131440	16914	0.4438		Empc Correction
Signal Totals:							
	1017922	257475	1320330	341772			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2369827	601742				0.79	RQM
	2338252	599247					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.521 = (2369827 * 100.000) / (52457752 * 0.999)
Empc Amount: 4.460 = (2338252 * 100.000) / (52457752 * 0.999)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Lims ID:	160-24924-G-9-A		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 17:21:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	72

F1 PeCDFs, RT: 20.001

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	55241647	9700839
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	55241647	9700839

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.547	870370	178663	574922	124317	2.27	1.51	
Signal Totals:							
	870370	178663	574922	124317			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1445292	302980				1.51	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.273 = (1445292 * 100.000) / (55241647 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d
Lims ID: 160-24924-G-9-A
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 17:21:51 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 72

Non-2,3,7,8-sub-PeCDF, RT: 23.161

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	55241647	9700839
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	55241647	9700839

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.910	78380	18155	29404	8132	0.1695	2.67	RQ
20.910	45576	12604	29404	8132	0.1179		Empc Correction
21.115	748311	113328	472979	73438	1.92	1.58	
21.360	116663	18024	42704	9376	0.2506	2.73	RQ
21.360	66191	14532	42704	9376	0.1712		Empc Correction
21.919	357718	38799	236748	23562	0.9349	1.51	
22.355	65854	11955	42053	8052	0.1697	1.57	M
24.128	284875	40707	175067	23922	0.7233	1.63	
Signal Totals:							
	1568525	231925	998955	146482			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2650756	387450				1.65	RQM
	2567480	378407					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.169 = (2650756 * 100.000) / (55241647 * 1.151)
Empc Amount: 4.038 = (2567480 * 100.000) / (55241647 * 1.151)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Lims ID:	160-24924-G-9-A		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 17:21:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	72

Non-2,3,7,8-sub-PeCDD, RT: 23.419

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	42506915	6605591

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	42506915	6605591

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.319	206747	36612	252010	41515	1.14	0.82	RQ
21.319	206747	36612	133385	23620	0.8432		Empc Correction
22.055	35985	7391	24884	6267	0.1509	1.45	
22.519	154009	29126	121860	17989	0.6839	1.26	RQ
22.519	154009	29126	99360	18790	0.6281		Empc Correction
22.764	74202	14214	47695	10864	0.3022	1.56	
23.078	93953	18065	54732	9800	0.3686	1.72	
23.378	26219	4245	16889	4878	0.1069	1.55	M
23.569	76568	12380	47398	5877	0.3073	1.62	M
23.951	76512	13016	47946	8407	0.3085	1.60	
Signal Totals:							
	744195	135049	472289	88503			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1357609	240646				1.21	RQM
	1216484	223552					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.366 = (1357609 * 100.000) / (42506915 * 0.949)
Empc Amount: 3.016 = (1216484 * 100.000) / (42506915 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Lims ID:	160-24924-G-9-A		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 17:21:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	72

Non-2,3,7,8-sub-HxCDF, RT: 30.254

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	45024377	8876405
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	45024377	8876405

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.104	392544	48670	298439	40449	1.02	1.32	
28.503	1113879	143944	850259	112644	2.90	1.31	
29.834	1373949	198176	1156421	170243	3.73	1.19	
30.553	204305	37288	144975	33333	0.5149	1.41	M
Signal Totals:							
	3084677	428078	2450094	356669			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5534771	784747				1.26	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 8.159 = (5534771 * 100.000) / (45024377 * 1.507)

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Lims ID:	160-24924-G-9-A		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 17:21:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	72

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	33765054	8524317
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	33765054	8524317

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.701	406874	53667	317055	40803	1.87	1.28	
30.686	504608	97852	386053	79749	2.31	1.31	
31.045	1309329	256054	1022615	199856	6.04	1.28	
Signal Totals:							
	2220811	407573	1725723	320408			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3946534	727981				1.29	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 10.219 = (3946534 * 100.000) / (33765054 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d
Lims ID: 160-24924-G-9-A
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 17:21:51 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 72

Non-2,3,7,8-sub-HpCDF, RT: 34.305

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	13121442	4012584
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	13121442	4012584

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.074	2828431	849894	2748997	830634	28.6	1.03	
Signal Totals:							
	2828431	849894	2748997	830634			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5577428	1680528				1.03	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 28.622 = (5577428 * 100.000) / (13121442 * 1.485)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Lims ID:	160-24924-G-9-A		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 17:21:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	72

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	23936466	7097781

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	23936466	7097781

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.025	1510409	498351	1530726	495407	12.8	0.99	
Signal Totals:							
	1510409	498351	1530726	495407			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3041135	993758				0.99	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 12.792 = (3041135 * 100.000) / (23936466 * 0.993)

Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

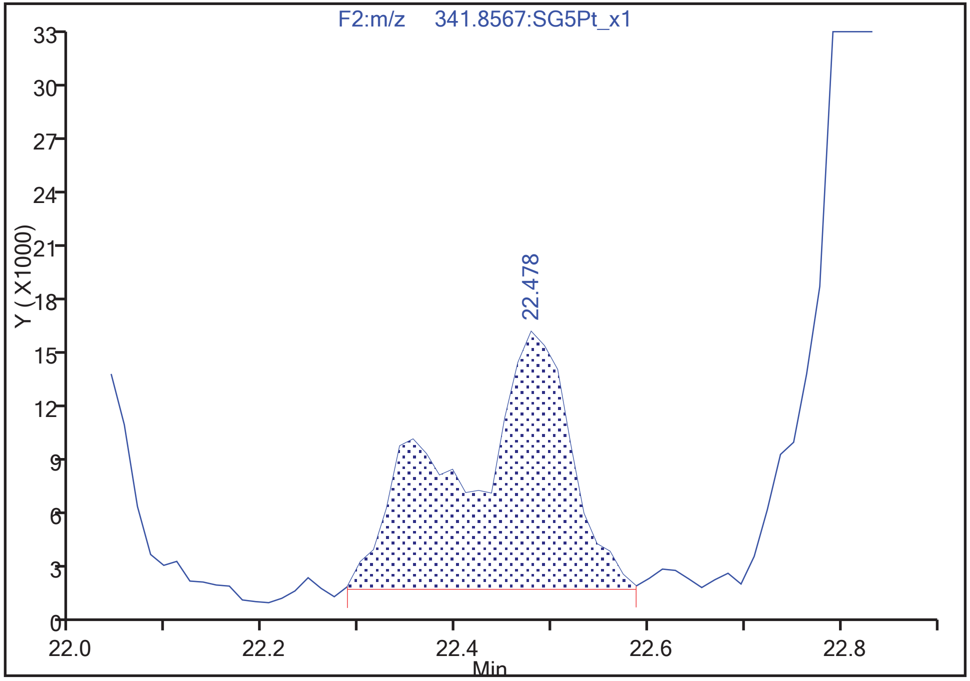
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Instrument ID:	10D5
Lims ID:	160-24924-G-9-A	Lab Sample ID:	320-24924-9
Client ID:	SHAD041DP022SS03NS		
Operator ID:	AJS	ALS Bottle#:	46 Worklist Smp#: 72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

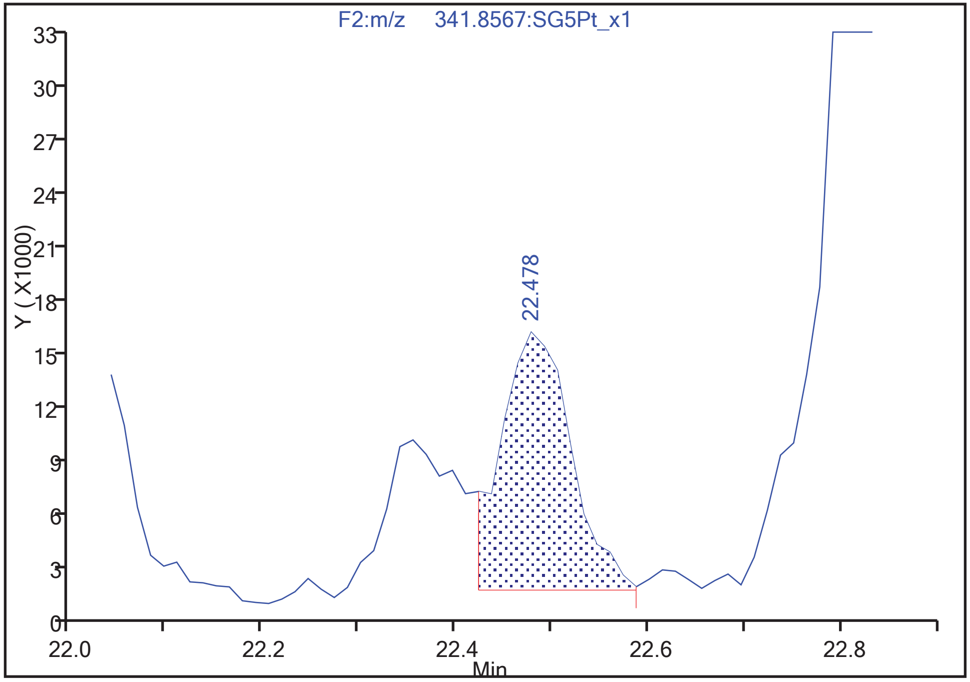
Processing Integration Results

RT: 22.48
Area: 111602
Amount: 0.374545
Amount Units: pg/ul



Manual Integration Results

RT: 22.48
Area: 69548
Amount: 0.309070
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 12:36:08

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Sacramento

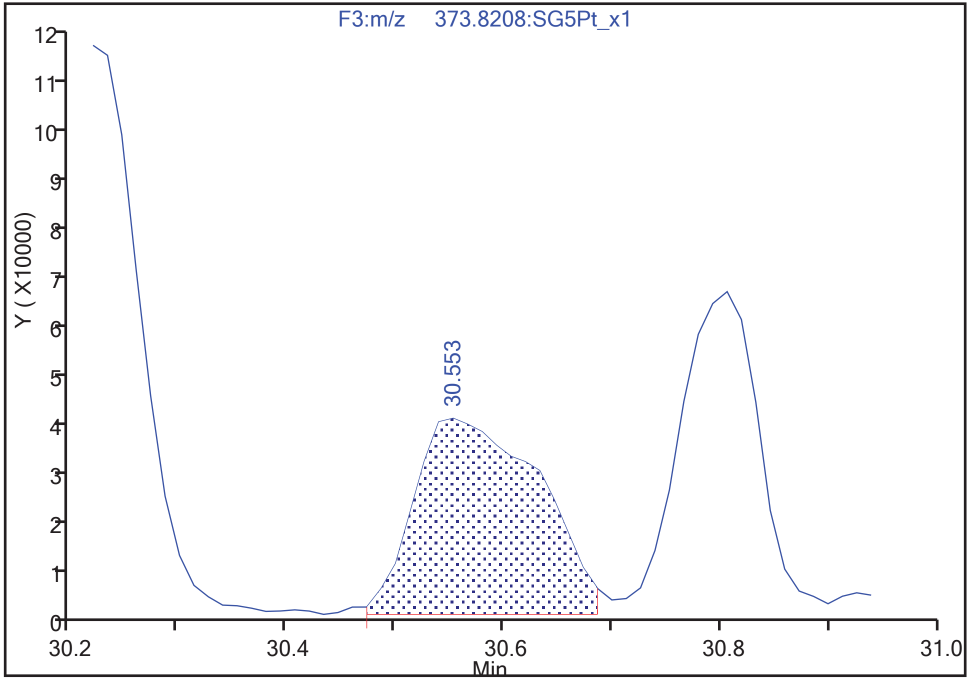
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d				
Injection Date:	11-Nov-2017 17:21:51	Instrument ID:	10D5		
Lims ID:	160-24924-G-9-A	Lab Sample ID:	320-24924-9		
Client ID:	SHAD041DP022SS03NS				
Operator ID:	AJS	ALS Bottle#:	46	Worklist Smp#:	72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

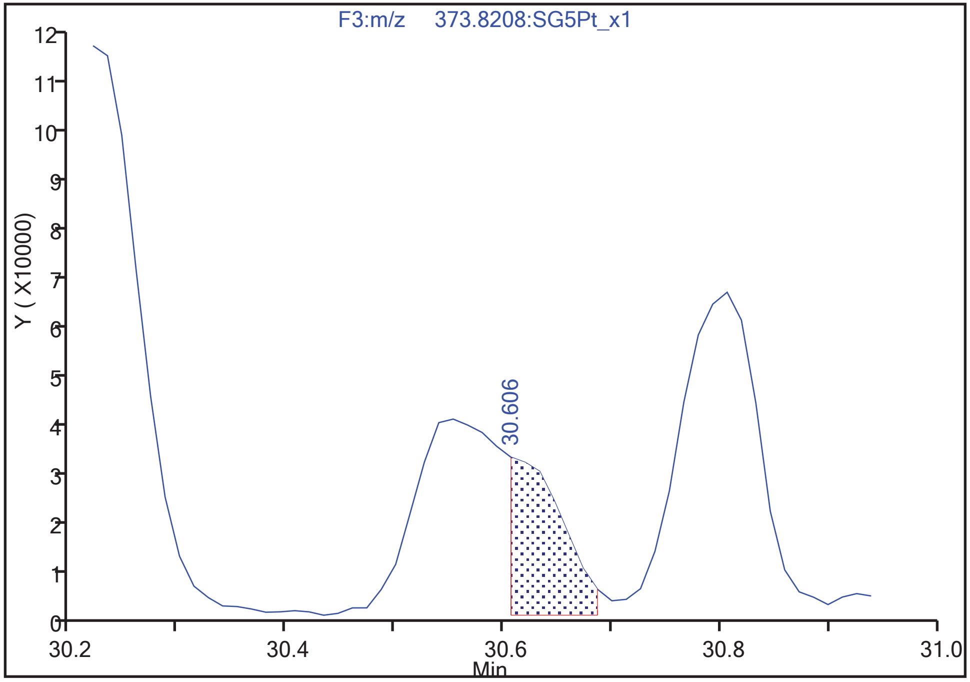
Processing Integration Results

RT: 30.55
Area: 299989
Amount: 0.858382
Amount Units: pg/ul



Manual Integration Results

RT: 30.61
Area: 95683
Amount: 0.304757
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 12:37:39

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

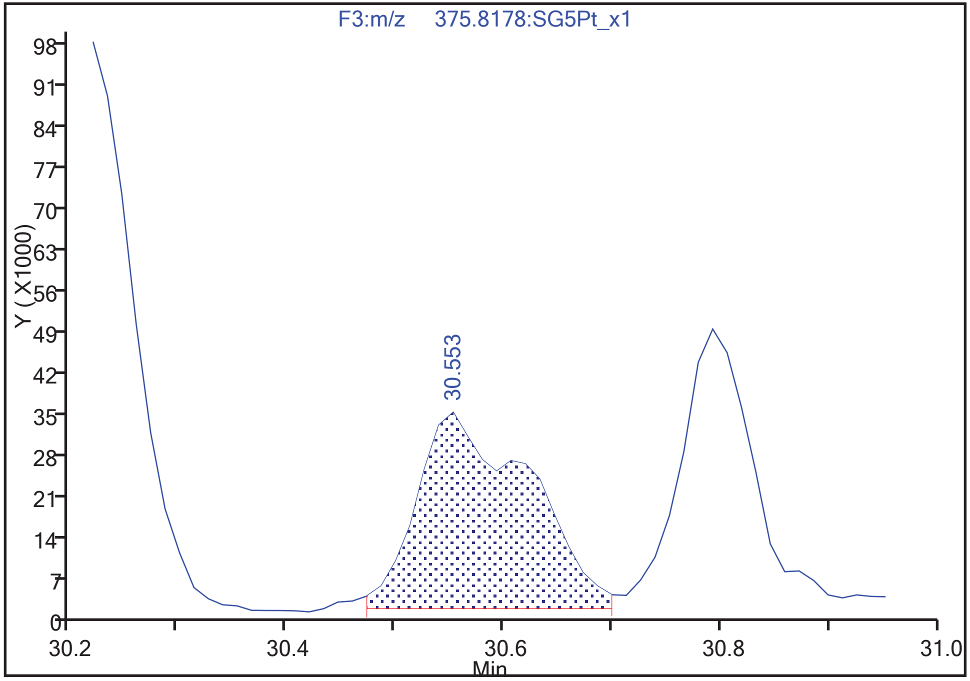
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Instrument ID:	10D5
Lims ID:	160-24924-G-9-A	Lab Sample ID:	320-24924-9
Client ID:	SHAD041DP022SS03NS		
Operator ID:	AJS	ALS Bottle#:	46 Worklist Smp#: 72
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

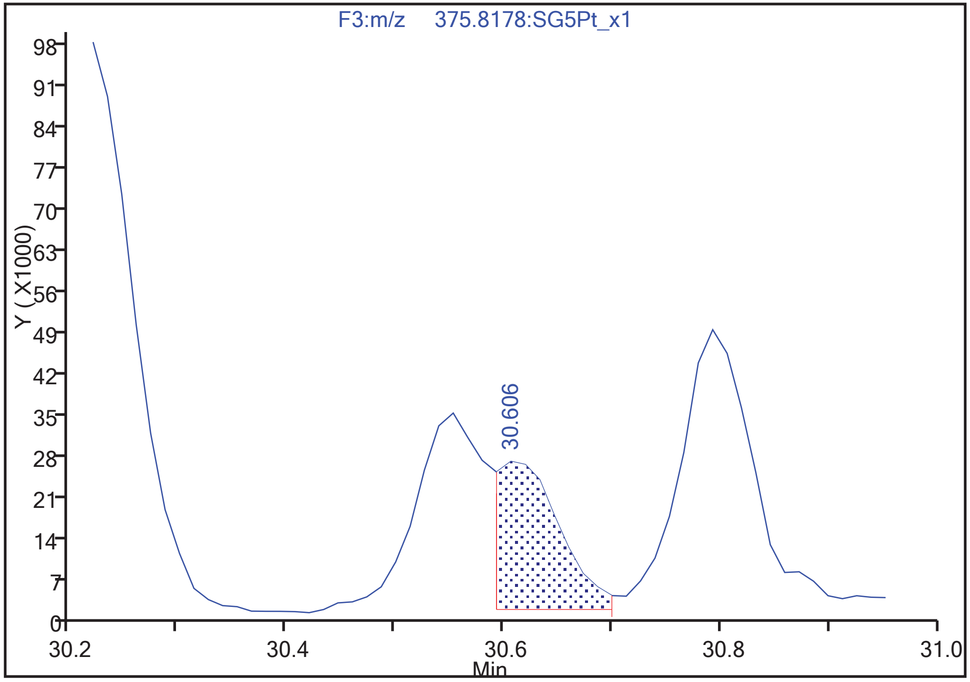
Processing Integration Results

RT:	30.55
Area:	241563
Amount:	0.858382
Amount Units:	pg/ul



Manual Integration Results

RT:	30.61
Area:	96588
Amount:	0.304757
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 12:37:41

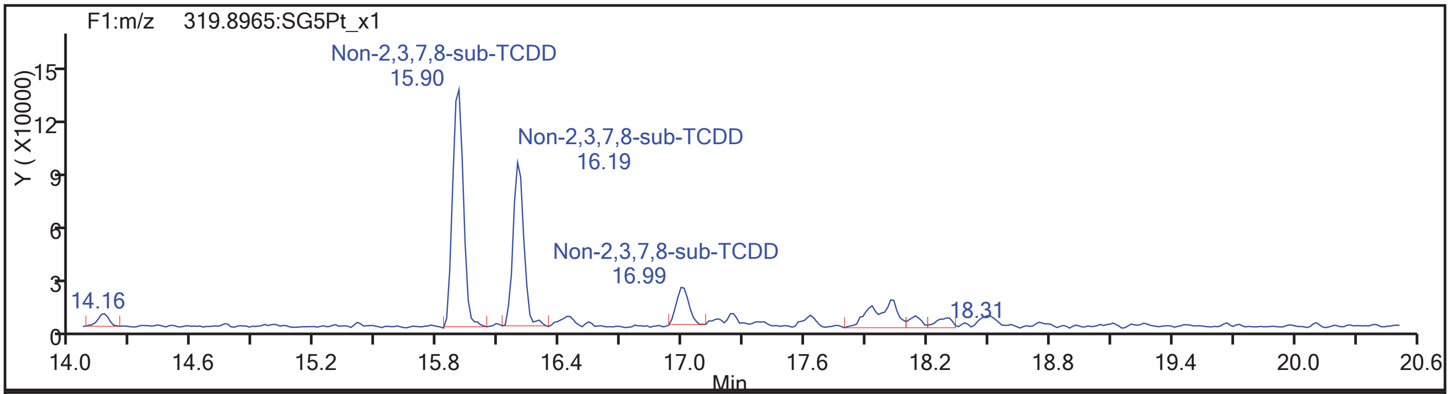
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

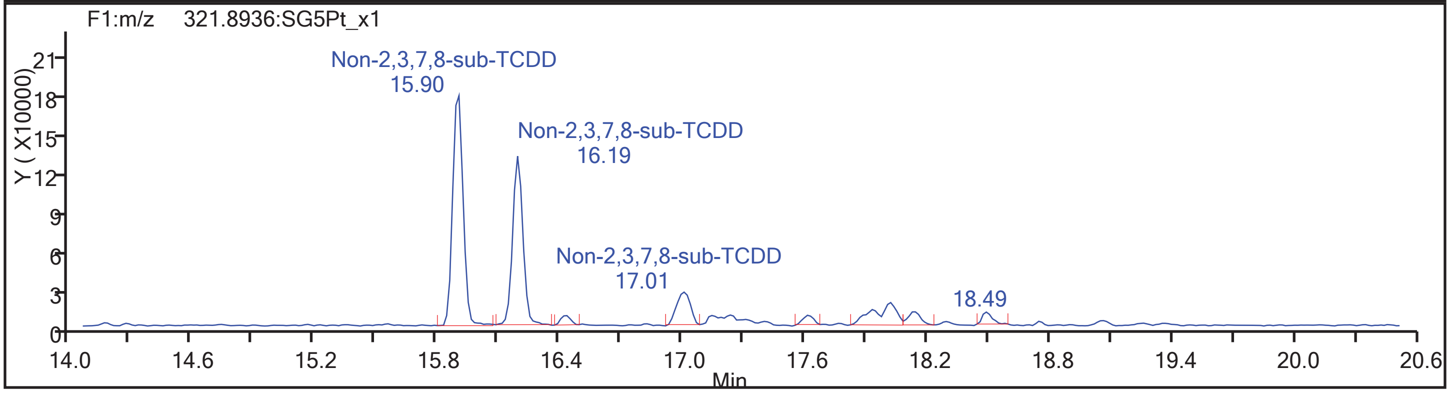
Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

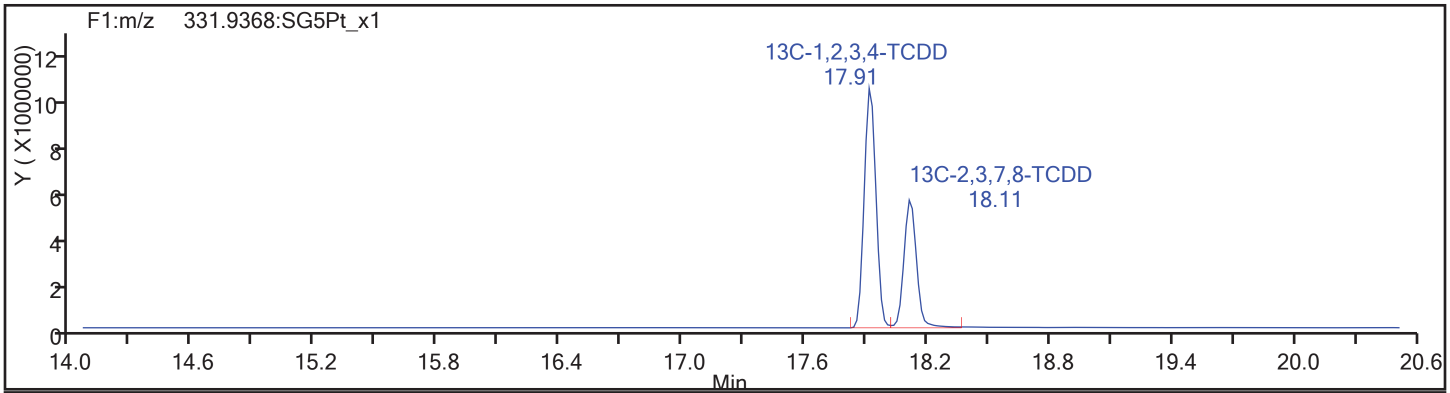
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

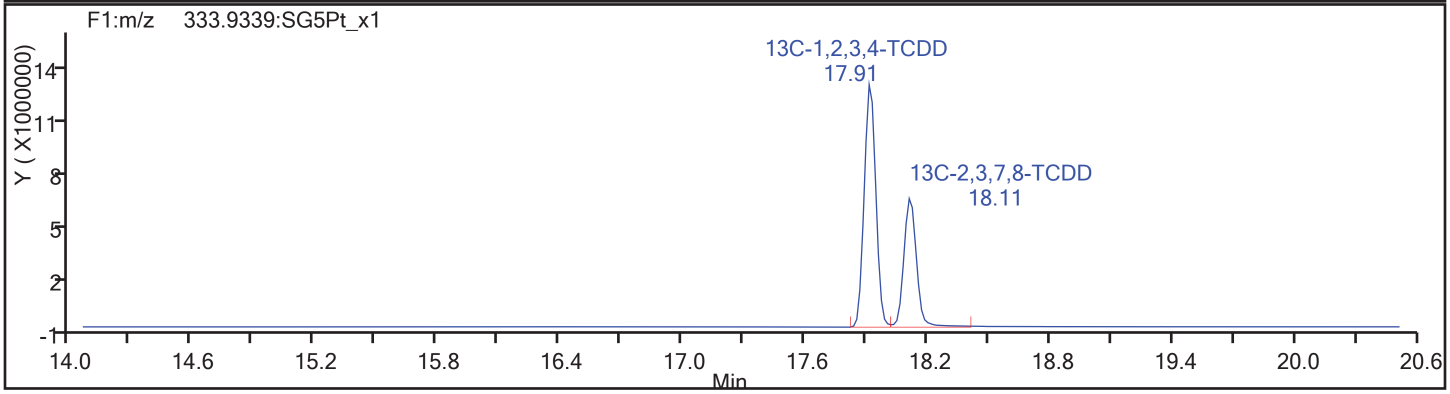
TCDD





TCDD Standards



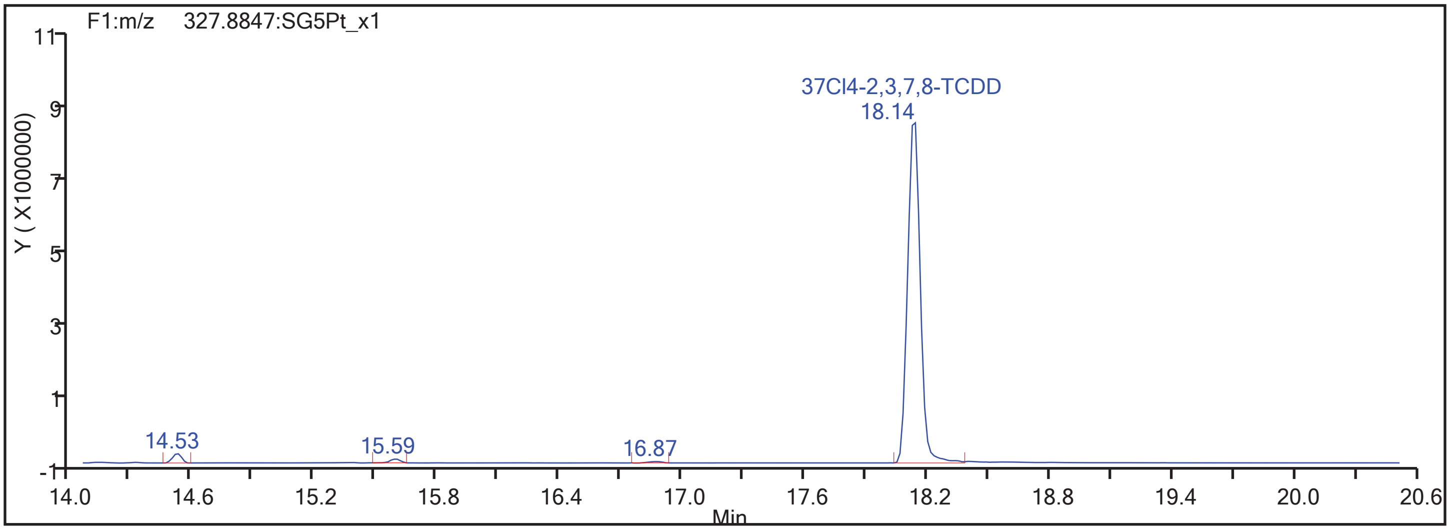


Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

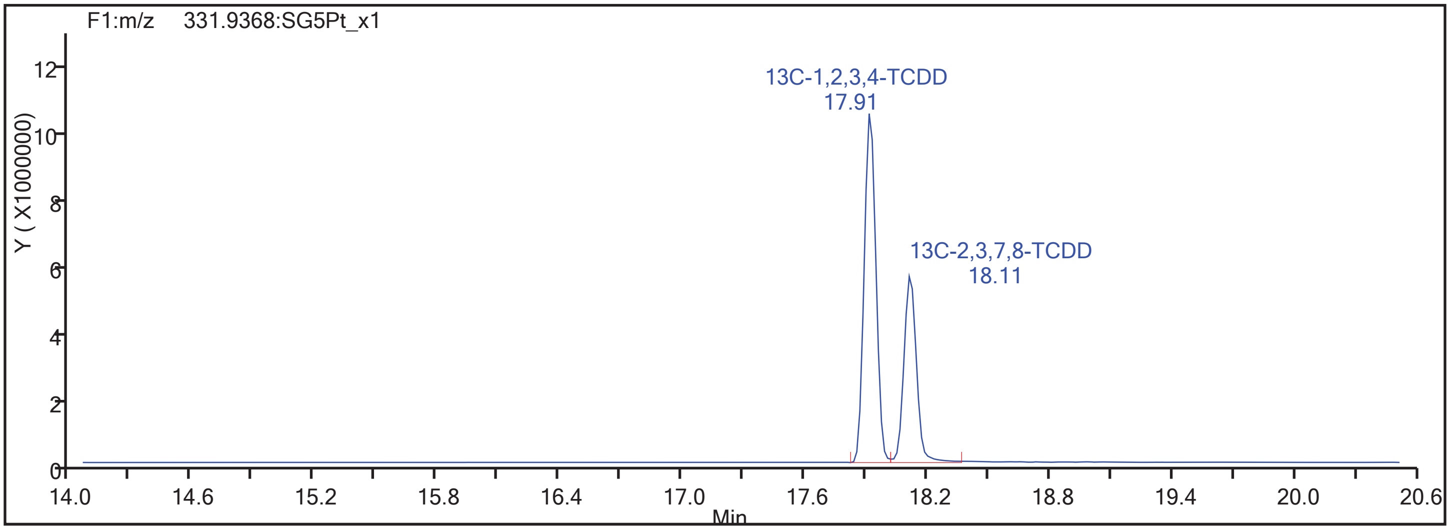
TestAmerica Sacramento

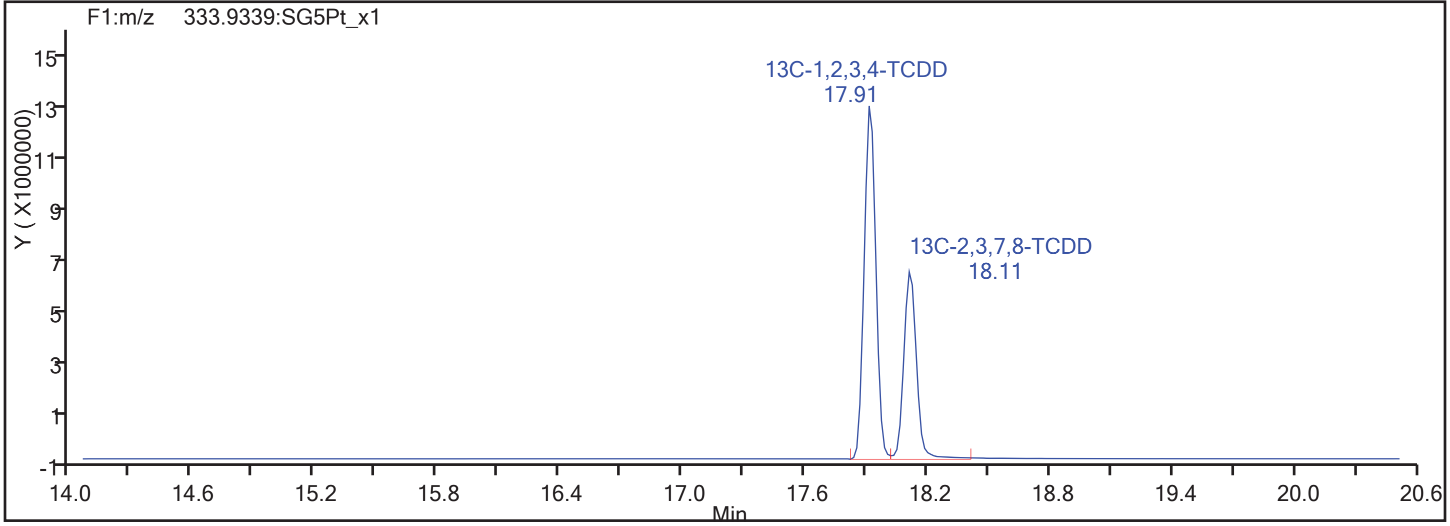
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



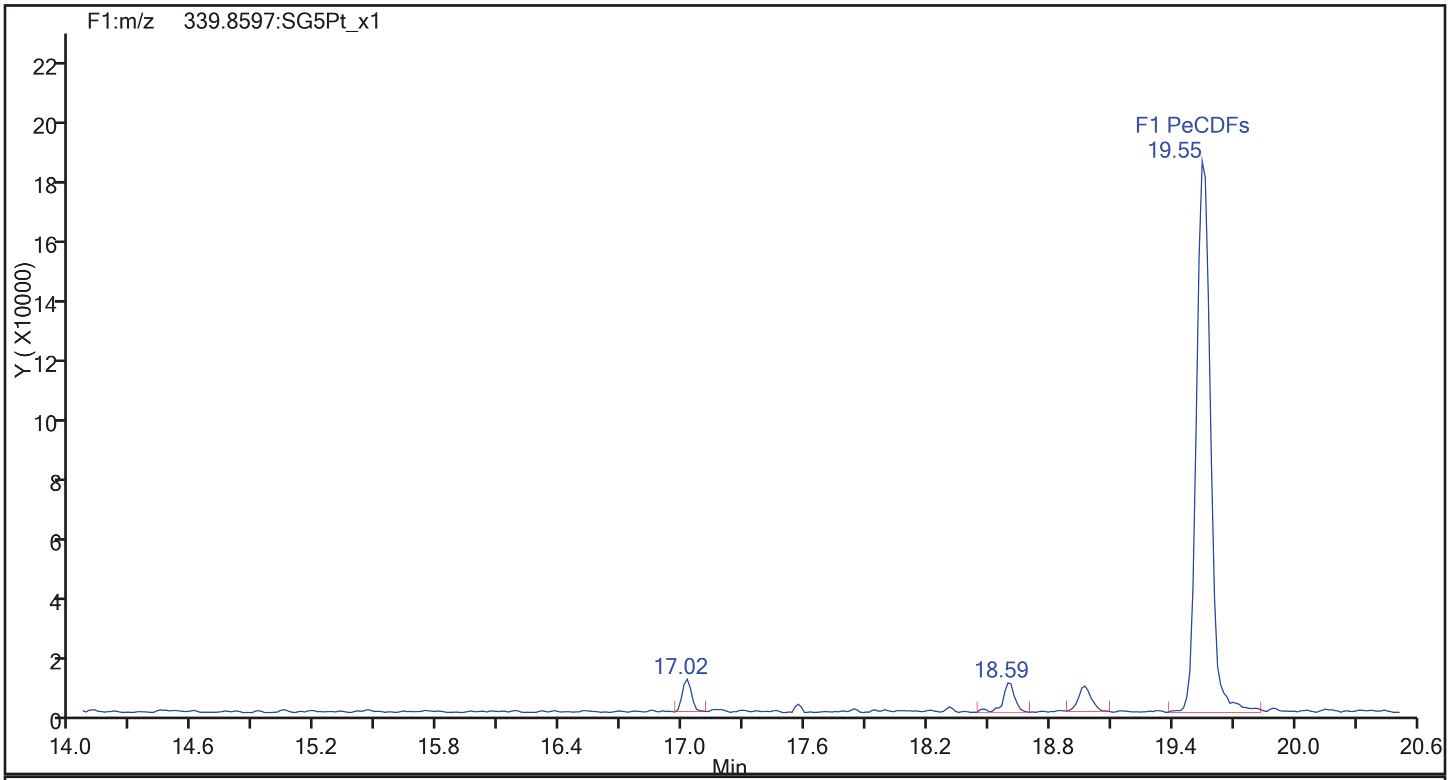


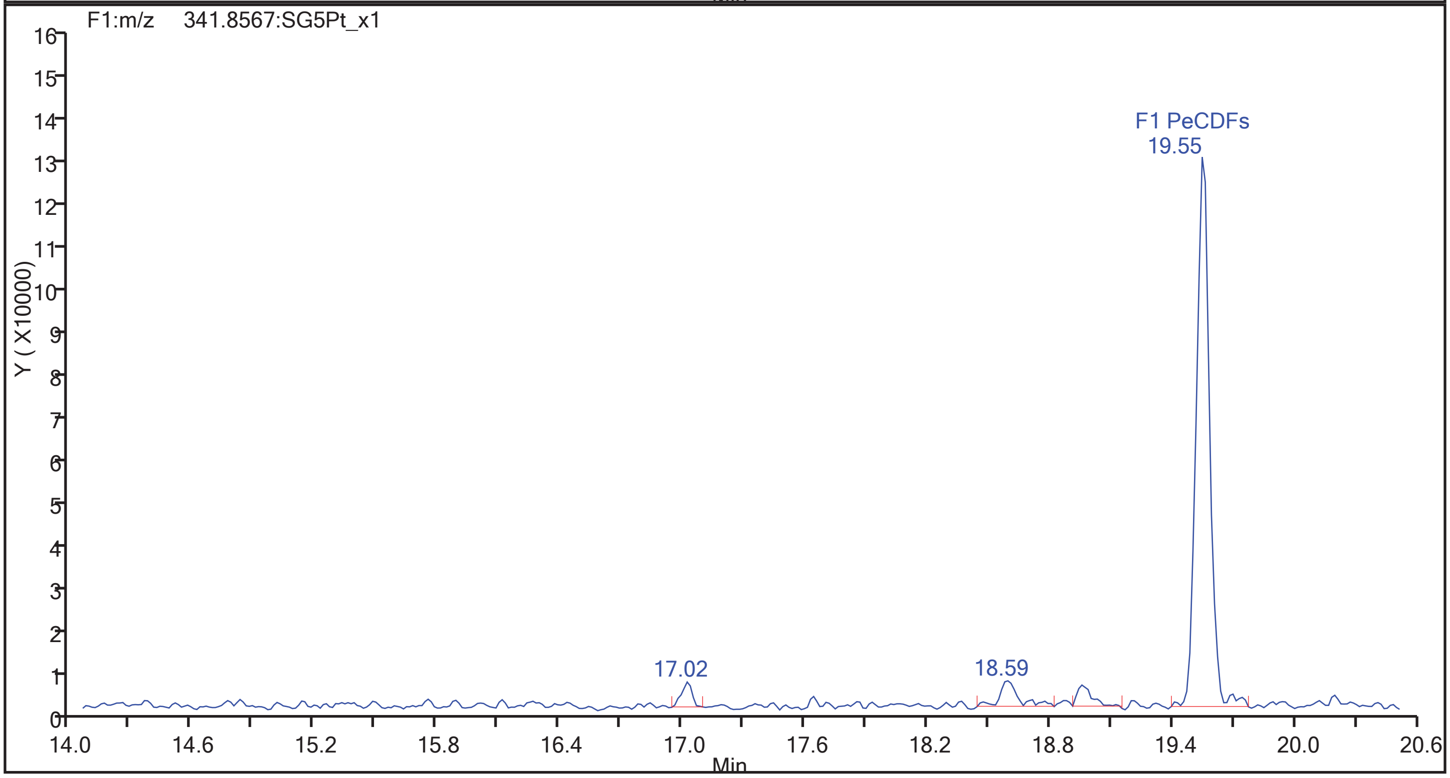
Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d

Injection Date: 11-Nov-2017 17:21:51 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

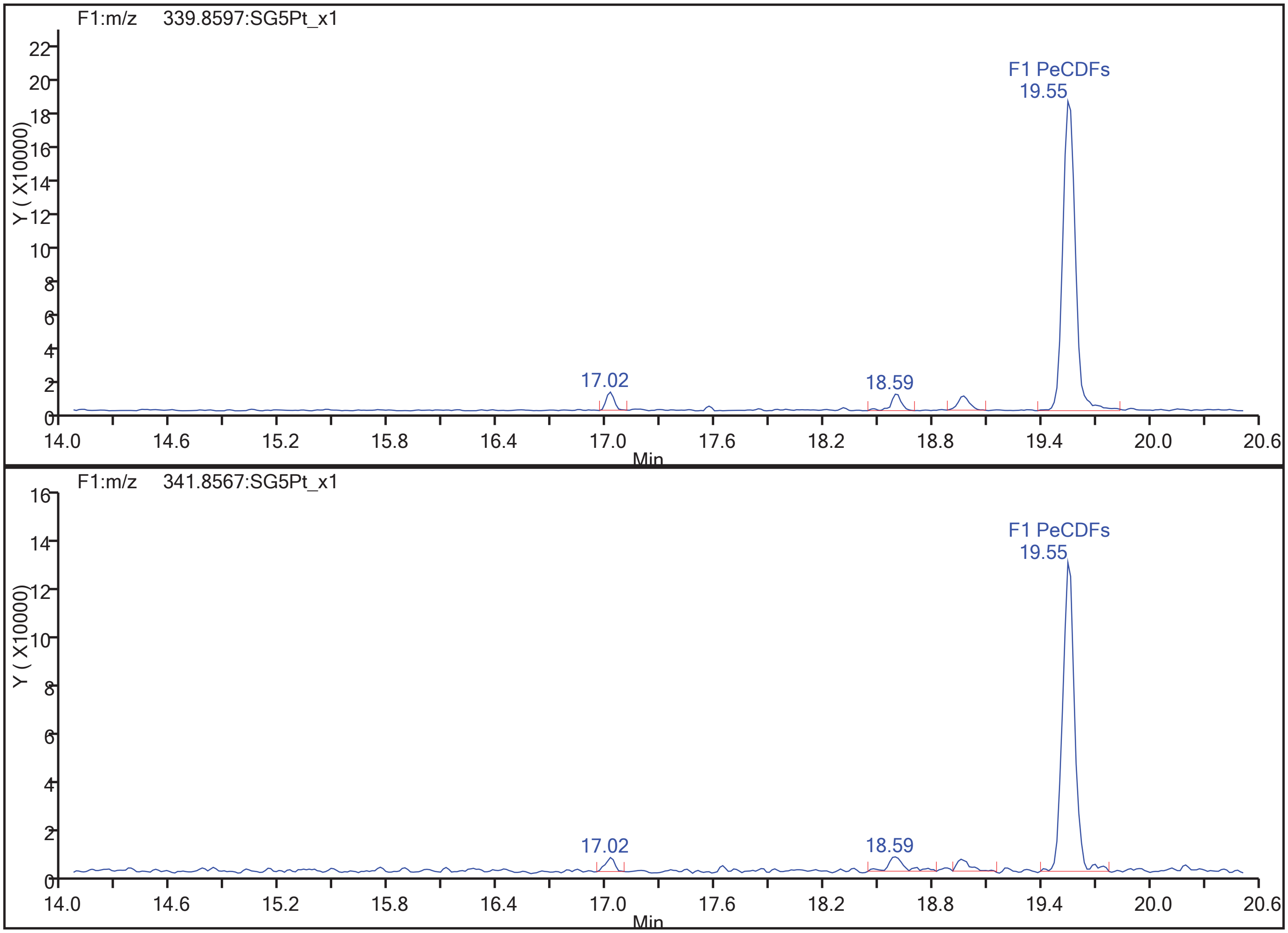
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

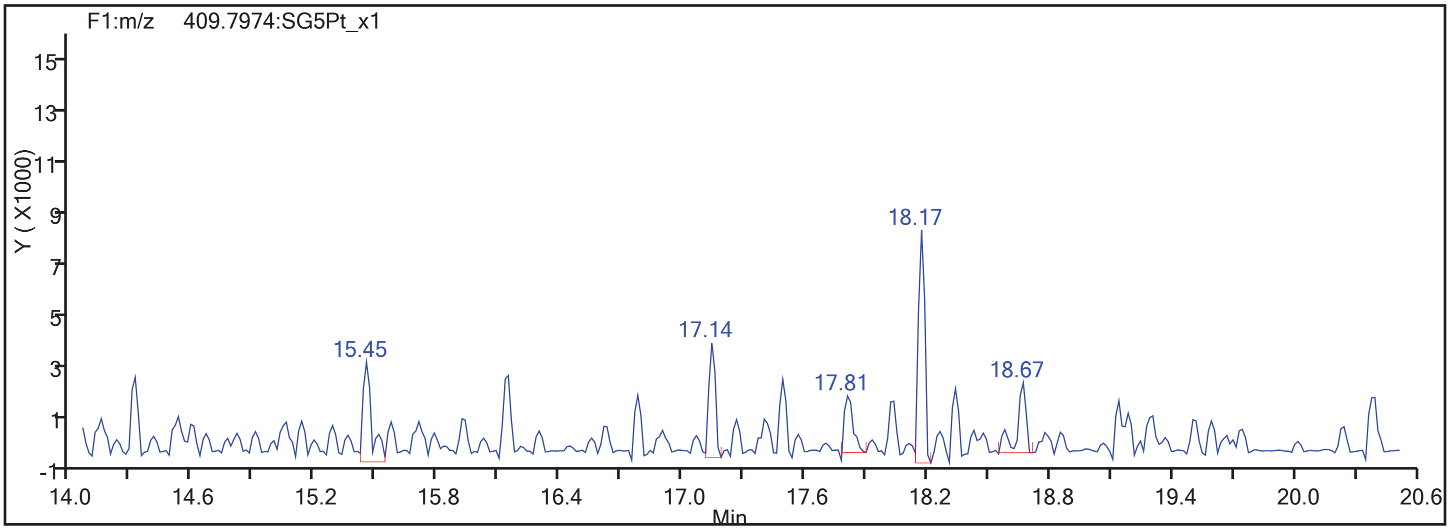
Worklist#: 194085 Sample Line#: 72

Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs



F1 PeCDFs Interference Mass

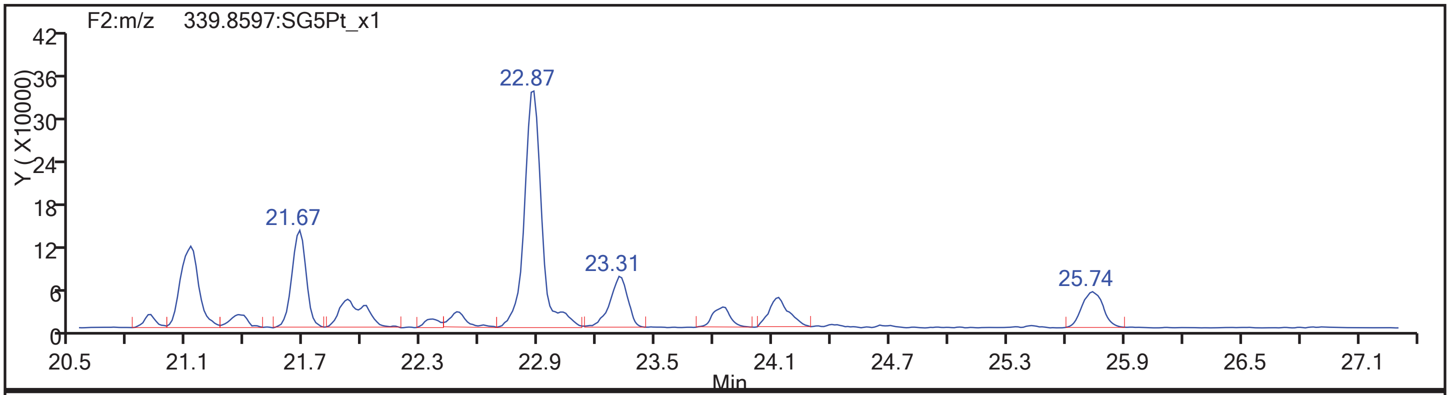


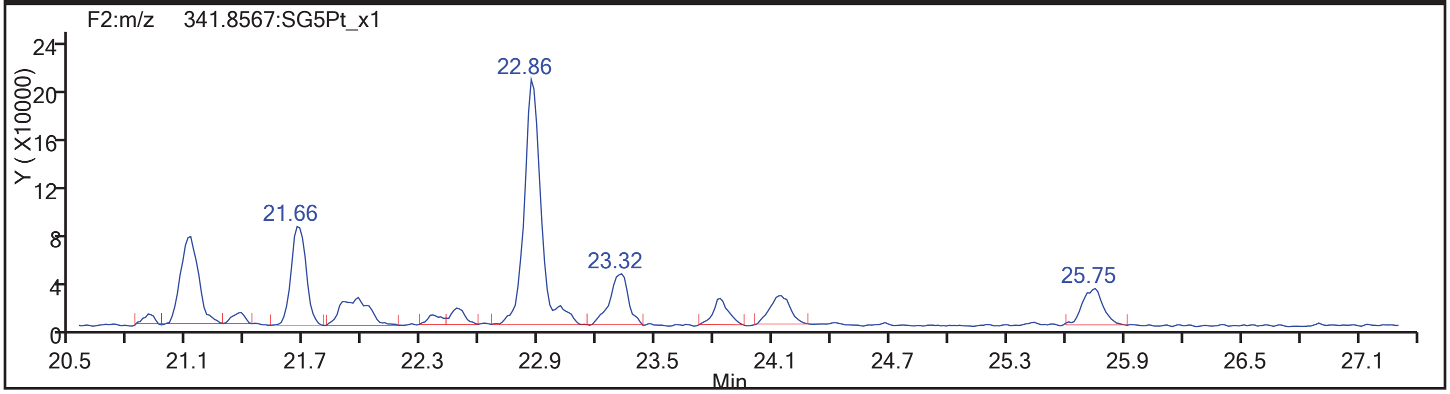
Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

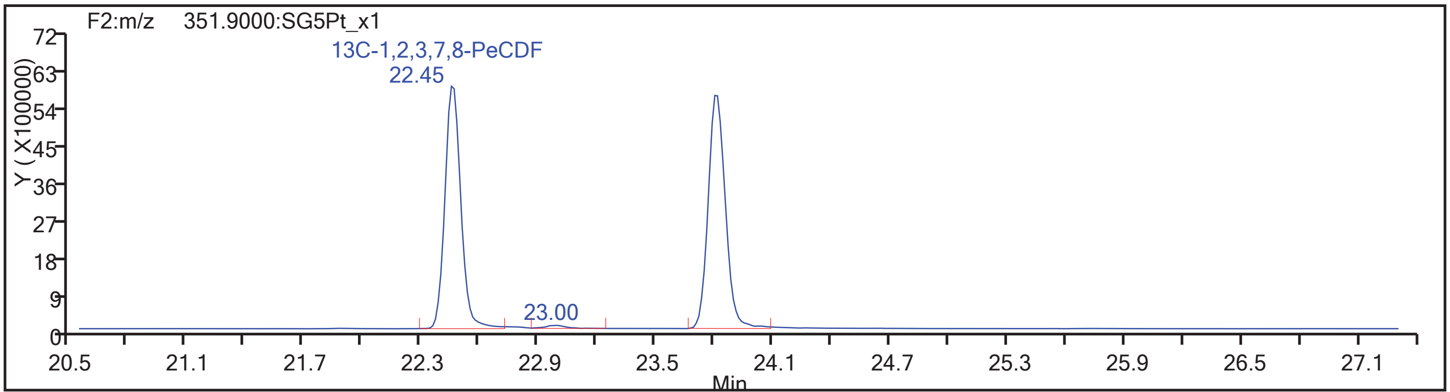
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

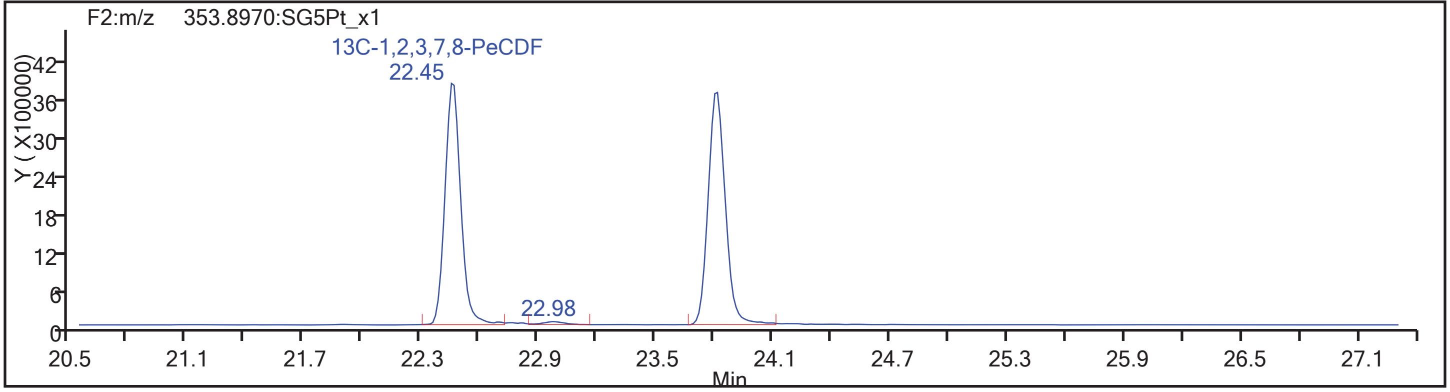
PeCDF





PeCDF Standards





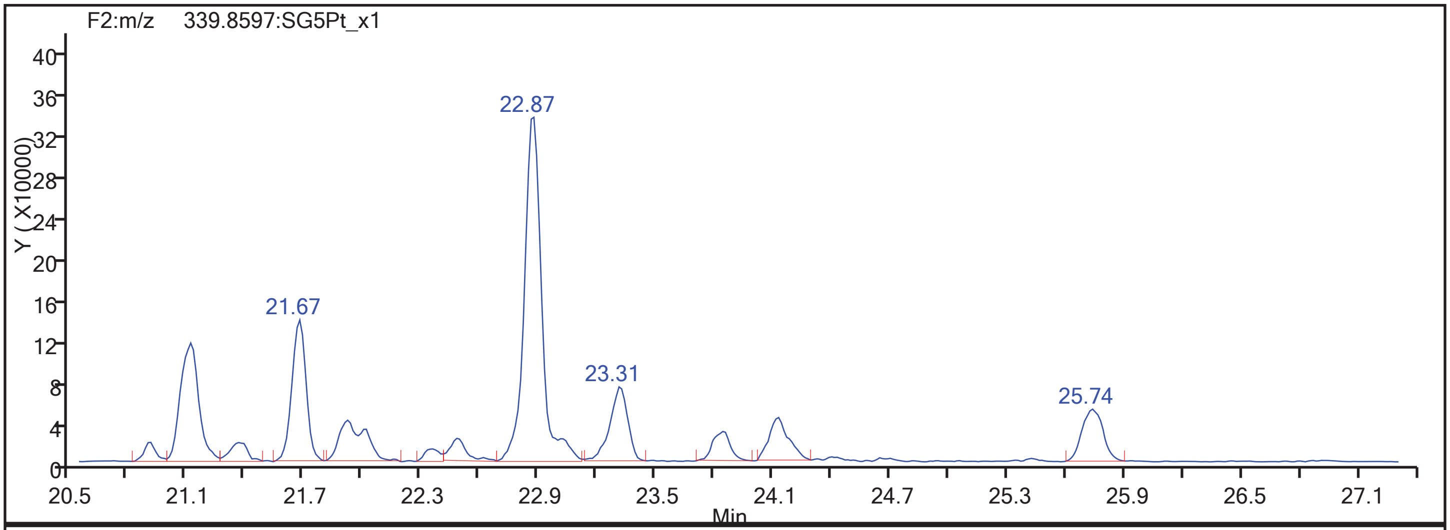
Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

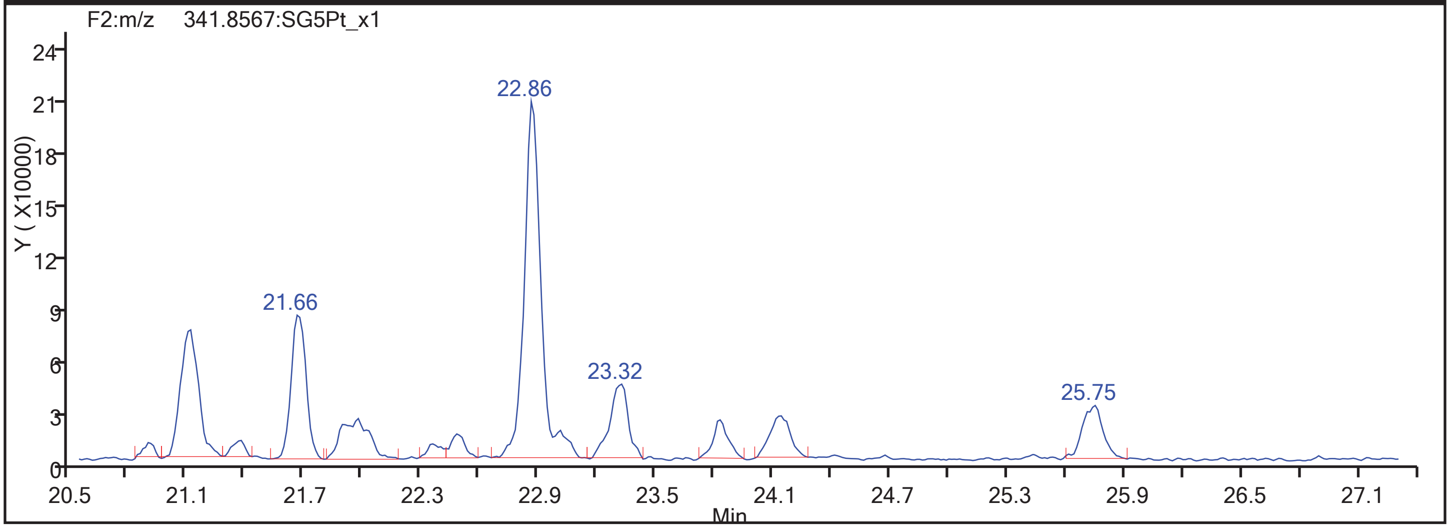
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d

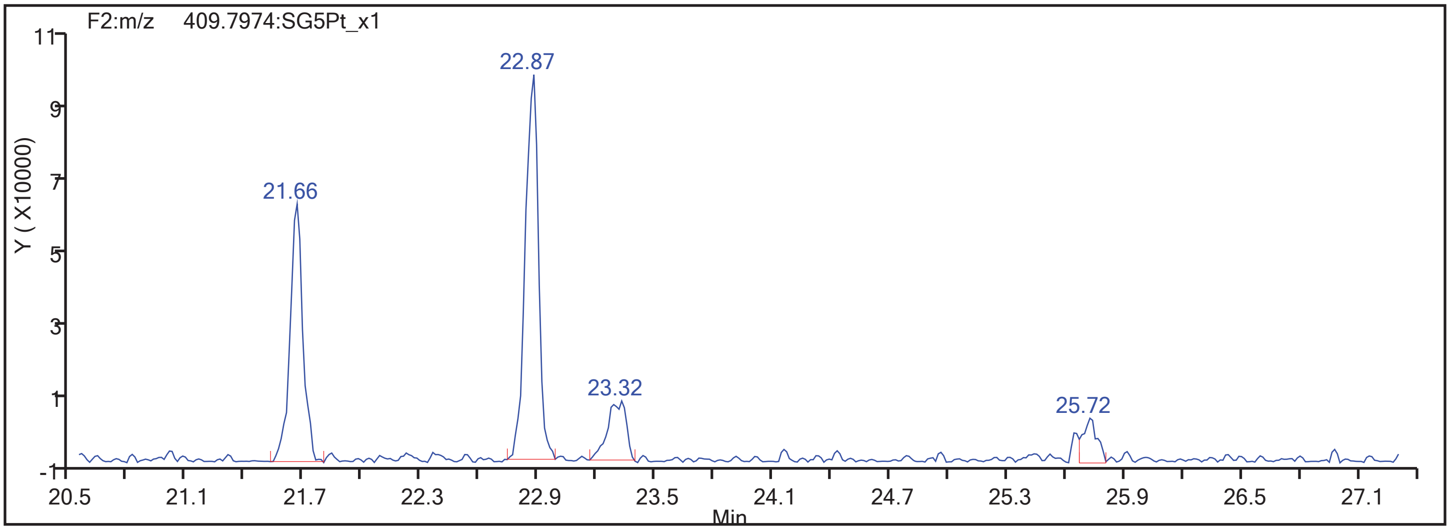
Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass

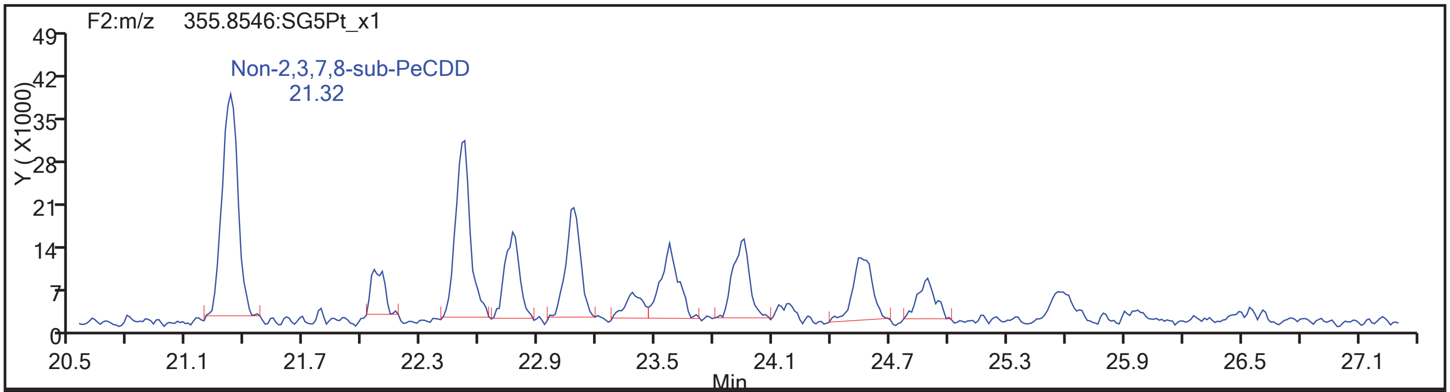


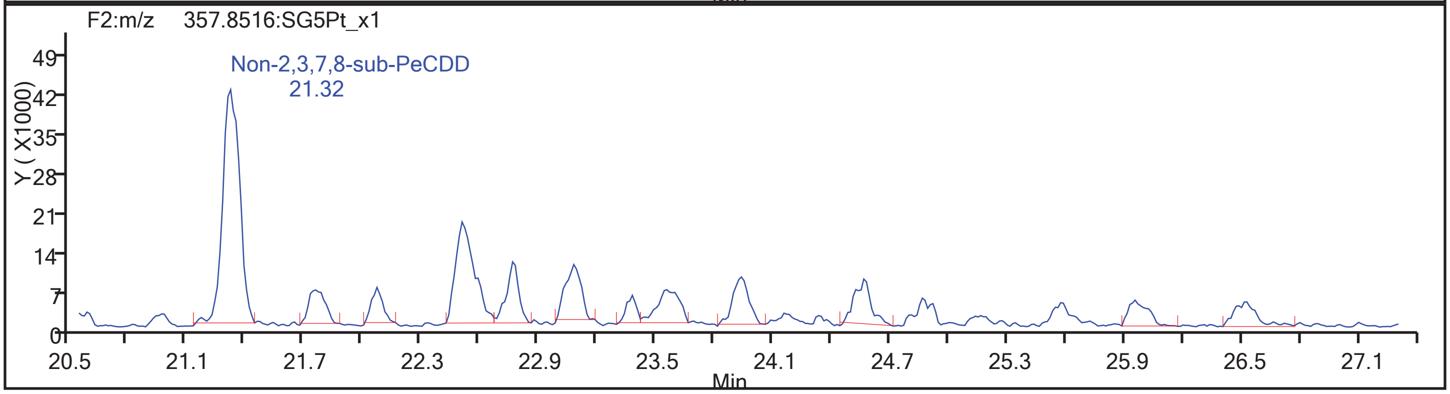
Report Date: 13-Nov-2017 12:41:46   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

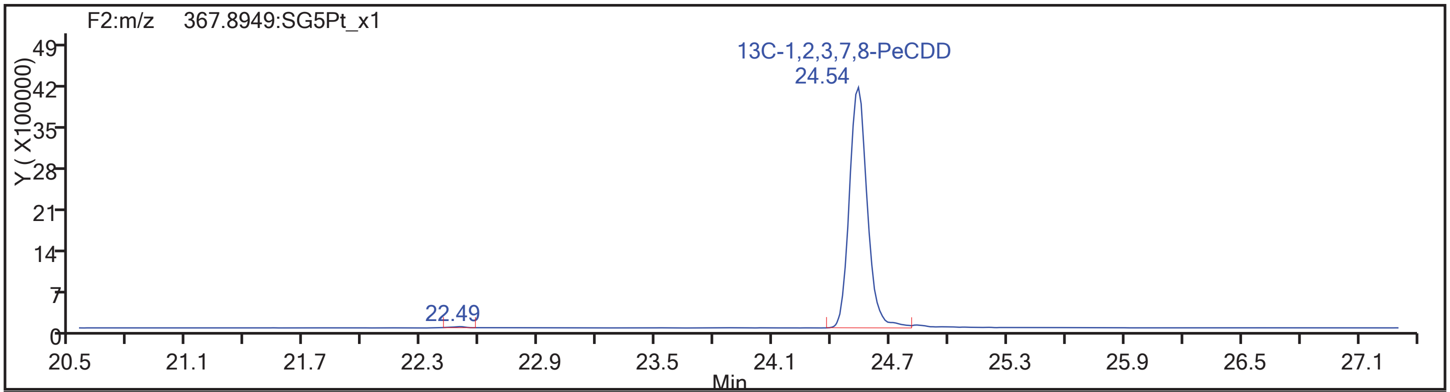
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d
Injection Date: 11-Nov-2017 17:21:51   Injection Vol: 2.0 ul
Instrument ID: 10D5   Operator ID: AJS
Method: Dioxin_10D5   Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 194085   Sample Line#: 72
Column Type: DB-5   Column Dia: 0.32 mm

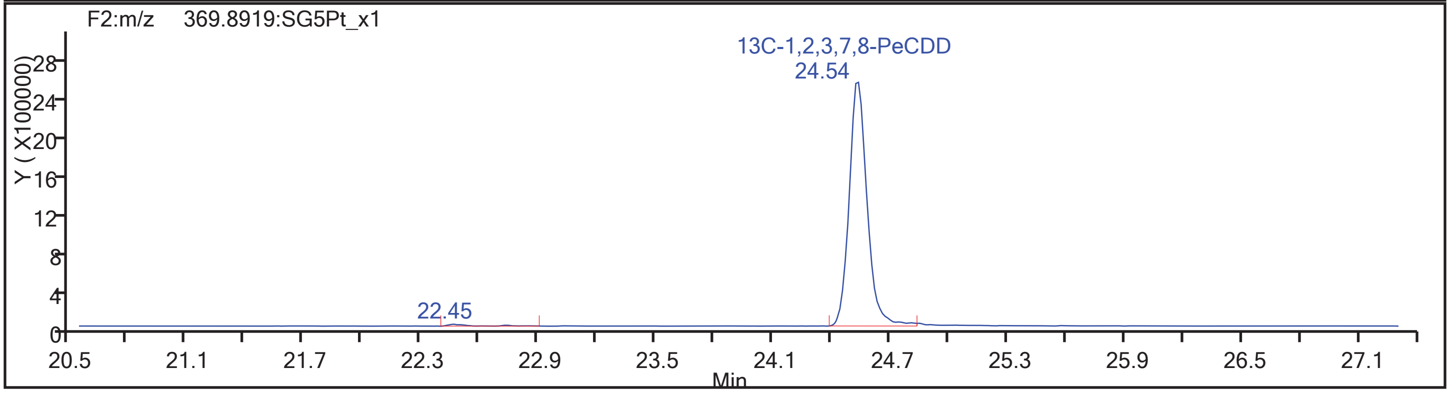
PeCDD





PeCDD Standards





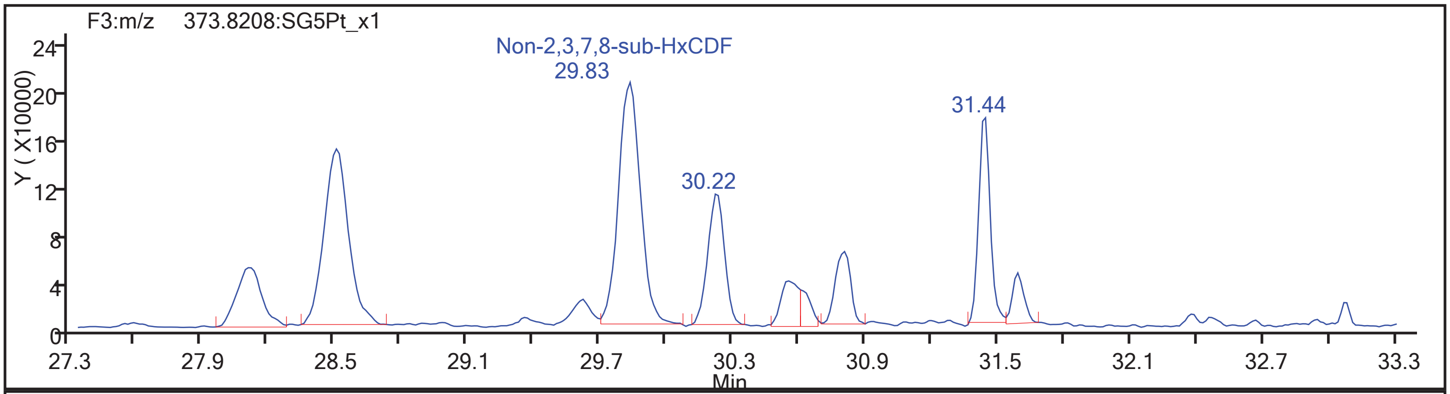
Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

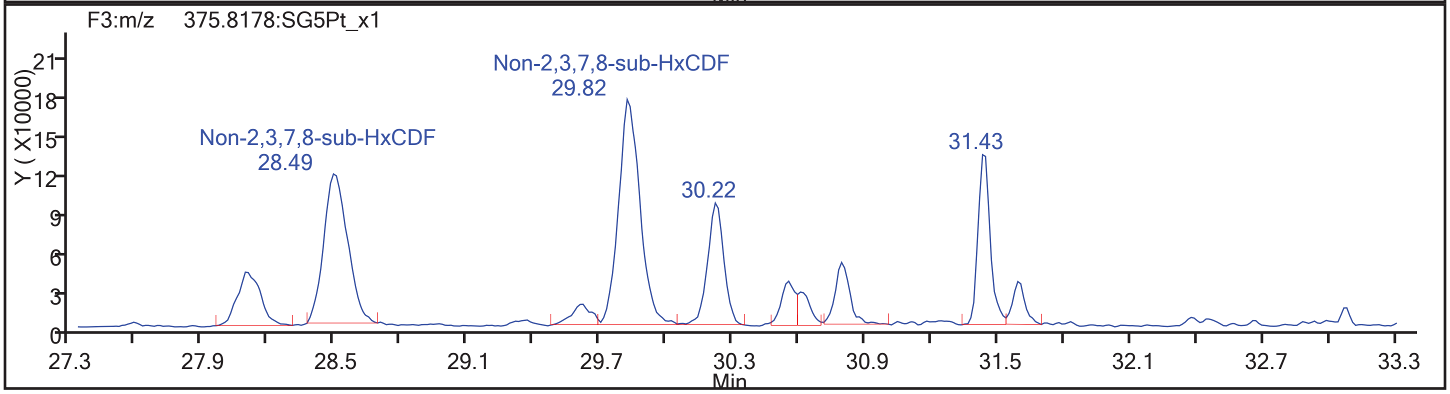
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d

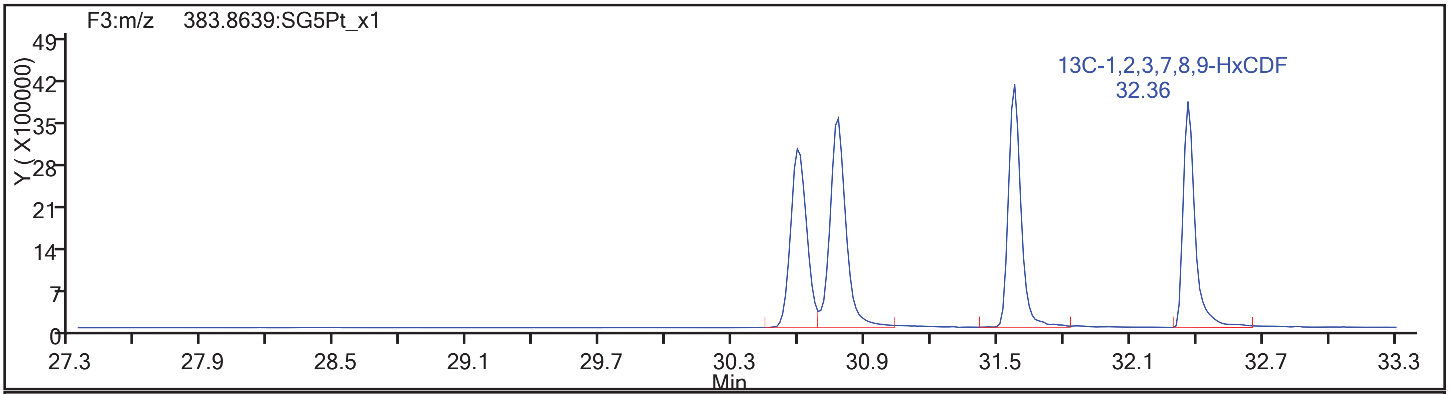
Injection Date: 11-Nov-2017 17:21:51
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 194085
Sample Line#: 72
Column Type: DB-5
Column Dia: 0.32 mm

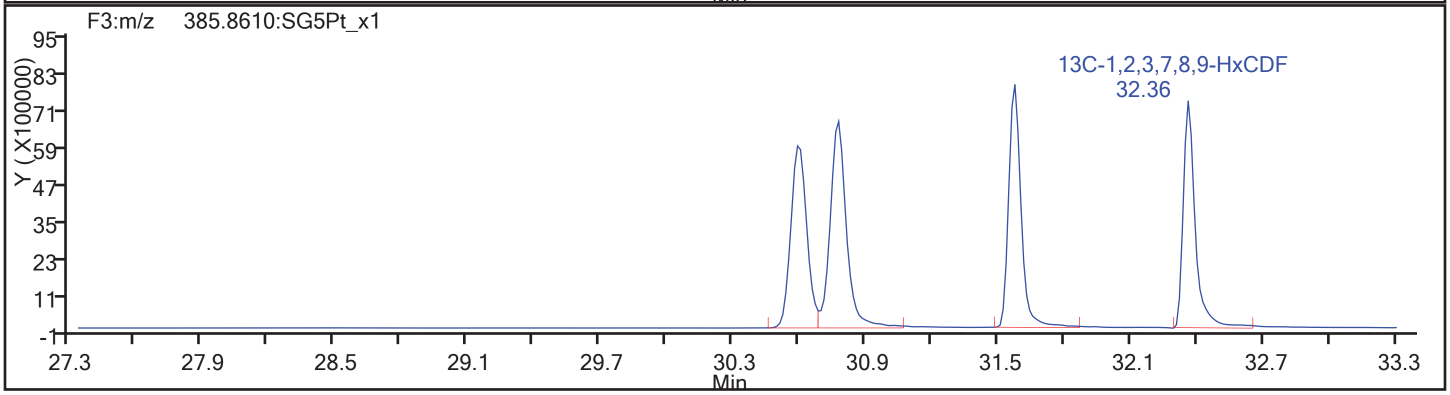
HxCDF





HxCDF Standards



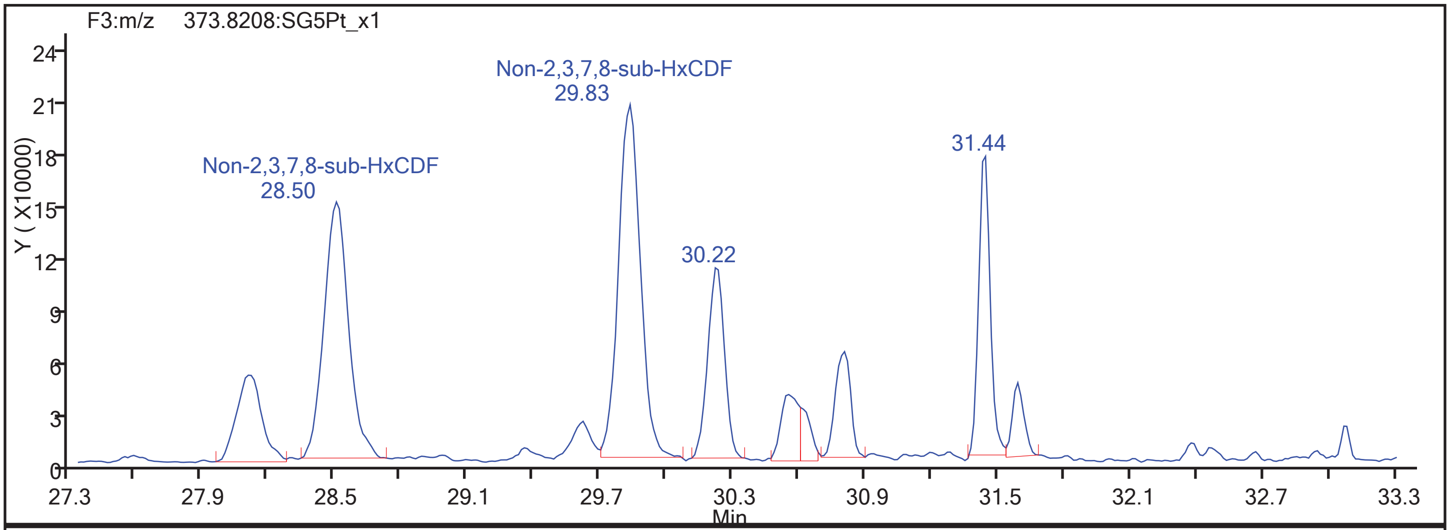


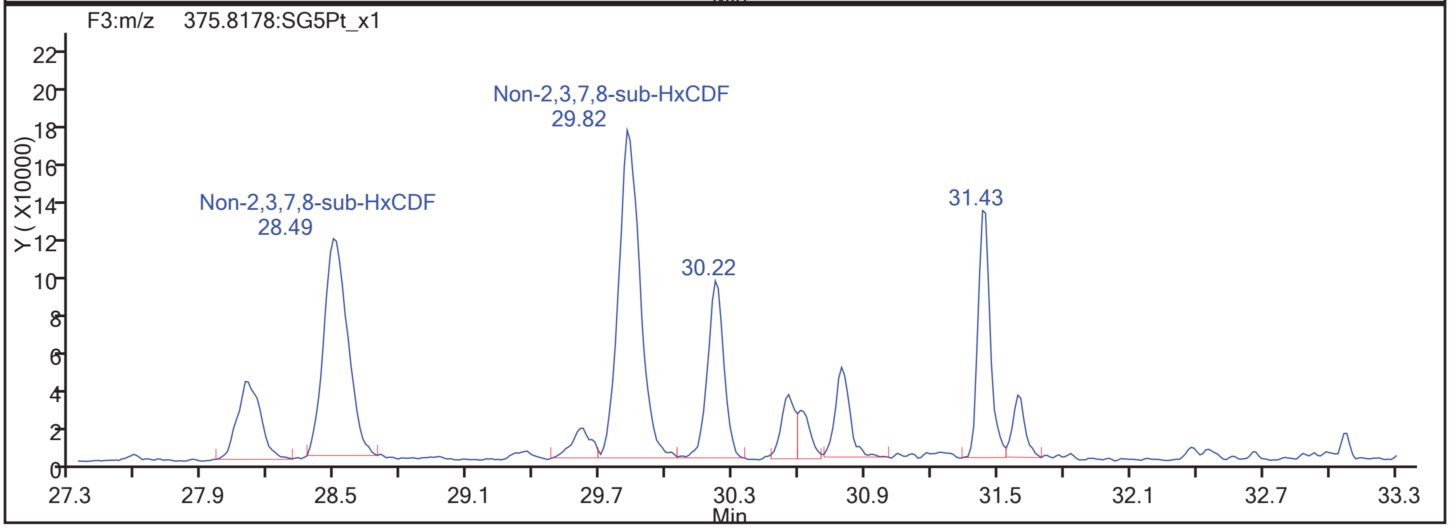
Report Date: 13-Nov-2017 12:41:46   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

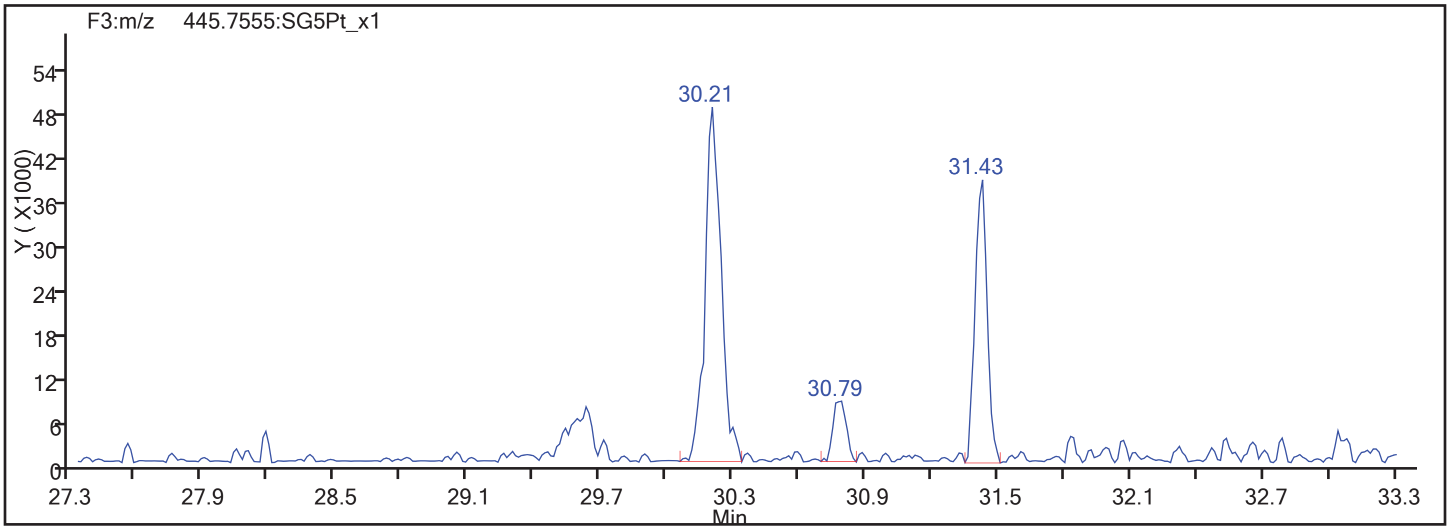
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass

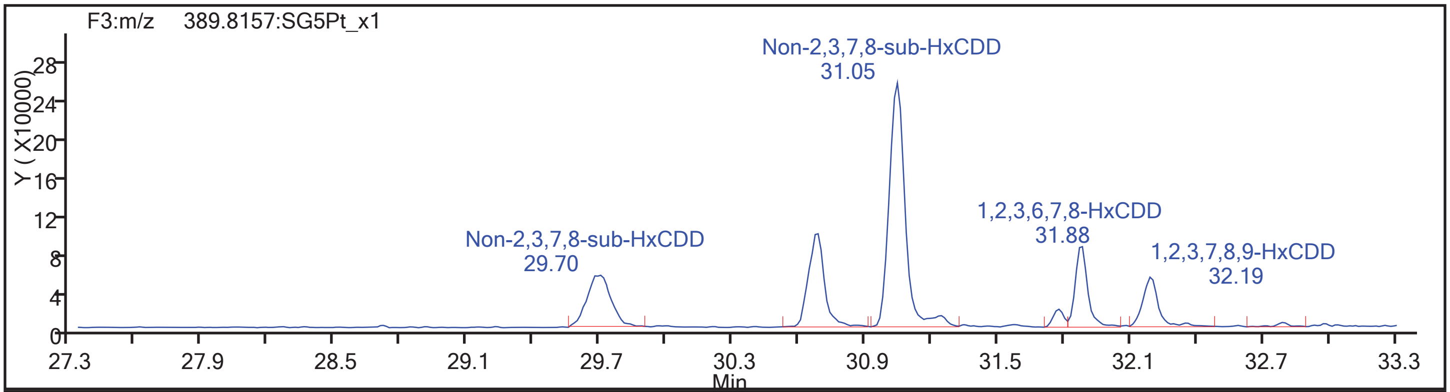


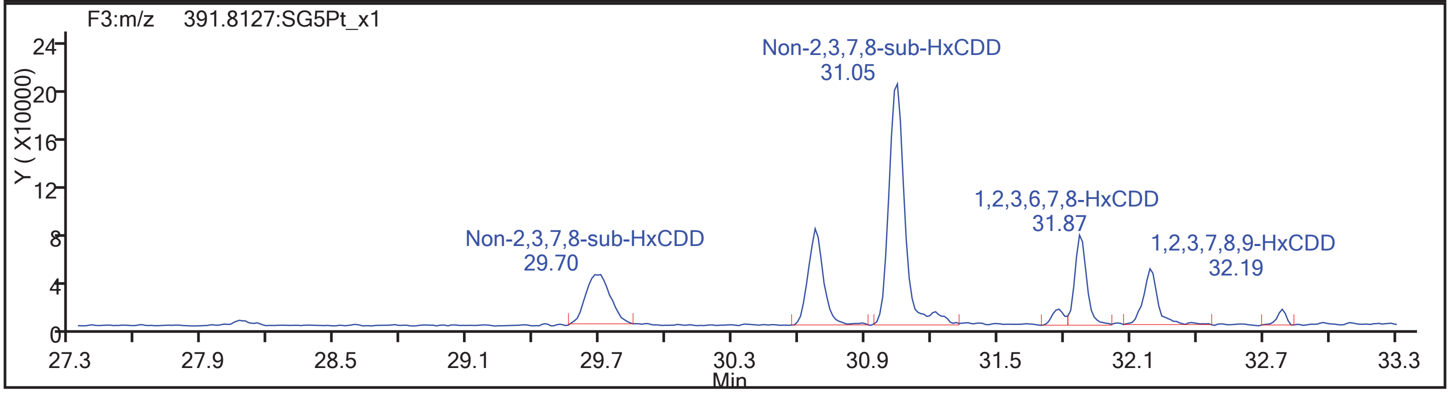
Report Date: 13-Nov-2017 12:41:46
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

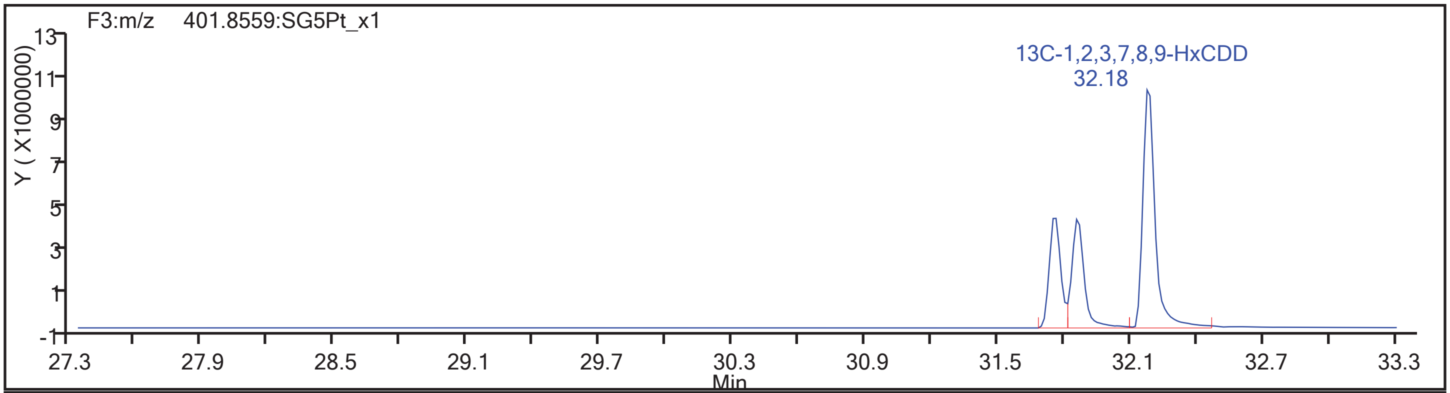
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d
Injection Date: 11-Nov-2017 17:21:51
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 194085
Sample Line#: 72
Column Type: DB-5
Column Dia: 0.32 mm

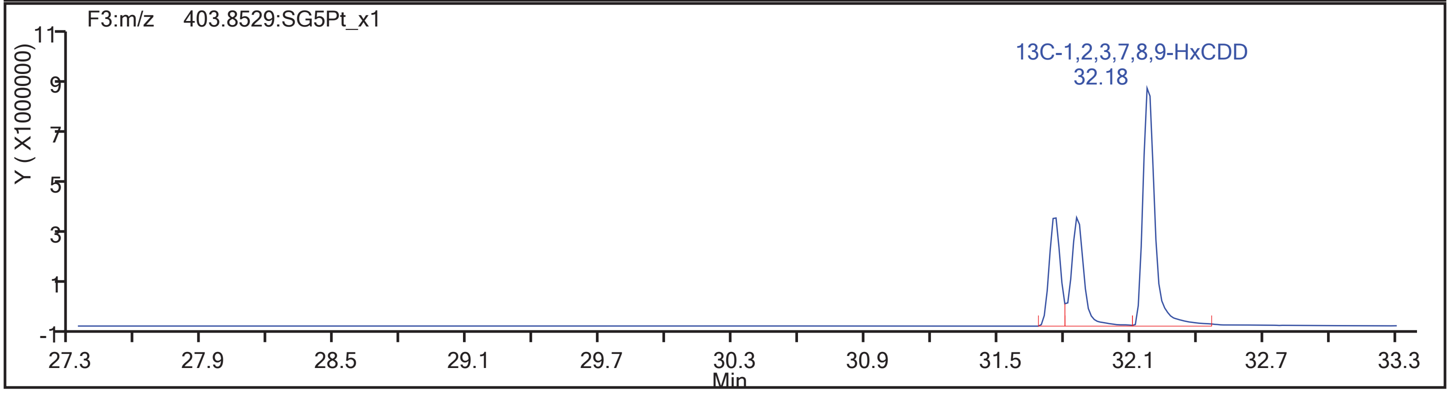
HxCDD





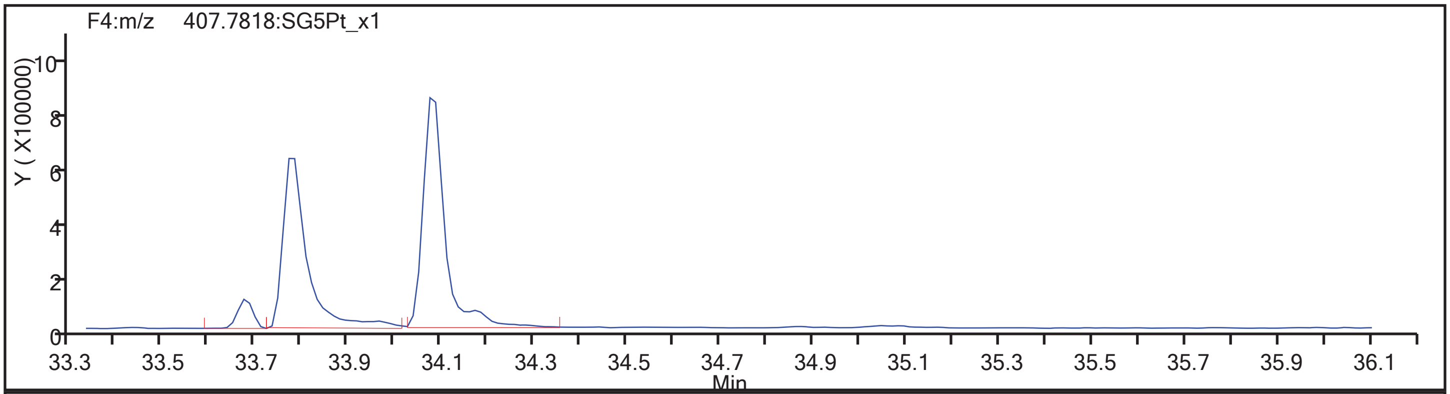
HxCDD Standards

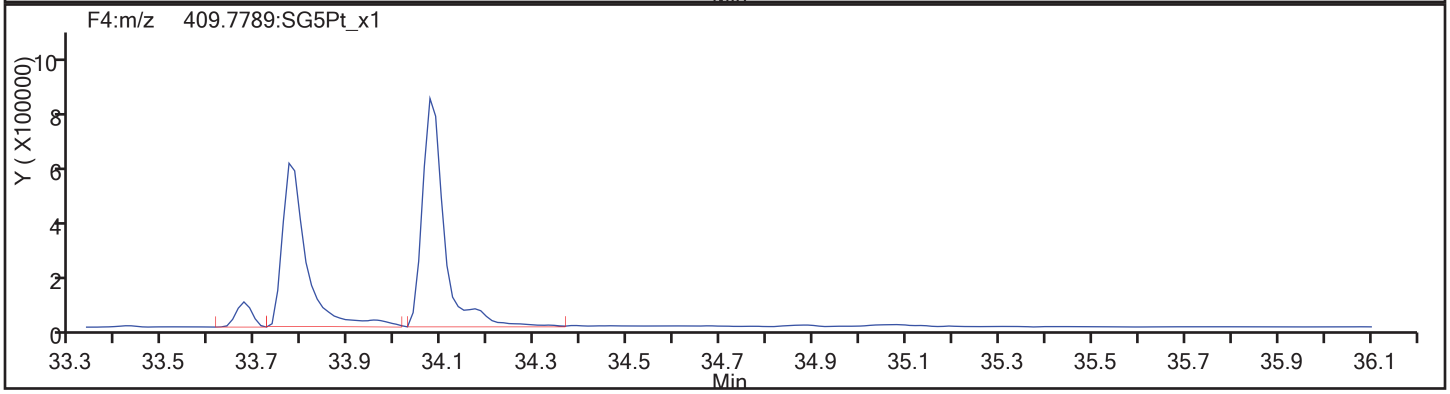




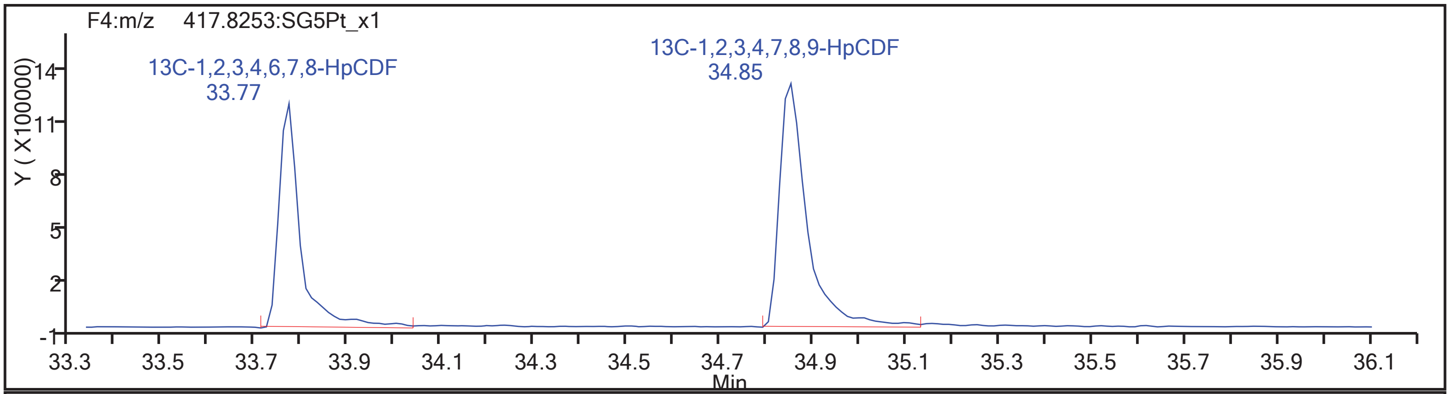
Report Date: 13-Nov-2017 12:41:46		Chrom Revision: 2.2 16-Aug-2017 16:24:46	
	TestAmerica Sacramento		
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

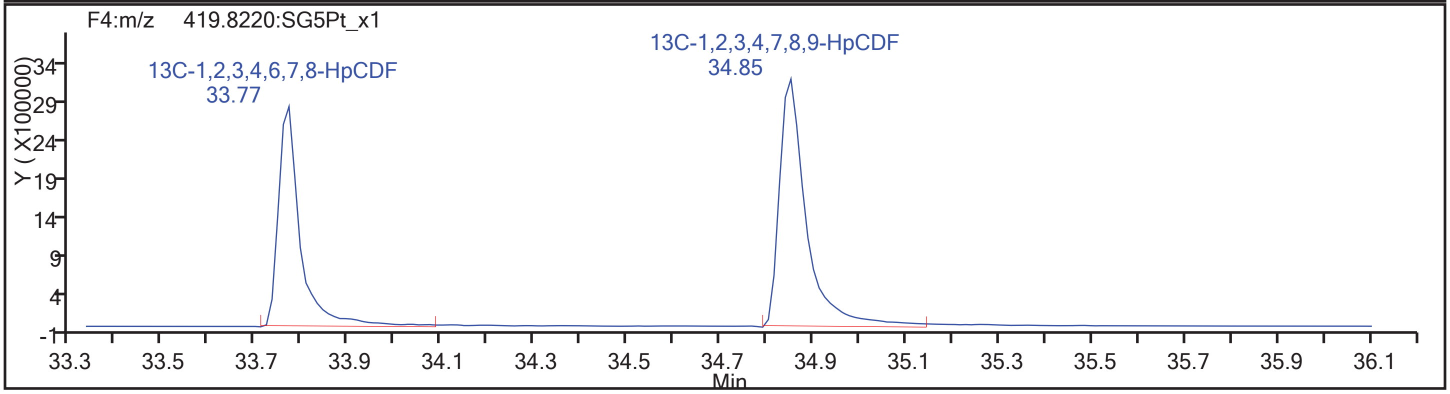
HpCDF





HpCDF Standards



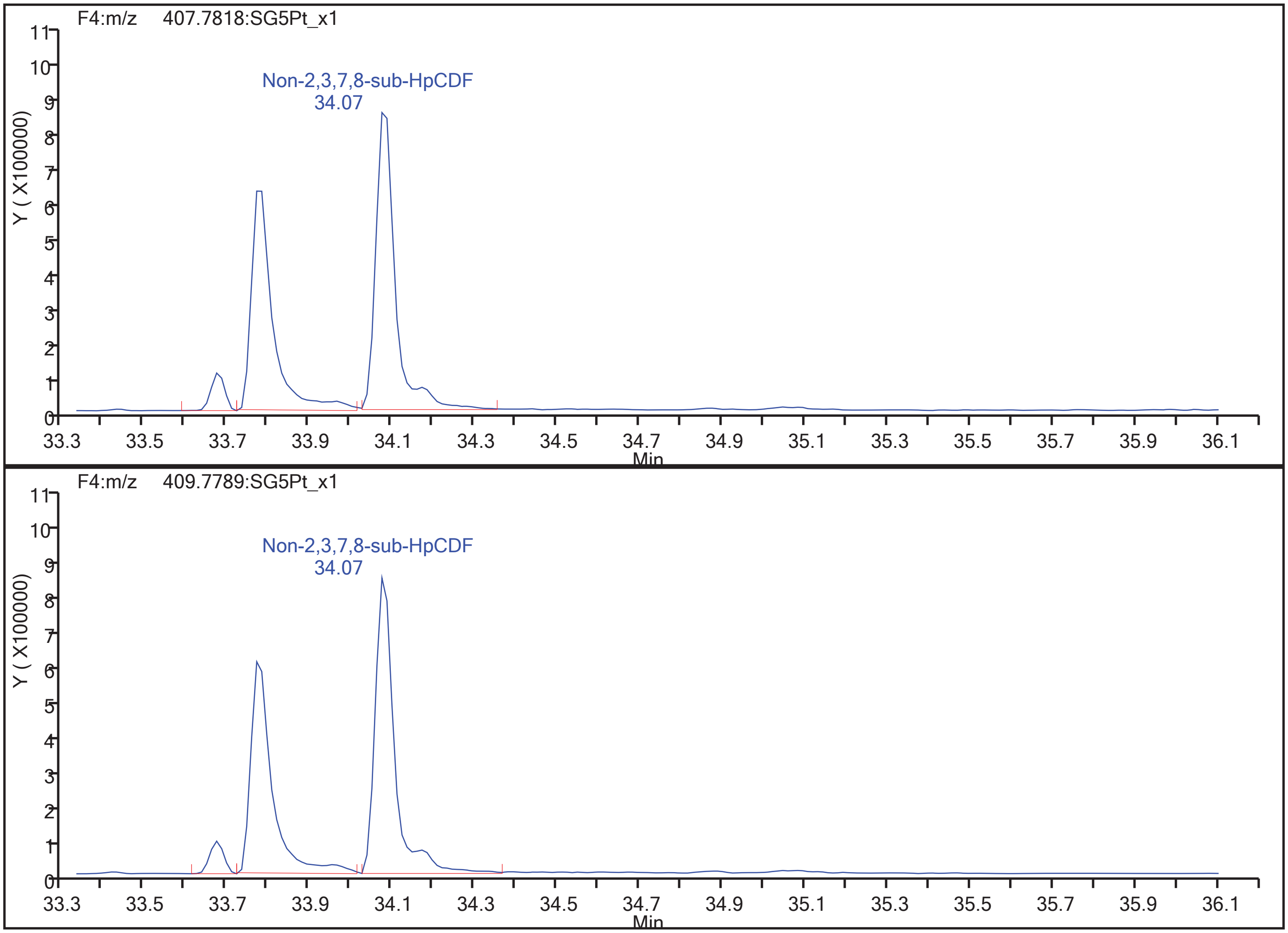


Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

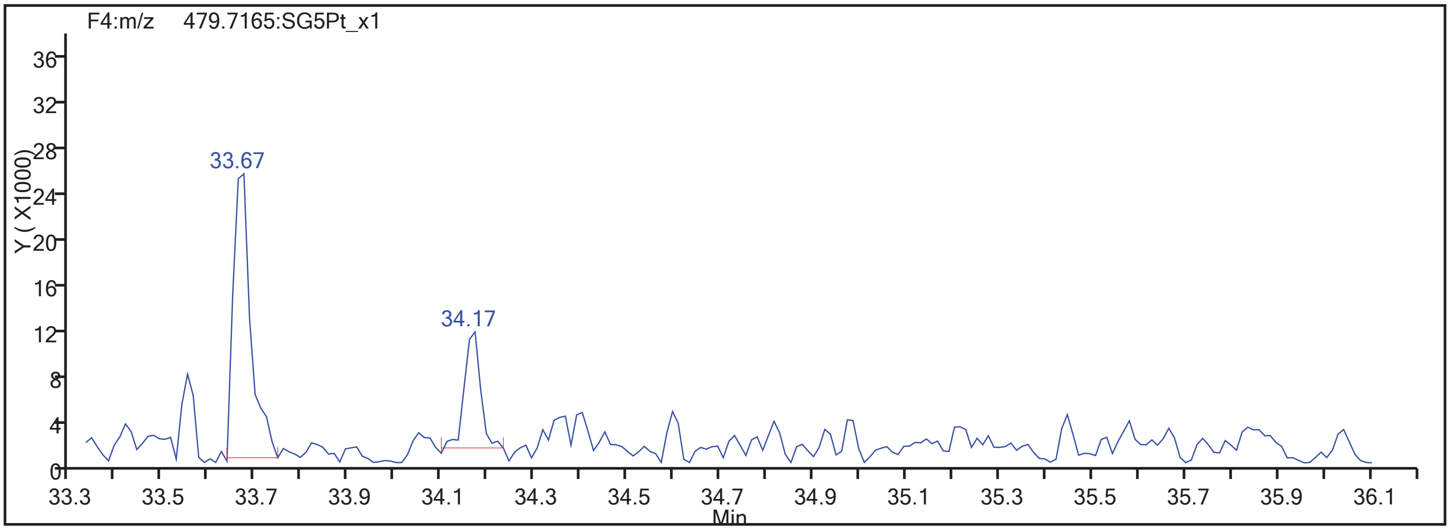
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF



HpCDF Interference Mass

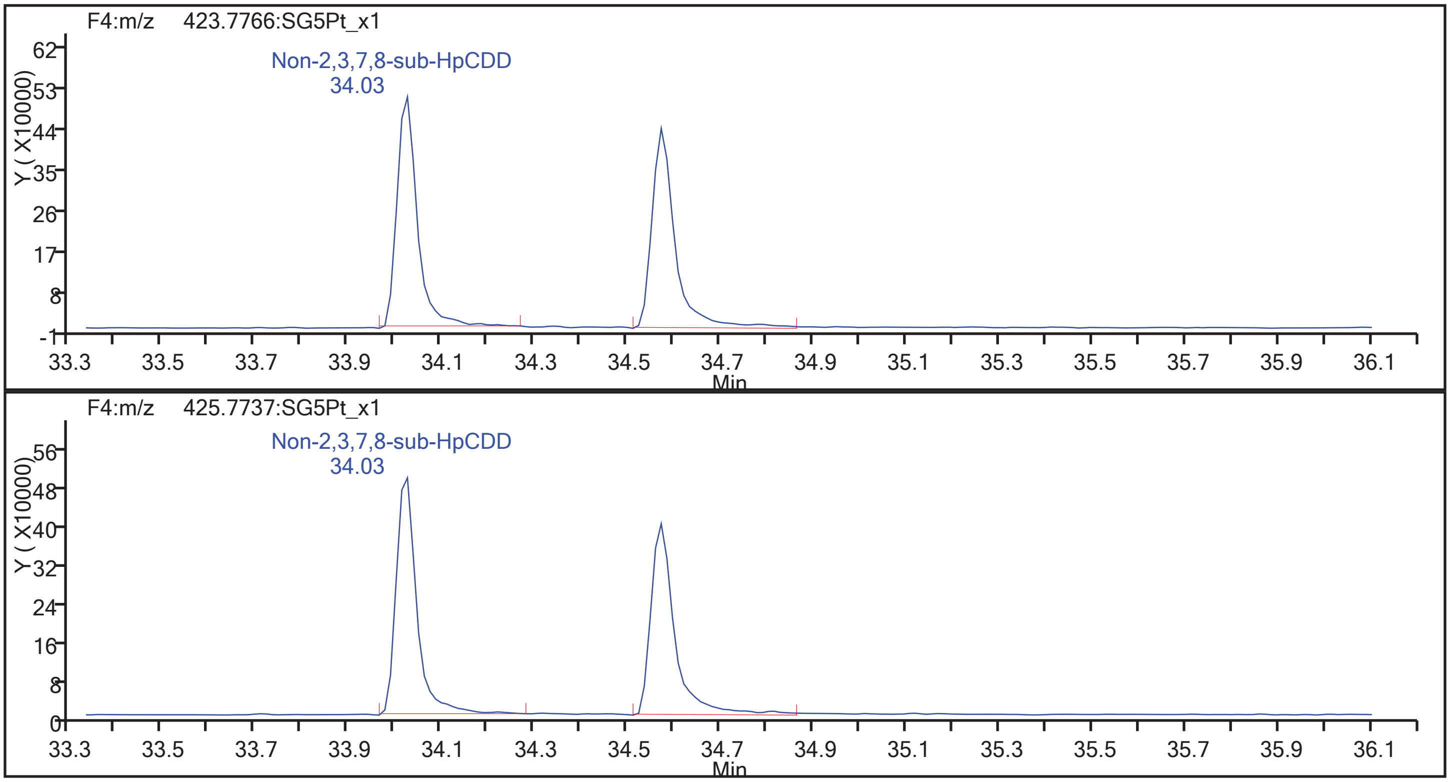


TestAmerica Sacramento

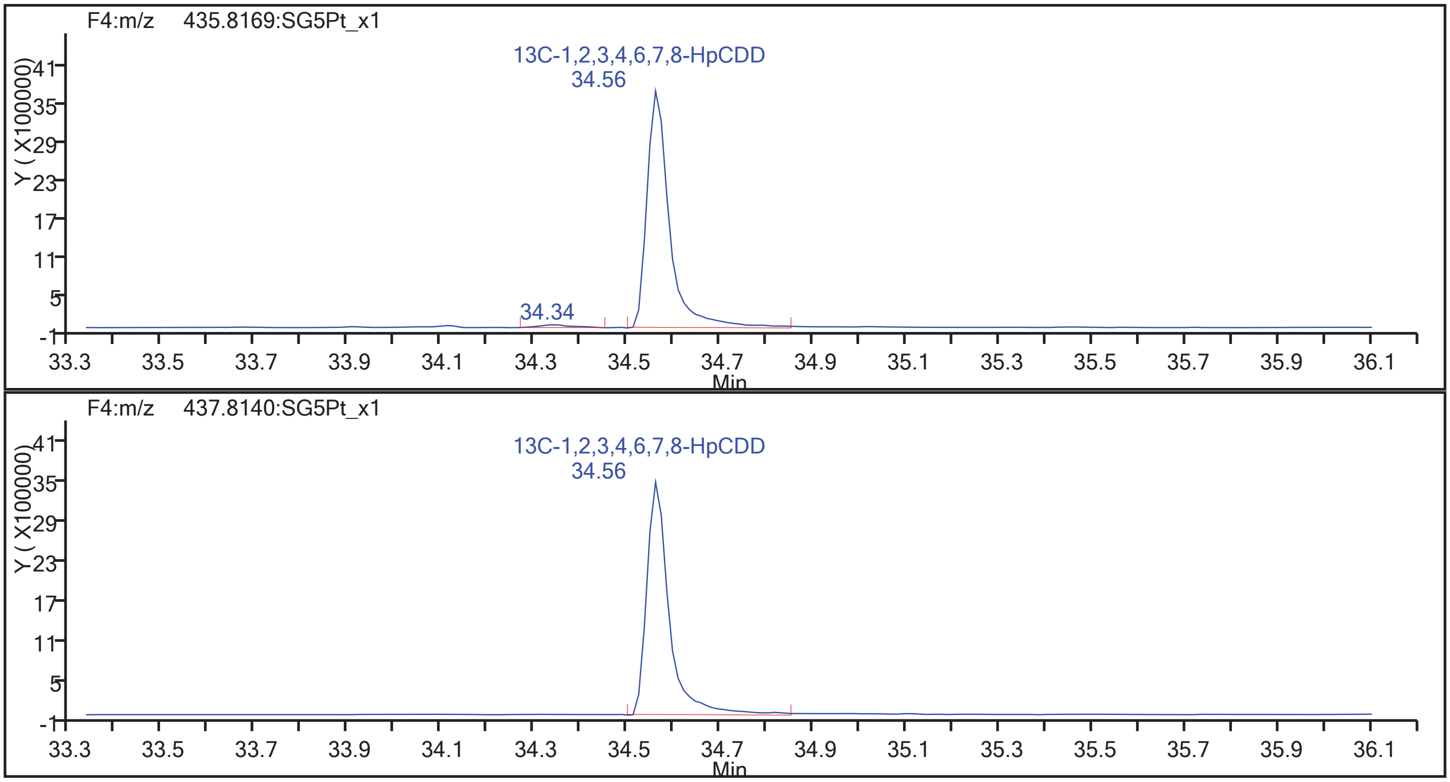
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d

Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD



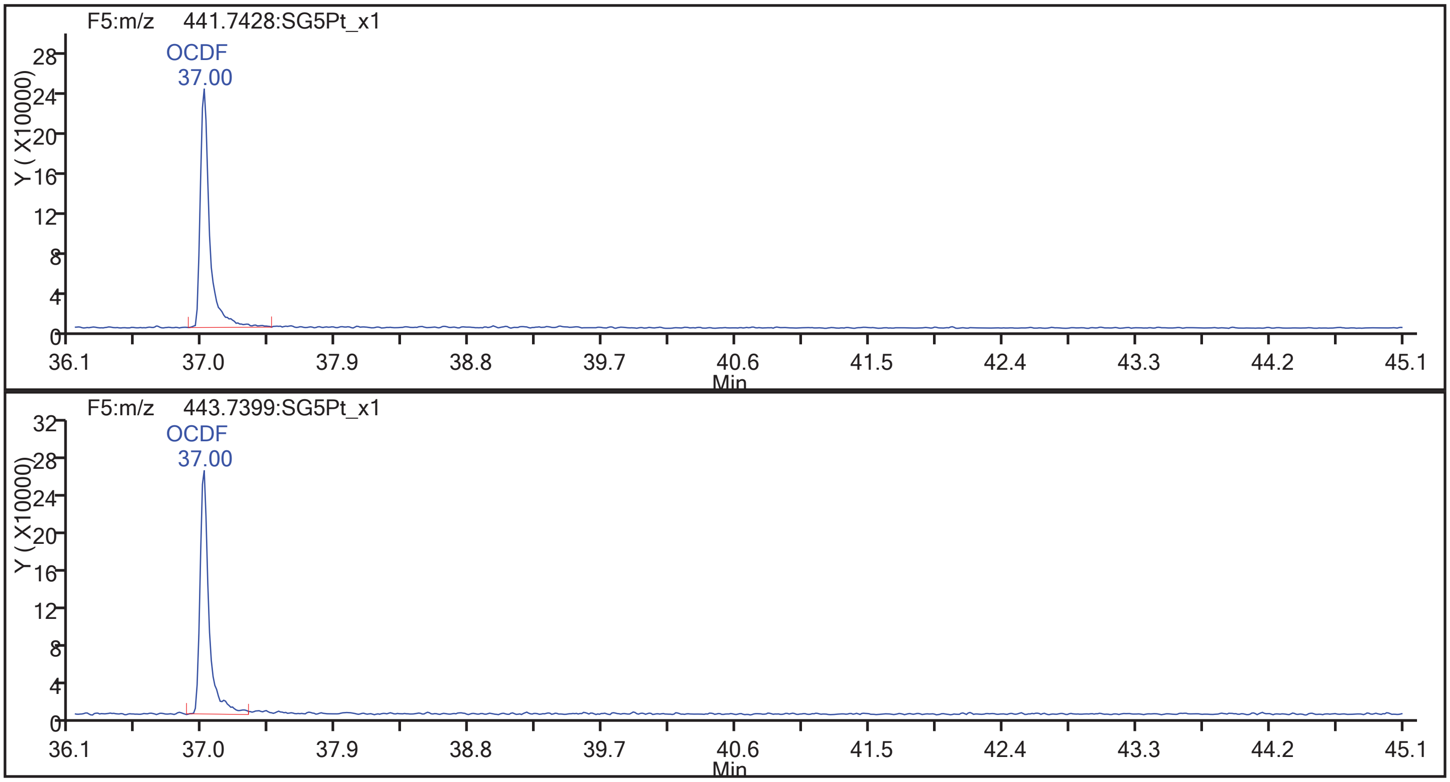
HpCDD Standards



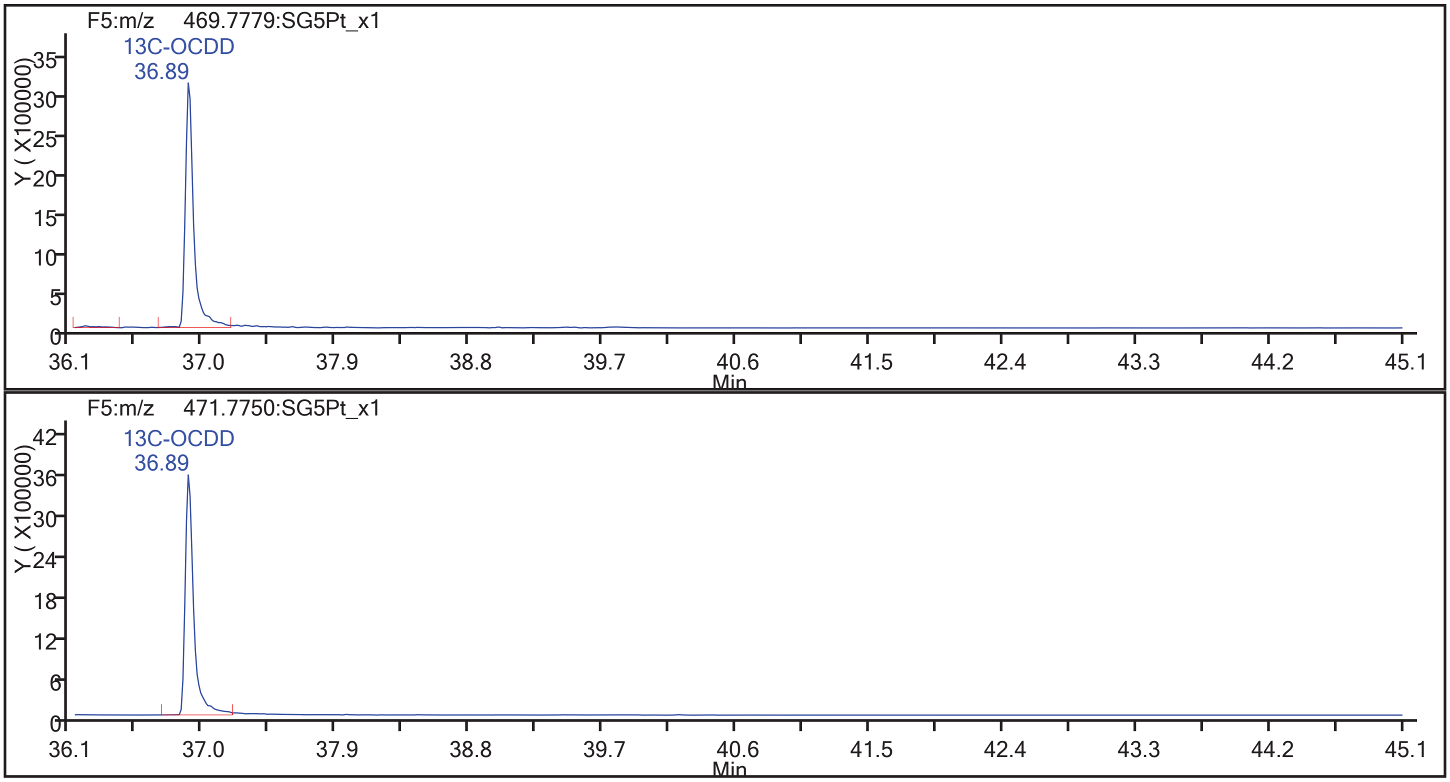
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d
Injection Date: 11-Nov-2017 17:21:51
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 194085
Sample Line#: 72
Column Type: DB-5
Column Dia: 0.32 mm

OCDF



OCDF Standards

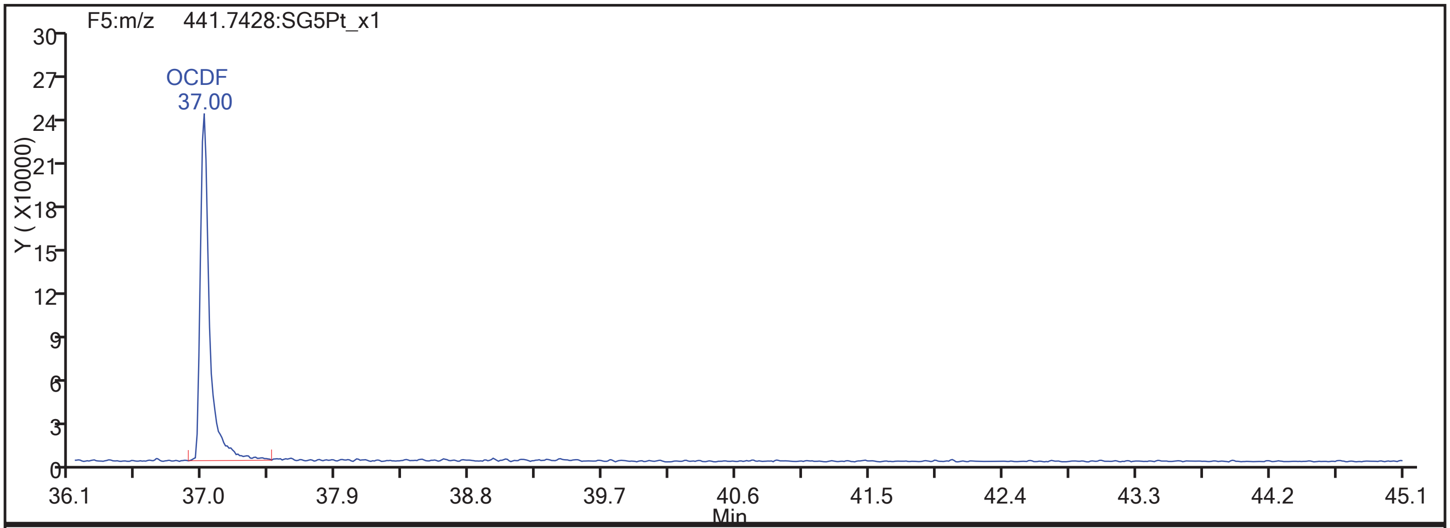


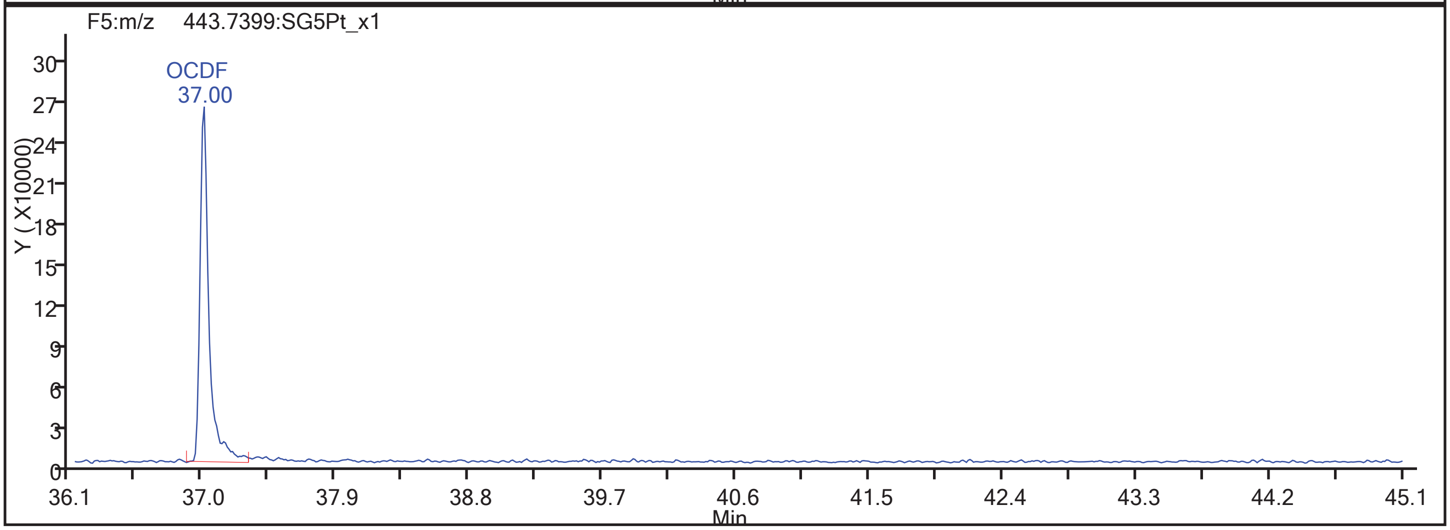
Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

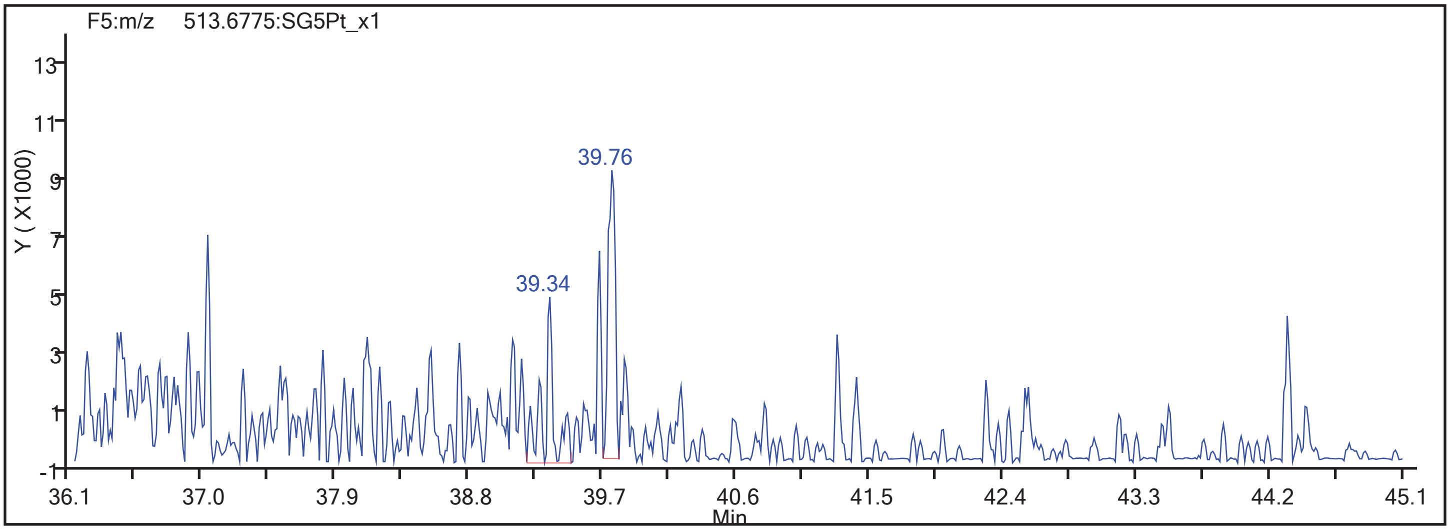
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

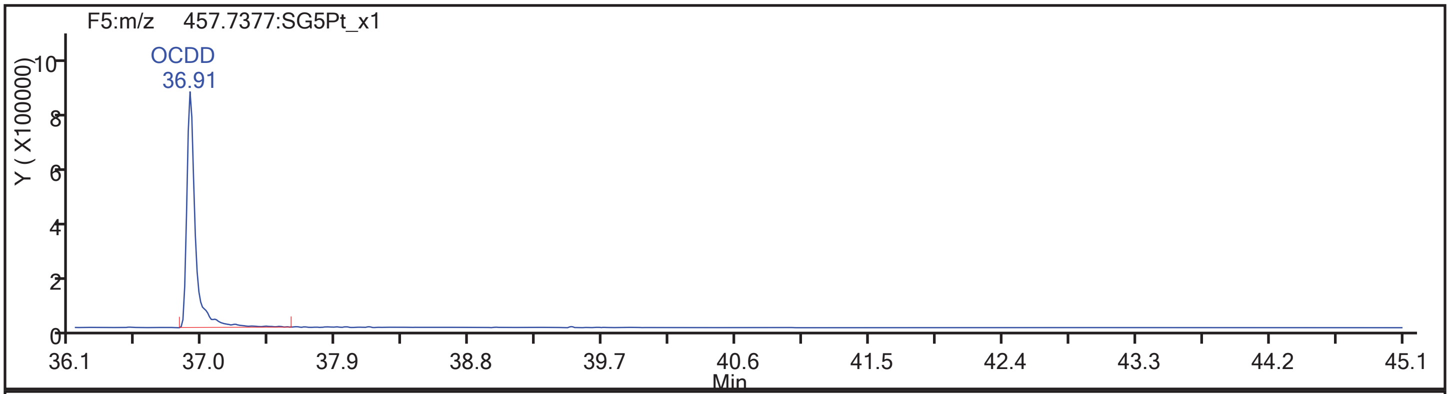


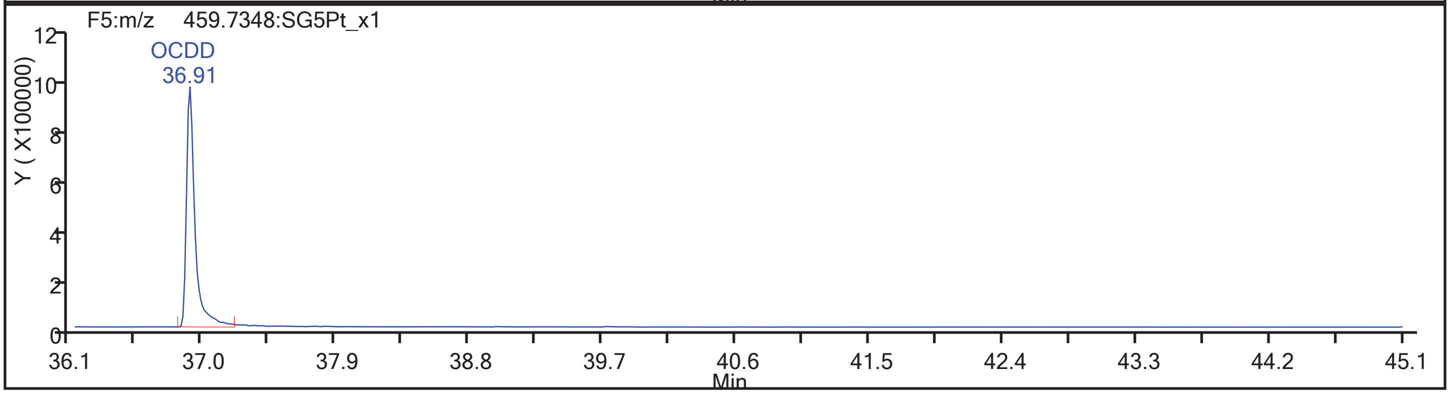
Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

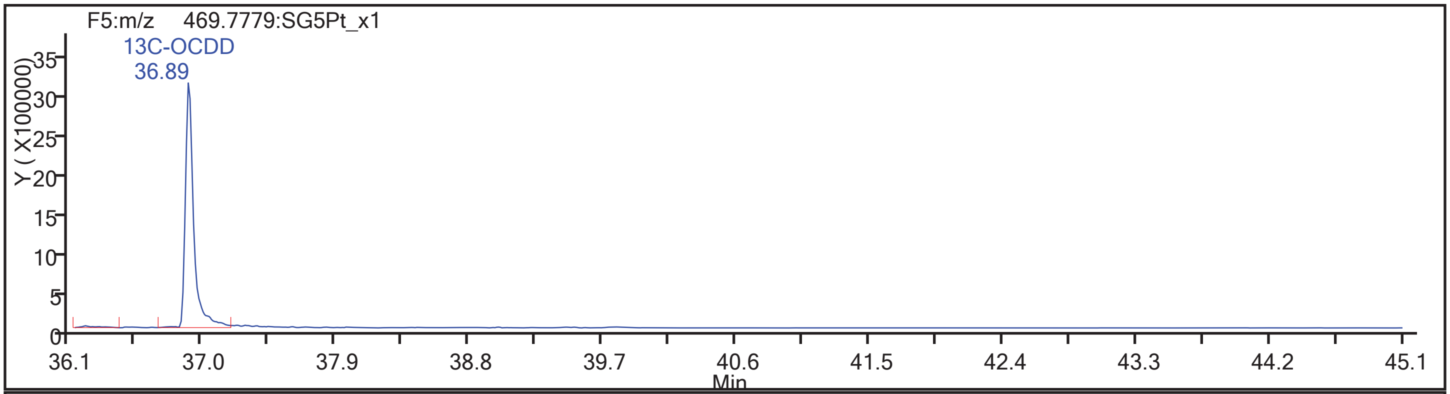
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d		
Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm

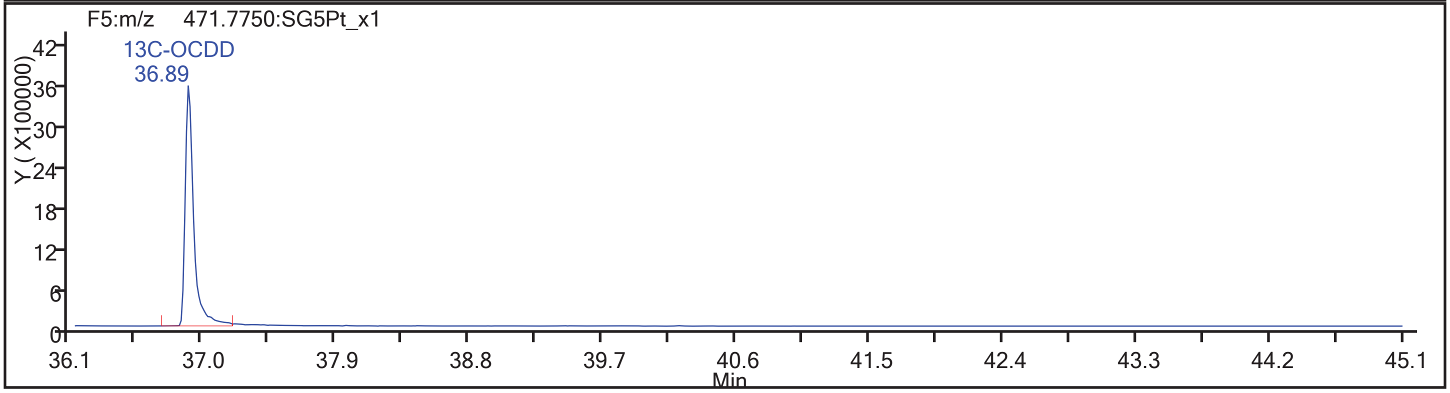
OCDD





OCDD Standards

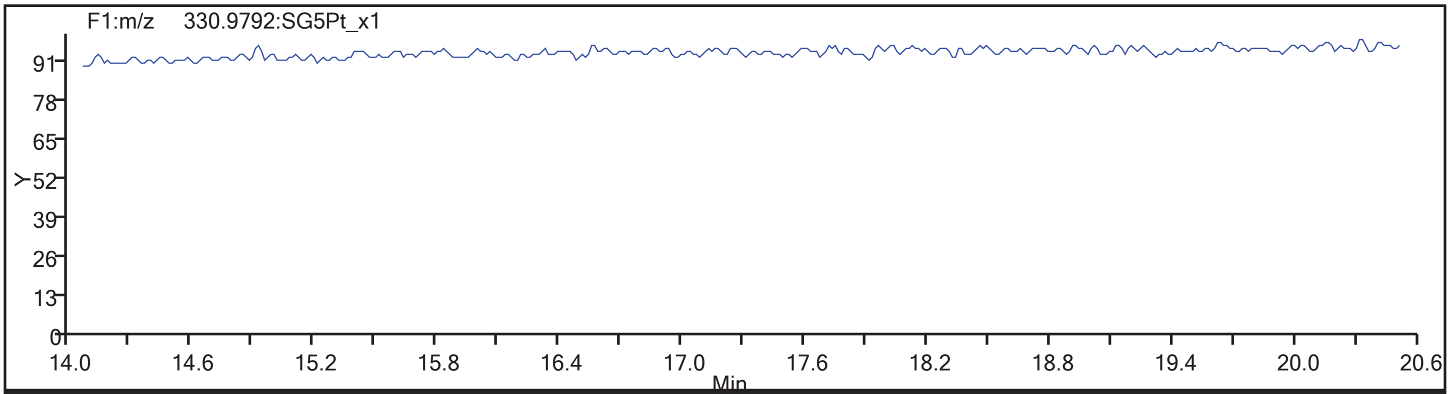


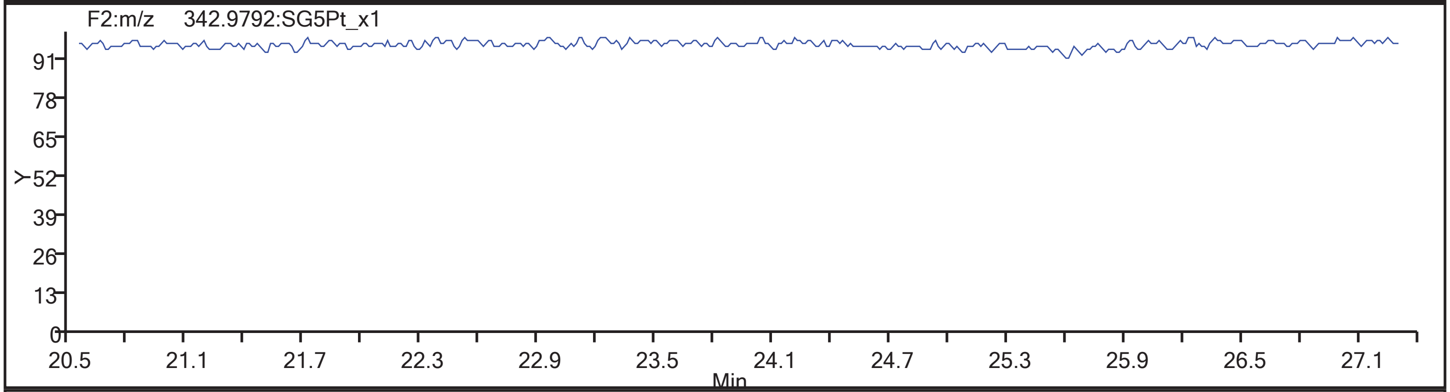


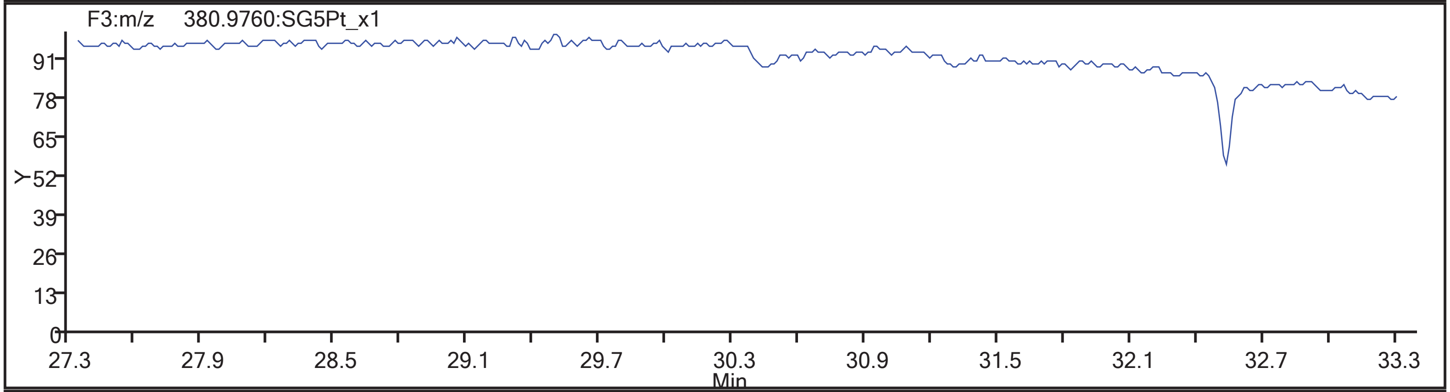
Report Date: 13-Nov-2017 12:41:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

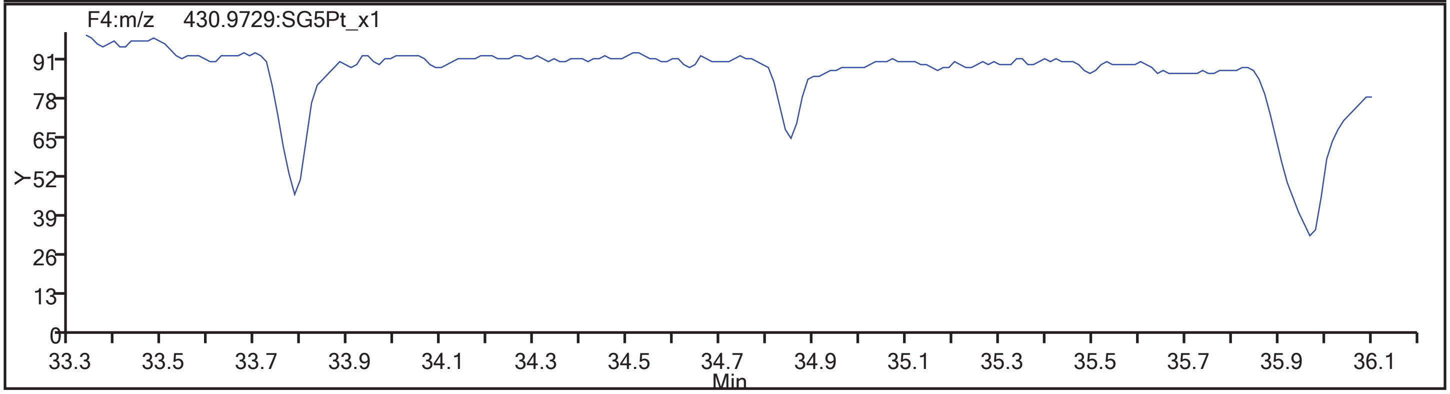
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d
Injection Date: 11-Nov-2017 17:21:51
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 194085
Sample Line#: 72
Column Type: DB-5
Column Dia: 0.32 mm





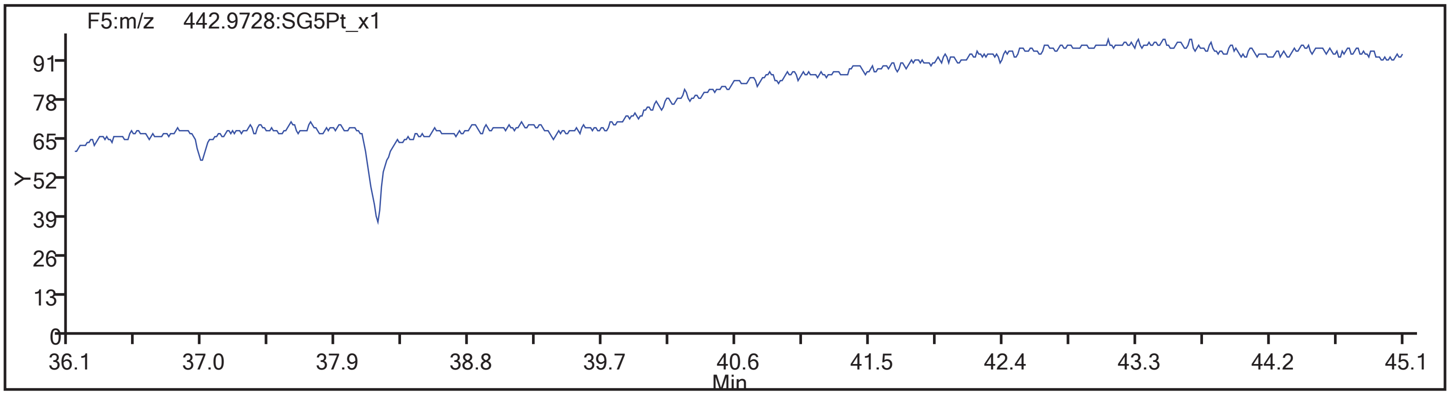




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_72.d

Injection Date:	11-Nov-2017 17:21:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	72
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP022SS03NS RE Lab Sample ID: 160-24924-9 RE

Matrix: Solid Lab File ID: 16NO173D5_73.d

Analysis Method: 8290A Date Collected: 10/05/2017 16:59

Extract. Method: 8290 Date Extracted: 11/16/2017 11:16

Sample wt/vol: 10.08(g) Date Analyzed: 11/19/2017 04:51

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 2.0 GPC Cleanup:(Y/N) N

Analysis Batch No.: 195574 Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.40*	*U H*	*1.0*	0.40	*0.12*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.42*	*J H*	*5.1*	0.76	*0.19*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.77*	*J H*	*5.1*	0.76	*0.22*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.75*	*J H*	*5.1*	0.76	*0.23*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*0.49*	*J H*	*5.1*	2.0	*0.11*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*2.8*	*J H*	*5.1*	2.0	*0.10*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*2.0*	*J H*	*5.1*	2.0	*0.097*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*1.3*	*J M H*	*5.1*	0.76	*0.25*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.4*	*J H*	*5.1*	1.0	*0.23*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.0*	*U H*	*5.1*	1.0	*0.26*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.72*	*J H*	*5.1*	0.76	*0.24*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*23*	*H J*	*5.1*	1.0	*0.31*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*46*	*H*	*5.1*	1.0	*0.60*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.0*	*U H*	*5.1*	2.0	*0.77*
3268-87-9	*OCDD*	*110*	*H B J*	*10*	4.0	*0.25*
39001-02-0	*OCDF*	*23*	*H*	*10*	4.0	*0.18*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	65		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	65		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	63		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	63		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	65		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	55		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	38	Q	40-135
114423-97-1	13C-OCDD	47		40-135

Report Date: 06-Dec-2017 10:55:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d
Lims ID: 160-24924-G-9-D
Client ID: SHAD041DP022SS03NS
Sample Type: Client
Inject. Date: 19-Nov-2017 04:51:36 ALS Bottle#: 48 Worklist Smp#: 73
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-D 160-24924-G-9-D
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 10:19:05 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK017

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:34:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	141311853	0.79	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	135468482	0.76	1.5089	63.5	63.5	0.2104	0.2104	63.53	
2,3,7,8-TCDF	17.765	1594177	0.83	1.0971	1.073	1.073	0.1532	0.1532		
A Non-2,3,7,8-sub-TCDF	17.402	7414121	0.77	1.0971	5.161	4.989	0.1532	1.119		RQM
S Total TCDF					6.233	6.061	0.1532	0.1532		RQ
D 13C-2,3,7,8-TCDD	18.445	90619359	0.81	0.9906	64.7	64.7	0.1894	0.1894	64.74	
$ 37Cl4-2,3,7,8-TCDD	18.476	63645410		1.1732	38.4	38.4	0.0845	0.0845	95.98	
2,3,7,8-TCDD	18.355						0.0579	0.0579		RQU
A Non-2,3,7,8-sub-TCDD	17.871	4099717	0.80	1.1645	3.885	3.885	0.0579	2.031		
S Total TCDD					3.885	3.885	0.0579	0.0579		
D 13C-1,2,3,7,8-PeCDF	22.896	99990600	1.62	1.1280	62.7	62.7	0.2059	0.2059	62.73	
1,2,3,7,8-PeCDF	22.924	436182	1.56	1.1422	0.3819	0.3819	0.1106	0.1106		
D 13C-2,3,4,7,8-PeCDF	24.287	102401729	1.64							
2,3,4,7,8-PeCDF	24.301	413572	1.42	1.1102	0.3725	0.3725	0.1138	0.1138		
A F1 PeCDFs	20.426	2230697	1.34	1.1262	1.981	1.981	0.0356	1.981		
A Non-2,3,7,8-sub-PeCDF	23.668	3964883	1.55	1.1262	3.549	3.521	0.1122	1.708		RQ
S Total PeCDF					6.284	6.256	0.1122	0.1122		RQ
D 13C-1,2,3,7,8-PeCDD	25.024	66389201	1.61	0.7269	64.6	64.6	0.0898	0.0898	64.63	
1,2,3,7,8-PeCDD	25.051	153925	1.55	1.1272	0.2321	0.2057	0.0915	0.0915		RQ
A Non-2,3,7,8-sub-PeCDD	23.878	2117541	1.55	1.1272	3.140	2.830	0.0915	0.9337		RQM
S Total PeCDD					3.372	3.035	0.0915	0.0915		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.932	77964426	0.51	1.0279	64.9	64.9	0.2553	0.2553	64.94	
1,2,3,4,7,8-HxCDF	30.892	658843	1.24	1.3475	0.6952	0.6271	0.1240	0.1240		RQM
D 13C-1,2,3,6,7,8-HxCDF	31.092	89642900	0.51							
1,2,3,6,7,8-HxCDF	31.105	789370	1.24	1.4794	0.9834	0.6844	0.1130	0.1130		RQ
D 13C-2,3,4,6,7,8-HxCDF	31.824	81553086	0.54							
2,3,4,6,7,8-HxCDF	31.838	383699	1.27	1.3833	0.3558	0.3558	0.1208	0.1208		
D 13C-1,2,3,7,8,9-HxCDF	32.597	71932625	0.52							
1,2,3,7,8,9-HxCDF	32.597						0.1295	0.1295		
A Non-2,3,7,8-sub-HxCDF	30.653	8192137	1.22	1.3751	7.641	7.641	0.1215	3.666		M

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					9.676	9.308	0.1218	0.1218		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.410	116788569	1.26	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.011	56256689	1.28							
1,2,3,4,7,8-HxCDD	32.011	161516	1.24	1.0646	0.2762	0.2443	0.0555	0.0555		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.104	62097343	1.20	0.8502	62.5	62.5	0.2199	0.2199	62.54	
1,2,3,6,7,8-HxCDD	32.117	1018793	1.20	1.1809	1.389	1.389	0.0501	0.0501		
1,2,3,7,8,9-HxCDD	32.424	749398	1.17	1.2311	0.9803	0.9803	0.0480	0.0480		
A Non-2,3,7,8-sub-HxCDD	31.252	6105202	1.33	1.1589	8.484	8.484	0.0510	4.813		
S Total HxCDD					11.1	11.1	0.0512	0.0512		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	28656069	0.47	0.6490	37.8	37.8	0.4938	0.4938	37.81	
1,2,3,4,6,7,8-HpCDF	34.022	10347811	1.03	1.5871	22.8	22.8	0.2958	0.2958		
D 13C-1,2,3,4,7,8,9-HpCDF	35.128	33641787	0.45							
1,2,3,4,7,8,9-HpCDF	35.128						0.3820	0.3820		
A Non-2,3,7,8-sub-HpCDF	34.569	8299015	1.05	1.4080	20.6	20.6	0.3334	20.6		
S Total HpCDF					43.3	43.3	0.3389	0.3389		
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	34412890	1.08	0.5387	54.7	54.7	0.3562	0.3562	54.70	
1,2,3,4,6,7,8-HpCDD	34.836	4448754	1.16	1.1631	11.1	11.1	0.1539	0.1539		
A Non-2,3,7,8-sub-HpCDD	35.261	4808373	1.09	1.1631	12.0	12.0	0.1539	12.0		
S Total HpCDD					23.1	23.1	0.1539	0.1539		
D 13C-OCDD	37.245	44453297	0.94	0.4009	94.9	94.9	0.2098	0.2098	47.47	
OCDF	37.353	3153918	0.93	1.2649	11.2	11.2	0.0893	0.0893		
OCDD	37.257	12010489	0.87	1.0390	52.0	52.0	0.1255	0.1255		

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
M - Manually Integrated
U - Marked Undetected

Report Date: 06-Dec-2017 10:55:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d				
Lims ID:	160-24924-G-9-D				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	Client				
Inject. Date:	19-Nov-2017 04:51:36	ALS Bottle#:	48	Worklist Smp#:	73
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-9-D 160-24924-G-9-D				
Misc. Info.:	16NO173D5				
Operator ID:	SMA, ALM	Instrument ID:	3D5		

Method:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m		
Limit Group:	HR - 8290A_D5 - ICAL		
Last Update:	06-Dec-2017 10:19:05	Calib Date:	15-Nov-2017 15:05:45
Integrator:	Picker		
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d		

Column 1 :		Det: F1:HRSIR	
Process Host:	XAWRK017		

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:34:28

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		62547823	14964130	15814	39535	946		
333.9339	18.249	18.234	1		78764030	18871437	9573	23932	1971	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.971	58631323	14041505	24501	61252	573		
317.9389	17.720	17.705	1	0.971	76837159	18279168	18460	46150	990	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.765	17.720	3	1.003	724258	136292	8313	20782	16		
305.8987	17.750	17.720	2	1.002	869919	177639	13421	33552	13	0.83(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	15.240	17.402	-129	0.860	233214	59057	8313	20782	7		
	Empc Correction				156945	51588	8313	20782	6		
305.8987	15.240	17.402	-129	0.860	203825	66998	13421	33552	5	1.14(0.65-0.89)	
303.9016	15.754	17.402	-99	0.889	446171	127061	8313	20782	15		
	Empc Correction				366693	105320	8313	20782	13		
305.8987	15.754	17.402	-99	0.889	476225	136780	13421	33552	10	0.94(0.65-0.89)	
303.9016	16.026	17.402	-82	0.904	778779	133646	8313	20782	16		
305.8987	16.011	17.402	-83	0.904	884235	156808	13421	33552	12	0.88(0.65-0.89)	M
303.9016	16.283	17.402	-67	0.919	410882	56514	8313	20782	7		M
	Empc Correction				352467	50475	8313	20782	6		
305.8987	16.223	17.402	-71	0.916	457750	65553	13421	33552	5	0.90(0.65-0.89)	
303.9016	16.570	17.402	-50	0.935	180198	47721	8313	20782	6		M
305.8987	16.586	17.402	-49	0.936	248374	72163	13421	33552	5	0.73(0.65-0.89)	M
303.9016	16.813	17.402	-35	0.949	481497	118451	8313	20782	14		
305.8987	16.813	17.402	-35	0.949	582744	119532	13421	33552	9	0.83(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.024	17.402	-23	0.961	535637	49529	8313	20782	6		
305.8987	17.024	17.402	-23	0.961	733404	66694	13421	33552	5	0.73(0.65-0.89)	
303.9016	18.173	17.402	46	1.026	318957	71897	8313	20782	9		
305.8987	18.188	17.402	47	1.026	370106	103779	13421	33552	8	0.86(0.65-0.89)	
303.9016	18.430	17.402	62	1.040	166190	29711	8313	20782	4		
	Empc Correction				124542	36072	8313	20782	4		
305.8987	18.400	17.402	60	1.038	161743	46848	13421	33552	3	1.03(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.011	40427044	8904979	15814	39535	563		
333.9339	18.445	18.430	1	1.011	50192315	11106215	9573	23932	1160	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.476	18.445	2	1.012	63645410	14333074	13420	33550	1068		
2,3,7,8-TCDD											RQU
319.8965	18.445						3135	7837			
321.8936	18.445						2263	5657			
A Non-2,3,7,8-sub-TCDD											
319.8965	16.177	17.871	-101	0.877	931943	254756	3135	7837	81		
321.8936	16.177	17.871	-101	0.877	1211285	309741	2263	5657	137	0.77(0.65-0.89)	
319.8965	16.480	17.871	-83	0.893	724586	189948	3135	7837	61		
321.8936	16.480	17.871	-83	0.893	863279	239372	2263	5657	106	0.84(0.65-0.89)	
319.8965	17.311	17.871	-34	0.939	167287	28215	3135	7837	9		
321.8936	17.311	17.871	-34	0.939	201337	43357	2263	5657	19	0.83(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.896	22.869	2	1.255	61784873	10179304	19416	48540	524		
353.8970	22.896	22.869	2	1.255	38205727	6392795	12020	30050	532	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.924	22.896	2	1.001	265511	40284	5130	12825	8		
341.8567	22.924	22.896	2	1.001	170671	20005	3246	8115	6	1.56(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.287	24.260	2	1.331	63646484	9820953	19416	48540	506		
353.8970	24.287	24.260	2	1.331	38755245	5899810	12020	30050	491	1.64(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.301	24.274	2	1.061	242935	44574	5130	12825	9		
341.8567	24.301	24.274	2	1.061	170637	31443	3246	8115	10	1.42(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.927	20.426	-30	0.870	1276085	240474	1133	2832	212		
341.8567	19.927	20.426	-30	0.870	954612	181943	1525	3812	119	1.34(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.301	23.668	-142	0.930	107493	22118	5130	12825	4		
341.8567	21.315	23.668	-141	0.931	73031	17718	3246	8115	5	1.47(1.32-1.78)	
339.8597	21.533	23.668	-128	0.940	1208271	167094	5130	12825	33		
341.8567	21.505	23.668	-130	0.939	715474	93106	3246	8115	29	1.69(1.32-1.78)	
339.8597	21.764	23.668	-114	0.951	169217	28935	5130	12825	6		
	Empc Correction				137440	24706	5130	12825	5		
341.8567	21.751	23.668	-115	0.950	88671	15940	3246	8115	5	1.91(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	22.351	23.668	-79	0.976	573380	54073	5130	12825	11		
341.8567	22.365	23.668	-78	0.977	354446	39720	3246	8115	12	1.62(1.32-1.78)	
339.8597	24.587	23.668	55	1.074	440902	58488	5130	12825	11		
341.8567	24.601	23.668	56	1.074	265775	32161	3246	8115	10	1.66(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.024	24.996	2	1.371	40932177	5822344	5383	13457	1082		
369.8919	25.024	24.996	2	1.371	25457024	3665043	3449	8622	1063	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											RQ
355.8546	25.051	25.024	2	1.001	113353	18047	2169	5422	8		
	Empc Correction				93562	18754	2169	5422	9		
357.8516	25.051	25.024	2	1.001	60363	12100	1744	4360	7	1.88(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQM
355.8546	21.710	23.878	-130	0.868	424703	69796	2169	5422	32		
357.8516	21.737	23.878	-128	0.869	361840	67430	1744	4360	39	1.17(1.32-1.78)	
	Empc Correction				274001	45029	1744	4360	26		
355.8546	22.501	23.878	-82	0.899	61764	10485	2169	5422	5		
357.8516	22.501	23.878	-82	0.899	48040	11898	1744	4360	7	1.29(1.32-1.78)	
	Empc Correction				39847	6764	1744	4360	4		
355.8546	22.937	23.878	-56	0.917	224968	39149	2169	5422	18		M
357.8516	22.937	23.878	-56	0.917	226369	34677	1744	4360	20	0.99(1.32-1.78)	
	Empc Correction				145140	25257	1744	4360	14		
355.8546	23.210	23.878	-40	0.928	125382	29814	2169	5422	14		M
357.8516	23.251	23.878	-38	0.929	105707	14593	1744	4360	8	1.19(1.32-1.78)	
	Empc Correction				80891	19234	1744	4360	11		
355.8546	23.524	23.878	-21	0.940	182837	27222	2169	5422	13		
357.8516	23.524	23.878	-21	0.940	125682	19986	1744	4360	11	1.45(1.32-1.78)	
355.8546	24.001	23.878	7	0.959	110725	22896	2169	5422	11		
357.8516	24.001	23.878	7	0.959	101409	16345	1744	4360	9	1.09(1.32-1.78)	
	Empc Correction				71435	14771	1744	4360	8		
355.8546	24.437	23.878	33	0.977	145682	24270	2169	5422	11		
357.8516	24.410	23.878	32	0.975	104484	20590	1744	4360	12	1.39(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.932	30.906	2	0.954	26201395	5730361	12670	31675	452		
385.8610	30.932	30.906	2	0.954	51763031	11136949	21336	53340	522	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											RQM
373.8208	30.892	30.932	-2	0.999	364717	53470	6901	17252	8		a
375.8178	30.879	30.932	-3	0.998	365619	56091	4373	10932	13	1.00(1.05-1.43)	M
	Empc Correction				294126	43120	4373	10932	10		
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.092	31.065	2	0.959	30426026	6235069	12670	31675	492		
385.8610	31.092	31.065	2	0.959	59216874	12136602	21336	53340	569	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											RQ
373.8208	31.105	31.092	1	1.006	436973	101060	6901	17252	15		
375.8178	31.092	31.092	0	1.005	697312	72719	4373	10932	17	0.63(1.05-1.43)	
	Empc Correction				352397	81499	4373	10932	19		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.824	31.811	1	0.982	28467986	7313067	12670	31675	577		
385.8610	31.838	31.811	2	0.982	53085100	13501811	21336	53340	633	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.838	31.824	1	1.029	214639	52225	6901	17252	8		
375.8178	31.838	31.824	1	1.029	169060	46967	4373	10932	11	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.006	24593254	7100236	12670	31675	560		
385.8610	32.597	32.583	1	1.006	47339371	13539257	21336	53340	635	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						6901	17252			
375.8178	32.597						4373	10932			
A Non-2,3,7,8-sub-HxCDF											M
373.8208	28.695	30.653	-117	0.928	552001	79646	6901	17252	12		
375.8178	28.682	30.653	-118	0.927	479286	64333	4373	10932	15	1.15(1.05-1.43)	
373.8208	29.108	30.653	-92	0.941	1755978	192052	6901	17252	28		
375.8178	29.081	30.653	-94	0.940	1474541	167980	4373	10932	38	1.19(1.05-1.43)	
373.8208	30.267	30.653	-23	0.978	2201089	343839	6901	17252	50		M
375.8178	30.280	30.653	-22	0.979	1729242	272037	4373	10932	62	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.397	1		65213433	18090509	14131	35327	1280		
403.8529	32.410	32.397	1		51575136	14299582	10087	25217	1418	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.011	31.984	2	0.988	31549028	9274904	14131	35327	656		
403.8529	31.997	31.984	1	0.987	24707661	7130607	10087	25217	707	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	32.011	31.997	1	0.997	89411	26616	1809	4522	15		
391.8127	32.024	31.997	2	0.998	93171	23525	2041	5102	12	0.96(1.05-1.43)	
	Empc Correction				72105	21464	2041	5102	11		
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.991	33888584	8915566	14131	35327	631		
403.8529	32.104	32.091	1	0.991	28208759	7360106	10087	25217	730	1.20(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.117	32.104	1	1.000	556087	161861	1809	4522	89		
391.8127	32.117	32.104	1	1.000	462706	120671	2041	5102	59	1.20(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.424	32.410	1	1.010	404003	86310	1809	4522	48		
391.8127	32.424	32.410	1	1.010	345395	76751	2041	5102	38	1.17(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.160	31.252	-65	0.939	653425	123012	1809	4522	68		
391.8127	30.147	31.252	-66	0.939	475267	78574	2041	5102	38	1.37(1.05-1.43)	
389.8157	30.986	31.252	-16	0.965	826466	172517	1809	4522	95		
391.8127	30.986	31.252	-16	0.965	686787	149039	2041	5102	73	1.20(1.05-1.43)	
389.8157	31.332	31.252	5	0.976	2000323	406635	1809	4522	225		
391.8127	31.332	31.252	5	0.976	1462934	302645	2041	5102	148	1.37(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	9178938	3151101	12930	32325	244		
419.8220	34.010	33.998	1	1.049	19477131	6663520	28589	71472	233	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.010	1	1.000	5250226	1749079	10169	25422	172		
409.7789	34.022	34.010	1	1.000	5097585	1734600	8262	20655	210	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.128	35.116	1	1.084	10371244	3211365	12930	32325	248		
419.8220	35.128	35.116	1	1.084	23270543	7148993	28589	71472	250	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						10169	25422			
409.7789	35.128						8262	20655			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.326	34.569	-15	1.009	4243967	1335964	10169	25422	131		
409.7789	34.326	34.569	-15	1.009	4055048	1290134	8262	20655	156	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.812	1	1.074	17903627	5571856	15576	38940	358		
437.8140	34.824	34.812	1	1.074	16509263	5443483	9283	23207	586	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.000	2386907	736700	4460	11150	165		
425.7737	34.836	34.824	1	1.000	2061847	669782	3427	8567	195	1.16(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.265	35.261	-60	0.984	2510808	827845	4460	11150	186		a
425.7737	34.265	35.261	-60	0.984	2297565	751138	3427	8567	219	1.09(0.88-1.20)	
13C-OCDD											
469.7779	37.245	37.233	1	1.149	21569400	5935523	5580	13950	1064		
471.7750	37.245	37.233	1	1.149	22883897	6329609	5317	13292	1190	0.94(0.76-1.02)	
OCDF											
441.7428	37.353	37.341	1	1.003	1521234	381977	1550	3875	246		
443.7399	37.353	37.341	1	1.003	1632684	430509	1222	3055	352	0.93(0.76-1.02)	
OCDD											
457.7377	37.257	37.245	1	1.000	5591107	1566405	1440	3600	1088		
459.7348	37.257	37.245	1	1.000	6419382	1791601	1758	4395	1019	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated
U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d		
Lims ID:	160-24924-G-9-D		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 04:51:36	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	73

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	135468482	32320673

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	135468482	32320673

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.240	233214	59057	203825	66998	0.2941	1.14	RQ
15.240	156945	51588	203825	66998	0.2427		Empc Correction
15.754	446171	127061	476225	136780	0.6206	0.94	RQ
15.754	366693	105320	476225	136780	0.5671		Empc Correction
16.026	778779	133646	884235	156808	1.12	0.88	M
16.283	410882	56514	457750	65553	0.5844	0.90	RQM
16.283	352467	50475	457750	65553	0.5451		Empc Correction
16.570	180198	47721	248374	72163	0.2884	0.73	M
16.813	481497	118451	582744	119532	0.7161	0.83	
17.024	535637	49529	733404	66694	0.8539	0.73	
18.173	318957	71897	370106	103779	0.4636	0.86	
18.430	166190	29711	161743	46848	0.2206	1.03	RQ
18.430	124542	36072	161743	46848	0.1926		Empc Correction
Signal Totals:							
	3295715	664699	4118406	835155			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7669931	1528742				0.86	RQM
	7414121	1499854					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.161 = (7669931 * 100.000) / (135468482 * 1.097)
Empc Amount: 4.989 = (7414121 * 100.000) / (135468482 * 1.097)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d		
Lims ID:	160-24924-G-9-D		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 04:51:36	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	73

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	90619359	20011194

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	90619359	20011194

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.177	931943	254756	1211285	309741	2.03	0.77	
16.480	724586	189948	863279	239372	1.50	0.84	
17.311	167287	28215	201337	43357	0.3493	0.83	
Signal Totals:							
	1823816	472919	2275901	592470			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4099717	1065389				0.80	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 3.885 = (4099717 * 100.000) / (90619359 * 1.164)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d		
Lims ID:	160-24924-G-9-D		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 04:51:36	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	73

F1 PeCDFs, RT: 20.426

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	99990600	16572099
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	99990600	16572099

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.927	1276085	240474	954612	181943	1.98	1.34	
Signal Totals:							
	1276085	240474	954612	181943			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2230697	422417				1.34	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.981 = (2230697 * 100.000) / (99990600 * 1.126)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d		
Lims ID:	160-24924-G-9-D		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 04:51:36	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	73

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	99990600	16572099
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	99990600	16572099

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.301	107493	22118	73031	17718	0.1603	1.47	
21.533	1208271	167094	715474	93106	1.71	1.69	
21.764	169217	28935	88671	15940	0.2290	1.91	RQ
21.764	137440	24706	88671	15940	0.2008		Empc Correction
22.351	573380	54073	354446	39720	0.8239	1.62	
24.587	440902	58488	265775	32161	0.6275	1.66	
Signal Totals:							
	2467486	326479	1497397	198645			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3996660	529353				1.67	RQ
	3964883	525124					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.549 = (3996660 * 100.000) / (99990600 * 1.126)
Empc Amount: 3.521 = (3964883 * 100.000) / (99990600 * 1.126)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 06-Dec-2017 10:55:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d
Lims ID: 160-24924-G-9-D
Client ID: SHAD041DP022SS03NS
Inject. Date: 19-Nov-2017 04:51:36 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195574 Lims Sample ID: 73

Non-2,3,7,8-sub-PeCDD, RT: 23.878

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.127	D 13C-1,2,3,7,8-PeCDD	100.000	66389201	9487387

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.127		100.000	66389201	9487387

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.710	424703	69796	361840	67430	1.05	1.17	RQ
21.710	424703	69796	274001	45029	0.9337		Empc Correction
22.501	61764	10485	48040	11898	0.1467	1.29	RQ
22.501	61764	10485	39847	6764	0.1358		Empc Correction
22.937	224968	39149	226369	34677	0.6031	0.99	RQM
22.937	224968	39149	145140	25257	0.4946		Empc Correction
23.210	125382	29814	105707	14593	0.3088	1.19	RQM
23.210	125382	29814	80891	19234	0.2756		Empc Correction
23.524	182837	27222	125682	19986	0.4123	1.45	
24.001	110725	22896	101409	16345	0.2835	1.09	RQ
24.001	110725	22896	71435	14771	0.2434		Empc Correction
24.437	145682	24270	104484	20590	0.3343	1.39	
Signal Totals:							
	1276061	223632	841480	151631			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2349592	409151				1.19	RQM
	2117541	375263					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.140 = (2349592 * 100.000) / (66389201 * 1.127)
Empc Amount: 2.830 = (2117541 * 100.000) / (66389201 * 1.127)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d		
Lims ID:	160-24924-G-9-D		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 04:51:36	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	73

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	77964426	16867310
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	77964426	16867310

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.695	552001	79646	479286	64333	0.9619	1.15	
29.108	1755978	192052	1474541	167980	3.01	1.19	
30.267	2201089	343839	1729242	272037	3.67	1.27	M
Signal Totals:							
	4509068	615537	3683069	504350			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8192137	1119887				1.22	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 7.641 = (8192137 * 100.000) / (77964426 * 1.375)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d
Lims ID: 160-24924-G-9-D
Client ID: SHAD041DP022SS03NS
Inject. Date: 19-Nov-2017 04:51:36
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 73

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	62097343	16275672
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	62097343	16275672

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.160	653425	123012	475267	78574	1.57	1.37	
30.986	826466	172517	686787	149039	2.10	1.20	
31.332	2000323	406635	1462934	302645	4.81	1.37	
Signal Totals:							
	3480214	702164	2624988	530258			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6105202	1232422				1.33	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 8.484 = (6105202 * 100.000) / (62097343 * 1.159)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d		
Lims ID:	160-24924-G-9-D		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 04:51:36	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	73

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	28656069	9814621
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	28656069	9814621

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	4243967	1335964	4055048	1290134	20.6	1.05	
Signal Totals:							
	4243967	1335964	4055048	1290134			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8299015	2626098				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 20.569 = (8299015 * 100.000) / (28656069 * 1.408)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d		
Lims ID:	160-24924-G-9-D		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 04:51:36	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	73

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	34412890	11015339

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	34412890	11015339

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.265	2510808	827845	2297565	751138	12.0	1.09	
Signal Totals:							
	2510808	827845	2297565	751138			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4808373	1578983				1.09	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 12.013 = (4808373 * 100.000) / (34412890 * 1.163)

TestAmerica Sacramento

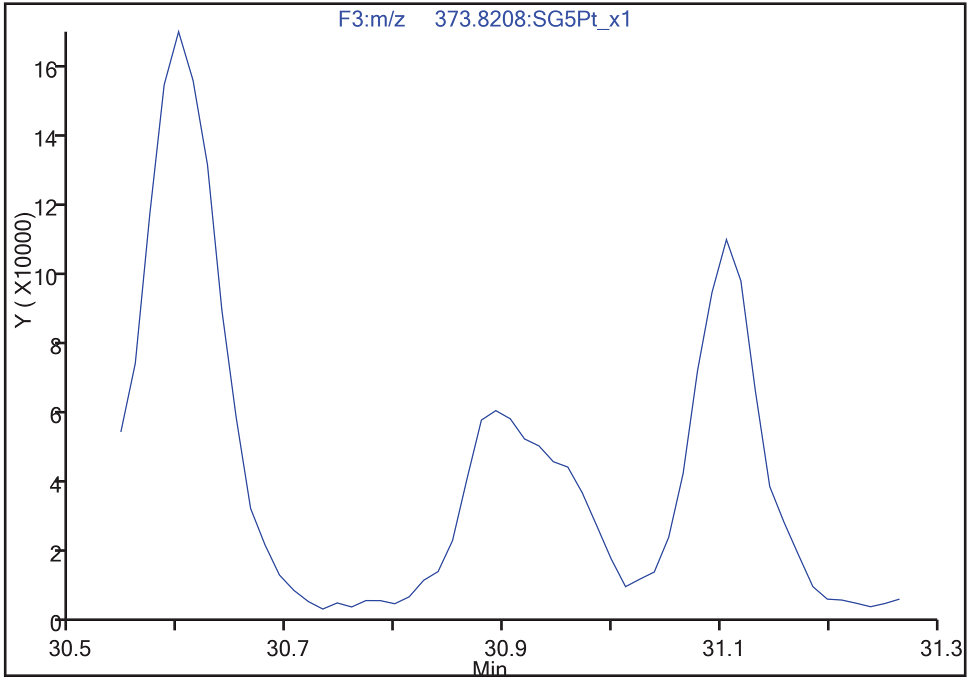
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d				
Injection Date:	19-Nov-2017 04:51:36	Instrument ID:	3D5		
Lims ID:	160-24924-G-9-D	Lab Sample ID:	320-24924-9		
Client ID:	SHAD041DP022SS03NS				
Operator ID:	SMA, ALM	ALS Bottle#:	48	Worklist Smp#:	73
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

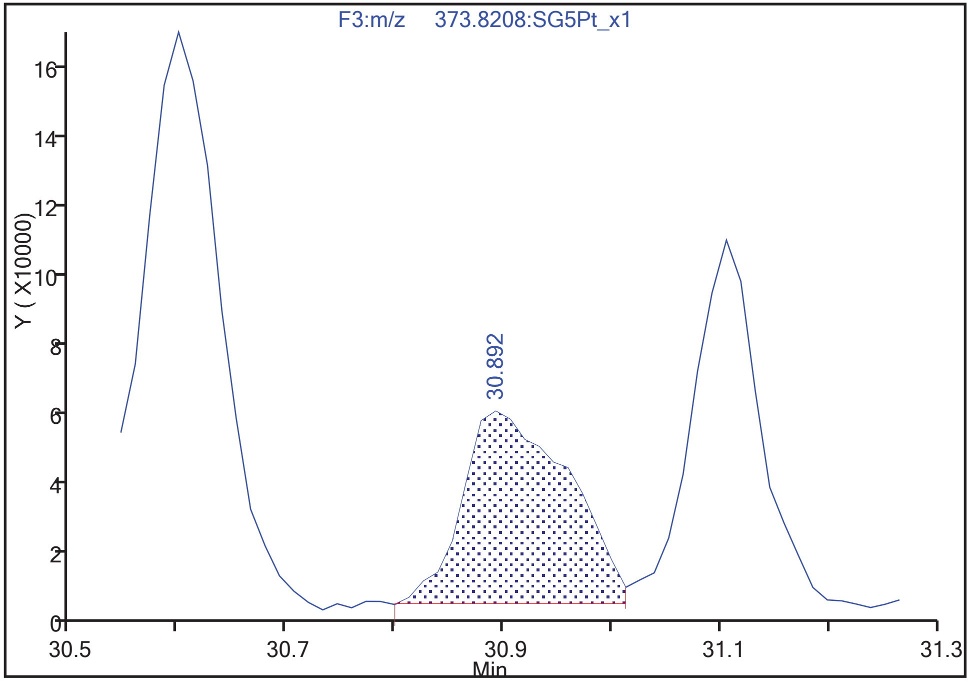
Not Detected
Expected RT: 30.93

Processing Integration Results



RT: 30.89
Area: 364717
Amount: 0.695159
Amount Units: pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 14:37:23
Audit Action: Assigned Compound ID Audit Reason: Split Peak

Report Date: 06-Dec-2017 10:55:44　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

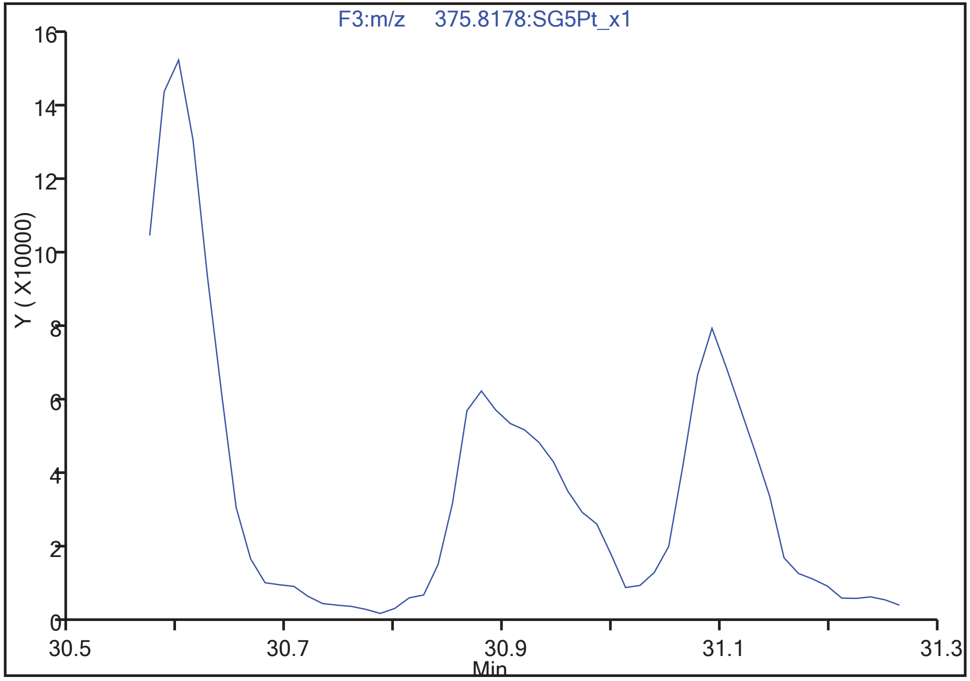
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d
Injection Date: 19-Nov-2017 04:51:36
Instrument ID: 3D5
Lims ID: 160-24924-G-9-D
Lab Sample ID: 320-24924-9
Client ID: SHAD041DP022SS03NS
Operator ID: SMA, ALM
ALS Bottle#: 48
Worklist Smp#: 73
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Column:
Detector F3:HRSIR

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

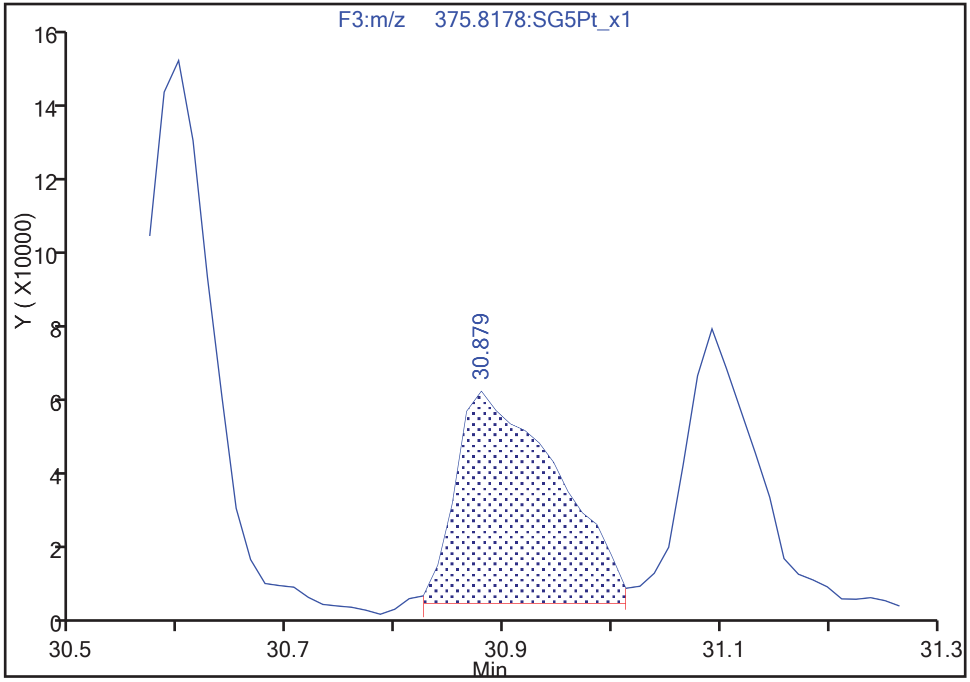
Not Detected
Expected RT: 30.93

Processing Integration Results



RT: 30.88
Area: 365619
Amount: 0.695159
Amount Units: pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 14:37:26

Audit Action: Split an Integrated Peak　　Audit Reason: Split Peak

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d

Injection Date: 19-Nov-2017 04:51:36

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

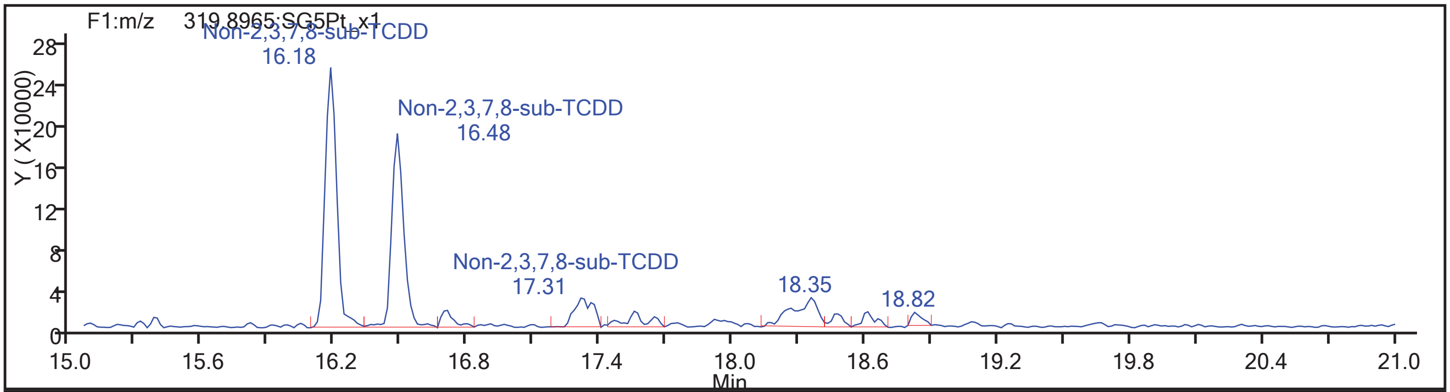
Worklist#: 195574

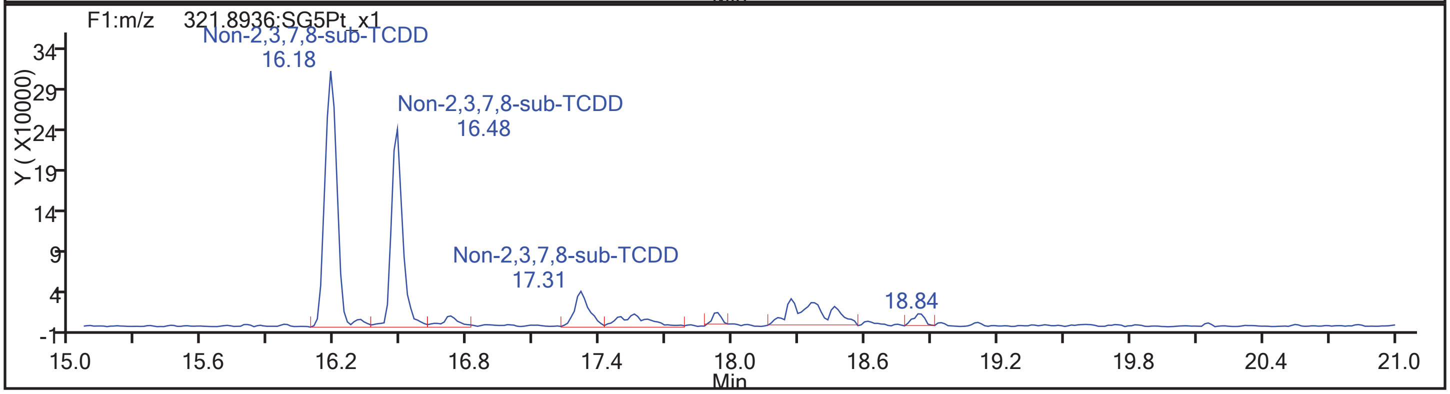
Sample Line#: 73

Column Type:

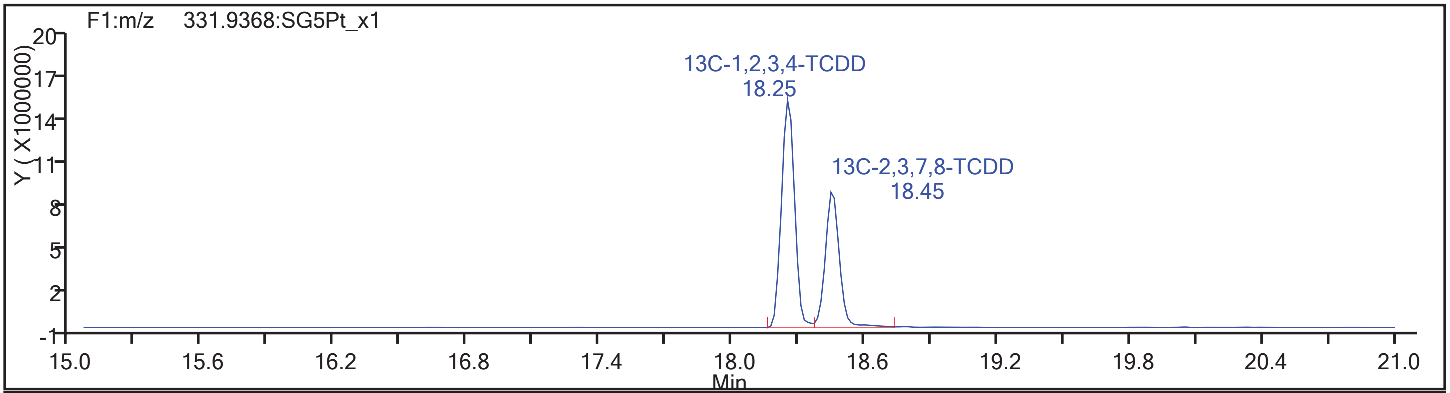
Column Dia:

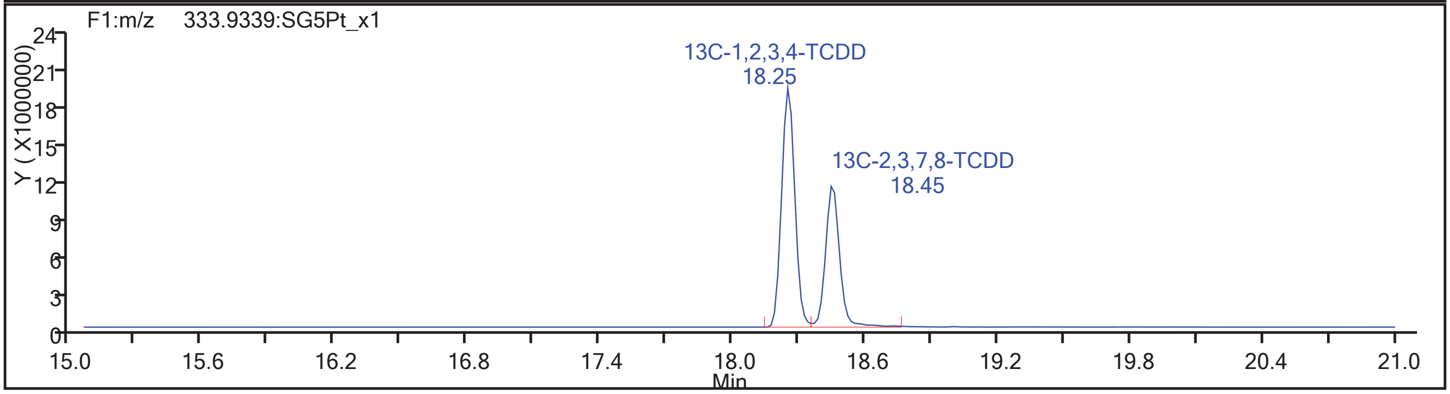
TCDD





TCDD Standards



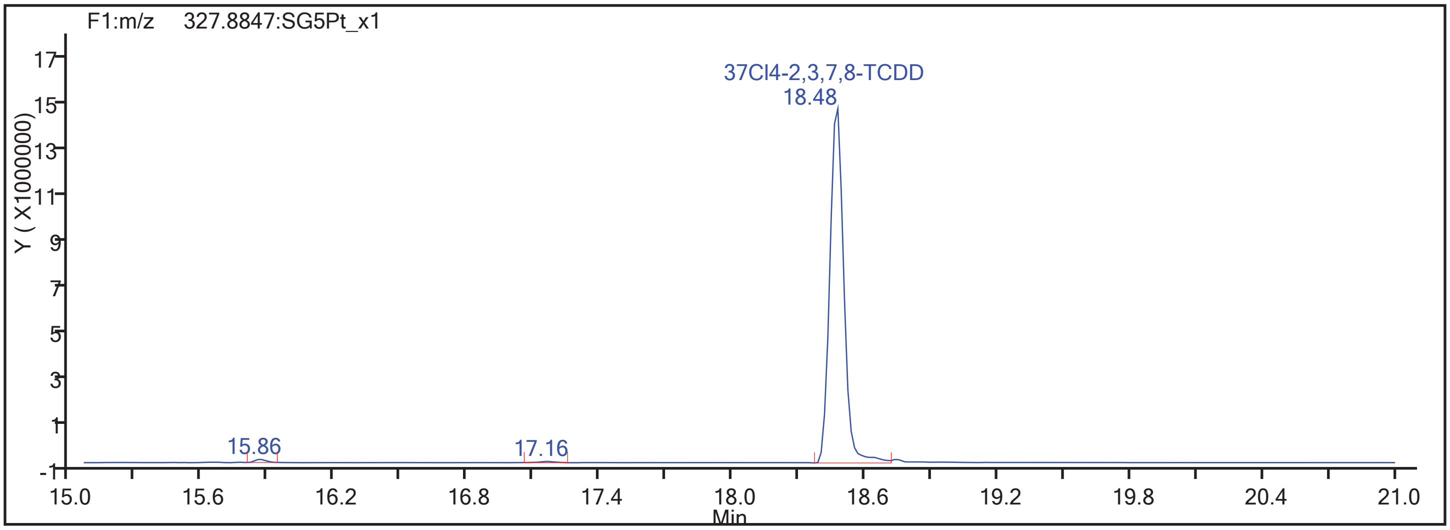


Report Date: 06-Dec-2017 10:55:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

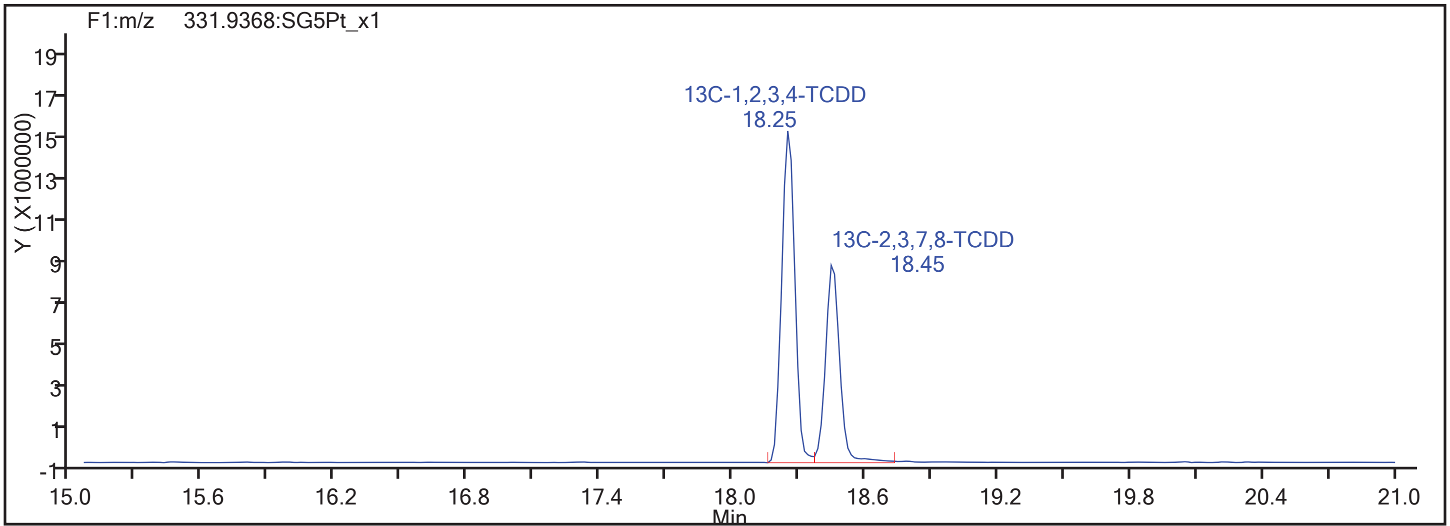
TestAmerica Sacramento

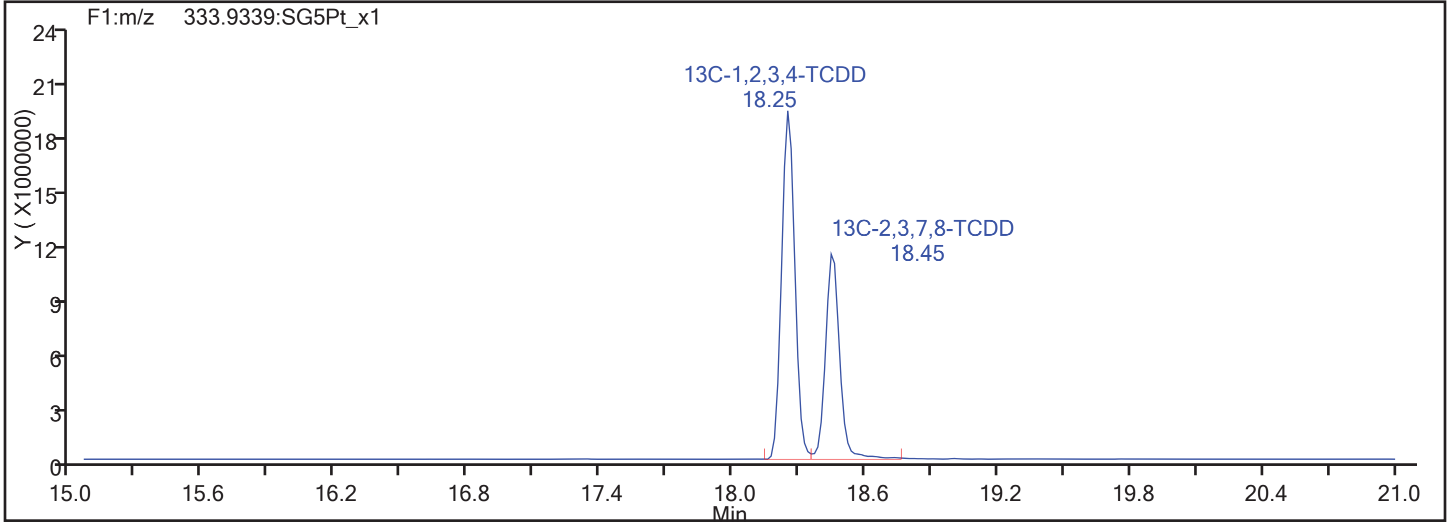
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d
Injection Date: 19-Nov-2017 04:51:36 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574 Sample Line#: 73
Column Type: Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards



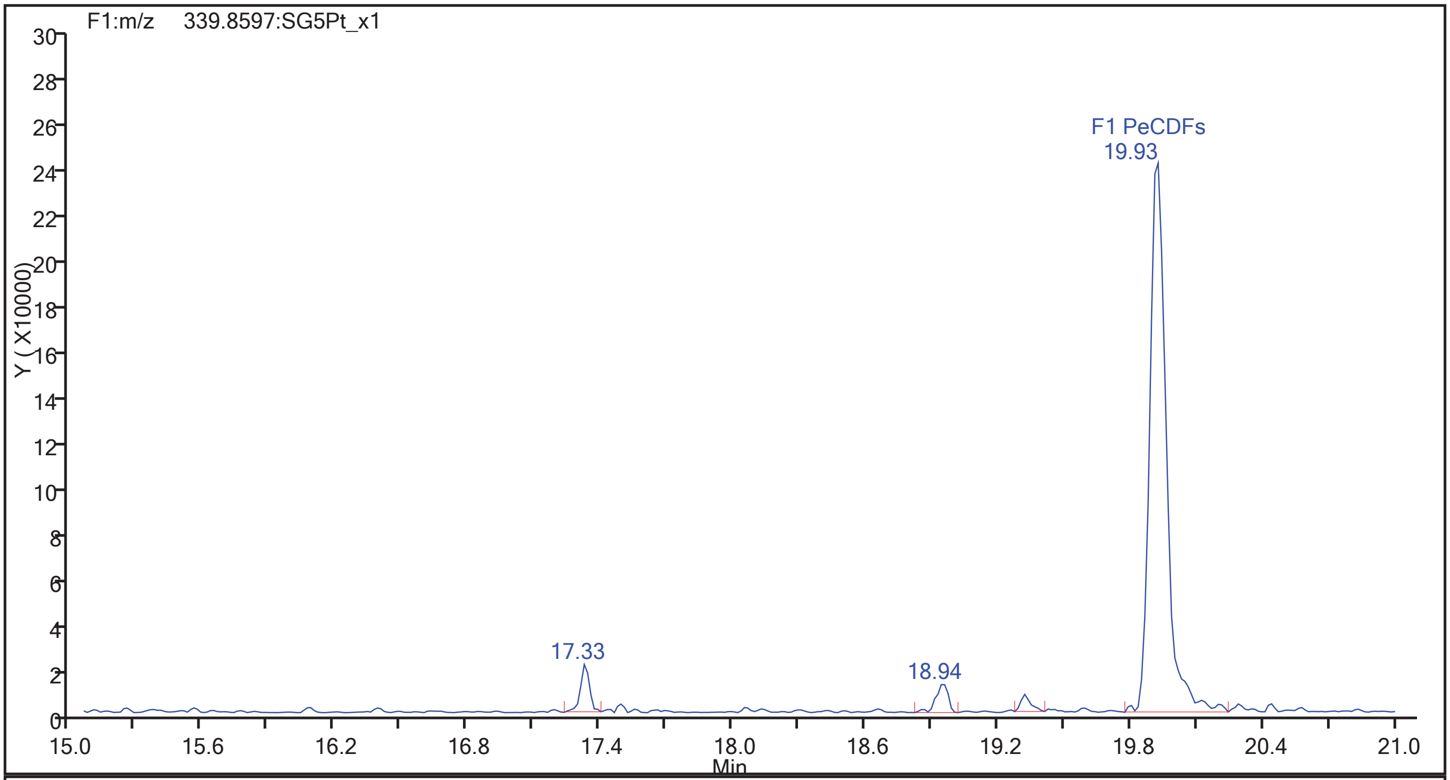


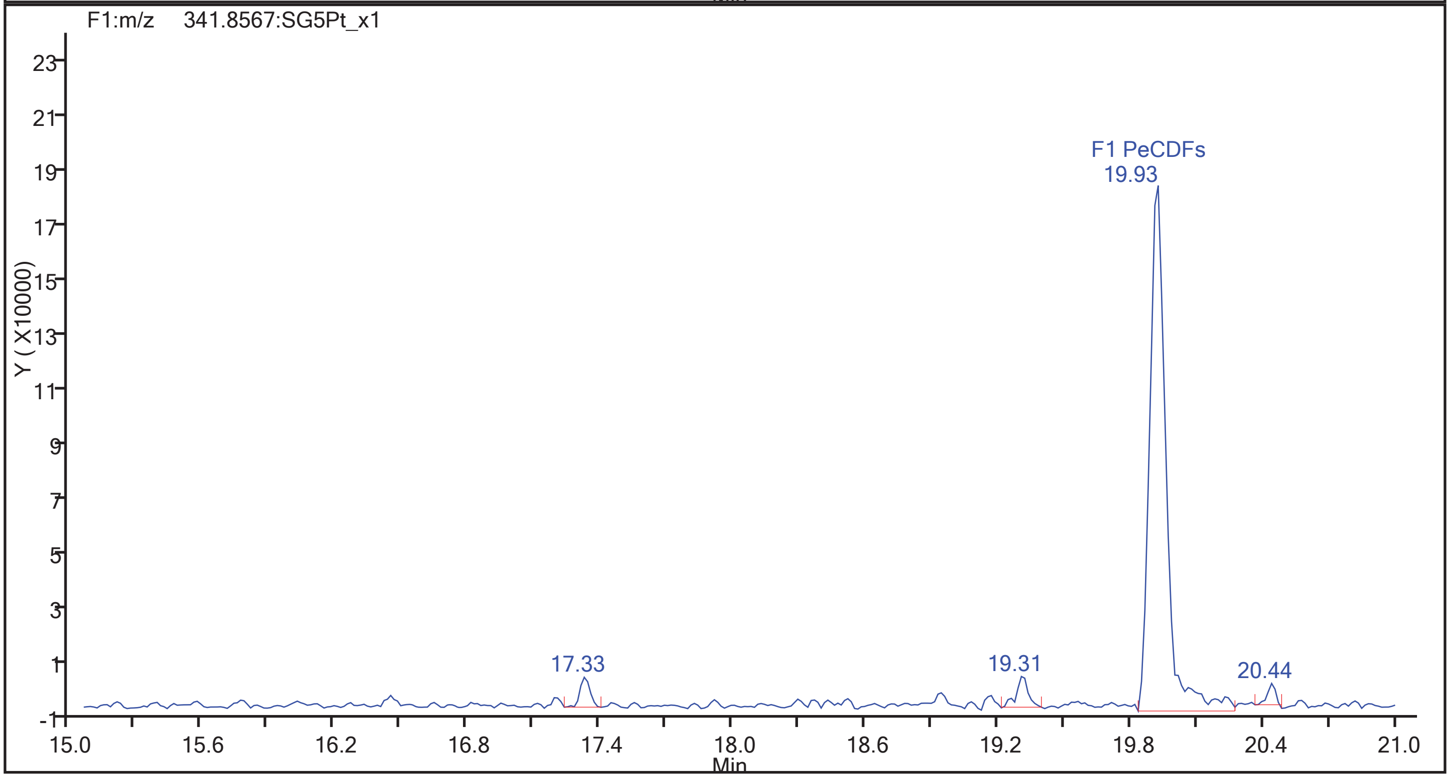
Report Date: 06-Dec-2017 10:55:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d		
Injection Date:	19-Nov-2017 04:51:36	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	73
Column Type:		Column Dia:	

F1 PeCDFs





Report Date: 06-Dec-2017 10:55:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_73.d		
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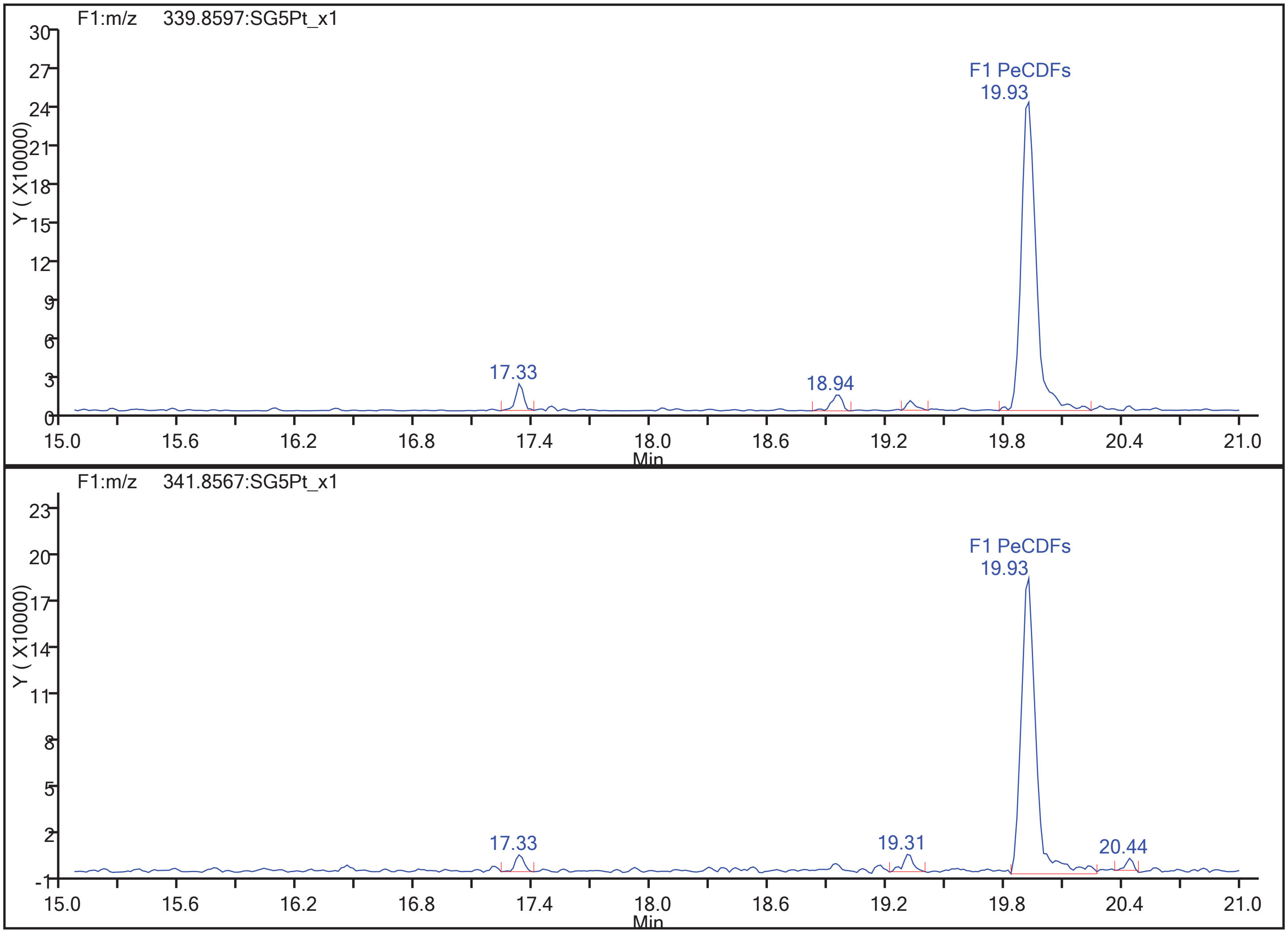
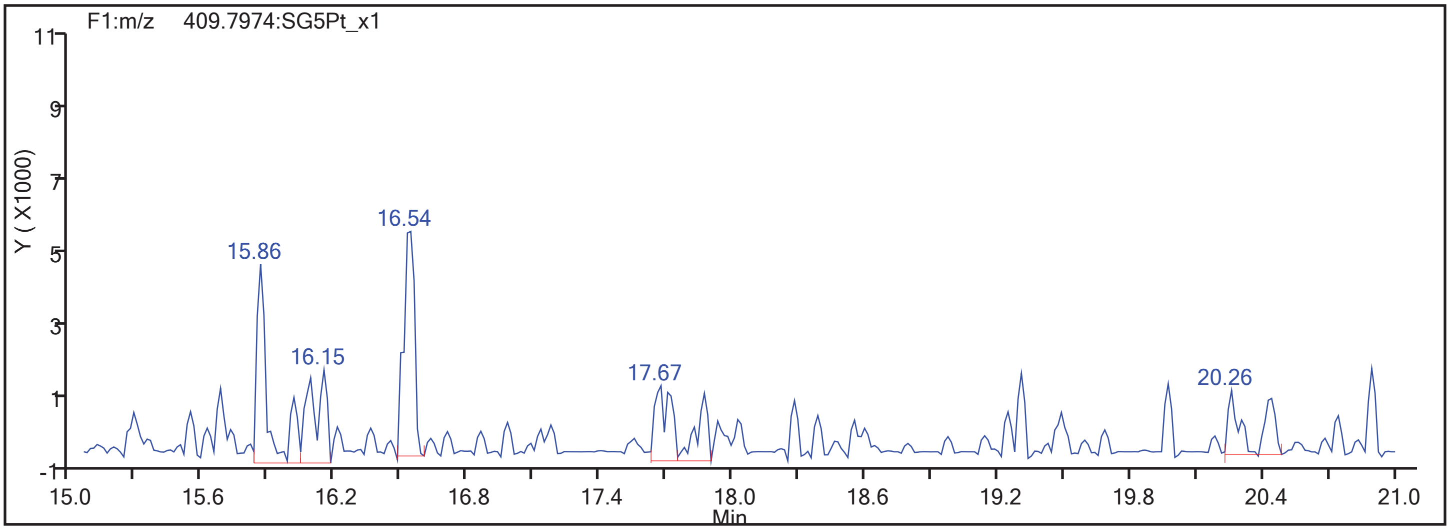
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	73
Column Type:		Column Dia:	

F1 PeCDFs



F1 PeCDFs Interference Mass



Report Date: 06-Dec-2017 10:55:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 19-Nov-2017 04:51:36 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
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Worklist#: 195574 Sample Line#: 73
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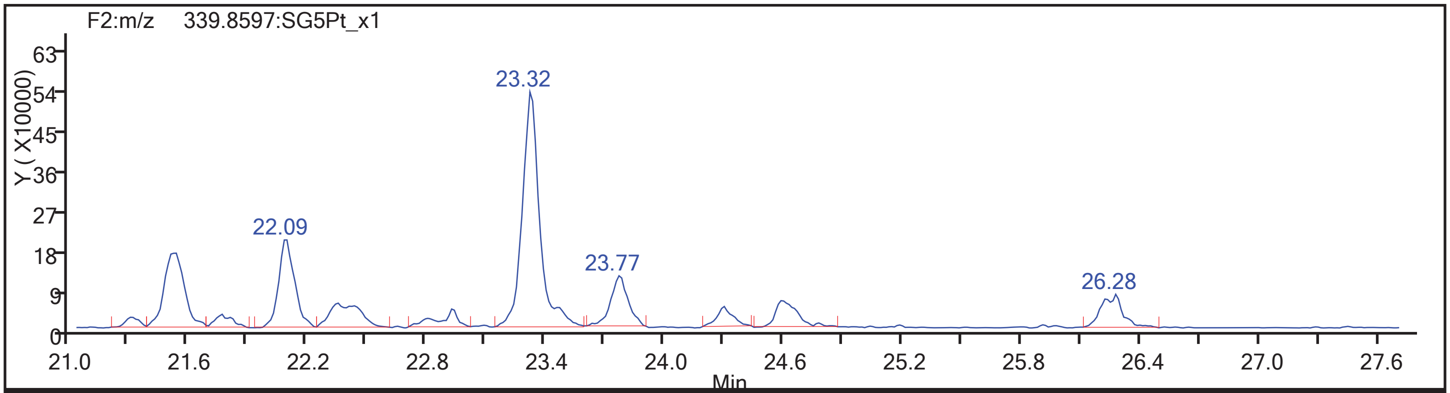

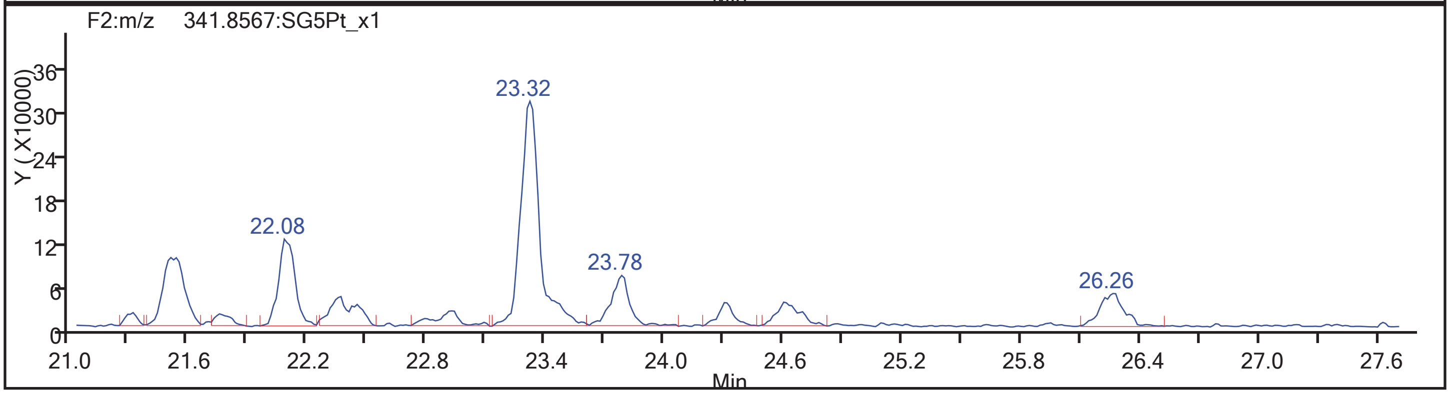

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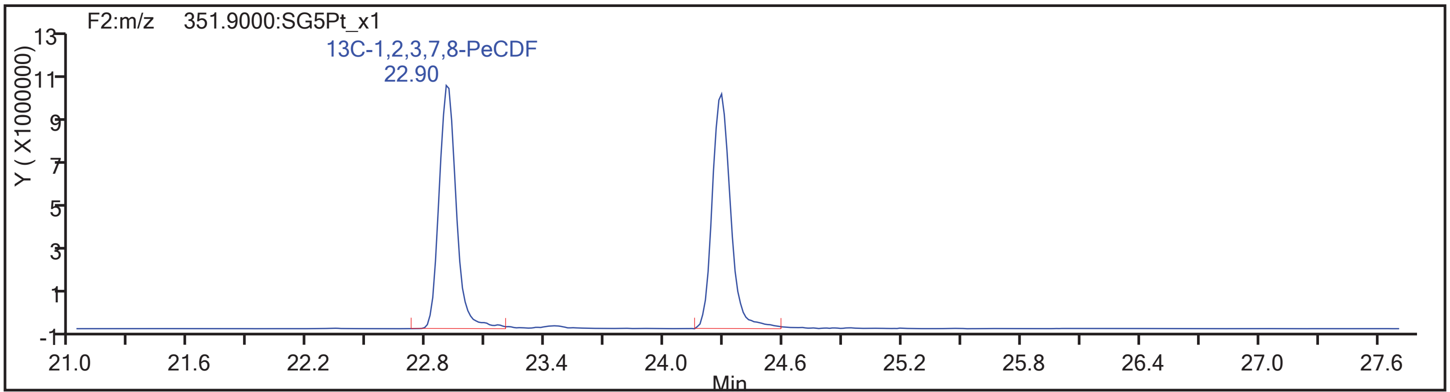

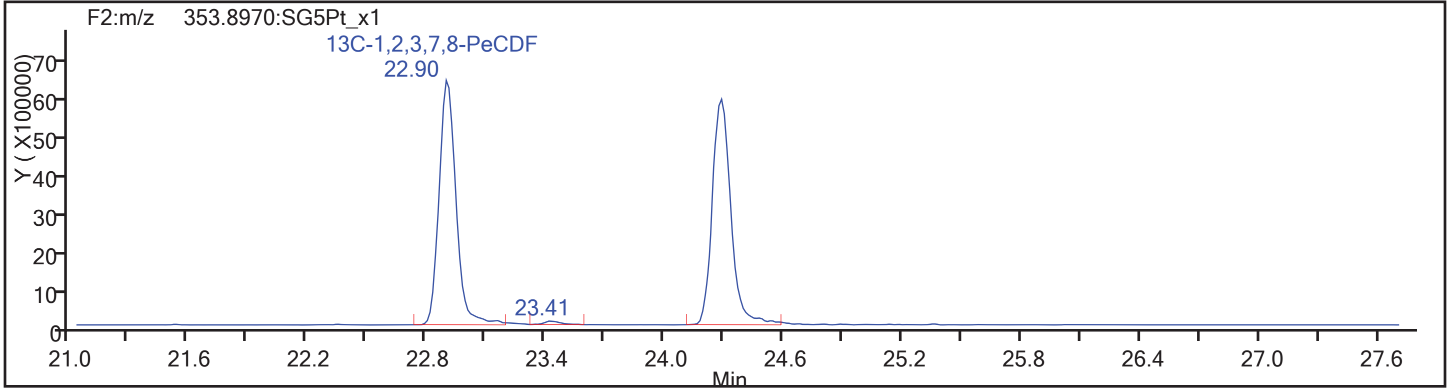

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TestAmerica Sacramento

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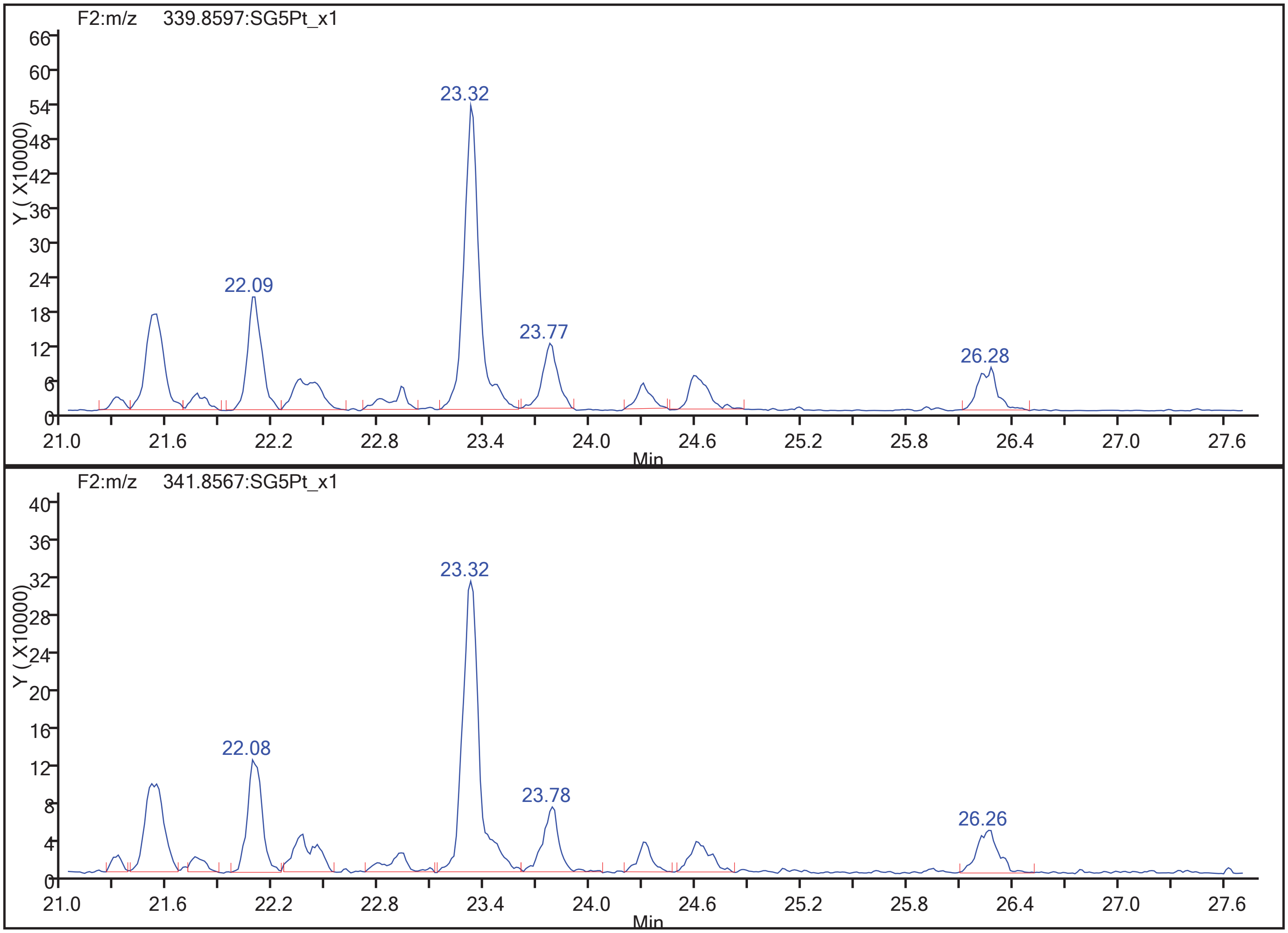

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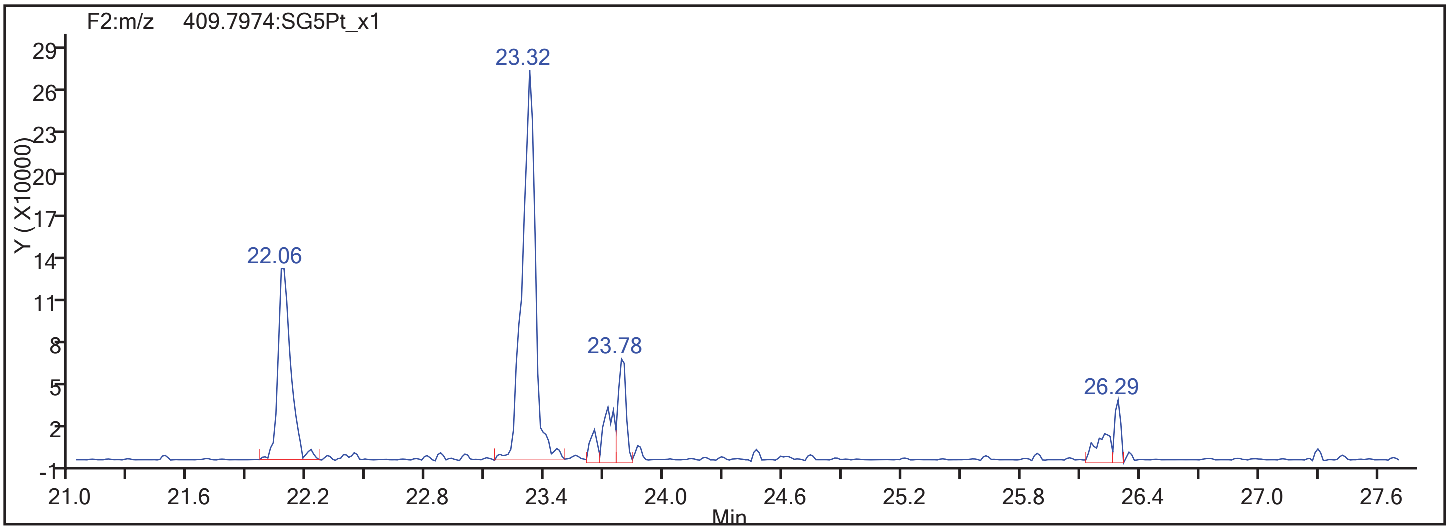

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TestAmerica Sacramento

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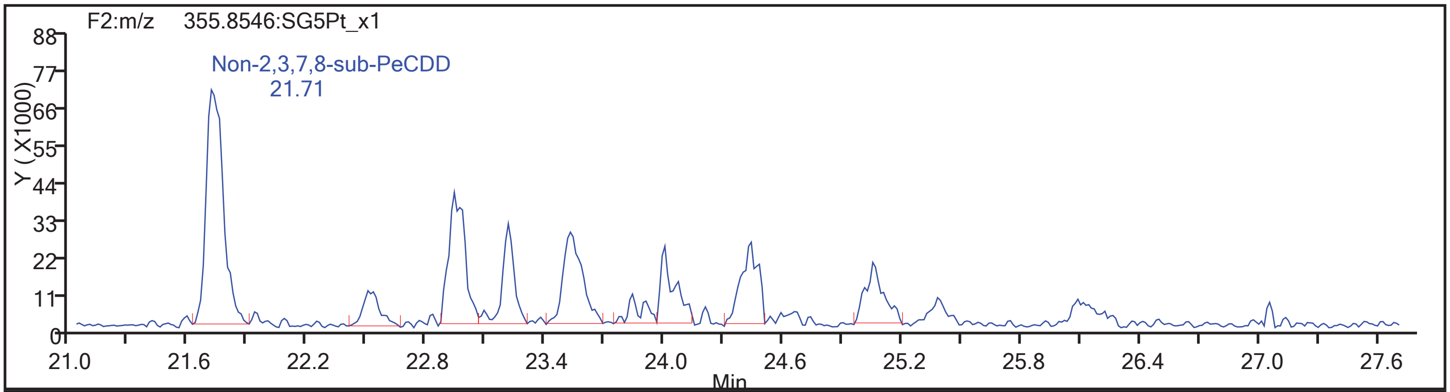

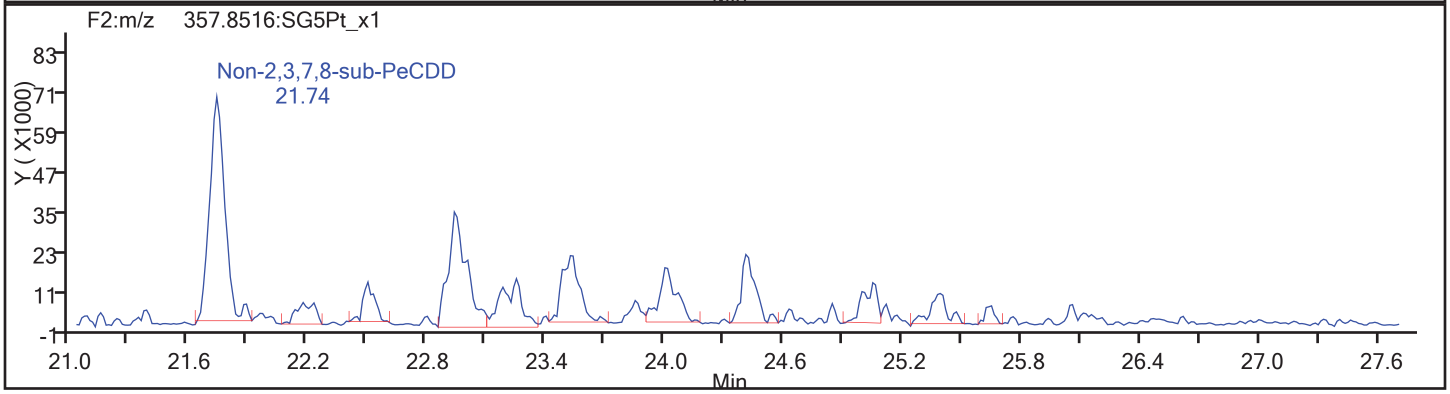

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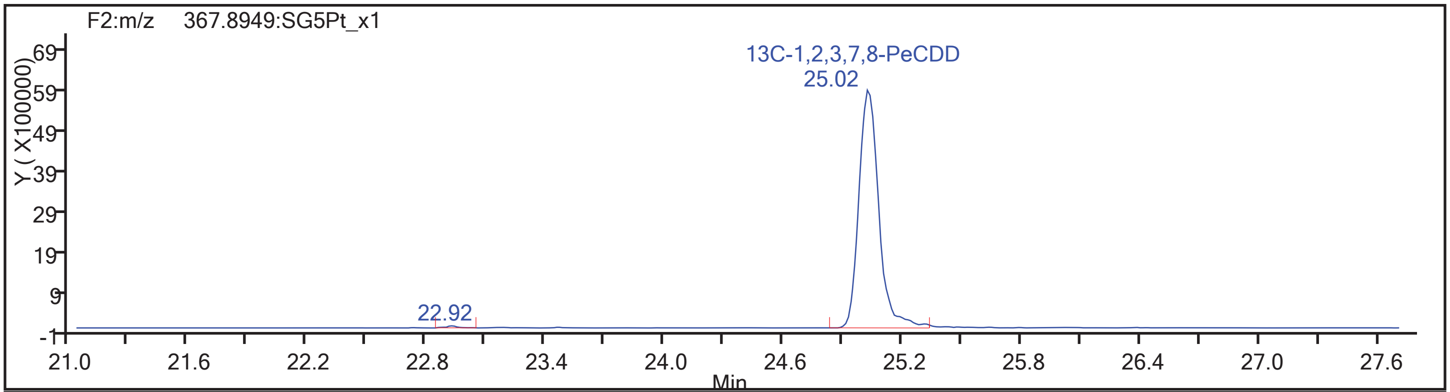

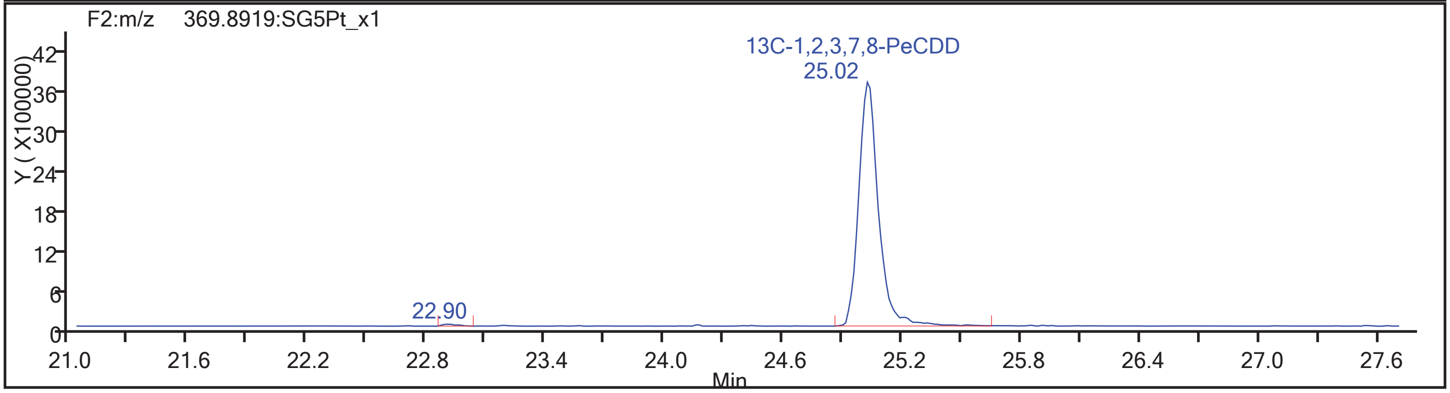

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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 04:51:36 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

Worklist#: 195574 Sample Line#: 73

Column Type: Column Dia:

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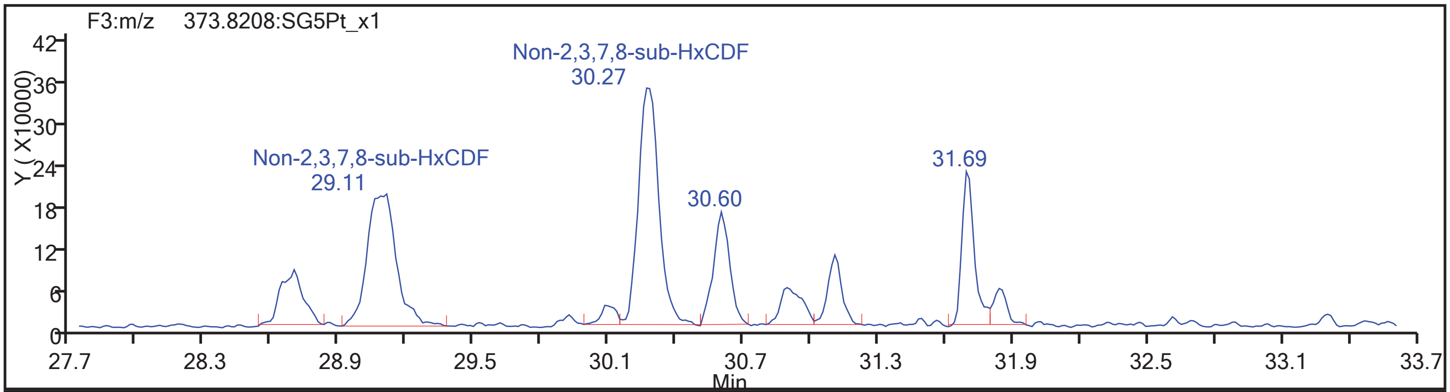
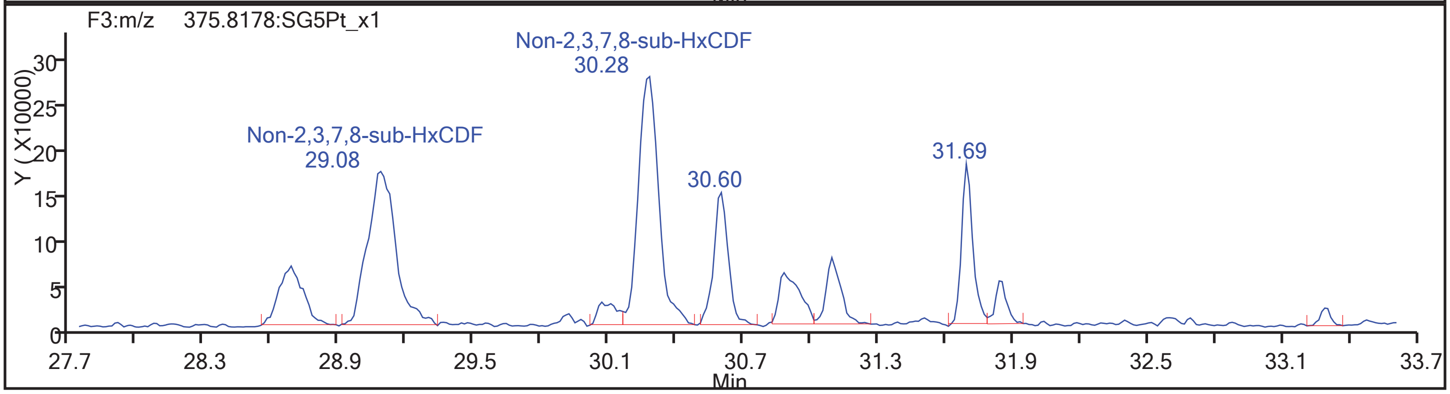
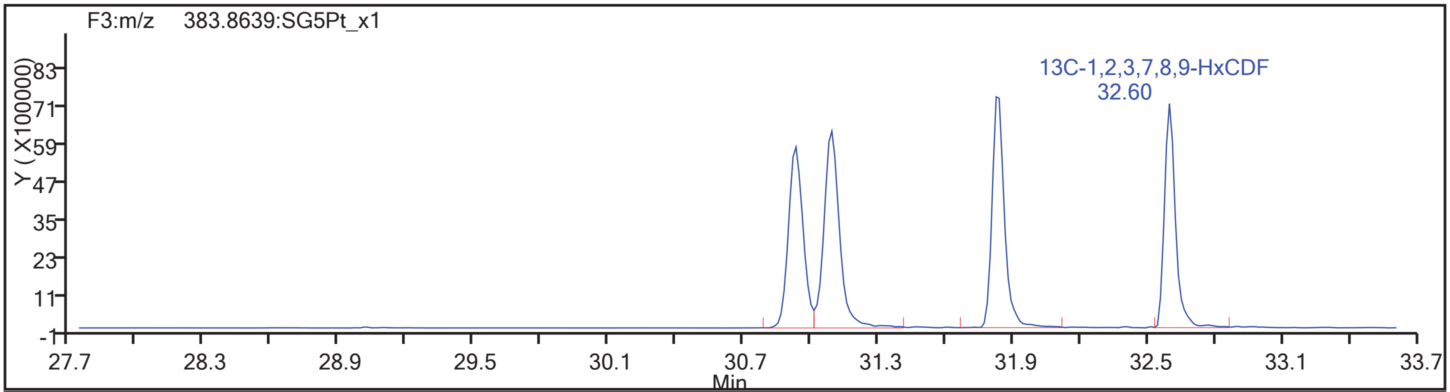
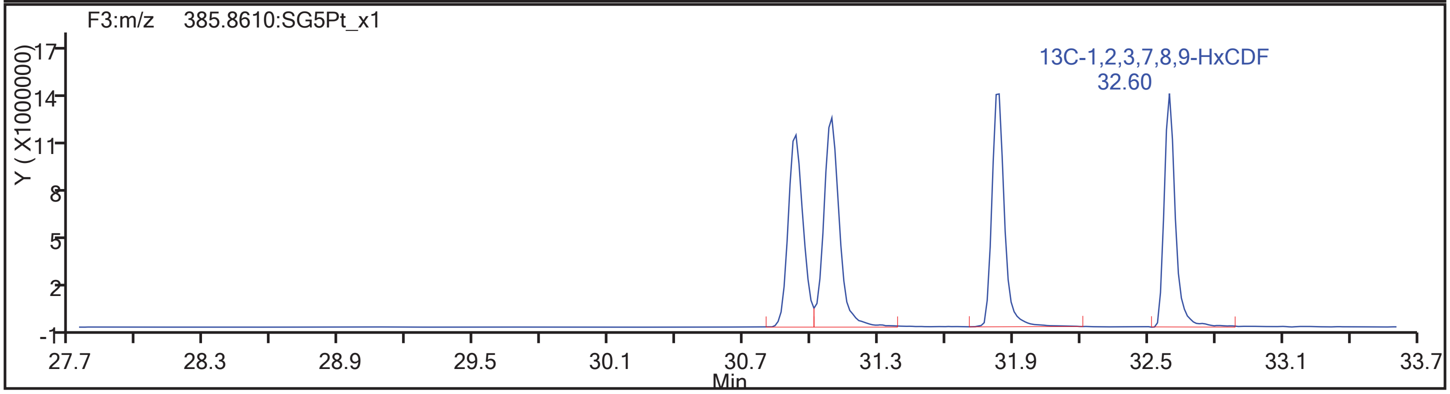




HxCDF Standards





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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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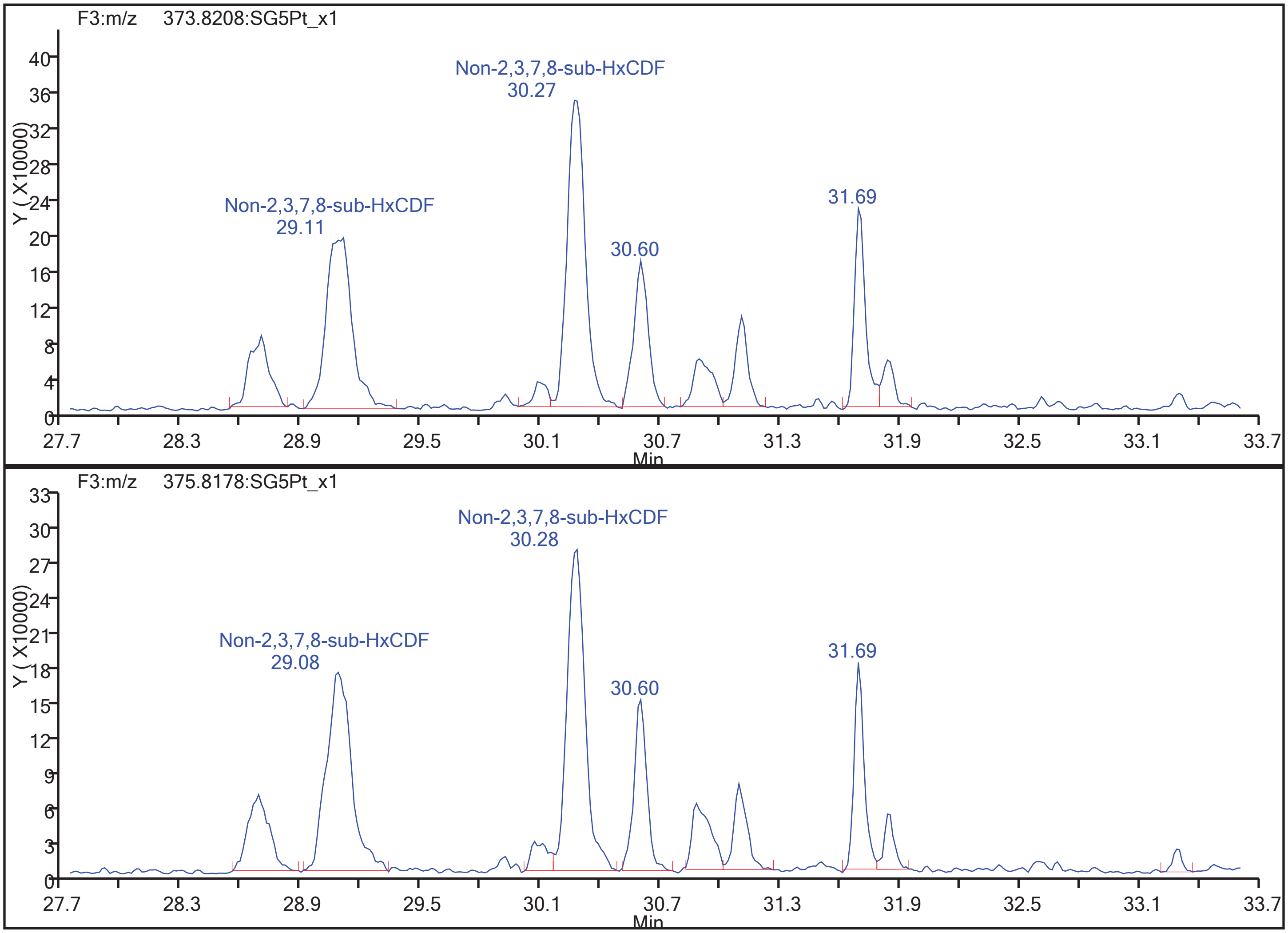
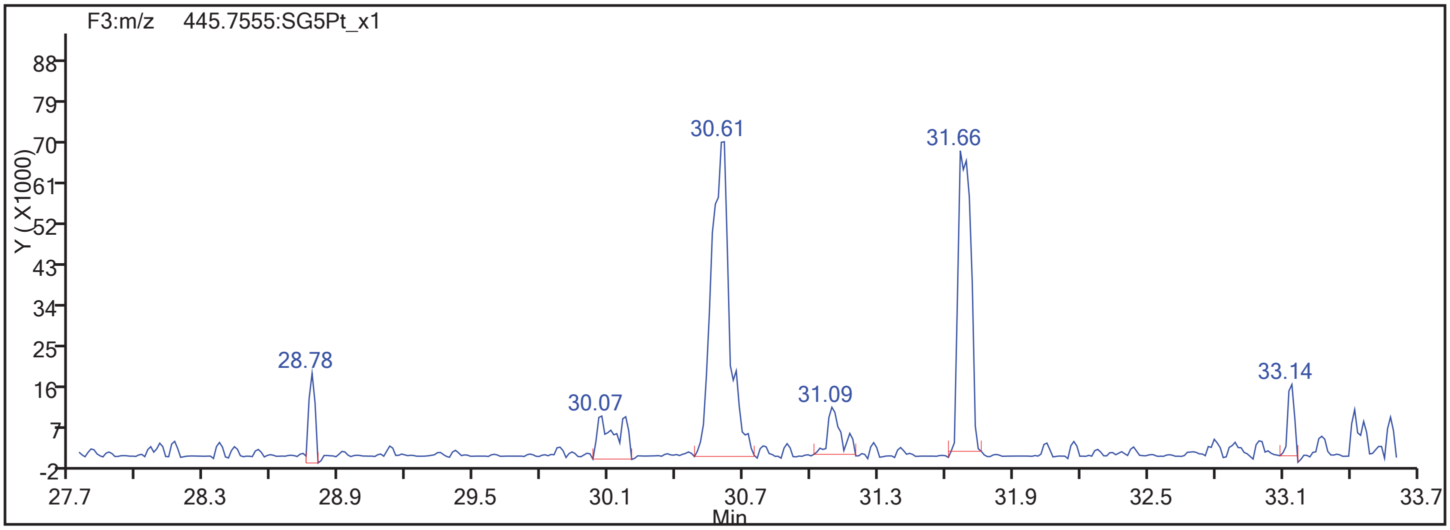


HxCDF Interference Mass



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TestAmerica Sacramento

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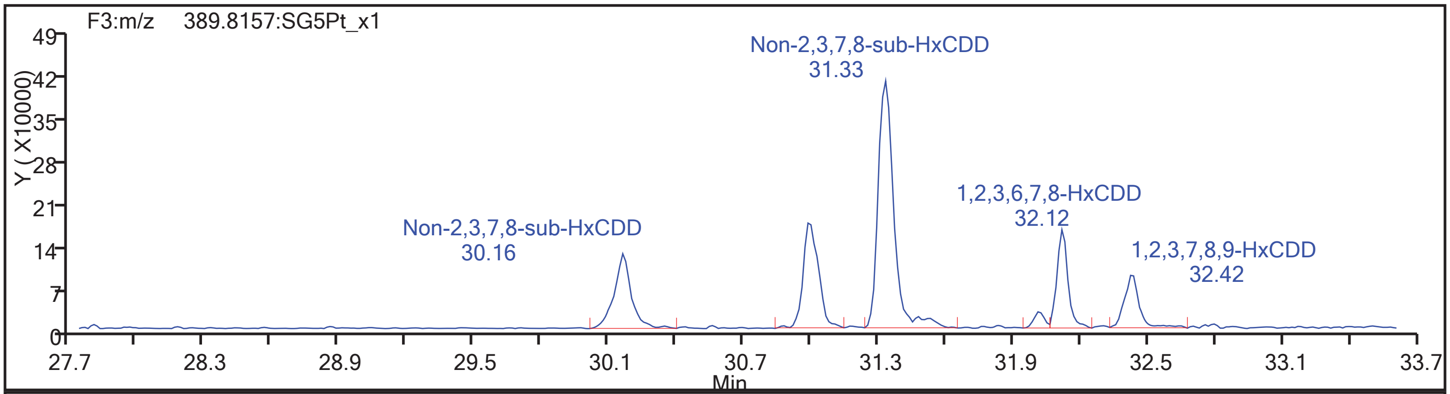
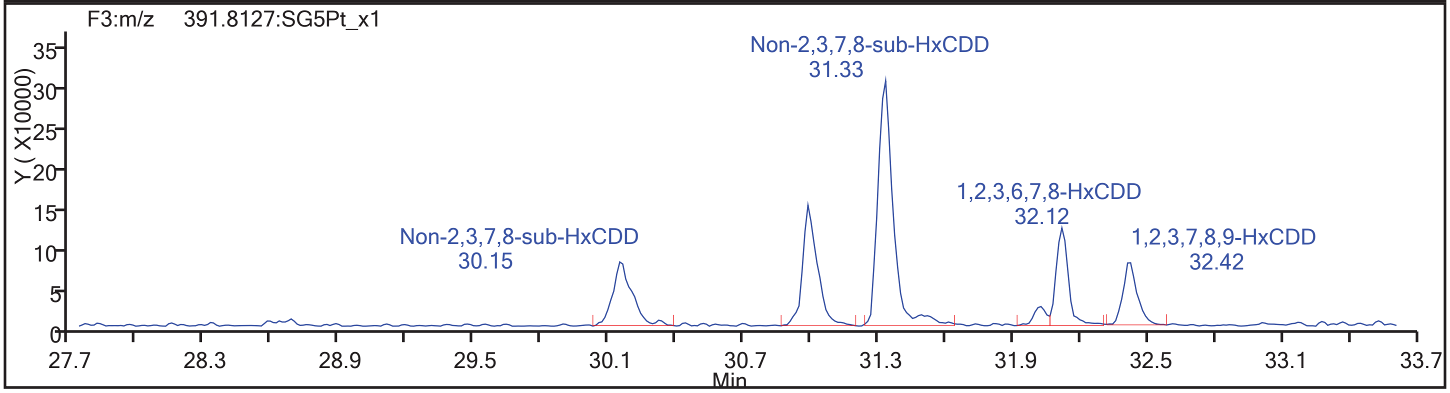
HxCDD





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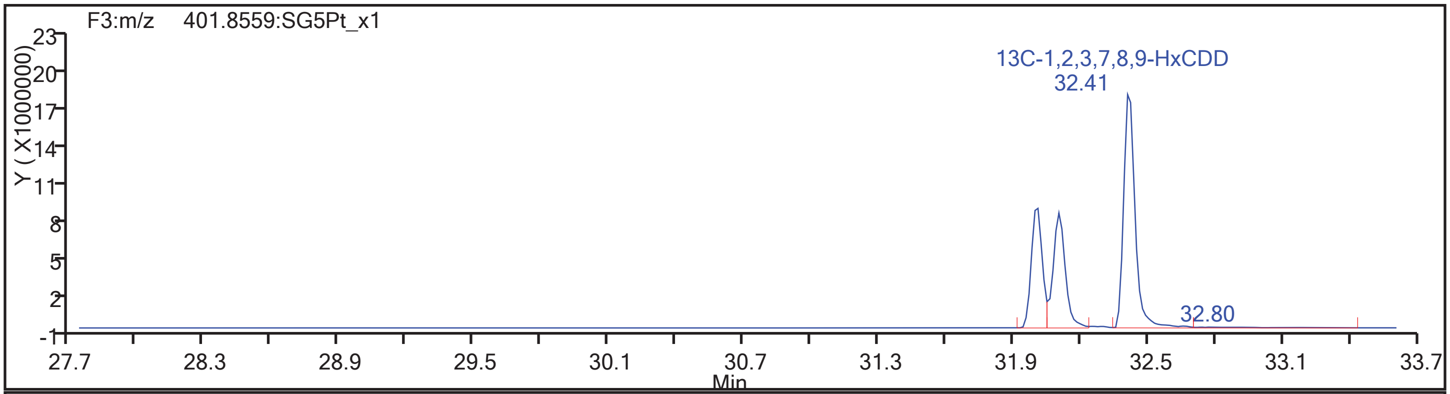

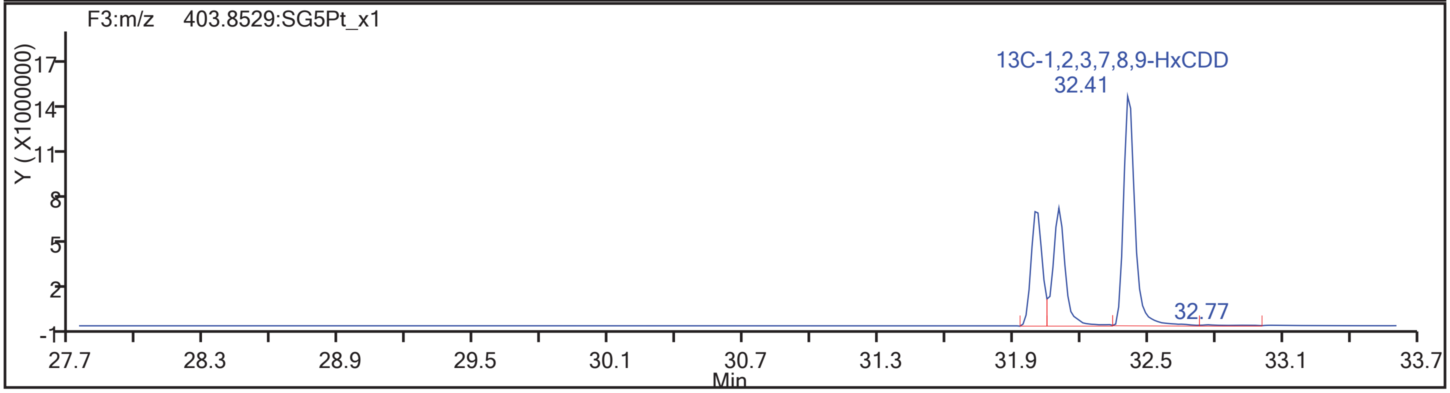

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TestAmerica Sacramento

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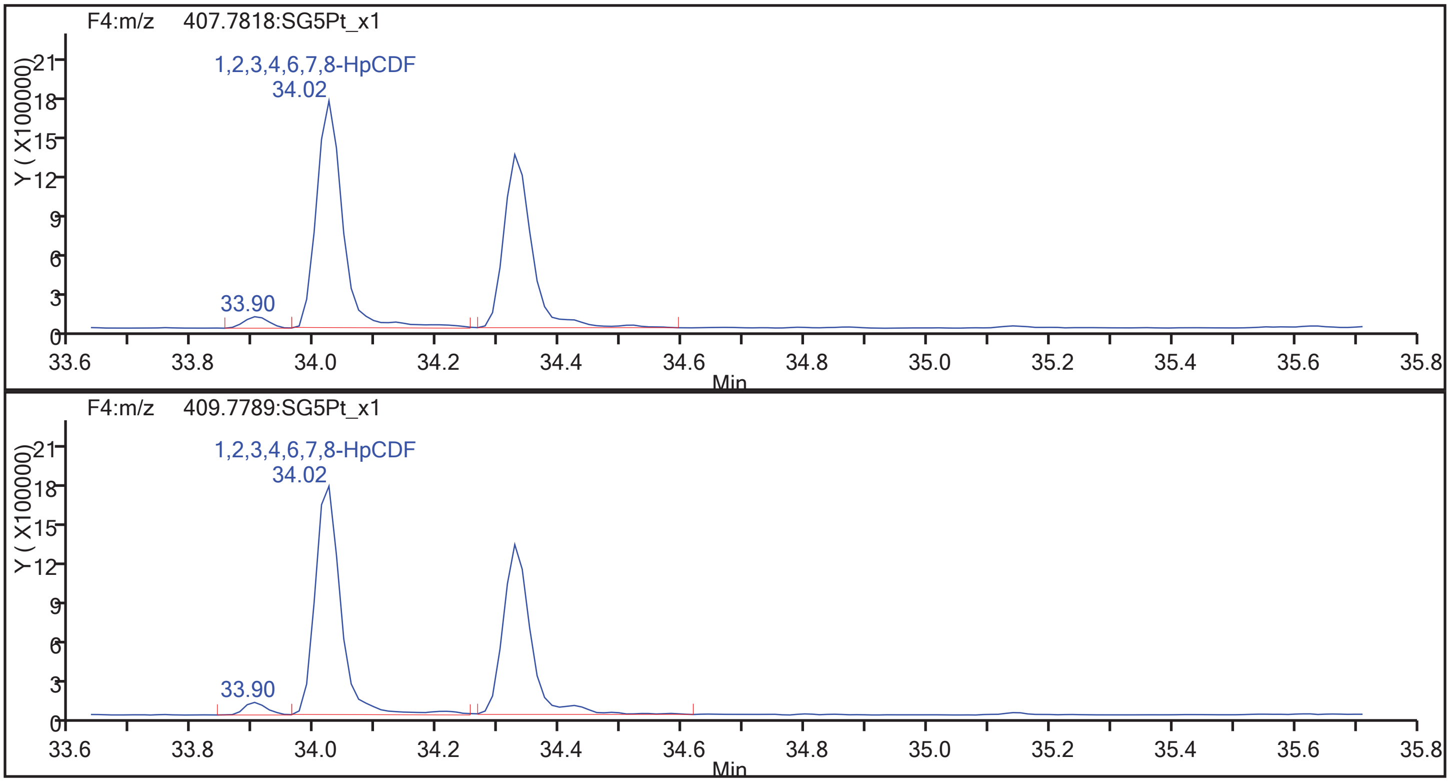

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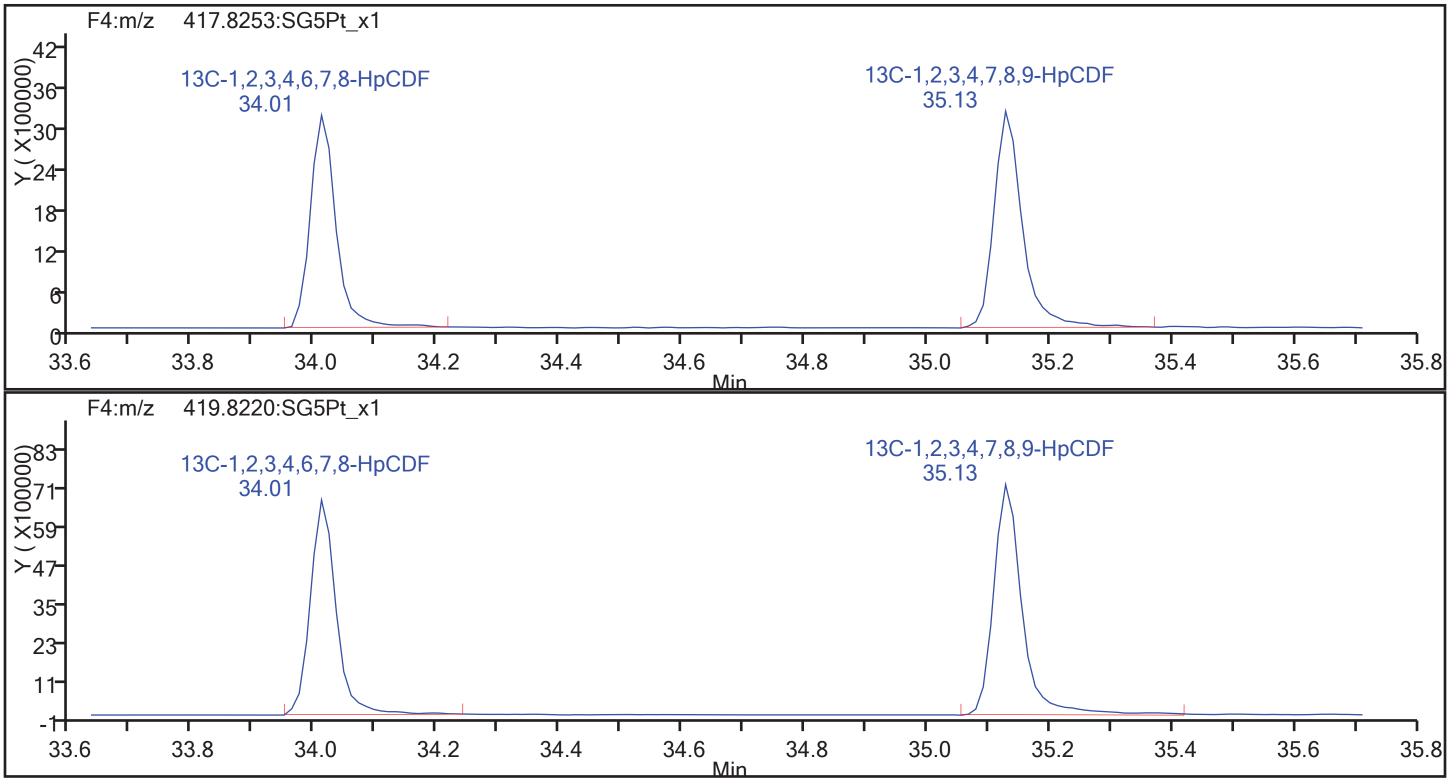

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TestAmerica Sacramento

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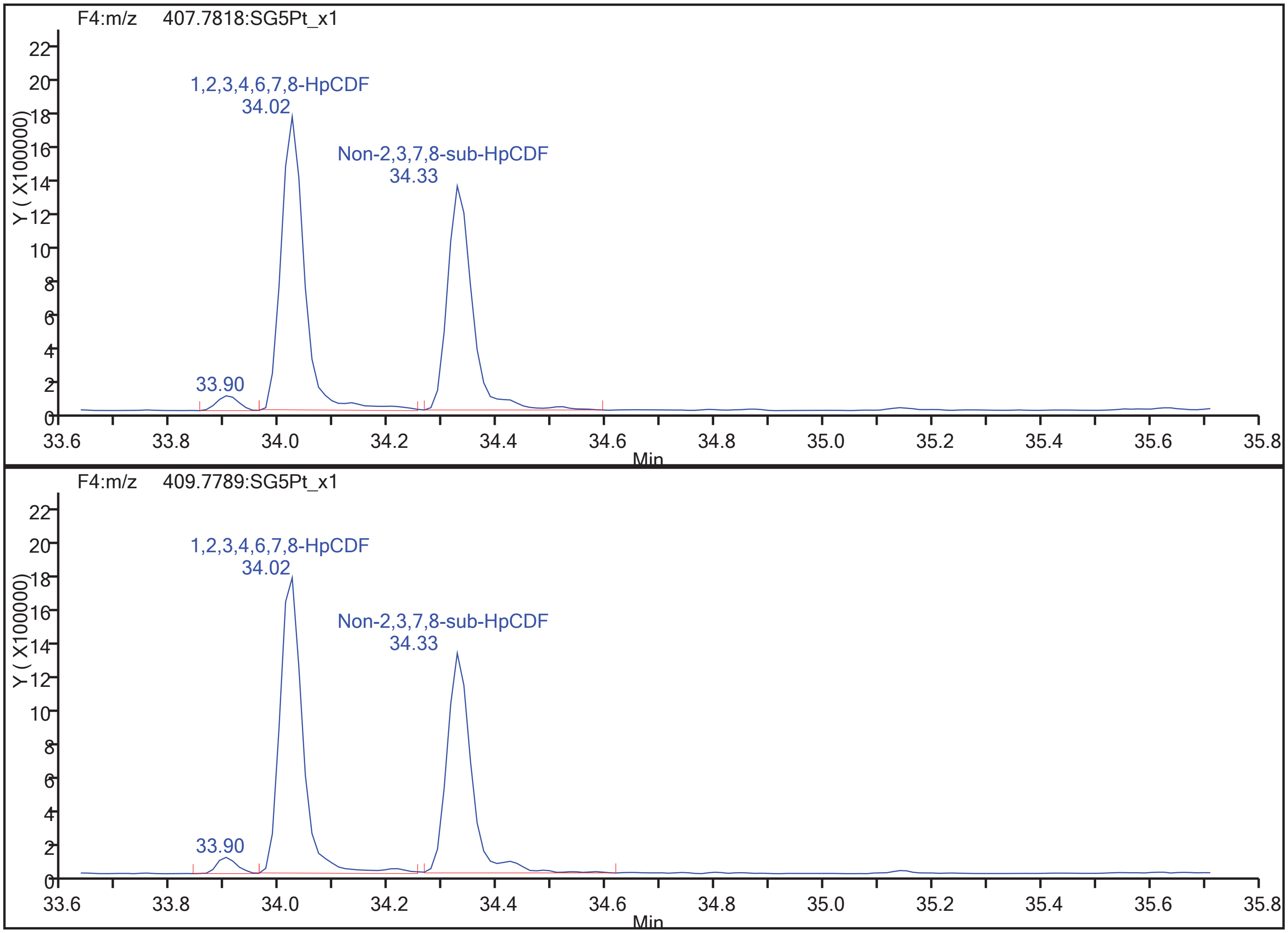
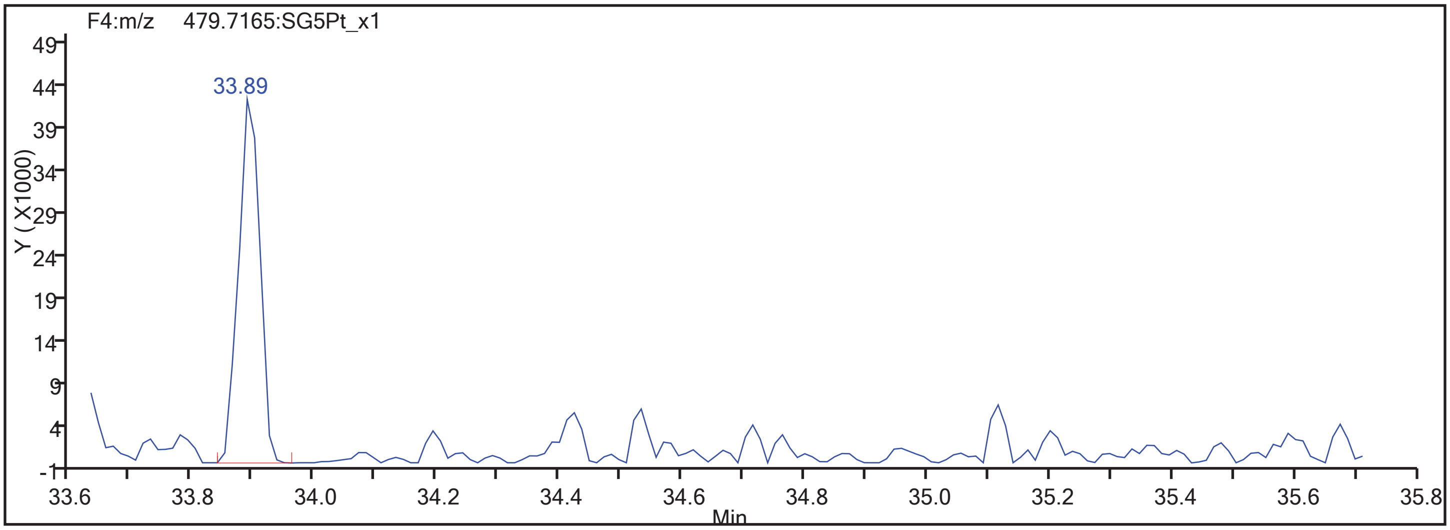
HpCDF



HpCDF Interference Mass



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TestAmerica Sacramento

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Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

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Worklist#: 195574 Sample Line#: 73

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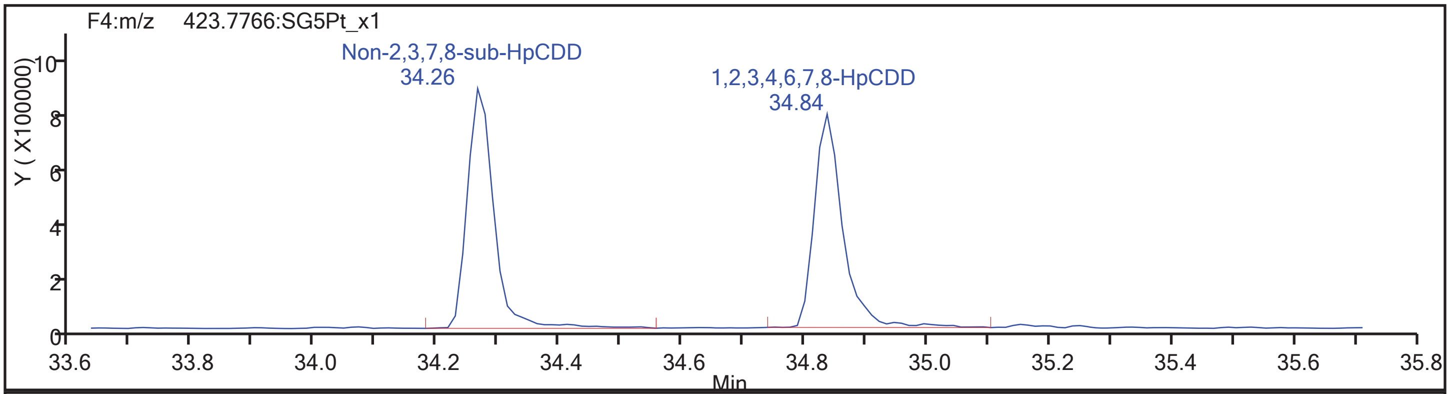

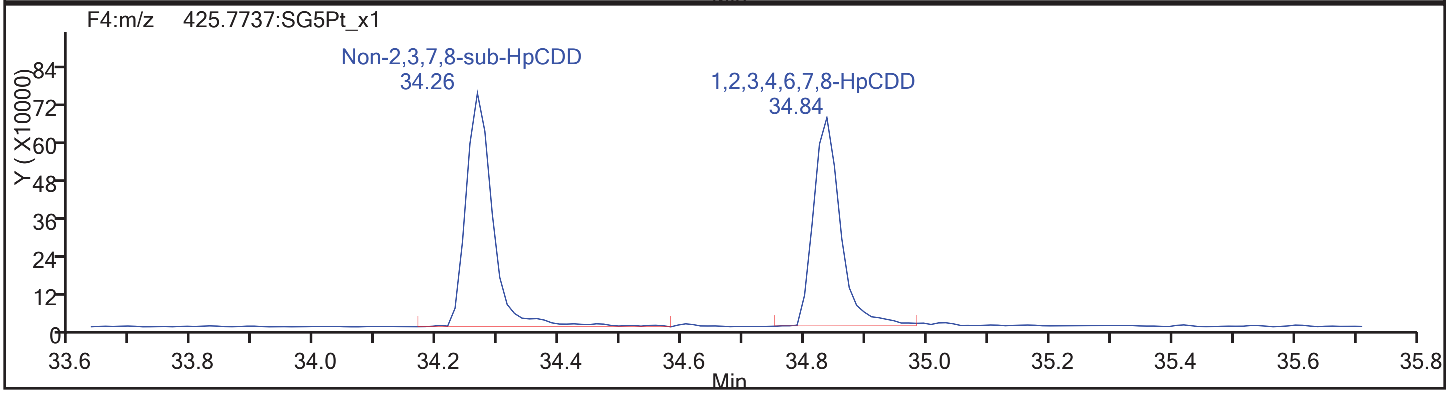

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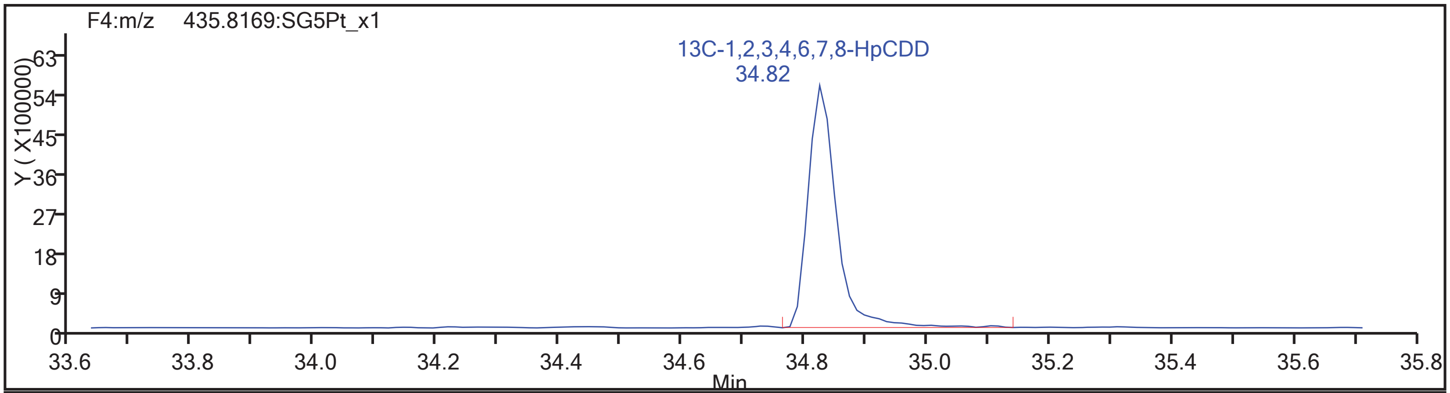

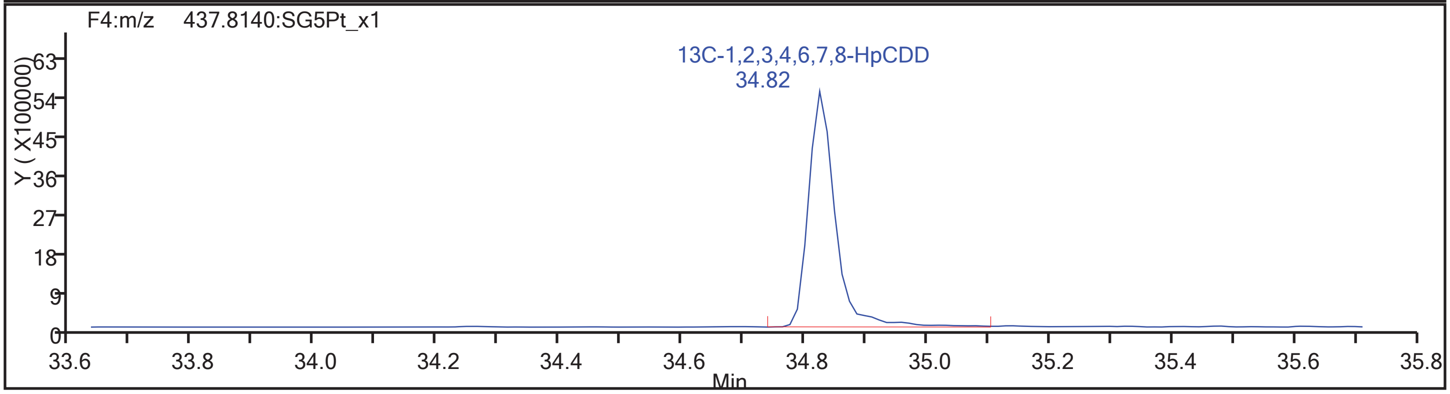

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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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Column Type:		Column Dia:	

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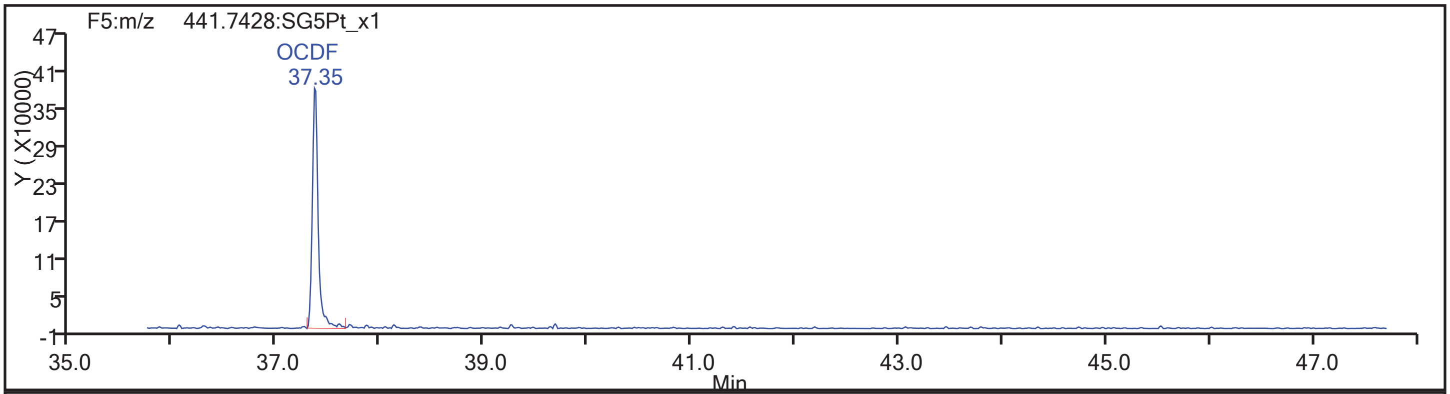

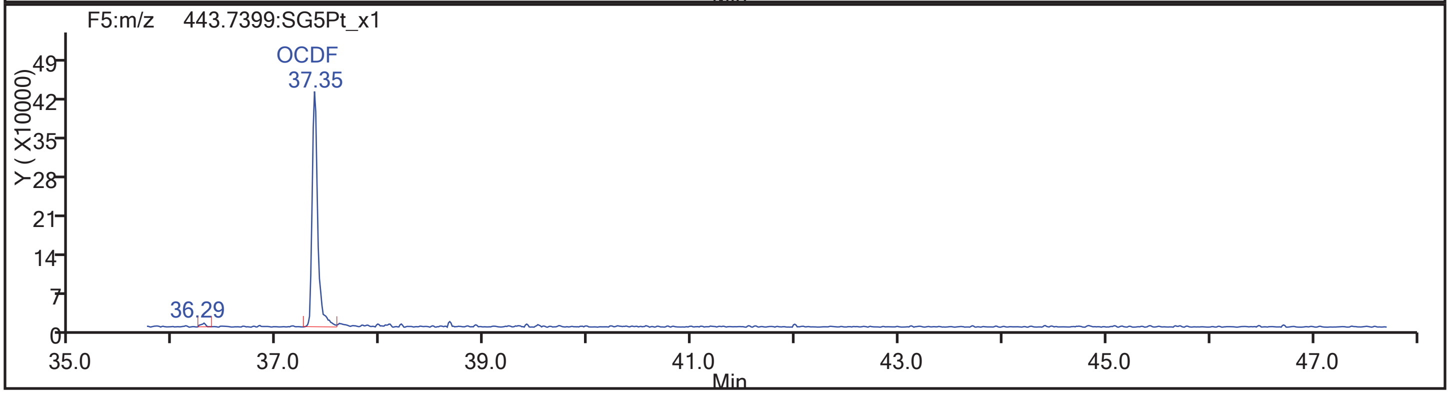

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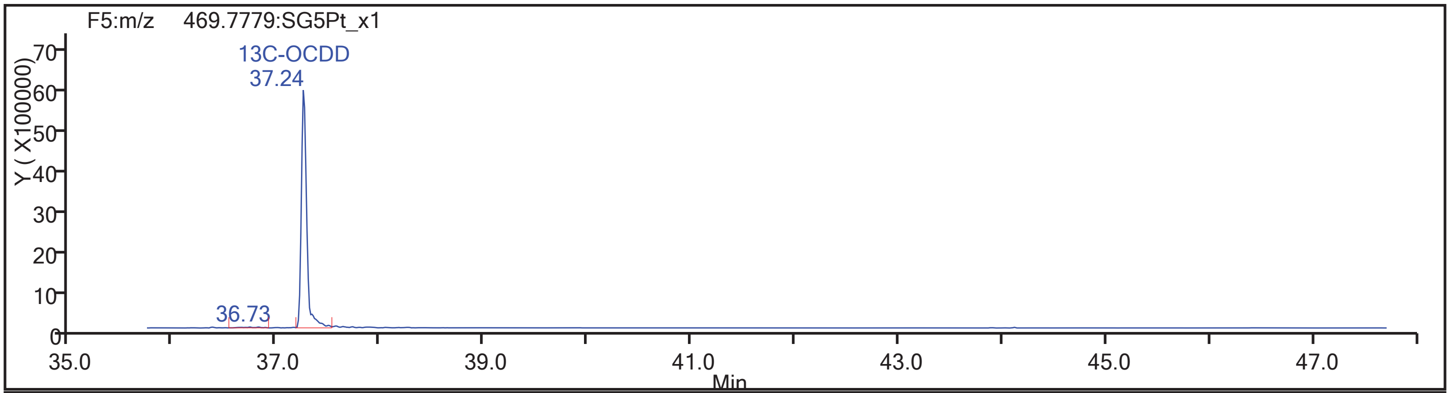

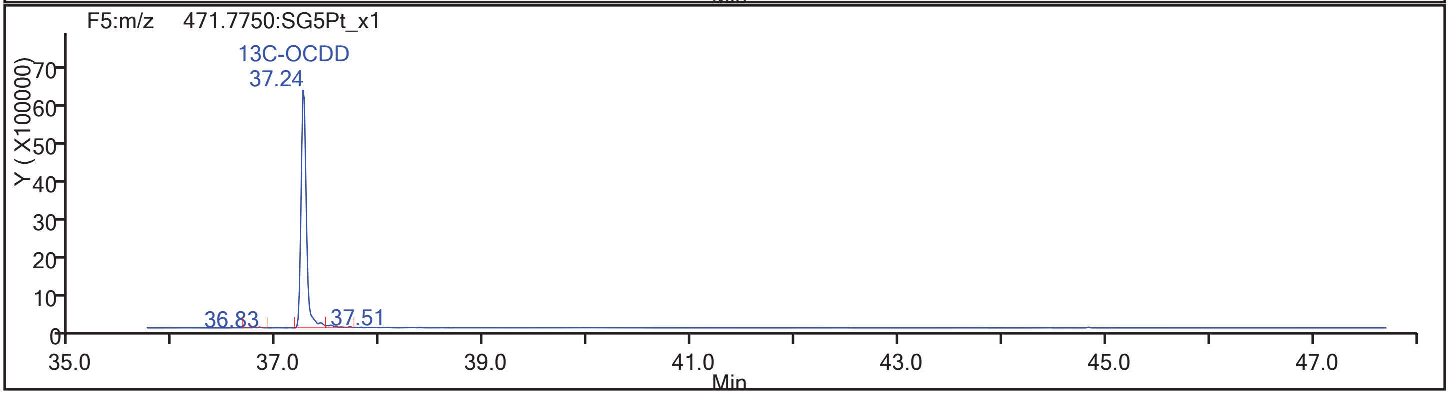

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Injection Vol: 2.0 ul

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Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

Worklist#: 195574

Sample Line#: 73

Column Type:

Column Dia:

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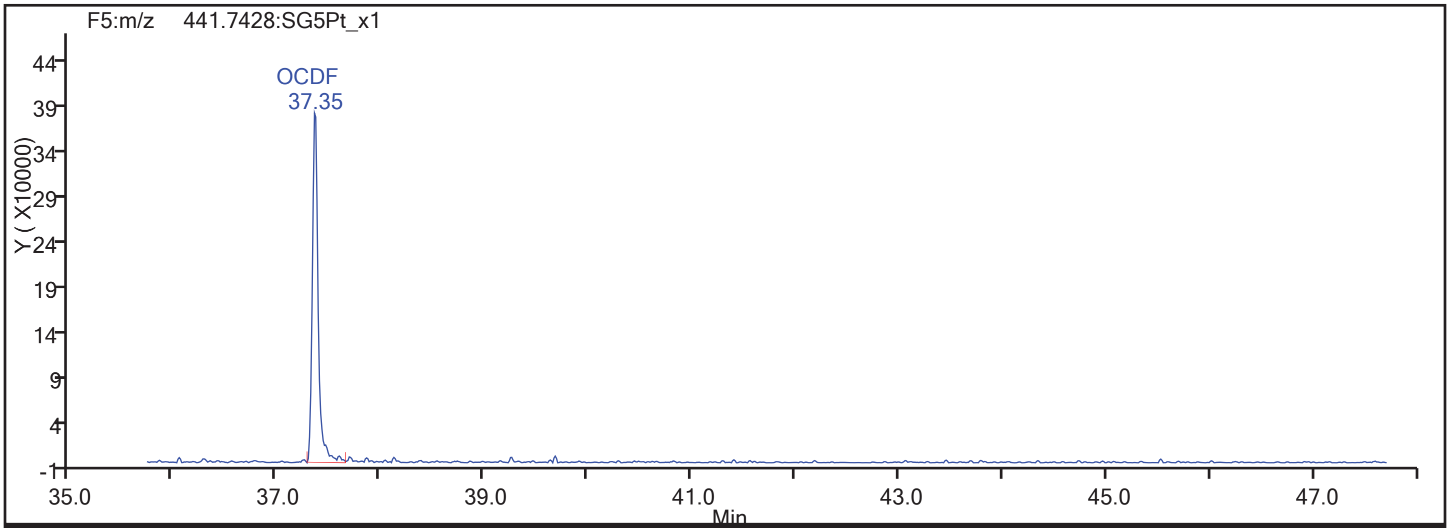
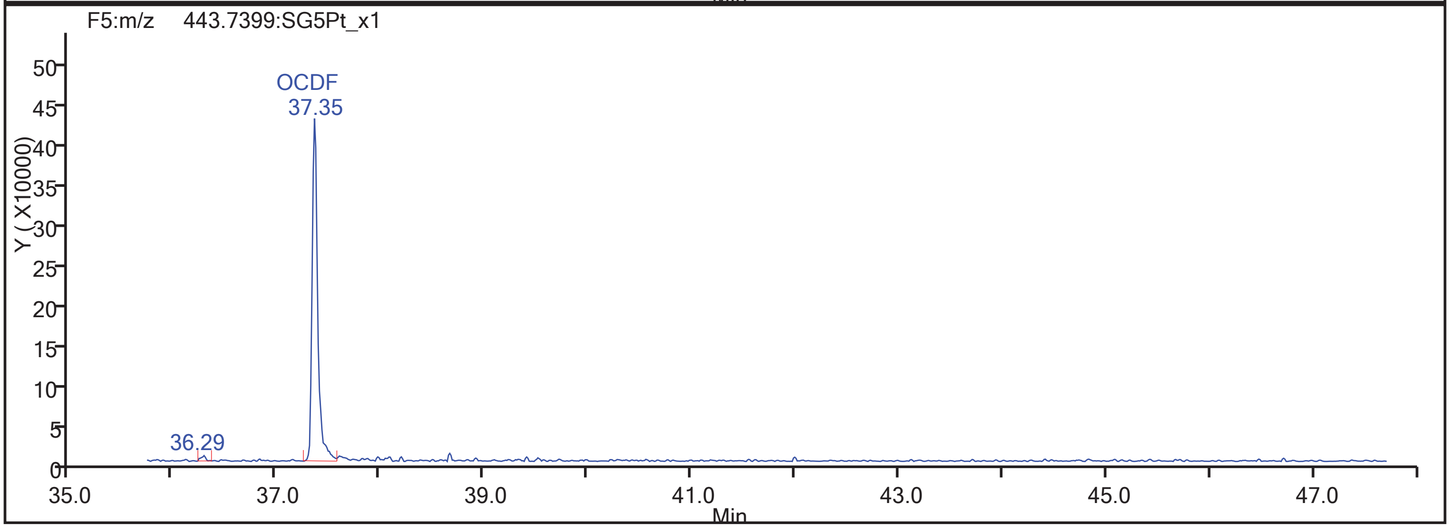
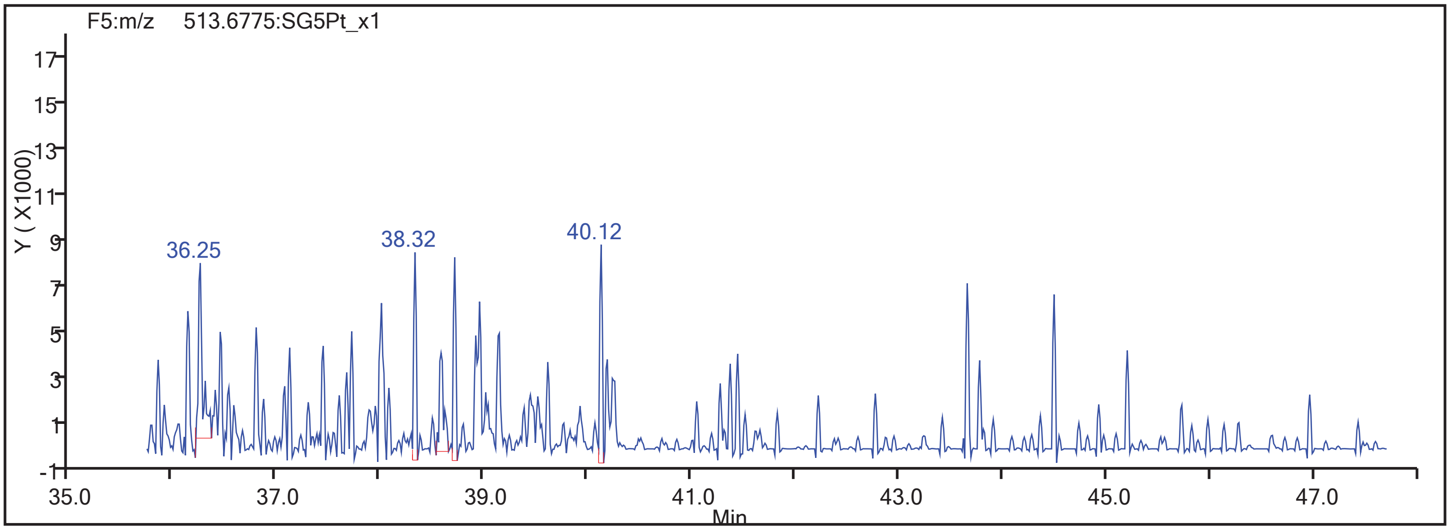




OCDF Interference Mass



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TestAmerica Sacramento

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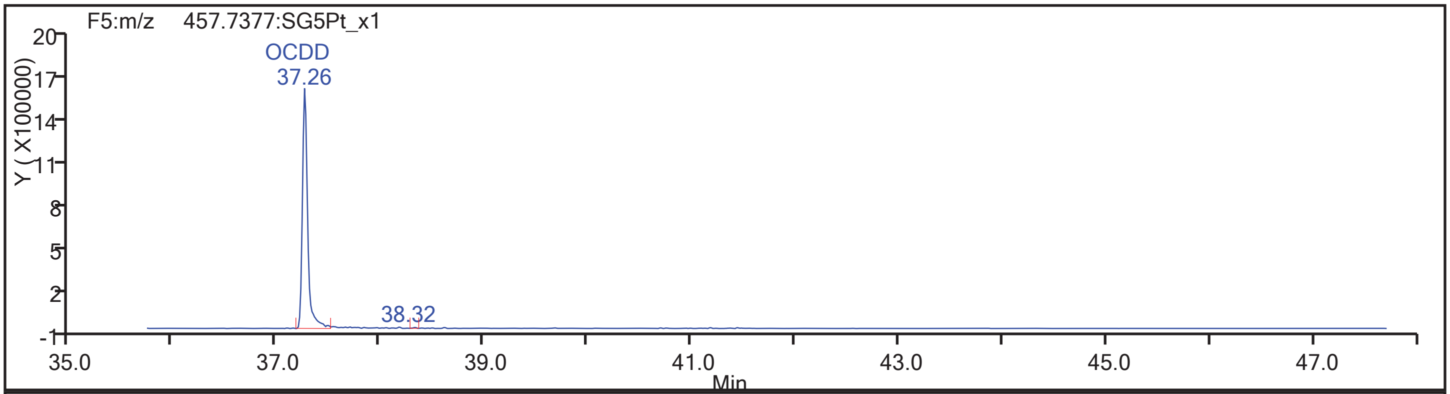

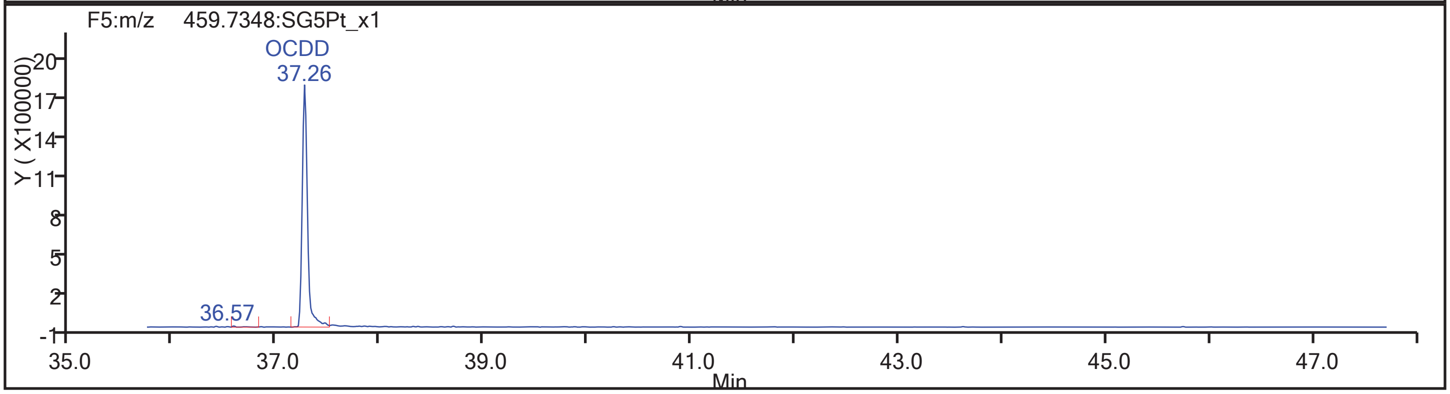

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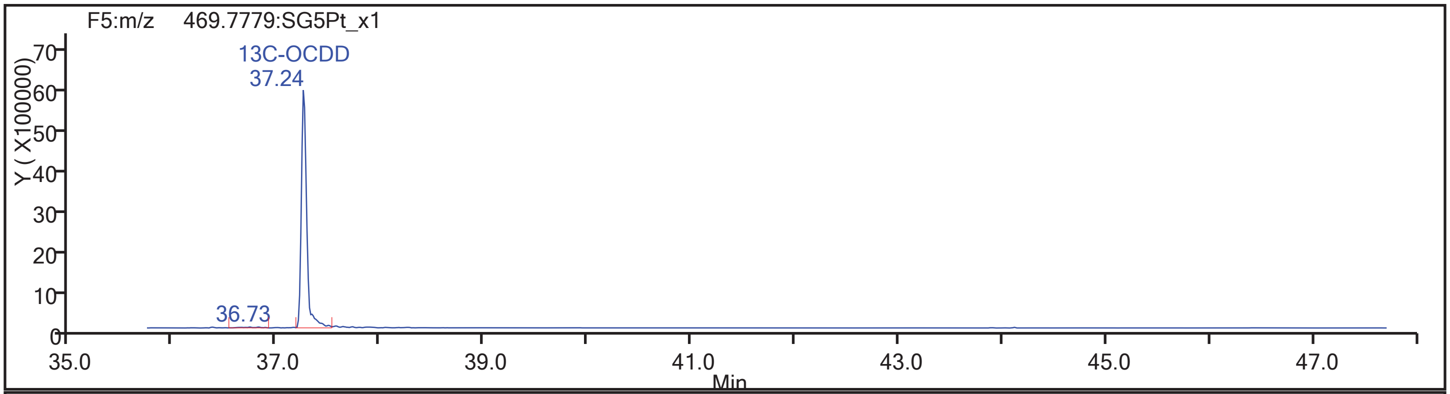

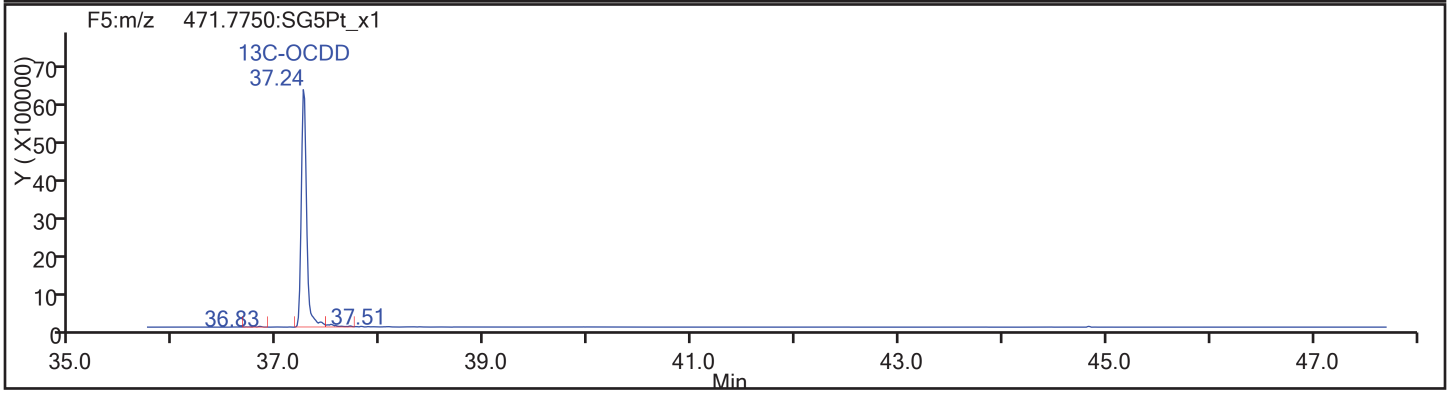

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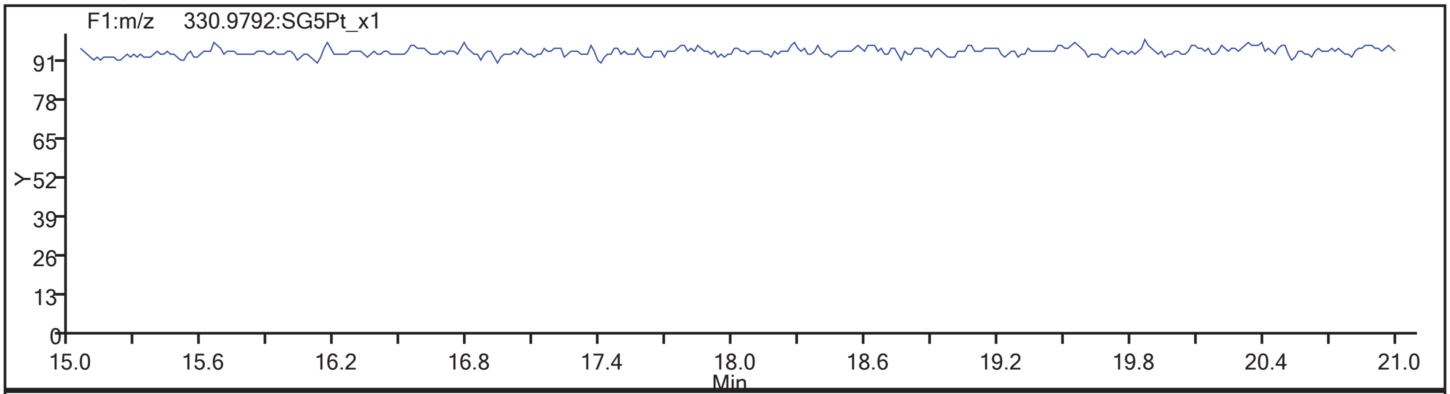

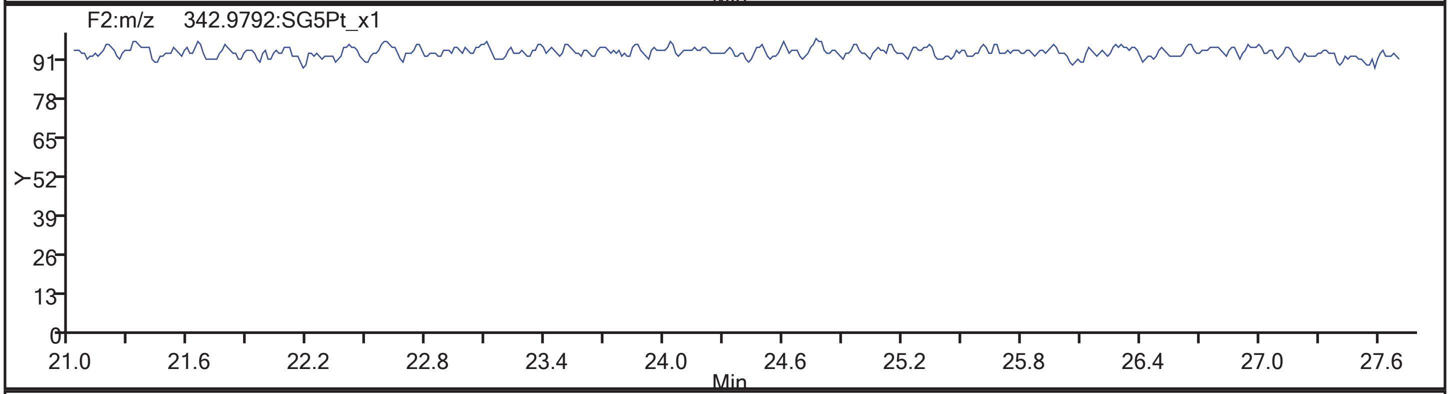

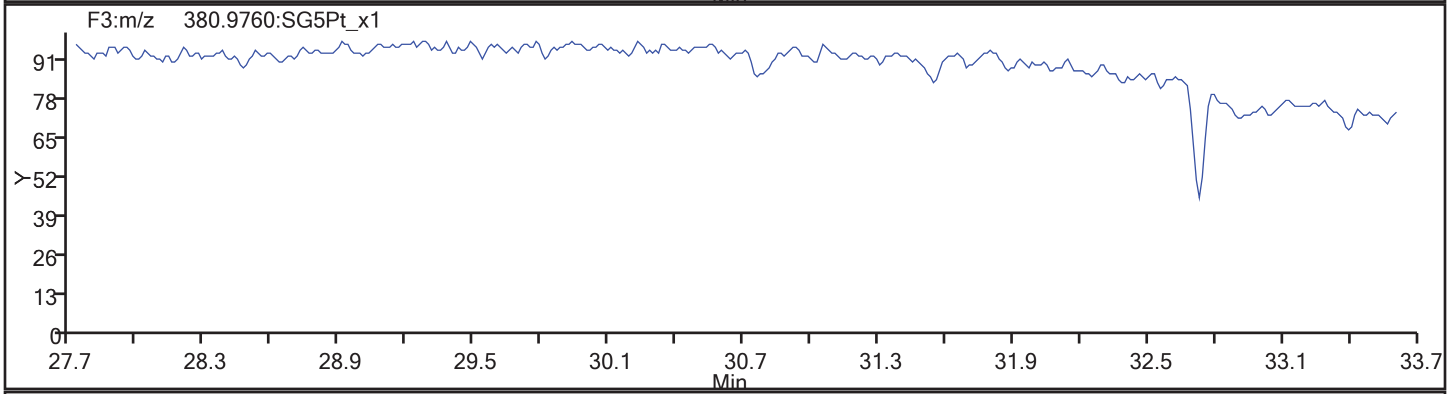

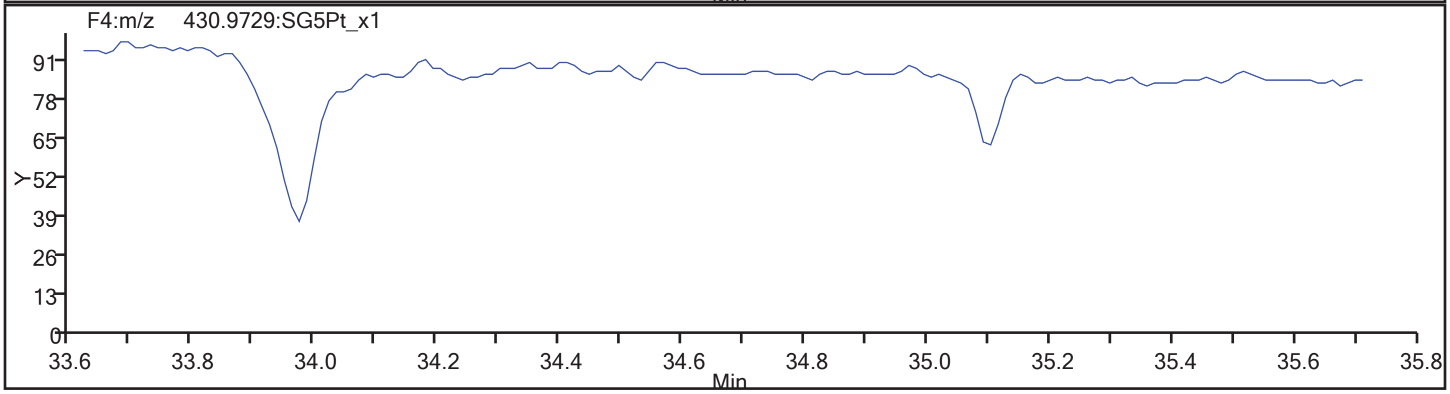

TestAmerica Sacramento

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Injection Date: 19-Nov-2017 04:51:36

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

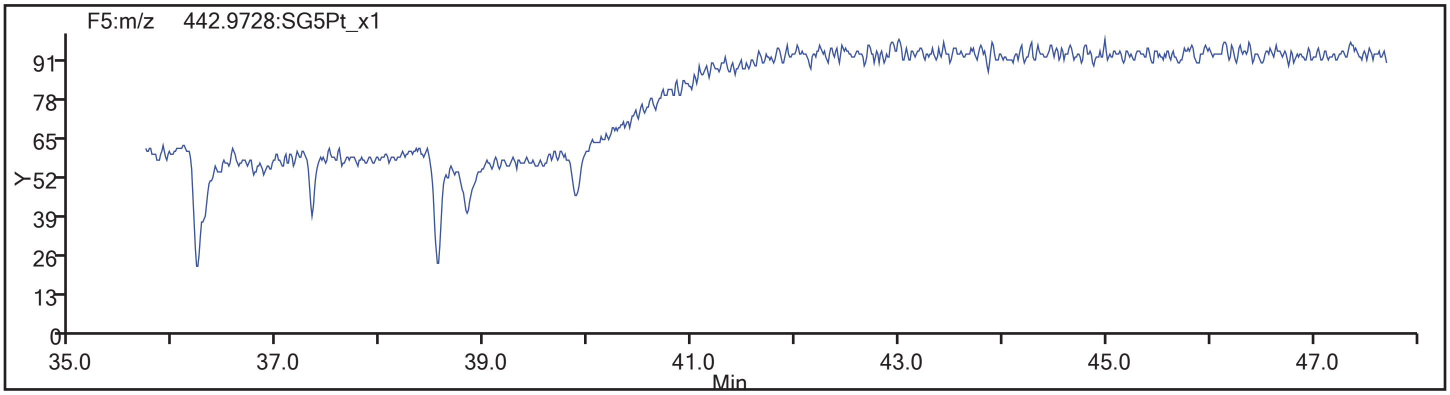
Client ID: SHAD041DP022SS03NS

Worklist#: 195574

Sample Line#: 73

Column Type:

Column Dia:



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

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Matrix: Solid	Lab File ID: 05DE179D2_008.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:59
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.08(g)	Date Analyzed: 12/05/2017 15:58
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 2.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 198469	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	*2,3,7,8-TCDF*	*0.43*	*J M H*	*1.0*	0.40	*0.38*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	62		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_008.d
Lims ID: 160-24924-G-9-D
Client ID: SHAD041DP022SS03NS
Sample Type: Client
Inject. Date: 05-Dec-2017 15:58:55   ALS Bottle#: 0   Worklist Smp#: 8
Injection Vol: 2.0 ul   Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-D
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 10:58:08   Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution   Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm)   Det: F1:HRSIR
Process Host: XAWRK017

First Level Reviewer: messecara   Date: 05-Dec-2017 23:34:48

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.965	112924064	0.75	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.104	88798993	0.77	1.2599	62.4	62.4	0.3321	0.3321	62.42	
2,3,7,8-TCDF	16.131	201062	0.00	1.0784	0.2100	0.2100	0.1866	0.1866		M
D 13C-2,3,7,8-TCDD	14.719	69005073	0.76	0.9567	63.9	63.9	0.993	0.993	63.87	
$ 37Cl4-2,3,7,8-TCDD	14.732	44010321		1.1208	34.8	34.8	0.0661	0.0661	86.93	
2,3,7,8-TCDD	14.734						0.1078	0.1078		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

QC Flag Legend
Review Flags
M - Manually Integrated

Report Date: 06-Dec-2017 10:58:37 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_008.d
Lims ID: 160-24924-G-9-D
Client ID: SHAD041DP022SS03NS
Sample Type: Client
Inject. Date: 05-Dec-2017 15:58:55 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-D
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 10:58:08 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK017

First Level Reviewer: messecara Date: 05-Dec-2017 23:34:48

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.965	14.967	0		48512605	9865849	59789	149472	165		
333.9339	14.965	14.967	0		64411459	13254547	28069	70172	472	0.75(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.104	16.106	0	1.076	38760305	7666004	20829	52072	368		
317.9389	16.104	16.106	0	1.076	50038688	9967381	17863	44657	558	0.77(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.131	16.119	1	1.002	201062	37042	7894	19735	5		M
305.8987	16.119	16.119	0	0.000			6301	15752		0.00(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.719	14.706	1	0.984	29691324	6283306	59789	149472	105		
333.9339	14.705	14.706	0	0.983	39313749	8358180	28069	70172	298	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.732	14.734	0	0.984	44010321	9310589	6852	17130	1359		
2,3,7,8-TCDD											
319.8965	14.734						3983	9957			
321.8936	14.734						3039	7597			
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				7894	19735			
Total Dioxins & Furans											
303.9016		0.0	0				7894	19735			

QC Flag Legend

Review Flags

M - Manually Integrated

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_008.d				
Injection Date:	05-Dec-2017 15:58:55	Instrument ID:	9D2		
Lims ID:	160-24924-G-9-D	Lab Sample ID:	320-24924-9		
Client ID:	SHAD041DP022SS03NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

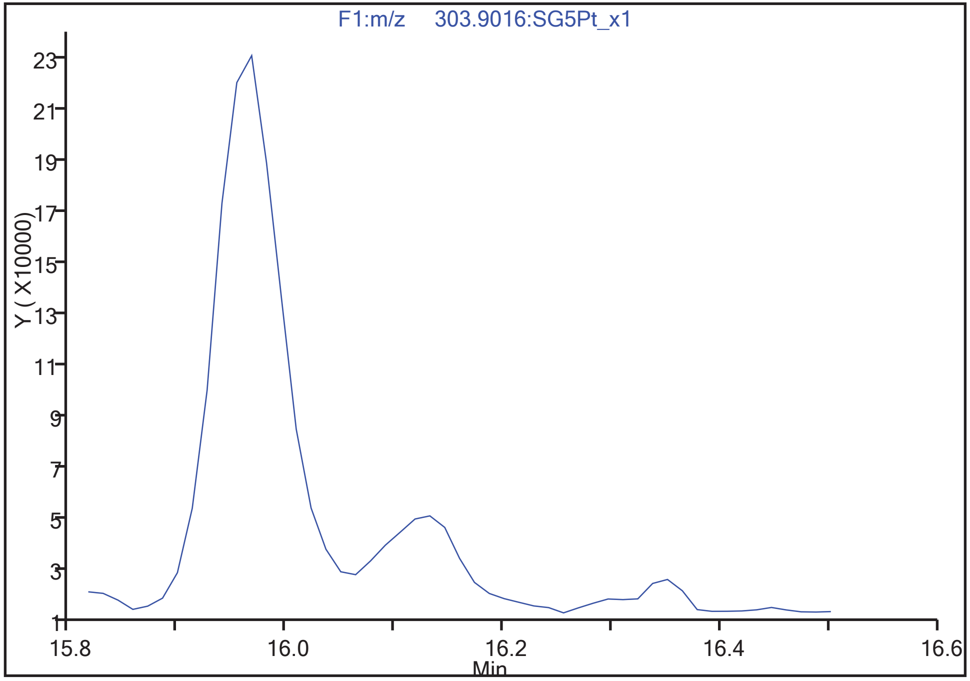
2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

Not Detected

Expected RT: 16.12

Processing Integration Results



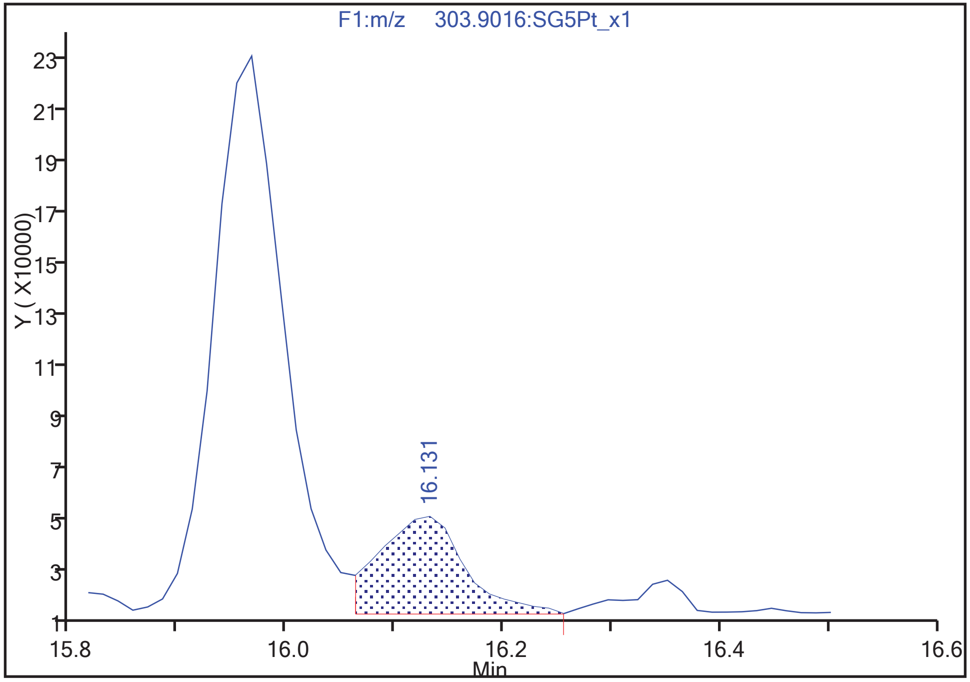
RT: 16.13

Area: 201062

Amount: 0.209955

Amount Units: pg/ul

Manual Integration Results



Reviewer: messecara, 05-Dec-2017 23:33:04

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Report Date: 06-Dec-2017 10:58:37   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_008.d

Injection Date: 05-Dec-2017 15:58:55   Injection Vol: 2.0 ul

Instrument ID: 9D2   Operator ID:

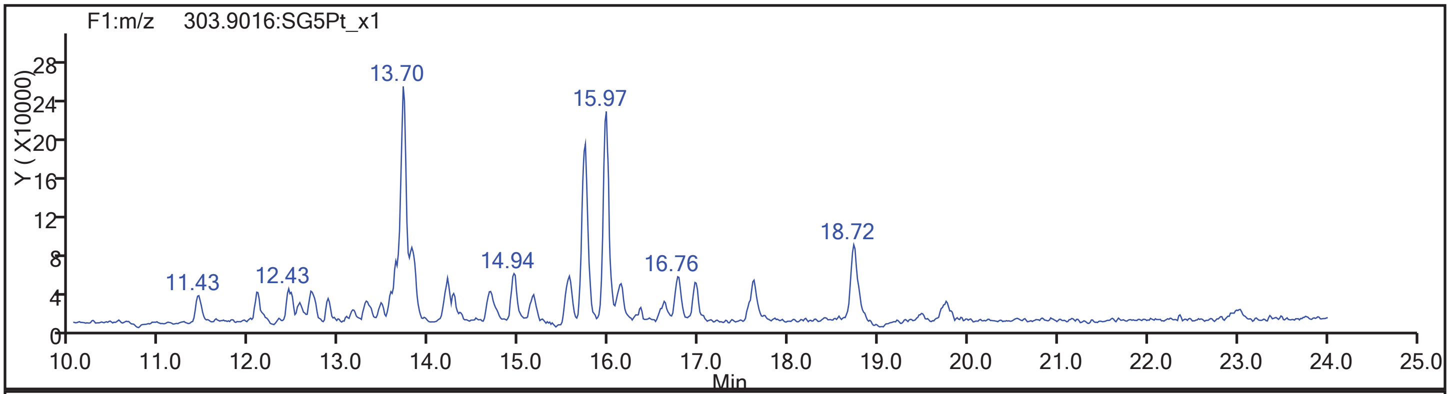
Method: DXN_DB225_9D2   Limit Group: HR - 8290A_D5 - ICAL

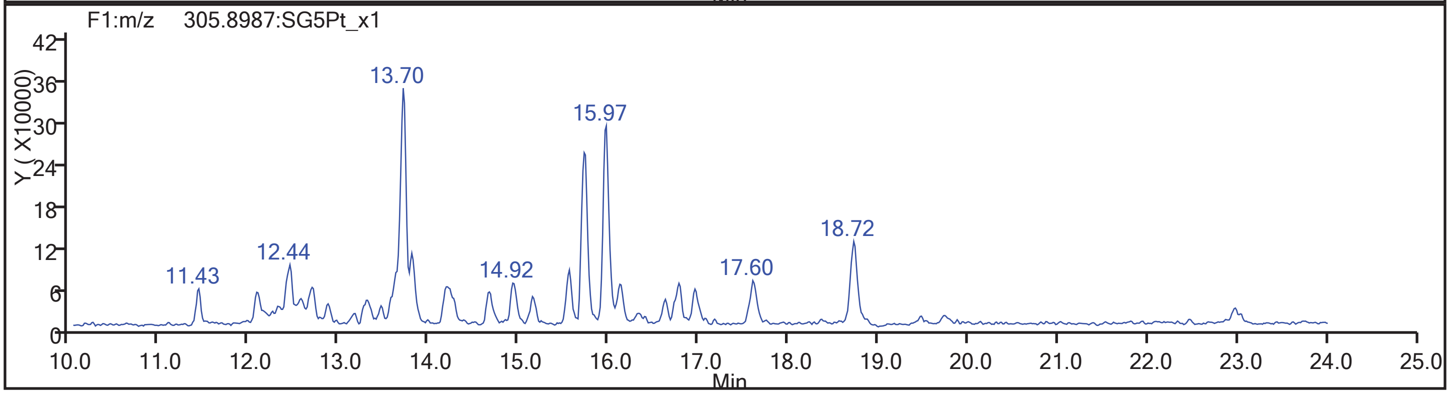
Client ID: SHAD041DP022SS03NS

Worklist#: 198469   Sample Line#: 8

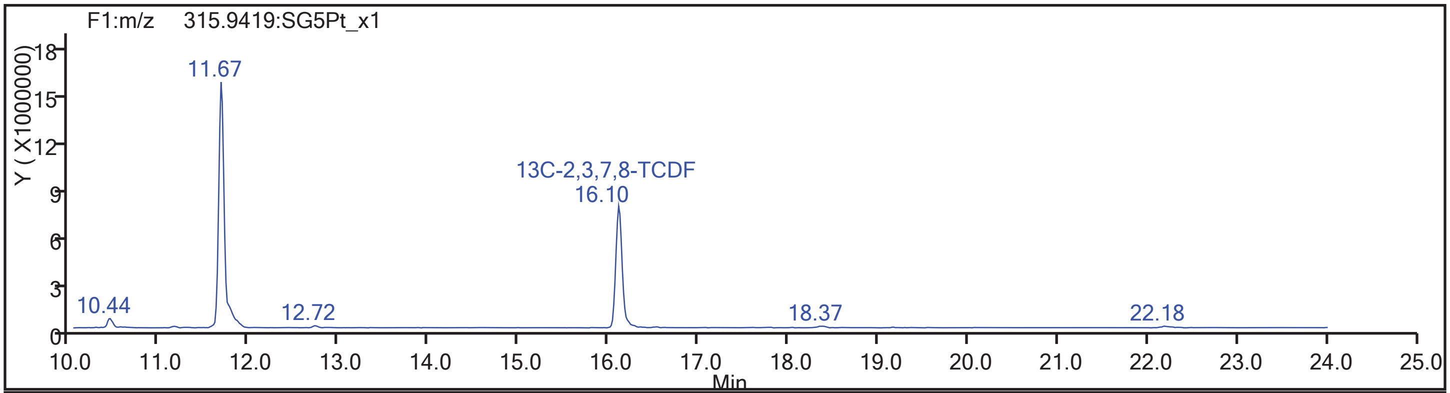
Column Type: DB-225   Column Dia: 0.32 mm

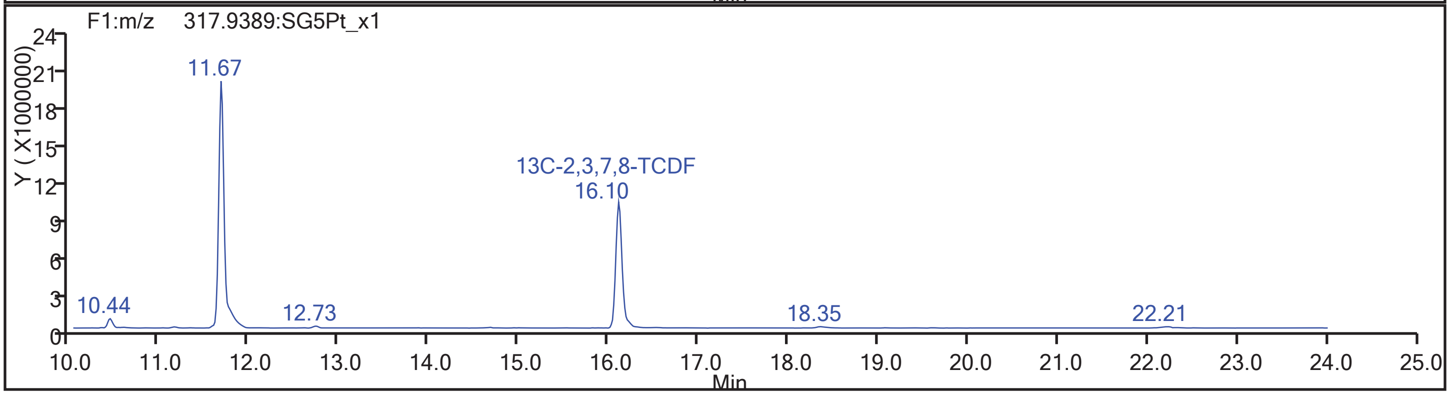
TCDF





TCDF Standards



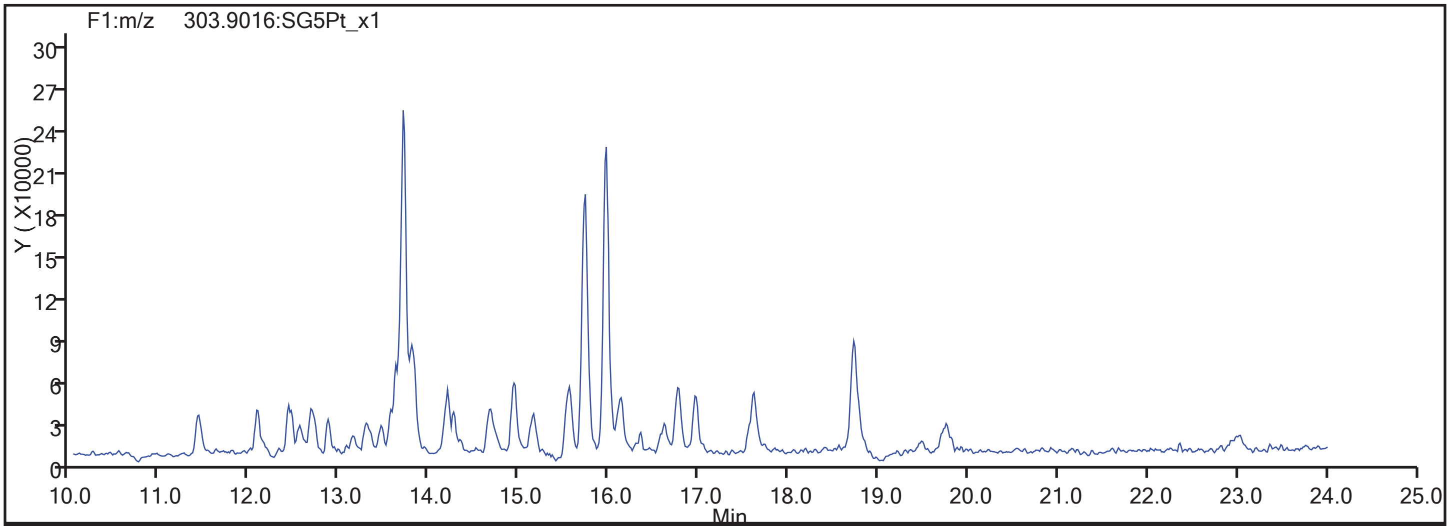


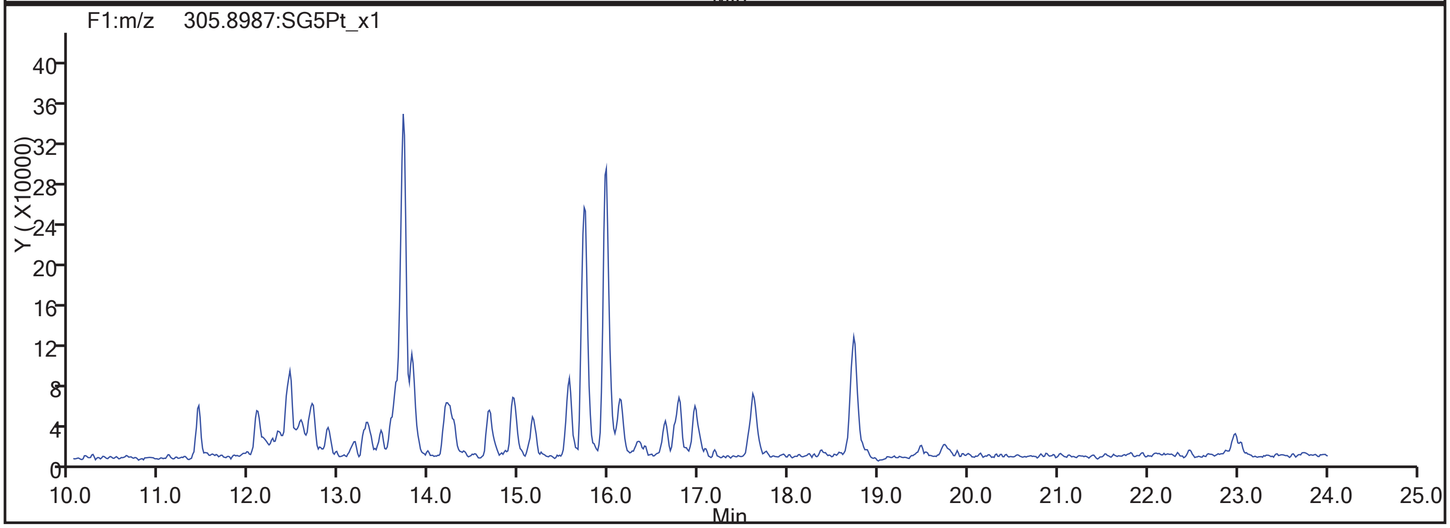
Report Date: 06-Dec-2017 10:58:37 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

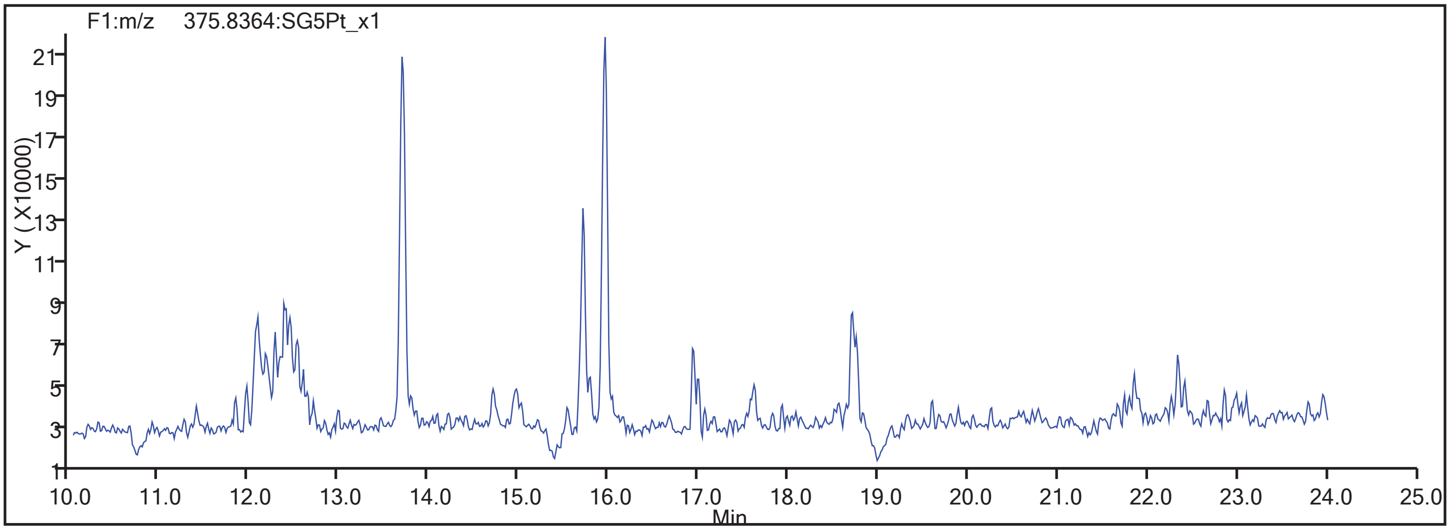
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_008.d		
Injection Date:	05-Dec-2017 15:58:55	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	198469	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

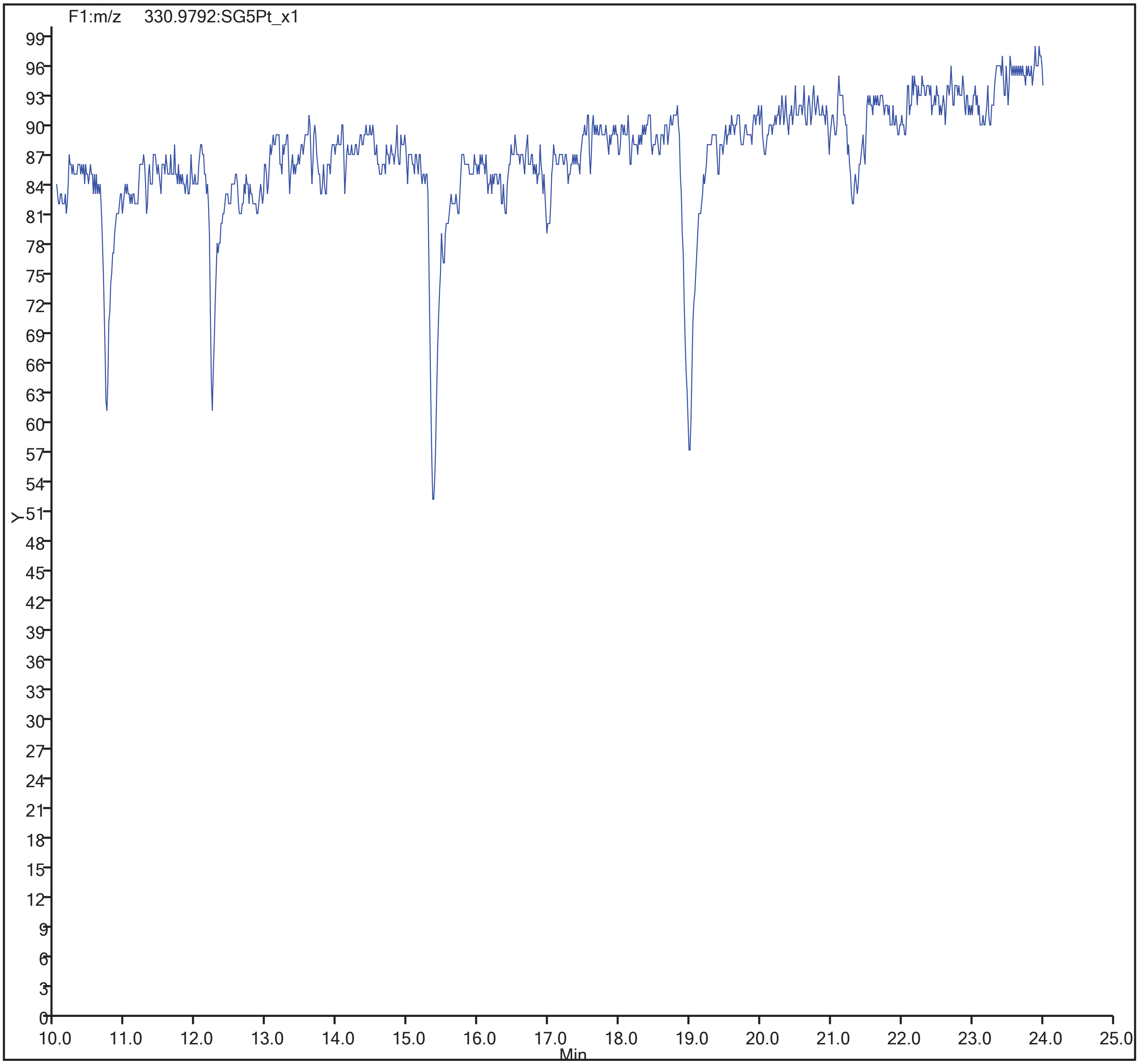




TCDF Interference Mass



Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_008.d		
Injection Date:	05-Dec-2017 15:58:55	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	198469	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS04NS	Lab Sample ID: 160-24924-10
Matrix: Solid	Lab File ID: 09NO1710D5_75.d
Analysis Method: 8290A	Date Collected: 10/05/2017 17:10
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.05(g)	Date Analyzed: 11/11/2017 19:40
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 13.7	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194085	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.46	U	1.2	0.46	0.072
51207-31-9	2,3,7,8-TCDF	0.46	U	1.2	0.46	0.044
40321-76-4	1,2,3,7,8-PeCDD	0.86	U	5.8	0.86	0.089
57117-41-6	1,2,3,7,8-PeCDF	0.86	U	5.8	0.86	0.061
57117-31-4	2,3,4,7,8-PeCDF	0.86	U	5.8	0.86	0.062
39227-28-6	1,2,3,4,7,8-HxCDD	0.44	J	5.8	2.3	0.083
57653-85-7	1,2,3,6,7,8-HxCDD	2.3	U	5.8	2.3	0.064
19408-74-3	1,2,3,7,8,9-HxCDD	0.21	J M	5.8	2.3	0.063
70648-26-9	1,2,3,4,7,8-HxCDF	0.86	U	5.8	0.86	0.071
57117-44-9	1,2,3,6,7,8-HxCDF	1.2	U	5.8	1.2	0.059
72918-21-9	1,2,3,7,8,9-HxCDF	0.10	J	5.8	1.2	0.070
60851-34-5	2,3,4,6,7,8-HxCDF	0.86	U	5.8	0.86	0.065
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.1	J	5.8	1.2	0.12
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.2	U	5.8	1.2	0.15
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.3	U	5.8	2.3	0.18
3268-87-9	OCDD	17	B	12	4.6	0.15
39001-02-0	OCDF	1.9	J	12	4.6	0.11

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	56		40-135
89059-46-1	13C-2,3,7,8-TCDF	62		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	65		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	66		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	57		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	68		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	53		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	27	Q	40-135
114423-97-1	13C-OCDD	44		40-135

Report Date: 13-Nov-2017 13:01:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d				
Lims ID:	160-24924-G-10-A				
Client ID:	SHAD041DP022SS04NS				
Sample Type:	Client				
Inject. Date:	11-Nov-2017 19:40:15	ALS Bottle#:	49	Worklist Smp#:	75
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-g-10-a 160-24924-g-10-a				
Misc. Info.:	09NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		

Method:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m		
Limit Group:	HR - 8290A_D5 - ICAL		
Last Update:	13-Nov-2017 13:01:52	Calib Date:	13-Oct-2017 03:12:53
Integrator:	Picker		
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d		

Column 1 :	DB-5 (0.32 mm)	Det: F1:HRSIR
Process Host:	XAWRK002	

First Level Reviewer: dadunj Date: 13-Nov-2017 13:01:51

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	102632586	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	80797662	0.78	1.2741	61.8	61.8	0.1645	0.1645	61.79	
2,3,7,8-TCDF	17.415						0.0192	0.0192		
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF							0.0192	0.0192		
D 13C-2,3,7,8-TCDD	18.111	57148374	0.79	0.9921	56.1	56.1	0.1846	0.1846	56.13	
2,3,7,8-TCDD	18.126						0.0310	0.0310		
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD							0.0310	0.0310		
D 13C-1,2,3,7,8-PeCDF	22.451	65465193	1.54	0.9696	65.8	65.8	0.1733	0.1733	65.78	
1,2,3,7,8-PeCDF	22.465						0.0265	0.0265		
2,3,4,7,8-PeCDF	23.815						0.0271	0.0271		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF							0.0271	0.0271		
D 13C-1,2,3,7,8-PeCDD	24.524	50859974	1.59	0.7588	65.3	65.3	0.0870	0.0870	65.31	
1,2,3,7,8-PeCDD	24.551						0.0387	0.0387		
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD							0.0387	0.0387		
D 13C-1,2,3,4,7,8-HxCDF	30.593	55331131	0.51	0.9644	67.6	67.6	0.3855	0.3855	67.64	
1,2,3,4,7,8-HxCDF	30.607						0.0307	0.0307		
1,2,3,6,7,8-HxCDF	30.780						0.0254	0.0254		
2,3,4,6,7,8-HxCDF	31.445						0.0283	0.0283		U
D 13C-1,2,3,7,8,9-HxCDF	32.364	53132964	0.52							
1,2,3,7,8,9-HxCDF	32.377	35119	1.24	1.4099	0.0562	0.0450	0.0305	0.0305		RQ
A Non-2,3,7,8-sub-HxCDF	30.254	55435	1.28	1.5067	0.0665	0.0665	0.0286	0.0665		
S Total HxCDF					0.1227	0.1115	0.0287	0.0287		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.191	84829929	1.24	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.778	77279	1.42	0.9505	0.1917	0.1917	0.0361	0.0361		
D 13C-1,2,3,6,7,8-HxCDD	31.858	42423802	1.24	0.8791	56.9	56.9	0.2665	0.2665	56.89	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.778						0.0278	0.0278		U
1,2,3,7,8,9-HxCDD	32.177	48689	1.27	1.2467	0.0921	0.0921	0.0275	0.0275		M
A Non-2,3,7,8-sub-HxCDD	30.893	175942	1.24	1.1438	0.3874	0.3626	0.0300	0.1715		RQM
S Total HxCDD					0.6711	0.6463	0.0305	0.0305		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.770	17664280	0.44	0.7618	27.3	27.3	0.5142	0.5142	27.33	
1,2,3,4,6,7,8-HpCDF	33.685						0.0630	0.0630		U
1,2,3,4,7,8,9-HpCDF	34.852						0.0777	0.0777		
A Non-2,3,7,8-sub-HpCDF	34.305	115442	1.04	1.4851	0.4560	0.4401	0.0696	0.3121		RQM
S Total HpCDF					0.4560	0.4401	0.0703	0.0703		RQ
1,2,3,4,6,7,8-HpCDD	34.572	323712	1.04	0.9932	0.9263	0.9263	0.0499	0.0499		
D 13C-1,2,3,4,6,7,8-HpCDD	34.572	35185352	1.04	0.7762	53.4	53.4	0.4672	0.4672	53.44	
A Non-2,3,7,8-sub-HpCDD	34.286	780554	1.01	0.9932	2.234	2.234	0.0499	2.234		
S Total HpCDD					3.160	3.160	0.0499	0.0499		
D 13C-OCDD	36.894	47488840	0.89	0.6314	88.7	88.7	0.1881	0.1881	44.33	
OCDF	37.002	268072	0.87	1.3460	0.8388	0.8388	0.0462	0.0462		
OCDD	36.906	1895130	0.90	1.0604	7.527	7.527	0.0637	0.0637		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Report Date: 13-Nov-2017 13:01:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d				
Lims ID:	160-24924-G-10-A				
Client ID:	SHAD041DP022SS04NS				
Sample Type:	Client				
Inject. Date:	11-Nov-2017 19:40:15	ALS Bottle#:	49	Worklist Smp#:	75
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-g-10-a 160-24924-g-10-a				
Misc. Info.:	09NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	13-Nov-2017 13:01:52	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK002				
First Level Reviewer: dadunj		Date:	13-Nov-2017 13:01:51		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		44989853	11231504	10777	26942	1042		
333.9339	17.914	17.914	0		57642733	14448290	8031	20077	1799	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	35465623	8751977	13289	33222	659		
317.9389	17.400	17.400	0	0.971	45332039	11267780	8237	20592	1368	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415						460	1150			
305.8987	17.415						1283	3207			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						460	1150			
305.8987	17.105						1283	3207			
13C-2,3,7,8-TCDD											
331.9368	18.111	18.111	0	1.011	25137513	5770890	10777	26942	535		
333.9339	18.111	18.111	0	1.011	32010861	7525042	8031	20077	937	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.126						1003	2507			
321.8936	18.126						645	1612			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						1003	2507			
321.8936	17.559						645	1612			
13C-1,2,3,7,8-PeCDF											
351.9000	22.451	22.437	1	1.253	39670886	7084617	10398	25995	681		
353.8970	22.451	22.437	1	1.253	25794307	4602083	6858	17145	671	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.465						515	1287			
341.8567	22.465						928	2320			

Report Date: 13-Nov-2017 13:01:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	23.815						515	1287			
341.8567	23.815						928	2320			
A F1 PeCDFs											
339.8597	20.001						381	952			
341.8567	20.001						1058	2645			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						515	1287			
341.8567	23.161						928	2320			
13C-1,2,3,7,8-PeCDD											
367.8949	24.524	24.524	0	1.369	31243838	4863287	4203	10507	1157		
369.8919	24.524	24.524	0	1.369	19616136	2986569	2582	6455	1157	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551						833	2082			
357.8516	24.551						319	797			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						833	2082			
357.8516	23.419						319	797			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.593	30.580	1	0.950	18776932	3705245	11103	27757	334		
385.8610	30.593	30.580	1	0.950	36554199	7194903	20597	51492	349	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.607						1201	3002			
375.8178	30.607						675	1687			
1,2,3,6,7,8-HxCDF											
373.8208	30.780						1201	3002			
375.8178	30.780						675	1687			
2,3,4,6,7,8-HxCDF											U
373.8208	31.578						1201	3002			
375.8178	31.578						675	1687			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.364	32.364	0	1.005	18183867	4750137	11103	27757	428		
385.8610	32.364	32.364	0	1.005	34949097	8991609	20597	51492	437	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											RQ
373.8208	32.377	32.377	0	1.058	19441	5295	1201	3002	4		
375.8178	32.377	32.377	0	1.058	24419	3683	675	1687	5	0.80(1.05-1.43)	
	Empc Correction				15678	4270	675	1687	6		
A Non-2,3,7,8-sub-HxCDF											
373.8208	31.445	30.254	71	1.028	31150	9751	1201	3002	8		a
375.8178	31.432	30.254	71	1.027	24285	6160	675	1687	9	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.191	32.177	1		47002493	11858473	10859	27147	1092		
403.8529	32.177	32.177	0		37827436	9459052	9121	22802	1037	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.778	31.765	1	0.997	45364	7552	714	1785	11		
391.8127	31.778	31.765	1	0.997	31915	4515	760	1900	6	1.42(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.858	31.858	0	0.990	23465153	5926327	10859	27147	546		
403.8529	31.858	31.858	0	0.990	18958649	4812902	9121	22802	528	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											U
389.8157	31.871						714	1785			
391.8127	31.871						760	1900			
1,2,3,7,8,9-HxCDD											M
389.8157	32.177	32.190	-1	1.010	27195	5199	714	1785	7		M
391.8127	32.164	32.190	-2	1.010	21494	5044	760	1900	7	1.27(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											RQM
389.8157	29.648	30.893	-75	0.931	42591	5282	714	1785	7		
391.8127	29.701	30.893	-71	0.932	40607	6029	760	1900	8	1.05(1.05-1.43)	M
389.8157	31.033	30.893	8	0.974	33124	6093	714	1785	9		
391.8127	31.046	30.893	9	0.975	35370	6616	760	1900	9	0.94(1.05-1.43)	
	Empc Correction				26712	4913	760	1900	6		
389.8157	31.232	30.893	20	0.980	18217	4027	714	1785	6		
391.8127	31.232	30.893	20	0.980	18084	3291	760	1900	4	1.01(1.05-1.43)	
	Empc Correction				14691	3247	760	1900	4		
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.770	33.770	0	1.049	5406845	1614211	11037	27592	146		
419.8220	33.770	33.770	0	1.049	12257435	3640944	22364	55910	163	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											U
407.7818	33.783						1400	3500			
409.7789	33.783						772	1930			
1,2,3,4,7,8,9-HpCDF											
407.7818	34.852						1400	3500			
409.7789	34.852						772	1930			
A Non-2,3,7,8-sub-HpCDF											RQM
407.7818	34.086	34.305	-13	1.009	43269	13274	1400	3500	9		M
409.7789	34.086	34.305	-13	1.009	38597	13518	772	1930	18	1.12(0.88-1.20)	M
407.7818	34.183	34.305	-7	1.012	21297	9035	1400	3500	6		M
	Empc Correction				17117	8422	1400	3500	6		
409.7789	34.183	34.305	-7	1.012	16459	8099	772	1930	10	1.29(0.88-1.20)	M
1,2,3,4,6,7,8-HpCDD											
423.7766	34.572	34.560	1	1.000	165159	46941	928	2320	51		
425.7737	34.572	34.560	1	1.000	158553	46632	1072	2680	44	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.572	34.560	1	1.074	17913133	5220313	16488	41220	317		
437.8140	34.572	34.560	1	1.074	17272219	4861192	14431	36077	337	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.026	34.286	-16	0.984	391941	126695	928	2320	137		
425.7737	34.026	34.286	-16	0.984	388613	120945	1072	2680	113	1.01(0.88-1.20)	
13C-OCDD											
469.7779	36.894	36.894	0	1.146	22393616	5611229	4323	10807	1298		
471.7750	36.894	36.894	0	1.146	25095224	6295359	5805	14512	1084	0.89(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDF											
441.7428	37.002	36.990	1	1.003	124340	30056	634	1585	47		
443.7399	36.990	36.990	0	1.003	143732	31891	848	2120	38	0.87(0.76-1.02)	
OCDD											
457.7377	36.906	36.894	1	1.000	897711	219574	765	1912	287		
459.7348	36.906	36.894	1	1.000	997419	255047	843	2107	303	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags

- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d		
Lims ID:	160-24924-G-10-A		
Client ID:	SHAD041DP022SS04NS		
Inject. Date:	11-Nov-2017 19:40:15	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	75

Non-2,3,7,8-sub-HxCDF, RT: 30.254

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	55331131	10900148
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	55331131	10900148

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
31.445	31150	9751	24285	6160	0.0665	1.28	
Signal Totals:							
	31150	9751	24285	6160			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	55435	15911				1.28	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0665 = (55435 * 100.000) / (55331131 * 1.507)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d		
Lims ID:	160-24924-G-10-A		
Client ID:	SHAD041DP022SS04NS		
Inject. Date:	11-Nov-2017 19:40:15	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	75

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	42423802	10739229
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	42423802	10739229

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.648	42591	5282	40607	6029	0.1715	1.05	M
31.033	33124	6093	35370	6616	0.1412	0.94	RQ
31.033	33124	6093	26712	4913	0.1233		Empc Correction
31.232	18217	4027	18084	3291	0.0748	1.01	RQ
31.232	18217	4027	14691	3247	0.0678		Empc Correction
Signal Totals:							
	93932	15402	82010	14189			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	187993	31338				1.00	RQM
	175942	29591					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3874 = (187993 * 100.000) / (42423802 * 1.144)
Empc Amount: 0.3626 = (175942 * 100.000) / (42423802 * 1.144)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 13:01:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d		
Lims ID:	160-24924-G-10-A		
Client ID:	SHAD041DP022SS04NS		
Inject. Date:	11-Nov-2017 19:40:15	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	75

Non-2,3,7,8-sub-HpCDF, RT: 34.305

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	17664280	5255155
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	17664280	5255155

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.086	43269	13274	38597	13518	0.3121	1.12	M
34.183	21297	9035	16459	8099	0.1439	1.29	RQM
34.183	17117	8422	16459	8099	0.1280		Empc Correction
Signal Totals:							
	60386	21696	55056	21617			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	119622	43926				1.17	RQM
	115442	43313					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4560 = (119622 * 100.000) / (17664280 * 1.485)
Empc Amount: 0.4401 = (115442 * 100.000) / (17664280 * 1.485)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d
Lims ID: 160-24924-G-10-A
Client ID: SHAD041DP022SS04NS
Inject. Date: 11-Nov-2017 19:40:15 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 75

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	35185352	10081505

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	35185352	10081505

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.026	391941	126695	388613	120945	2.23	1.01	
Signal Totals:							
	391941	126695	388613	120945			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	780554	247640				1.01	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.234 = (780554 * 100.000) / (35185352 * 0.993)

TestAmerica Sacramento

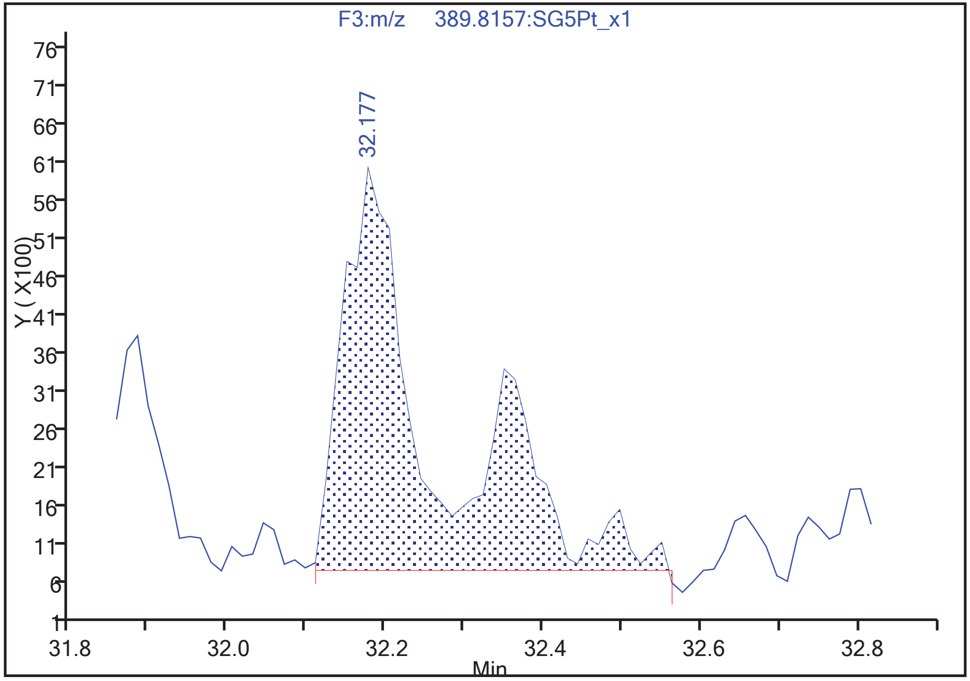
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d				
Injection Date:	11-Nov-2017 19:40:15	Instrument ID:	10D5		
Lims ID:	160-24924-G-10-A	Lab Sample ID:	320-24924-10		
Client ID:	SHAD041DP022SS04NS				
Operator ID:	AJS	ALS Bottle#:	49	Worklist Smp#:	75
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

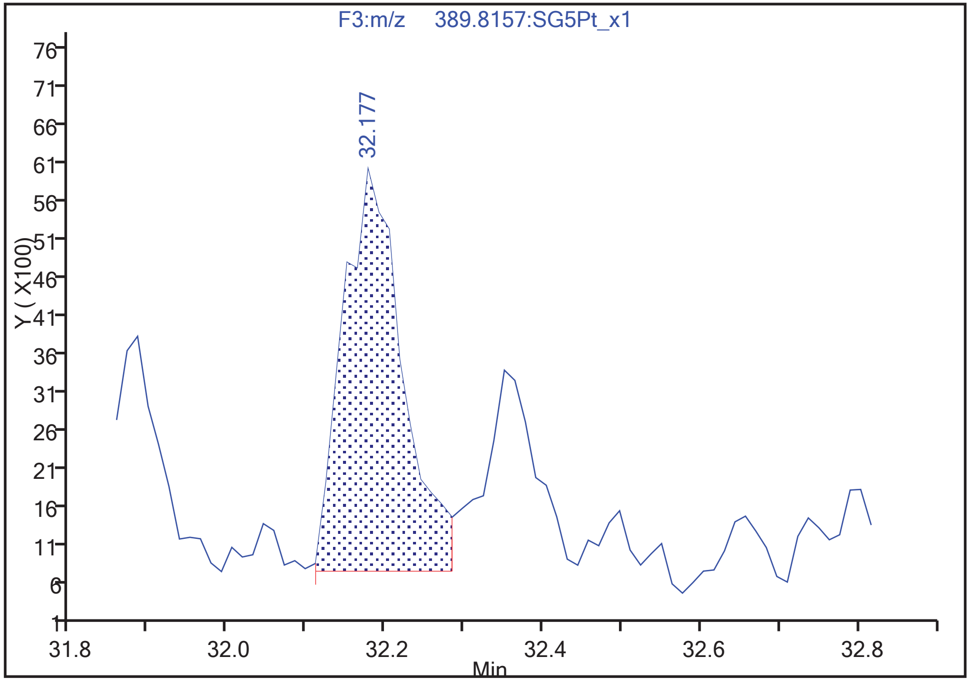
Processing Integration Results

RT: 32.18
Area: 41594
Amount: 0.126324
Amount Units: pg/ul



Manual Integration Results

RT: 32.18
Area: 27195
Amount: 0.092058
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 12:59:31
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 13:01:58
Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

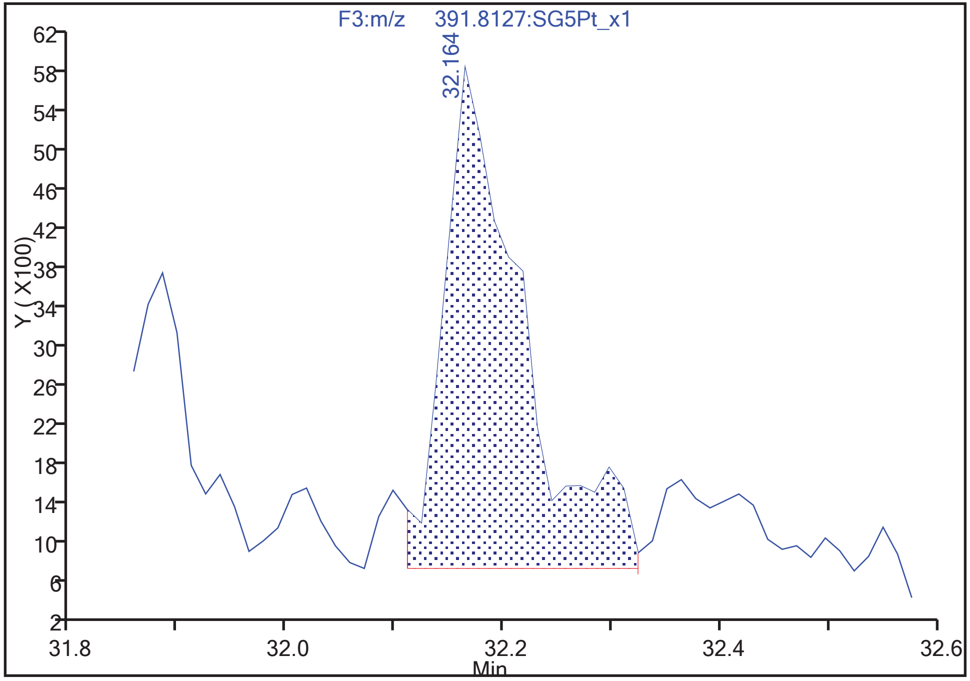
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d
Injection Date: 11-Nov-2017 19:40:15
Instrument ID: 10D5
Lims ID: 160-24924-G-10-A
Lab Sample ID: 320-24924-10
Client ID: SHAD041DP022SS04NS
Operator ID: AJS
ALS Bottle#: 49
Worklist Smp#: 75
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Column: DB-5 (0.32 mm)
Detector F3:HRSIR

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

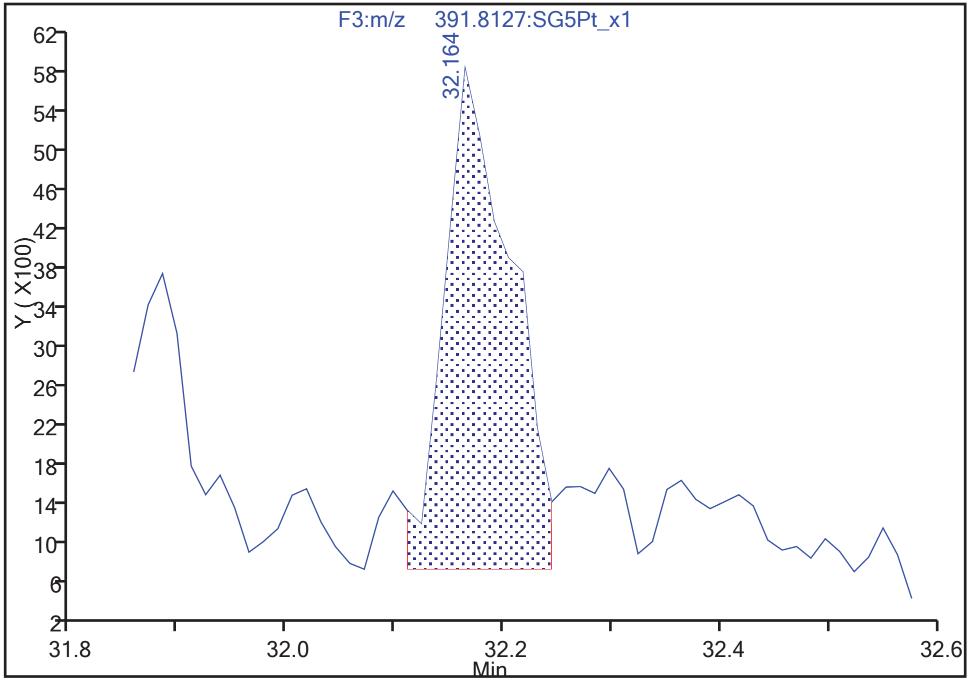
RT: 32.16
Area: 25218
Amount: 0.126324
Amount Units: pg/ul

Processing Integration Results



RT: 32.16
Area: 21494
Amount: 0.092058
Amount Units: pg/ul

Manual Integration Results



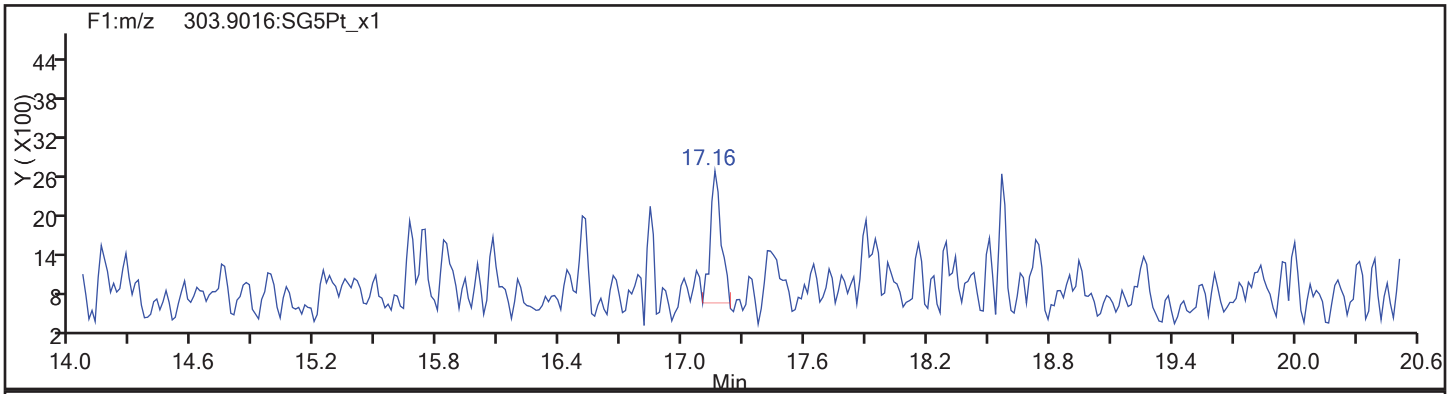
Reviewer: dadunj, 13-Nov-2017 12:59:33
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

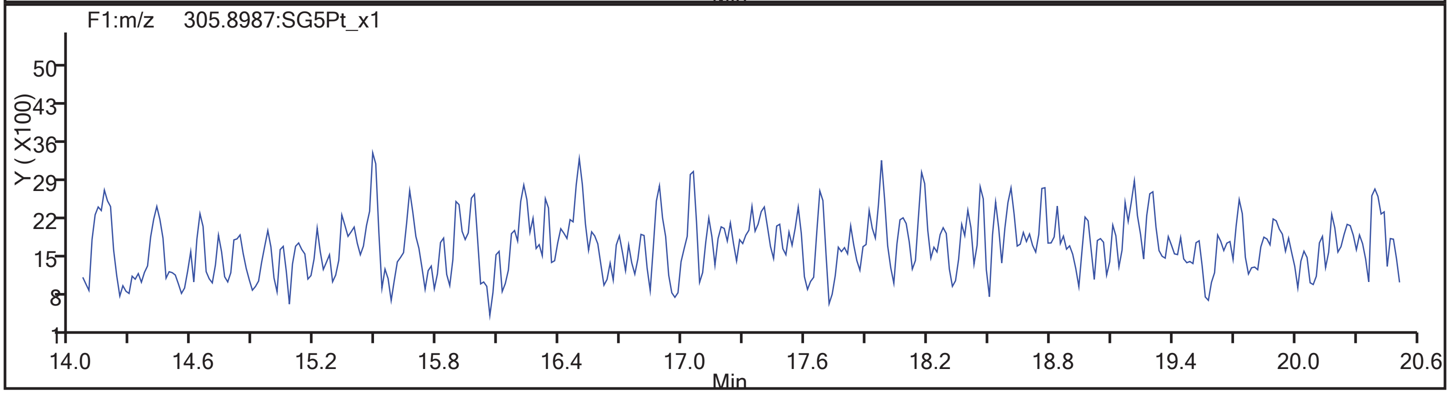
Report Date: 13-Nov-2017 13:01:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

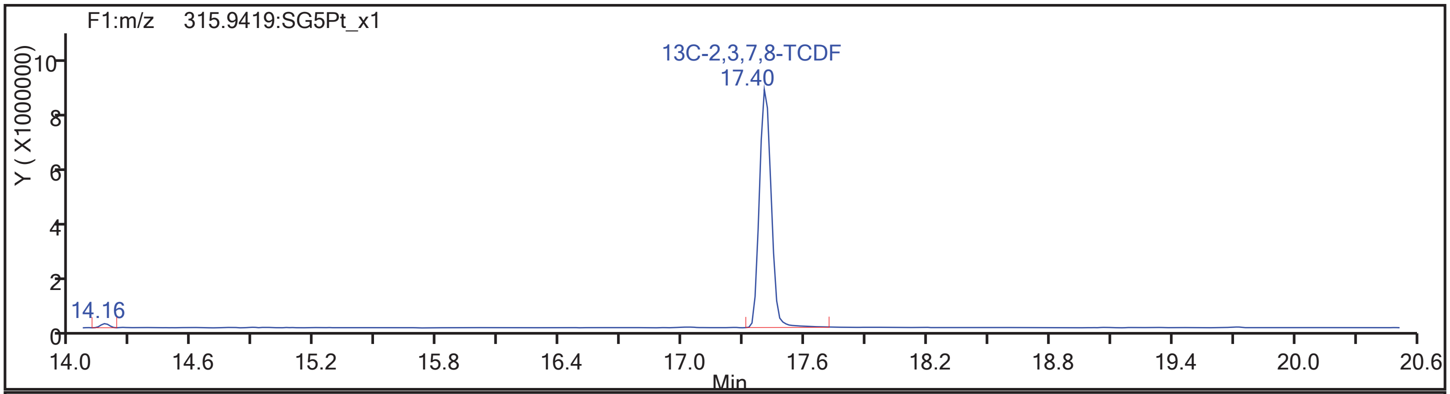
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d
Injection Date: 11-Nov-2017 19:40:15
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS04NS
Worklist#: 194085
Sample Line#: 75
Column Type: DB-5
Column Dia: 0.32 mm

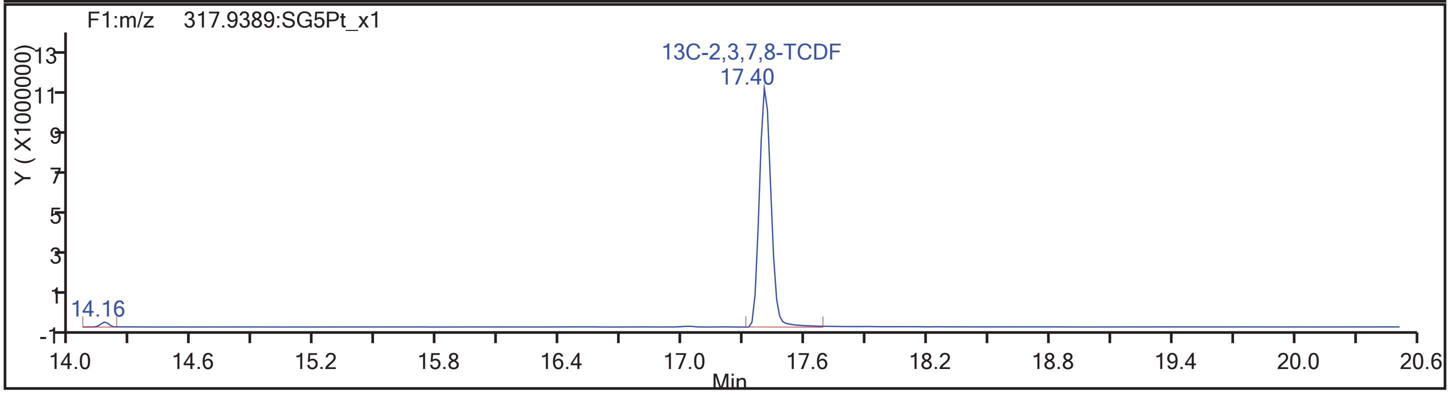
TCDF





TCDF Standards





Report Date: 13-Nov-2017 13:01:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
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Worklist#: 194085
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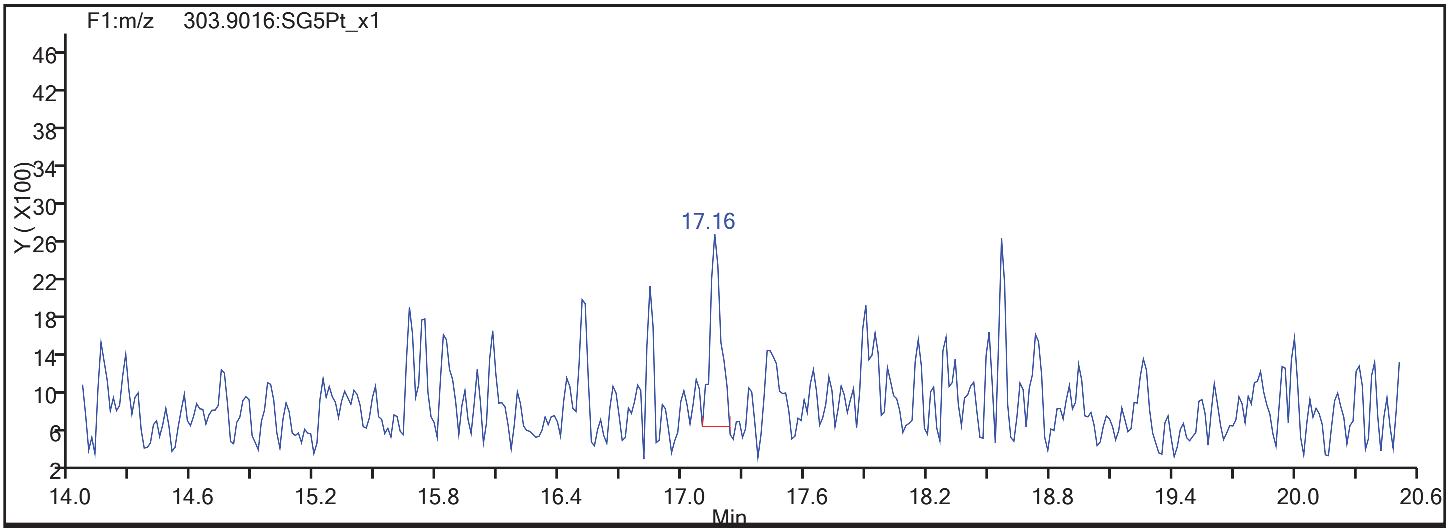
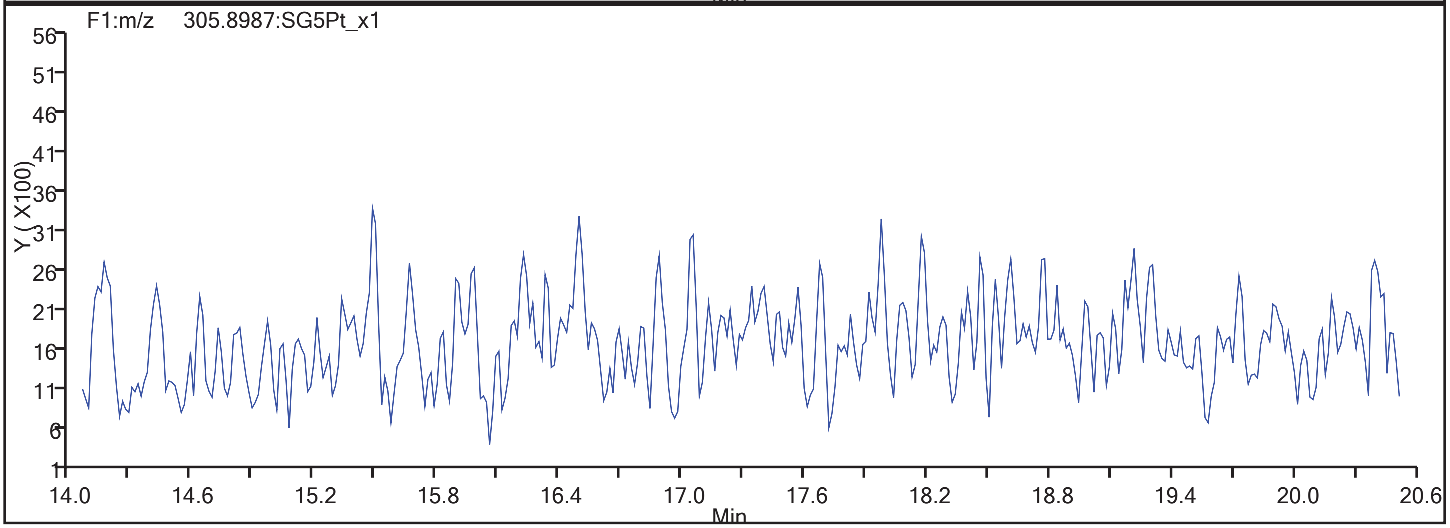
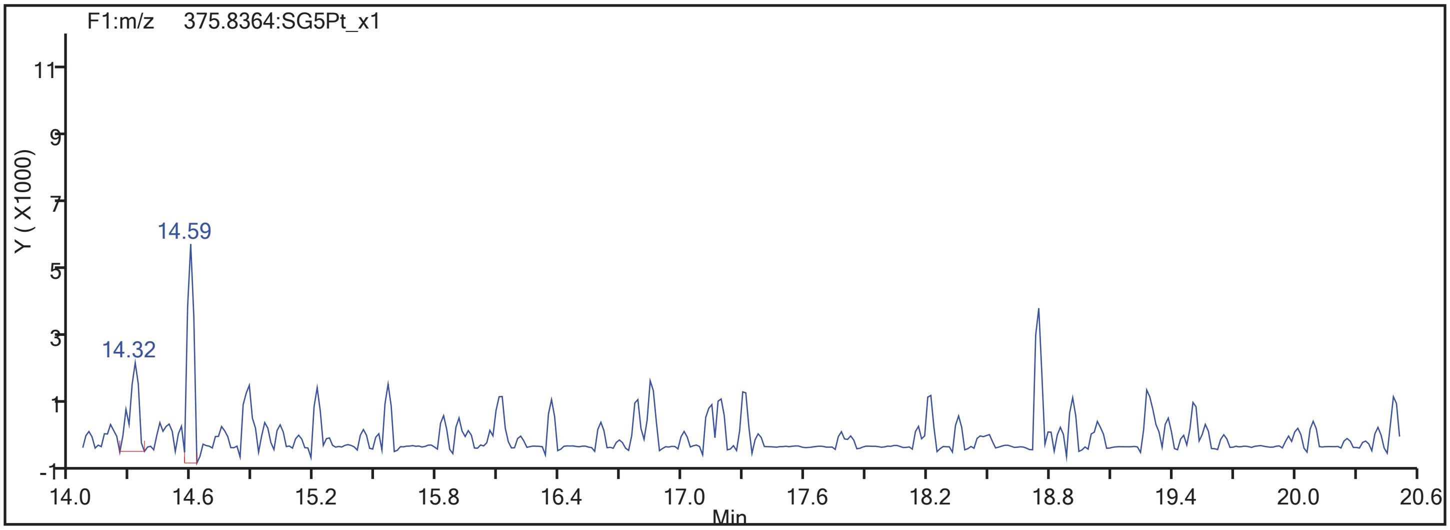
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



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TestAmerica Sacramento

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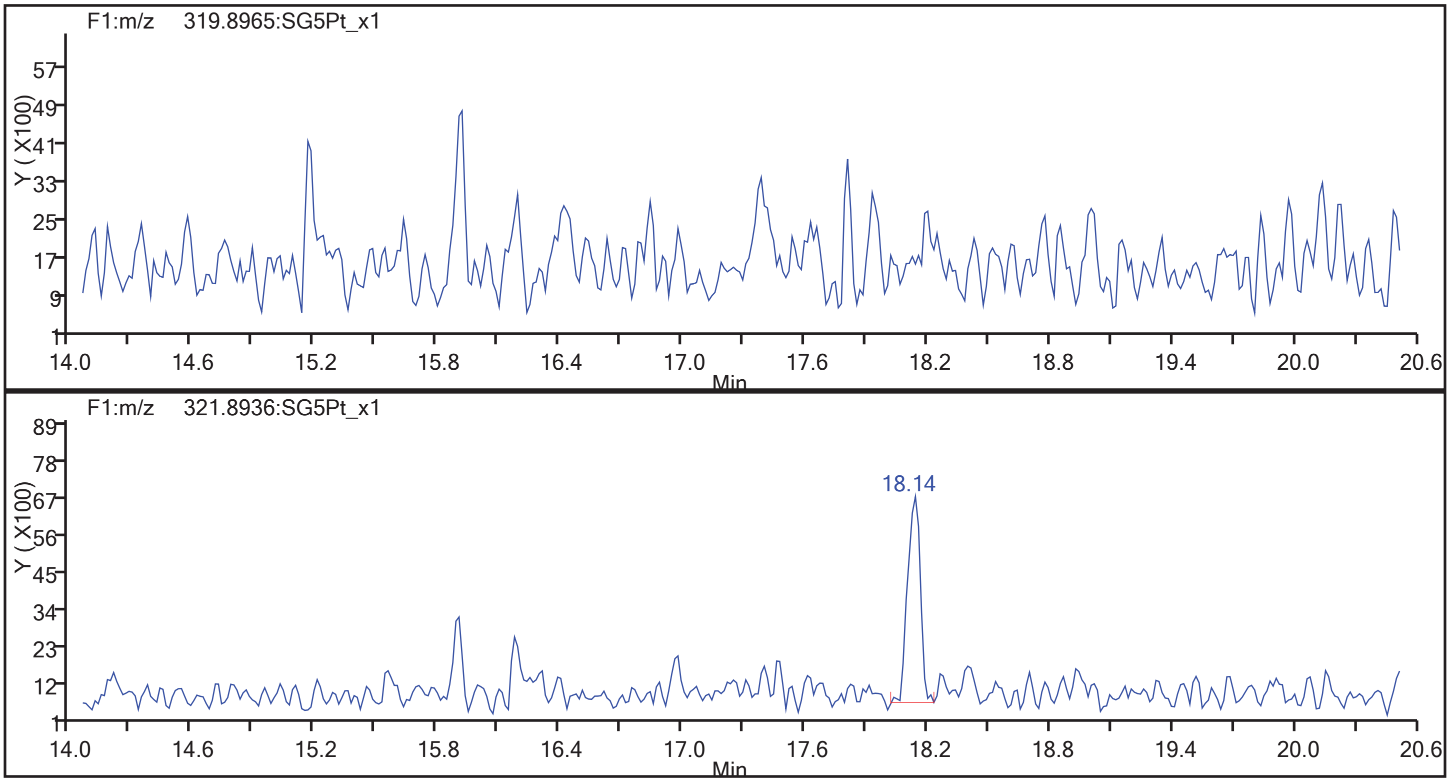
TCDD



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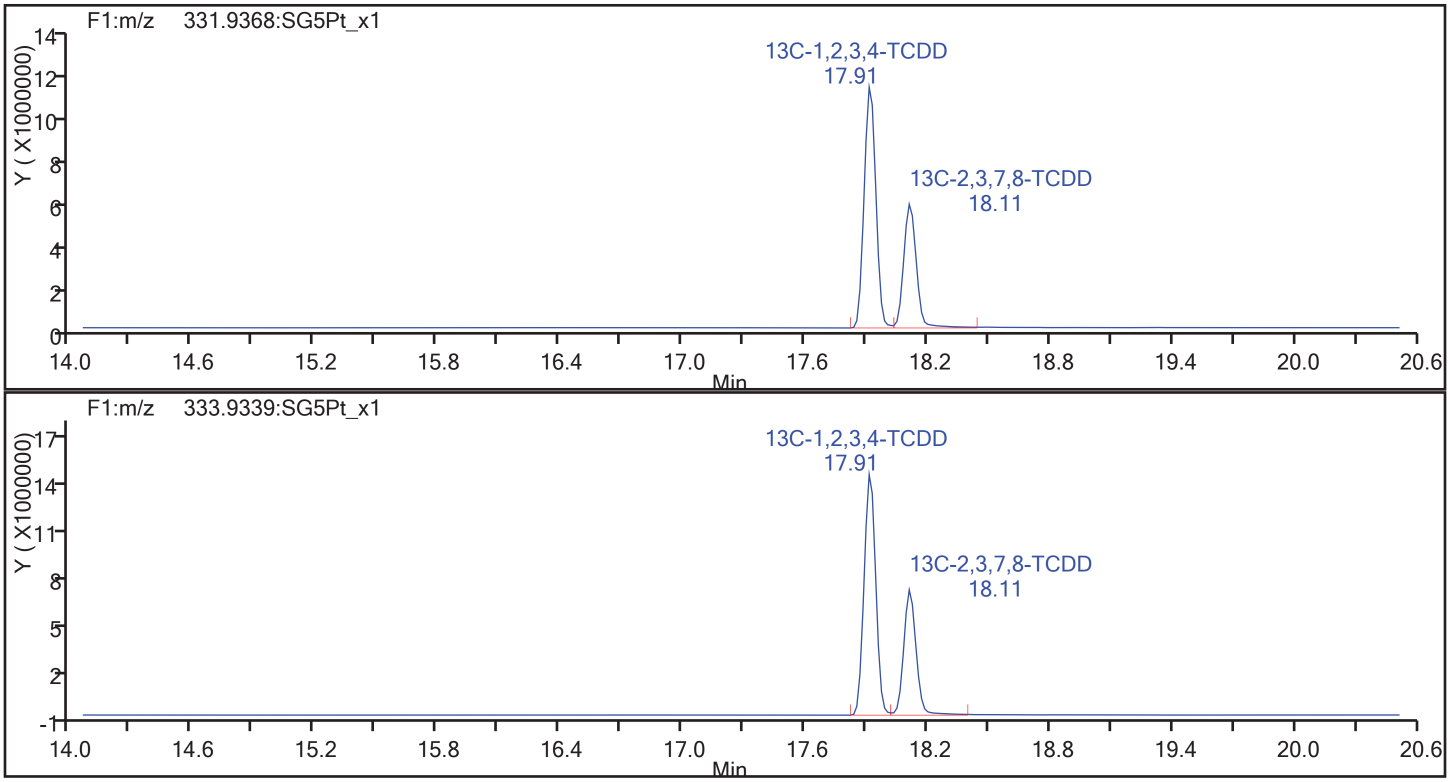

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TestAmerica Sacramento

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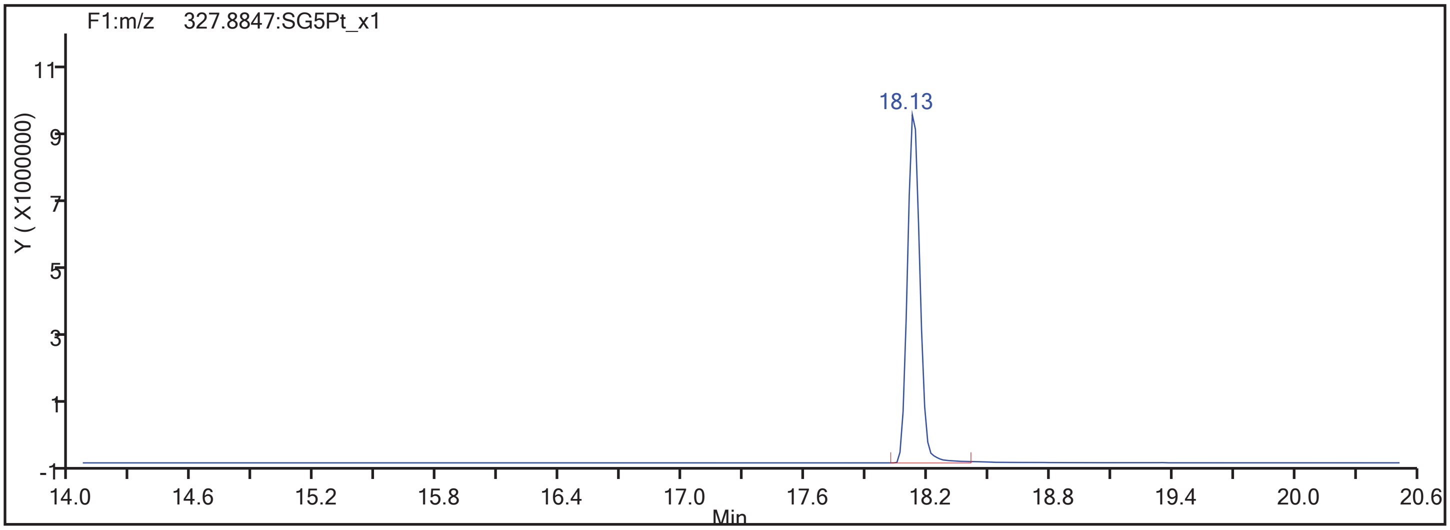
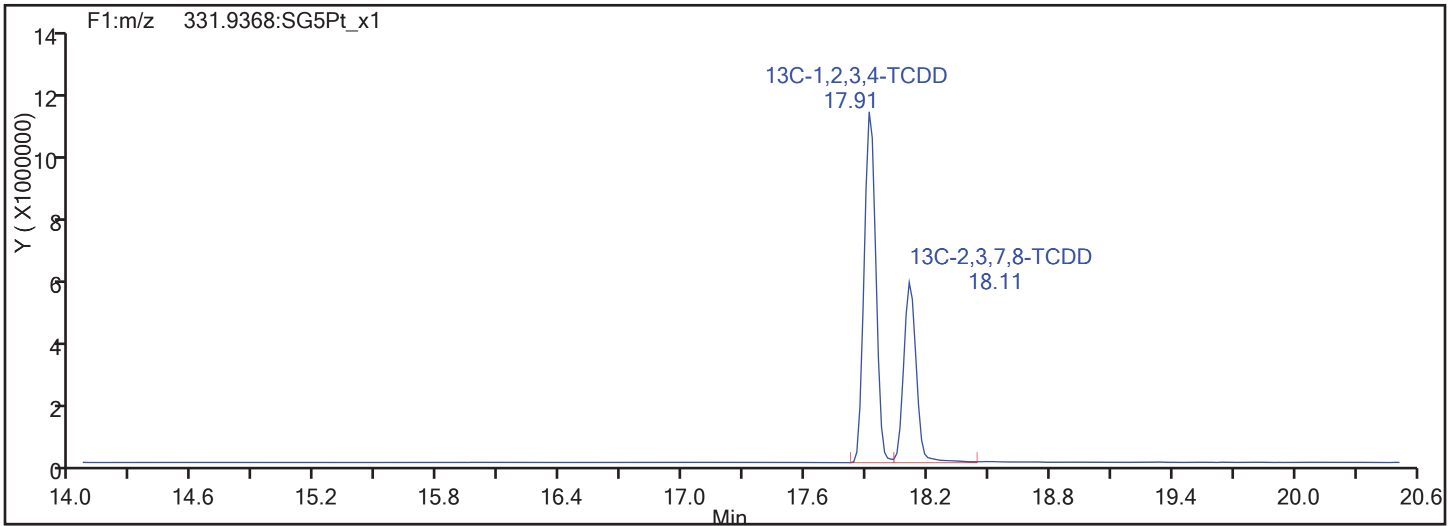
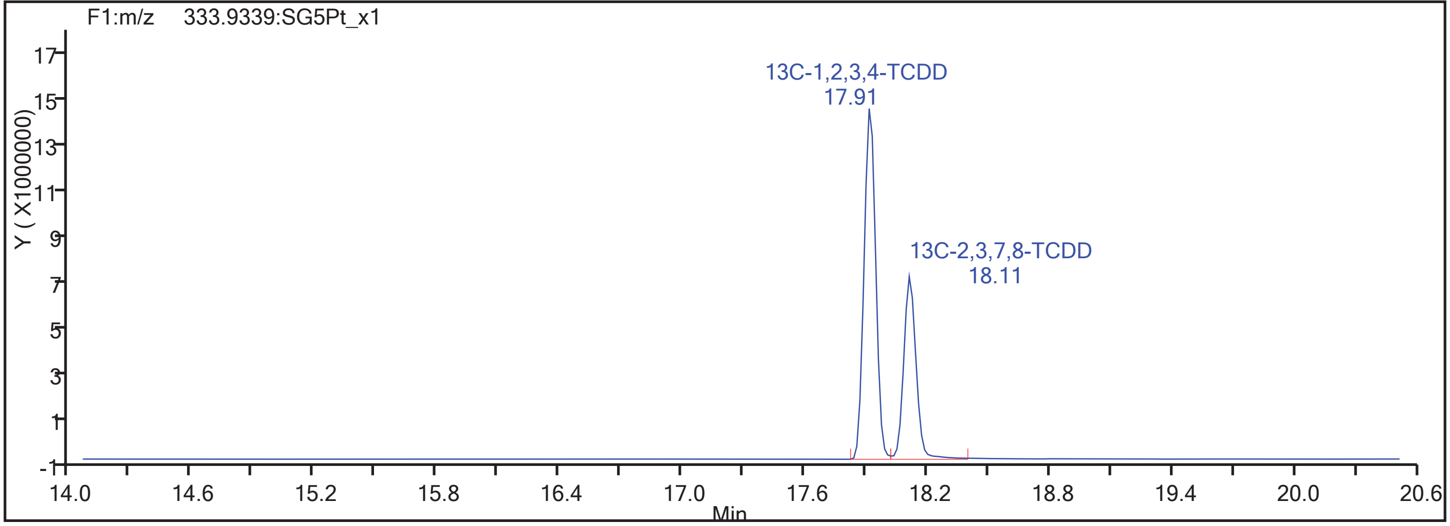
37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

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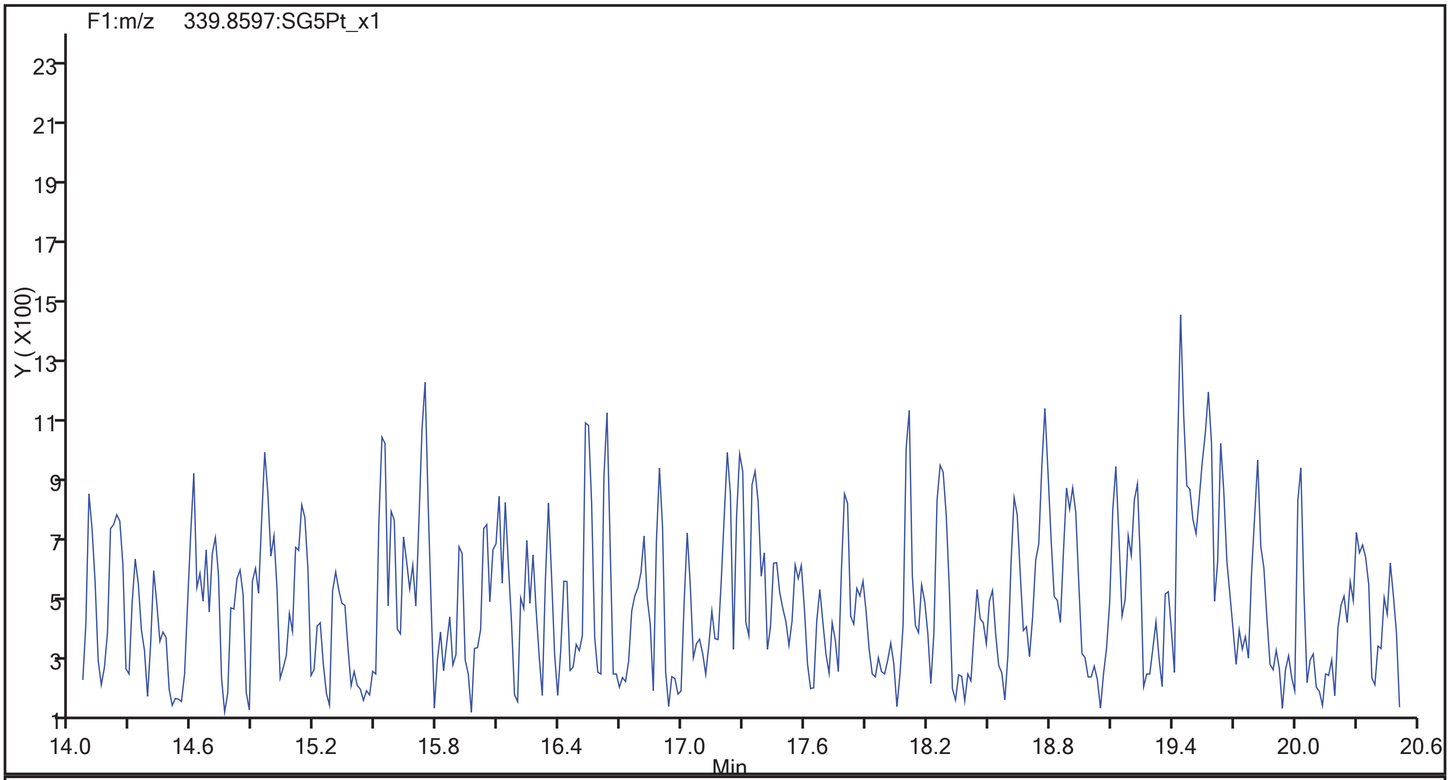
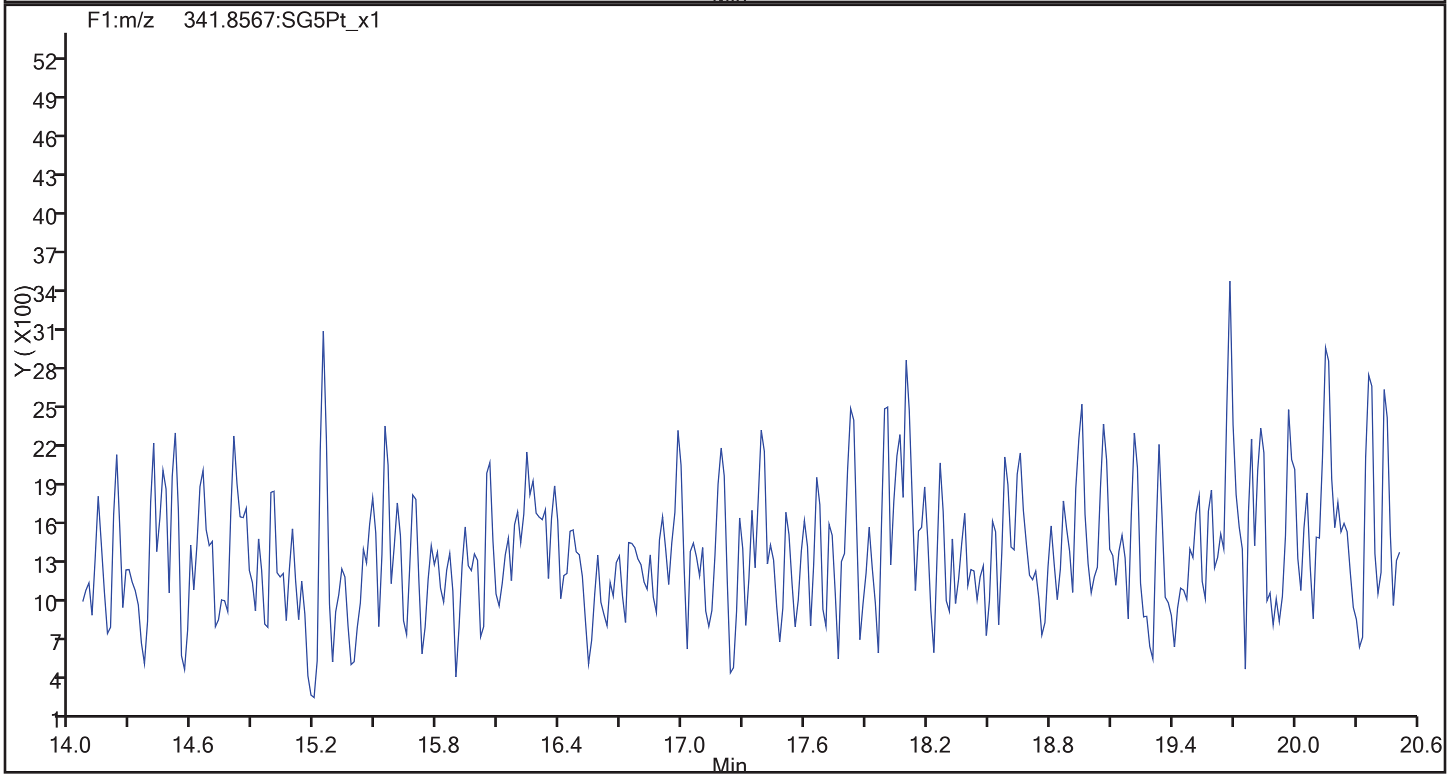
F1 PeCDFs





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TestAmerica Sacramento

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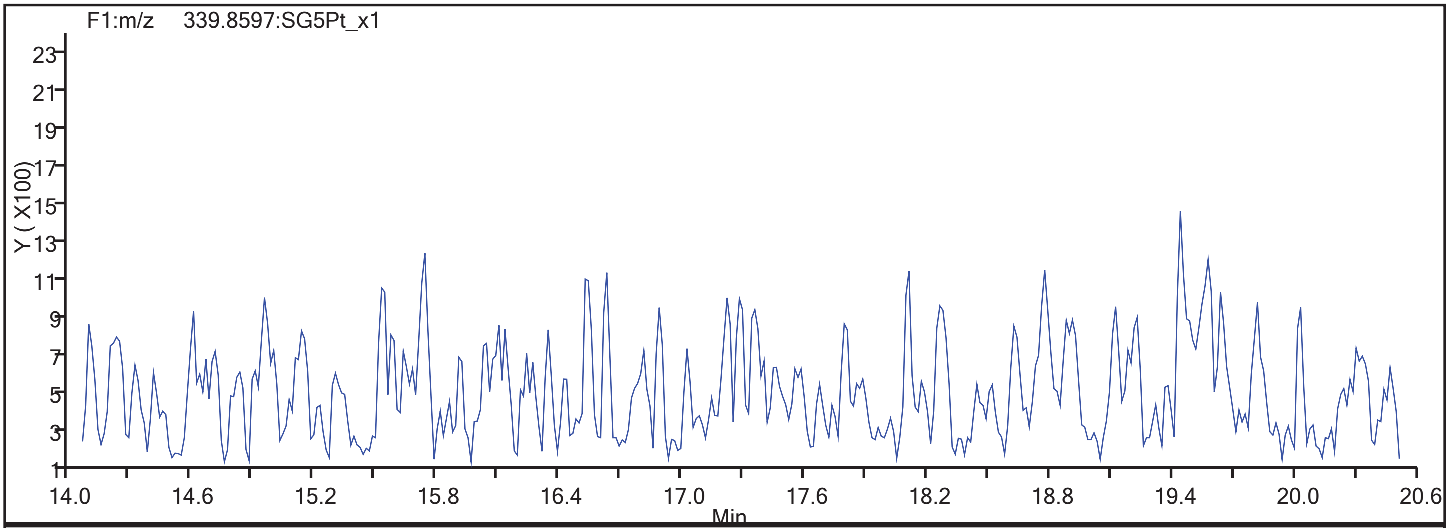
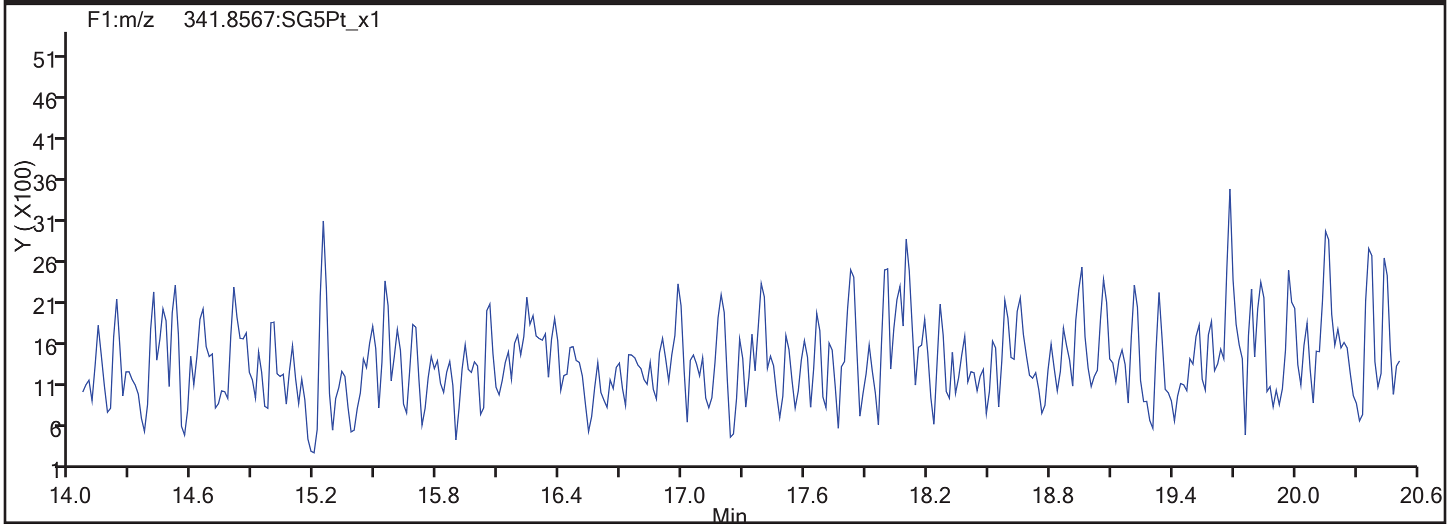
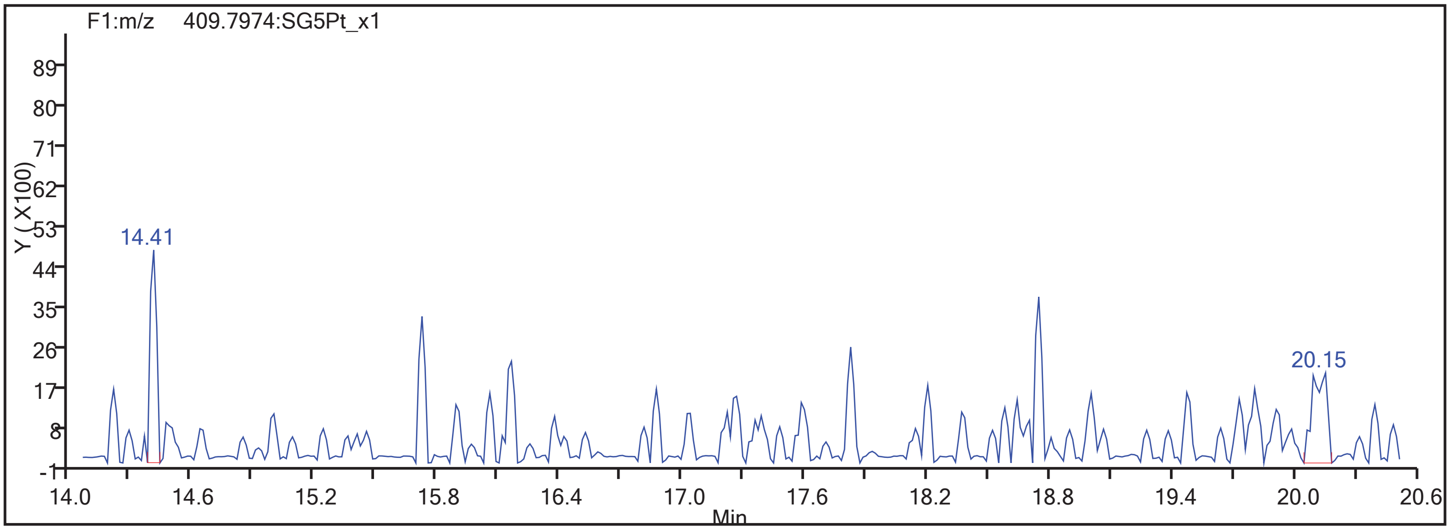
F1 PeCDFs





F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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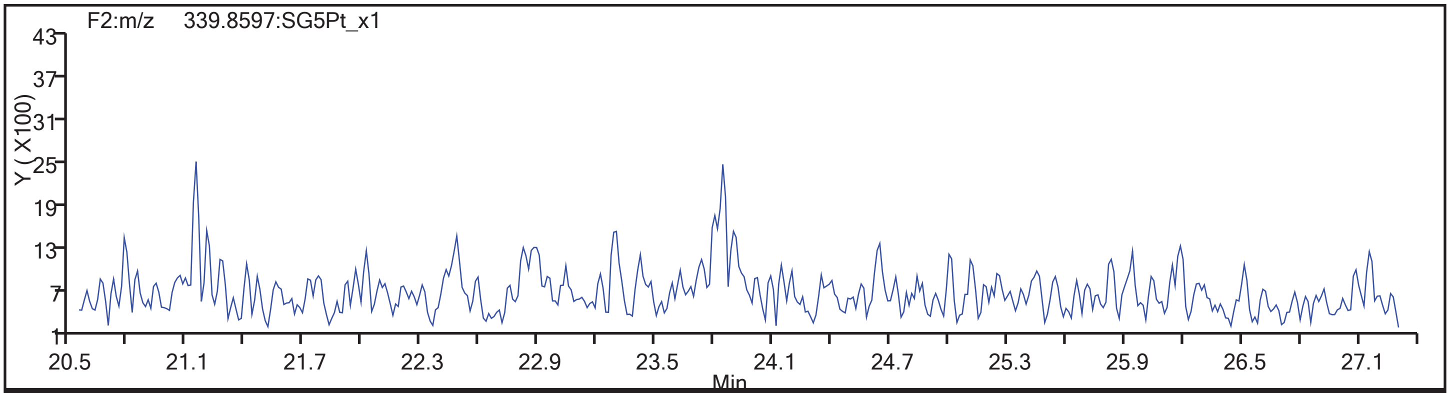
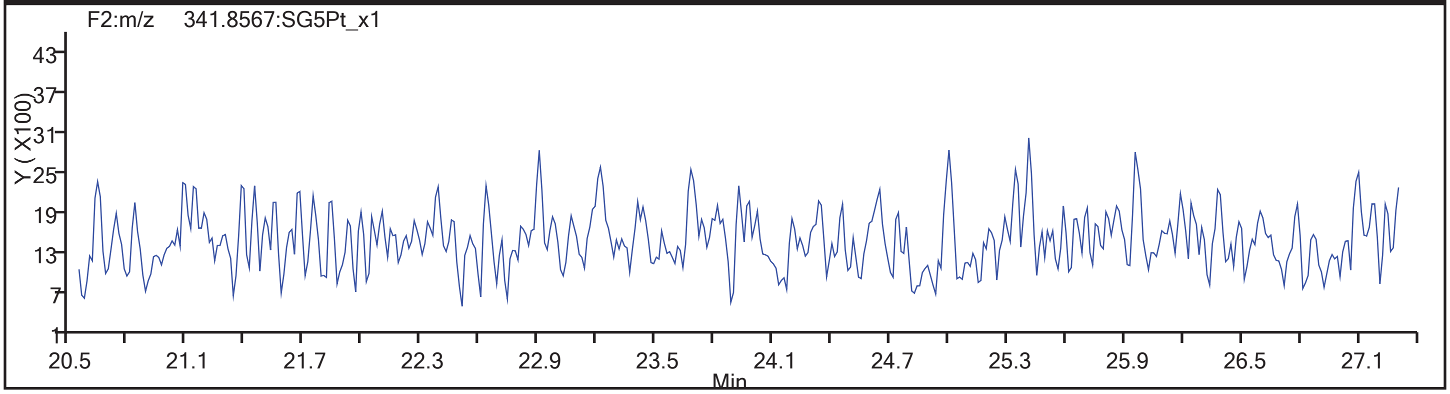
PeCDF





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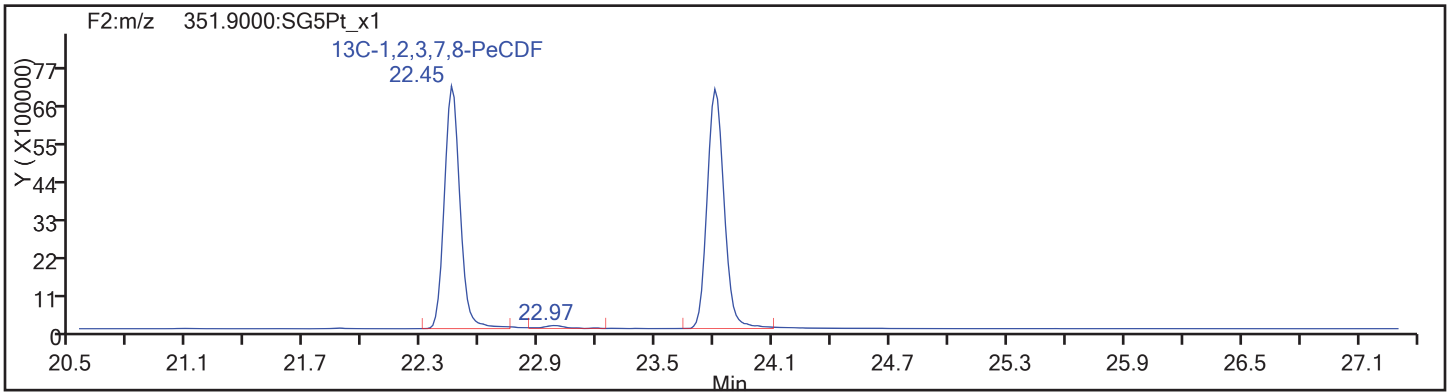

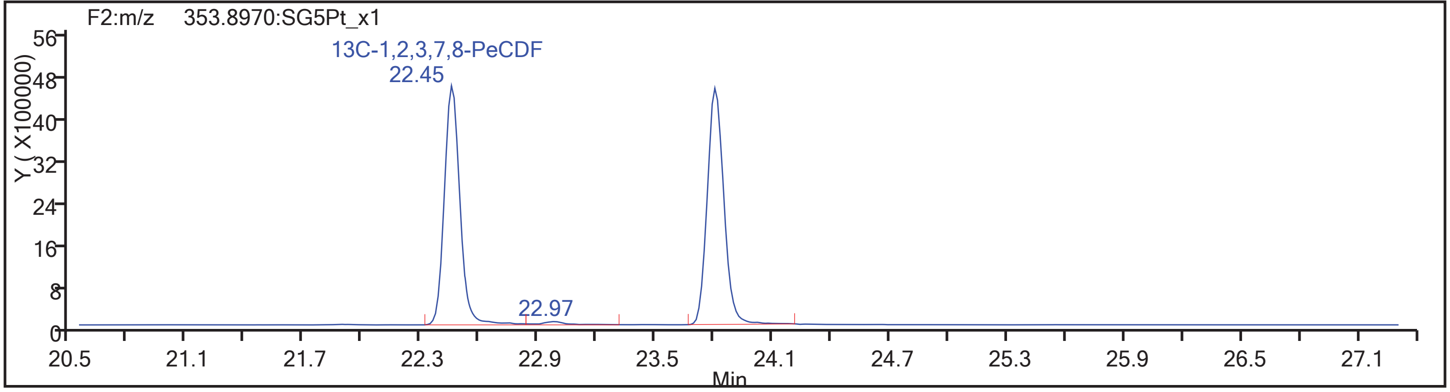

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TestAmerica Sacramento

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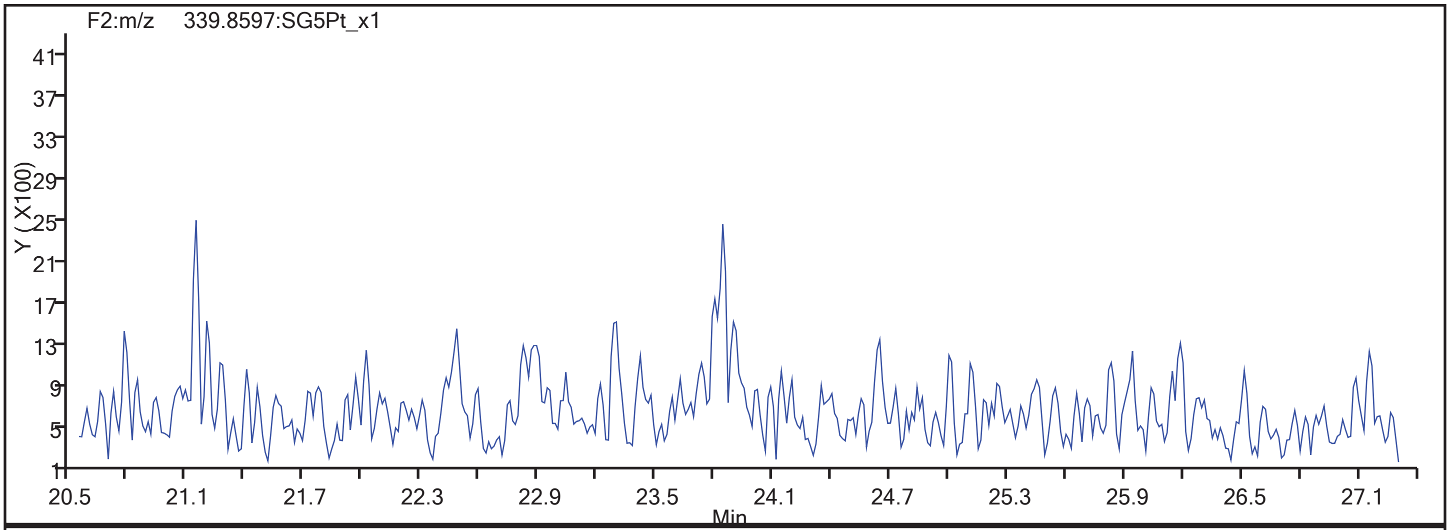
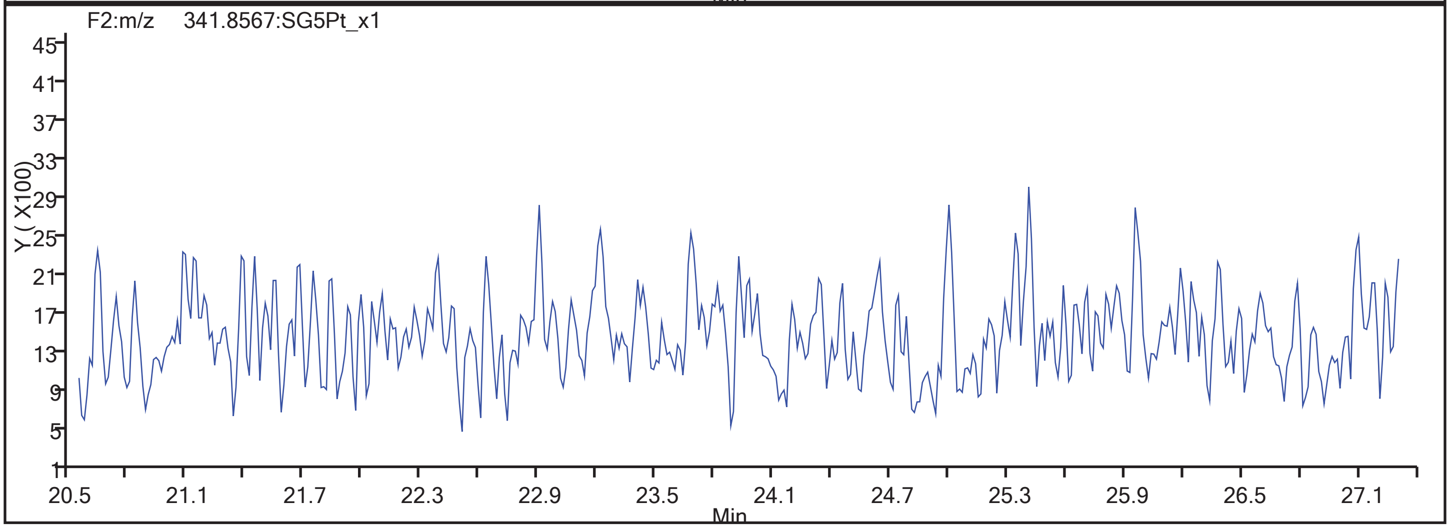
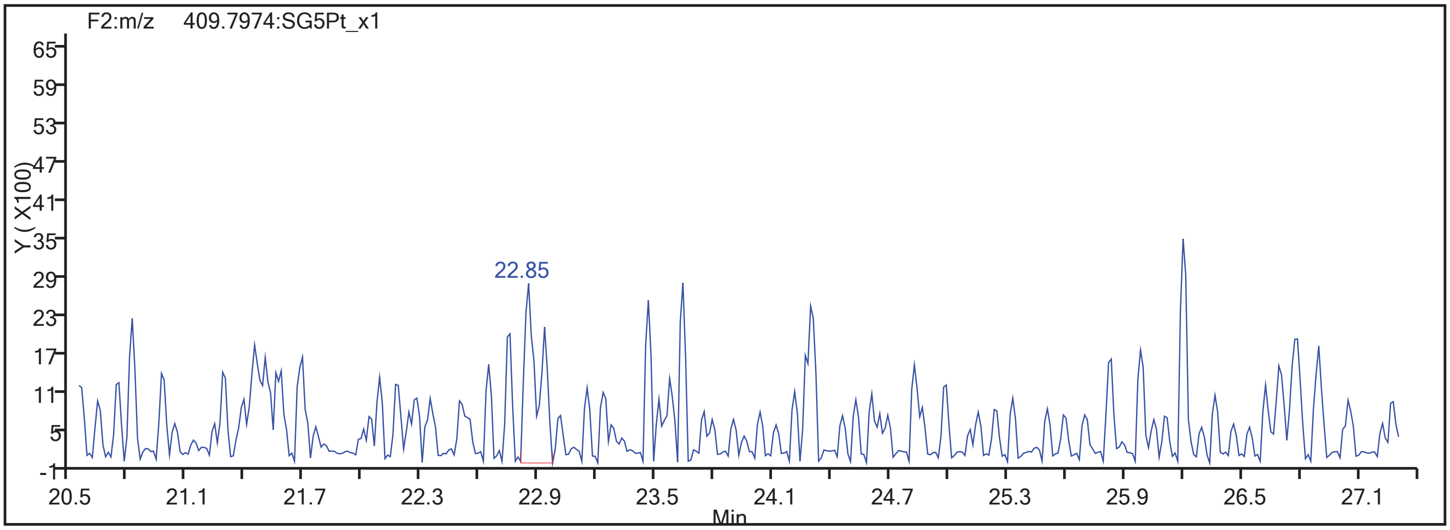




PeCDF Interference Mass



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TestAmerica Sacramento

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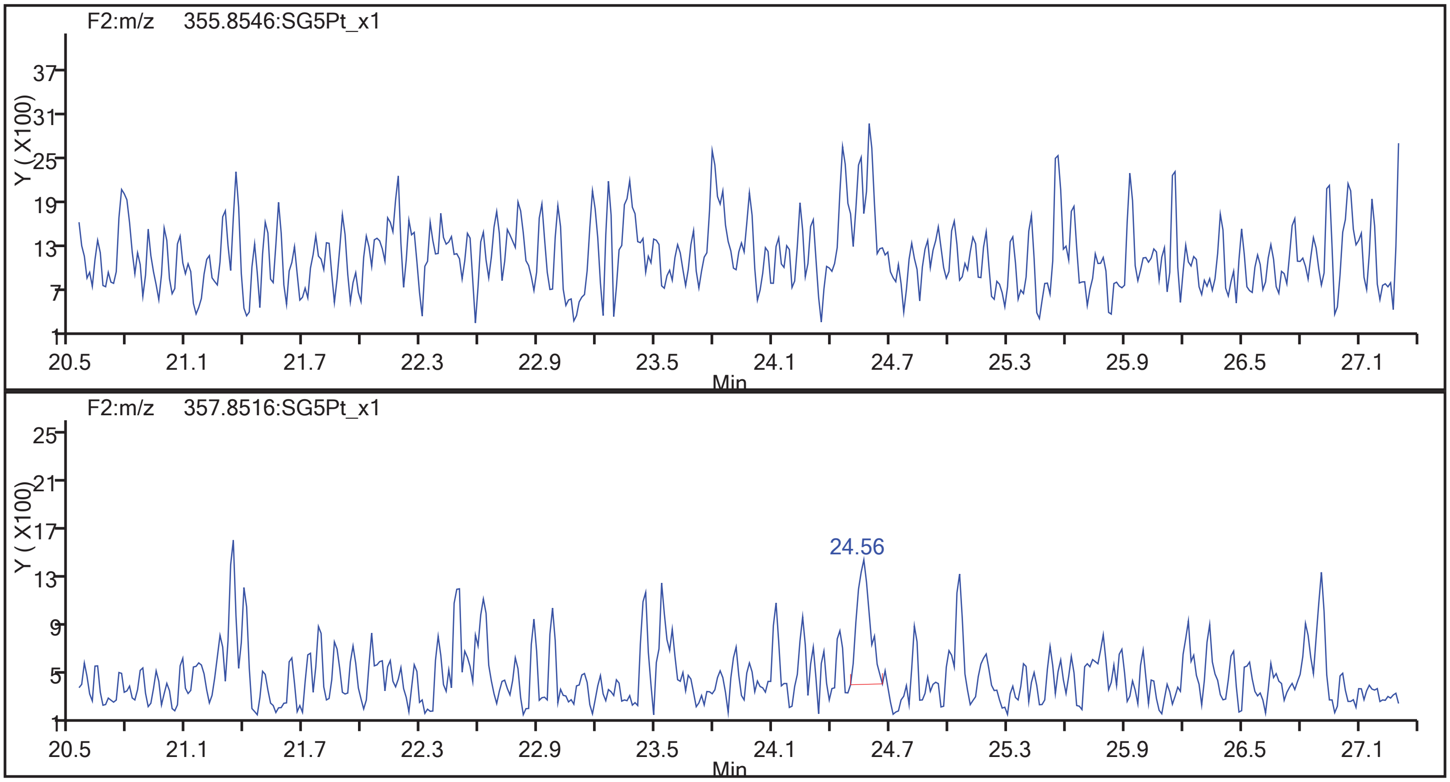

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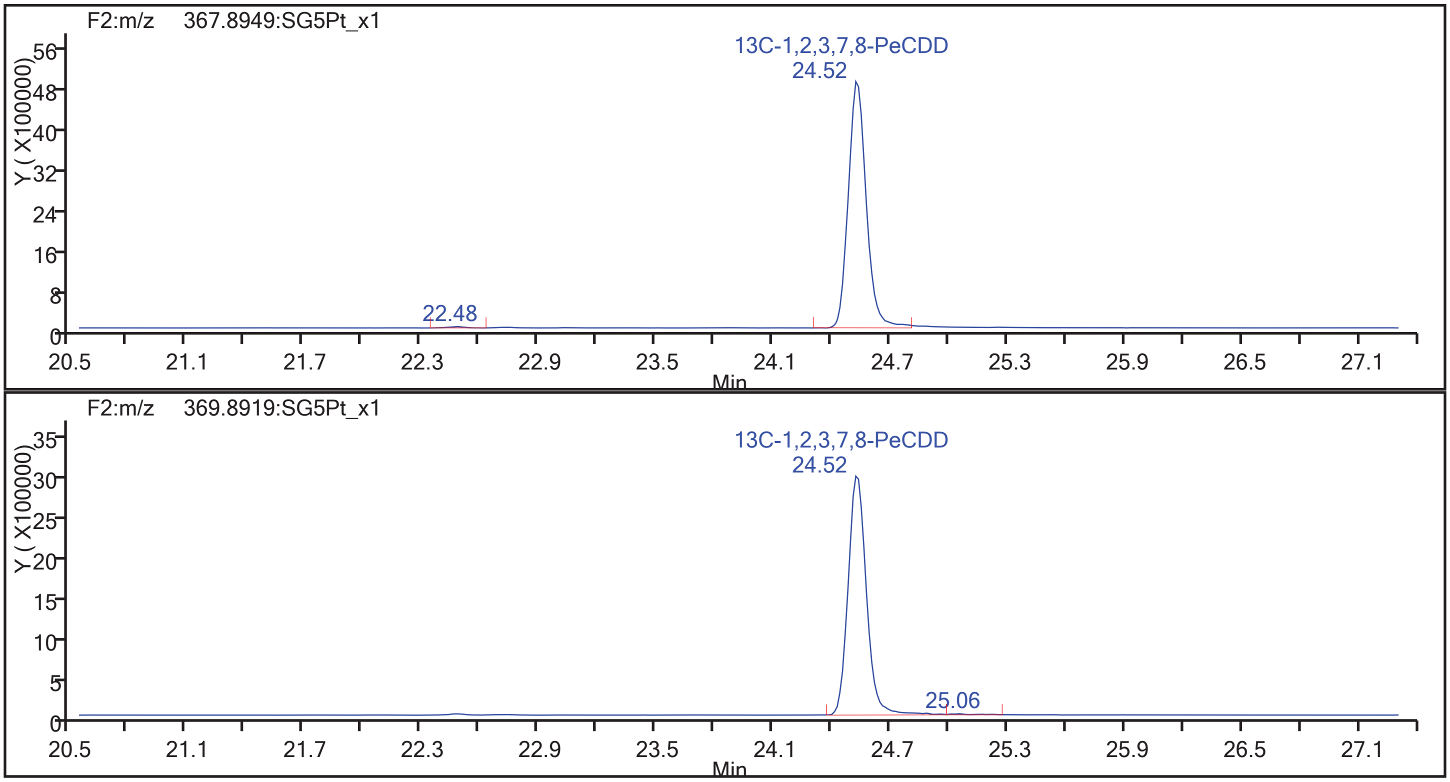

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TestAmerica Sacramento

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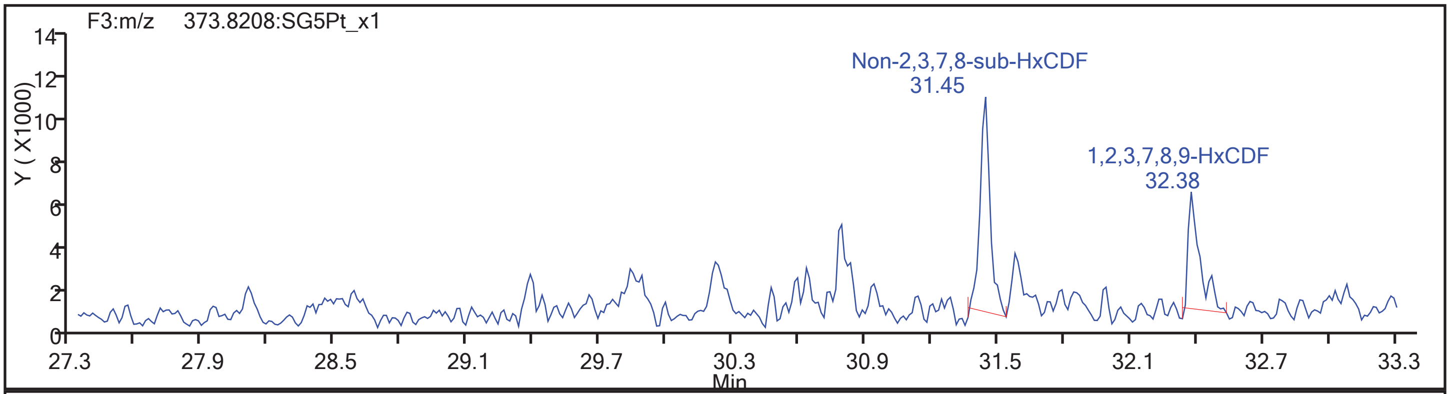
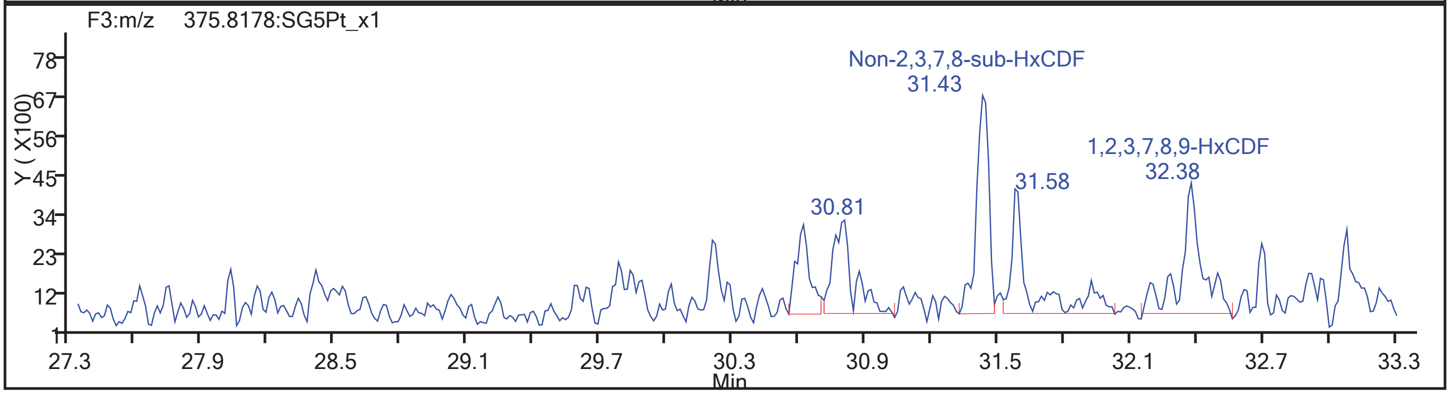
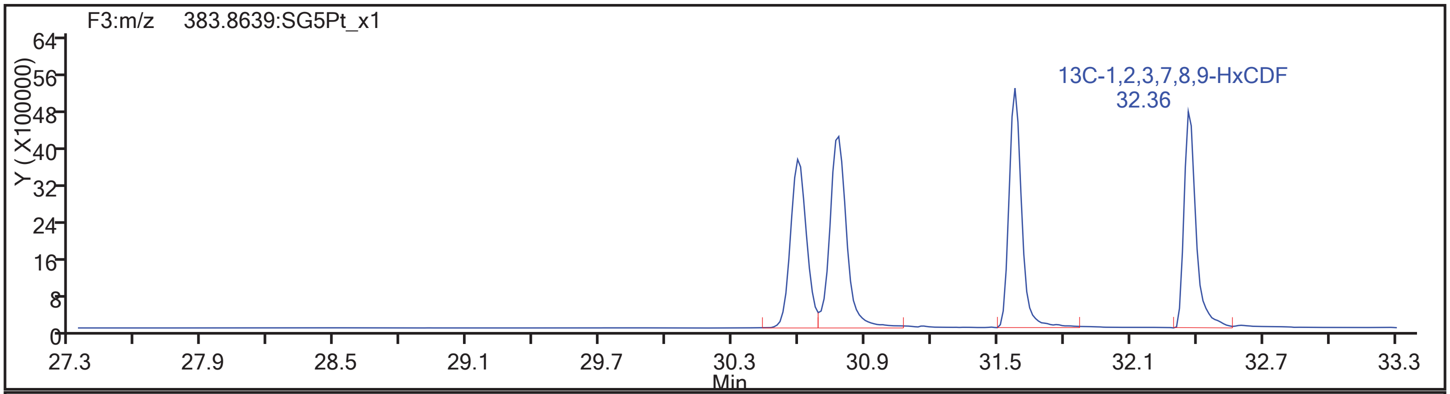
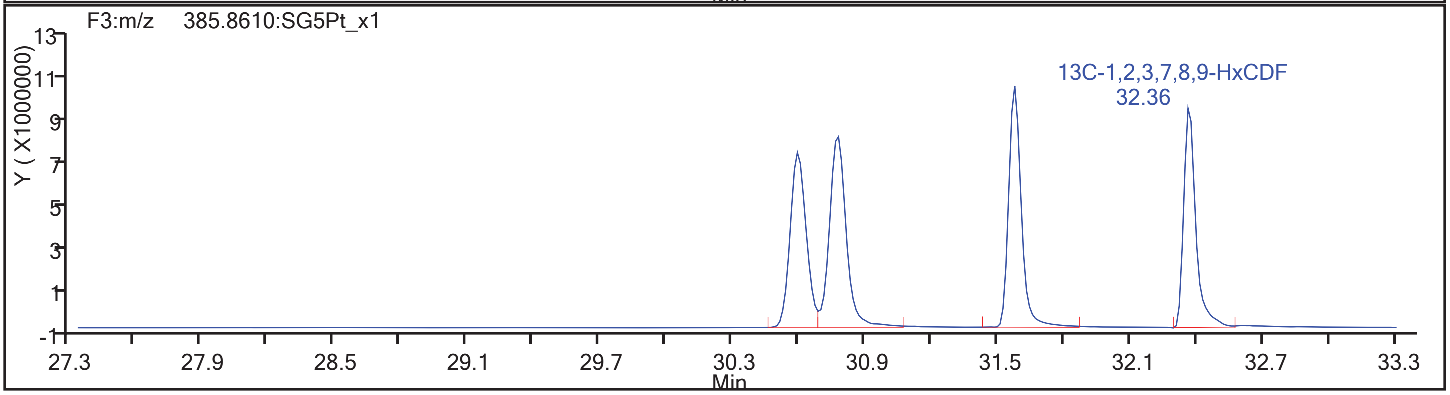
HxCDF





HxCDF Standards





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TestAmerica Sacramento

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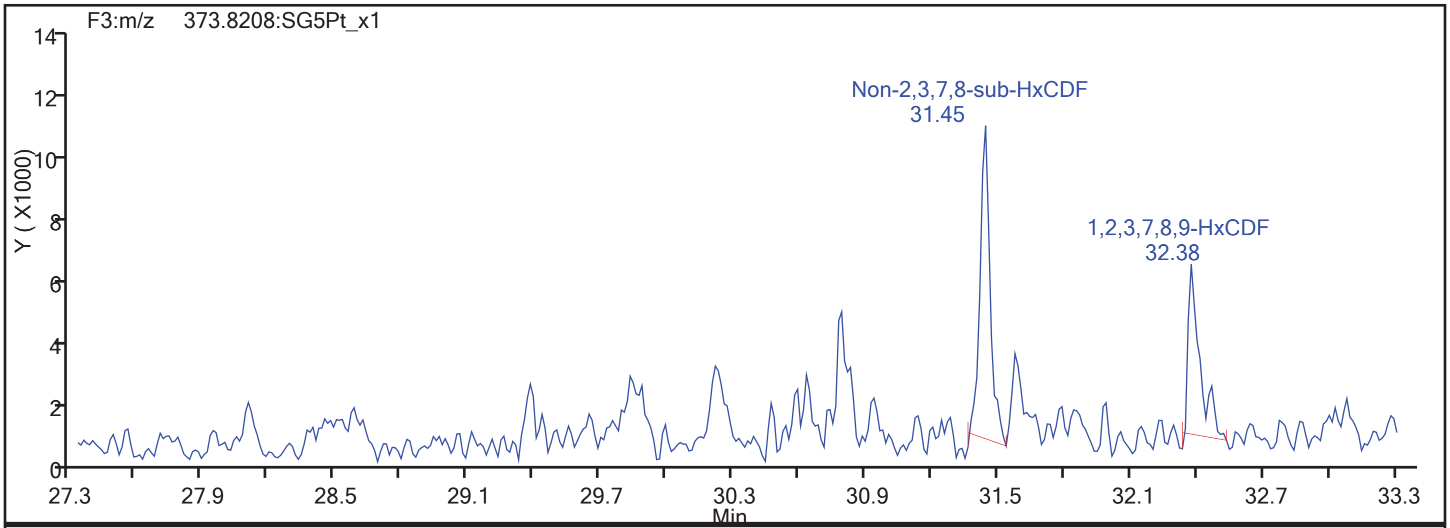
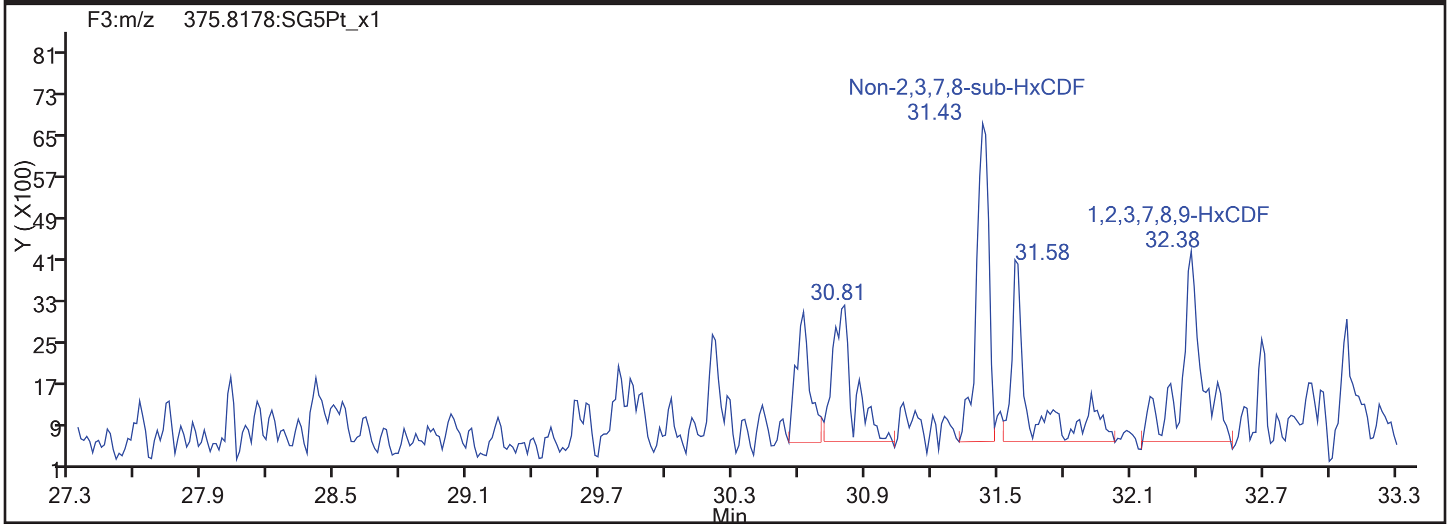
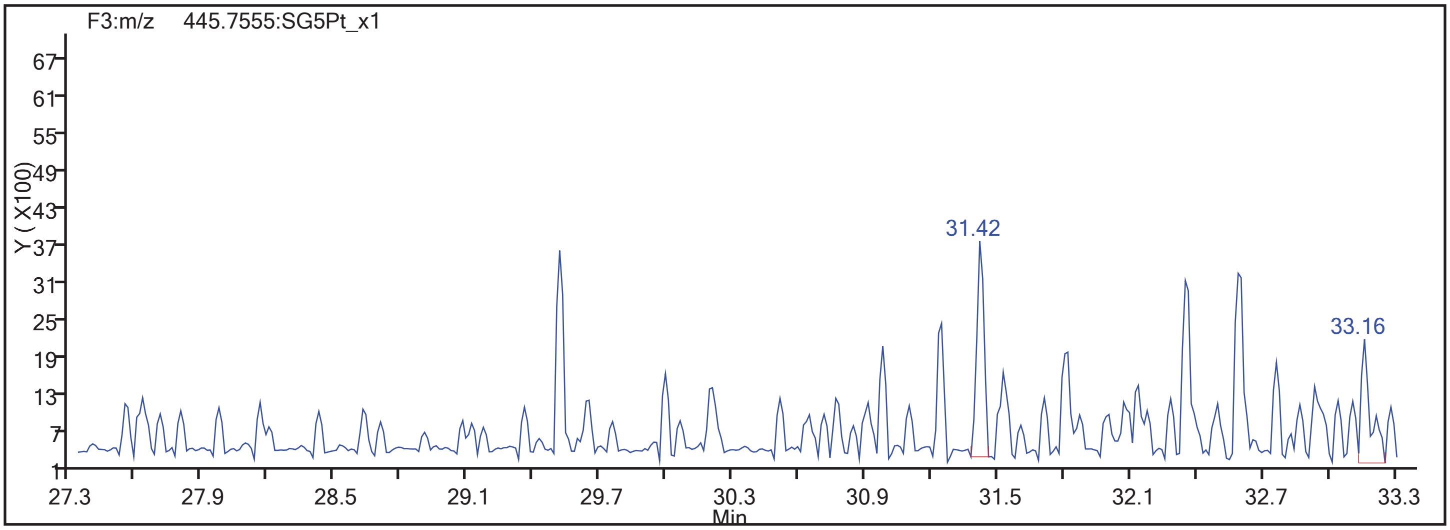




HxCDF Interference Mass



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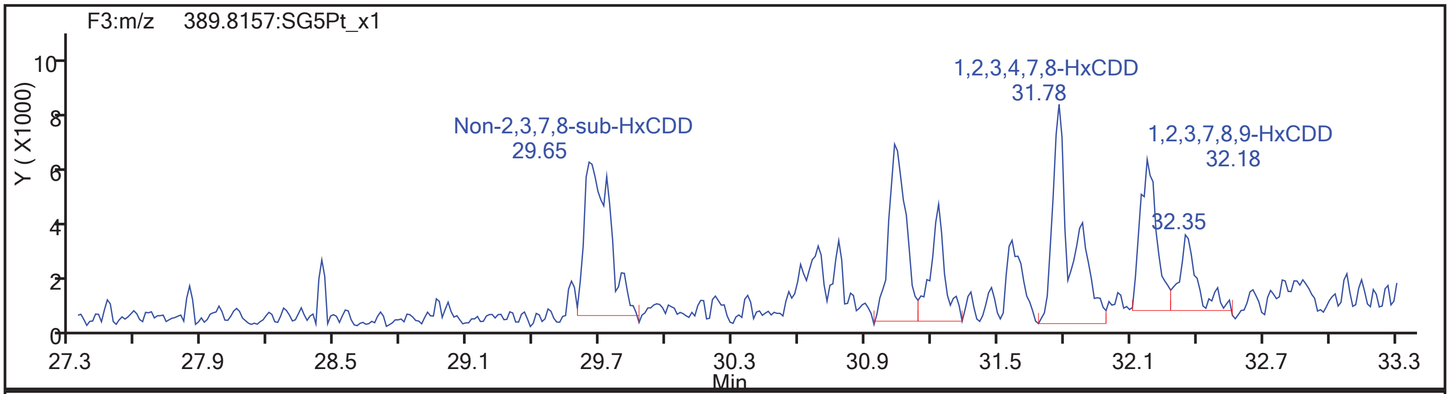
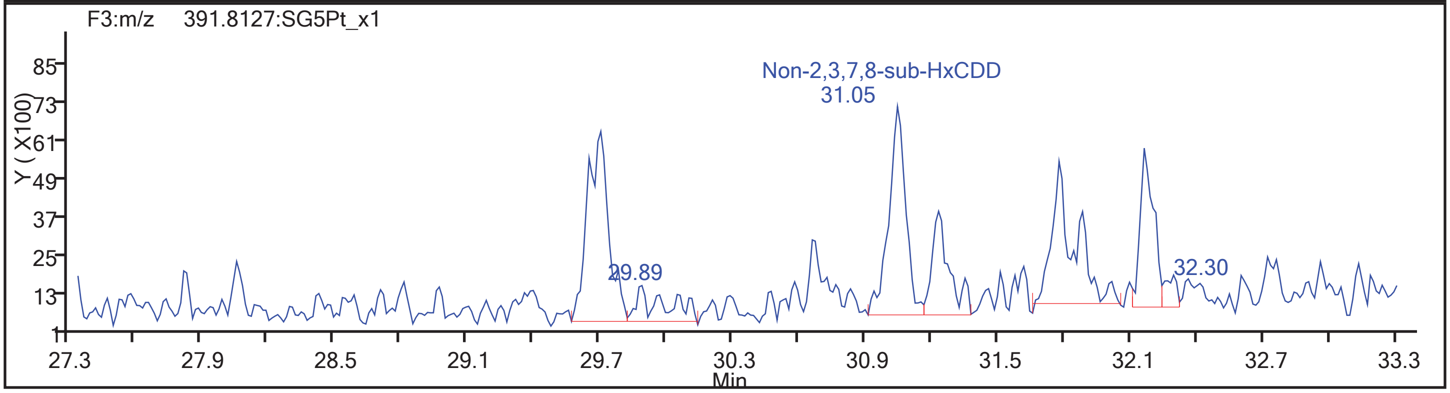
HxCDD





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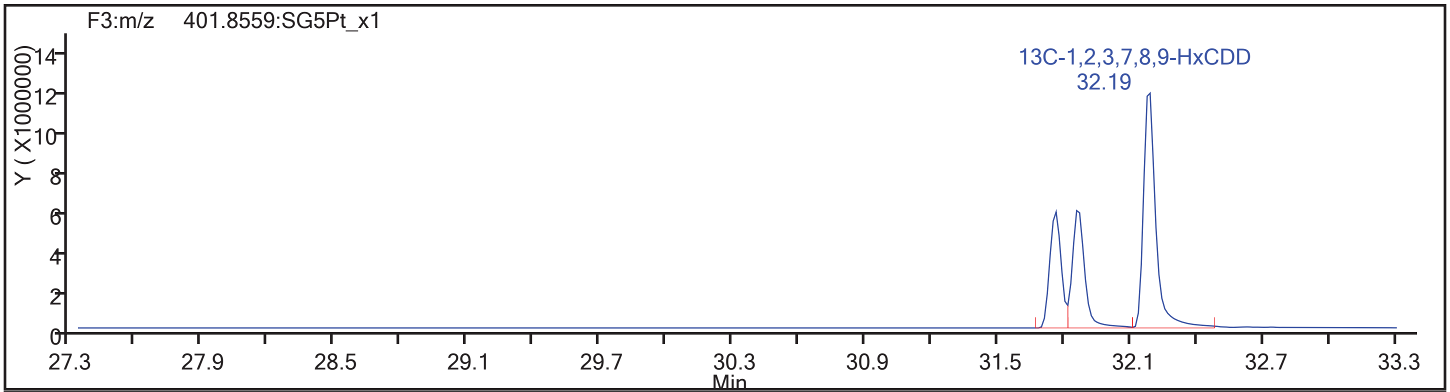

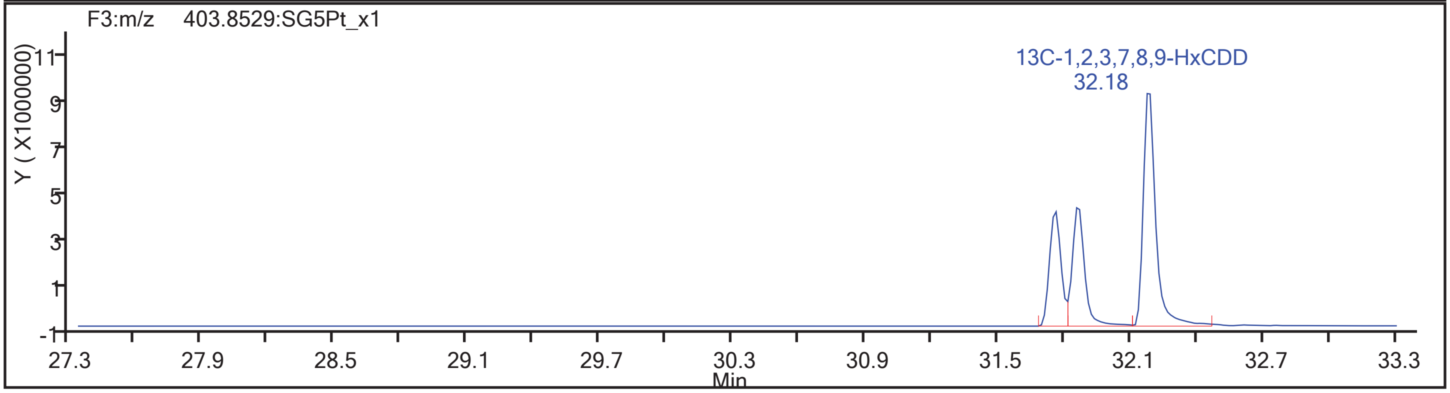

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TestAmerica Sacramento

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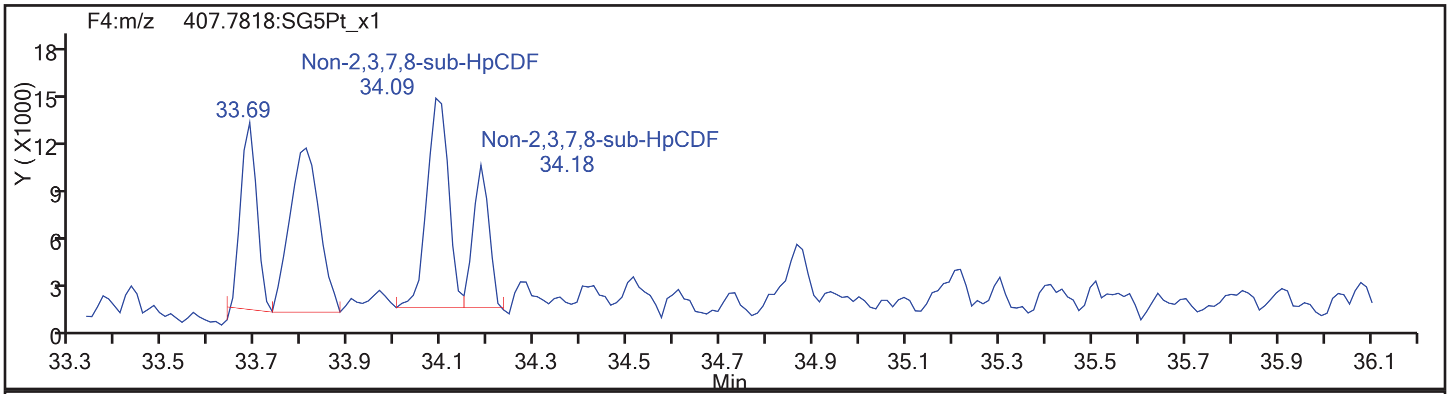
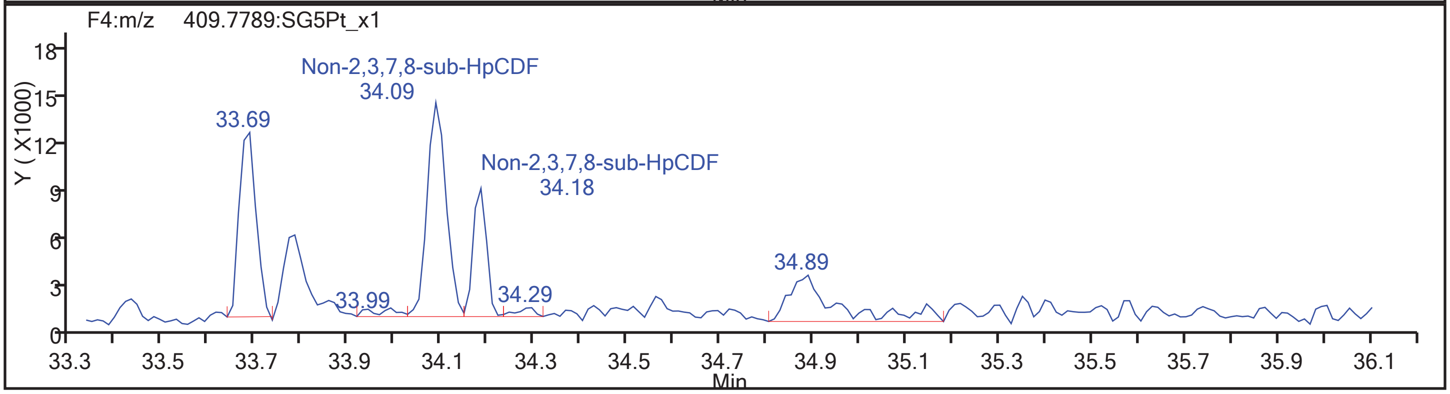
HpCDF





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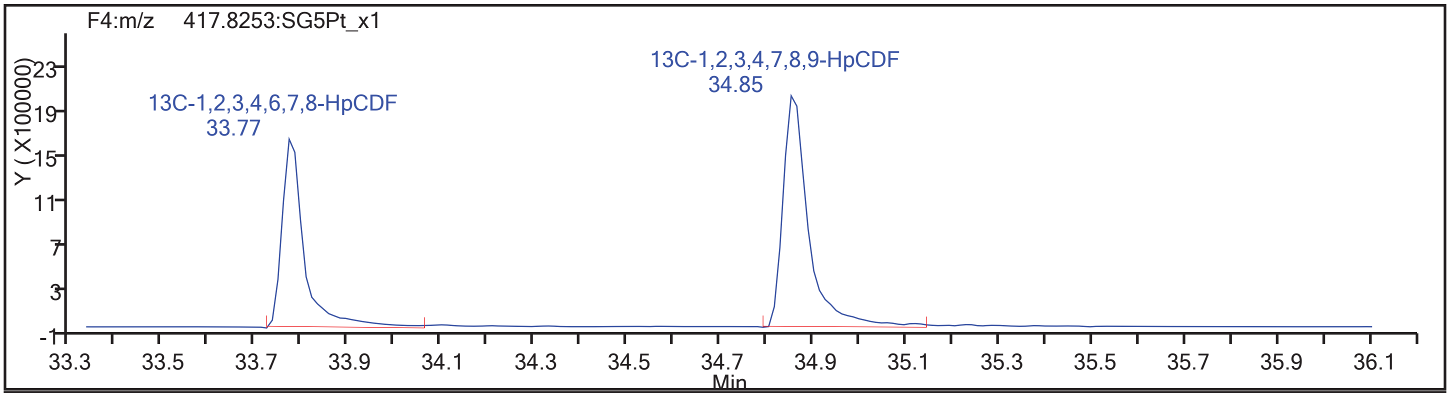

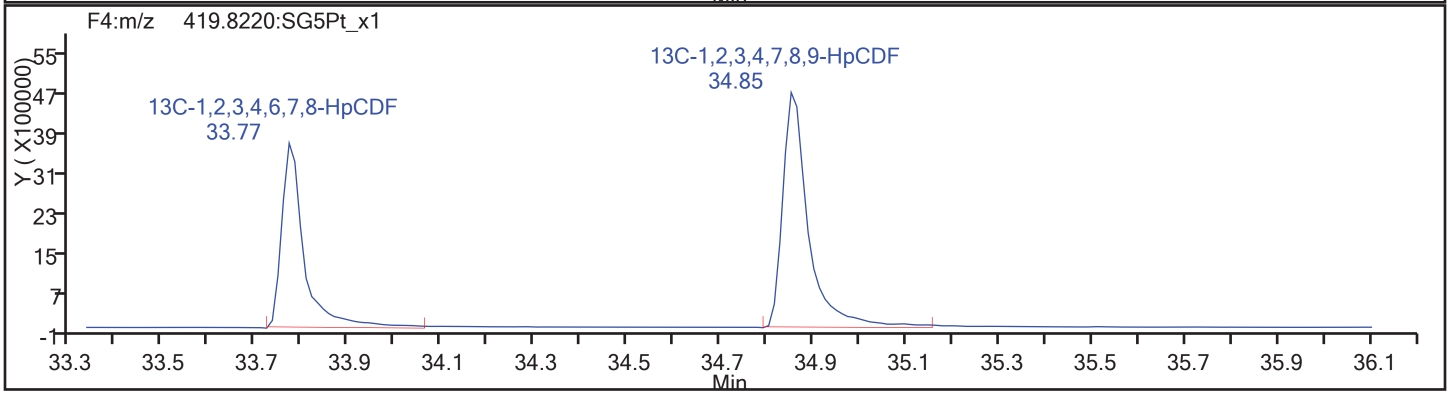

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TestAmerica Sacramento

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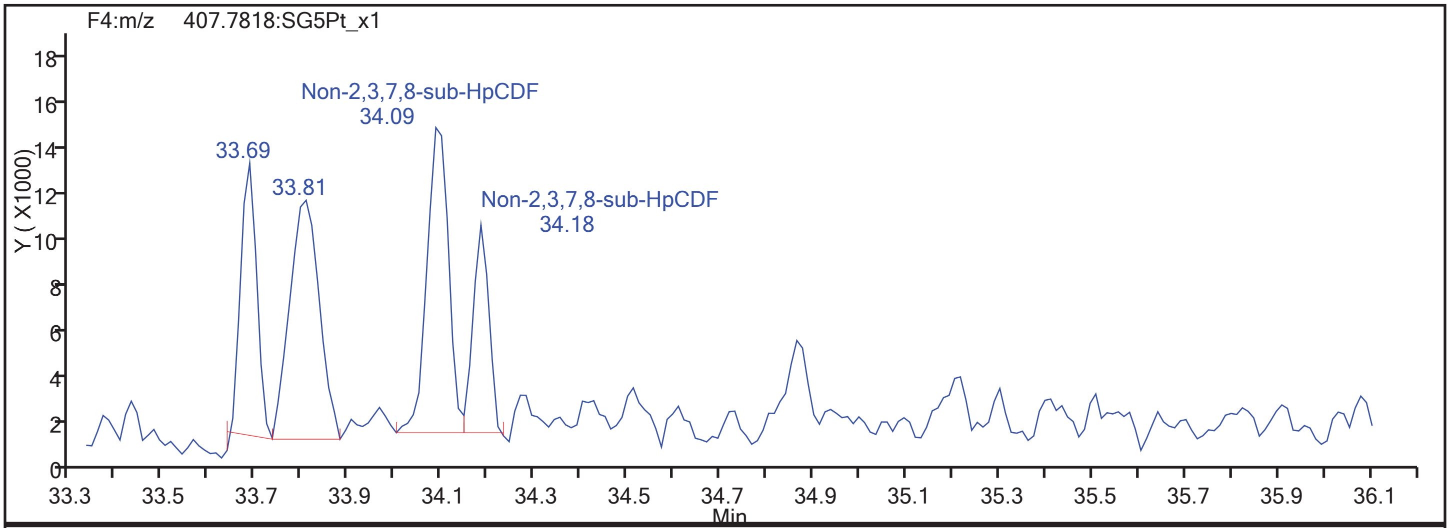
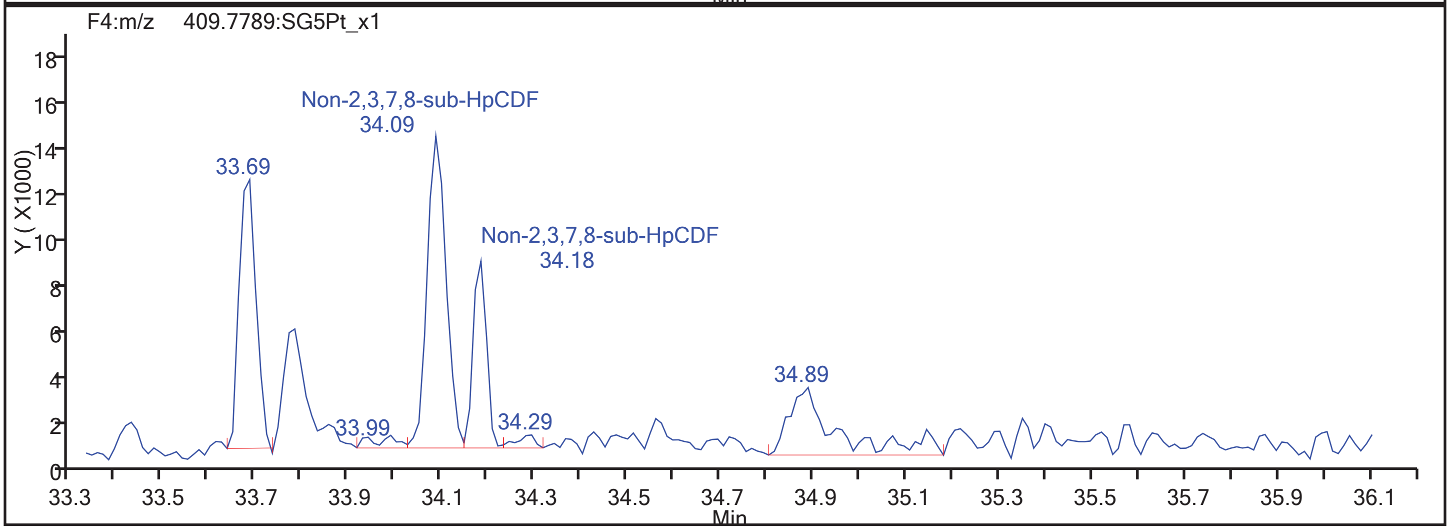
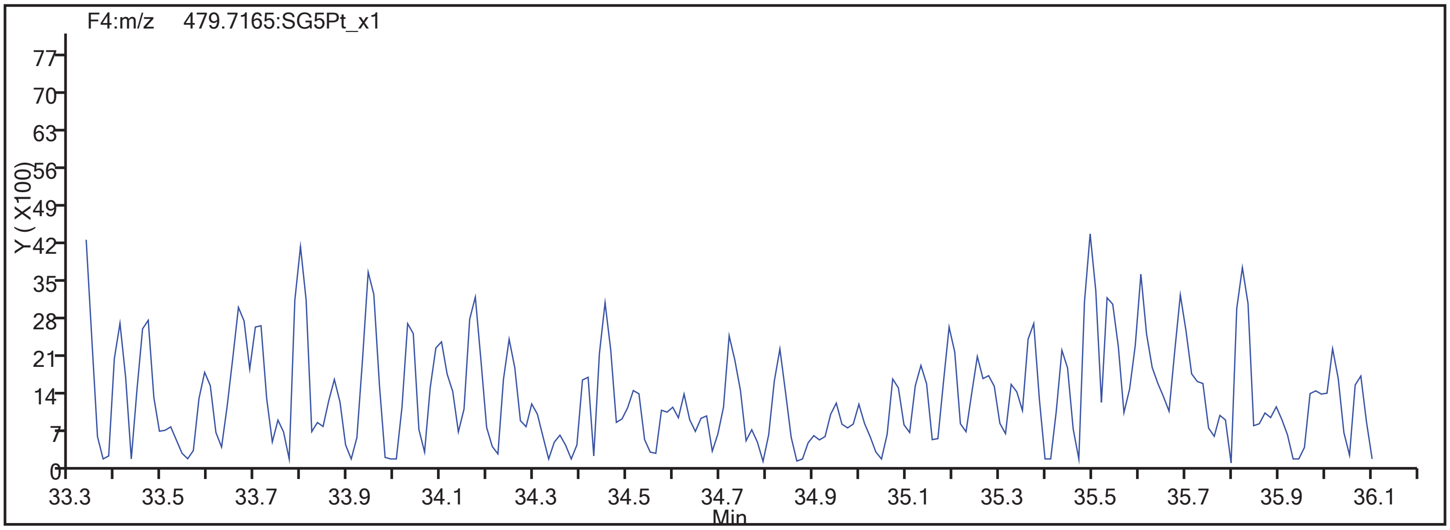
HpCDF





HpCDF Interference Mass



TestAmerica Sacramento

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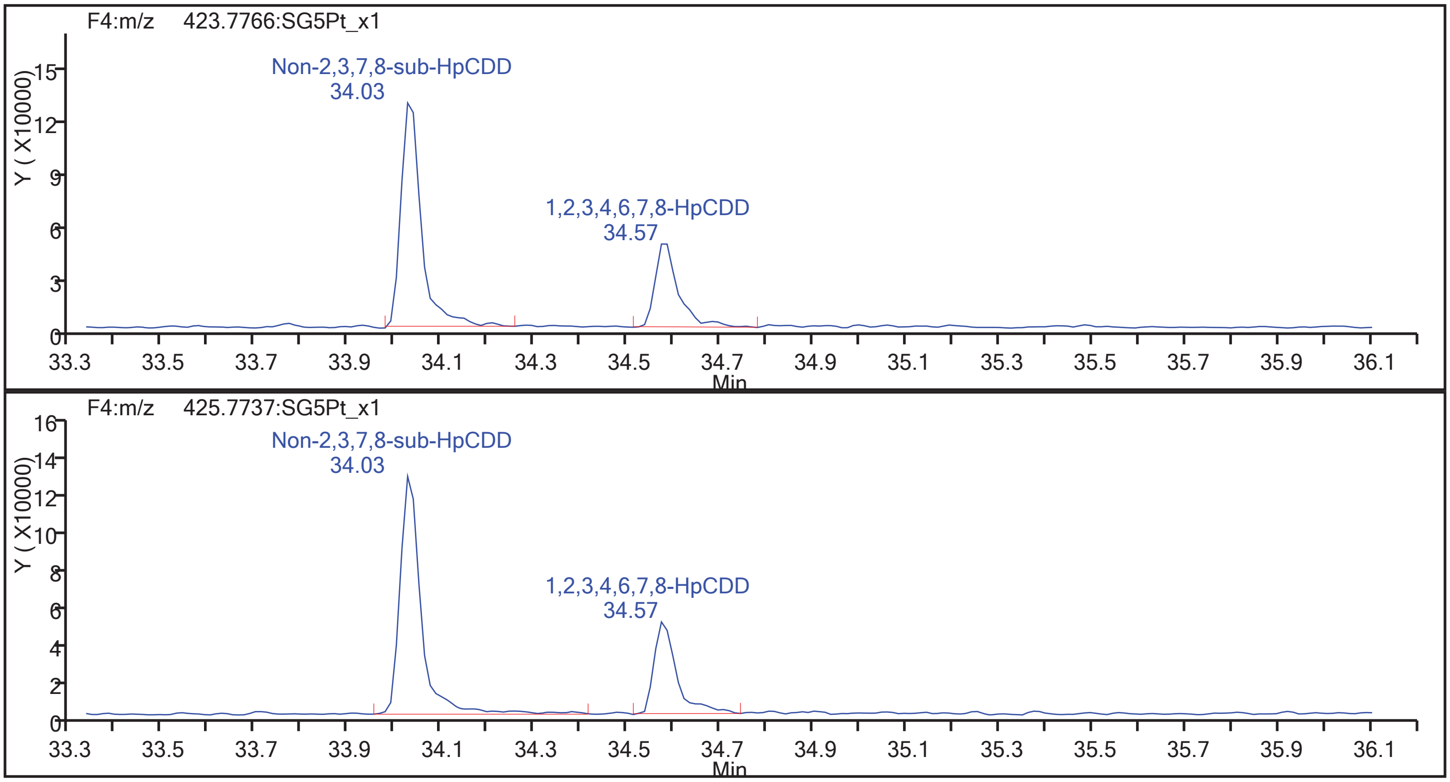
HpCDD



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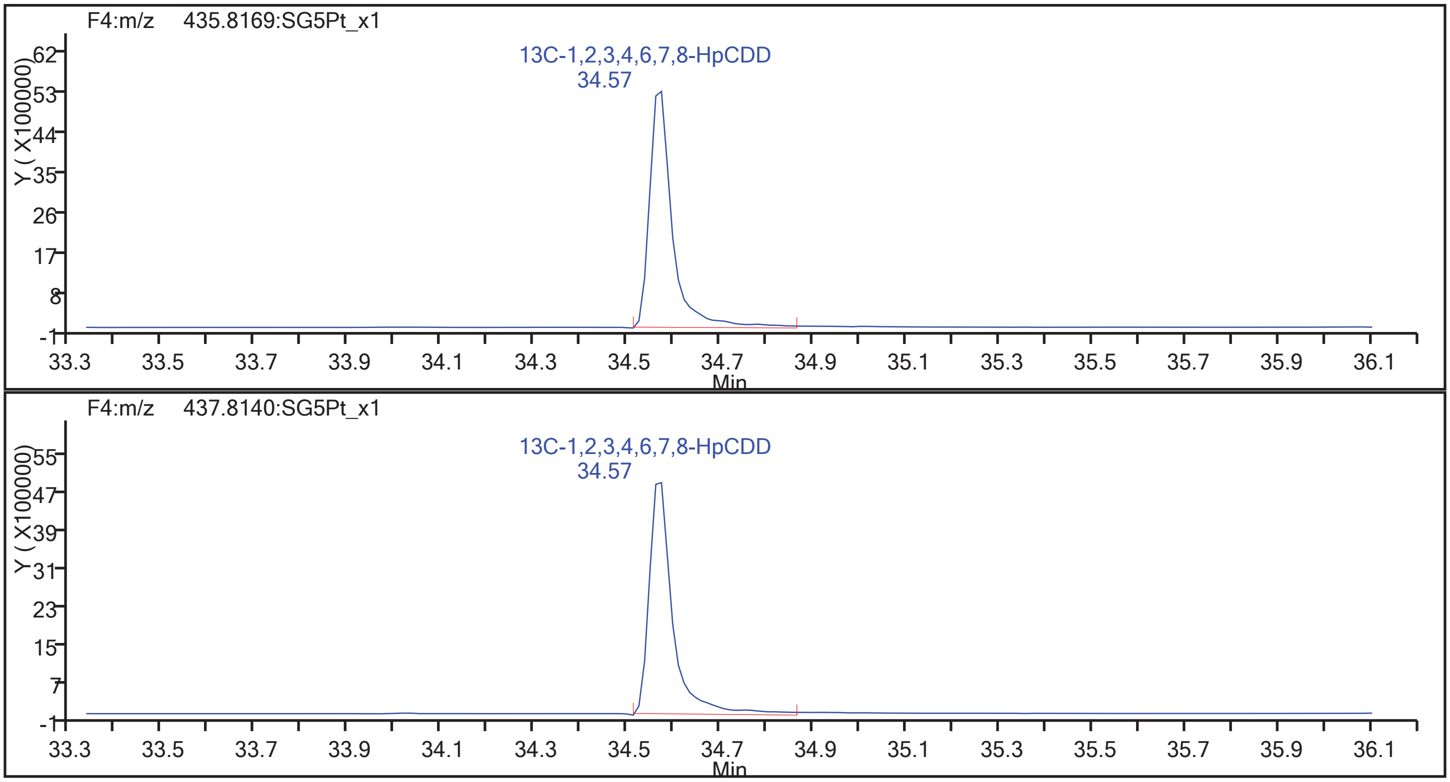

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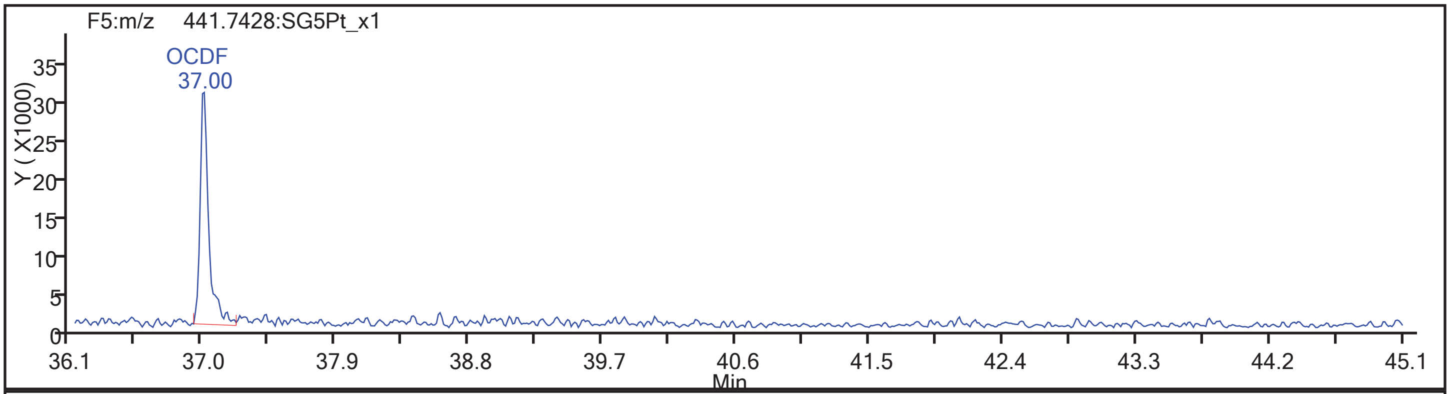
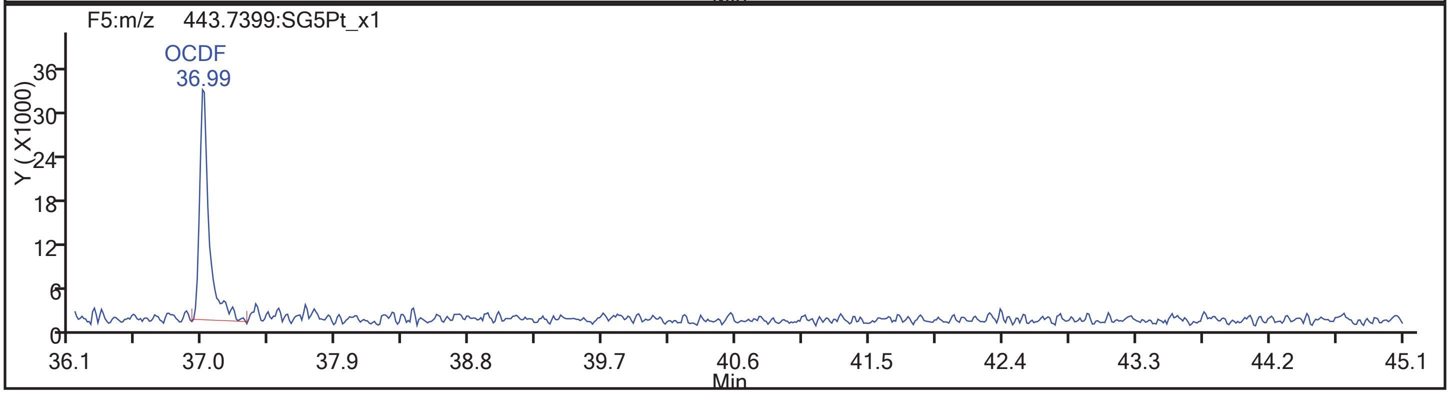
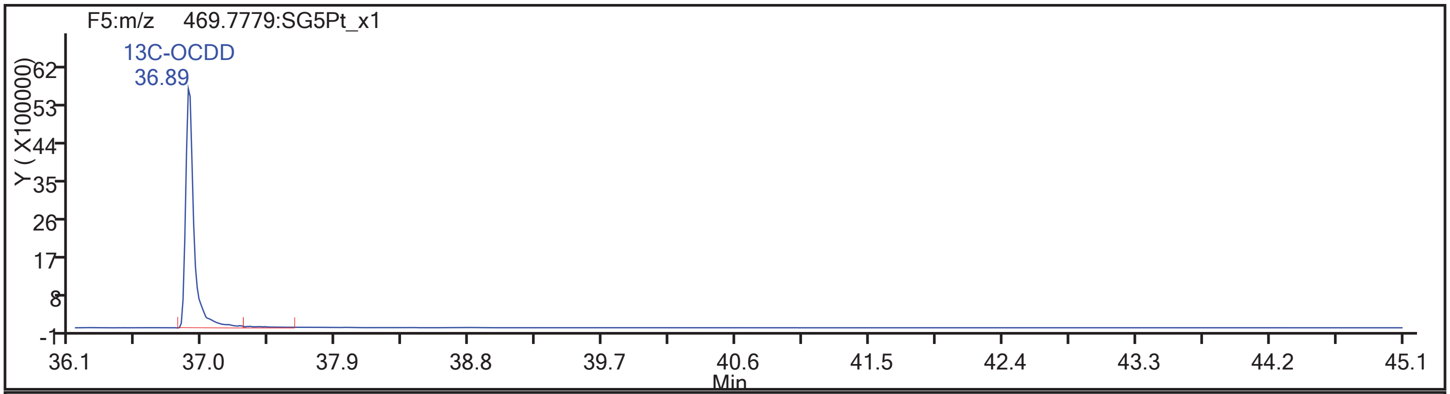
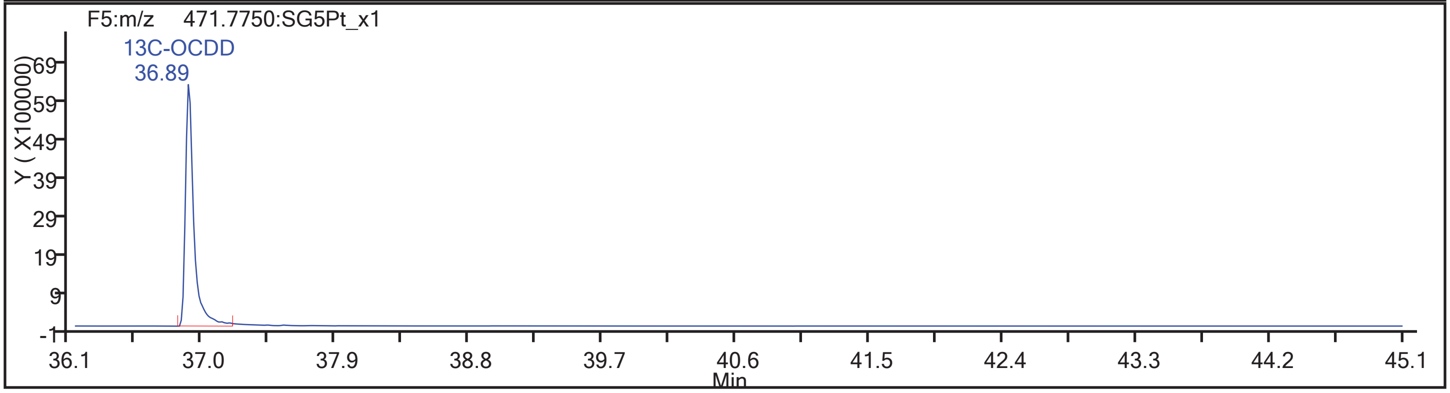
OCDF





OCDF Standards





Report Date: 13-Nov-2017 13:01:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d

Injection Date: 11-Nov-2017 19:40:15 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

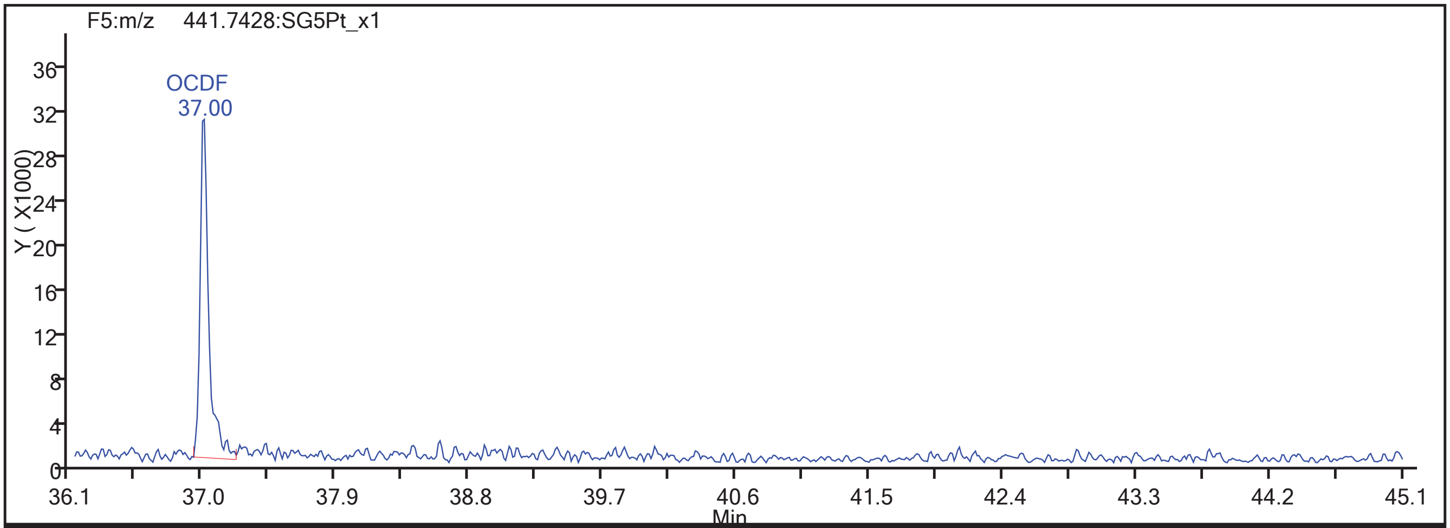
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

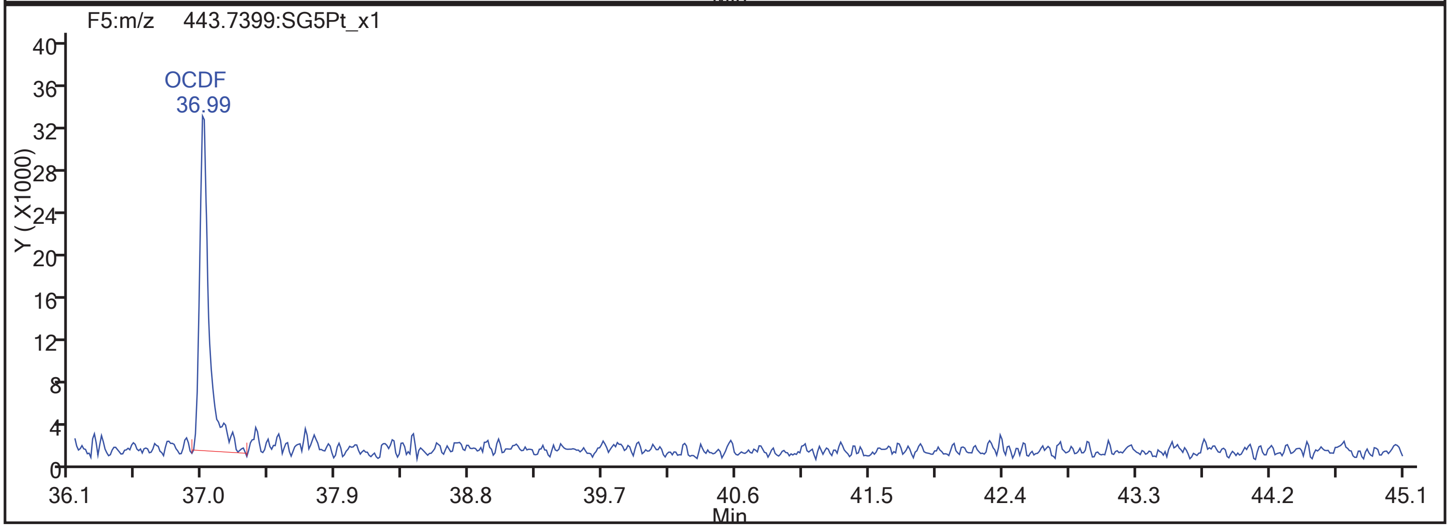
Client ID: SHAD041DP022SS04NS

Worklist#: 194085 Sample Line#: 75

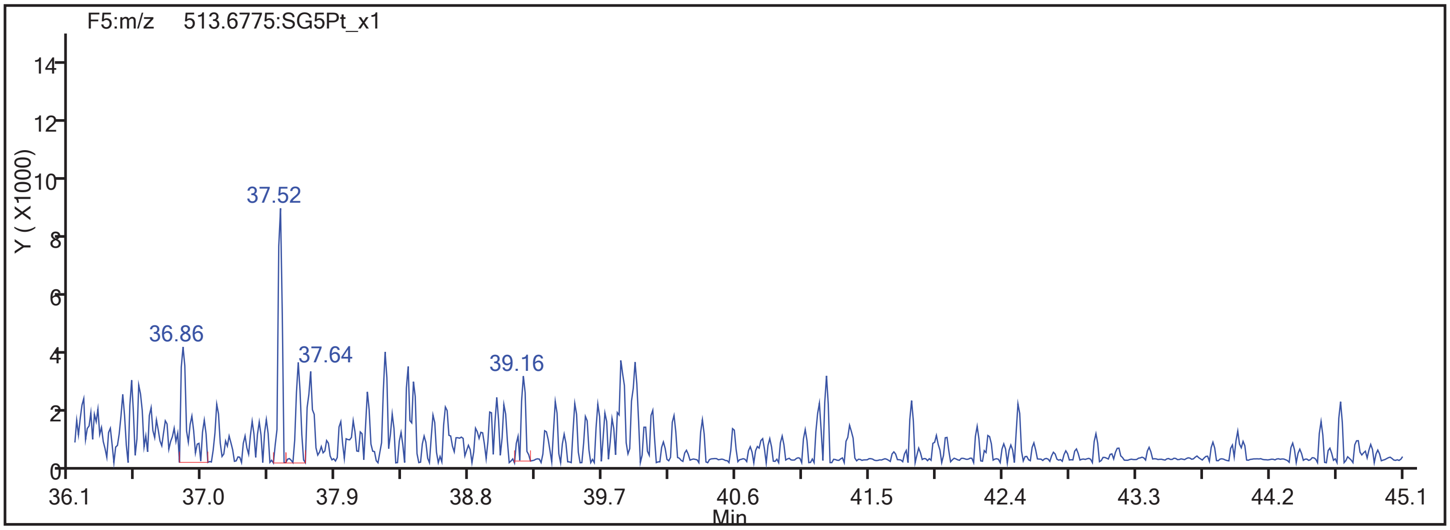
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



Report Date: 13-Nov-2017 13:01:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d

Injection Date: 11-Nov-2017 19:40:15 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

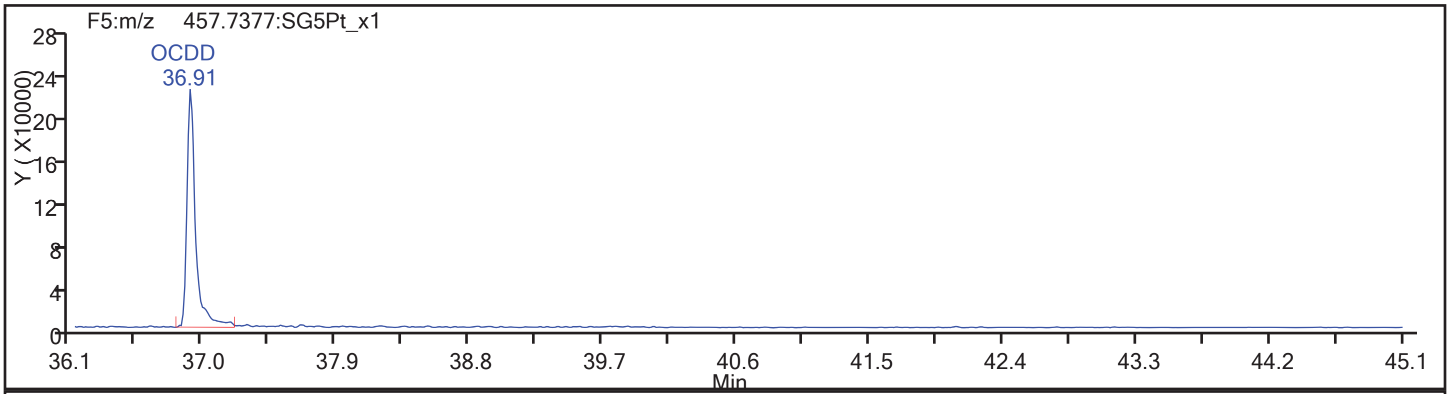
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

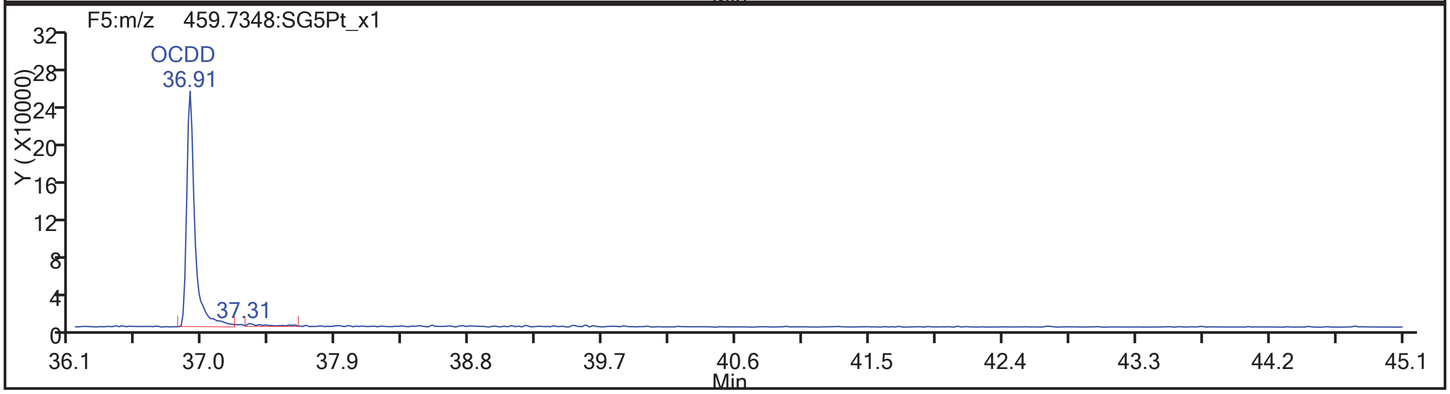
Client ID: SHAD041DP022SS04NS

Worklist#: 194085 Sample Line#: 75

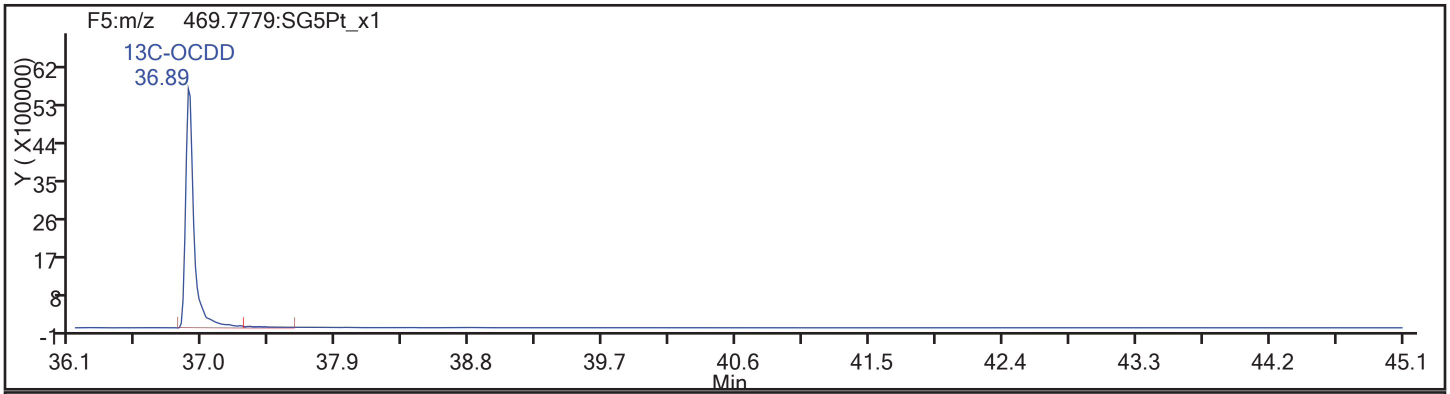
Column Type: DB-5 Column Dia: 0.32 mm

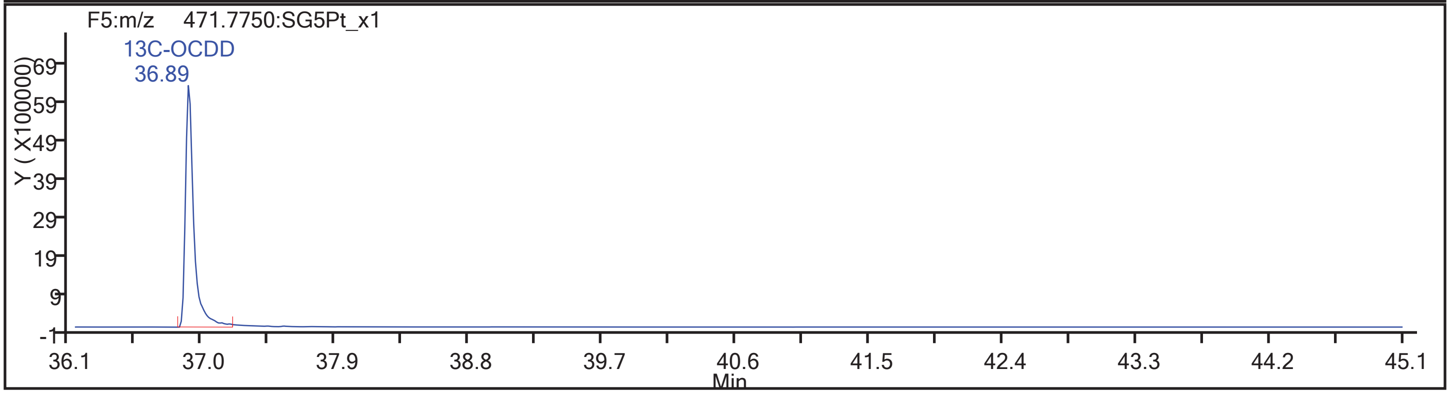
OCDD





OCDD Standards



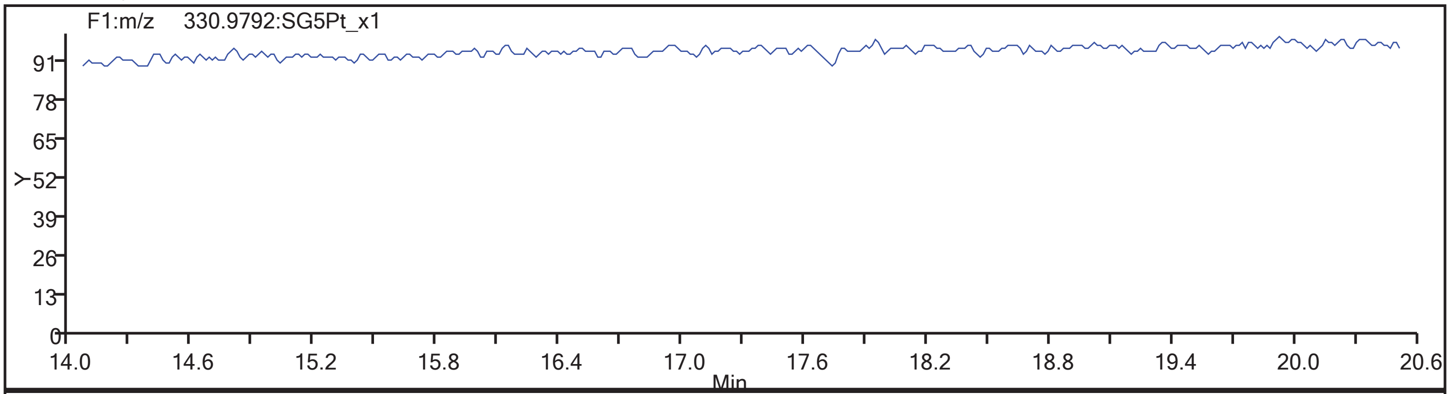


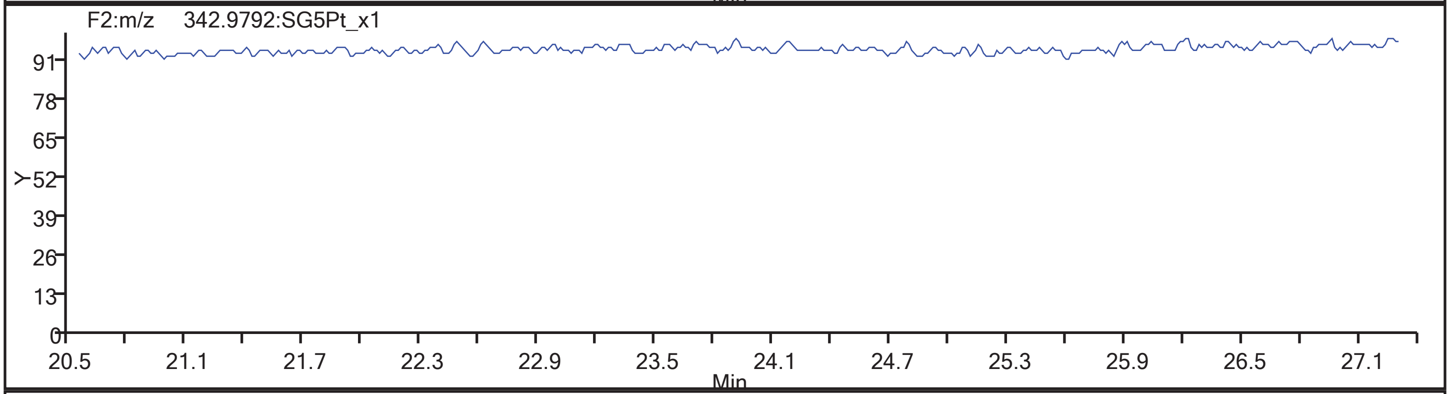
Report Date: 13-Nov-2017 13:01:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

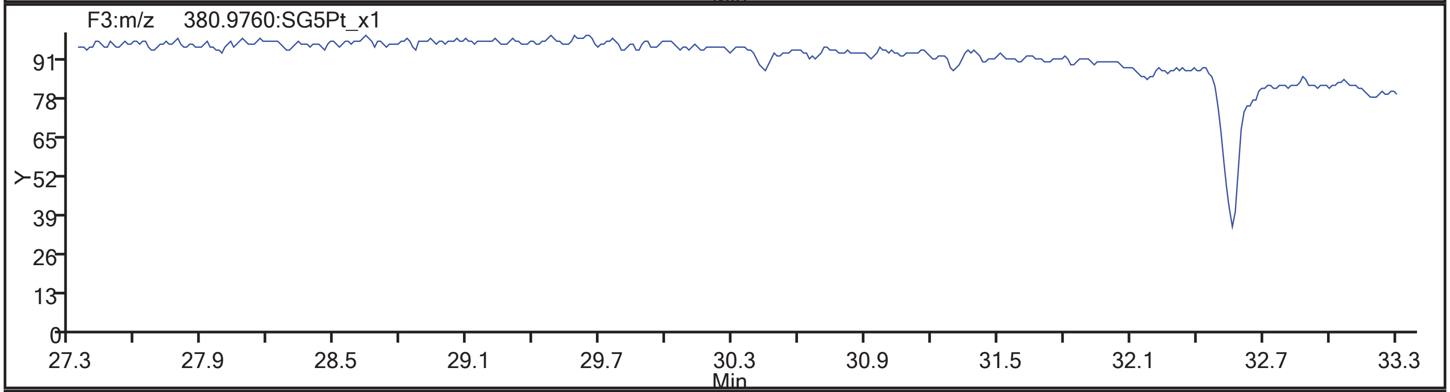
TestAmerica Sacramento

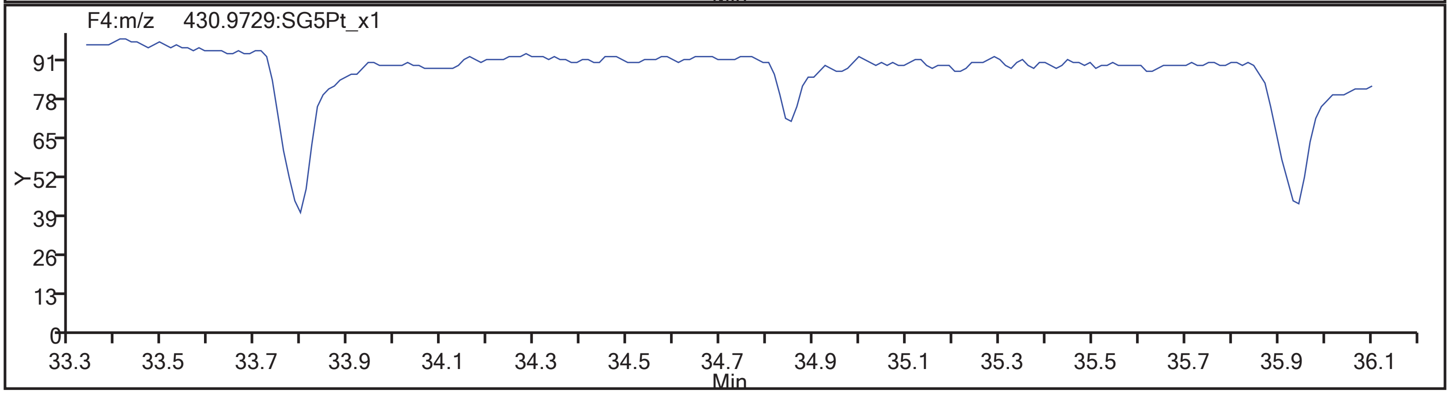
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d

Injection Date: 11-Nov-2017 19:40:15
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS04NS
Worklist#: 194085
Sample Line#: 75
Column Type: DB-5
Column Dia: 0.32 mm





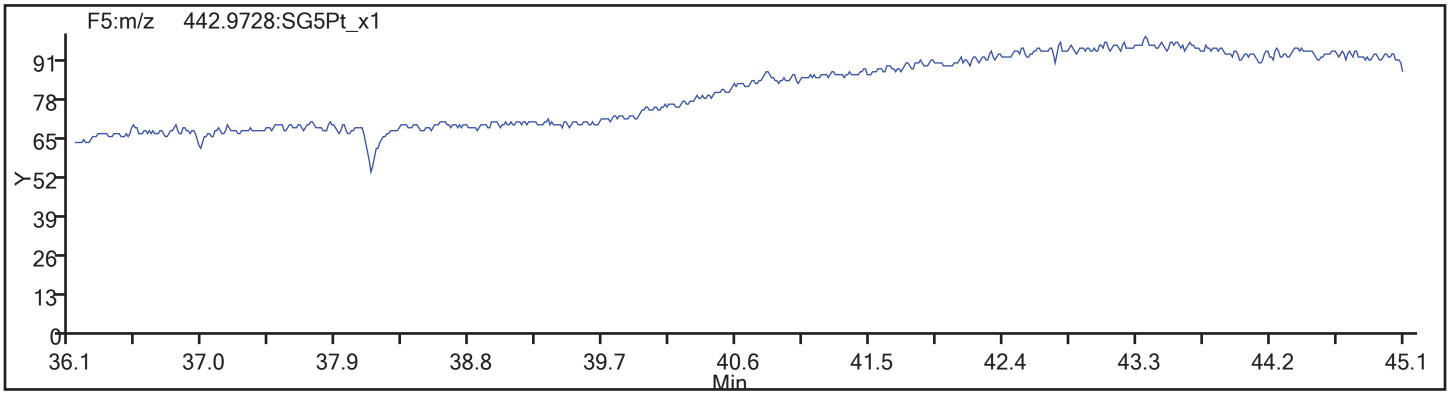




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_75.d

Injection Date:	11-Nov-2017 19:40:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	194085	Sample Line#:	75
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS04NS RE	Lab Sample ID: 160-24924-10 RE
Matrix: Solid	Lab File ID: 16NO173D5_76.d
Analysis Method: 8290A	Date Collected: 10/05/2017 17:10
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.11(g)	Date Analyzed: 11/19/2017 07:17
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 13.7	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195574	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.46*	*U H*	*1.1*	0.46	*0.067*
51207-31-9	*2,3,7,8-TCDF*	*0.46*	*U H*	*1.1*	0.46	*0.049*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.86*	*U H*	*5.7*	0.86	*0.11*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.86*	*U H*	*5.7*	0.86	*0.060*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.86*	*U H*	*5.7*	0.86	*0.062*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*2.3*	*U H*	*5.7*	2.3	*0.089*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*2.3*	*U H*	*5.7*	2.3	*0.080*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*0.27*	*J H*	*5.7*	2.3	*0.077*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.86*	*U H*	*5.7*	0.86	*0.085*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.1*	*U H*	*5.7*	1.1	*0.077*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*0.18*	*J H*	*5.7*	1.1	*0.088*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.86*	*U H*	*5.7*	0.86	*0.083*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*1.7*	*J H*	*5.7*	1.1	*0.15*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*0.38*	*J H*	*5.7*	1.1	*0.12*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.3*	*U H*	*5.7*	2.3	*0.16*
3268-87-9	*OCDD*	*15*	*H B*	*11*	4.6	*0.15*
39001-02-0	*OCDF*	*2.1*	*J H*	*11*	4.6	*0.13*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	54		40-135
89059-46-1	13C-2,3,7,8-TCDF	54		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	54		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	53		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	54		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	54		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	55		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	49		40-135
114423-97-1	13C-OCDD	48		40-135

FORM I 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d
Lims ID: 160-24924-G-10-B
Client ID: SHAD041DP022SS04NS
Sample Type: Client
Inject. Date: 19-Nov-2017 07:17:08 ALS Bottle#: 51 Worklist Smp#: 76
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-10-B 160-24924-G-10-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:53:40 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: dadunj Date: 06-Dec-2017 14:53:40

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	141327037	0.80	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.705	114702939	0.78	1.5089	53.8	53.8	0.1845	0.1845	53.79	
2,3,7,8-TCDF	17.720						0.0212	0.0212		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF							0.0212	0.0212		
D 13C-2,3,7,8-TCDD	18.430	76241996	0.81	0.9906	54.5	54.5	0.1798	0.1798	54.46	
2,3,7,8-TCDD	18.445						0.0293	0.0293		
A Non-2,3,7,8-sub-TCDD	17.871	78369	0.77	1.1645	0.0986	0.0883	0.0293	0.0883		RQ
S Total TCDD					0.0986	0.0883	0.0293	0.0293		RQ
D 13C-1,2,3,7,8-PeCDF	22.883	84835441	1.62	1.1280	53.2	53.2	0.1740	0.1740	53.21	
1,2,3,7,8-PeCDF	22.896						0.0262	0.0262		
2,3,4,7,8-PeCDF	24.274						0.0269	0.0269		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF							0.0269	0.0269		
D 13C-1,2,3,7,8-PeCDD	25.010	55125008	1.70	0.7269	53.7	53.7	0.1151	0.1151	53.66	
1,2,3,7,8-PeCDD	25.024	28287	1.55	1.1272	0.0575	0.0455	0.0496	0.0496		RQ
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD					0.0575	0.0455	0.0496	0.0496		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.906	66071666	0.51	1.0279	53.6	53.6	0.2676	0.2676	53.59	
1,2,3,4,7,8-HxCDF	30.932						0.0369	0.0369		
1,2,3,6,7,8-HxCDF	31.092						0.0337	0.0337		
2,3,4,6,7,8-HxCDF	31.824						0.0360	0.0360		
D 13C-1,2,3,7,8,9-HxCDF	32.583	66315567	0.53							
1,2,3,7,8,9-HxCDF	32.597	67697	1.10	1.2903	0.0794	0.0794	0.0386	0.0386		
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF					0.0794	0.0794	0.0363	0.0363		
* 13C-1,2,3,7,8,9-HxCDD	32.397	119934384	1.21	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.104						0.0389	0.0389		U
D 13C-1,2,3,6,7,8-HxCDD	32.091	54742064	1.24	0.8502	53.7	53.7	0.2327	0.2327	53.69	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.104						0.0350	0.0350		U
1,2,3,7,8,9-HxCDD	32.410	78571	1.36	1.2311	0.1166	0.1166	0.0336	0.0336		
A Non-2,3,7,8-sub-HxCDD	31.252	70329	1.13	1.1589	0.1109	0.1109	0.0357	0.1109		
S Total HxCDD					0.2274	0.2274	0.0358	0.0358		
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	38091647	0.46	0.6490	48.9	48.9	0.4752	0.4752	48.94	
1,2,3,4,6,7,8-HpCDF	33.998	99013	1.18	1.5871	0.1638	0.1638	0.0526	0.0526		
1,2,3,4,7,8,9-HpCDF	35.128						0.0679	0.0679		
A Non-2,3,7,8-sub-HpCDF	34.569	154677	1.01	1.4080	0.2884	0.2884	0.0592	0.2884		
S Total HpCDF					0.4522	0.4522	0.0602	0.0602		
D 13C-1,2,3,4,6,7,8-HpCDD	34.812	35230077	1.13	0.5387	54.5	54.5	0.3150	0.3150	54.53	
1,2,3,4,6,7,8-HpCDD	34.836	303046	1.06	1.1631	0.7396	0.7396	0.0668	0.0668		
A Non-2,3,7,8-sub-HpCDD	35.261	264254	1.04	1.1631	0.6449	0.6449	0.0668	0.6449		
S Total HpCDD					1.384	1.384	0.0668	0.0668		
D 13C-OCDD	37.233	45714890	0.91	0.4009	95.1	95.1	0.1783	0.1783	47.54	
OCDF	37.341	269166	0.89	1.2649	1.000	0.9310	0.0550	0.0550		RQ
OCDD	37.245	1502753	0.94	1.0390	6.328	6.328	0.0649	0.0649		

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

U - Marked Undetected

Report Date: 06-Dec-2017 14:53:40 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d
Lims ID: 160-24924-G-10-B
Client ID: SHAD041DP022SS04NS
Sample Type: Client
Inject. Date: 19-Nov-2017 07:17:08 ALS Bottle#: 51 Worklist Smp#: 76
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-10-B 160-24924-G-10-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:53:40 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: dadunj Date: 06-Dec-2017 14:53:40

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		62864129	15481664	14698	36745	1053		
333.9339	18.234	18.234	0		78462908	18923322	9819	24547	1927	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	0.971	50107780	12006798	21002	52505	572		
317.9389	17.705	17.705	0	0.971	64595159	15422861	17316	43290	891	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						759	1897			
305.8987	17.720						1788	4470			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						759	1897			
305.8987	17.402						1788	4470			
13C-2,3,7,8-TCDD											
331.9368	18.430	18.430	0	1.011	34148167	7683470	14698	36745	523		
333.9339	18.430	18.430	0	1.011	42093829	9301218	9819	24547	947	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.445						1626	4065			
321.8936	18.445						689	1722			
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	16.177	17.871	-101	0.878	34093	6800	1626	4065	4		
321.8936	16.162	17.871	-102	0.877	53477	10494	689	1722	15	0.64(0.65-0.89)	
	Empc Correction				44276	8831	689	1722	13		
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.869	1	1.255	52402882	8881820	16863	42157	527		
353.8970	22.883	22.869	1	1.255	32432559	5512822	10144	25360	543	1.62(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.896						605	1512			
341.8567	22.896						1115	2787			
2,3,4,7,8-PeCDF											
339.8597	24.274						605	1512			
341.8567	24.274						1115	2787			
A F1 PeCDFs											
339.8597	20.426						627	1567			
341.8567	20.426						1046	2615			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						605	1512			
341.8567	23.668						1115	2787			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	24.996	1	1.372	34708526	5088427	6236	15590	816		
369.8919	25.010	24.996	1	1.372	20416482	3020685	5277	13192	572	1.70(1.32-1.78)	
1,2,3,7,8-PeCDD											RQ
355.8546	25.024	25.024	0	1.001	24629	6003	1305	3262	5		
	Empc Correction				17194	4572	1305	3262	4		
357.8516	25.078	25.024	3	1.003	11093	2950	508	1270	6	2.22(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1305	3262			
357.8516	23.878						508	1270			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.906	30.906	0	0.954	22425098	5018505	12381	30952	405		
385.8610	30.906	30.906	0	0.954	43646568	9267303	23806	59515	389	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						1570	3925			
375.8178	30.932						1275	3187			
1,2,3,6,7,8-HxCDF											
373.8208	31.092						1570	3925			
375.8178	31.092						1275	3187			
2,3,4,6,7,8-HxCDF											
373.8208	31.824						1570	3925			
375.8178	31.824						1275	3187			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.006	22938254	6413055	12381	30952	518		
385.8610	32.583	32.583	0	1.006	43377313	11993890	23806	59515	504	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597	32.597	0	1.055	35481	6525	1570	3925	4		
375.8178	32.597	32.597	0	1.055	32216	7304	1275	3187	6	1.10(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						1570	3925			
375.8178	30.653						1275	3187			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.397	32.397	0		65709735	17936843	15471	38677	1159		
403.8529	32.397	32.397	0		54224649	14956709	10554	26385	1417	1.21(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											U
389.8157	31.997						1144	2860			
391.8127	31.997						1214	3035			
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.991	30273092	7890163	15471	38677	510		
403.8529	32.091	32.091	0	0.991	24468972	6353072	10554	26385	602	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											U
389.8157	32.104						1144	2860			
391.8127	32.104						1214	3035			
1,2,3,7,8,9-HxCDD											
389.8157	32.410	32.410	0	1.010	45235	8713	1144	2860	8		
391.8127	32.410	32.410	0	1.010	33336	6976	1214	3035	6	1.36(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.173	31.252	-65	0.940	37370	6868	1144	2860	6		
391.8127	30.133	31.252	-67	0.939	32959	5937	1214	3035	5	1.13(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	12065614	3989583	13807	34517	289		
419.8220	33.998	33.998	0	1.049	26026033	8518996	26773	66932	318	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.998	34.010	-1	1.000	53596	13842	2730	6825	5		
409.7789	33.998	34.010	-1	1.000	45417	12075	1444	3610	8	1.18(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						2730	6825			
409.7789	35.128						1444	3610			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.326	34.569	-15	1.010	77883	31834	2730	6825	12		
409.7789	34.326	34.569	-15	1.010	76794	16792	1444	3610	12	1.01(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.812	34.812	0	1.075	18655303	5694031	12462	31155	457		
437.8140	34.812	34.812	0	1.075	16574774	5203544	9864	24660	528	1.13(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.001	155949	48240	1601	4002	30		
425.7737	34.824	34.824	0	1.000	147097	40571	1787	4467	23	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.253	35.261	-60	0.984	134795	41897	1601	4002	26		a
425.7737	34.253	35.261	-60	0.984	129459	47556	1787	4467	27	1.04(0.88-1.20)	
13C-OCDD											
469.7779	37.233	37.233	0	1.149	21800911	6042080	5823	14557	1038		
471.7750	37.233	37.233	0	1.149	23913979	6615727	3584	8960	1846	0.91(0.76-1.02)	
OCDF											RQ
441.7428	37.341	37.341	0	1.003	146729	38180	709	1772	54		
	Empc Correction				126750	27970	709	1772	39		
443.7399	37.353	37.341	1	1.003	142416	31427	1052	2630	30	1.03(0.76-1.02)	
OCDD											
457.7377	37.245	37.245	0	1.000	727024	182997	746	1865	245		
459.7348	37.245	37.245	0	1.000	775729	204988	960	2400	214	0.94(0.76-1.02)	

QC Flag Legend

Processing Flags

- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags

- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d
Lims ID: 160-24924-G-10-B
Client ID: SHAD041DP022SS04NS
Inject. Date: 19-Nov-2017 07:17:08 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195574 Lims Sample ID: 76

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	76241996	16984688

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	76241996	16984688

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.177	34093	6800	53477	10494	0.0986	0.64	RQ
16.177	34093	6800	44276	8831	0.0883		Empc Correction
Signal Totals:							
	34093	6800	44276	8831			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	87570	17294				0.64	RQ
	78369	15631					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0986 = (87570 * 100.000) / (76241996 * 1.164)
Empc Amount: 0.0883 = (78369 * 100.000) / (76241996 * 1.164)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Lims ID:	160-24924-G-10-B		
Client ID:	SHAD041DP022SS04NS		
Inject. Date:	19-Nov-2017 07:17:08	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	76

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	54742064	14243235
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	54742064	14243235

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.173	37370	6868	32959	5937	0.1109	1.13	
Signal Totals:							
	37370	6868	32959	5937			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	70329	12805				1.13	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1109 = (70329 * 100.000) / (54742064 * 1.159)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d
Lims ID: 160-24924-G-10-B
Client ID: SHAD041DP022SS04NS
Inject. Date: 19-Nov-2017 07:17:08
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 76

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	38091647	12508579
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	38091647	12508579

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	77883	31834	76794	16792	0.2884	1.01	
Signal Totals:							
	77883	31834	76794	16792			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	154677	48626				1.01	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2884 = (154677 * 100.000) / (38091647 * 1.408)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Lims ID:	160-24924-G-10-B		
Client ID:	SHAD041DP022SS04NS		
Inject. Date:	19-Nov-2017 07:17:08	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	76

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	35230077	10897575

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	35230077	10897575

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.253	134795	41897	129459	47556	0.6449	1.04	
Signal Totals:							
	134795	41897	129459	47556			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	264254	89453				1.04	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

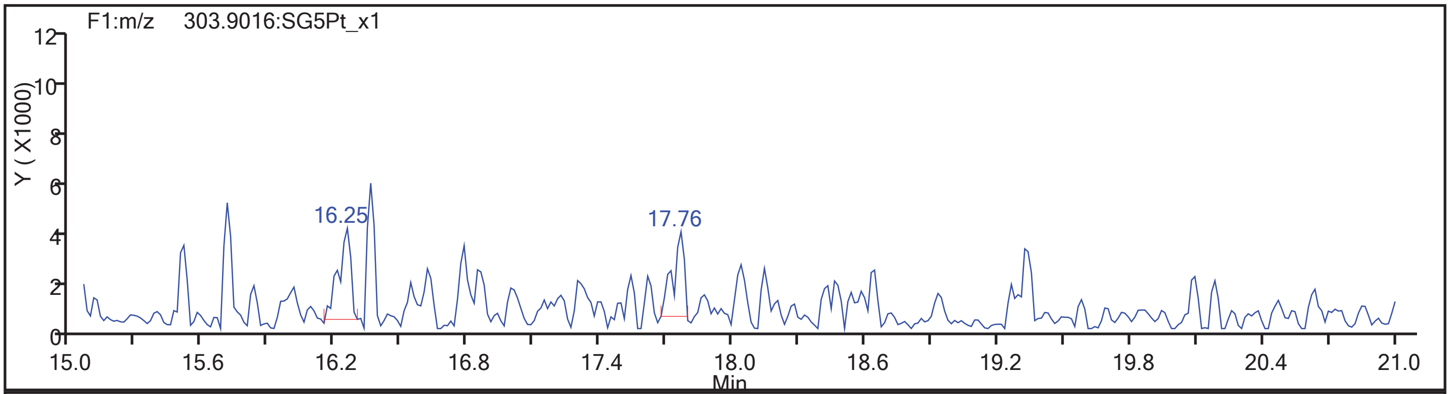
Amount: 0.6449 = (264254 * 100.000) / (35230077 * 1.163)

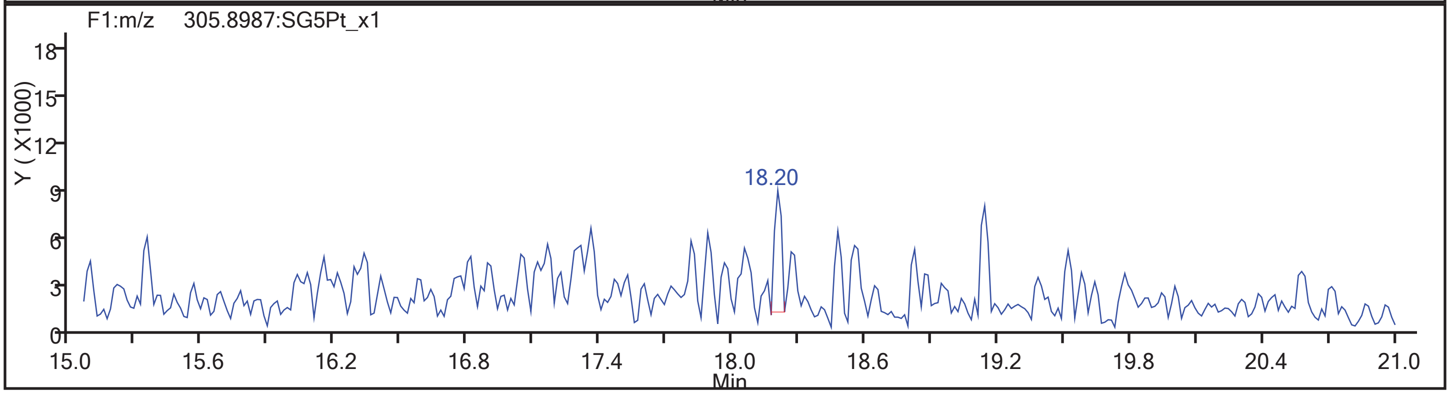
Report Date: 06-Dec-2017 14:53:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

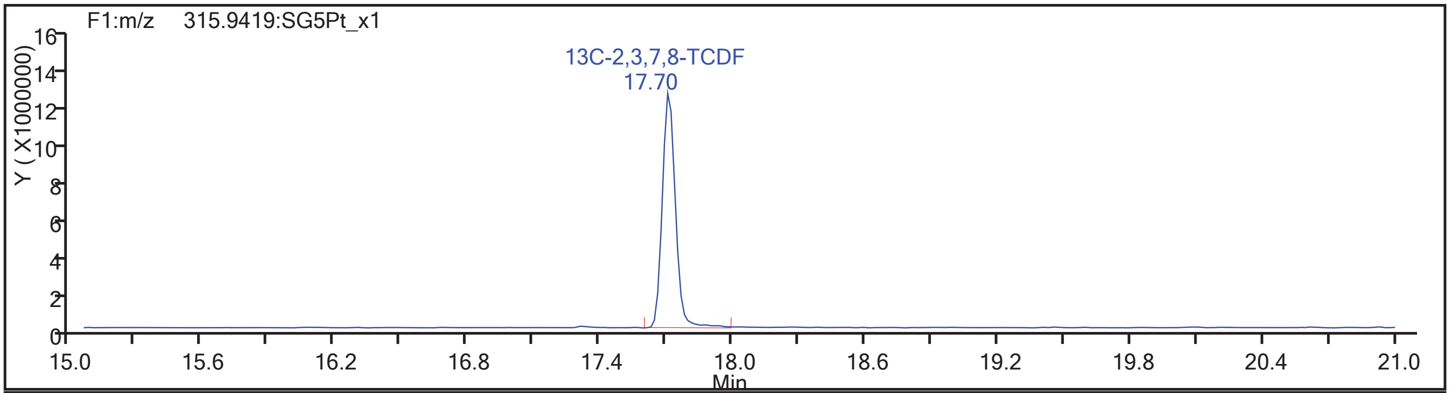
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d
Injection Date: 19-Nov-2017 07:17:08
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS04NS
Worklist#: 195574
Sample Line#: 76
Column Type:
Column Dia:

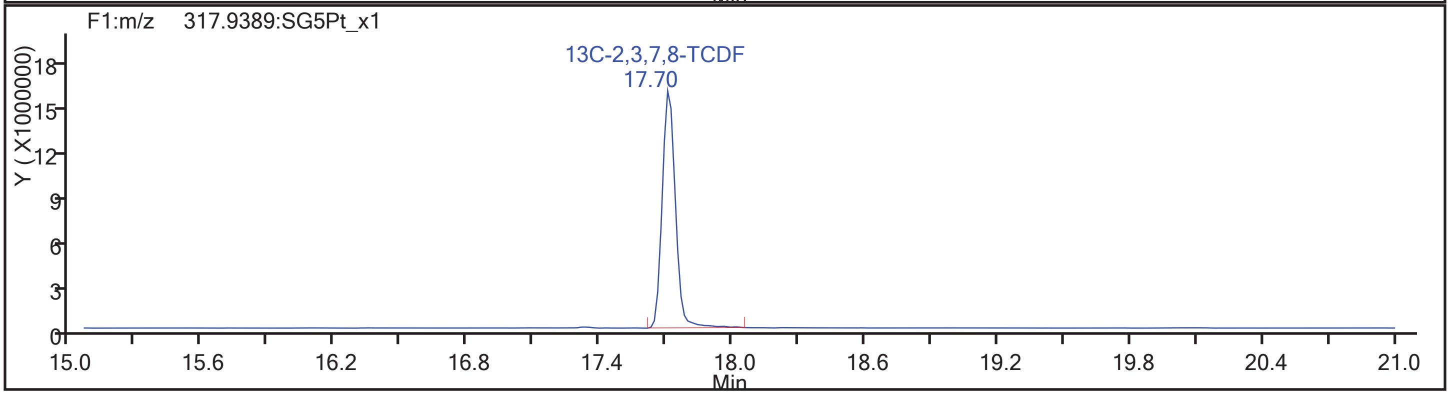
TCDF





TCDF Standards





Report Date: 06-Dec-2017 14:53:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d

Injection Date: 19-Nov-2017 07:17:08

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS04NS

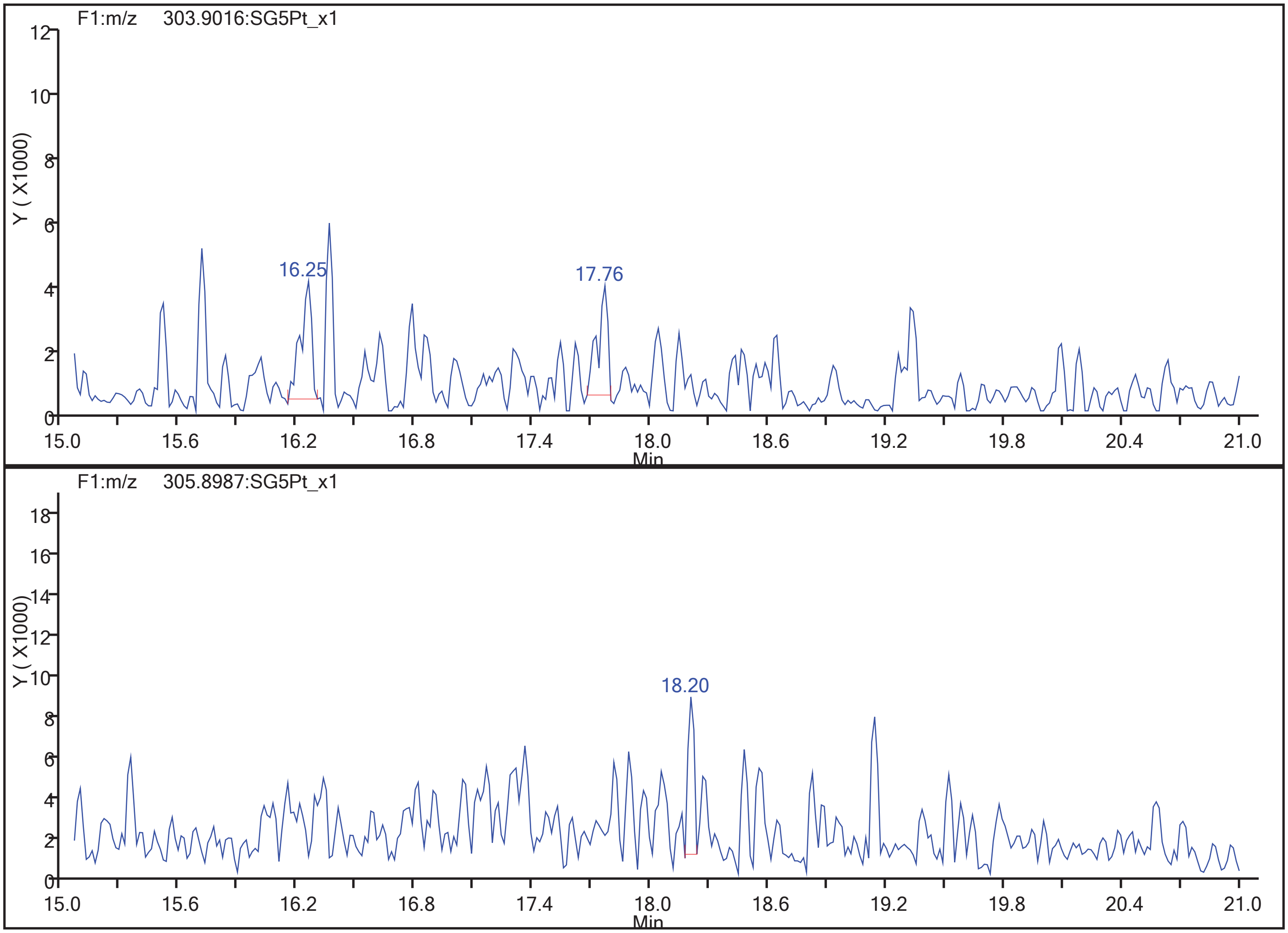
Worklist#: 195574

Sample Line#: 76

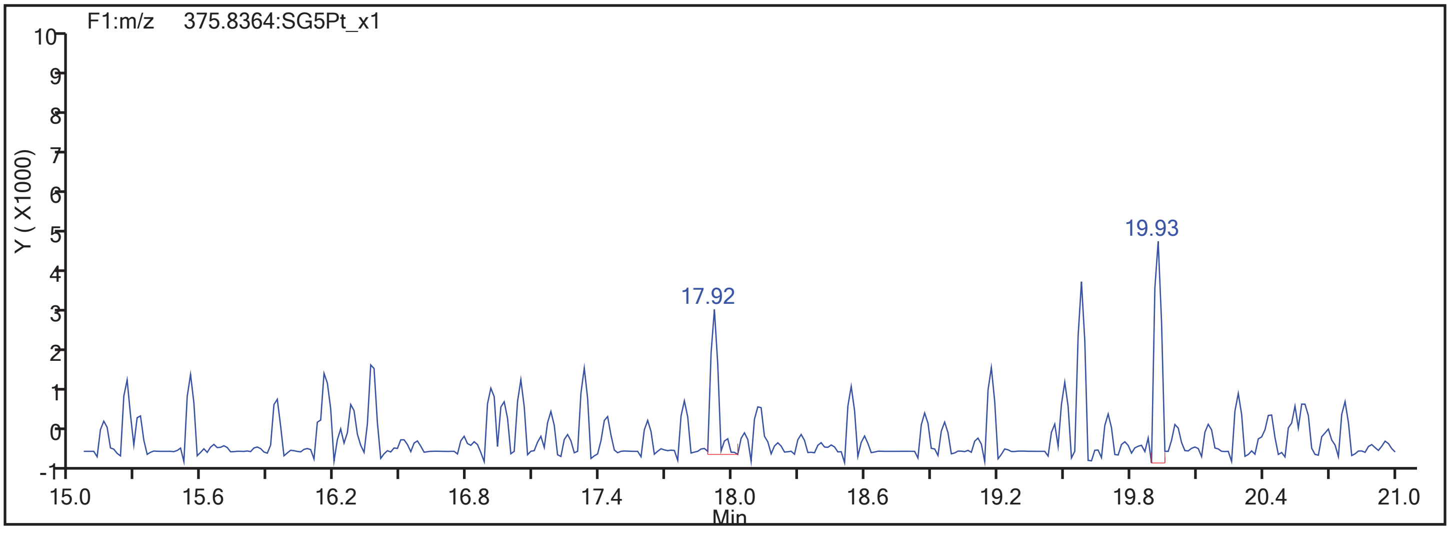
Column Type:

Column Dia:

TCDF



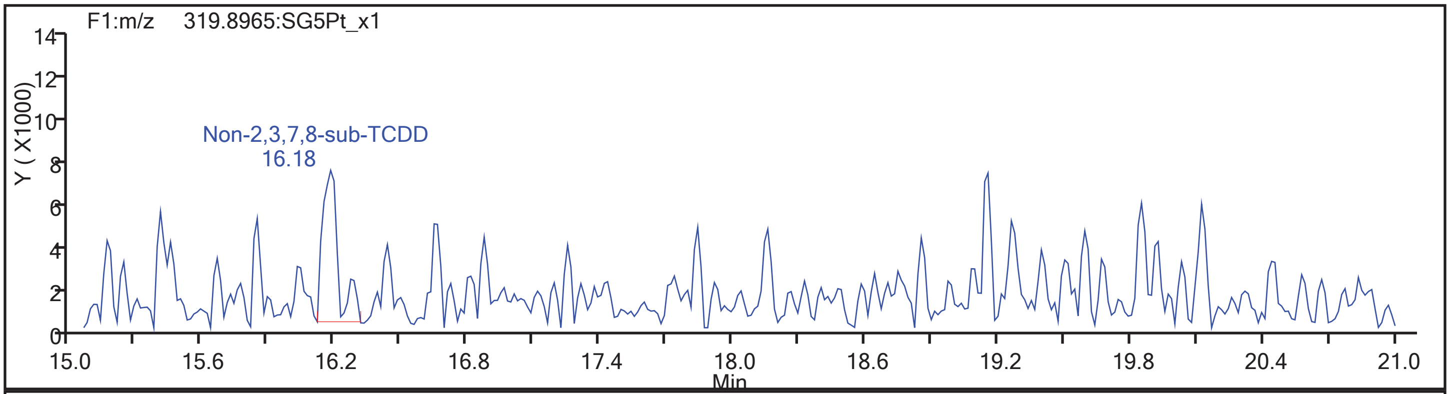
TCDF Interference Mass

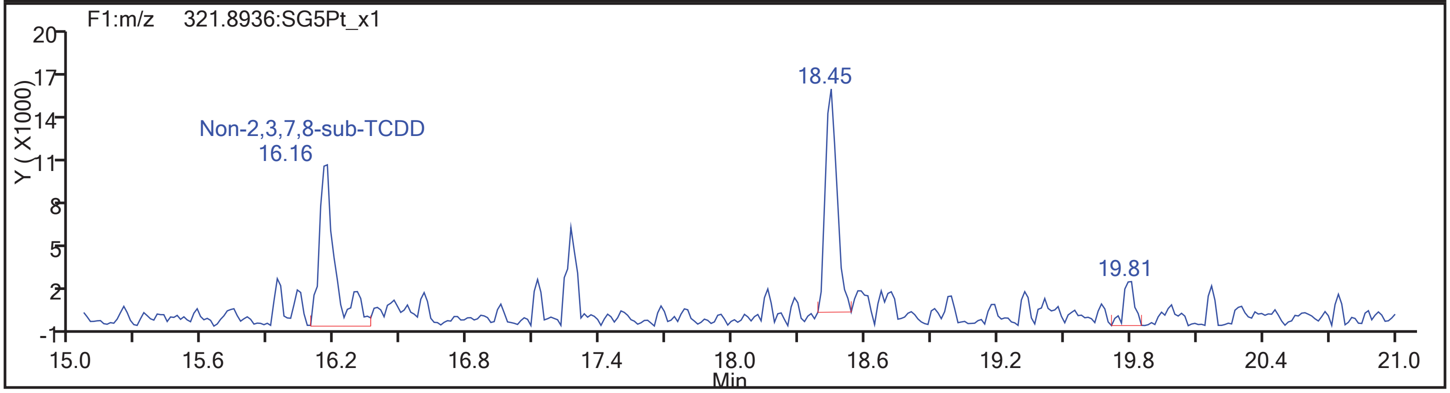


TestAmerica Sacramento

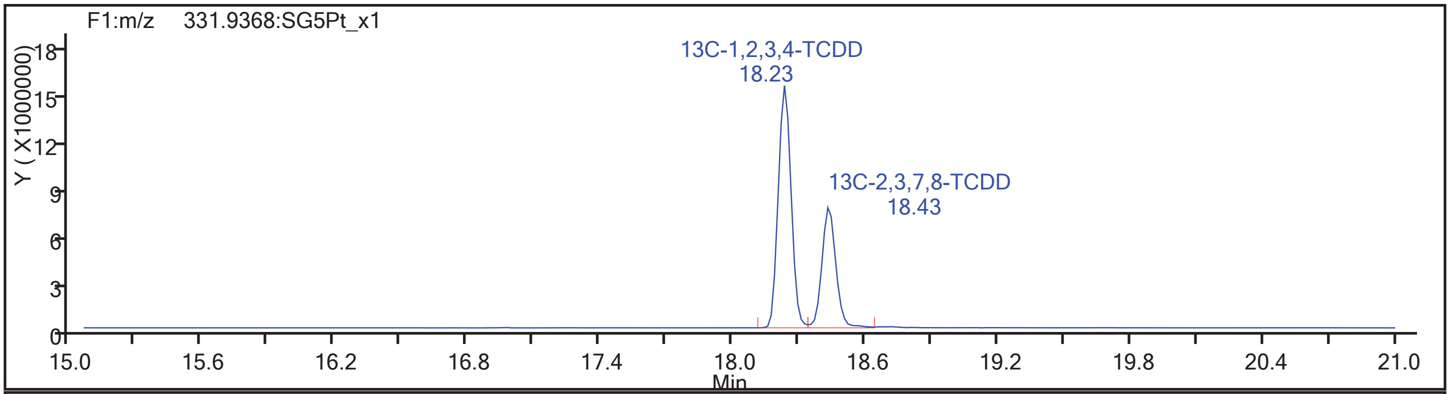
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	

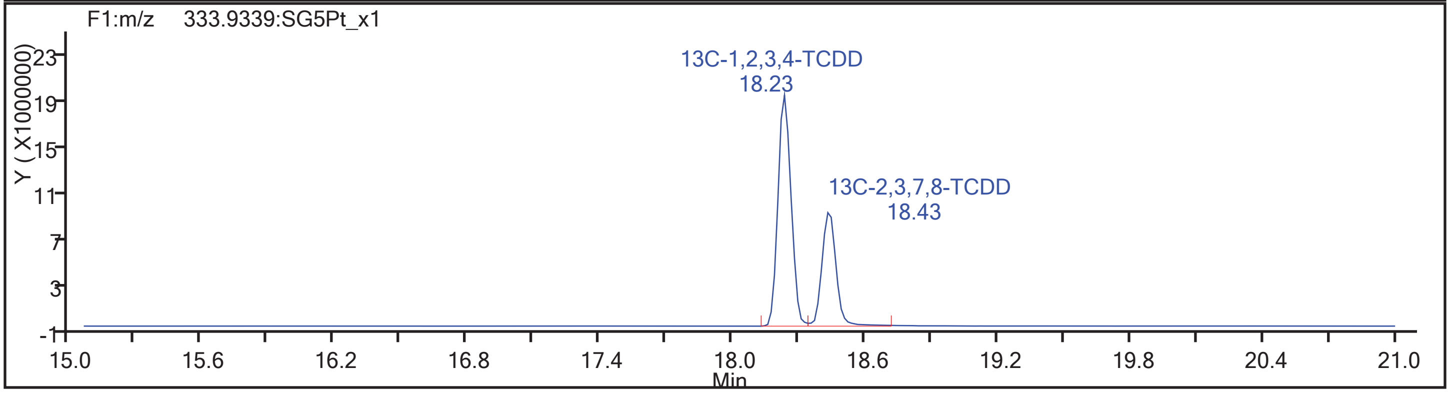
TCDD





TCDD Standards

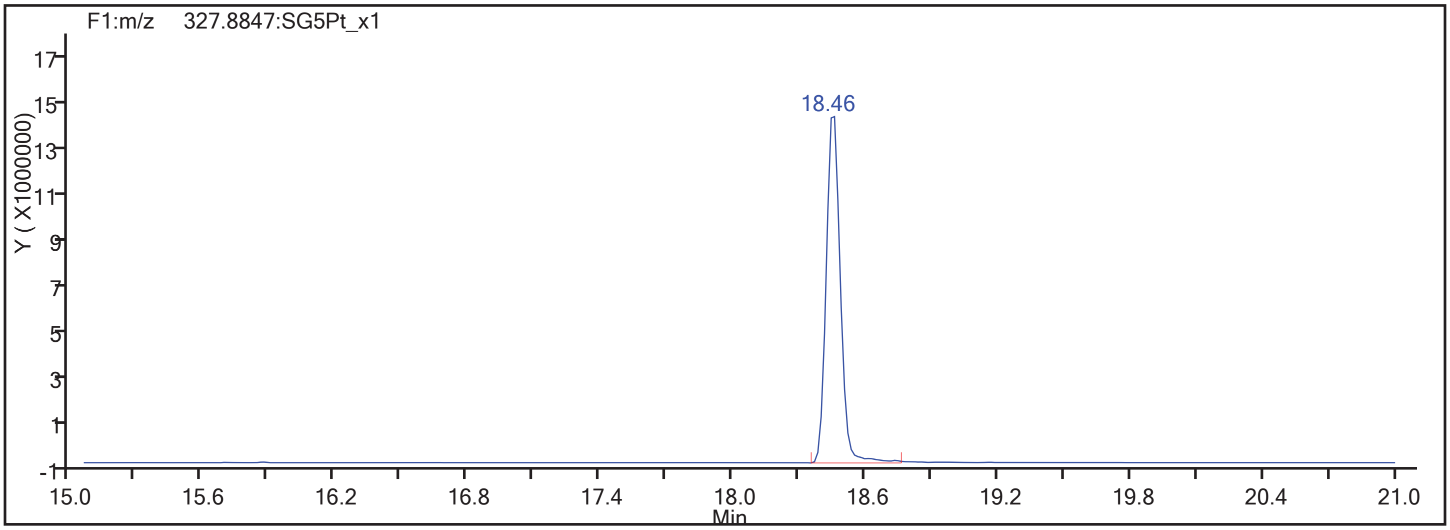




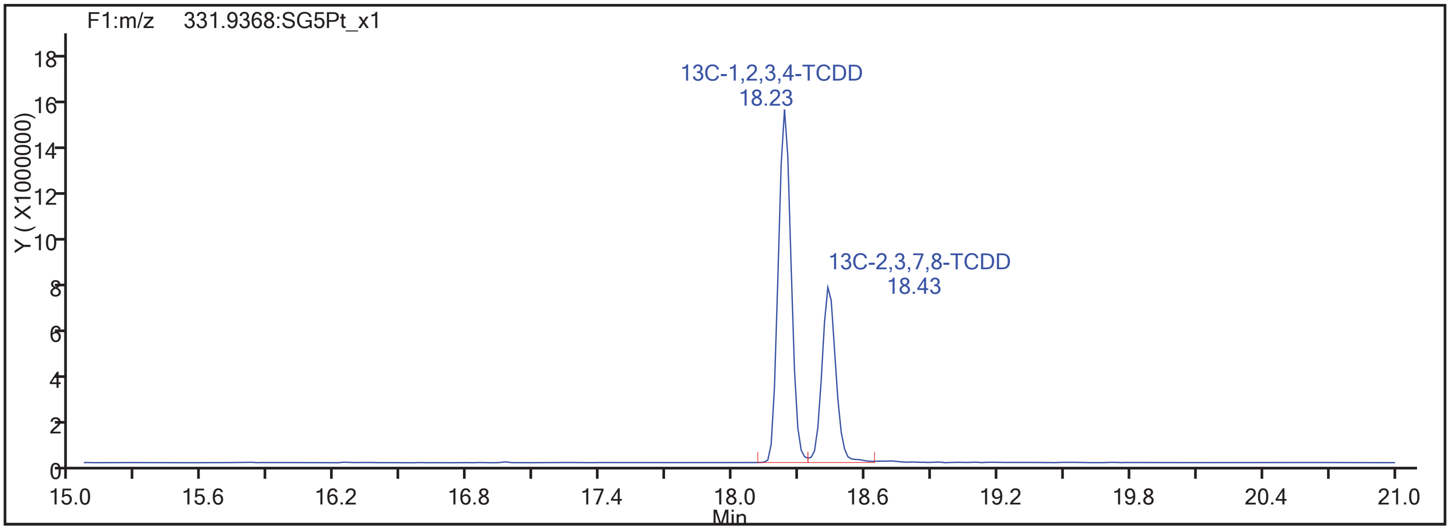
TestAmerica Sacramento

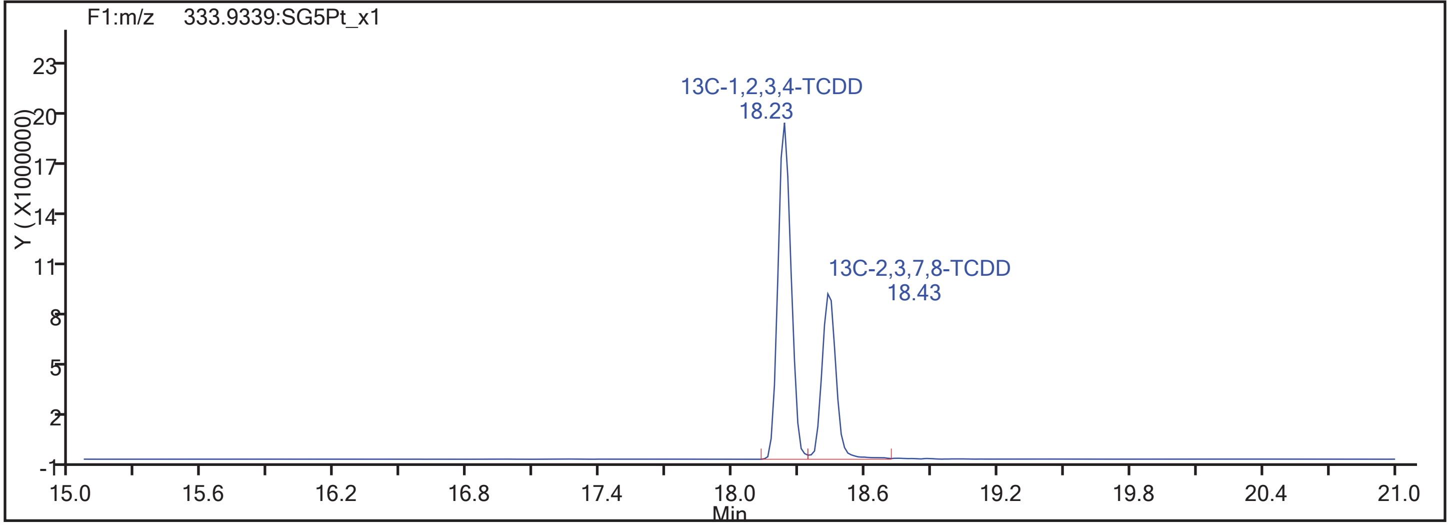
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards

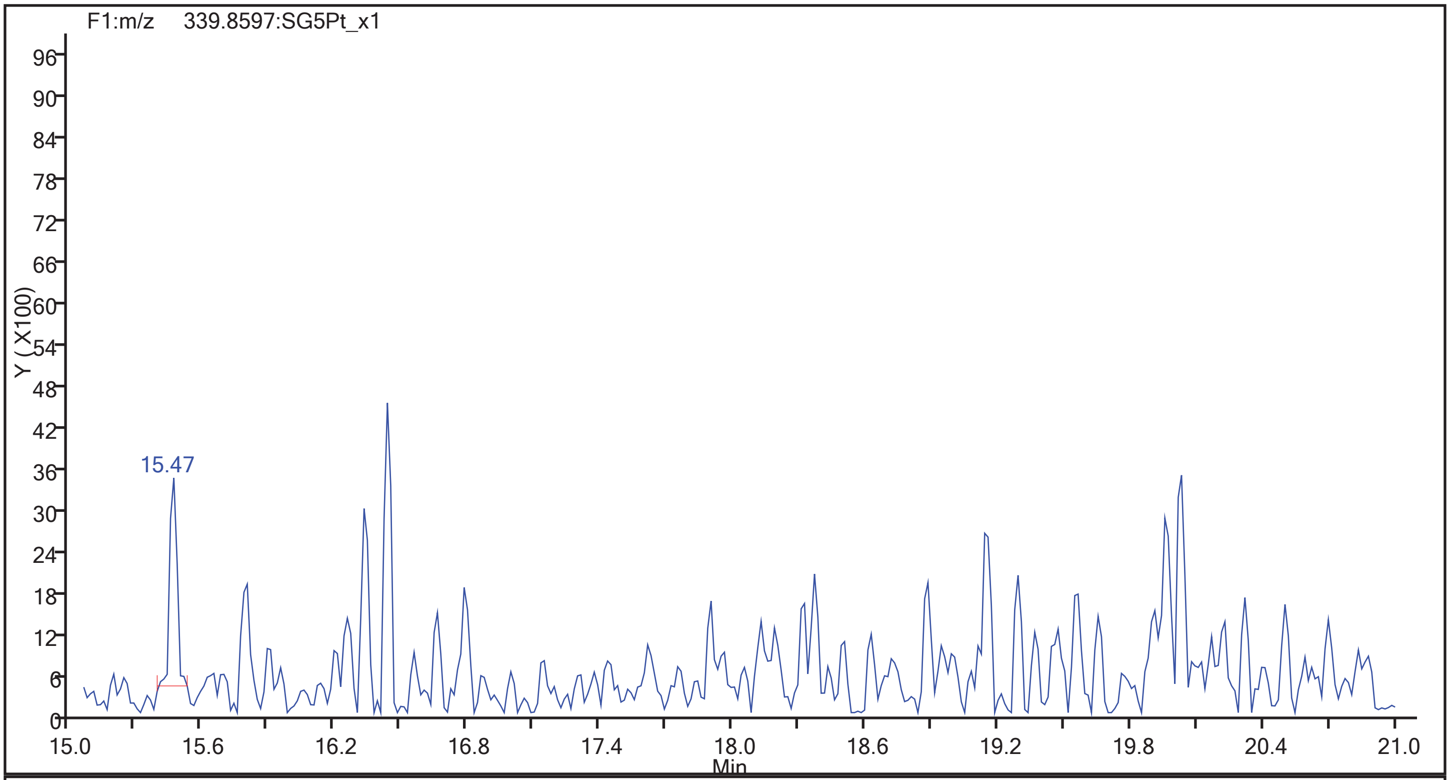


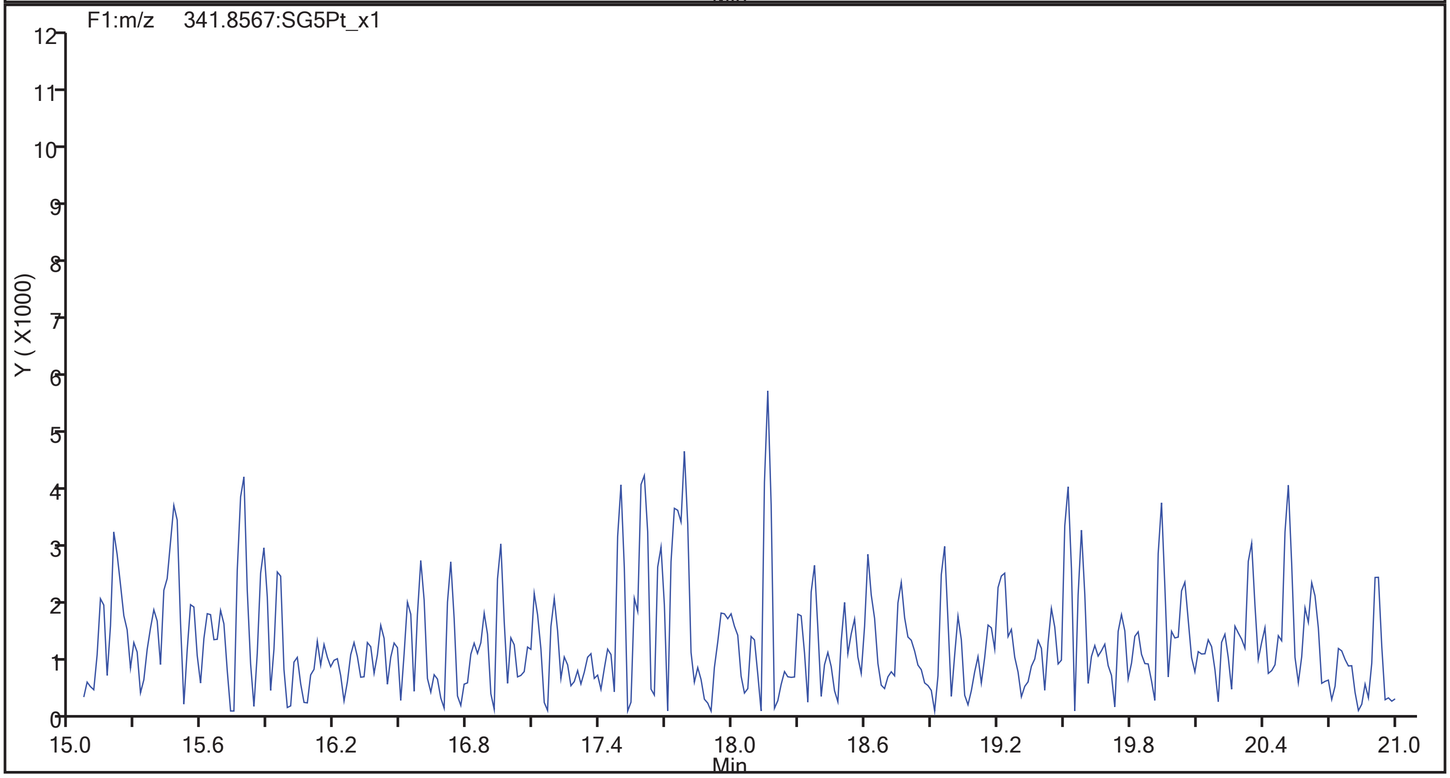


TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	

F1 PeCDFs





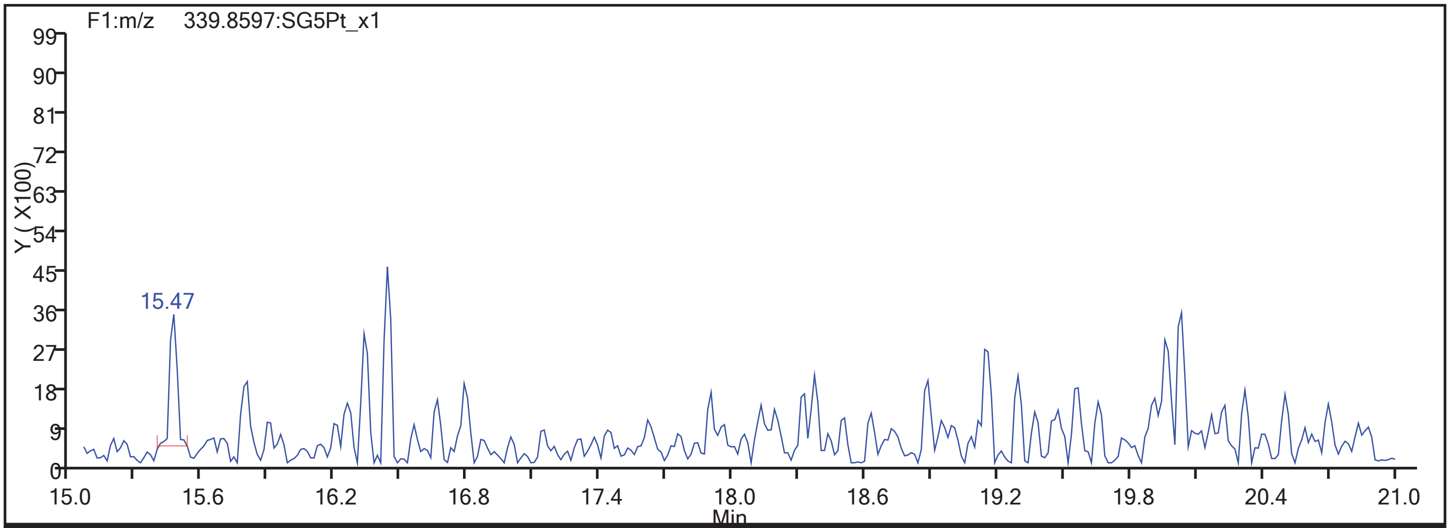
Report Date: 06-Dec-2017 14:53:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

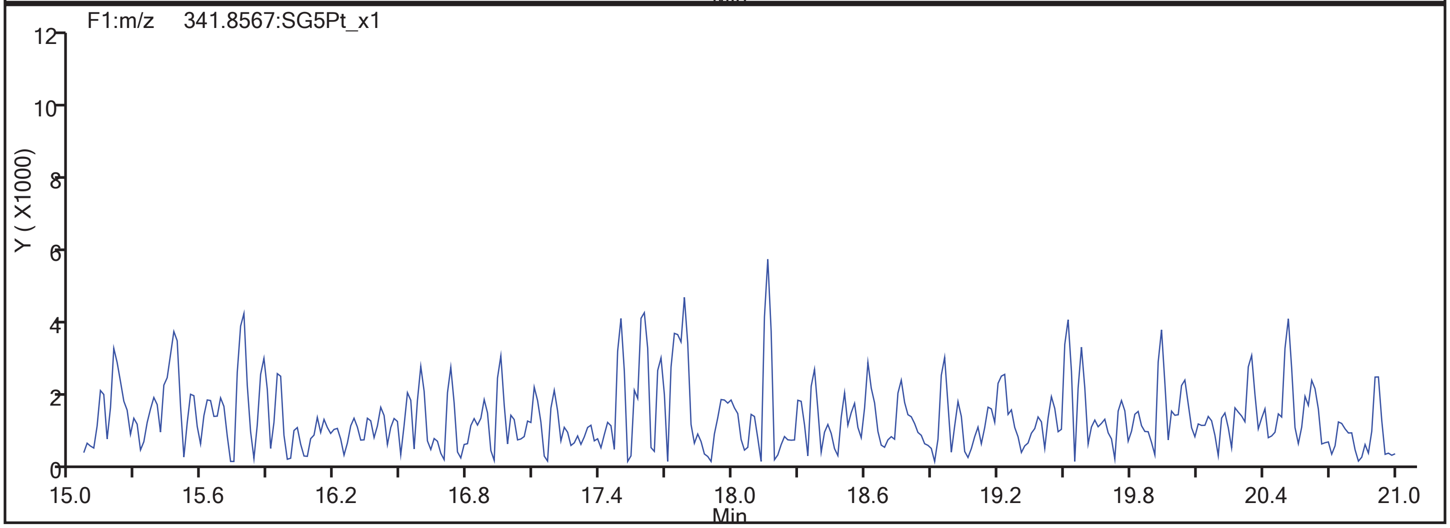
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d

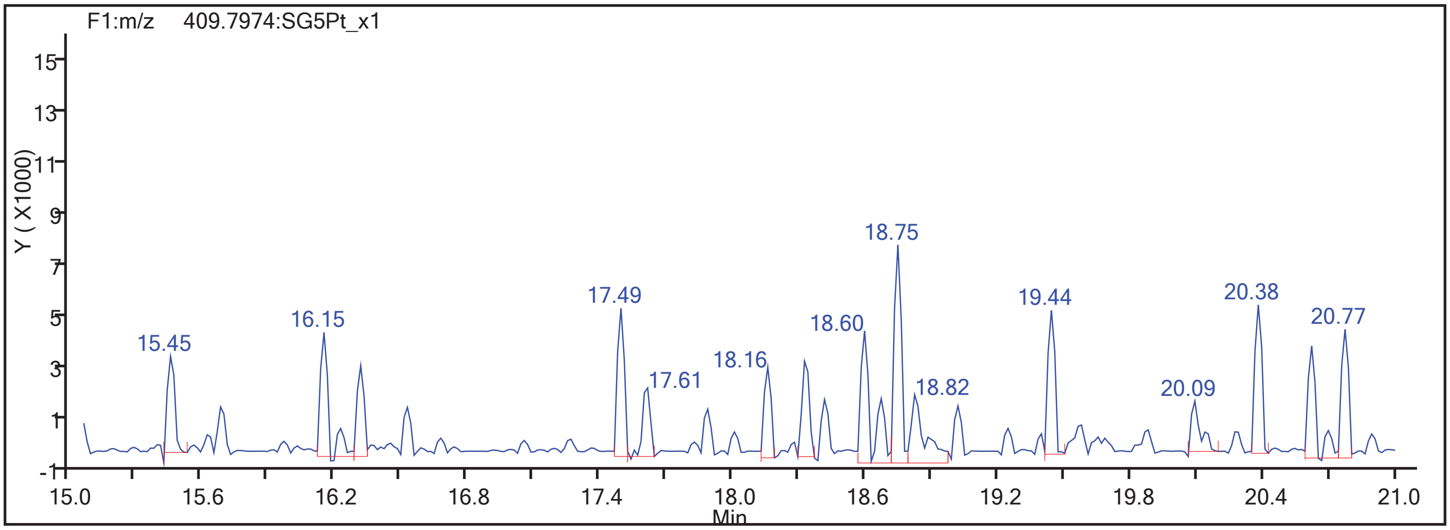
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	

F1 PeCDFs





F1 PeCDFs Interference Mass

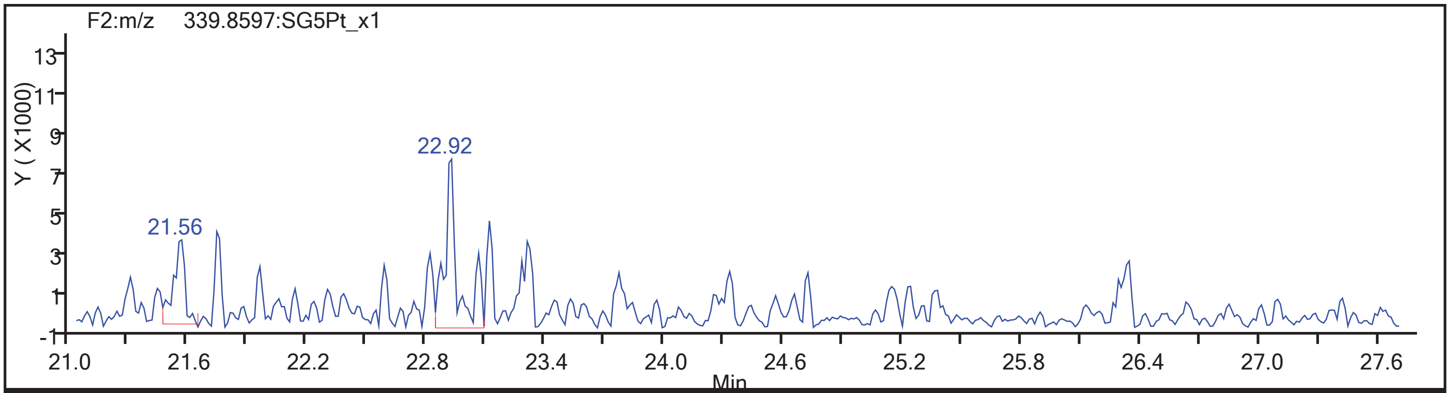


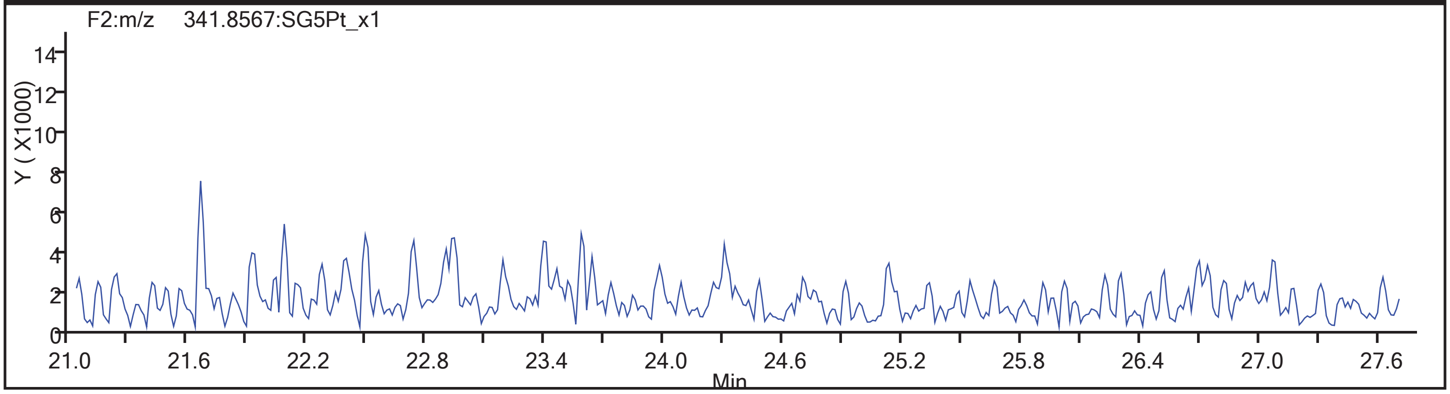
Report Date: 06-Dec-2017 14:53:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

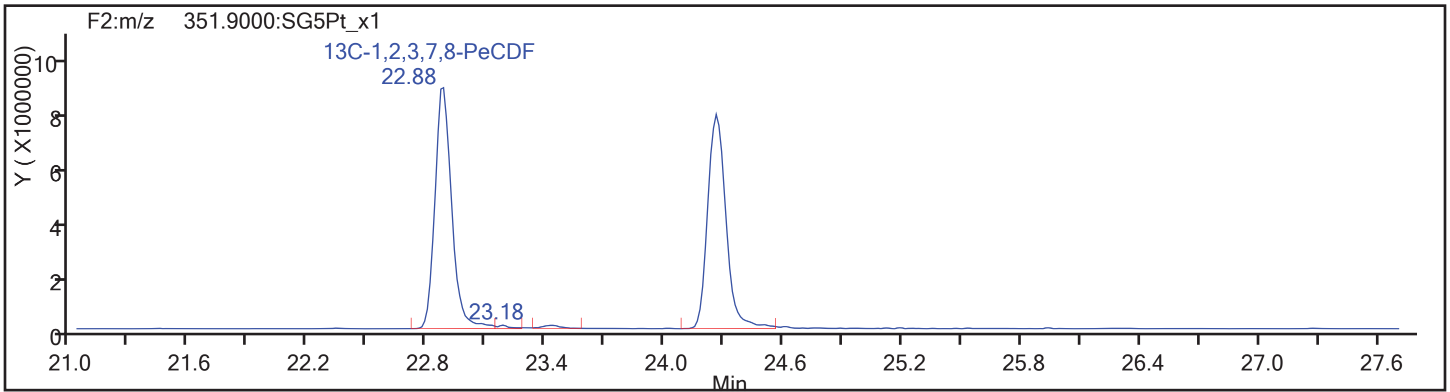
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	

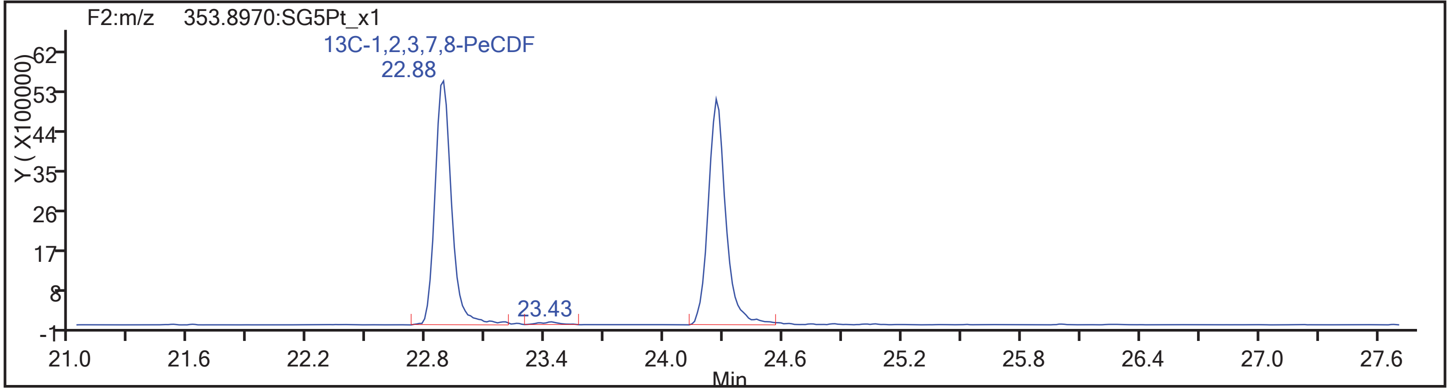
PeCDF





PeCDF Standards

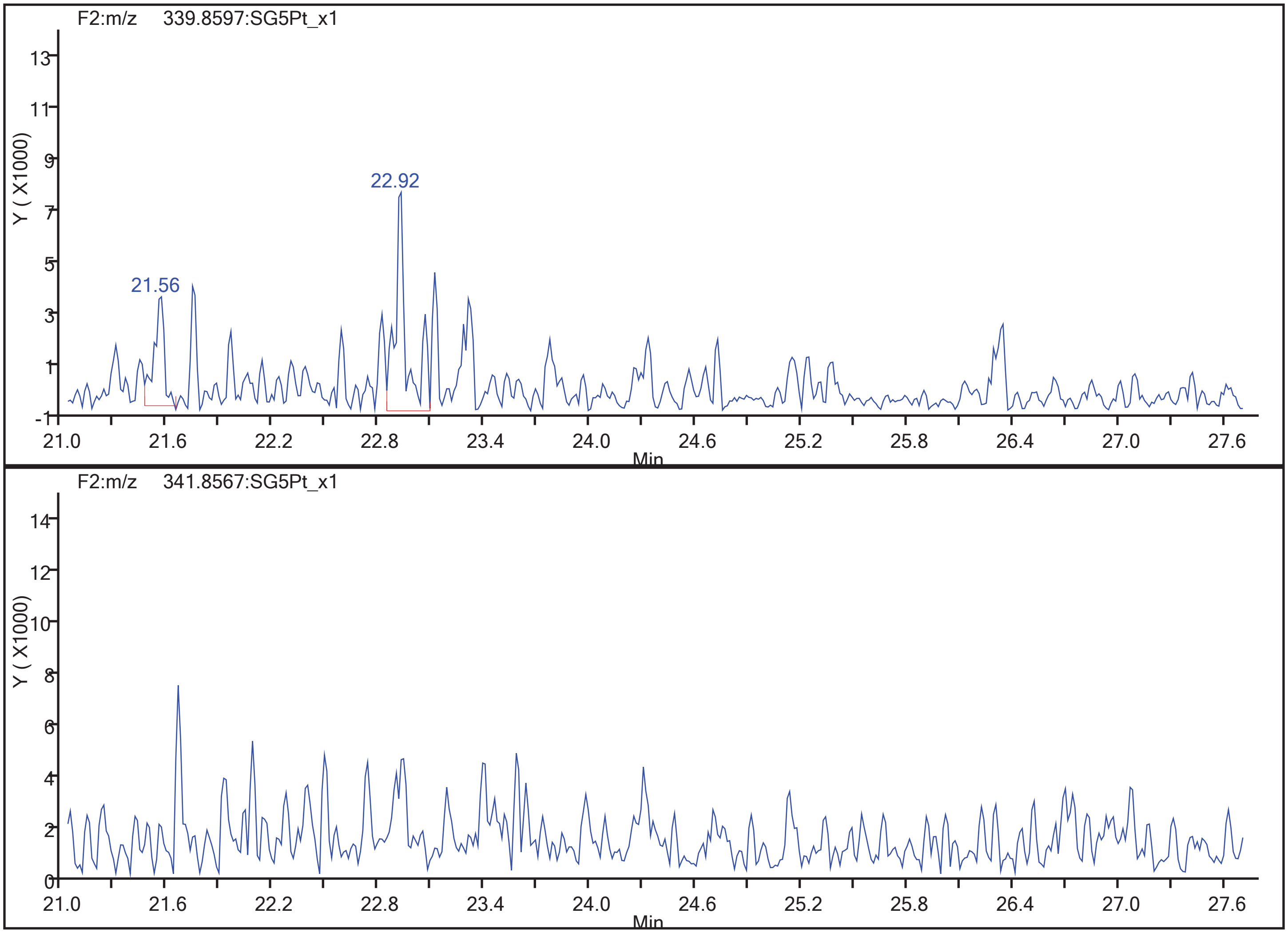




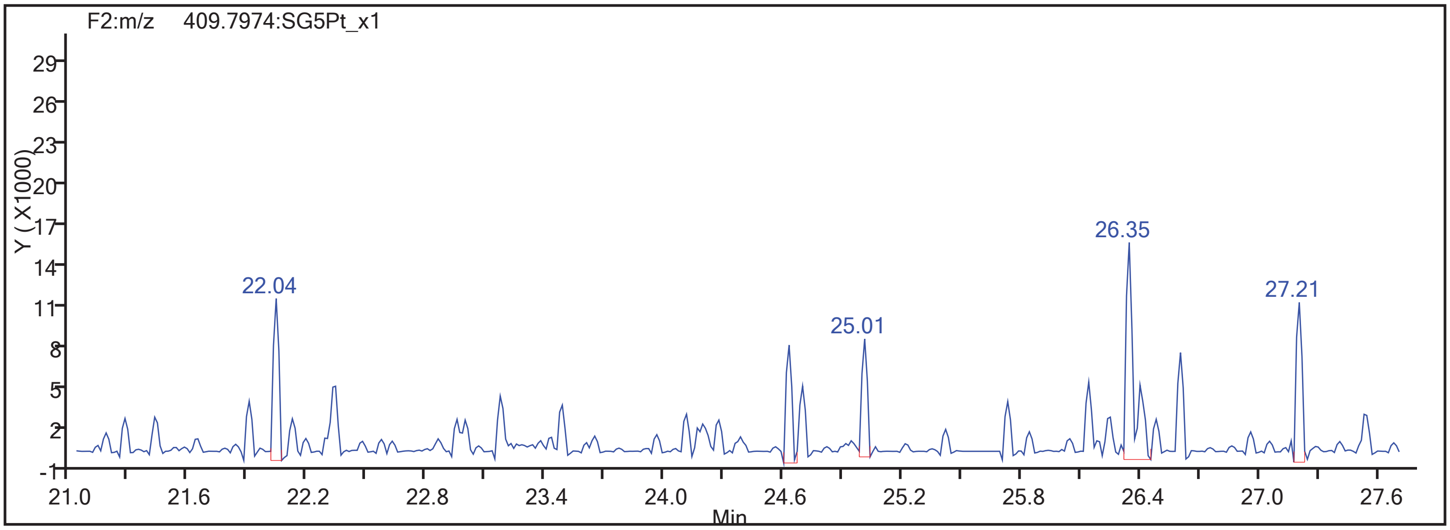
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d
Injection Date: 19-Nov-2017 07:17:08 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS04NS
Worklist#: 195574 Sample Line#: 76
Column Type: Column Dia:

PeCDF



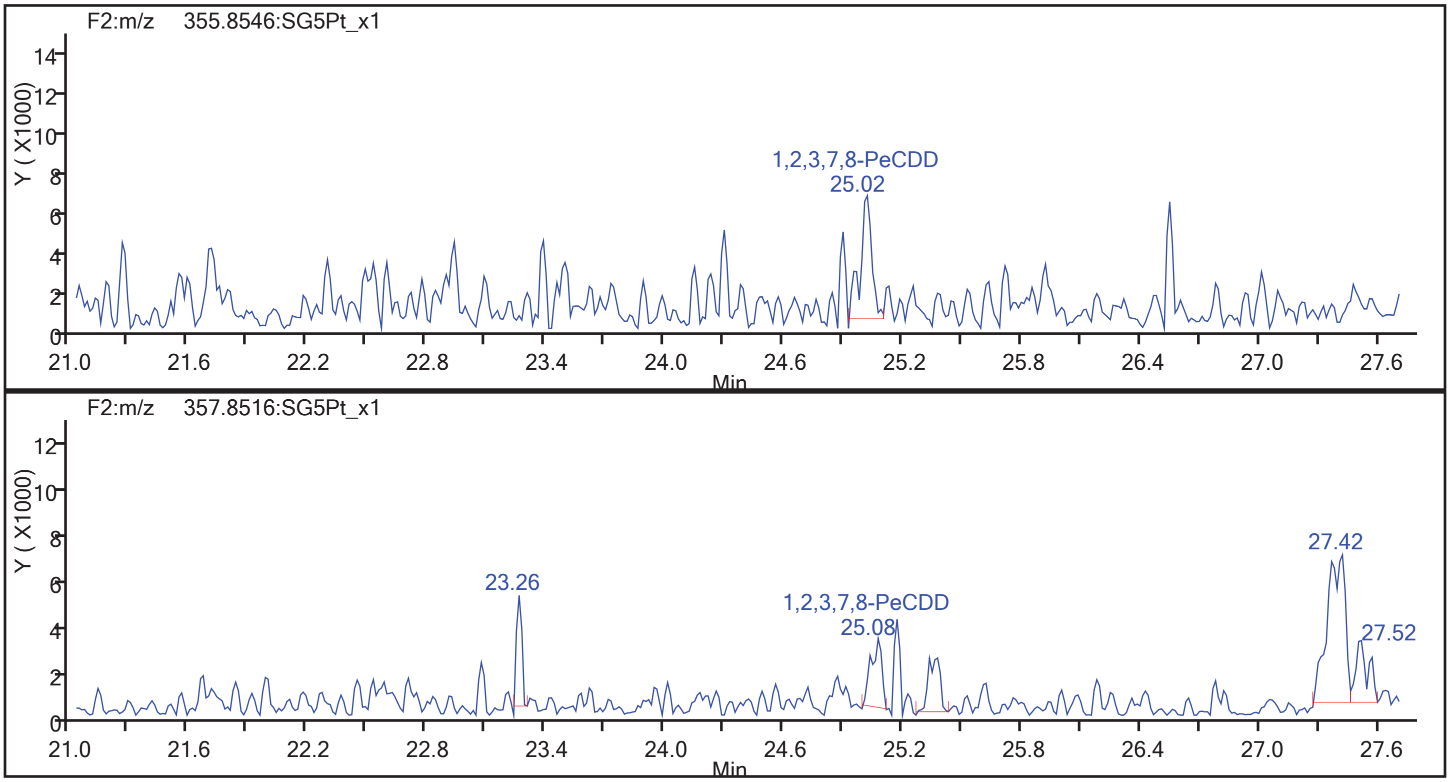
PeCDF Interference Mass



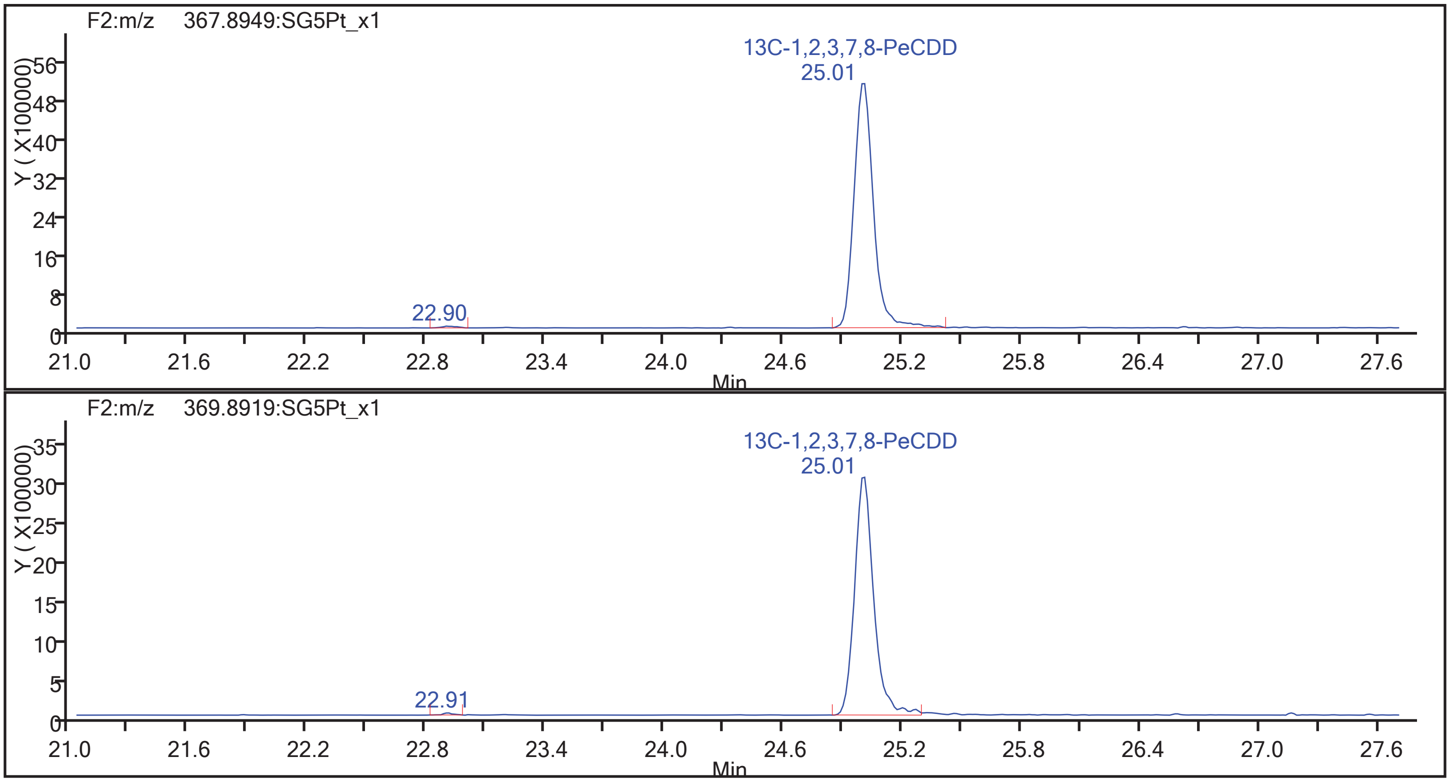
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	

PeCDD



PeCDD Standards



Report Date: 06-Dec-2017 14:53:41
Chrom Revision: 2.2 16-Aug-2017 16:24:46
TestAmerica Sacramento
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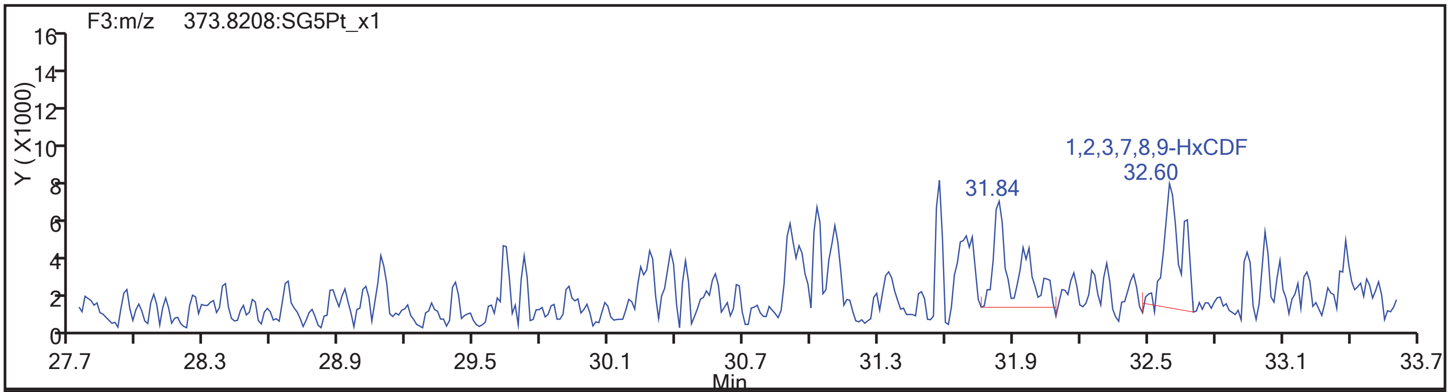
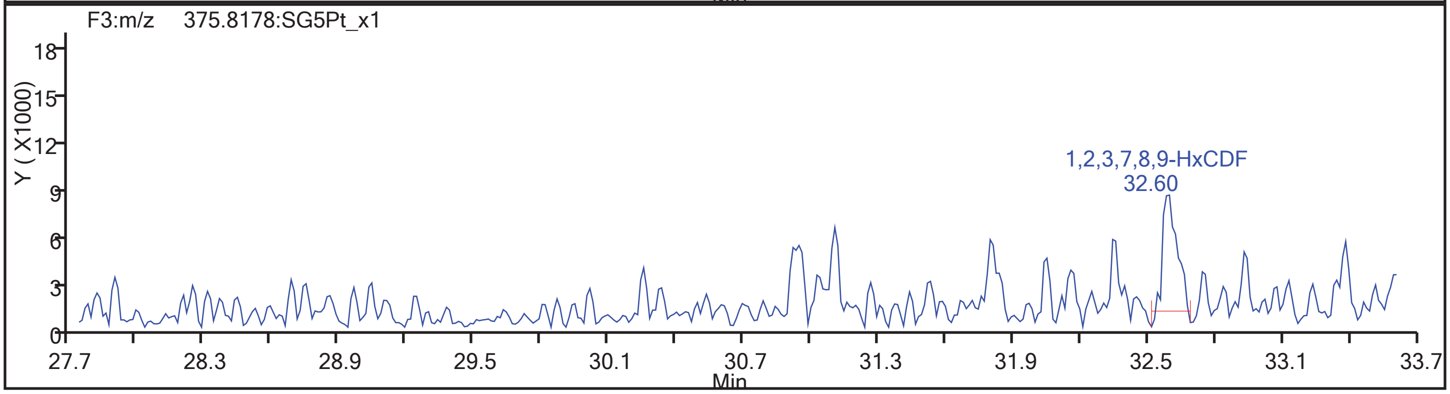
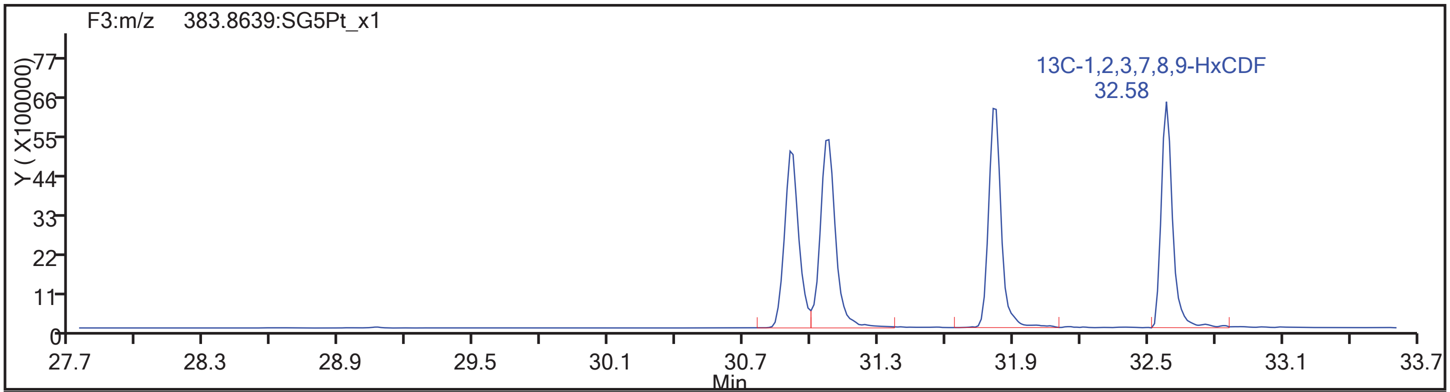
Injection Date: 19-Nov-2017 07:17:08
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS04NS
Worklist#: 195574
Sample Line#: 76
Column Type:
Column Dia:

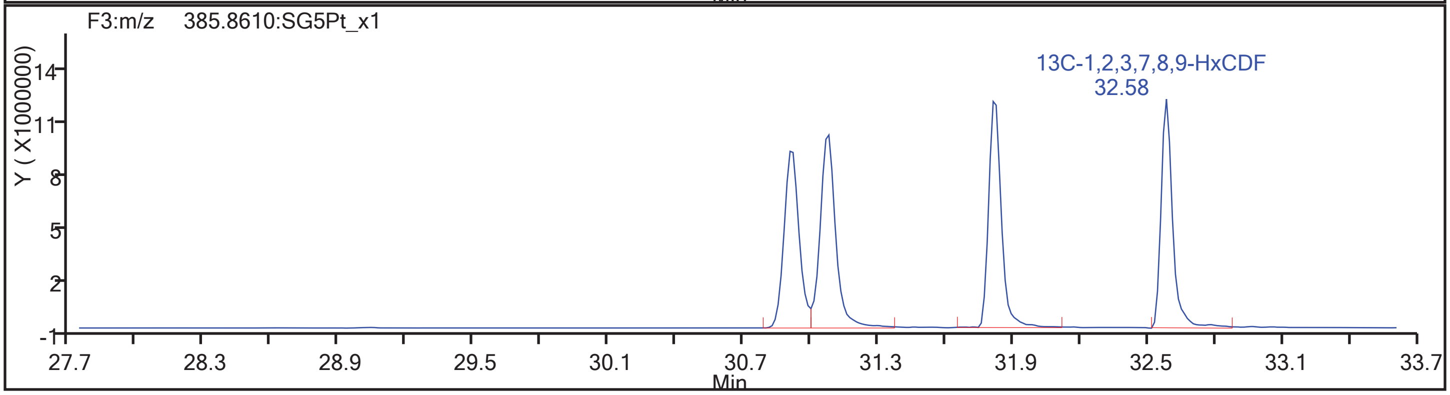
HxCDF





HxCDF Standards



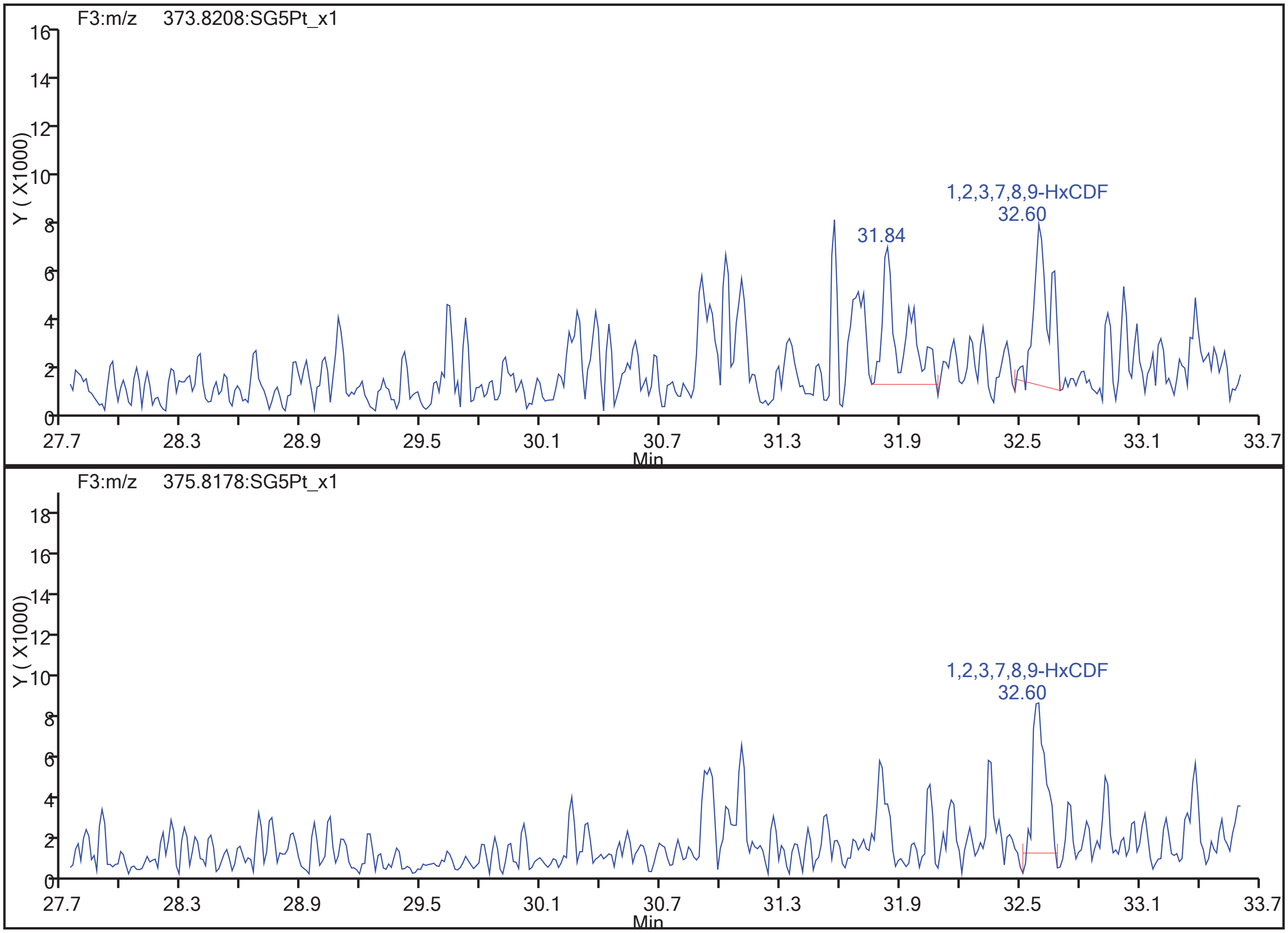


Report Date: 06-Dec-2017 14:53:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

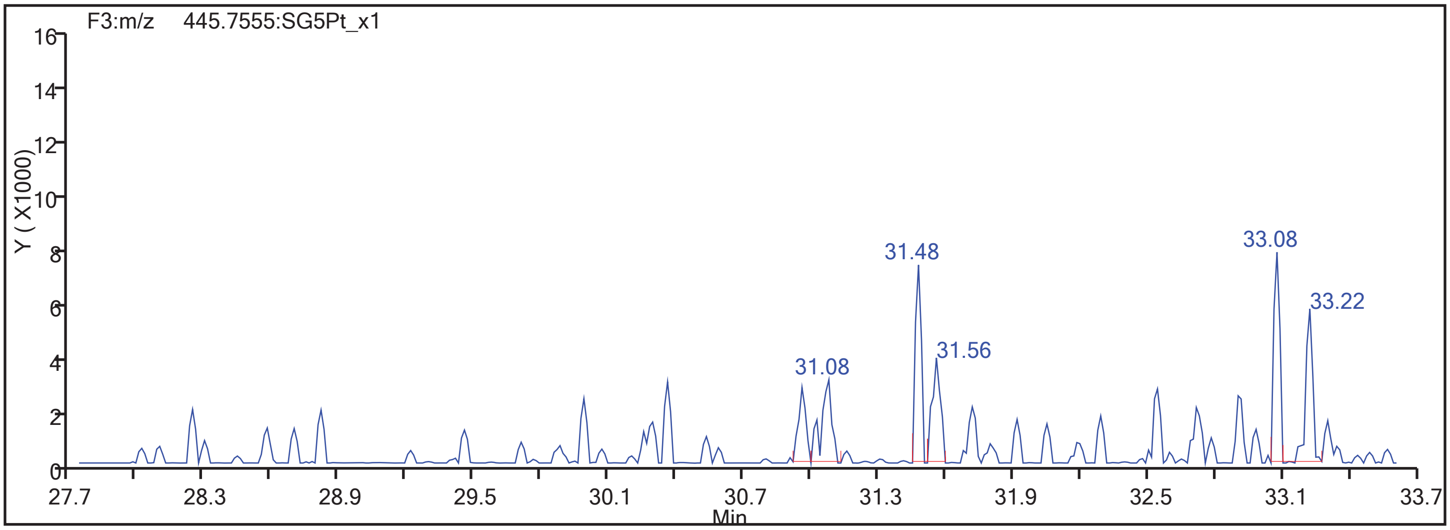
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	

HxCDF



HxCDF Interference Mass

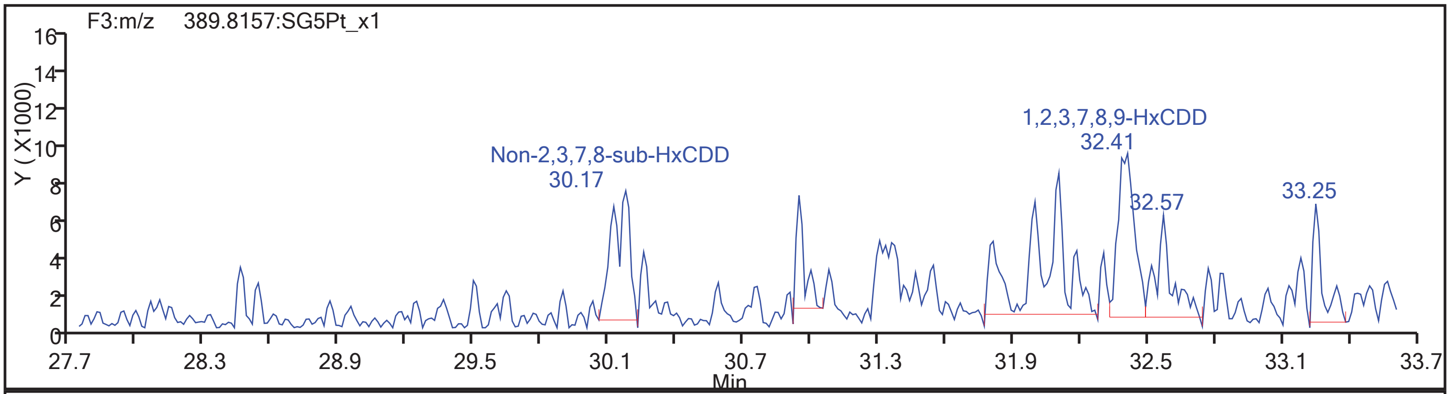


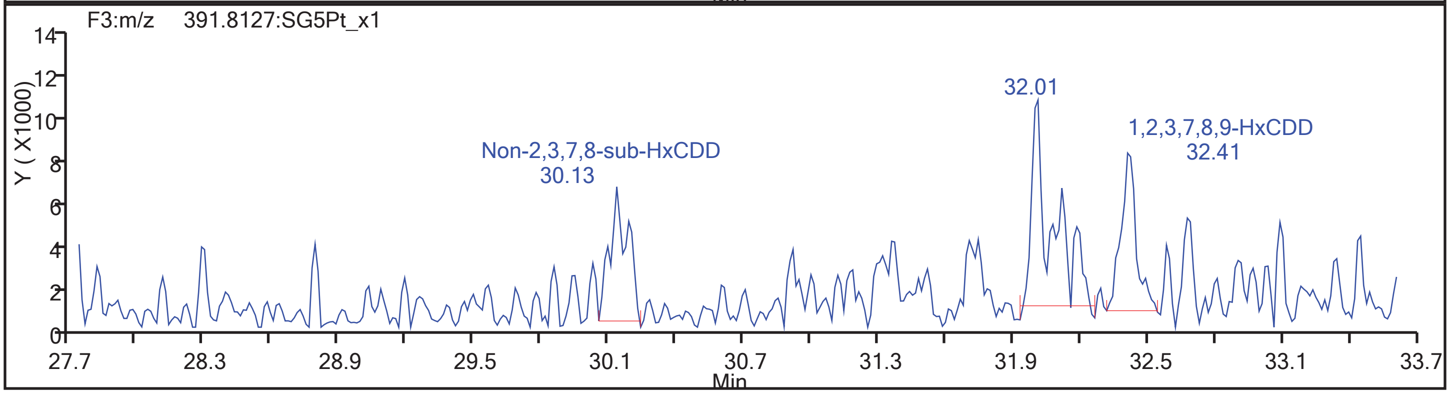
Report Date: 06-Dec-2017 14:53:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

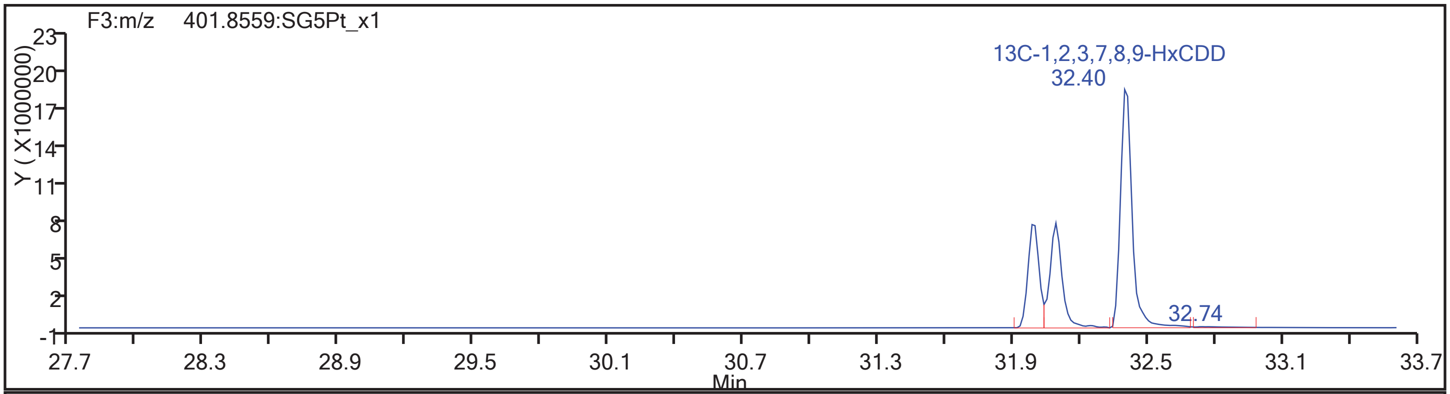
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	

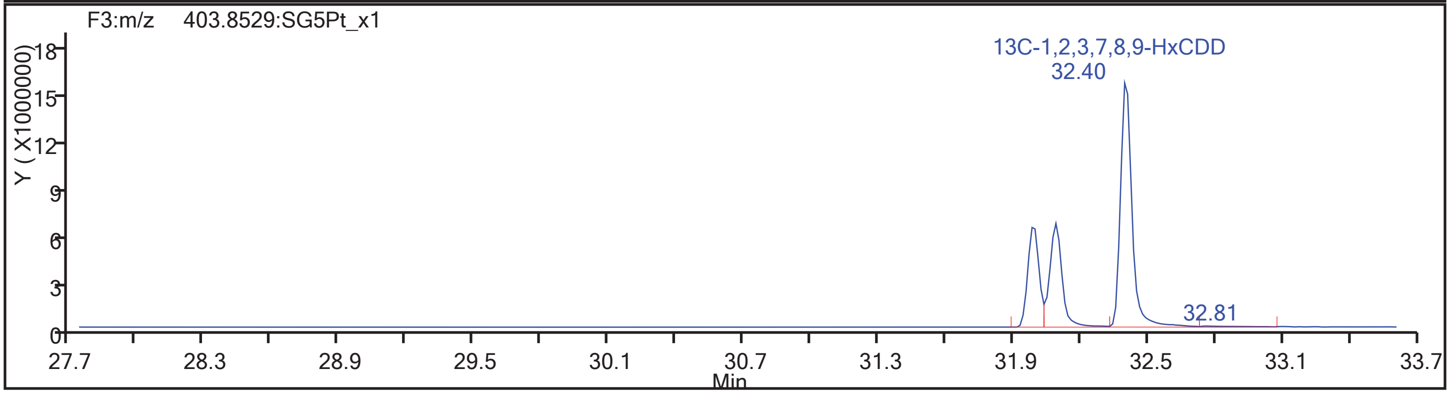
HxCDD





HxCDD Standards



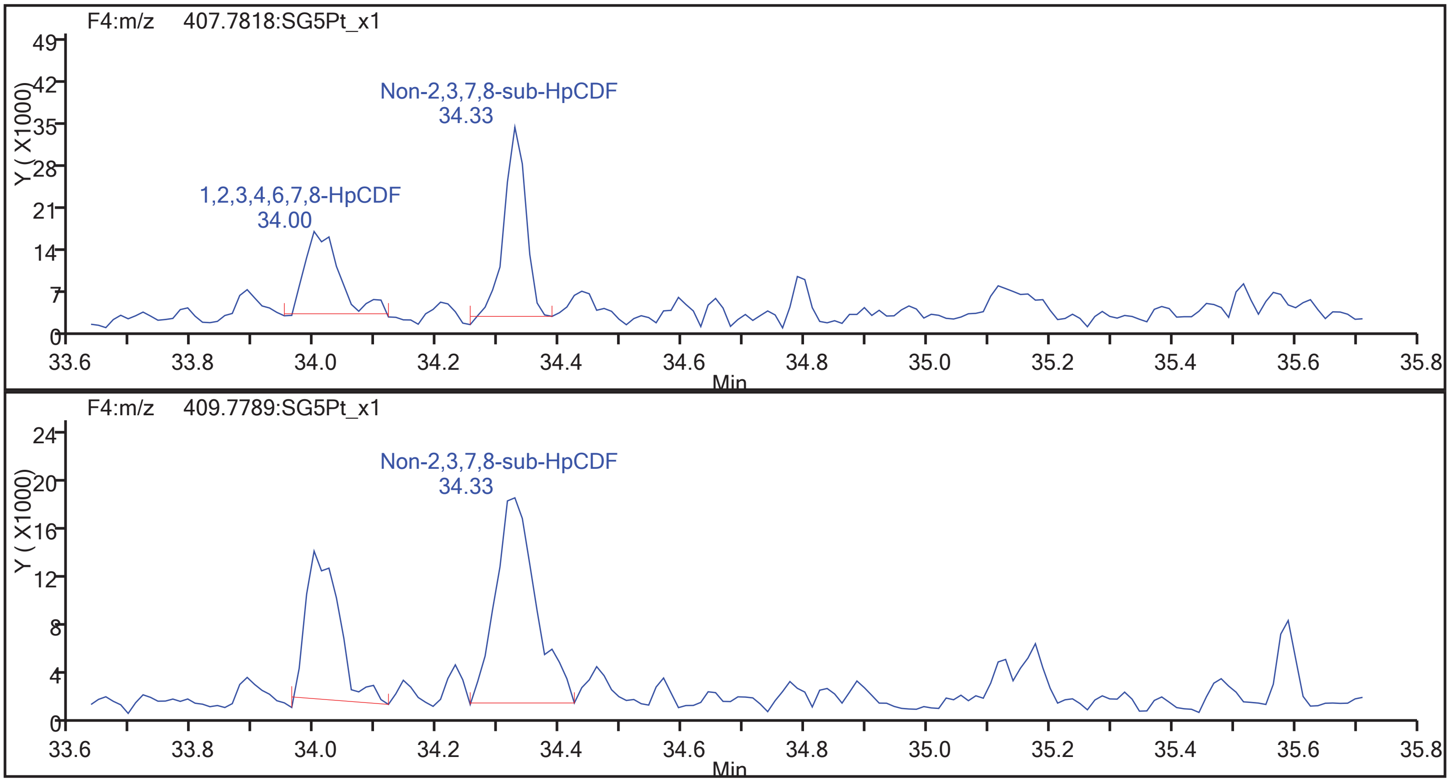


Report Date: 06-Dec-2017 14:53:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

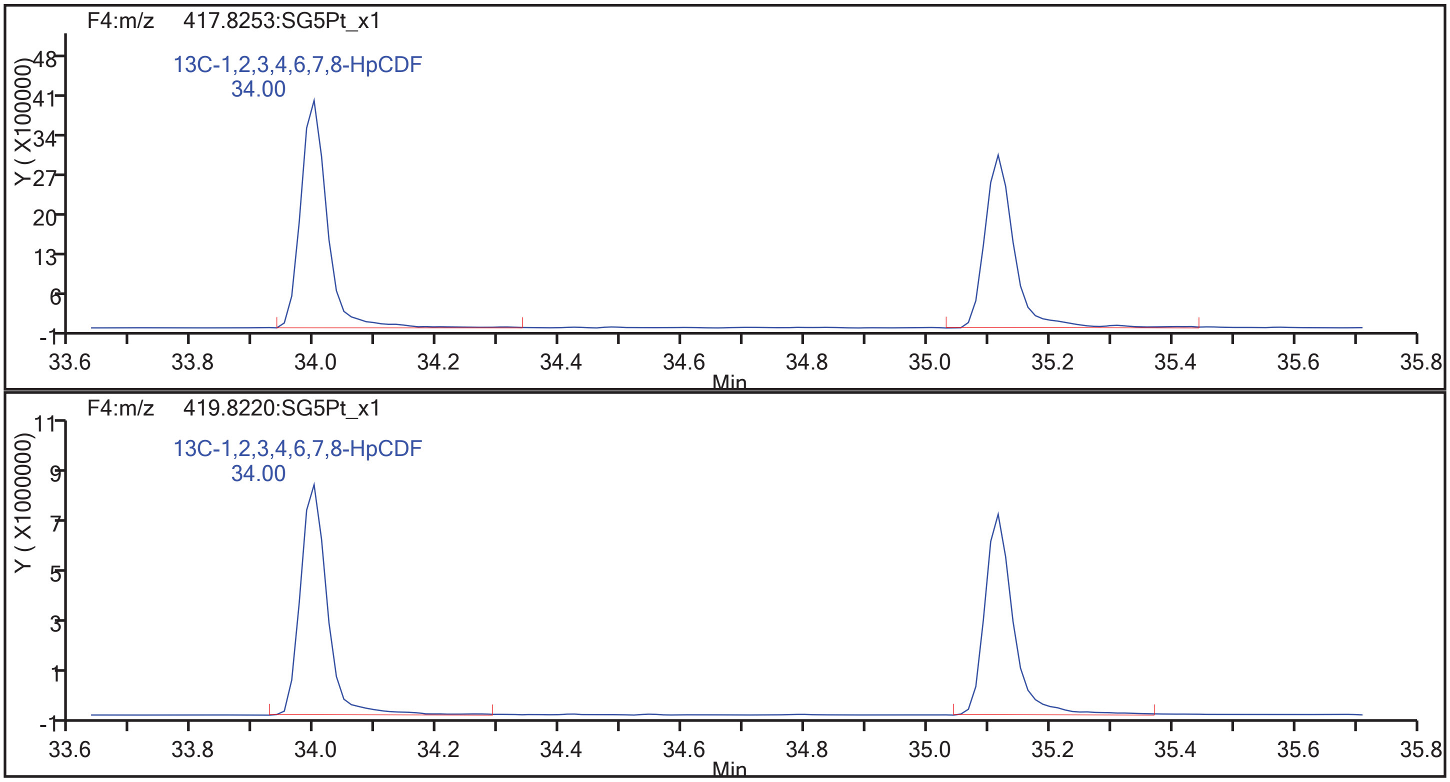
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	

HpCDF



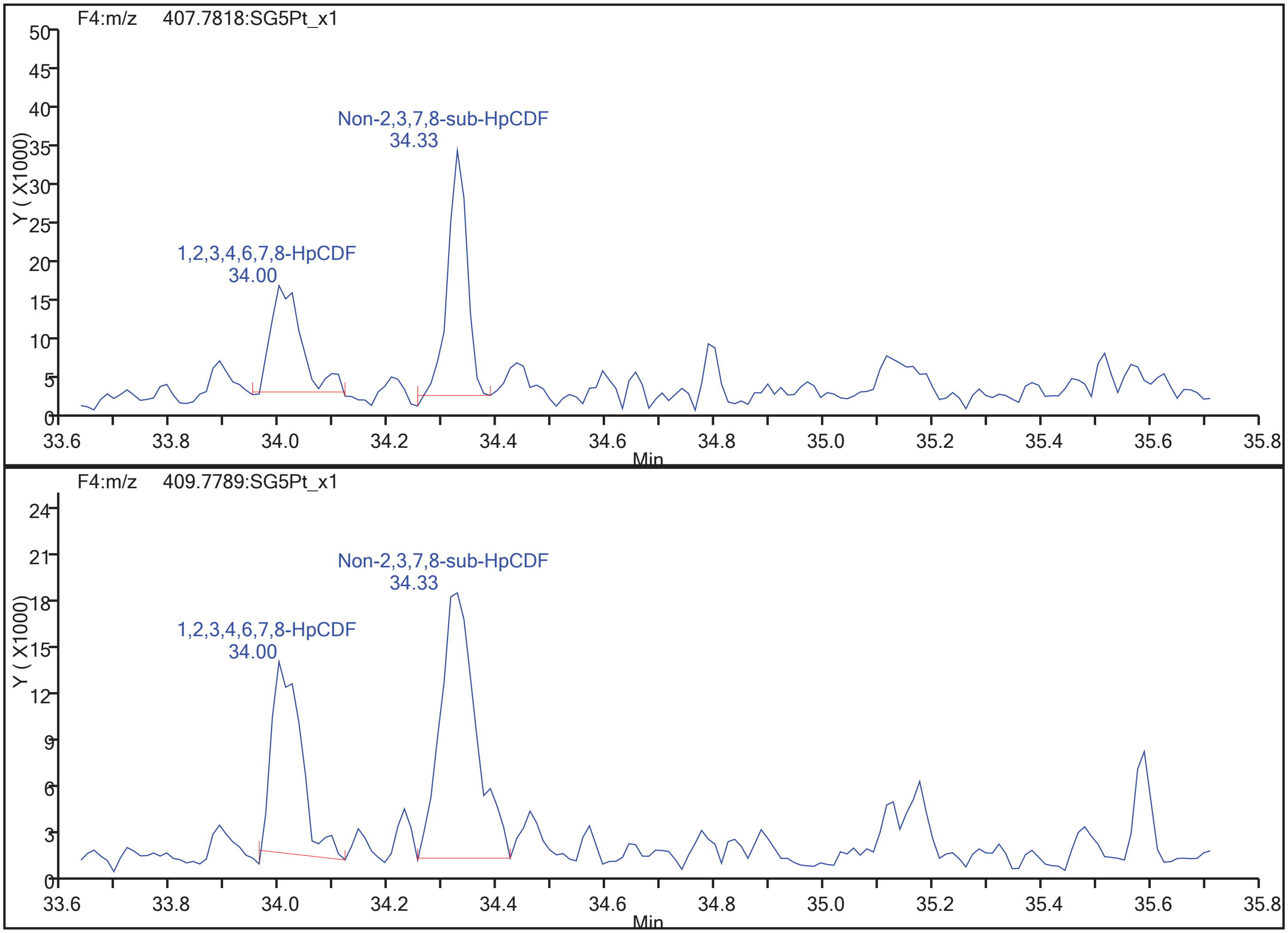
HpCDF Standards



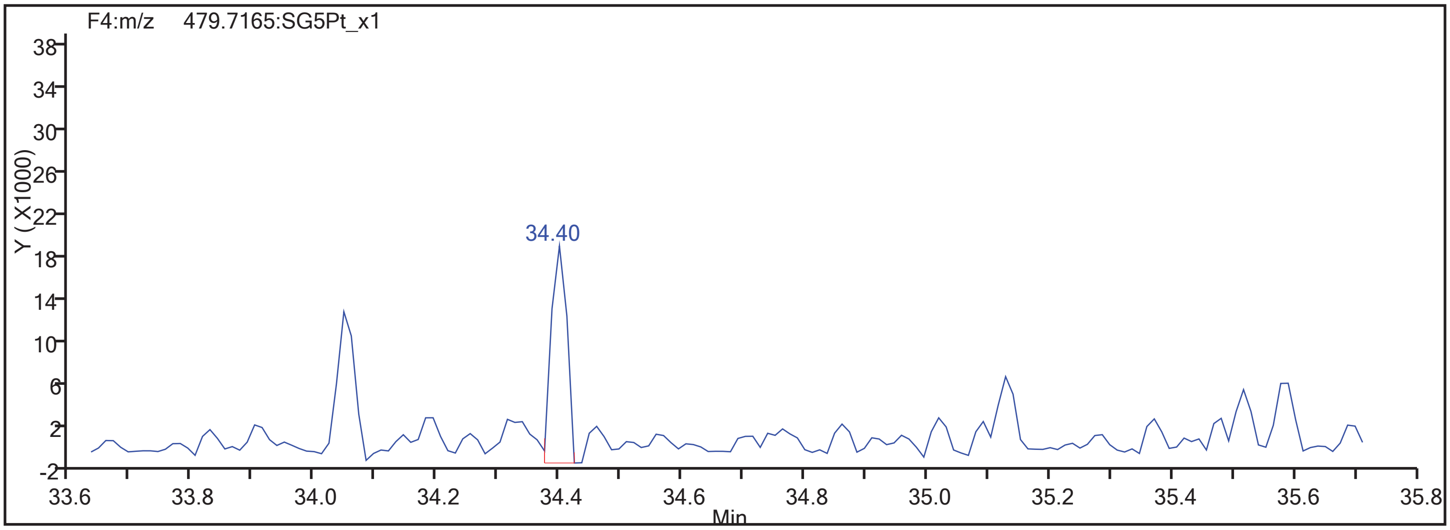
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	

HpCDF

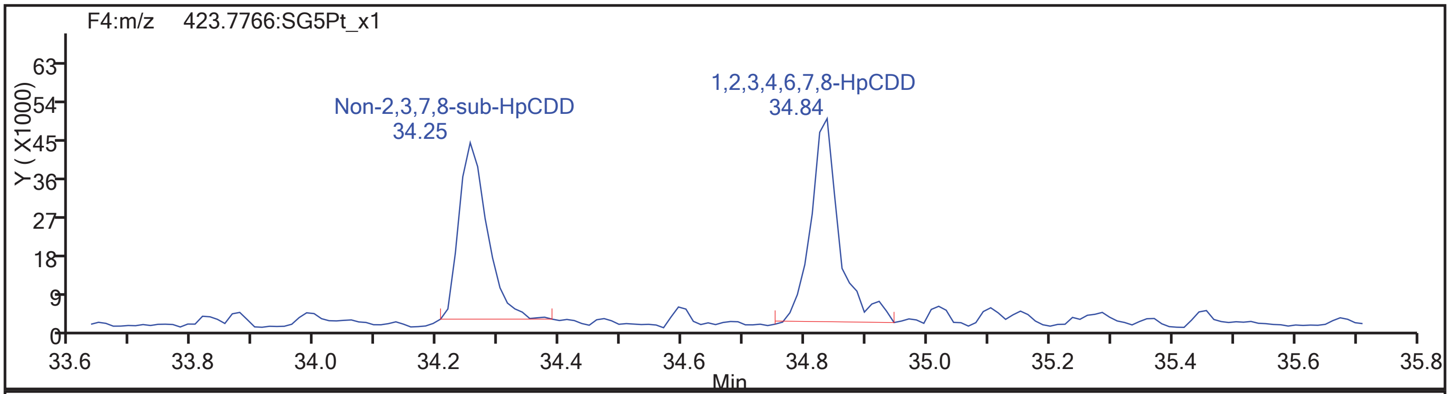


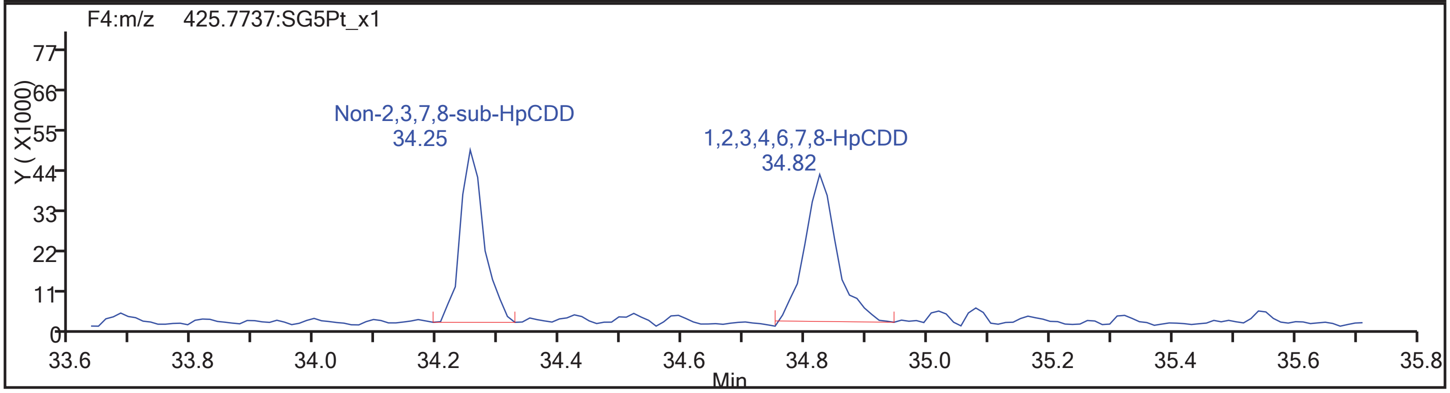
HpCDF Interference Mass



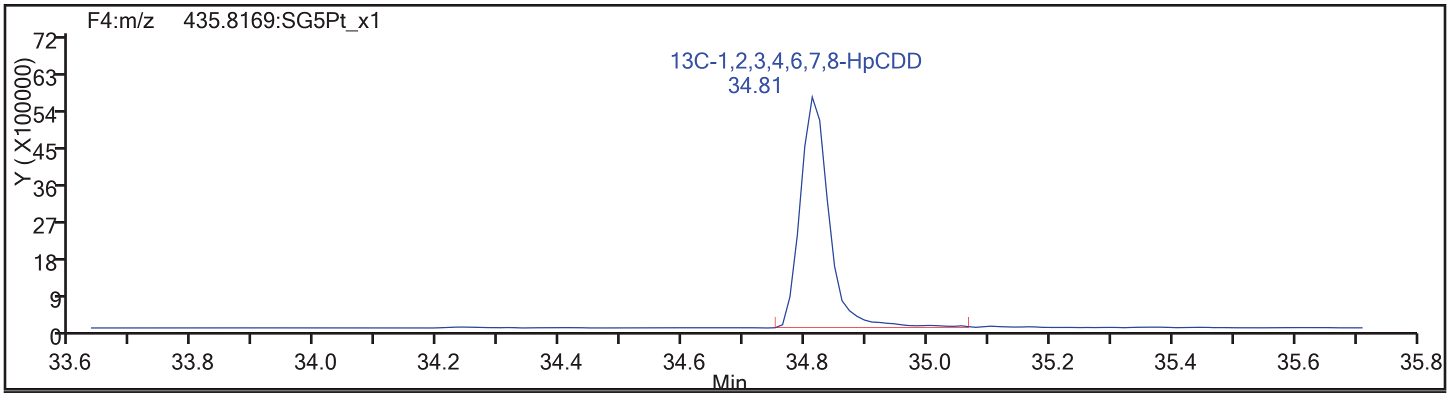
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d
Injection Date: 19-Nov-2017 07:17:08
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS04NS
Worklist#: 195574
Sample Line#: 76
Column Type:
Column Dia:

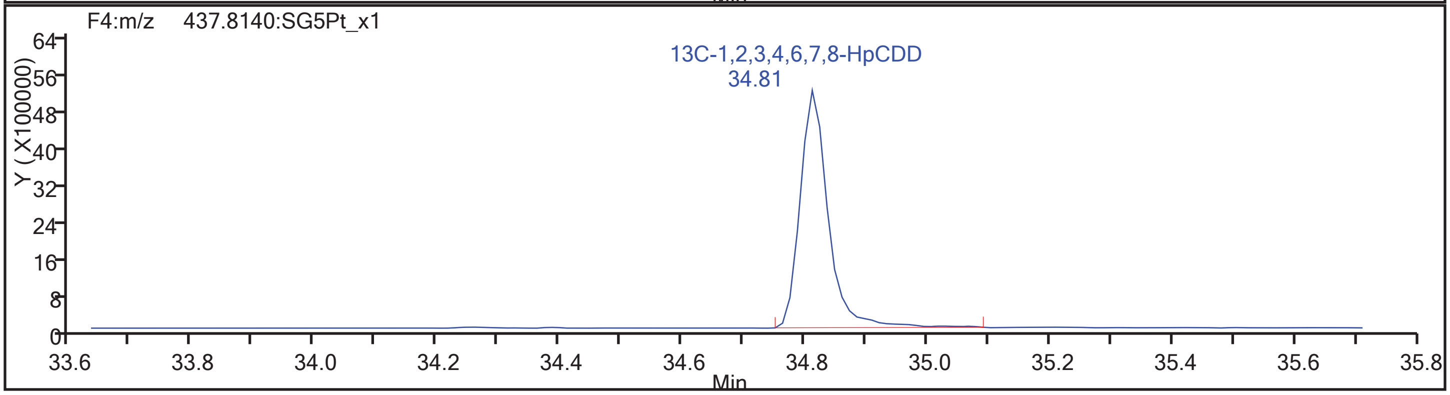
HpCDD





HpCDD Standards





Report Date: 06-Dec-2017 14:53:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d

Injection Date: 19-Nov-2017 07:17:08 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

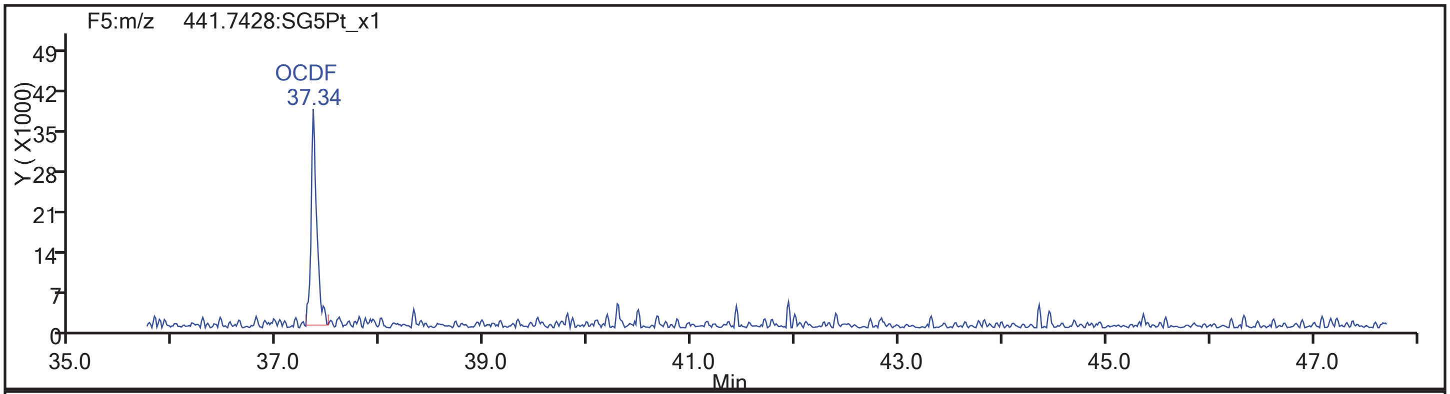
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

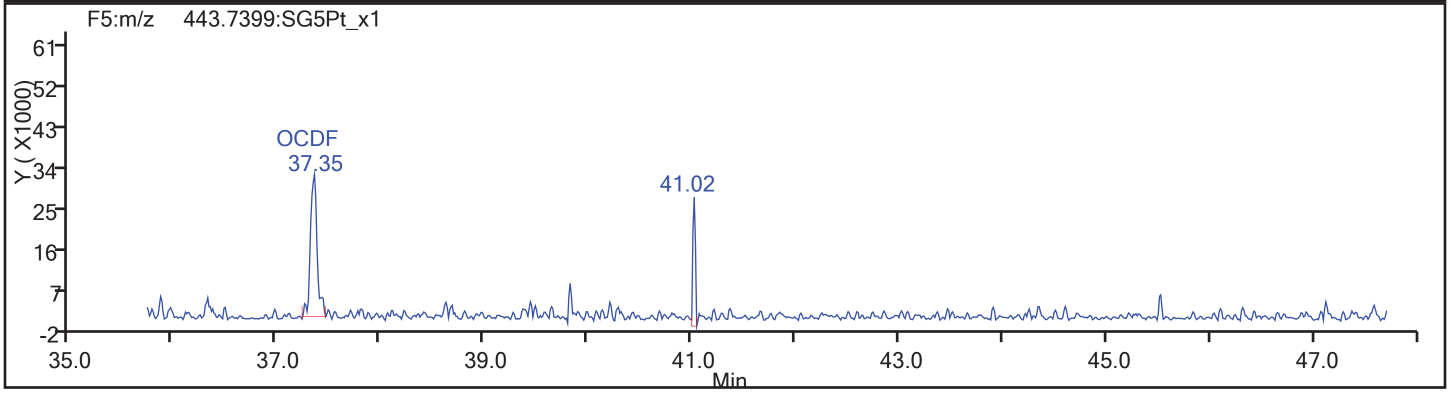
Client ID: SHAD041DP022SS04NS

Worklist#: 195574 Sample Line#: 76

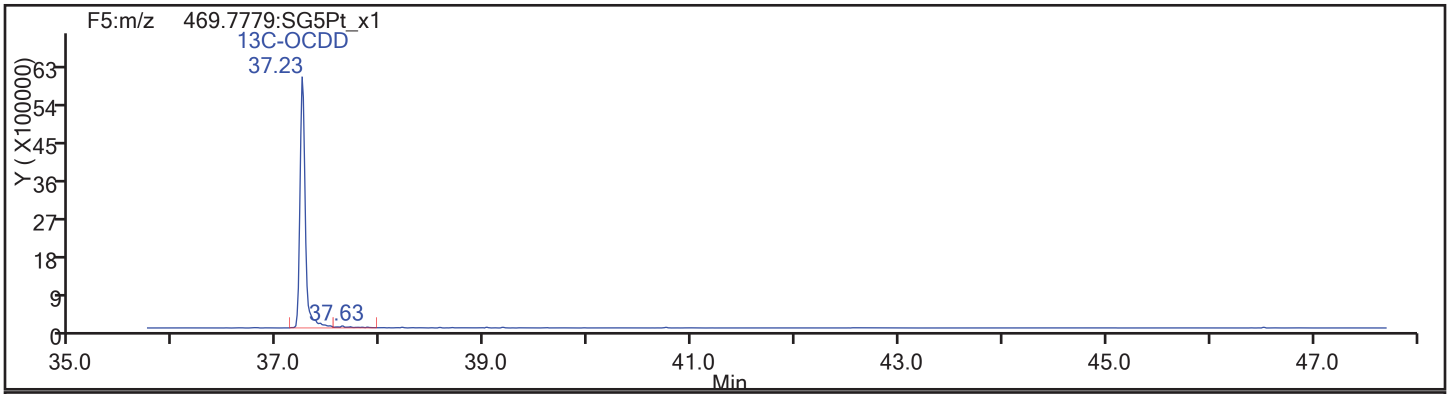
Column Type: Column Dia:

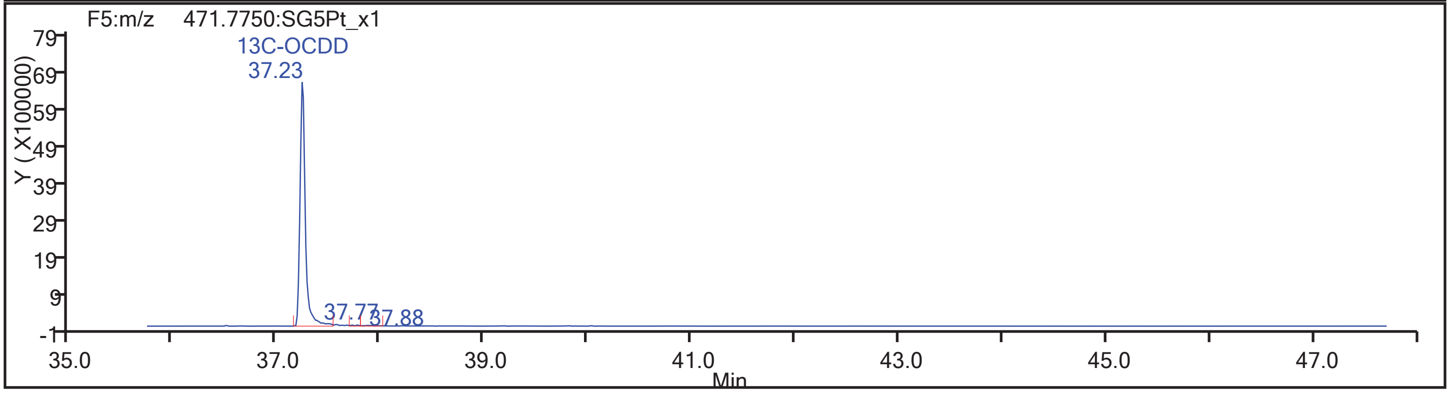
OCDF





OCDF Standards



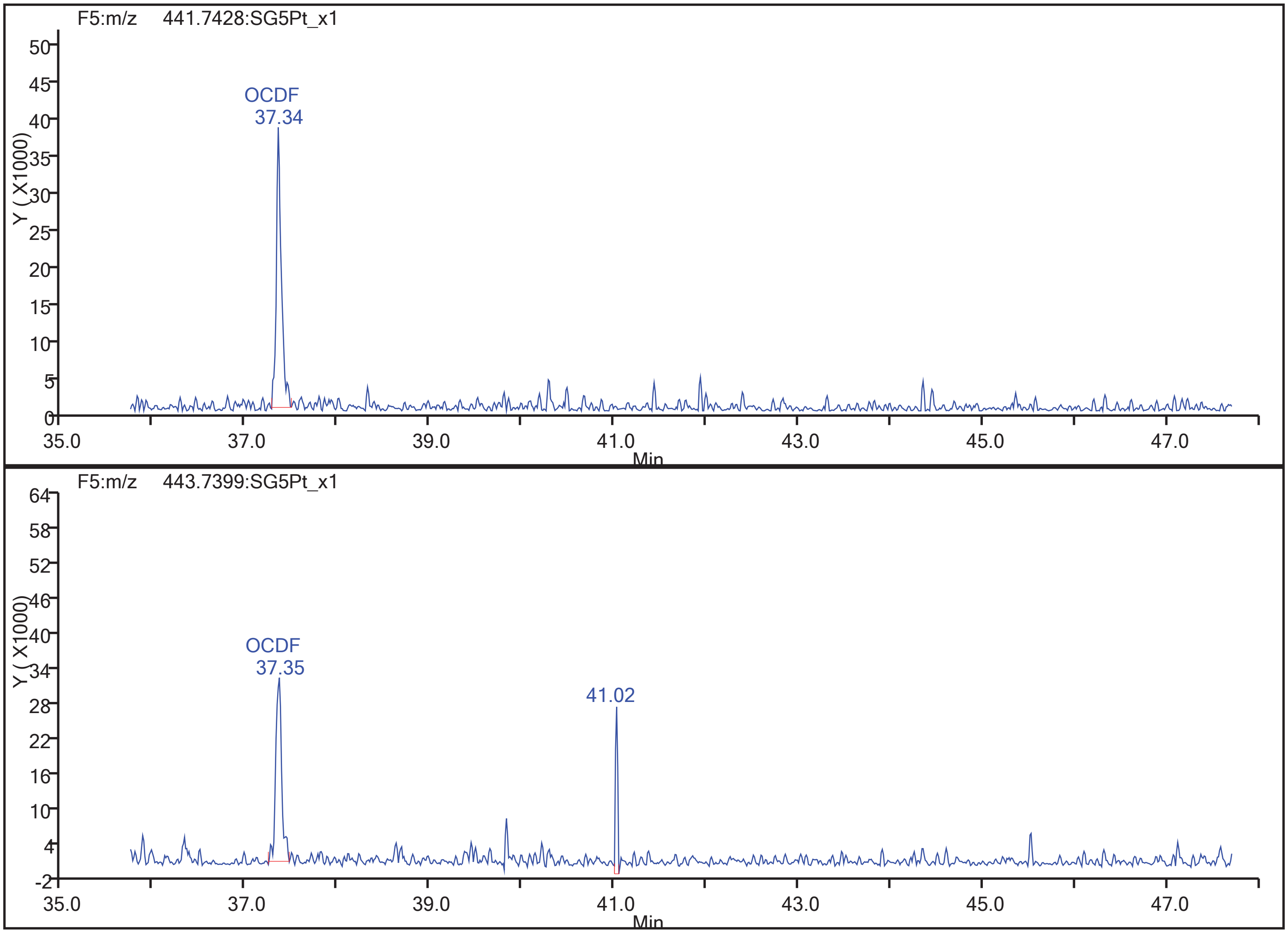


Report Date: 06-Dec-2017 14:53:41
Chrom Revision: 2.2 16-Aug-2017 16:24:46

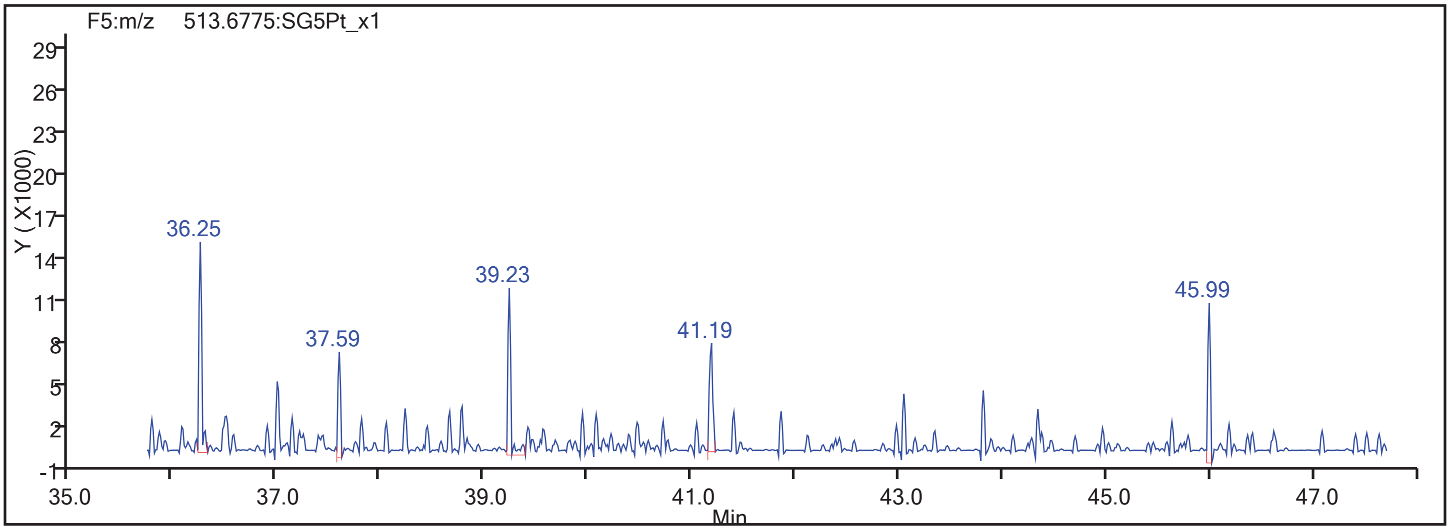
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d
Injection Date: 19-Nov-2017 07:17:08
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS04NS
Worklist#: 195574
Sample Line#: 76
Column Type:
Column Dia:

OCDF



OCDF Interference Mass

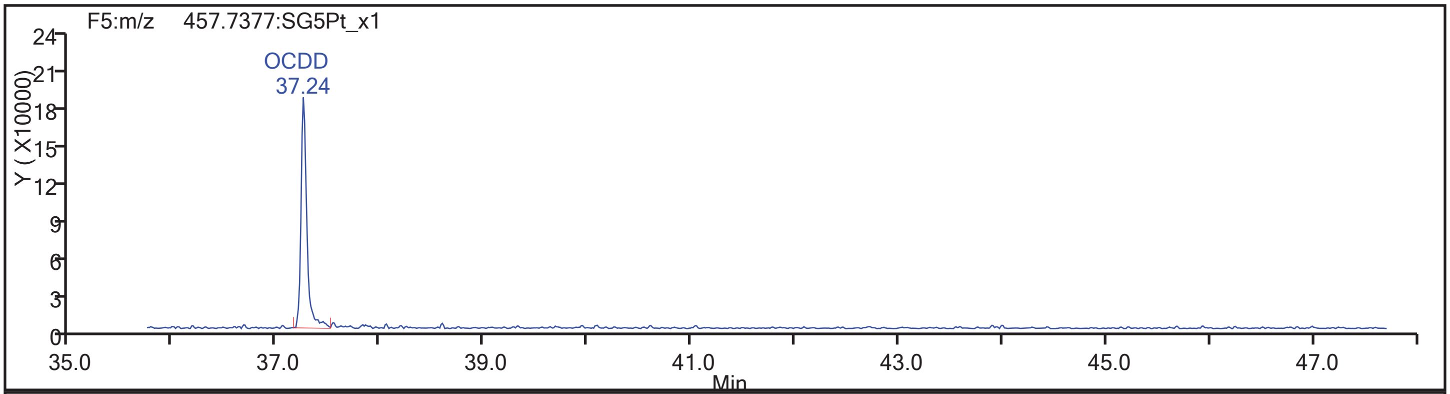


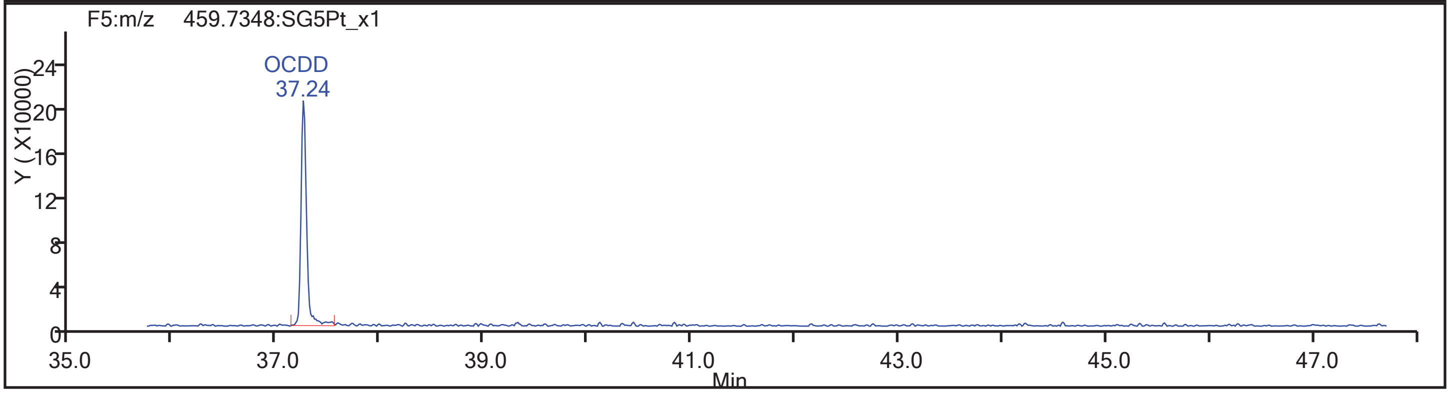
Report Date: 06-Dec-2017 14:53:41	Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

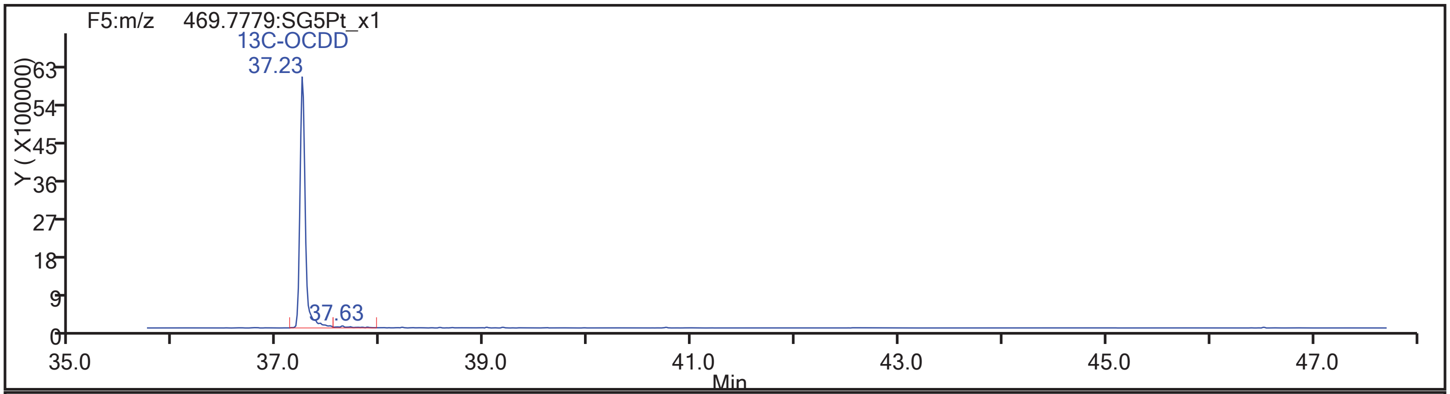
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d
Injection Date: 19-Nov-2017 07:17:08	Injection Vol: 2.0 ul
Instrument ID: 3D5	Operator ID: SMA, ALM
Method: Dioxin_3D5	Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS04NS
Worklist#: 195574	Sample Line#: 76
Column Type:	Column Dia:

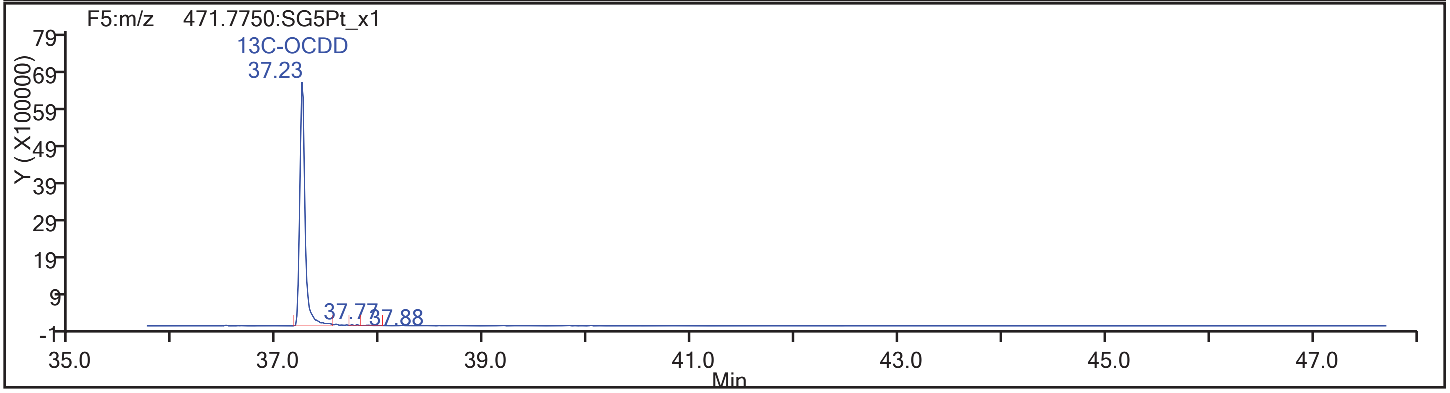
OCDD





OCDD Standards

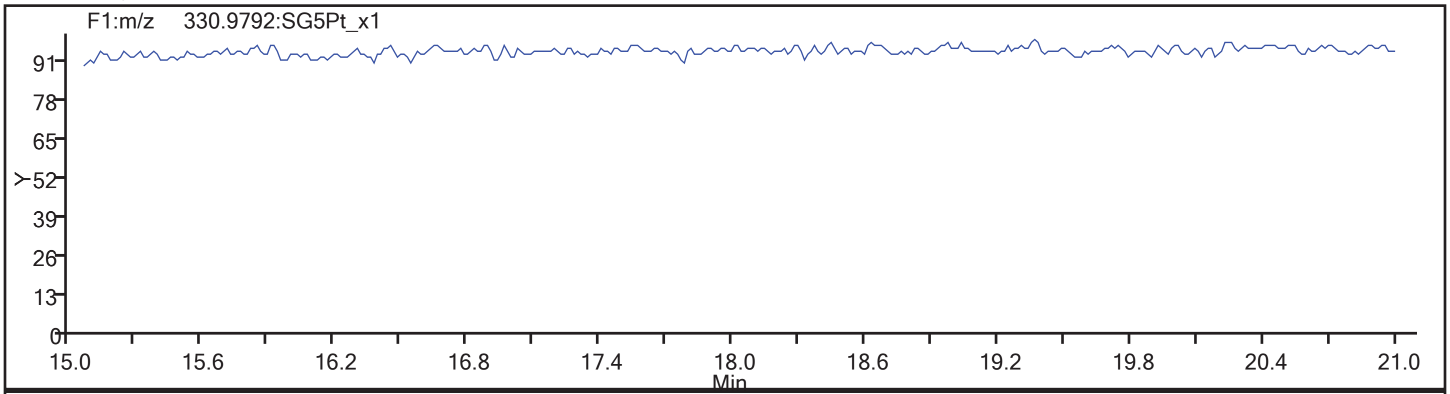


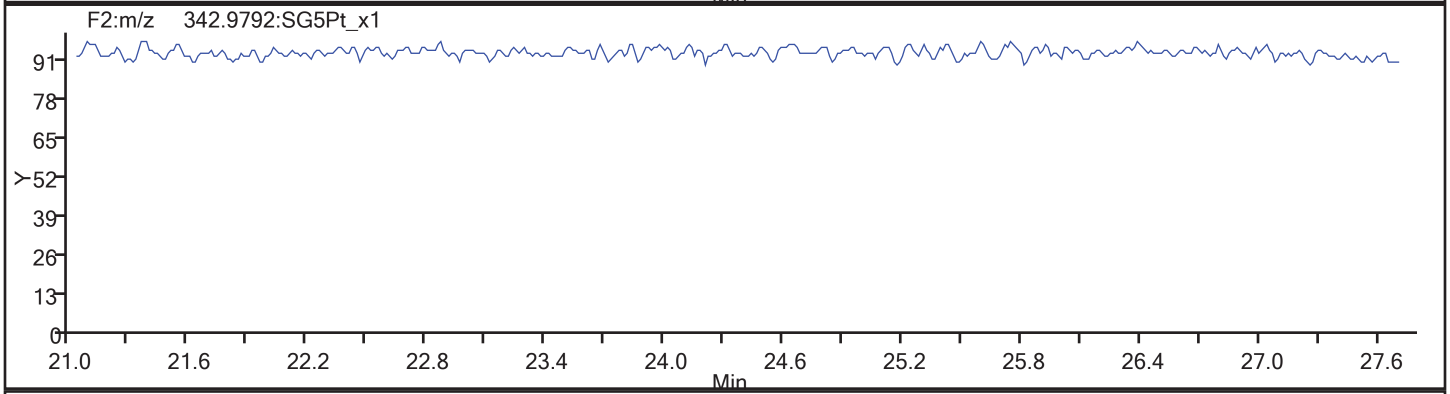


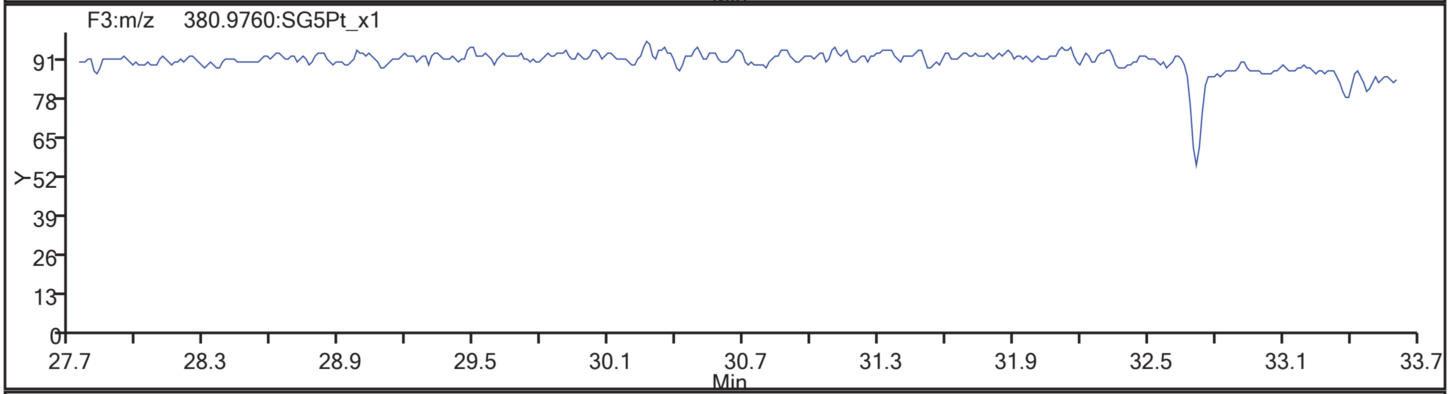
Report Date: 06-Dec-2017 14:53:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

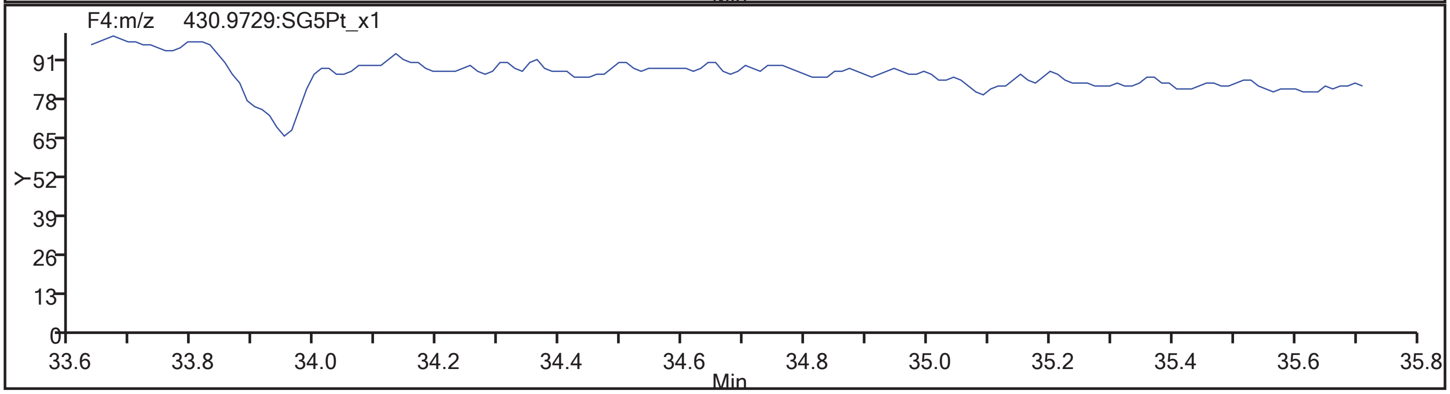
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d
Injection Date: 19-Nov-2017 07:17:08
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS04NS
Worklist#: 195574
Sample Line#: 76
Column Type:
Column Dia:



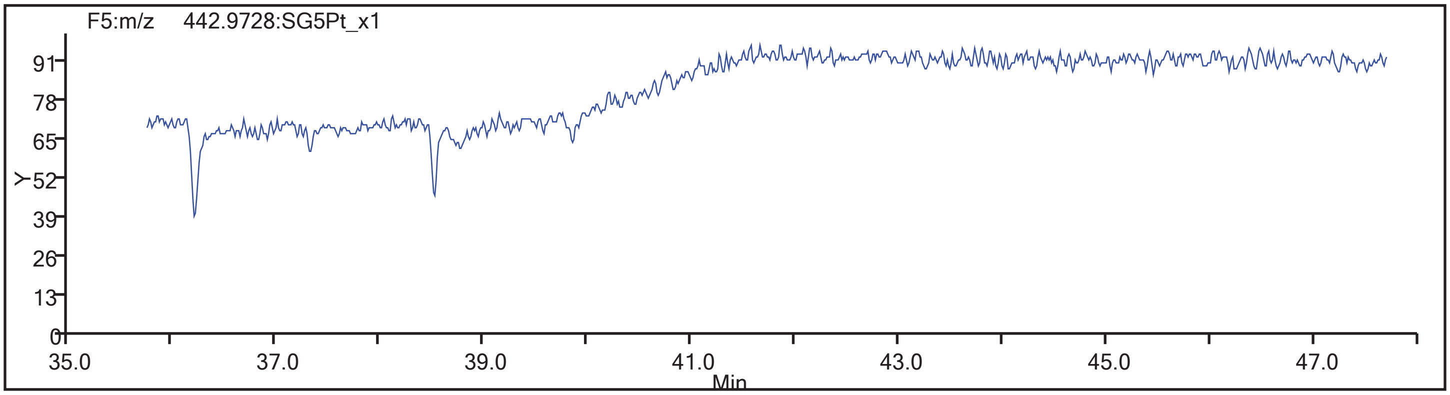






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_76.d		
Injection Date:	19-Nov-2017 07:17:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS04NS		
Worklist#:	195574	Sample Line#:	76
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS05NS	Lab Sample ID: 160-24924-11
Matrix: Solid	Lab File ID: 09NO1710D5_76.d
Analysis Method: 8290A	Date Collected: 10/05/2017 17:15
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 9.92(g)	Date Analyzed: 11/11/2017 20:26
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 12.1	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194085	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.46	U	1.1	0.46	0.076
51207-31-9	2,3,7,8-TCDF	0.46	U	1.1	0.46	0.043
40321-76-4	1,2,3,7,8-PeCDD	0.86	U	5.7	0.86	0.083
57117-41-6	1,2,3,7,8-PeCDF	0.86	U	5.7	0.86	0.056
57117-31-4	2,3,4,7,8-PeCDF	0.13	J M	5.7	0.86	0.057
39227-28-6	1,2,3,4,7,8-HxCDD	0.84	J M	5.7	2.3	0.084
57653-85-7	1,2,3,6,7,8-HxCDD	0.78	J	5.7	2.3	0.065
19408-74-3	1,2,3,7,8,9-HxCDD	0.93	J	5.7	2.3	0.064
70648-26-9	1,2,3,4,7,8-HxCDF	0.30	J	5.7	0.86	0.060
57117-44-9	1,2,3,6,7,8-HxCDF	0.33	J	5.7	1.1	0.049
72918-21-9	1,2,3,7,8,9-HxCDF	0.71	J	5.7	1.1	0.059
60851-34-5	2,3,4,6,7,8-HxCDF	0.87	J	5.7	0.86	0.055
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.6	J	5.7	1.1	0.098
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.6	J	5.7	1.1	0.081
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.9	J M	5.7	2.3	0.099
3268-87-9	OCDD	9.8	J B	11	4.6	0.12
39001-02-0	OCDF	5.2	J	11	4.6	0.14

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	55		40-135
89059-46-1	13C-2,3,7,8-TCDF	61		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	60		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	61		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	48		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	58		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	45		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	37	Q	40-135
114423-97-1	13C-OCDD	34	Q	40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d
Lims ID: 160-24924-G-11-A
Client ID: SHAD041DP022SS05NS
Sample Type: Client
Inject. Date: 11-Nov-2017 20:26:22 ALS Bottle#: 50 Worklist Smp#: 76
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-11-a 160-24924-g-11-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:04:06 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:04:05

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.899	114094499	0.79	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.385	88112714	0.78	1.2741	60.6	60.6	0.1326	0.1326	60.61	
2,3,7,8-TCDF	17.415						0.0186	0.0186		
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF							0.0186	0.0186		
D 13C-2,3,7,8-TCDD	18.095	62247200	0.77	0.9921	55.0	55.0	0.1551	0.1551	54.99	
2,3,7,8-TCDD	18.126						0.0332	0.0332		
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD							0.0332	0.0332		
D 13C-1,2,3,7,8-PeCDF	22.437	67383176	1.56	0.9696	60.9	60.9	0.1519	0.1519	60.91	
1,2,3,7,8-PeCDF	22.465						0.0245	0.0245		
2,3,4,7,8-PeCDF	23.828	42185	1.55	1.1395	0.0597	0.0549	0.0250	0.0250		RQM
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF					0.0597	0.0549	0.0248	0.0248		RQ
D 13C-1,2,3,7,8-PeCDD	24.510	51573522	1.62	0.7588	59.6	59.6	0.0928	0.0928	59.57	
1,2,3,7,8-PeCDD	24.551						0.0361	0.0361		
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD							0.0361	0.0361		
D 13C-1,2,3,4,7,8-HxCDF	30.580	53323481	0.52	0.9644	58.1	58.1	0.3478	0.3478	58.15	
1,2,3,4,7,8-HxCDF	30.593	98510	1.24	1.4012	0.1476	0.1318	0.0260	0.0260		RQ
1,2,3,6,7,8-HxCDF	30.780	131501	1.27	1.6951	0.1455	0.1455	0.0215	0.0215		
2,3,4,6,7,8-HxCDF	31.578	308088	1.13	1.5205	0.3800	0.3800	0.0240	0.0240		
D 13C-1,2,3,7,8,9-HxCDF	32.350	54818055	0.52							
1,2,3,7,8,9-HxCDF	32.363	233433	1.25	1.4099	0.3105	0.3105	0.0259	0.0259		
A Non-2,3,7,8-sub-HxCDF	30.254						0.0	0.0		
S Total HxCDF					0.9835	0.9678	0.0244	0.0244		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.177	95093566	1.24	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.764	139315	1.12	0.9505	0.3657	0.3657	0.0366	0.0366		M
D 13C-1,2,3,6,7,8-HxCDD	31.844	40078759	1.26	0.8791	47.9	47.9	0.2750	0.2750	47.94	
1,2,3,6,7,8-HxCDD	31.858	168900	1.33	1.2343	0.3414	0.3414	0.0282	0.0282		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.177	201484	1.32	1.2467	0.4032	0.4032	0.0279	0.0279		
A Non-2,3,7,8-sub-HxCDD	30.893	197075	1.12	1.1438	0.4299	0.4299	0.0304	0.2362		
S Total HxCDD					1.540	1.540	0.0309	0.0309		
D 13C-1,2,3,4,6,7,8-HpCDF	33.758	26511156	0.44	0.7618	36.6	36.6	0.5928	0.5928	36.60	
1,2,3,4,6,7,8-HpCDF	33.770	299020	1.07	1.6399	0.6878	0.6878	0.0352	0.0352		
1,2,3,4,7,8,9-HpCDF	34.852	293530	0.98	1.3302	0.8323	0.8323	0.0434	0.0434		M
A Non-2,3,7,8-sub-HpCDF	34.305						0.0	0.0		
S Total HpCDF					1.520	1.520	0.0393	0.0393		
1,2,3,4,6,7,8-HpCDD	34.560	373361	0.96	0.9932	1.134	1.134	0.0428	0.0428		
D 13C-1,2,3,4,6,7,8-HpCDD	34.548	33159667	1.04	0.7762	44.9	44.9	0.4414	0.4414	44.93	
A Non-2,3,7,8-sub-HpCDD	34.286	228206	0.92	0.9932	0.6929	0.6929	0.0428	0.6929		
S Total HpCDD					1.827	1.827	0.0428	0.0428		
D 13C-OCDD	36.882	40898726	0.86	0.6314	68.1	68.1	0.1334	0.1334	34.06	
OCDF	36.978	624302	0.90	1.3460	2.268	2.268	0.0611	0.0611		
OCDD	36.894	926375	0.89	1.0604	4.272	4.272	0.0532	0.0532		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d				
Lims ID:	160-24924-G-11-A				
Client ID:	SHAD041DP022SS05NS				
Sample Type:	Client				
Inject. Date:	11-Nov-2017 20:26:22	ALS Bottle#:	50	Worklist Smp#:	76
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-g-11-a 160-24924-g-11-a				
Misc. Info.:	09NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	13-Nov-2017 13:04:06	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK002				
First Level Reviewer: dadunj		Date:	13-Nov-2017 13:04:05		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.899	17.914	-1		50261677	12409672	8943	22357	1388		
333.9339	17.899	17.914	-1		63832822	15827271	8441	21102	1875	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.385	17.400	-1	0.971	38730858	9395620	11851	29627	793		
317.9389	17.385	17.400	-1	0.971	49381856	11819880	7226	18065	1636	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415						687	1717			
305.8987	17.415						1106	2765			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						687	1717			
305.8987	17.105						1106	2765			
13C-2,3,7,8-TCDD											
331.9368	18.095	18.111	-1	1.011	27008908	6155129	8943	22357	688		
333.9339	18.095	18.111	-1	1.011	35238292	8125421	8441	21102	963	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.126						1323	3307			
321.8936	18.126						575	1437			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						1323	3307			
321.8936	17.559						575	1437			
13C-1,2,3,7,8-PeCDF											
351.9000	22.437	22.437	0	1.254	41021306	7213149	9779	24447	738		
353.8970	22.437	22.437	0	1.254	26361870	4673806	6852	17130	682	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.465						478	1195			
341.8567	22.465						877	2192			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											RQM
339.8597	23.828	23.815	1	1.062	25642	3985	478	1195	8		M
341.8567	23.814	23.815	0	1.061	20163	4149	877	2192	5	1.27(1.32-1.78)	
	Empc Correction				16543	2570	877	2192	3		
A F1 PeCDFs											
339.8597	20.001						316	790			
341.8567	20.001						1010	2525			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						478	1195			
341.8567	23.161						877	2192			
13C-1,2,3,7,8-PeCDD											
367.8949	24.510	24.524	-1	1.369	31914461	4903065	5028	12570	975		
369.8919	24.510	24.524	-1	1.369	19659061	3012428	2928	7320	1029	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551						777	1942			
357.8516	24.551						307	767			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						777	1942			
357.8516	23.419						307	767			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.580	30.580	0	0.950	18177085	3594560	10839	27097	332		
385.8610	30.580	30.580	0	0.950	35146396	6945462	21259	53147	327	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											RQ
373.8208	30.593	30.607	-1	1.000	66279	15766	902	2255	17		
	Empc Correction				54532	10724	902	2255	12		
375.8178	30.580	30.607	-2	1.000	43978	8649	637	1592	14	1.51(1.05-1.43)	
1,2,3,6,7,8-HxCDF											
373.8208	30.780	30.780	0	1.007	73606	13687	902	2255	15		
375.8178	30.766	30.780	-1	1.006	57895	9668	637	1592	15	1.27(1.05-1.43)	
2,3,4,6,7,8-HxCDF											
373.8208	31.578	31.578	0	1.033	163623	39172	902	2255	43		
375.8178	31.578	31.578	0	1.033	144465	34612	637	1592	54	1.13(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.350	32.364	-1	1.005	18690108	4799036	10839	27097	443		
385.8610	32.350	32.364	-1	1.005	36127947	9253018	21259	53147	435	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.363	32.377	-1	1.058	129830	30336	902	2255	34		
375.8178	32.363	32.377	-1	1.058	103603	27069	637	1592	42	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.254						902	2255			
375.8178	30.254						637	1592			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.177	32.177	0		52607402	13188677	12331	30827	1070		
403.8529	32.164	32.177	-1		42486164	10736346	10803	27007	994	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.764	31.765	0	0.997	73506	23587	717	1792	33		
391.8127	31.751	31.765	-1	0.997	65809	16782	724	1810	23	1.12(1.05-1.43)	M

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.844	31.858	-1	0.990	22335701	5699162	12331	30827	462		
403.8529	31.844	31.858	-1	0.990	17743058	4658298	10803	27007	431	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.858	31.871	-1	1.000	96280	20224	717	1792	28		
391.8127	31.858	31.871	-1	1.000	72620	17172	724	1810	24	1.33(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.177	32.190	-1	1.010	114526	24202	717	1792	34		
391.8127	32.190	32.190	0	1.011	86958	20768	724	1810	29	1.32(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.648	30.893	-75	0.931	55842	7636	717	1792	11		
391.8127	29.675	30.893	-73	0.932	52422	8101	724	1810	11	1.07(1.05-1.43)	
389.8157	31.032	30.893	8	0.975	48280	10089	717	1792	14		
391.8127	31.019	30.893	8	0.974	40531	6436	724	1810	9	1.19(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.758	33.770	-1	1.049	8151430	2554318	14324	35810	178		
419.8220	33.758	33.770	-1	1.049	18359726	5945418	28894	72235	206	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.770	33.783	-1	1.000	154865	50741	1179	2947	43		
409.7789	33.770	33.783	-1	1.000	144155	45167	782	1955	58	1.07(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											M
407.7818	34.852	34.852	0	1.032	145086	40431	1179	2947	34		M
409.7789	34.852	34.852	0	1.032	148444	44994	782	1955	58	0.98(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.305						1179	2947			
409.7789	34.305						782	1955			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.560	34.560	0	1.000	182391	55146	859	2147	64		
425.7737	34.560	34.560	0	1.000	190970	54712	816	2040	67	0.96(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.548	34.560	-1	1.074	16934915	4967480	23537	58842	211		
437.8140	34.548	34.560	-1	1.074	16224752	4871555	9251	23127	527	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.013	34.286	-16	0.985	109608	38638	859	2147	45		
425.7737	34.013	34.286	-16	0.985	118598	36136	816	2040	44	0.92(0.88-1.20)	
13C-OCDD											
469.7779	36.882	36.894	-1	1.146	18914937	4637516	4634	11585	1001		
471.7750	36.882	36.894	-1	1.146	21983789	5442597	3428	8570	1588	0.86(0.76-1.02)	
OCDF											
441.7428	36.978	36.990	-1	1.003	294960	67378	589	1472	114		
443.7399	36.990	36.990	0	1.003	329342	79568	1070	2675	74	0.90(0.76-1.02)	
OCDD											
457.7377	36.894	36.894	0	1.000	435874	106980	518	1295	207		
459.7348	36.894	36.894	0	1.000	490501	119549	619	1547	193	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d
Lims ID: 160-24924-G-11-A
Client ID: SHAD041DP022SS05NS
Inject. Date: 11-Nov-2017 20:26:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 76

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	40078759	10357460
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	40078759	10357460

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.648	55842	7636	52422	8101	0.2362	1.07	
31.032	48280	10089	40531	6436	0.1937	1.19	
Signal Totals:							
	104122	17725	92953	14537			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	197075	32262				1.12	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4299 = (197075 * 100.000) / (40078759 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d		
Lims ID:	160-24924-G-11-A		
Client ID:	SHAD041DP022SS05NS		
Inject. Date:	11-Nov-2017 20:26:22	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	76

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	33159667	9839035

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	33159667	9839035

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.013	109608	38638	118598	36136	0.6929	0.92	
Signal Totals:							
	109608	38638	118598	36136			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	228206	74774				0.92	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6929 = (228206 * 100.000) / (33159667 * 0.993)

TestAmerica Sacramento

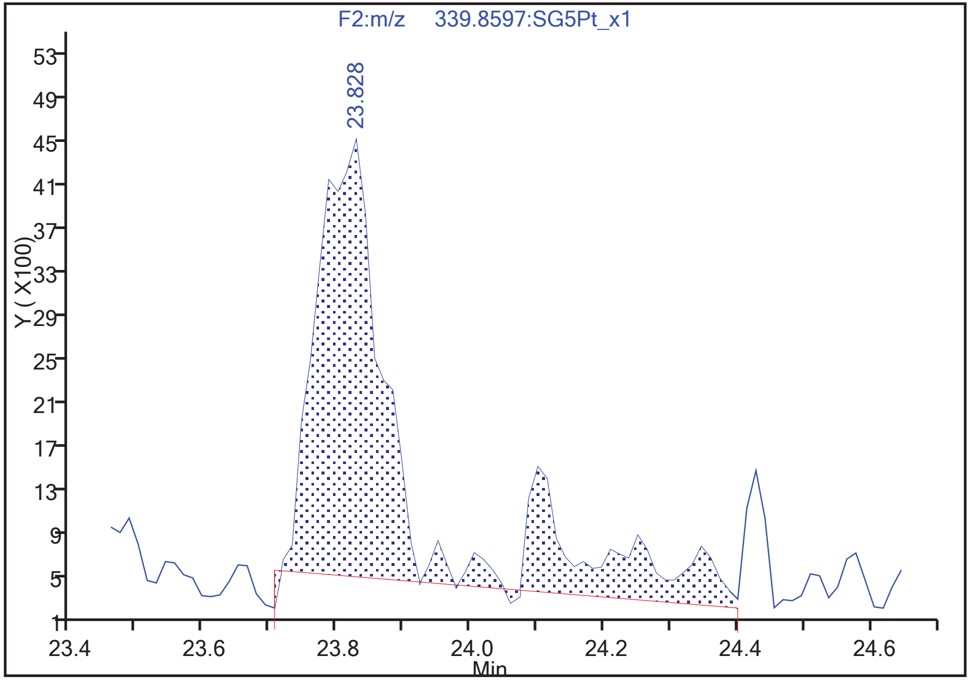
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d				
Injection Date:	11-Nov-2017 20:26:22	Instrument ID:	10D5		
Lims ID:	160-24924-G-11-A	Lab Sample ID:	320-24924-11		
Client ID:	SHAD041DP022SS05NS				
Operator ID:	AJS	ALS Bottle#:	50	Worklist Smp#:	76
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

2,3,4,7,8-PeCDF, CAS: 57117-31-4

Signal: 1

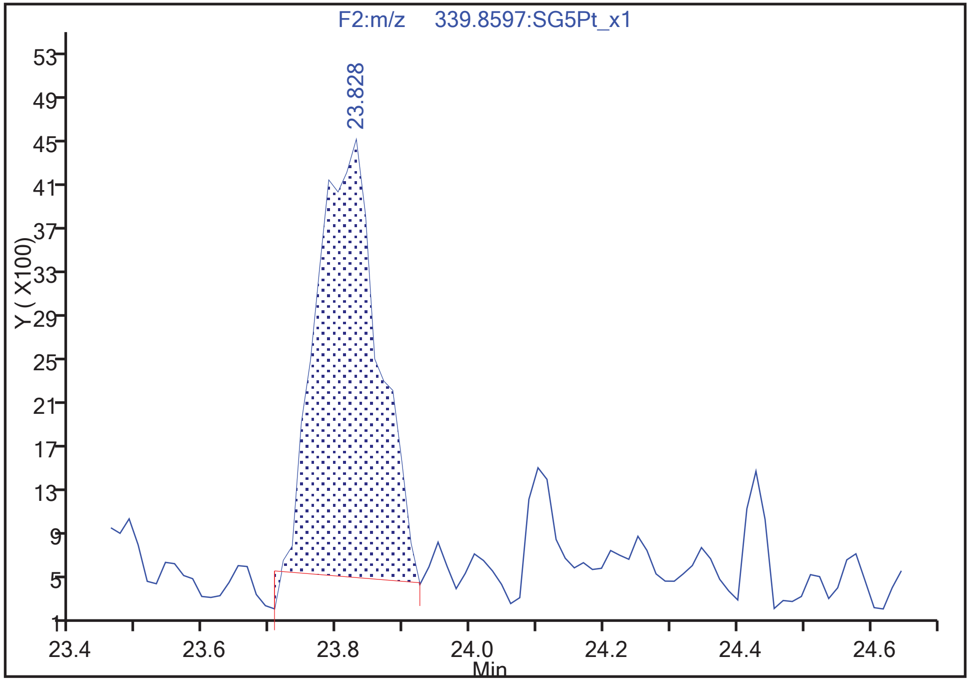
Processing Integration Results

RT: 23.83
Area: 34806
Amount: 0.071587
Amount Units: pg/ul



Manual Integration Results

RT: 23.83
Area: 25642
Amount: 0.059653
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 13:02:26
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 13:04:09

Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

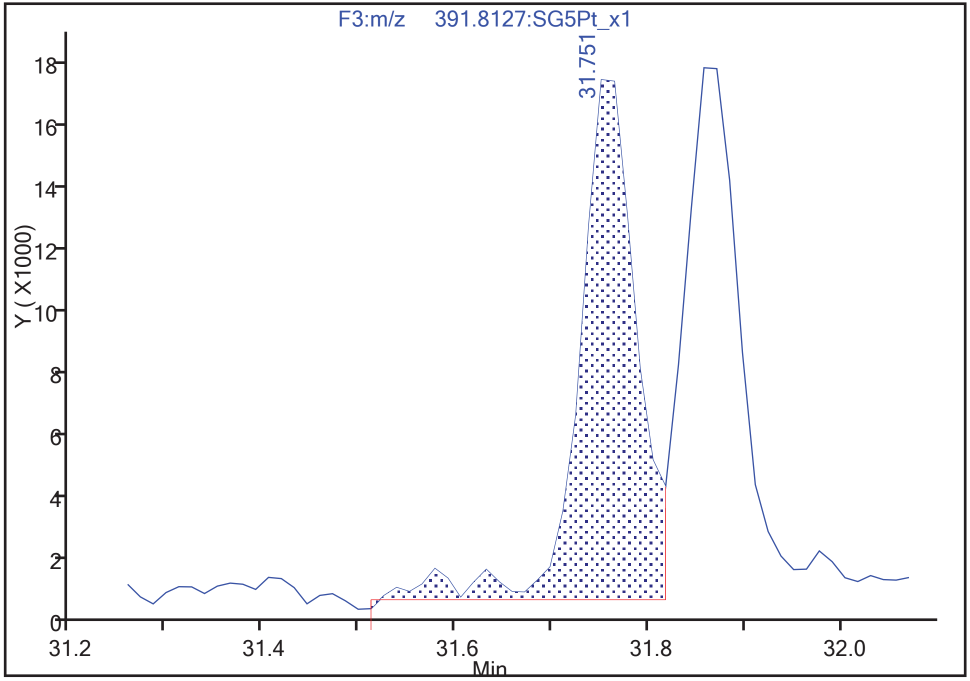
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d		
Injection Date:	11-Nov-2017 20:26:22	Instrument ID:	10D5
Lims ID:	160-24924-G-11-A	Lab Sample ID:	320-24924-11
Client ID:	SHAD041DP022SS05NS		
Operator ID:	AJS	ALS Bottle#:	50 Worklist Smp#: 76
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

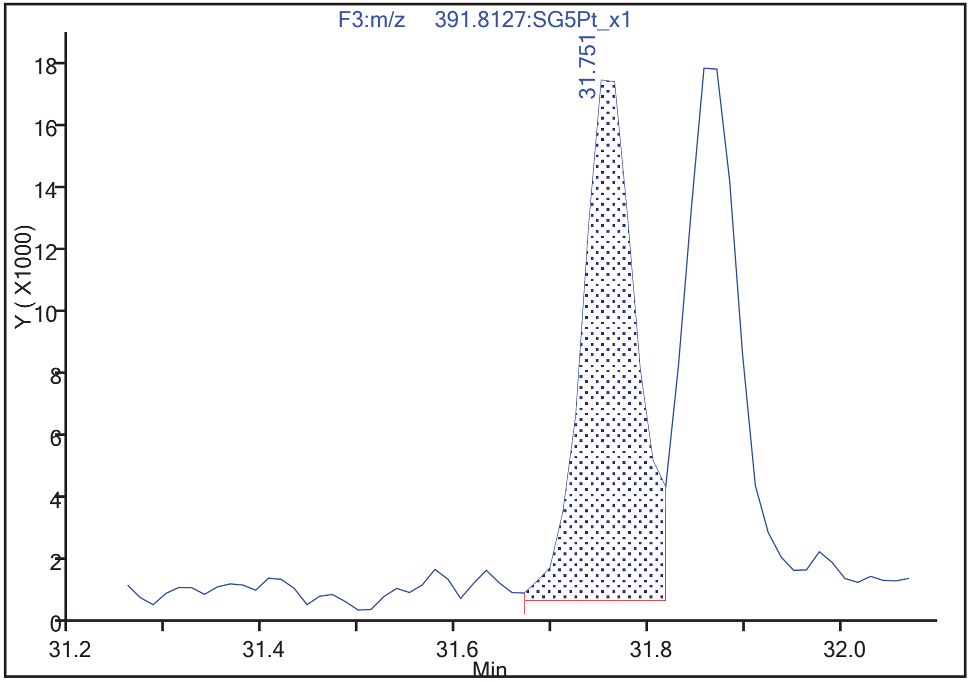
Processing Integration Results

RT:	31.75
Area:	70105
Amount:	0.376999
Amount Units:	pg/ul



Manual Integration Results

RT:	31.75
Area:	65809
Amount:	0.365721
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 13:03:44

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Report Date: 13-Nov-2017 13:04:09

Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

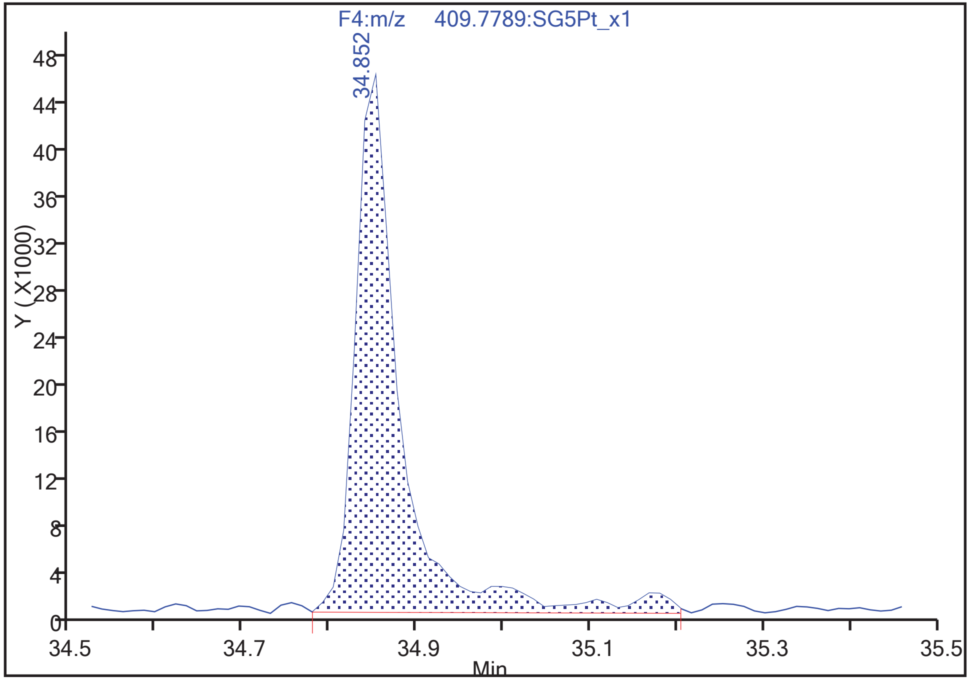
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d		
Injection Date:	11-Nov-2017 20:26:22	Instrument ID:	10D5
Lims ID:	160-24924-G-11-A	Lab Sample ID:	320-24924-11
Client ID:	SHAD041DP022SS05NS		
Operator ID:	AJS	ALS Bottle#:	50 Worklist Smp#: 76
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

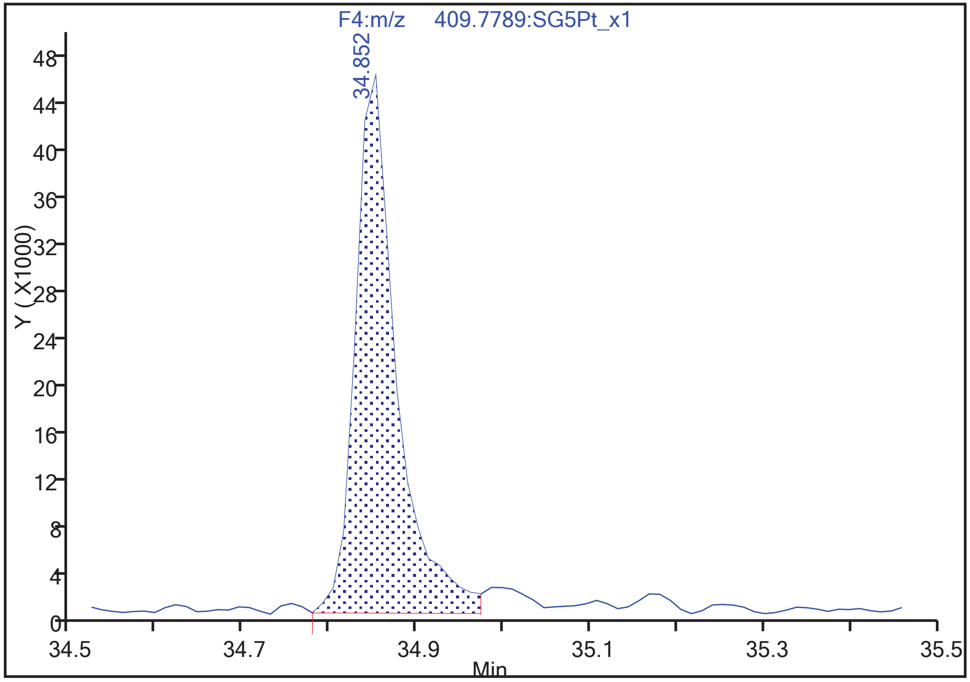
Processing Integration Results

RT: 34.85
Area: 164534
Amount: 0.900079
Amount Units: pg/ul



Manual Integration Results

RT: 34.85
Area: 148444
Amount: 0.832320
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 13:02:58

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

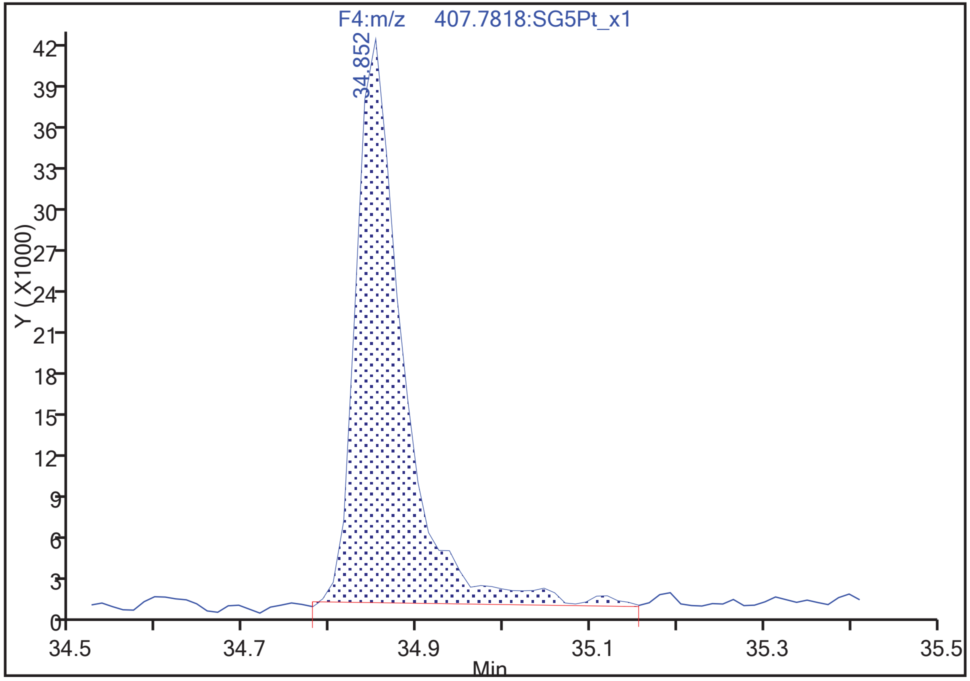
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d				
Injection Date:	11-Nov-2017 20:26:22	Instrument ID:	10D5		
Lims ID:	160-24924-G-11-A	Lab Sample ID:	320-24924-11		
Client ID:	SHAD041DP022SS05NS				
Operator ID:	AJS	ALS Bottle#:	50	Worklist Smp#:	76
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

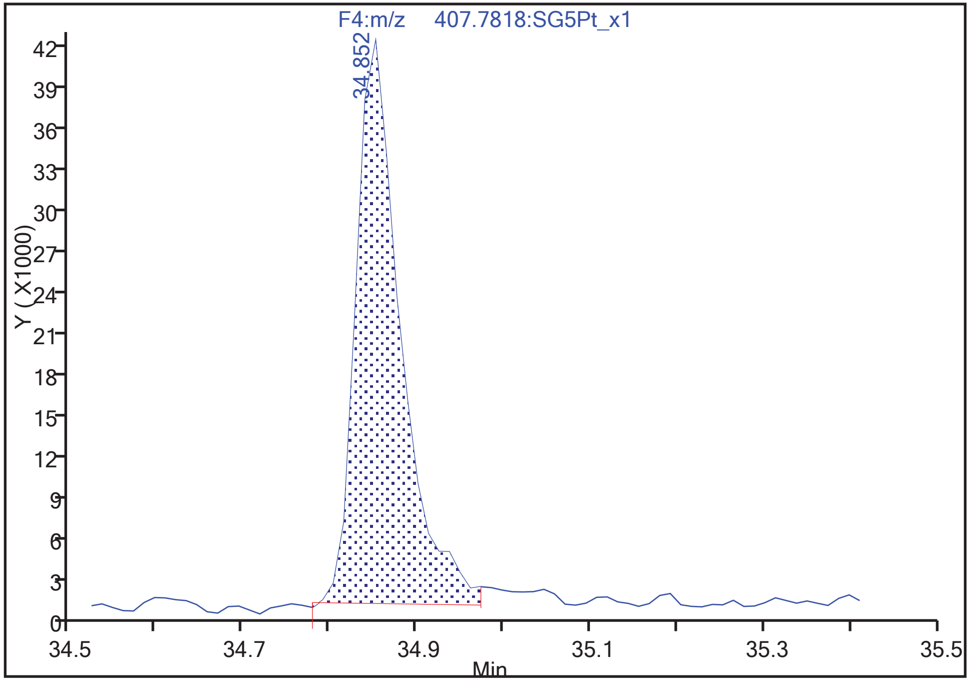
Processing Integration Results

RT:	34.85
Area:	152892
Amount:	0.900079
Amount Units:	pg/ul



Manual Integration Results

RT:	34.85
Area:	145086
Amount:	0.832320
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 13:03:00

Audit Action: Split an Integrated Peak

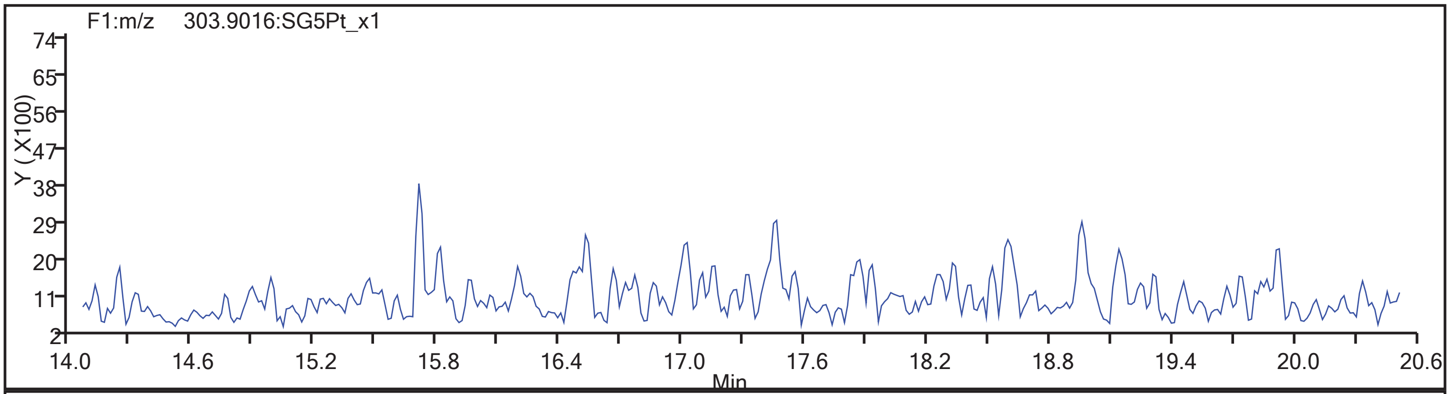
Audit Reason: Split Peak

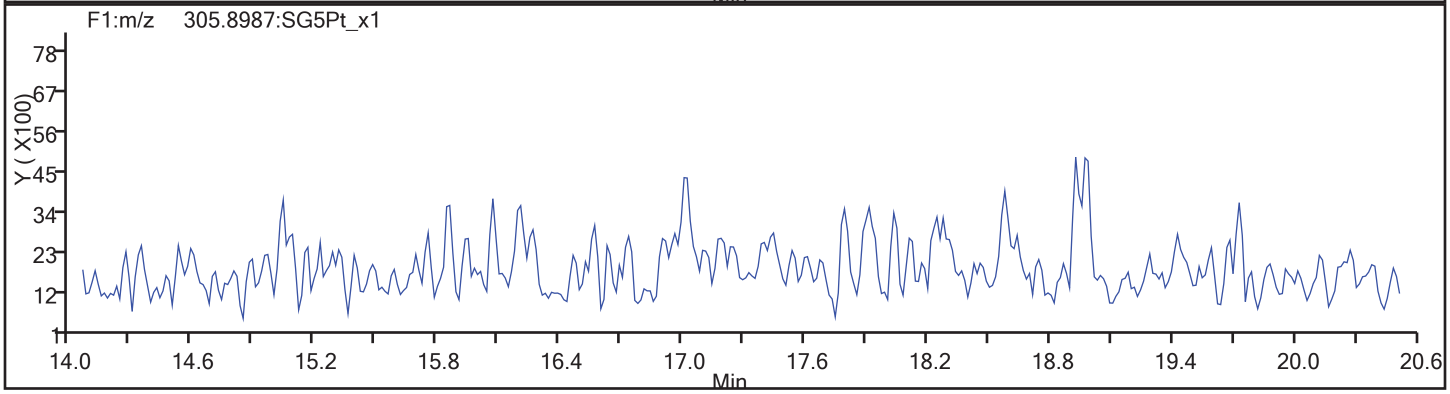
Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

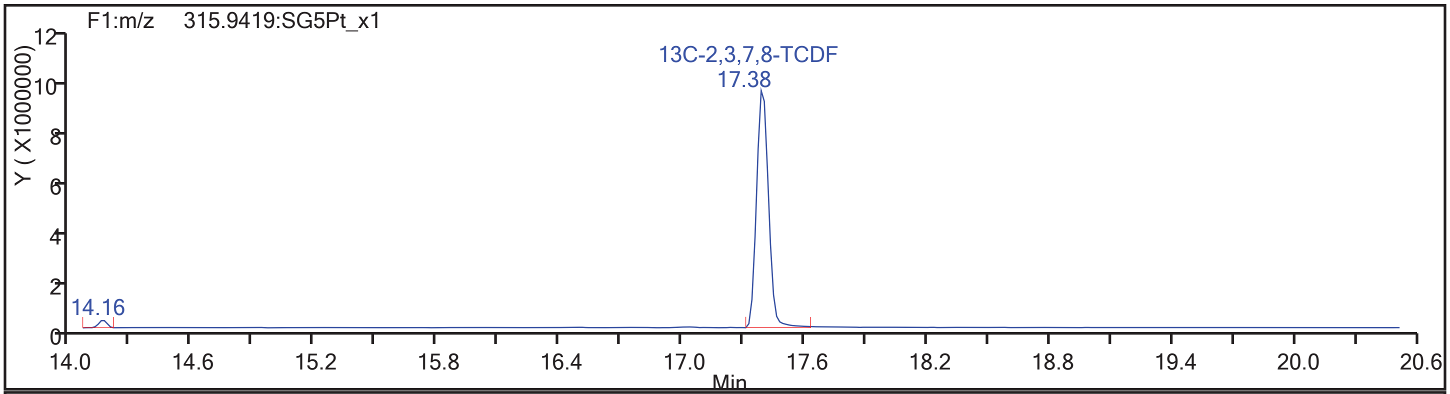
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d
Injection Date: 11-Nov-2017 20:26:22
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS05NS
Worklist#: 194085
Sample Line#: 76
Column Type: DB-5
Column Dia: 0.32 mm

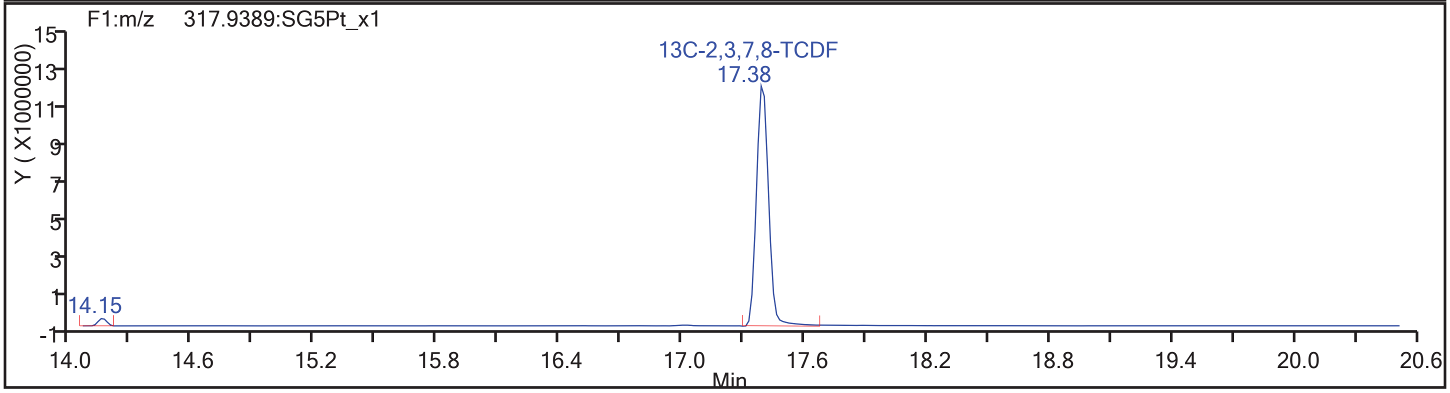
TCDF





TCDF Standards



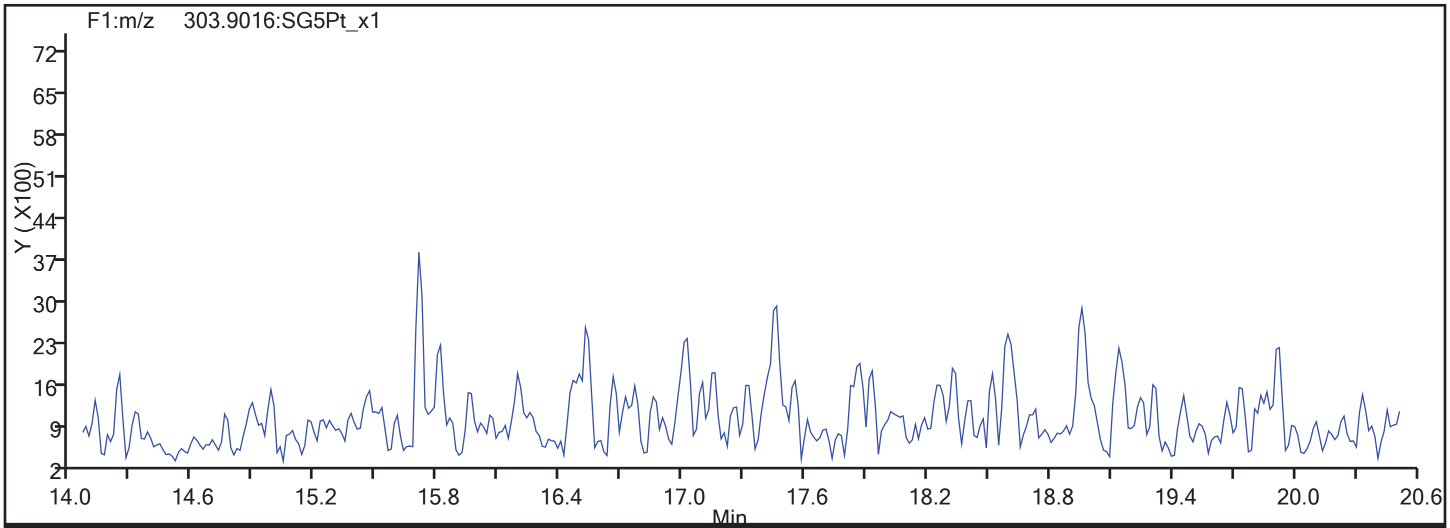


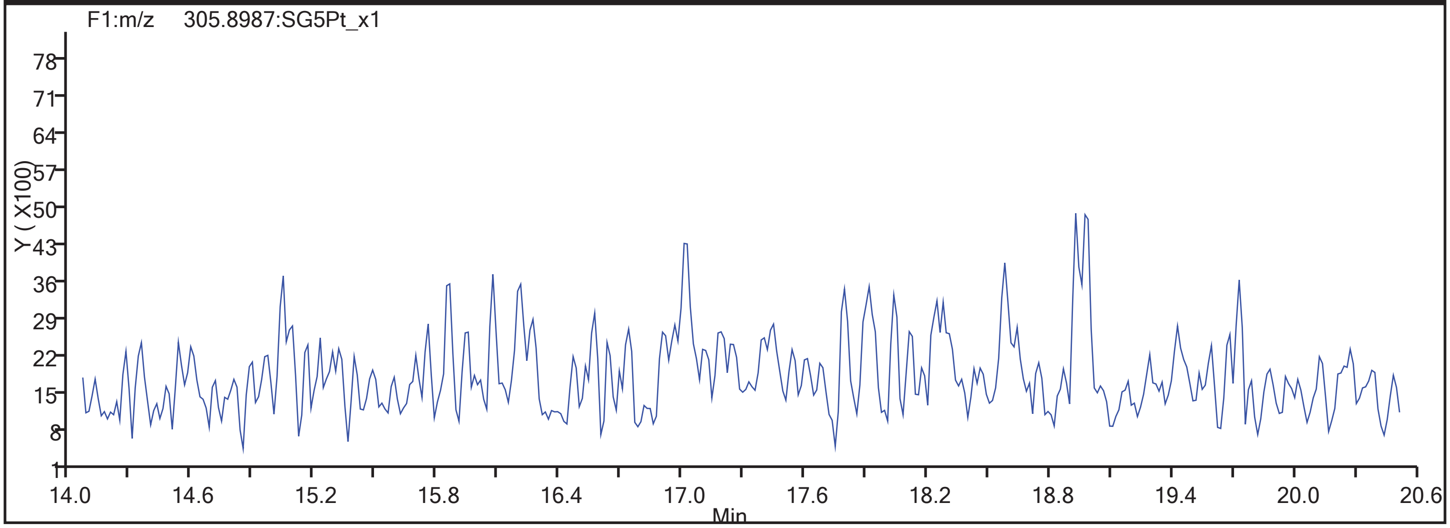
Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

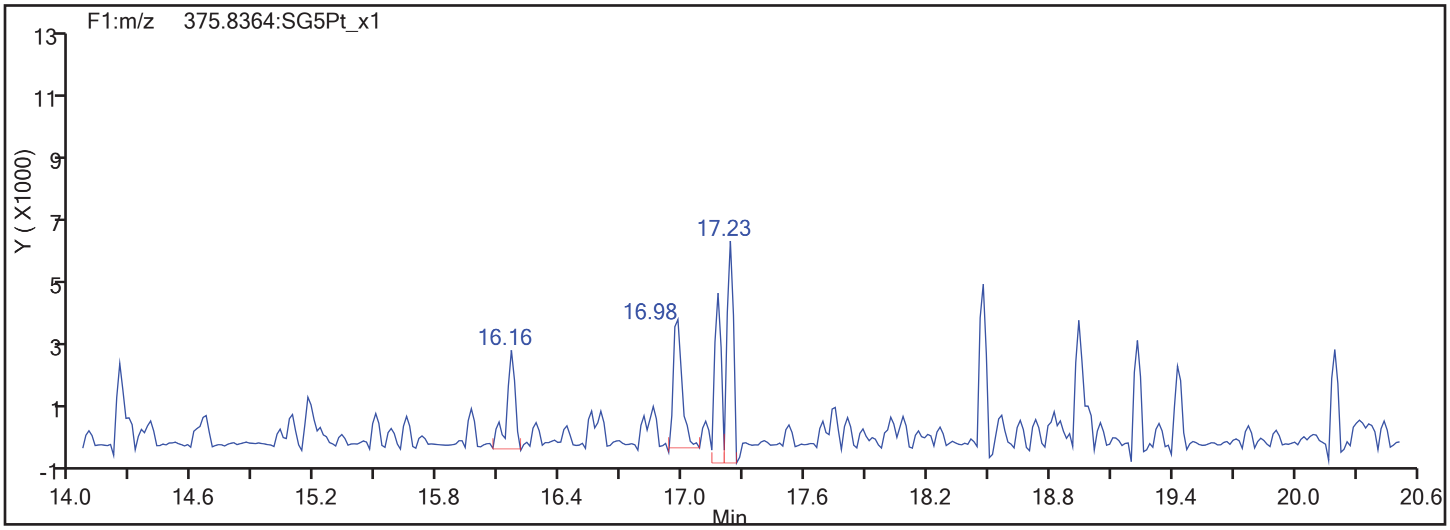
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d
Injection Date: 11-Nov-2017 20:26:22
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS05NS
Worklist#: 194085
Sample Line#: 76
Column Type: DB-5
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass

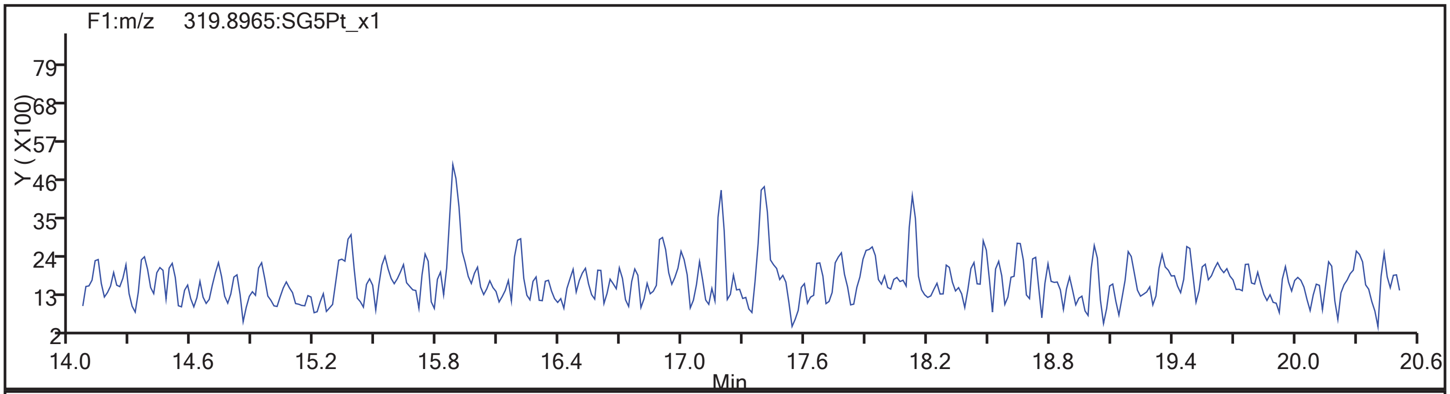


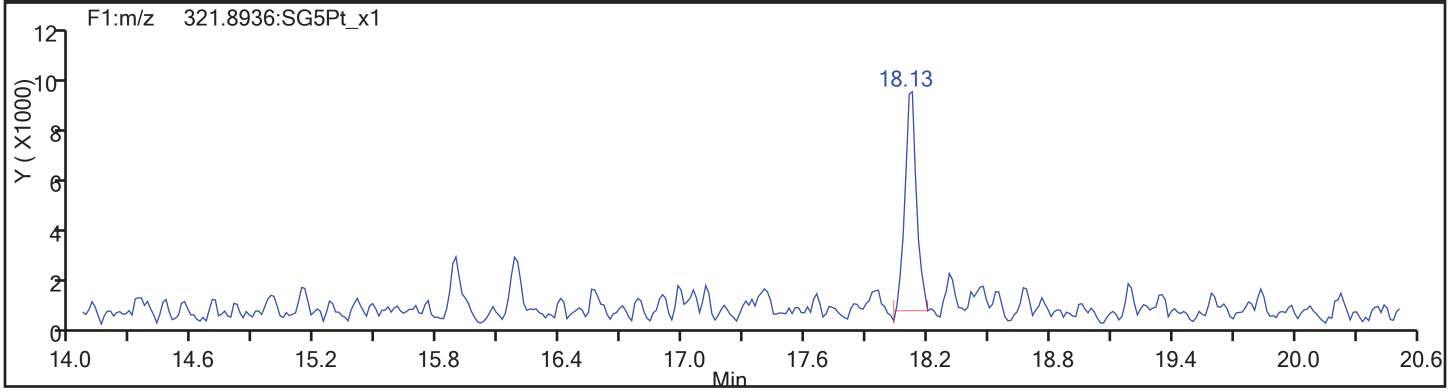
Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

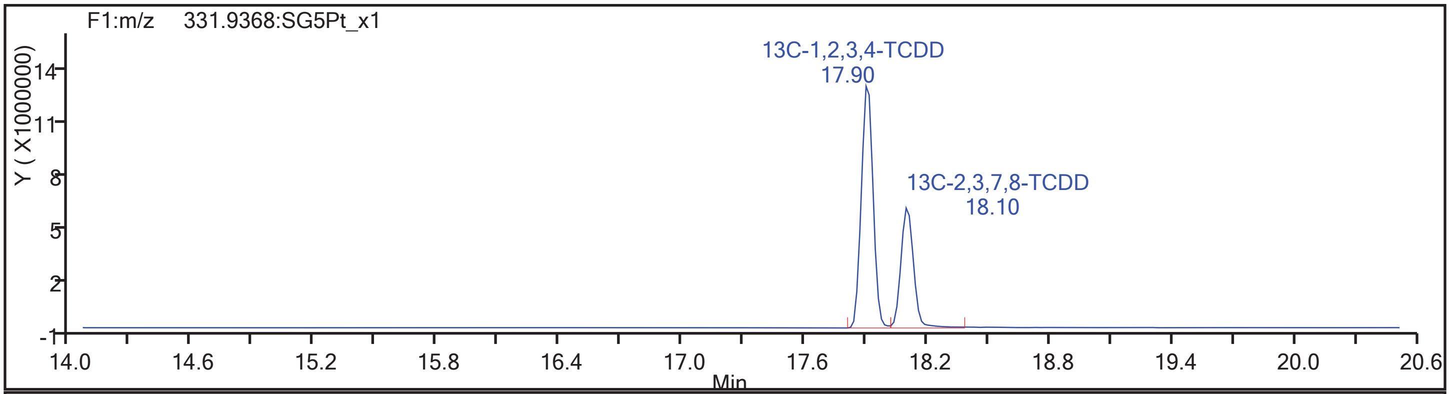
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d		
Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm

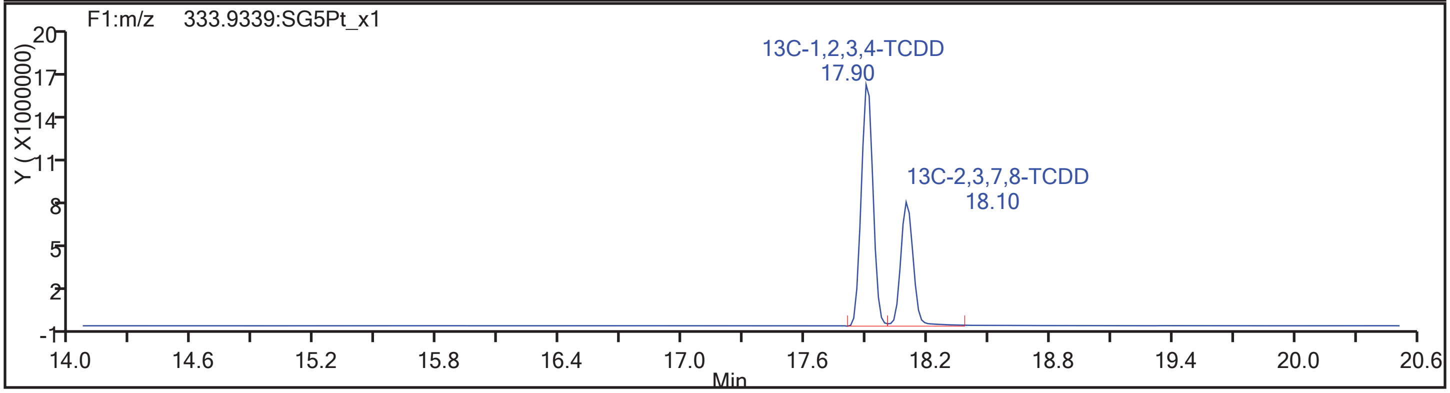
TCDD





TCDD Standards





Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d
Injection Date: 11-Nov-2017 20:26:22
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
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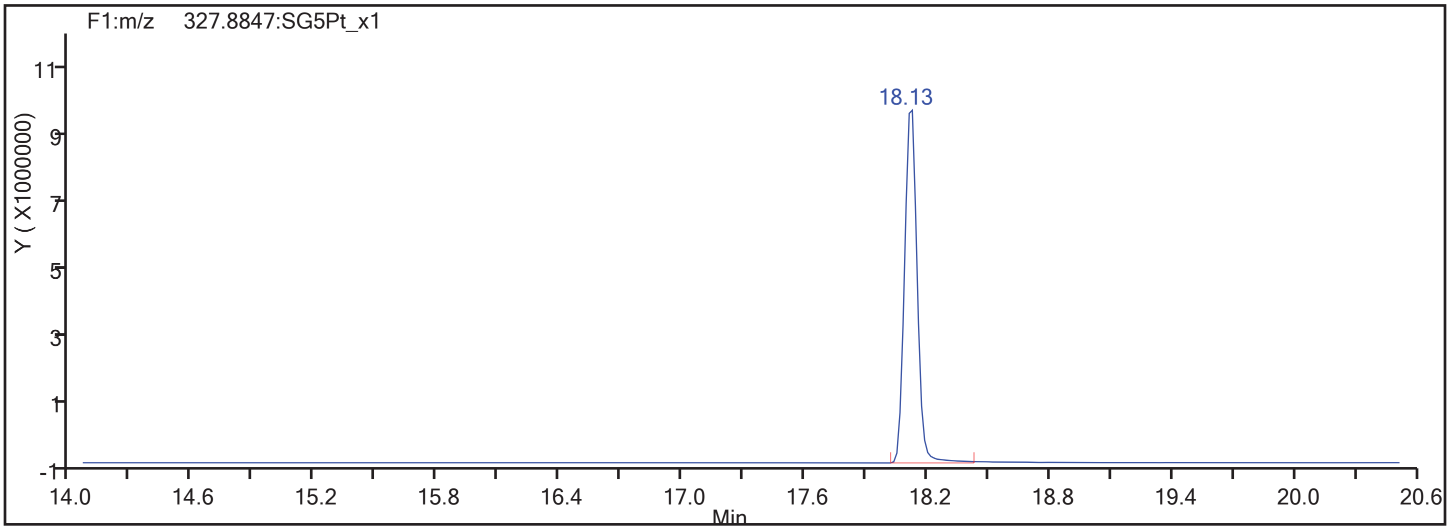
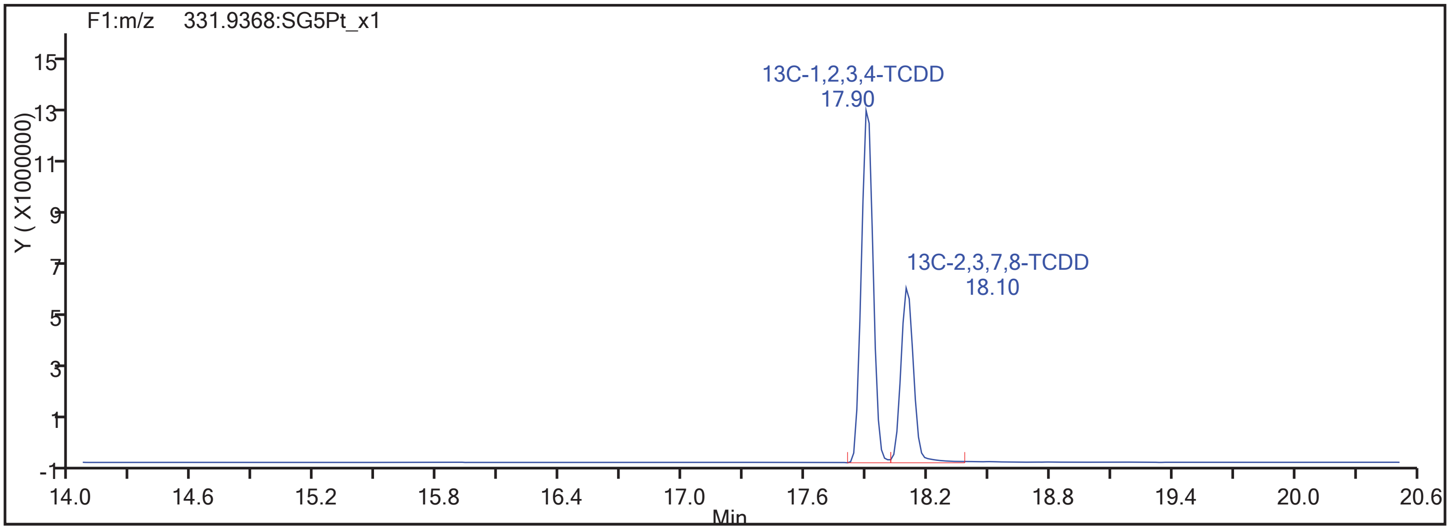
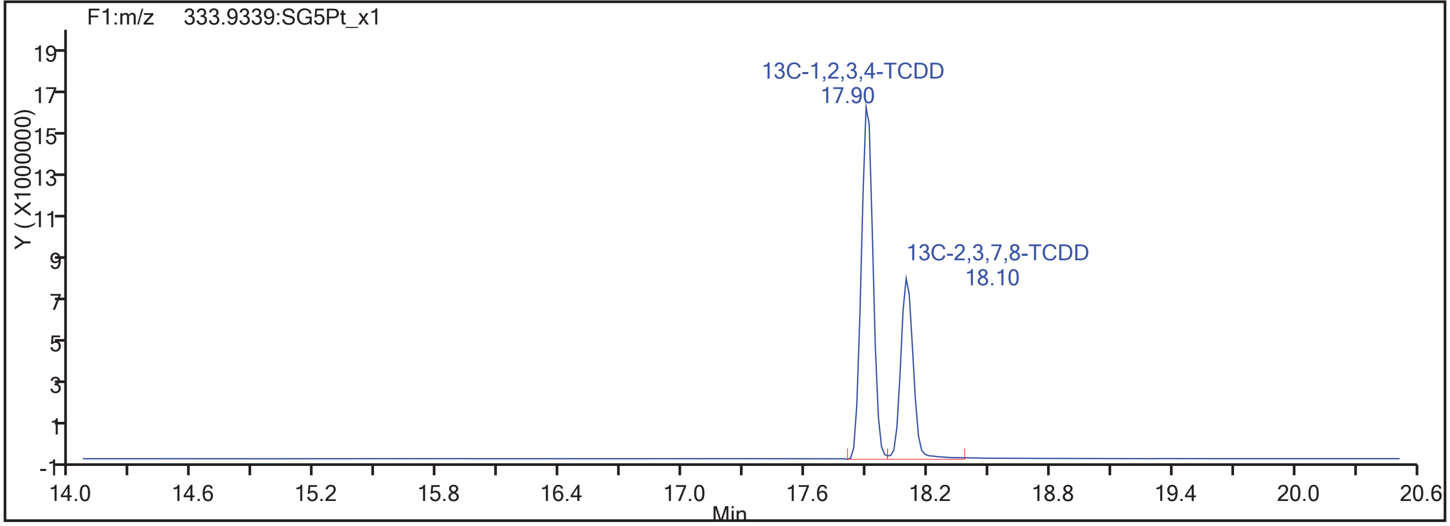
Worklist#: 194085
Sample Line#: 76
Column Type: DB-5
Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



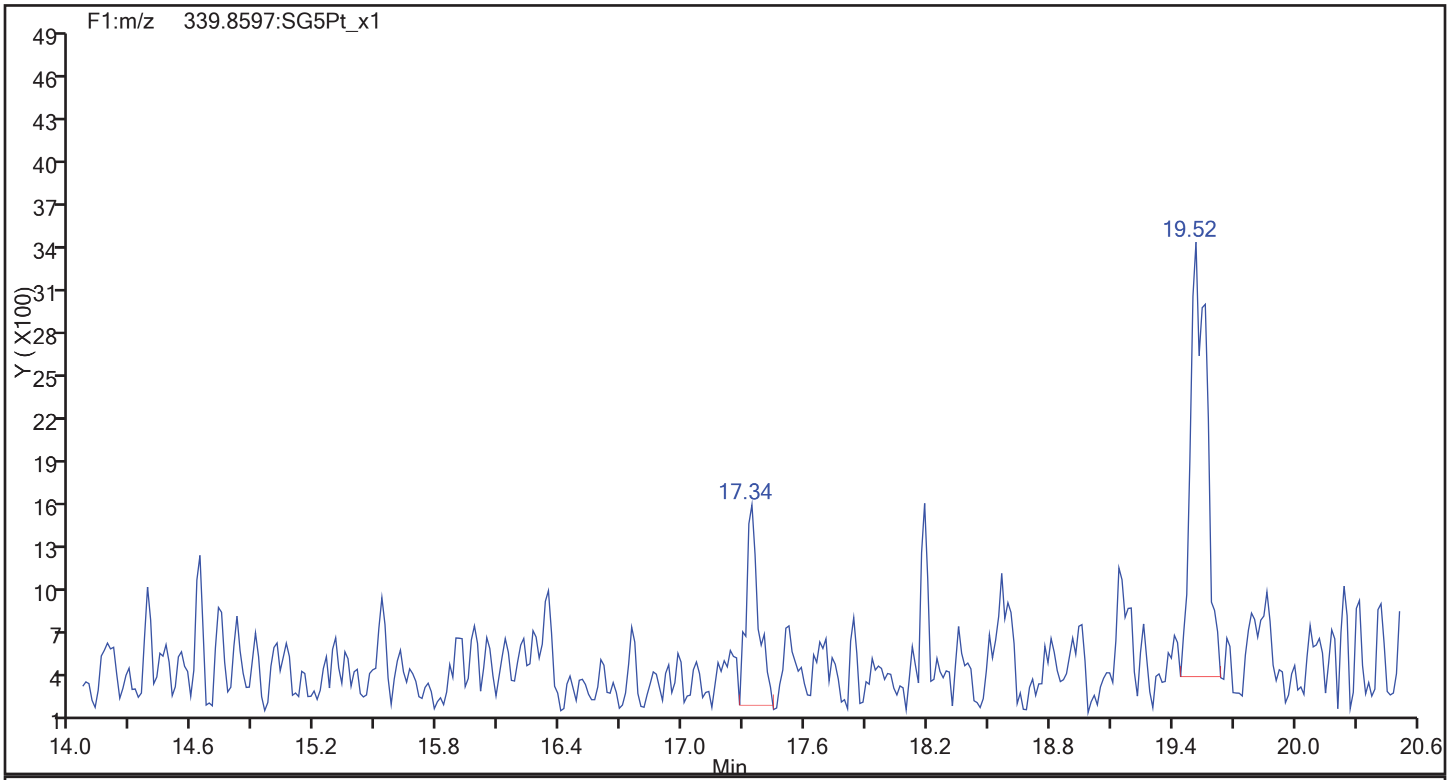


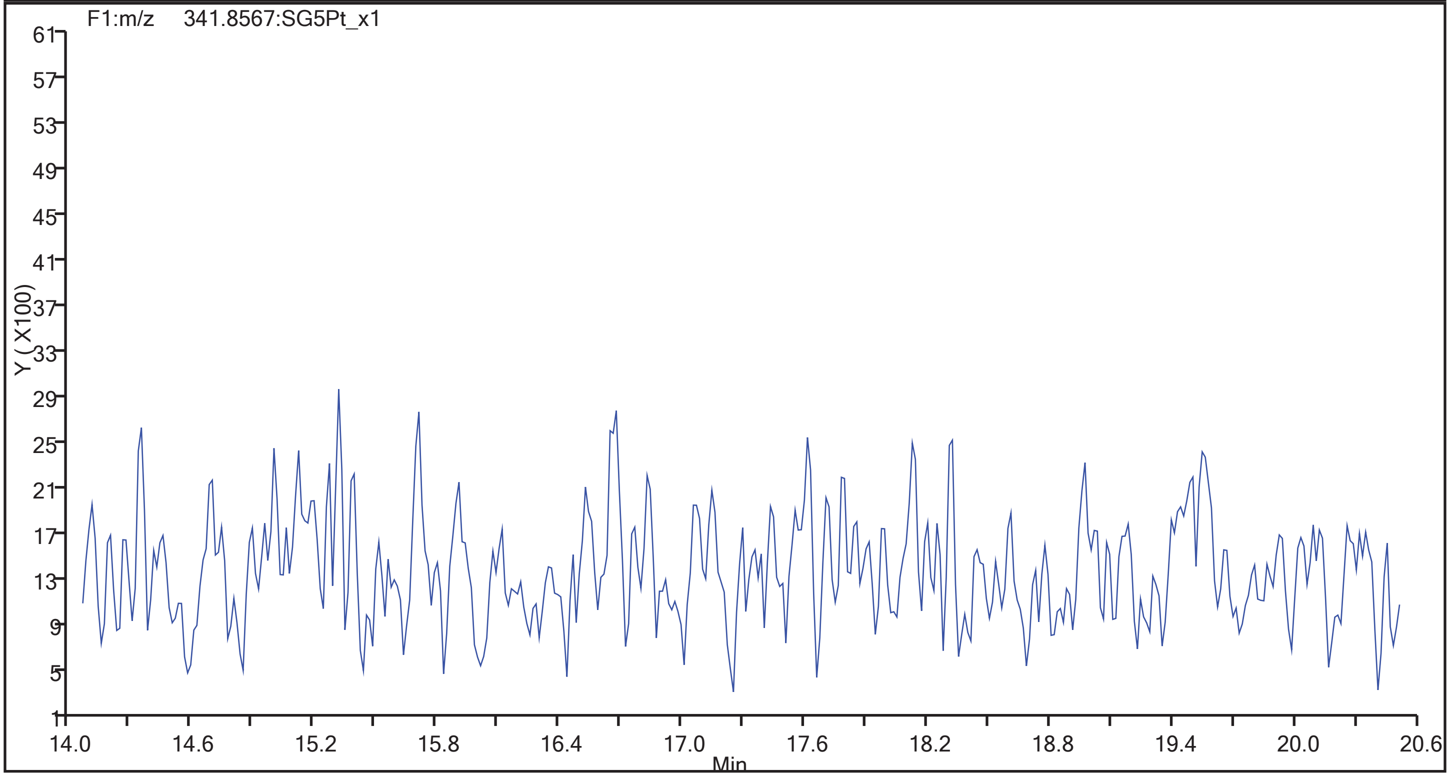
Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d
Injection Date: 11-Nov-2017 20:26:22
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS05NS
Worklist#: 194085
Sample Line#: 76
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d

Injection Date: 11-Nov-2017 20:26:22 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

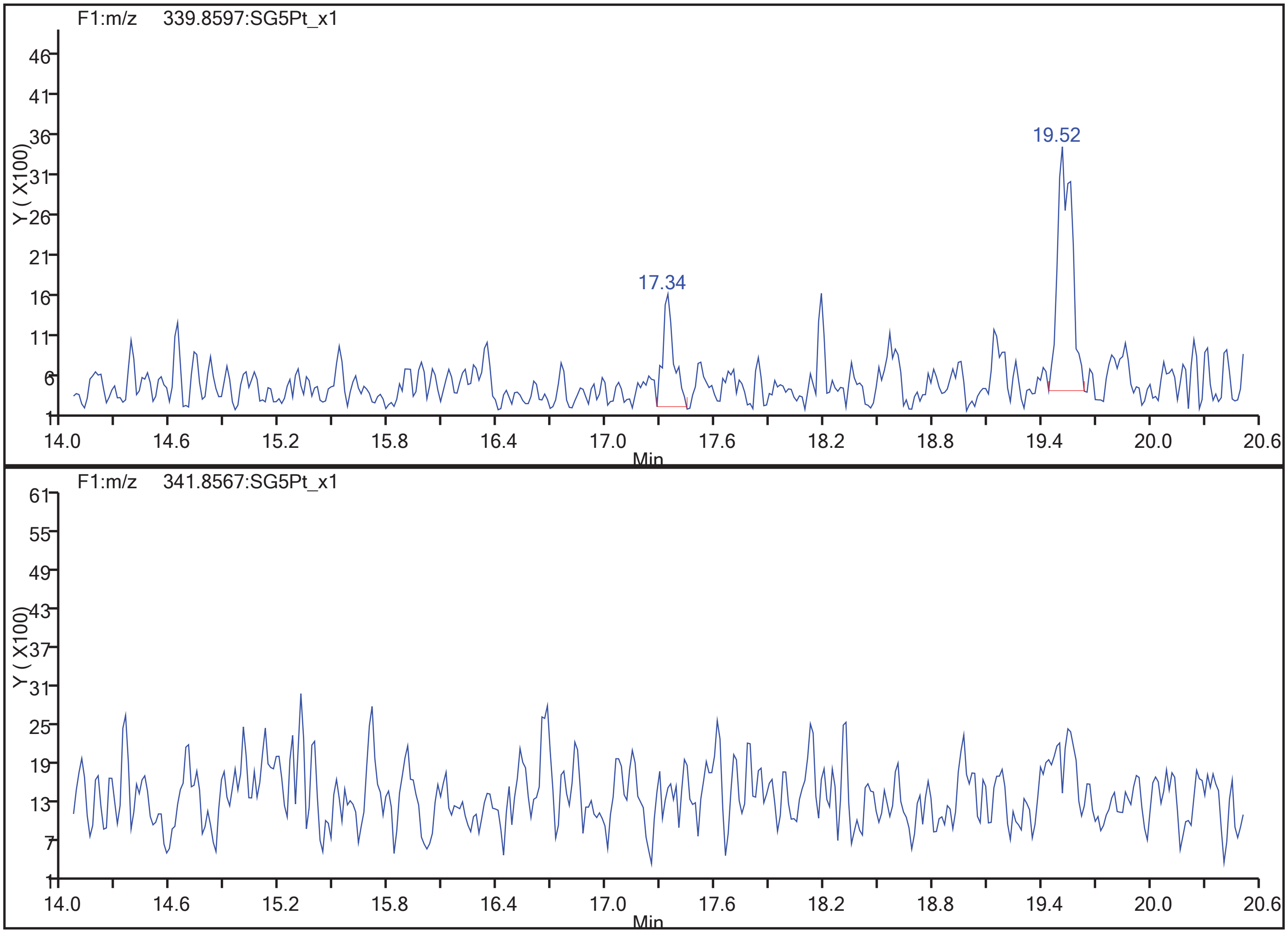
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS05NS

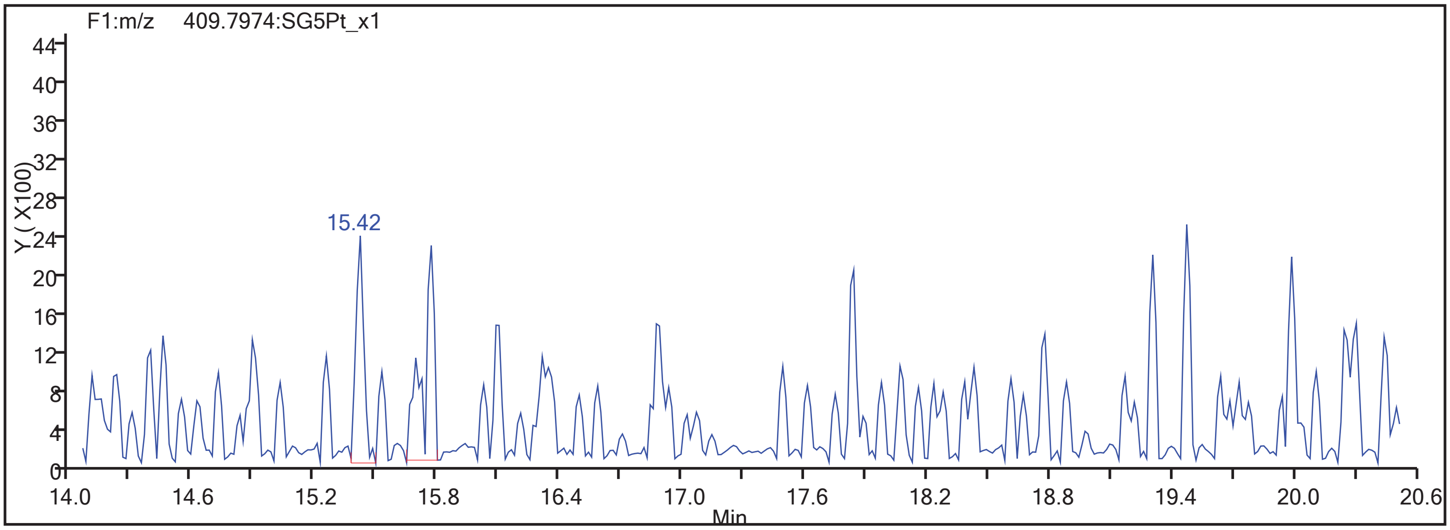
Worklist#: 194085 Sample Line#: 76

Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs



F1 PeCDFs Interference Mass

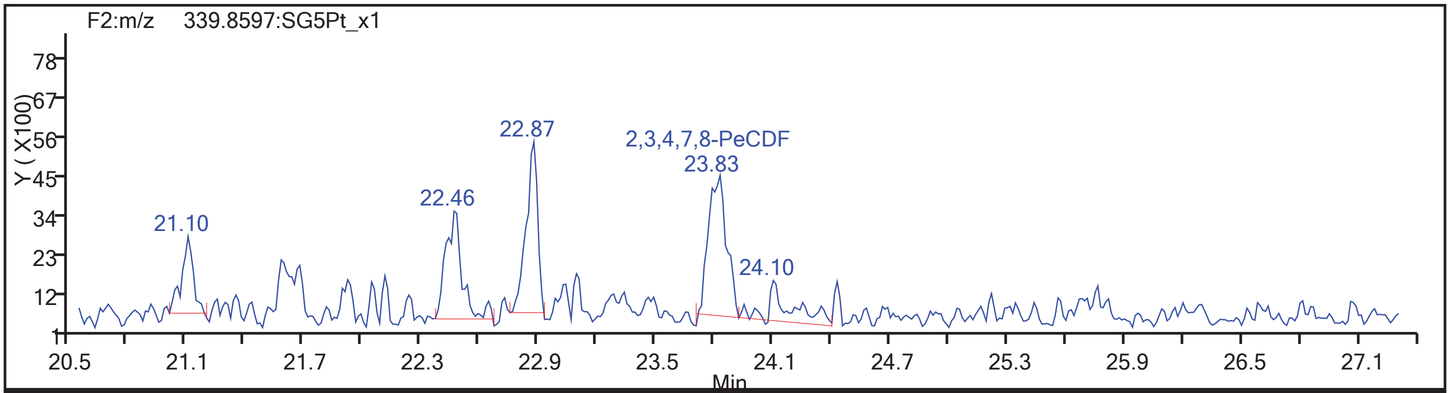


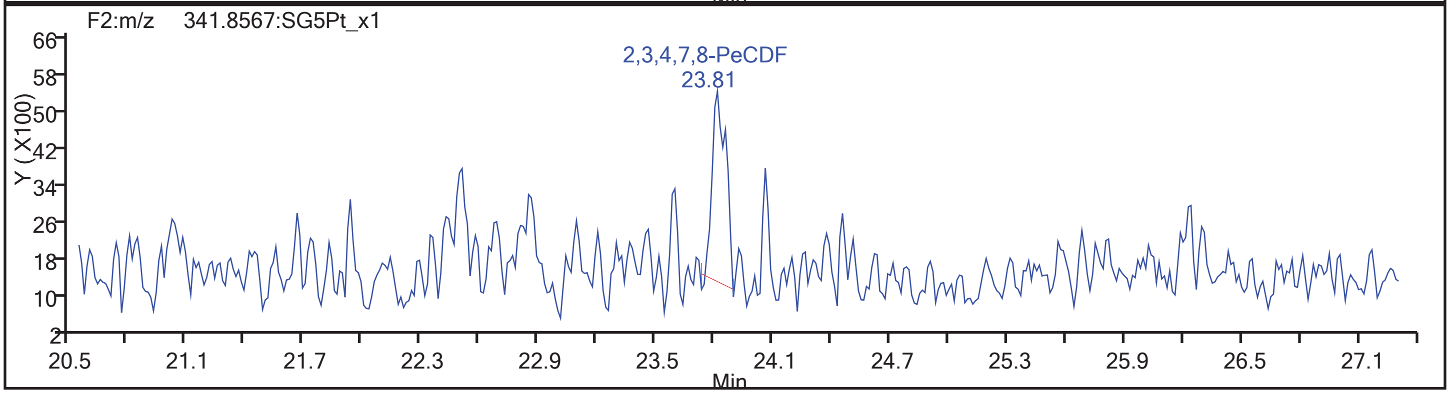
Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

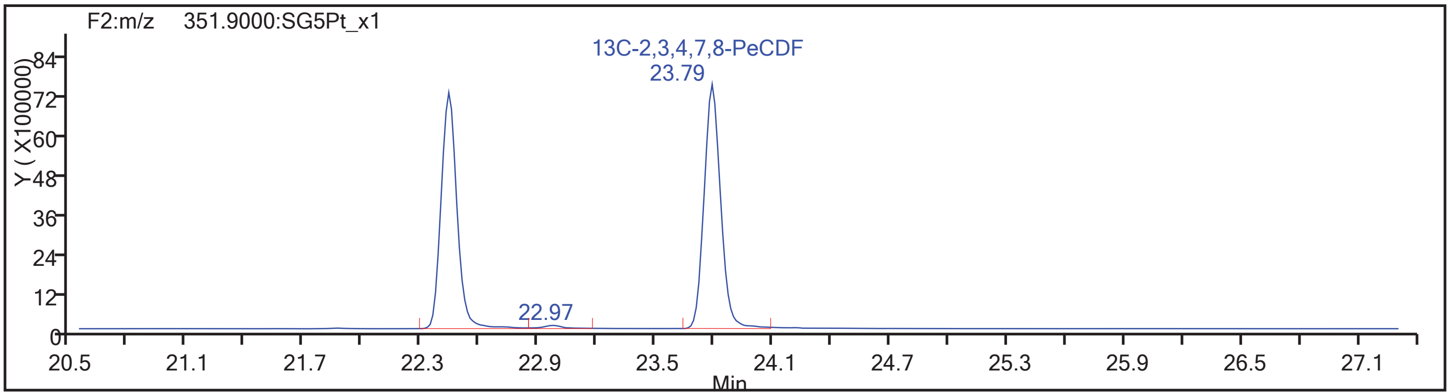
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d		
Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm

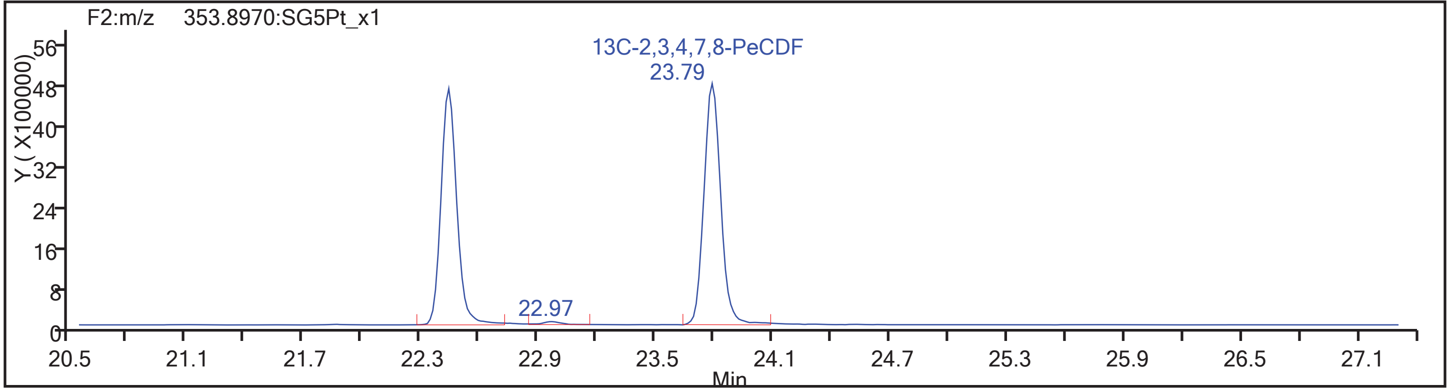
PeCDF





PeCDF Standards





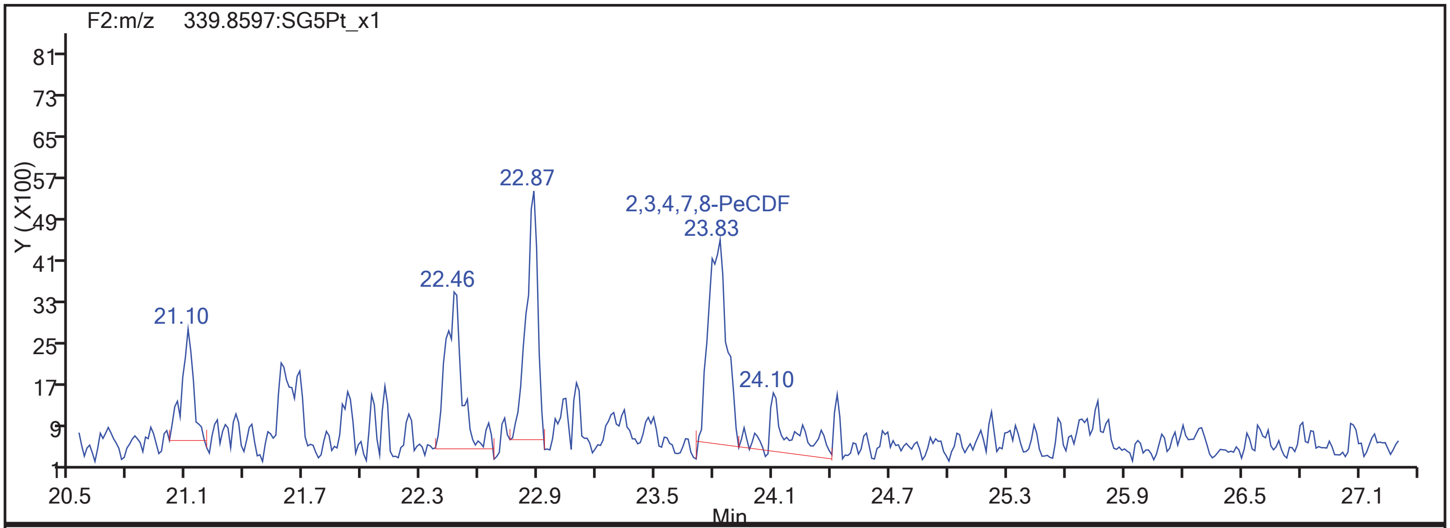
Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

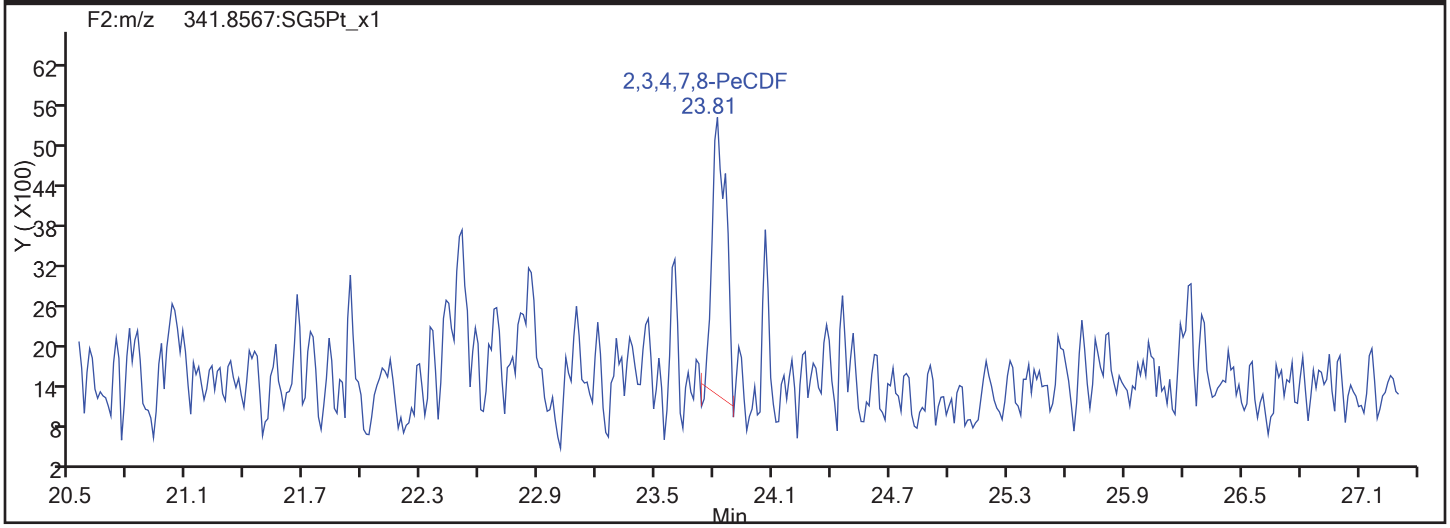
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d

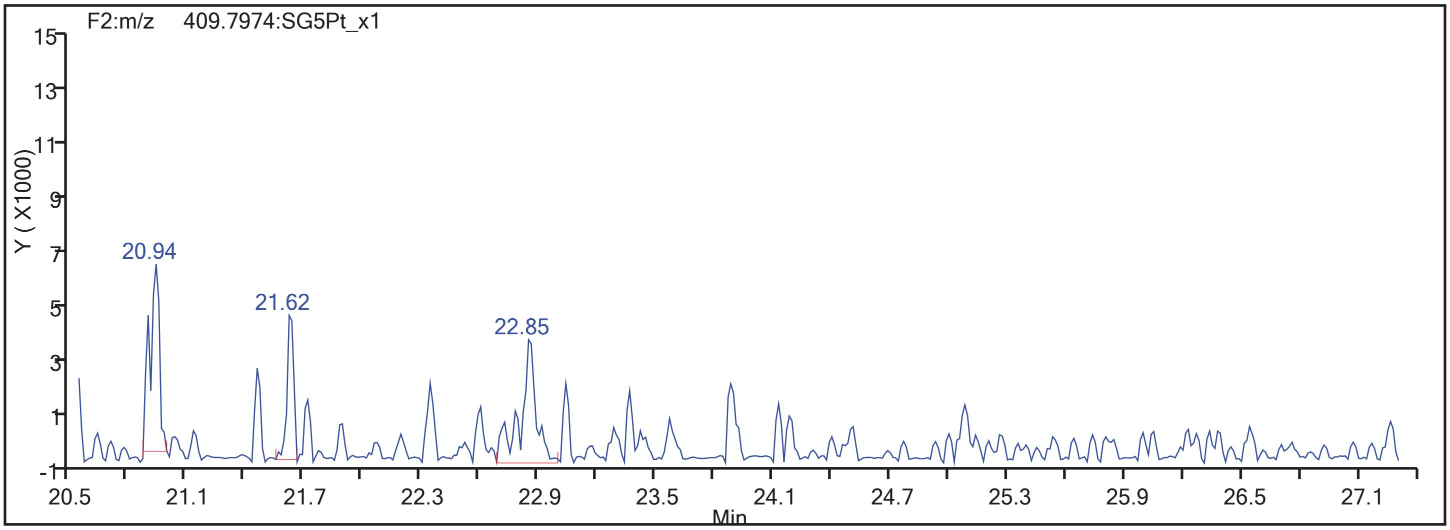
Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d

Injection Date: 11-Nov-2017 20:26:22 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

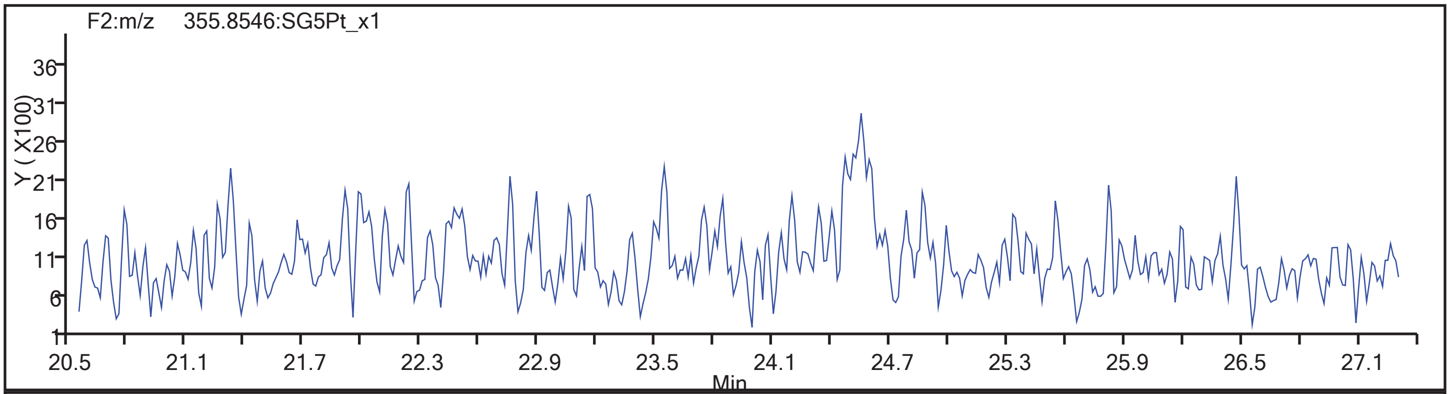
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

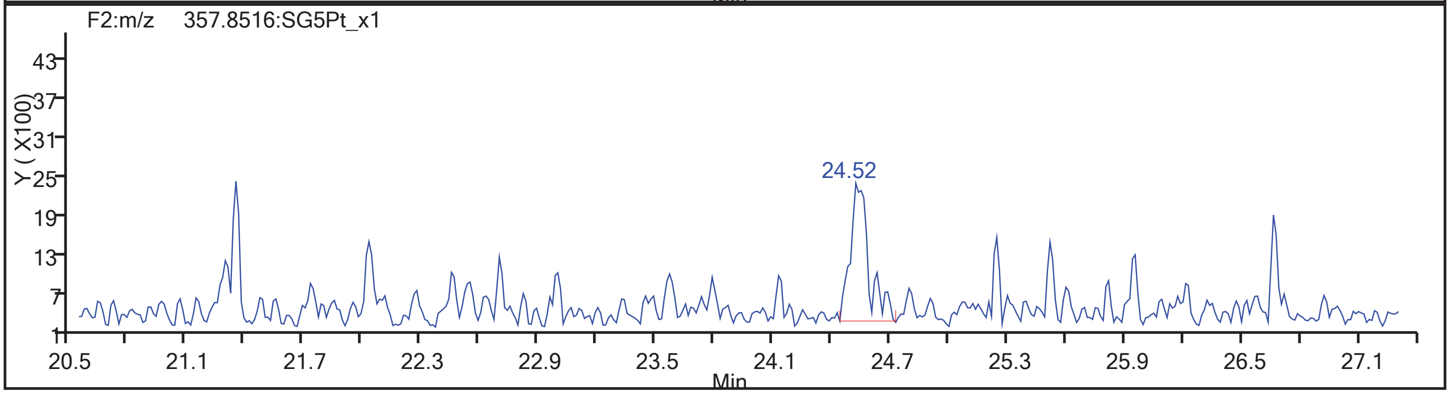
Client ID: SHAD041DP022SS05NS

Worklist#: 194085 Sample Line#: 76

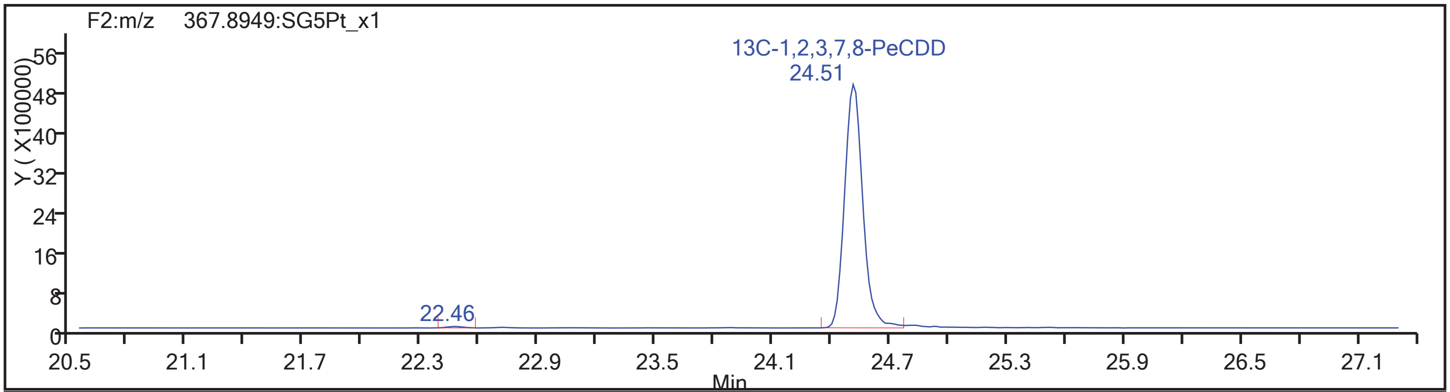
Column Type: DB-5 Column Dia: 0.32 mm

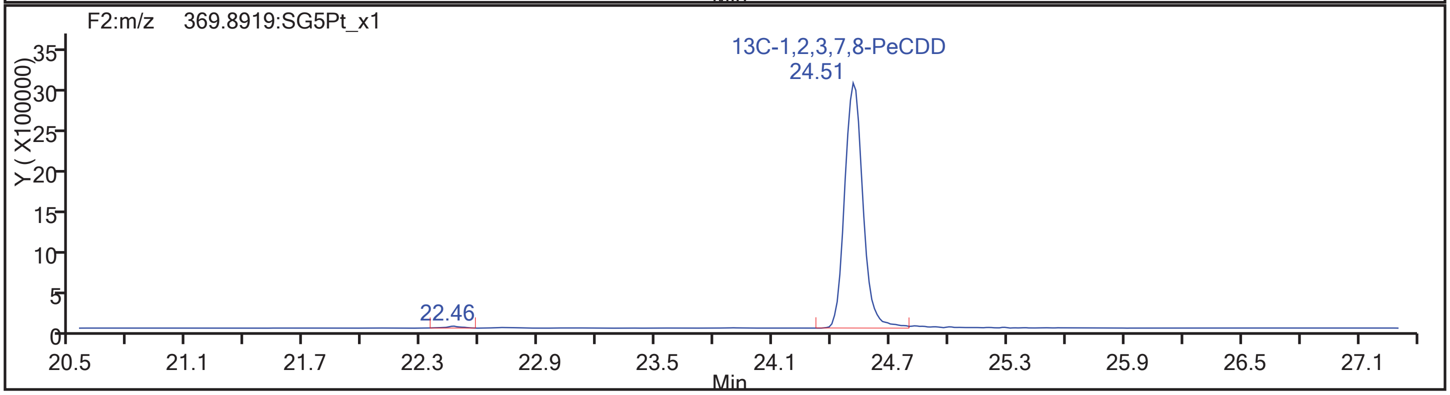
PeCDD





PeCDD Standards





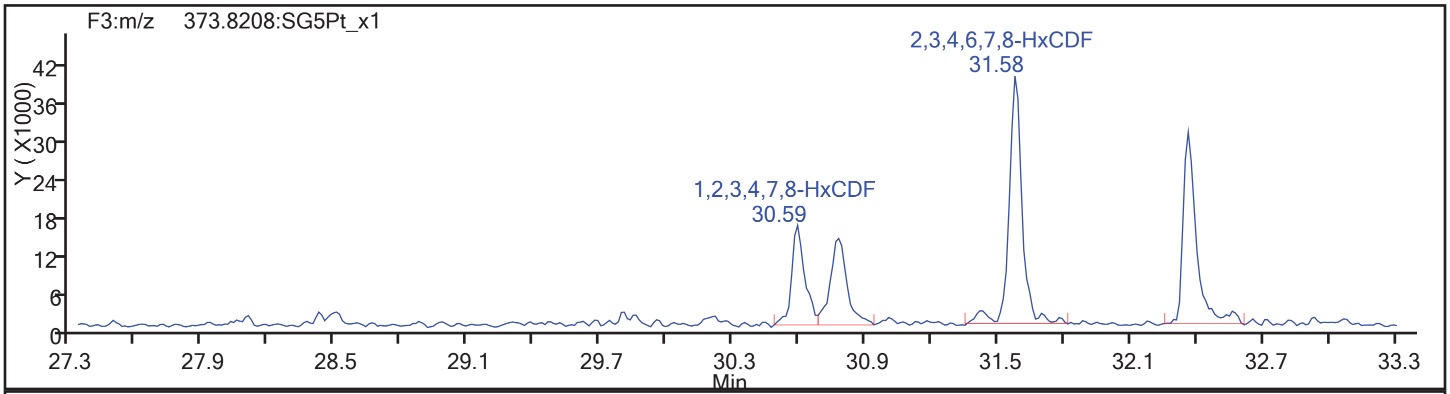
Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

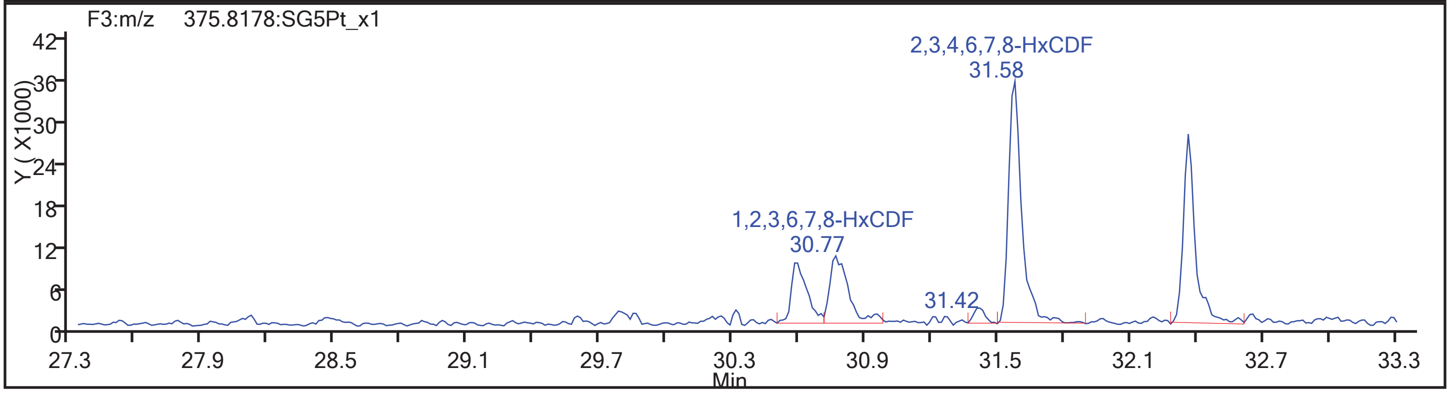
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d

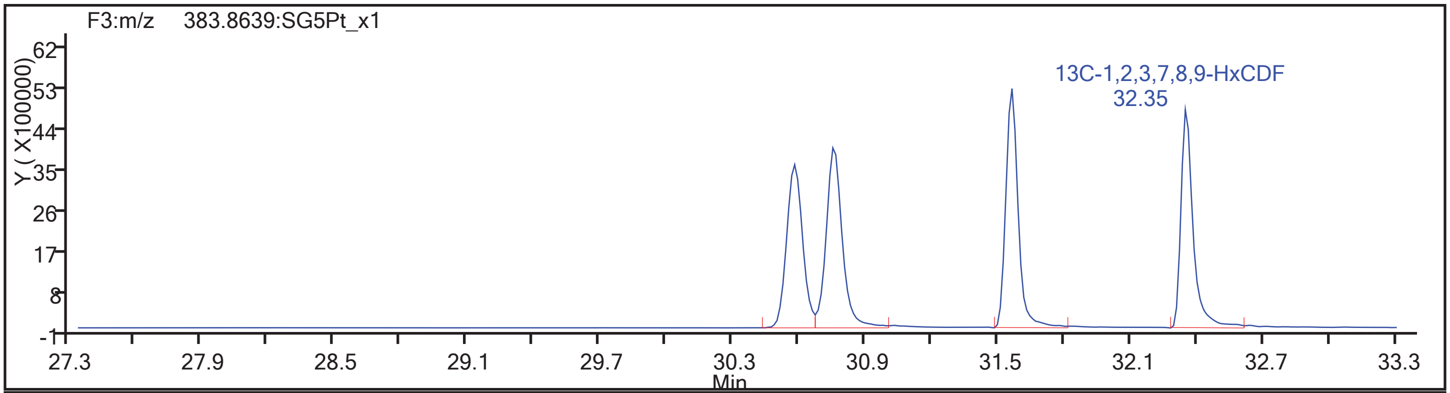
Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm

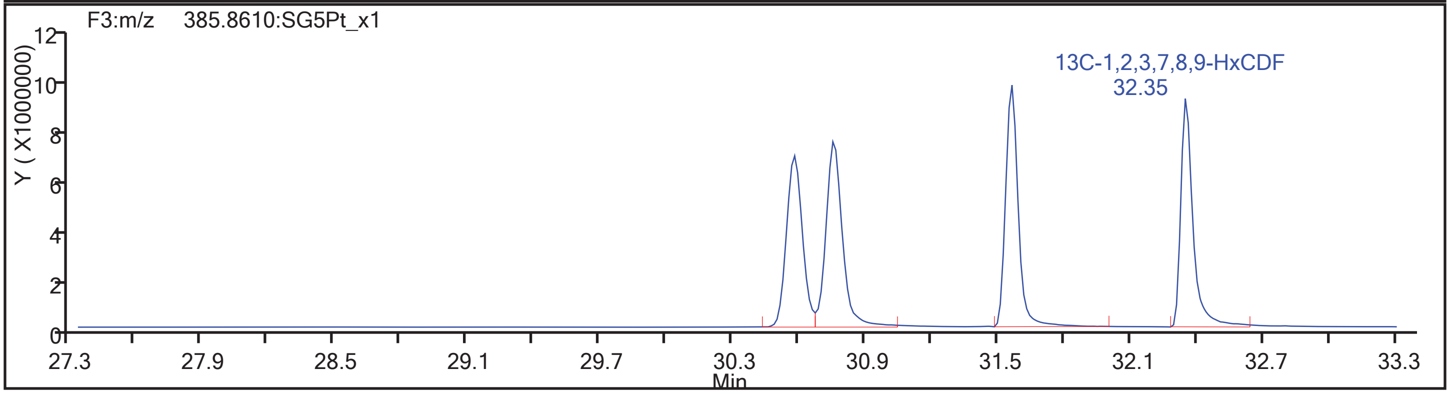
HxCDF





HxCDF Standards





Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d		
Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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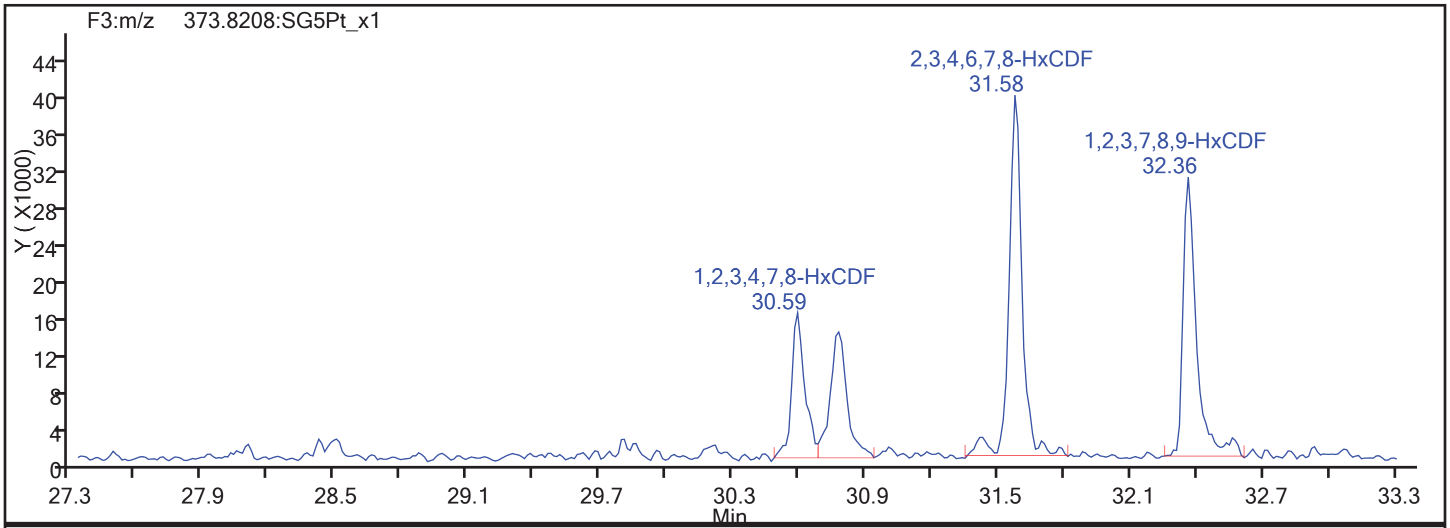
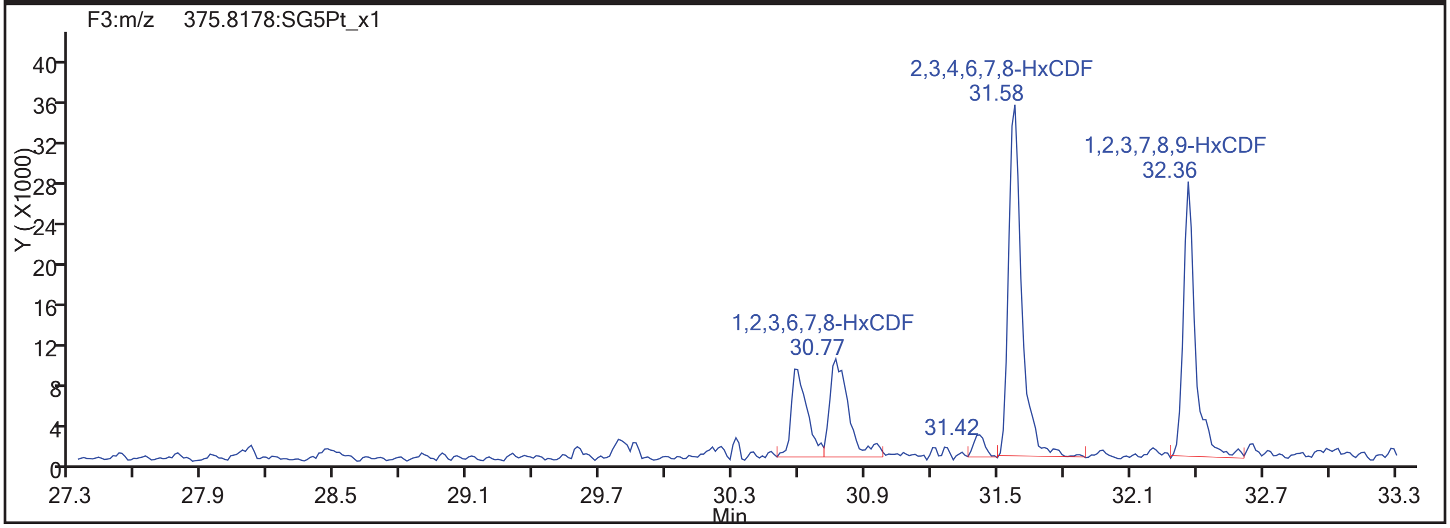
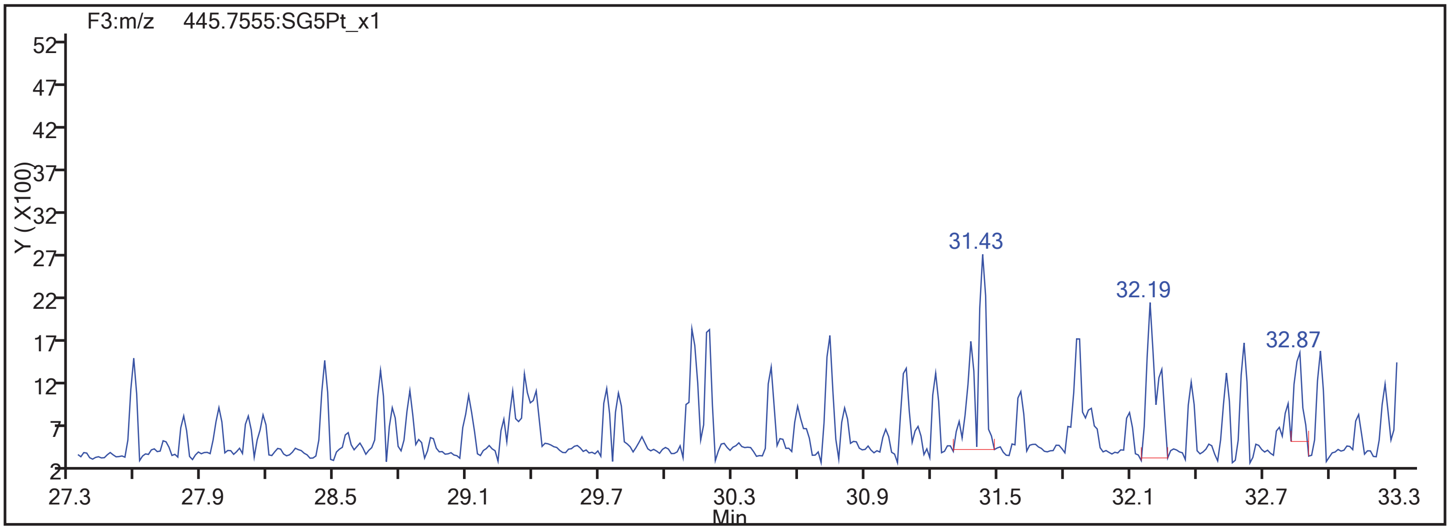
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass

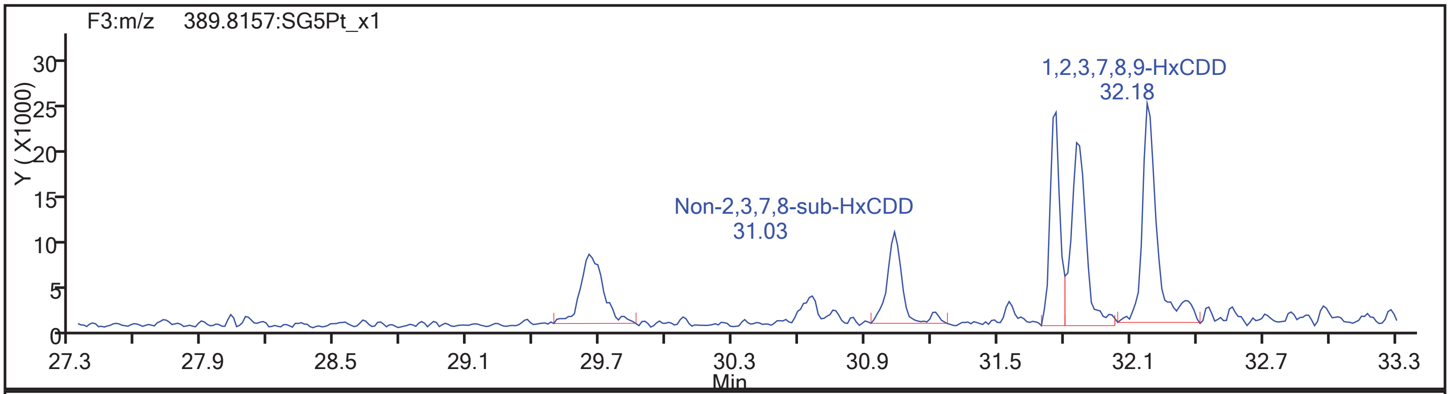


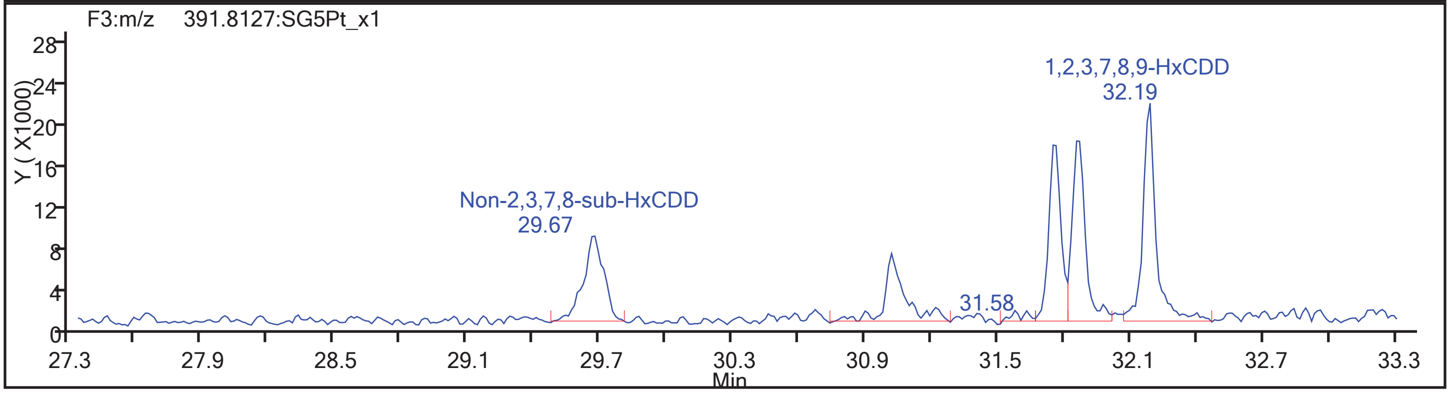
Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

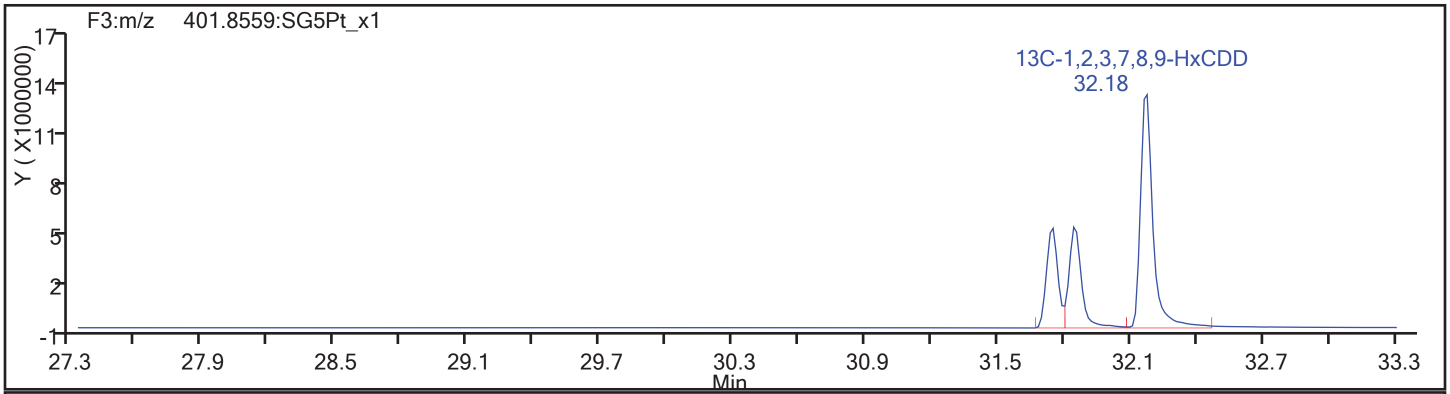
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d		
Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm

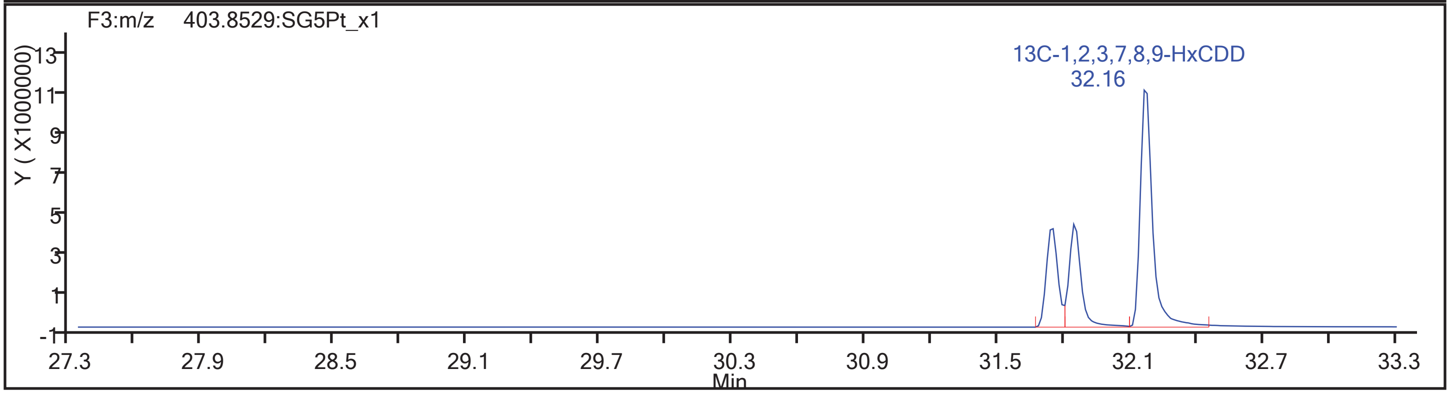
HxCDD





HxCDD Standards



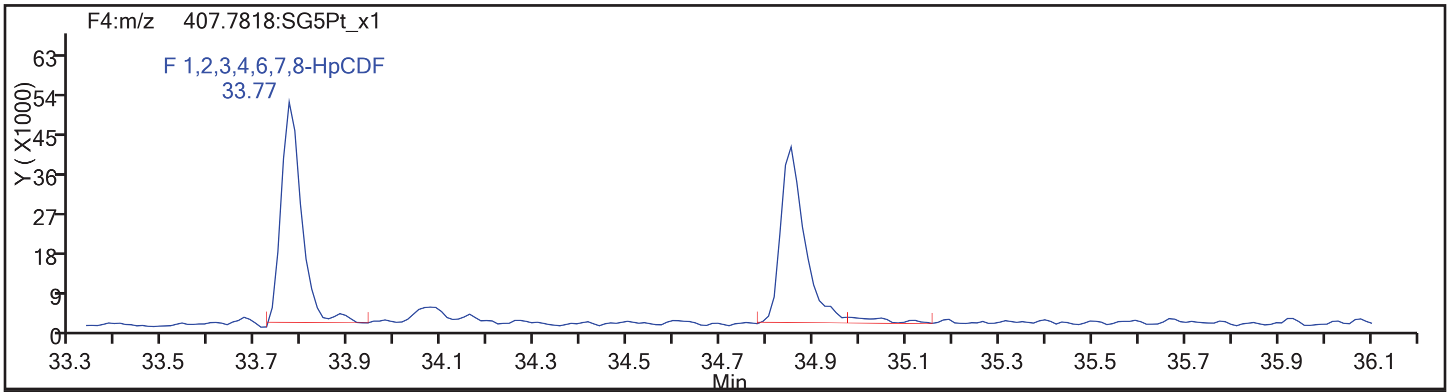


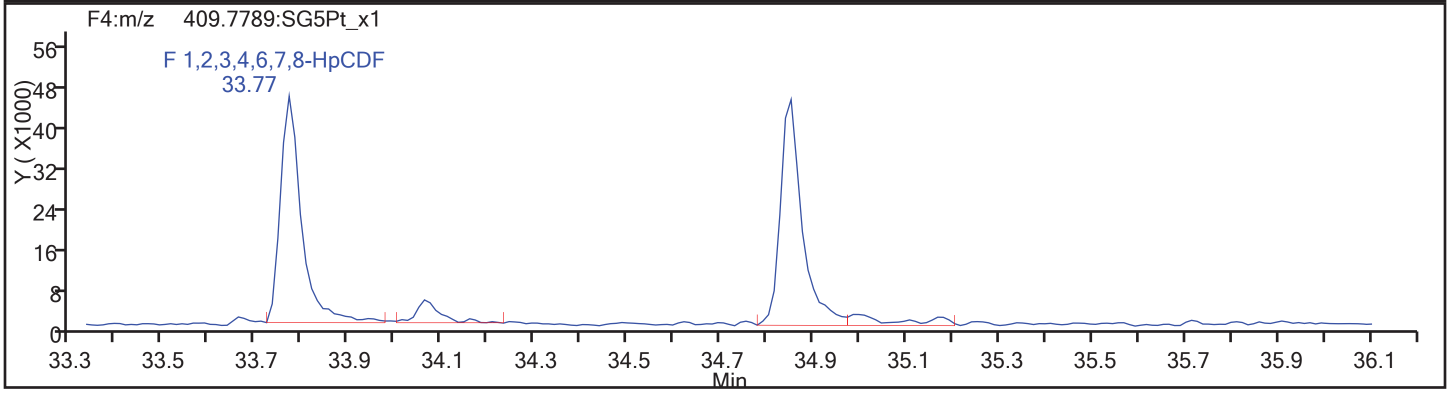
Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

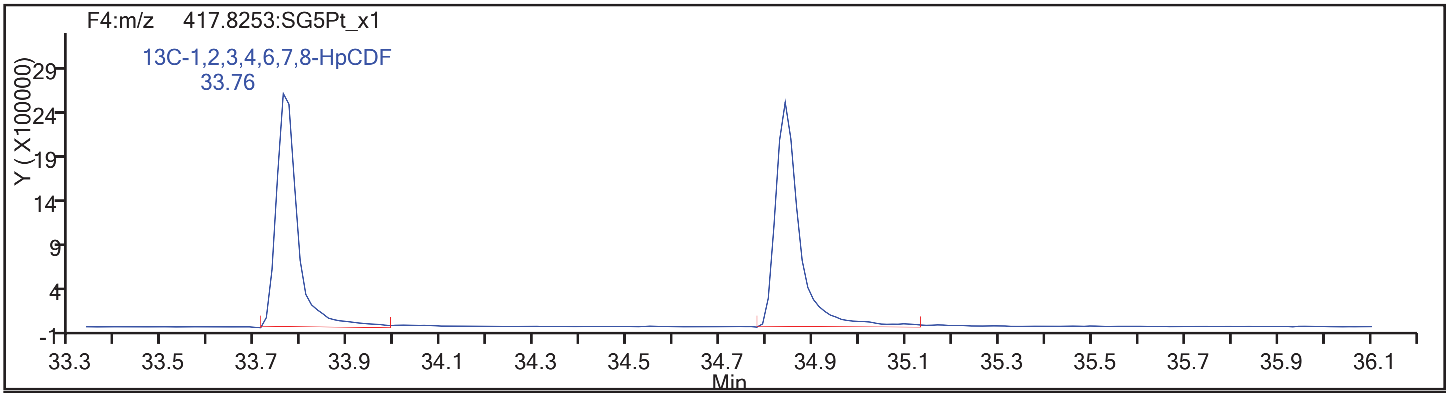
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d
Injection Date: 11-Nov-2017 20:26:22
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS05NS
Worklist#: 194085
Sample Line#: 76
Column Type: DB-5
Column Dia: 0.32 mm

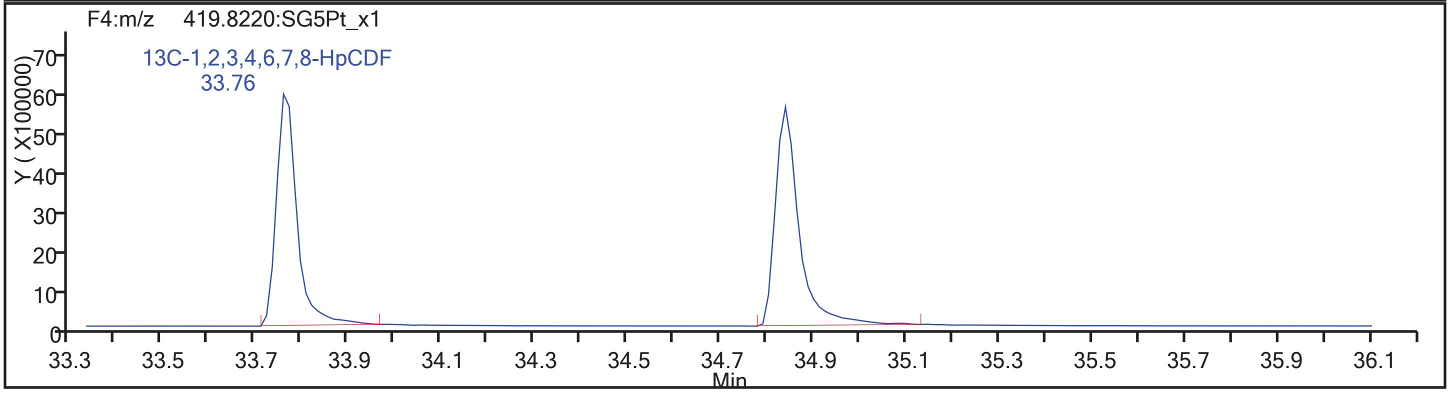
HpCDF





HpCDF Standards



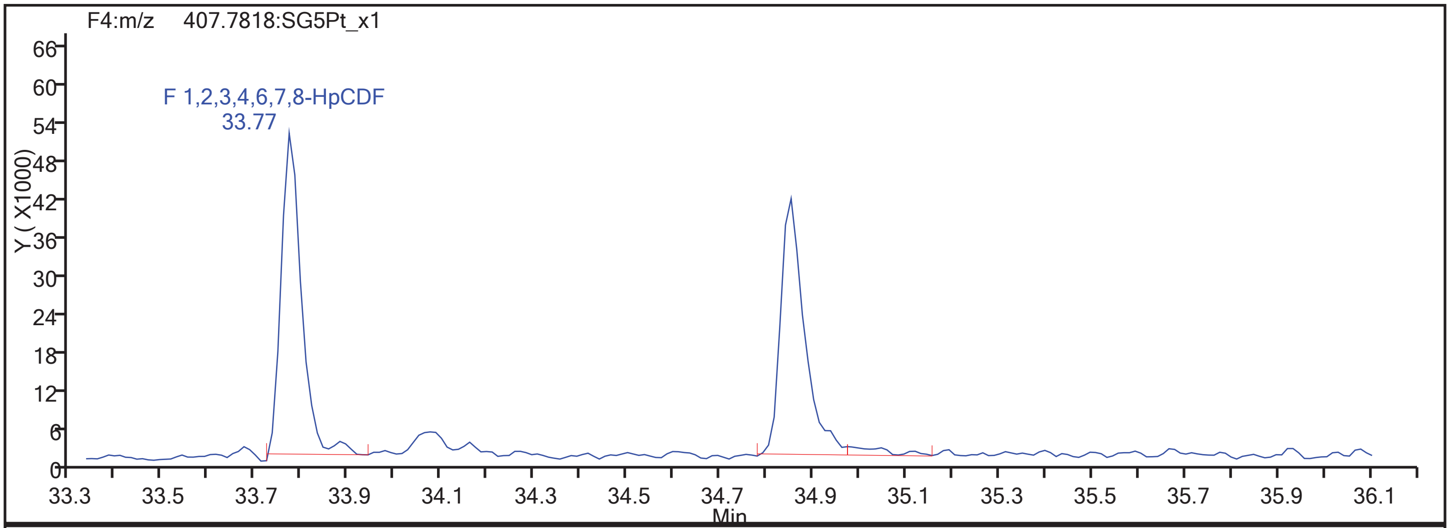


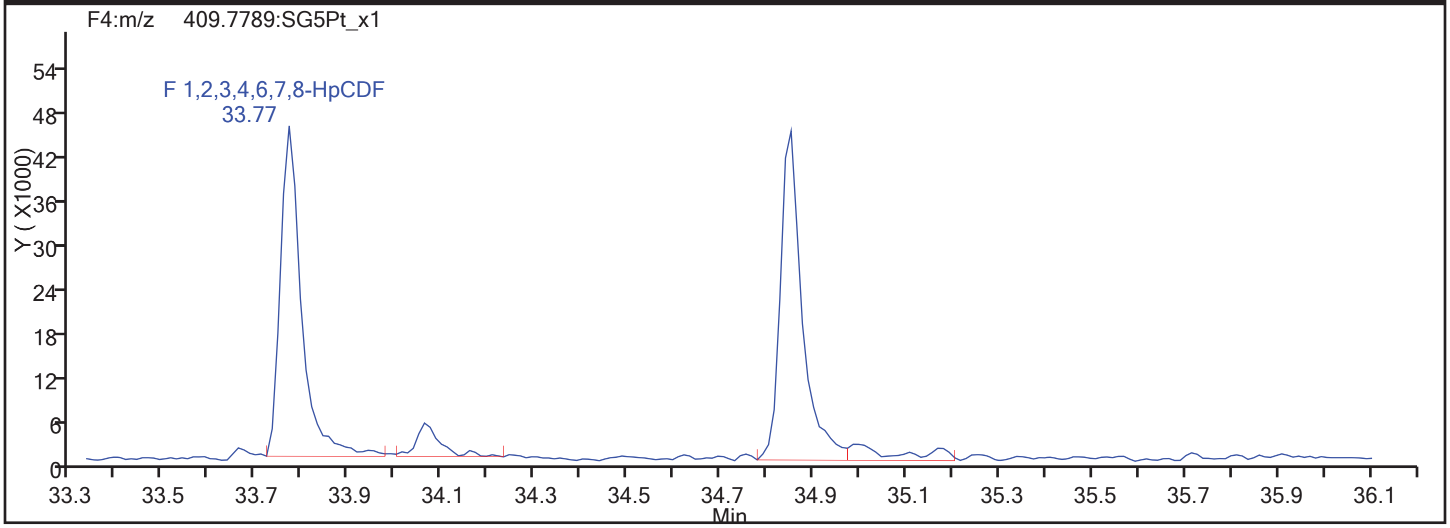
Report Date: 13-Nov-2017 13:04:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

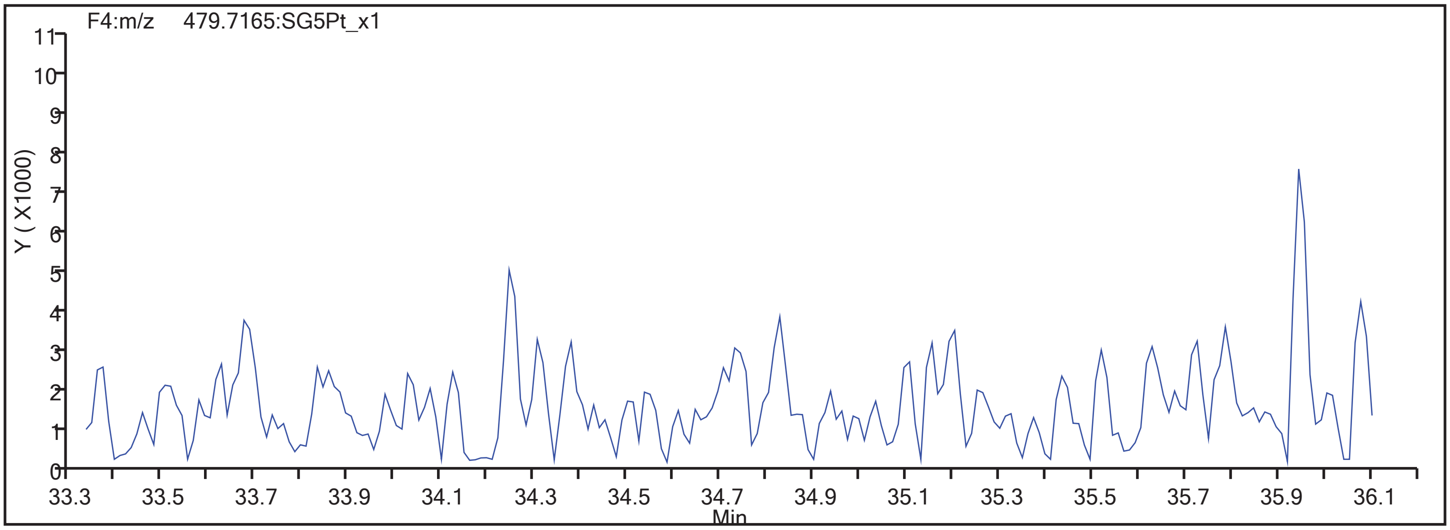
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d		
Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass

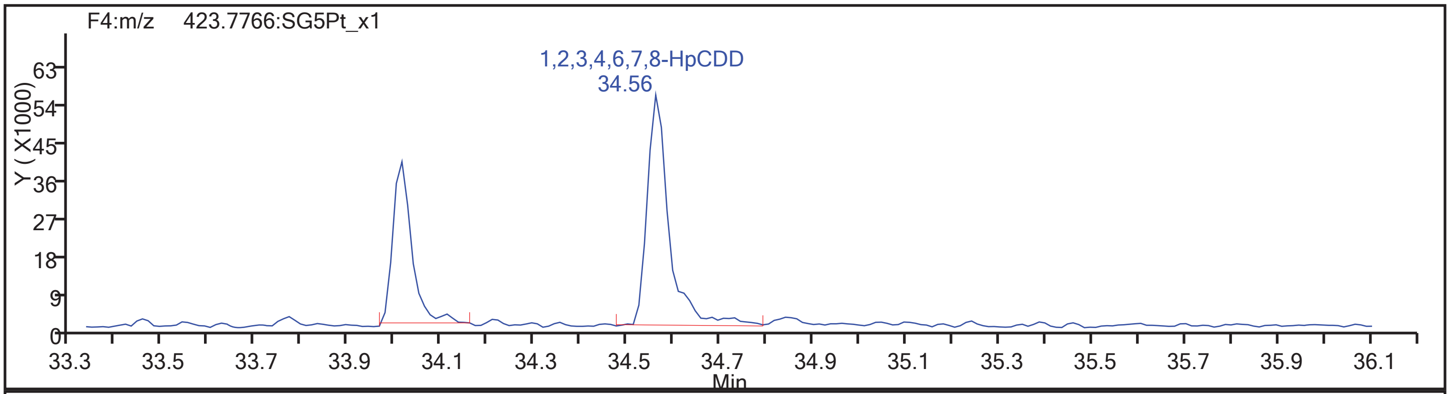


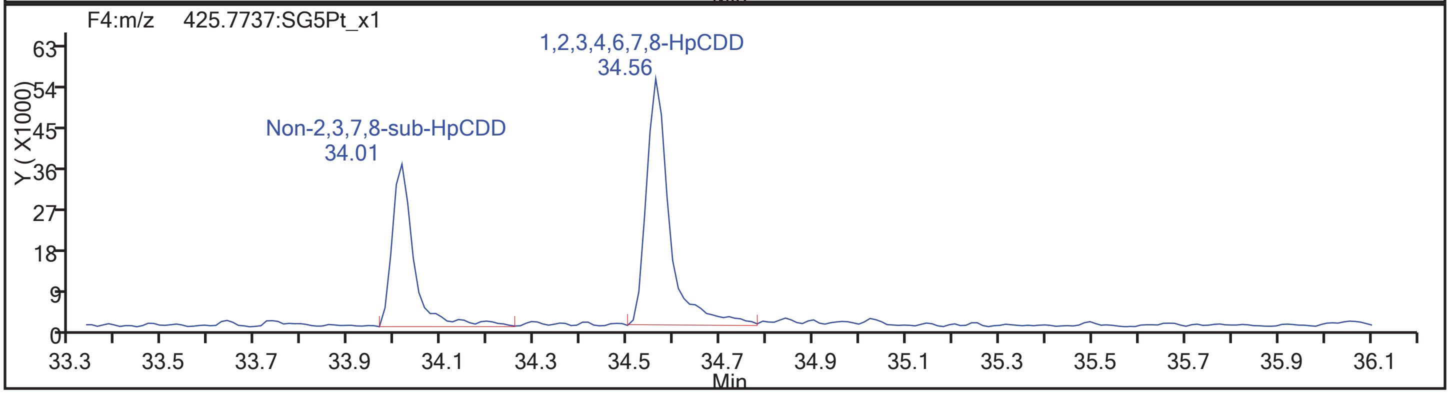
Report Date: 13-Nov-2017 13:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

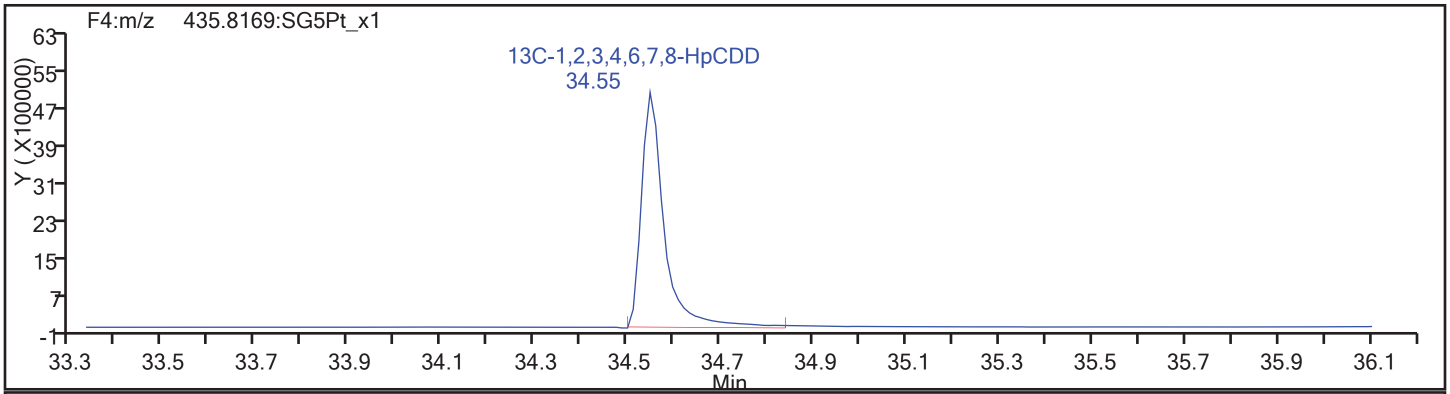
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d
Injection Date: 11-Nov-2017 20:26:22 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS05NS
Worklist#: 194085 Sample Line#: 76
Column Type: DB-5 Column Dia: 0.32 mm

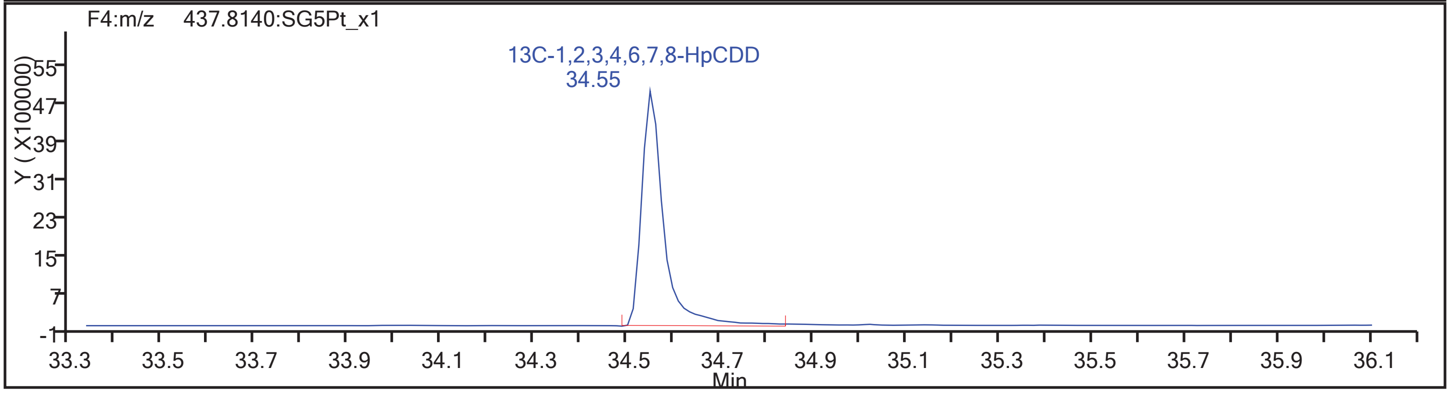
HpCDD





HpCDD Standards

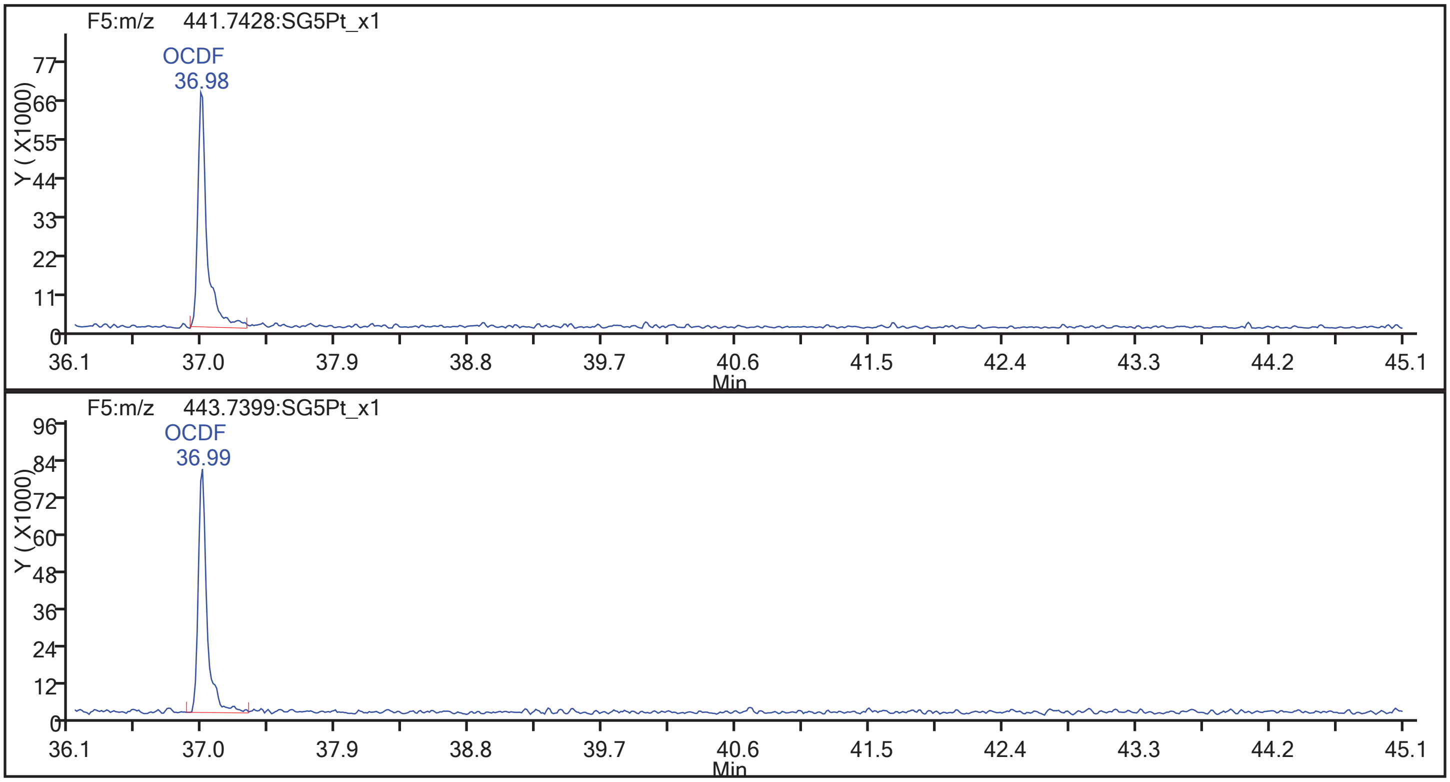




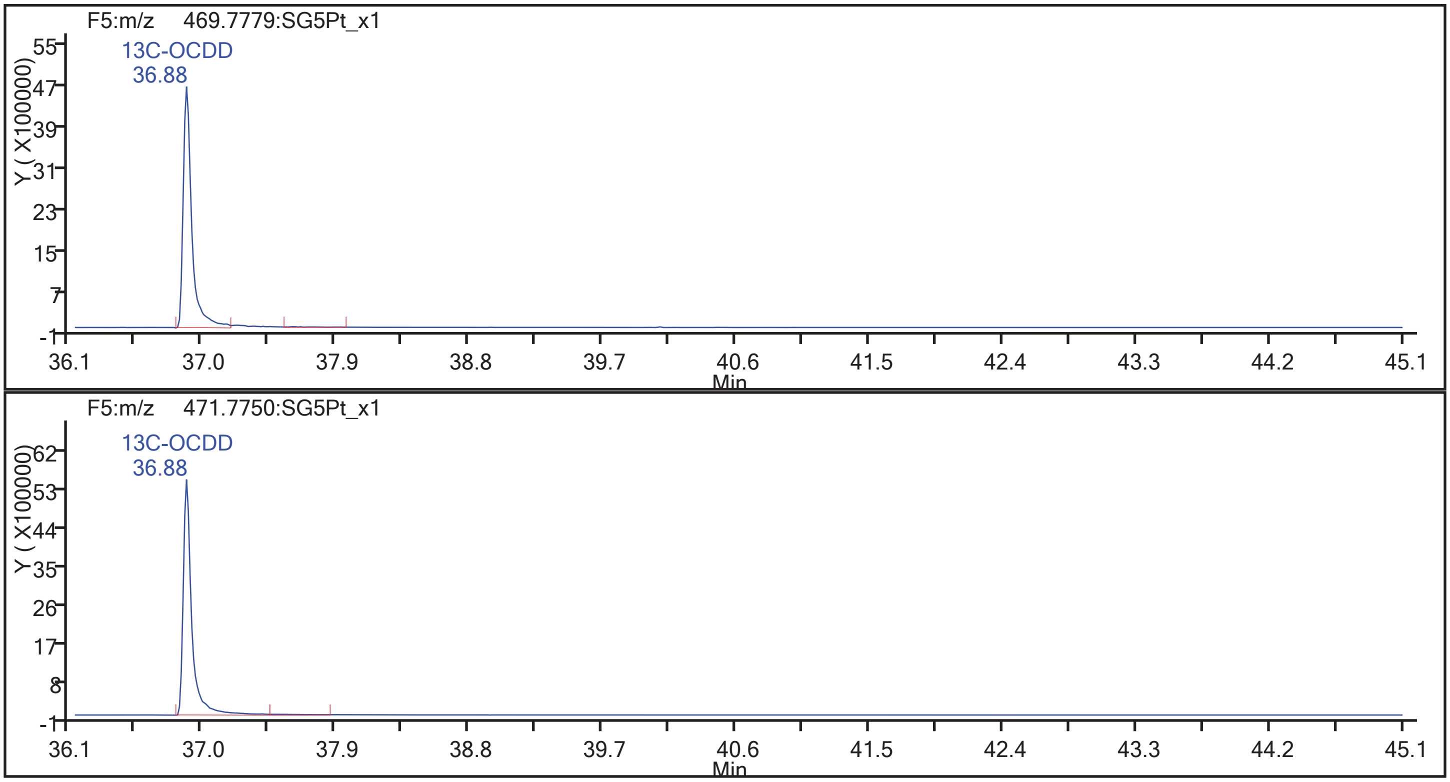
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d
Injection Date: 11-Nov-2017 20:26:22 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS05NS
Worklist#: 194085 Sample Line#: 76
Column Type: DB-5 Column Dia: 0.32 mm

OCDF



OCDF Standards

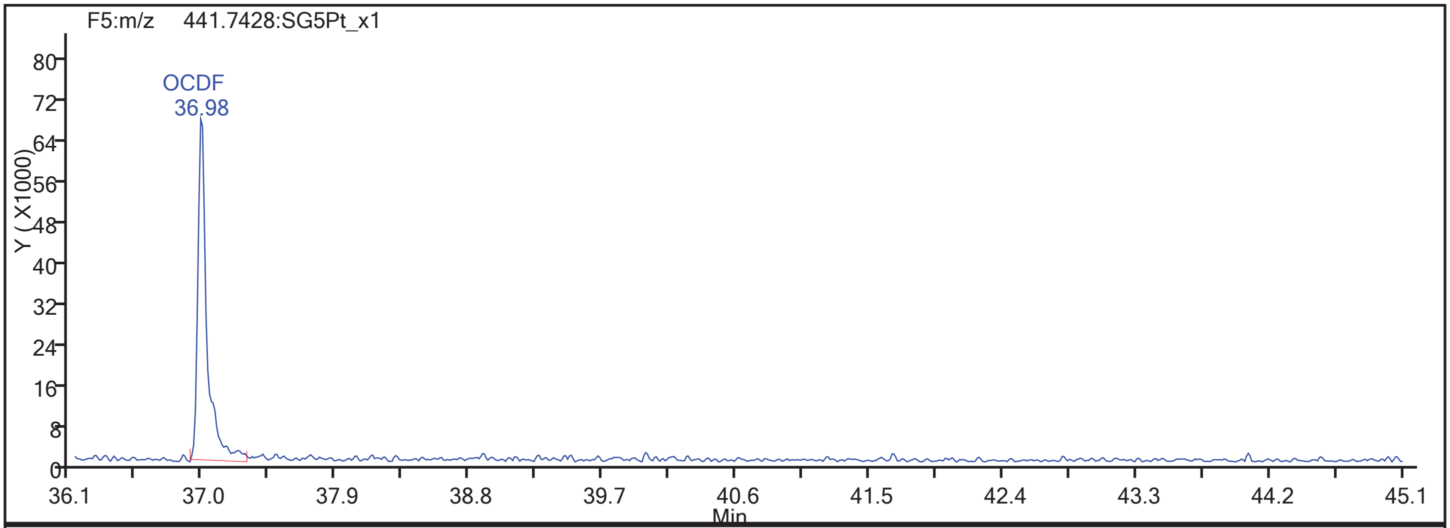


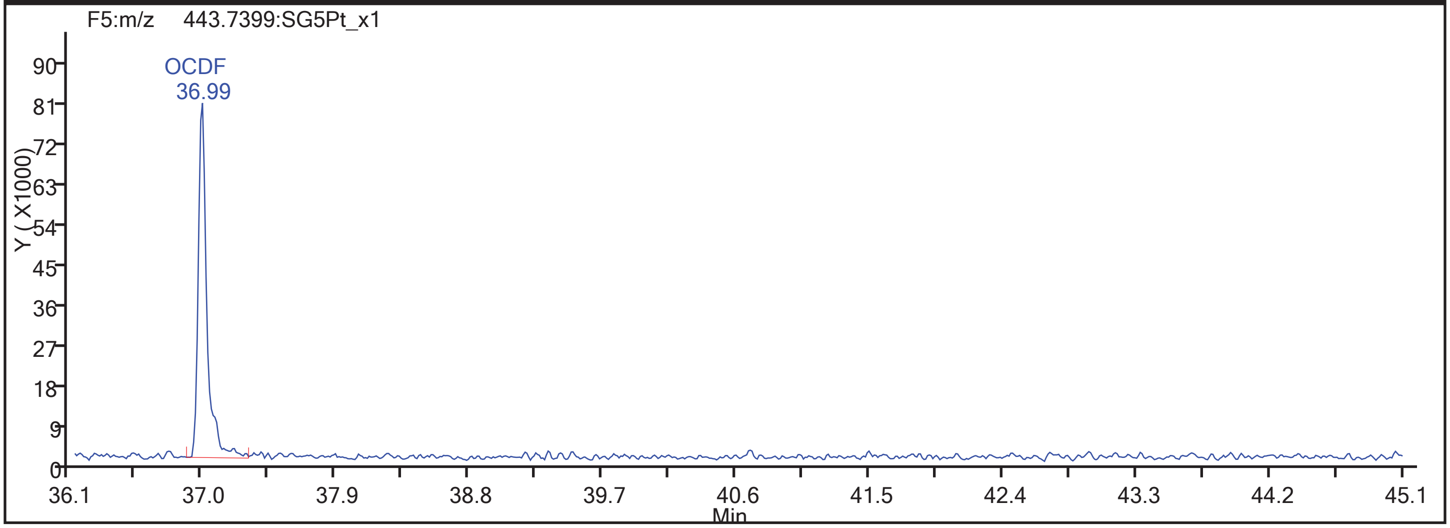
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d

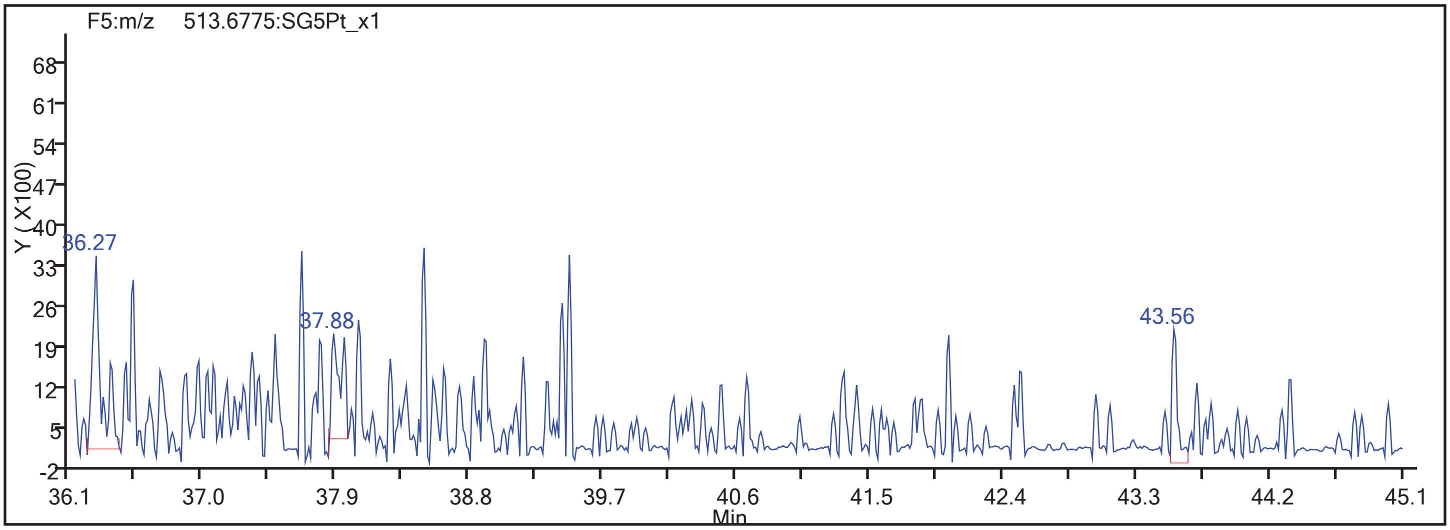
Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

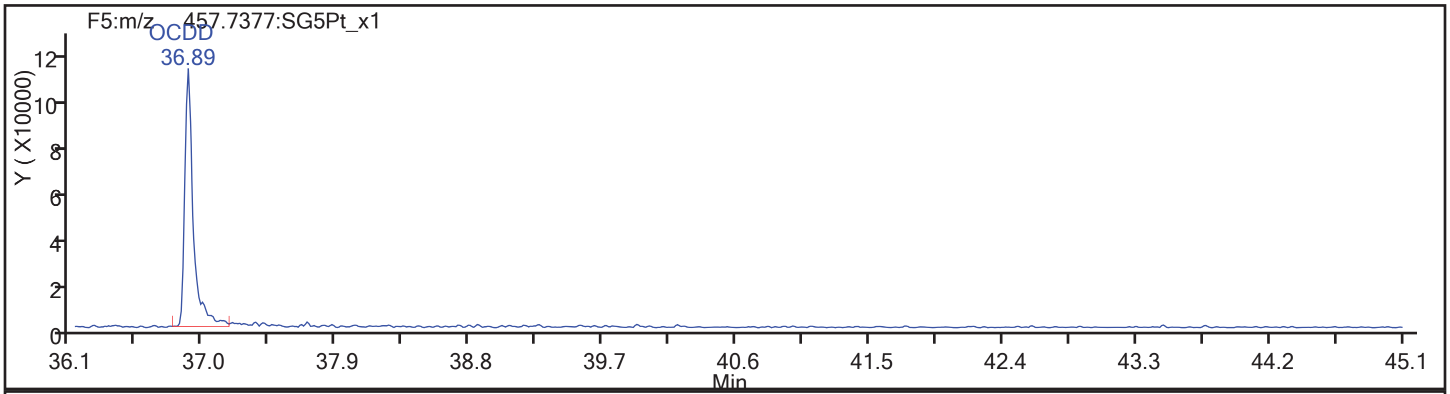


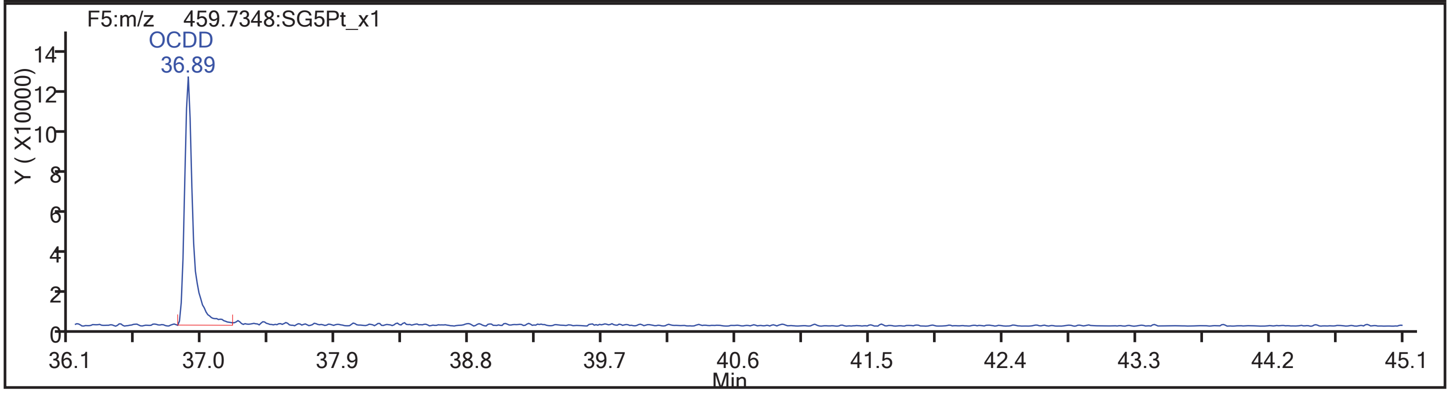
Report Date: 13-Nov-2017 13:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

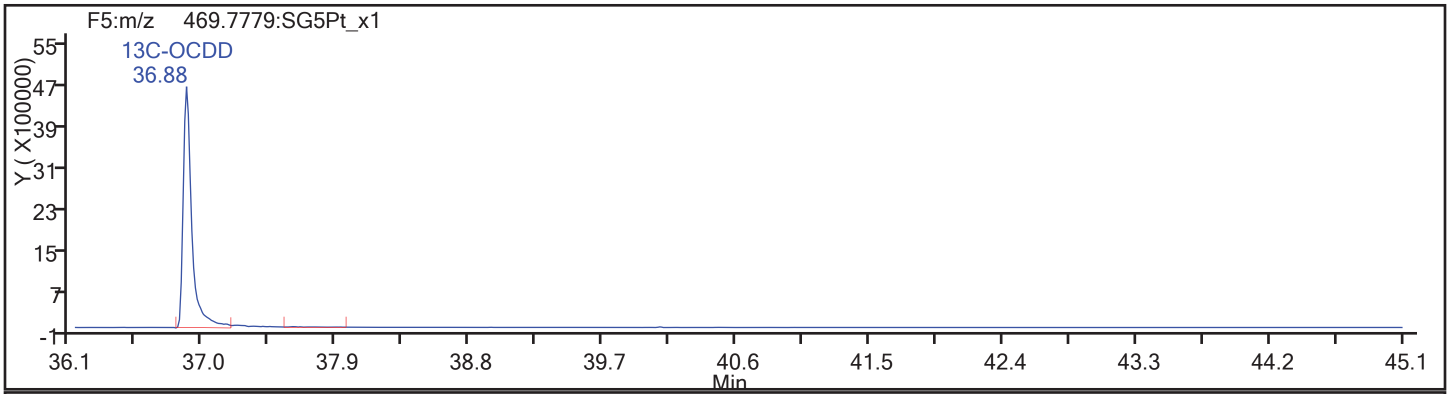
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d		
Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm

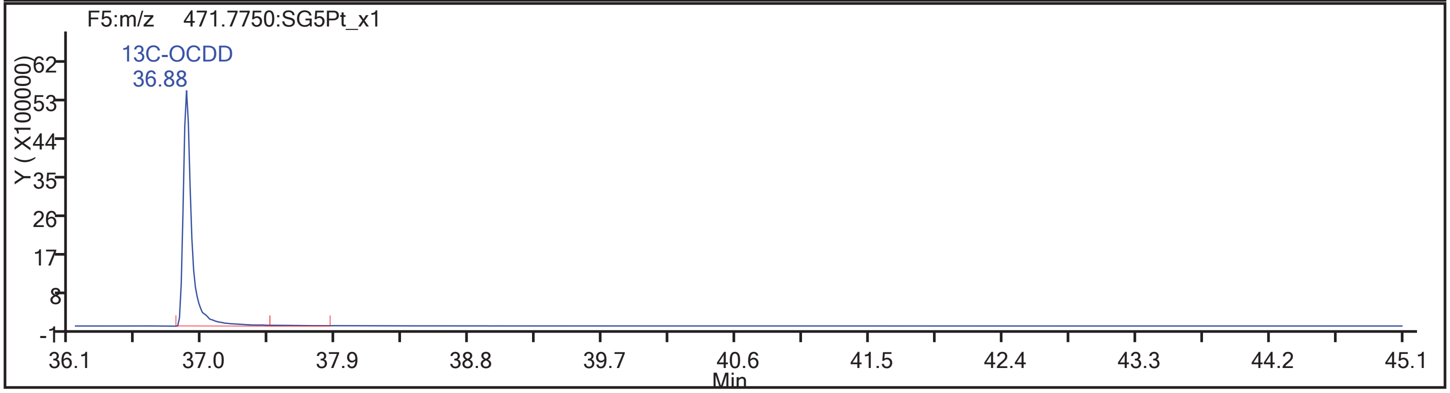
OCDD





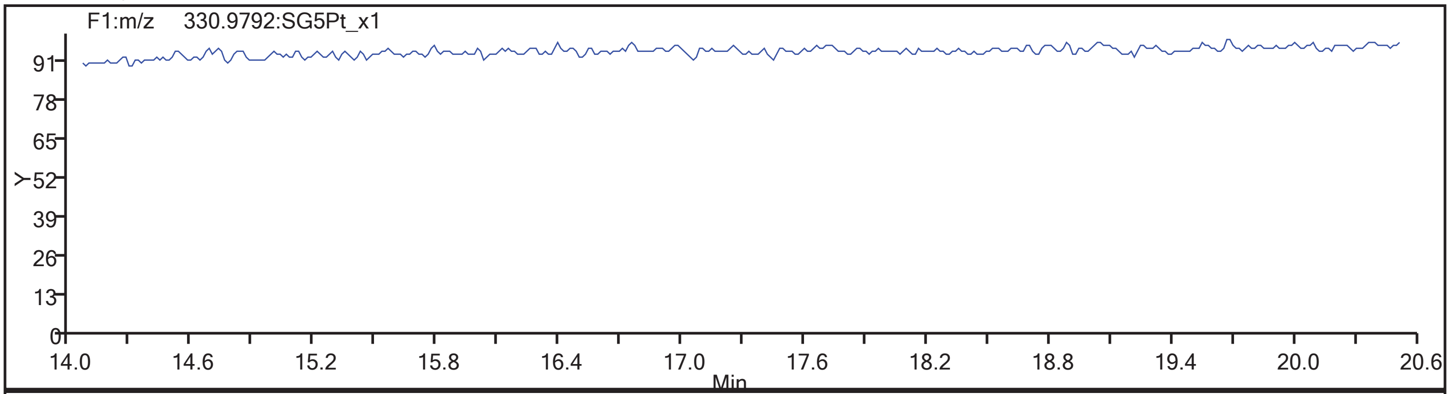
OCDD Standards

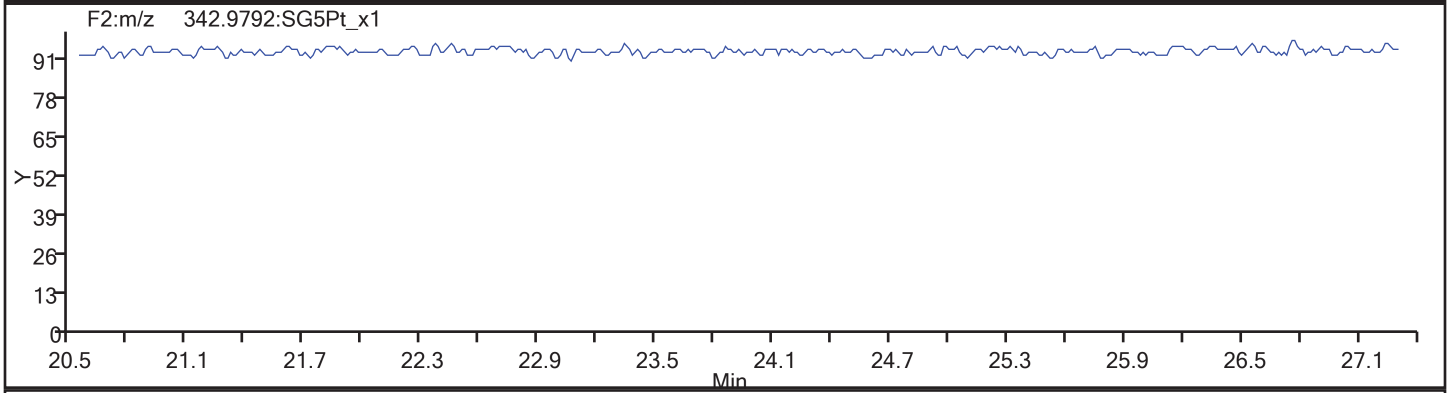


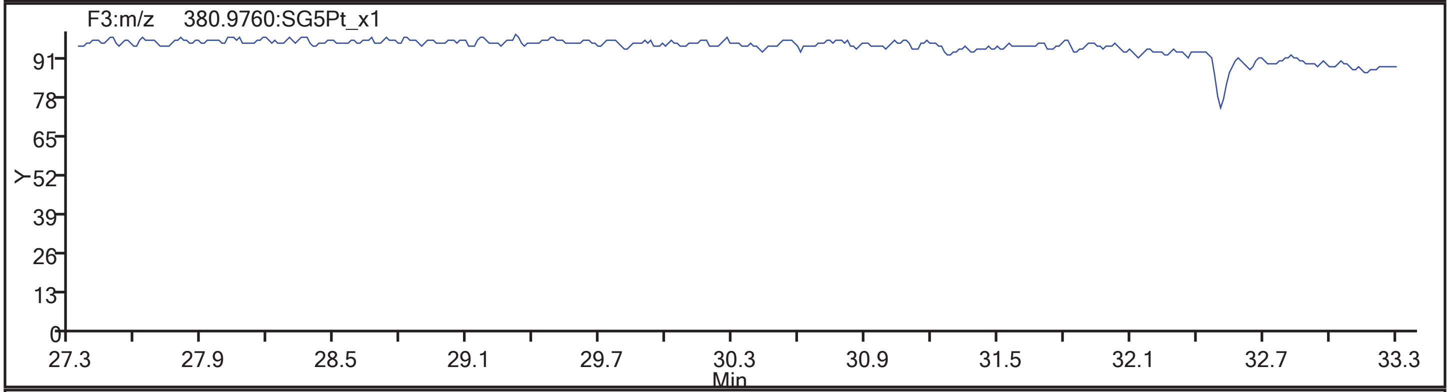


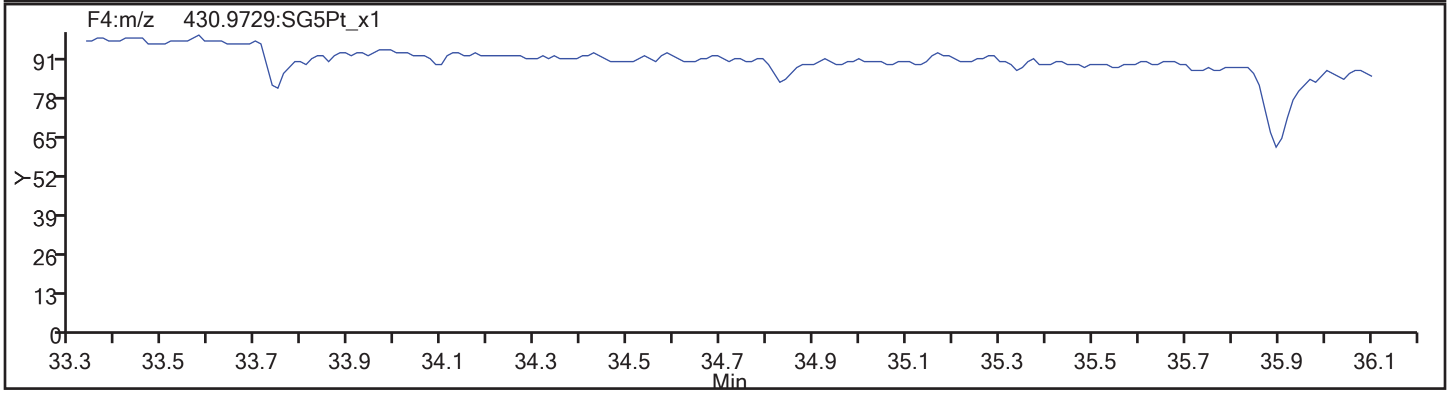
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d		
Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm





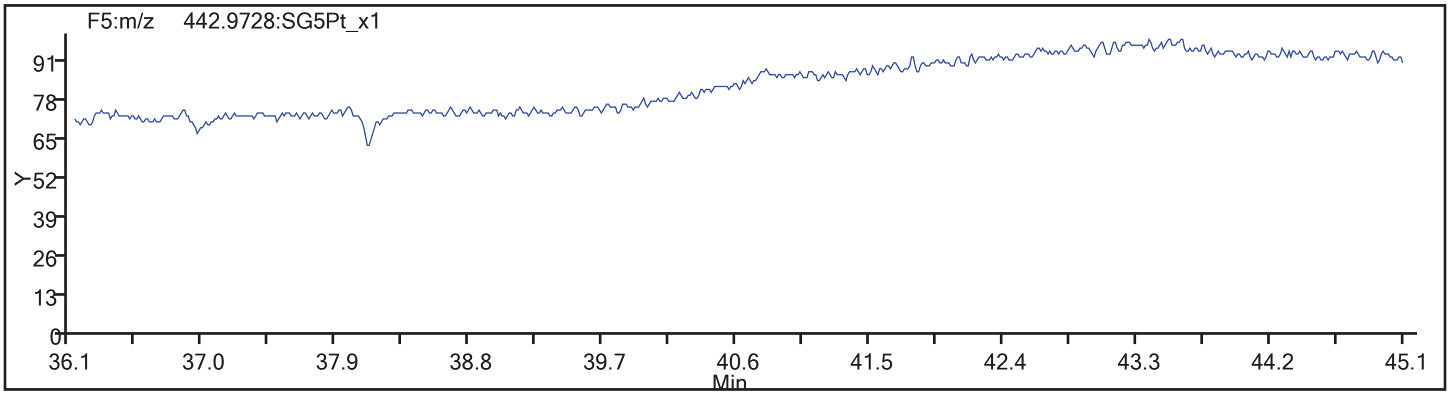




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_76.d

Injection Date:	11-Nov-2017 20:26:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	194085	Sample Line#:	76
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP022SS05NS RE
Lab Sample ID: 160-24924-11 RE
Matrix: Solid
Lab File ID: 16NO173D5_77.d
Analysis Method: 8290A
Date Collected: 10/05/2017 17:15
Extract. Method: 8290
Date Extracted: 11/16/2017 11:16
Sample wt/vol: 9.98(g)
Date Analyzed: 11/19/2017 08:05
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 12.1
GPC Cleanup:(Y/N) N
Analysis Batch No.: 195574
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.13*	*J H*	*1.1*	0.46	*0.075*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.86*	*U H*	*5.7*	0.86	*0.12*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.86*	*U H*	*5.7*	0.86	*0.082*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.86*	*U H*	*5.7*	0.86	*0.084*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*0.23*	*J H*	*5.7*	2.3	*0.077*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*2.3*	*U H*	*5.7*	2.3	*0.070*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*2.3*	*U H*	*5.7*	2.3	*0.067*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.86*	*U H*	*5.7*	0.86	*0.083*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.1*	*U H*	*5.7*	1.1	*0.076*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.1*	*U H*	*5.7*	1.1	*0.087*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.86*	*U H*	*5.7*	0.86	*0.081*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*2.6*	*J H*	*5.7*	1.1	*0.18*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*0.46*	*J H*	*5.7*	1.1	*0.11*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.3*	*U H*	*5.7*	2.3	*0.14*
3268-87-9	*OCDD*	*18*	*H B*	*11*	4.6	*0.14*
39001-02-0	*OCDF*	*2.2*	*J H*	*11*	4.6	*0.13*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	65		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	64		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	63		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	62		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	63		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	65		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	55		40-135
114423-97-1	13C-OCDD	56		40-135

Report Date: 06-Dec-2017 14:57:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d
Lims ID: 160-24924-G-11-B
Client ID: SHAD041DP022SS05NS
Sample Type: Client
Inject. Date: 19-Nov-2017 08:05:40 ALS Bottle#: 52 Worklist Smp#: 77
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-11-B 160-24924-G-11-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:57:11 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: dadunj Date: 06-Dec-2017 14:57:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	128488393	0.78	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.705	121770946	0.75	1.5089	62.8	62.8	0.2153	0.2153	62.81	
2,3,7,8-TCDF	17.750	194180	0.79	1.0971	0.1453	0.1453	0.0329	0.0329		M
A Non-2,3,7,8-sub-TCDF	17.402	727294	0.77	1.0971	0.6000	0.5444	0.0329	0.1483		RQ
S Total TCDF					0.7453	0.6897	0.0329	0.0329		RQ
D 13C-2,3,7,8-TCDD	18.430	83159487	0.77	0.9906	65.3	65.3	0.1944	0.1944	65.34	
2,3,7,8-TCDD	18.491	53321	0.71	1.1645	0.0551	0.0551	0.0331	0.0331		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD					0.0551	0.0551	0.0331	0.0331		
D 13C-1,2,3,7,8-PeCDF	22.883	91335172	1.62	1.1280	63.0	63.0	0.2027	0.2027	63.02	
1,2,3,7,8-PeCDF	22.896						0.0359	0.0359		
2,3,4,7,8-PeCDF	24.274						0.0370	0.0370		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0365	0.0805		U
S Total PeCDF							0.0805	0.0805		
D 13C-1,2,3,7,8-PeCDD	24.996	60101602	1.56	0.7269	64.4	64.4	0.1168	0.1168	64.35	
1,2,3,7,8-PeCDD	25.024						0.0529	0.0529		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0529	0.0529		
D 13C-1,2,3,4,7,8-HxCDF	30.906	71140209	0.52	1.0279	63.1	63.1	0.2916	0.2916	63.10	
1,2,3,4,7,8-HxCDF	30.932						0.0363	0.0363		
1,2,3,6,7,8-HxCDF	31.092						0.0331	0.0331		
2,3,4,6,7,8-HxCDF	31.678						0.0354	0.0354		RQU
D 13C-1,2,3,7,8,9-HxCDF	32.583	72912690	0.53							
1,2,3,7,8,9-HxCDF	32.597						0.0380	0.0380		
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF							0.0380	0.0380		
* 13C-1,2,3,7,8,9-HxCDD	32.410	109670115	1.23	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.011	62393	1.24	1.0646	0.1186	0.1008	0.0339	0.0339		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.091	58129768	1.18	0.8502	62.3	62.3	0.2437	0.2437	62.35	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.011						0.0306	0.0306		RQU
1,2,3,7,8,9-HxCDD	32.410						0.0293	0.0293		RQU
A Non-2,3,7,8-sub-HxCDD	31.252	251240	1.24	1.1589	0.4438	0.3730	0.0312	0.2206		RQM
S Total HxCDD					0.5624	0.4738	0.0313	0.0313		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	38807649	0.44	0.6490	54.5	54.5	0.6586	0.6586	54.53	
1,2,3,4,6,7,8-HpCDF	34.010	123570	1.04	1.5871	0.2358	0.2006	0.0490	0.0490		RQ
1,2,3,4,7,8,9-HpCDF	35.128						0.0633	0.0633		
A Non-2,3,7,8-sub-HpCDF	34.569	264210	1.00	1.4080	0.4835	0.4835	0.0553	0.4835		
S Total HpCDF					0.7193	0.6842	0.0562	0.0562		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.812	38364902	1.07	0.5387	64.9	64.9	0.3130	0.3130	64.94	
1,2,3,4,6,7,8-HpCDD	34.836	498908	1.03	1.1631	1.118	1.118	0.0804	0.0804		
A Non-2,3,7,8-sub-HpCDD	35.261	451731	1.04	1.1631	1.136	1.012	0.0804	1.012		RQM
S Total HpCDD					2.254	2.130	0.0804	0.0804		RQ
D 13C-OCDD	37.245	49061759	0.88	0.4009	111.6	111.6	0.2111	0.2111	55.79	
OCDF	37.353	305575	0.92	1.2649	0.9848	0.9848	0.0567	0.0567		
OCDD	37.257	2034587	0.88	1.0390	7.983	7.983	0.0631	0.0631		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d
Lims ID: 160-24924-G-11-B
Client ID: SHAD041DP022SS05NS
Sample Type: Client
Inject. Date: 19-Nov-2017 08:05:40 ALS Bottle#: 52 Worklist Smp#: 77
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-11-B 160-24924-G-11-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 14:57:11 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: dadunj Date: 06-Dec-2017 14:57:11

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		56379391	13464294	14170	35425	950		
333.9339	18.234	18.234	0		72109002	17466078	9651	24127	1810	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	0.971	52280570	12288202	25477	63692	482		
317.9389	17.705	17.705	0	0.971	69490376	15846531	14706	36765	1078	0.75(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	17.750	17.720	2	1.003	85669	16687	1048	2620	16		
305.8987	17.765	17.720	3	1.003	108511	23237	3009	7522	8	0.79(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	15.996	17.402	-84	0.903	109228	24198	1048	2620	23		
	Empc Correction				86214	23915	1048	2620	23		
305.8987	16.026	17.402	-82	0.905	111967	31059	3009	7522	10	0.98(0.65-0.89)	
303.9016	16.555	17.402	-51	0.935	41569	9817	1048	2620	9		
305.8987	16.540	17.402	-52	0.934	68058	16698	3009	7522	6	0.61(0.65-0.89)	
	Empc Correction				53985	12749	3009	7522	4		
303.9016	16.813	17.402	-35	0.950	56283	15732	1048	2620	15		
305.8987	16.782	17.402	-37	0.948	69618	12723	3009	7522	4	0.81(0.65-0.89)	
303.9016	17.342	17.402	-4	0.980	69477	13153	1048	2620	13		
305.8987	17.342	17.402	-4	0.980	104648	26767	3009	7522	9	0.66(0.65-0.89)	
303.9016	18.204	17.402	48	1.028	26960	5782	1048	2620	6		
305.8987	18.188	17.402	47	1.027	63126	16858	3009	7522	6	0.43(0.65-0.89)	
	Empc Correction				35012	7509	3009	7522	2		
303.9016	19.307	17.402	114	1.091	40162	10208	1048	2620	10		
	Empc Correction				31131	7581	1048	2620	7		
305.8987	19.292	17.402	113	1.090	40430	9846	3009	7522	3	0.99(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDD											
331.9368	18.430	18.430	0	1.011	36280467	8075620	14170	35425	570		
333.9339	18.445	18.430	1	1.012	46879020	10104202	9651	24127	1047	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.491	18.445	3	1.003	22113	7476	1695	4237	4		
321.8936	18.461	18.445	1	1.002	31208	7672	1104	2760	7	0.71(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						1695	4237			
321.8936	17.871						1104	2760			
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.869	1	1.255	56419761	9538643	18241	45602	523		
353.8970	22.883	22.869	1	1.255	34915411	5914642	10053	25132	588	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.896						957	2392			
341.8567	22.896						1581	3952			
2,3,4,7,8-PeCDF											
339.8597	24.274						957	2392			
341.8567	24.274						1581	3952			
A F1 PeCDFs											
339.8597	20.426						543	1357			
341.8567	20.426						1066	2665			
A Non-2,3,7,8-sub-PeCDF											U
339.8597	23.319	23.668	-21	1.019	50921	10264	957	2392	11		
341.8567	23.319	23.668	-21	1.019	31933	7066	1581	3952	4	1.59(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.996	24.996	0	1.371	36661837	5722509	5634	14085	1016		
369.8919	24.996	24.996	0	1.371	23439765	3625179	4870	12175	744	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.024						1543	3857			
357.8516	25.024						685	1712			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1543	3857			
357.8516	23.878						685	1712			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.906	30.906	0	0.954	24456419	5324759	13492	33730	395		
385.8610	30.919	30.906	1	0.954	46683790	9931897	22466	56165	442	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						1662	4155			
375.8178	30.932						1327	3317			
1,2,3,6,7,8-HxCDF											
373.8208	31.092						1662	4155			
375.8178	31.092						1327	3317			
2,3,4,6,7,8-HxCDF											RQU
373.8208	31.824						1662	4155			
375.8178	31.824						1327	3317			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.005	25289573	6883053	13492	33730	510		
385.8610	32.583	32.583	0	1.005	47623117	13251893	22466	56165	590	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						1662	4155			
375.8178	32.597						1327	3317			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						1662	4155			
375.8178	30.653						1327	3317			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.397	1		60486244	16672276	12425	31062	1342		
403.8529	32.410	32.397	1		49183871	13318363	12429	31072	1072	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	32.011	31.997	1	0.998	34539	8425	1198	2995	7		
391.8127	31.984	31.997	-1	0.997	38888	6715	1059	2647	6	0.89(1.05-1.43)	
	Empc Correction				27854	6794	1059	2647	6		
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.990	31504964	8583408	12425	31062	691		
403.8529	32.091	32.091	0	0.990	26624804	7039342	12429	31072	566	1.18(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	32.104						1198	2995			
391.8127	32.104						1059	2647			
1,2,3,7,8,9-HxCDD											RQU
389.8157	32.410						1198	2995			
391.8127	32.410						1059	2647			
A Non-2,3,7,8-sub-HxCDD											RQM
389.8157	30.093	31.252	-69	0.938	56824	8981	1198	2995	7		
391.8127	30.133	31.252	-67	0.939	72043	20337	1059	2647	19	0.79(1.05-1.43)	
	Empc Correction				45825	7242	1059	2647	7		
389.8157	31.305	31.252	3	0.976	82256	16215	1198	2995	14		M
391.8127	31.318	31.252	4	0.976	87812	20740	1059	2647	20	0.94(1.05-1.43)	
	Empc Correction				66335	13076	1059	2647	12		
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	11821069	3939583	15298	38245	258		
419.8220	33.998	33.998	0	1.049	26986580	9227504	35975	89937	256	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7818	34.010	34.010	0	1.000	84637	28327	2335	5837	12		
	Empc Correction				62996	25109	2335	5837	11		
409.7789	34.010	34.010	0	1.000	60574	24144	1764	4410	14	1.40(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						2335	5837			
409.7789	35.128						1764	4410			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.326	34.569	-15	1.010	132077	35413	2335	5837	15		
409.7789	34.326	34.569	-15	1.010	132133	44970	1764	4410	25	1.00(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.812	34.812	0	1.074	19797302	6133967	9123	22807	672		
437.8140	34.812	34.812	0	1.074	18567600	5886148	11104	27760	530	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.001	252988	76975	2597	6492	30		
425.7737	34.824	34.824	0	1.000	245920	70917	1900	4750	37	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											RQM
423.7766	34.265	35.261	-60	0.984	285536	95985	2597	6492	37		M
	Empc Correction				230294	72824	2597	6492	28		
425.7737	34.253	35.261	-60	0.984	221437	70024	1900	4750	37	1.29(0.88-1.20)	
13C-OCDD											
469.7779	37.245	37.233	1	1.149	22908178	6240502	4960	12400	1258		
471.7750	37.245	37.233	1	1.149	26153581	7423599	5194	12985	1429	0.88(0.76-1.02)	
OCDF											
441.7428	37.353	37.341	1	1.003	146166	44195	819	2047	54		
443.7399	37.353	37.341	1	1.003	159409	44738	1140	2850	39	0.92(0.76-1.02)	
OCDD											
457.7377	37.257	37.245	1	1.000	951348	274506	791	1977	347		
459.7348	37.245	37.245	0	1.000	1083239	299001	1002	2505	298	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated
U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d
Lims ID: 160-24924-G-11-B
Client ID: SHAD041DP022SS05NS
Inject. Date: 19-Nov-2017 08:05:40
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 77

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF | IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	121770946	28134733

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	121770946	28134733

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.996	109228	24198	111967	31059	0.1656	0.98	RQ
15.996	86214	23915	111967	31059	0.1483		Empc Correction
16.555	41569	9817	68058	16698	0.0821	0.61	RQ
16.555	41569	9817	53985	12749	0.0715		Empc Correction
16.813	56283	15732	69618	12723	0.0942	0.81	
17.342	69477	13153	104648	26767	0.1303	0.66	
18.204	26960	5782	63126	16858	0.0674	0.43	RQ
18.204	26960	5782	35012	7509	0.0464		Empc Correction
19.307	40162	10208	40430	9846	0.0603	0.99	RQ
19.307	31131	7581	40430	9846	0.0536		Empc Correction
Signal Totals:							
	311634	75980	415660	100653			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	801526	192841				0.75	RQ
	727294	176633					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6000 = (801526 * 100.000) / (121770946 * 1.097)
Empc Amount: 0.5444 = (727294 * 100.000) / (121770946 * 1.097)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d		
Lims ID:	160-24924-G-11-B		
Client ID:	SHAD041DP022SS05NS		
Inject. Date:	19-Nov-2017 08:05:40	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	77

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	91335172	15453285
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	91335172	15453285

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.319	50921	10264	31933	7066	0.0805	1.59	

Compound is Marked ND

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d
Lims ID: 160-24924-G-11-B
Client ID: SHAD041DP022SS05NS
Inject. Date: 19-Nov-2017 08:05:40
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 77

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	71140209	15256656
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
Signal Totals:	0	0	0	0			

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d
Lims ID: 160-24924-G-11-B
Client ID: SHAD041DP022SS05NS
Inject. Date: 19-Nov-2017 08:05:40 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195574 Lims Sample ID: 77

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	58129768	15622750
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	58129768	15622750

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.093	56824	8981	72043	20337	0.1913	0.79	RQ
30.093	56824	8981	45825	7242	0.1524		Empc Correction
31.305	82256	16215	87812	20740	0.2525	0.94	RQM
31.305	82256	16215	66335	13076	0.2206		Empc Correction
Signal Totals:							
	139080	25196	112160	20318			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	298935	66273				0.87	RQM
	251240	45514					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4438 = (298935 * 100.000) / (58129768 * 1.159)
Empc Amount: 0.3730 = (251240 * 100.000) / (58129768 * 1.159)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d		
Lims ID:	160-24924-G-11-B		
Client ID:	SHAD041DP022SS05NS		
Inject. Date:	19-Nov-2017 08:05:40	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	77

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	38807649	13167087
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	38807649	13167087

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	132077	35413	132133	44970	0.4835	1.00	
Signal Totals:							
	132077	35413	132133	44970			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	264210	80383				1.00	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4835 = (264210 * 100.000) / (38807649 * 1.408)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d
Lims ID: 160-24924-G-11-B
Client ID: SHAD041DP022SS05NS
Inject. Date: 19-Nov-2017 08:05:40
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 77

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	38364902	12020115

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	38364902	12020115

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.265	285536	95985	221437	70024	1.14	1.29	RQM
34.265	230294	72824	221437	70024	1.01		Empc Correction
Signal Totals:							
	230294	72824	221437	70024			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	506973	166009				1.29	RQM
	451731	142848					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.136 = (506973 * 100.000) / (38364902 * 1.163)
Empc Amount: 1.012 = (451731 * 100.000) / (38364902 * 1.163)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

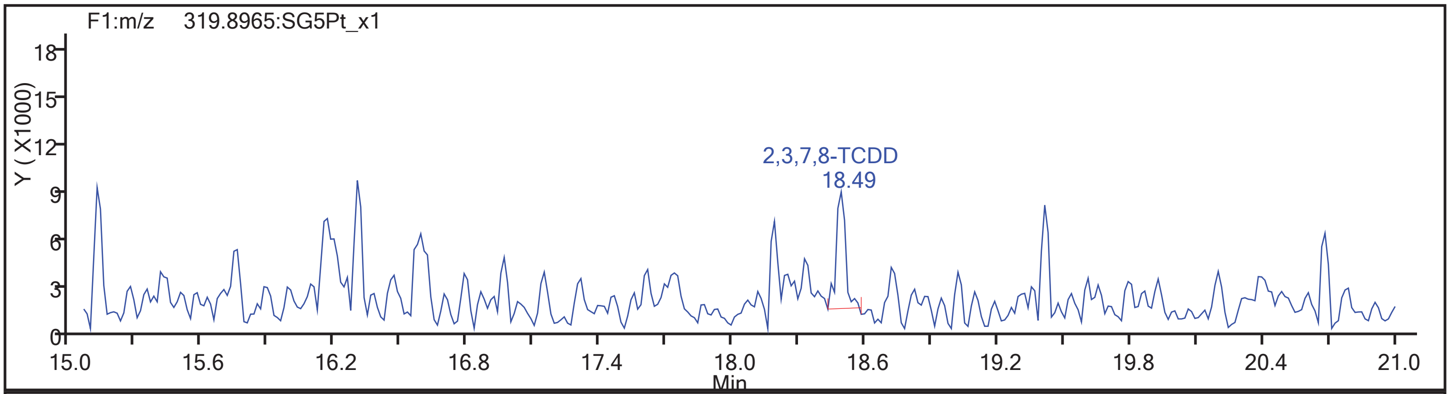
Review Flags
M - Manually Integrated

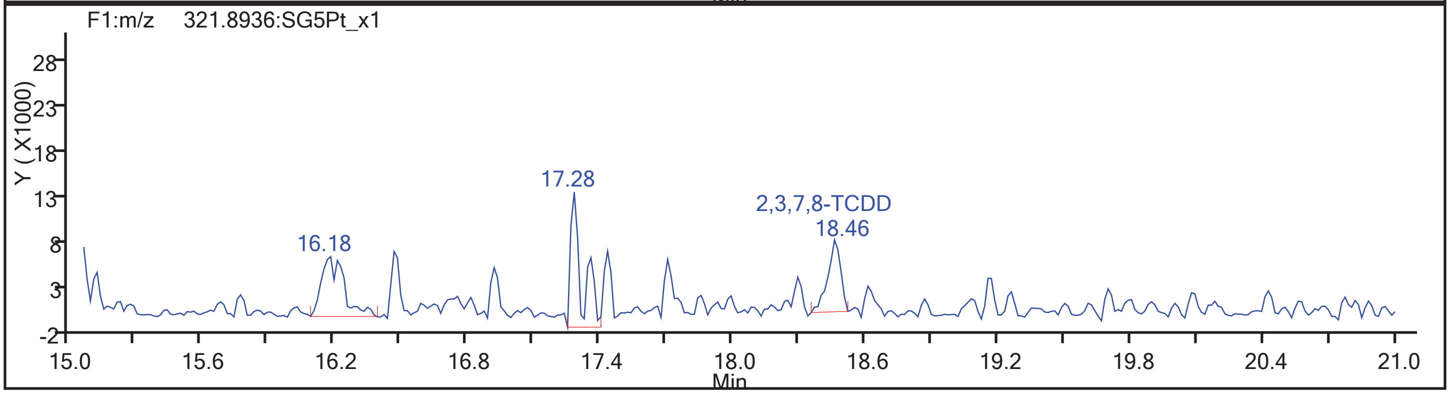
Report Date: 06-Dec-2017 14:57:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

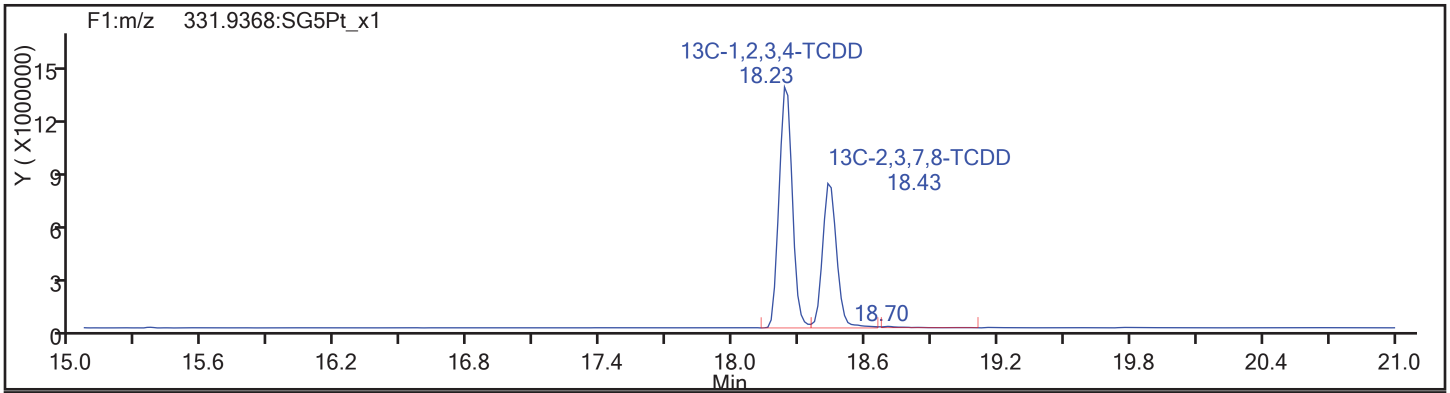
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d
Injection Date: 19-Nov-2017 08:05:40
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS05NS
Worklist#: 195574
Sample Line#: 77
Column Type:
Column Dia:

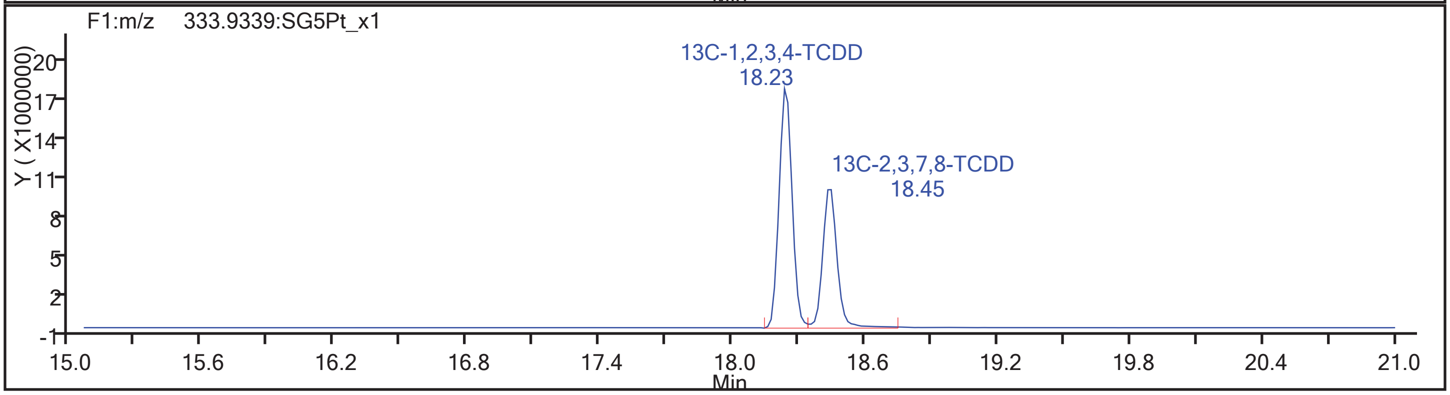
TCDD





TCDD Standards





TestAmerica Sacramento

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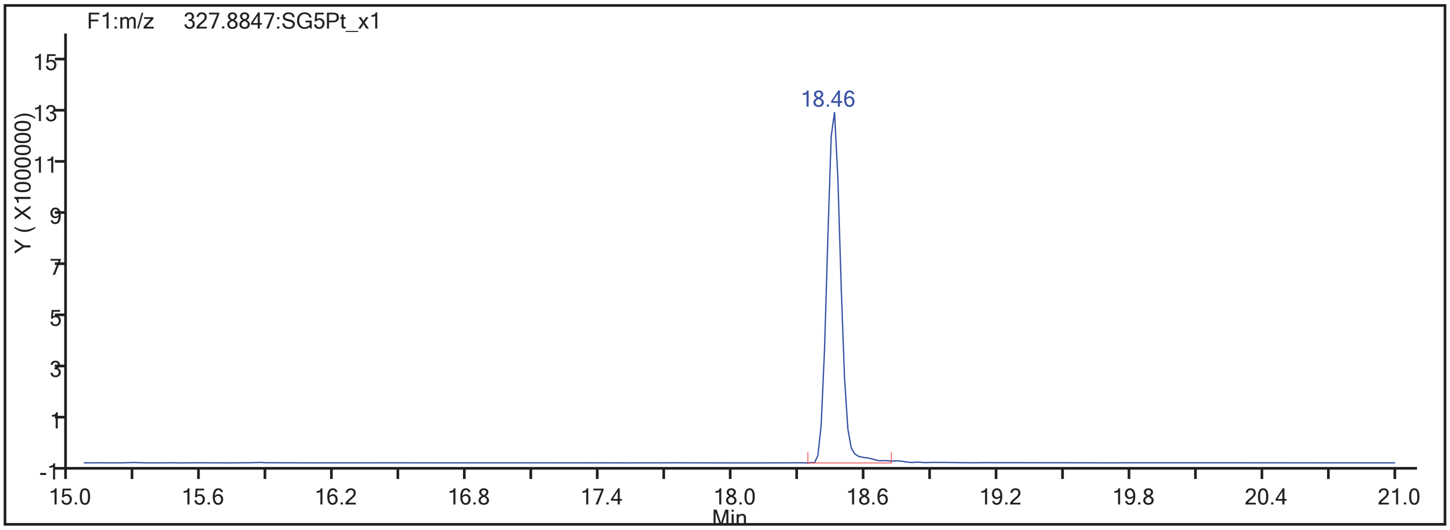
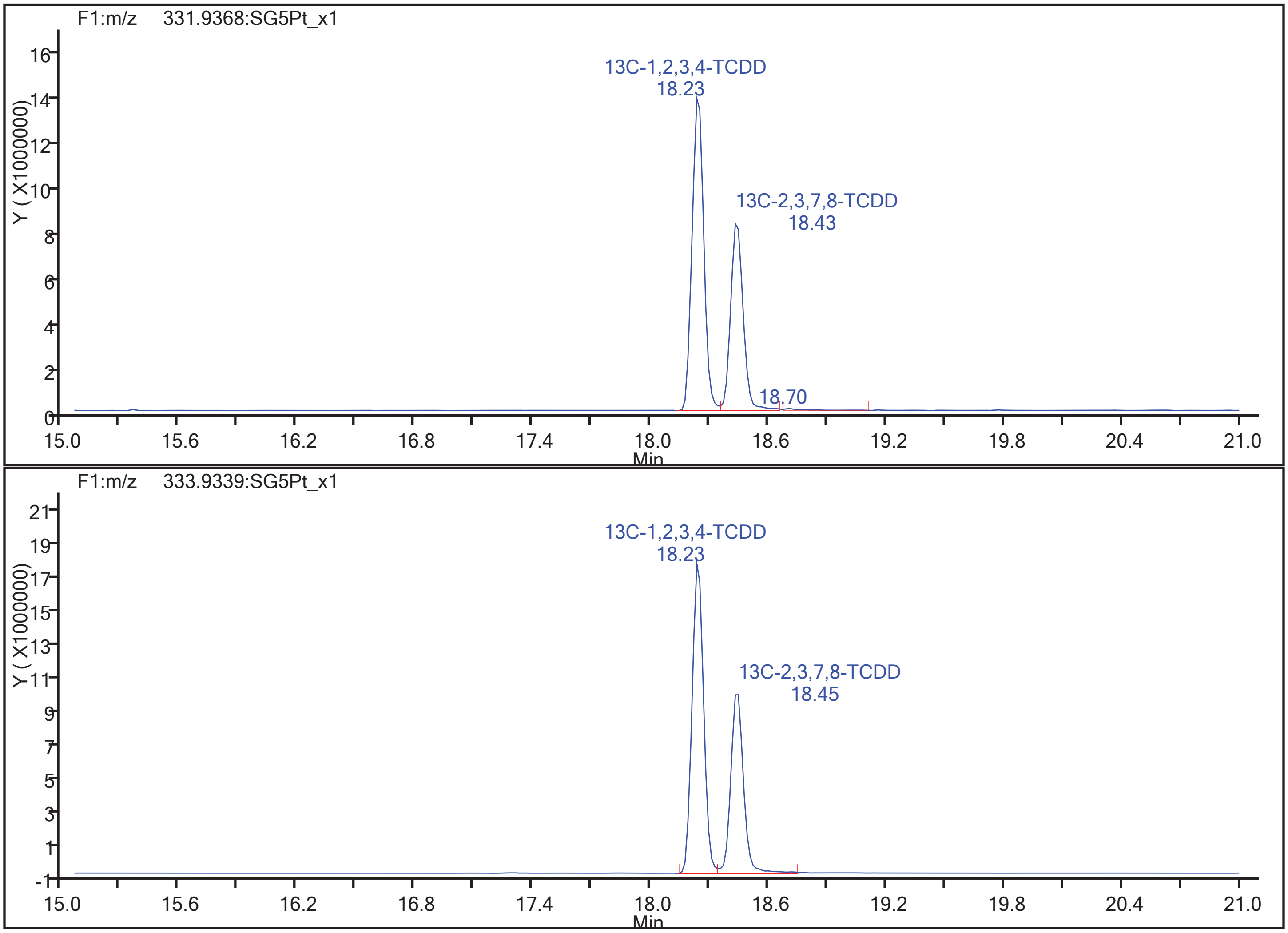
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	195574	Sample Line#:	77
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



Report Date: 06-Dec-2017 14:57:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Operator ID: SMA, ALM
Method: Dioxin_3D5
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Worklist#: 195574
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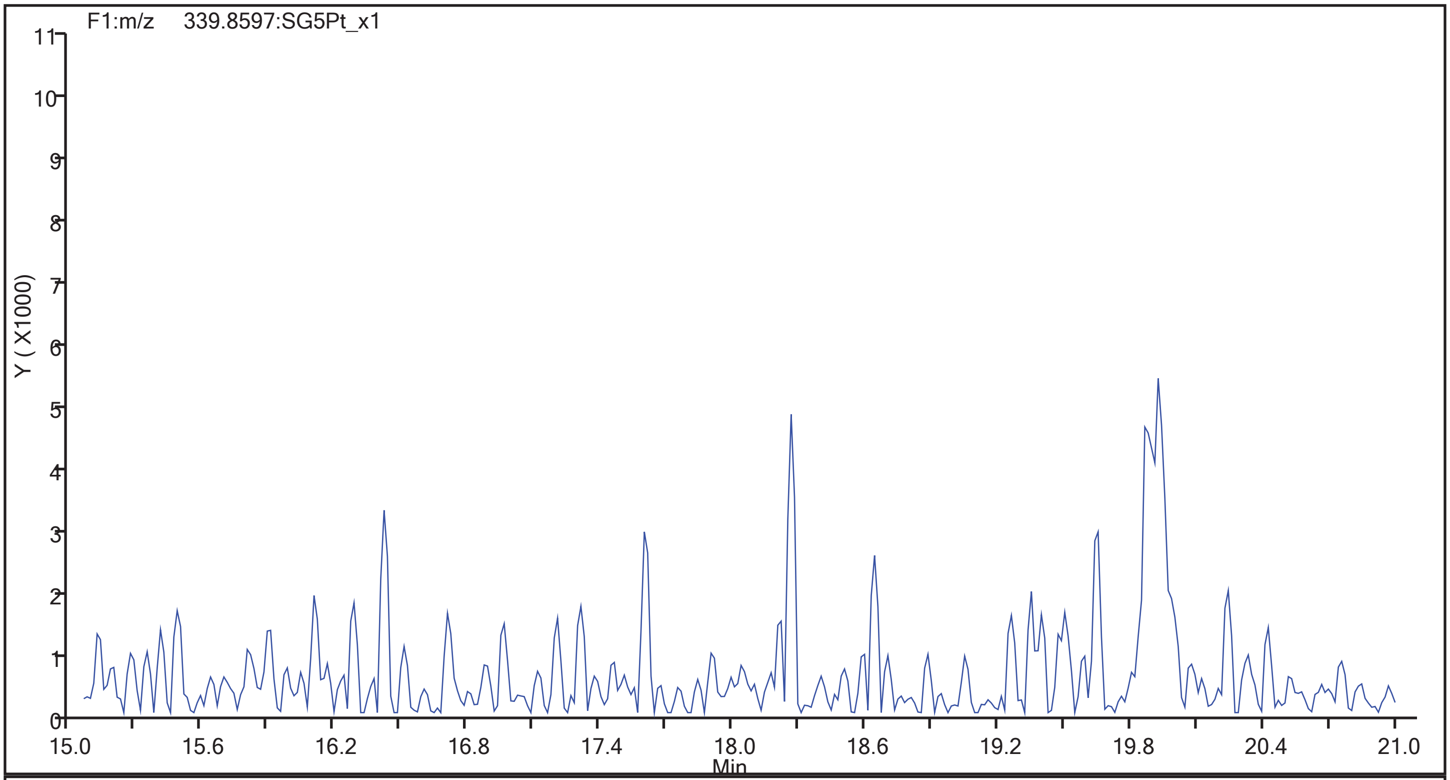
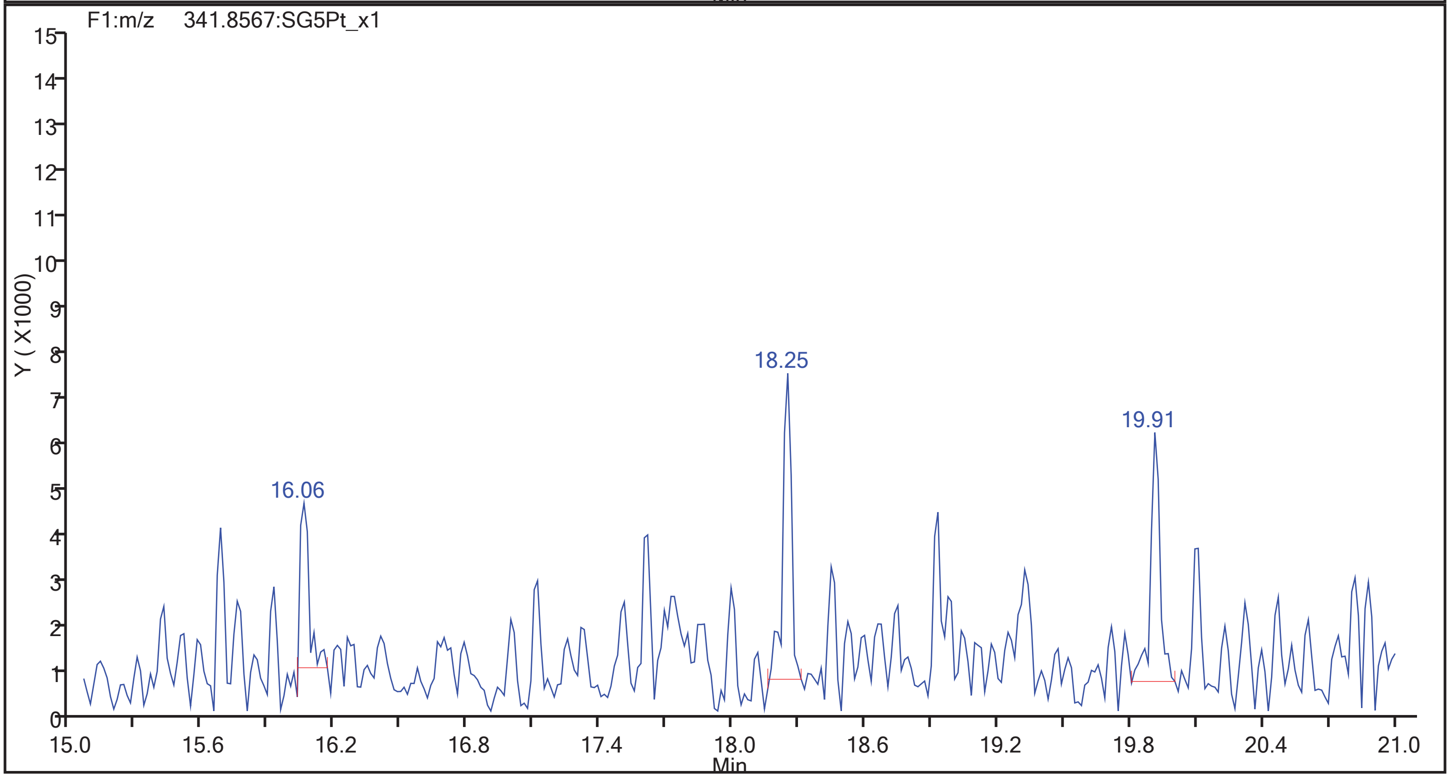
F1 PeCDFs





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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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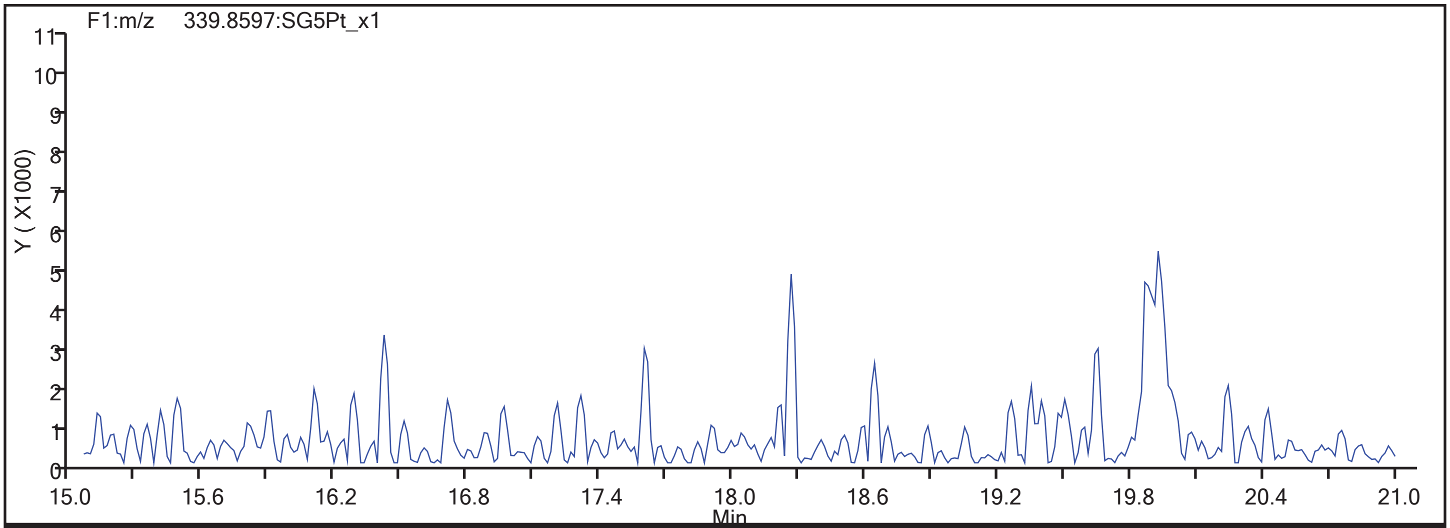
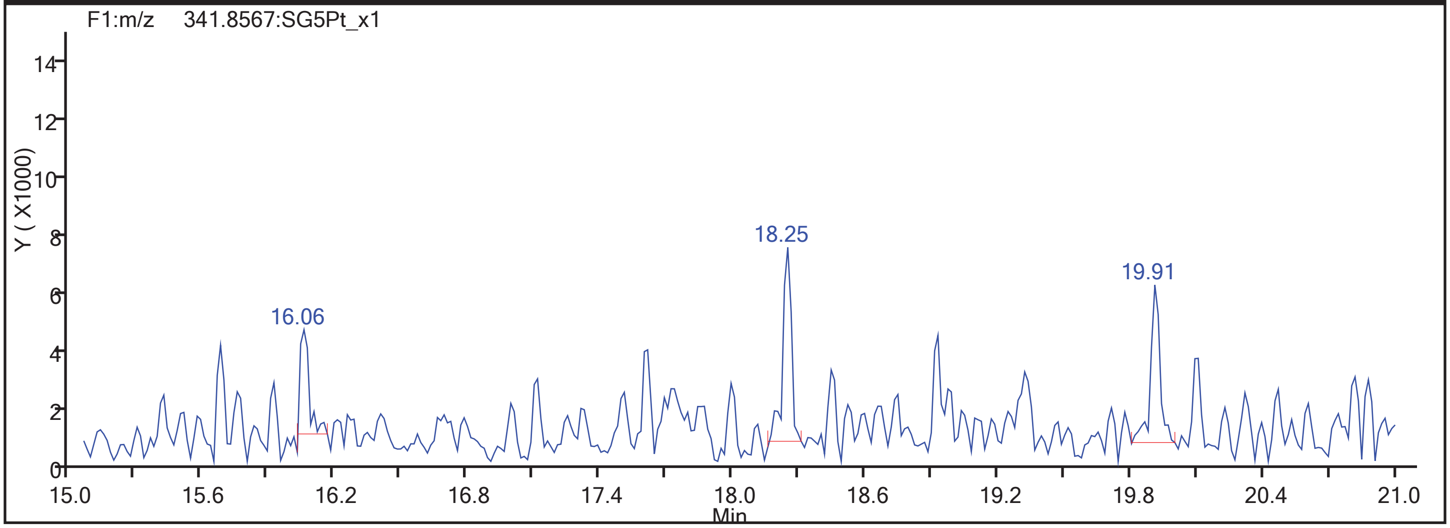
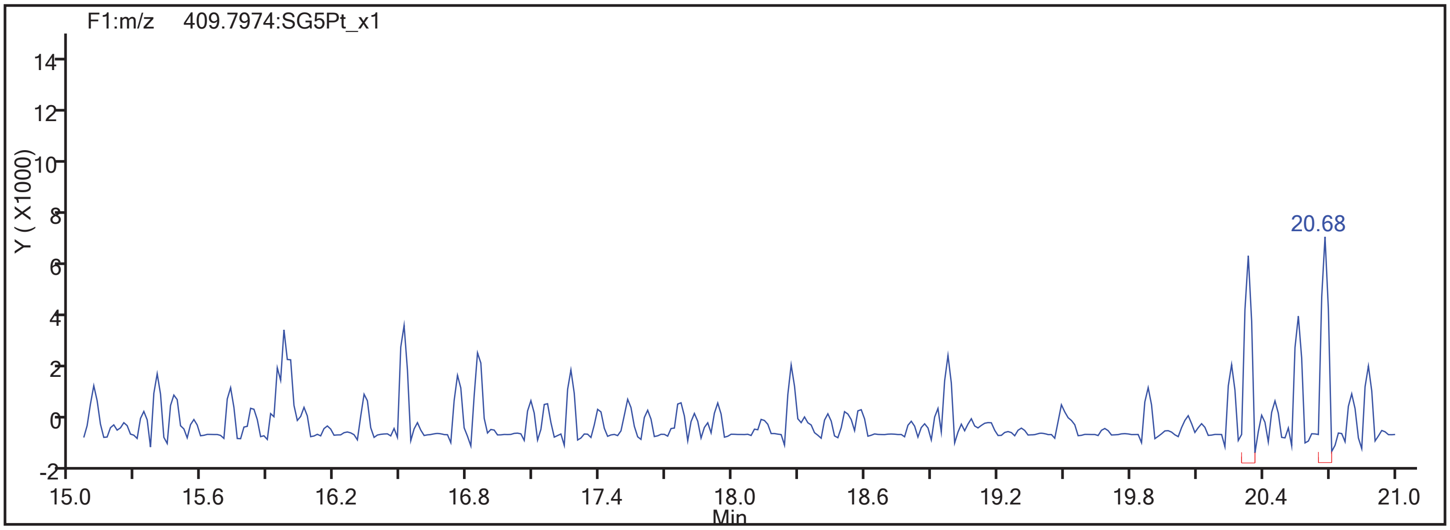
Column Type:		Column Dia:	

F1 PeCDFs





F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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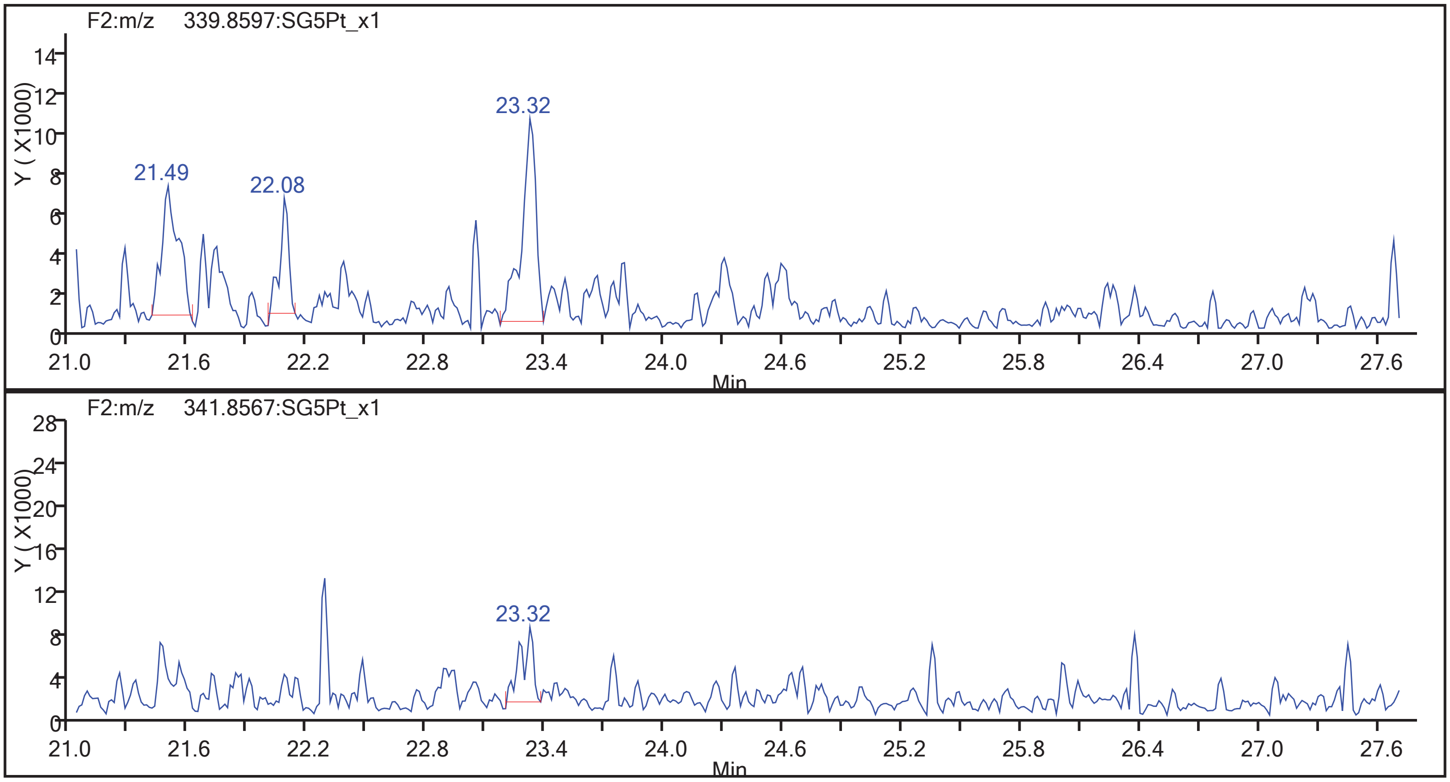
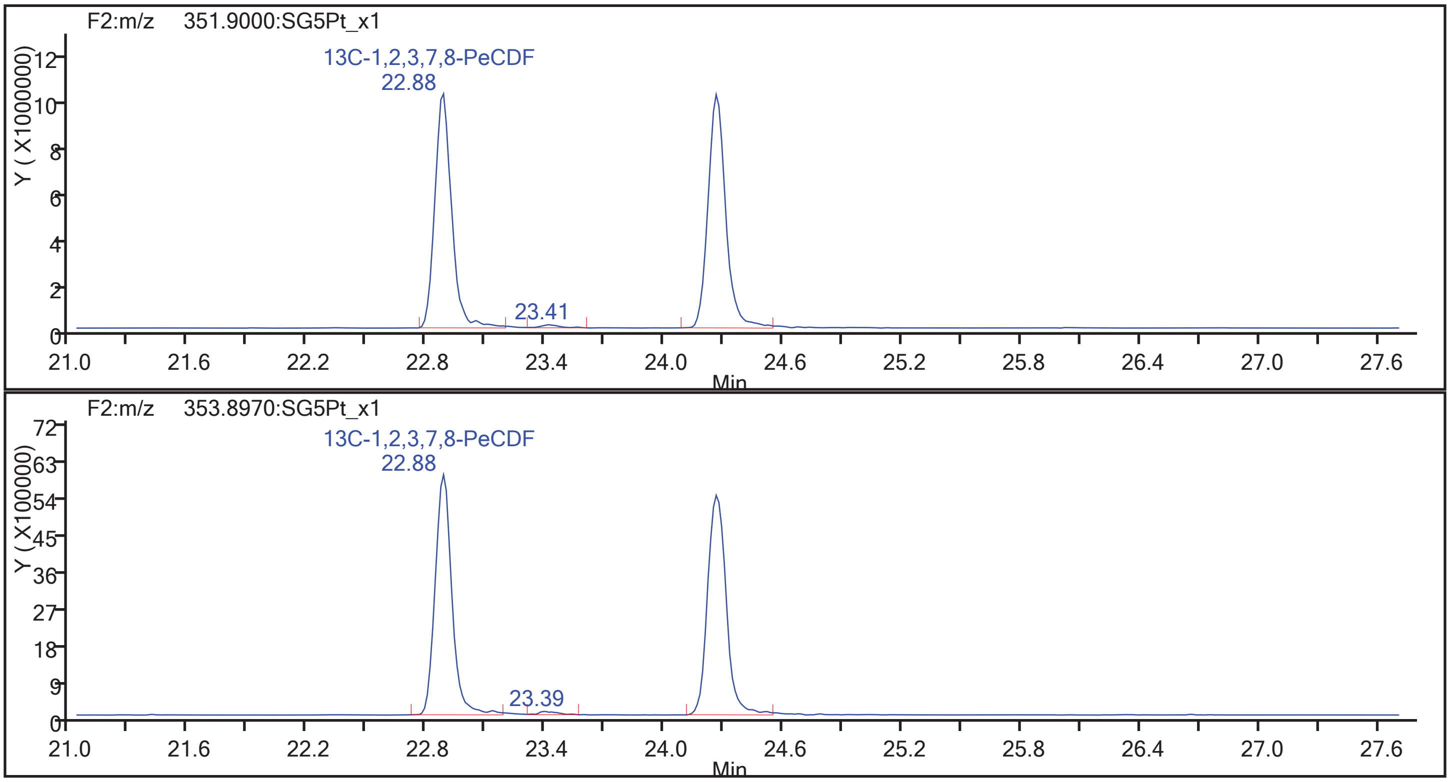
PeCDF



PeCDF Standards



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TestAmerica Sacramento

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Instrument ID: 3D5 Operator ID: SMA, ALM
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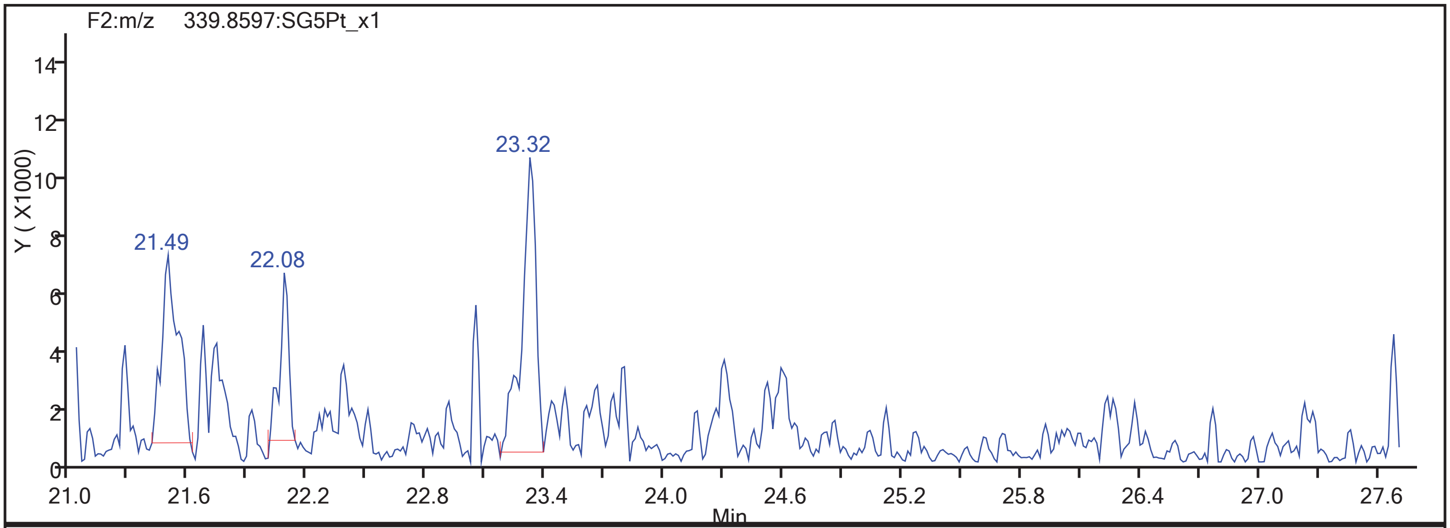
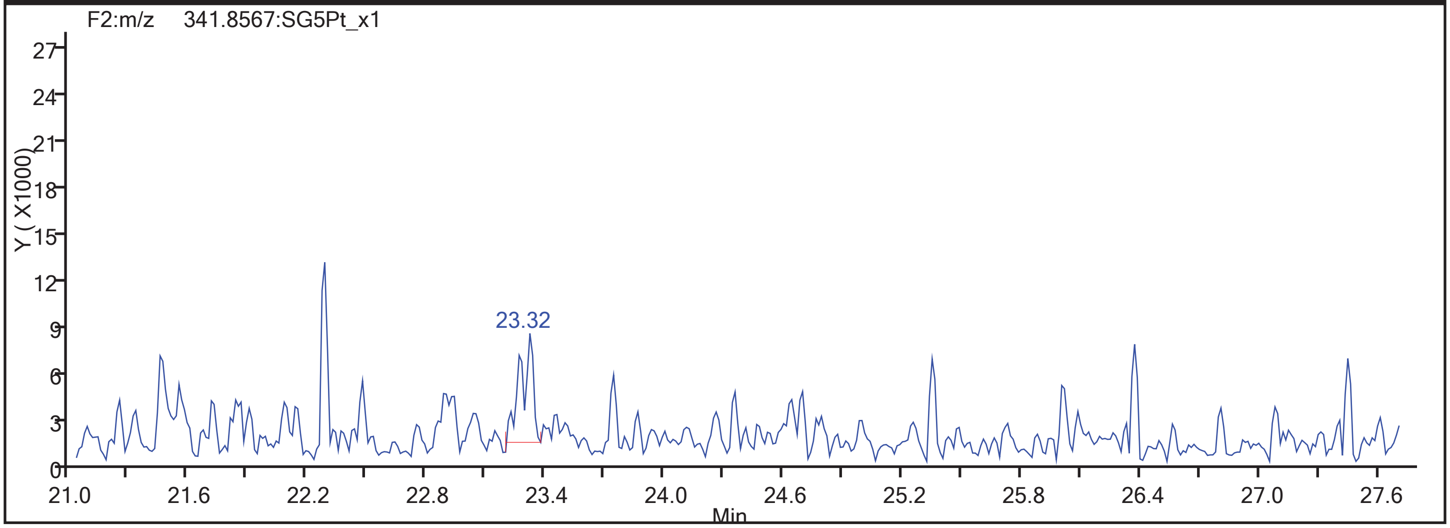
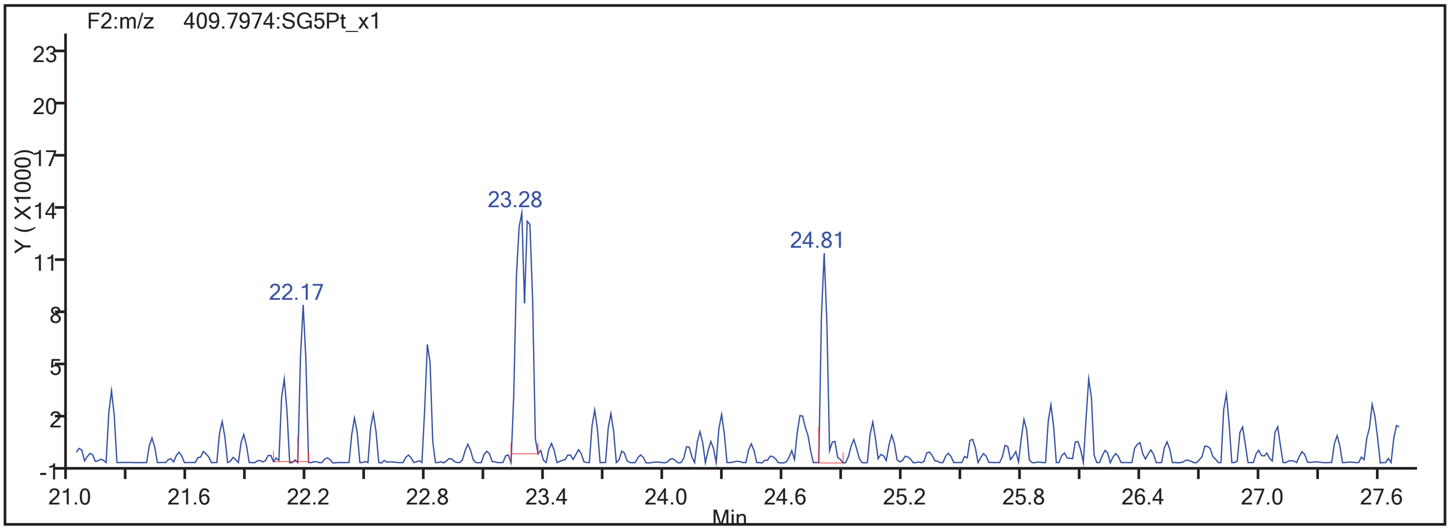
Client ID: SHAD041DP022SS05NS
Worklist#: 195574 Sample Line#: 77
Column Type: Column Dia:

PeCDF





PeCDF Interference Mass



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TestAmerica Sacramento

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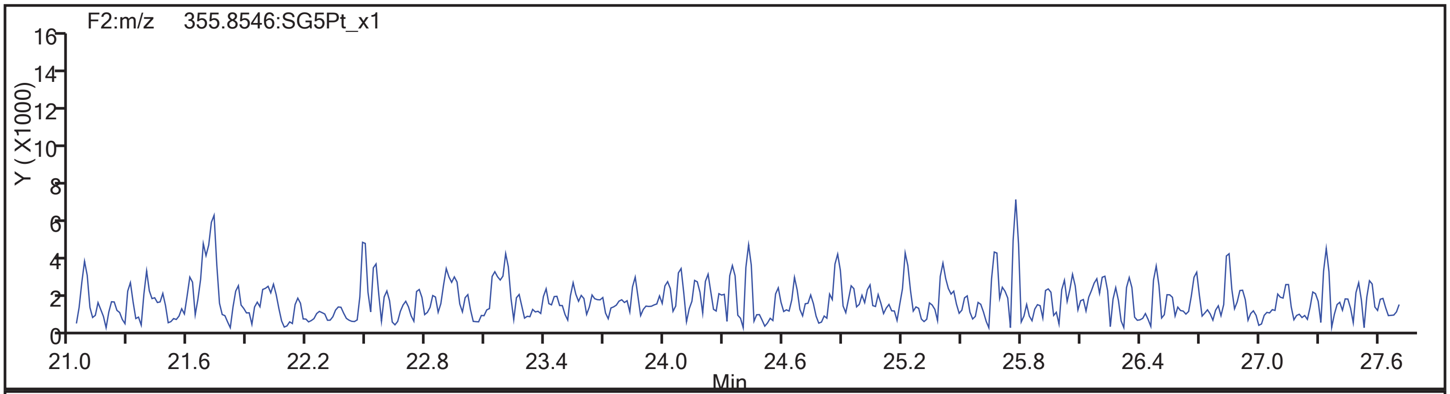
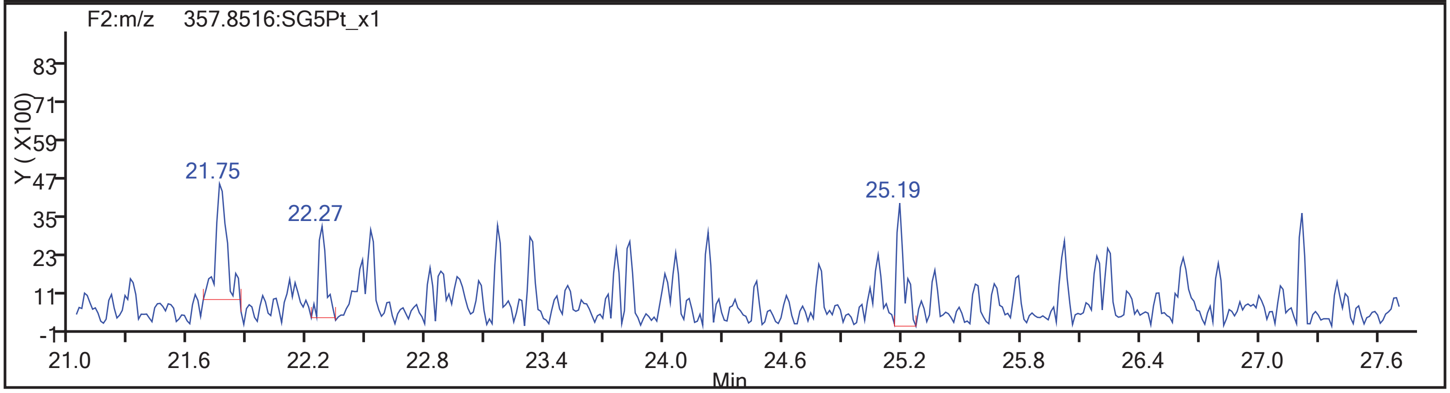
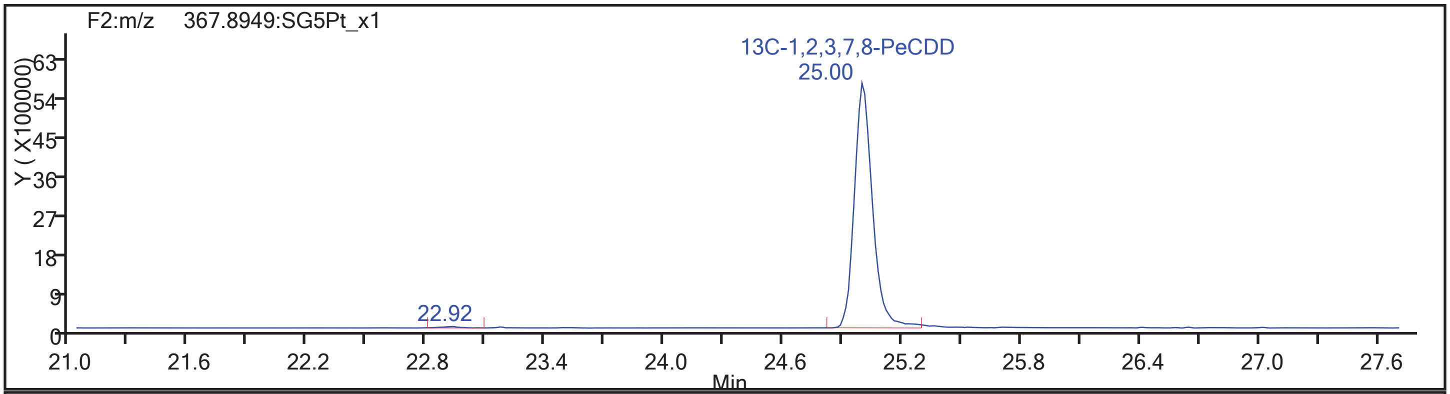
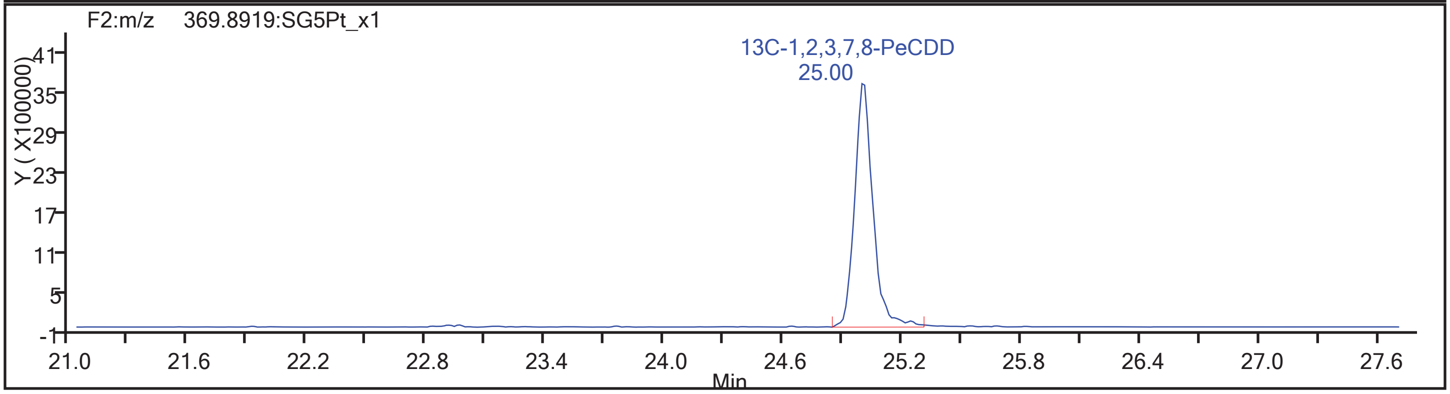
PeCDD





PeCDD Standards





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TestAmerica Sacramento

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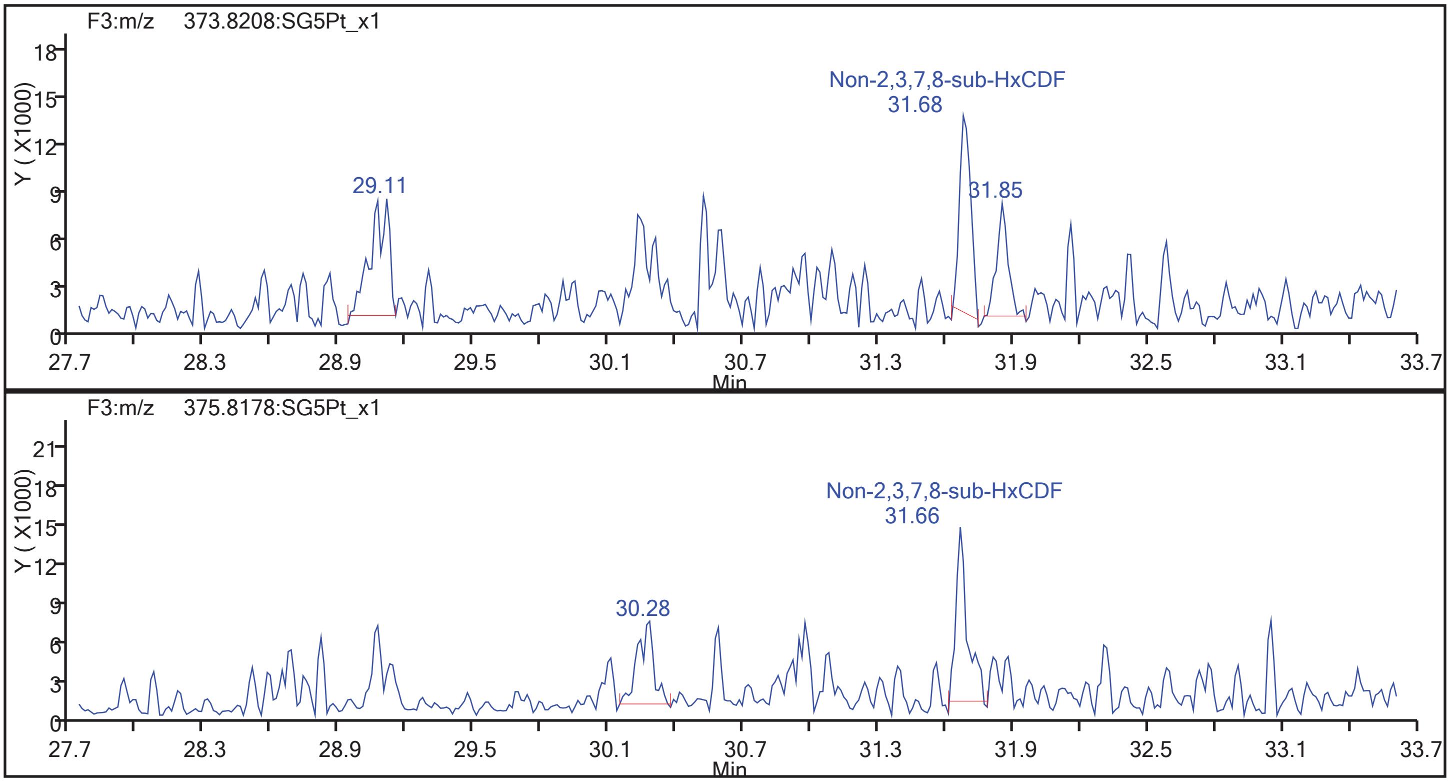
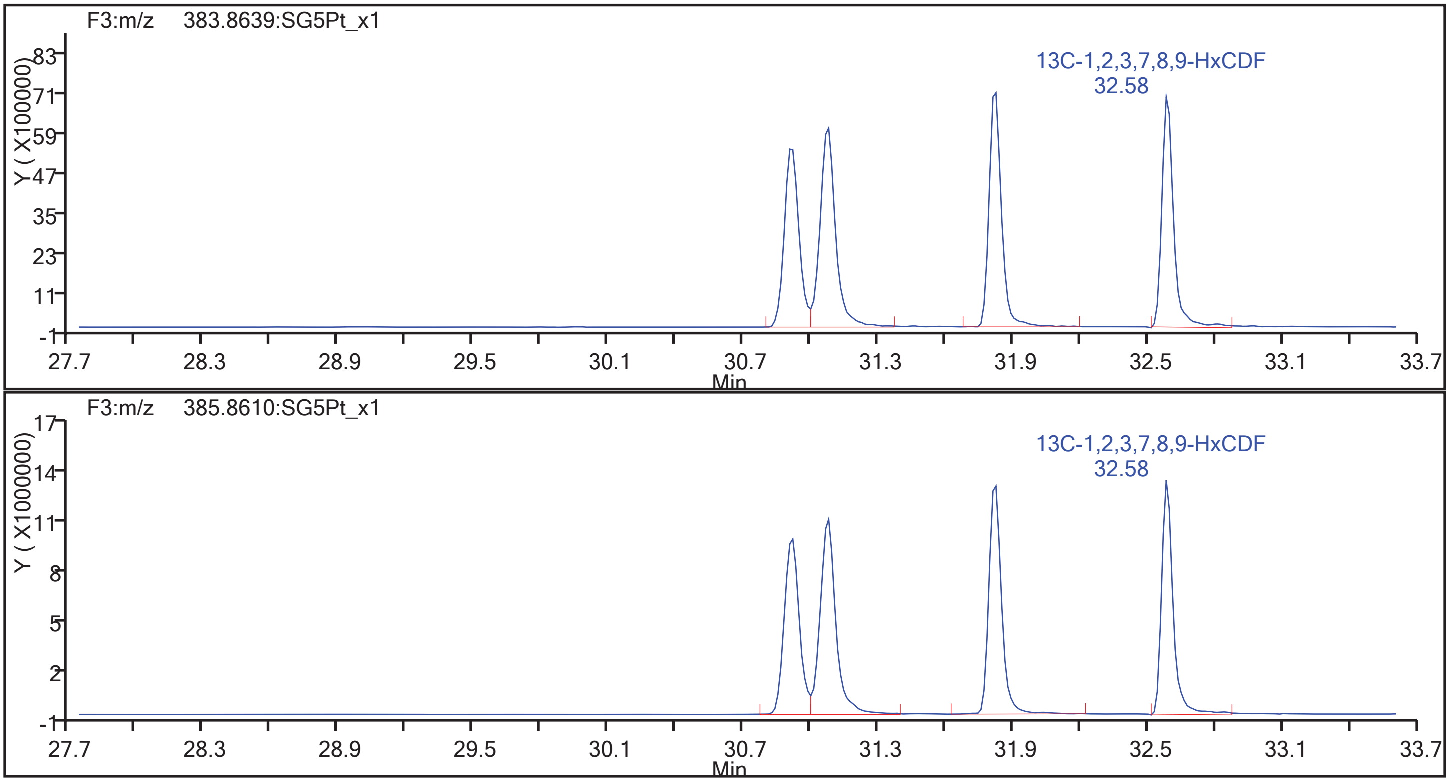
Column Type:		Column Dia:	

HxCDF



HxCDF Standards



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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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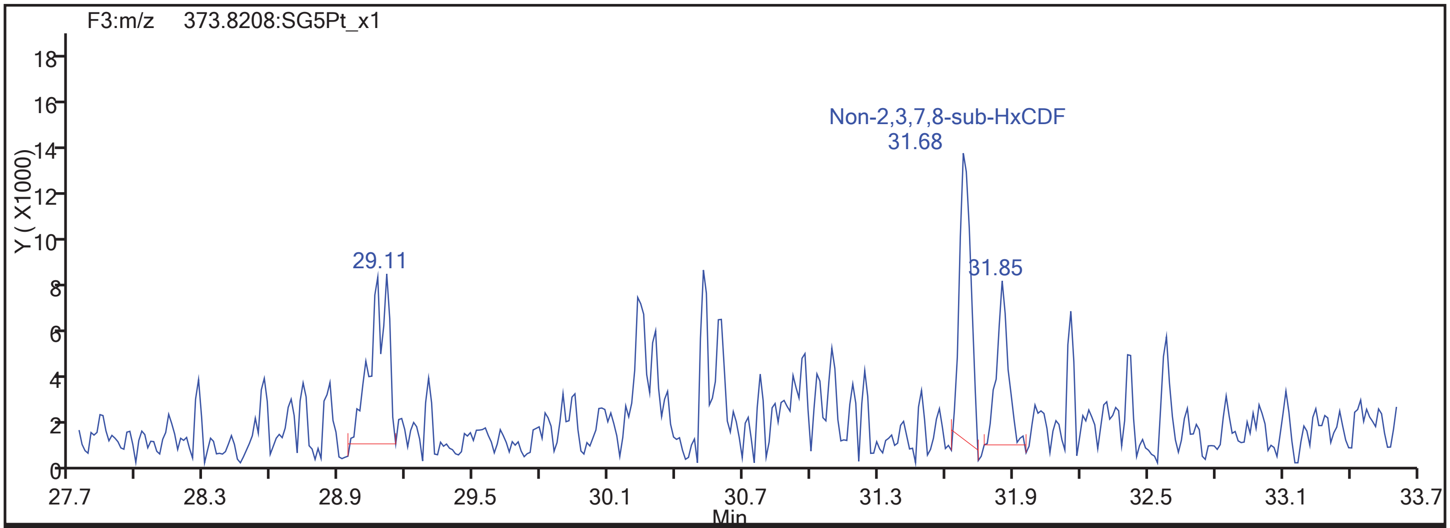
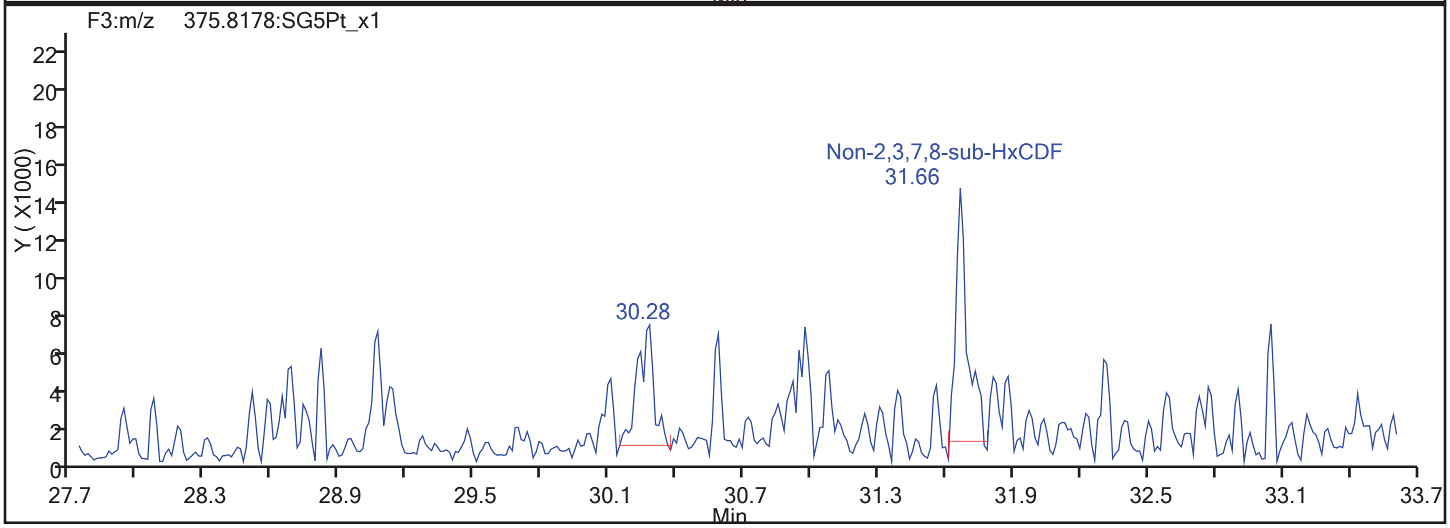
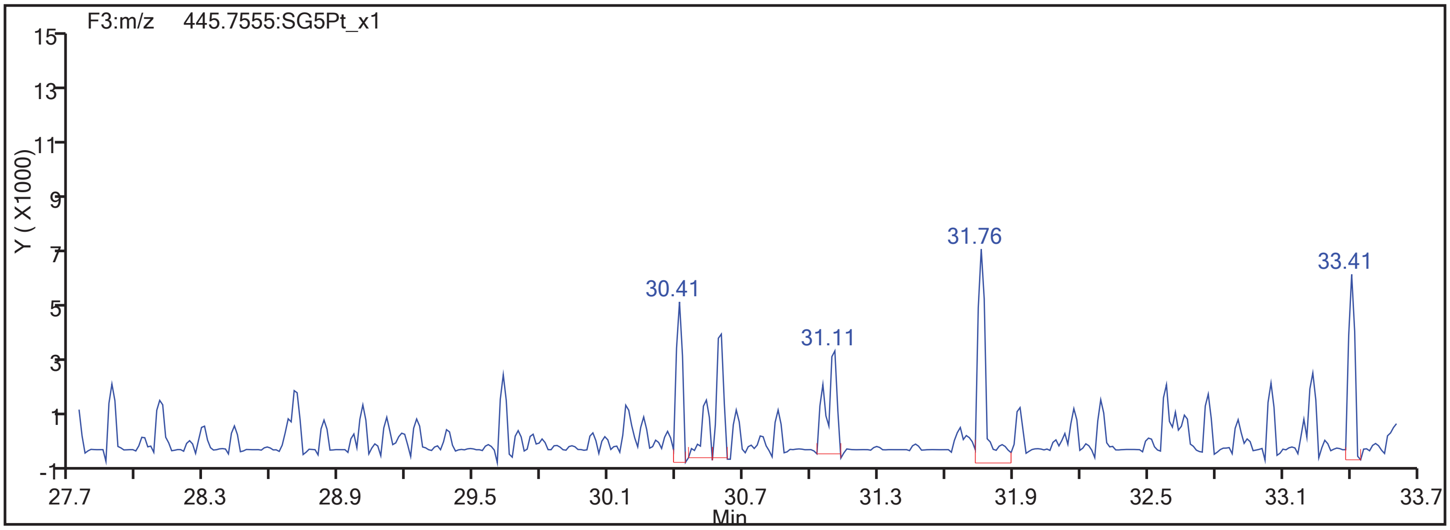
HxCDF





HxCDF Interference Mass



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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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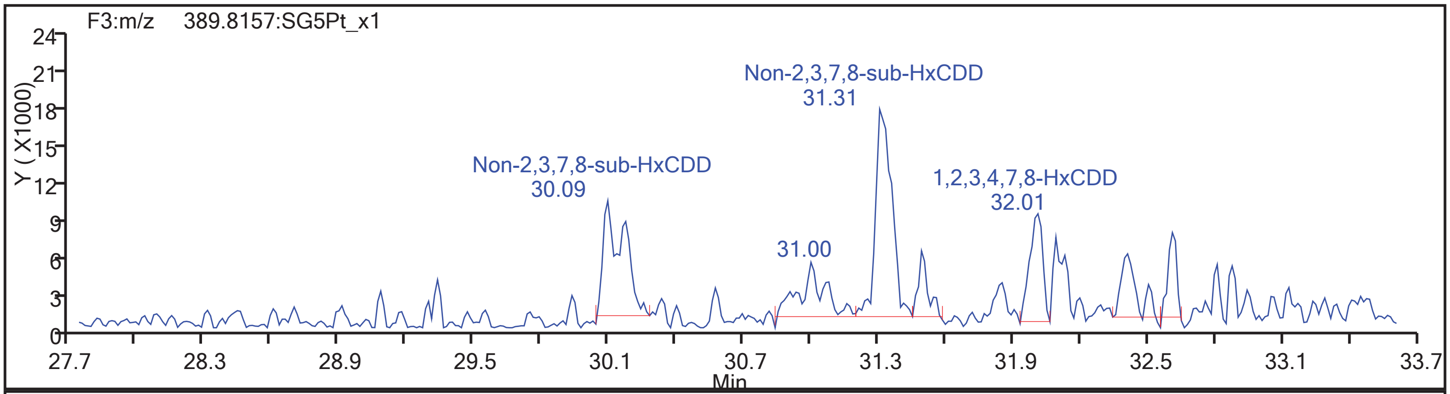
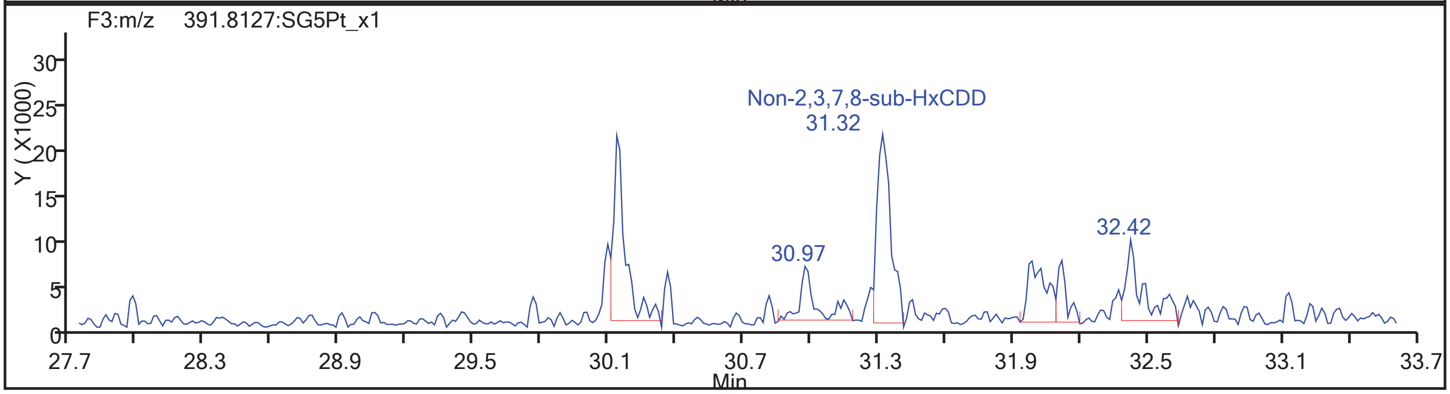
HxCDD





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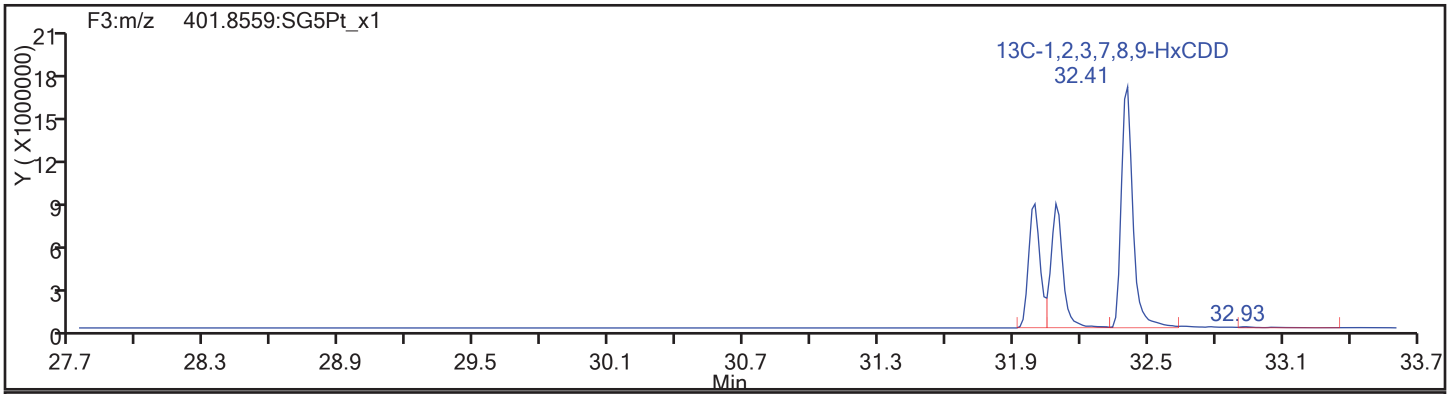

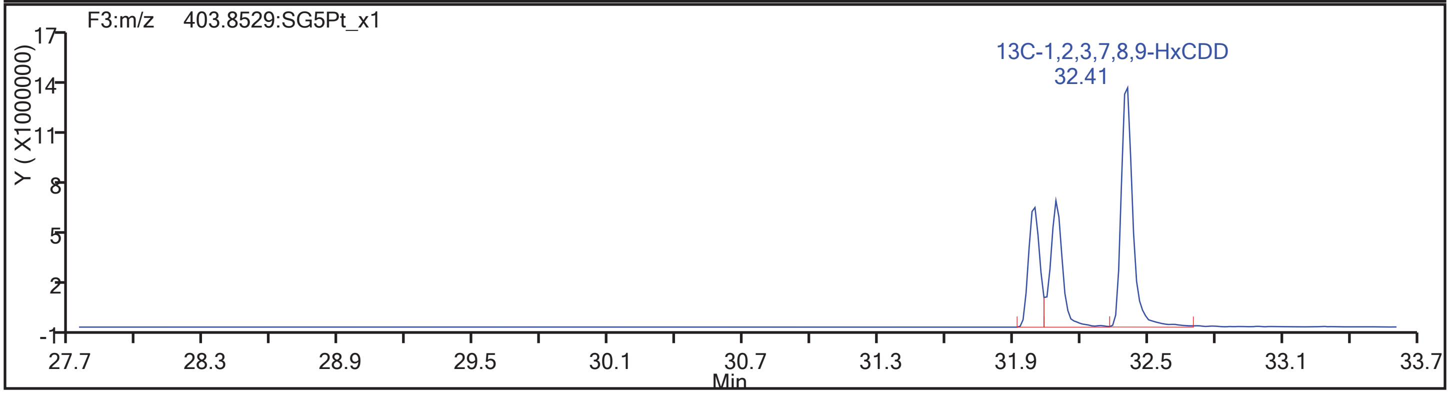

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TestAmerica Sacramento

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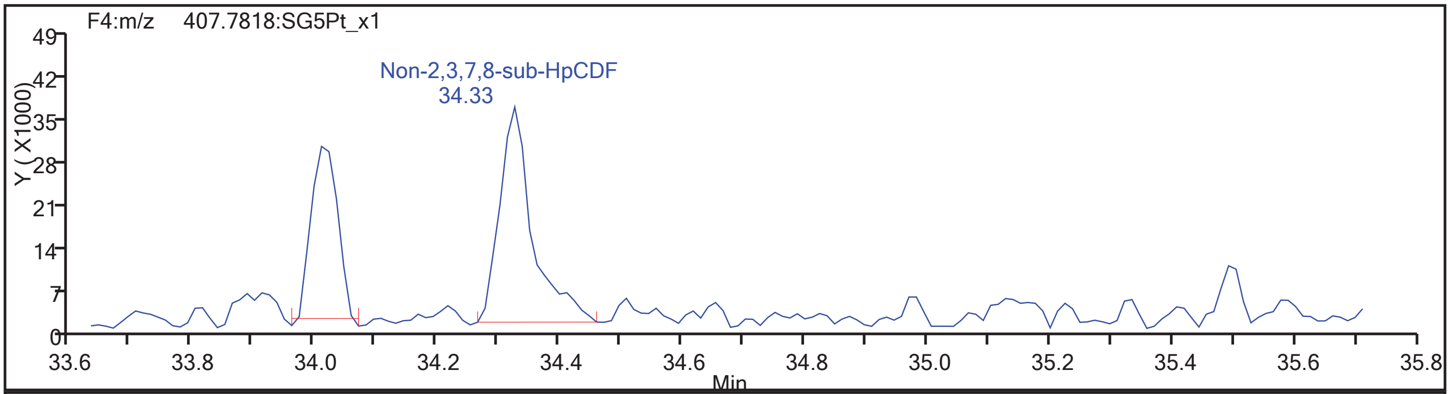
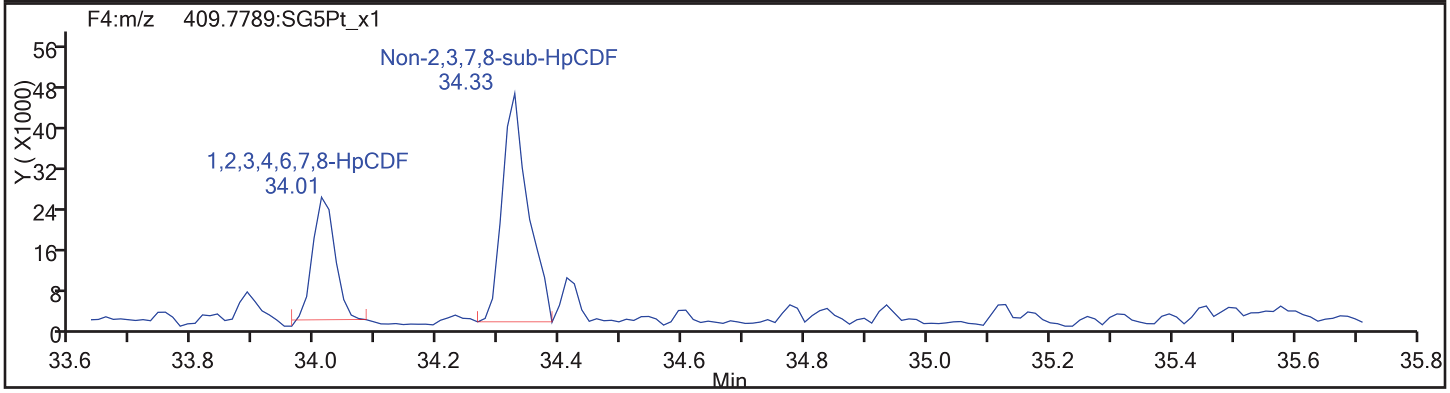
HpCDF





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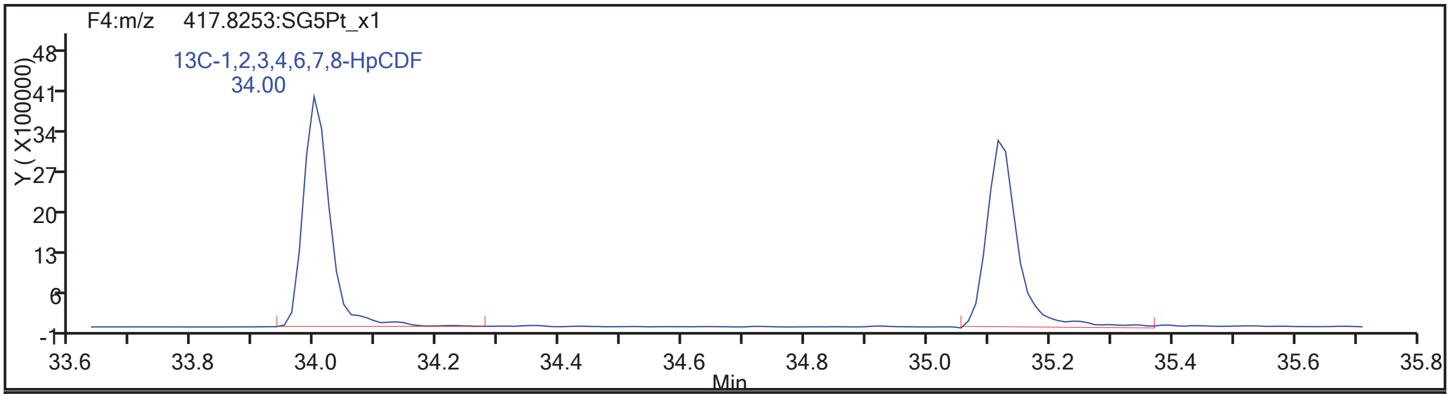

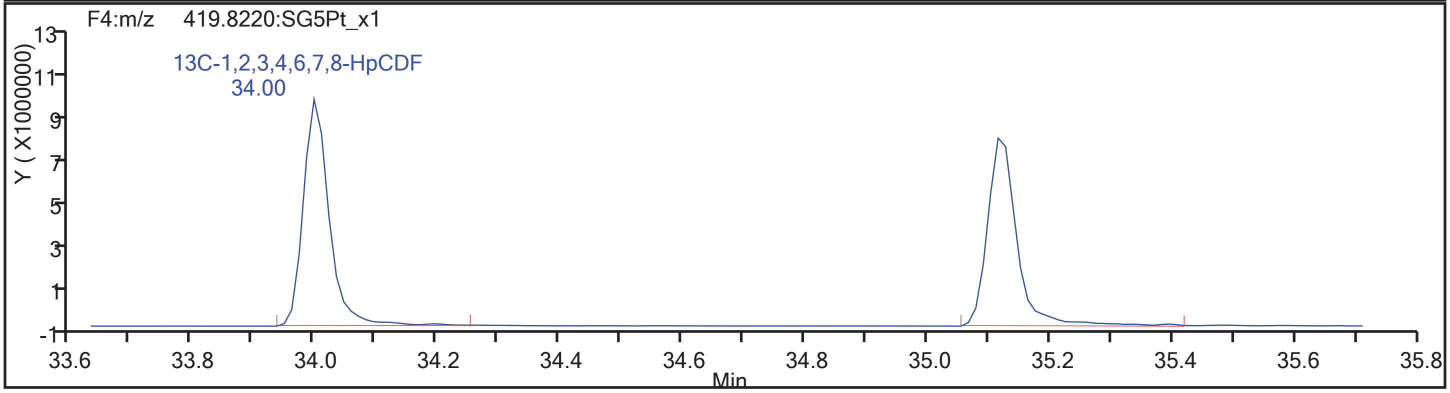

TestAmerica Sacramento

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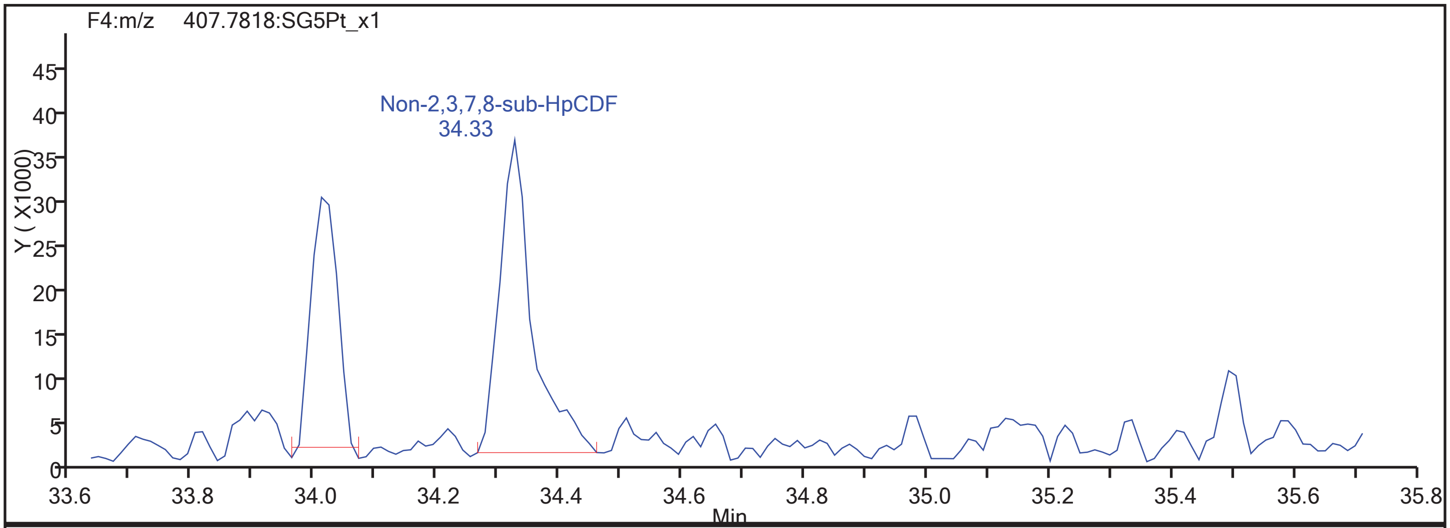
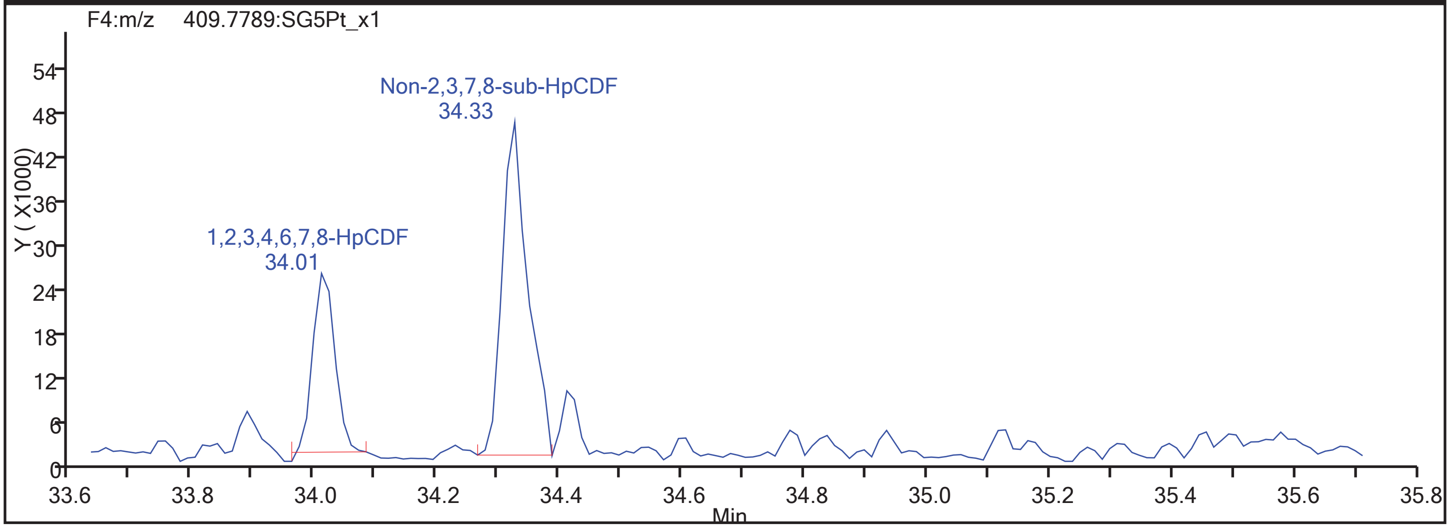
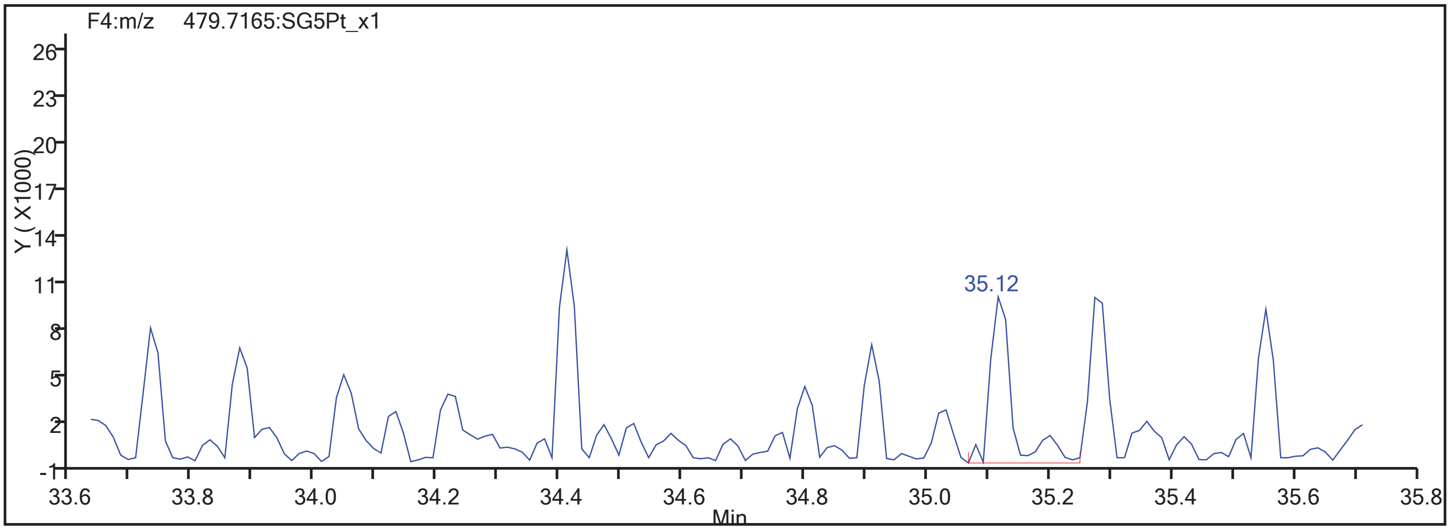




HpCDF Interference Mass



TestAmerica Sacramento

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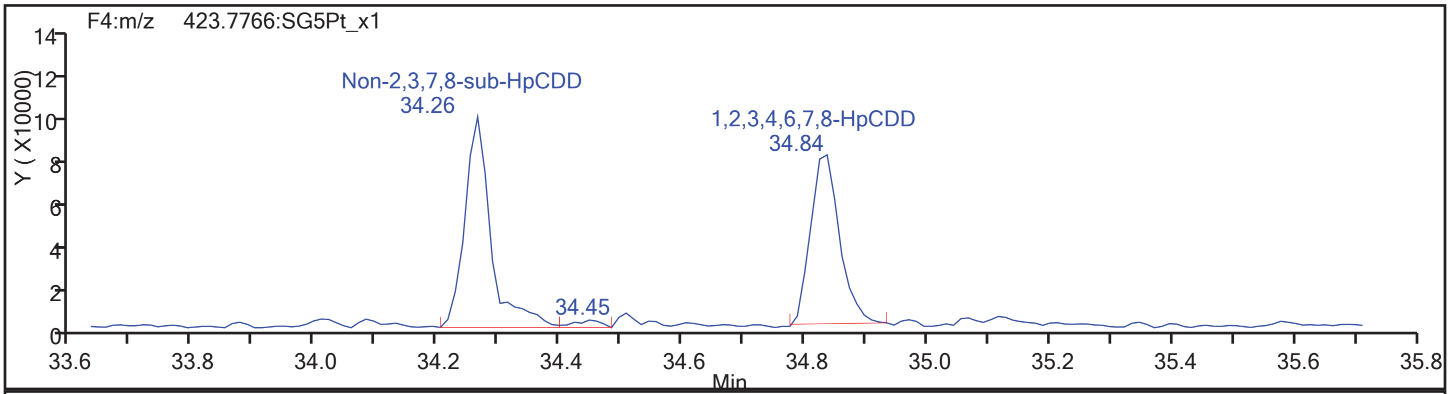
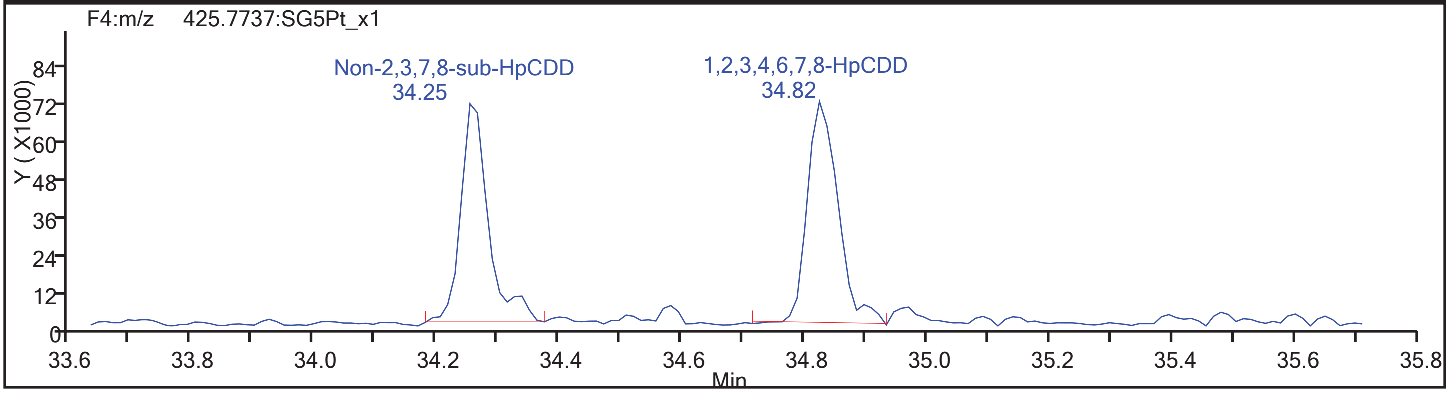
HpCDD





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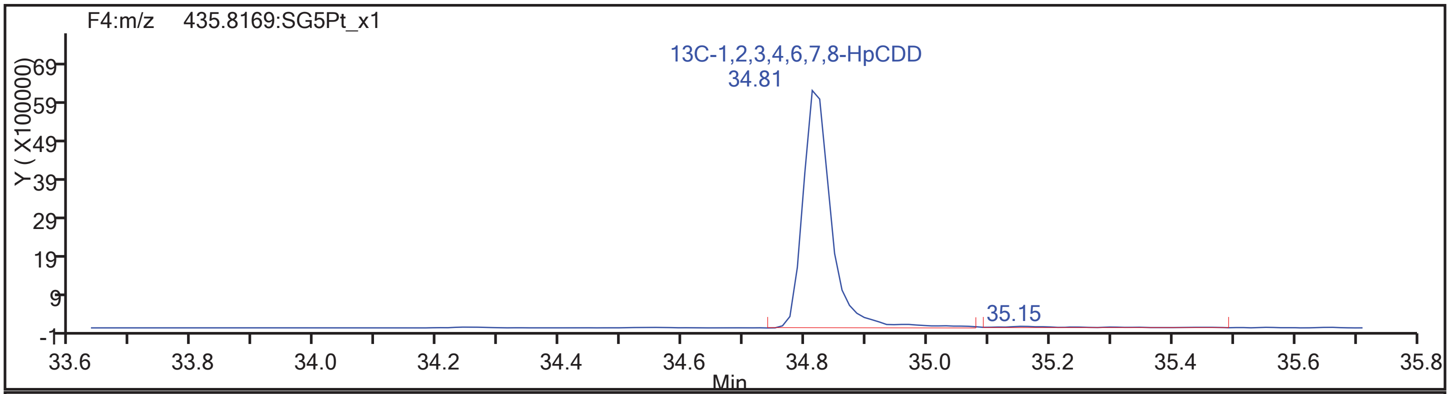

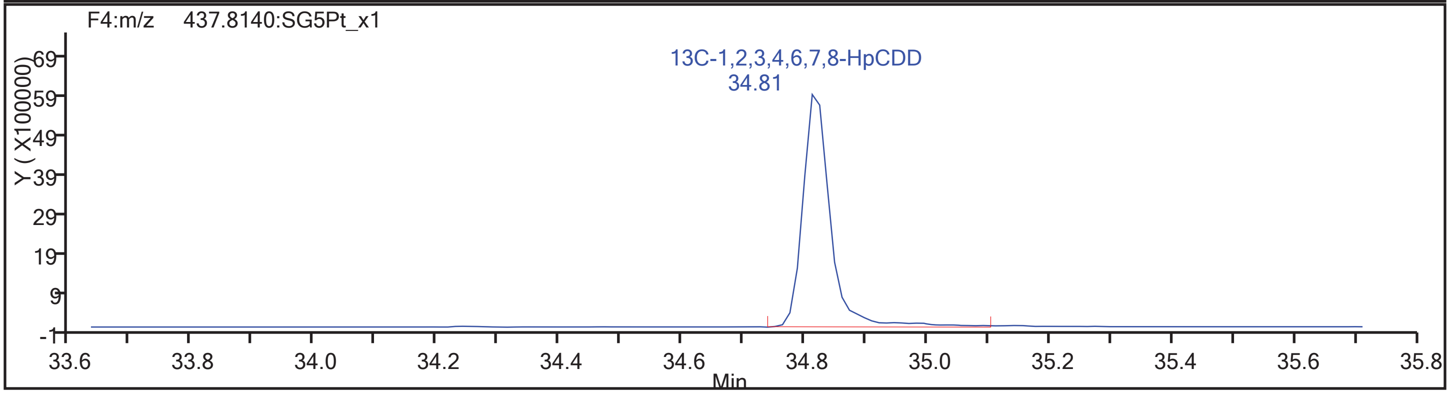

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TestAmerica Sacramento

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Injection Date:	19-Nov-2017 08:05:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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Worklist#:	195574	Sample Line#:	77
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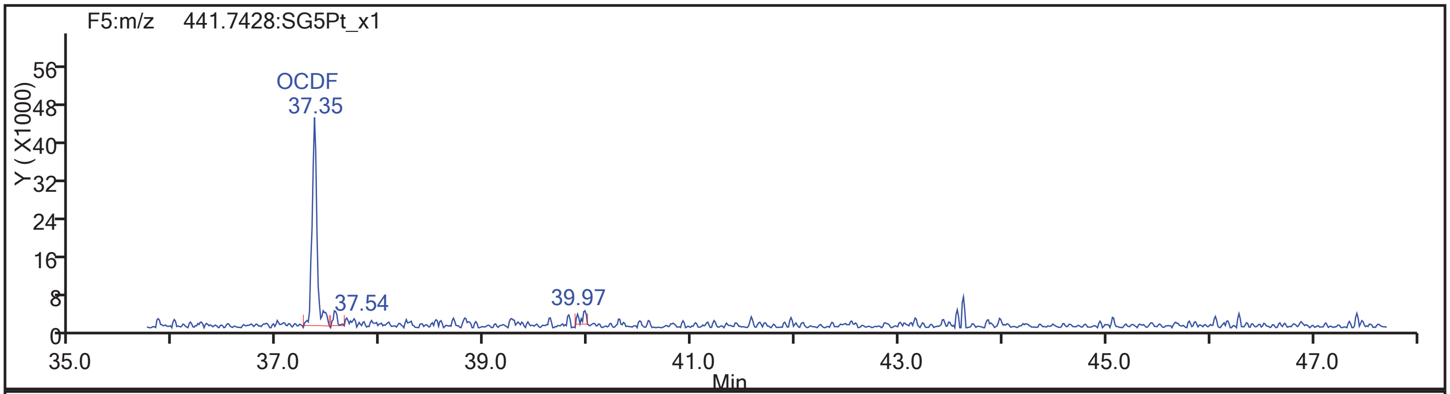
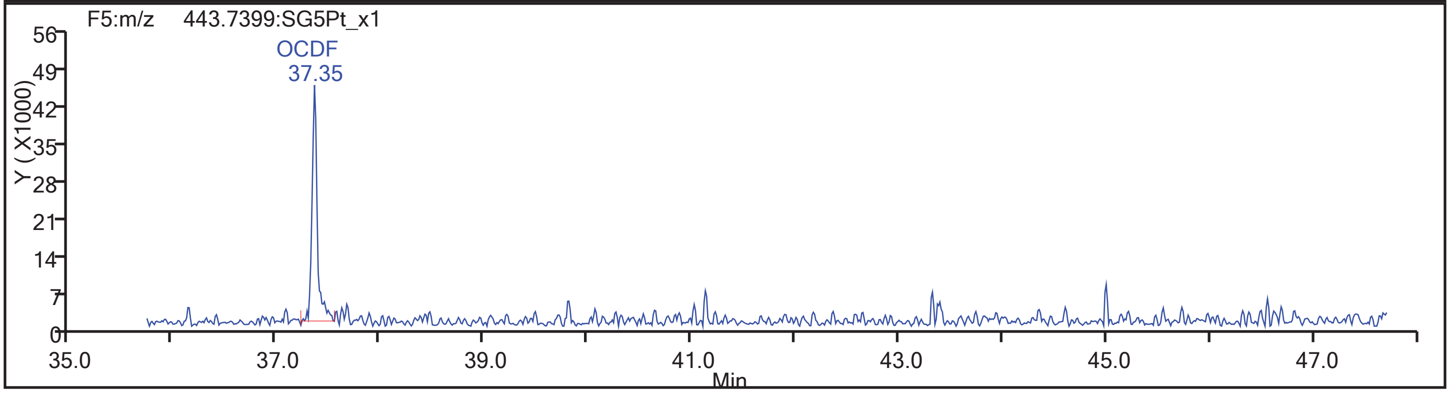
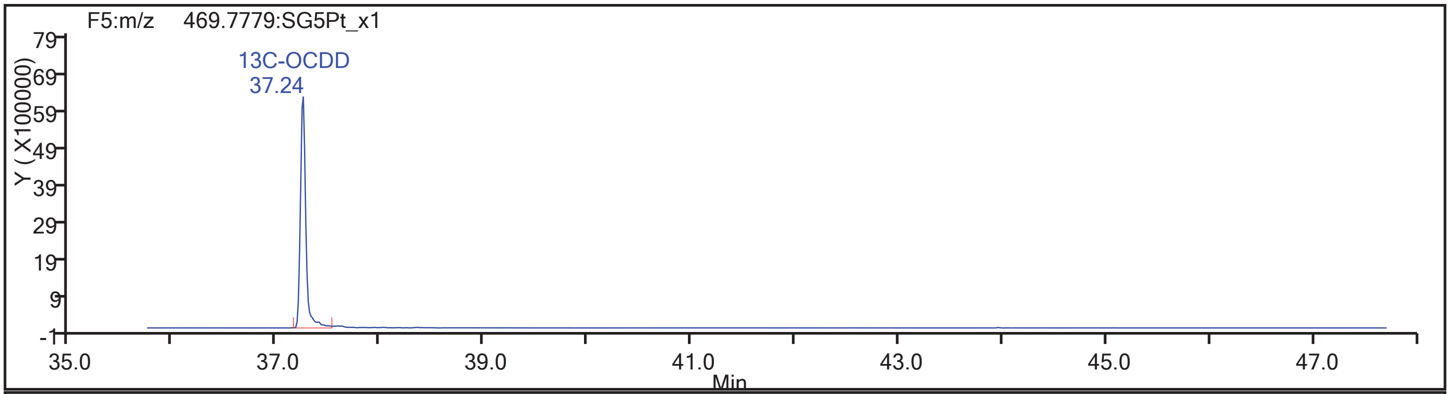
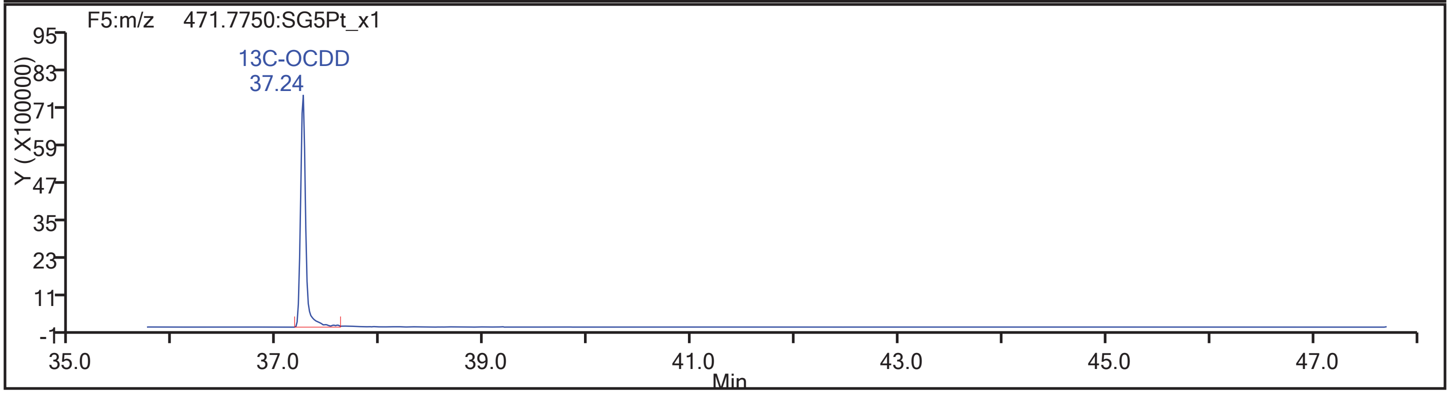
OCDF





OCDF Standards





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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 08:05:40 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

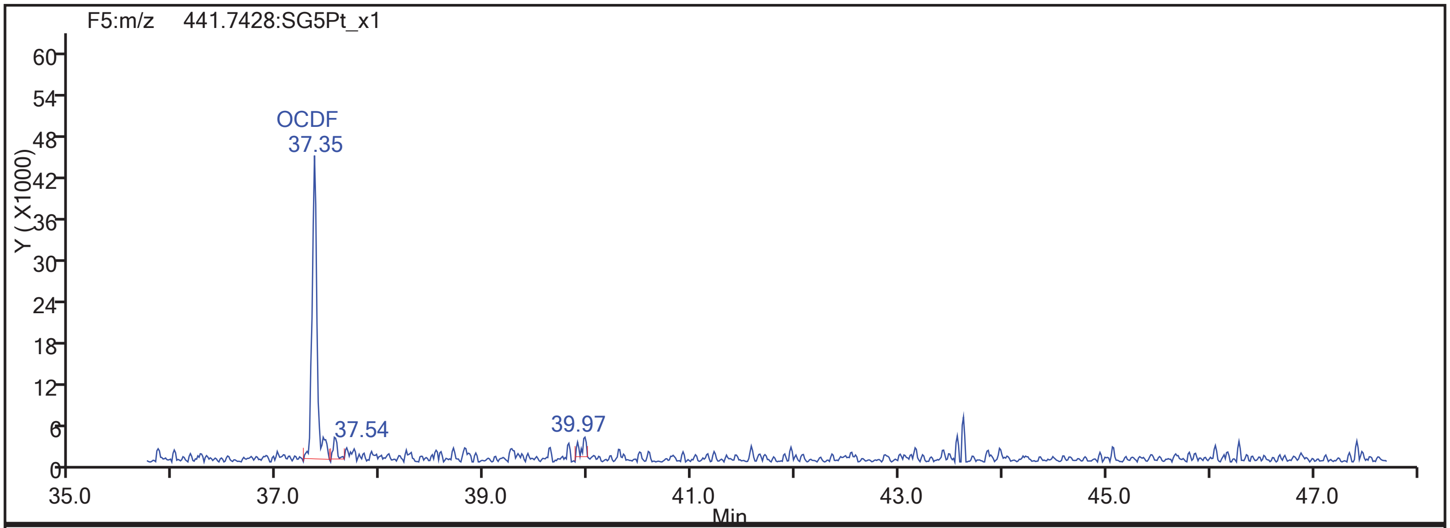
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

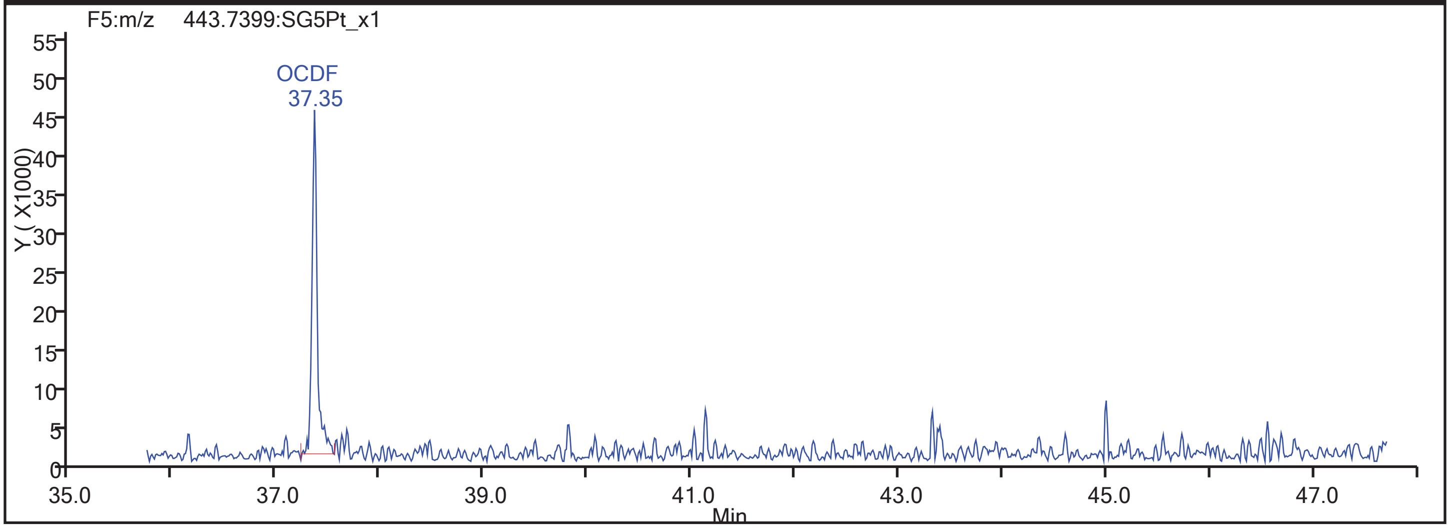
Client ID: SHAD041DP022SS05NS

Worklist#: 195574 Sample Line#: 77

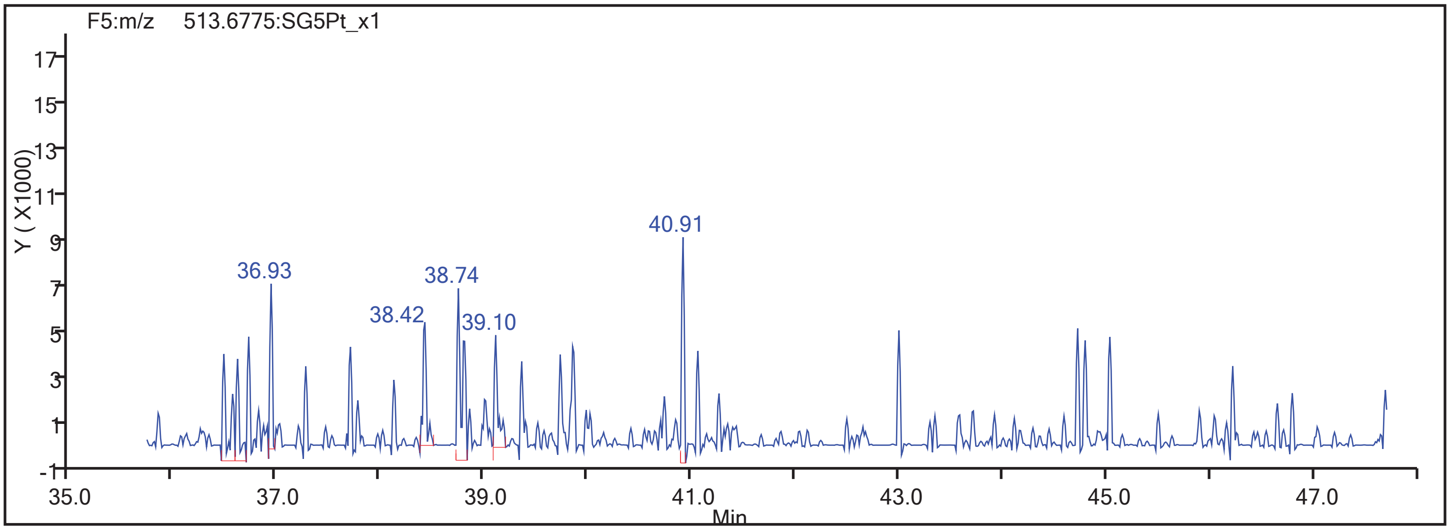
Column Type: Column Dia:

OCDF





OCDF Interference Mass



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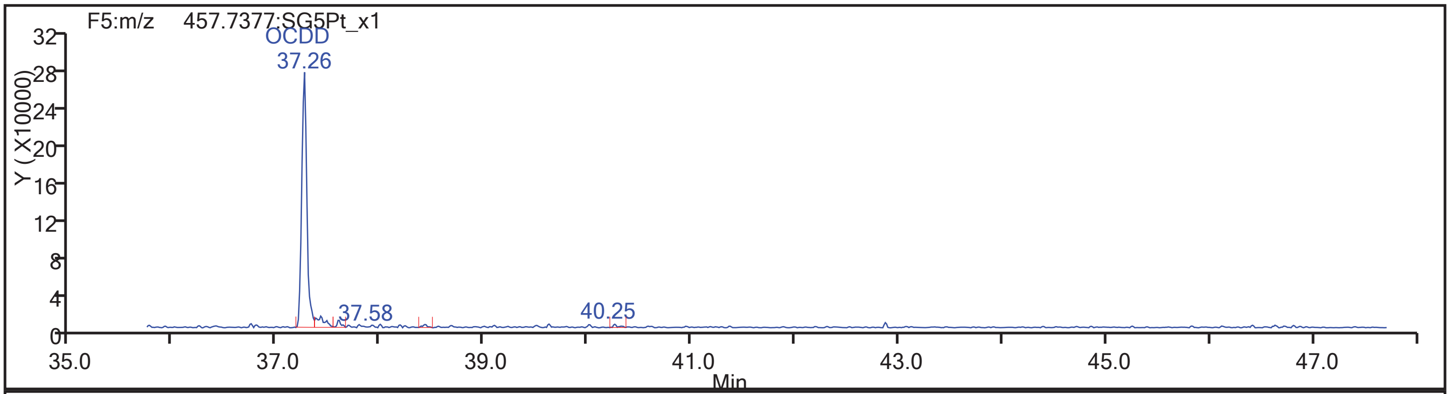
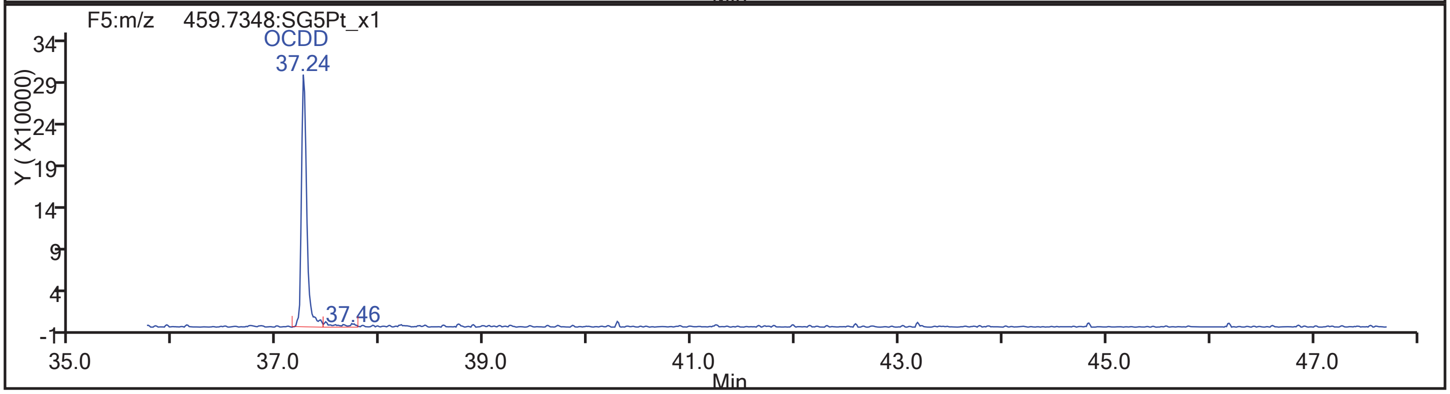
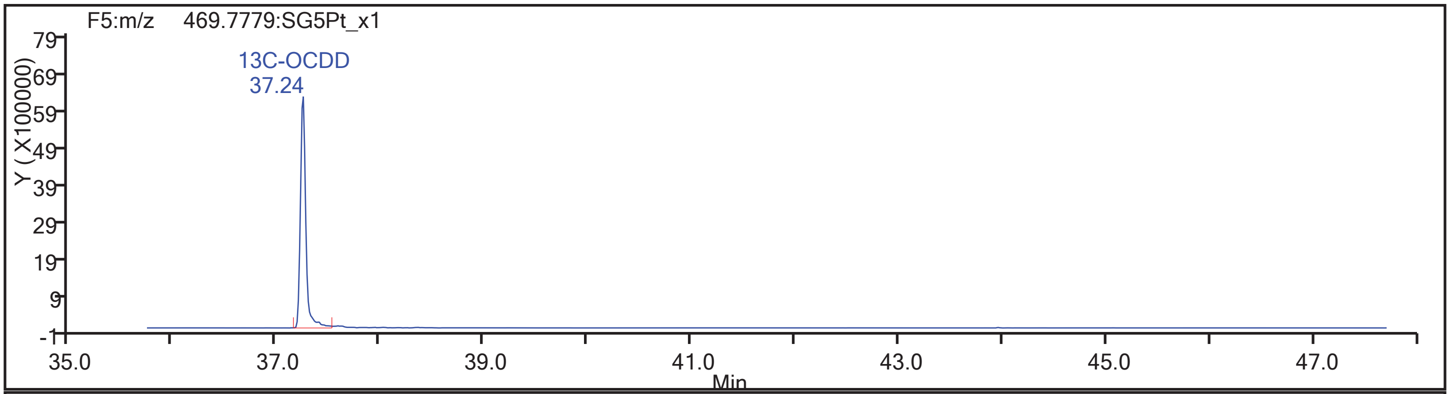
Injection Date: 19-Nov-2017 08:05:40 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS05NS
Worklist#: 195574 Sample Line#: 77
Column Type: Column Dia:

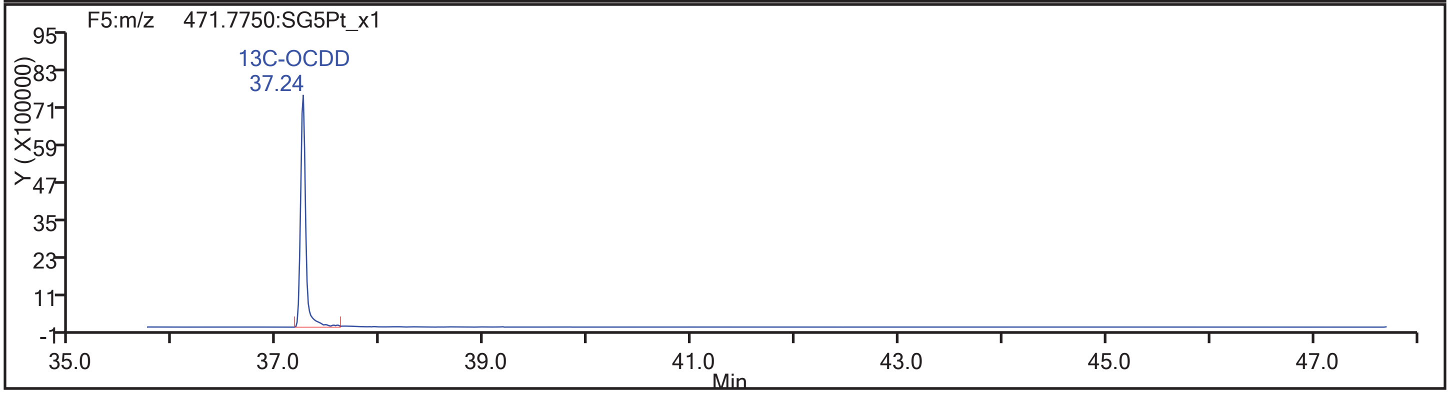
OCDD





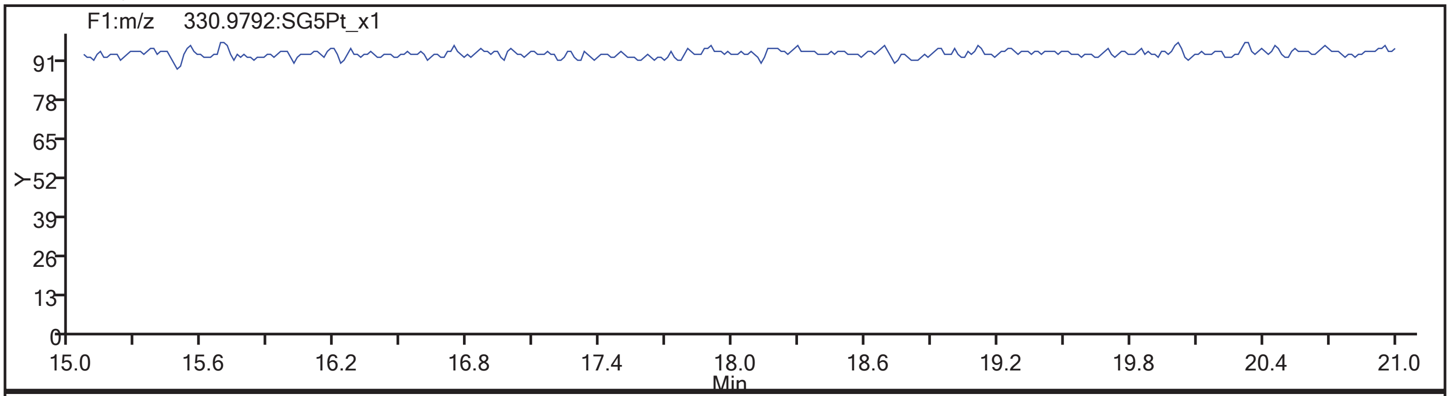
OCDD Standards

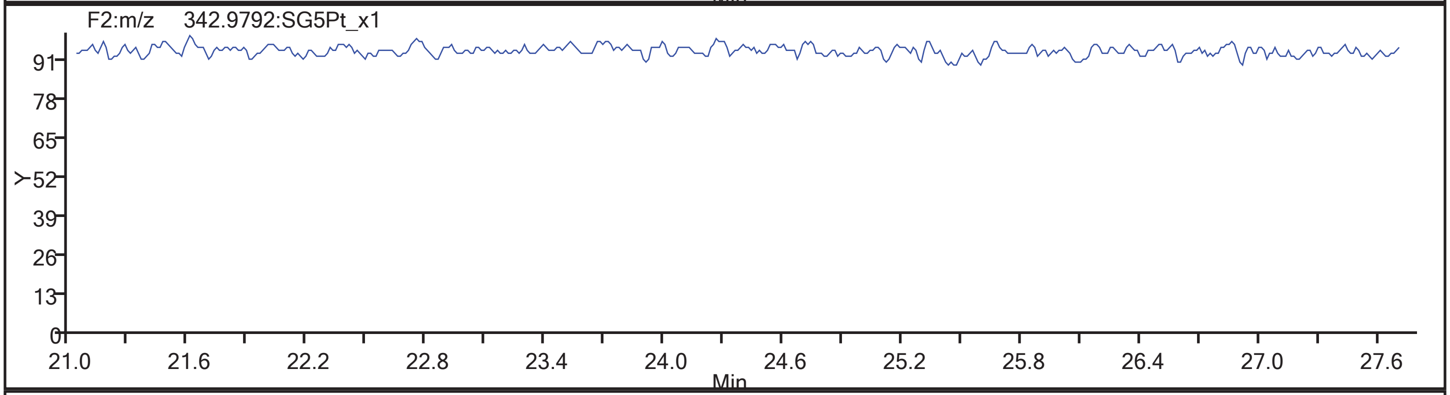


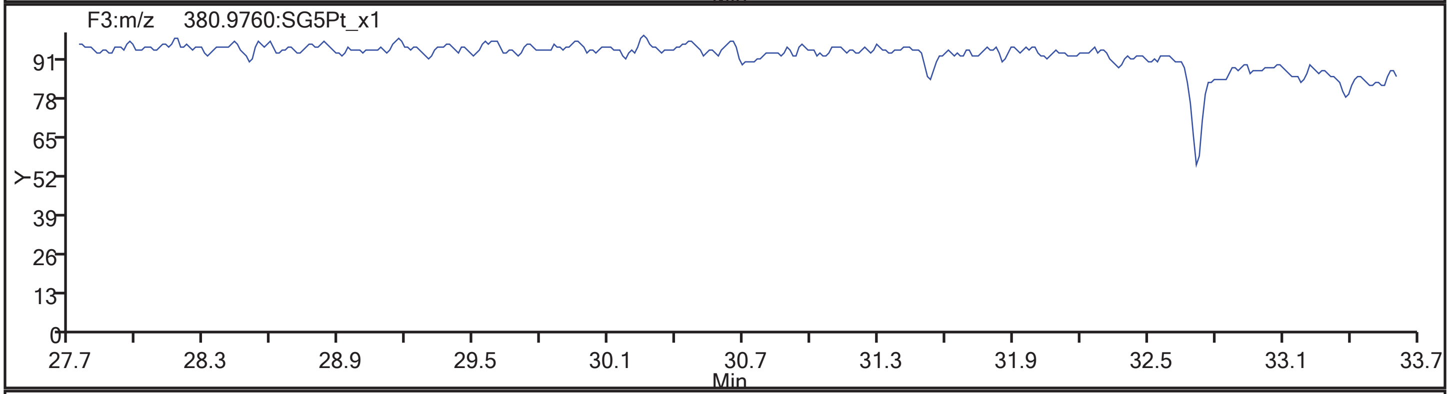


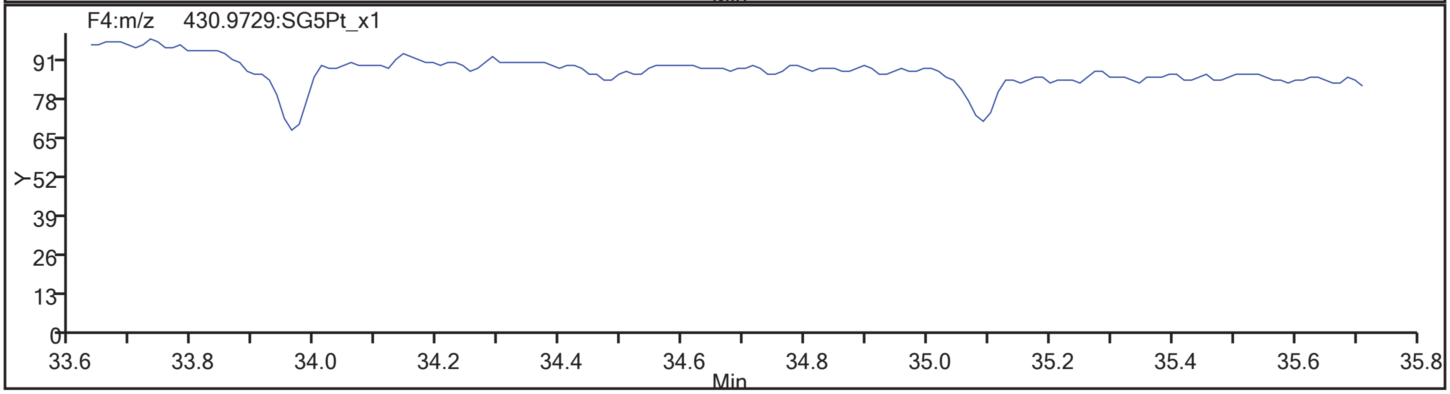
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d		
Injection Date:	19-Nov-2017 08:05:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	195574	Sample Line#:	77
Column Type:		Column Dia:	



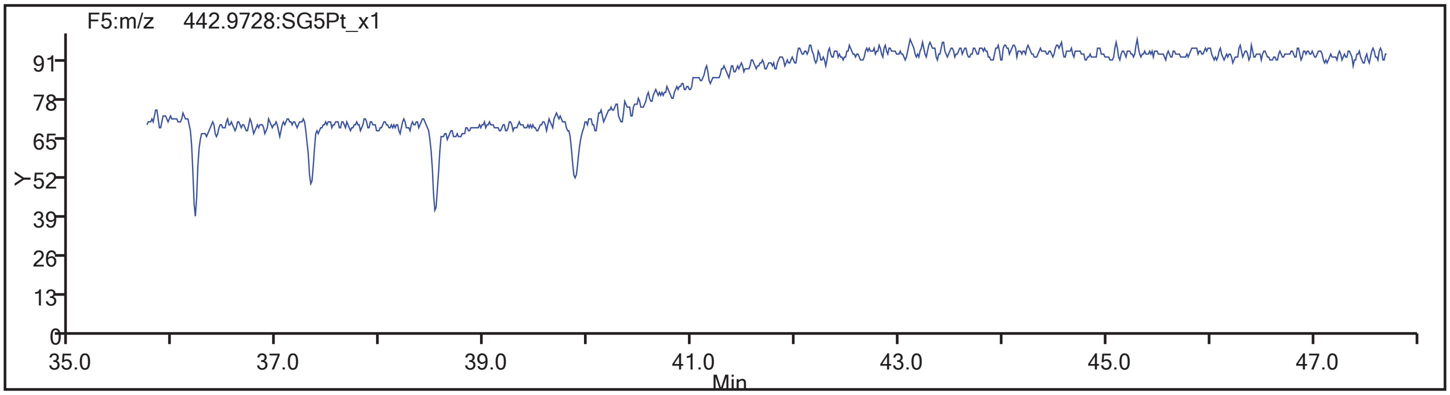






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_77.d		
Injection Date:	19-Nov-2017 08:05:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	195574	Sample Line#:	77
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP022SS05NS RERA Lab Sample ID: 160-24924-11 RERA

Matrix: Solid Lab File ID: 05DE179D2_011.d

Analysis Method: 8290A Date Collected: 10/05/2017 17:15

Extract. Method: 8290 Date Extracted: 11/16/2017 11:16

Sample wt/vol: 9.98(g) Date Analyzed: 12/05/2017 17:52

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 12.1 GPC Cleanup:(Y/N) N

Analysis Batch No.: 198469 Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	*2,3,7,8-TCDF*	*0.46*	*U H*	*1.1*	0.46	*0.38*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	64		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_011.d
Lims ID: 160-24924-G-11-B
Client ID: SHAD041DP022SS05NS
Sample Type: Client
Inject. Date: 05-Dec-2017 17:52:35 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-11-B
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:44 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.964	117488025	0.75	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.102	94891123	0.78	1.2599	64.1	64.1	0.2557	0.2557	64.11	
2,3,7,8-TCDF	16.119						0.1657	0.1657		
D 13C-2,3,7,8-TCDD	14.703	71385961	0.75	0.9567	63.5	63.5	0.8789	0.8789	63.51	
2,3,7,8-TCDD	14.734						0.0933	0.0933		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_011.d
Lims ID: 160-24924-G-11-B
Client ID: SHAD041DP022SS05NS
Sample Type: Client
Inject. Date: 05-Dec-2017 17:52:35 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-11-B
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:44 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

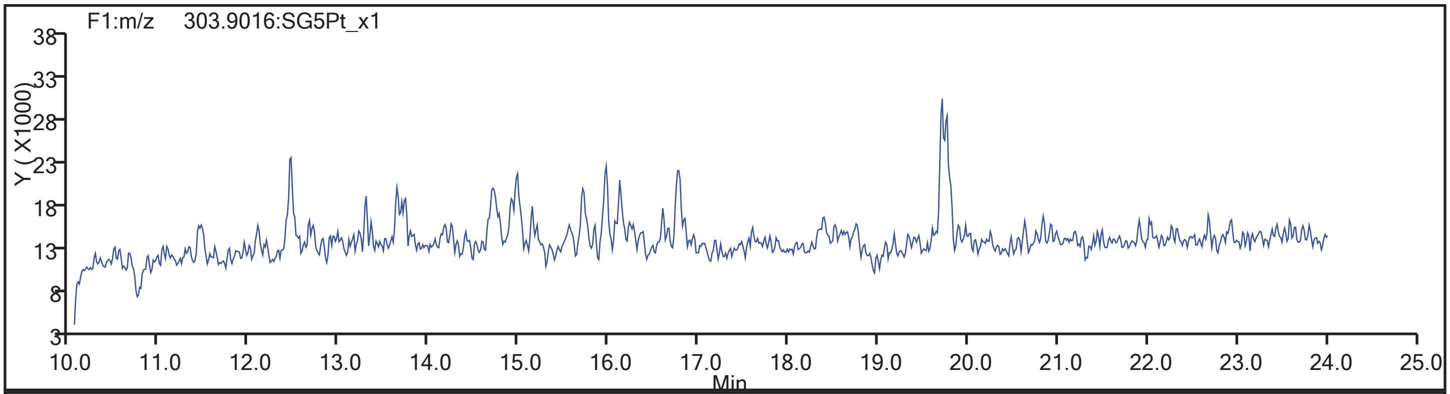
Signal	RT (min.)	Adj RT (min.)	M Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.964	14.967	0		50279056	10465926	52695	131737	199		
333.9339	14.964	14.967	0		67208969	13992002	29563	73907	473	0.75(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.102	16.106	0	1.076	41591814	8363911	17549	43872	477		
317.9389	16.102	16.106	0	1.076	53299309	10787359	13969	34922	772	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.119						8612	21530			
305.8987	16.119						5076	12690			
13C-2,3,7,8-TCDD											
331.9368	14.703	14.706	0	0.983	30653755	6367428	52695	131737	121		
333.9339	14.717	14.706	1	0.983	40732206	8692763	29563	73907	294	0.75(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.734						3037	7592			
321.8936	14.734						3212	8030			
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				8612	21530			
Total Dioxins & Furans											
303.9016		0.0	0				8612	21530			

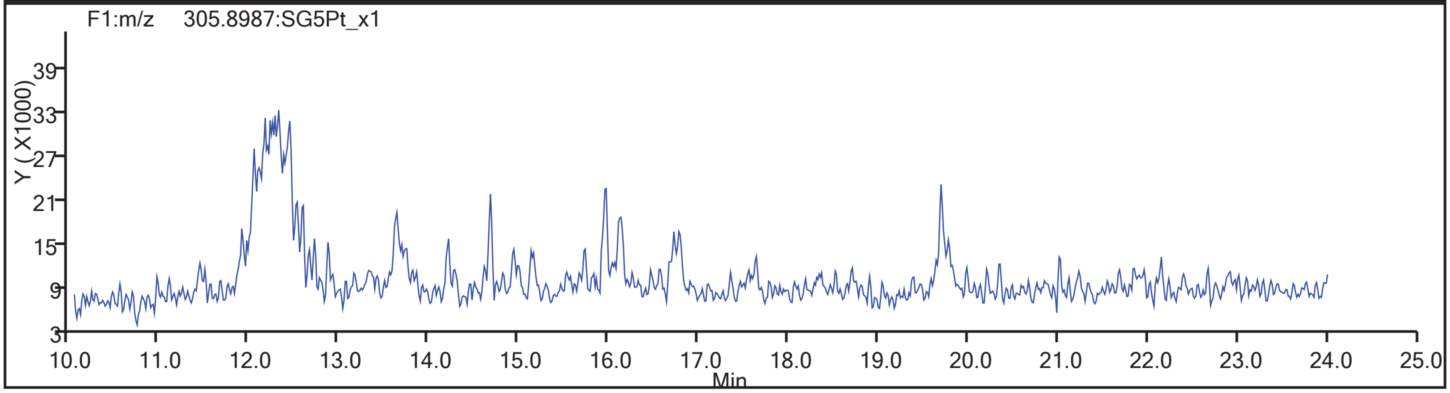
Report Date: 05-Dec-2017 23:47:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

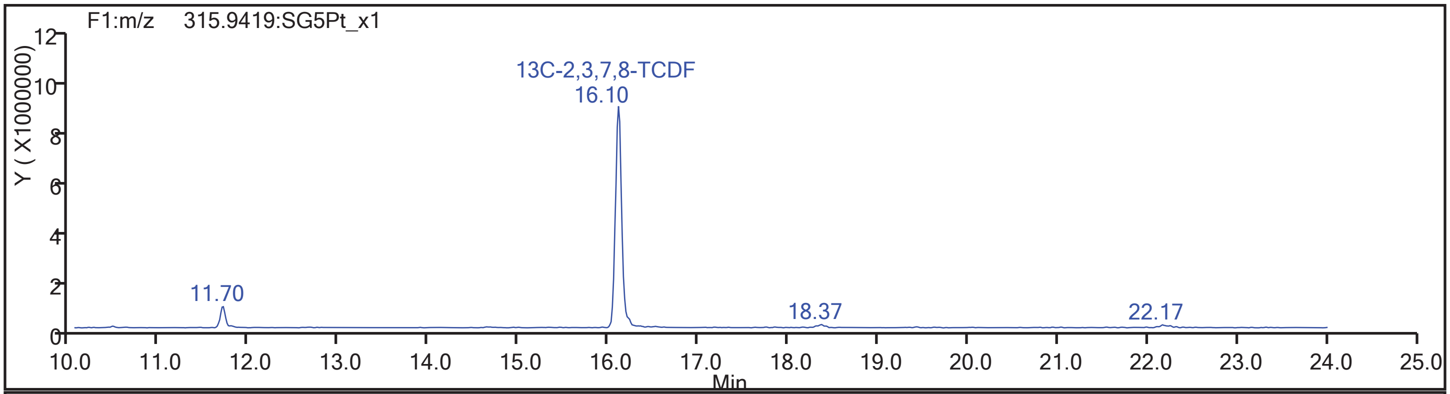
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_011.d		
Injection Date:	05-Dec-2017 17:52:35	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	198469	Sample Line#:	11
Column Type:	DB-225	Column Dia:	0.32 mm

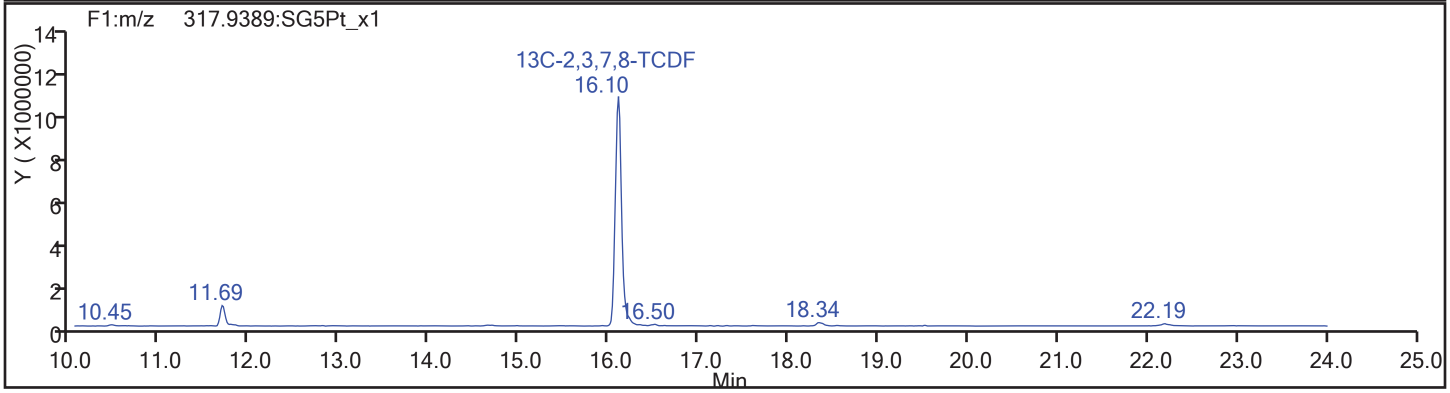
TCDF





TCDF Standards



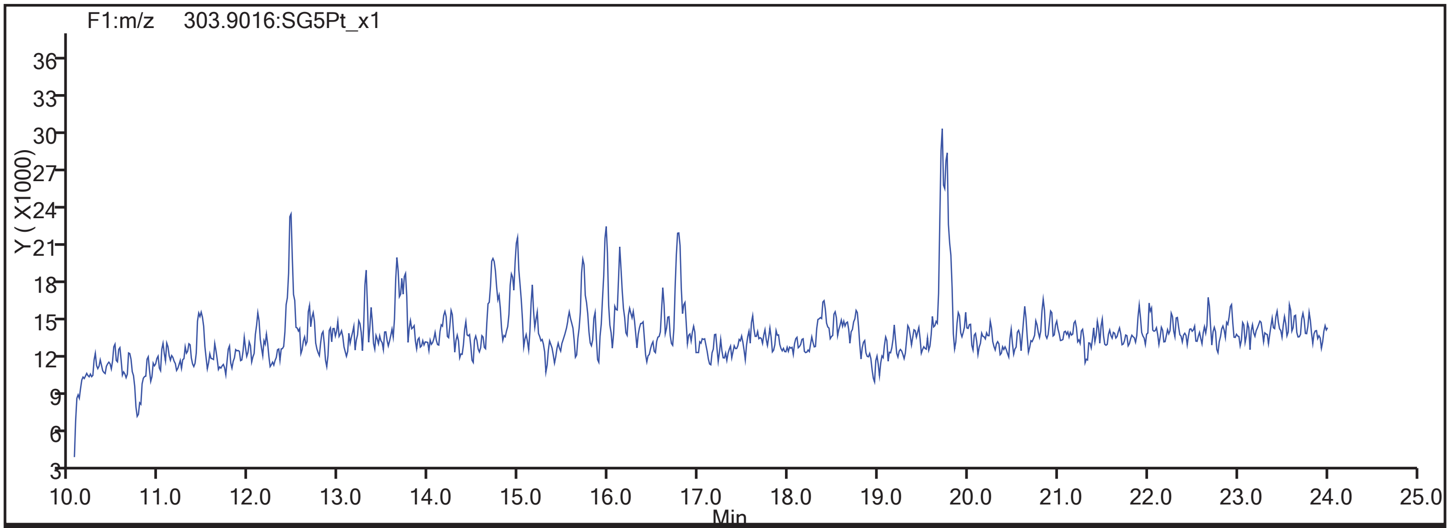


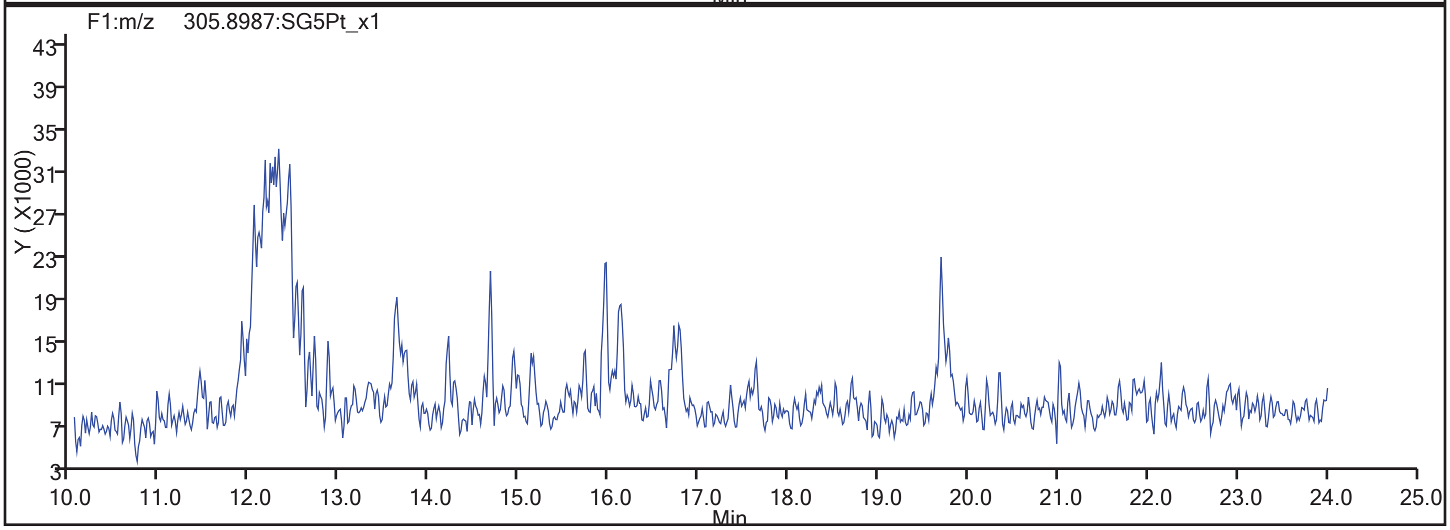
Report Date: 05-Dec-2017 23:47:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

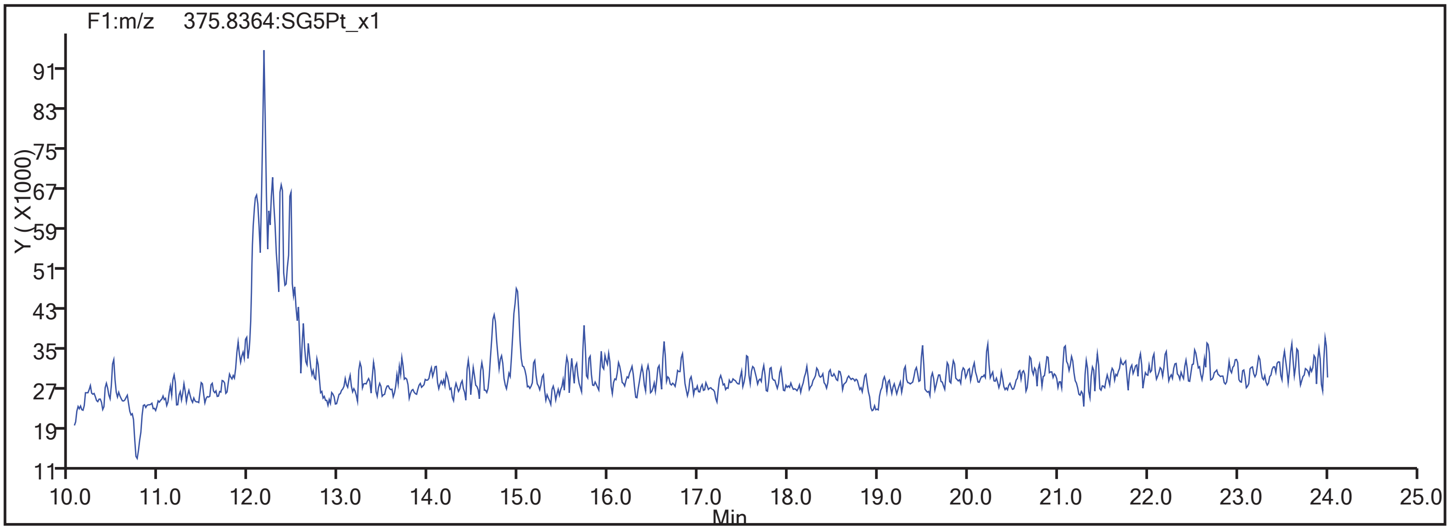
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_011.d
Injection Date: 05-Dec-2017 17:52:35
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS05NS
Worklist#: 198469
Sample Line#: 11
Column Type: DB-225
Column Dia: 0.32 mm

TCDF



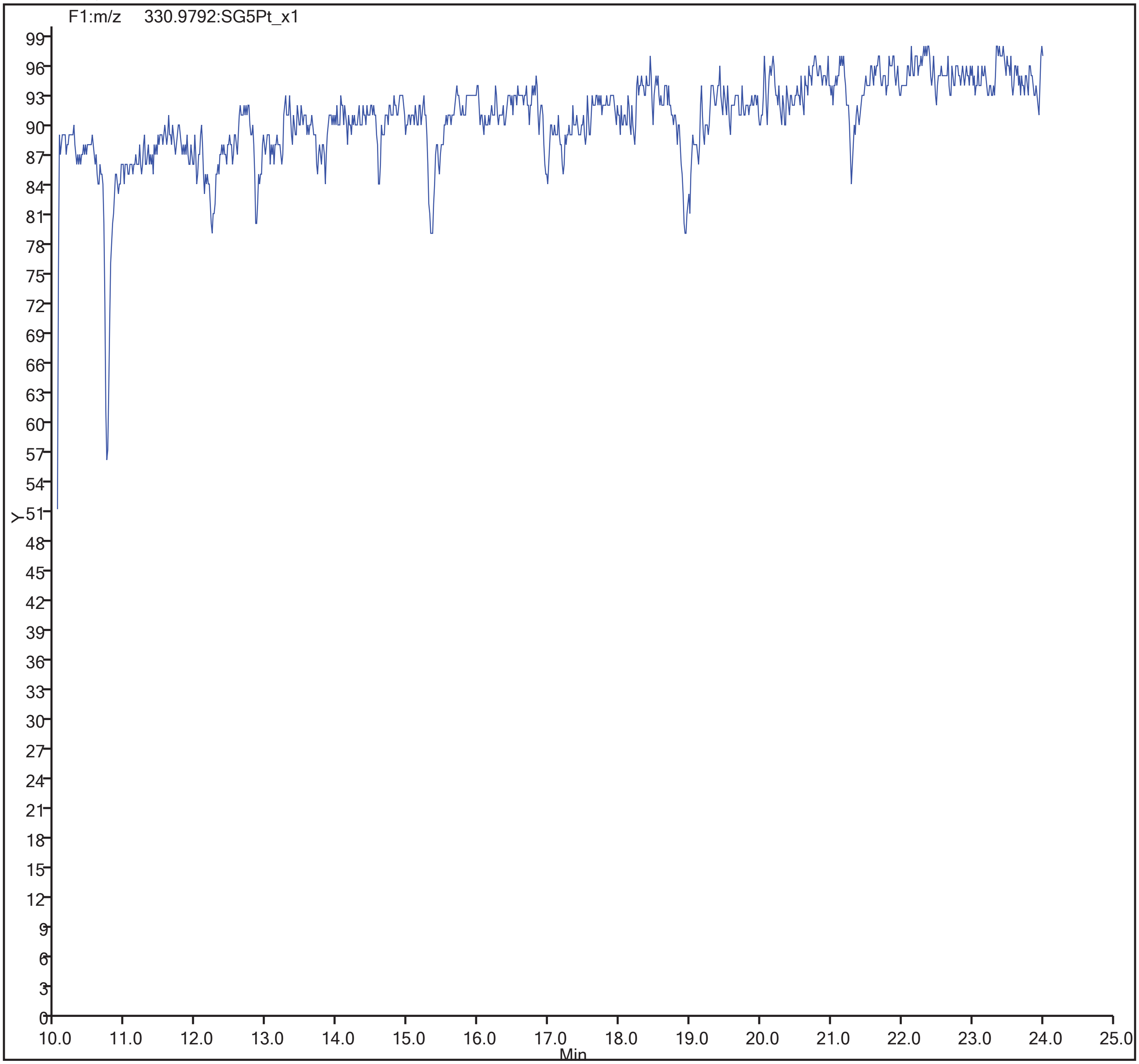


TCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_011.d		
Injection Date:	05-Dec-2017 17:52:35	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS05NS		
Worklist#:	198469	Sample Line#:	11
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS06NS	Lab Sample ID: 160-24924-12
Matrix: Solid	Lab File ID: 09NO1710D5_82.d
Analysis Method: 8290A	Date Collected: 10/05/2017 17:23
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.19(g)	Date Analyzed: 11/12/2017 01:33
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 10.8	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194086	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.44	U	1.1	0.44	0.090
51207-31-9	2,3,7,8-TCDF	0.44	U	1.1	0.44	0.062
40321-76-4	1,2,3,7,8-PeCDD	0.83	U	5.5	0.83	0.11
57117-41-6	1,2,3,7,8-PeCDF	0.83	U	5.5	0.83	0.086
57117-31-4	2,3,4,7,8-PeCDF	0.83	U	5.5	0.83	0.088
39227-28-6	1,2,3,4,7,8-HxCDD	0.33	J	5.5	2.2	0.087
57653-85-7	1,2,3,6,7,8-HxCDD	2.2	U	5.5	2.2	0.067
19408-74-3	1,2,3,7,8,9-HxCDD	0.28	J	5.5	2.2	0.067
70648-26-9	1,2,3,4,7,8-HxCDF	0.83	U	5.5	0.83	0.061
57117-44-9	1,2,3,6,7,8-HxCDF	1.1	U	5.5	1.1	0.050
72918-21-9	1,2,3,7,8,9-HxCDF	0.18	J M	5.5	1.1	0.060
60851-34-5	2,3,4,6,7,8-HxCDF	0.13	J	5.5	0.83	0.056
35822-46-9	1,2,3,4,6,7,8-HpCDD	0.90	J M	5.5	1.1	0.084
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.32	J	5.5	1.1	0.062
55673-89-7	1,2,3,4,7,8,9-HpCDF	0.42	J	5.5	2.2	0.076
3268-87-9	OCDD	4.1	J B	11	4.4	0.12
39001-02-0	OCDF	1.7	J	11	4.4	0.18

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	52		40-135
89059-46-1	13C-2,3,7,8-TCDF	58		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	55		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	56		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	51		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	58		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	48		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	40		40-135
114423-97-1	13C-OCDD	35	Q	40-135

Report Date: 13-Nov-2017 13:40:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_82.d
Lims ID: 160-24924-G-12-A
Client ID: SHAD041DP022SS06NS
Sample Type: Client
Inject. Date: 12-Nov-2017 01:33:10 ALS Bottle#: 57 Worklist Smp#: 82
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-12-a 160-24924-g-12-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:33:40 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:08:37

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.899	84823381	0.80	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.385	62908254	0.79	1.2741	58.2	58.2	0.1903	0.1903	58.21	
2,3,7,8-TCDF	17.385						0.0282	0.0282		
A Non-2,3,7,8-sub-TCDF	17.113						0.0	0.0		
S Total TCDF							0.0282	0.0282		
D 13C-2,3,7,8-TCDD	18.095	43744851	0.78	0.9921	52.0	52.0	0.2264	0.2264	51.98	
2,3,7,8-TCDD	18.095						0.0411	0.0411		
A Non-2,3,7,8-sub-TCDD	17.566						0.0	0.0		
S Total TCDD							0.0411	0.0411		
D 13C-1,2,3,7,8-PeCDF	22.424	46263383	1.54	0.9696	56.2	56.2	0.1653	0.1653	56.25	
1,2,3,7,8-PeCDF	22.437						0.0393	0.0393		
2,3,4,7,8-PeCDF	23.787						0.0401	0.0401		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.175						0.0	0.0		
S Total PeCDF							0.0401	0.0401		
D 13C-1,2,3,7,8-PeCDD	24.496	35517078	1.64	0.7588	55.2	55.2	0.1118	0.1118	55.18	
1,2,3,7,8-PeCDD	24.510						0.0521	0.0521		
A Non-2,3,7,8-sub-PeCDD	23.433						0.0	0.0		
S Total PeCDD							0.0521	0.0521		
D 13C-1,2,3,4,7,8-HxCDF	30.566	38035687	0.51	0.9644	58.0	58.0	0.4549	0.4549	58.00	
1,2,3,4,7,8-HxCDF	30.580						0.0275	0.0275		
1,2,3,6,7,8-HxCDF	30.753						0.0228	0.0228		
2,3,4,6,7,8-HxCDF	31.565	34389	1.37	1.5205	0.0595	0.0595	0.0254	0.0254		
D 13C-1,2,3,7,8,9-HxCDF	32.350	38488371	0.51							
1,2,3,7,8,9-HxCDF	32.350	44065	1.23	1.4099	0.0822	0.0822	0.0274	0.0274		M
A Non-2,3,7,8-sub-HxCDF	30.267						0.0	0.0		
S Total HxCDF					0.1416	0.1416	0.0258	0.0258		
* 13C-1,2,3,7,8,9-HxCDD	32.164	67997249	1.25	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.751	43834	1.24	0.9505	0.1756	0.1512	0.0397	0.0397		RQ
D 13C-1,2,3,6,7,8-HxCDD	31.844	30507995	1.25	0.8791	51.0	51.0	0.3442	0.3442	51.04	
1,2,3,6,7,8-HxCDD	31.751						0.0306	0.0306		RQU

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.190	47973	1.40	1.2467	0.1261	0.1261	0.0303	0.0303		
A Non-2,3,7,8-sub-HxCDD	30.913						0.0	0.0		
S Total HxCDD					0.3017	0.2773	0.0335	0.0335		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.758	20600232	0.42	0.7618	39.8	39.8	0.8337	0.8337	39.77	
1,2,3,4,6,7,8-HpCDF	33.783	48561	1.15	1.6399	0.1437	0.1437	0.0281	0.0281		
1,2,3,4,7,8,9-HpCDF	34.852	52002	1.04	1.3302	0.2097	0.1898	0.0346	0.0346		RQ
A Non-2,3,7,8-sub-HpCDF	34.311						0.0	0.0		
S Total HpCDF					0.3534	0.3335	0.0314	0.0314		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.548	25553946	1.08	0.7762	48.4	48.4	0.3561	0.3561	48.42	
1,2,3,4,6,7,8-HpCDD	34.560	104245	1.01	0.9932	0.4107	0.4107	0.0382	0.0382		M
A Non-2,3,7,8-sub-HpCDD	34.287	55379	1.04	0.9932	0.2463	0.2182	0.0382	0.2182		RQM
S Total HpCDD					0.6570	0.6289	0.0382	0.0382		RQ
D 13C-OCDD	36.882	29831087	0.87	0.6314	69.5	69.5	0.2041	0.2041	34.74	
OCDF	36.978	158240	0.77	1.3460	0.7882	0.7882	0.0824	0.0824		
OCDD	36.894	293535	0.89	1.0604	1.856	1.856	0.0524	0.0524		

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
M - Manually Integrated
U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_82.d
Lims ID: 160-24924-G-12-A
Client ID: SHAD041DP022SS06NS
Sample Type: Client
Inject. Date: 12-Nov-2017 01:33:10 ALS Bottle#: 57 Worklist Smp#: 82
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-12-a 160-24924-g-12-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:33:40 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:08:37

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.899	17.884	1		37667437	9457566	11981	29952	789		
333.9339	17.899	17.884	1		47155944	11701055	7031	17577	1664	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.385	17.370	1	0.971	27736030	6938824	11585	28962	599		
317.9389	17.385	17.370	1	0.971	35172224	8737251	8935	22337	978	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.385						579	1447			
305.8987	17.385						1430	3575			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.113						579	1447			
305.8987	17.113						1430	3575			
13C-2,3,7,8-TCDD											
331.9368	18.095	18.080	1	1.011	19208722	4507373	11981	29952	376		
333.9339	18.095	18.080	1	1.011	24536129	5845530	7031	17577	831	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.095						1129	2822			
321.8936	18.095						571	1427			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.566						1129	2822			
321.8936	17.566						571	1427			
13C-1,2,3,7,8-PeCDF											
351.9000	22.424	22.410	1	1.253	28081950	4869205	7857	19642	620		
353.8970	22.424	22.410	1	1.253	18181433	3161956	5710	14275	554	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.437						374	935			
341.8567	22.437						1094	2735			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	23.787						374	935			
341.8567	23.787						1094	2735			
A F1 PeCDFs											
339.8597	20.001						363	907			
341.8567	20.001						1155	2887			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.175						374	935			
341.8567	23.175						1094	2735			
13C-1,2,3,7,8-PeCDD											
367.8949	24.496	24.483	1	1.369	22088328	3508705	4485	11212	782		
369.8919	24.496	24.483	1	1.369	13428750	2078632	2692	6730	772	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.510						869	2172			
357.8516	24.510						235	587			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.433						869	2172			
357.8516	23.433						235	587			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.566	30.553	1	0.950	12819186	2393407	10009	25022	239		
385.8610	30.566	30.553	1	0.950	25216501	4739179	18286	45715	259	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.580						584	1460			
375.8178	30.580						517	1292			
1,2,3,6,7,8-HxCDF											
373.8208	30.753						584	1460			
375.8178	30.753						517	1292			
2,3,4,6,7,8-HxCDF											
373.8208	31.565	31.565	0	1.033	19901	3631	584	1460	6		
375.8178	31.578	31.565	1	1.033	14488	3695	517	1292	7	1.37(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.350	32.337	1	1.006	13009748	3101421	10009	25022	310		
385.8610	32.350	32.337	1	1.006	25478623	6064749	18286	45715	332	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	32.350	32.350	0	1.058	24348	5353	584	1460	9		M
375.8178	32.363	32.350	1	1.059	19717	5465	517	1292	11	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.267						584	1460			
375.8178	30.267						517	1292			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.164	32.164	0		37829985	8960799	10233	25582	876		
403.8529	32.164	32.164	0		30167264	7163633	9284	23210	772	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	31.751	31.751	0	0.997	31353	4835	474	1185	10		
	Empc Correction				24265	4843	474	1185	10		
391.8127	31.765	31.751	1	0.997	19569	3906	589	1472	7	1.60(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.844	31.831	1	0.990	16960819	3932736	10233	25582	384		
403.8529	31.844	31.831	1	0.990	13547176	3102945	9284	23210	334	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	31.844						474	1185			
391.8127	31.844						589	1472			
1,2,3,7,8,9-HxCDD											
389.8157	32.190	32.177	1	1.011	27963	4182	474	1185	9		
391.8127	32.177	32.177	0	1.010	20010	2930	589	1472	5	1.40(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.913						474	1185			
391.8127	30.913						589	1472			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.758	33.746	1	1.050	6134233	1663723	12836	32090	130		
419.8220	33.758	33.746	1	1.050	14465999	4002345	28128	70320	142	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.783	33.758	1	1.001	25947	5983	670	1675	9		
409.7789	33.770	33.758	1	1.000	22614	6320	374	935	17	1.15(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											RQ
407.7818	34.852	34.839	1	1.032	26511	6370	670	1675	10		
409.7789	34.852	34.839	1	1.032	30954	7185	374	935	19	0.86(0.88-1.20)	
	Empc Correction				25491	6125	374	935	16		
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.311						670	1675			
409.7789	34.311						374	935			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.548	34.535	1	1.074	13284651	3536934	8775	21937	403		
437.8140	34.548	34.535	1	1.074	12269295	3241887	9054	22635	358	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.560	34.548	1	1.000	52380	13632	542	1355	25		
425.7737	34.560	34.548	1	1.000	51865	12855	487	1217	26	1.01(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											RQM
423.7766	34.013	34.287	-16	0.985	35363	9987	542	1355	18		M
	Empc Correction				28232	8251	542	1355	15		
425.7737	34.013	34.287	-16	0.985	27147	7934	487	1217	16	1.30(0.88-1.20)	M
13C-OCDD											
469.7779	36.882	36.870	1	1.147	13836560	3119339	4845	12112	644		
471.7750	36.882	36.870	1	1.147	15994527	3515168	3466	8665	1014	0.87(0.76-1.02)	
OCDF											
441.7428	36.978	36.978	0	1.003	68776	15089	441	1102	34		
443.7399	36.990	36.978	1	1.003	89464	14866	1031	2577	14	0.77(0.76-1.02)	
OCDD											
457.7377	36.894	36.882	1	1.000	138324	33179	314	785	106		
459.7348	36.894	36.882	1	1.000	155211	33285	423	1057	79	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_82.d		
Lims ID:	160-24924-G-12-A		
Client ID:	SHAD041DP022SS06NS		
Inject. Date:	12-Nov-2017 01:33:10	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	82

Non-2,3,7,8-sub-HpCDD, RT: 34.287

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	25553946	6778821

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	25553946	6778821

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.013	35363	9987	27147	7934	0.2463	1.30	RQM
34.013	28232	8251	27147	7934	0.2182		Empc Correction
Signal Totals:							
	28232	8251	27147	7934			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	62510	17921				1.30	RQM
	55379	16185					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2463 = (62510 * 100.000) / (25553946 * 0.993)
Empc Amount: 0.2182 = (55379 * 100.000) / (25553946 * 0.993)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

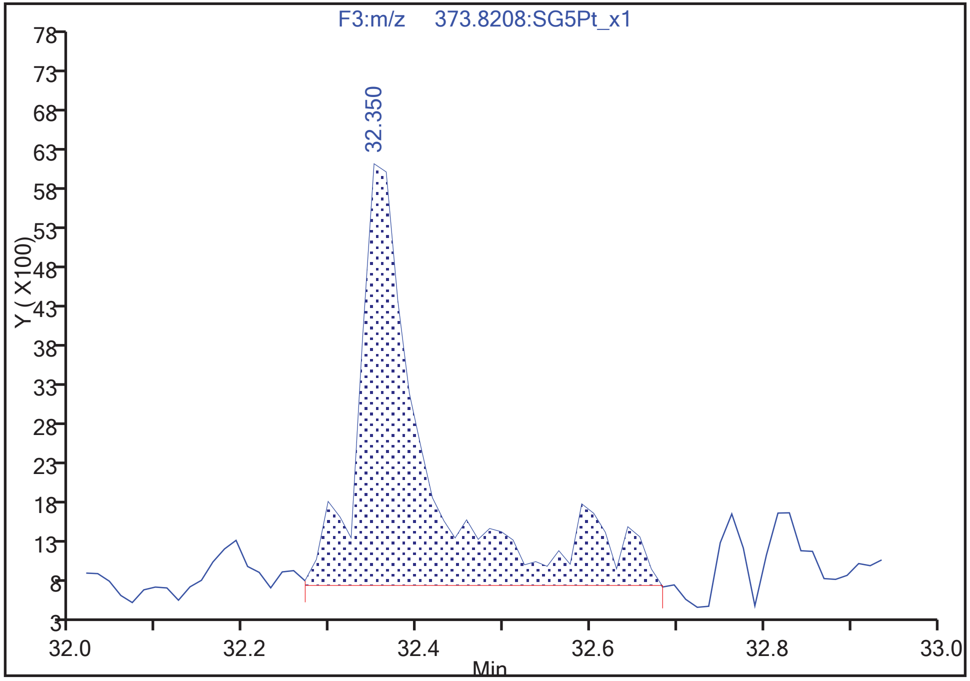
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_82.d				
Injection Date:	12-Nov-2017 01:33:10	Instrument ID:	10D5		
Lims ID:	160-24924-G-12-A	Lab Sample ID:	320-24924-12		
Client ID:	SHAD041DP022SS06NS				
Operator ID:	AJS	ALS Bottle#:	57	Worklist Smp#:	82
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

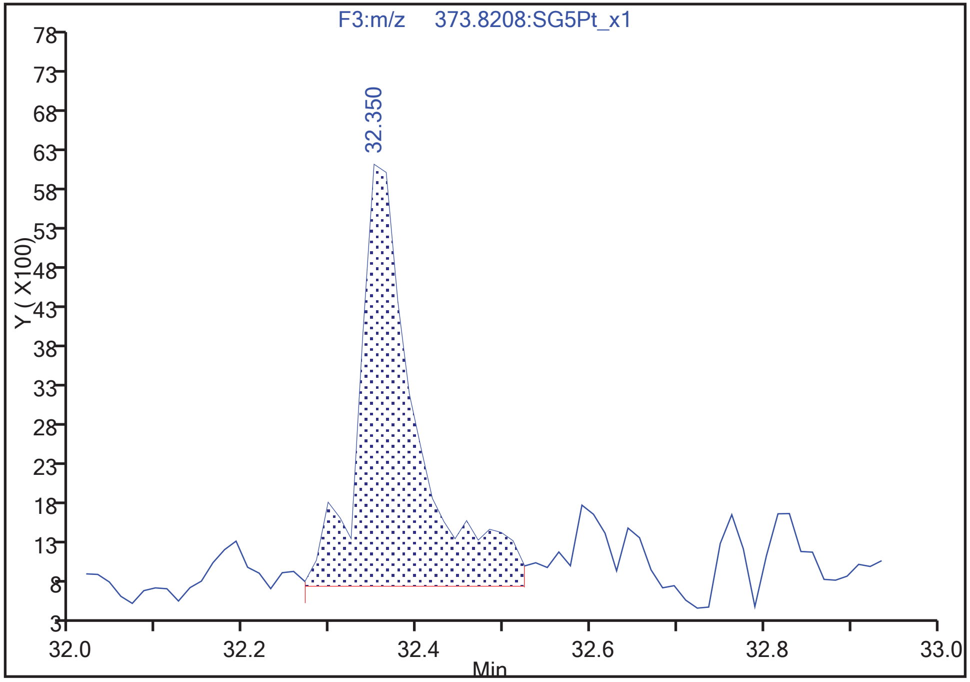
Processing Integration Results

RT:	32.35
Area:	28921
Amount:	0.090696
Amount Units:	pg/ul



Manual Integration Results

RT:	32.35
Area:	24348
Amount:	0.082169
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 13:06:20

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 13:40:58

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

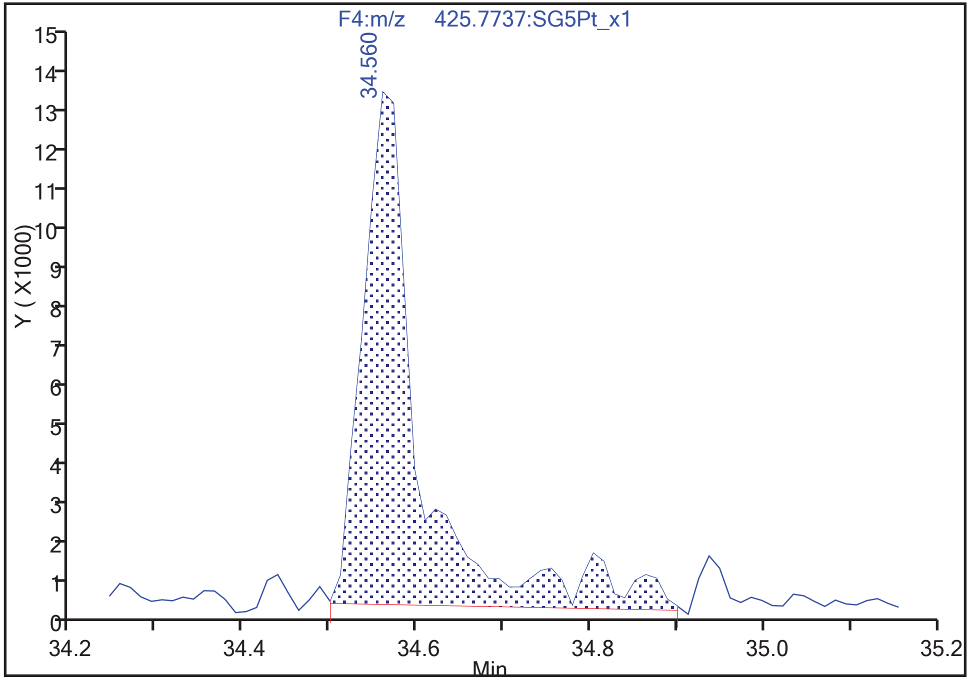
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_82.d		
Injection Date:	12-Nov-2017 01:33:10	Instrument ID:	10D5
Lims ID:	160-24924-G-12-A	Lab Sample ID:	320-24924-12
Client ID:	SHAD041DP022SS06NS		
Operator ID:	AJS	ALS Bottle#:	57 Worklist Smp#: 82
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

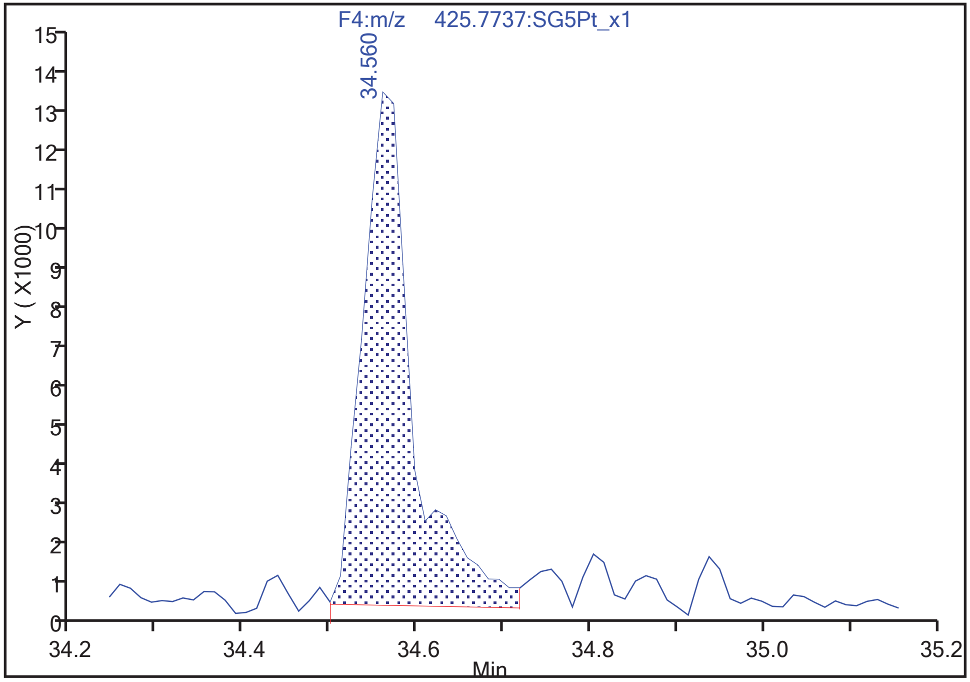
Processing Integration Results

RT:	34.56
Area:	59431
Amount:	0.440553
Amount Units:	pg/ul



Manual Integration Results

RT:	34.56
Area:	51865
Amount:	0.410742
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 13:06:53

Audit Action: Split an Integrated Peak

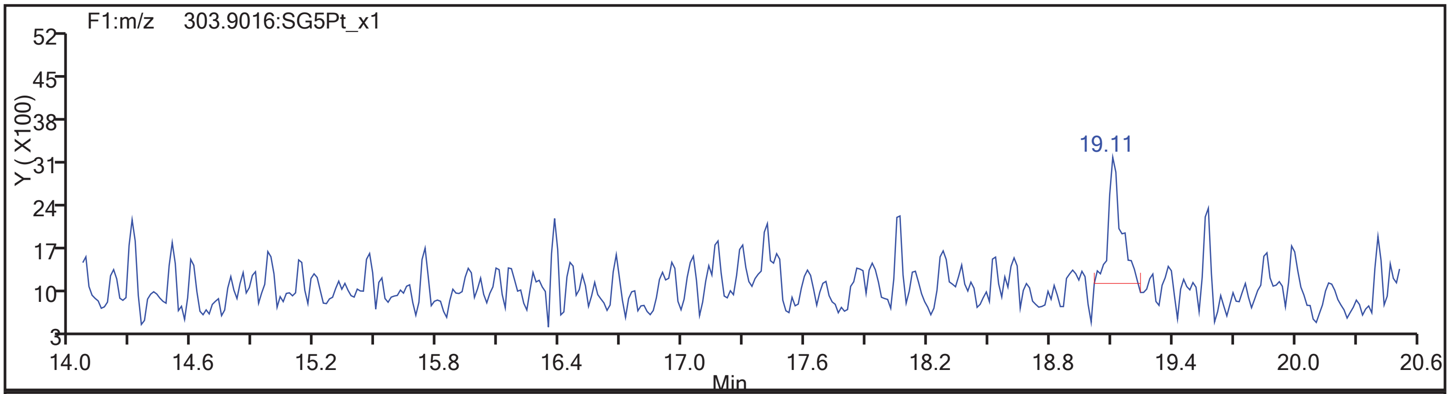
Audit Reason: Split Peak

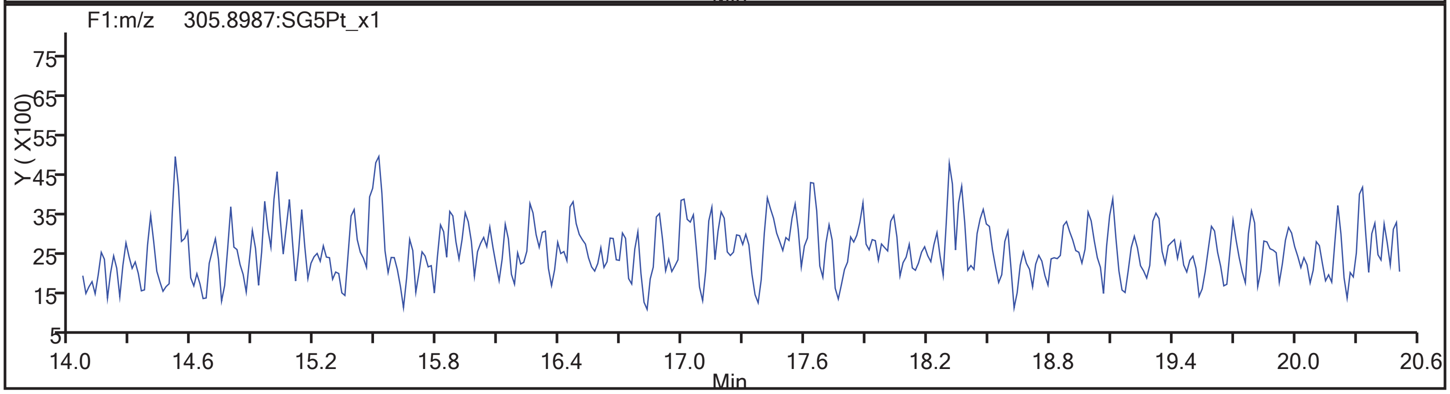
Report Date: 13-Nov-2017 13:40:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

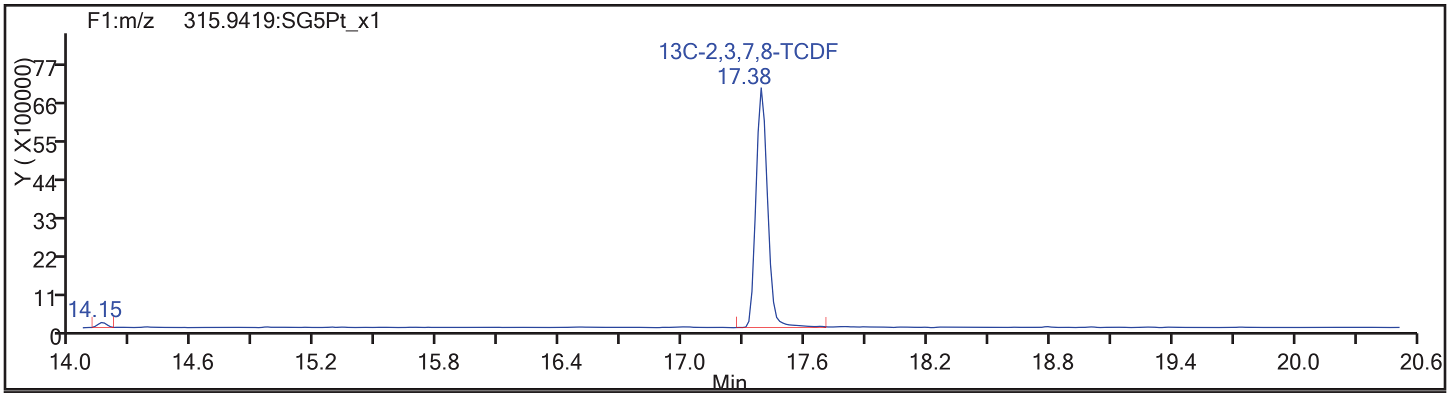
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_82.d		
Injection Date:	12-Nov-2017 01:33:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	194086	Sample Line#:	82
Column Type:	DB-5	Column Dia:	0.32 mm

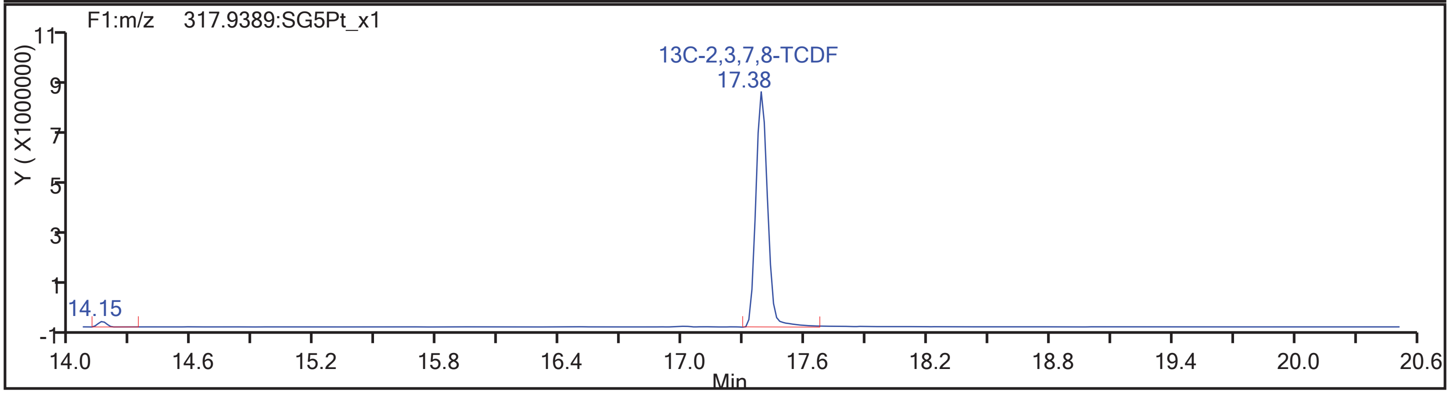
TCDF





TCDF Standards



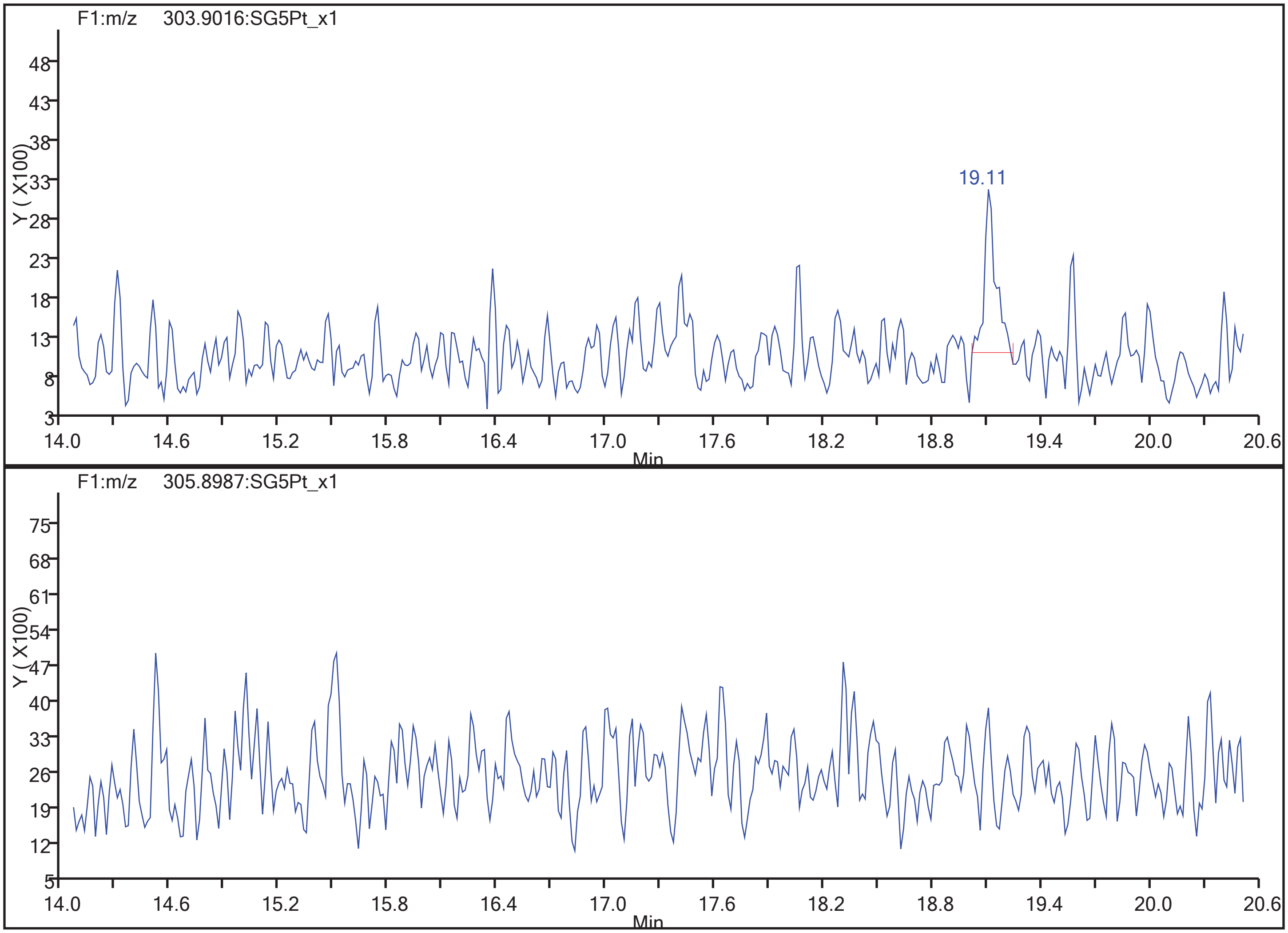


Report Date: 13-Nov-2017 13:40:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

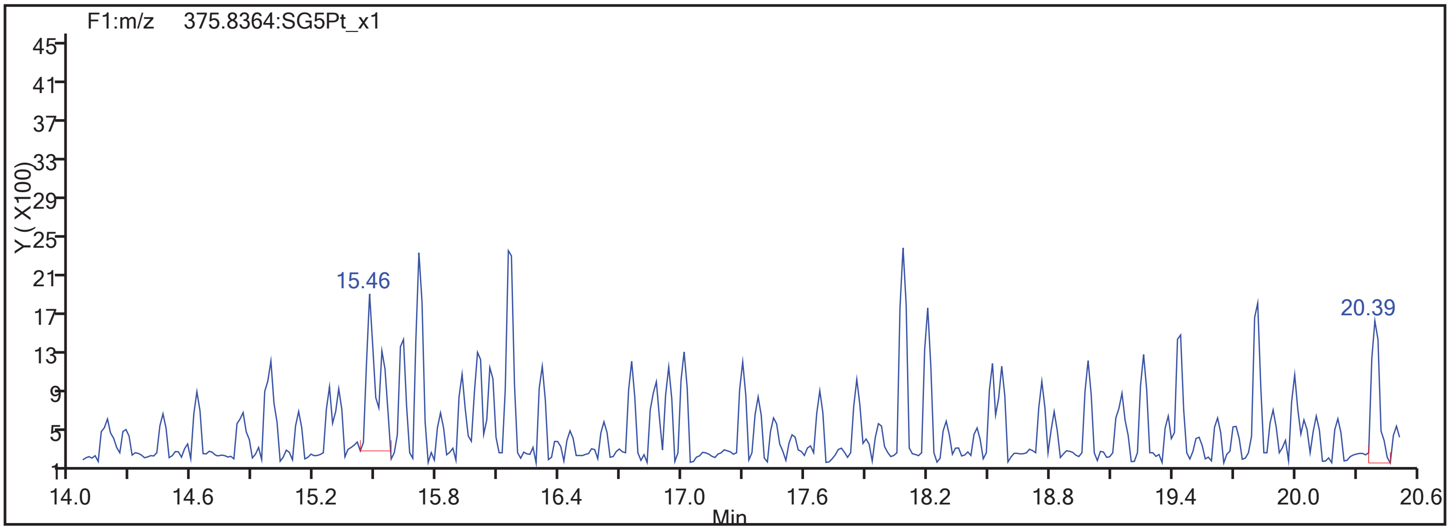
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_82.d		
Injection Date:	12-Nov-2017 01:33:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	194086	Sample Line#:	82
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF



TCDF Interference Mass

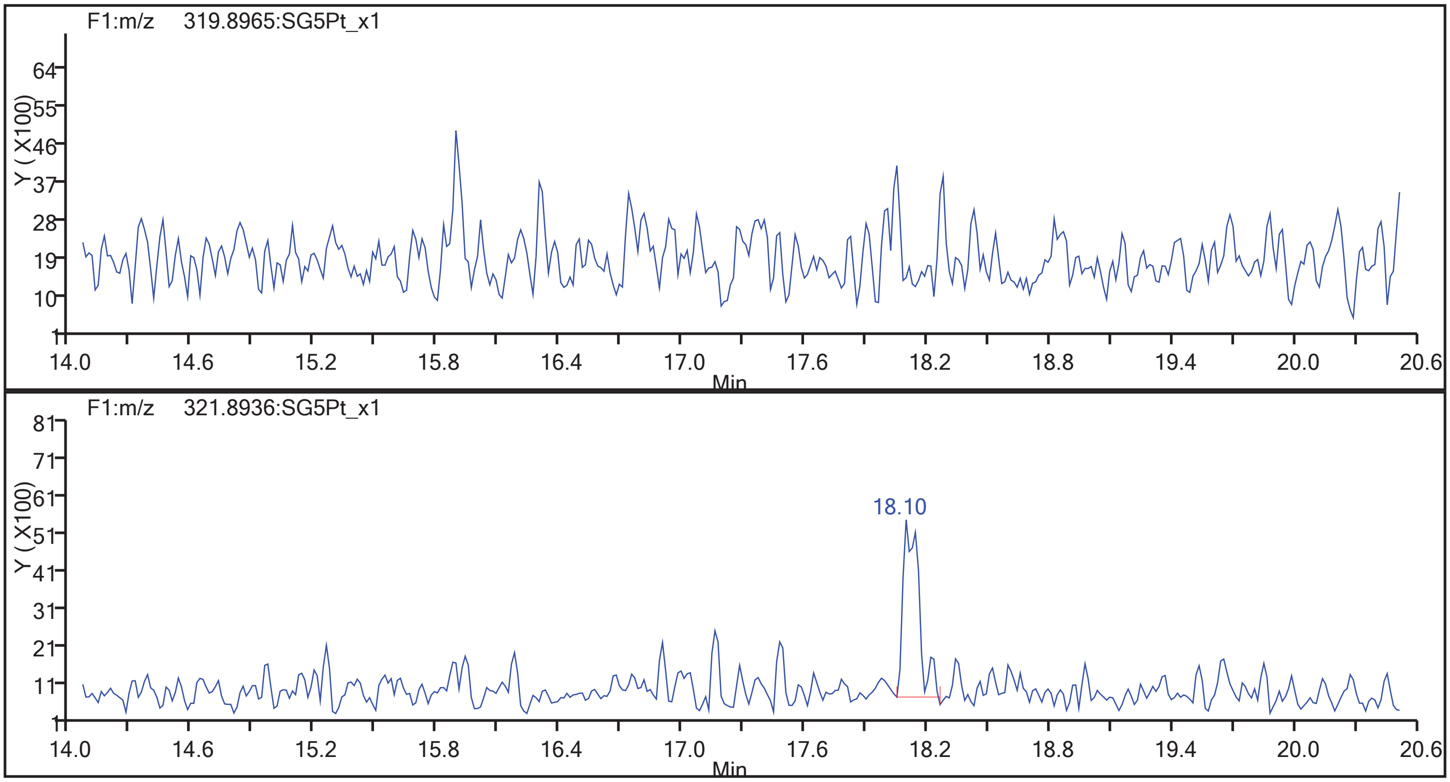


Report Date: 13-Nov-2017 13:40:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

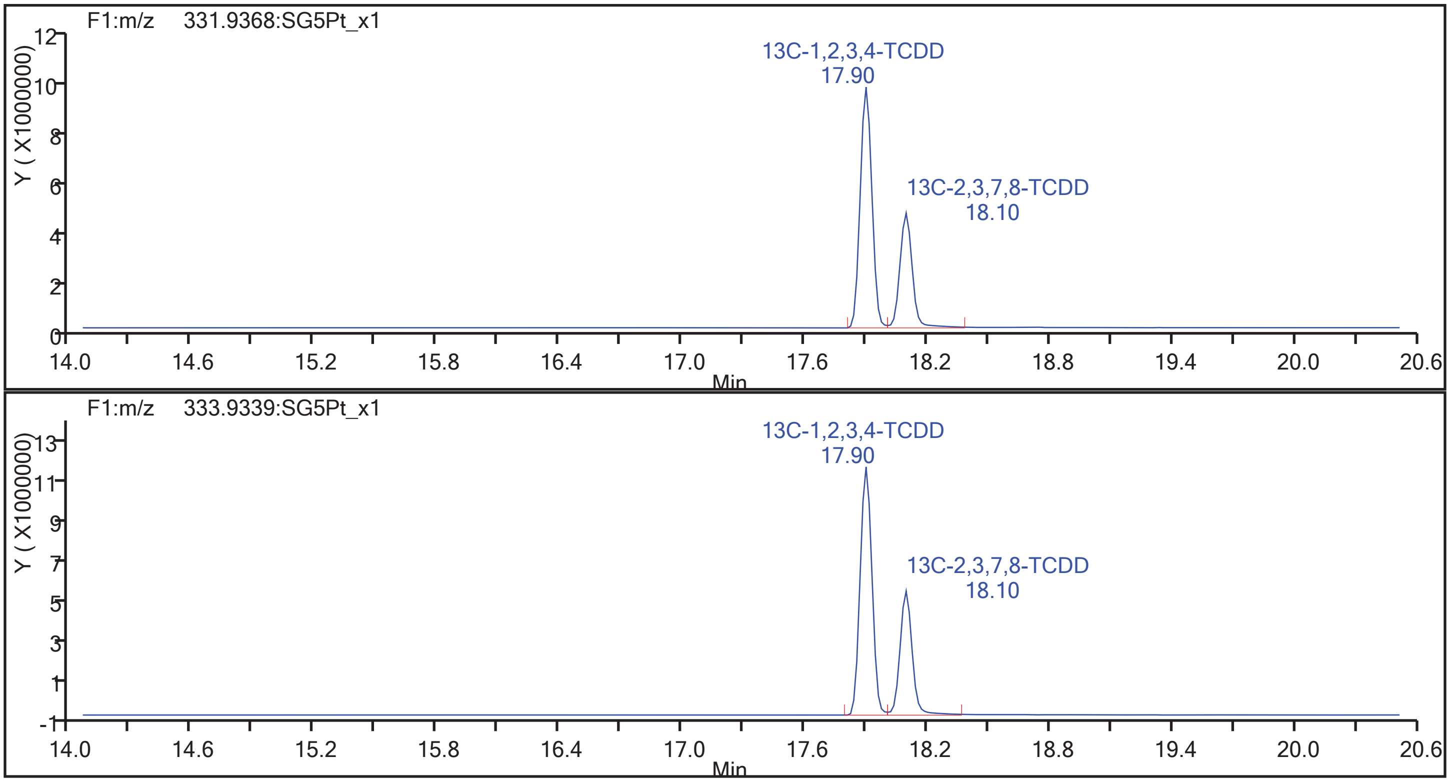
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_82.d
Injection Date: 12-Nov-2017 01:33:10
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS06NS
Worklist#: 194086
Sample Line#: 82
Column Type: DB-5
Column Dia: 0.32 mm

TCDD



TCDD Standards

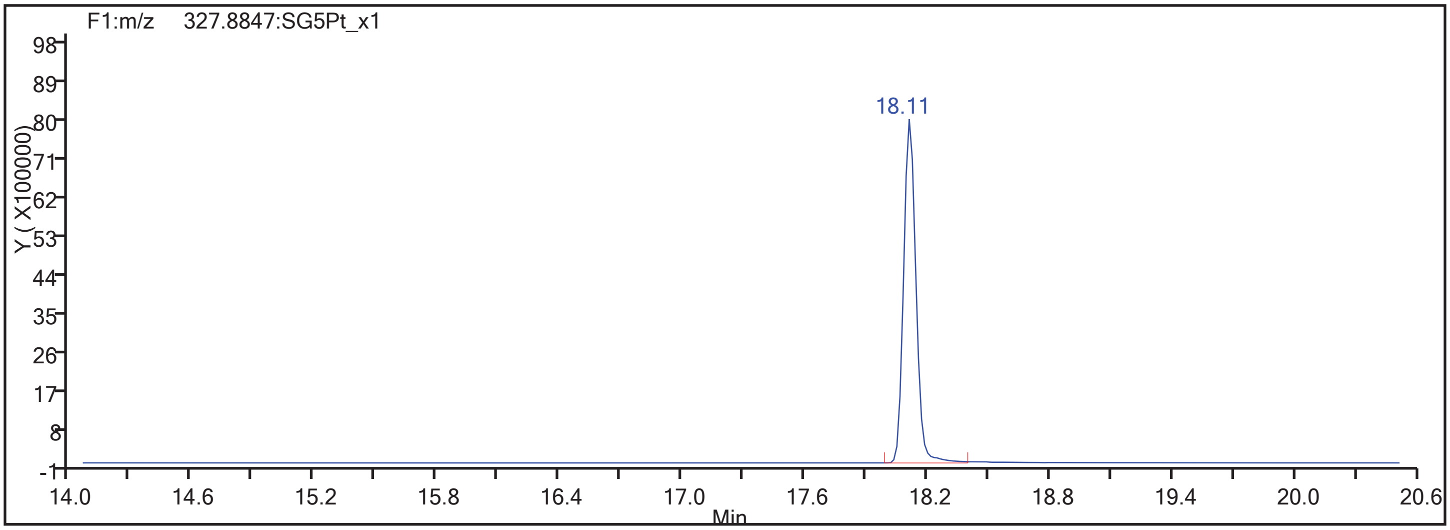


Report Date: 13-Nov-2017 13:40:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

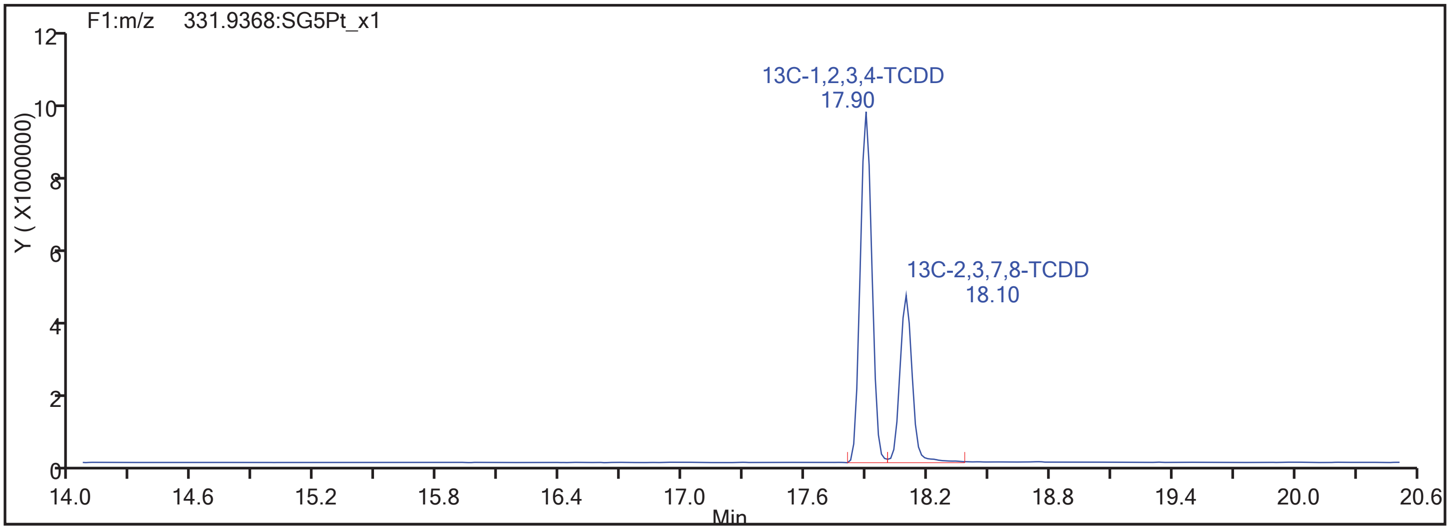
TestAmerica Sacramento

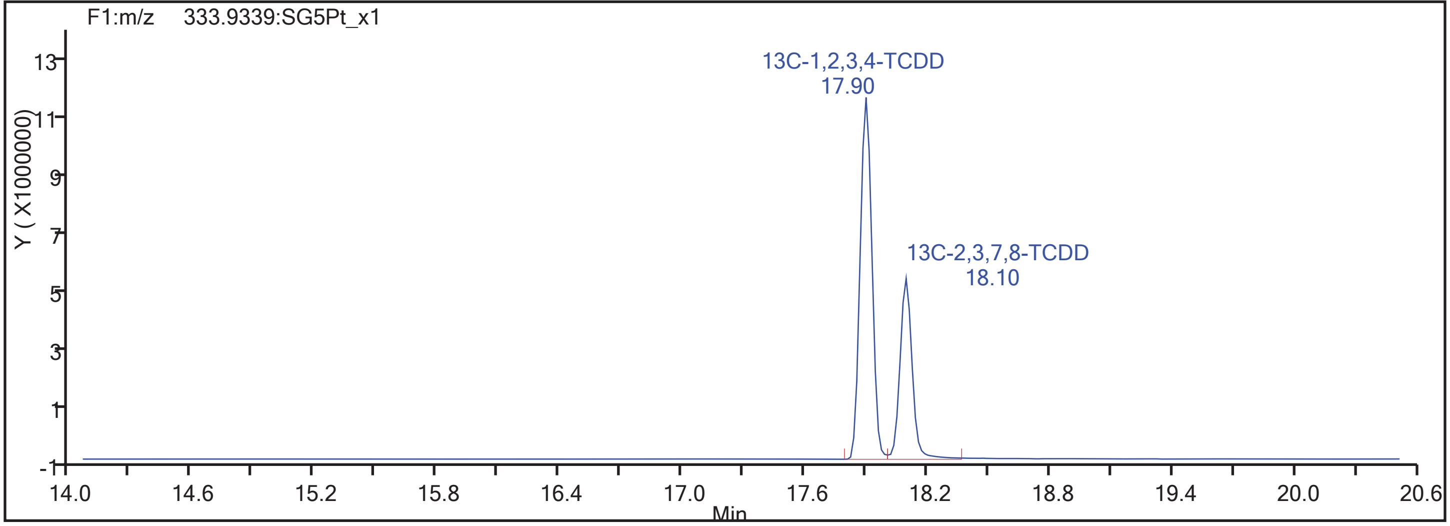
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_82.d		
Injection Date:	12-Nov-2017 01:33:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	194086	Sample Line#:	82
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 13-Nov-2017 13:40:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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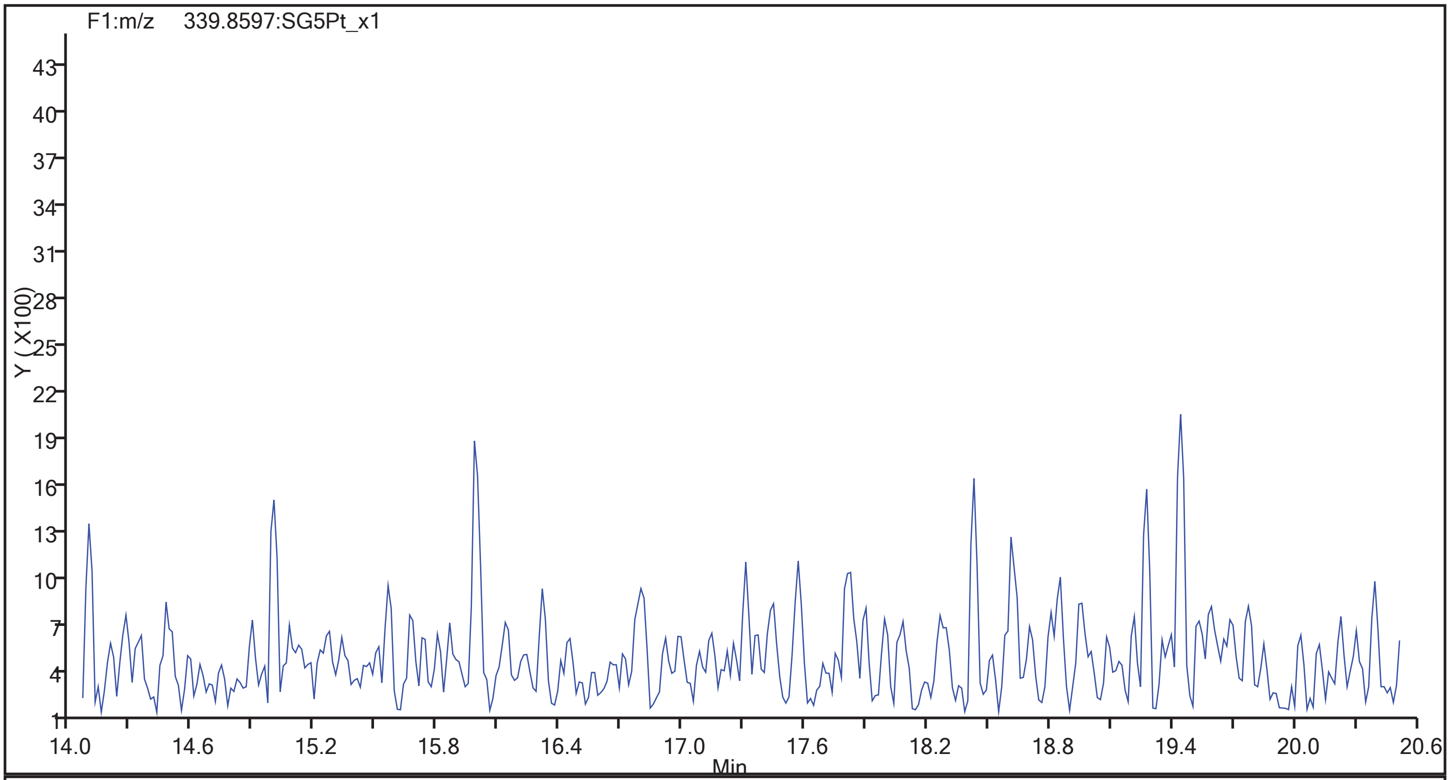
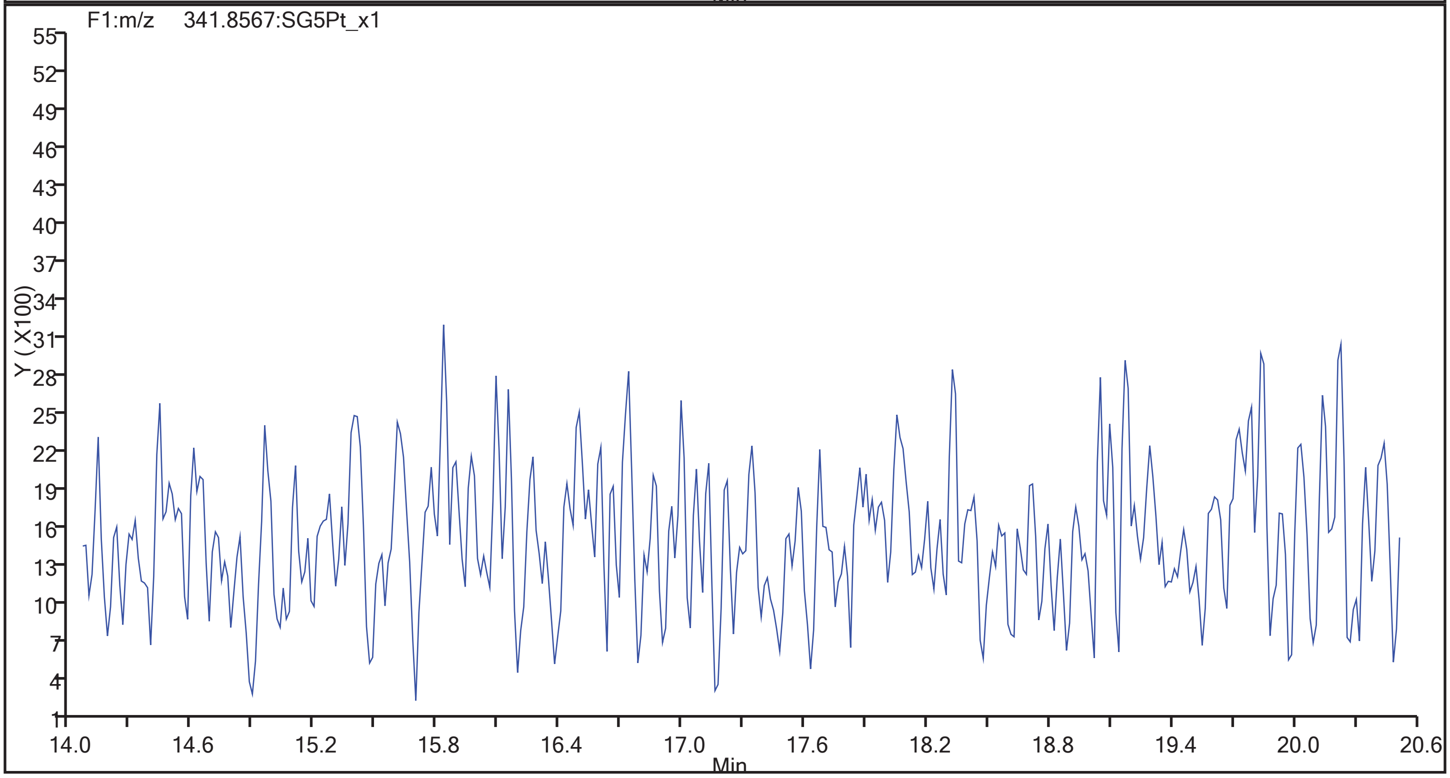
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	194086	Sample Line#:	82
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Report Date: 13-Nov-2017 13:40:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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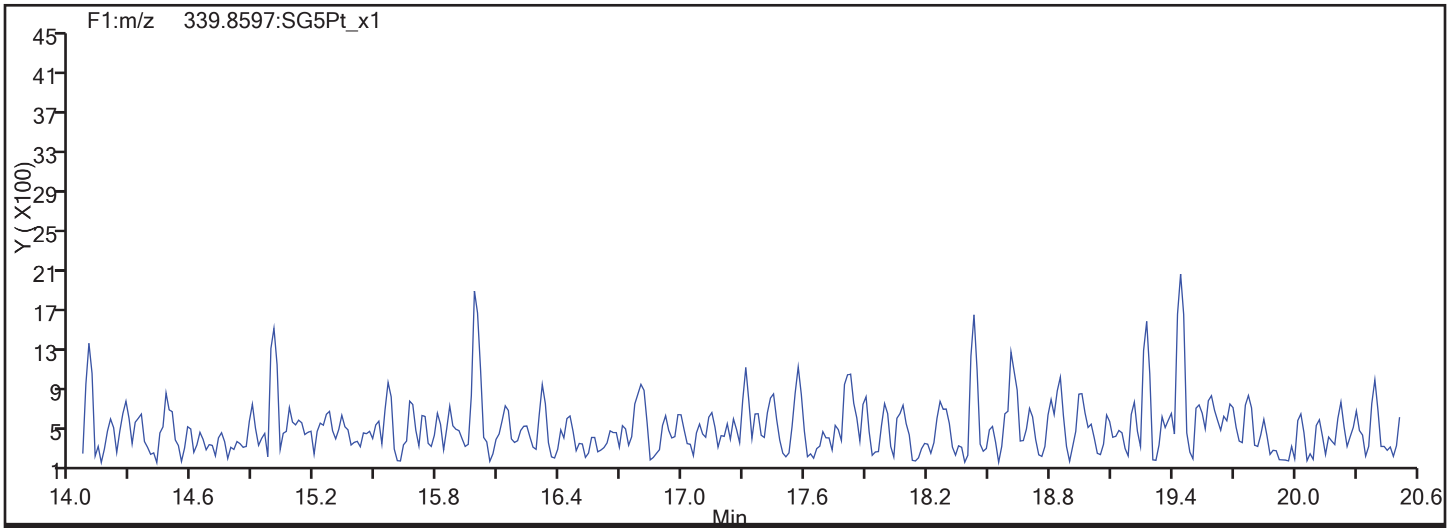
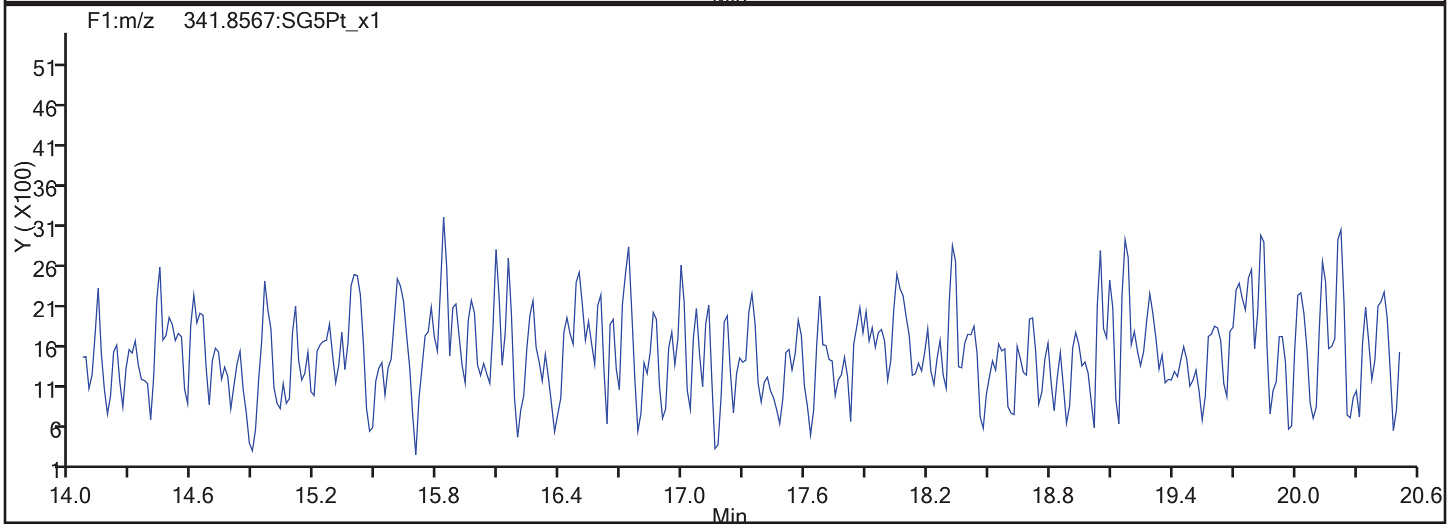
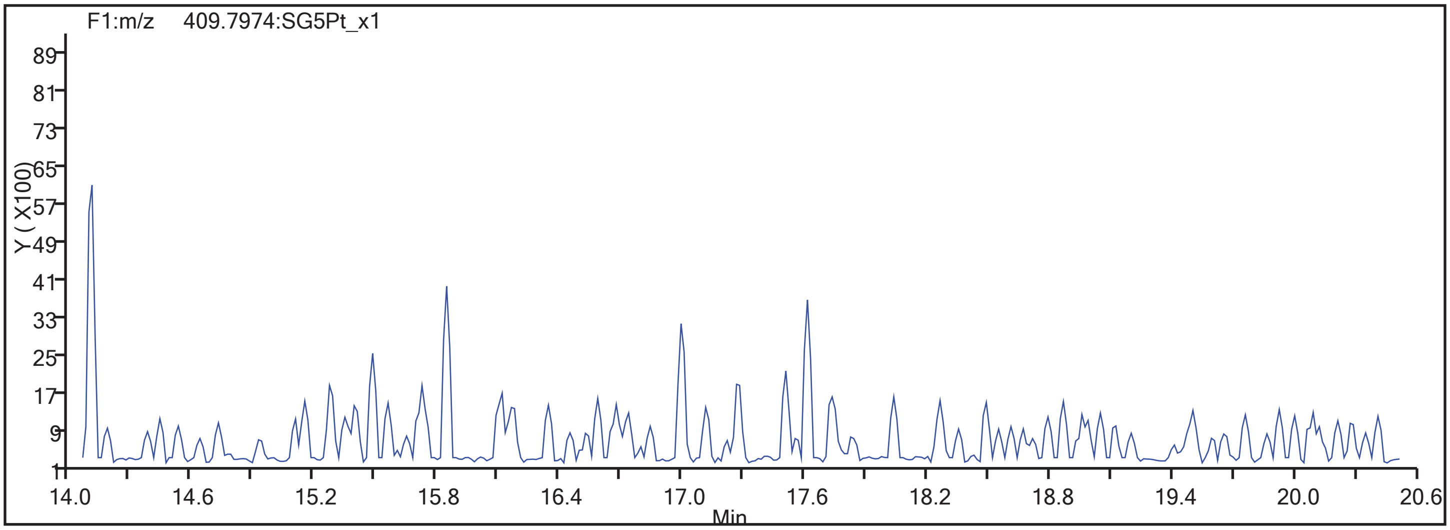




F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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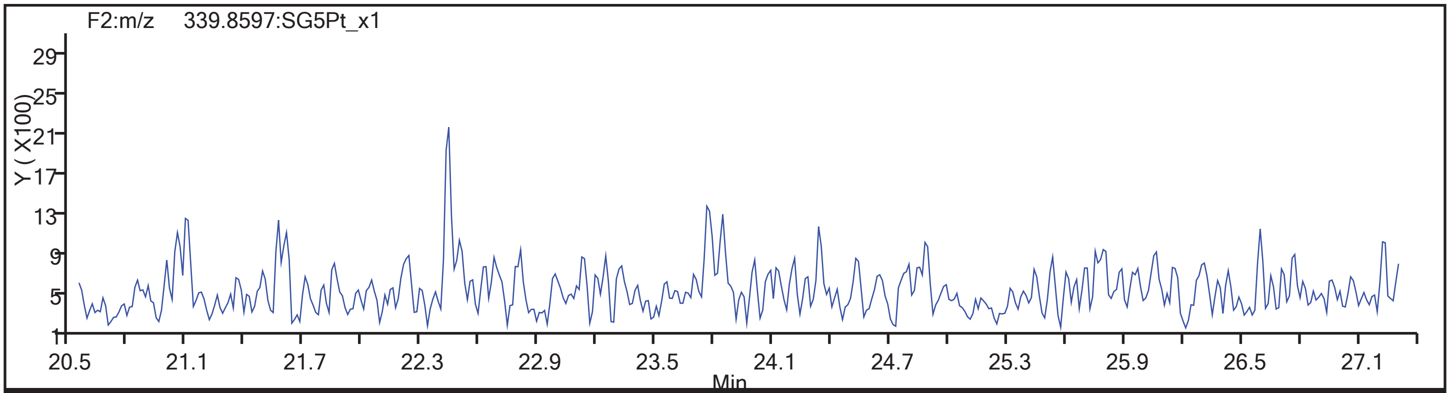

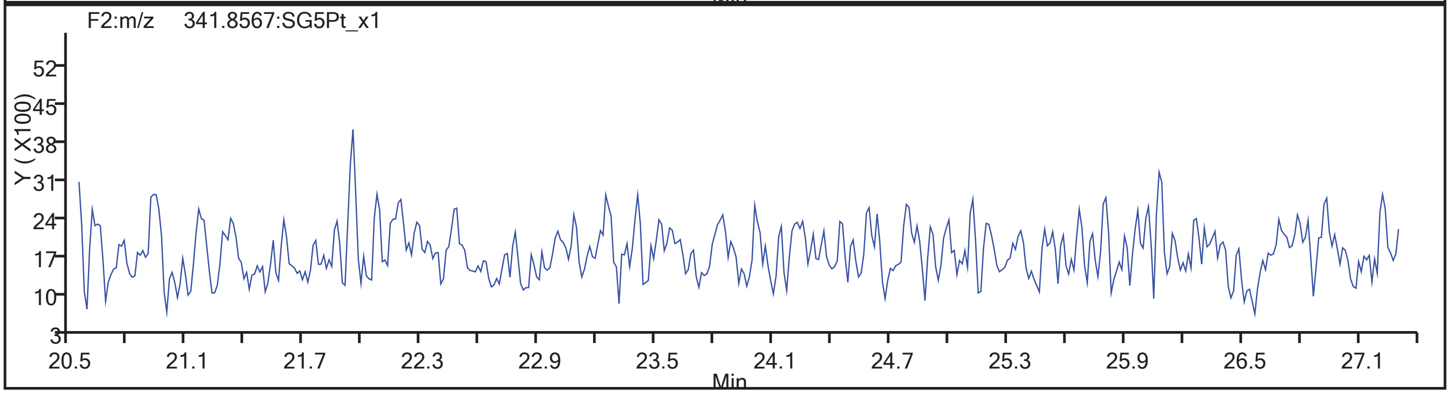

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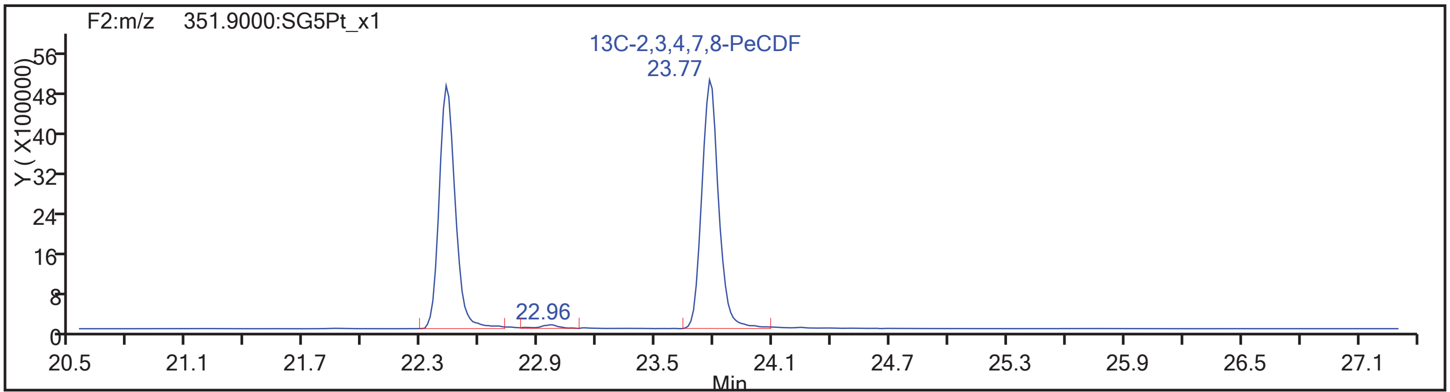

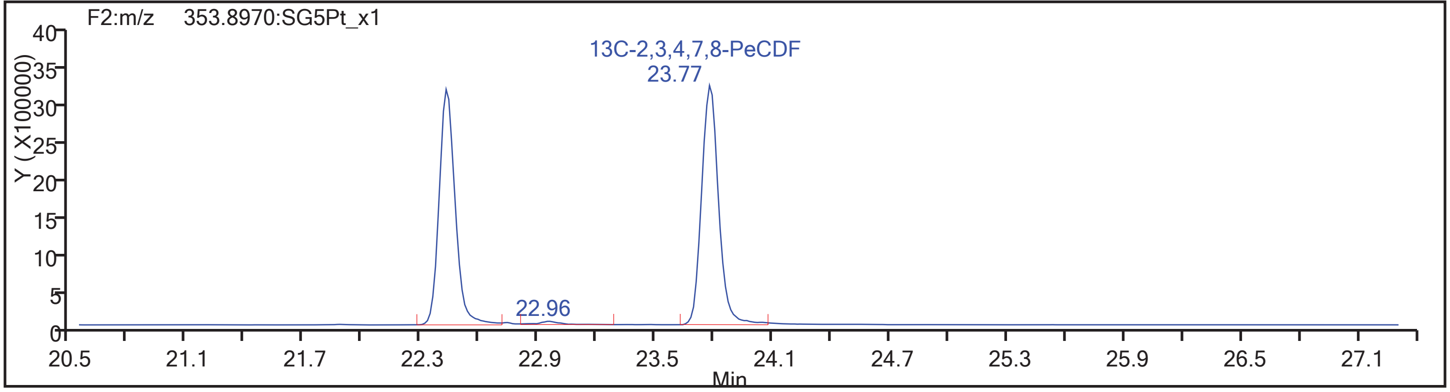

Report Date: 13-Nov-2017 13:40:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 12-Nov-2017 01:33:10

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

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Worklist#: 194086

Sample Line#: 82

Column Type: DB-5

Column Dia: 0.32 mm

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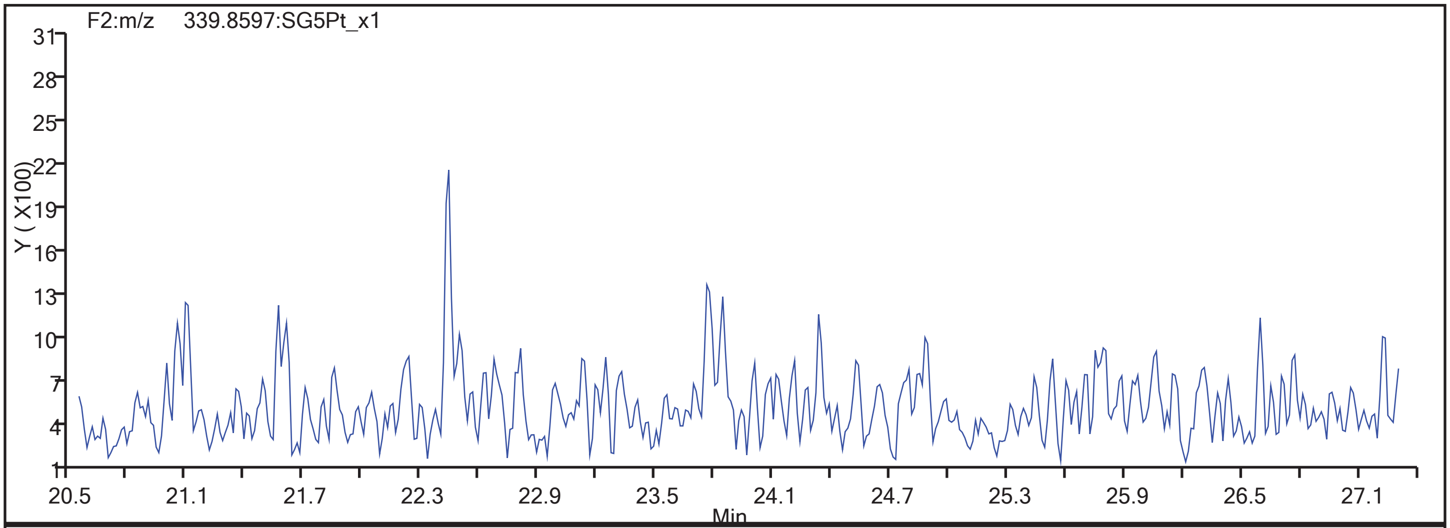

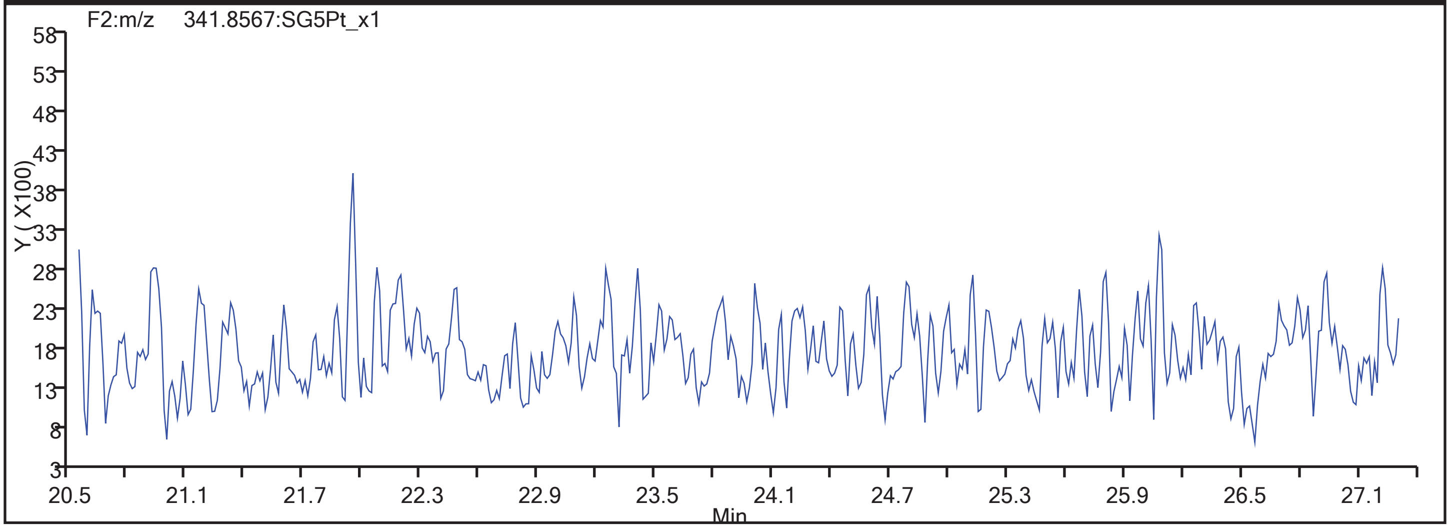

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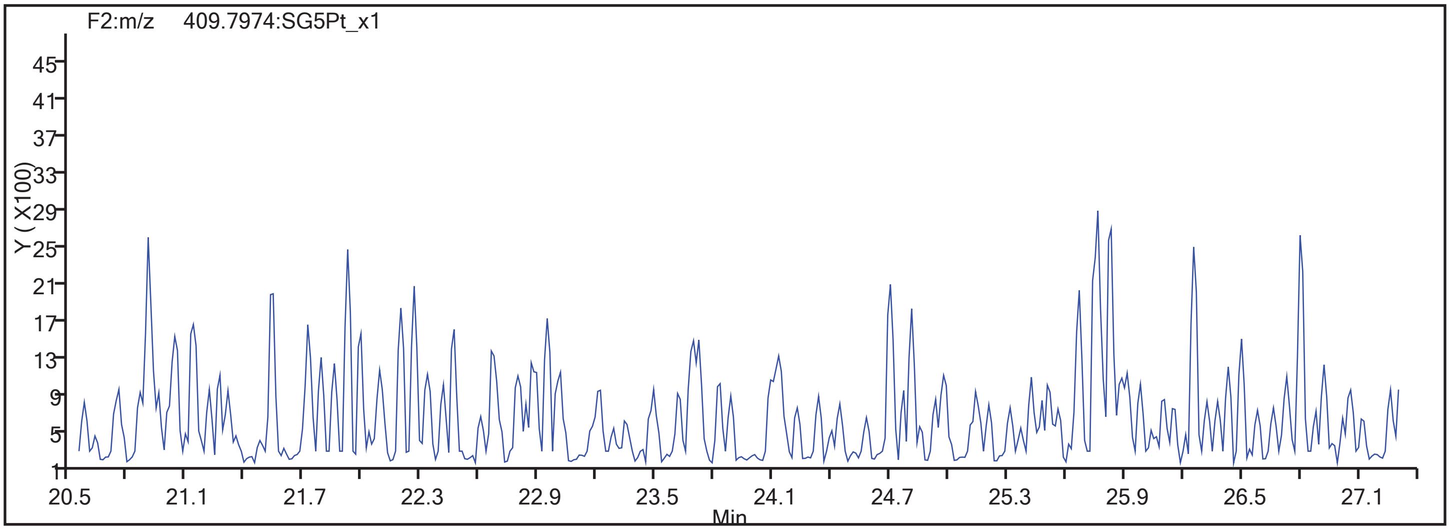

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TestAmerica Sacramento

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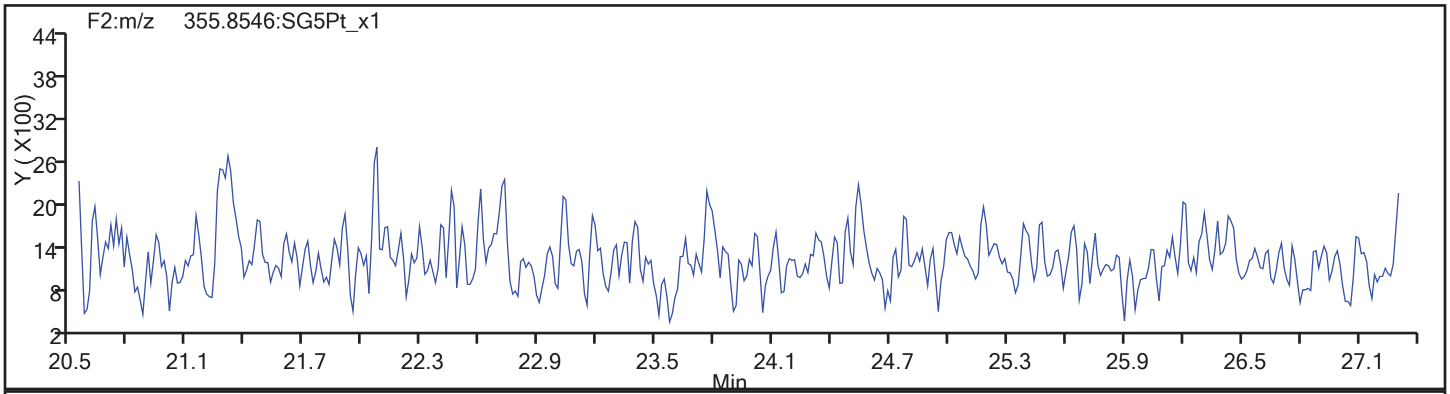

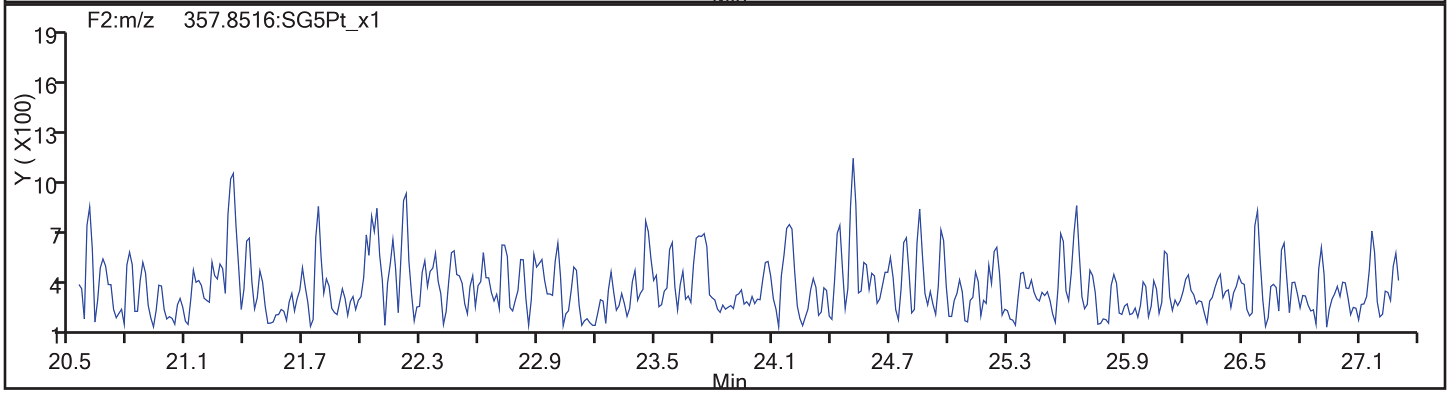

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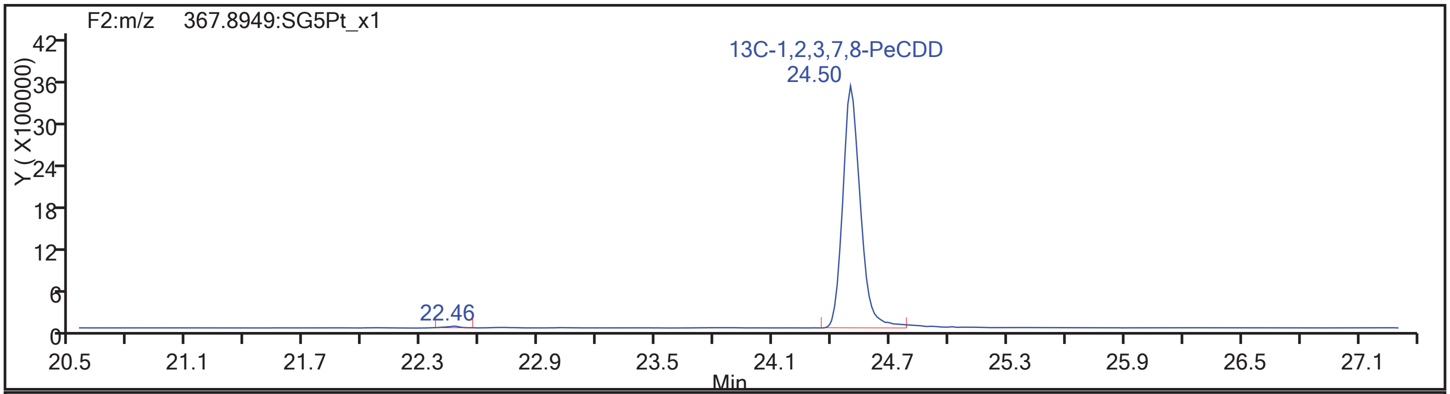

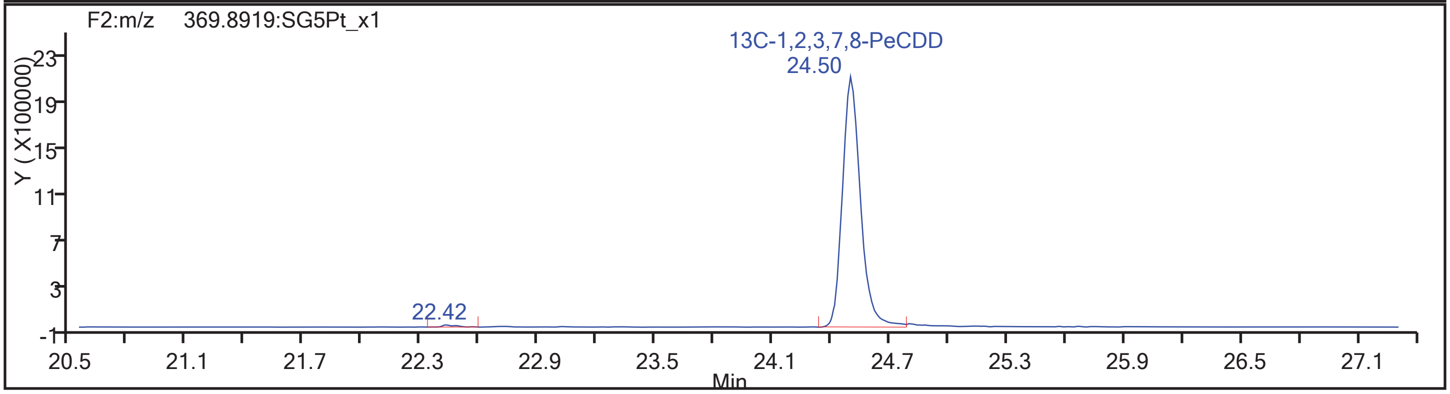

Report Date: 13-Nov-2017 13:40:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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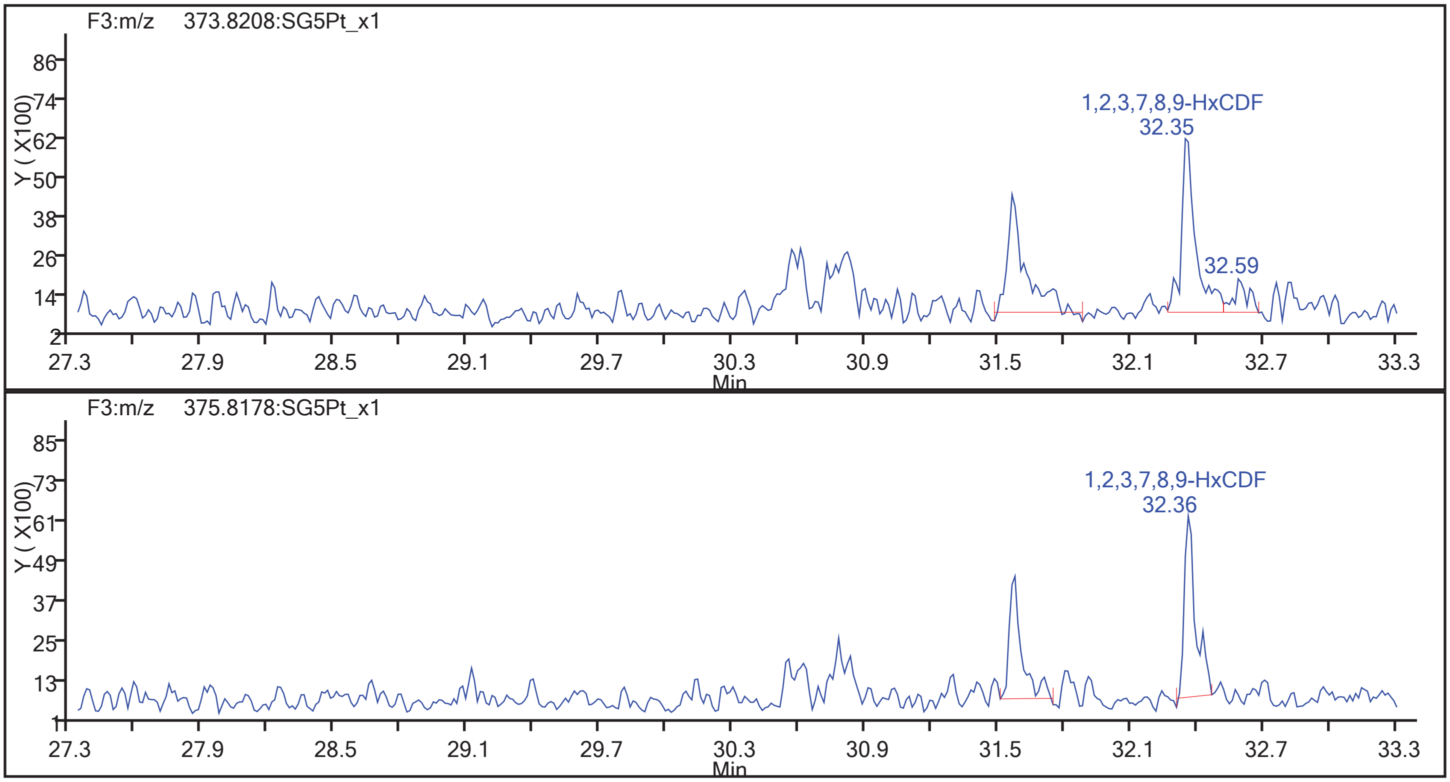
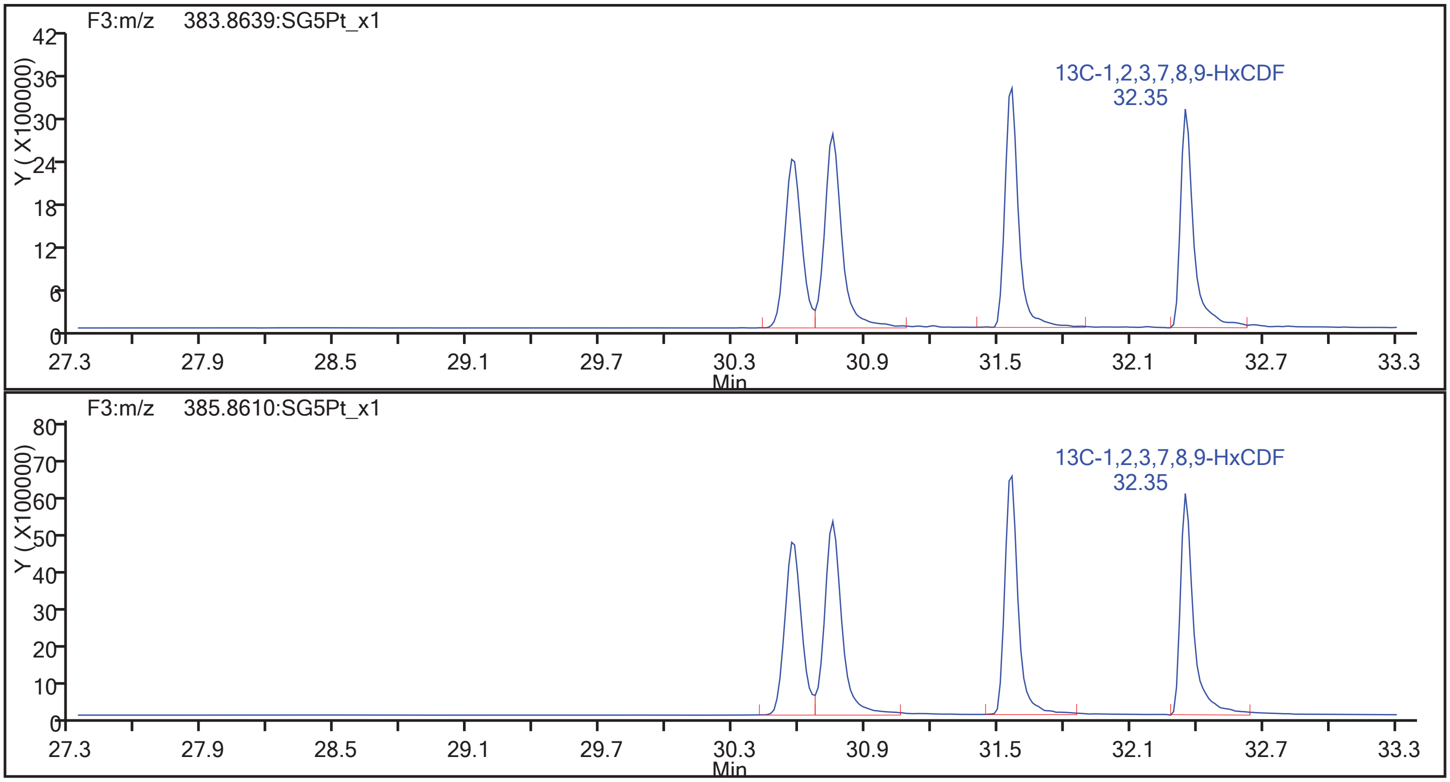


HxCDF Standards



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TestAmerica Sacramento

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Injection Date:	12-Nov-2017 01:33:10	Injection Vol:	2.0 ul
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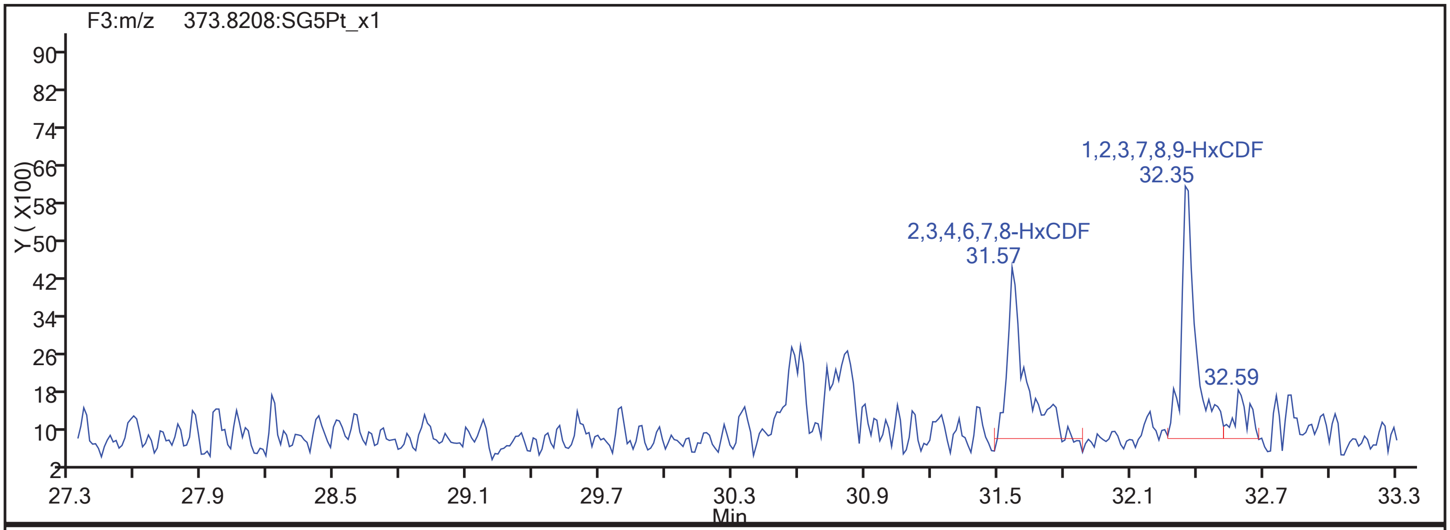
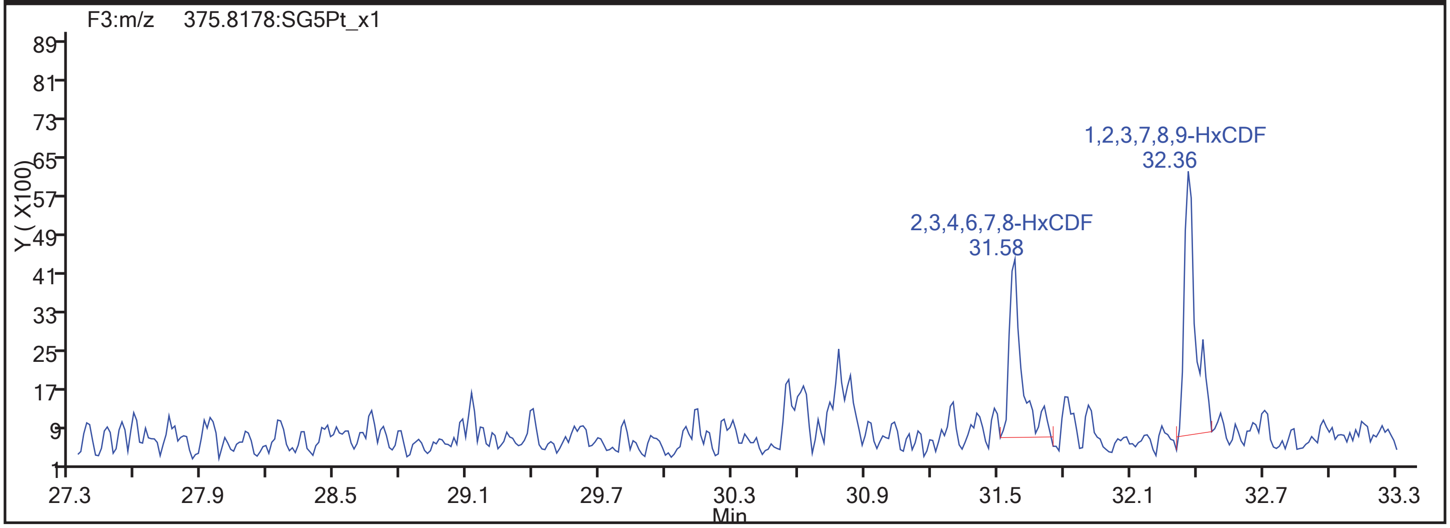
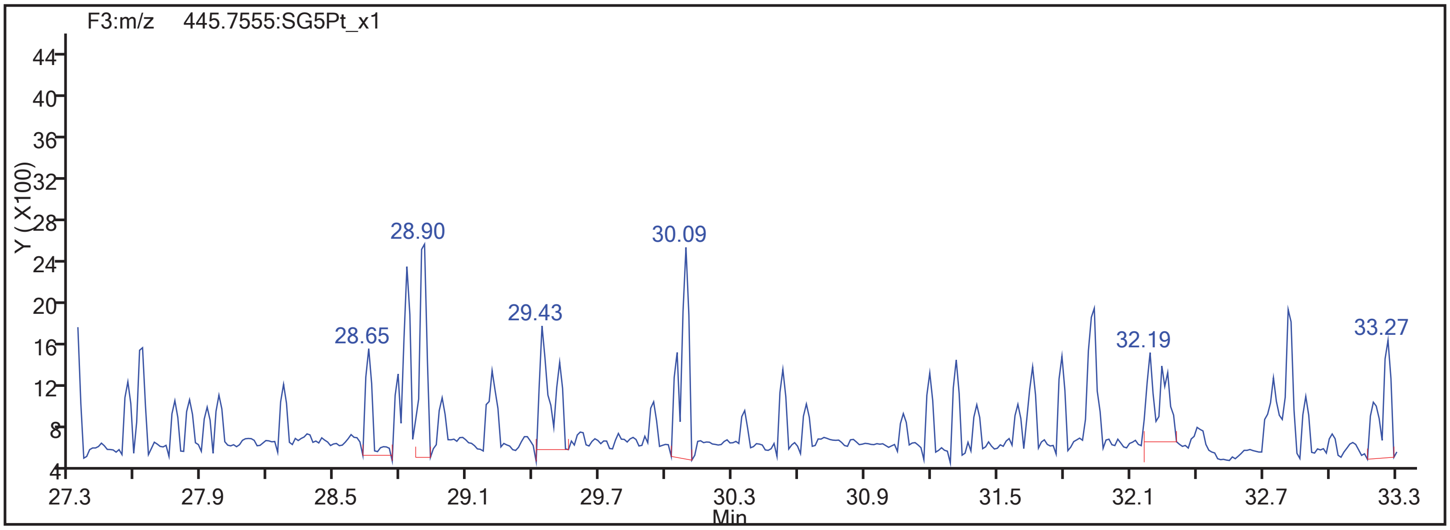




HxCDF Interference Mass



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TestAmerica Sacramento

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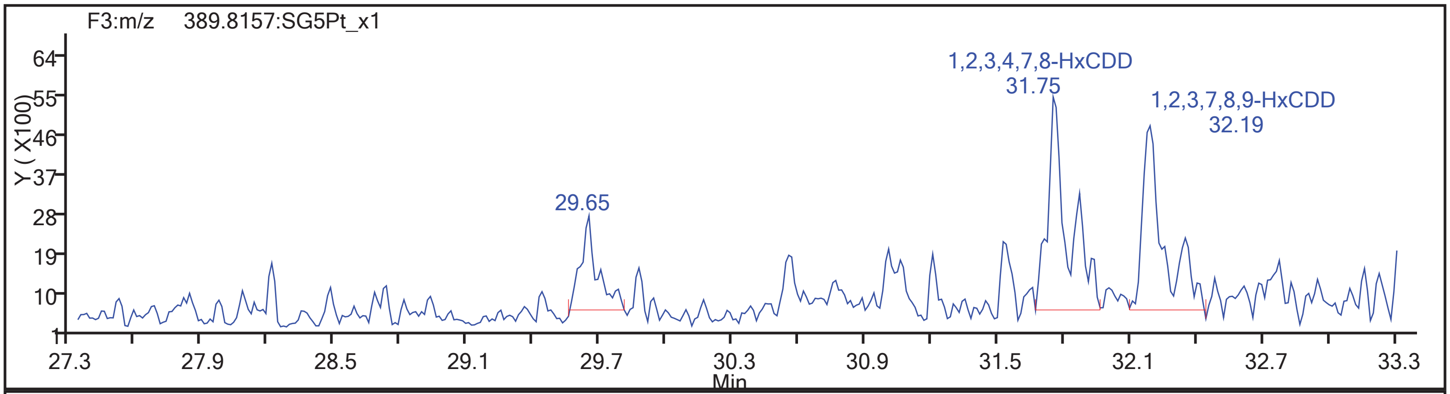
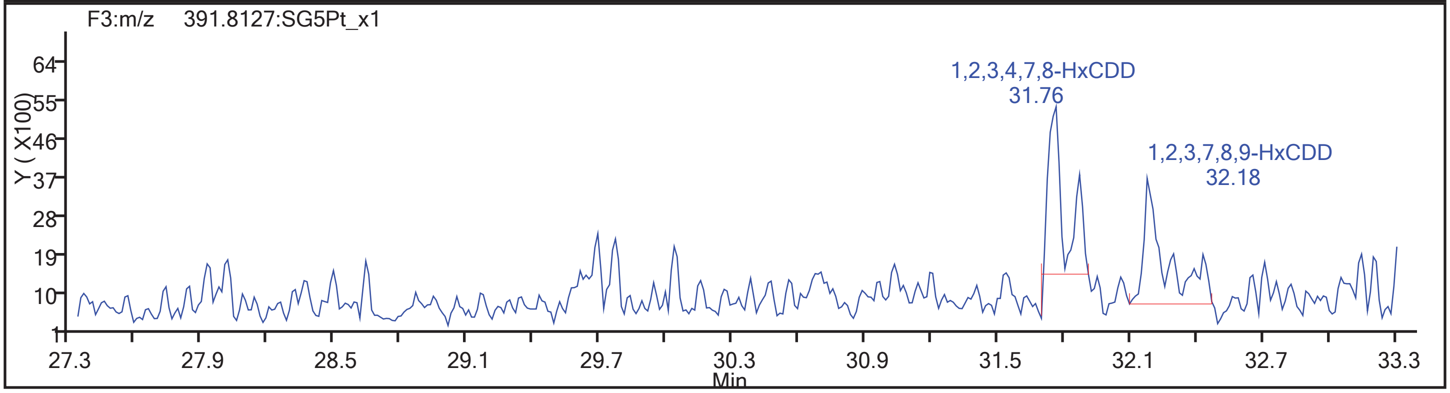
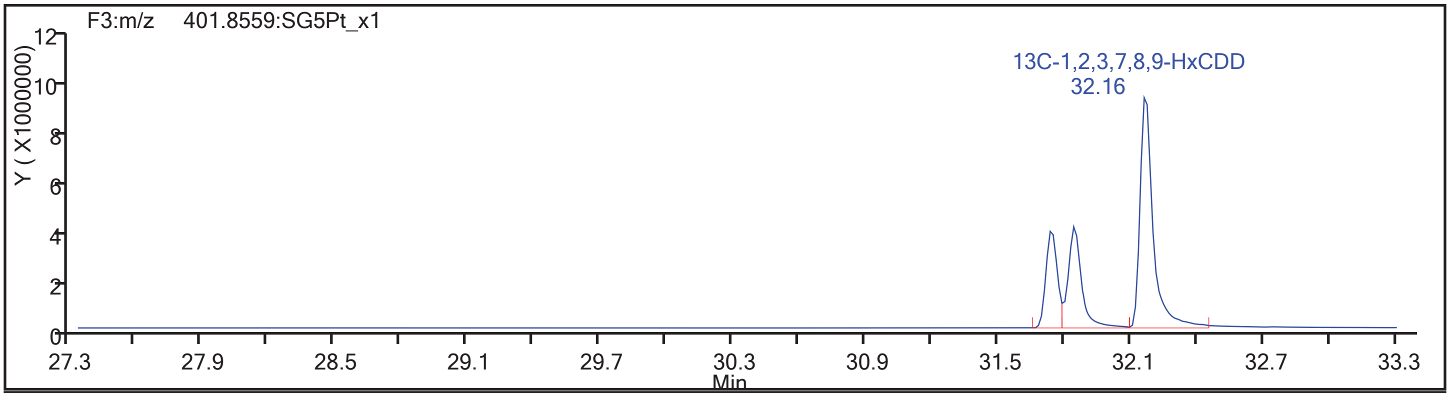
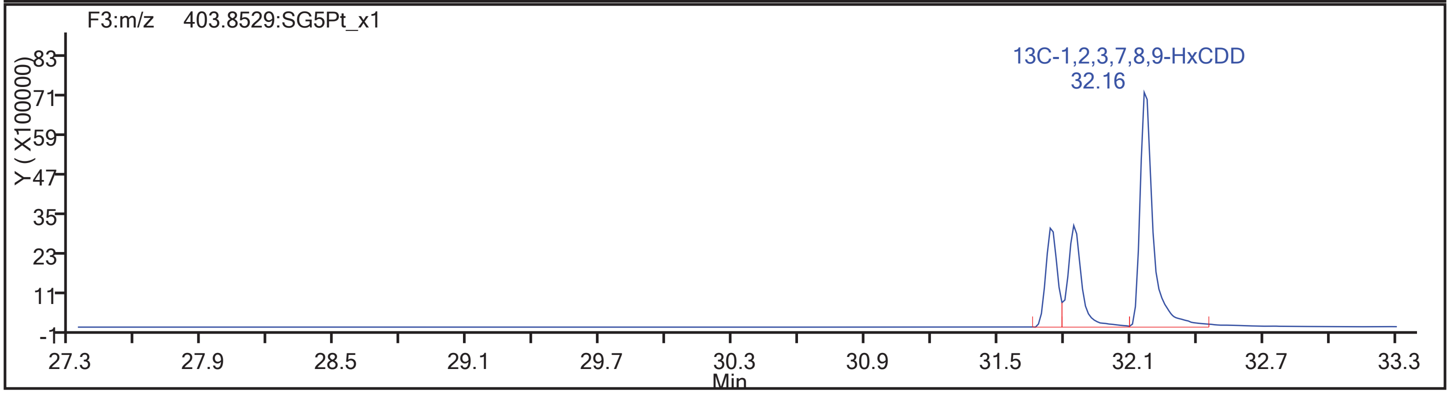




HxCDD Standards





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TestAmerica Sacramento

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Injection Date: 12-Nov-2017 01:33:10 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

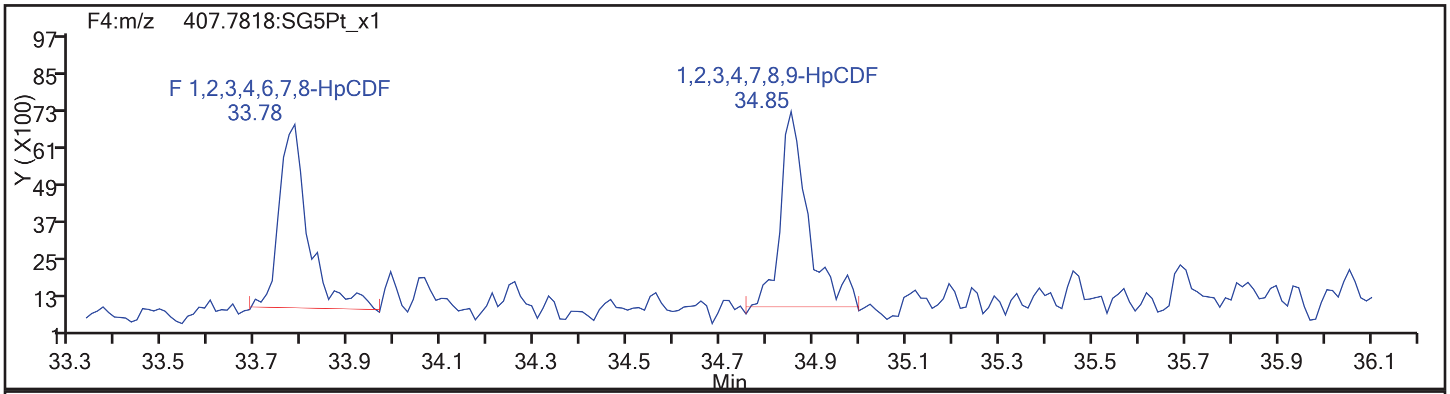
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

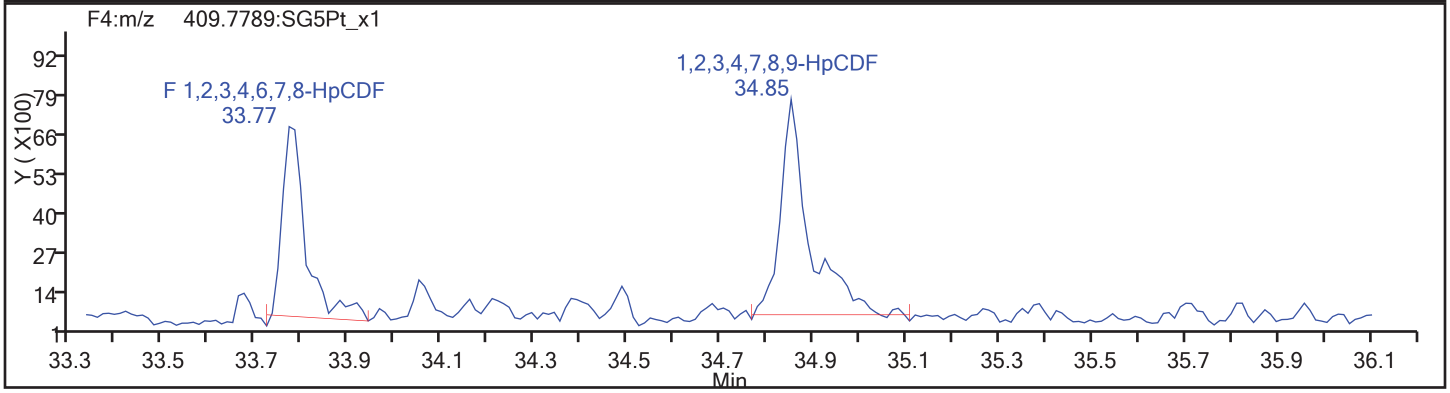
Client ID: SHAD041DP022SS06NS

Worklist#: 194086 Sample Line#: 82

Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





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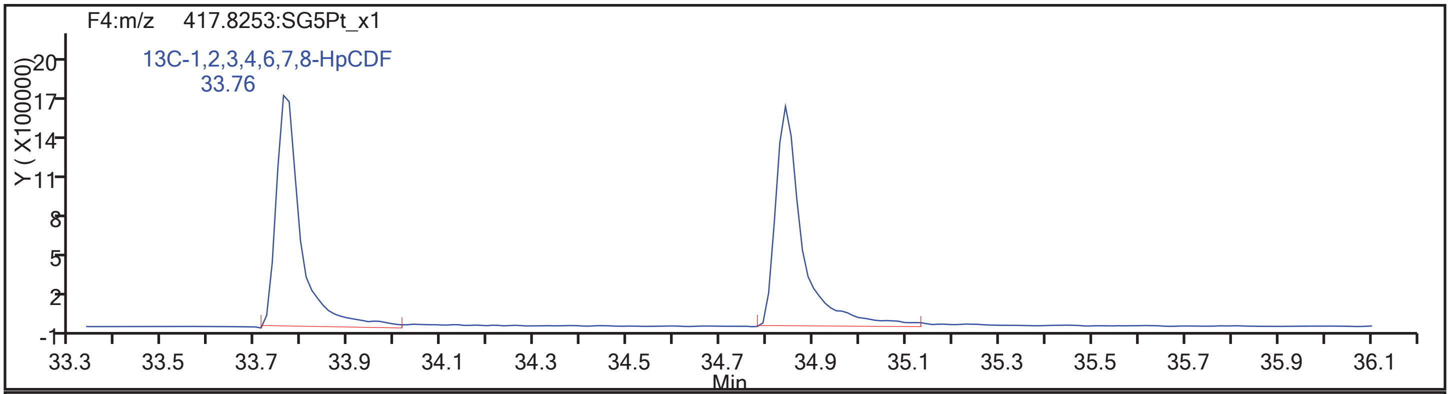

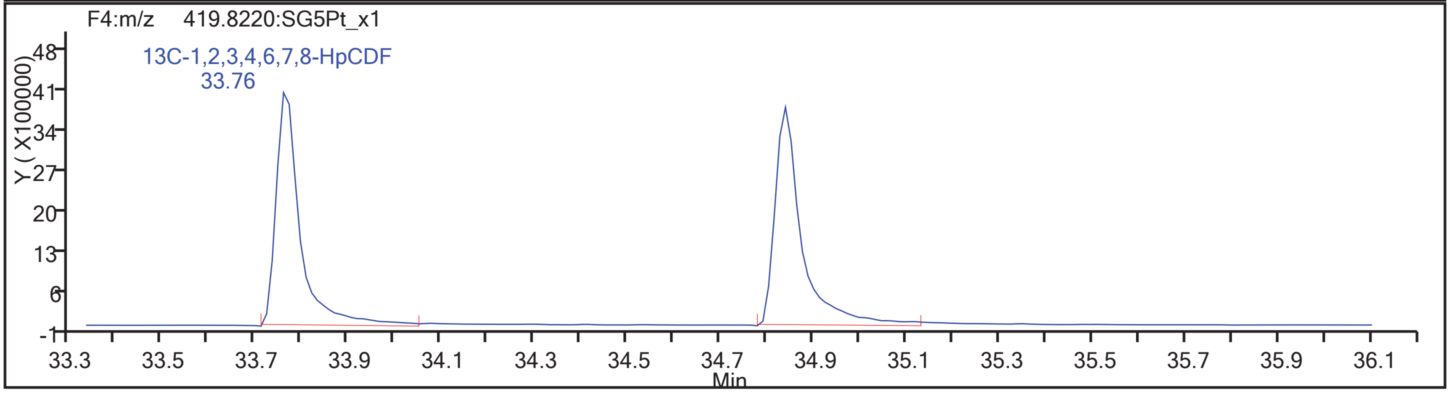

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TestAmerica Sacramento

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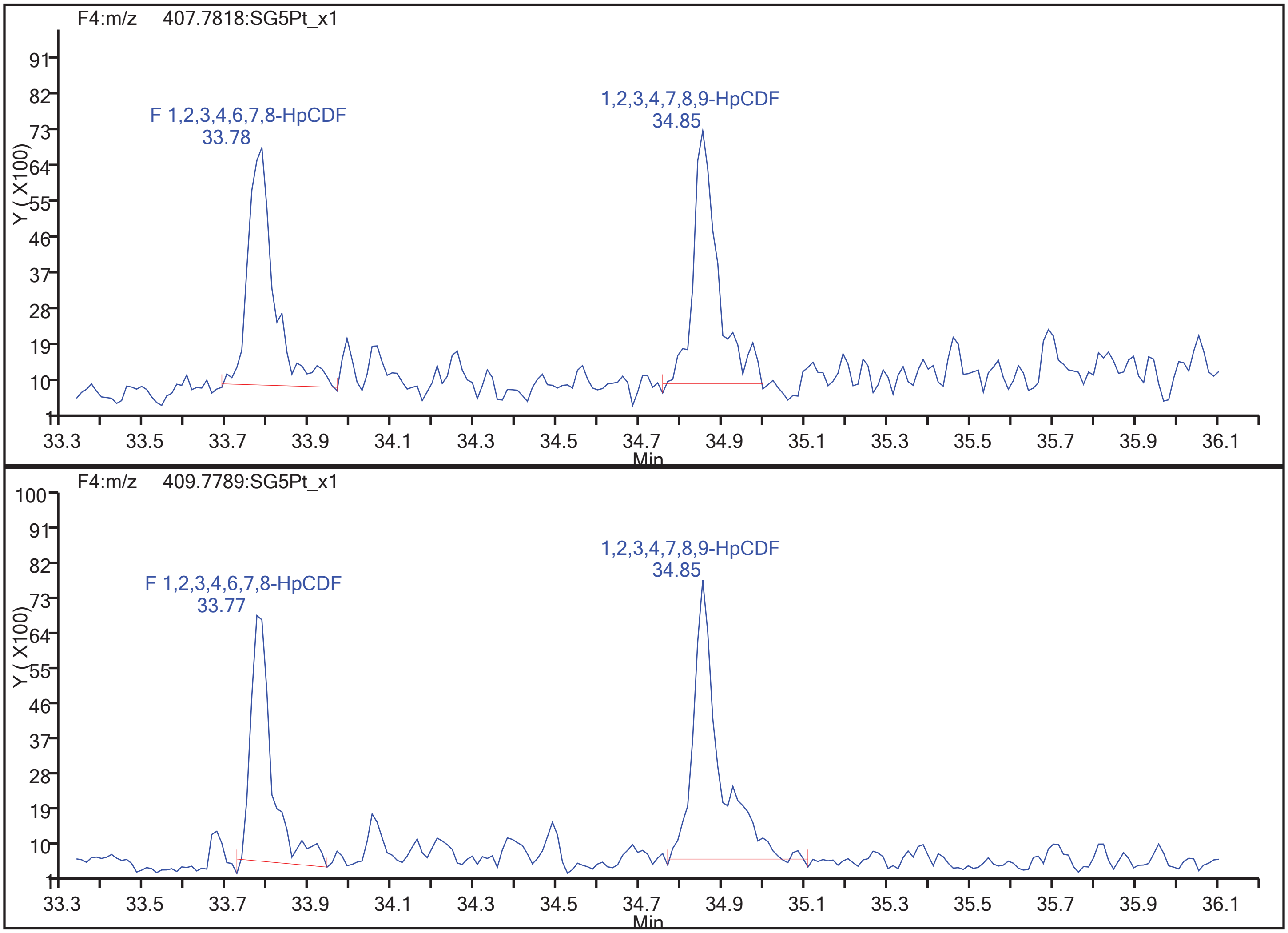
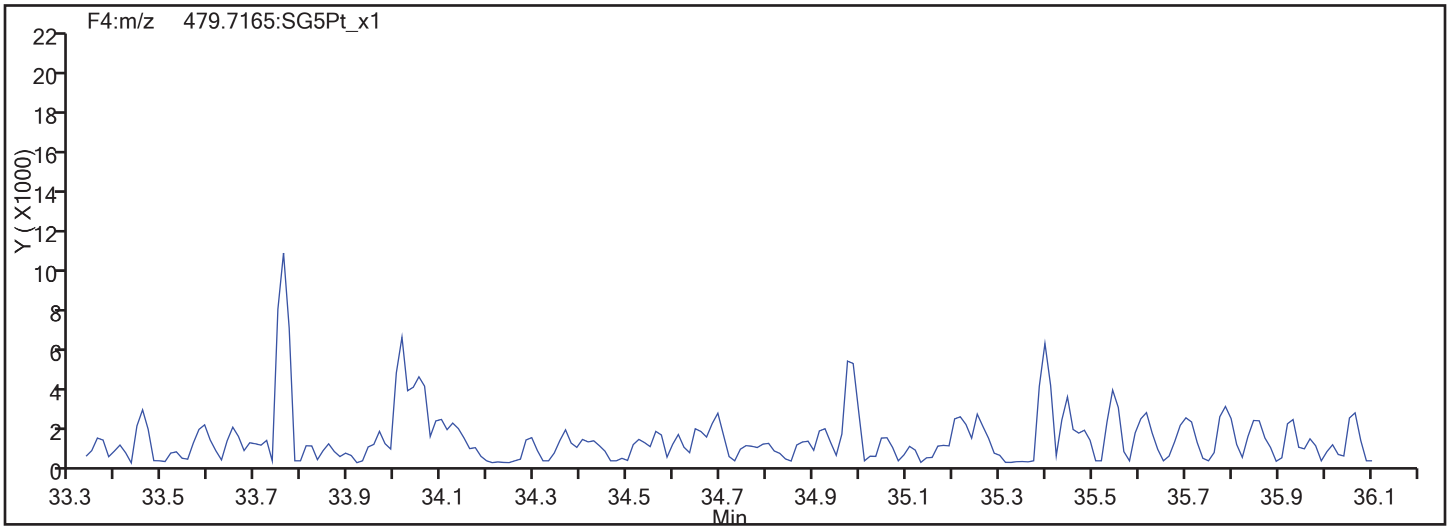


HpCDF Interference Mass



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TestAmerica Sacramento

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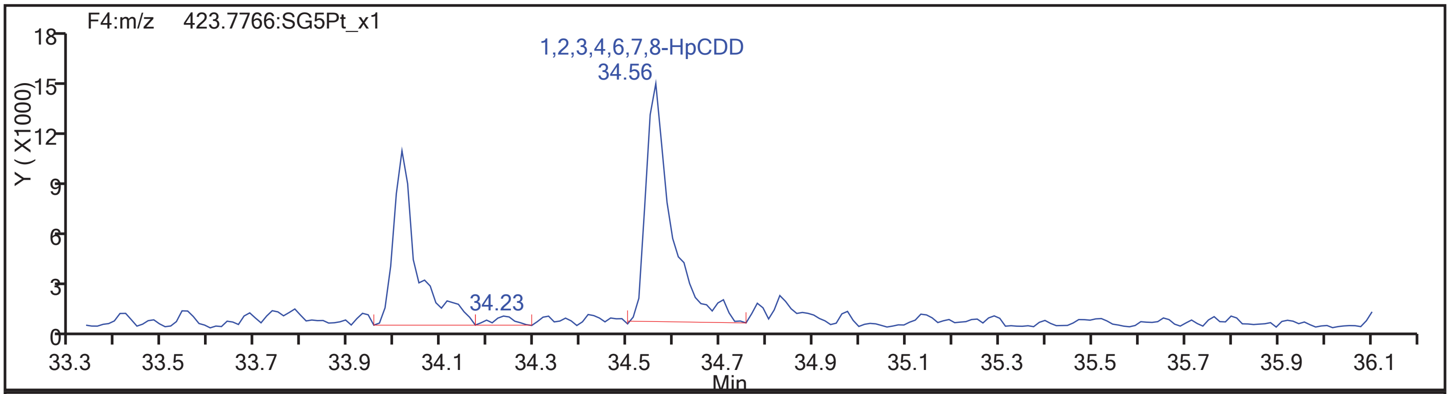

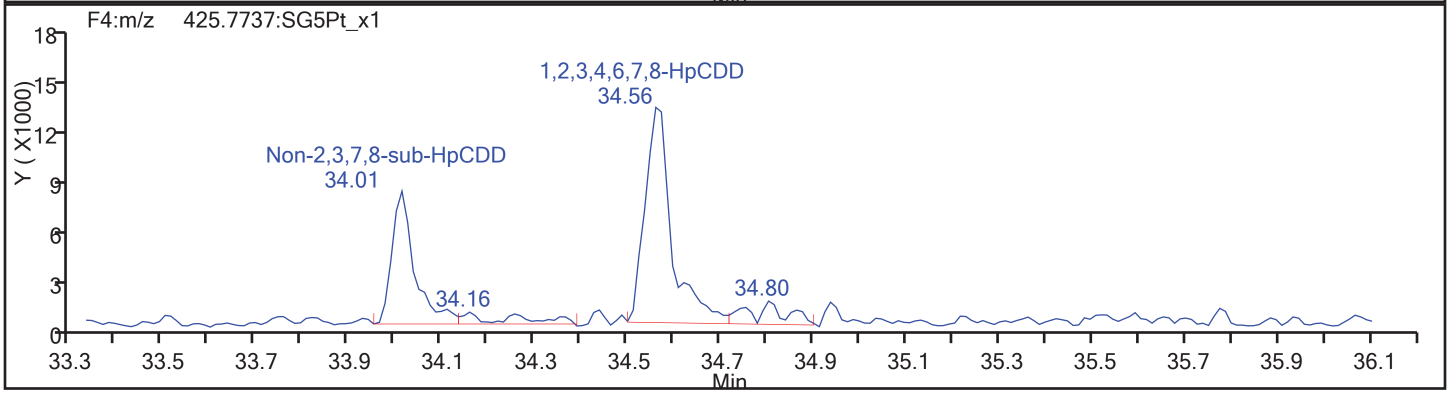

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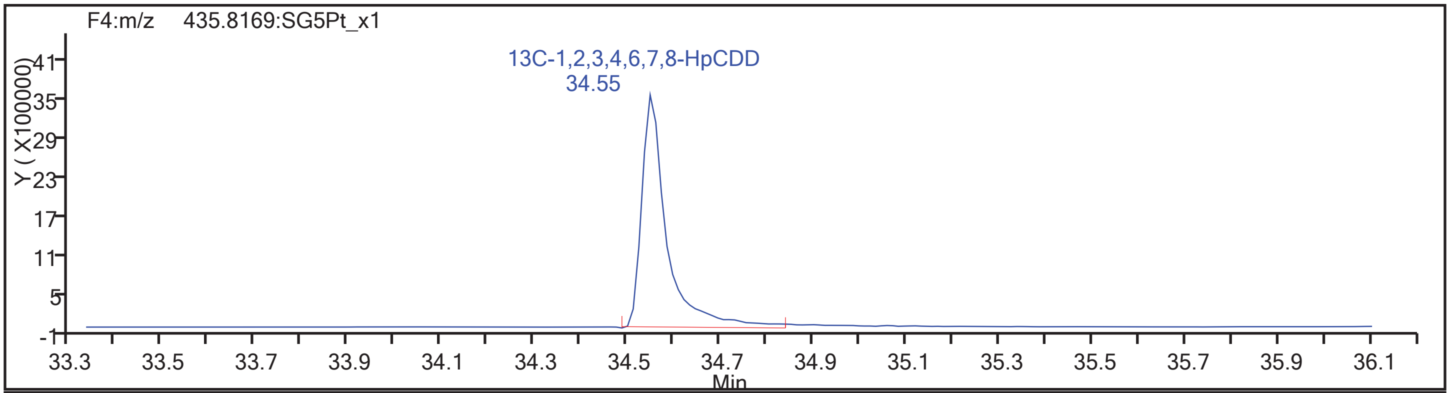

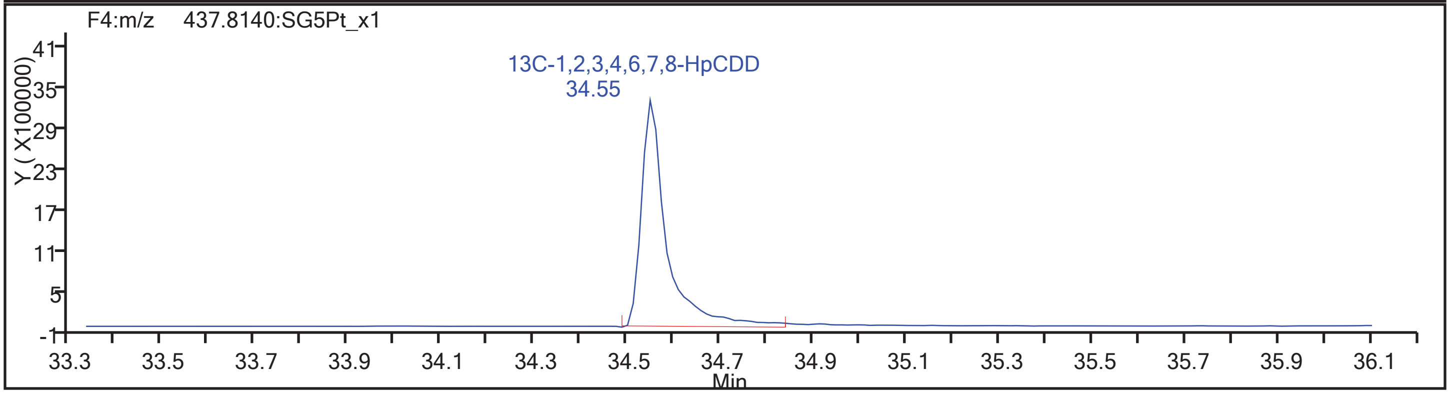

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TestAmerica Sacramento

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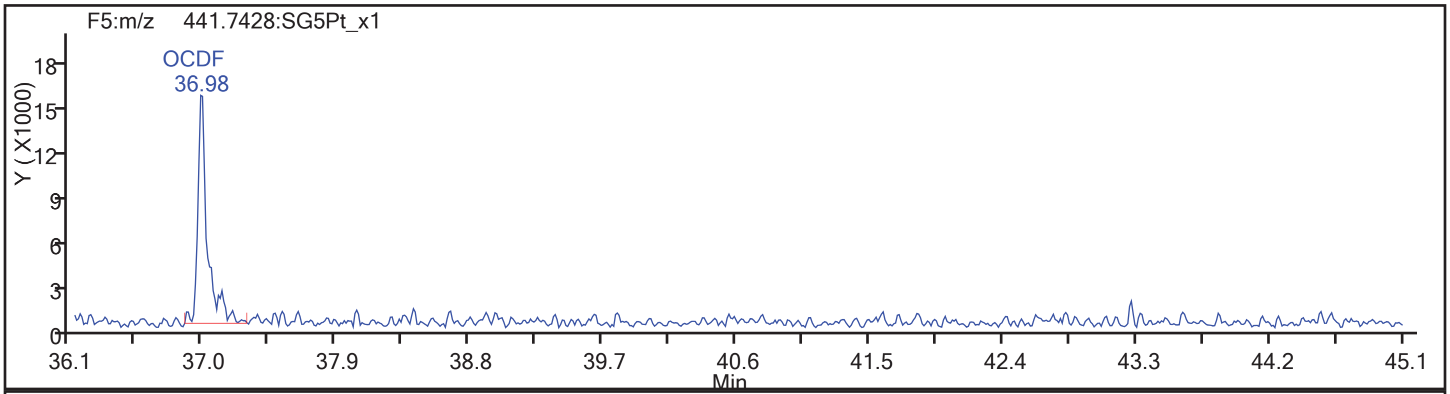

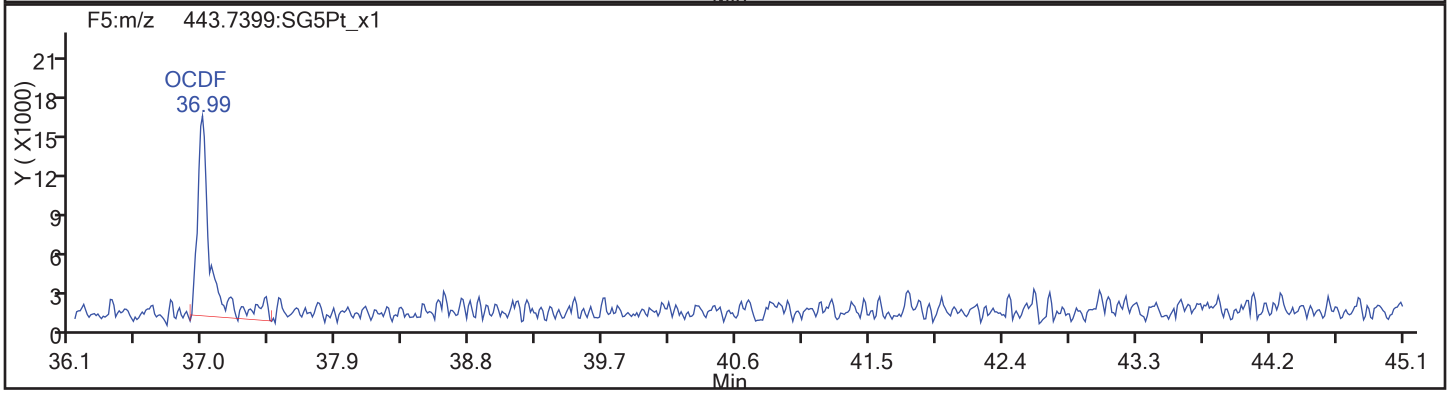

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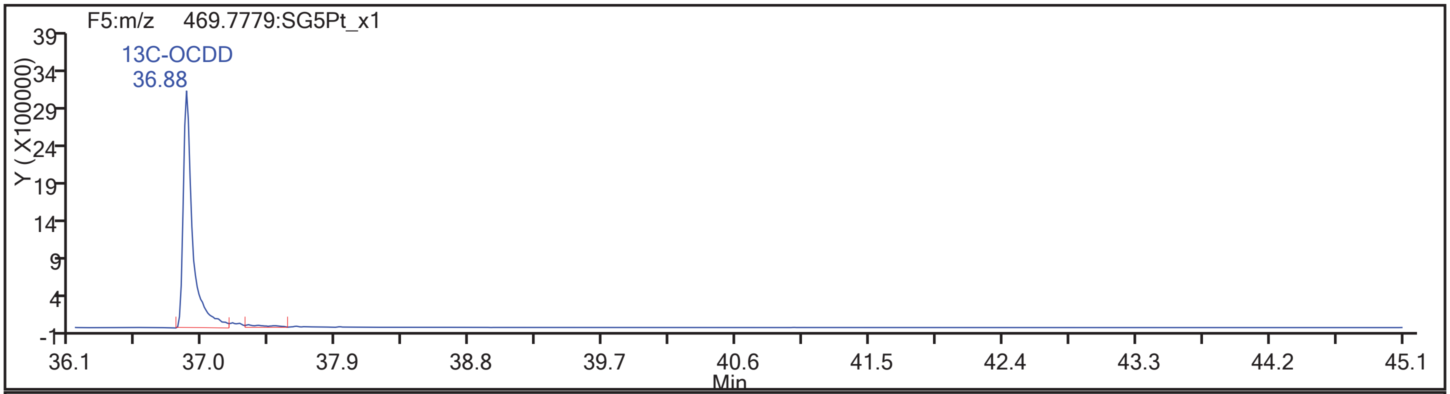

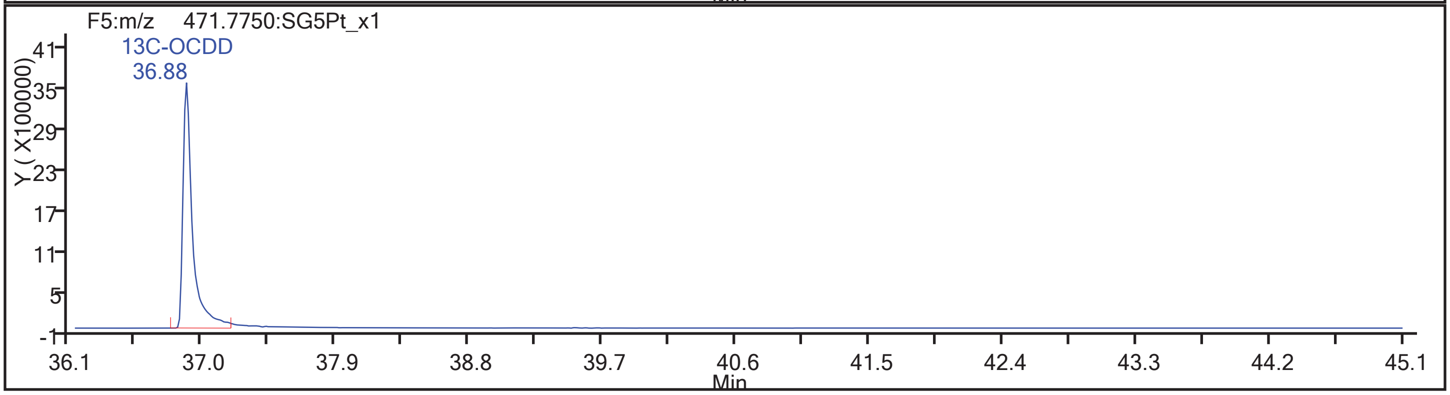

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TestAmerica Sacramento

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Injection Date: 12-Nov-2017 01:33:10
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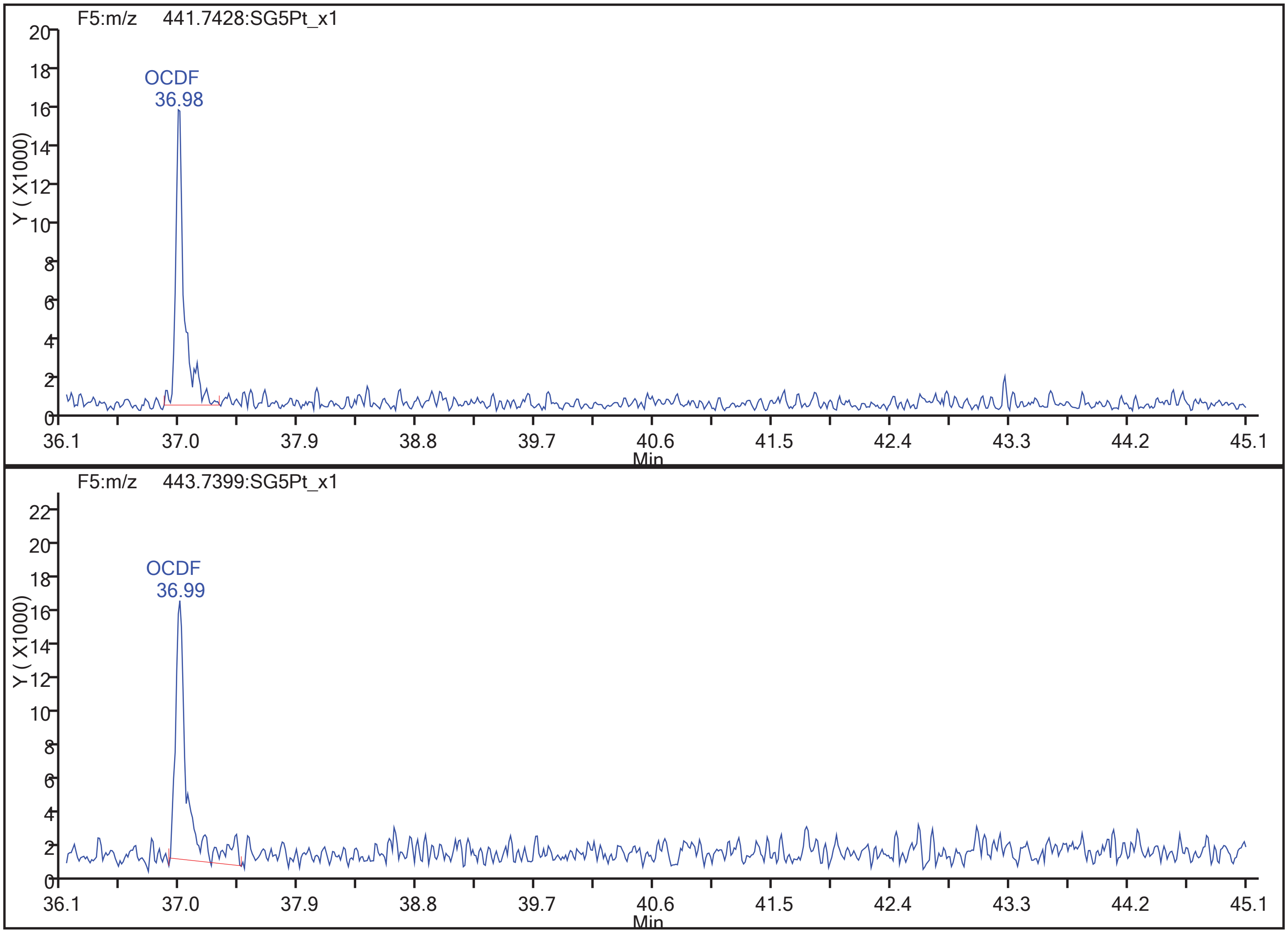
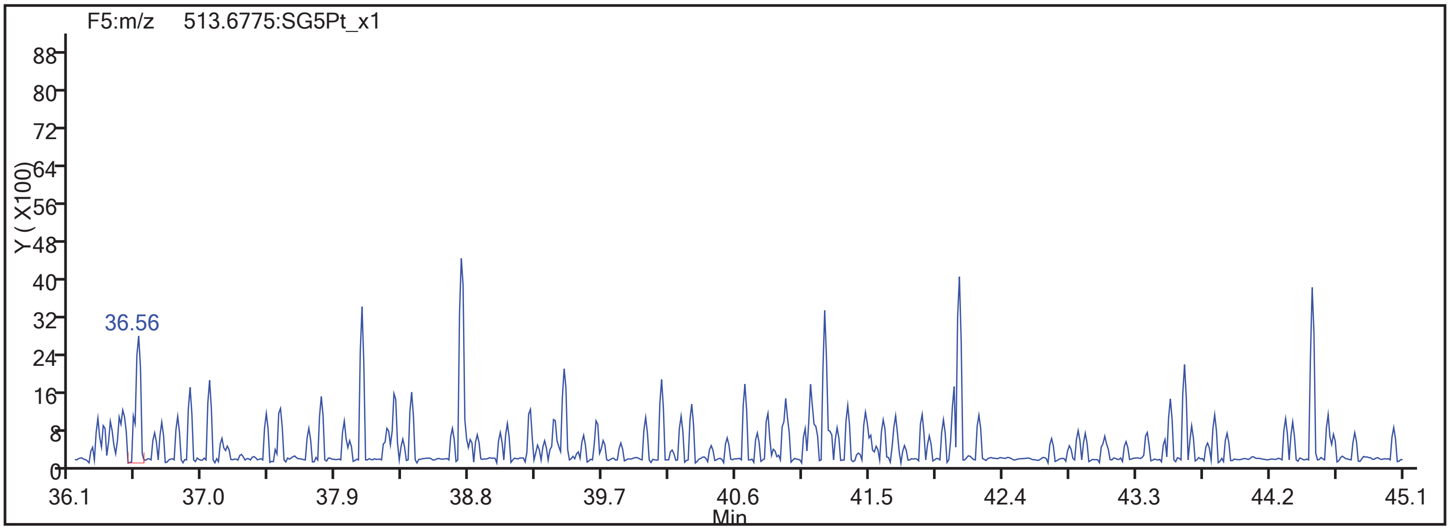


OCDF Interference Mass



TestAmerica Sacramento

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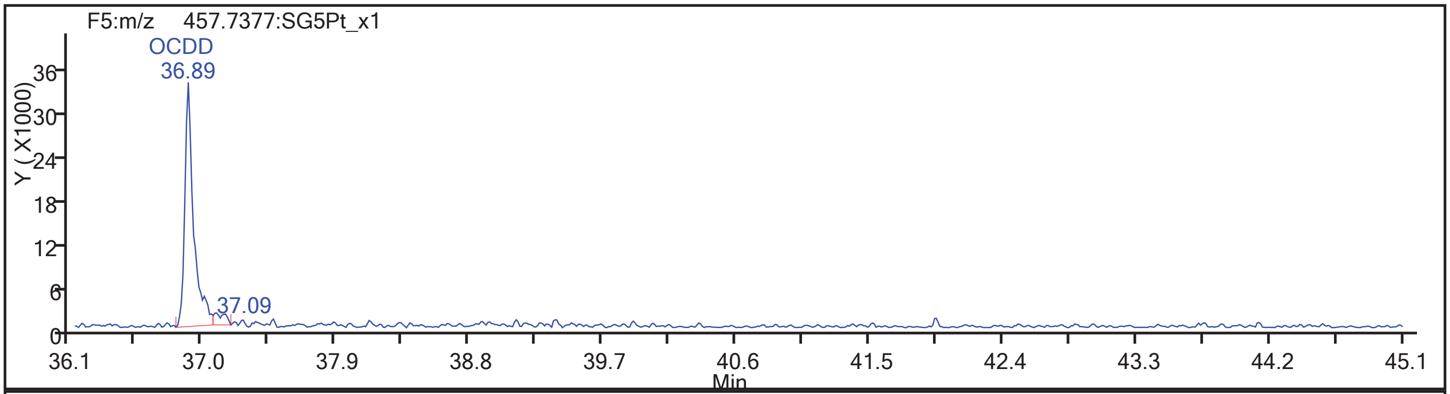

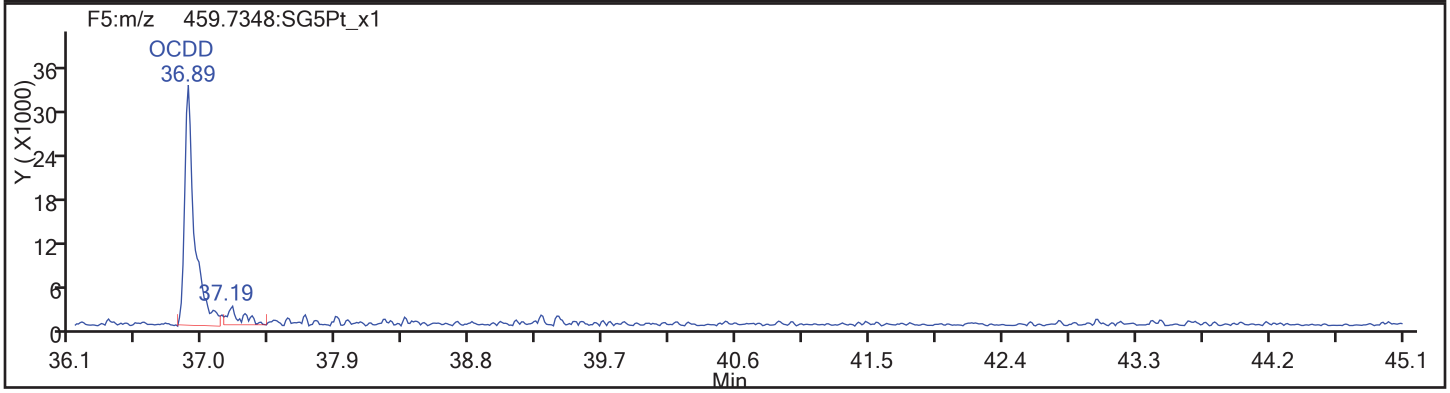

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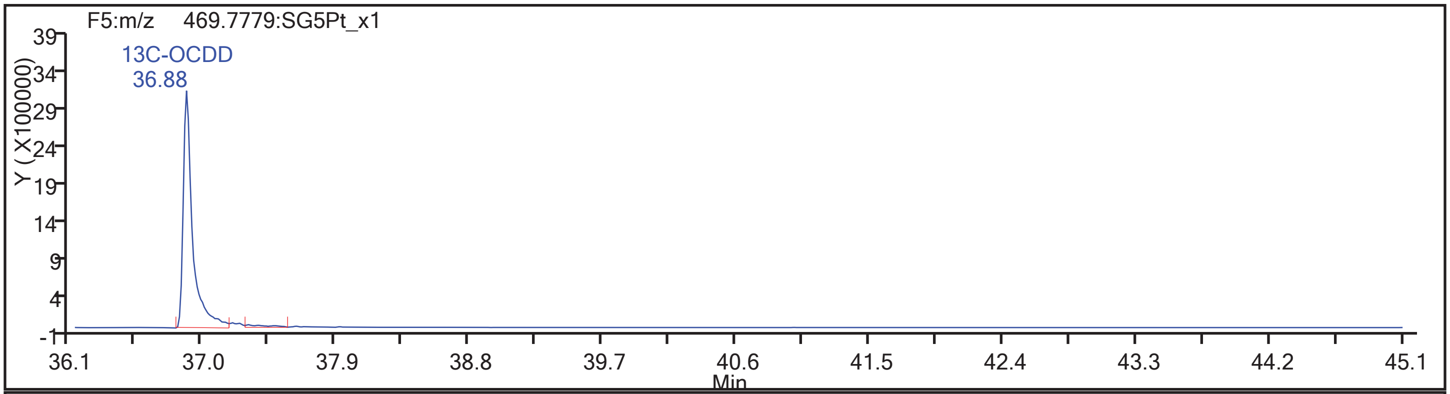

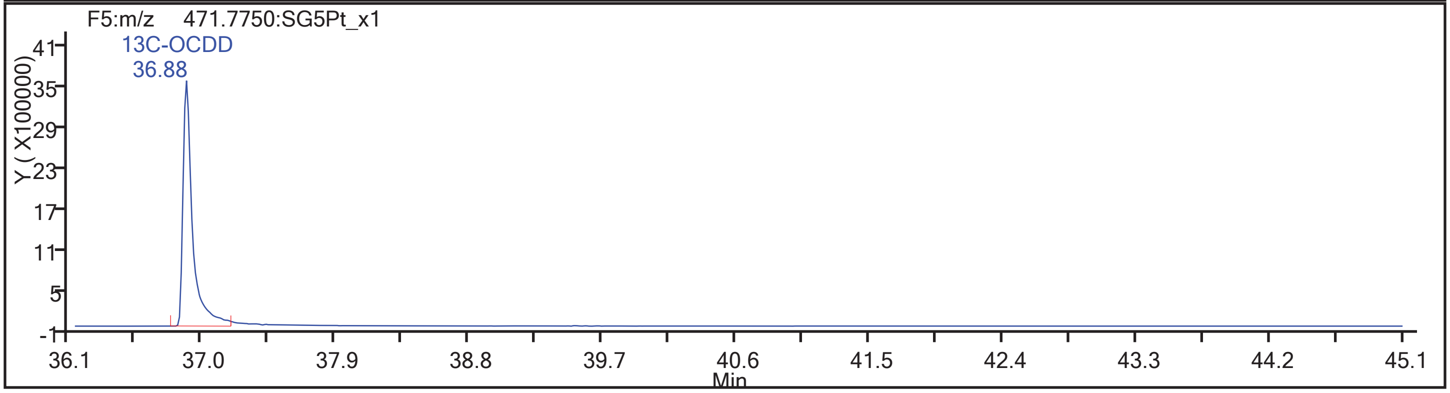

TestAmerica Sacramento

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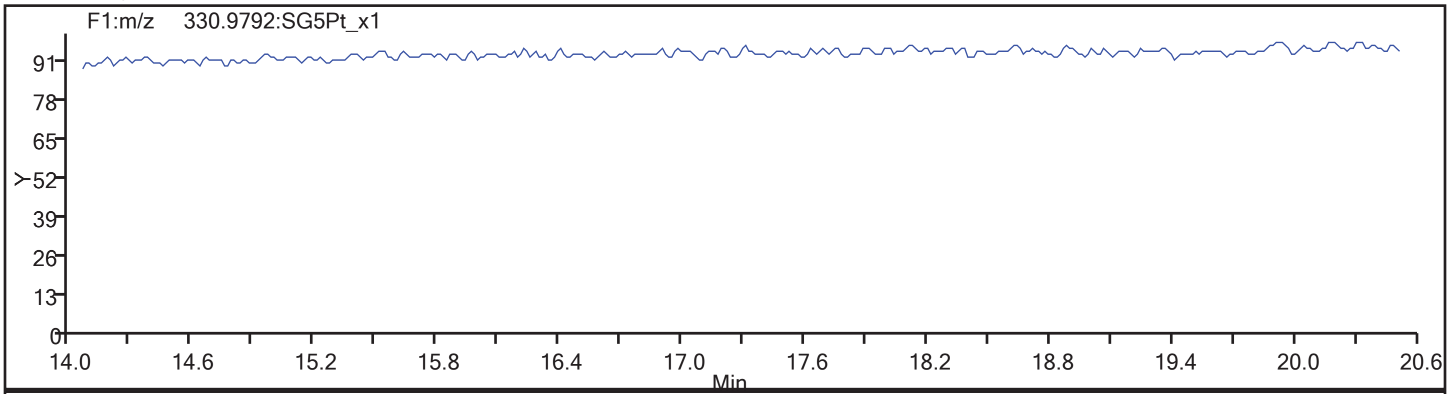
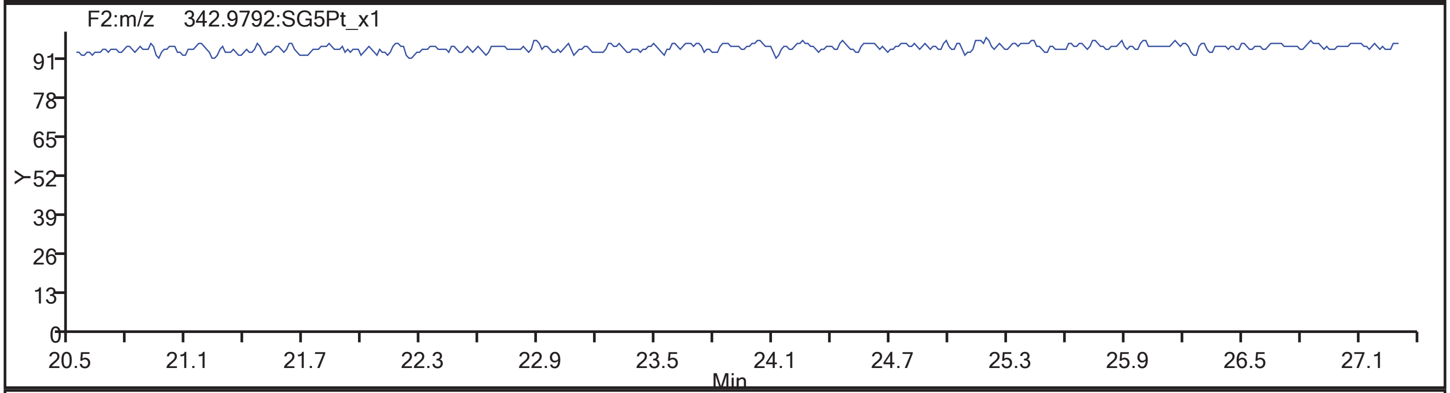
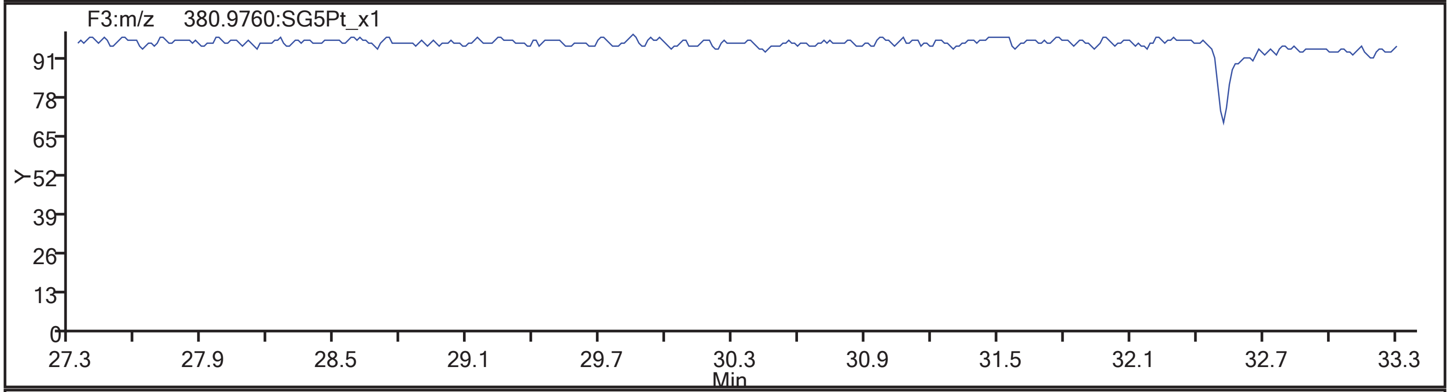
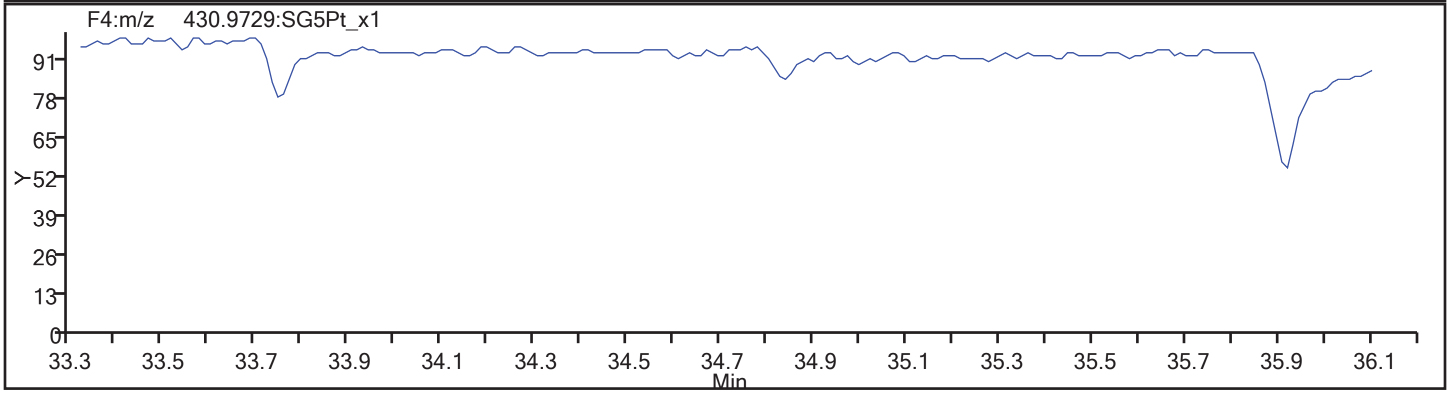


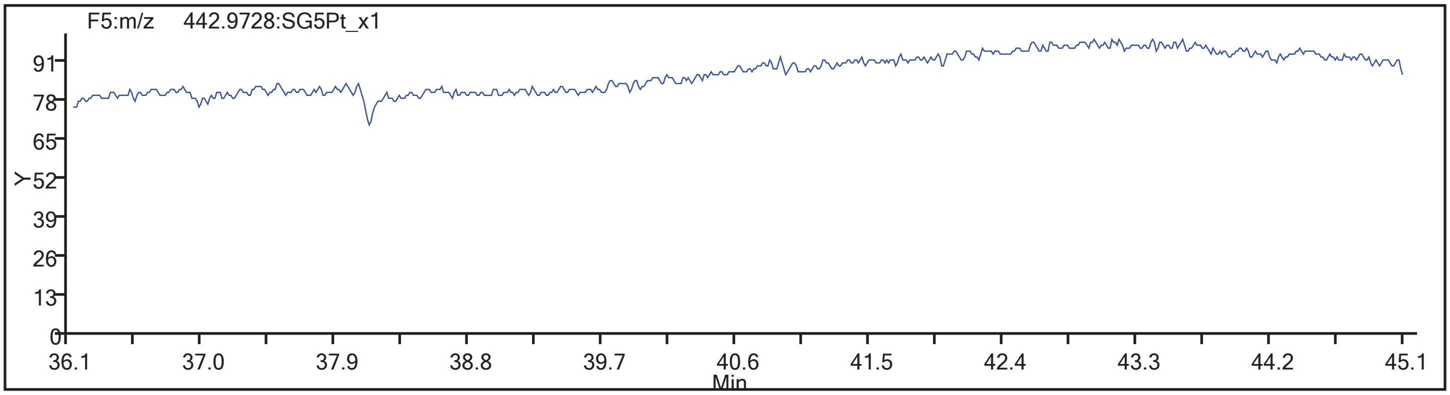






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_82.d		
Injection Date:	12-Nov-2017 01:33:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	194086	Sample Line#:	82
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP022SS06NS RE
Lab Sample ID: 160-24924-12 RE
Matrix: Solid
Lab File ID: 16NO173D5_83.d
Analysis Method: 8290A
Date Collected: 10/05/2017 17:23
Extract. Method: 8290
Date Extracted: 11/16/2017 11:16
Sample wt/vol: 9.91(g)
Date Analyzed: 11/19/2017 13:26
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 10.8
GPC Cleanup:(Y/N) N
Analysis Batch No.: 195575
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.45	U H	1.1	0.45	0.078
51207-31-9	2,3,7,8-TCDF	0.45	U H	1.1	0.45	0.062
40321-76-4	1,2,3,7,8-PeCDD	0.85	U H	5.7	0.85	0.14
57117-41-6	1,2,3,7,8-PeCDF	0.85	U H	5.7	0.85	0.072
57117-31-4	2,3,4,7,8-PeCDF	0.85	U H	5.7	0.85	0.074
39227-28-6	1,2,3,4,7,8-HxCDD	0.29	J H	5.7	2.3	0.087
57653-85-7	1,2,3,6,7,8-HxCDD	2.3	U H	5.7	2.3	0.078
19408-74-3	1,2,3,7,8,9-HxCDD	0.24	J H	5.7	2.3	0.075
70648-26-9	1,2,3,4,7,8-HxCDF	0.85	U H	5.7	0.85	0.086
57117-44-9	1,2,3,6,7,8-HxCDF	1.1	U H	5.7	1.1	0.079
72918-21-9	1,2,3,7,8,9-HxCDF	1.1	U H	5.7	1.1	0.090
60851-34-5	2,3,4,6,7,8-HxCDF	0.85	U H	5.7	0.85	0.084
35822-46-9	1,2,3,4,6,7,8-HpCDD	1.9	J H	5.7	1.1	0.20
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.39	J H	5.7	1.1	0.24
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.3	U H	5.7	2.3	0.31
3268-87-9	OCDD	27	H B	11	4.5	0.29
39001-02-0	OCDF	3.3	J H	11	4.5	0.20

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	63		40-135
89059-46-1	13C-2,3,7,8-TCDF	64		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	63		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	62		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	57		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	58		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	53		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	49		40-135
114423-97-1	13C-OCDD	43		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d
Lims ID: 160-24924-G-12-B
Client ID: SHAD041DP022SS06NS
Sample Type: Client
Inject. Date: 19-Nov-2017 13:26:53 ALS Bottle#: 53 Worklist Smp#: 83
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-12-B 160-24924-G-12-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:02:10 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: stephensk Date: 19-Nov-2017 19:44:24

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	120079863	0.78	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.705	115444242	0.78	1.5089	63.7	63.7	0.2422	0.2422	63.72	
2,3,7,8-TCDF	17.720						0.0276	0.0276		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF							0.0276	0.0276		
D 13C-2,3,7,8-TCDD	18.430	75053090	0.78	0.9906	63.1	63.1	0.2443	0.2443	63.10	
2,3,7,8-TCDD	18.461						0.0345	0.0345		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD							0.0345	0.0345		
D 13C-1,2,3,7,8-PeCDF	22.883	84120104	1.61	1.1280	62.1	62.1	0.2164	0.2164	62.10	
1,2,3,7,8-PeCDF	22.910						0.0320	0.0320		
2,3,4,7,8-PeCDF	24.287						0.0329	0.0329		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF							0.0329	0.0329		
D 13C-1,2,3,7,8-PeCDD	25.010	54706190	1.65	0.7269	62.7	62.7	0.1251	0.1251	62.68	
1,2,3,7,8-PeCDD	25.037						0.0609	0.0609		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0609	0.0609		
D 13C-1,2,3,4,7,8-HxCDF	30.919	63202372	0.49	1.0279	57.6	57.6	0.3282	0.3282	57.64	
1,2,3,4,7,8-HxCDF	30.932						0.0381	0.0381		
1,2,3,6,7,8-HxCDF	31.092						0.0347	0.0347		
2,3,4,6,7,8-HxCDF	31.838						0.0371	0.0371		
D 13C-1,2,3,7,8,9-HxCDF	32.583	65626791	0.53							
1,2,3,7,8,9-HxCDF	32.597						0.0398	0.0398		
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF							0.0398	0.0398		
* 13C-1,2,3,7,8,9-HxCDD	32.397	106661959	1.26	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.011	71219	1.34	1.0646	0.1291	0.1291	0.0383	0.0383		
D 13C-1,2,3,6,7,8-HxCDD	32.091	51816630	1.24	0.8502	57.1	57.1	0.3085	0.3085	57.14	
1,2,3,6,7,8-HxCDD	32.011						0.0345	0.0345		U

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.464	66307	1.31	1.2311	0.1039	0.1039	0.0331	0.0331		
A Non-2,3,7,8-sub-HxCDD	31.252						0.0	0.0		
S Total HxCDD					0.2330	0.2330	0.0353	0.0353		
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	33819311	0.44	0.6490	48.9	48.9	0.6604	0.6604	48.86	
1,2,3,4,6,7,8-HpCDF	34.022	92330	1.04	1.5871	0.4070	0.1720	0.1058	0.1058		RQ
1,2,3,4,7,8,9-HpCDF	35.128						0.1367	0.1367		
A Non-2,3,7,8-sub-HpCDF	34.569						0.0	0.0		
S Total HpCDF					0.4070	0.1720	0.1213	0.1213		RQ
1,2,3,4,6,7,8-HpCDD	34.824	291506	1.05	1.1631	0.8288	0.8288	0.0876	0.0876		
D 13C-1,2,3,4,6,7,8-HpCDD	34.812	30238462	1.06	0.5387	52.6	52.6	0.4345	0.4345	52.63	
A Non-2,3,7,8-sub-HpCDD	35.261	200300	1.20	1.1631	0.5695	0.5695	0.0876	0.5695		
S Total HpCDD					1.398	1.398	0.0876	0.0876		
D 13C-OCDD	37.233	37110676	0.89	0.4009	86.8	86.8	0.2421	0.2421	43.39	
OCDF	37.353	340514	0.97	1.2649	1.451	1.451	0.0862	0.0862		
OCDD	37.245	2270342	0.95	1.0390	11.8	11.8	0.1270	0.1270		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d
Lims ID: 160-24924-G-12-B
Client ID: SHAD041DP022SS06NS
Sample Type: Client
Inject. Date: 19-Nov-2017 13:26:53 ALS Bottle#: 53 Worklist Smp#: 83
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-12-B 160-24924-G-12-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:02:10 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: stephensk Date: 19-Nov-2017 19:44:24

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		52448101	12588617	12819	32047	982		
333.9339	18.234	18.234	0		67631762	15859014	14714	36785	1078	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	0.971	50626263	12009977	25877	64692	464		
317.9389	17.705	17.705	0	0.971	64817979	15327698	15712	39280	976	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						1017	2542			
305.8987	17.720						2292	5730			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						1017	2542			
305.8987	17.402						2292	5730			
13C-2,3,7,8-TCDD											
331.9368	18.430	18.430	0	1.011	32858393	7188860	12819	32047	561		
333.9339	18.430	18.430	0	1.011	42194697	9055972	14714	36785	615	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461						1680	4200			
321.8936	18.461						934	2335			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						1680	4200			
321.8936	17.871						934	2335			
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.883	0	1.255	51866378	8813738	17238	43095	511		
353.8970	22.883	22.883	0	1.255	32253726	5326220	10544	26360	505	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						692	1730			
341.8567	22.910						1374	3435			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	24.287						692	1730			
341.8567	24.287						1374	3435			
A F1 PeCDFs											
339.8597	20.426						510	1275			
341.8567	20.426						1368	3420			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						692	1730			
341.8567	23.668						1374	3435			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.372	34044205	5067184	5944	14860	852		
369.8919	24.996	25.010	-1	1.371	20661985	2971178	4404	11010	675	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037						1192	2980			
357.8516	25.037						1017	2542			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1192	2980			
357.8516	23.878						1017	2542			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.919	0	0.954	20790872	4420844	12481	31202	354		
385.8610	30.919	30.919	0	0.954	42411500	9113982	24764	61910	368	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						1751	4377			
375.8178	30.932						1030	2575			
1,2,3,6,7,8-HxCDF											
373.8208	31.092						1751	4377			
375.8178	31.092						1030	2575			
2,3,4,6,7,8-HxCDF											
373.8208	31.838						1751	4377			
375.8178	31.838						1030	2575			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.006	22754335	6004262	12481	31202	481		
385.8610	32.583	32.583	0	1.006	42872456	11305452	24764	61910	457	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						1751	4377			
375.8178	32.597						1030	2575			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						1751	4377			
375.8178	30.653						1030	2575			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.397	32.410	-1		59472979	15258662	16929	42322	901		
403.8529	32.397	32.410	-1		47188980	12339102	12022	30055	1026	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.011	32.011	0	0.998	40755	9413	930	2325	10		
391.8127	31.997	32.011	-1	0.997	30464	11388	1168	2920	10	1.34(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.991	28716268	7022723	16929	42322	415		
403.8529	32.091	32.091	0	0.991	23100362	5846102	12022	30055	486	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											U
389.8157	32.104						930	2325			
391.8127	32.104						1168	2920			
1,2,3,7,8,9-HxCDD											
389.8157	32.464	32.424	2	1.012	37597	6067	930	2325	7		
391.8127	32.397	32.424	-2	1.010	28710	4181	1168	2920	4	1.31(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.252						930	2325			
391.8127	31.252						1168	2920			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	10305079	3318893	16563	41407	200		
419.8220	33.998	33.998	0	1.049	23514232	7538245	30752	76880	245	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7818	34.022	34.010	1	1.001	173176	56754	5875	14687	10		
	Empc Correction				47070	13998	5875	14687	2		
409.7789	34.022	34.010	1	1.001	45260	13460	1420	3550	9	3.83(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						5875	14687			
409.7789	35.128						1420	3550			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.569						5875	14687			
409.7789	34.569						1420	3550			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.824	34.824	0	1.000	149283	44977	1782	4455	25		
425.7737	34.824	34.824	0	1.000	142223	40012	1878	4695	21	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.812	34.824	-1	1.075	15570732	4544569	14355	35887	317		
437.8140	34.812	34.824	-1	1.075	14667730	4431619	11483	28707	386	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.265	35.261	-60	0.984	109138	37312	1782	4455	21		a
425.7737	34.265	35.261	-60	0.984	91162	29654	1878	4695	16	1.20(0.88-1.20)	
13C-OCDD											
469.7779	37.233	37.245	-1	1.149	17487608	4420563	4186	10465	1056		
471.7750	37.233	37.245	-1	1.149	19623068	4877684	6528	16320	747	0.89(0.76-1.02)	
OCDF											
441.7428	37.353	37.353	0	1.003	168090	41059	718	1795	57		
443.7399	37.353	37.353	0	1.003	172424	49423	1311	3277	38	0.97(0.76-1.02)	
OCDD											
457.7377	37.245	37.257	-1	1.000	1108031	265251	1223	3057	217		
459.7348	37.245	37.257	-1	1.000	1162311	281725	1231	3077	229	0.95(0.76-1.02)	

QC Flag Legend

Processing Flags

- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags

- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d		
Lims ID:	160-24924-G-12-B		
Client ID:	SHAD041DP022SS06NS		
Inject. Date:	19-Nov-2017 13:26:53	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	83

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	30238462	8976188

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	30238462	8976188

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.265	109138	37312	91162	29654	0.5695	1.20	
Signal Totals:							
	109138	37312	91162	29654			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	200300	66966				1.20	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

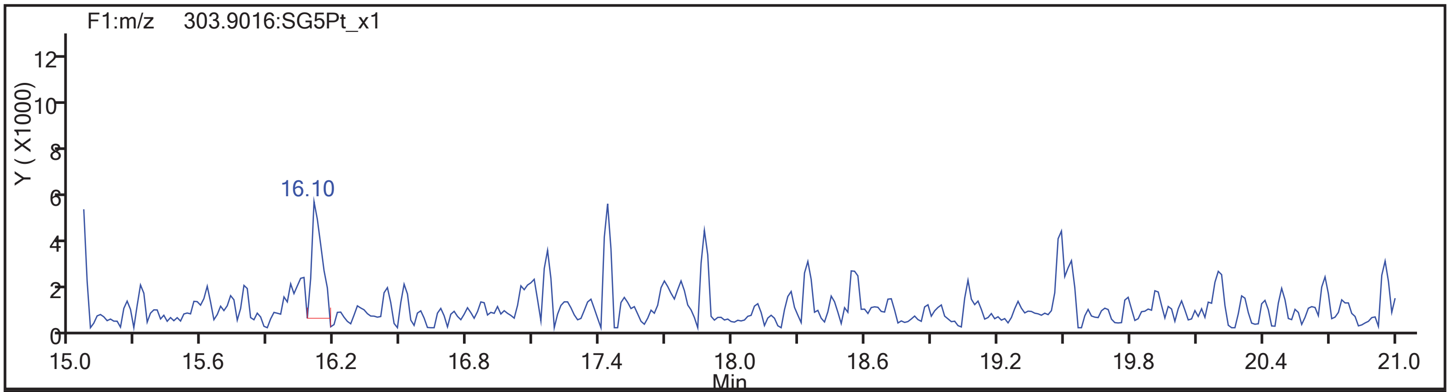
Amount: 0.5695 = (200300 * 100.000) / (30238462 * 1.163)

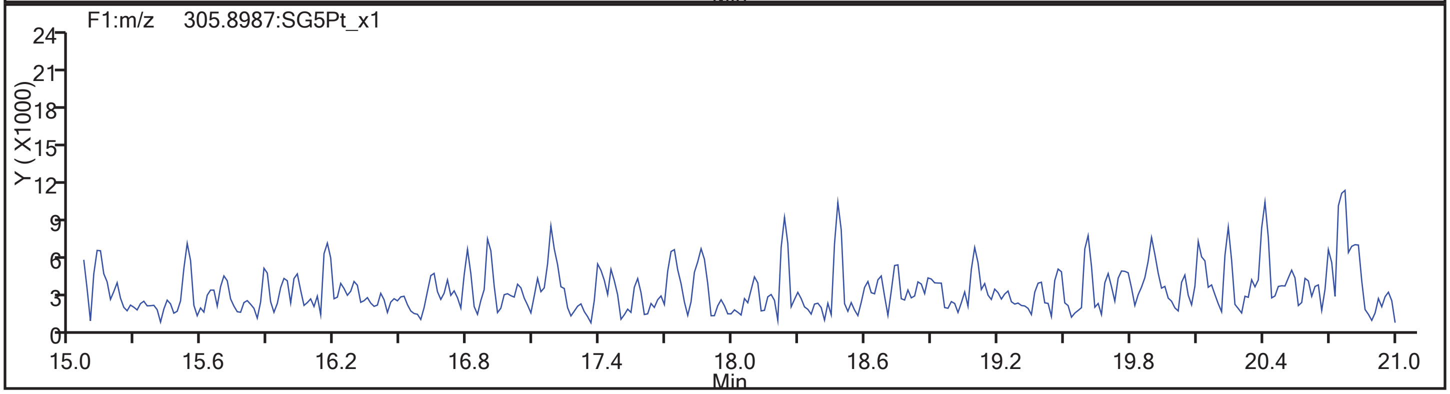
Report Date: 06-Dec-2017 15:02:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

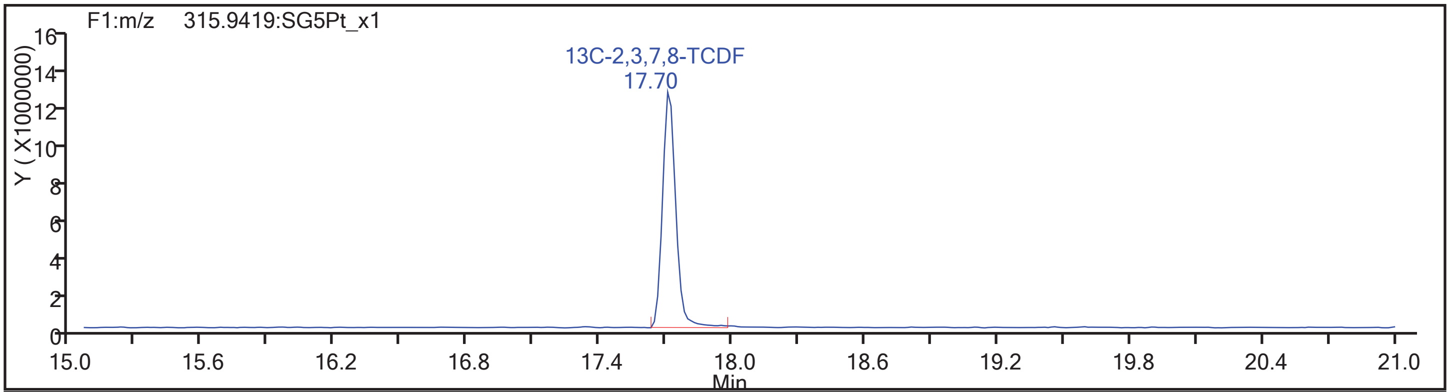
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d		
Injection Date:	19-Nov-2017 13:26:53	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	195575	Sample Line#:	83
Column Type:		Column Dia:	

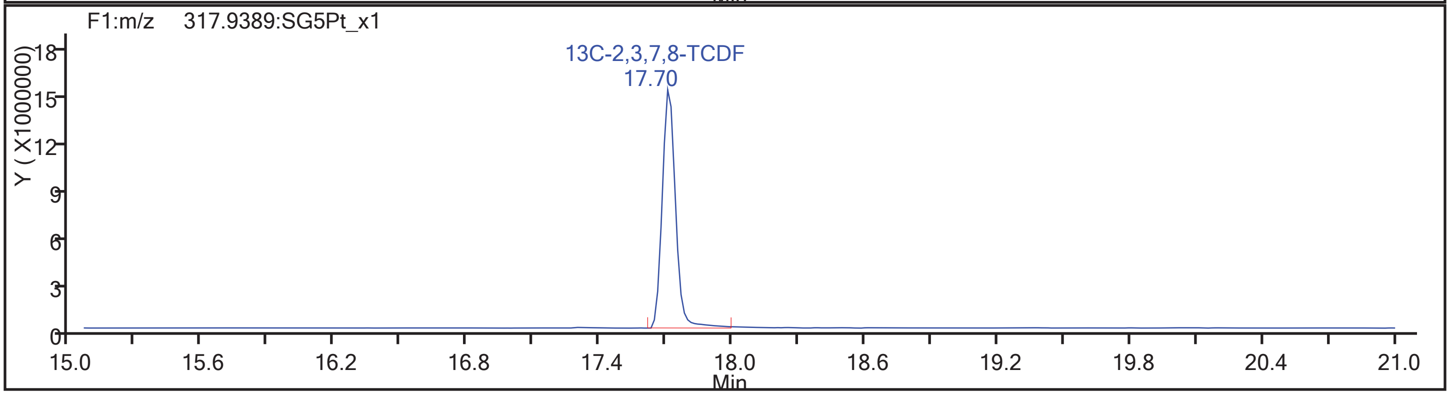
TCDF





TCDF Standards



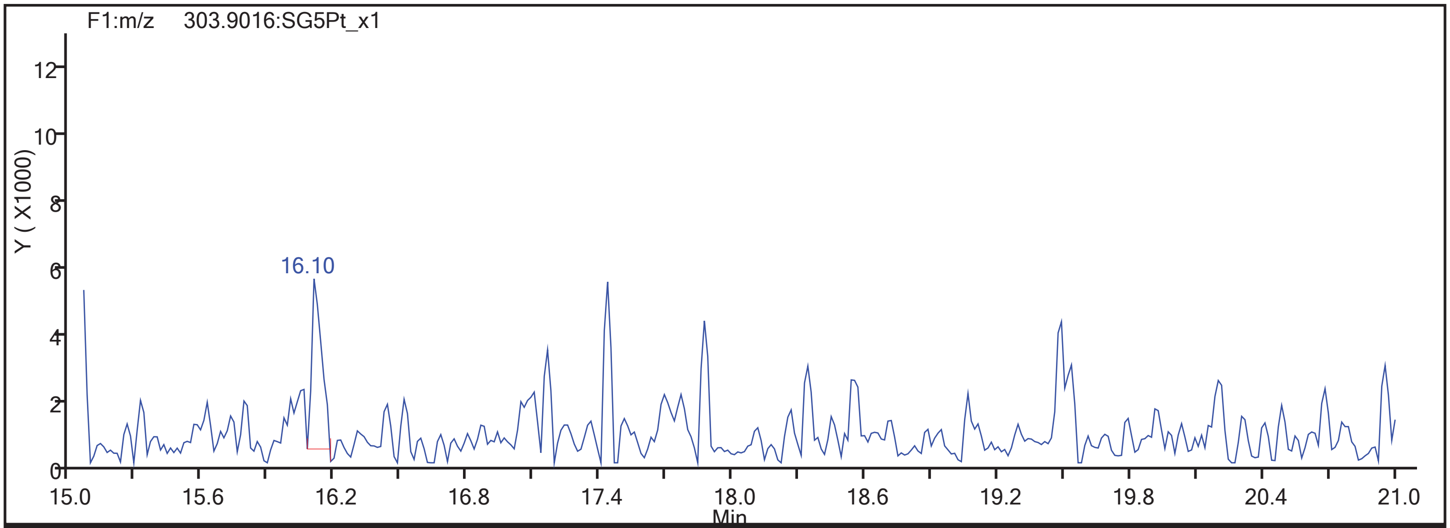


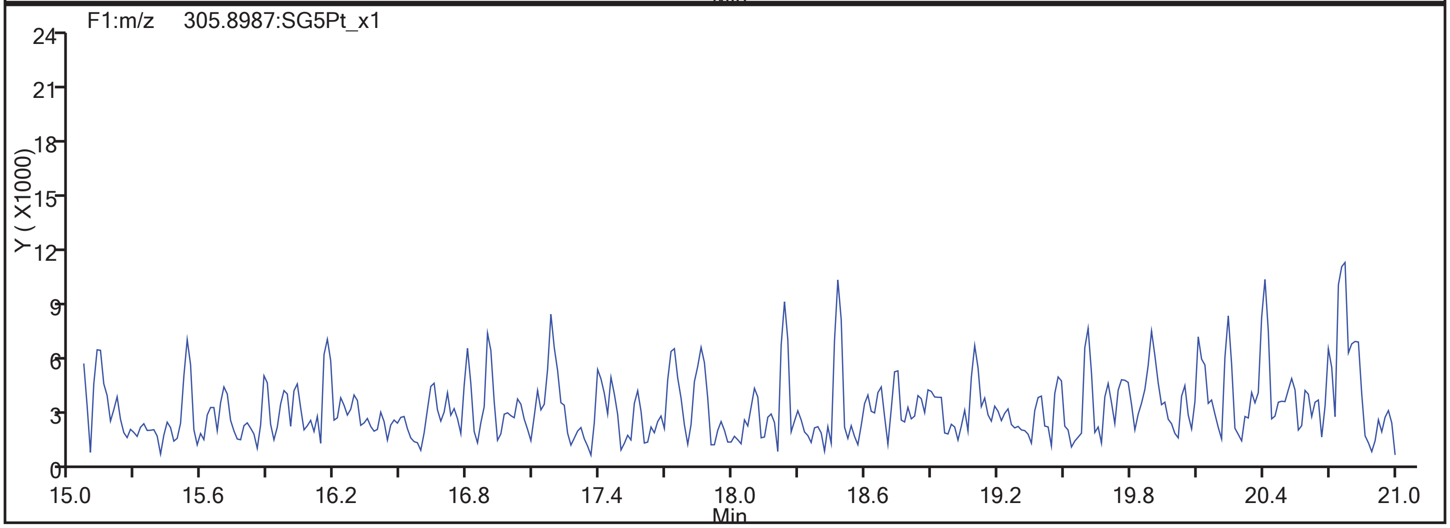
Report Date: 06-Dec-2017 15:02:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

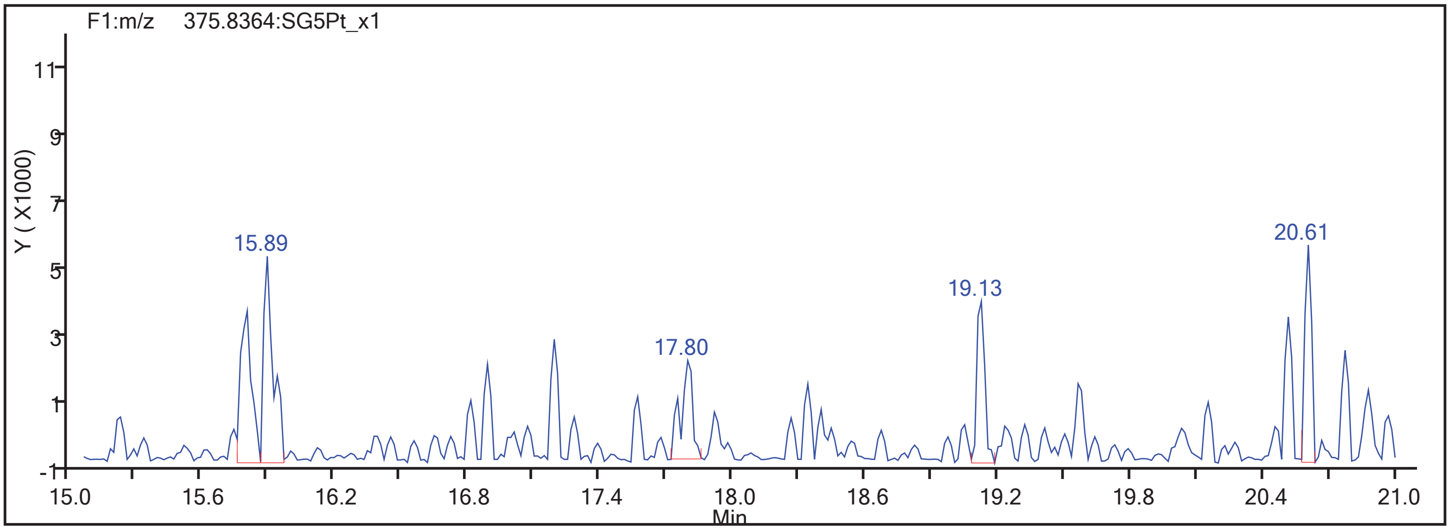
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d		
Injection Date:	19-Nov-2017 13:26:53	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	195575	Sample Line#:	83
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass

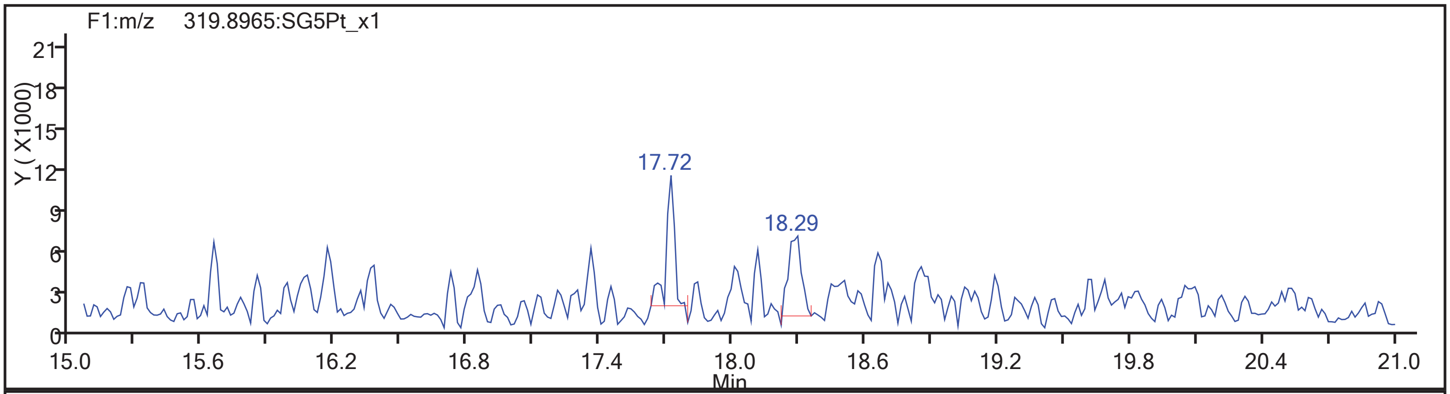


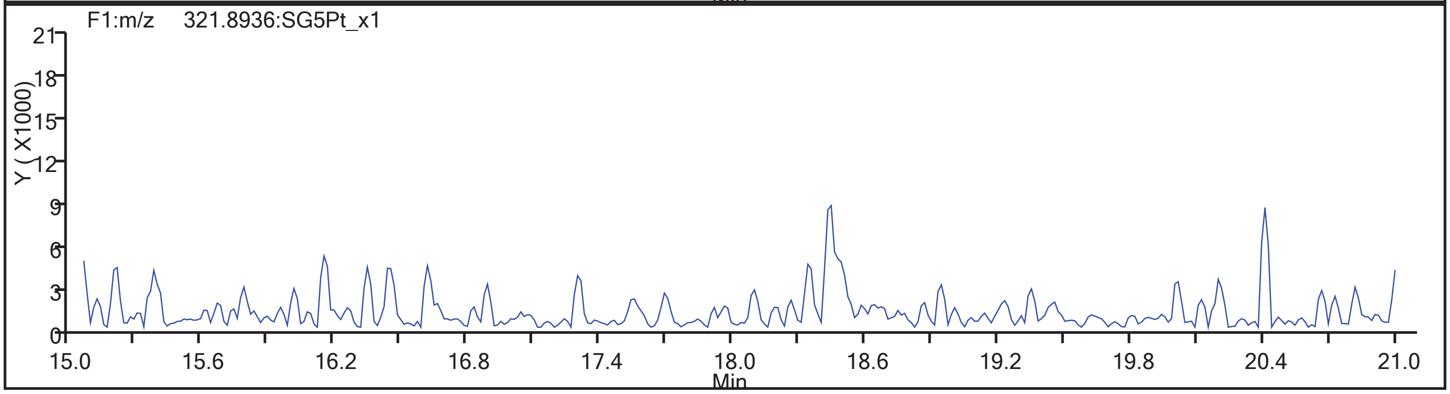
Report Date: 06-Dec-2017 15:02:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

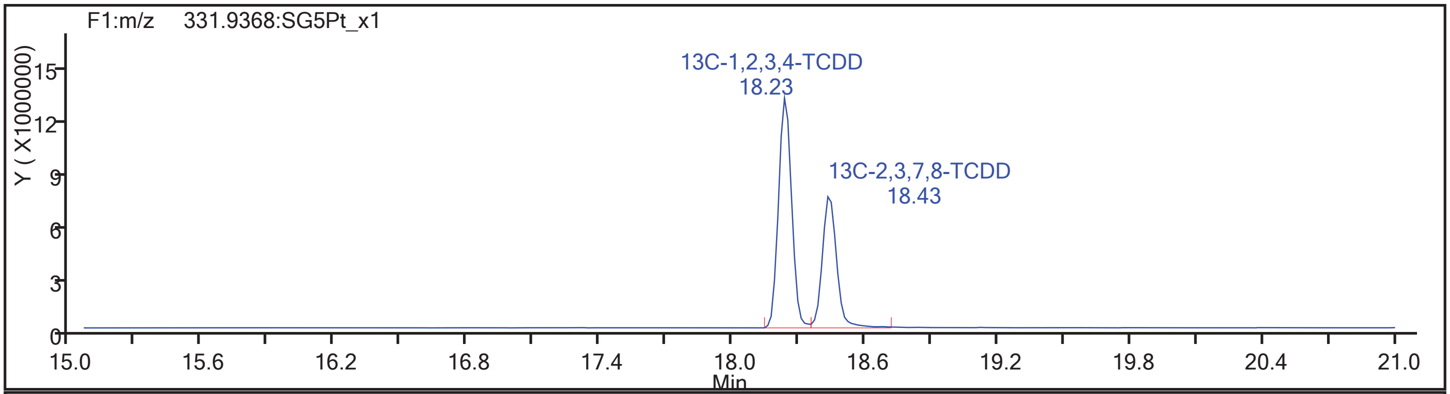
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d
Injection Date: 19-Nov-2017 13:26:53 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS06NS
Worklist#: 195575 Sample Line#: 83
Column Type: Column Dia:

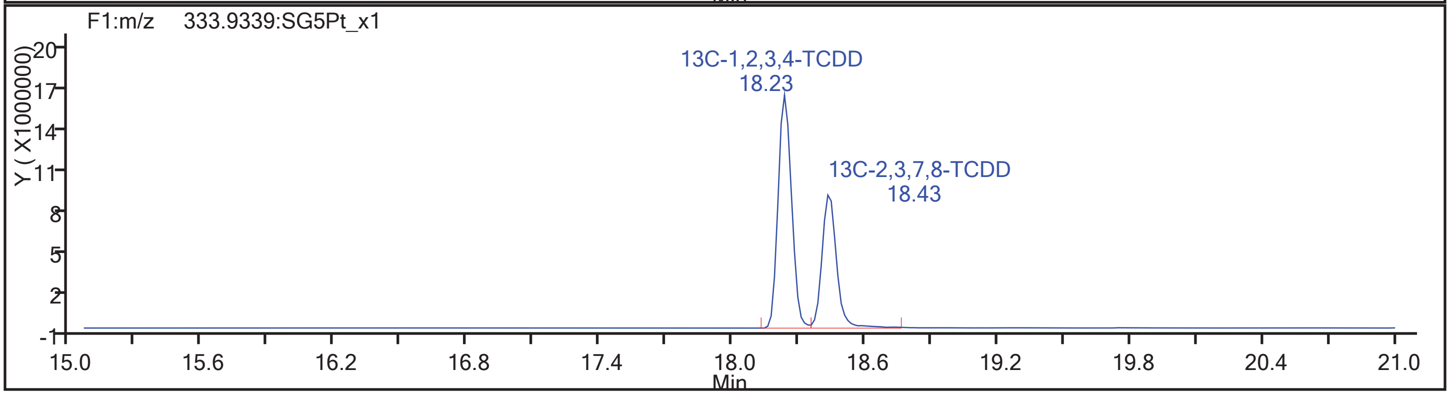
TCDD





TCDD Standards



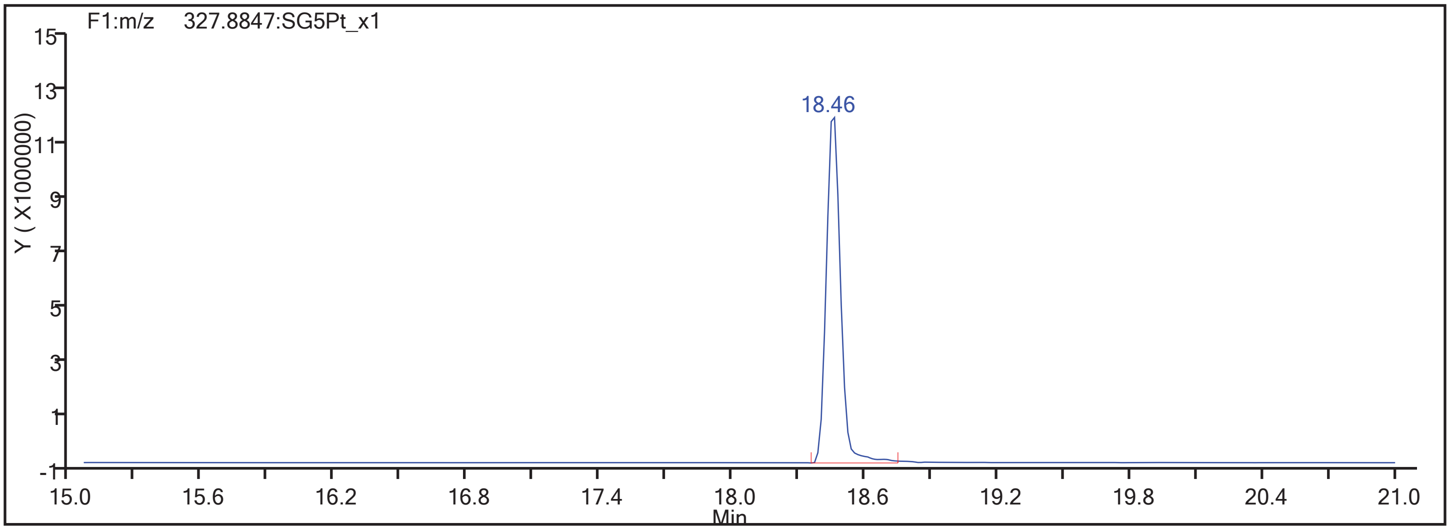


Report Date: 06-Dec-2017 15:02:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

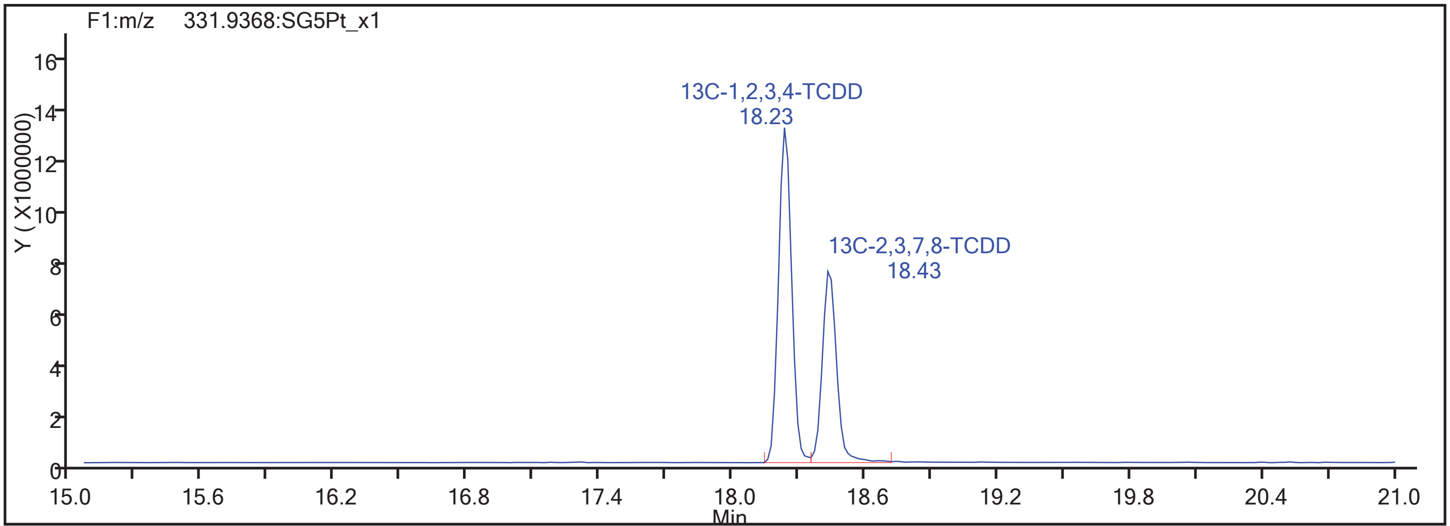
TestAmerica Sacramento

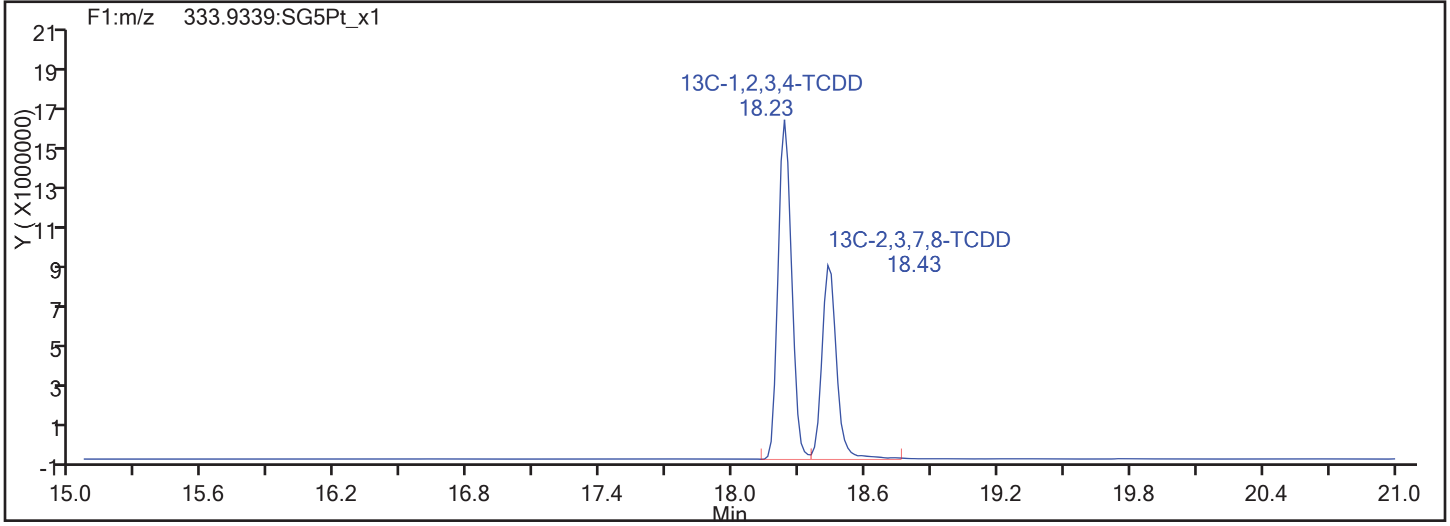
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d		
Injection Date:	19-Nov-2017 13:26:53	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	195575	Sample Line#:	83
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards





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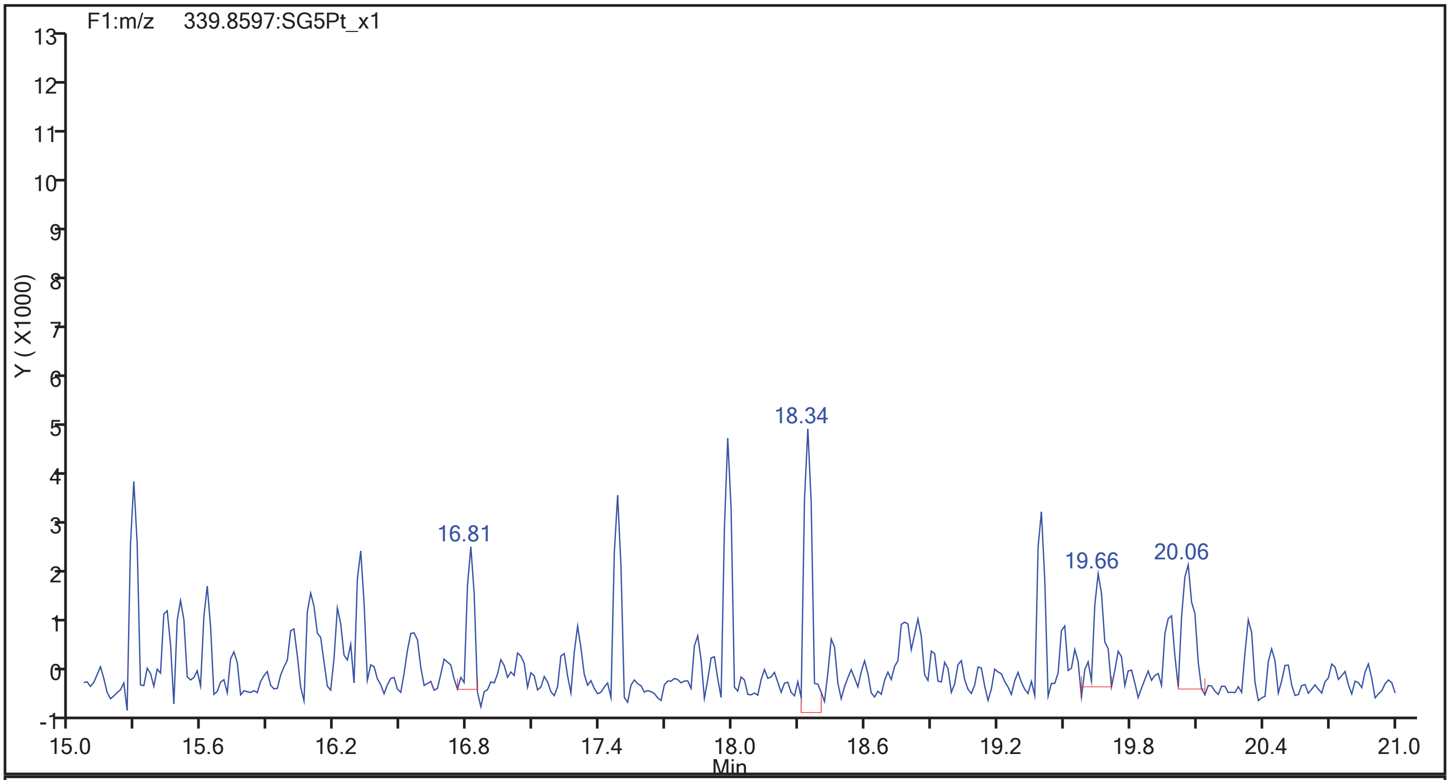
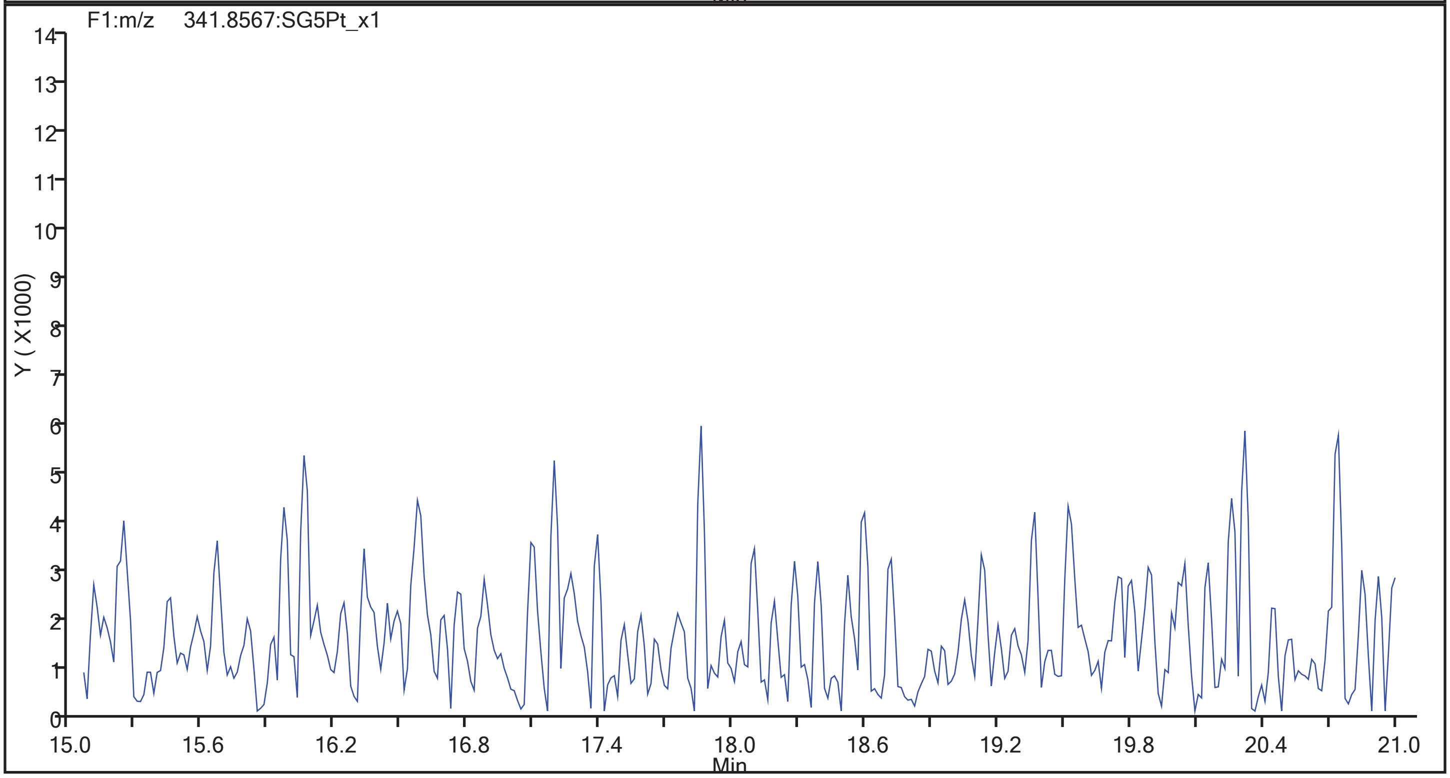
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d

Injection Date: 19-Nov-2017 13:26:53
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS06NS
Worklist#: 195575
Sample Line#: 83
Column Type:
Column Dia:

F1 PeCDFs





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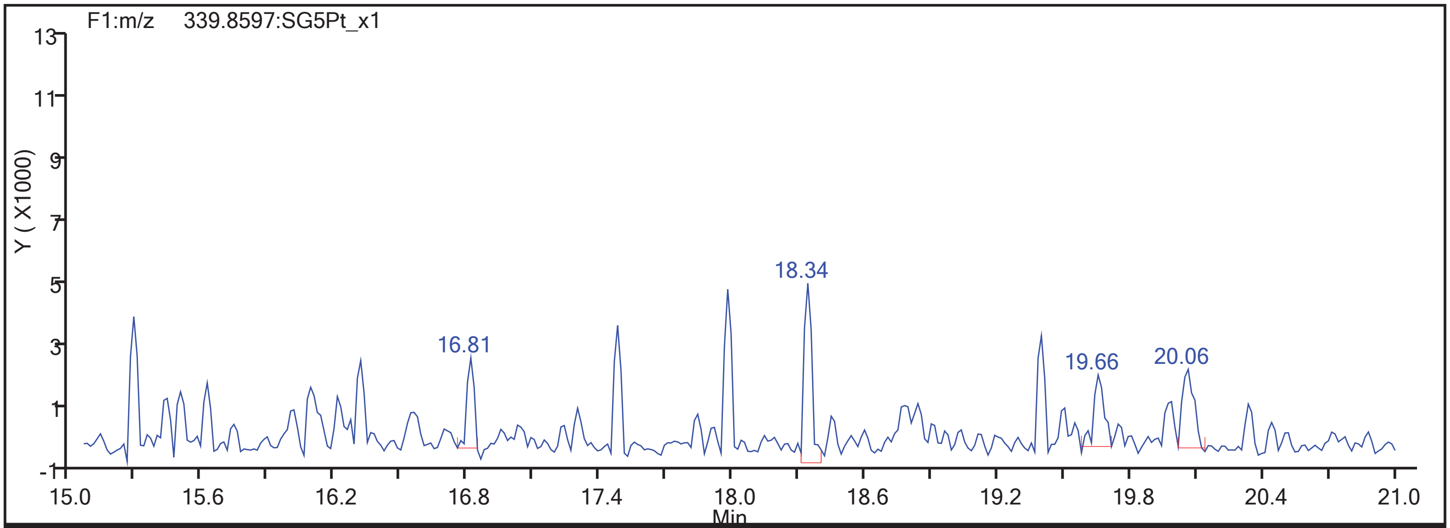
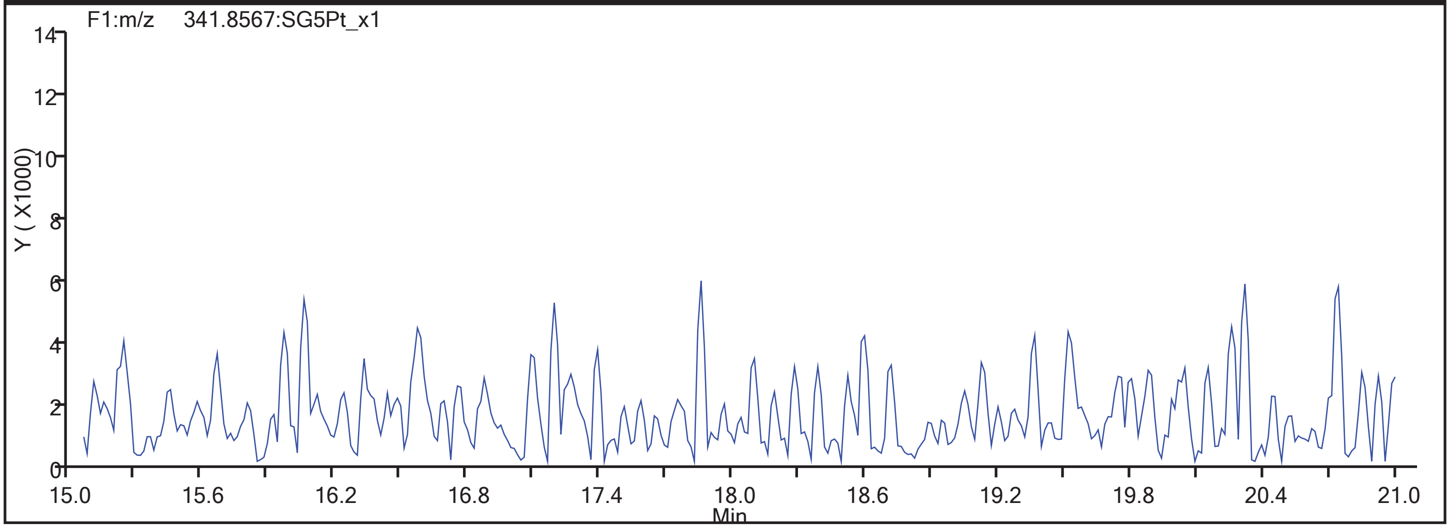
TestAmerica Sacramento

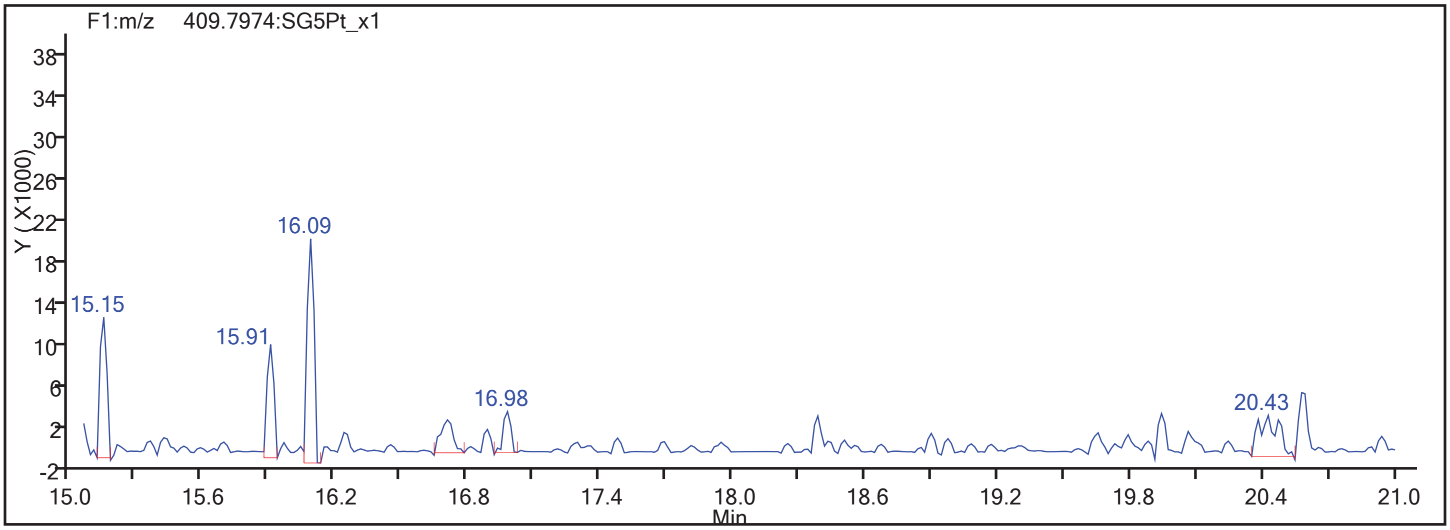
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d		
Injection Date:	19-Nov-2017 13:26:53	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	195575	Sample Line#:	83
Column Type:		Column Dia:	

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 06-Dec-2017 15:02:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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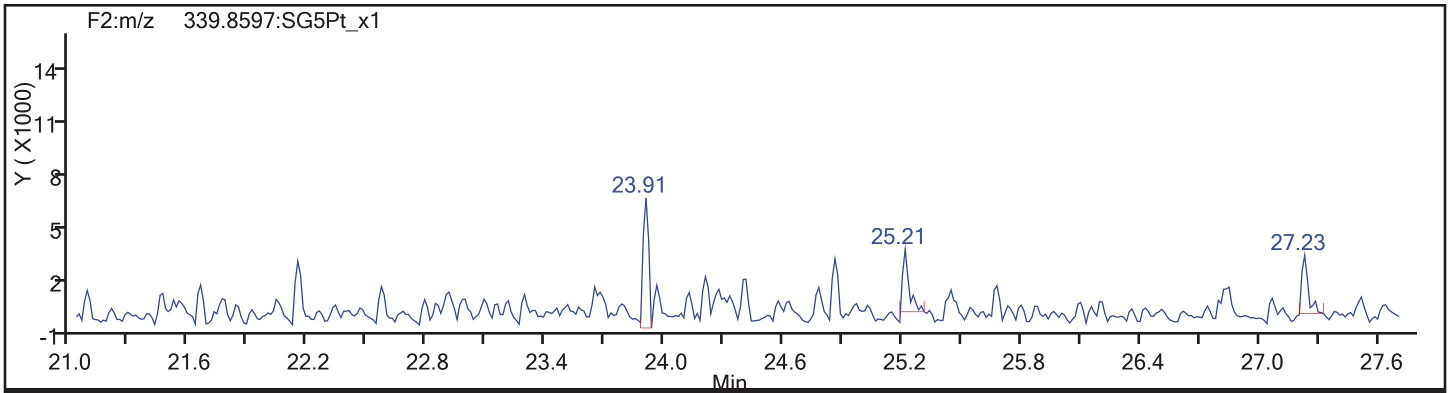
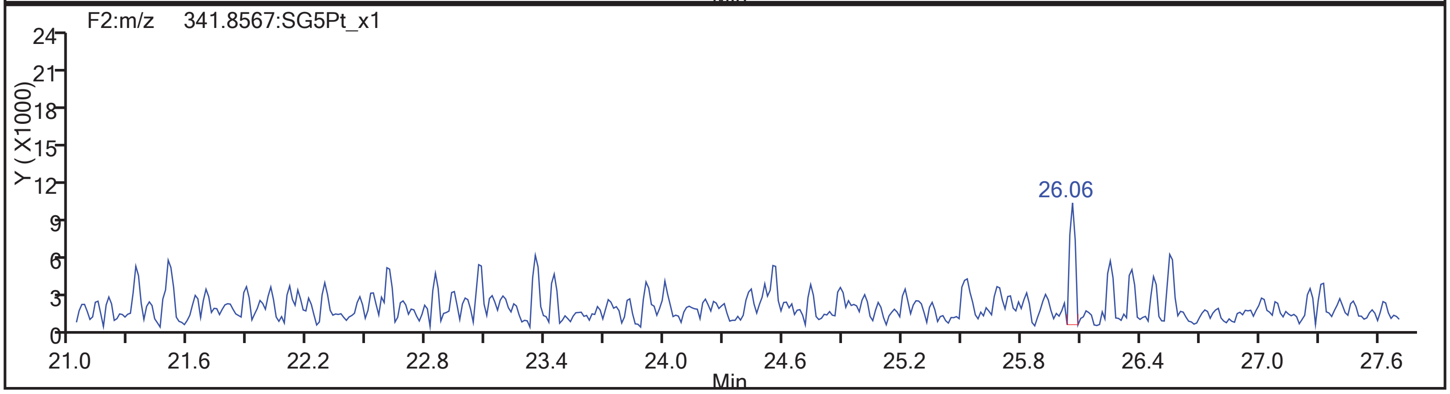
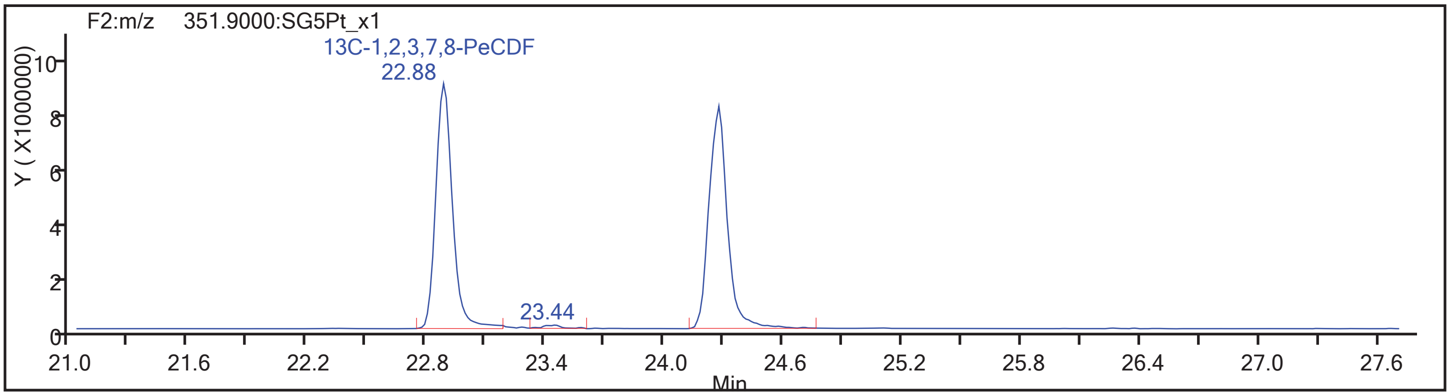
Injection Date: 19-Nov-2017 13:26:53 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS06NS
Worklist#: 195575 Sample Line#: 83
Column Type: Column Dia:

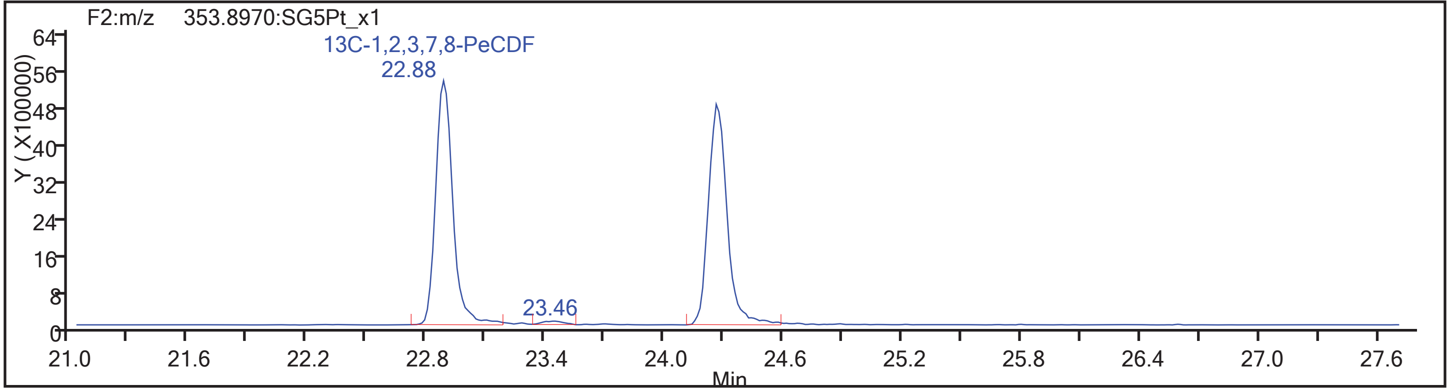
PeCDF





PeCDF Standards



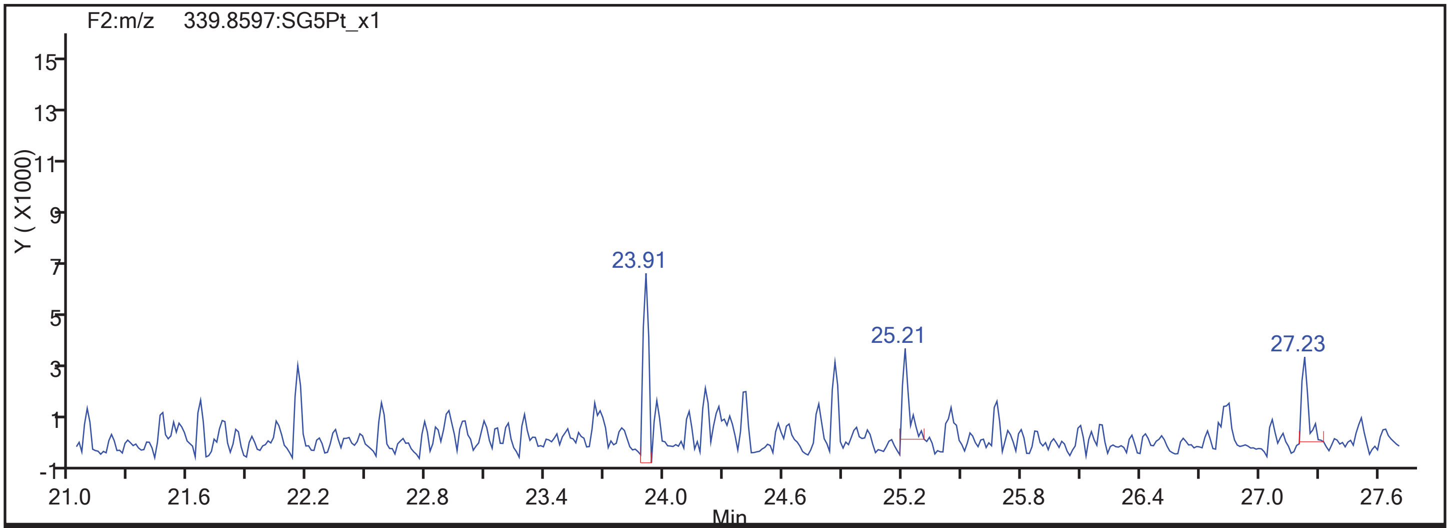


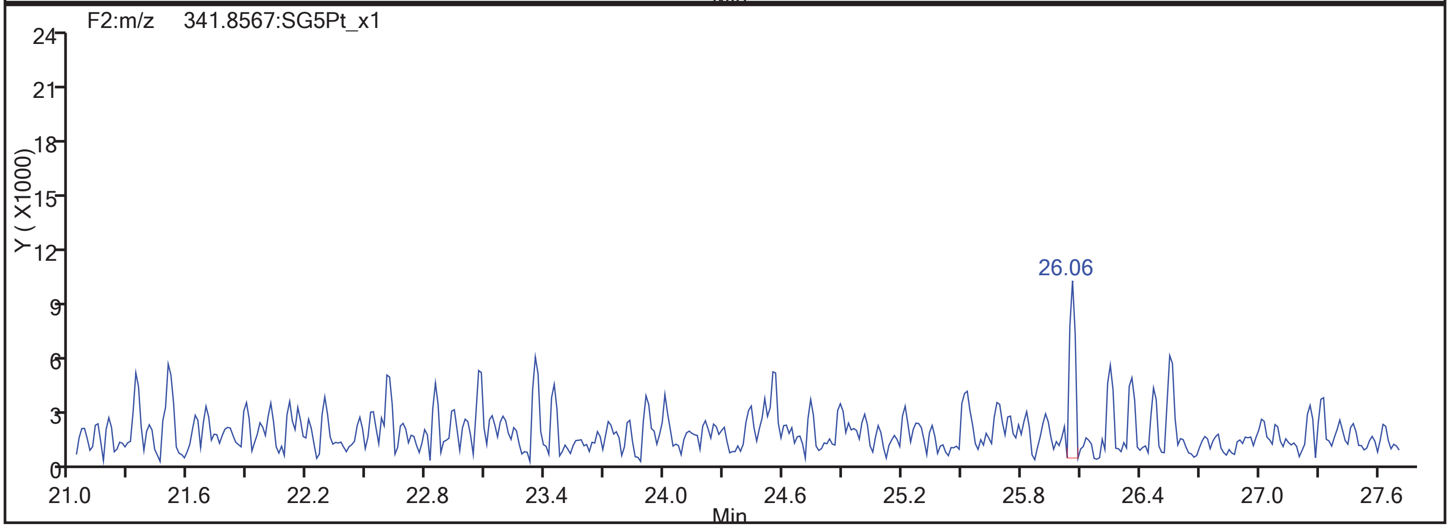
Report Date: 06-Dec-2017 15:02:11   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

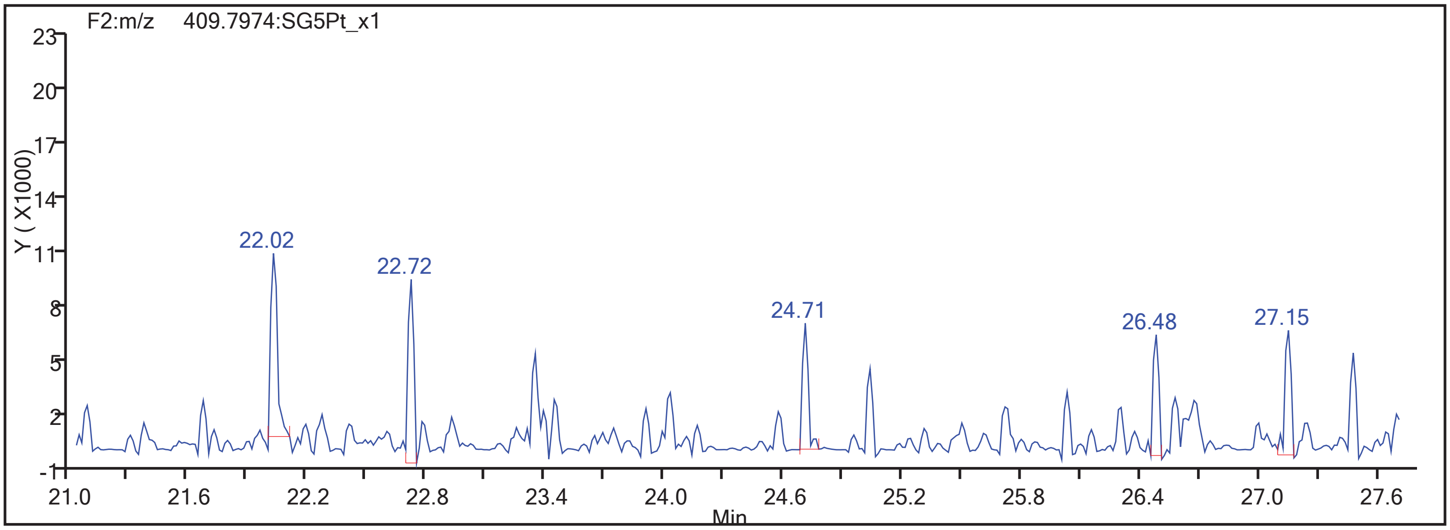
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d		
Injection Date:	19-Nov-2017 13:26:53	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	195575	Sample Line#:	83
Column Type:		Column Dia:	

PeCDF





PeCDF Interference Mass



Report Date: 06-Dec-2017 15:02:11
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d
Injection Date: 19-Nov-2017 13:26:53
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS06NS
Worklist#: 195575
Sample Line#: 83
Column Type:
Column Dia:

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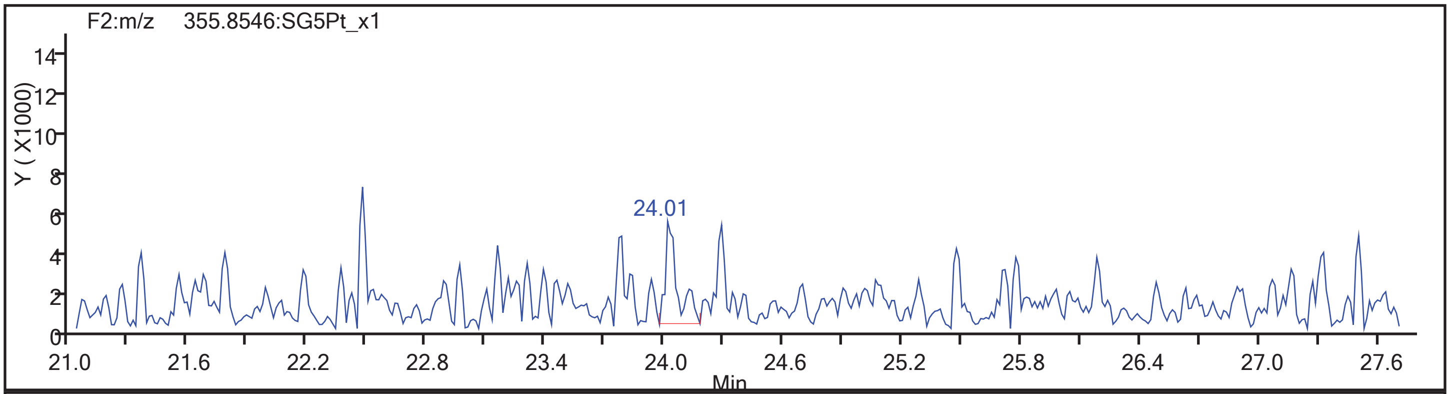
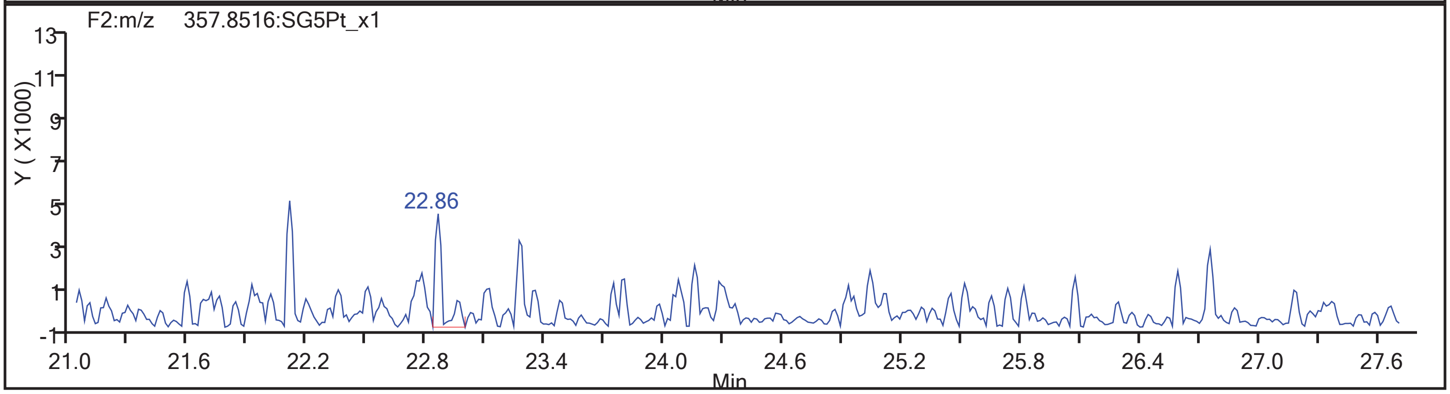
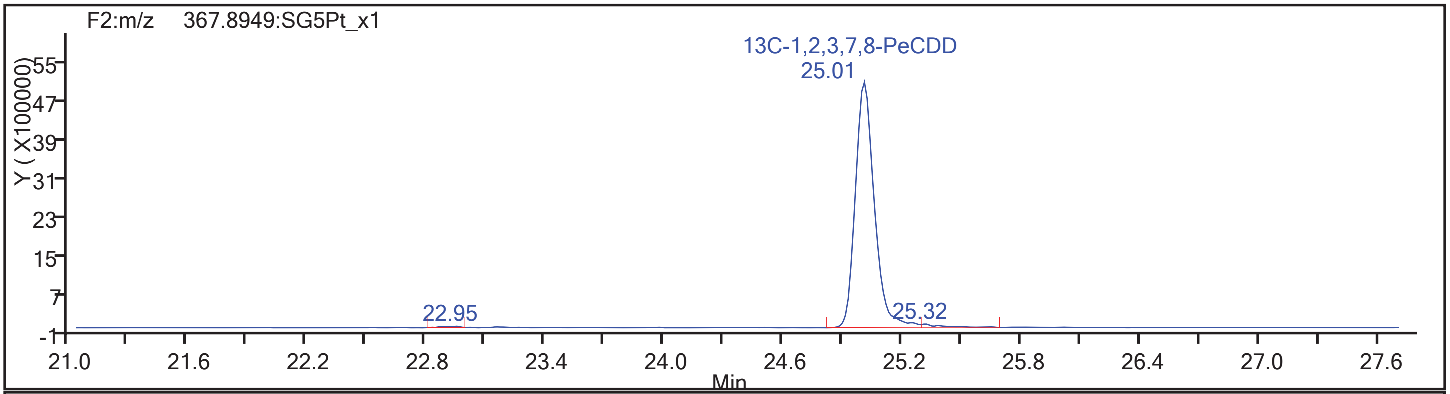
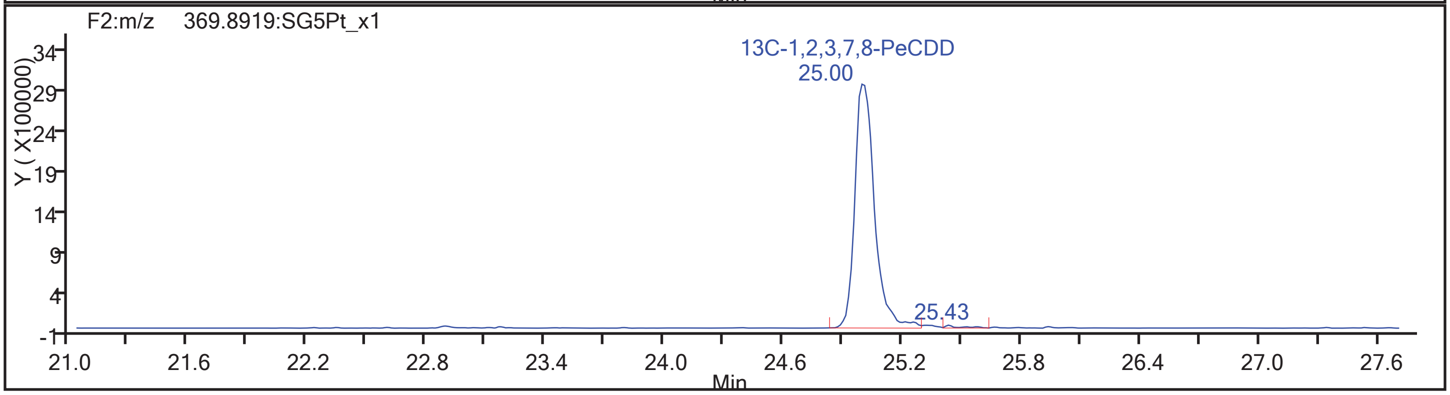




PeCDD Standards



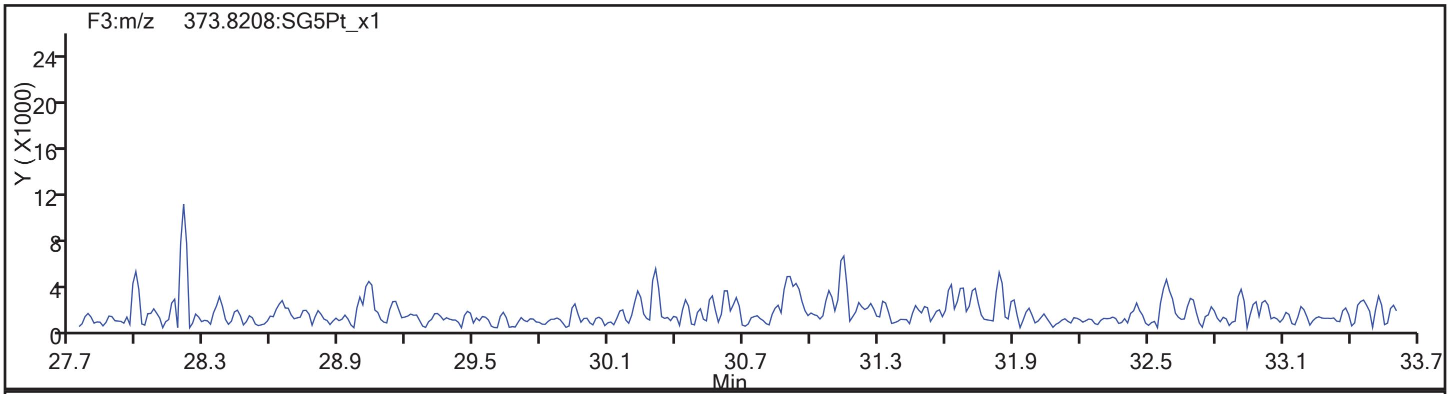


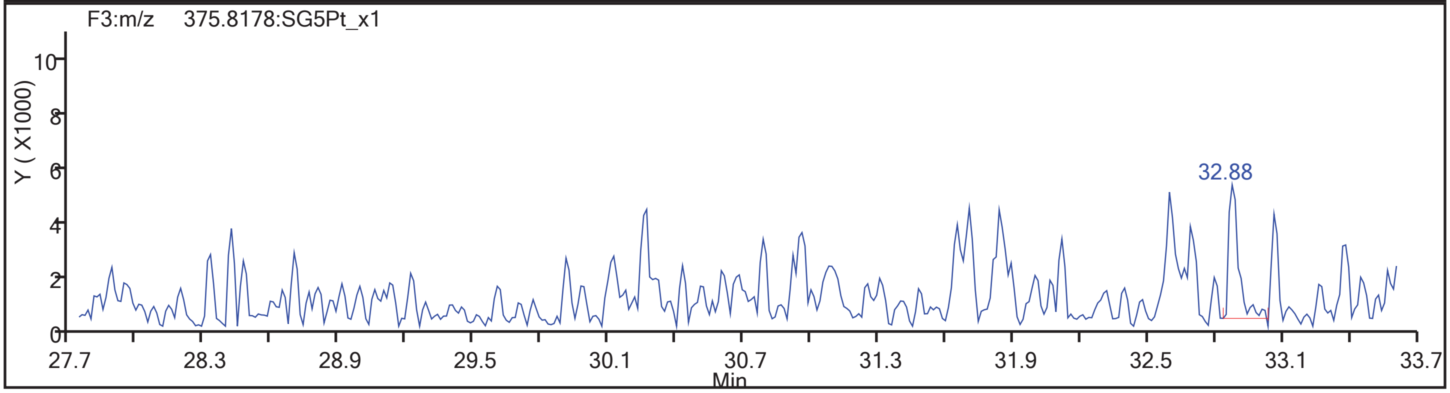
Report Date: 06-Dec-2017 15:02:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

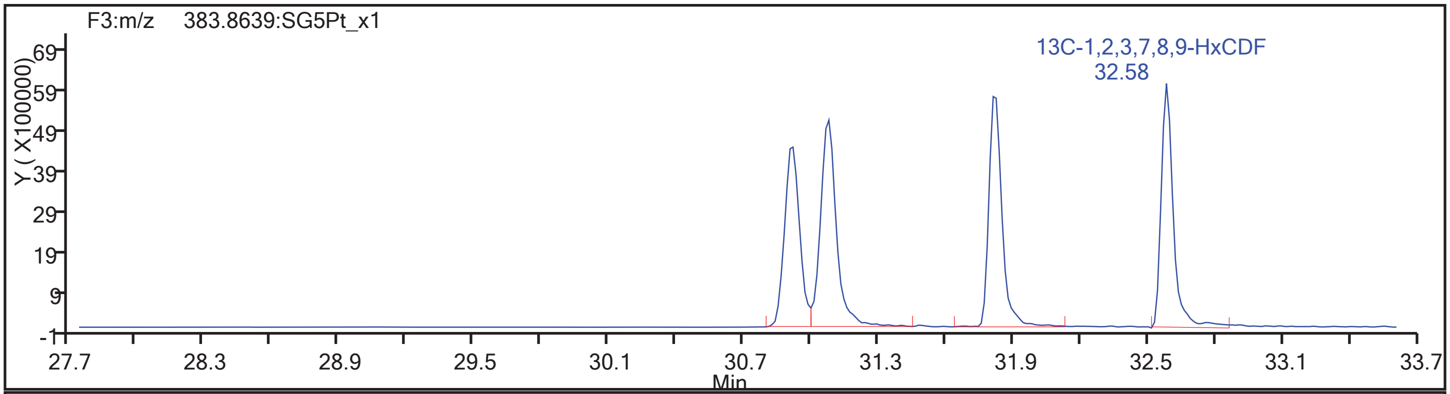
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d		
Injection Date:	19-Nov-2017 13:26:53	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	195575	Sample Line#:	83
Column Type:		Column Dia:	

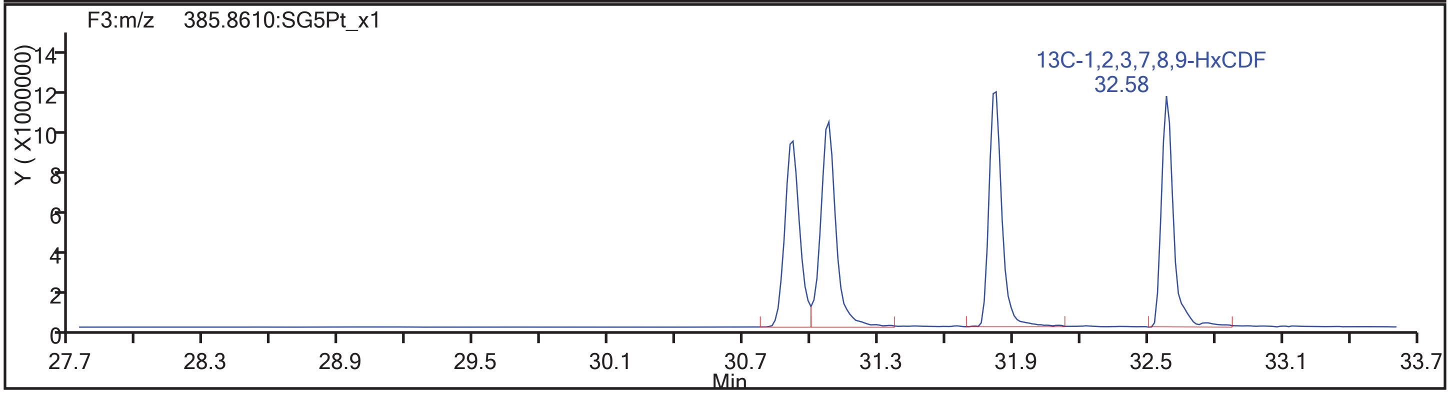
HxCDF





HxCDF Standards





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d

Injection Date: 19-Nov-2017 13:26:53

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS06NS

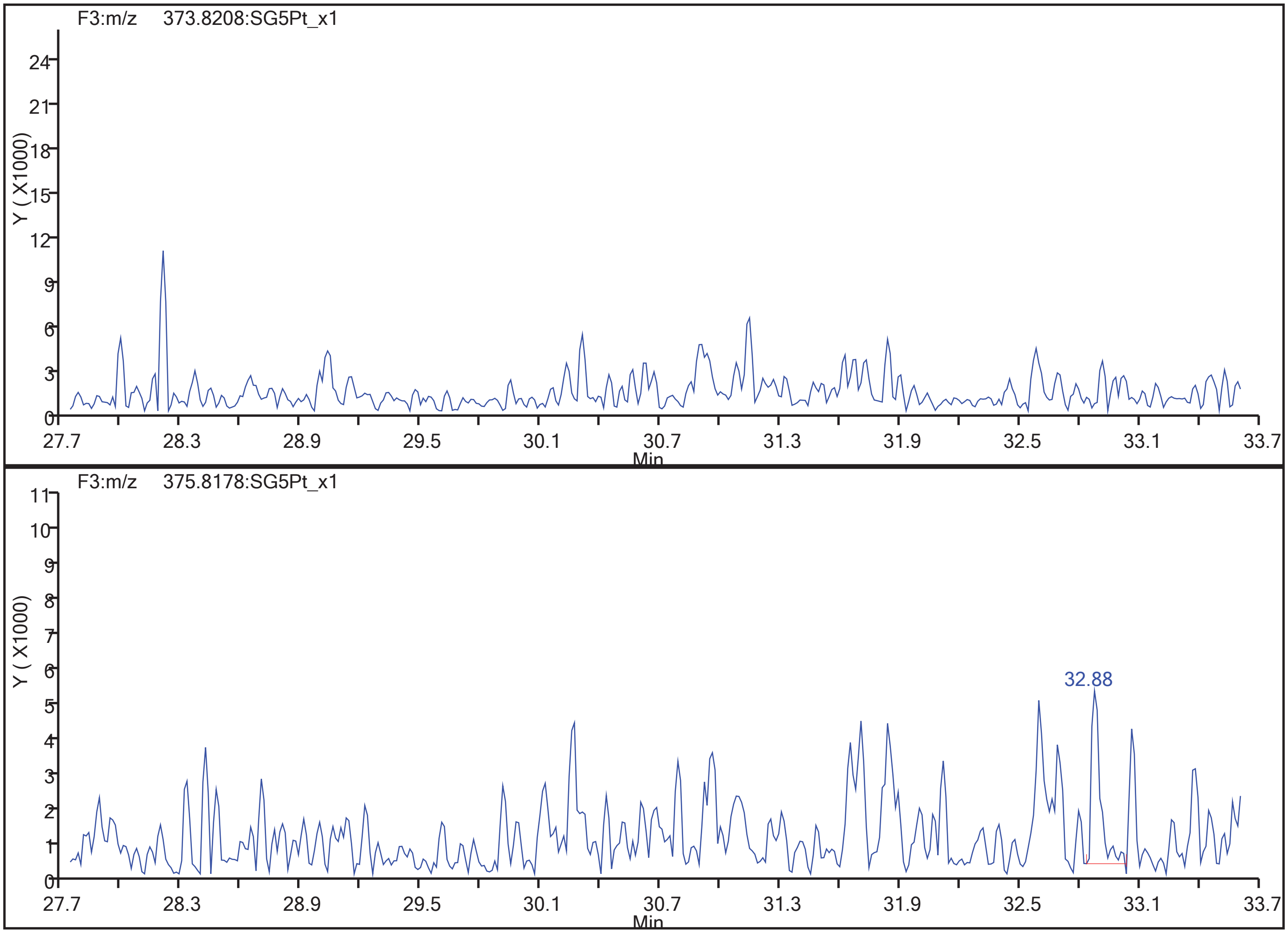
Worklist#: 195575

Sample Line#: 83

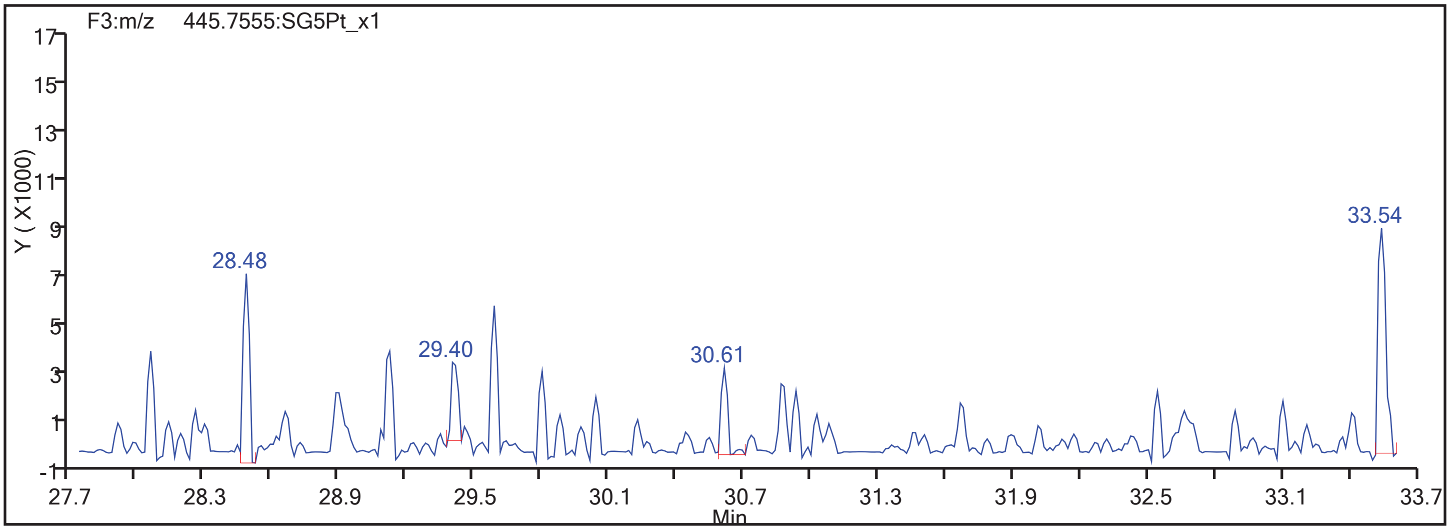
Column Type:

Column Dia:

HxCDF



HxCDF Interference Mass



Report Date: 06-Dec-2017 15:02:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d

Injection Date: 19-Nov-2017 13:26:53 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

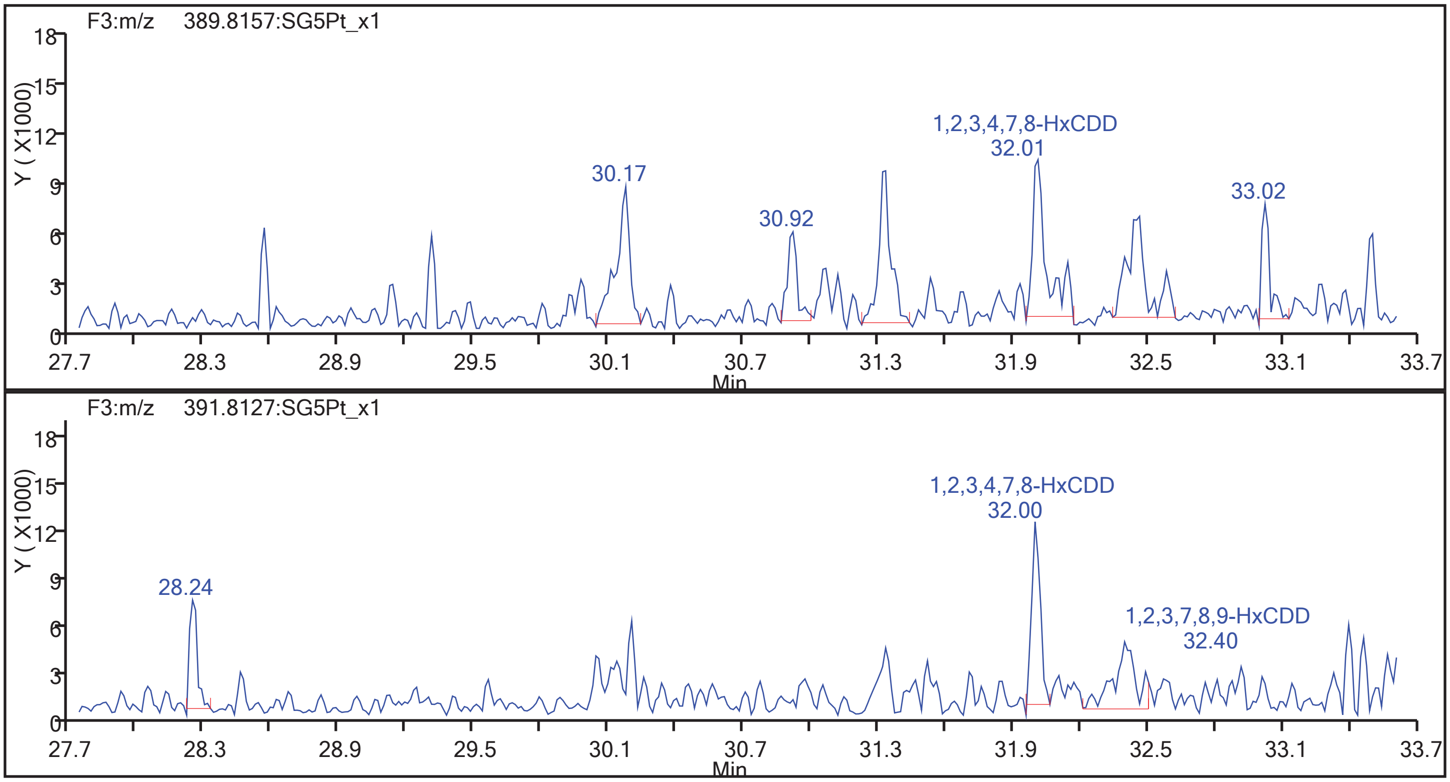
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS06NS

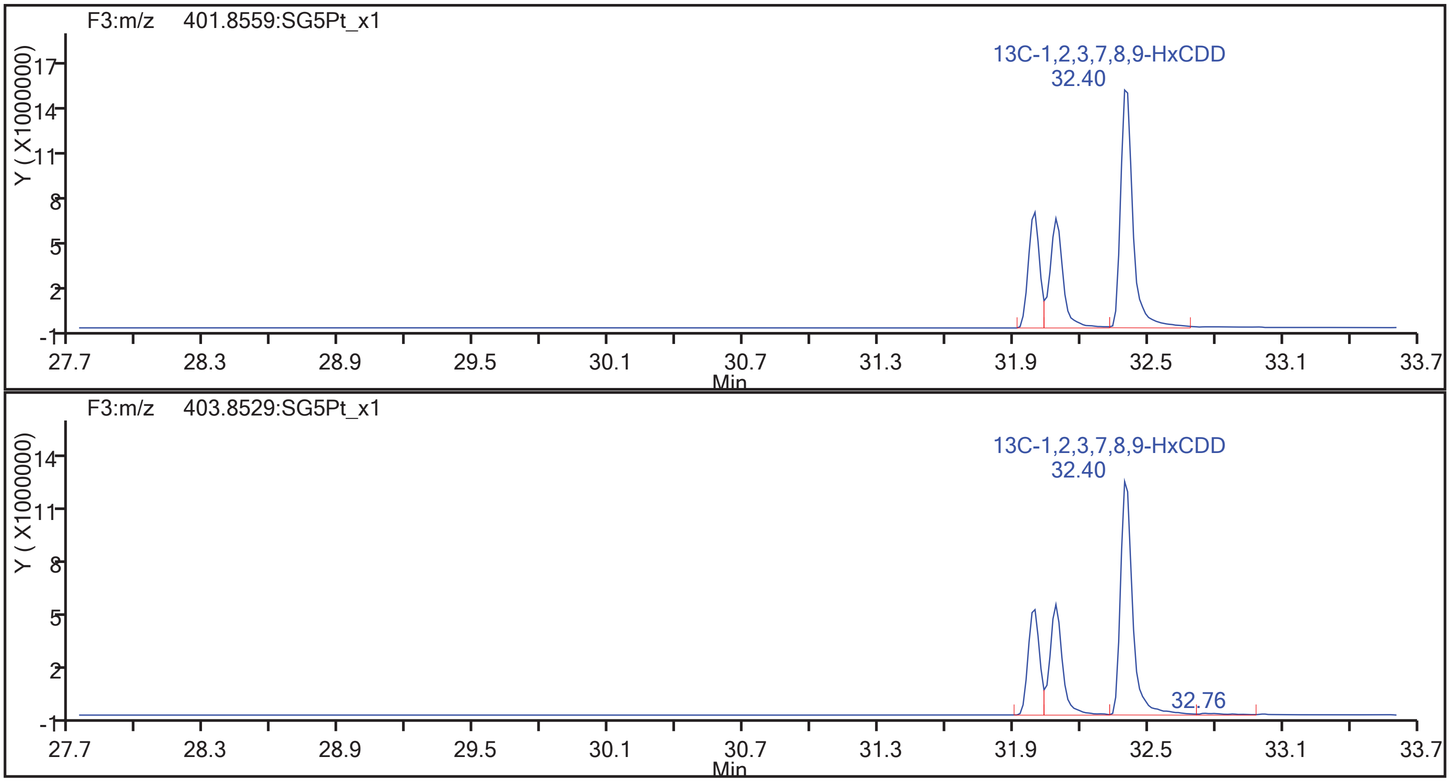
Worklist#: 195575 Sample Line#: 83

Column Type: Column Dia:

HxCDD



HxCDD Standards



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TestAmerica Sacramento

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Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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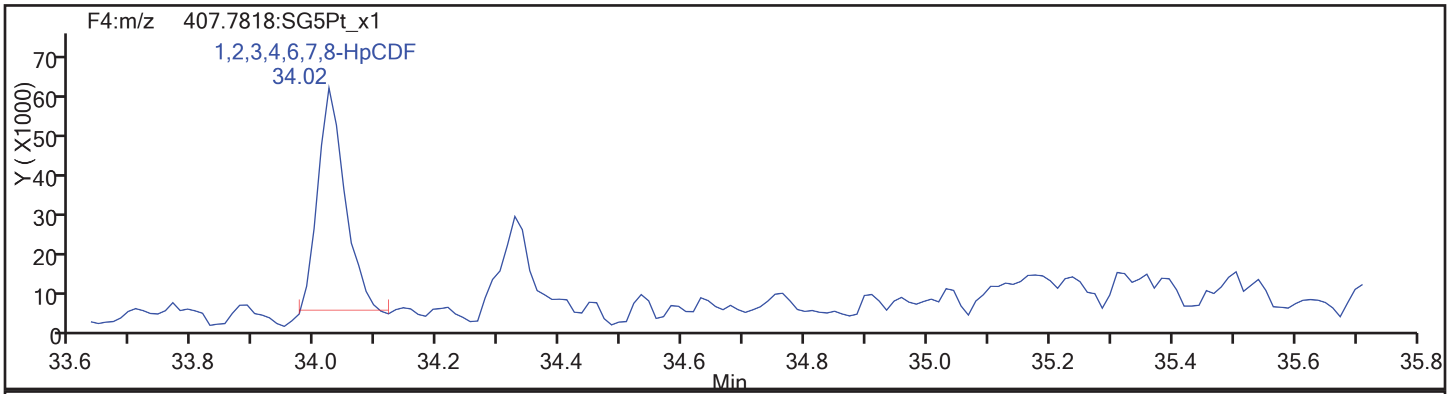
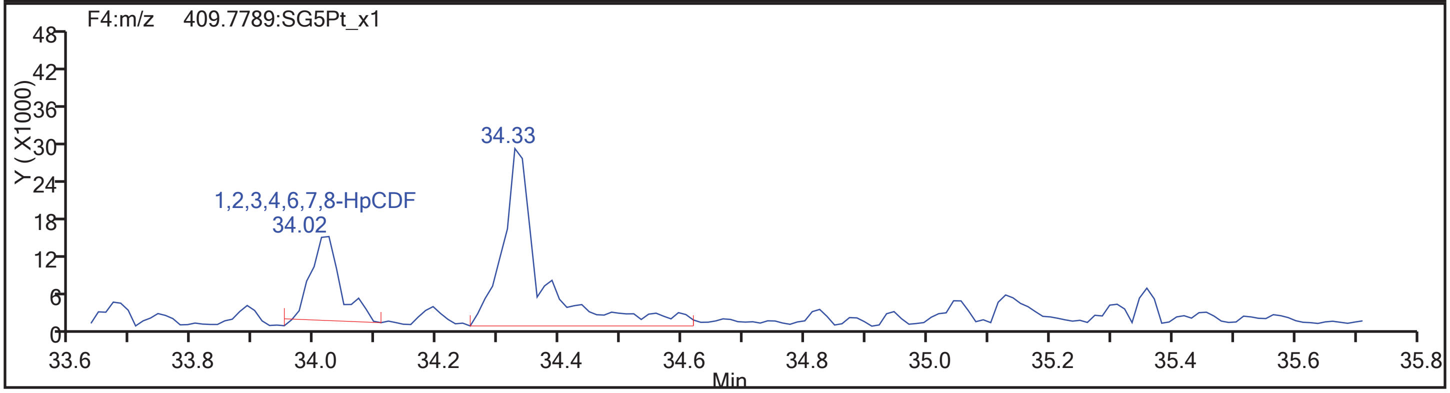
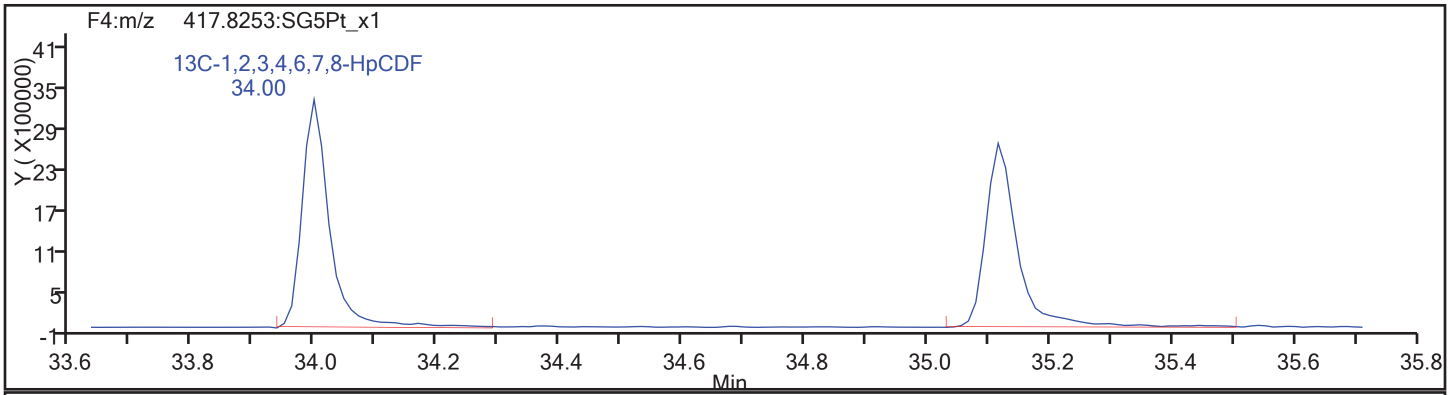
Worklist#:	195575	Sample Line#:	83
Column Type:		Column Dia:	

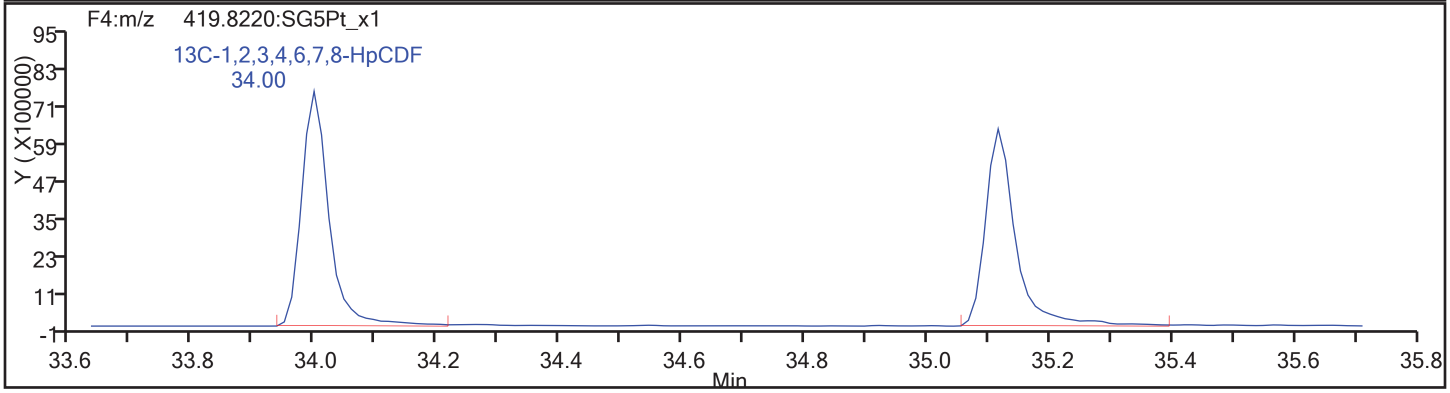
HpCDF





HpCDF Standards





Report Date: 06-Dec-2017 15:02:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d

Injection Date: 19-Nov-2017 13:26:53 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

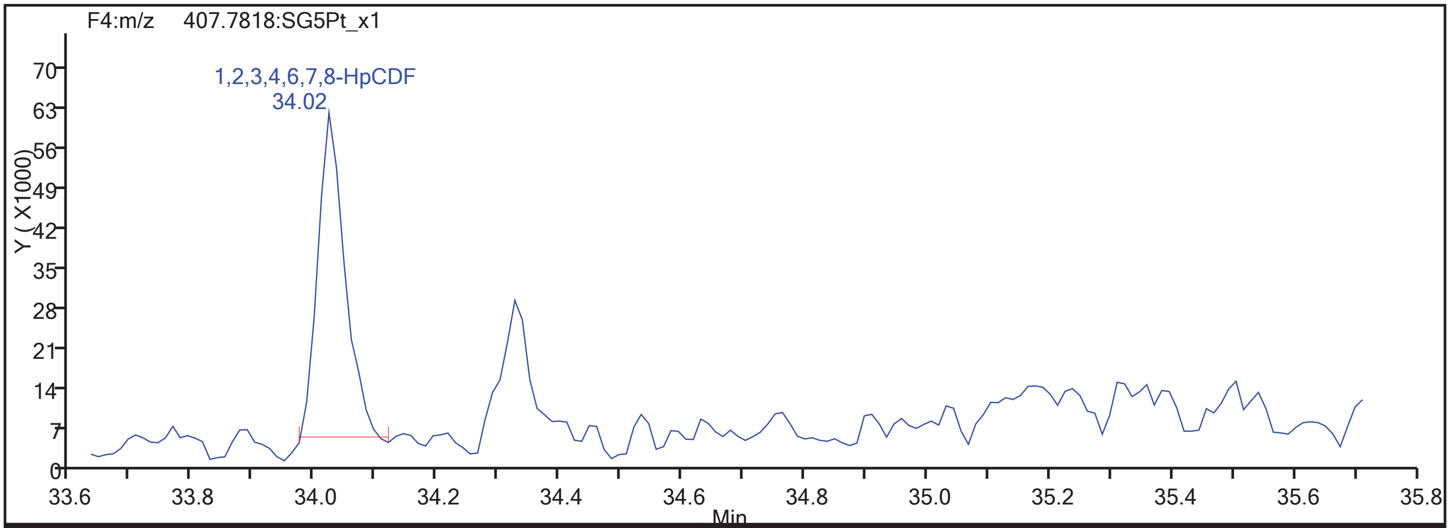
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

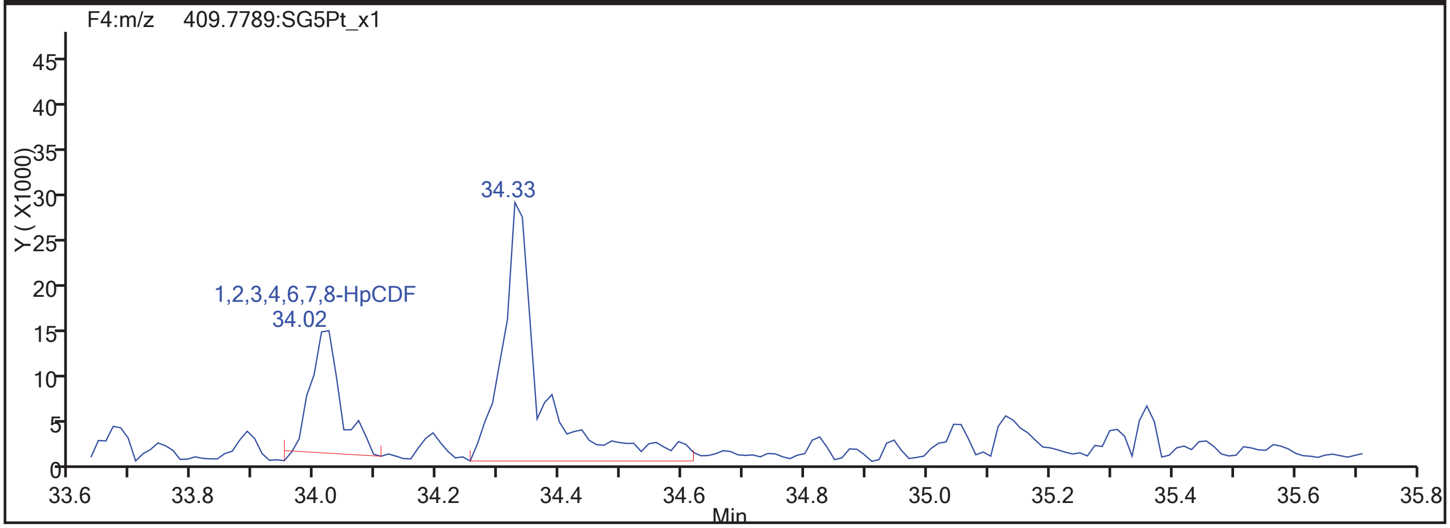
Client ID: SHAD041DP022SS06NS

Worklist#: 195575 Sample Line#: 83

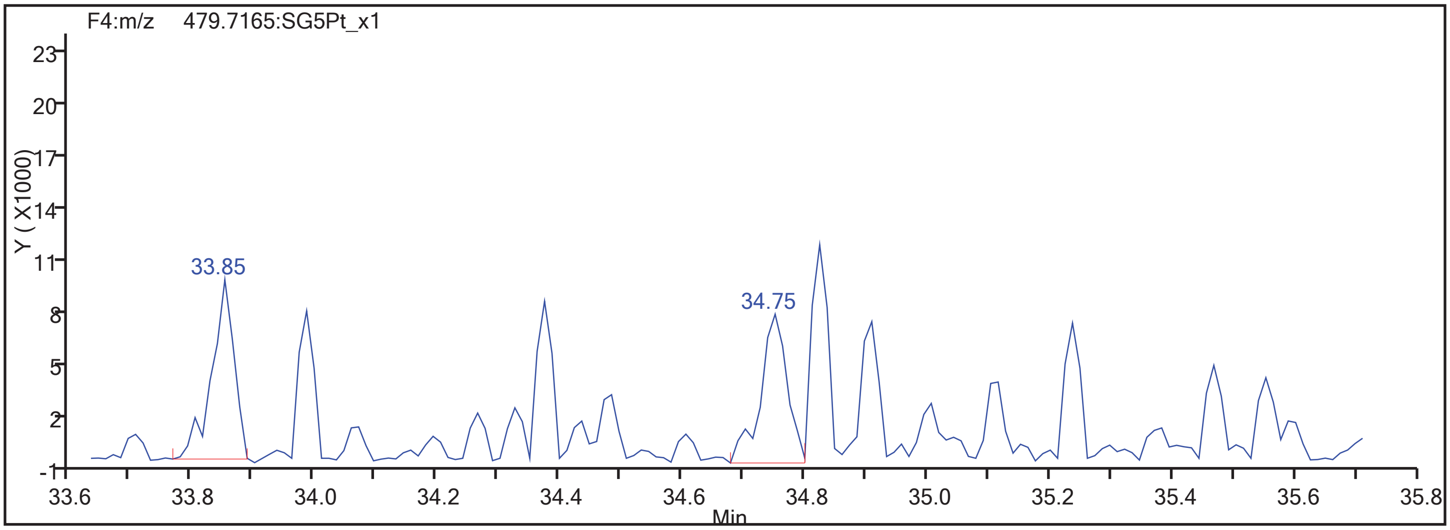
Column Type: Column Dia:

HpCDF





HpCDF Interference Mass



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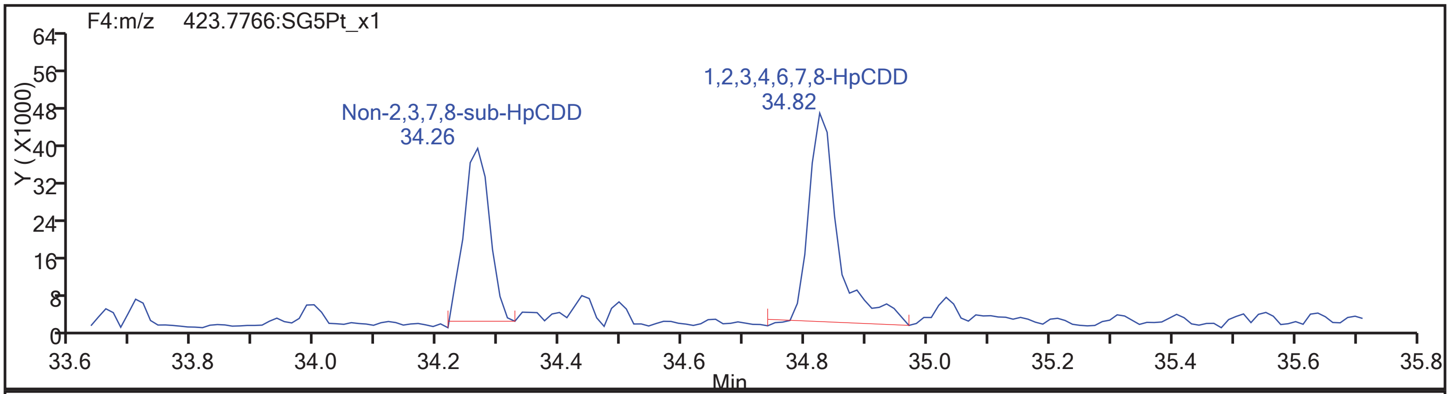
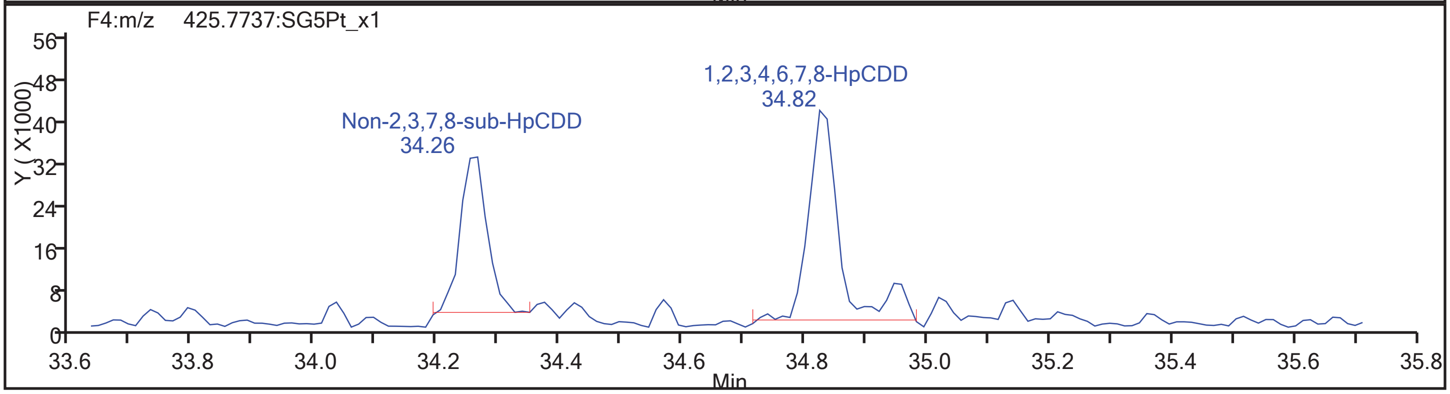
TestAmerica Sacramento

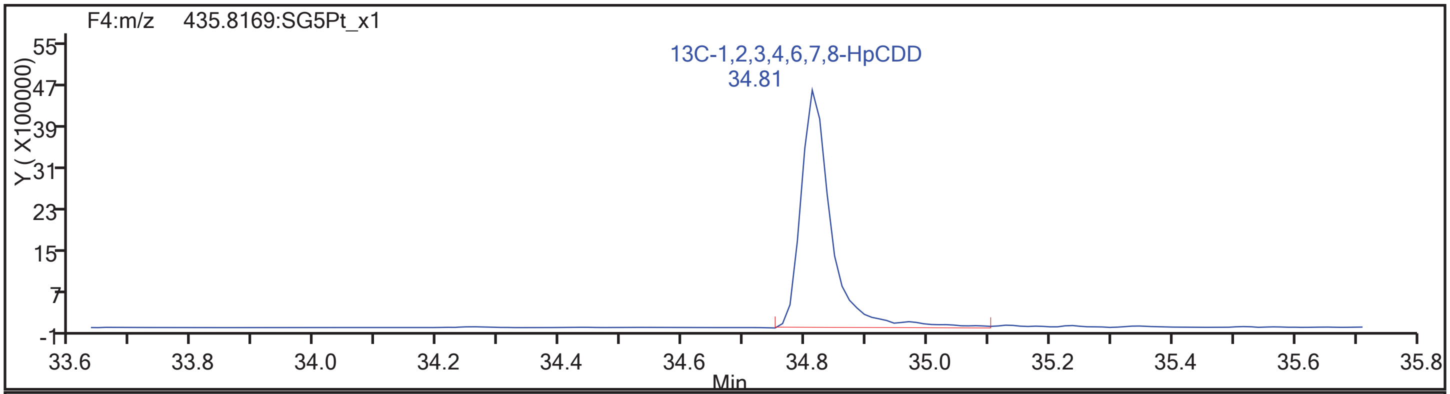
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d
Injection Date: 19-Nov-2017 13:26:53
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS06NS
Worklist#: 195575
Sample Line#: 83
Column Type:
Column Dia:

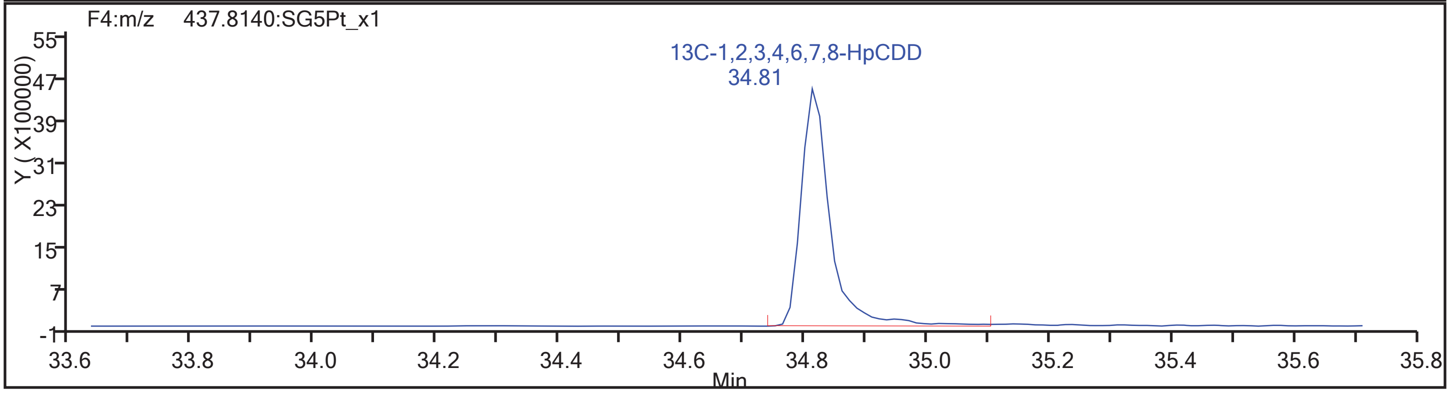
HpCDD





HpCDD Standards



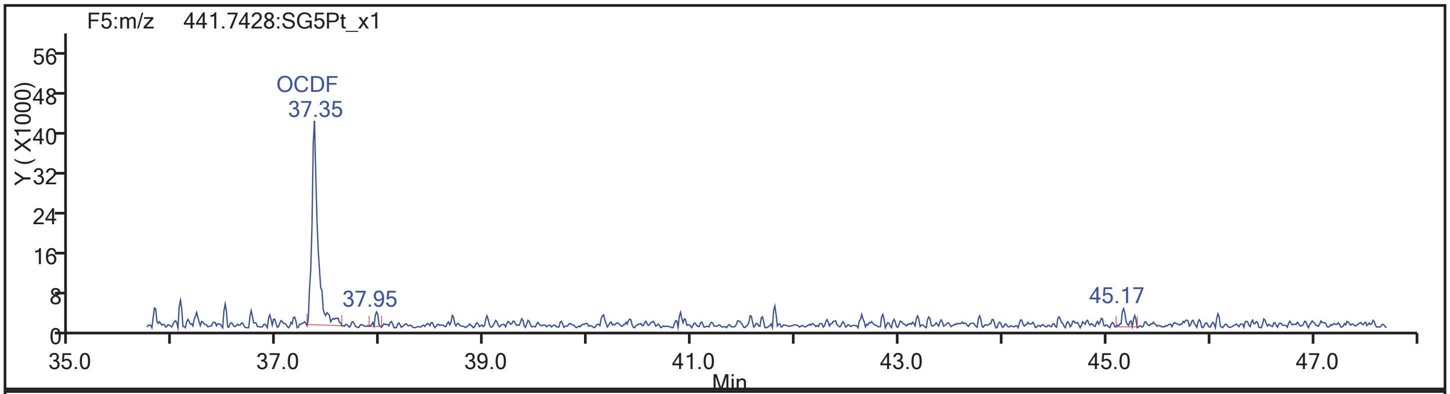


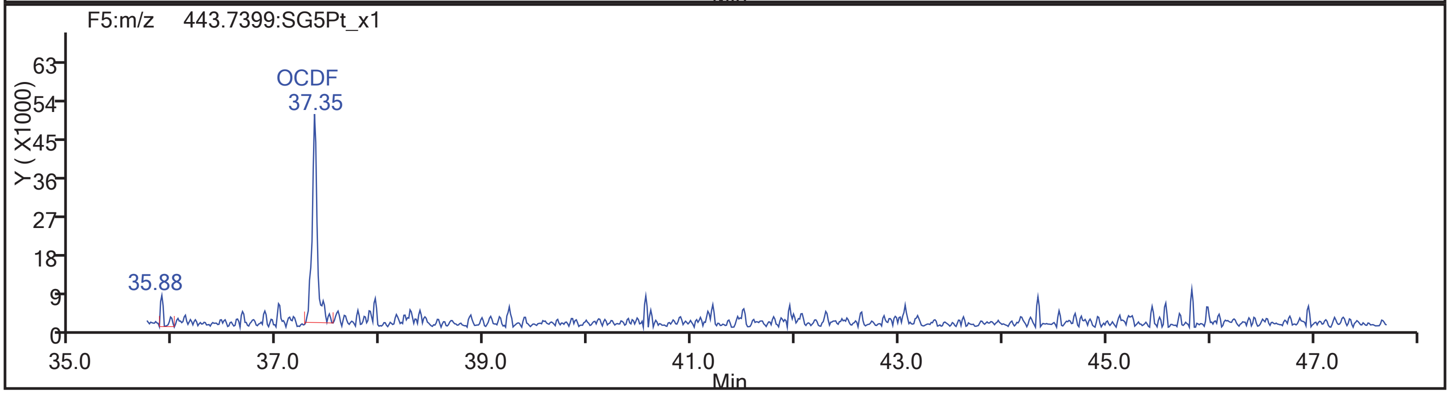
Report Date: 06-Dec-2017 15:02:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

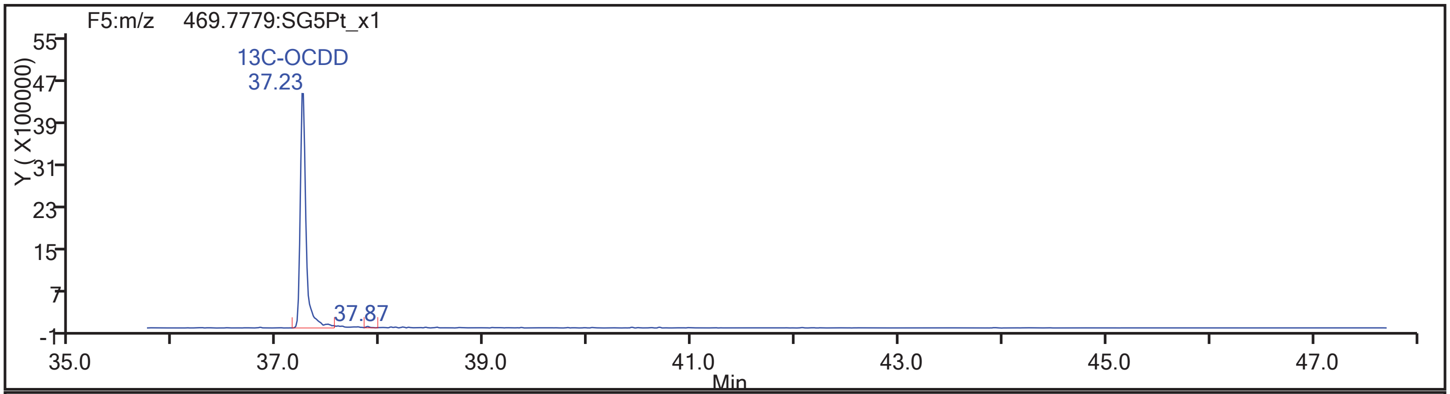
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d
Injection Date: 19-Nov-2017 13:26:53
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS06NS
Worklist#: 195575
Sample Line#: 83
Column Type:
Column Dia:

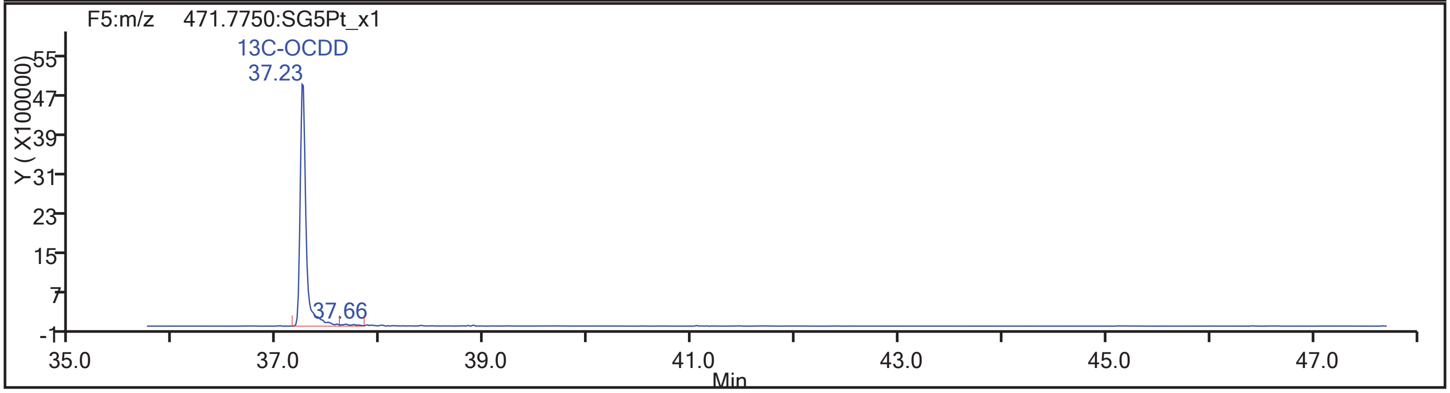
OCDF





OCDF Standards



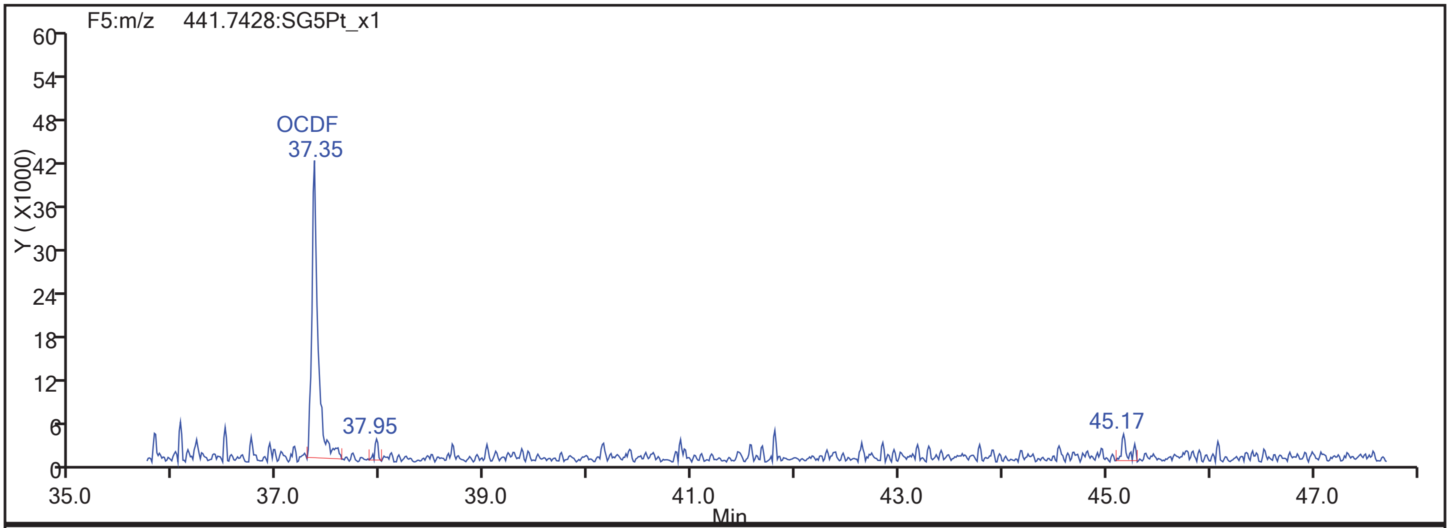


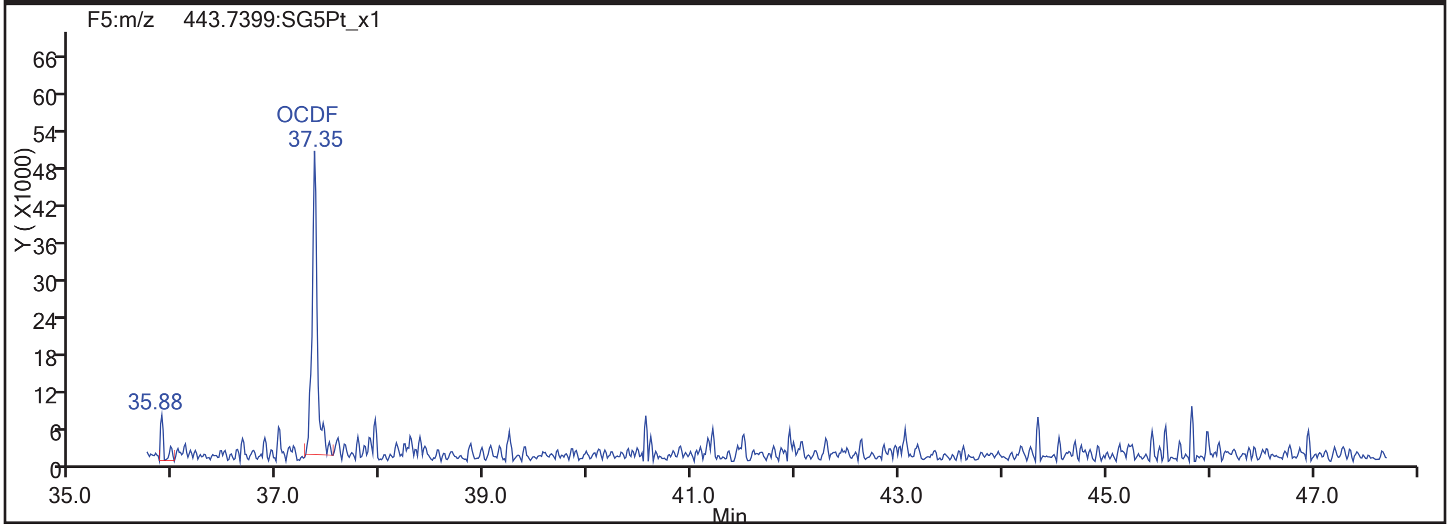
Report Date: 06-Dec-2017 15:02:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

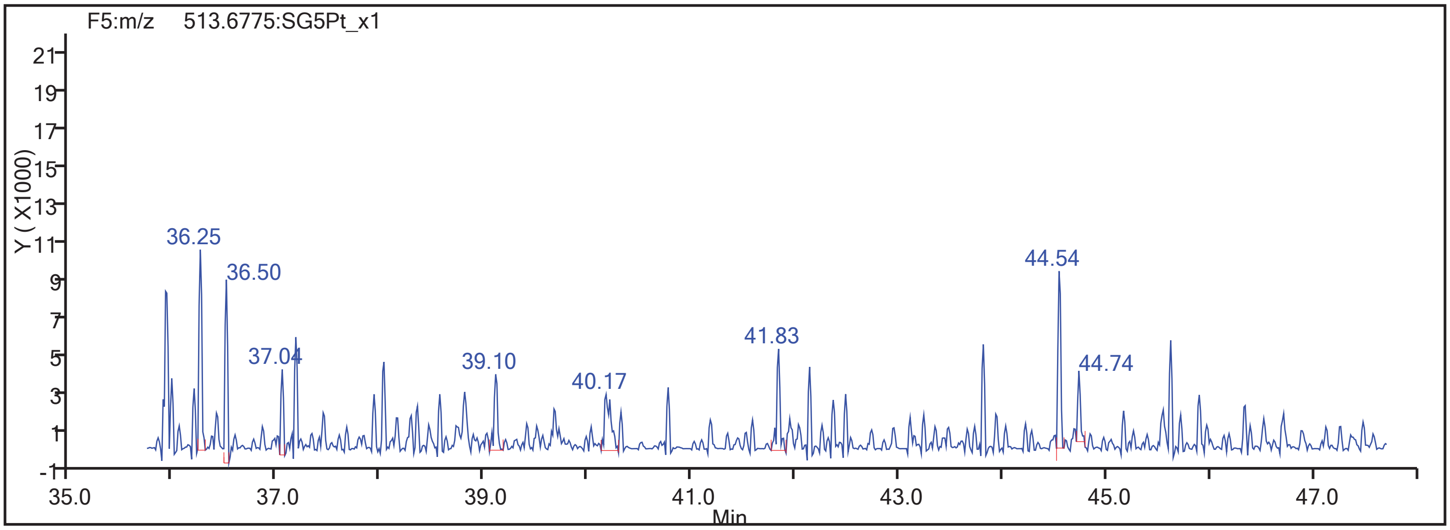
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d		
Injection Date:	19-Nov-2017 13:26:53	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	195575	Sample Line#:	83
Column Type:		Column Dia:	

OCDF





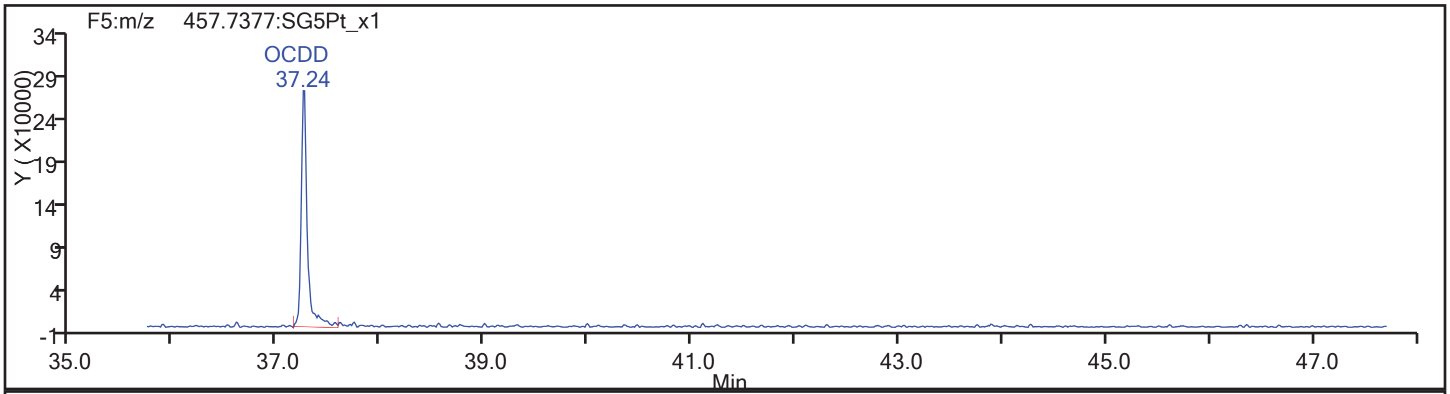
OCDF Interference Mass

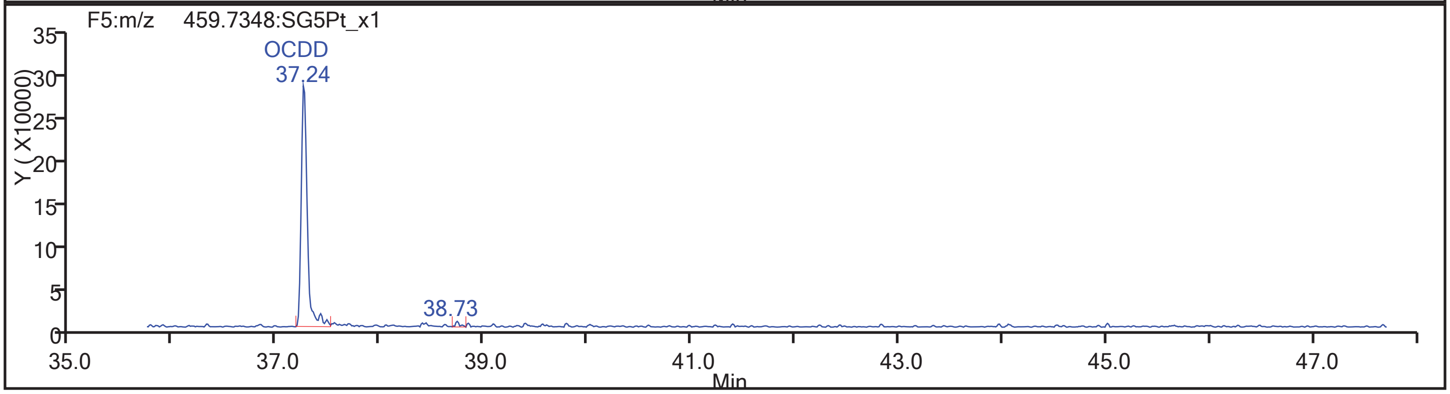


TestAmerica Sacramento

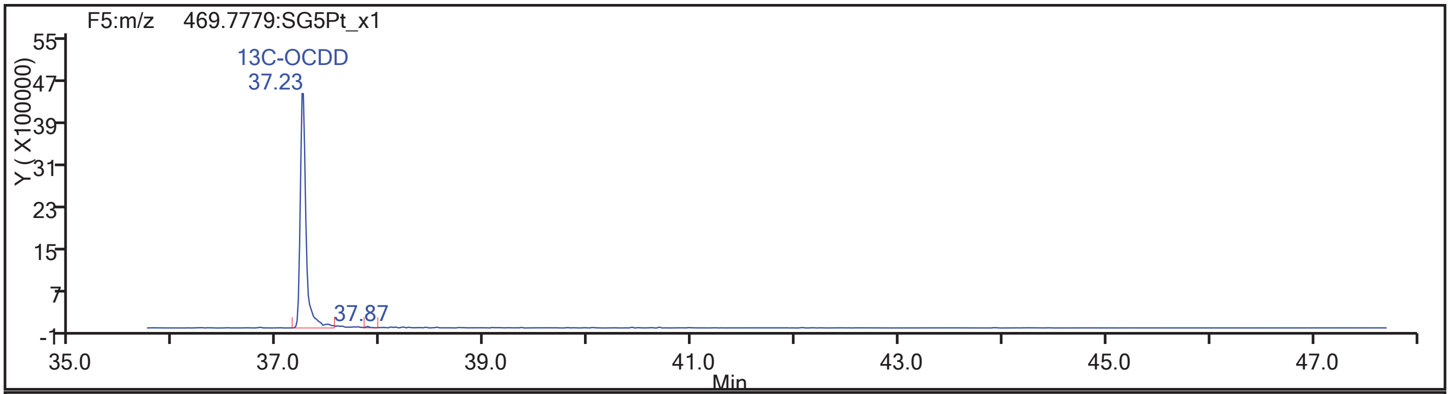
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d		
Injection Date:	19-Nov-2017 13:26:53	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	195575	Sample Line#:	83
Column Type:		Column Dia:	

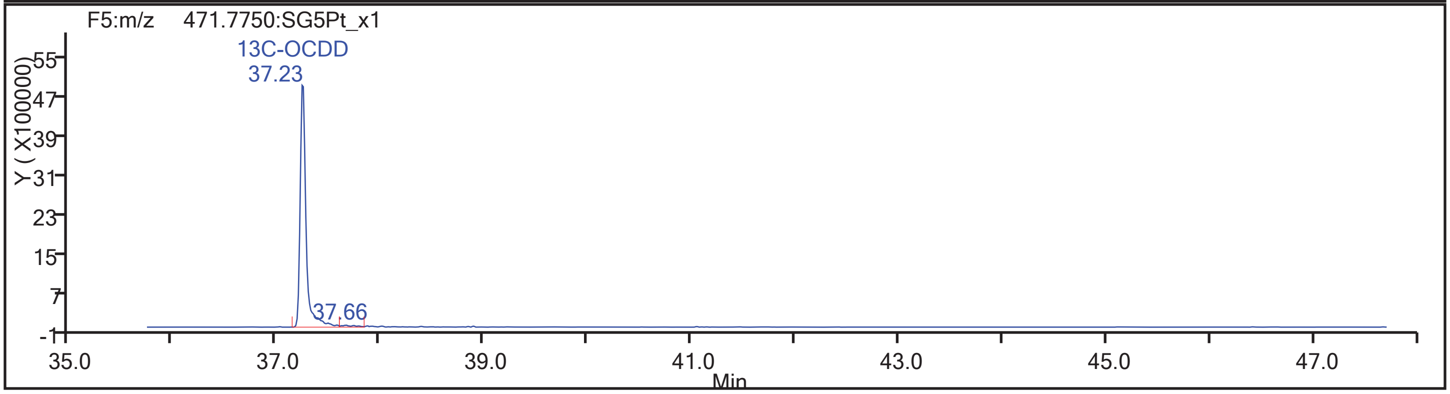
OCDD





OCDD Standards

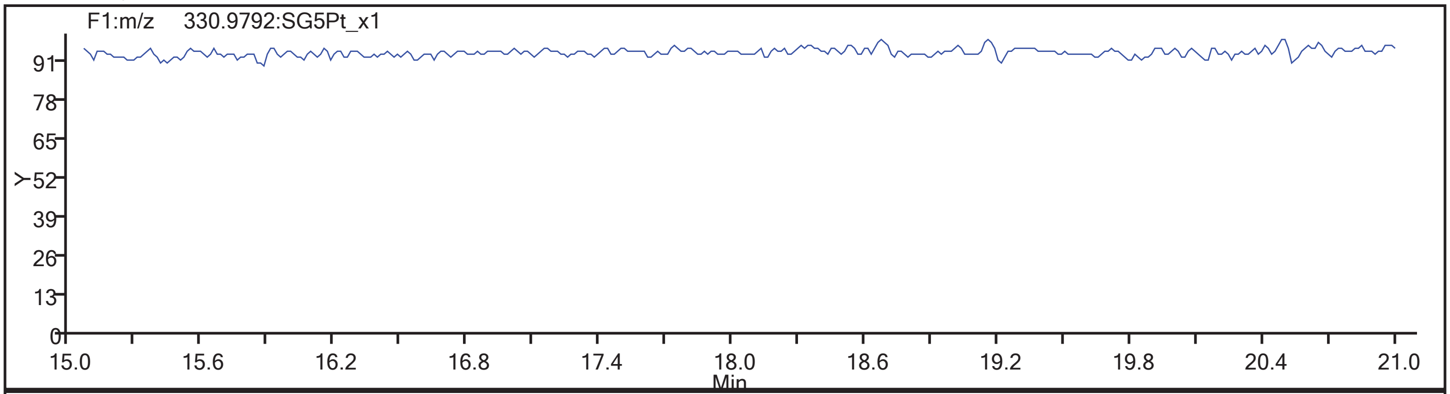


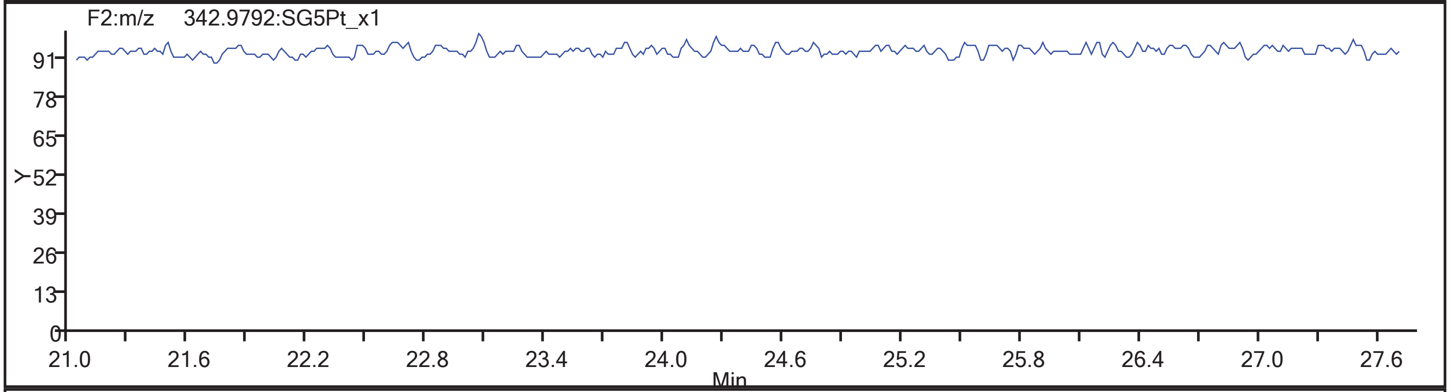


Report Date: 06-Dec-2017 15:02:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d
Injection Date: 19-Nov-2017 13:26:53
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS06NS
Worklist#: 195575
Sample Line#: 83
Column Type:
Column Dia:


F1:m/z 330.9792:SG5Pt_x1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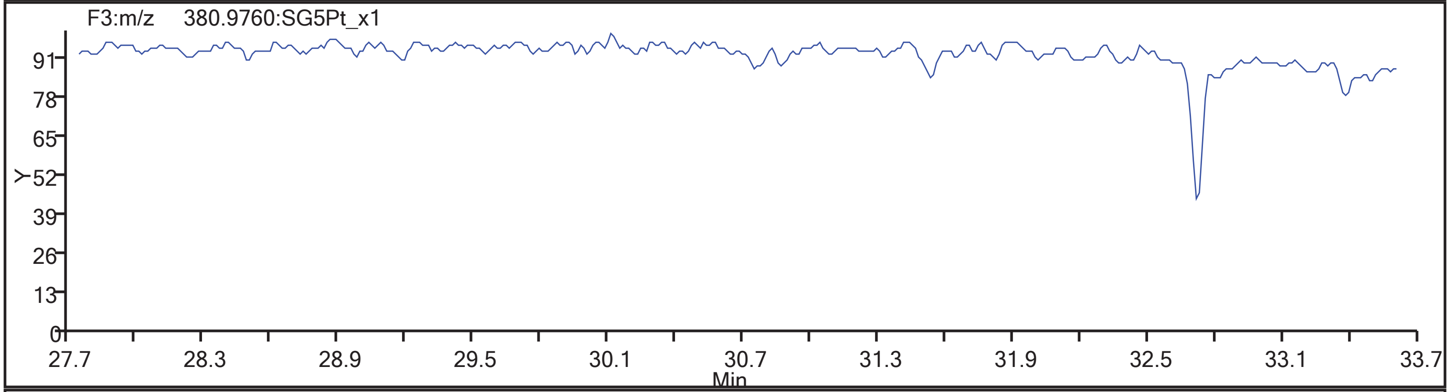
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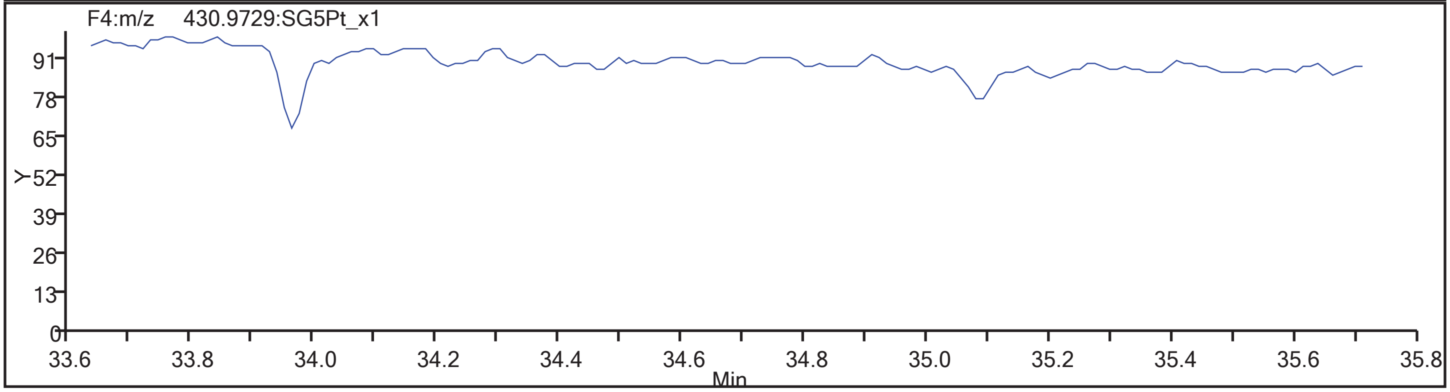
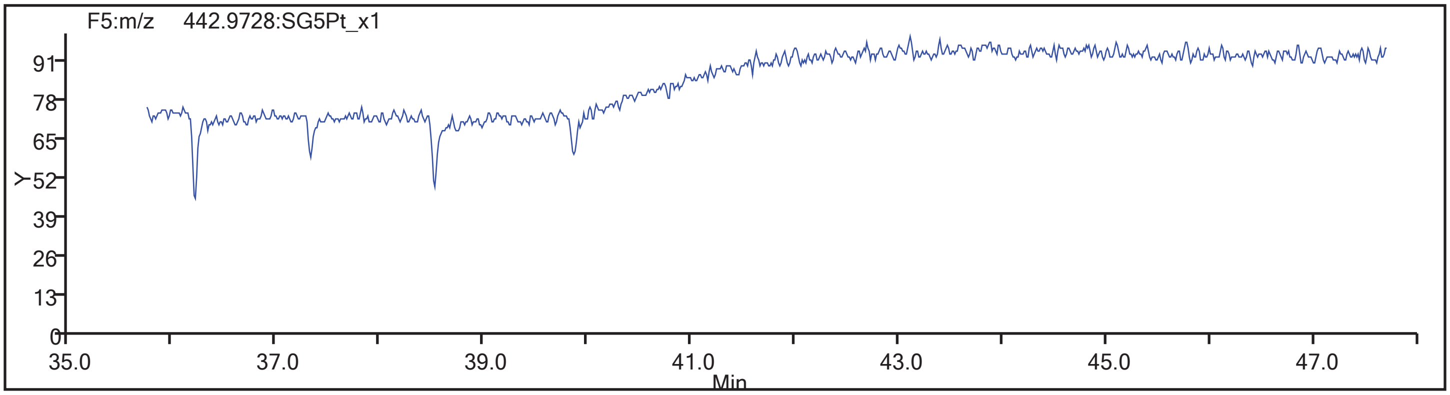

F4:m/z 430.9729:SG5Pt_x1

Report Date: 06-Dec-2017 15:02:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_83.d		
Injection Date:	19-Nov-2017 13:26:53	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS06NS		
Worklist#:	195575	Sample Line#:	83
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP013SS01NS RA
Lab Sample ID: 160-24924-13 RA
Matrix: Solid
Lab File ID: 07NO17A9D2_006.d
Analysis Method: 8290A
Date Collected: 10/05/2017 14:23
Extract. Method: 8290
Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.05(g)
Date Analyzed: 11/08/2017 01:57
Con. Extract Vol.: 20.00(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 0.5
GPC Cleanup:(Y/N) N
Analysis Batch No.: 193641
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	2,3,7,8-TCDF	0.40	U	1.0	0.40	0.24

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	89		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_006.d
Lims ID: 160-24924-G-13-A
Client ID: SHAD041DP013SS01NS
Sample Type: Client
Inject. Date: 08-Nov-2017 01:57:25 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-13-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 17:09:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 17:07:51

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.020	247393907	0.79	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.158	277736287	0.81	1.2599	89.1	89.1	0.2385	0.2385	89.11	
2,3,7,8-TCDF	16.117						0.1179	0.1179		
D 13C-2,3,7,8-TCDD	14.759	191786164	0.78	0.9567	81.0	81.0	0.2815	0.2815	81.03	
2,3,7,8-TCDD	14.731						0.0749	0.0749		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_006.d				
Lims ID:	160-24924-G-13-A				
Client ID:	SHAD041DP013SS01NS				
Sample Type:	Client				
Inject. Date:	08-Nov-2017 01:57:25	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-13-A				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 17:09:06	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				
First Level Reviewer: shardaa		Date:	09-Nov-2017 17:07:51		

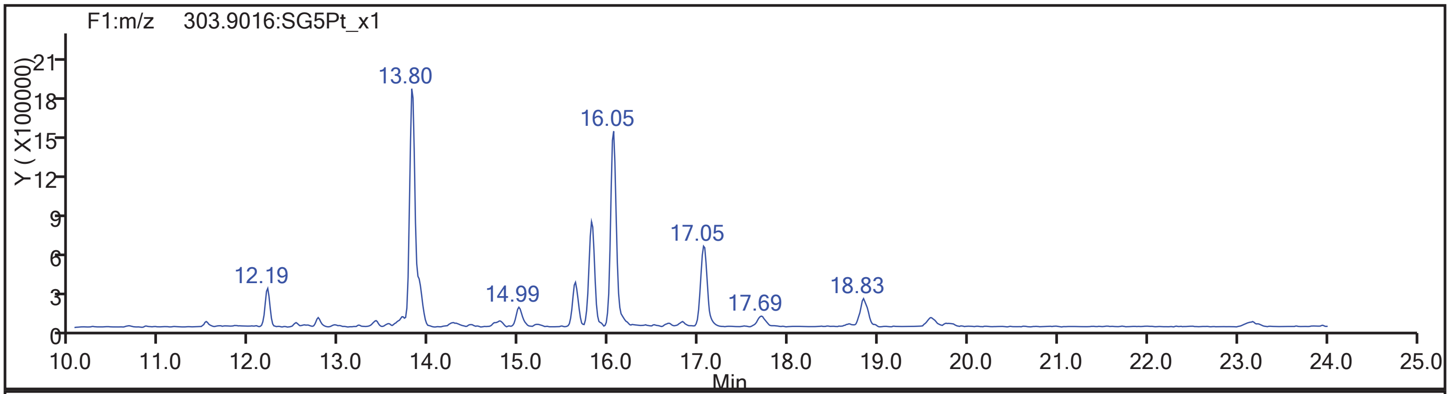
Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.020	14.978	2		109035777	23915039	32944	82360	726		
333.9339	15.020	14.978	2		138358130	30210786	25373	63432	1191	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.158	16.103	3	1.076	124398483	24644906	34146	85365	722		
317.9389	16.158	16.103	3	1.076	153337804	30565831	30913	77282	989	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.117						14312	35780			
305.8987	16.117						13770	34425			
13C-2,3,7,8-TCDD											
331.9368	14.759	14.717	2	0.983	84035091	18246796	32944	82360	554		
333.9339	14.759	14.717	2	0.983	107751073	23225428	25373	63432	915	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.731						8278	20695			
321.8936	14.731						5546	13865			
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				14312	35780			
Total Dioxins & Furans											
303.9016		0.0	0				14312	35780			

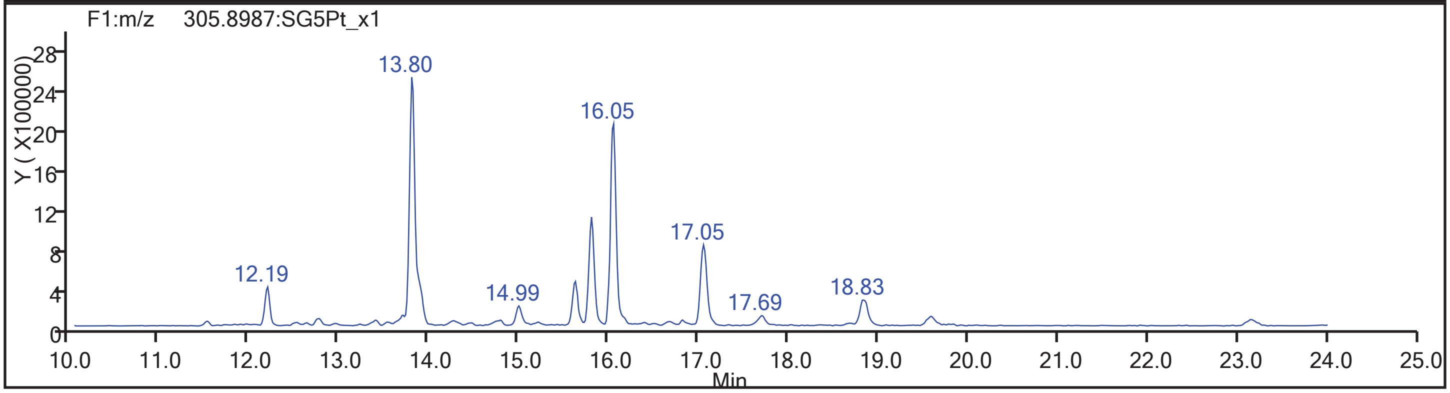
Report Date: 09-Nov-2017 17:09:21　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

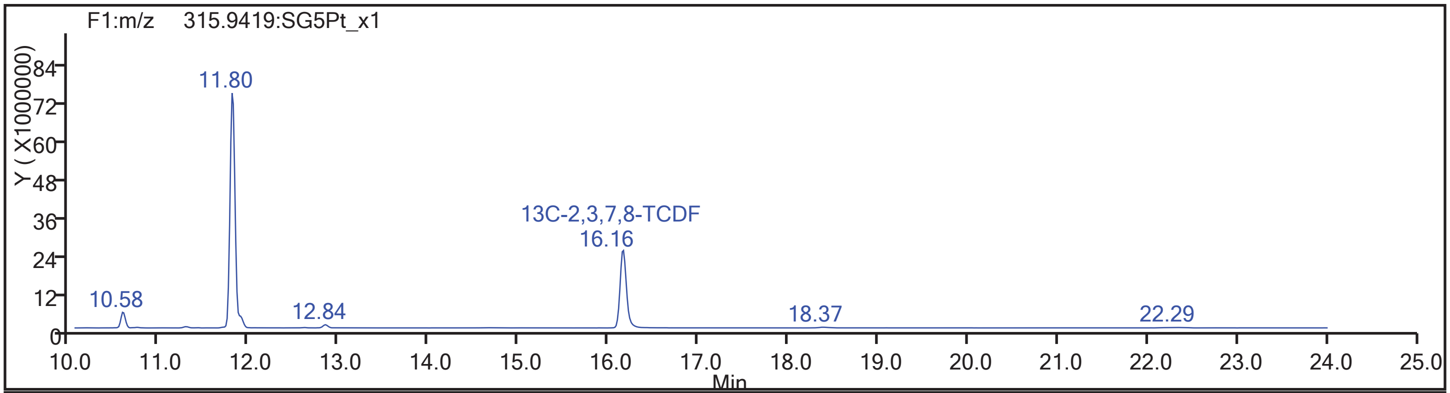
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_006.d		
Injection Date:	08-Nov-2017 01:57:25	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	193641	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

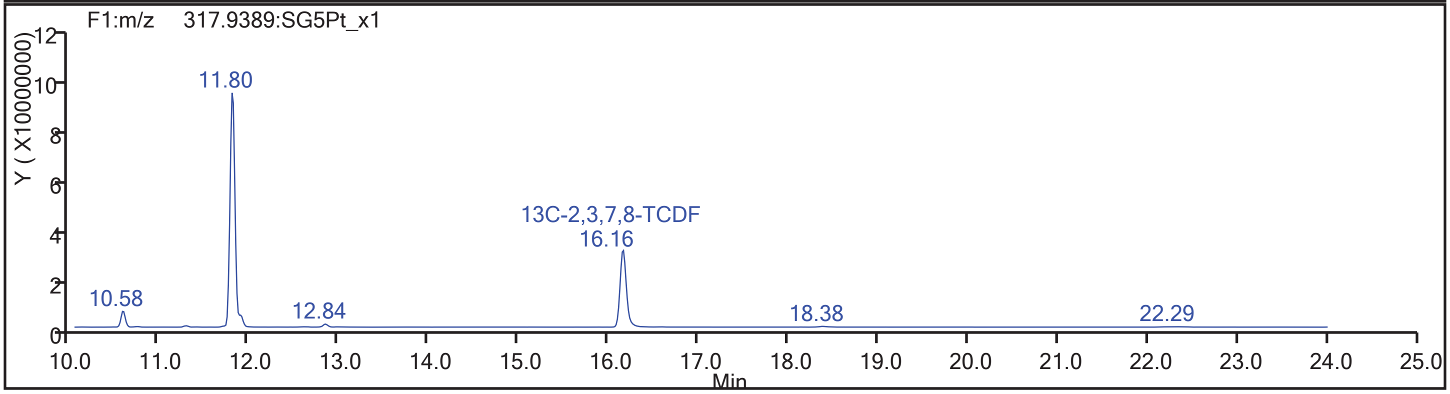
TCDF





TCDF Standards



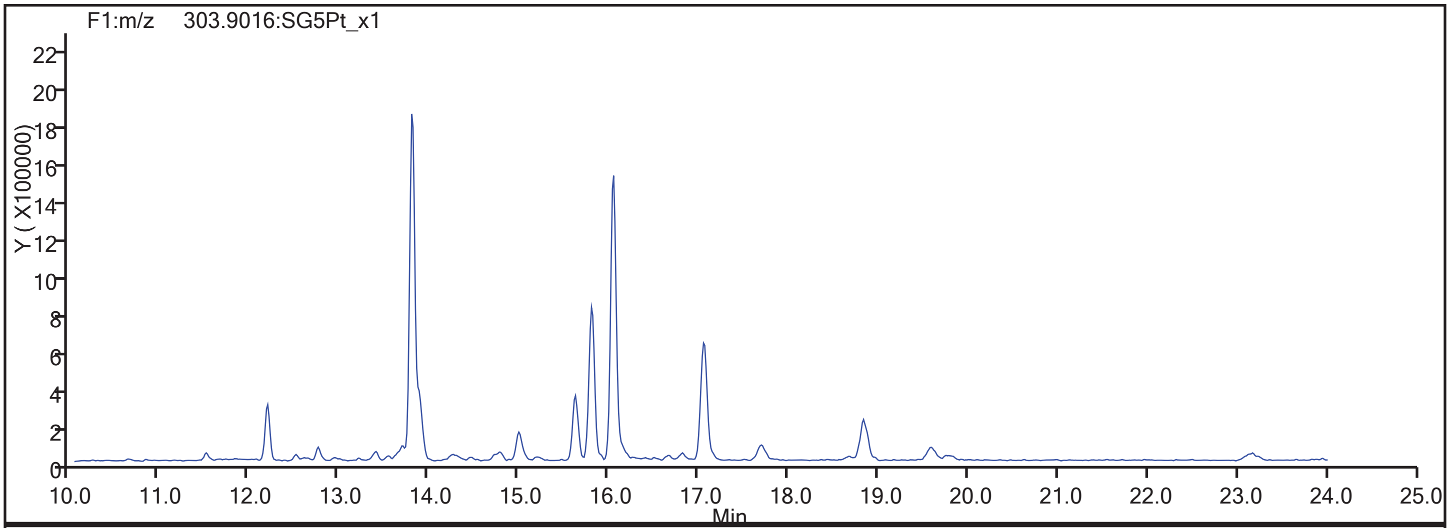


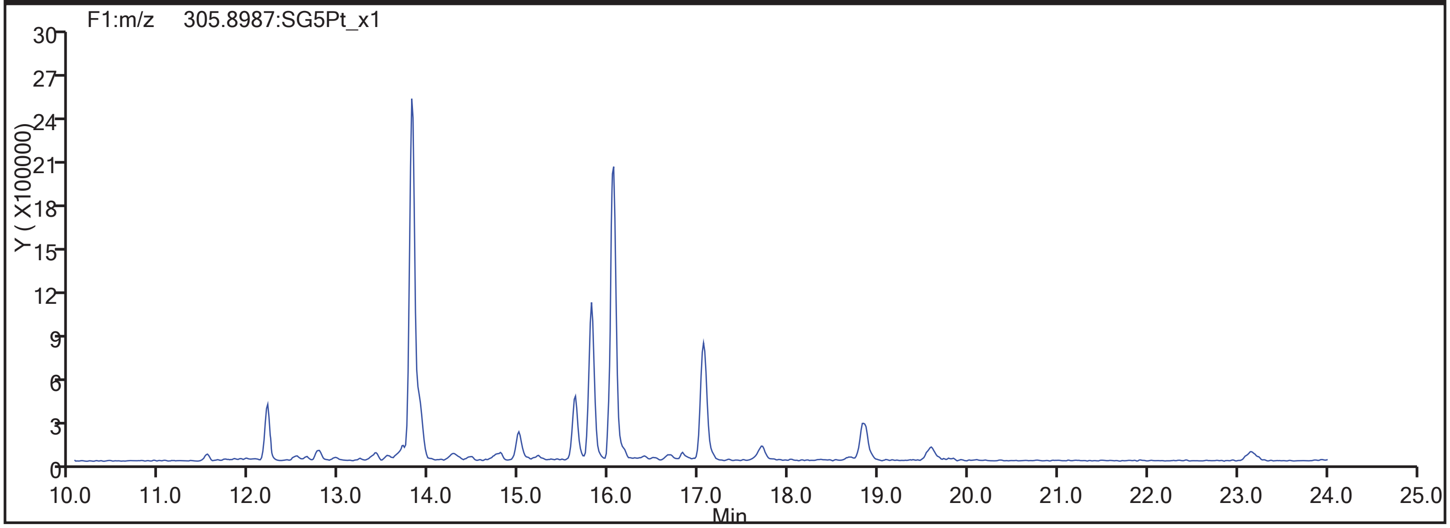
Report Date: 09-Nov-2017 17:09:21 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

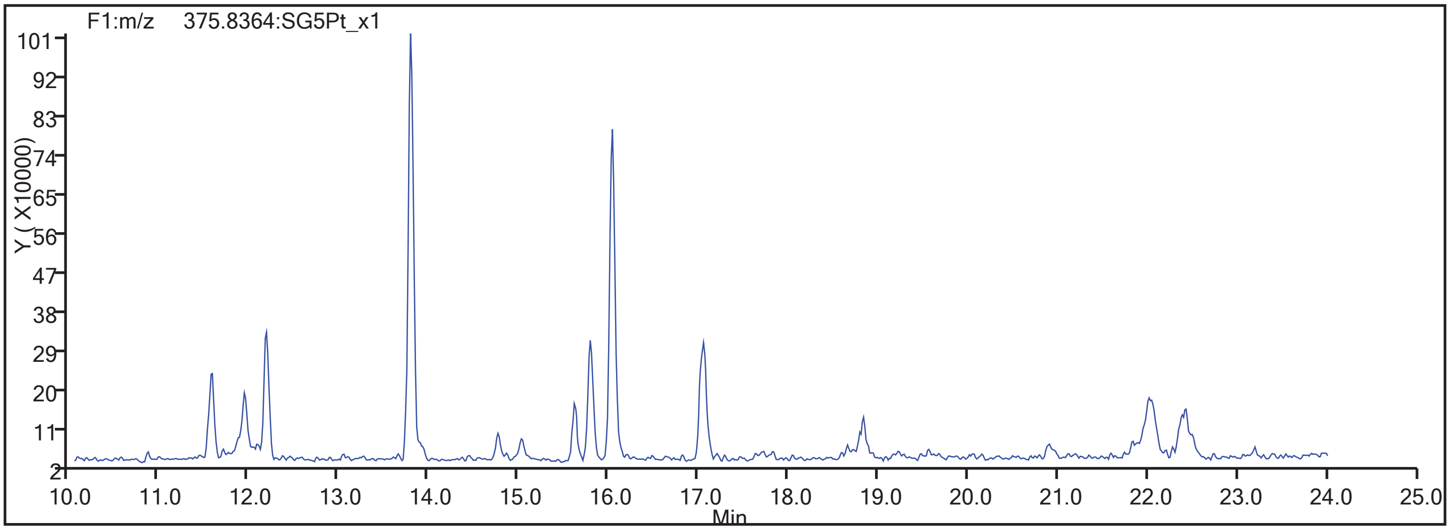
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_006.d		
Injection Date:	08-Nov-2017 01:57:25	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	193641	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_006.d		
Injection Date:	08-Nov-2017 01:57:25	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	193641	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP013SS01NS
Lab Sample ID: 160-24924-13
Matrix: Solid
Lab File ID: 09NO1710D5_83.d
Analysis Method: 8290A
Date Collected: 10/05/2017 14:23
Extract. Method: 8290
Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.05(g)
Date Analyzed: 11/12/2017 02:19
Con. Extract Vol.: 20.00(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 0.5
GPC Cleanup:(Y/N) N
Analysis Batch No.: 194086
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.15	J M	1.0	0.40	0.097
40321-76-4	1,2,3,7,8-PeCDD	0.79	J	5.0	0.75	0.19
57117-41-6	1,2,3,7,8-PeCDF	0.75	U	5.0	0.75	0.23
57117-31-4	2,3,4,7,8-PeCDF	0.75	U	5.0	0.75	0.23
39227-28-6	1,2,3,4,7,8-HxCDD	0.99	J	5.0	2.0	0.25
57653-85-7	1,2,3,6,7,8-HxCDD	5.8		5.0	2.0	0.20
19408-74-3	1,2,3,7,8,9-HxCDD	3.7	J	5.0	2.0	0.19
70648-26-9	1,2,3,4,7,8-HxCDF	0.75	U	5.0	0.75	0.36
57117-44-9	1,2,3,6,7,8-HxCDF	2.5	J M	5.0	1.0	0.30
72918-21-9	1,2,3,7,8,9-HxCDF	1.0	U	5.0	1.0	0.36
60851-34-5	2,3,4,6,7,8-HxCDF	0.70	J	5.0	0.75	0.33
35822-46-9	1,2,3,4,6,7,8-HpCDD	63		5.0	1.0	0.91
67562-39-4	1,2,3,4,6,7,8-HpCDF	32		5.0	1.0	0.43
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.0	U	5.0	2.0	0.53
3268-87-9	OCDD	500	B	10	4.0	0.86
39001-02-0	OCDF	31		10	4.0	0.23

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	80		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	88		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	88		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	83		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	102		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	70		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	69		40-135
114423-97-1	13C-OCDD	62		40-135

Report Date: 13-Nov-2017 13:16:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d				
Lims ID:	160-24924-G-13-A				
Client ID:	SHAD041DP013SS01NS				
Sample Type:	Client				
Inject. Date:	12-Nov-2017 02:19:17	ALS Bottle#:	58	Worklist Smp#:	83
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-g-13-a 160-24924-g-13-a				
Misc. Info.:	09NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	13-Nov-2017 13:16:32	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK002				

First Level Reviewer: dadunj Date: 13-Nov-2017 13:16:32

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.929	73680177	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.415	77928716	0.79	1.2741	83.0	83.0	1.331	1.331	83.01	
2,3,7,8-TCDF	17.445	180566	0.86	1.1341	0.2043	0.2043	0.0979	0.0979		
A Non-2,3,7,8-sub-TCDF	17.105	1394180	0.77	1.1341	1.792	1.577	0.0979	0.7563		RQ
S Total TCDF					1.996	1.782	0.0979	0.0979		RQ
D 13C-2,3,7,8-TCDD	18.126	58583725	0.78	0.9921	80.1	80.1	0.2293	0.2293	80.15	
2,3,7,8-TCDD	18.141	44604	0.77	0.9993	0.0893	0.0762	0.0483	0.0483		RQM
A Non-2,3,7,8-sub-TCDD	17.559	733464	0.77	0.9993	1.262	1.253	0.0483	0.3508		RQM
S Total TCDD					1.351	1.329	0.0483	0.0483		RQ
D 13C-1,2,3,7,8-PeCDF	22.478	63178358	1.54	0.9696	88.4	88.4	0.2407	0.2407	88.43	
1,2,3,7,8-PeCDF	22.437						0.1141	0.1141		
2,3,4,7,8-PeCDF	23.787						0.1165	0.1165		
A F1 PeCDFs	20.001	3293663	1.55	1.1511	4.529	4.529	0.0384	4.529		
A Non-2,3,7,8-sub-PeCDF	23.161	2000187	1.56	1.1511	2.750	2.750	0.1153	1.742		
S Total PeCDF					7.279	7.279	0.1153	0.1153		
D 13C-1,2,3,7,8-PeCDD	24.551	49302765	1.64	0.7588	88.2	88.2	0.1123	0.1123	88.19	
1,2,3,7,8-PeCDD	24.578	185836	1.55	0.9490	0.4517	0.3972	0.0963	0.0963		RQ
A Non-2,3,7,8-sub-PeCDD	23.419	1818099	1.55	0.9490	4.787	3.886	0.0963	1.180		RQ
S Total PeCDD					5.239	4.283	0.0963	0.0963		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.646	51066411	0.52	0.9644	101.9	101.9	0.6996	0.6996	102	
1,2,3,4,7,8-HxCDF	30.580						0.1817	0.1817		
1,2,3,6,7,8-HxCDF	30.819	1102564	1.23	1.6951	1.274	1.274	0.1502	0.1502		M
2,3,4,6,7,8-HxCDF	31.631	273054	1.43	1.5205	0.3517	0.3517	0.1675	0.1675		
D 13C-1,2,3,7,8,9-HxCDF	32.403	44301917	0.52							
1,2,3,7,8,9-HxCDF	32.350						0.1806	0.1806		
A Non-2,3,7,8-sub-HxCDF	30.254	8893397	1.28	1.5067	11.6	11.6	0.1690	5.617		
S Total HxCDF					13.2	13.2	0.1700	0.1700		
* 13C-1,2,3,7,8,9-HxCDD	32.217	51962262	1.22	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.818	178578	1.27	0.9505	0.4935	0.4935	0.1275	0.1275		
D 13C-1,2,3,6,7,8-HxCDD	31.897	38069869	1.17	0.8791	83.3	83.3	0.4050	0.4050	83.34	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.911	1355092	1.28	1.2343	2.884	2.884	0.0981	0.0981		
1,2,3,7,8,9-HxCDD	32.230	867554	1.28	1.2467	1.828	1.828	0.0972	0.0972		
A Non-2,3,7,8-sub-HxCDD	30.893	8540983	1.24	1.1438	19.6	19.6	0.1059	12.6		
S Total HxCDD					24.8	24.8	0.1076	0.1076		
D 13C-1,2,3,4,6,7,8-HpCDF	33.831	27219772	0.43	0.7618	68.8	68.8	0.8088	0.8088	68.76	
1,2,3,4,6,7,8-HpCDF	33.831	7038441	1.07	1.6399	15.8	15.8	0.2153	0.2153		
1,2,3,4,7,8,9-HpCDF	34.839						0.2654	0.2654		
A Non-2,3,7,8-sub-HpCDF	34.305	6734082	1.00	1.4851	16.7	16.7	0.2377	16.7		
S Total HpCDF					32.4	32.4	0.2403	0.2403		
D 13C-1,2,3,4,6,7,8-HpCDD	34.633	28290340	1.05	0.7762	70.1	70.1	0.4334	0.4334	70.14	
1,2,3,4,6,7,8-HpCDD	34.633	8826274	1.05	0.9932	31.4	31.4	0.4564	0.4564		
A Non-2,3,7,8-sub-HpCDD	34.286	11358593	1.03	0.9932	40.4	40.4	0.4564	40.4		
S Total HpCDD					71.8	71.8	0.4564	0.4564		
D 13C-OCDD	37.026	40758418	0.90	0.6314	124.2	124.2	0.2895	0.2895	62.11	
OCDF	37.122	4291716	0.88	1.3460	15.6	15.6	0.1152	0.1152		
OCDD	37.038	53680090	0.89	1.0604	248.4	248.4	0.4320	0.4320		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d
Lims ID: 160-24924-G-13-A
Client ID: SHAD041DP013SS01NS
Sample Type: Client
Inject. Date: 12-Nov-2017 02:19:17 ALS Bottle#: 58 Worklist Smp#: 83
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-13-a 160-24924-g-13-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:16:32 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:16:32

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.929	17.884	3		32252582	7866141	9744	24360	807		a
333.9339	17.929	17.884	3		41427595	10159590	6658	16645	1526	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.415	17.370	3	0.971	34505326	8398329	44079	110197	191		
317.9389	17.415	17.370	3	0.971	43423390	10467565	78234	195585	134	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.445	17.385	4	1.002	83633	16939	3500	8750	5		
305.8987	17.445	17.385	4	1.002	96933	23386	4881	12202	5	0.86(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	15.480	17.105	-97	0.889	285215	81132	3500	8750	23		
305.8987	15.480	17.105	-97	0.889	383238	107163	4881	12202	22	0.74(0.65-0.89)	
303.9016	15.994	17.105	-67	0.918	180031	15414	3500	8750	4		
	Empc Correction				74941	16022	3500	8750	5		
305.8987	15.737	17.105	-82	0.904	97326	20809	4881	12202	4	1.85(0.65-0.89)	
303.9016	16.523	17.105	-35	0.949	171114	47009	3500	8750	13		
305.8987	16.508	17.105	-36	0.948	224650	56669	4881	12202	12	0.76(0.65-0.89)	
303.9016	17.869	17.105	46	1.026	152853	17991	3500	8750	5		
	Empc Correction				68602	13913	3500	8750	4		
305.8987	17.884	17.105	47	1.027	89094	18069	4881	12202	4	1.72(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.126	18.080	3	1.011	25668577	5886283	9744	24360	604		
333.9339	18.126	18.080	3	1.011	32915148	7576121	6658	16645	1138	0.78(0.65-0.89)	
2,3,7,8-TCDD											RQM
319.8965	18.141	18.095	3	1.001	19404	4508	1360	3400	3		M
321.8936	18.141	18.095	3	1.001	32878	8686	1238	3095	7	0.59(0.65-0.89)	M
	Empc Correction				25200	5854	1238	3095	5		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	15.903	17.559	-99	0.877	81750	23465	1360	3400	17		
321.8936	15.903	17.559	-99	0.877	123635	34258	1238	3095	28	0.66(0.65-0.89)	
319.8965	16.205	17.559	-81	0.894	61861	16410	1360	3400	12		
321.8936	16.190	17.559	-82	0.893	69878	16427	1238	3095	13	0.89(0.65-0.89)	
319.8965	16.432	17.559	-67	0.907	22501	5045	1360	3400	4		
	Empc Correction				17226	4691	1360	3400	3		
321.8936	16.432	17.559	-67	0.907	22372	6093	1238	3095	5	1.01(0.65-0.89)	
319.8965	17.007	17.559	-33	0.938	76217	14639	1360	3400	11		
321.8936	17.007	17.559	-33	0.938	96172	23776	1238	3095	19	0.79(0.65-0.89)	
319.8965	18.035	17.559	29	0.995	45285	5894	1360	3400	4		M
321.8936	17.899	17.559	20	0.987	64846	7945	1238	3095	6	0.70(0.65-0.89)	
319.8965	18.504	17.559	57	1.021	32136	6538	1360	3400	5		
321.8936	18.519	17.559	57	1.022	42086	7784	1238	3095	6	0.76(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.478	22.410	4	1.254	38271058	6417977	10116	25290	634		
353.8970	22.478	22.410	4	1.254	24907300	4183643	6714	16785	623	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.437						3112	7780			
341.8567	22.437						2516	6290			
2,3,4,7,8-PeCDF											
339.8597	23.787						3112	7780			
341.8567	23.787						2516	6290			
A F1 PeCDFs											
339.8597	19.562	20.001	-26	0.870	1999530	453791	760	1900	597		
341.8567	19.562	20.001	-26	0.870	1294133	275029	1114	2785	247	1.55(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	21.128	23.161	-122	0.940	773076	121901	3112	7780	39		
341.8567	21.128	23.161	-122	0.940	493456	79875	2516	6290	32	1.57(1.32-1.78)	
339.8597	21.919	23.161	-74	0.975	288320	44070	3112	7780	14		
341.8567	21.919	23.161	-74	0.975	189242	27436	2516	6290	11	1.52(1.32-1.78)	
339.8597	24.210	23.161	63	1.077	158520	24653	3112	7780	8		
341.8567	24.183	23.161	61	1.076	97573	13426	2516	6290	5	1.62(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.551	24.483	4	1.369	30640236	4310884	3845	9612	1121		
369.8919	24.551	24.483	4	1.369	18662529	2694897	2301	5752	1171	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											RQ
355.8546	24.578	24.510	4	1.001	138481	20962	1285	3212	16		
	Empc Correction				112959	18570	1285	3212	14		
357.8516	24.578	24.510	4	1.001	72877	11981	1275	3187	9	1.90(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.333	23.419	-125	0.869	335690	56442	1285	3212	44		
357.8516	21.346	23.419	-124	0.869	533459	92811	1275	3187	73	0.63(1.32-1.78)	
	Empc Correction				216574	36414	1275	3187	29		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
355.8546	22.083	23.419	-80	0.899	96904	17575	1285	3212	14		
357.8516	22.096	23.419	-79	0.900	92054	14280	1275	3187	11	1.05(1.32-1.78)	
	Empc Correction				62518	11338	1275	3187	9		
355.8546	22.519	23.419	-54	0.917	118946	20573	1285	3212	16		
357.8516	22.587	23.419	-50	0.920	142120	16847	1275	3187	13	0.84(1.32-1.78)	
	Empc Correction				76739	13272	1275	3187	10		
355.8546	22.778	23.419	-38	0.928	168594	29286	1285	3212	23		
357.8516	22.792	23.419	-38	0.928	97795	16582	1275	3187	13	1.72(1.32-1.78)	
355.8546	23.078	23.419	-20	0.940	82685	13795	1285	3212	11		
357.8516	23.092	23.419	-20	0.941	56449	9480	1275	3187	7	1.46(1.32-1.78)	
355.8546	23.378	23.419	-2	0.952	46374	9029	1285	3212	7		
357.8516	23.419	23.419	0	0.954	32169	5801	1275	3187	5	1.44(1.32-1.78)	
355.8546	23.610	23.419	11	0.962	199877	25247	1285	3212	20		
357.8516	23.610	23.419	11	0.962	126331	16060	1275	3187	13	1.58(1.32-1.78)	
355.8546	24.892	23.419	88	1.014	70893	11969	1285	3212	9		
	Empc Correction				61060	10132	1285	3212	8		
357.8516	24.892	23.419	88	1.014	39394	6537	1275	3187	5	1.80(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.646	30.553	6	0.951	17406858	2918005	10145	25362	288		
385.8610	30.646	30.553	6	0.951	33659553	5625315	19637	49092	286	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.580						4814	12035			
375.8178	30.580						3888	9720			
1,2,3,6,7,8-HxCDF											M
373.8208	30.819	30.753	4	1.006	608352	117744	4814	12035	24		M
375.8178	30.819	30.753	4	1.006	494212	93611	3888	9720	24	1.23(1.05-1.43)	
2,3,4,6,7,8-HxCDF											
373.8208	31.631	31.565	4	1.032	160640	33956	4814	12035	7		
375.8178	31.631	31.565	4	1.032	112414	24023	3888	9720	6	1.43(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.403	32.337	4	1.006	15173918	3351055	10145	25362	330		
385.8610	32.403	32.337	4	1.006	29127999	6371882	19637	49092	324	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.350						4814	12035			
375.8178	32.350						3888	9720			
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.157	30.254	-126	0.919	623904	75222	4814	12035	16		
375.8178	28.157	30.254	-126	0.919	488382	61442	3888	9720	16	1.28(1.05-1.43)	
373.8208	28.543	30.254	-102	0.931	2405605	261170	4814	12035	54		
375.8178	28.557	30.254	-102	0.932	1916280	201685	3888	9720	52	1.26(1.05-1.43)	
373.8208	29.874	30.254	-23	0.975	1962438	248545	4814	12035	52		a
375.8178	29.888	30.254	-22	0.975	1496788	192198	3888	9720	49	1.31(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.217	32.164	3		28602316	6058025	8902	22255	681		a
403.8529	32.217	32.164	3		23359946	4978314	6815	17037	730	1.22(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											
389.8157	31.818	31.751	4	0.997	99986	25648	2039	5097	13		
391.8127	31.804	31.751	3	0.997	78592	21747	1916	4790	11	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.897	31.831	4	0.990	20553217	4528639	8902	22255	509		a
403.8529	31.897	31.831	4	0.990	17516652	3632509	6815	17037	533	1.17(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.911	31.844	4	1.000	759753	167188	2039	5097	82		
391.8127	31.911	31.844	4	1.000	595339	129231	1916	4790	67	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.230	32.177	3	1.010	486743	85180	2039	5097	42		
391.8127	32.230	32.177	3	1.010	380811	71517	1916	4790	37	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.741	30.893	-69	0.932	1391007	158388	2039	5097	78		
391.8127	29.755	30.893	-68	0.933	1097231	127055	1916	4790	66	1.27(1.05-1.43)	
389.8157	30.713	30.893	-11	0.963	328729	56154	2039	5097	28		
391.8127	30.726	30.893	-10	0.963	249550	40598	1916	4790	21	1.32(1.05-1.43)	
389.8157	31.086	30.893	12	0.975	3007304	498262	2039	5097	244		
391.8127	31.086	30.893	12	0.975	2467162	408111	1916	4790	213	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.831	33.746	5	1.050	8199119	2084776	9722	24305	214		
419.8220	33.819	33.746	4	1.050	19020653	4832720	17478	43695	277	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.831	33.758	4	1.000	3643140	936743	5396	13490	174		a
409.7789	33.831	33.758	4	1.000	3395301	839447	4373	10932	192	1.07(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.839						5396	13490			
409.7789	34.839						4373	10932			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.135	34.305	-10	1.009	3365027	743737	5396	13490	138		
409.7789	34.135	34.305	-10	1.009	3369055	722870	4373	10932	165	1.00(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.633	34.535	6	1.075	14522184	3333396	8362	20905	399		
437.8140	34.621	34.535	5	1.075	13768156	3130903	6489	16222	482	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.633	34.548	5	1.000	4522141	1040599	5859	14647	178		
425.7737	34.633	34.548	5	1.000	4304133	1003605	5862	14655	171	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.074	34.286	-13	0.984	5750692	1394173	5859	14647	238		
425.7737	34.074	34.286	-13	0.984	5607901	1369318	5862	14655	234	1.03(0.88-1.20)	
13C-OCDD											
469.7779	37.026	36.870	9	1.149	19304861	4322253	3700	9250	1168		
471.7750	37.026	36.870	9	1.149	21453557	4955359	4369	10922	1134	0.90(0.76-1.02)	
OCDF											
441.7428	37.122	36.978	9	1.003	2003901	455750	1147	2867	397		
443.7399	37.122	36.978	9	1.003	2287815	519387	1729	4322	300	0.88(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	37.038	36.882	9	1.000	25243792	5720064	5118	12795	1118		
459.7348	37.038	36.882	9	1.000	28436298	6464998	3382	8455	1912	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Report Date: 13-Nov-2017 13:16:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d		
Lims ID:	160-24924-G-13-A		
Client ID:	SHAD041DP013SS01NS		
Inject. Date:	12-Nov-2017 02:19:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	83

Non-2,3,7,8-sub-TCDF, RT: 17.105

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	100.000	77928716	18865894

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	77928716	18865894

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.480	285215	81132	383238	107163	0.7563	0.74	
15.994	180031	15414	97326	20809	0.3138	1.85	RQ
15.994	74941	16022	97326	20809	0.1949		Empc Correction
16.523	171114	47009	224650	56669	0.4478	0.76	
17.869	152853	17991	89094	18069	0.2738	1.72	RQ
17.869	68602	13913	89094	18069	0.1784		Empc Correction
Signal Totals:							
	599872	158076	794308	202710			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1583521	364256				0.99	RQ
	1394180	360786					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.792 = (1583521 * 100.000) / (77928716 * 1.134)
Empc Amount: 1.577 = (1394180 * 100.000) / (77928716 * 1.134)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d		
Lims ID:	160-24924-G-13-A		
Client ID:	SHAD041DP013SS01NS		
Inject. Date:	12-Nov-2017 02:19:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	83

Non-2,3,7,8-sub-TCDD, RT: 17.559

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	58583725	13462404

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	58583725	13462404

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.903	81750	23465	123635	34258	0.3508	0.66	
16.205	61861	16410	69878	16427	0.2250	0.89	
16.432	22501	5045	22372	6093	0.0766	1.01	RQ
16.432	17226	4691	22372	6093	0.0676		Empc Correction
17.007	76217	14639	96172	23776	0.2945	0.79	
18.035	45285	5894	64846	7945	0.1881	0.70	M
18.504	32136	6538	42086	7784	0.1268	0.76	
Signal Totals:							
	314475	71637	418989	96283			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	738739	168274				0.76	RQM
	733464	167920					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.262 = (738739 * 100.000) / (58583725 * 0.999)
Empc Amount: 1.253 = (733464 * 100.000) / (58583725 * 0.999)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d
Lims ID: 160-24924-G-13-A
Client ID: SHAD041DP013SS01NS
Inject. Date: 12-Nov-2017 02:19:17
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194086
Lims Sample ID: 83

F1 PeCDFs, RT: 20.001

Initial Calibration RRF | IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	63178358	10601620
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	63178358	10601620

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.562	1999530	453791	1294133	275029	4.53	1.55	
Signal Totals:							
	1999530	453791	1294133	275029			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3293663	728820				1.55	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.529 = (3293663 * 100.000) / (63178358 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d
Lims ID: 160-24924-G-13-A
Client ID: SHAD041DP013SS01NS
Inject. Date: 12-Nov-2017 02:19:17
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194086
Lims Sample ID: 83

Non-2,3,7,8-sub-PeCDF, RT: 23.161

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	63178358	10601620
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	63178358	10601620

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.128	773076	121901	493456	79875	1.74	1.57	
21.919	288320	44070	189242	27436	0.6567	1.52	
24.210	158520	24653	97573	13426	0.3521	1.62	
Signal Totals:							
	1219916	190624	780271	120737			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2000187	311361				1.56	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.750 = (2000187 * 100.000) / (63178358 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d		
Lims ID:	160-24924-G-13-A		
Client ID:	SHAD041DP013SS01NS		
Inject. Date:	12-Nov-2017 02:19:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	83

Non-2,3,7,8-sub-PeCDD, RT: 23.419

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	49302765	7005781

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	49302765	7005781

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.333	335690	56442	533459	92811	1.86	0.63	RQ
21.333	335690	56442	216574	36414	1.18		Empc Correction
22.083	96904	17575	92054	14280	0.4039	1.05	RQ
22.083	96904	17575	62518	11338	0.3407		Empc Correction
22.519	118946	20573	142120	16847	0.5580	0.84	RQ
22.519	118946	20573	76739	13272	0.4182		Empc Correction
22.778	168594	29286	97795	16582	0.5694	1.72	
23.078	82685	13795	56449	9480	0.2974	1.46	
23.378	46374	9029	32169	5801	0.1679	1.44	
23.610	199877	25247	126331	16060	0.6972	1.58	
24.892	70893	11969	39394	6537	0.2357	1.80	RQ
24.892	61060	10132	39394	6537	0.2147		Empc Correction
Signal Totals:							
	1110130	182079	707969	115484			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2239734	362314				1.00	RQ
	1818099	297563					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.787 = (2239734 * 100.000) / (49302765 * 0.949)
Empc Amount: 3.886 = (1818099 * 100.000) / (49302765 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d		
Lims ID:	160-24924-G-13-A		
Client ID:	SHAD041DP013SS01NS		
Inject. Date:	12-Nov-2017 02:19:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	83

Non-2,3,7,8-sub-HxCDF, RT: 30.254

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	51066411	8543320
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	51066411	8543320

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.157	623904	75222	488382	61442	1.45	1.28	
28.543	2405605	261170	1916280	201685	5.62	1.26	
29.874	1962438	248545	1496788	192198	4.50	1.31	
Signal Totals:							
	4991947	584937	3901450	455325			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8893397	1040262				1.28	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 11.559 = (8893397 * 100.000) / (51066411 * 1.507)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d		
Lims ID:	160-24924-G-13-A		
Client ID:	SHAD041DP013SS01NS		
Inject. Date:	12-Nov-2017 02:19:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	83

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	38069869	8161148
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	38069869	8161148

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.741	1391007	158388	1097231	127055	5.71	1.27	
30.713	328729	56154	249550	40598	1.33	1.32	
31.086	3007304	498262	2467162	408111	12.6	1.22	
Signal Totals:							
	4727040	712804	3813943	575764			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8540983	1288568				1.24	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 19.614 = (8540983 * 100.000) / (38069869 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d		
Lims ID:	160-24924-G-13-A		
Client ID:	SHAD041DP013SS01NS		
Inject. Date:	12-Nov-2017 02:19:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	83

Non-2,3,7,8-sub-HpCDF, RT: 34.305

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	27219772	6917496
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	27219772	6917496

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.135	3365027	743737	3369055	722870	16.7	1.00	
Signal Totals:							
	3365027	743737	3369055	722870			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6734082	1466607				1.00	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 16.659 = (6734082 * 100.000) / (27219772 * 1.485)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d		
Lims ID:	160-24924-G-13-A		
Client ID:	SHAD041DP013SS01NS		
Inject. Date:	12-Nov-2017 02:19:17	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	83

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	28290340	6464299

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	28290340	6464299

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.074	5750692	1394173	5607901	1369318	40.4	1.03	
Signal Totals:							
	5750692	1394173	5607901	1369318			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11358593	2763491				1.03	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 40.426 = (11358593 * 100.000) / (28290340 * 0.993)

Report Date: 13-Nov-2017 13:16:35

Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

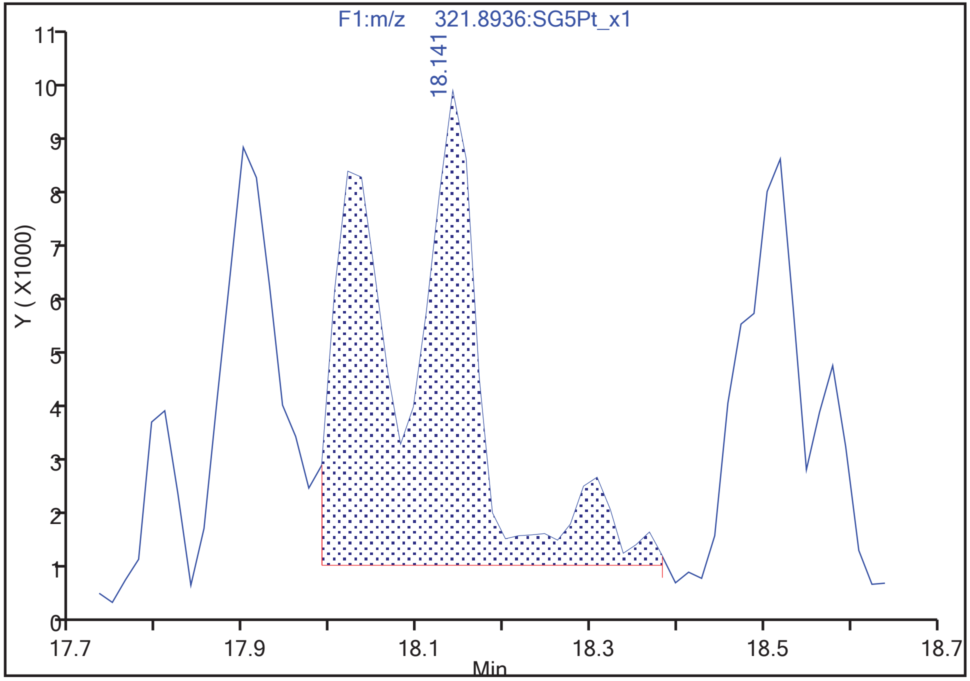
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d				
Injection Date:	12-Nov-2017 02:19:17	Instrument ID:	10D5		
Lims ID:	160-24924-G-13-A	Lab Sample ID:	320-24924-13		
Client ID:	SHAD041DP013SS01NS				
Operator ID:	AJS	ALS Bottle#:	58	Worklist Smp#:	83
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

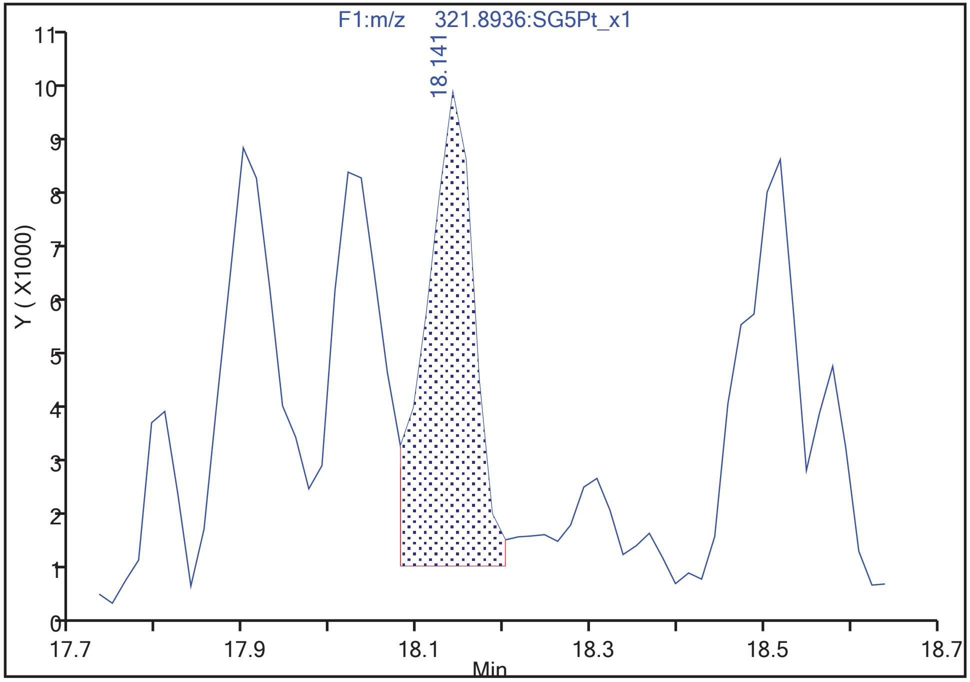
Processing Integration Results

RT:	18.14
Area:	68106
Amount:	0.227571
Amount Units:	pg/ul



Manual Integration Results

RT:	18.14
Area:	32878
Amount:	0.089303
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 13:09:50

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

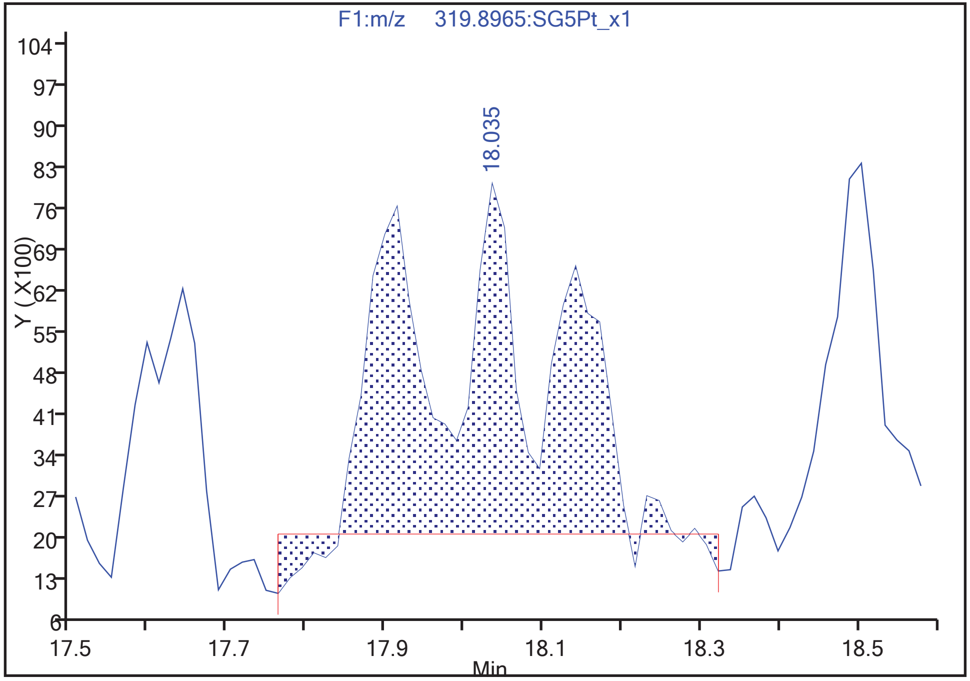
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d
Injection Date: 12-Nov-2017 02:19:17
Instrument ID: 10D5
Lims ID: 160-24924-G-13-A
Lab Sample ID: 320-24924-13
Client ID: SHAD041DP013SS01NS
Operator ID: AJS
ALS Bottle#: 58
Worklist Smp#: 83
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Column: DB-5 (0.32 mm)
Detector F1:HRSIR

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

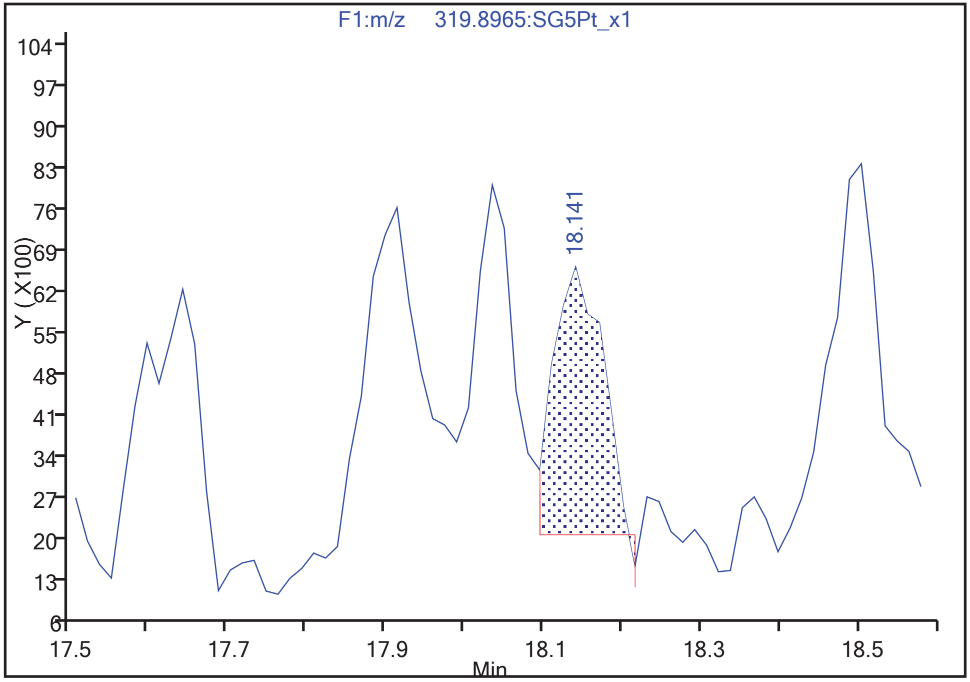
Processing Integration Results

RT: 18.03
Area: 65124
Amount: 0.227571
Amount Units: pg/ul



Manual Integration Results

RT: 18.14
Area: 19404
Amount: 0.089303
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 13:09:52
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

Report Date: 13-Nov-2017 13:16:35

Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

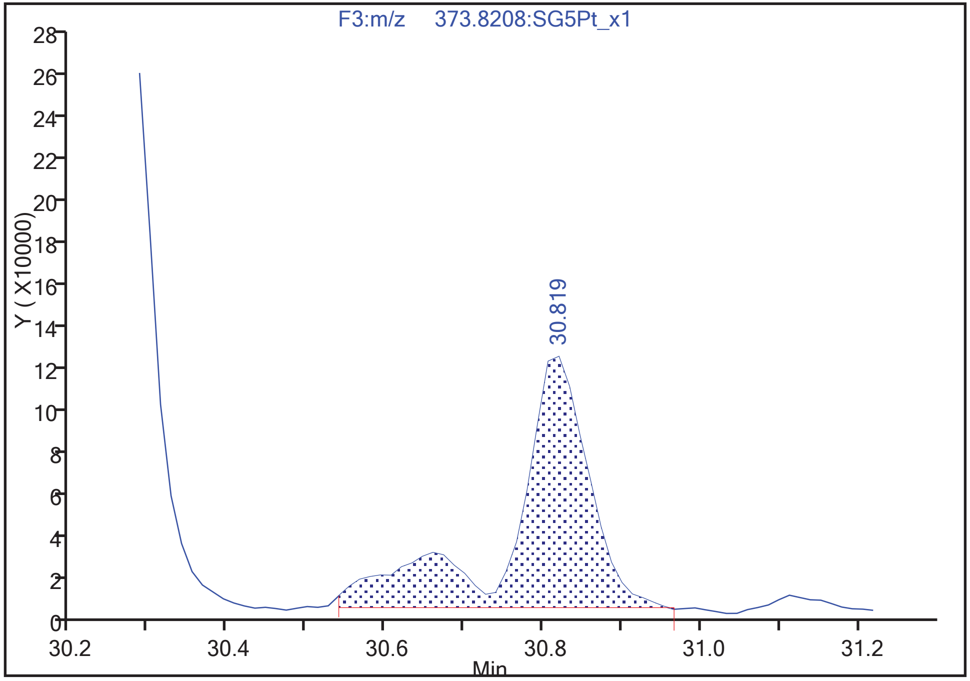
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d				
Injection Date:	12-Nov-2017 02:19:17	Instrument ID:	10D5		
Lims ID:	160-24924-G-13-A	Lab Sample ID:	320-24924-13		
Client ID:	SHAD041DP013SS01NS				
Operator ID:	AJS	ALS Bottle#:	58	Worklist Smp#:	83
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Processing Integration Results

RT: 30.82
Area: 795409
Amount: 1.489814
Amount Units: pg/ul



Manual Integration Results

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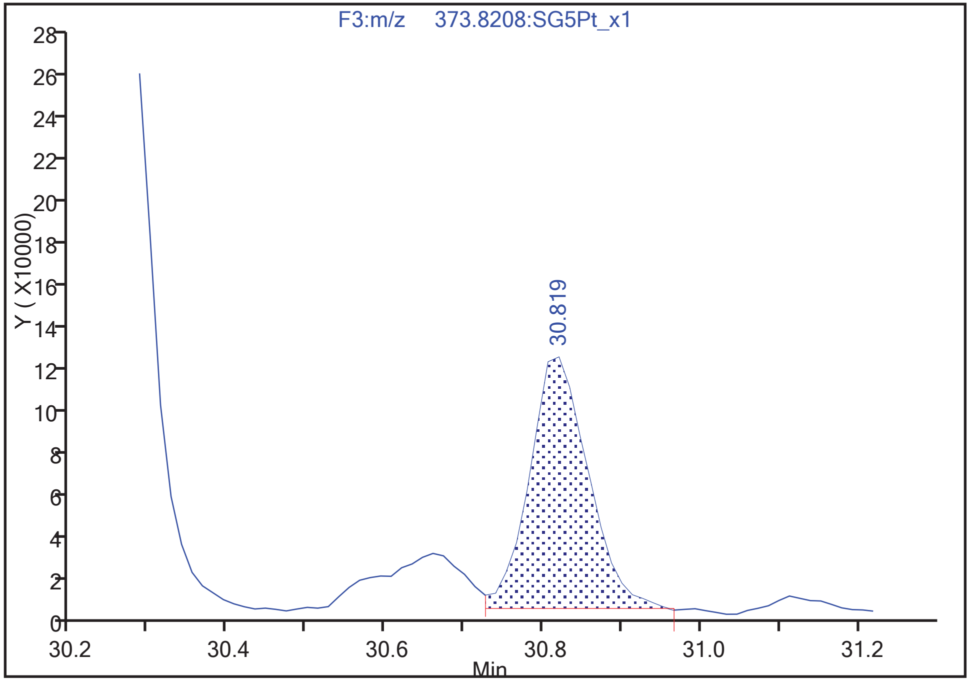
Amount: 1.273720
Amount Units: pg/ul



Reviewer: dadunj, 13-Nov-2017 13:12:07

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Report Date: 13-Nov-2017 13:16:35 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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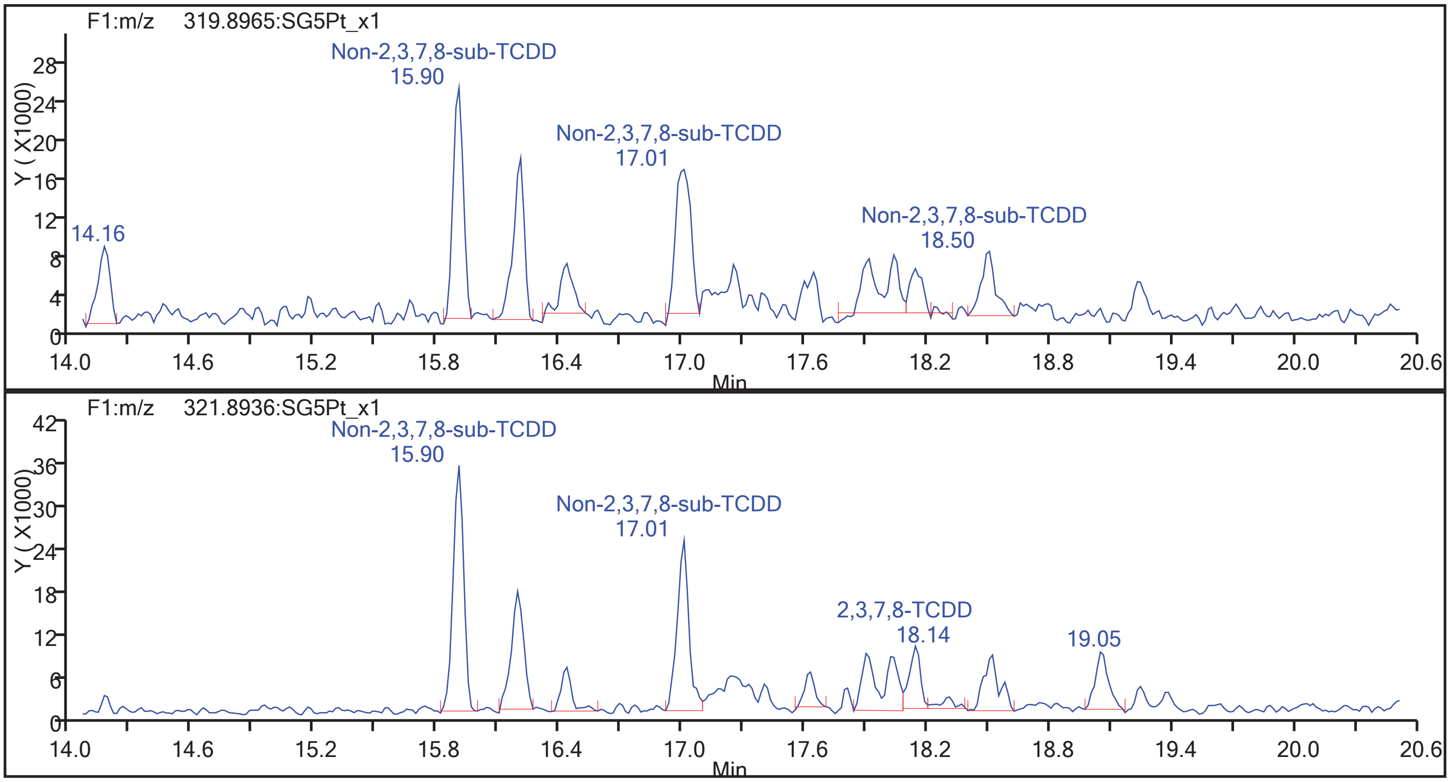
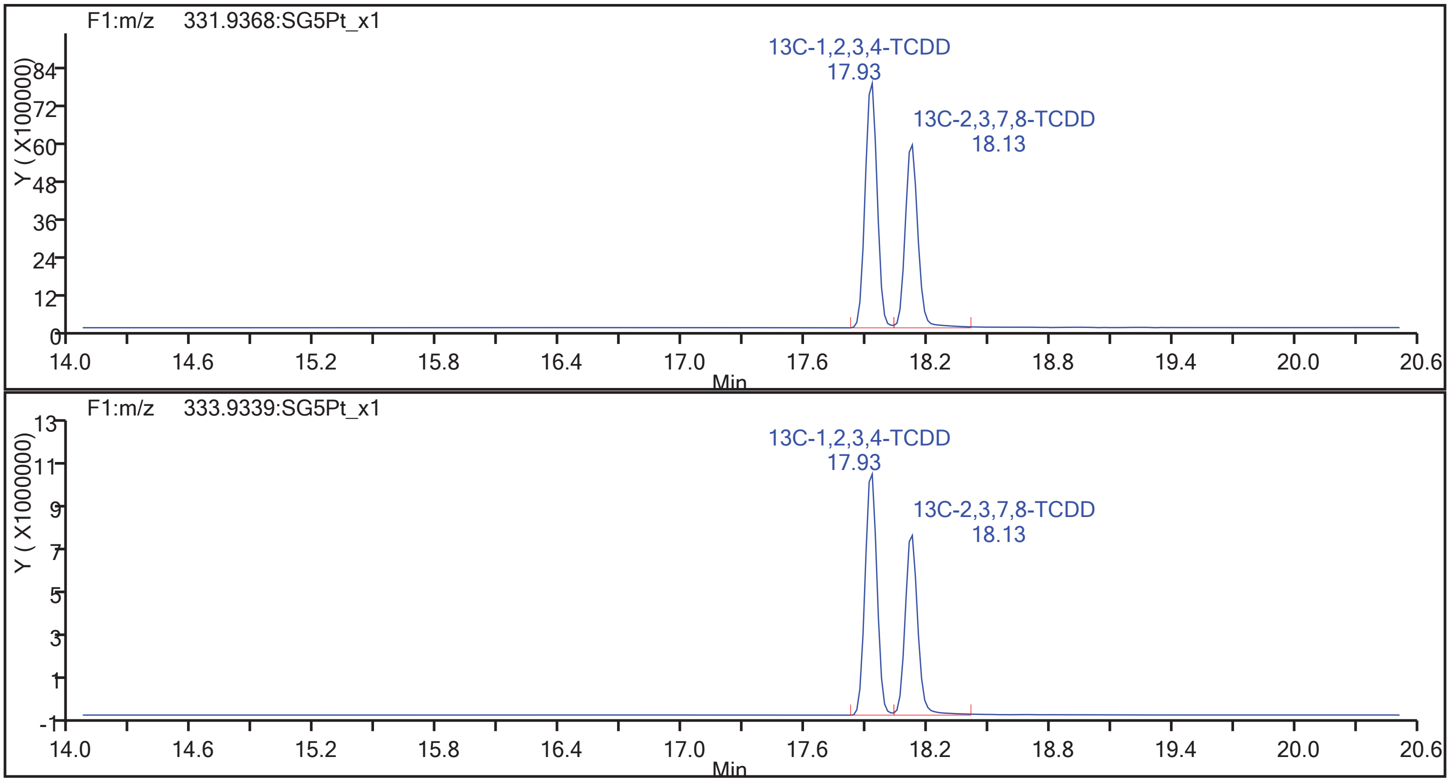
TCDD



TCDD Standards



Report Date: 13-Nov-2017 13:16:35
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Operator ID: AJS
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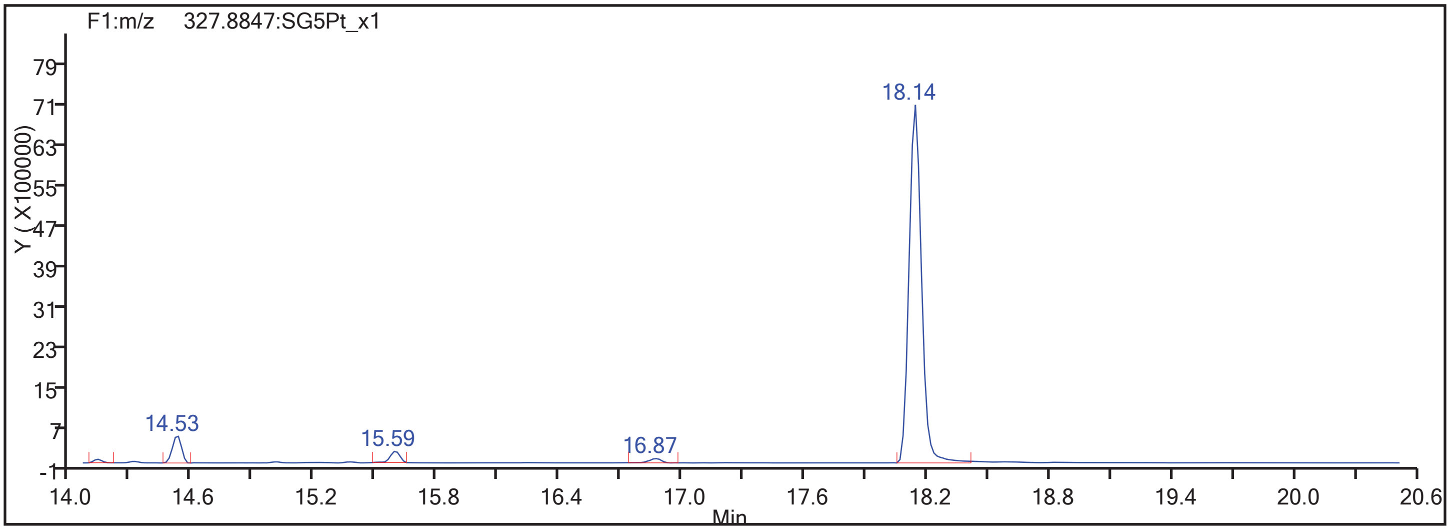
37Cl4-TCDD



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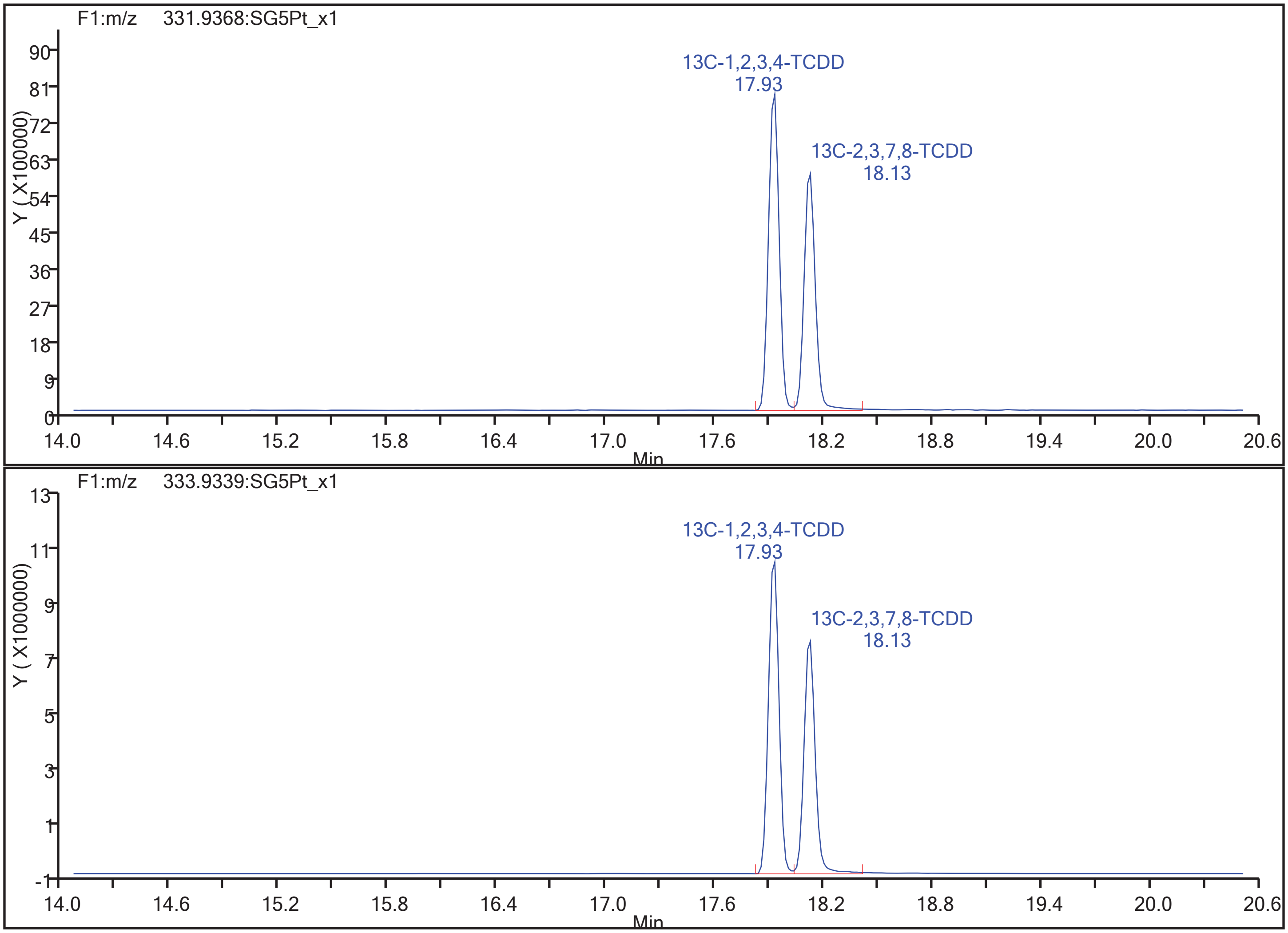

Report Date: 13-Nov-2017 13:16:35 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS01NS

Worklist#: 194086 Sample Line#: 83

Column Type: DB-5 Column Dia: 0.32 mm

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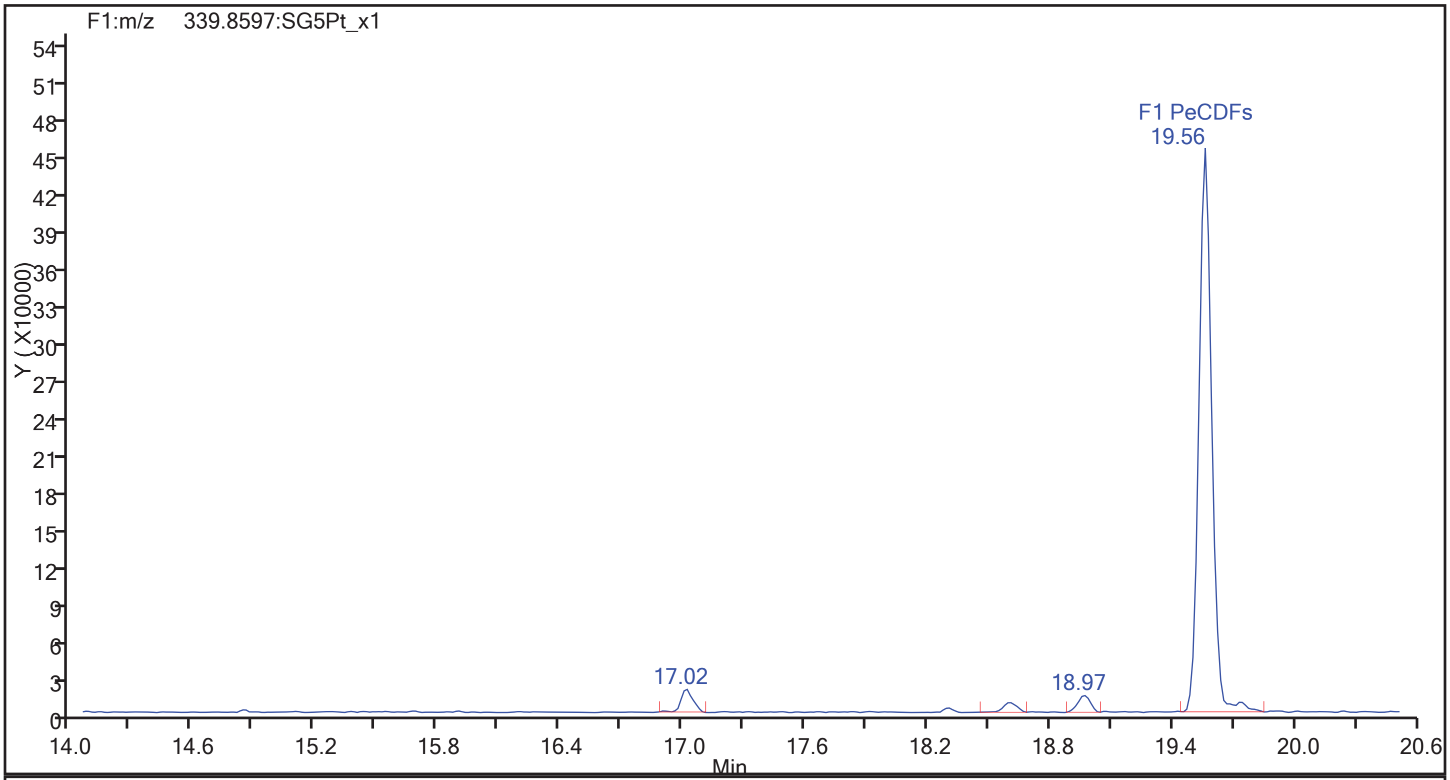

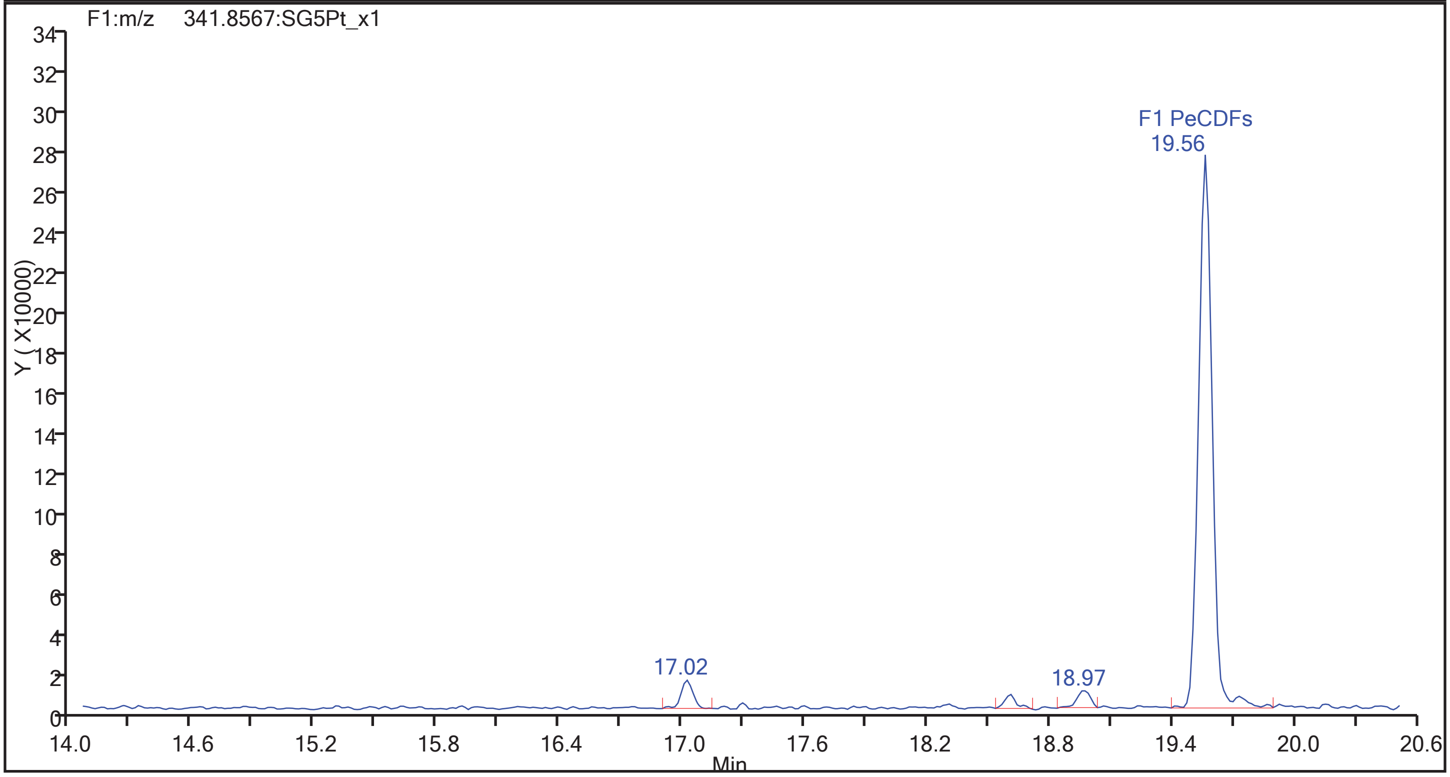

Report Date: 13-Nov-2017 13:16:35 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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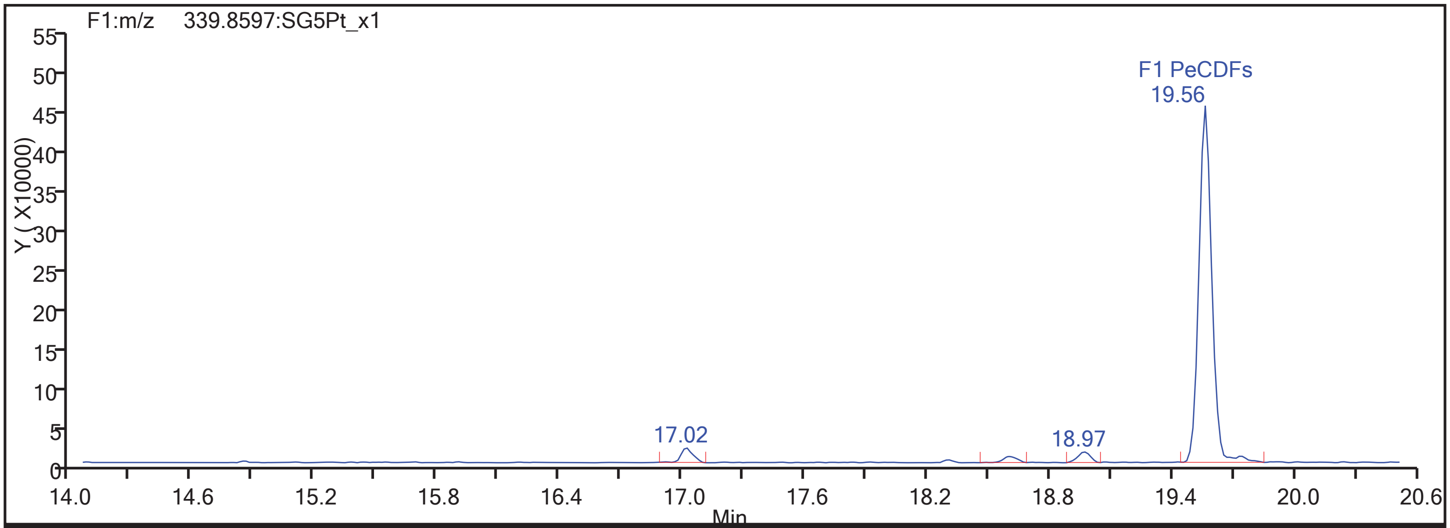
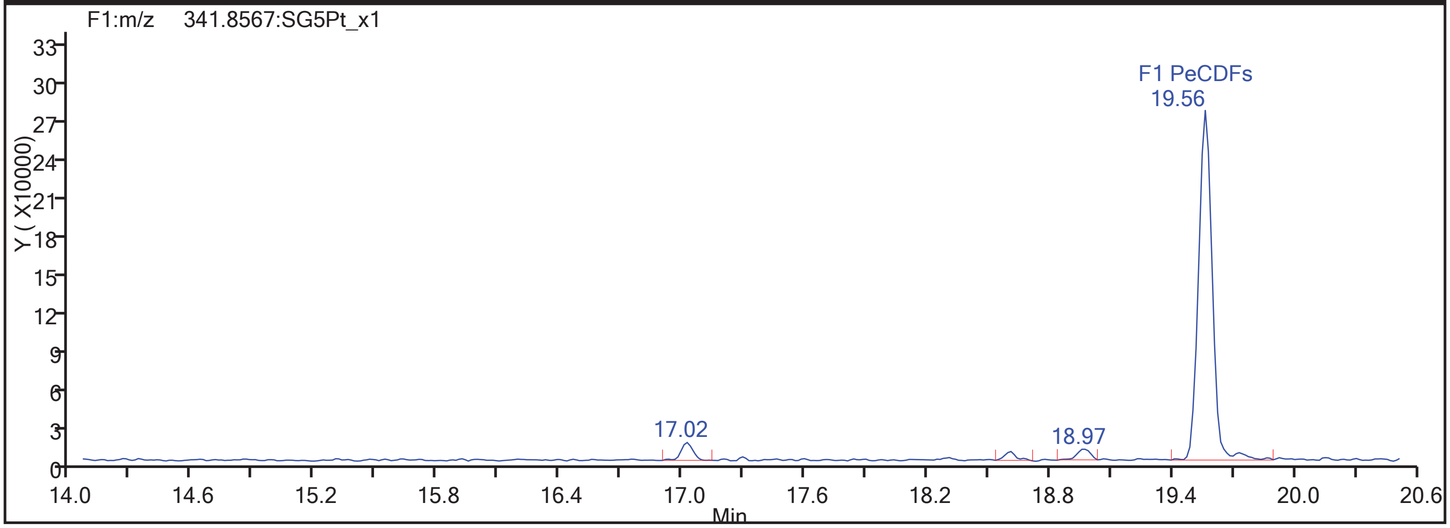
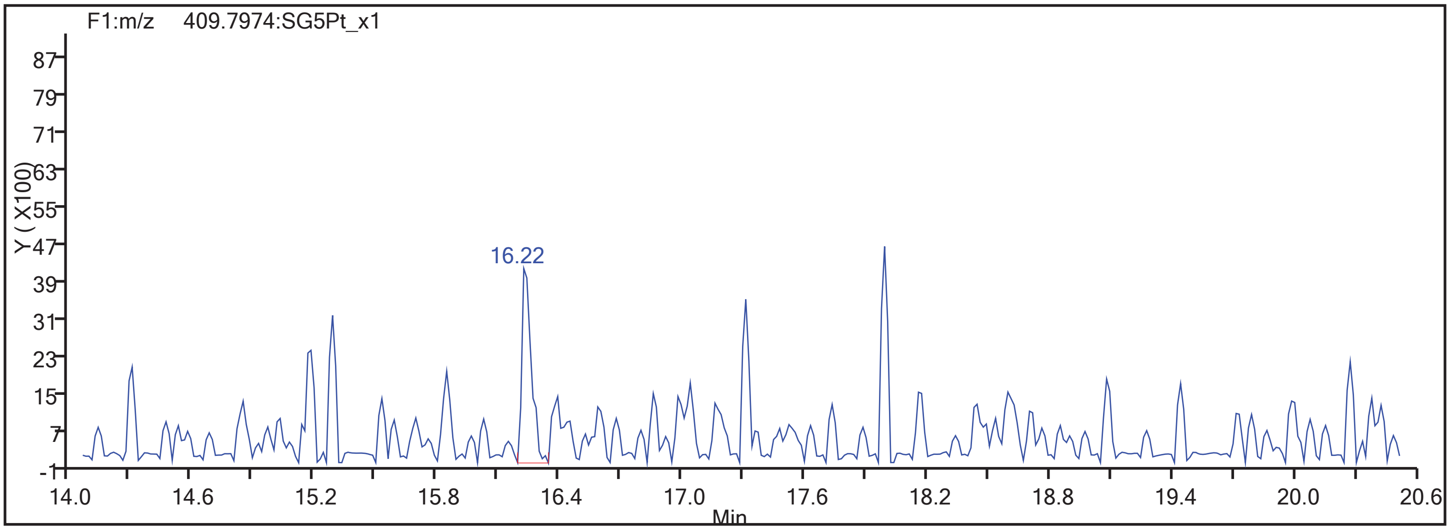




F1 PeCDFs Interference Mass



TestAmerica Sacramento

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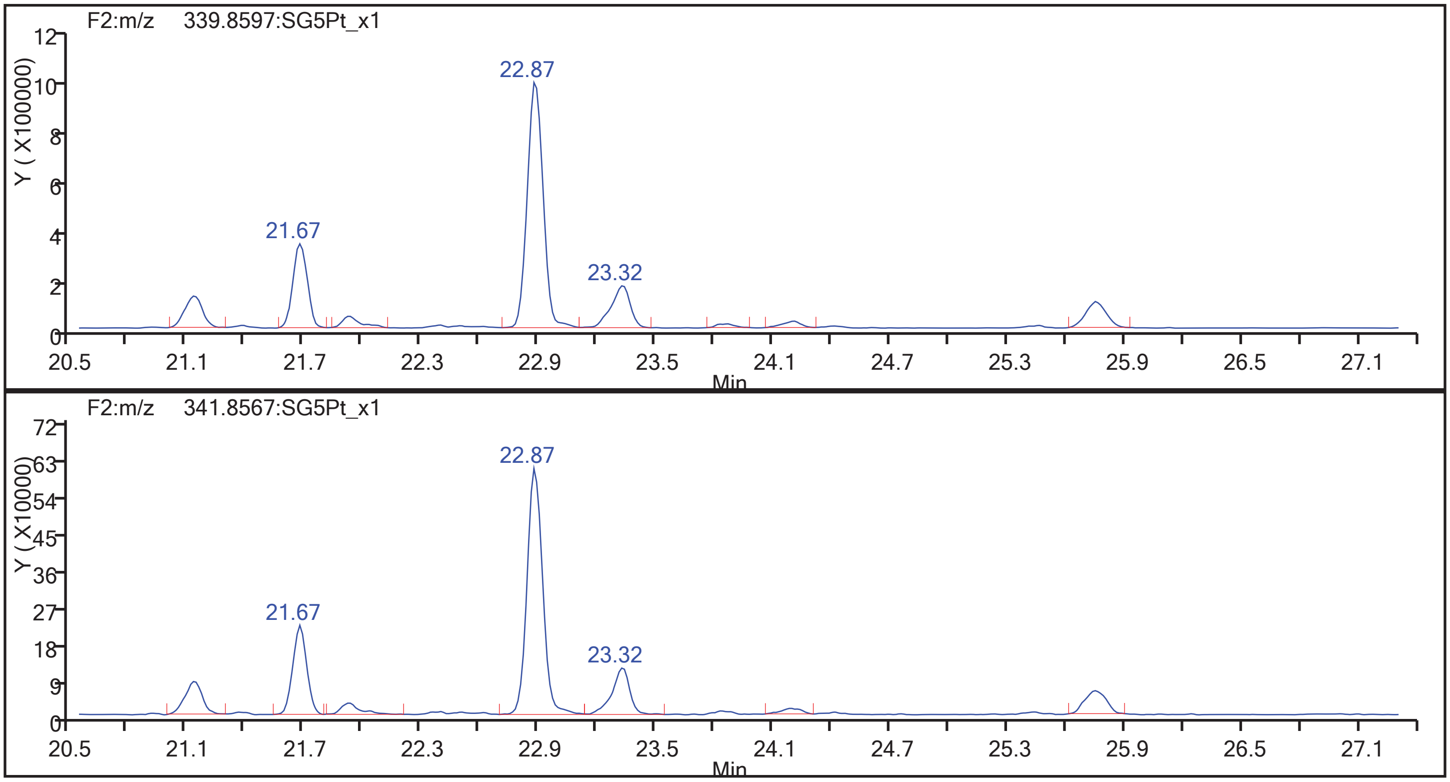
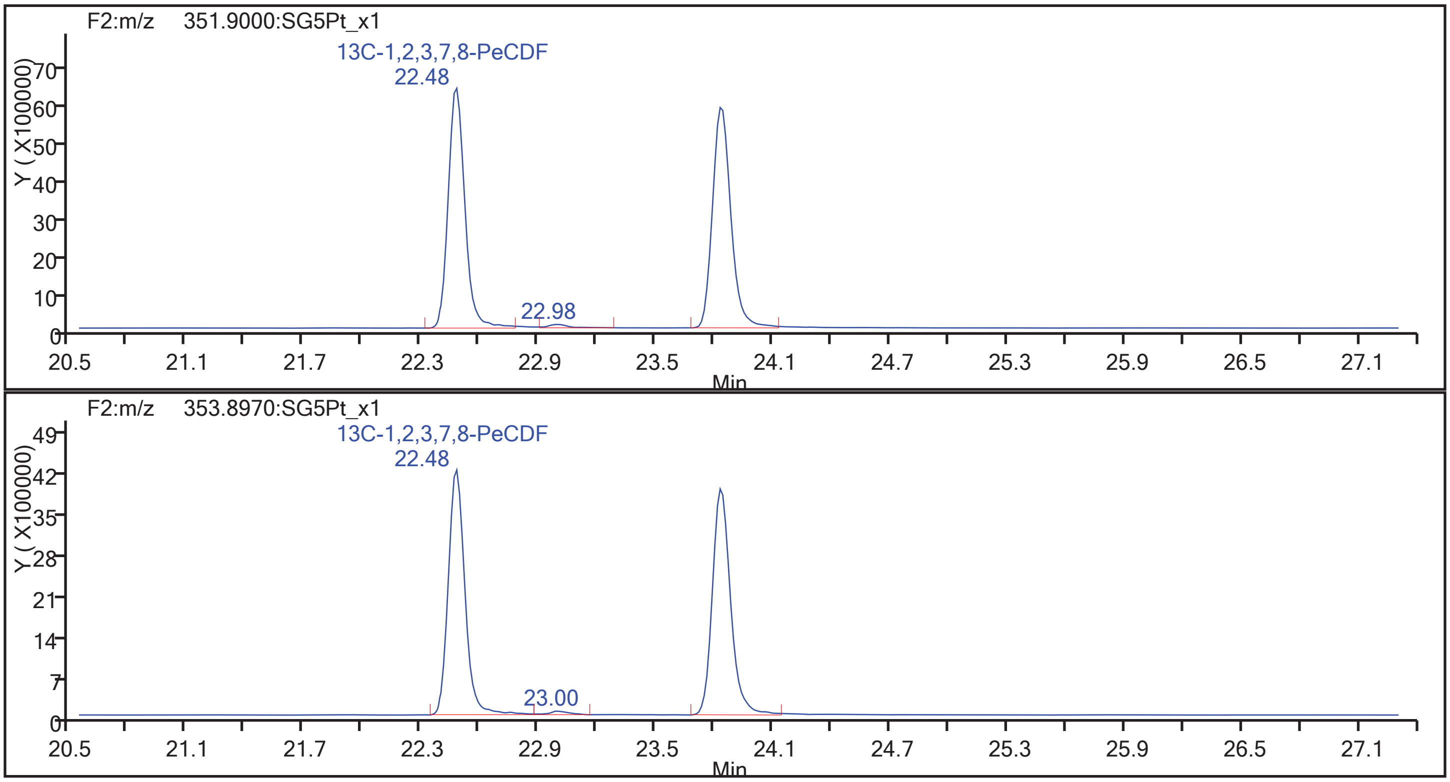
PeCDF



PeCDF Standards



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TestAmerica Sacramento

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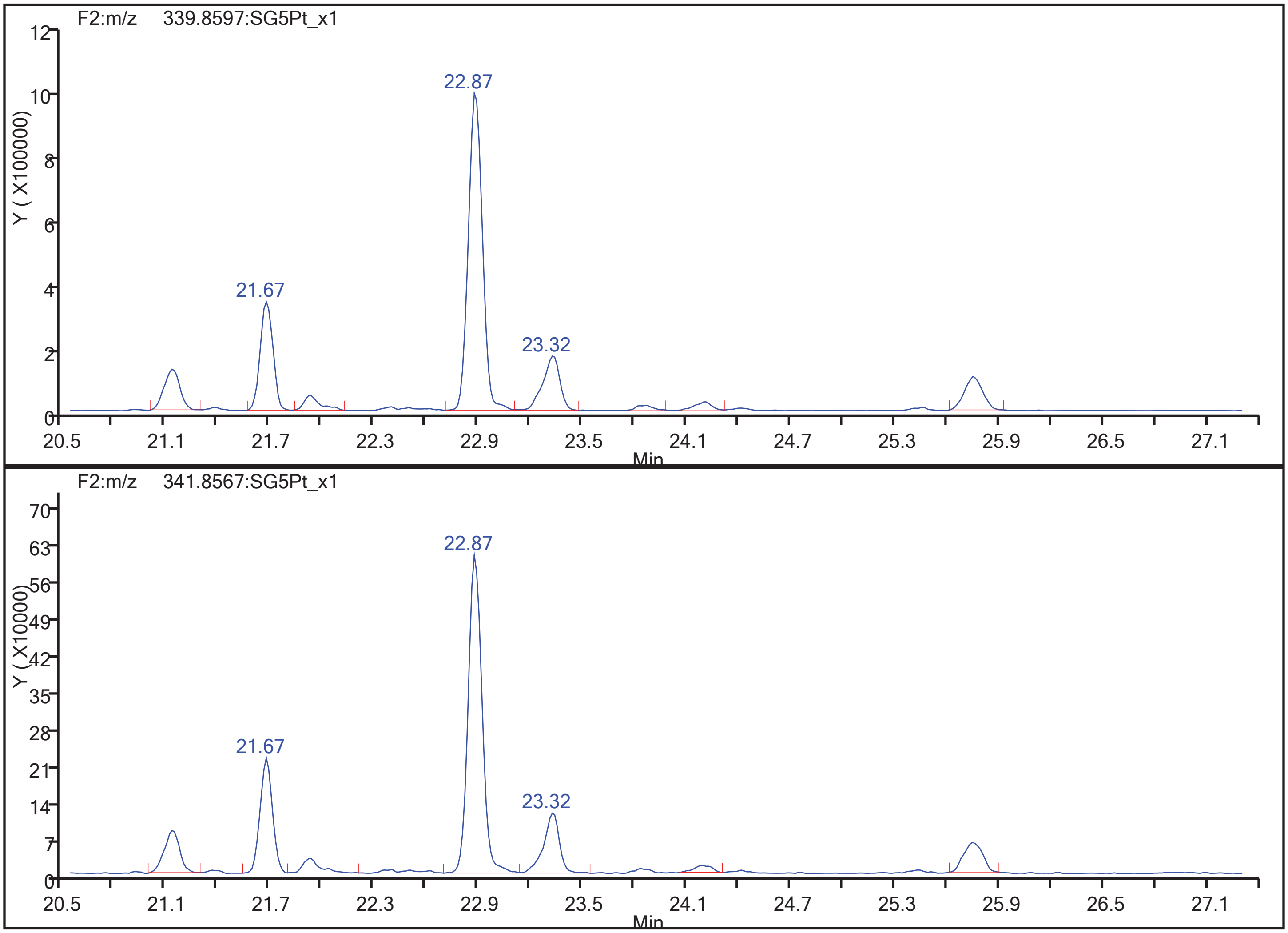

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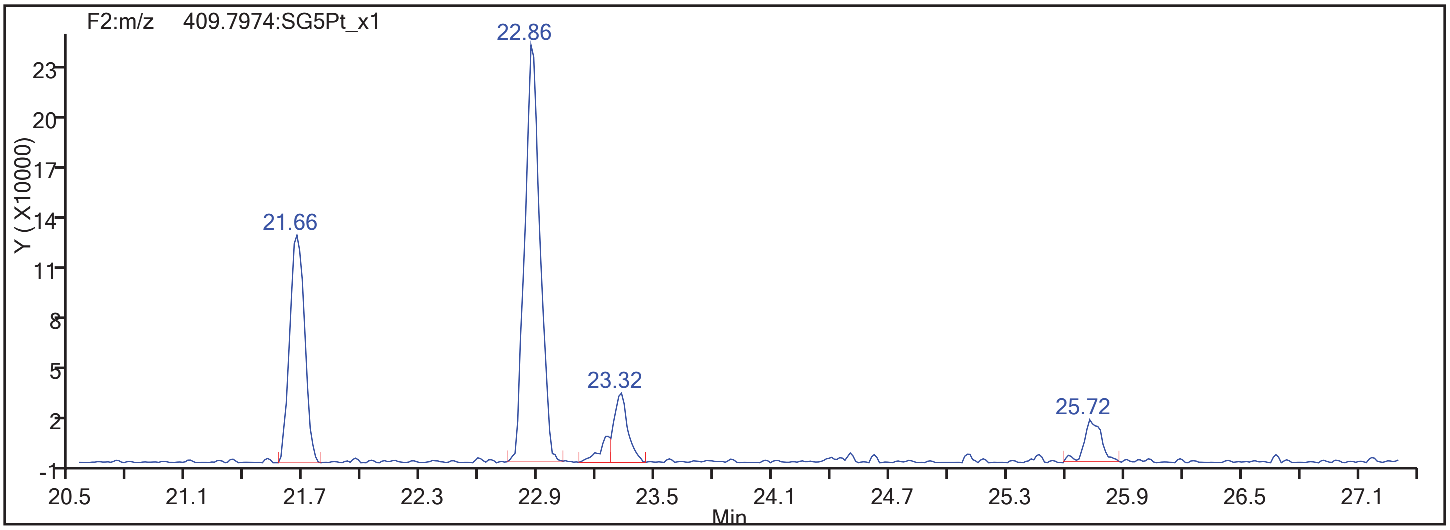

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TestAmerica Sacramento

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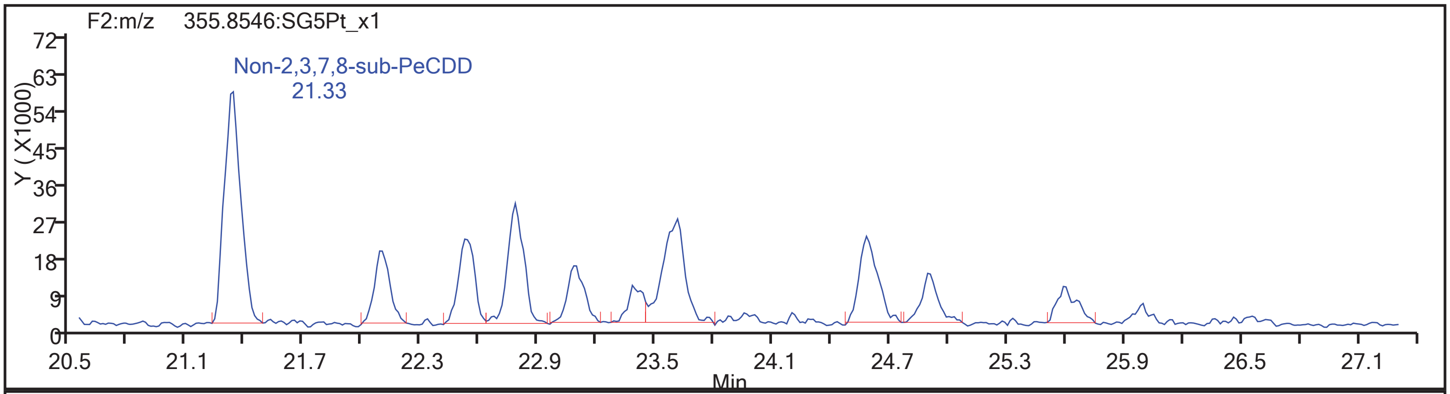
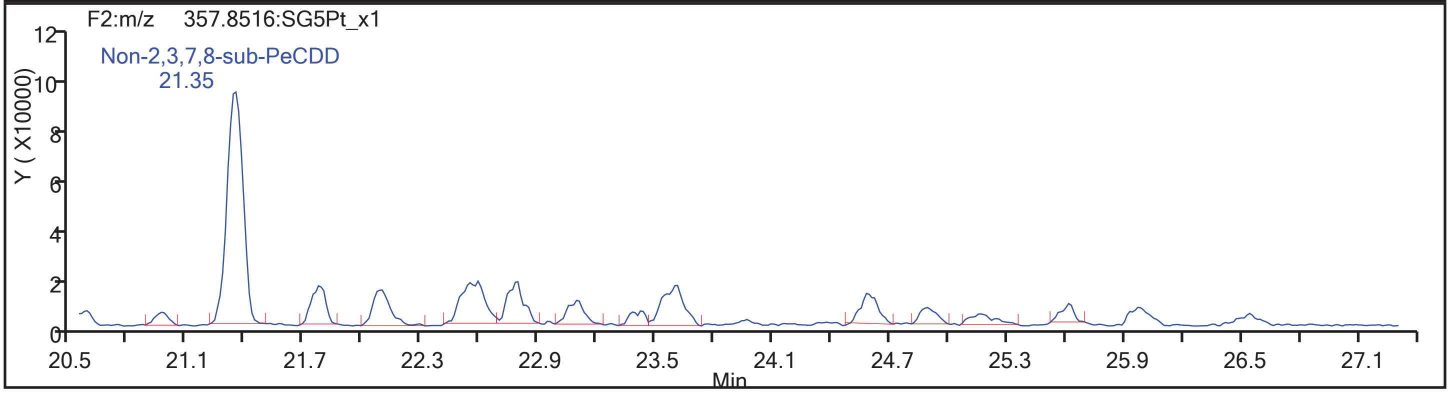
PeCDD





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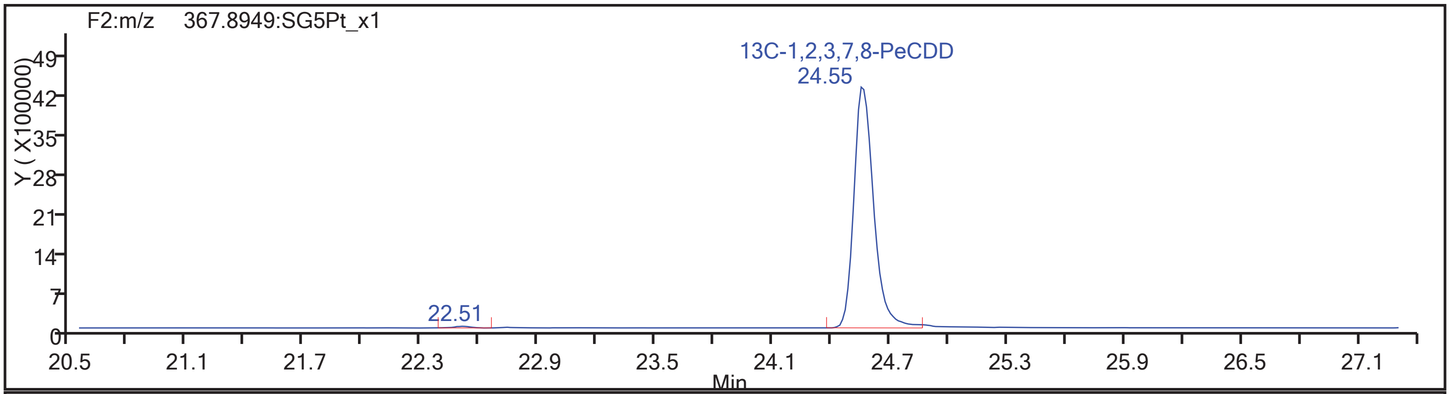

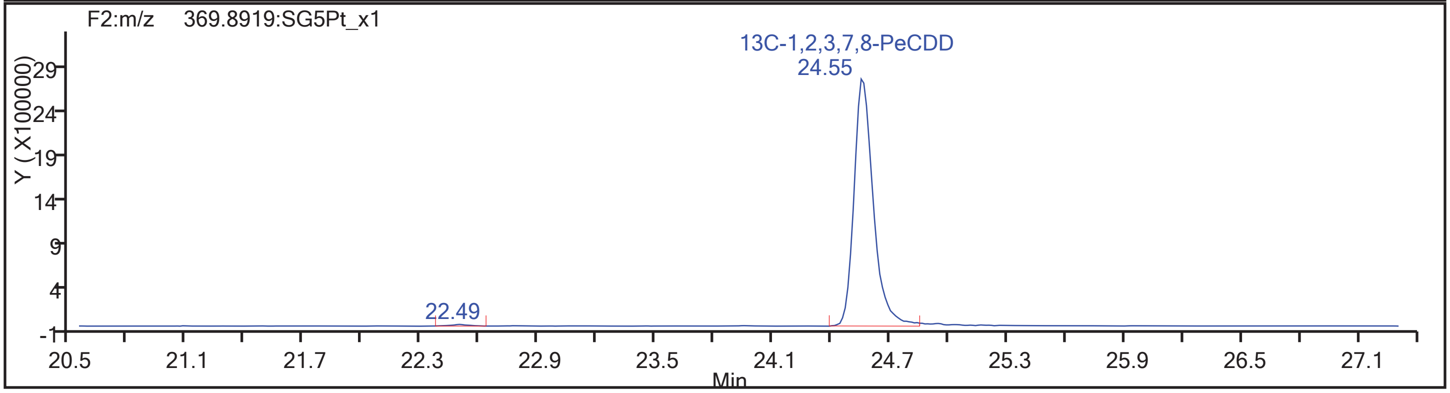

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TestAmerica Sacramento

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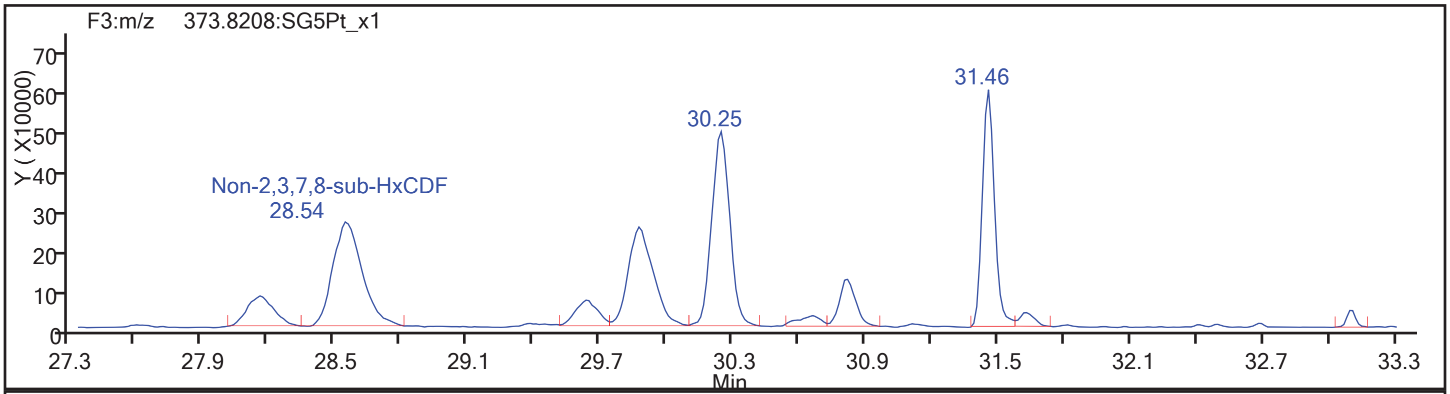
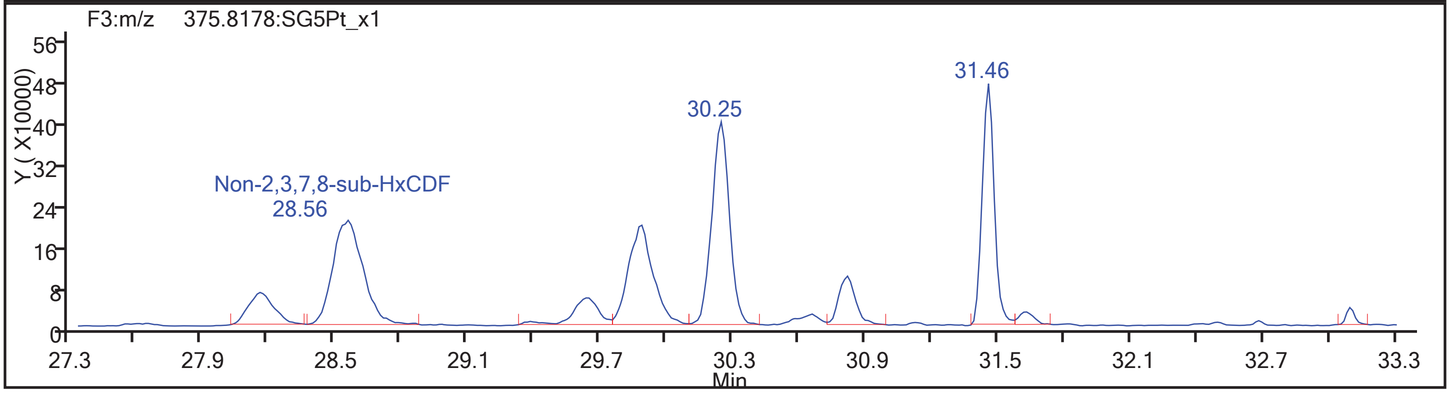
HxCDF





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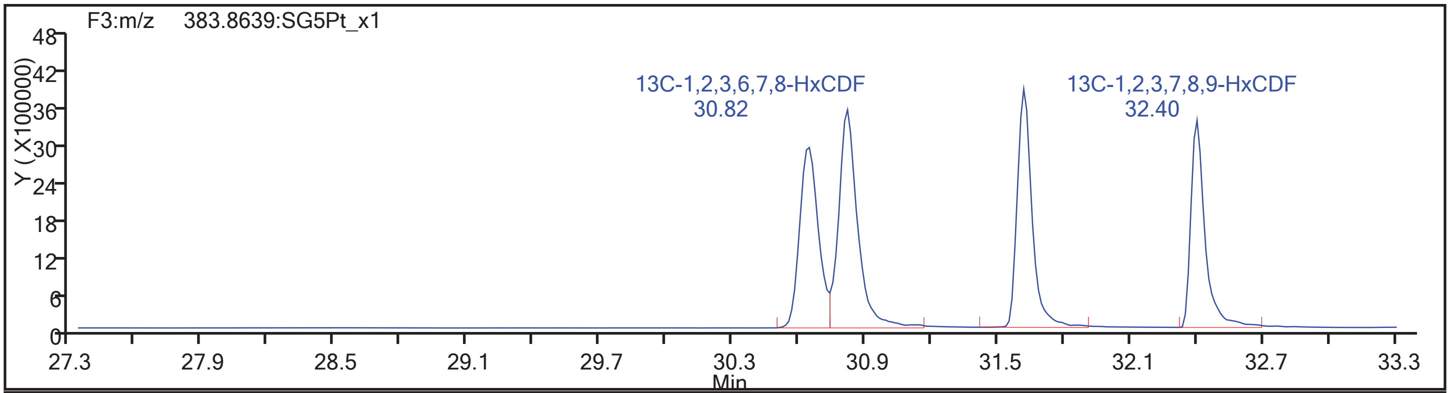

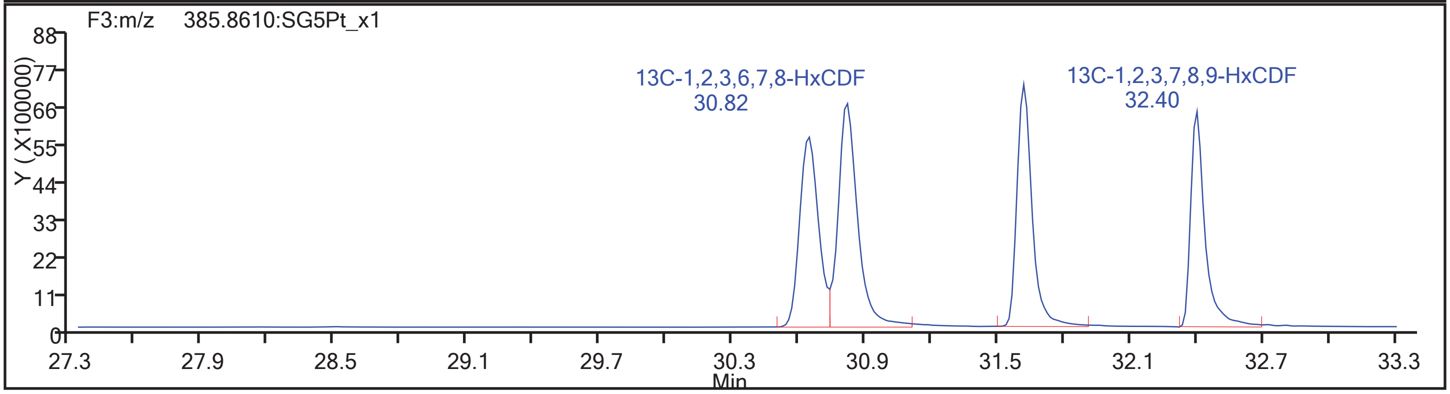

TestAmerica Sacramento

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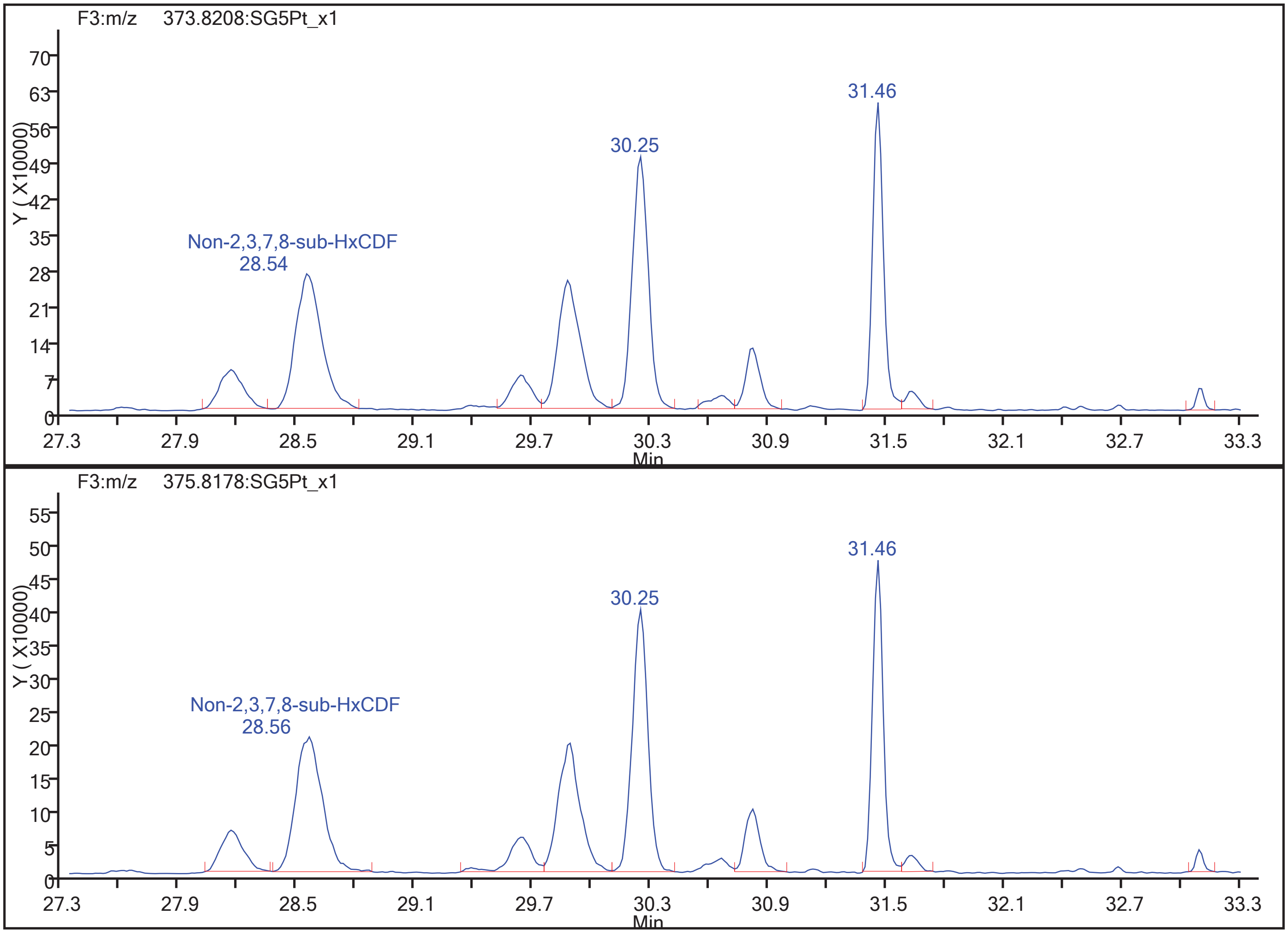
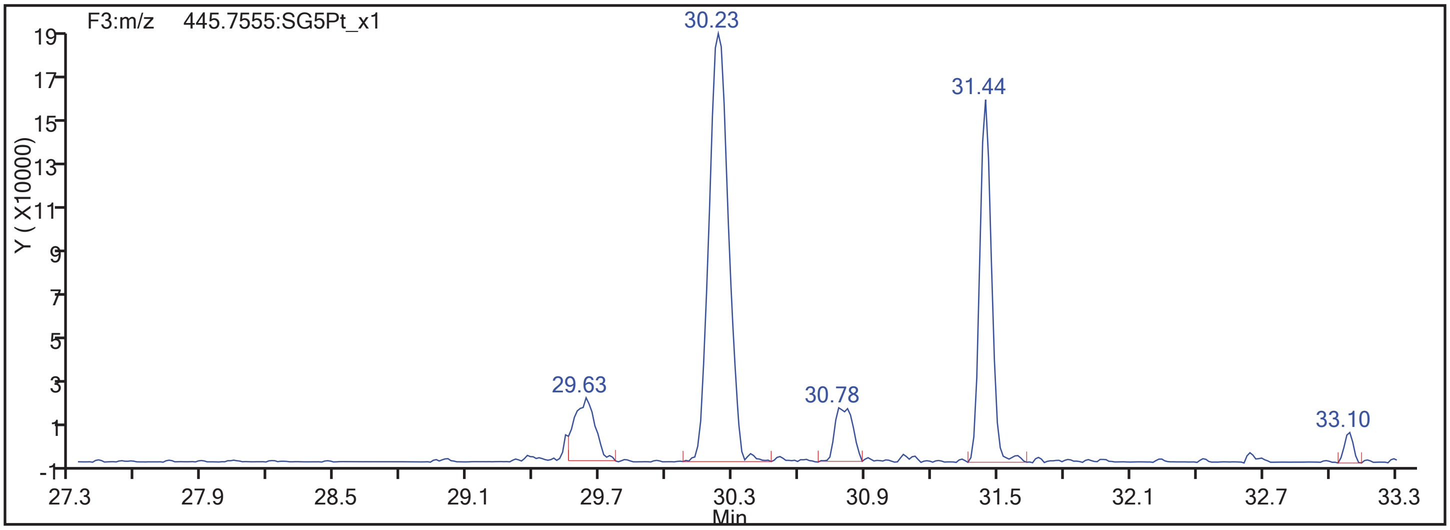


HxCDF Interference Mass



TestAmerica Sacramento

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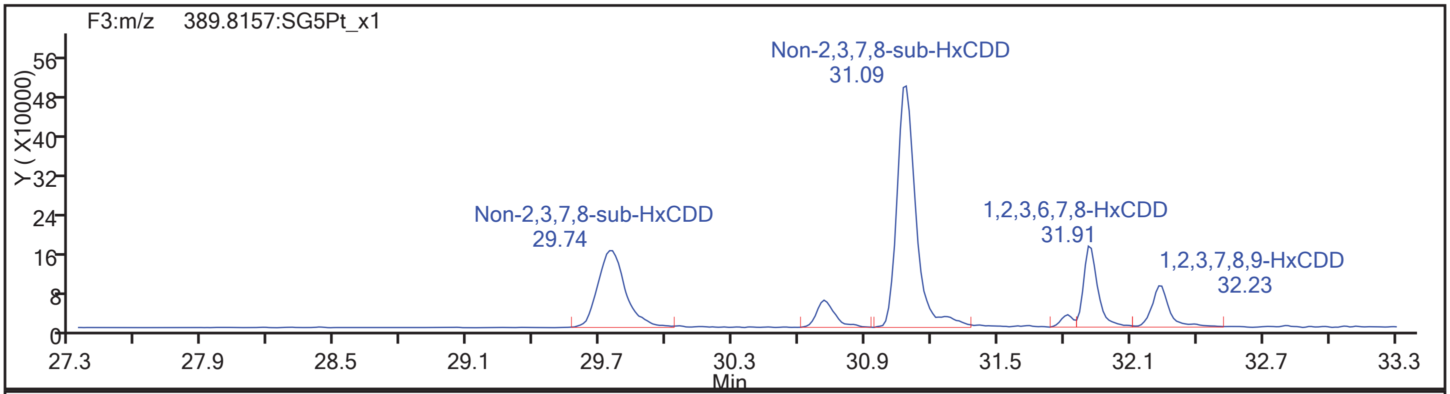
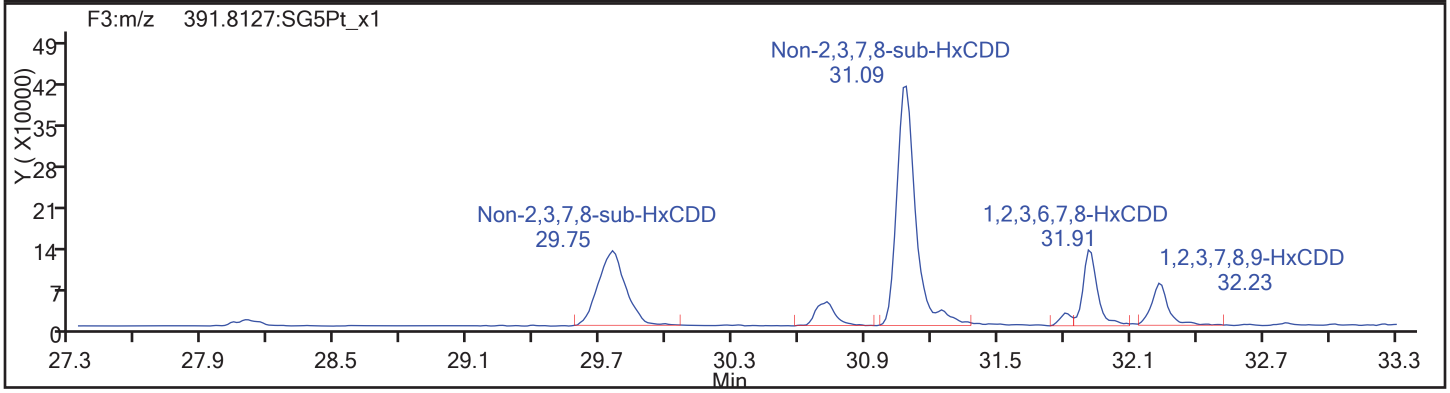
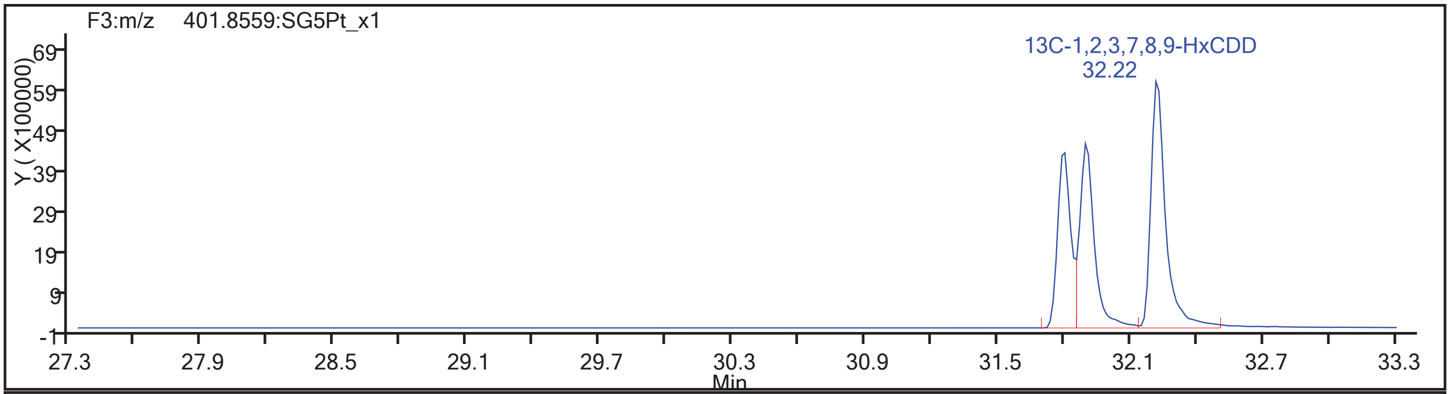
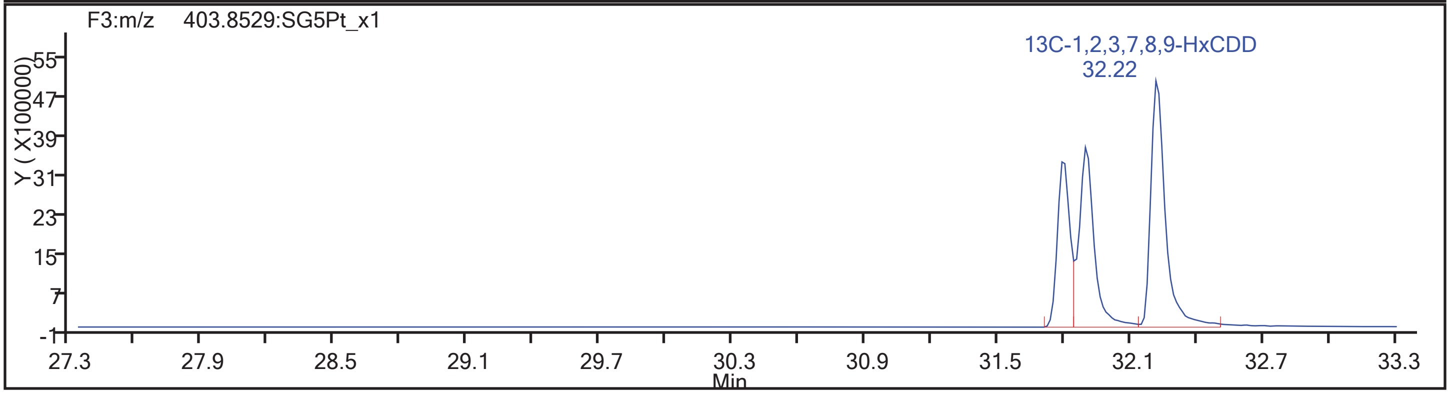
HxCDD





HxCDD Standards





Report Date: 13-Nov-2017 13:16:35 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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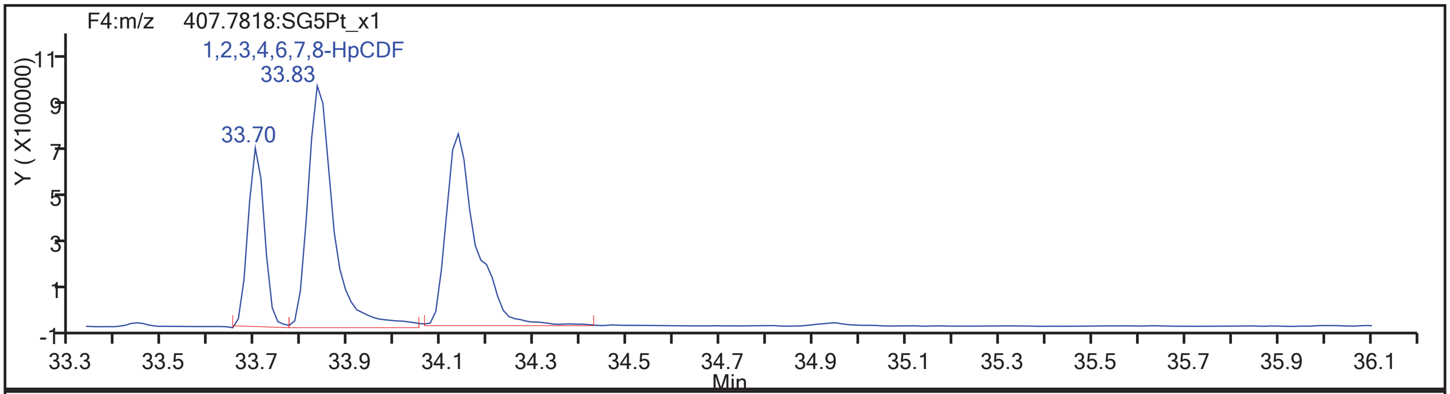

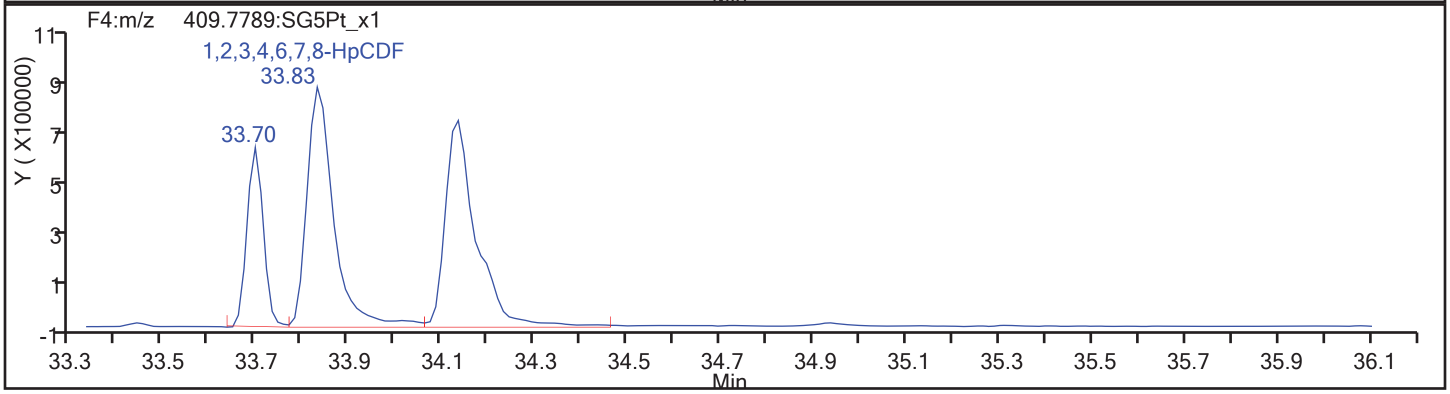

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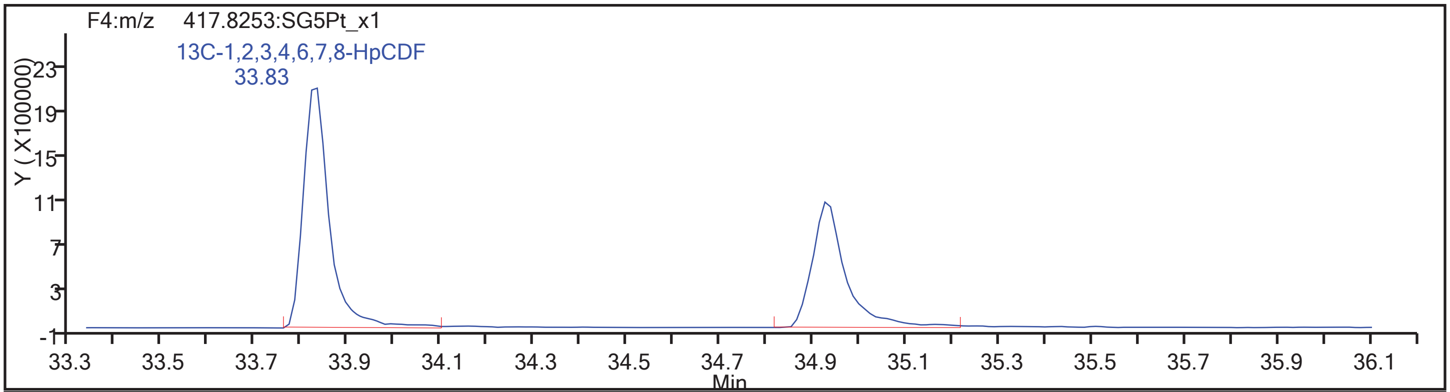

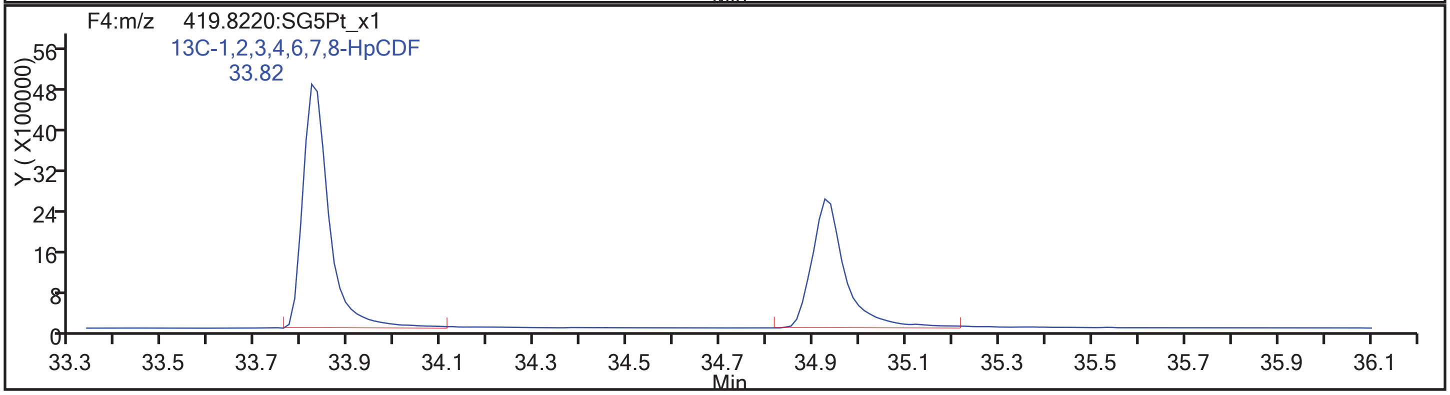

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TestAmerica Sacramento

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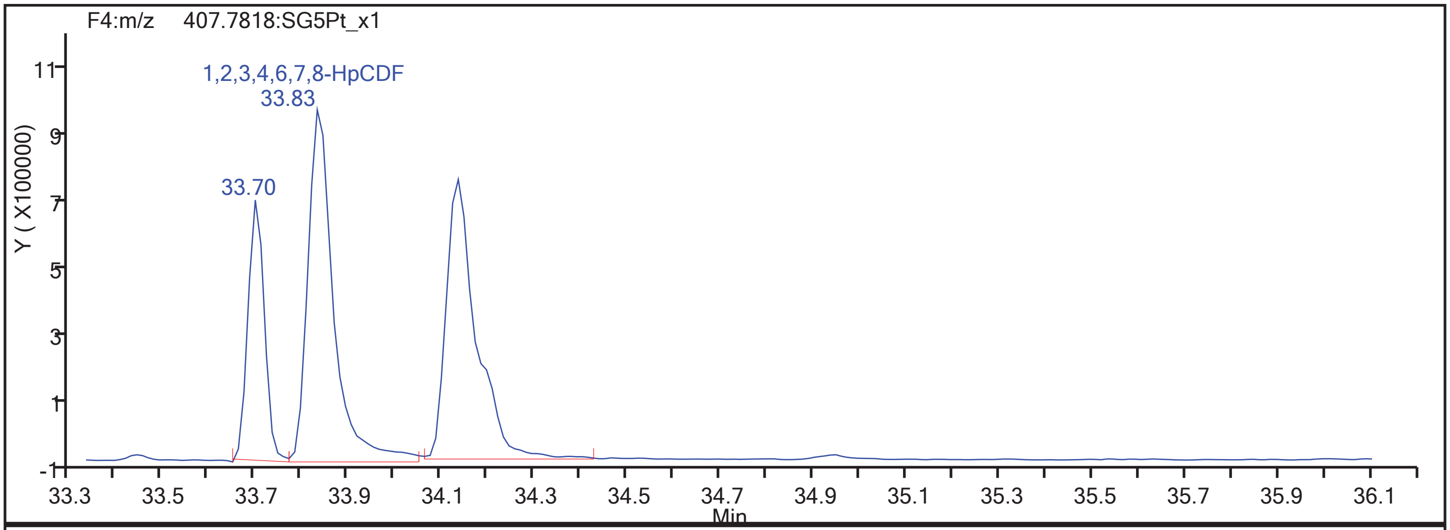
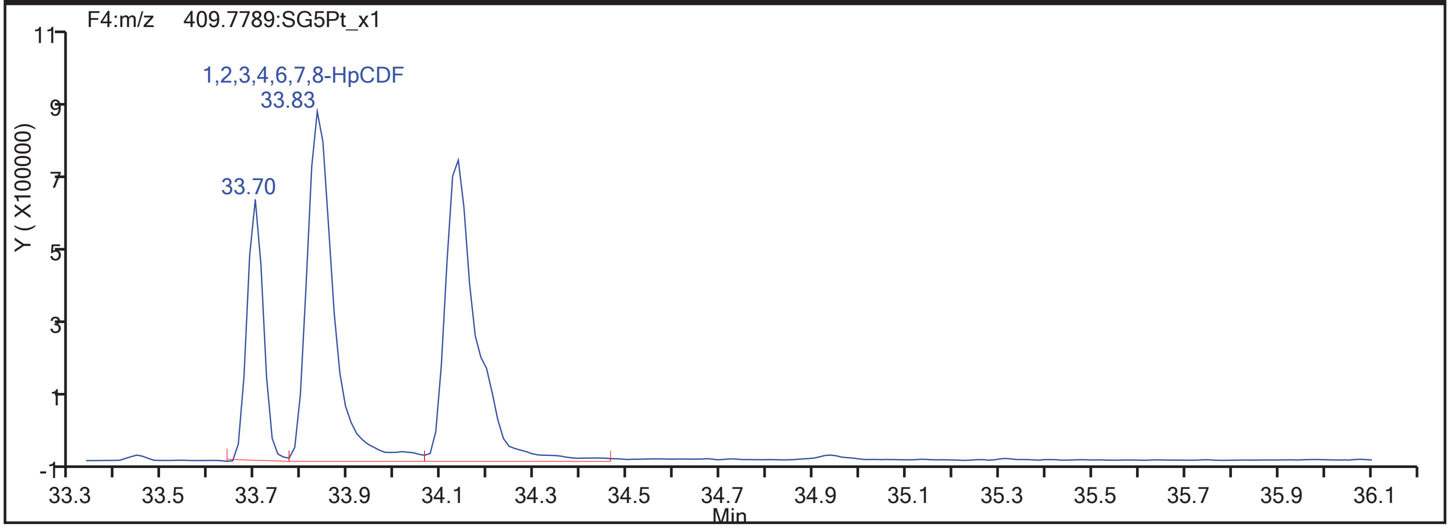
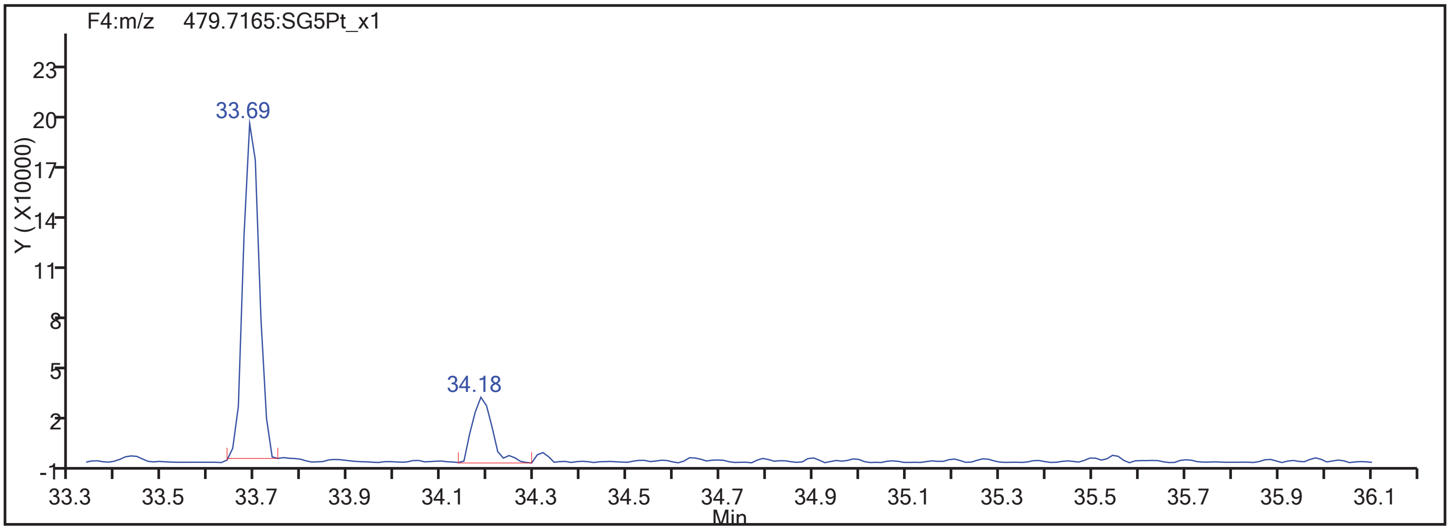




HpCDF Interference Mass



TestAmerica Sacramento

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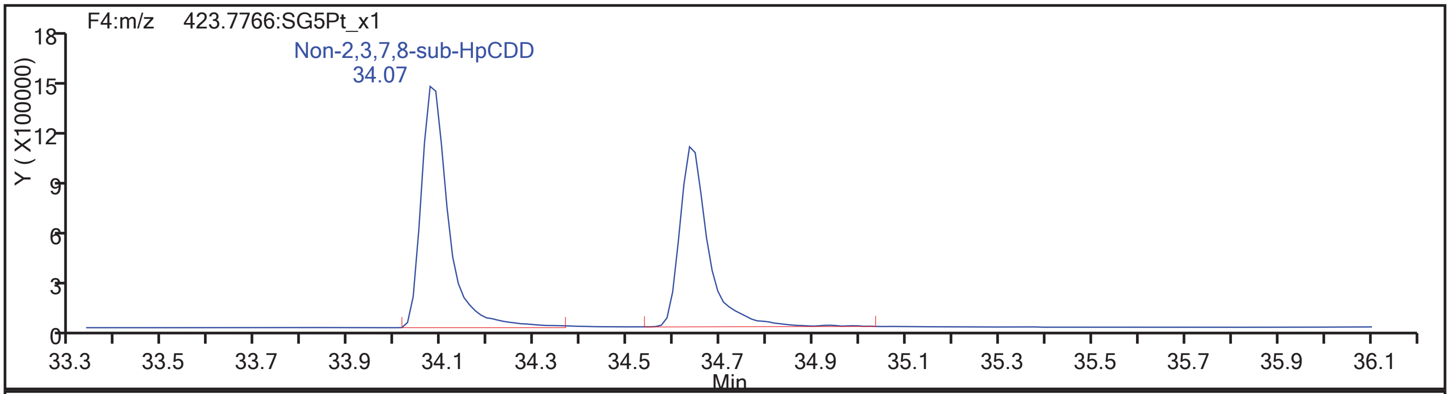

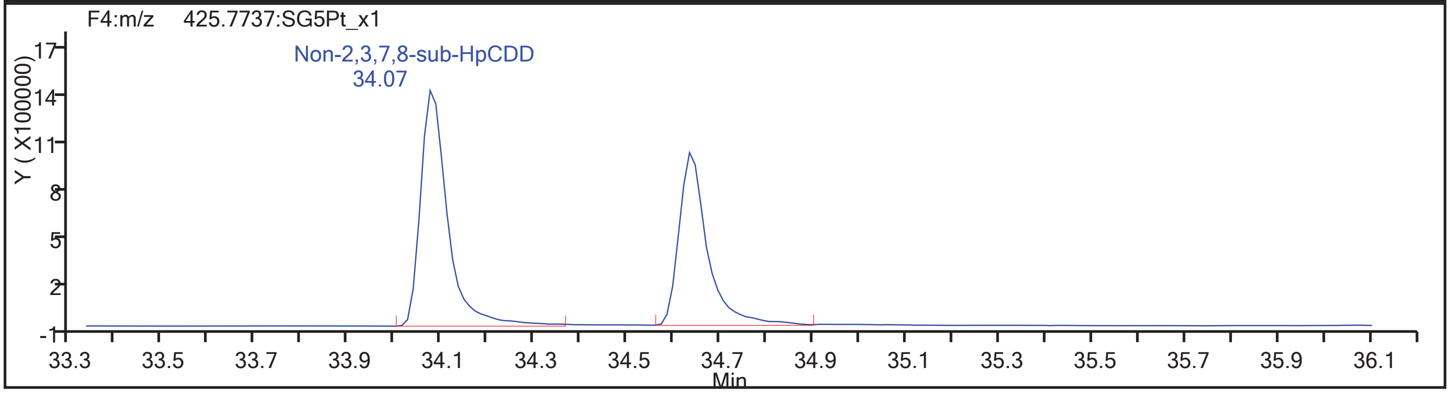

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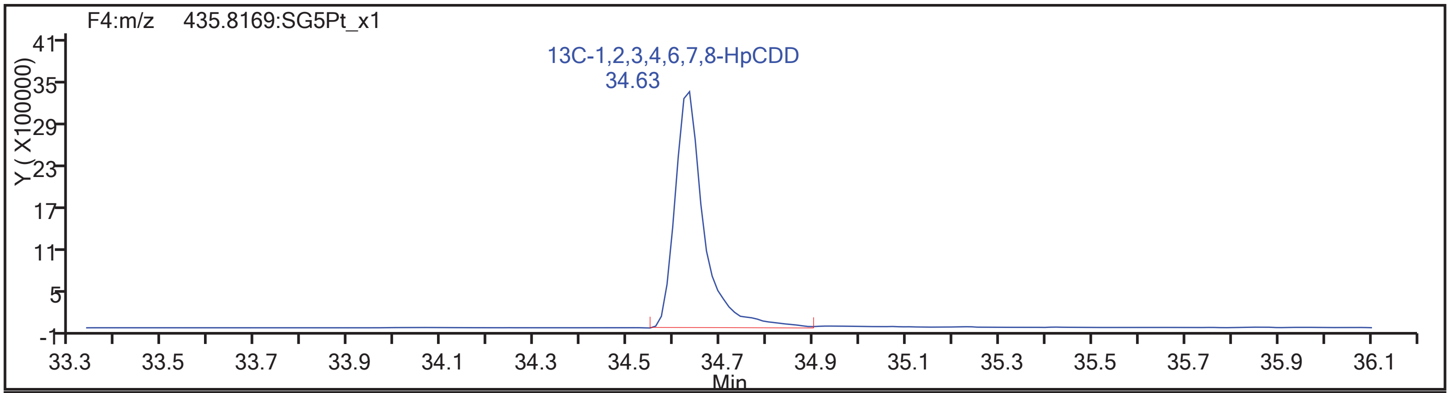

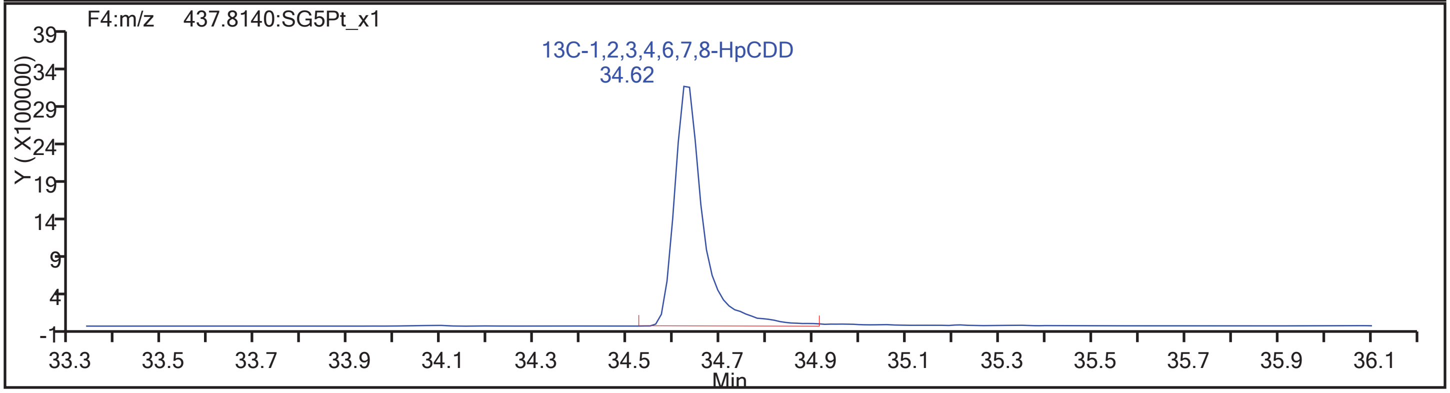

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TestAmerica Sacramento

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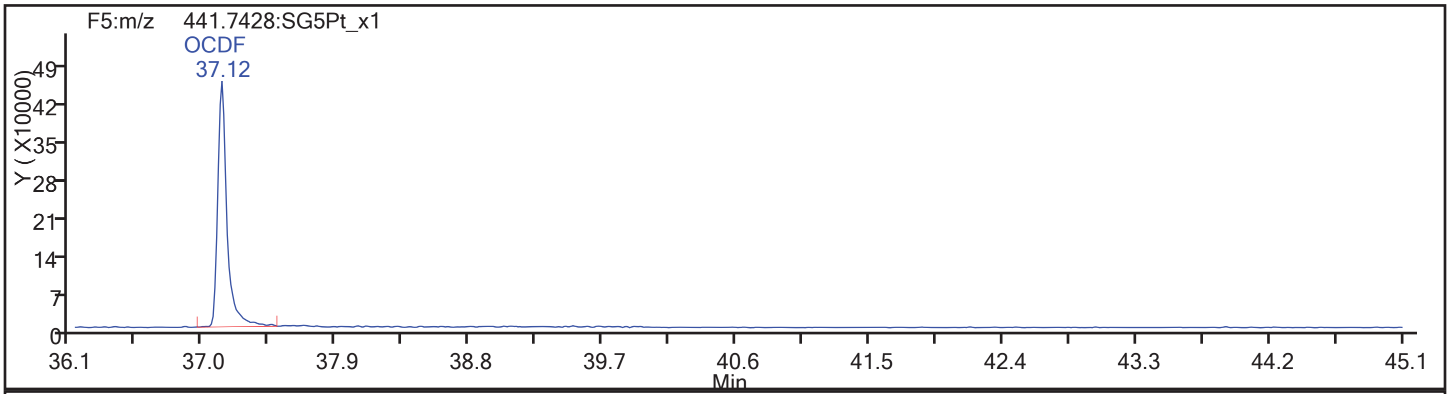
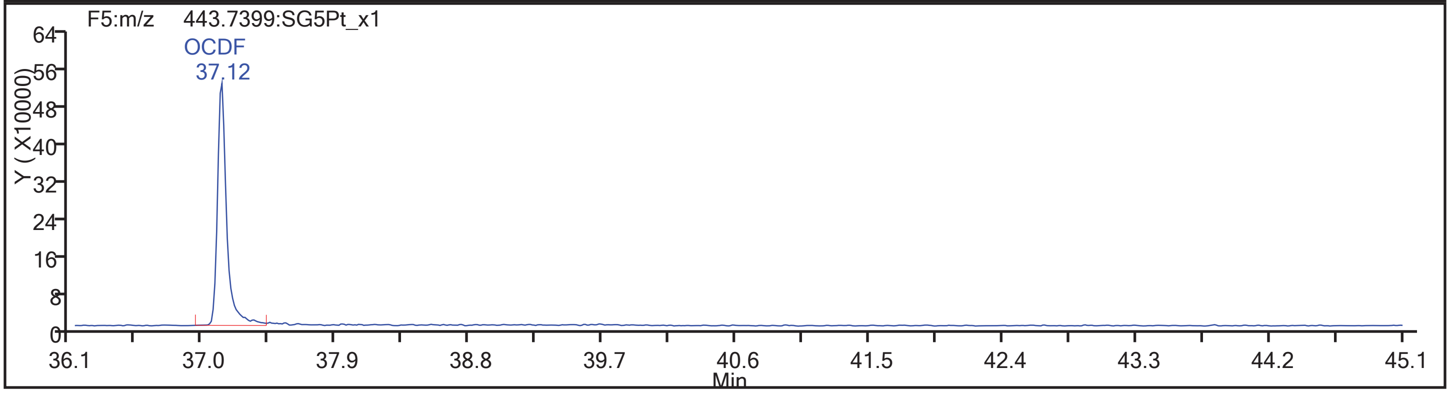
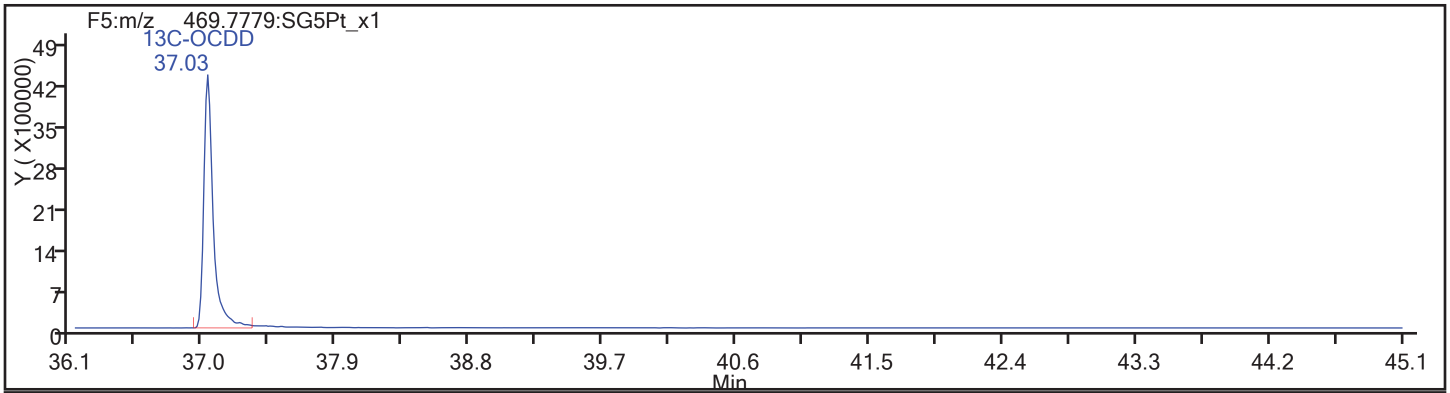
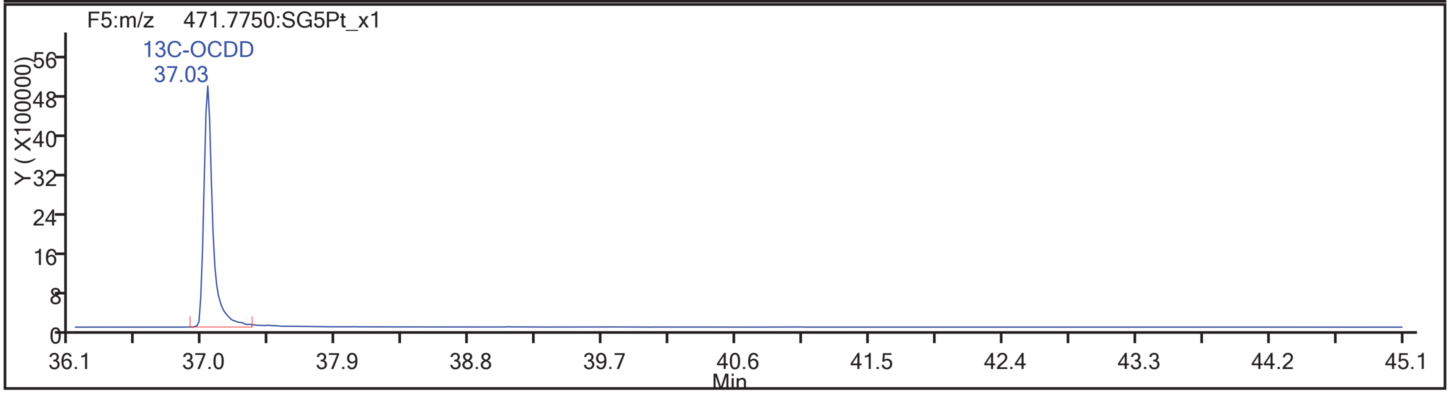
OCDF





OCDF Standards





Report Date: 13-Nov-2017 13:16:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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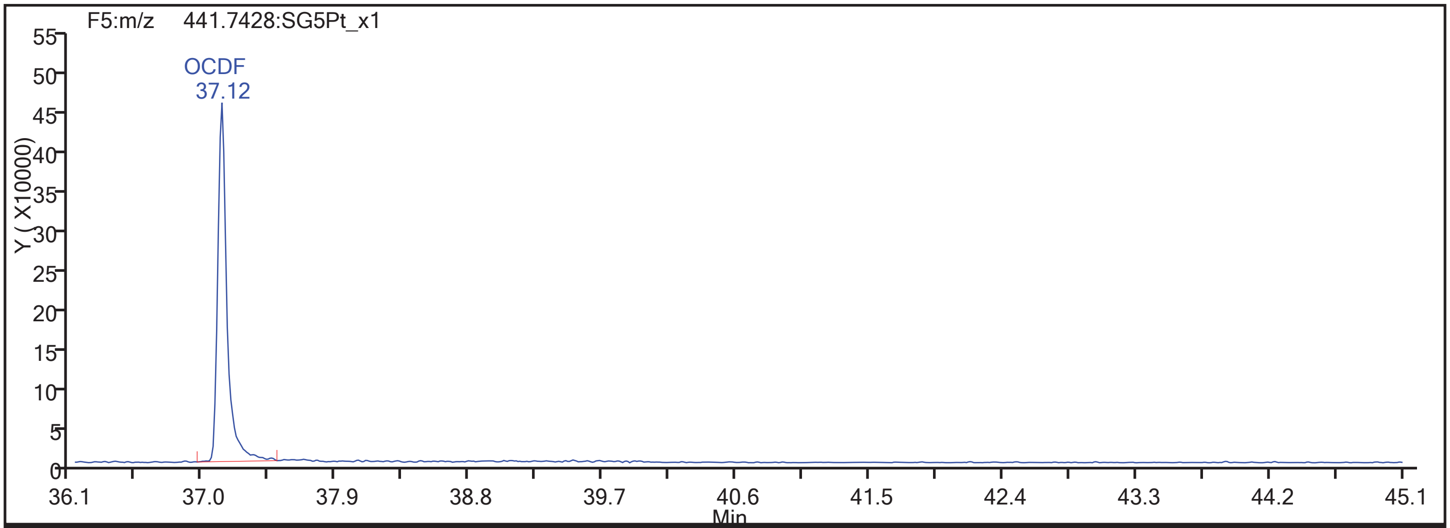
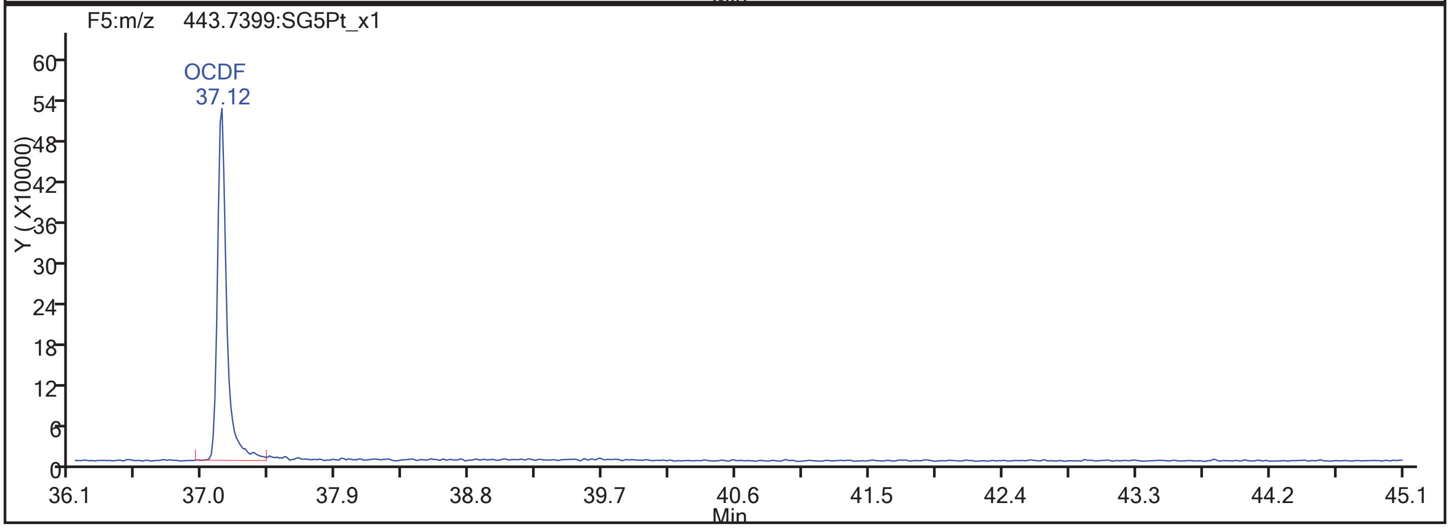
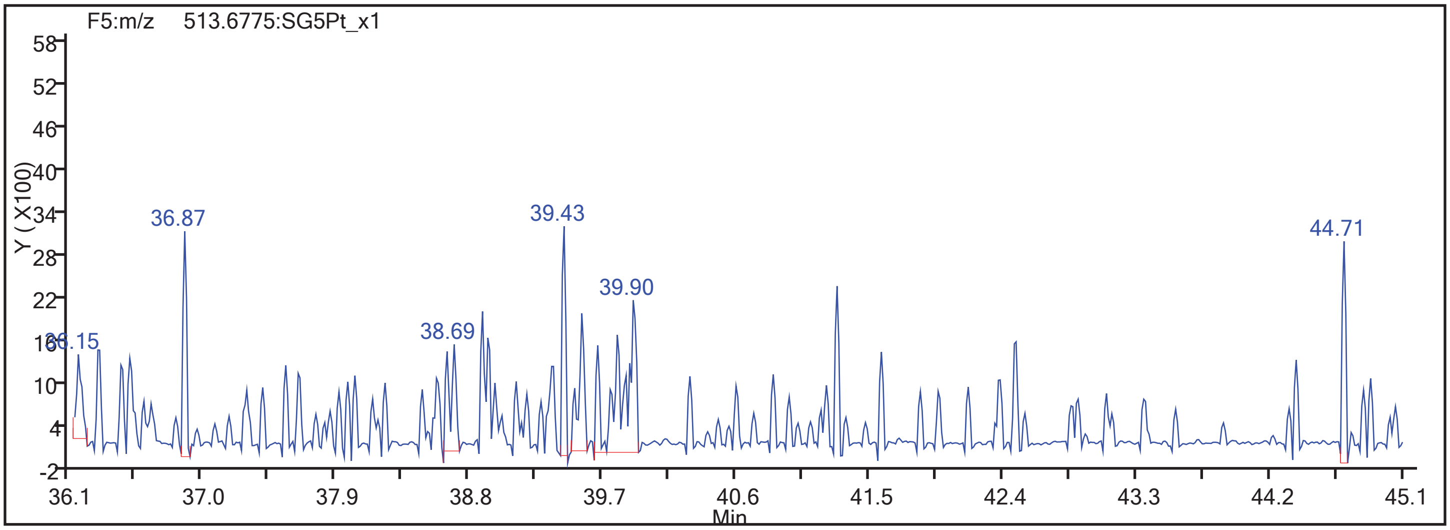




OCDF Interference Mass



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TestAmerica Sacramento

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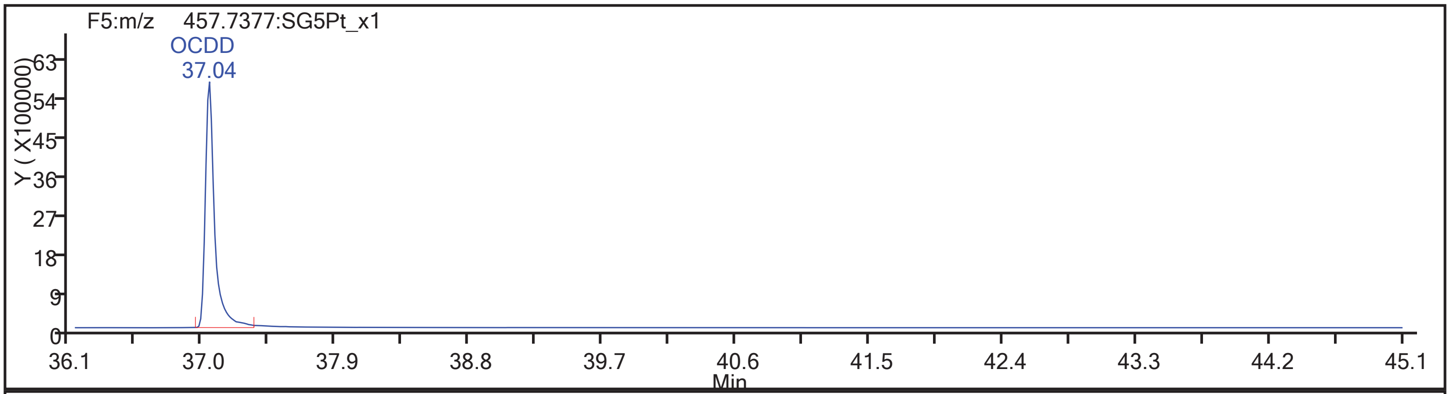
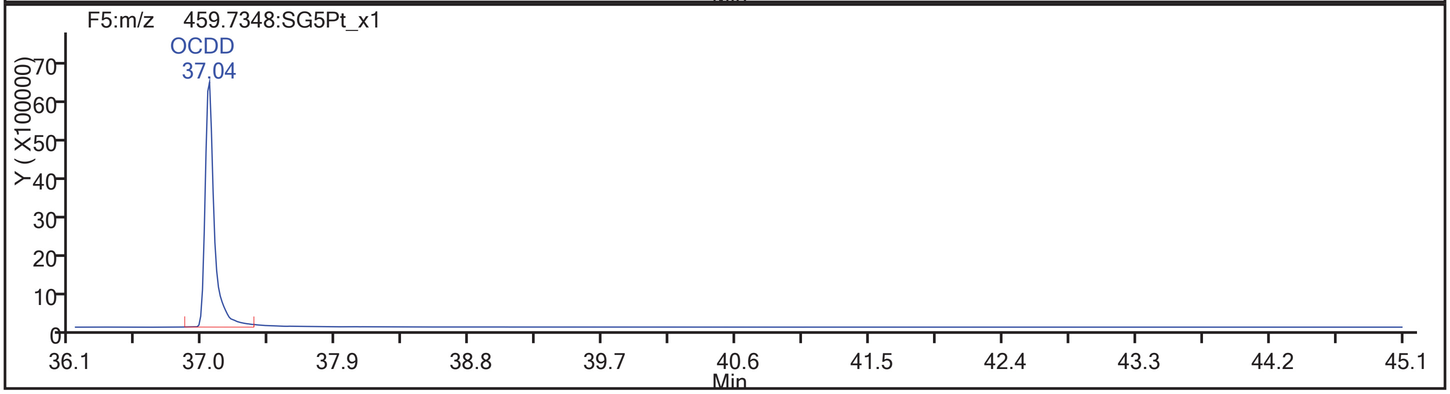
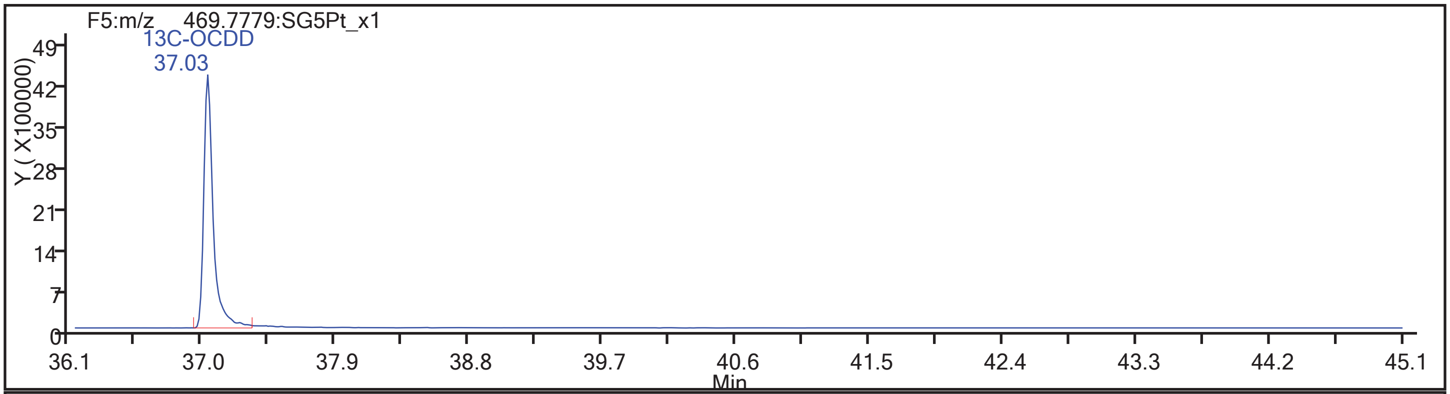
Injection Date:	12-Nov-2017 02:19:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	194086	Sample Line#:	83
Column Type:	DB-5	Column Dia:	0.32 mm

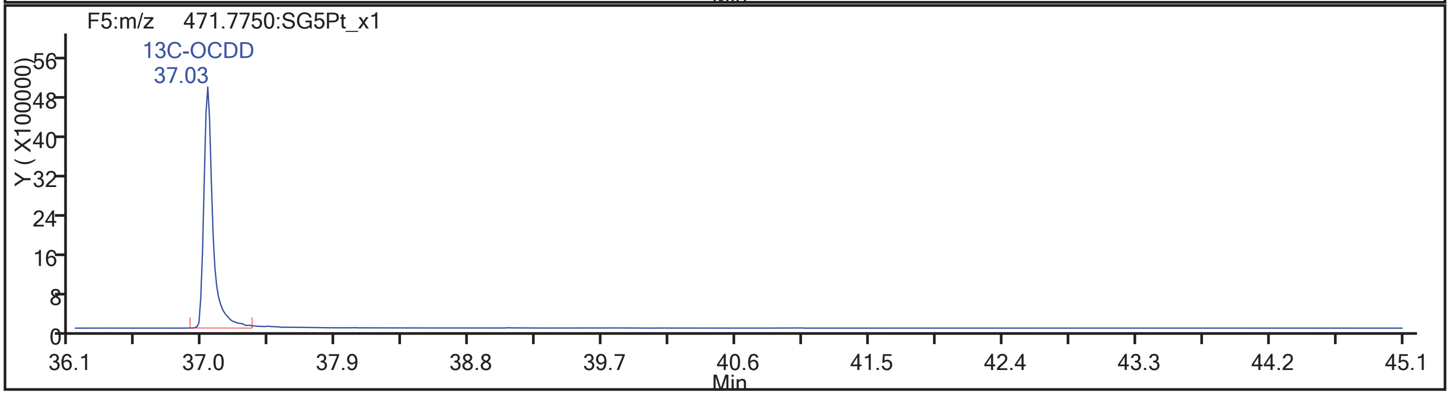
OCDD





OCDD Standards

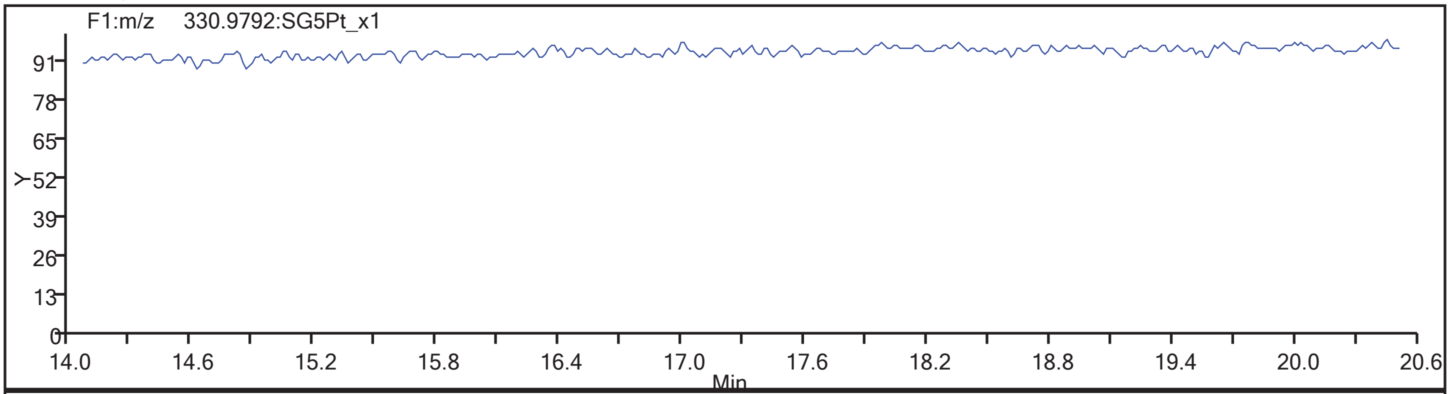


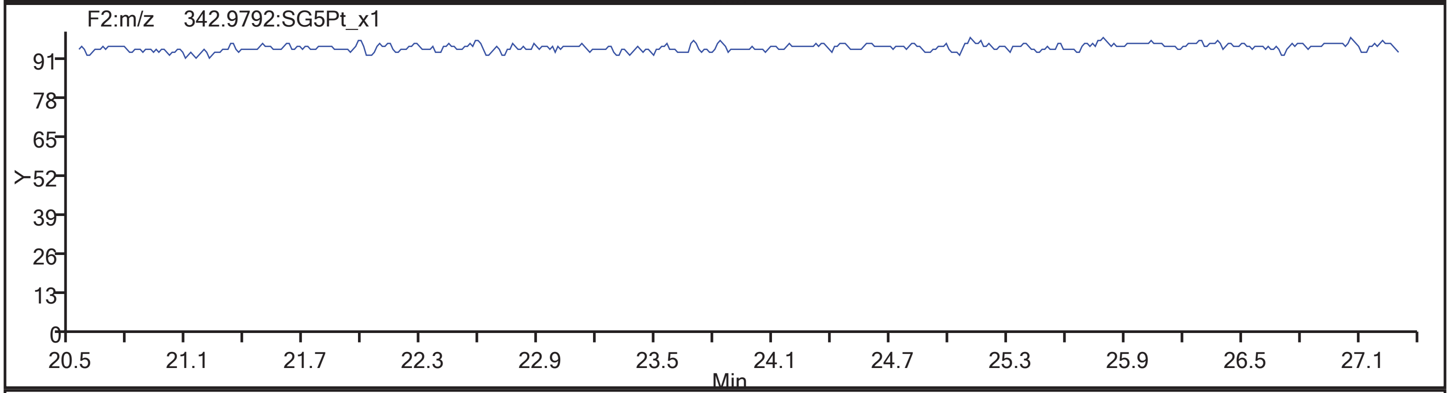


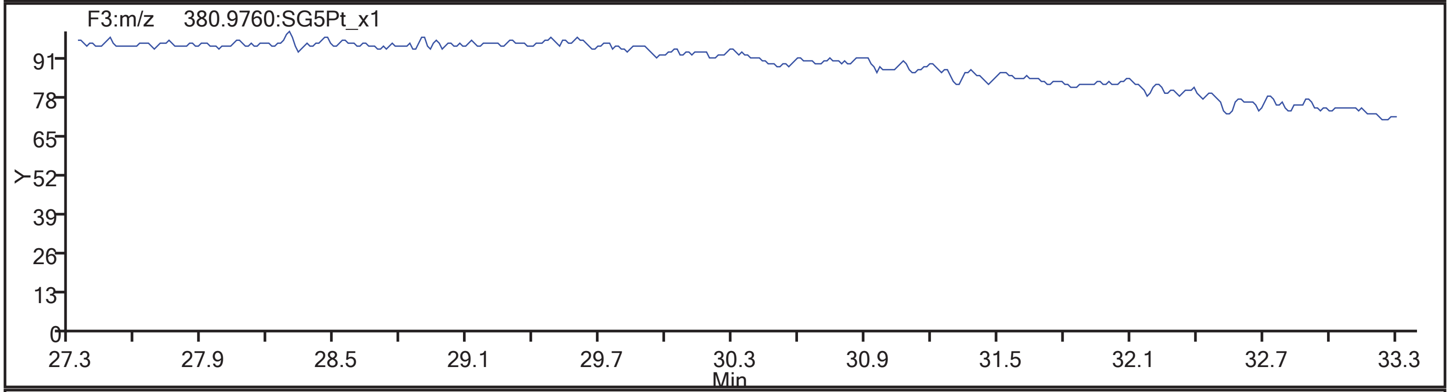
Report Date: 13-Nov-2017 13:16:36	Chrom Revision: 2.2 16-Aug-2017 16:24:46

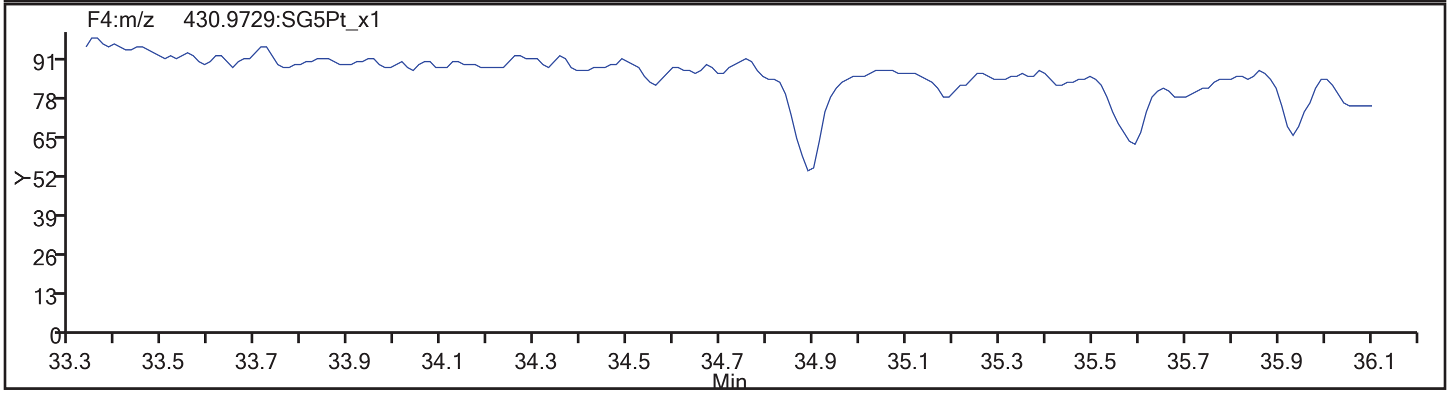
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d
Injection Date: 12-Nov-2017 02:19:17
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS01NS
Worklist#: 194086
Sample Line#: 83
Column Type: DB-5
Column Dia: 0.32 mm





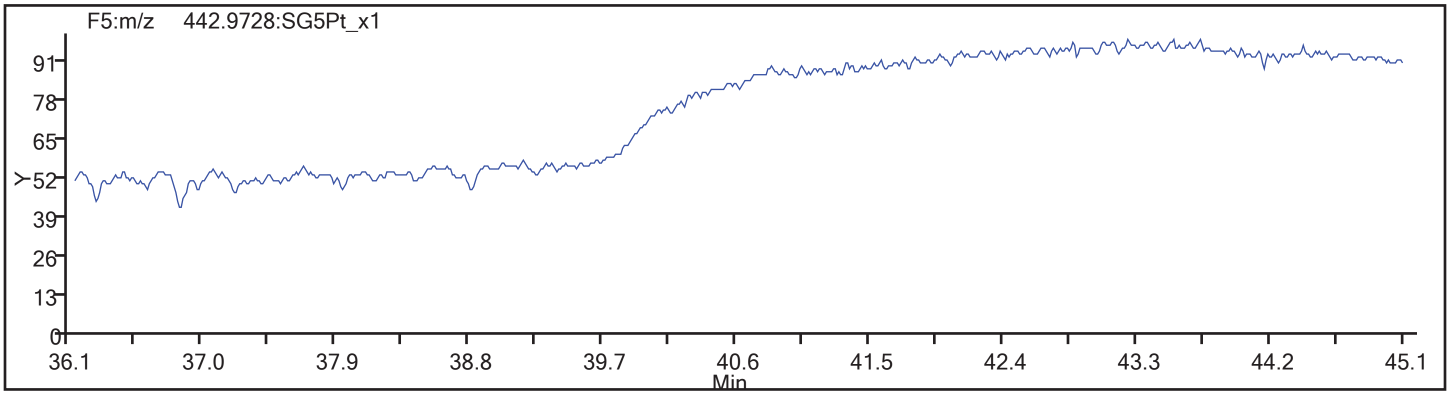




Report Date: 13-Nov-2017 13:16:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_83.d		
Injection Date:	12-Nov-2017 02:19:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	194086	Sample Line#:	83
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP013SS01NS RE
Lab Sample ID: 160-24924-13 RE
Matrix: Solid
Lab File ID: 16NO173D5_84.d
Analysis Method: 8290A
Date Collected: 10/05/2017 14:23
Extract. Method: 8290
Date Extracted: 11/16/2017 11:16
Sample wt/vol: 9.97(g)
Date Analyzed: 11/19/2017 14:15
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 0.5
GPC Cleanup:(Y/N) N
Analysis Batch No.: 195575
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.40*	*U H*	*1.0*	0.40	*0.12*
51207-31-9	*2,3,7,8-TCDF*	*0.40*	*U H M*	*1.0*	0.40	*0.26*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.99*	*J H*	*5.0*	0.76	*0.22*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.76*	*U H*	*5.0*	0.76	*0.29*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.76*	*U H*	*5.0*	0.76	*0.30*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*0.79*	*J H*	*5.0*	2.0	*0.16*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*5.5*	*H*	*5.0*	2.0	*0.14*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*3.4*	*J H*	*5.0*	2.0	*0.14*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.91*	*J H*	*5.0*	0.76	*0.39*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*2.9*	*J H*	*5.0*	1.0	*0.36*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.0*	*U H*	*5.0*	1.0	*0.41*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.86*	*J H*	*5.0*	0.76	*0.38*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*55*	*H*	*5.0*	1.0	*0.59*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*30*	*H*	*5.0*	1.0	*0.39*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.0*	*U H*	*5.0*	2.0	*0.51*
3268-87-9	*OCDD*	*430*	*H B*	*10*	4.0	*0.47*
39001-02-0	*OCDF*	*28*	*H*	*10*	4.0	*0.22*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	75		40-135
89059-46-1	13C-2,3,7,8-TCDF	73		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	76		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	75		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	82		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	83		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	64		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	64		40-135
114423-97-1	13C-OCDD	57		40-135

Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d				
Lims ID:	160-24924-G-13-B				
Client ID:	SHAD041DP013SS01NS				
Sample Type:	Client				
Inject. Date:	19-Nov-2017 14:15:23	ALS Bottle#:	54	Worklist Smp#:	84
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-13-B 160-24924-G-13-B				
Misc. Info.:	16NO173D5				
Operator ID:	SMA, ALM	Instrument ID:	3D5		
Method:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	06-Dec-2017 15:06:42	Calib Date:	15-Nov-2017 15:05:45		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d				
Column 1 :		Det: F1:HRSIR			
Process Host:	XAWRK019				
First Level Reviewer: stephensk		Date:	19-Nov-2017 19:44:48		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.264	125527167	0.83	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.735	138460811	0.79	1.5089	73.1	73.1	0.2892	0.2892	73.10	
2,3,7,8-TCDF	17.765	164814	0.00	1.0971	0.1085	0.1085	0.1285	0.1285		M
A Non-2,3,7,8-sub-TCDF	17.402	1589124	0.77	1.0971	1.558	1.046	0.1285	0.6034		RQM
S Total TCDF					1.667	1.155	0.1285	0.1285		RQ
D 13C-2,3,7,8-TCDD	18.461	92968396	0.79	0.9906	74.8	74.8	0.2529	0.2529	74.77	
2,3,7,8-TCDD	18.461						0.0620	0.0620		
A Non-2,3,7,8-sub-TCDD	17.871	721699	0.77	1.1645	0.8006	0.6667	0.0620	0.2669		RQ
S Total TCDD					0.8006	0.6667	0.0620	0.0620		RQ
D 13C-1,2,3,7,8-PeCDF	22.937	105498393	1.59	1.1280	74.5	74.5	0.3028	0.3028	74.51	
1,2,3,7,8-PeCDF	22.910						0.1439	0.1439		
2,3,4,7,8-PeCDF	24.287						0.1481	0.1481		
A F1 PeCDFs	20.426	4891787	1.54	1.1262	4.117	4.117	0.0535	4.117		
A Non-2,3,7,8-sub-PeCDF	23.668	2396196	1.55	1.1262	2.163	2.017	0.1460	1.564		RQ
S Total PeCDF					6.280	6.134	0.1460	0.1460		RQ
D 13C-1,2,3,7,8-PeCDD	25.078	69698278	1.62	0.7269	76.4	76.4	0.1782	0.1782	76.39	
1,2,3,7,8-PeCDD	25.133	387684	1.65	1.1272	0.4935	0.4935	0.1113	0.1113		
A Non-2,3,7,8-sub-PeCDD	23.878	2765143	1.55	1.1272	4.444	3.520	0.1113	1.128		RQ
S Total PeCDD					4.938	4.013	0.1113	0.1113		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.986	68980488	0.50	1.0279	82.8	82.8	0.3516	0.3516	82.84	
1,2,3,4,7,8-HxCDF	30.999	420963	1.16	1.3475	0.4529	0.4529	0.1958	0.1958		
1,2,3,6,7,8-HxCDF	31.132	1462642	1.31	1.4794	1.433	1.433	0.1783	0.1783		
2,3,4,6,7,8-HxCDF	31.904	404668	1.19	1.3833	0.4241	0.4241	0.1907	0.1907		
D 13C-1,2,3,7,8,9-HxCDF	32.637	60968399	0.51							
1,2,3,7,8,9-HxCDF	30.346						0.2045	0.2045		U
A Non-2,3,7,8-sub-HxCDF	30.653	13315726	1.27	1.3751	14.0	14.0	0.1918	6.671		
S Total HxCDF					16.3	16.3	0.1923	0.1923		
* 13C-1,2,3,7,8,9-HxCDD	32.464	81005559	1.25	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.077	235779	1.24	1.0646	0.4320	0.3923	0.0791	0.0791		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.157	56446932	1.33	0.8502	82.0	82.0	0.2486	0.2486	81.96	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.171	1826316	1.19	1.1809	2.740	2.740	0.0714	0.0714		
1,2,3,7,8,9-HxCDD	32.477	1183722	1.35	1.2311	1.703	1.703	0.0684	0.0684		
A Non-2,3,7,8-sub-HxCDD	31.252	11698691	1.28	1.1589	17.9	17.9	0.0727	11.2		
S Total HxCDD					22.8	22.7	0.0730	0.0730		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.083	33499143	0.42	0.6490	63.7	63.7	0.5203	0.5203	63.72	
1,2,3,4,6,7,8-HpCDF	34.095	8018455	1.04	1.5871	15.1	15.1	0.1940	0.1940		
1,2,3,4,7,8,9-HpCDF	35.128						0.2505	0.2505		
A Non-2,3,7,8-sub-HpCDF	34.569	7527442	1.05	1.4080	16.0	16.0	0.2186	16.0		
S Total HpCDF					31.0	31.0	0.2222	0.2222		
1,2,3,4,6,7,8-HpCDD	34.933	8810976	1.08	1.1631	27.2	27.2	0.2946	0.2946		
D 13C-1,2,3,4,6,7,8-HpCDD	34.921	27871853	1.05	0.5387	63.9	63.9	0.2971	0.2971	63.87	
A Non-2,3,7,8-sub-HpCDD	35.261	9490345	1.04	1.1631	29.3	29.3	0.2946	29.3		
S Total HpCDD					56.5	56.5	0.2946	0.2946		
D 13C-OCDD	37.437	36772545	0.93	0.4009	113.2	113.2	0.2319	0.2319	56.61	
OCDF	37.533	3282619	0.99	1.2649	14.1	14.1	0.1085	0.1085		
OCDD	37.449	41165406	0.90	1.0390	215.5	215.5	0.2346	0.2346		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d				
Lims ID:	160-24924-G-13-B				
Client ID:	SHAD041DP013SS01NS				
Sample Type:	Client				
Inject. Date:	19-Nov-2017 14:15:23	ALS Bottle#:	54	Worklist Smp#:	84
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-13-B 160-24924-G-13-B				
Misc. Info.:	16NO173D5				
Operator ID:	SMA, ALM	Instrument ID:	3D5		

Method:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m		
Limit Group:	HR - 8290A_D5 - ICAL		
Last Update:	06-Dec-2017 15:06:42	Calib Date:	15-Nov-2017 15:05:45
Integrator:	Picker		
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d		

Column 1 :		Det: F1:HRSIR	
Process Host:	XAWRK019		

First Level Reviewer: stephensk Date: 19-Nov-2017 19:44:48

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.264	18.234	2		56763843	12976113	16728	41820	776		a
333.9339	18.264	18.234	2		68763324	16368078	12678	31695	1291	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.735	17.705	2	0.971	61292850	14284455	32004	80010	446		
317.9389	17.735	17.705	2	0.971	77167961	18036063	19208	48020	939	0.79(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	17.765	17.720	3	1.002	164814	37381	7579	18947	5		M
305.8987	17.720	17.720	0	0.000			10648	26620		0.00(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	15.754	17.402	-99	0.888	398734	109336	7579	18947	14		a
305.8987	15.739	17.402	-100	0.887	1295935	322461	10648	26620	30	0.31(0.65-0.89)	
	Empc Correction				517836	141994	10648	26620	13		
303.9016	16.813	17.402	-35	0.948	302799	72363	7579	18947	10		a
305.8987	16.813	17.402	-35	0.948	369755	81153	10648	26620	8	0.82(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.461	18.430	2	1.011	41046505	8203683	16728	41820	490		
333.9339	18.461	18.430	2	1.011	51921891	10941585	12678	31695	863	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461						2863	7157			
321.8936	18.461						2662	6655			
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	16.177	17.871	-101	0.876	184612	47602	2863	7157	17		
	Empc Correction				125684	33437	2863	7157	12		
321.8936	16.177	17.871	-101	0.876	163227	43425	2662	6655	16	1.13(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
319.8965	16.480	17.871	-83	0.893	74137	21265	2863	7157	7		
321.8936	16.495	17.871	-82	0.894	116103	30997	2662	6655	12	0.64(0.65-0.89)	
	Empc Correction				96281	27616	2662	6655	10		
319.8965	17.326	17.871	-33	0.939	180374	37531	2863	7157	13		
	Empc Correction				114138	32627	2863	7157	11		
321.8936	17.311	17.871	-34	0.938	148232	42374	2662	6655	16	1.22(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.937	22.883	3	1.256	64763062	10195436	25364	63410	402		
353.8970	22.937	22.883	3	1.256	40735331	6474669	14732	36830	439	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						5825	14562			
341.8567	22.910						5138	12845			
2,3,4,7,8-PeCDF											
339.8597	24.287						5825	14562			
341.8567	24.287						5138	12845			
A F1 PeCDFs											
339.8597	19.942	20.426	-29	0.869	2969294	537079	2181	5452	246		
341.8567	19.942	20.426	-29	0.869	1922493	382767	1834	4585	209	1.54(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.560	23.668	-126	0.940	1133889	166309	5825	14562	29		a
341.8567	21.560	23.668	-126	0.940	723772	107018	5138	12845	21	1.57(1.32-1.78)	
339.8597	22.365	23.668	-78	0.975	327345	45039	5825	14562	8		a
341.8567	22.365	23.668	-78	0.975	384556	53016	5138	12845	10	0.85(1.32-1.78)	
	Empc Correction				211190	29057	5138	12845	6		
13C-1,2,3,7,8-PeCDD											
367.8949	25.078	25.010	4	1.373	43121820	6035983	9497	23742	636		
369.8919	25.078	25.010	4	1.373	26576458	3770450	5706	14265	661	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.133	25.037	6	1.002	241419	39722	2405	6012	17		
357.8516	25.078	25.037	2	1.000	146265	19500	2516	6290	8	1.65(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.751	23.878	-127	0.867	538705	81555	2405	6012	34		
357.8516	21.764	23.878	-127	0.868	906589	162330	2516	6290	65	0.59(1.32-1.78)	
	Empc Correction				347551	52616	2516	6290	21		
355.8546	22.542	23.878	-80	0.899	188522	26692	2405	6012	11		
357.8516	22.528	23.878	-81	0.898	118963	21413	2516	6290	9	1.58(1.32-1.78)	
355.8546	22.992	23.878	-53	0.917	215283	45658	2405	6012	19		
357.8516	23.033	23.878	-51	0.918	185220	26226	2516	6290	10	1.16(1.32-1.78)	
	Empc Correction				138892	29456	2516	6290	12		
355.8546	23.251	23.878	-38	0.927	259416	41046	2405	6012	17		
357.8516	23.237	23.878	-38	0.927	163808	27523	2516	6290	11	1.58(1.32-1.78)	
355.8546	23.565	23.878	-19	0.940	135060	25976	2405	6012	11		
	Empc Correction				98507	15044	2405	6012	6		
357.8516	23.578	23.878	-18	0.940	63553	9706	2516	6290	4	2.13(1.32-1.78)	
355.8546	23.892	23.878	1	0.953	66549	19662	2405	6012	8		
357.8516	23.905	23.878	2	0.953	46554	14032	2516	6290	6	1.43(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
355.8546	24.096	23.878	13	0.961	278011	42235	2405	6012	18		
	Empc Correction				234406	32196	2405	6012	13		
357.8516	24.069	23.878	11	0.960	151230	20772	2516	6290	8	1.84(1.32-1.78)	
355.8546	25.419	23.878	92	1.014	121942	18165	2405	6012	8		
	Empc Correction				80967	20821	2405	6012	9		
357.8516	25.419	23.878	92	1.014	52237	13433	2516	6290	5	2.33(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.986	30.919	4	0.954	22967123	4817037	9816	24540	491		
385.8610	30.986	30.919	4	0.954	46013365	9203560	19050	47625	483	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.999	30.932	4	1.000	226440	47611	7328	18320	6		
375.8178	30.999	30.932	4	1.000	194523	35661	7467	18667	5	1.16(1.05-1.43)	
1,2,3,6,7,8-HxCDF											
373.8208	31.132	31.092	2	1.005	829082	172773	7328	18320	24		
375.8178	31.145	31.092	3	1.005	633560	119073	7467	18667	16	1.31(1.05-1.43)	
2,3,4,6,7,8-HxCDF											
373.8208	31.904	31.838	4	1.030	220132	46311	7328	18320	6		
375.8178	31.904	31.838	4	1.030	184536	42055	7467	18667	6	1.19(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.637	32.583	3	1.005	20550707	4937352	9816	24540	503		
385.8610	32.637	32.583	3	1.005	40417692	9927047	19050	47625	521	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											U
373.8208	32.597						7328	18320			
375.8178	32.597						7467	18667			
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.788	30.653	-112	0.929	1078379	121584	7328	18320	17		
375.8178	28.788	30.653	-112	0.929	847158	95980	7467	18667	13	1.27(1.05-1.43)	
373.8208	29.161	30.653	-89	0.941	3505442	378332	7328	18320	52		
375.8178	29.175	30.653	-89	0.942	2822819	297009	7467	18667	40	1.24(1.05-1.43)	
373.8208	30.346	30.653	-18	0.979	2866591	414739	7328	18320	57		
375.8178	30.333	30.653	-19	0.979	2195337	338352	7467	18667	45	1.31(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.464	32.410	3		44981549	10815482	7988	19970	1354		a
403.8529	32.464	32.410	3		36024010	9150868	8890	22225	1029	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	32.077	32.011	4	0.998	130521	40338	2406	6015	17		
391.8127	32.064	32.011	3	0.997	129093	36447	2070	5175	18	1.01(1.05-1.43)	
	Empc Correction				105258	32530	2070	5175	16		
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.157	32.091	4	0.991	32198295	7640698	7988	19970	957		a
403.8529	32.157	32.091	4	0.991	24248637	5638714	8890	22225	634	1.33(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.171	32.104	4	1.000	993797	241711	2406	6015	100		
391.8127	32.171	32.104	4	1.000	832519	178520	2070	5175	86	1.19(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDD											
389.8157	32.477	32.424	3	1.010	679250	139249	2406	6015	58		
391.8127	32.477	32.424	3	1.010	504472	107175	2070	5175	52	1.35(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.240	31.252	-61	0.940	2052237	288295	2406	6015	120		
391.8127	30.240	31.252	-61	0.940	1538908	211567	2070	5175	102	1.33(1.05-1.43)	
389.8157	31.065	31.252	-11	0.966	428728	78293	2406	6015	33		
391.8127	31.065	31.252	-11	0.966	353218	55875	2070	5175	27	1.21(1.05-1.43)	
389.8157	31.385	31.252	8	0.976	4076920	757630	2406	6015	315		
391.8127	31.385	31.252	8	0.976	3248680	603312	2070	5175	291	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.083	33.998	5	1.050	9925282	2553813	8873	22182	288		
419.8220	34.083	33.998	5	1.050	23573861	6109442	18093	45232	338	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.095	34.010	5	1.000	4087837	1041601	5754	14385	181		a
409.7789	34.095	34.010	5	1.000	3930618	1044426	4914	12285	213	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						5754	14385			
409.7789	35.128						4914	12285			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.411	34.569	-9	1.010	3856768	907627	5754	14385	158		
409.7789	34.411	34.569	-9	1.010	3670674	905339	4914	12285	184	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.933	34.824	7	1.000	4583439	1247577	5363	13407	233		
425.7737	34.933	34.824	7	1.000	4227537	1129837	4702	11755	240	1.08(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.921	34.824	6	1.076	14261720	3795394	7957	19892	477		
437.8140	34.921	34.824	6	1.076	13610133	3547060	4826	12065	735	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.362	35.261	-54	0.984	4841255	1250630	5363	13407	233		a
425.7737	34.350	35.261	-55	0.984	4649090	1178863	4702	11755	251	1.04(0.88-1.20)	
13C-OCDD											
469.7779	37.437	37.245	11	1.153	17705467	5395567	3078	7695	1753		a
471.7750	37.437	37.245	11	1.153	19067078	5943702	4346	10865	1368	0.93(0.76-1.02)	
OCDF											
441.7428	37.533	37.353	11	1.003	1635081	515867	1275	3187	405		
443.7399	37.533	37.353	11	1.003	1647538	475675	1838	4595	259	0.99(0.76-1.02)	
OCDD											
457.7377	37.449	37.257	11	1.000	19505058	5774602	2832	7080	2039		a
459.7348	37.437	37.257	11	1.000	21660348	6513208	2697	6742	2415	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Lims ID: 160-24924-G-13-B
Client ID: SHAD041DP013SS01NS
Inject. Date: 19-Nov-2017 14:15:23 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195575 Lims Sample ID: 84

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	138460811	32320518

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	138460811	32320518

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.754	398734	109336	1295935	322461	1.12	0.31	RQ
15.754	398734	109336	517836	141994	0.6034		Empc Correction
16.813	302799	72363	369755	81153	0.4427	0.82	
Signal Totals:							
	701533	181699	887591	223147			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2367223	585313				0.42	RQ
	1589124	404846					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.558 = (2367223 * 100.000) / (138460811 * 1.097)
Empc Amount: 1.046 = (1589124 * 100.000) / (138460811 * 1.097)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d		
Lims ID:	160-24924-G-13-B		
Client ID:	SHAD041DP013SS01NS		
Inject. Date:	19-Nov-2017 14:15:23	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	84

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	92968396	19145268

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	92968396	19145268

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.177	184612	47602	163227	43425	0.3213	1.13	RQ
16.177	125684	33437	163227	43425	0.2669		Empc Correction
16.480	74137	21265	116103	30997	0.1757	0.64	RQ
16.480	74137	21265	96281	27616	0.1574		Empc Correction
17.326	180374	37531	148232	42374	0.3035	1.22	RQ
17.326	114138	32627	148232	42374	0.2424		Empc Correction
Signal Totals:							
	313959	87329	407740	113415			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	866685	223194				1.03	RQ
	721699	200744					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8006 = (866685 * 100.000) / (92968396 * 1.164)
Empc Amount: 0.6667 = (721699 * 100.000) / (92968396 * 1.164)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Lims ID: 160-24924-G-13-B
Client ID: SHAD041DP013SS01NS
Inject. Date: 19-Nov-2017 14:15:23
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 84

F1 PeCDFs, RT: 20.426

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	105498393	16670105
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	105498393	16670105

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.942	2969294	537079	1922493	382767	4.12	1.54	
Signal Totals:							
	2969294	537079	1922493	382767			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4891787	919846				1.54	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.117 = (4891787 * 100.000) / (105498393 * 1.126)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Lims ID: 160-24924-G-13-B
Client ID: SHAD041DP013SS01NS
Inject. Date: 19-Nov-2017 14:15:23
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 84

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	105498393	16670105
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	105498393	16670105

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.560	1133889	166309	723772	107018	1.56	1.57	
22.365	327345	45039	384556	53016	0.5992	0.85	RQ
22.365	327345	45039	211190	29057	0.4533		Empc Correction
Signal Totals:							
	1461234	211348	934962	136075			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2569562	371382				1.32	RQ
	2396196	347423					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.163 = (2569562 * 100.000) / (105498393 * 1.126)
Empc Amount: 2.017 = (2396196 * 100.000) / (105498393 * 1.126)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Lims ID: 160-24924-G-13-B
Client ID: SHAD041DP013SS01NS
Inject. Date: 19-Nov-2017 14:15:23 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195575 Lims Sample ID: 84

Non-2,3,7,8-sub-PeCDD, RT: 23.878

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.127	D 13C-1,2,3,7,8-PeCDD	100.000	69698278	9806433

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.127		100.000	69698278	9806433

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.751	538705	81555	906589	162330	1.84	0.59	RQ
21.751	538705	81555	347551	52616	1.13		Empc Correction
22.542	188522	26692	118963	21413	0.3914	1.58	
22.992	215283	45658	185220	26226	0.5098	1.16	RQ
22.992	215283	45658	138892	29456	0.4508		Empc Correction
23.251	259416	41046	163808	27523	0.5387	1.58	
23.565	135060	25976	63553	9706	0.2528	2.13	RQ
23.565	98507	15044	63553	9706	0.2063		Empc Correction
23.892	66549	19662	46554	14032	0.1440	1.43	
24.096	278011	42235	151230	20772	0.5464	1.84	RQ
24.096	234406	32196	151230	20772	0.4909		Empc Correction
25.419	121942	18165	52237	13433	0.2217	2.33	RQ
25.419	80967	20821	52237	13433	0.1695		Empc Correction
Signal Totals:							
	1682355	282674	1082788	188951			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3491642	596424				1.07	RQ
	2765143	471625					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.444 = (3491642 * 100.000) / (69698278 * 1.127)
Empc Amount: 3.520 = (2765143 * 100.000) / (69698278 * 1.127)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Lims ID: 160-24924-G-13-B
Client ID: SHAD041DP013SS01NS
Inject. Date: 19-Nov-2017 14:15:23
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 84

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	68980488	14020597
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	68980488	14020597

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.788	1078379	121584	847158	95980	2.03	1.27	
29.161	3505442	378332	2822819	297009	6.67	1.24	
30.346	2866591	414739	2195337	338352	5.34	1.31	
Signal Totals:							
	7450412	914655	5865314	731341			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	13315726	1645996				1.27	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 14.038 = (13315726 * 100.000) / (68980488 * 1.375)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Lims ID: 160-24924-G-13-B
Client ID: SHAD041DP013SS01NS
Inject. Date: 19-Nov-2017 14:15:23
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 84

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	56446932	13279412
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	56446932	13279412

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.240	2052237	288295	1538908	211567	5.49	1.33	
31.065	428728	78293	353218	55875	1.20	1.21	
31.385	4076920	757630	3248680	603312	11.2	1.25	
Signal Totals:							
	6557885	1124218	5140806	870754			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11698691	1994972				1.28	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 17.884 = (11698691 * 100.000) / (56446932 * 1.159)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d		
Lims ID:	160-24924-G-13-B		
Client ID:	SHAD041DP013SS01NS		
Inject. Date:	19-Nov-2017 14:15:23	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	84

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	33499143	8663255
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	33499143	8663255

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.411	3856768	907627	3670674	905339	16.0	1.05	
Signal Totals:							
	3856768	907627	3670674	905339			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7527442	1812966				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 15.959 = (7527442 * 100.000) / (33499143 * 1.408)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d		
Lims ID:	160-24924-G-13-B		
Client ID:	SHAD041DP013SS01NS		
Inject. Date:	19-Nov-2017 14:15:23	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	84

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	27871853	7342454

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	27871853	7342454

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.362	4841255	1250630	4649090	1178863	29.3	1.04	
Signal Totals:							
	4841255	1250630	4649090	1178863			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	9490345	2429493				1.04	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 29.275 = (9490345 * 100.000) / (27871853 * 1.163)

Report Date: 06-Dec-2017 15:06:43

Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

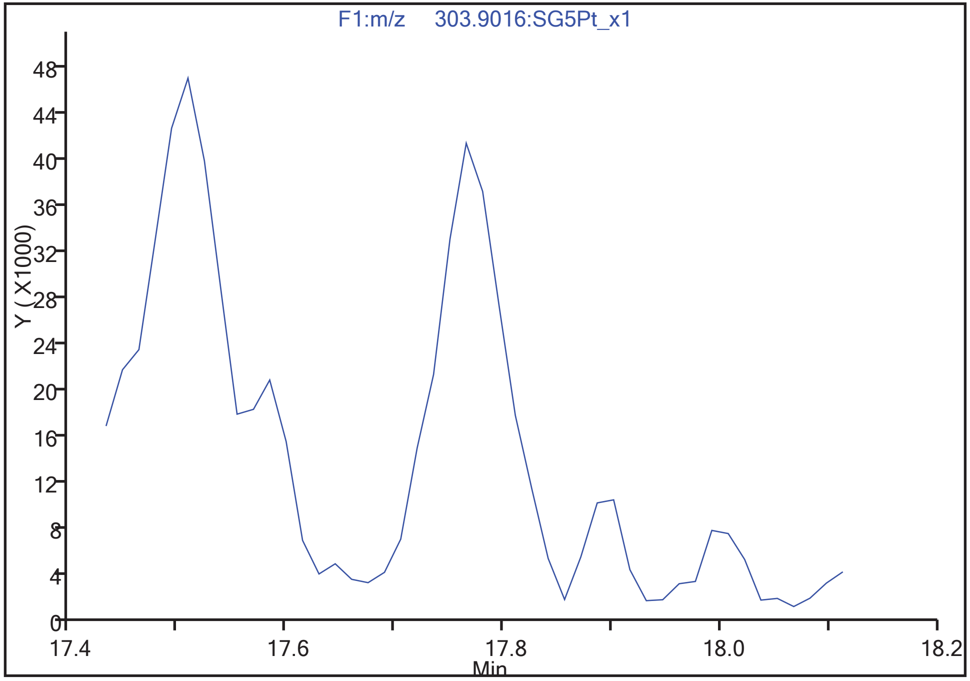
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d				
Injection Date:	19-Nov-2017 14:15:23	Instrument ID:	3D5		
Lims ID:	160-24924-G-13-B	Lab Sample ID:	320-24924-13		
Client ID:	SHAD041DP013SS01NS				
Operator ID:	SMA, ALM	ALS Bottle#:	54	Worklist Smp#:	84
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

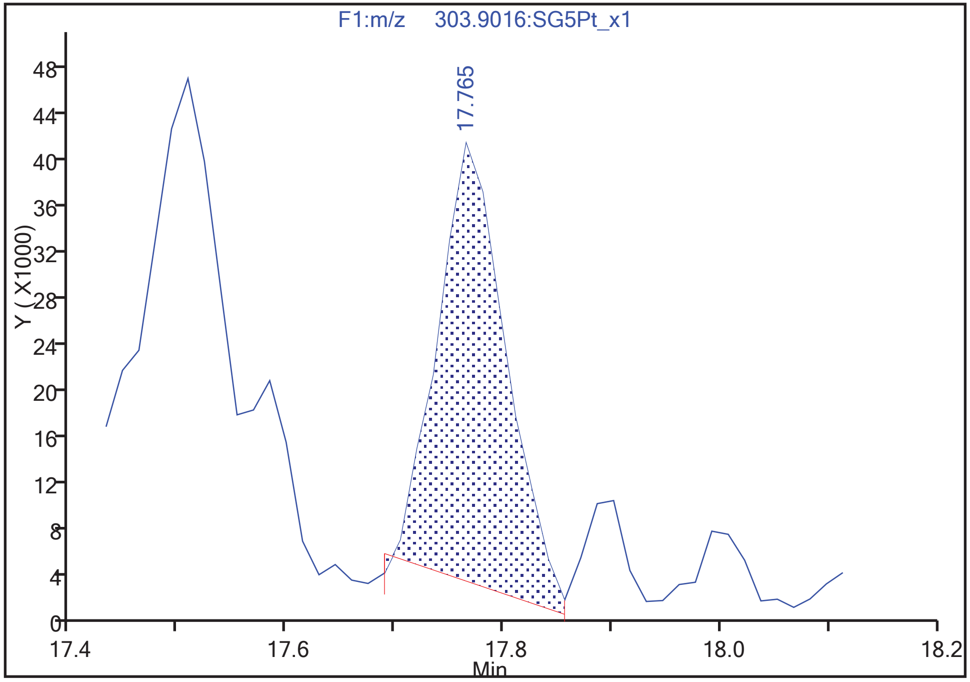
Not Detected
Expected RT: 17.72

Processing Integration Results



Manual Integration Results

RT: 17.76
Area: 164814
Amount: 0.108497
Amount Units: pg/ul



Reviewer: arghestanis, 20-Nov-2017 11:40:02

Audit Action: Manually Integrated

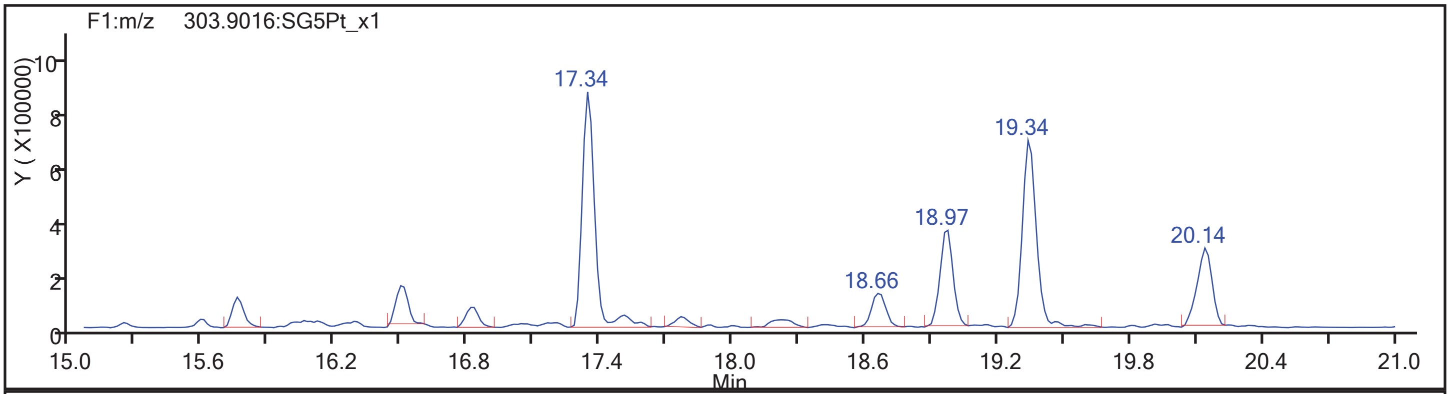
Audit Reason: Missed Peak

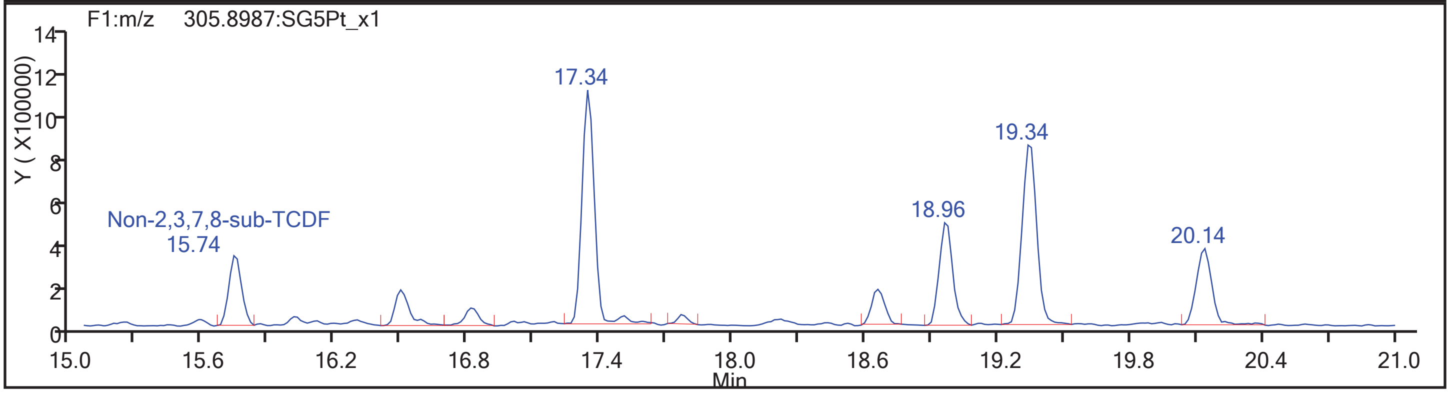
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d

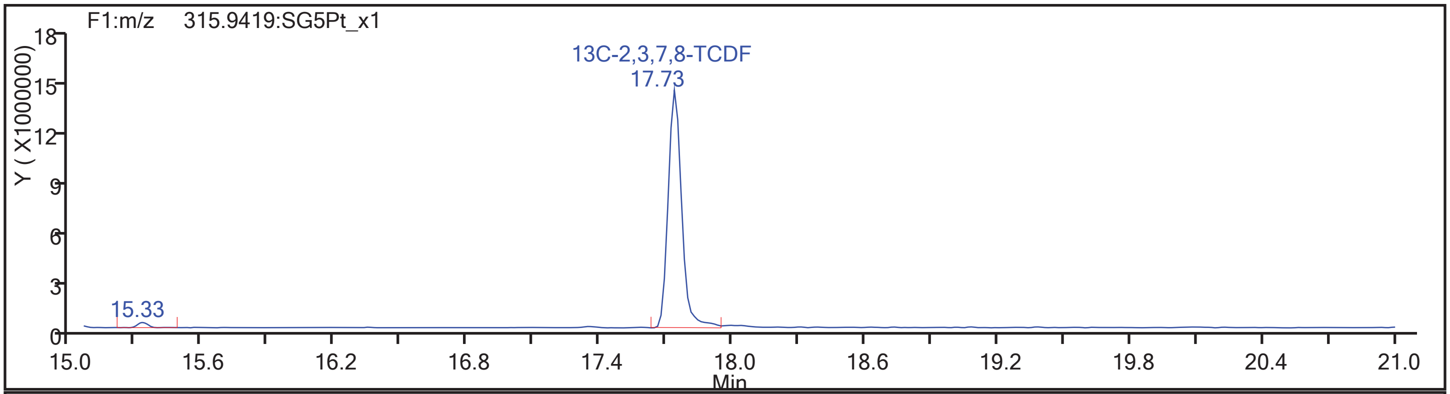
Injection Date:	19-Nov-2017 14:15:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	195575	Sample Line#:	84
Column Type:		Column Dia:	

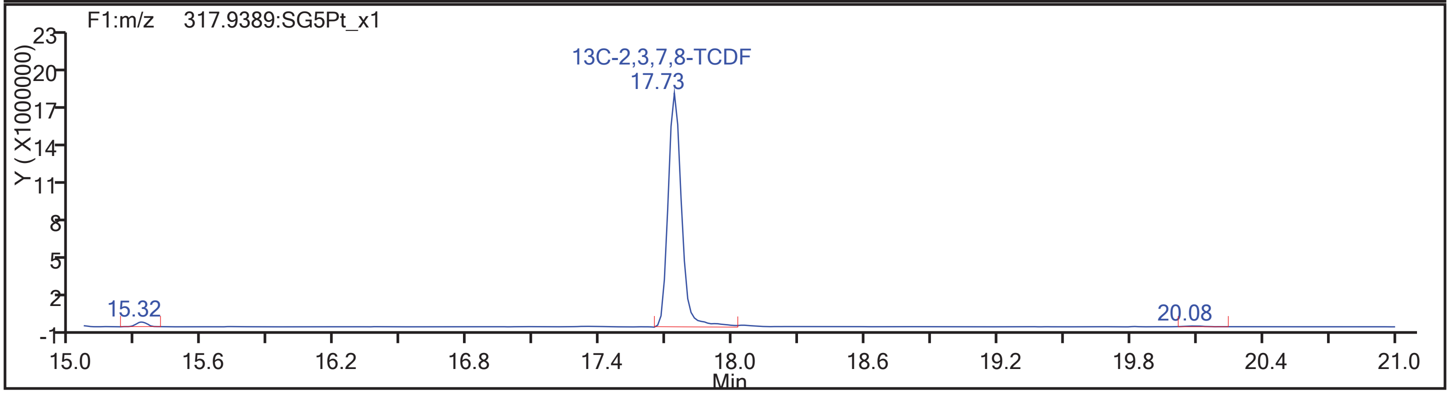
TCDF





TCDF Standards



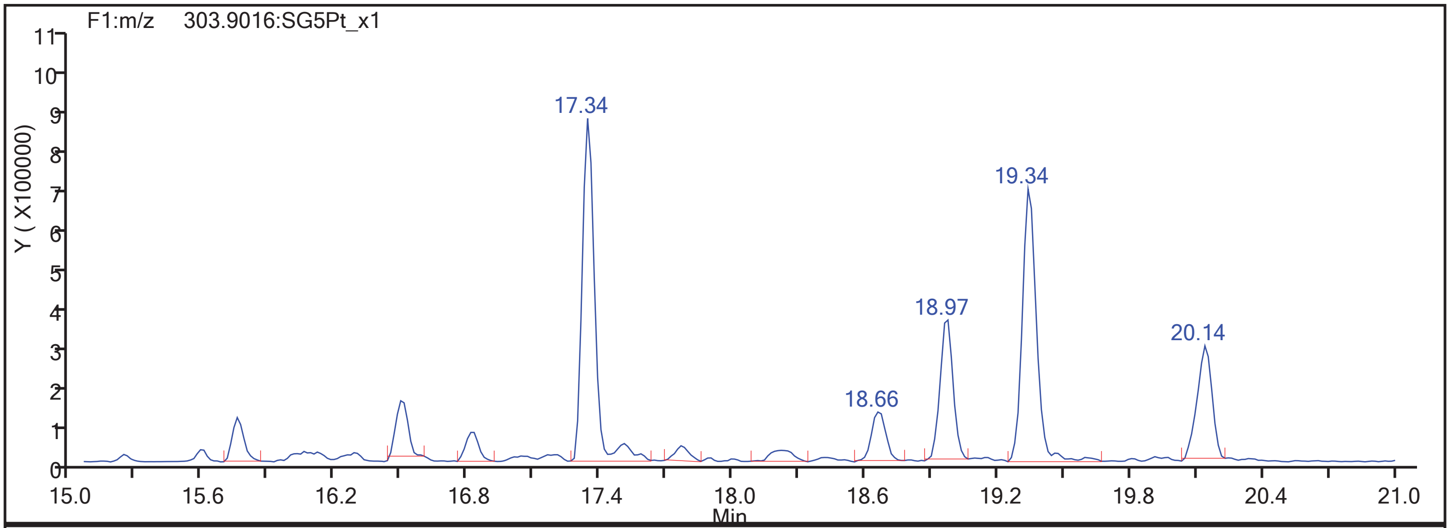


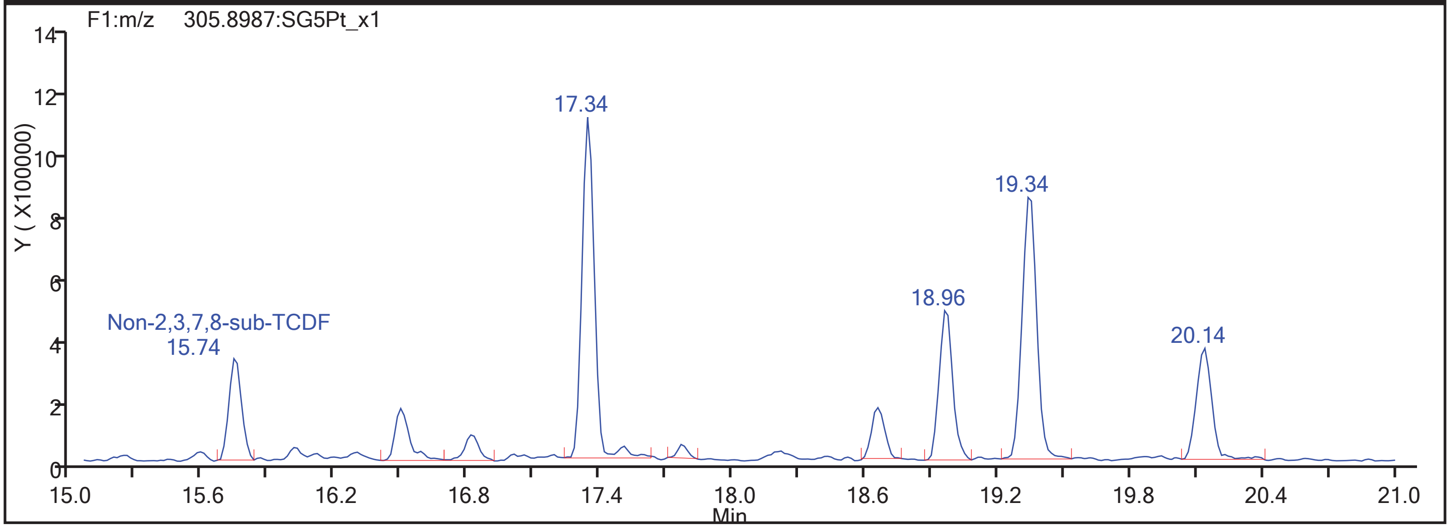
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d

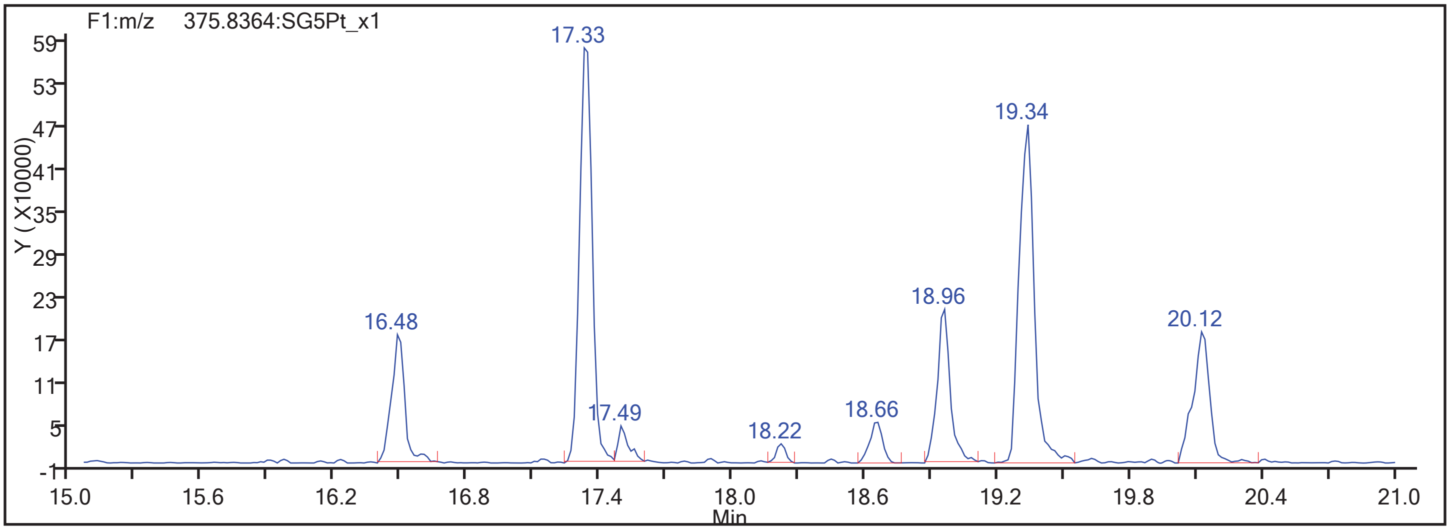
Injection Date:	19-Nov-2017 14:15:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	195575	Sample Line#:	84
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass

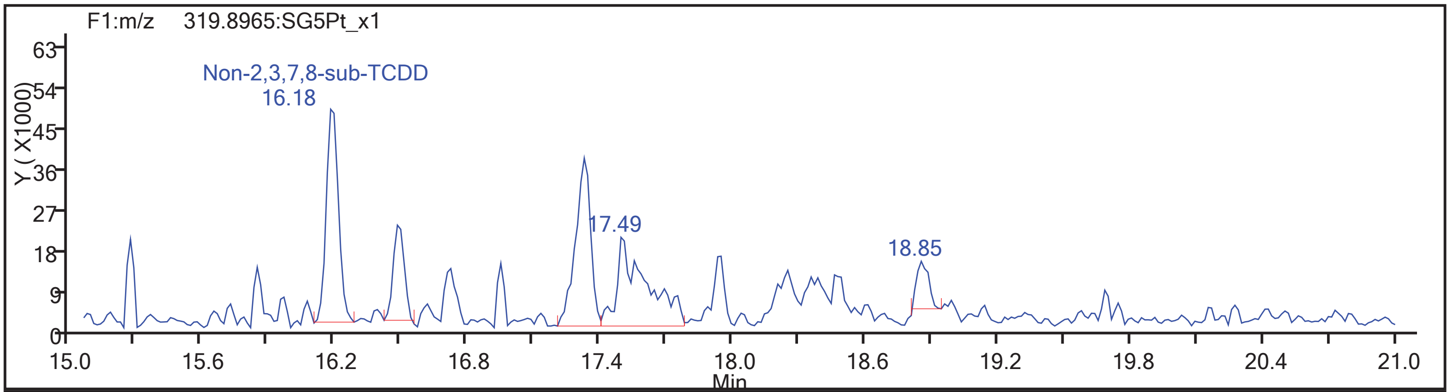


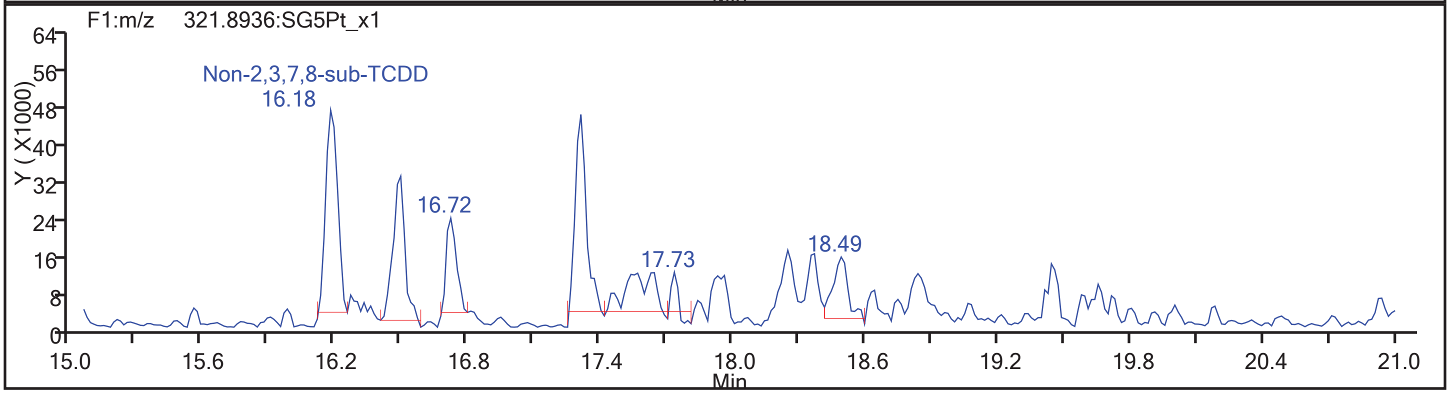
Report Date: 06-Dec-2017 15:06:43
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

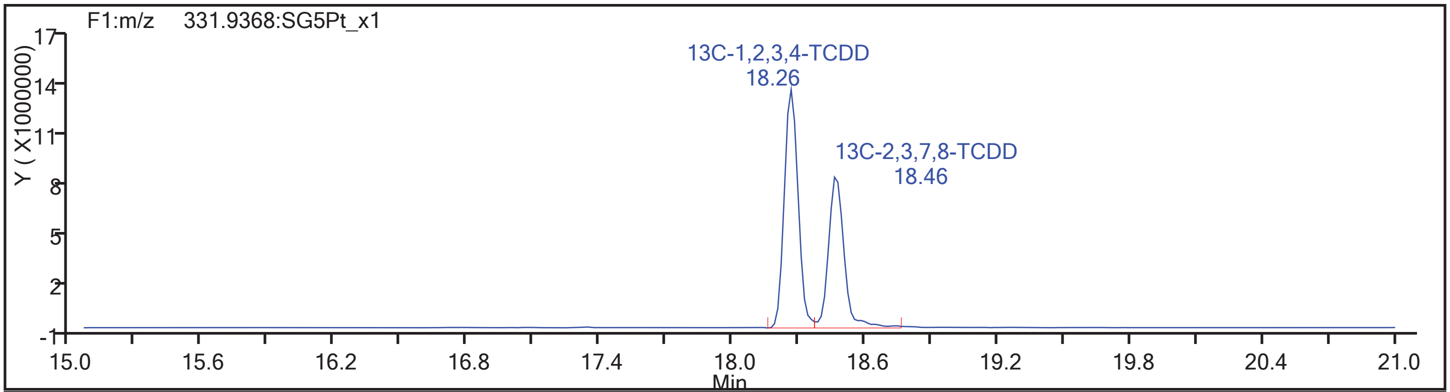
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d		
Injection Date:	19-Nov-2017 14:15:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	195575	Sample Line#:	84
Column Type:		Column Dia:	

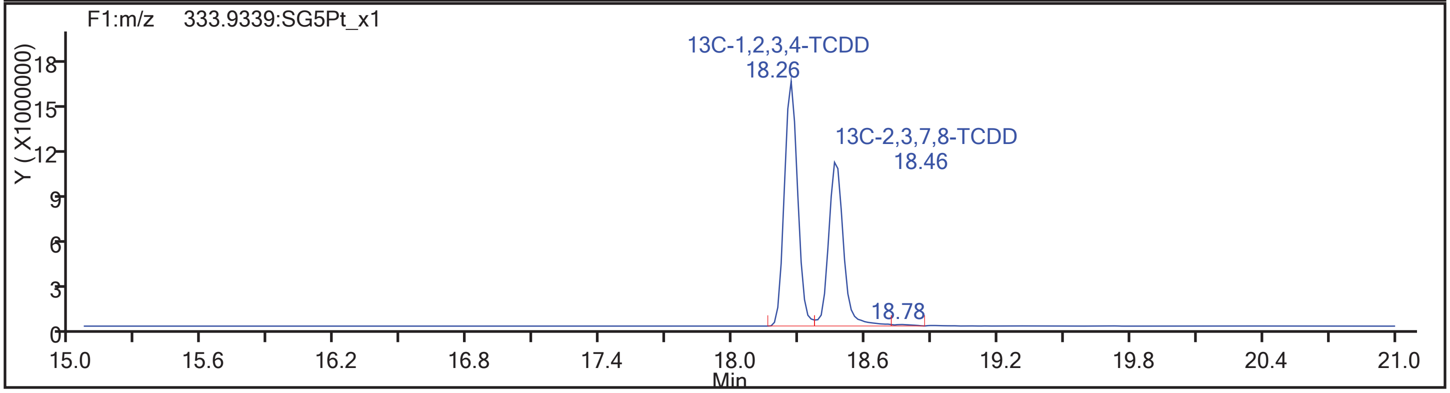
TCDD





TCDD Standards



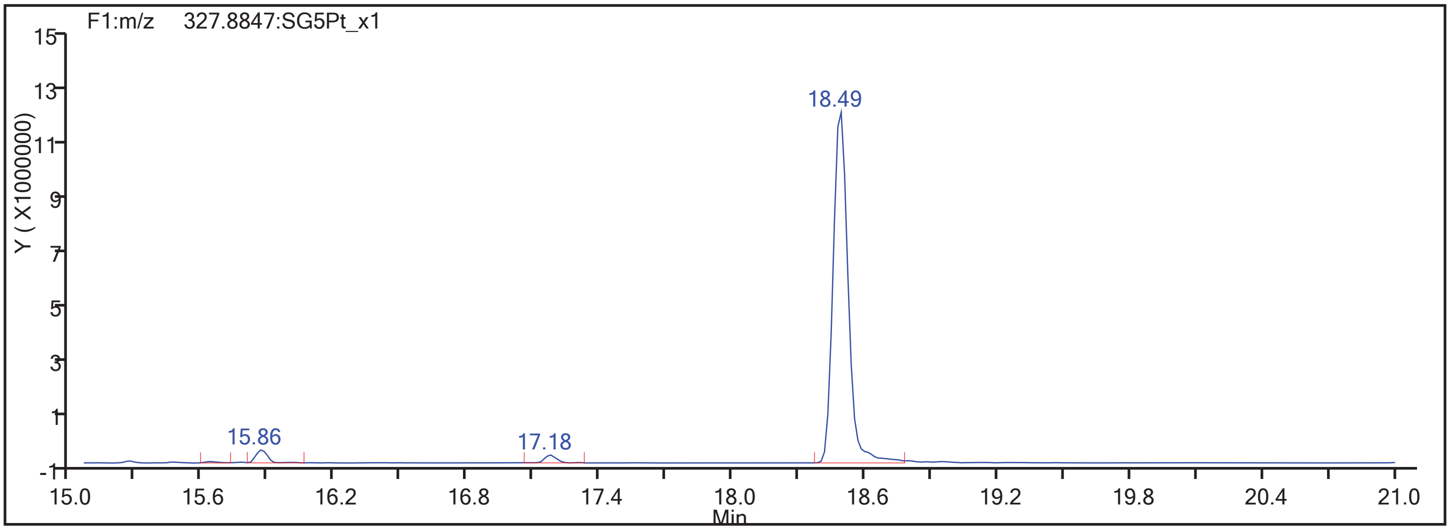


Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

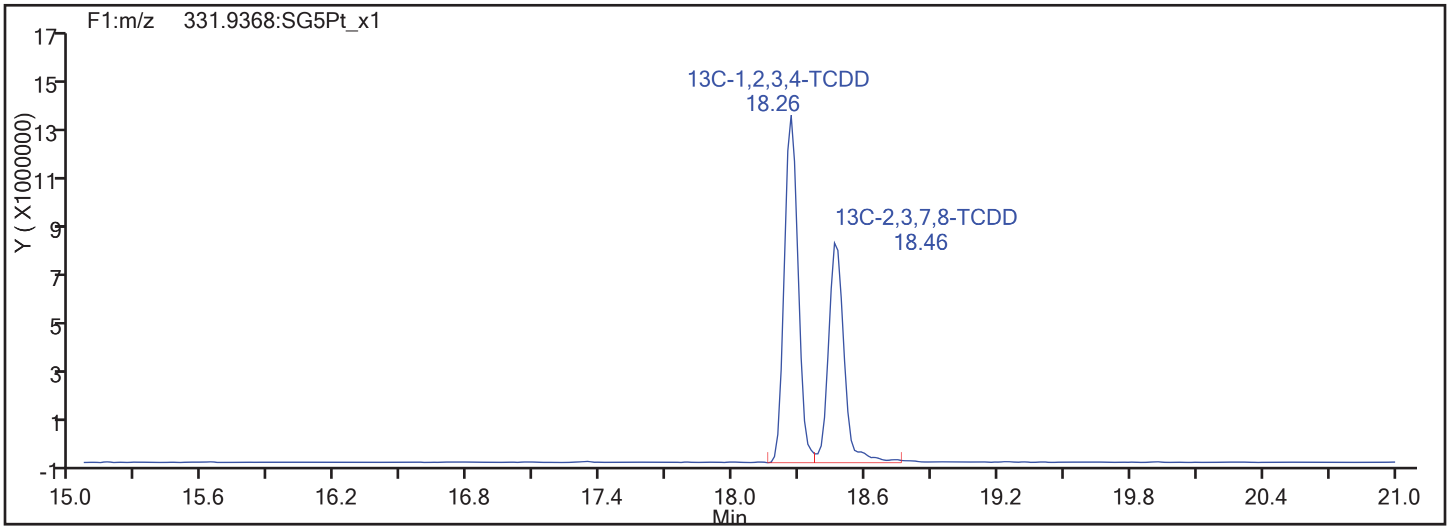
TestAmerica Sacramento

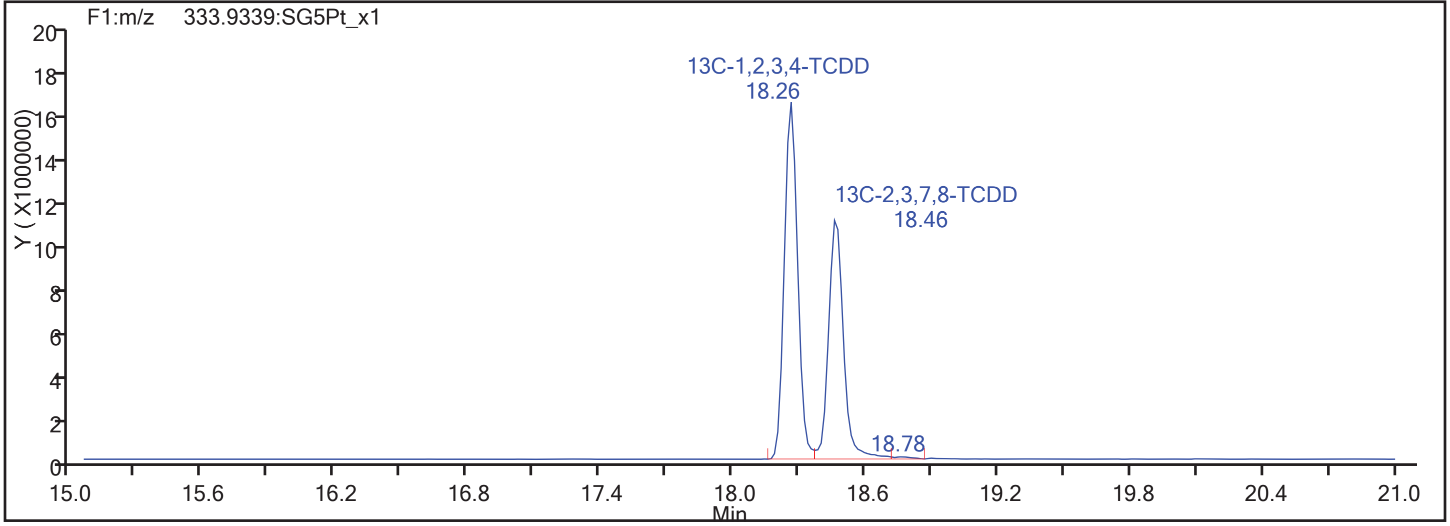
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d		
Injection Date:	19-Nov-2017 14:15:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	195575	Sample Line#:	84
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards





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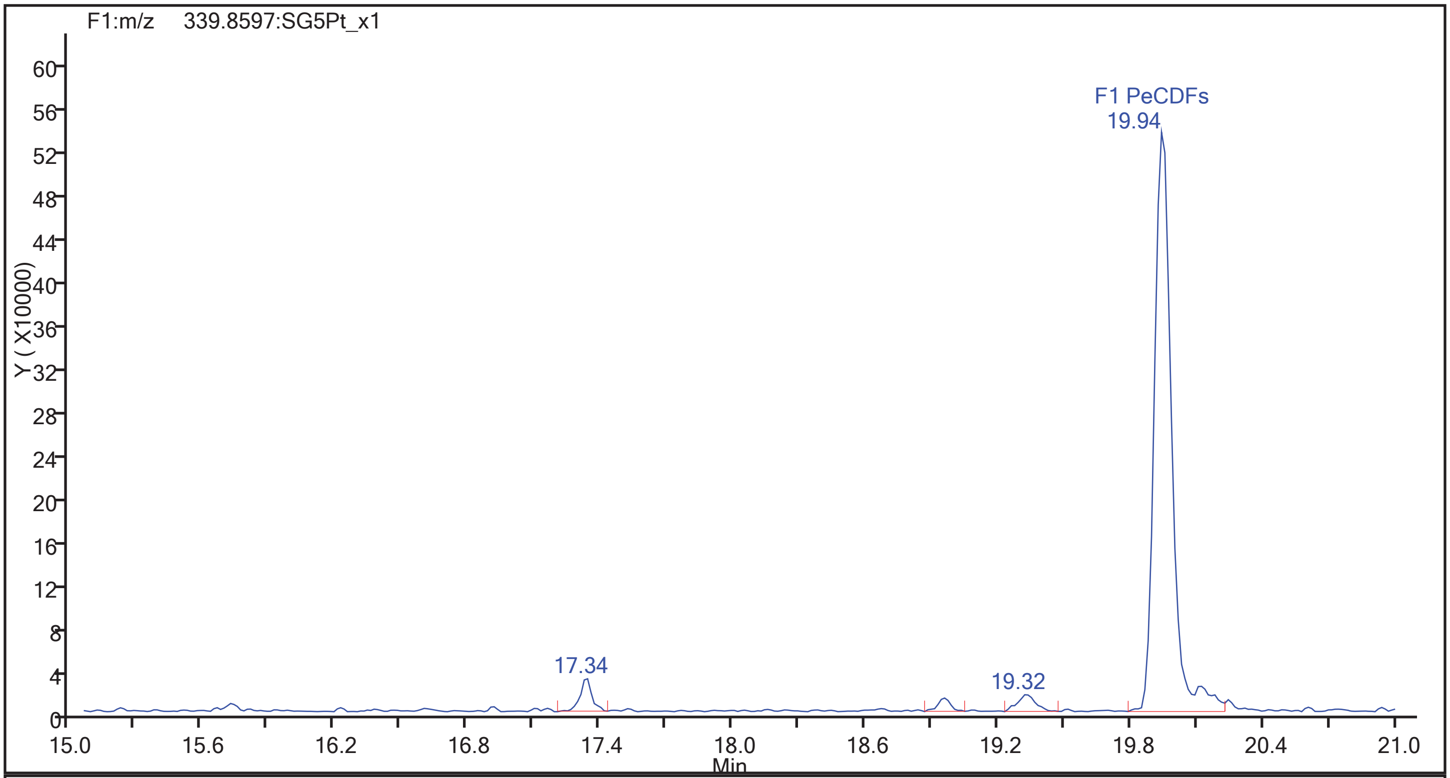
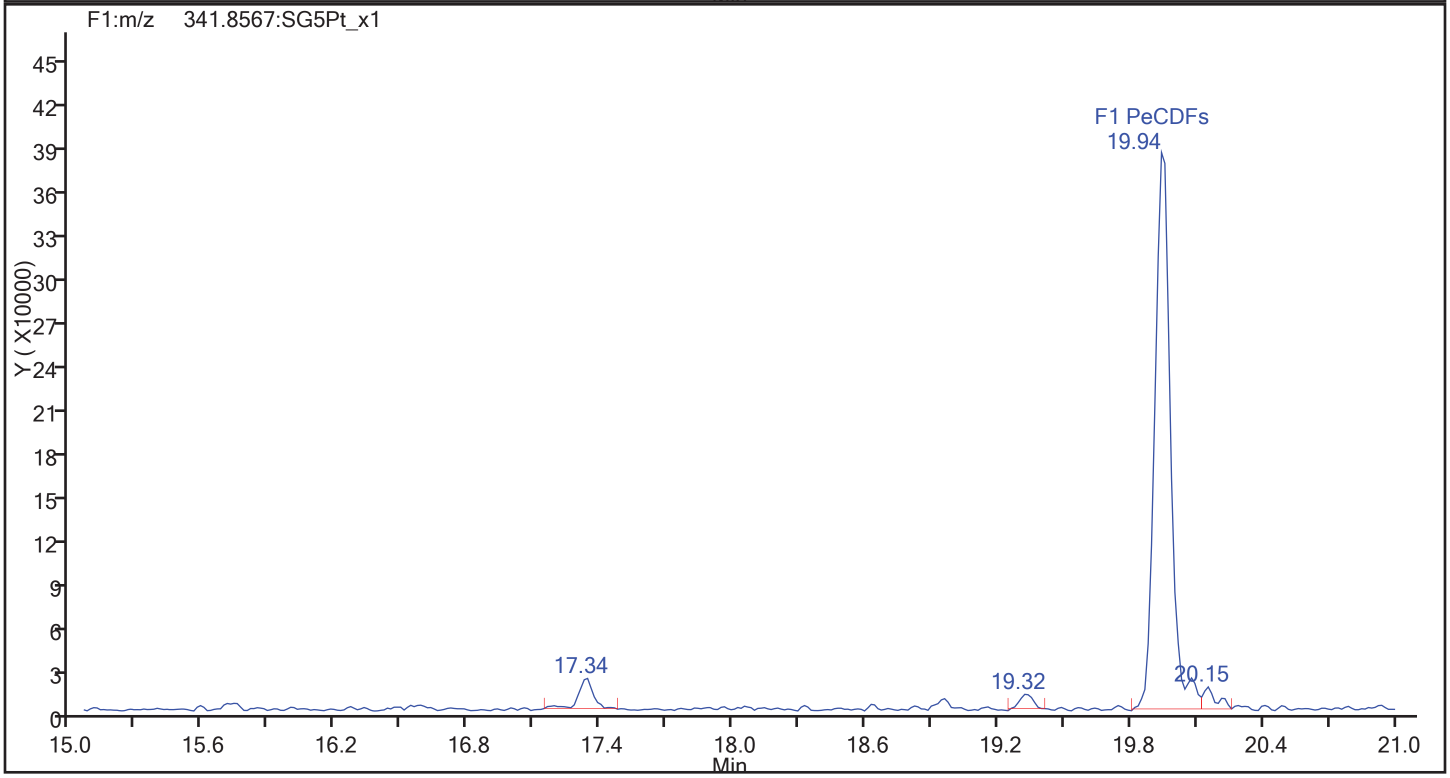
Injection Date: 19-Nov-2017 14:15:23 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS01NS
Worklist#: 195575 Sample Line#: 84
Column Type: Column Dia:
F1 PeCDFs





Report Date: 06-Dec-2017 15:06:43
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Injection Date: 19-Nov-2017 14:15:23
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
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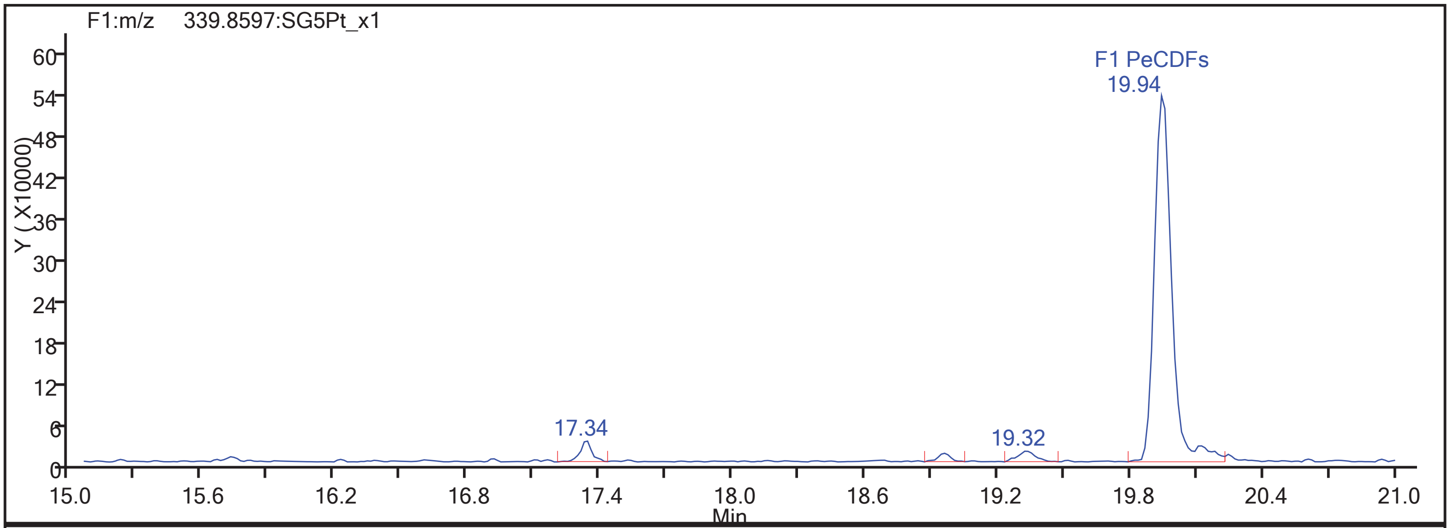
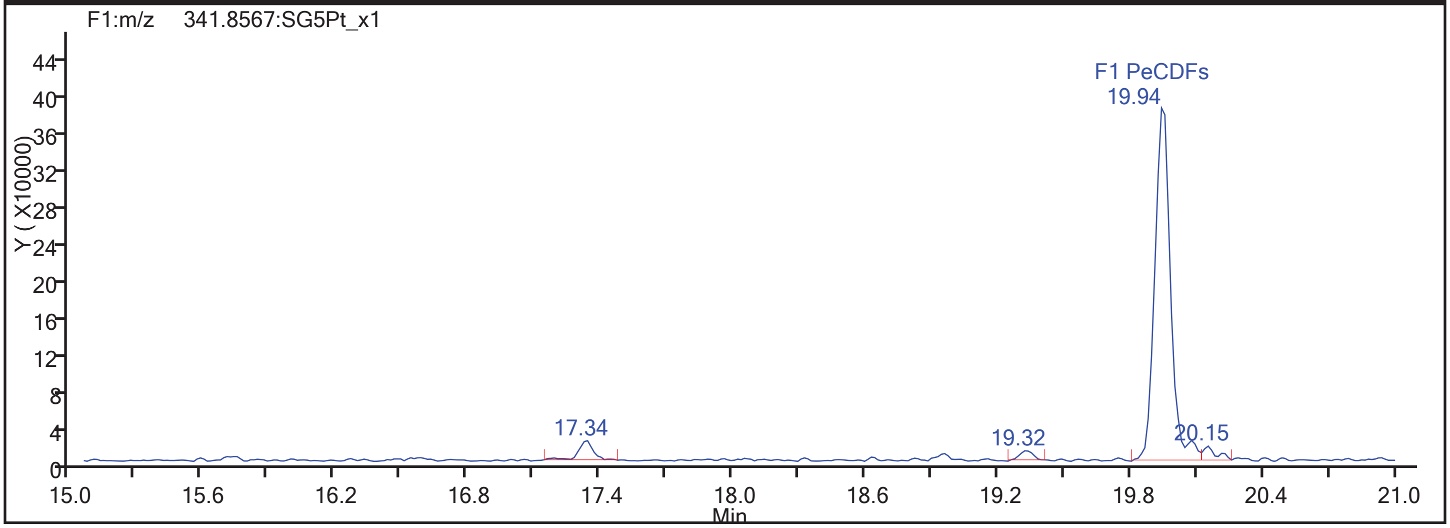
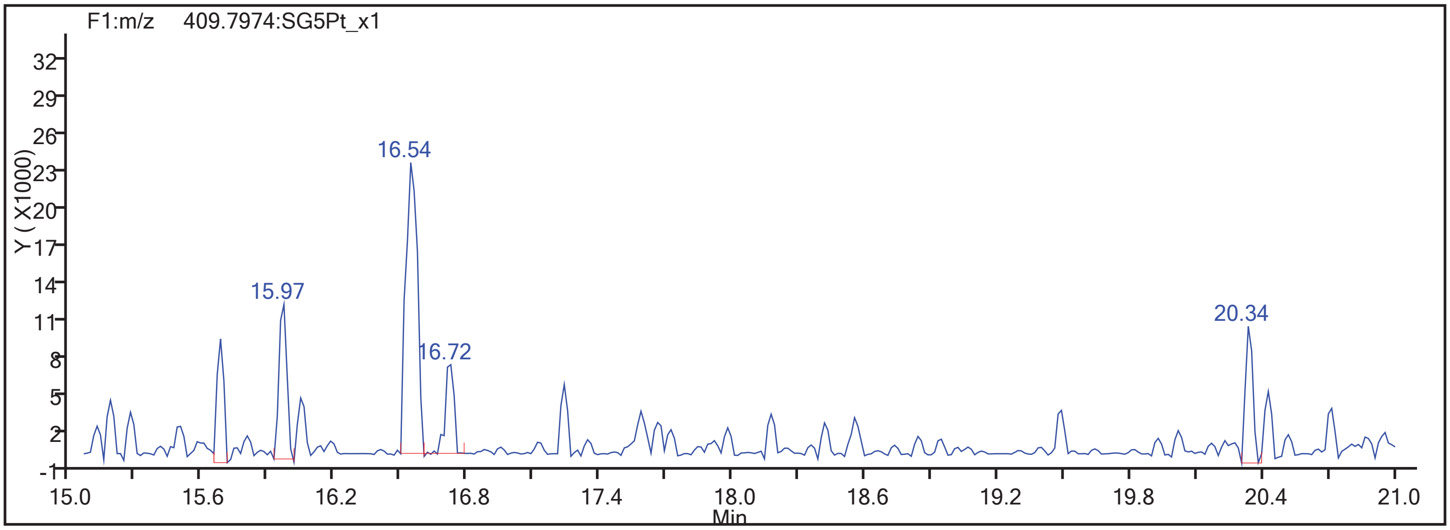
Client ID: SHAD041DP013SS01NS
Worklist#: 195575
Sample Line#: 84
Column Type:
Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass

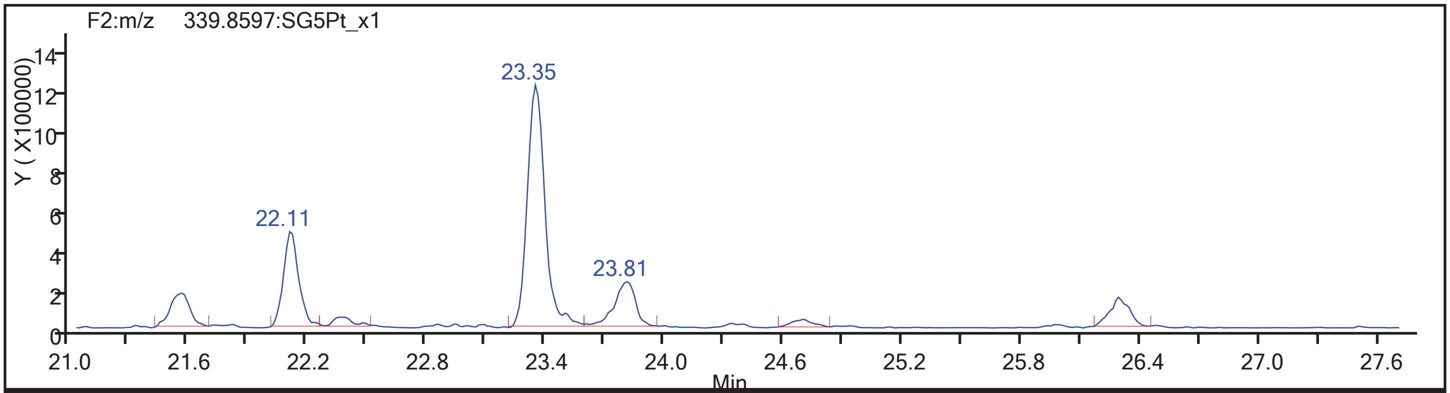


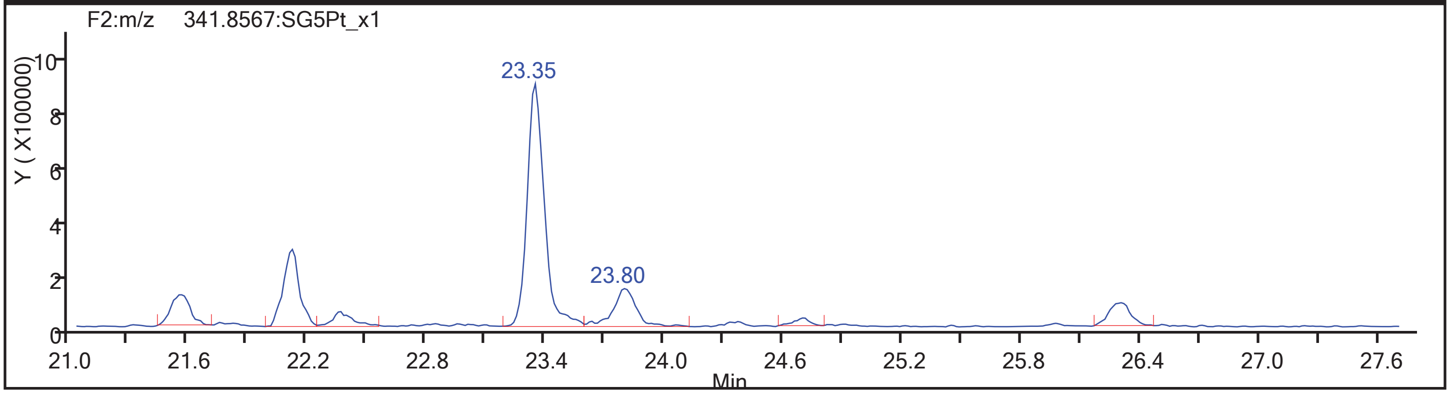
Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

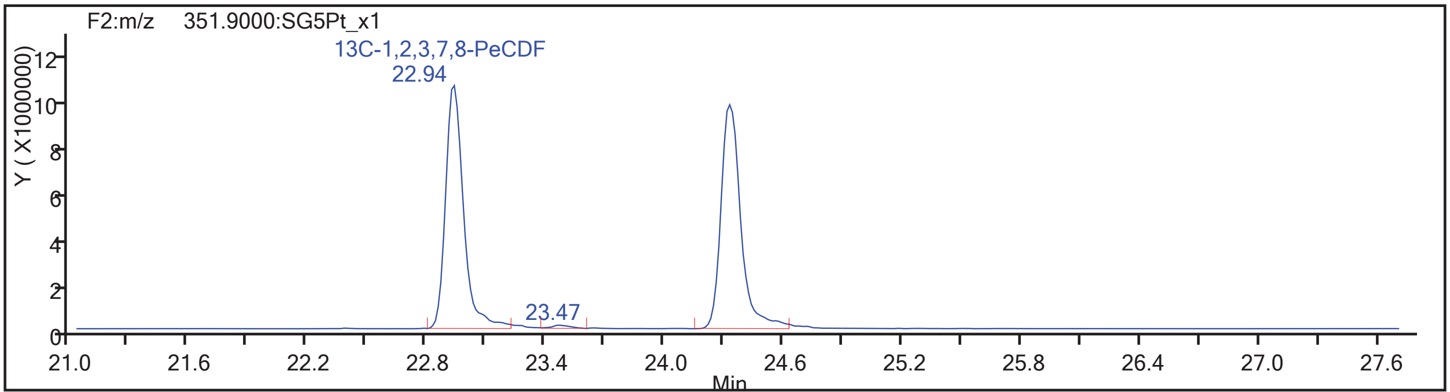
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Injection Date: 19-Nov-2017 14:15:23
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS01NS
Worklist#: 195575
Sample Line#: 84
Column Type:
Column Dia:

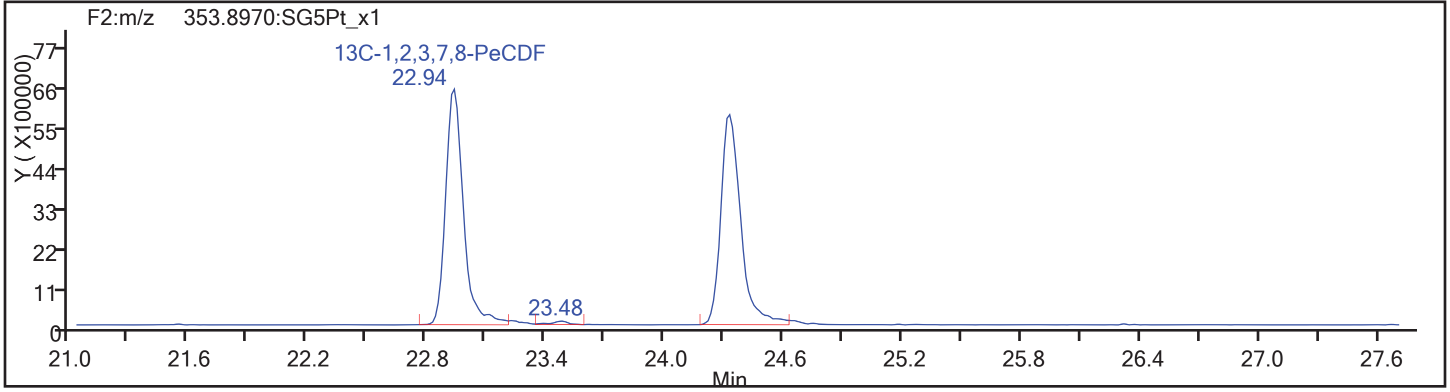
PeCDF





PeCDF Standards



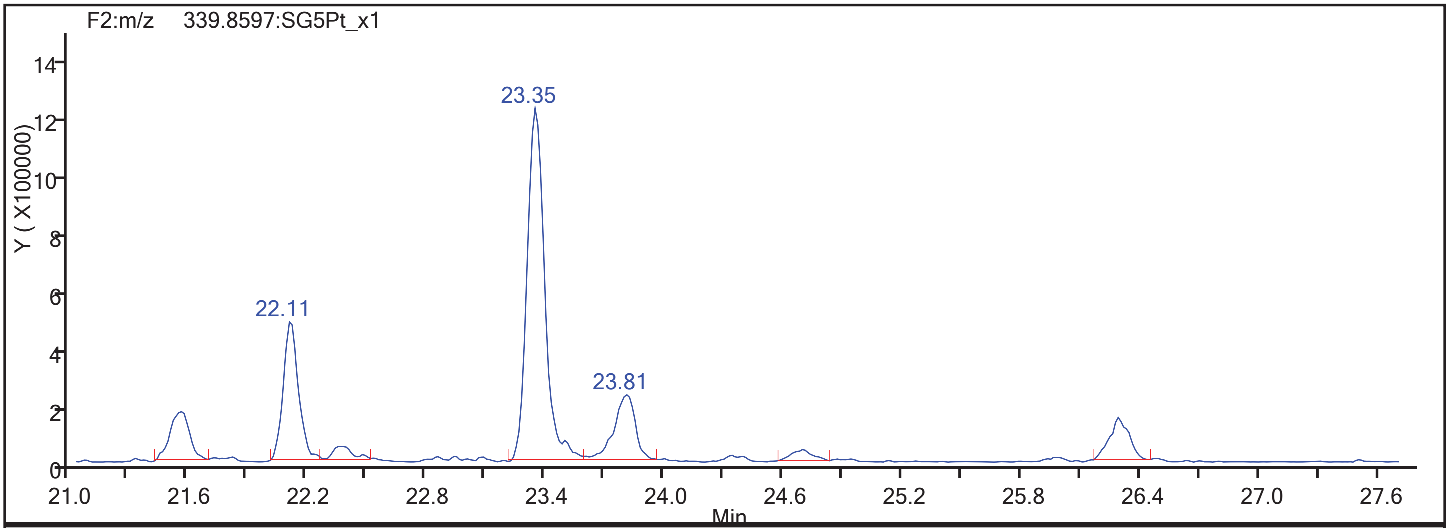


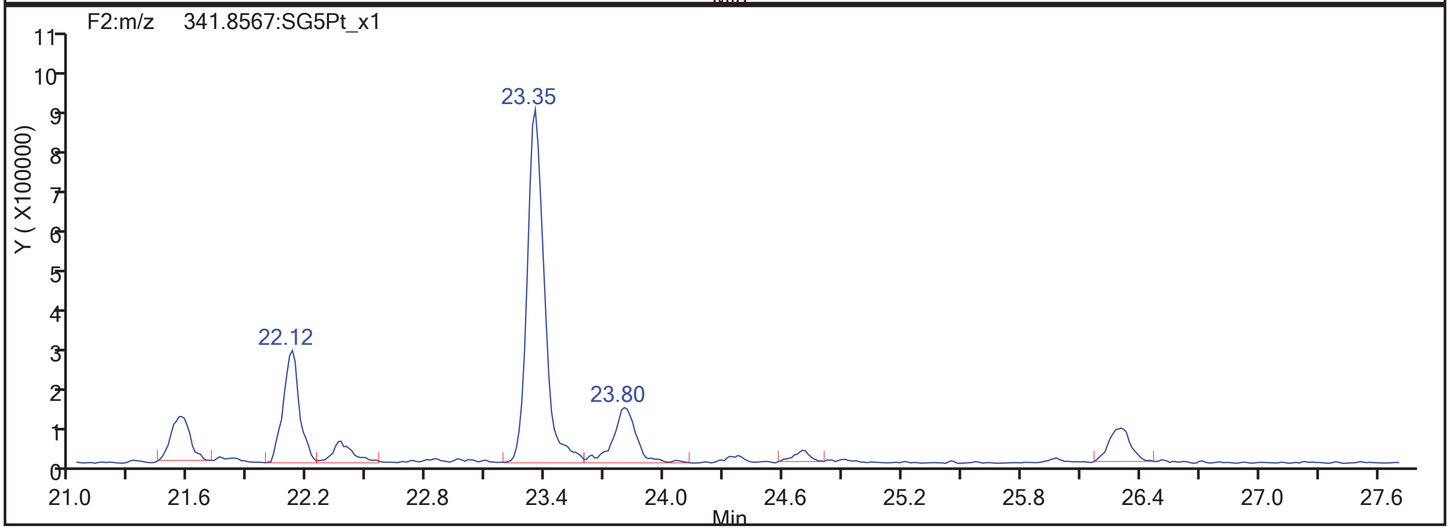
Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

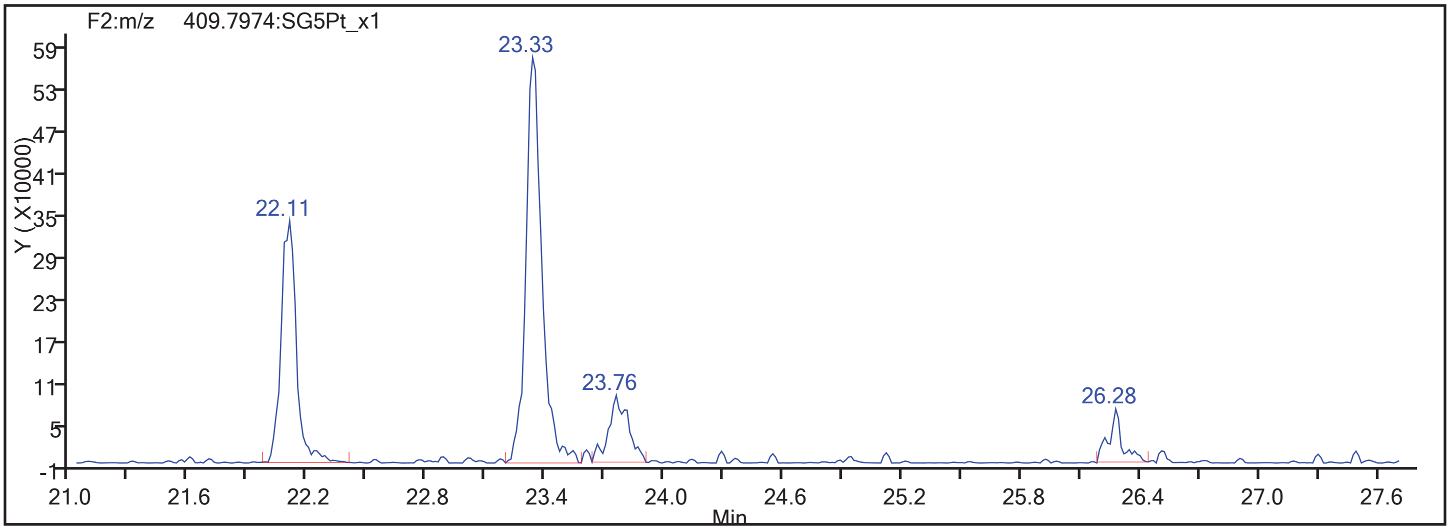
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Injection Date: 19-Nov-2017 14:15:23
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS01NS
Worklist#: 195575
Sample Line#: 84
Column Type:
Column Dia:

PeCDF





PeCDF Interference Mass

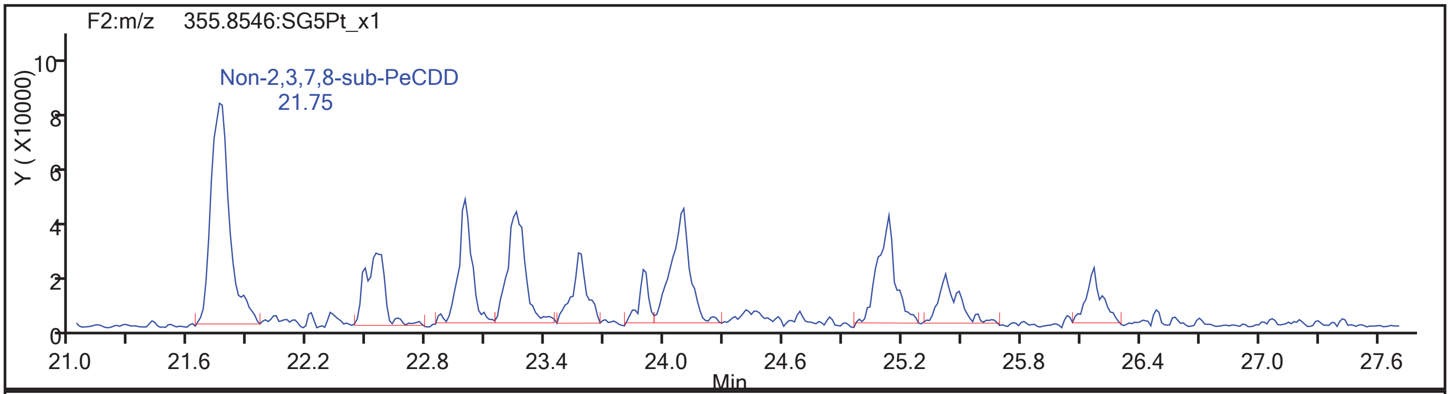


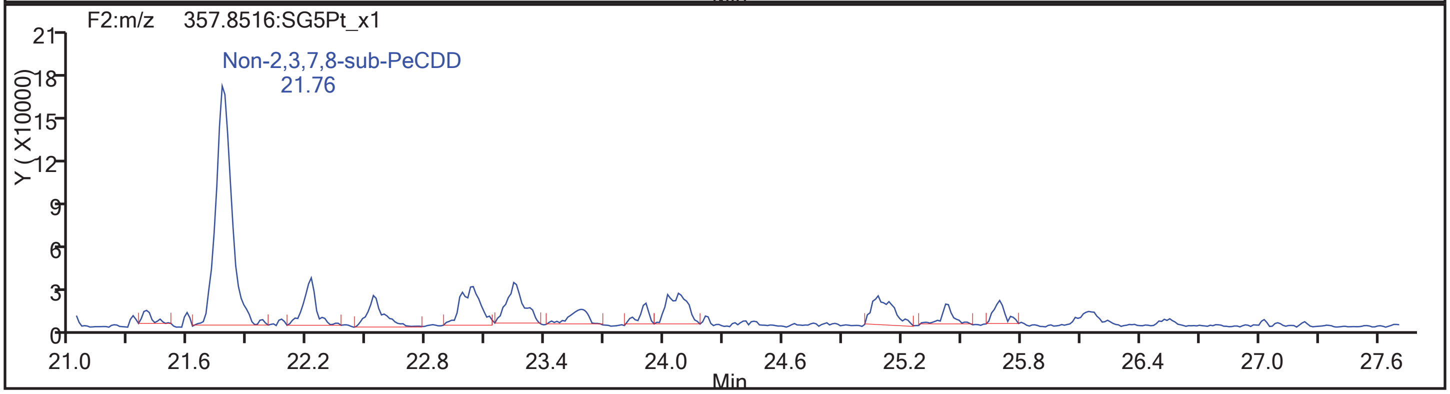
Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

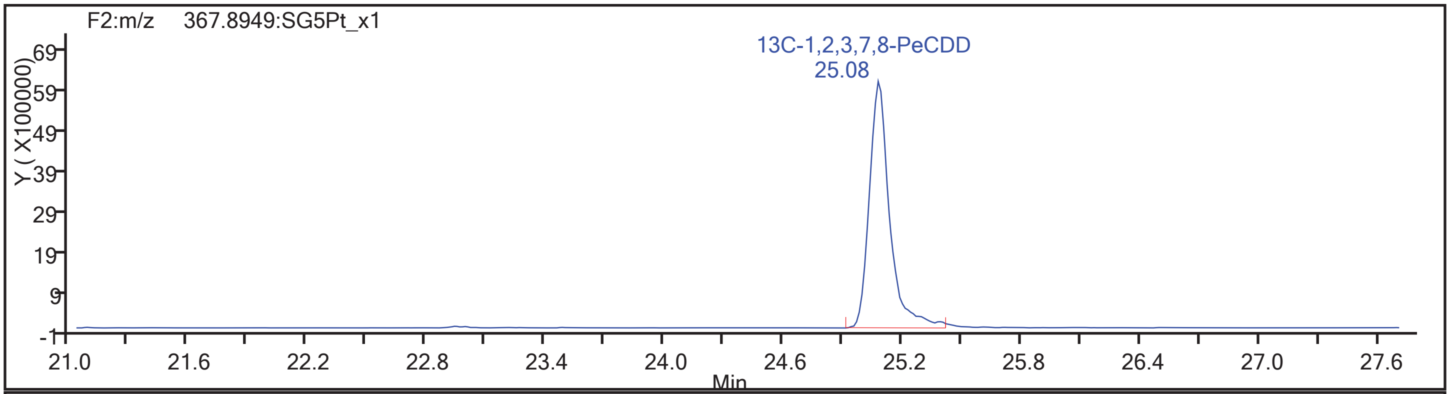
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d		
Injection Date:	19-Nov-2017 14:15:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	195575	Sample Line#:	84
Column Type:		Column Dia:	

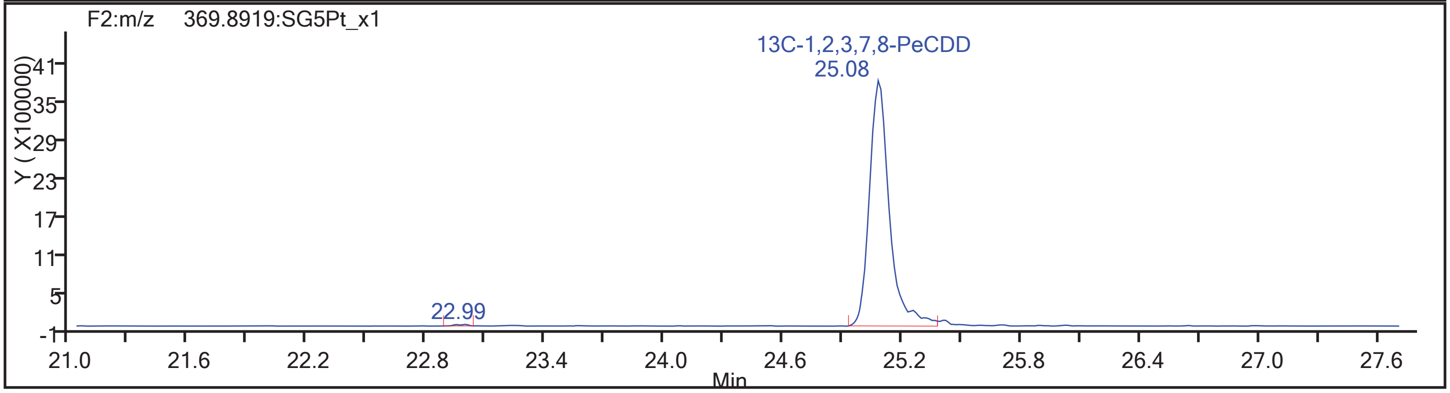
PeCDD





PeCDD Standards





Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d

Injection Date: 19-Nov-2017 14:15:23 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

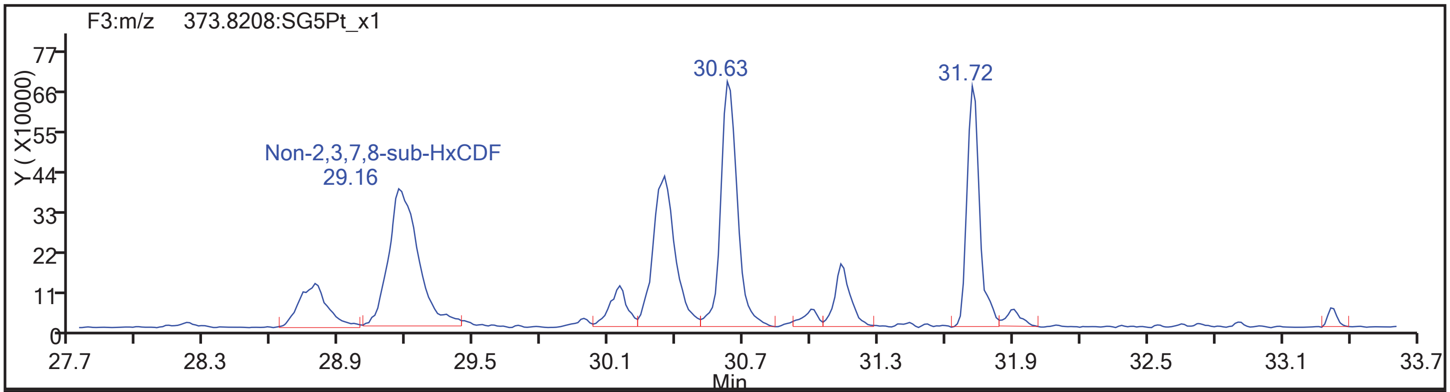
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

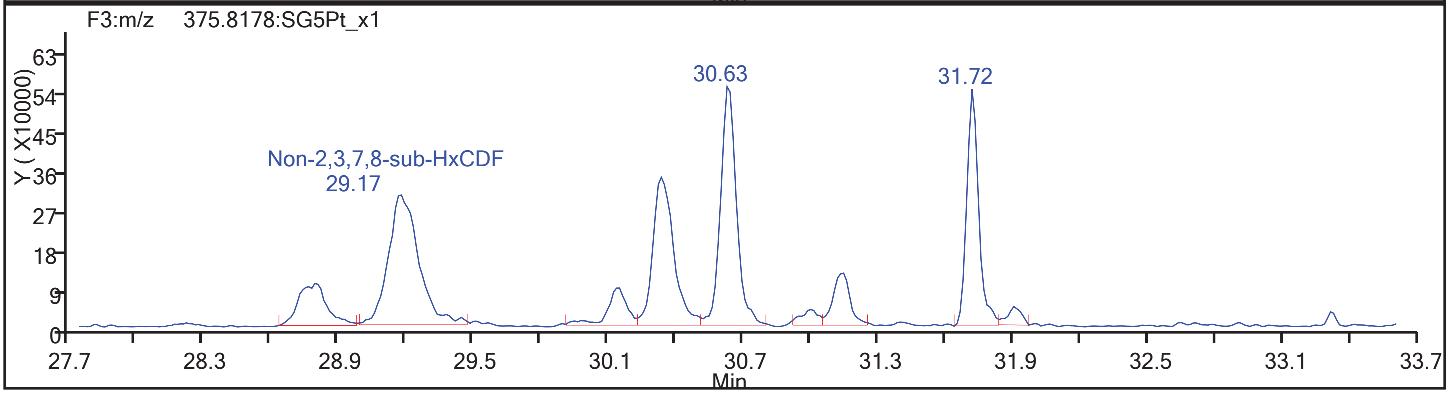
Client ID: SHAD041DP013SS01NS

Worklist#: 195575 Sample Line#: 84

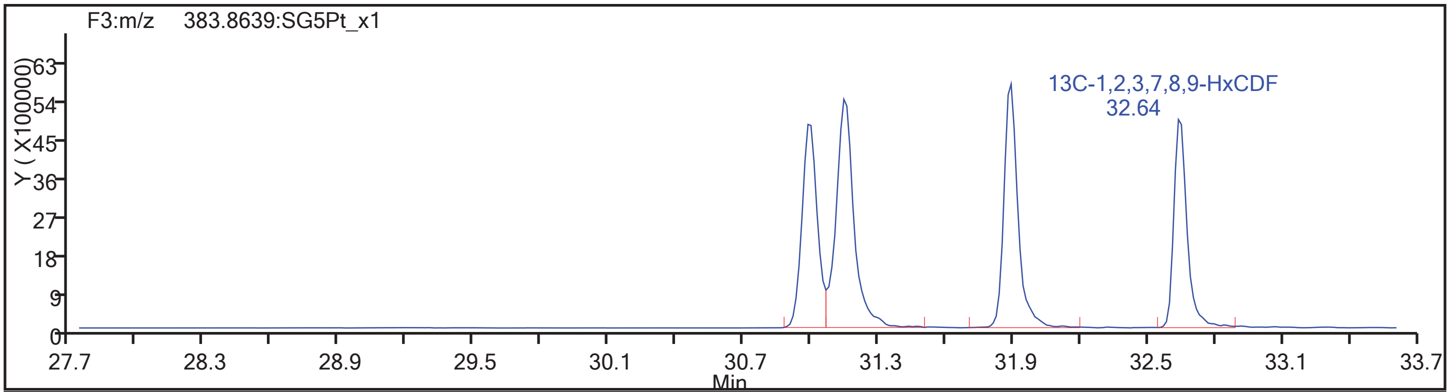
Column Type: Column Dia:

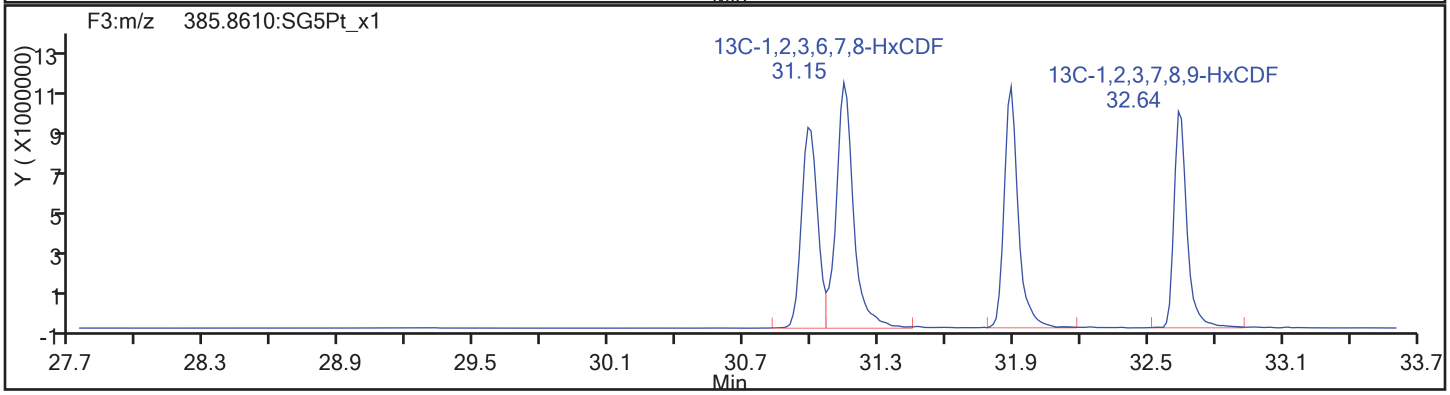
HxCDF





HxCDF Standards

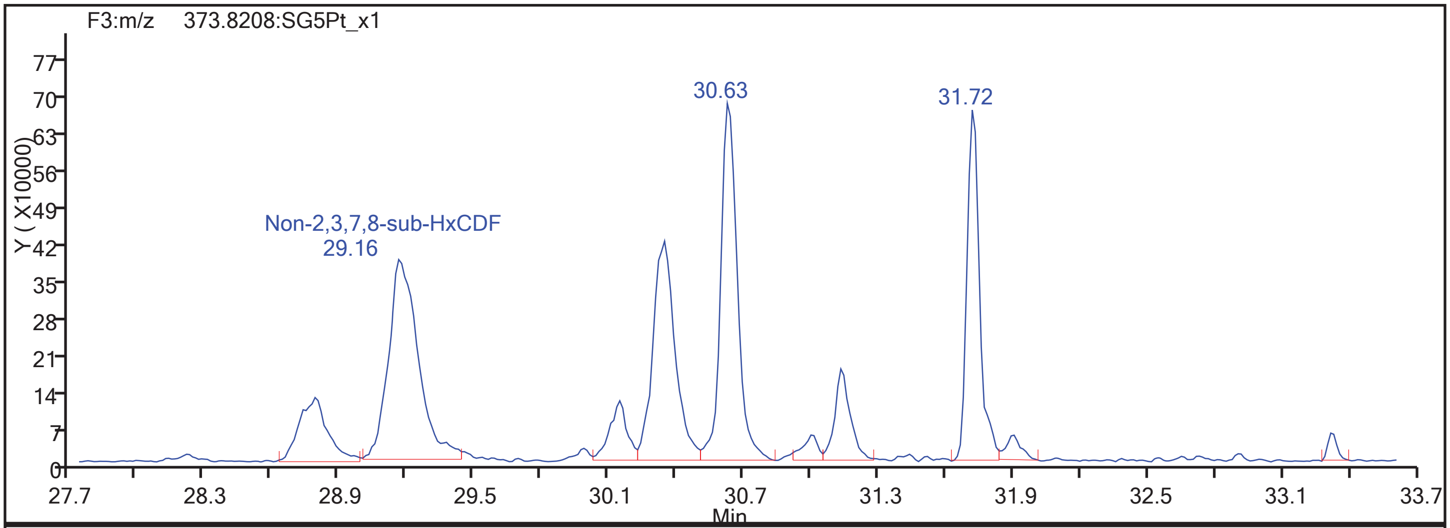


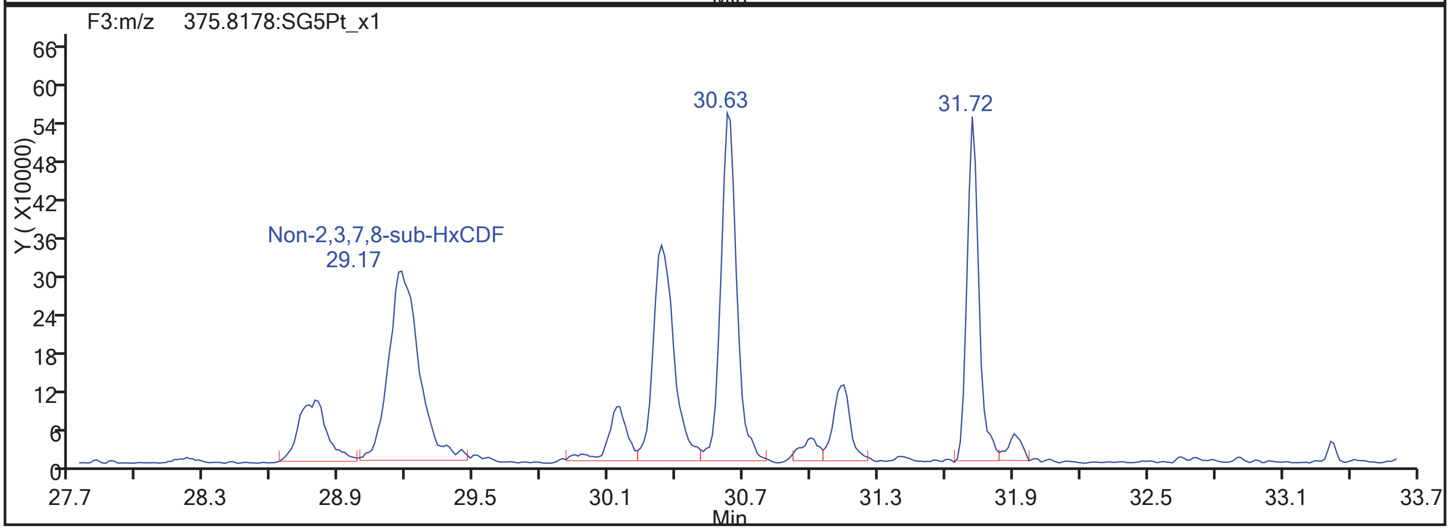


TestAmerica Sacramento

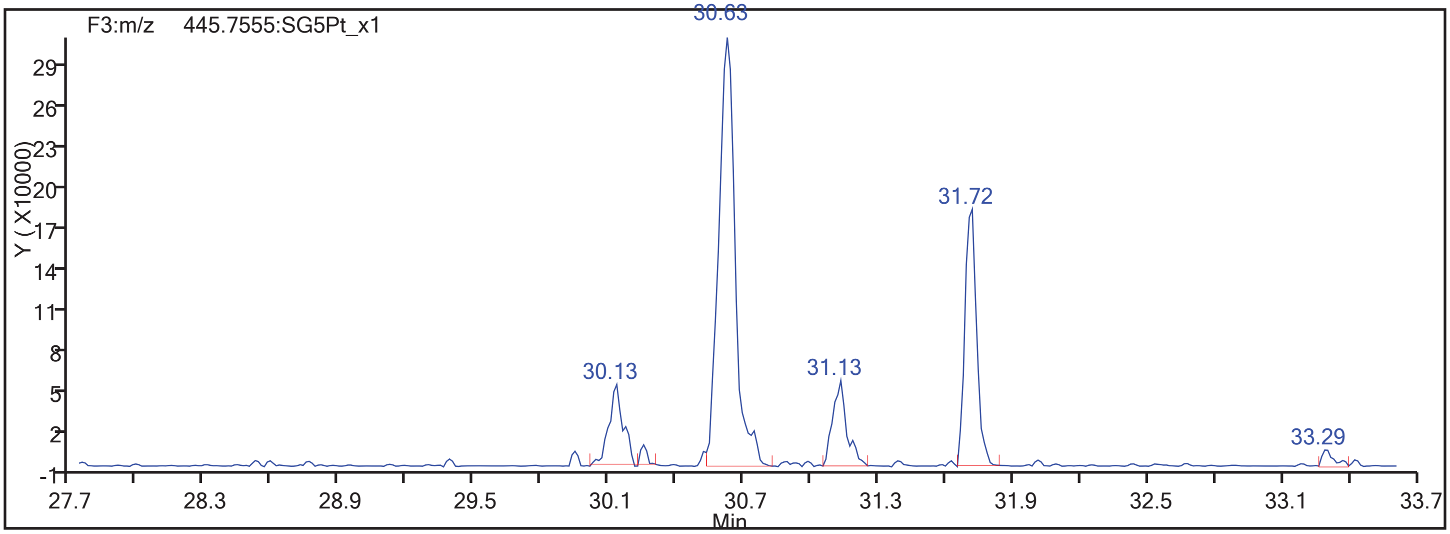
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Injection Date: 19-Nov-2017 14:15:23
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS01NS
Worklist#: 195575
Sample Line#: 84
Column Type:
Column Dia:

HxCDF





HxCDF Interference Mass

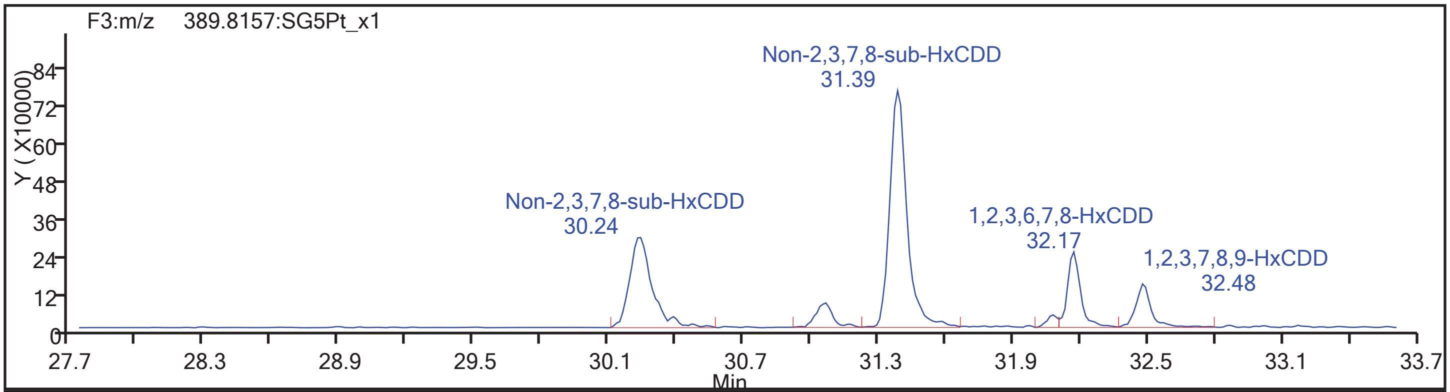


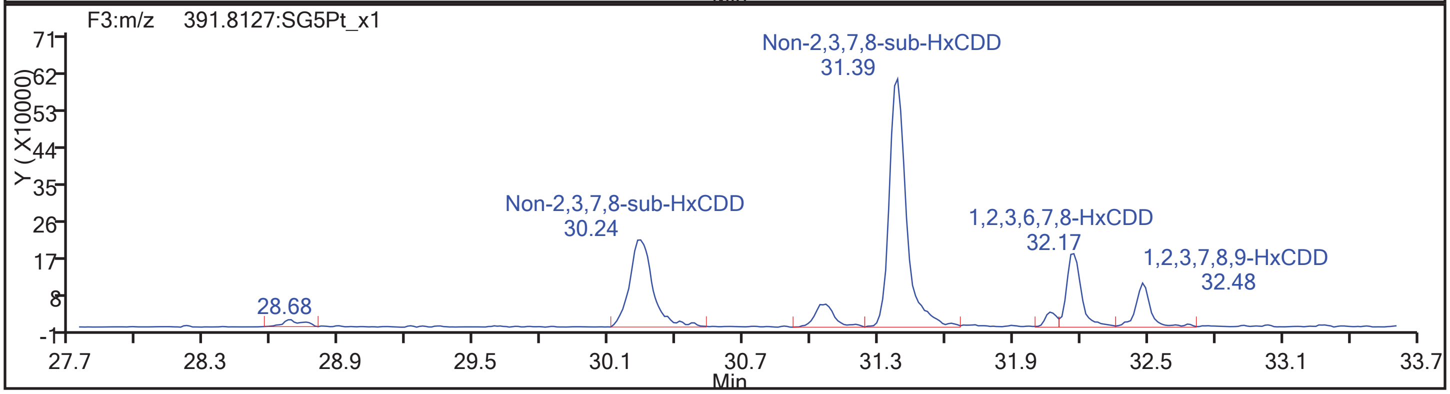
Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

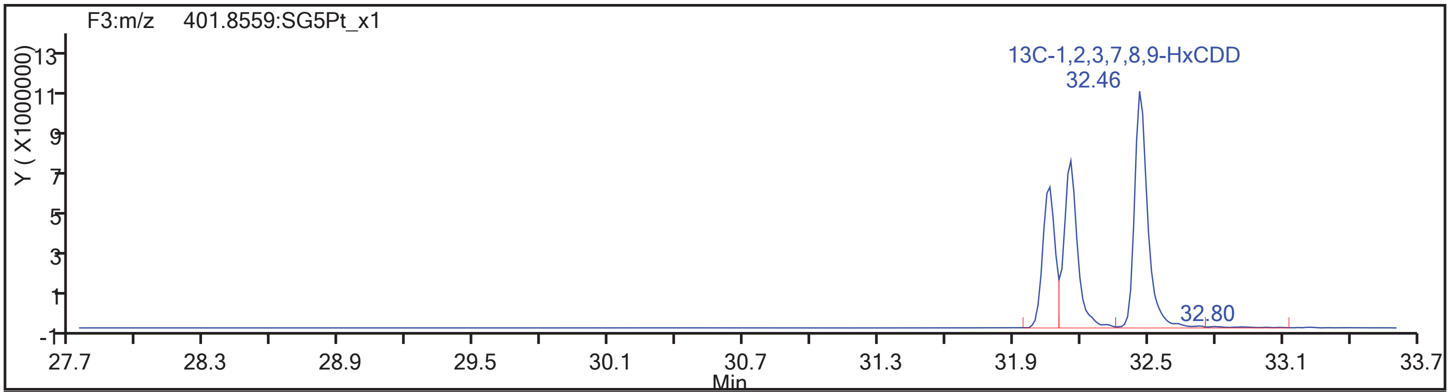
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d		
Injection Date:	19-Nov-2017 14:15:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	195575	Sample Line#:	84
Column Type:		Column Dia:	

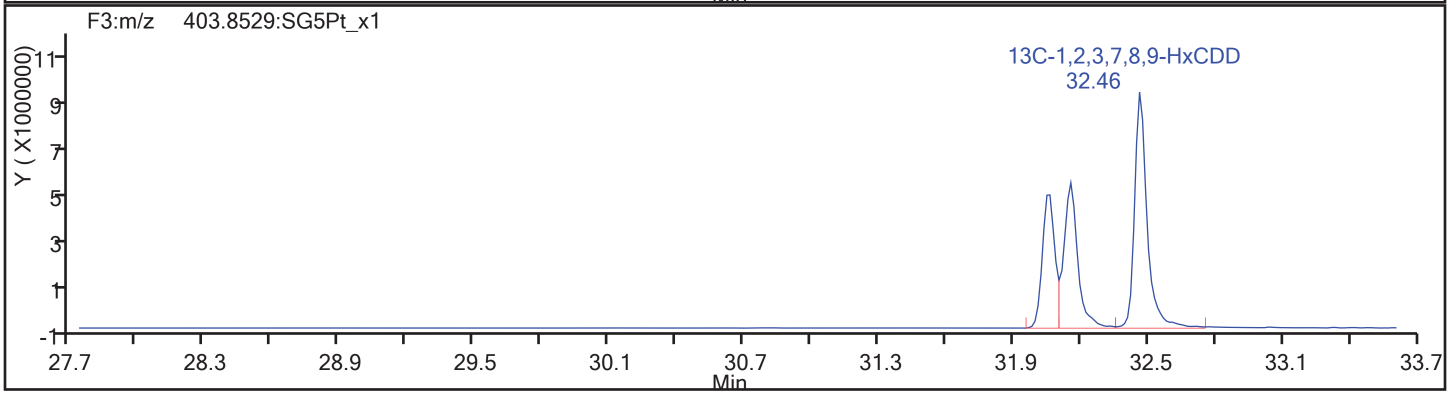
HxCDD





HxCDD Standards



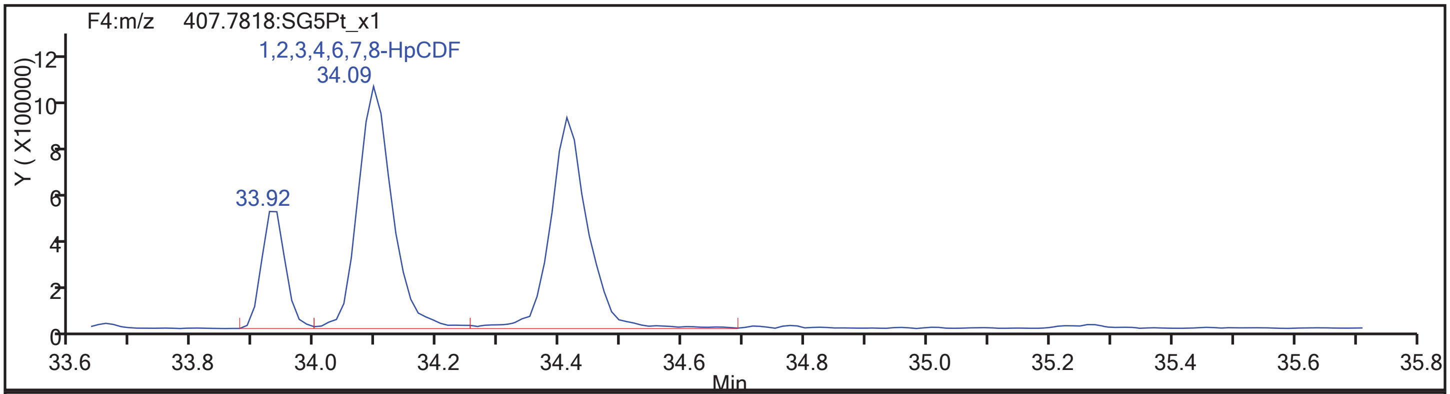


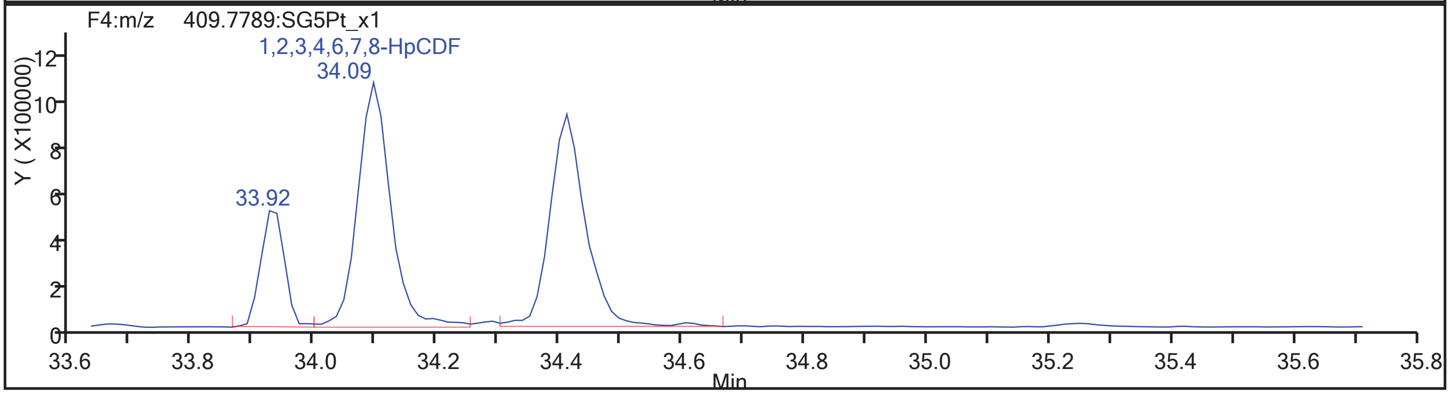
Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

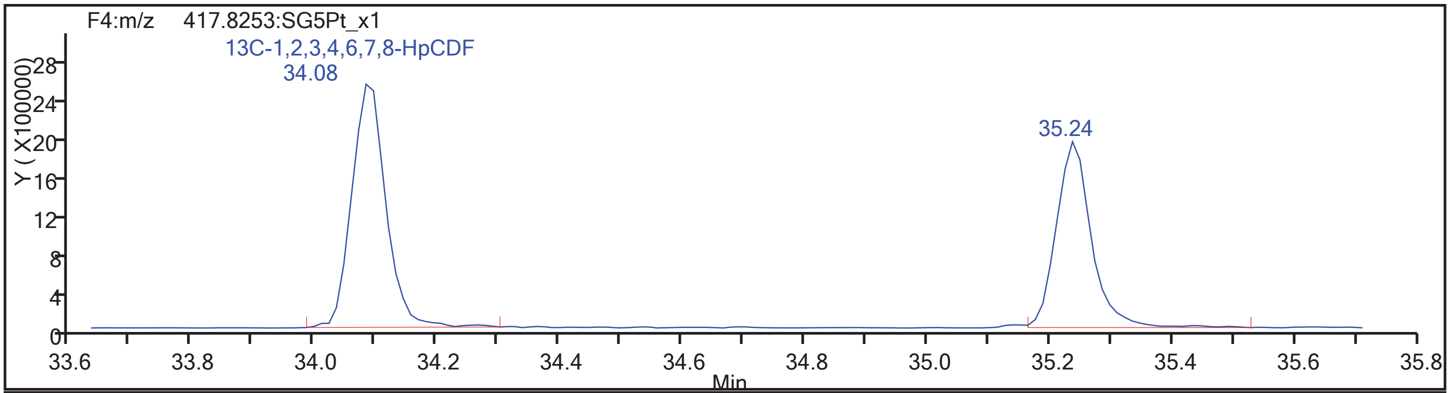
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Injection Date: 19-Nov-2017 14:15:23 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS01NS
Worklist#: 195575 Sample Line#: 84
Column Type: Column Dia:

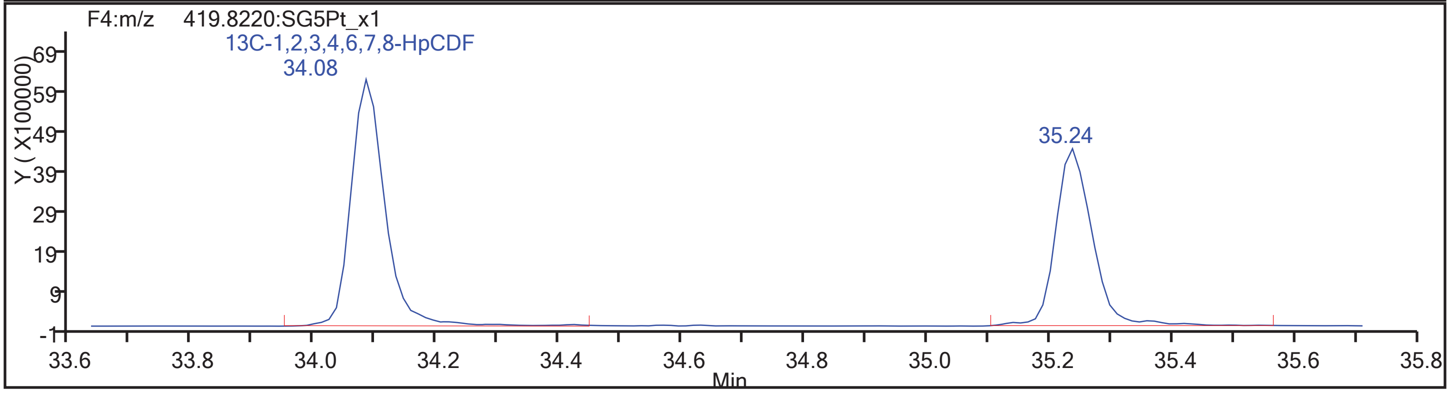
HpCDF





HpCDF Standards



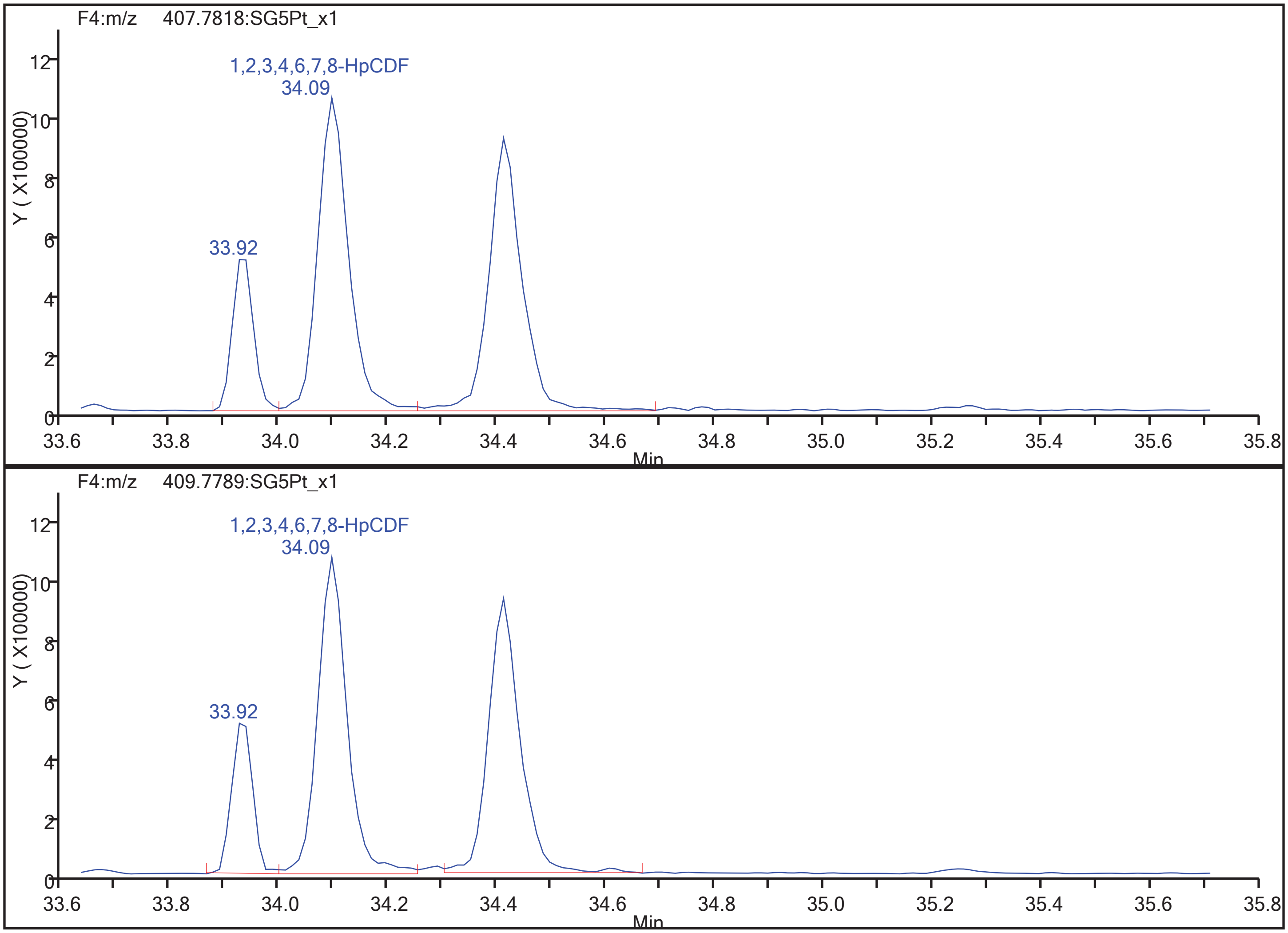


Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

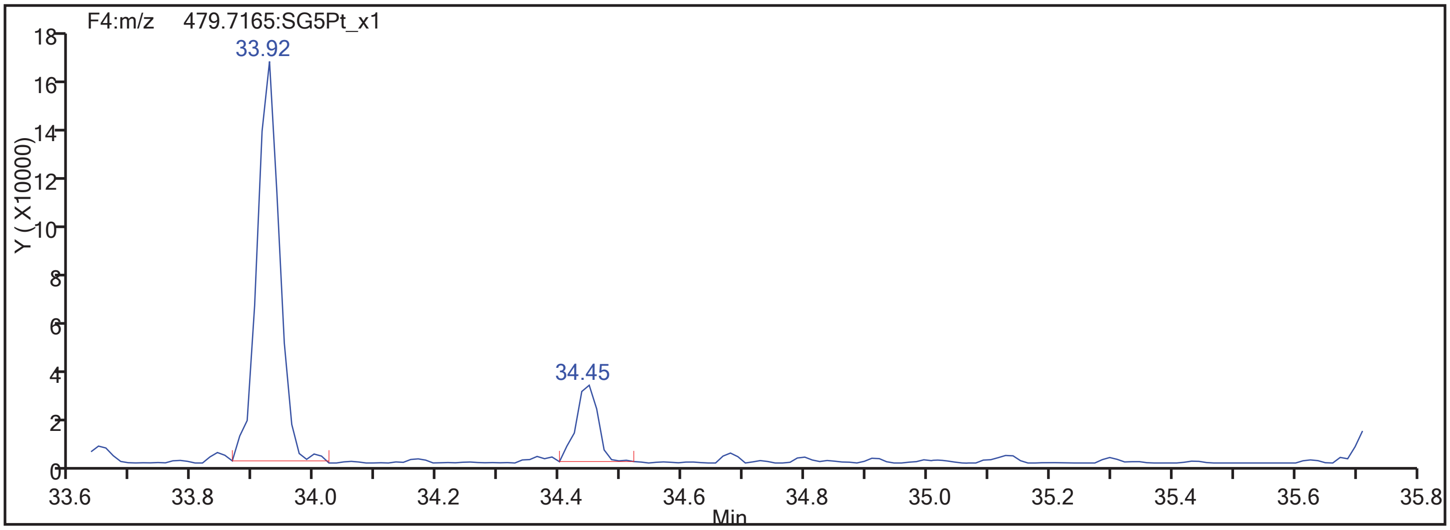
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Injection Date: 19-Nov-2017 14:15:23 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS01NS
Worklist#: 195575 Sample Line#: 84
Column Type: Column Dia:

HpCDF



HpCDF Interference Mass



Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d

Injection Date: 19-Nov-2017 14:15:23

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS01NS

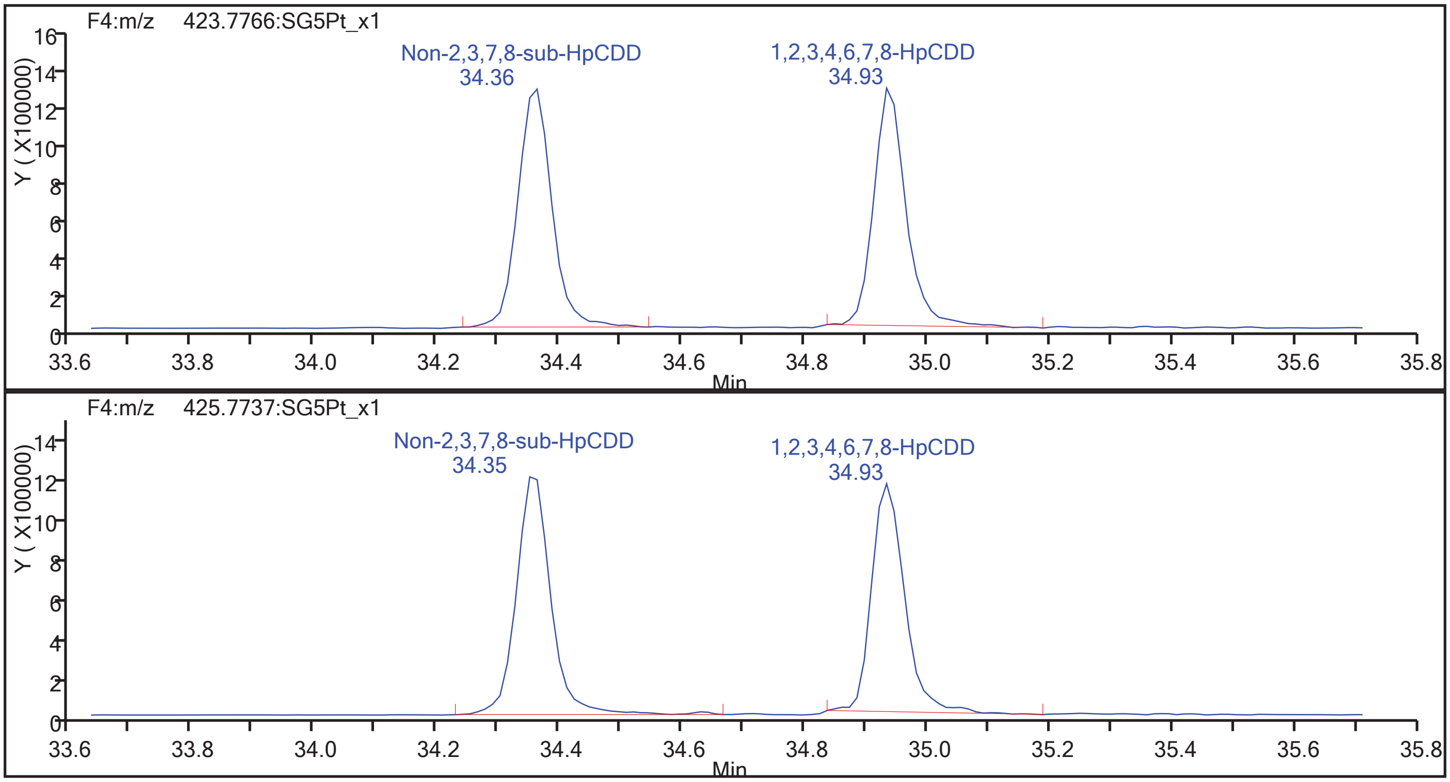
Worklist#: 195575

Sample Line#: 84

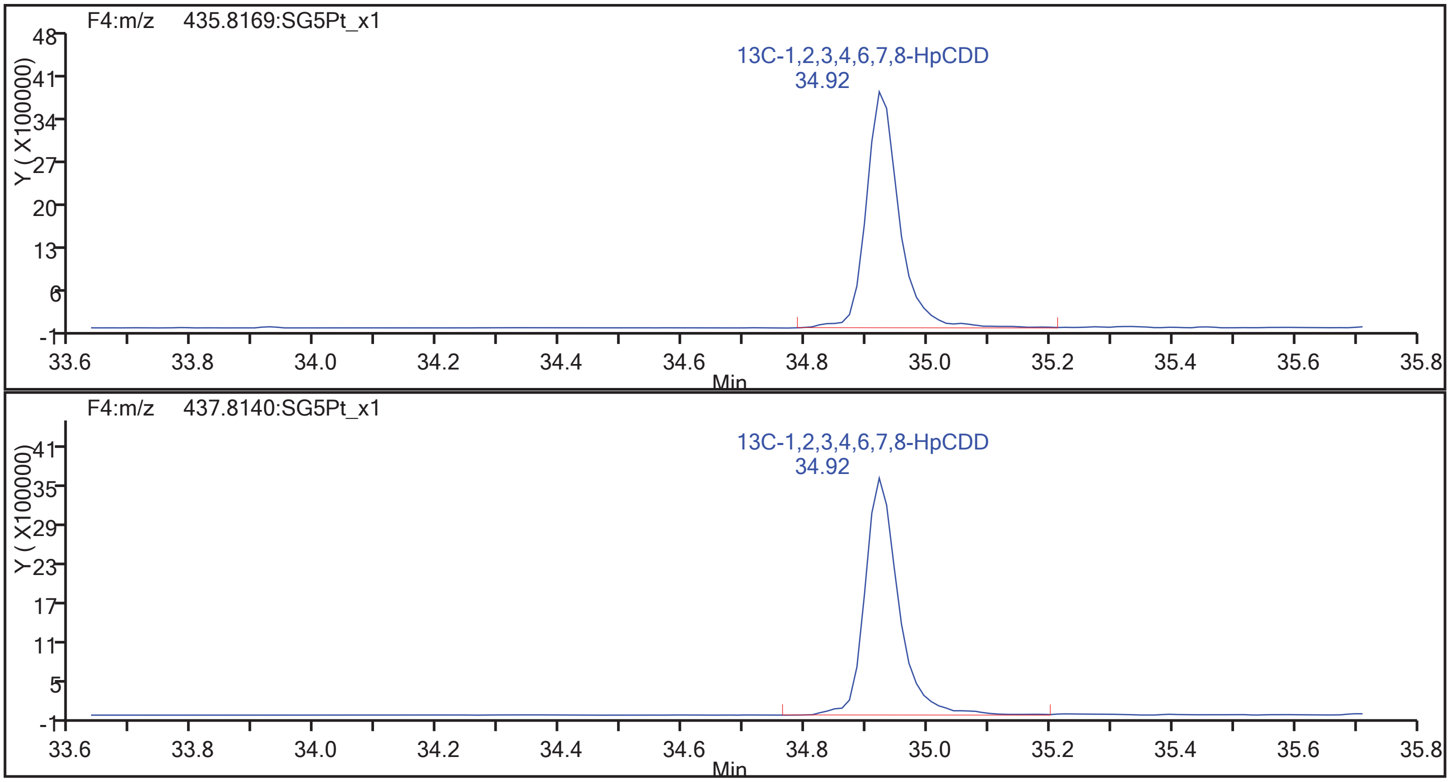
Column Type:

Column Dia:

HpCDD



HpCDD Standards

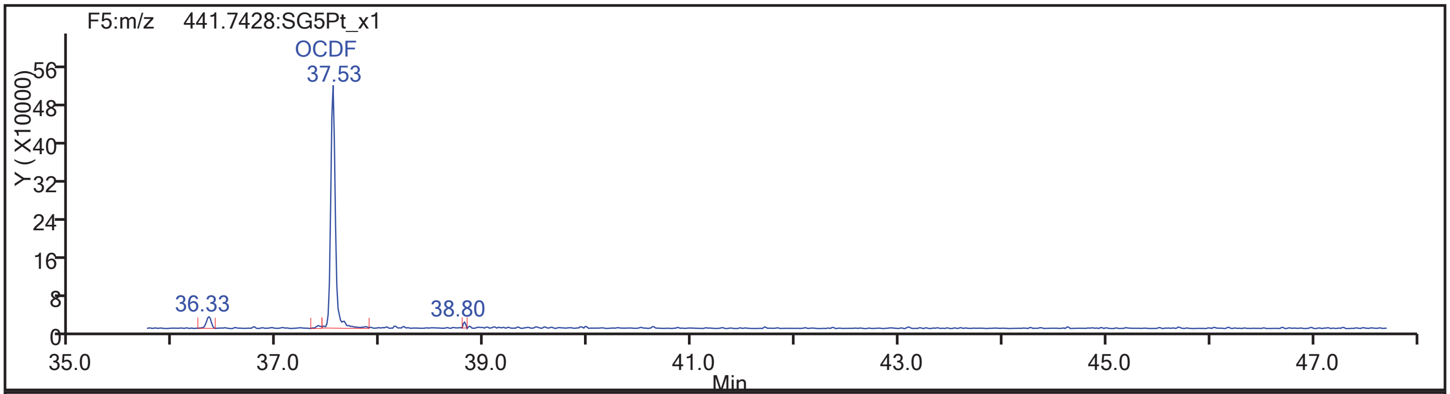


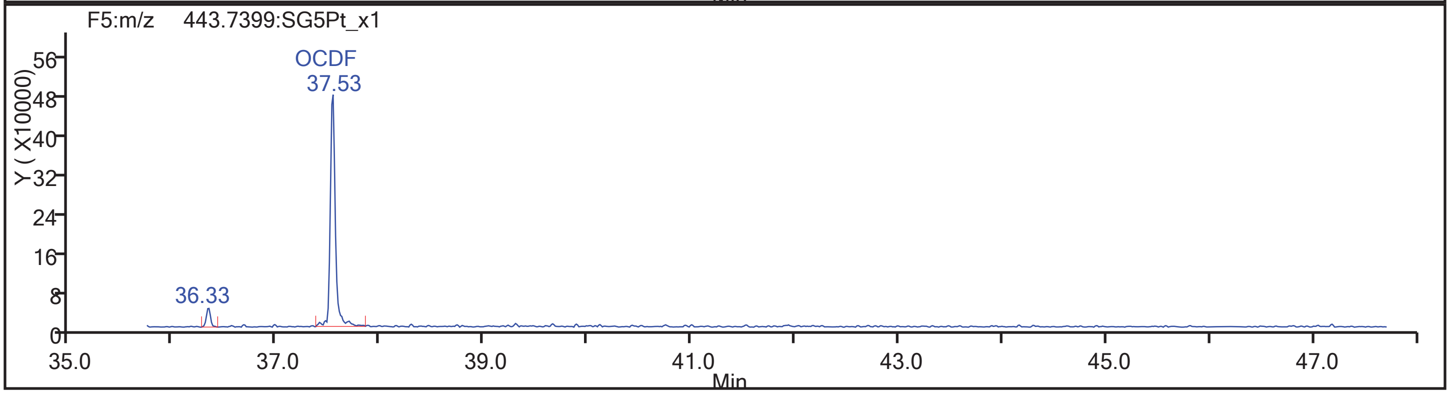
Report Date: 06-Dec-2017 15:06:43 | Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

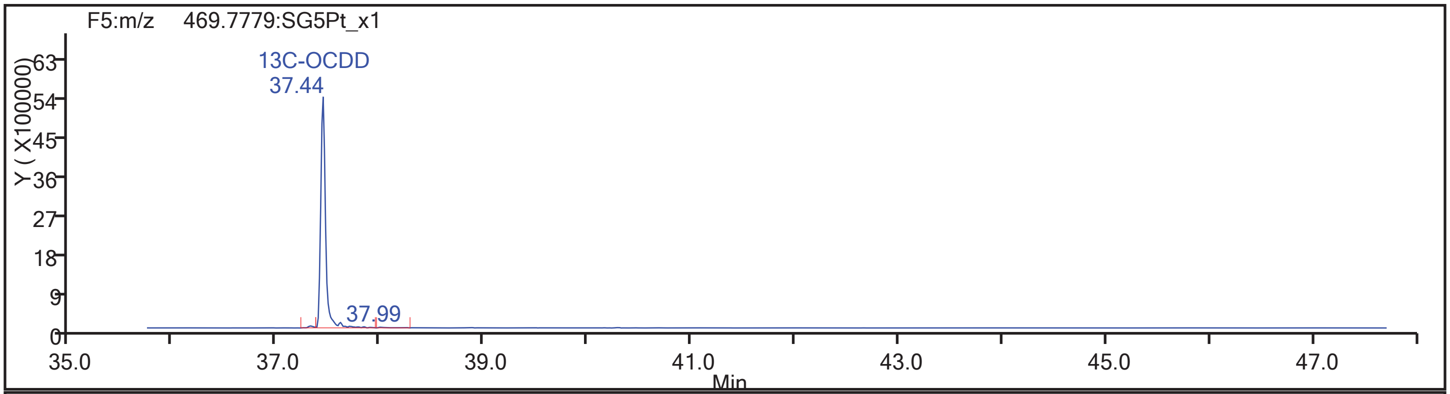
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d		
Injection Date:	19-Nov-2017 14:15:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	195575	Sample Line#:	84
Column Type:		Column Dia:	

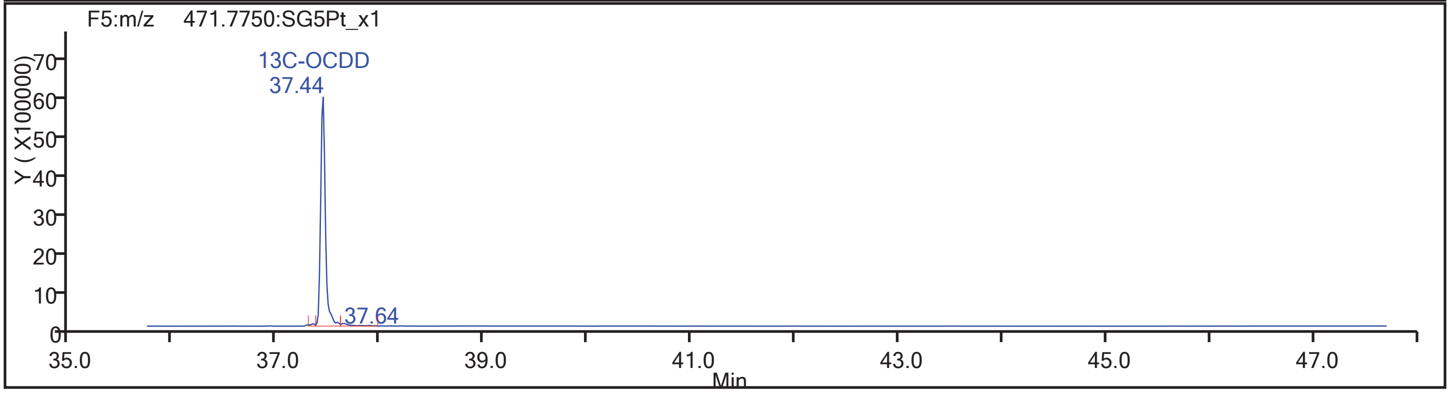
OCDF





OCDF Standards

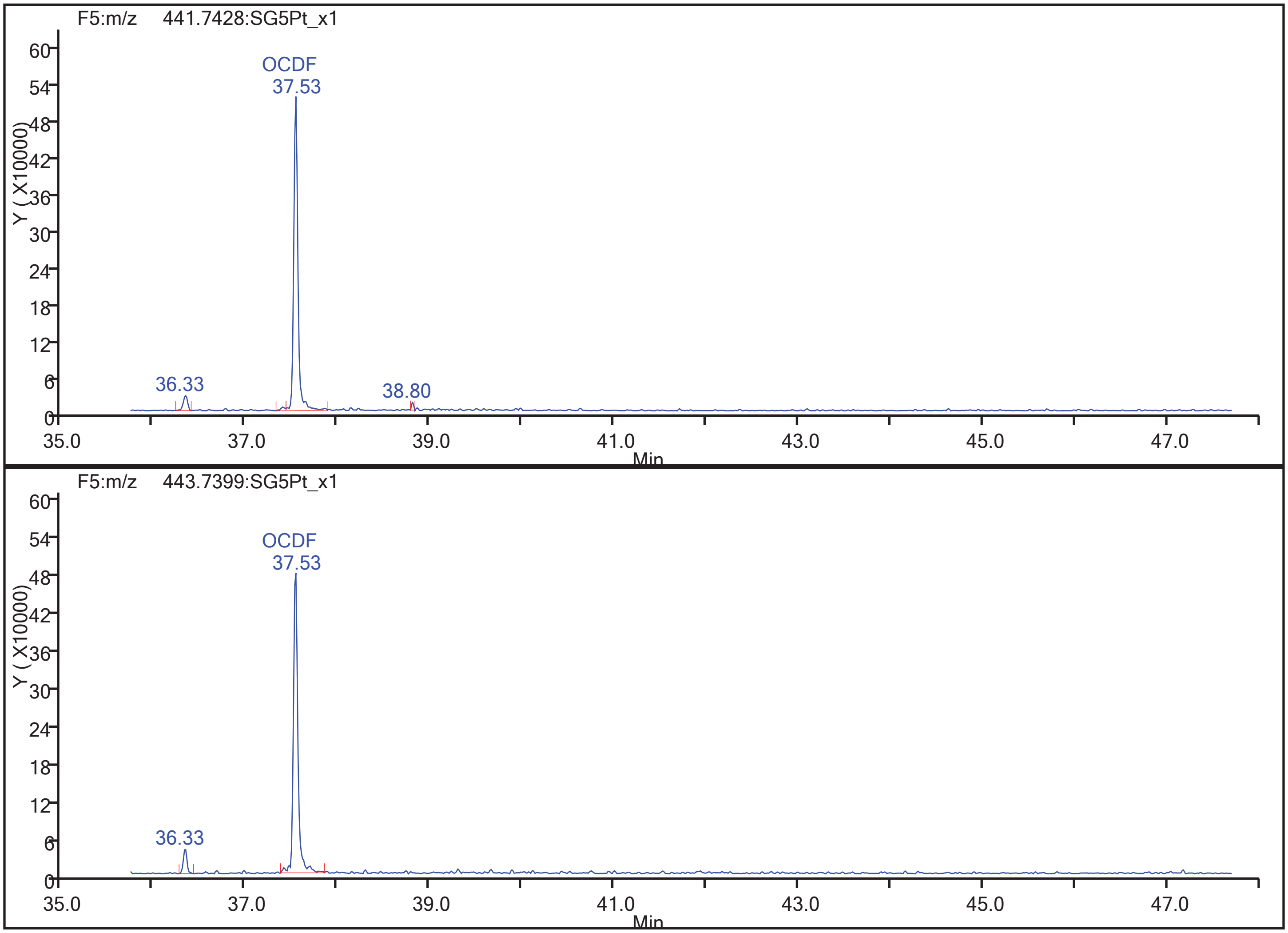




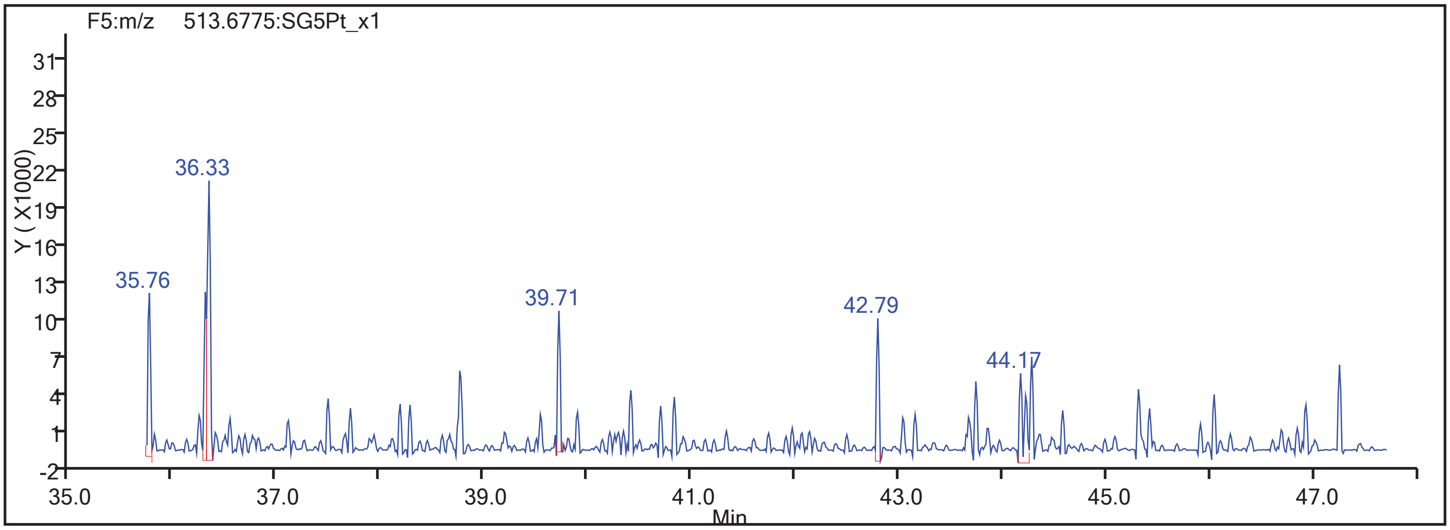
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Injection Date: 19-Nov-2017 14:15:23
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS01NS
Worklist#: 195575
Sample Line#: 84
Column Type:
Column Dia:

OCDF



OCDF Interference Mass

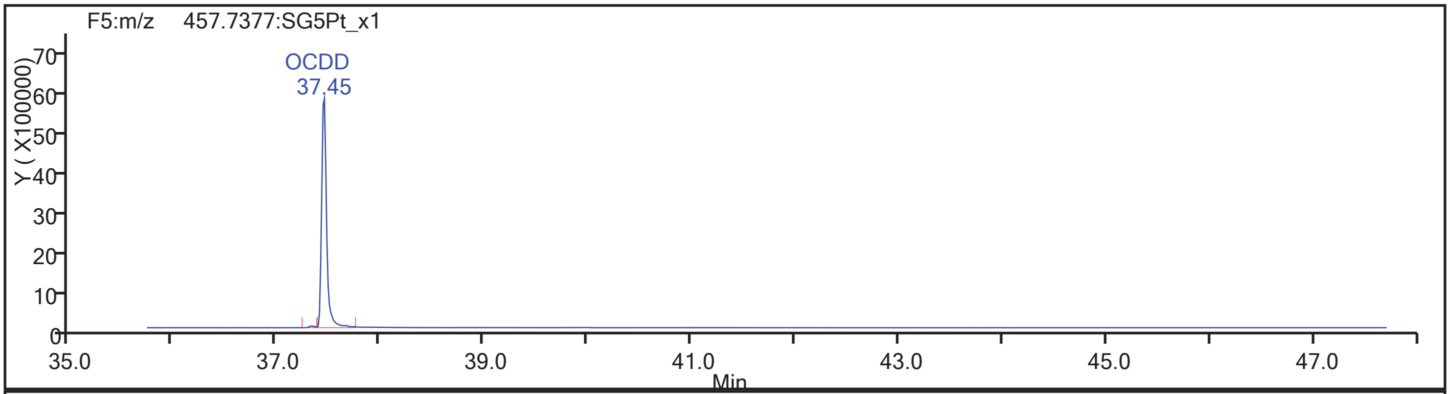


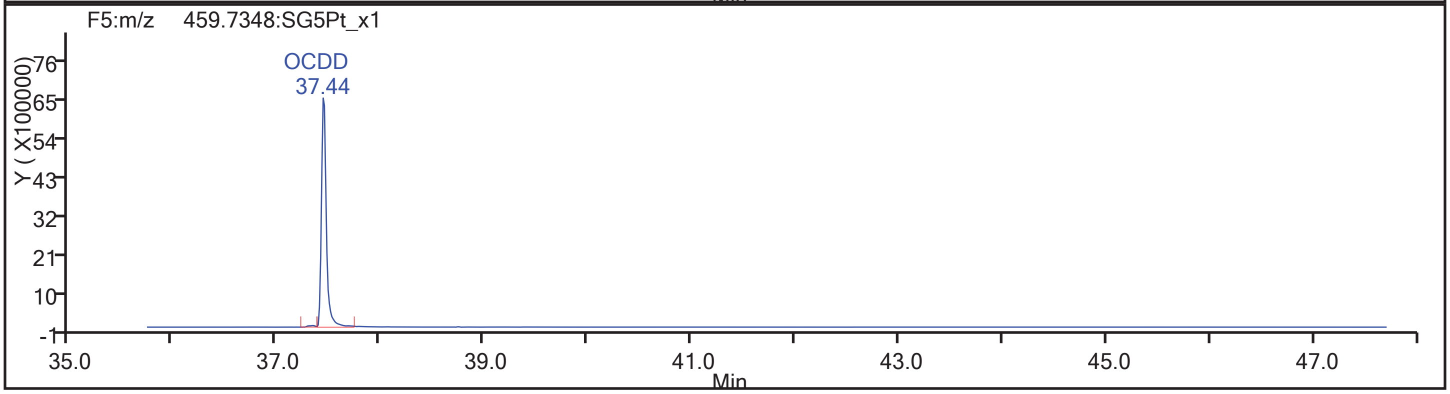
Report Date: 06-Dec-2017 15:06:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

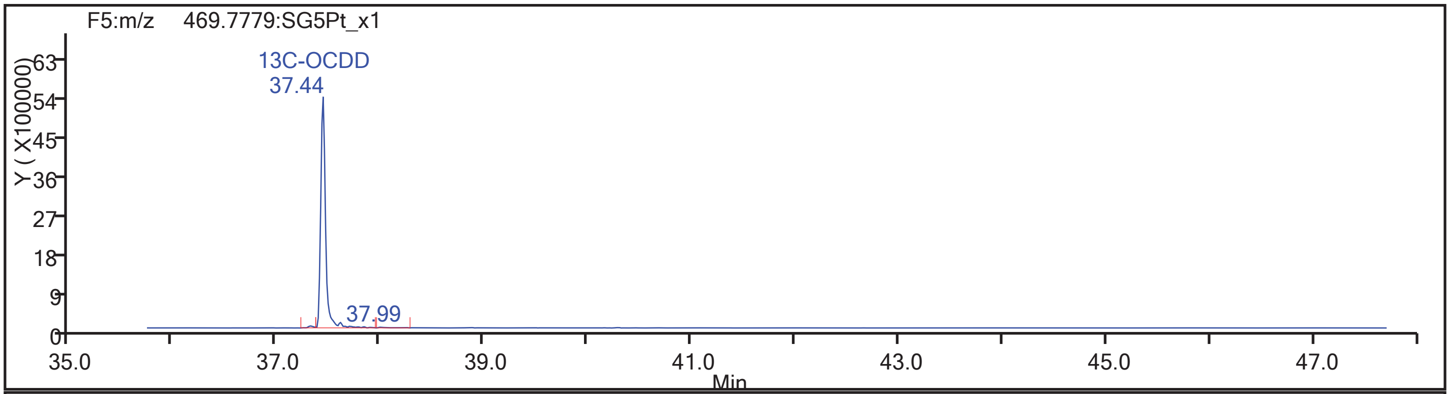
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d		
Injection Date:	19-Nov-2017 14:15:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	195575	Sample Line#:	84
Column Type:		Column Dia:	

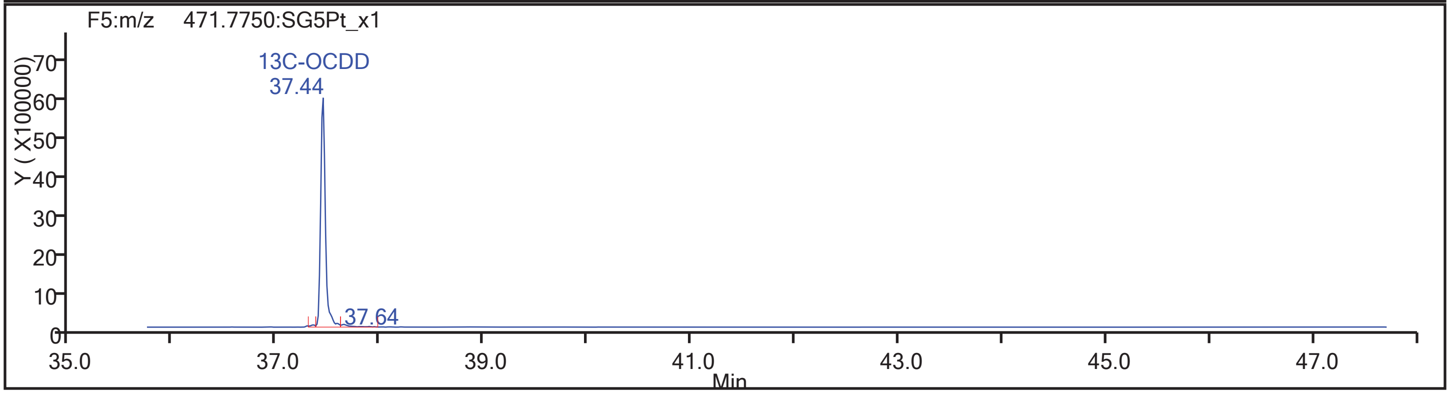
OCDD





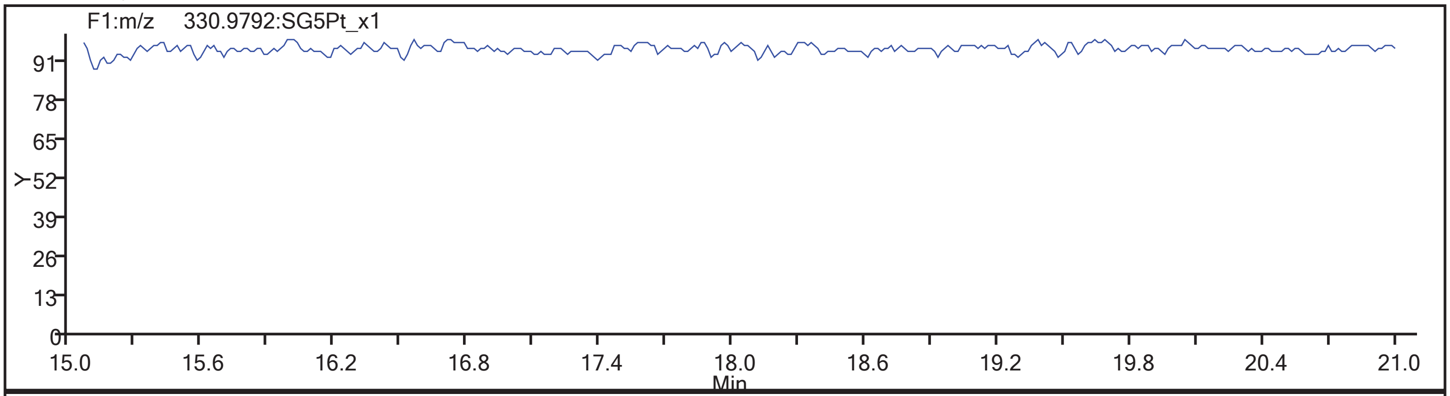
OCDD Standards

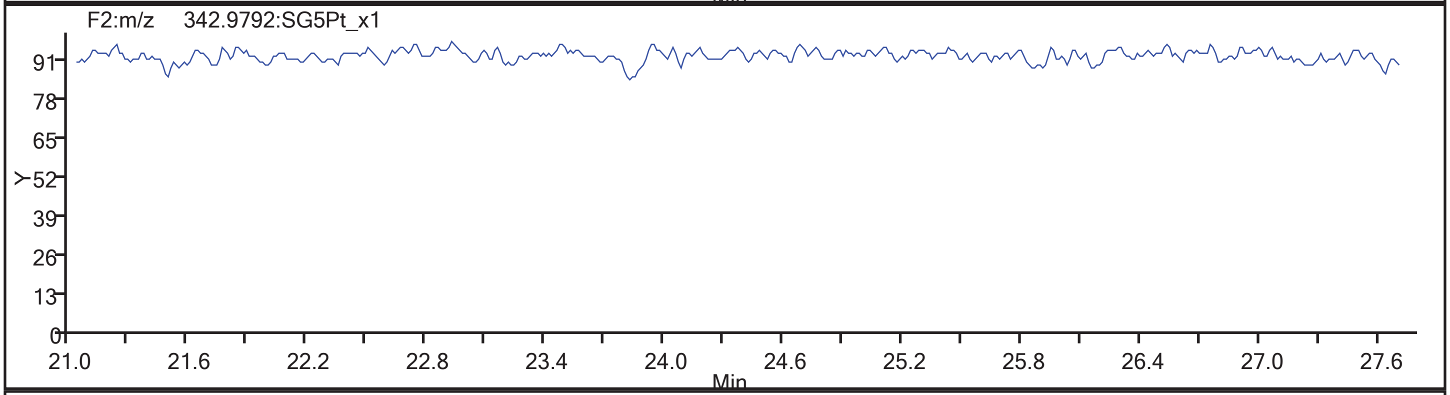


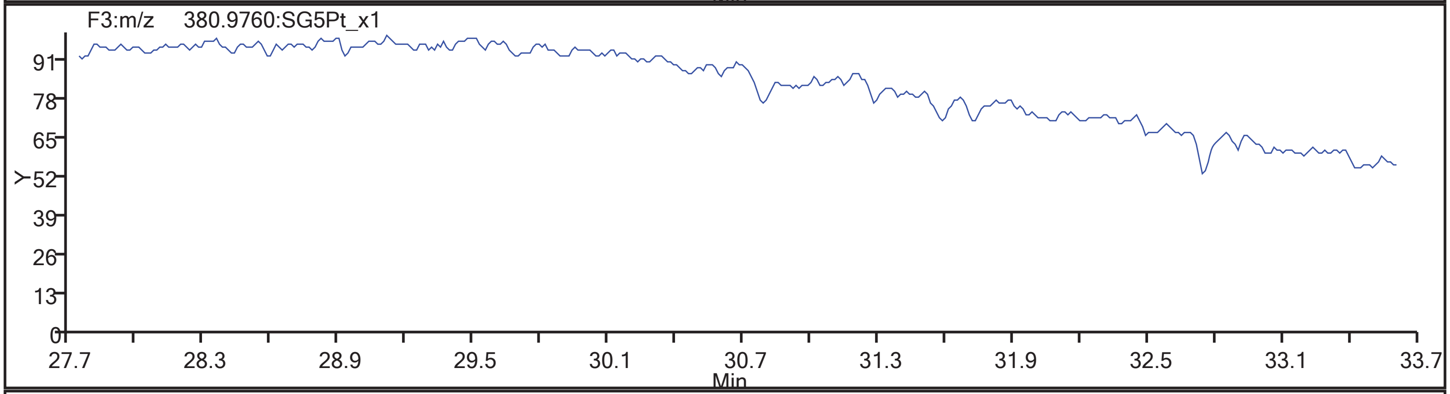


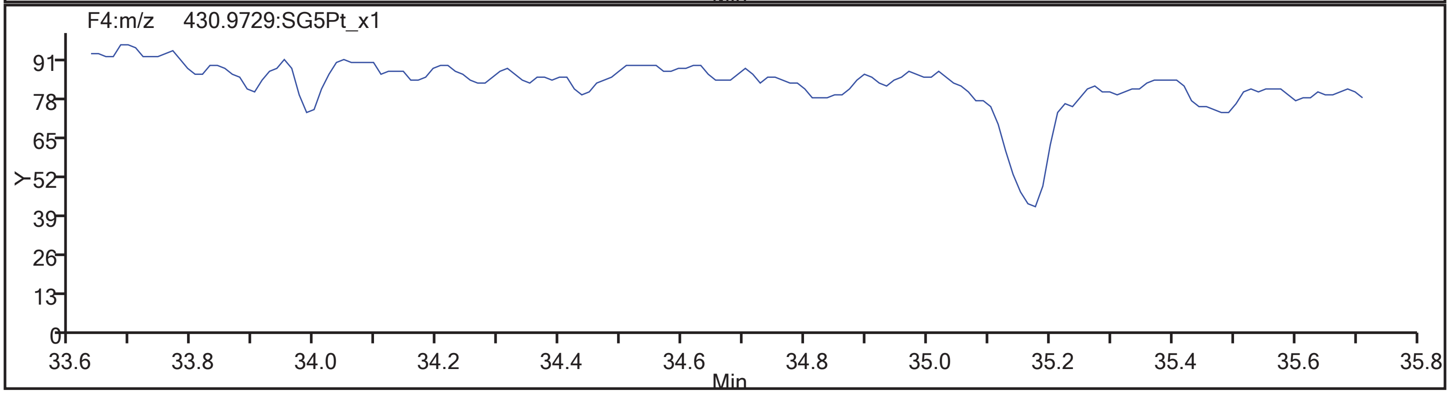
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d
Injection Date: 19-Nov-2017 14:15:23
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS01NS
Worklist#: 195575
Sample Line#: 84
Column Type:
Column Dia:





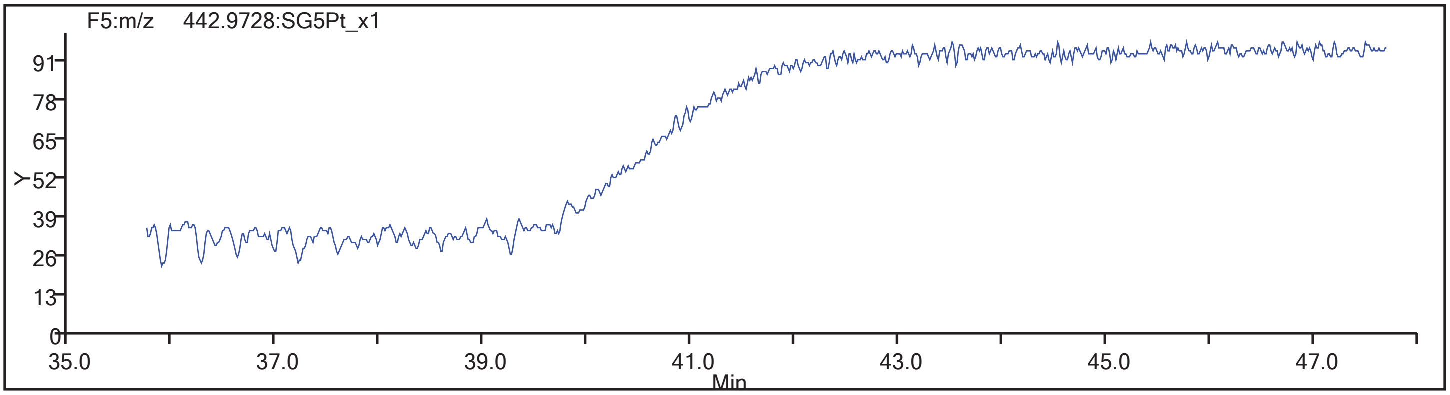




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_84.d

Injection Date:	19-Nov-2017 14:15:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS01NS		
Worklist#:	195575	Sample Line#:	84
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP013SS02NS RA	Lab Sample ID: 160-24924-14 RA
Matrix: Solid	Lab File ID: 07NO17A9D2_007.d
Analysis Method: 8290A	Date Collected: 10/05/2017 14:34
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.10(g)	Date Analyzed: 11/08/2017 02:35
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 5.5	GPC Cleanup:(Y/N) N
Analysis Batch No.: 193641	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	2,3,7,8-TCDF	0.42	U	1.0	0.42	0.25

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	67		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_007.d				
Lims ID:	160-24924-G-14-A				
Client ID:	SHAD041DP013SS02NS				
Sample Type:	Client				
Inject. Date:	08-Nov-2017 02:35:15	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-14-A				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 17:09:06	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				

First Level Reviewer: shardaa Date: 09-Nov-2017 17:08:20

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.992	298565109	0.80	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.117	252601377	0.83	1.2599	67.2	67.2	0.1642	0.1642	67.15	
2,3,7,8-TCDF	16.117						0.1217	0.1217		
D 13C-2,3,7,8-TCDD	14.732	167779083	0.82	0.9567	58.7	58.7	0.4983	0.4983	58.74	
2,3,7,8-TCDD	14.731						0.0747	0.0747		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

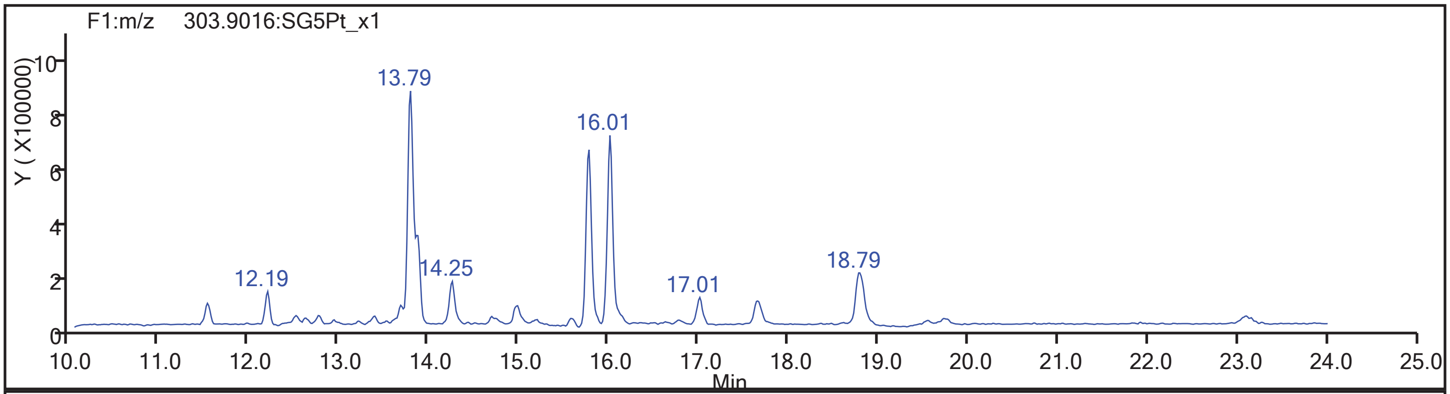
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_007.d				
Lims ID:	160-24924-G-14-A				
Client ID:	SHAD041DP013SS02NS				
Sample Type:	Client				
Inject. Date:	08-Nov-2017 02:35:15	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-14-A				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 17:09:06	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				
First Level Reviewer: shardaa		Date:	09-Nov-2017 17:08:20		

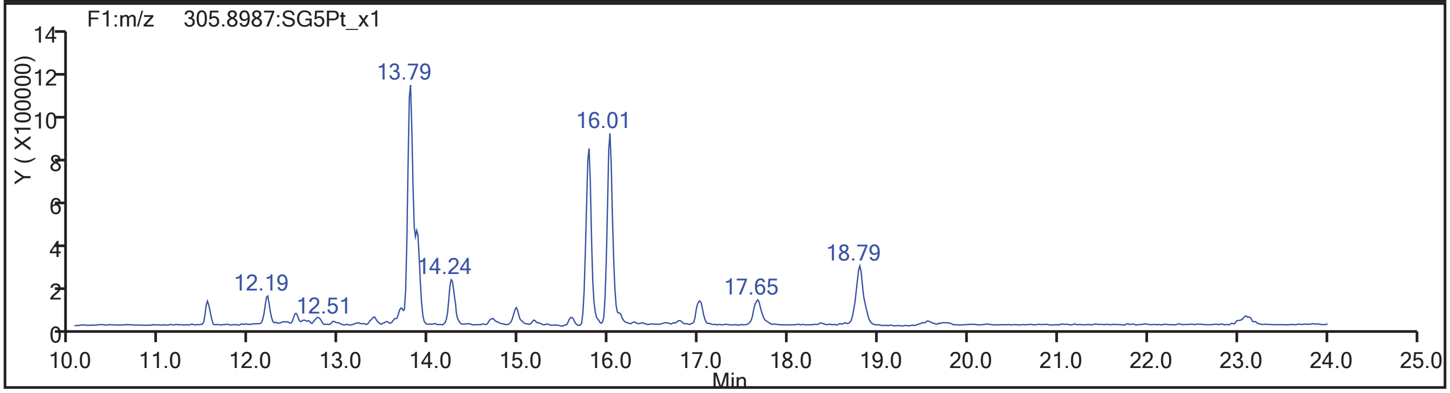
Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.992	14.978	1		132606185	29444392	82825	207062	356		
333.9339	14.992	14.978	1		165958924	37197087	44253	110632	841	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.117	16.103	1	1.075	114483605	22940480	28894	72235	794		
317.9389	16.117	16.103	1	1.075	138117772	27957563	26245	65612	1065	0.83(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.117						17335	43337			
305.8987	16.117						9385	23462			
13C-2,3,7,8-TCDD											
331.9368	14.732	14.717	1	0.983	75666354	17111916	82825	207062	207		
333.9339	14.732	14.717	1	0.983	92112729	20733506	44253	110632	469	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.731						6248	15620			
321.8936	14.731						6334	15835			
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				17335	43337			
Total Dioxins & Furans											
303.9016		0.0	0				17335	43337			

TestAmerica Sacramento

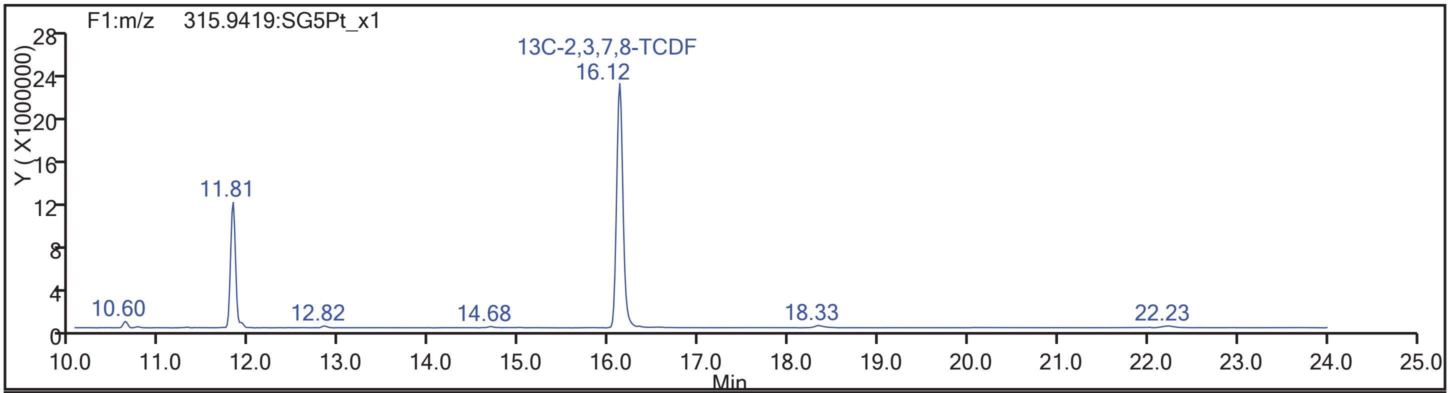
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_007.d		
Injection Date:	08-Nov-2017 02:35:15	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	193641	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

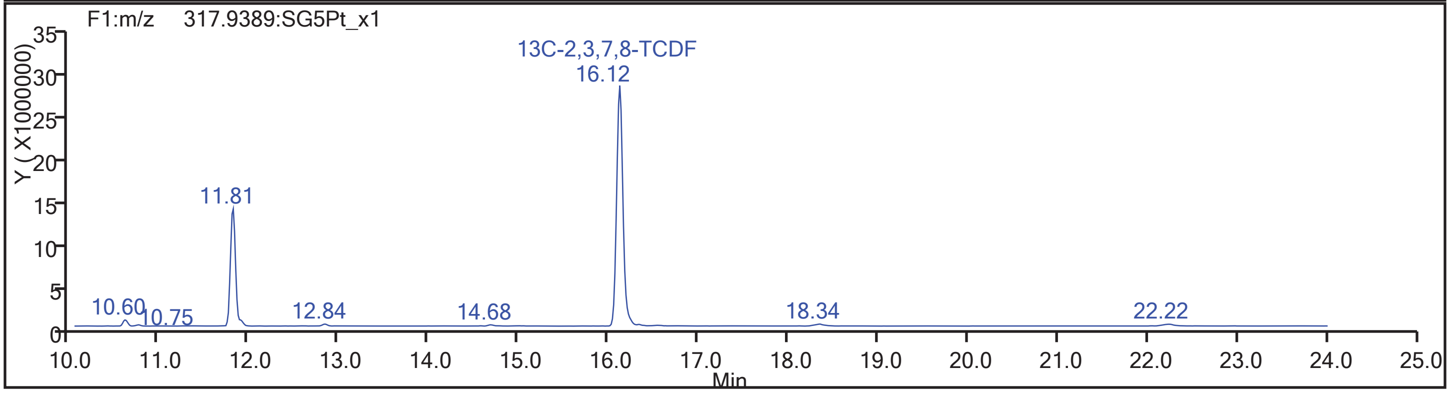
TCDF





TCDF Standards



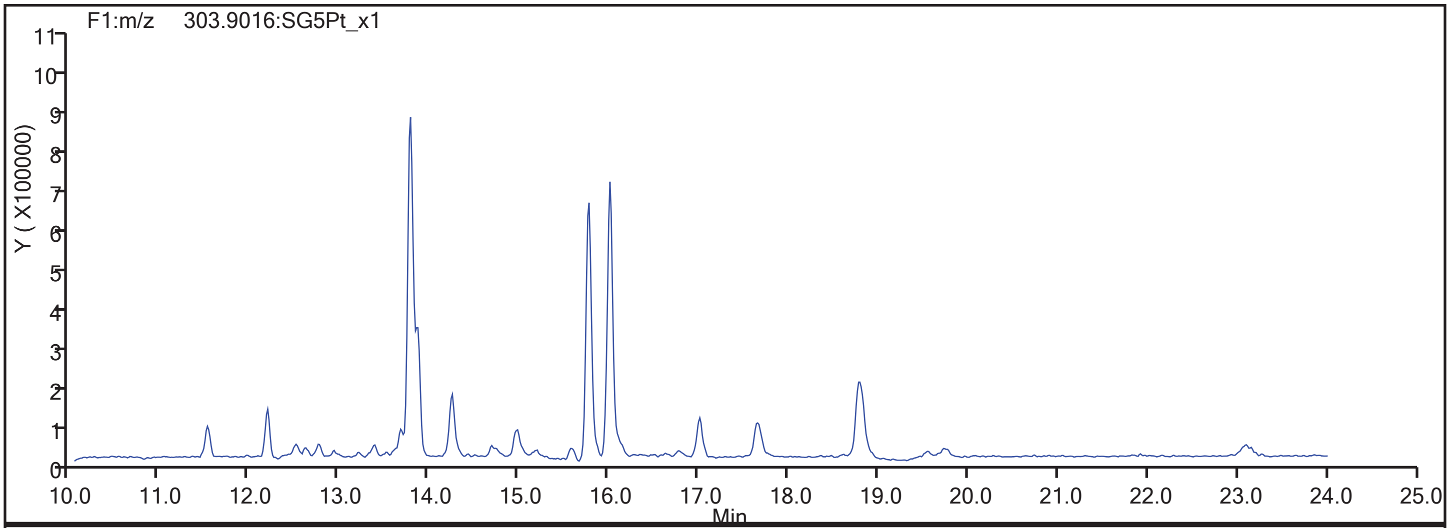


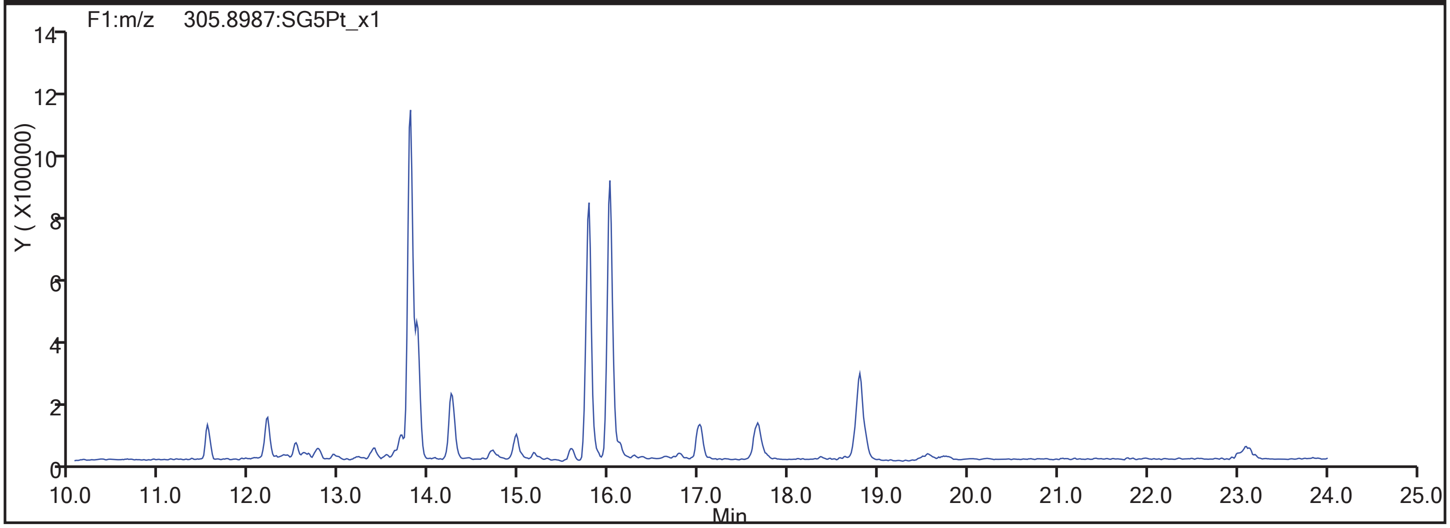
Report Date: 09-Nov-2017 17:09:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

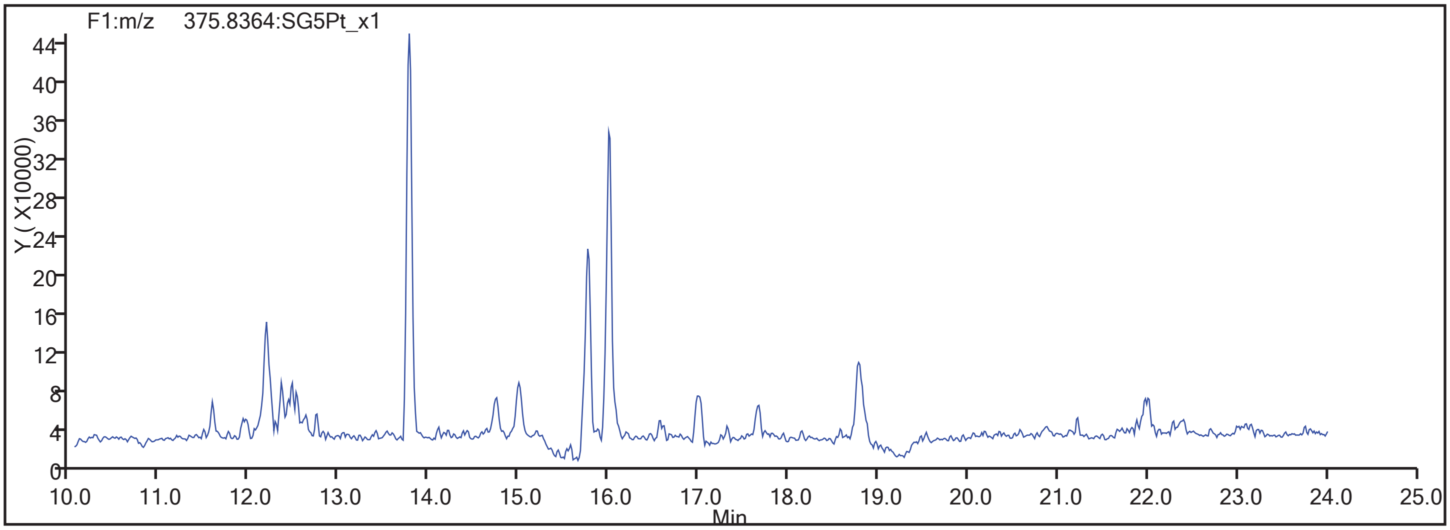
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_007.d		
Injection Date:	08-Nov-2017 02:35:15	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	193641	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





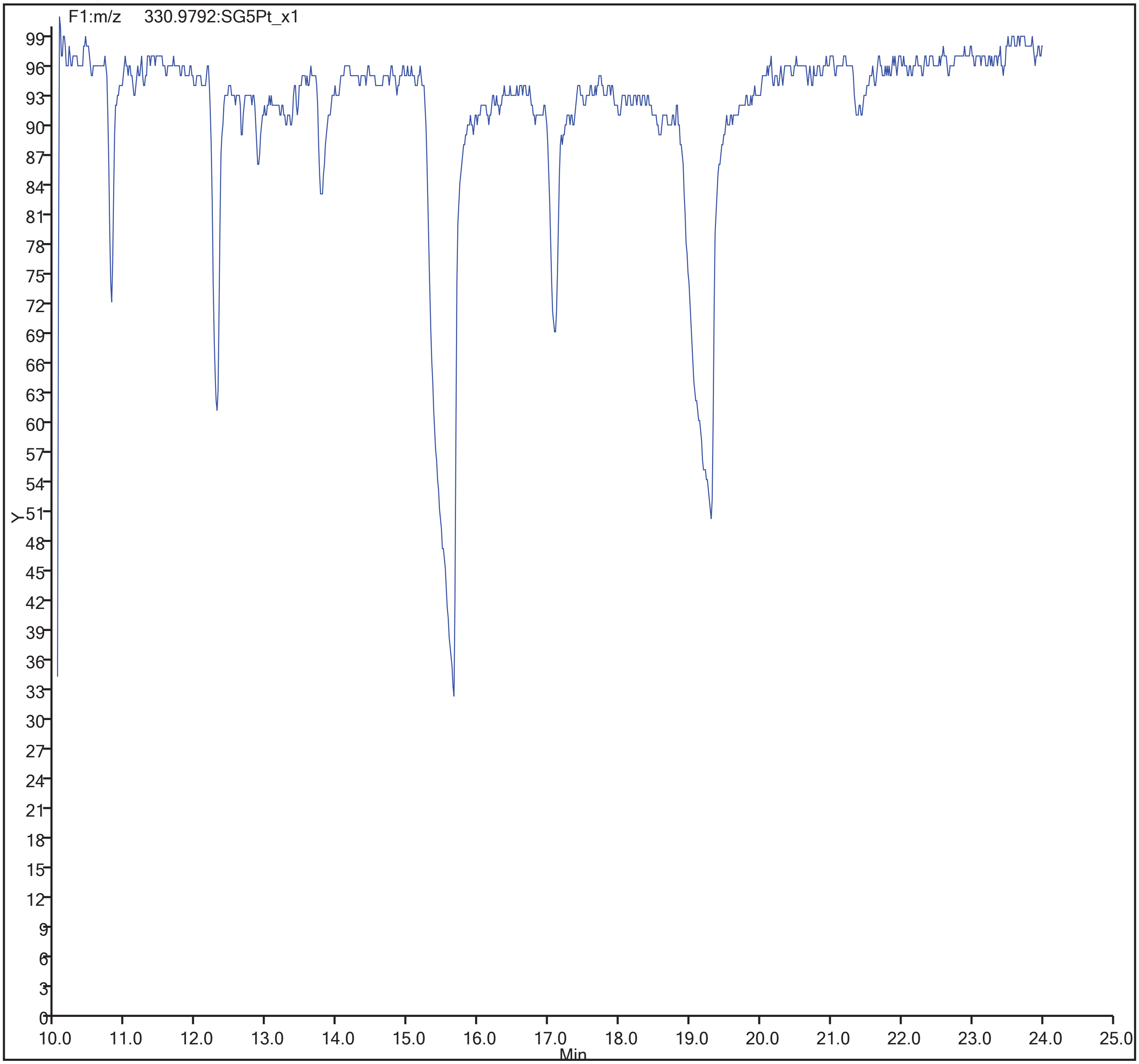
TCDF Interference Mass



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_007.d

Injection Date:	08-Nov-2017 02:35:15	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	193641	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP013SS02NS	Lab Sample ID: 160-24924-14
Matrix: Solid	Lab File ID: 13NO1710D5_34.d
Analysis Method: 8290A	Date Collected: 10/05/2017 14:34
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.10(g)	Date Analyzed: 11/14/2017 14:54
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 5.5	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194429	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.42	U	1.0	0.42	0.093
40321-76-4	1,2,3,7,8-PeCDD	0.25	J	5.2	0.79	0.094
57117-41-6	1,2,3,7,8-PeCDF	0.79	U	5.2	0.79	0.12
57117-31-4	2,3,4,7,8-PeCDF	0.79	U	5.2	0.79	0.12
39227-28-6	1,2,3,4,7,8-HxCDD	0.33	J M	5.2	2.1	0.087
57653-85-7	1,2,3,6,7,8-HxCDD	0.88	J M	5.2	2.1	0.067
19408-74-3	1,2,3,7,8,9-HxCDD	0.98	J	5.2	2.1	0.066
70648-26-9	1,2,3,4,7,8-HxCDF	0.79	U	5.2	0.79	0.13
57117-44-9	1,2,3,6,7,8-HxCDF	0.54	J	5.2	1.0	0.11
72918-21-9	1,2,3,7,8,9-HxCDF	1.0	U	5.2	1.0	0.13
60851-34-5	2,3,4,6,7,8-HxCDF	0.79	U	5.2	0.79	0.10
35822-46-9	1,2,3,4,6,7,8-HpCDD	6.8		5.2	1.0	0.13
67562-39-4	1,2,3,4,6,7,8-HpCDF	2.2	J	5.2	1.0	0.12
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.1	U	5.2	2.1	0.14
3268-87-9	OCDD	49	B	10	4.2	0.15
39001-02-0	OCDF	3.2	J	10	4.2	0.086

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	58		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	63		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	61		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	55		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	62		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	56		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	42		40-135
114423-97-1	13C-OCDD	46		40-135

Report Date: 16-Nov-2017 10:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d
Lims ID: 160-24924-G-14-A
Client ID: SHAD041DP013SS02NS
Sample Type: Client
Inject. Date: 14-Nov-2017 14:54:35 ALS Bottle#: 33 Worklist Smp#: 34
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-14-a RI 160-24924-g-14-a RI
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 10:04:07 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK012

First Level Reviewer: messecara Date: 15-Nov-2017 01:37:52

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.838	141788815	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.324	106259250	0.77	1.2741	58.8	58.8	0.1822	0.1822	58.82	
2,3,7,8-TCDF	17.354	108626	0.82	1.1341	0.0901	0.0901	0.0517	0.0517		
A Non-2,3,7,8-sub-TCDF	17.022	2315834	0.78	1.1341	1.922	1.922	0.0517	0.7880		M
S Total TCDF					2.012	2.012	0.0517	0.0517		
D 13C-2,3,7,8-TCDD	18.035	81684361	0.77	0.9921	58.1	58.1	0.1879	0.1879	58.07	
2,3,7,8-TCDD	18.020						0.0442	0.0442		
A Non-2,3,7,8-sub-TCDD	17.468	7062414	0.79	0.9993	8.652	8.652	0.0442	4.306		
S Total TCDD					8.652	8.652	0.0442	0.0442		
D 13C-1,2,3,7,8-PeCDF	22.342	83955481	1.54	0.9696	61.1	61.1	0.1685	0.1685	61.07	
1,2,3,7,8-PeCDF	22.328						0.0564	0.0564		
2,3,4,7,8-PeCDF	23.664						0.0575	0.0575		
A F1 PeCDFs	19.948	1417183	1.50	1.1511	1.466	1.466	0.0264	1.466		
A Non-2,3,7,8-sub-PeCDF	23.086	728053	1.55	1.1511	0.8081	0.7533	0.0569	0.5701		RQ
S Total PeCDF					2.274	2.220	0.0569	0.0569		RQ
D 13C-1,2,3,7,8-PeCDD	24.401	67755226	1.57	0.7588	63.0	63.0	0.0977	0.0977	62.98	
1,2,3,7,8-PeCDD	24.442	76980	1.38	0.9490	0.1197	0.1197	0.0450	0.0450		
A Non-2,3,7,8-sub-PeCDD	23.290	1152942	1.55	0.9490	1.912	1.793	0.0450	0.5761		RQ
S Total PeCDD					2.032	1.913	0.0450	0.0450		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.500	63683087	0.51	0.9644	61.5	61.5	0.4167	0.4167	61.54	
1,2,3,4,7,8-HxCDF	30.487						0.0630	0.0630		
1,2,3,6,7,8-HxCDF	30.700	279990	1.11	1.6951	0.2594	0.2594	0.0520	0.0520		
2,3,4,6,7,8-HxCDF	31.525						0.0580	0.0489		RQMU
D 13C-1,2,3,7,8,9-HxCDF	32.310	61475446	0.51							
1,2,3,7,8,9-HxCDF	32.297						0.0626	0.0626		
A Non-2,3,7,8-sub-HxCDF	30.141	1681536	1.27	1.5067	1.752	1.752	0.0586	0.6297		
S Total HxCDF					2.012	2.012	0.0589	0.0589		
* 13C-1,2,3,7,8,9-HxCDD	32.124	107301579	1.25	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.698	78518	1.24	0.9505	0.1719	0.1580	0.0414	0.0414		RQM
D 13C-1,2,3,6,7,8-HxCDD	31.804	52268939	1.23	0.8791	55.4	55.4	0.3182	0.3182	55.41	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.818	271119	1.19	1.2343	0.4202	0.4202	0.0319	0.0319		M
1,2,3,7,8,9-HxCDD	32.137	303487	1.34	1.2467	0.4657	0.4657	0.0316	0.0316		
A Non-2,3,7,8-sub-HxCDD	30.779	2465600	1.23	1.1438	4.124	4.124	0.0344	2.132		
S Total HxCDD					5.182	5.168	0.0349	0.0349		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.734	34304592	0.42	0.7618	42.0	42.0	0.6743	0.6743	41.97	
1,2,3,4,6,7,8-HpCDF	33.746	594865	1.03	1.6399	1.057	1.057	0.0560	0.0560		
1,2,3,4,7,8,9-HpCDF	34.803						0.0690	0.0690		
A Non-2,3,7,8-sub-HpCDF	34.268	983905	1.06	1.4851	1.931	1.931	0.0618	1.519		
S Total HpCDF					2.989	2.989	0.0625	0.0625		
D 13C-1,2,3,4,6,7,8-HpCDD	34.523	46977631	1.05	0.7762	56.4	56.4	0.4118	0.4118	56.41	
1,2,3,4,6,7,8-HpCDD	34.536	1520285	1.08	0.9932	3.258	3.258	0.0643	0.0643		
A Non-2,3,7,8-sub-HpCDD	34.238	1782683	1.00	0.9932	3.821	3.821	0.0643	3.821		
S Total HpCDD					7.079	7.079	0.0643	0.0643		
D 13C-OCDD	36.858	62438067	0.88	0.6314	92.2	92.2	0.1438	0.1438	46.08	
OCDF	36.954	648794	0.94	1.3460	1.544	1.544	0.0411	0.0411		
OCDD	36.870	7752027	0.89	1.0604	23.4	23.4	0.0727	0.0727		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d
Lims ID: 160-24924-G-14-A
Client ID: SHAD041DP013SS02NS
Sample Type: Client
Inject. Date: 14-Nov-2017 14:54:35 ALS Bottle#: 33 Worklist Smp#: 34
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-14-a RI 160-24924-g-14-a RI
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 10:04:07 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK012

First Level Reviewer: messecara Date: 15-Nov-2017 01:37:52

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.838	17.808	2		61966205	15395986	13359	33397	1152		a
333.9339	17.838	17.808	2		79822610	19678321	12797	31992	1538	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.324	17.294	2	0.971	46168968	11542643	15203	38007	759		
317.9389	17.324	17.294	2	0.971	60090282	14964366	17365	43412	862	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.354	17.309	3	1.002	48869	10662	2470	6175	4		
305.8987	17.354	17.309	3	1.002	59757	13270	3746	9365	4	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											M
303.9016	14.920	17.022	-126	0.861	95133	28451	2470	6175	12		
305.8987	14.920	17.022	-126	0.861	133419	40908	3746	9365	11	0.71(0.65-0.89)	
303.9016	15.419	17.022	-96	0.890	418978	122488	2470	6175	50		
305.8987	15.419	17.022	-96	0.890	530618	159646	3746	9365	43	0.79(0.65-0.89)	M
303.9016	15.676	17.022	-81	0.905	93838	18291	2470	6175	7		
305.8987	15.676	17.022	-81	0.905	115186	23310	3746	9365	6	0.81(0.65-0.89)	M
303.9016	15.918	17.022	-66	0.919	79274	14550	2470	6175	6		M
305.8987	15.933	17.022	-65	0.920	91723	16801	3746	9365	4	0.86(0.65-0.89)	
303.9016	16.447	17.022	-34	0.949	96660	25996	2470	6175	11		
305.8987	16.447	17.022	-34	0.949	142218	33827	3746	9365	9	0.68(0.65-0.89)	
303.9016	16.644	17.022	-23	0.961	34161	7494	2470	6175	3		M
305.8987	16.644	17.022	-23	0.961	46630	12489	3746	9365	3	0.73(0.65-0.89)	
303.9016	16.795	17.022	-14	0.969	194266	51248	2470	6175	21		M
305.8987	16.795	17.022	-14	0.969	243730	65464	3746	9365	17	0.80(0.65-0.89)	

Report Date: 16-Nov-2017 10:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDD											
331.9368	18.035	18.005	2	1.011	35521793	8197242	13359	33397	614		
333.9339	18.035	18.005	2	1.011	46162568	10706564	12797	31992	837	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.020						1671	4177			
321.8936	18.020						1666	4165			
A Non-2,3,7,8-sub-TCDD											
319.8965	15.828	17.468	-98	0.878	1562827	450919	1671	4177	270		
321.8936	15.828	17.468	-98	0.878	1952230	564175	1666	4165	339	0.80(0.65-0.89)	
319.8965	16.130	17.468	-80	0.894	1188176	313299	1671	4177	187		
321.8936	16.130	17.468	-80	0.894	1505674	388314	1666	4165	233	0.79(0.65-0.89)	
319.8965	16.931	17.468	-32	0.939	37059	8292	1671	4177	5		
321.8936	16.916	17.468	-33	0.938	55830	11904	1666	4165	7	0.66(0.65-0.89)	
319.8965	17.854	17.468	23	0.990	328515	54782	1671	4177	33		
321.8936	17.854	17.468	23	0.990	432103	77154	1666	4165	46	0.76(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.342	22.301	2	1.252	50963100	8772697	13494	33735	650		
353.8970	22.342	22.301	2	1.252	32992381	5656179	9428	23570	600	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.328						1747	4367			
341.8567	22.328						2036	5090			
2,3,4,7,8-PeCDF											
339.8597	23.664						1747	4367			
341.8567	23.664						2036	5090			
A F1 PeCDFs											
339.8597	19.456	19.948	-29	0.871	850149	180528	607	1517	297		
341.8567	19.456	19.948	-29	0.871	567034	115008	1144	2860	101	1.50(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.005	23.086	-125	0.940	316859	45116	1747	4367	26		
341.8567	21.019	23.086	-124	0.941	234084	31492	2036	5090	15	1.35(1.32-1.78)	
339.8597	21.796	23.086	-77	0.976	160536	20979	1747	4367	12		
	Empc Correction				107655	16718	1747	4367	10		
341.8567	21.810	23.086	-76	0.976	69455	10786	2036	5090	5	2.31(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.401	24.360	2	1.368	41364425	6332692	5825	14562	1087		
369.8919	24.401	24.360	2	1.368	26390801	4131409	4575	11437	903	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.442	24.387	3	1.002	44632	7567	1150	2875	7		
357.8516	24.428	24.387	2	1.001	32348	5815	639	1597	9	1.38(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.210	23.290	-125	0.869	225156	38300	1150	2875	33		
357.8516	21.210	23.290	-125	0.869	217878	35836	639	1597	56	1.03(1.32-1.78)	
	Empc Correction				145261	24709	639	1597	39		
355.8546	22.396	23.290	-53	0.918	120956	19084	1150	2875	17		
357.8516	22.410	23.290	-53	0.918	89247	14235	639	1597	22	1.36(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
355.8546	22.642	23.290	-39	0.928	38342	6336	1150	2875	6		
357.8516	22.642	23.290	-39	0.928	27730	4179	639	1597	7	1.38(1.32-1.78)	
355.8546	22.955	23.290	-20	0.941	104213	18216	1150	2875	16		
357.8516	22.955	23.290	-20	0.941	72208	12554	639	1597	20	1.44(1.32-1.78)	
355.8546	23.446	23.290	9	0.961	27852	5026	1150	2875	4		
357.8516	23.433	23.290	9	0.960	21740	4091	639	1597	6	1.28(1.32-1.78)	
	Empc Correction				17969	3242	639	1597	5		
355.8546	23.814	23.290	31	0.976	146970	23399	1150	2875	20		
357.8516	23.787	23.290	30	0.975	98591	16022	639	1597	25	1.49(1.32-1.78)	
355.8546	24.060	23.290	46	0.986	22283	4258	1150	2875	4		
357.8516	24.032	23.290	44	0.985	16164	2939	639	1597	5	1.38(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.500	30.460	2	0.949	21528415	4056930	14301	35752	284		
385.8610	30.500	30.460	2	0.949	42154672	7691118	28051	70127	274	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.487						2524	6310			
375.8178	30.487						1622	4055			
1,2,3,6,7,8-HxCDF											
373.8208	30.700	30.673	2	1.007	147433	34287	2524	6310	14		
375.8178	30.700	30.673	2	1.007	132557	31917	1622	4055	20	1.11(1.05-1.43)	
2,3,4,6,7,8-HxCDF											RQMU
373.8208	31.498						2524	6310			
375.8178	31.498						1622	4055			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.310	32.284	2	1.006	20822824	4994780	14301	35752	349		
385.8610	32.310	32.284	2	1.006	40652622	9666921	28051	70127	345	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.297						2524	6310			
375.8178	32.297						1622	4055			
A Non-2,3,7,8-sub-HxCDF											
373.8208	27.918	30.141	-133	0.915	209104	24302	2524	6310	10		
375.8178	27.944	30.141	-132	0.916	150185	21735	1622	4055	13	1.39(1.05-1.43)	
373.8208	28.330	30.141	-108	0.929	303372	42724	2524	6310	17		
375.8178	28.330	30.141	-108	0.929	264308	29433	1622	4055	18	1.15(1.05-1.43)	
373.8208	29.462	30.141	-41	0.966	88000	11316	2524	6310	4		
375.8178	29.422	30.141	-43	0.965	62327	9640	1622	4055	6	1.41(1.05-1.43)	
373.8208	29.675	30.141	-28	0.973	341657	43058	2524	6310	17		
375.8178	29.675	30.141	-28	0.973	262583	32250	1622	4055	20	1.30(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.124	32.111	1		59710722	14657398	16873	42182	869		
403.8529	32.124	32.111	1		47590857	11689730	12608	31520	927	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8157	31.698	31.685	1	0.997	50344	12807	942	2355	14		M
	Empc Correction				43465	12925	942	2355	14		
391.8127	31.698	31.685	1	0.997	35053	10424	1032	2580	10	1.44(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.804	31.778	2	0.990	28813412	6858232	16873	42182	406		
403.8529	31.804	31.778	2	0.990	23455527	5685071	12608	31520	451	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											M
389.8157	31.818	31.791	2	1.000	147077	36592	942	2355	39		
391.8127	31.818	31.791	2	1.000	124042	31272	1032	2580	30	1.19(1.05-1.43)	M
1,2,3,7,8,9-HxCDD											
389.8157	32.137	32.124	1	1.010	173686	30797	942	2355	33		
391.8127	32.137	32.124	1	1.010	129801	23485	1032	2580	23	1.34(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.515	30.779	-76	0.928	205793	24798	942	2355	26		
391.8127	29.515	30.779	-76	0.928	155826	22305	1032	2580	22	1.32(1.05-1.43)	
389.8157	30.566	30.779	-13	0.961	702425	127729	942	2355	136		
391.8127	30.566	30.779	-13	0.961	572499	106540	1032	2580	103	1.23(1.05-1.43)	
389.8157	30.952	30.779	10	0.973	454147	87506	942	2355	93		
391.8127	30.952	30.779	10	0.973	374910	68765	1032	2580	67	1.21(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.734	33.709	1	1.050	10222305	2883640	17421	43552	166		
419.8220	33.734	33.709	1	1.050	24082287	6693300	36720	91800	182	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.746	33.722	1	1.000	301164	87853	2335	5837	38		
409.7789	33.734	33.722	1	1.000	293701	83772	1181	2952	71	1.03(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.803						2335	5837			
409.7789	34.803						1181	2952			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.037	34.268	-14	1.009	398471	133308	2335	5837	57		
409.7789	34.037	34.268	-14	1.009	375635	123479	1181	2952	105	1.06(0.88-1.20)	
407.7818	34.135	34.268	-8	1.012	106960	34571	2335	5837	15		
409.7789	34.135	34.268	-8	1.012	102839	37787	1181	2952	32	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.523	34.499	1	1.075	24015432	6625685	16559	41397	400		
437.8140	34.523	34.499	1	1.075	22962199	6223741	17128	42820	363	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.536	34.511	1	1.000	787700	208965	1613	4032	130		
425.7737	34.523	34.511	1	1.000	732585	191078	1667	4167	115	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.977	34.238	-16	0.984	890344	267934	1613	4032	166		
425.7737	33.977	34.238	-16	0.984	892339	272428	1667	4167	163	1.00(0.88-1.20)	
13C-OCDD											
469.7779	36.858	36.822	2	1.147	29186020	6545418	5480	13700	1194		
471.7750	36.858	36.822	2	1.147	33252047	7455697	4090	10225	1823	0.88(0.76-1.02)	
OCDF											
441.7428	36.954	36.930	1	1.003	314313	71113	658	1645	108		
443.7399	36.942	36.930	1	1.002	334481	57867	893	2232	65	0.94(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	36.870	36.834	2	1.000	3649943	803807	1075	2687	748		
459.7348	36.858	36.834	1	1.000	4102084	925264	1084	2710	854	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Report Date: 16-Nov-2017 10:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Lims ID:	160-24924-G-14-A		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	14-Nov-2017 14:54:35	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	34

Non-2,3,7,8-sub-TCDF, RT: 17.022

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	100.000	106259250	26507009

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	106259250	26507009

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
14.920	95133	28451	133419	40908	0.1896	0.71	
15.419	418978	122488	530618	159646	0.7880	0.79	M
15.676	93838	18291	115186	23310	0.1734	0.81	M
15.918	79274	14550	91723	16801	0.1419	0.86	M
16.447	96660	25996	142218	33827	0.1982	0.68	
16.644	34161	7494	46630	12489	0.0670	0.73	M
16.795	194266	51248	243730	65464	0.3634	0.80	M
Signal Totals:							
	1012310	268518	1303524	352445			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2315834	620963				0.78	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.922 = (2315834 * 100.000) / (106259250 * 1.134)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Lims ID:	160-24924-G-14-A		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	14-Nov-2017 14:54:35	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	34

Non-2,3,7,8-sub-TCDD, RT: 17.468

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	81684361	18903806

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	81684361	18903806

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.828	1562827	450919	1952230	564175	4.31	0.80	
16.130	1188176	313299	1505674	388314	3.30	0.79	
16.931	37059	8292	55830	11904	0.1138	0.66	
17.854	328515	54782	432103	77154	0.9318	0.76	
Signal Totals:							
	3116577	827292	3945837	1041547			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7062414	1868839				0.79	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 8.652 = (7062414 * 100.000) / (81684361 * 0.999)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Lims ID:	160-24924-G-14-A		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	14-Nov-2017 14:54:35	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	34

F1 PeCDFs, RT: 19.948

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	83955481	14428876
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	83955481	14428876

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.456	850149	180528	567034	115008	1.47	1.50	
Signal Totals:							
	850149	180528	567034	115008			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1417183	295536				1.50	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.466 = (1417183 * 100.000) / (83955481 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Lims ID:	160-24924-G-14-A		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	14-Nov-2017 14:54:35	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	34

Non-2,3,7,8-sub-PeCDF, RT: 23.086

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	83955481	14428876
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	83955481	14428876

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.005	316859	45116	234084	31492	0.5701	1.35	
21.796	160536	20979	69455	10786	0.2380	2.31	RQ
21.796	107655	16718	69455	10786	0.1833		Empc Correction
Signal Totals:							
	424514	61834	303539	42278			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	780934	108373				1.57	RQ
	728053	104112					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8081 = (780934 * 100.000) / (83955481 * 1.151)
Empc Amount: 0.7533 = (728053 * 100.000) / (83955481 * 1.151)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d
Lims ID: 160-24924-G-14-A
Client ID: SHAD041DP013SS02NS
Inject. Date: 14-Nov-2017 14:54:35 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194429 Lims Sample ID: 34

Non-2,3,7,8-sub-PeCDD, RT: 23.290

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	67755226	10464101

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	67755226	10464101

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.210	225156	38300	217878	35836	0.6890	1.03	RQ
21.210	225156	38300	145261	24709	0.5761		Empc Correction
22.396	120956	19084	89247	14235	0.3269	1.36	
22.642	38342	6336	27730	4179	0.1028	1.38	
22.955	104213	18216	72208	12554	0.2744	1.44	
23.446	27852	5026	21740	4091	0.0771	1.28	RQ
23.446	27852	5026	17969	3242	0.0713		Empc Correction
23.814	146970	23399	98591	16022	0.3819	1.49	
24.060	22283	4258	16164	2939	0.0598	1.38	
Signal Totals:							
	685772	114619	467170	77880			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1229330	204475				1.26	RQ
	1152942	192499					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.912 = (1229330 * 100.000) / (67755226 * 0.949)
Empc Amount: 1.793 = (1152942 * 100.000) / (67755226 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Lims ID:	160-24924-G-14-A		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	14-Nov-2017 14:54:35	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	34

Non-2,3,7,8-sub-HxCDF, RT: 30.141

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	63683087	11748048
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	63683087	11748048

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
27.918	209104	24302	150185	21735	0.3744	1.39	
28.330	303372	42724	264308	29433	0.5916	1.15	
29.462	88000	11316	62327	9640	0.1567	1.41	
29.675	341657	43058	262583	32250	0.6297	1.30	
Signal Totals:							
	942133	121400	739403	93058			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1681536	214458				1.27	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.752 = (1681536 * 100.000) / (63683087 * 1.507)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Lims ID:	160-24924-G-14-A		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	14-Nov-2017 14:54:35	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	34

Non-2,3,7,8-sub-HxCDD, RT: 30.779

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	52268939	12543303
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	52268939	12543303

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.515	205793	24798	155826	22305	0.6049	1.32	
30.566	702425	127729	572499	106540	2.13	1.23	
30.952	454147	87506	374910	68765	1.39	1.21	
Signal Totals:							
	1362365	240033	1103235	197610			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2465600	437643				1.23	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.124 = (2465600 * 100.000) / (52268939 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Lims ID:	160-24924-G-14-A		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	14-Nov-2017 14:54:35	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	34

Non-2,3,7,8-sub-HpCDF, RT: 34.268

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	34304592	9576940
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	34304592	9576940

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.037	398471	133308	375635	123479	1.52	1.06	
34.135	106960	34571	102839	37787	0.4118	1.04	
Signal Totals:							
	505431	167879	478474	161266			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	983905	329145				1.06	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.931 = (983905 * 100.000) / (34304592 * 1.485)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d
Lims ID: 160-24924-G-14-A
Client ID: SHAD041DP013SS02NS
Inject. Date: 14-Nov-2017 14:54:35 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194429 Lims Sample ID: 34

Non-2,3,7,8-sub-HpCDD, RT: 34.238

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	46977631	12849426

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	46977631	12849426

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.977	890344	267934	892339	272428	3.82	1.00	
Signal Totals:							
	890344	267934	892339	272428			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1782683	540362				1.00	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.821 = (1782683 * 100.000) / (46977631 * 0.993)

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

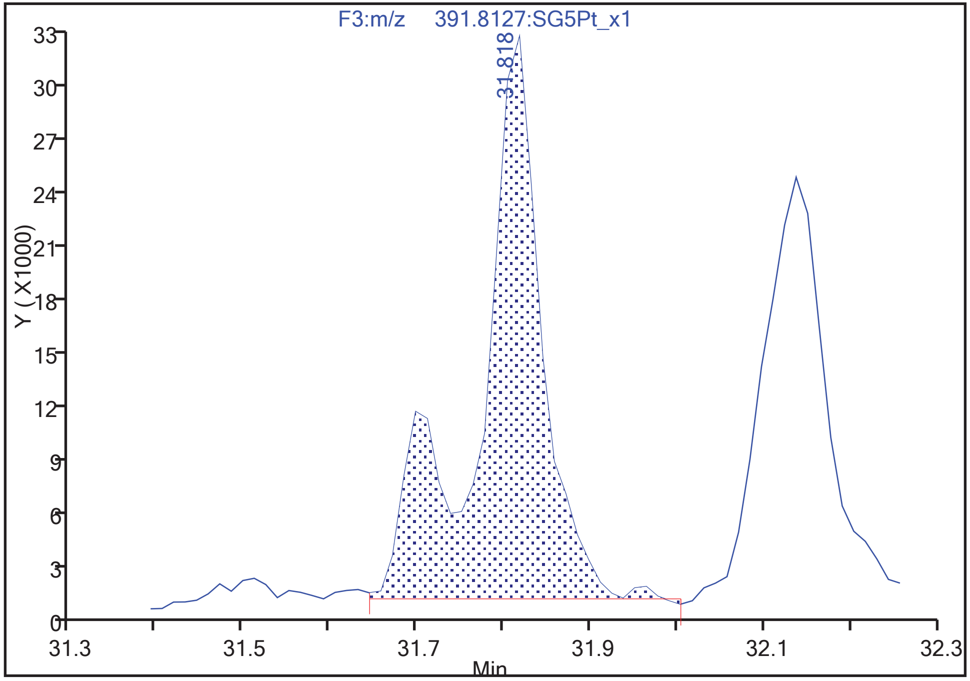
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Instrument ID:	10D5
Lims ID:	160-24924-G-14-A	Lab Sample ID:	320-24924-14
Client ID:	SHAD041DP013SS02NS		
Operator ID:	AJS	ALS Bottle#:	33 Worklist Smp#: 34
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

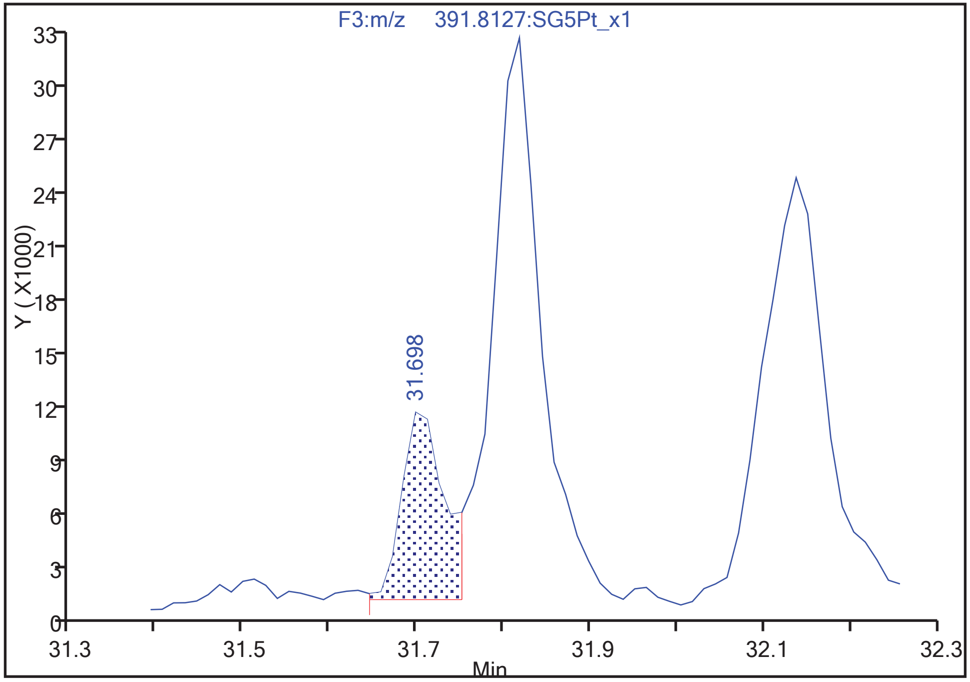
RT:	31.82
Area:	159096
Amount:	0.616297
Amount Units:	pg/ul

Processing Integration Results



RT:	31.70
Area:	35053
Amount:	0.171896
Amount Units:	pg/ul

Manual Integration Results



Reviewer: pimtongp, 16-Nov-2017 10:03:05

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 16-Nov-2017 10:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

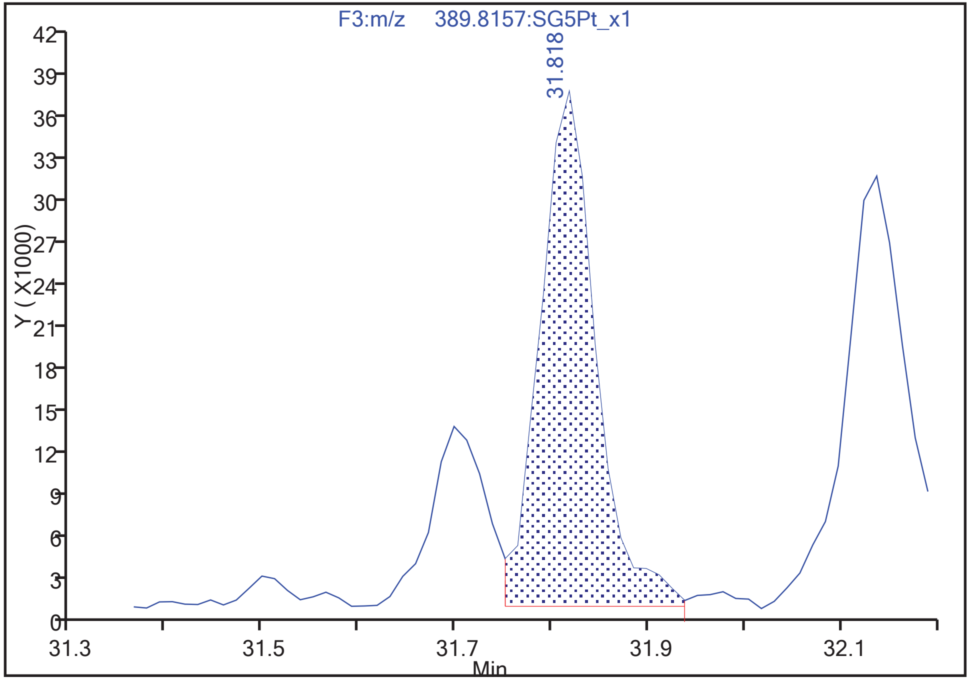
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Instrument ID:	10D5
Lims ID:	160-24924-G-14-A	Lab Sample ID:	320-24924-14
Client ID:	SHAD041DP013SS02NS		
Operator ID:	AJS	ALS Bottle#:	33 Worklist Smp#: 34
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

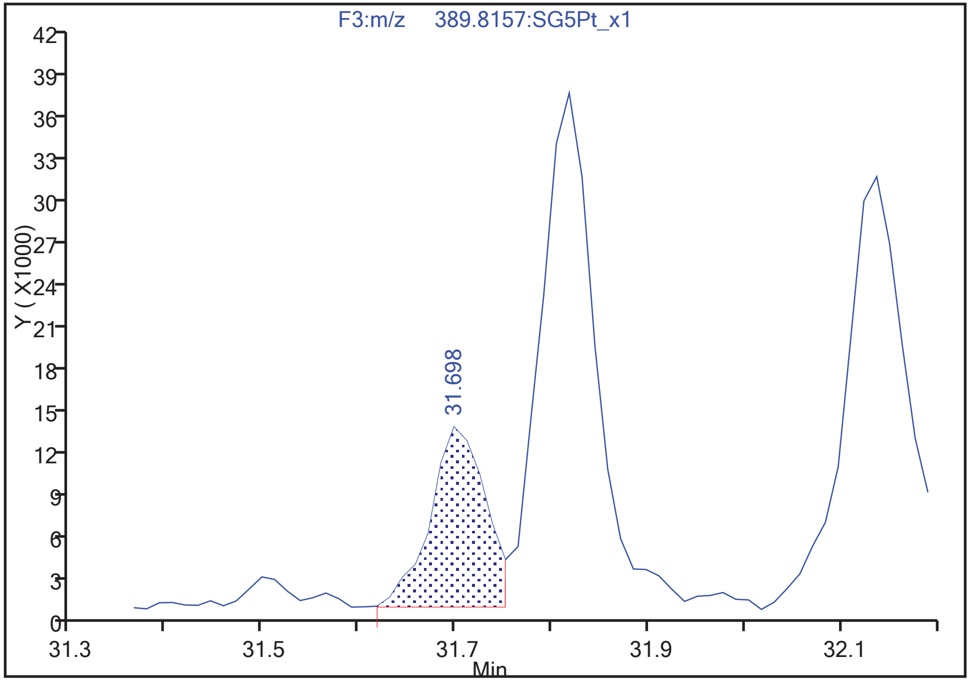
Processing Integration Results

RT: 31.82
Area: 147077
Amount: 0.616297
Amount Units: pg/ul



Manual Integration Results

RT: 31.70
Area: 50344
Amount: 0.171896
Amount Units: pg/ul



Reviewer: pimtongp, 16-Nov-2017 10:03:09

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

TestAmerica Sacramento

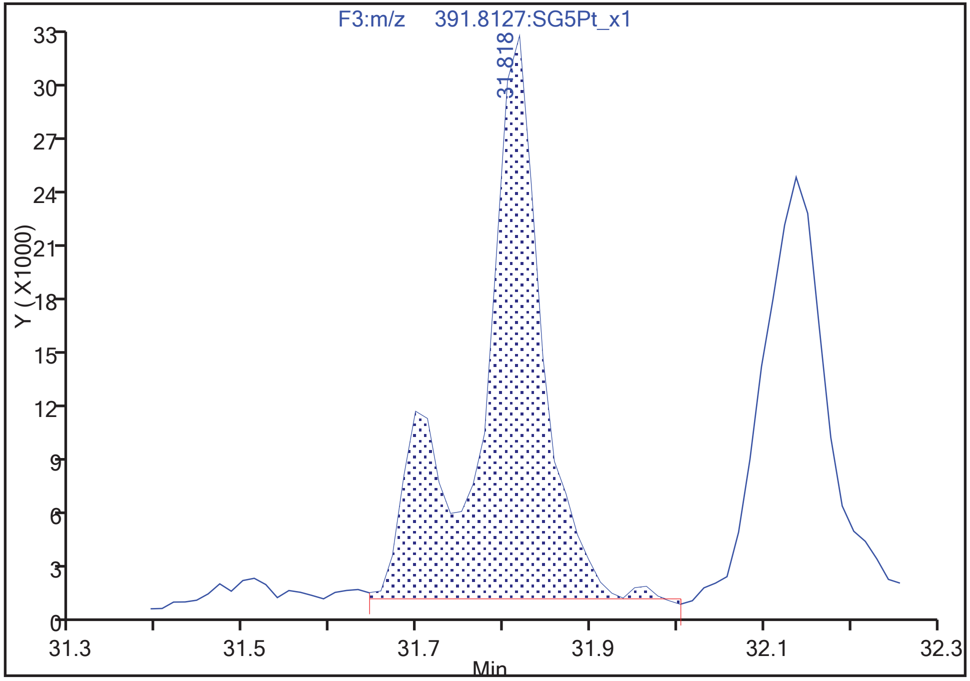
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Instrument ID:	10D5
Lims ID:	160-24924-G-14-A	Lab Sample ID:	320-24924-14
Client ID:	SHAD041DP013SS02NS		
Operator ID:	AJS	ALS Bottle#:	33 Worklist Smp#: 34
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

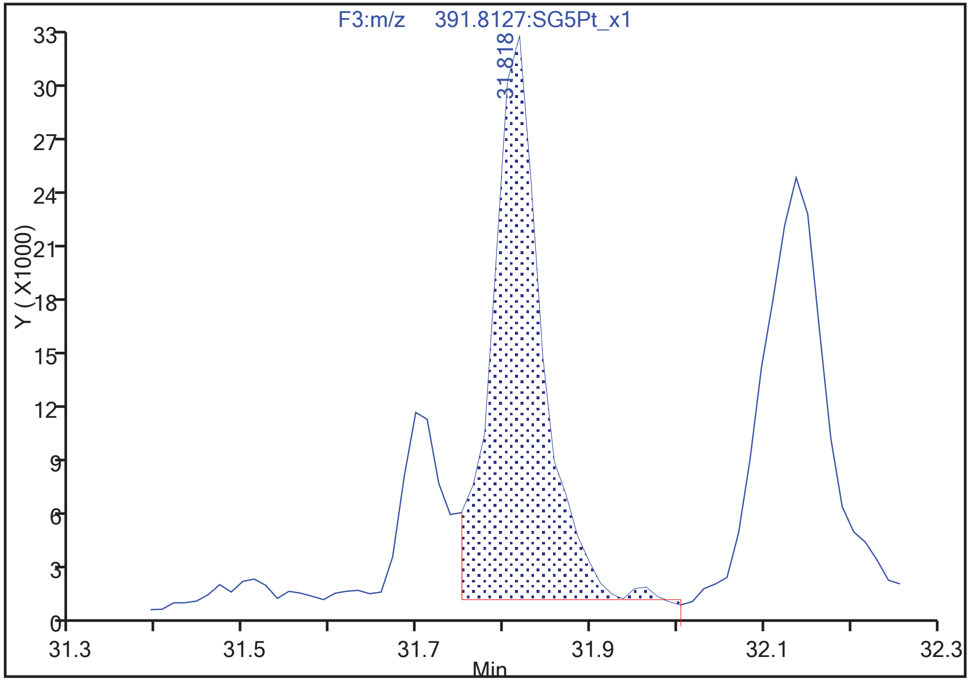
Processing Integration Results

RT:	31.82
Area:	159096
Amount:	0.474563
Amount Units:	pg/ul



Manual Integration Results

RT:	31.82
Area:	124042
Amount:	0.420230
Amount Units:	pg/ul



Reviewer: pimtongp, 16-Nov-2017 10:03:05

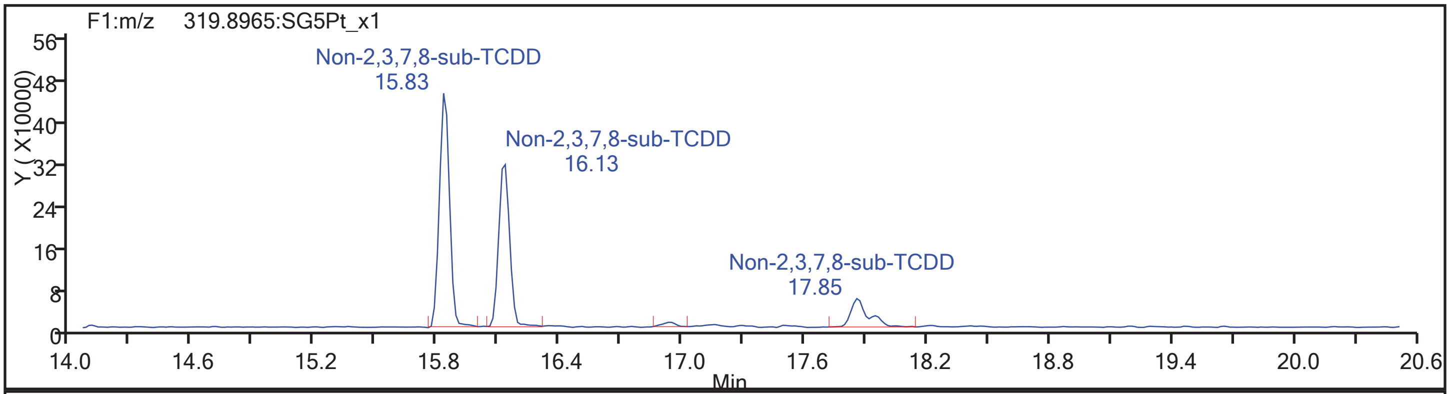
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

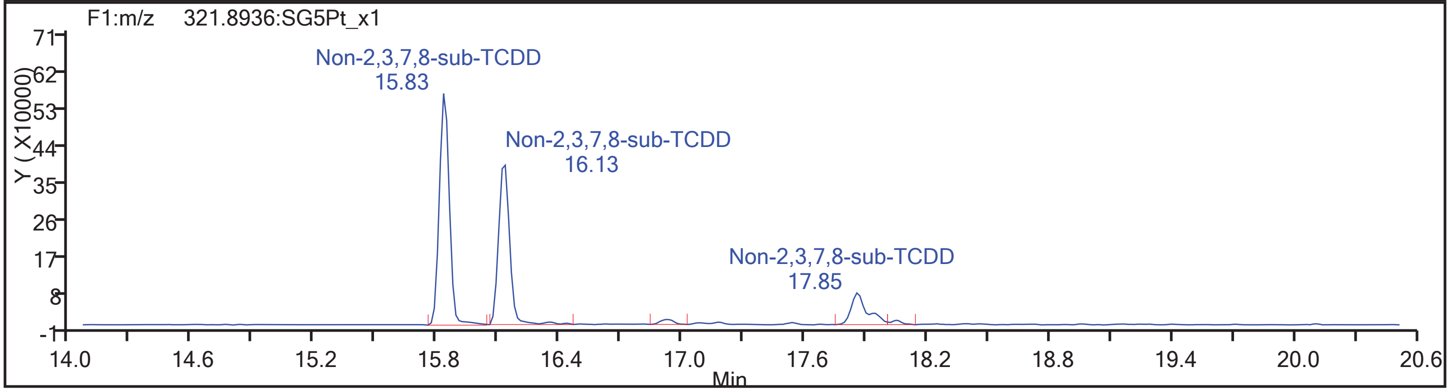
Report Date: 16-Nov-2017 10:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

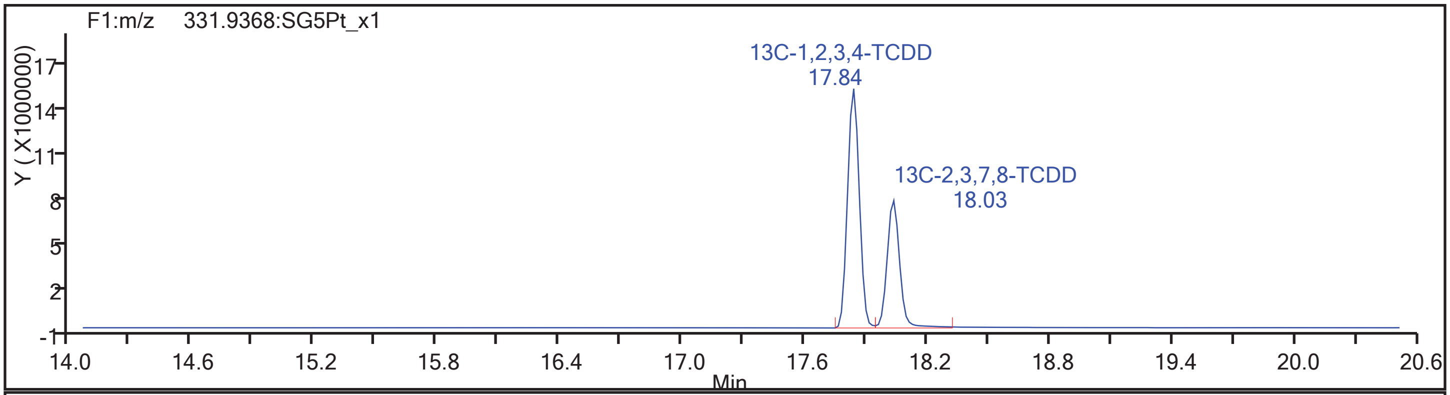
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	194429	Sample Line#:	34
Column Type:	DB-5	Column Dia:	0.32 mm

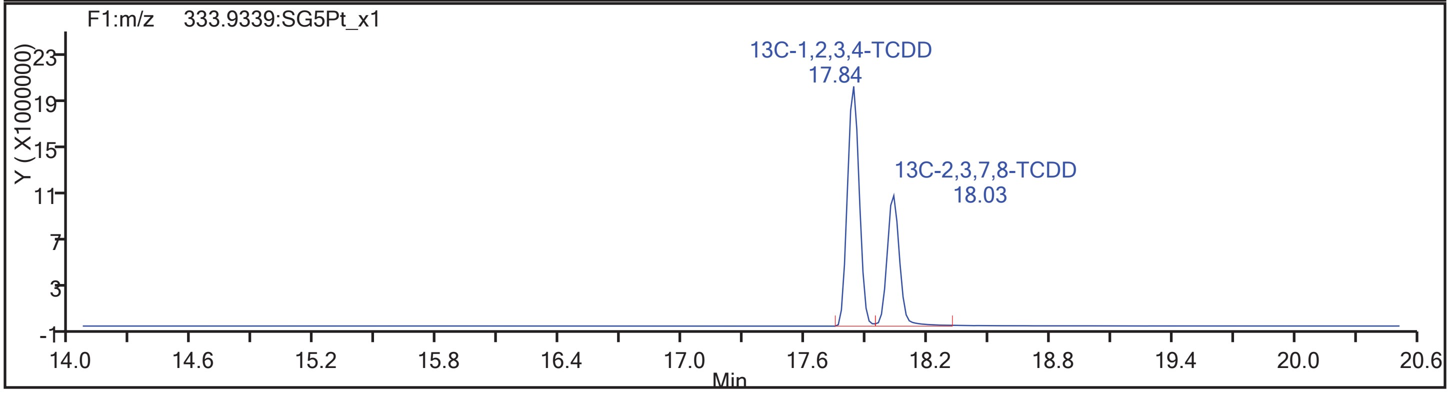
TCDD





TCDD Standards



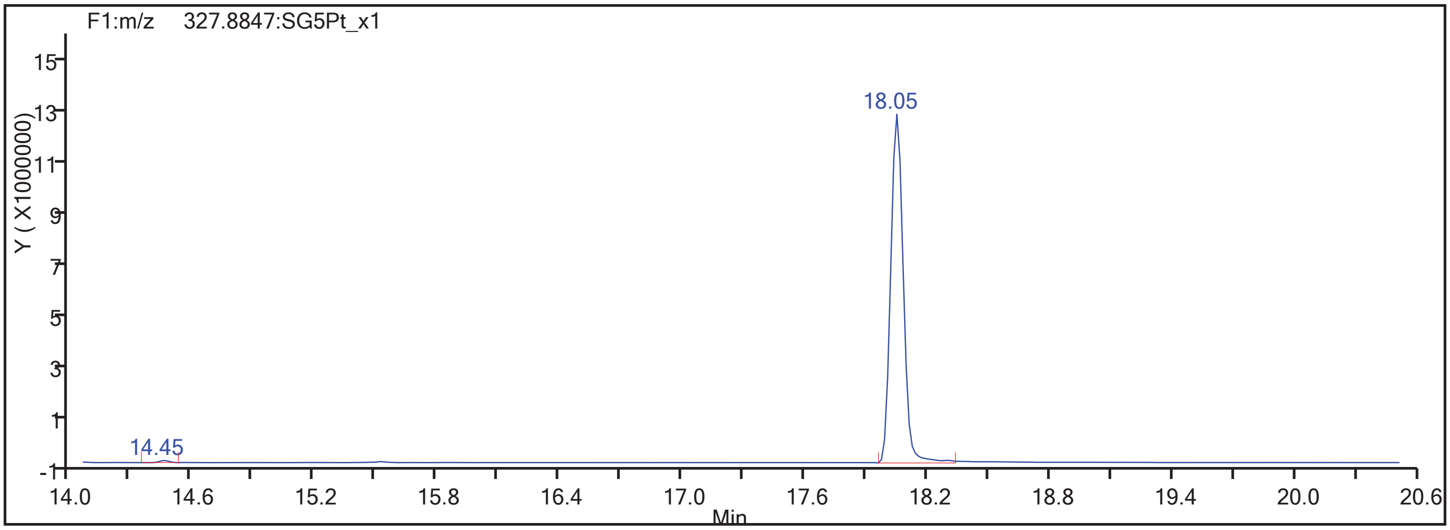


Report Date: 16-Nov-2017 10:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

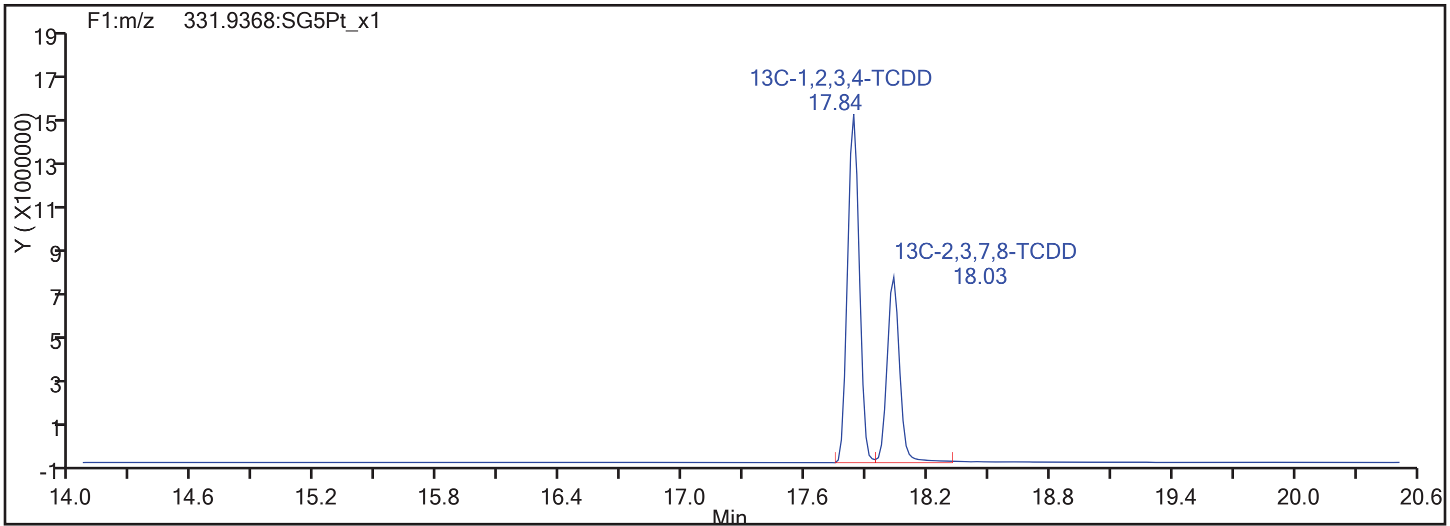
TestAmerica Sacramento

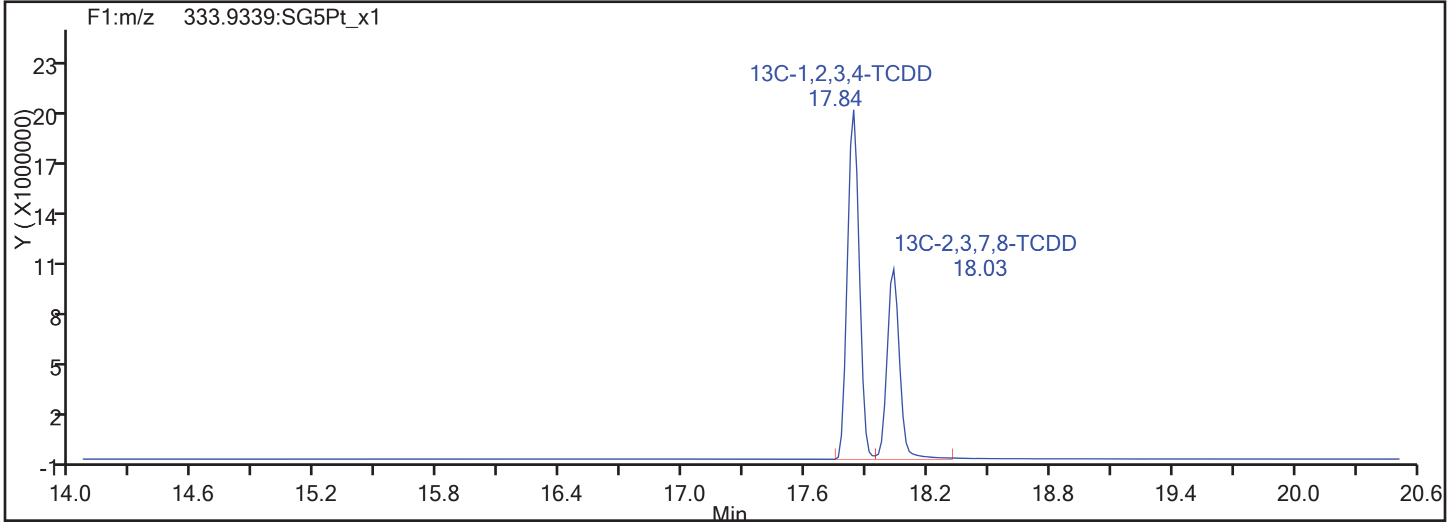
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	194429	Sample Line#:	34
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 16-Nov-2017 10:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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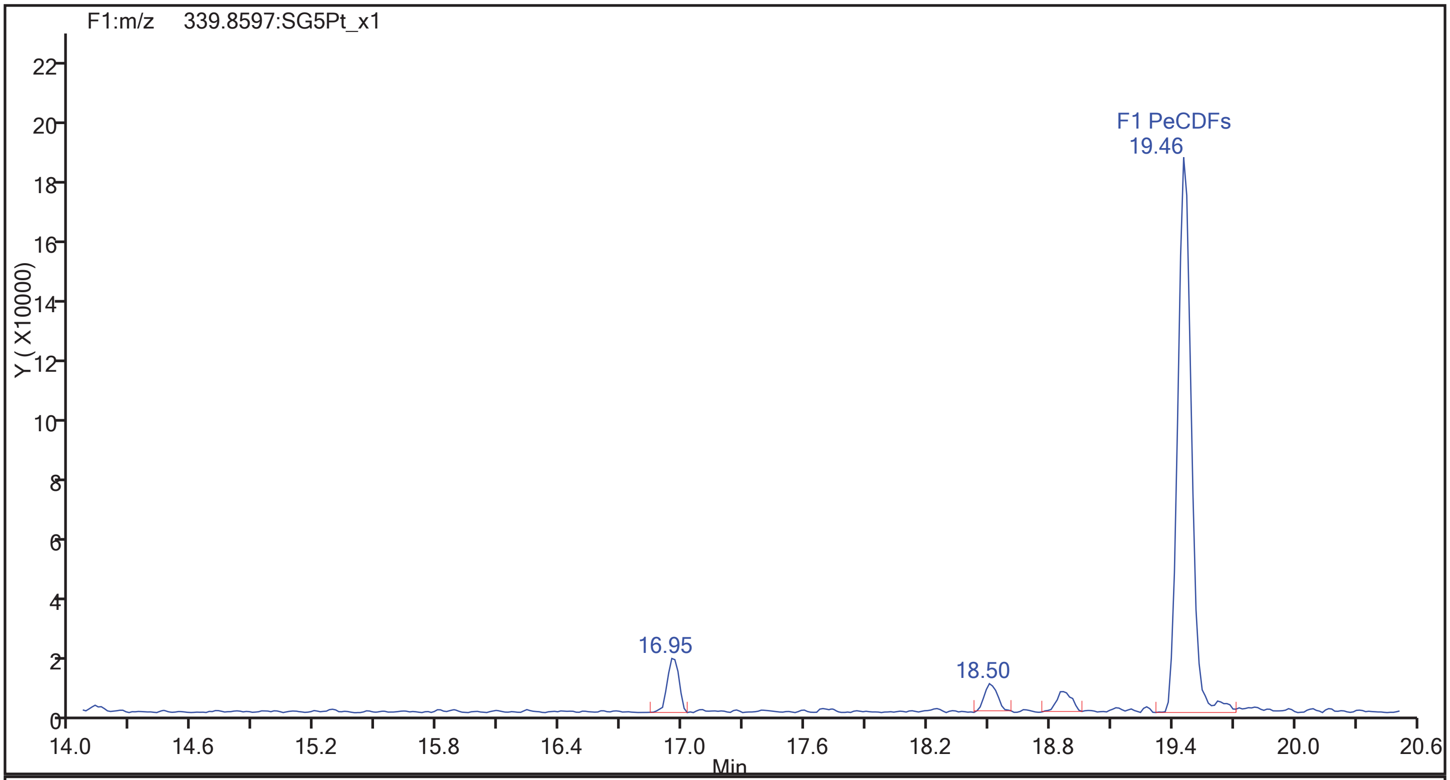
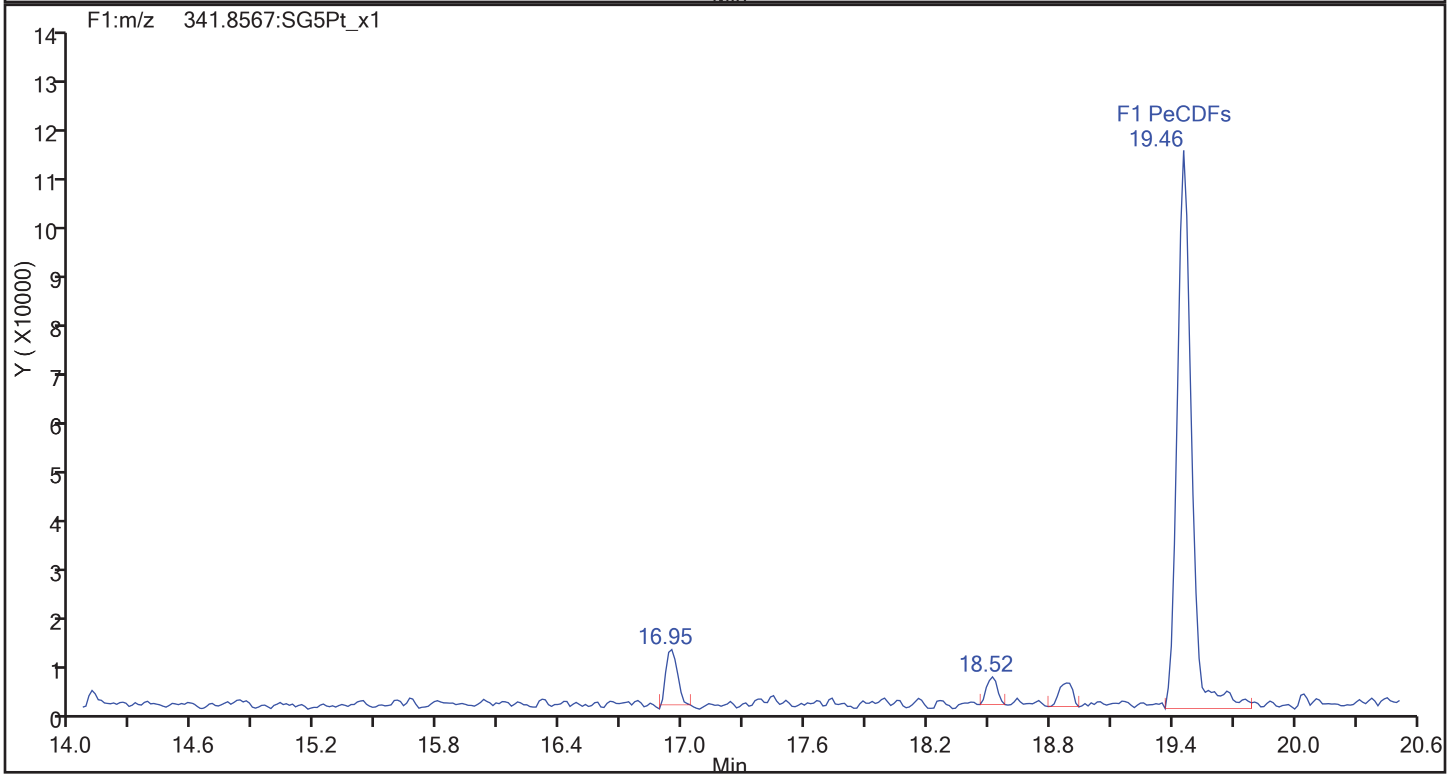
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d

Injection Date:	14-Nov-2017 14:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
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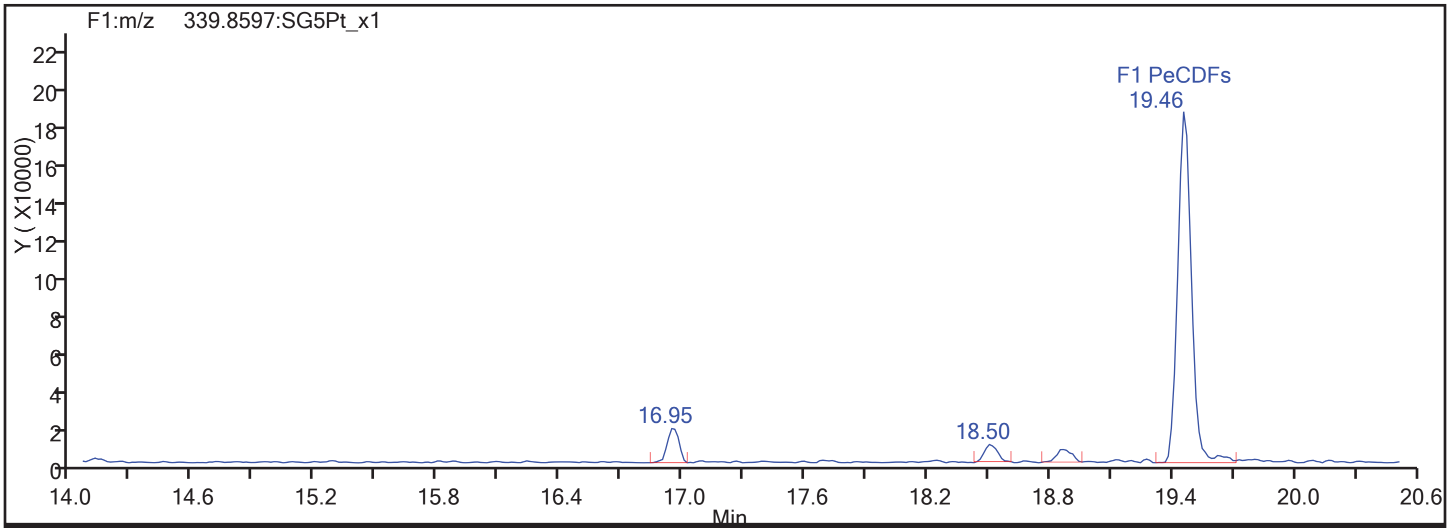
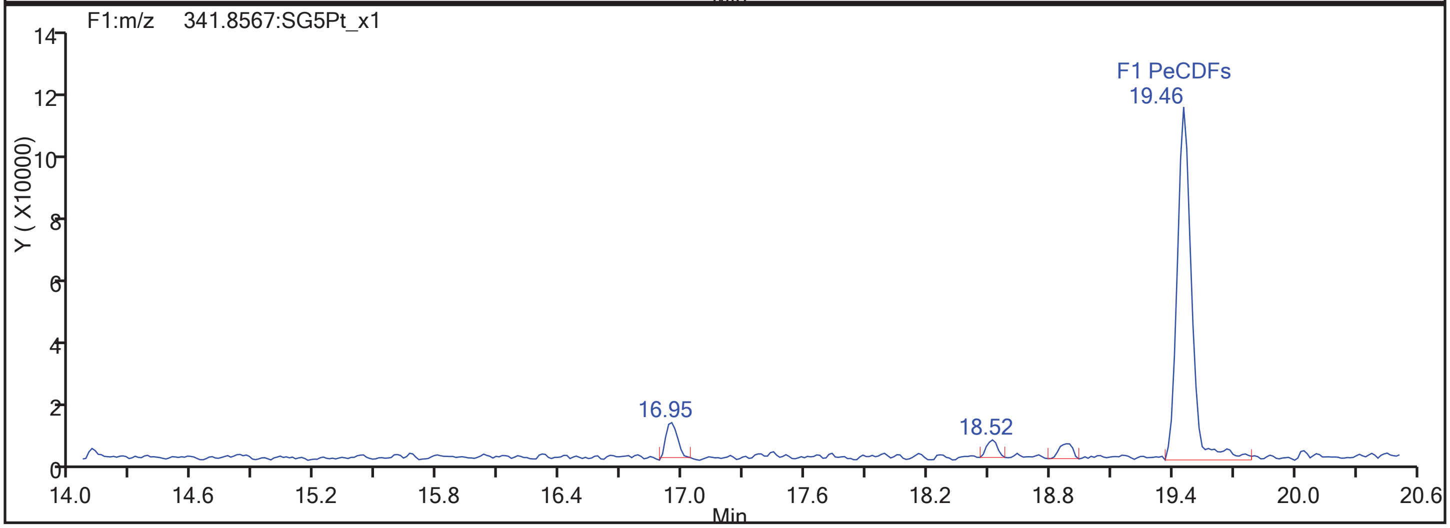
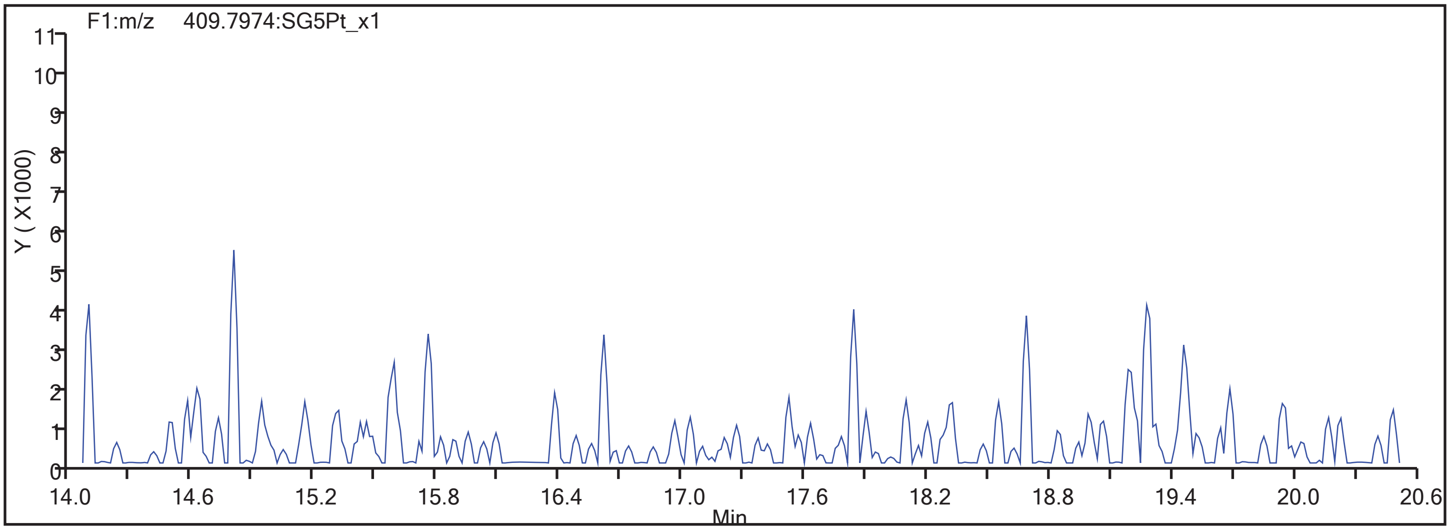
F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 16-Nov-2017 10:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d
Injection Date: 14-Nov-2017 14:54:35
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
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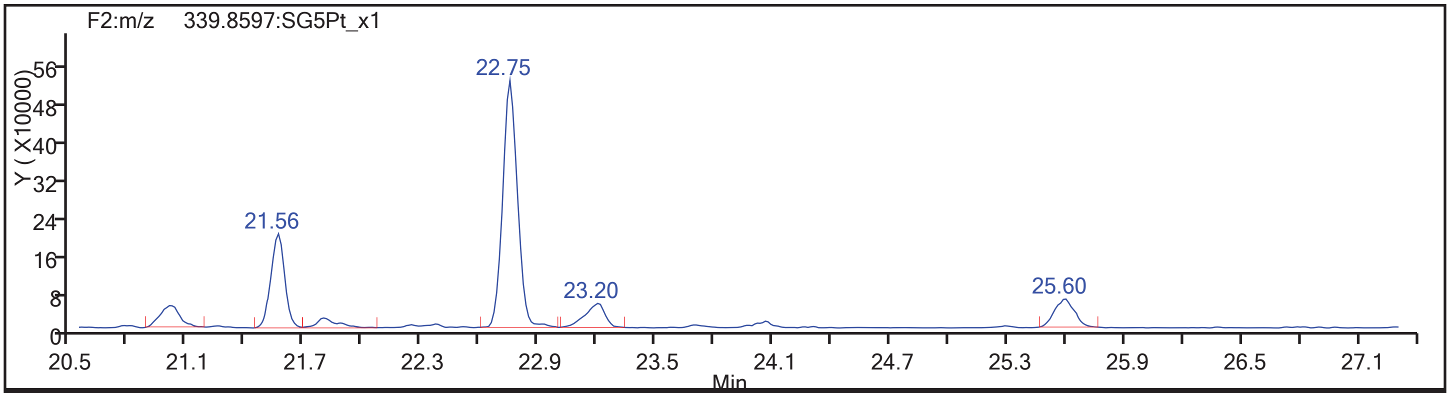
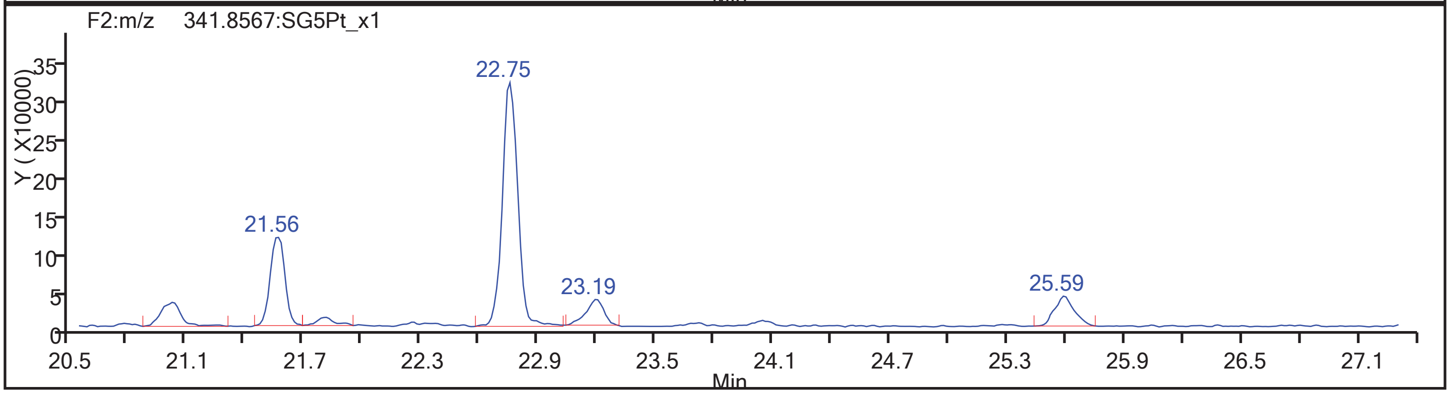
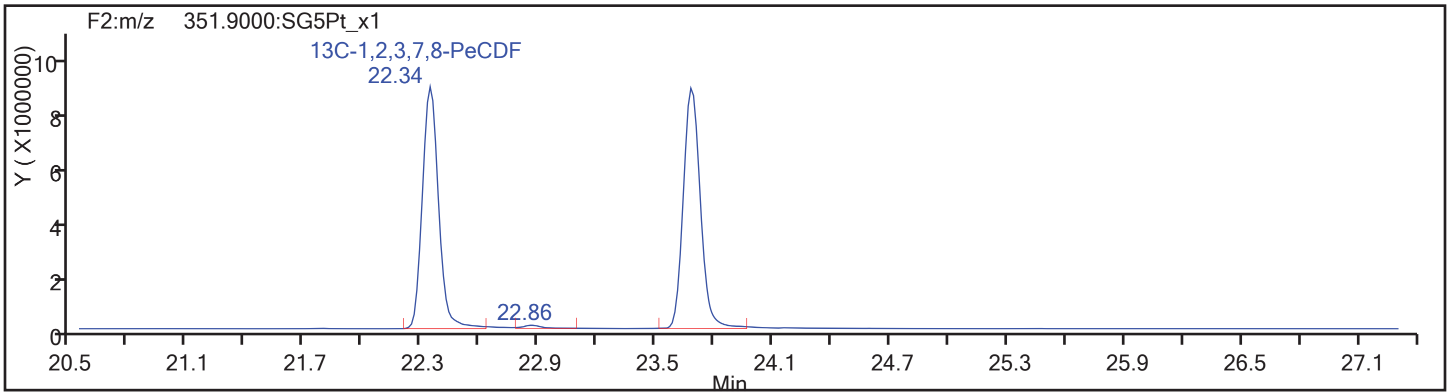
Worklist#: 194429
Sample Line#: 34
Column Type: DB-5
Column Dia: 0.32 mm

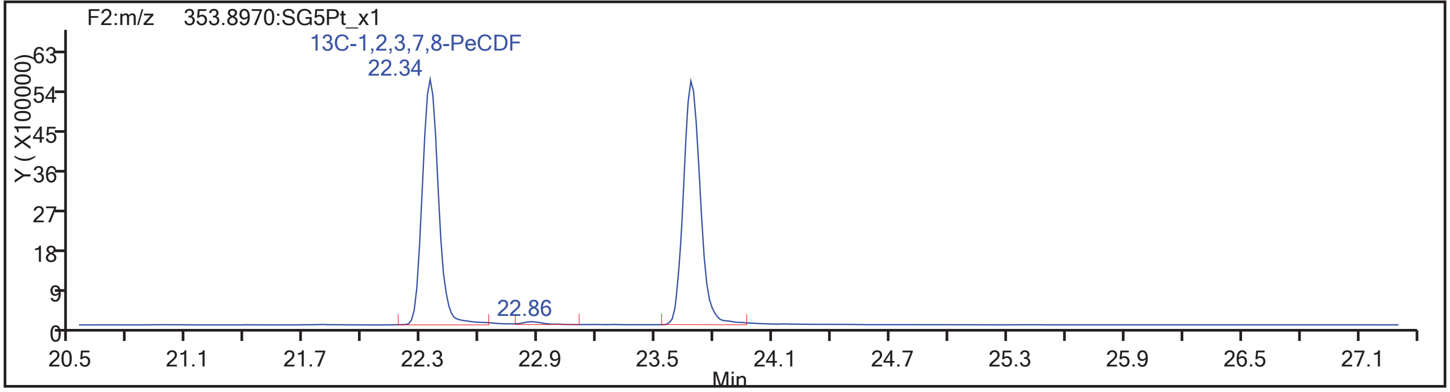
PeCDF





PeCDF Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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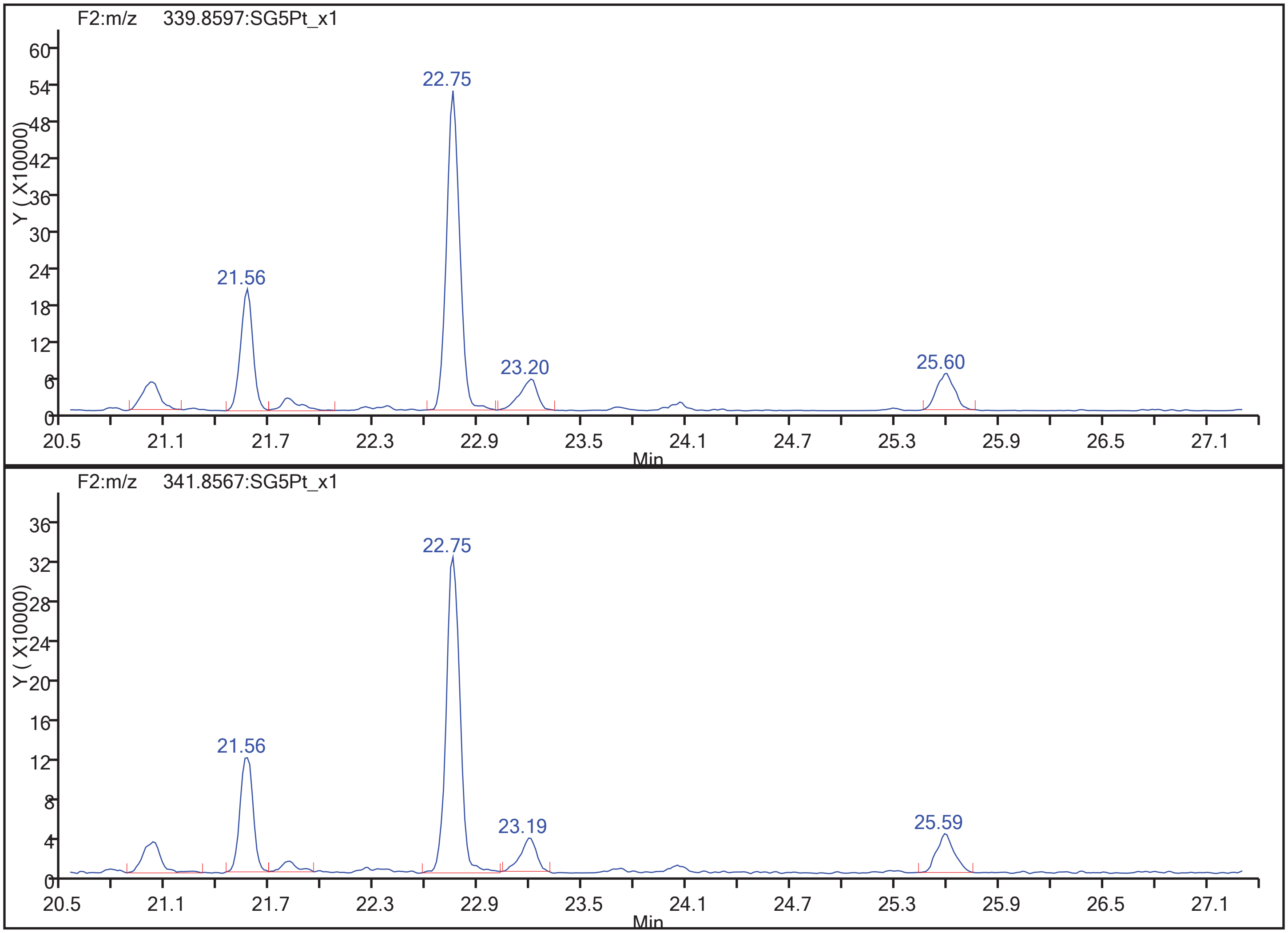
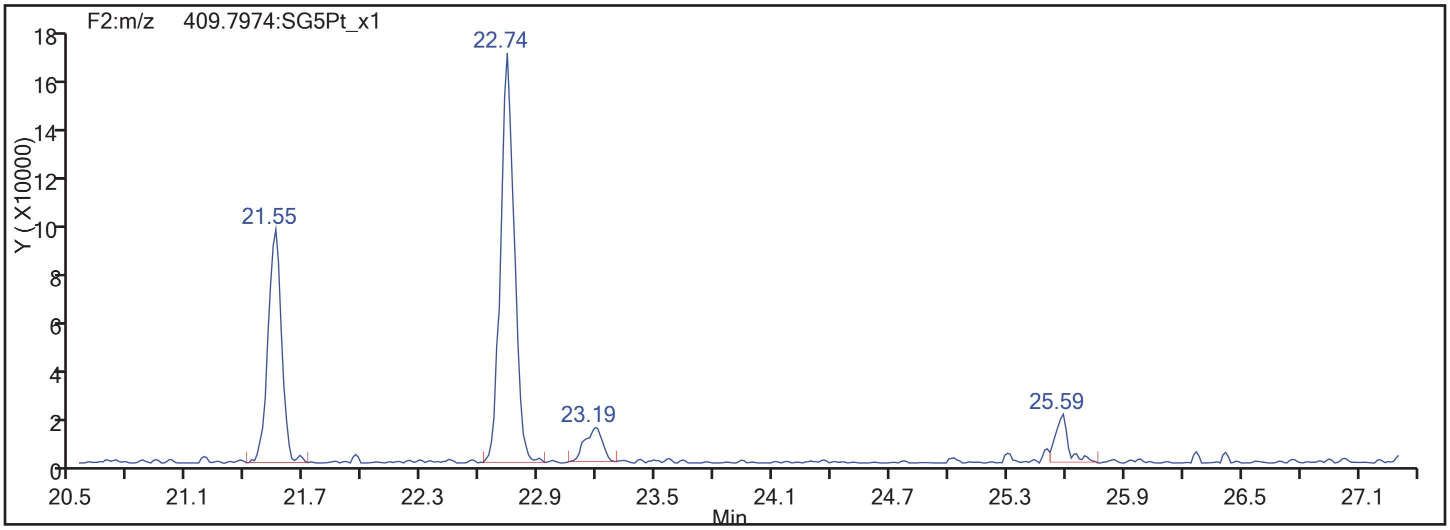
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
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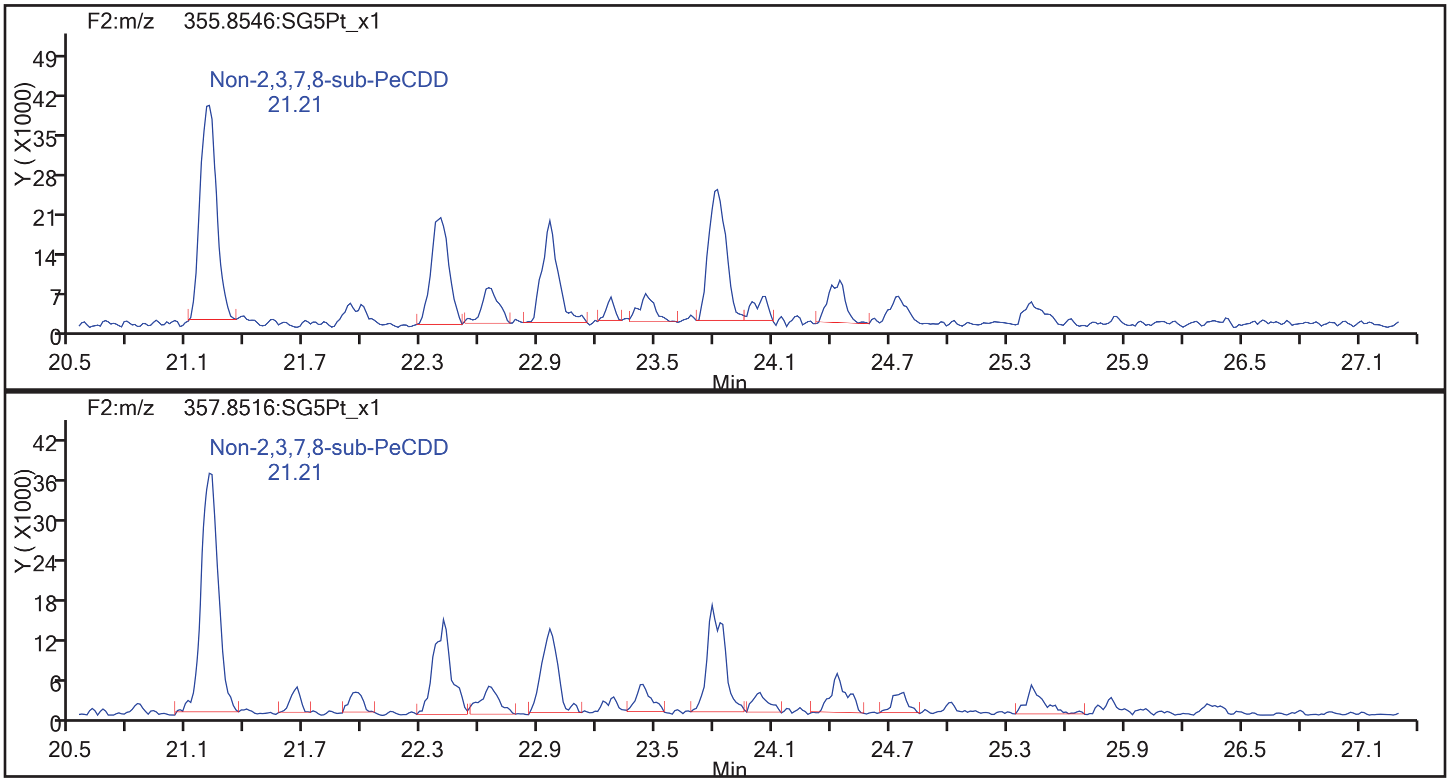
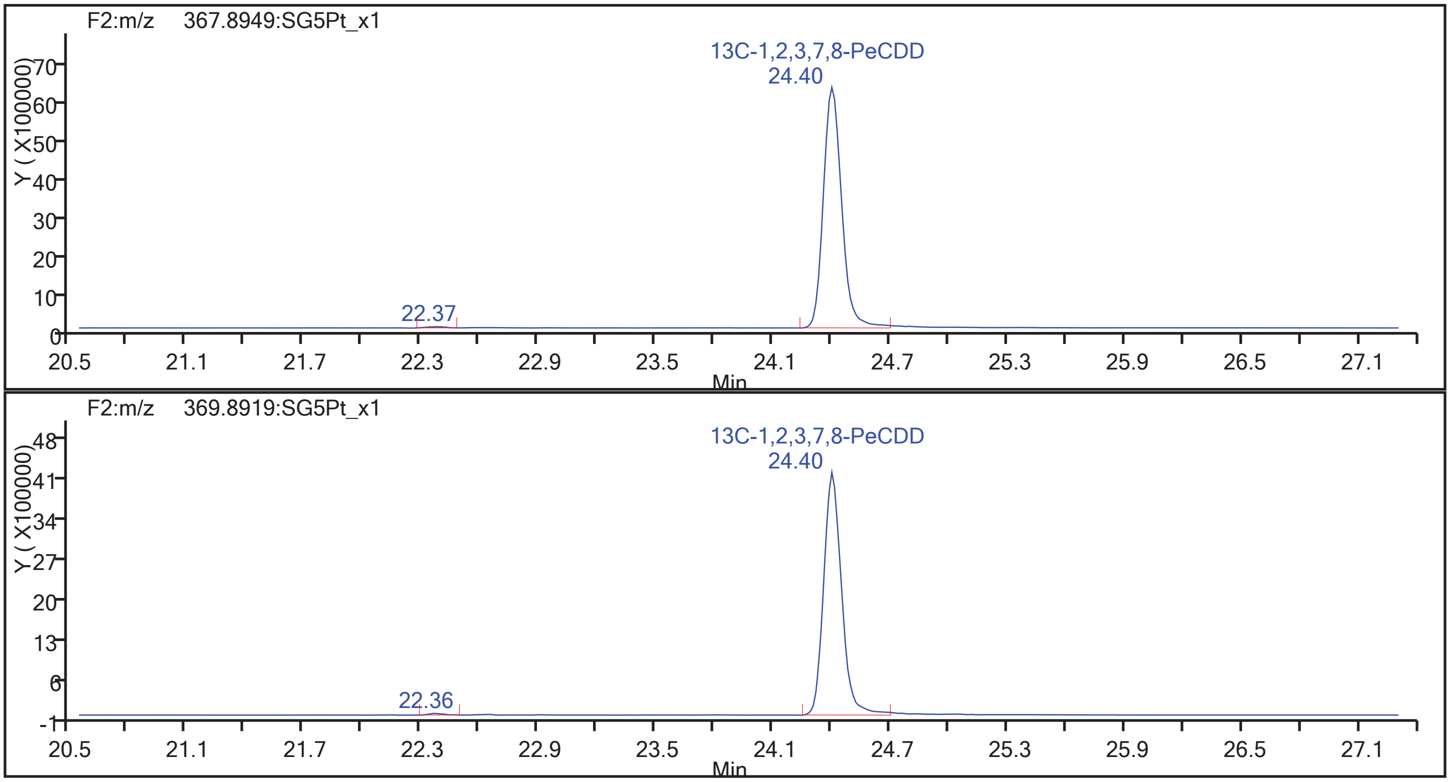
PeCDD



PeCDD Standards



Report Date: 16-Nov-2017 10:04:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Injection Vol:	2.0 ul
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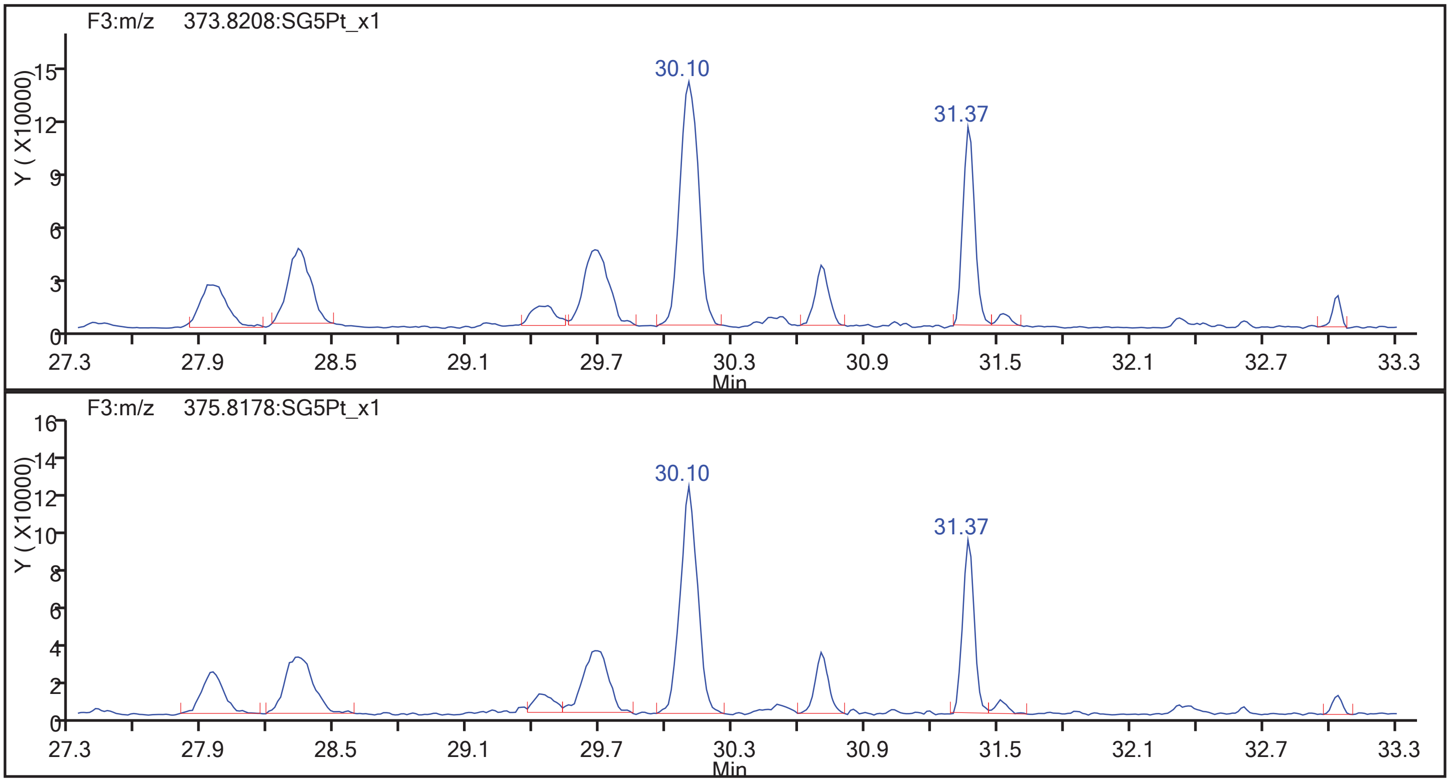
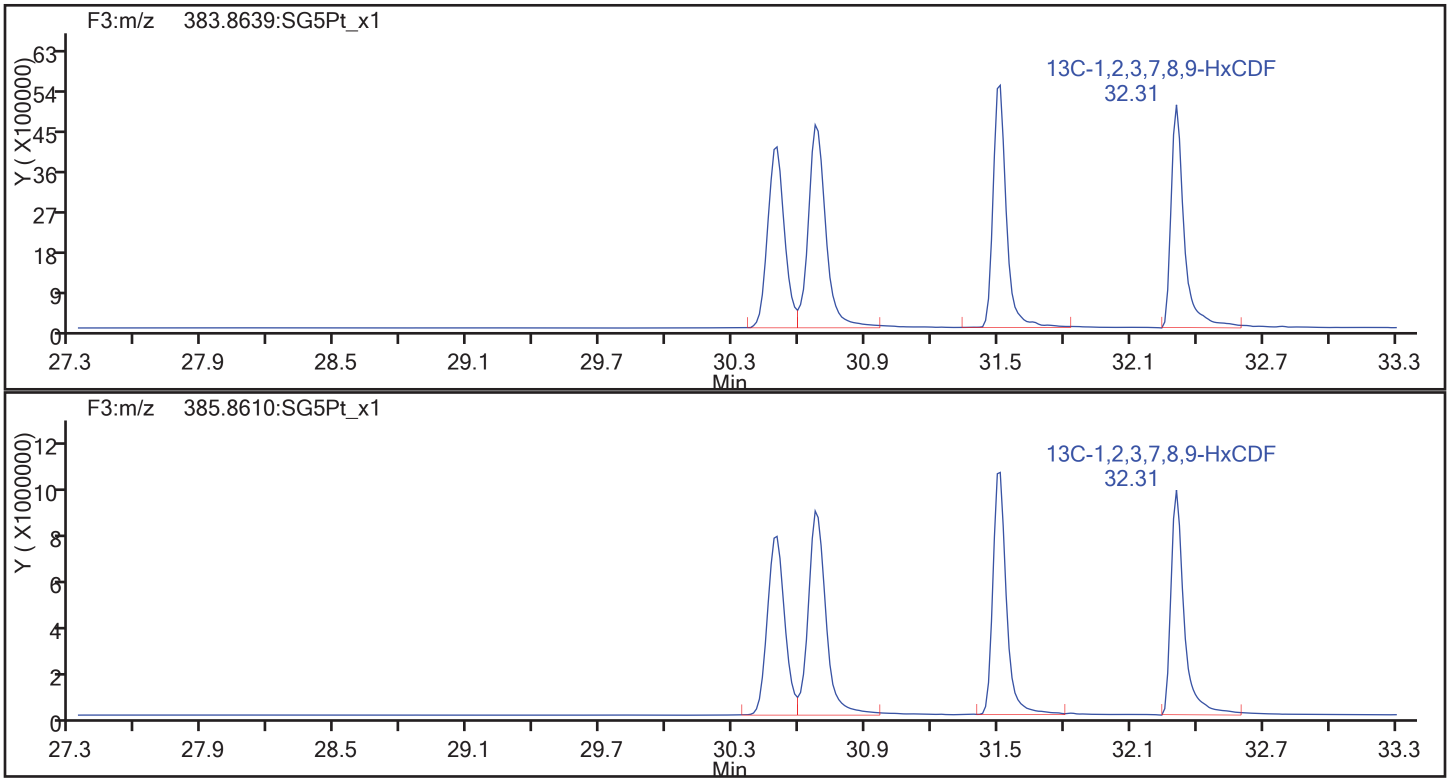
Worklist#:	194429	Sample Line#:	34
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



HxCDF Standards



Report Date: 16-Nov-2017 10:04:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d
Injection Date: 14-Nov-2017 14:54:35
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
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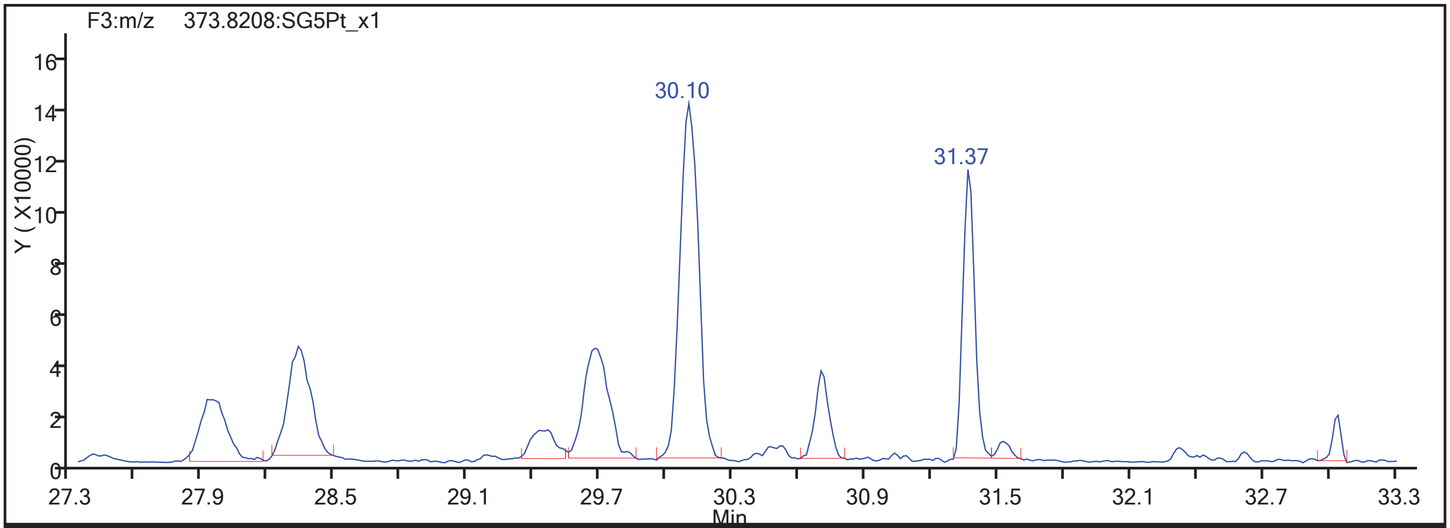
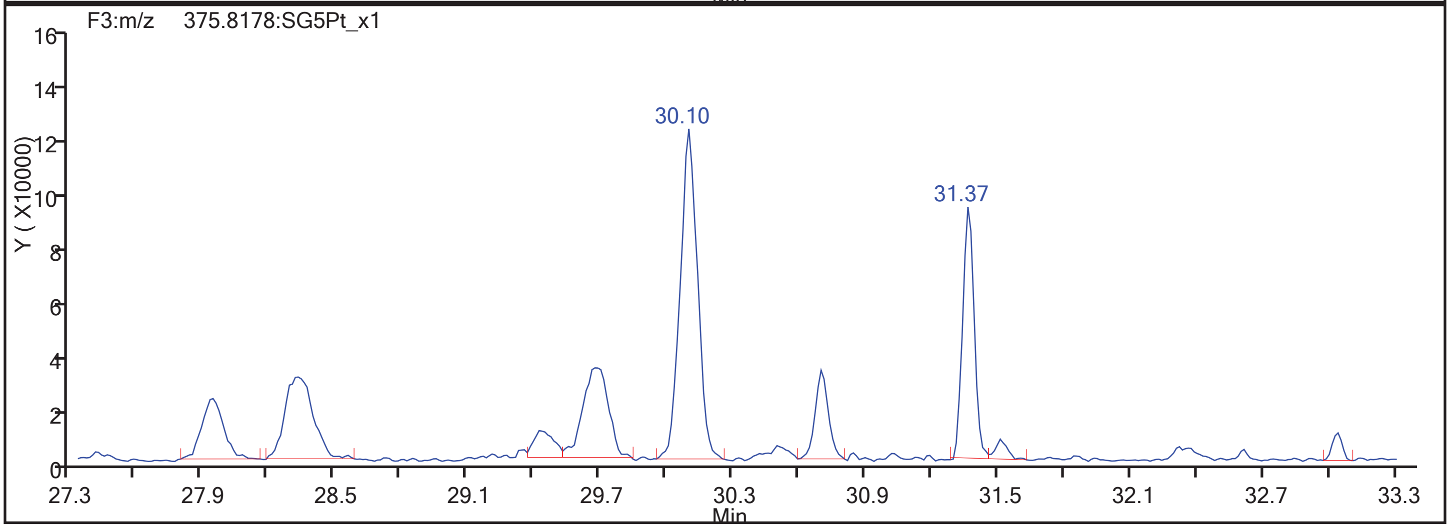
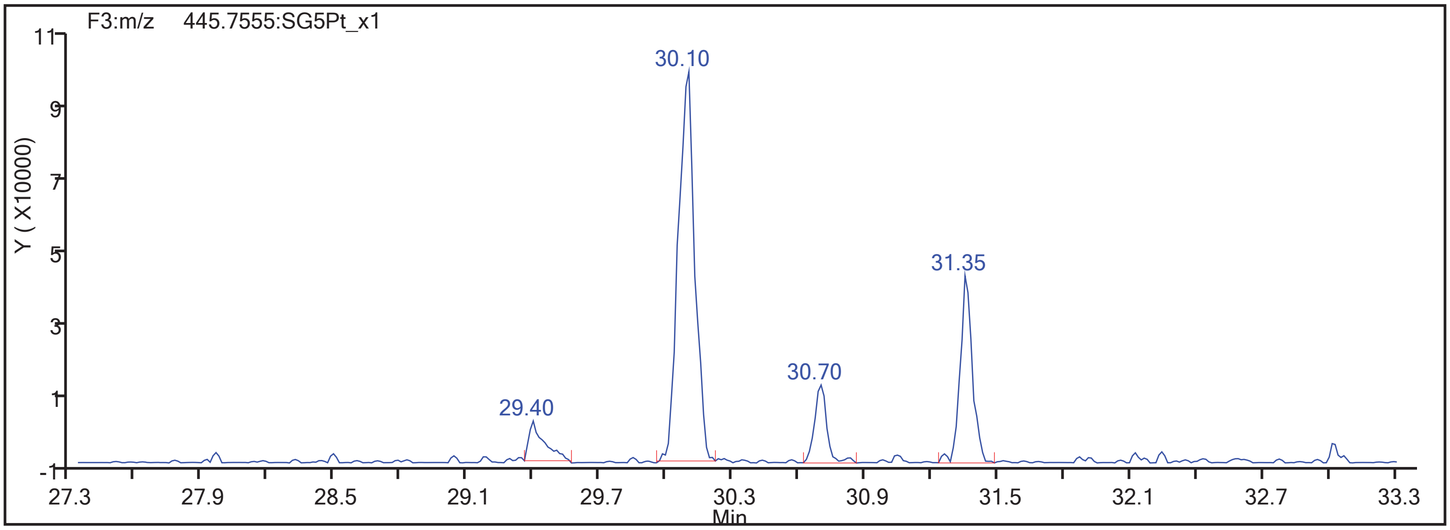
Worklist#: 194429
Sample Line#: 34
Column Type: DB-5
Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



Report Date: 16-Nov-2017 10:04:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46
TestAmerica Sacramento
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Injection Date: 14-Nov-2017 14:54:35 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
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Worklist#: 194429 Sample Line#: 34
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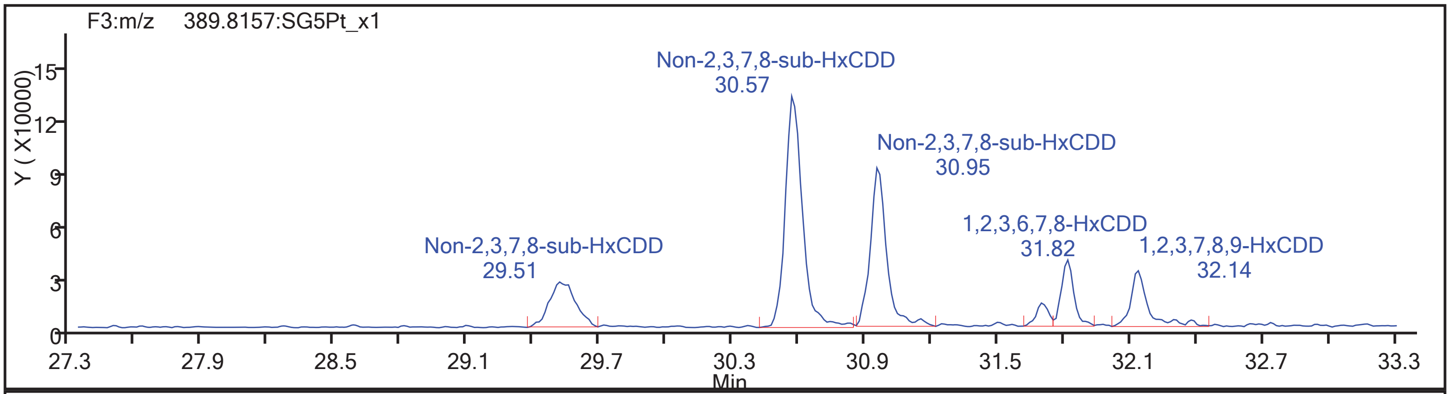
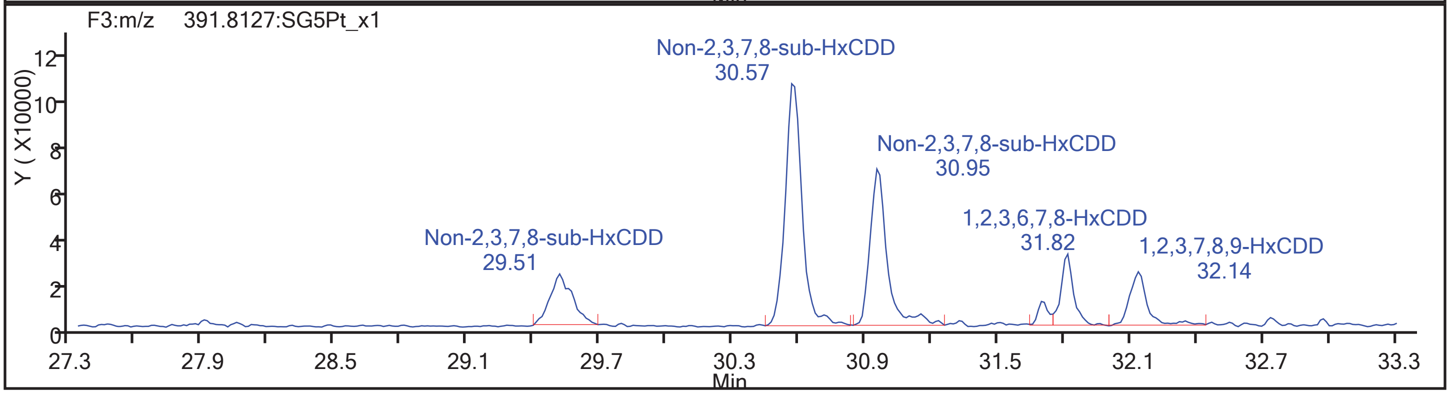
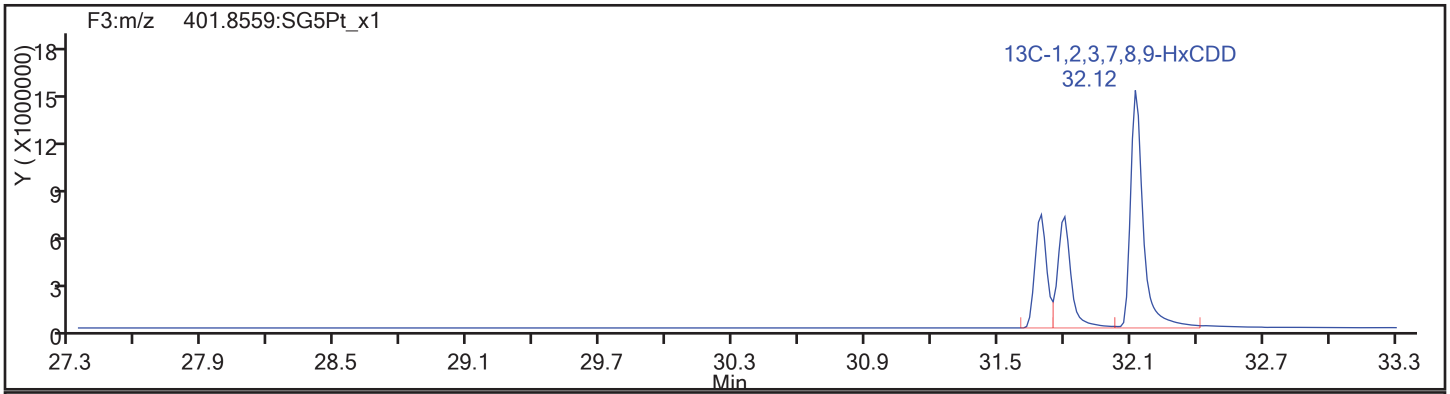
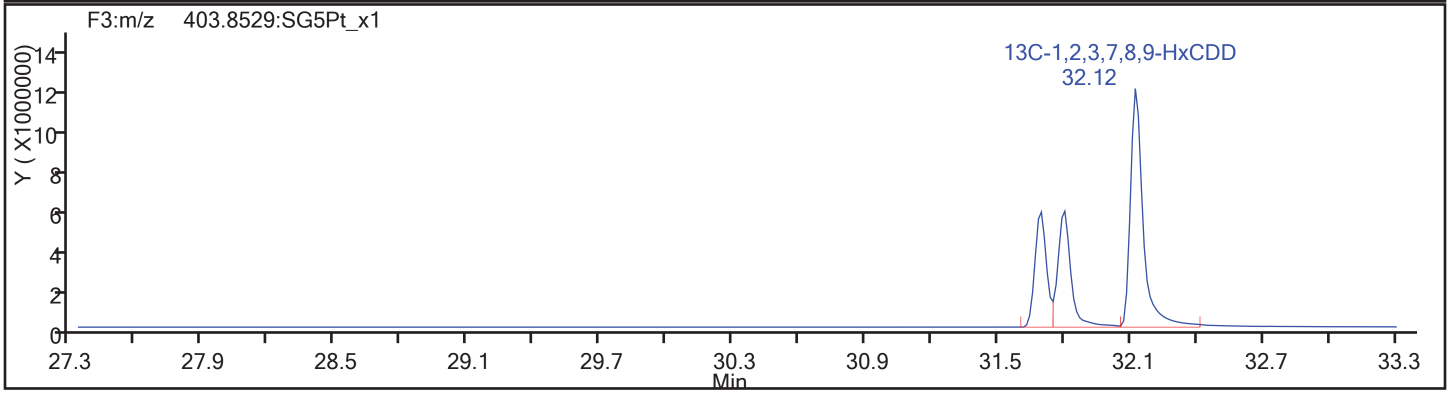
HxCDD





HxCDD Standards





Report Date: 16-Nov-2017 10:04:12		Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d

Injection Date:	14-Nov-2017 14:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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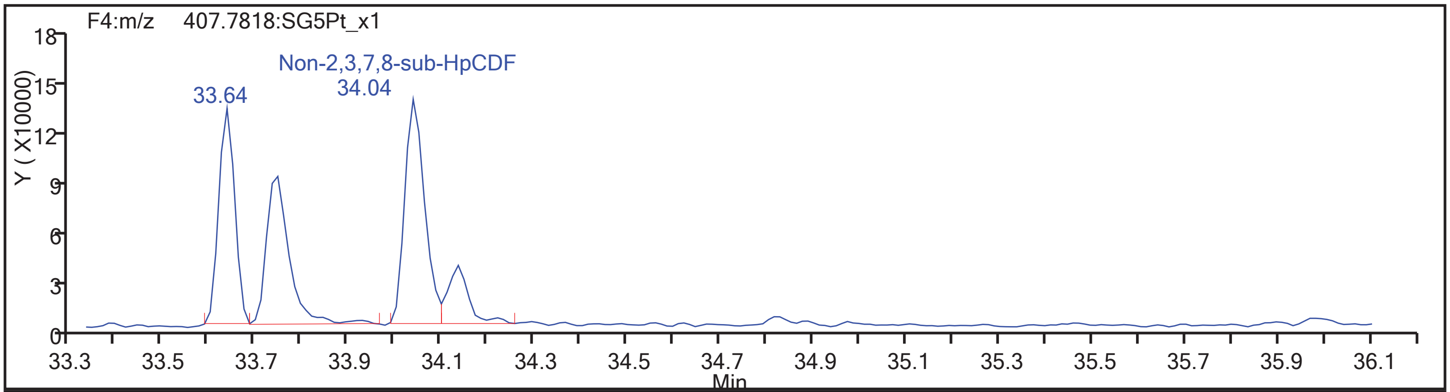
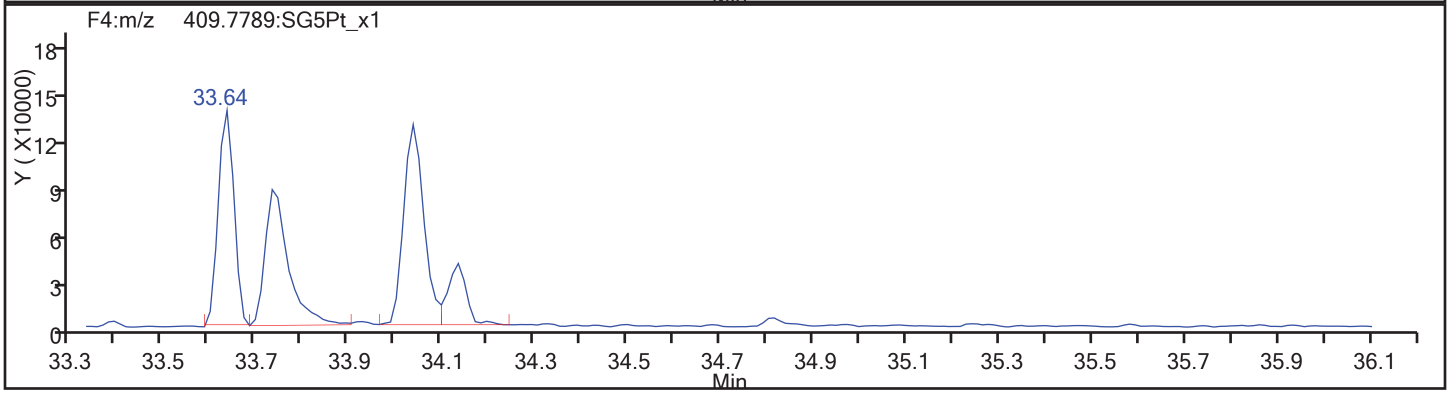
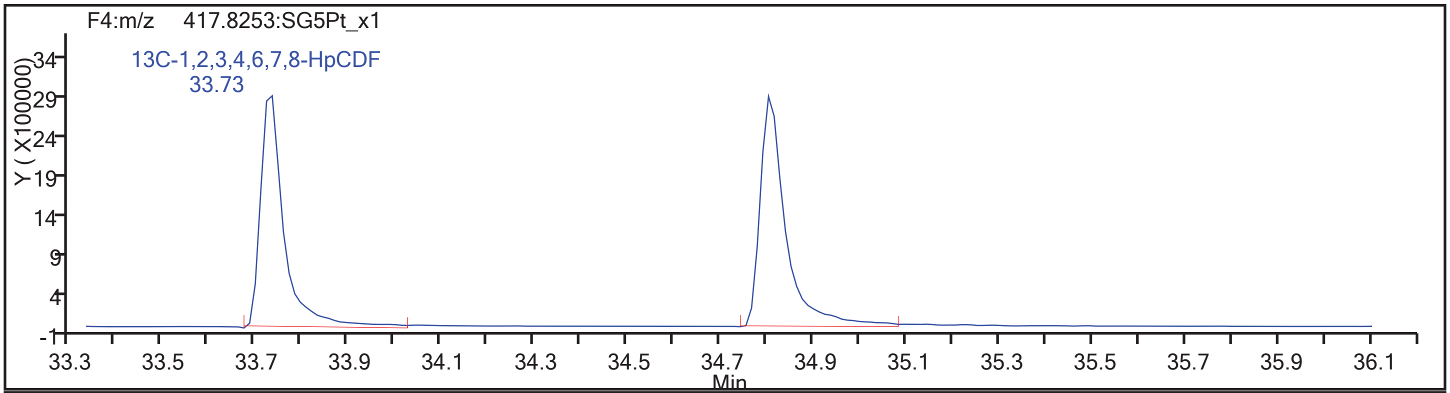
Column Type:	DB-5	Column Dia:	0.32 mm

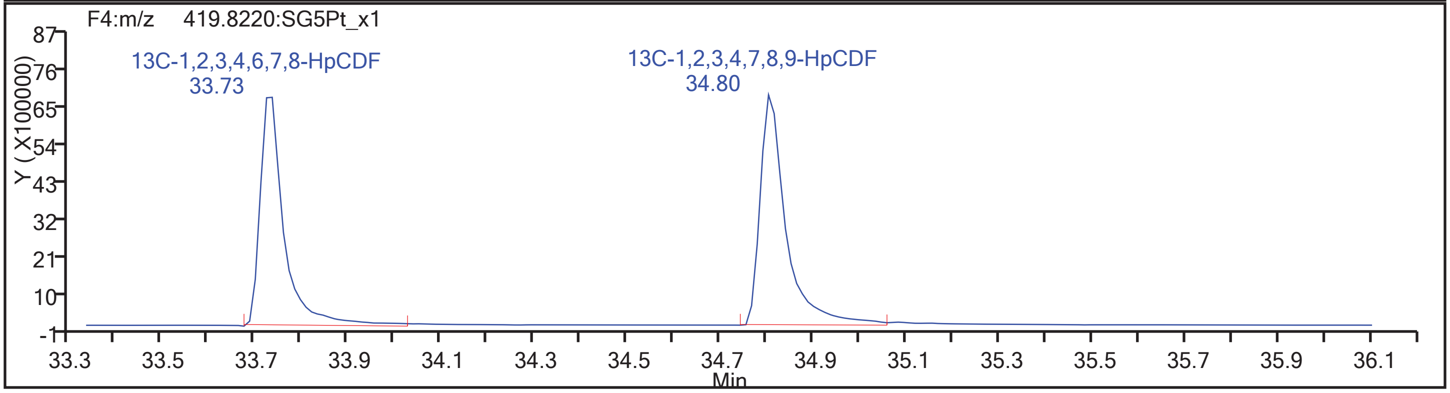
HpCDF





HpCDF Standards





Report Date: 16-Nov-2017 10:04:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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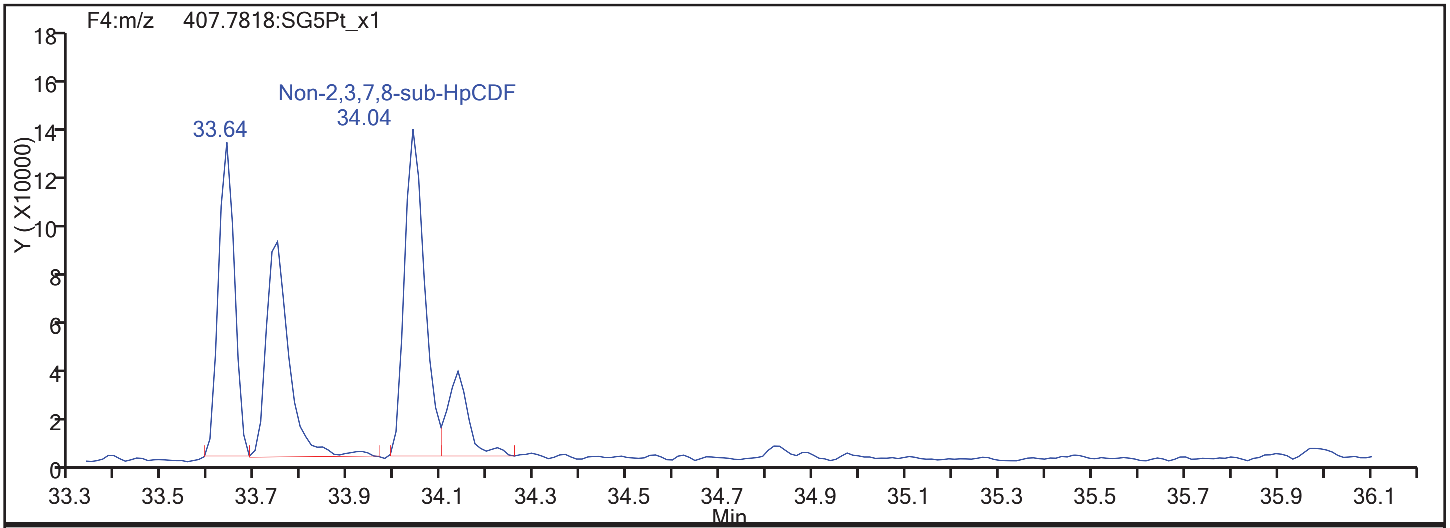
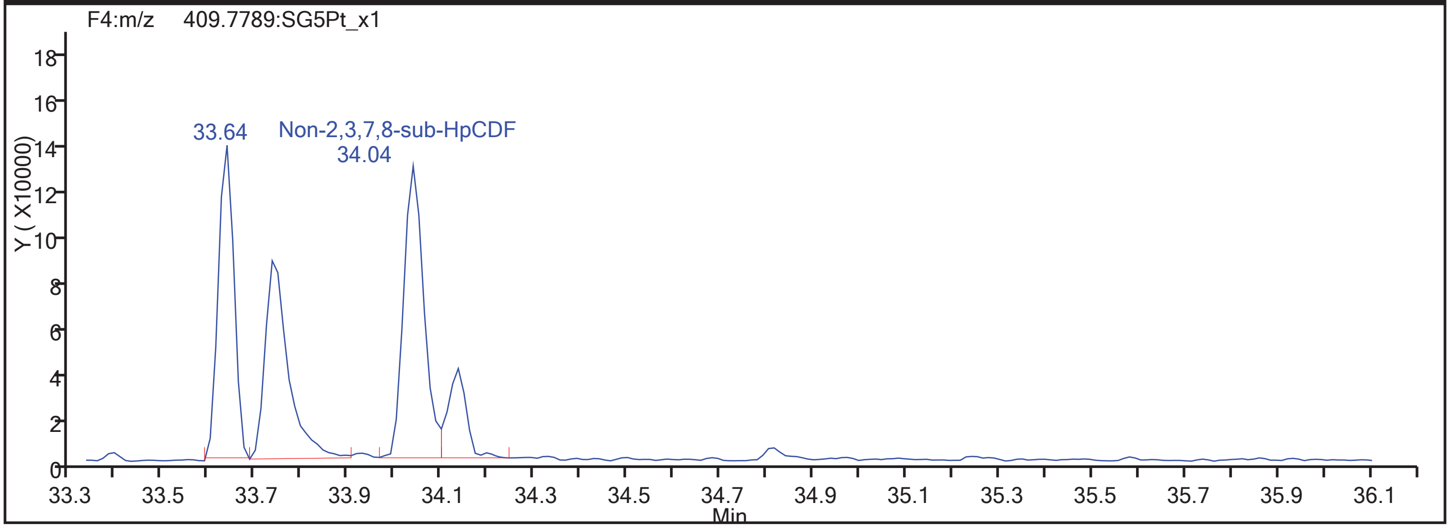
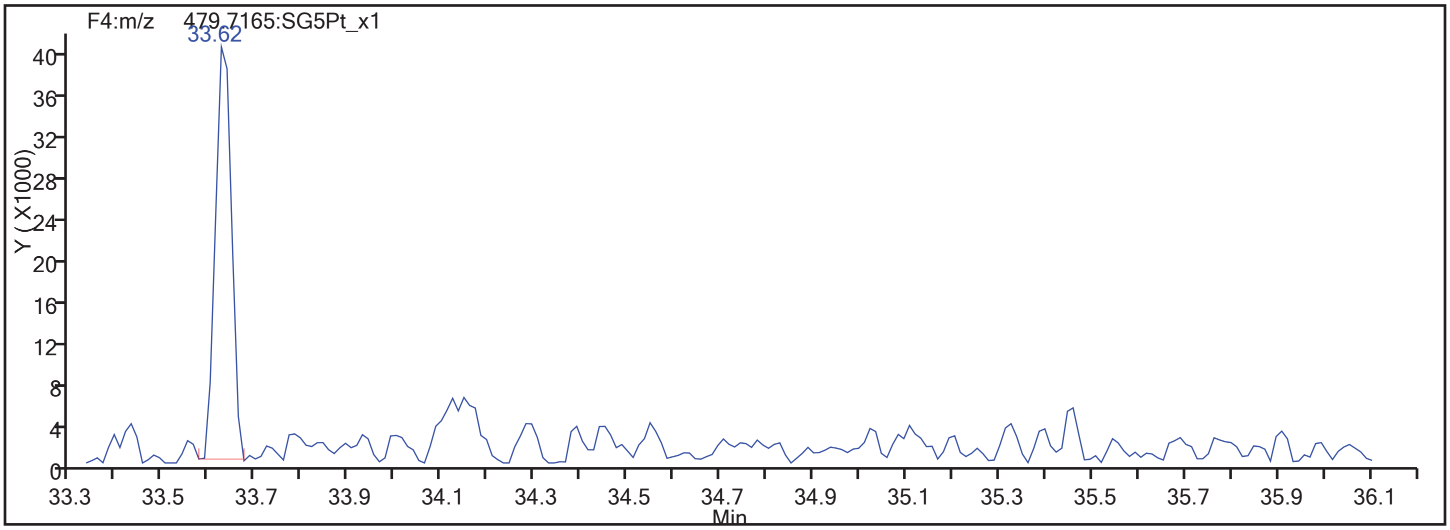
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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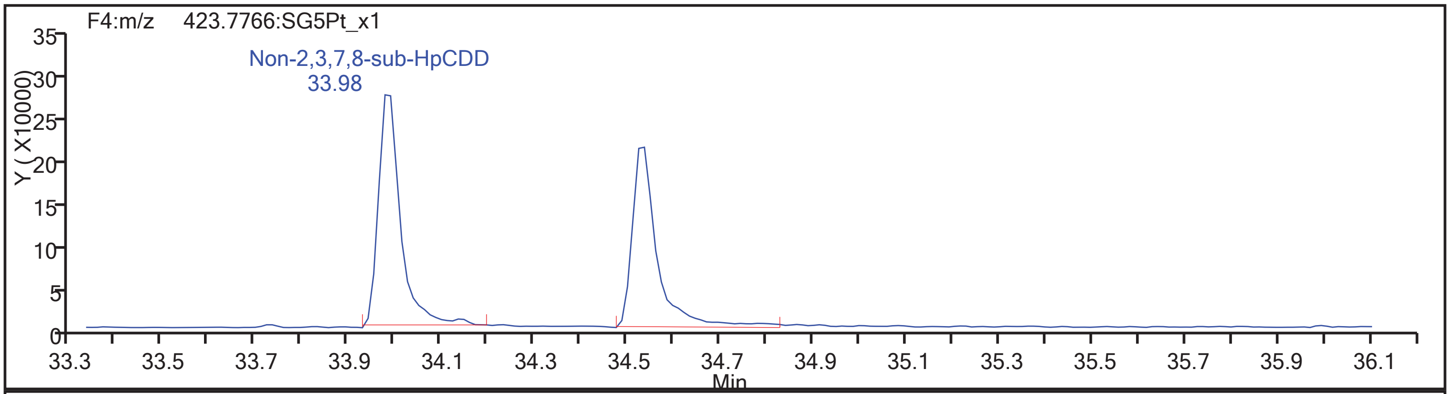
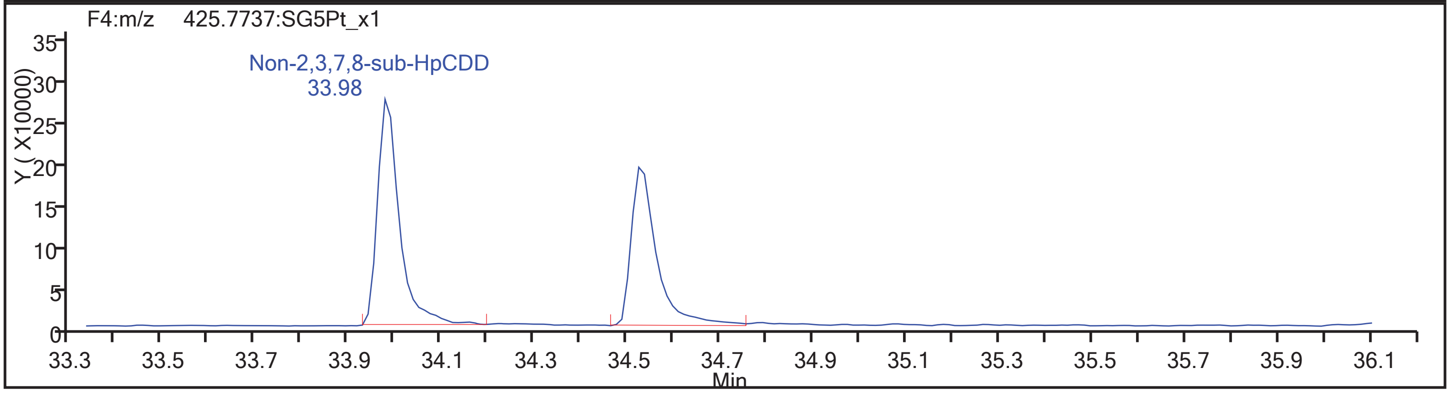
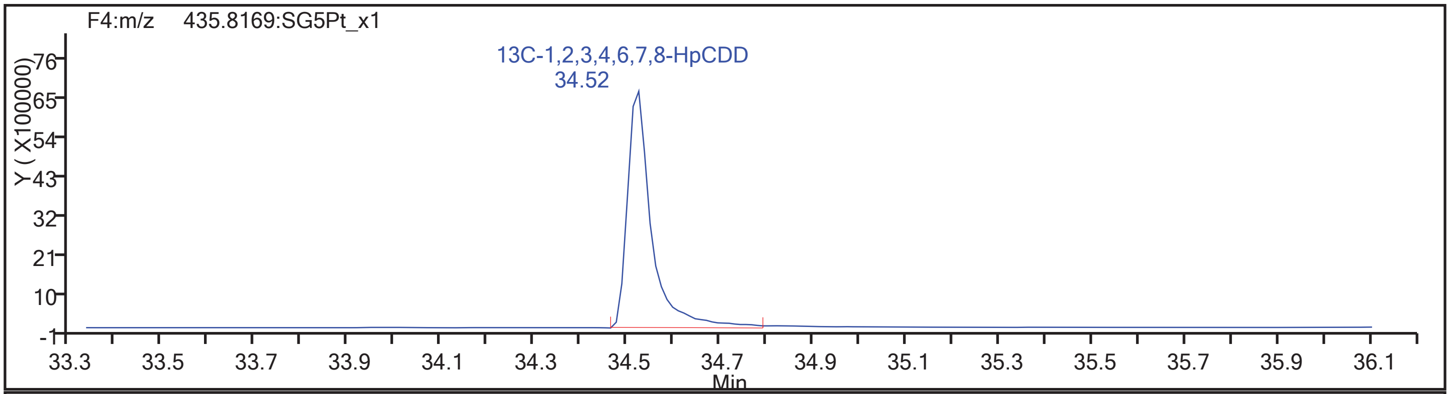
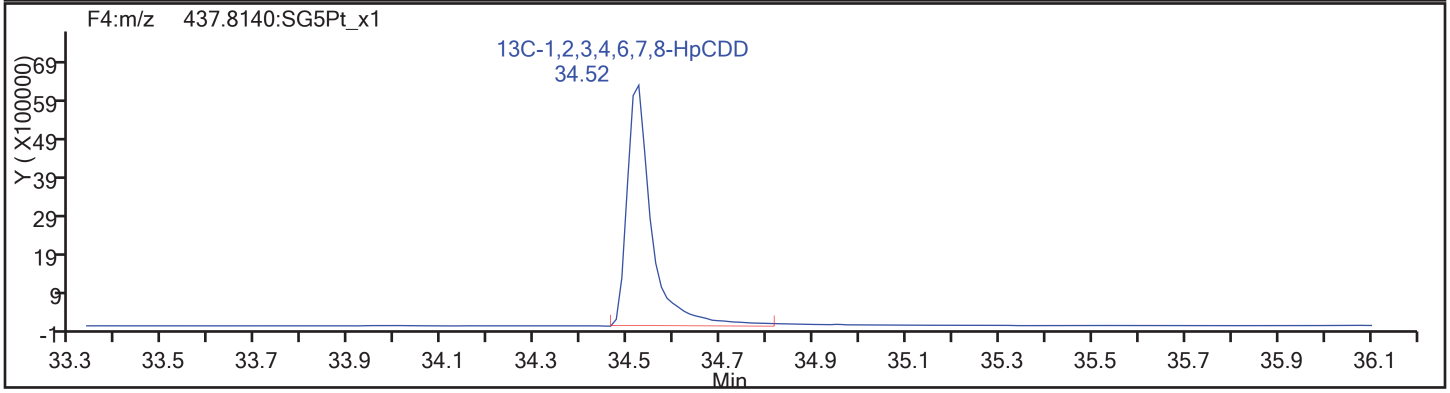
HpCDD





HpCDD Standards





Report Date: 16-Nov-2017 10:04:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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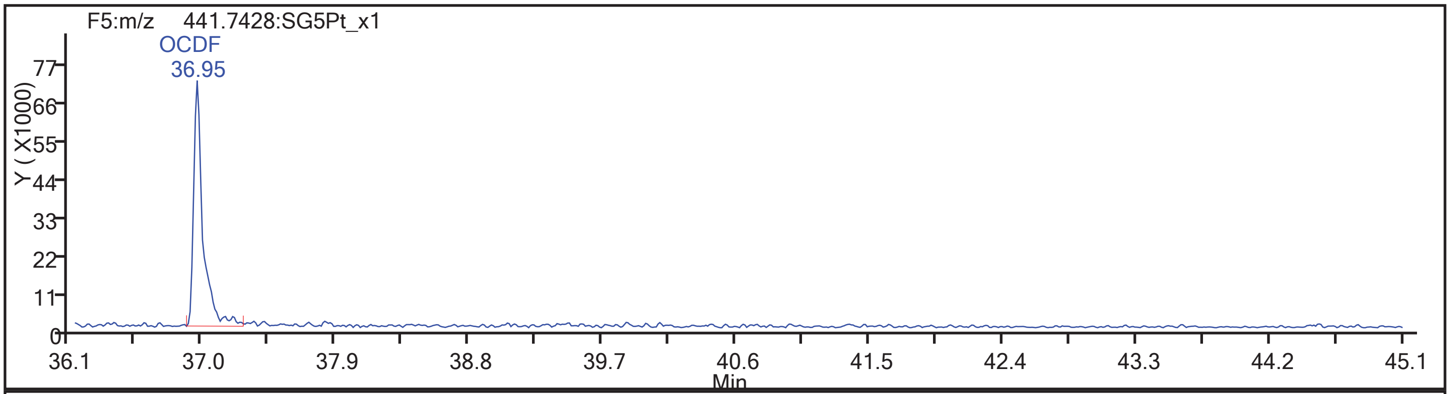
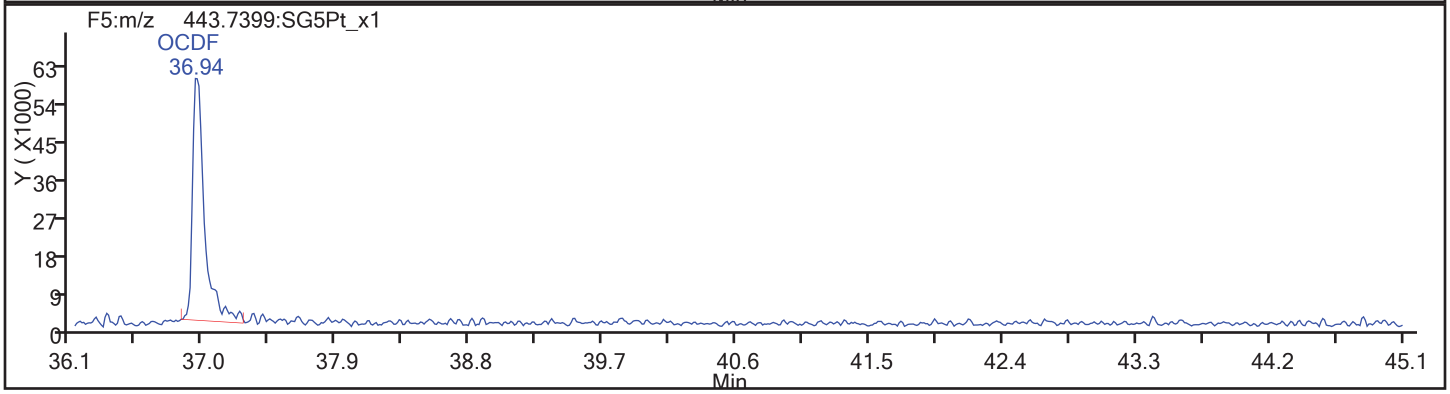
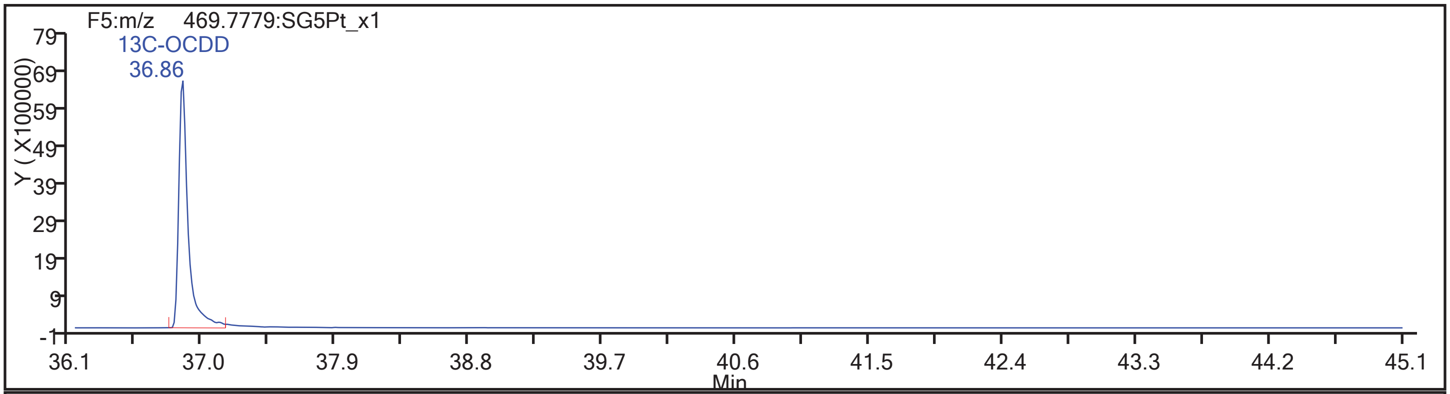
Injection Date: 14-Nov-2017 14:54:35 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 194429 Sample Line#: 34
Column Type: DB-5 Column Dia: 0.32 mm

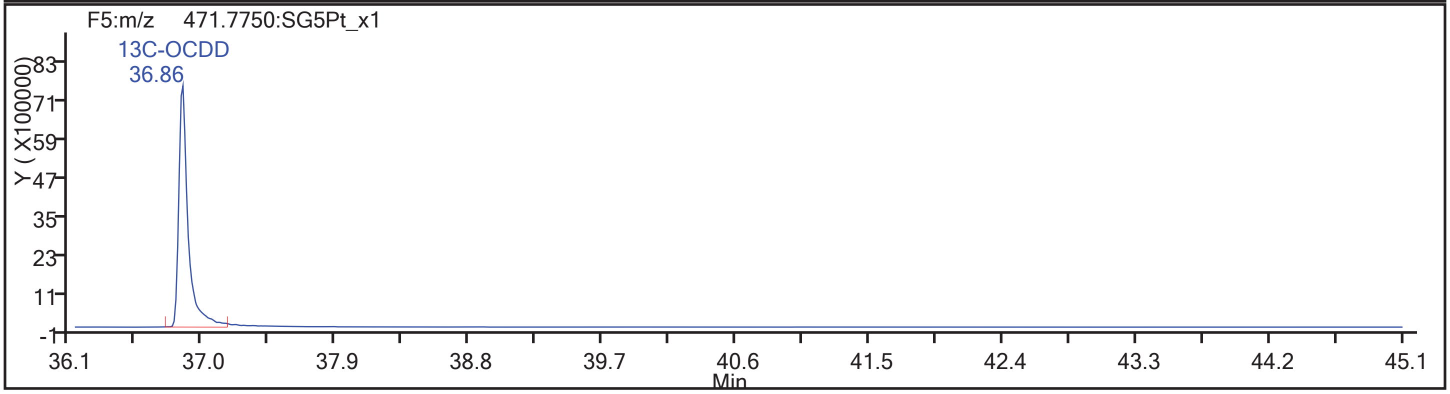
OCDF





OCDF Standards



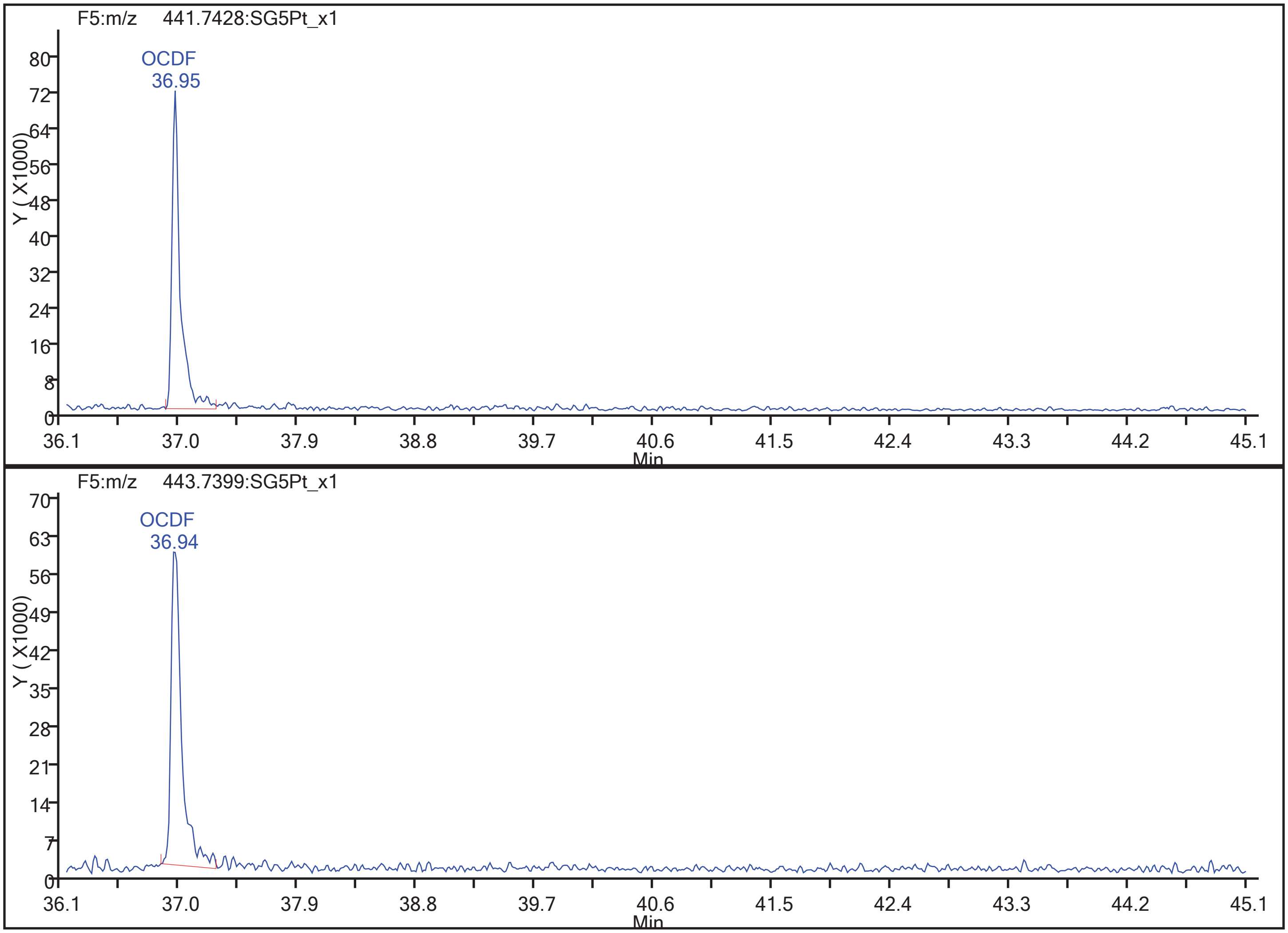


Report Date: 16-Nov-2017 10:04:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

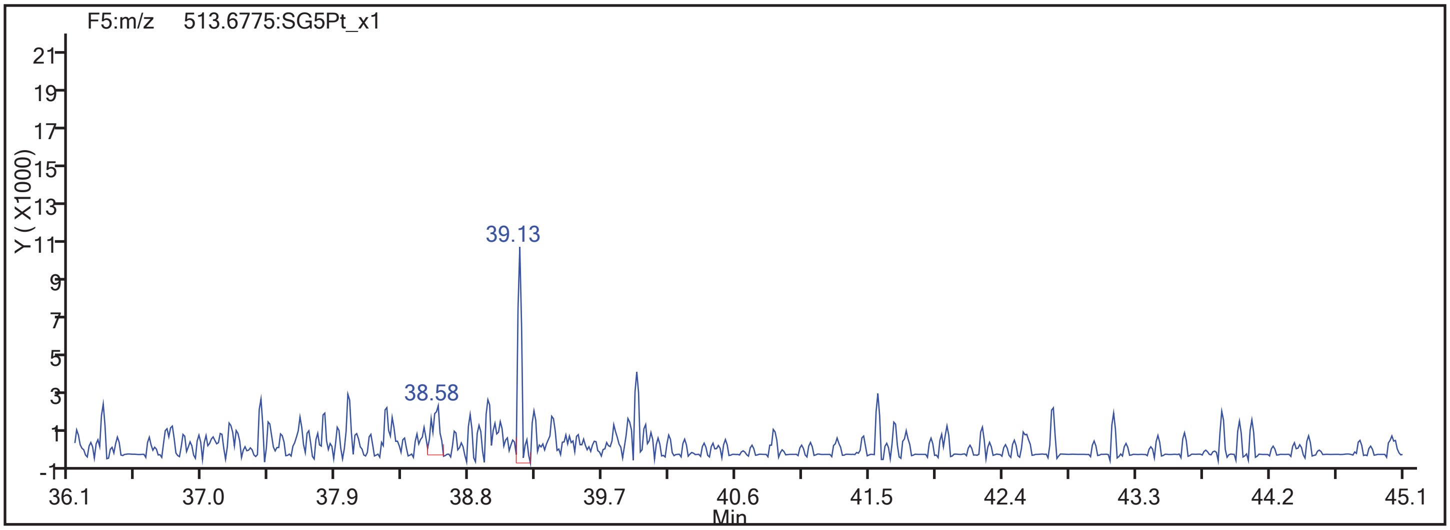
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	194429	Sample Line#:	34
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Interference Mass

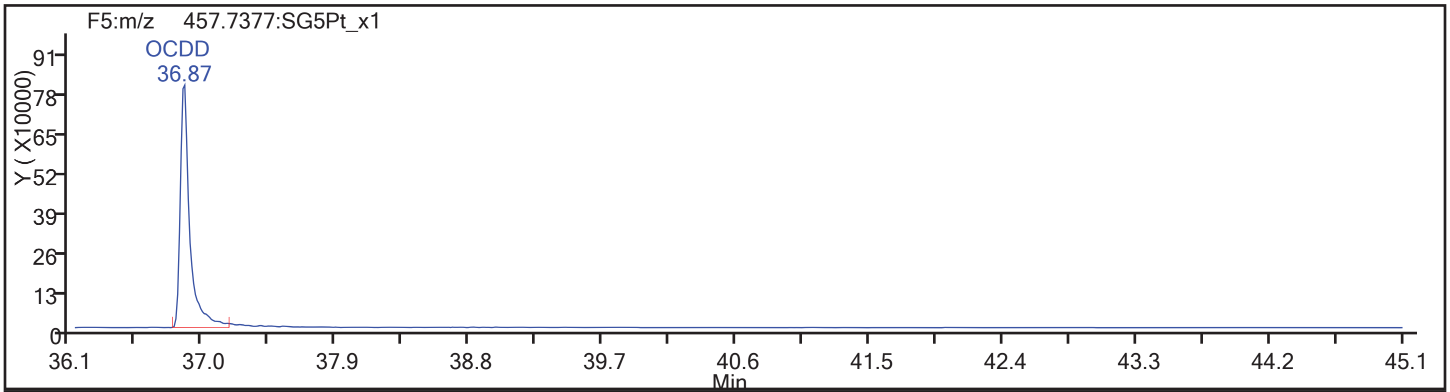


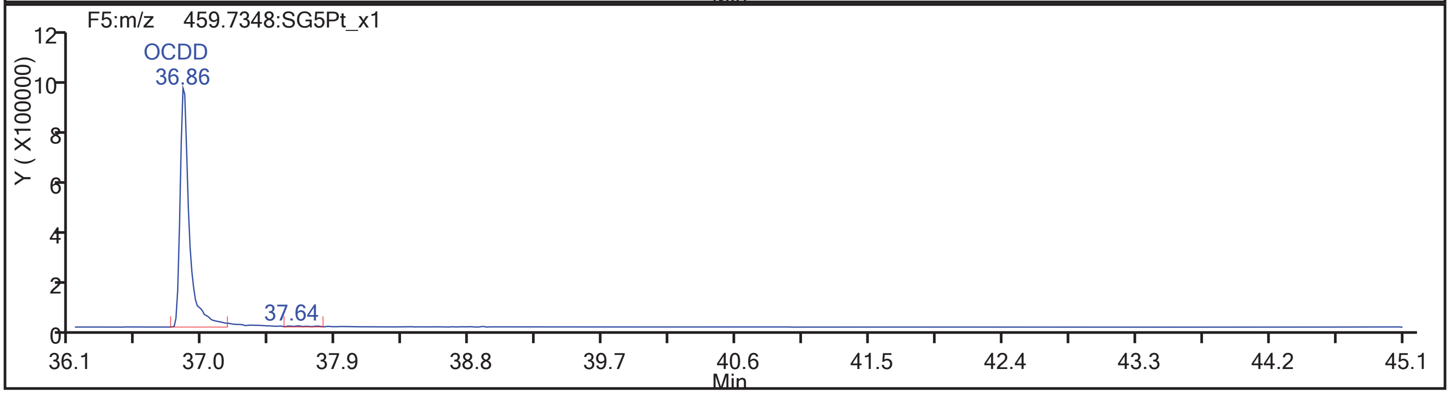
Report Date: 16-Nov-2017 10:04:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

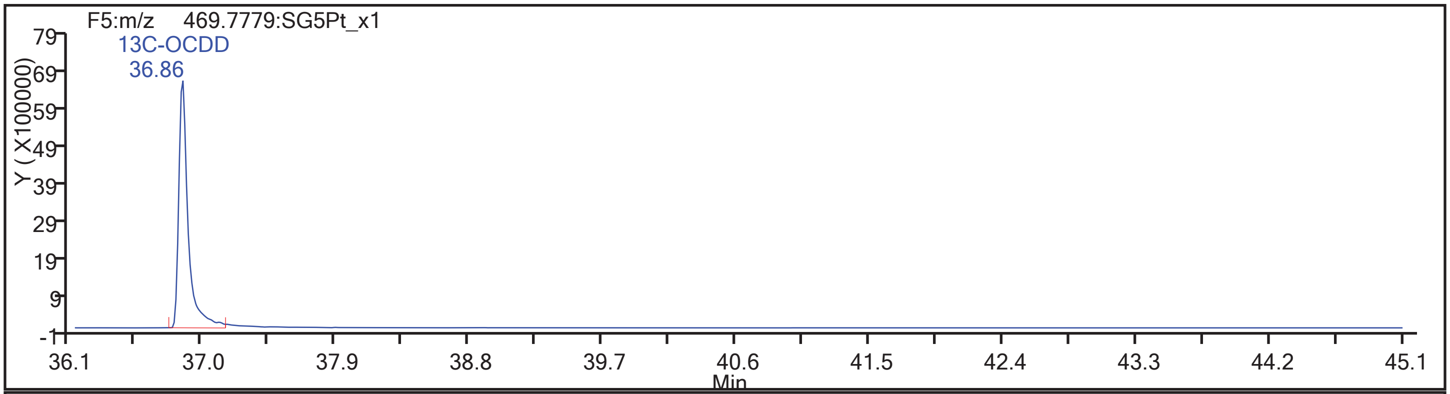
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d		
Injection Date:	14-Nov-2017 14:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	194429	Sample Line#:	34
Column Type:	DB-5	Column Dia:	0.32 mm

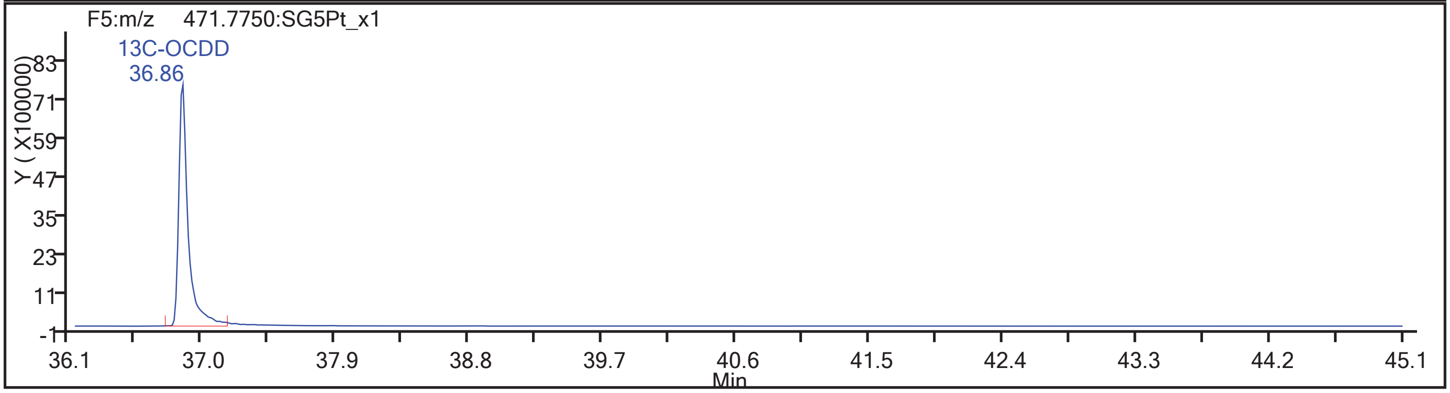
OCDD





OCDD Standards

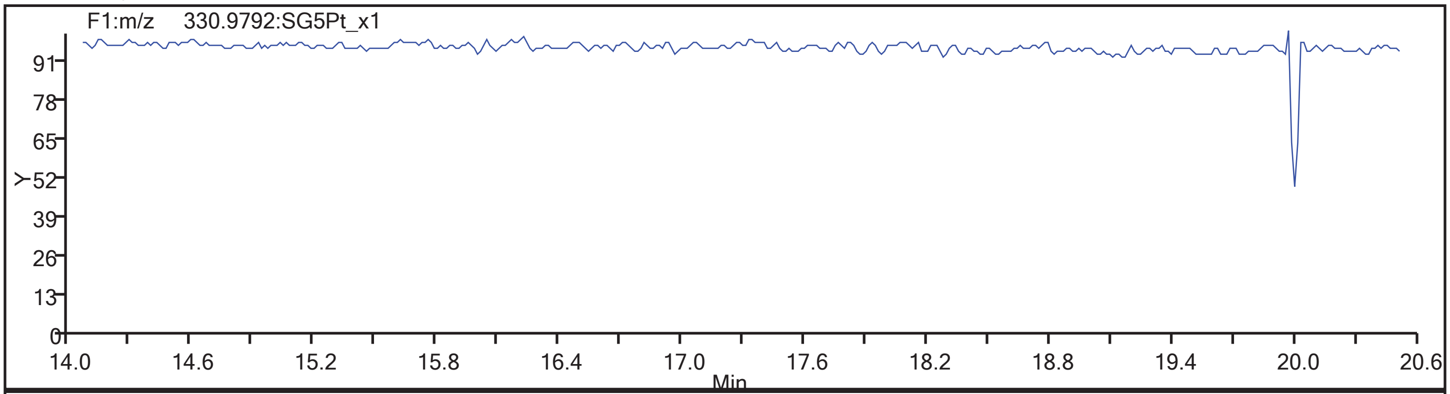


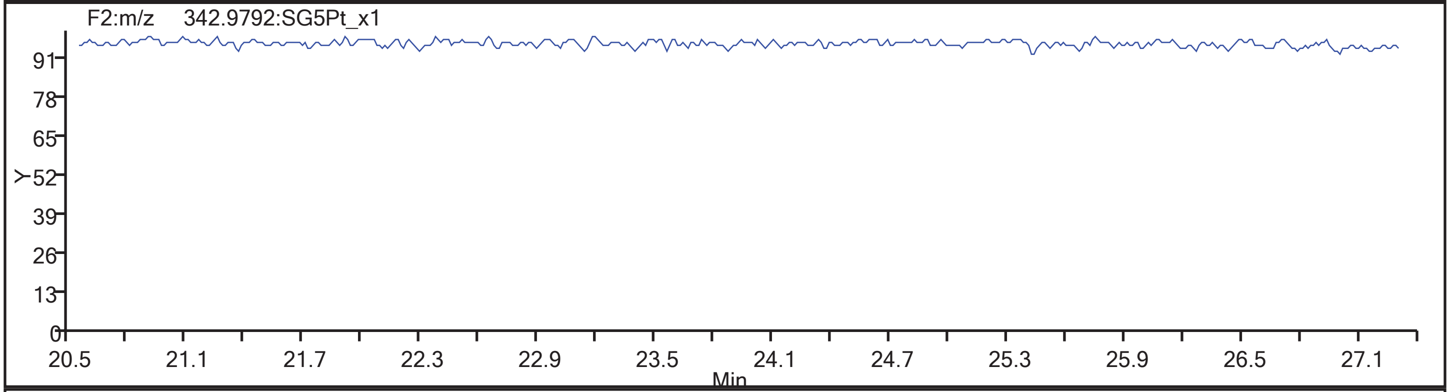


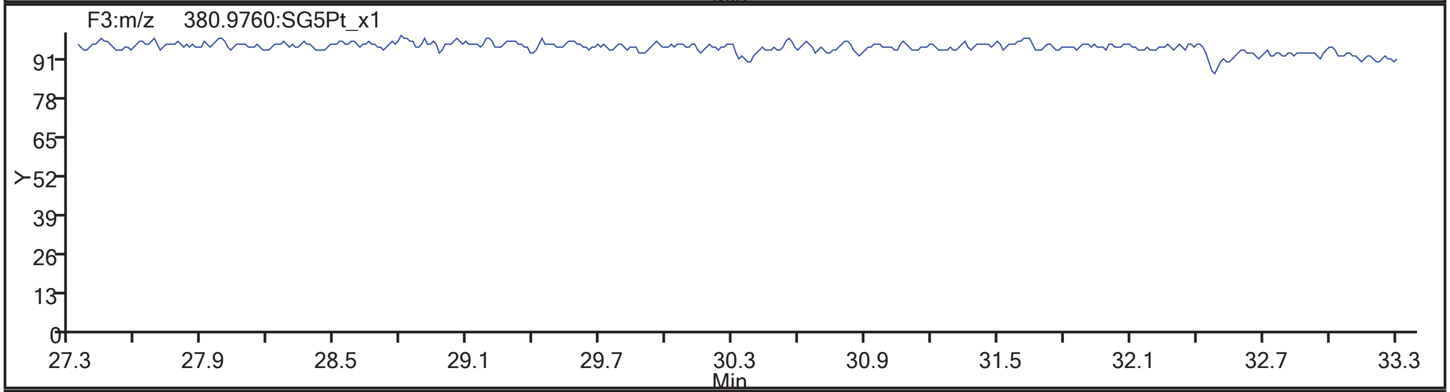
Report Date: 16-Nov-2017 10:04:12　Chrom Revision: 2.2 16-Aug-2017 16:24:46

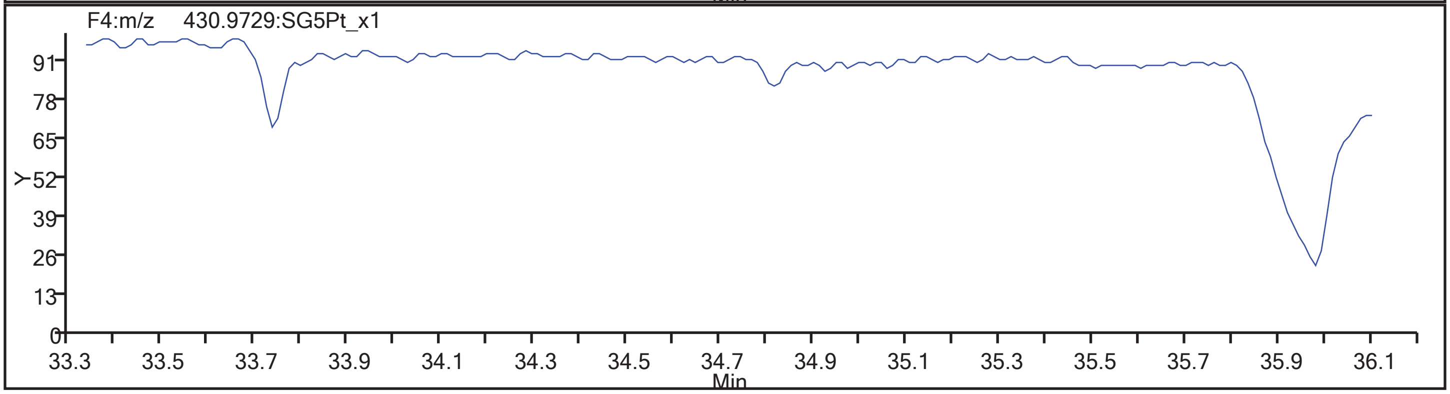
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d
Injection Date: 14-Nov-2017 14:54:35
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 194429
Sample Line#: 34
Column Type: DB-5
Column Dia: 0.32 mm









TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_34.d

Injection Date: 14-Nov-2017 14:54:35 Injection Vol: 2.0 ul

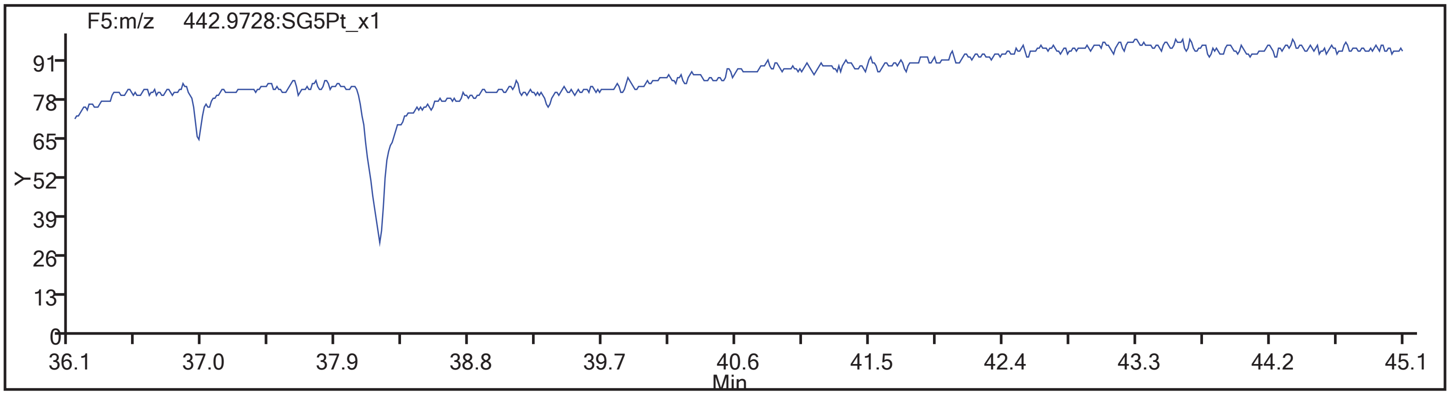
Instrument ID: 10D5 Operator ID: AJS

Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS02NS

Worklist#: 194429 Sample Line#: 34

Column Type: DB-5 Column Dia: 0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP013SS02NS RE	Lab Sample ID: 160-24924-14 RE
Matrix: Solid	Lab File ID: 16NO173D5_85.d
Analysis Method: 8290A	Date Collected: 10/05/2017 14:34
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.21(g)	Date Analyzed: 11/19/2017 15:03
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 5.5	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195575	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.41*	*U H*	*1.0*	0.41	*0.13*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.78*	*U H*	*5.2*	0.78	*0.15*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.78*	*U H*	*5.2*	0.78	*0.14*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.78*	*U H*	*5.2*	0.78	*0.15*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*2.1*	*U H*	*5.2*	2.1	*0.12*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*0.88*	*J H*	*5.2*	2.1	*0.11*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*0.92*	*J H*	*5.2*	2.1	*0.11*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.78*	*U H*	*5.2*	0.78	*0.11*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*0.36*	*J H M*	*5.2*	1.0	*0.10*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.0*	*U H*	*5.2*	1.0	*0.12*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.78*	*U H*	*5.2*	0.78	*0.11*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*5.0*	*J H*	*5.2*	1.0	*0.27*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*1.9*	*J H*	*5.2*	1.0	*0.20*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.1*	*U H*	*5.2*	2.1	*0.25*
3268-87-9	*OCDD*	*36*	*H B*	*10*	4.1	*0.45*
39001-02-0	*OCDF*	*3.3*	*J H*	*10*	4.1	*0.26*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	63		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	62		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	62		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	63		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	73		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	52		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	38	Q	40-135
114423-97-1	13C-OCDD	42		40-135

Report Date: 06-Dec-2017 15:10:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Lims ID: 160-24924-G-14-B
Client ID: SHAD041DP013SS02NS
Sample Type: Client
Inject. Date: 19-Nov-2017 15:03:51 ALS Bottle#: 55 Worklist Smp#: 85
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-14-B 160-24924-G-14-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:10:57 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: stephensk Date: 19-Nov-2017 19:45:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.264	148900579	0.77	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.735	143262508	0.82	1.5089	63.8	63.8	0.2249	0.2249	63.77	
2,3,7,8-TCDF	17.795	131105	0.72	1.0971	0.0834	0.0834	0.0701	0.0701		
A Non-2,3,7,8-sub-TCDF	17.402	2692731	0.77	1.0971	1.815	1.713	0.0701	0.7911		RQ
S Total TCDF					1.898	1.797	0.0701	0.0701		RQ
D 13C-2,3,7,8-TCDD	18.461	93453198	0.75	0.9906	63.4	63.4	0.1640	0.1640	63.36	
2,3,7,8-TCDD	18.461						0.0626	0.0626		
A Non-2,3,7,8-sub-TCDD	17.871	9655570	0.77	1.1645	8.881	8.873	0.0626	4.300		RQ
S Total TCDD					8.881	8.873	0.0626	0.0626		RQ
D 13C-1,2,3,7,8-PeCDF	22.910	104657398	1.60	1.1280	62.3	62.3	0.1966	0.1966	62.31	
1,2,3,7,8-PeCDF	22.910						0.0684	0.0684		
2,3,4,7,8-PeCDF	24.287						0.0704	0.0704		
A F1 PeCDFs	20.426	970468	1.52	1.1262	0.8234	0.8234	0.0300	0.8234		
A Non-2,3,7,8-sub-PeCDF	23.668	493986	1.71	1.1262	0.4191	0.4191	0.0694	0.4191		
S Total PeCDF					1.242	1.242	0.0694	0.0694		
D 13C-1,2,3,7,8-PeCDD	25.037	67476298	1.62	0.7269	62.3	62.3	0.1042	0.1042	62.35	
1,2,3,7,8-PeCDD	25.078	50492	1.55	1.1272	0.0938	0.0664	0.0721	0.0721		RQ
A Non-2,3,7,8-sub-PeCDD	23.878	1222804	1.55	1.1272	1.798	1.608	0.0721	0.5340		RQ
S Total PeCDD					1.892	1.674	0.0721	0.0721		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.945	75483108	0.51	1.0279	72.5	72.5	0.2543	0.2543	72.52	
1,2,3,4,7,8-HxCDF	30.932						0.0551	0.0551		
1,2,3,6,7,8-HxCDF	31.119	195597	1.24	1.4794	0.2011	0.1752	0.0502	0.0502		RQM
2,3,4,6,7,8-HxCDF	31.691						0.0536	0.0536		U
D 13C-1,2,3,7,8,9-HxCDF	32.610	61811807	0.52							
1,2,3,7,8,9-HxCDF	32.597						0.0575	0.0575		
A Non-2,3,7,8-sub-HxCDF	30.653	1513350	1.24	1.3751	1.600	1.458	0.0540	0.4738		RQ
S Total HxCDF					1.801	1.633	0.0541	0.0541		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.424	101250854	1.28	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.131						0.0588	0.0588		RQU
D 13C-1,2,3,6,7,8-HxCDD	32.117	54228710	1.22	0.8502	63.0	63.0	0.2244	0.2244	63.00	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.131	272493	1.24	1.1809	0.4718	0.4255	0.0530	0.0530		RQ
1,2,3,7,8,9-HxCDD	32.437	295479	1.36	1.2311	0.4426	0.4426	0.0508	0.0508		
A Non-2,3,7,8-sub-HxCDD	31.252	2277952	1.24	1.1589	3.780	3.625	0.0540	2.248		RQ
S Total HxCDD					4.695	4.493	0.0542	0.0542		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.022	24984046	0.45	0.6490	38.0	38.0	0.3353	0.3353	38.02	
1,2,3,4,6,7,8-HpCDF	34.034	370488	1.19	1.5871	0.9344	0.9344	0.0945	0.0945		
1,2,3,4,7,8,9-HpCDF	35.128						0.1220	0.1220		
A Non-2,3,7,8-sub-HpCDF	34.569	537434	0.90	1.4080	1.528	1.528	0.1065	1.528		
S Total HpCDF					2.462	2.462	0.1082	0.1082		
1,2,3,4,6,7,8-HpCDD	34.848	810881	0.94	1.1631	2.436	2.436	0.1290	0.1290		
D 13C-1,2,3,4,6,7,8-HpCDD	34.836	28624877	1.04	0.5387	52.5	52.5	0.2448	0.2448	52.48	
A Non-2,3,7,8-sub-HpCDD	35.261	1056590	0.95	1.1631	3.173	3.173	0.1290	3.173		
S Total HpCDD					5.609	5.609	0.1290	0.1290		
D 13C-OCDD	37.257	33964770	0.91	0.4009	83.7	83.7	0.2276	0.2276	41.84	
OCDF	37.365	337212	0.82	1.2649	1.570	1.570	0.1251	0.1251		
OCDD	37.269	3080137	0.88	1.0390	17.5	17.5	0.2161	0.2161		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Lims ID: 160-24924-G-14-B
Client ID: SHAD041DP013SS02NS
Sample Type: Client
Inject. Date: 19-Nov-2017 15:03:51 ALS Bottle#: 55 Worklist Smp#: 85
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-14-B 160-24924-G-14-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:10:57 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: stephensk Date: 19-Nov-2017 19:45:08

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.264	18.234	2		64841905	15605108	13235	33087	1179		a
333.9339	18.264	18.234	2		84058674	19918205	9847	24617	2023	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.735	17.705	2	0.971	64480399	15401164	24339	60847	633		
317.9389	17.735	17.705	2	0.971	78782109	18633151	23881	59702	780	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.795	17.720	5	1.003	54692	16327	4191	10477	4		
305.8987	17.765	17.720	3	1.002	76413	24255	6274	15685	4	0.72(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	15.240	17.402	-129	0.859	191490	55427	4191	10477	13		
	Empc Correction				143553	41199	4191	10477	10		
305.8987	15.255	17.402	-129	0.860	186433	53506	6274	15685	9	1.03(0.65-0.89)	
303.9016	15.769	17.402	-98	0.889	554855	154380	4191	10477	37		
305.8987	15.754	17.402	-99	0.888	688538	184188	6274	15685	29	0.81(0.65-0.89)	
303.9016	16.827	17.402	-34	0.949	107287	28484	4191	10477	7		a
305.8987	16.813	17.402	-35	0.948	148636	29021	6274	15685	5	0.72(0.65-0.89)	
303.9016	17.175	17.402	-14	0.968	269147	71728	4191	10477	17		
305.8987	17.175	17.402	-14	0.968	461266	100405	6274	15685	16	0.58(0.65-0.89)	
	Empc Correction				349541	93153	6274	15685	15		
303.9016	18.657	17.402	75	1.052	113839	24523	4191	10477	6		
305.8987	18.657	17.402	75	1.052	130902	35173	6274	15685	6	0.87(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.461	18.430	2	1.011	40152101	8810638	13235	33087	666		
333.9339	18.461	18.430	2	1.011	53301097	12023385	9847	24617	1221	0.75(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,7,8-TCDD											
319.8965	18.461						3066	7665			
321.8936	18.461						3013	7532			
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	16.192	17.871	-101	0.877	2006148	566579	3066	7665	185		
321.8936	16.177	17.871	-101	0.876	2673197	709488	3013	7532	235	0.75(0.65-0.89)	
319.8965	16.495	17.871	-82	0.894	1561855	408691	3066	7665	133		
321.8936	16.480	17.871	-83	0.893	2216273	560810	3013	7532	186	0.70(0.65-0.89)	
319.8965	17.326	17.871	-33	0.939	61390	14481	3066	7665	5		
	Empc Correction				52661	11692	3066	7665	4		
321.8936	17.326	17.871	-33	0.939	68391	15185	3013	7532	5	0.90(0.65-0.89)	
319.8965	18.279	17.871	24	0.990	444251	69683	3066	7665	23		
321.8936	18.264	17.871	24	0.989	632794	92551	3013	7532	31	0.70(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.910	22.883	2	1.254	64395371	10792709	17058	42645	633		
353.8970	22.910	22.883	2	1.254	40262027	6816358	14455	36137	472	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						2366	5915			
341.8567	22.910						3137	7842			
2,3,4,7,8-PeCDF											
339.8597	24.287						2366	5915			
341.8567	24.287						3137	7842			
A F1 PeCDFs											
339.8597	19.942	20.426	-29	0.870	585214	110561	1059	2647	104		
341.8567	19.942	20.426	-29	0.870	385254	79716	1322	3305	60	1.52(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	21.546	23.668	-127	0.940	311732	41923	2366	5915	18		a
341.8567	21.546	23.668	-127	0.940	182254	29583	3137	7842	9	1.71(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.037	25.010	2	1.371	41750506	6171306	5653	14132	1092		
369.8919	25.037	25.010	2	1.371	25725792	3954076	5105	12762	775	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											RQ
355.8546	25.078	25.037	2	1.002	51506	9275	1754	4385	5		
	Empc Correction				30691	8073	1754	4385	5		
357.8516	25.024	25.037	-1	0.999	19801	5209	1539	3847	3	2.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.723	23.878	-129	0.868	246877	45958	1754	4385	26		
357.8516	21.737	23.878	-128	0.868	196976	35636	1539	3847	23	1.25(1.32-1.78)	
	Empc Correction				159275	29650	1539	3847	19		
355.8546	22.951	23.878	-56	0.917	173844	31108	1754	4385	18		
	Empc Correction				112139	27726	1754	4385	16		
357.8516	22.978	23.878	-54	0.918	72348	17888	1539	3847	12	2.40(1.32-1.78)	
355.8546	23.551	23.878	-20	0.941	130326	21801	1754	4385	12		
357.8516	23.551	23.878	-20	0.941	81707	17203	1539	3847	11	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
355.8546	24.055	23.878	11	0.961	73480	9805	1754	4385	6		
	Empc Correction				32102	6951	1754	4385	4		
357.8516	24.083	23.878	12	0.962	20711	4485	1539	3847	3	3.55(1.32-1.78)	
355.8546	24.451	23.878	34	0.977	200987	40100	1754	4385	23		
357.8516	24.410	23.878	32	0.975	123885	17651	1539	3847	11	1.62(1.32-1.78)	
355.8546	24.655	23.878	47	0.985	29780	5819	1754	4385	3		
	Empc Correction				25801	11327	1754	4385	6		
357.8516	24.655	23.878	47	0.985	16646	7308	1539	3847	5	1.79(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.945	30.919	2	0.954	25575709	5574954	12832	32080	434		
385.8610	30.945	30.919	2	0.954	49907399	11001841	18542	46355	593	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						2964	7410			
375.8178	30.932						1956	4890			
1,2,3,6,7,8-HxCDF											RQM
373.8208	31.119	31.092	2	1.006	108277	23535	2964	7410	8		M
375.8178	31.119	31.092	2	1.006	116296	22933	1956	4890	12	0.93(1.05-1.43)	
	Empc Correction				87320	18979	1956	4890	10		
2,3,4,6,7,8-HxCDF											U
373.8208	31.838						2964	7410			
375.8178	31.838						1956	4890			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.610	32.583	2	1.006	21243245	6071580	12832	32080	473		
385.8610	32.597	32.583	1	1.005	40568562	11187019	18542	46355	603	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						2964	7410			
375.8178	32.597						1956	4890			
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	28.722	30.653	-116	0.928	316372	39170	2964	7410	13		
	Empc Correction				234309	32256	2964	7410	11		
375.8178	28.695	30.653	-117	0.927	188959	26013	1956	4890	13	1.67(1.05-1.43)	
373.8208	29.108	30.653	-92	0.941	272270	38236	2964	7410	13		
375.8178	29.121	30.653	-92	0.941	274522	33008	1956	4890	17	0.99(1.05-1.43)	
	Empc Correction				219572	30835	1956	4890	16		
373.8208	30.107	30.653	-33	0.973	76118	18179	2964	7410	6		
	Empc Correction				65361	14220	2964	7410	5		
375.8178	30.093	30.653	-33	0.972	52711	11468	1956	4890	6	1.44(1.05-1.43)	
373.8208	30.293	30.653	-22	0.979	257804	47746	2964	7410	16		
375.8178	30.280	30.653	-22	0.978	222364	36951	1956	4890	19	1.16(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.424	32.410	1		56828100	16794792	13978	34945	1202		
403.8529	32.424	32.410	1		44422754	13208227	8915	22287	1482	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQU
389.8157	32.011						1799	4497			
391.8127	32.011						1844	4610			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.117	32.091	2	0.991	29833963	7996041	13978	34945	572		
403.8529	32.117	32.091	2	0.991	24394747	6558241	8915	22287	736	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQ
389.8157	32.131	32.104	2	1.000	180499	32076	1799	4497	18		
	Empc Correction				150844	28412	1799	4497	16		
391.8127	32.131	32.104	2	1.000	121649	22913	1844	4610	12	1.48(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.437	32.424	1	1.010	170450	41936	1799	4497	23		
391.8127	32.437	32.424	1	1.010	125029	24696	1844	4610	13	1.36(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.173	31.252	-65	0.939	188809	32484	1799	4497	18		
391.8127	30.187	31.252	-64	0.940	158768	28034	1844	4610	15	1.19(1.05-1.43)	
389.8157	31.012	31.252	-14	0.966	809470	169430	1799	4497	94		
391.8127	30.999	31.252	-15	0.965	603212	127584	1844	4610	69	1.34(1.05-1.43)	
389.8157	31.318	31.252	4	0.975	384368	66165	1799	4497	37		
	Empc Correction				286580	75070	1799	4497	42		
391.8127	31.332	31.252	5	0.976	231113	60541	1844	4610	33	1.66(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.022	33.998	1	1.049	7742397	2690002	8467	21167	318		
419.8220	34.022	33.998	1	1.049	17241649	5646075	17644	44110	320	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.034	34.010	1	1.000	201474	73913	2918	7295	25		
409.7789	34.022	34.010	1	1.000	169014	53413	2082	5205	26	1.19(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						2918	7295			
409.7789	35.128						2082	5205			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.338	34.569	-14	1.009	254325	71750	2918	7295	25		
409.7789	34.338	34.569	-14	1.009	283109	71966	2082	5205	35	0.90(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.848	34.824	1	1.000	392199	117551	2708	6770	43		
425.7737	34.836	34.824	1	1.000	418682	131359	2797	6992	47	0.94(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.836	34.824	1	1.074	14567544	4662652	9215	23037	506		
437.8140	34.836	34.824	1	1.074	14057333	4512138	6613	16532	682	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.277	35.261	-59	0.984	515411	173966	2708	6770	64		a
425.7737	34.265	35.261	-60	0.984	541179	170956	2797	6992	61	0.95(0.88-1.20)	
13C-OCDD											
469.7779	37.257	37.245	1	1.149	16151659	4748941	5766	14415	824		
471.7750	37.257	37.245	1	1.149	17813111	5058766	5185	12962	976	0.91(0.76-1.02)	
OCDF											
441.7428	37.365	37.353	1	1.003	151669	44203	1450	3625	30		
443.7399	37.365	37.353	1	1.003	185543	40593	1655	4137	25	0.82(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	37.269	37.257	1	1.000	1439940	398892	2261	5652	176		
459.7348	37.269	37.257	1	1.000	1640197	446115	2143	5357	208	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Lims ID:	160-24924-G-14-B		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	19-Nov-2017 15:03:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	85

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	143262508	34034315

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	143262508	34034315

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.240	191490	55427	186433	53506	0.2404	1.03	RQ
15.240	143553	41199	186433	53506	0.2099		Empc Correction
15.769	554855	154380	688538	184188	0.7911	0.81	
16.827	107287	28484	148636	29021	0.1628	0.72	
17.175	269147	71728	461266	100405	0.4647	0.58	RQ
17.175	269147	71728	349541	93153	0.3936		Empc Correction
18.657	113839	24523	130902	35173	0.1557	0.87	
Signal Totals:							
	1188681	320314	1504050	395041			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2852393	736835				0.77	RQ
	2692731	715355					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.815 = (2852393 * 100.000) / (143262508 * 1.097)
Empc Amount: 1.713 = (2692731 * 100.000) / (143262508 * 1.097)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Lims ID: 160-24924-G-14-B
Client ID: SHAD041DP013SS02NS
Inject. Date: 19-Nov-2017 15:03:51
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 85

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	93453198	20834023

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	93453198	20834023

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.192	2006148	566579	2673197	709488	4.30	0.75	
16.495	1561855	408691	2216273	560810	3.47	0.70	
17.326	61390	14481	68391	15185	0.1193	0.90	RQ
17.326	52661	11692	68391	15185	0.1112		Empc Correction
18.279	444251	69683	632794	92551	0.9897	0.70	
Signal Totals:							
	4064915	1056645	5590655	1378034			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	9664299	2437468				0.73	RQ
	9655570	2434679					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 8.881 = (9664299 * 100.000) / (93453198 * 1.164)
Empc Amount: 8.873 = (9655570 * 100.000) / (93453198 * 1.164)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Lims ID:	160-24924-G-14-B		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	19-Nov-2017 15:03:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	85

F1 PeCDFs, RT: 20.426

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	104657398	17609067
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	104657398	17609067

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.942	585214	110561	385254	79716	0.8234	1.52	
Signal Totals:							
	585214	110561	385254	79716			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	970468	190277				1.52	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8234 = (970468 * 100.000) / (104657398 * 1.126)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Lims ID: 160-24924-G-14-B
Client ID: SHAD041DP013SS02NS
Inject. Date: 19-Nov-2017 15:03:51
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 85

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	104657398	17609067
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	104657398	17609067

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.546	311732	41923	182254	29583	0.4191	1.71	
Signal Totals:							
	311732	41923	182254	29583			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	493986	71506				1.71	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4191 = (493986 * 100.000) / (104657398 * 1.126)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Lims ID:	160-24924-G-14-B		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	19-Nov-2017 15:03:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	85

Non-2,3,7,8-sub-PeCDD, RT: 23.878

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.127	D 13C-1,2,3,7,8-PeCDD	100.000	67476298	10125382

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.127		100.000	67476298	10125382

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.723	246877	45958	196976	35636	0.5836	1.25	RQ
21.723	246877	45958	159275	29650	0.5340		Empc Correction
22.951	173844	31108	72348	17888	0.3237	2.40	RQ
22.951	112139	27726	72348	17888	0.2426		Empc Correction
23.551	130326	21801	81707	17203	0.2788	1.60	
24.055	73480	9805	20711	4485	0.1238	3.55	RQ
24.055	32102	6951	20711	4485	0.0694		Empc Correction
24.451	200987	40100	123885	17651	0.4271	1.62	
24.655	29780	5819	16646	7308	0.0610	1.79	RQ
24.655	25801	11327	16646	7308	0.0558		Empc Correction
Signal Totals:							
	748232	153863	474572	94185			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1367567	254762				1.67	RQ
	1222804	248048					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.798 = (1367567 * 100.000) / (67476298 * 1.127)
Empc Amount: 1.608 = (1222804 * 100.000) / (67476298 * 1.127)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Lims ID:	160-24924-G-14-B		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	19-Nov-2017 15:03:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	85

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	75483108	16576795
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	75483108	16576795

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.722	316372	39170	188959	26013	0.4868	1.67	RQ
28.722	234309	32256	188959	26013	0.4078		Empc Correction
29.108	272270	38236	274522	33008	0.5268	0.99	RQ
29.108	272270	38236	219572	30835	0.4738		Empc Correction
30.107	76118	18179	52711	11468	0.1241	1.44	RQ
30.107	65361	14220	52711	11468	0.1138		Empc Correction
30.293	257804	47746	222364	36951	0.4626	1.16	
Signal Totals:							
	829744	132458	683606	105267			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1661120	250771				1.25	RQ
	1513350	237725					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.600 = (1661120 * 100.000) / (75483108 * 1.375)
Empc Amount: 1.458 = (1513350 * 100.000) / (75483108 * 1.375)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Lims ID:	160-24924-G-14-B		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	19-Nov-2017 15:03:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	85

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	54228710	14554282
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	54228710	14554282

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.173	188809	32484	158768	28034	0.5531	1.19	
31.012	809470	169430	603212	127584	2.25	1.34	
31.318	384368	66165	231113	60541	0.9794	1.66	RQ
31.318	286580	75070	231113	60541	0.8238		Empc Correction
Signal Totals:							
	1284859	276984	993093	216159			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2375740	484238				1.39	RQ
	2277952	493143					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.780 = (2375740 * 100.000) / (54228710 * 1.159)
Empc Amount: 3.625 = (2277952 * 100.000) / (54228710 * 1.159)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Lims ID:	160-24924-G-14-B		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	19-Nov-2017 15:03:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	85

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	24984046	8336077
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	24984046	8336077

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.338	254325	71750	283109	71966	1.53	0.90	
Signal Totals:							
	254325	71750	283109	71966			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	537434	143716				0.90	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.528 = (537434 * 100.000) / (24984046 * 1.408)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Lims ID:	160-24924-G-14-B		
Client ID:	SHAD041DP013SS02NS		
Inject. Date:	19-Nov-2017 15:03:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	85

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	28624877	9174790

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	28624877	9174790

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.277	515411	173966	541179	170956	3.17	0.95	
Signal Totals:							
	515411	173966	541179	170956			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1056590	344922				0.95	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.173 = (1056590 * 100.000) / (28624877 * 1.163)

TestAmerica Sacramento

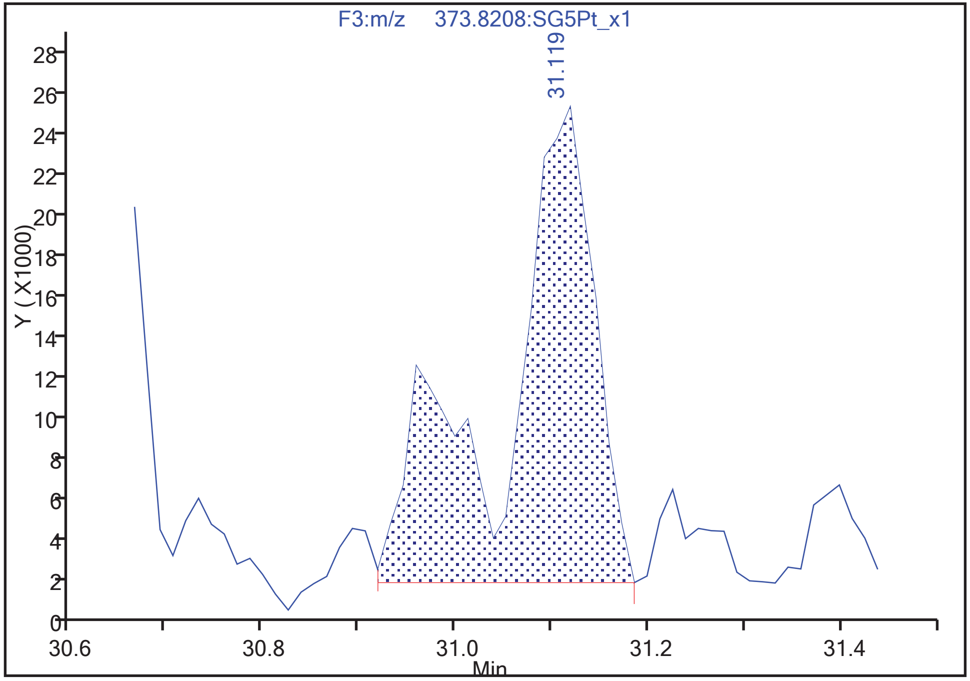
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d				
Injection Date:	19-Nov-2017 15:03:51	Instrument ID:	3D5		
Lims ID:	160-24924-G-14-B	Lab Sample ID:	320-24924-14		
Client ID:	SHAD041DP013SS02NS				
Operator ID:	SMA, ALM	ALS Bottle#:	55	Worklist Smp#:	85
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

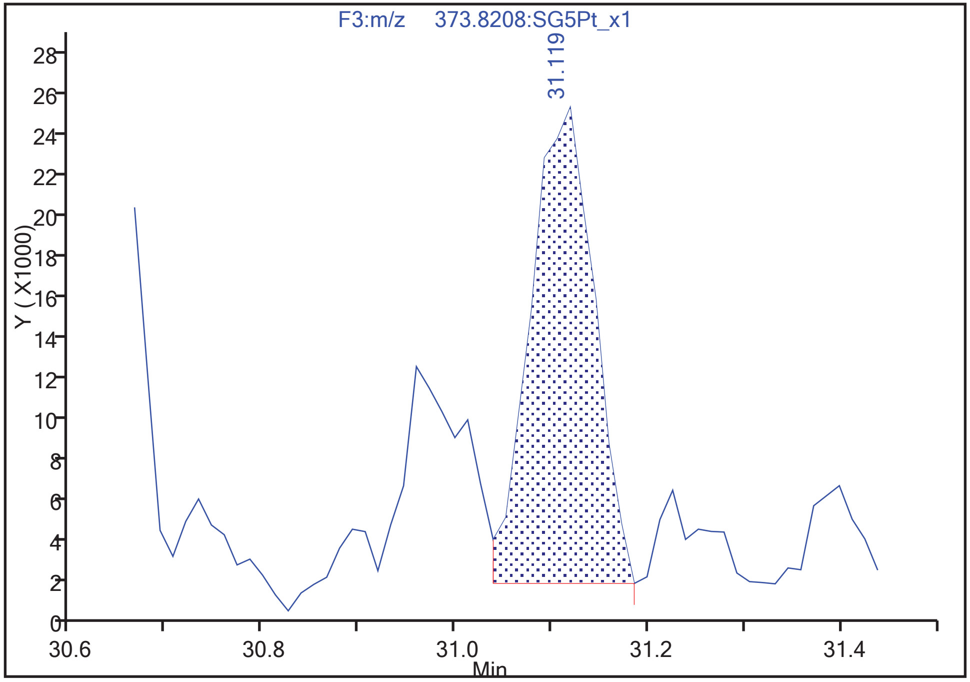
Processing Integration Results

RT: 31.12
Area: 154863
Amount: 0.242827
Amount Units: pg/ul



Manual Integration Results

RT: 31.12
Area: 108277
Amount: 0.201109
Amount Units: pg/ul



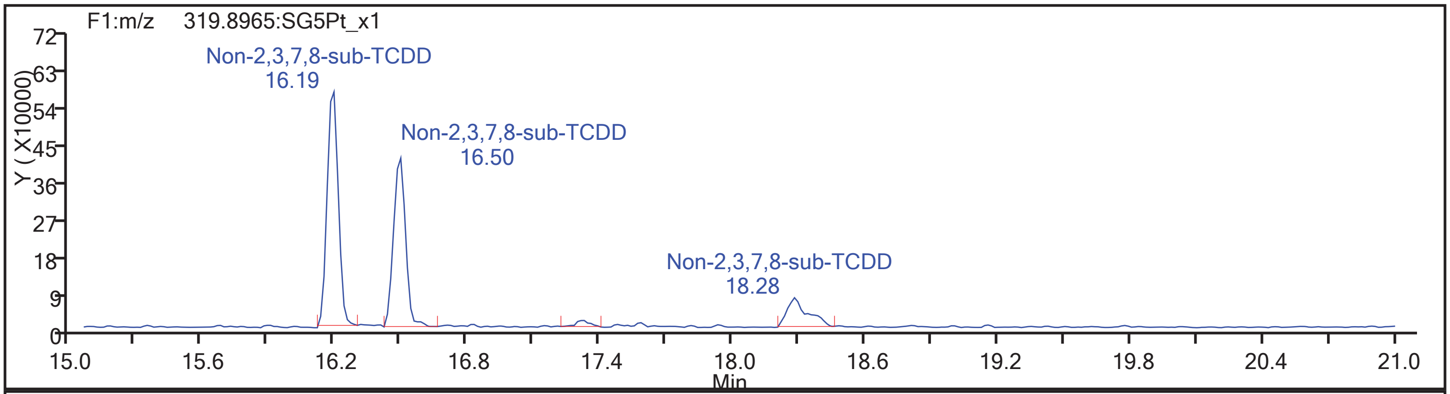
Reviewer: dadunj, 06-Dec-2017 15:08:02
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

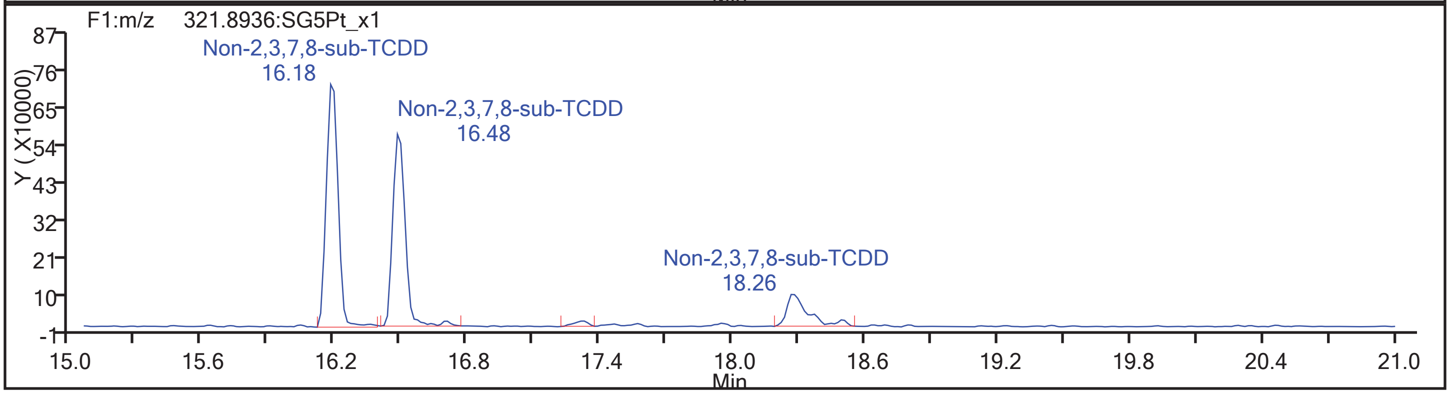
Report Date: 06-Dec-2017 15:10:58   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

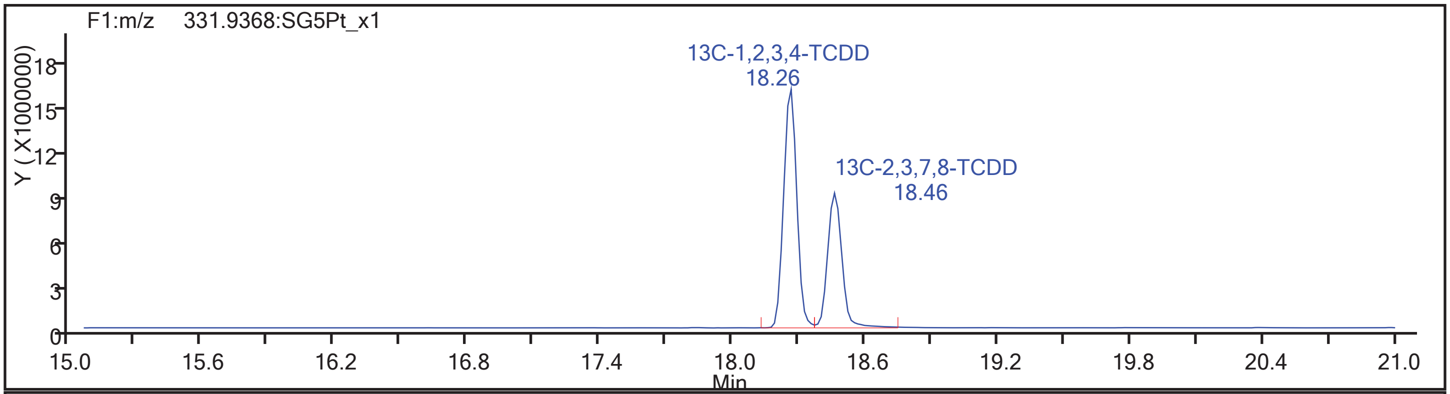
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Injection Date: 19-Nov-2017 15:03:51   Injection Vol: 2.0 ul
Instrument ID: 3D5   Operator ID: SMA, ALM
Method: Dioxin_3D5   Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 195575   Sample Line#: 85
Column Type: Column Dia:

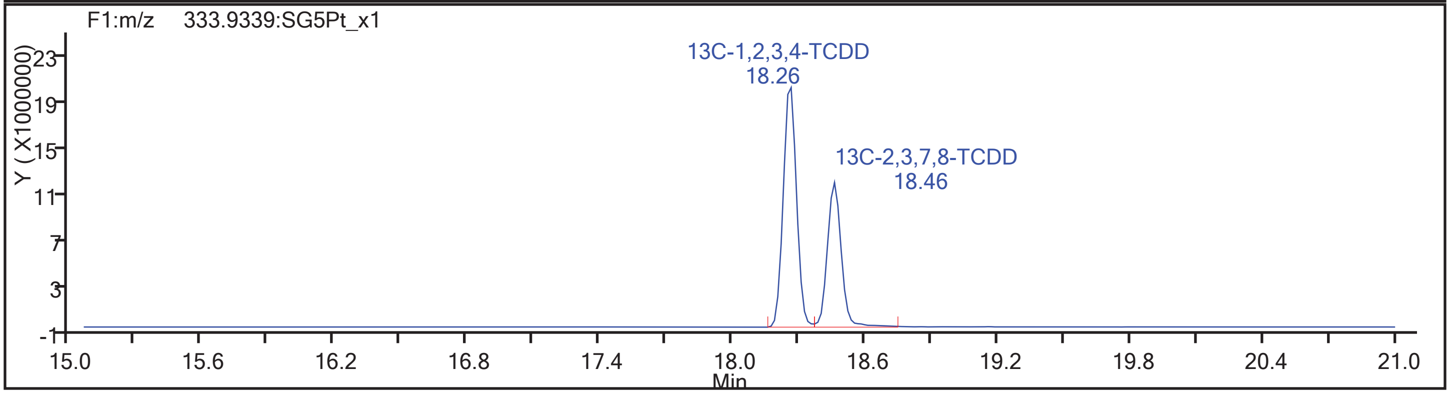
TCDD





TCDD Standards



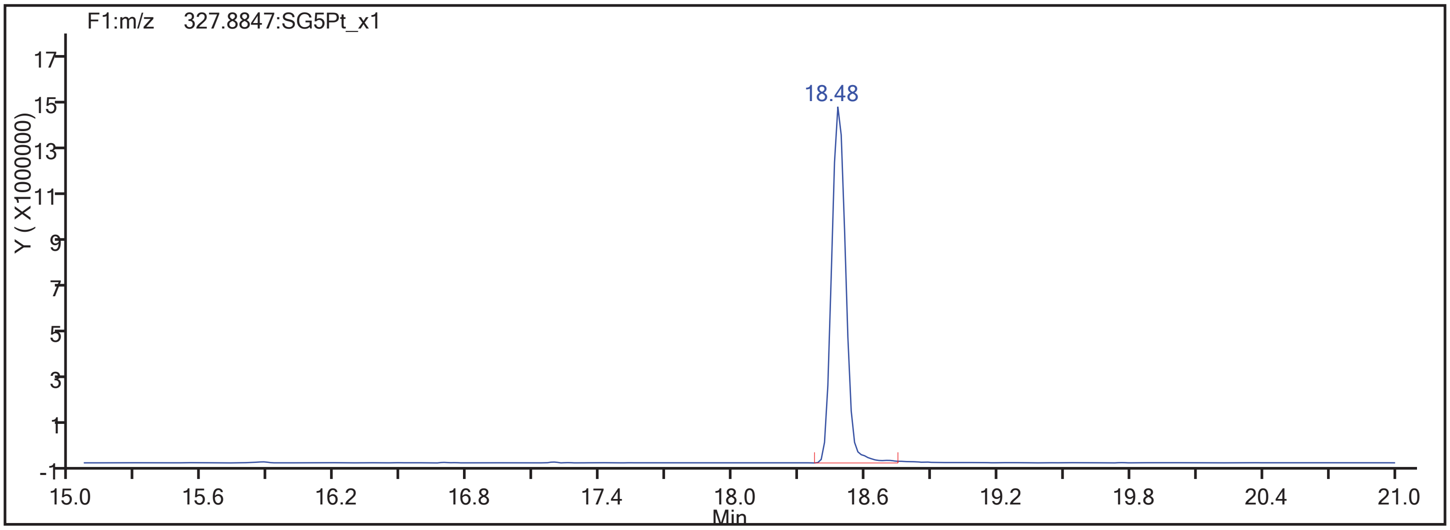


Report Date: 06-Dec-2017 15:10:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

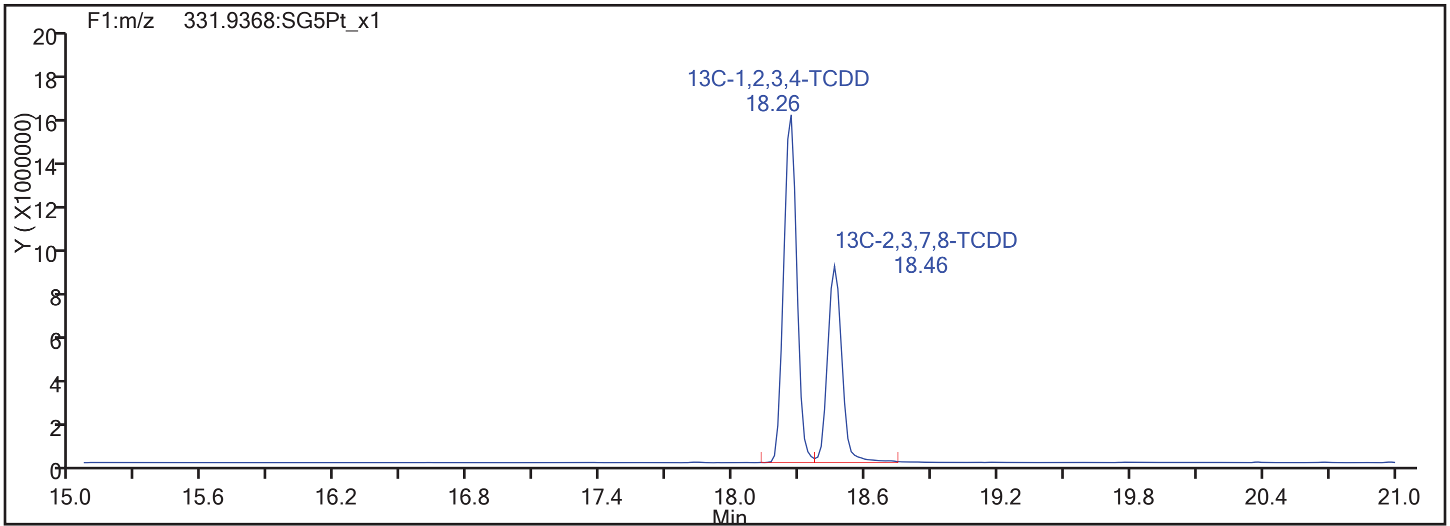
TestAmerica Sacramento

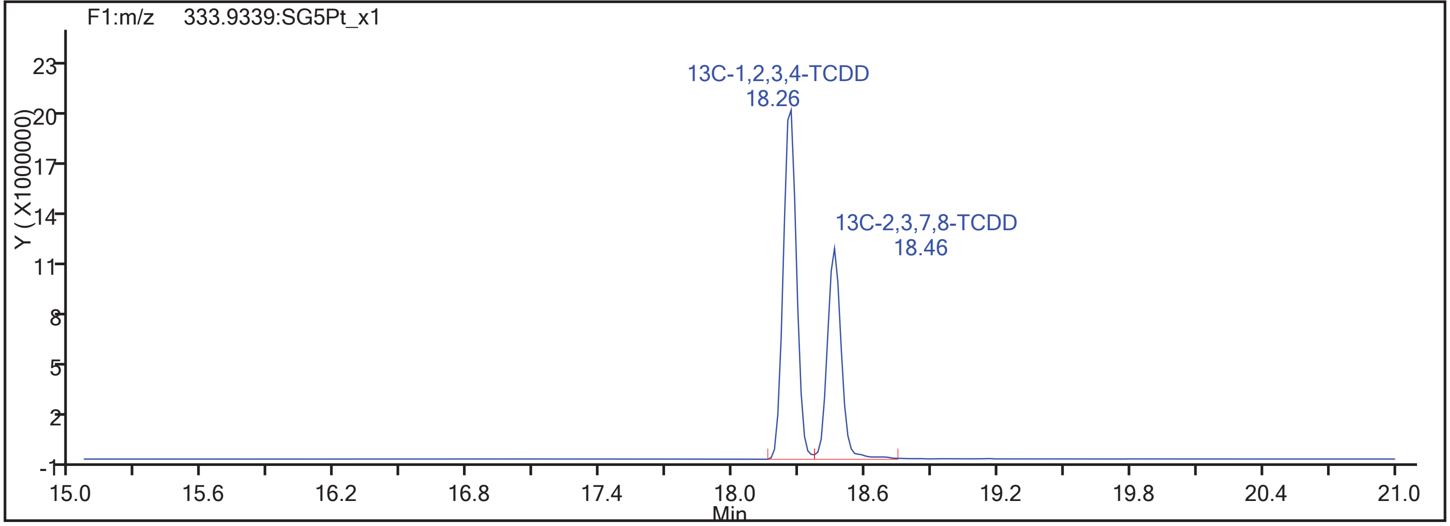
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Injection Date:	19-Nov-2017 15:03:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	195575	Sample Line#:	85
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



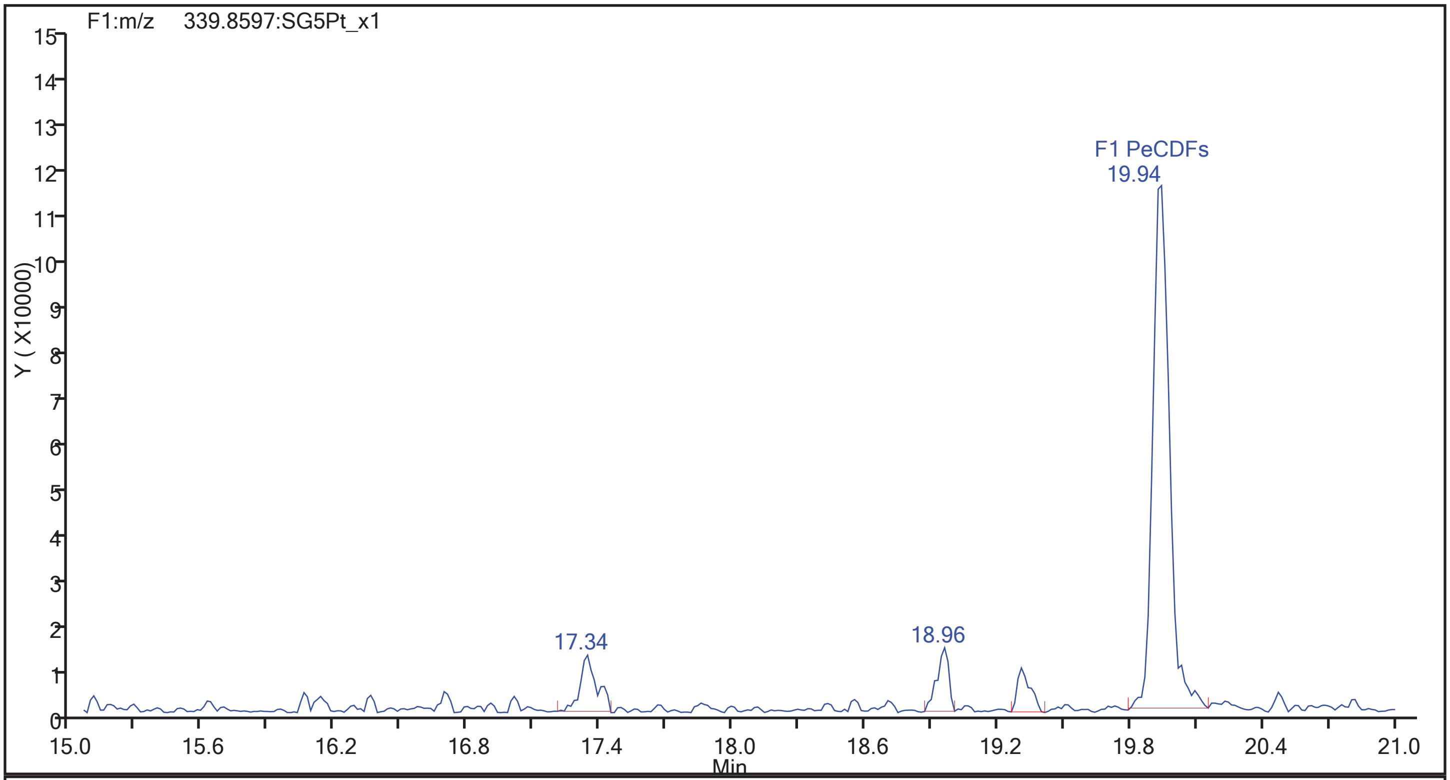


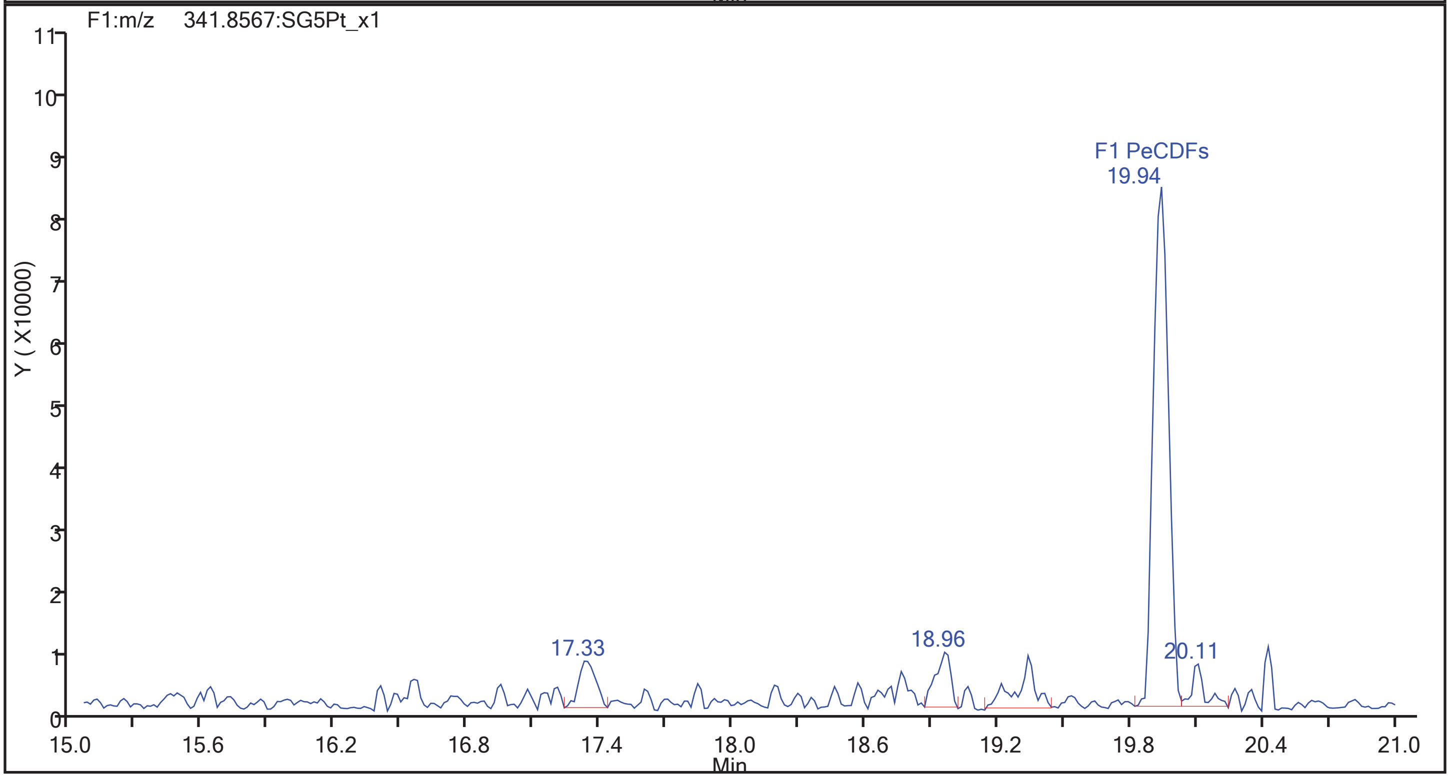
Report Date: 06-Dec-2017 15:10:58
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Injection Date:	19-Nov-2017 15:03:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	195575	Sample Line#:	85
Column Type:		Column Dia:	

F1 PeCDFs



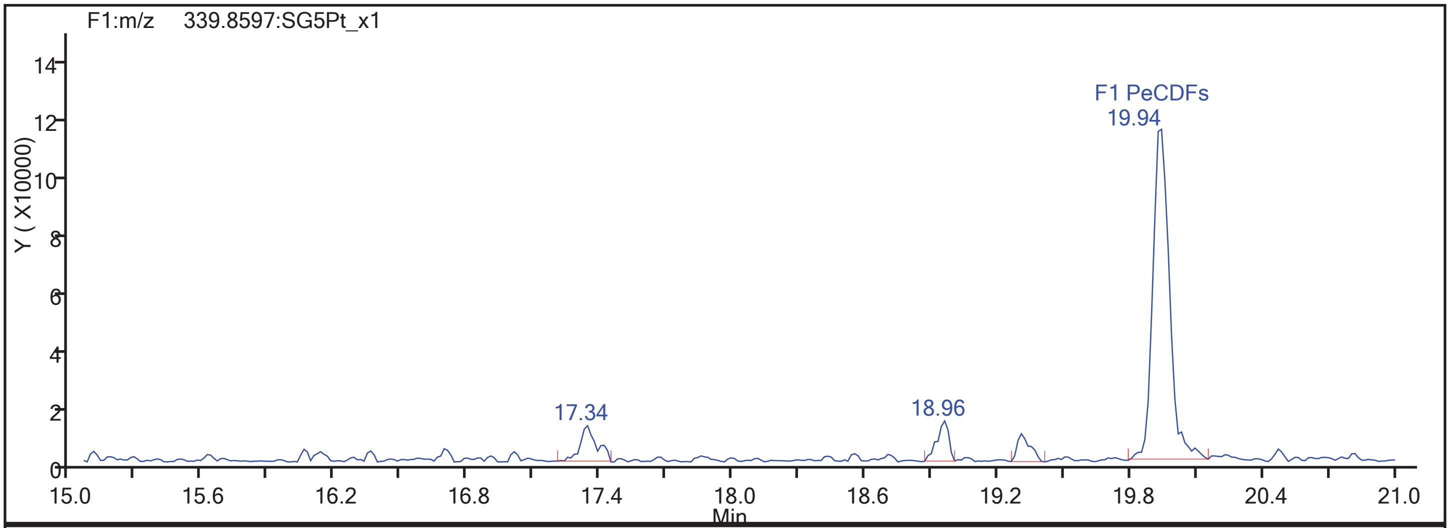


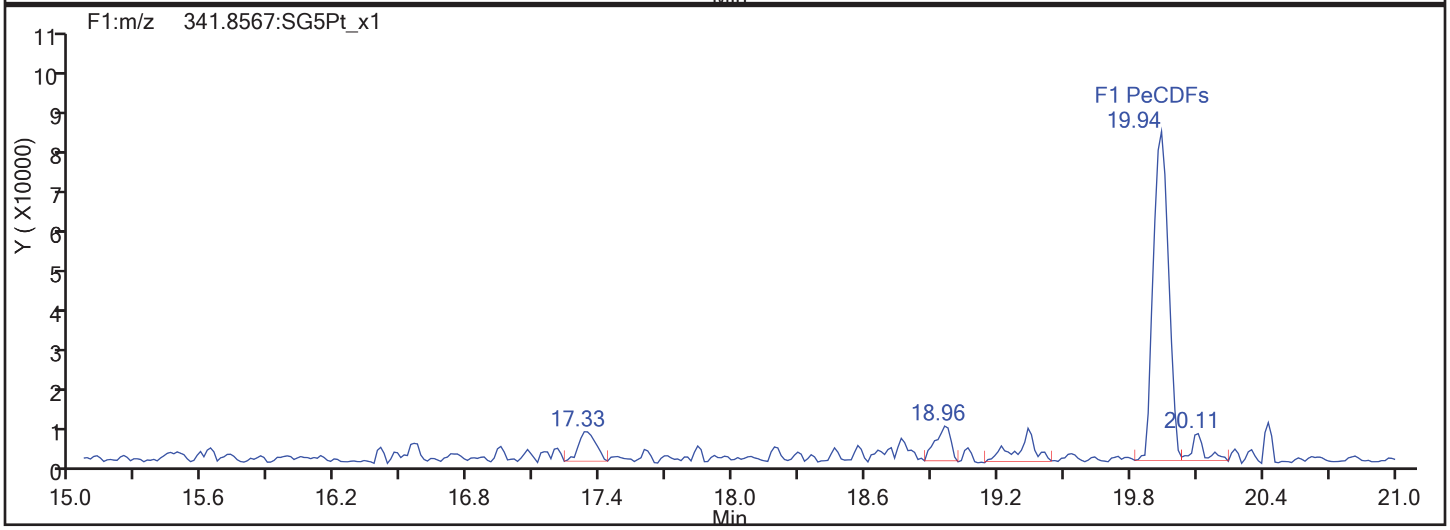
Report Date: 06-Dec-2017 15:10:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

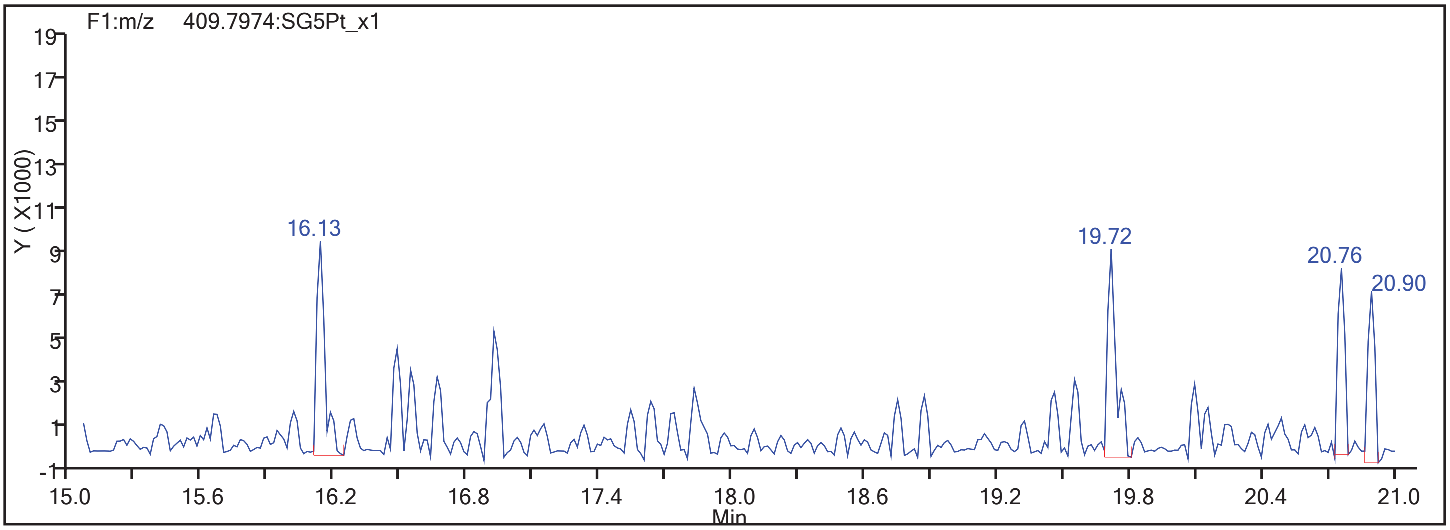
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Injection Date: 19-Nov-2017 15:03:51
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 195575
Sample Line#: 85
Column Type:
Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass

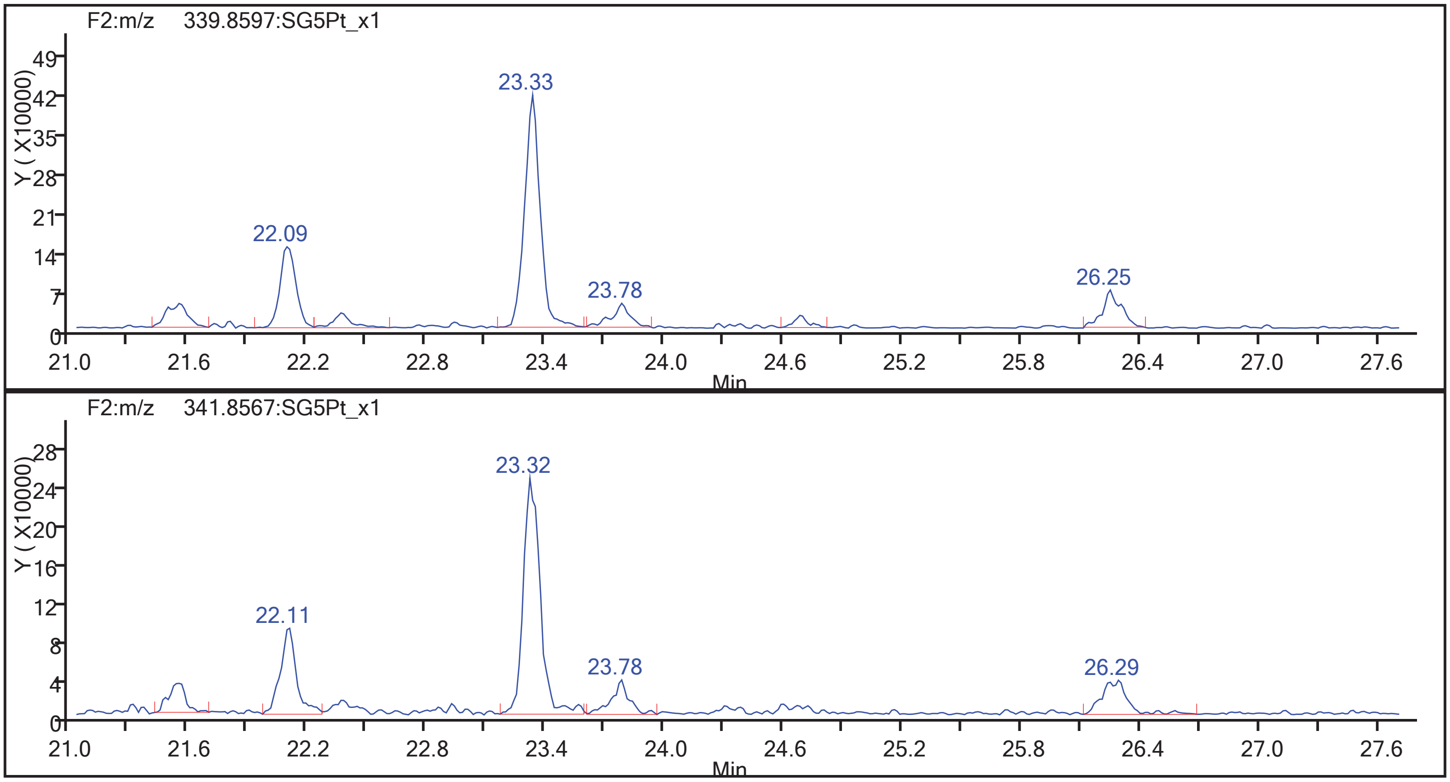


Report Date: 06-Dec-2017 15:10:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

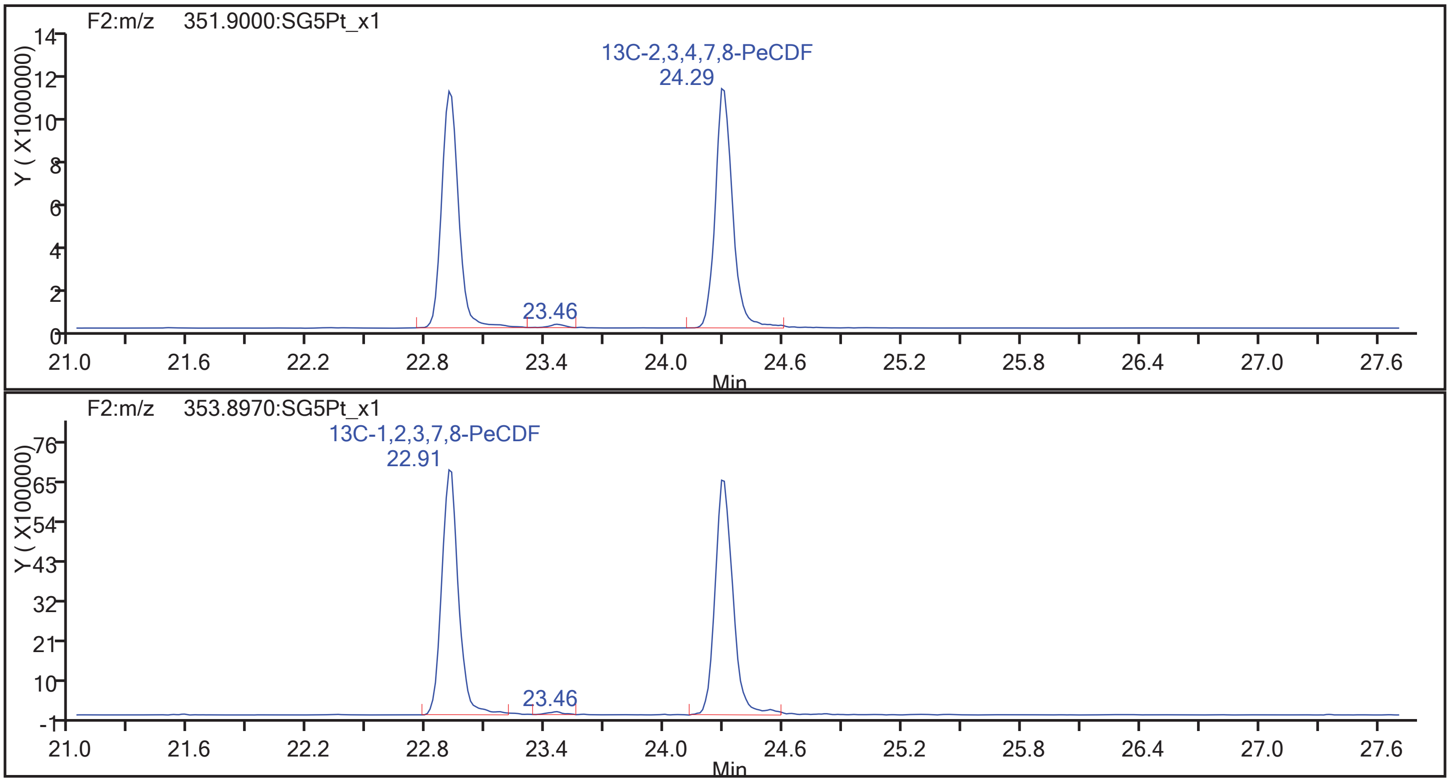
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Injection Date:	19-Nov-2017 15:03:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	195575	Sample Line#:	85
Column Type:		Column Dia:	

PeCDF



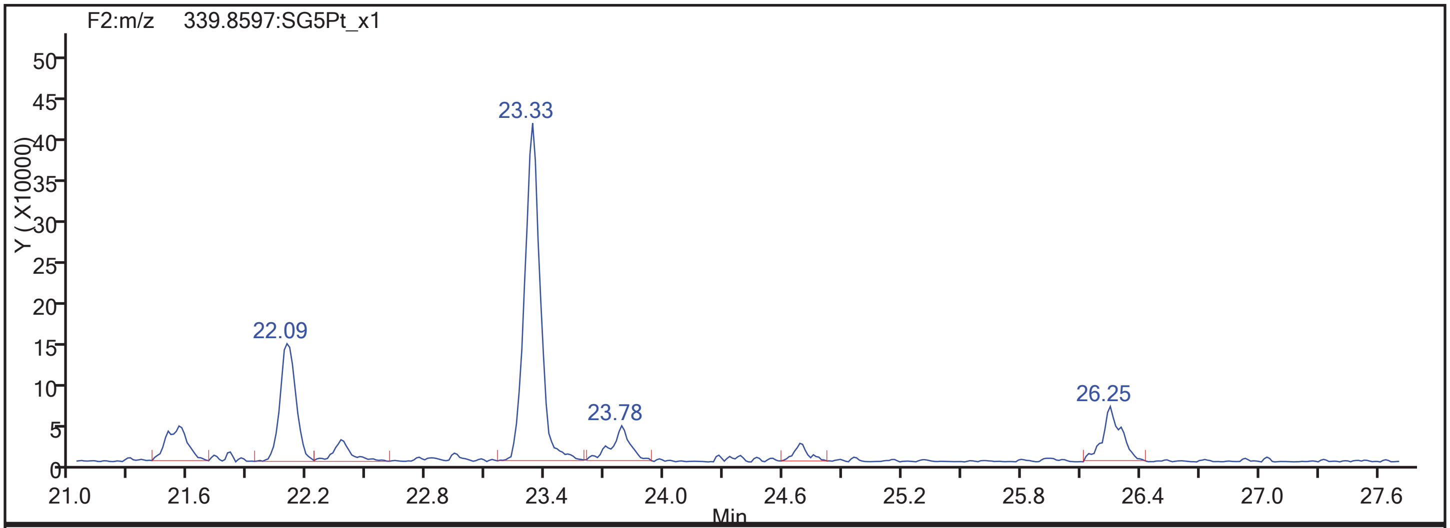
PeCDF Standards

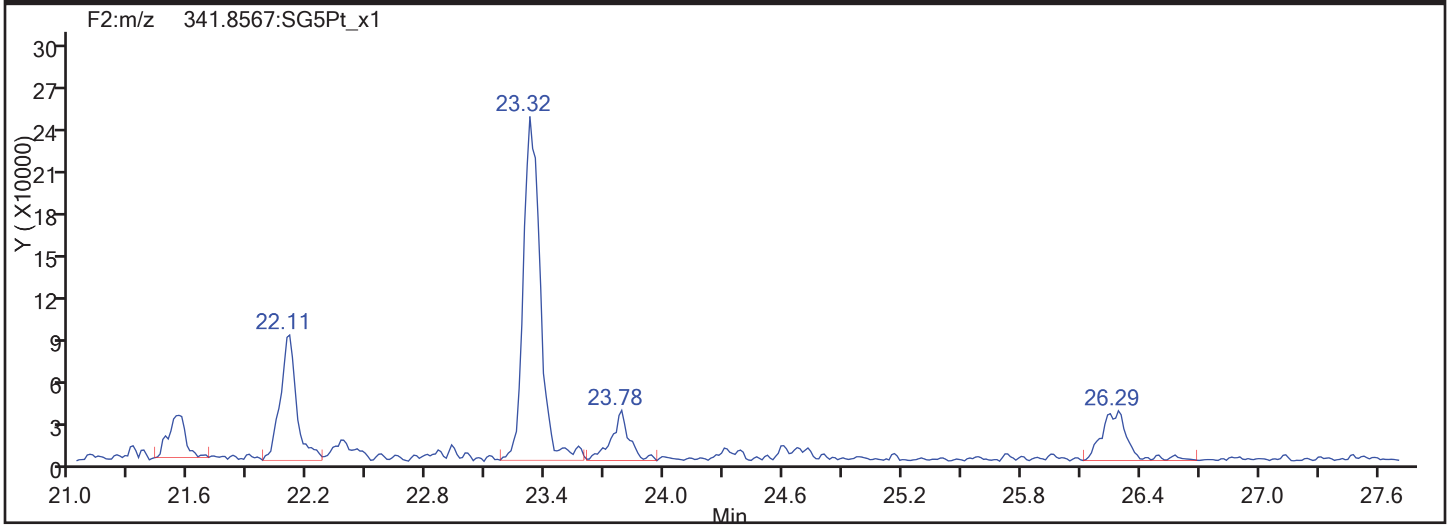


TestAmerica Sacramento

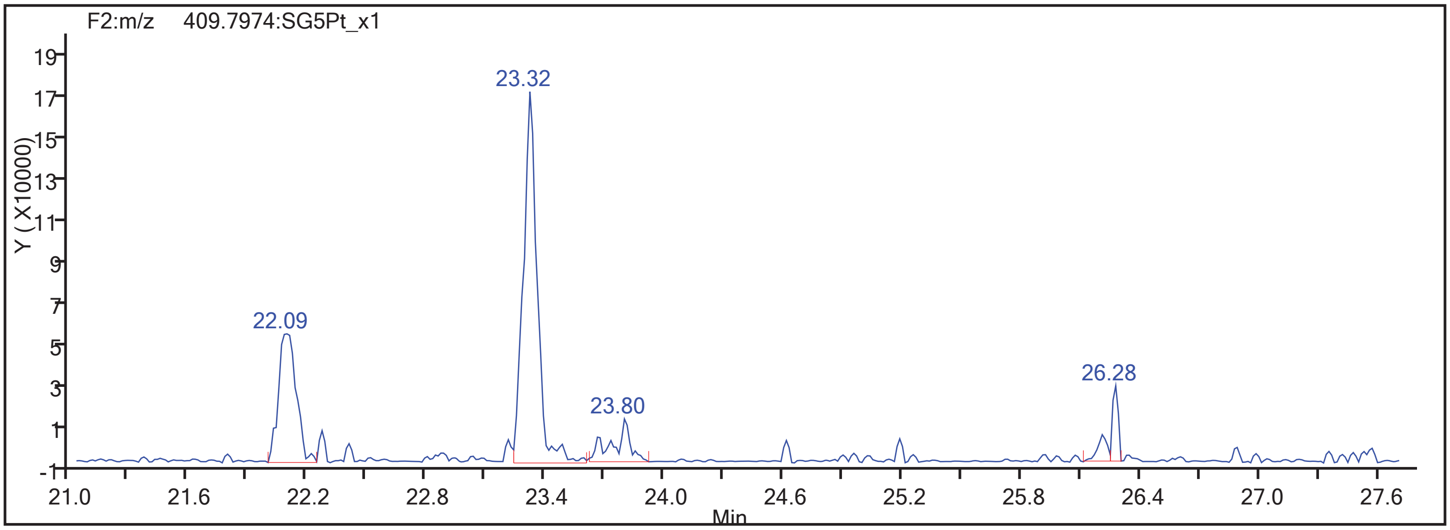
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Injection Date: 19-Nov-2017 15:03:51
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 195575
Sample Line#: 85
Column Type:
Column Dia:

PeCDF





PeCDF Interference Mass

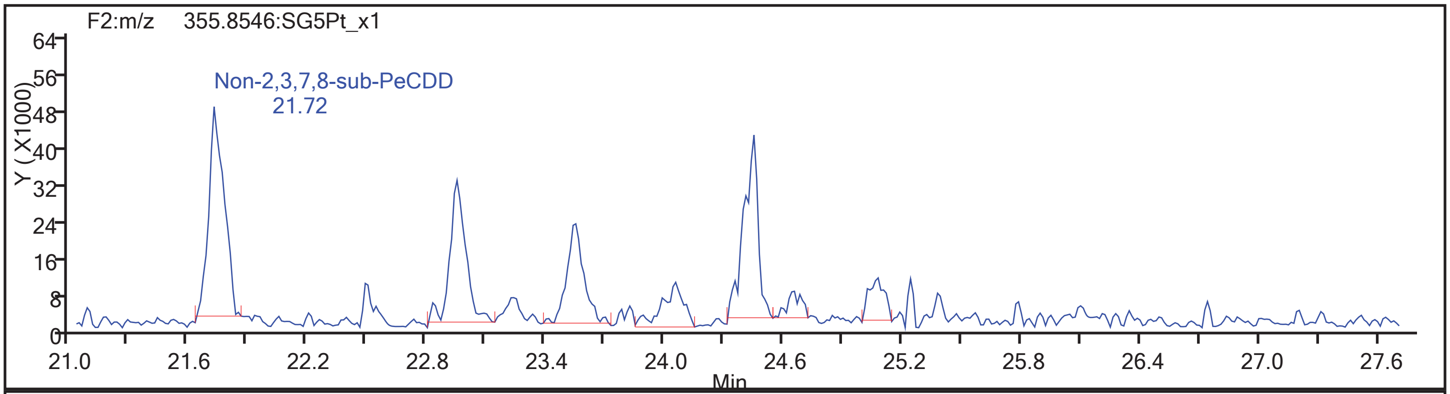


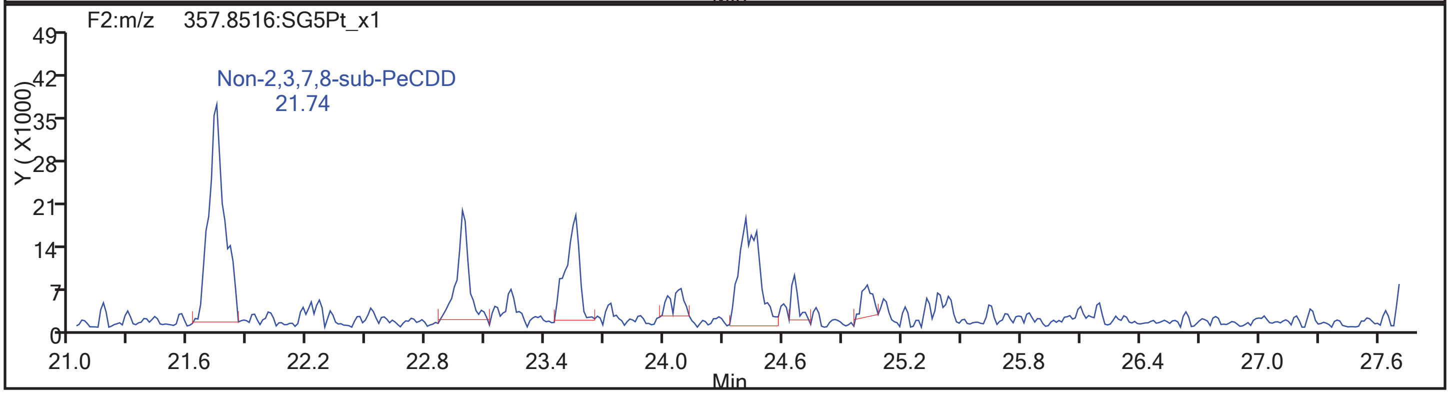
Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

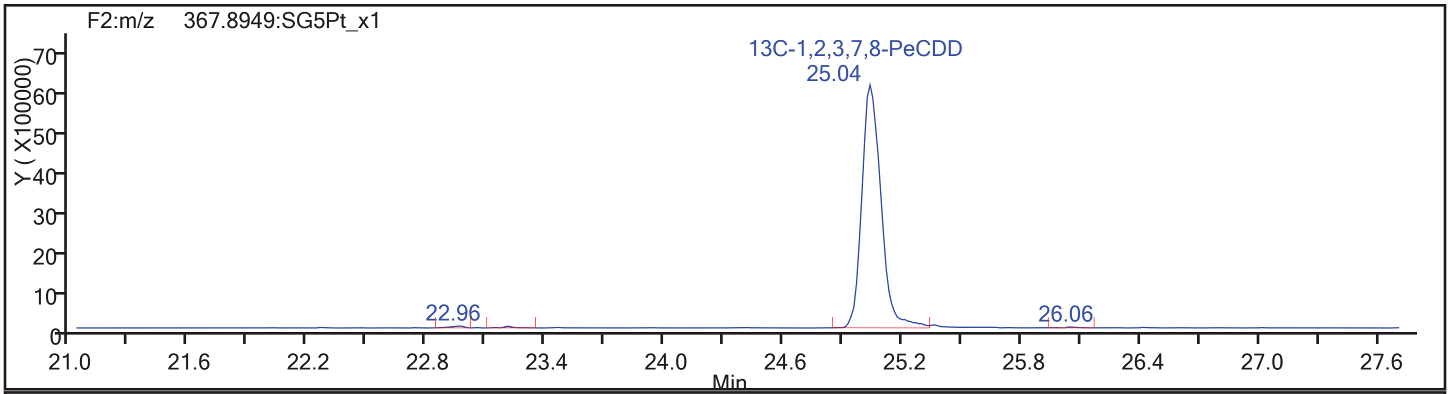
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Injection Date:	19-Nov-2017 15:03:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	195575	Sample Line#:	85
Column Type:		Column Dia:	

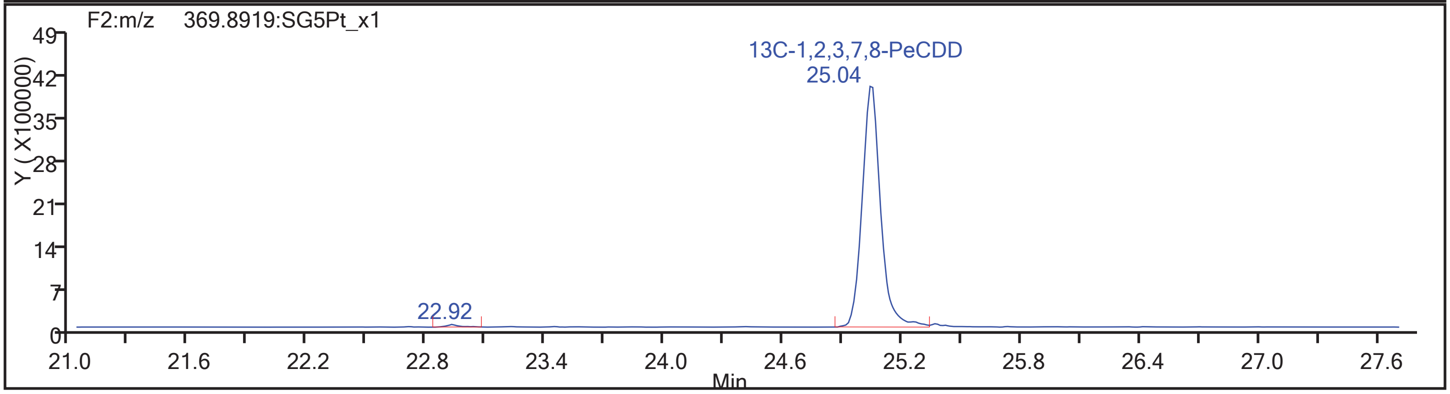
PeCDD





PeCDD Standards





Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d

Injection Date: 19-Nov-2017 15:03:51

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS02NS

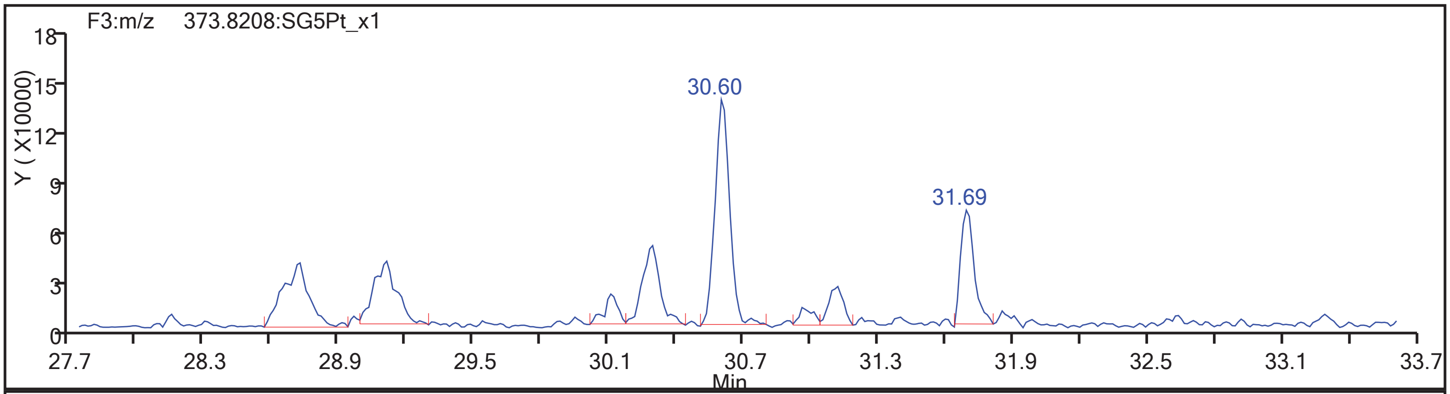
Worklist#: 195575

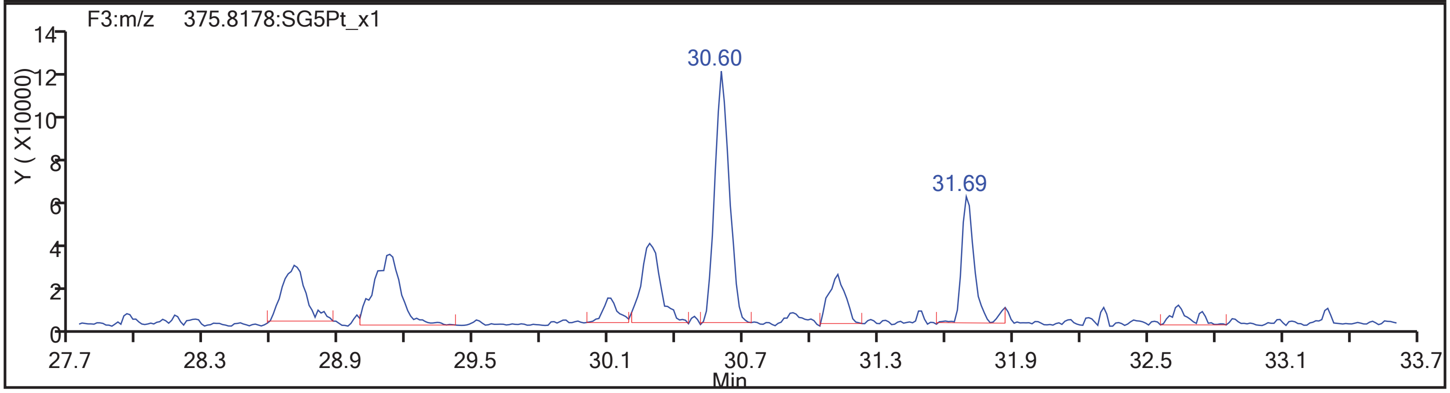
Sample Line#: 85

Column Type:

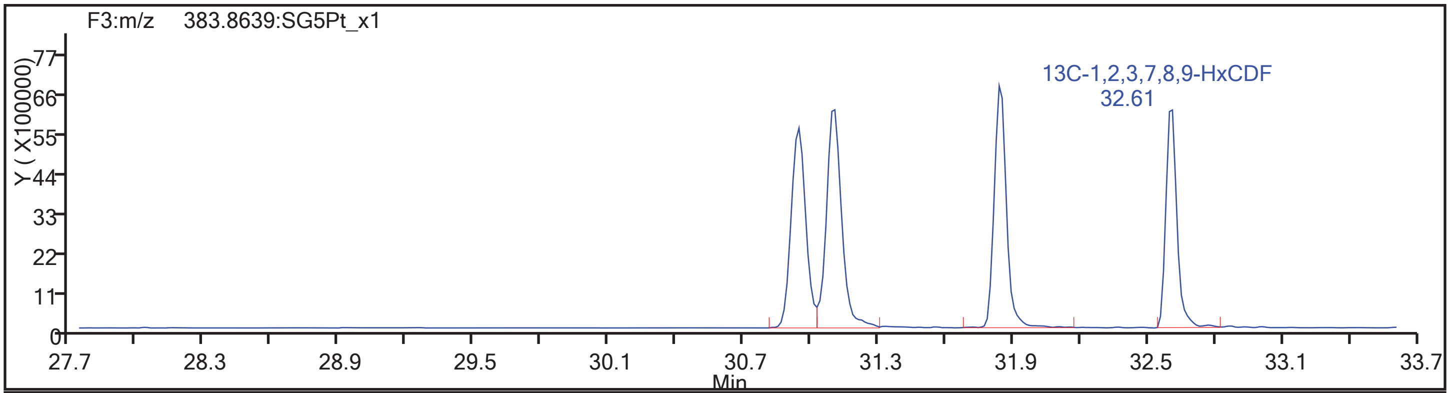
Column Dia:

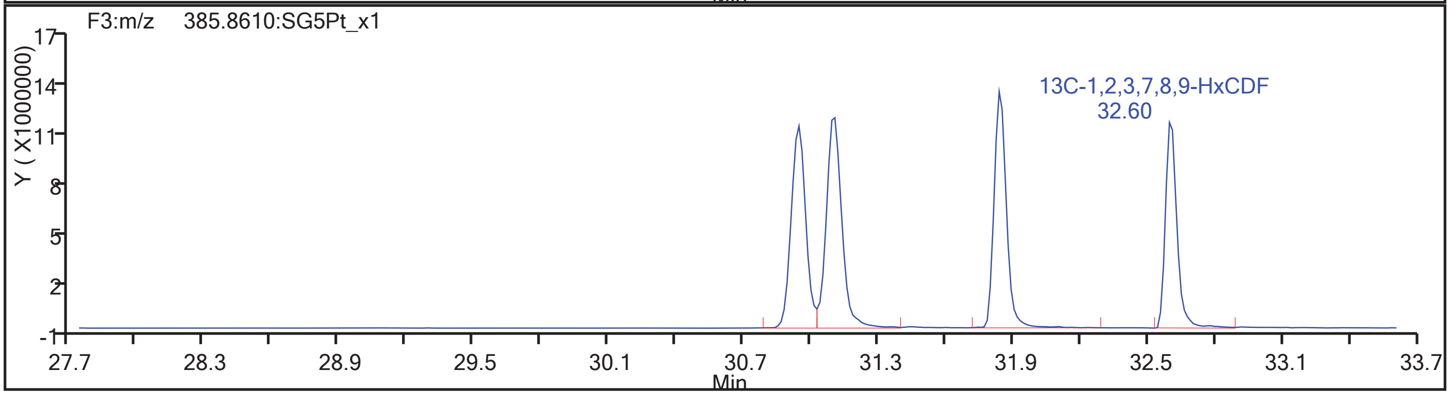
HxCDF





HxCDF Standards



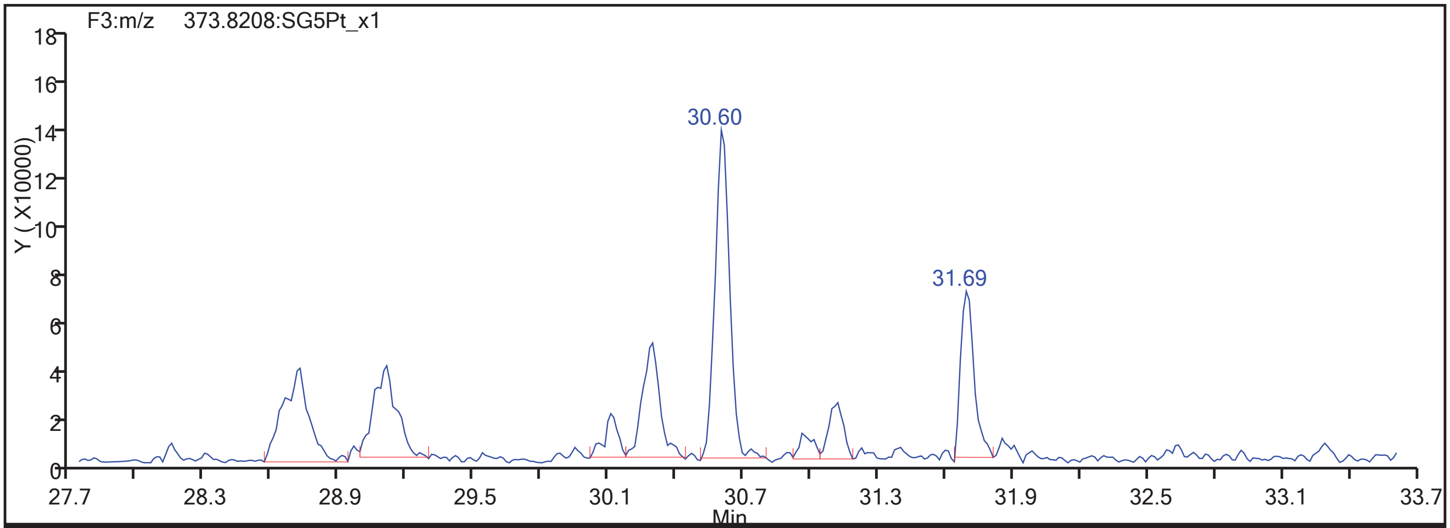


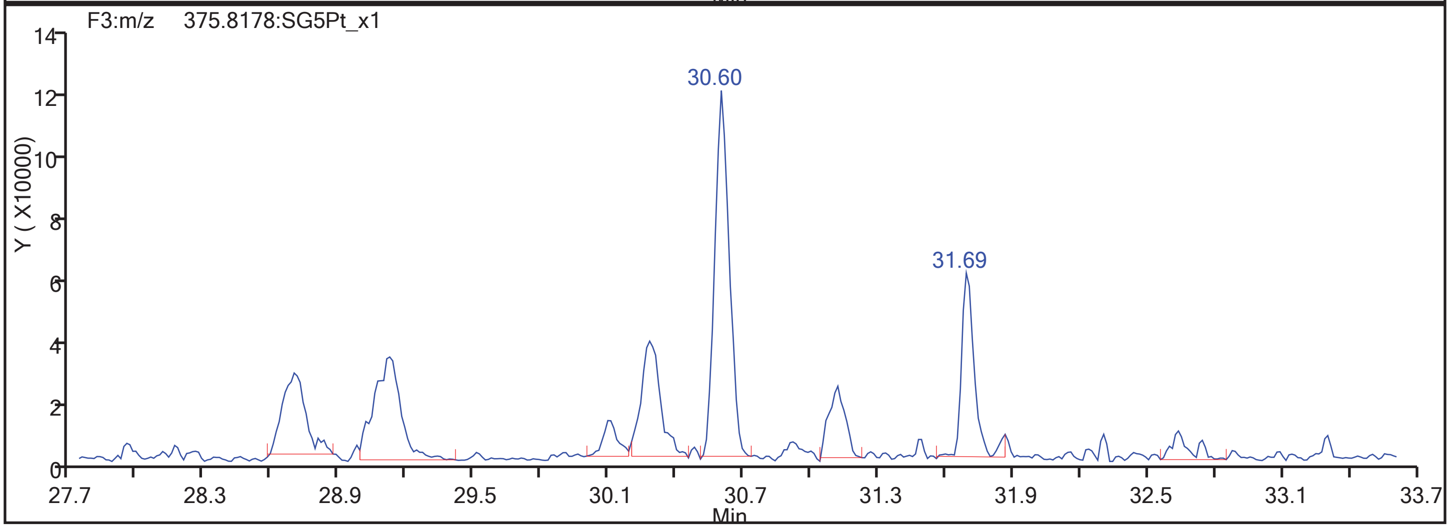
Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

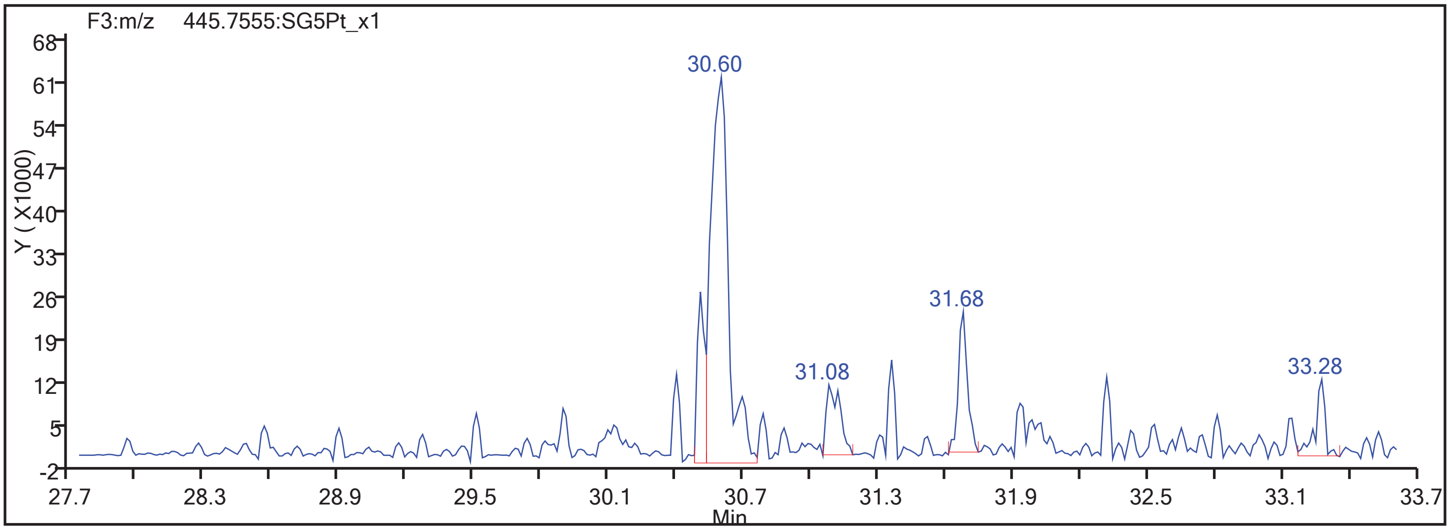
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Injection Date: 19-Nov-2017 15:03:51
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 195575
Sample Line#: 85
Column Type:
Column Dia:

HxCDF





HxCDF Interference Mass



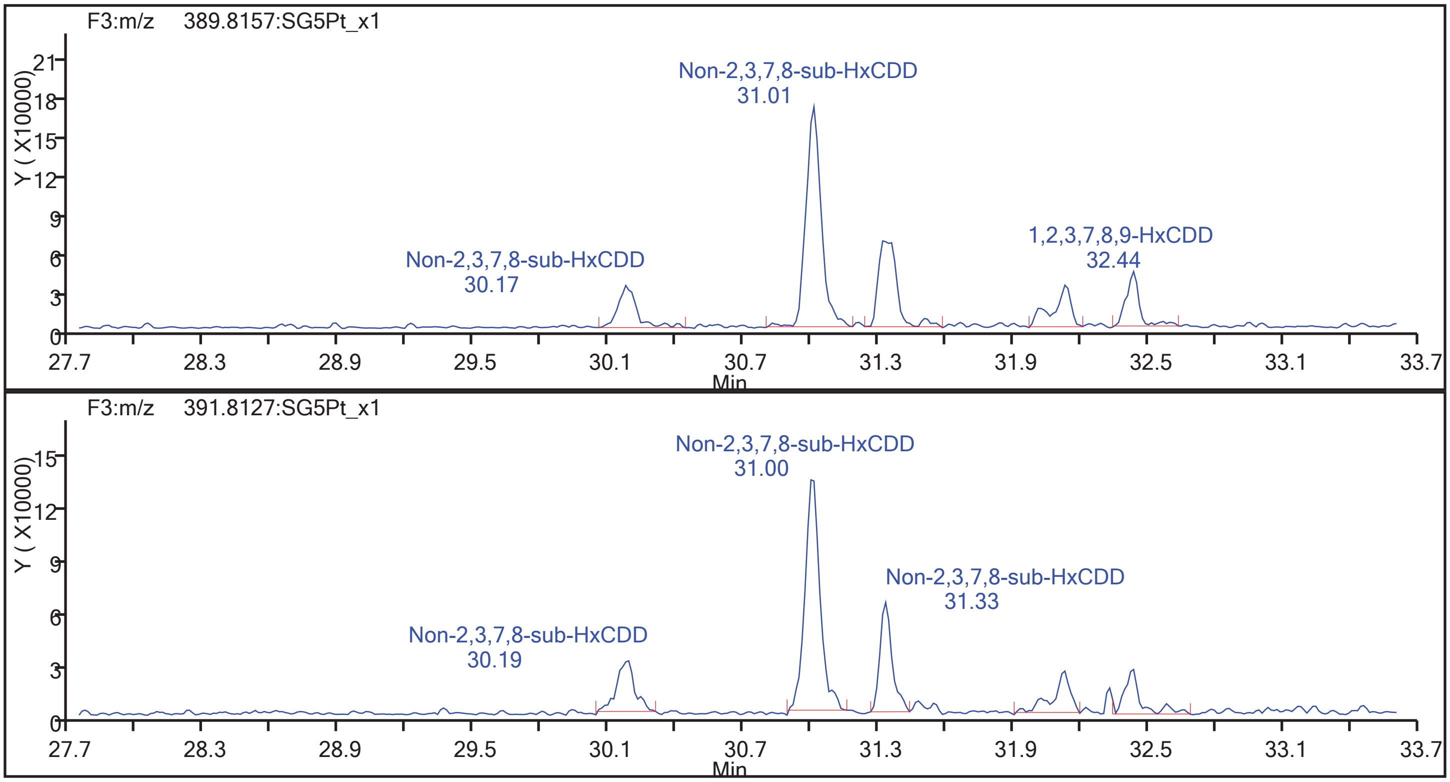
Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

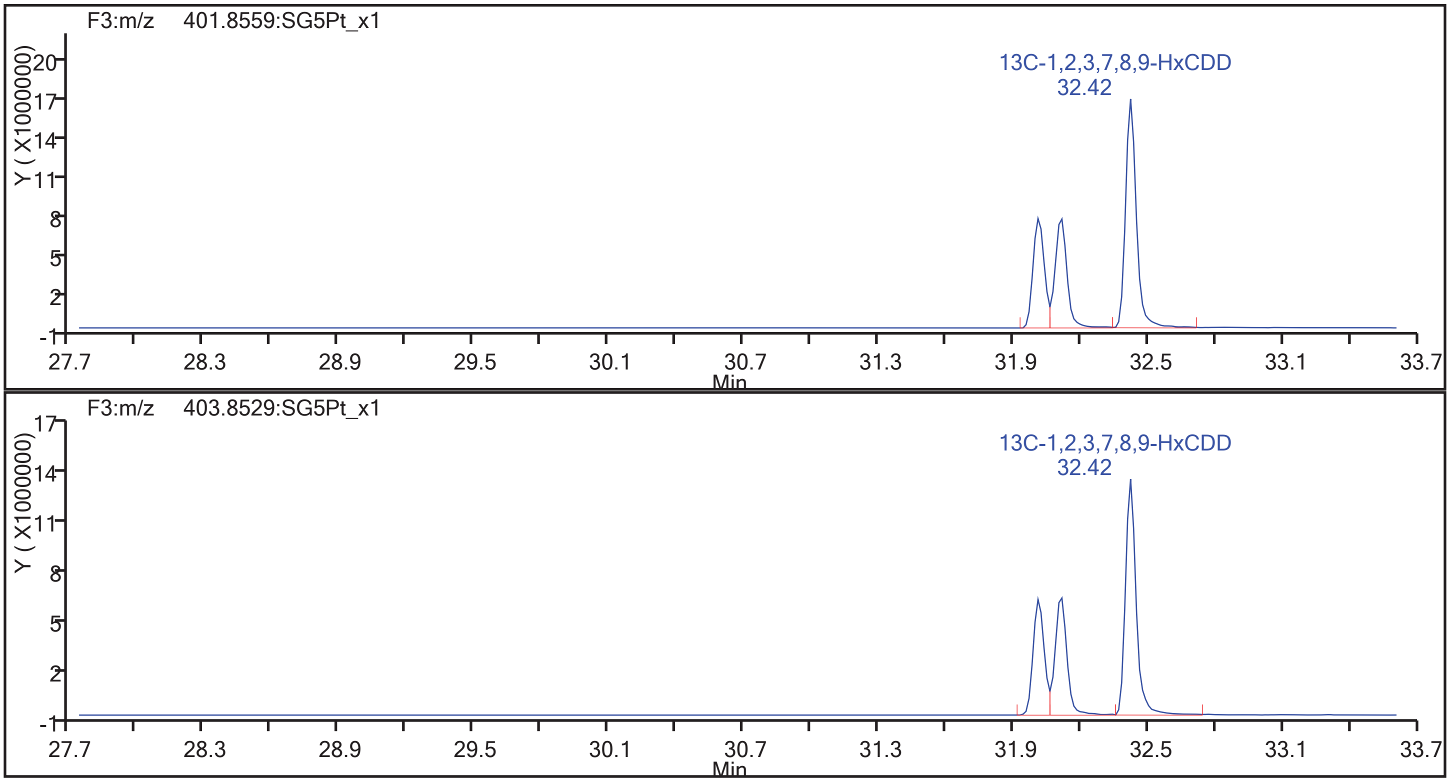
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d

Injection Date: 19-Nov-2017 15:03:51
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 195575
Sample Line#: 85
Column Type:
Column Dia:

HxCDD



HxCDD Standards

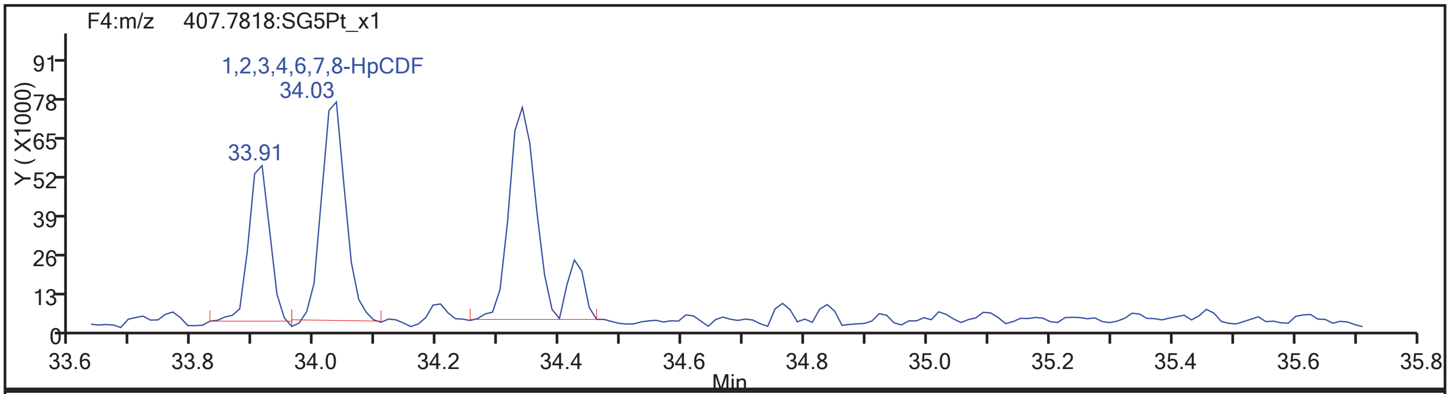


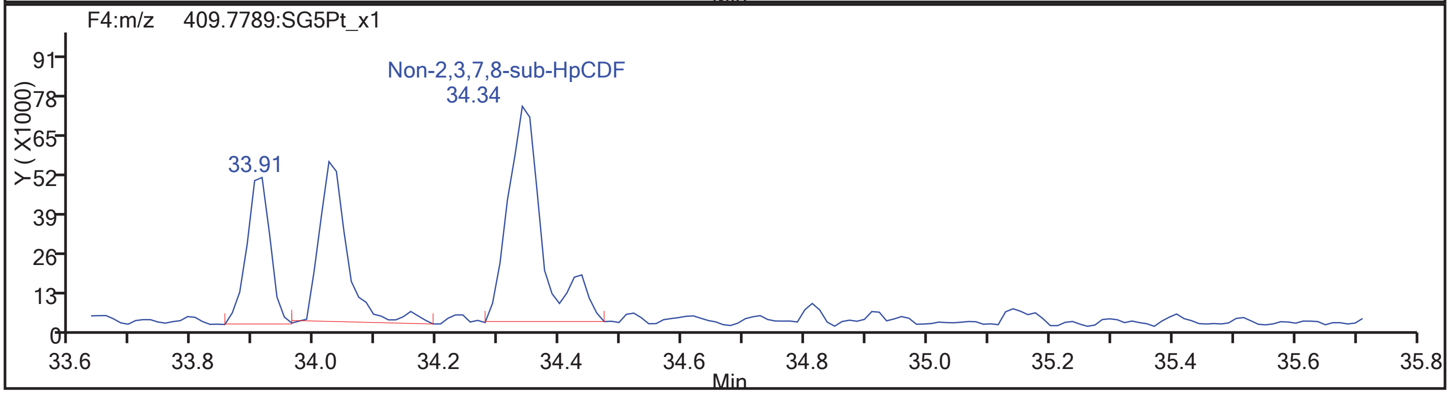
Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

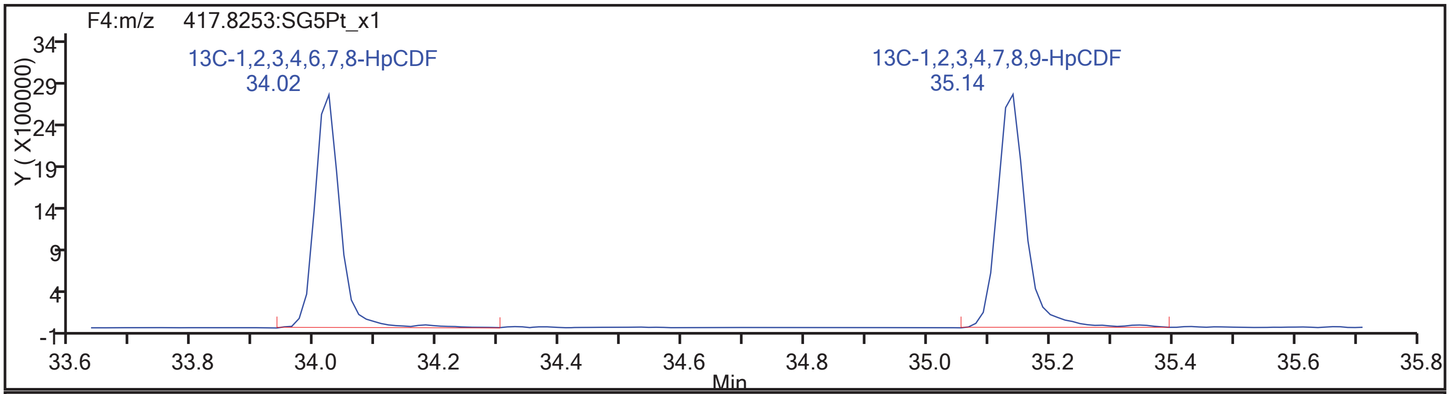
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Injection Date: 19-Nov-2017 15:03:51
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 195575
Sample Line#: 85
Column Type:
Column Dia:

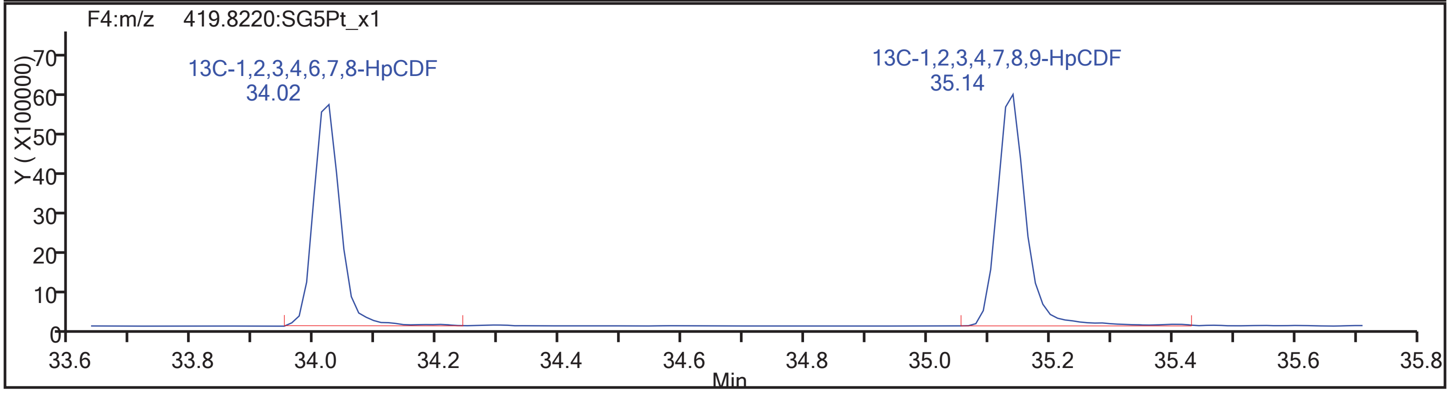
HpCDF





HpCDF Standards



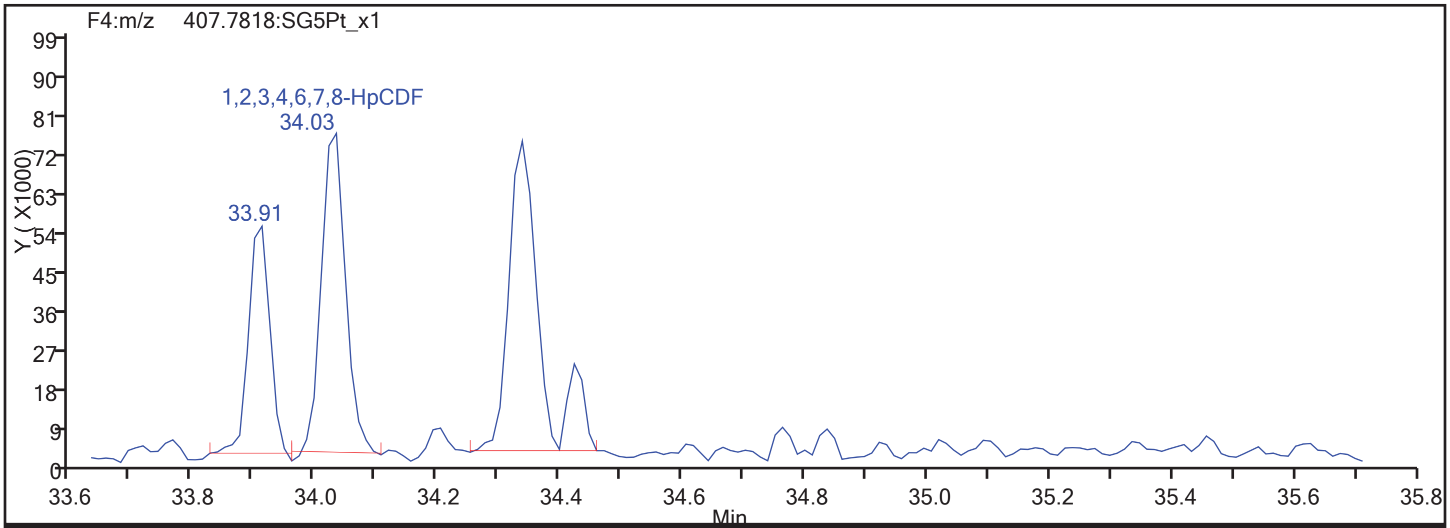


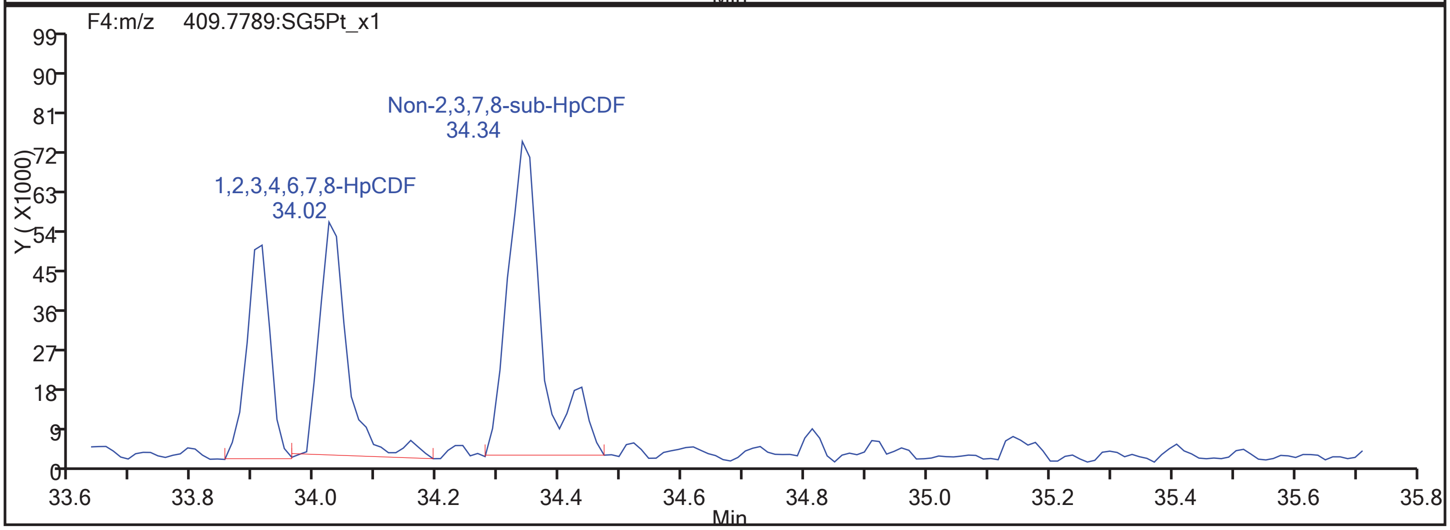
Report Date: 06-Dec-2017 15:10:59   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

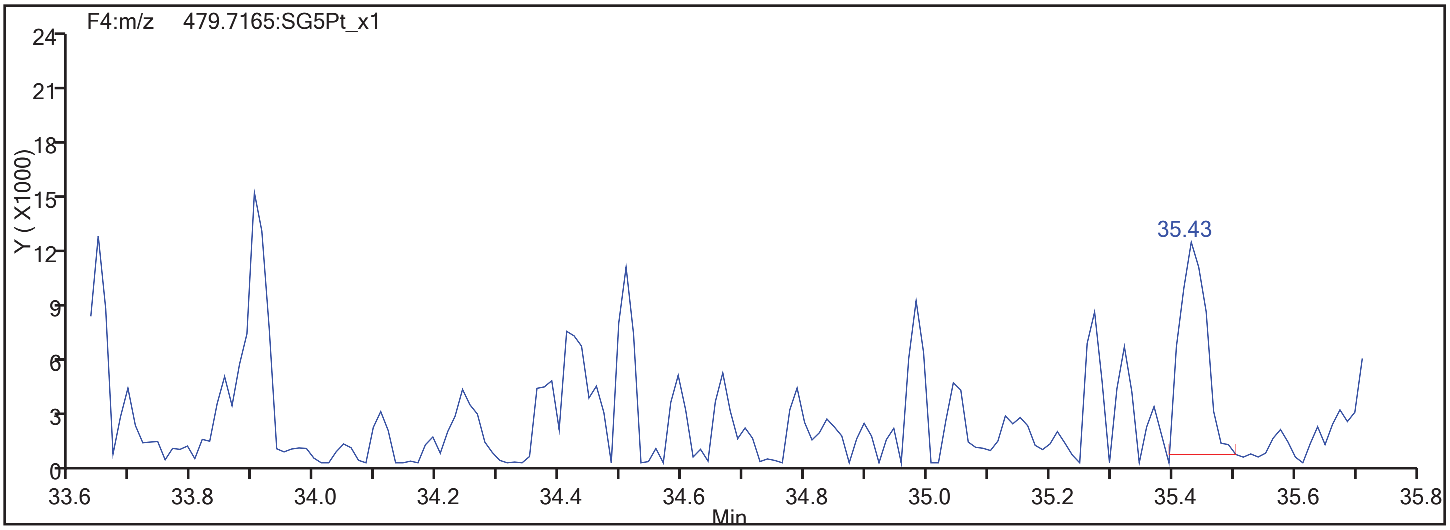
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Injection Date:	19-Nov-2017 15:03:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	195575	Sample Line#:	85
Column Type:		Column Dia:	

HpCDF





HpCDF Interference Mass

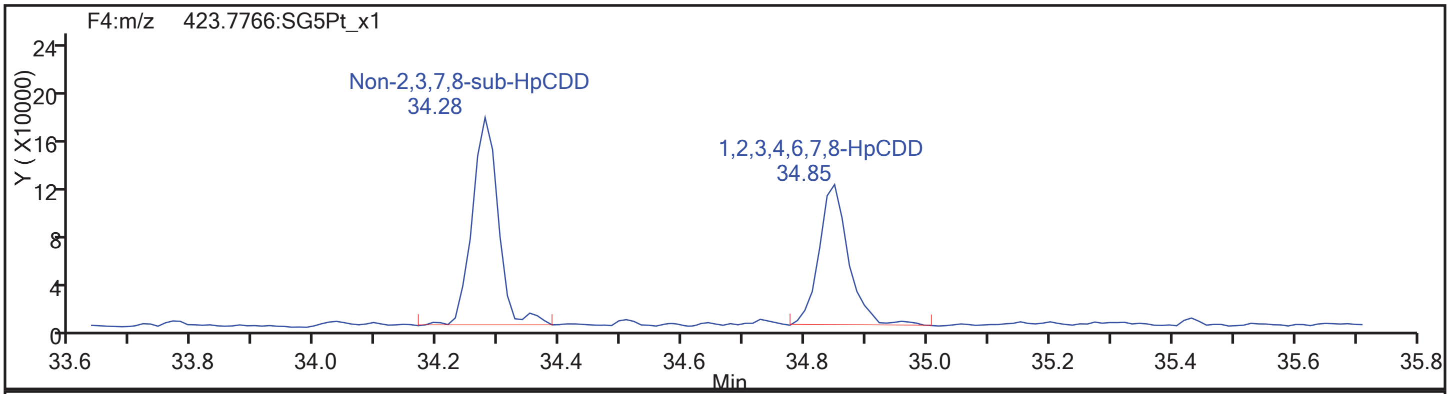


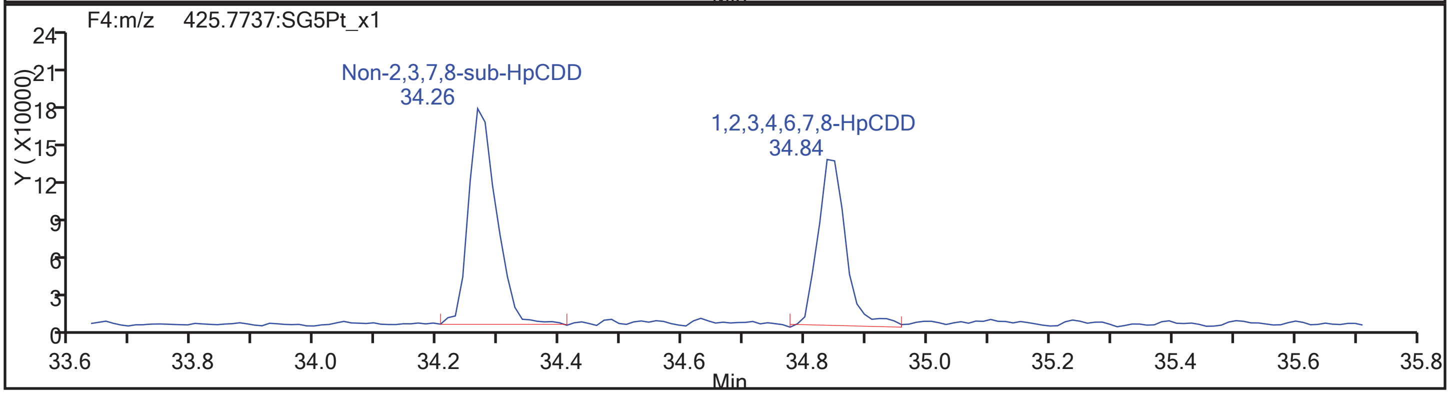
Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Injection Date: 19-Nov-2017 15:03:51
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 195575
Sample Line#: 85
Column Type:
Column Dia:

HpCDD





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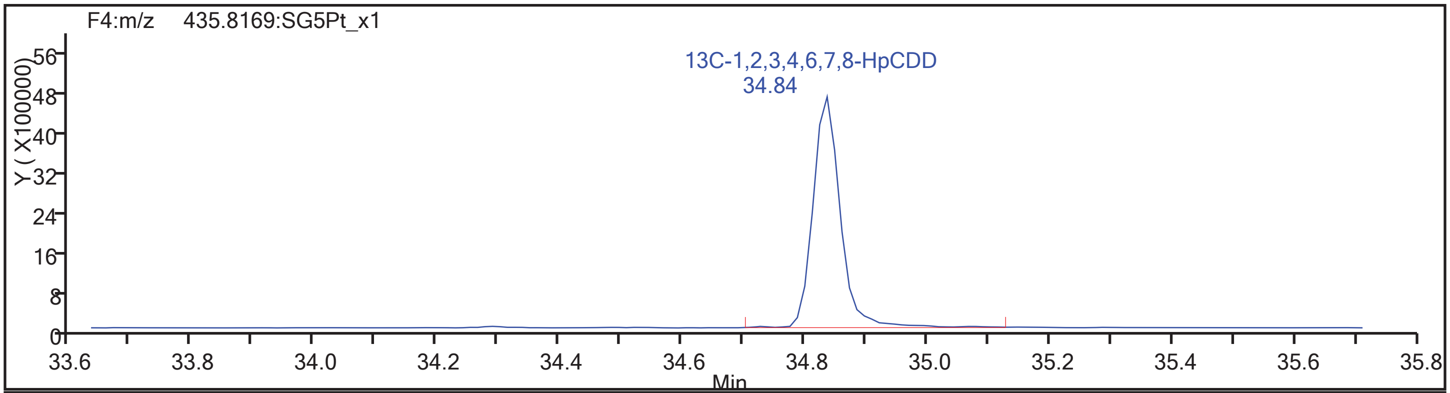
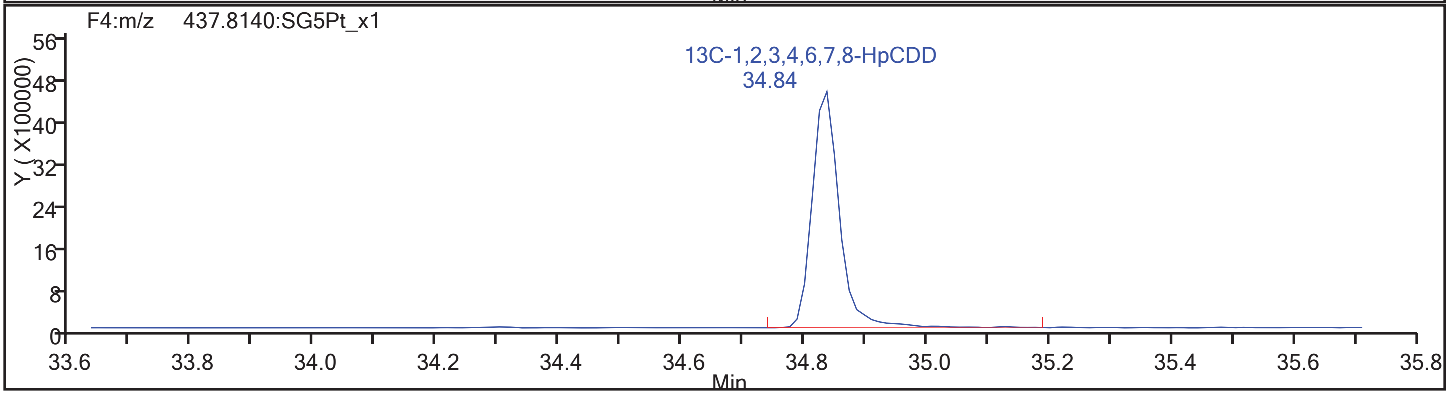


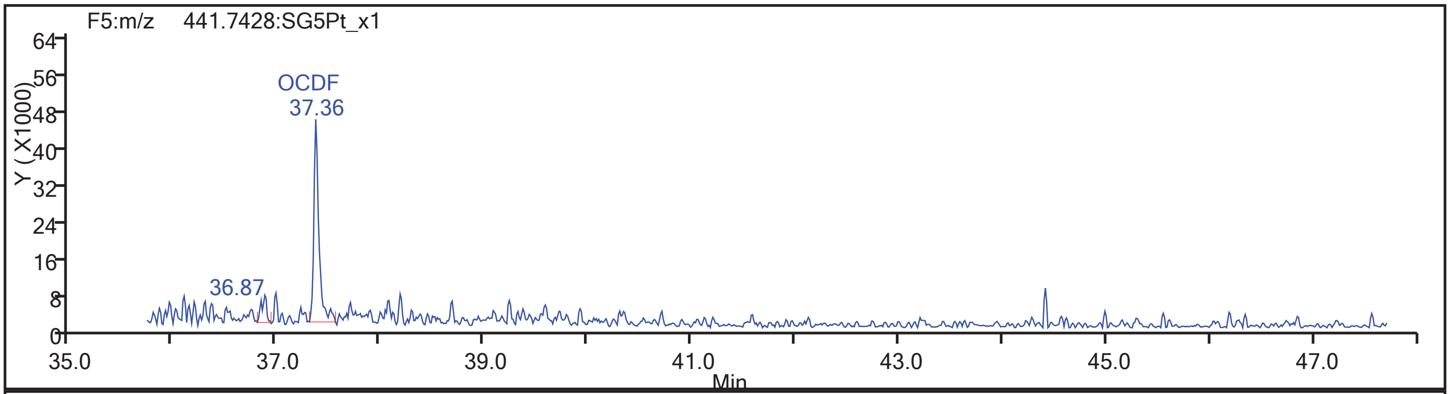


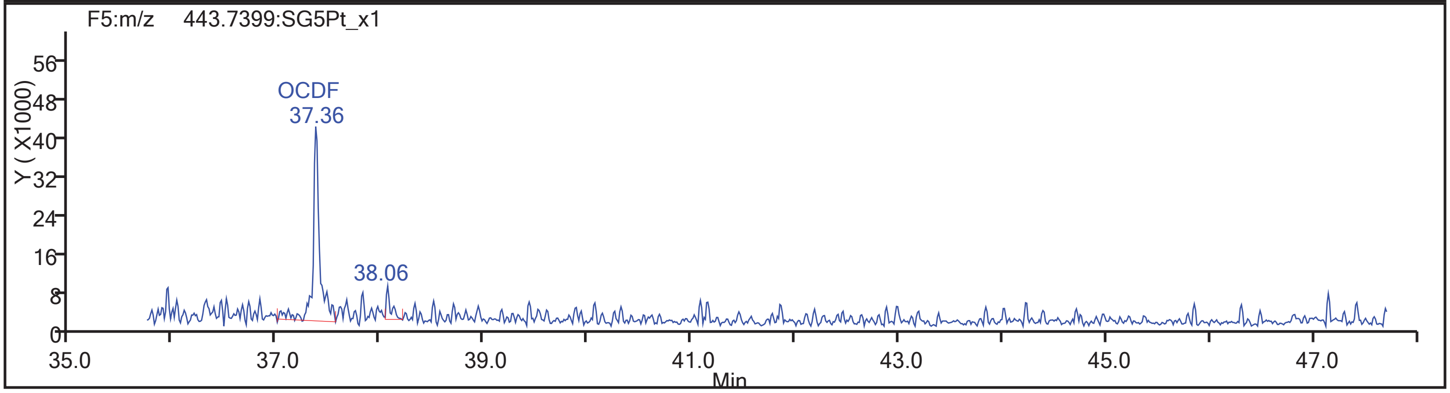
Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

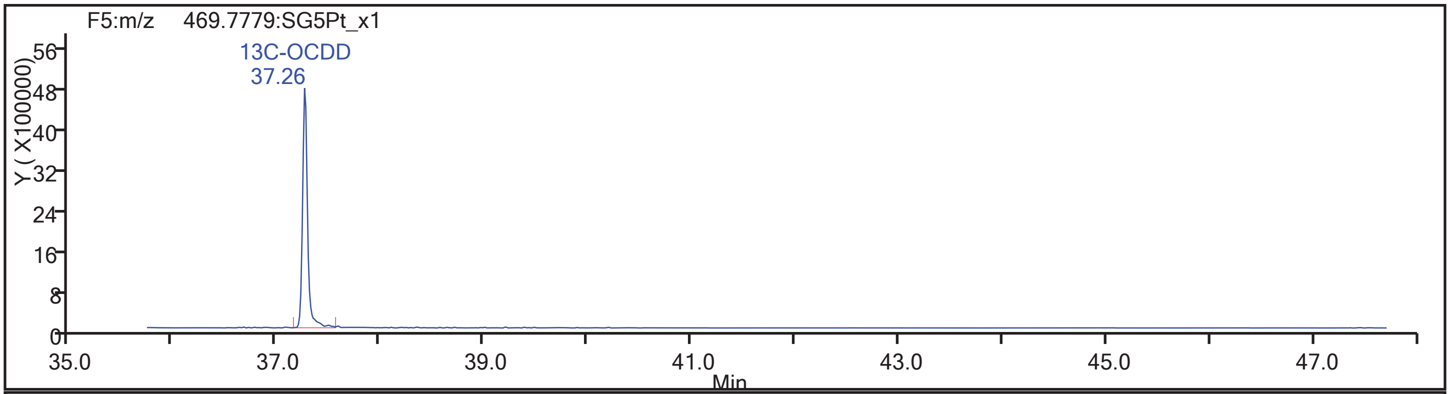
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Injection Date:	19-Nov-2017 15:03:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	195575	Sample Line#:	85
Column Type:		Column Dia:	

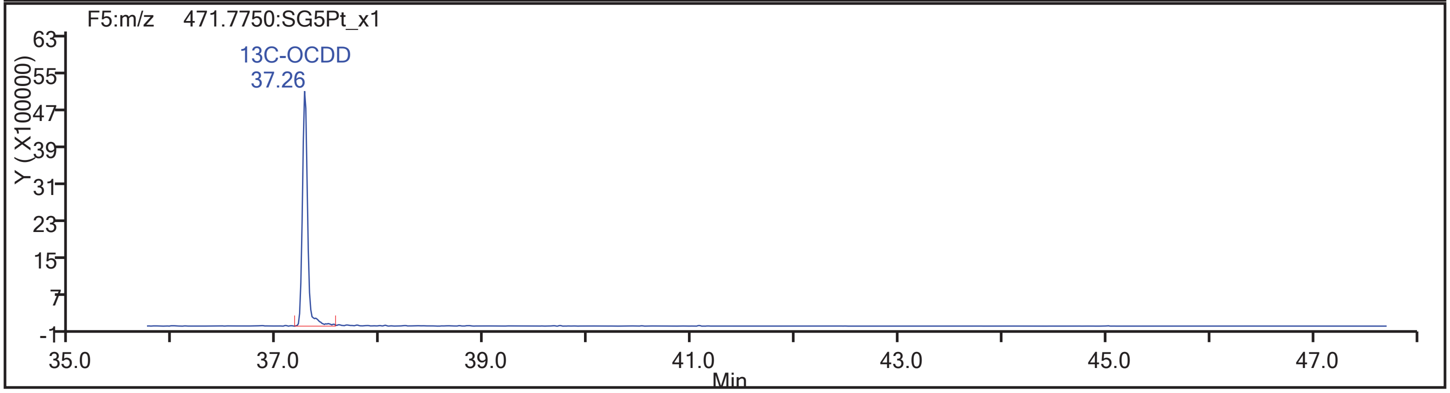
OCDF





OCDF Standards





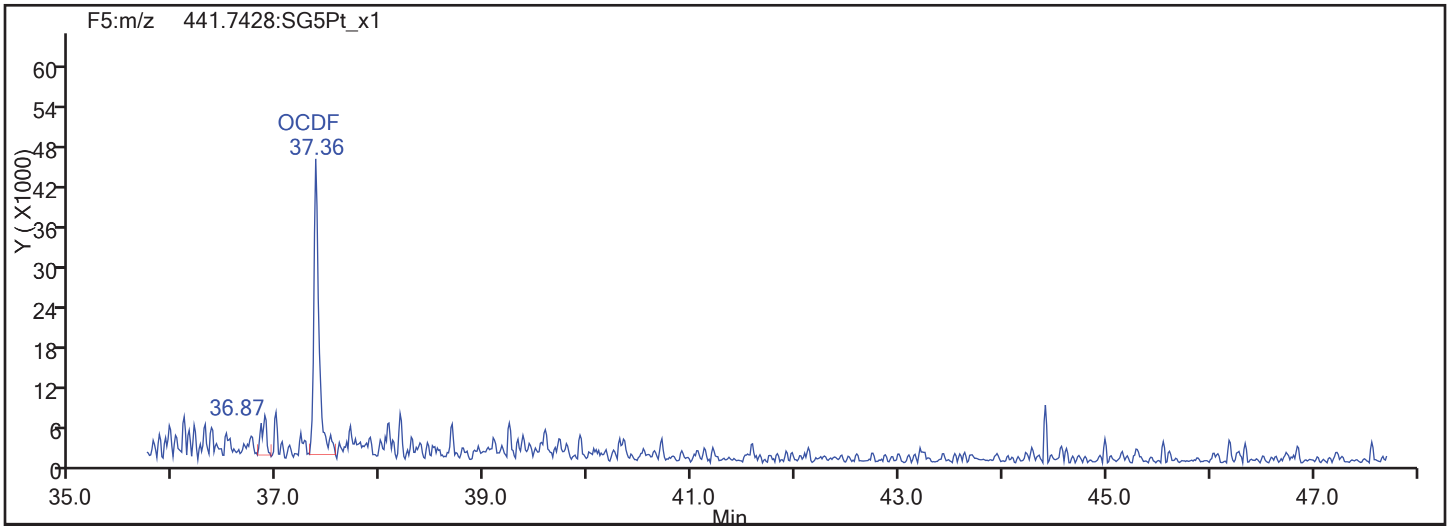
Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

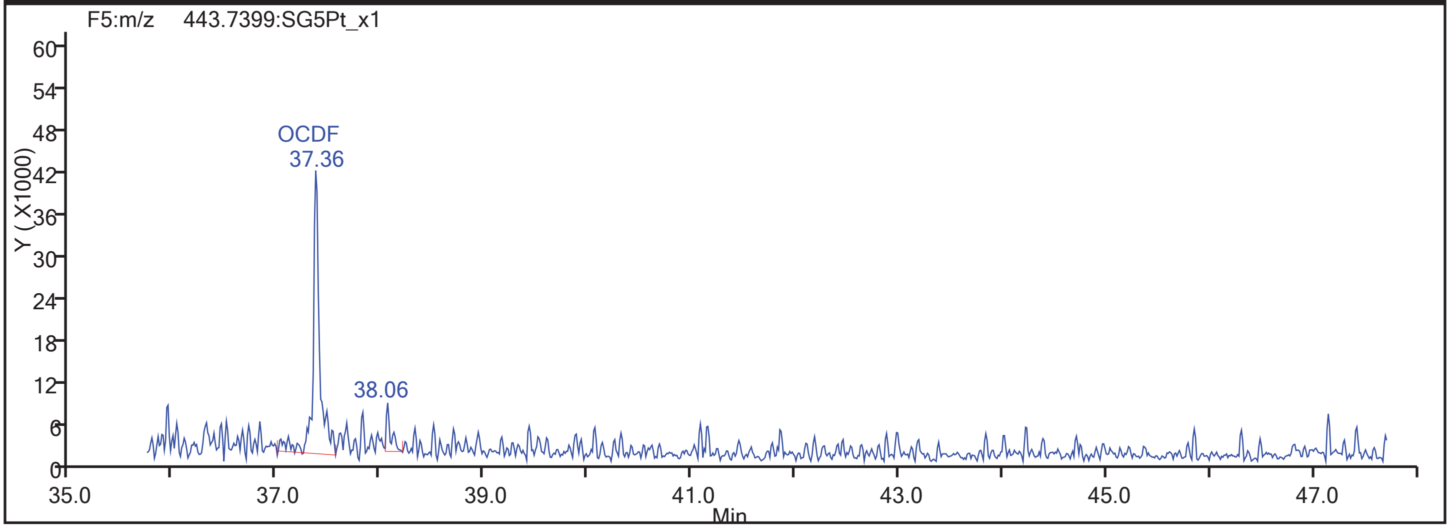
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d

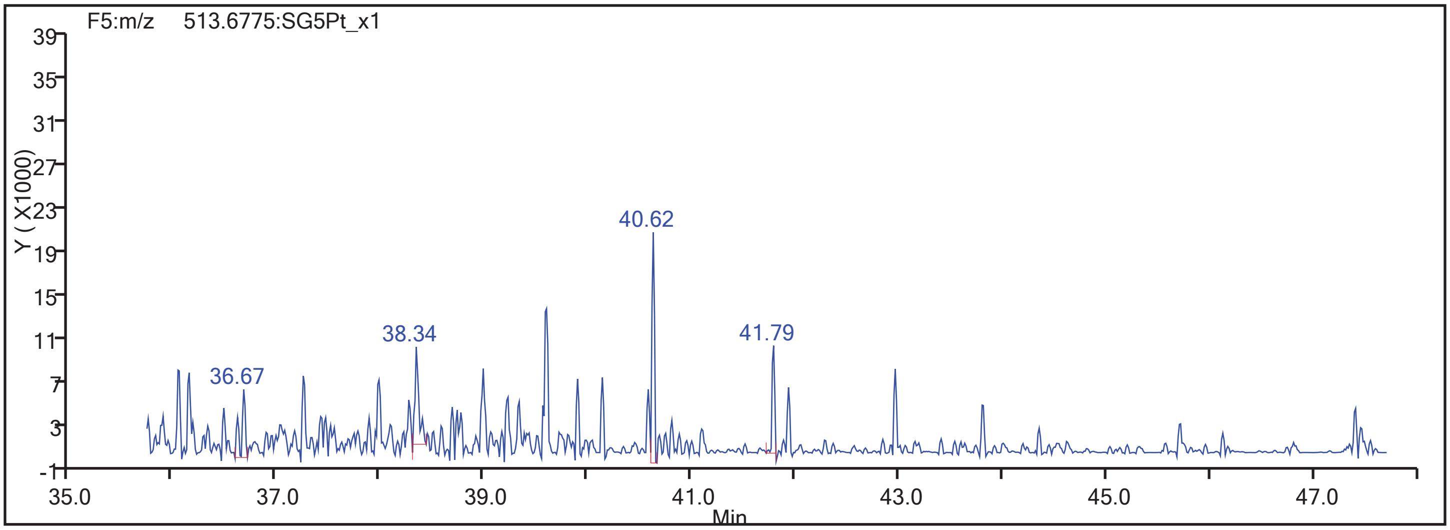
Injection Date:	19-Nov-2017 15:03:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	195575	Sample Line#:	85
Column Type:		Column Dia:	

OCDF





OCDF Interference Mass

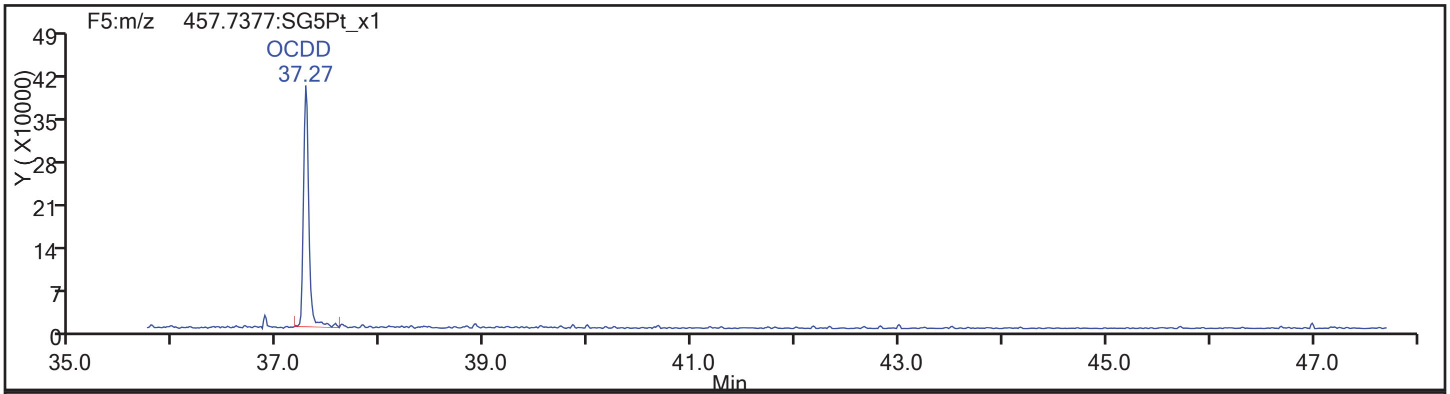


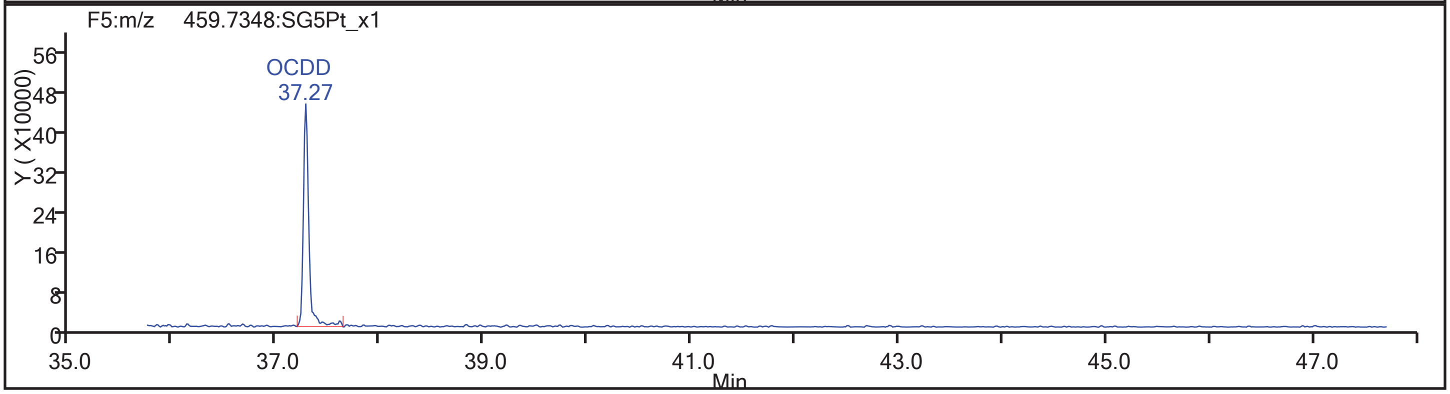
Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

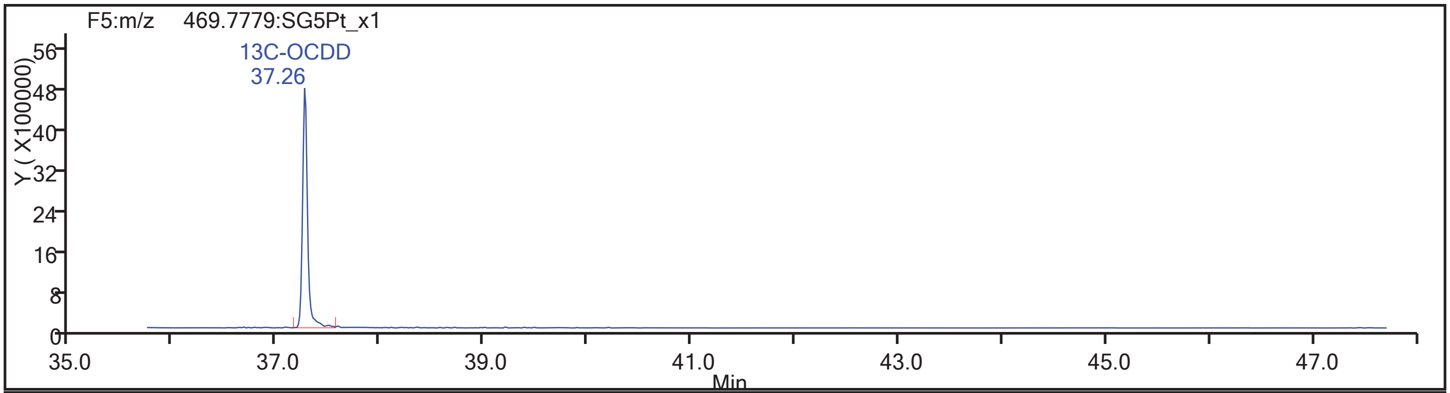
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d		
Injection Date:	19-Nov-2017 15:03:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	195575	Sample Line#:	85
Column Type:		Column Dia:	

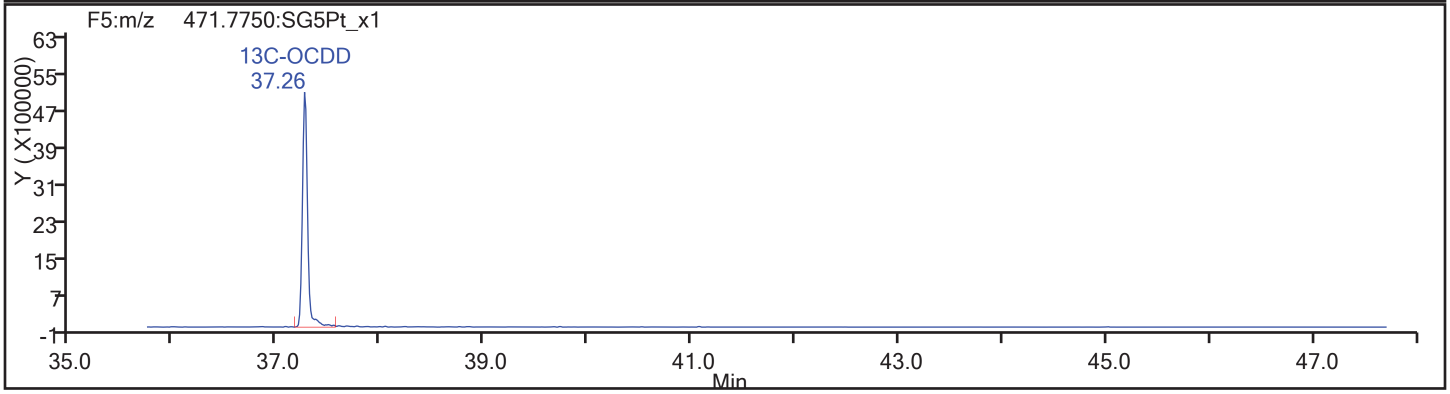
OCDD





OCDD Standards

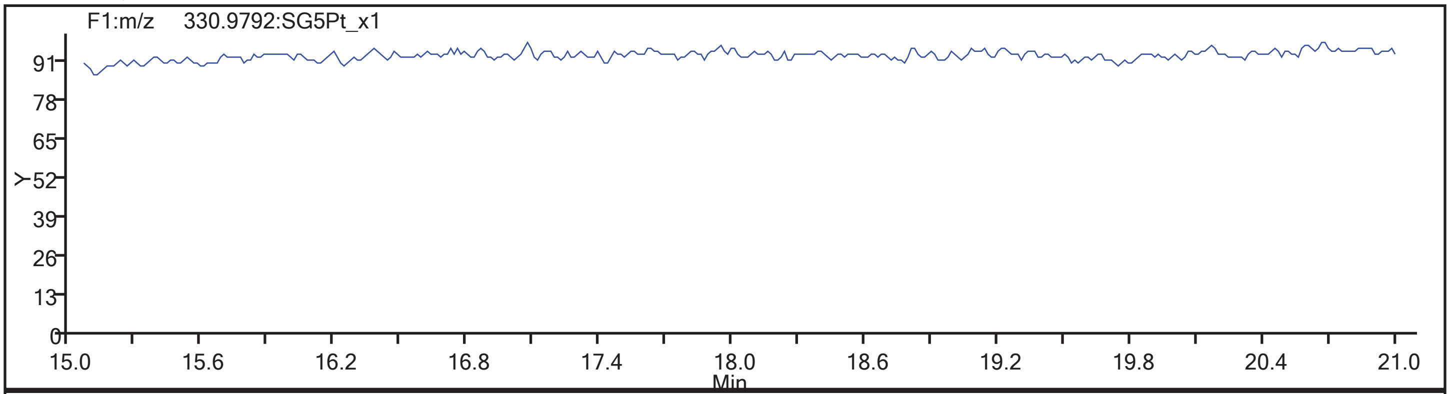


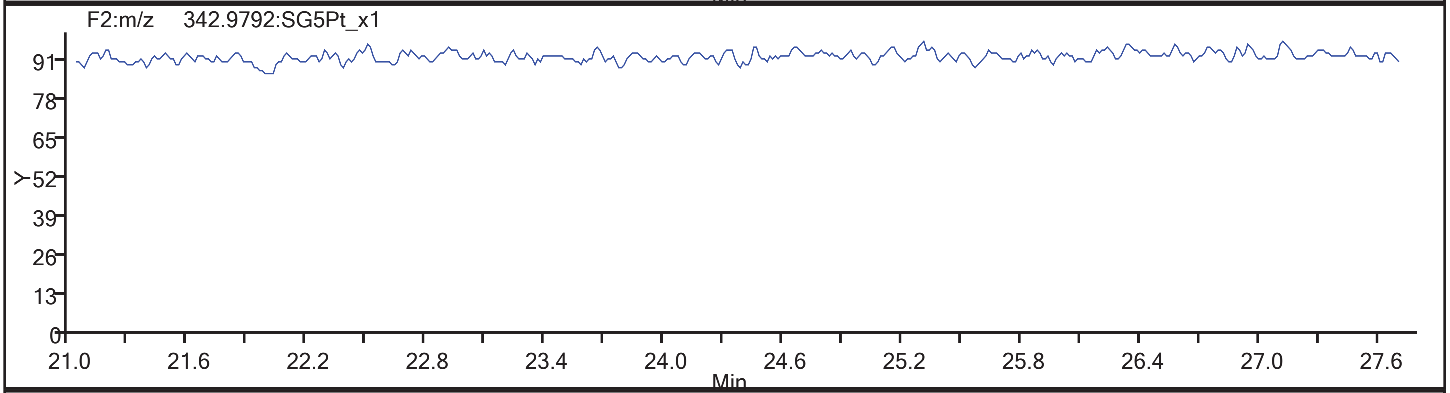


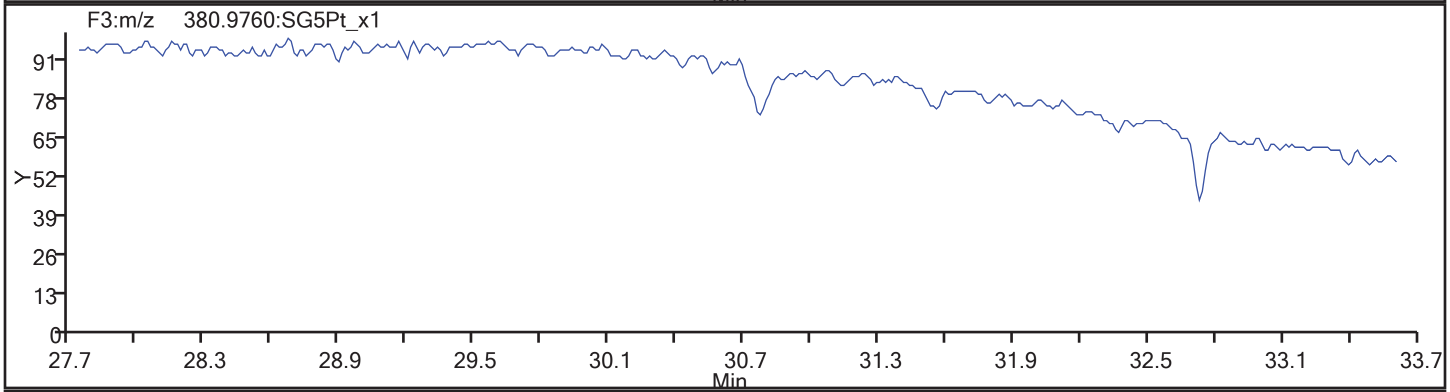
Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

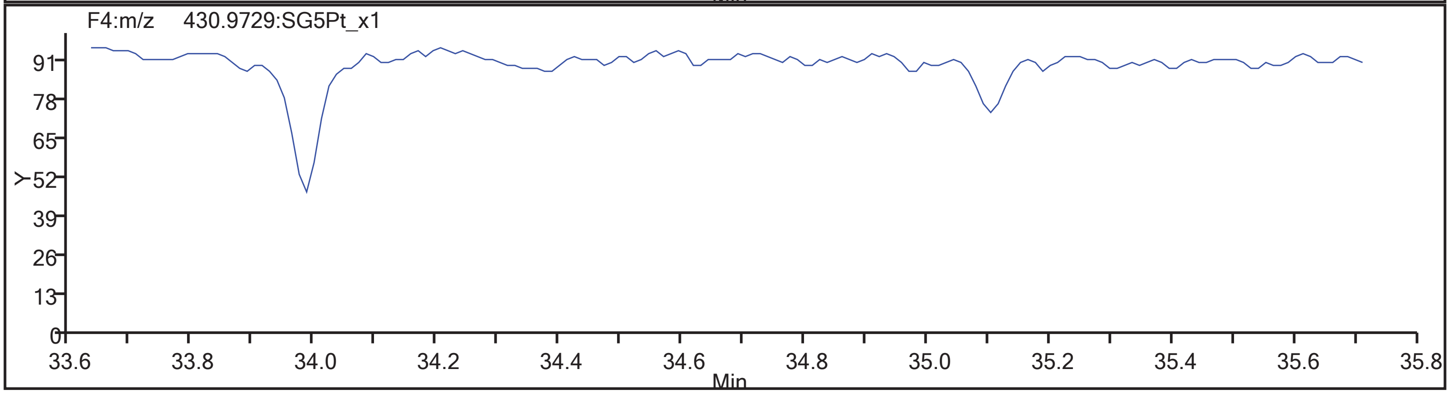
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Injection Date: 19-Nov-2017 15:03:51
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 195575
Sample Line#: 85
Column Type:
Column Dia:









Report Date: 06-Dec-2017 15:10:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_85.d
Injection Date: 19-Nov-2017 15:03:51
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
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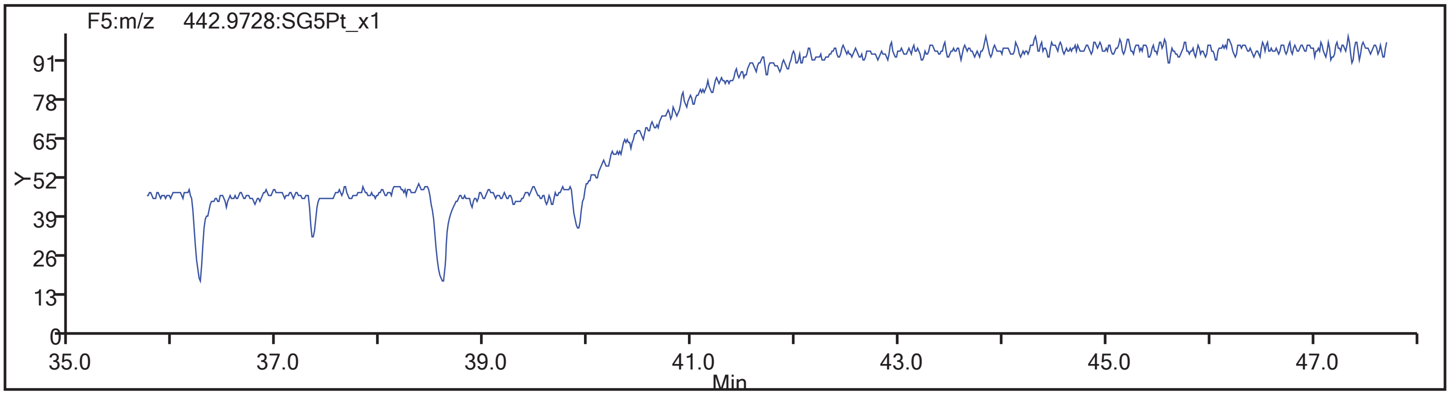
Client ID: SHAD041DP013SS02NS
Worklist#: 195575
Sample Line#: 85
Column Type:
Column Dia:



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP013SS02NS RERA

Lab Sample ID: 160-24924-14 RERA

Matrix: Solid

Lab File ID: 05DE179D2_013.d

Analysis Method: 8290A

Date Collected: 10/05/2017 14:34

Extract. Method: 8290

Date Extracted: 11/16/2017 11:16

Sample wt/vol: 10.21(g)

Date Analyzed: 12/05/2017 19:08

Con. Extract Vol.: 20.0(uL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 5.5

GPC Cleanup:(Y/N) N

Analysis Batch No.: 198469

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	*2,3,7,8-TCDF*	*0.41*	*U H*	*1.0*	0.41	*0.23*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	63		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_013.d				
Lims ID:	160-24924-G-14-B				
Client ID:	SHAD041DP013SS02NS				
Sample Type:	Client				
Inject. Date:	05-Dec-2017 19:08:23	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-14-B				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	05-Dec-2017 23:47:44	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK005				

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.966	96642492	0.78	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.104	76697825	0.79	1.2599	63.0	63.0	0.2550	0.2550	62.99	
2,3,7,8-TCDF	16.119						0.1091	0.1091		
D 13C-2,3,7,8-TCDD	14.719	59156390	0.80	0.9567	64.0	64.0	0.8229	0.8229	63.98	
2,3,7,8-TCDD	14.734						0.0934	0.0934		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Report Date: 05-Dec-2017 23:47:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_013.d				
Lims ID:	160-24924-G-14-B				
Client ID:	SHAD041DP013SS02NS				
Sample Type:	Client				
Inject. Date:	05-Dec-2017 19:08:23	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-14-B				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	05-Dec-2017 23:47:44	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK005				

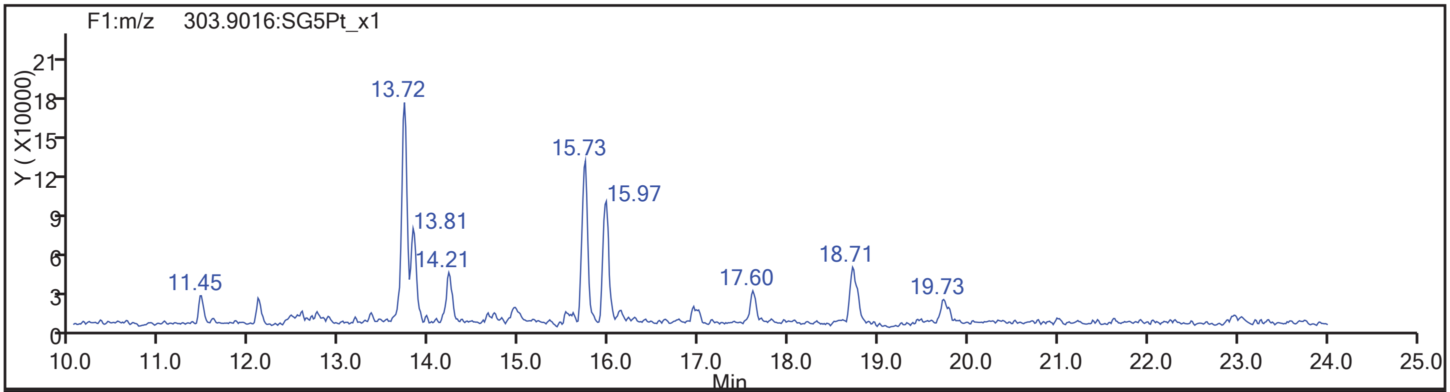
Signal	RT (min.)	Adj RT (min.)	M Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.966	14.967	0		42357913	8899808	44547	111367	200		
333.9339	14.966	14.967	0		54284579	11464852	19585	48962	585	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.104	16.106	0	1.076	33804472	6799875	14036	35090	484		
317.9389	16.104	16.106	0	1.076	42893353	8422056	12139	30347	694	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.119						4044	10110			
305.8987	16.119						3119	7797			
13C-2,3,7,8-TCDD											
331.9368	14.719	14.706	1	0.984	26207030	5711635	44547	111367	128		
333.9339	14.719	14.706	1	0.984	32949360	6961410	19585	48962	355	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.734						2697	6742			
321.8936	14.734						2567	6417			
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				4044	10110			
Total Dioxins & Furans											
303.9016		0.0	0				4044	10110			

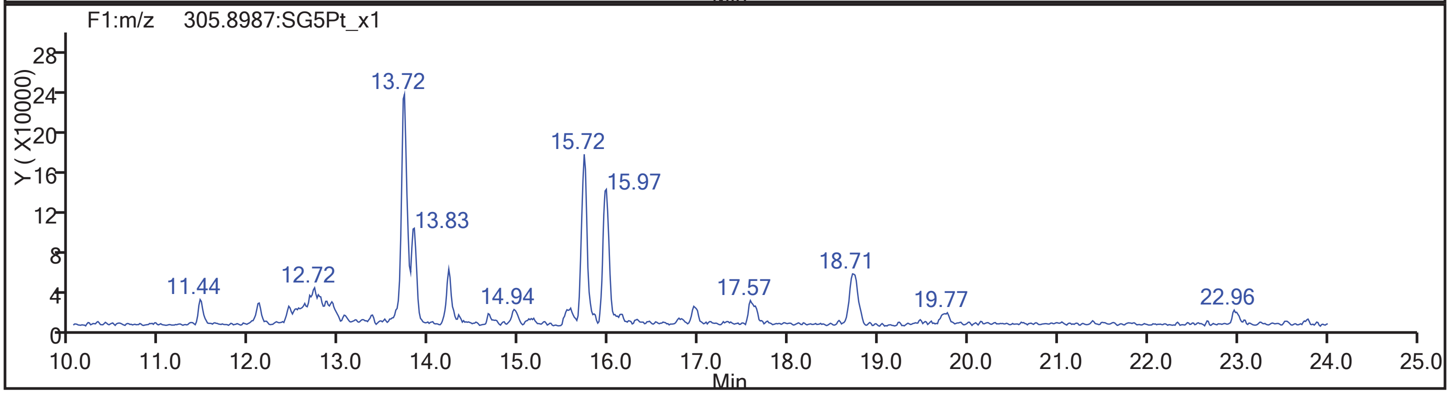
Report Date: 05-Dec-2017 23:47:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

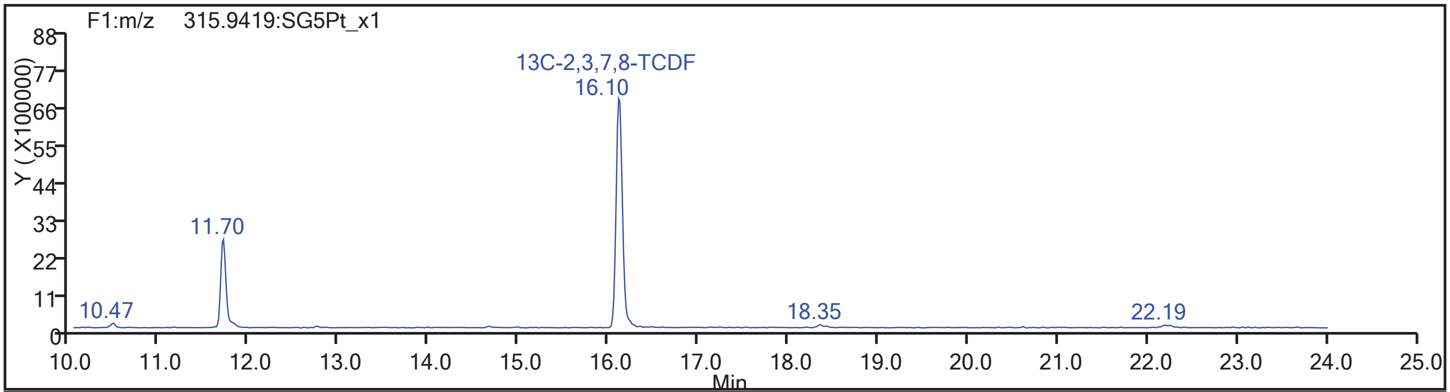
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_013.d
Injection Date: 05-Dec-2017 19:08:23
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS02NS
Worklist#: 198469
Sample Line#: 13
Column Type: DB-225
Column Dia: 0.32 mm

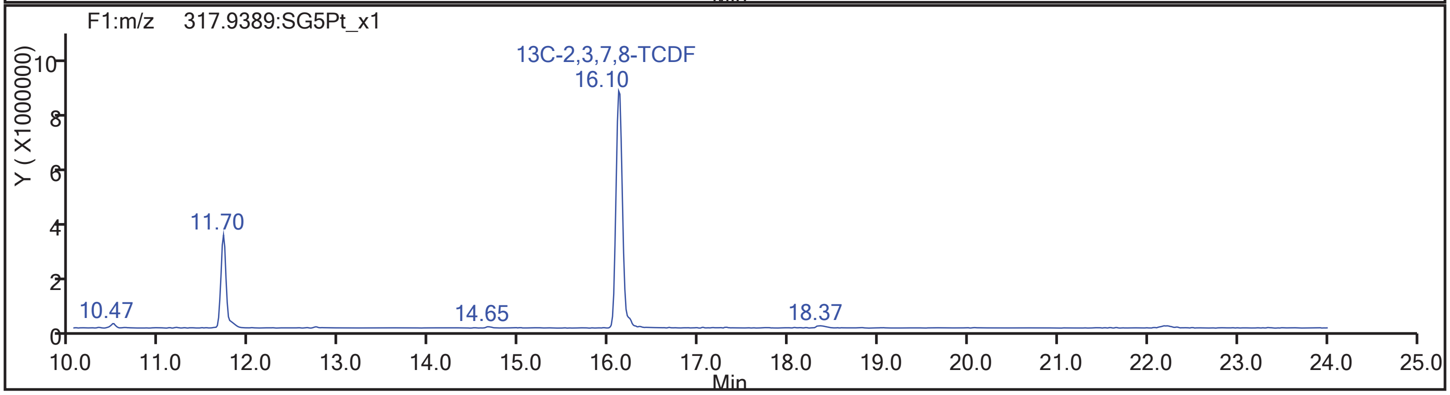
TCDF





TCDF Standards



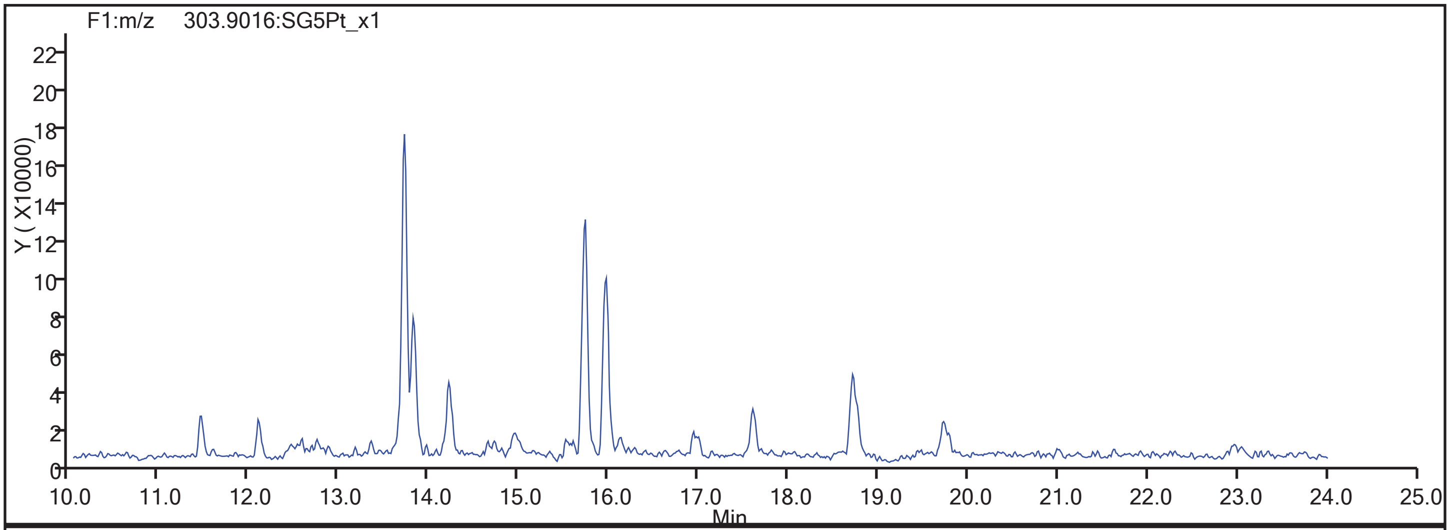


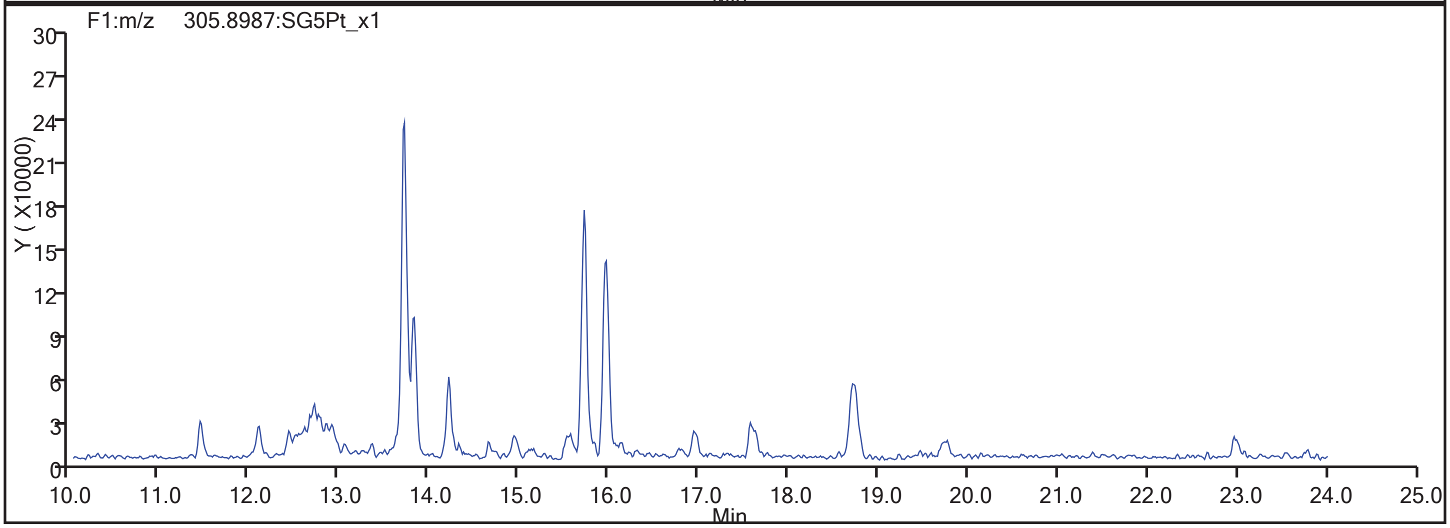
Report Date: 05-Dec-2017 23:47:56　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

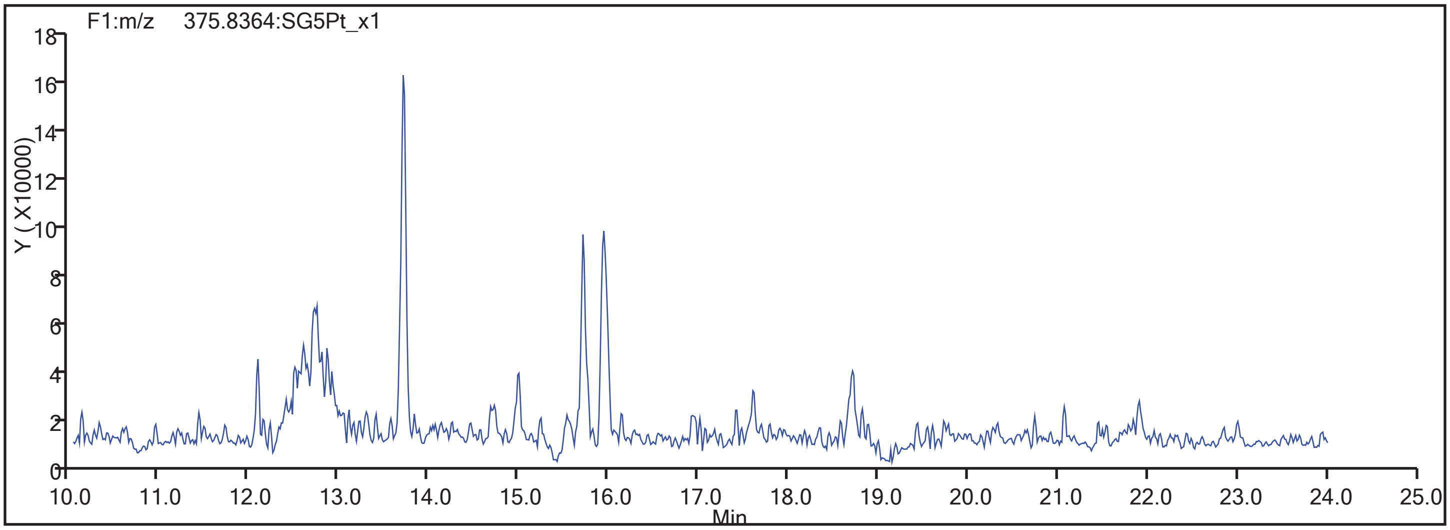
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_013.d		
Injection Date:	05-Dec-2017 19:08:23	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	198469	Sample Line#:	13
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





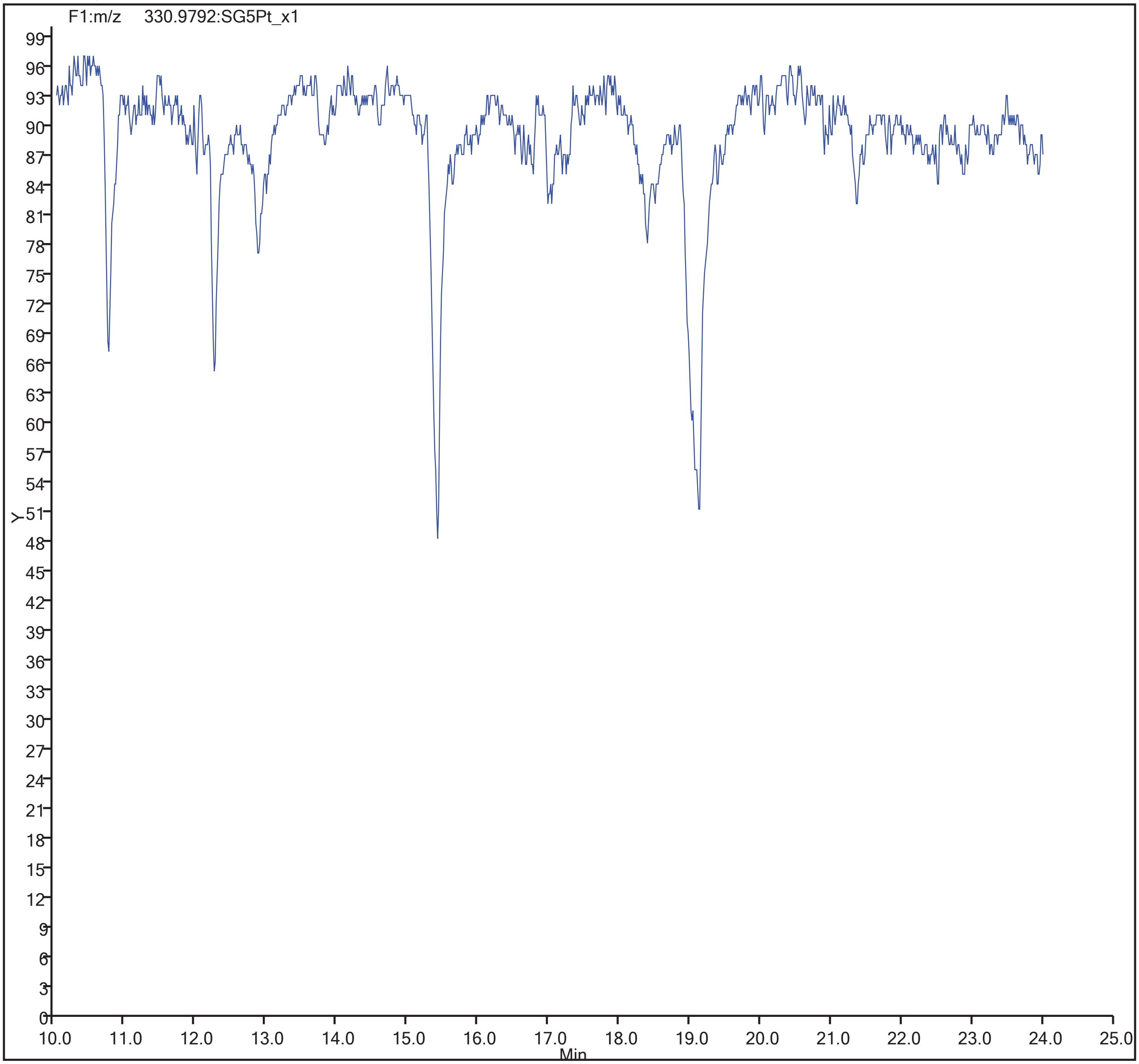
TCDF Interference Mass



Report Date: 05-Dec-2017 23:47:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_013.d		
Injection Date:	05-Dec-2017 19:08:23	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS02NS		
Worklist#:	198469	Sample Line#:	13
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP013SS03NS

Lab Sample ID: 160-24924-15

Matrix: Solid

Lab File ID: 13NO1710D5_35.d

Analysis Method: 8290A

Date Collected: 10/05/2017 14:44

Extract. Method: 8290

Date Extracted: 10/17/2017 11:29

Sample wt/vol: 10.07(g)

Date Analyzed: 11/14/2017 15:40

Con. Extract Vol.: 20.00(uL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 13.4

GPC Cleanup:(Y/N) N

Analysis Batch No.: 194429

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.46	U	1.1	0.46	0.052
51207-31-9	2,3,7,8-TCDF	0.46	U	1.1	0.46	0.034
40321-76-4	1,2,3,7,8-PeCDD	0.084	J	5.7	0.86	0.058
57117-41-6	1,2,3,7,8-PeCDF	0.86	U	5.7	0.86	0.051
57117-31-4	2,3,4,7,8-PeCDF	0.86	U	5.7	0.86	0.052
39227-28-6	1,2,3,4,7,8-HxCDD	0.25	J	5.7	2.3	0.069
57653-85-7	1,2,3,6,7,8-HxCDD	0.49	J	5.7	2.3	0.053
19408-74-3	1,2,3,7,8,9-HxCDD	0.61	J	5.7	2.3	0.053
70648-26-9	1,2,3,4,7,8-HxCDF	0.86	U	5.7	0.86	0.055
57117-44-9	1,2,3,6,7,8-HxCDF	0.061	J	5.7	1.1	0.045
72918-21-9	1,2,3,7,8,9-HxCDF	0.10	J	5.7	1.1	0.055
60851-34-5	2,3,4,6,7,8-HxCDF	0.86	U	5.7	0.86	0.051
35822-46-9	1,2,3,4,6,7,8-HpCDD	1.9	J	5.7	1.1	0.074
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.34	J	5.7	1.1	0.064
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.3	U	5.7	2.3	0.079
3268-87-9	OCDD	9.4	J B	11	4.6	0.086
39001-02-0	OCDF	1.2	J	11	4.6	0.072

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	56		40-135
89059-46-1	13C-2,3,7,8-TCDF	56		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	64		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	60		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	58		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	62		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	60		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	43		40-135
114423-97-1	13C-OCDD	54		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d				
Lims ID:	160-24924-G-15-A				
Client ID:	SHAD041DP013SS03NS				
Sample Type:	Client				
Inject. Date:	14-Nov-2017 15:40:42	ALS Bottle#:	34	Worklist Smp#:	35
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-g-15-a RI 160-24924-g-15-a RI				
Misc. Info.:	13NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	16-Nov-2017 10:07:59	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK012				
First Level Reviewer: messecara		Date:	15-Nov-2017 01:38:26		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.838	141513704	0.77	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.324	101034817	0.76	1.2741	56.0	56.0	0.1202	0.1202	56.04	
2,3,7,8-TCDF	17.309						0.0149	0.0149		
A Non-2,3,7,8-sub-TCDF	17.022	278127	0.77	1.1341	0.2488	0.2427	0.0149	0.1369		RQ
S Total TCDF					0.2488	0.2427	0.0149	0.0149		RQ
D 13C-2,3,7,8-TCDD	18.020	78594386	0.77	0.9921	56.0	56.0	0.1873	0.1873	55.98	
2,3,7,8-TCDD	18.020						0.0226	0.0226		
A Non-2,3,7,8-sub-TCDD	17.468	172491	0.86	0.9993	0.2196	0.2196	0.0226	0.1218		
S Total TCDD					0.2196	0.2196	0.0226	0.0226		
D 13C-1,2,3,7,8-PeCDF	22.328	82740283	1.54	0.9696	60.3	60.3	0.1666	0.1666	60.30	
1,2,3,7,8-PeCDF	22.328						0.0222	0.0222		
2,3,4,7,8-PeCDF	23.664						0.0227	0.0227		
A F1 PeCDFs	19.948						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.086	109908	1.55	1.1511	0.1242	0.1154	0.0224	0.1154		RQ
S Total PeCDF					0.1242	0.1154	0.0225	0.0225		RQ
D 13C-1,2,3,7,8-PeCDD	24.401	68606891	1.61	0.7588	63.9	63.9	0.0925	0.0925	63.89	
1,2,3,7,8-PeCDD	24.415	23841	1.55	0.9490	0.0449	0.0366	0.0253	0.0253		RQ
A Non-2,3,7,8-sub-PeCDD	23.290	26213	1.55	0.9490	0.0474	0.0403	0.0253	0.0403		RQ
S Total PeCDD					0.0923	0.0769	0.0253	0.0253		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.487	63204500	0.52	0.9644	61.6	61.6	0.4362	0.4362	61.57	
1,2,3,4,7,8-HxCDF	30.487						0.0239	0.0239		
1,2,3,6,7,8-HxCDF	30.700	28384	1.24	1.6951	0.0322	0.0265	0.0198	0.0198		RQ
2,3,4,6,7,8-HxCDF	31.366						0.0221	0.0221		U
D 13C-1,2,3,7,8,9-HxCDF	32.311	65160422	0.51							
1,2,3,7,8,9-HxCDF	32.337	38729	1.28	1.4099	0.0435	0.0435	0.0238	0.0238		
A Non-2,3,7,8-sub-HxCDF	30.141						0.0	0.0		U
S Total HxCDF					0.0757	0.0700	0.0224	0.0224		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.124	106448349	1.24	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.712	55603	1.38	0.9505	0.1073	0.1073	0.0302	0.0302		
D 13C-1,2,3,6,7,8-HxCDD	31.792	54542656	1.27	0.8791	58.3	58.3	0.3215	0.3215	58.29	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.805	145348	1.10	1.2343	0.2159	0.2159	0.0233	0.0233		
1,2,3,7,8,9-HxCDD	32.138	182062	1.20	1.2467	0.2677	0.2677	0.0230	0.0230		
A Non-2,3,7,8-sub-HxCDD	30.779	247279	1.24	1.1438	0.4098	0.3964	0.0251	0.3199		RQ
S Total HxCDD					1.001	0.9873	0.0255	0.0255		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.722	34582249	0.42	0.7618	42.6	42.6	0.6429	0.6429	42.64	
1,2,3,4,6,7,8-HpCDF	33.734	83317	0.89	1.6399	0.1469	0.1469	0.0281	0.0281		
1,2,3,4,7,8,9-HpCDF	34.803						0.0346	0.0346		
A Non-2,3,7,8-sub-HpCDF	34.268	147246	1.16	1.4851	0.2867	0.2867	0.0310	0.2867		
S Total HpCDF					0.4336	0.4336	0.0313	0.0313		
D 13C-1,2,3,4,6,7,8-HpCDD	34.512	49562134	1.05	0.7762	60.0	60.0	0.3194	0.3194	59.99	
1,2,3,4,6,7,8-HpCDD	34.524	406658	1.05	0.9932	0.8261	0.8261	0.0324	0.0324		
A Non-2,3,7,8-sub-HpCDD	34.238	508948	0.99	0.9932	1.034	1.034	0.0324	1.034		
S Total HpCDD					1.860	1.860	0.0324	0.0324		
D 13C-OCDD	36.847	72038388	0.87	0.6314	107.2	107.2	0.1624	0.1624	53.59	
OCDF	36.943	250147	0.87	1.3460	0.5159	0.5159	0.0316	0.0316		
OCDD	36.847	1574232	0.91	1.0604	4.122	4.122	0.0376	0.0376		

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
U - Marked Undetected

Report Date: 16-Nov-2017 10:08:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d
Lims ID: 160-24924-G-15-A
Client ID: SHAD041DP013SS03NS
Sample Type: Client
Inject. Date: 14-Nov-2017 15:40:42 ALS Bottle#: 34 Worklist Smp#: 35
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-15-a RI 160-24924-g-15-a RI
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 10:07:59 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK012

First Level Reviewer: messecara Date: 15-Nov-2017 01:38:26

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.838	17.808	2		61543580	15119888	12144	30360	1245		a
333.9339	17.838	17.808	2		79970124	19582748	13653	34132	1434	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.324	17.294	2	0.971	43710542	10855188	12888	32220	842		
317.9389	17.324	17.294	2	0.971	57324275	14095083	8366	20915	1685	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.309						670	1675			
305.8987	17.309						1018	2545			
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	15.419	17.022	-96	0.890	70081	21938	670	1675	33		
305.8987	15.419	17.022	-96	0.890	86797	25099	1018	2545	25	0.81(0.65-0.89)	
303.9016	16.962	17.022	-4	0.979	24875	7438	670	1675	11		
305.8987	16.946	17.022	-5	0.978	39257	10937	1018	2545	11	0.63(0.65-0.89)	
	Empc Correction				32305	9659	1018	2545	9		
303.9016	18.882	17.022	111	1.090	25507	5796	670	1675	9		
305.8987	18.882	17.022	111	1.090	38562	8118	1018	2545	8	0.66(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.020	18.005	1	1.010	34177082	7669970	12144	30360	632		
333.9339	18.020	18.005	1	1.010	44417304	10012033	13653	34132	733	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.020						922	2305			
321.8936	18.020						679	1697			
A Non-2,3,7,8-sub-TCDD											
319.8965	15.812	17.468	-99	0.877	35092	7503	922	2305	8		
321.8936	15.828	17.468	-98	0.878	41707	11434	679	1697	17	0.84(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
319.8965	16.901	17.468	-34	0.938	44658	9349	922	2305	10		
321.8936	16.901	17.468	-34	0.938	51034	13322	679	1697	20	0.88(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.328	22.301	2	1.252	50144055	8592897	13537	33842	635		
353.8970	22.342	22.301	2	1.252	32596228	5656316	8883	22207	637	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.328						443	1107			
341.8567	22.328						1030	2575			
2,3,4,7,8-PeCDF											
339.8597	23.664						443	1107			
341.8567	23.664						1030	2575			
A F1 PeCDFs											
339.8597	19.948						432	1080			
341.8567	19.948						1016	2540			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.737	23.086	-21	1.018	66807	12752	443	1107	29		
341.8567	22.737	23.086	-21	1.018	51480	8792	1030	2575	9	1.30(1.32-1.78)	
	Empc Correction				43101	8227	1030	2575	8		
13C-1,2,3,7,8-PeCDD											
367.8949	24.401	24.360	2	1.368	42364551	6526730	5724	14310	1140		
369.8919	24.401	24.360	2	1.368	26242340	4116380	4014	10035	1026	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											RQ
355.8546	24.415	24.387	2	1.001	14492	2765	716	1790	4		
357.8516	24.387	24.387	0	0.999	14754	2893	307	767	9	0.98(1.32-1.78)	
	Empc Correction				9349	1783	307	767	6		
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.960	23.290	-80	0.900	20599	4006	716	1790	6		
	Empc Correction				15933	4135	716	1790	6		
357.8516	21.947	23.290	-80	0.899	10280	2668	307	767	9	2.00(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.487	30.460	2	0.949	21501563	4118700	14582	36455	282		
385.8610	30.487	30.460	2	0.949	41702937	7845828	28655	71637	274	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.487						1160	2900			
375.8178	30.487						446	1115			
1,2,3,6,7,8-HxCDF											RQ
373.8208	30.700	30.673	2	1.007	15713	3901	1160	2900	3		
375.8178	30.687	30.673	1	1.007	18813	4351	446	1115	10	0.84(1.05-1.43)	
	Empc Correction				12671	3145	446	1115	7		
2,3,4,6,7,8-HxCDF											U
373.8208	31.498						1160	2900			
375.8178	31.498						446	1115			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.311	32.284	2	1.006	22060693	5153925	14582	36455	353		
385.8610	32.297	32.284	1	1.005	43099729	10167885	28655	71637	355	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.337	32.297	2	1.061	21717	5331	1160	2900	5		
375.8178	32.337	32.297	2	1.061	17012	2290	446	1115	5	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											U
373.8208	30.141						1160	2900			
375.8178	30.141						446	1115			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.124	32.111	1		58952992	14334292	16400	41000	874		
403.8529	32.124	32.111	1		47495357	11360512	12645	31612	898	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.712	31.685	2	0.997	32235	9321	816	2040	11		
391.8127	31.698	31.685	1	0.997	23368	7229	679	1697	11	1.38(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.792	31.778	1	0.990	30466624	7225626	16400	41000	441		
403.8529	31.792	31.778	1	0.990	24076032	5784519	12645	31612	457	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.805	31.791	1	1.000	76138	19702	816	2040	24		
391.8127	31.805	31.791	1	1.000	69210	15580	679	1697	23	1.10(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.138	32.124	1	1.011	99142	21166	816	2040	26		
391.8127	32.138	32.124	1	1.011	82920	18061	679	1697	27	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.553	30.779	-14	0.961	34793	4788	816	2040	6		
	Empc Correction				26392	4254	816	2040	5		
391.8127	30.567	30.779	-13	0.961	21284	3431	679	1697	5	1.63(1.05-1.43)	
389.8157	30.953	30.779	10	0.974	112410	21536	816	2040	26		
391.8127	30.953	30.779	10	0.974	87193	17669	679	1697	26	1.29(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.722	33.709	1	1.050	10212964	3060689	15410	38525	199		
419.8220	33.722	33.709	1	1.050	24369285	7341009	34928	87320	210	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.734	33.722	1	1.000	39140	11860	1273	3182	9		
409.7789	33.734	33.722	1	1.000	44177	13194	642	1605	21	0.89(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.803						1273	3182			
409.7789	34.803						642	1605			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.038	34.268	-14	1.009	78997	24317	1273	3182	19		
409.7789	34.038	34.268	-14	1.009	68249	19926	642	1605	31	1.16(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.512	34.499	1	1.074	25389279	7126310	13855	34637	514		
437.8140	34.512	34.499	1	1.074	24172855	6745128	11623	29057	580	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.524	34.511	1	1.000	208607	59260	954	2385	62		
425.7737	34.524	34.511	1	1.000	198051	52362	829	2072	63	1.05(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.977	34.238	-16	0.985	253762	76316	954	2385	80		
425.7737	33.977	34.238	-16	0.985	255186	80219	829	2072	97	0.99(0.88-1.20)	
13C-OCDD											
469.7779	36.847	36.822	1	1.147	33605924	7710831	6017	15042	1282		
471.7750	36.847	36.822	1	1.147	38432464	8674268	4521	11302	1919	0.87(0.76-1.02)	
OCDF											
441.7428	36.943	36.930	1	1.003	116579	27129	466	1165	58		
443.7399	36.931	36.930	0	1.002	133568	28198	926	2315	30	0.87(0.76-1.02)	
OCDD											
457.7377	36.847	36.834	1	1.000	749703	169182	619	1547	273		
459.7348	36.847	36.834	1	1.000	824529	179072	688	1720	260	0.91(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d
Lims ID: 160-24924-G-15-A
Client ID: SHAD041DP013SS03NS
Inject. Date: 14-Nov-2017 15:40:42 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194429 Lims Sample ID: 35

Non-2,3,7,8-sub-TCDF, RT: 17.022

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	100.000	101034817	24950271

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	101034817	24950271

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.419	70081	21938	86797	25099	0.1369	0.81	
16.962	24875	7438	39257	10937	0.0560	0.63	RQ
16.962	24875	7438	32305	9659	0.0499		Empc Correction
18.882	25507	5796	38562	8118	0.0559	0.66	
Signal Totals:							
	120463	35172	157664	42876			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	285079	79326				0.73	RQ
	278127	78048					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2488 = (285079 * 100.000) / (101034817 * 1.134)
Empc Amount: 0.2427 = (278127 * 100.000) / (101034817 * 1.134)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d
Lims ID: 160-24924-G-15-A
Client ID: SHAD041DP013SS03NS
Inject. Date: 14-Nov-2017 15:40:42
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194429
Lims Sample ID: 35

Non-2,3,7,8-sub-TCDD, RT: 17.468

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	78594386	17682003

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	78594386	17682003

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.812	35092	7503	41707	11434	0.0978	0.84	
16.901	44658	9349	51034	13322	0.1218	0.88	
Signal Totals:							
	79750	16852	92741	24756			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	172491	41608				0.86	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2196 = (172491 * 100.000) / (78594386 * 0.999)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d		
Lims ID:	160-24924-G-15-A		
Client ID:	SHAD041DP013SS03NS		
Inject. Date:	14-Nov-2017 15:40:42	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	35

Non-2,3,7,8-sub-PeCDF, RT: 23.086

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	82740283	14249213
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	82740283	14249213

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.737	66807	12752	51480	8792	0.1242	1.30	RQ
22.737	66807	12752	43101	8227	0.1154		Empc Correction
Signal Totals:							
	66807	12752	43101	8227			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	118287	21544				1.30	RQ
	109908	20979					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1242 = (118287 * 100.000) / (82740283 * 1.151)
Empc Amount: 0.1154 = (109908 * 100.000) / (82740283 * 1.151)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d		
Lims ID:	160-24924-G-15-A		
Client ID:	SHAD041DP013SS03NS		
Inject. Date:	14-Nov-2017 15:40:42	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	35

Non-2,3,7,8-sub-PeCDD, RT: 23.290

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	68606891	10643110

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	68606891	10643110

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.960	20599	4006	10280	2668	0.0474	2.00	RQ
21.960	15933	4135	10280	2668	0.0403		Empc Correction
Signal Totals:							
	15933	4135	10280	2668			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	30879	6674				2.00	RQ
	26213	6803					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0474 = (30879 * 100.000) / (68606891 * 0.949)
Empc Amount: 0.0403 = (26213 * 100.000) / (68606891 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 16-Nov-2017 10:08:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d		
Lims ID:	160-24924-G-15-A		
Client ID:	SHAD041DP013SS03NS		
Inject. Date:	14-Nov-2017 15:40:42	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	35

Non-2,3,7,8-sub-HxCDF, RT: 30.141

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	63204500	11964528
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags

Compound is Marked ND

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d		
Lims ID:	160-24924-G-15-A		
Client ID:	SHAD041DP013SS03NS		
Inject. Date:	14-Nov-2017 15:40:42	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	35

Non-2,3,7,8-sub-HxCDD, RT: 30.779

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	54542656	13010145
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	54542656	13010145

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.553	34793	4788	21284	3431	0.0899	1.63	RQ
30.553	26392	4254	21284	3431	0.0764		Empc Correction
30.953	112410	21536	87193	17669	0.3199	1.29	
Signal Totals:							
	138802	25790	108477	21100			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	255680	47424				1.36	RQ
	247279	46890					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4098 = (255680 * 100.000) / (54542656 * 1.144)
Empc Amount: 0.3964 = (247279 * 100.000) / (54542656 * 1.144)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d		
Lims ID:	160-24924-G-15-A		
Client ID:	SHAD041DP013SS03NS		
Inject. Date:	14-Nov-2017 15:40:42	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	35

Non-2,3,7,8-sub-HpCDF, RT: 34.268

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	34582249	10401698
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	34582249	10401698

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.038	78997	24317	68249	19926	0.2867	1.16	
Signal Totals:							
	78997	24317	68249	19926			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	147246	44243				1.16	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2867 = (147246 * 100.000) / (34582249 * 1.485)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d
Lims ID: 160-24924-G-15-A
Client ID: SHAD041DP013SS03NS
Inject. Date: 14-Nov-2017 15:40:42 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194429 Lims Sample ID: 35

Non-2,3,7,8-sub-HpCDD, RT: 34.238

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	49562134	13871438

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	49562134	13871438

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.977	253762	76316	255186	80219	1.03	0.99	
Signal Totals:							
	253762	76316	255186	80219			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	508948	156535				0.99	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.034 = (508948 * 100.000) / (49562134 * 0.993)

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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d

Injection Date: 14-Nov-2017 15:40:42

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS03NS

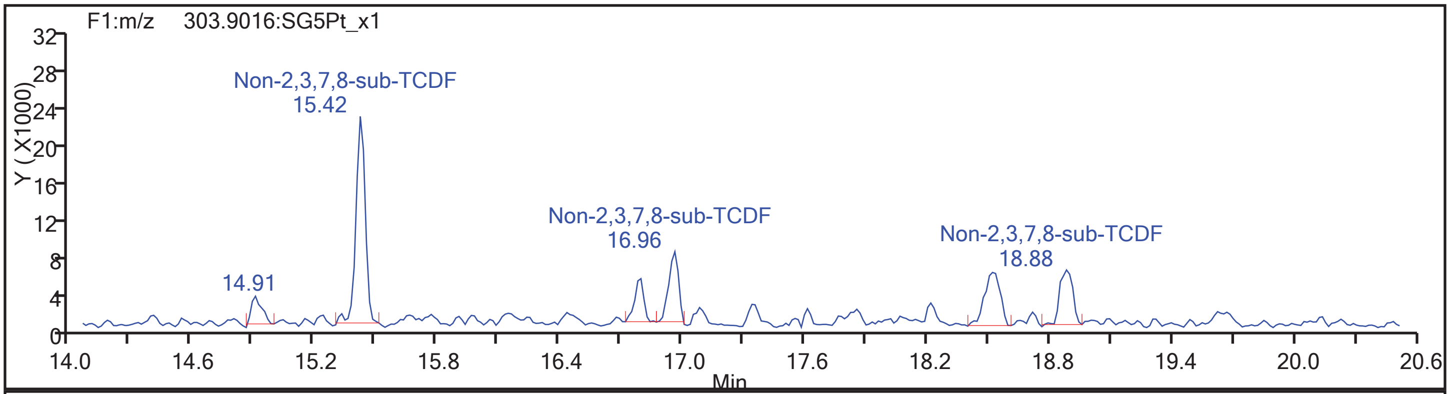
Worklist#: 194429

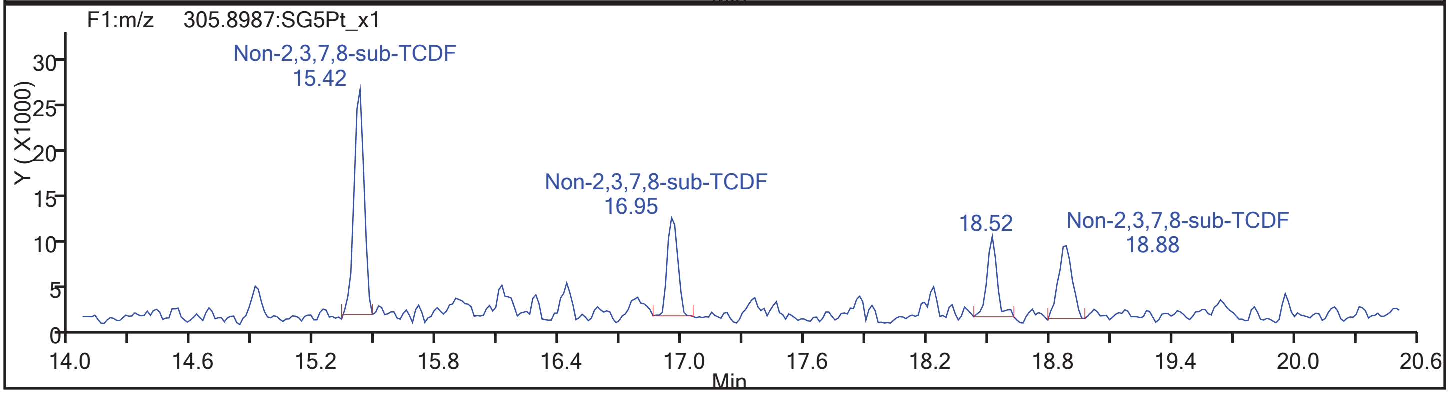
Sample Line#: 35

Column Type: DB-5

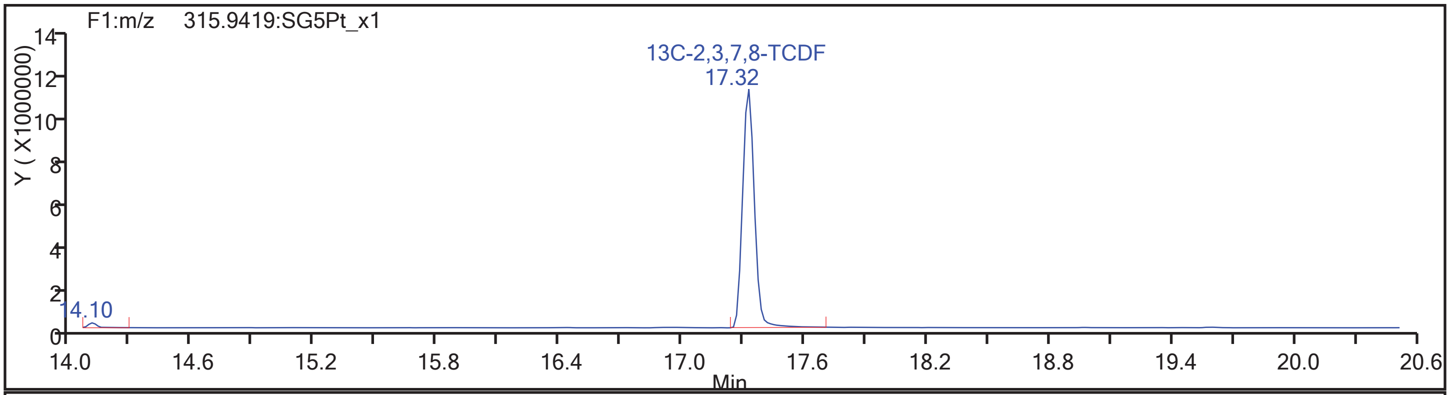
Column Dia: 0.32 mm

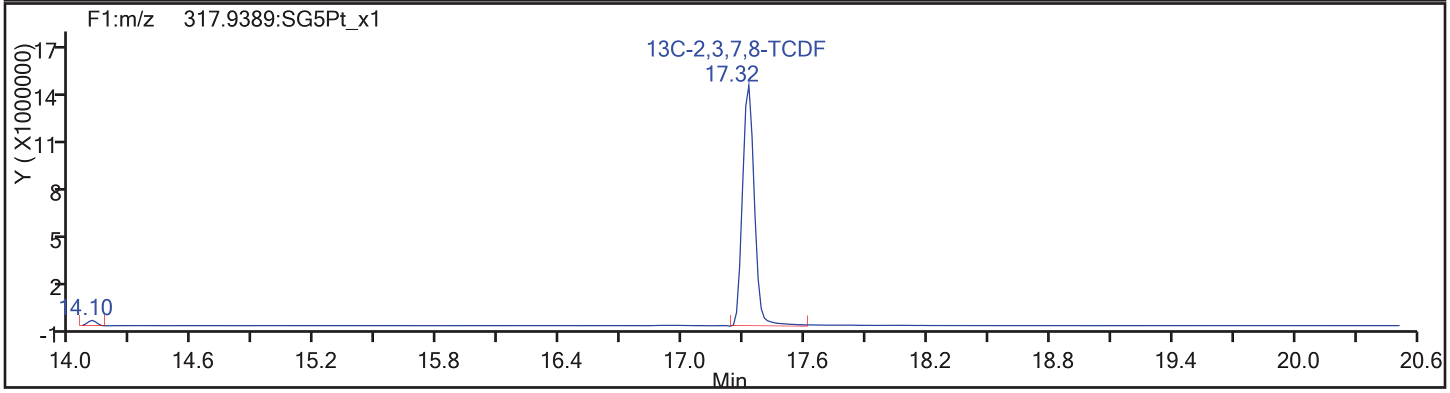
TCDF





TCDF Standards



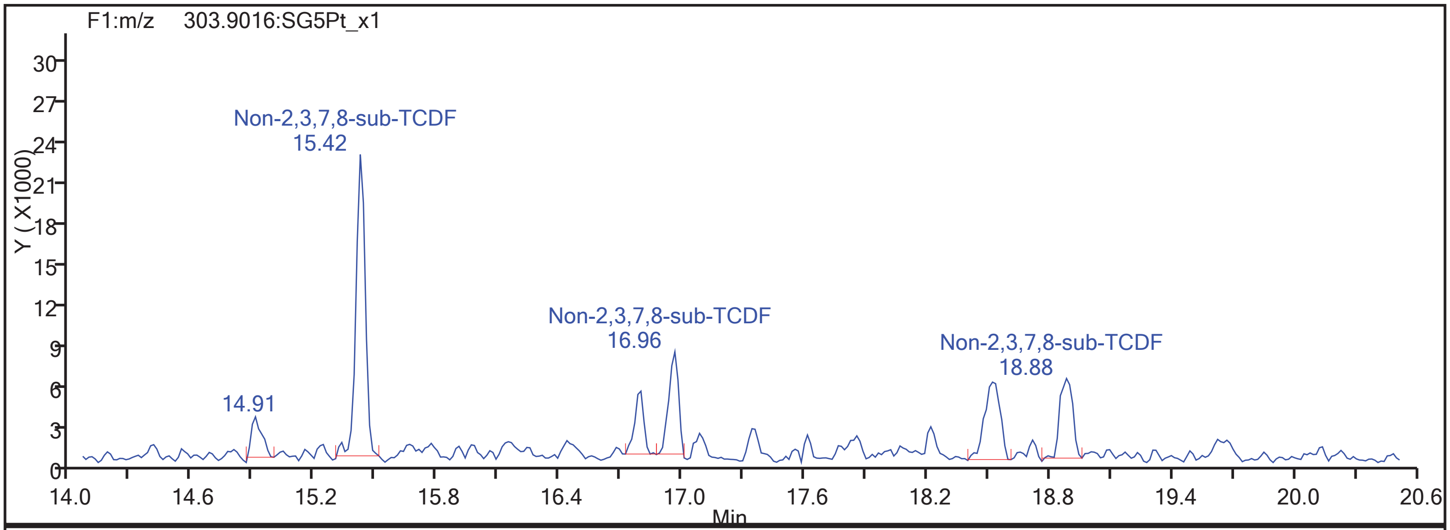


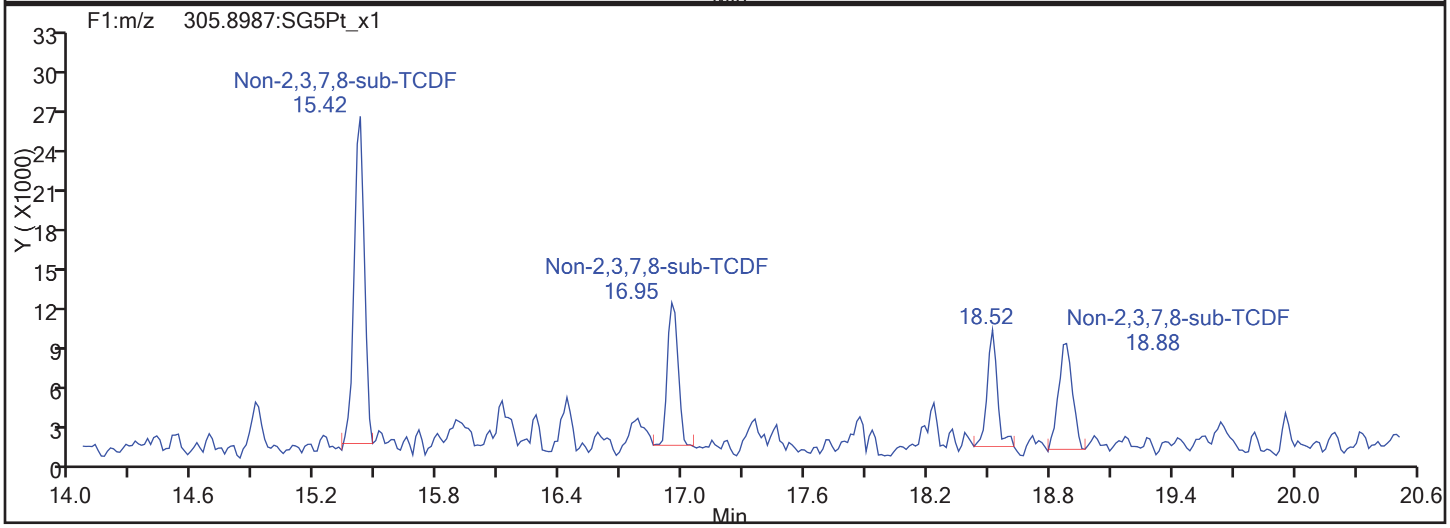
Report Date: 16-Nov-2017 10:08:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

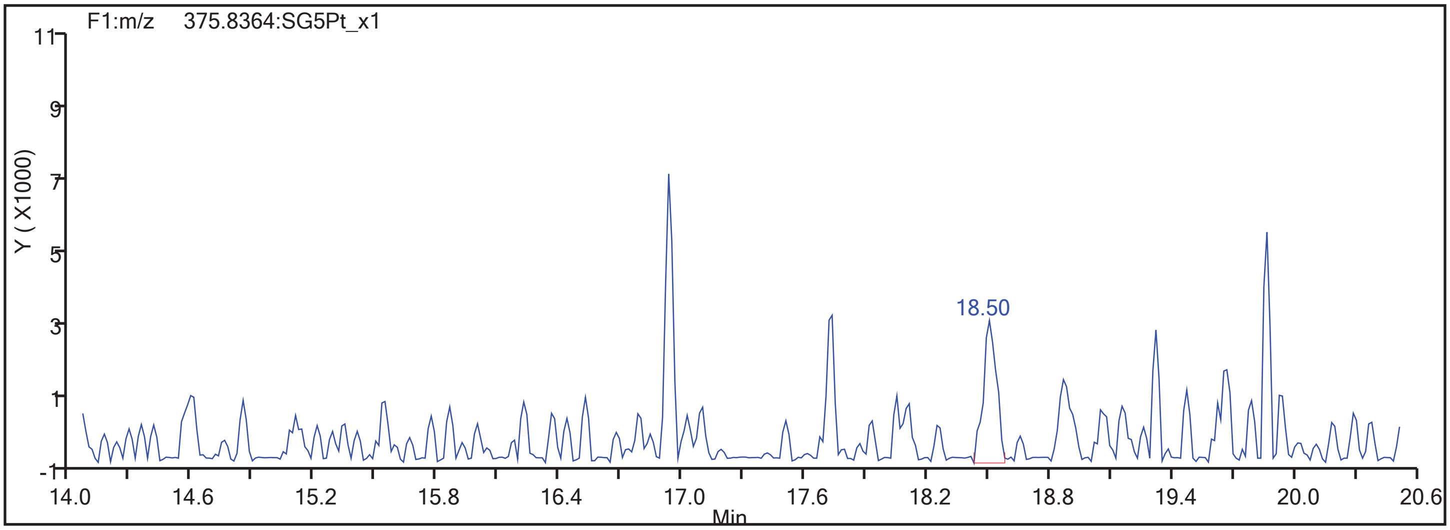
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d		
Injection Date:	14-Nov-2017 15:40:42	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	194429	Sample Line#:	35
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

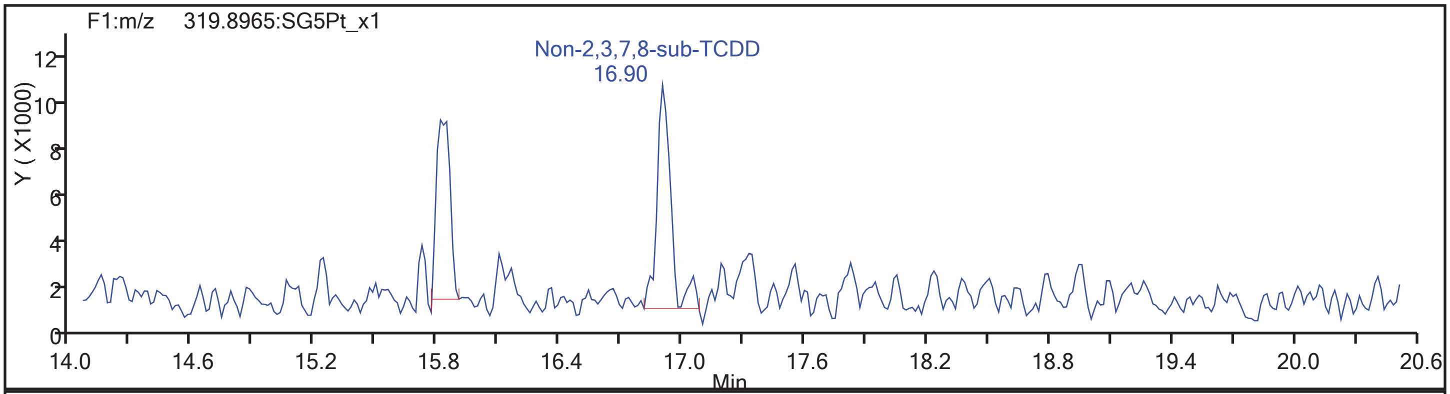


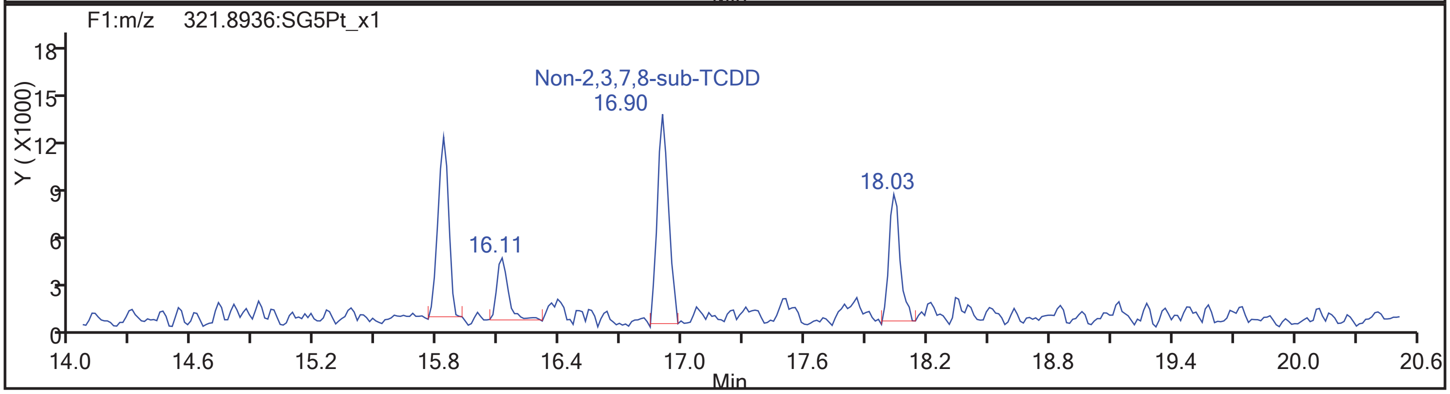
Report Date: 16-Nov-2017 10:08:00 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

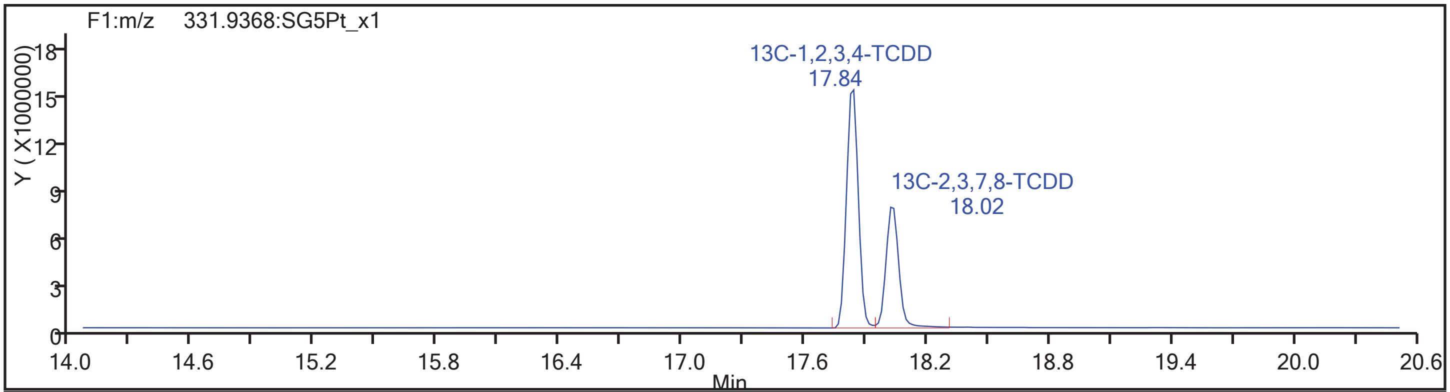
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d
Injection Date: 14-Nov-2017 15:40:42
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS03NS
Worklist#: 194429
Sample Line#: 35
Column Type: DB-5
Column Dia: 0.32 mm

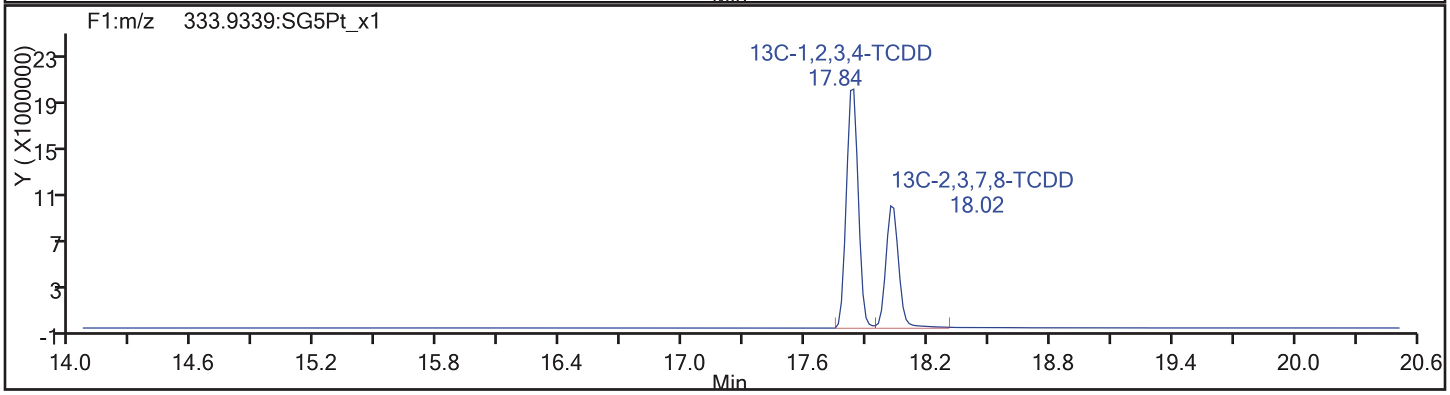
TCDD





TCDD Standards

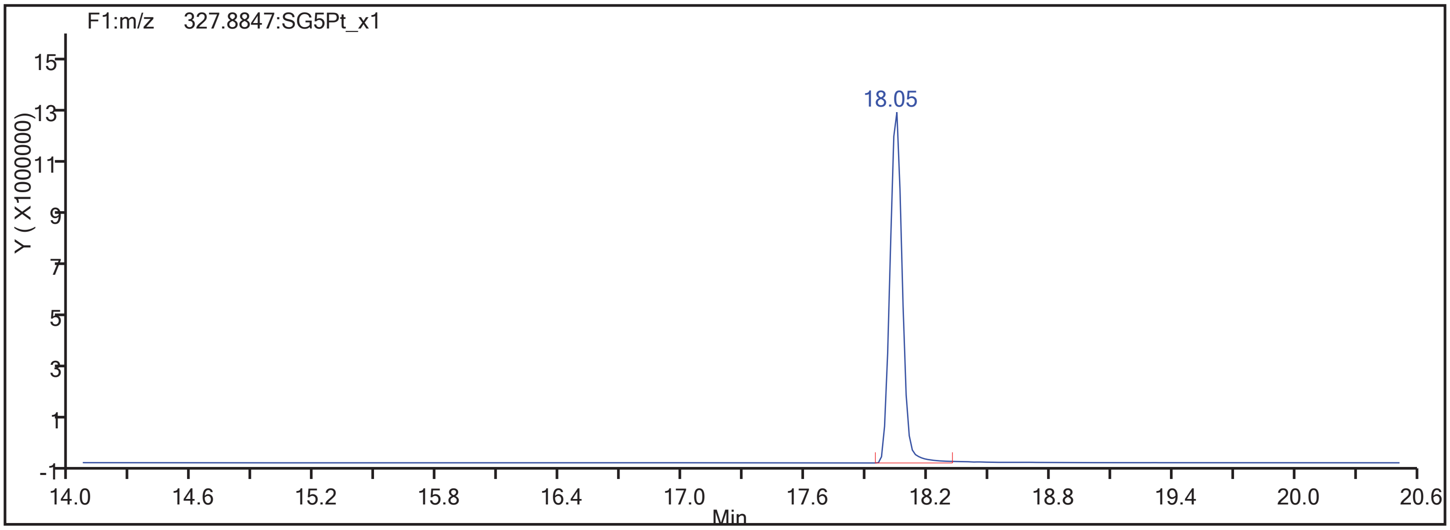




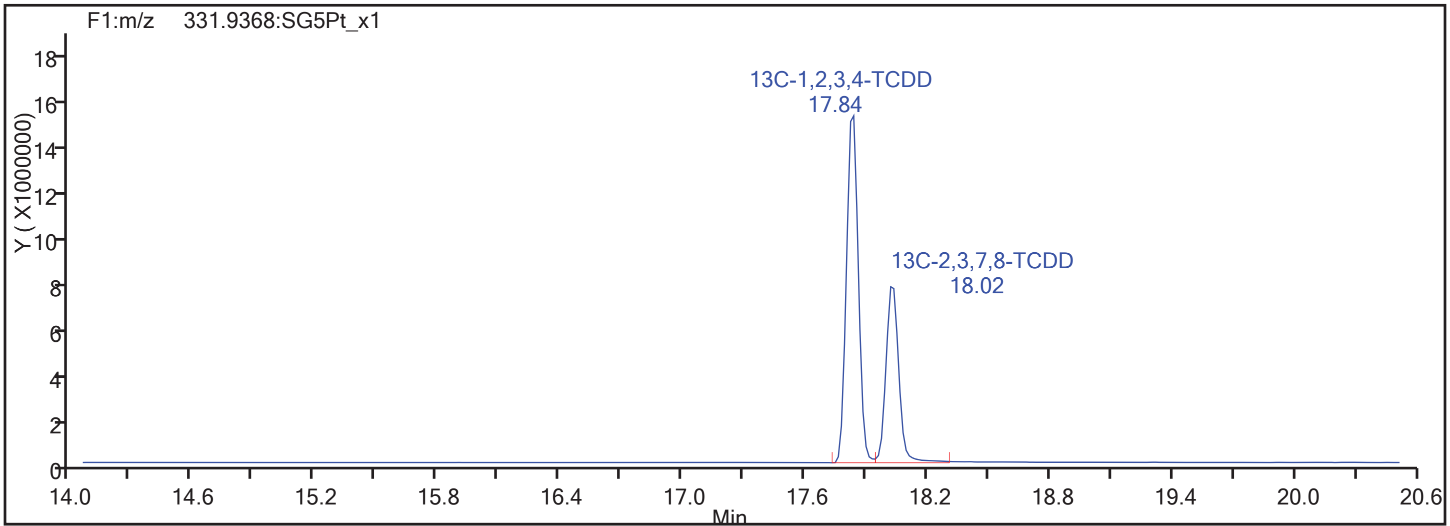
TestAmerica Sacramento

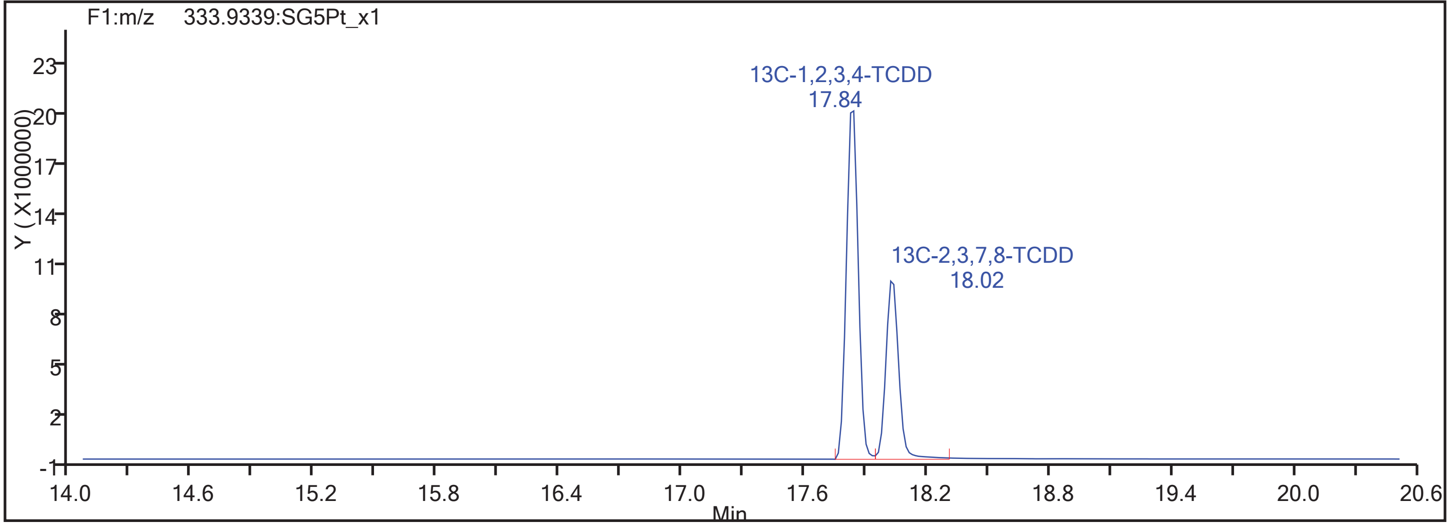
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d		
Injection Date:	14-Nov-2017 15:40:42	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	194429	Sample Line#:	35
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



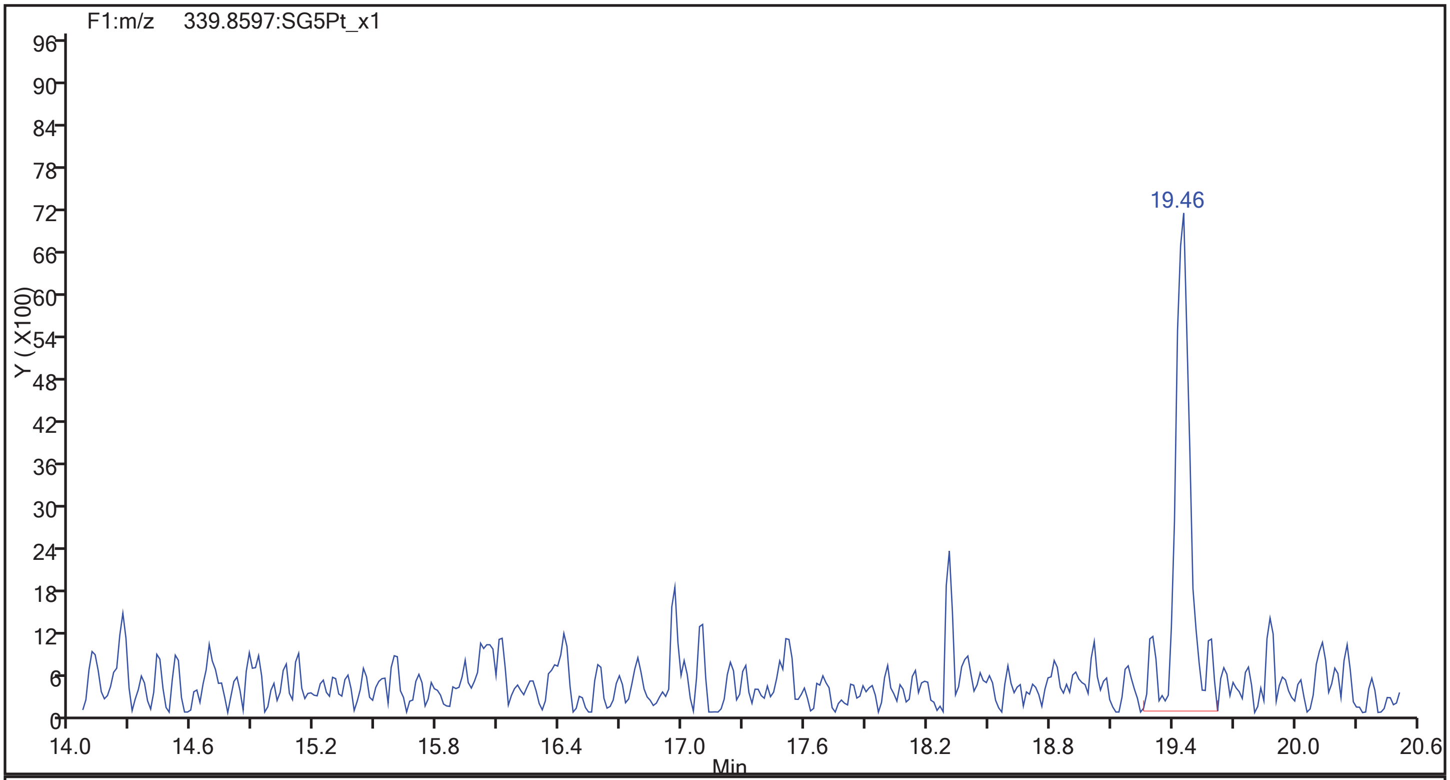


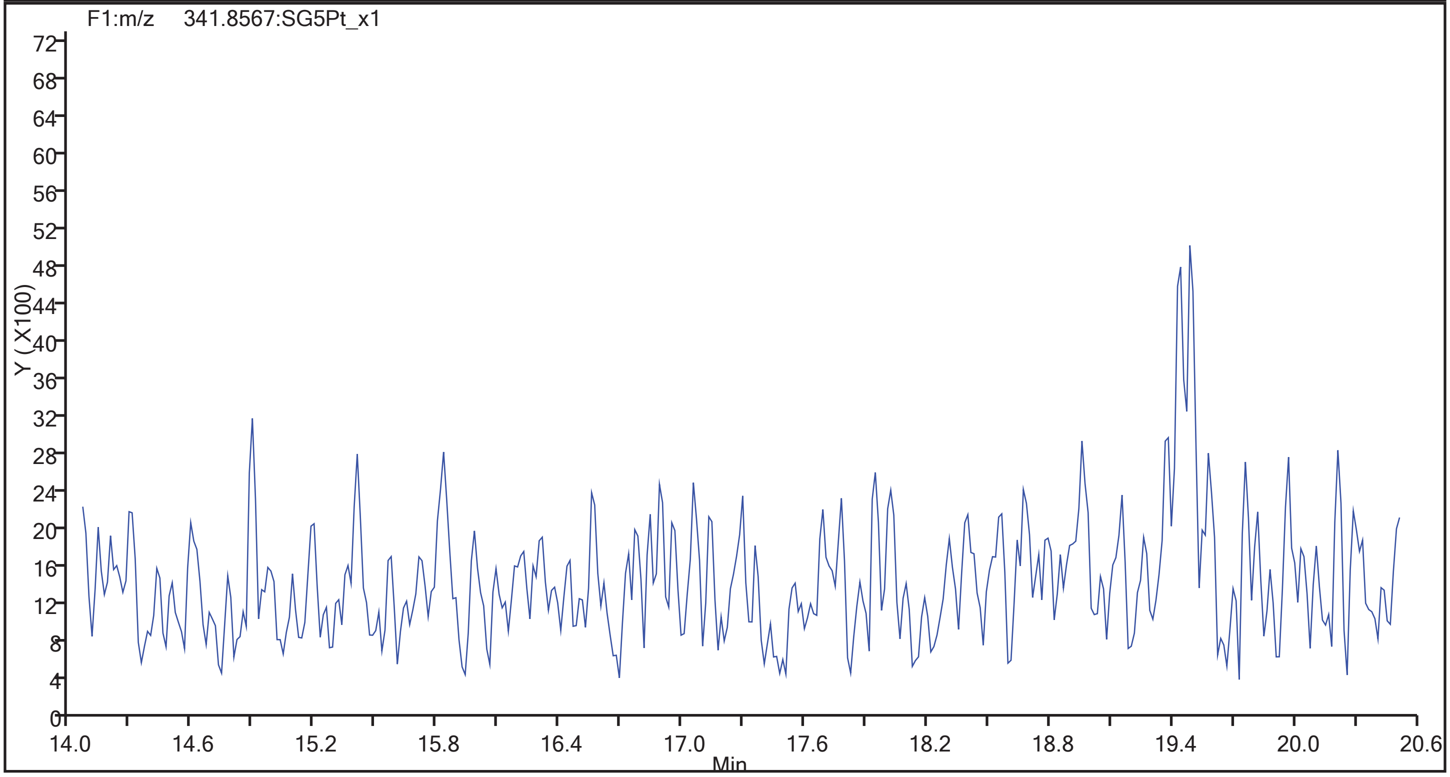
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d

Injection Date:	14-Nov-2017 15:40:42	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	194429	Sample Line#:	35
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



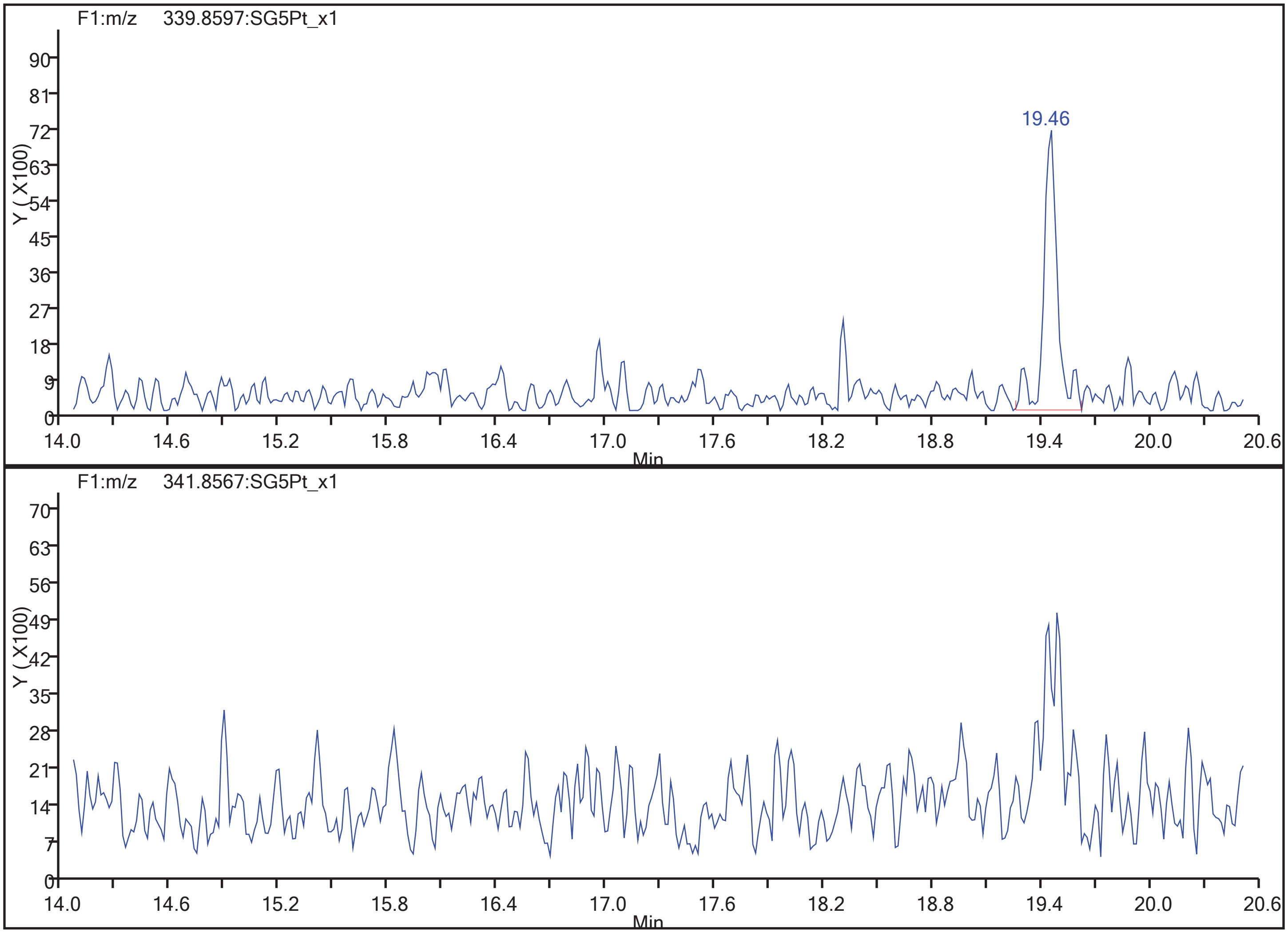


Report Date: 16-Nov-2017 10:08:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

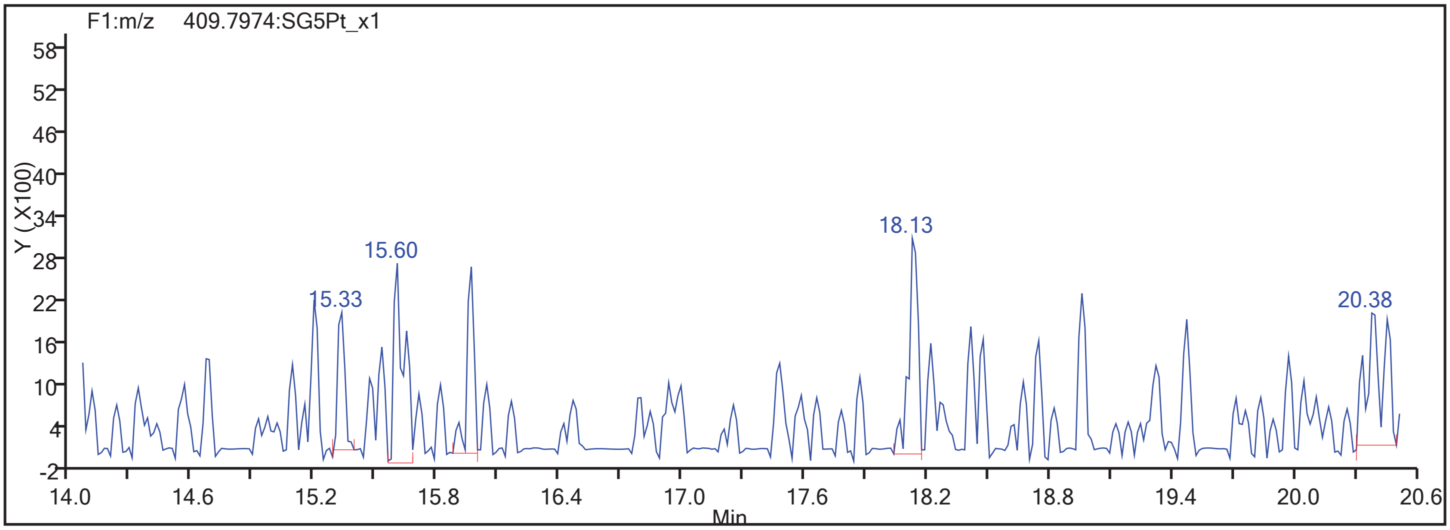
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d		
Injection Date:	14-Nov-2017 15:40:42	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	194429	Sample Line#:	35
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



F1 PeCDFs Interference Mass



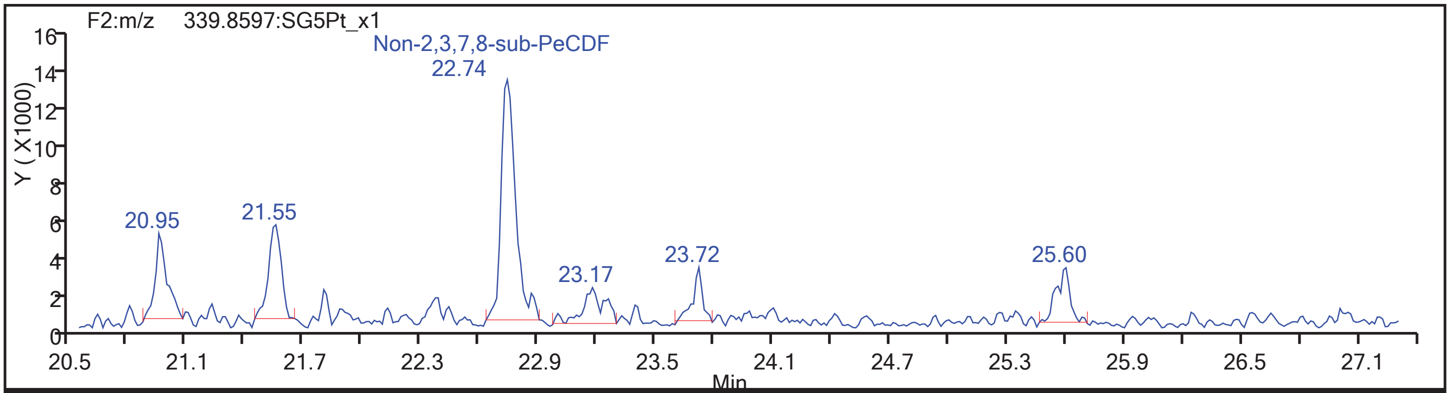
Report Date: 16-Nov-2017 10:08:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

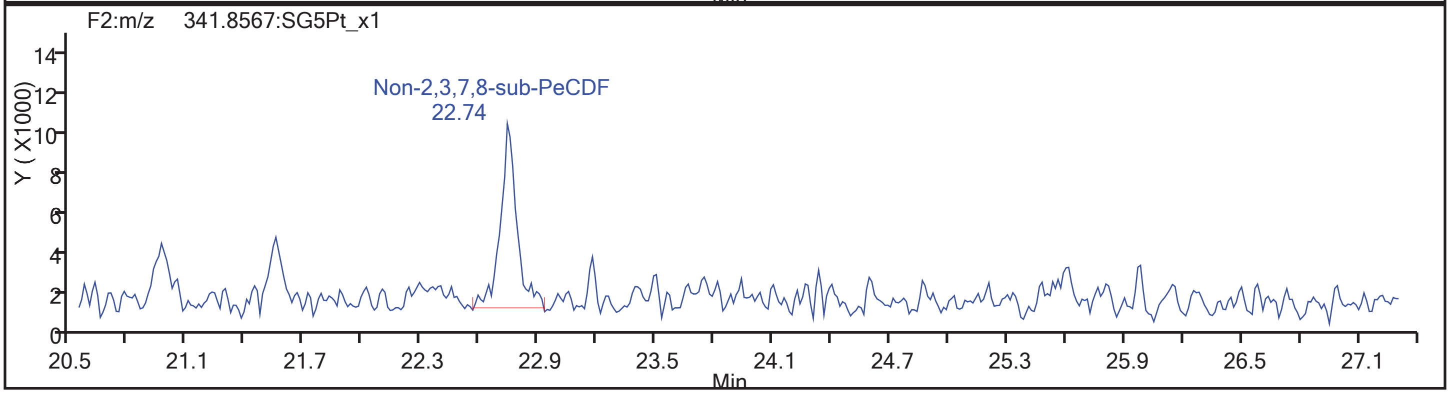
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d

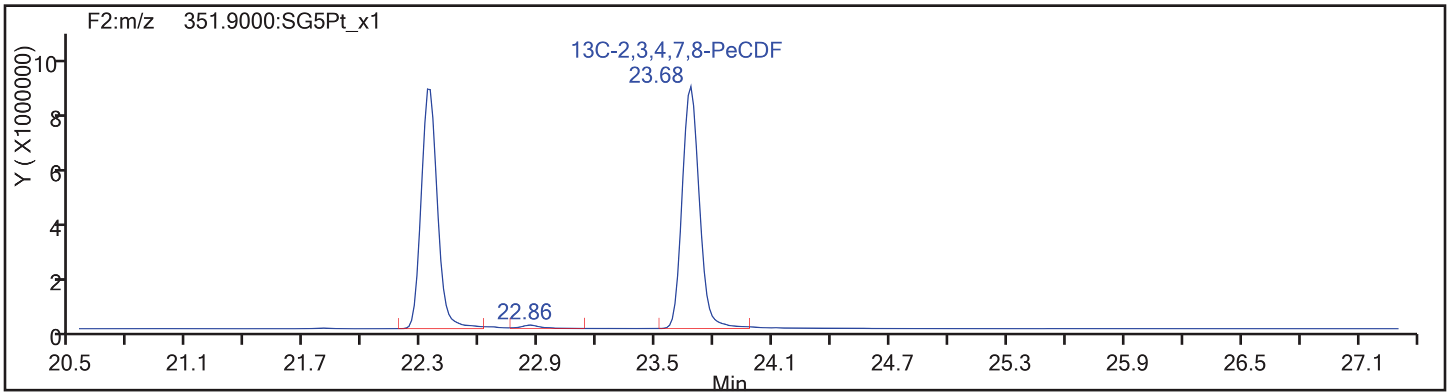
Injection Date:	14-Nov-2017 15:40:42	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	194429	Sample Line#:	35
Column Type:	DB-5	Column Dia:	0.32 mm

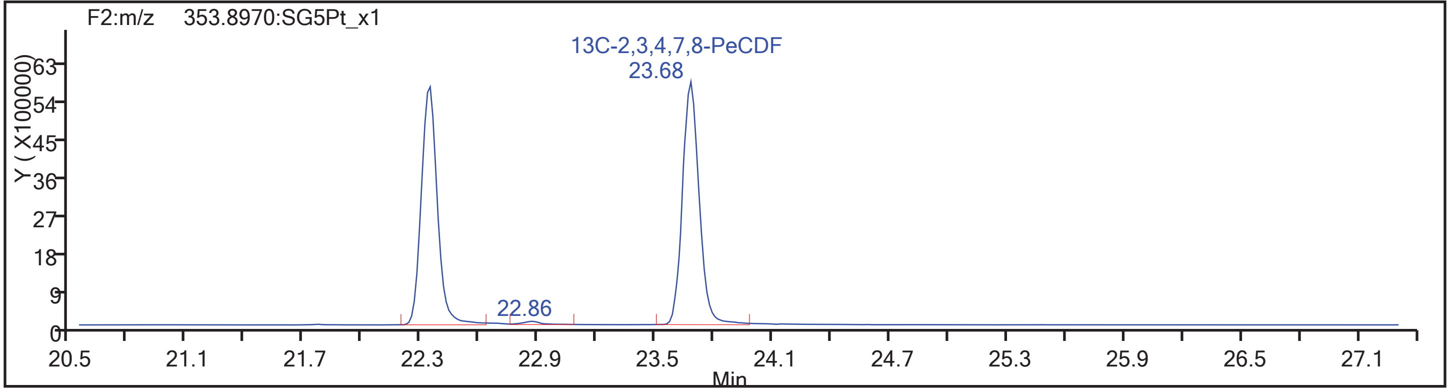
PeCDF





PeCDF Standards





Report Date: 16-Nov-2017 10:08:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_35.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	194429	Sample Line#:	35
Column Type:	DB-5	Column Dia:	0.32 mm

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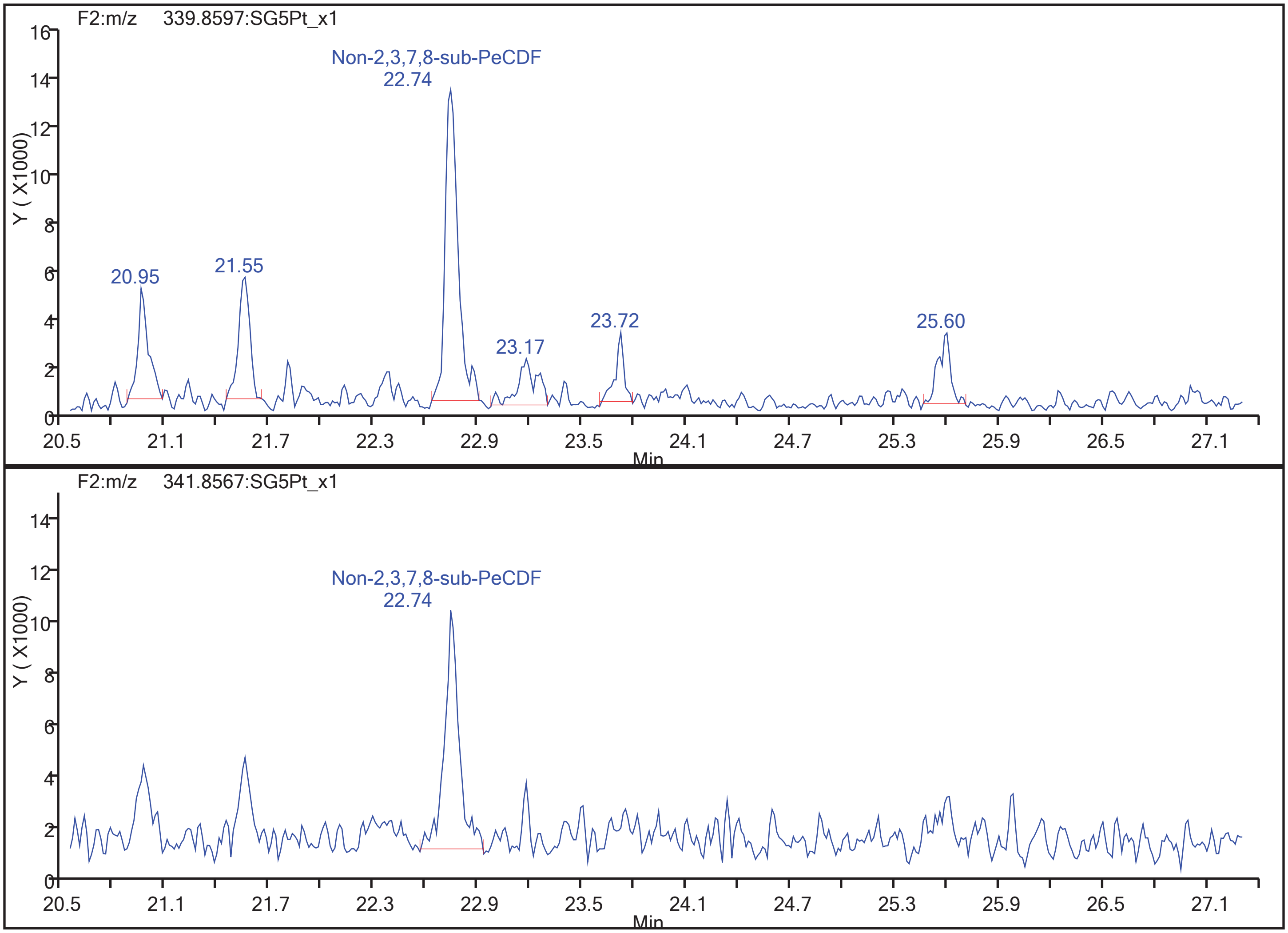
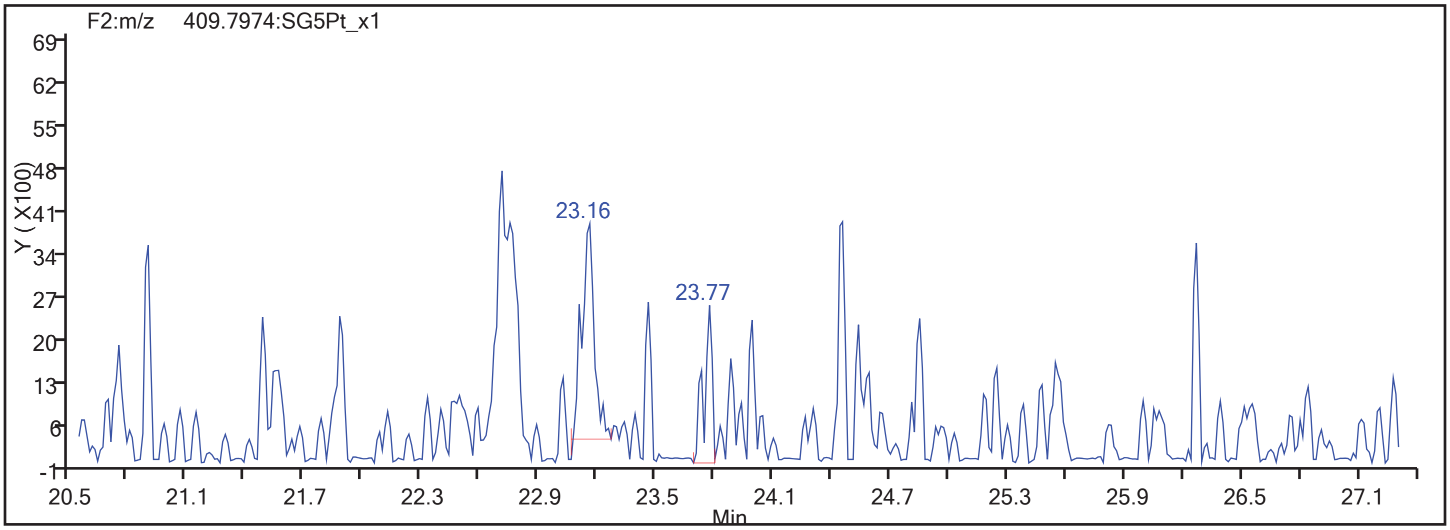


PeCDF Interference Mass



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TestAmerica Sacramento

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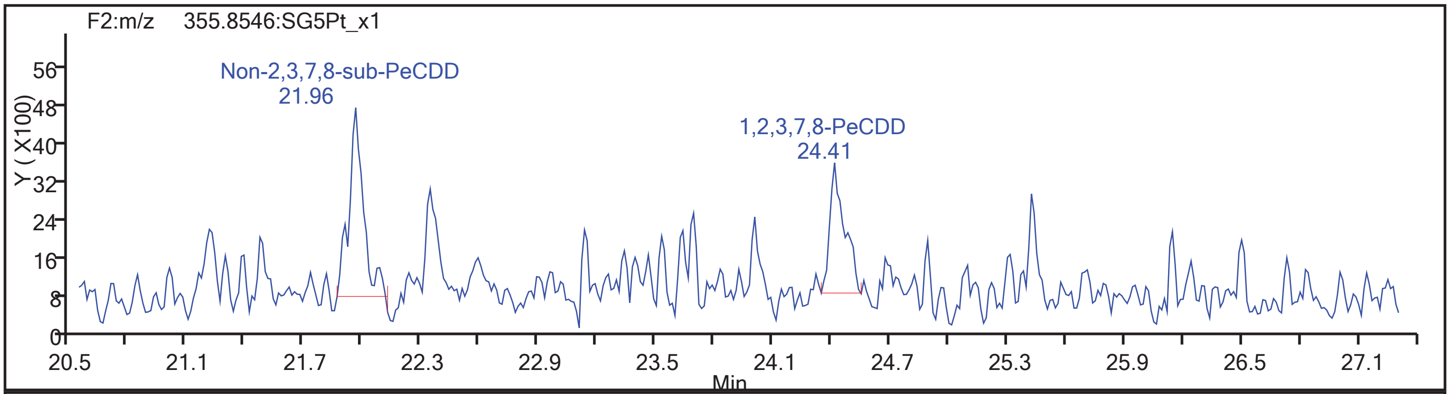
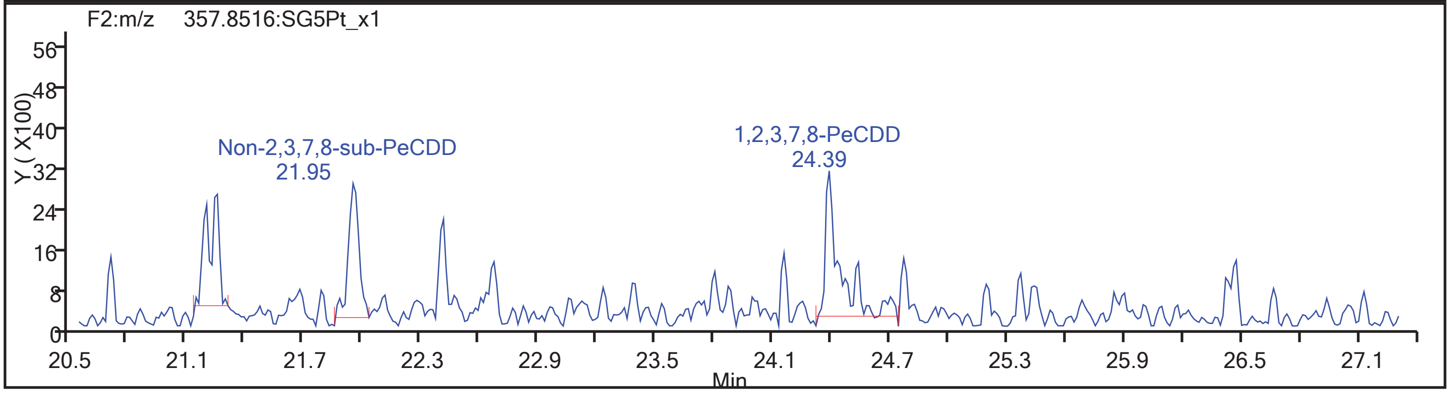
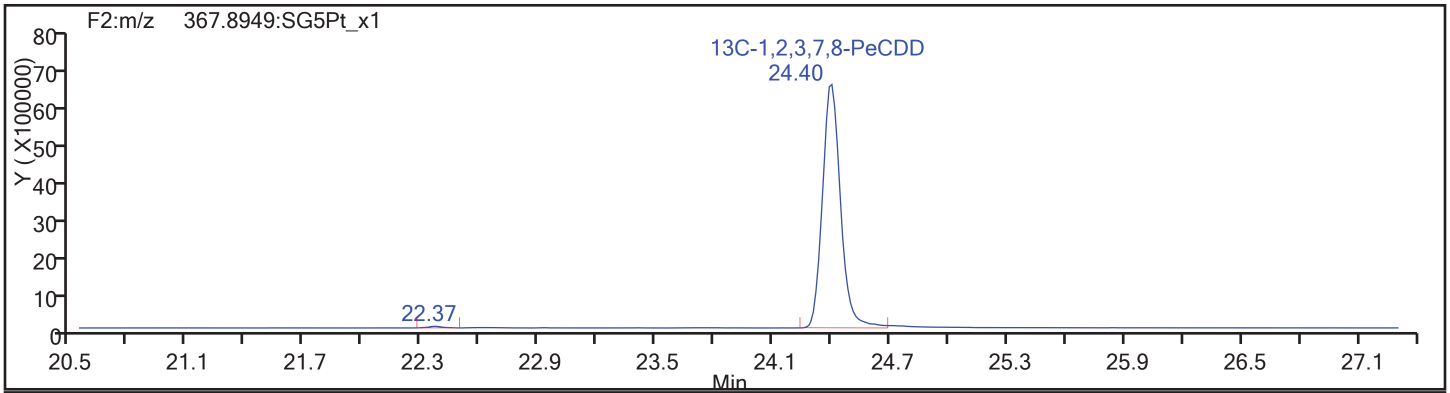
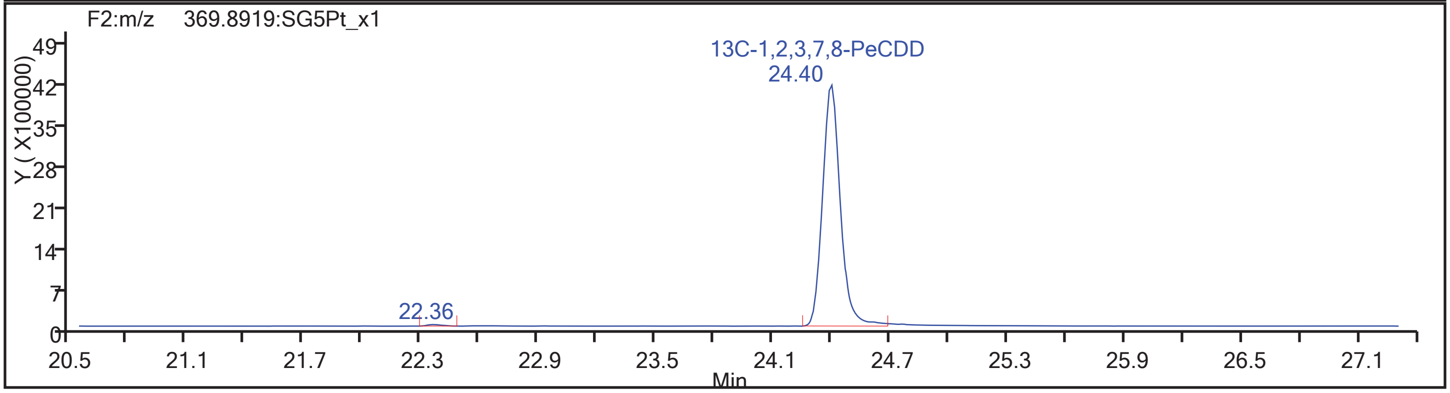




PeCDD Standards





TestAmerica Sacramento

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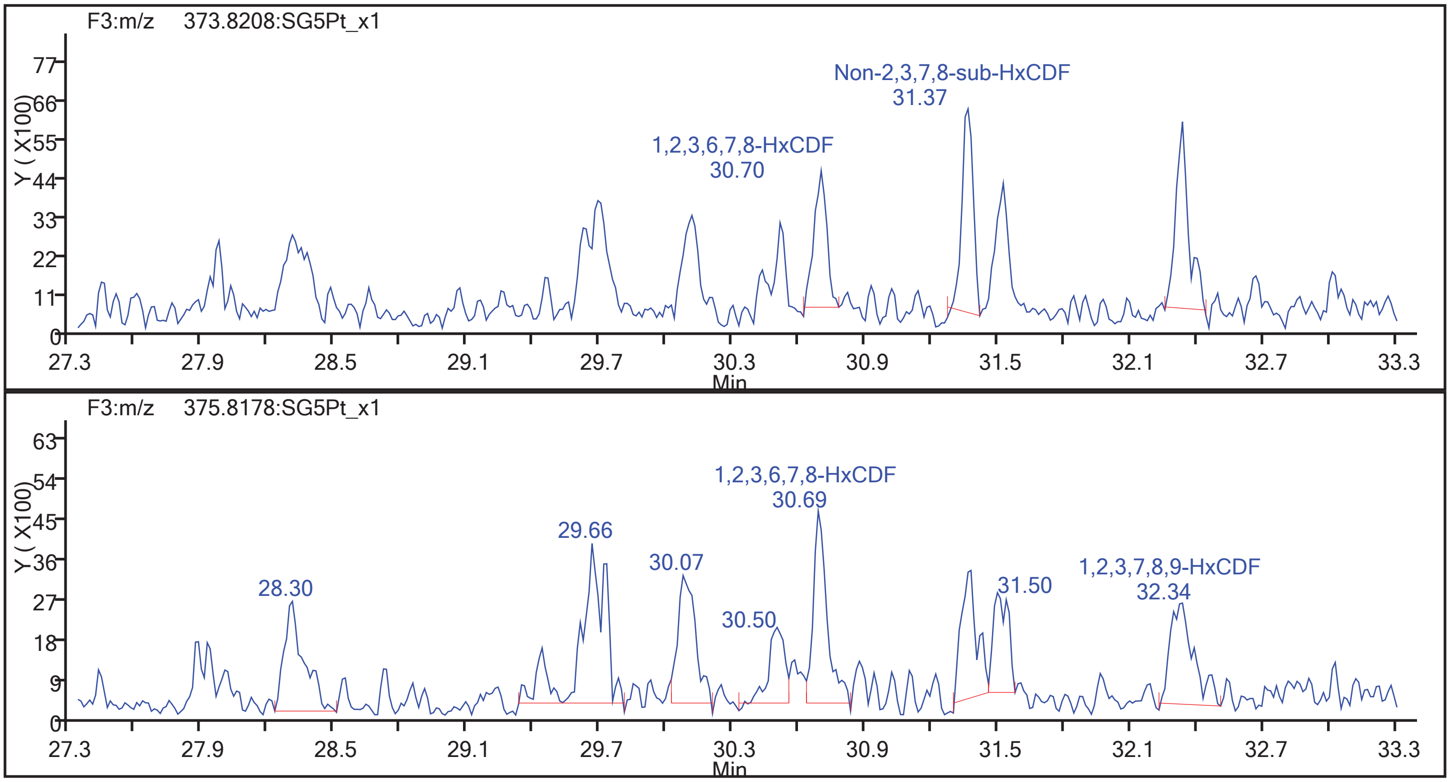
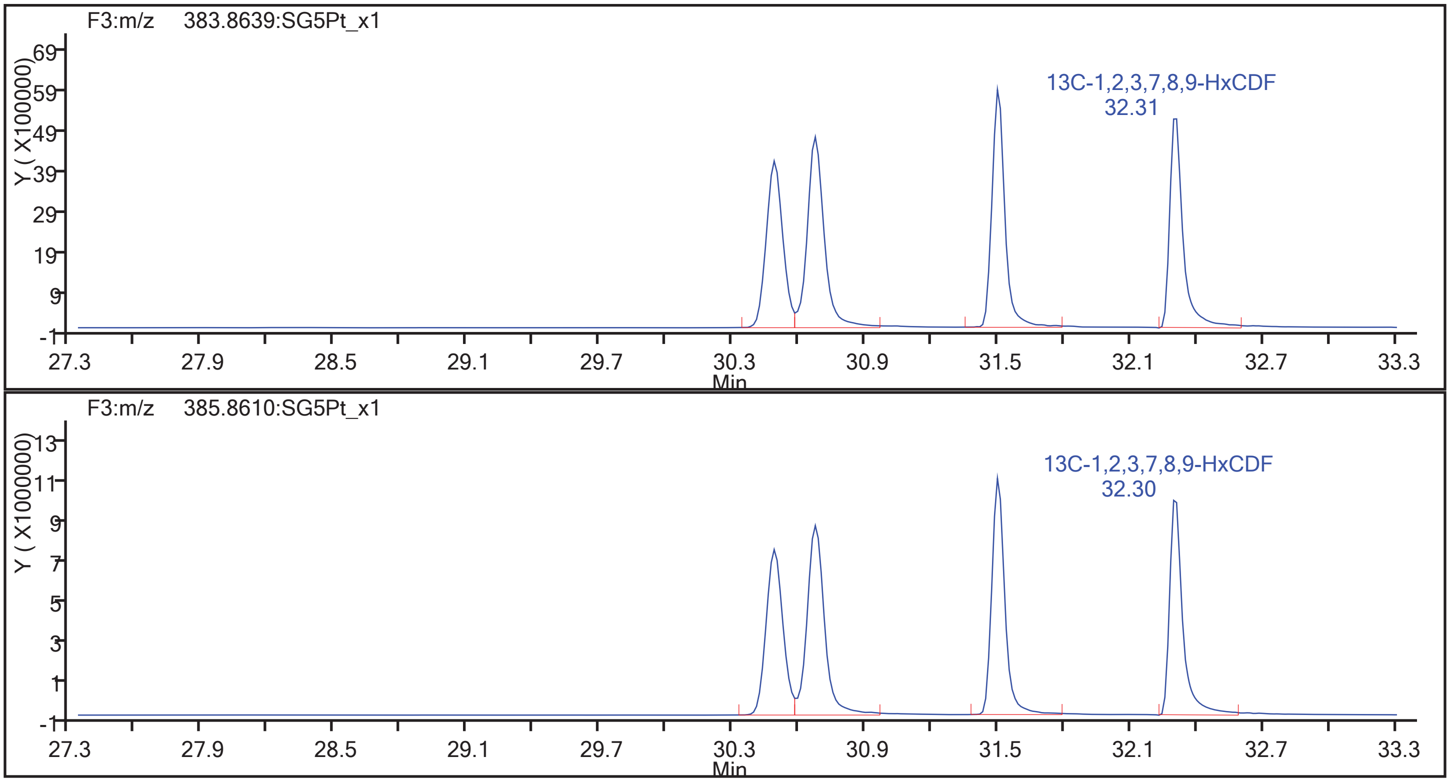
HxCDF



HxCDF Standards



Report Date: 16-Nov-2017 10:08:01
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Worklist#: 194429
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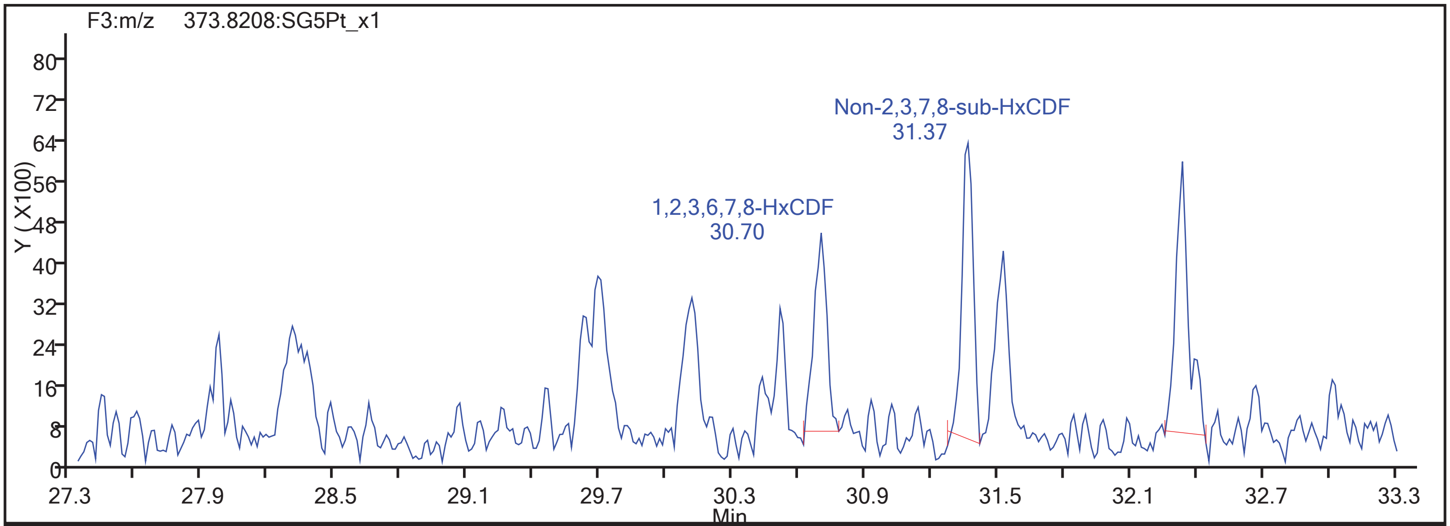
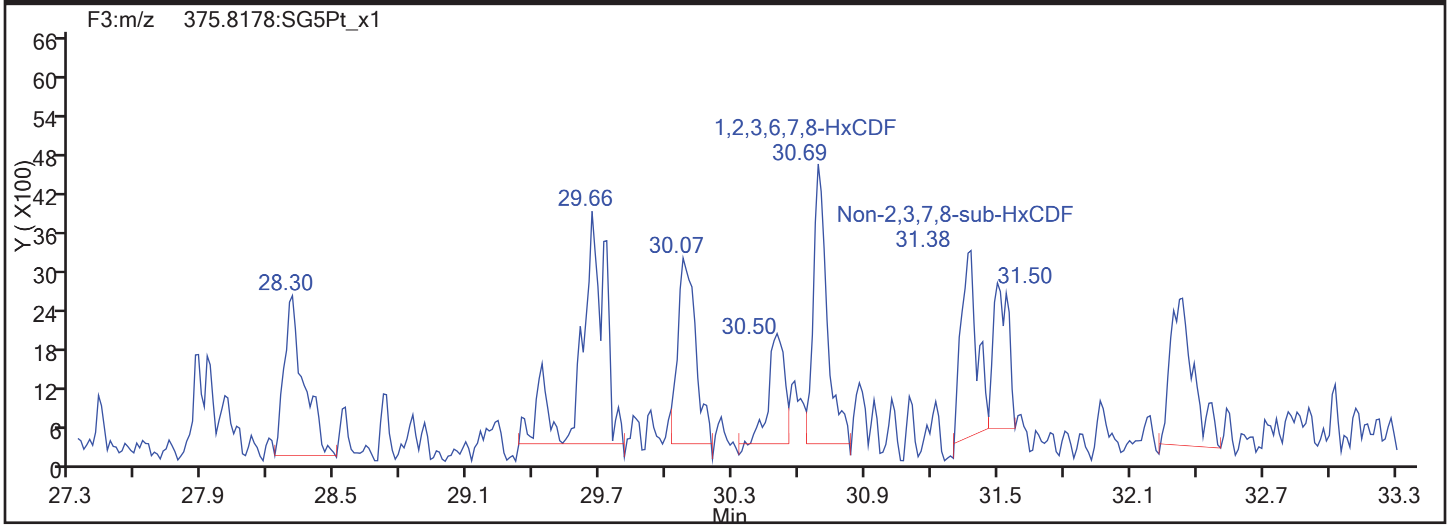
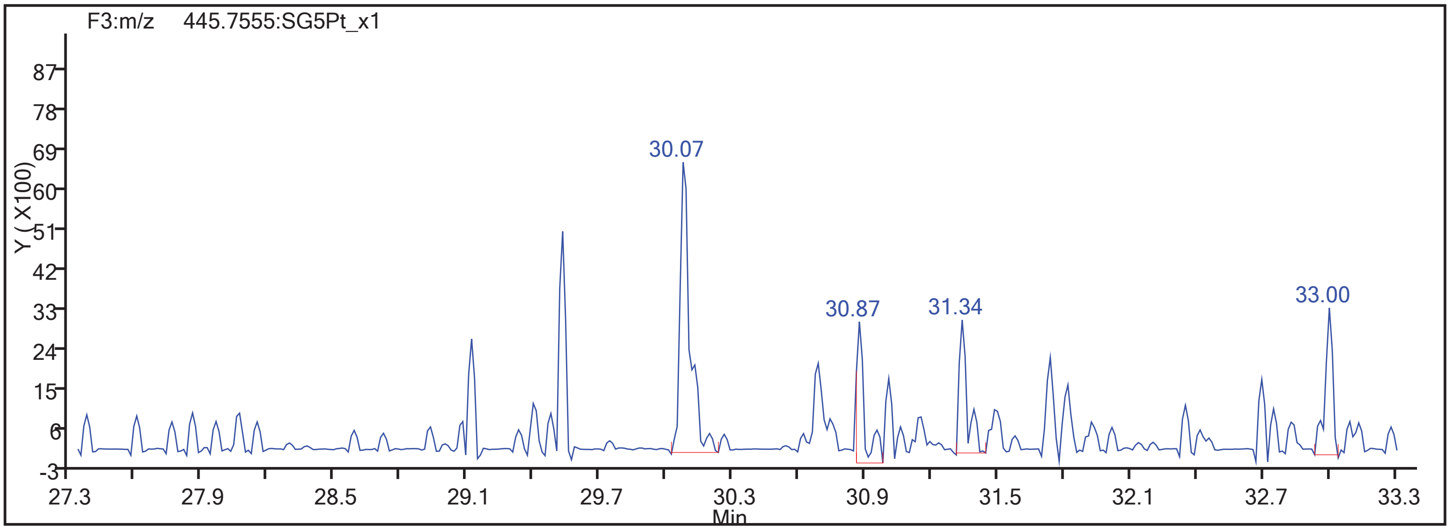




HxCDF Interference Mass



TestAmerica Sacramento

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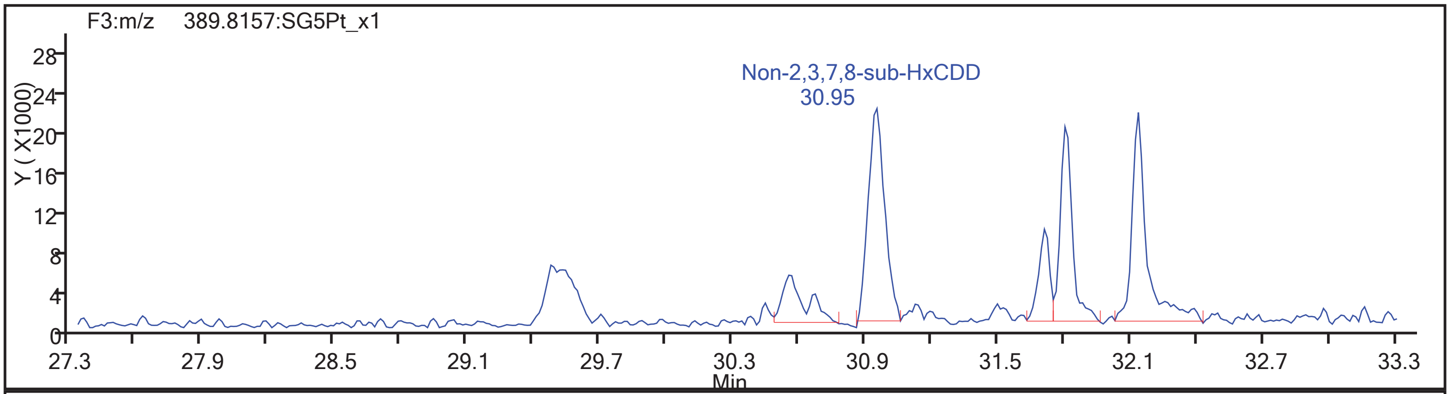
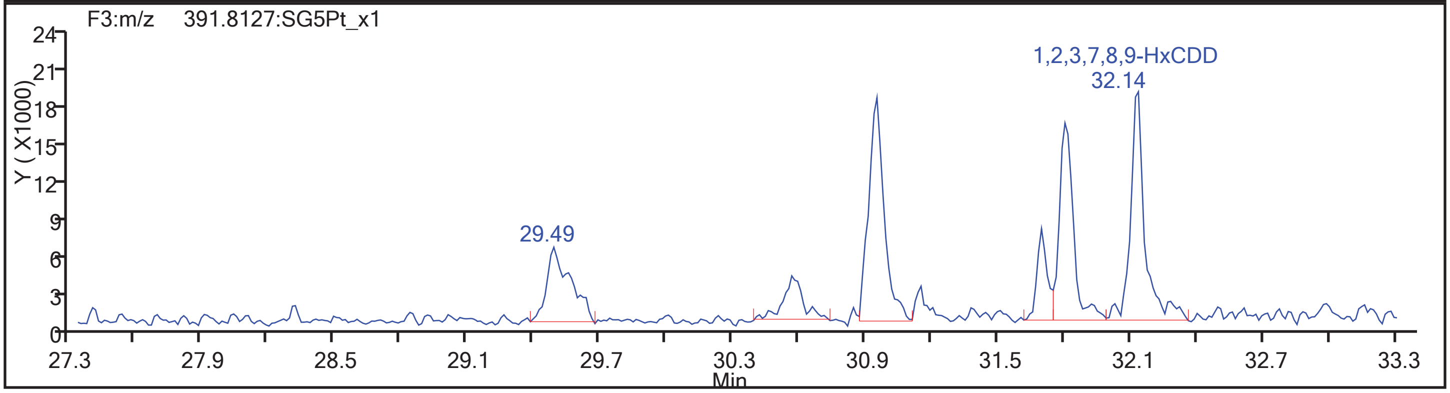
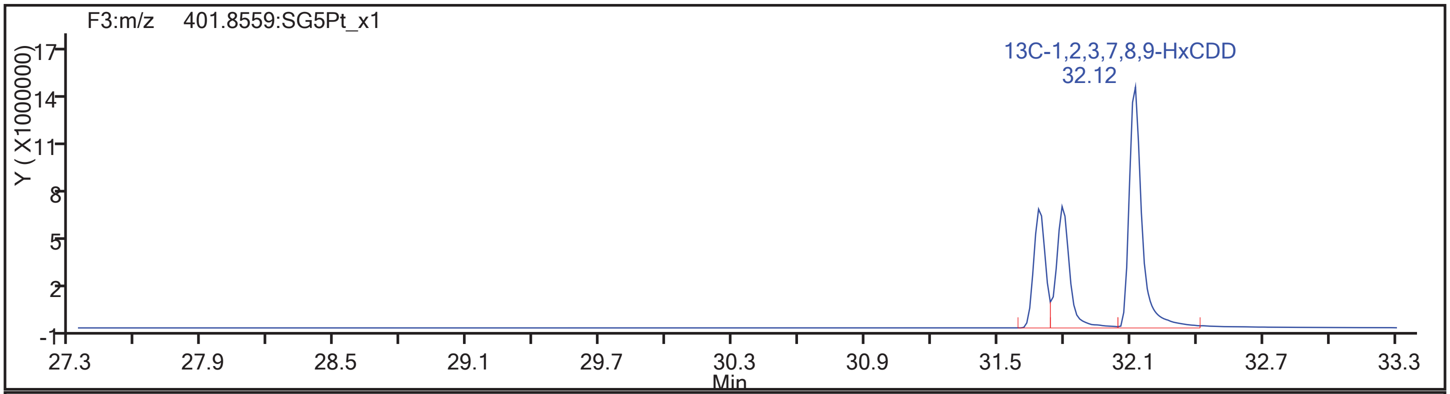
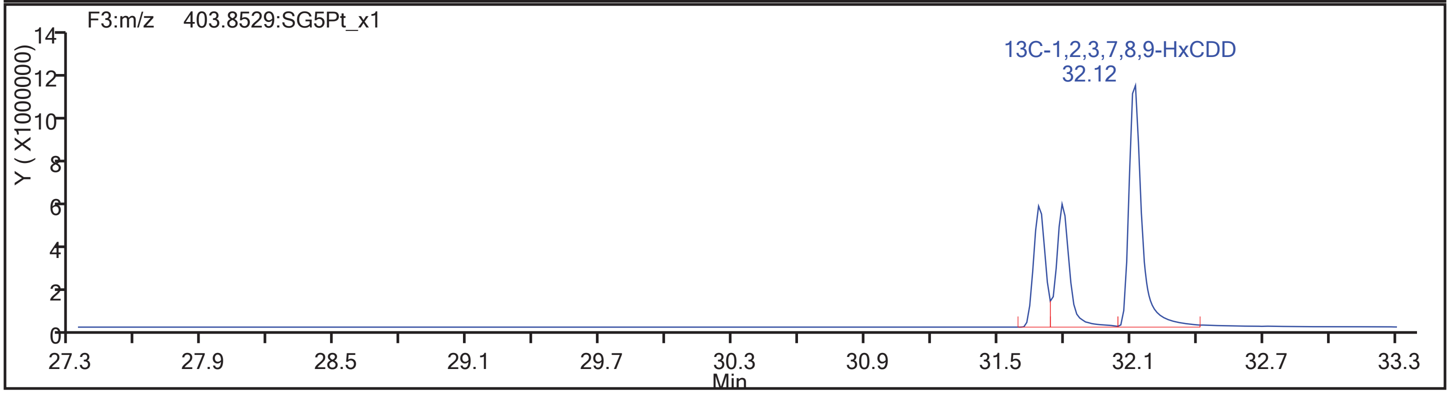
HxCDD





HxCDD Standards





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TestAmerica Sacramento

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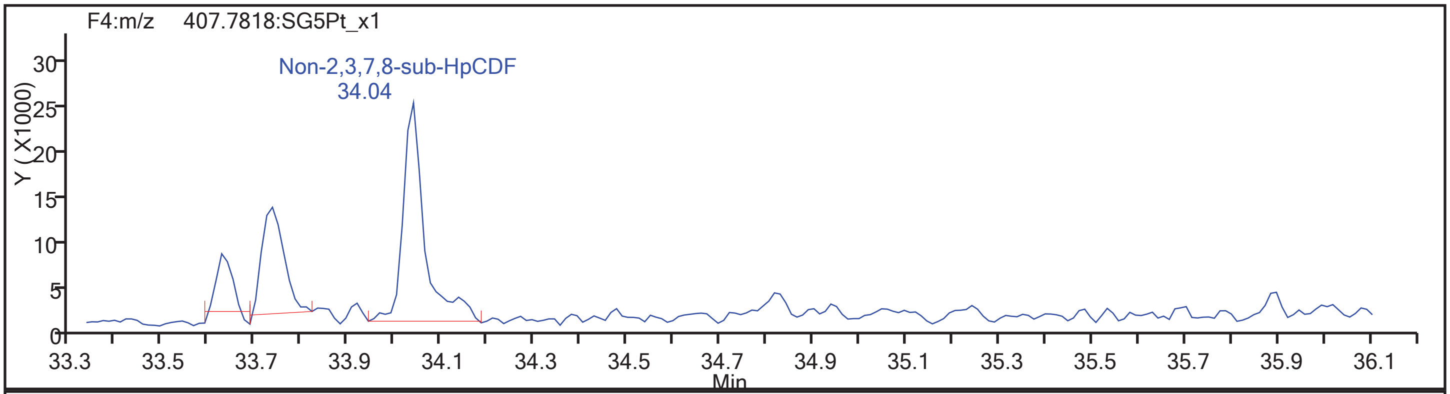
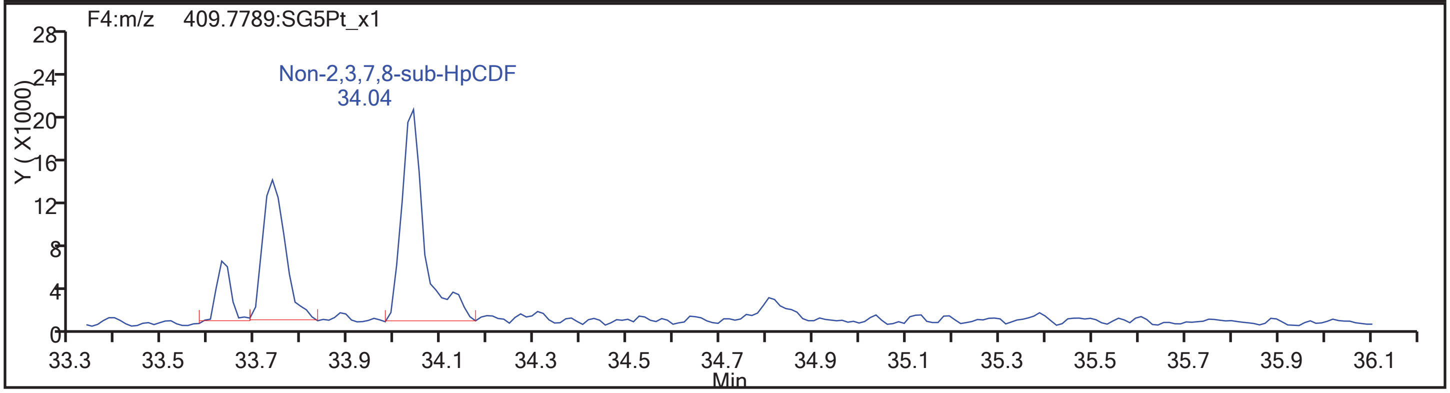
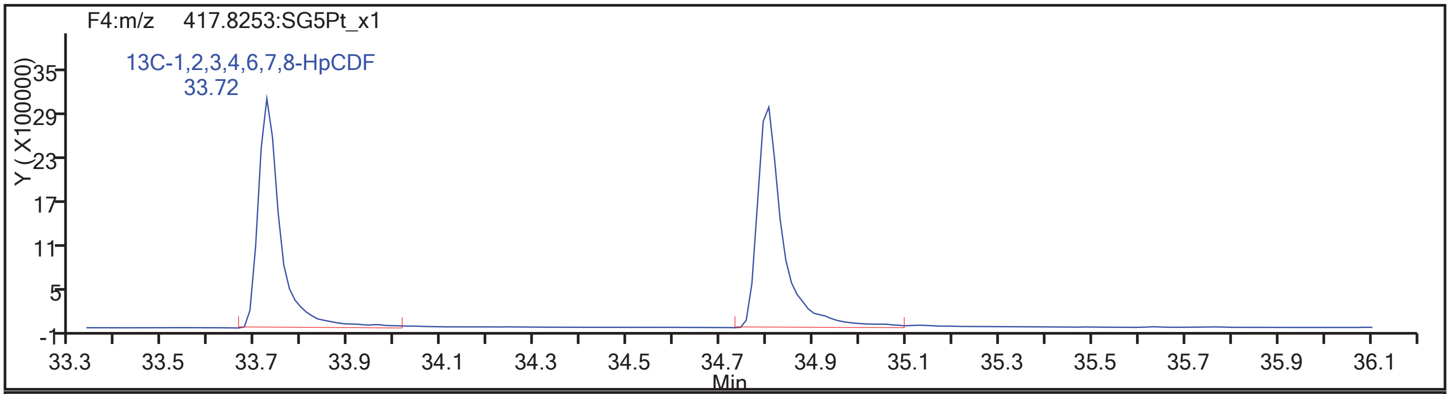
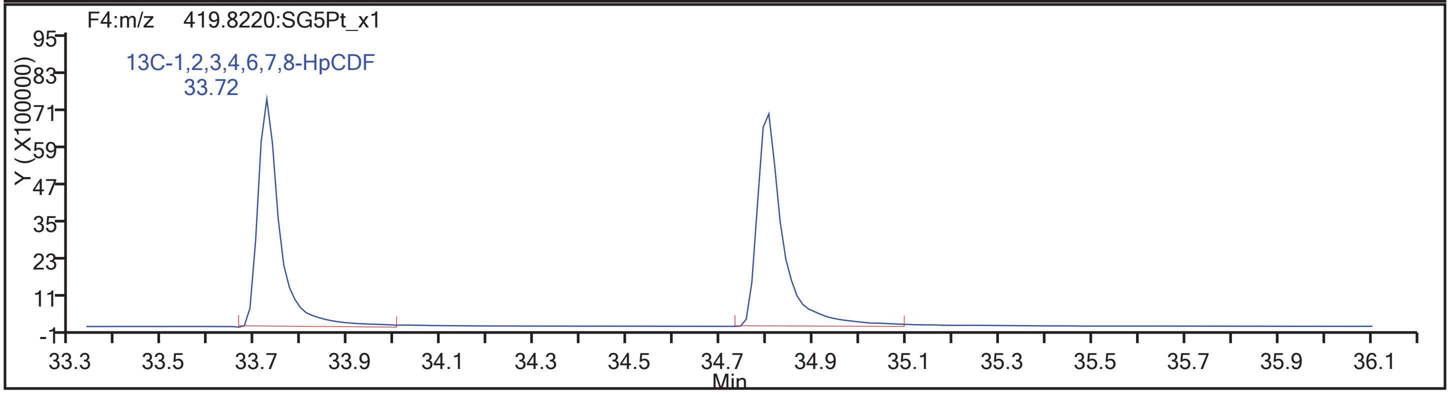
HpCDF





HpCDF Standards





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TestAmerica Sacramento

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Worklist#: 194429
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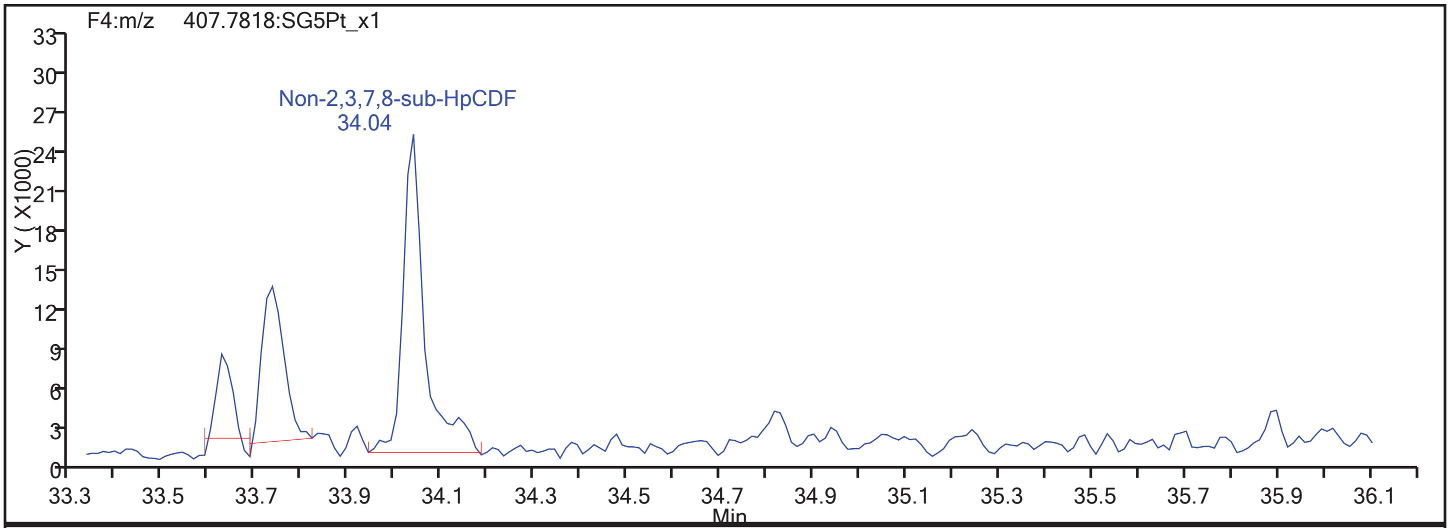
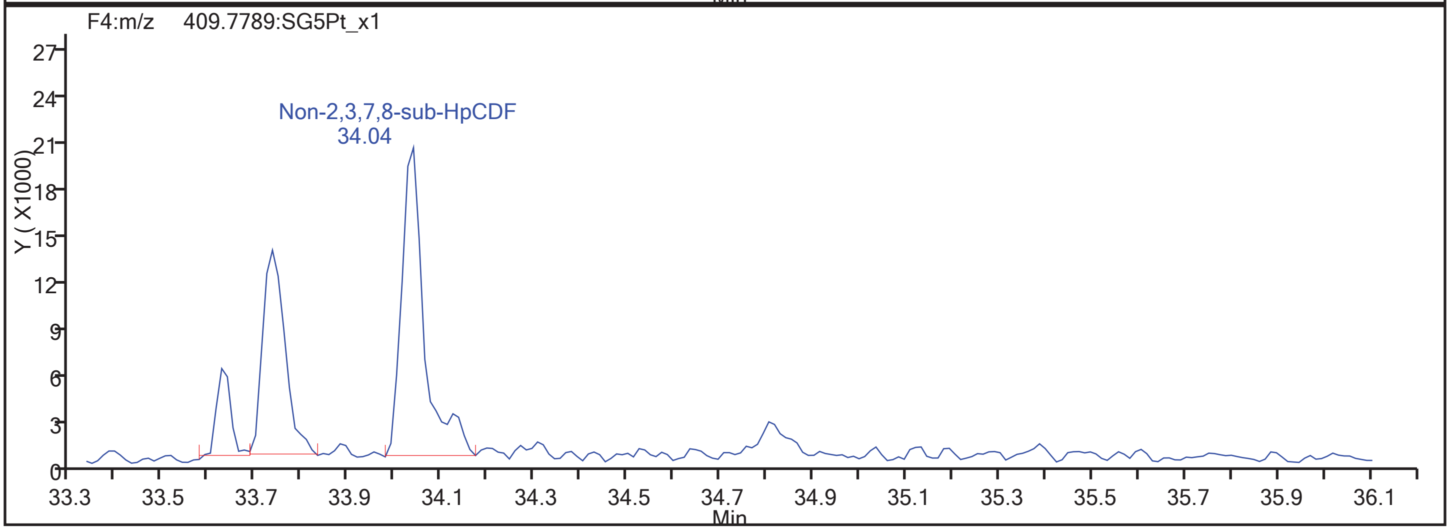
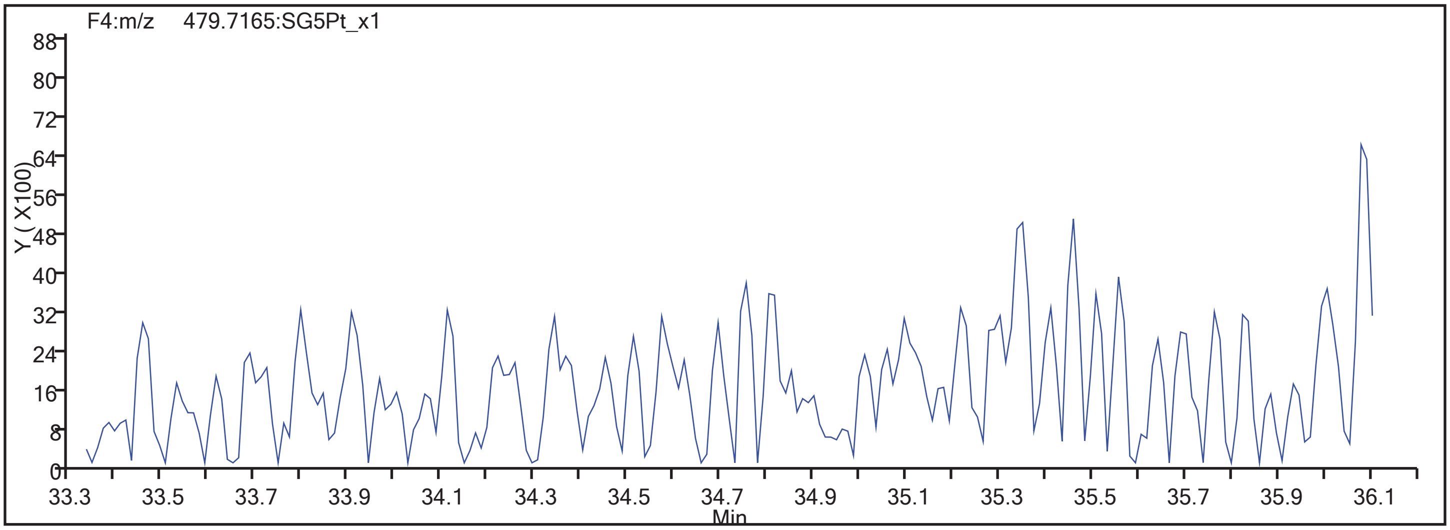
HpCDF





HpCDF Interference Mass



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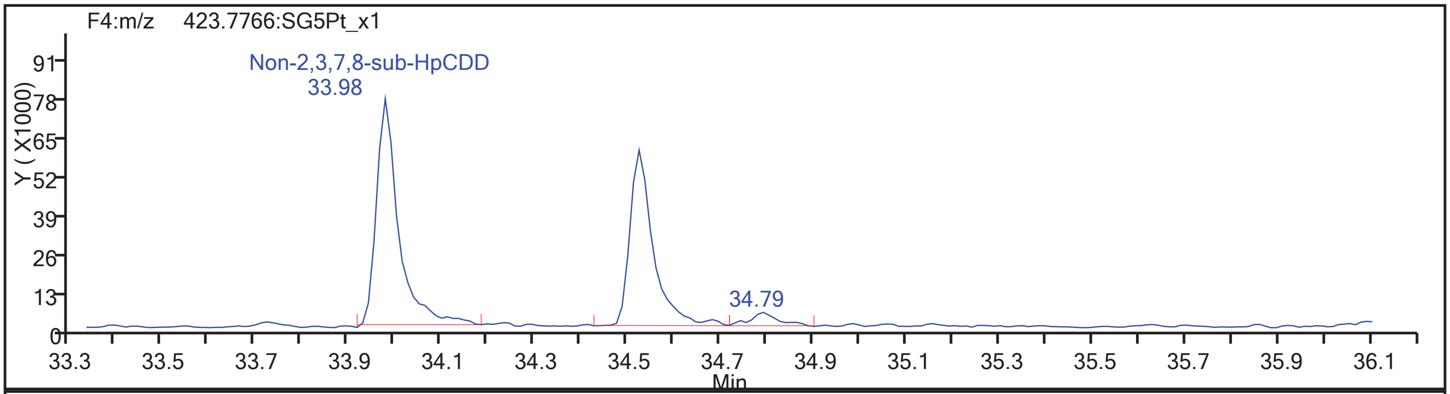
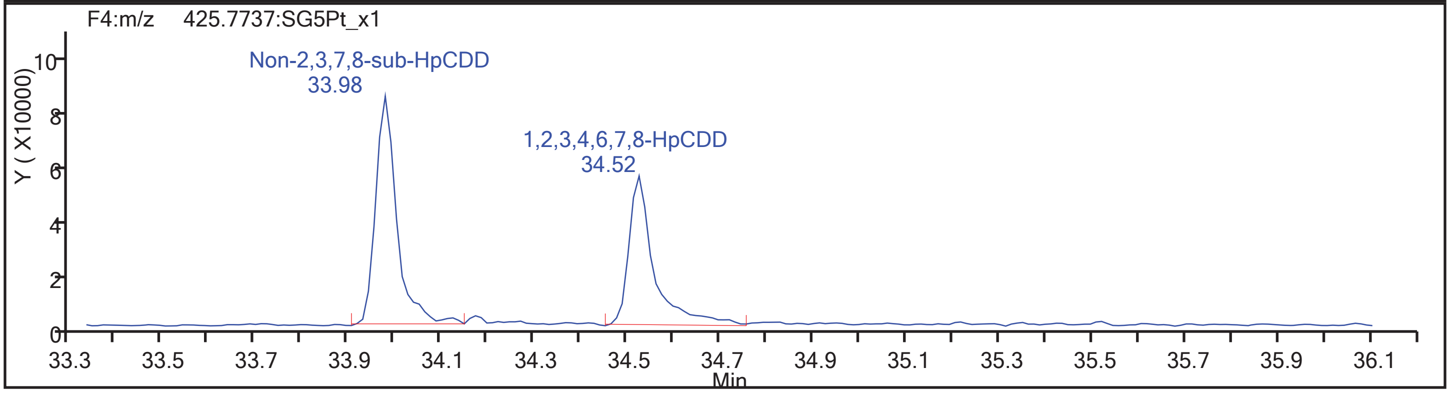
HpCDD





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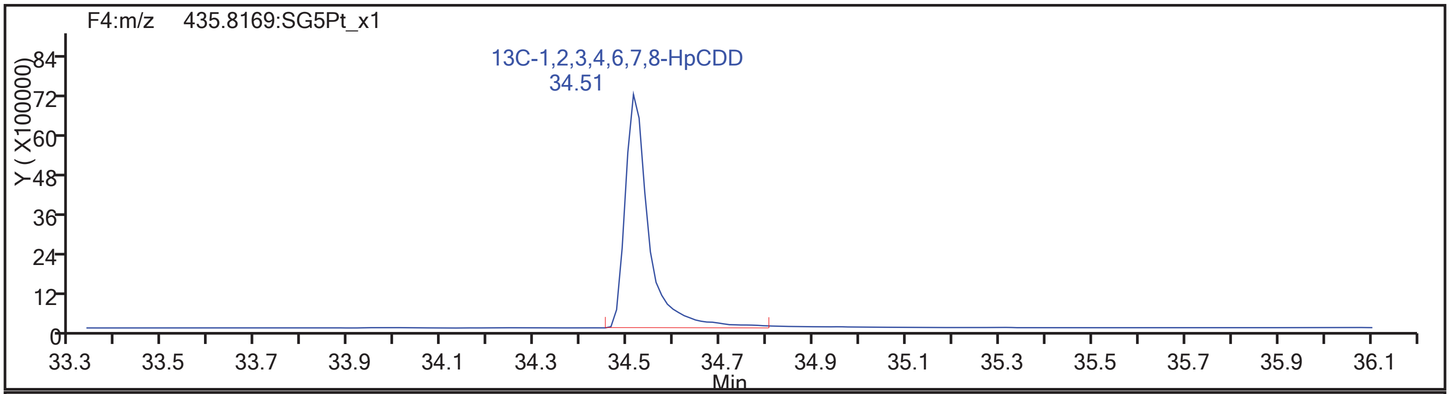

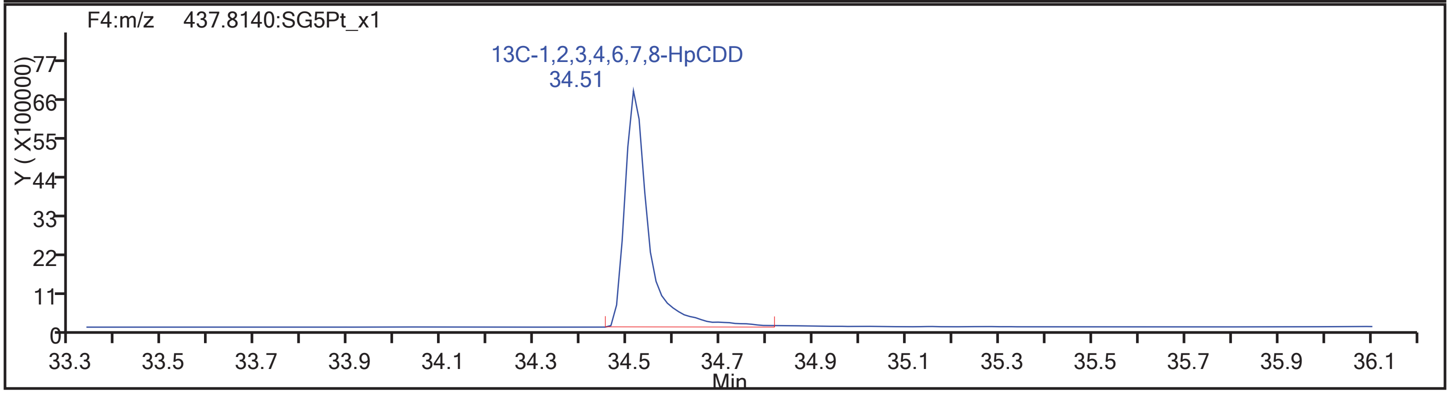

TestAmerica Sacramento

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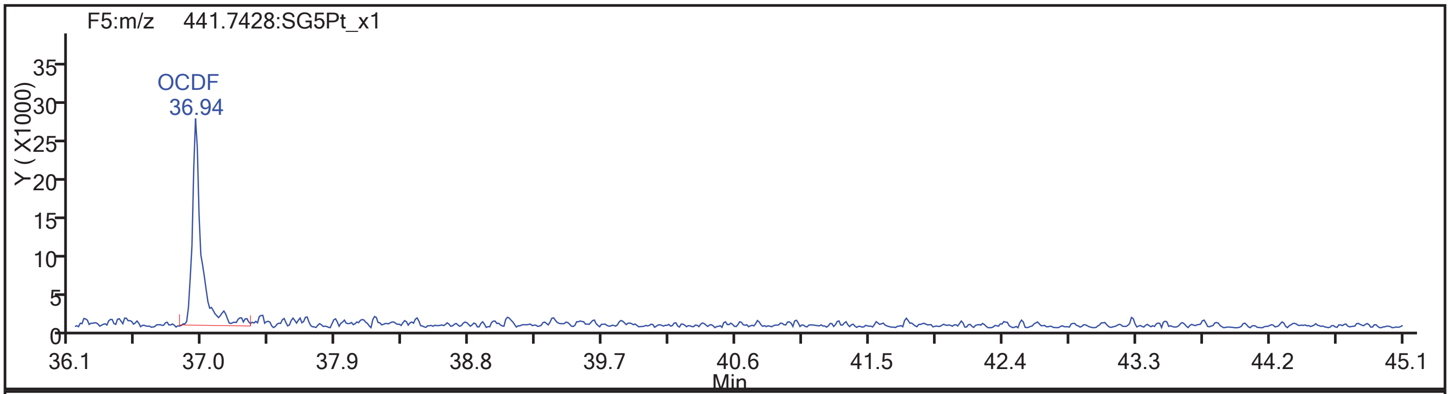
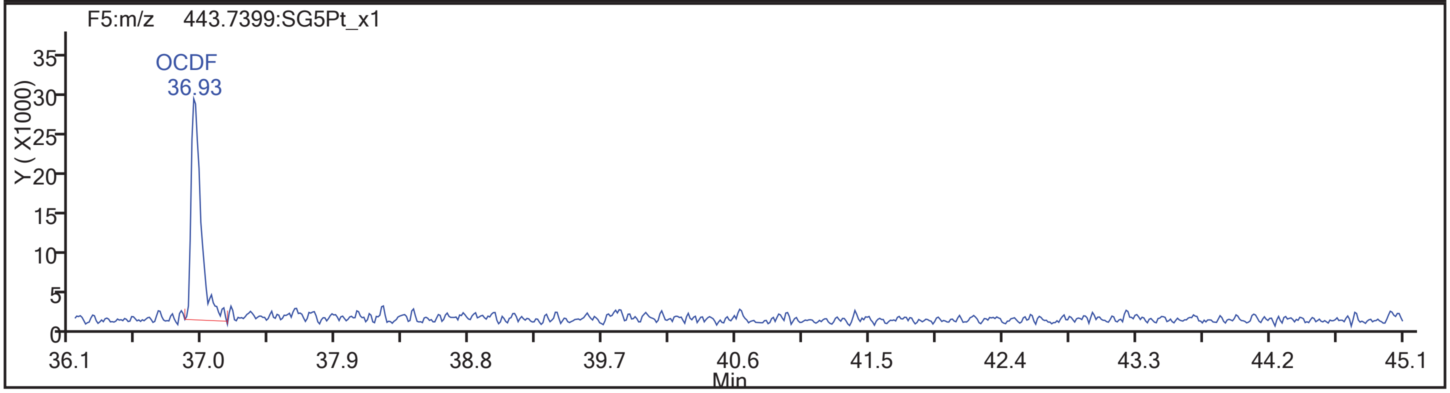
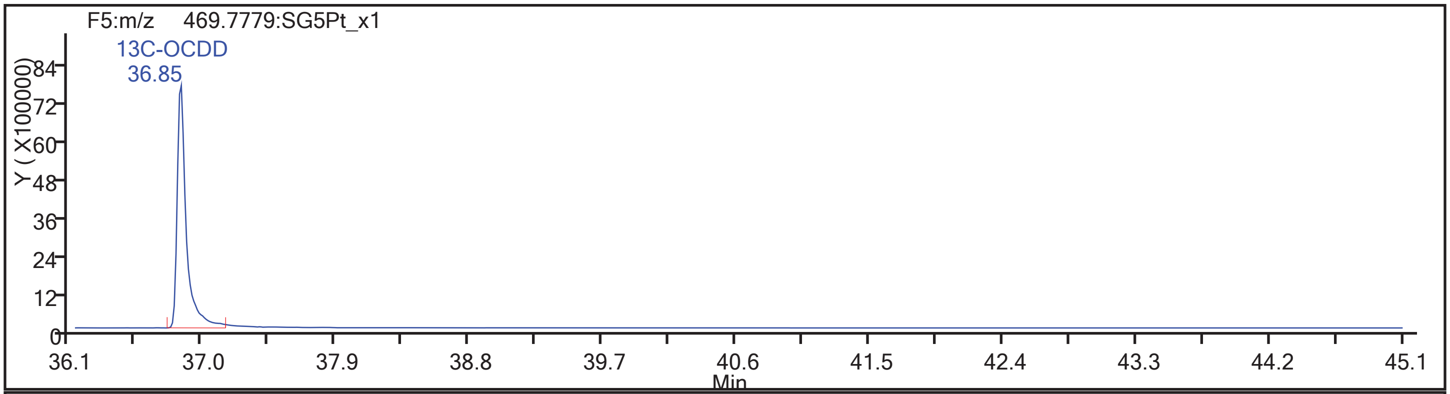
Column Type:	DB-5	Column Dia:	0.32 mm

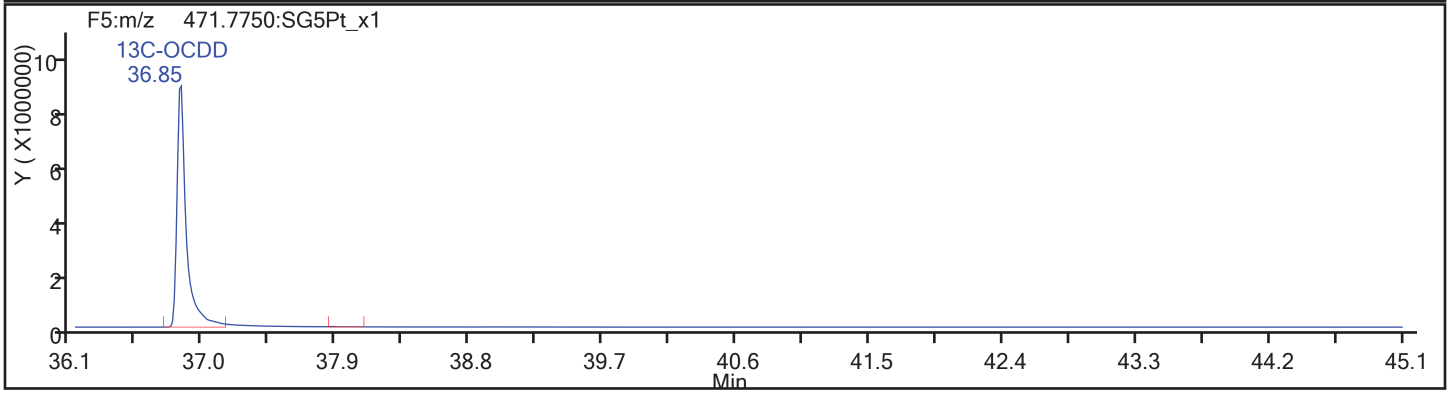
OCDF





OCDF Standards





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TestAmerica Sacramento

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Injection Date: 14-Nov-2017 15:40:42 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

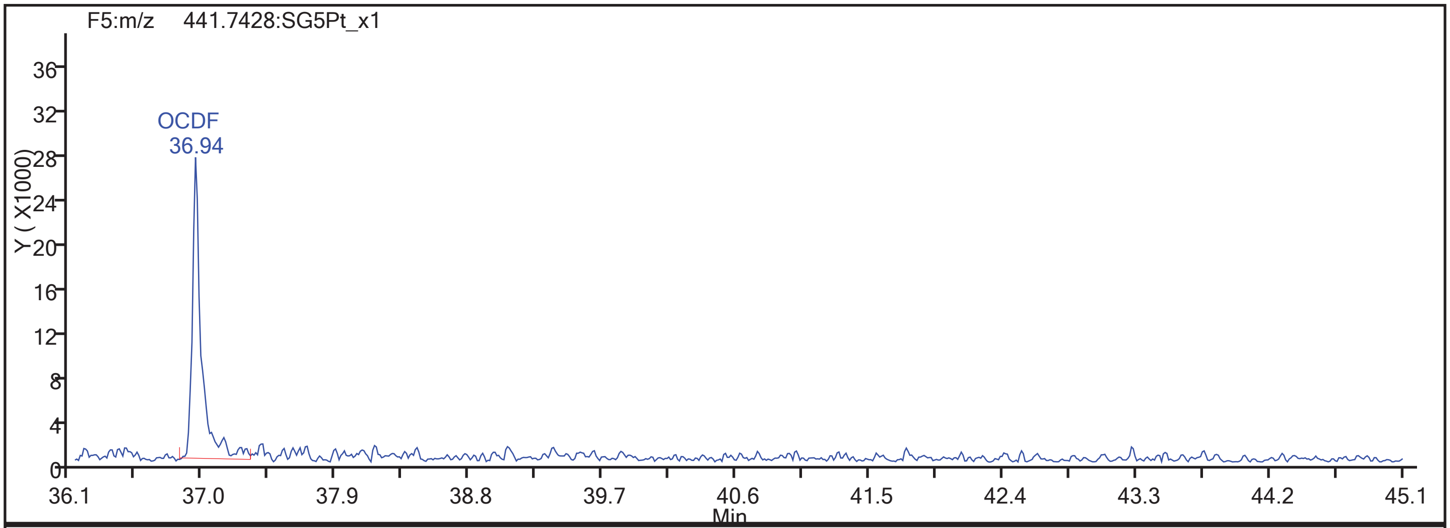
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

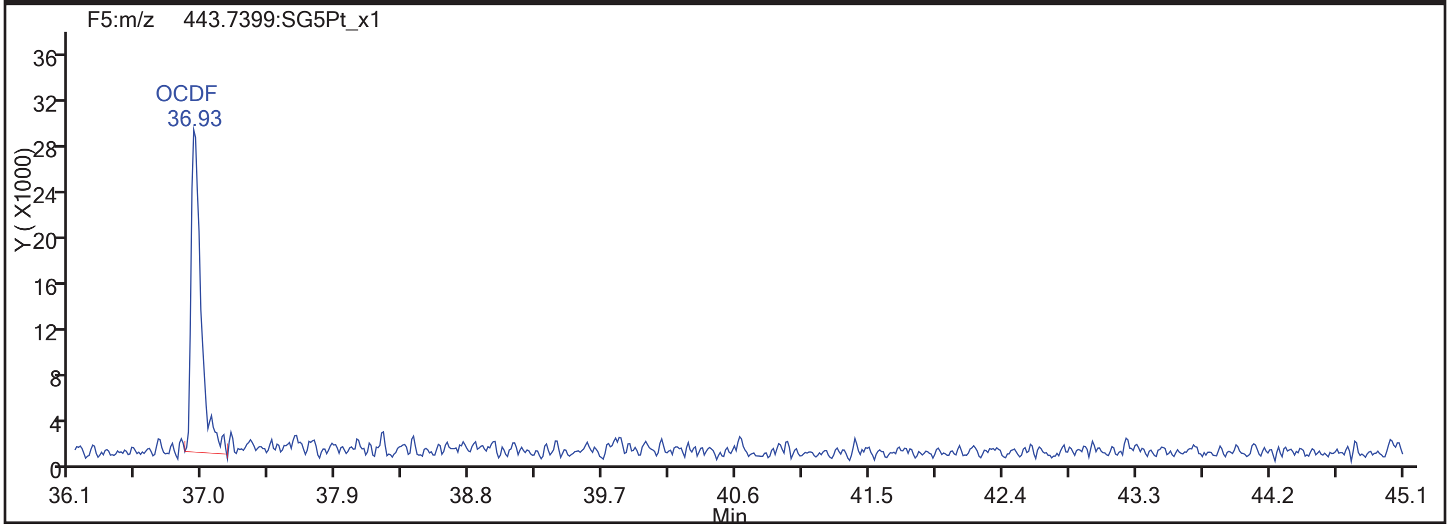
Client ID: SHAD041DP013SS03NS

Worklist#: 194429 Sample Line#: 35

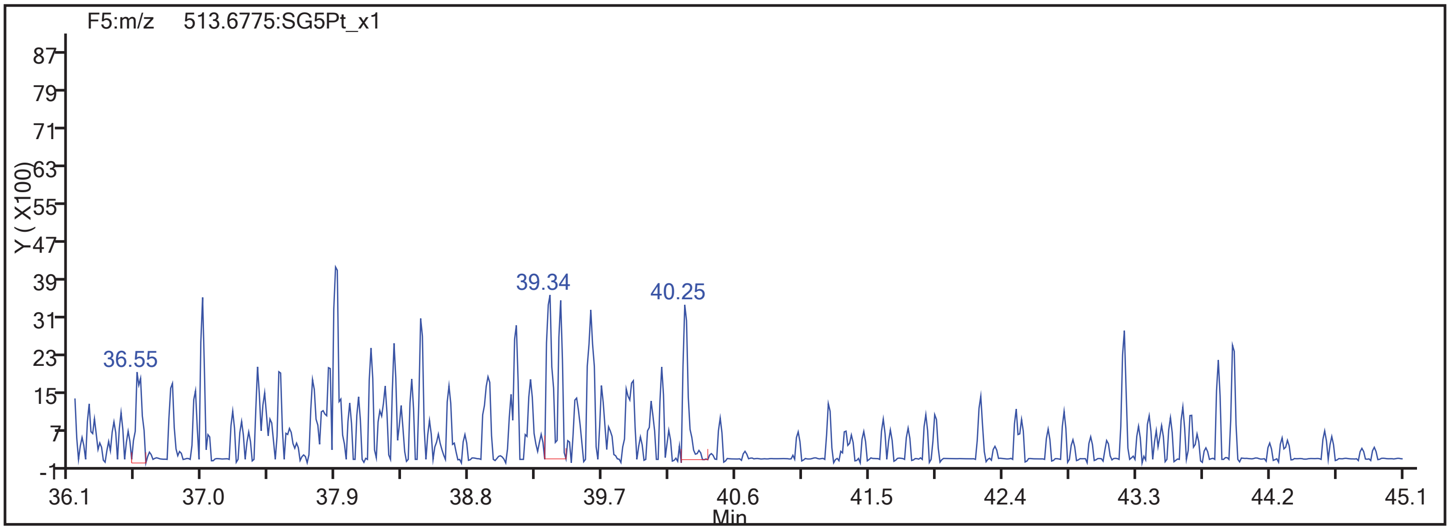
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



TestAmerica Sacramento

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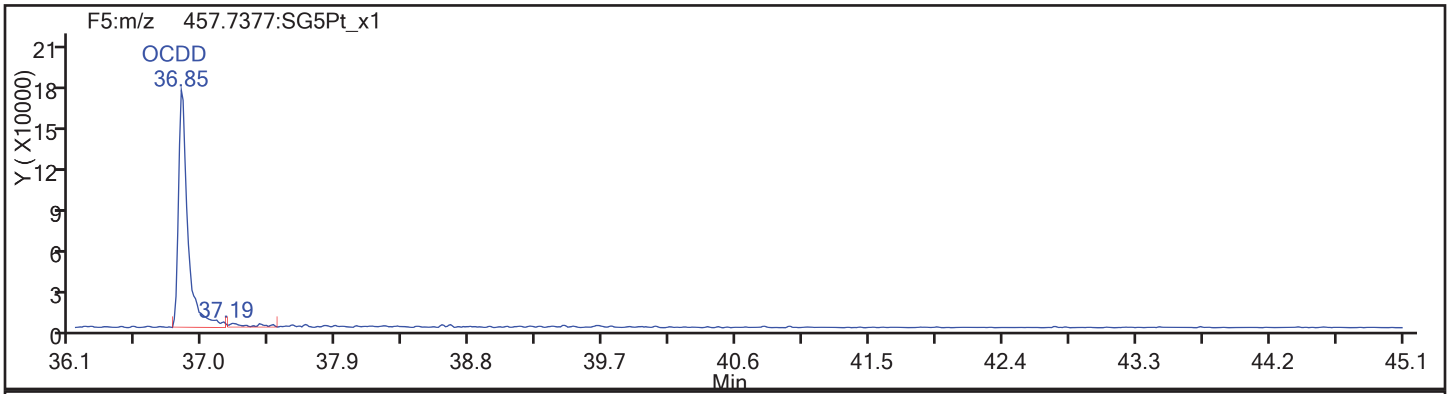
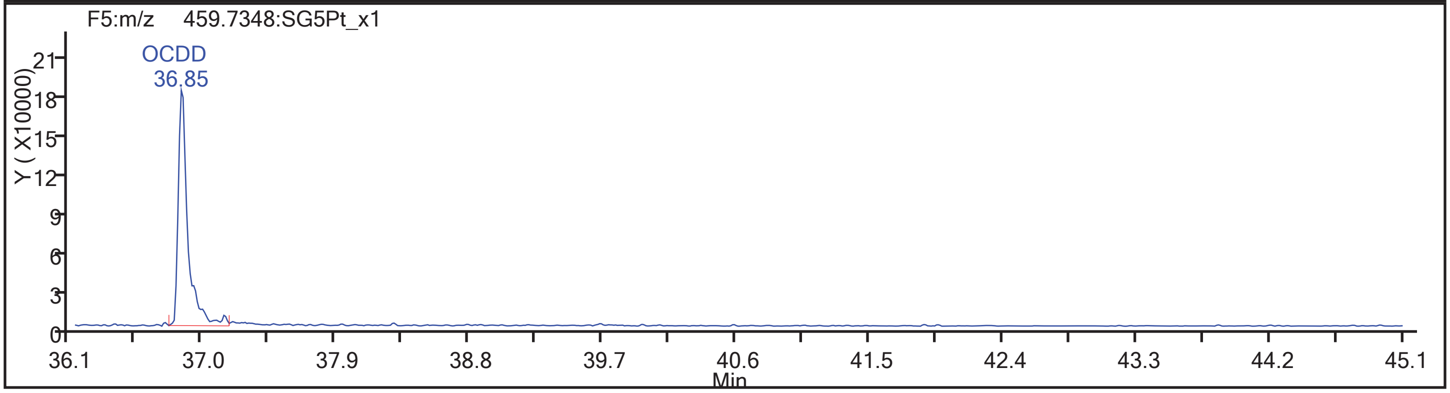
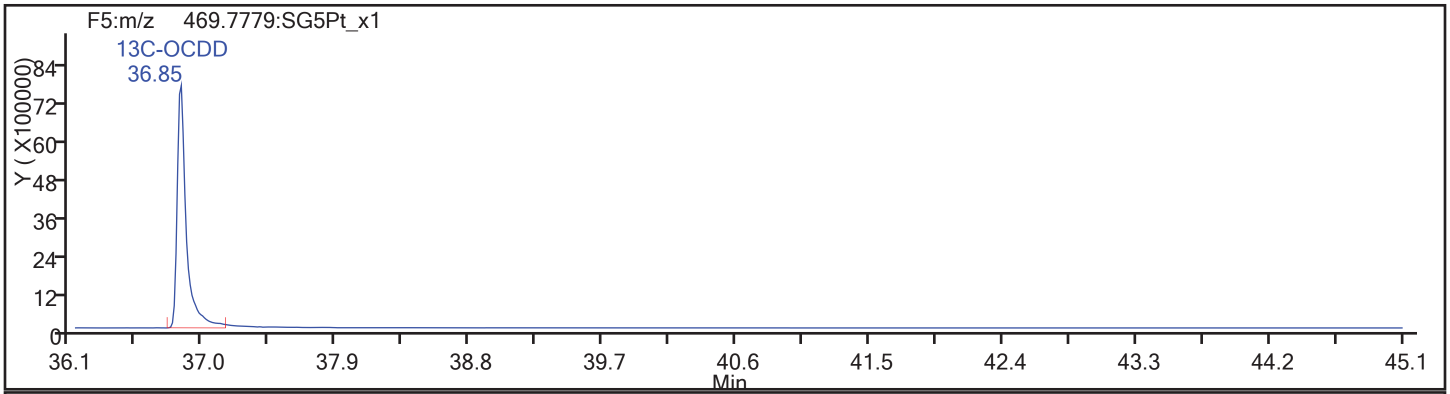
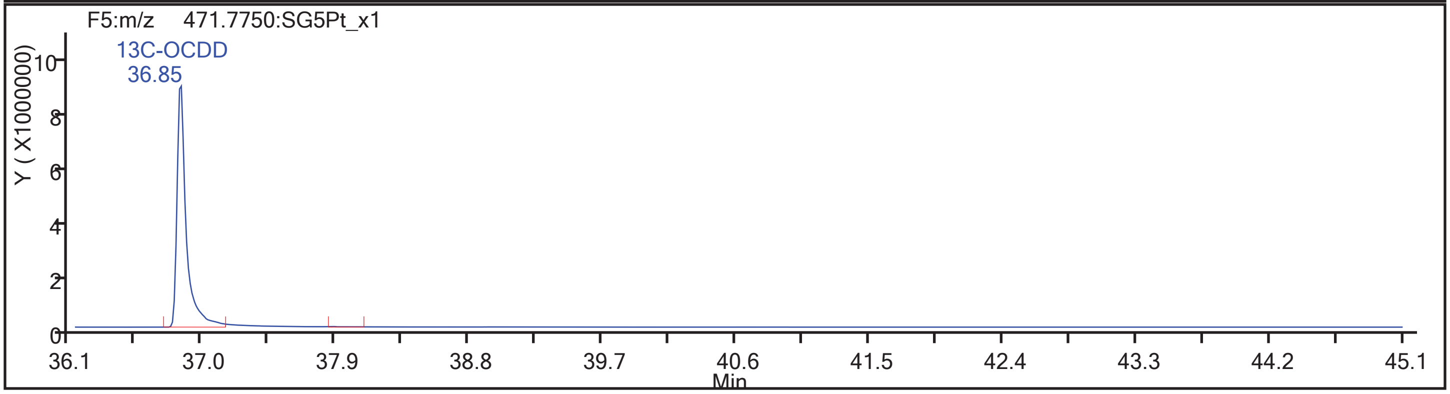
OCDD





OCDD Standards





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TestAmerica Sacramento

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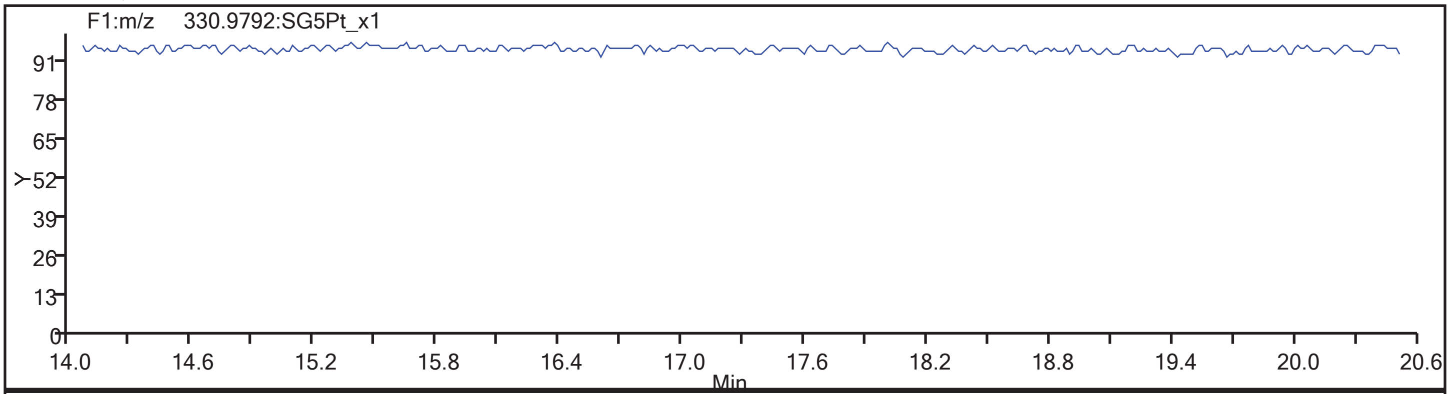

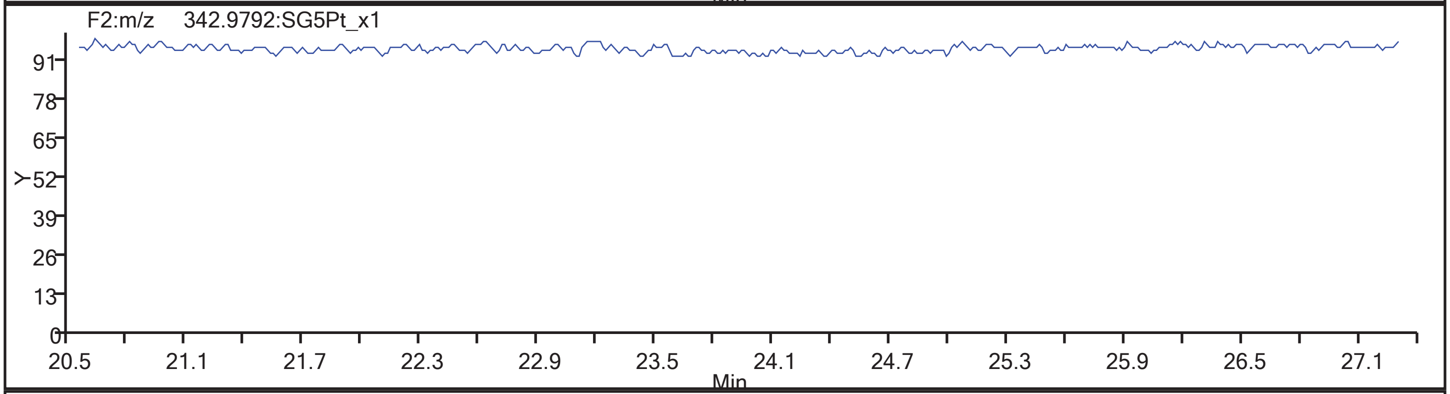

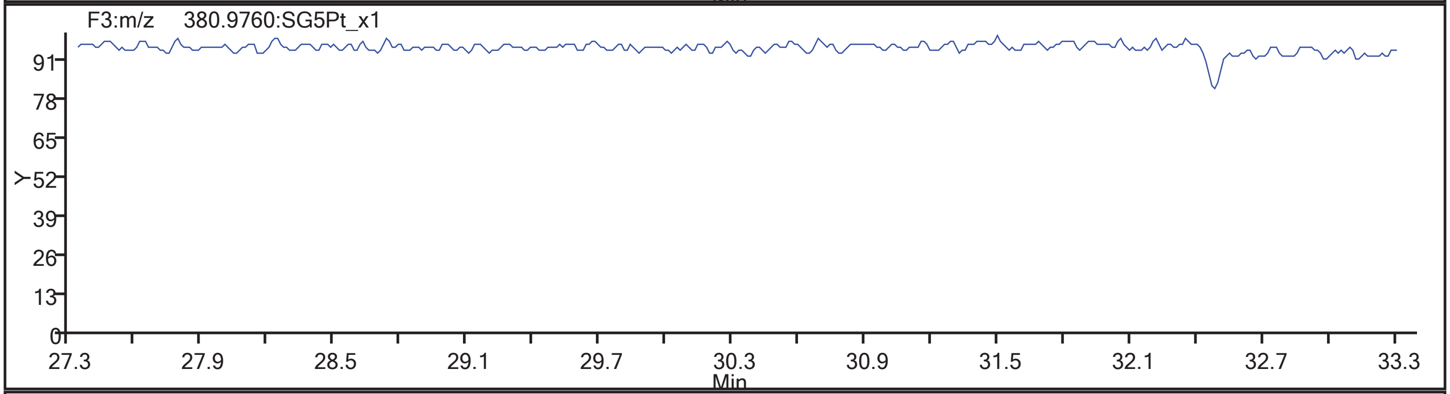

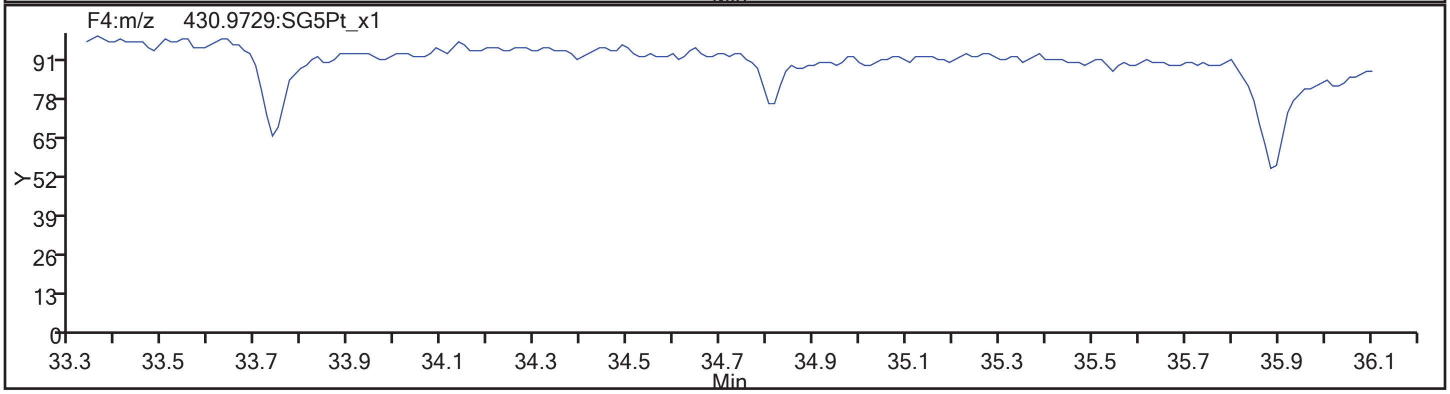

TestAmerica Sacramento

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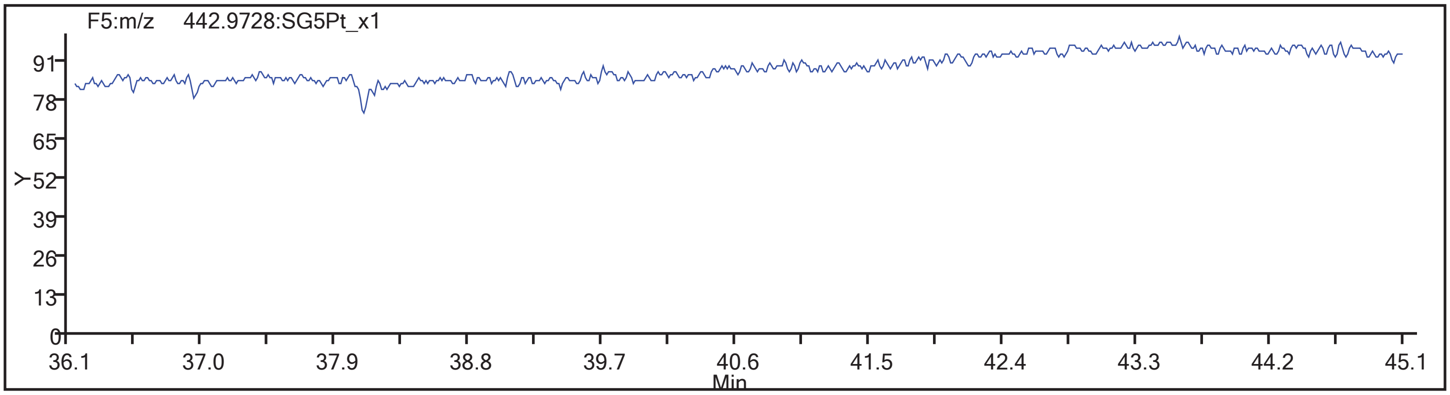


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP013SS03NS RE	Lab Sample ID: 160-24924-15 RE
Matrix: Solid	Lab File ID: 16NO173D5_86.d
Analysis Method: 8290A	Date Collected: 10/05/2017 14:44
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.07(g)	Date Analyzed: 11/19/2017 15:52
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 13.4	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195575	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.46*	*U H*	*1.1*	0.46	*0.070*
51207-31-9	*2,3,7,8-TCDF*	*0.46*	*U H*	*1.1*	0.46	*0.059*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.86*	*U H*	*5.7*	0.86	*0.093*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.86*	*U H*	*5.7*	0.86	*0.062*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.86*	*U H*	*5.7*	0.86	*0.064*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*0.26*	*J H*	*5.7*	2.3	*0.079*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*0.30*	*J H*	*5.7*	2.3	*0.072*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*0.52*	*J H*	*5.7*	2.3	*0.069*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.86*	*U H*	*5.7*	0.86	*0.060*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.1*	*U H*	*5.7*	1.1	*0.055*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.1*	*U H*	*5.7*	1.1	*0.063*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.86*	*U H*	*5.7*	0.86	*0.058*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*1.7*	*J H*	*5.7*	1.1	*0.15*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*0.45*	*J H*	*5.7*	1.1	*0.28*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.3*	*U H*	*5.7*	2.3	*0.37*
3268-87-9	*OCDD*	*15*	*H B*	*11*	4.6	*0.20*
39001-02-0	*OCDF*	*1.2*	*J H*	*11*	4.6	*0.13*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	64		40-135
89059-46-1	13C-2,3,7,8-TCDF	62		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	64		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	65		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	59		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	66		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	55		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	23	Q	40-135
114423-97-1	13C-OCDD	50		40-135

Report Date: 06-Dec-2017 15:13:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d
Lims ID: 160-24924-G-15-B
Client ID: SHAD041DP013SS03NS
Sample Type: Client
Inject. Date: 19-Nov-2017 15:52:19 ALS Bottle#: 56 Worklist Smp#: 86
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-15-B 160-24924-G-15-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:13:50 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: stephensk Date: 19-Nov-2017 19:45:24

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	163930903	0.84	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.735	153691316	0.77	1.5089	62.1	62.1	0.2004	0.2004	62.14	
2,3,7,8-TCDF	17.720						0.0257	0.0257		
A Non-2,3,7,8-sub-TCDF	17.402	615500	0.77	1.0971	0.4181	0.3650	0.0257	0.1402		RQ
S Total TCDF					0.4181	0.3650	0.0257	0.0257		RQ
D 13C-2,3,7,8-TCDD	18.461	103680987	0.80	0.9906	63.8	63.8	0.2345	0.2345	63.85	
2,3,7,8-TCDD	18.461						0.0303	0.0303		
A Non-2,3,7,8-sub-TCDD	17.871	238076	0.77	1.1645	0.2044	0.1972	0.0303	0.1219		RQ
S Total TCDD					0.2044	0.1972	0.0303	0.0303		RQ
D 13C-1,2,3,7,8-PeCDF	22.896	119287637	1.61	1.1280	64.5	64.5	0.2027	0.2027	64.51	
1,2,3,7,8-PeCDF	22.910						0.0272	0.0272		
2,3,4,7,8-PeCDF	24.287						0.0280	0.0280		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668	92100	1.55	1.1262	0.1214	0.0686	0.0276	0.0686		RQ
S Total PeCDF					0.1214	0.0686	0.0276	0.0276		RQ
D 13C-1,2,3,7,8-PeCDD	25.024	76061923	1.70	0.7269	63.8	63.8	0.0886	0.0886	63.83	
1,2,3,7,8-PeCDD	25.037						0.0404	0.0404		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0404	0.0404		
D 13C-1,2,3,4,7,8-HxCDF	30.932	90102908	0.52	1.0279	66.3	66.3	0.2323	0.2323	66.35	
1,2,3,4,7,8-HxCDF	30.932						0.0261	0.0261		
1,2,3,6,7,8-HxCDF	31.092						0.0238	0.0238		
2,3,4,6,7,8-HxCDF	31.838						0.0255	0.0255		
D 13C-1,2,3,7,8,9-HxCDF	32.597	83435051	0.51							
1,2,3,7,8,9-HxCDF	32.597						0.0273	0.0273		
A Non-2,3,7,8-sub-HxCDF	30.653	47336	1.24	1.3751	0.0511	0.0382	0.0256	0.0382		RQ
S Total HxCDF					0.0511	0.0382	0.0257	0.0257		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.424	132115701	1.27	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.024	79335	1.24	1.0646	0.1299	0.1116	0.0346	0.0346		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.104	66780319	1.27	0.8502	59.5	59.5	0.1948	0.1948	59.46	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.117	104670	1.24	1.1809	0.1720	0.1327	0.0312	0.0312		RQ
1,2,3,7,8,9-HxCDD	32.437	186981	1.24	1.2311	0.2593	0.2274	0.0299	0.0299		RQ
A Non-2,3,7,8-sub-HxCDD	31.252	224929	1.24	1.1589	0.3685	0.2906	0.0318	0.1125		RQ
S Total HxCDD					0.9298	0.7624	0.0319	0.0319		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	19634876	0.41	0.6490	22.9	22.9	0.3653	0.3653	22.90	
1,2,3,4,6,7,8-HpCDF	34.034	61012	1.04	1.5871	0.2250	0.1958	0.1234	0.1234		RQ
1,2,3,4,7,8,9-HpCDF	35.128						0.1594	0.1594		
A Non-2,3,7,8-sub-HpCDF	34.569	116027	1.04	1.4080	0.4795	0.4197	0.1391	0.4197		RQM
S Total HpCDF					0.7044	0.6155	0.1414	0.1414		RQ
1,2,3,4,6,7,8-HpCDD	34.848	346008	0.96	1.1631	0.7611	0.7611	0.0655	0.0655		
D 13C-1,2,3,4,6,7,8-HpCDD	34.836	39086510	1.08	0.5387	54.9	54.9	0.2237	0.2237	54.92	
A Non-2,3,7,8-sub-HpCDD	35.261	322720	1.09	1.1631	0.7099	0.7099	0.0655	0.7099		
S Total HpCDD					1.471	1.471	0.0655	0.0655		
D 13C-OCDD	37.257	53339153	0.89	0.4009	100.7	100.7	0.1900	0.1900	50.35	
OCDF	37.365	179105	0.89	1.2649	0.5852	0.5309	0.0552	0.0552		RQ
OCDD	37.269	1805804	0.85	1.0390	6.517	6.517	0.0877	0.0877		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Report Date: 06-Dec-2017 15:13:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d
Lims ID: 160-24924-G-15-B
Client ID: SHAD041DP013SS03NS
Sample Type: Client
Inject. Date: 19-Nov-2017 15:52:19 ALS Bottle#: 56 Worklist Smp#: 86
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-15-B 160-24924-G-15-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:13:50 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: stephensk Date: 19-Nov-2017 19:45:24

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		74851447	17756010	18523	46307	959		
333.9339	18.249	18.234	1		89079456	20963639	17460	43650	1201	0.84(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.735	17.705	2	0.972	66853538	15465491	28513	71282	542		
317.9389	17.735	17.705	2	0.972	86837778	19793195	18314	45785	1081	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						1319	3297			
305.8987	17.720						2662	6655			
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	15.754	17.402	-99	0.888	125741	33815	1319	3297	26		
	Empc Correction				102846	23964	1319	3297	18		
305.8987	15.754	17.402	-99	0.888	133567	31123	2662	6655	12	0.94(0.65-0.89)	
303.9016	17.342	17.402	-4	0.978	93889	18731	1319	3297	14		
	Empc Correction				70148	18672	1319	3297	14		
305.8987	17.342	17.402	-4	0.978	91102	24250	2662	6655	9	1.03(0.65-0.89)	
303.9016	18.959	17.402	93	1.069	44628	15828	1319	3297	12		
305.8987	18.959	17.402	93	1.069	87028	18212	2662	6655	7	0.51(0.65-0.89)	
	Empc Correction				57958	20555	2662	6655	8		
303.9016	19.323	17.402	115	1.090	63928	13383	1319	3297	10		
	Empc Correction				50137	12051	1319	3297	9		
305.8987	19.323	17.402	115	1.090	65114	15651	2662	6655	6	0.98(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.461	18.430	2	1.012	46069167	10296855	18523	46307	556		
333.9339	18.461	18.430	2	1.012	57611820	12701906	17460	43650	727	0.80(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,7,8-TCDD											
319.8965	18.461						1990	4975			
321.8936	18.461						1260	3150			
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	16.177	17.871	-101	0.876	60862	17606	1990	4975	9		
321.8936	16.192	17.871	-101	0.877	86272	18124	1260	3150	14	0.71(0.65-0.89)	
319.8965	17.281	17.871	-35	0.936	48297	13652	1990	4975	7		
	Empc Correction				39562	10978	1990	4975	6		
321.8936	17.312	17.871	-33	0.938	51380	14258	1260	3150	11	0.94(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.896	22.883	1	1.255	73556415	12465240	21486	53715	580		
353.8970	22.896	22.883	1	1.255	45731222	7710428	13935	34837	553	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						947	2367			
341.8567	22.910						1564	3910			
2,3,4,7,8-PeCDF											
339.8597	24.287						947	2367			
341.8567	24.287						1564	3910			
A F1 PeCDFs											
339.8597	20.426						670	1675			
341.8567	20.426						1315	3287			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	23.346	23.668	-19	1.020	126944	22845	947	2367	24		
	Empc Correction				55982	14872	947	2367	16		
341.8567	23.319	23.668	-21	1.018	36118	9595	1564	3910	6	3.51(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.024	25.010	1	1.371	47903790	7413723	4973	12432	1491		
369.8919	25.024	25.010	1	1.371	28158133	4230038	5001	12502	846	1.70(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037						1285	3212			
357.8516	25.037						835	2087			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1285	3212			
357.8516	23.878						835	2087			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.932	30.919	1	0.954	30728935	6826627	13978	34945	488		
385.8610	30.932	30.919	1	0.954	59373973	13639117	21774	54435	626	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						1705	4262			
375.8178	30.932						1178	2945			
1,2,3,6,7,8-HxCDF											
373.8208	31.092						1705	4262			
375.8178	31.092						1178	2945			
2,3,4,6,7,8-HxCDF											
373.8208	31.838						1705	4262			
375.8178	31.838						1178	2945			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.005	28189834	8078152	13978	34945	578		
385.8610	32.597	32.583	1	1.005	55245217	15400172	21774	54435	707	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						1705	4262			
375.8178	32.597						1178	2945			
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	30.600	30.653	-3	0.989	26204	6249	1705	4262	4		
375.8178	30.613	30.653	-2	0.990	37140	8631	1178	2945	7	0.71(1.05-1.43)	
	Empc Correction				21132	5039	1178	2945	4		
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.424	32.410	1		73854426	20962486	13877	34692	1511		
403.8529	32.424	32.410	1		58261275	16466846	10922	27305	1508	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	32.024	32.011	1	0.998	43918	9452	1297	3242	7		
391.8127	32.011	32.011	0	0.997	48454	10437	1406	3515	7	0.91(1.05-1.43)	
	Empc Correction				35417	7622	1406	3515	5		
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.990	37344930	10063063	13877	34692	725		
403.8529	32.104	32.091	1	0.990	29435389	8265346	10922	27305	757	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQ
389.8157	32.117	32.104	1	1.000	88919	16825	1297	3242	13		
	Empc Correction				57942	16296	1297	3242	13		
391.8127	32.131	32.104	2	1.001	46728	13142	1406	3515	9	1.90(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQ
389.8157	32.437	32.424	1	1.010	129728	28224	1297	3242	22		
	Empc Correction				103507	24800	1297	3242	19		
391.8127	32.424	32.424	0	1.010	83474	20000	1406	3515	14	1.55(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.147	31.252	-66	0.939	42306	7771	1297	3242	6		
391.8127	30.120	31.252	-68	0.938	36915	6438	1406	3515	5	1.15(1.05-1.43)	
389.8157	30.999	31.252	-15	0.966	52810	11336	1297	3242	9		
	Empc Correction				32449	7353	1297	3242	6		
391.8127	30.986	31.252	-16	0.965	26169	5930	1406	3515	4	2.02(1.05-1.43)	
389.8157	31.319	31.252	4	0.976	48211	10452	1297	3242	8		
391.8127	31.319	31.252	4	0.976	78772	10244	1406	3515	7	0.61(1.05-1.43)	
	Empc Correction				38879	8429	1406	3515	6		
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	5756891	1354424	12655	31637	107		
419.8220	34.010	33.998	1	1.049	13877985	3395201	22837	57092	149	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7818	34.034	34.010	1	1.001	40200	14116	1941	4852	7		
	Empc Correction				31104	8459	1941	4852	4		
409.7789	34.034	34.010	1	1.001	29908	8134	1781	4452	5	1.34(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						1941	4852			
409.7789	35.128						1781	4452			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											RQM
407.7818	34.338	34.569	-14	1.010	75674	30059	1941	4852	15		M
	Empc Correction				59151	20597	1941	4852	11		
409.7789	34.338	34.569	-14	1.010	56876	19805	1781	4452	11	1.33(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.848	34.824	1	1.000	169300	54326	2247	5617	24		
425.7737	34.848	34.824	1	1.000	176708	56006	1521	3802	37	0.96(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.836	34.824	1	1.074	20325597	6567785	6713	16782	978		
437.8140	34.836	34.824	1	1.074	18760913	5790392	11332	28330	511	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.277	35.261	-59	0.984	168059	52520	2247	5617	23		a
425.7737	34.277	35.261	-59	0.984	154661	55391	1521	3802	36	1.09(0.88-1.20)	
13C-OCDD											
469.7779	37.257	37.245	1	1.149	25175502	7344264	7312	18280	1004		
471.7750	37.257	37.245	1	1.149	28163651	8288324	4094	10235	2025	0.89(0.76-1.02)	
OCDF											RQ
441.7428	37.365	37.353	1	1.003	102656	31328	1053	2632	30		
	Empc Correction				84340	21250	1053	2632	20		
443.7399	37.365	37.353	1	1.003	94765	23877	1132	2830	21	1.08(0.76-1.02)	
OCDD											
457.7377	37.269	37.257	1	1.000	829150	234369	1290	3225	182		
459.7348	37.269	37.257	1	1.000	976654	279342	1559	3897	179	0.85(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d
Lims ID: 160-24924-G-15-B
Client ID: SHAD041DP013SS03NS
Inject. Date: 19-Nov-2017 15:52:19 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195575 Lims Sample ID: 86

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	153691316	35258686

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	153691316	35258686

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.754	125741	33815	133567	31123	0.1538	0.94	RQ
15.754	102846	23964	133567	31123	0.1402		Empc Correction
17.342	93889	18731	91102	24250	0.1097	1.03	RQ
17.342	70148	18672	91102	24250	0.0956		Empc Correction
18.959	44628	15828	87028	18212	0.0781	0.51	RQ
18.959	44628	15828	57958	20555	0.0608		Empc Correction
19.323	63928	13383	65114	15651	0.0765	0.98	RQ
19.323	50137	12051	65114	15651	0.0684		Empc Correction
Signal Totals:							
	267759	70515	347741	91579			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	704997	170993				0.87	RQ
	615500	162094					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4181 = (704997 * 100.000) / (153691316 * 1.097)
Empc Amount: 0.3650 = (615500 * 100.000) / (153691316 * 1.097)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d
Lims ID: 160-24924-G-15-B
Client ID: SHAD041DP013SS03NS
Inject. Date: 19-Nov-2017 15:52:19
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 86

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	103680987	22998761

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	103680987	22998761

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.177	60862	17606	86272	18124	0.1219	0.71	
17.281	48297	13652	51380	14258	0.0826	0.94	RQ
17.281	39562	10978	51380	14258	0.0753		Empc Correction
Signal Totals:							
	100424	28584	137652	32382			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	246811	63640				0.79	RQ
	238076	60966					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2044 = (246811 * 100.000) / (103680987 * 1.164)
Empc Amount: 0.1972 = (238076 * 100.000) / (103680987 * 1.164)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d		
Lims ID:	160-24924-G-15-B		
Client ID:	SHAD041DP013SS03NS		
Inject. Date:	19-Nov-2017 15:52:19	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	86

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	119287637	20175668
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	119287637	20175668

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.346	126944	22845	36118	9595	0.1214	3.51	RQ
23.346	55982	14872	36118	9595	0.0686		Empc Correction
Signal Totals:							
	55982	14872	36118	9595			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	163062	32440				3.51	RQ
	92100	24467					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1214 = (163062 * 100.000) / (119287637 * 1.126)
Empc Amount: 0.0686 = (92100 * 100.000) / (119287637 * 1.126)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d		
Lims ID:	160-24924-G-15-B		
Client ID:	SHAD041DP013SS03NS		
Inject. Date:	19-Nov-2017 15:52:19	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	86

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	90102908	20465744
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	90102908	20465744

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
30.600	26204	6249	37140	8631	0.0511	0.71	RQ
30.600	26204	6249	21132	5039	0.0382		Empc Correction
Signal Totals:							
	26204	6249	21132	5039			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	63344	14880				0.71	RQ
	47336	11288					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0511 = (63344 * 100.000) / (90102908 * 1.375)
Empc Amount: 0.0382 = (47336 * 100.000) / (90102908 * 1.375)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d		
Lims ID:	160-24924-G-15-B		
Client ID:	SHAD041DP013SS03NS		
Inject. Date:	19-Nov-2017 15:52:19	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	86

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	66780319	18328409
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	66780319	18328409

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.147	42306	7771	36915	6438	0.1024	1.15	
30.999	52810	11336	26169	5930	0.1021	2.02	RQ
30.999	32449	7353	26169	5930	0.0757		Empc Correction
31.319	48211	10452	78772	10244	0.1641	0.61	RQ
31.319	48211	10452	38879	8429	0.1125		Empc Correction
Signal Totals:							
	122966	25576	101963	20797			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	285183	52171				1.01	RQ
	224929	46373					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3685 = (285183 * 100.000) / (66780319 * 1.159)
Empc Amount: 0.2906 = (224929 * 100.000) / (66780319 * 1.159)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d		
Lims ID:	160-24924-G-15-B		
Client ID:	SHAD041DP013SS03NS		
Inject. Date:	19-Nov-2017 15:52:19	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	86

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	19634876	4749625
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	19634876	4749625

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.338	75674	30059	56876	19805	0.4795	1.33	RQM
34.338	59151	20597	56876	19805	0.4197		Empc Correction
Signal Totals:							
	59151	20597	56876	19805			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	132550	49864				1.33	RQM
	116027	40402					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4795 = (132550 * 100.000) / (19634876 * 1.408)
Empc Amount: 0.4197 = (116027 * 100.000) / (19634876 * 1.408)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d		
Lims ID:	160-24924-G-15-B		
Client ID:	SHAD041DP013SS03NS		
Inject. Date:	19-Nov-2017 15:52:19	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	86

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	39086510	12358177

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	39086510	12358177

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.277	168059	52520	154661	55391	0.7099	1.09	
Signal Totals:							
	168059	52520	154661	55391			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	322720	107911				1.09	

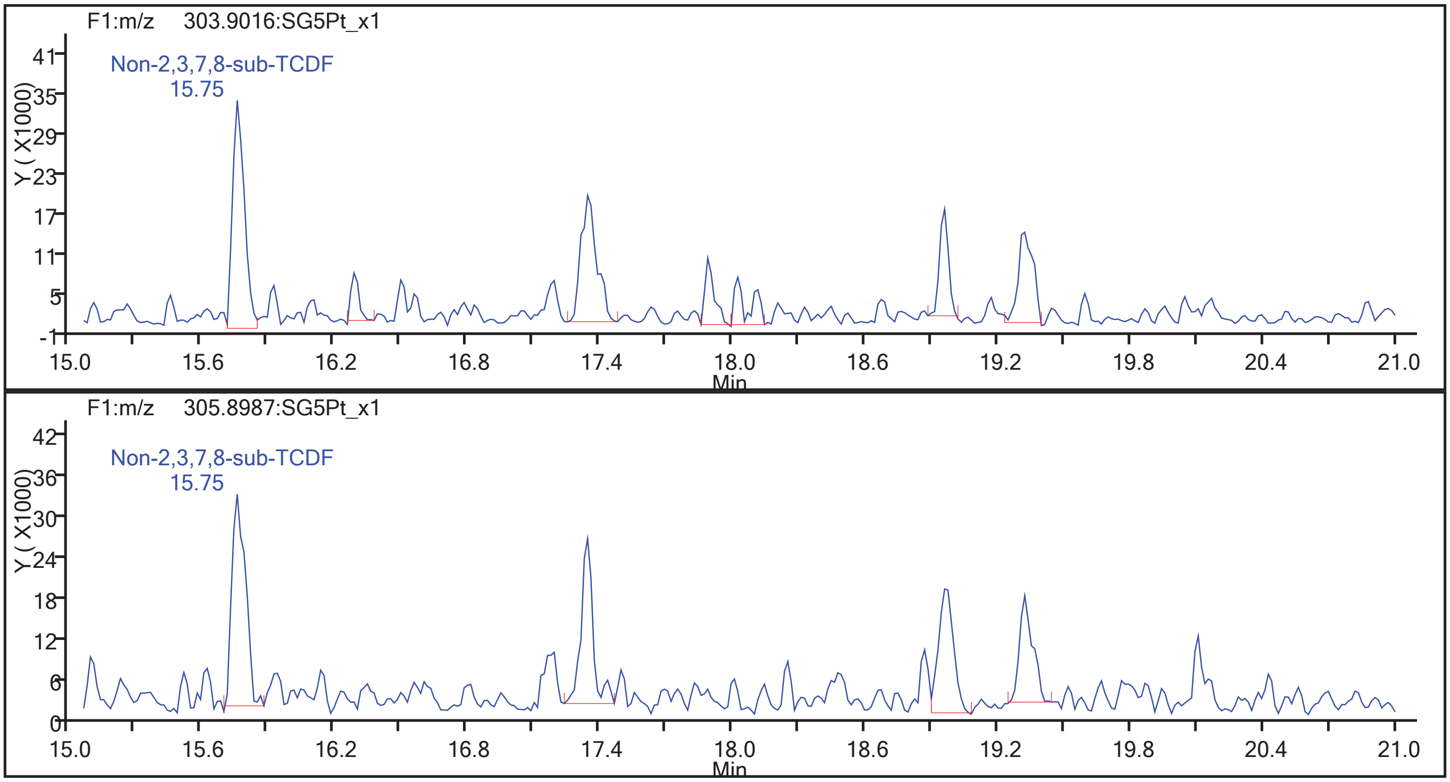
On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7099 = (322720 * 100.000) / (39086510 * 1.163)

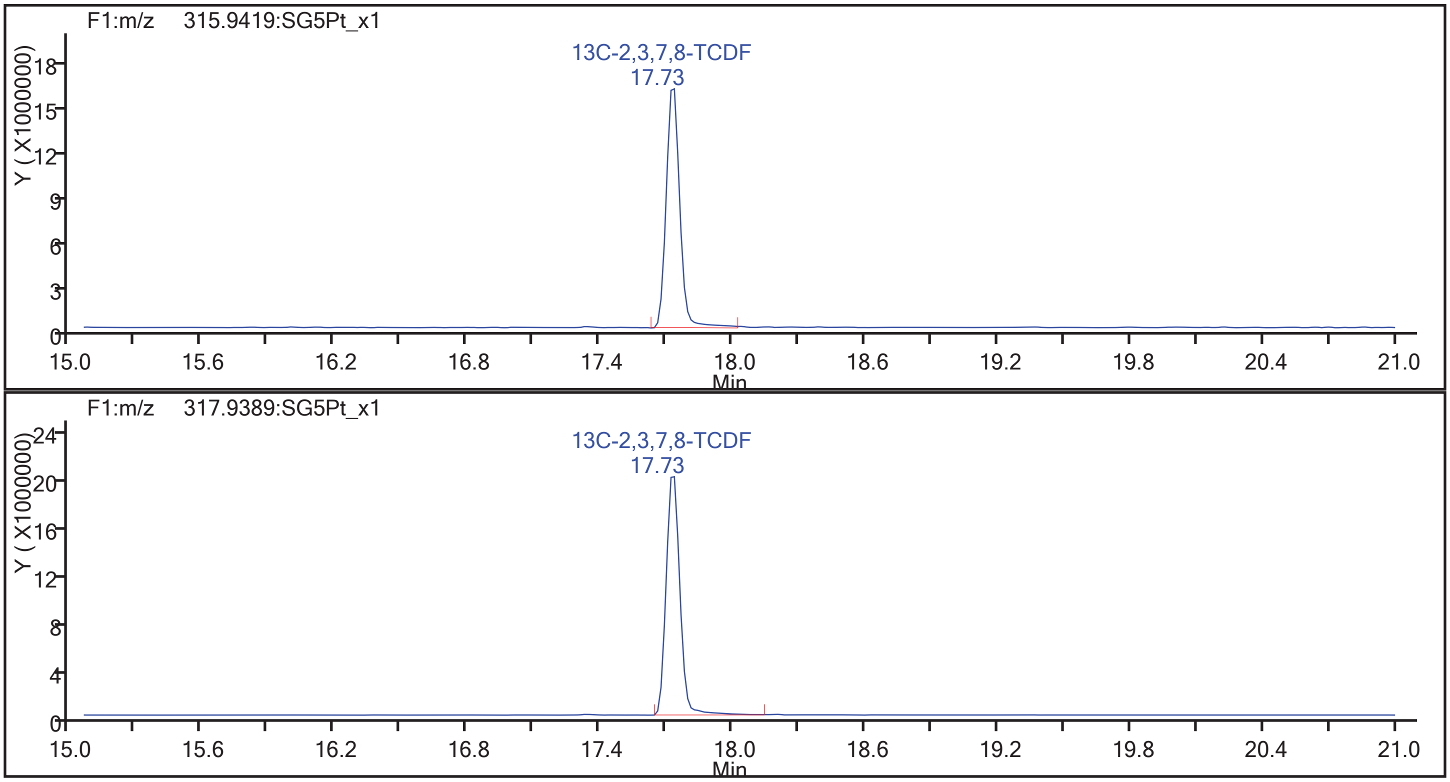
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d
Injection Date: 19-Nov-2017 15:52:19
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS03NS
Worklist#: 195575
Sample Line#: 86
Column Type:
Column Dia:

TCDF



TCDF Standards

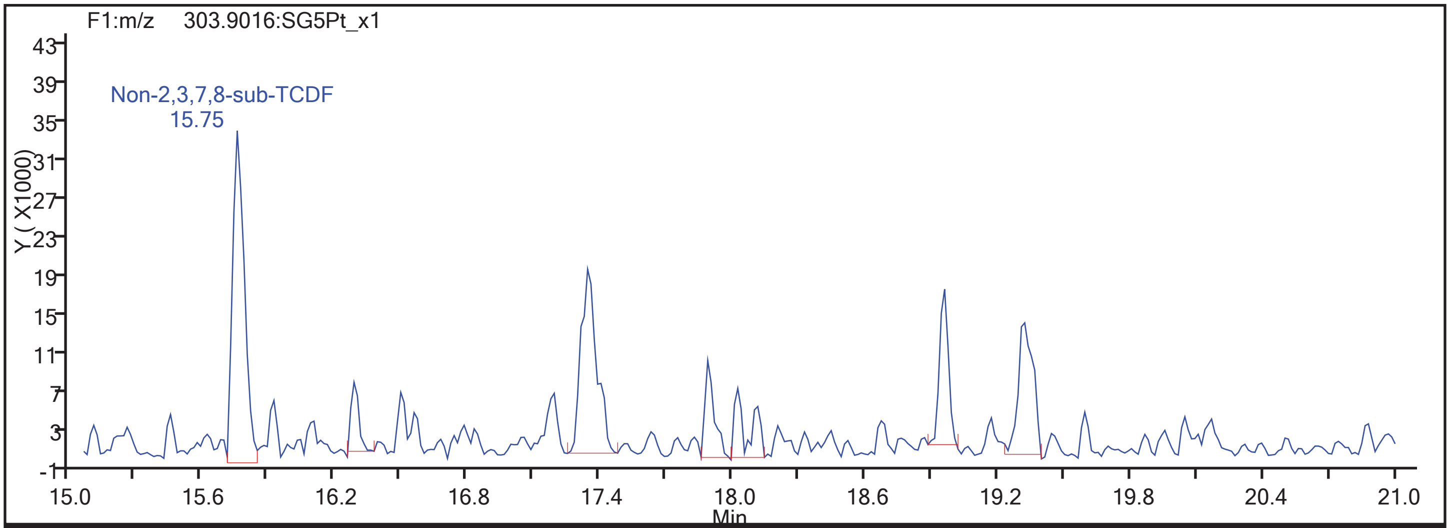


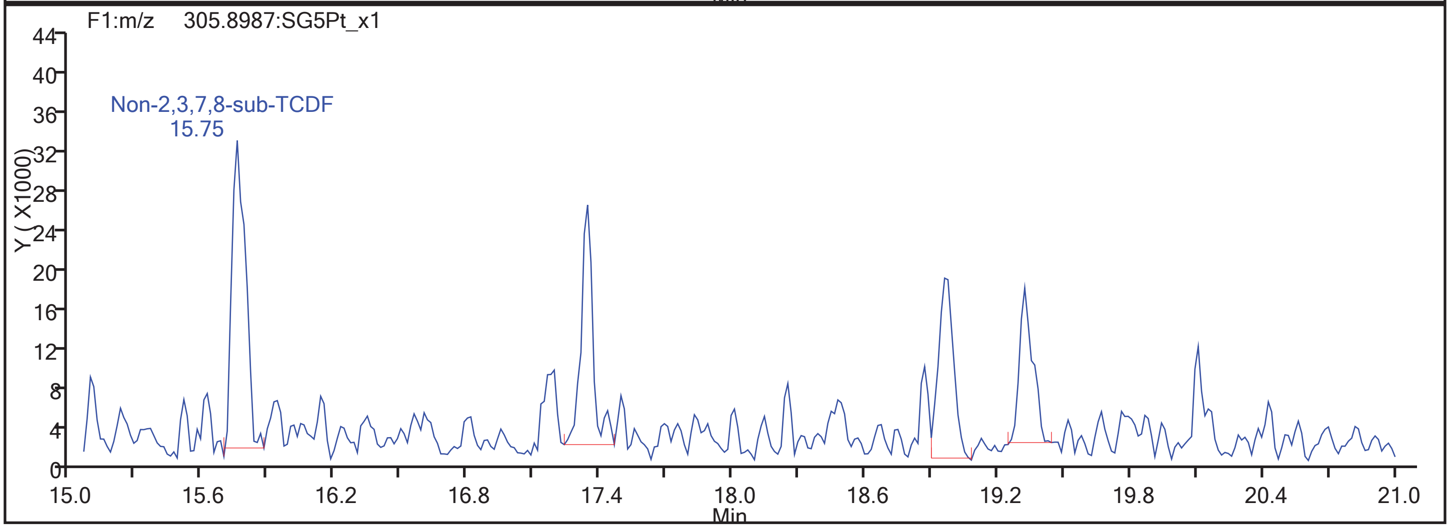
Report Date: 06-Dec-2017 15:13:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

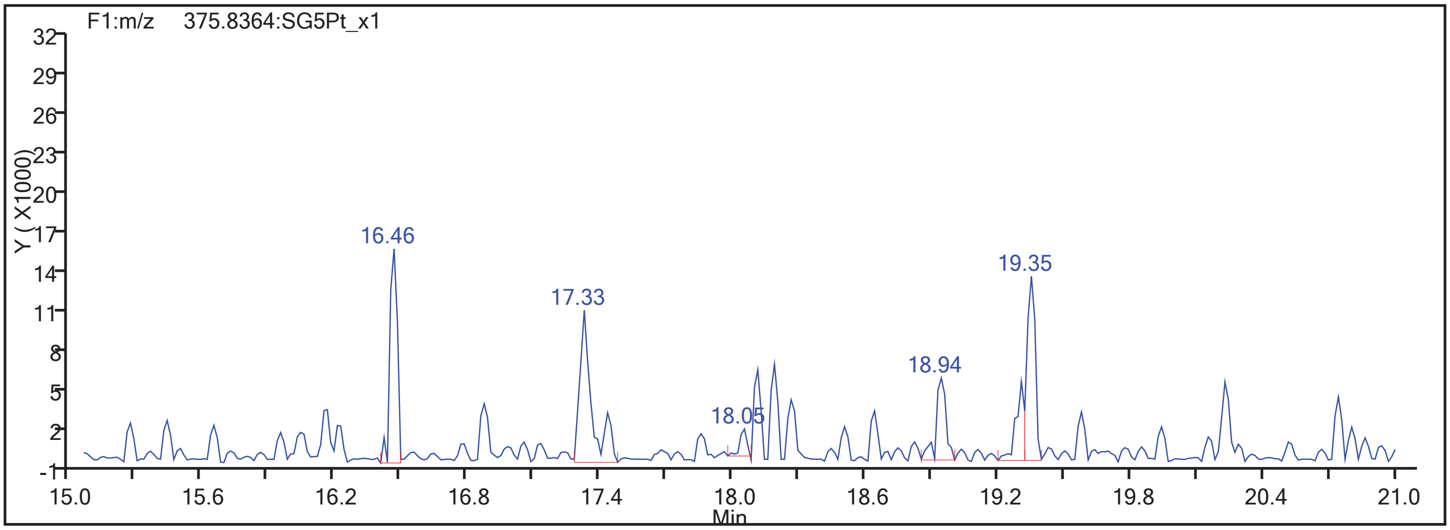
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d		
Injection Date:	19-Nov-2017 15:52:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	195575	Sample Line#:	86
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass

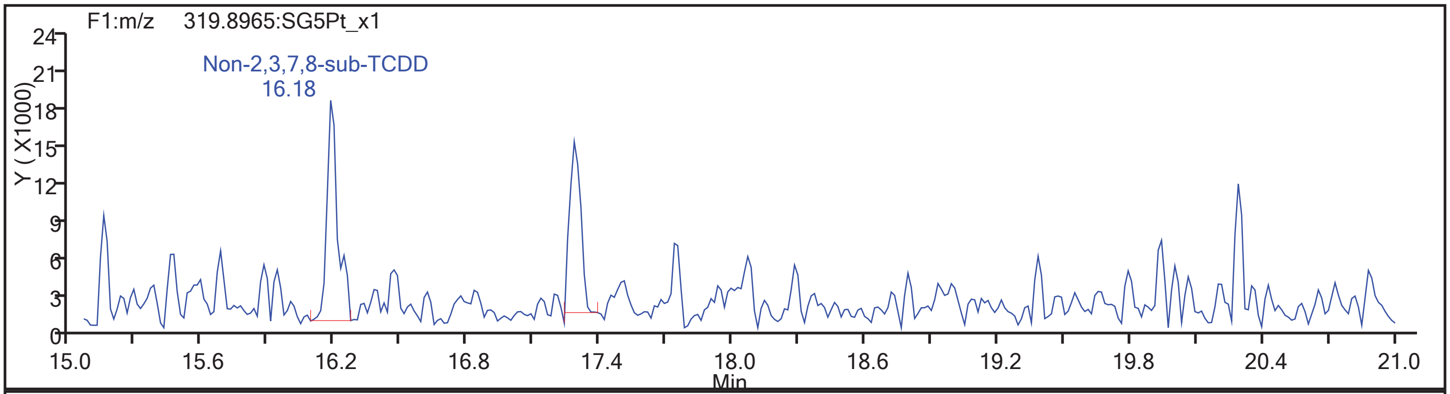


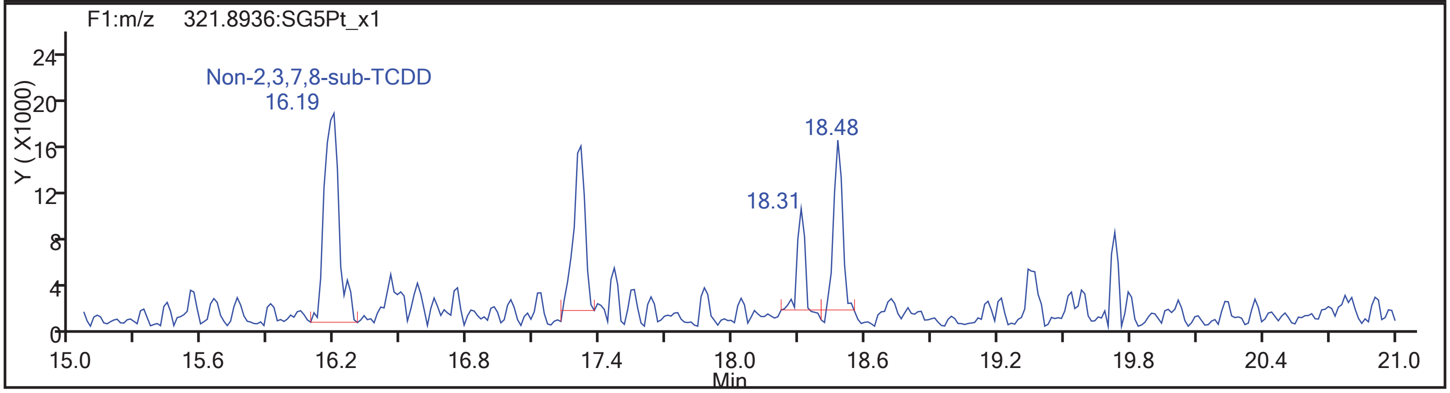
Report Date: 06-Dec-2017 15:13:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

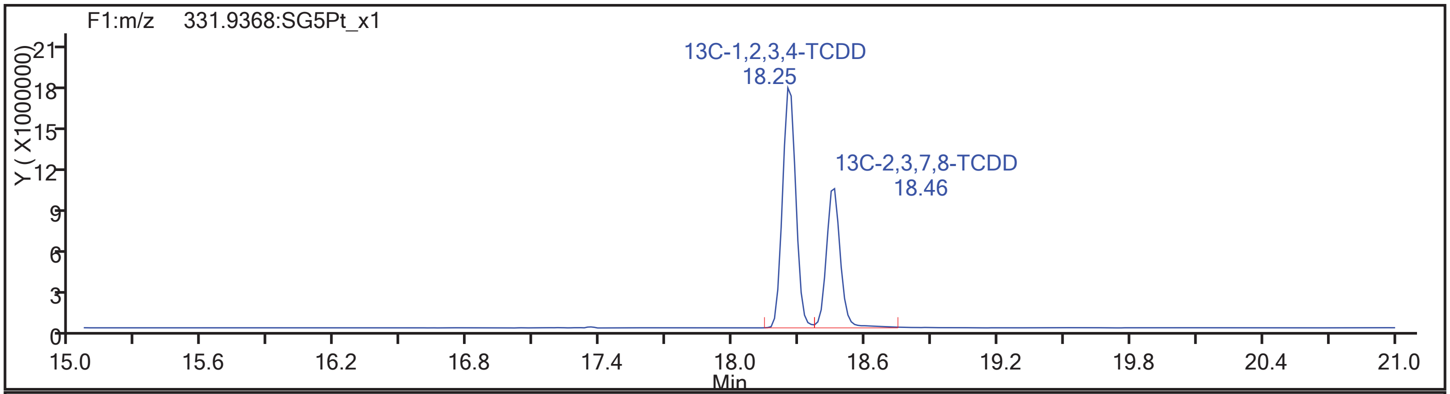
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d		
Injection Date:	19-Nov-2017 15:52:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	195575	Sample Line#:	86
Column Type:		Column Dia:	

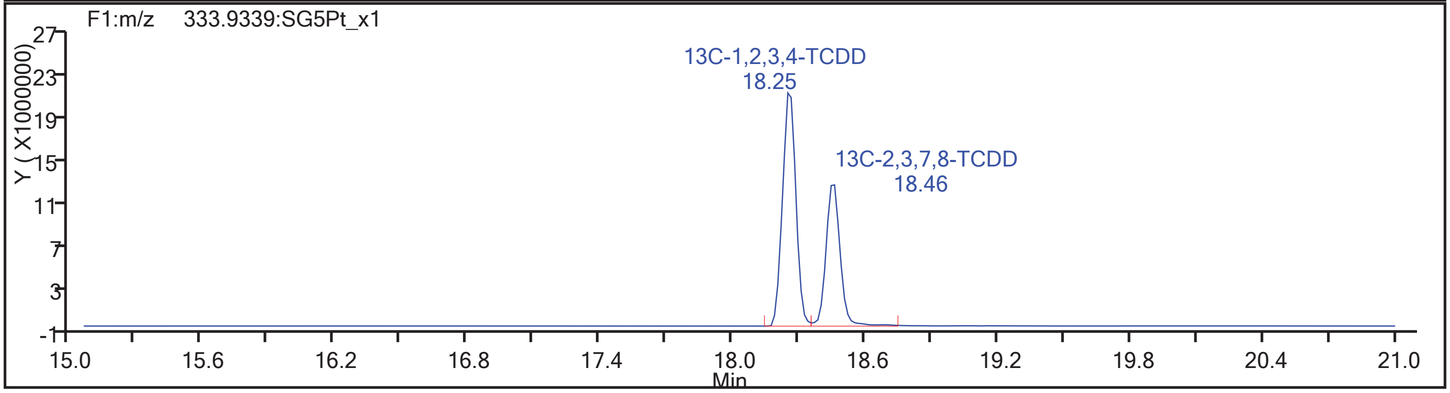
TCDD





TCDD Standards





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d

Injection Date: 19-Nov-2017 15:52:19

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS03NS

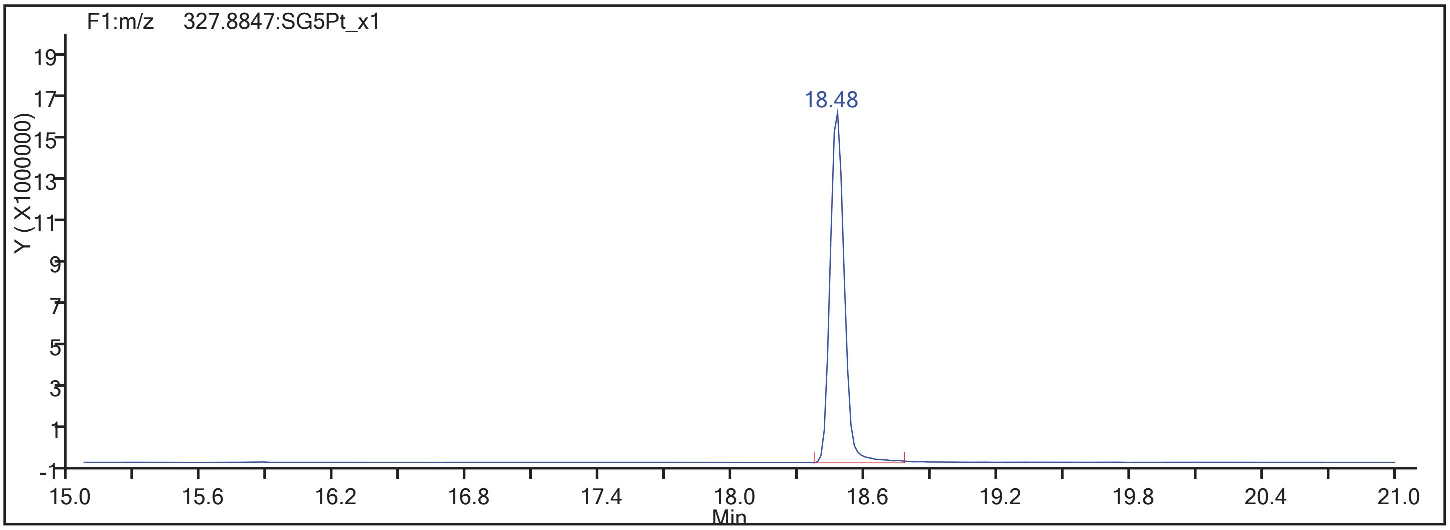
Worklist#: 195575

Sample Line#: 86

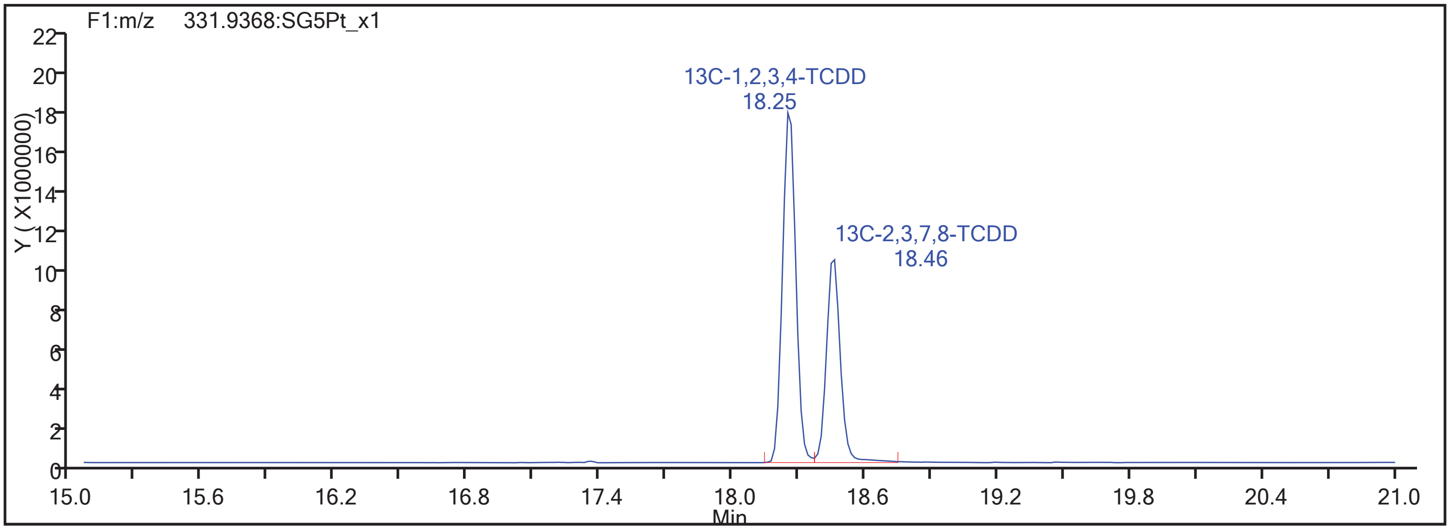
Column Type:

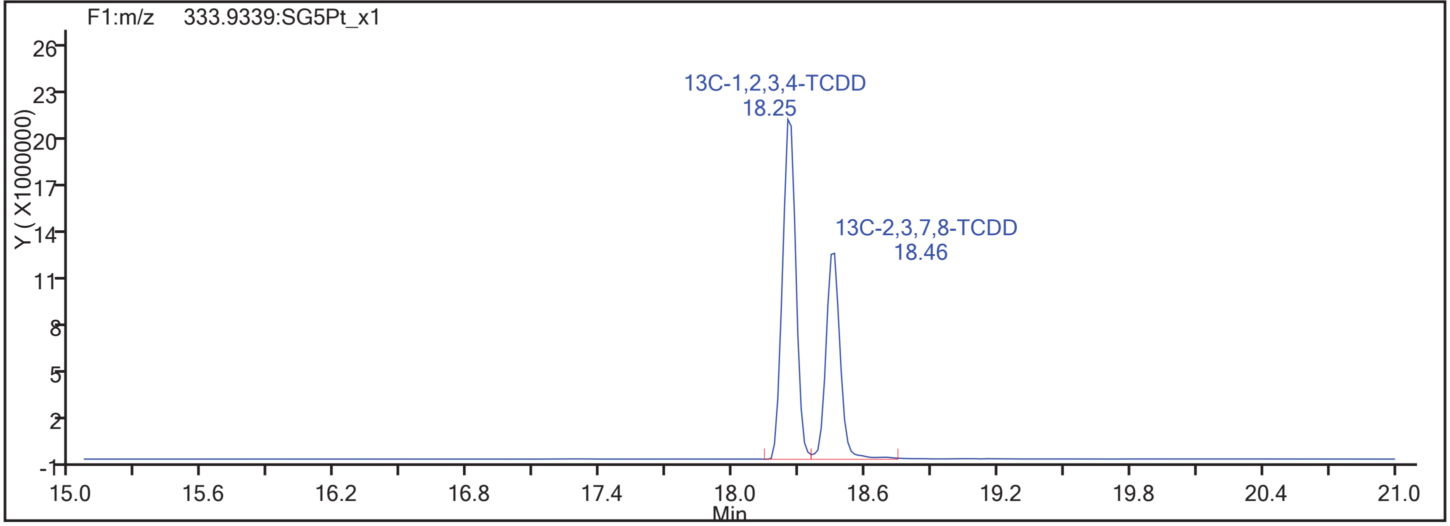
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 06-Dec-2017 15:13:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d

Injection Date: 19-Nov-2017 15:52:19

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS03NS

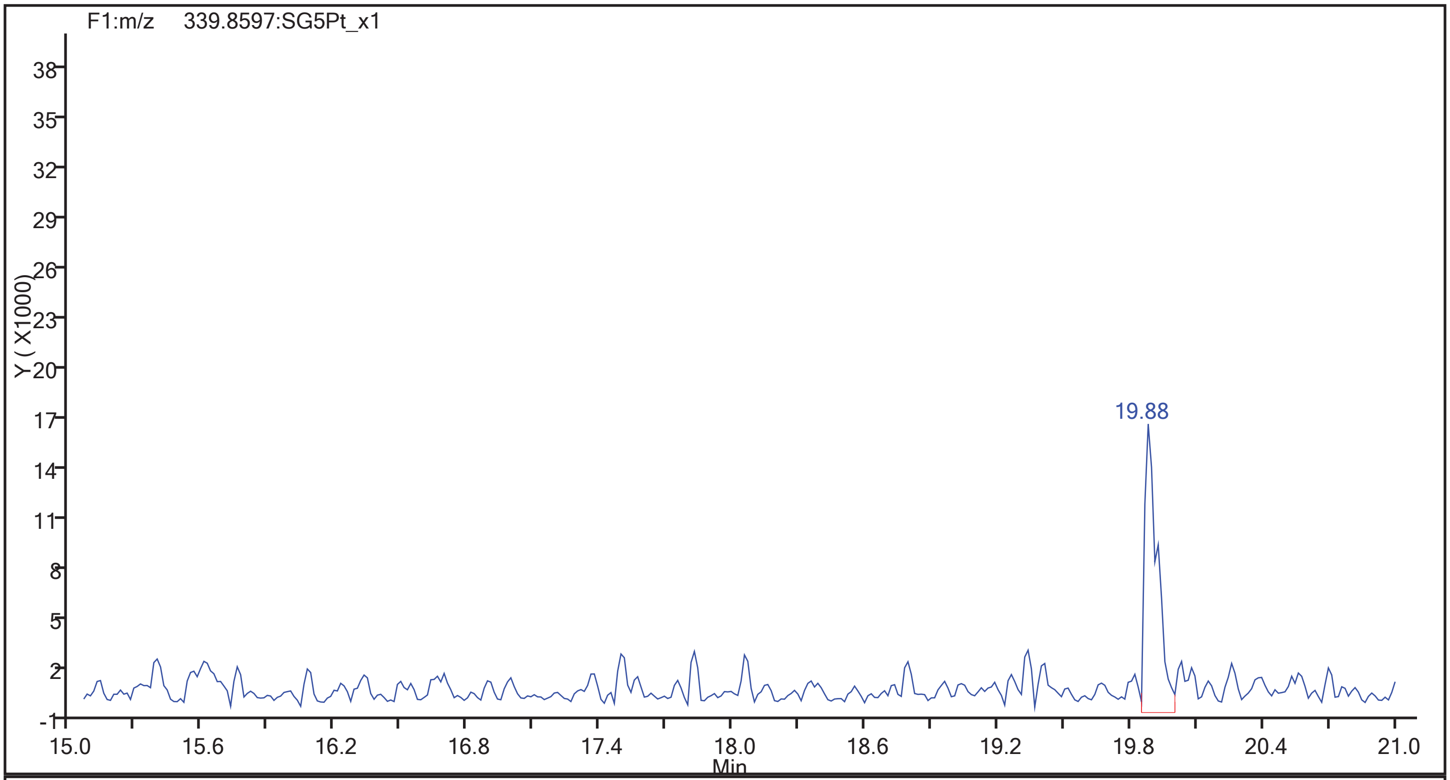
Worklist#: 195575

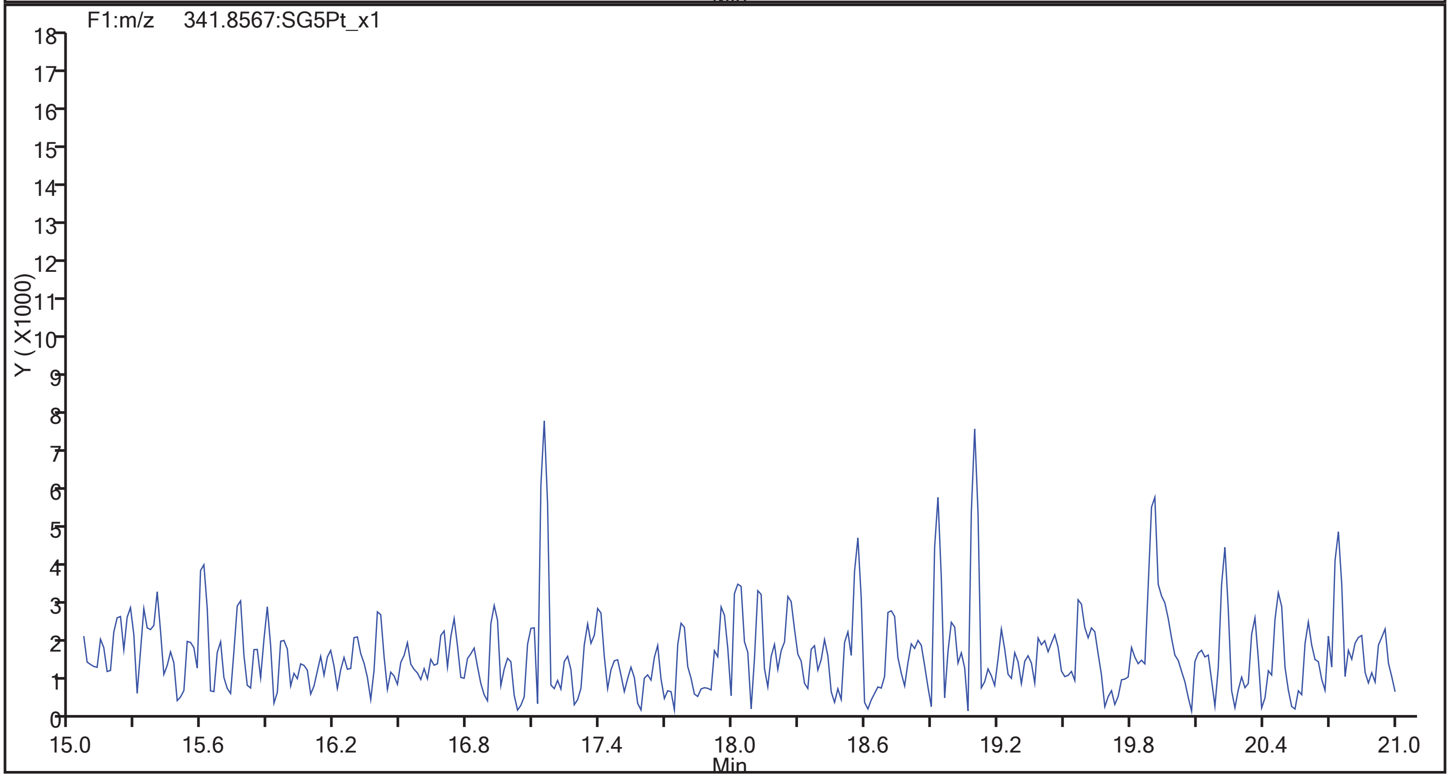
Sample Line#: 86

Column Type:

Column Dia:

F1 PeCDFs



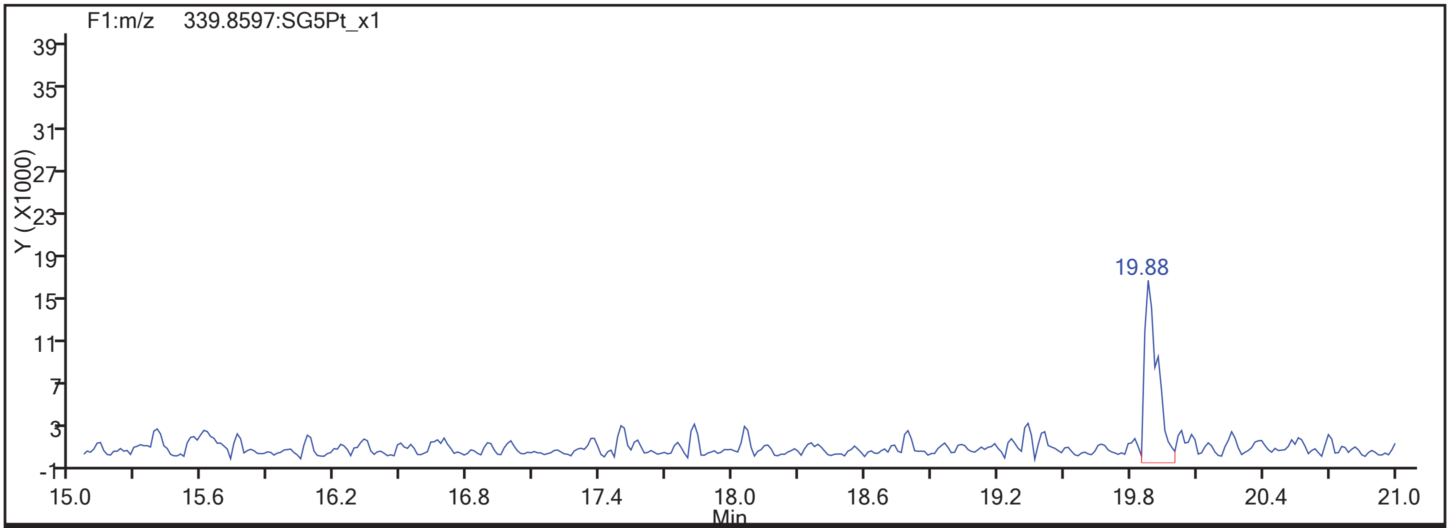


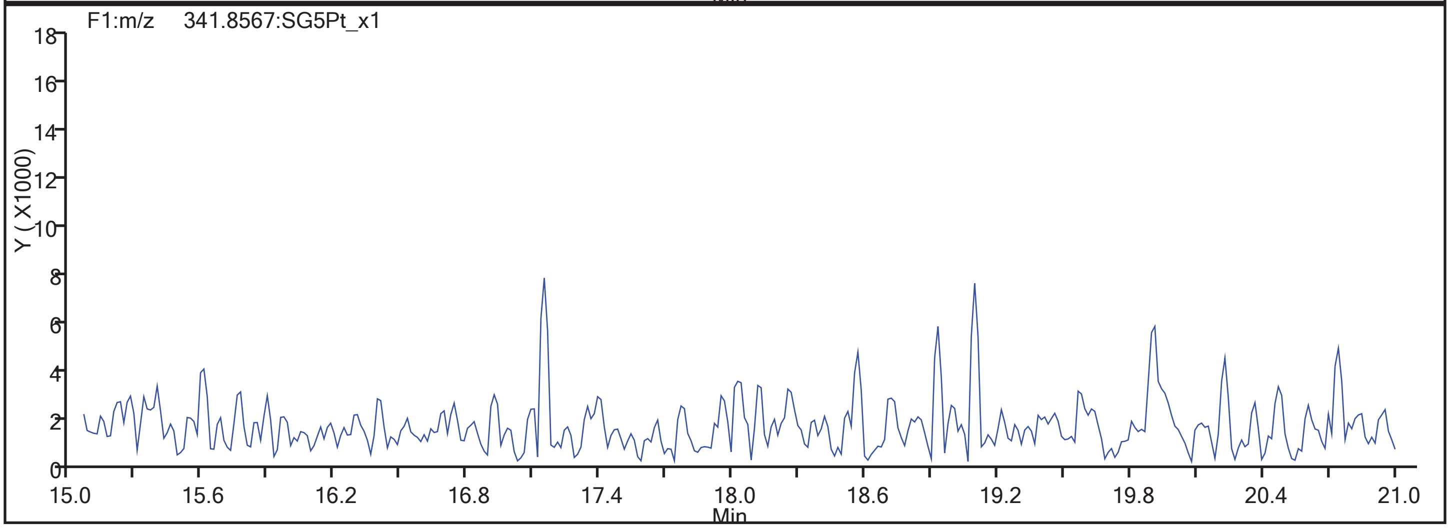
Report Date: 06-Dec-2017 15:13:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

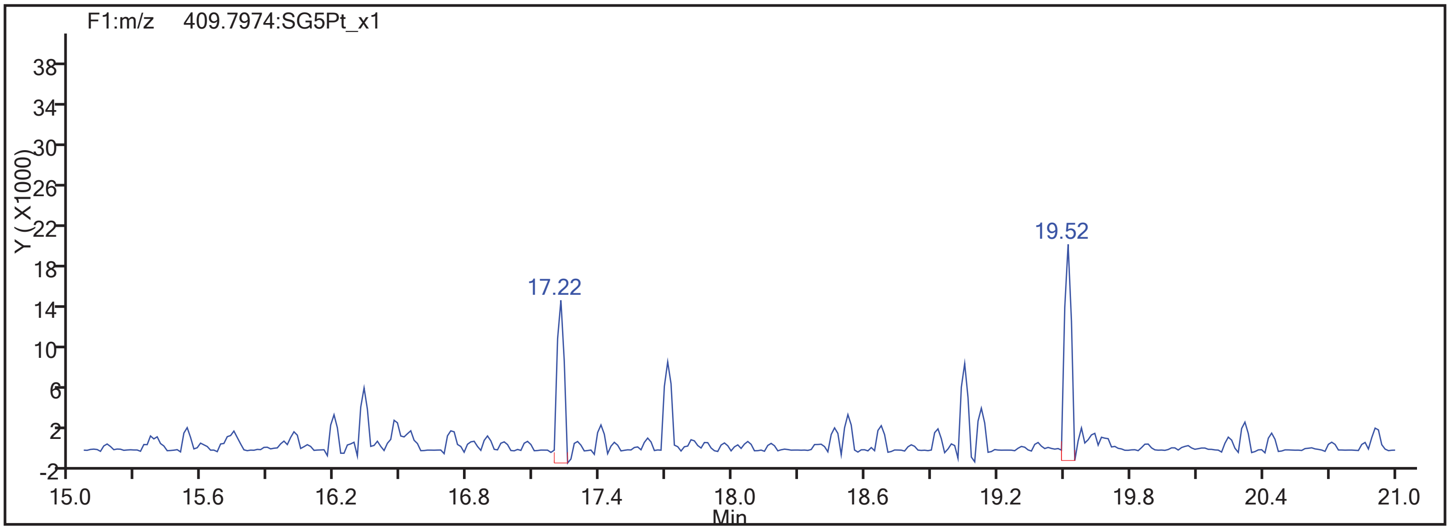
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d		
Injection Date:	19-Nov-2017 15:52:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	195575	Sample Line#:	86
Column Type:		Column Dia:	

F1 PeCDFs





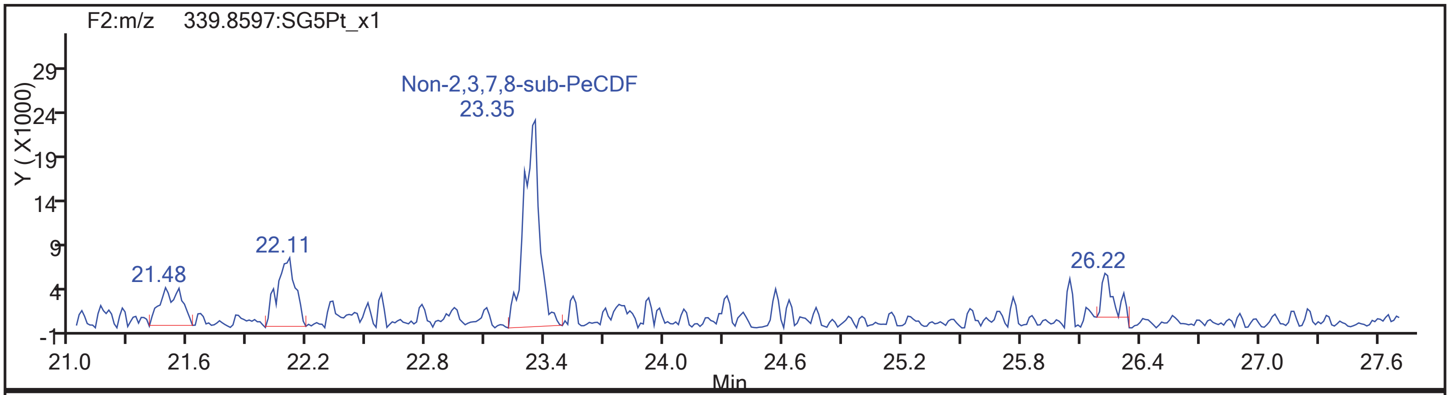
F1 PeCDFs Interference Mass

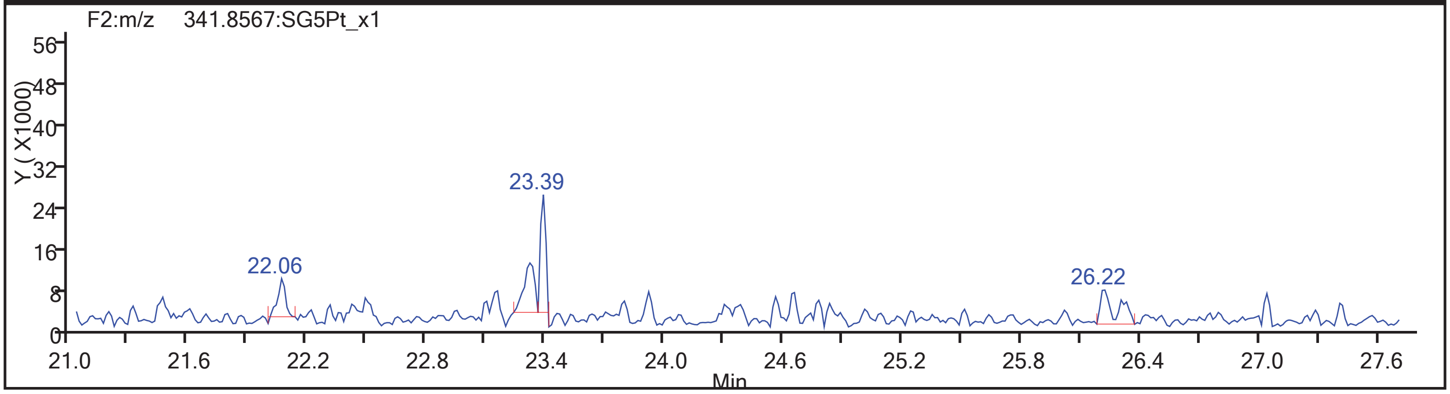


TestAmerica Sacramento

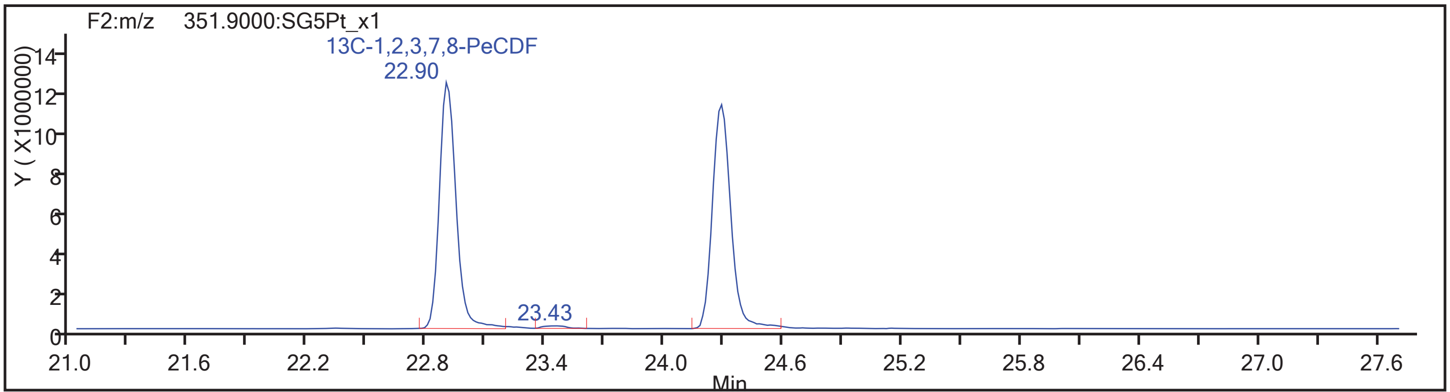
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_86.d		
Injection Date:	19-Nov-2017 15:52:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	195575	Sample Line#:	86
Column Type:		Column Dia:	

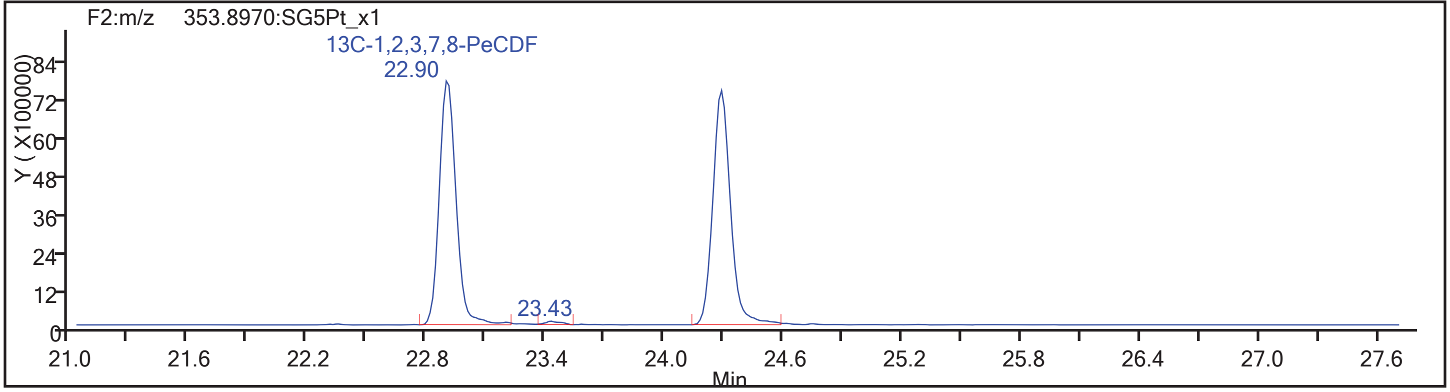
PeCDF





PeCDF Standards





Report Date: 06-Dec-2017 15:13:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS03NS		
Worklist#:	195575	Sample Line#:	86
Column Type:		Column Dia:	

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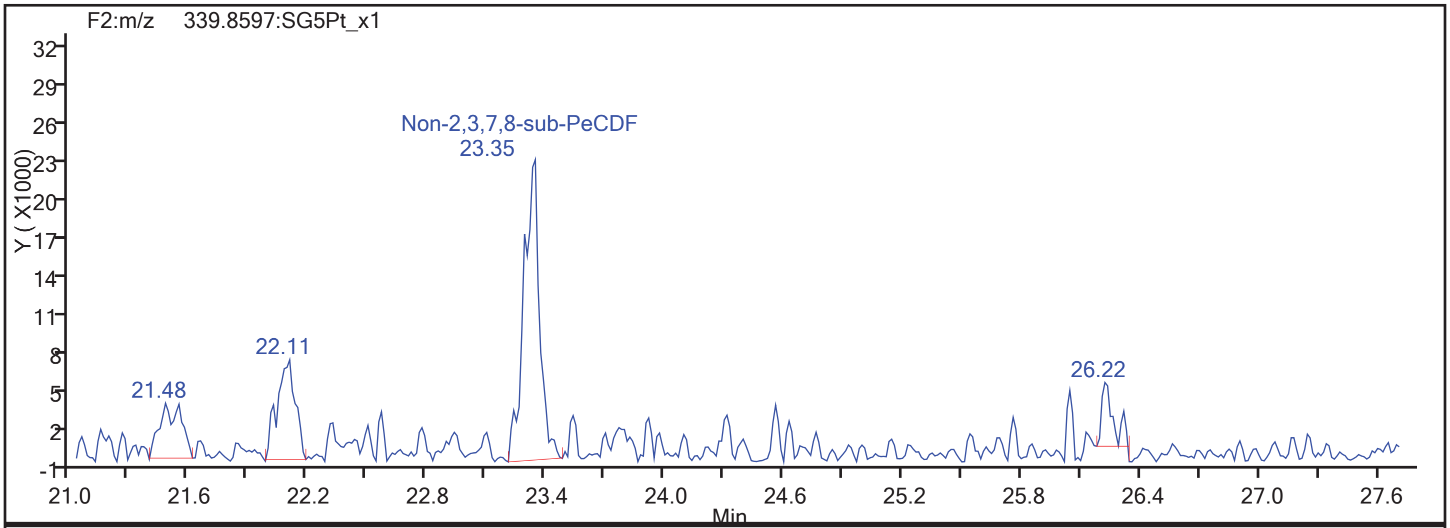

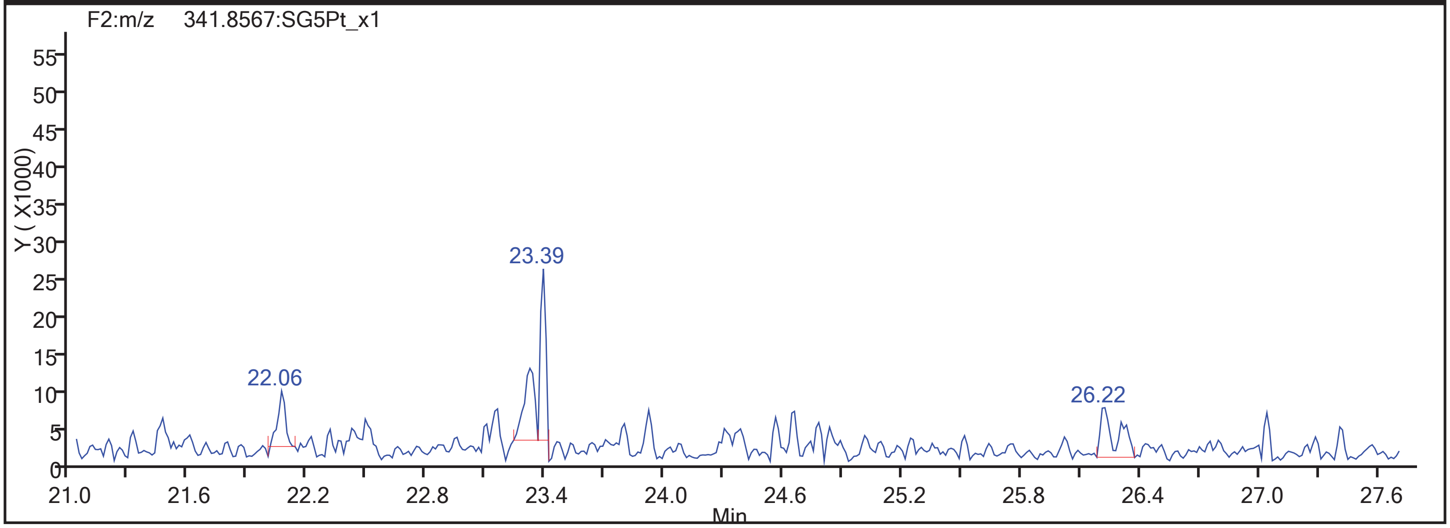

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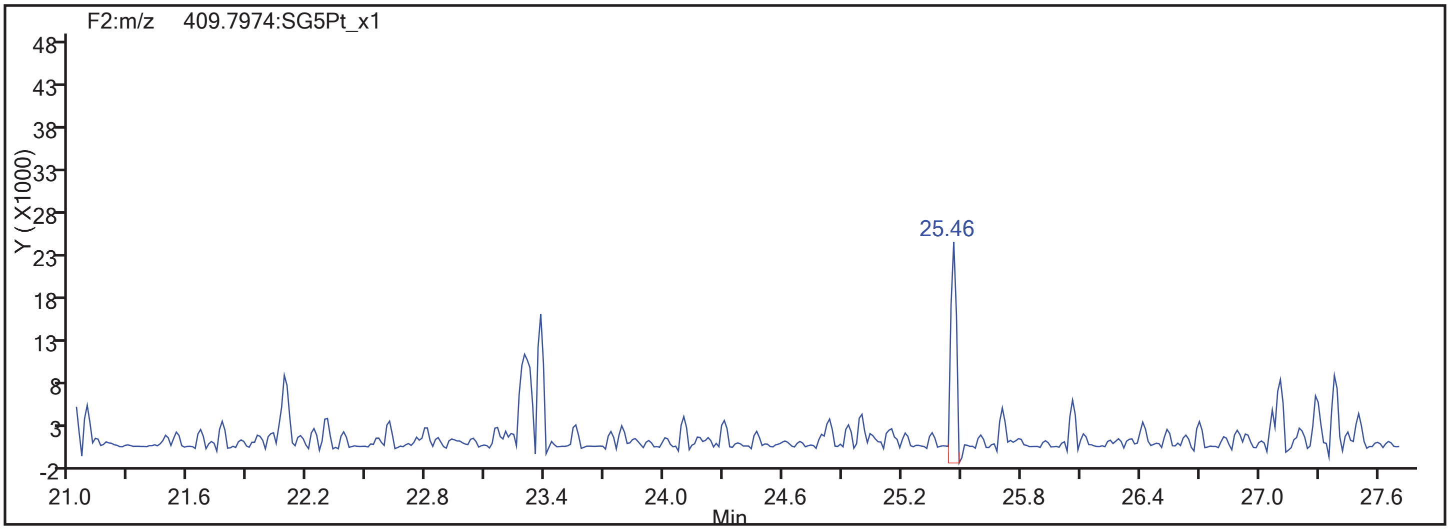

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TestAmerica Sacramento

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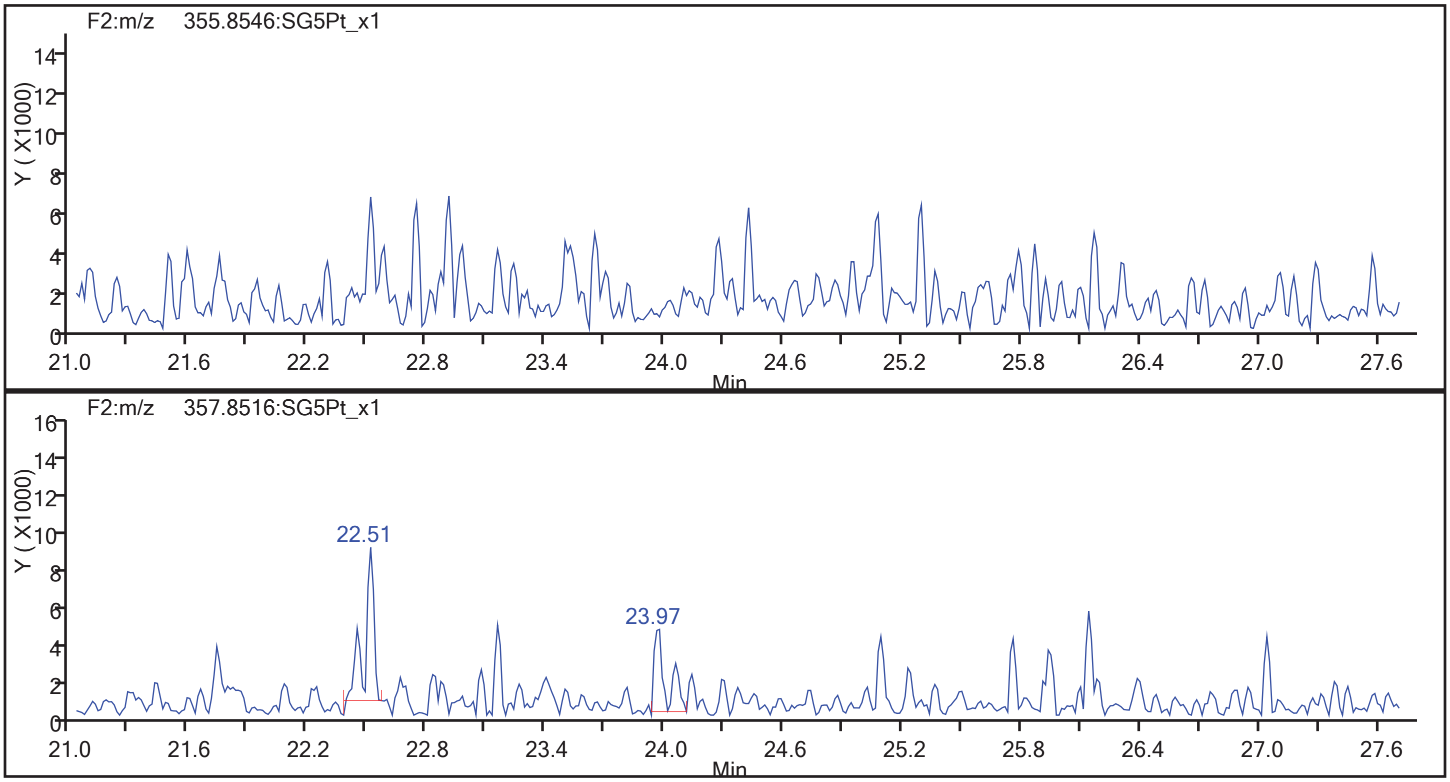

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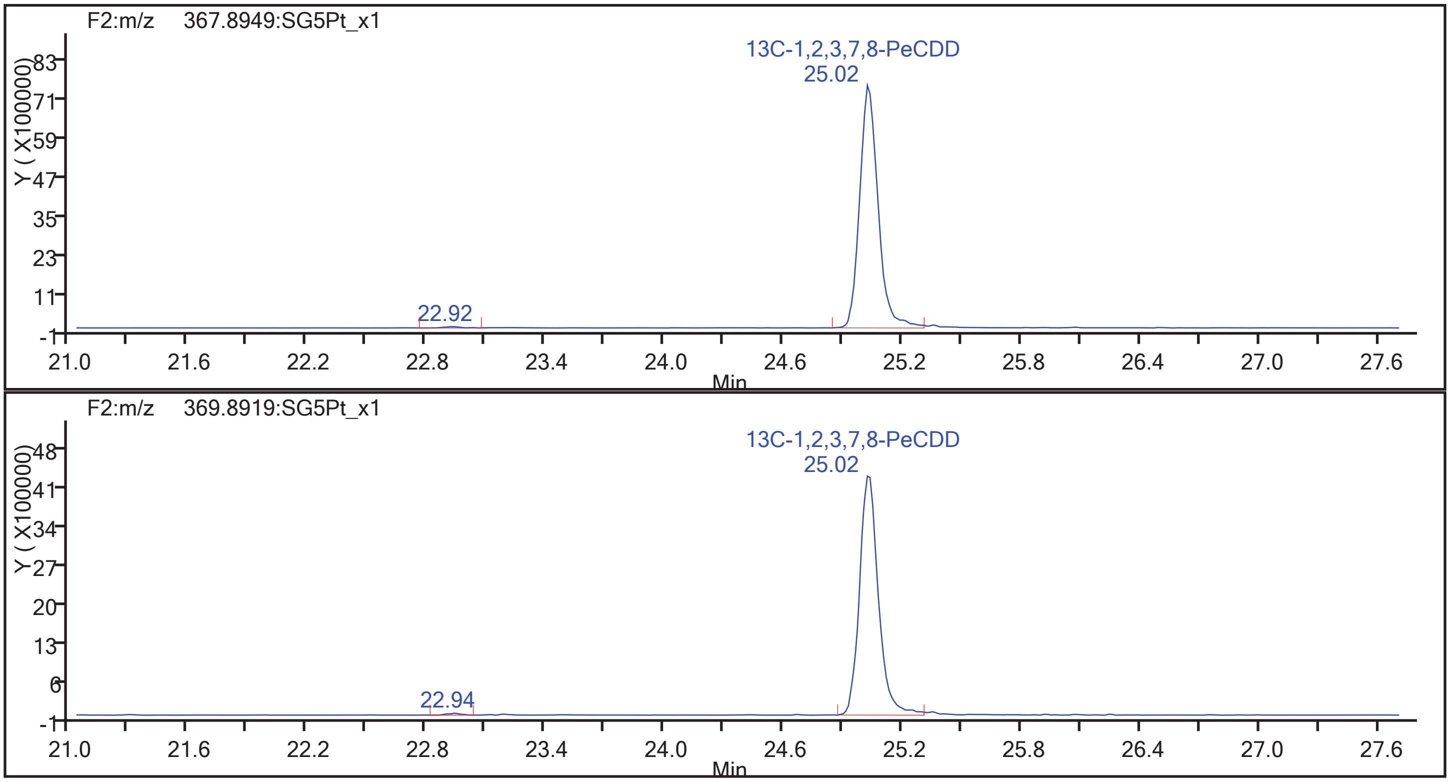

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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 15:52:19

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS03NS

Worklist#: 195575

Sample Line#: 86

Column Type:

Column Dia:

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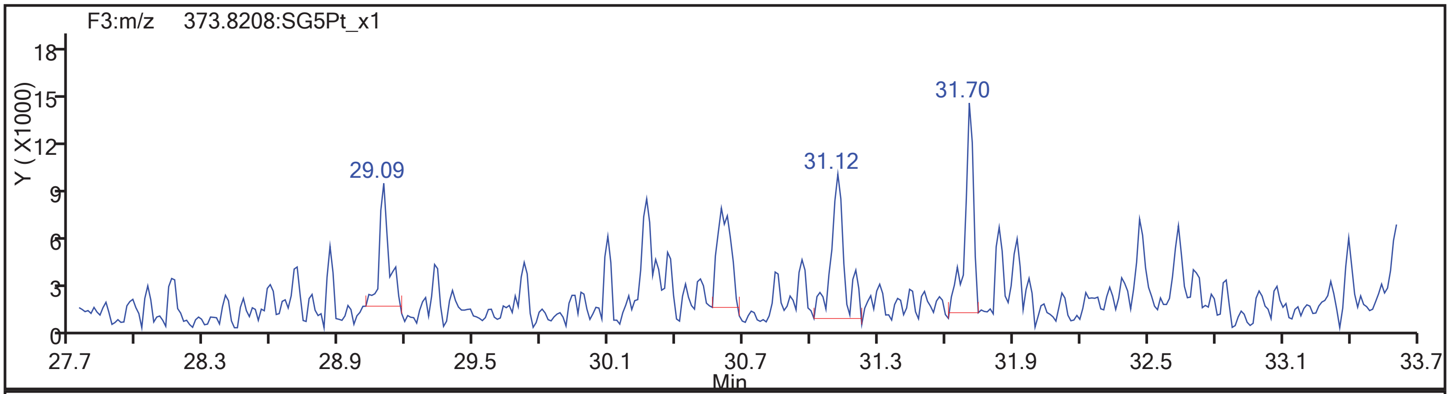

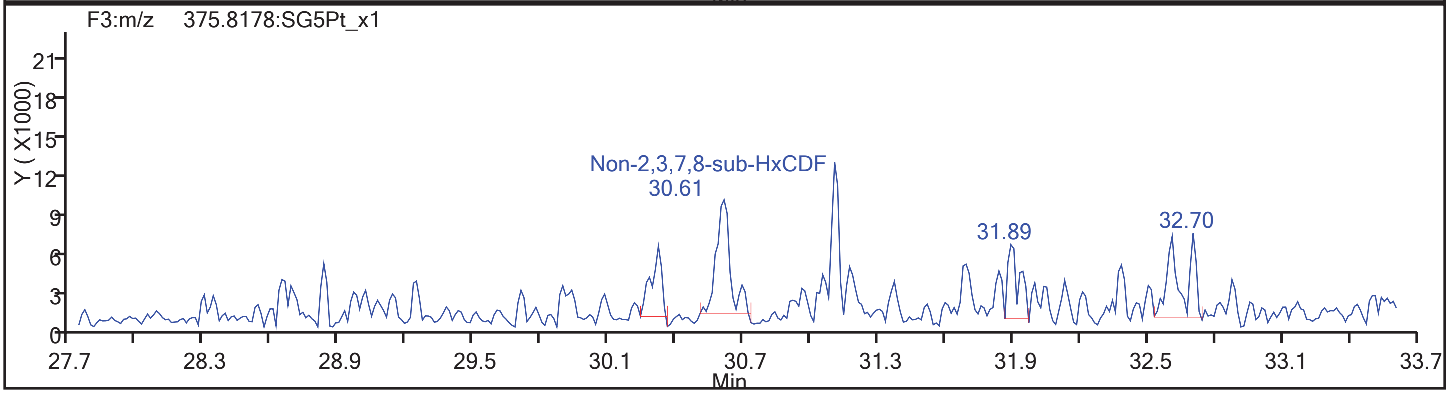

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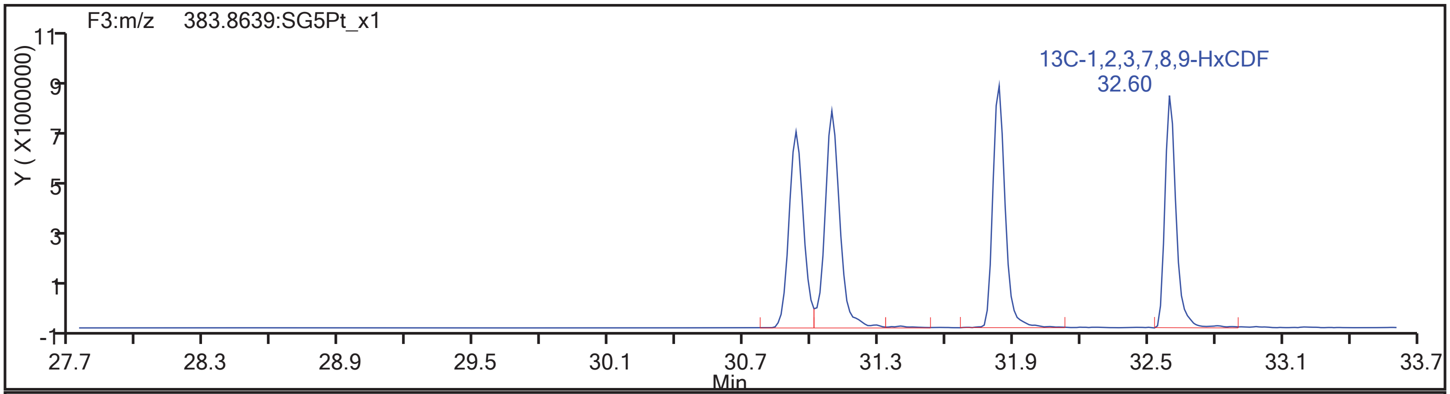

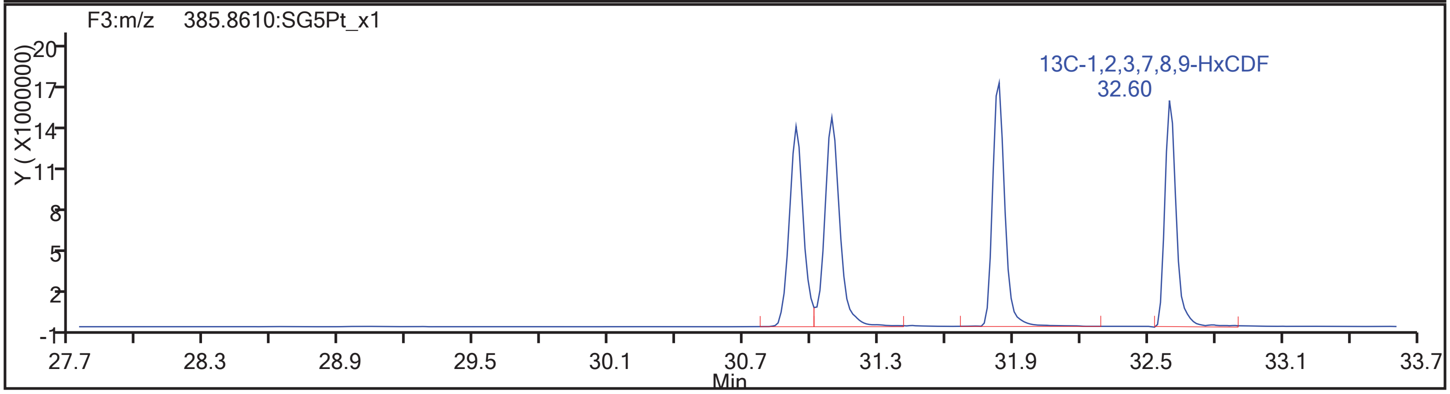

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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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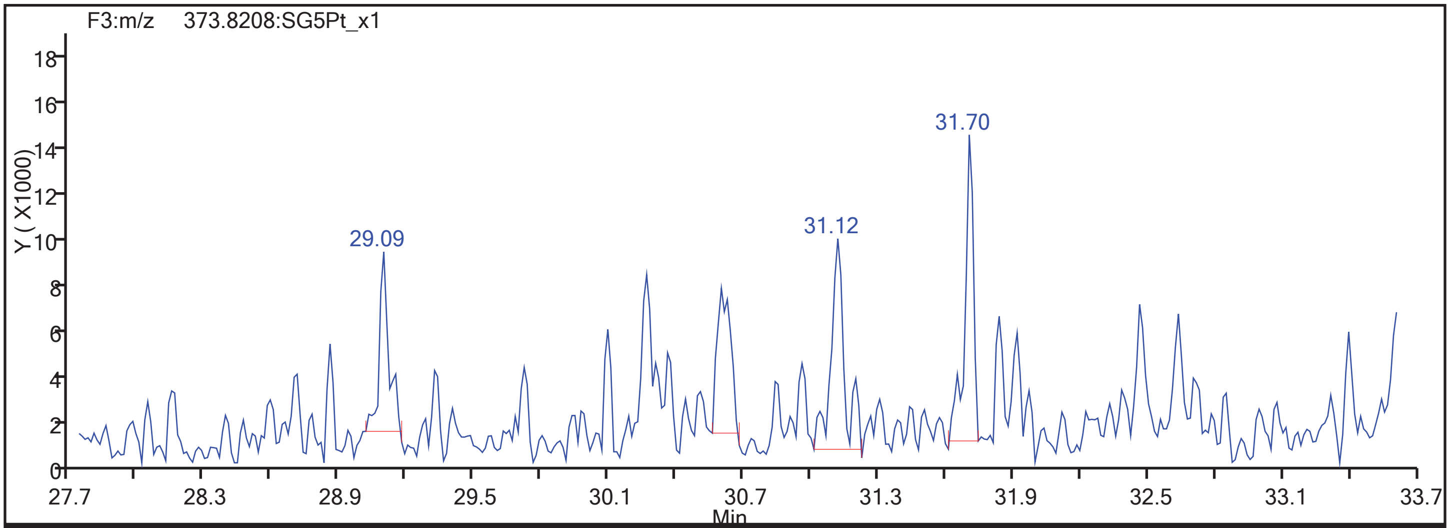
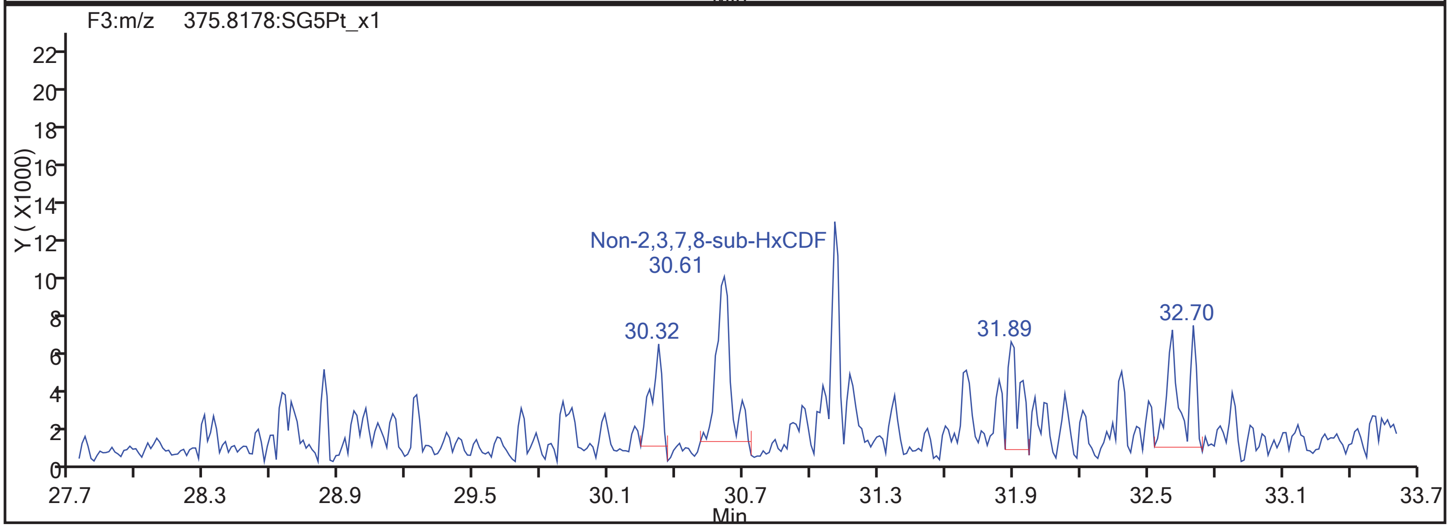
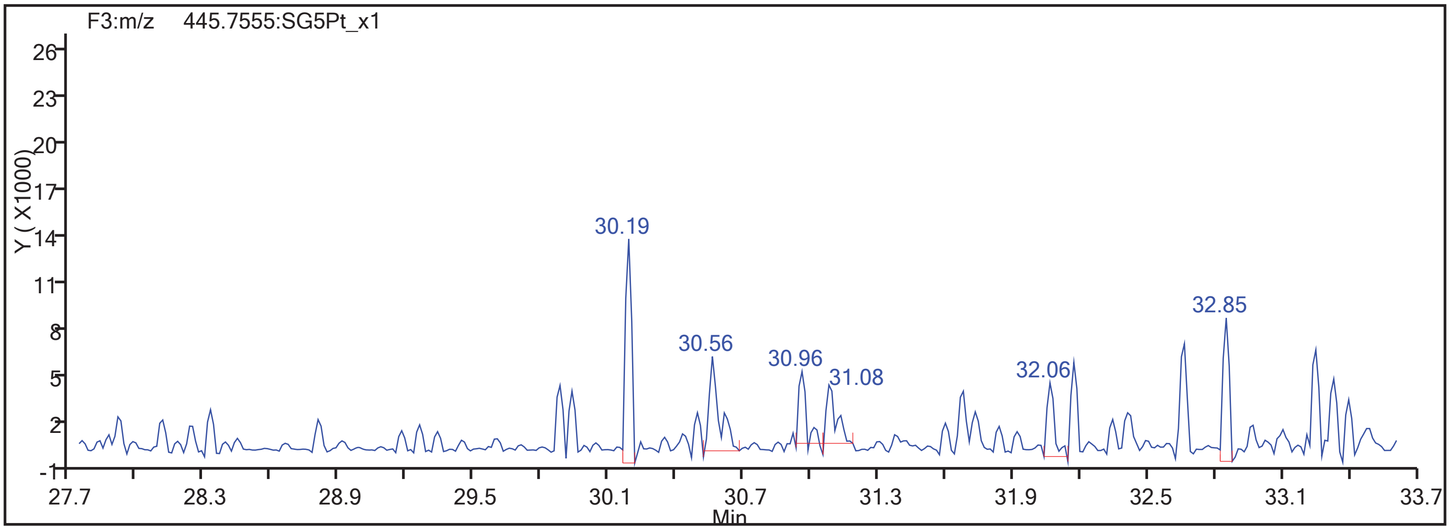




HxCDF Interference Mass



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TestAmerica Sacramento

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Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS03NS

Worklist#: 195575 Sample Line#: 86

Column Type: Column Dia:

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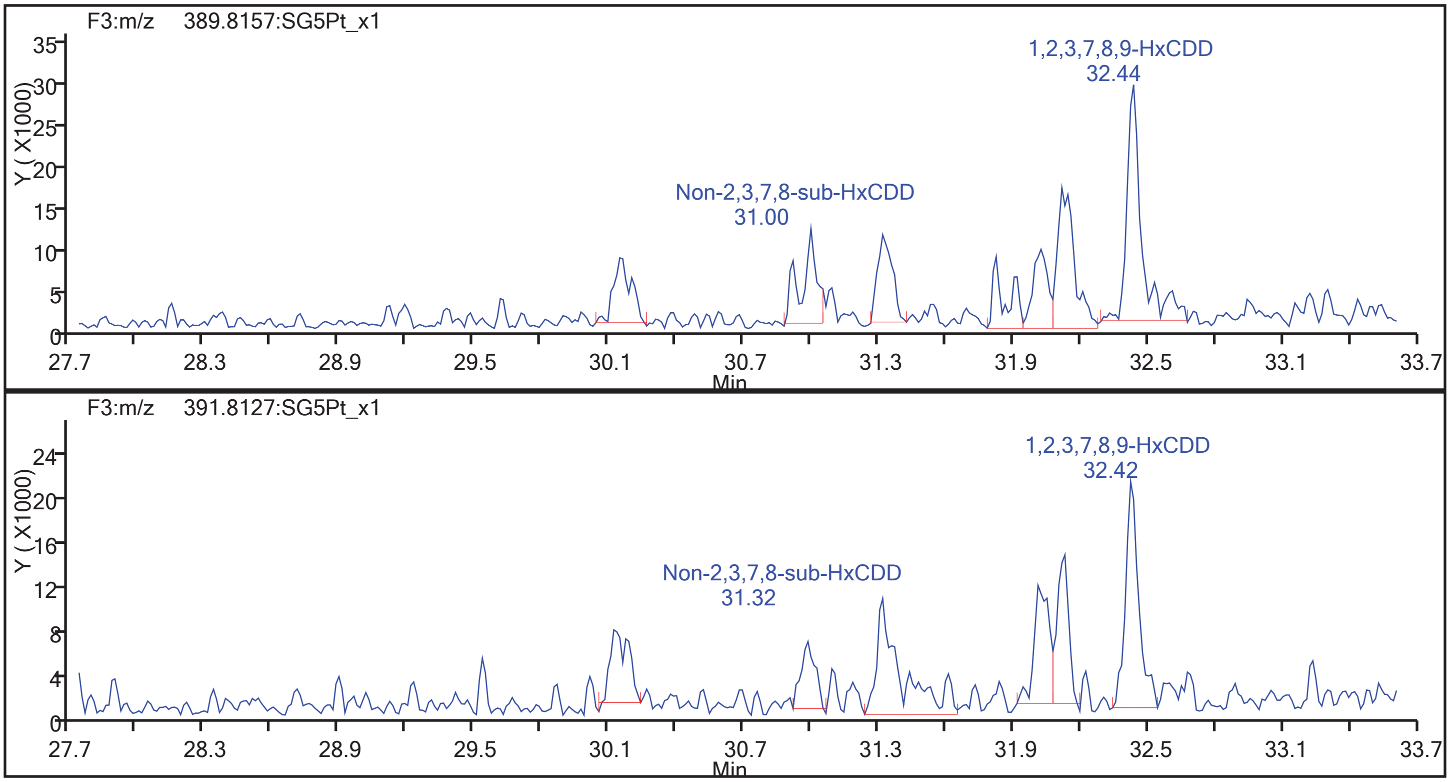
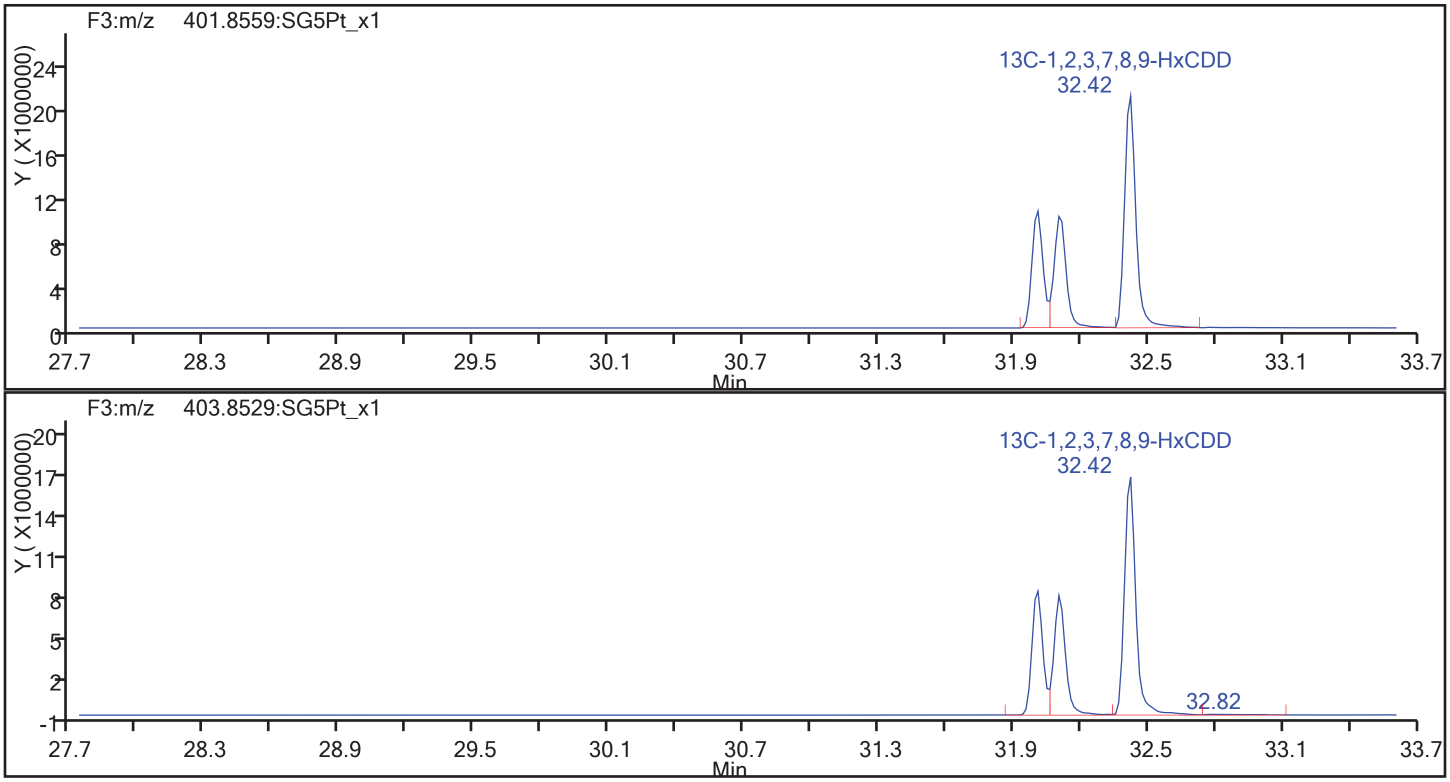


HxCDD Standards



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TestAmerica Sacramento

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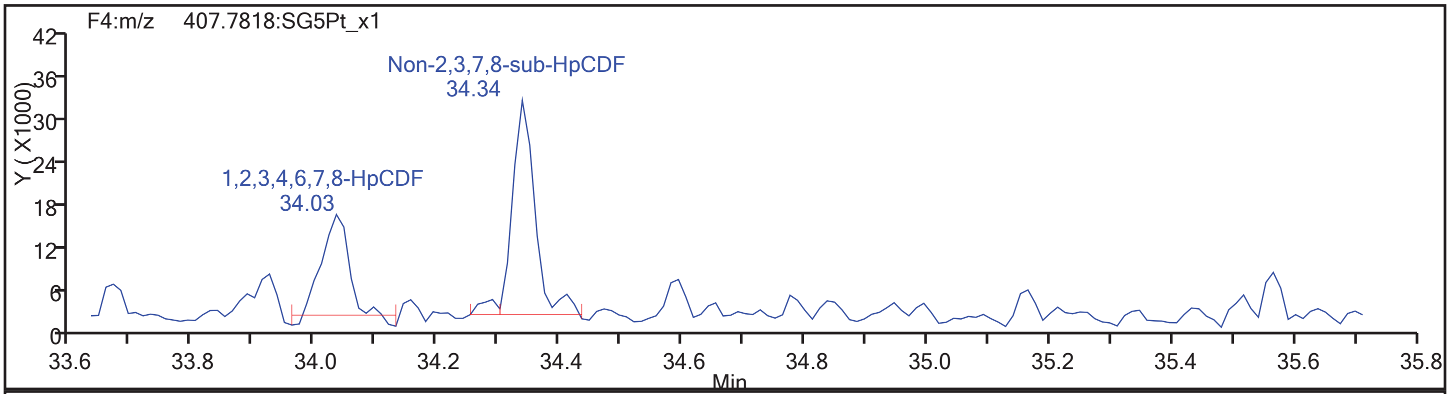

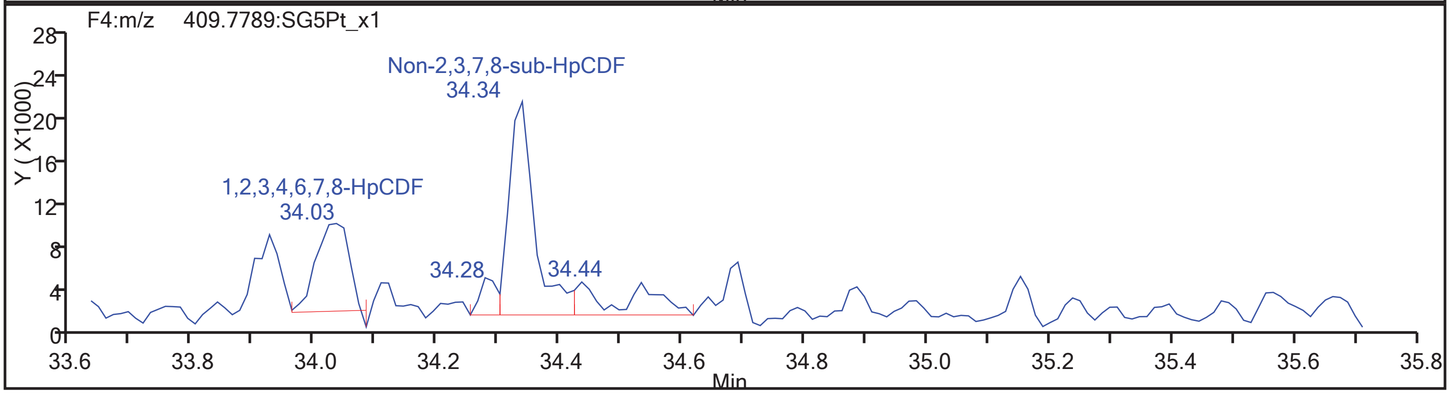

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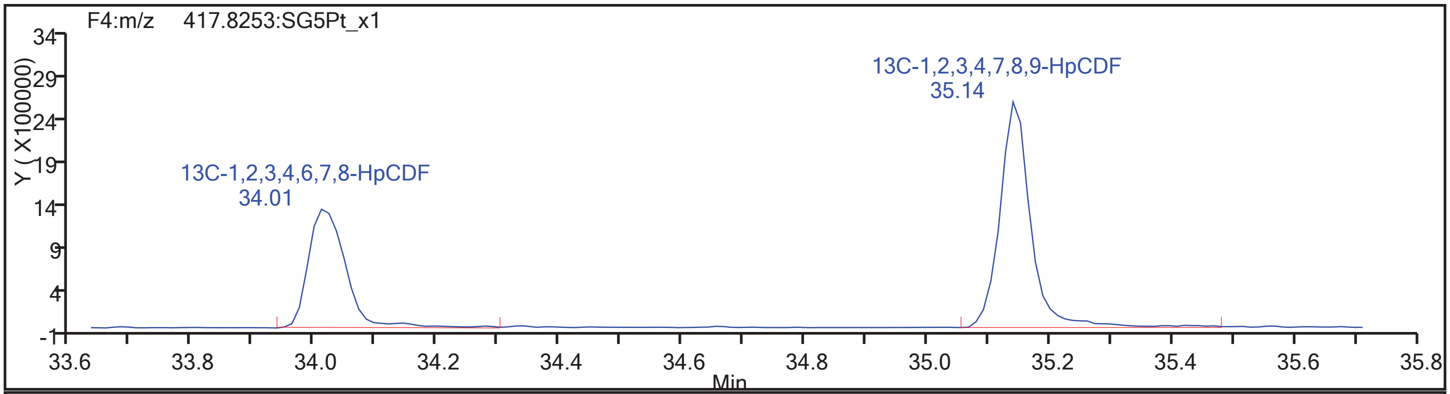

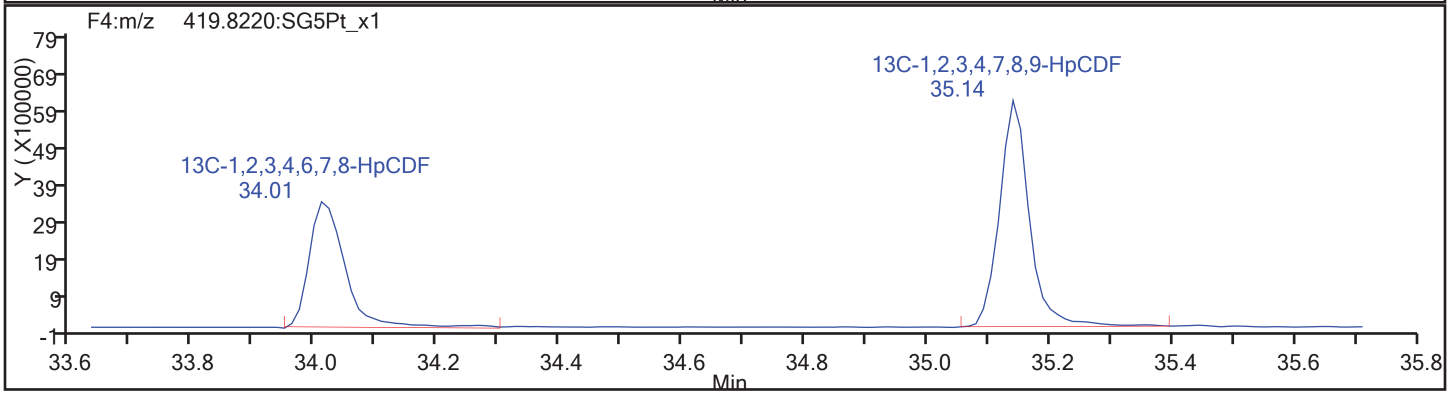

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TestAmerica Sacramento

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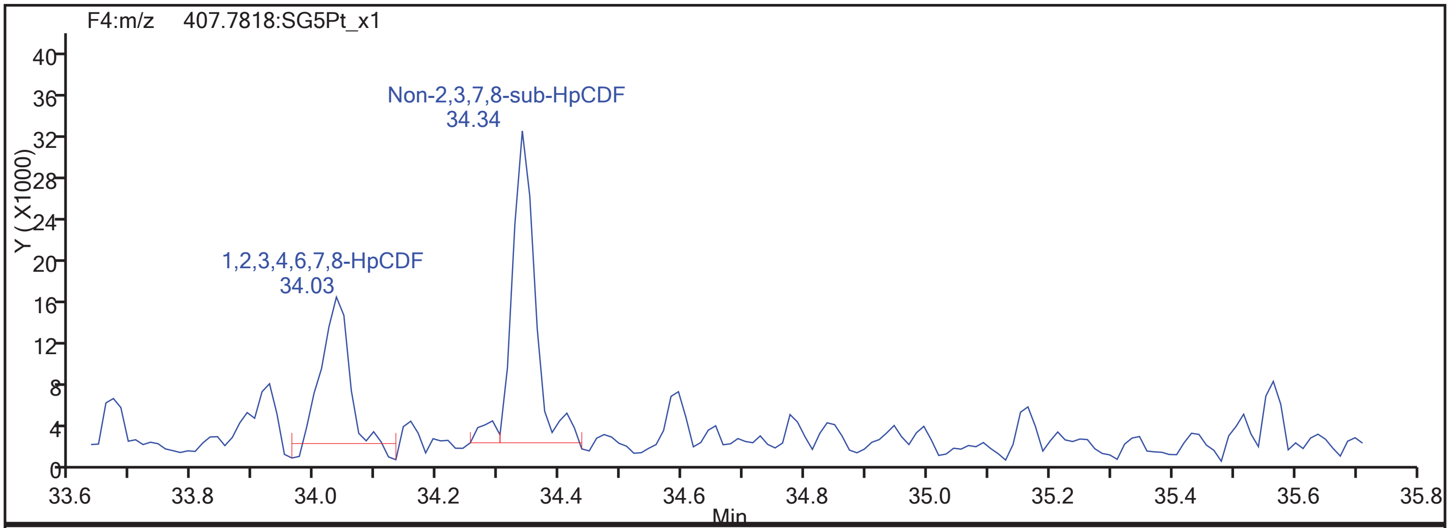
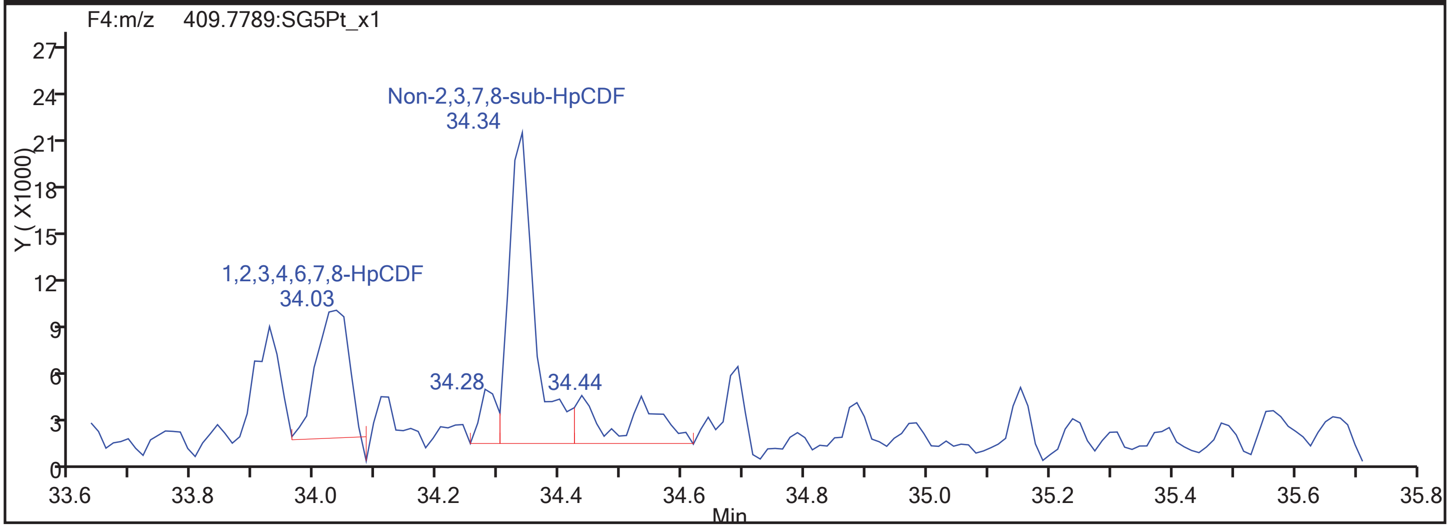
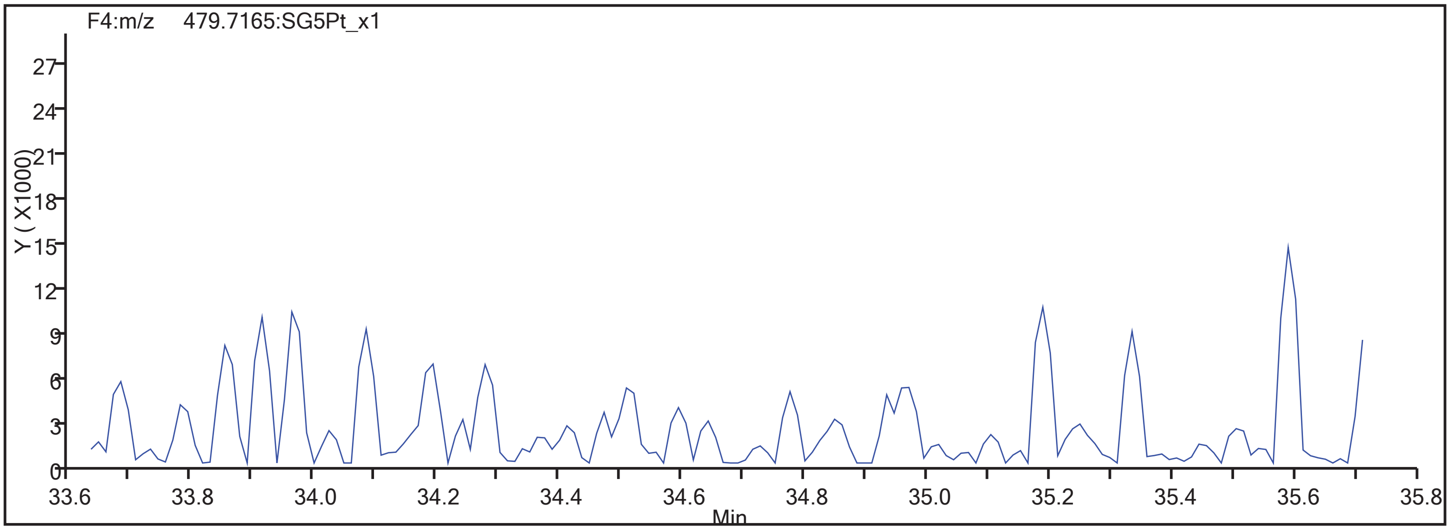




HpCDF Interference Mass



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TestAmerica Sacramento

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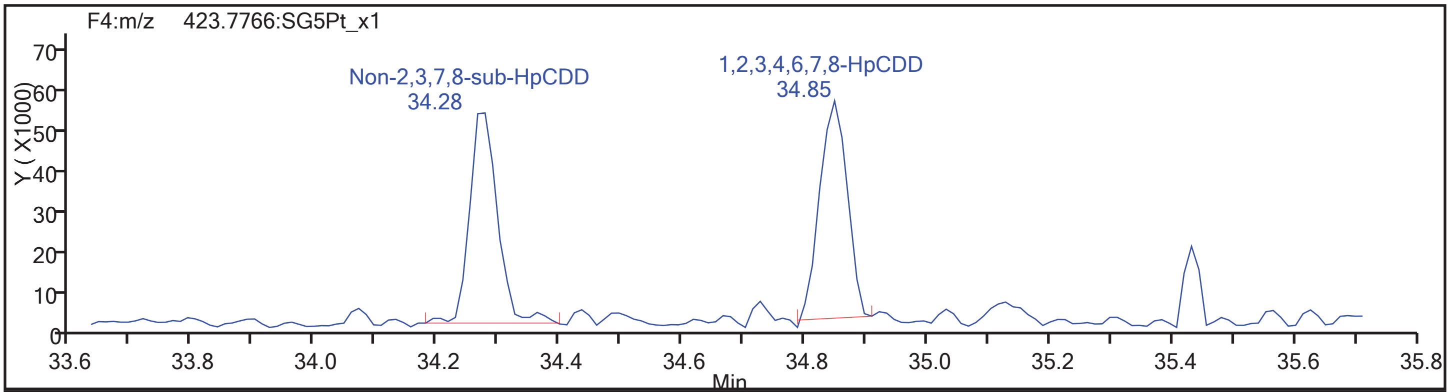

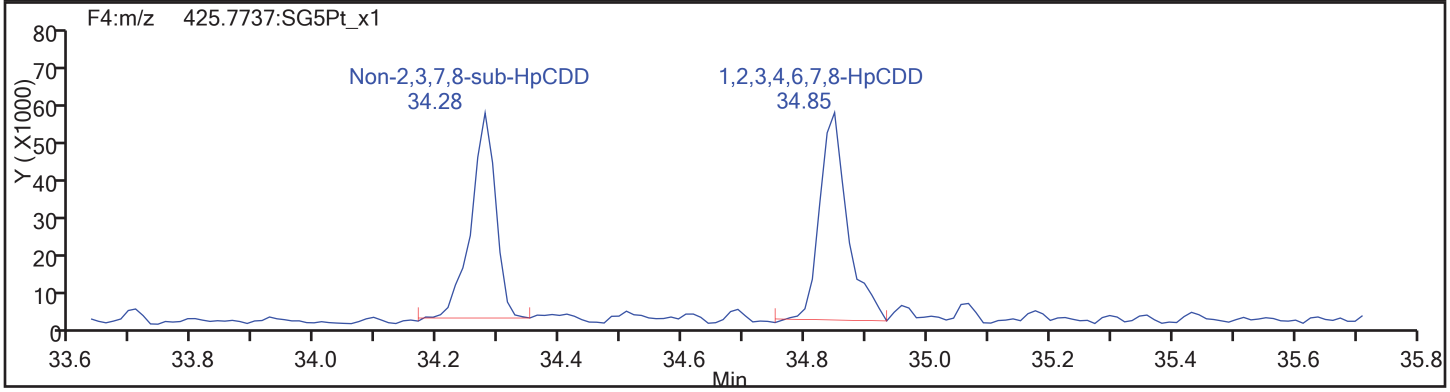

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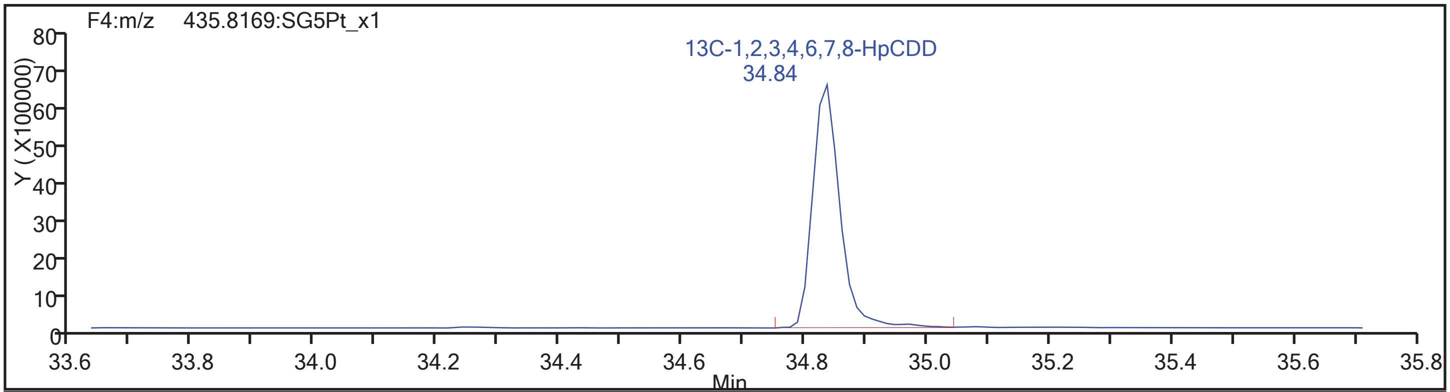

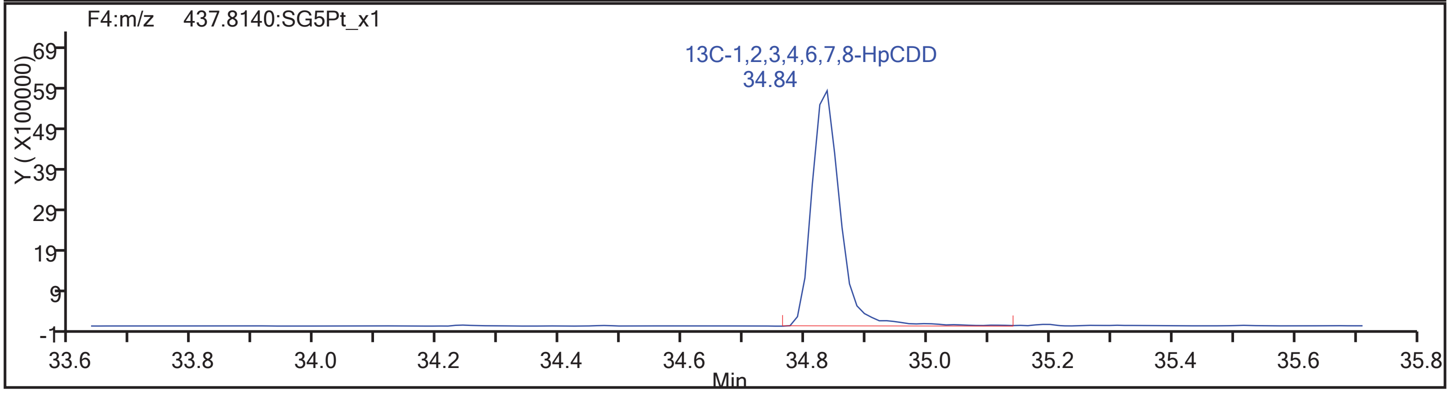

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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 15:52:19 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS03NS

Worklist#: 195575 Sample Line#: 86

Column Type: Column Dia:

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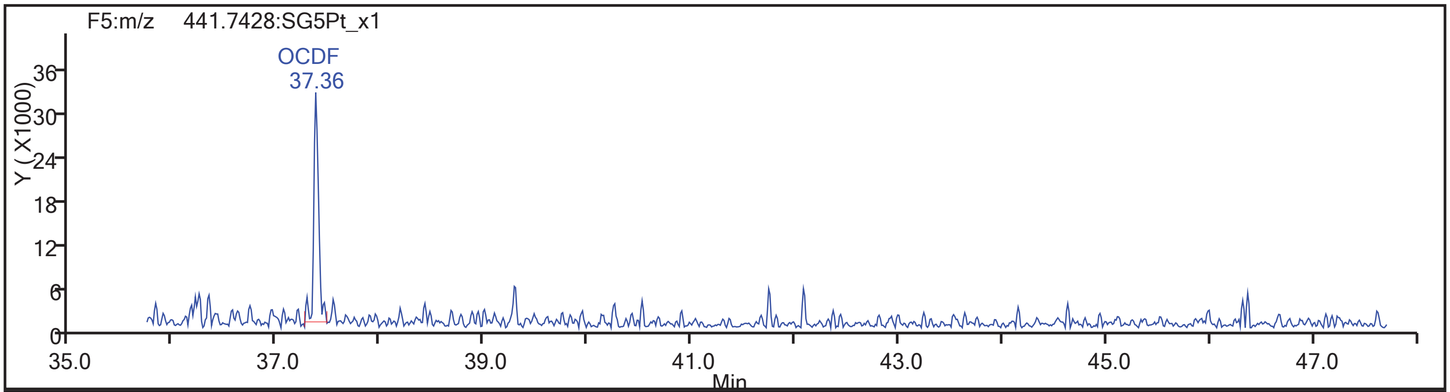

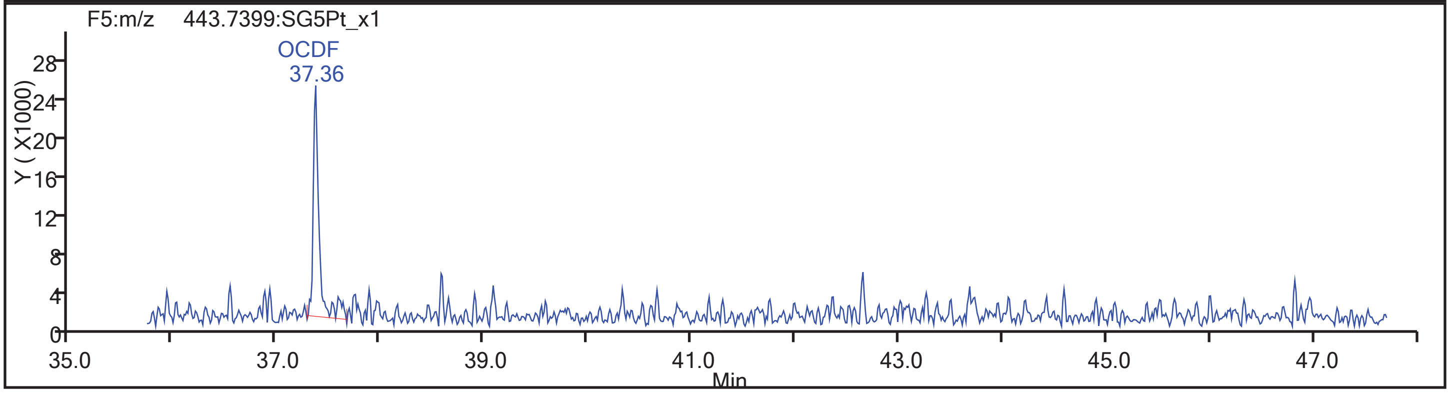

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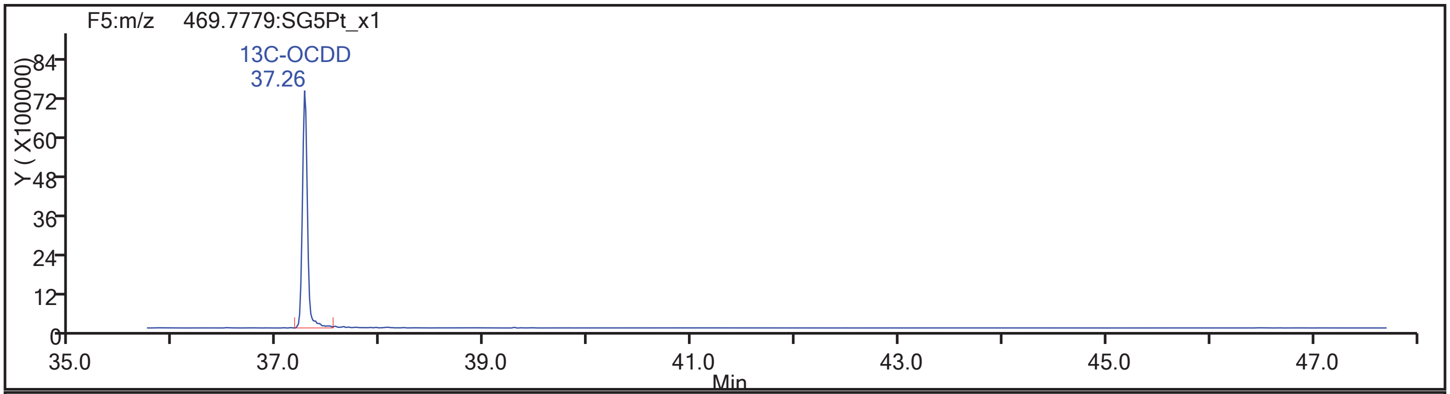

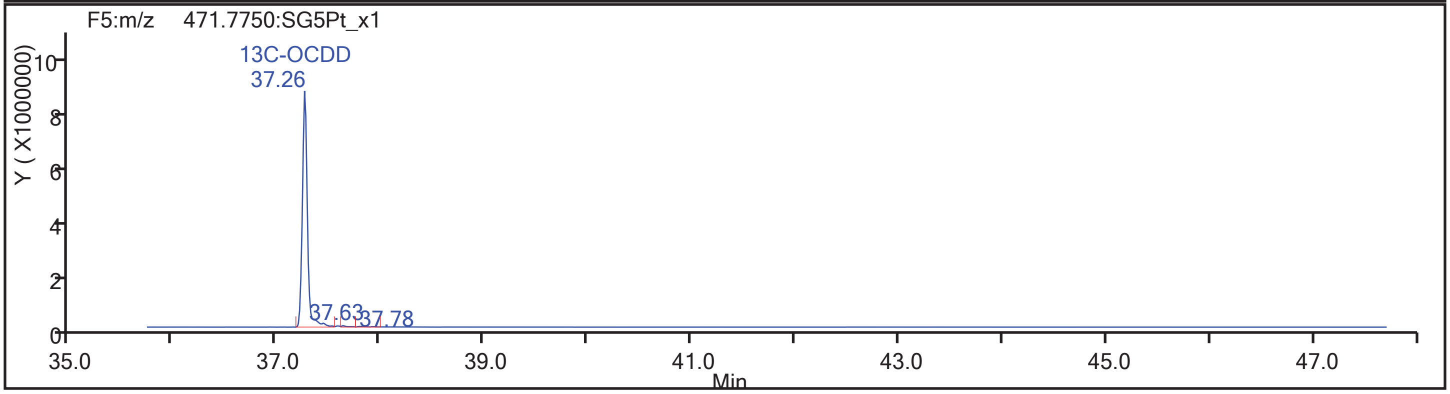

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TestAmerica Sacramento

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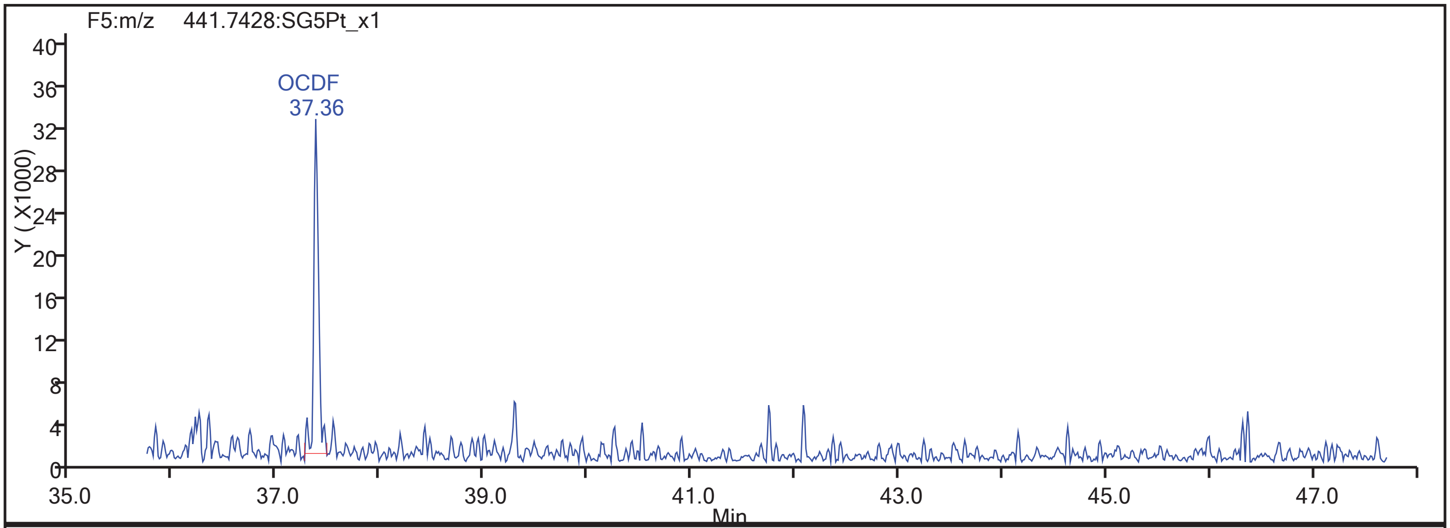
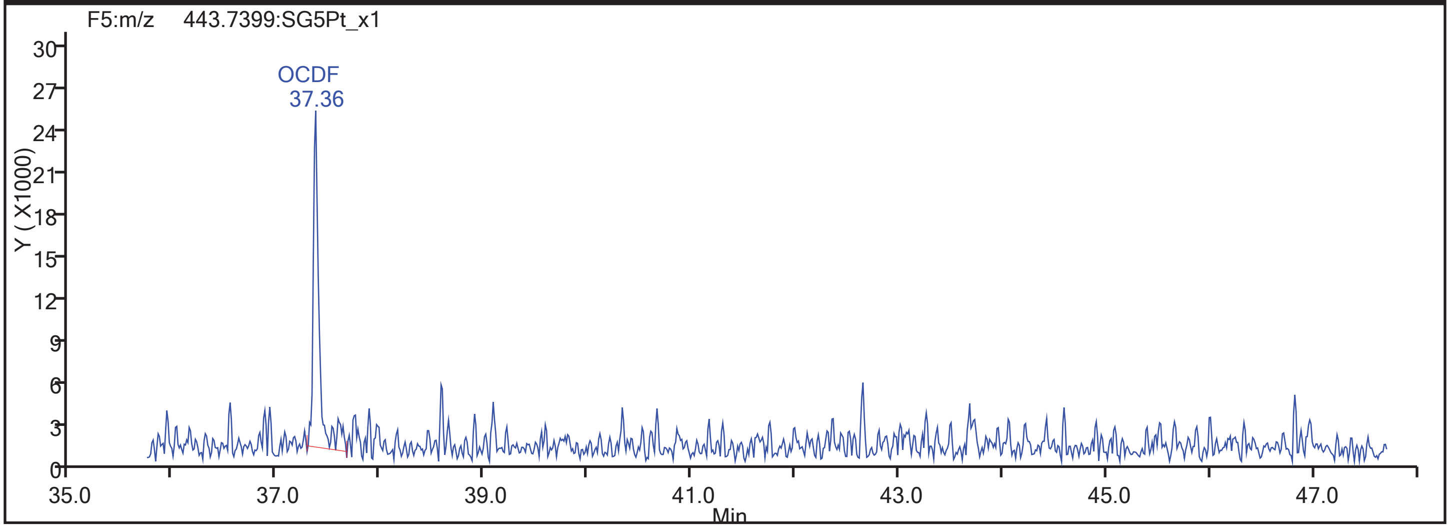
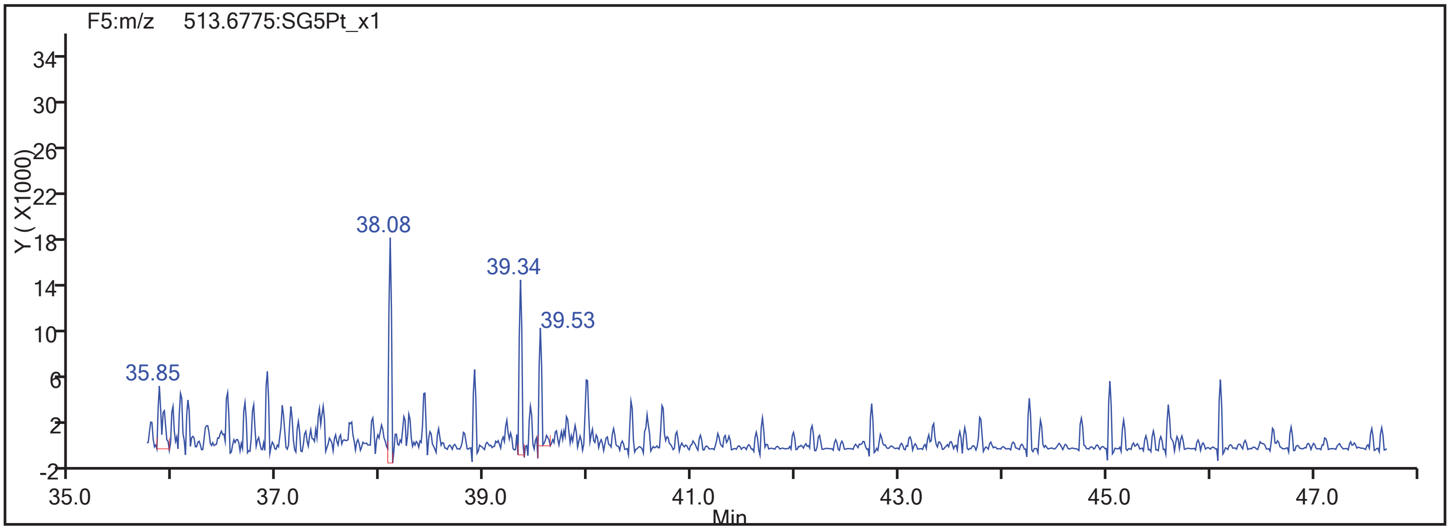




OCDF Interference Mass



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TestAmerica Sacramento

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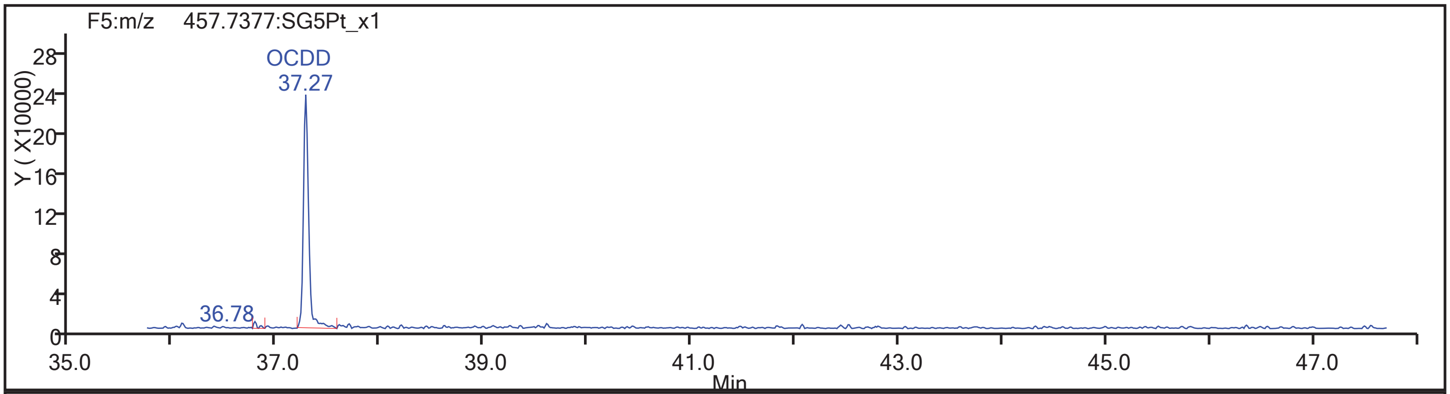
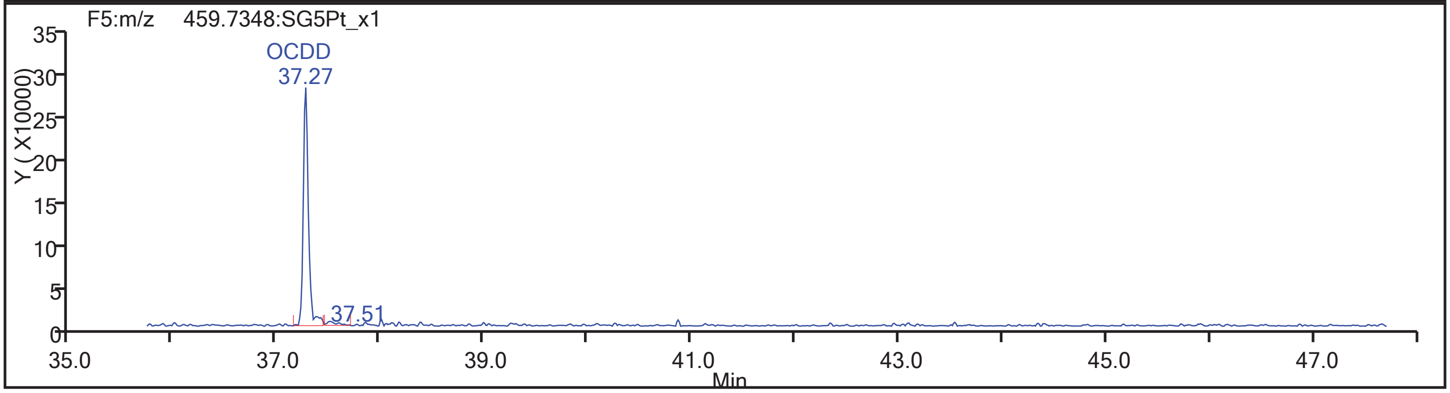
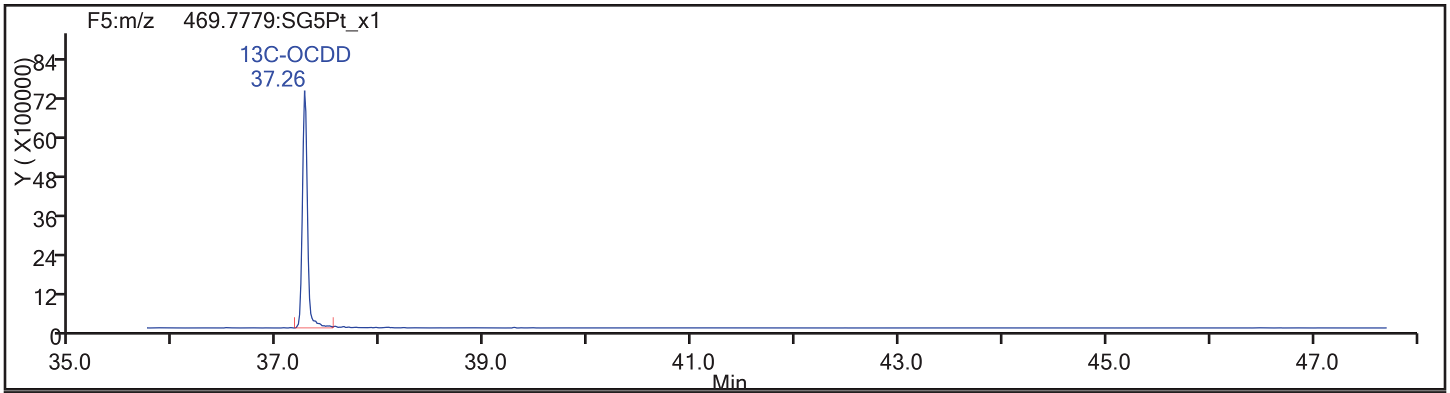
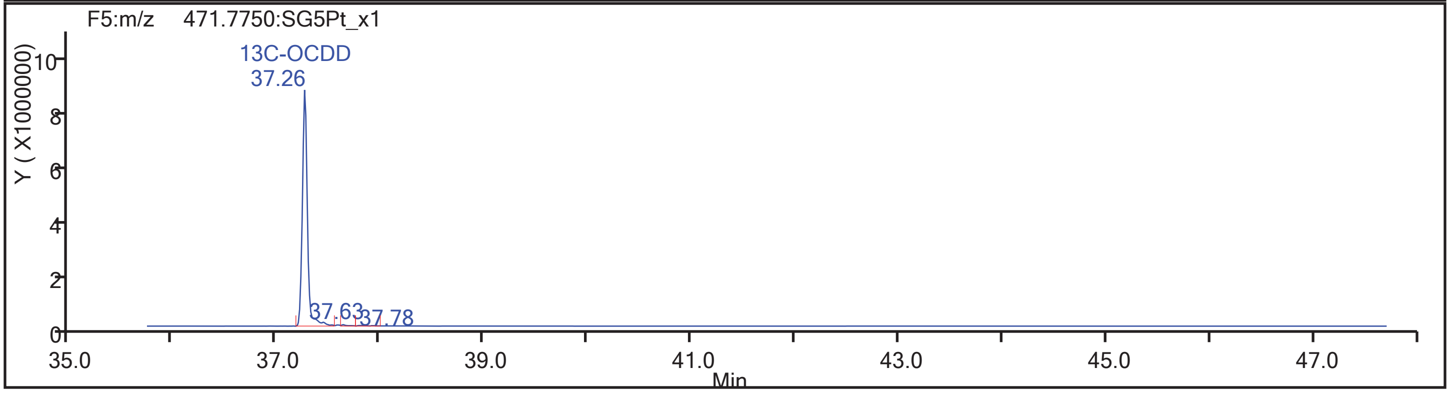




OCDD Standards





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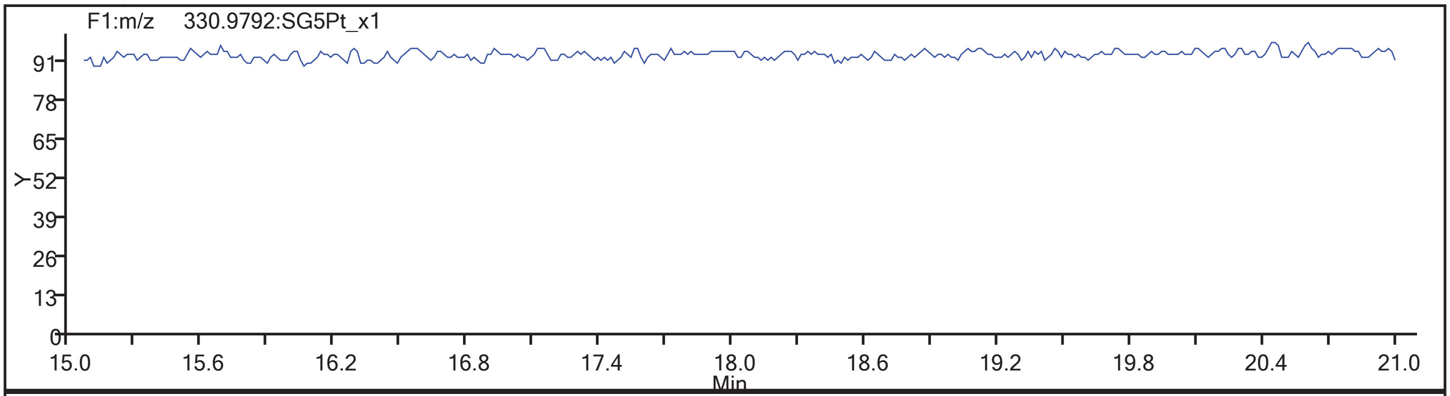

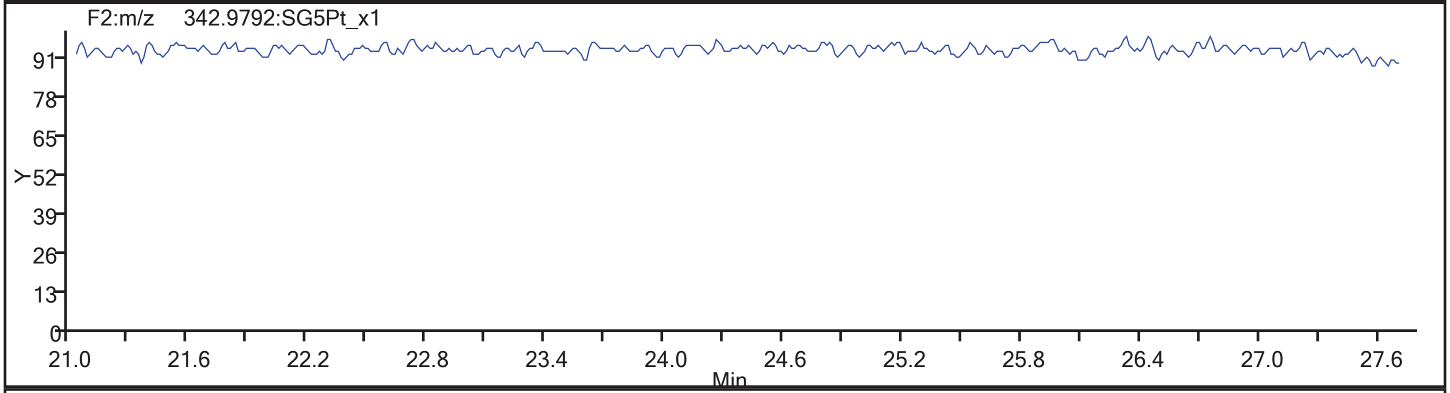

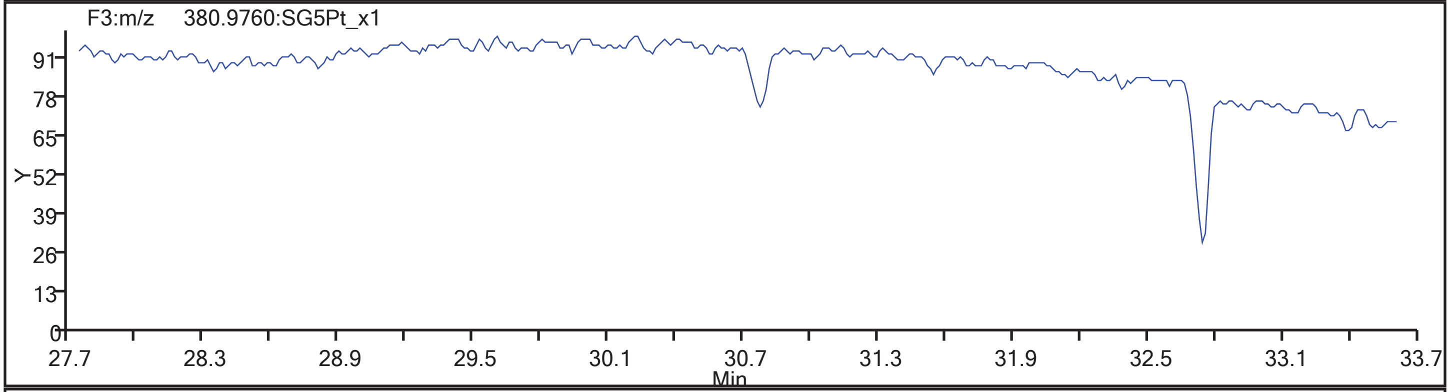

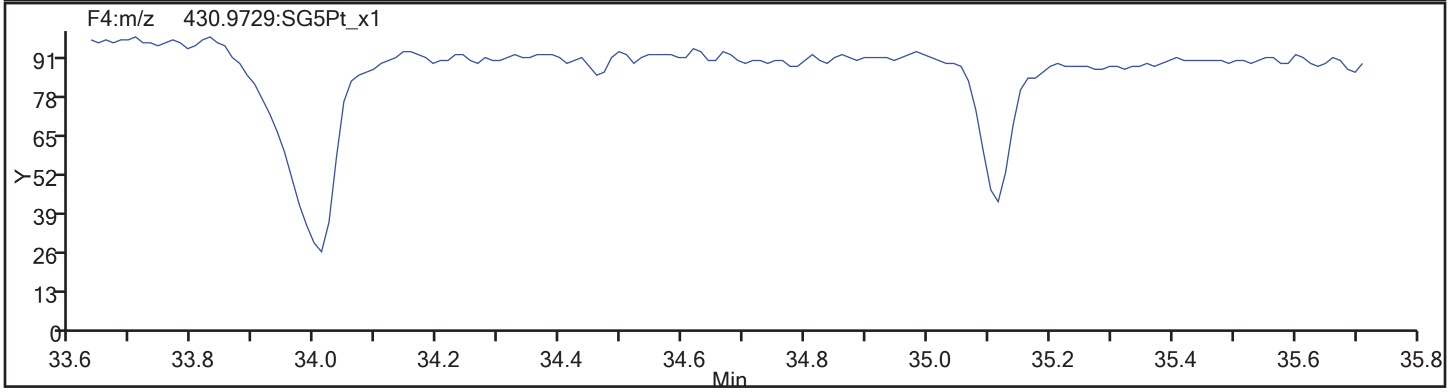

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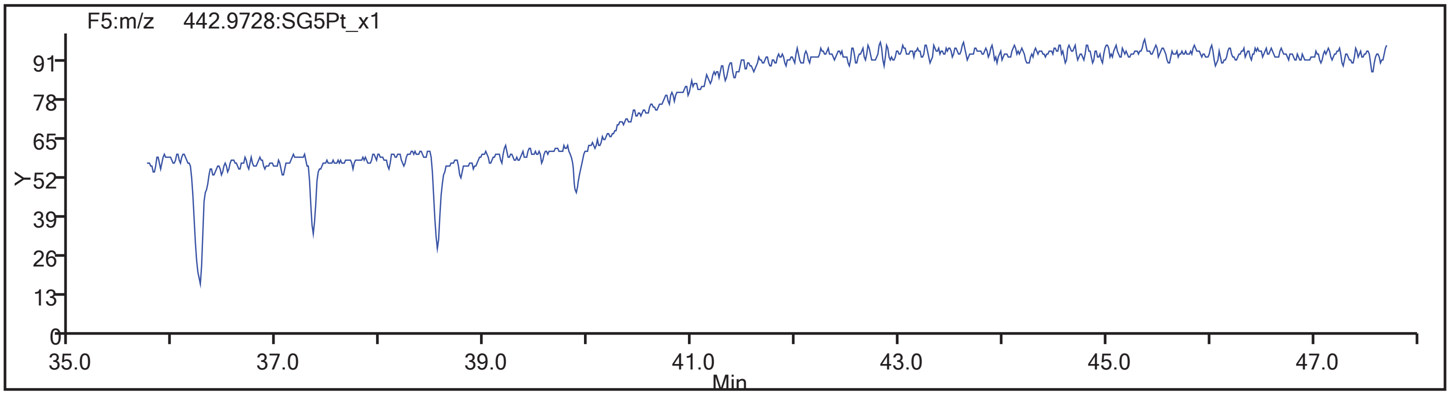


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP013SS04NS	Lab Sample ID: 160-24924-16
Matrix: Solid	Lab File ID: 09NO1710D5_86.d
Analysis Method: 8290A	Date Collected: 10/05/2017 15:06
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 9.98(g)	Date Analyzed: 11/12/2017 04:37
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 15.2	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194086	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.47	U	1.2	0.47	0.080
51207-31-9	2,3,7,8-TCDF	0.47	U	1.2	0.47	0.055
40321-76-4	1,2,3,7,8-PeCDD	0.89	U	5.9	0.89	0.10
57117-41-6	1,2,3,7,8-PeCDF	0.89	U	5.9	0.89	0.067
57117-31-4	2,3,4,7,8-PeCDF	0.89	U	5.9	0.89	0.068
39227-28-6	1,2,3,4,7,8-HxCDD	0.19	J	5.9	2.4	0.069
57653-85-7	1,2,3,6,7,8-HxCDD	0.23	J	5.9	2.4	0.053
19408-74-3	1,2,3,7,8,9-HxCDD	0.35	J	5.9	2.4	0.053
70648-26-9	1,2,3,4,7,8-HxCDF	0.89	U	5.9	0.89	0.049
57117-44-9	1,2,3,6,7,8-HxCDF	1.2	U	5.9	1.2	0.041
72918-21-9	1,2,3,7,8,9-HxCDF	1.2	U	5.9	1.2	0.049
60851-34-5	2,3,4,6,7,8-HxCDF	0.89	U	5.9	0.89	0.045
35822-46-9	1,2,3,4,6,7,8-HpCDD	0.95	J	5.9	1.2	0.082
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.14	J	5.9	1.2	0.072
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.4	U	5.9	2.4	0.089
3268-87-9	OCDD	4.0	J B	12	4.7	0.088
39001-02-0	OCDF	0.25	J	12	4.7	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	55		40-135
89059-46-1	13C-2,3,7,8-TCDF	60		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	64		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	64		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	59		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	68		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	57		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	44		40-135
114423-97-1	13C-OCDD	48		40-135

Report Date: 13-Nov-2017 13:26:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d
Lims ID: 160-24924-G-16-A
Client ID: SHAD041DP013SS04NS
Sample Type: Client
Inject. Date: 12-Nov-2017 04:37:41 ALS Bottle#: 61 Worklist Smp#: 86
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-16-a 160-24924-g-16-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:24:57 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:26:26

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.899	92755434	0.79	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.385	70899314	0.79	1.2741	60.0	60.0	0.1650	0.1650	59.99	
2,3,7,8-TCDF	17.385						0.0232	0.0232		
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF							0.0232	0.0232		
D 13C-2,3,7,8-TCDD	18.095	50291586	0.80	0.9921	54.7	54.7	0.1817	0.1817	54.65	
2,3,7,8-TCDD	18.095						0.0337	0.0337		
A Non-2,3,7,8-sub-TCDD	17.559	27997	0.77	0.9993	0.0677	0.0557	0.0337	0.0557		RQ
S Total TCDD					0.0677	0.0557	0.0337	0.0337		RQ
D 13C-1,2,3,7,8-PeCDF	22.424	57351782	1.54	0.9696	63.8	63.8	0.1648	0.1648	63.77	
1,2,3,7,8-PeCDF	22.437						0.0282	0.0282		
2,3,4,7,8-PeCDF	23.787						0.0288	0.0288		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF							0.0288	0.0288		
D 13C-1,2,3,7,8-PeCDD	24.496	45154509	1.60	0.7588	64.2	64.2	0.0915	0.0915	64.16	
1,2,3,7,8-PeCDD	24.510						0.0434	0.0434		
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD							0.0434	0.0434		
D 13C-1,2,3,4,7,8-HxCDF	30.566	50280896	0.52	0.9644	68.3	68.3	0.3886	0.3886	68.28	
1,2,3,4,7,8-HxCDF	30.580						0.0209	0.0209		
1,2,3,6,7,8-HxCDF	30.753						0.0173	0.0173		
2,3,4,6,7,8-HxCDF	31.565						0.0192	0.0192		
D 13C-1,2,3,7,8,9-HxCDF	32.350	50475180	0.52							
1,2,3,7,8,9-HxCDF	32.350						0.0207	0.0207		
A Non-2,3,7,8-sub-HxCDF	30.254	21821	1.24	1.5067	0.0408	0.0288	0.0194	0.0288		RQ
S Total HxCDF					0.0408	0.0288	0.0195	0.0195		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.164	76360849	1.25	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.764	30732	1.24	0.9505	0.0951	0.0811	0.0292	0.0292		RQ
D 13C-1,2,3,6,7,8-HxCDD	31.844	39869751	1.27	0.8791	59.4	59.4	0.3570	0.3570	59.39	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.858	48309	1.12	1.2343	0.0982	0.0982	0.0224	0.0224		
1,2,3,7,8,9-HxCDD	32.177	73145	1.24	1.2467	0.1664	0.1472	0.0222	0.0222		RQ
A Non-2,3,7,8-sub-HxCDD	30.893	186853	1.15	1.1438	0.4097	0.4097	0.0242	0.2489		
S Total HxCDD					0.7695	0.7362	0.0246	0.0246		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.758	25542975	0.43	0.7618	43.9	43.9	0.6828	0.6828	43.91	
1,2,3,4,6,7,8-HpCDF	33.770	25049	1.04	1.6399	0.0814	0.0598	0.0307	0.0307		RQ
1,2,3,4,7,8,9-HpCDF	34.839						0.0378	0.0378		
A Non-2,3,7,8-sub-HpCDF	34.305						0.0	0.0		
S Total HpCDF					0.0814	0.0598	0.0343	0.0343		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.548	33948360	1.08	0.7762	57.3	57.3	0.3348	0.3348	57.28	
1,2,3,4,6,7,8-HpCDD	34.560	135045	0.91	0.9932	0.4005	0.4005	0.0345	0.0345		
A Non-2,3,7,8-sub-HpCDD	34.286	212079	1.04	0.9932	0.6924	0.6290	0.0345	0.6290		RQ
S Total HpCDD					1.093	1.030	0.0345	0.0345		RQ
D 13C-OCDD	36.882	46292282	0.89	0.6314	96.0	96.0	0.2056	0.2056	48.01	
OCDF	36.990	33234	0.89	1.3460	0.1227	0.1067	0.0430	0.0430		RQ
OCDD	36.894	418404	0.95	1.0604	1.705	1.705	0.0371	0.0371		

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d
Lims ID: 160-24924-G-16-A
Client ID: SHAD041DP013SS04NS
Sample Type: Client
Inject. Date: 12-Nov-2017 04:37:41 ALS Bottle#: 61 Worklist Smp#: 86
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-16-a 160-24924-g-16-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:24:57 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:26:26

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.899	17.884	1		40994329	10323895	9544	23860	1082		
333.9339	17.899	17.884	1		51761105	13088650	7337	18342	1784	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.385	17.370	1	0.971	31351450	7872528	11786	29465	668		
317.9389	17.385	17.370	1	0.971	39547864	9790880	7903	19757	1239	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.385						525	1312			
305.8987	17.385						1338	3345			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						525	1312			
305.8987	17.105						1338	3345			
13C-2,3,7,8-TCDD											
331.9368	18.095	18.080	1	1.011	22305317	5132736	9544	23860	538		
333.9339	18.095	18.080	1	1.011	27986269	6481703	7337	18342	883	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.095						982	2455			
321.8936	18.095						585	1462			
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	15.888	17.559	-100	0.878	18209	3955	982	2455	4		
	Empc Correction				12179	2616	982	2455	3		
321.8936	15.888	17.559	-100	0.878	15818	3398	585	1462	6	1.15(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.424	22.410	1	1.253	34758591	6027684	8909	22272	677		
353.8970	22.424	22.410	1	1.253	22593191	4014312	6055	15137	663	1.54(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.437						363	907			
341.8567	22.437						956	2390			
2,3,4,7,8-PeCDF											
339.8597	23.787						363	907			
341.8567	23.787						956	2390			
A F1 PeCDFs											
339.8597	20.001						331	827			
341.8567	20.001						917	2292			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						363	907			
341.8567	23.161						956	2390			
13C-1,2,3,7,8-PeCDD											
367.8949	24.496	24.483	1	1.369	27811165	4239002	4150	10375	1021		
369.8919	24.496	24.483	1	1.369	17343344	2698692	2355	5887	1146	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.510						886	2215			
357.8516	24.510						258	645			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						886	2215			
357.8516	23.419						258	645			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.566	30.553	1	0.950	17149130	3220224	10701	26752	301		
385.8610	30.566	30.553	1	0.950	33131766	6318403	18635	46587	339	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.580						610	1525			
375.8178	30.580						506	1265			
1,2,3,6,7,8-HxCDF											
373.8208	30.753						610	1525			
375.8178	30.753						506	1265			
2,3,4,6,7,8-HxCDF											
373.8208	31.565						610	1525			
375.8178	31.565						506	1265			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.350	32.337	1	1.006	17288174	4385893	10701	26752	410		
385.8610	32.350	32.337	1	1.006	33187006	8422499	18635	46587	452	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.350						610	1525			
375.8178	32.350						506	1265			
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	29.781	30.254	-28	0.974	12080	2553	610	1525	4		
375.8178	29.795	30.254	-27	0.975	18808	2663	506	1265	5	0.64(1.05-1.43)	
	Empc Correction				9741	2058	506	1265	4		
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.164	32.164	0		42404695	10860831	14998	37495	724		
403.8529	32.164	32.164	0		33956154	8711261	9571	23927	910	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											RQ
389.8157	31.764	31.751	1	0.997	22328	5368	479	1197	11		
	Empc Correction				17012	3645	479	1197	8		
391.8127	31.764	31.751	1	0.997	13720	2940	629	1572	5	1.63(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.844	31.831	1	0.990	22304314	5553502	14998	37495	370		
403.8529	31.844	31.831	1	0.990	17565437	4443066	9571	23927	464	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.858	31.844	1	1.000	25553	6787	479	1197	14		
391.8127	31.858	31.844	1	1.000	22756	4801	629	1572	8	1.12(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQ
389.8157	32.177	32.177	0	1.010	40491	8765	479	1197	18		
391.8127	32.164	32.177	-1	1.010	42242	7686	629	1572	12	0.96(1.05-1.43)	
	Empc Correction				32654	7068	629	1572	11		
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.661	30.893	-74	0.931	39550	7409	479	1197	15		
391.8127	29.635	30.893	-75	0.931	33777	5317	629	1572	8	1.17(1.05-1.43)	
389.8157	31.019	30.893	8	0.974	60228	11964	479	1197	25		
391.8127	31.032	30.893	8	0.975	53298	8040	629	1572	13	1.13(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.758	33.746	1	1.050	7627025	2180356	18153	45382	120		
419.8220	33.758	33.746	1	1.050	17915950	5143798	22569	56422	228	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7818	33.770	33.758	1	1.000	21829	5763	935	2337	6		
	Empc Correction				12770	4603	935	2337	5		
409.7789	33.770	33.758	1	1.000	12279	4426	539	1347	8	1.78(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.839						935	2337			
409.7789	34.839						539	1347			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.305						935	2337			
409.7789	34.305						539	1347			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.548	34.535	1	1.074	17588618	5225840	10424	26060	501		
437.8140	34.548	34.535	1	1.074	16359742	4800212	9919	24797	484	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.560	34.548	1	1.000	64336	20289	647	1617	31		
425.7737	34.560	34.548	1	1.000	70709	19289	728	1820	26	0.91(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											RQ
423.7766	34.013	34.286	-16	0.985	108119	35608	647	1617	55		
425.7737	34.013	34.286	-16	0.985	125323	33221	728	1820	46	0.86(0.88-1.20)	
	Empc Correction				103960	34238	728	1820	47		
13C-OCDD											
469.7779	36.882	36.870	1	1.147	21740462	5451792	5409	13522	1008		
471.7750	36.882	36.870	1	1.147	24551820	6009077	4756	11890	1263	0.89(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDF											RQ
441.7428	36.990	36.978	1	1.003	15650	2045	425	1062	5		
443.7399	36.990	36.978	1	1.003	22572	3720	902	2255	4	0.69(0.76-1.02)	
	Empc Correction				17584	2297	902	2255	3		
OCDD											
457.7377	36.894	36.882	1	1.000	204119	49436	402	1005	123		
459.7348	36.894	36.882	1	1.000	214285	49850	499	1247	100	0.95(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d
Lims ID: 160-24924-G-16-A
Client ID: SHAD041DP013SS04NS
Inject. Date: 12-Nov-2017 04:37:41
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194086
Lims Sample ID: 86

Non-2,3,7,8-sub-TCDD, RT: 17.559

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	50291586	11614439

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	50291586	11614439

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.888	18209	3955	15818	3398	0.0677	1.15	RQ
15.888	12179	2616	15818	3398	0.0557		Empc Correction
Signal Totals:							
	12179	2616	15818	3398			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	34027	7353				1.15	RQ
	27997	6014					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0677 = (34027 * 100.000) / (50291586 * 0.999)
Empc Amount: 0.0557 = (27997 * 100.000) / (50291586 * 0.999)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Lims ID:	160-24924-G-16-A		
Client ID:	SHAD041DP013SS04NS		
Inject. Date:	12-Nov-2017 04:37:41	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	86

Non-2,3,7,8-sub-HxCDF, RT: 30.254

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	50280896	9538627
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	50280896	9538627

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
29.781	12080	2553	18808	2663	0.0408	0.64	RQ
29.781	12080	2553	9741	2058	0.0288		Empc Correction
Signal Totals:							
	12080	2553	9741	2058			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	30888	5216				0.64	RQ
	21821	4611					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0408 = (30888 * 100.000) / (50280896 * 1.507)
Empc Amount: 0.0288 = (21821 * 100.000) / (50280896 * 1.507)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Lims ID:	160-24924-G-16-A		
Client ID:	SHAD041DP013SS04NS		
Inject. Date:	12-Nov-2017 04:37:41	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	86

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	39869751	9996568
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	39869751	9996568

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.661	39550	7409	33777	5317	0.1608	1.17	
31.019	60228	11964	53298	8040	0.2489	1.13	
Signal Totals:							
	99778	19373	87075	13357			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	186853	32730				1.15	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4097 = (186853 * 100.000) / (39869751 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Lims ID:	160-24924-G-16-A		
Client ID:	SHAD041DP013SS04NS		
Inject. Date:	12-Nov-2017 04:37:41	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	86

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	33948360	10026052

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	33948360	10026052

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.013	108119	35608	125323	33221	0.6924	0.86	RQ
34.013	108119	35608	103960	34238	0.6290		Empc Correction
Signal Totals:							
	108119	35608	103960	34238			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	233442	68829				0.86	RQ
	212079	69846					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6924 = (233442 * 100.000) / (33948360 * 0.993)
Empc Amount: 0.6290 = (212079 * 100.000) / (33948360 * 0.993)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d

Injection Date: 12-Nov-2017 04:37:41 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

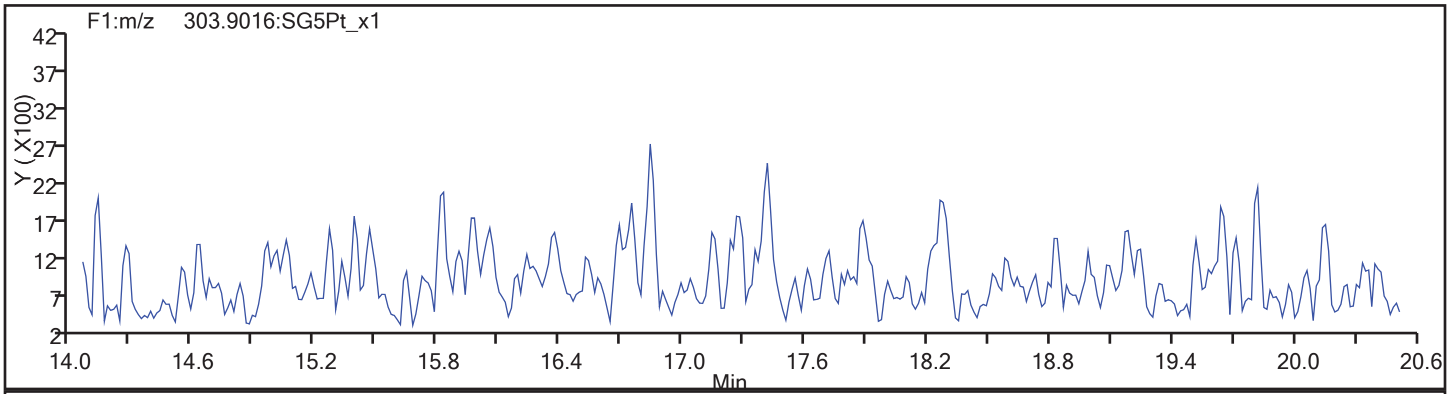
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

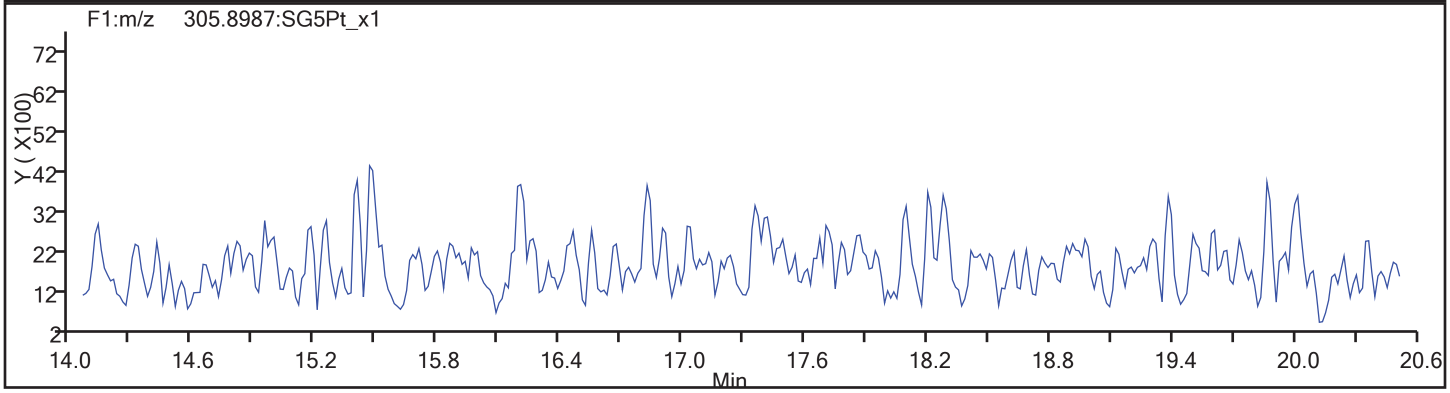
Client ID: SHAD041DP013SS04NS

Worklist#: 194086 Sample Line#: 86

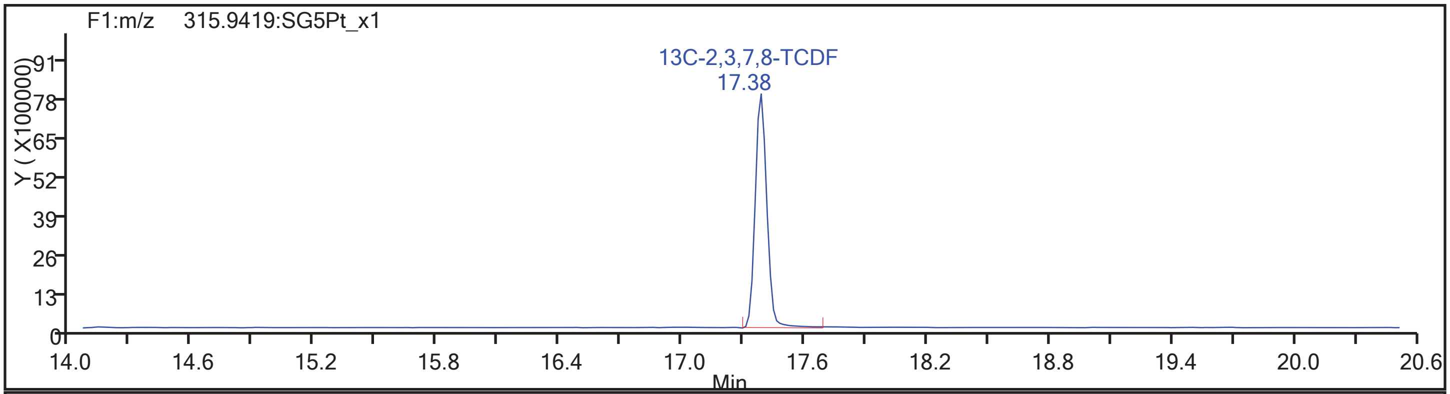
Column Type: DB-5 Column Dia: 0.32 mm

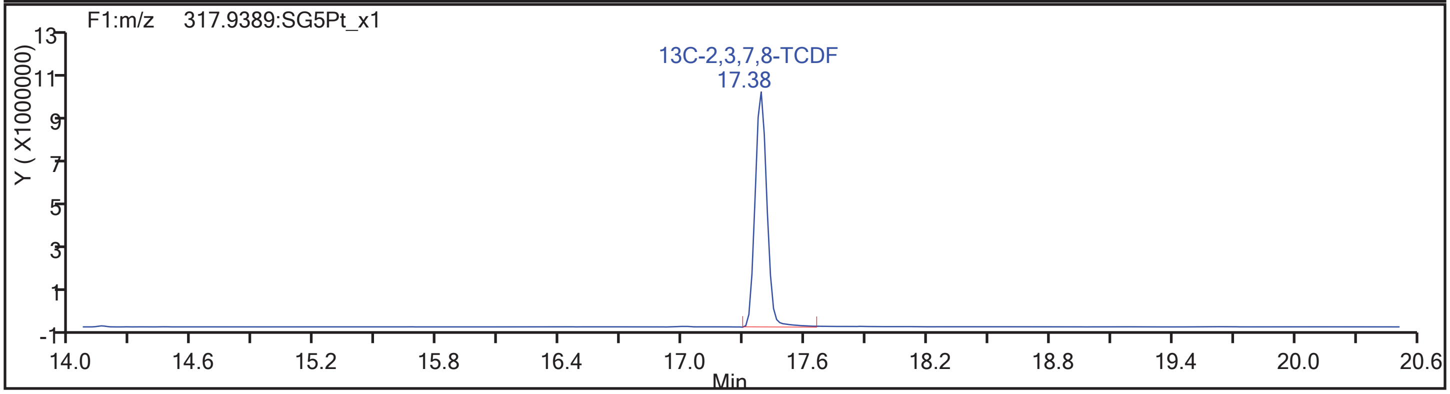
TCDF





TCDF Standards



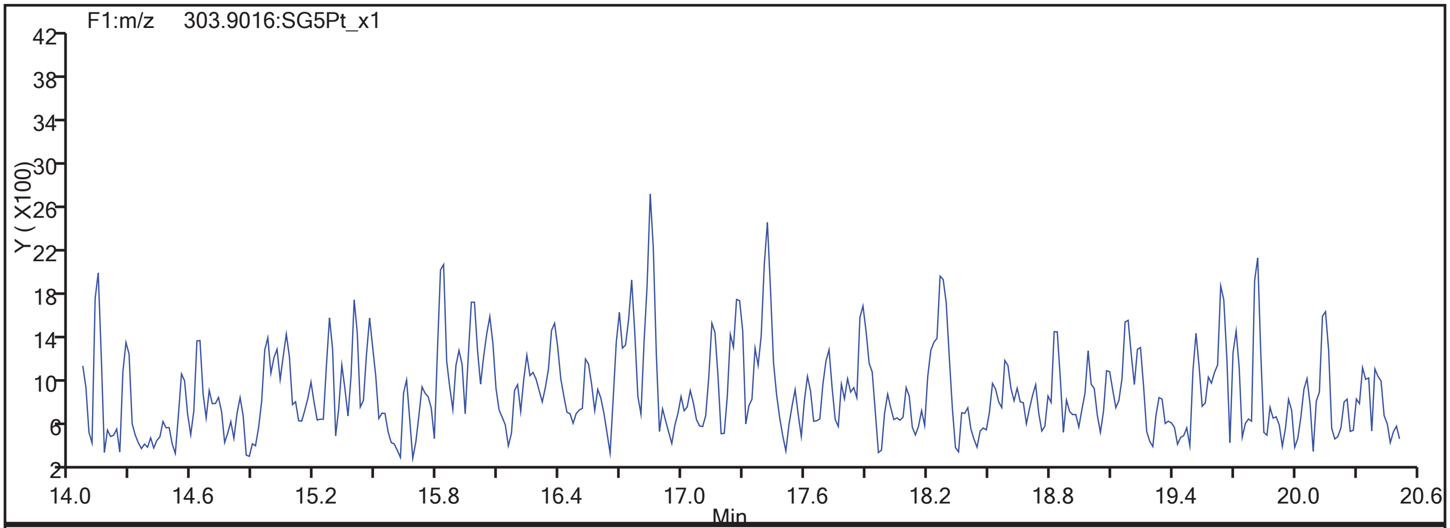


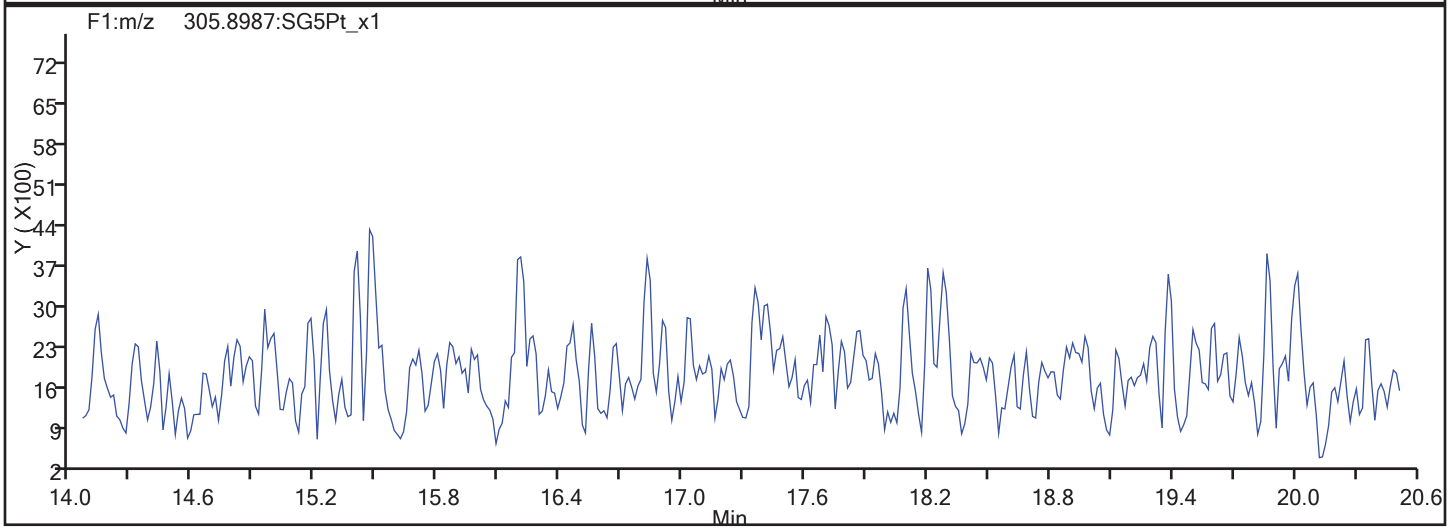
Report Date: 13-Nov-2017 13:26:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

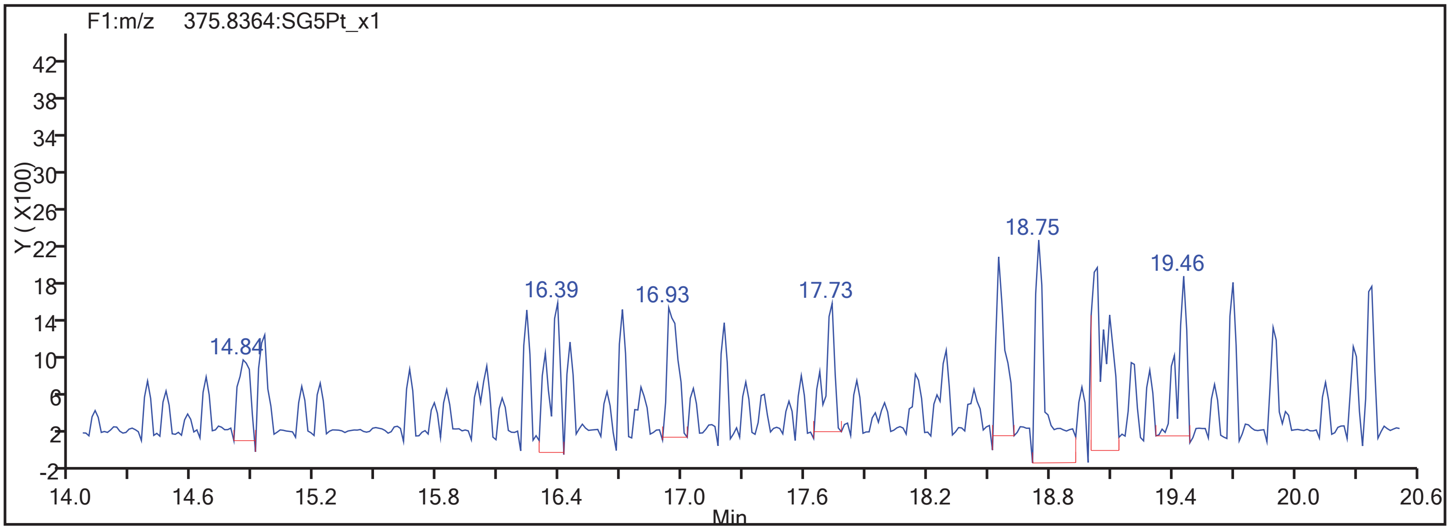
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d
Injection Date: 12-Nov-2017 04:37:41
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS04NS
Worklist#: 194086
Sample Line#: 86
Column Type: DB-5
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass

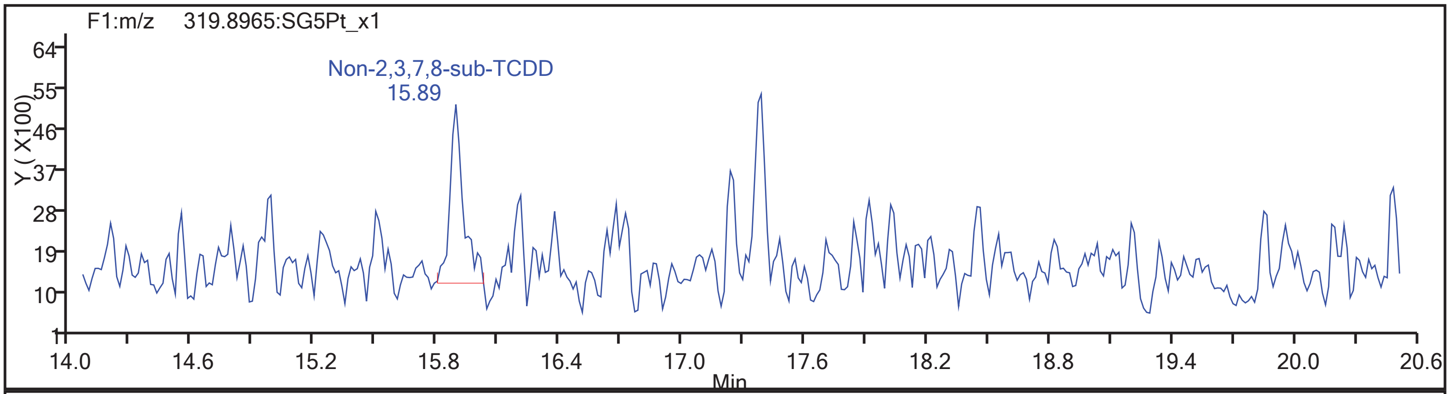


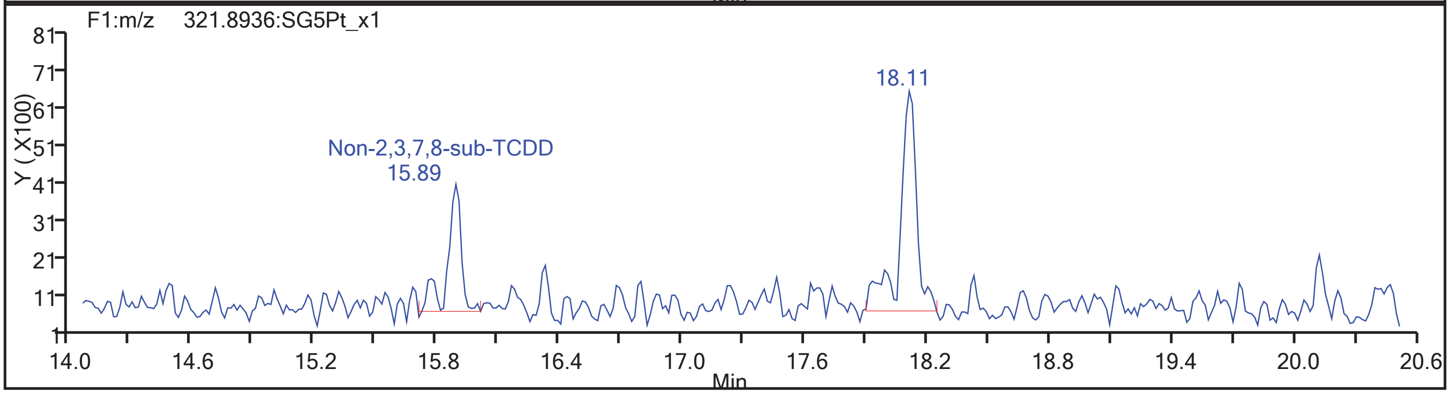
Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

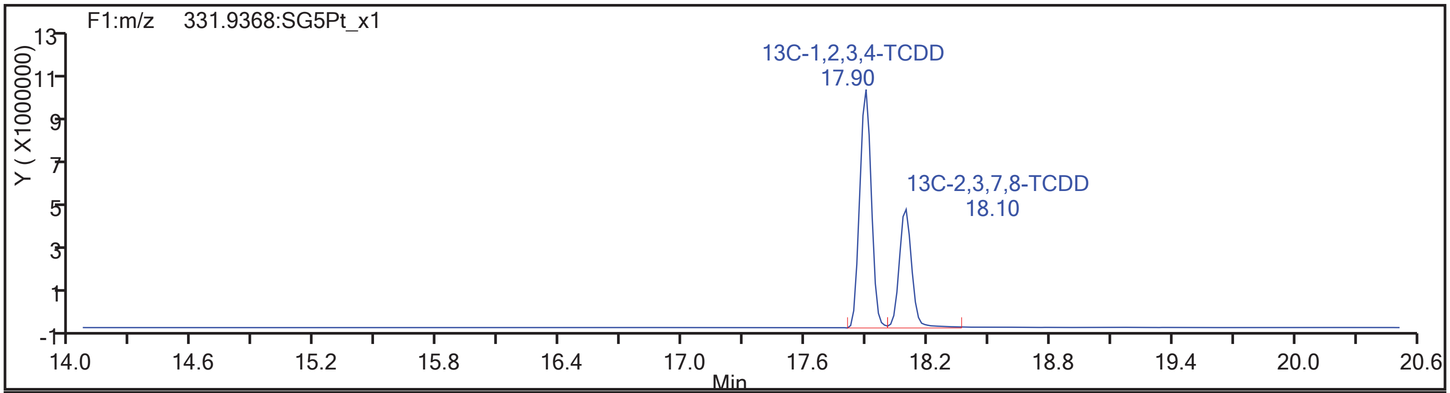
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d
Injection Date: 12-Nov-2017 04:37:41 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS04NS
Worklist#: 194086 Sample Line#: 86
Column Type: DB-5 Column Dia: 0.32 mm

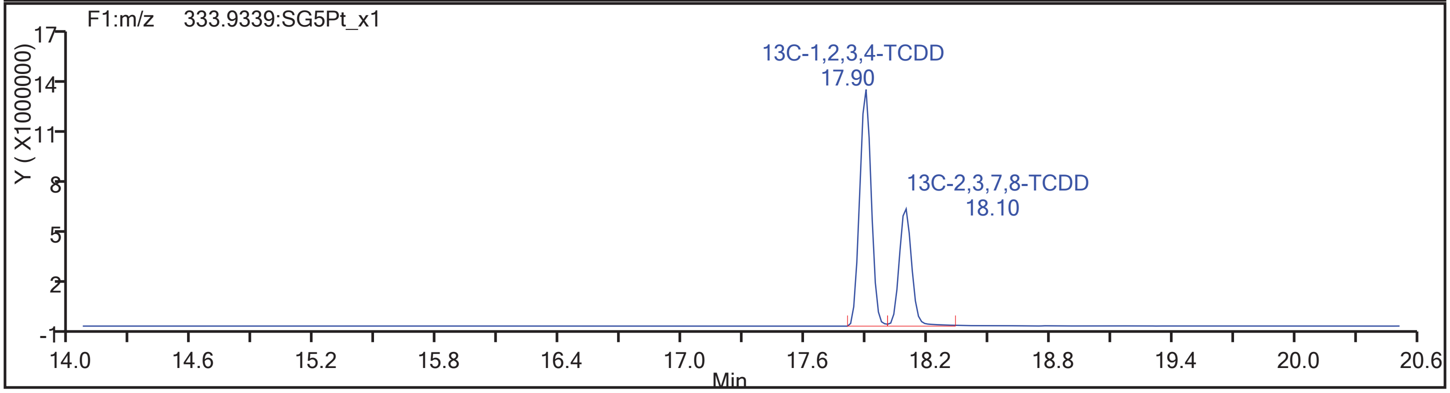
TCDD





TCDD Standards



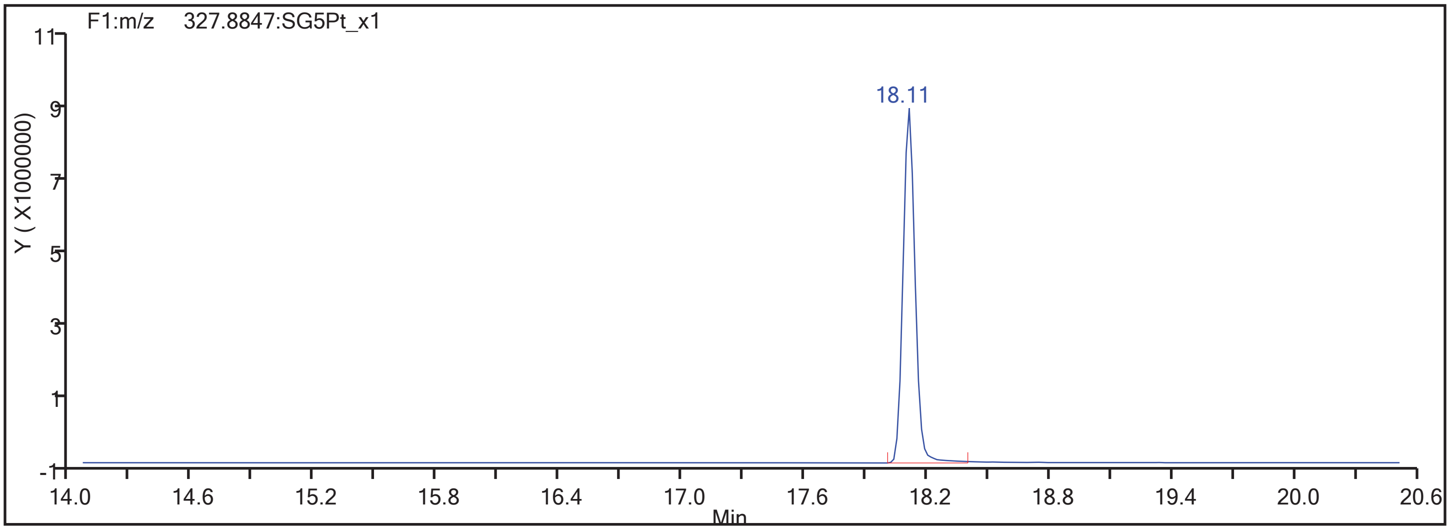


Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

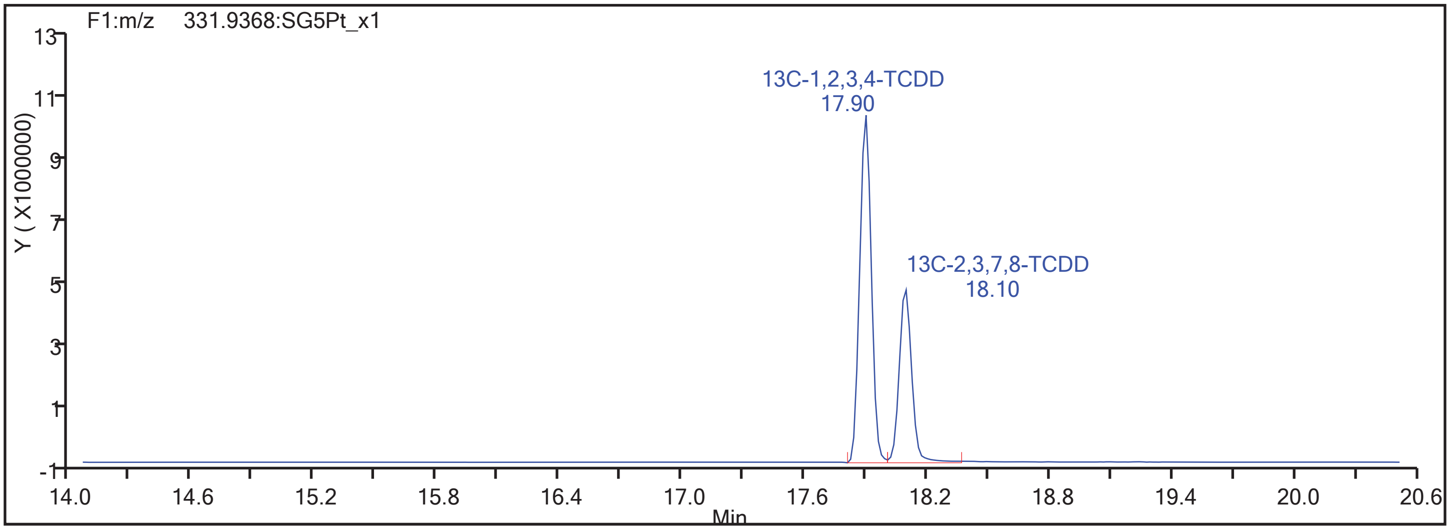
TestAmerica Sacramento

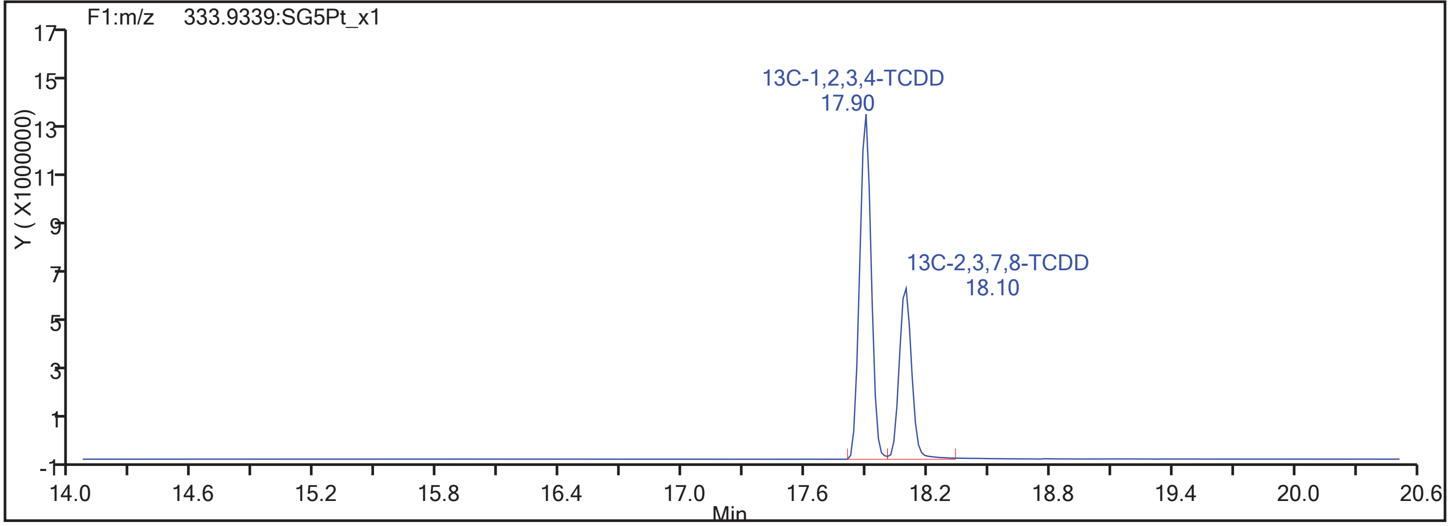
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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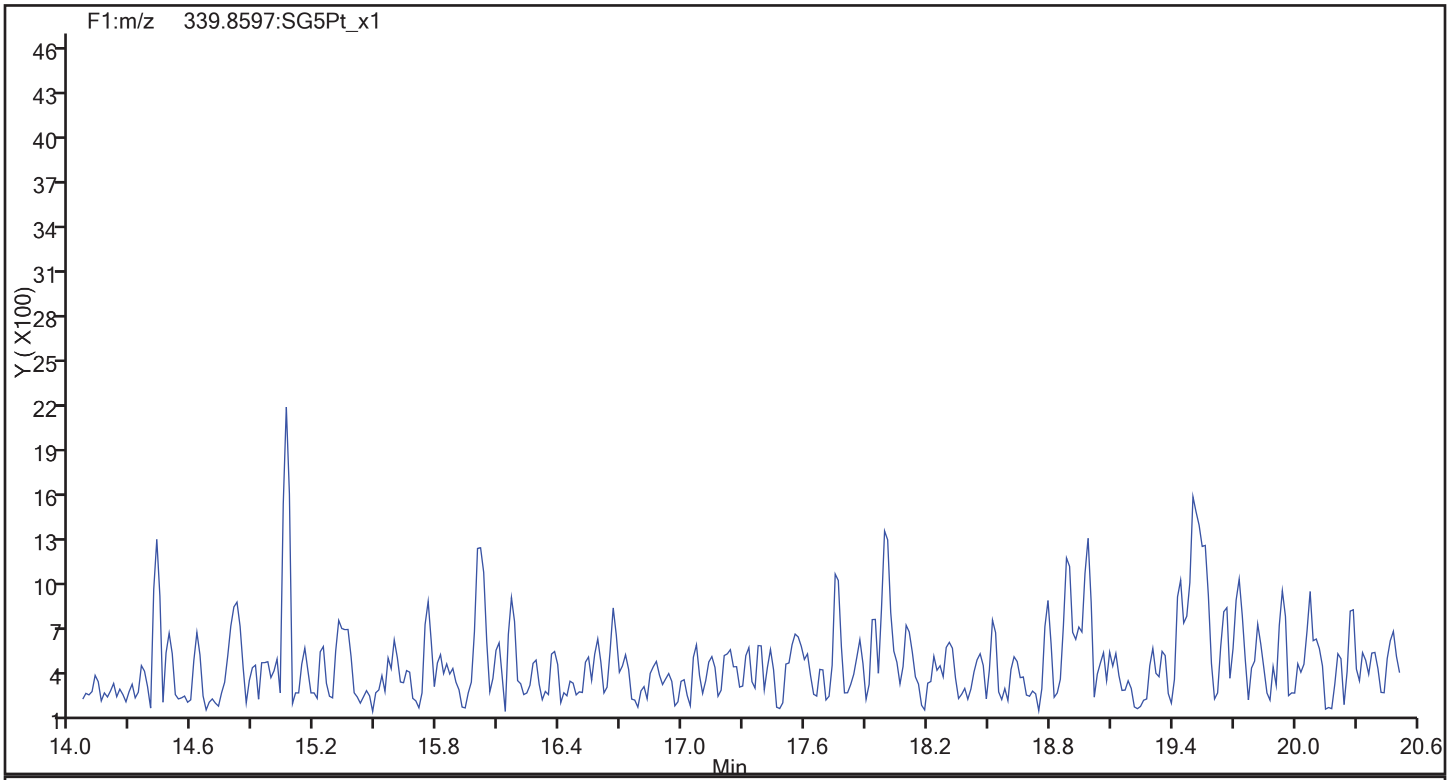
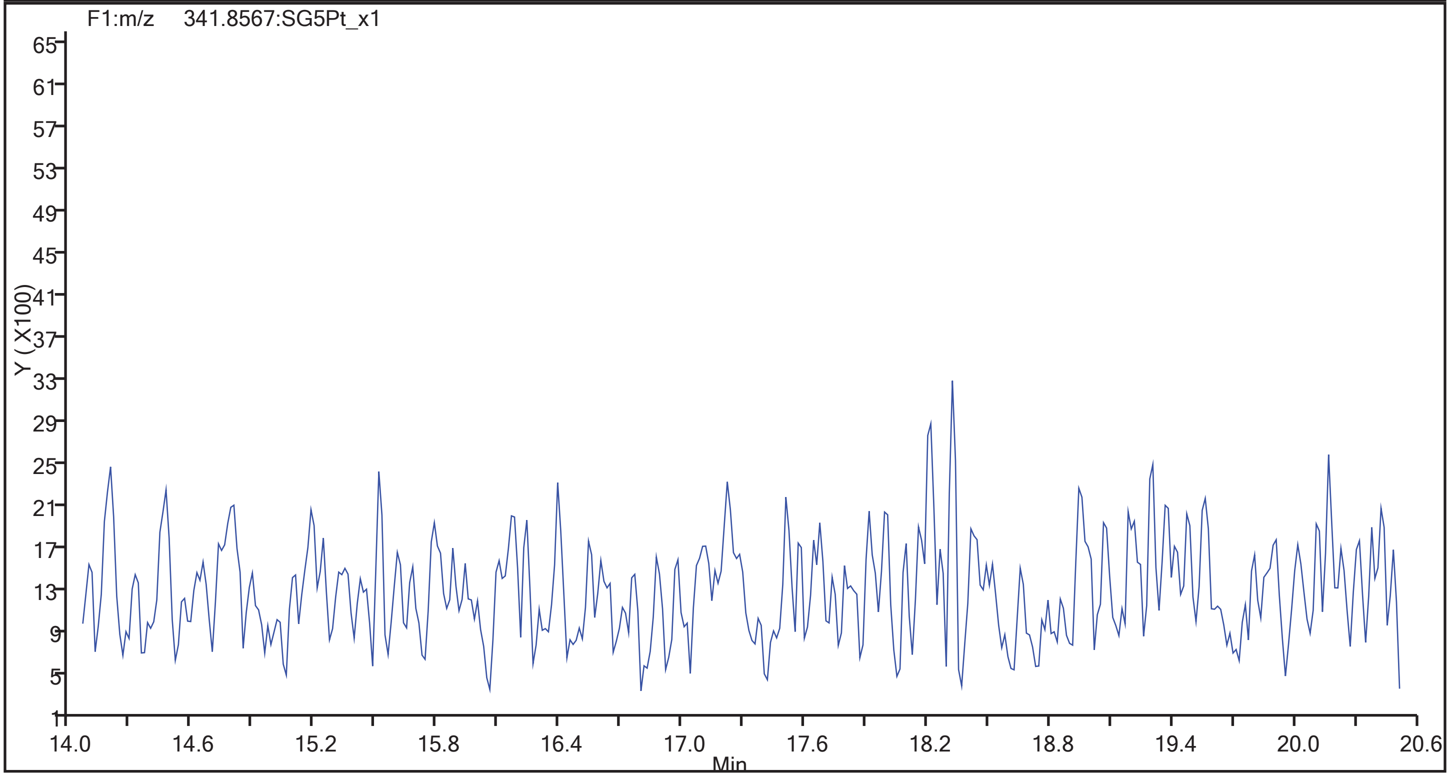
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



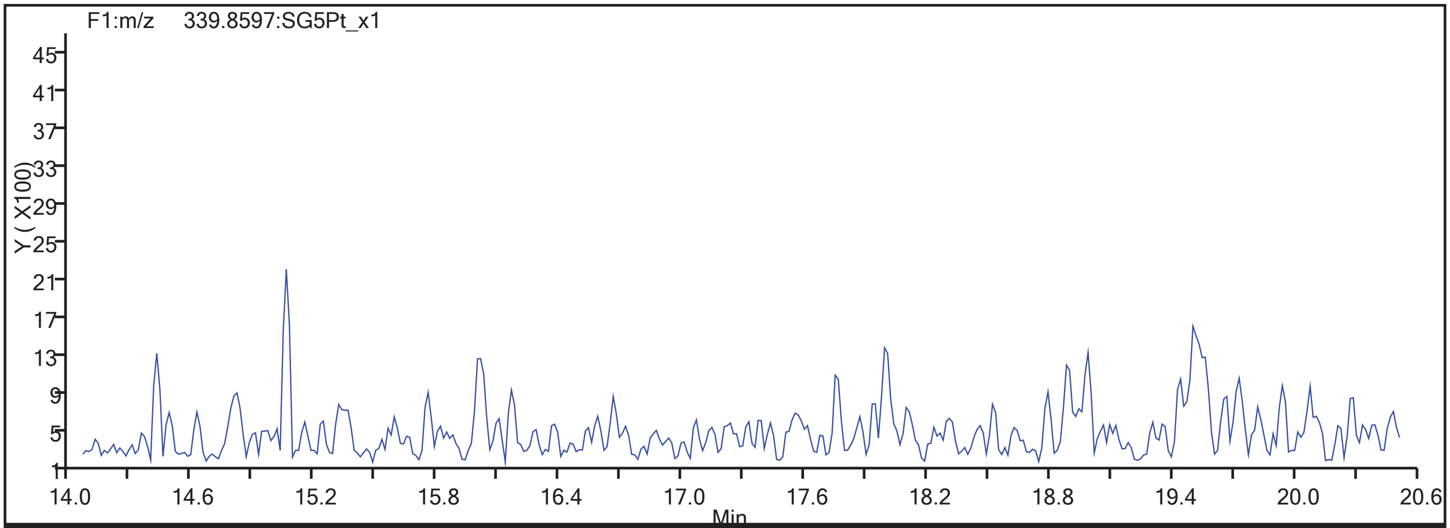


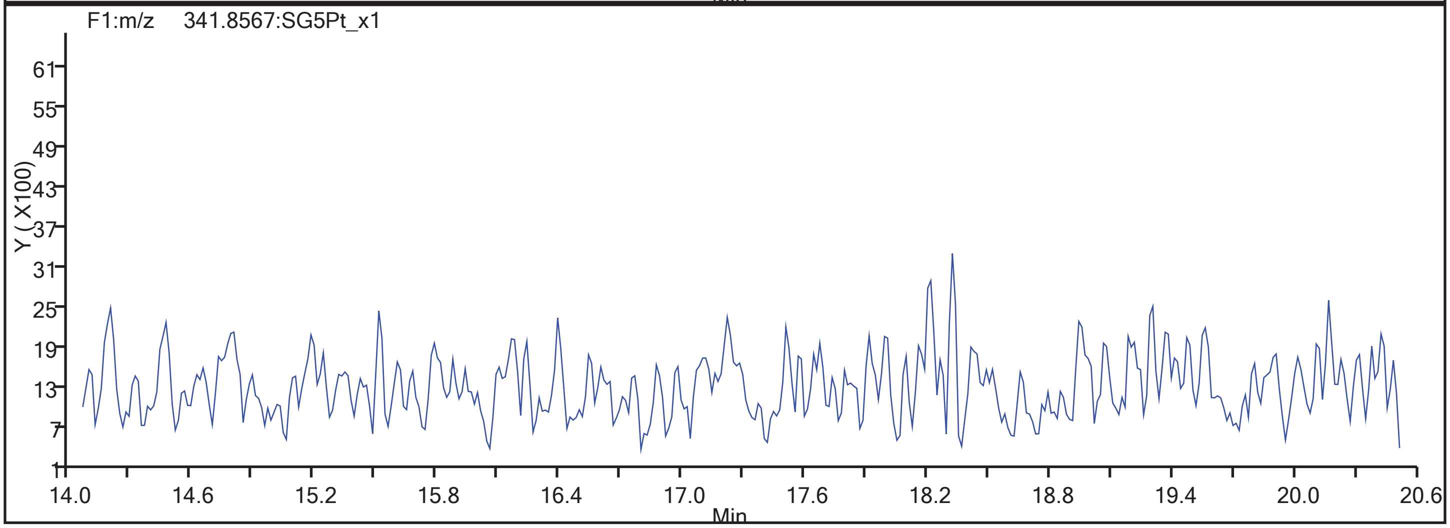
Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

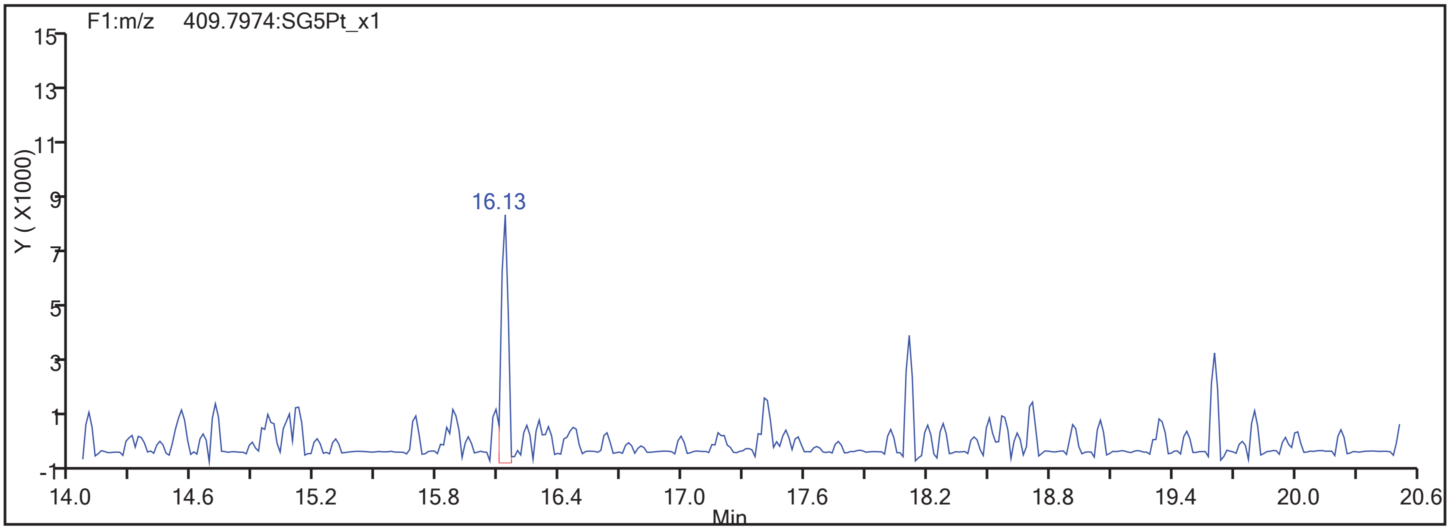
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d
Injection Date: 12-Nov-2017 04:37:41
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS04NS
Worklist#: 194086
Sample Line#: 86
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

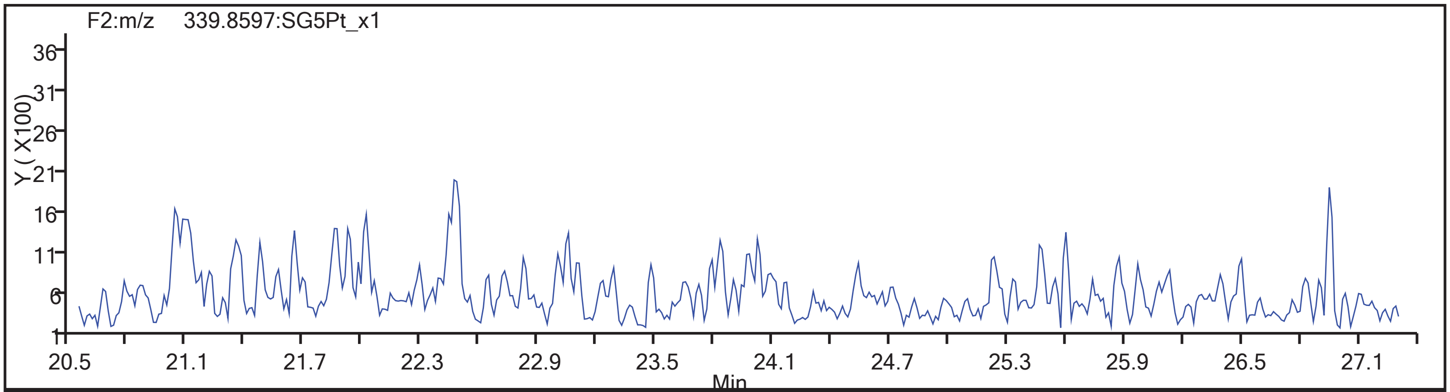


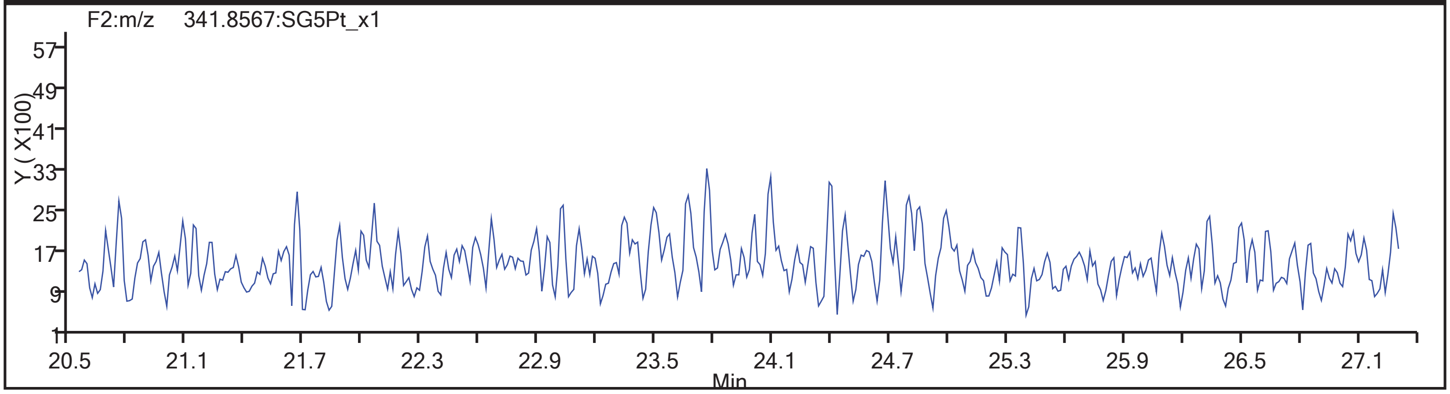
Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

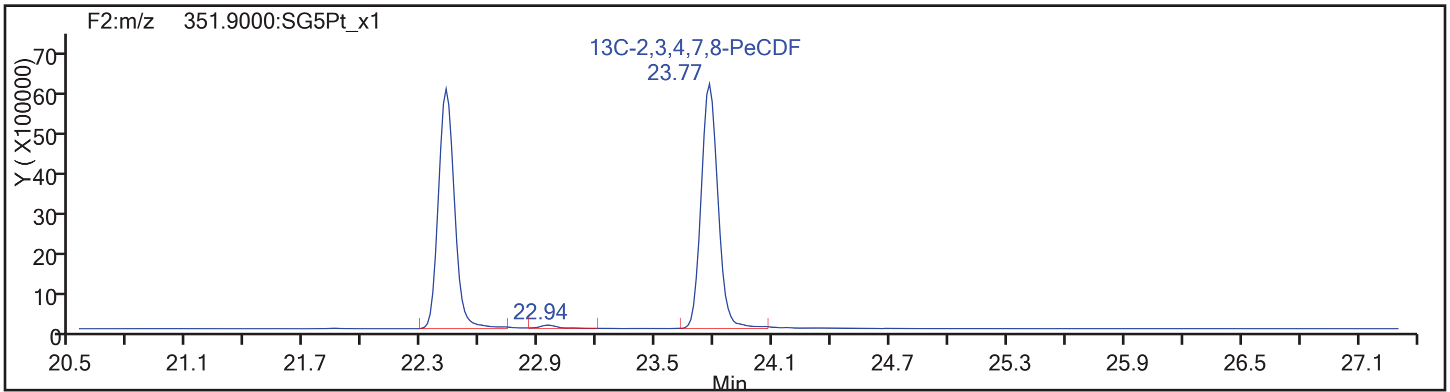
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d
Injection Date: 12-Nov-2017 04:37:41
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS04NS
Worklist#: 194086
Sample Line#: 86
Column Type: DB-5
Column Dia: 0.32 mm

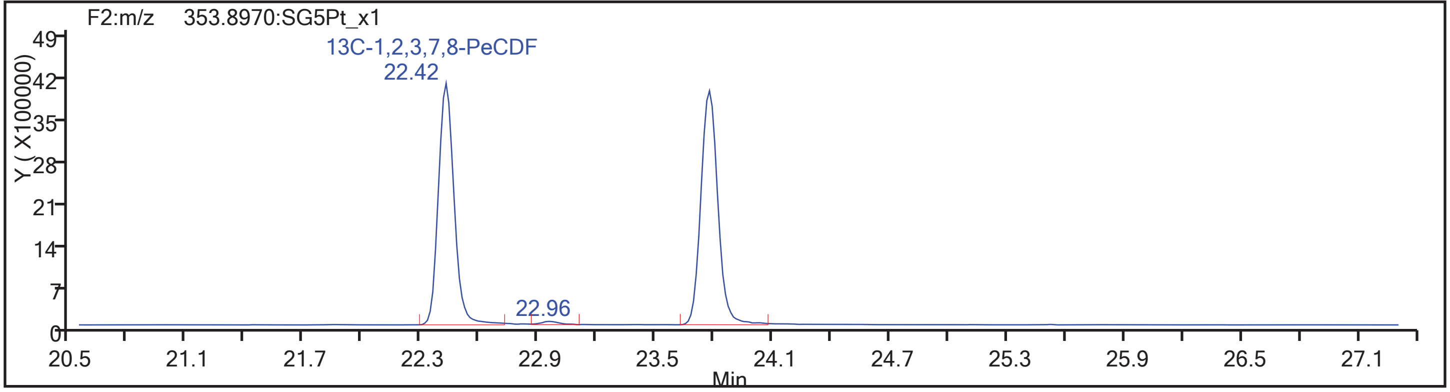
PeCDF





PeCDF Standards





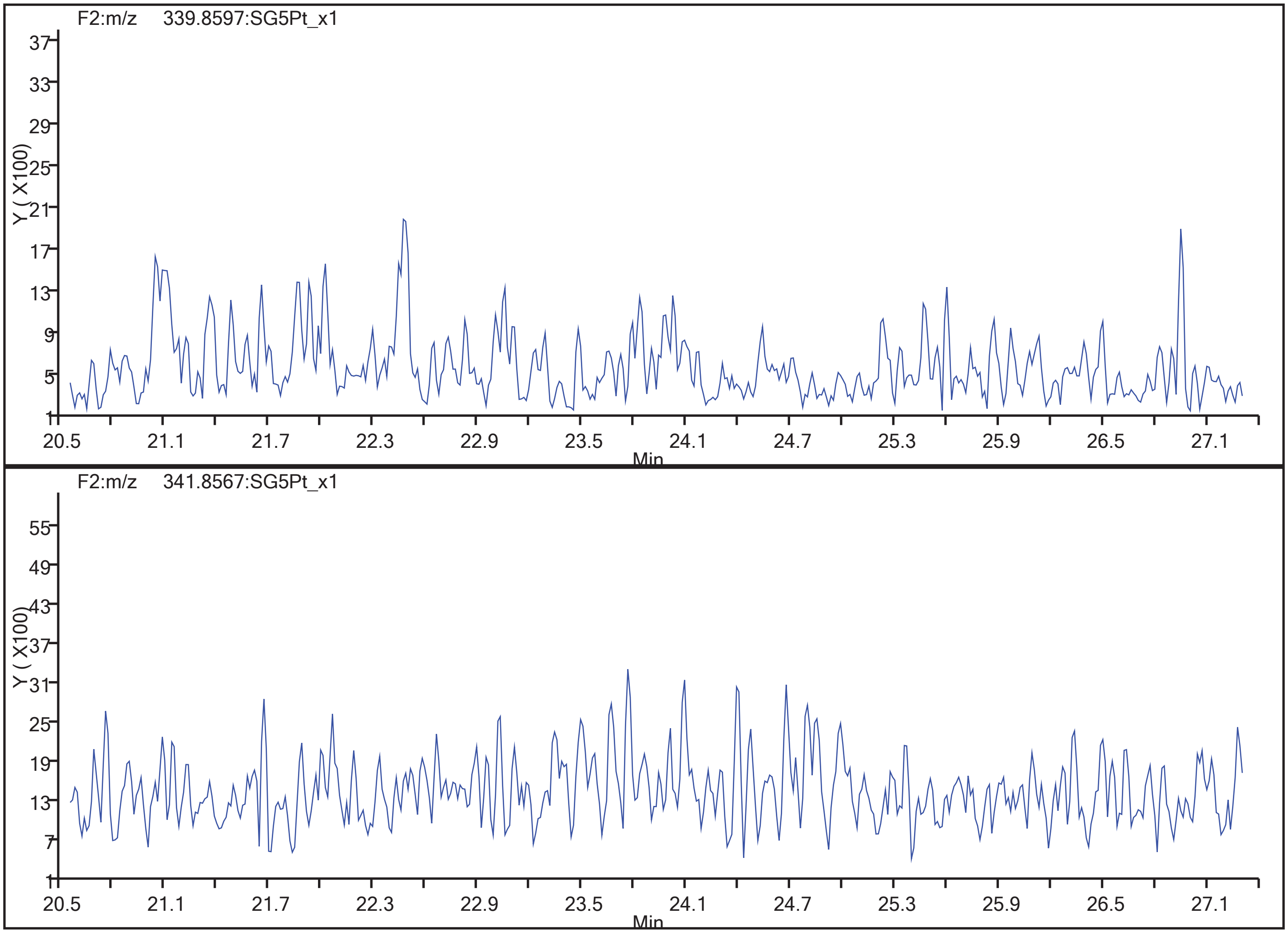
Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

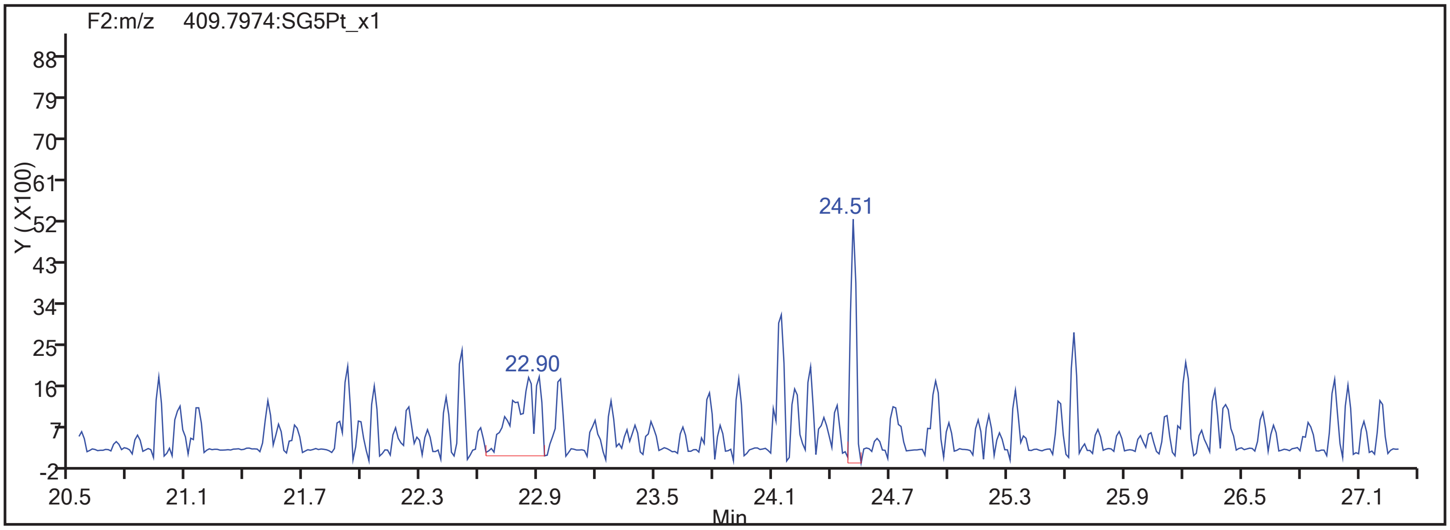
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d

Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Interference Mass

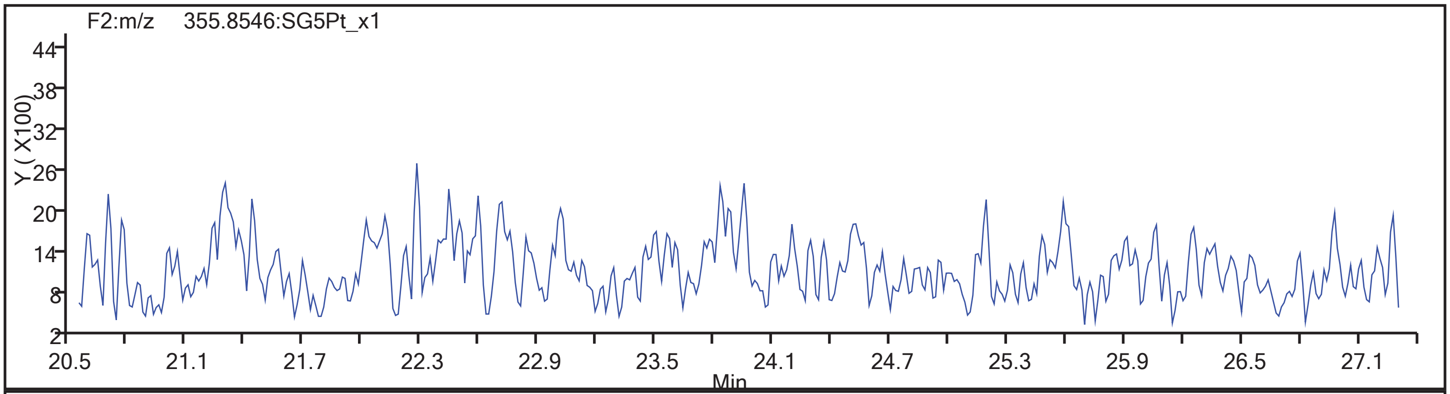


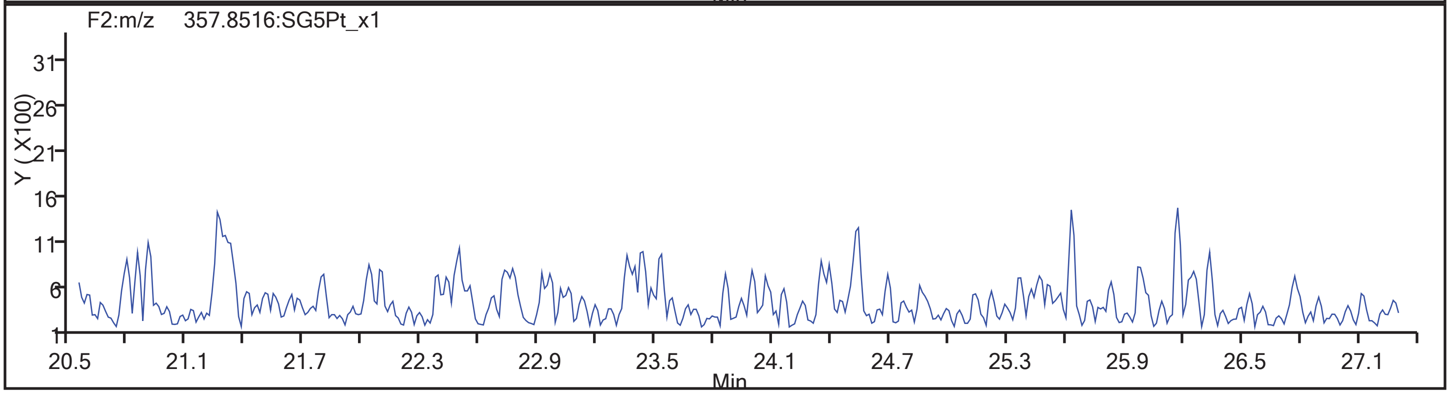
Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

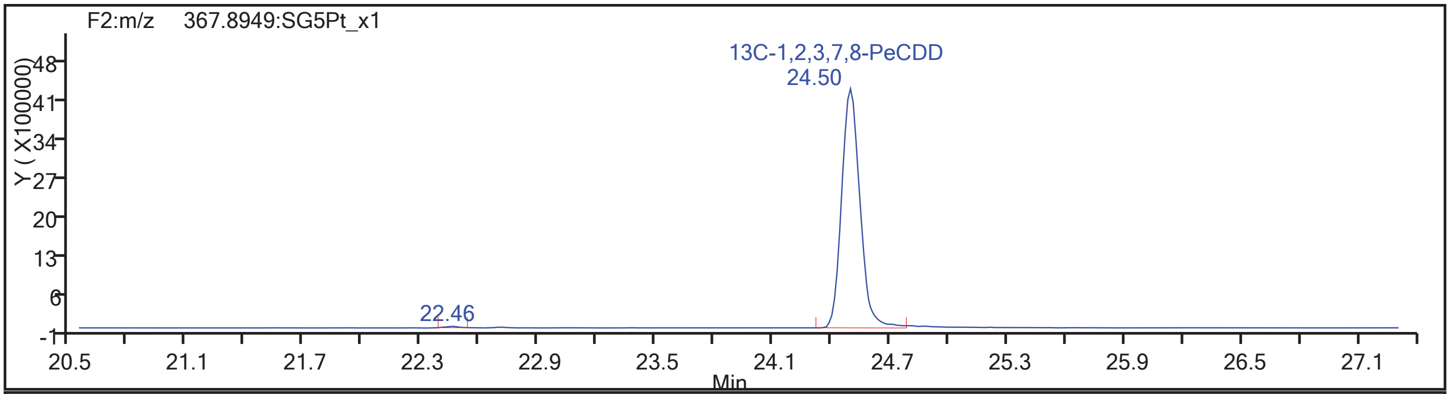
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

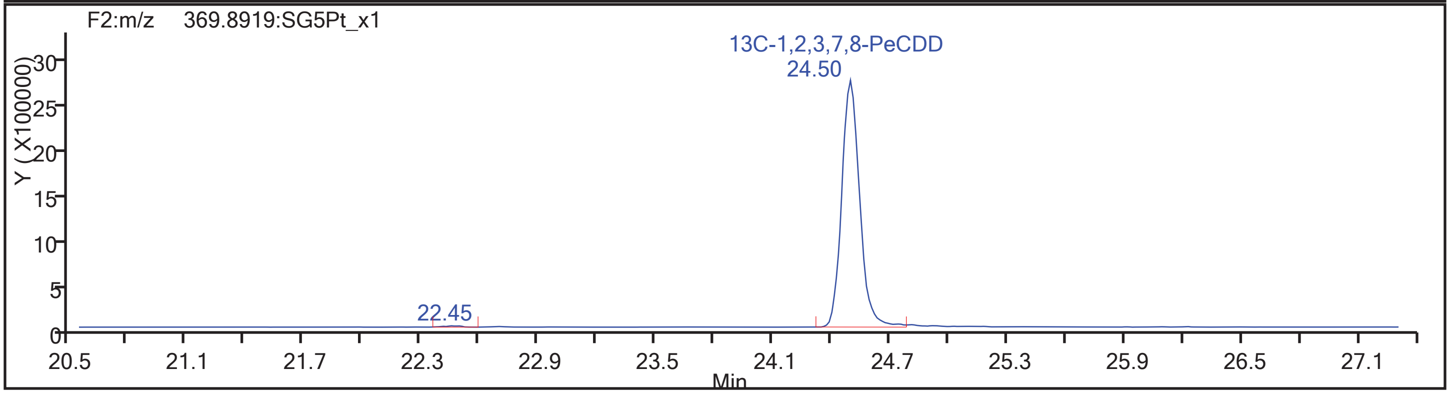
PeCDD





PeCDD Standards



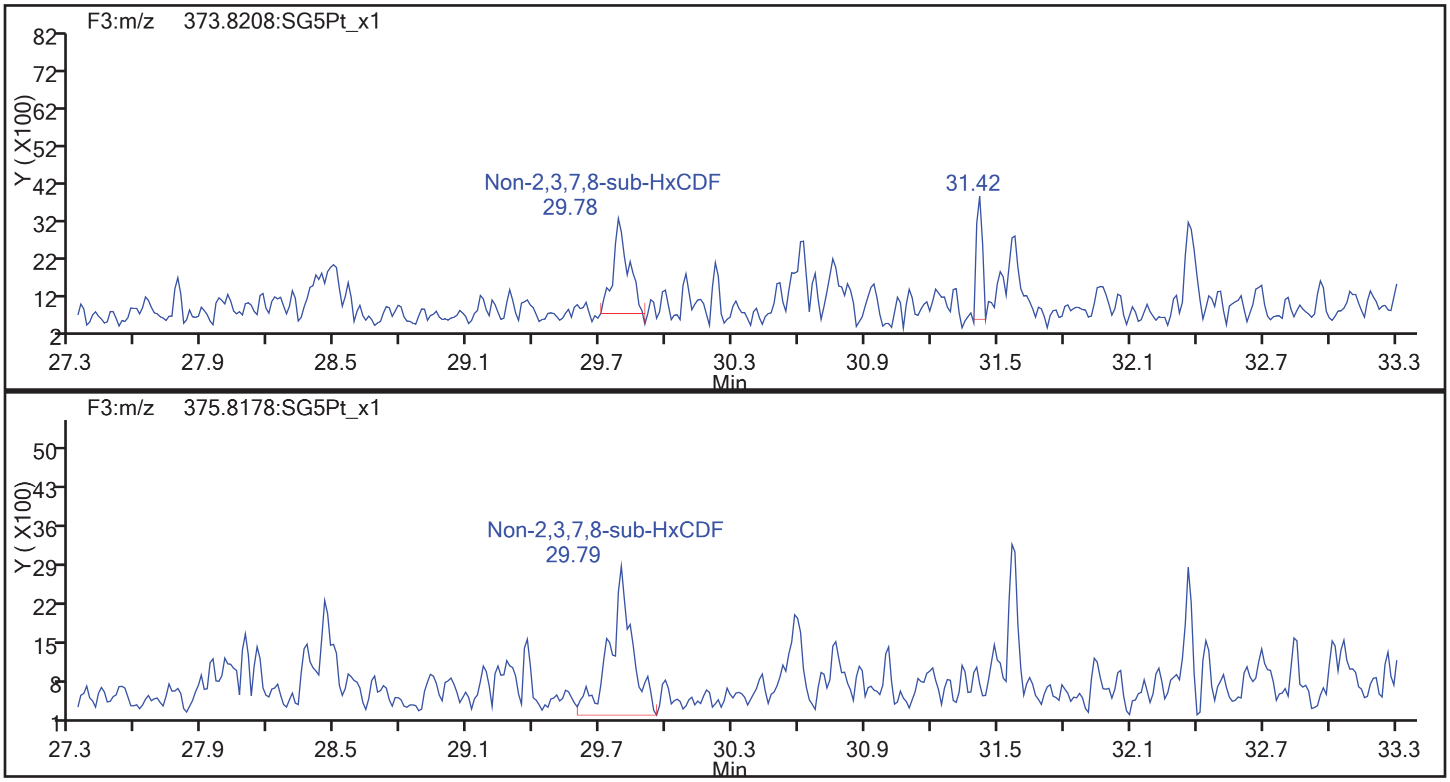


Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

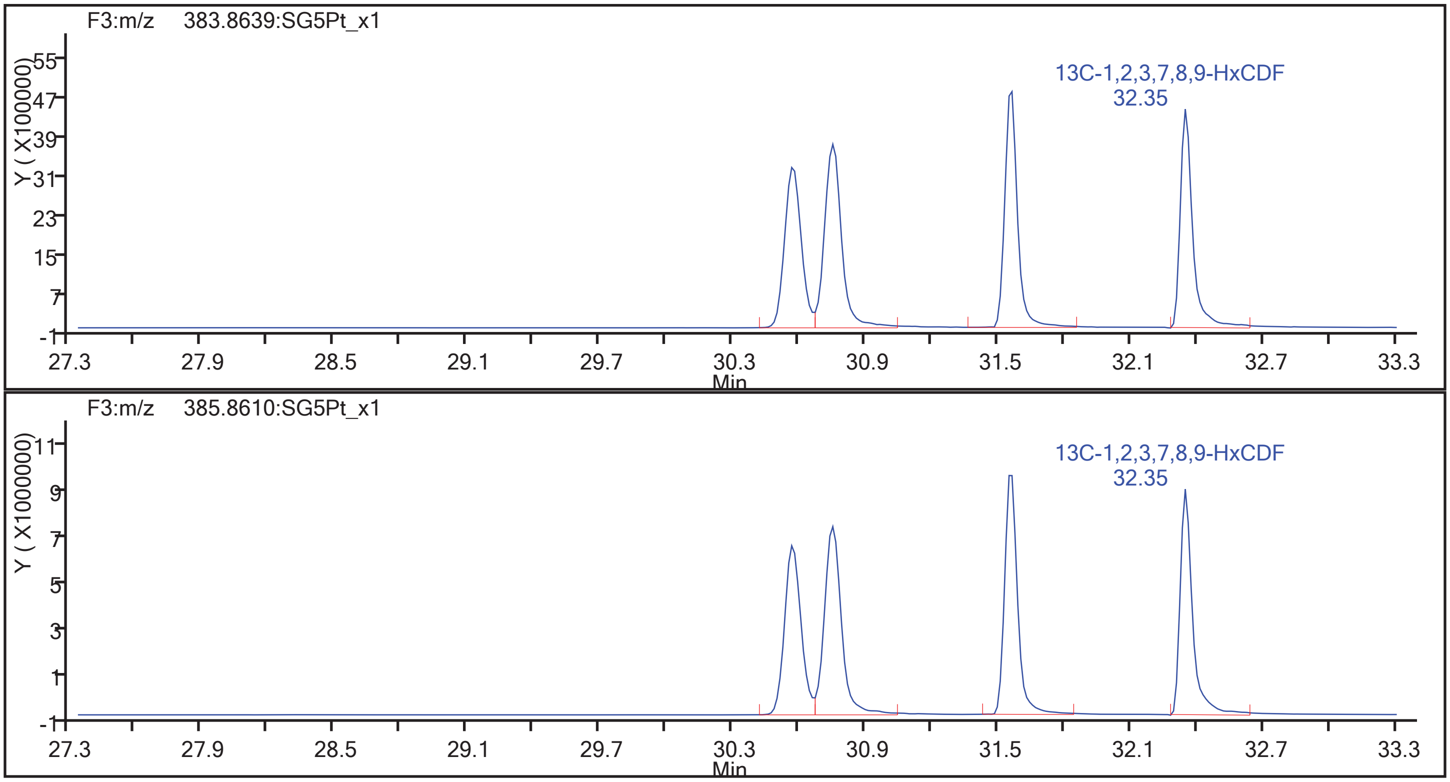
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



HxCDF Standards



Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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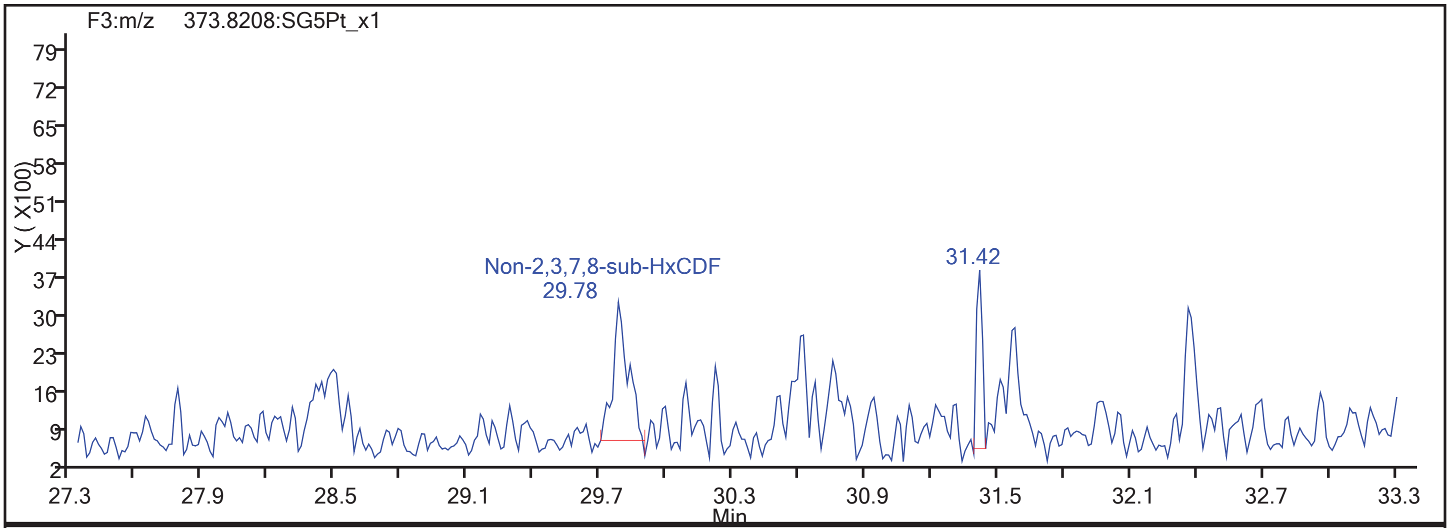
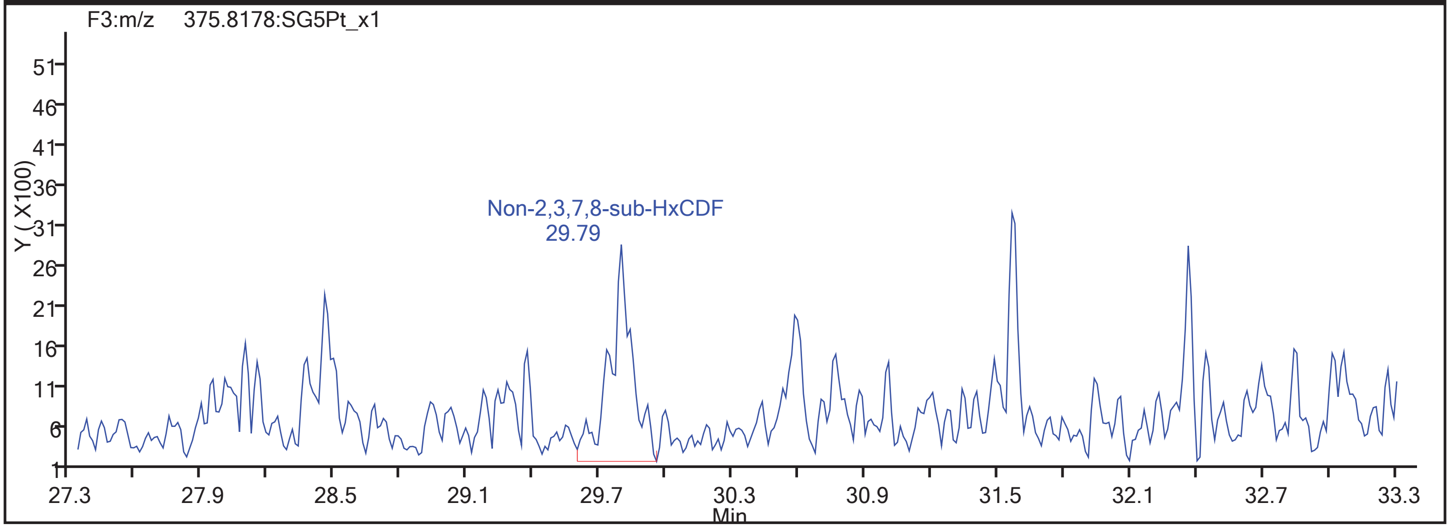
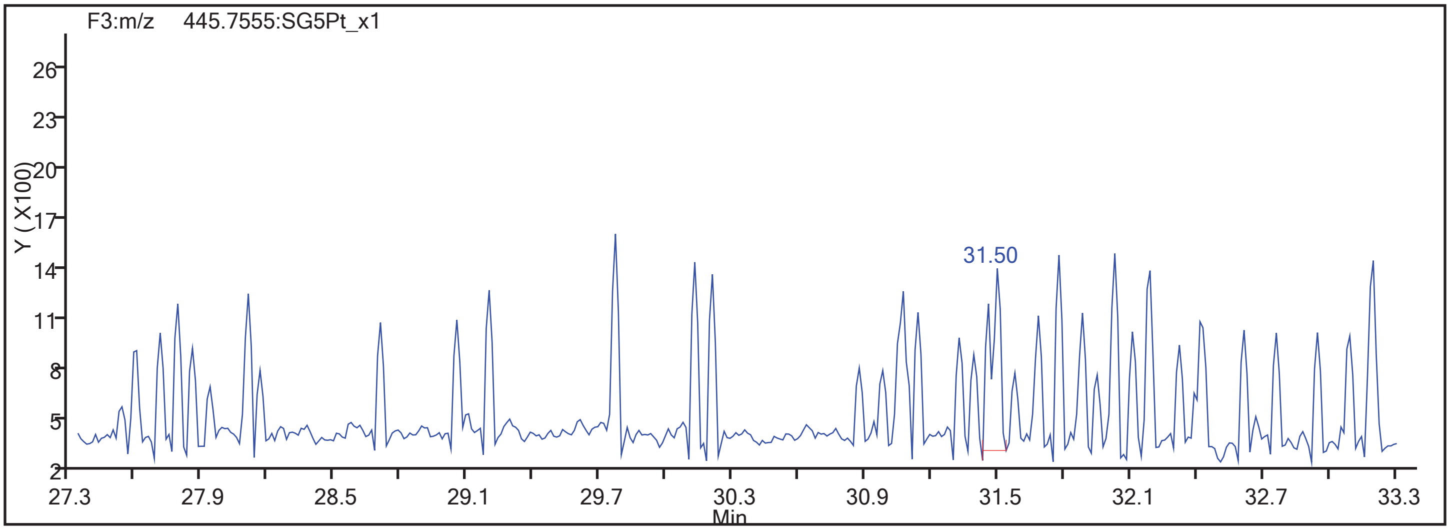
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d

Injection Date: 12-Nov-2017 04:37:41

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS04NS

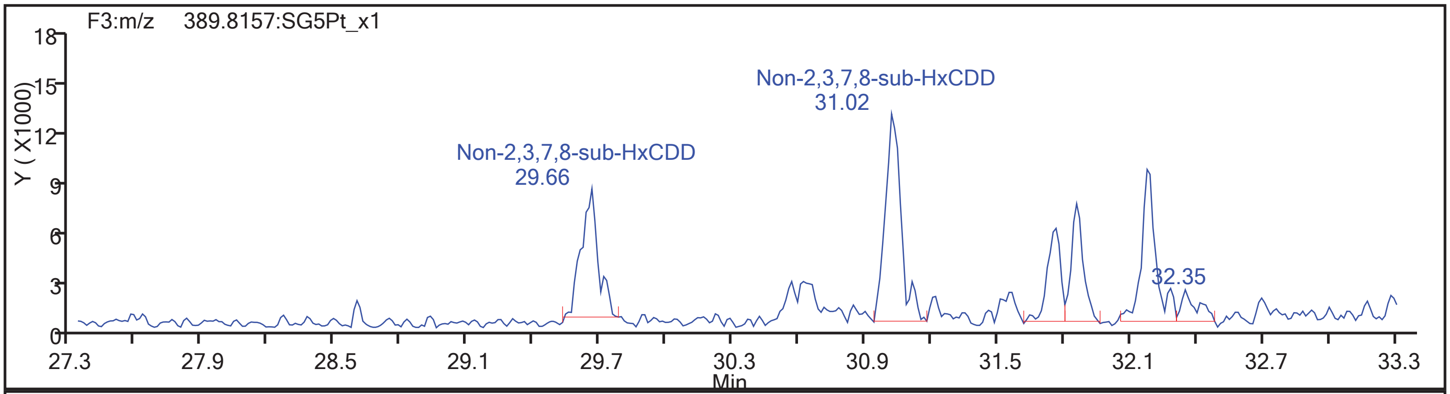
Worklist#: 194086

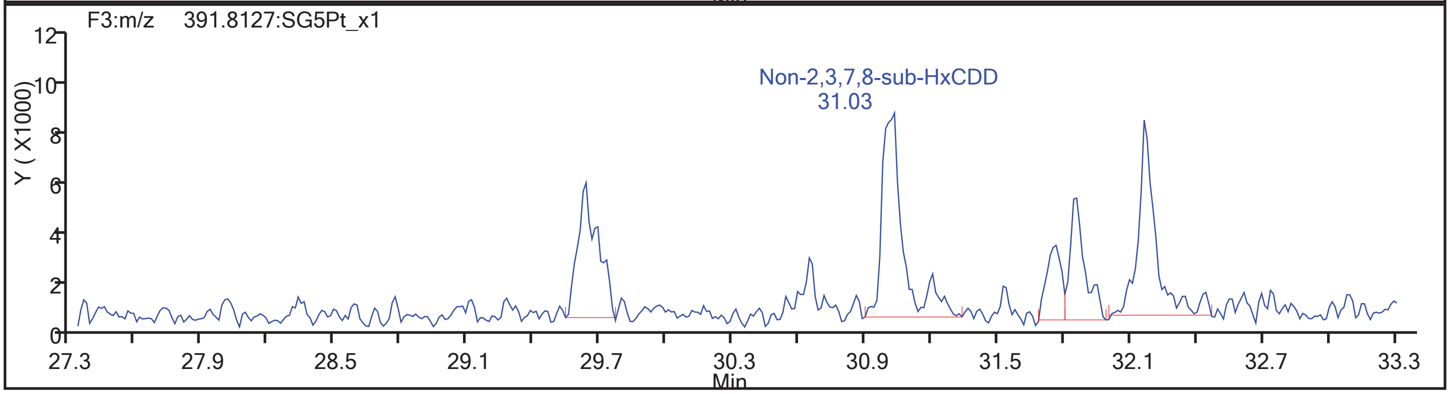
Sample Line#: 86

Column Type: DB-5

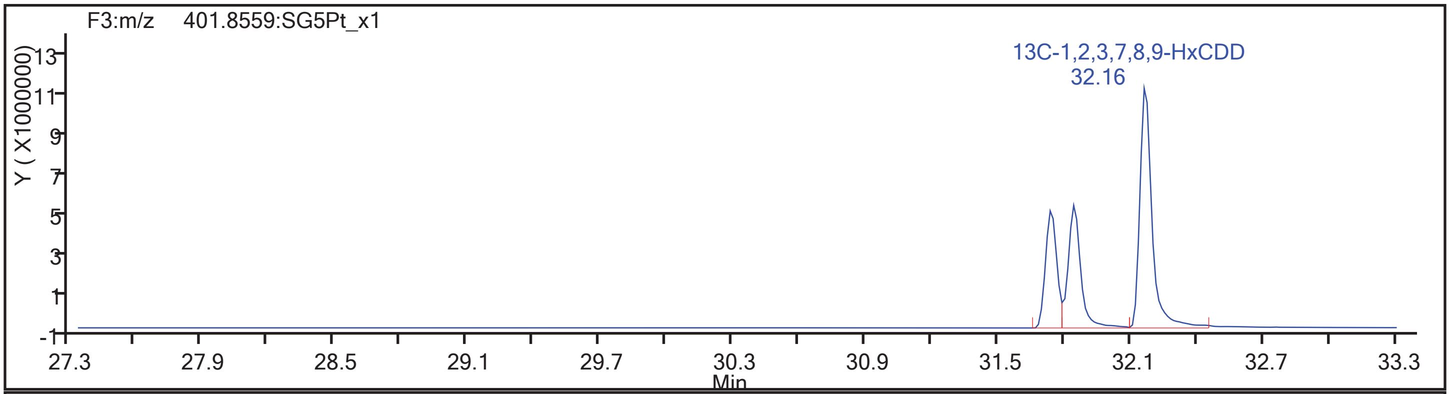
Column Dia: 0.32 mm

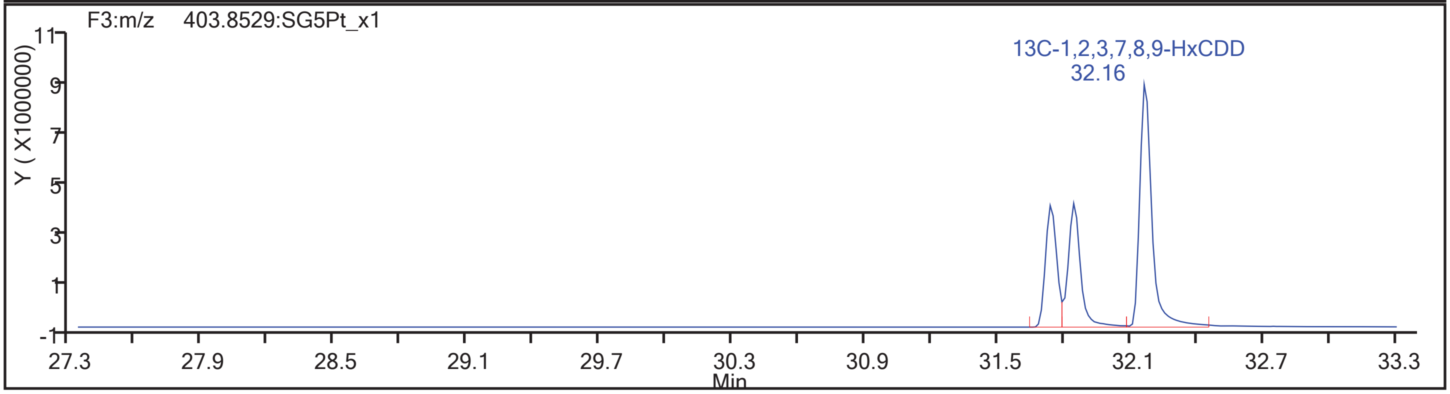
HxCDD





HxCDD Standards



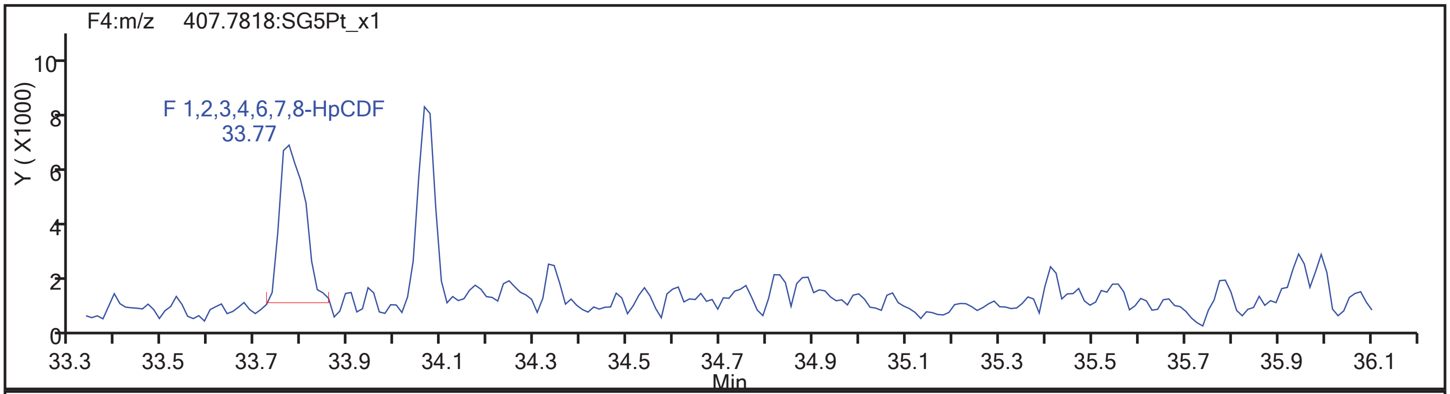


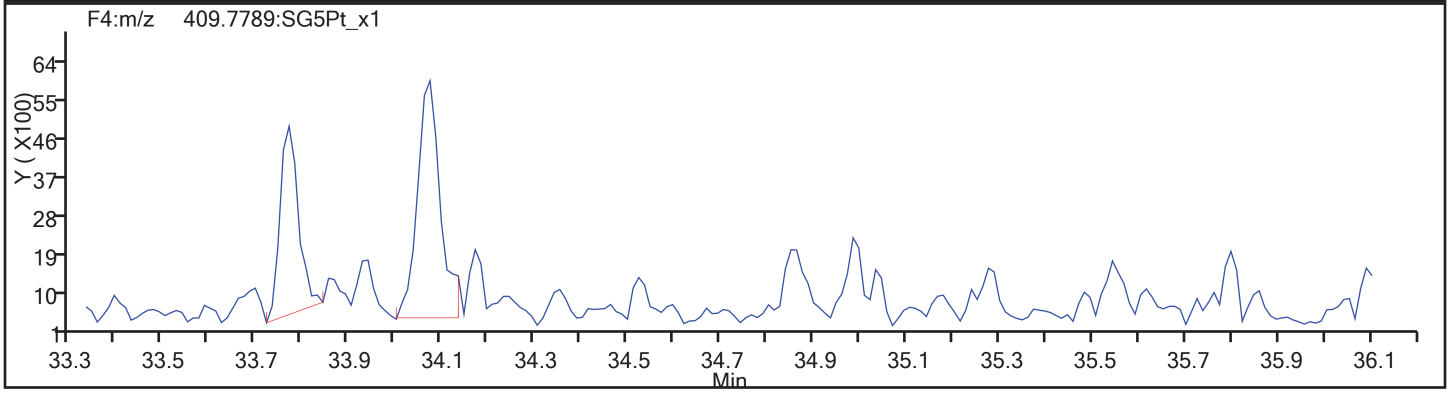
Report Date: 13-Nov-2017 13:26:27
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

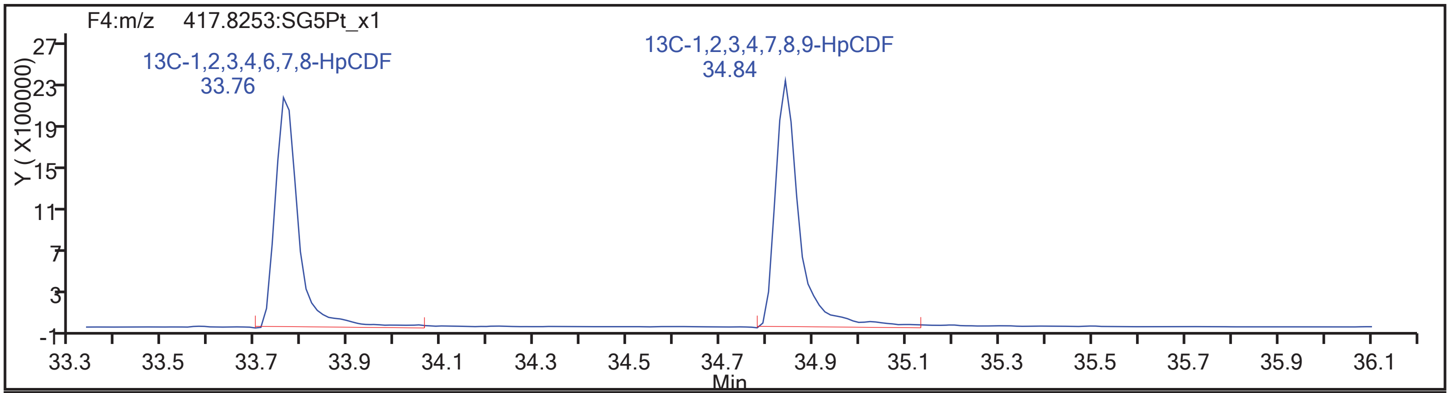
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

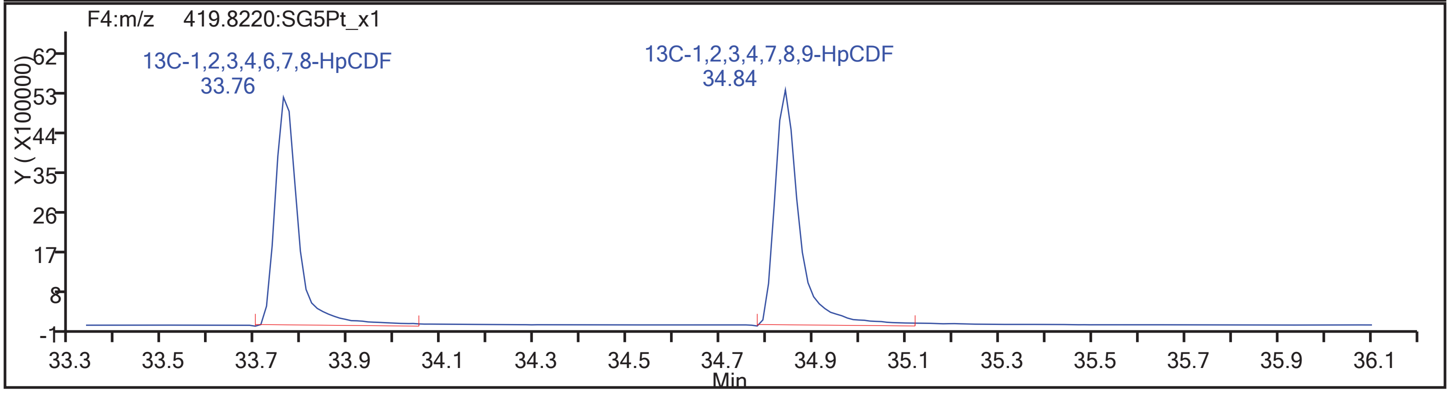
HpCDF





HpCDF Standards

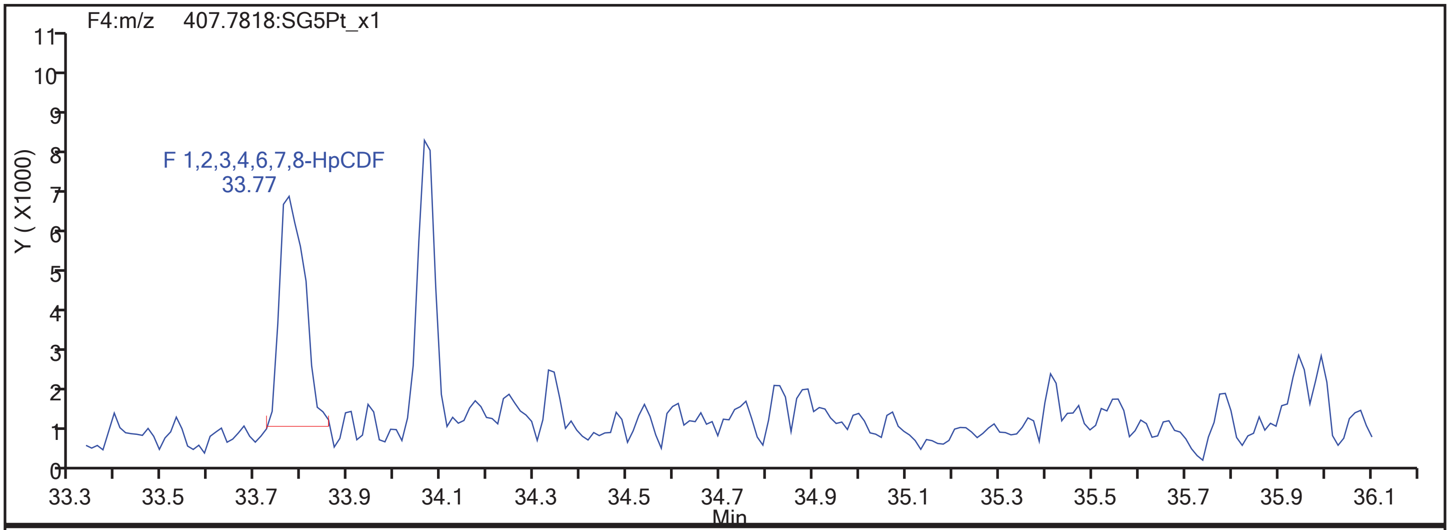


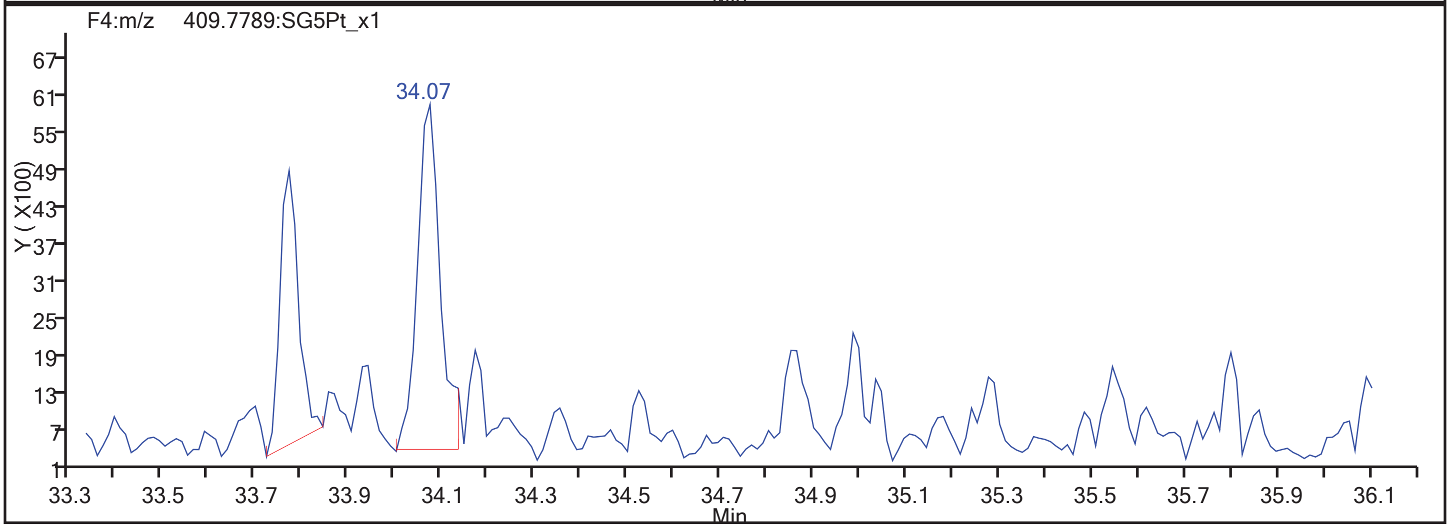


TestAmerica Sacramento

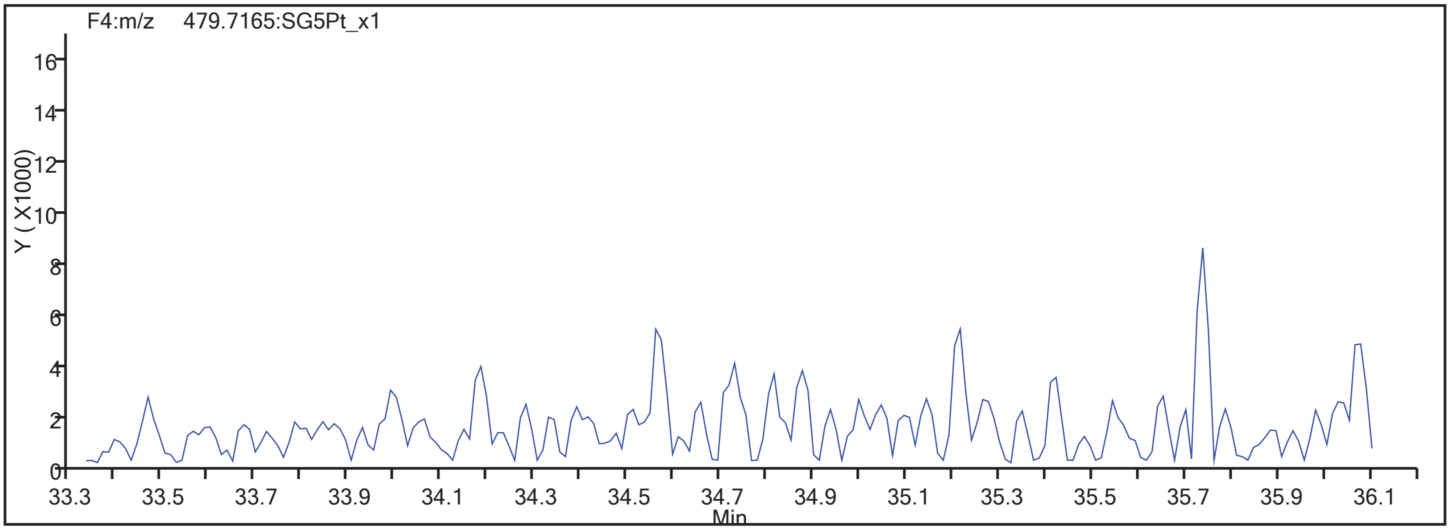
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass

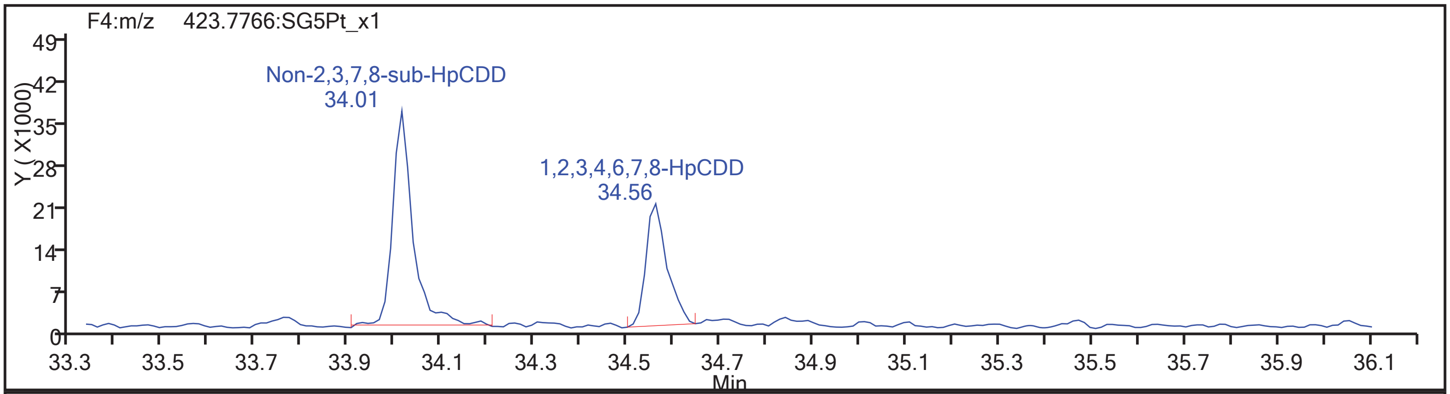


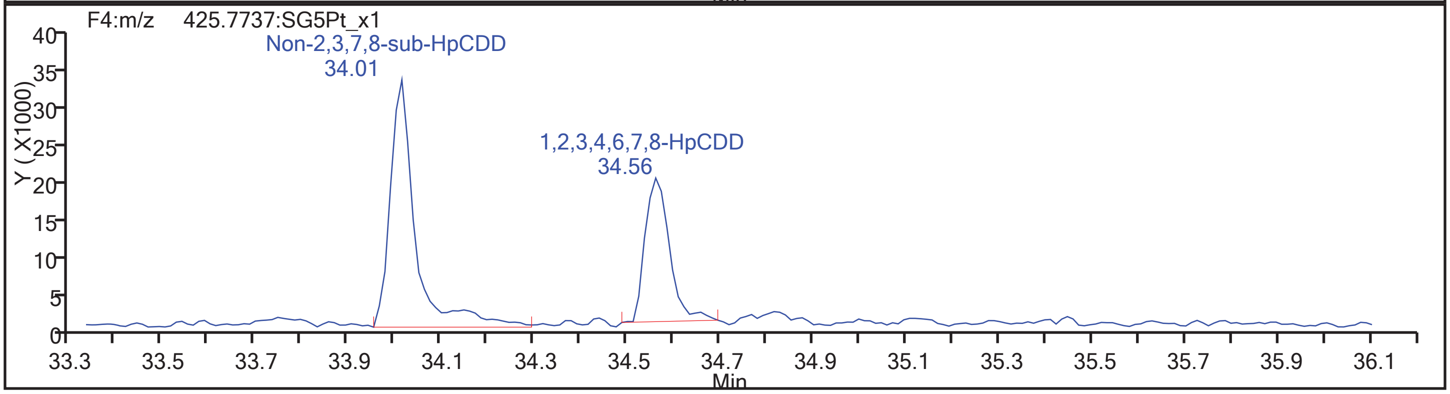
Report Date: 13-Nov-2017 13:26:27
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

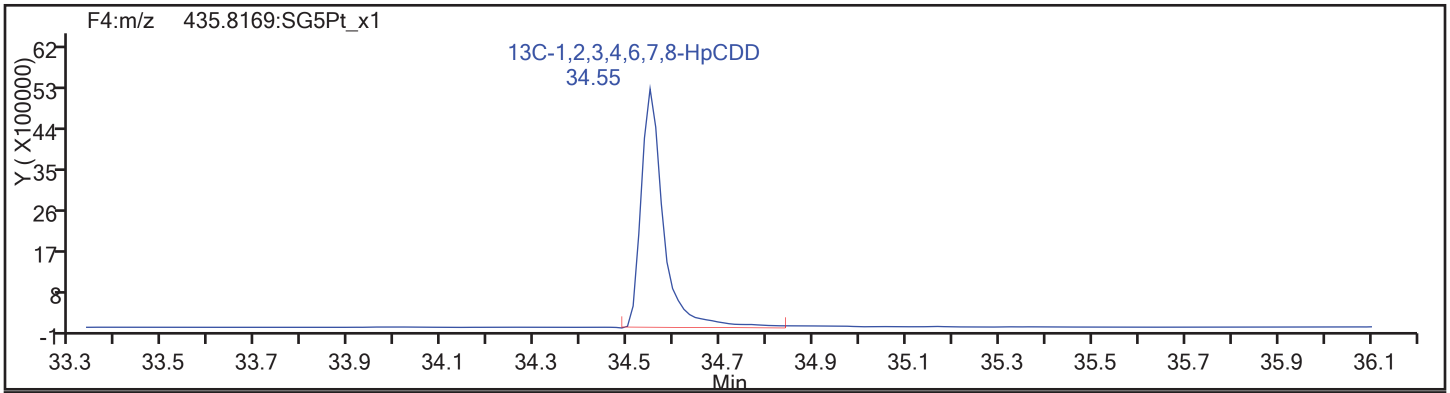
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

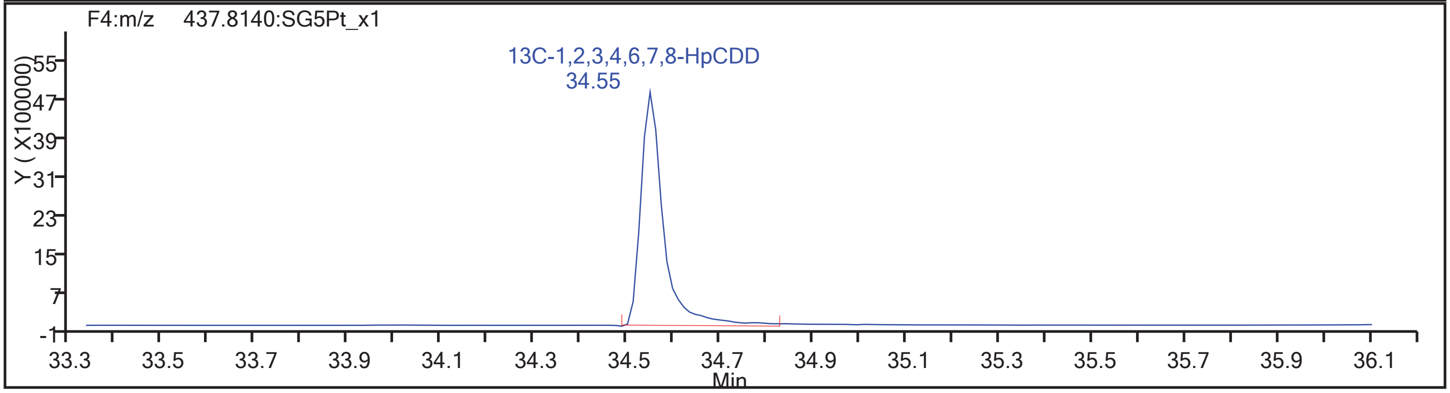
HpCDD





HpCDD Standards

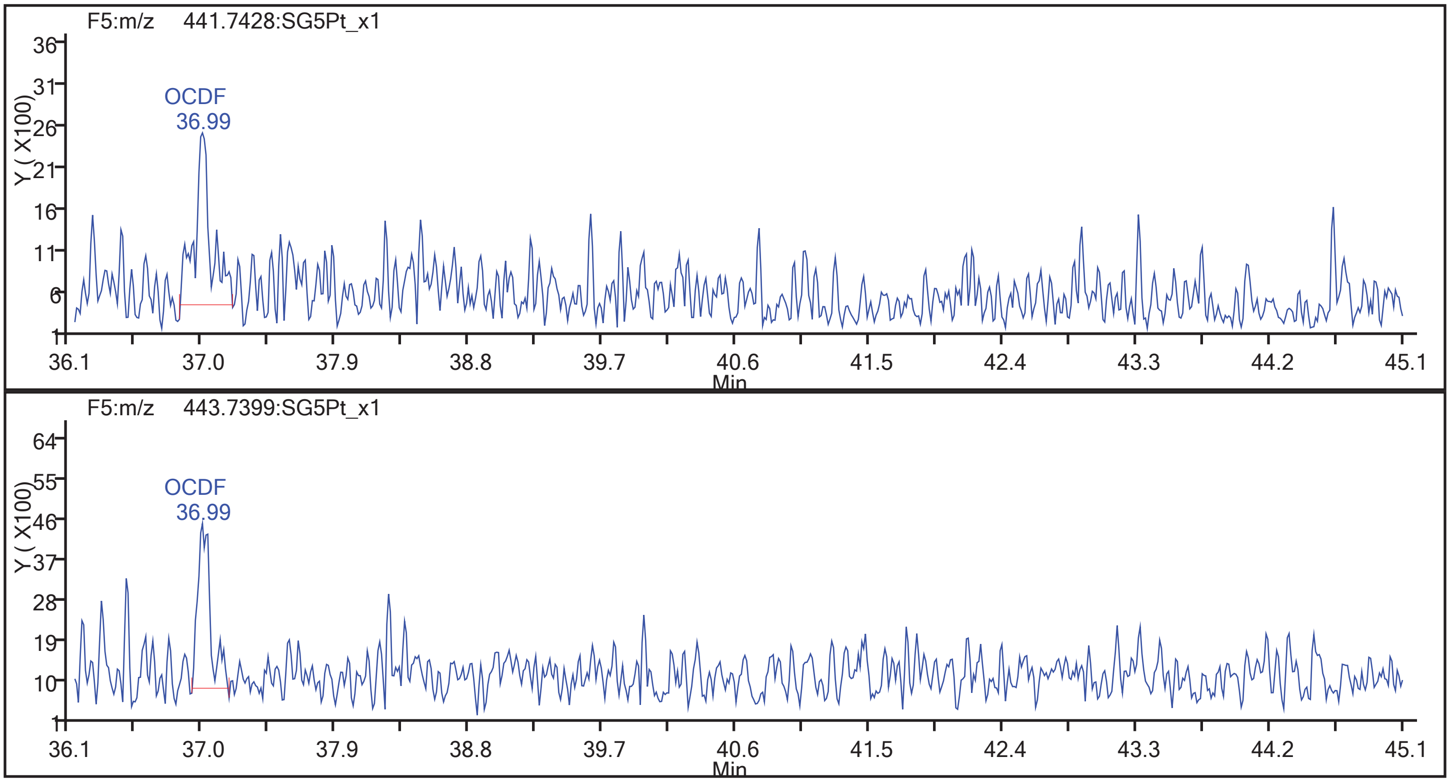




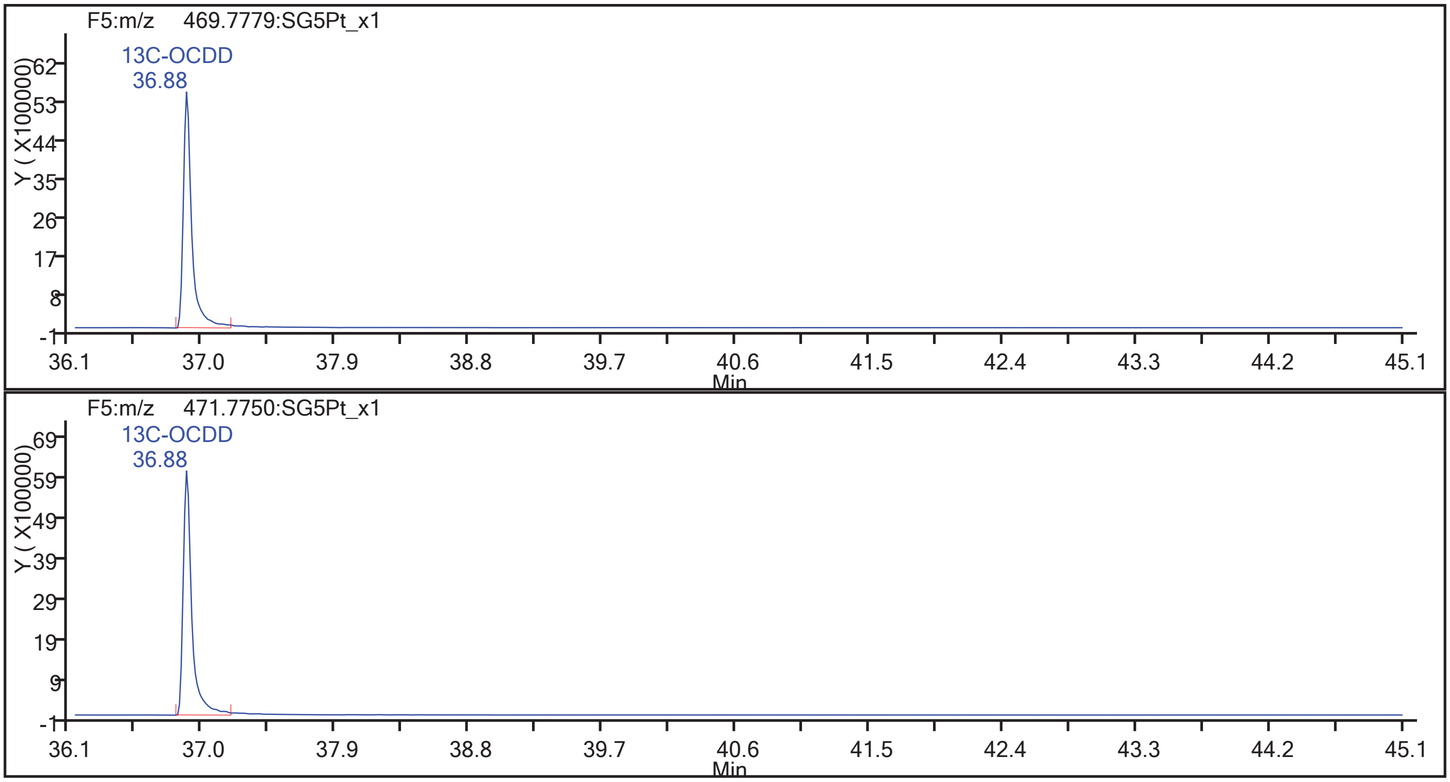
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d
Injection Date: 12-Nov-2017 04:37:41 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS04NS
Worklist#: 194086 Sample Line#: 86
Column Type: DB-5 Column Dia: 0.32 mm

OCDF



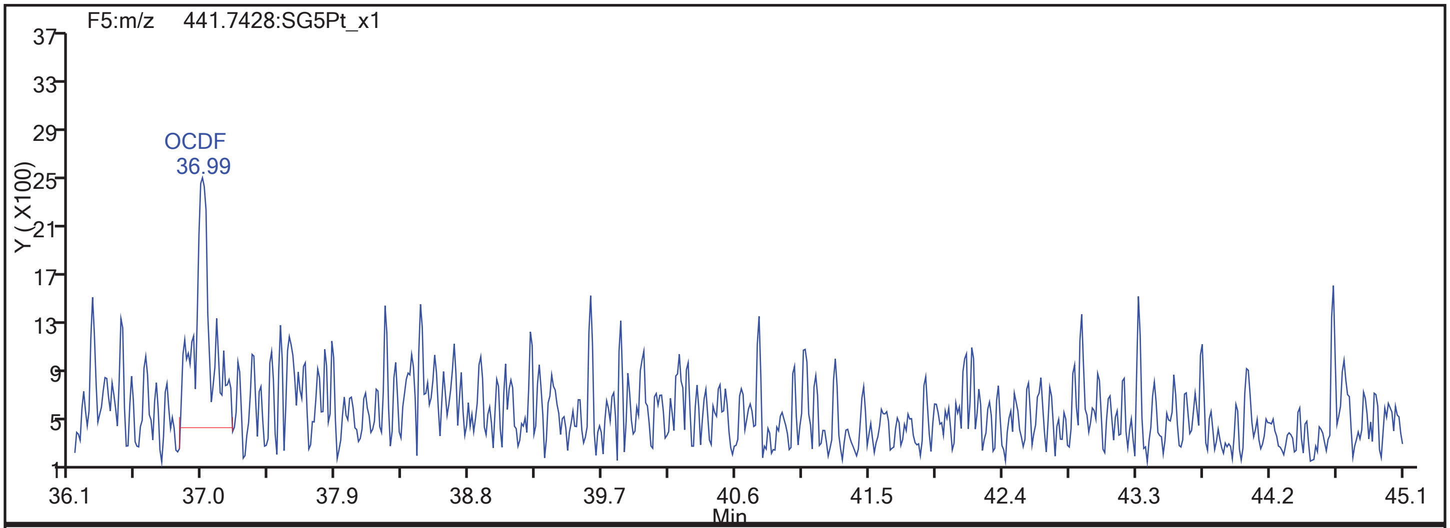
OCDF Standards

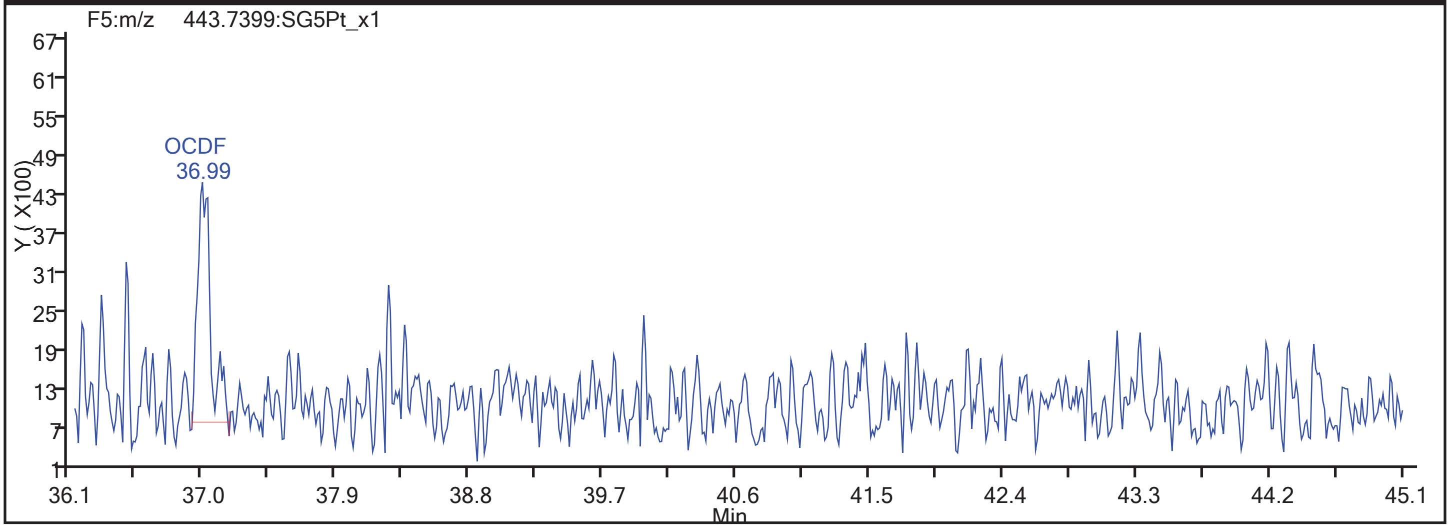


TestAmerica Sacramento

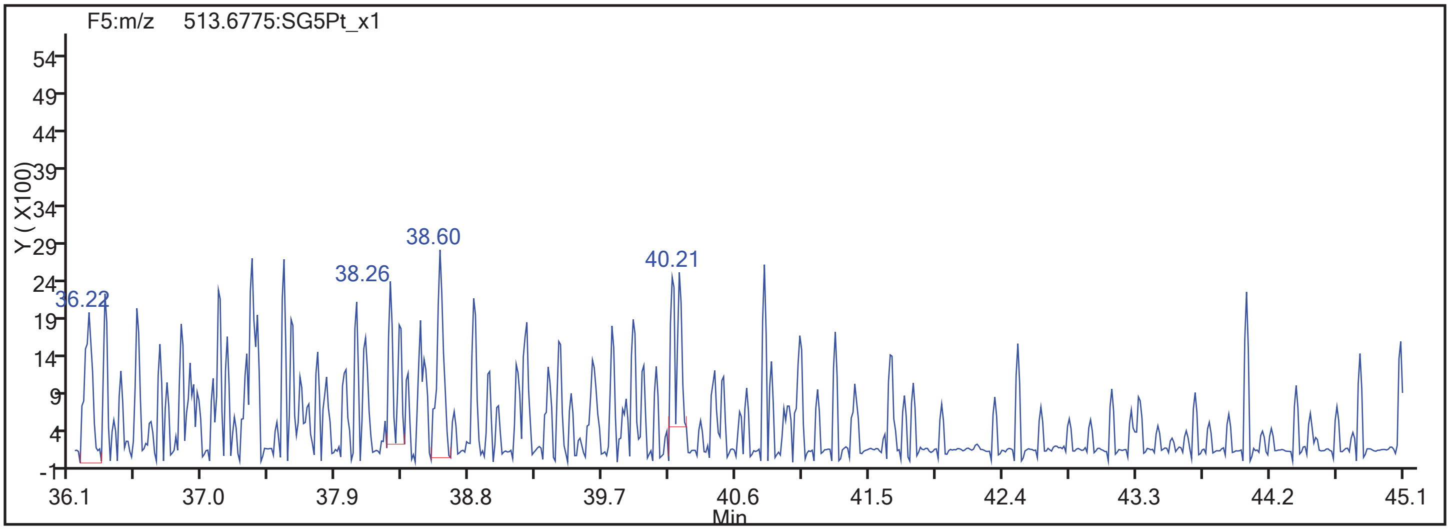
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

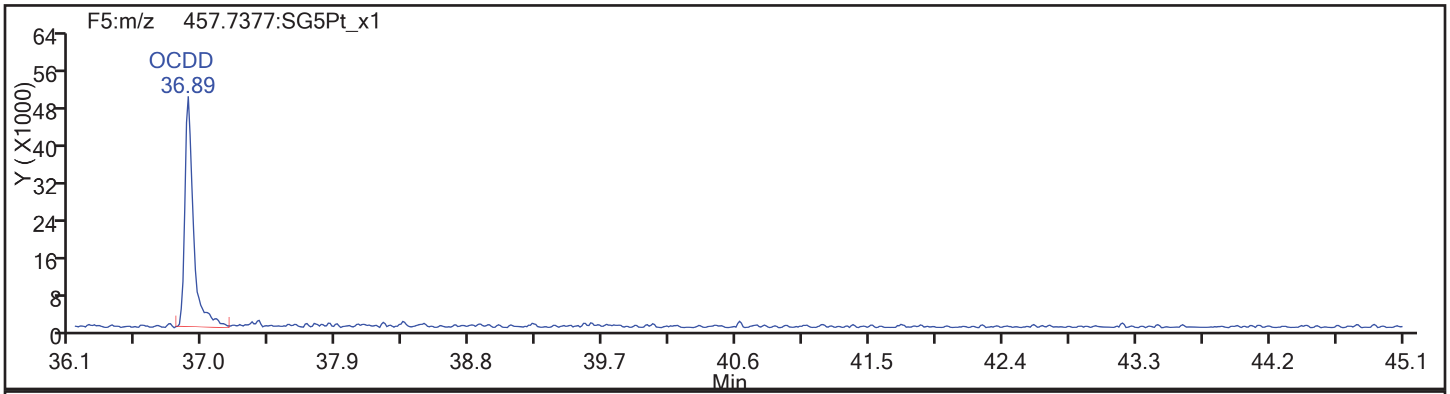


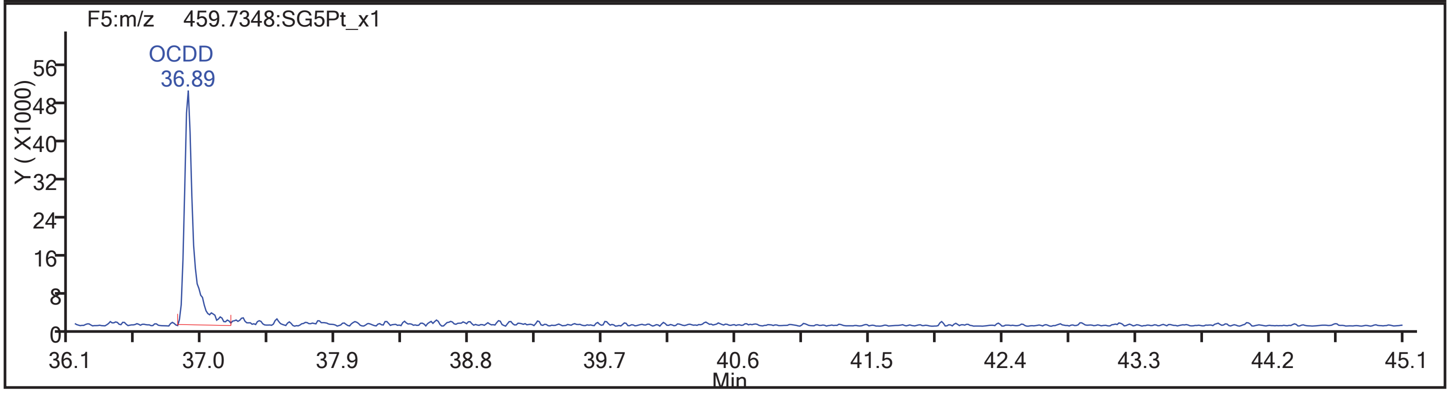
Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

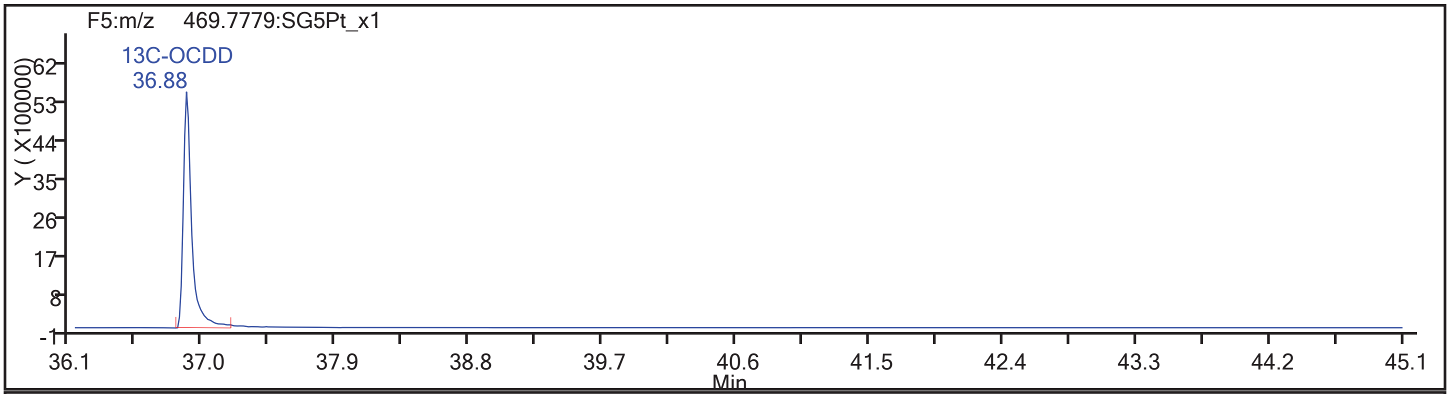
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm

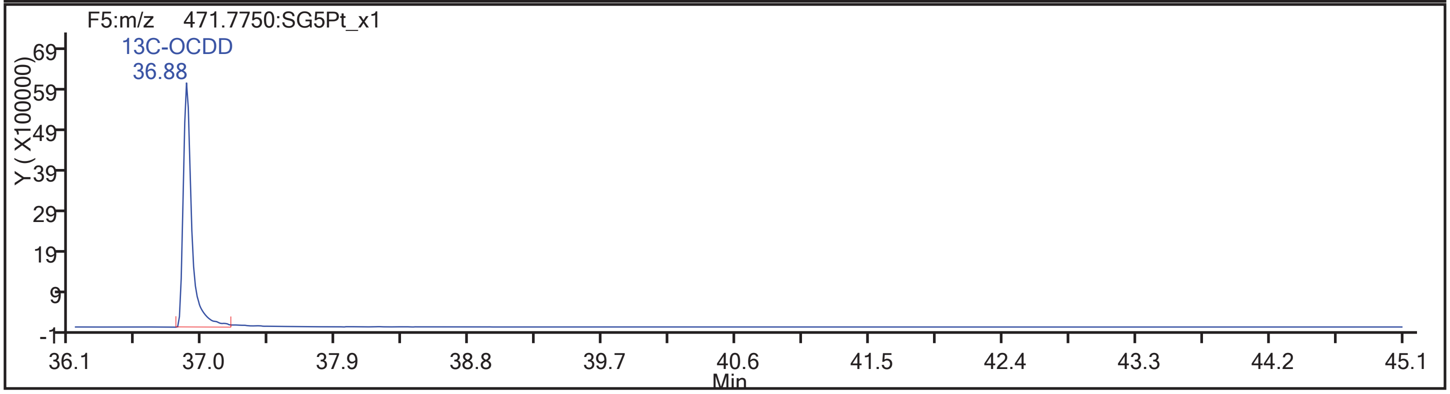
OCDD





OCDD Standards

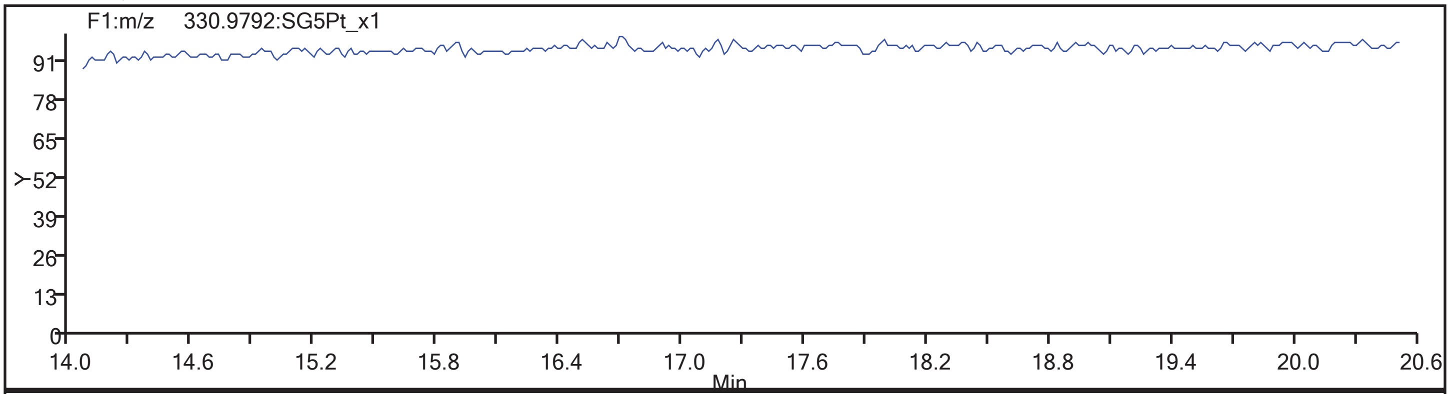


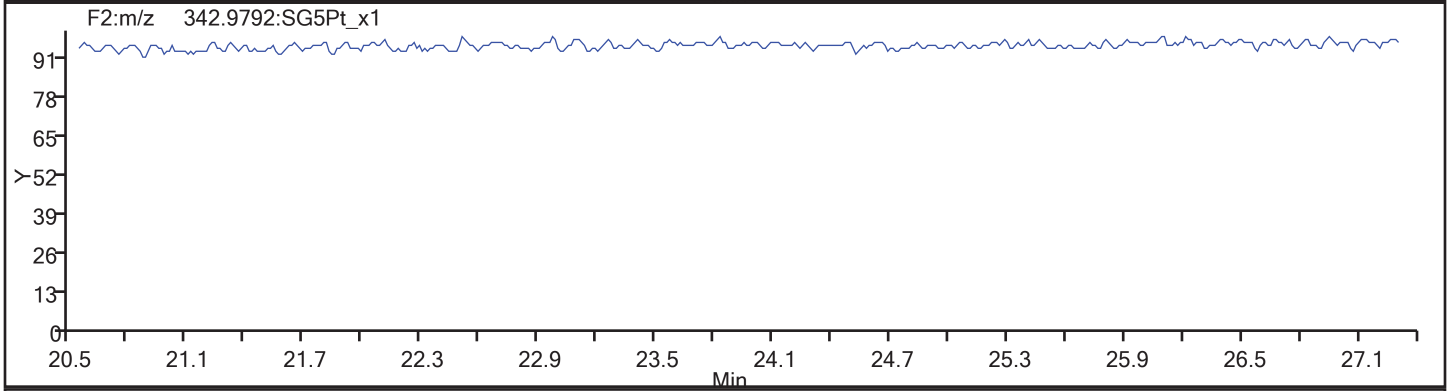


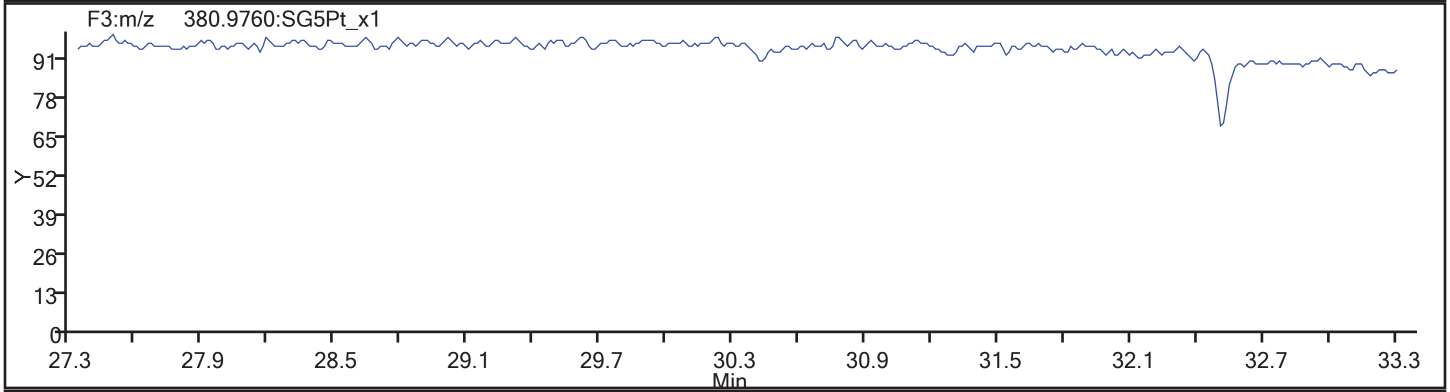
Report Date: 13-Nov-2017 13:26:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

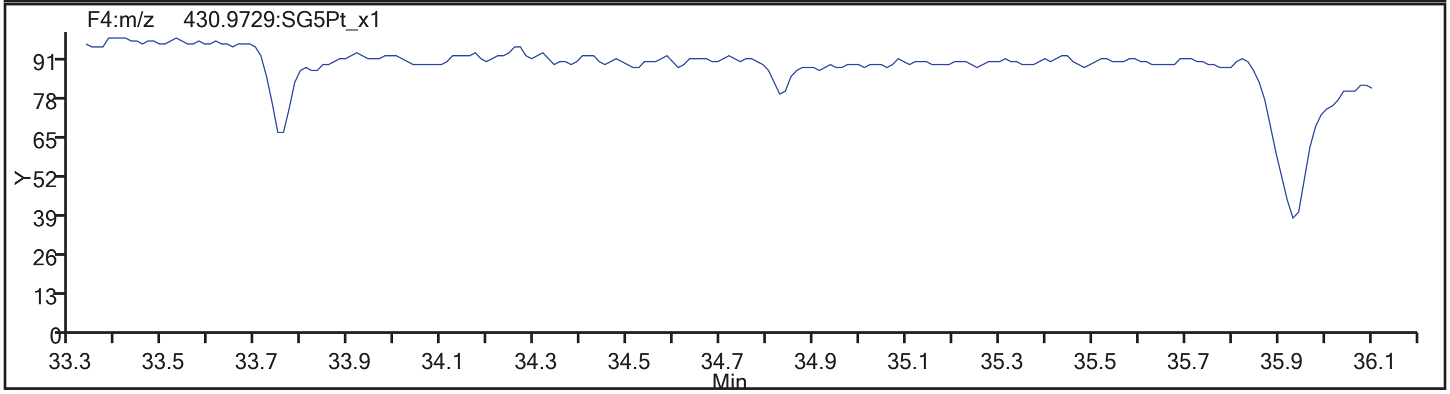
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm



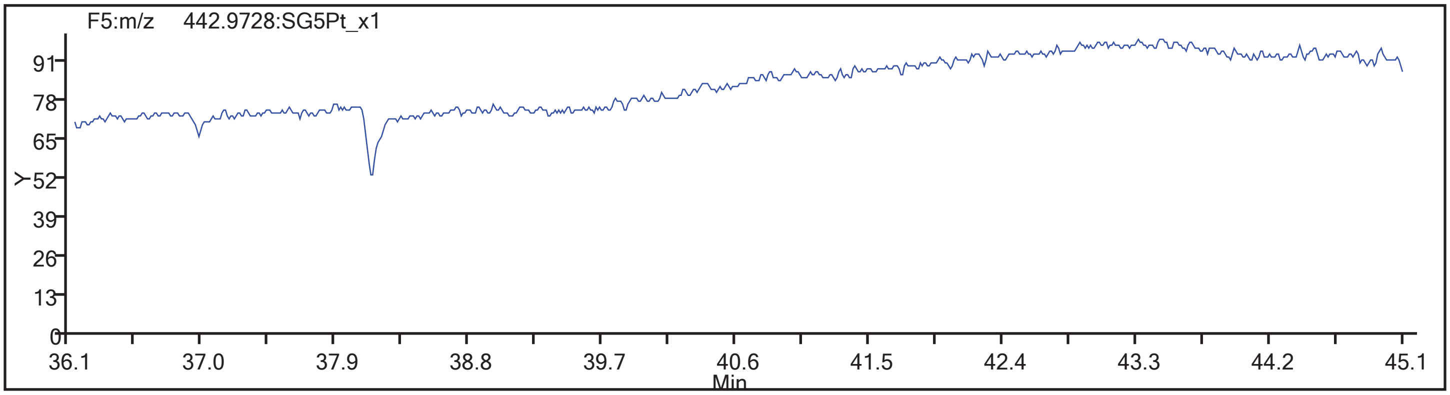






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_86.d		
Injection Date:	12-Nov-2017 04:37:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	194086	Sample Line#:	86
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP013SS04NS RE	Lab Sample ID: 160-24924-16 RE
Matrix: Solid	Lab File ID: 16NO173D5_87.d
Analysis Method: 8290A	Date Collected: 10/05/2017 15:06
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 9.83(g)	Date Analyzed: 11/19/2017 16:41
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 15.2	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195575	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.48*	*U H*	*1.2*	0.48	*0.062*
51207-31-9	*2,3,7,8-TCDF*	*0.48*	*U H*	*1.2*	0.48	*0.048*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.90*	*U H*	*6.0*	0.90	*0.084*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.90*	*U H*	*6.0*	0.90	*0.052*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.90*	*U H*	*6.0*	0.90	*0.054*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*0.23*	*J H M*	*6.0*	2.4	*0.075*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*2.4*	*U H*	*6.0*	2.4	*0.068*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*0.33*	*J H*	*6.0*	2.4	*0.065*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.088*	*J H*	*6.0*	0.90	*0.056*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.2*	*U H*	*6.0*	1.2	*0.051*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.2*	*U H*	*6.0*	1.2	*0.059*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.90*	*U H*	*6.0*	0.90	*0.055*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*1.5*	*J H*	*6.0*	1.2	*0.13*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*0.55*	*J H*	*6.0*	1.2	*0.098*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.4*	*U H*	*6.0*	2.4	*0.13*
3268-87-9	*OCDD*	*15*	*H B*	*12*	4.8	*0.18*
39001-02-0	*OCDF*	*3.7*	*J H*	*12*	4.8	*0.13*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	64		40-135
89059-46-1	13C-2,3,7,8-TCDF	64		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	61		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	64		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	61		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	61		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	61		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	46		40-135
114423-97-1	13C-OCDD	52		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d
Lims ID: 160-24924-G-16-B
Client ID: SHAD041DP013SS04NS
Sample Type: Client
Inject. Date: 19-Nov-2017 16:41:00 ALS Bottle#: 57 Worklist Smp#: 87
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-16-B 160-24924-G-16-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:15:55 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:44:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	165155102	0.76	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.705	160261642	0.78	1.5089	64.3	64.3	0.1885	0.1885	64.31	
2,3,7,8-TCDF	17.720						0.0202	0.0202		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF							0.0202	0.0202		
D 13C-2,3,7,8-TCDD	18.445	104393113	0.76	0.9906	63.8	63.8	0.1961	0.1961	63.81	
2,3,7,8-TCDD	18.461						0.0259	0.0259		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD							0.0259	0.0259		
D 13C-1,2,3,7,8-PeCDF	22.896	118641300	1.60	1.1280	63.7	63.7	0.1795	0.1795	63.68	
1,2,3,7,8-PeCDF	22.910						0.0218	0.0218		
2,3,4,7,8-PeCDF	24.287						0.0224	0.0224		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF							0.0224	0.0224		
D 13C-1,2,3,7,8-PeCDD	25.010	73376184	1.58	0.7269	61.1	61.1	0.1351	0.1351	61.12	
1,2,3,7,8-PeCDD	25.037						0.0351	0.0351		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0351	0.0351		
D 13C-1,2,3,4,7,8-HxCDF	30.919	88234567	0.52	1.0279	61.1	61.1	0.2956	0.2956	61.06	
1,2,3,4,7,8-HxCDF	30.946	43444	1.24	1.3475	0.0490	0.0365	0.0235	0.0235		RQ
1,2,3,6,7,8-HxCDF	30.946						0.0214	0.0214		RQU
2,3,4,6,7,8-HxCDF	31.838						0.0229	0.0229		
D 13C-1,2,3,7,8,9-HxCDF	32.583	90801237	0.53							
1,2,3,7,8,9-HxCDF	32.597						0.0245	0.0245		
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF					0.0490	0.0365	0.0231	0.0231		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.410	140577652	1.26	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.011	73030	1.24	1.0646	0.1350	0.0944	0.0314	0.0314		RQM
D 13C-1,2,3,6,7,8-HxCDD	32.091	72689523	1.19	0.8502	60.8	60.8	0.2579	0.2579	60.82	
1,2,3,6,7,8-HxCDD	32.011						0.0283	0.0283		RQU

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.397	121901	1.24	1.2311	0.1539	0.1362	0.0272	0.0272		RQ
A Non-2,3,7,8-sub-HxCDD	31.252						0.0	0.0		
S Total HxCDD					0.2890	0.2306	0.0290	0.0290		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	42139515	0.44	0.6490	46.2	46.2	0.4863	0.4863	46.19	
1,2,3,4,6,7,8-HpCDF	34.010	154268	0.94	1.5871	0.2307	0.2307	0.0410	0.0410		
1,2,3,4,7,8,9-HpCDF	35.128						0.0530	0.0530		
A Non-2,3,7,8-sub-HpCDF	34.569	112117	1.04	1.4080	0.2347	0.1890	0.0462	0.1890		RQ
S Total HpCDF					0.4653	0.4196	0.0470	0.0470		RQ
1,2,3,4,6,7,8-HpCDD	34.836	340484	1.16	1.1631	0.6389	0.6389	0.0529	0.0529		
D 13C-1,2,3,4,6,7,8-HpCDD	34.812	45817014	1.07	0.5387	60.5	60.5	0.2567	0.2567	60.50	
A Non-2,3,7,8-sub-HpCDD	35.261	373716	0.89	1.1631	0.7013	0.7013	0.0529	0.7013		
S Total HpCDD					1.340	1.340	0.0529	0.0529		
D 13C-OCDD	37.245	58763413	0.94	0.4009	104.3	104.3	0.1441	0.1441	52.13	
OCDF	37.353	569146	0.93	1.2649	1.531	1.531	0.0543	0.0543		
OCDD	37.257	1971681	0.94	1.0390	6.459	6.459	0.0767	0.0767		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d
Lims ID: 160-24924-G-16-B
Client ID: SHAD041DP013SS04NS
Sample Type: Client
Inject. Date: 19-Nov-2017 16:41:00 ALS Bottle#: 57 Worklist Smp#: 87
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-16-B 160-24924-G-16-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:15:55 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:44:49

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		71366655	17035203	18885	47212	902		
333.9339	18.234	18.234	0		93788447	22123331	11539	28847	1917	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	0.971	70165868	16257325	28411	71027	572		
317.9389	17.705	17.705	0	0.971	90095774	20674806	16144	40360	1281	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						984	2460			
305.8987	17.720						2289	5722			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						984	2460			
305.8987	17.402						2289	5722			
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.012	45055536	9881739	18885	47212	523		
333.9339	18.445	18.430	1	1.012	59337577	13140006	11539	28847	1139	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461						1560	3900			
321.8936	18.461						1219	3047			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						1560	3900			
321.8936	17.871						1219	3047			
13C-1,2,3,7,8-PeCDF											
351.9000	22.896	22.883	1	1.256	72993093	12554624	18981	47452	661		
353.8970	22.883	22.883	0	1.255	45648207	7747000	12726	31815	609	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						697	1742			
341.8567	22.910						1326	3315			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	24.287						697	1742			
341.8567	24.287						1326	3315			
A F1 PeCDFs											
339.8597	20.426						703	1757			
341.8567	20.426						1259	3147			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						697	1742			
341.8567	23.668						1326	3315			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.372	44891164	7020960	7942	19855	884		
369.8919	25.024	25.010	1	1.372	28485020	4397058	7444	18610	591	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037						1220	3050			
357.8516	25.037						589	1472			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1220	3050			
357.8516	23.878						589	1472			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.919	0	0.954	30066944	6453351	17344	43360	372		
385.8610	30.919	30.919	0	0.954	58167623	12636717	29160	72900	433	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											RQ
373.8208	30.946	30.932	1	1.001	38823	10309	1336	3340	8		
	Empc Correction				24049	6832	1336	3340	5		
375.8178	30.932	30.932	0	1.000	19395	5510	1079	2697	5	2.00(1.05-1.43)	
1,2,3,6,7,8-HxCDF											RQU
373.8208	31.092						1336	3340			
375.8178	31.092						1079	2697			
2,3,4,6,7,8-HxCDF											
373.8208	31.838						1336	3340			
375.8178	31.838						1079	2697			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.005	31603218	9084568	17344	43360	524		
385.8610	32.583	32.583	0	1.005	59198019	16878708	29160	72900	579	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						1336	3340			
375.8178	32.597						1079	2697			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						1336	3340			
375.8178	30.653						1079	2697			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.410	0		78323049	21247772	20230	50575	1050		
403.8529	32.410	32.410	0		62254603	17019445	13335	33337	1276	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8157	32.011	32.011	0	0.998	71895	11868	1594	3985	7		M
	Empc Correction				40427	10816	1594	3985	7		
391.8127	32.011	32.011	0	0.998	32603	8723	985	2462	9	2.21(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.990	39462769	10243723	20230	50575	506		
403.8529	32.091	32.091	0	0.990	33226754	9024028	13335	33337	677	1.19(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	32.104						1594	3985			
391.8127	32.104						985	2462			
1,2,3,7,8,9-HxCDD											RQ
389.8157	32.397	32.424	-2	1.010	67481	16397	1594	3985	10		
391.8127	32.424	32.424	0	1.010	70260	15094	985	2462	15	0.96(1.05-1.43)	
	Empc Correction				54420	13223	985	2462	13		
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.252						1594	3985			
391.8127	31.252						985	2462			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	12907026	4401636	12631	31577	348		
419.8220	33.998	33.998	0	1.049	29232489	10206240	35681	89202	286	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.010	34.010	0	1.000	74698	25823	2358	5895	11		
409.7789	33.986	34.010	-1	1.000	79570	20873	1446	3615	14	0.94(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						2358	5895			
409.7789	35.128						1446	3615			
A Non-2,3,7,8-sub-HpCDF											RQ
407.7818	34.314	34.569	-15	1.009	57158	15105	2358	5895	6		
409.7789	34.314	34.569	-15	1.009	82074	23129	1446	3615	16	0.70(0.88-1.20)	
	Empc Correction				54959	14524	1446	3615	10		
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.001	182864	56180	1967	4917	29		
425.7737	34.836	34.824	1	1.001	157620	51242	1560	3900	33	1.16(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.812	34.824	-1	1.074	23640338	7312961	8871	22177	824		
437.8140	34.812	34.824	-1	1.074	22176676	7008321	12292	30730	570	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.253	35.261	-60	0.984	175871	53919	1967	4917	27		a
425.7737	34.265	35.261	-60	0.984	197845	66914	1560	3900	43	0.89(0.88-1.20)	
13C-OCDD											
469.7779	37.245	37.245	0	1.149	28515700	7855747	4199	10497	1871		
471.7750	37.245	37.245	0	1.149	30247713	8628497	4642	11605	1859	0.94(0.76-1.02)	
OCDF											
441.7428	37.353	37.353	0	1.003	274882	77594	988	2470	79		
443.7399	37.353	37.353	0	1.003	294264	72917	1277	3192	57	0.93(0.76-1.02)	
OCDD											
457.7377	37.257	37.257	0	1.000	956178	249930	1210	3025	207		
459.7348	37.245	37.257	-1	1.000	1015503	273181	1418	3545	193	0.94(0.76-1.02)	

QC Flag Legend

Processing Flags

- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags

- M - Manually Integrated
- U - Marked Undetected

Report Date: 06-Dec-2017 15:15:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d		
Lims ID:	160-24924-G-16-B		
Client ID:	SHAD041DP013SS04NS		
Inject. Date:	19-Nov-2017 16:41:00	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	87

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	42139515	14607876
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	42139515	14607876

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.314	57158	15105	82074	23129	0.2347	0.70	RQ
34.314	57158	15105	54959	14524	0.1890		Empc Correction
Signal Totals:							
	57158	15105	54959	14524			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	139232	38234				0.70	RQ
	112117	29629					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2347 = (139232 * 100.000) / (42139515 * 1.408)
Empc Amount: 0.1890 = (112117 * 100.000) / (42139515 * 1.408)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d
Lims ID: 160-24924-G-16-B
Client ID: SHAD041DP013SS04NS
Inject. Date: 19-Nov-2017 16:41:00
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 87

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	45817014	14321282

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	45817014	14321282

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.253	175871	53919	197845	66914	0.7013	0.89	
Signal Totals:							
	175871	53919	197845	66914			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	373716	120833				0.89	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7013 = (373716 * 100.000) / (45817014 * 1.163)

Report Date: 06-Dec-2017 15:15:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

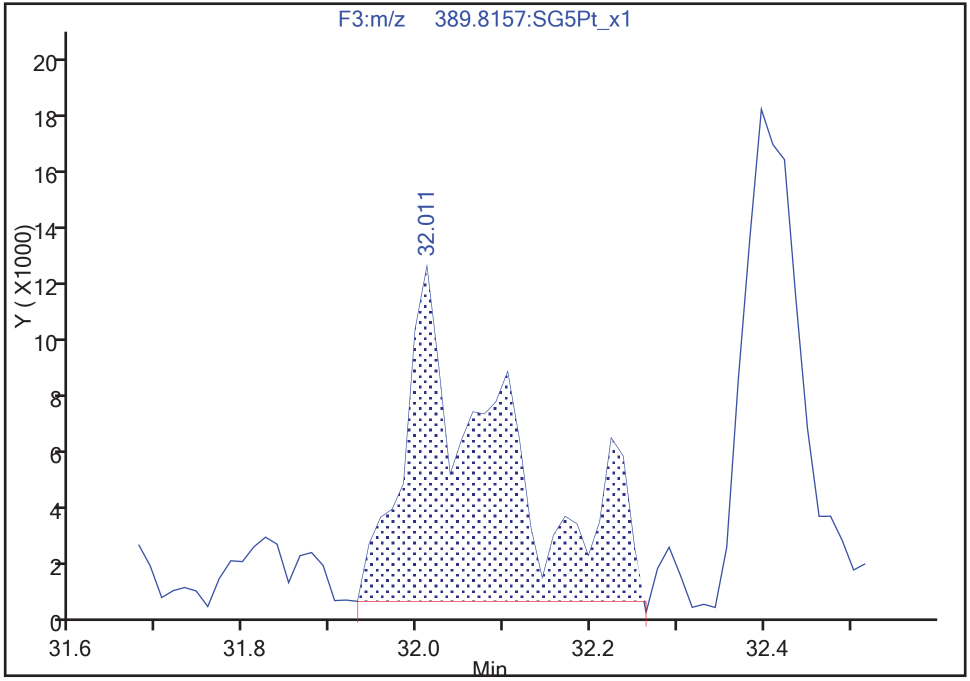
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d				
Injection Date:	19-Nov-2017 16:41:00	Instrument ID:	3D5		
Lims ID:	160-24924-G-16-B	Lab Sample ID:	320-24924-16		
Client ID:	SHAD041DP013SS04NS				
Operator ID:	SMA, ALM	ALS Bottle#:	57	Worklist Smp#:	87
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

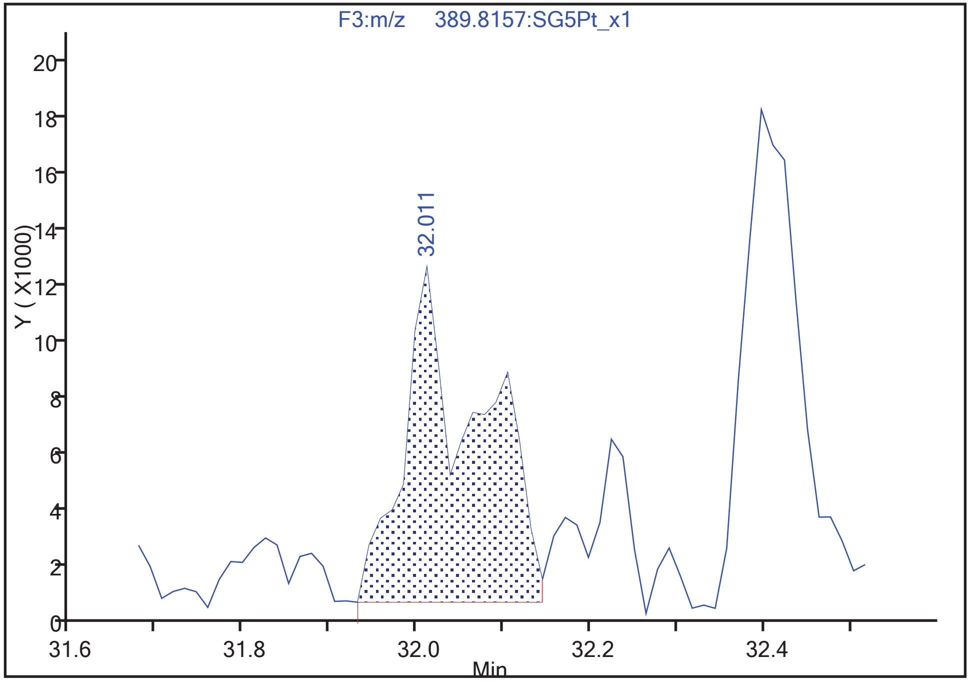
Processing Integration Results

RT:	32.01
Area:	92173
Amount:	0.161234
Amount Units:	pg/ul



Manual Integration Results

RT:	32.01
Area:	71895
Amount:	0.135031
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 15:14:46

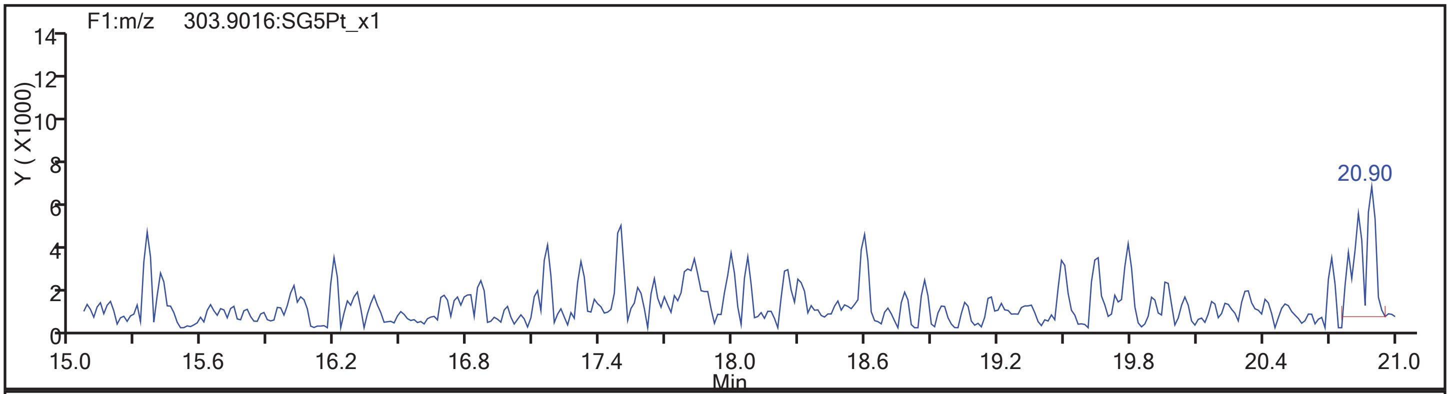
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

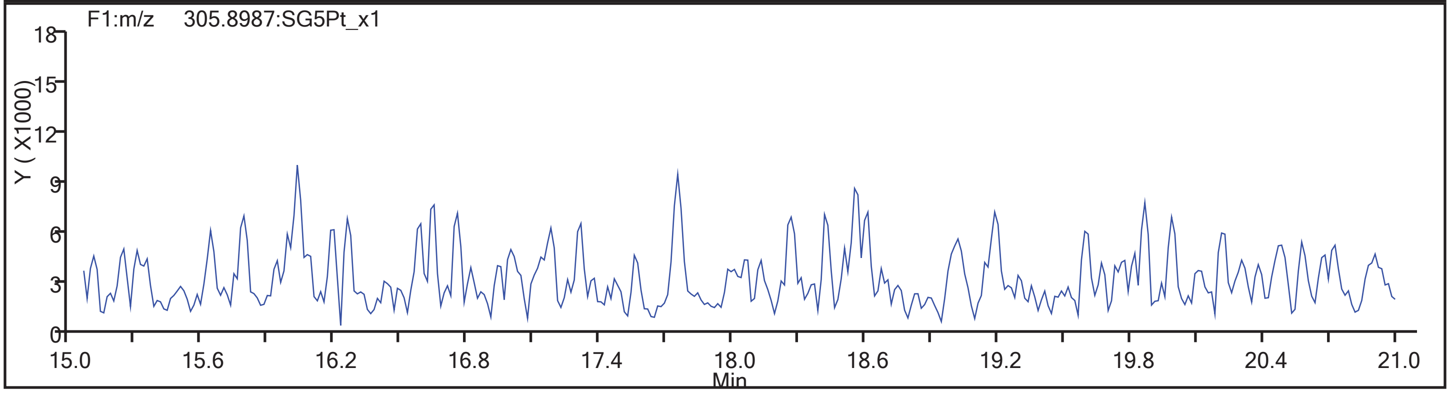
Report Date: 06-Dec-2017 15:15:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

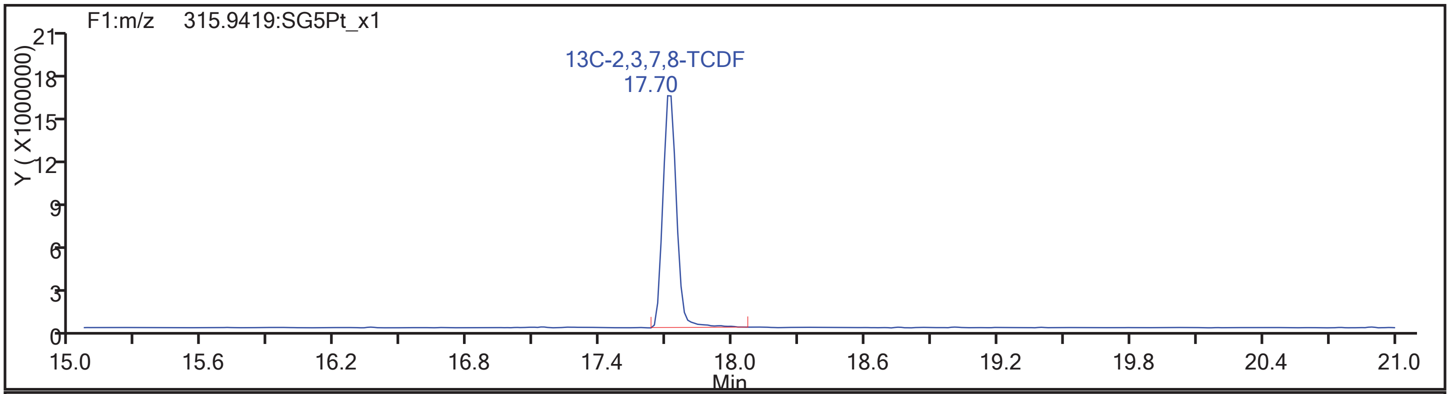
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d
Injection Date: 19-Nov-2017 16:41:00
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS04NS
Worklist#: 195575
Sample Line#: 87
Column Type:
Column Dia:

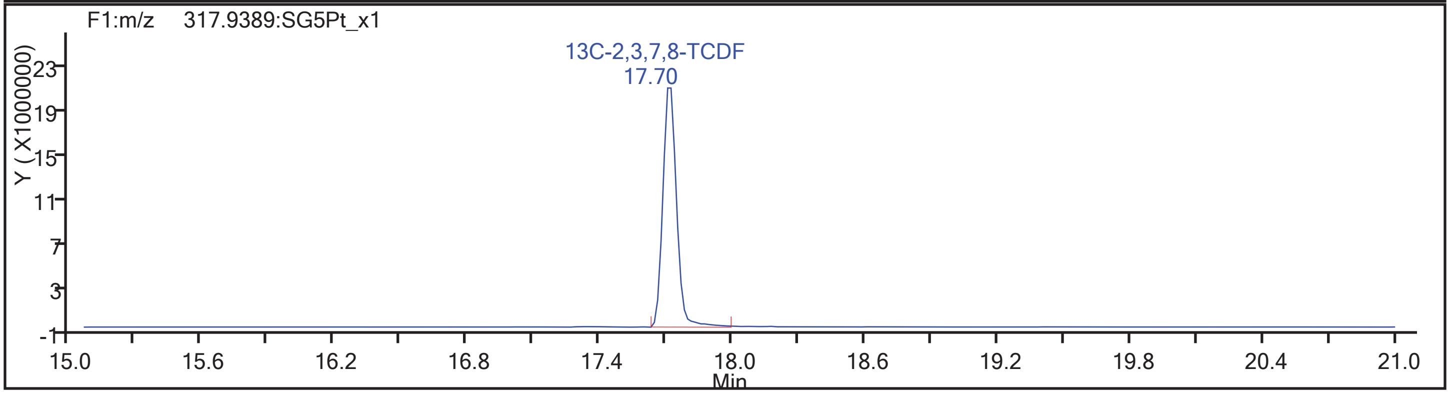
TCDF





TCDF Standards





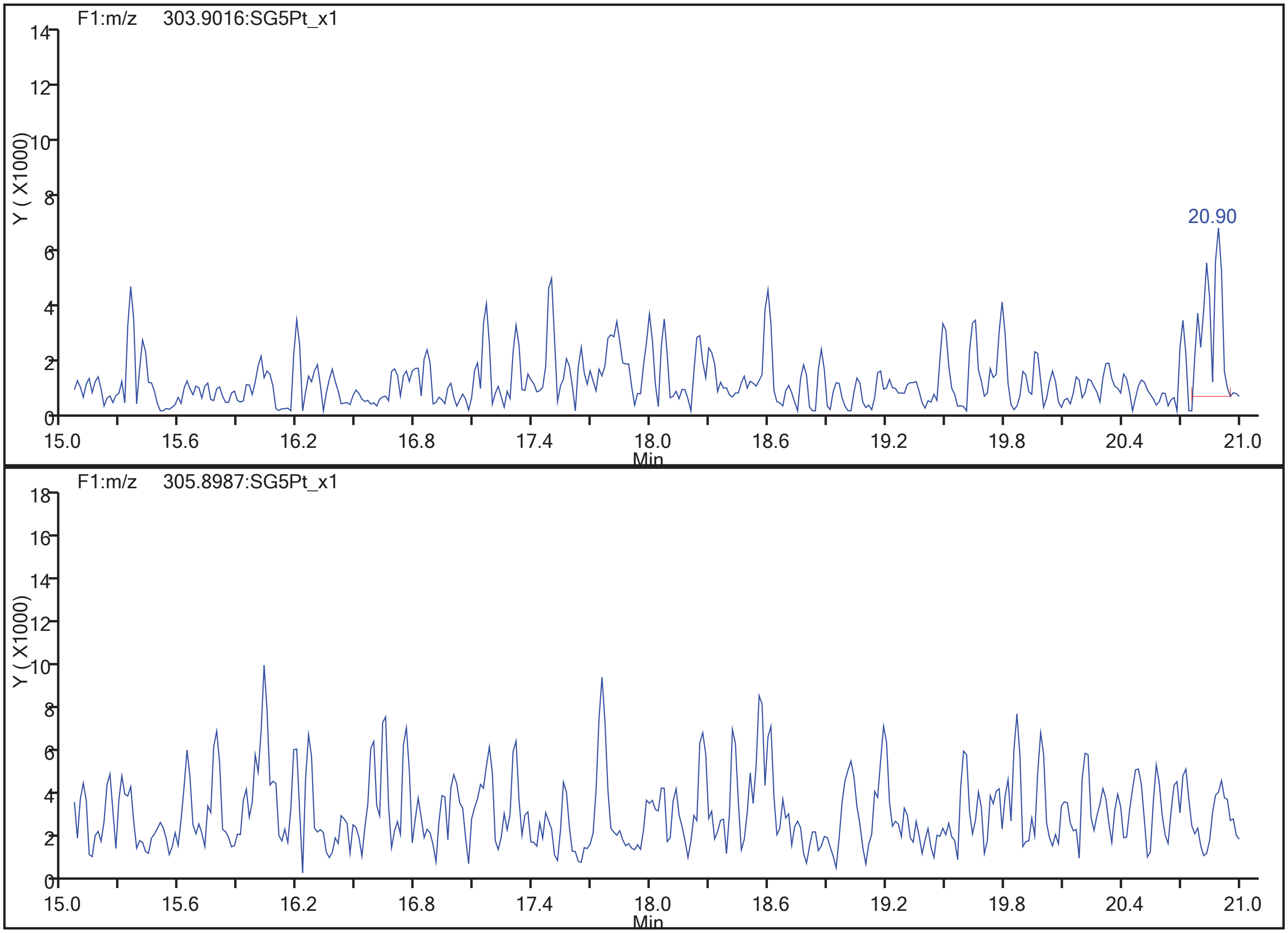
Report Date: 06-Dec-2017 15:15:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

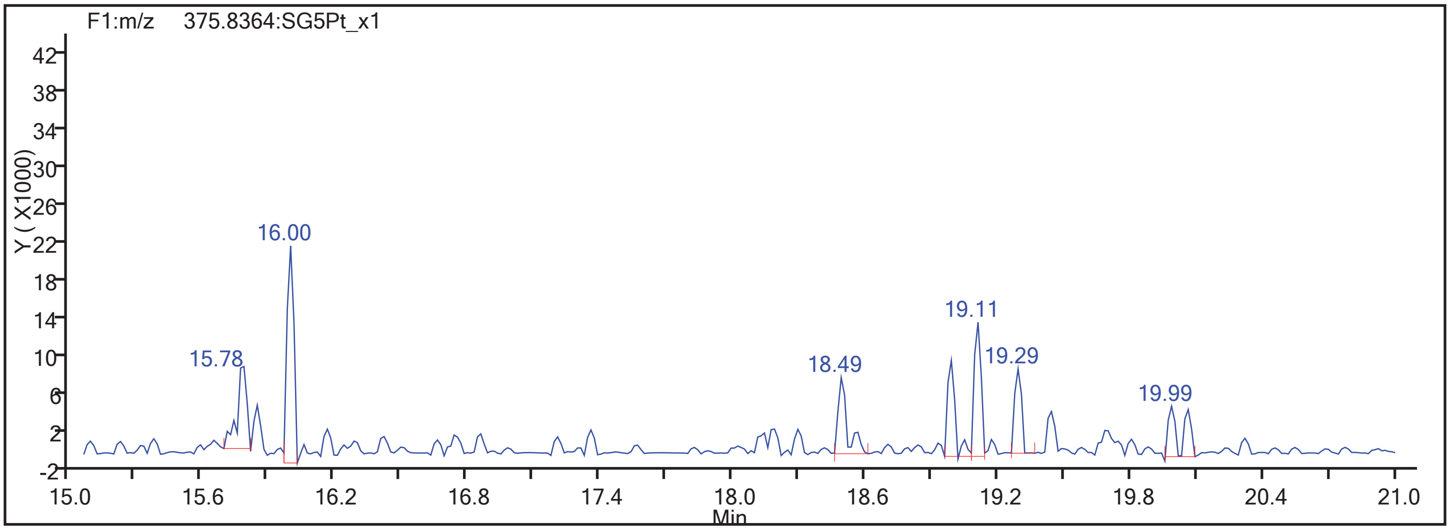
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d

Injection Date:	19-Nov-2017 16:41:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	195575	Sample Line#:	87
Column Type:		Column Dia:	

TCDF



TCDF Interference Mass

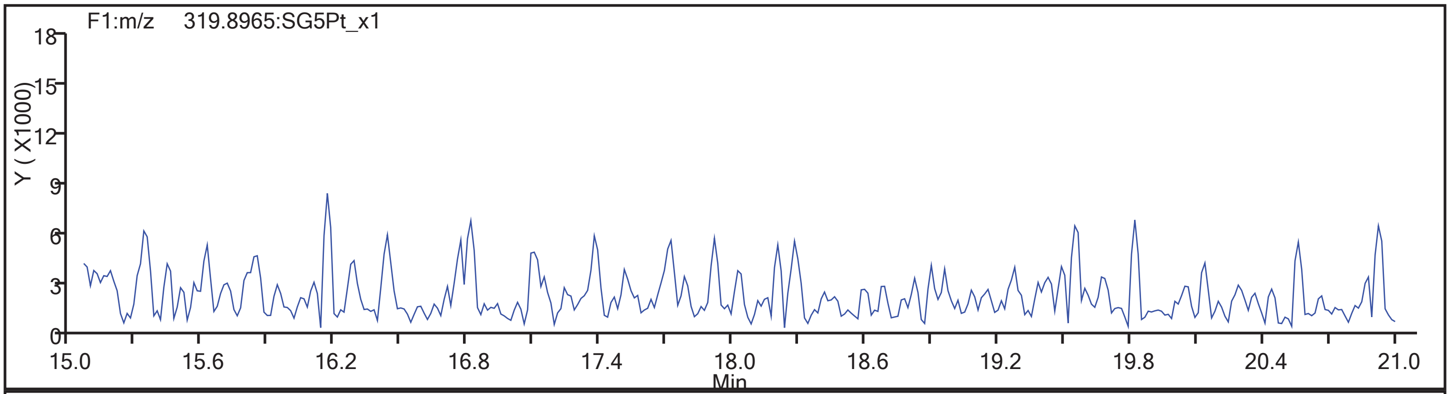


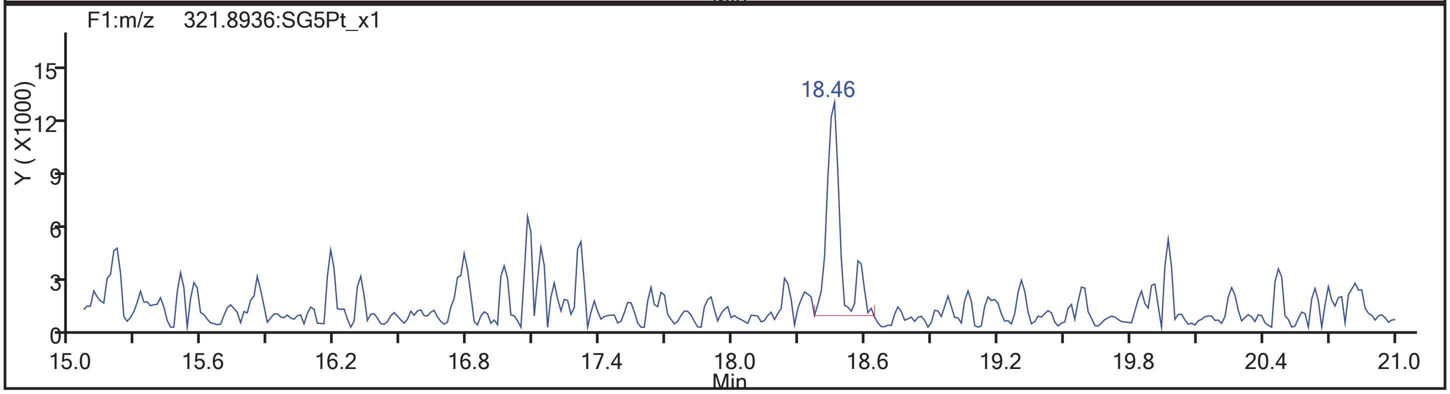
Report Date: 06-Dec-2017 15:15:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

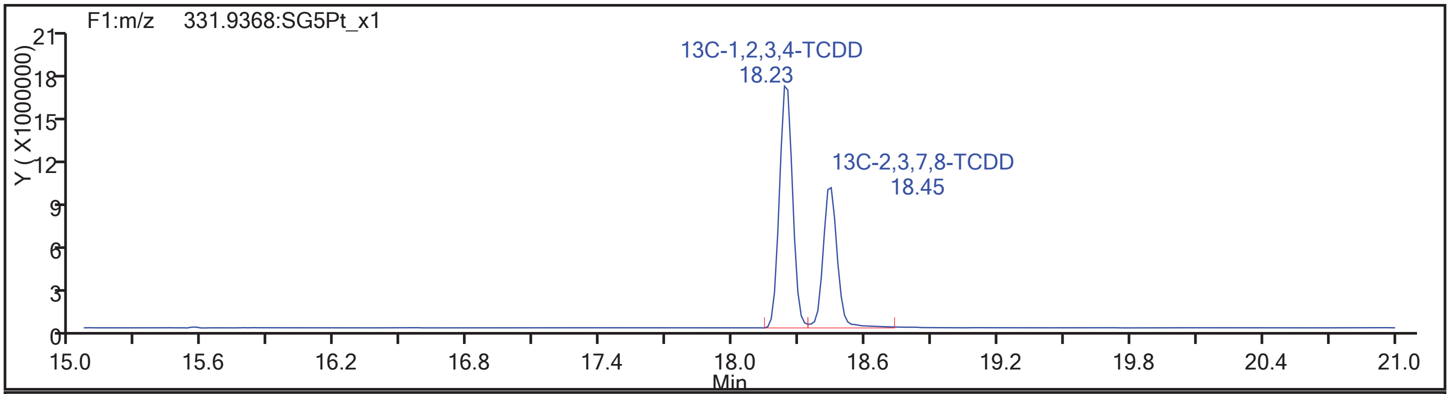
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d		
Injection Date:	19-Nov-2017 16:41:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	195575	Sample Line#:	87
Column Type:		Column Dia:	

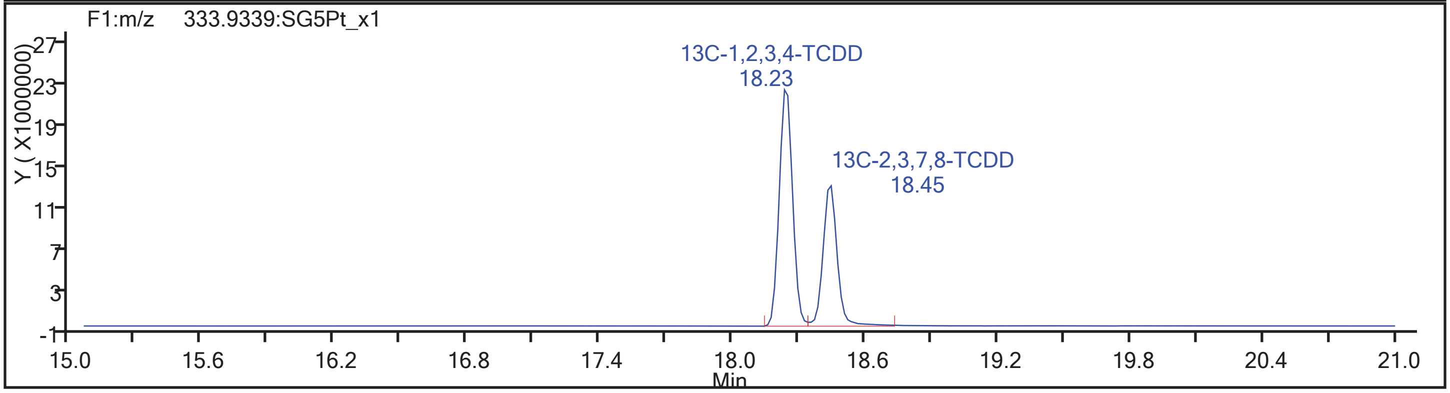
TCDD





TCDD Standards





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d
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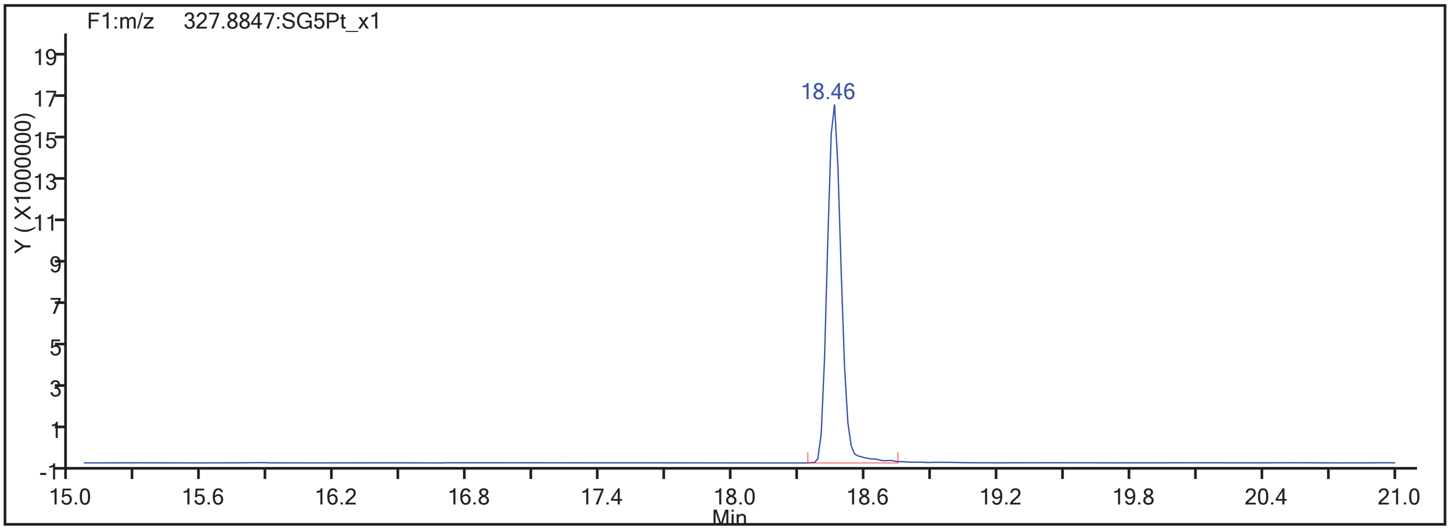
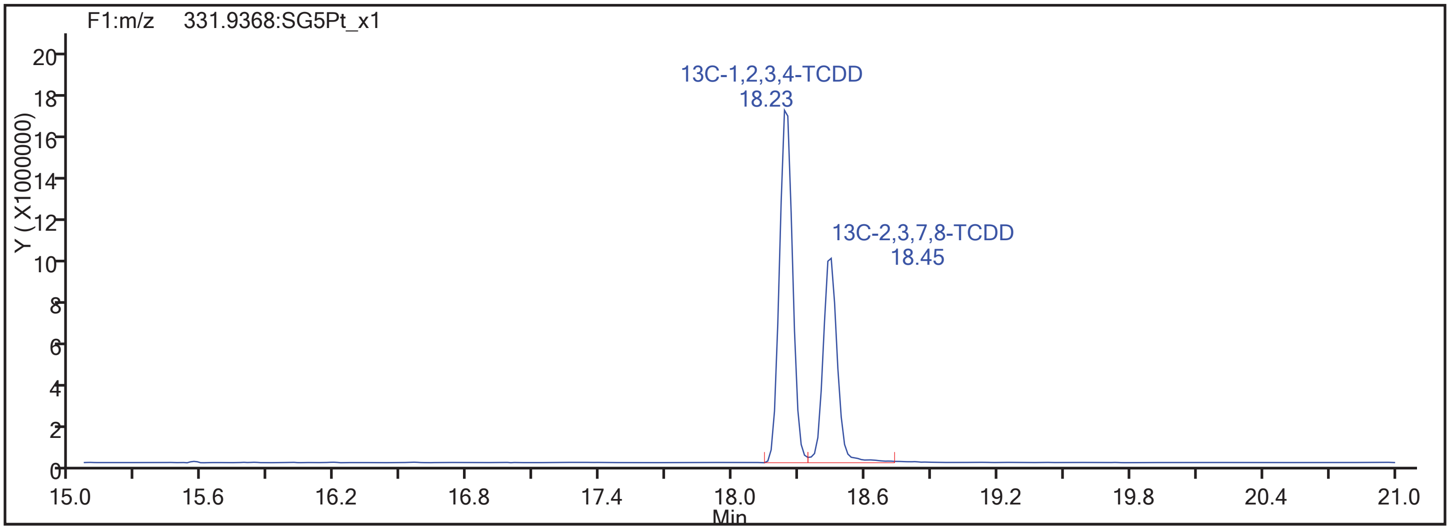
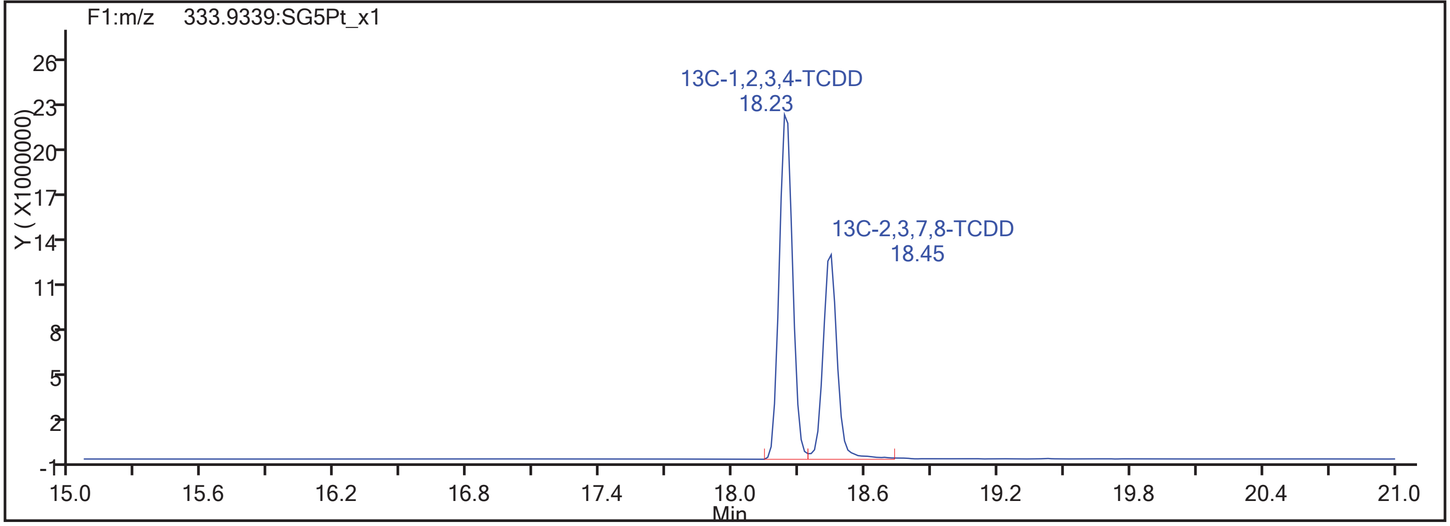
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS04NS
Worklist#: 195575
Sample Line#: 87
Column Type:
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards



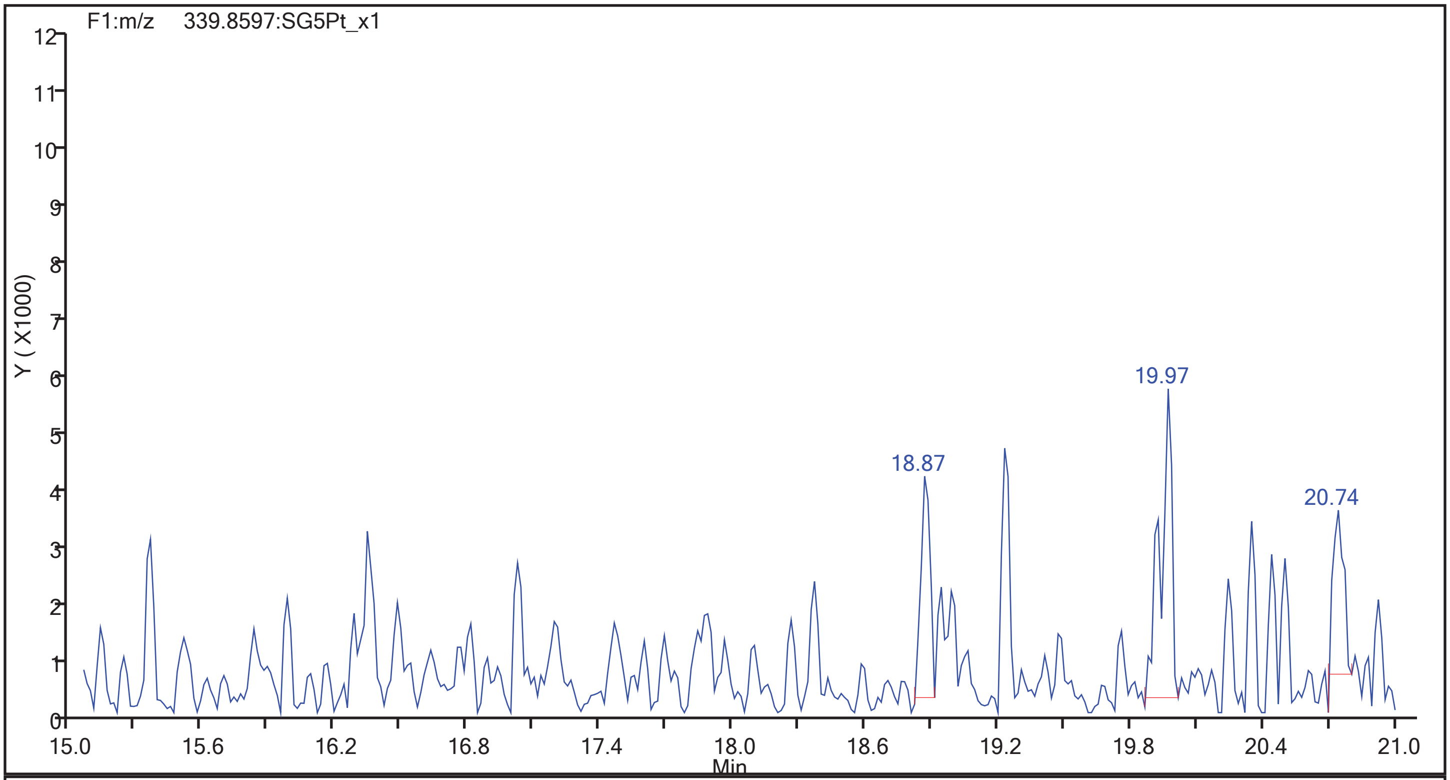


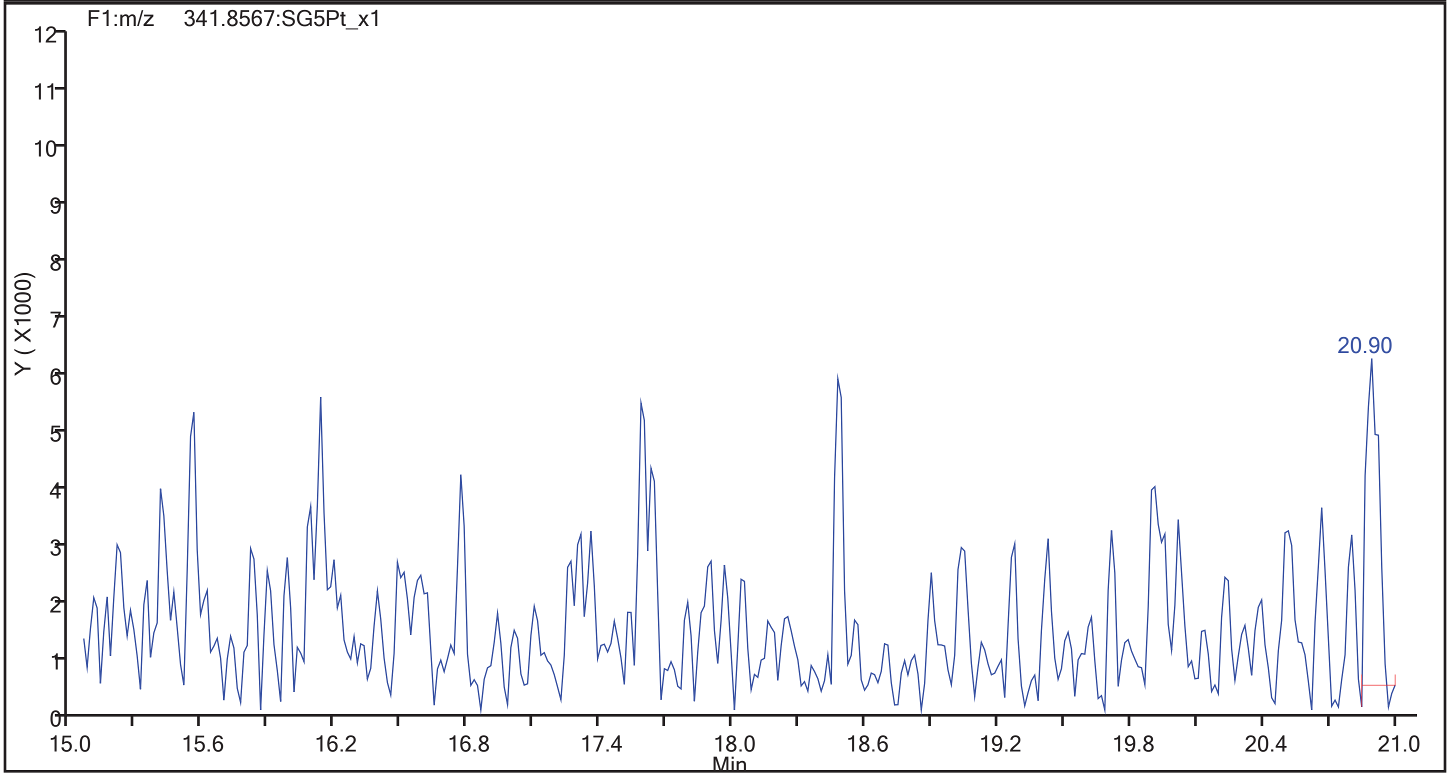
Report Date: 06-Dec-2017 15:15:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d		
Injection Date:	19-Nov-2017 16:41:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	195575	Sample Line#:	87
Column Type:		Column Dia:	

F1 PeCDFs





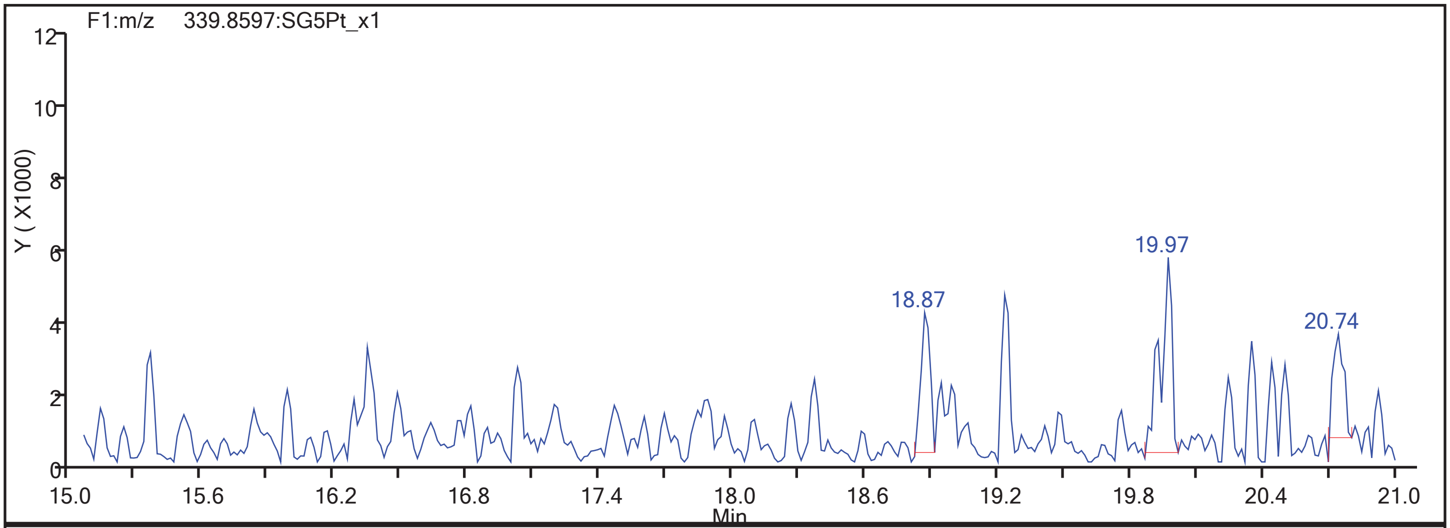
Report Date: 06-Dec-2017 15:15:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

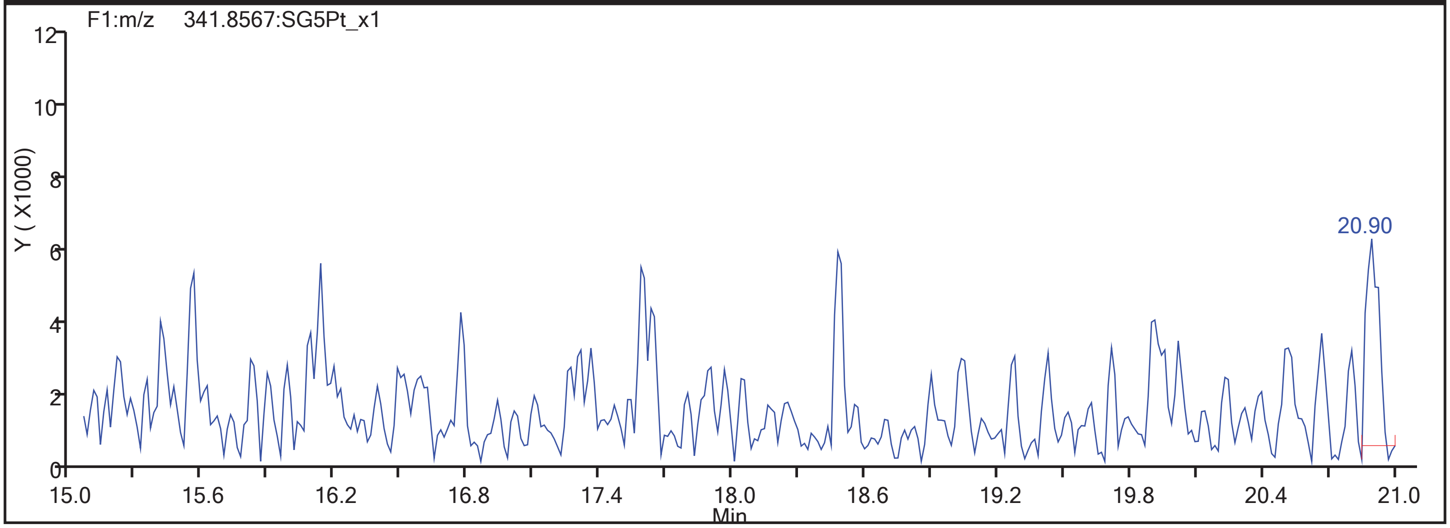
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d

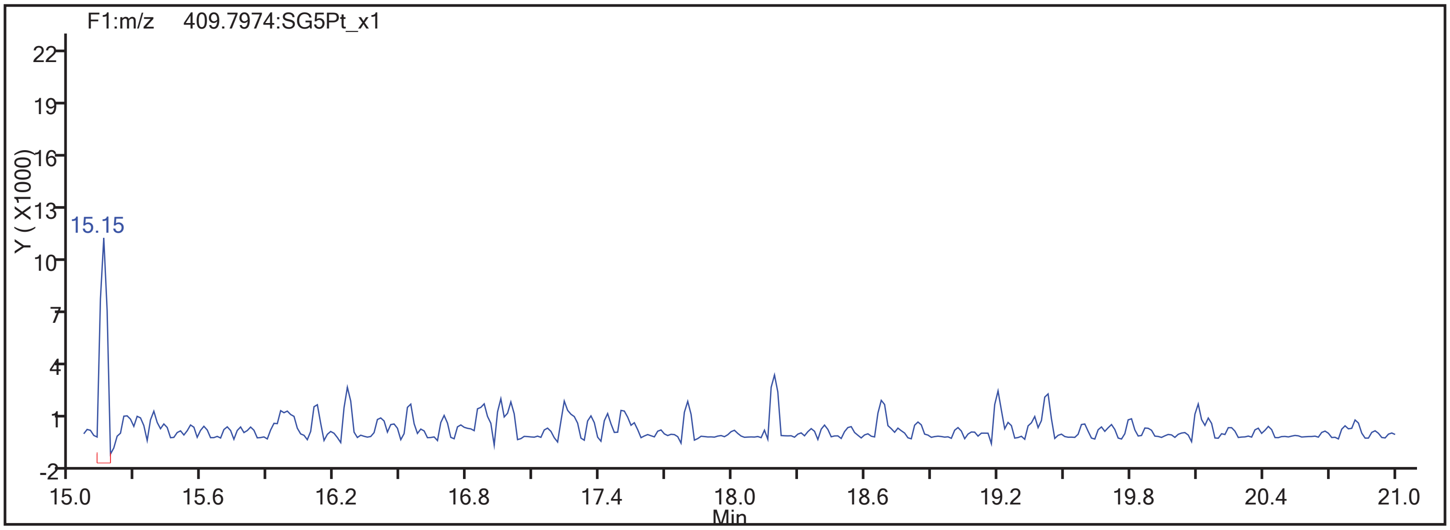
Injection Date:	19-Nov-2017 16:41:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	195575	Sample Line#:	87
Column Type:		Column Dia:	

F1 PeCDFs





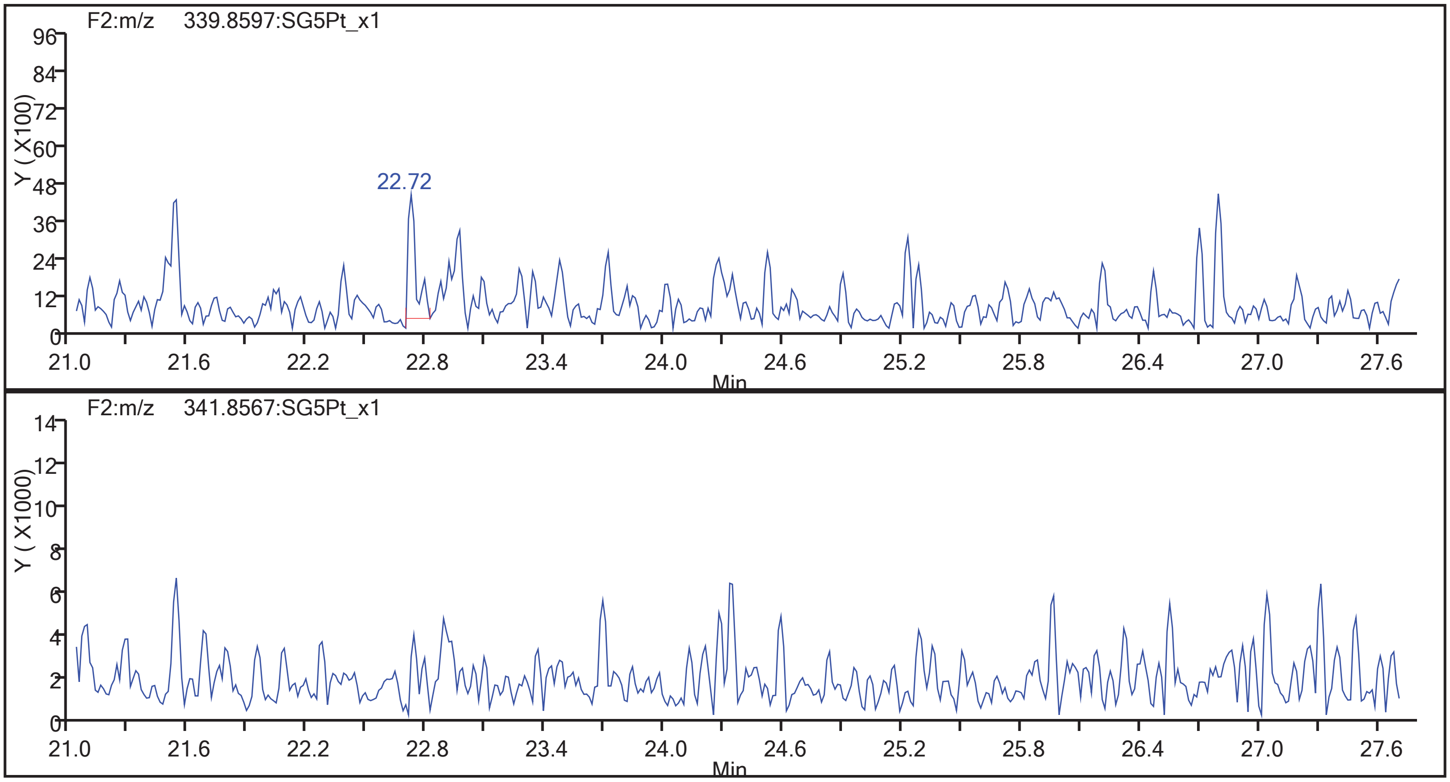
F1 PeCDFs Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d		
Injection Date:	19-Nov-2017 16:41:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
Worklist#:	195575	Sample Line#:	87
Column Type:		Column Dia:	

PeCDF



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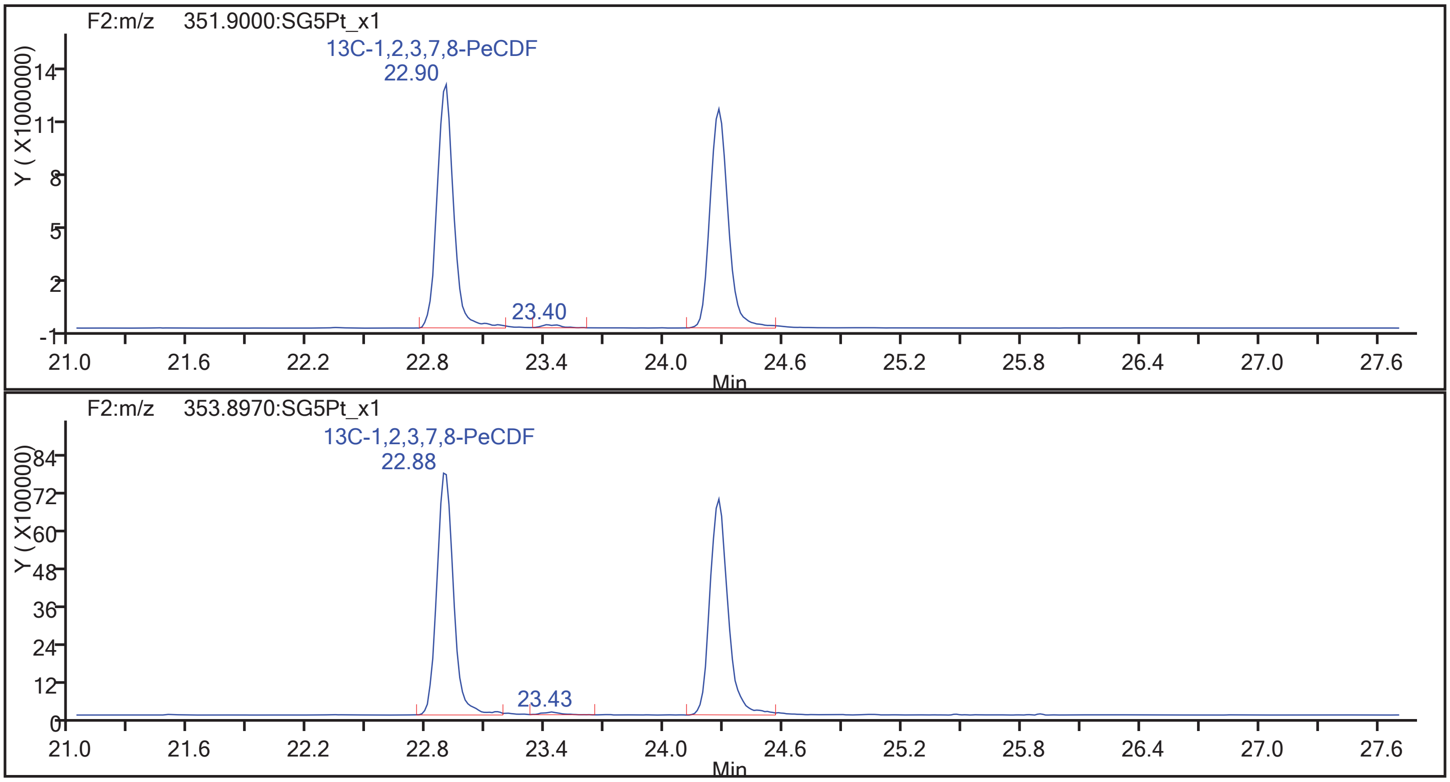

Report Date: 06-Dec-2017 15:15:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Column Type:		Column Dia:	

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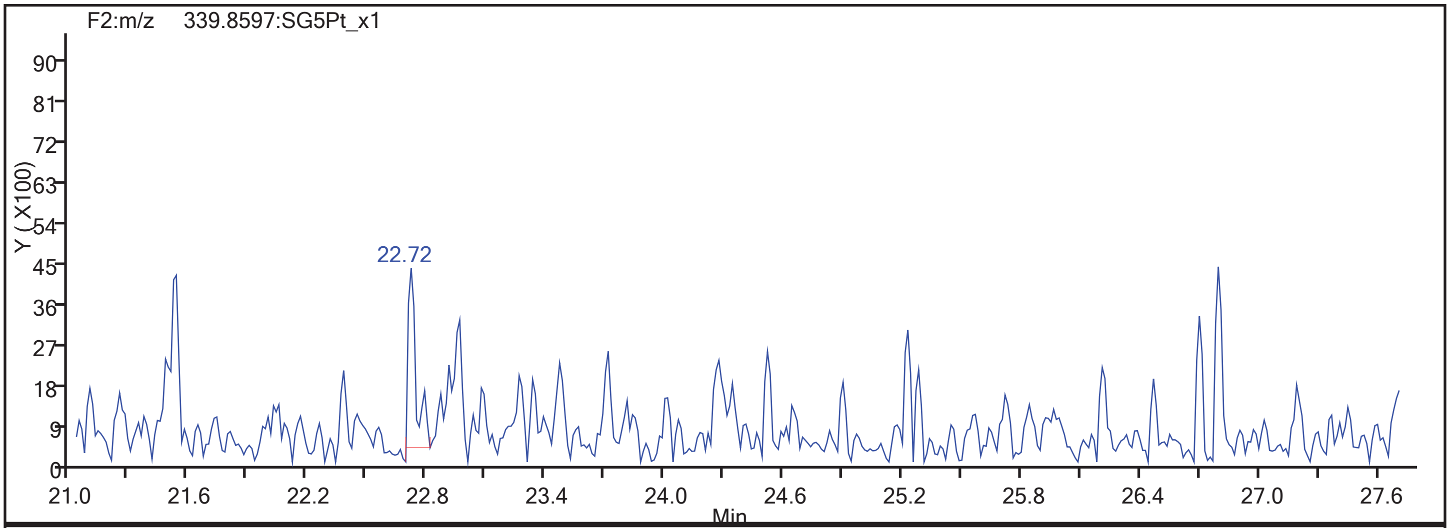
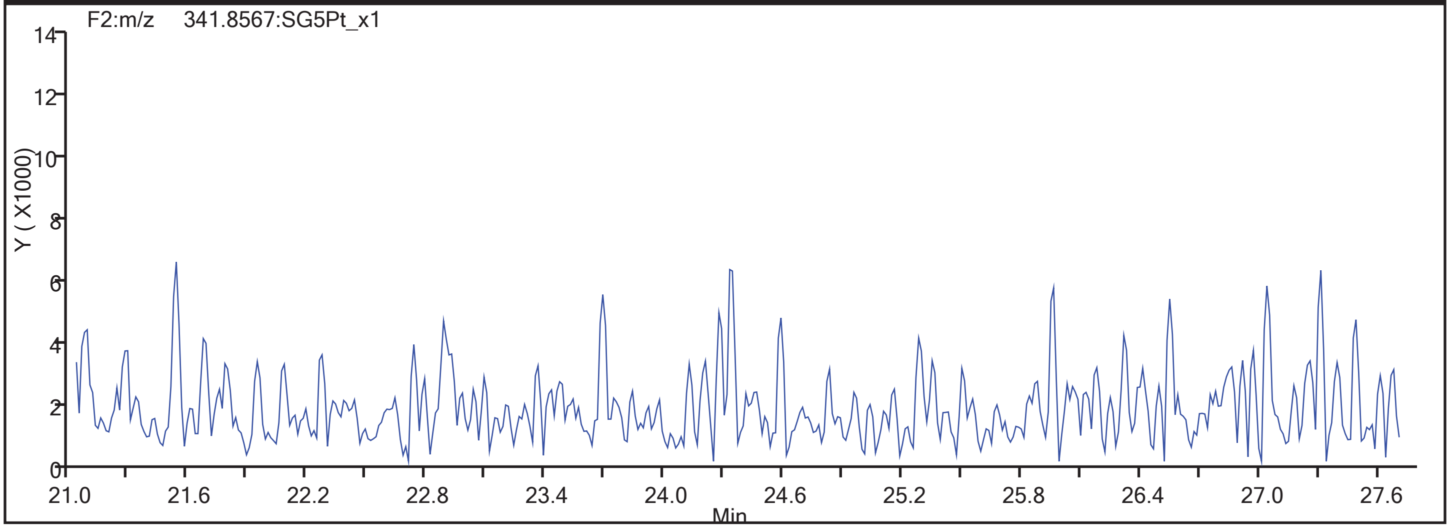
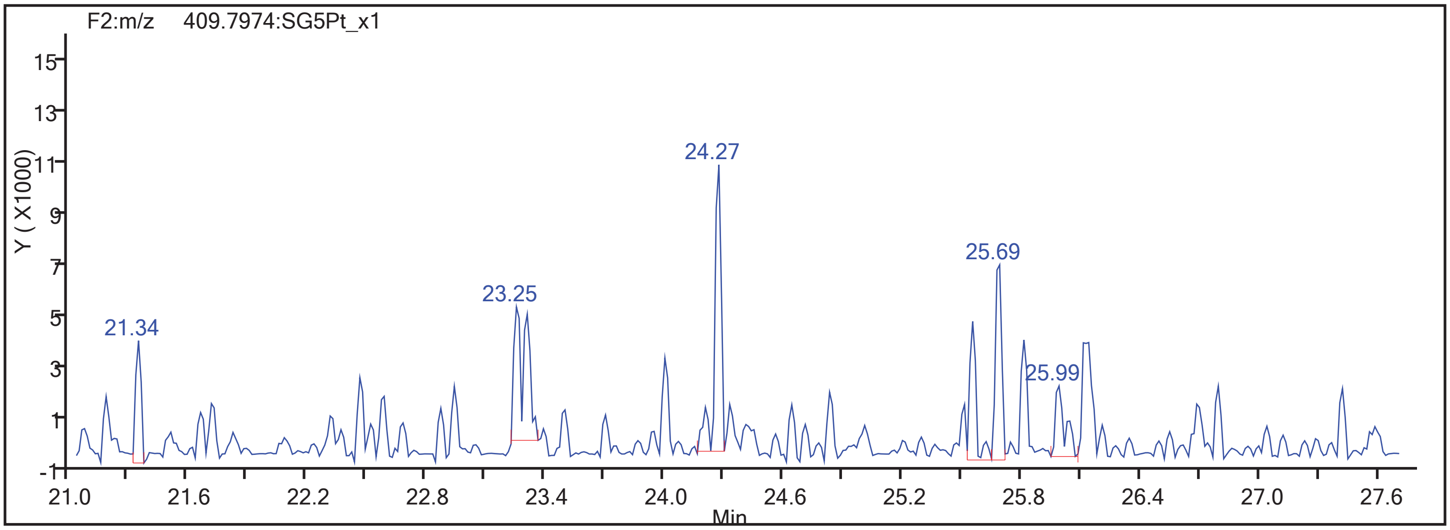




PeCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 16:41:00
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Method: Dioxin_3D5
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Sample Line#: 87
Column Type:
Column Dia:

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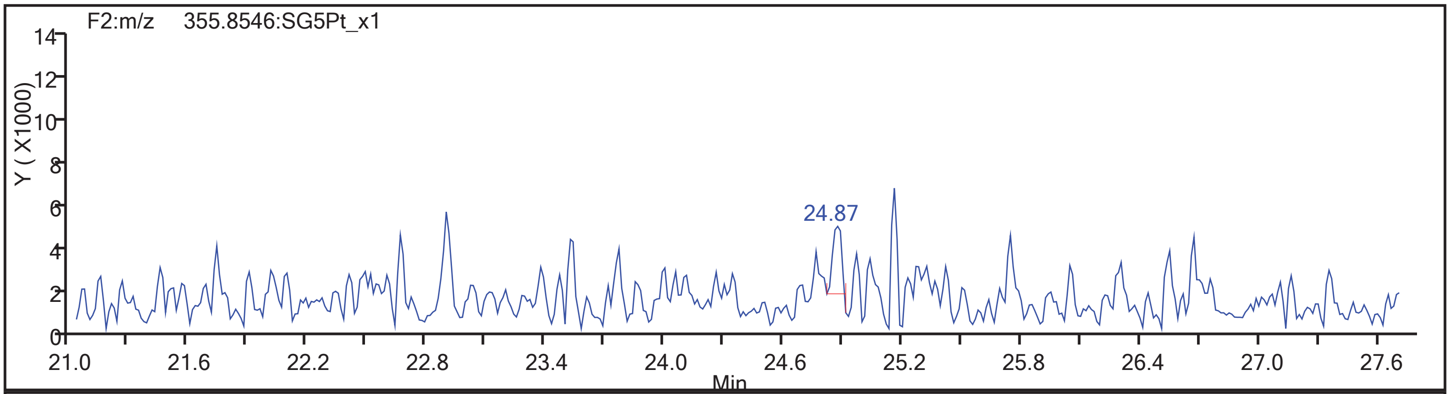

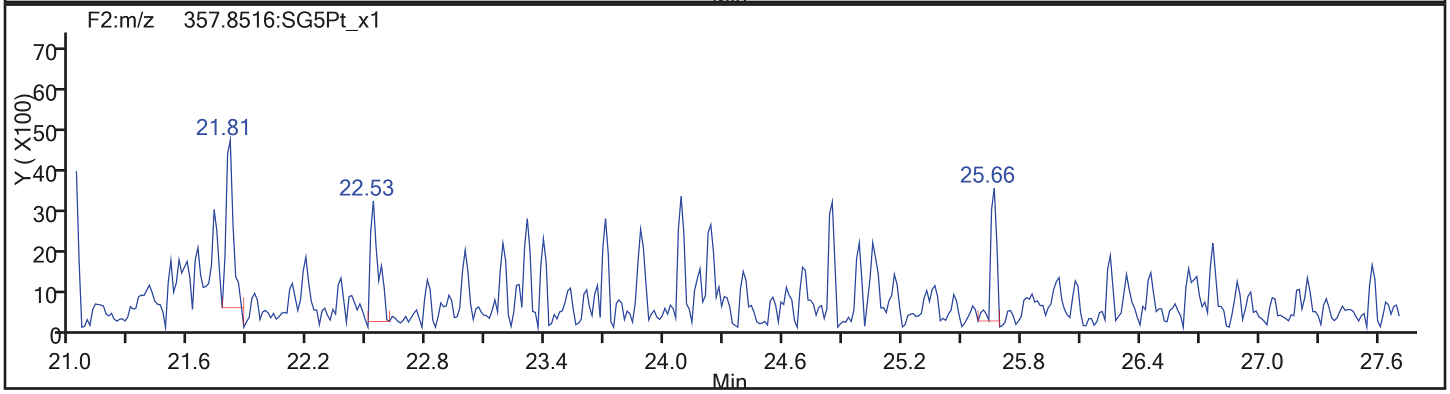

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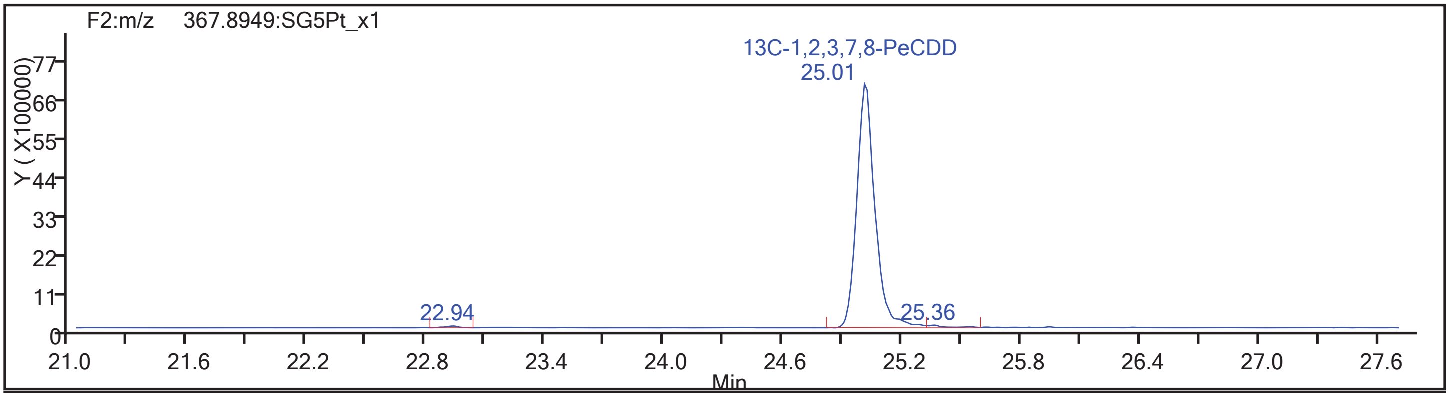

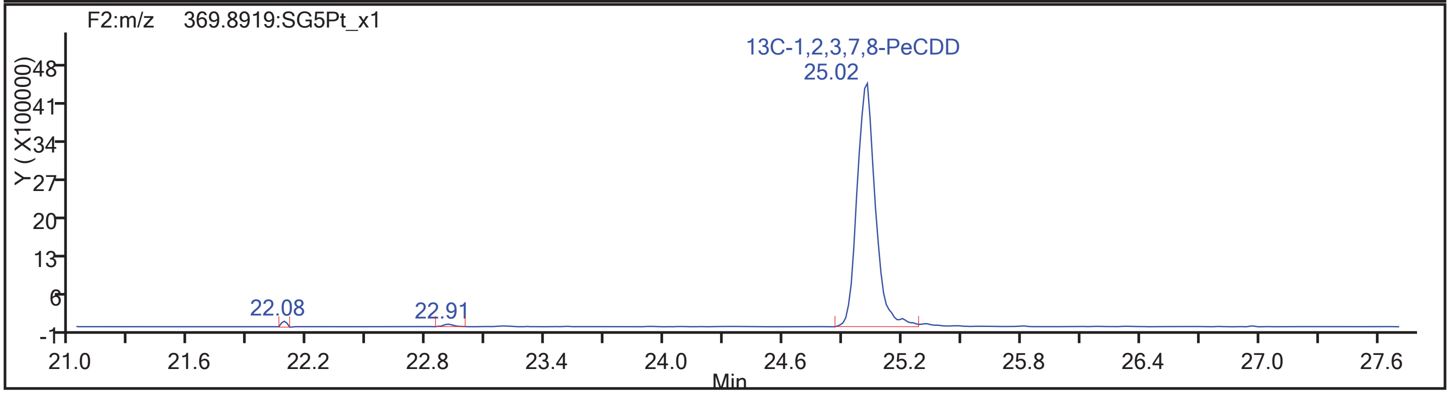

Report Date: 06-Dec-2017 15:15:56　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS04NS		
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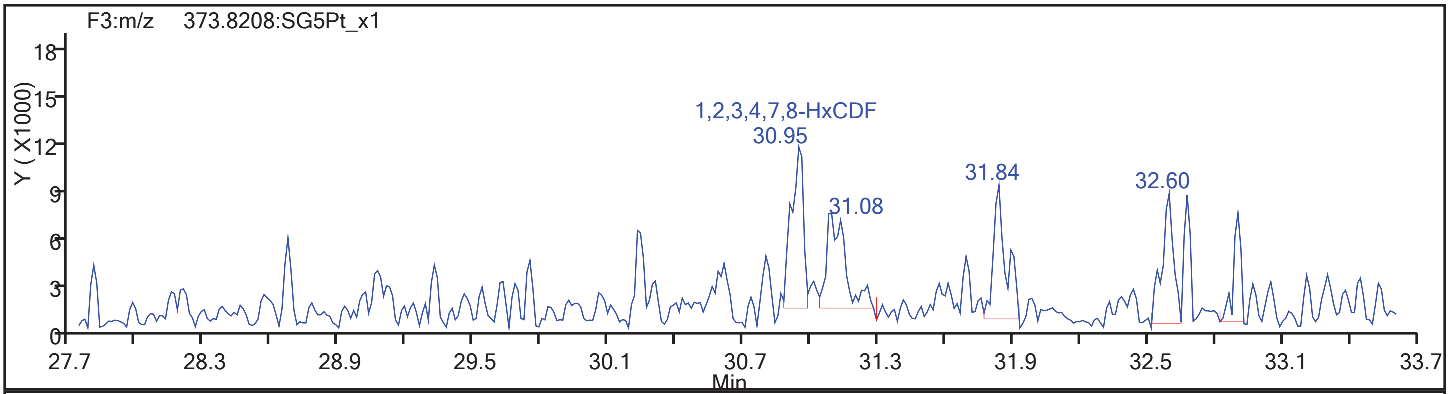
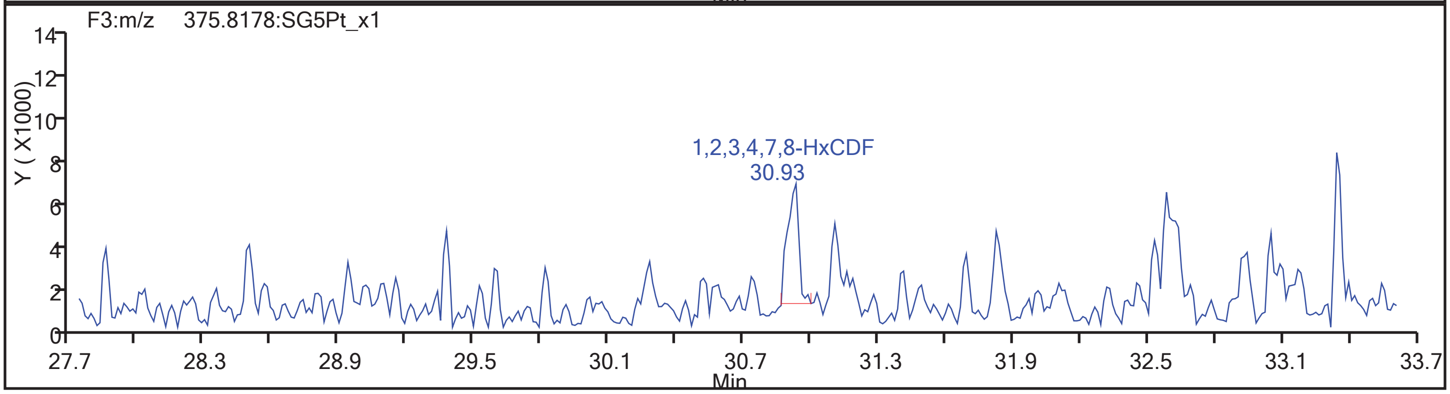
Column Type:		Column Dia:	

HxCDF





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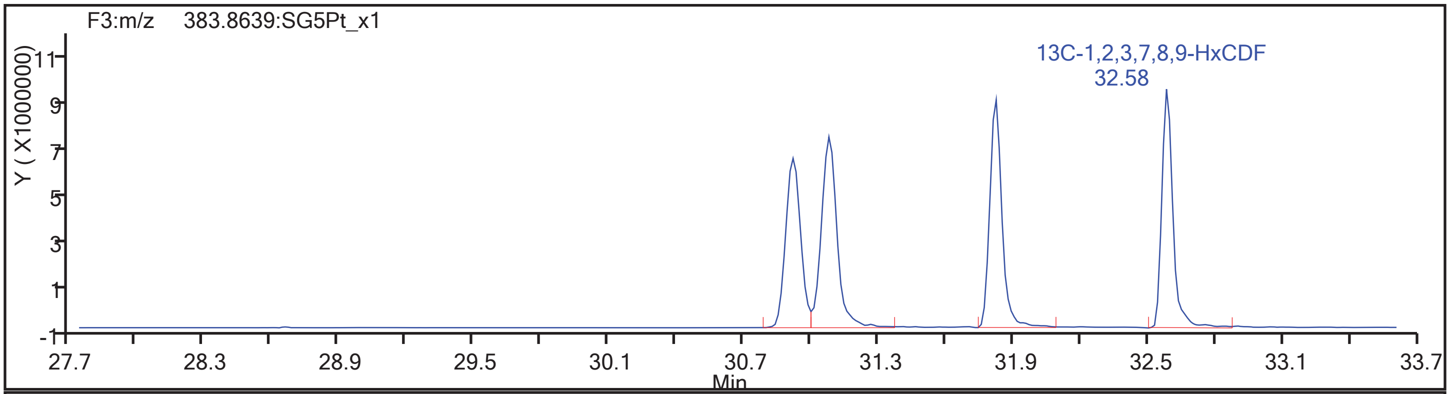

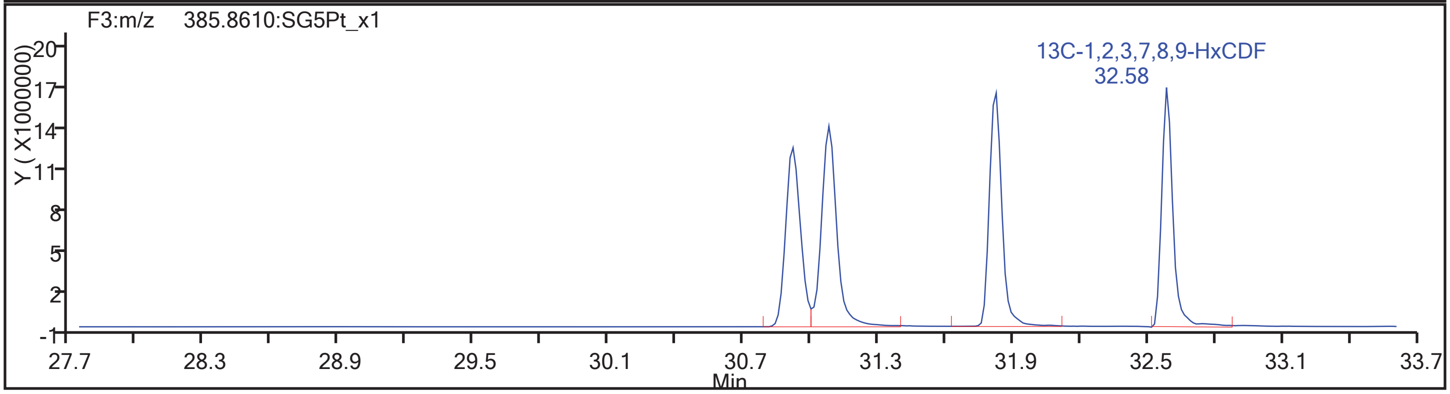

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TestAmerica Sacramento

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Injection Date:	19-Nov-2017 16:41:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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Column Type:		Column Dia:	

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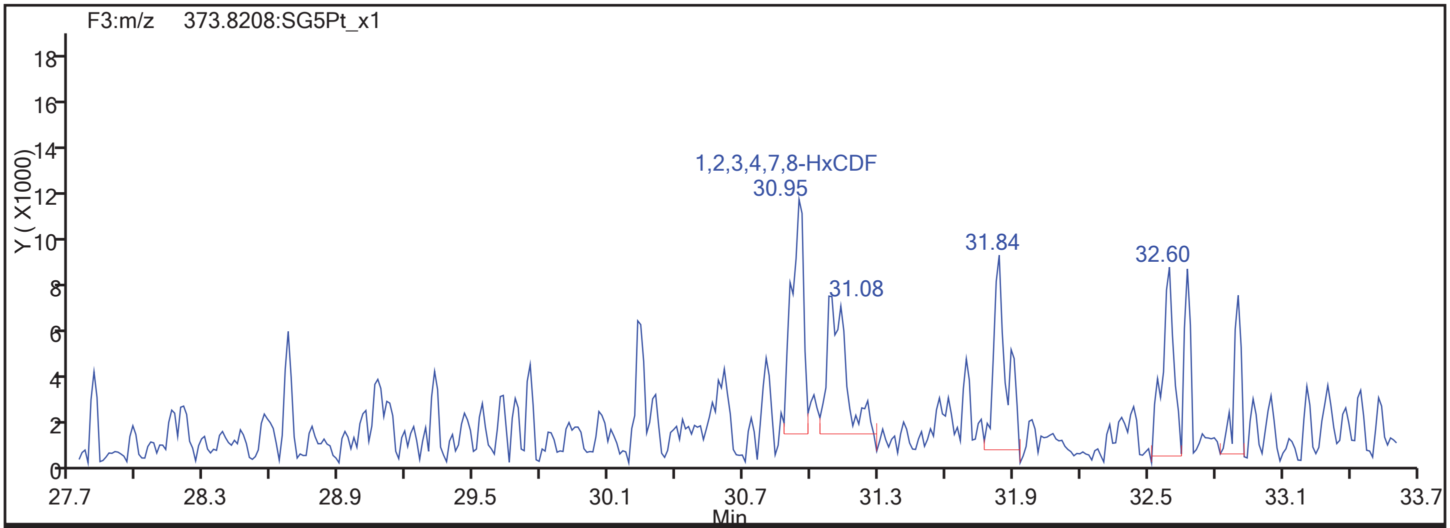
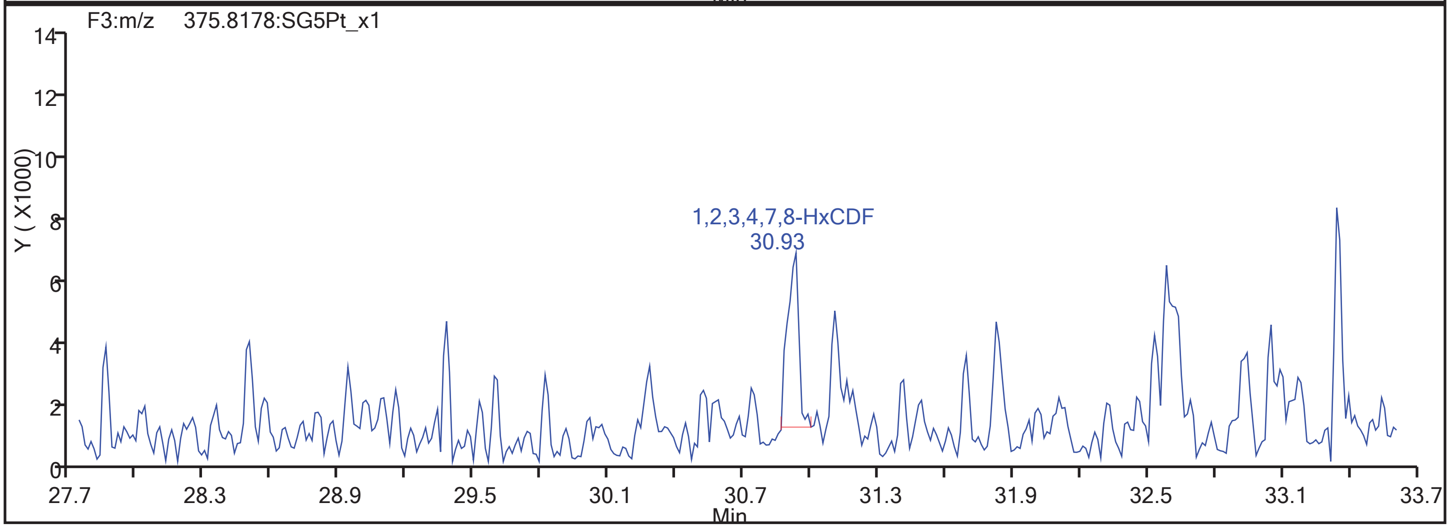
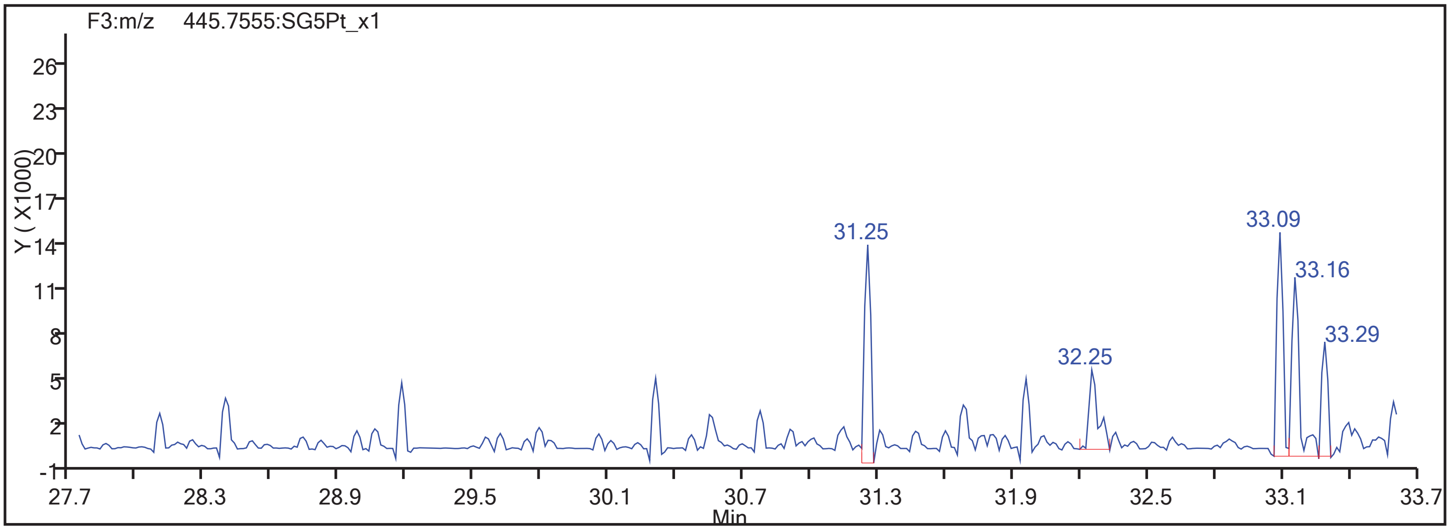




HxCDF Interference Mass



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TestAmerica Sacramento

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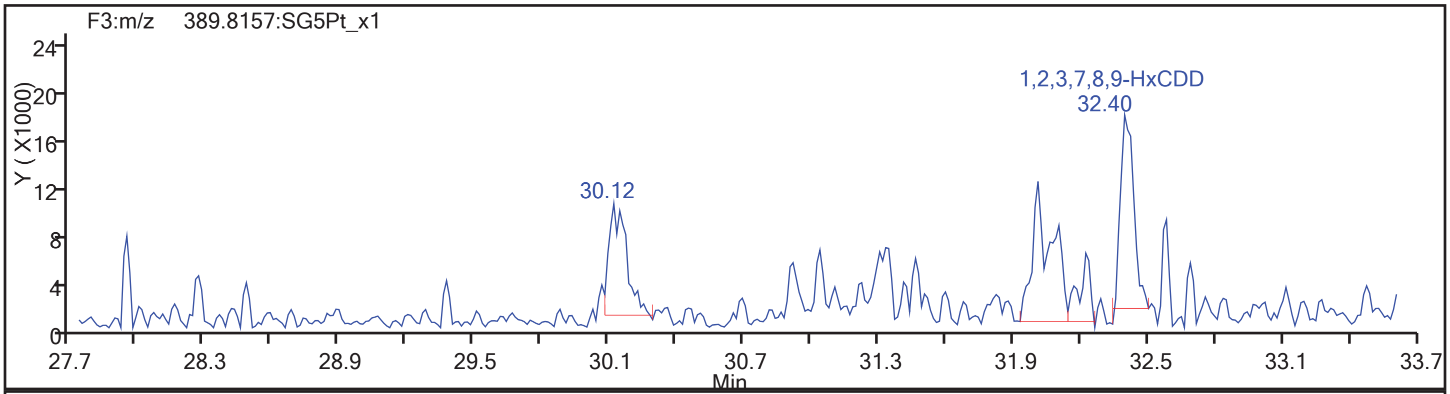

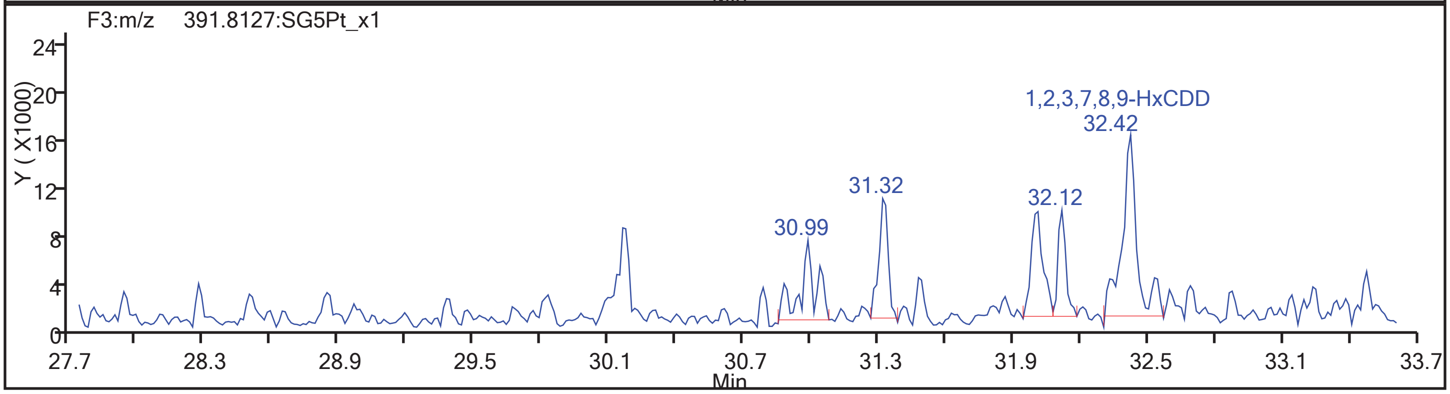

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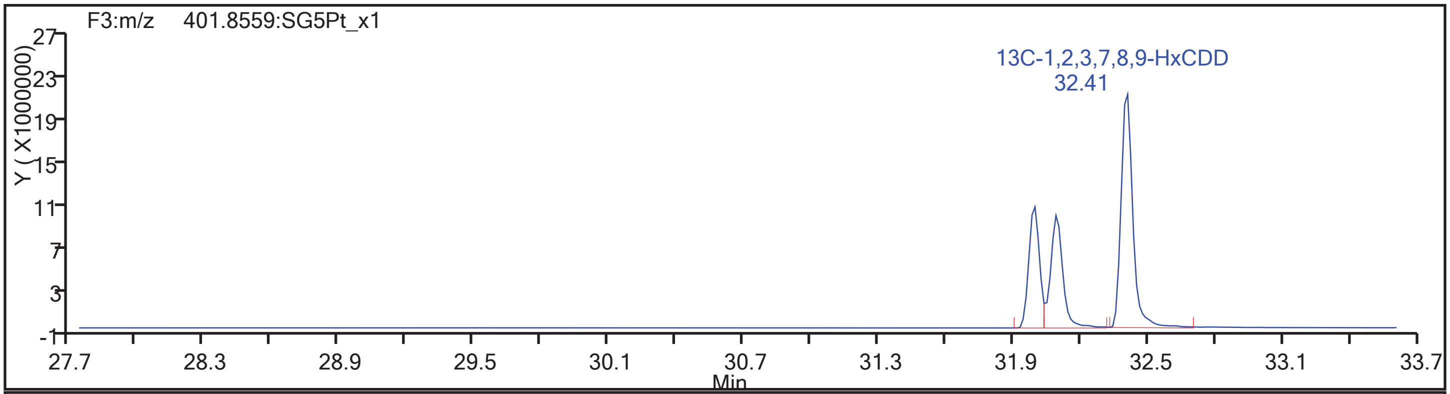

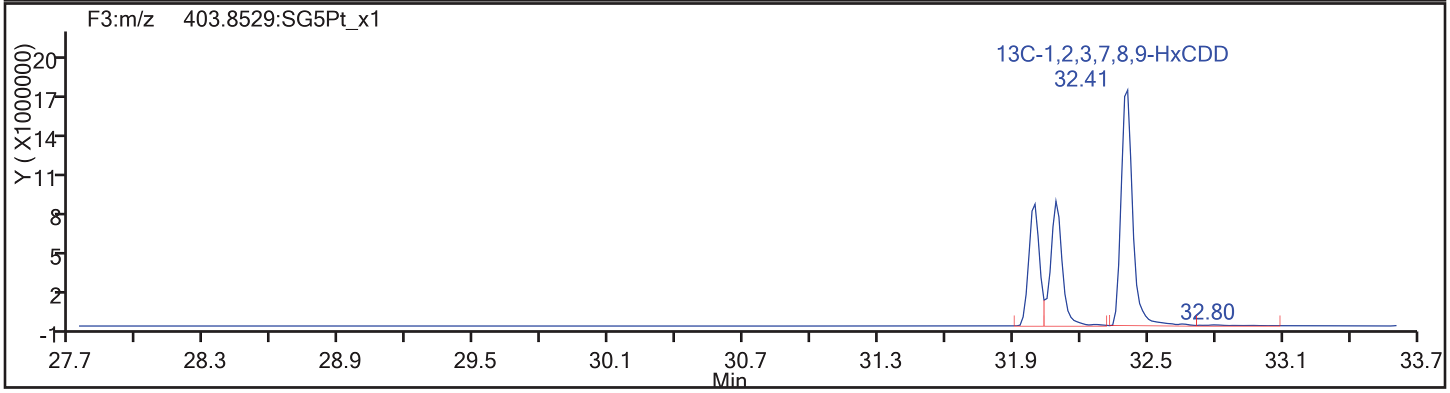

Report Date: 06-Dec-2017 15:15:56   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_87.d
Injection Date: 19-Nov-2017 16:41:00   Injection Vol: 2.0 ul
Instrument ID: 3D5   Operator ID: SMA, ALM
Method: Dioxin_3D5   Limit Group: HR - 8290A_D5 - ICAL
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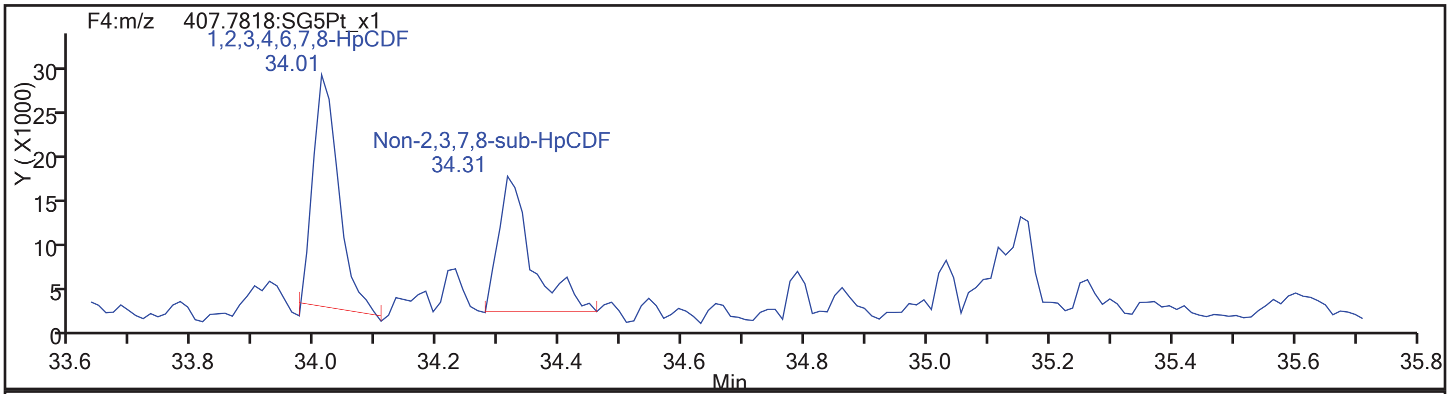
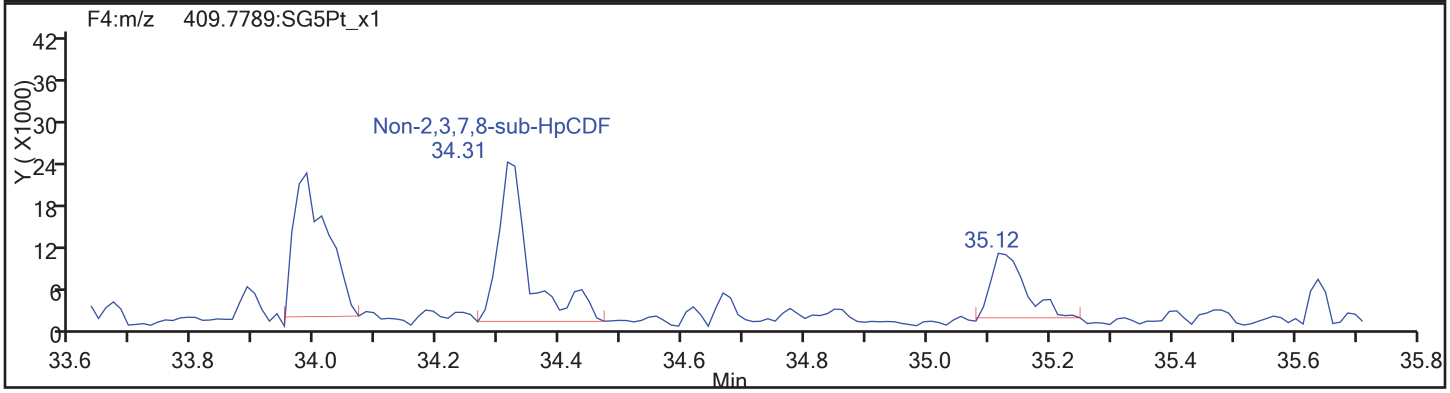
Column Type: Column Dia:

HpCDF





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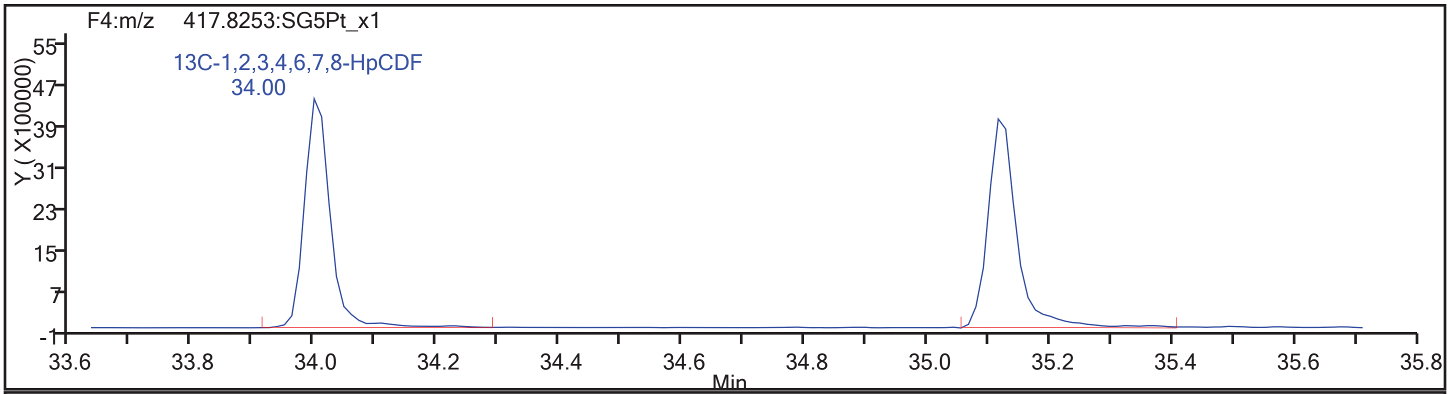

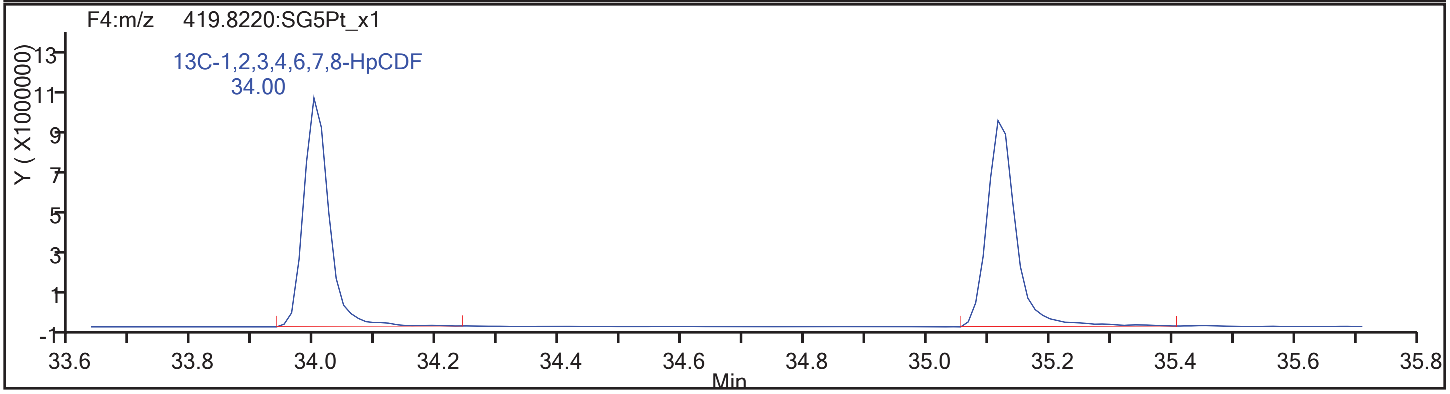

Report Date: 06-Dec-2017 15:15:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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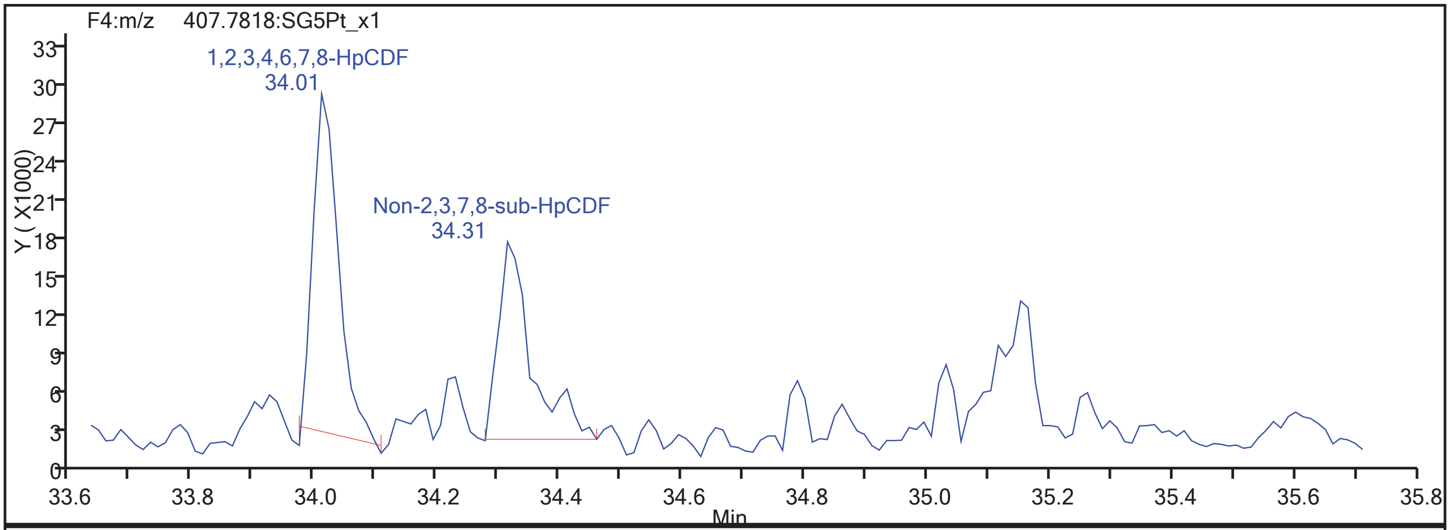
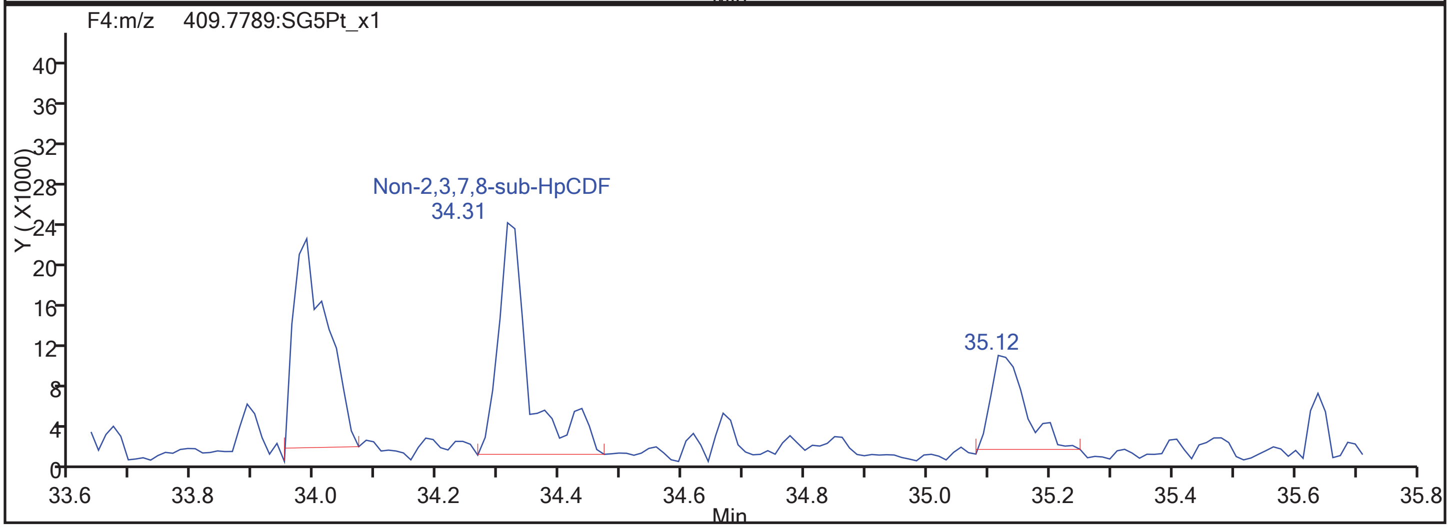
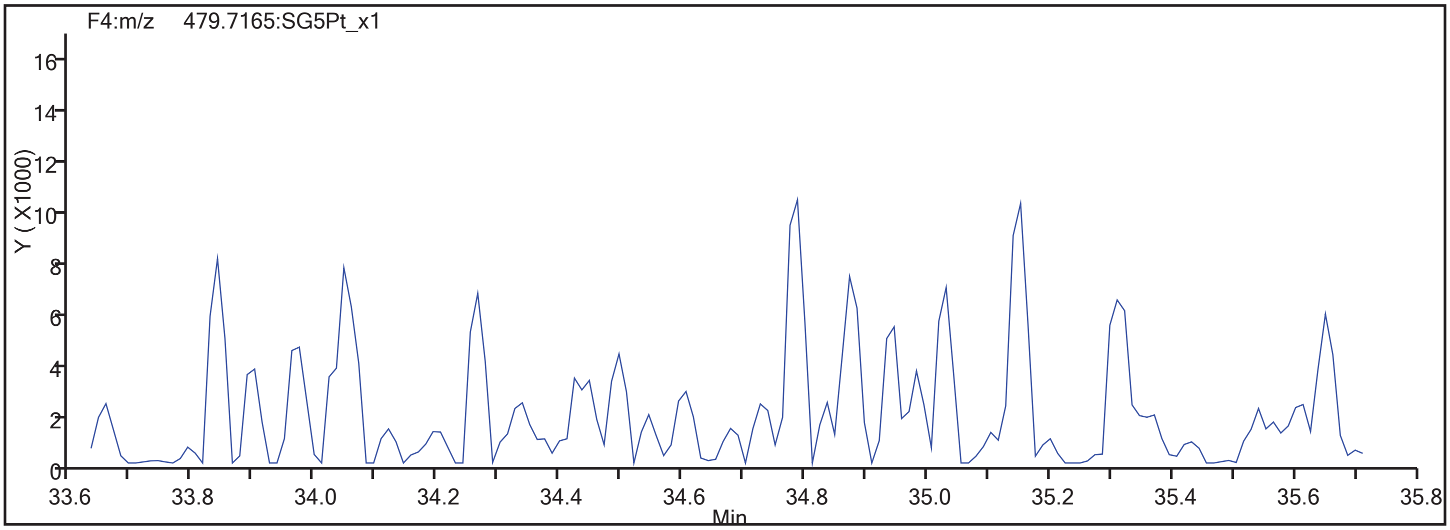
Column Type:		Column Dia:	

HpCDF





HpCDF Interference Mass



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TestAmerica Sacramento

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Operator ID: SMA, ALM
Method: Dioxin_3D5
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Sample Line#: 87
Column Type:
Column Dia:

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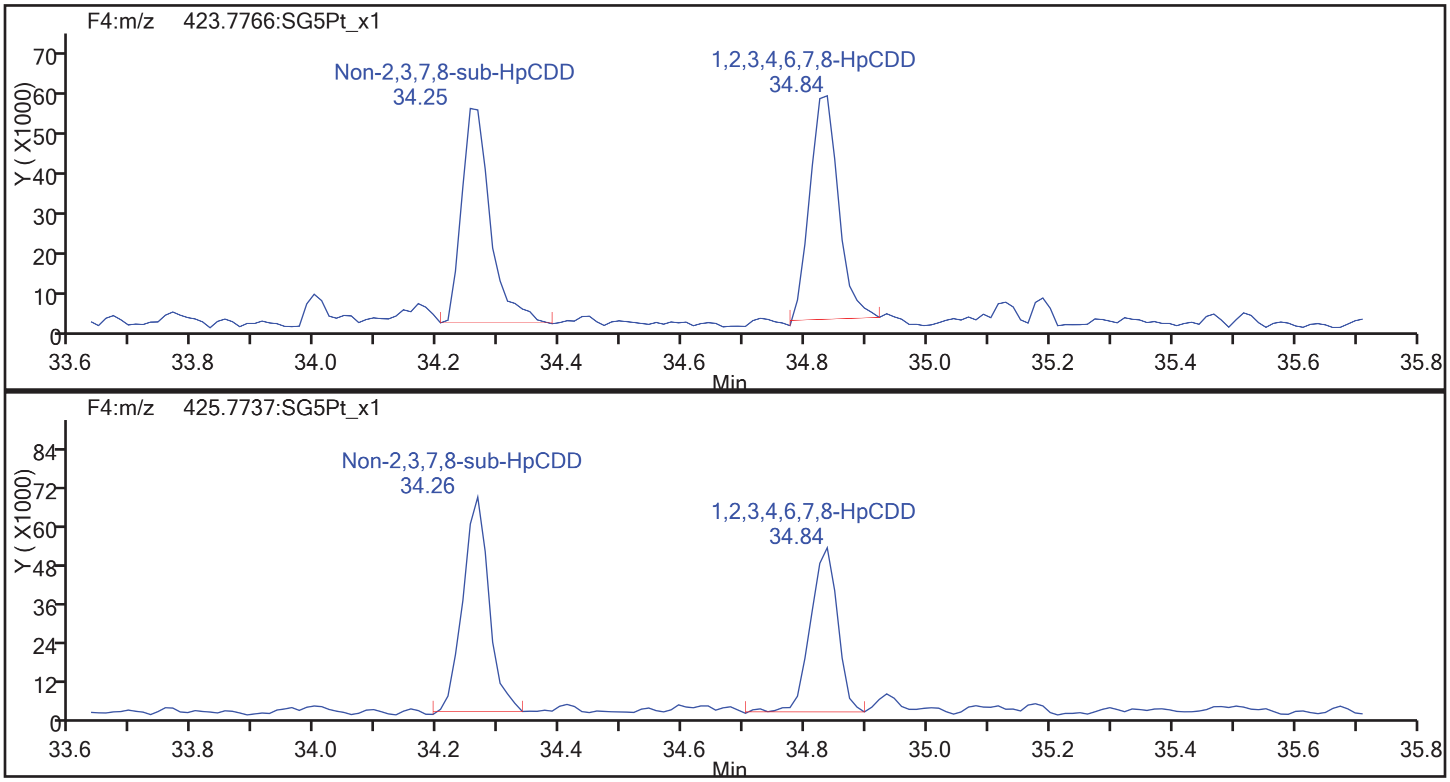
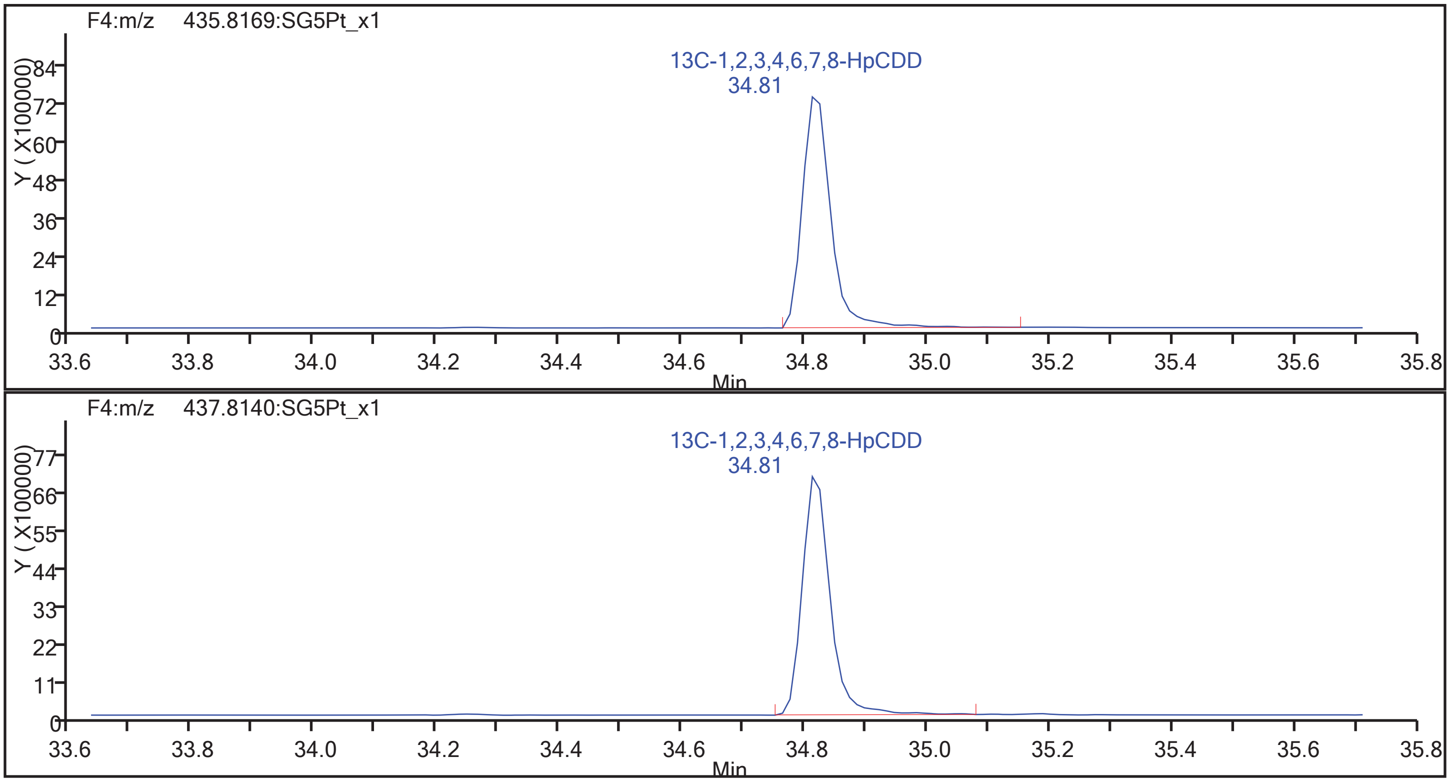


HpCDD Standards



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TestAmerica Sacramento

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Instrument ID: 3D5 Operator ID: SMA, ALM
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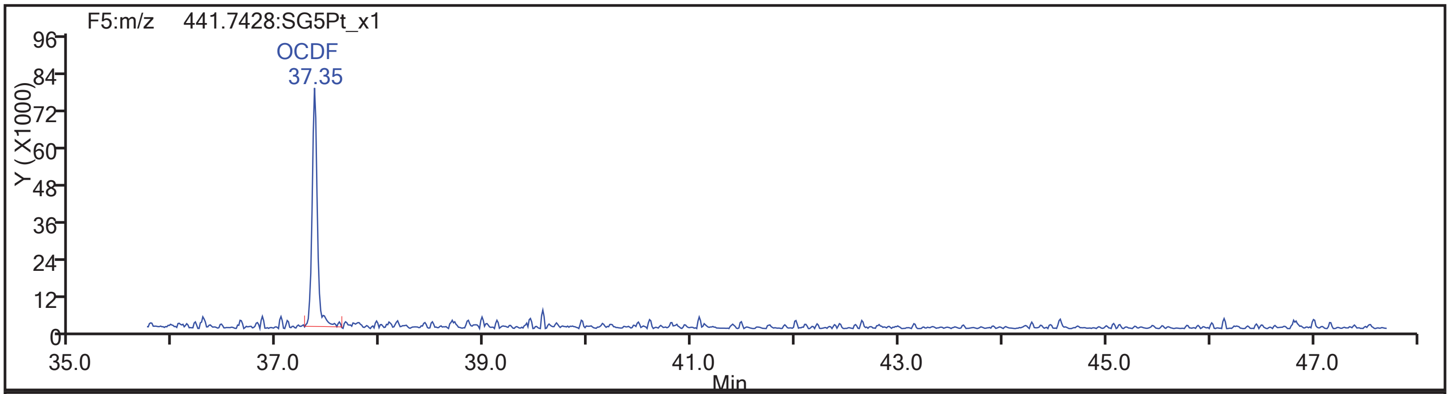

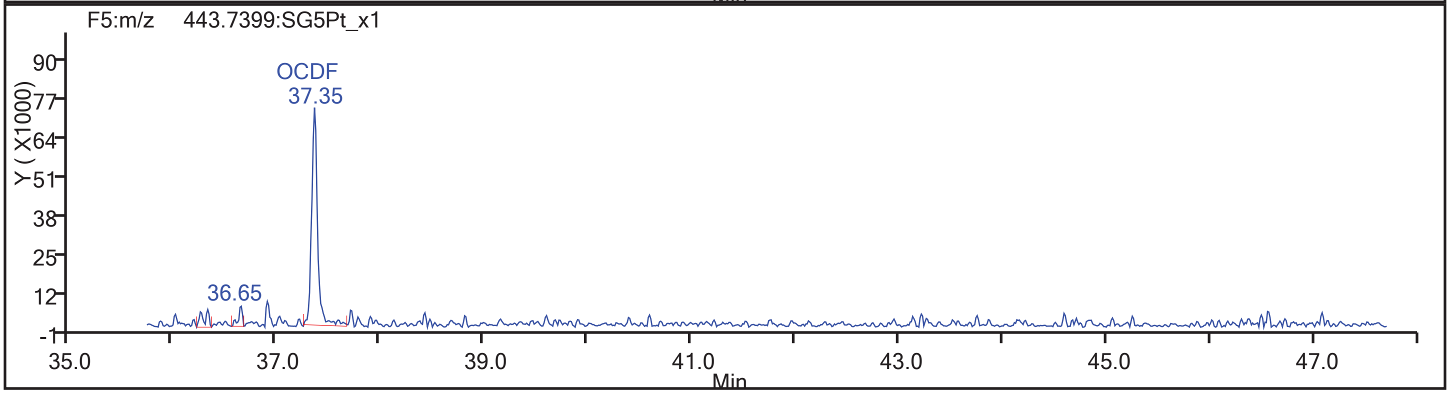

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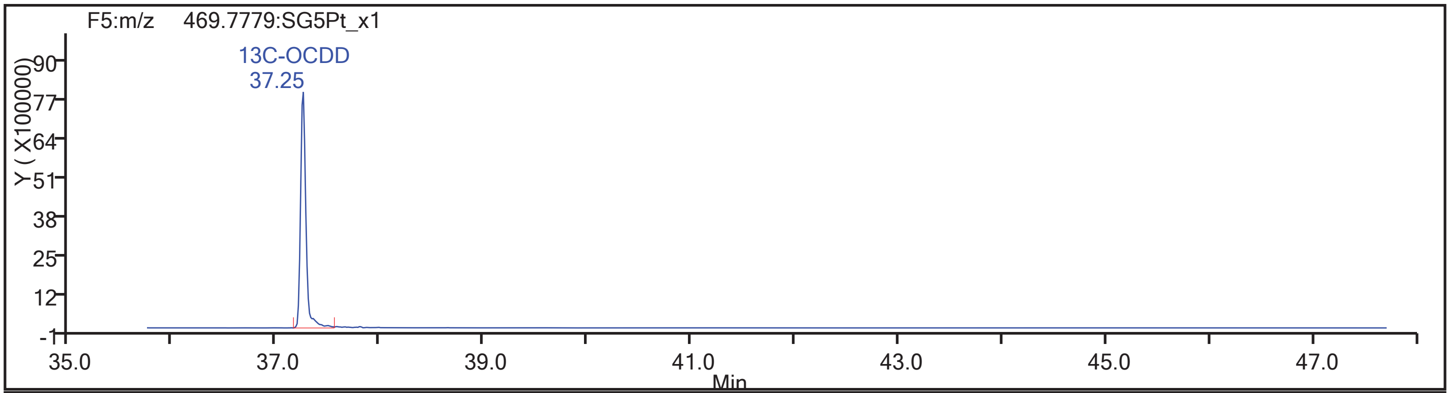

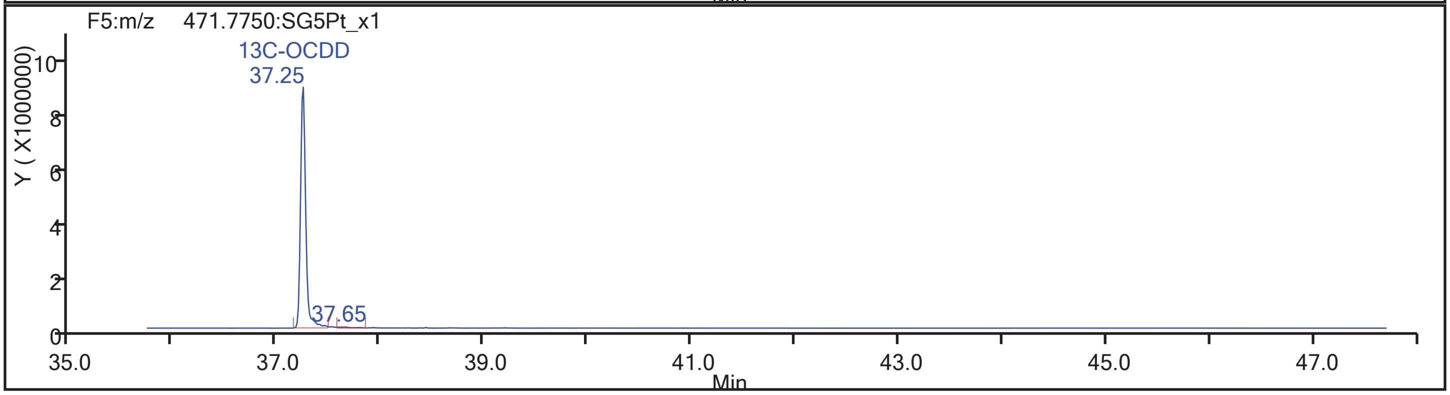

TestAmerica Sacramento

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Injection Date: 19-Nov-2017 16:41:00
Injection Vol: 2.0 ul
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Method: Dioxin_3D5
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Sample Line#: 87
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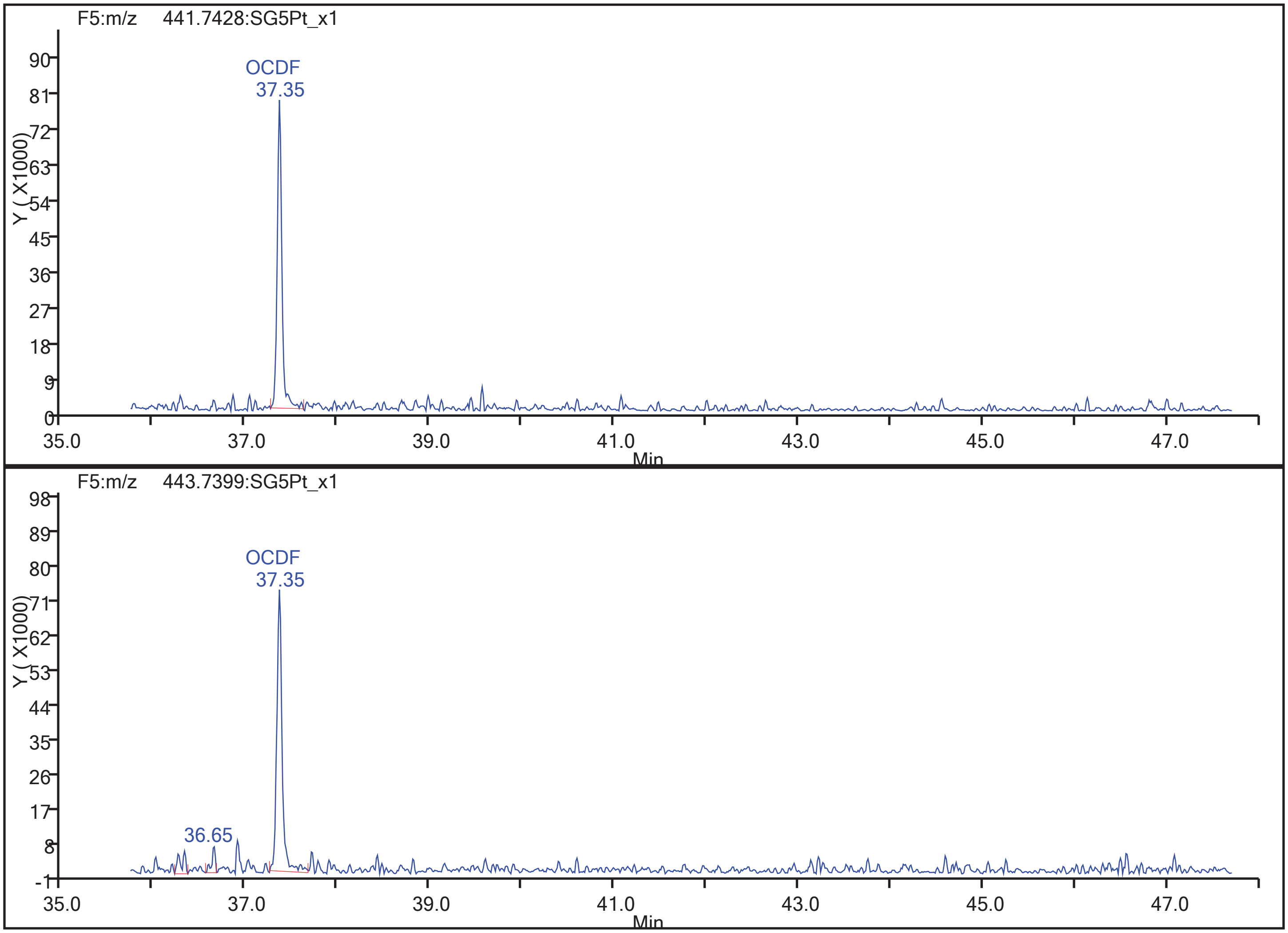
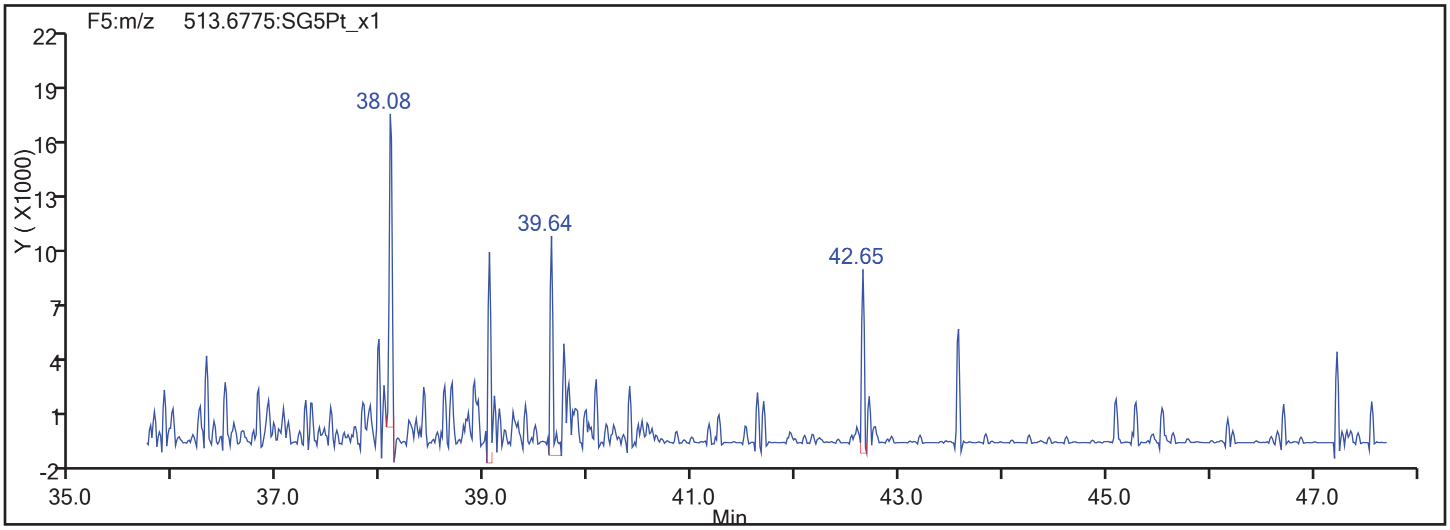


OCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 16:41:00 Injection Vol: 2.0 ul
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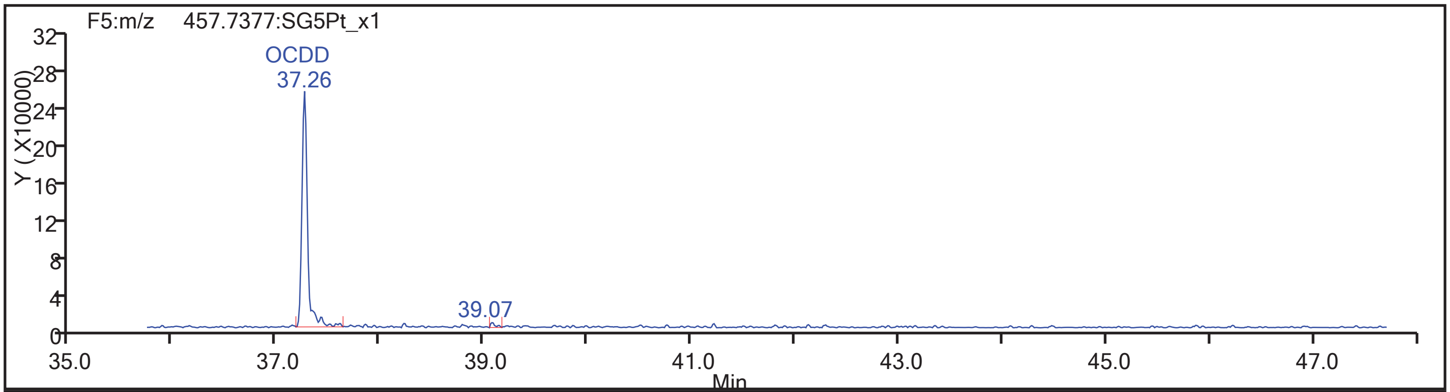

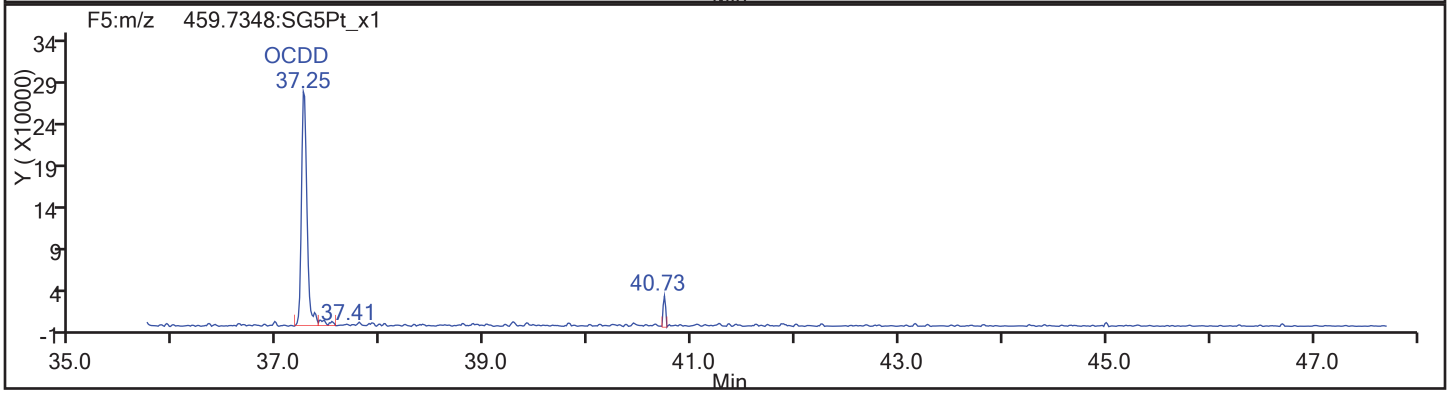

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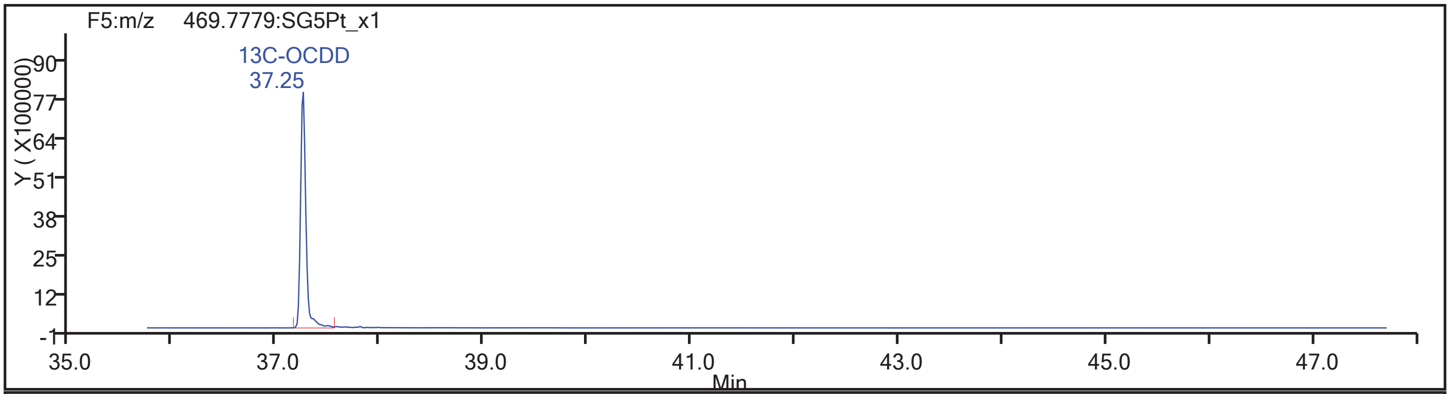

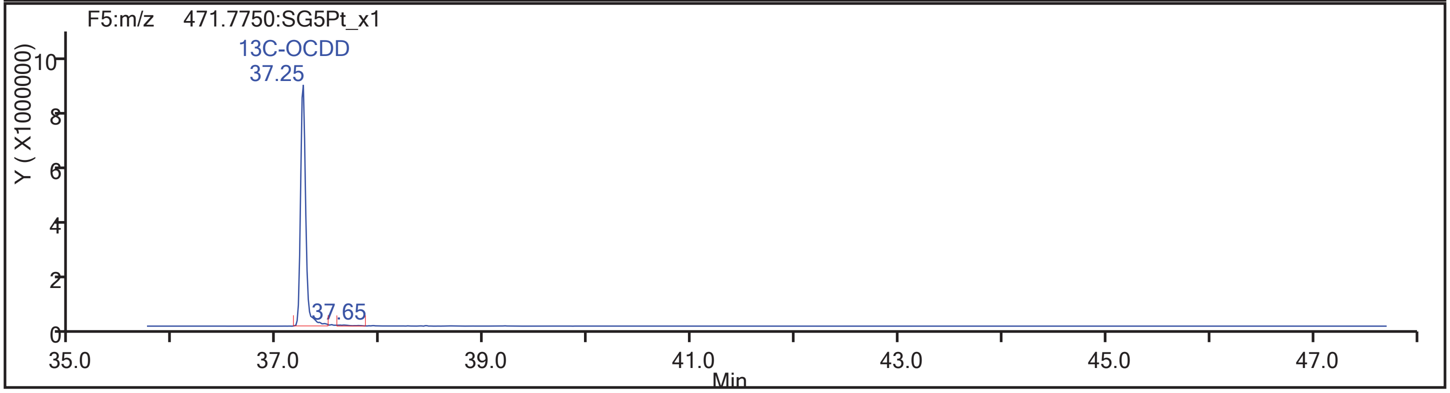

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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 16:41:00
Injection Vol: 2.0 ul
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Operator ID: SMA, ALM
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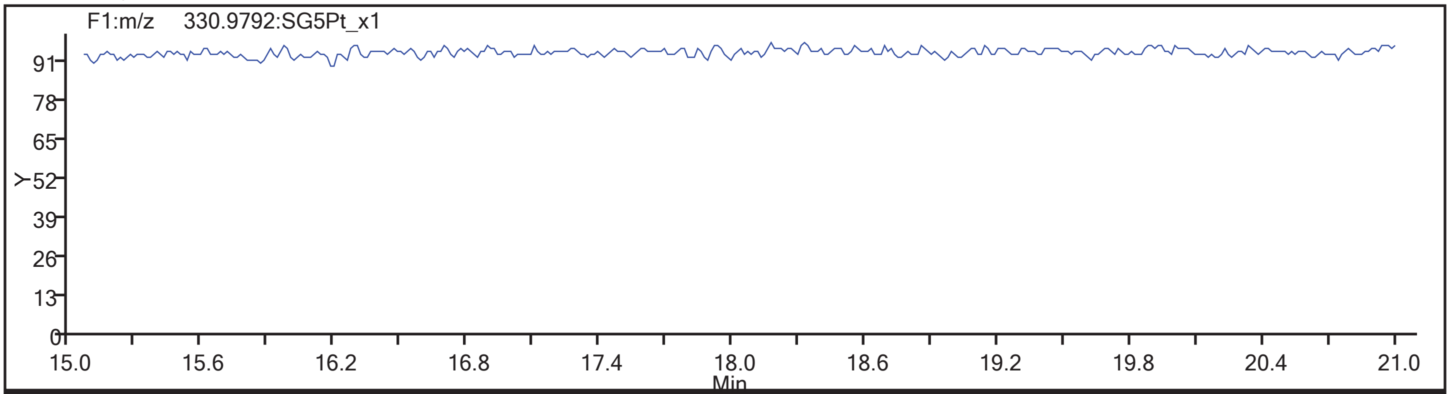

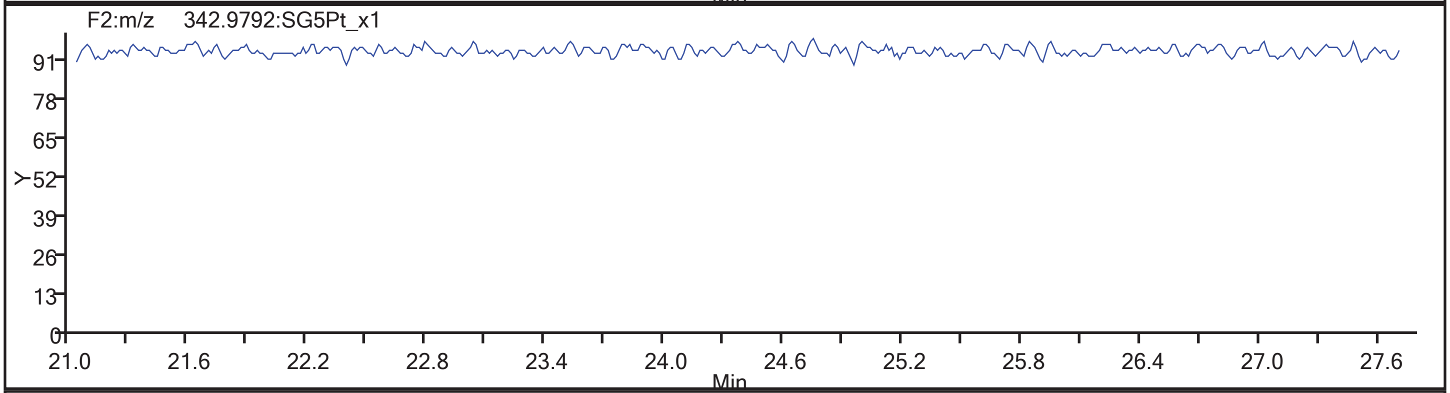

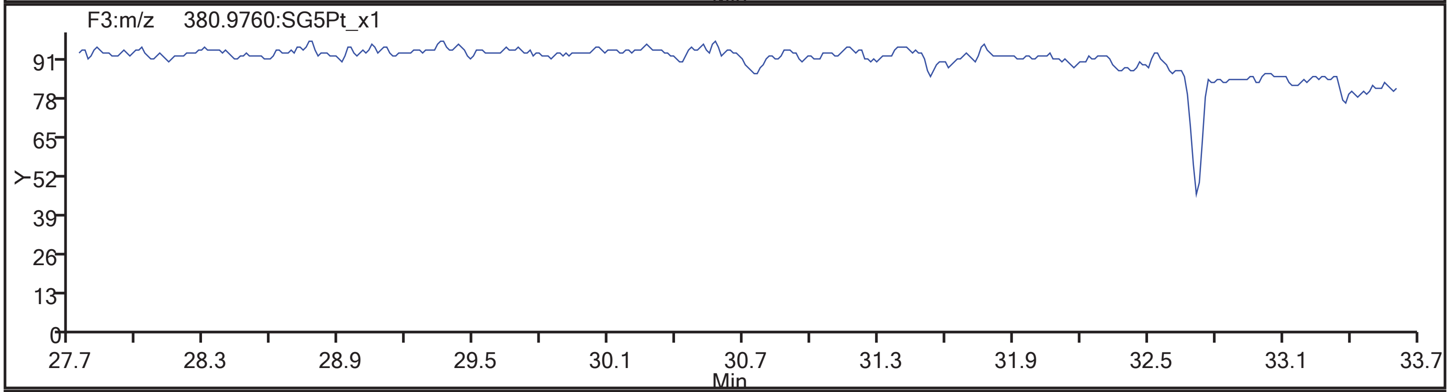

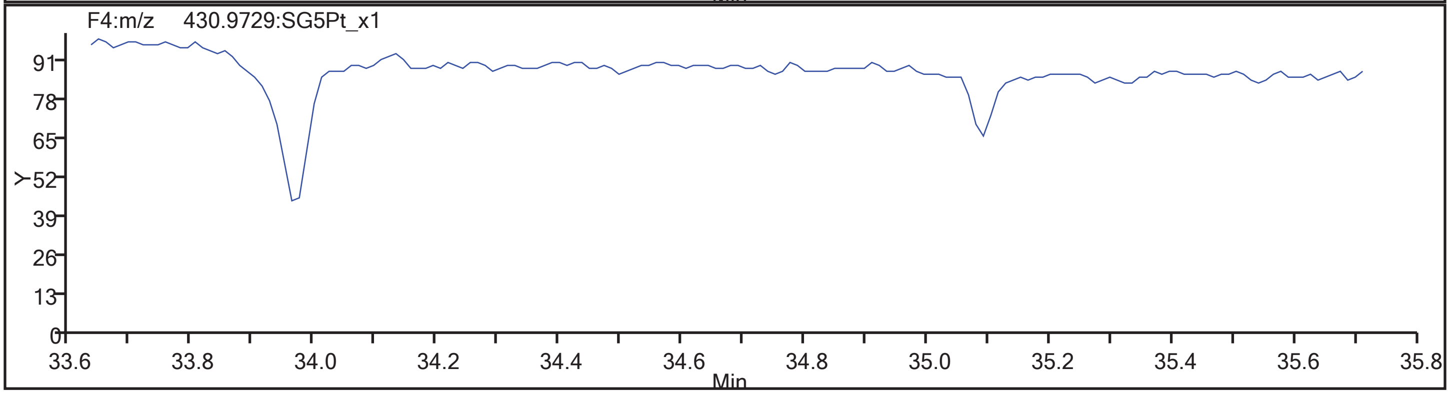

TestAmerica Sacramento

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Injection Date: 19-Nov-2017 16:41:00
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
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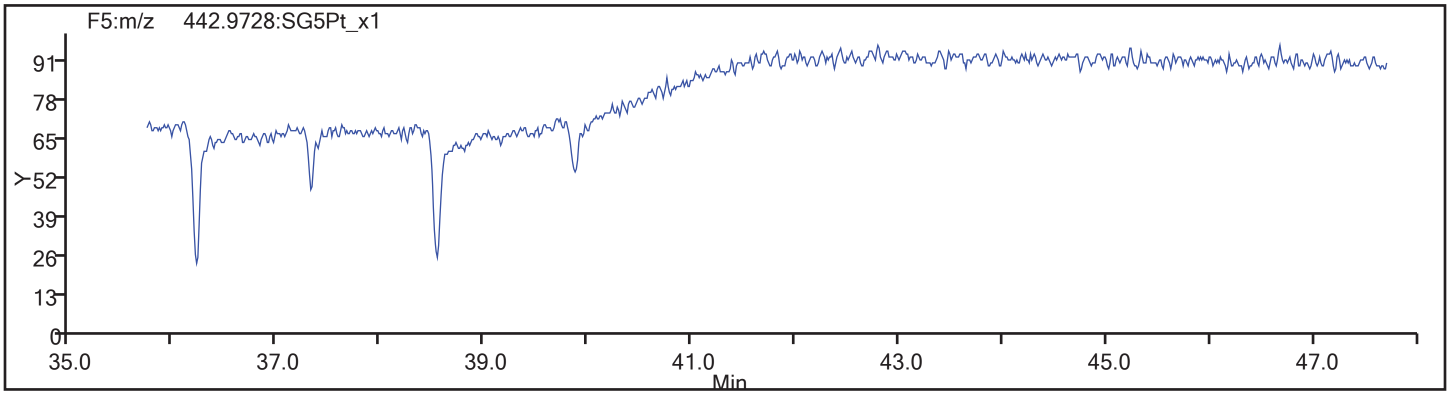

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP013SS05NS	Lab Sample ID: 160-24924-17
Matrix: Solid	Lab File ID: 09NO1710D5_87.d
Analysis Method: 8290A	Date Collected: 10/05/2017 15:10
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.01(g)	Date Analyzed: 11/12/2017 05:23
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 24.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194086	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
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51207-31-9	2,3,7,8-TCDF	0.53	U	1.3	0.53	0.056
40321-76-4	1,2,3,7,8-PeCDD	0.99	U	6.6	0.99	0.095
57117-41-6	1,2,3,7,8-PeCDF	0.99	U	6.6	0.99	0.072
57117-31-4	2,3,4,7,8-PeCDF	0.99	U	6.6	0.99	0.073
39227-28-6	1,2,3,4,7,8-HxCDD	0.22	J	6.6	2.6	0.096
57653-85-7	1,2,3,6,7,8-HxCDD	0.41	J	6.6	2.6	0.074
19408-74-3	1,2,3,7,8,9-HxCDD	0.49	J	6.6	2.6	0.073
70648-26-9	1,2,3,4,7,8-HxCDF	0.99	U	6.6	0.99	0.054
57117-44-9	1,2,3,6,7,8-HxCDF	1.3	U	6.6	1.3	0.044
72918-21-9	1,2,3,7,8,9-HxCDF	1.3	U	6.6	1.3	0.053
60851-34-5	2,3,4,6,7,8-HxCDF	0.99	U	6.6	0.99	0.049
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.8	J	6.6	1.3	0.097
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.41	J	6.6	1.3	0.071
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.6	U	6.6	2.6	0.088
3268-87-9	OCDD	12	J B	13	5.3	0.10
39001-02-0	OCDF	0.58	J	13	5.3	0.11

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	51		40-135
89059-46-1	13C-2,3,7,8-TCDF	56		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	59		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	59		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	51		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	61		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	54		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	46		40-135
114423-97-1	13C-OCDD	42		40-135

Report Date: 13-Nov-2017 13:27:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d
Lims ID: 160-24924-G-17-A
Client ID: SHAD041DP013SS05NS
Sample Type: Client
Inject. Date: 12-Nov-2017 05:23:50 ALS Bottle#: 62 Worklist Smp#: 87
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-17-a 160-24924-g-17-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:27:48 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:27:48

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.884	96196730	0.77	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.370	69133441	0.78	1.2741	56.4	56.4	0.1432	0.1432	56.41	
2,3,7,8-TCDF	17.385						0.0212	0.0212		
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF							0.0212	0.0212		
D 13C-2,3,7,8-TCDD	18.080	48997759	0.77	0.9921	51.3	51.3	0.1794	0.1794	51.34	
2,3,7,8-TCDD	18.095						0.0340	0.0340		
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD							0.0340	0.0340		
D 13C-1,2,3,7,8-PeCDF	22.410	54744686	1.55	0.9696	58.7	58.7	0.1560	0.1560	58.69	
1,2,3,7,8-PeCDF	22.437						0.0273	0.0273		
2,3,4,7,8-PeCDF	23.787						0.0279	0.0279		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF							0.0279	0.0279		
D 13C-1,2,3,7,8-PeCDD	24.483	43346568	1.64	0.7588	59.4	59.4	0.0904	0.0904	59.38	
1,2,3,7,8-PeCDD	24.510						0.0363	0.0363		
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD							0.0363	0.0363		
D 13C-1,2,3,4,7,8-HxCDF	30.553	47298515	0.52	0.9644	61.3	61.3	0.3948	0.3948	61.25	
1,2,3,4,7,8-HxCDF	30.580						0.0204	0.0204		
1,2,3,6,7,8-HxCDF	30.753						0.0168	0.0168		
2,3,4,6,7,8-HxCDF	31.418						0.0188	0.0188		RQU
D 13C-1,2,3,7,8,9-HxCDF	32.337	49007514	0.51							
1,2,3,7,8,9-HxCDF	32.350						0.0202	0.0202		
A Non-2,3,7,8-sub-HxCDF	30.254	56655	1.24	1.5067	0.0934	0.0795	0.0189	0.0447		RQ
S Total HxCDF					0.0934	0.0795	0.0191	0.0191		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.164	80070598	1.25	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.751	28856	1.24	0.9505	0.0980	0.0843	0.0365	0.0365		RQ
D 13C-1,2,3,6,7,8-HxCDD	31.831	36026534	1.23	0.8791	51.2	51.2	0.3091	0.3091	51.18	

Report Date: 13-Nov-2017 13:27:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.844	70148	1.07	1.2343	0.1577	0.1577	0.0281	0.0281		
1,2,3,7,8,9-HxCDD	32.164	83828	1.32	1.2467	0.1866	0.1866	0.0278	0.0278		
A Non-2,3,7,8-sub-HxCDD	30.893	426724	1.29	1.1438	1.036	1.036	0.0303	0.5778		
S Total HxCDD					1.478	1.464	0.0308	0.0308		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.758	28056339	0.43	0.7618	46.0	46.0	0.7614	0.7614	45.99	
1,2,3,4,6,7,8-HpCDF	33.758	72009	1.04	1.6399	0.1702	0.1565	0.0271	0.0271		RQ
1,2,3,4,7,8,9-HpCDF	34.839						0.0334	0.0334		
A Non-2,3,7,8-sub-HpCDF	34.305	115986	1.03	1.4851	0.2784	0.2784	0.0299	0.2784		
S Total HpCDF					0.4486	0.4349	0.0303	0.0303		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.536	33251284	1.06	0.7762	53.5	53.5	0.2890	0.2890	53.50	
1,2,3,4,6,7,8-HpCDD	34.548	351391	0.95	0.9932	1.064	1.064	0.0369	0.0369		
A Non-2,3,7,8-sub-HpCDD	34.286	562896	1.18	0.9932	1.704	1.704	0.0369	1.704		
S Total HpCDD					2.769	2.769	0.0369	0.0369		
D 13C-OCDD	36.870	42306176	0.89	0.6314	83.7	83.7	0.2219	0.2219	41.84	
OCDF	36.978	63122	0.89	1.3460	0.2436	0.2217	0.0408	0.0408		RQ
OCDD	36.882	1041992	0.86	1.0604	4.645	4.645	0.0387	0.0387		

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
U - Marked Undetected

Report Date: 13-Nov-2017 13:27:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d
Lims ID: 160-24924-G-17-A
Client ID: SHAD041DP013SS05NS
Sample Type: Client
Inject. Date: 12-Nov-2017 05:23:50 ALS Bottle#: 62 Worklist Smp#: 87
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-17-a 160-24924-g-17-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:27:48 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:27:48

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.884	17.884	0		41908631	10547577	8494	21235	1242		
333.9339	17.884	17.884	0		54288099	13585636	8687	21717	1564	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.370	17.370	0	0.971	30293696	7534811	10151	25377	742		
317.9389	17.370	17.370	0	0.971	38839745	9714297	7456	18640	1303	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.385						540	1350			
305.8987	17.385						1118	2795			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						540	1350			
305.8987	17.105						1118	2795			
13C-2,3,7,8-TCDD											
331.9368	18.080	18.080	0	1.011	21289856	5031738	8494	21235	592		
333.9339	18.080	18.080	0	1.011	27707903	6487506	8687	21717	747	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.095						967	2417			
321.8936	18.095						600	1500			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						967	2417			
321.8936	17.559						600	1500			
13C-1,2,3,7,8-PeCDF											
351.9000	22.410	22.410	0	1.253	33315489	5973352	8194	20485	729		
353.8970	22.410	22.410	0	1.253	21429197	3783594	6407	16017	591	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.437						343	857			
341.8567	22.437						896	2240			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	23.787						343	857			
341.8567	23.787						896	2240			
A F1 PeCDFs											
339.8597	20.001						312	780			
341.8567	20.001						860	2150			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						343	857			
341.8567	23.161						896	2240			
13C-1,2,3,7,8-PeCDD											
367.8949	24.483	24.483	0	1.369	26922703	4230346	4071	10177	1039		
369.8919	24.483	24.483	0	1.369	16423865	2567000	2547	6367	1008	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.510						702	1755			
357.8516	24.510						235	587			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						702	1755			
357.8516	23.419						235	587			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.553	30.553	0	0.950	16183949	3076413	10514	26285	293		
385.8610	30.553	30.553	0	0.950	31114566	5979311	20223	50557	296	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.580						572	1430			
375.8178	30.580						462	1155			
1,2,3,6,7,8-HxCDF											
373.8208	30.753						572	1430			
375.8178	30.753						462	1155			
2,3,4,6,7,8-HxCDF											RQU
373.8208	31.565						572	1430			
375.8178	31.565						462	1155			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.337	32.337	0	1.005	16559563	4115164	10514	26285	391		
385.8610	32.337	32.337	0	1.005	32447951	8074135	20223	50557	399	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.350						572	1430			
375.8178	32.350						462	1155			
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	28.410	30.254	-110	0.930	13747	2603	572	1430	5		
375.8178	28.437	30.254	-109	0.931	17628	2449	462	1155	5	0.78(1.05-1.43)	
	Empc Correction				11086	2099	462	1155	5		
373.8208	29.754	30.254	-30	0.974	17616	3001	572	1430	5		
375.8178	29.768	30.254	-29	0.974	17536	2909	462	1155	6	1.00(1.05-1.43)	
	Empc Correction				14206	2420	462	1155	5		
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.164	32.164	0		44496906	11228883	11490	28725	977		
403.8529	32.164	32.164	0		35573692	8952924	10442	26105	857	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											RQ
389.8157	31.751	31.751	0	0.997	15974	5587	575	1437	10		
391.8127	31.751	31.751	0	0.997	17591	6103	687	1717	9	0.91(1.05-1.43)	
	Empc Correction				12882	4505	687	1717	7		
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.831	31.831	0	0.990	19880710	5061092	11490	28725	440		
403.8529	31.831	31.831	0	0.990	16145824	4041798	10442	26105	387	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.844	31.844	0	1.000	36326	8337	575	1437	14		
391.8127	31.858	31.844	1	1.001	33822	8675	687	1717	13	1.07(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.164	32.177	-1	1.010	47679	10479	575	1437	18		
391.8127	32.177	32.177	0	1.011	36149	7655	687	1717	11	1.32(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.635	30.893	-75	0.931	109571	13621	575	1437	24		
391.8127	29.635	30.893	-75	0.931	79040	11555	687	1717	17	1.39(1.05-1.43)	
389.8157	31.019	30.893	8	0.974	131051	26120	575	1437	45		
391.8127	31.006	30.893	7	0.974	107062	18959	687	1717	28	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.758	33.746	1	1.050	8453362	2509205	13685	34212	183		
419.8220	33.758	33.746	1	1.050	19602977	5806266	33140	82850	175	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7818	33.758	33.758	0	1.000	43021	12772	951	2377	13		
	Empc Correction				36710	10548	951	2377	11		
409.7789	33.758	33.758	0	1.000	35299	10143	527	1317	19	1.22(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.839						951	2377			
409.7789	34.839						527	1317			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.062	34.305	-15	1.009	58740	17823	951	2377	19		
409.7789	34.050	34.305	-15	1.009	57246	18134	527	1317	34	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.536	34.535	0	1.074	17101013	4953025	9051	22627	547		
437.8140	34.536	34.535	0	1.074	16150271	4737573	9060	22650	523	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.548	34.548	0	1.000	171452	51247	717	1792	71		
425.7737	34.548	34.548	0	1.000	179939	51049	704	1760	73	0.95(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.001	34.286	-17	0.985	304521	91318	717	1792	127		
425.7737	34.001	34.286	-17	0.985	258375	82790	704	1760	118	1.18(0.88-1.20)	
13C-OCDD											
469.7779	36.870	36.870	0	1.146	19866318	4888710	6983	17457	700		
471.7750	36.870	36.870	0	1.146	22439858	5424384	4325	10812	1254	0.89(0.76-1.02)	
OCDF											RQ
441.7428	36.978	36.978	0	1.003	35972	7541	432	1080	17		
	Empc Correction				29724	6340	432	1080	15		
443.7399	36.978	36.978	0	1.003	33398	7124	701	1752	10	1.08(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	36.882	36.882	0	1.000	482058	113889	362	905	315		
459.7348	36.882	36.882	0	1.000	559934	129038	484	1210	267	0.86(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Lims ID:	160-24924-G-17-A		
Client ID:	SHAD041DP013SS05NS		
Inject. Date:	12-Nov-2017 05:23:50	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	87

Non-2,3,7,8-sub-HxCDF, RT: 30.254

Initial Calibration RRF | IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	47298515	9055724
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	47298515	9055724

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.410	13747	2603	17628	2449	0.0440	0.78	RQ
28.410	13747	2603	11086	2099	0.0348		Empc Correction
29.754	17616	3001	17536	2909	0.0493	1.00	RQ
29.754	17616	3001	14206	2420	0.0447		Empc Correction
Signal Totals:							
	31363	5604	25292	4519			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	66527	10962				0.89	RQ
	56655	10123					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0934 = (66527 * 100.000) / (47298515 * 1.507)
Empc Amount: 0.0795 = (56655 * 100.000) / (47298515 * 1.507)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Lims ID:	160-24924-G-17-A		
Client ID:	SHAD041DP013SS05NS		
Inject. Date:	12-Nov-2017 05:23:50	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	87

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	36026534	9102890
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	36026534	9102890

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.635	109571	13621	79040	11555	0.4577	1.39	
31.019	131051	26120	107062	18959	0.5778	1.22	
Signal Totals:							
	240622	39741	186102	30514			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	426724	70255				1.29	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.036 = (426724 * 100.000) / (36026534 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d
Lims ID: 160-24924-G-17-A
Client ID: SHAD041DP013SS05NS
Inject. Date: 12-Nov-2017 05:23:50
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194086
Lims Sample ID: 87

Non-2,3,7,8-sub-HpCDF, RT: 34.305

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	28056339	8315471
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	28056339	8315471

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.062	58740	17823	57246	18134	0.2784	1.03	
Signal Totals:							
	58740	17823	57246	18134			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	115986	35957				1.03	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2784 = (115986 * 100.000) / (28056339 * 1.485)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Lims ID:	160-24924-G-17-A		
Client ID:	SHAD041DP013SS05NS		
Inject. Date:	12-Nov-2017 05:23:50	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	87

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	33251284	9690598

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	33251284	9690598

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.001	304521	91318	258375	82790	1.70	1.18	
Signal Totals:							
	304521	91318	258375	82790			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	562896	174108				1.18	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

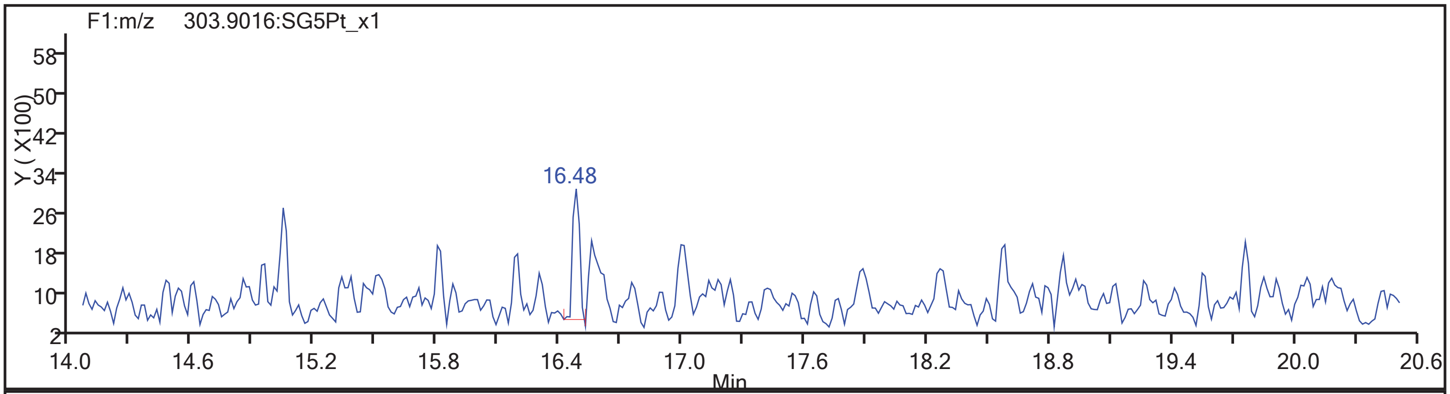
Amount: 1.704 = (562896 * 100.000) / (33251284 * 0.993)

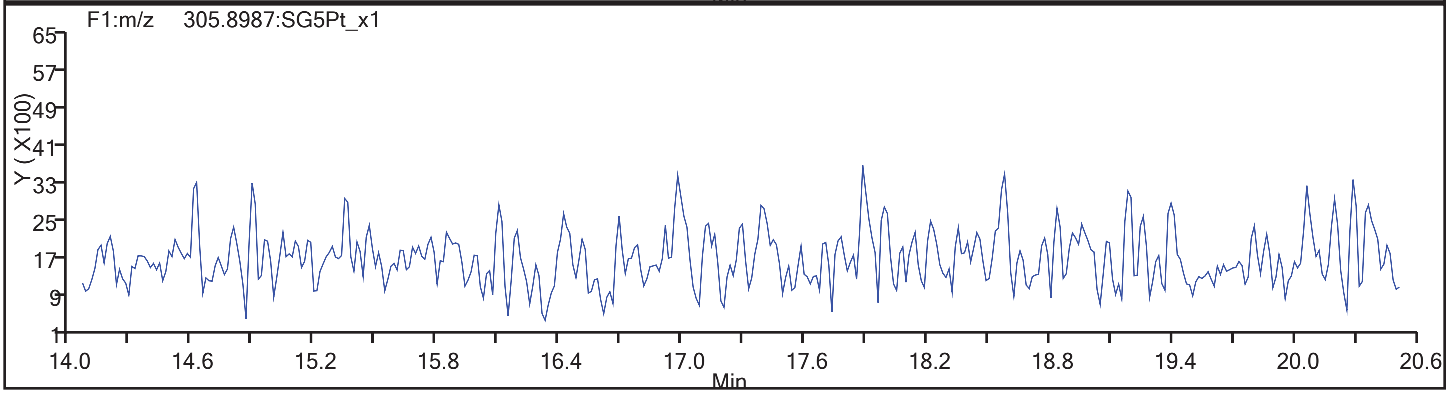
Report Date: 13-Nov-2017 13:27:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

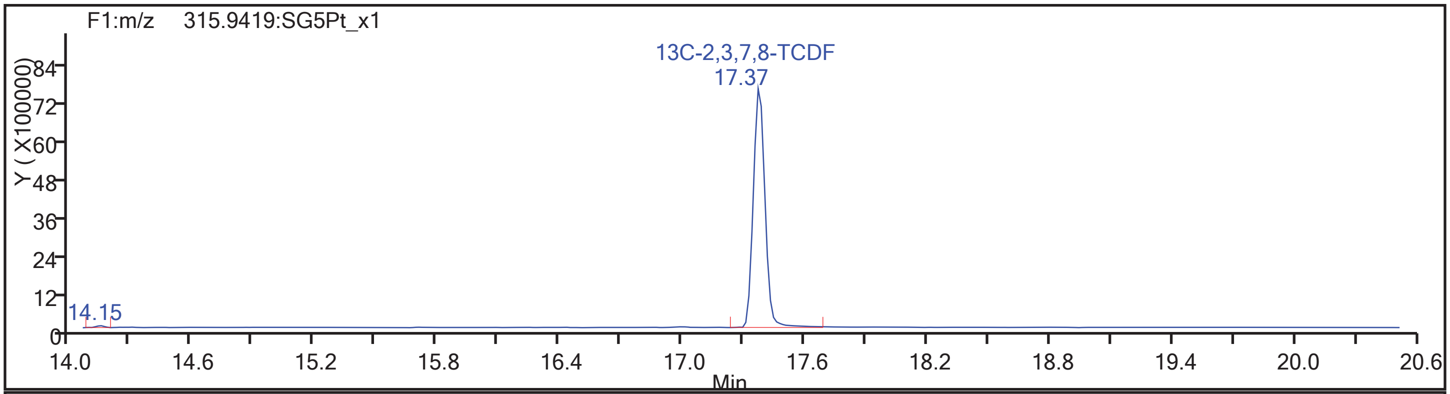
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d
Injection Date: 12-Nov-2017 05:23:50
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05NS
Worklist#: 194086
Sample Line#: 87
Column Type: DB-5
Column Dia: 0.32 mm

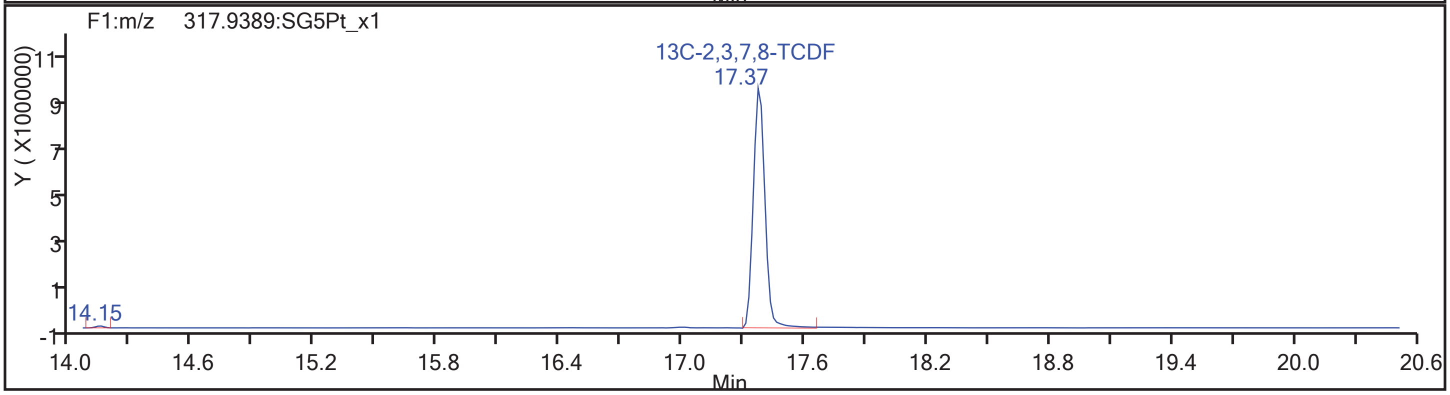
TCDF





TCDF Standards



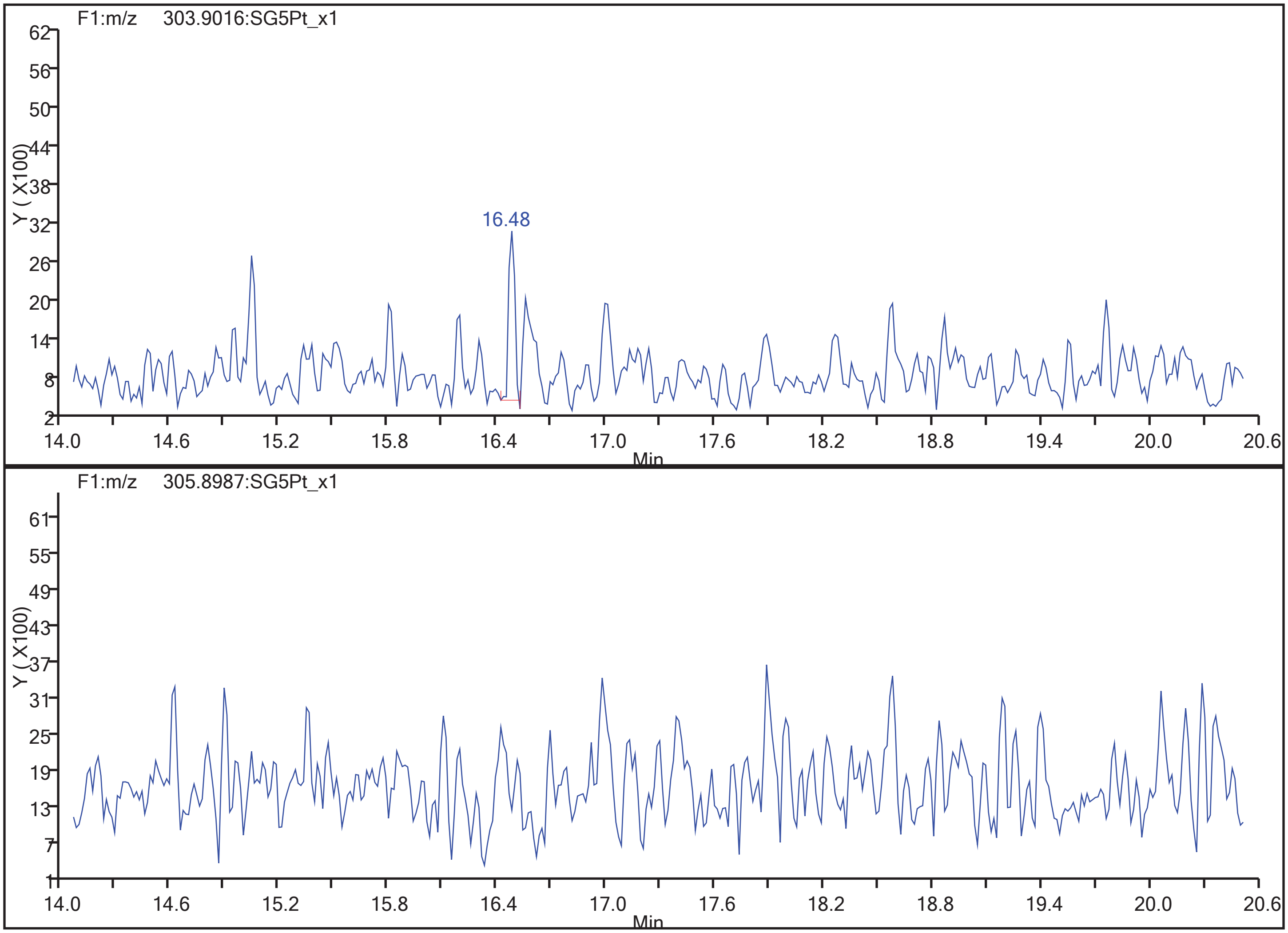


Report Date: 13-Nov-2017 13:27:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

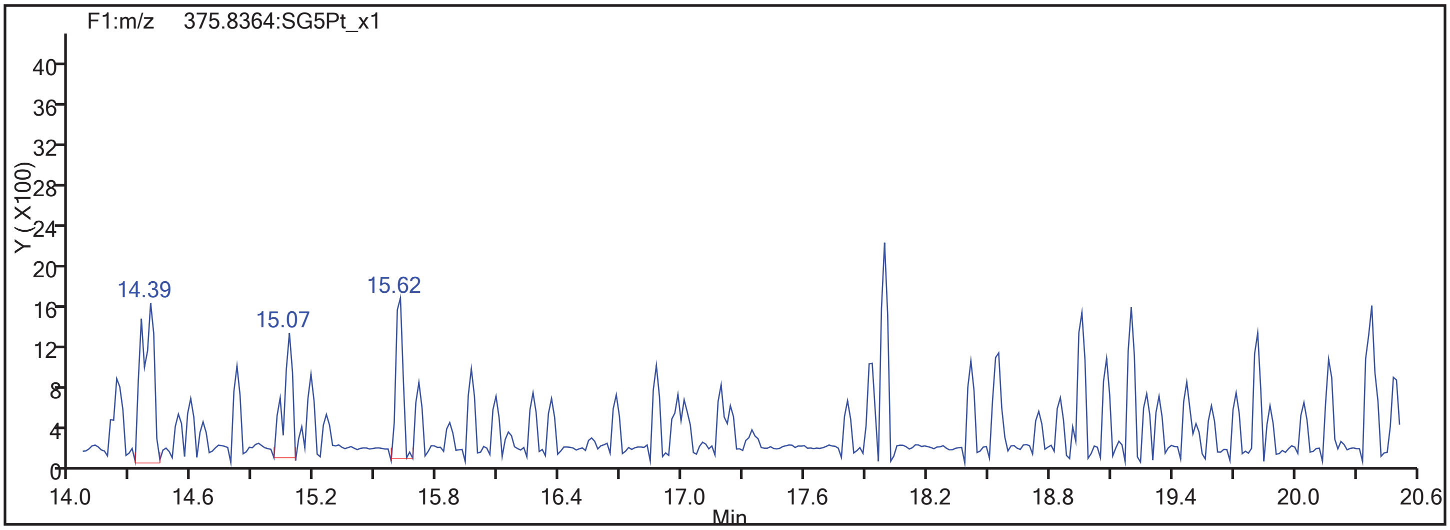
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Injection Date:	12-Nov-2017 05:23:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	194086	Sample Line#:	87
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF



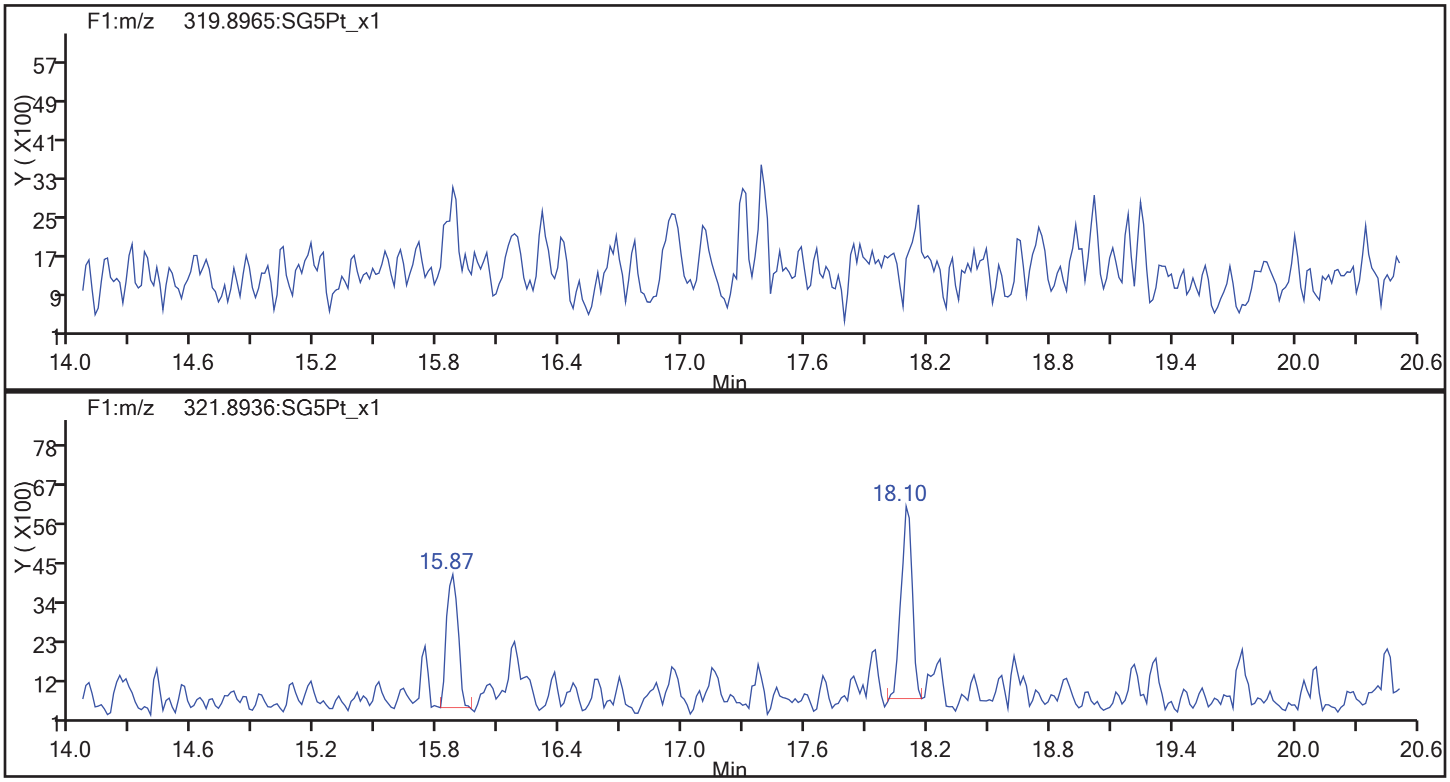
TCDF Interference Mass



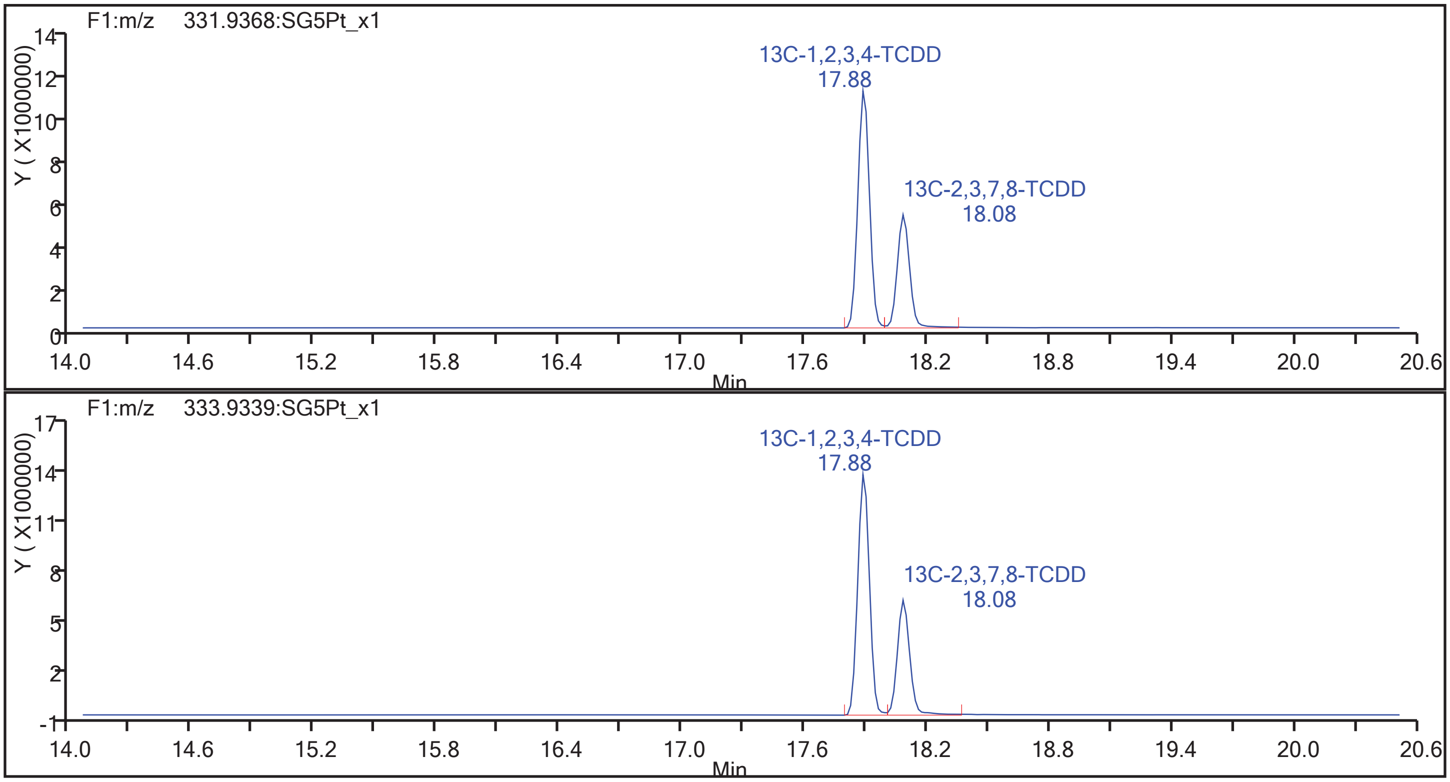
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Injection Date:	12-Nov-2017 05:23:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	194086	Sample Line#:	87
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD



TCDD Standards

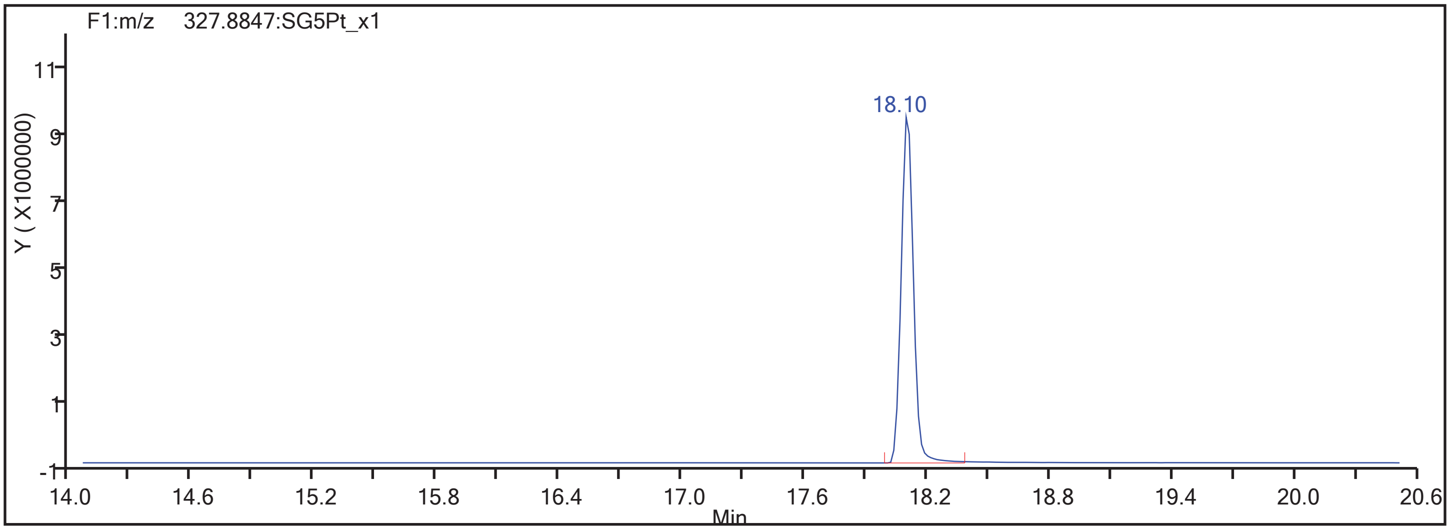


Report Date: 13-Nov-2017 13:27:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

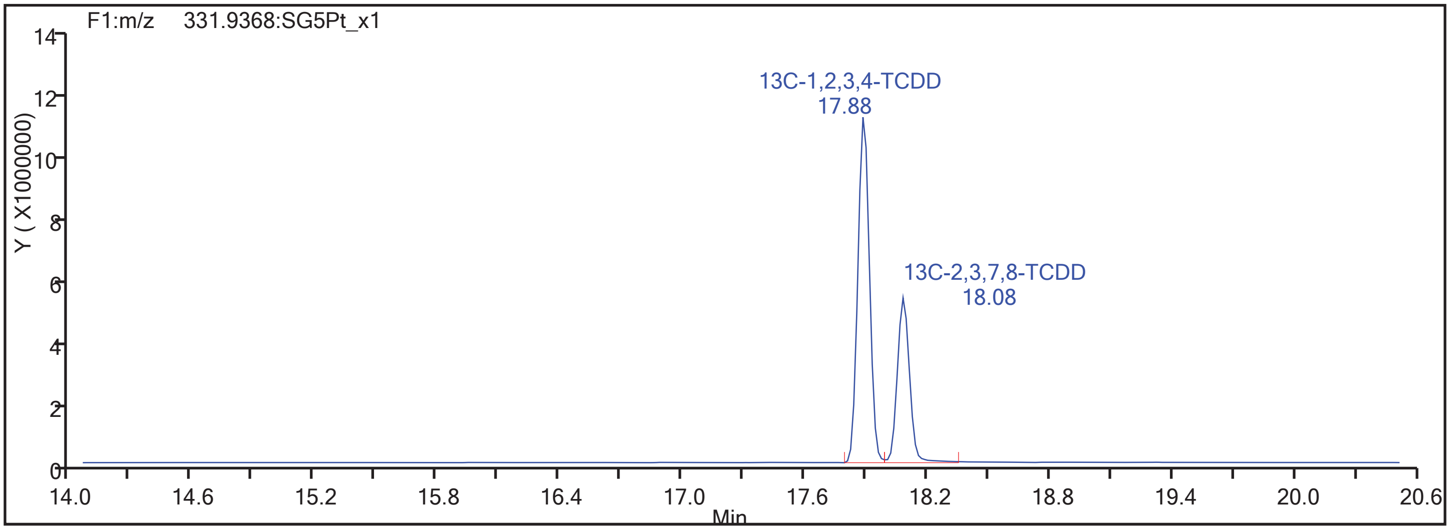
TestAmerica Sacramento

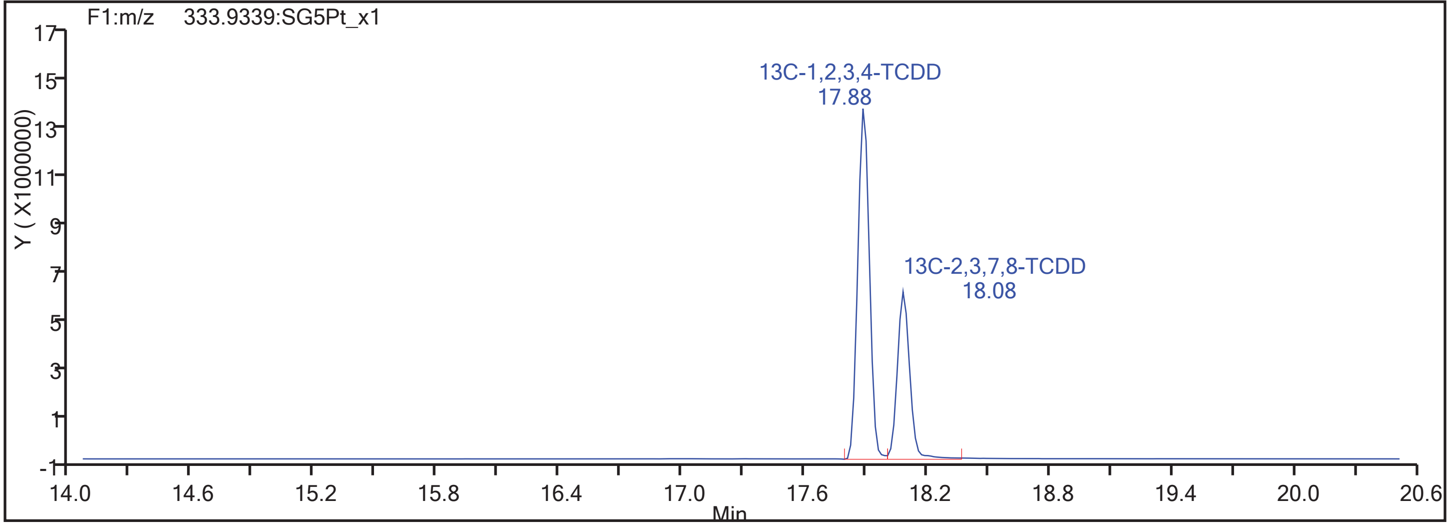
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Injection Date:	12-Nov-2017 05:23:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	194086	Sample Line#:	87
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



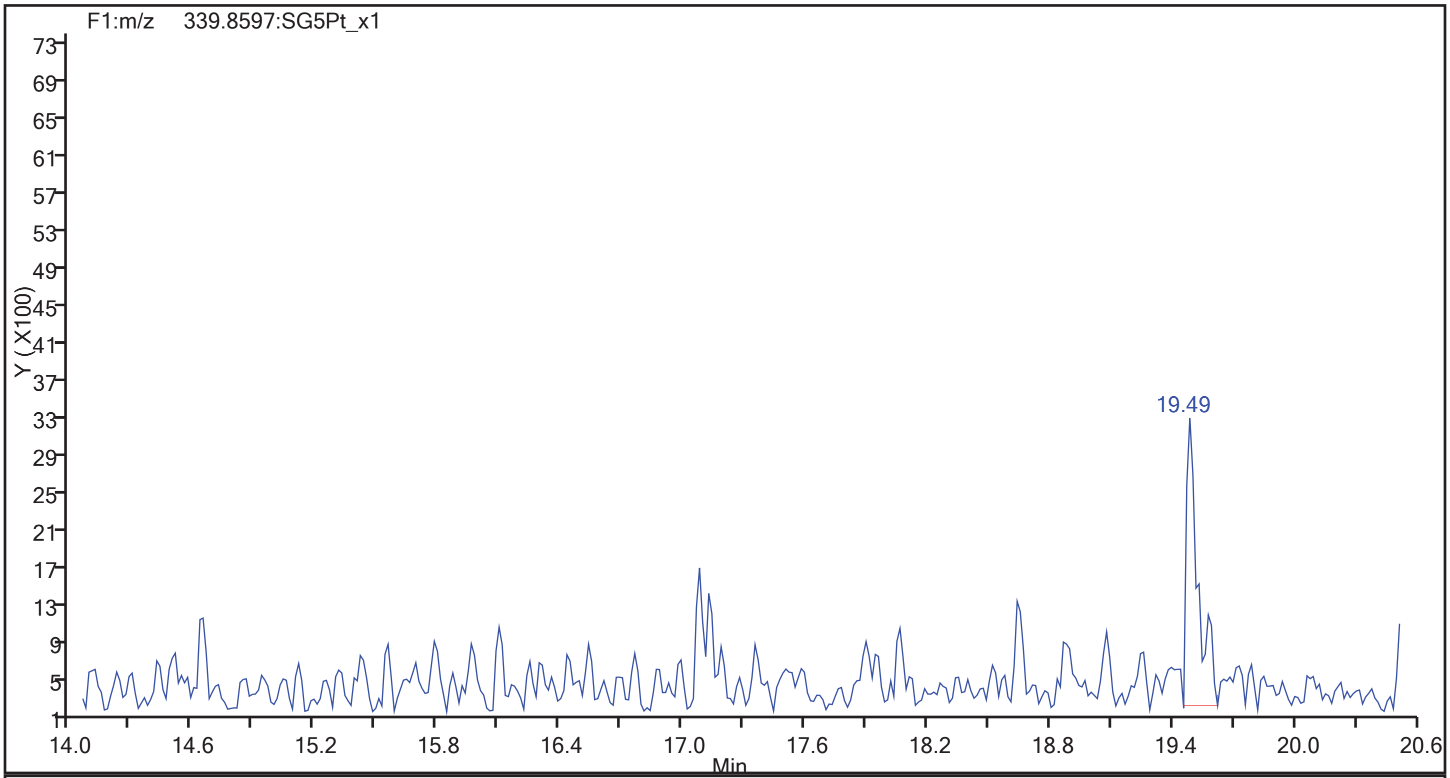


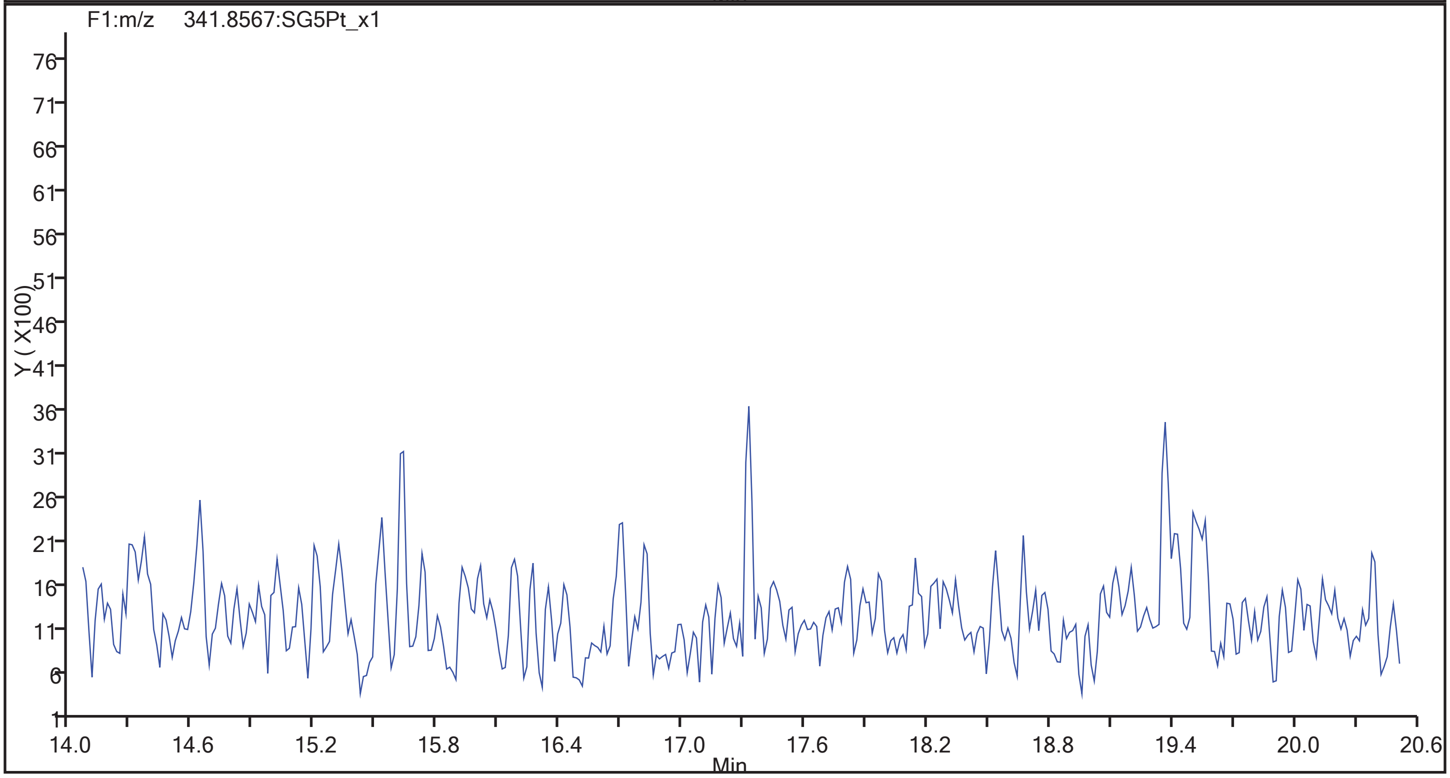
Report Date: 13-Nov-2017 13:27:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Injection Date:	12-Nov-2017 05:23:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	194086	Sample Line#:	87
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





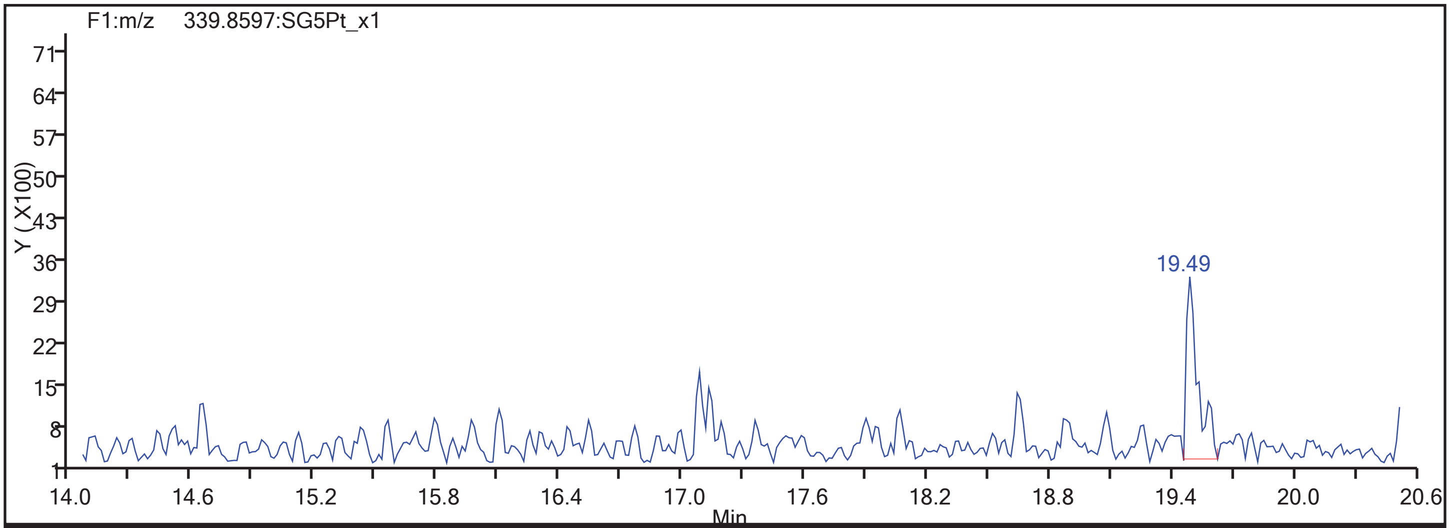
Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

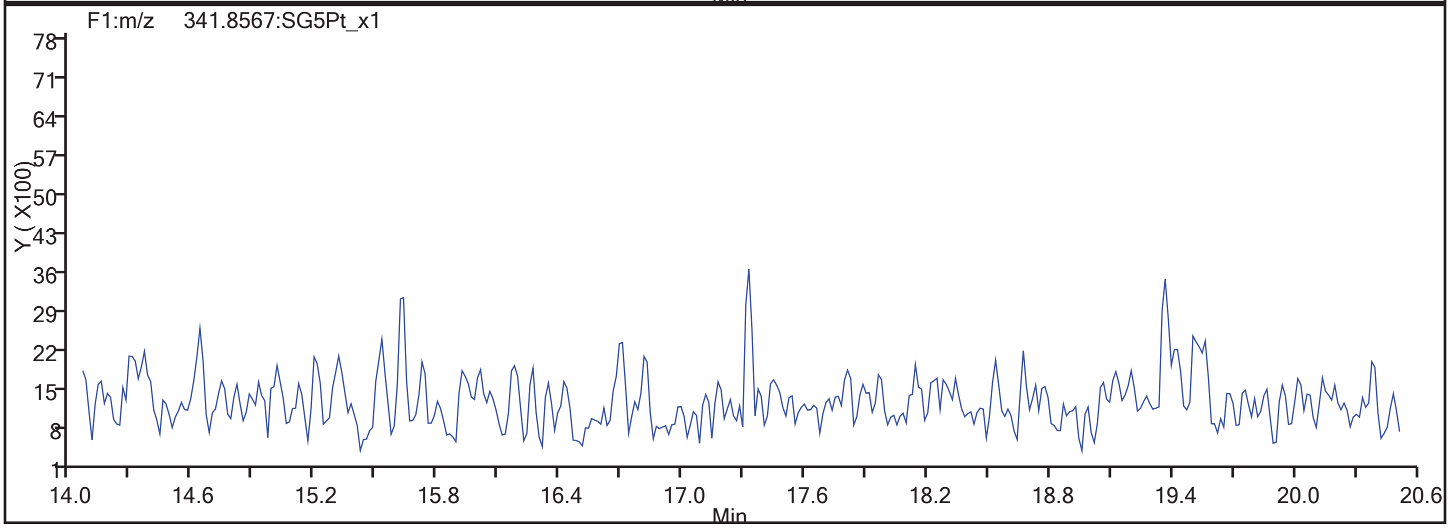
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d

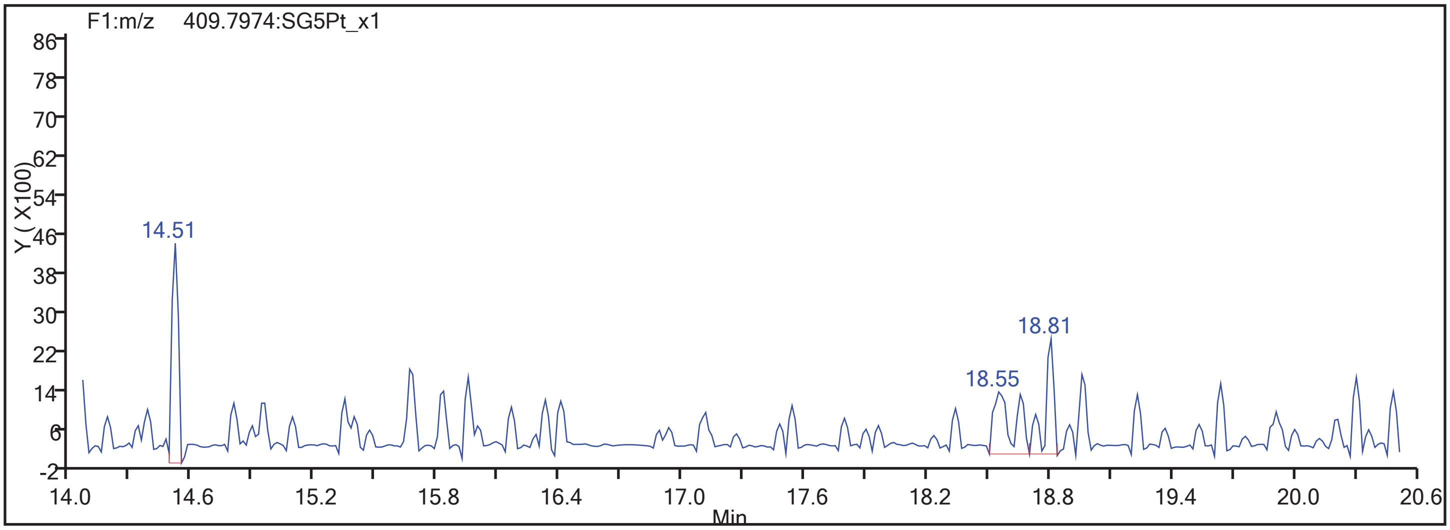
Injection Date:	12-Nov-2017 05:23:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	194086	Sample Line#:	87
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

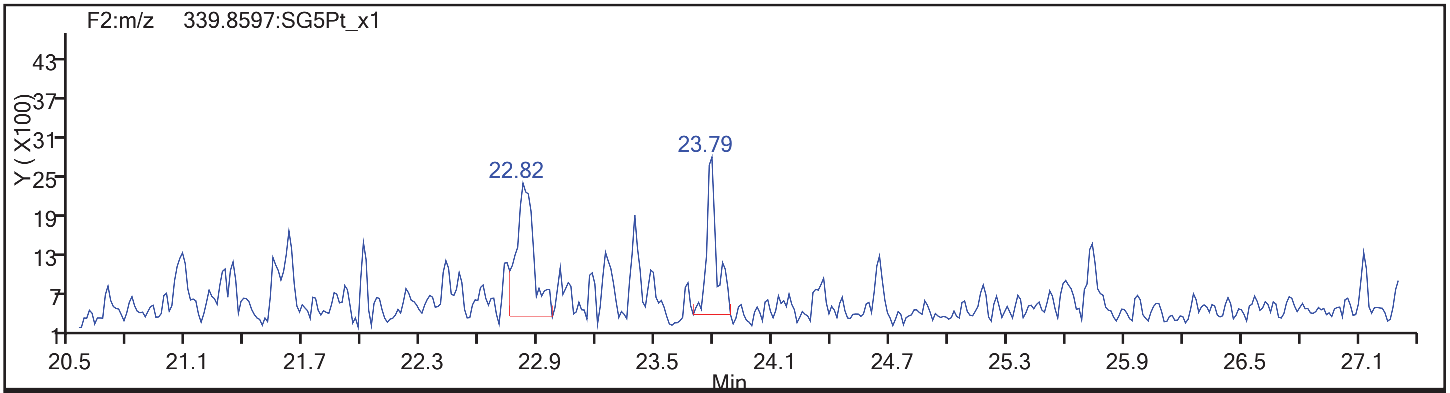


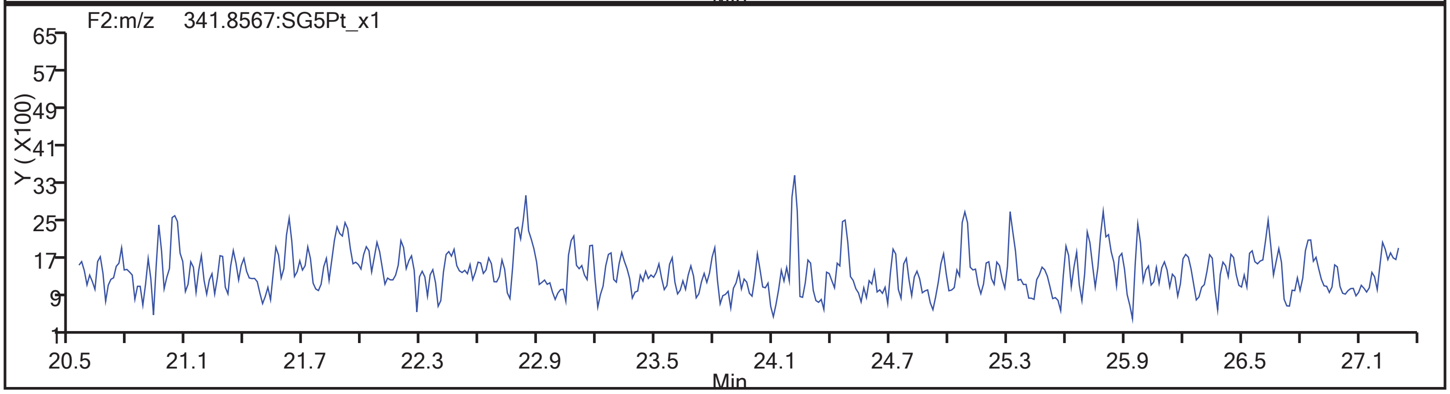
Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

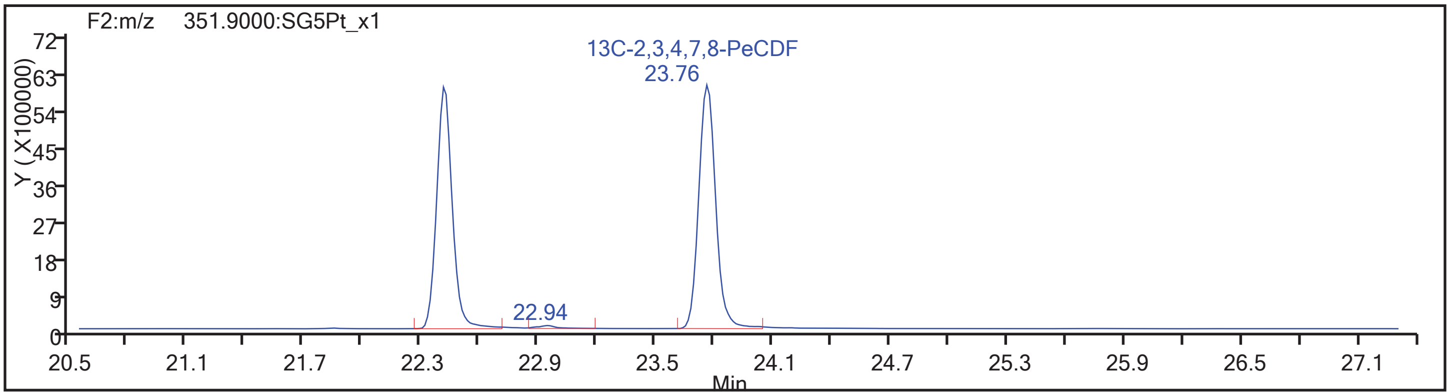
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d
Injection Date: 12-Nov-2017 05:23:50
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05NS
Worklist#: 194086
Sample Line#: 87
Column Type: DB-5
Column Dia: 0.32 mm

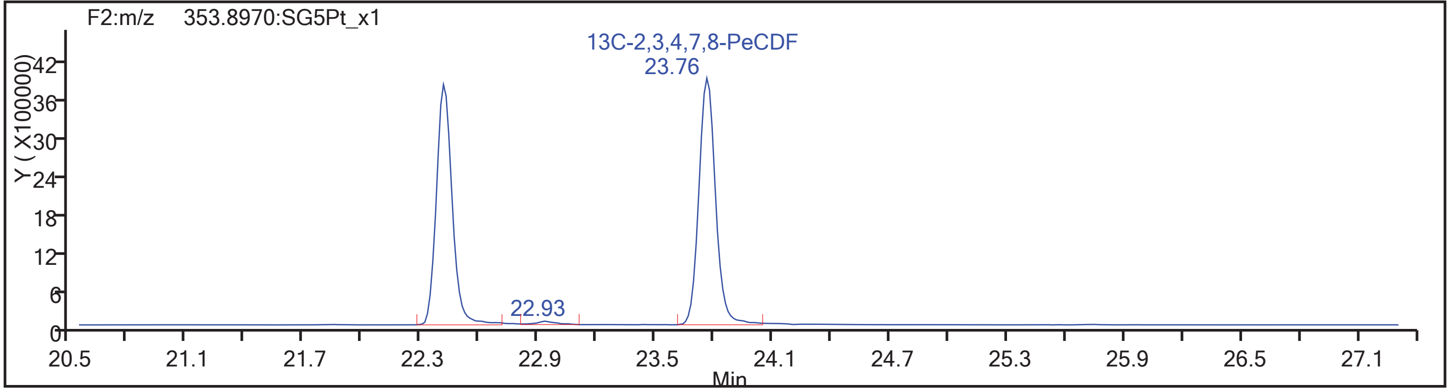
PeCDF





PeCDF Standards





Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d

Injection Date: 12-Nov-2017 05:23:50

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS05NS

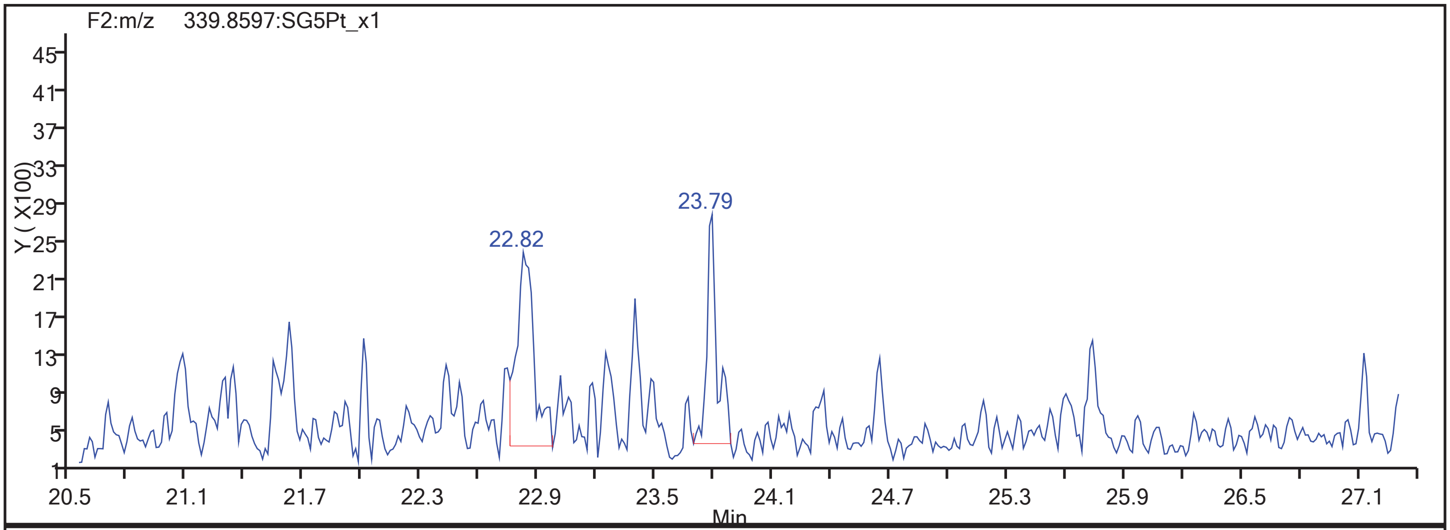
Worklist#: 194086

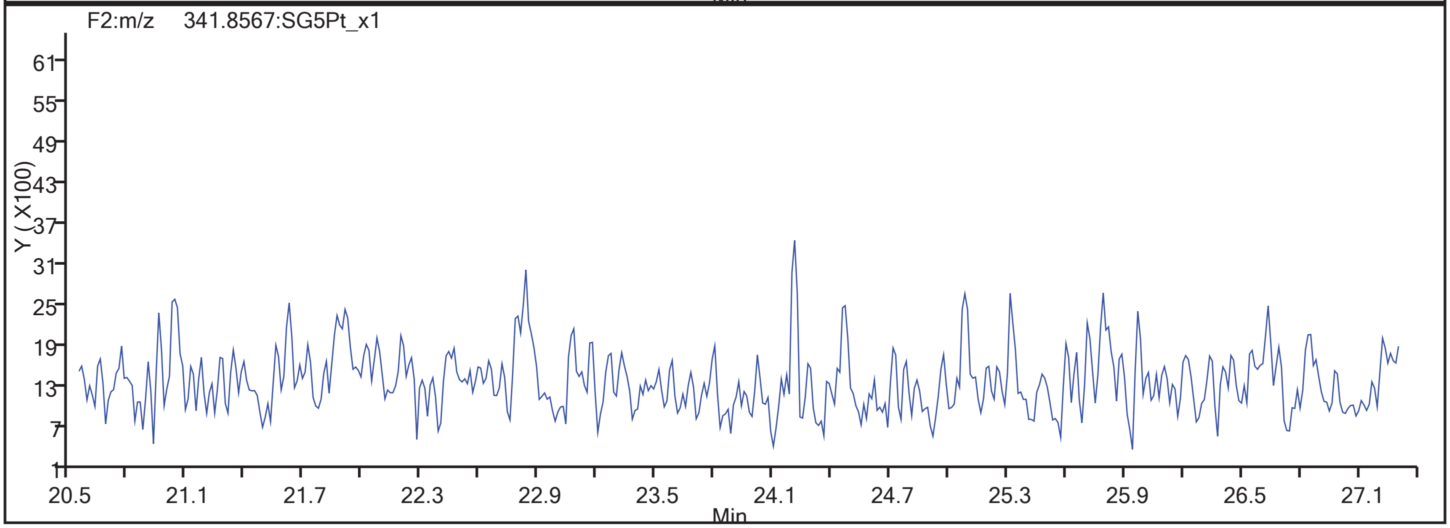
Sample Line#: 87

Column Type: DB-5

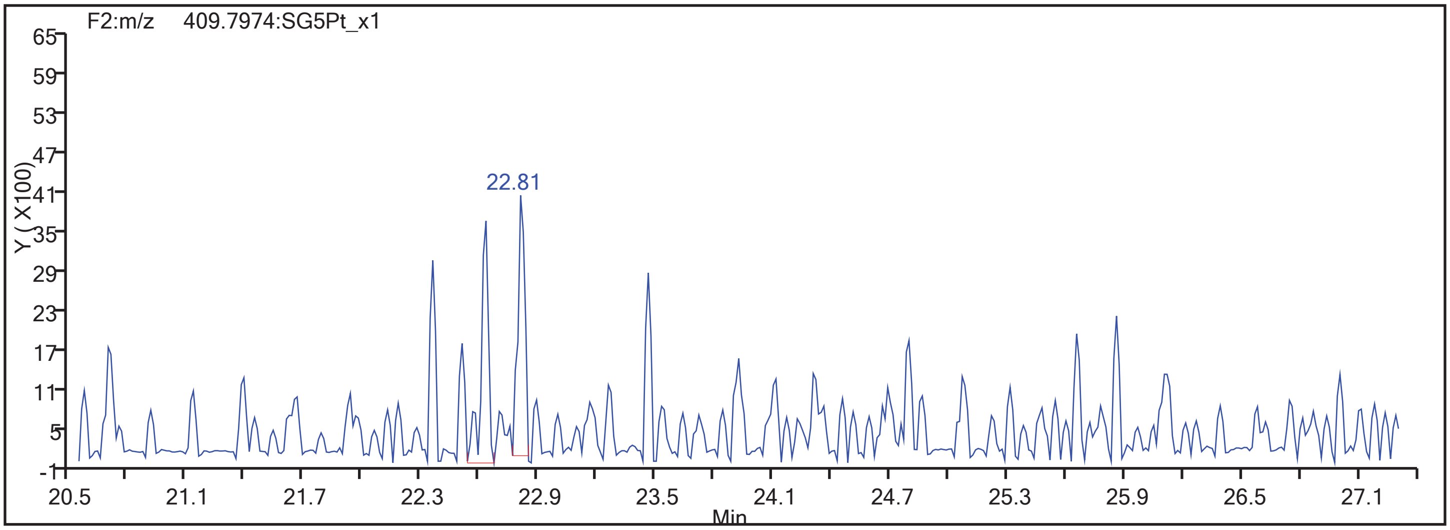
Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass

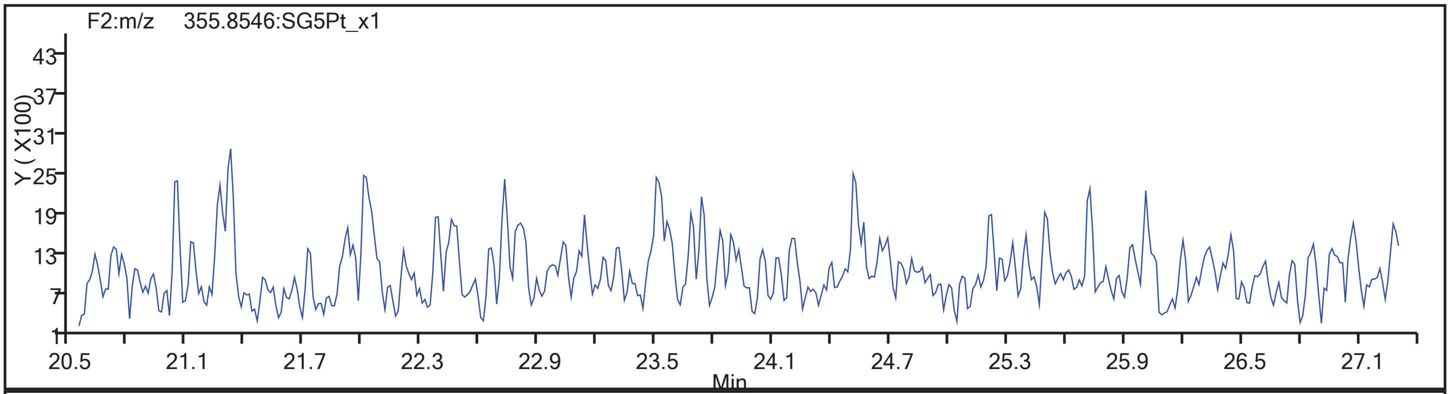


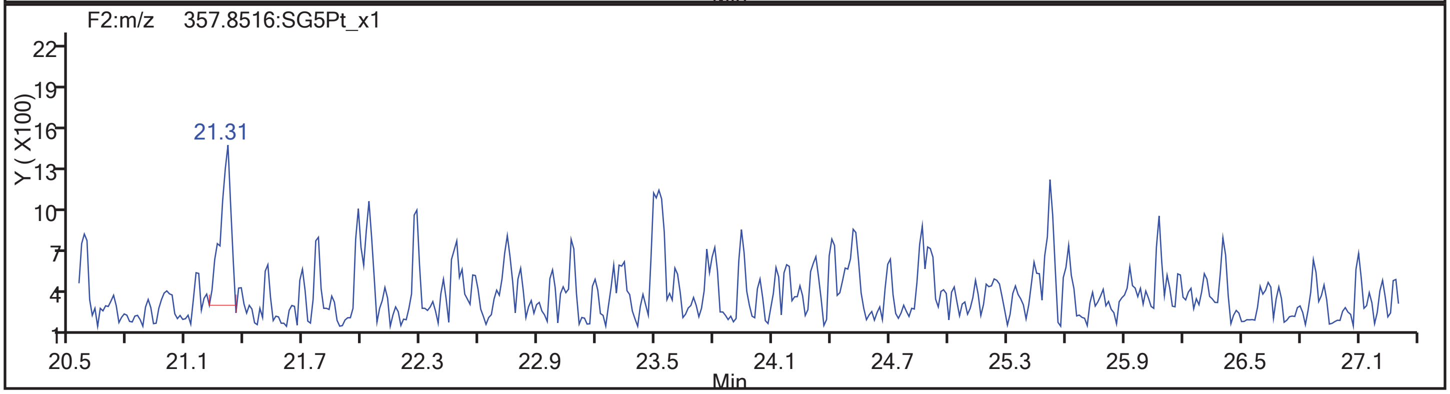
Report Date: 13-Nov-2017 13:27:49
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

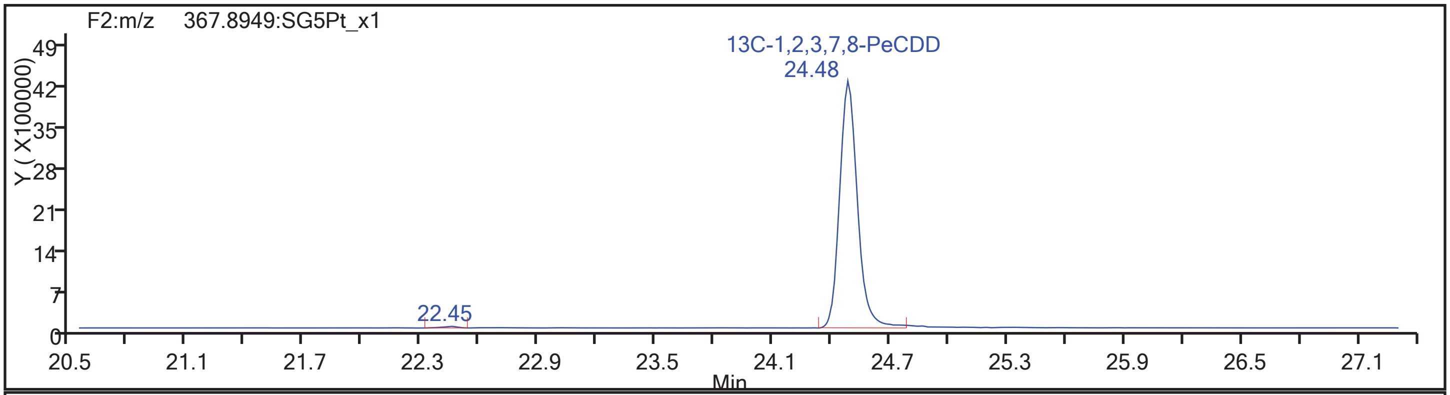
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d
Injection Date: 12-Nov-2017 05:23:50
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05NS
Worklist#: 194086
Sample Line#: 87
Column Type: DB-5
Column Dia: 0.32 mm

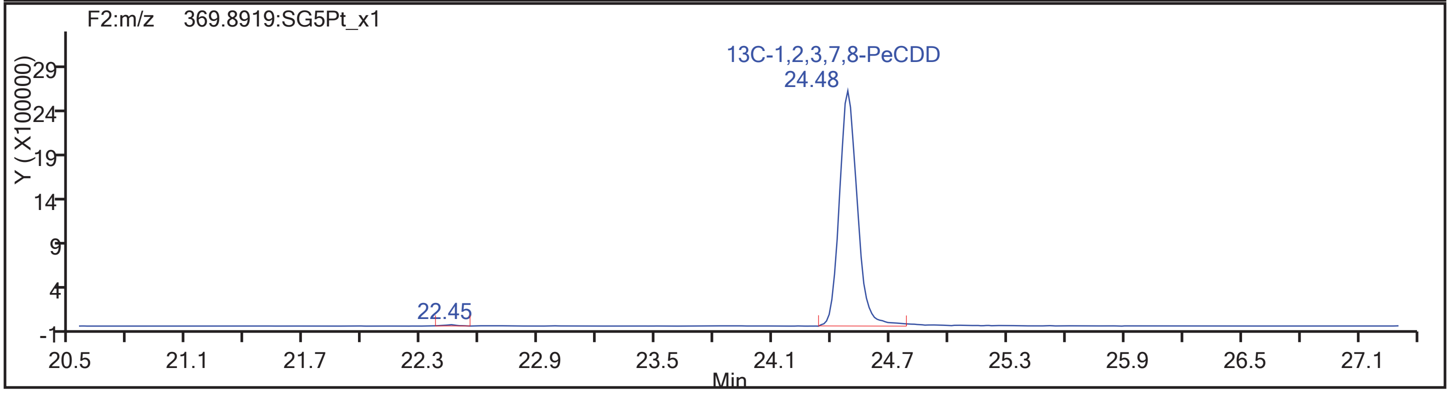
PeCDD





PeCDD Standards





Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d

Injection Date: 12-Nov-2017 05:23:50

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS05NS

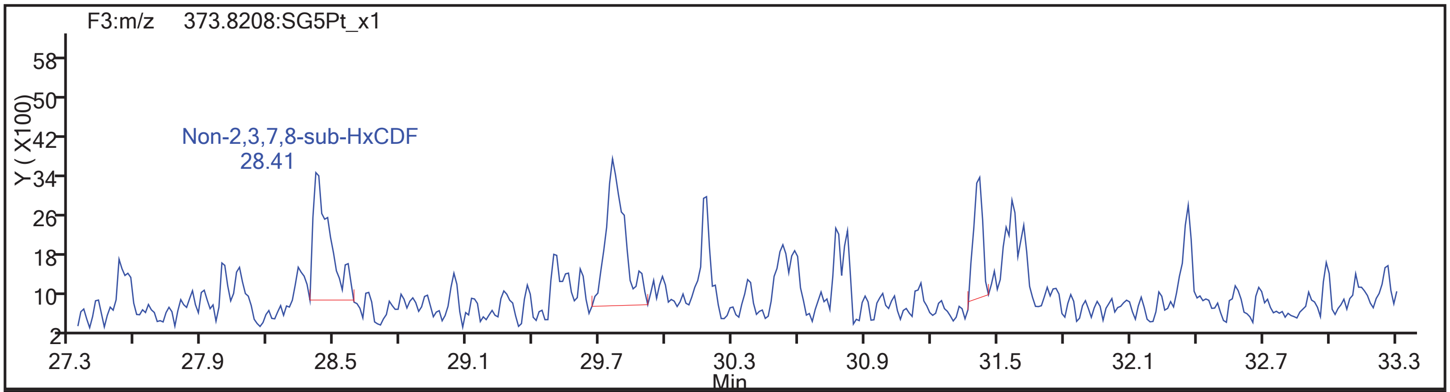
Worklist#: 194086

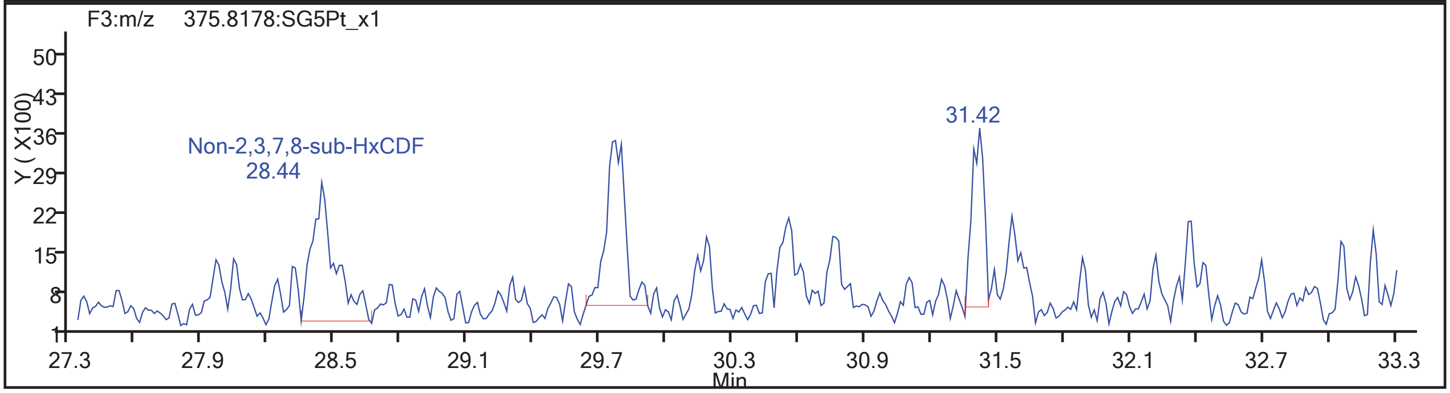
Sample Line#: 87

Column Type: DB-5

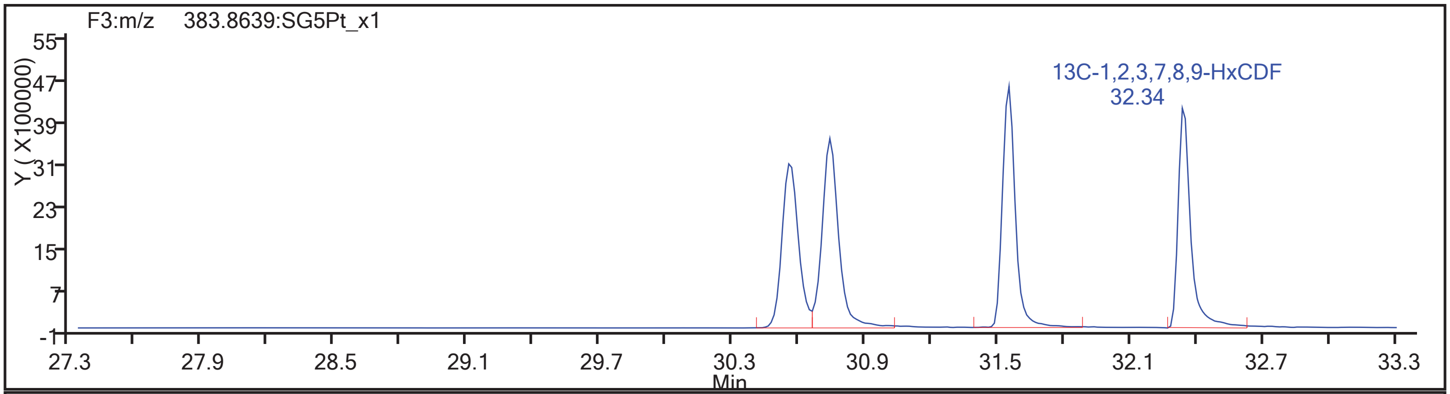
Column Dia: 0.32 mm

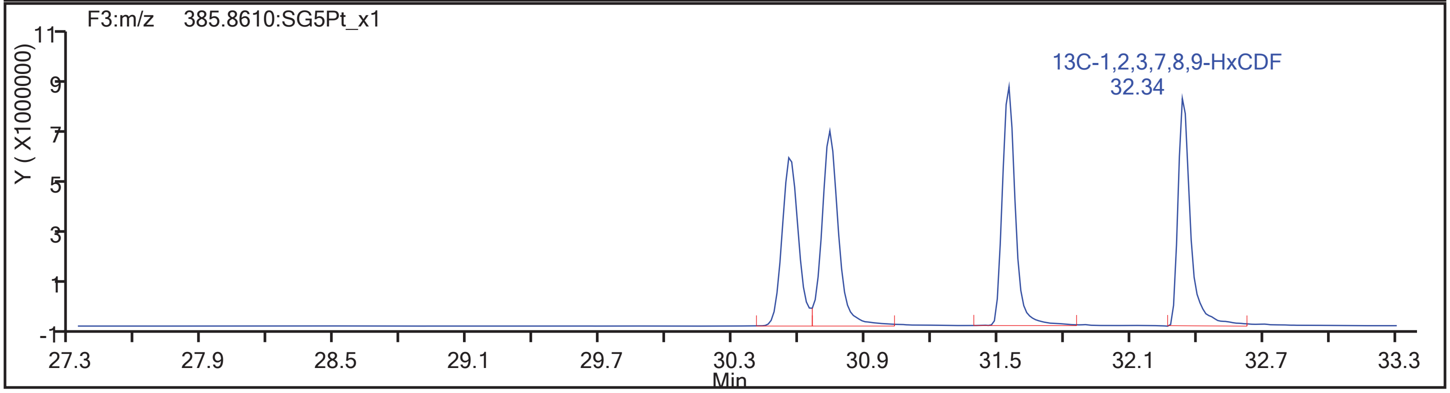
HxCDF





HxCDF Standards





Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d

Injection Date: 12-Nov-2017 05:23:50 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

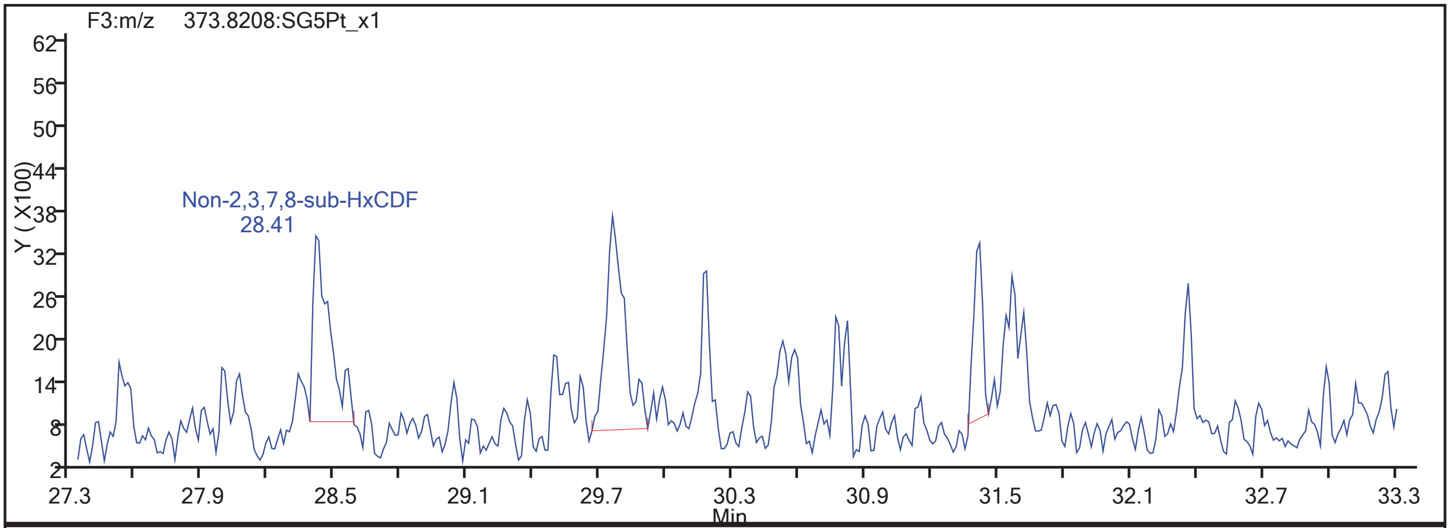
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

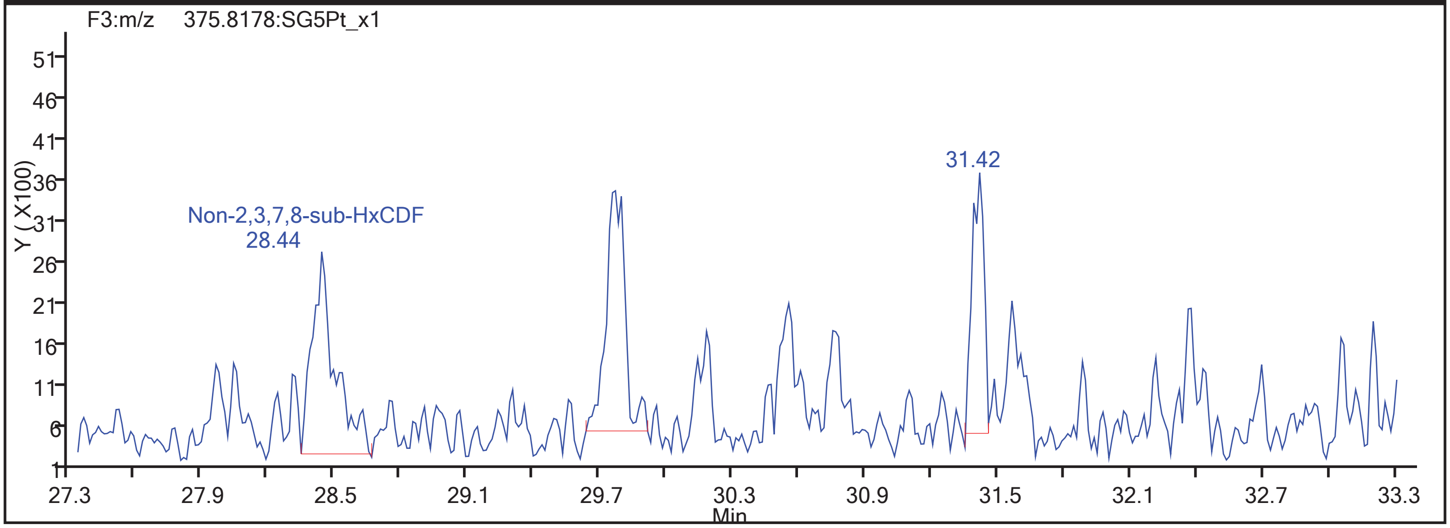
Client ID: SHAD041DP013SS05NS

Worklist#: 194086 Sample Line#: 87

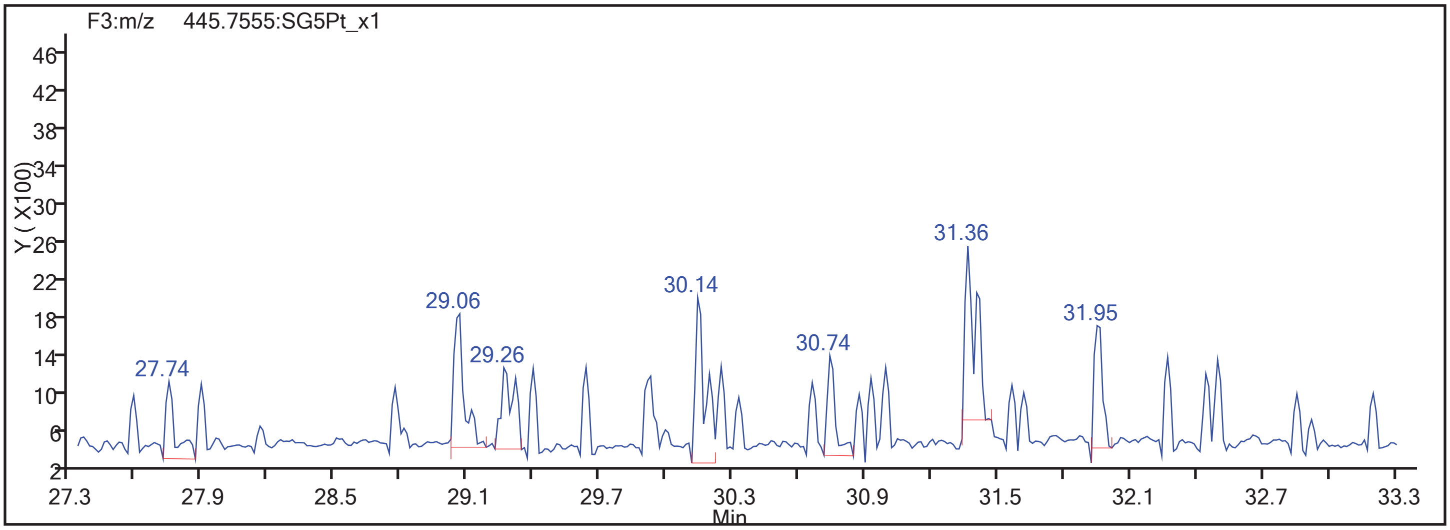
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
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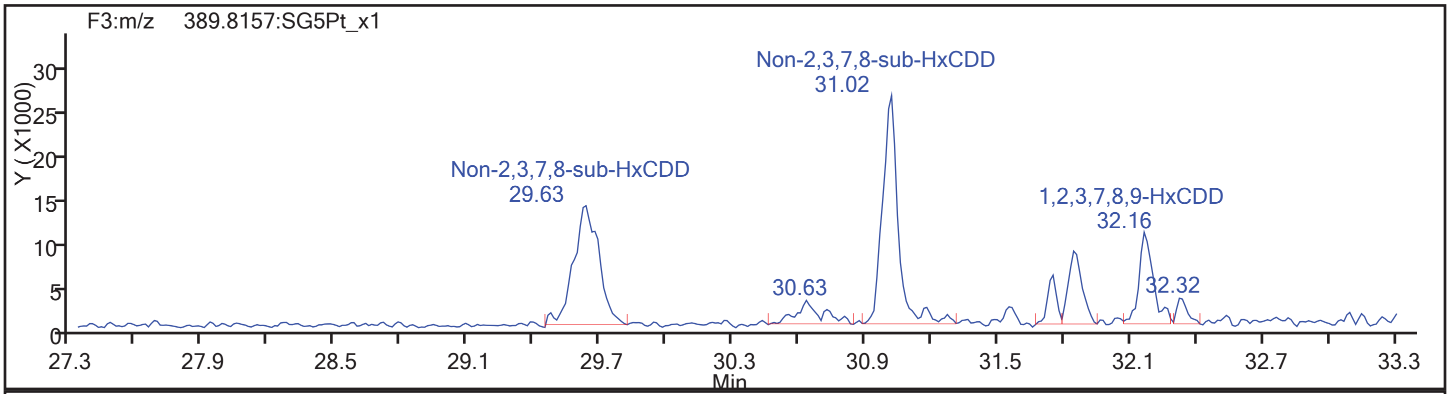
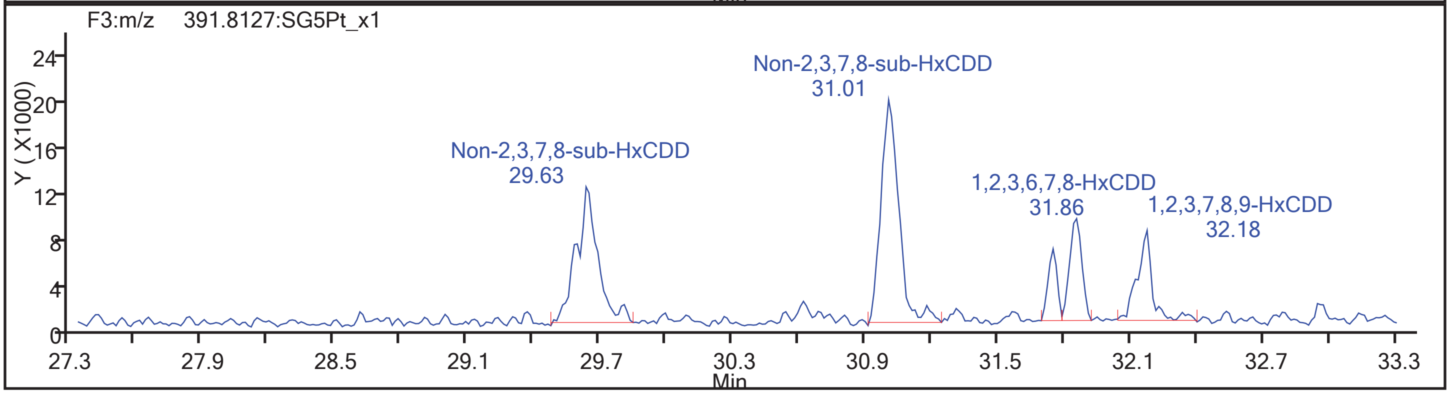
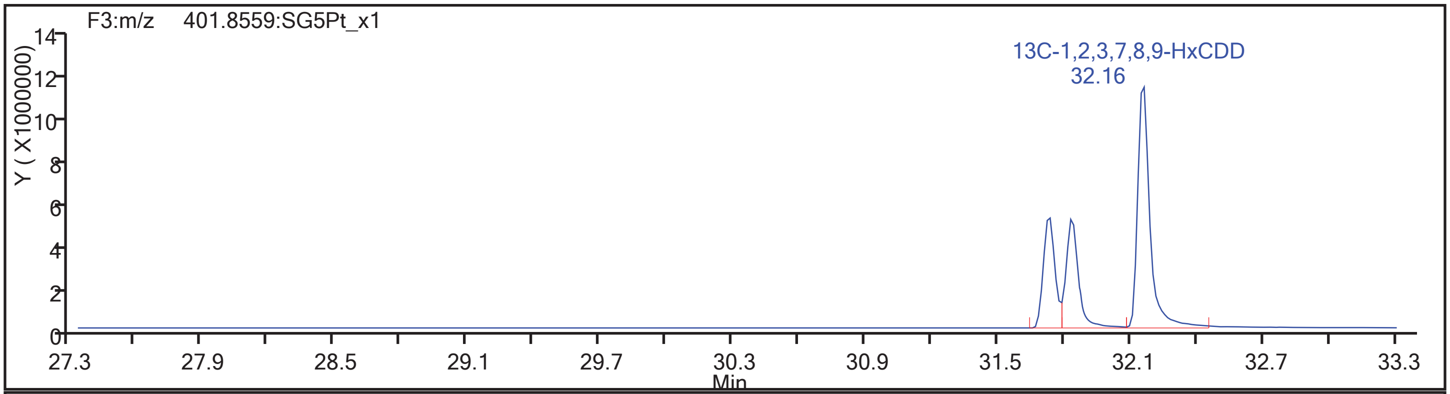
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	194086	Sample Line#:	87
Column Type:	DB-5	Column Dia:	0.32 mm

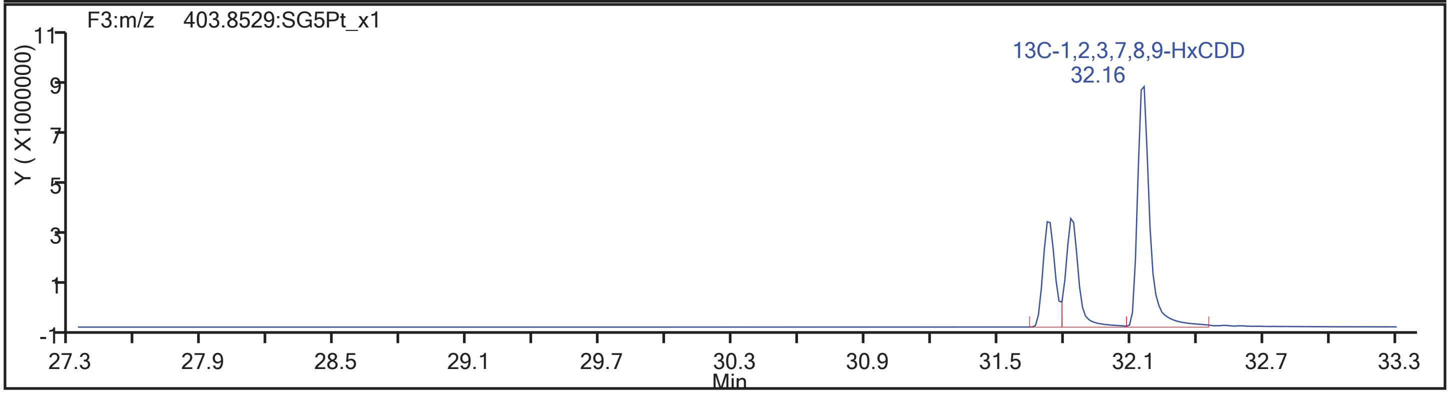
HxCDD





HxCDD Standards



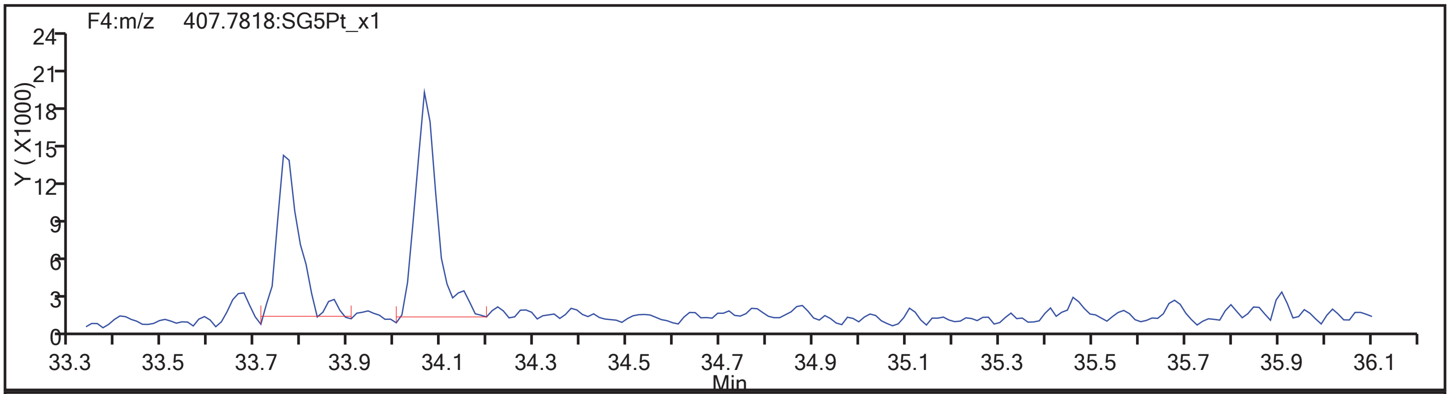


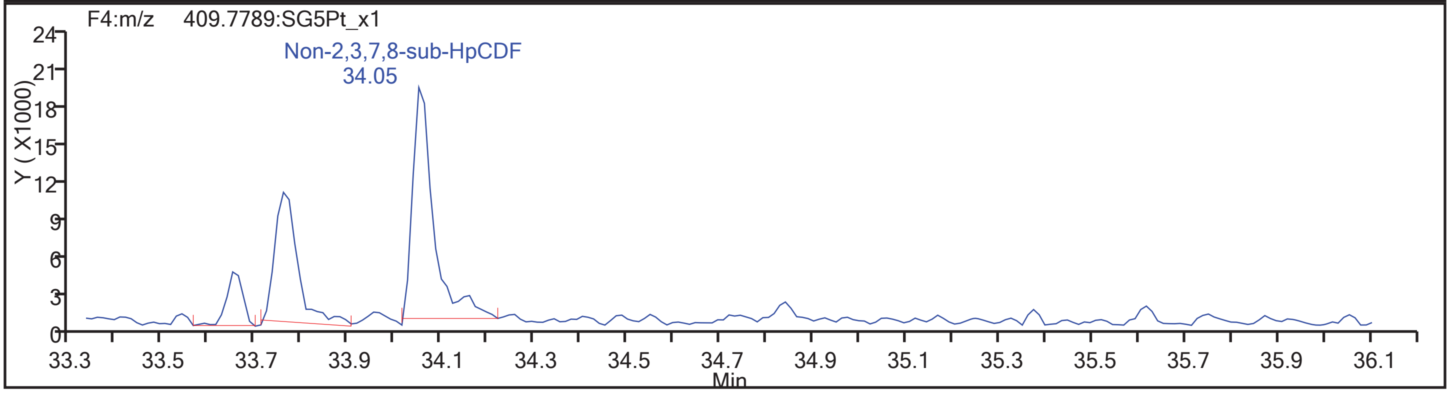
Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

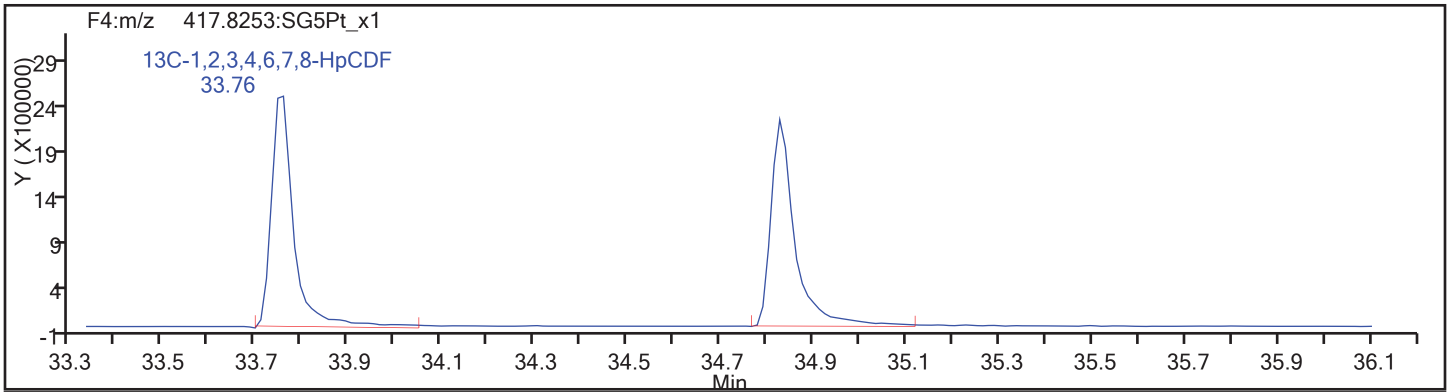
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d
Injection Date: 12-Nov-2017 05:23:50
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05NS
Worklist#: 194086
Sample Line#: 87
Column Type: DB-5
Column Dia: 0.32 mm

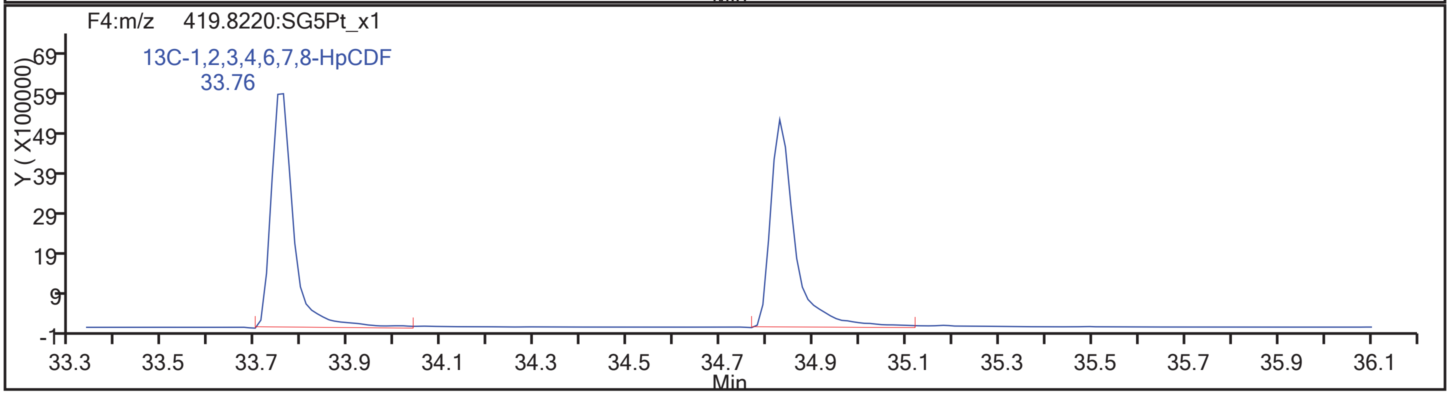
HpCDF





HpCDF Standards



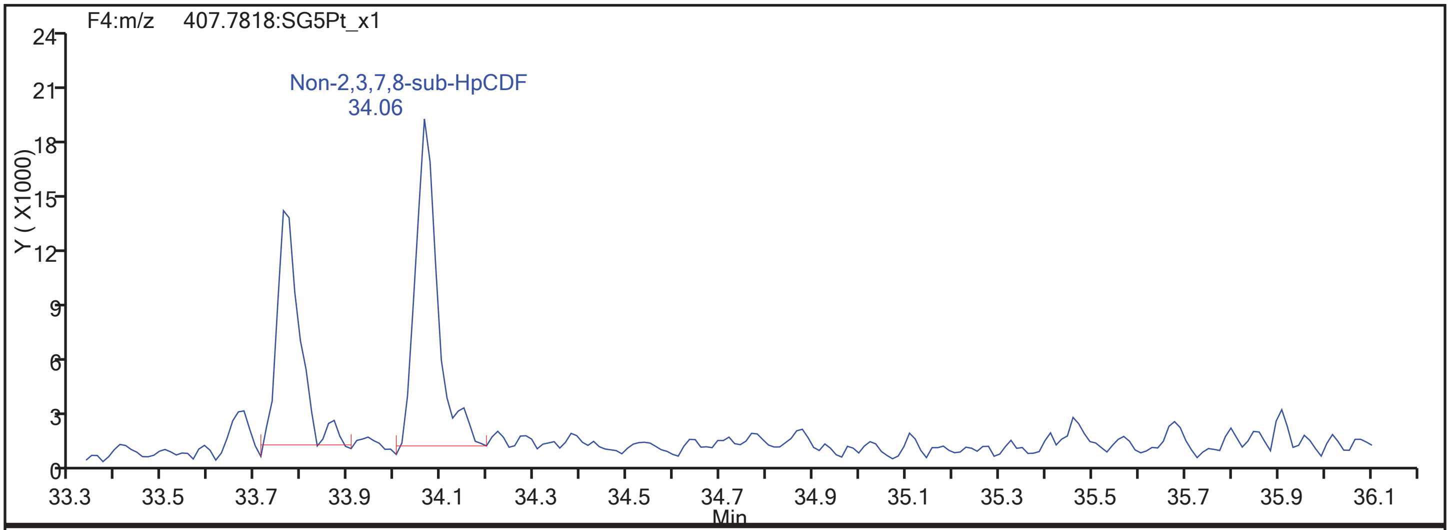


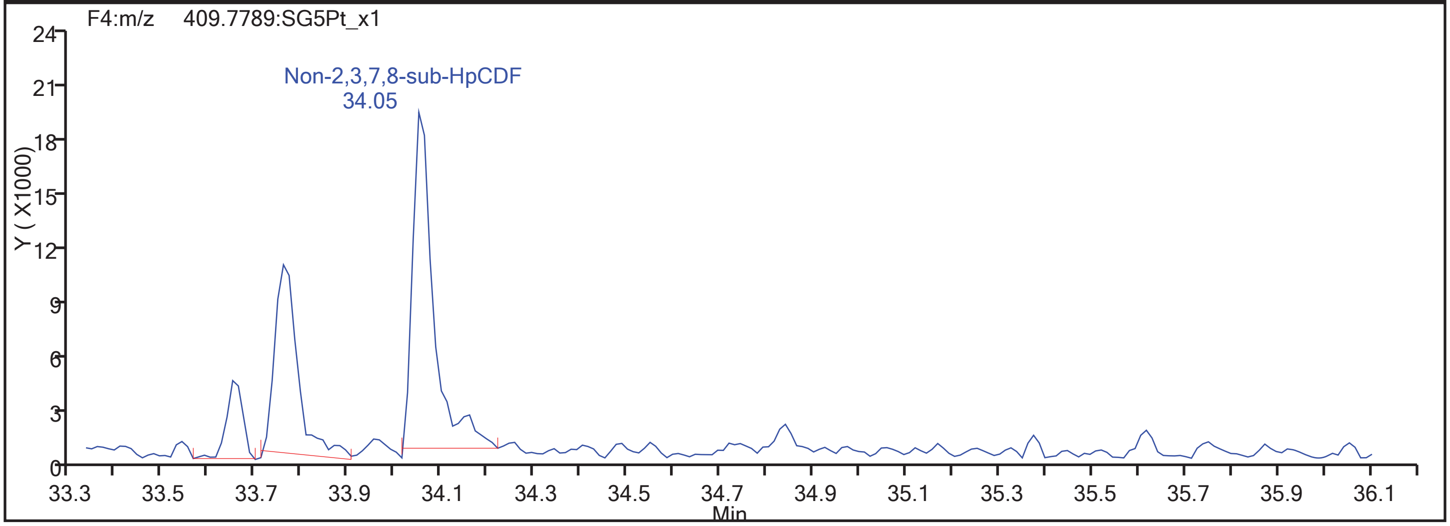
Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

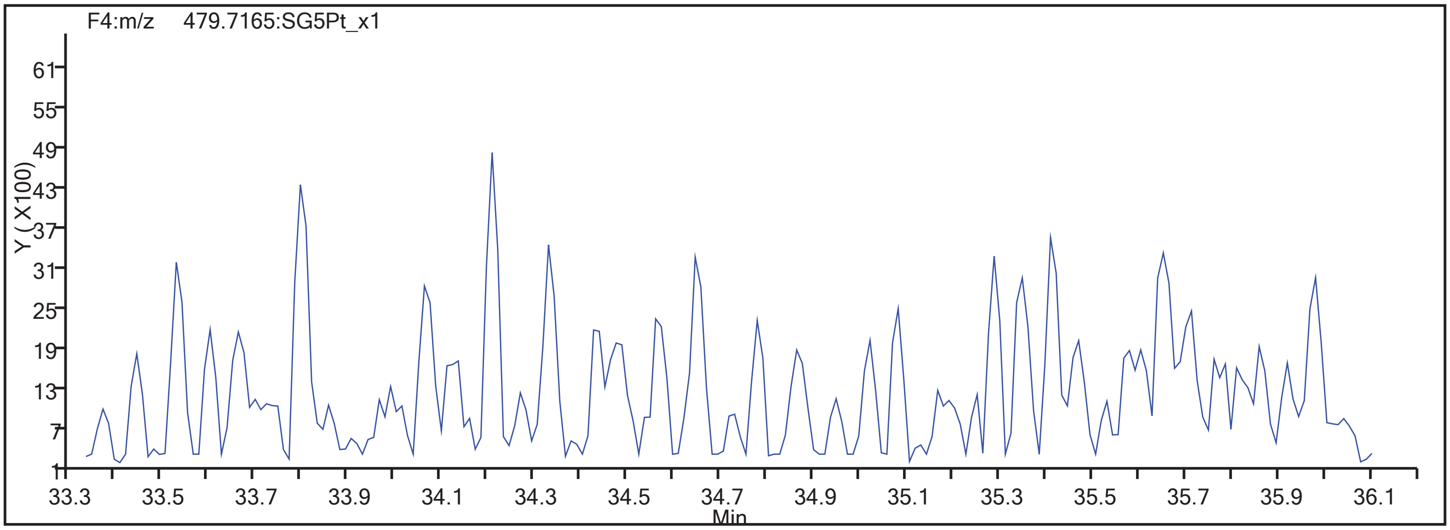
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Injection Date:	12-Nov-2017 05:23:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	194086	Sample Line#:	87
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Injection Date:	12-Nov-2017 05:23:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
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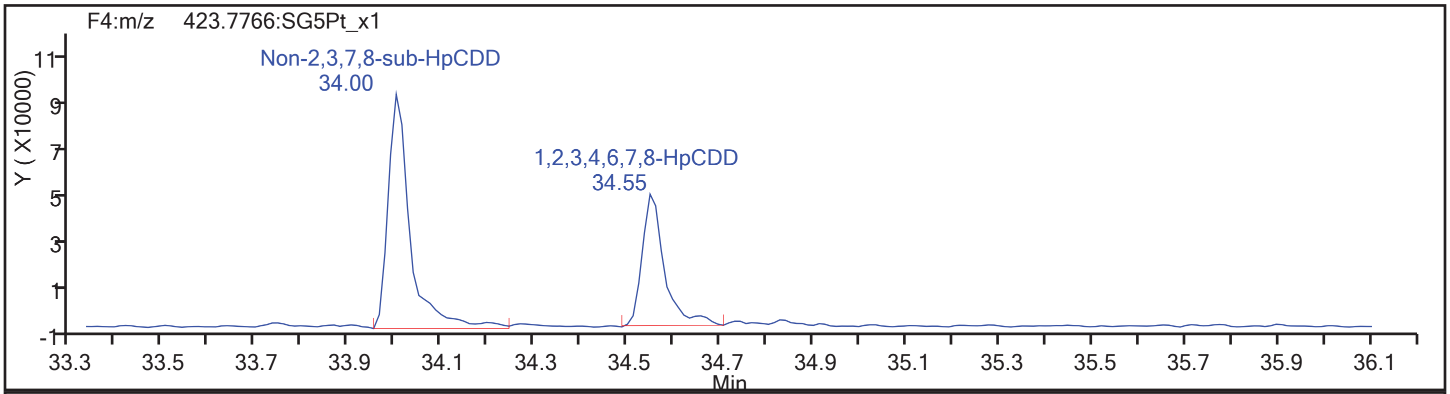
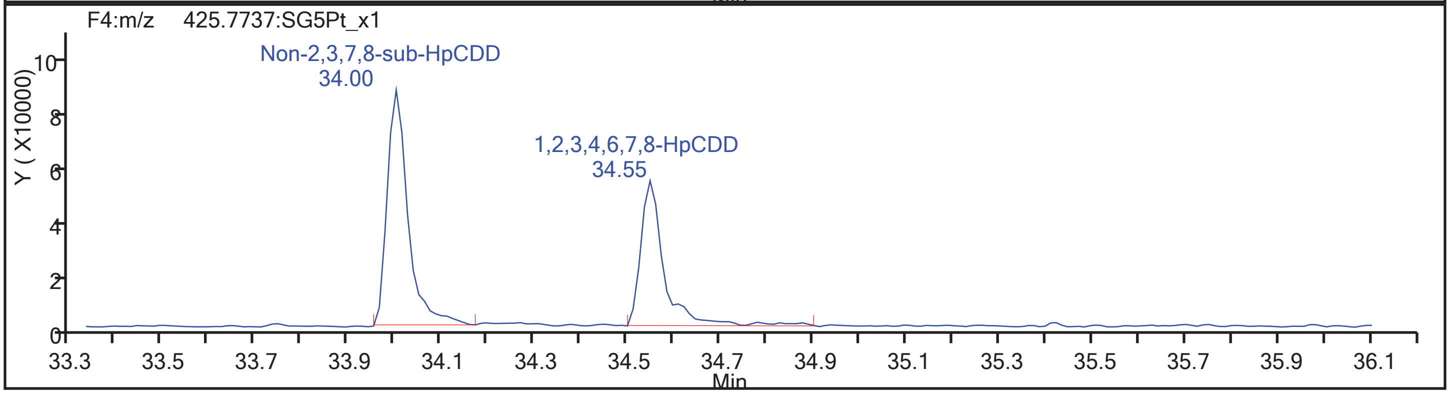
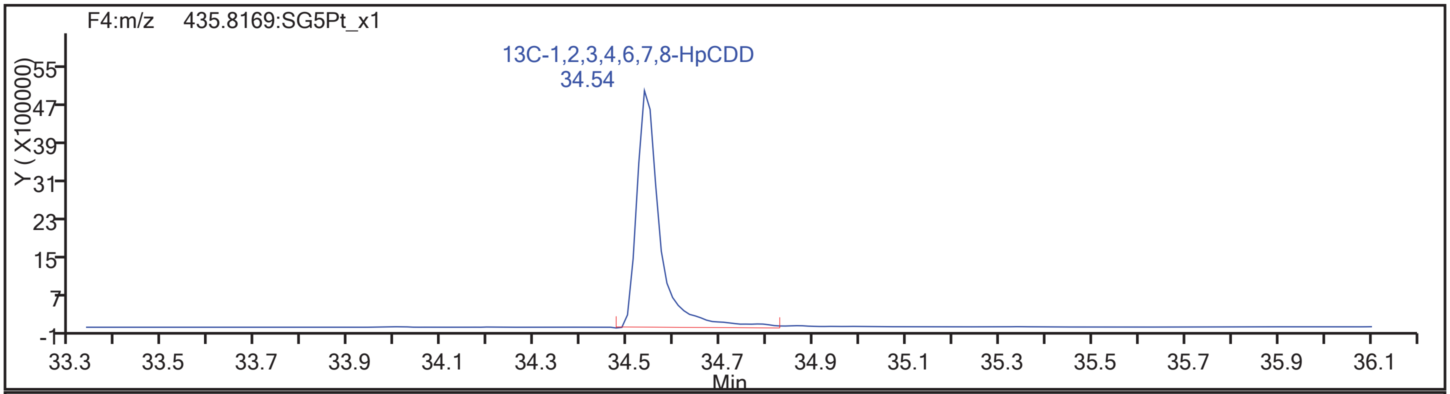
Column Type:	DB-5	Column Dia:	0.32 mm

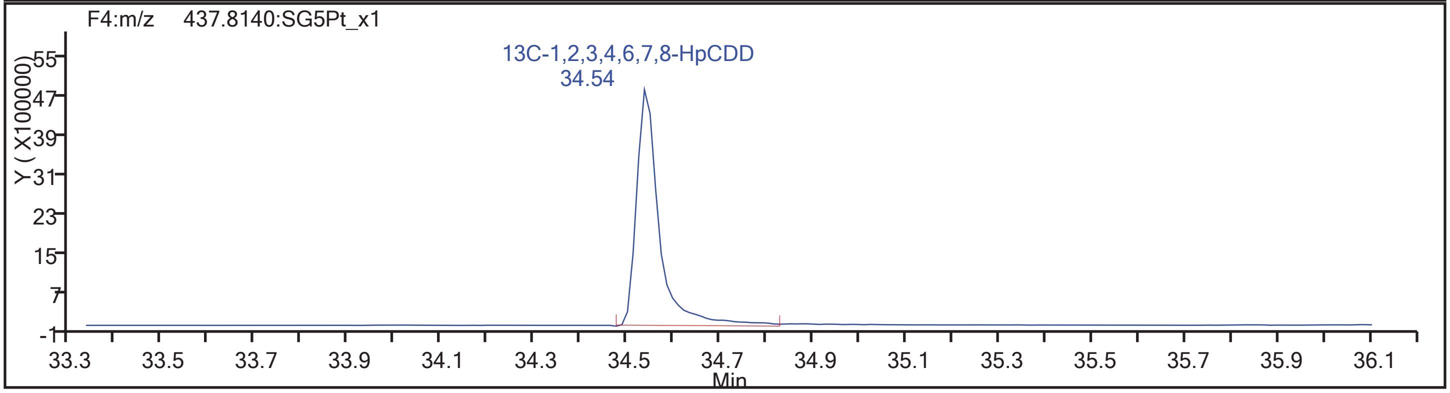
HpCDD





HpCDD Standards



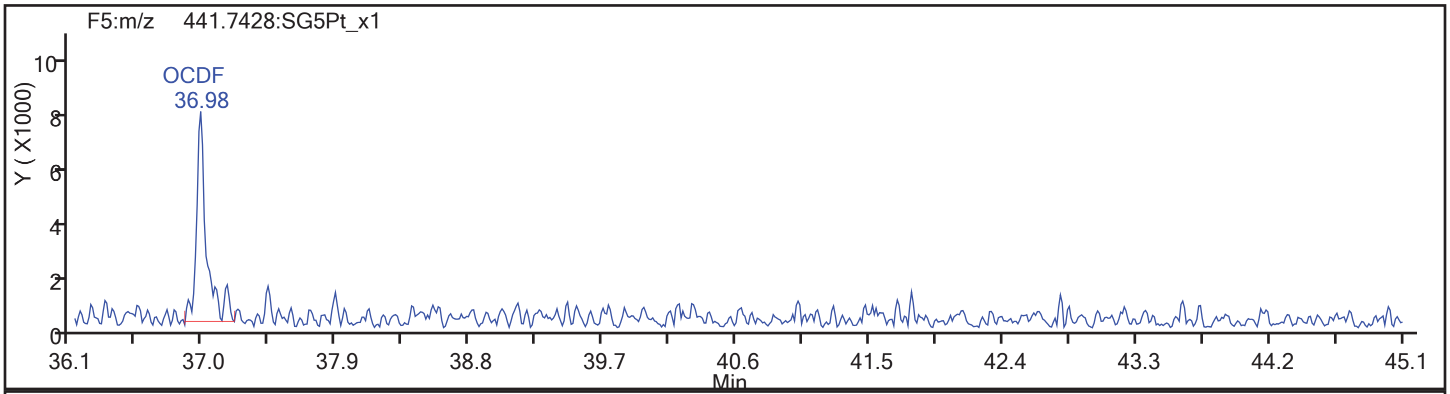


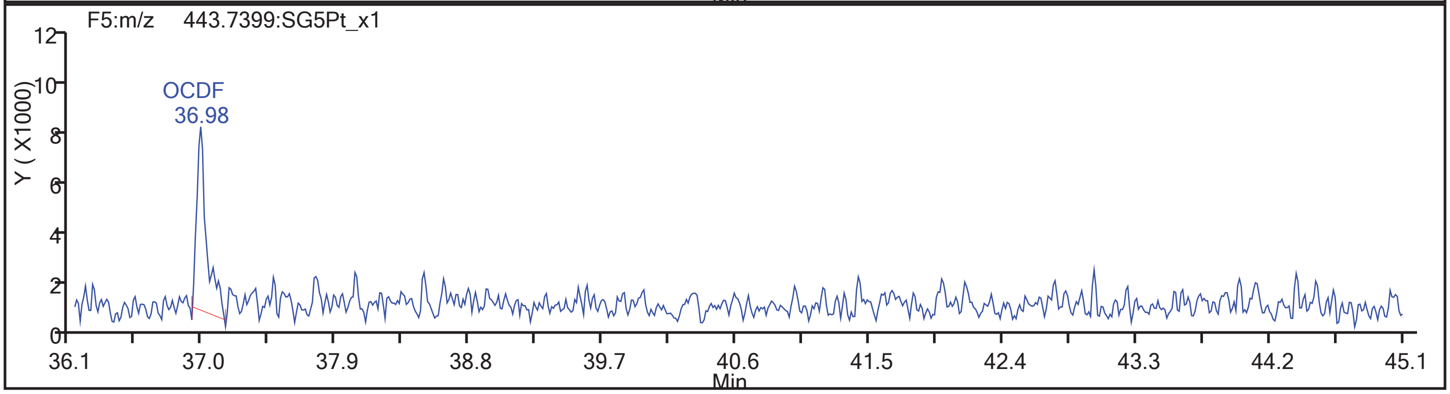
Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

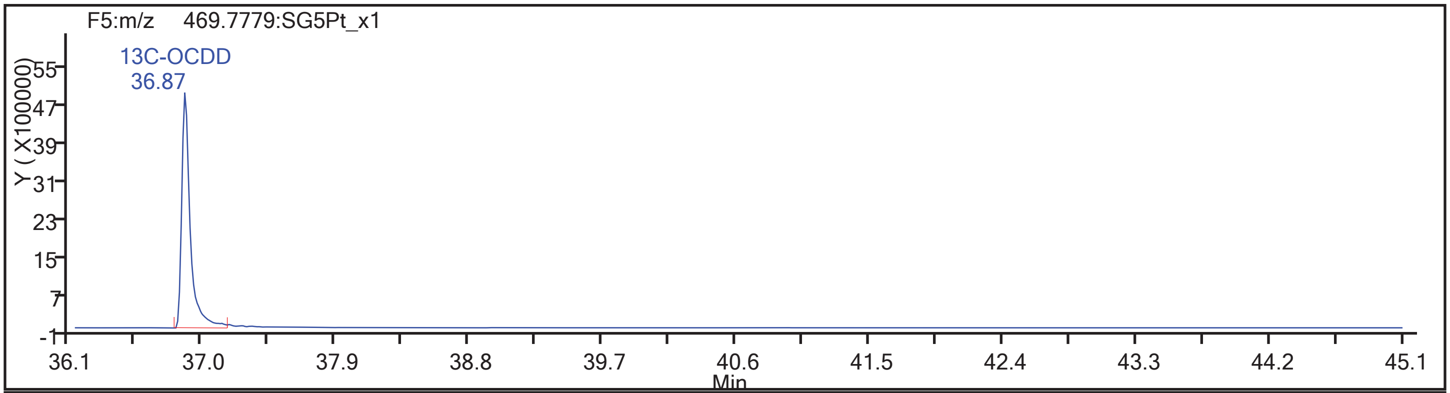
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d
Injection Date: 12-Nov-2017 05:23:50
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05NS
Worklist#: 194086
Sample Line#: 87
Column Type: DB-5
Column Dia: 0.32 mm

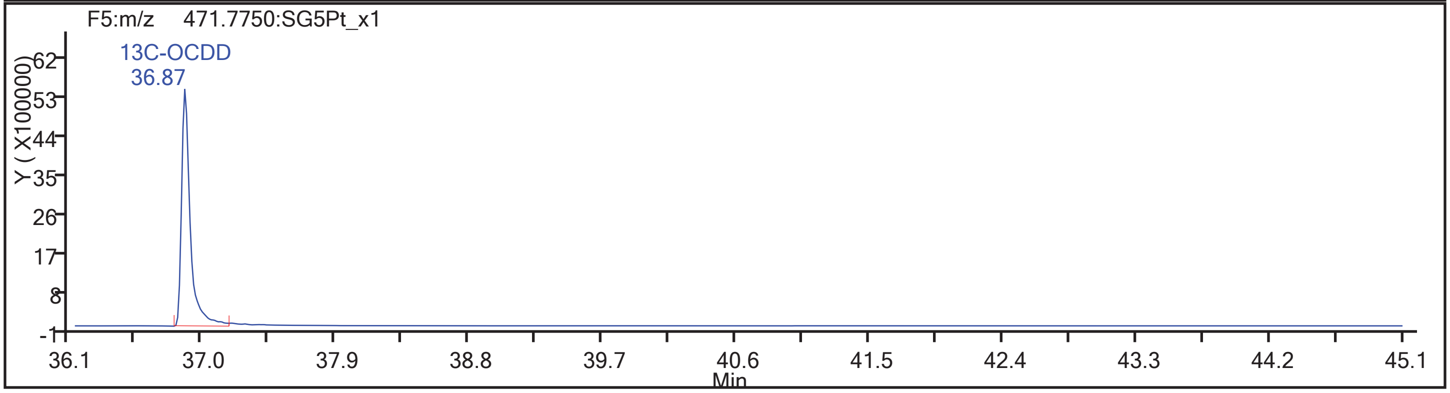
OCDF





OCDF Standards



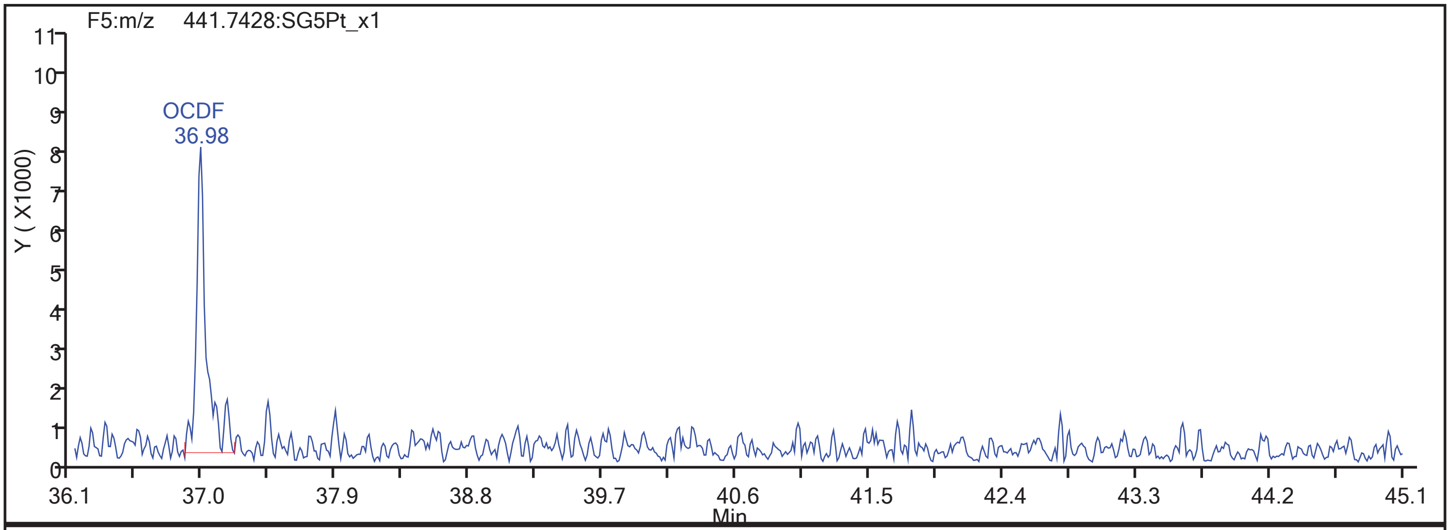


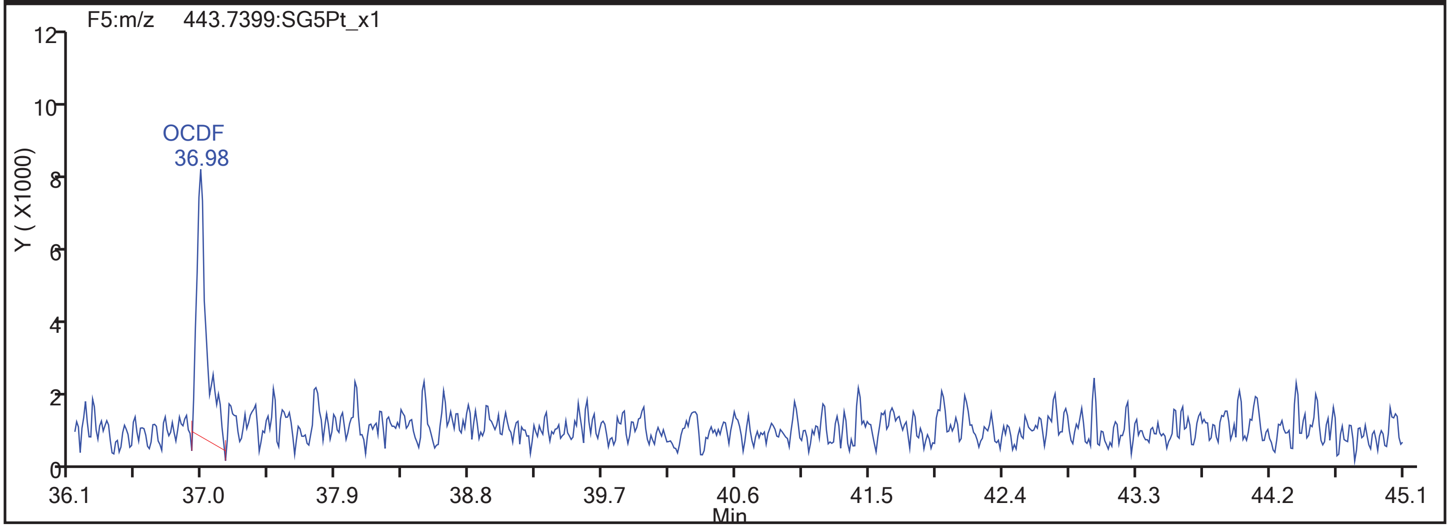
Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

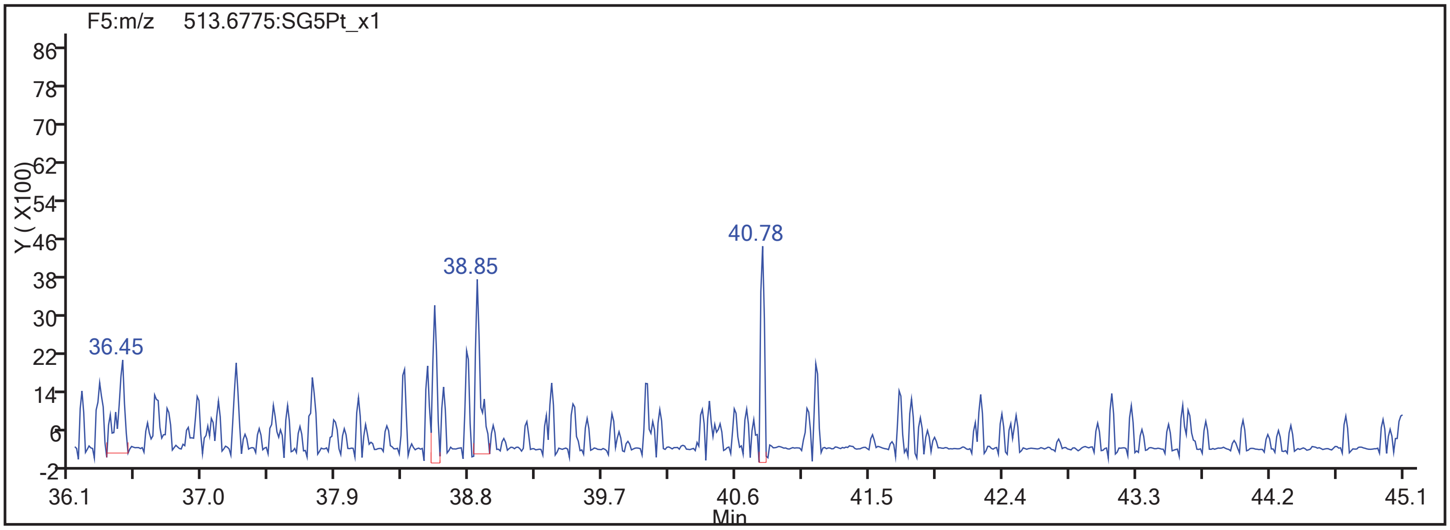
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d
Injection Date: 12-Nov-2017 05:23:50
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05NS
Worklist#: 194086
Sample Line#: 87
Column Type: DB-5
Column Dia: 0.32 mm

OCDF





OCDF Interference Mass



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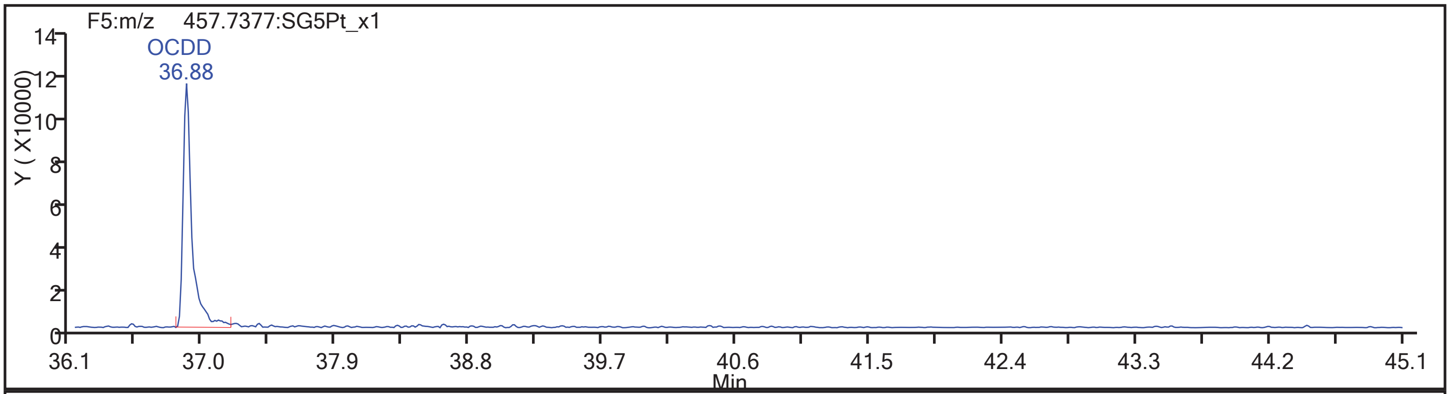
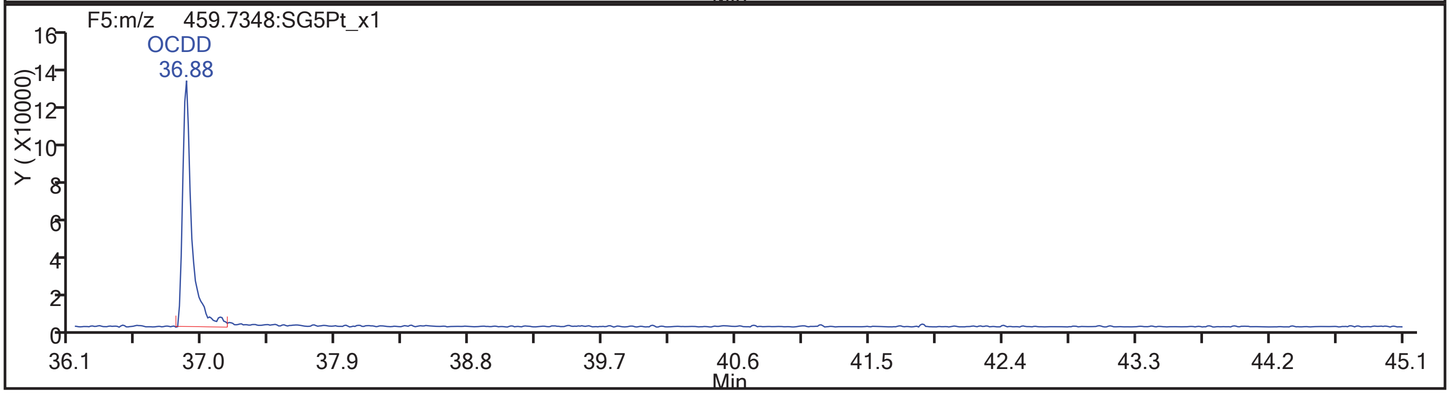
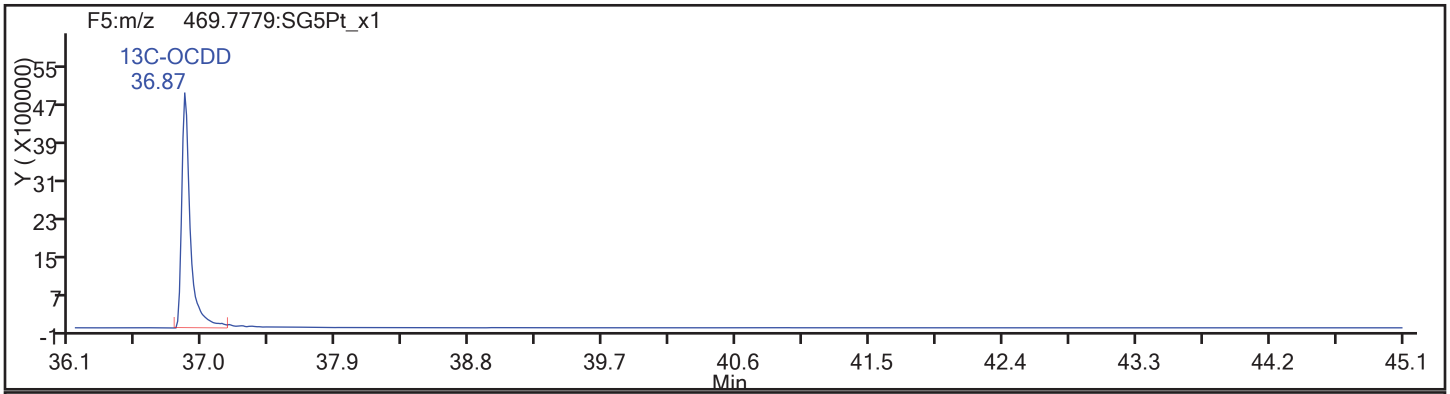
Injection Date:	12-Nov-2017 05:23:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	194086	Sample Line#:	87
Column Type:	DB-5	Column Dia:	0.32 mm

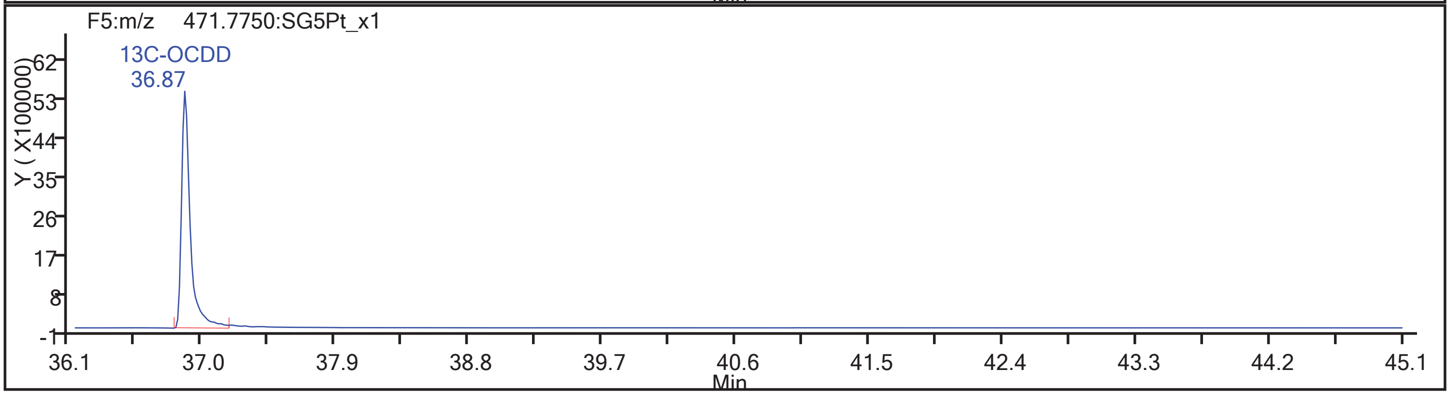
OCDD





OCDD Standards

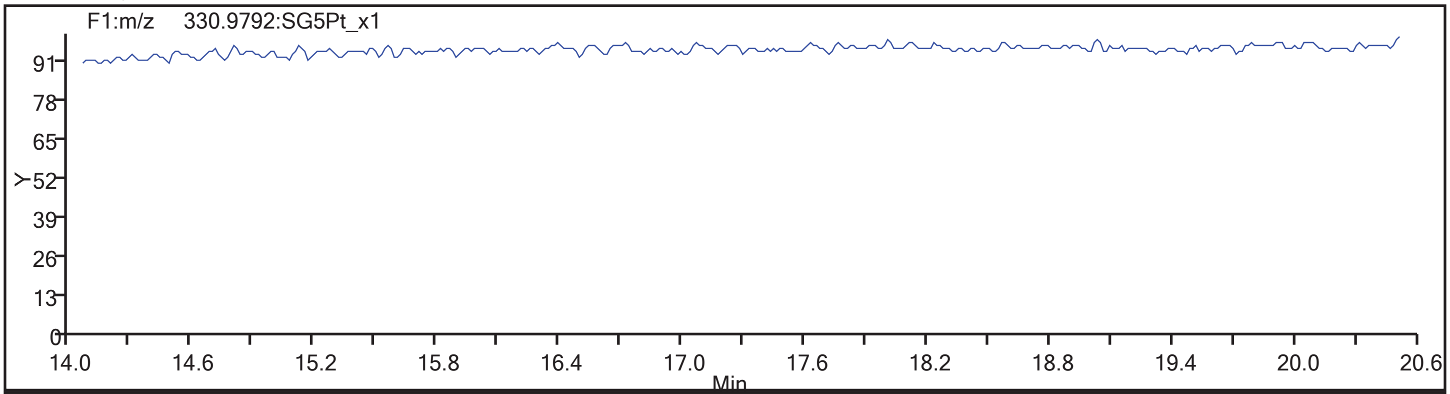


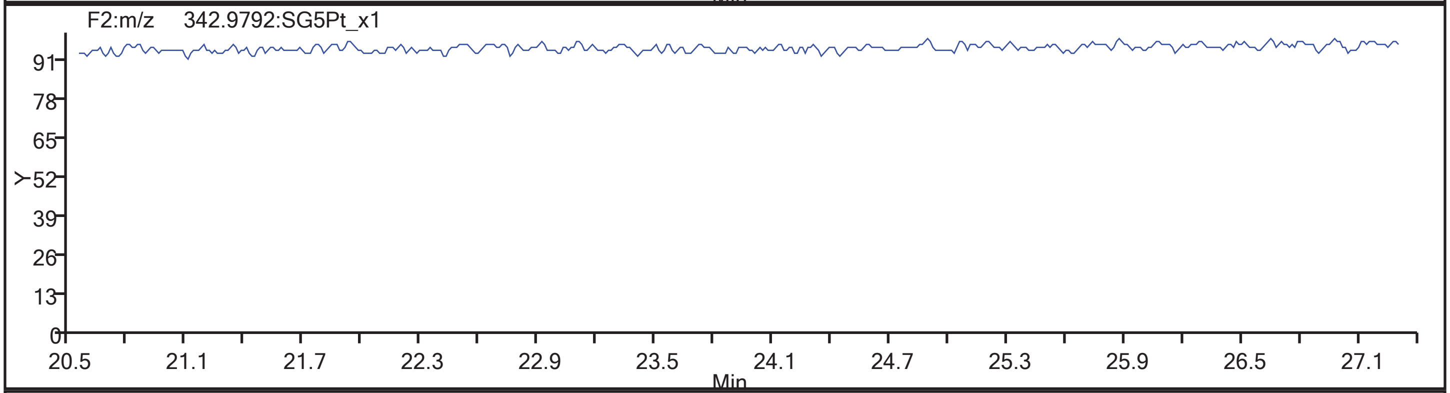


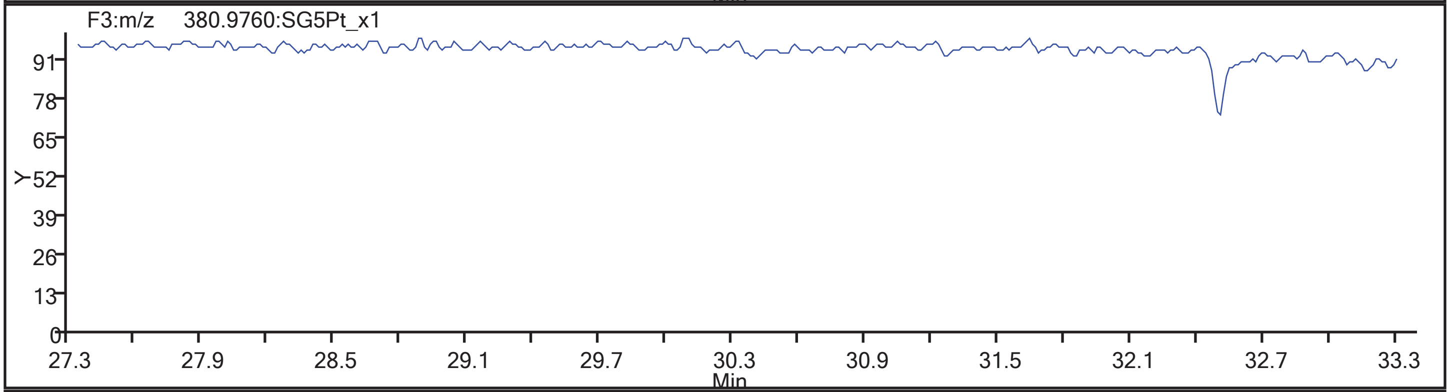
Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

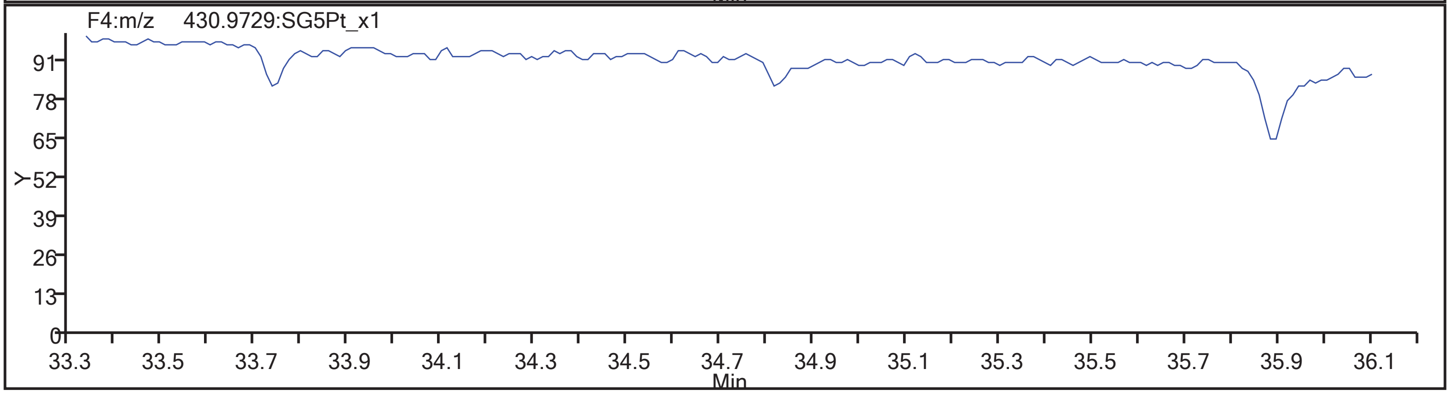
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Injection Date:	12-Nov-2017 05:23:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	194086	Sample Line#:	87
Column Type:	DB-5	Column Dia:	0.32 mm





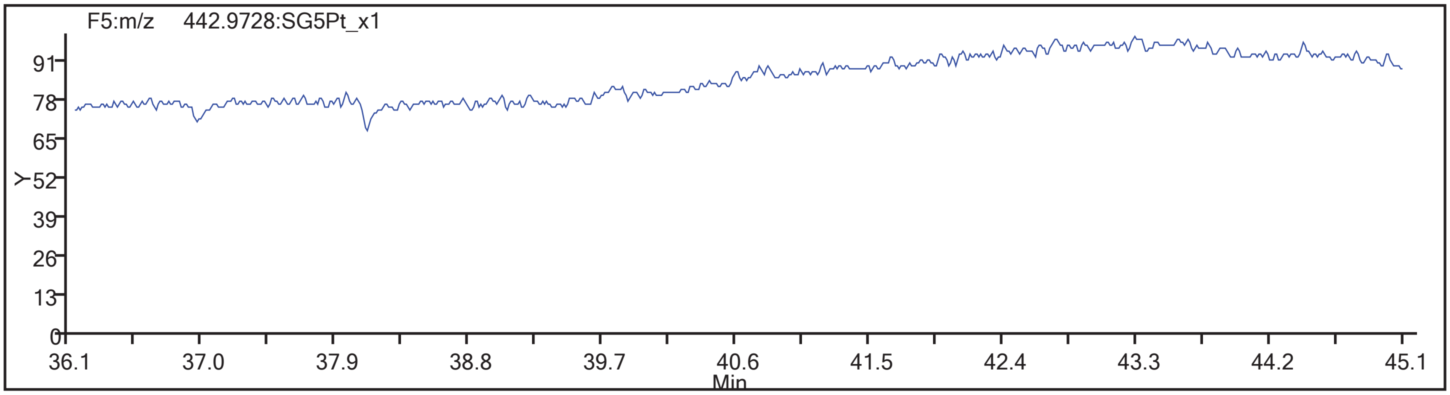




Report Date: 13-Nov-2017 13:27:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_87.d		
Injection Date:	12-Nov-2017 05:23:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	194086	Sample Line#:	87
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP013SS05NS RE Lab Sample ID: 160-24924-17 RE

Matrix: Solid Lab File ID: 16NO173D5_88.d

Analysis Method: 8290A Date Collected: 10/05/2017 15:10

Extract. Method: 8290 Date Extracted: 11/16/2017 11:16

Sample wt/vol: 9.90(g) Date Analyzed: 11/19/2017 17:29

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 24.0 GPC Cleanup:(Y/N) N

Analysis Batch No.: 195575 Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.53*	*U H*	*1.3*	0.53	*0.067*
51207-31-9	*2,3,7,8-TCDF*	*0.53*	*U H*	*1.3*	0.53	*0.046*
40321-76-4	*1,2,3,7,8-PeCDD*	*1.0*	*U H*	*6.6*	1.0	*0.083*
57117-41-6	*1,2,3,7,8-PeCDF*	*1.0*	*U H*	*6.6*	1.0	*0.052*
57117-31-4	*2,3,4,7,8-PeCDF*	*1.0*	*U H*	*6.6*	1.0	*0.053*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*0.20*	*J H*	*6.6*	2.7	*0.072*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*0.18*	*J H*	*6.6*	2.7	*0.065*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*0.22*	*J H*	*6.6*	2.7	*0.062*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*1.0*	*U H*	*6.6*	1.0	*0.051*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.3*	*U H*	*6.6*	1.3	*0.046*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.3*	*U H*	*6.6*	1.3	*0.053*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*1.0*	*U H*	*6.6*	1.0	*0.050*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*2.7*	*J H*	*6.6*	1.3	*0.11*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*0.33*	*J H*	*6.6*	1.3	*0.089*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.7*	*U H*	*6.6*	2.7	*0.11*
3268-87-9	*OCDD*	*20*	*H B*	*13*	5.3	*0.15*
39001-02-0	*OCDF*	*1.8*	*J H*	*13*	5.3	*0.081*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	65		40-135
89059-46-1	13C-2,3,7,8-TCDF	67		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	62		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	65		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	60		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	62		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	65		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	57		40-135
114423-97-1	13C-OCDD	55		40-135

FORM I 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d
Lims ID: 160-24924-G-17-B
Client ID: SHAD041DP013SS05NS
Sample Type: Client
Inject. Date: 19-Nov-2017 17:29:32 ALS Bottle#: 58 Worklist Smp#: 88
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-17-B 160-24924-G-17-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:18:20 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:45:07

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	177769085	0.80	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	179966616	0.80	1.5089	67.1	67.1	0.1698	0.1698	67.09	
2,3,7,8-TCDF	17.720						0.0174	0.0174		
A Non-2,3,7,8-sub-TCDF	17.402	76000	0.83	1.0971	0.0385	0.0385	0.0174	0.0385		
S Total TCDF					0.0385	0.0385	0.0174	0.0174		
D 13C-2,3,7,8-TCDD	18.445	115032028	0.76	0.9906	65.3	65.3	0.1502	0.1502	65.32	
2,3,7,8-TCDD	18.461						0.0251	0.0251		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD							0.0251	0.0251		
D 13C-1,2,3,7,8-PeCDF	22.883	129774951	1.60	1.1280	64.7	64.7	0.1755	0.1755	64.72	
1,2,3,7,8-PeCDF	22.910						0.0196	0.0196		
2,3,4,7,8-PeCDF	24.287						0.0201	0.0201		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF							0.0201	0.0201		
D 13C-1,2,3,7,8-PeCDD	25.010	80614007	1.61	0.7269	62.4	62.4	0.1063	0.1063	62.39	
1,2,3,7,8-PeCDD	25.037						0.0314	0.0314		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0314	0.0448		RQU
S Total PeCDD							0.0448	0.0448		
D 13C-1,2,3,4,7,8-HxCDF	30.906	96130829	0.51	1.0279	62.1	62.1	0.2575	0.2575	62.08	
1,2,3,4,7,8-HxCDF	30.932						0.0192	0.0192		
1,2,3,6,7,8-HxCDF	31.132						0.0175	0.0175		U
2,3,4,6,7,8-HxCDF	31.838						0.0187	0.0187		
D 13C-1,2,3,7,8,9-HxCDF	32.583	99054740	0.51							
1,2,3,7,8,9-HxCDF	32.597						0.0201	0.0201		
A Non-2,3,7,8-sub-HxCDF	30.653						0.0188	0.0546		RQU
S Total HxCDF							0.0546	0.0546		
* 13C-1,2,3,7,8,9-HxCDD	32.410	150640616	1.24	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.997	60913	1.24	1.0646	0.0816	0.0741	0.0270	0.0270		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.091	77256960	1.21	0.8502	60.3	60.3	0.2140	0.2140	60.32	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.104	60381	1.24	1.1809	0.0727	0.0662	0.0243	0.0243		RQ
1,2,3,7,8,9-HxCDD	32.410	79596	1.24	1.2311	0.1208	0.0837	0.0234	0.0234		RQ
A Non-2,3,7,8-sub-HxCDD	31.252	423933	1.24	1.1589	0.5267	0.4735	0.0248	0.2595		RQ
S Total HxCDD					0.8018	0.6974	0.0249	0.0249		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	55344821	0.44	0.6490	56.6	56.6	0.5021	0.5021	56.61	
1,2,3,4,6,7,8-HpCDF	34.010	108432	1.04	1.5871	0.1470	0.1234	0.0335	0.0335		RQ
1,2,3,4,7,8,9-HpCDF	35.128						0.0432	0.0432		
A Non-2,3,7,8-sub-HpCDF	34.569	183008	1.17	1.4080	0.2348	0.2348	0.0377	0.2348		M
S Total HpCDF					0.3818	0.3583	0.0383	0.0383		RQ
1,2,3,4,6,7,8-HpCDD	34.836	609491	1.03	1.1631	1.000	1.000	0.0417	0.0417		
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	52416161	1.05	0.5387	64.6	64.6	0.2978	0.2978	64.59	
A Non-2,3,7,8-sub-HpCDD	35.261	719285	0.89	1.1631	1.180	1.180	0.0417	1.180		M
S Total HpCDD					2.180	2.180	0.0417	0.0417		
D 13C-OCDD	37.245	66829543	0.90	0.4009	110.7	110.7	0.1485	0.1485	55.33	
OCDF	37.353	291066	0.94	1.2649	0.6887	0.6887	0.0306	0.0306		
OCDD	37.257	2609872	0.92	1.0390	7.517	7.517	0.0549	0.0549		

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d
Lims ID: 160-24924-G-17-B
Client ID: SHAD041DP013SS05NS
Sample Type: Client
Inject. Date: 19-Nov-2017 17:29:32 ALS Bottle#: 58 Worklist Smp#: 88
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-17-B 160-24924-G-17-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:18:20 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:45:07

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		79151414	18652394	15529	38822	1201		
333.9339	18.234	18.234	0		98617671	23870853	9786	24465	2439	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.972	79748862	18945943	28072	70180	675		
317.9389	17.720	17.705	1	0.972	100217754	23746889	15519	38797	1530	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						852	2130			
305.8987	17.720						2413	6032			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.326	17.402	-5	0.978	34502	11720	852	2130	14		
305.8987	17.342	17.402	-4	0.979	41498	14360	2413	6032	6	0.83(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.012	49560538	11182369	15529	38822	720		
333.9339	18.445	18.430	1	1.012	65471490	14926822	9786	24465	1525	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461						2316	5790			
321.8936	18.461						736	1840			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						2316	5790			
321.8936	17.871						736	1840			
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.883	0	1.255	79886416	13358507	19720	49300	677		
353.8970	22.883	22.883	0	1.255	49888535	8499564	13963	34907	609	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						534	1335			
341.8567	22.910						1419	3547			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	24.287						534	1335			
341.8567	24.287						1419	3547			
A F1 PeCDFs											
339.8597	20.426						372	930			
341.8567	20.426						1172	2930			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						534	1335			
341.8567	23.668						1419	3547			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.372	49680556	7301466	8520	21300	857		
369.8919	24.996	25.010	-1	1.371	30933451	4581610	4627	11567	990	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037						1061	2652			
357.8516	25.037						621	1552			
A Non-2,3,7,8-sub-PeCDD											U
355.8546	21.737	23.878	-128	0.869	24772	5955	1061	2652	6		
357.8516	21.724	23.878	-129	0.869	21978	4179	621	1552	7	1.13(1.32-1.78)	
	Empc Correction				15981	3841	621	1552	6		
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.906	30.919	-1	0.954	32506978	6837931	16198	40495	422		
385.8610	30.919	30.919	0	0.954	63623851	13663902	27901	69752	490	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						1225	3062			
375.8178	30.932						897	2242			
1,2,3,6,7,8-HxCDF											U
373.8208	31.092						1225	3062			
375.8178	31.092						897	2242			
2,3,4,6,7,8-HxCDF											
373.8208	31.838						1225	3062			
375.8178	31.838						897	2242			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.005	33259724	9273406	16198	40495	573		
385.8610	32.583	32.583	0	1.005	65795016	18564144	27901	69752	665	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						1225	3062			
375.8178	32.597						897	2242			
A Non-2,3,7,8-sub-HxCDF											U
373.8208	30.280	30.653	-22	0.980	60692	6563	1225	3062	5		
	Empc Correction				39955	5753	1225	3062	5		
375.8178	30.280	30.653	-22	0.980	32222	4640	897	2242	5	1.88(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.410	0		83345578	23025177	16614	41535	1386		
403.8529	32.410	32.410	0		67295038	18625258	13698	34245	1360	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	31.997	32.011	-1	0.997	33720	10491	1361	3402	8		
391.8127	32.011	32.011	0	0.998	33368	8351	1052	2630	8	1.01(1.05-1.43)	
	Empc Correction				27193	8460	1052	2630	8		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.990	42339486	11549092	16614	41535	695		
403.8529	32.091	32.091	0	0.990	34917474	9429893	13698	34245	688	1.21(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQ
389.8157	32.104	32.104	0	1.000	39414	13696	1361	3402	10		
	Empc Correction				33425	9948	1361	3402	7		
391.8127	32.104	32.104	0	1.000	26956	8023	1052	2630	8	1.46(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQ
389.8157	32.410	32.424	-1	1.010	79368	15720	1361	3402	12		
	Empc Correction				44062	7051	1361	3402	5		
391.8127	32.477	32.424	3	1.012	35534	5687	1052	2630	5	2.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.160	31.252	-65	0.940	176244	25295	1361	3402	19		
	Empc Correction				128622	20177	1361	3402	15		
391.8127	30.147	31.252	-66	0.939	103728	16272	1052	2630	15	1.70(1.05-1.43)	
389.8157	31.319	31.252	4	0.976	107101	23910	1361	3402	18		
391.8127	31.305	31.252	3	0.976	84482	20087	1052	2630	19	1.27(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	17008672	5511368	17046	42615	323		
419.8220	33.998	33.998	0	1.049	38336149	12786872	37245	93112	343	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7818	34.010	34.010	0	1.000	75926	20611	2362	5905	9		
	Empc Correction				55279	18016	2362	5905	8		
409.7789	34.010	34.010	0	1.000	53153	17324	1524	3810	11	1.43(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						2362	5905			
409.7789	35.128						1524	3810			
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.326	34.569	-15	1.010	98661	35819	2362	5905	15		M
409.7789	34.326	34.569	-15	1.010	84347	30002	1524	3810	20	1.17(0.88-1.20)	M
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.000	309399	94342	1663	4157	57		
425.7737	34.824	34.824	0	1.000	300092	91603	1395	3487	66	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.824	0	1.074	26845405	8099207	13412	33530	604		
437.8140	34.824	34.824	0	1.074	25570756	7652914	13317	33292	575	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7766	34.265	35.261	-60	0.984	339705	109089	1663	4157	66		M
425.7737	34.265	35.261	-60	0.984	379580	126280	1395	3487	91	0.89(0.88-1.20)	M
13C-OCDD											
469.7779	37.245	37.245	0	1.149	31703319	8981138	6039	15097	1487		
471.7750	37.245	37.245	0	1.149	35126224	9709722	3881	9702	2502	0.90(0.76-1.02)	
OCDF											
441.7428	37.353	37.353	0	1.003	141058	41286	488	1220	85		
443.7399	37.353	37.353	0	1.003	150008	37142	959	2397	39	0.94(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	37.257	37.257	0	1.000	1248356	317069	1071	2677	296		
459.7348	37.257	37.257	0	1.000	1361516	378959	1063	2657	356	0.92(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Report Date: 06-Dec-2017 15:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d		
Lims ID:	160-24924-G-17-B		
Client ID:	SHAD041DP013SS05NS		
Inject. Date:	19-Nov-2017 17:29:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	88

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	179966616	42692832

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	179966616	42692832

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
17.326	34502	11720	41498	14360	0.0385	0.83	
Signal Totals:							
	34502	11720	41498	14360			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	76000	26080				0.83	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0385 = (76000 * 100.000) / (179966616 * 1.097)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d
Lims ID: 160-24924-G-17-B
Client ID: SHAD041DP013SS05NS
Inject. Date: 19-Nov-2017 17:29:32
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 88

Non-2,3,7,8-sub-PeCDD, RT: 23.878

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.127	D 13C-1,2,3,7,8-PeCDD	100.000	80614007	11883076

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.127		100.000	80614007	11883076

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.737	24772	5955	21978	4179	0.0514	1.13	RQ
21.737	24772	5955	15981	3841	0.0448		Empc Correction

Compound is Marked ND

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d
Lims ID: 160-24924-G-17-B
Client ID: SHAD041DP013SS05NS
Inject. Date: 19-Nov-2017 17:29:32 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195575 Lims Sample ID: 88

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	96130829	20501833
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	96130829	20501833

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
30.280	60692	6563	32222	4640	0.0703	1.88	RQ
30.280	39955	5753	32222	4640	0.0546		Empc Correction
30.586	26047	7074	20900	8120	0.0355	1.25	
31.678	24771	7065	19749	4966	0.0337	1.25	

Compound is Marked ND

Report Date: 06-Dec-2017 15:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d
Lims ID:	160-24924-G-17-B
Client ID:	SHAD041DP013SS05NS
Inject. Date:	19-Nov-2017 17:29:32
Dil. Factor:	1.0000
Sample Type:	Client Sample
Instrument ID:	3D5
Operator:	SMA, ALM
Lims Batch ID:	195575
Lims Sample ID:	88

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	77256960	20978985
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	77256960	20978985

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.160	176244	25295	103728	16272	0.3127	1.70	RQ
30.160	128622	20177	103728	16272	0.2595		Empc Correction
31.319	107101	23910	84482	20087	0.2140	1.27	
Signal Totals:							
	235723	44087	188210	36359			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	471555	85564				1.51	RQ
	423933	80446					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5267 = (471555 * 100.000) / (77256960 * 1.159)
Empc Amount: 0.4735 = (423933 * 100.000) / (77256960 * 1.159)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d
Lims ID: 160-24924-G-17-B
Client ID: SHAD041DP013SS05NS
Inject. Date: 19-Nov-2017 17:29:32
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 88

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	55344821	18298240
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	55344821	18298240

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	98661	35819	84347	30002	0.2348	1.17	M
Signal Totals:							
	98661	35819	84347	30002			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	183008	65821				1.17	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2348 = (183008 * 100.000) / (55344821 * 1.408)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d		
Lims ID:	160-24924-G-17-B		
Client ID:	SHAD041DP013SS05NS		
Inject. Date:	19-Nov-2017 17:29:32	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	88

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	52416161	15752121

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	52416161	15752121

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.265	339705	109089	379580	126280	1.18	0.89	M
Signal Totals:							
	339705	109089	379580	126280			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	719285	235369				0.89	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.180 = (719285 * 100.000) / (52416161 * 1.163)

QC Flag Legend

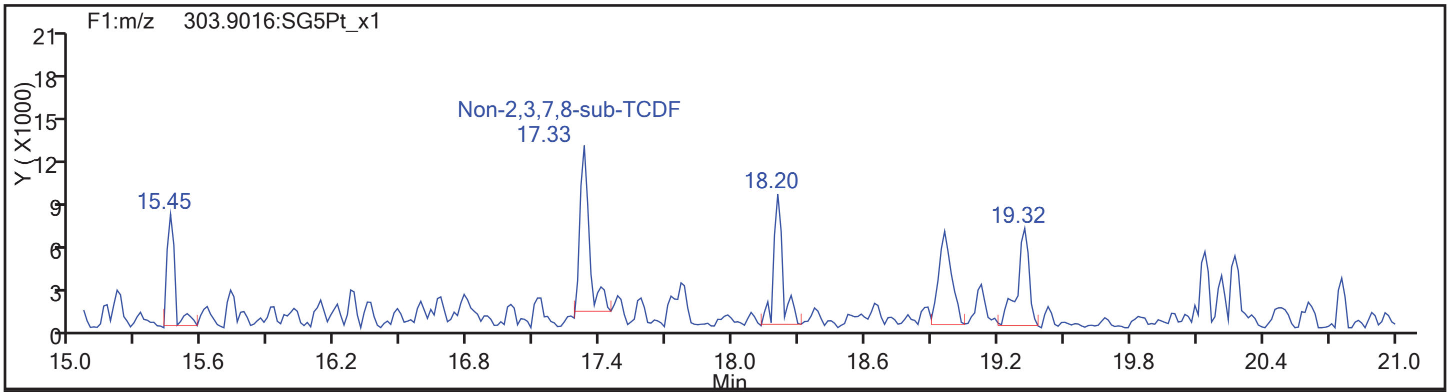
Review Flags
M - Manually Integrated

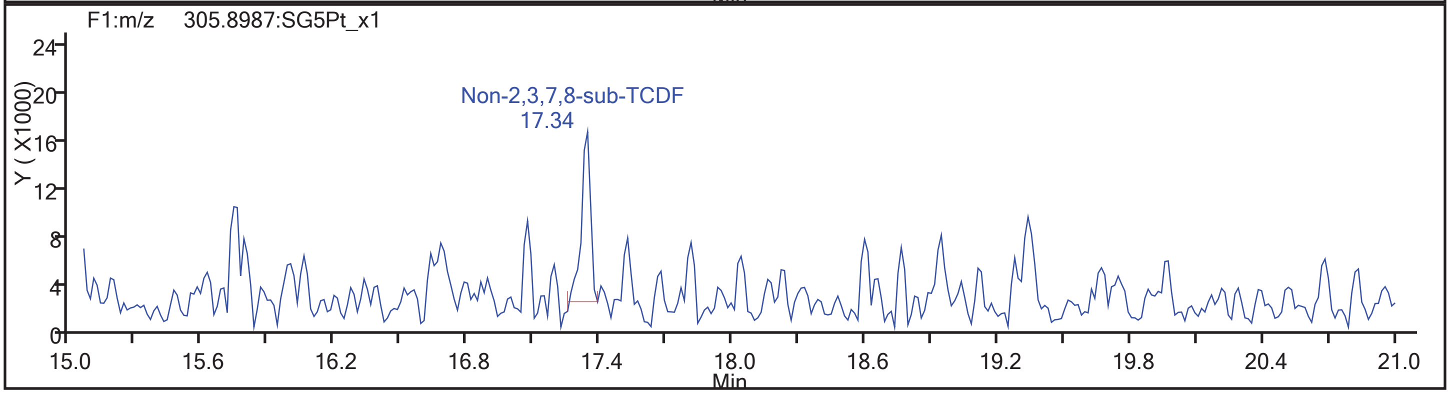
Report Date: 06-Dec-2017 15:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

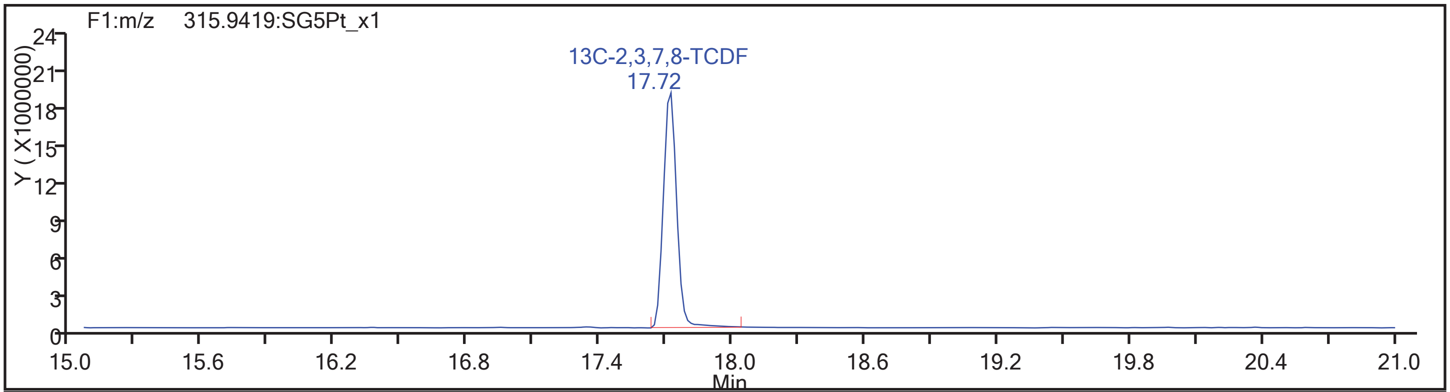
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d
Injection Date: 19-Nov-2017 17:29:32 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05NS
Worklist#: 195575 Sample Line#: 88
Column Type: Column Dia:

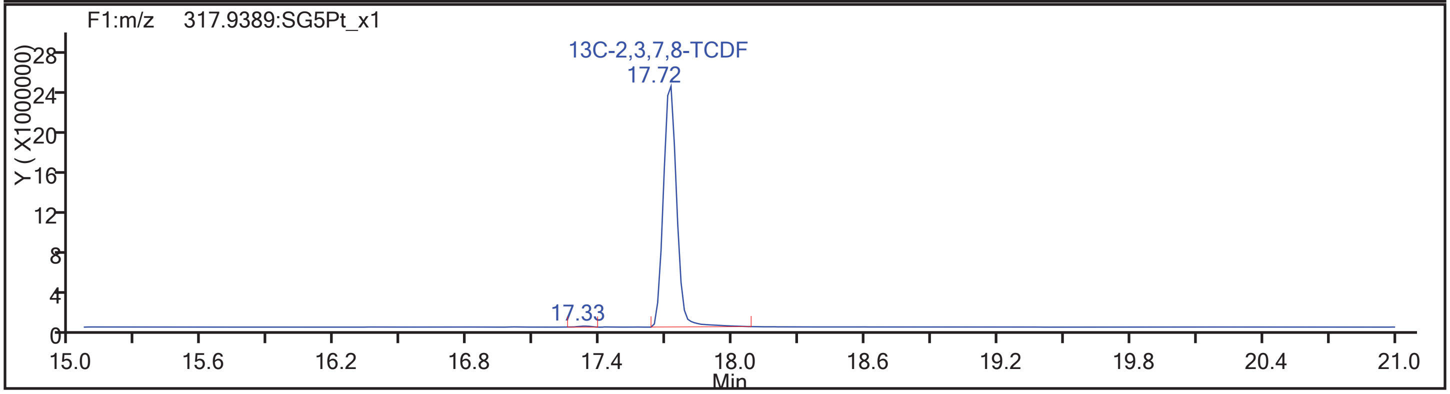
TCDF





TCDF Standards





TestAmerica Sacramento

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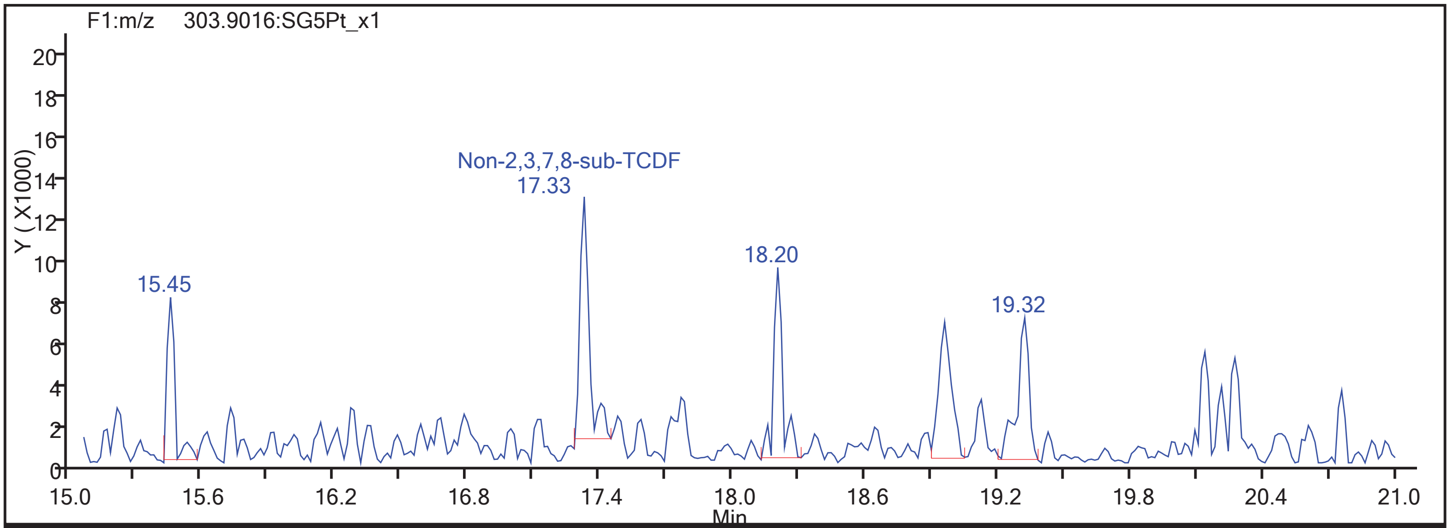
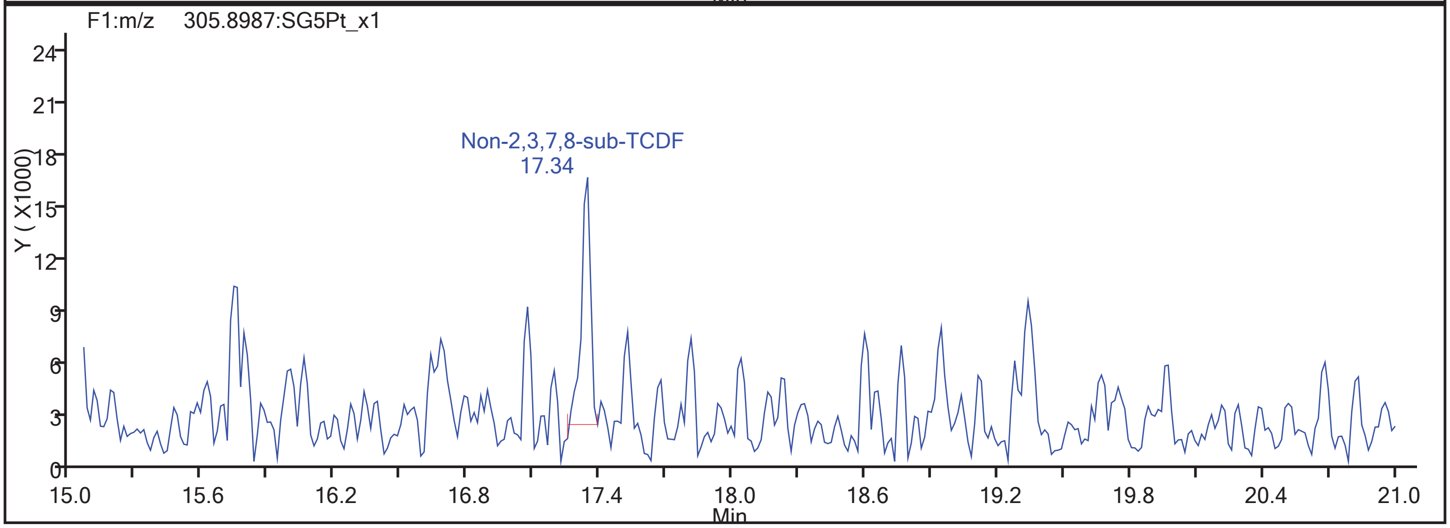
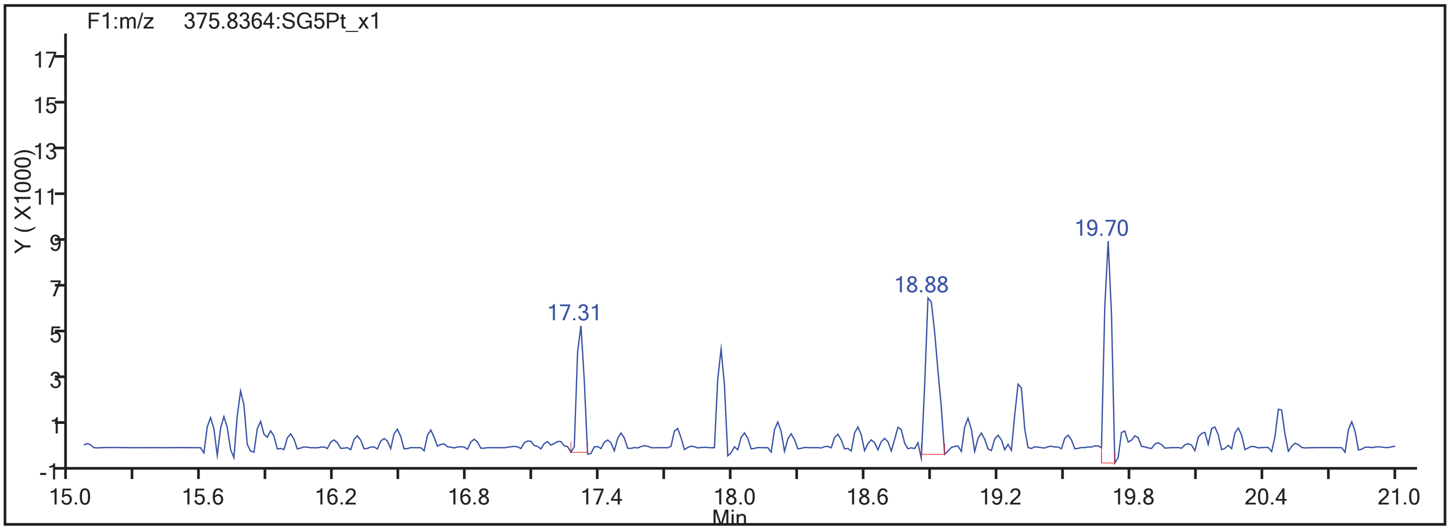




TCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 17:29:32
Injection Vol: 2.0 ul
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Method: Dioxin_3D5
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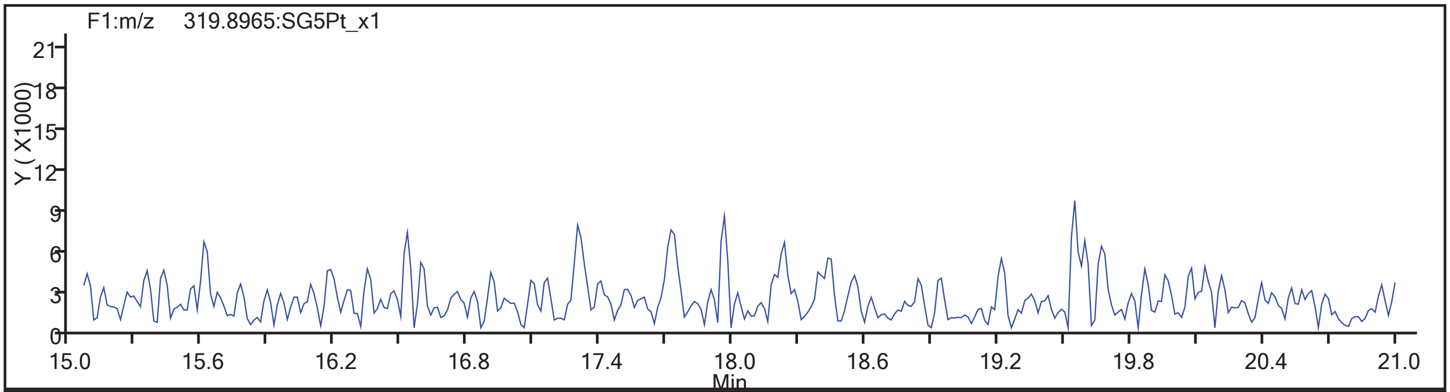

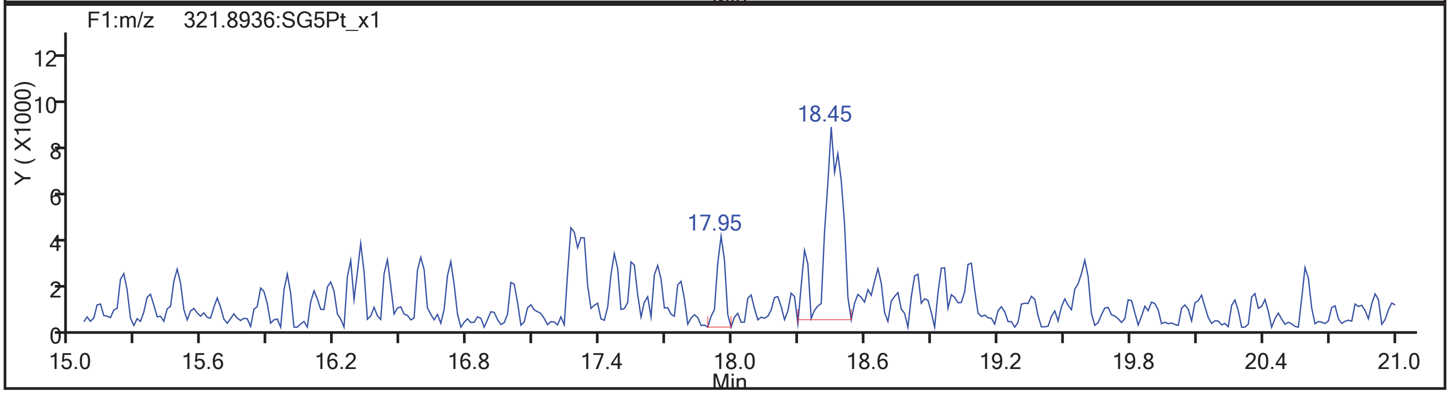

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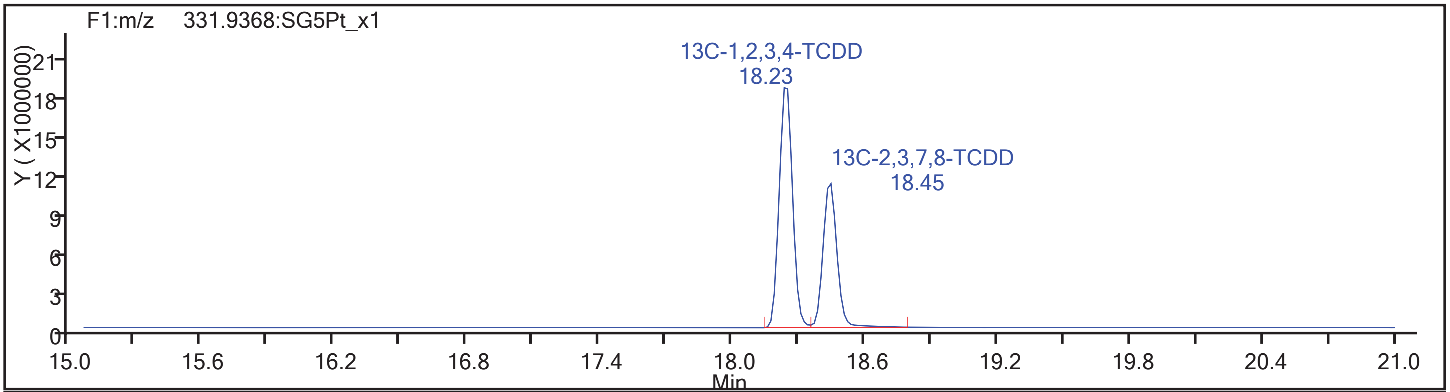

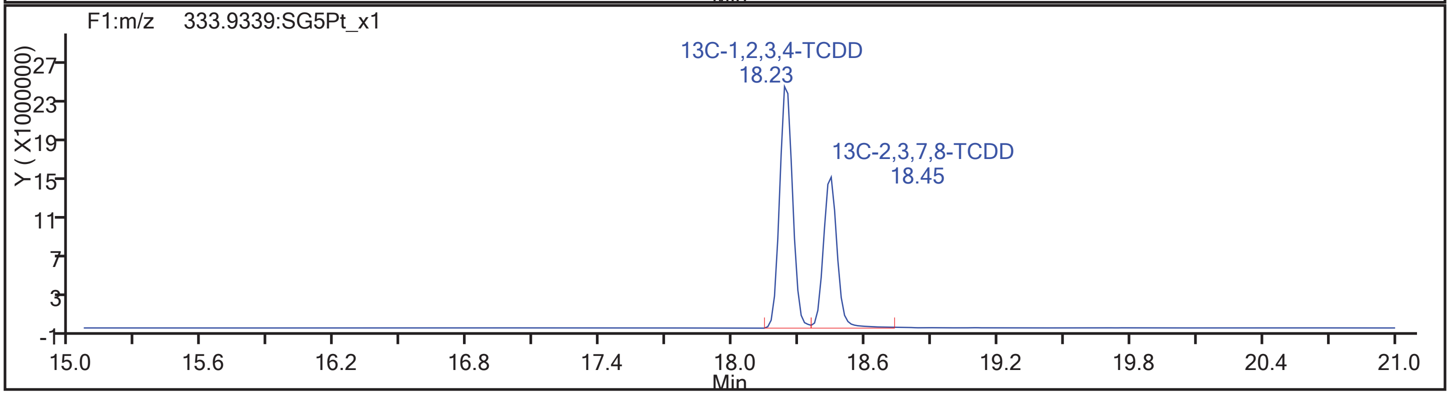

TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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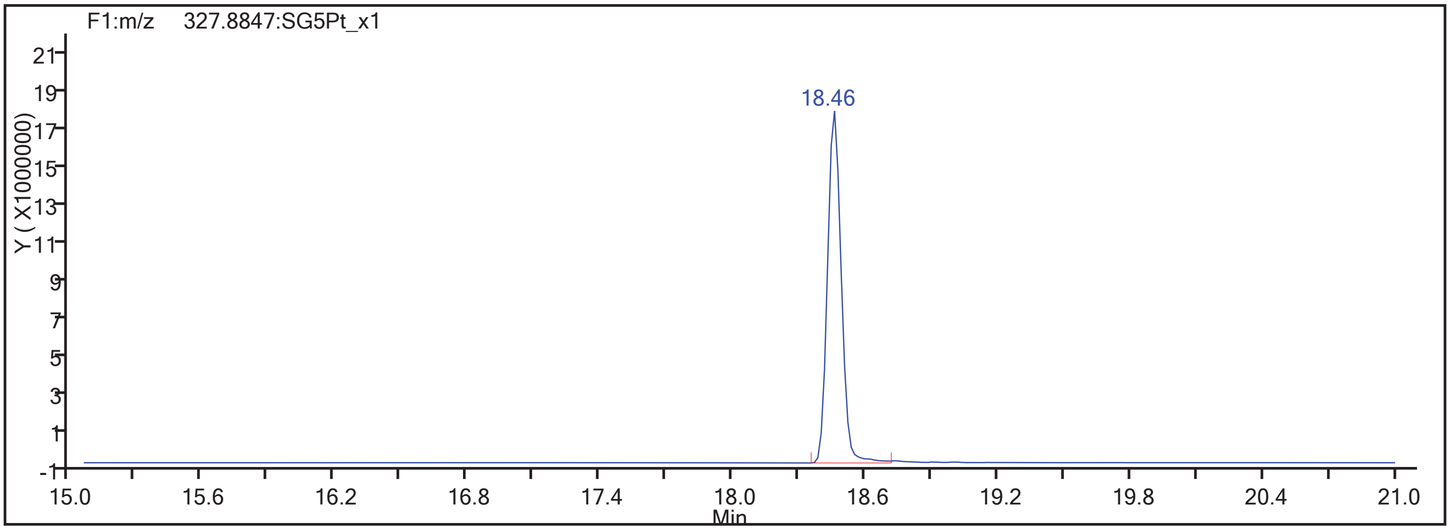
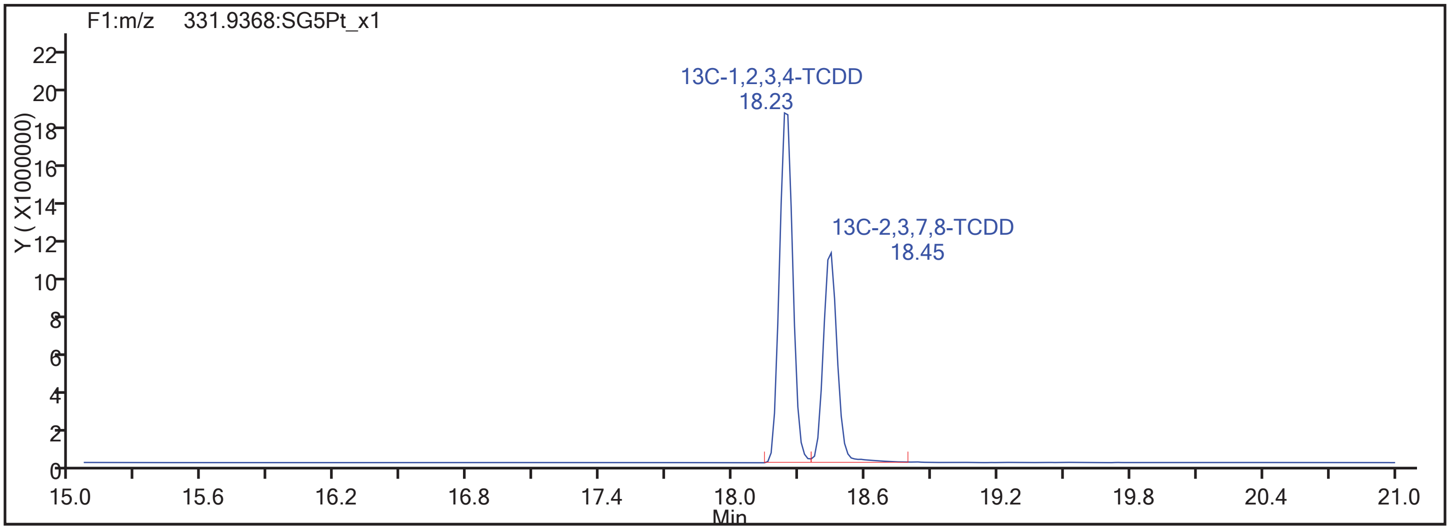
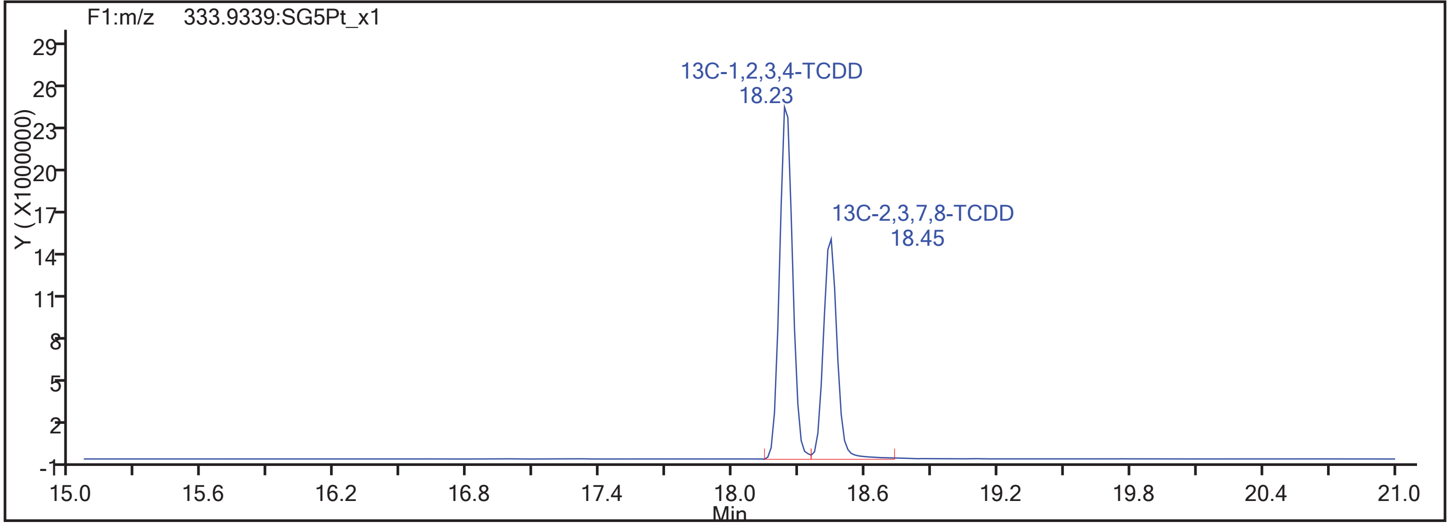
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

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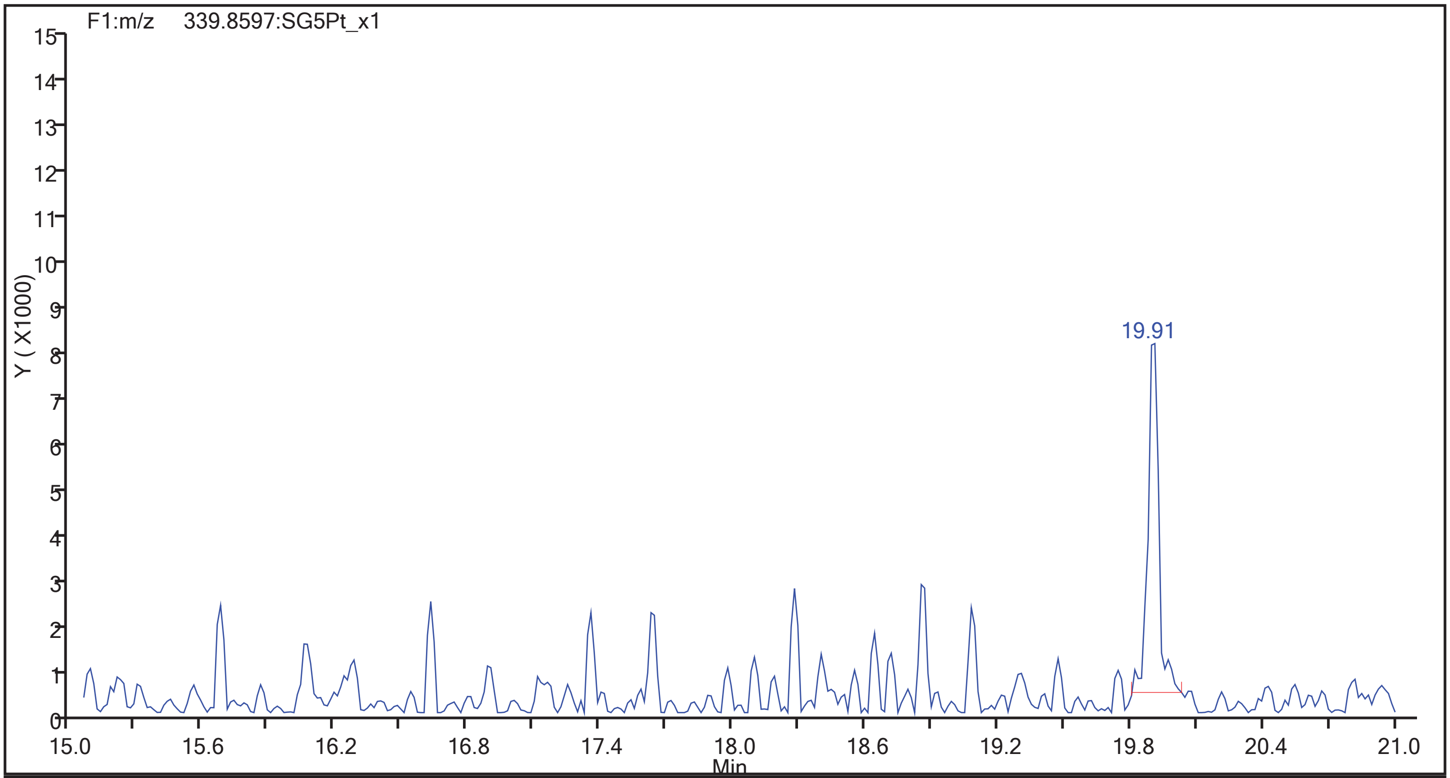
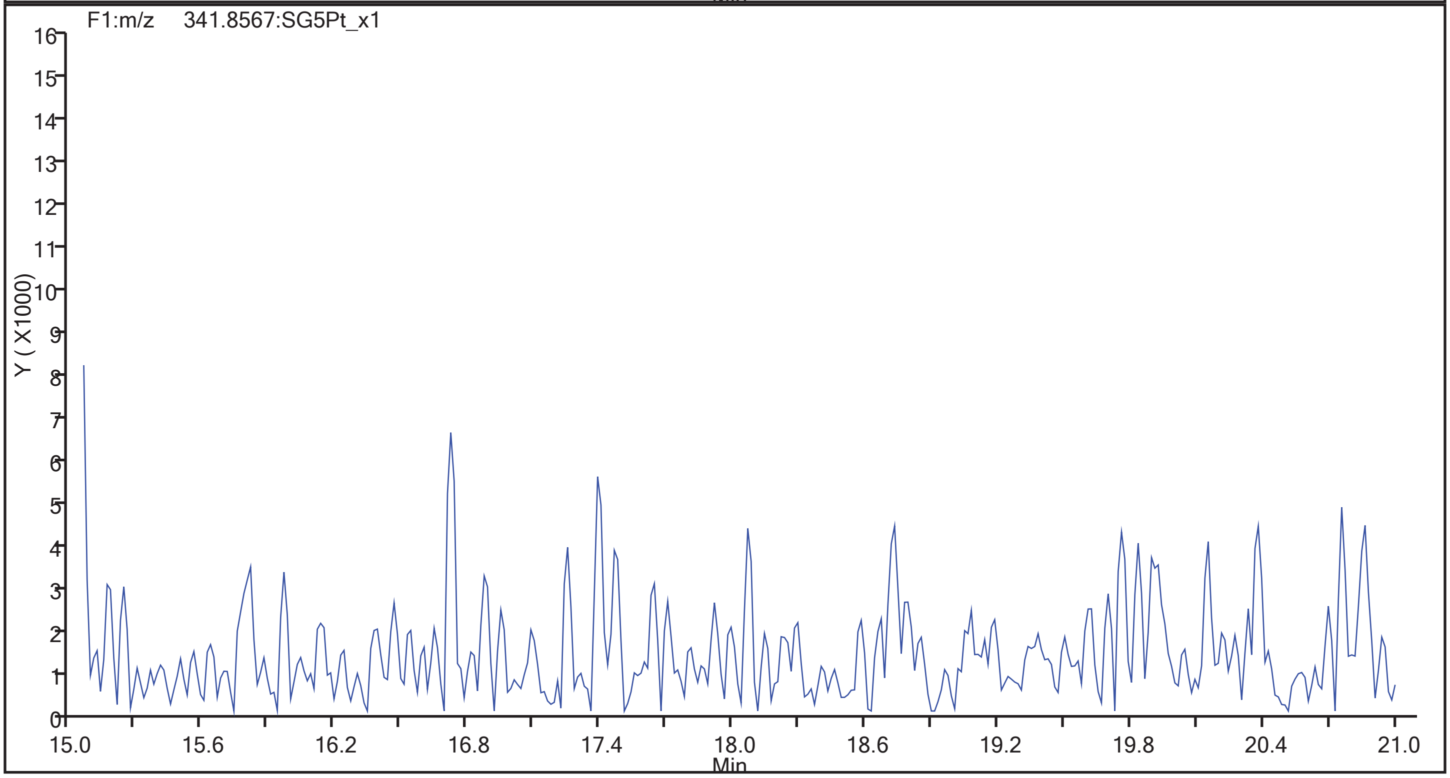
F1 PeCDFs





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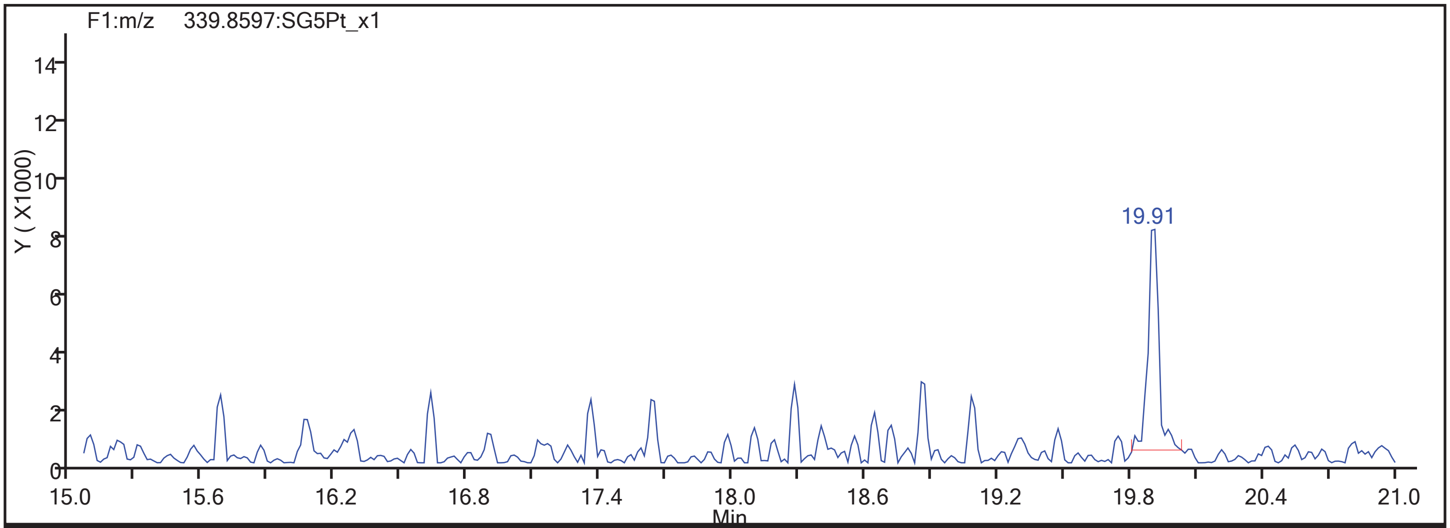
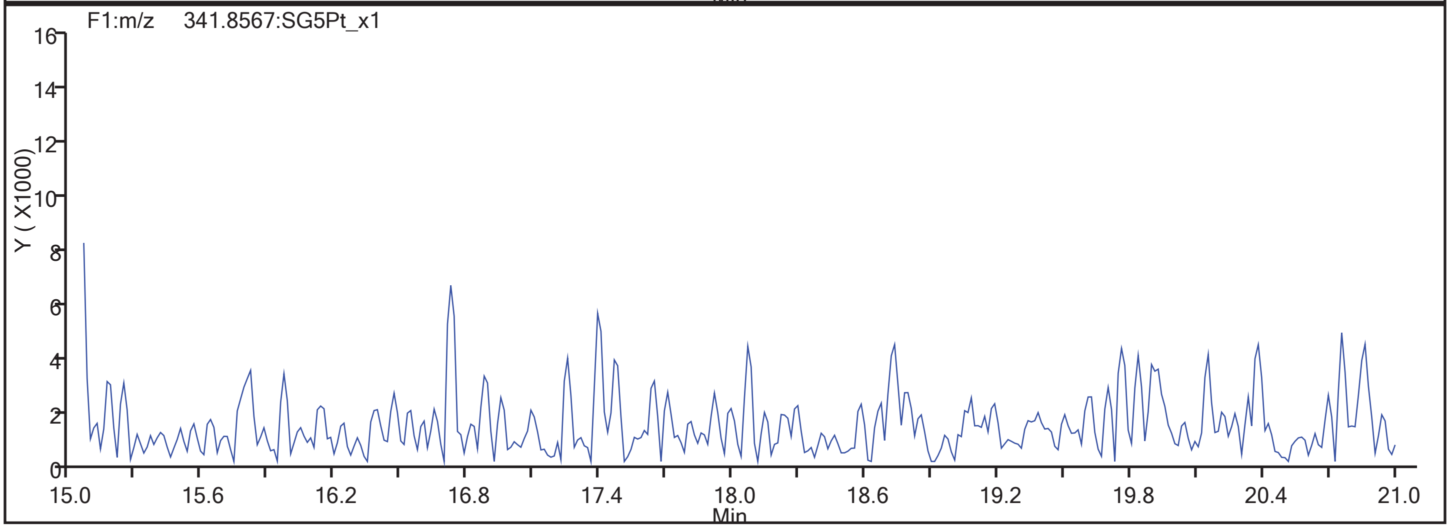
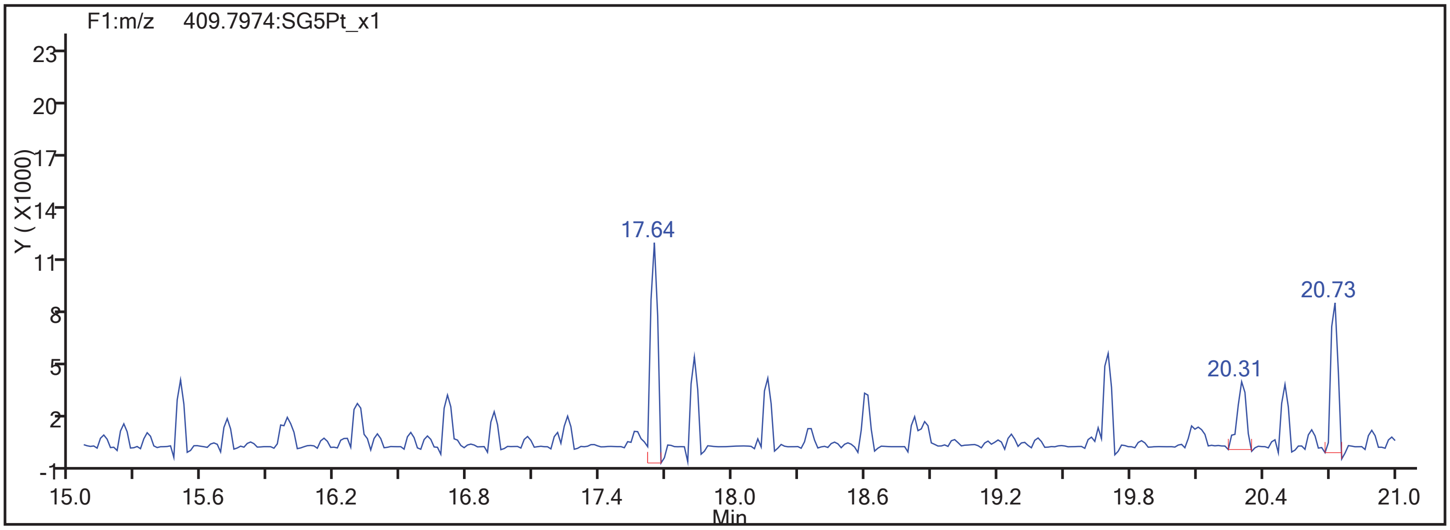
F1 PeCDFs





F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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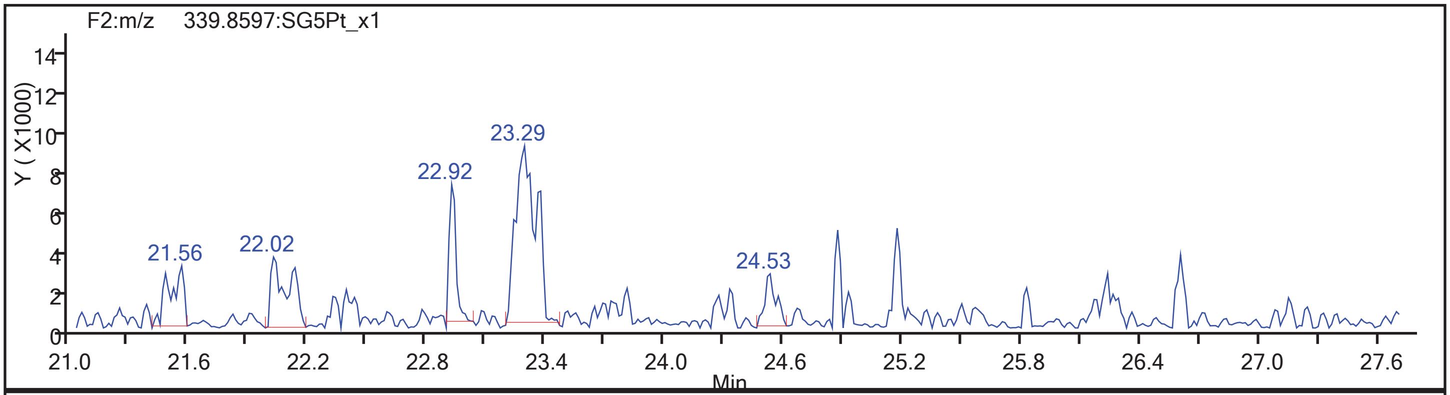
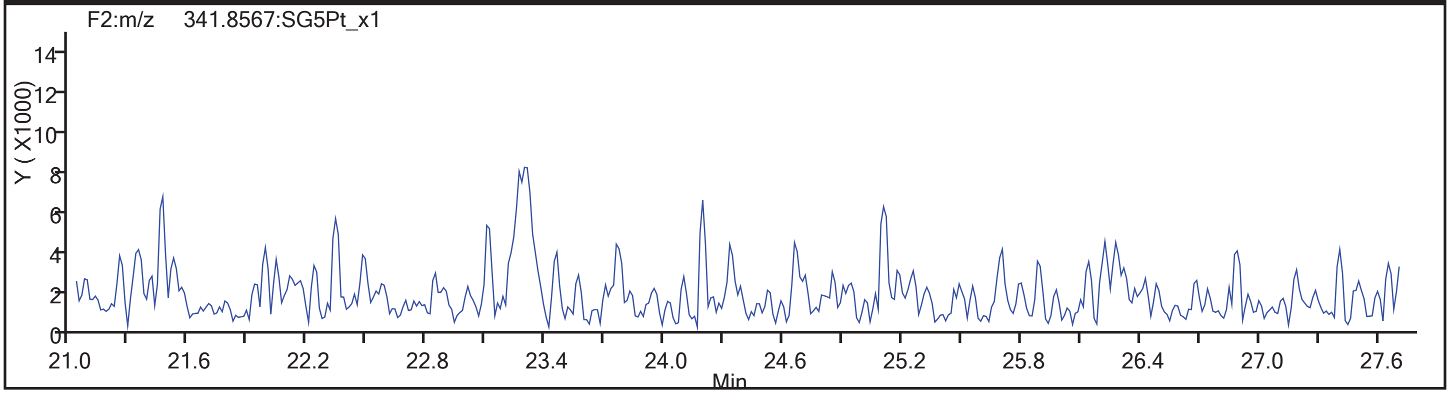
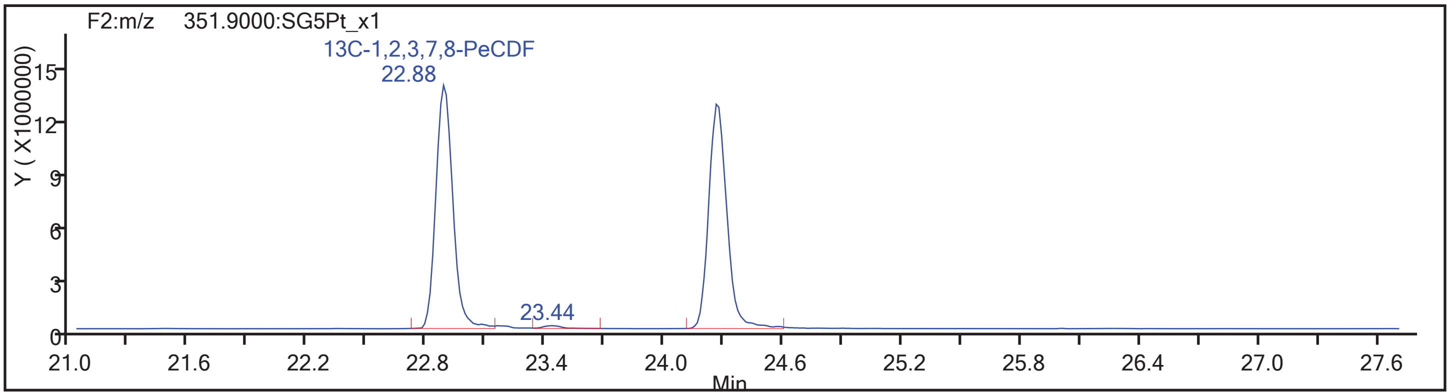
Column Type:		Column Dia:	

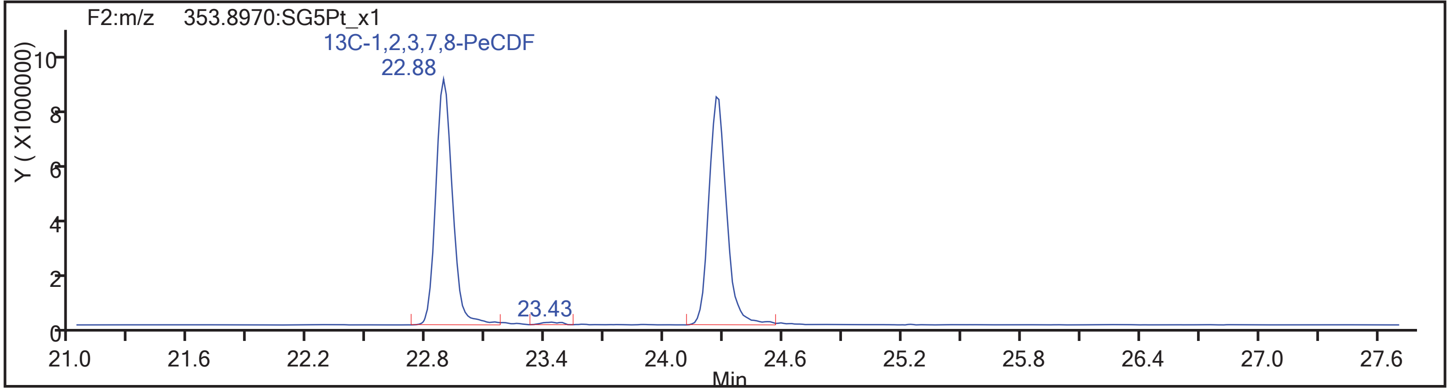
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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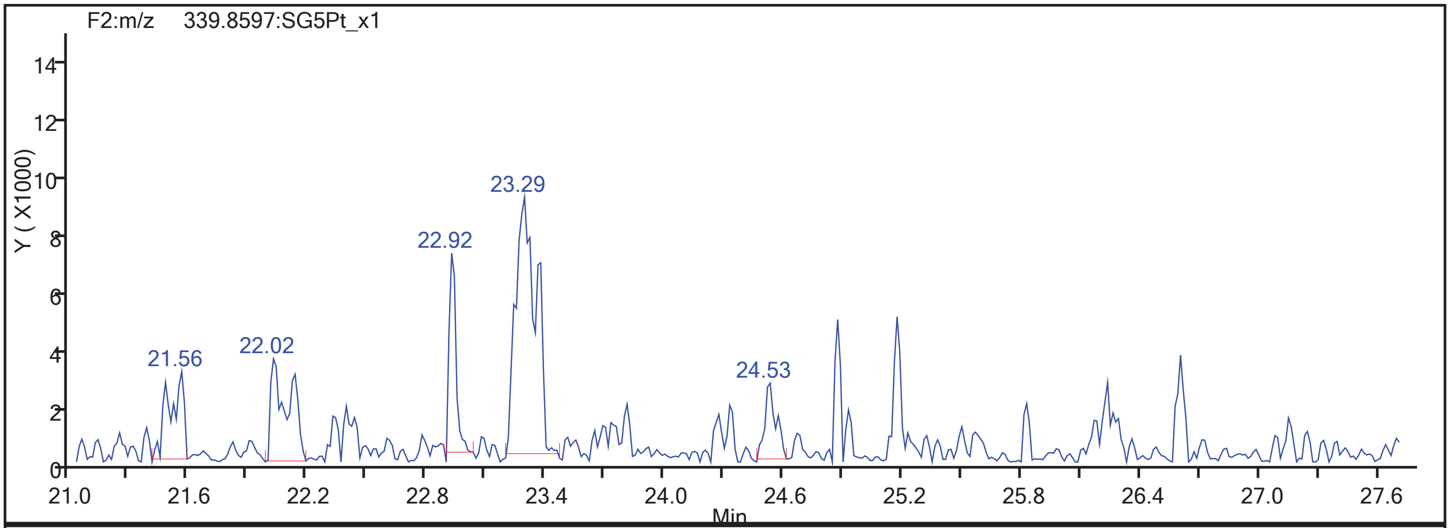
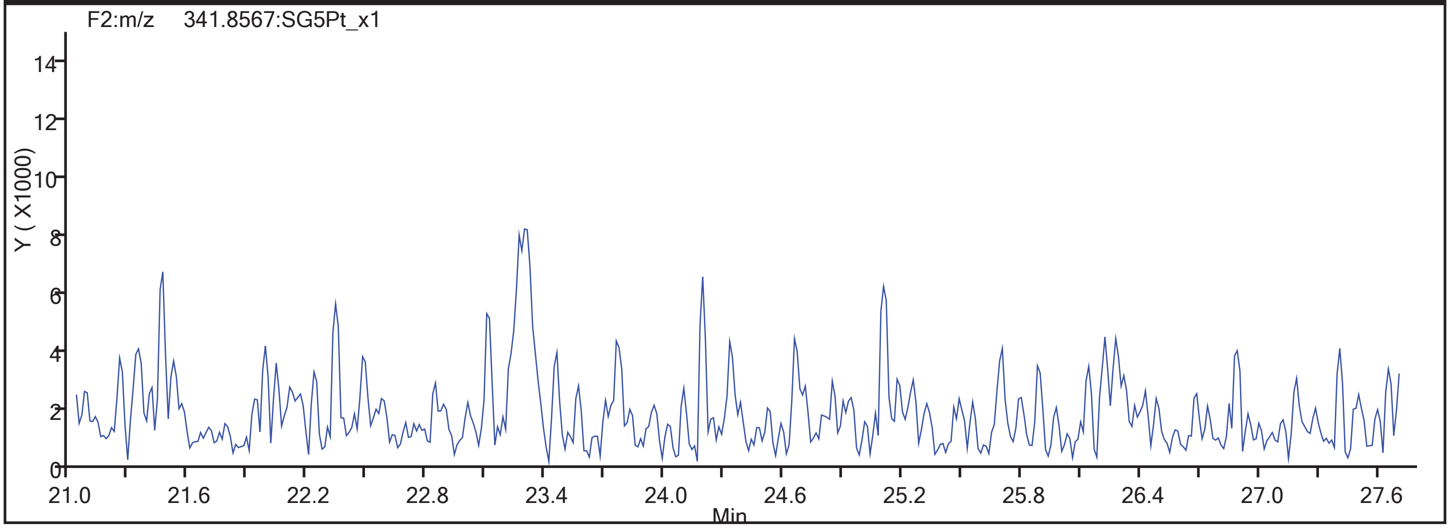
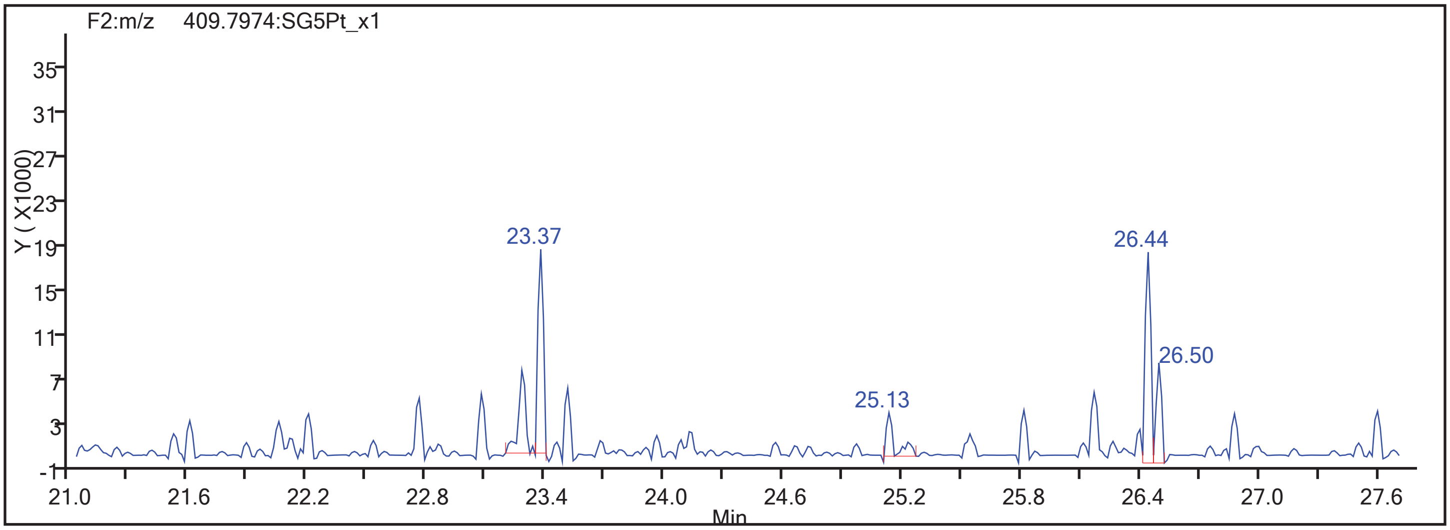




PeCDF Interference Mass



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TestAmerica Sacramento

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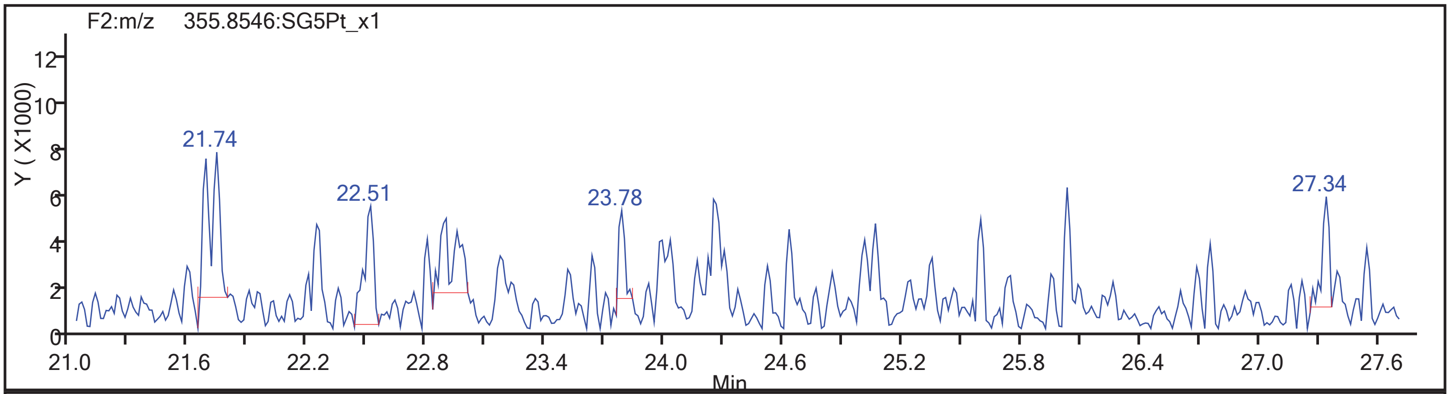

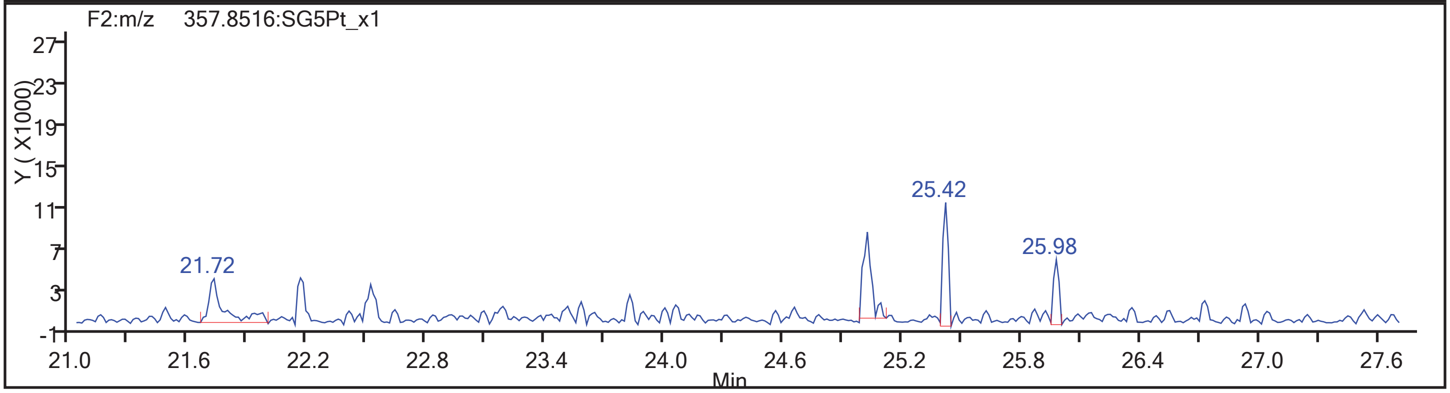

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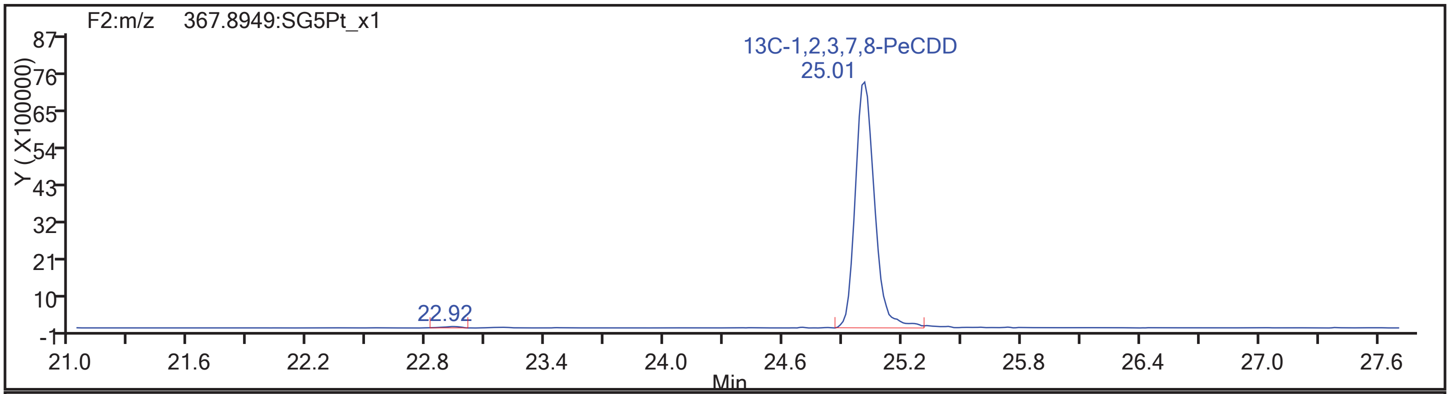

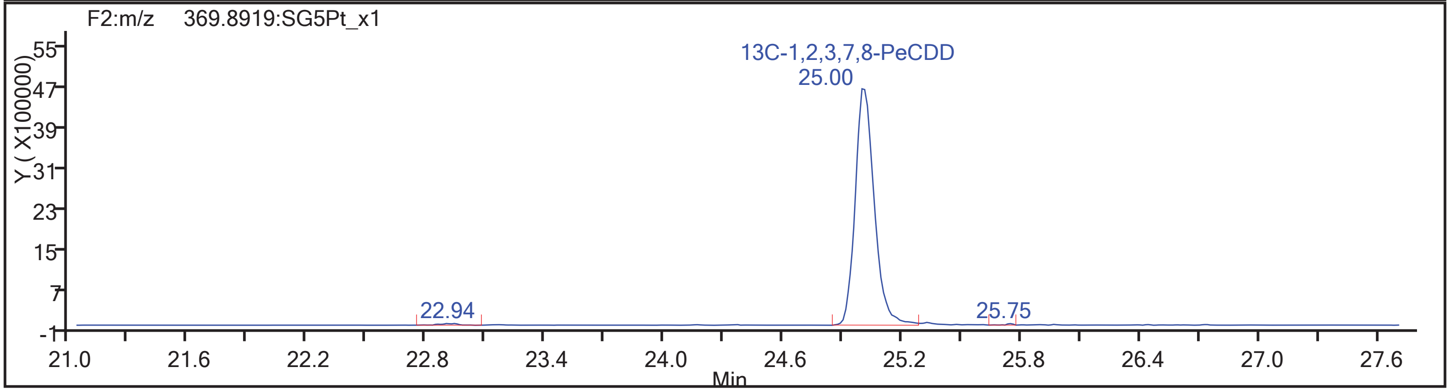

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TestAmerica Sacramento

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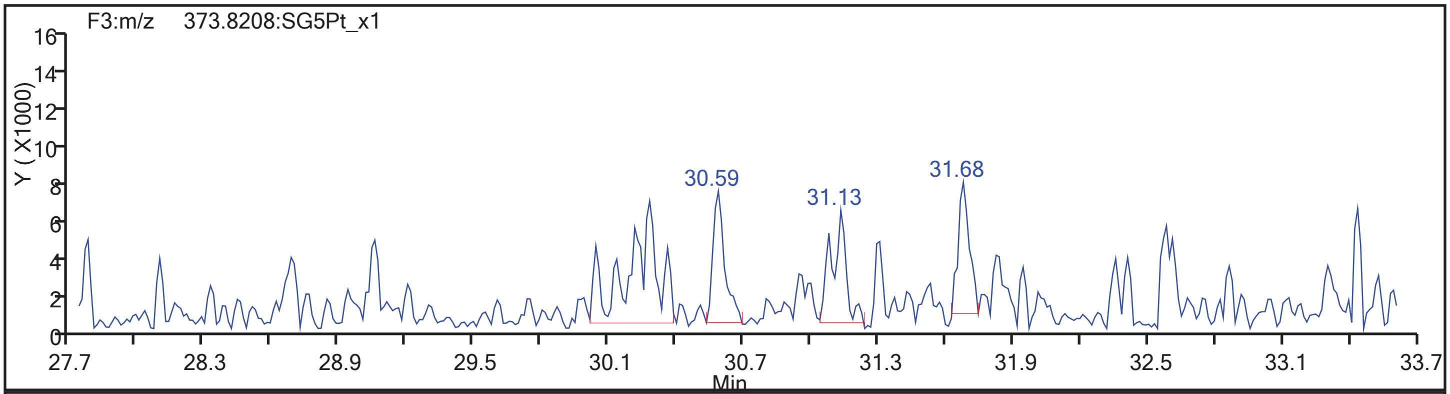

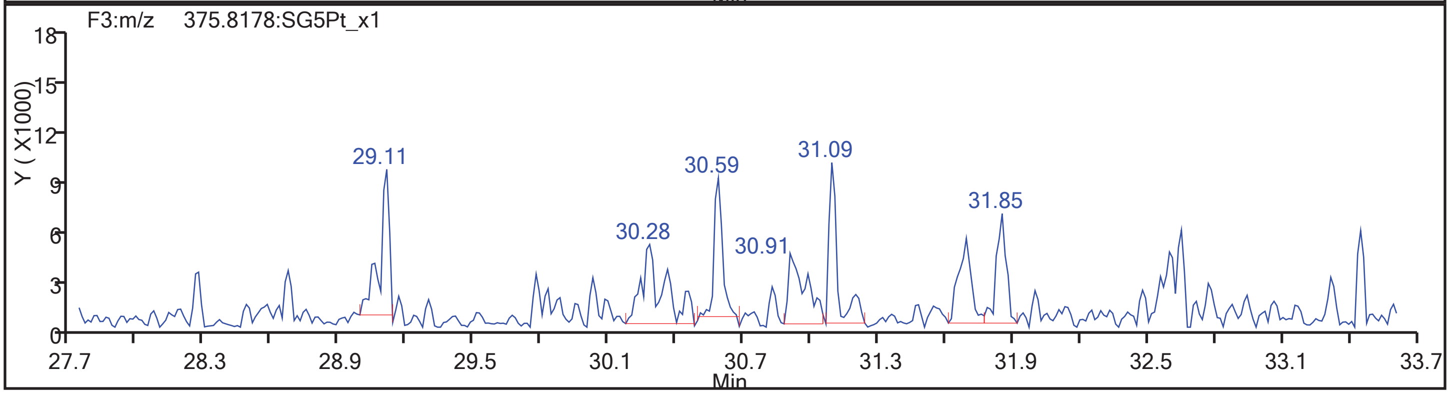

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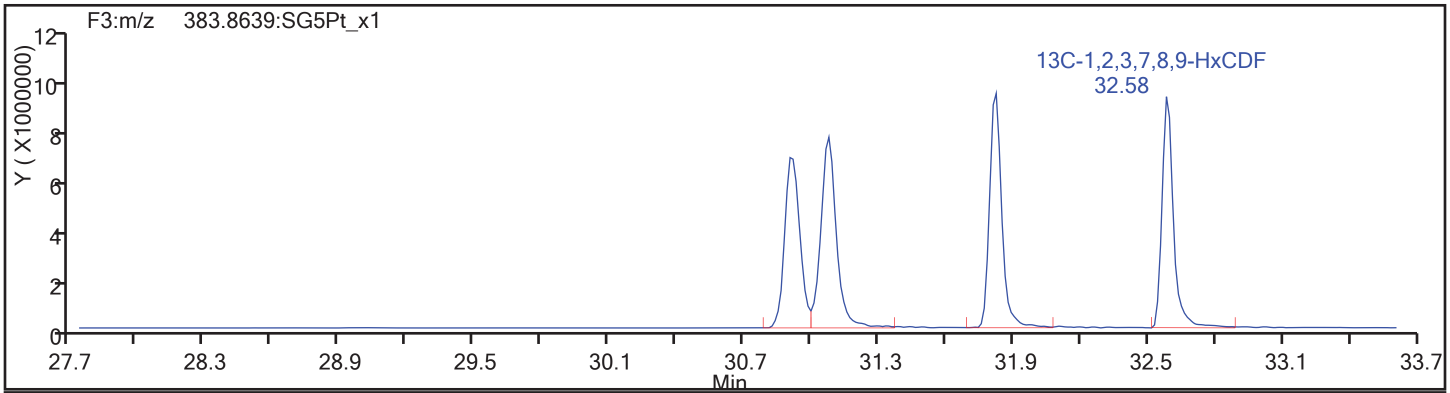

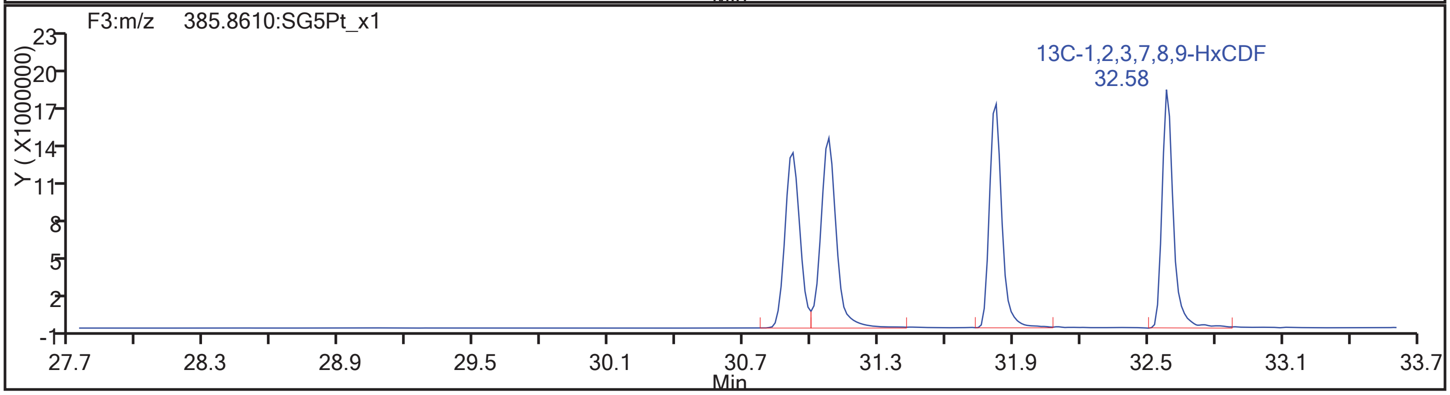

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TestAmerica Sacramento

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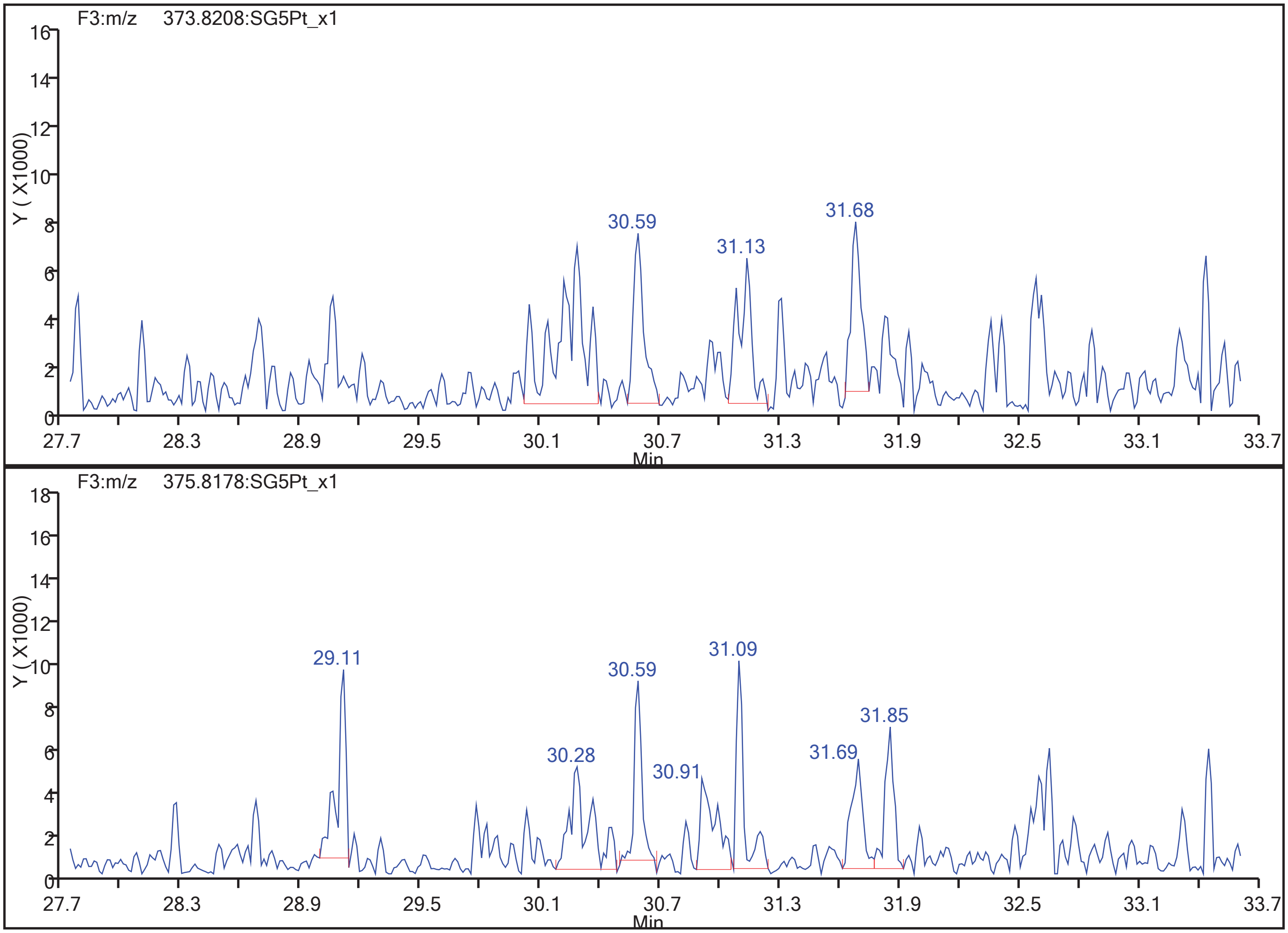
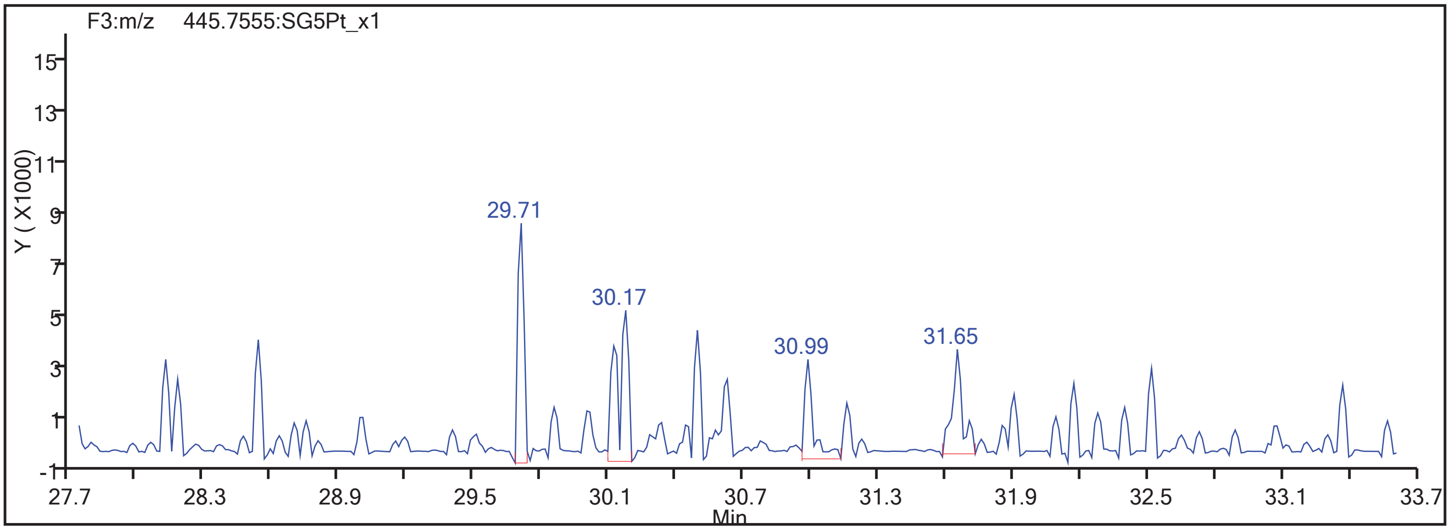


HxCDF Interference Mass



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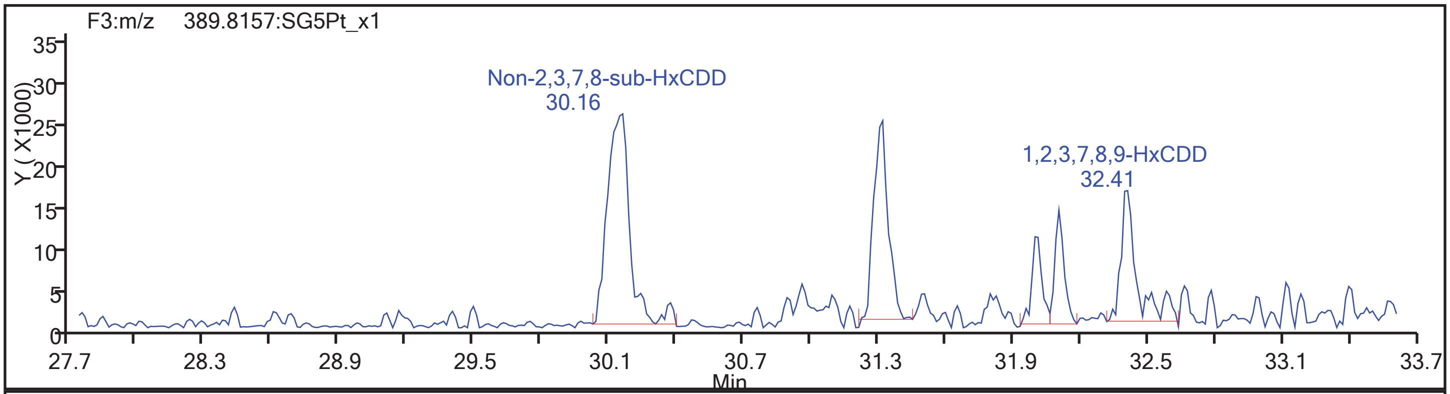

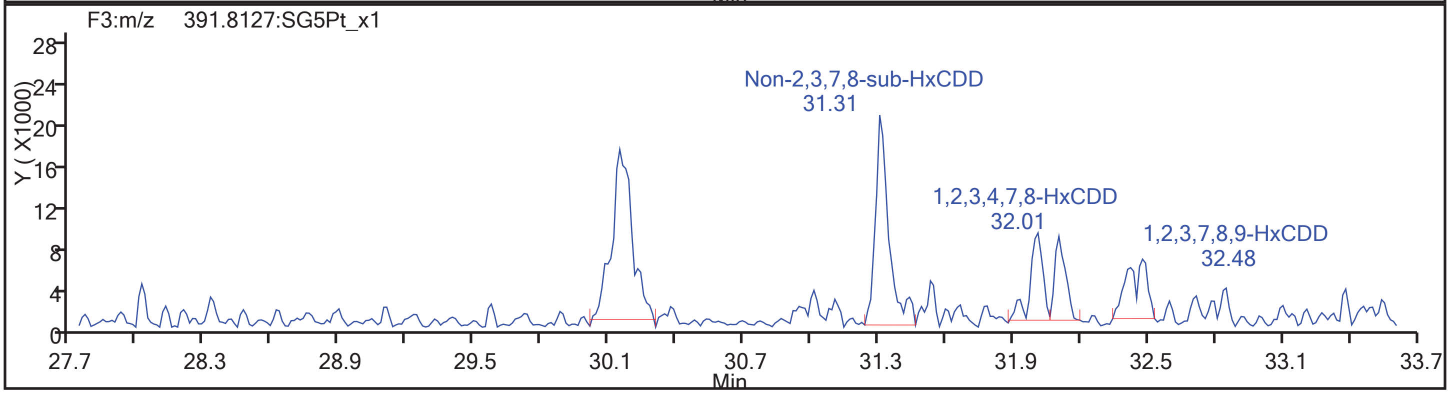

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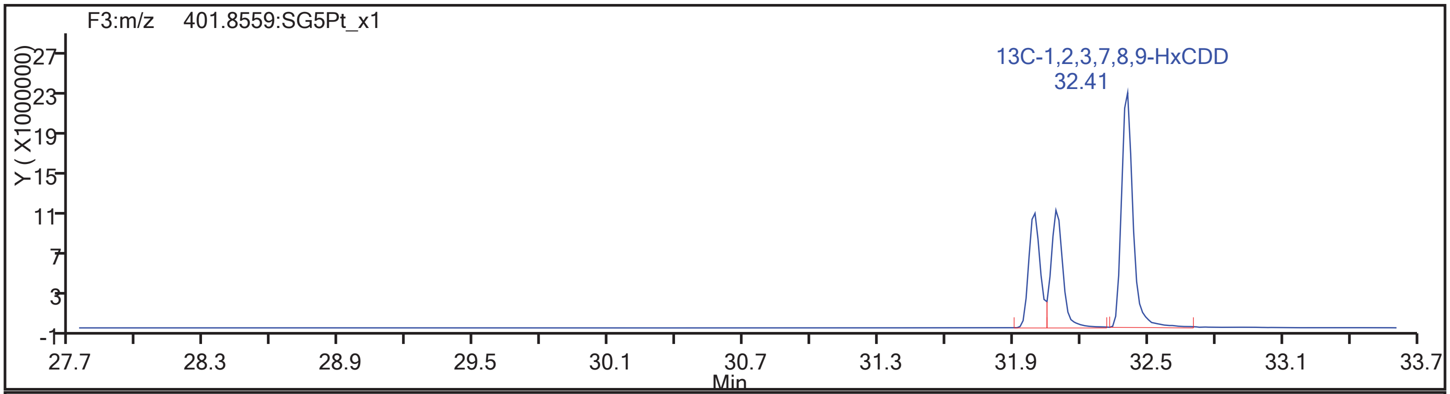

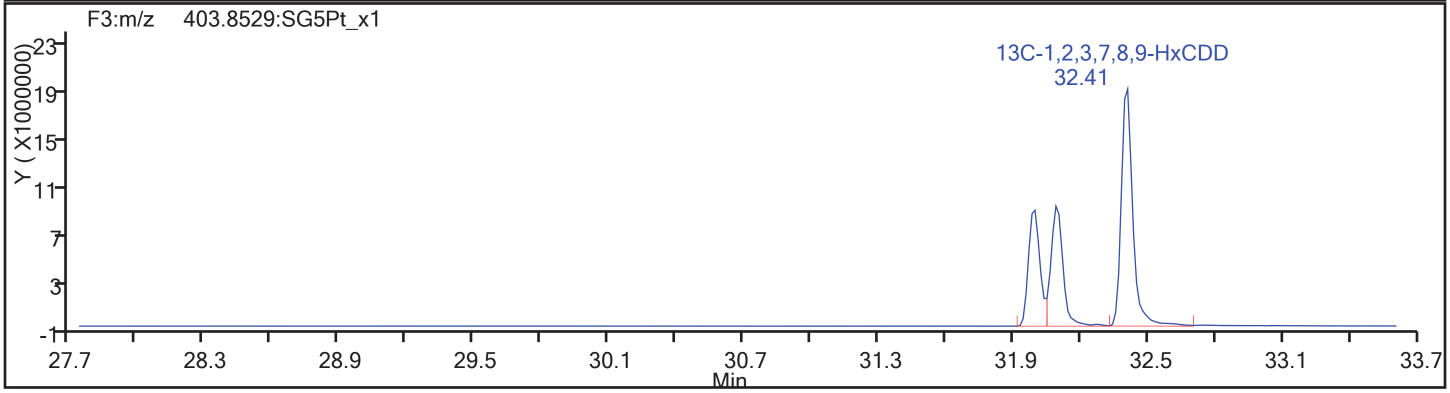

TestAmerica Sacramento

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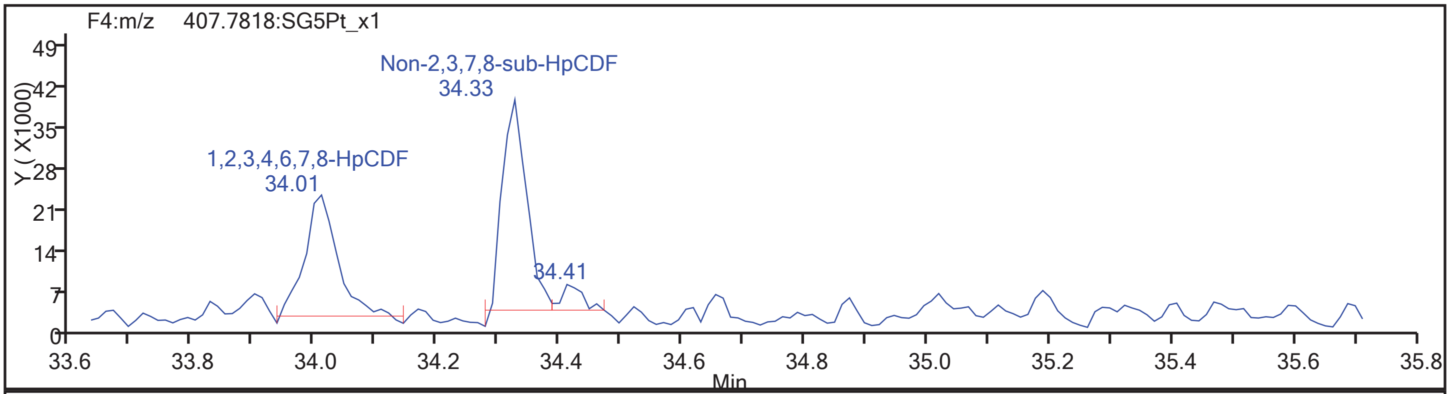

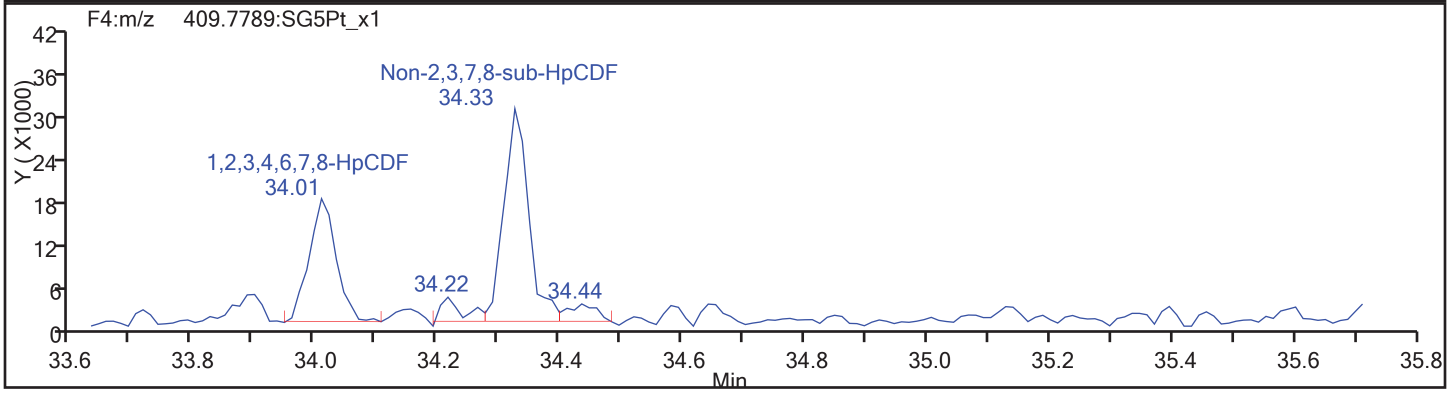

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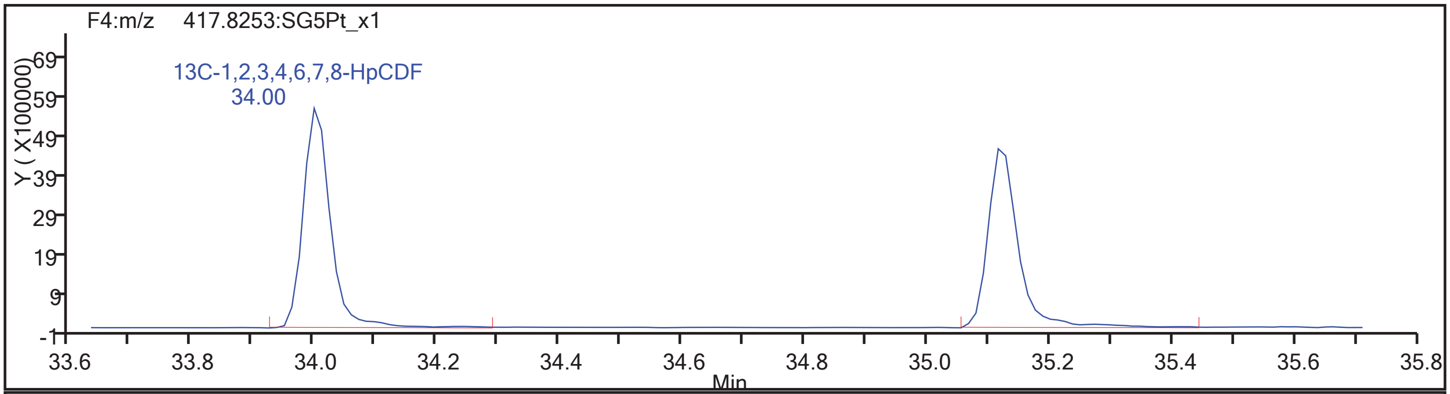

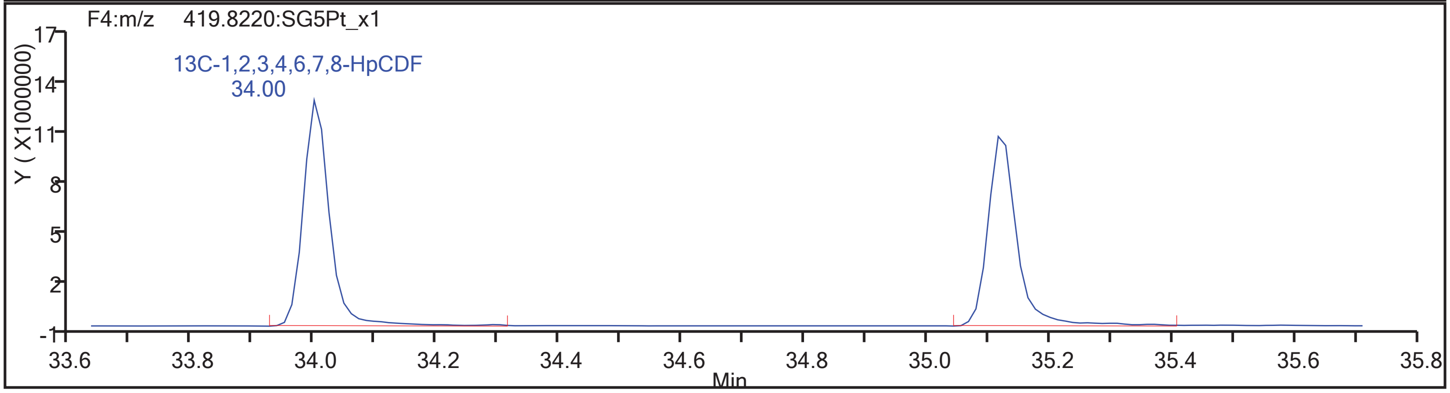

TestAmerica Sacramento

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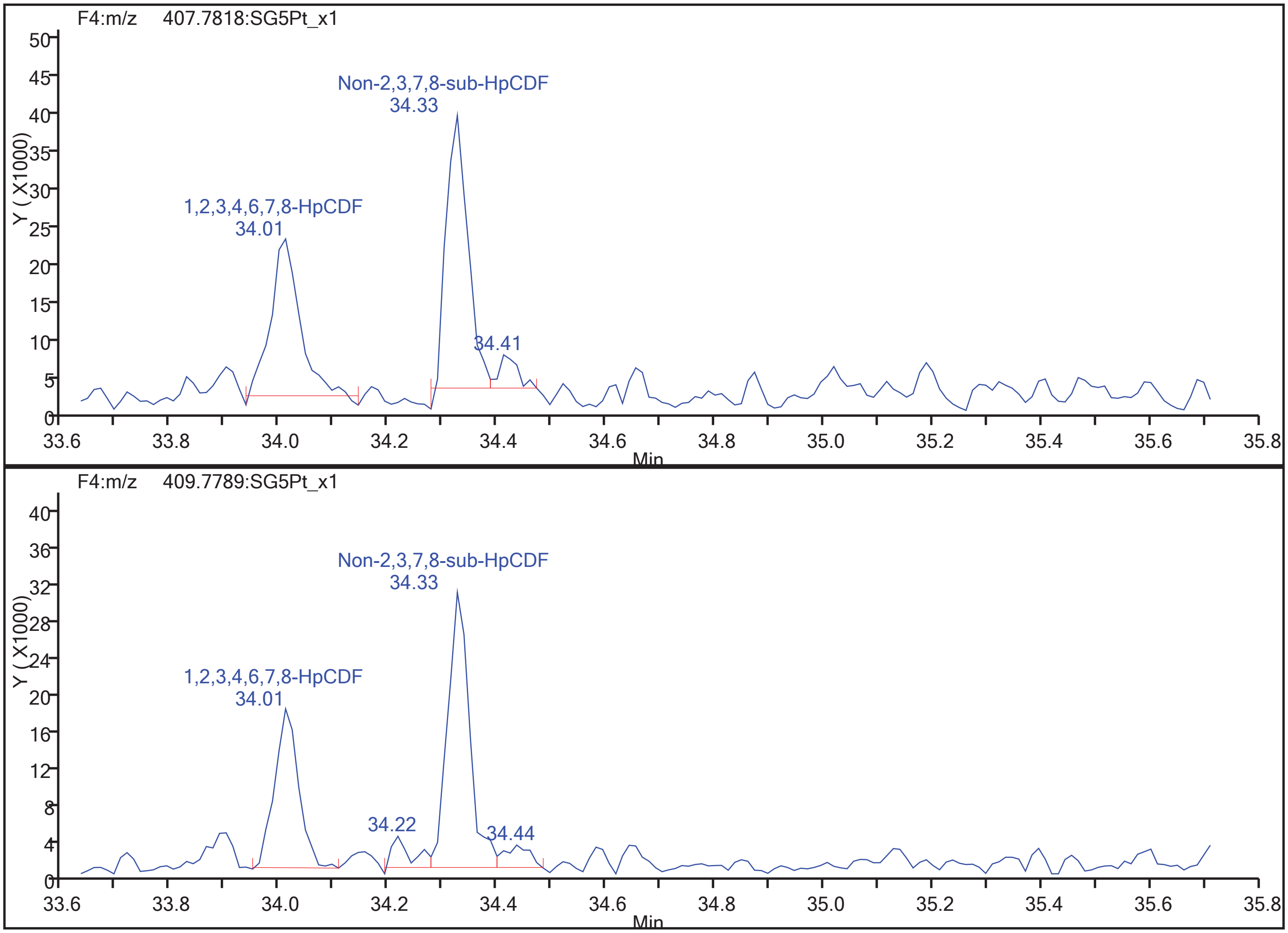
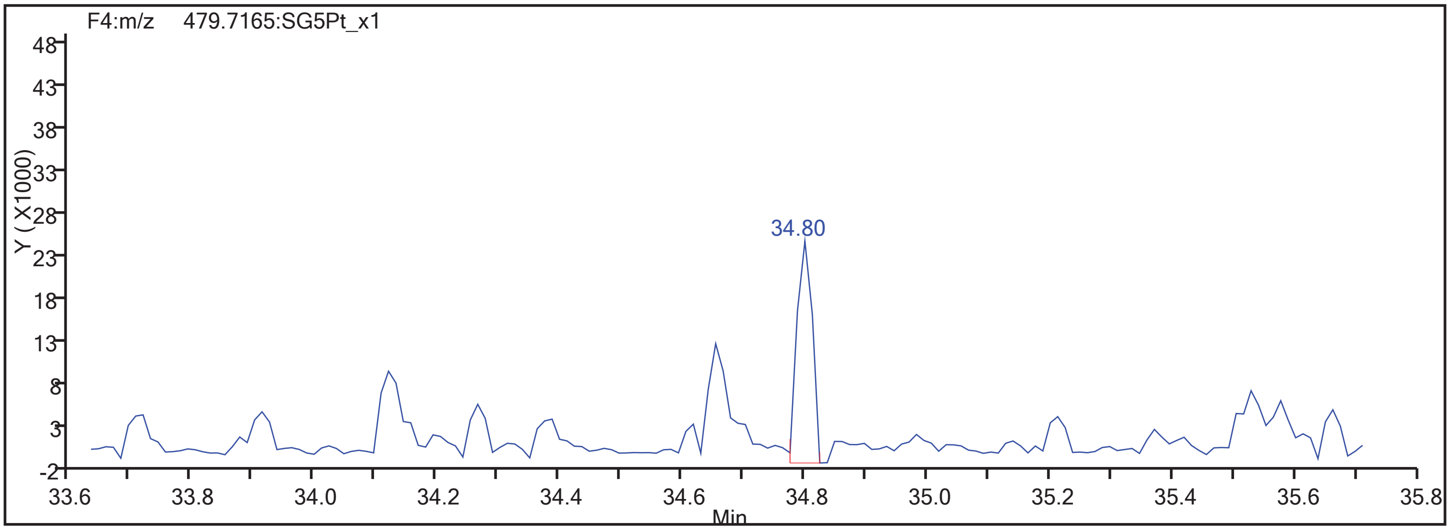


HpCDF Interference Mass



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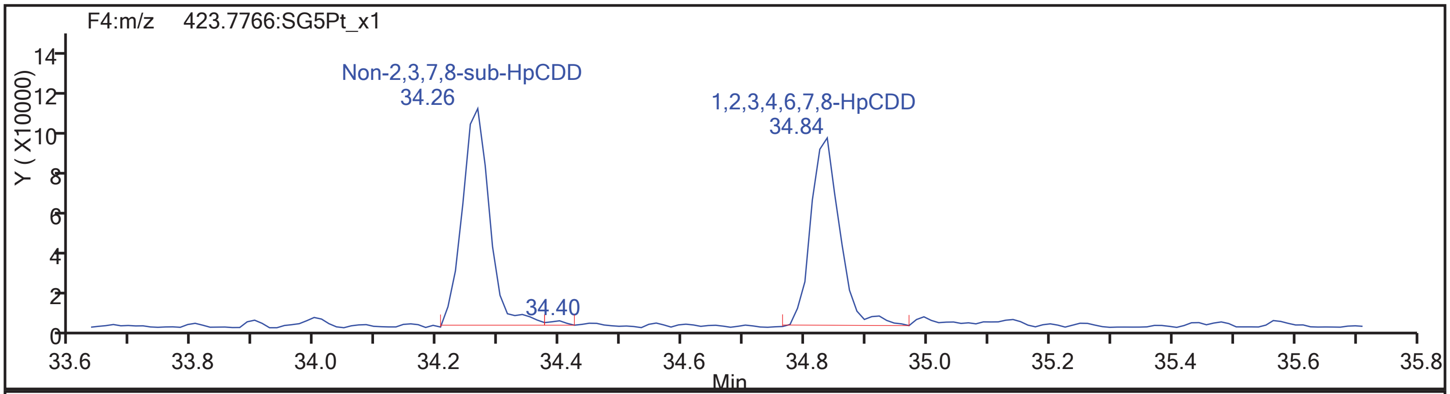

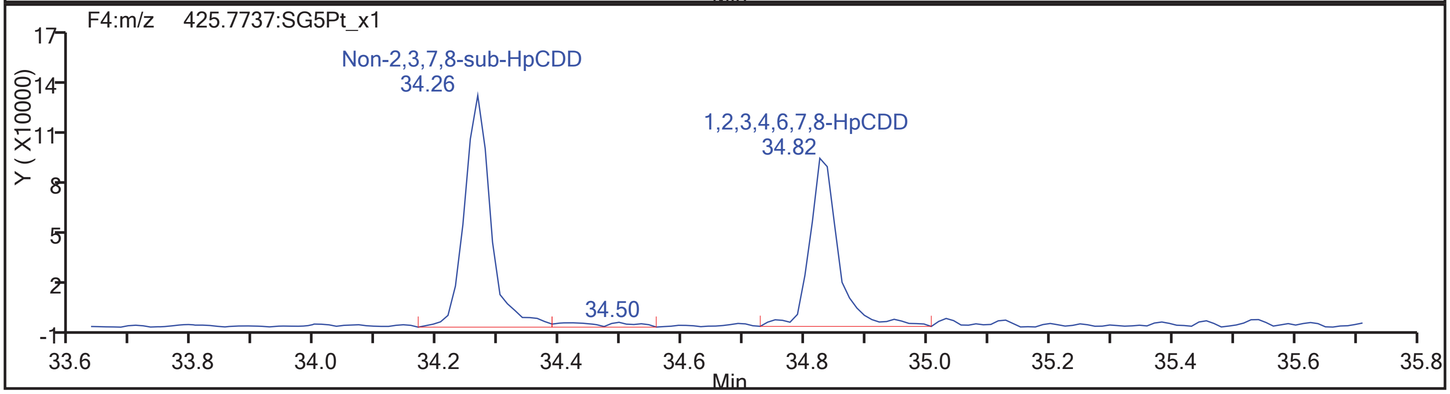

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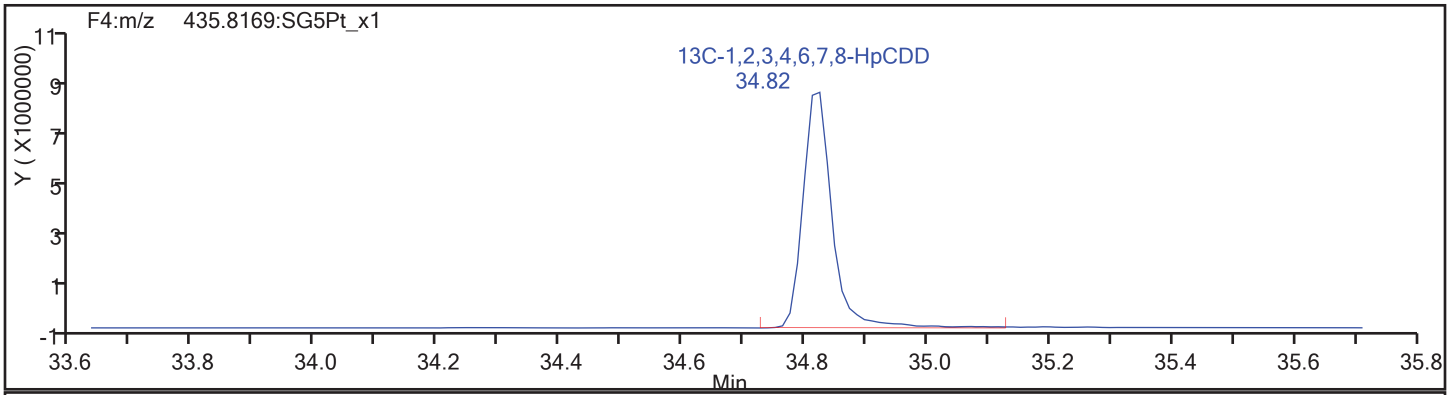
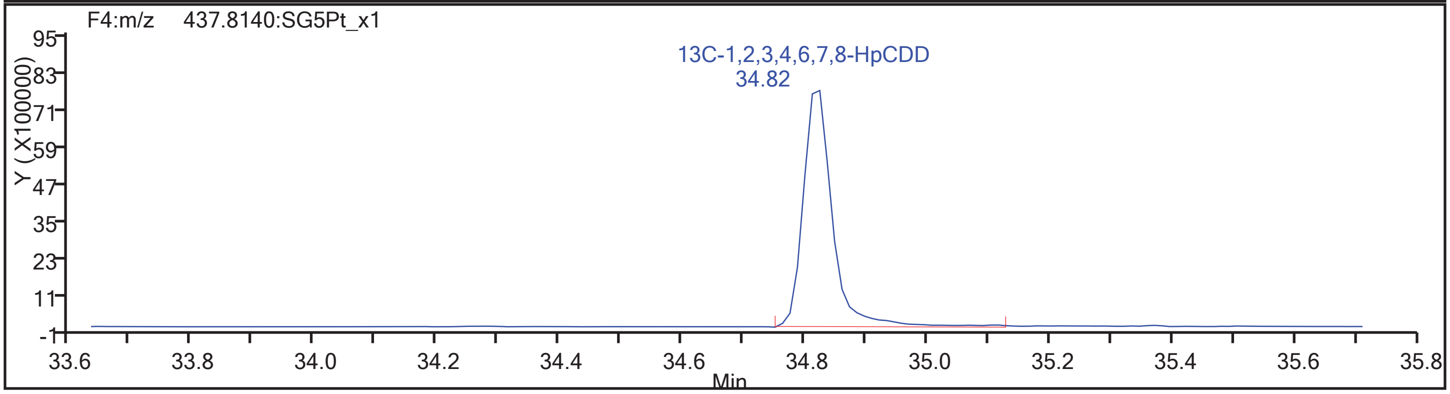


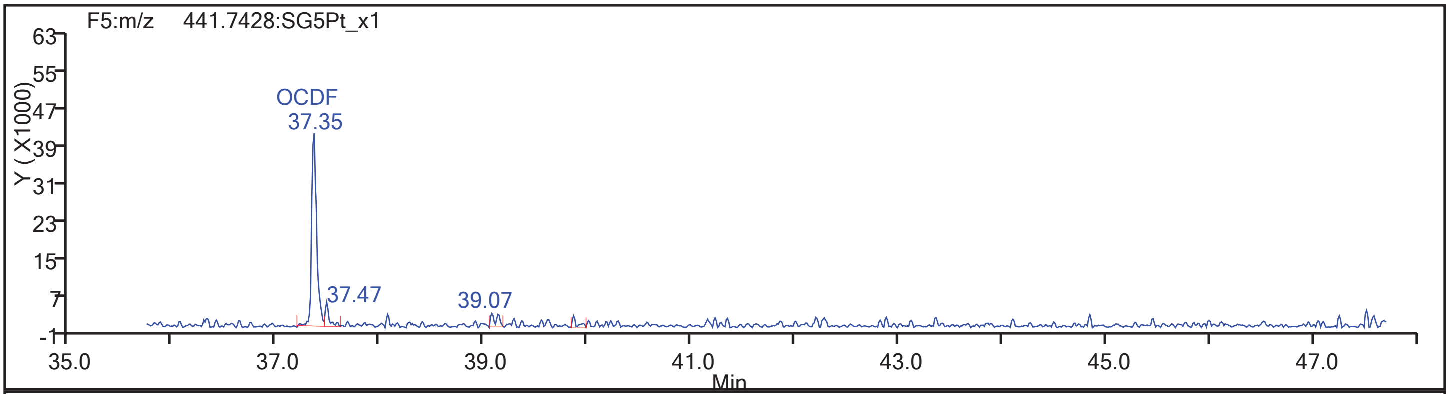


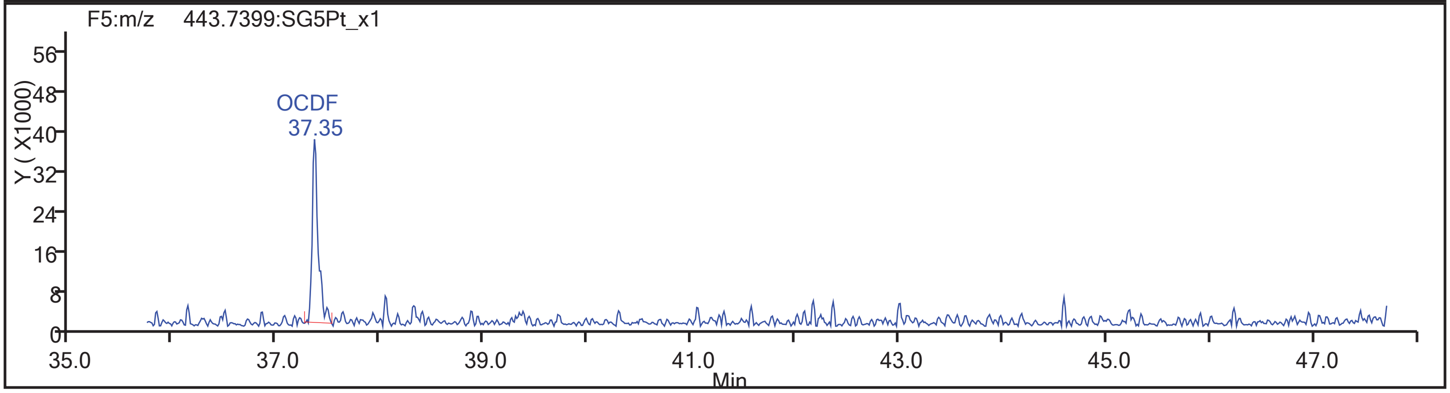
Report Date: 06-Dec-2017 15:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

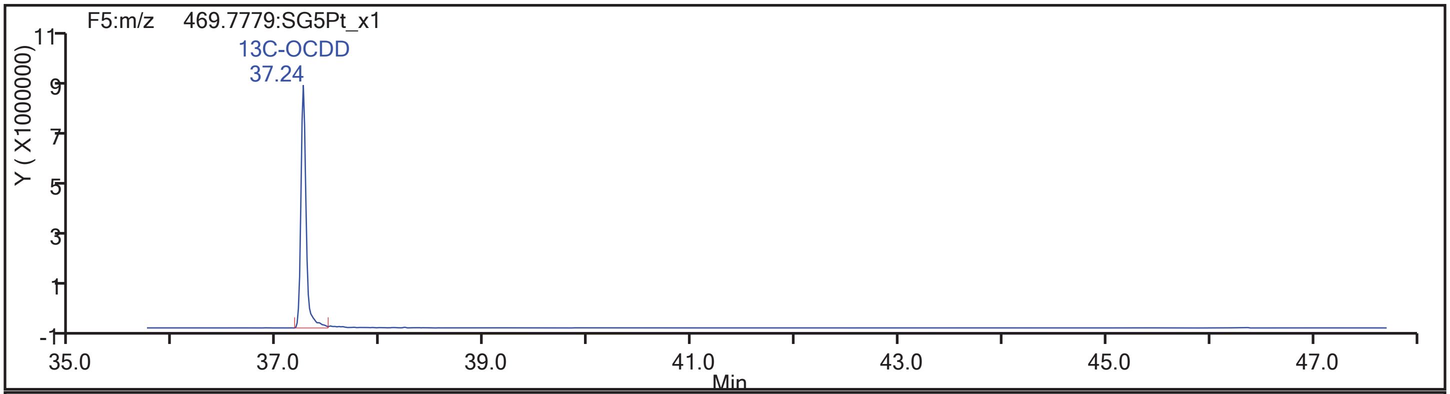
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d
Injection Date: 19-Nov-2017 17:29:32 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05NS
Worklist#: 195575 Sample Line#: 88
Column Type: Column Dia:

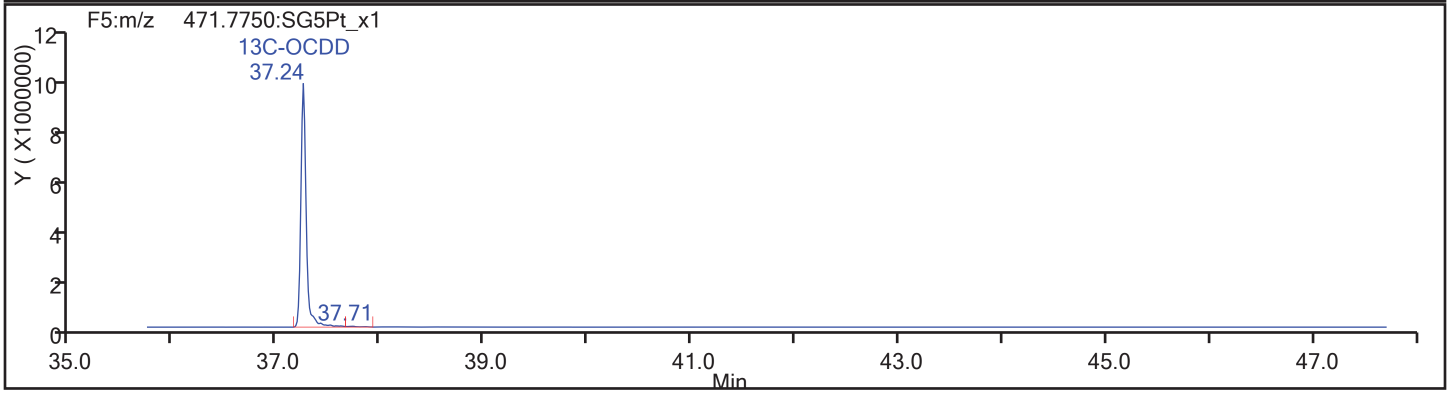
OCDF





OCDF Standards



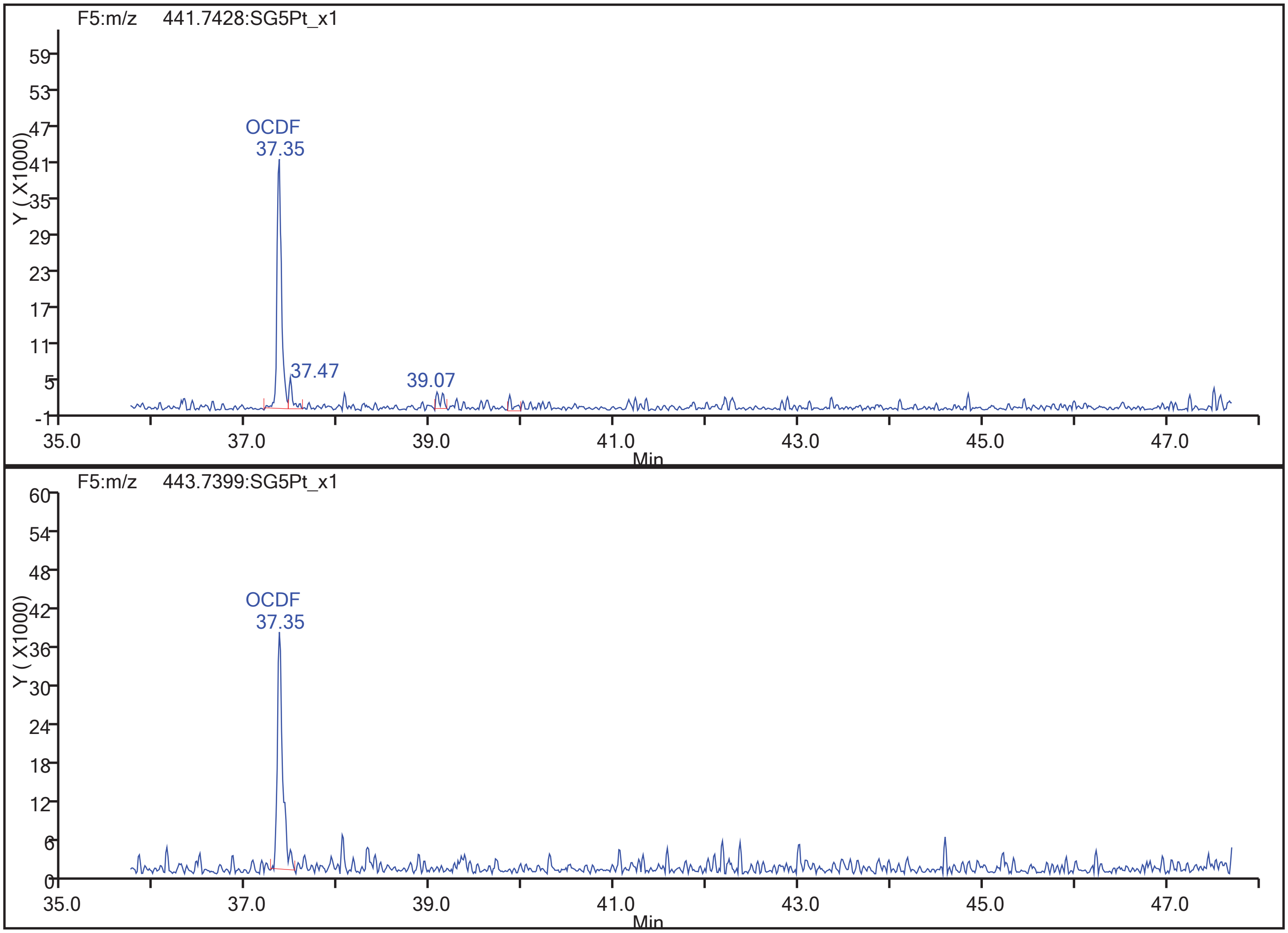


Report Date: 06-Dec-2017 15:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

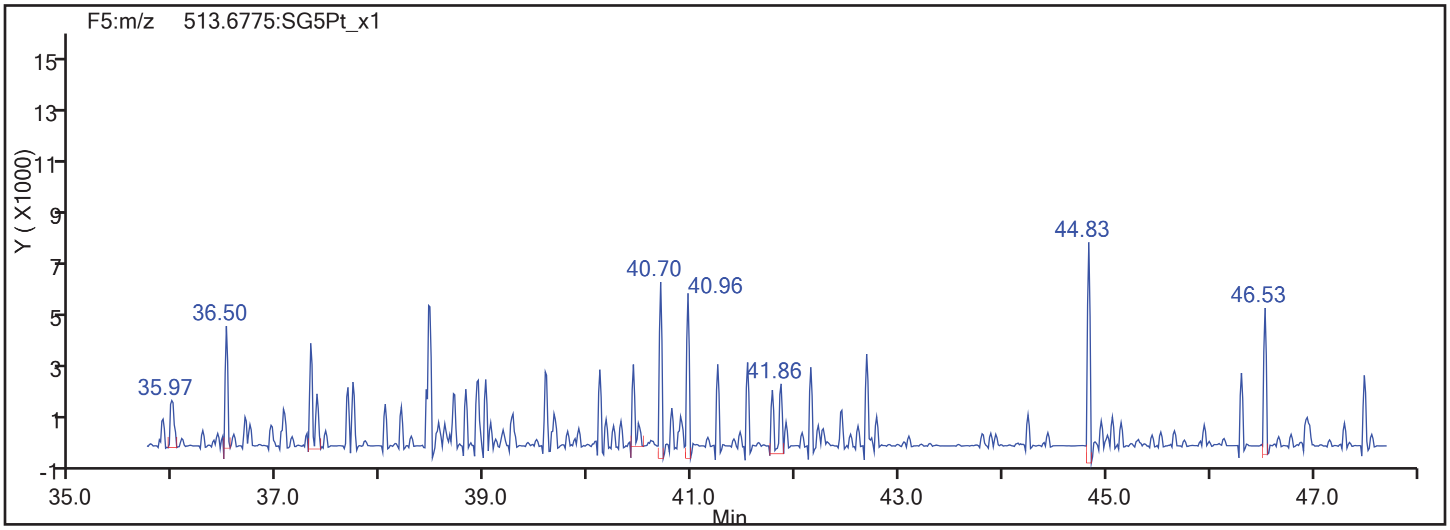
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d		
Injection Date:	19-Nov-2017 17:29:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	195575	Sample Line#:	88
Column Type:		Column Dia:	

OCDF



OCDF Interference Mass

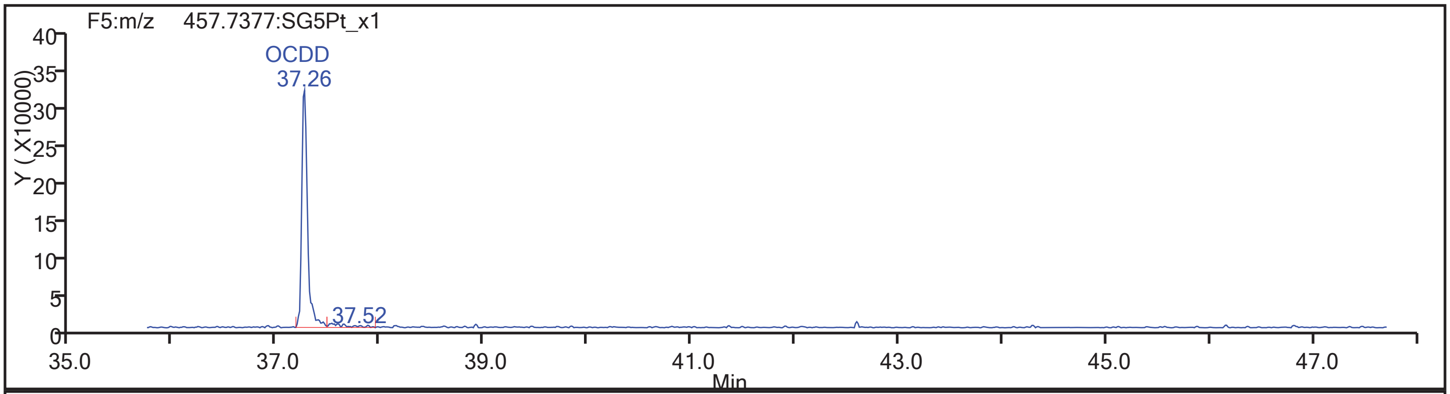


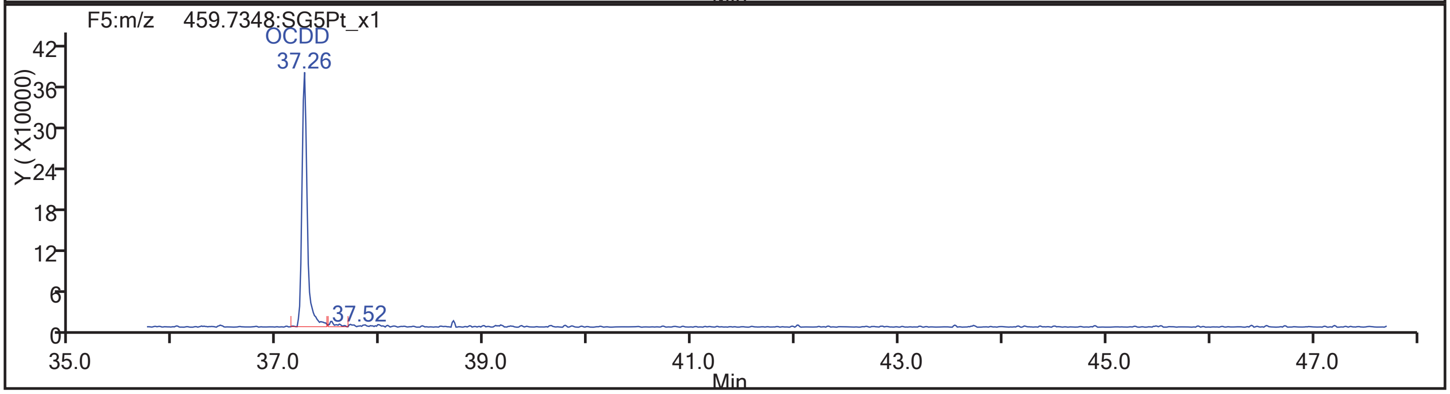
Report Date: 06-Dec-2017 15:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

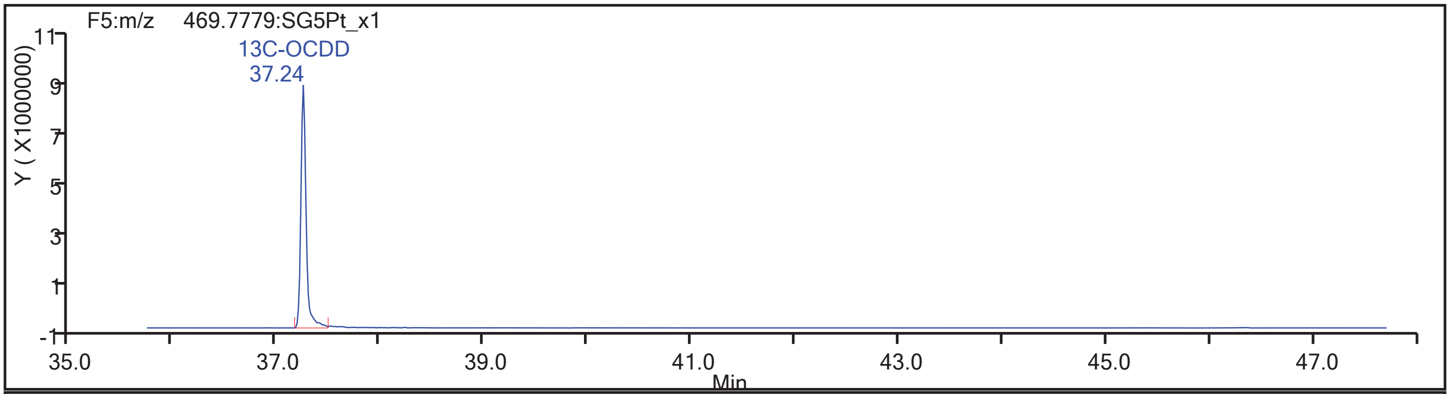
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d
Injection Date: 19-Nov-2017 17:29:32
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05NS
Worklist#: 195575
Sample Line#: 88
Column Type:
Column Dia:

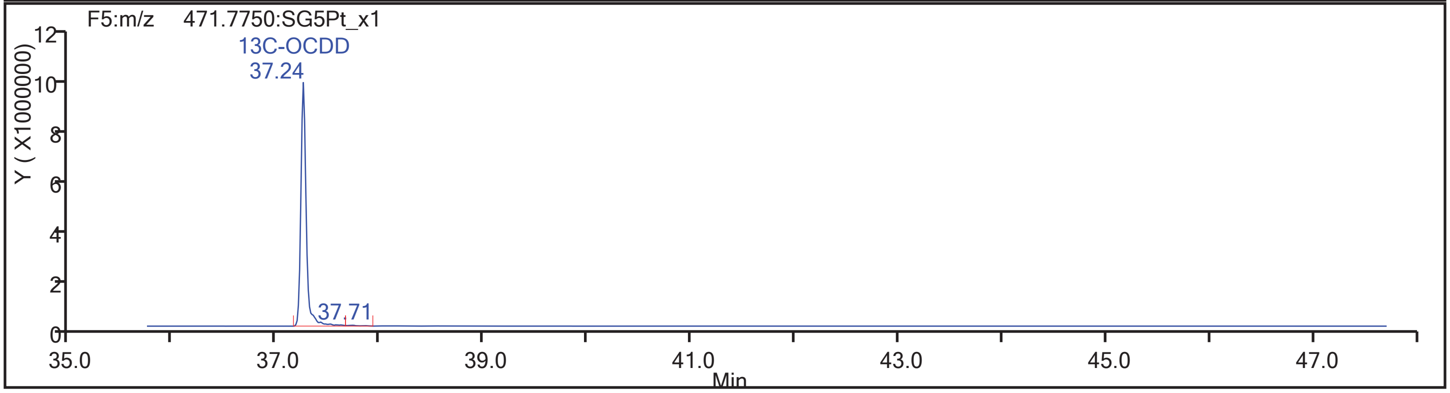
OCDD





OCDD Standards





Report Date: 06-Dec-2017 15:18:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d

Injection Date: 19-Nov-2017 17:29:32 Injection Vol: 2.0 ul

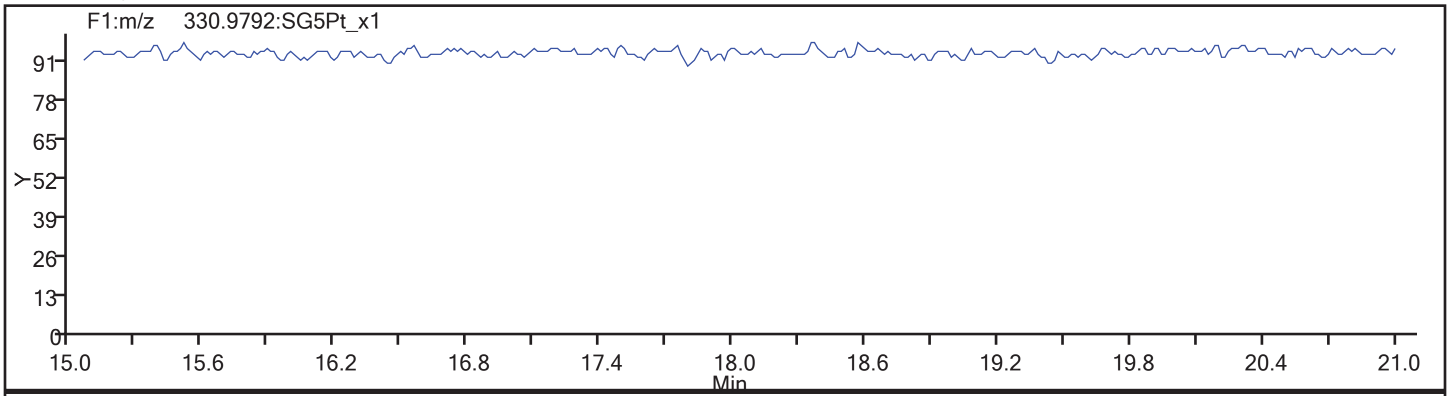
Instrument ID: 3D5 Operator ID: SMA, ALM

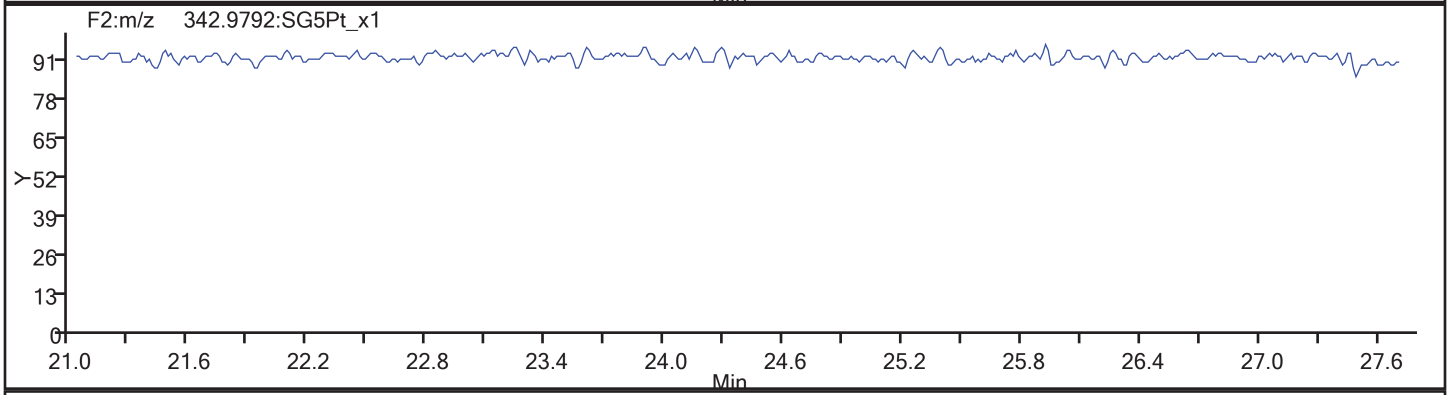
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

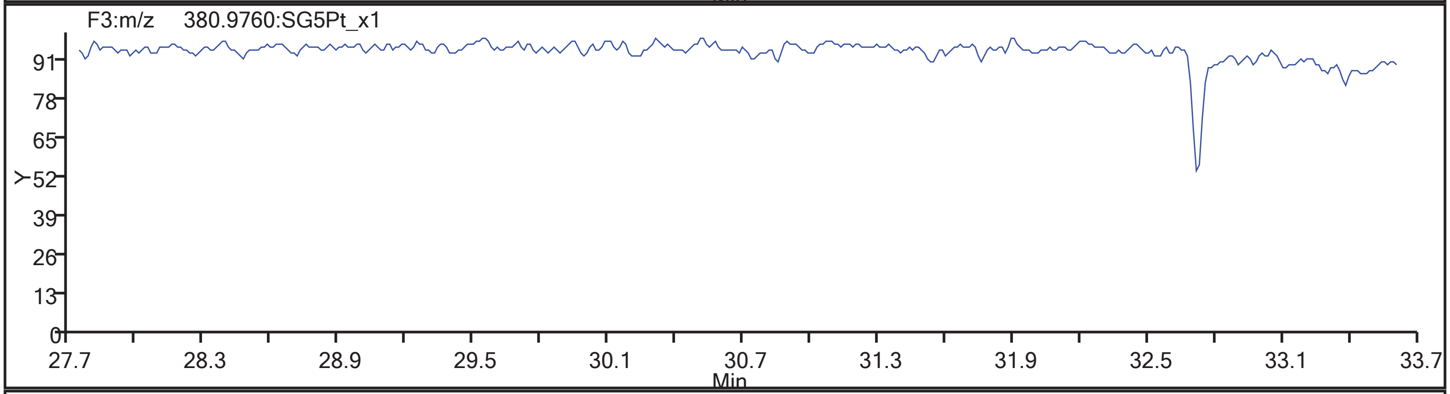
Client ID: SHAD041DP013SS05NS

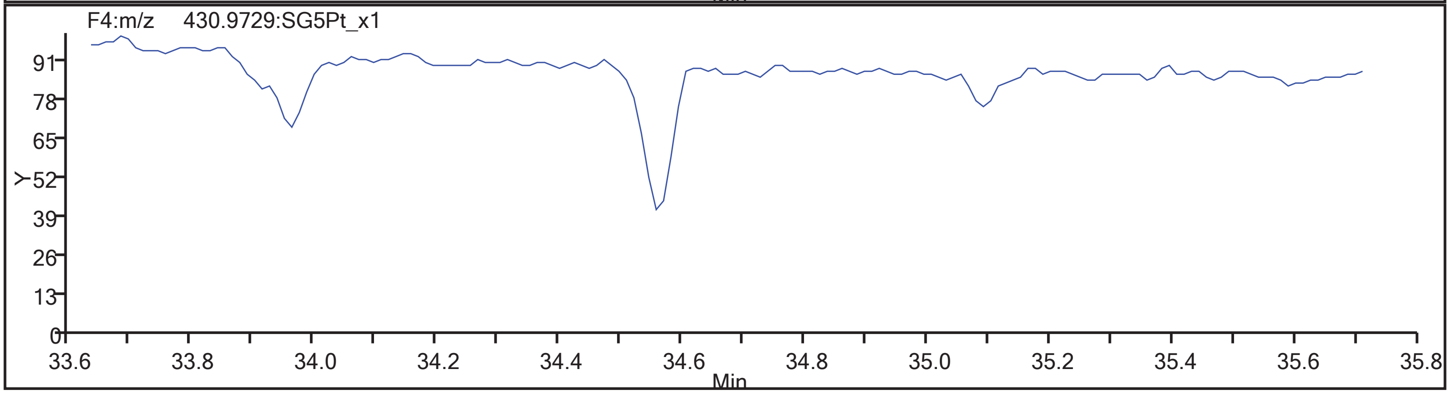
Worklist#: 195575 Sample Line#: 88

Column Type: Column Dia:



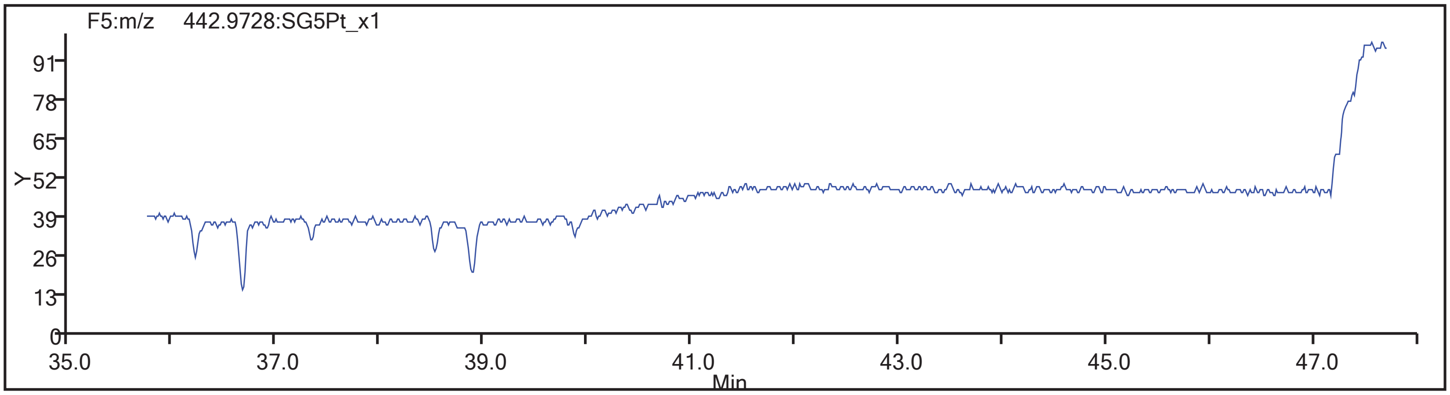






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_88.d		
Injection Date:	19-Nov-2017 17:29:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05NS		
Worklist#:	195575	Sample Line#:	88
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP013SS05DS	Lab Sample ID: 160-24924-18
Matrix: Solid	Lab File ID: 09NO1710D5_88.d
Analysis Method: 8290A	Date Collected: 10/05/2017 15:15
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.10(g)	Date Analyzed: 11/12/2017 06:09
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 19.8	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194086	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.49	U	1.2	0.49	0.094
51207-31-9	2,3,7,8-TCDF	0.49	U	1.2	0.49	0.053
40321-76-4	1,2,3,7,8-PeCDD	0.93	U	6.2	0.93	0.10
57117-41-6	1,2,3,7,8-PeCDF	0.93	U	6.2	0.93	0.087
57117-31-4	2,3,4,7,8-PeCDF	0.93	U	6.2	0.93	0.088
39227-28-6	1,2,3,4,7,8-HxCDD	0.21	J M	6.2	2.5	0.099
57653-85-7	1,2,3,6,7,8-HxCDD	0.10	J M	6.2	2.5	0.076
19408-74-3	1,2,3,7,8,9-HxCDD	0.22	J M	6.2	2.5	0.076
70648-26-9	1,2,3,4,7,8-HxCDF	0.93	U	6.2	0.93	0.073
57117-44-9	1,2,3,6,7,8-HxCDF	1.2	U	6.2	1.2	0.060
72918-21-9	1,2,3,7,8,9-HxCDF	1.2	U	6.2	1.2	0.072
60851-34-5	2,3,4,6,7,8-HxCDF	0.93	U	6.2	0.93	0.067
35822-46-9	1,2,3,4,6,7,8-HpCDD	1.3	J M	6.2	1.2	0.090
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.2	U	6.2	1.2	0.067
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.5	U	6.2	2.5	0.083
3268-87-9	OCDD	7.5	J B	12	4.9	0.12
39001-02-0	OCDF	0.27	J	12	4.9	0.16

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	47		40-135
89059-46-1	13C-2,3,7,8-TCDF	55		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	49		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	51		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	42		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	49		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	40		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	36	Q	40-135
114423-97-1	13C-OCDD	30	Q	40-135

Report Date: 13-Nov-2017 13:29:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d
Lims ID: 160-24924-G-18-A
Client ID: SHAD041DP013SS05DS
Sample Type: Client
Inject. Date: 12-Nov-2017 06:09:59 ALS Bottle#: 63 Worklist Smp#: 88
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-18-a 160-24924-g-18-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:29:26 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:29:26

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.884	92706937	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.385	64492122	0.77	1.2741	54.6	54.6	0.1843	0.1843	54.60	
2,3,7,8-TCDF	17.385						0.0216	0.0216		
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF							0.0216	0.0216		
D 13C-2,3,7,8-TCDD	18.080	42887013	0.76	0.9921	46.6	46.6	0.1955	0.1955	46.63	
2,3,7,8-TCDD	18.095						0.0381	0.0381		
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD							0.0381	0.0381		
D 13C-1,2,3,7,8-PeCDF	22.410	45883300	1.54	0.9696	51.0	51.0	0.1467	0.1467	51.04	
1,2,3,7,8-PeCDF	22.437						0.0351	0.0351		
2,3,4,7,8-PeCDF	23.787						0.0358	0.0358		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF							0.0358	0.0358		
D 13C-1,2,3,7,8-PeCDD	24.483	34562476	1.62	0.7588	49.1	49.1	0.0722	0.0722	49.13	
1,2,3,7,8-PeCDD	24.510						0.0408	0.0408		
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD							0.0408	0.0408		
D 13C-1,2,3,4,7,8-HxCDF	30.566	35661412	0.51	0.9644	49.0	49.0	0.3192	0.3192	48.98	
1,2,3,4,7,8-HxCDF	30.580						0.0295	0.0295		
1,2,3,6,7,8-HxCDF	30.753						0.0244	0.0244		
2,3,4,6,7,8-HxCDF	31.565						0.0272	0.0272		
D 13C-1,2,3,7,8,9-HxCDF	32.350	38508745	0.52							
1,2,3,7,8,9-HxCDF	32.350						0.0293	0.0293		
A Non-2,3,7,8-sub-HxCDF	30.254						0.0	0.0		
S Total HxCDF							0.0295	0.0295		
* 13C-1,2,3,7,8,9-HxCDD	32.164	75505765	1.24	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.751	22718	1.24	0.9505	0.1042	0.0848	0.0401	0.0401		RQM
D 13C-1,2,3,6,7,8-HxCDD	31.844	28202627	1.26	0.8791	42.5	42.5	0.2846	0.2846	42.49	
1,2,3,6,7,8-HxCDD	31.871	14625	1.24	1.2343	0.0482	0.0420	0.0309	0.0309		RQM

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.177	30728	1.24	1.2467	0.1024	0.0874	0.0306	0.0306		RQM
A Non-2,3,7,8-sub-HxCDD	30.893	126508	1.24	1.1438	0.4470	0.3922	0.0333	0.2918		RQ
S Total HxCDD					0.7018	0.6063	0.0339	0.0339		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.758	20839967	0.42	0.7618	36.2	36.2	0.5640	0.5640	36.23	
1,2,3,4,6,7,8-HpCDF	33.758						0.0271	0.0271		
1,2,3,4,7,8,9-HpCDF	34.839						0.0334	0.0334		
A Non-2,3,7,8-sub-HpCDF	34.305						0.0	0.0		
S Total HpCDF							0.0334	0.0334		
D 13C-1,2,3,4,6,7,8-HpCDD	34.548	23368208	1.06	0.7762	39.9	39.9	0.2398	0.2398	39.87	
1,2,3,4,6,7,8-HpCDD	34.548	126037	1.10	0.9932	0.5431	0.5431	0.0364	0.0364		M
A Non-2,3,7,8-sub-HpCDD	34.286	228020	1.10	0.9932	0.9825	0.9825	0.0364	0.9825		
S Total HpCDD					1.526	1.526	0.0364	0.0364		
D 13C-OCDD	36.882	28724507	0.86	0.6314	60.3	60.3	0.1497	0.1497	30.13	
OCDF	36.978	21076	0.89	1.3460	0.1707	0.1090	0.0635	0.0635		RQ
OCDD	36.882	460187	0.84	1.0604	3.022	3.022	0.0505	0.0505		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Report Date: 13-Nov-2017 13:29:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d
Lims ID: 160-24924-G-18-A
Client ID: SHAD041DP013SS05DS
Sample Type: Client
Inject. Date: 12-Nov-2017 06:09:59 ALS Bottle#: 63 Worklist Smp#: 88
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-18-a 160-24924-g-18-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:29:26 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:29:26

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.884	17.884	0		40610977	9974135	10294	25735	969		
333.9339	17.884	17.884	0		52095960	12905152	7455	18637	1731	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.385	17.370	1	0.972	28116033	6701335	12623	31557	531		
317.9389	17.385	17.370	1	0.972	36376089	8740018	8868	22170	986	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.385						511	1277			
305.8987	17.385						1005	2512			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						511	1277			
305.8987	17.105						1005	2512			
13C-2,3,7,8-TCDD											
331.9368	18.080	18.080	0	1.011	18541897	4169494	10294	25735	405		
333.9339	18.080	18.080	0	1.011	24345116	5490731	7455	18637	737	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.095						941	2352			
321.8936	18.095						529	1322			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						941	2352			
321.8936	17.559						529	1322			
13C-1,2,3,7,8-PeCDF											
351.9000	22.410	22.410	0	1.253	27824107	4865477	7568	18920	643		
353.8970	22.410	22.410	0	1.253	18059193	3147851	5447	13617	578	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.437						314	785			
341.8567	22.437						995	2487			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	23.787						314	785			
341.8567	23.787						995	2487			
A F1 PeCDFs											
339.8597	20.001						270	675			
341.8567	20.001						884	2210			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						314	785			
341.8567	23.161						995	2487			
13C-1,2,3,7,8-PeCDD											
367.8949	24.483	24.483	0	1.369	21348363	3285830	2516	6290	1306		
369.8919	24.483	24.483	0	1.369	13214113	2006998	2498	6245	803	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.510						603	1507			
357.8516	24.510						217	542			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						603	1507			
357.8516	23.419						217	542			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.566	30.553	1	0.950	12037406	2307603	8367	20917	276		
385.8610	30.566	30.553	1	0.950	23624006	4449945	15167	37917	293	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.580						727	1817			
375.8178	30.580						391	977			
1,2,3,6,7,8-HxCDF											
373.8208	30.753						727	1817			
375.8178	30.753						391	977			
2,3,4,6,7,8-HxCDF											
373.8208	31.565						727	1817			
375.8178	31.565						391	977			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.350	32.337	1	1.006	13161609	3215539	8367	20917	384		
385.8610	32.350	32.337	1	1.006	25347136	6143540	15167	37917	405	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.350						727	1817			
375.8178	32.350						391	977			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.254						727	1817			
375.8178	30.254						391	977			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.164	32.164	0		41735634	10455788	9669	24172	1081		
403.8529	32.164	32.164	0		33770131	8659715	9459	23647	916	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8157	31.751	31.751	0	0.997	17793	5722	554	1385	10		M
	Empc Correction				12576	3995	554	1385	7		
391.8127	31.751	31.751	0	0.997	10142	3222	499	1247	6	1.75(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.844	31.831	1	0.990	15729578	3837675	9669	24172	397		
403.8529	31.844	31.831	1	0.990	12473049	3064639	9459	23647	324	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQM
389.8157	31.871	31.844	2	1.001	8096	2521	554	1385	5		M
391.8127	31.858	31.844	1	1.000	8671	2787	499	1247	6	0.93(1.05-1.43)	
	Empc Correction				6529	2033	499	1247	4		
1,2,3,7,8,9-HxCDD											RQM
389.8157	32.177	32.177	0	1.010	22302	5856	554	1385	11		M
	Empc Correction				17010	4460	554	1385	8		
391.8127	32.177	32.177	0	1.010	13718	3597	499	1247	7	1.63(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	29.608	30.893	-77	0.930	69810	8349	554	1385	15		
	Empc Correction				52114	7635	554	1385	14		
391.8127	29.635	30.893	-75	0.931	42028	6158	499	1247	12	1.66(1.05-1.43)	
389.8157	31.006	30.893	7	0.974	16918	3562	554	1385	6		
391.8127	31.006	30.893	7	0.974	15448	3346	499	1247	7	1.10(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.758	33.746	1	1.050	6204652	1959371	11675	29187	168		
419.8220	33.758	33.746	1	1.050	14635315	4519159	21180	52950	213	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.758						814	2035			
409.7789	33.758						339	847			
1,2,3,4,7,8,9-HpCDF											
407.7818	34.839						814	2035			
409.7789	34.839						339	847			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.305						814	2035			
409.7789	34.305						339	847			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.548	34.535	1	1.074	12016639	3454301	8224	20560	420		
437.8140	34.548	34.535	1	1.074	11351569	3168578	6007	15017	527	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.548	34.548	0	1.000	66054	17626	498	1245	35		M
425.7737	34.560	34.548	1	1.000	59983	15346	460	1150	33	1.10(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.013	34.286	-16	0.985	119663	32031	498	1245	64		
425.7737	34.001	34.286	-17	0.984	108357	31270	460	1150	68	1.10(0.88-1.20)	
13C-OCDD											
469.7779	36.882	36.870	1	1.147	13301447	2929264	3852	9630	760		
471.7750	36.882	36.870	1	1.147	15423060	3566511	3377	8442	1056	0.86(0.76-1.02)	
OCDF											RQ
441.7428	36.978	36.978	0	1.003	9925	2843	327	817	9		
443.7399	36.966	36.978	-1	1.002	23073	5474	783	1957	7	0.43(0.76-1.02)	
	Empc Correction				11151	3194	783	1957	4		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	36.882	36.882	0	1.000	210564	46962	356	890	132		
459.7348	36.882	36.882	0	1.000	249623	63316	340	850	186	0.84(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d		
Lims ID:	160-24924-G-18-A		
Client ID:	SHAD041DP013SS05DS		
Inject. Date:	12-Nov-2017 06:09:59	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	88

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	28202627	6902314
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	28202627	6902314

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.608	69810	8349	42028	6158	0.3467	1.66	RQ
29.608	52114	7635	42028	6158	0.2918		Empc Correction
31.006	16918	3562	15448	3346	0.1003	1.10	
Signal Totals:							
	69032	11197	57476	9504			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	144204	21415				1.51	RQ
	126508	20701					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4470 = (144204 * 100.000) / (28202627 * 1.144)
Empc Amount: 0.3922 = (126508 * 100.000) / (28202627 * 1.144)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d		
Lims ID:	160-24924-G-18-A		
Client ID:	SHAD041DP013SS05DS		
Inject. Date:	12-Nov-2017 06:09:59	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	88

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF   IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	23368208	6622879

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	23368208	6622879

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.013	119663	32031	108357	31270	0.9825	1.10	
Signal Totals:							
	119663	32031	108357	31270			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	228020	63301				1.10	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.9825 = (228020 * 100.000) / (23368208 * 0.993)

TestAmerica Sacramento

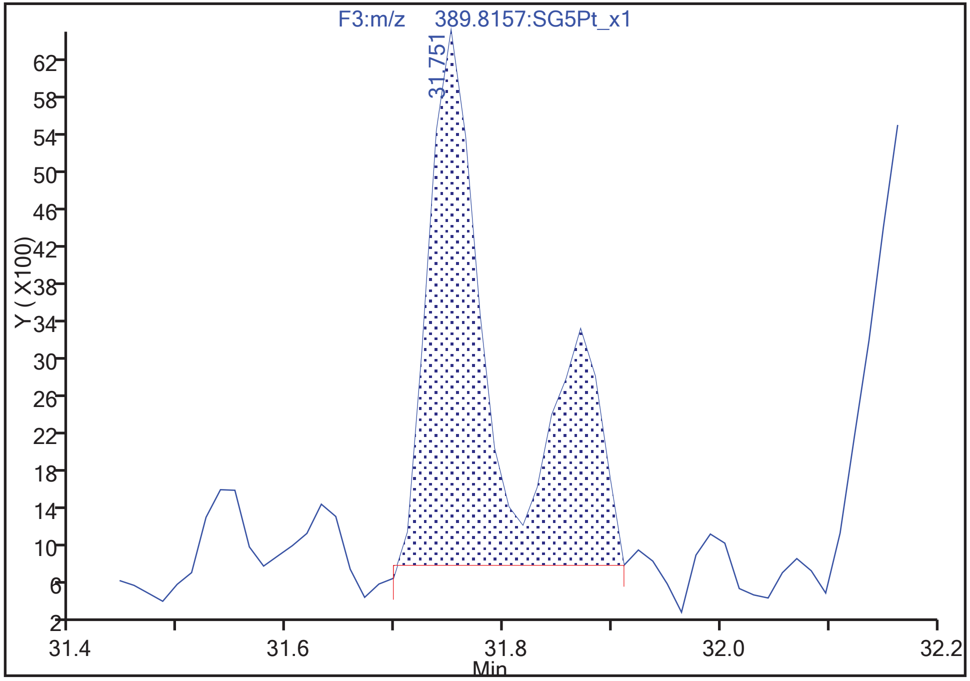
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d				
Injection Date:	12-Nov-2017 06:09:59	Instrument ID:	10D5		
Lims ID:	160-24924-G-18-A	Lab Sample ID:	320-24924-18		
Client ID:	SHAD041DP013SS05DS				
Operator ID:	AJS	ALS Bottle#:	63	Worklist Smp#:	88
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

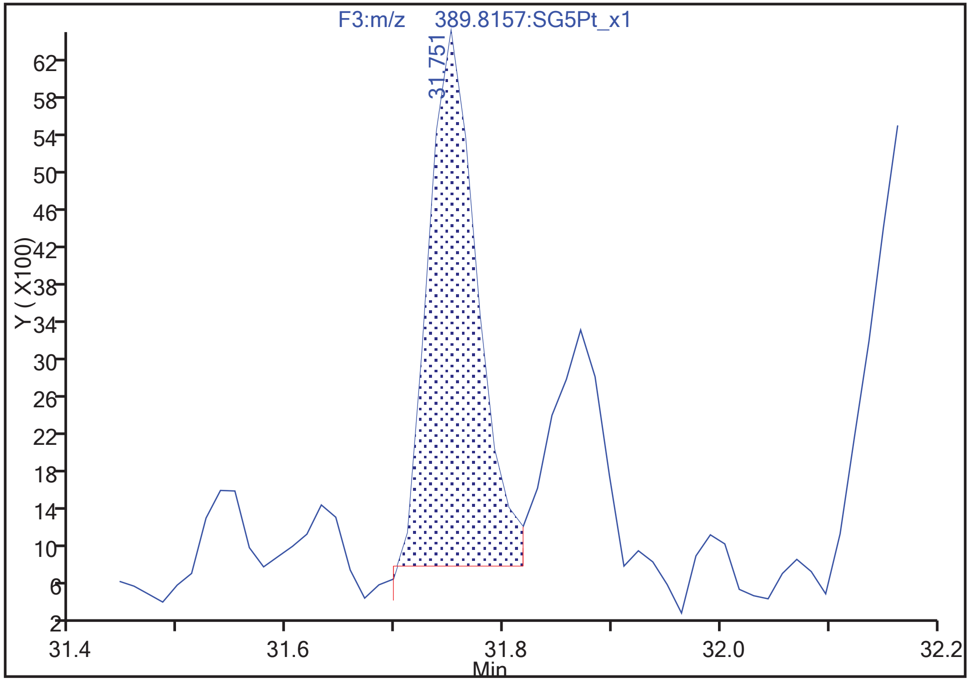
Processing Integration Results

RT:	31.75
Area:	25890
Amount:	0.134420
Amount Units:	pg/ul



Manual Integration Results

RT:	31.75
Area:	17793
Amount:	0.104214
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 13:28:14

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 13:29:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d

Injection Date: 12-Nov-2017 06:09:59 Instrument ID: 10D5

Lims ID: 160-24924-G-18-A Lab Sample ID: 320-24924-18

Client ID: SHAD041DP013SS05DS

Operator ID: AJS ALS Bottle#: 63 Worklist Smp#: 88

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Column: DB-5 (0.32 mm) Detector F3:HRSIR

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

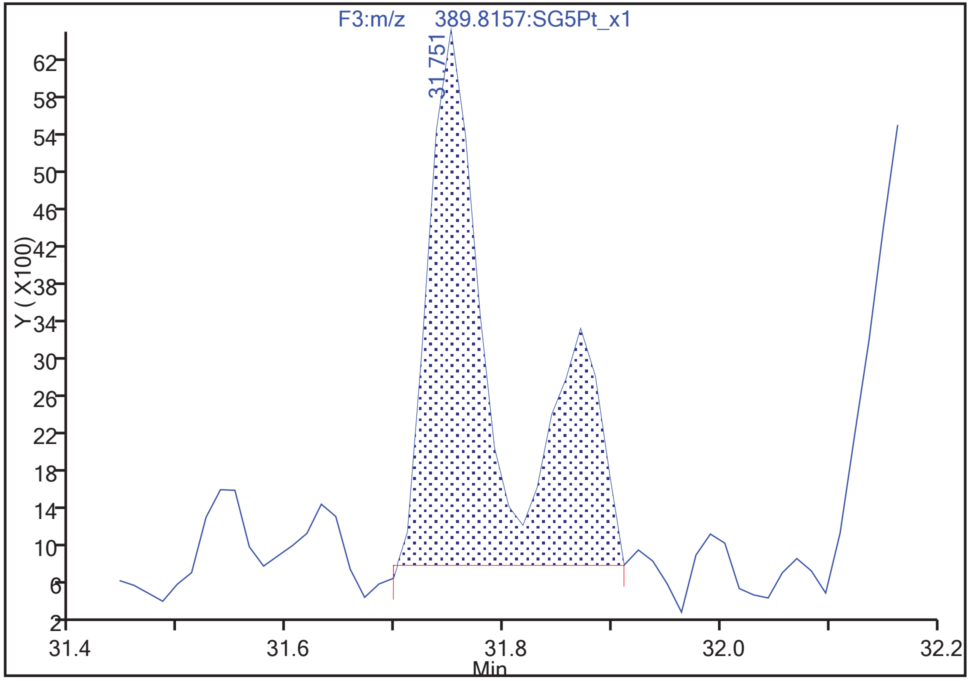
RT: 31.75

Area: 25890

Amount: 0.103507

Amount Units: pg/ul

Processing Integration Results



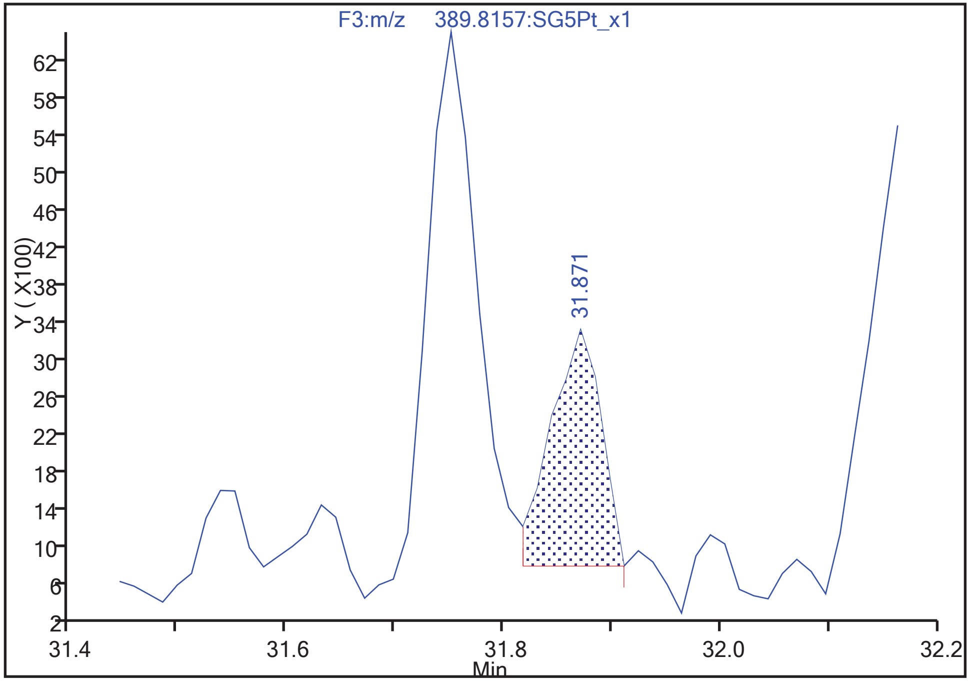
RT: 31.87

Area: 8096

Amount: 0.048166

Amount Units: pg/ul

Manual Integration Results



Reviewer: dadunj, 13-Nov-2017 13:28:22

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

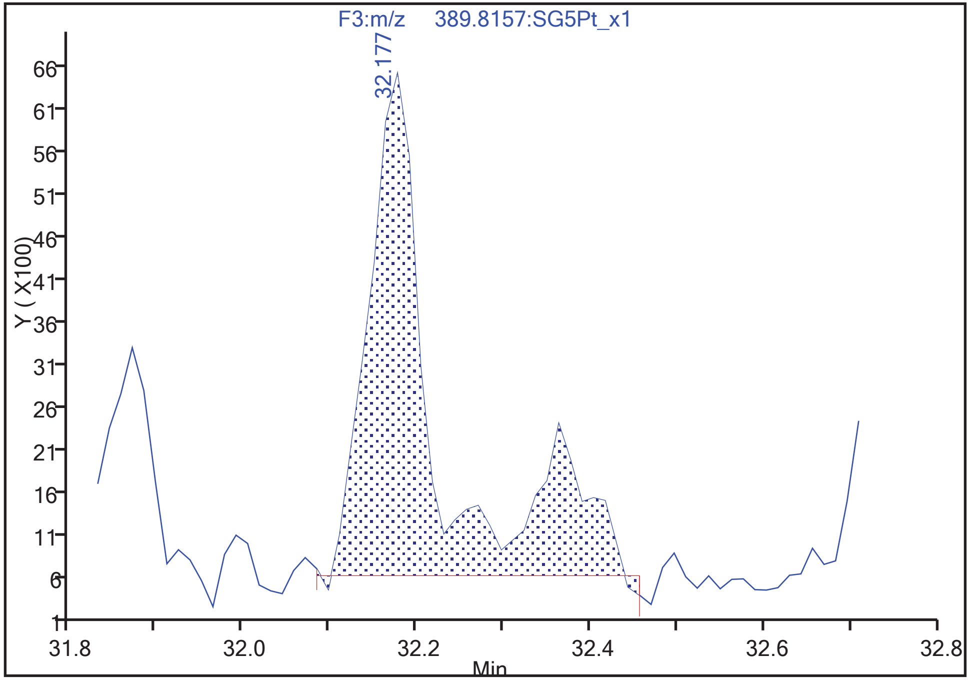
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d				
Injection Date:	12-Nov-2017 06:09:59	Instrument ID:	10D5		
Lims ID:	160-24924-G-18-A	Lab Sample ID:	320-24924-18		
Client ID:	SHAD041DP013SS05DS				
Operator ID:	AJS	ALS Bottle#:	63	Worklist Smp#:	88
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

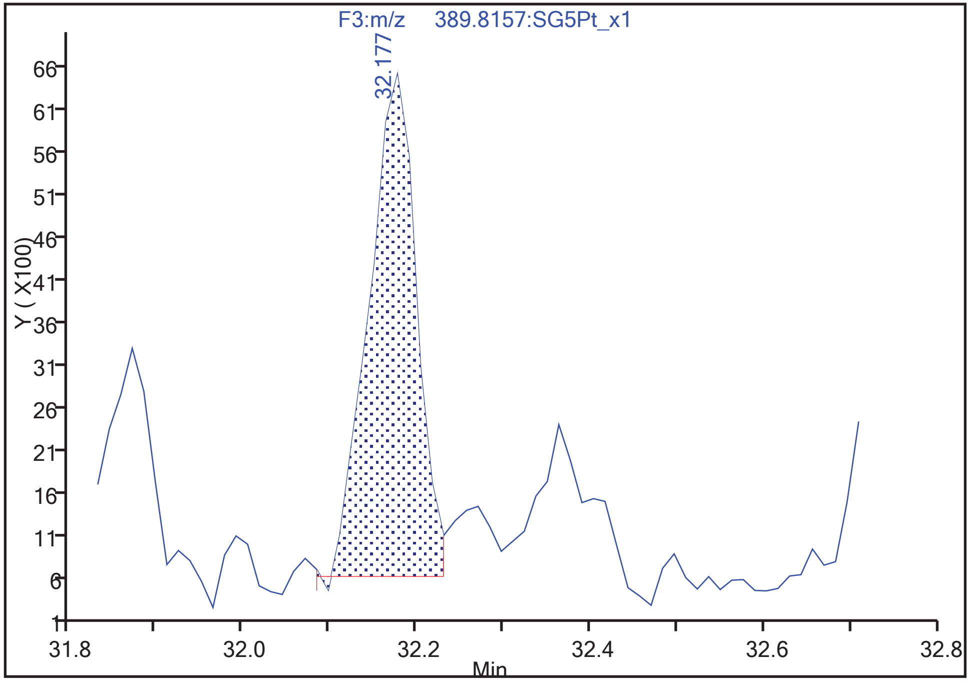
Processing Integration Results

RT:	32.18
Area:	32070
Amount:	0.130228
Amount Units:	pg/ul



Manual Integration Results

RT:	32.18
Area:	22302
Amount:	0.102446
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 13:28:32

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

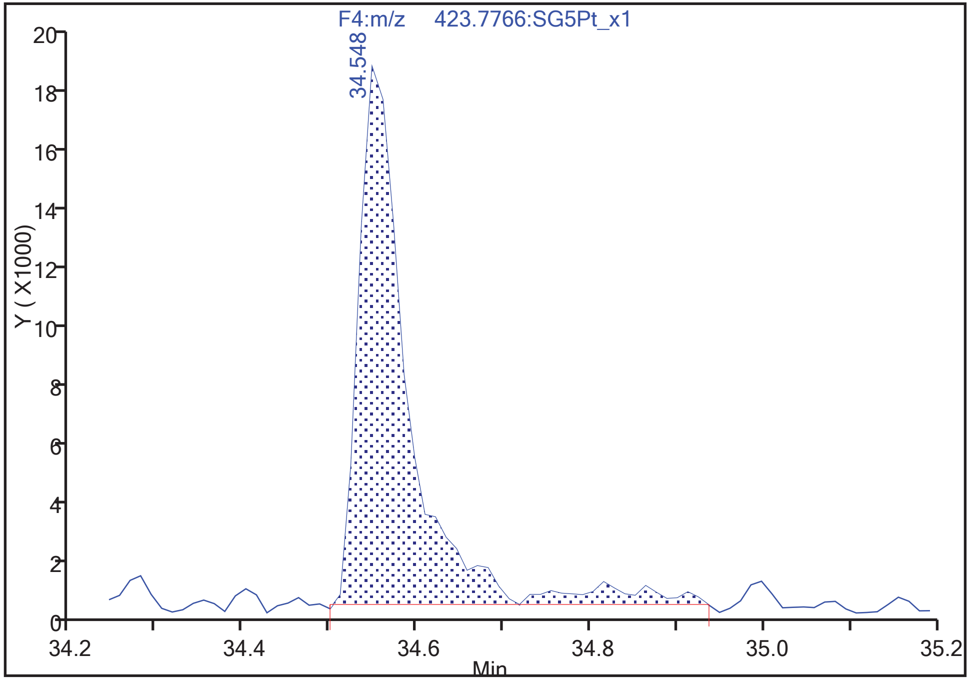
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d				
Injection Date:	12-Nov-2017 06:09:59	Instrument ID:	10D5		
Lims ID:	160-24924-G-18-A	Lab Sample ID:	320-24924-18		
Client ID:	SHAD041DP013SS05DS				
Operator ID:	AJS	ALS Bottle#:	63	Worklist Smp#:	88
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

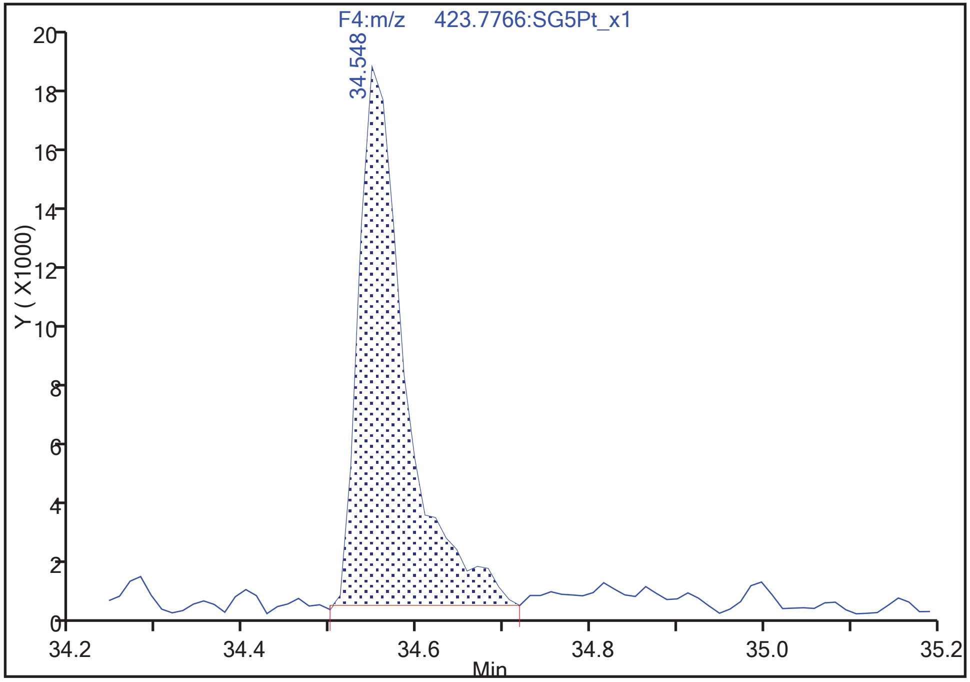
Processing Integration Results

RT:	34.55
Area:	70756
Amount:	0.563315
Amount Units:	pg/ul



Manual Integration Results

RT:	34.55
Area:	66054
Amount:	0.543056
Amount Units:	pg/ul



Reviewer: dadunj, 13-Nov-2017 13:28:48

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 13-Nov-2017 13:29:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d

Injection Date: 12-Nov-2017 06:09:59

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS05DS

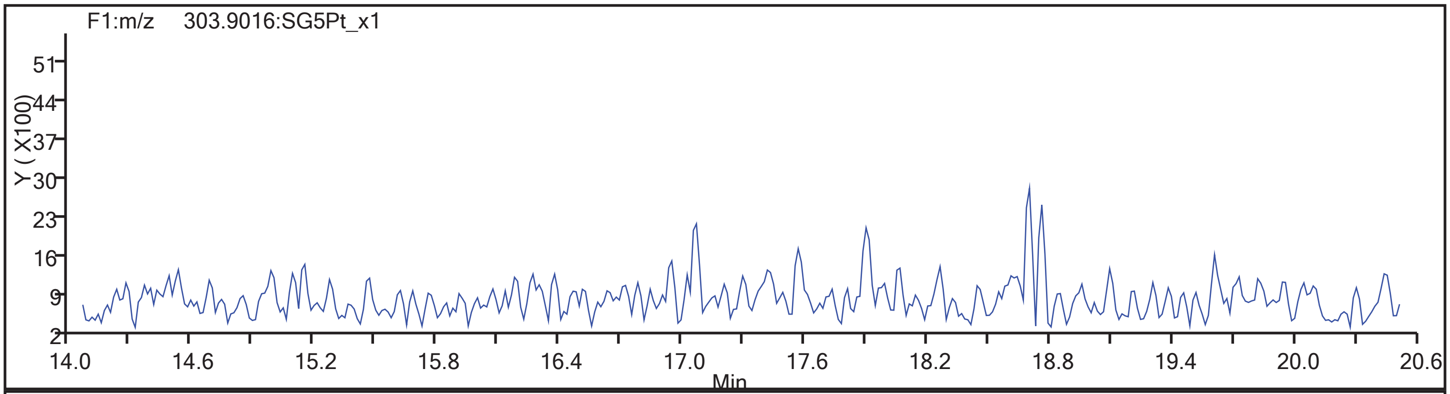
Worklist#: 194086

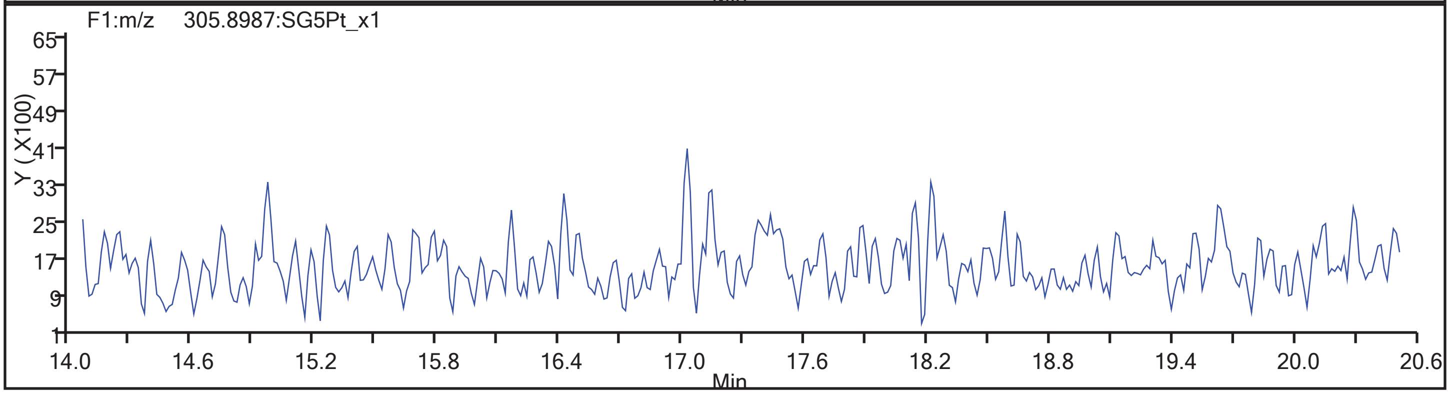
Sample Line#: 88

Column Type: DB-5

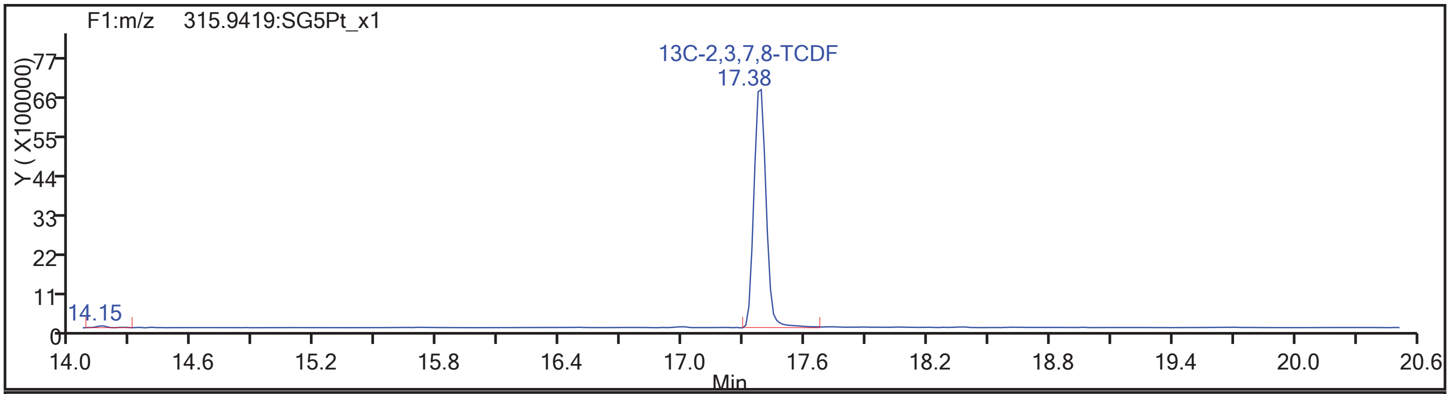
Column Dia: 0.32 mm

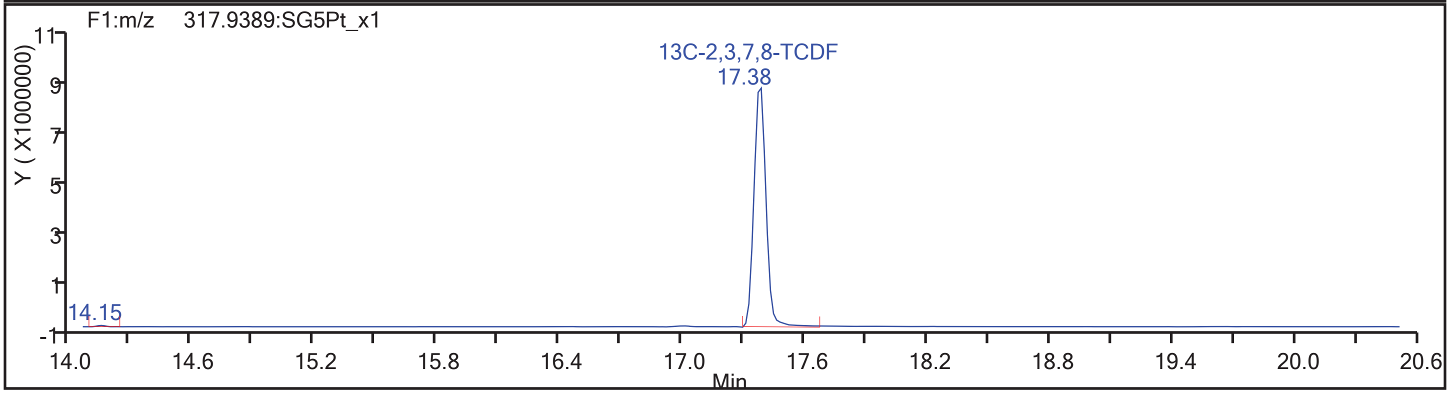
TCDF





TCDF Standards



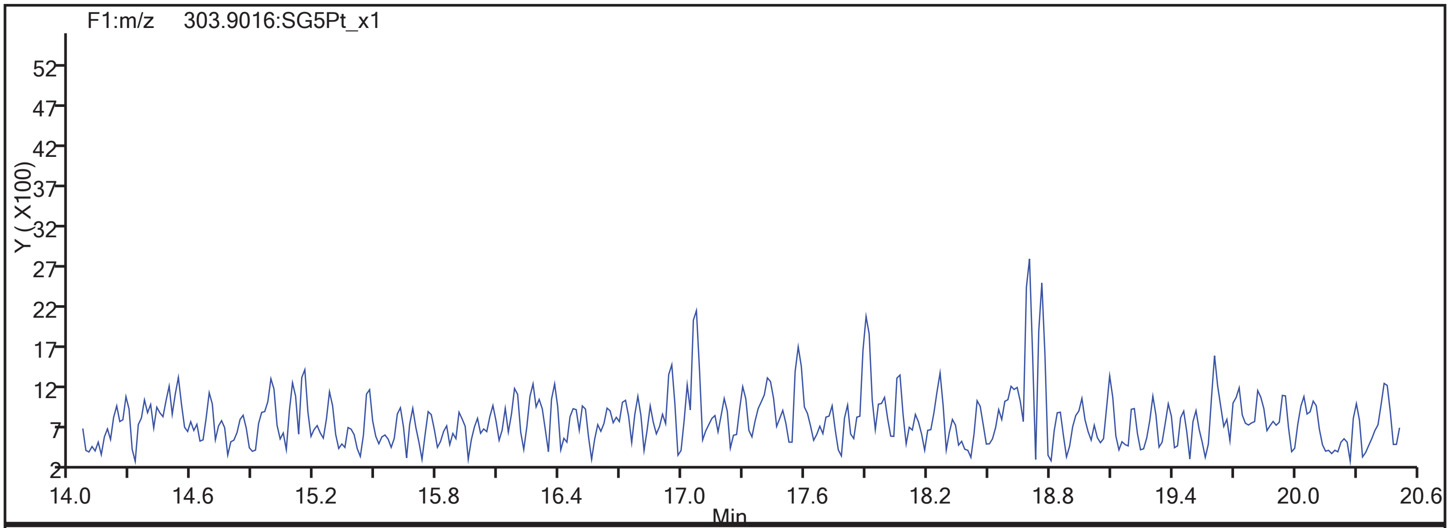


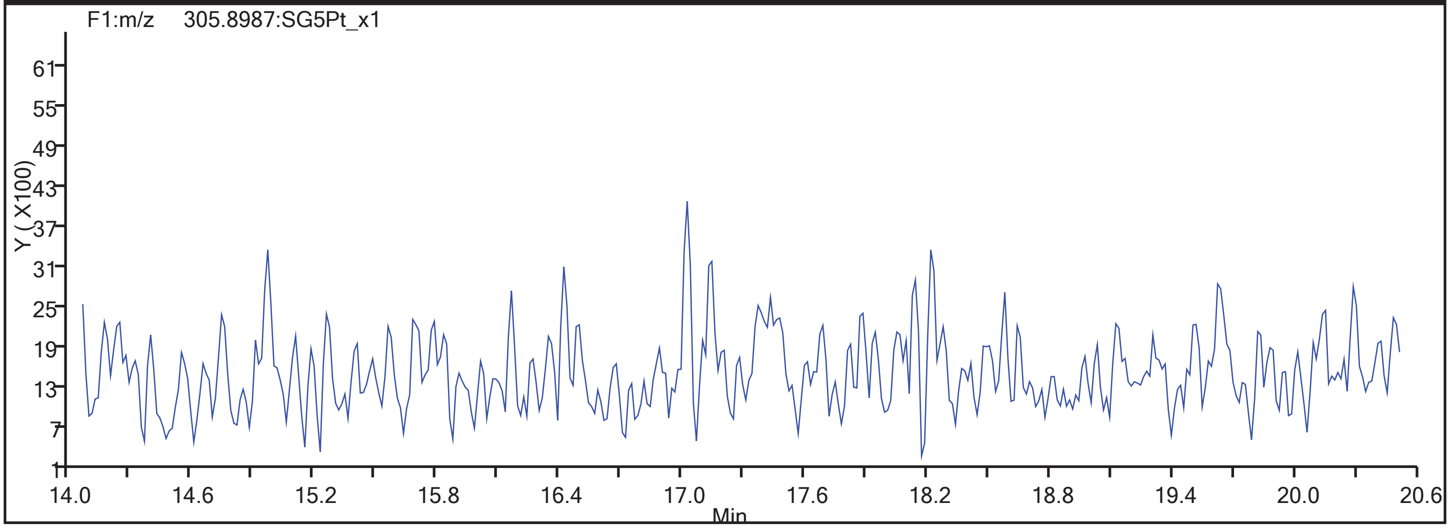
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d

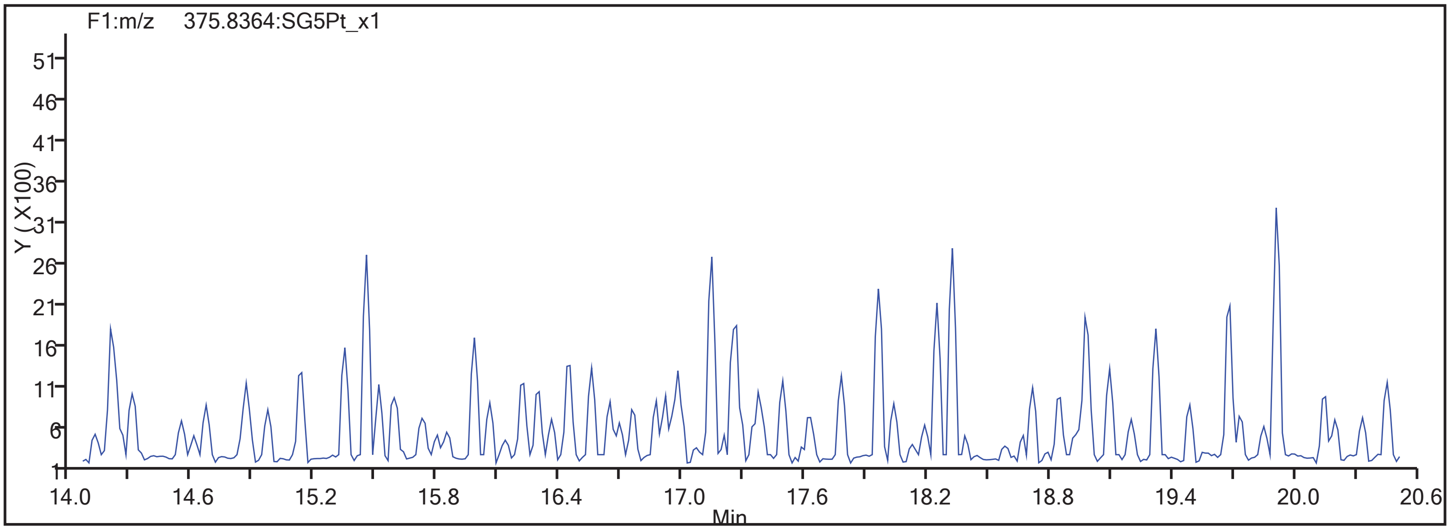
Injection Date:	12-Nov-2017 06:09:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	194086	Sample Line#:	88
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

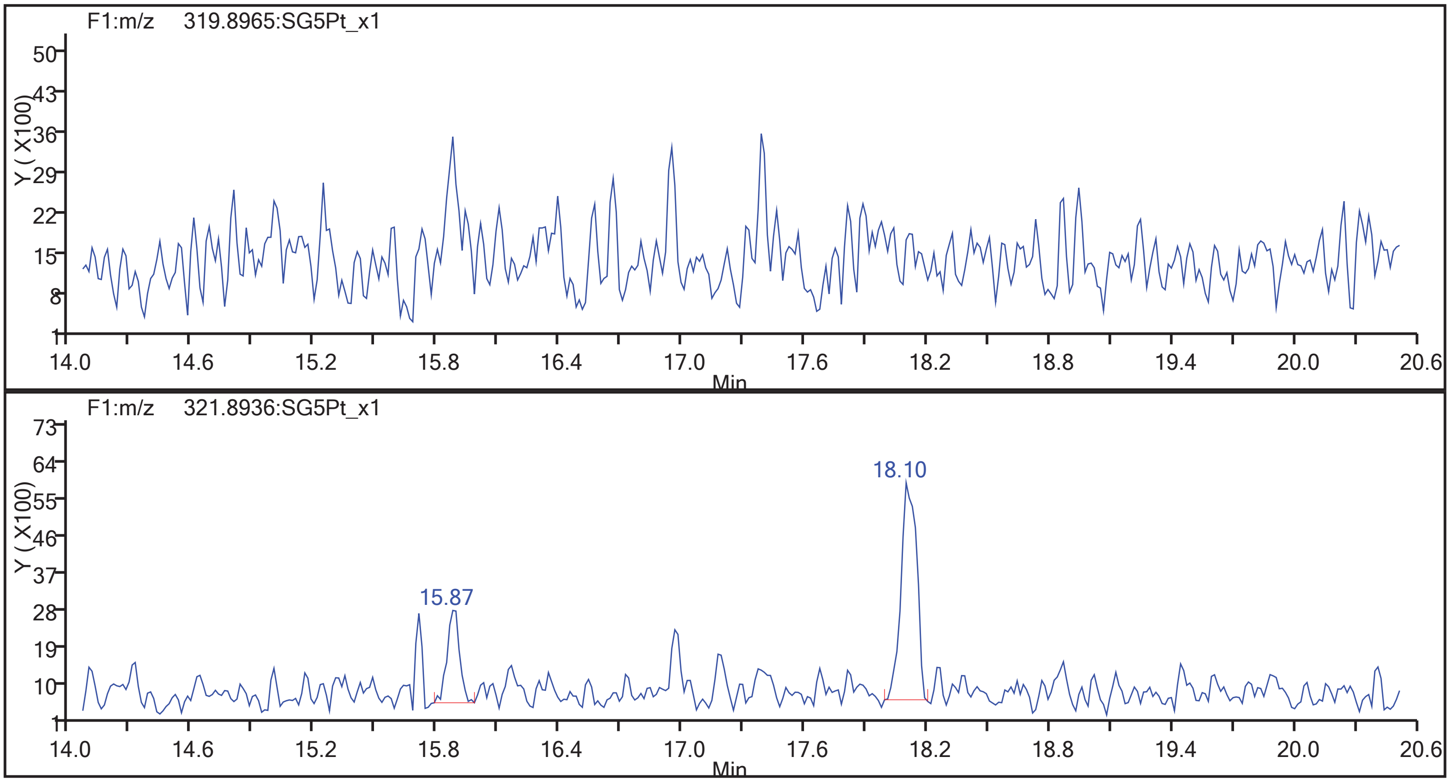


Report Date: 13-Nov-2017 13:29:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

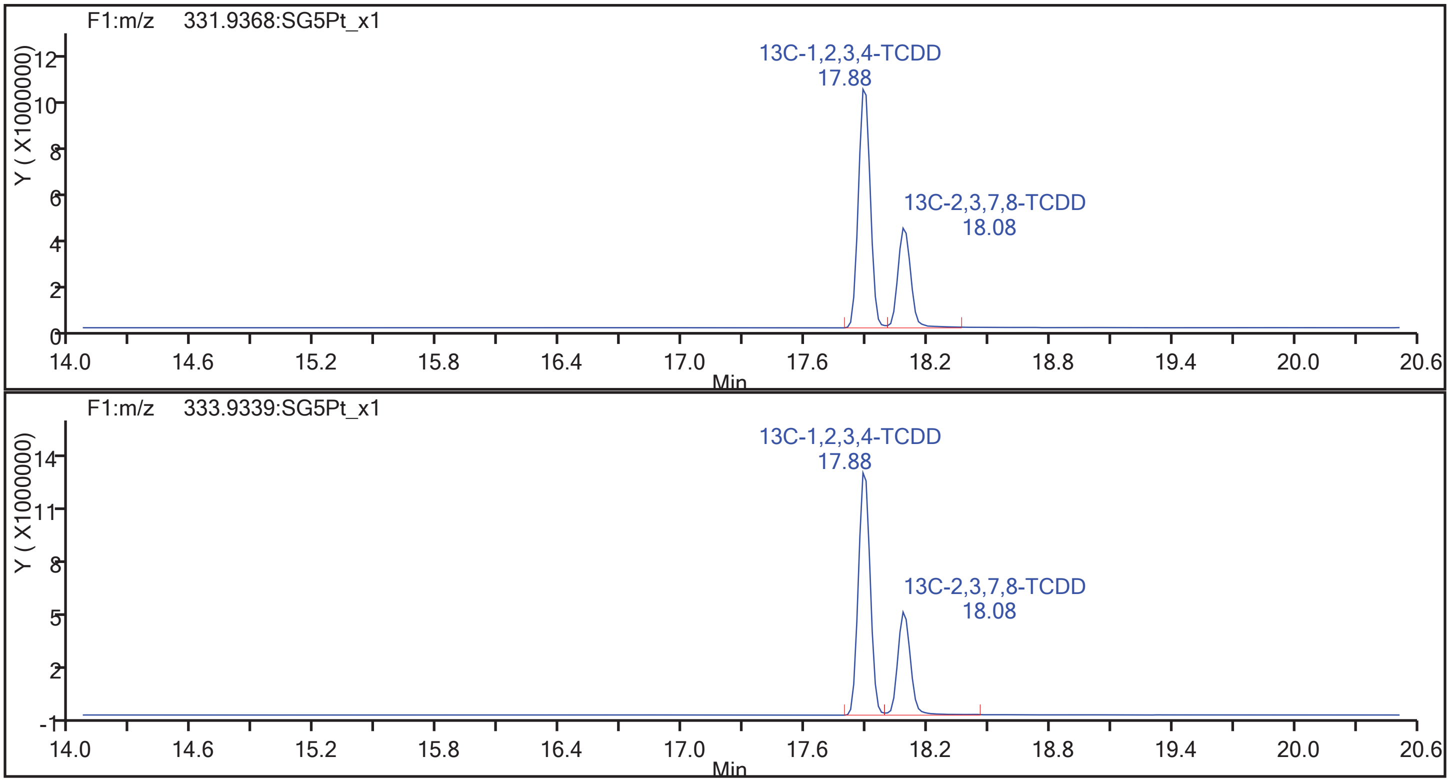
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d		
Injection Date:	12-Nov-2017 06:09:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	194086	Sample Line#:	88
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

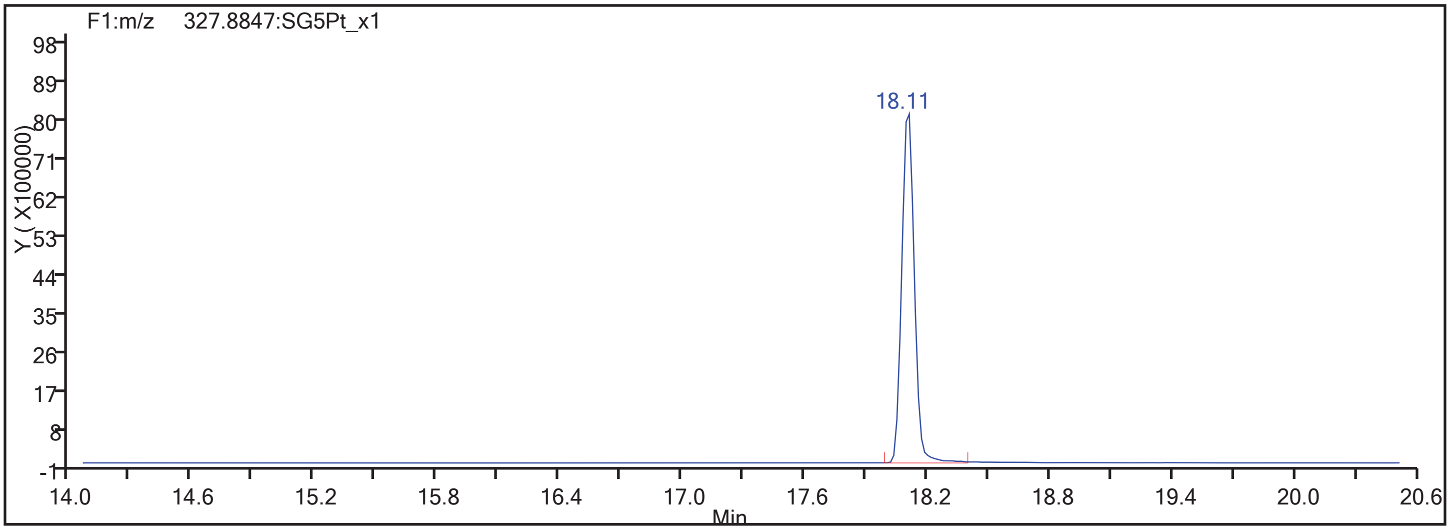


TCDD Standards

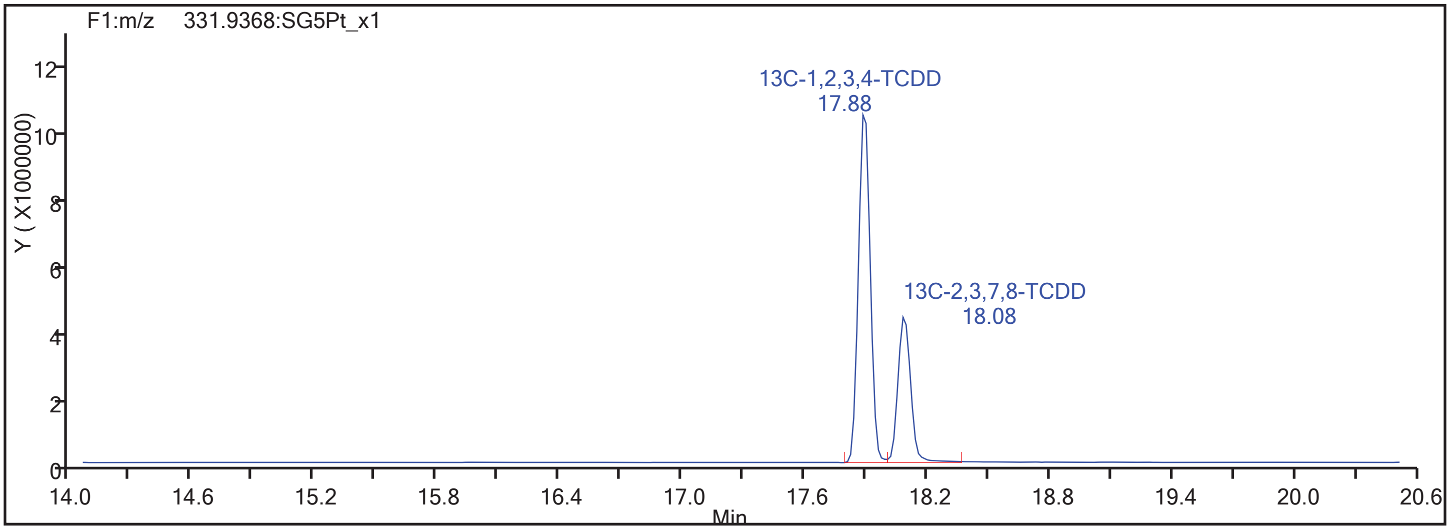


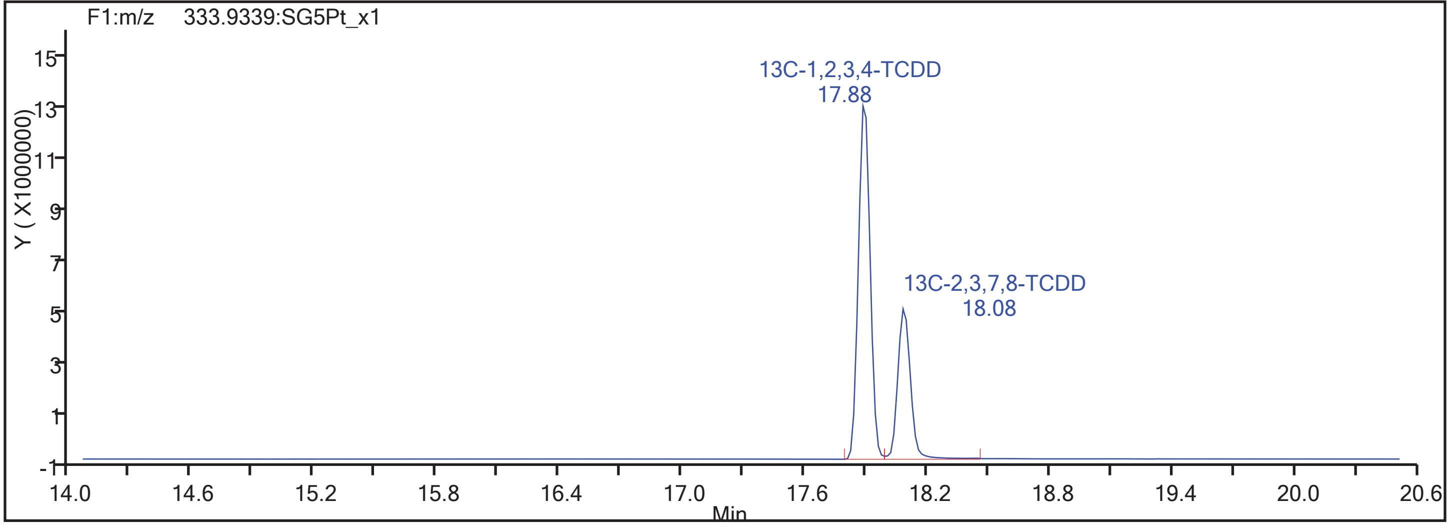
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d		
Injection Date:	12-Nov-2017 06:09:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	194086	Sample Line#:	88
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



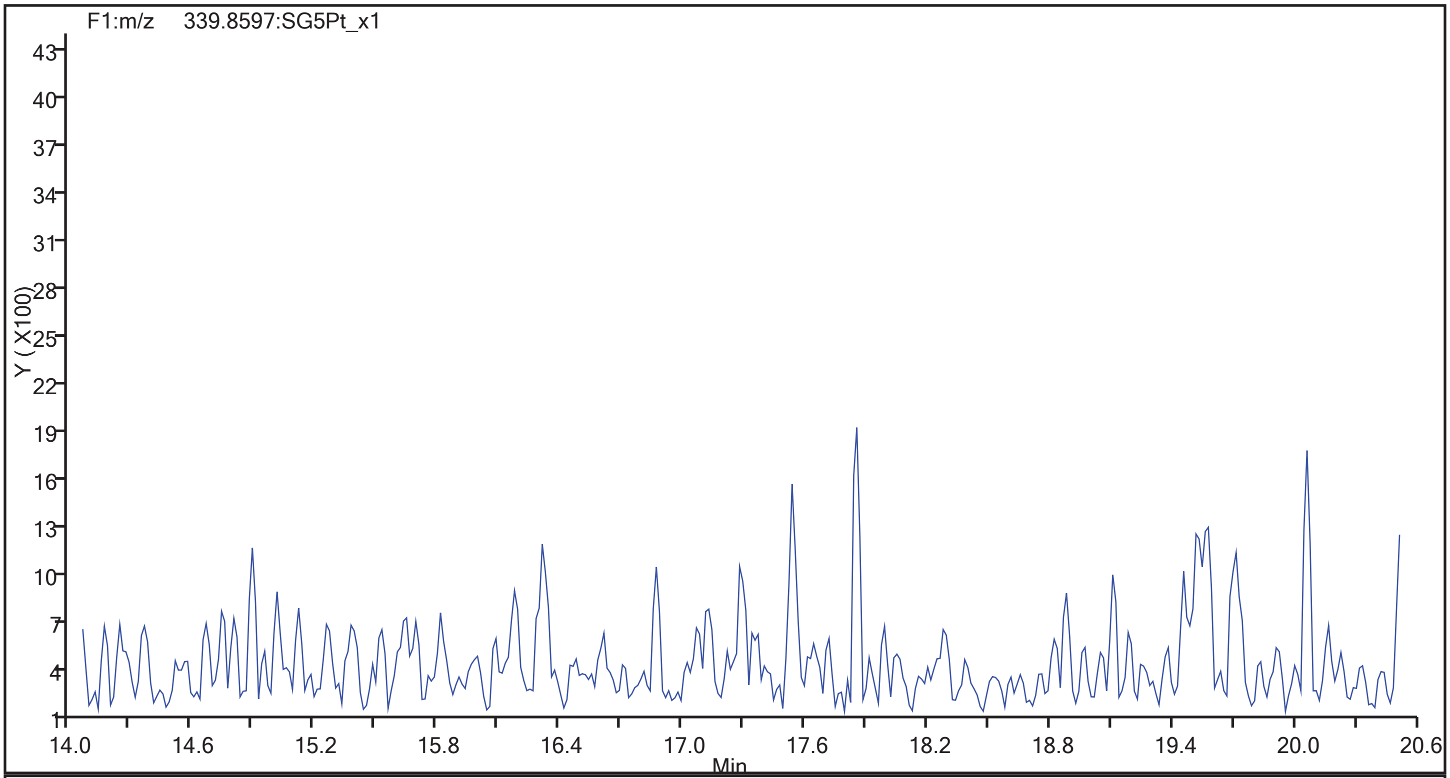


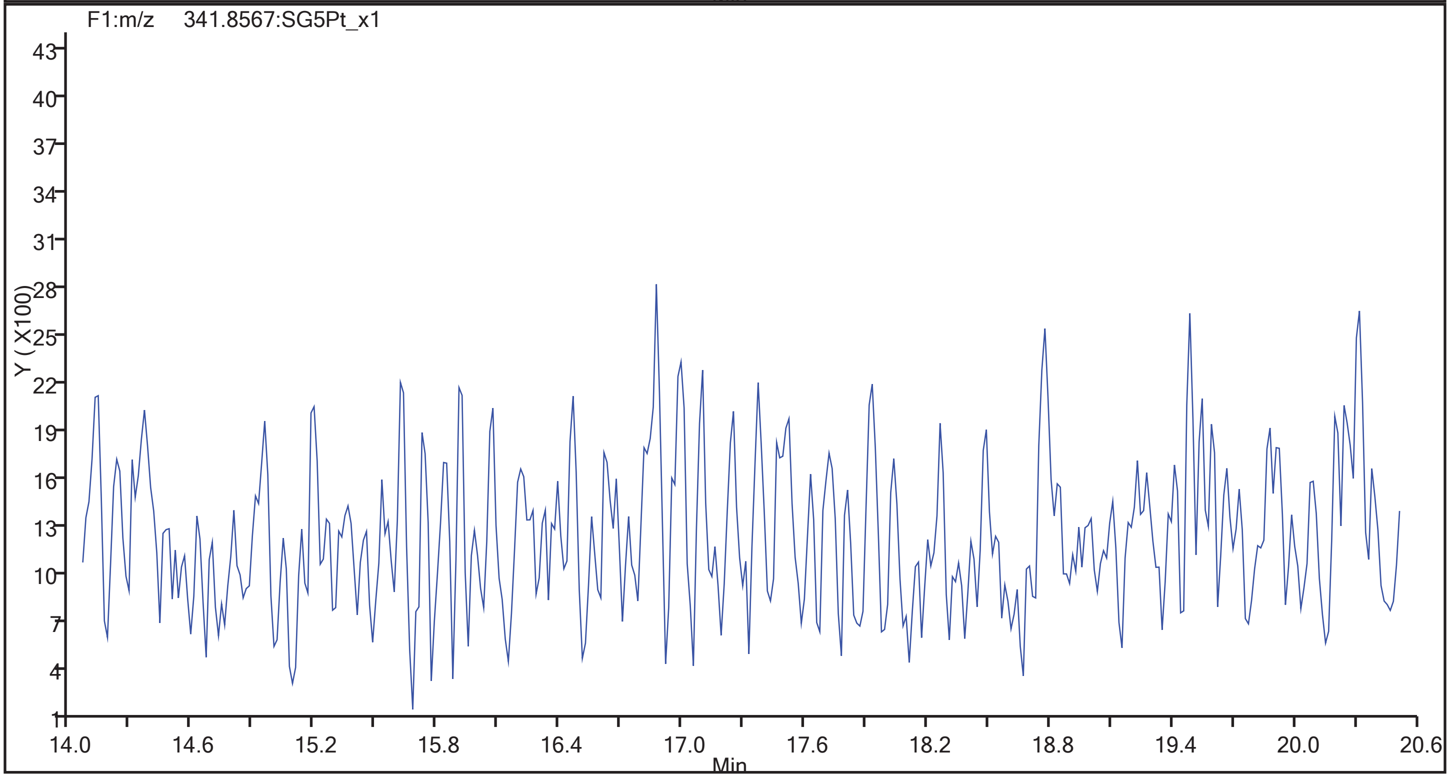
Report Date: 13-Nov-2017 13:29:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d		
Injection Date:	12-Nov-2017 06:09:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	194086	Sample Line#:	88
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



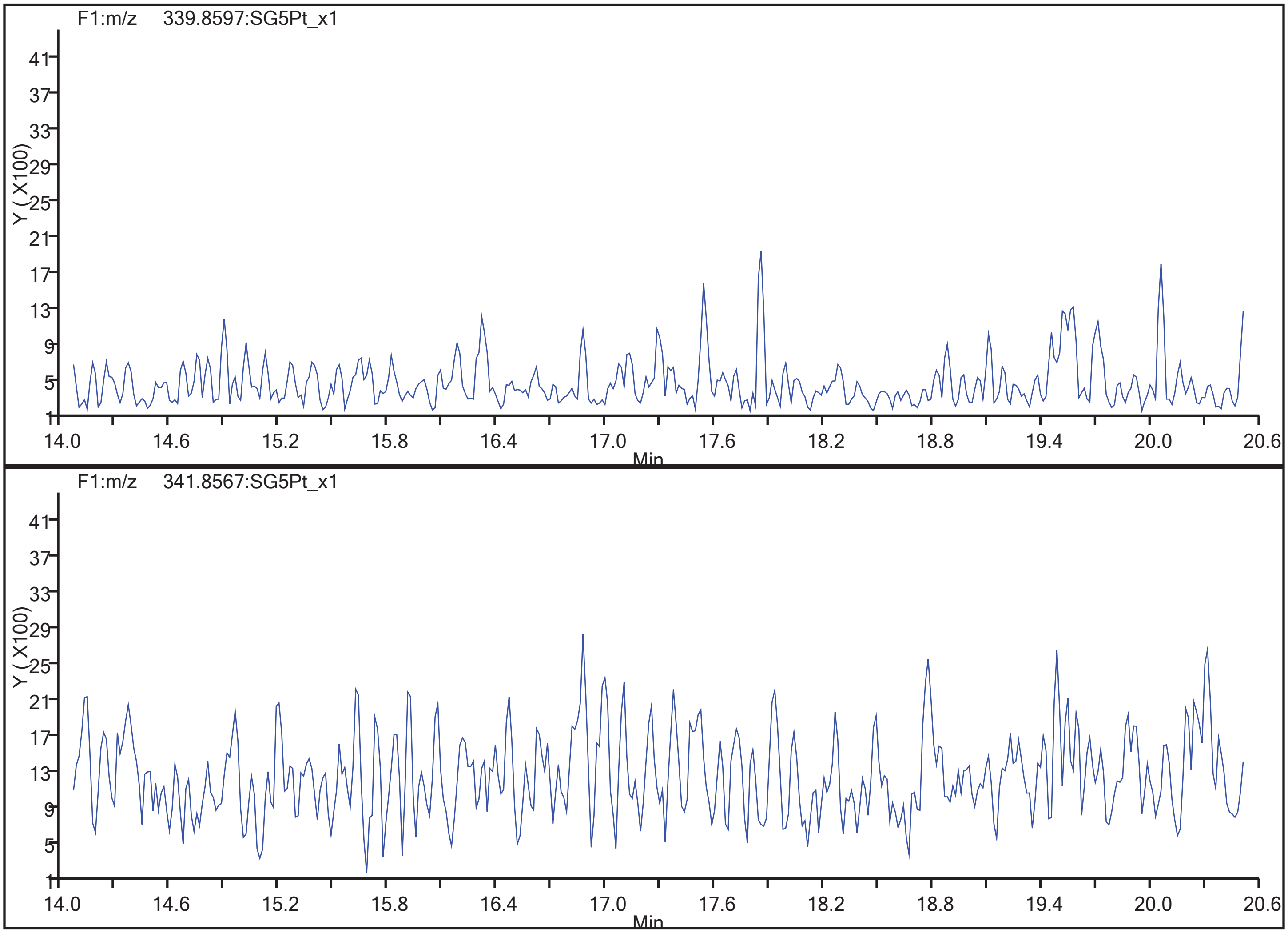


Report Date: 13-Nov-2017 13:29:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

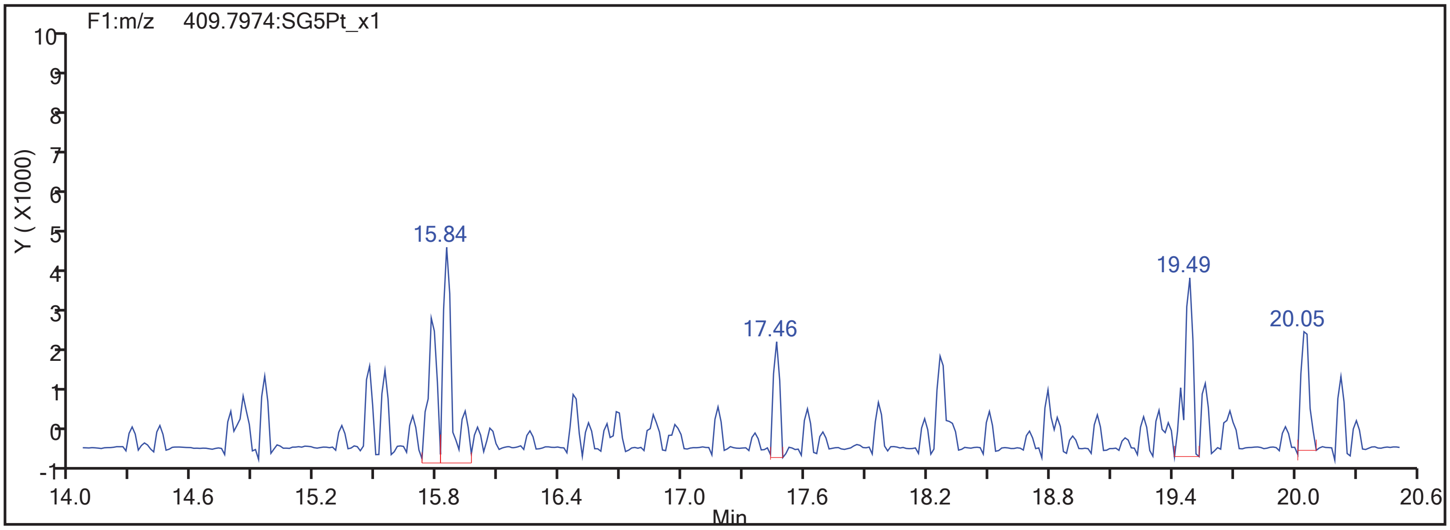
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d
Injection Date: 12-Nov-2017 06:09:59
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05DS
Worklist#: 194086
Sample Line#: 88
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs



F1 PeCDFs Interference Mass



Report Date: 13-Nov-2017 13:29:27 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_88.d		
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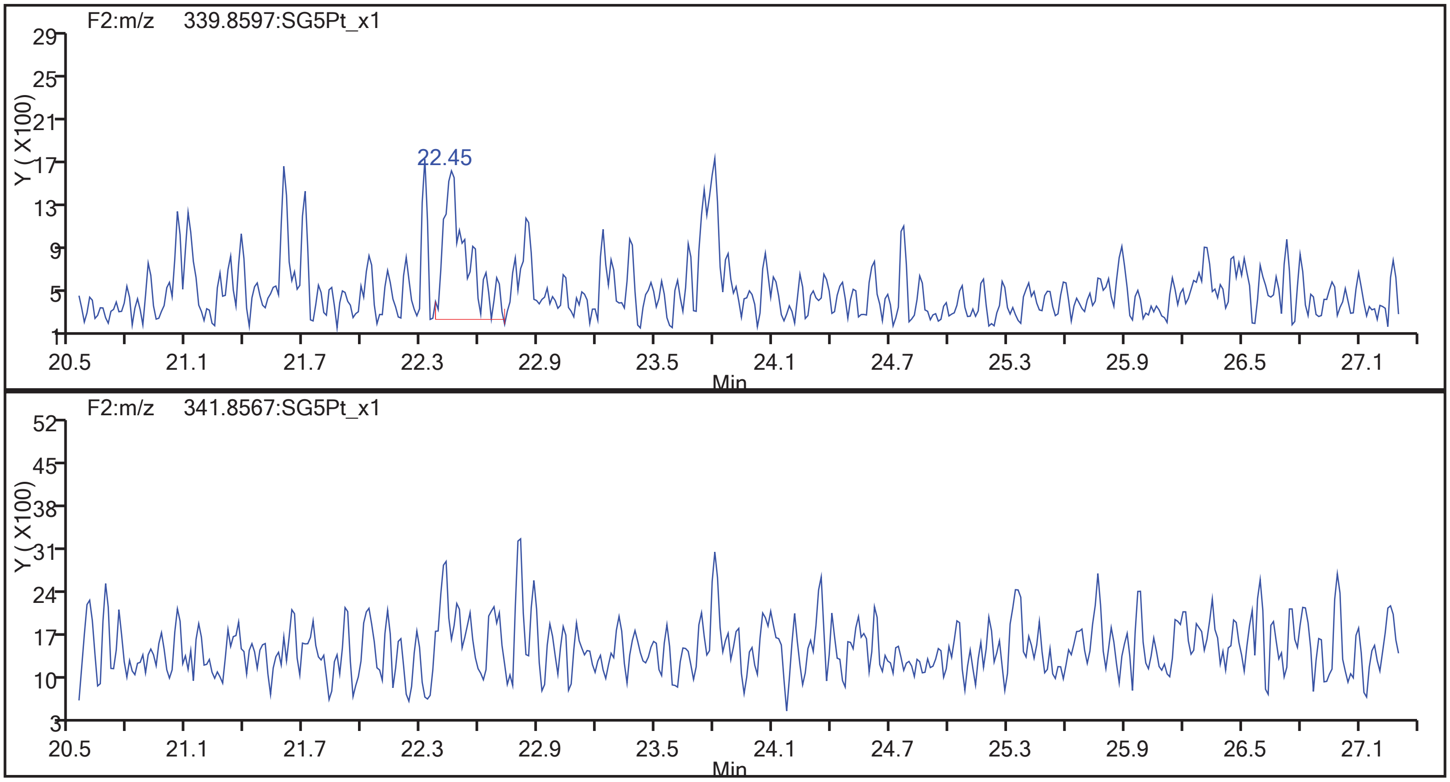
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	194086	Sample Line#:	88
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



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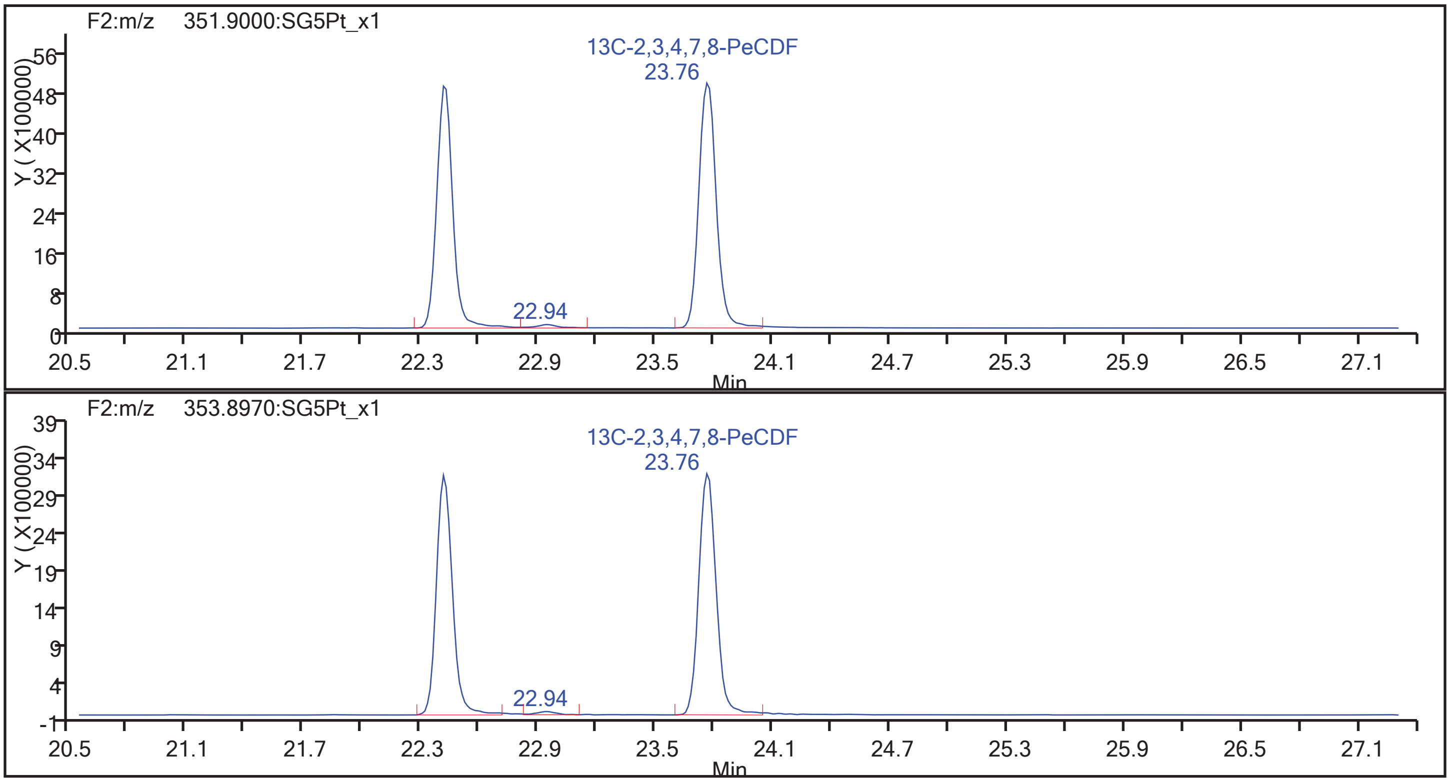

TestAmerica Sacramento

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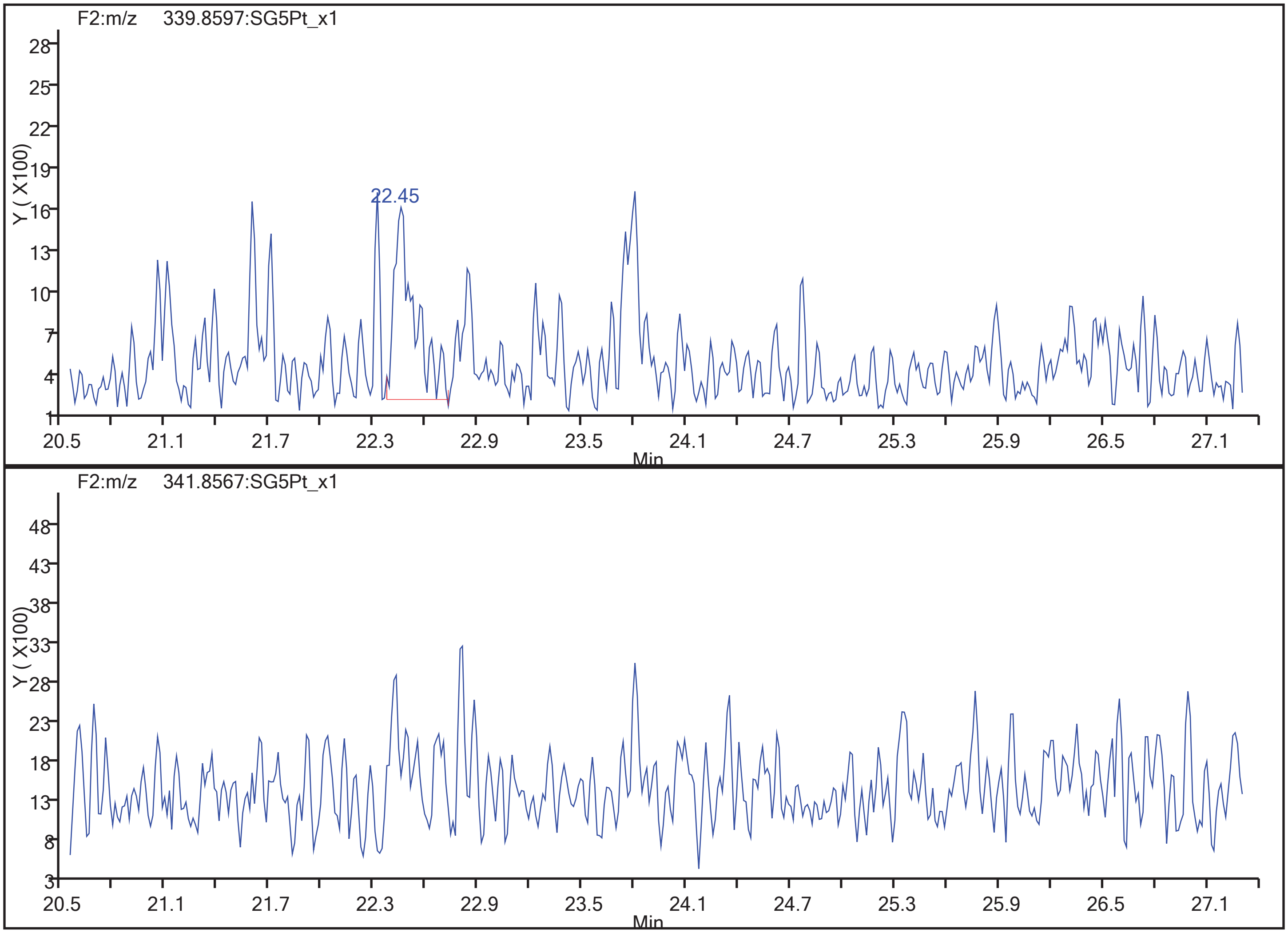

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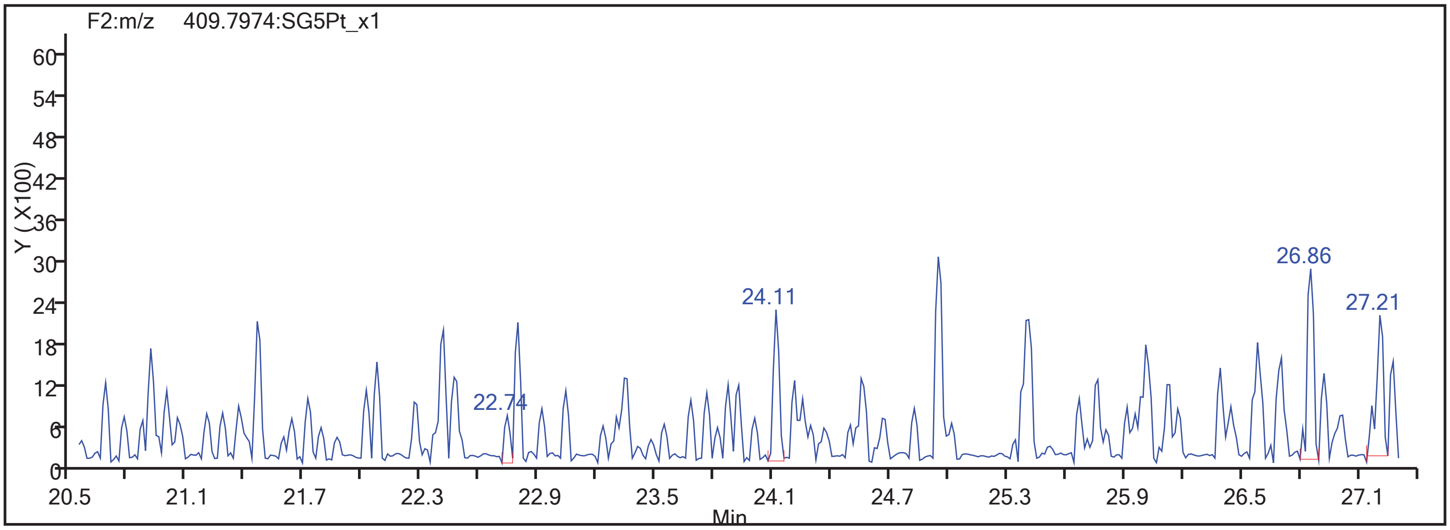

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TestAmerica Sacramento

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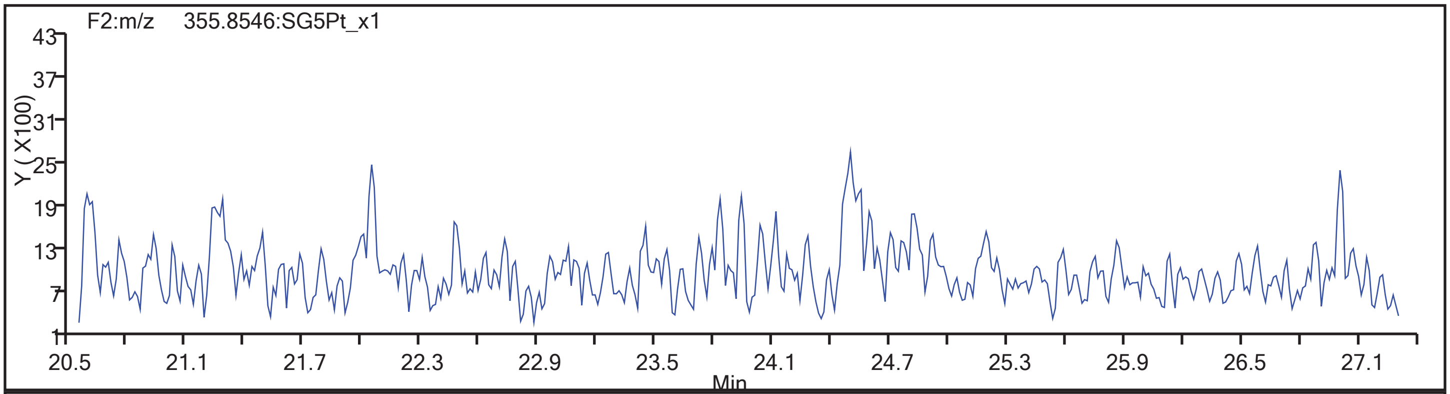

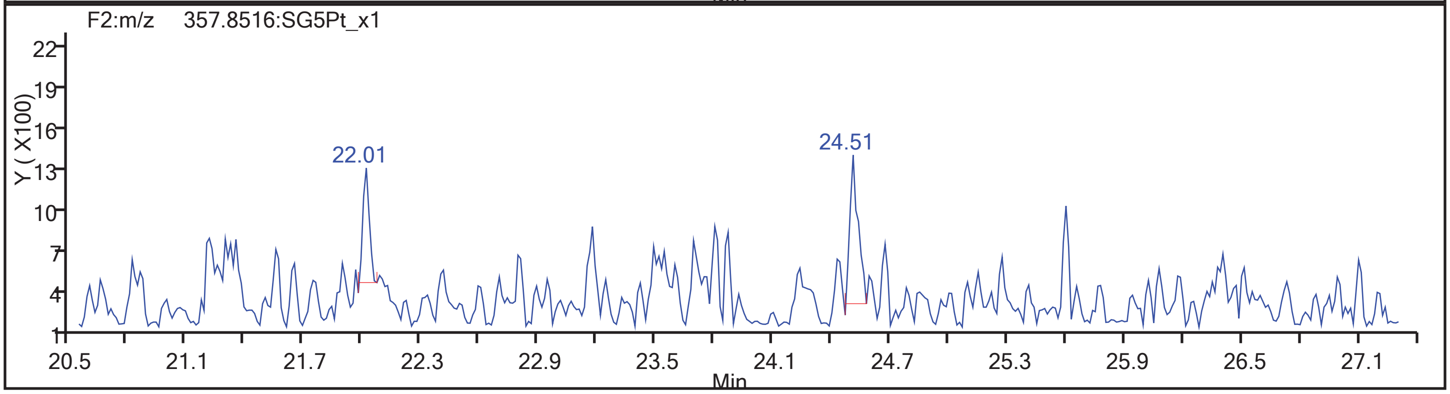

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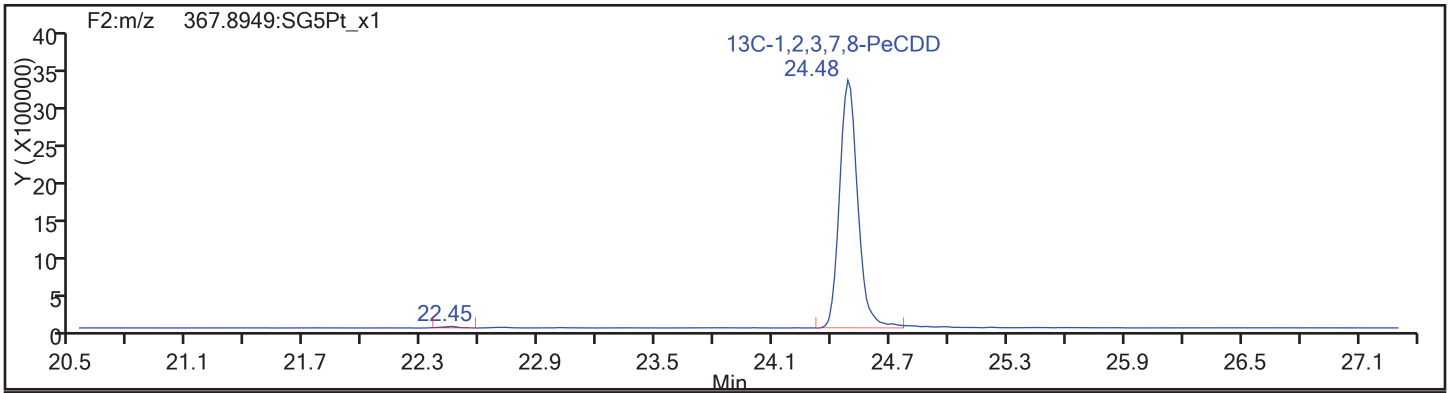

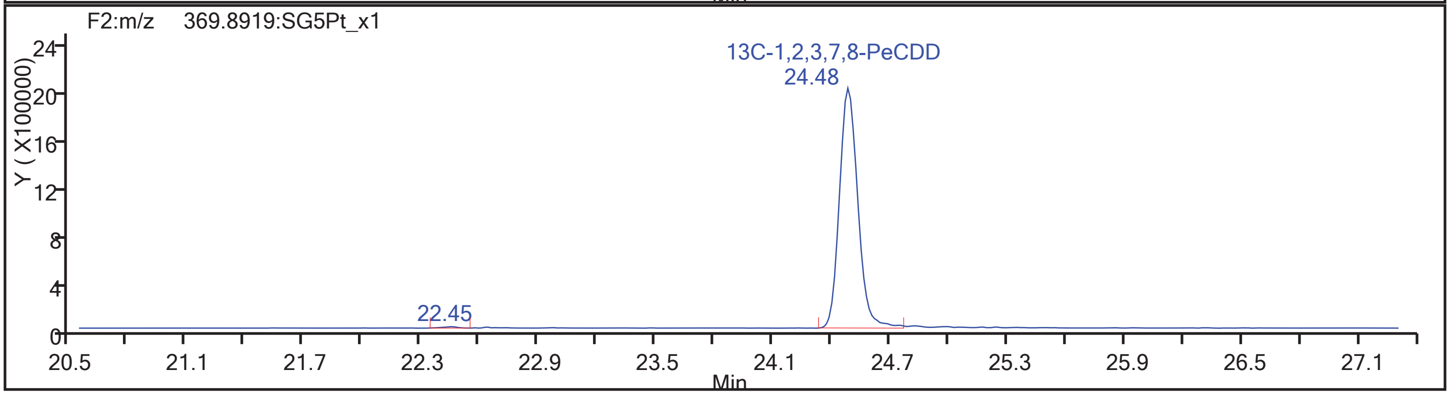

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TestAmerica Sacramento

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Injection Date: 12-Nov-2017 06:09:59 Injection Vol: 2.0 ul

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Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS05DS

Worklist#: 194086 Sample Line#: 88

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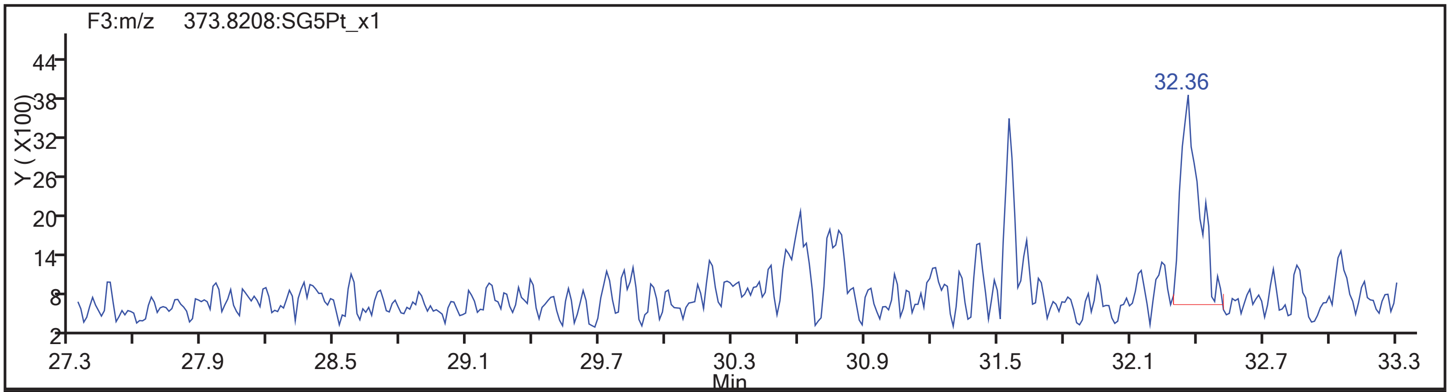
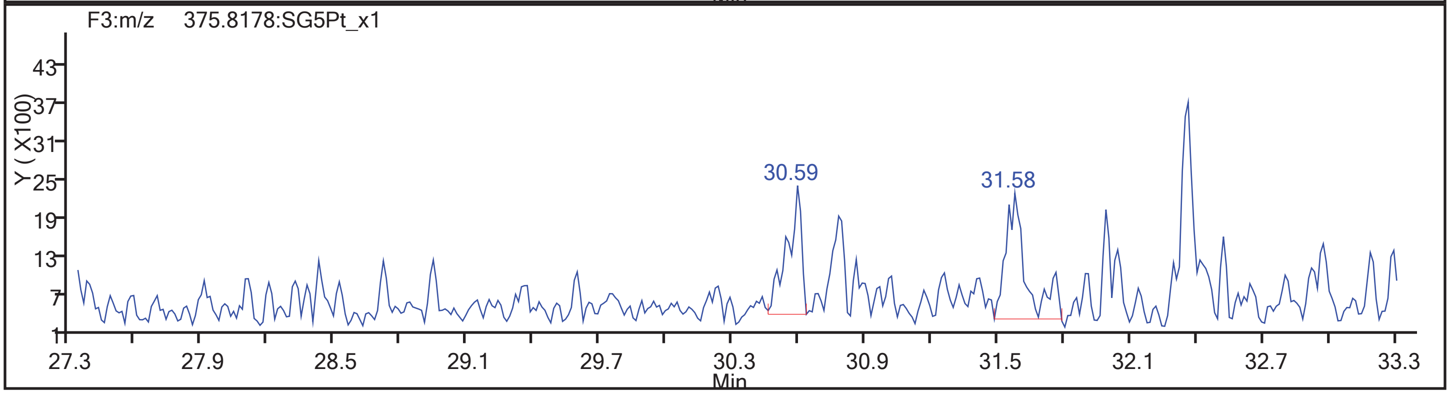
HxCDF





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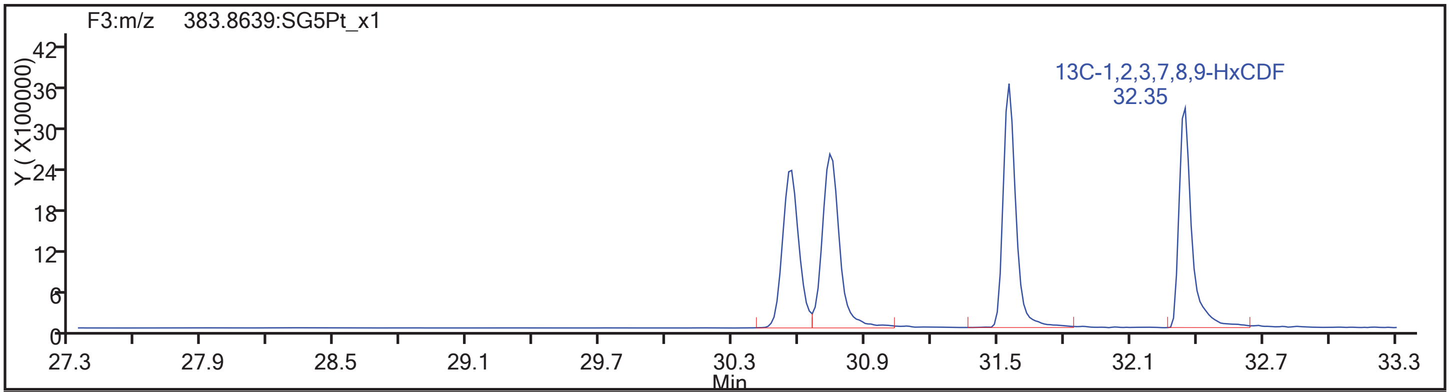

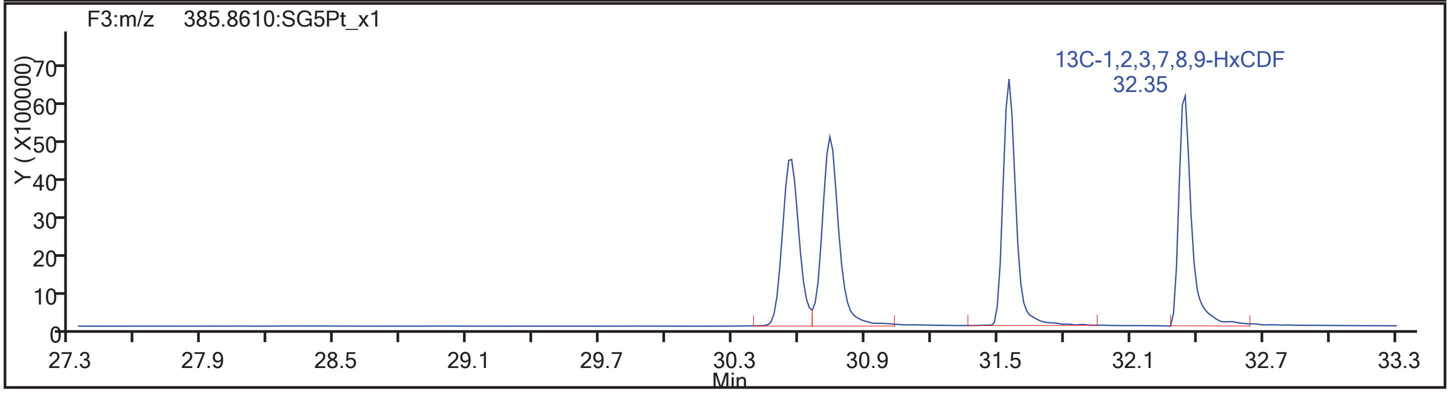

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TestAmerica Sacramento

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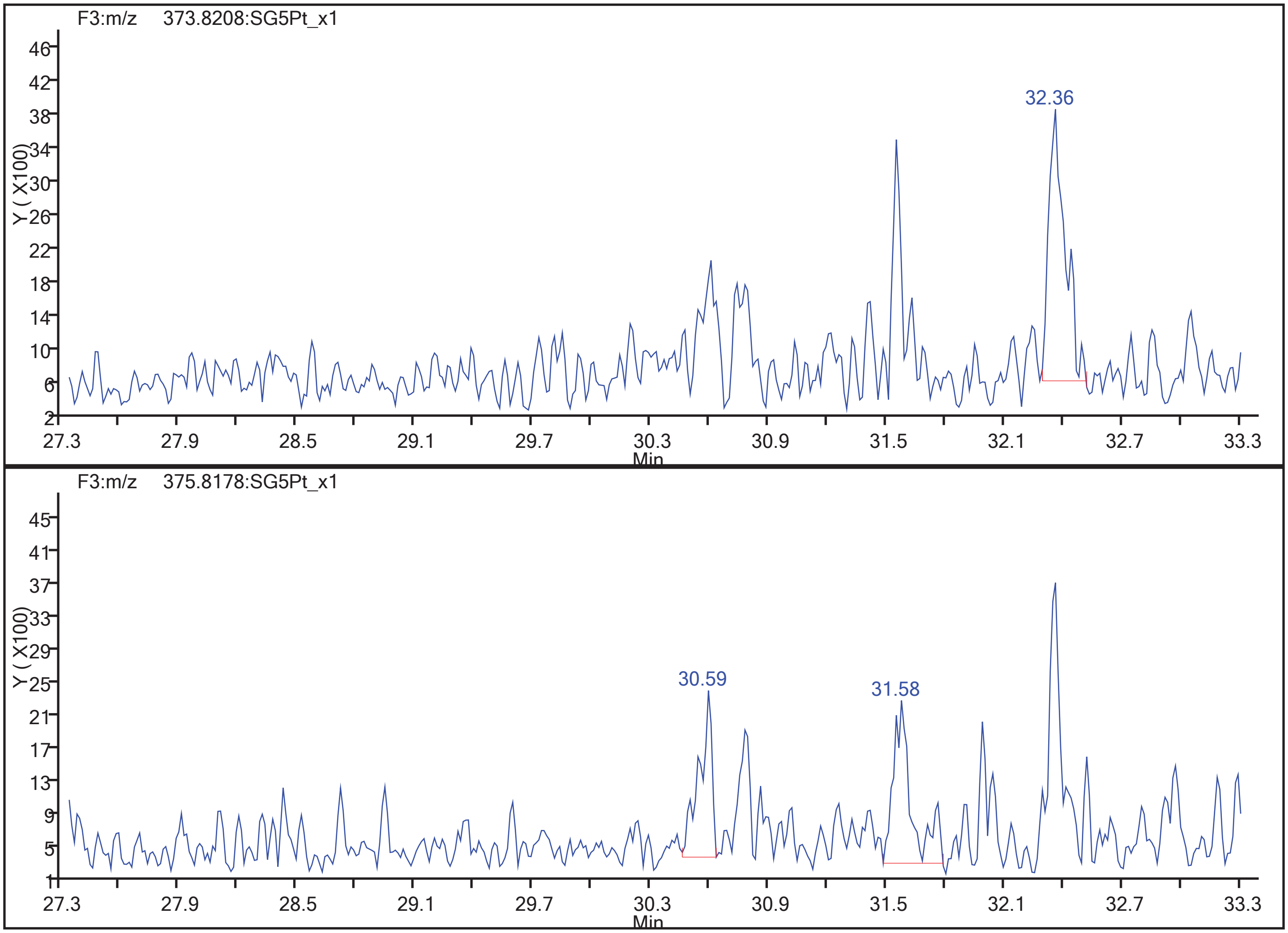
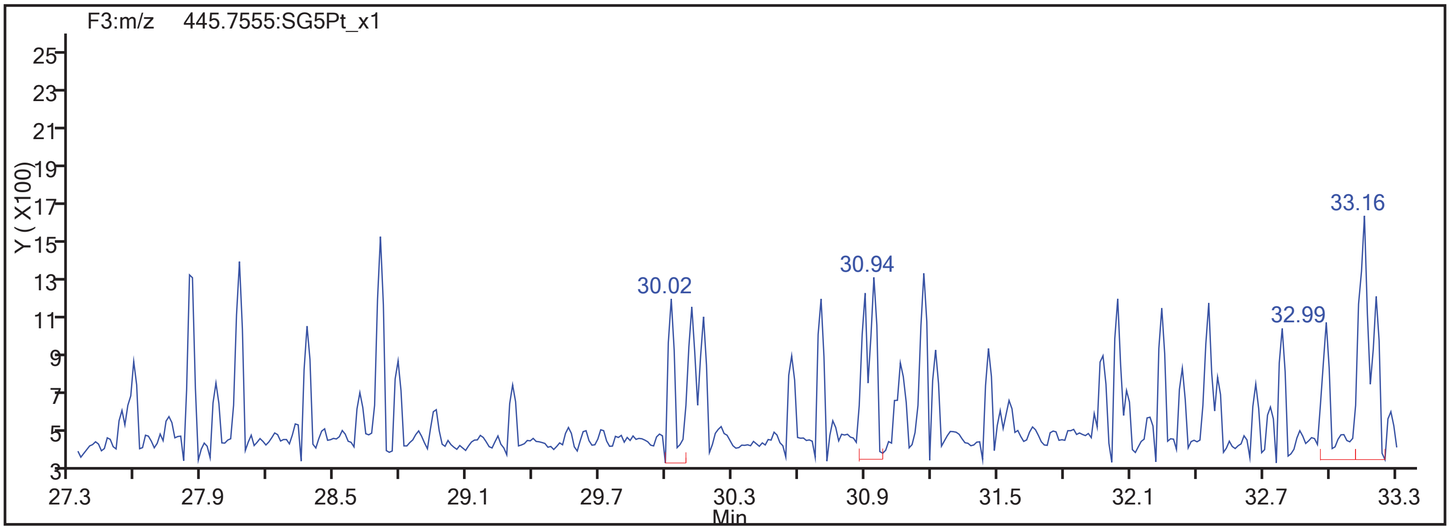


HxCDF Interference Mass



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TestAmerica Sacramento

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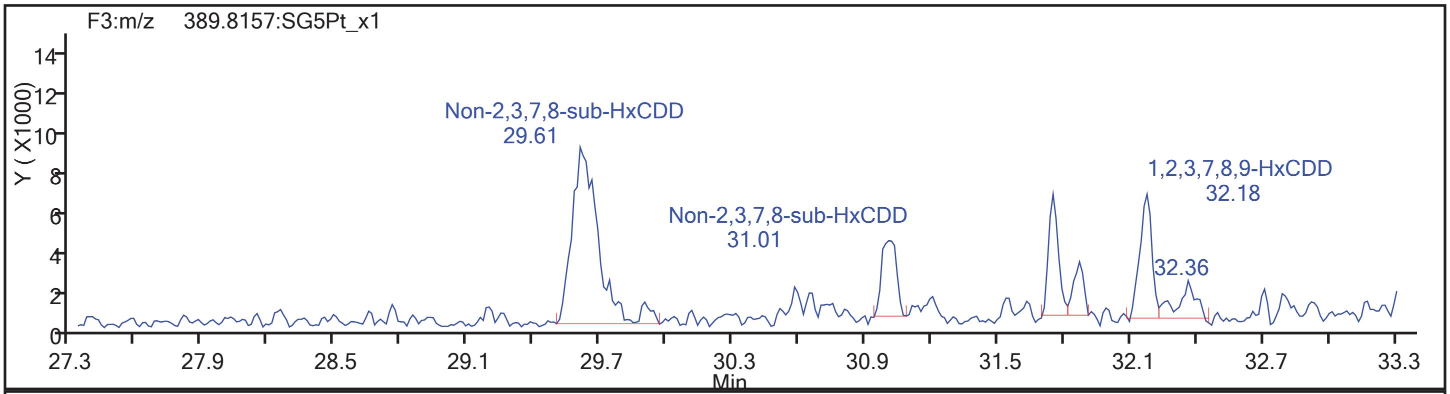

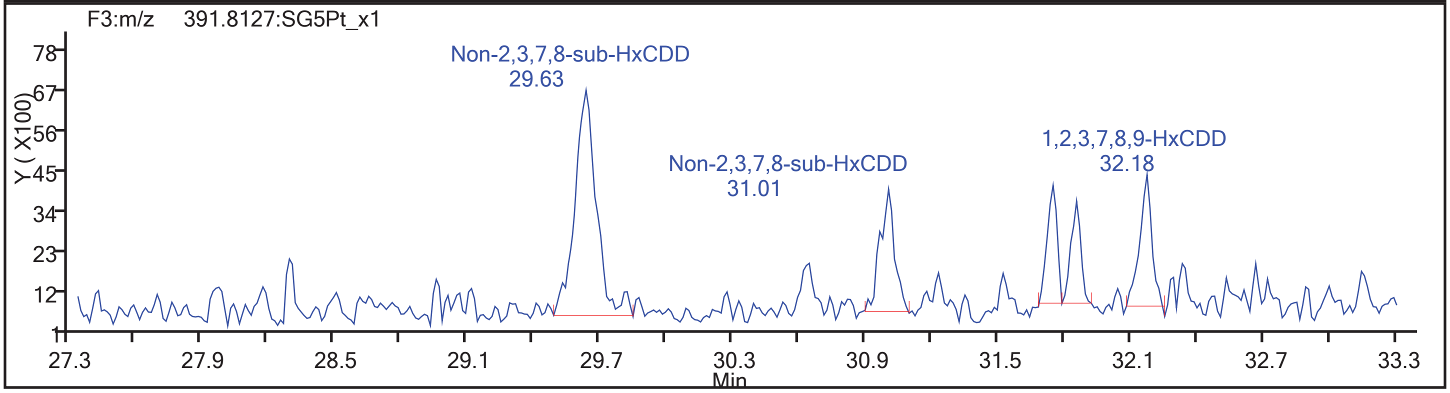

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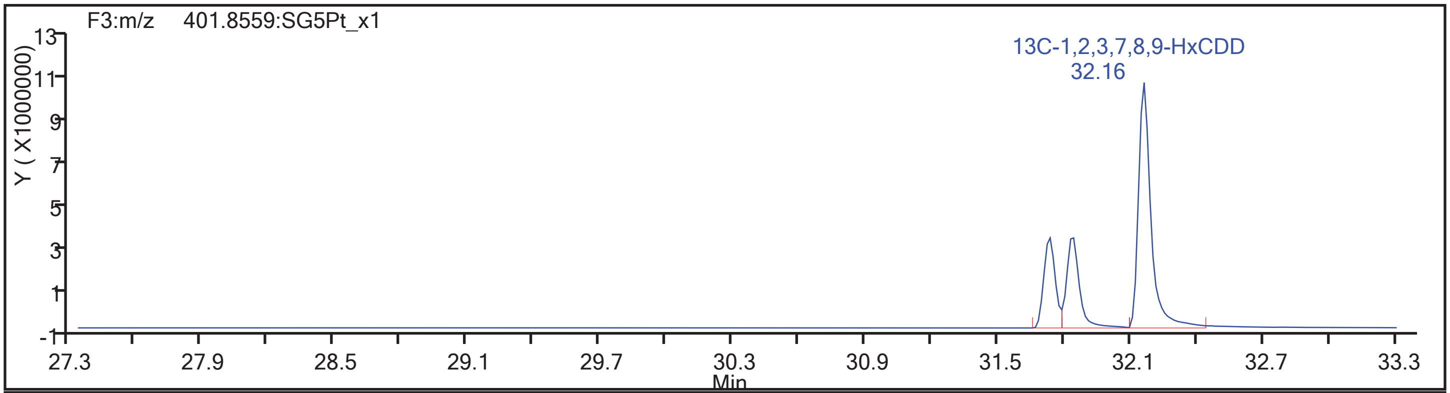

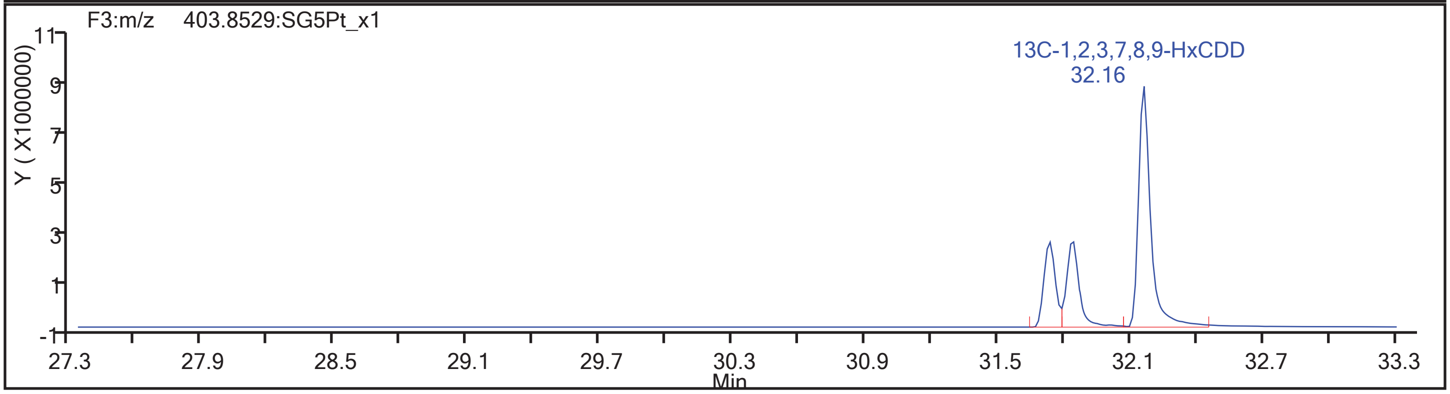

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TestAmerica Sacramento

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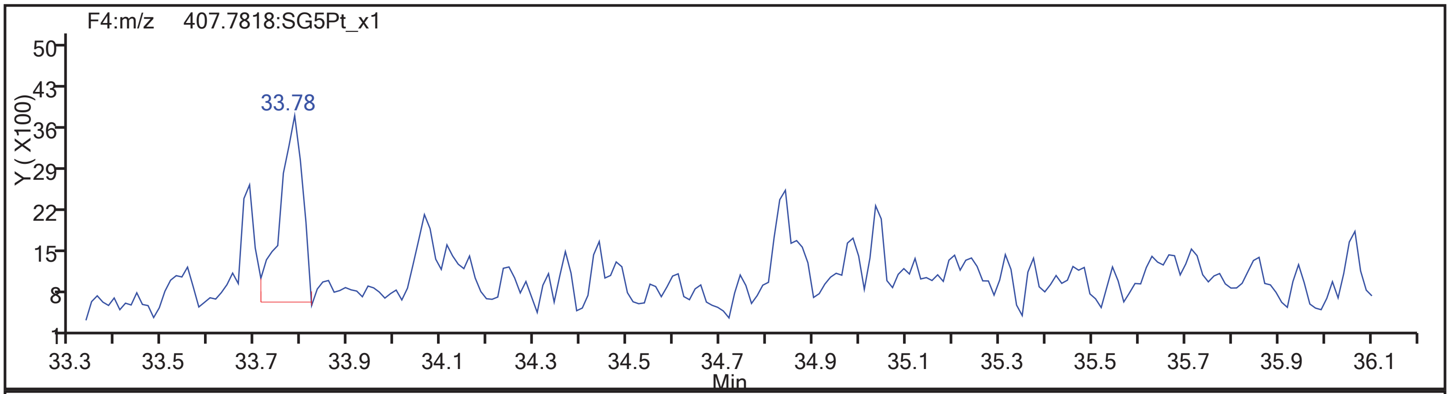

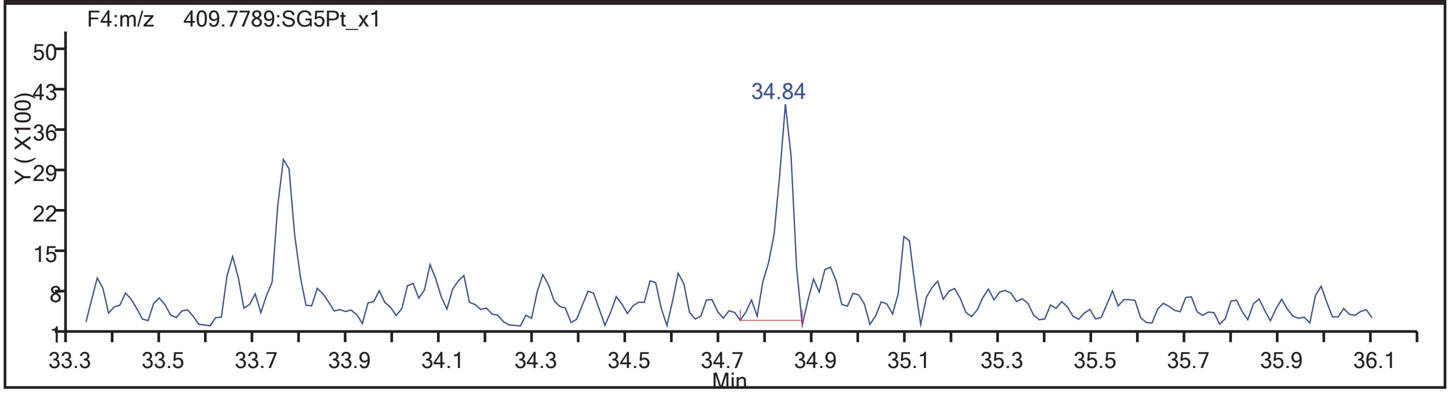

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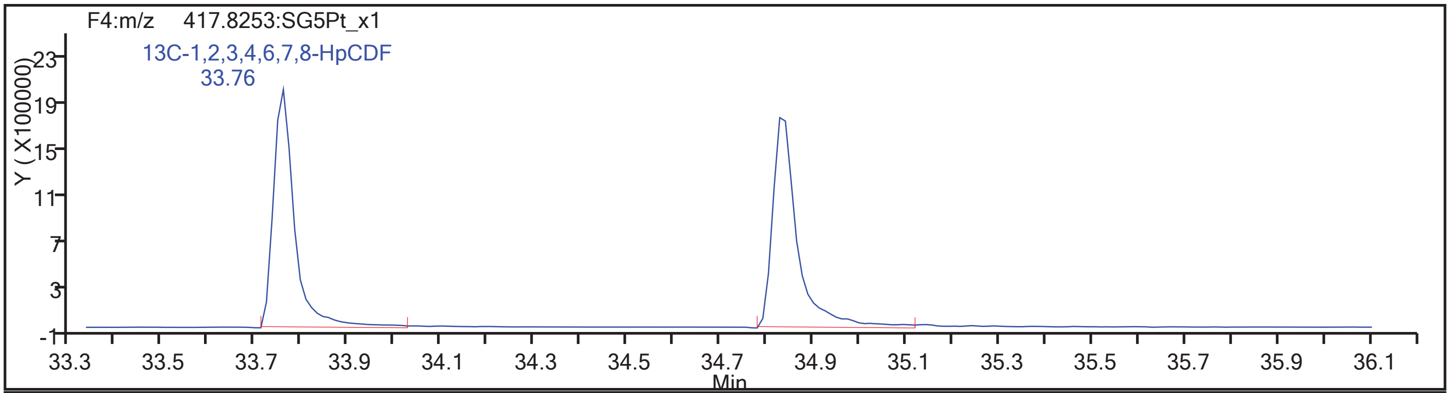

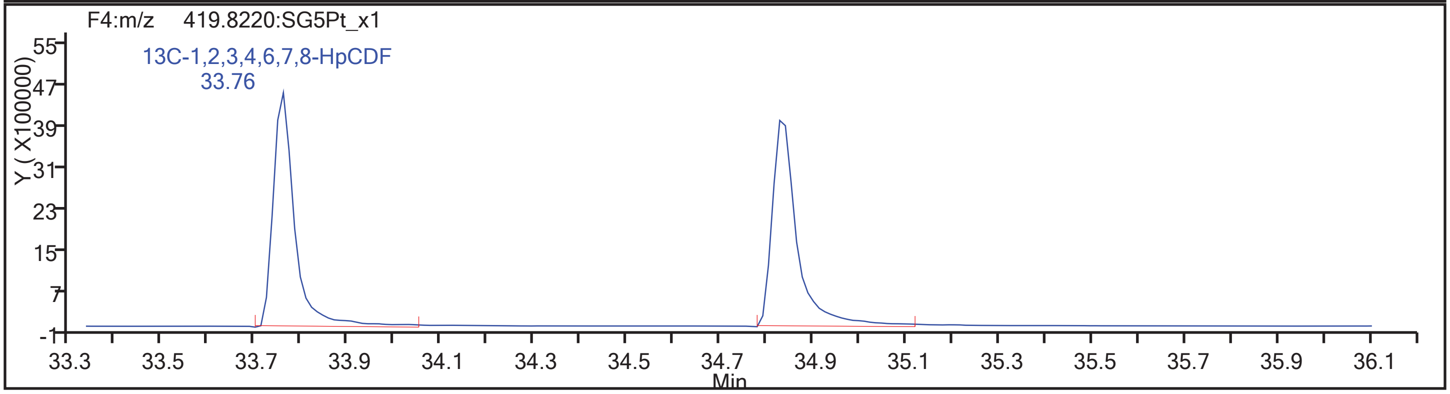

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TestAmerica Sacramento

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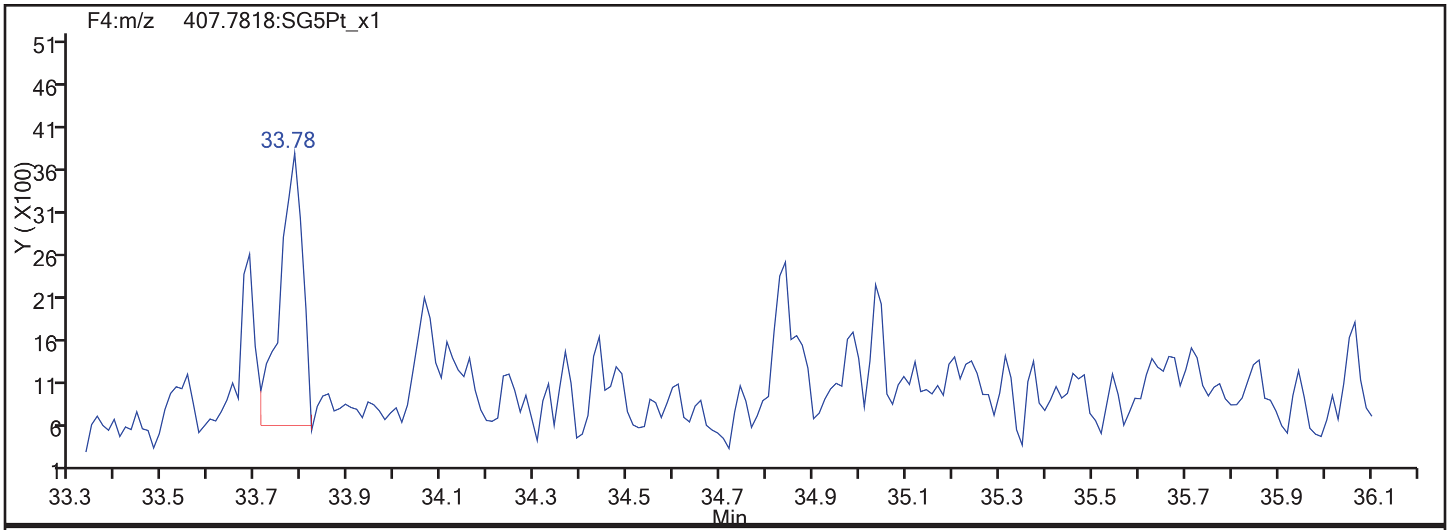
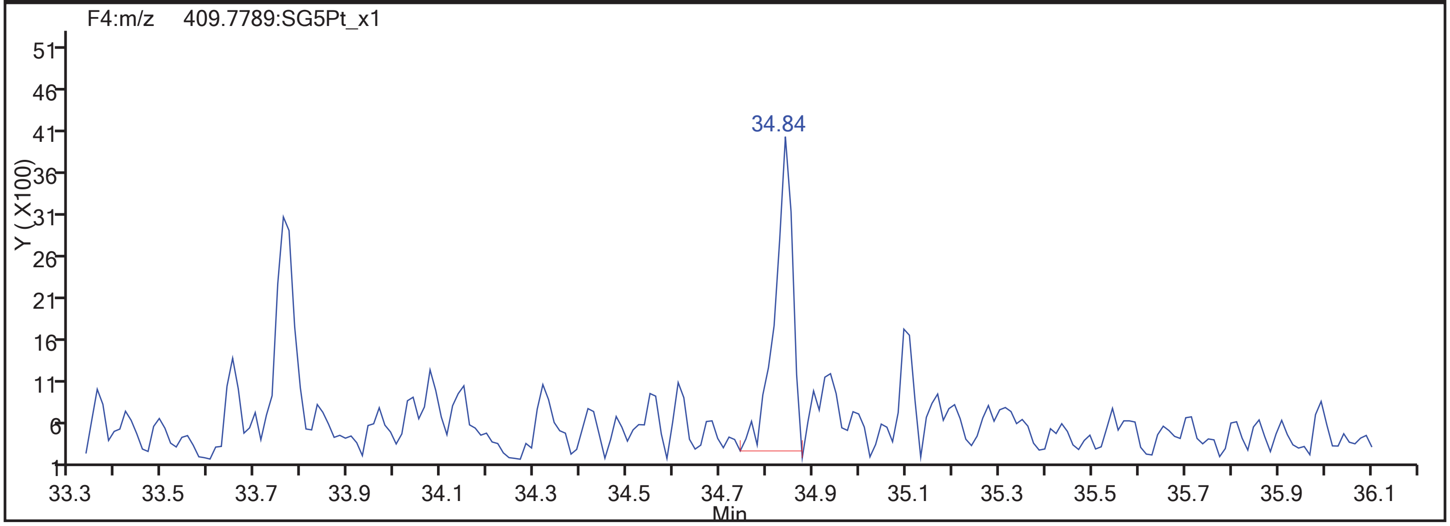
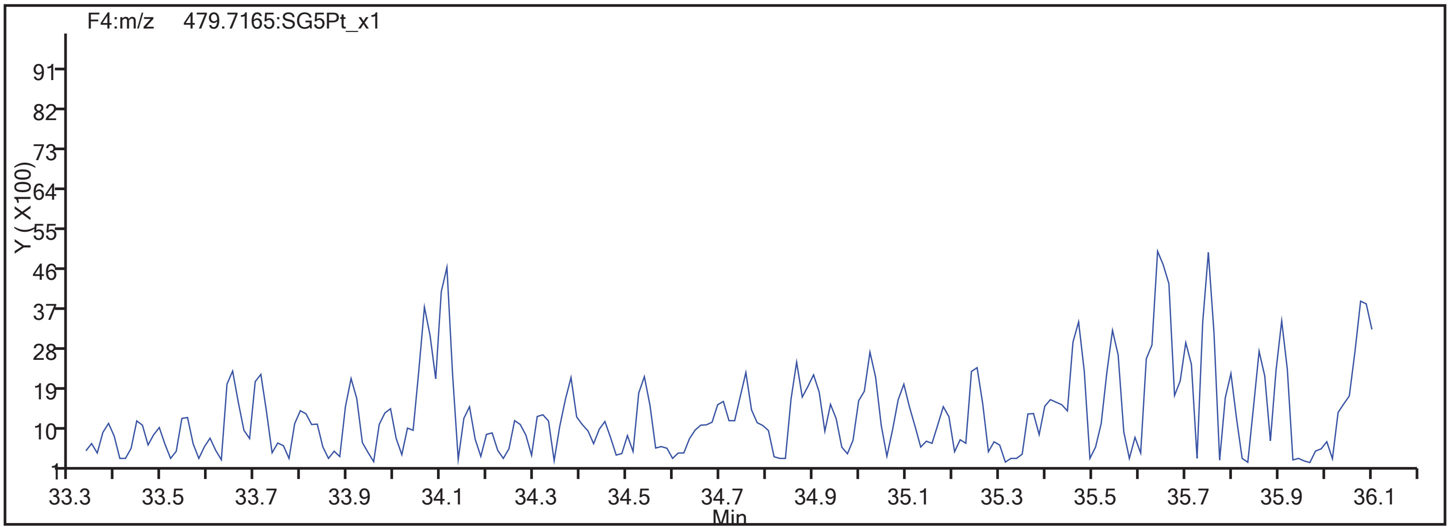




HpCDF Interference Mass



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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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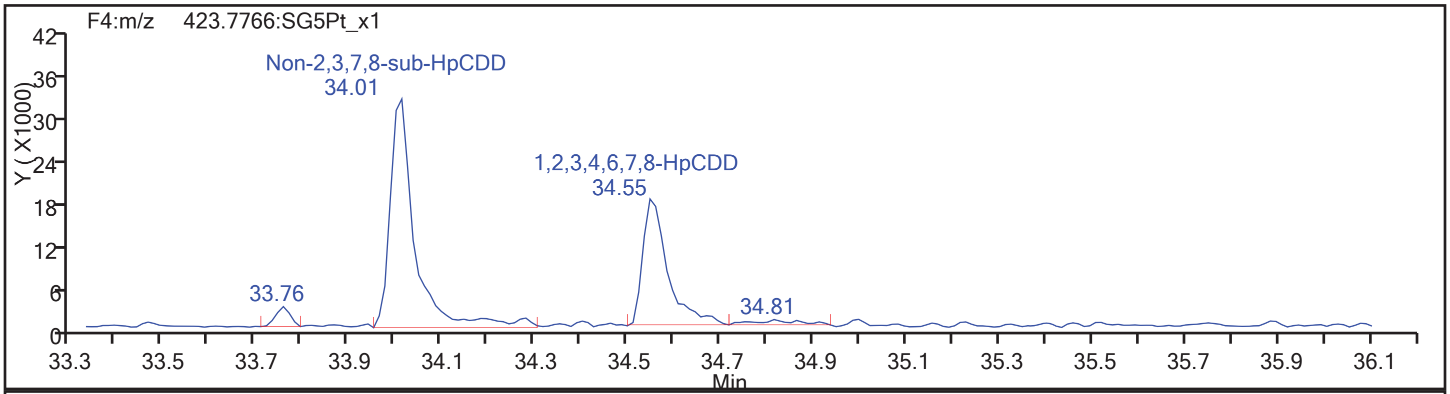

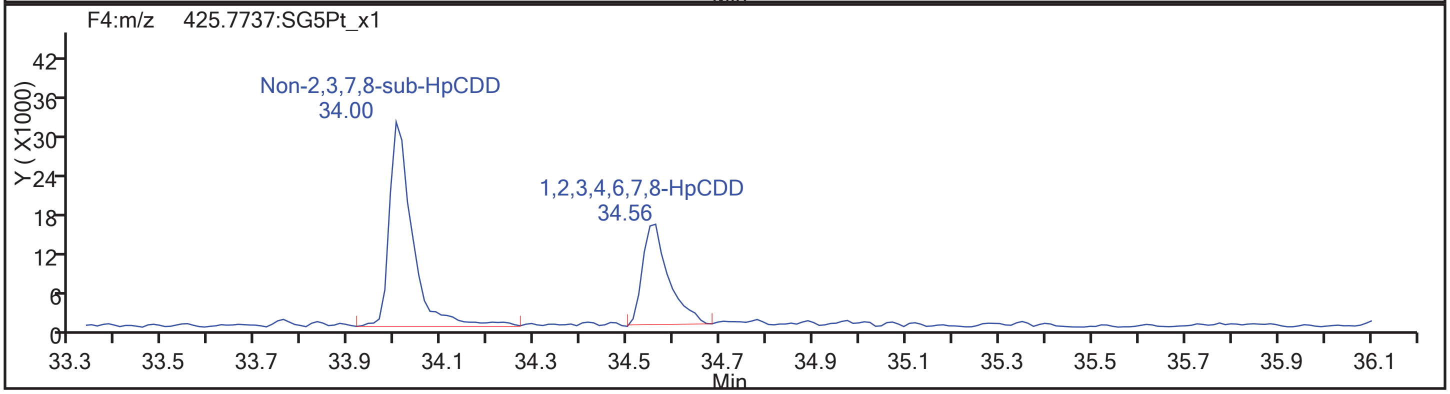

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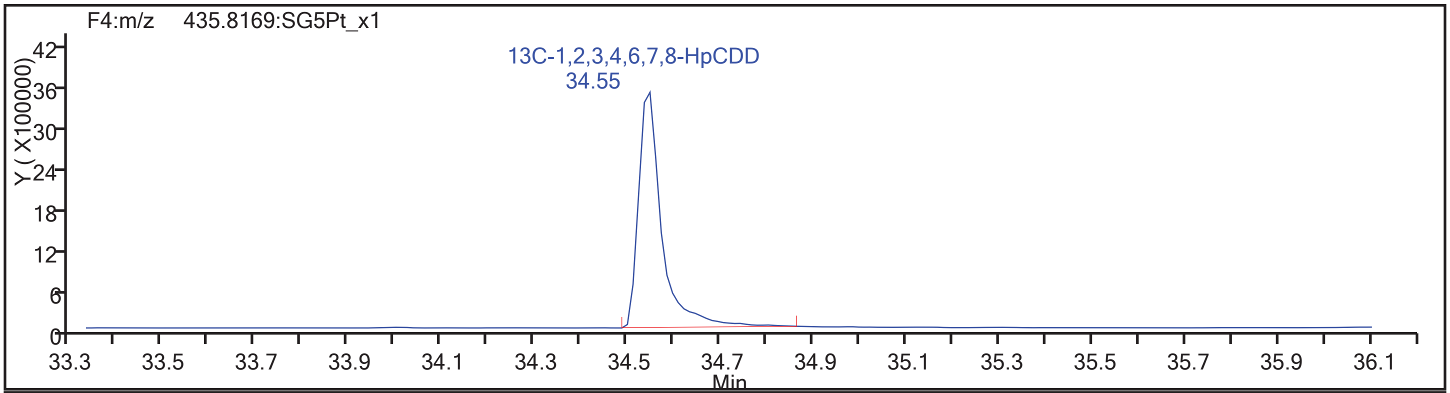

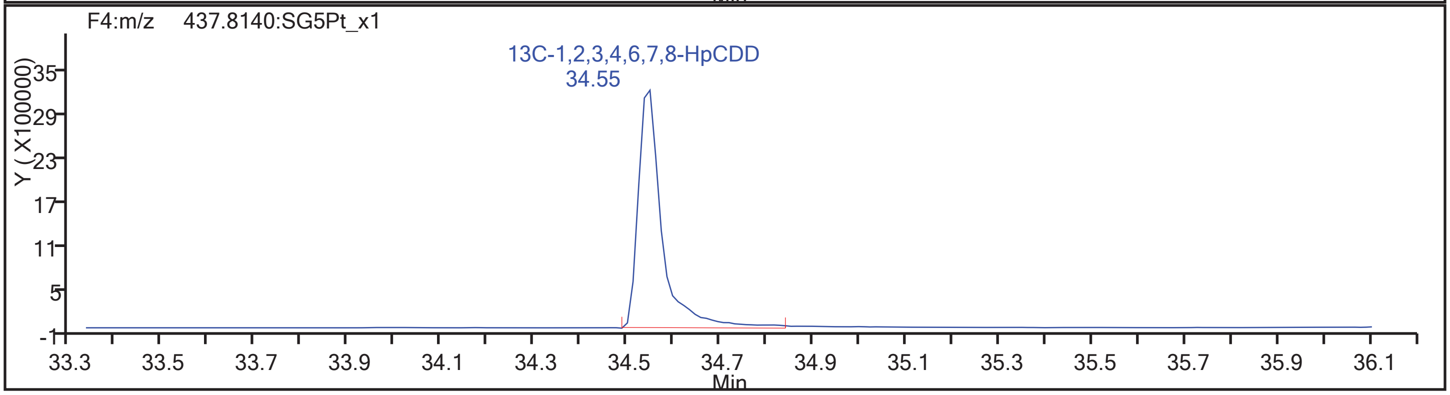

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TestAmerica Sacramento

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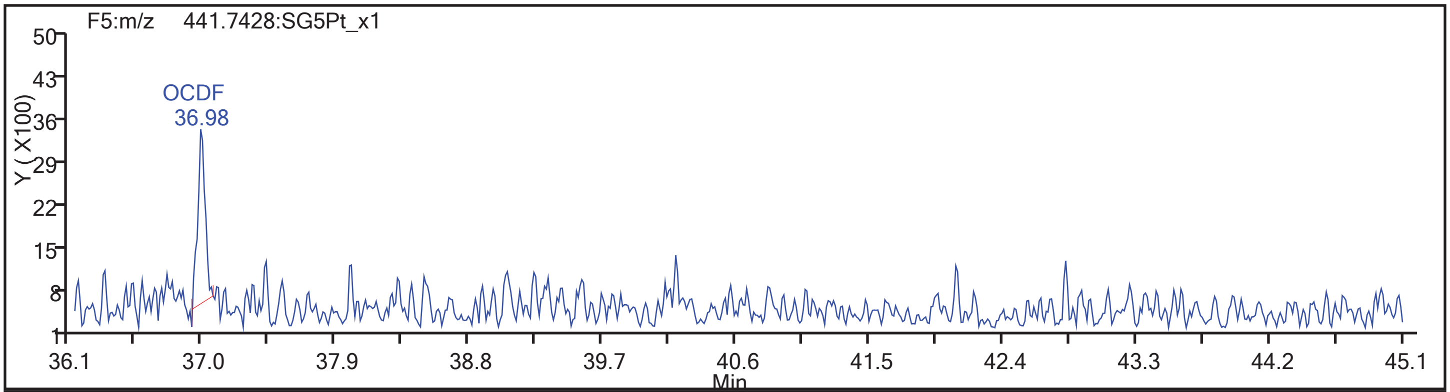
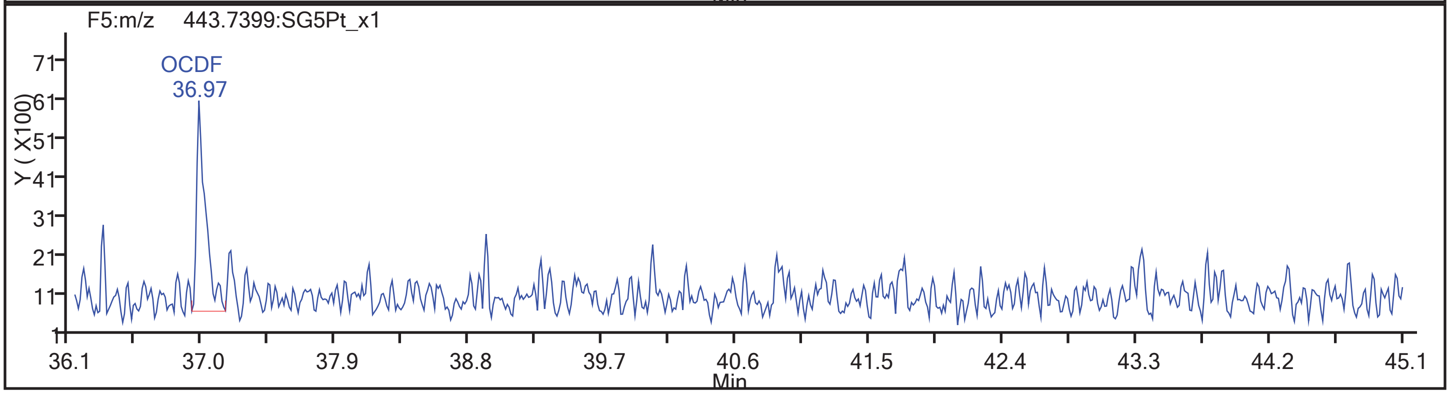
OCDF





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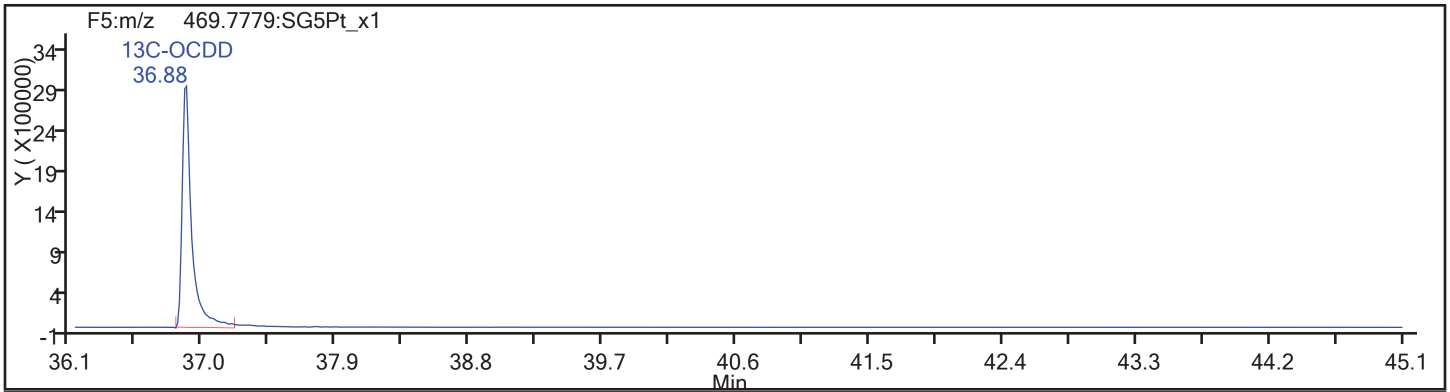

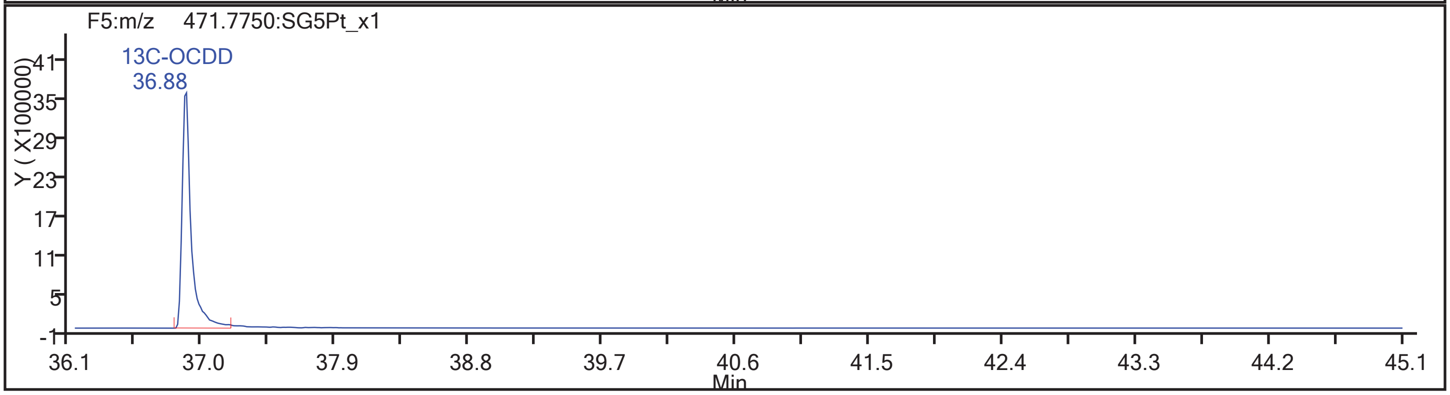

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TestAmerica Sacramento

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Worklist#: 194086
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Column Dia: 0.32 mm

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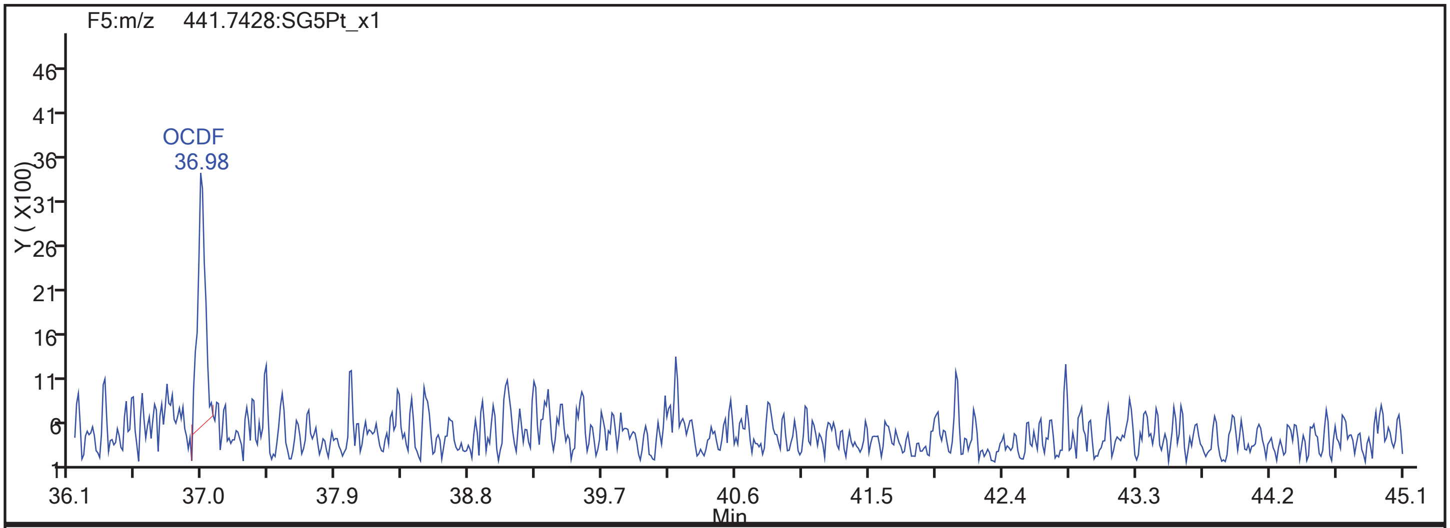
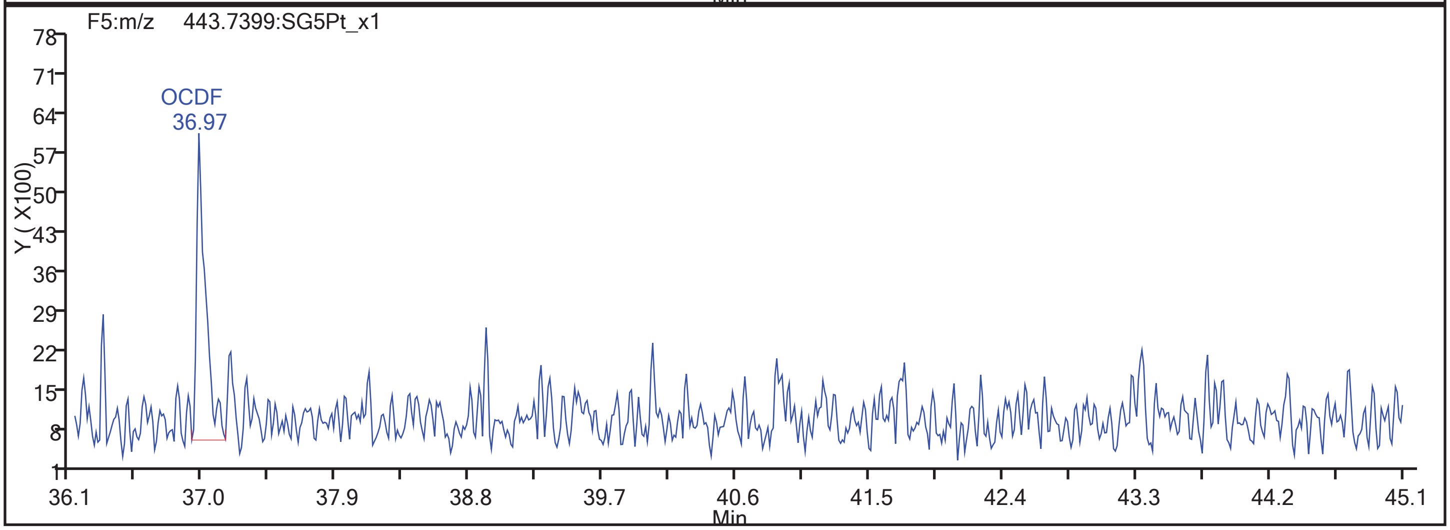
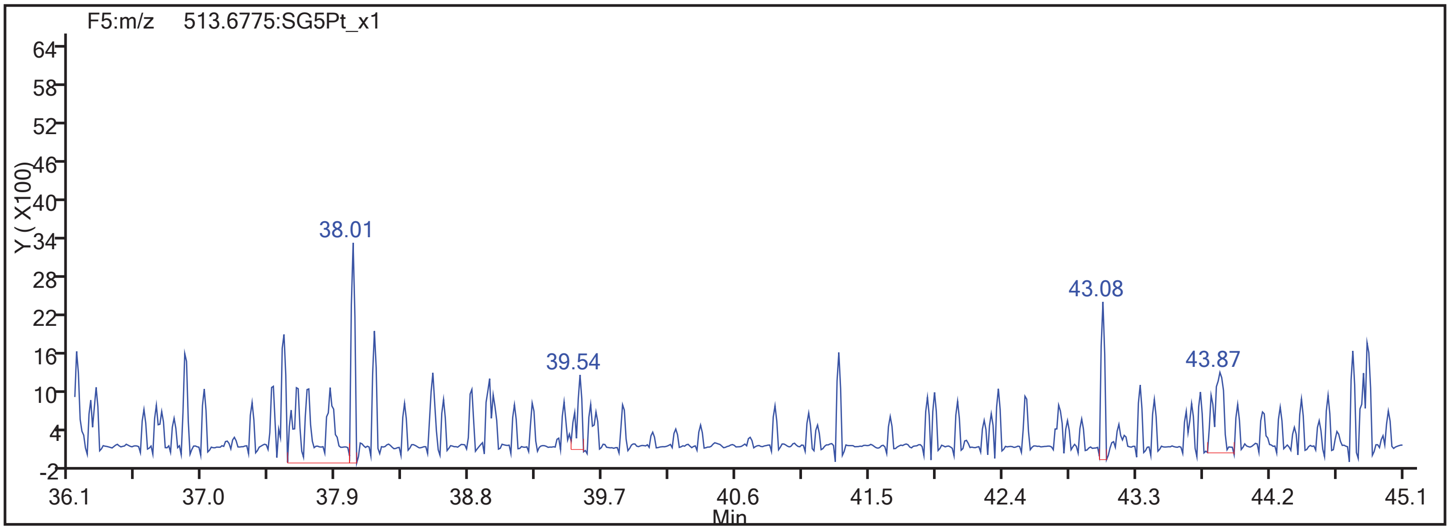




OCDF Interference Mass



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TestAmerica Sacramento

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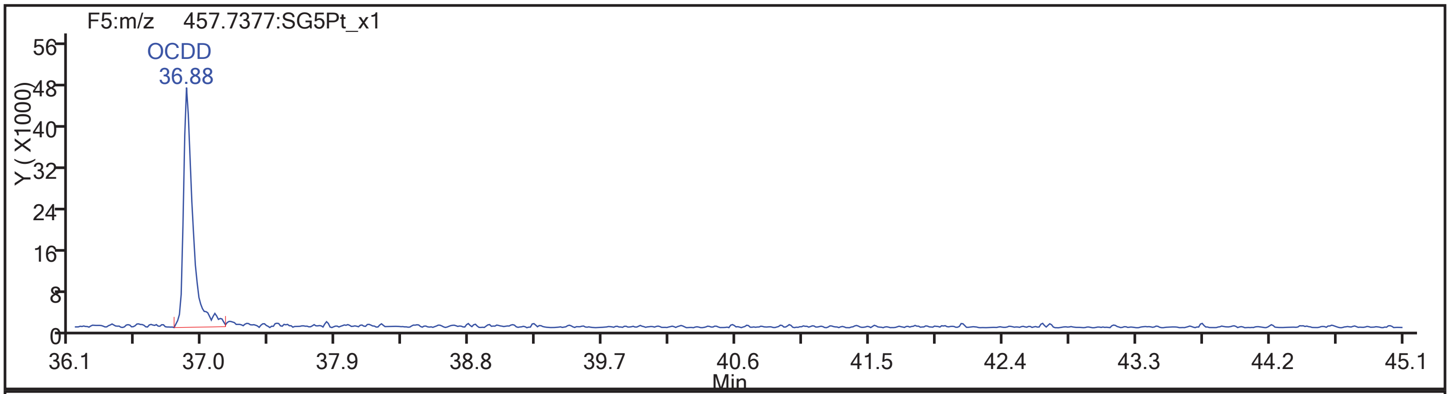
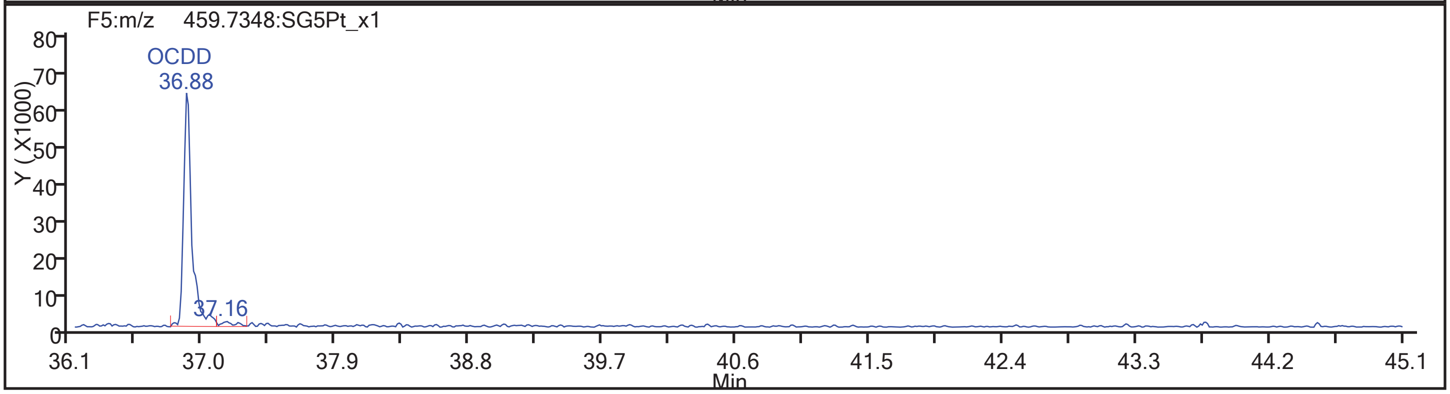
OCDD





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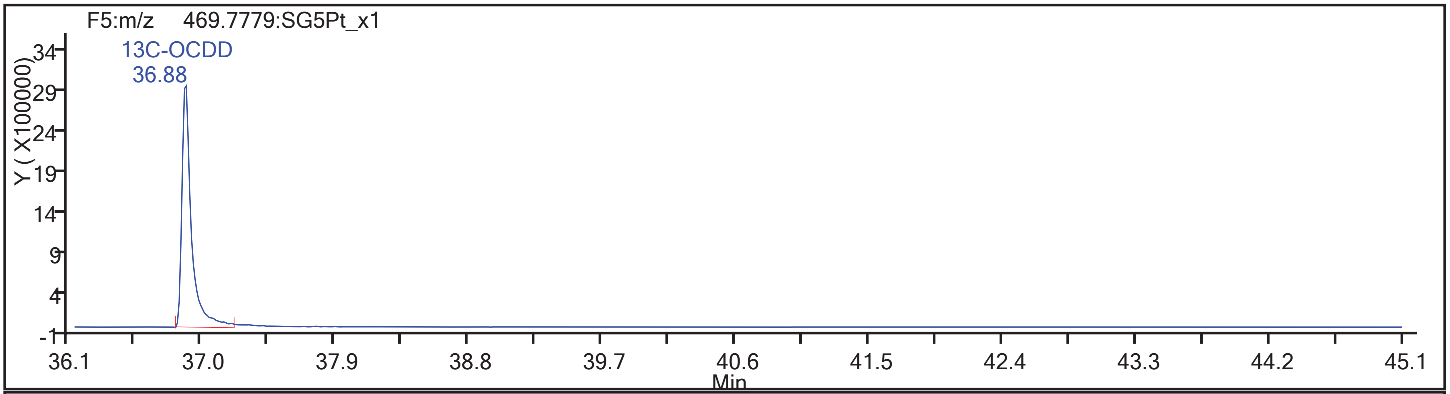

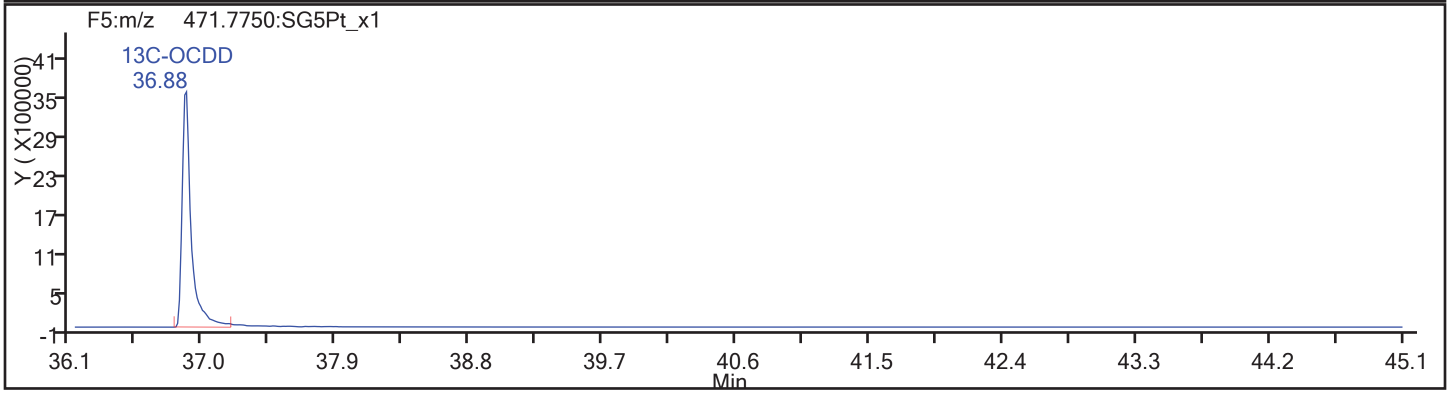

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TestAmerica Sacramento
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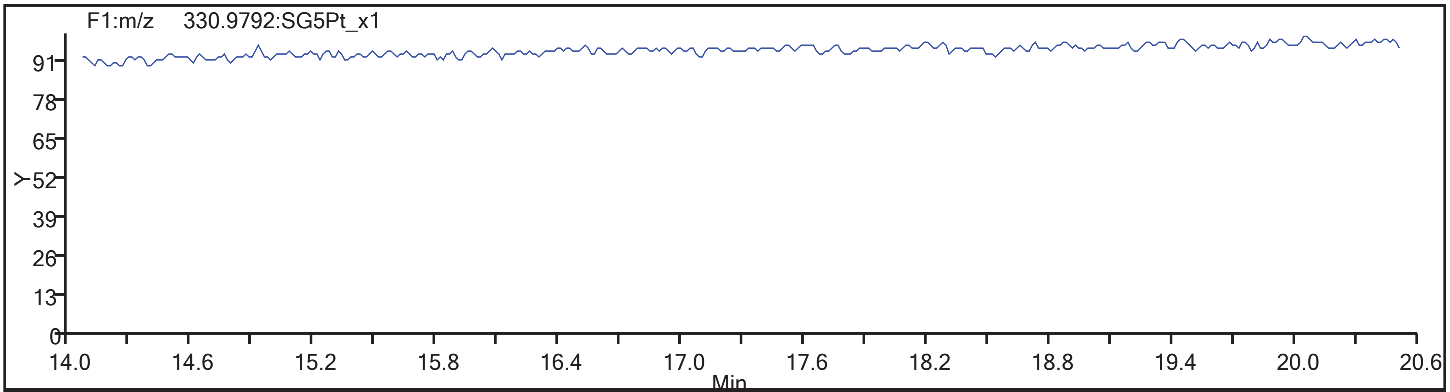

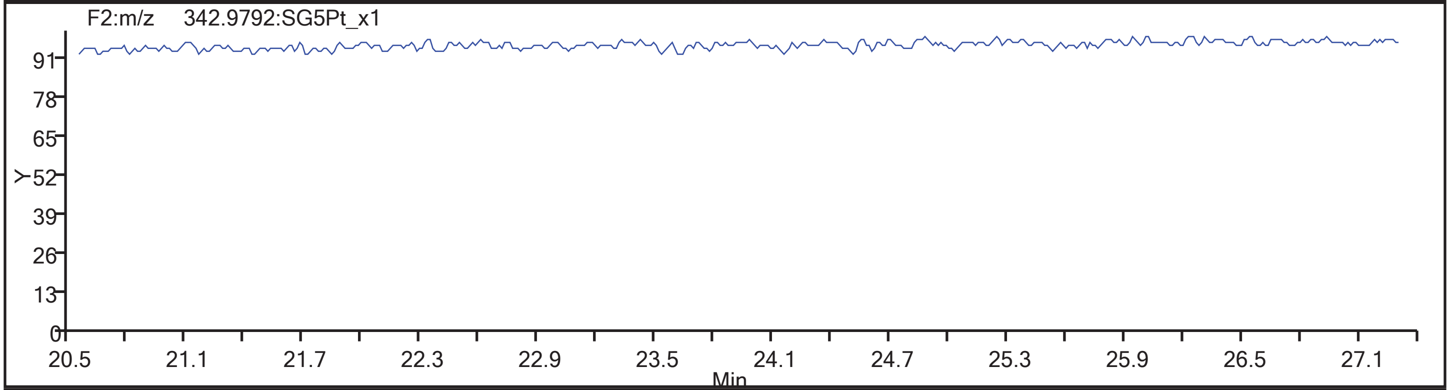

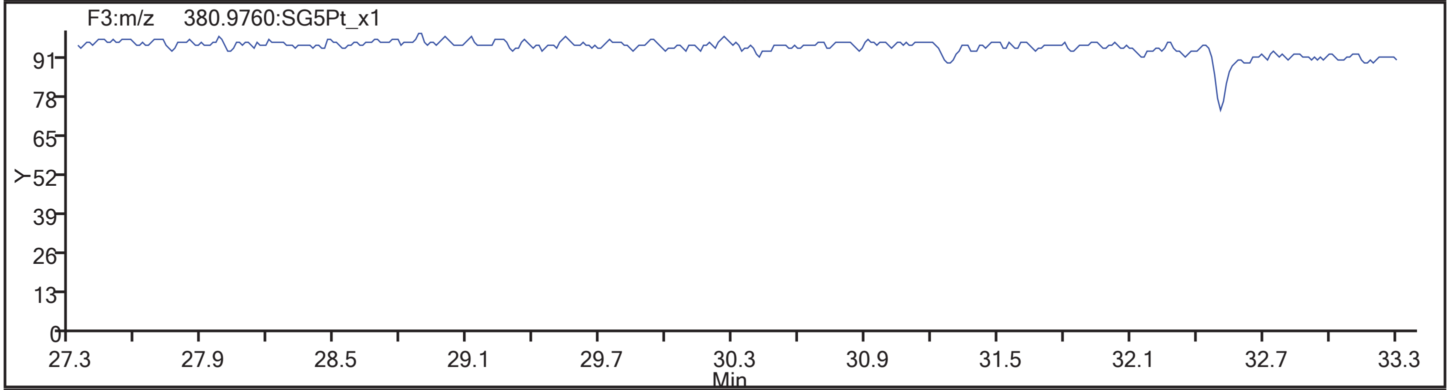

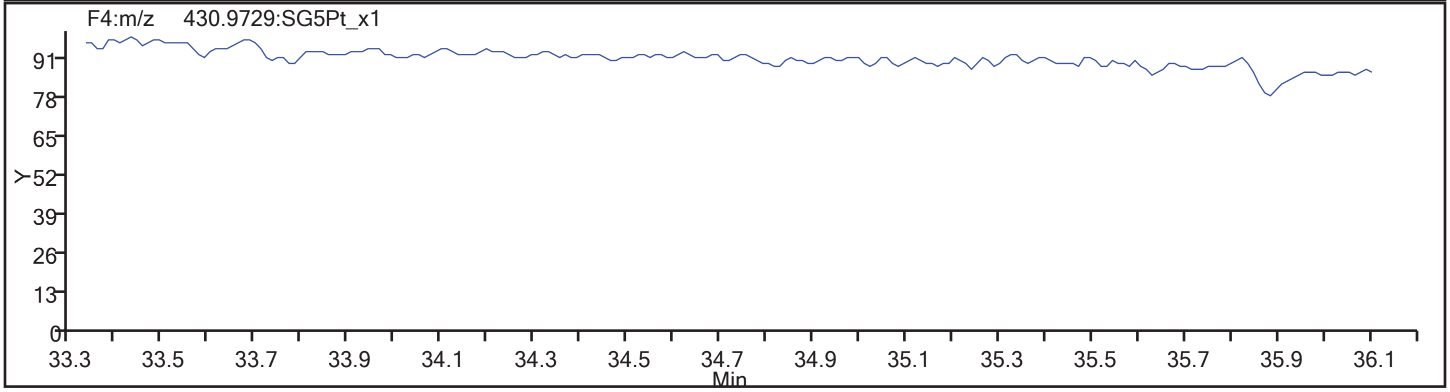

TestAmerica Sacramento

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Method: Dioxin_10D5
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Worklist#: 194086
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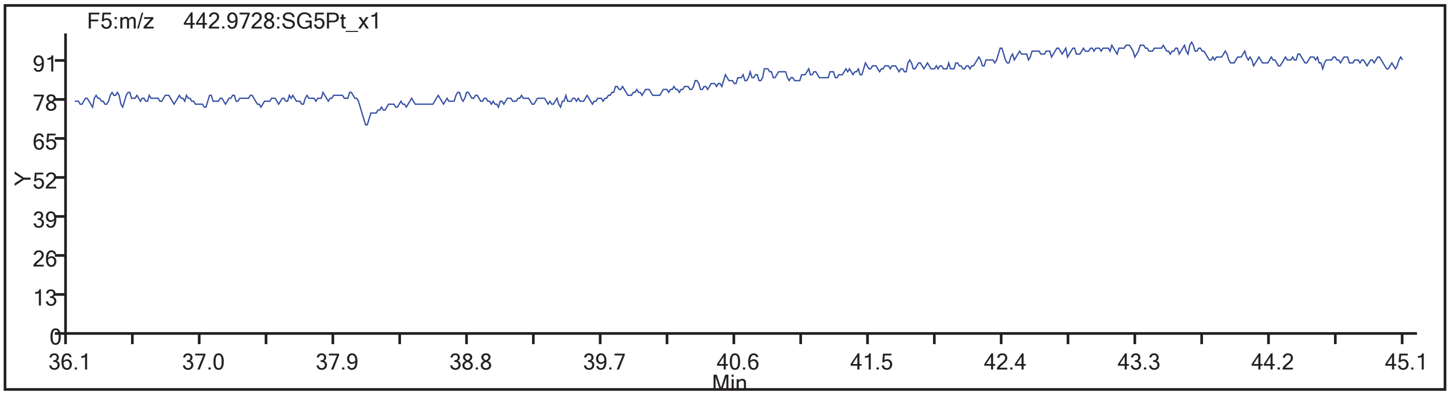

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP013SS05DS RE	Lab Sample ID: 160-24924-18 RE
Matrix: Solid	Lab File ID: 16NO173D5_89.d
Analysis Method: 8290A	Date Collected: 10/05/2017 15:15
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.14(g)	Date Analyzed: 11/19/2017 18:18
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 19.8	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195575	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
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51207-31-9	*2,3,7,8-TCDF*	*0.49*	*U H*	*1.2*	0.49	*0.095*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.92*	*U H*	*6.1*	0.92	*0.11*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.92*	*U H*	*6.1*	0.92	*0.083*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.92*	*U H*	*6.1*	0.92	*0.086*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*0.25*	*J H*	*6.1*	2.5	*0.078*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*2.5*	*U H*	*6.1*	2.5	*0.071*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*0.19*	*J H*	*6.1*	2.5	*0.068*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.31*	*J H M*	*6.1*	0.92	*0.12*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.2*	*U H*	*6.1*	1.2	*0.11*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.2*	*U H*	*6.1*	1.2	*0.13*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.92*	*U H*	*6.1*	0.92	*0.12*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*2.0*	*J H*	*6.1*	1.2	*0.13*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*0.66*	*J H*	*6.1*	1.2	*0.098*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.5*	*U H*	*6.1*	2.5	*0.13*
3268-87-9	*OCDD*	*17*	*H B*	*12*	4.9	*0.20*
39001-02-0	*OCDF*	*1.7*	*J H*	*12*	4.9	*0.16*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	61		40-135
89059-46-1	13C-2,3,7,8-TCDF	61		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	64		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	63		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	56		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	56		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	57		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	51		40-135
114423-97-1	13C-OCDD	51		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Lims ID: 160-24924-G-18-B
Client ID: SHAD041DP013SS05DS
Sample Type: Client
Inject. Date: 19-Nov-2017 18:18:03 ALS Bottle#: 59 Worklist Smp#: 89
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-18-B 160-24924-G-18-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:20:31 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:45:27

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	116436092	0.77	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	107423714	0.76	1.5089	61.1	61.1	0.3344	0.3344	61.15	
2,3,7,8-TCDF	17.720						0.0388	0.0388		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF							0.0388	0.0388		
D 13C-2,3,7,8-TCDD	18.445	70497721	0.78	0.9906	61.1	61.1	0.2390	0.2390	61.12	
2,3,7,8-TCDD	18.461						0.0459	0.0459		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD							0.0459	0.0459		
D 13C-1,2,3,7,8-PeCDF	22.896	82120767	1.60	1.1280	62.5	62.5	0.1972	0.1972	62.52	
1,2,3,7,8-PeCDF	22.910						0.0339	0.0339		
2,3,4,7,8-PeCDF	24.287						0.0349	0.0349		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF							0.0349	0.0349		
D 13C-1,2,3,7,8-PeCDD	25.010	53791794	1.66	0.7269	63.6	63.6	0.1186	0.1186	63.56	
1,2,3,7,8-PeCDD	25.037						0.0428	0.0428		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0428	0.0428		
D 13C-1,2,3,4,7,8-HxCDF	30.919	64554166	0.50	1.0279	55.5	55.5	0.2638	0.2638	55.51	
1,2,3,4,7,8-HxCDF	30.919	109315	1.20	1.3475	0.1257	0.1257	0.0497	0.0497		M
1,2,3,6,7,8-HxCDF	31.092						0.0453	0.0453		
2,3,4,6,7,8-HxCDF	31.838						0.0484	0.0484		
D 13C-1,2,3,7,8,9-HxCDF	32.597	67312920	0.52							
1,2,3,7,8,9-HxCDF	32.597						0.0519	0.0519		
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF					0.1257	0.1257	0.0488	0.0488		
* 13C-1,2,3,7,8,9-HxCDD	32.410	113129774	1.26	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.011	56963	1.24	1.0646	0.1279	0.1000	0.0319	0.0319		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.091	53481354	1.28	0.8502	55.6	55.6	0.2292	0.2292	55.61	
1,2,3,6,7,8-HxCDD	32.011						0.0288	0.0288		RQU

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.437	51466	1.24	1.2311	0.0900	0.0782	0.0276	0.0276		RQ
A Non-2,3,7,8-sub-HxCDD	31.252	319988	1.24	1.1589	0.5393	0.5163	0.0293	0.3819		RQ
S Total HxCDD					0.7572	0.6945	0.0294	0.0294		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	37167266	0.42	0.6490	50.6	50.6	0.5773	0.5773	50.62	
1,2,3,4,6,7,8-HpCDF	34.022	159411	0.92	1.5871	0.2702	0.2702	0.0399	0.0399		
1,2,3,4,7,8,9-HpCDF	35.128						0.0516	0.0516		
A Non-2,3,7,8-sub-HpCDF	34.569	159472	1.17	1.4080	0.3047	0.3047	0.0450	0.3047		
S Total HpCDF					0.5750	0.5750	0.0458	0.0458		
1,2,3,4,6,7,8-HpCDD	34.836	333413	1.04	1.1631	0.8966	0.8238	0.0547	0.0547		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	34796711	1.10	0.5387	57.1	57.1	0.3089	0.3089	57.10	
A Non-2,3,7,8-sub-HpCDD	35.261	496421	1.13	1.1631	1.227	1.227	0.0547	1.227		M
S Total HpCDD					2.123	2.050	0.0547	0.0547		RQ
D 13C-OCDD	37.245	45963311	0.92	0.4009	101.3	101.3	0.2129	0.2129	50.67	
OCDF	37.353	198692	0.89	1.2649	0.7905	0.6835	0.0659	0.0659		RQ
OCDD	37.257	1665931	0.95	1.0390	6.977	6.977	0.0798	0.0798		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Lims ID: 160-24924-G-18-B
Client ID: SHAD041DP013SS05DS
Sample Type: Client
Inject. Date: 19-Nov-2017 18:18:03 ALS Bottle#: 59 Worklist Smp#: 89
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-18-B 160-24924-G-18-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:20:31 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:45:27

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		50614942	11795182	15278	38195	772		
333.9339	18.249	18.234	1		65821150	15521761	10591	26477	1466	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.971	46488016	10986979	38438	96095	286		
317.9389	17.720	17.705	1	0.971	60935698	14316050	16698	41745	857	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						1011	2527			
305.8987	17.720						3299	8247			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						1011	2527			
305.8987	17.402						3299	8247			
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.011	30818154	6764342	15278	38195	443		
333.9339	18.445	18.430	1	1.011	39679567	9093343	10591	26477	859	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461						2378	5945			
321.8936	18.461						1015	2537			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						2378	5945			
321.8936	17.871						1015	2537			
13C-1,2,3,7,8-PeCDF											
351.9000	22.896	22.883	1	1.255	50485228	8736931	14898	37245	586		
353.8970	22.896	22.883	1	1.255	31635539	5387896	9414	23535	572	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						680	1700			
341.8567	22.910						1507	3767			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	24.287						680	1700			
341.8567	24.287						1507	3767			
A F1 PeCDFs											
339.8597	20.426						490	1225			
341.8567	20.426						1082	2705			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						680	1700			
341.8567	23.668						1507	3767			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.370	33550792	4906281	4331	10827	1133		
369.8919	25.024	25.010	1	1.371	20241002	3005296	5092	12730	590	1.66(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037						1097	2742			
357.8516	25.037						430	1075			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1097	2742			
357.8516	23.878						430	1075			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.919	0	0.954	21394716	4777835	12494	31235	382		
385.8610	30.919	30.919	0	0.954	43159450	9323380	21548	53870	433	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											M
373.8208	30.919	30.932	-1	1.000	59721	11384	2904	7260	4		M
375.8178	30.946	30.932	1	1.001	49594	10065	872	2180	12	1.20(1.05-1.43)	M
1,2,3,6,7,8-HxCDF											
373.8208	31.092						2904	7260			
375.8178	31.092						872	2180			
2,3,4,6,7,8-HxCDF											
373.8208	31.838						2904	7260			
375.8178	31.838						872	2180			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.006	22889017	6083927	12494	31235	487		
385.8610	32.597	32.583	1	1.006	44423903	11910674	21548	53870	553	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						2904	7260			
375.8178	32.597						872	2180			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						2904	7260			
375.8178	30.653						872	2180			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.410	0		62988262	17190486	13894	34735	1237		
403.8529	32.410	32.410	0		50141512	14191081	10570	26425	1343	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	32.011	32.011	0	0.998	47386	8312	874	2185	10		
	Empc Correction				31533	8500	874	2185	10		
391.8127	32.011	32.011	0	0.998	25430	6855	999	2497	7	1.86(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.990	30036672	7771637	13894	34735	559		
403.8529	32.091	32.091	0	0.990	23444682	6017618	10570	26425	569	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	32.104						874	2185			
391.8127	32.104						999	2497			
1,2,3,7,8,9-HxCDD											RQ
389.8157	32.437	32.424	1	1.011	36300	9618	874	2185	11		
	Empc Correction				28490	7099	874	2185	8		
391.8127	32.397	32.424	-2	1.010	22976	5725	999	2497	6	1.58(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.160	31.252	-65	0.940	133315	21360	874	2185	24		
391.8127	30.147	31.252	-66	0.939	103357	16153	999	2497	16	1.29(1.05-1.43)	
389.8157	31.345	31.252	6	0.977	60372	9596	874	2185	11		
	Empc Correction				46121	14439	874	2185	17		
391.8127	31.318	31.252	4	0.976	37195	11645	999	2497	12	1.62(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	10955616	3518118	13723	34307	256		
419.8220	33.998	33.998	0	1.049	26211650	8559871	33305	83262	257	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.010	1	1.001	76186	26015	1920	4800	14		
409.7789	34.022	34.010	1	1.001	83225	21930	1143	2857	19	0.92(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						1920	4800			
409.7789	35.128						1143	2857			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.326	34.569	-15	1.010	85886	24379	1920	4800	13		
409.7789	34.326	34.569	-15	1.010	73586	23530	1143	2857	21	1.17(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RQ
423.7766	34.836	34.824	1	1.000	199452	66600	1444	3610	46		
	Empc Correction				169975	48712	1444	3610	34		
425.7737	34.836	34.824	1	1.000	163438	46839	1413	3532	33	1.22(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.824	0	1.074	18228499	5773762	10873	27182	531		
437.8140	34.824	34.824	0	1.074	16568212	5452193	10014	25035	544	1.10(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7766	34.253	35.261	-60	0.984	263139	78686	1444	3610	54		a
425.7737	34.265	35.261	-60	0.984	233282	72717	1413	3532	51	1.13(0.88-1.20)	M
13C-OCDD											
469.7779	37.245	37.245	0	1.149	22076855	6133277	5416	13540	1132		
471.7750	37.245	37.245	0	1.149	23886456	6397145	5299	13247	1207	0.92(0.76-1.02)	
OCDF											RQ
441.7428	37.353	37.353	0	1.003	93564	23024	646	1615	36		
443.7399	37.353	37.353	0	1.003	136229	31173	1443	3607	22	0.69(0.76-1.02)	
	Empc Correction				105128	25869	1443	3607	18		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	37.257	37.257	0	1.000	811335	211263	971	2427	218		
459.7348	37.257	37.257	0	1.000	854596	212710	1106	2765	192	0.95(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Lims ID: 160-24924-G-18-B
Client ID: SHAD041DP013SS05DS
Inject. Date: 19-Nov-2017 18:18:03
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 89

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	53481354	13789255
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	53481354	13789255

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.160	133315	21360	103357	16153	0.3819	1.29	
31.345	60372	9596	37195	11645	0.1574	1.62	RQ
31.345	46121	14439	37195	11645	0.1344		Empc Correction
Signal Totals:							
	179436	35799	140552	27798			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	334239	58754				1.38	RQ
	319988	63597					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5393 = (334239 * 100.000) / (53481354 * 1.159)
Empc Amount: 0.5163 = (319988 * 100.000) / (53481354 * 1.159)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Lims ID: 160-24924-G-18-B
Client ID: SHAD041DP013SS05DS
Inject. Date: 19-Nov-2017 18:18:03
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 89

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	37167266	12077989
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	37167266	12077989

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	85886	24379	73586	23530	0.3047	1.17	
Signal Totals:							
	85886	24379	73586	23530			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	159472	47909				1.17	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3047 = (159472 * 100.000) / (37167266 * 1.408)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Lims ID: 160-24924-G-18-B
Client ID: SHAD041DP013SS05DS
Inject. Date: 19-Nov-2017 18:18:03
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 89

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	34796711	11225955

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	34796711	11225955

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.253	263139	78686	233282	72717	1.23	1.13	M
Signal Totals:							
	263139	78686	233282	72717			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	496421	151403				1.13	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.227 = (496421 * 100.000) / (34796711 * 1.163)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

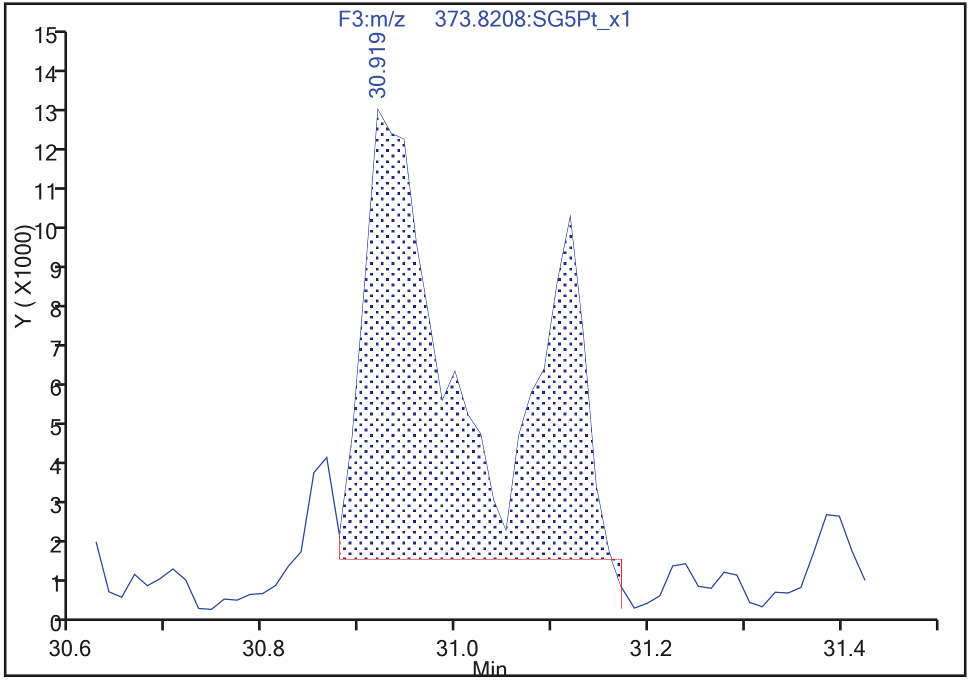
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d		
Injection Date:	19-Nov-2017 18:18:03	Instrument ID:	3D5
Lims ID:	160-24924-G-18-B	Lab Sample ID:	320-24924-18
Client ID:	SHAD041DP013SS05DS		
Operator ID:	SMA, ALM	ALS Bottle#:	59 Worklist Smp#: 89
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Column:		Detector	F3:HRSIR

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

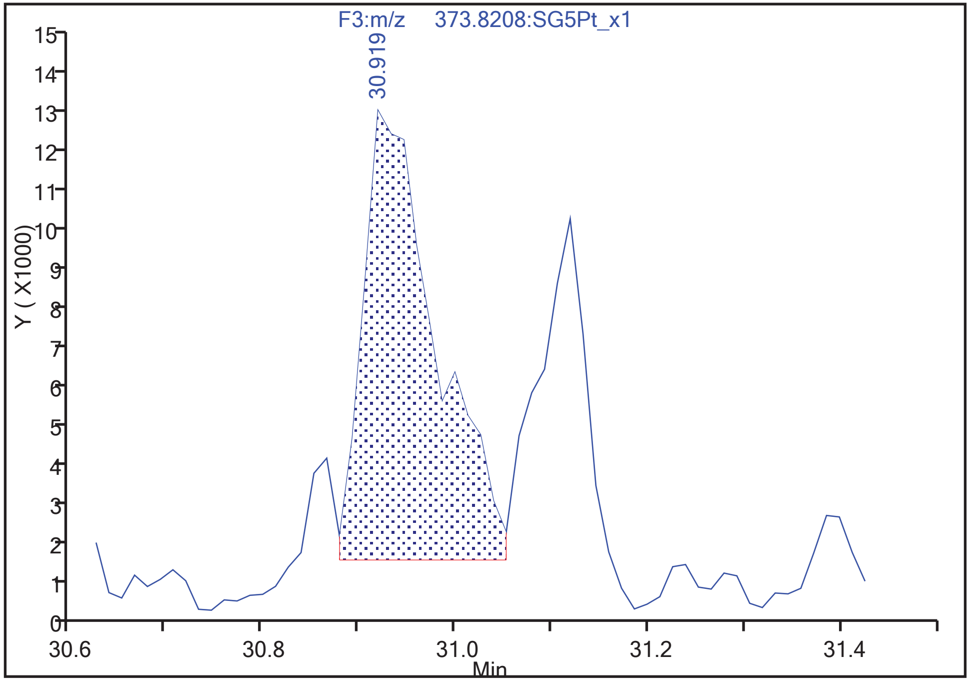
Processing Integration Results

RT:	30.92
Area:	88236
Amount:	0.172200
Amount Units:	pg/ul



Manual Integration Results

RT:	30.92
Area:	59721
Amount:	0.125665
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 15:18:52

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Chrom Revision: 2.2 16-Aug-2017 16:24:46

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

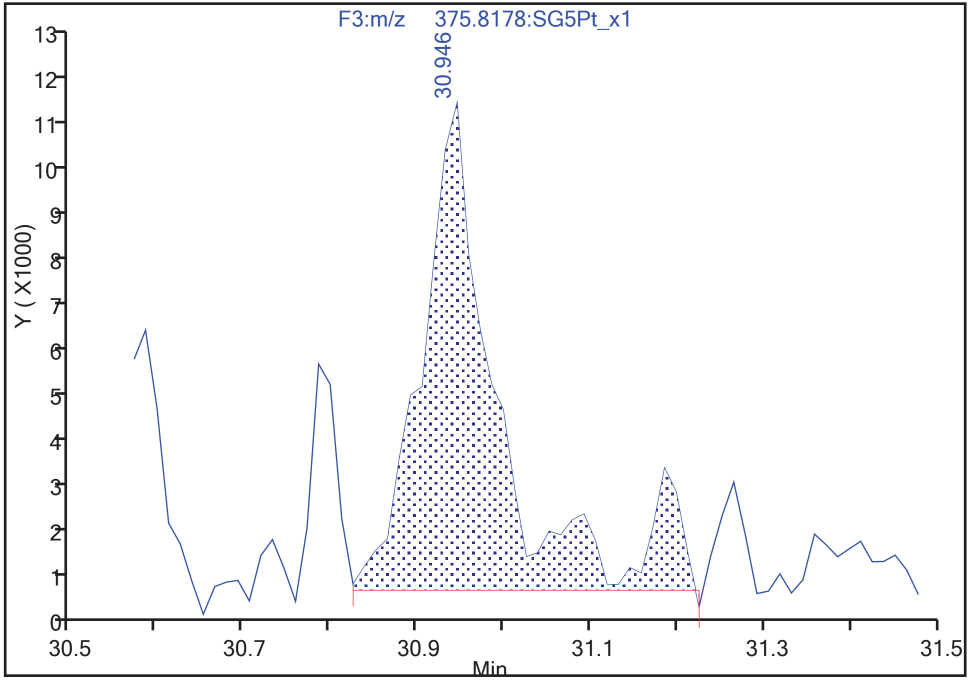
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d				
Injection Date:	19-Nov-2017 18:18:03	Instrument ID:	3D5		
Lims ID:	160-24924-G-18-B	Lab Sample ID:	320-24924-18		
Client ID:	SHAD041DP013SS05DS				
Operator ID:	SMA, ALM	ALS Bottle#:	59	Worklist Smp#:	89
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

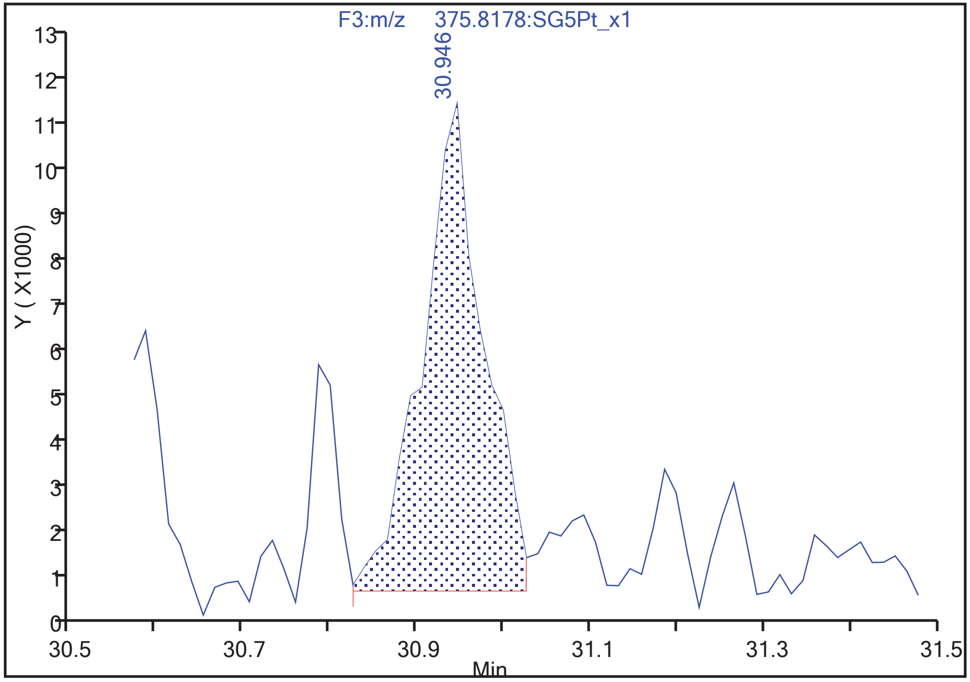
RT:	30.95
Area:	61560
Amount:	0.172200
Amount Units:	pg/ul

Processing Integration Results



RT:	30.95
Area:	49594
Amount:	0.125665
Amount Units:	pg/ul

Manual Integration Results



Reviewer: dadunj, 06-Dec-2017 15:18:53

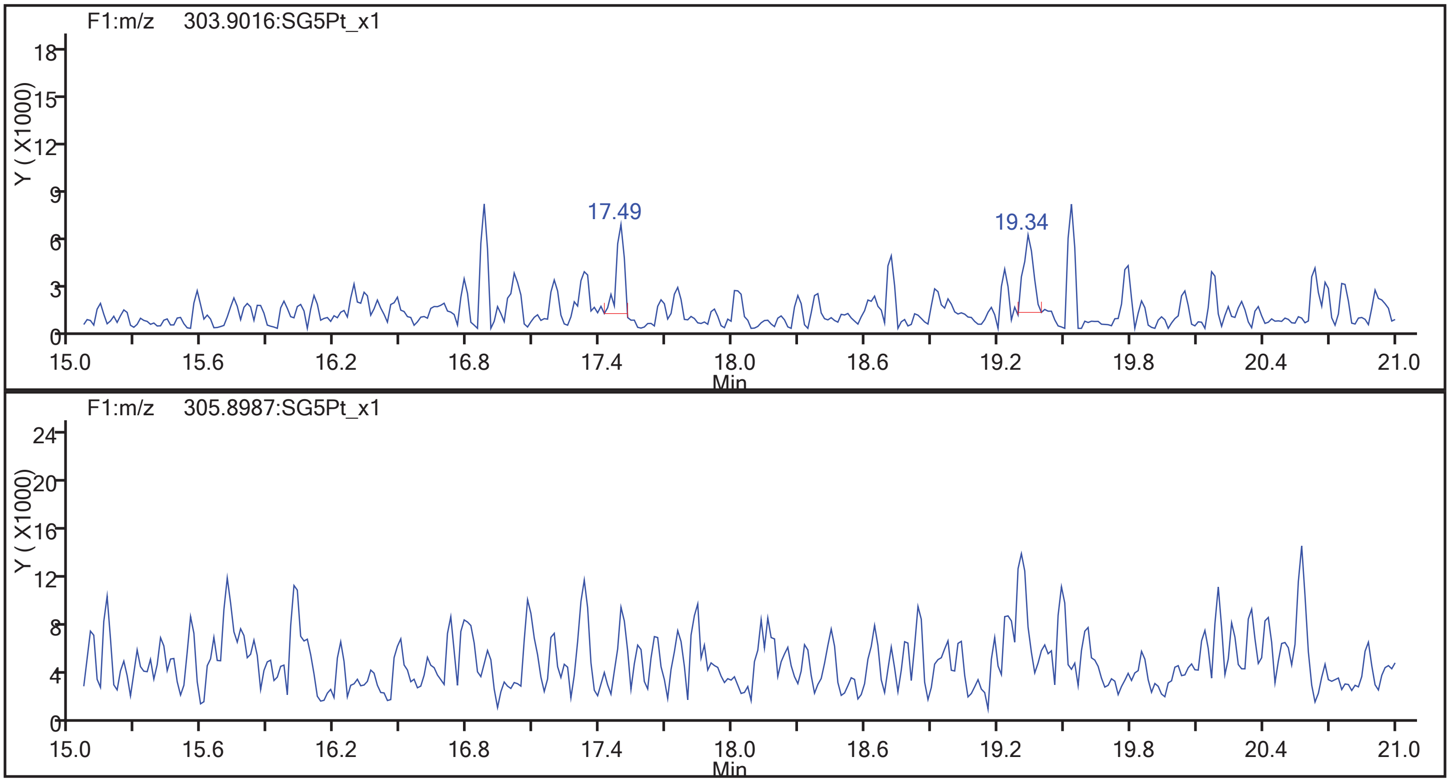
Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

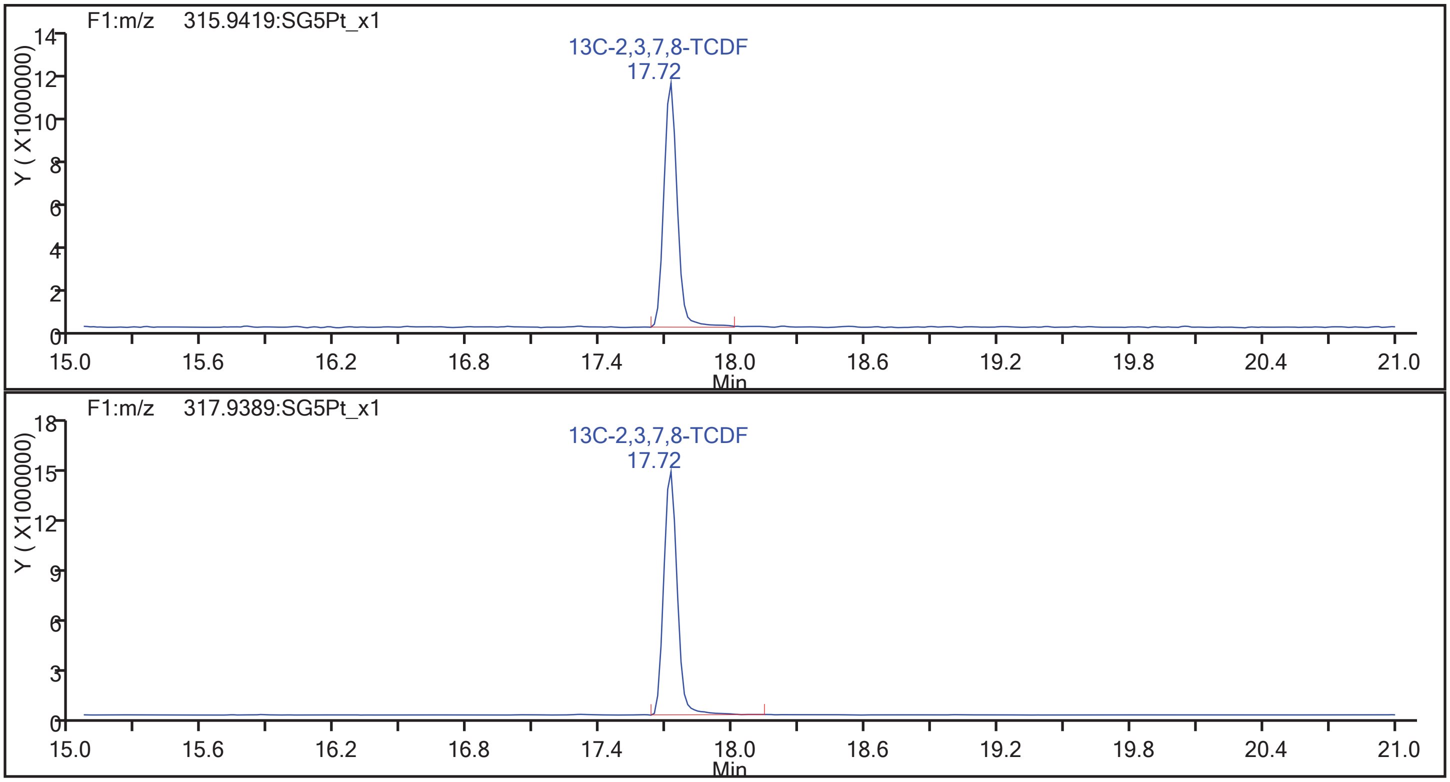
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d		
Injection Date:	19-Nov-2017 18:18:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	195575	Sample Line#:	89
Column Type:		Column Dia:	

TCDF



TCDF Standards



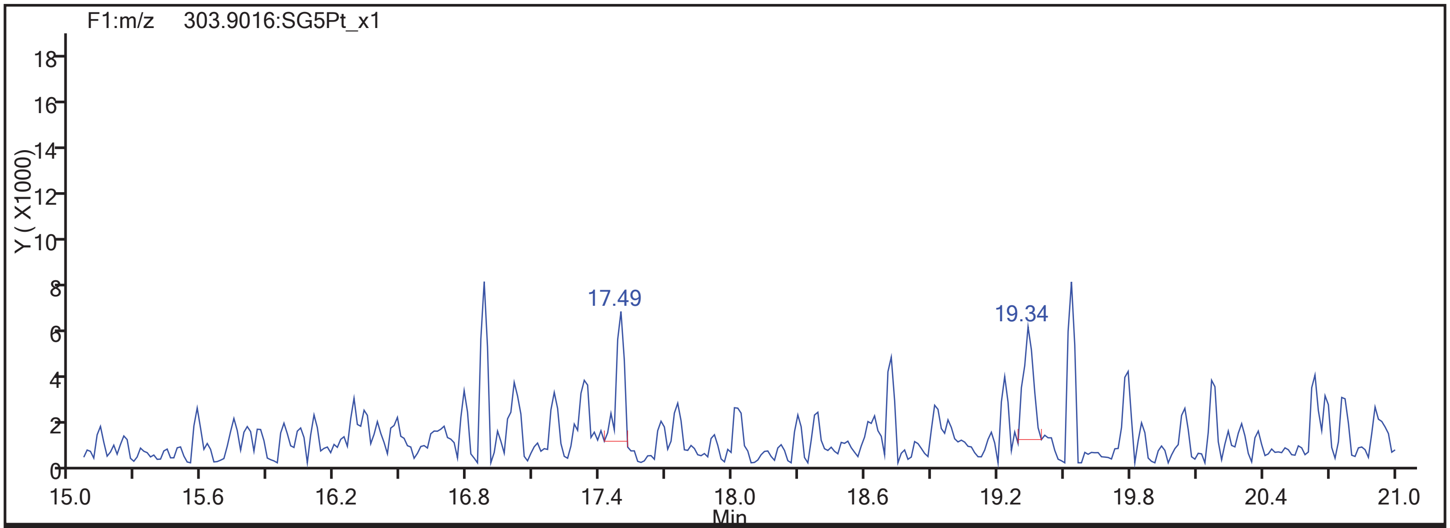
Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

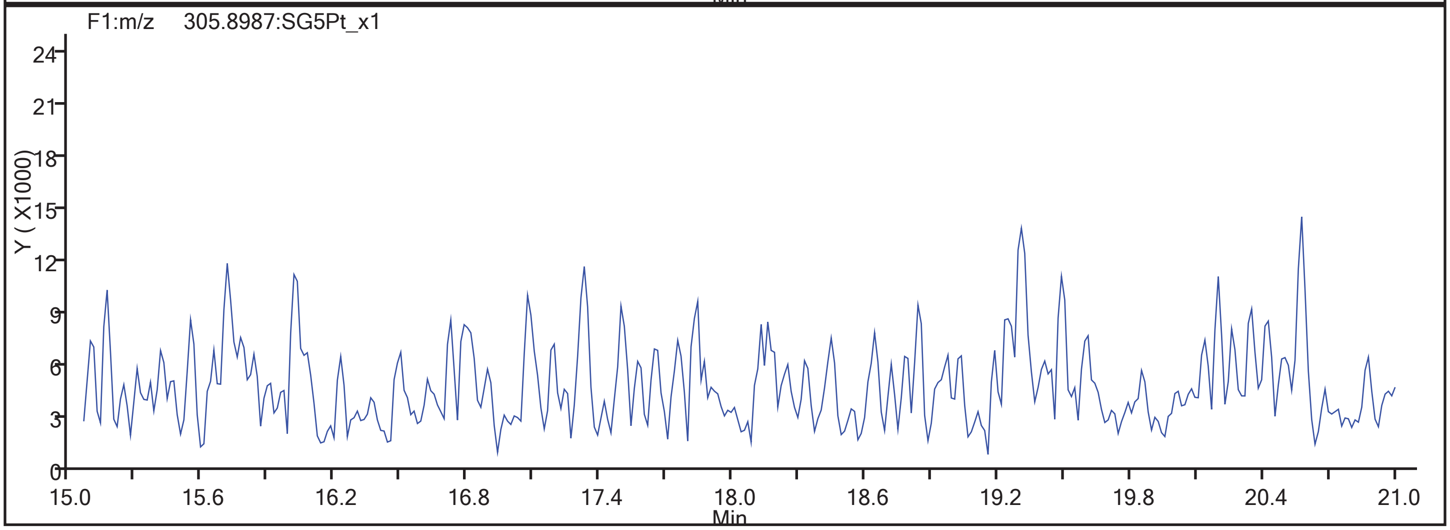
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d

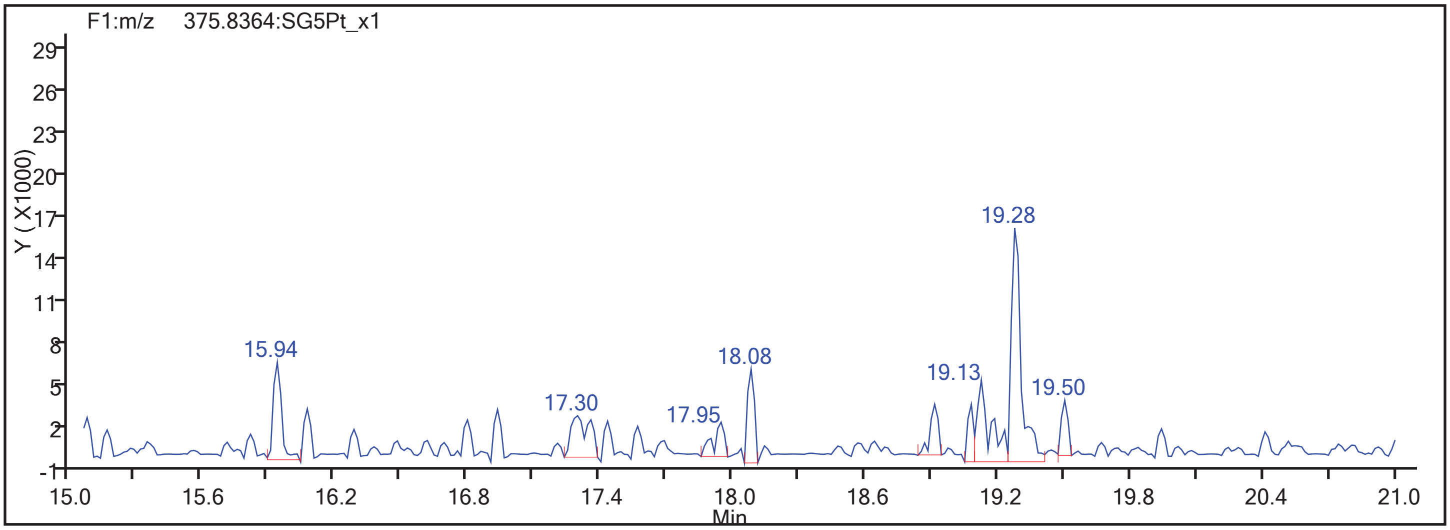
Injection Date:	19-Nov-2017 18:18:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	195575	Sample Line#:	89
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass



Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d

Injection Date: 19-Nov-2017 18:18:03

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS05DS

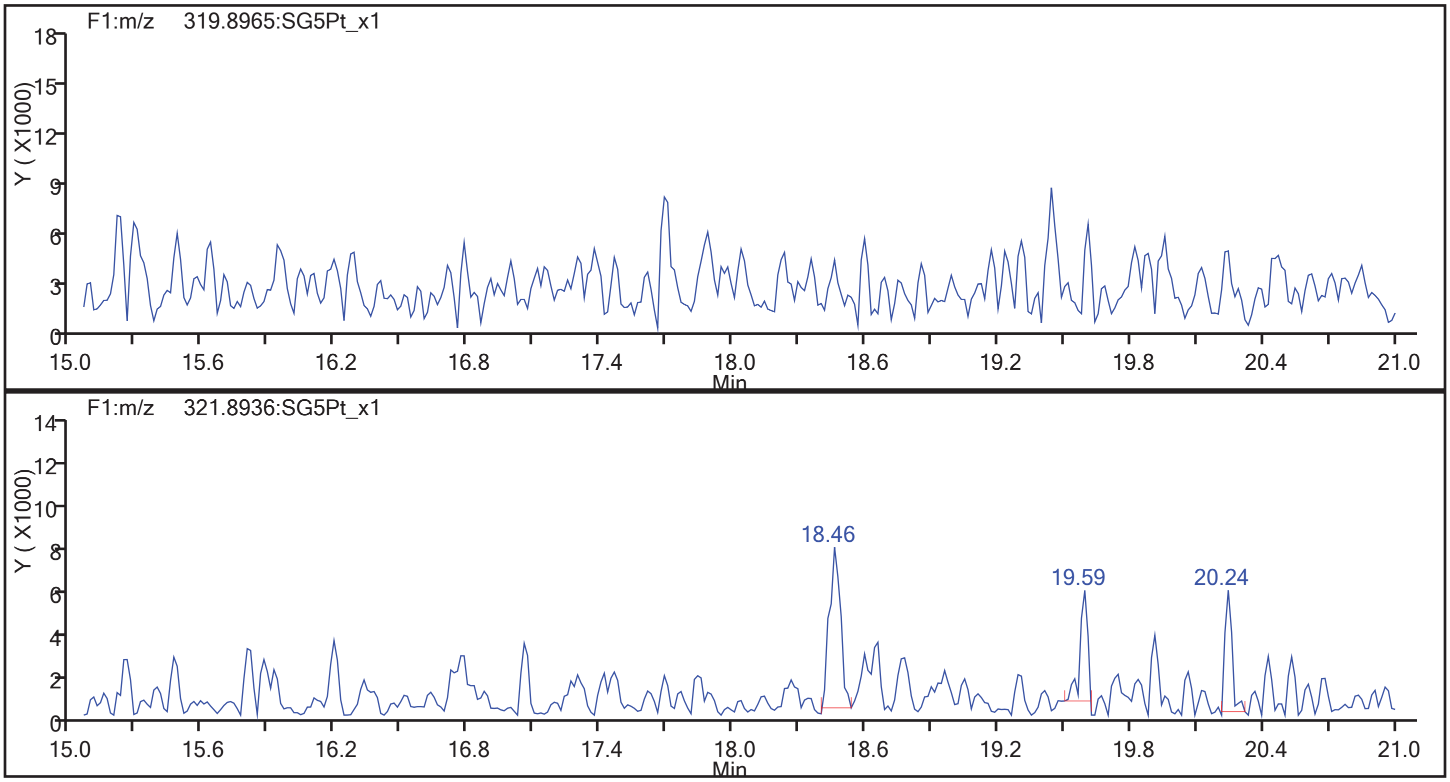
Worklist#: 195575

Sample Line#: 89

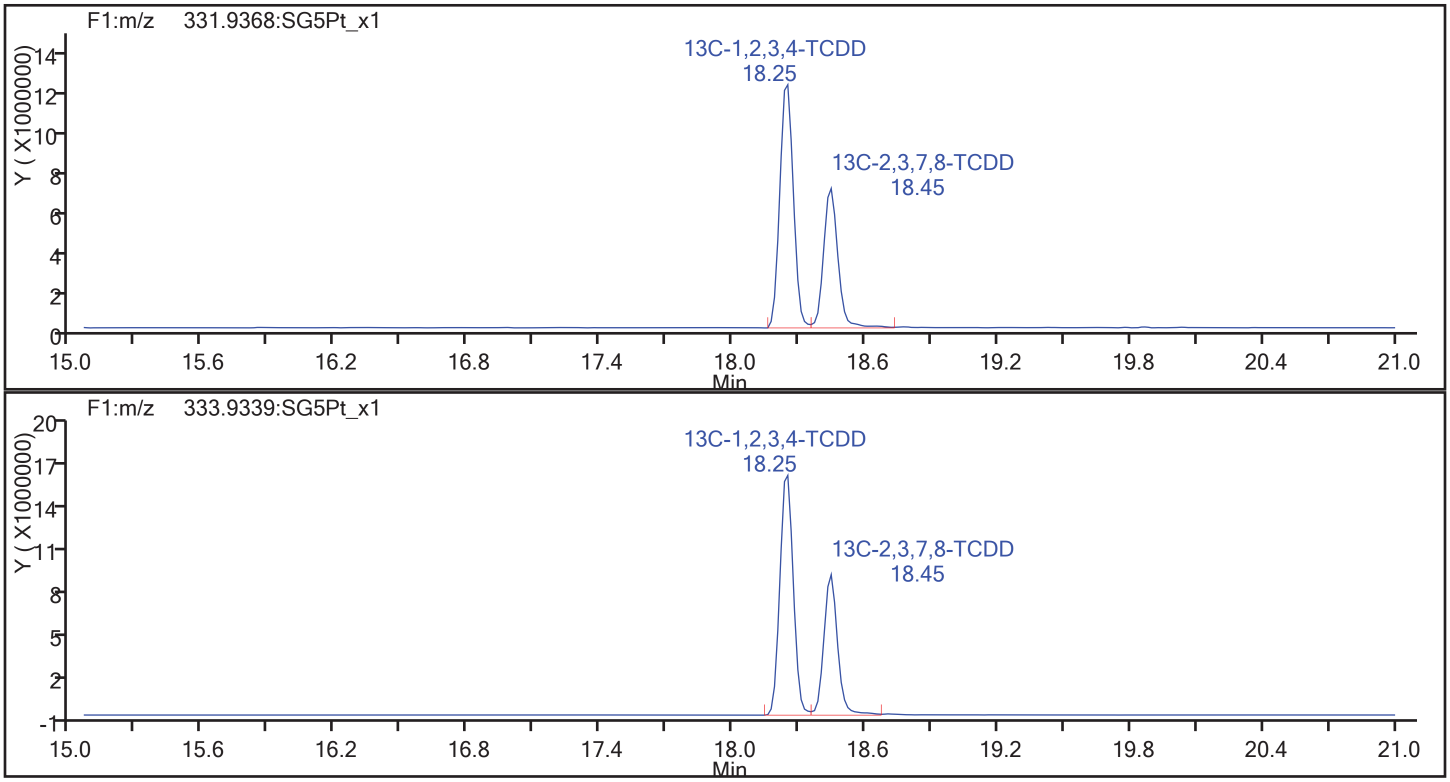
Column Type:

Column Dia:

TCDD



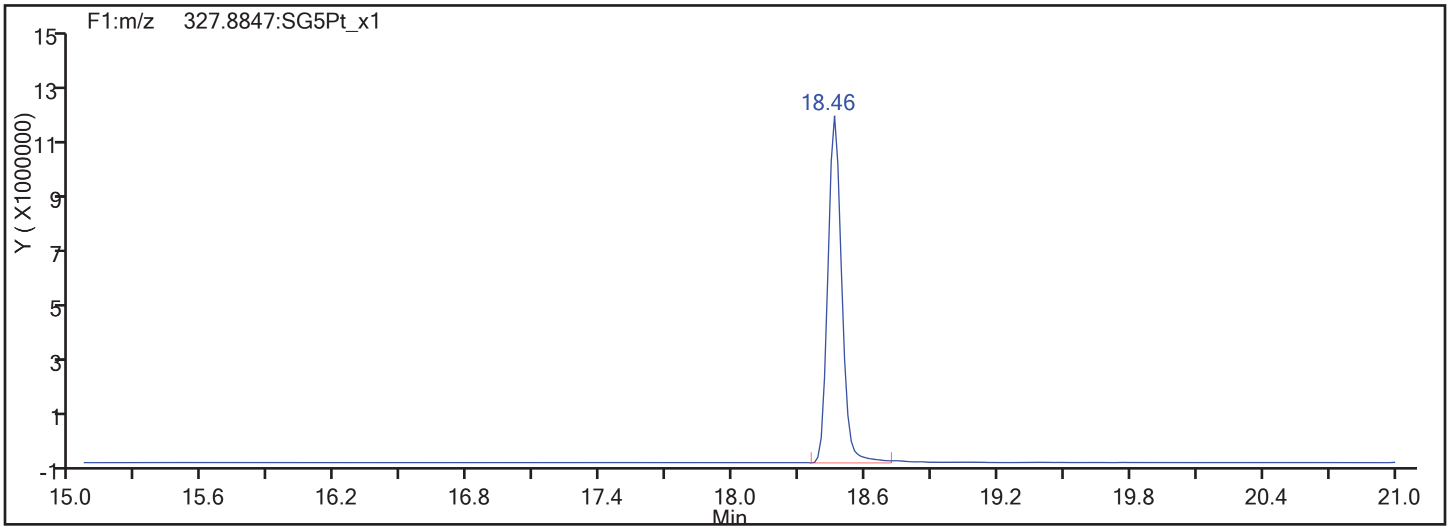
TCDD Standards



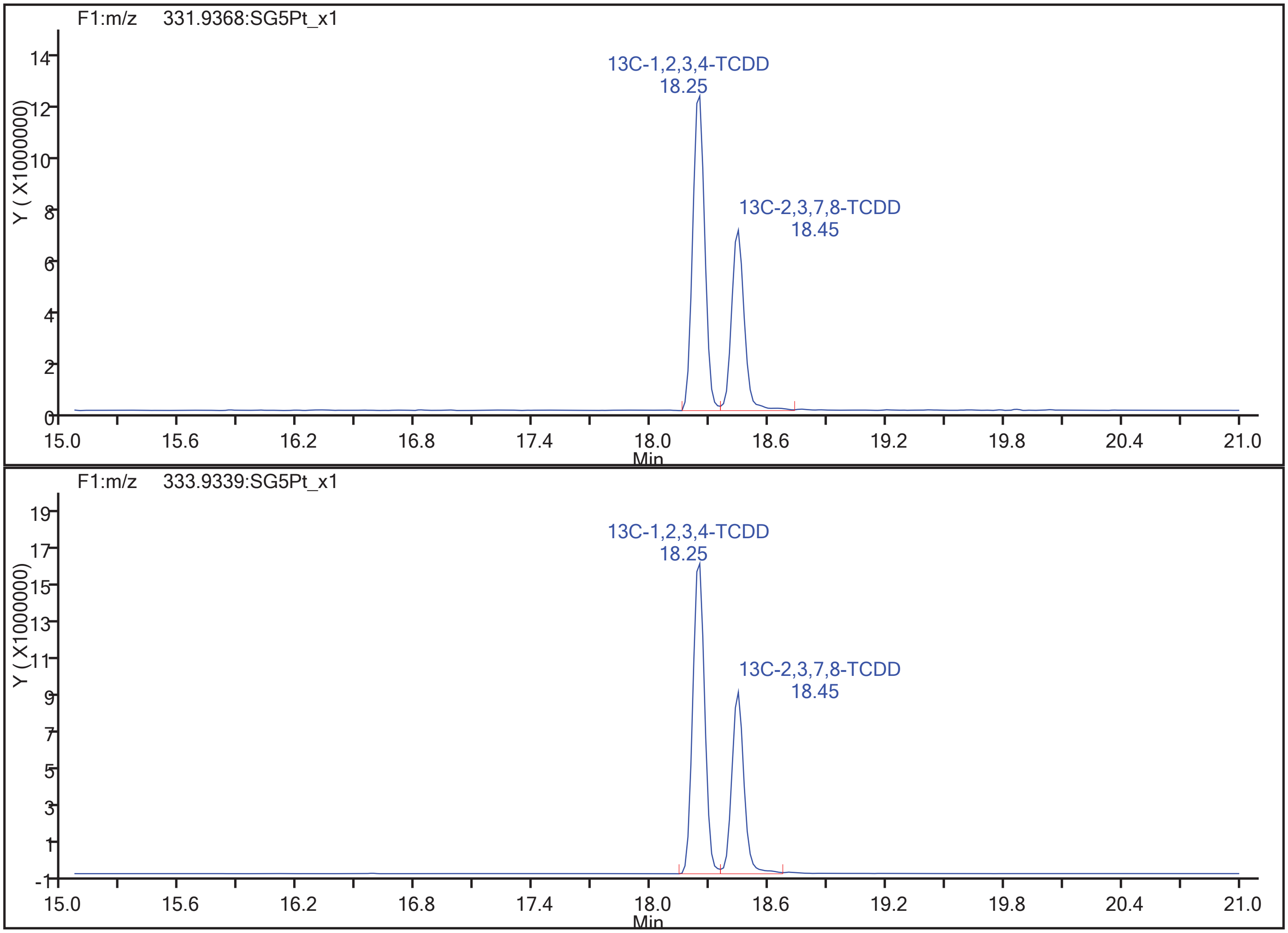
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Injection Date: 19-Nov-2017 18:18:03 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05DS
Worklist#: 195575 Sample Line#: 89
Column Type: Column Dia:

37Cl4-TCDD

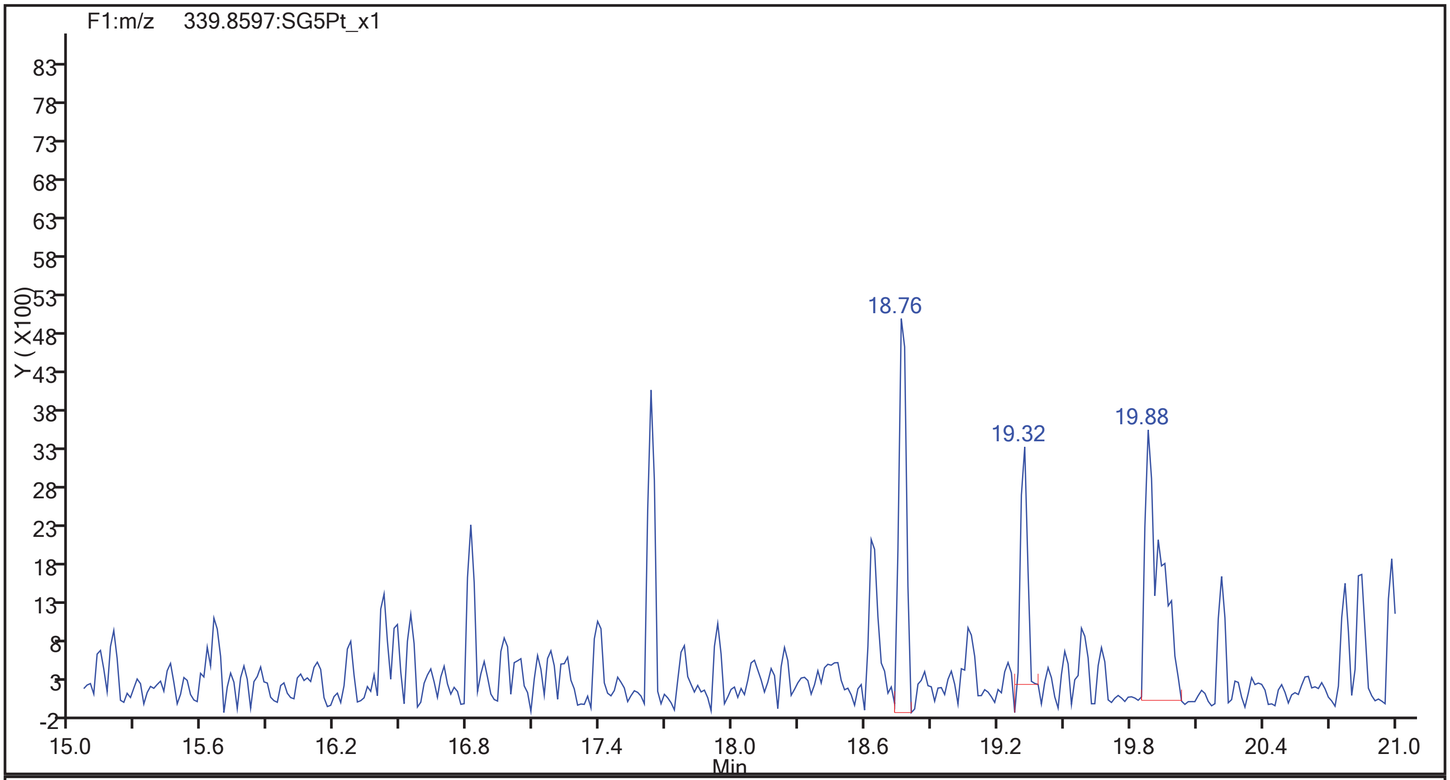


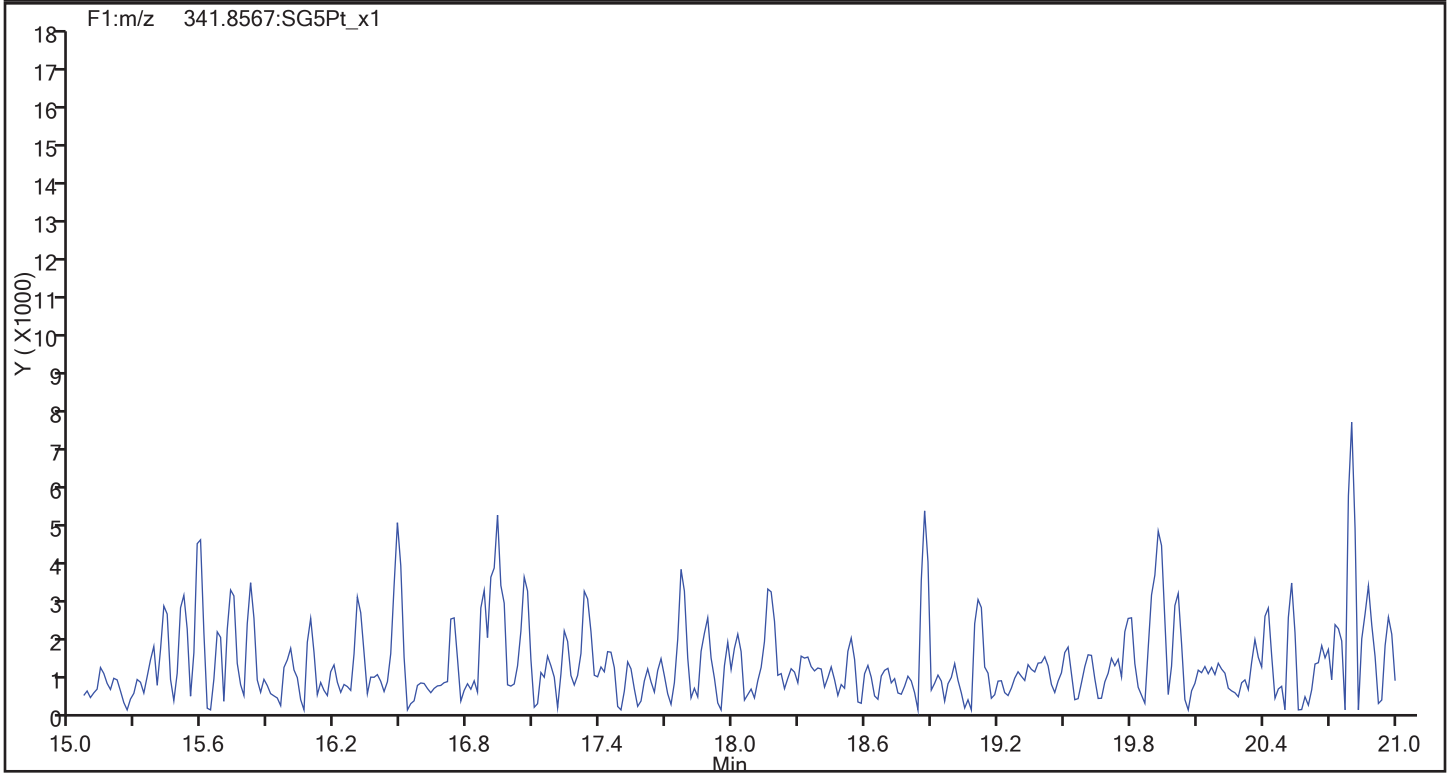
37Cl4-TCDD Standards



Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d		
Injection Date:	19-Nov-2017 18:18:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	195575	Sample Line#:	89
Column Type:		Column Dia:	

F1 PeCDFs





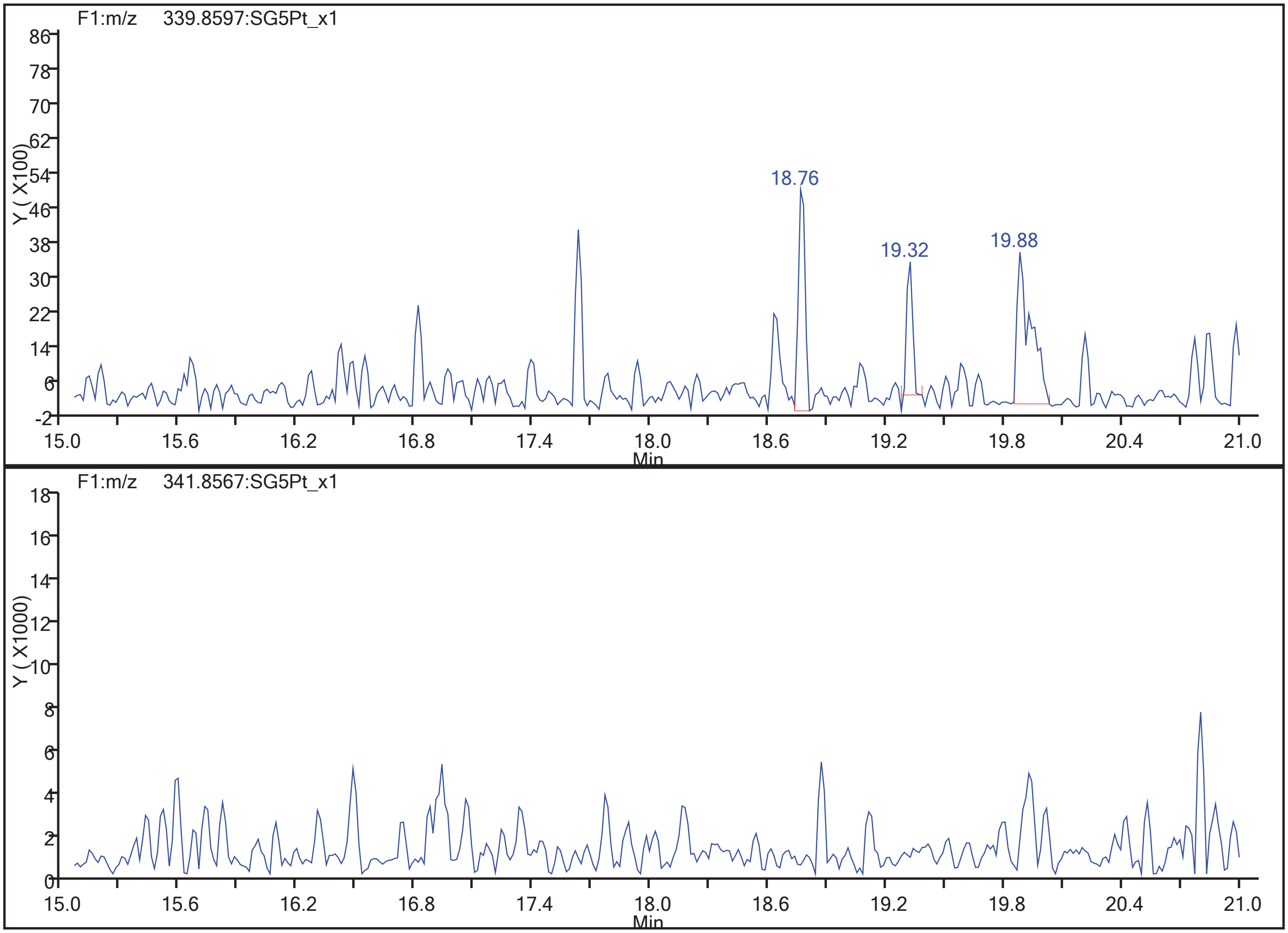
Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

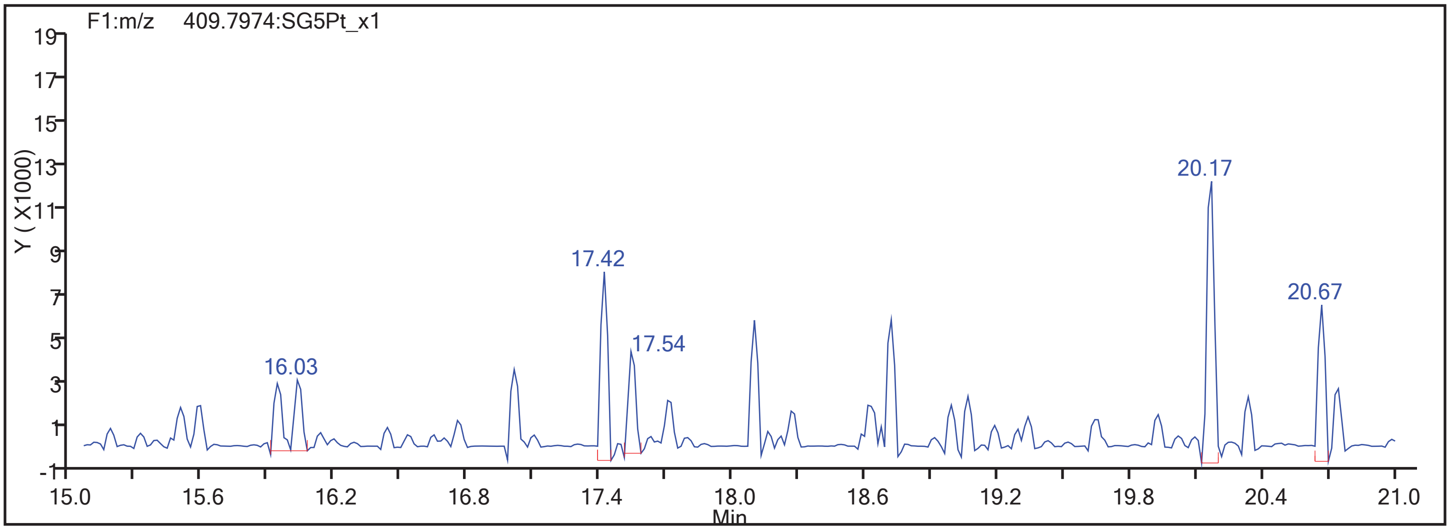
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d

Injection Date: 19-Nov-2017 18:18:03
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05DS
Worklist#: 195575
Sample Line#: 89
Column Type:
Column Dia:

F1 PeCDFs



F1 PeCDFs Interference Mass

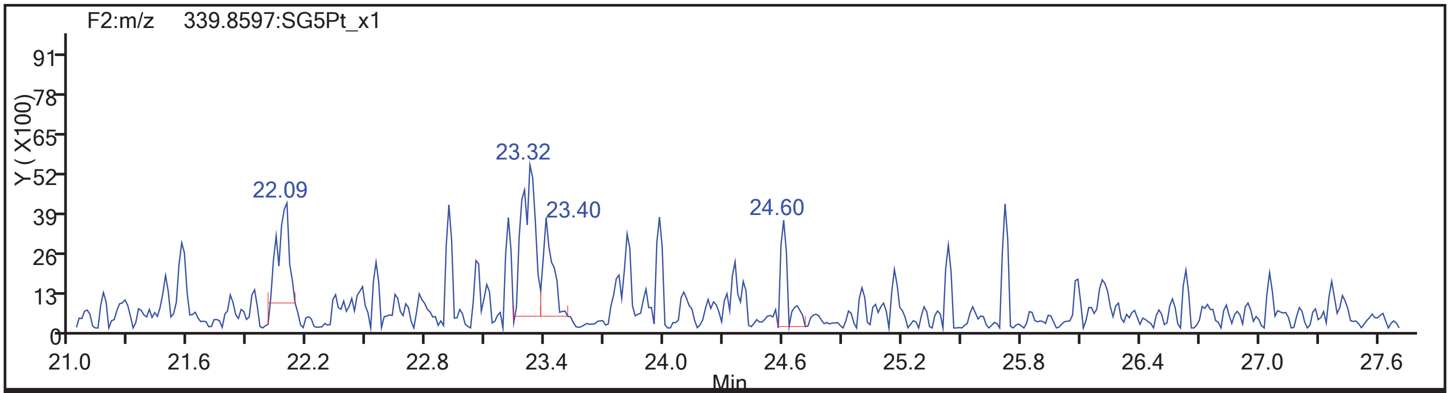


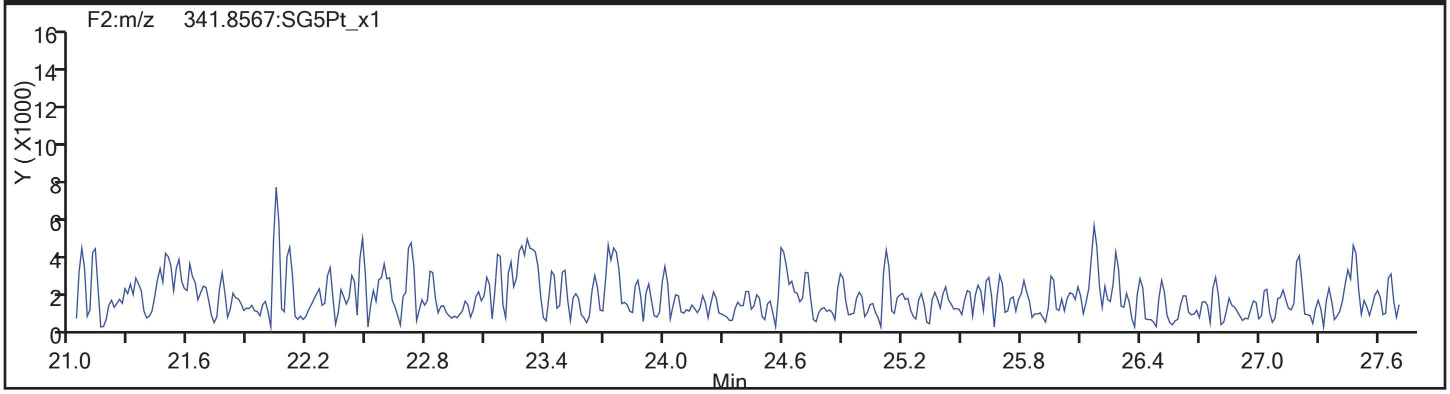
Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

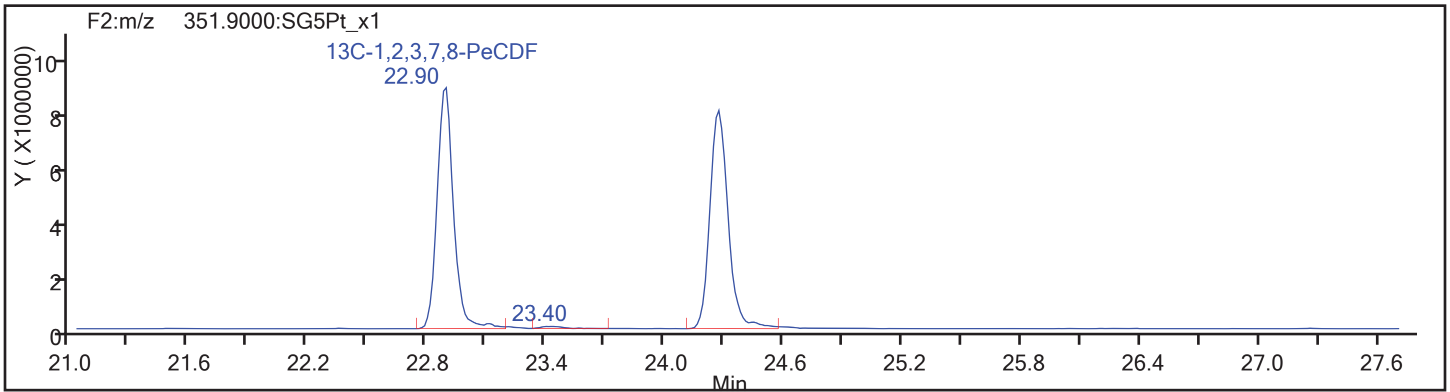
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d		
Injection Date:	19-Nov-2017 18:18:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	195575	Sample Line#:	89
Column Type:		Column Dia:	

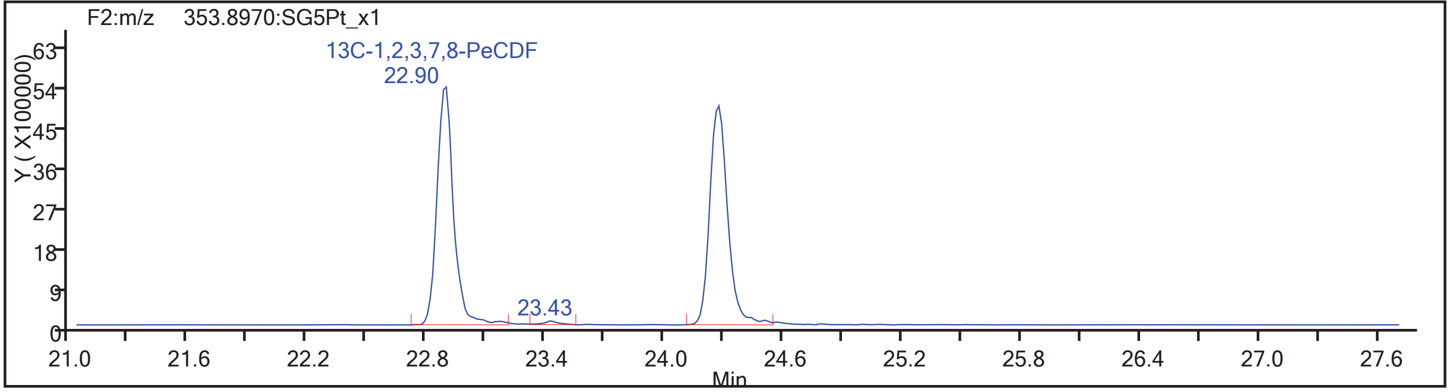
PeCDF





PeCDF Standards



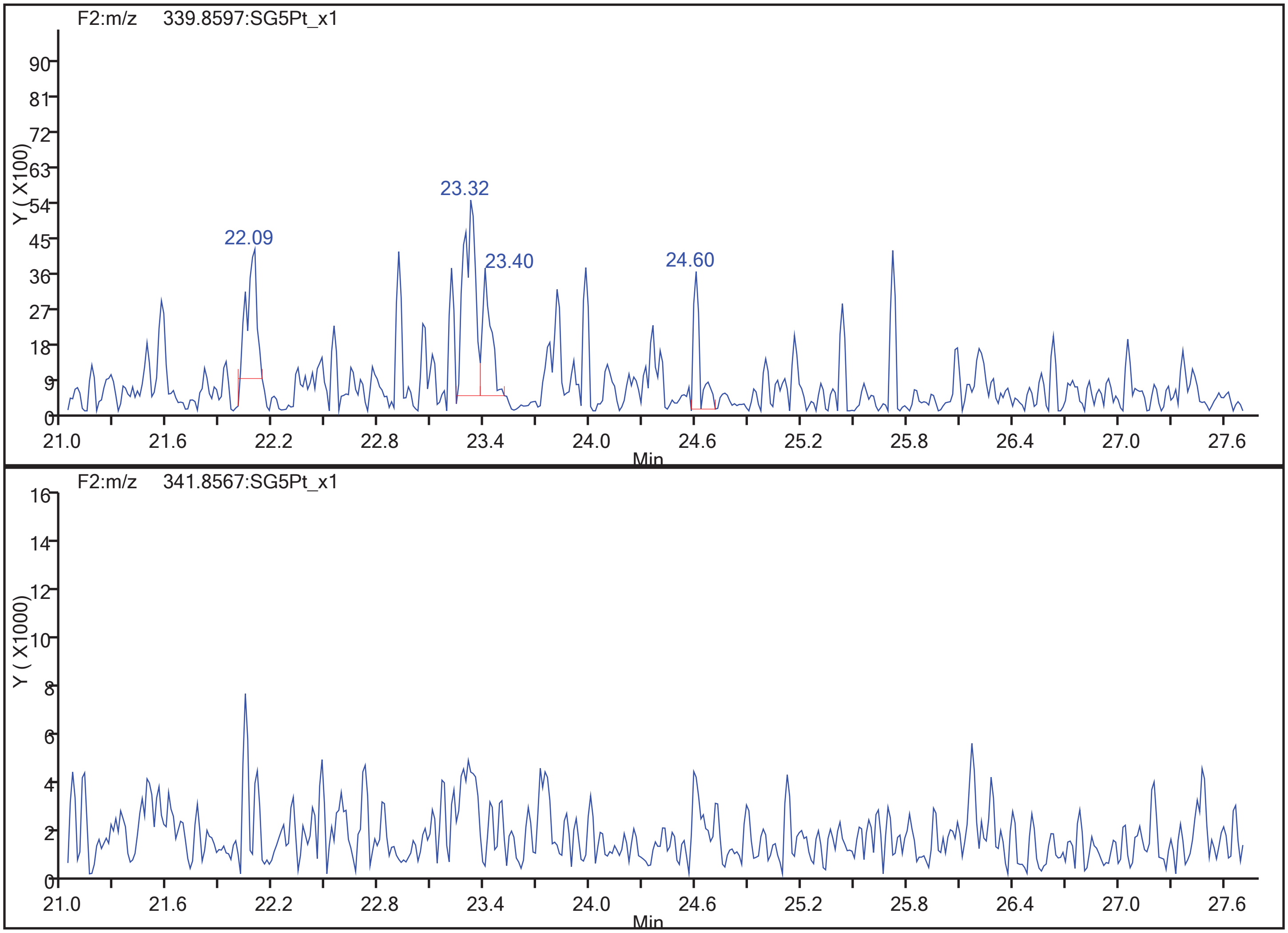


Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

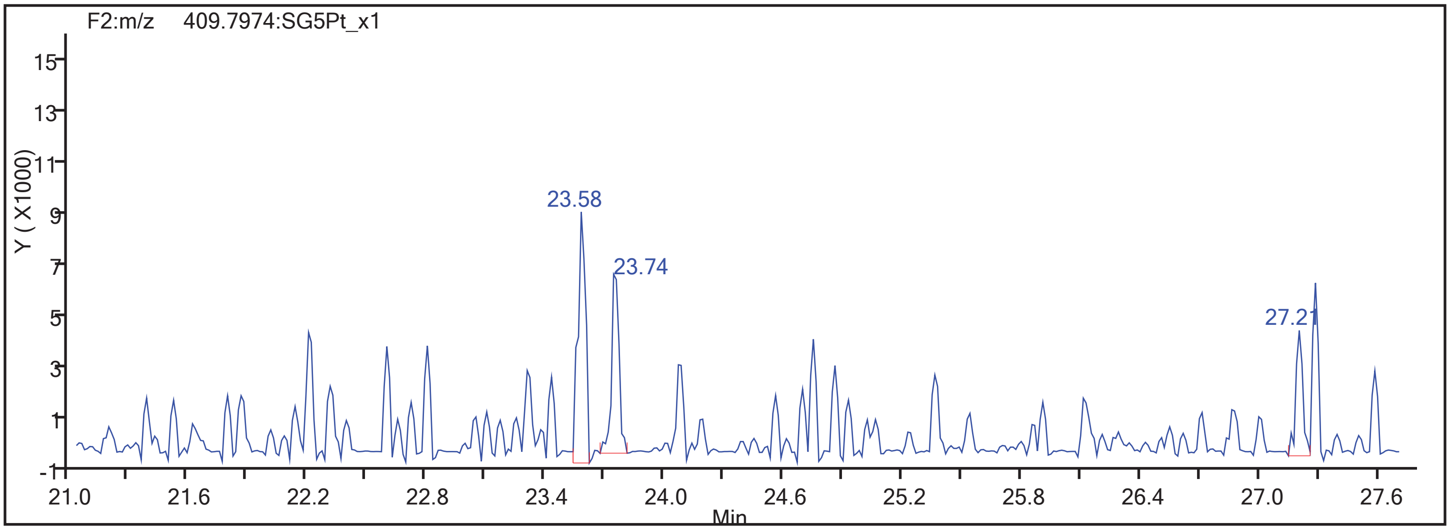
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d		
Injection Date:	19-Nov-2017 18:18:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	195575	Sample Line#:	89
Column Type:		Column Dia:	

PeCDF



PeCDF Interference Mass

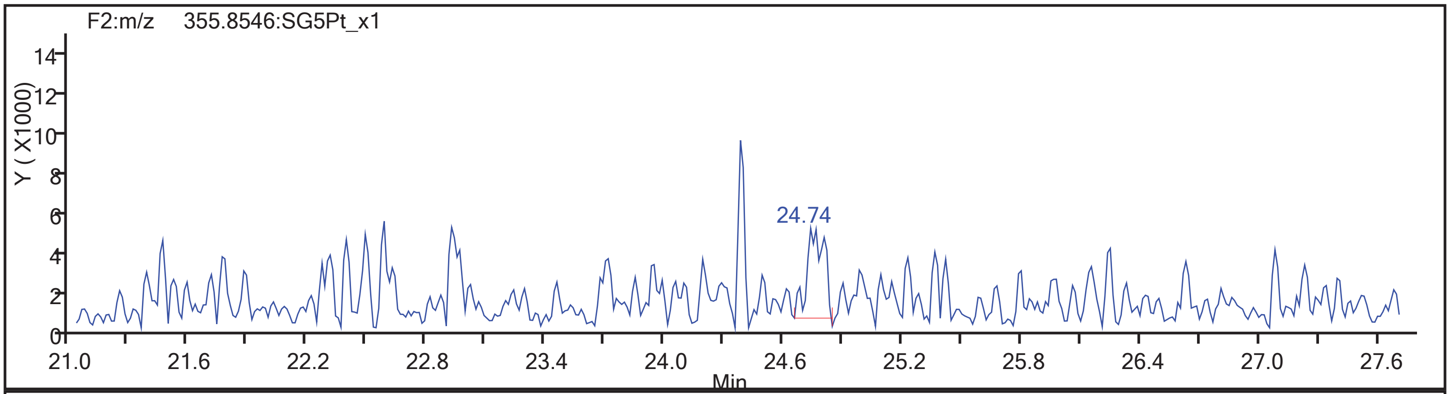


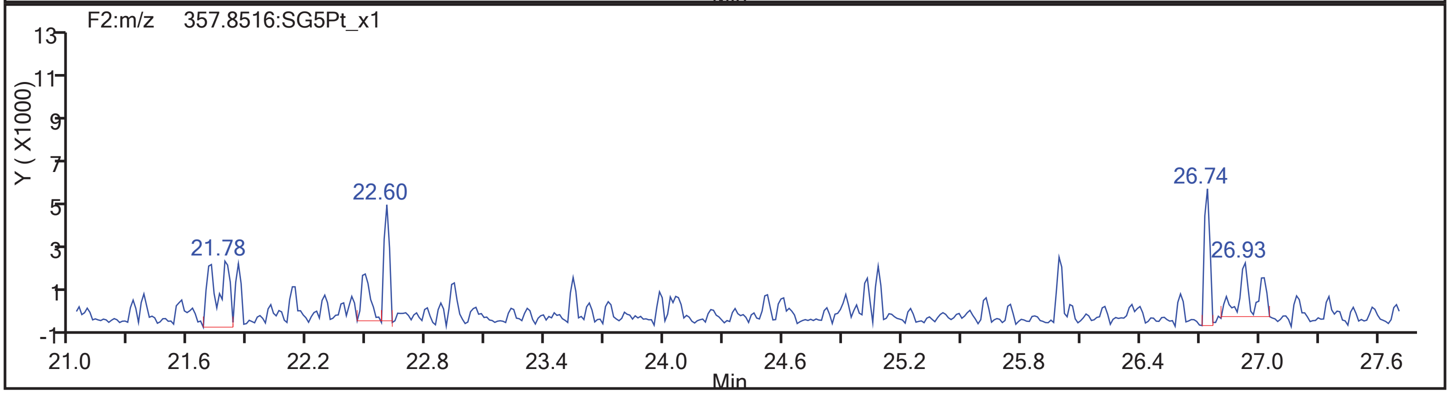
Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

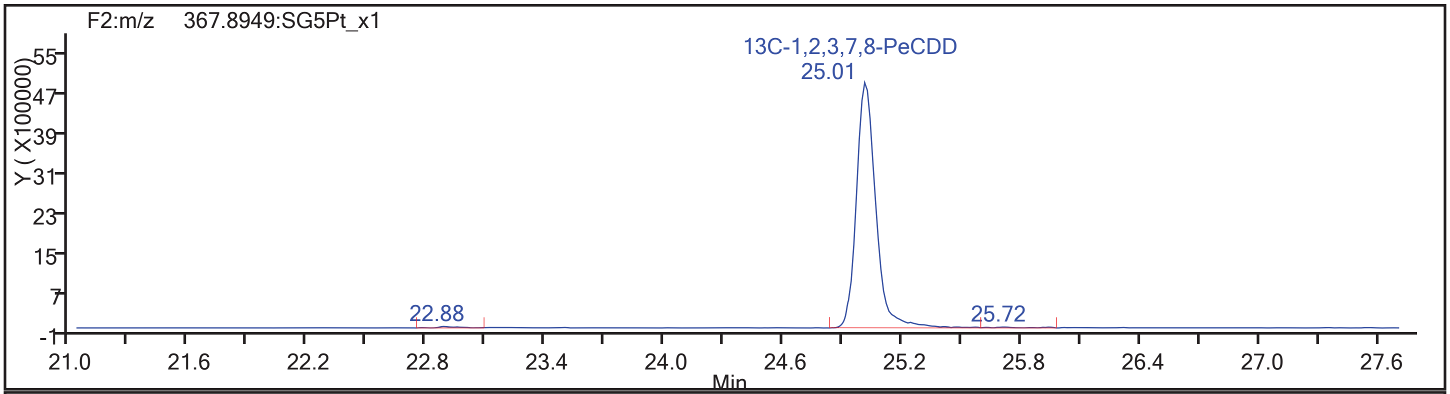
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Injection Date: 19-Nov-2017 18:18:03
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05DS
Worklist#: 195575
Sample Line#: 89
Column Type:
Column Dia:

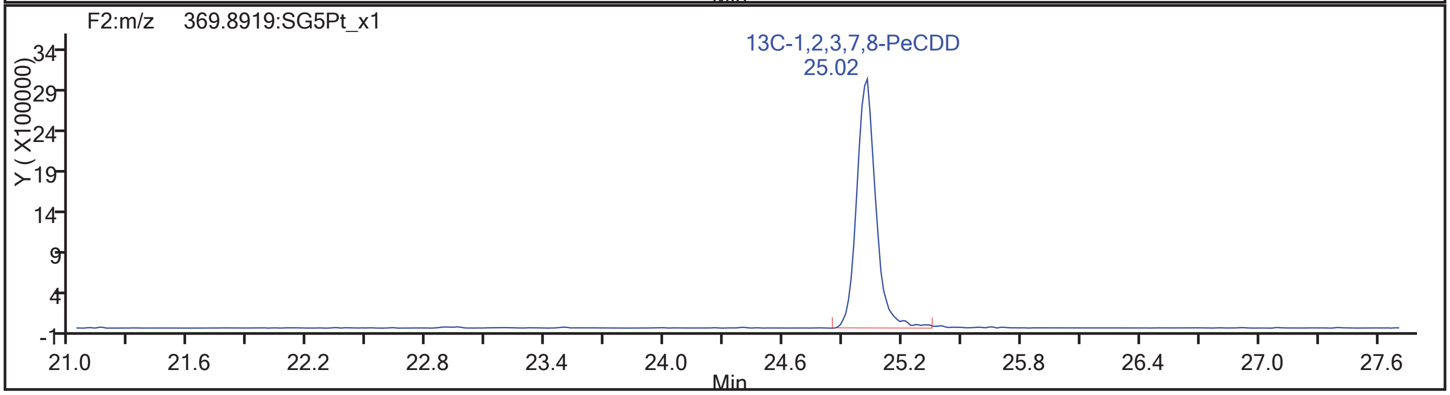
PeCDD





PeCDD Standards





Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d

Injection Date: 19-Nov-2017 18:18:03
Injection Vol: 2.0 ul

Instrument ID: 3D5
Operator ID: SMA, ALM

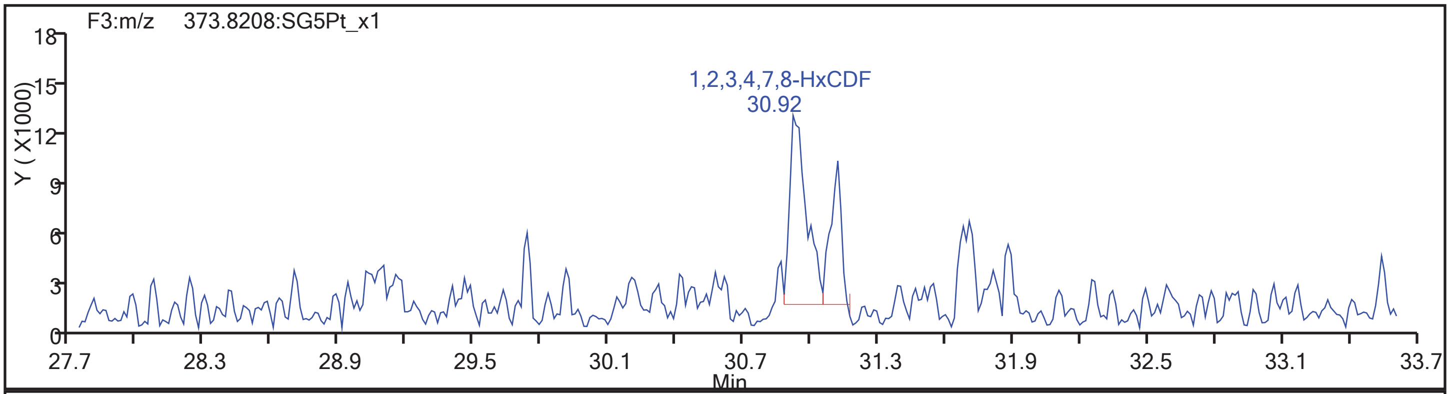
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL

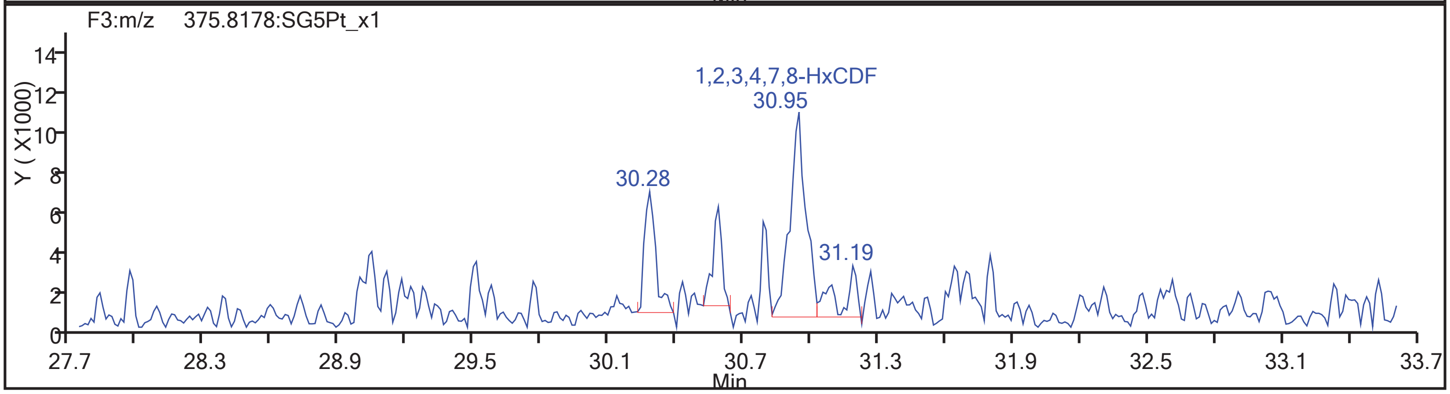
Client ID: SHAD041DP013SS05DS

Worklist#: 195575
Sample Line#: 89

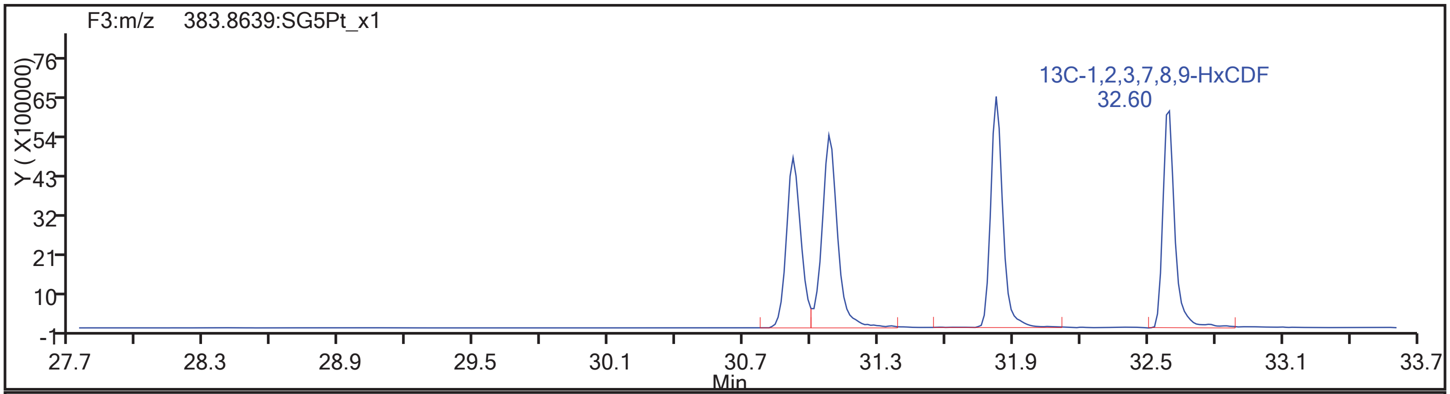
Column Type:
Column Dia:

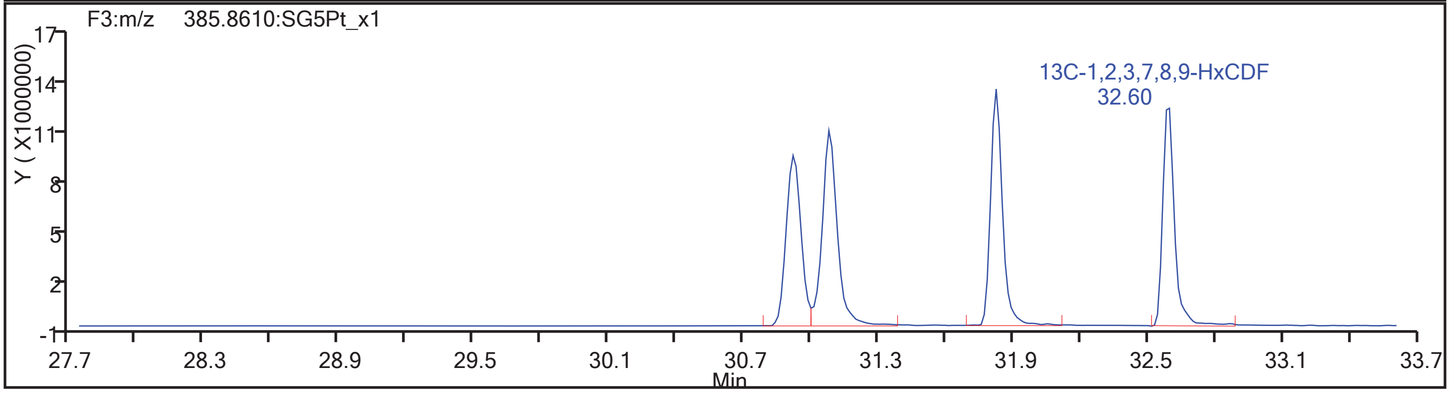
HxCDF





HxCDF Standards

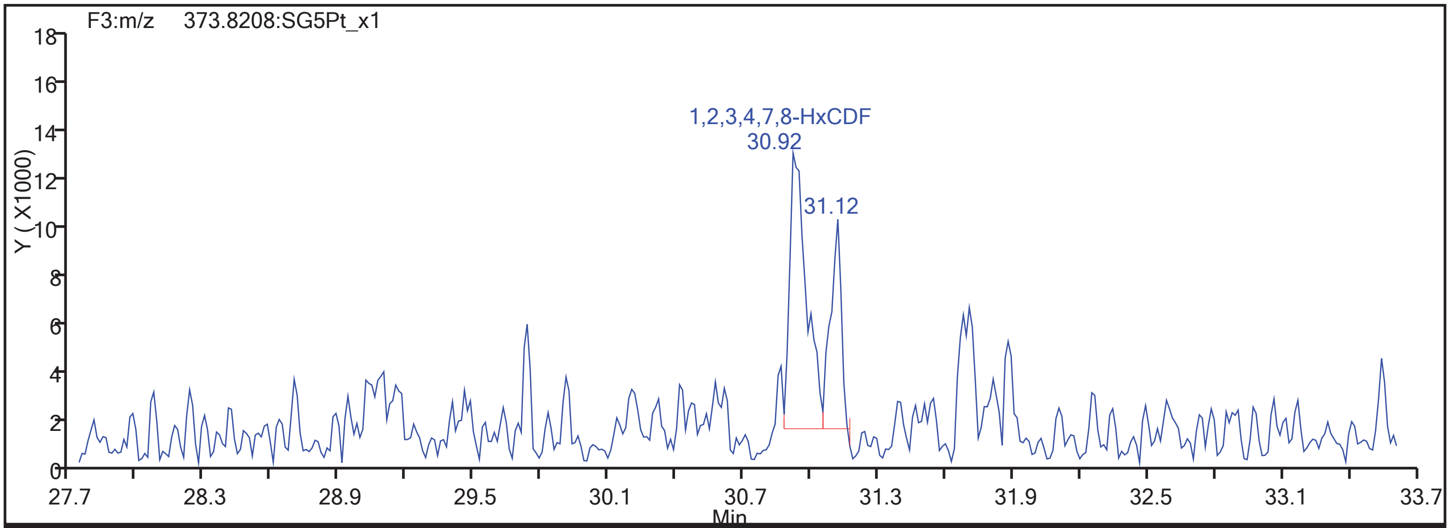


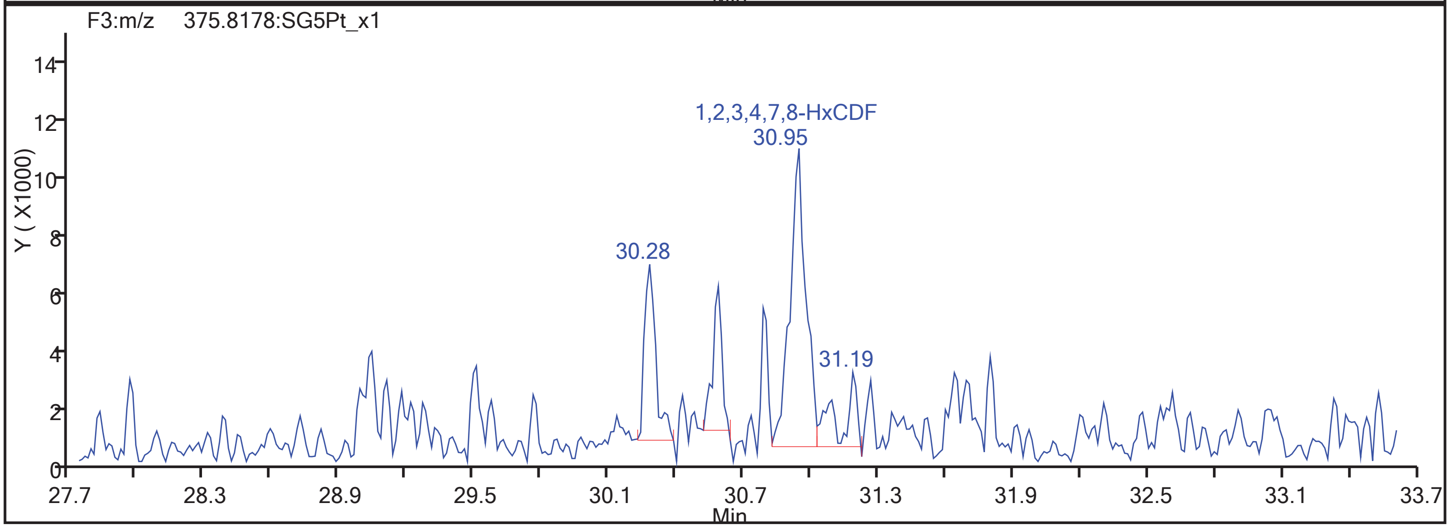


TestAmerica Sacramento

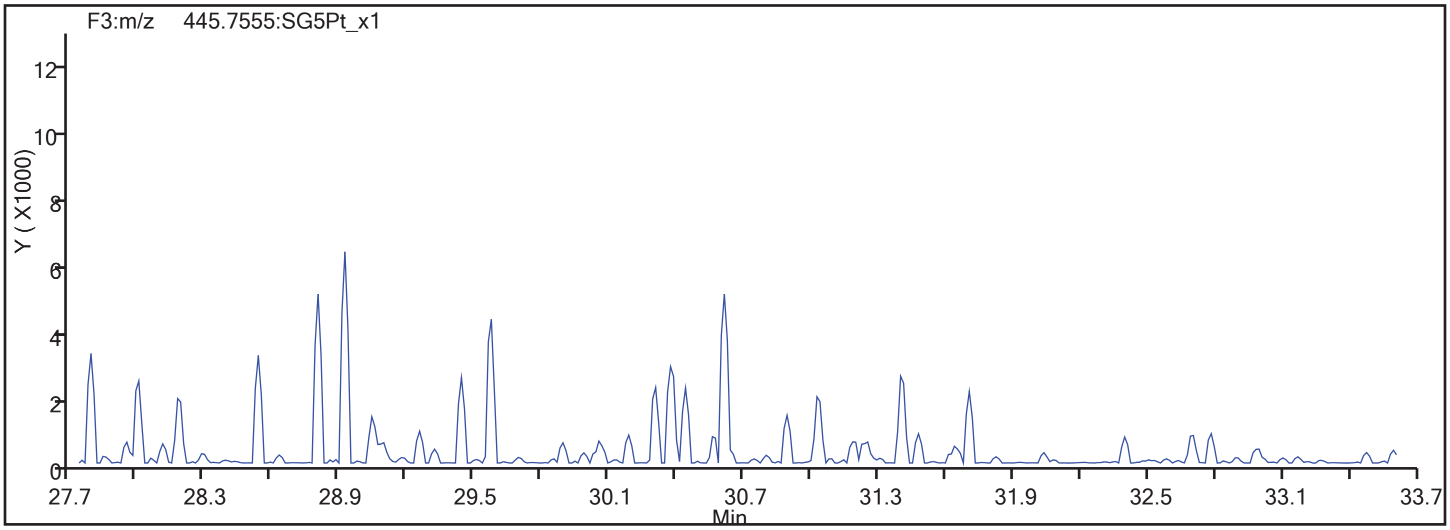
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Injection Date: 19-Nov-2017 18:18:03
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05DS
Worklist#: 195575
Sample Line#: 89
Column Type:
Column Dia:

HxCDF





HxCDF Interference Mass

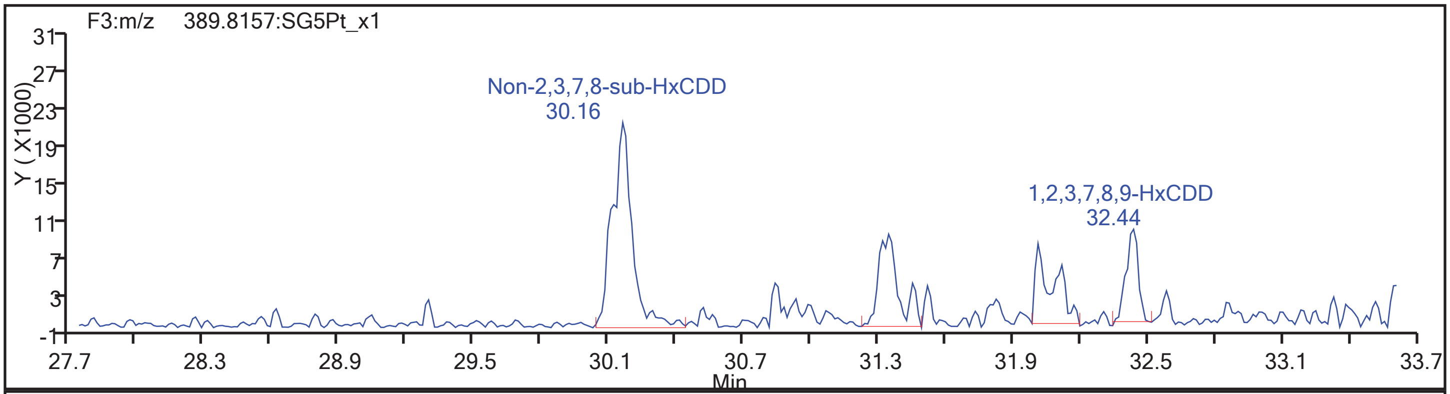


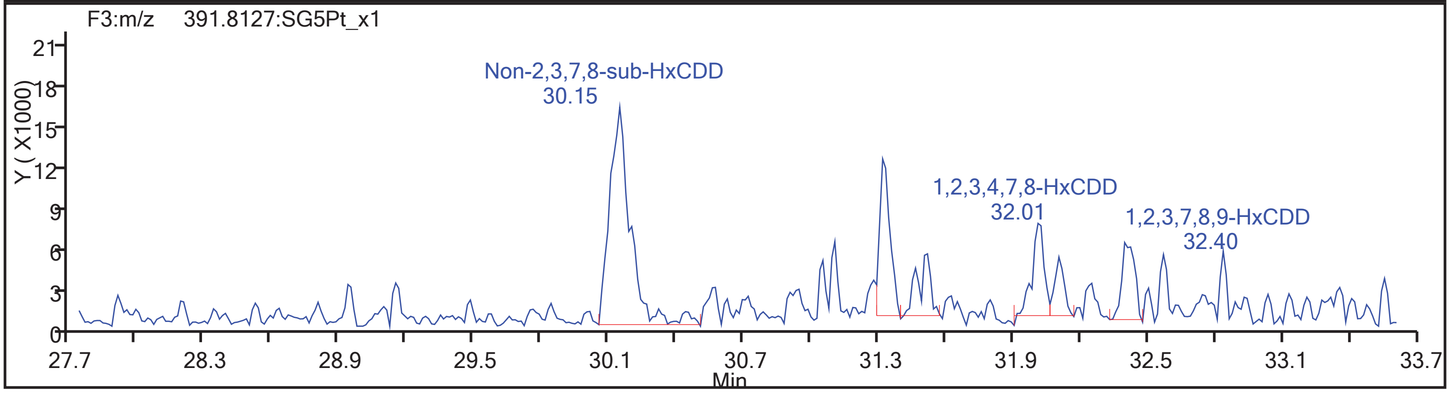
Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

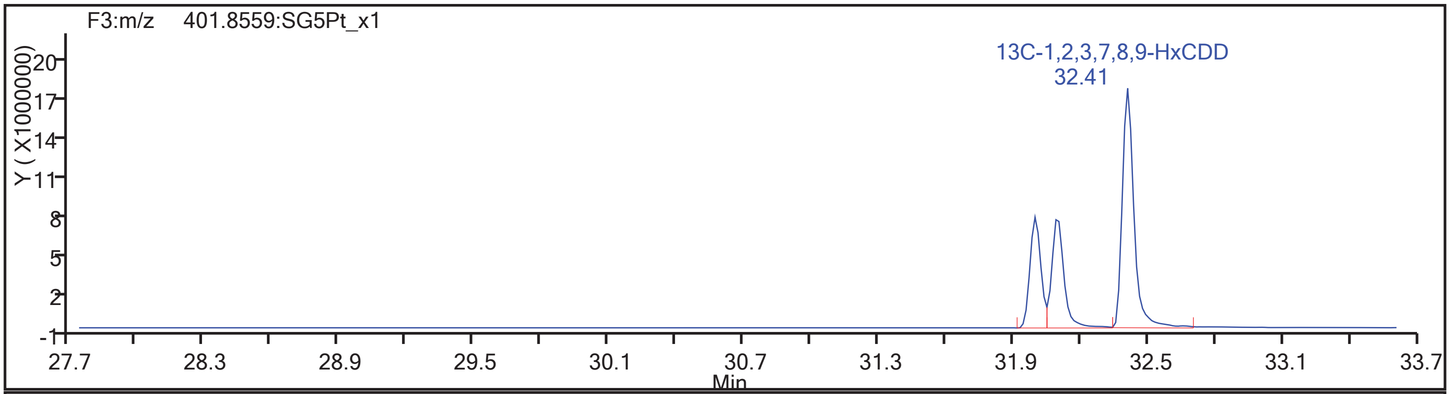
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Injection Date: 19-Nov-2017 18:18:03
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05DS
Worklist#: 195575
Sample Line#: 89
Column Type:
Column Dia:

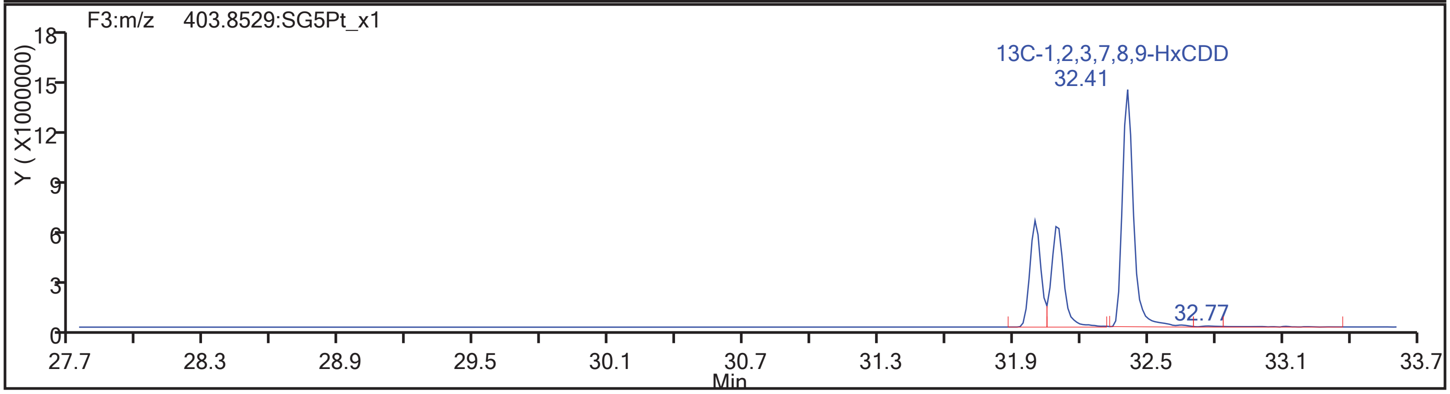
HxCDD





HxCDD Standards



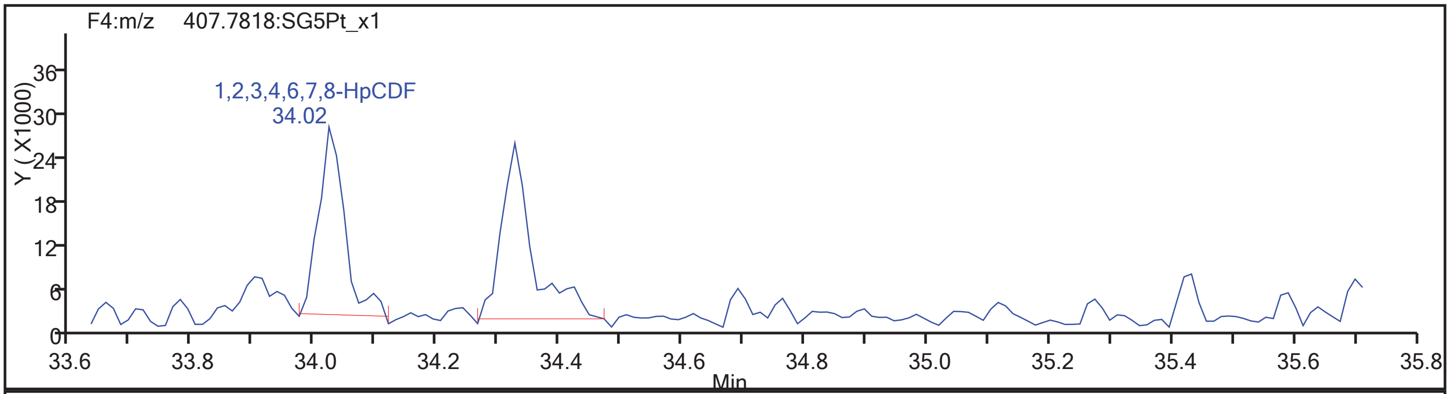


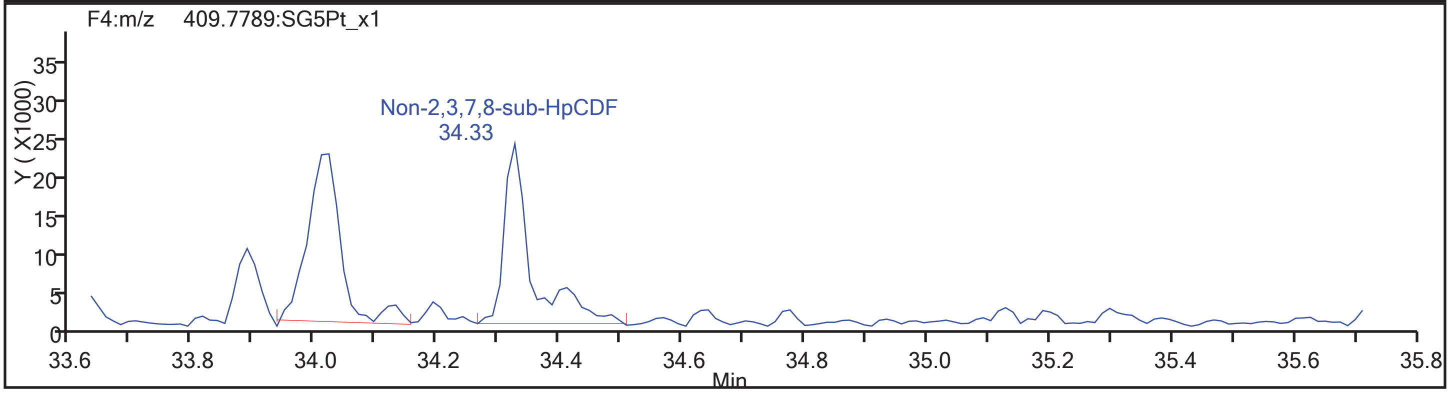
Report Date: 06-Dec-2017 15:20:32
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

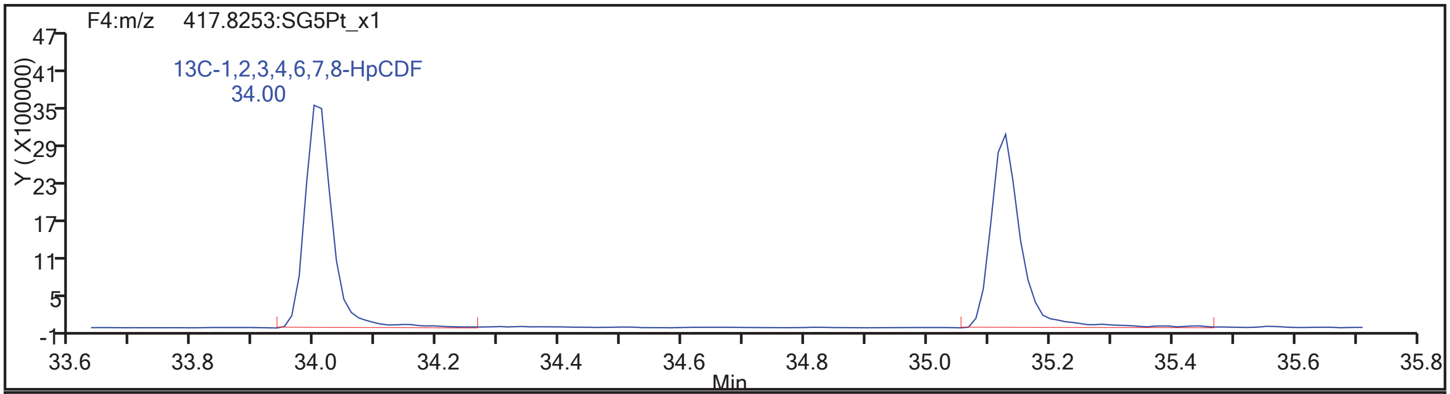
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Injection Date: 19-Nov-2017 18:18:03
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05DS
Worklist#: 195575
Sample Line#: 89
Column Type:
Column Dia:

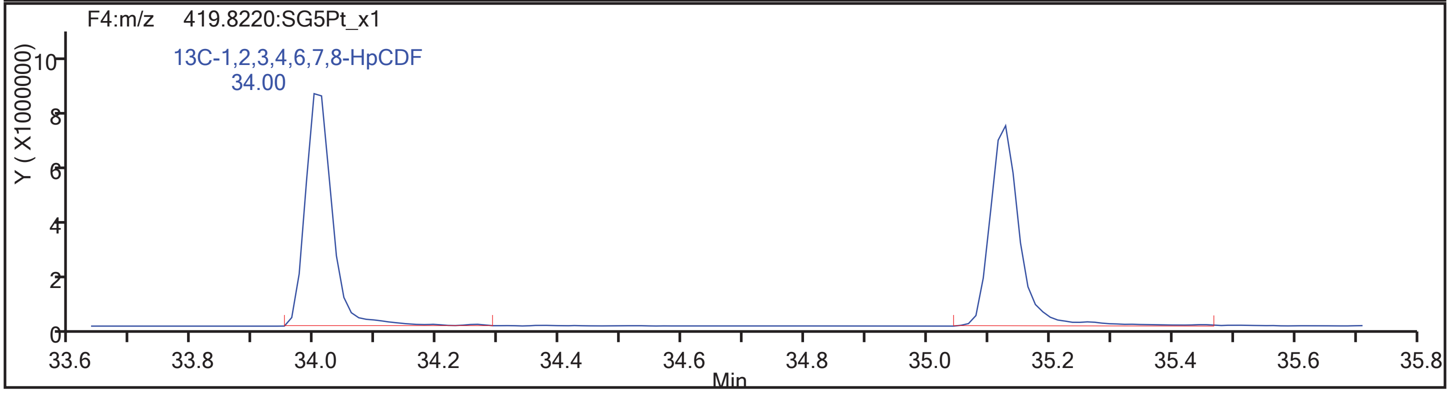
HpCDF





HpCDF Standards



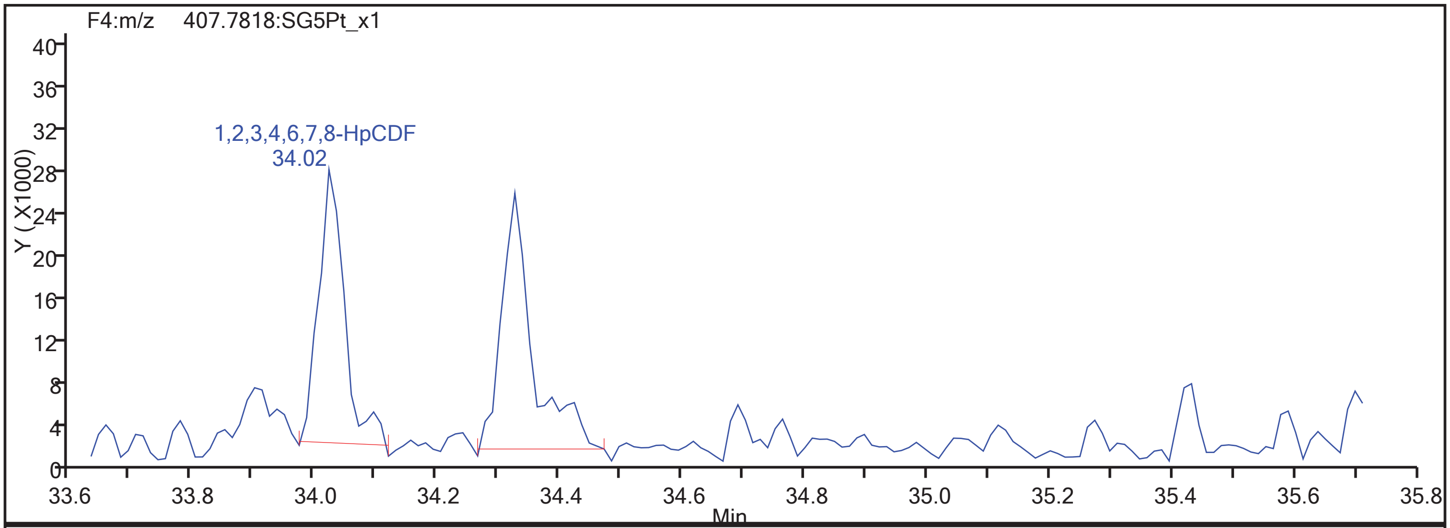


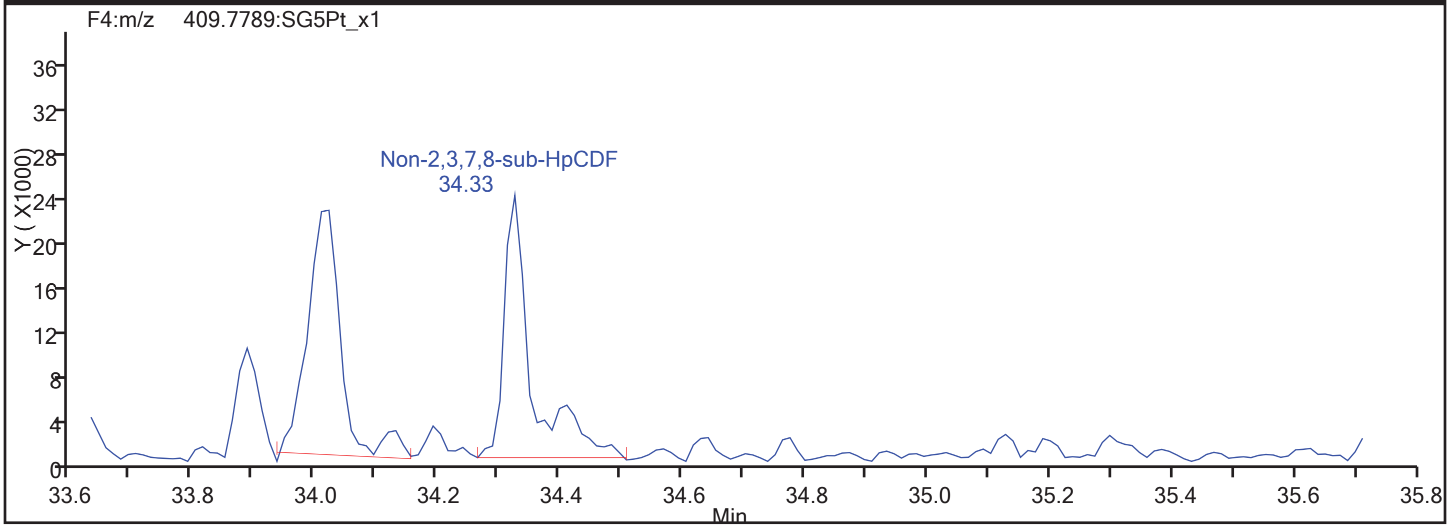
Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

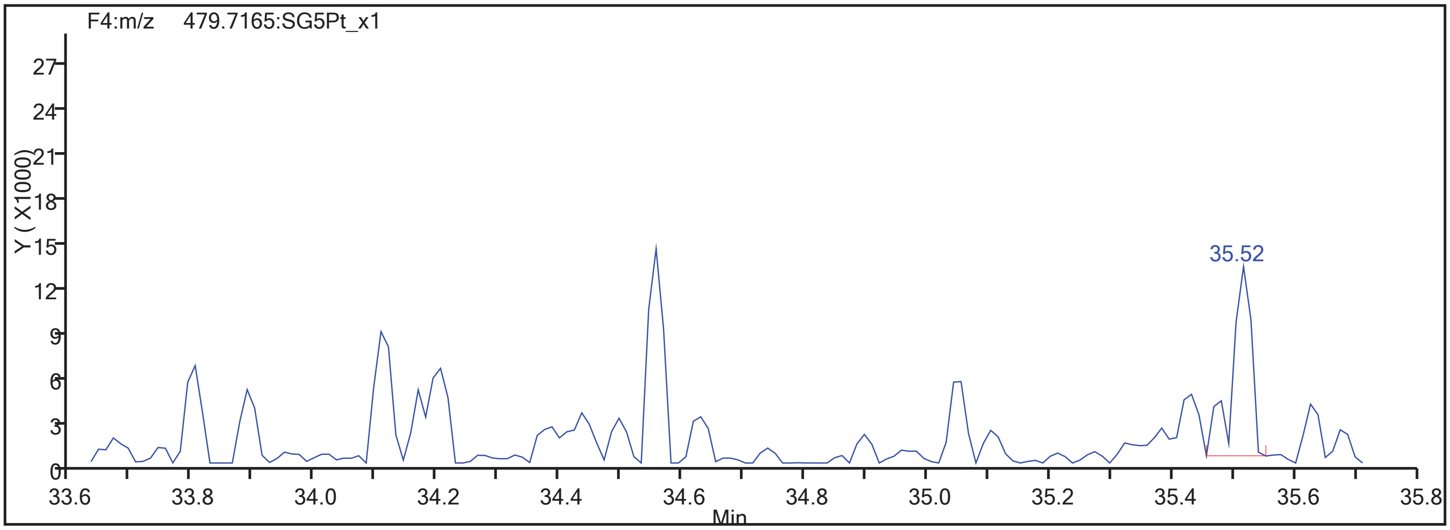
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Injection Date: 19-Nov-2017 18:18:03
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05DS
Worklist#: 195575
Sample Line#: 89
Column Type:
Column Dia:

HpCDF





HpCDF Interference Mass

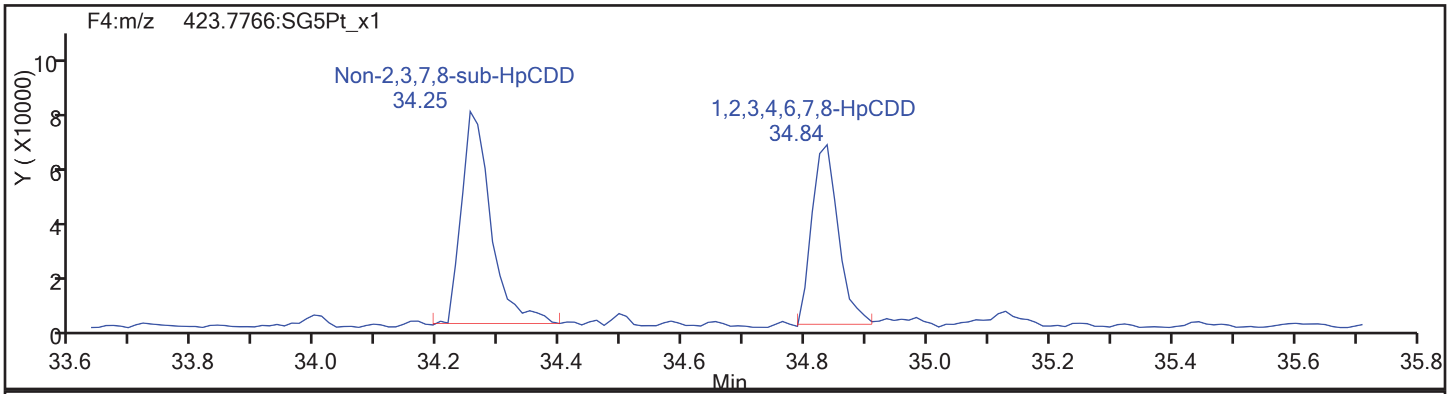


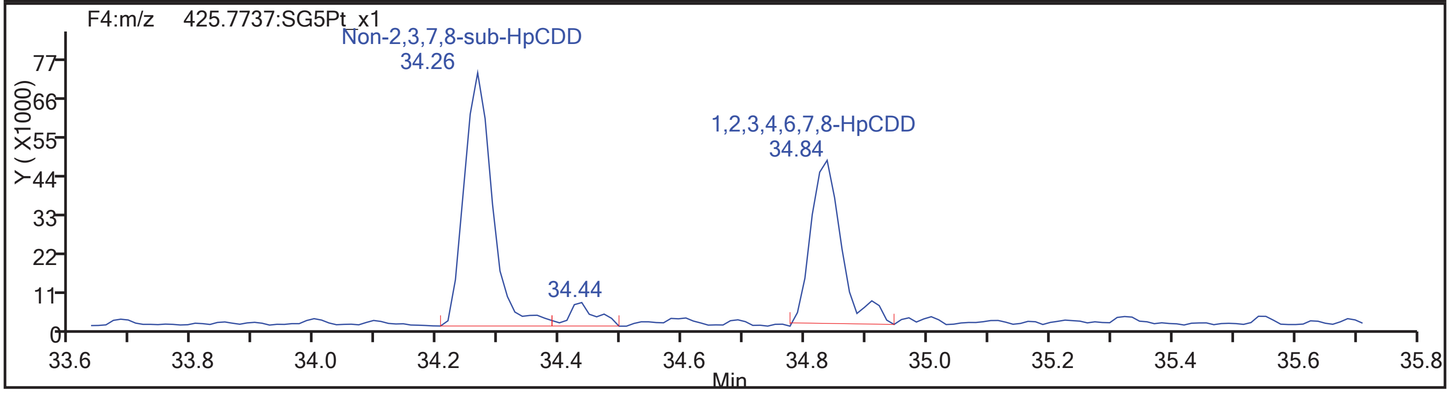
Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

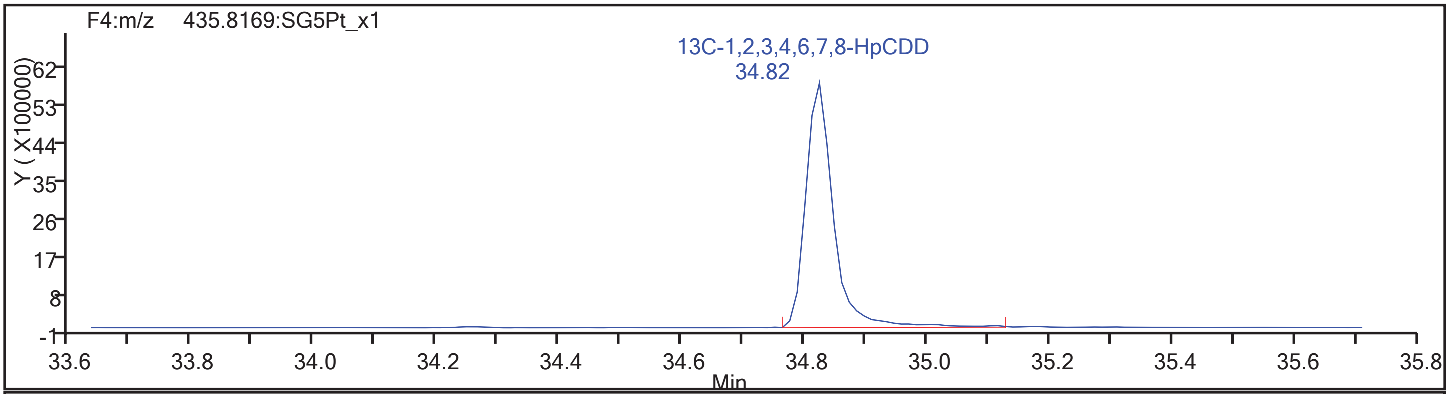
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d		
Injection Date:	19-Nov-2017 18:18:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	195575	Sample Line#:	89
Column Type:		Column Dia:	

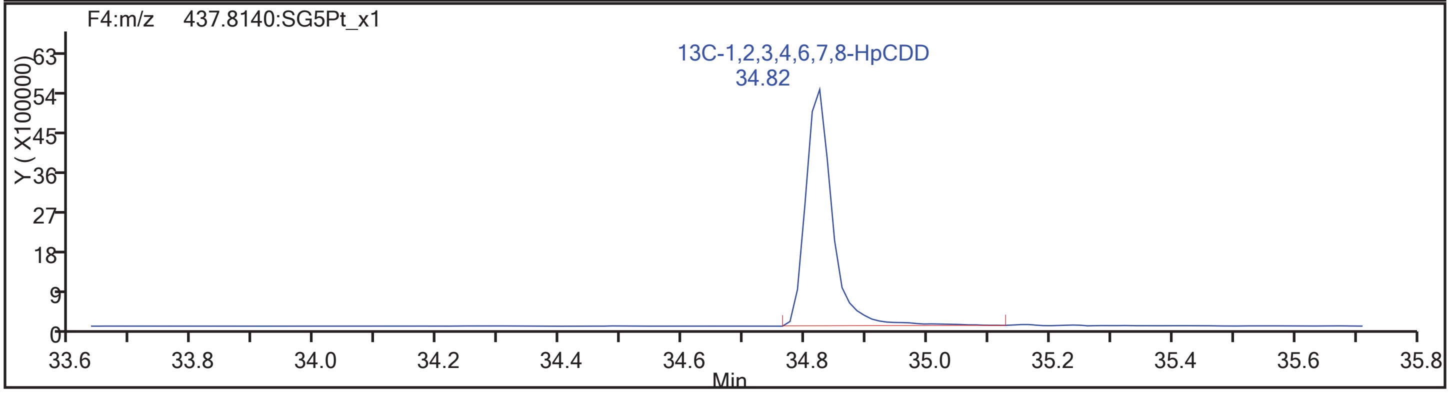
HpCDD





HpCDD Standards



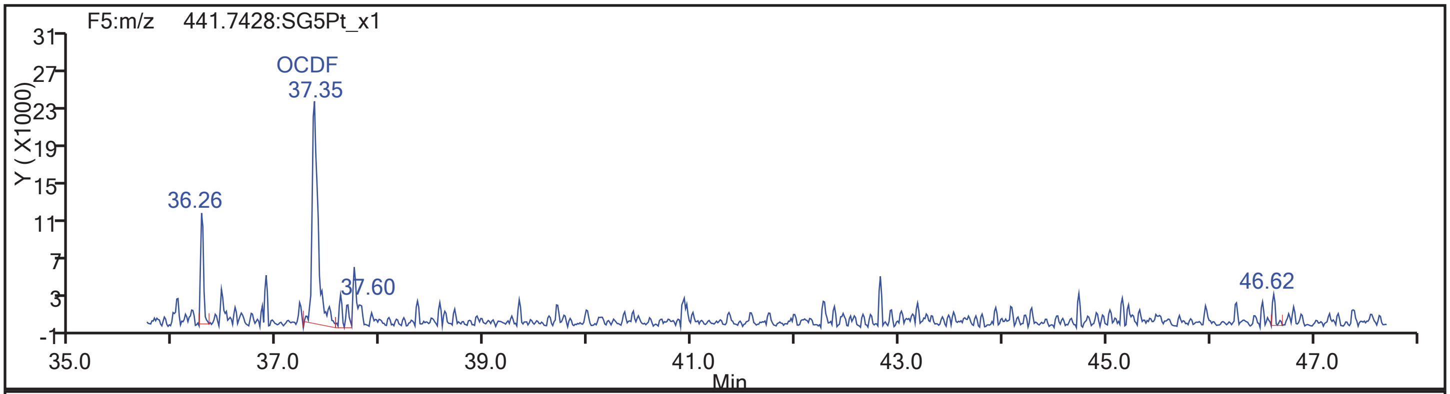


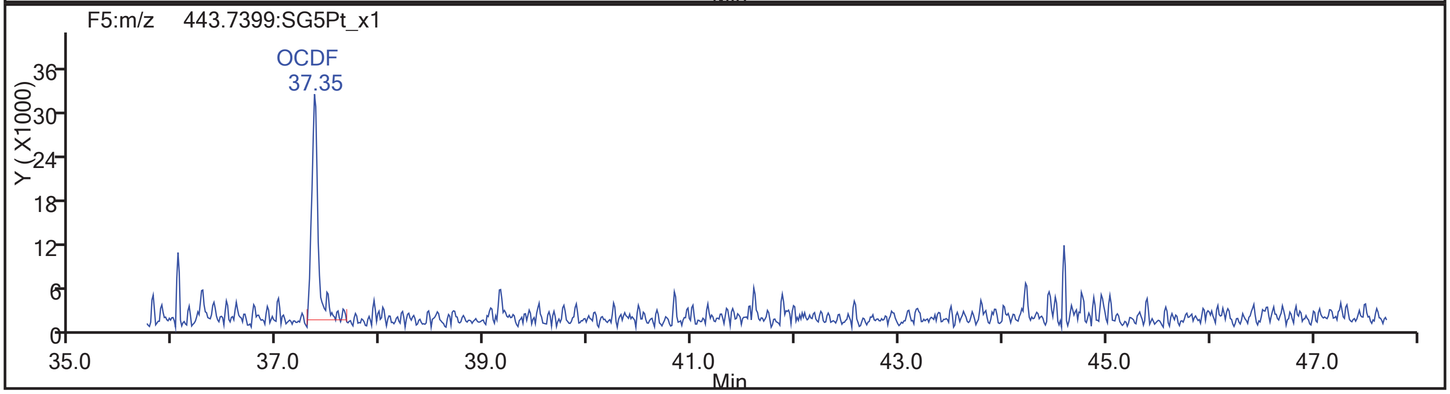
Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

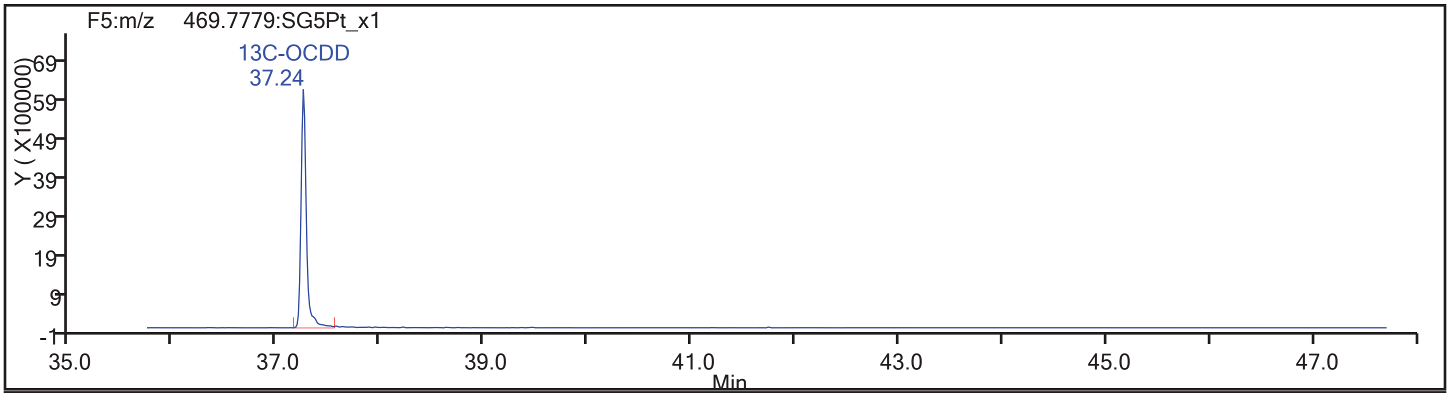
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d
Injection Date: 19-Nov-2017 18:18:03 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS05DS
Worklist#: 195575 Sample Line#: 89
Column Type: Column Dia:

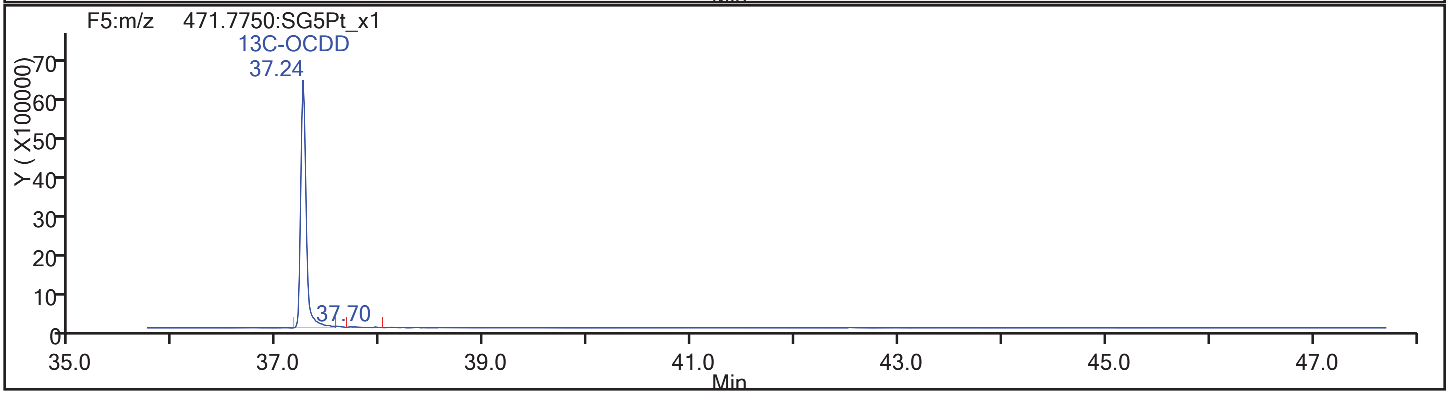
OCDF





OCDF Standards



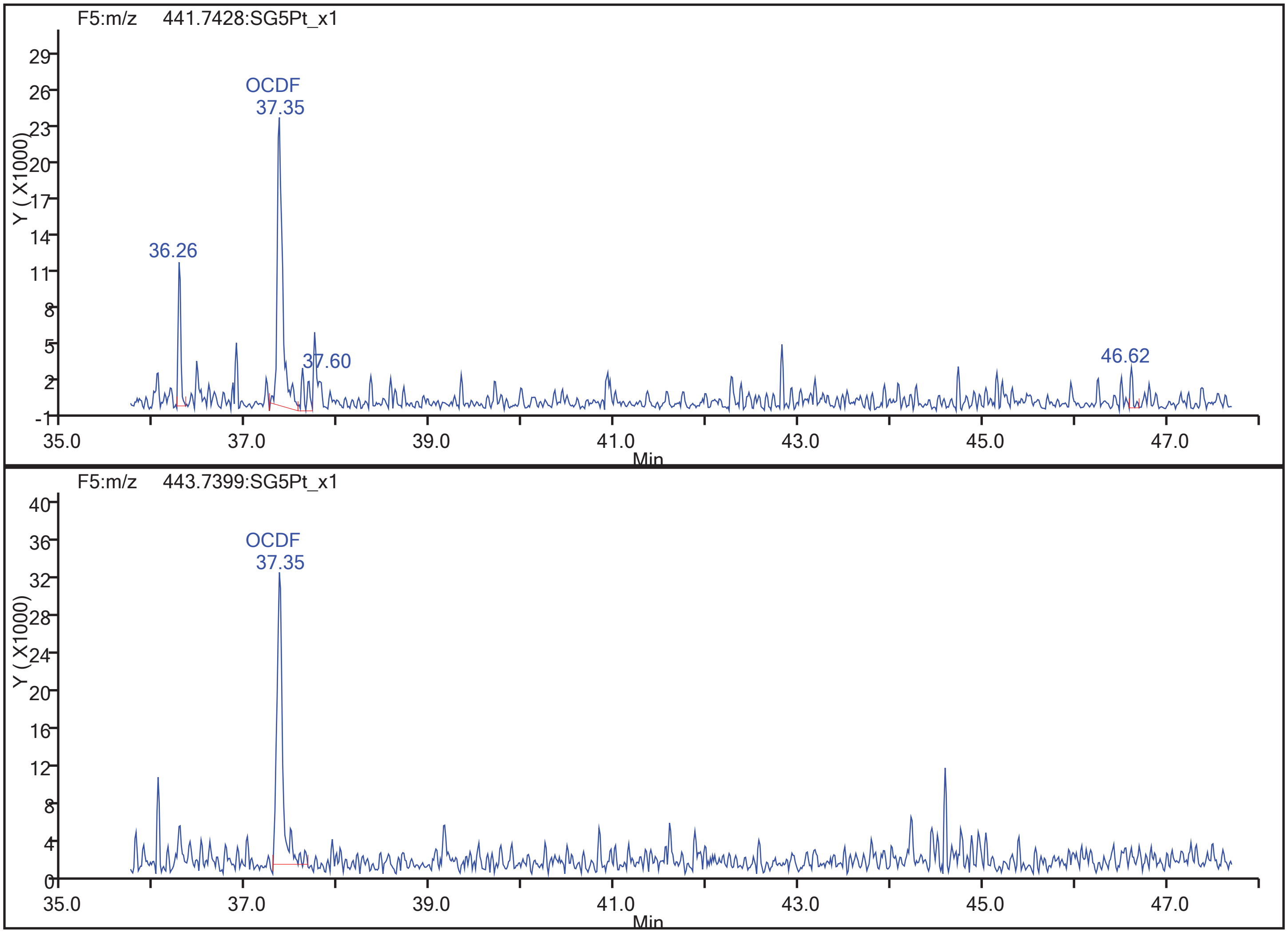


Report Date: 06-Dec-2017 15:20:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

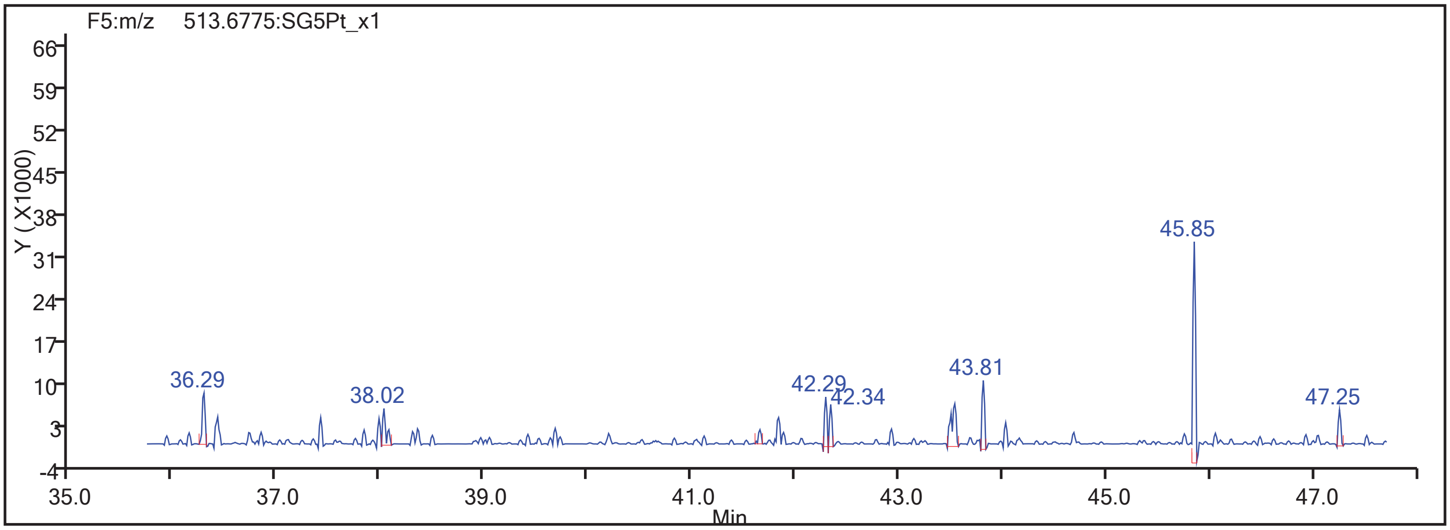
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d		
Injection Date:	19-Nov-2017 18:18:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	195575	Sample Line#:	89
Column Type:		Column Dia:	

OCDF

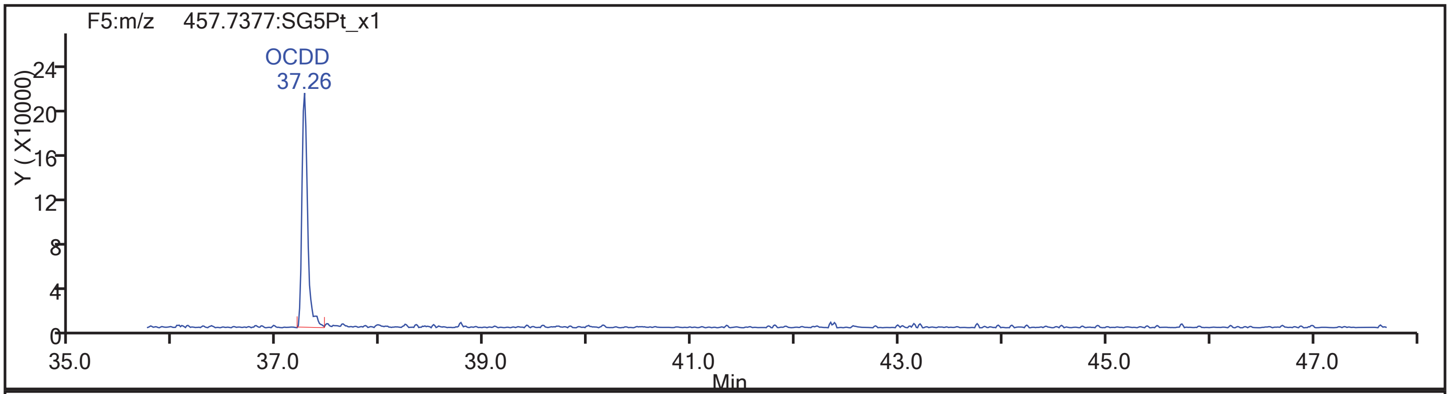


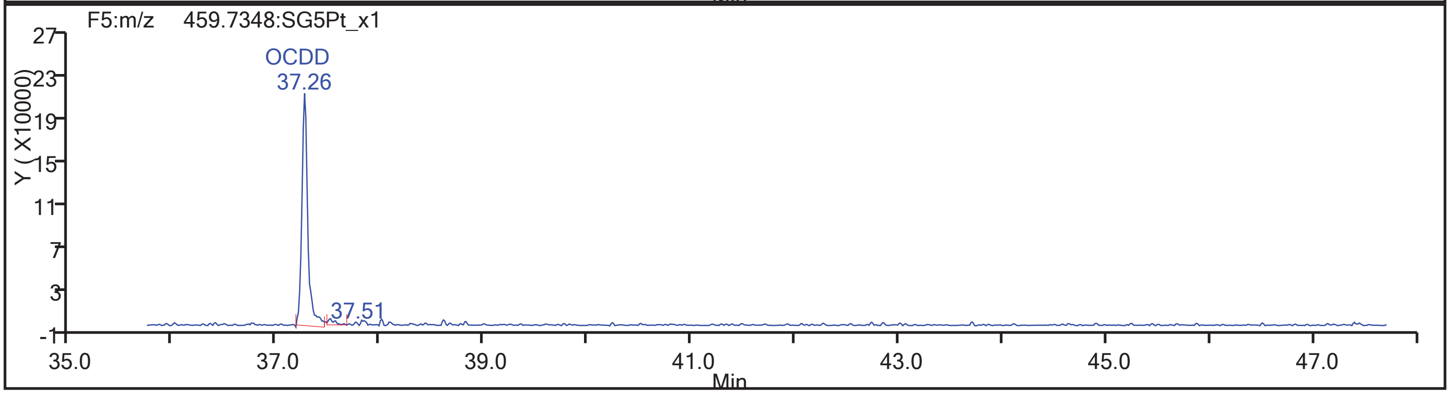
OCDF Interference Mass



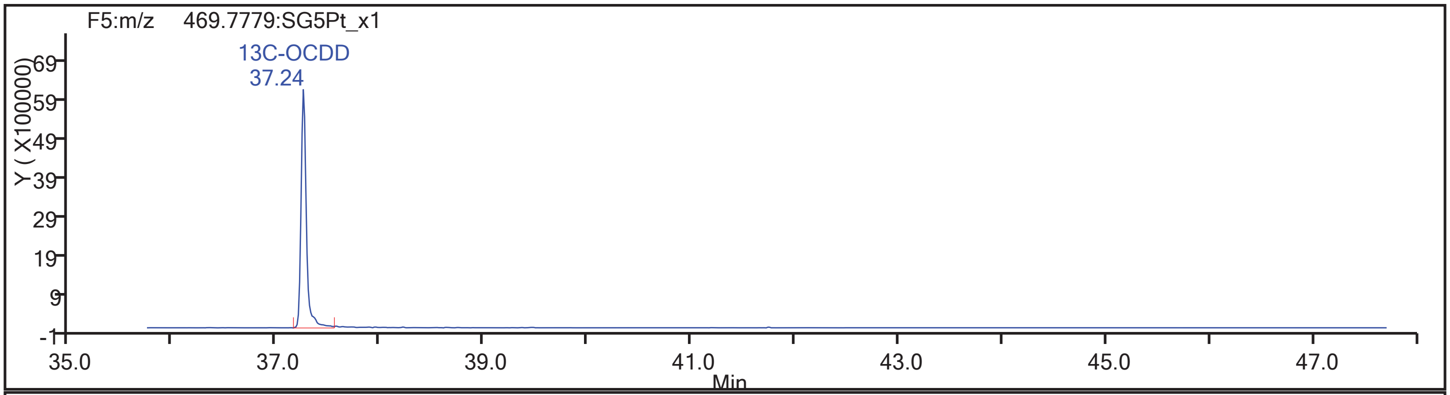
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d		
Injection Date:	19-Nov-2017 18:18:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	195575	Sample Line#:	89
Column Type:		Column Dia:	

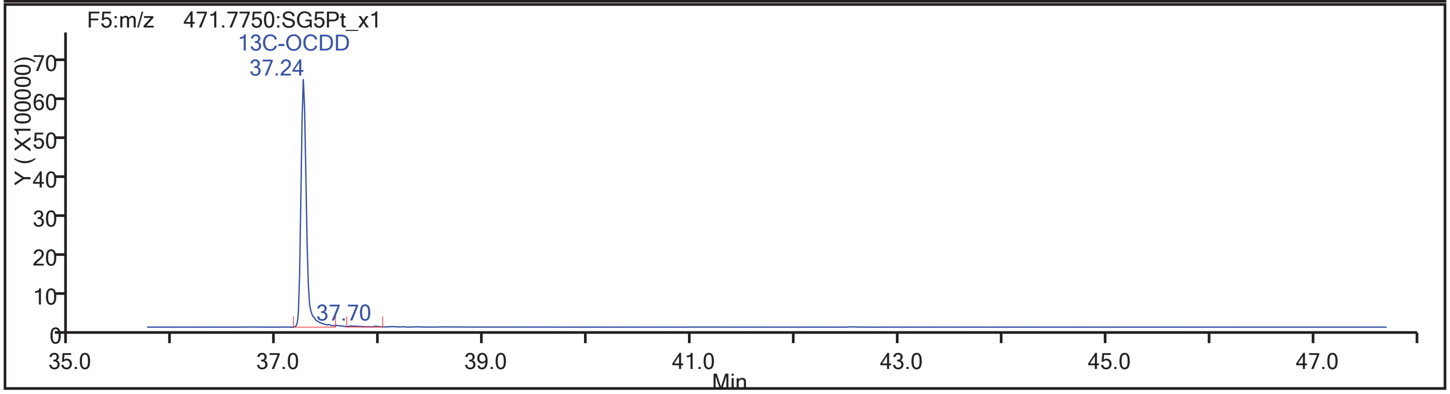
OCDD





OCDD Standards





Report Date: 06-Dec-2017 15:20:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d

Injection Date: 19-Nov-2017 18:18:03 Injection Vol: 2.0 ul

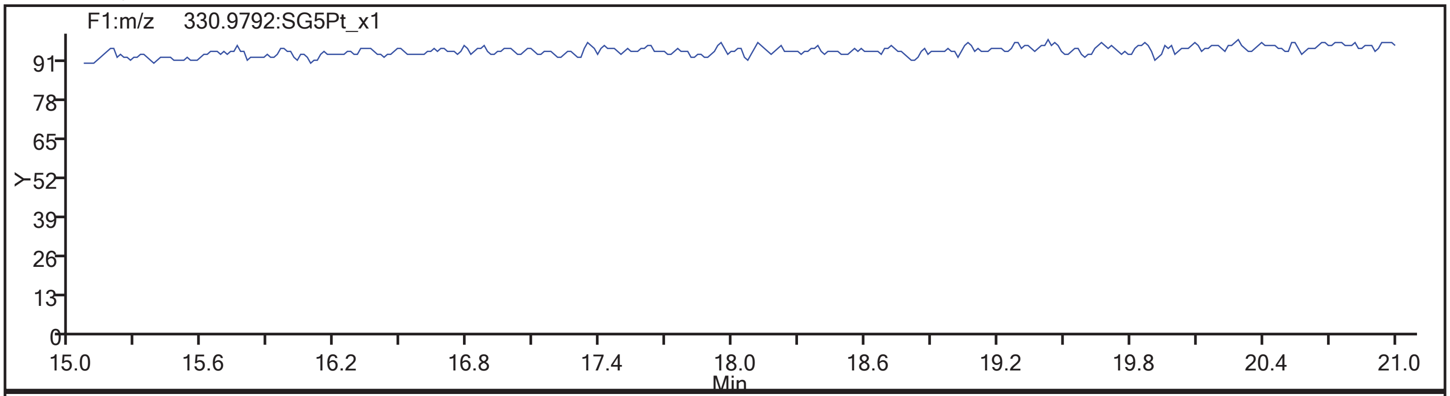
Instrument ID: 3D5 Operator ID: SMA, ALM

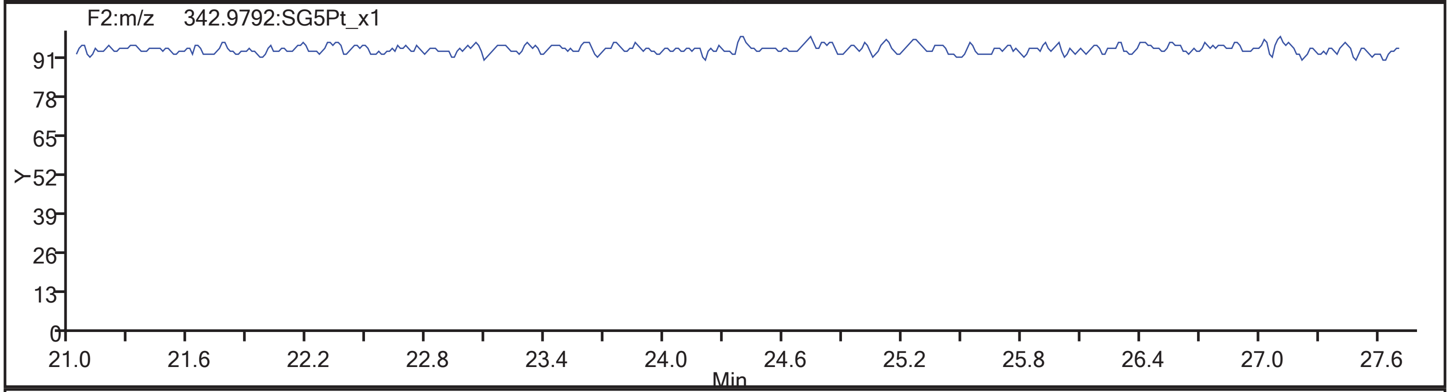
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

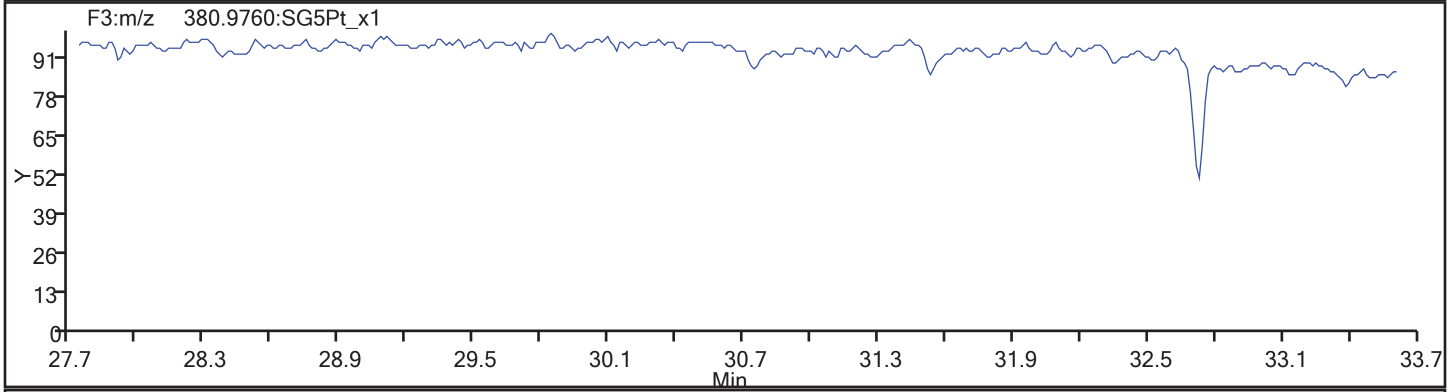
Client ID: SHAD041DP013SS05DS

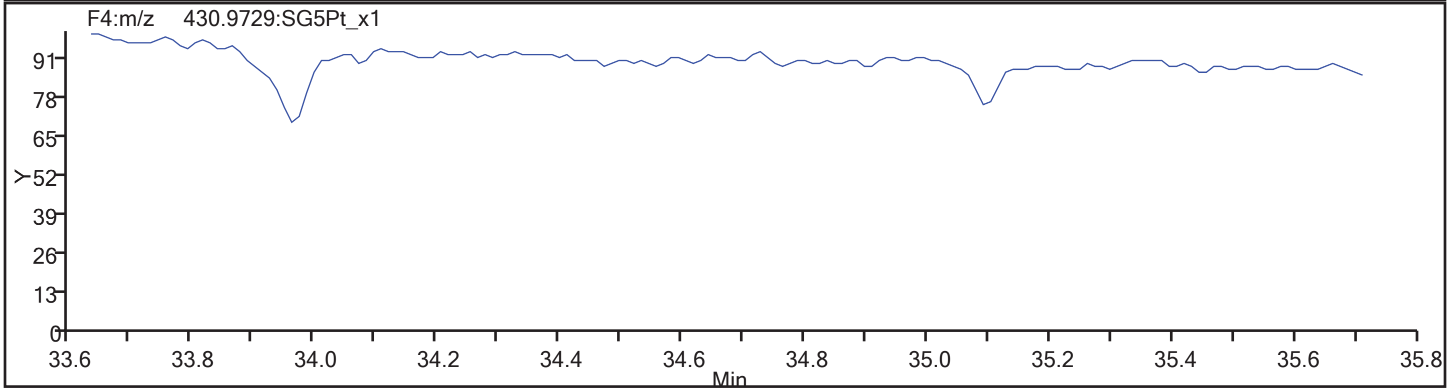
Worklist#: 195575 Sample Line#: 89

Column Type: Column Dia:



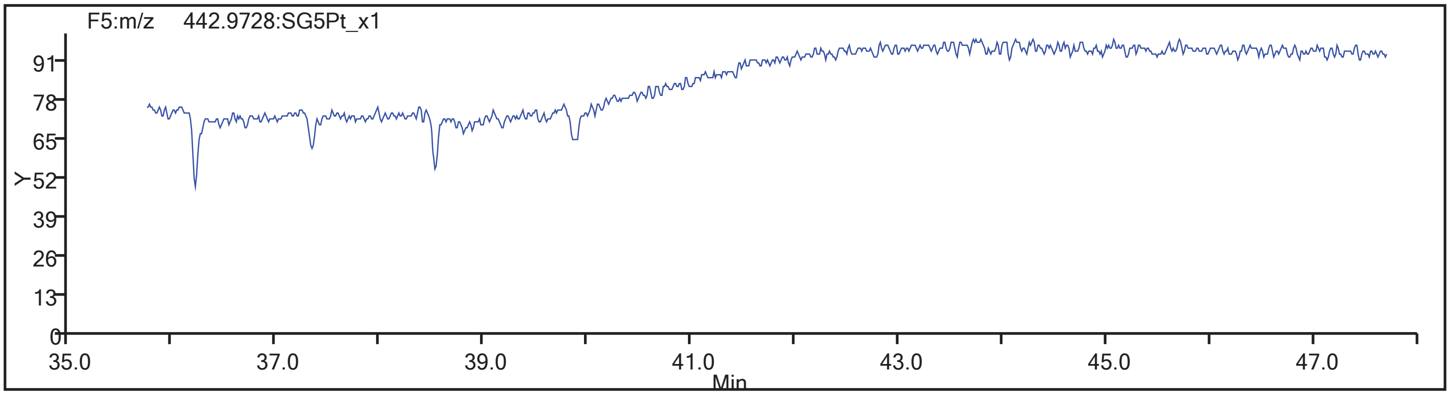






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_89.d		
Injection Date:	19-Nov-2017 18:18:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS05DS		
Worklist#:	195575	Sample Line#:	89
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP013SS06NS	Lab Sample ID: 160-24924-19
Matrix: Solid	Lab File ID: 09NO1710D5_89.d
Analysis Method: 8290A	Date Collected: 10/05/2017 15:18
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.14(g)	Date Analyzed: 11/12/2017 06:56
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 16.2	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194086	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.47	U	1.2	0.47	0.089
51207-31-9	2,3,7,8-TCDF	0.47	U	1.2	0.47	0.045
40321-76-4	1,2,3,7,8-PeCDD	0.88	U	5.9	0.88	0.10
57117-41-6	1,2,3,7,8-PeCDF	0.88	U	5.9	0.88	0.076
57117-31-4	2,3,4,7,8-PeCDF	0.88	U	5.9	0.88	0.077
39227-28-6	1,2,3,4,7,8-HxCDD	2.4	U	5.9	2.4	0.090
57653-85-7	1,2,3,6,7,8-HxCDD	2.4	U	5.9	2.4	0.069
19408-74-3	1,2,3,7,8,9-HxCDD	2.4	U	5.9	2.4	0.068
70648-26-9	1,2,3,4,7,8-HxCDF	0.88	U	5.9	0.88	0.051
57117-44-9	1,2,3,6,7,8-HxCDF	1.2	U	5.9	1.2	0.042
72918-21-9	1,2,3,7,8,9-HxCDF	1.2	U	5.9	1.2	0.051
60851-34-5	2,3,4,6,7,8-HxCDF	0.88	U	5.9	0.88	0.047
35822-46-9	1,2,3,4,6,7,8-HpCDD	0.45	J	5.9	1.2	0.059
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.2	U	5.9	1.2	0.064
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.4	U	5.9	2.4	0.079
3268-87-9	OCDD	3.2	J B	12	4.7	0.090
39001-02-0	OCDF	4.7	U	12	4.7	0.14

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	46		40-135
89059-46-1	13C-2,3,7,8-TCDF	54		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	50		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	51		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	43		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	50		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	41		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	36	Q	40-135
114423-97-1	13C-OCDD	30	Q	40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d
Lims ID: 160-24924-G-19-A
Client ID: SHAD041DP013SS06NS
Sample Type: Client
Inject. Date: 12-Nov-2017 06:56:07 ALS Bottle#: 64 Worklist Smp#: 89
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-19-a 160-24924-g-19-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:29:26 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:30:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.884	98194037	0.77	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.370	67727500	0.78	1.2741	54.1	54.1	0.1421	0.1421	54.13	
2,3,7,8-TCDF	17.385						0.0190	0.0190		
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF							0.0190	0.0190		
D 13C-2,3,7,8-TCDD	18.080	45190471	0.78	0.9921	46.4	46.4	0.1573	0.1573	46.39	
2,3,7,8-TCDD	18.095						0.0378	0.0378		
A Non-2,3,7,8-sub-TCDD	17.559	34815	0.77	0.9993	0.0939	0.0771	0.0378	0.0771		RQ
S Total TCDD					0.0939	0.0771	0.0378	0.0378		RQ
D 13C-1,2,3,7,8-PeCDF	22.410	48675546	1.58	0.9696	51.1	51.1	0.1370	0.1370	51.12	
1,2,3,7,8-PeCDF	22.437						0.0322	0.0322		
2,3,4,7,8-PeCDF	23.787						0.0329	0.0329		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF							0.0329	0.0329		
D 13C-1,2,3,7,8-PeCDD	24.483	36932101	1.62	0.7588	49.6	49.6	0.0753	0.0753	49.57	
1,2,3,7,8-PeCDD	24.510						0.0432	0.0432		
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD							0.0432	0.0432		
D 13C-1,2,3,4,7,8-HxCDF	30.553	38850346	0.50	0.9644	49.8	49.8	0.3614	0.3614	49.76	
1,2,3,4,7,8-HxCDF	30.580						0.0217	0.0217		
1,2,3,6,7,8-HxCDF	30.753						0.0179	0.0179		
2,3,4,6,7,8-HxCDF	31.565						0.0200	0.0200		
D 13C-1,2,3,7,8,9-HxCDF	32.337	40508182	0.53							
1,2,3,7,8,9-HxCDF	32.350						0.0216	0.0216		
A Non-2,3,7,8-sub-HxCDF	30.254						0.0	0.0		
S Total HxCDF							0.0217	0.0217		
* 13C-1,2,3,7,8,9-HxCDD	32.164	80954875	1.25	4.6E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.751						0.0380	0.0380		
D 13C-1,2,3,6,7,8-HxCDD	31.831	30741293	1.26	0.8791	43.2	43.2	0.3085	0.3085	43.20	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.844						0.0293	0.0293		
1,2,3,7,8,9-HxCDD	32.177						0.0290	0.0290		
A Non-2,3,7,8-sub-HxCDD	30.893						0.0	0.0		
S Total HxCDD							0.0380	0.0380		
D 13C-1,2,3,4,6,7,8-HpCDF	33.746	22050050	0.42	0.7618	35.8	35.8	0.6607	0.6607	35.75	
1,2,3,4,6,7,8-HpCDF	33.758						0.0273	0.0273		
1,2,3,4,7,8,9-HpCDF	34.839						0.0336	0.0336		
A Non-2,3,7,8-sub-HpCDF	34.305						0.0	0.0		
S Total HpCDF							0.0336	0.0336		
D 13C-1,2,3,4,6,7,8-HpCDD	34.535	25917897	1.04	0.7762	41.2	41.2	0.3426	0.3426	41.25	
1,2,3,4,6,7,8-HpCDD	34.548	49494	0.97	0.9932	0.1923	0.1923	0.0252	0.0252		
A Non-2,3,7,8-sub-HpCDD	34.286	71399	1.09	0.9932	0.2774	0.2774	0.0252	0.2774		
S Total HpCDD					0.4696	0.4696	0.0252	0.0252		
D 13C-OCDD	36.870	30257527	0.87	0.6314	59.2	59.2	0.1480	0.1480	29.60	
OCDF	36.978						0.0580	0.0580		
OCDD	36.882	220362	0.80	1.0604	1.374	1.374	0.0381	0.0381		

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 13-Nov-2017 13:30:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d
Lims ID: 160-24924-G-19-A
Client ID: SHAD041DP013SS06NS
Sample Type: Client
Inject. Date: 12-Nov-2017 06:56:07 ALS Bottle#: 64 Worklist Smp#: 89
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-19-a 160-24924-g-19-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:29:26 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:30:21

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.884	17.884	0		42718055	10798952	8980	22450	1203		
333.9339	17.884	17.884	0		55475982	14071410	6545	16362	2150	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.370	17.370	0	0.971	29780135	7422331	10176	25440	729		
317.9389	17.370	17.370	0	0.971	37947365	9393926	7833	19582	1199	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.385						497	1242			
305.8987	17.385						955	2387			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						497	1242			
305.8987	17.105						955	2387			
13C-2,3,7,8-TCDD											
331.9368	18.080	18.080	0	1.011	19769856	4594207	8980	22450	512		
333.9339	18.080	18.080	0	1.011	25420615	5881891	6545	16362	899	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.095						1046	2615			
321.8936	18.095						537	1342			
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	15.858	17.559	-102	0.877	22745	5483	1046	2615	5		
	Empc Correction				15145	4153	1046	2615	4		
321.8936	15.873	17.559	-101	0.878	19670	5394	537	1342	10	1.16(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.410	22.410	0	1.253	29795225	5371983	8060	20150	666		
353.8970	22.410	22.410	0	1.253	18880321	3304912	5156	12890	641	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.437						386	965			
341.8567	22.437						914	2285			
2,3,4,7,8-PeCDF											
339.8597	23.787						386	965			
341.8567	23.787						914	2285			
A F1 PeCDFs											
339.8597	20.001						351	877			
341.8567	20.001						777	1942			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						386	965			
341.8567	23.161						914	2285			
13C-1,2,3,7,8-PeCDD											
367.8949	24.483	24.483	0	1.369	22823247	3573441	3569	8922	1001		
369.8919	24.483	24.483	0	1.369	14108854	2113280	2115	5287	999	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.510						679	1697			
357.8516	24.510						254	635			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						679	1697			
357.8516	23.419						254	635			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.553	30.553	0	0.950	13005816	2576829	9511	23777	271		
385.8610	30.553	30.553	0	0.950	25844530	5014904	17509	43772	286	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.580						541	1352			
375.8178	30.580						382	955			
1,2,3,6,7,8-HxCDF											
373.8208	30.753						541	1352			
375.8178	30.753						382	955			
2,3,4,6,7,8-HxCDF											
373.8208	31.565						541	1352			
375.8178	31.565						382	955			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.337	32.337	0	1.005	13946237	3377734	9511	23777	355		
385.8610	32.337	32.337	0	1.005	26561945	6441313	17509	43772	368	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.350						541	1352			
375.8178	32.350						382	955			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.254						541	1352			
375.8178	30.254						382	955			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.164	32.164	0		44933190	10724971	11008	27520	974		
403.8529	32.164	32.164	0		36021685	8654822	10012	25030	864	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											
389.8157	31.751						574	1435			
391.8127	31.751						481	1202			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.831	31.831	0	0.990	17147130	4071686	11008	27520	370		
403.8529	31.831	31.831	0	0.990	13594163	3221769	10012	25030	322	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.844						574	1435			
391.8127	31.844						481	1202			
1,2,3,7,8,9-HxCDD											
389.8157	32.177						574	1435			
391.8127	32.177						481	1202			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.893						574	1435			
391.8127	30.893						481	1202			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.746	33.746	0	1.049	6472294	1884489	11171	27927	169		
419.8220	33.746	33.746	0	1.049	15577756	4557904	27845	69612	164	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.758						798	1995			
409.7789	33.758						355	887			
1,2,3,4,7,8,9-HpCDF											
407.7818	34.839						798	1995			
409.7789	34.839						355	887			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.305						798	1995			
409.7789	34.305						355	887			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.535	34.535	0	1.074	13217110	3635868	12944	32360	281		
437.8140	34.535	34.535	0	1.074	12700787	3464102	7671	19177	452	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.548	34.548	0	1.000	24424	6053	355	887	17		
425.7737	34.548	34.548	0	1.000	25070	7107	357	892	20	0.97(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.001	34.286	-17	0.985	37228	11201	355	887	32		
425.7737	34.001	34.286	-17	0.985	34171	11197	357	892	31	1.09(0.88-1.20)	
13C-OCDD											
469.7779	36.870	36.870	0	1.146	14054453	3320191	3516	8790	944		
471.7750	36.870	36.870	0	1.146	16203074	3691630	3730	9325	990	0.87(0.76-1.02)	
OCDF											
441.7428	36.978						406	1015			
443.7399	36.978						689	1722			
OCDD											
457.7377	36.882	36.882	0	1.000	97918	24405	300	750	81		
459.7348	36.882	36.882	0	1.000	122444	23957	267	667	90	0.80(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 13-Nov-2017 13:30:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d
Lims ID: 160-24924-G-19-A
Client ID: SHAD041DP013SS06NS
Inject. Date: 12-Nov-2017 06:56:07 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194086 Lims Sample ID: 89

Non-2,3,7,8-sub-TCDD, RT: 17.559

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	45190471	10476098

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	45190471	10476098

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.858	22745	5483	19670	5394	0.0939	1.16	RQ
15.858	15145	4153	19670	5394	0.0771		Empc Correction
Signal Totals:							
	15145	4153	19670	5394			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	42415	10877				1.16	RQ
	34815	9547					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0939 = (42415 * 100.000) / (45190471 * 0.999)
Empc Amount: 0.0771 = (34815 * 100.000) / (45190471 * 0.999)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d
Lims ID: 160-24924-G-19-A
Client ID: SHAD041DP013SS06NS
Inject. Date: 12-Nov-2017 06:56:07
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194086
Lims Sample ID: 89

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	25917897	7099970

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	25917897	7099970

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.001	37228	11201	34171	11197	0.2774	1.09	
Signal Totals:							
	37228	11201	34171	11197			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	71399	22398				1.09	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

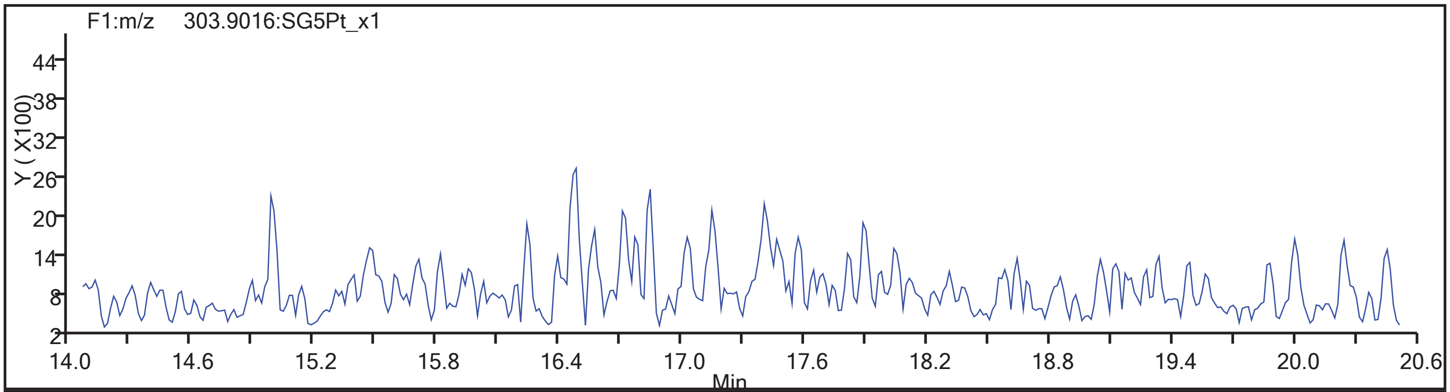
Amount: 0.2774 = (71399 * 100.000) / (25917897 * 0.993)

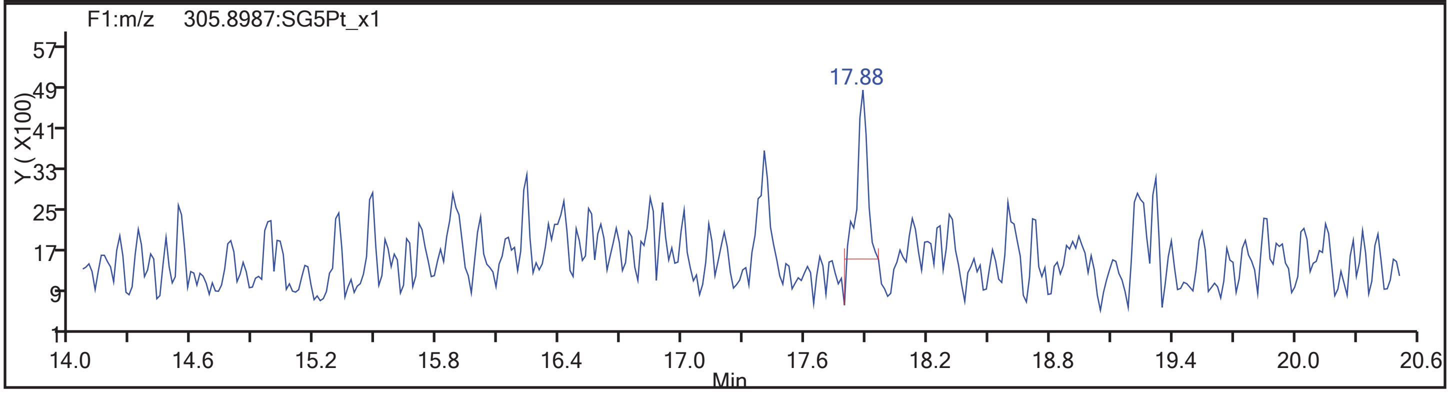
Report Date: 13-Nov-2017 13:30:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

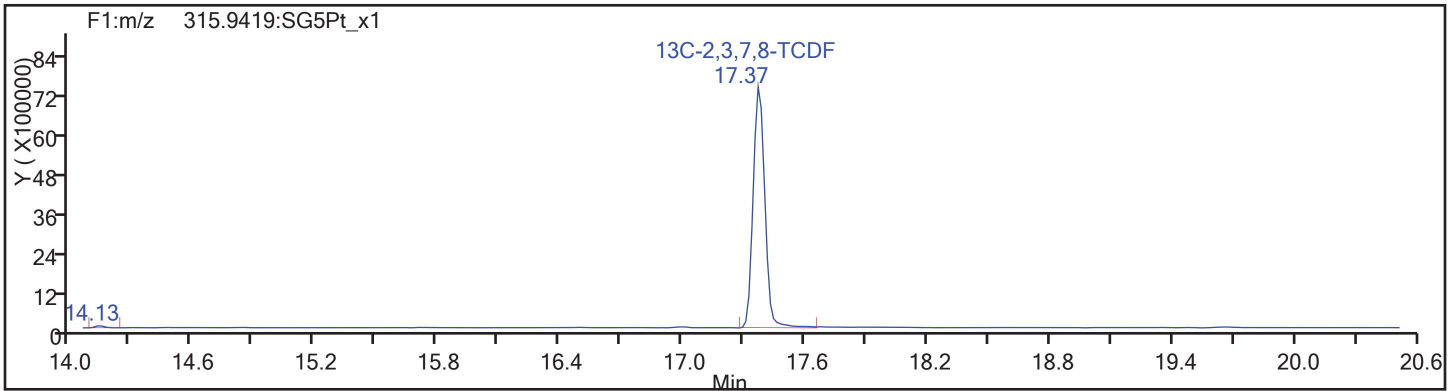
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d
Injection Date: 12-Nov-2017 06:56:07
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS06NS
Worklist#: 194086
Sample Line#: 89
Column Type: DB-5
Column Dia: 0.32 mm

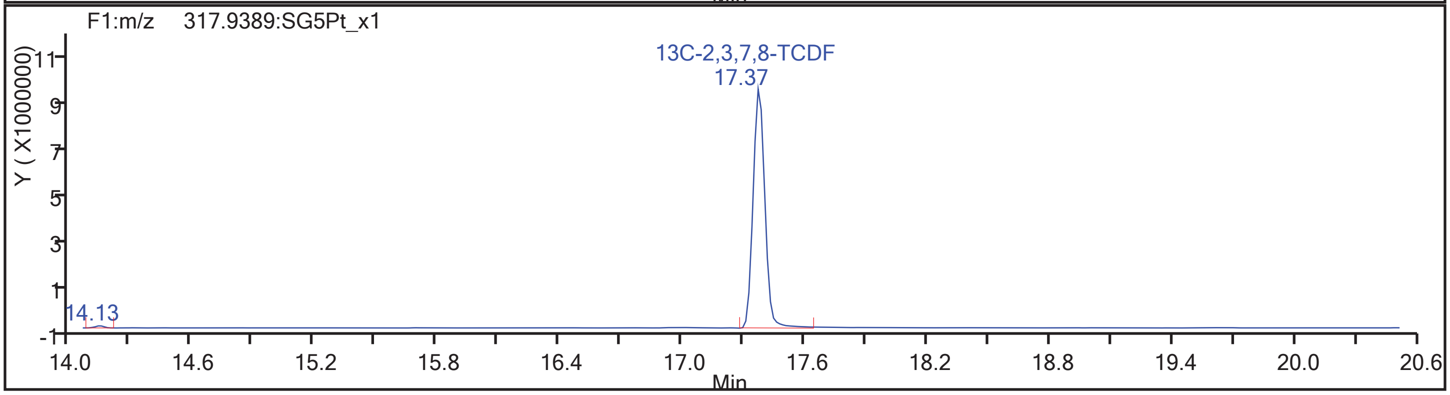
TCDF





TCDF Standards



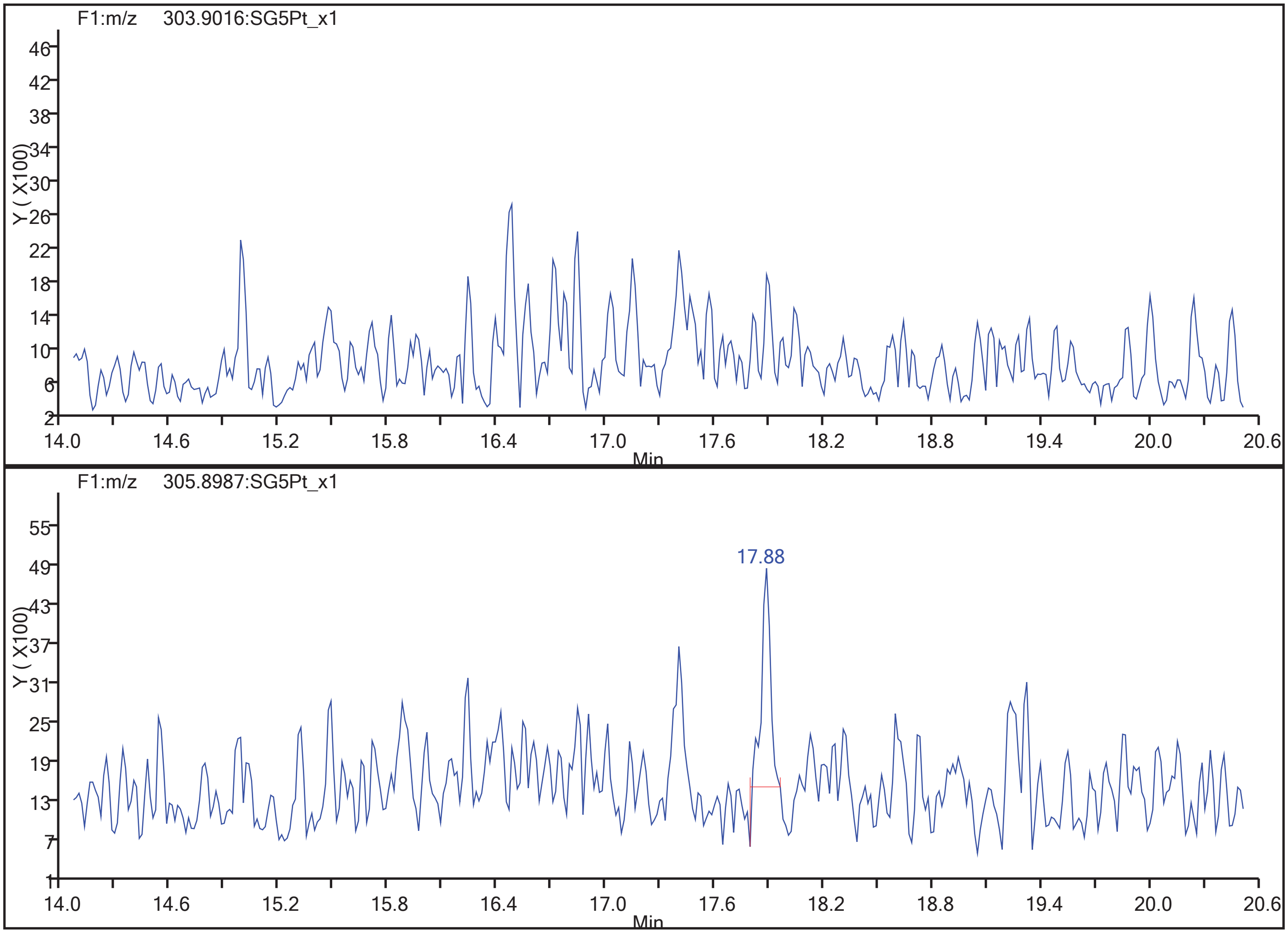


Report Date: 13-Nov-2017 13:30:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

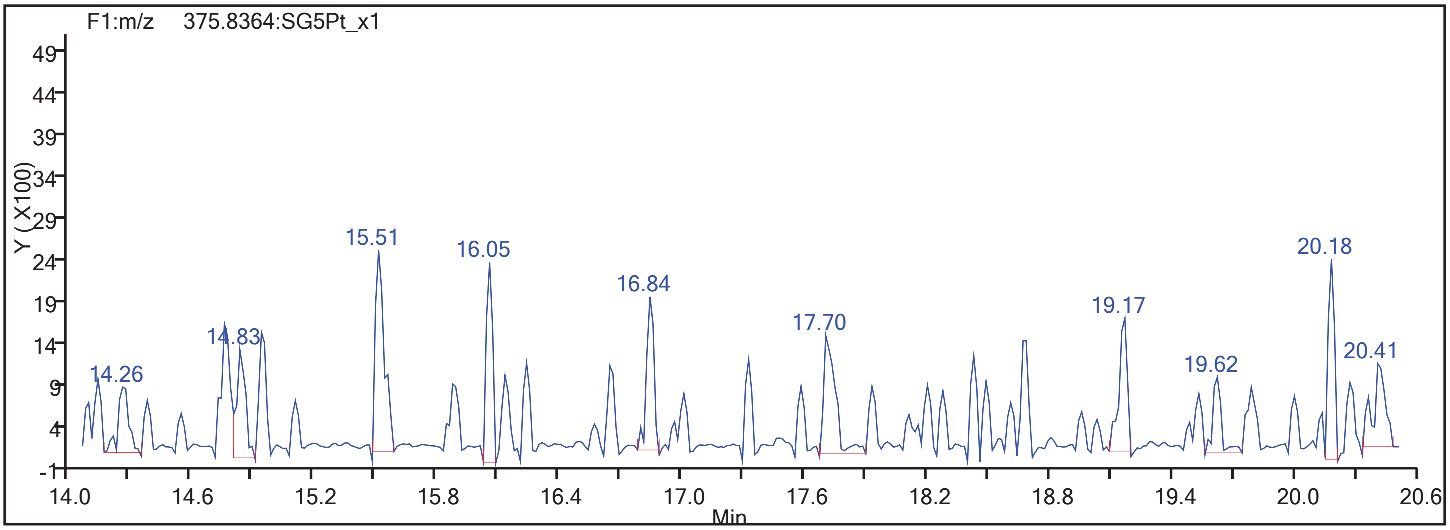
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF



TCDF Interference Mass

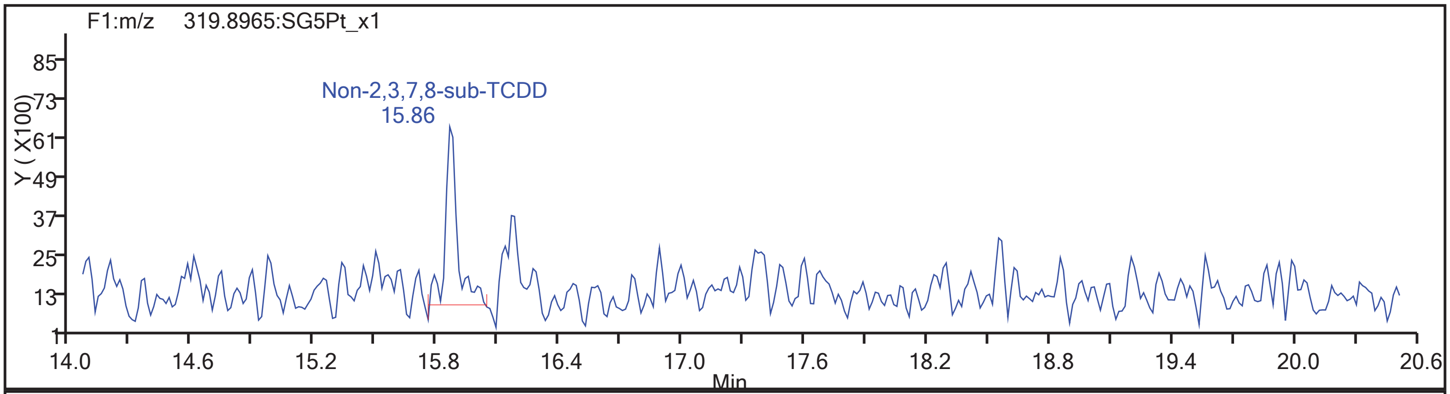


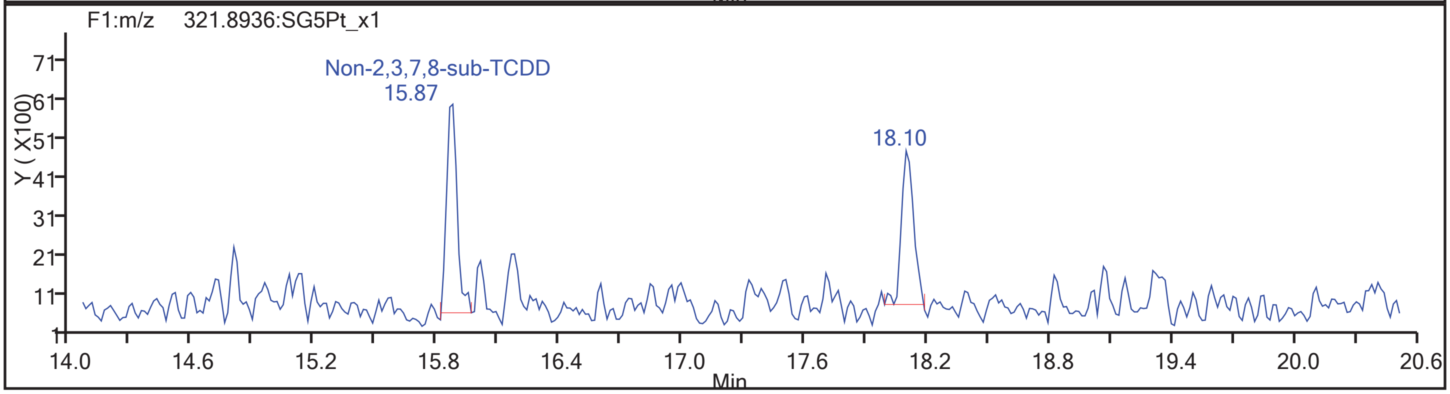
Report Date: 13-Nov-2017 13:30:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

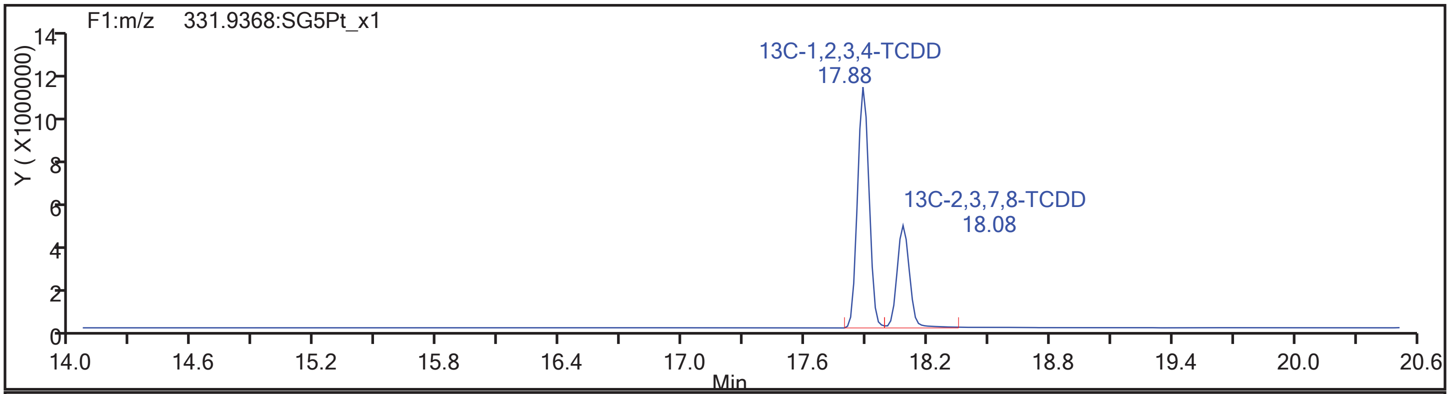
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

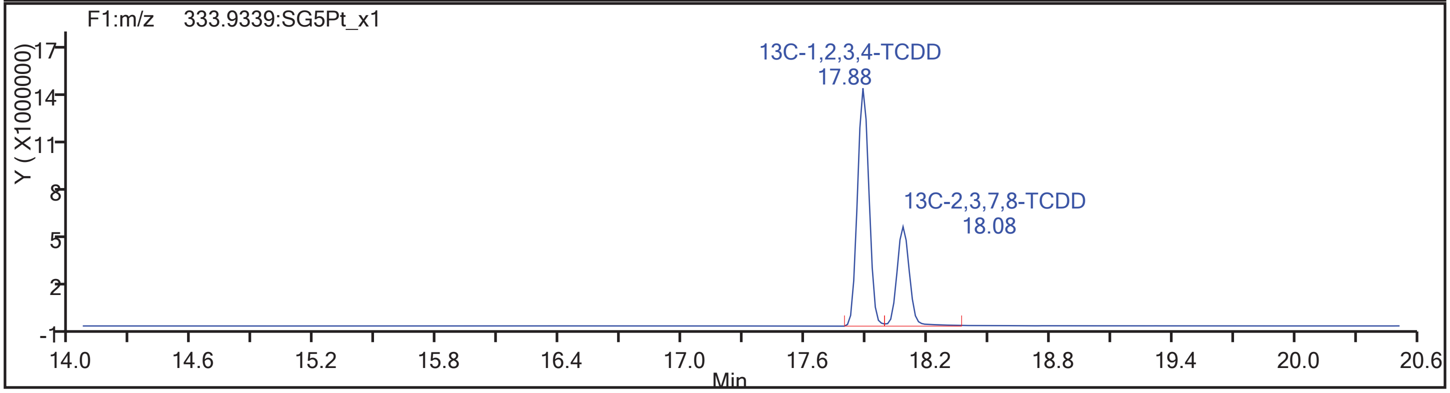
TCDD





TCDD Standards



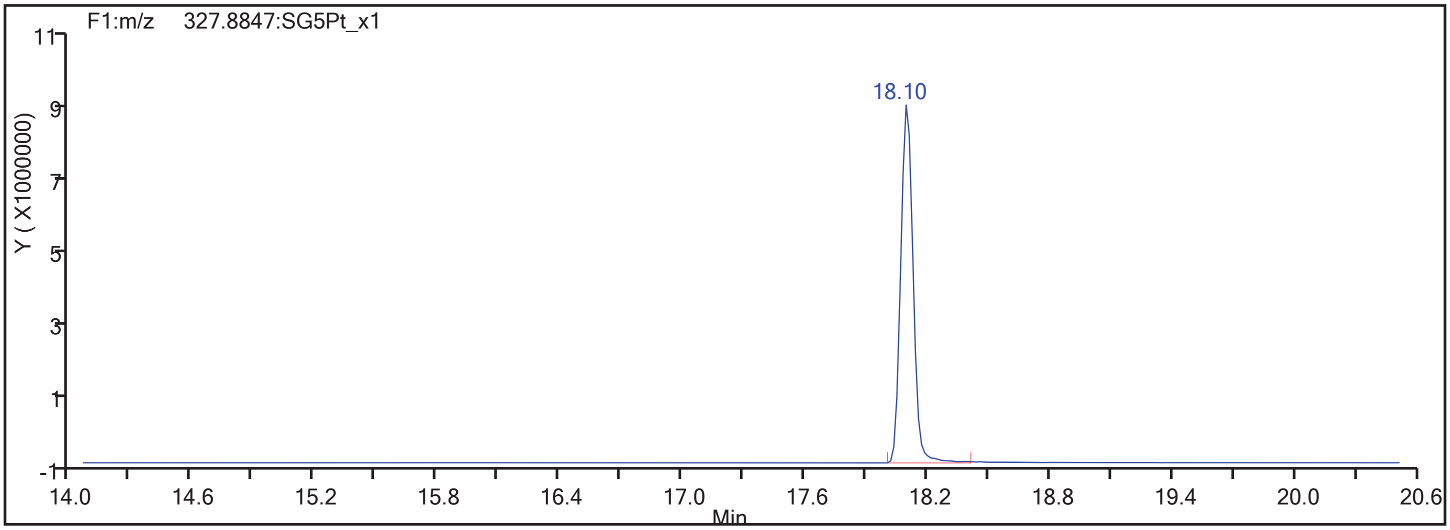


Report Date: 13-Nov-2017 13:30:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

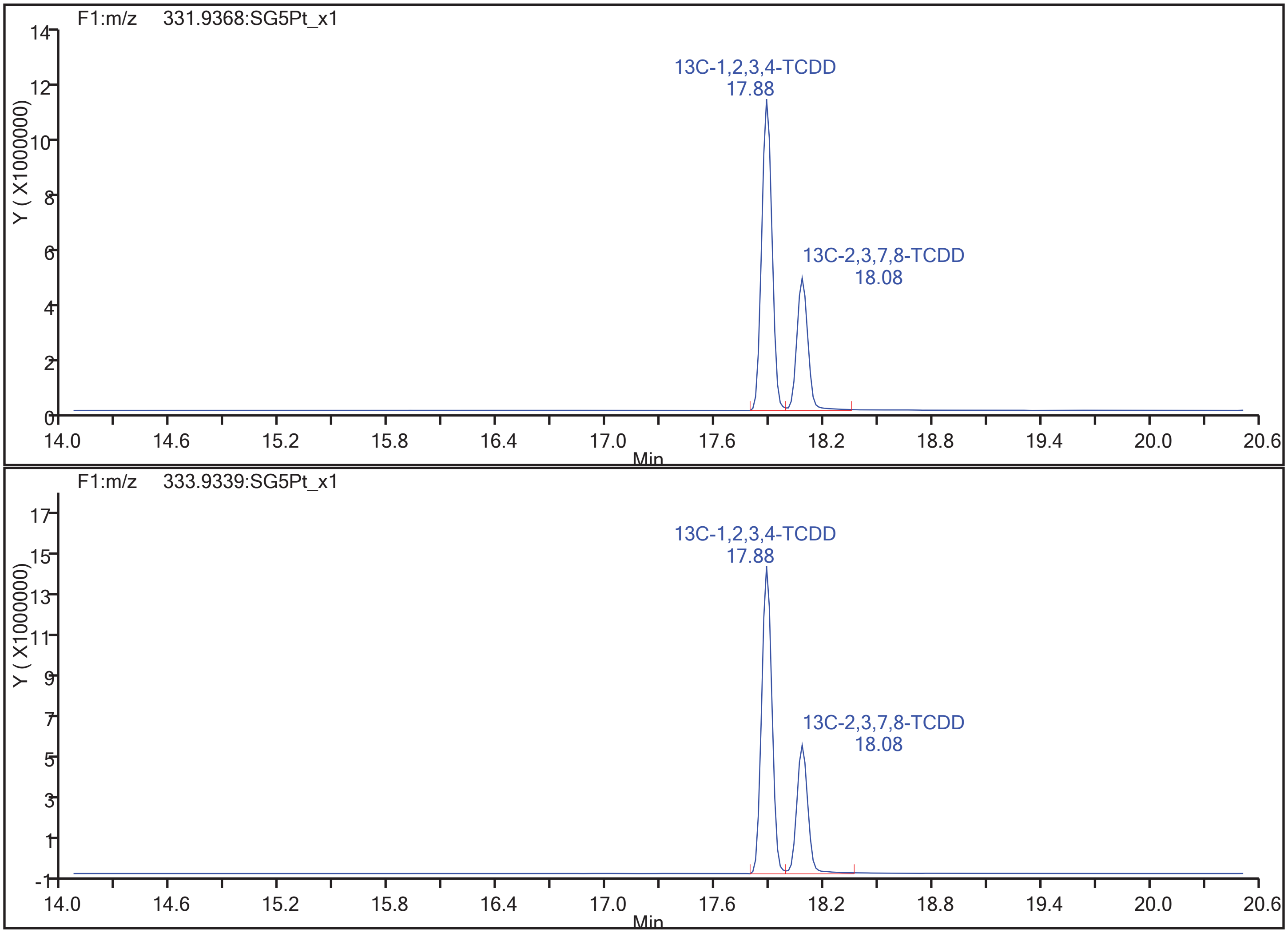
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d

Injection Date: 12-Nov-2017 06:56:07

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS06NS

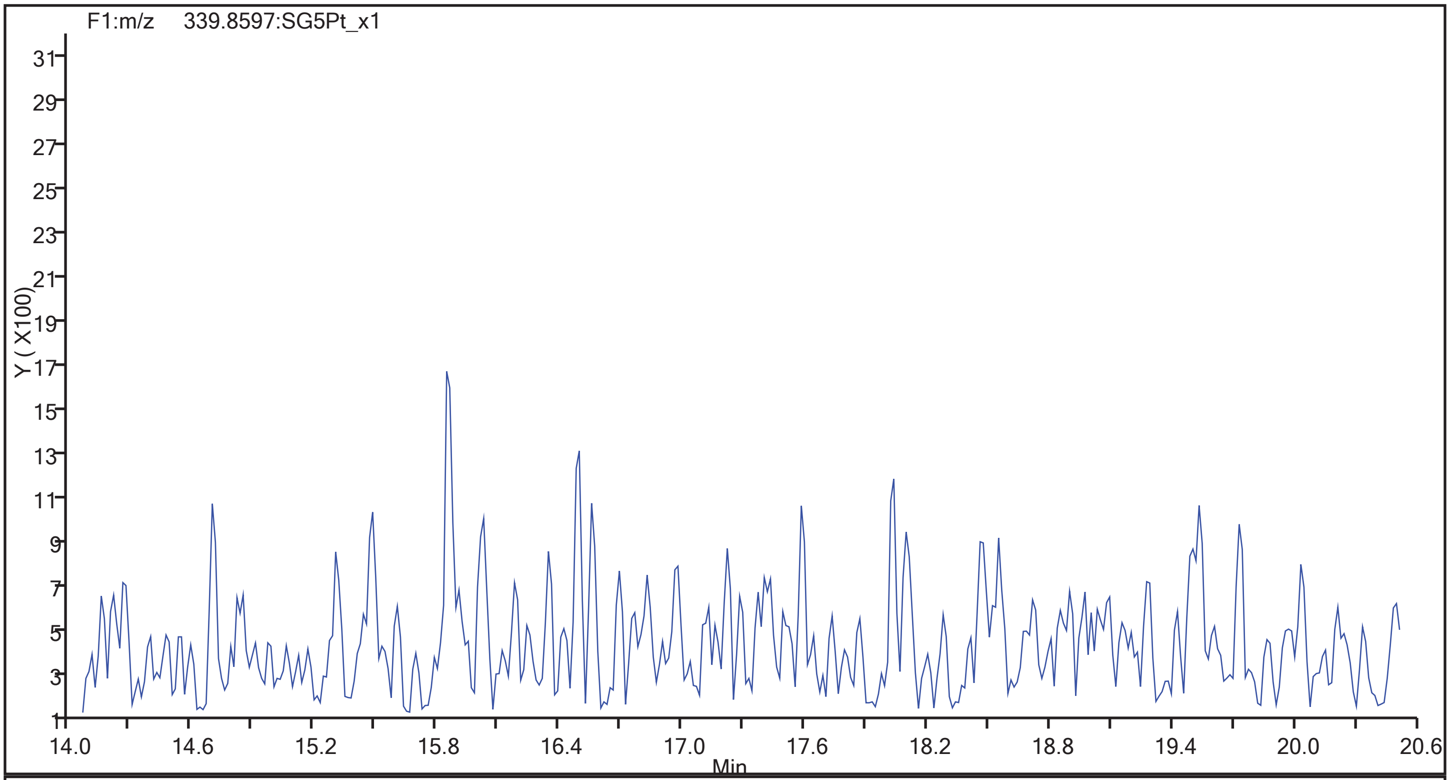
Worklist#: 194086

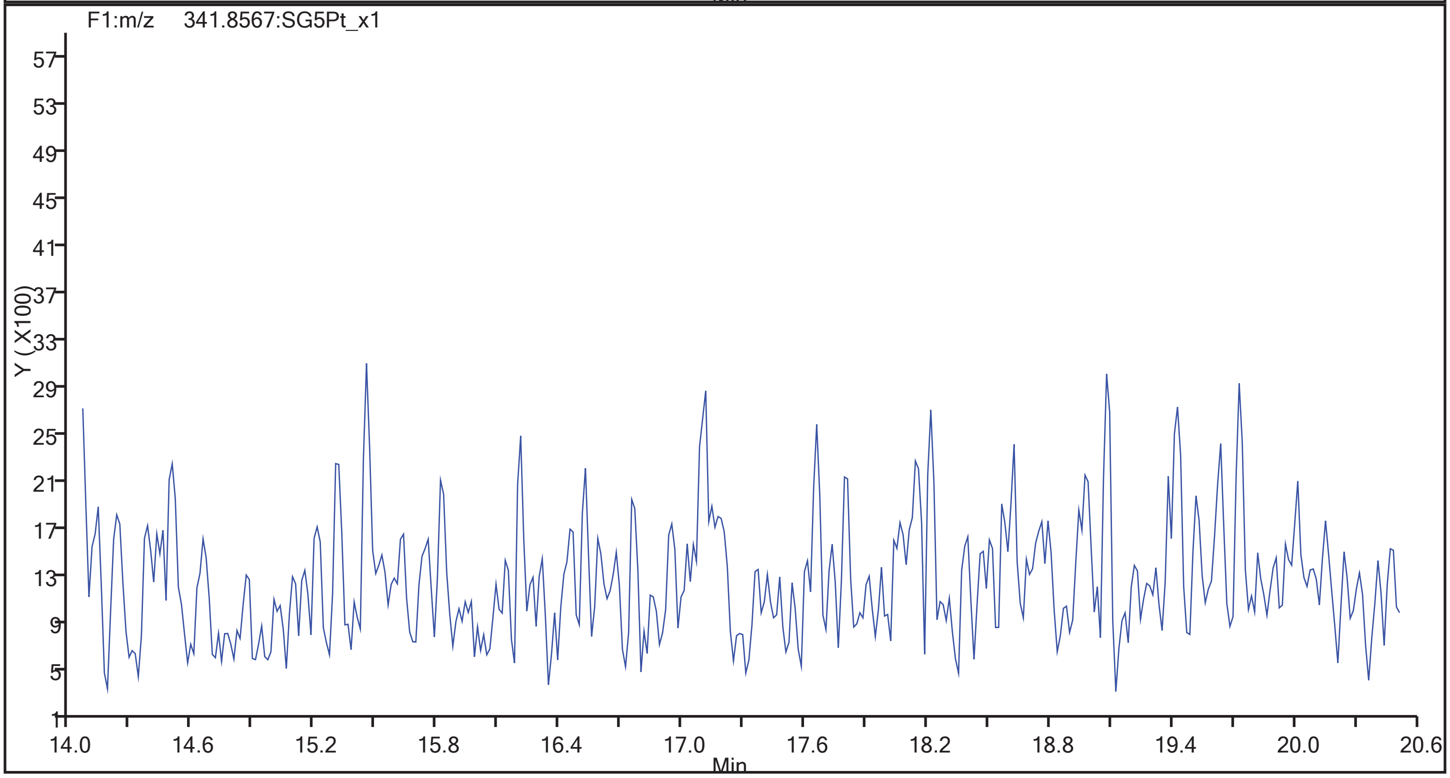
Sample Line#: 89

Column Type: DB-5

Column Dia: 0.32 mm

F1 PeCDFs

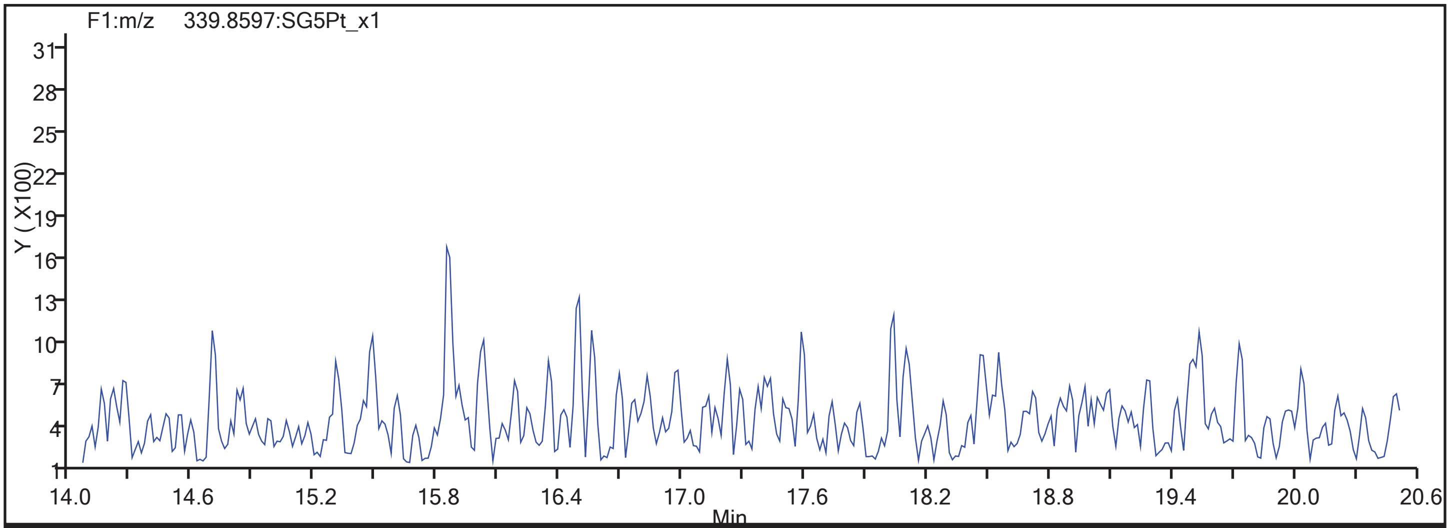


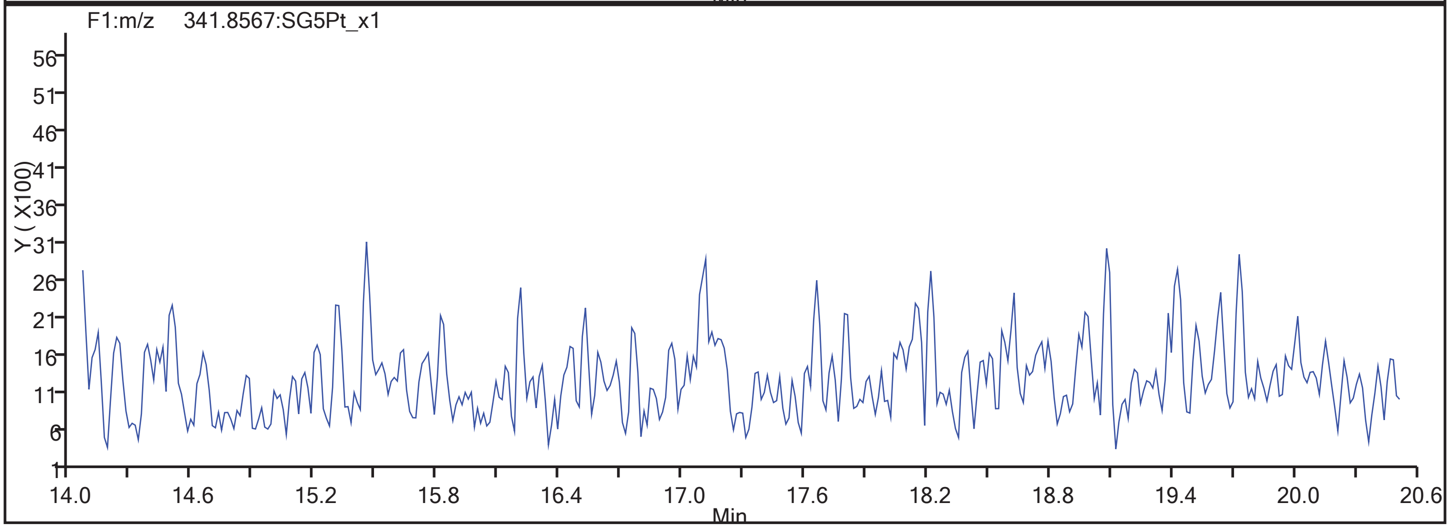


TestAmerica Sacramento

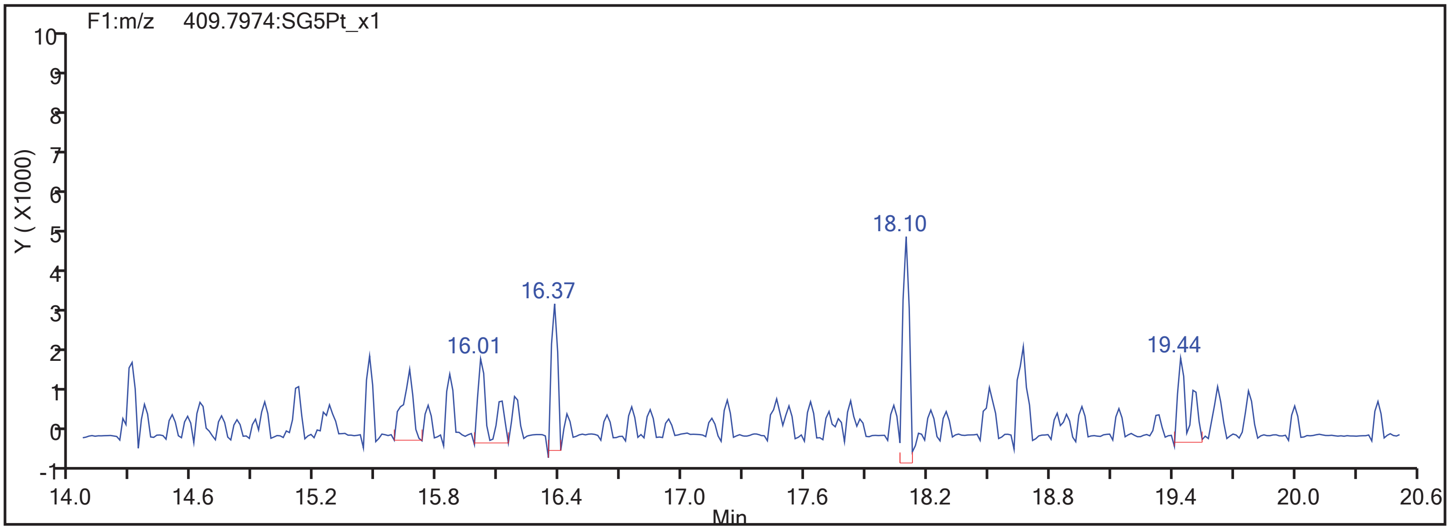
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

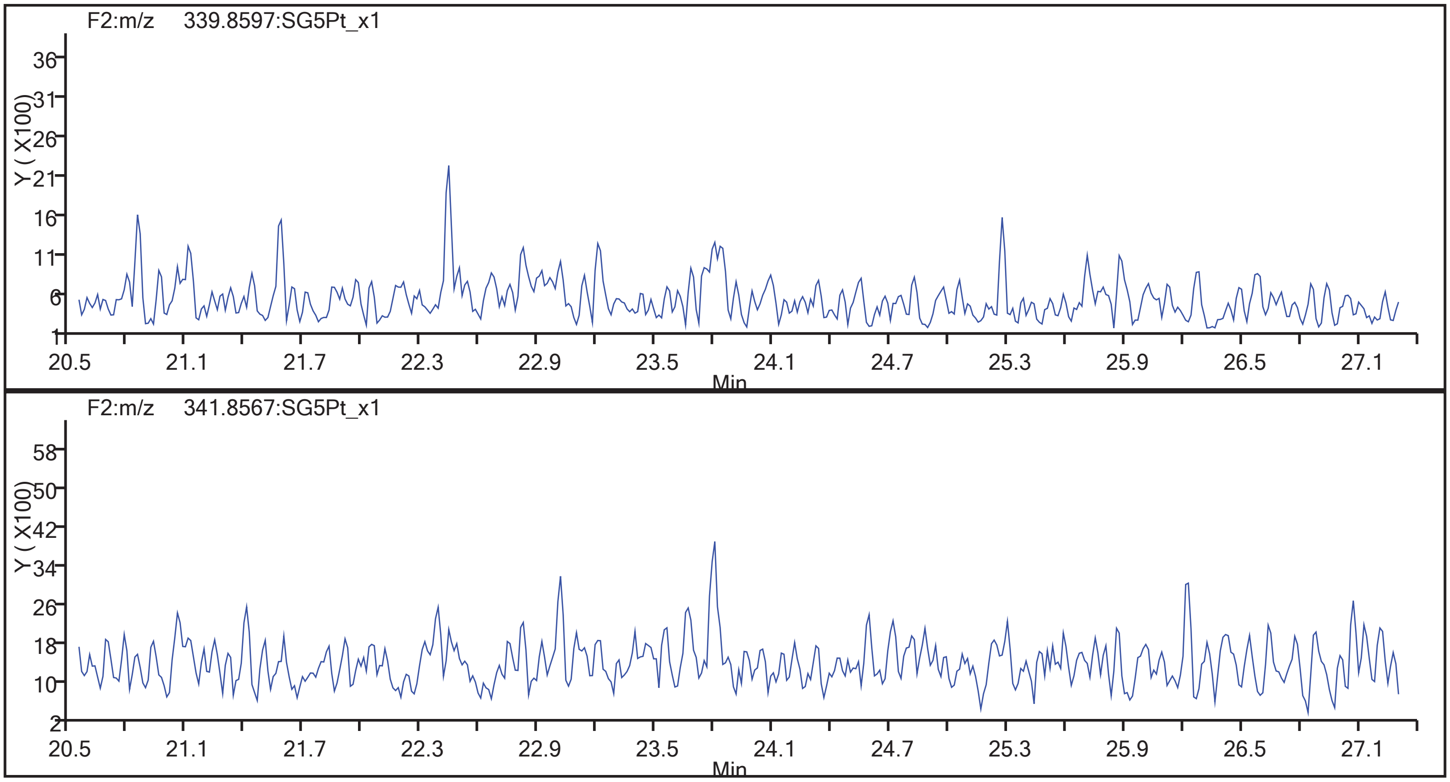


Report Date: 13-Nov-2017 13:30:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

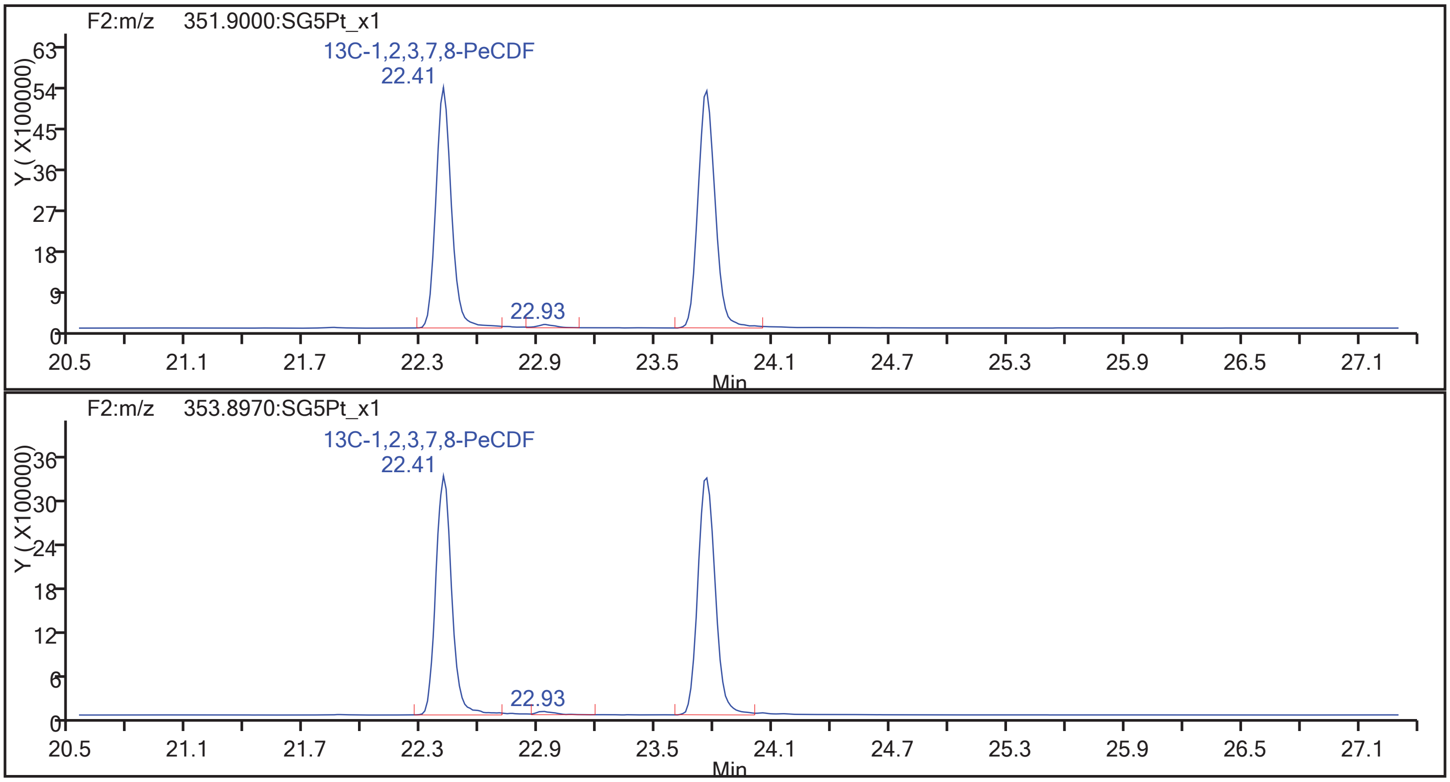
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



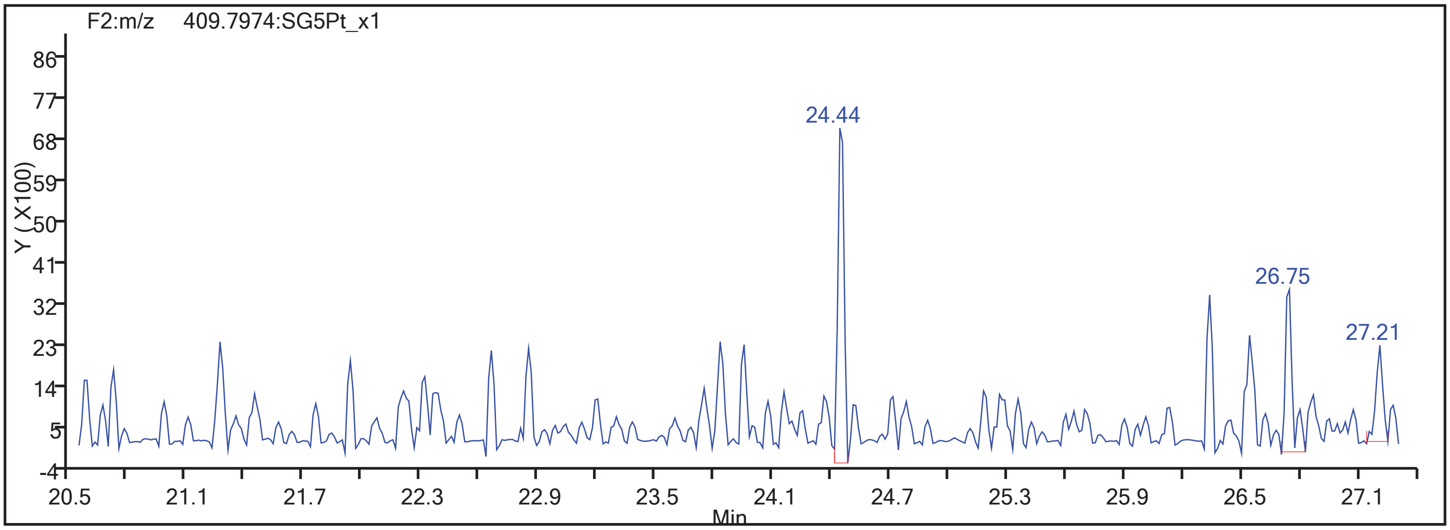
Report Date: 13-Nov-2017 13:30:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d
Injection Date: 12-Nov-2017 06:56:07
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS06NS
Worklist#: 194086
Sample Line#: 89
Column Type: DB-5
Column Dia: 0.32 mm

PeCDF

PeCDF Interference Mass

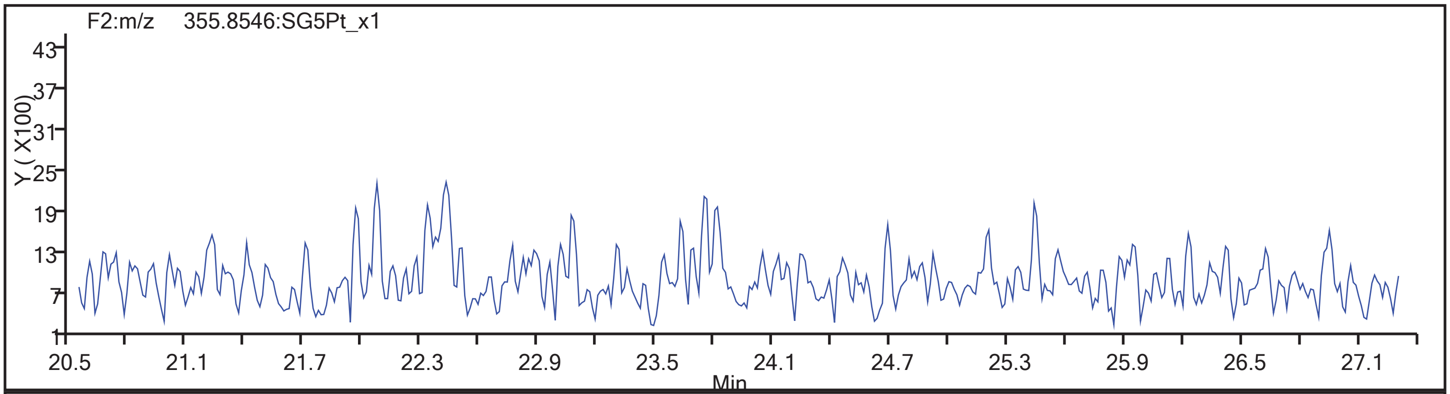


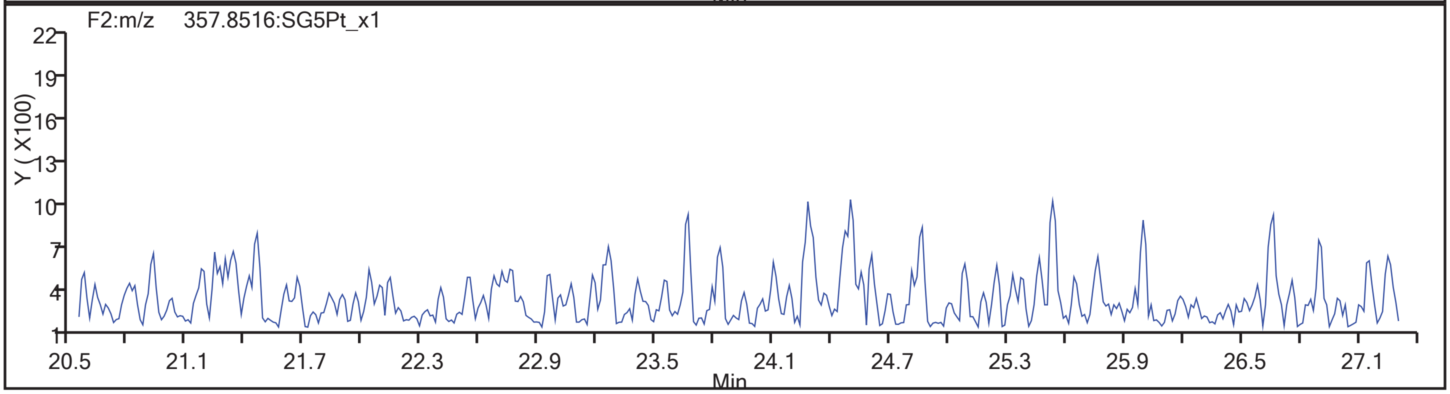
Report Date: 13-Nov-2017 13:30:22 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

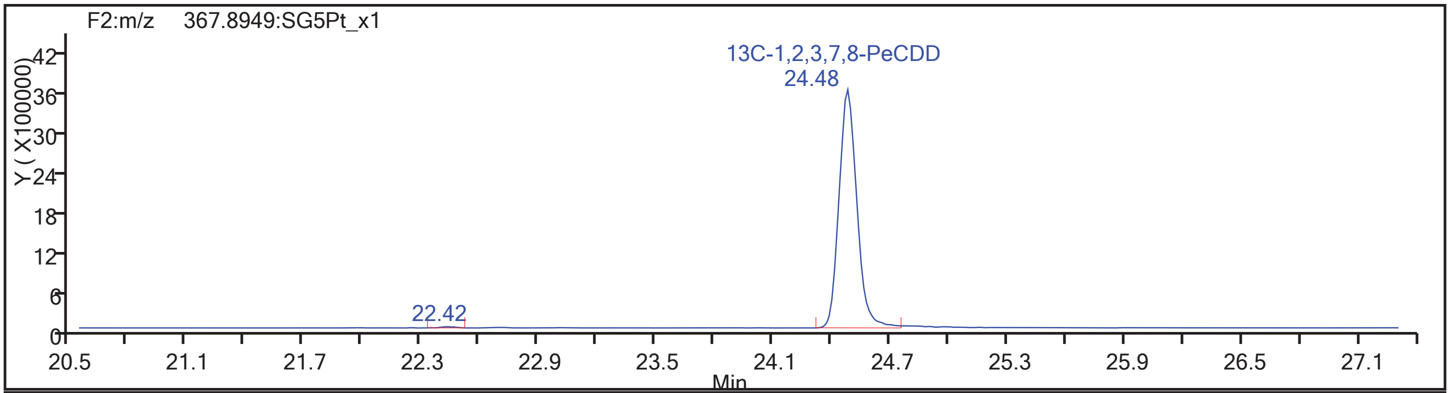
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

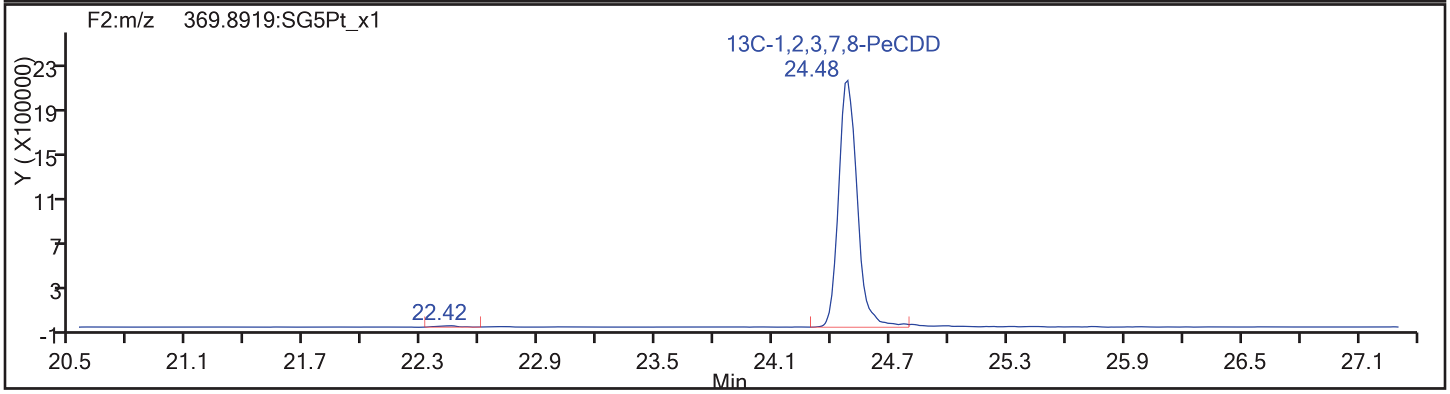
PeCDD





PeCDD Standards

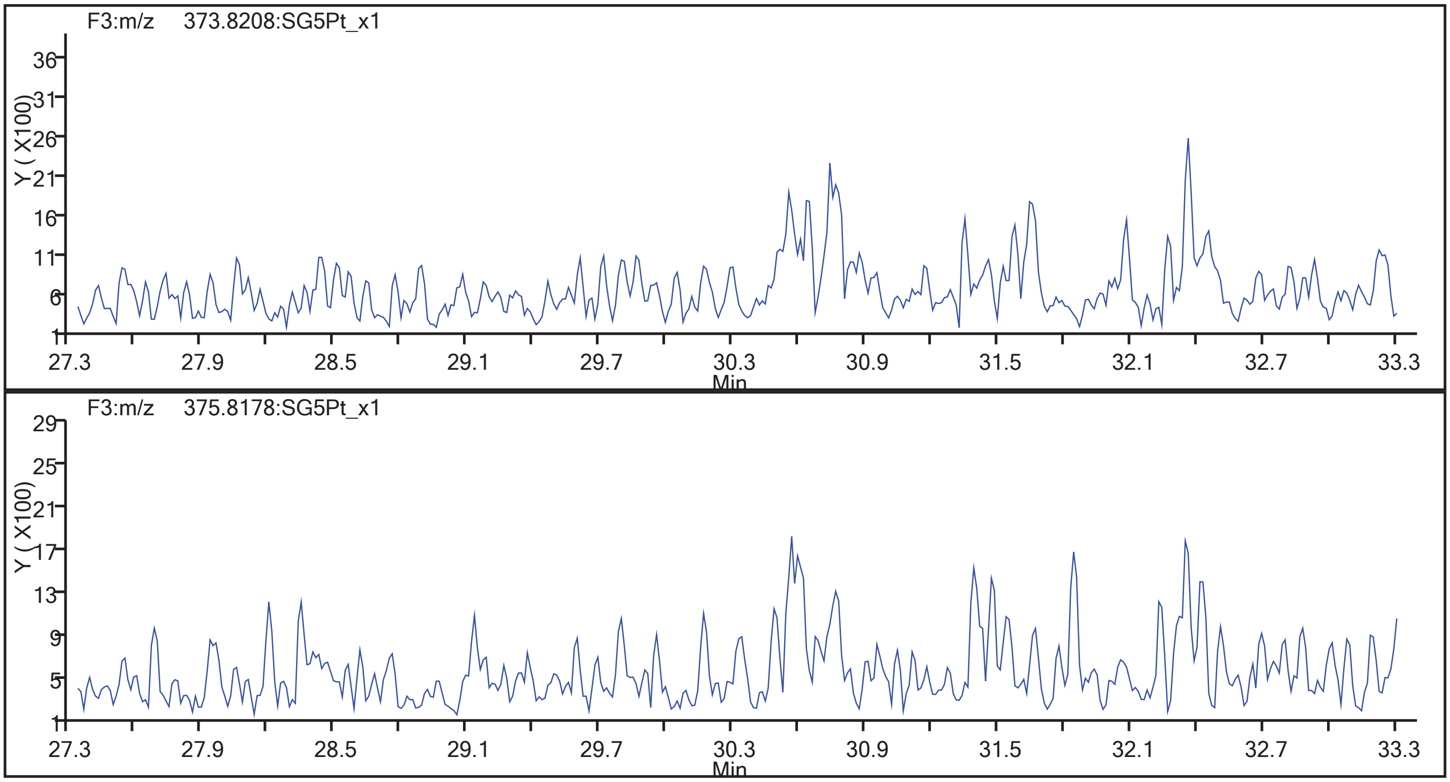




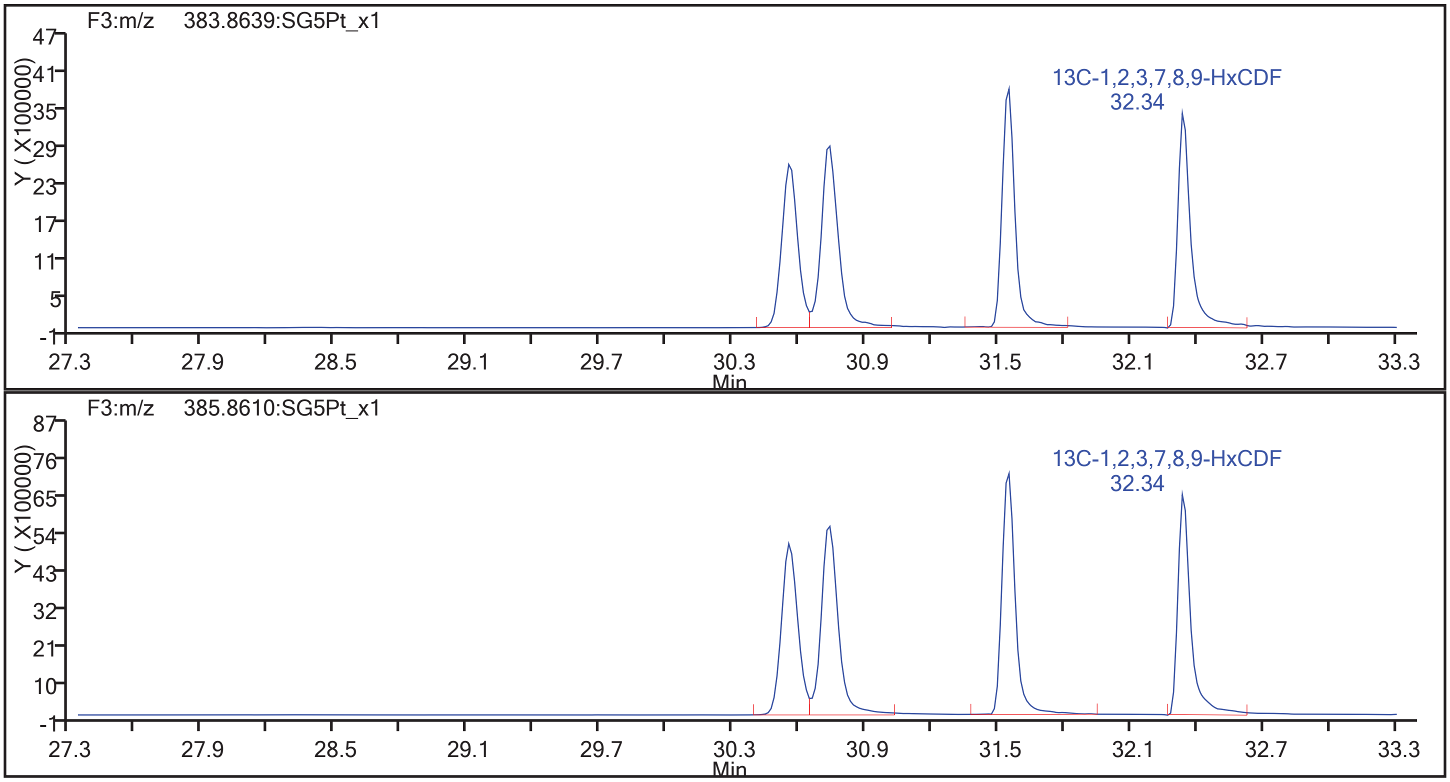
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



HxCDF Standards



Report Date: 13-Nov-2017 13:30:23
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
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Worklist#:	194086	Sample Line#:	89
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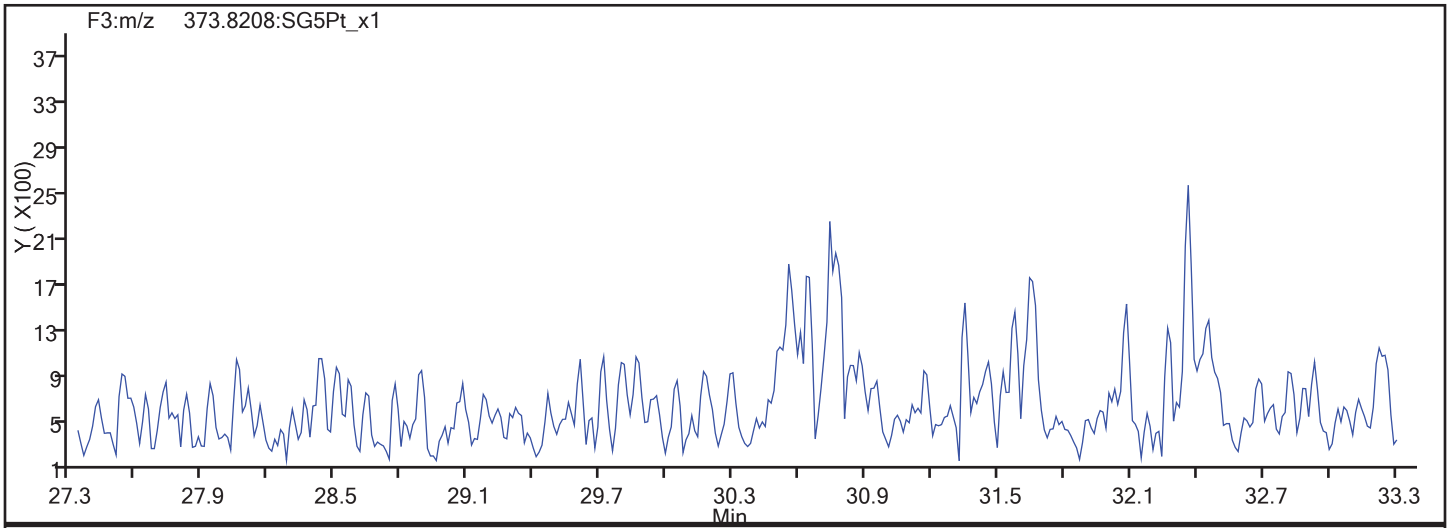
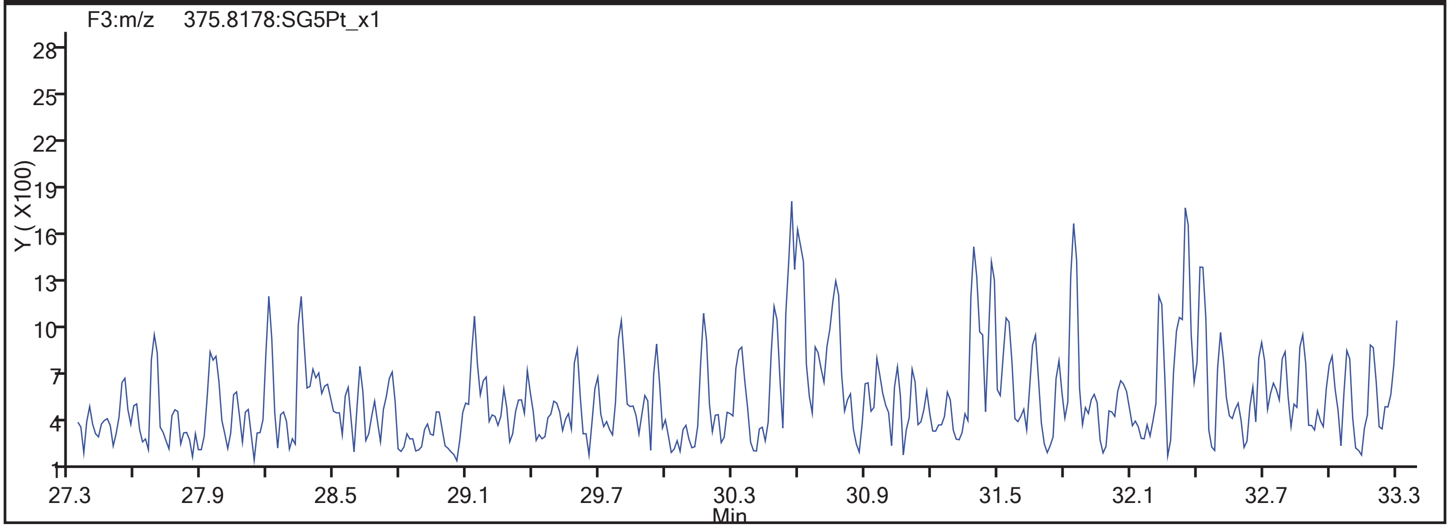
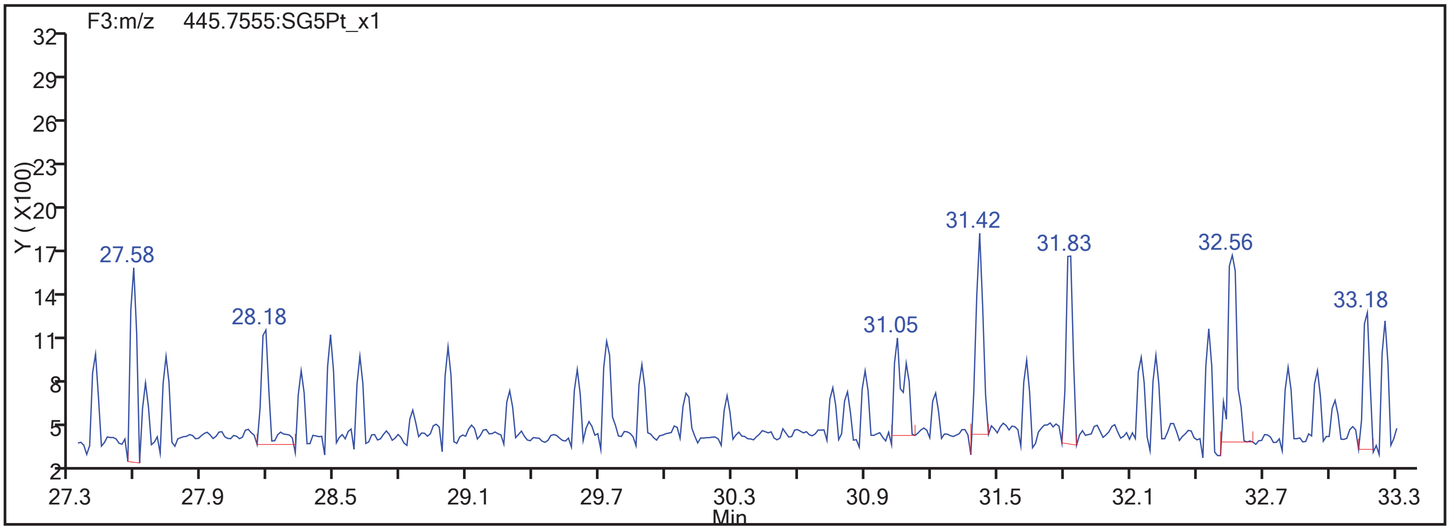




HxCDF Interference Mass



Report Date: 13-Nov-2017 13:30:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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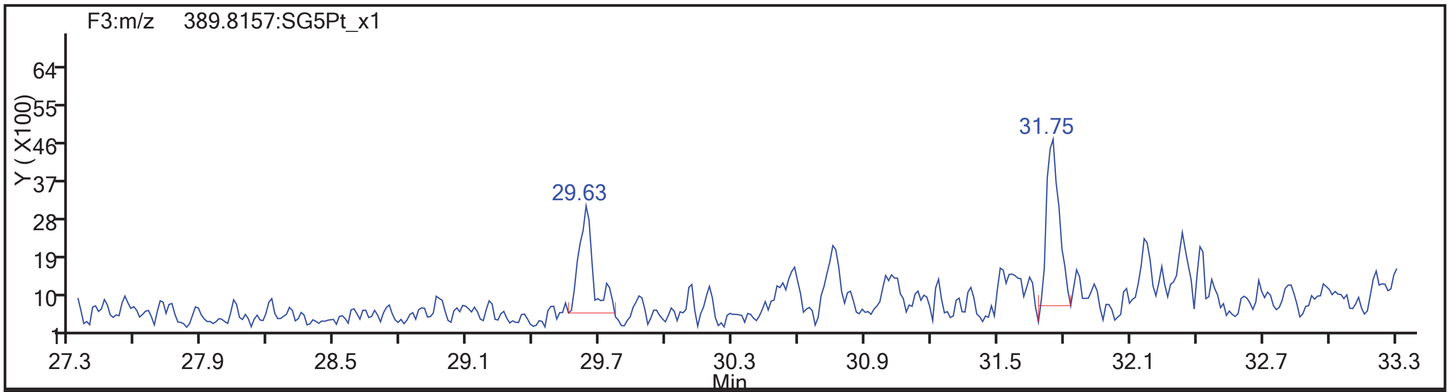
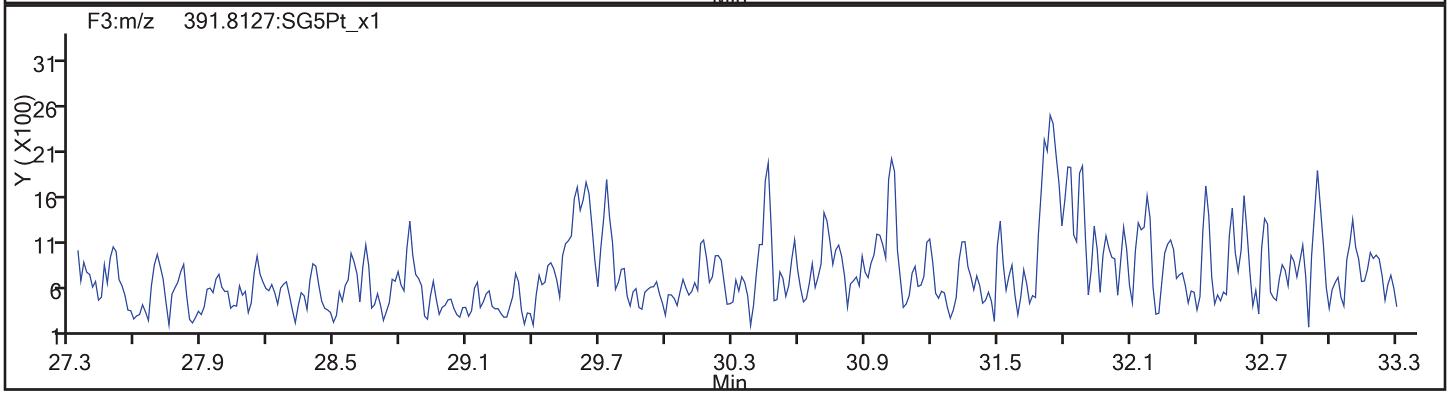
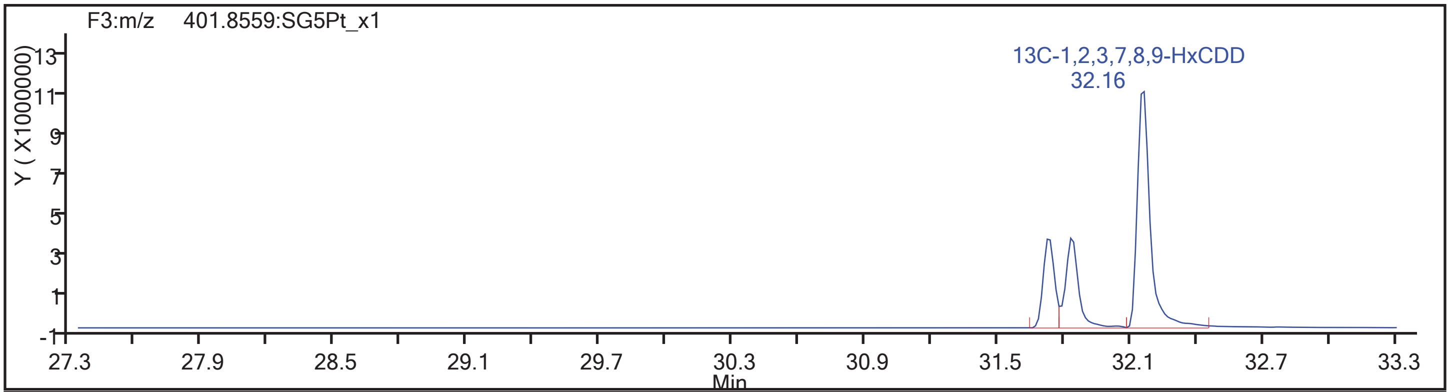
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

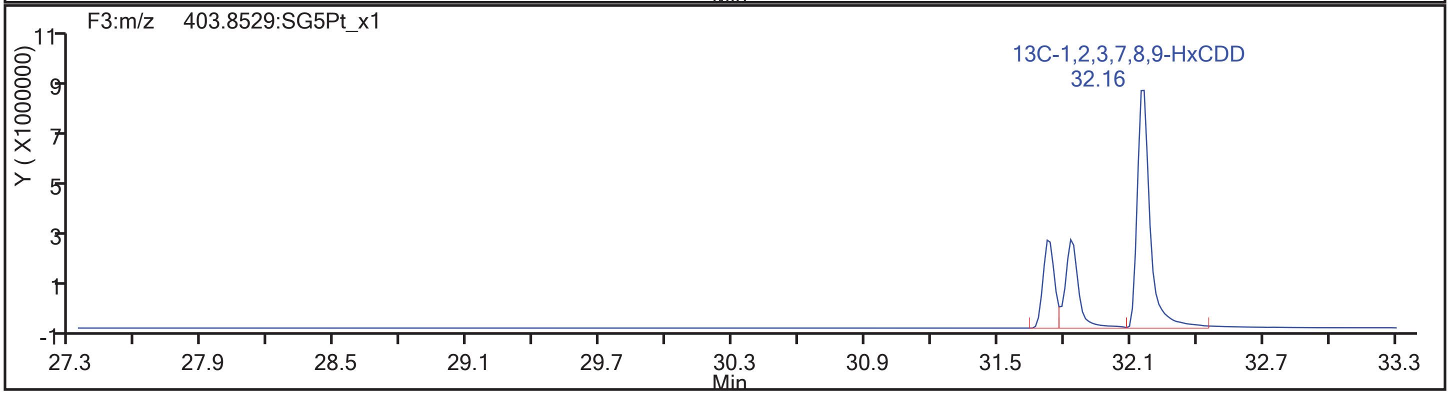
HxCDD





HxCDD Standards



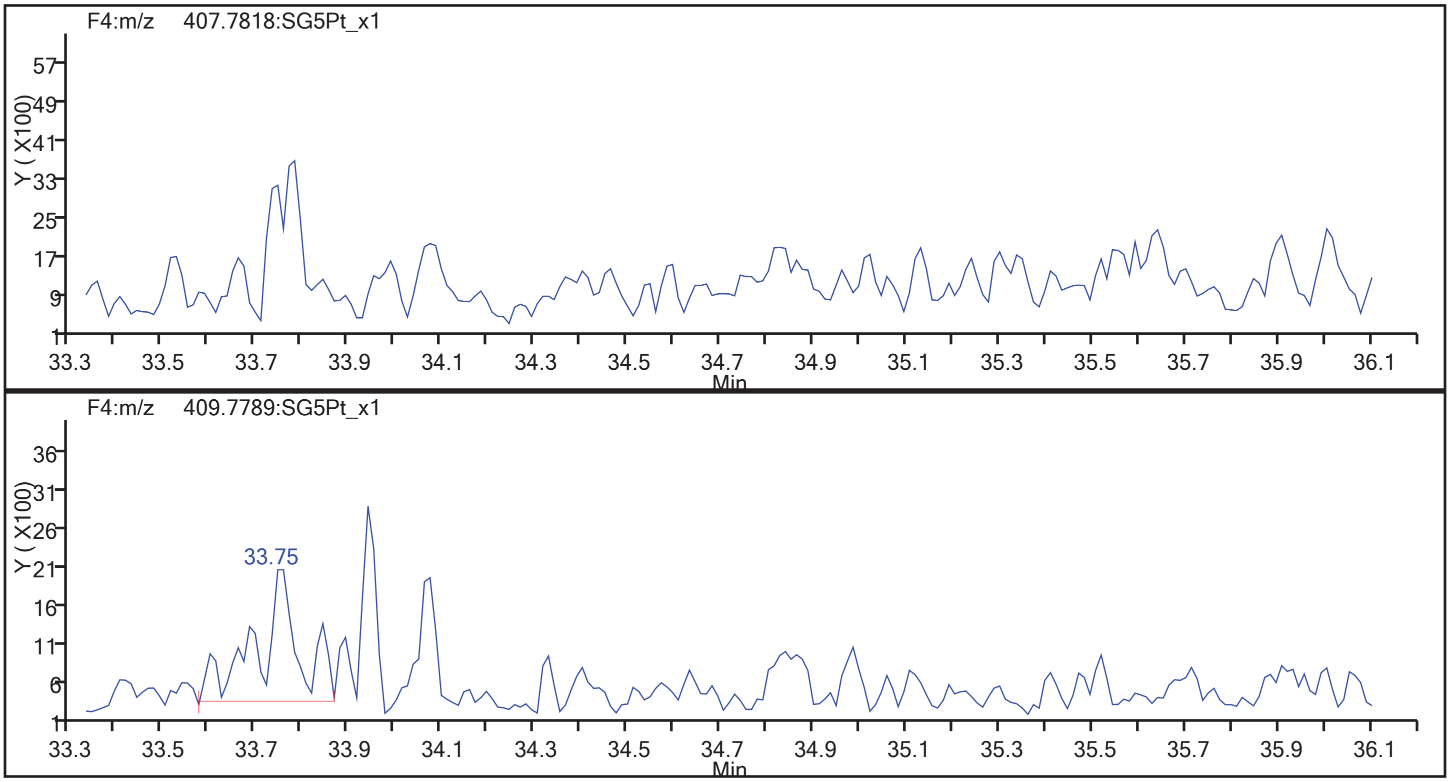


Report Date: 13-Nov-2017 13:30:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

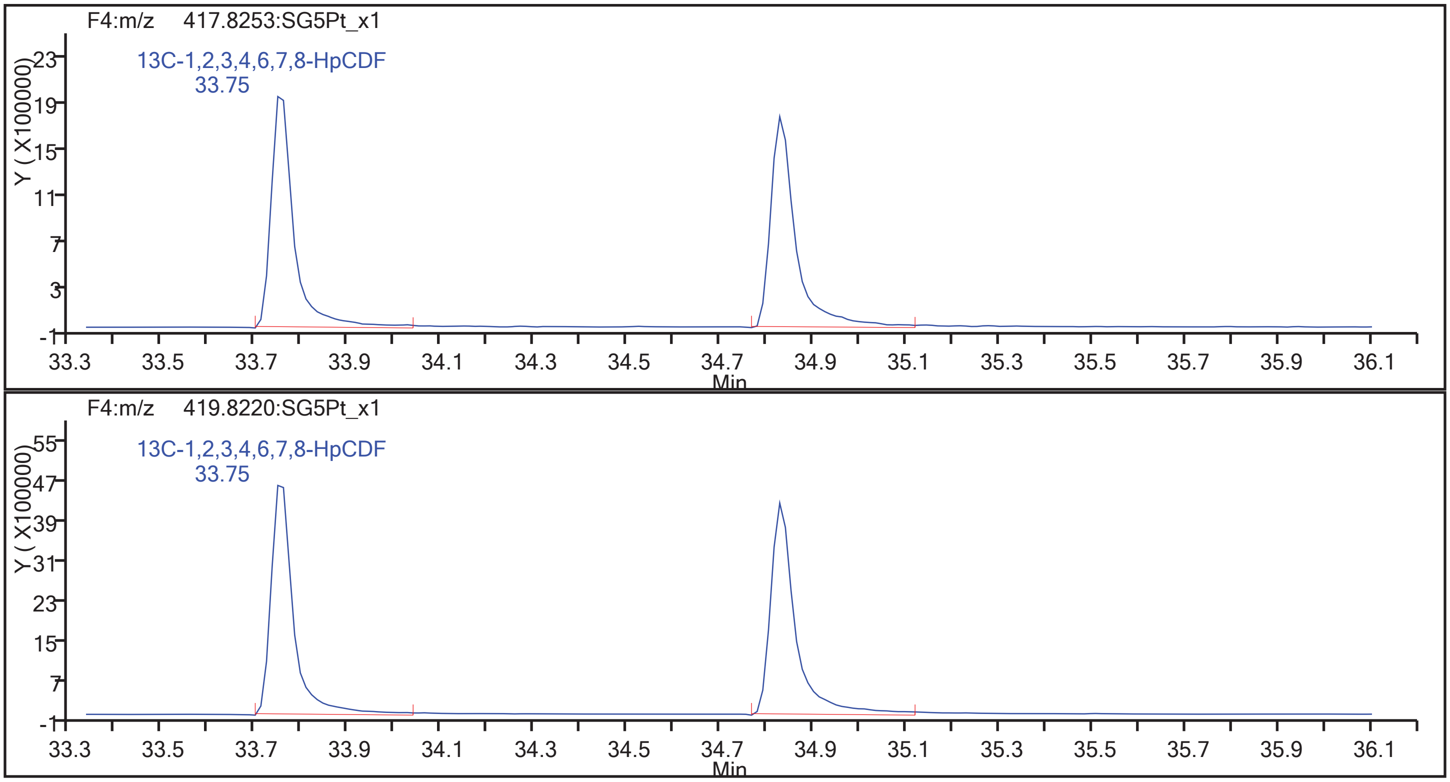
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF



HpCDF Standards



Report Date: 13-Nov-2017 13:30:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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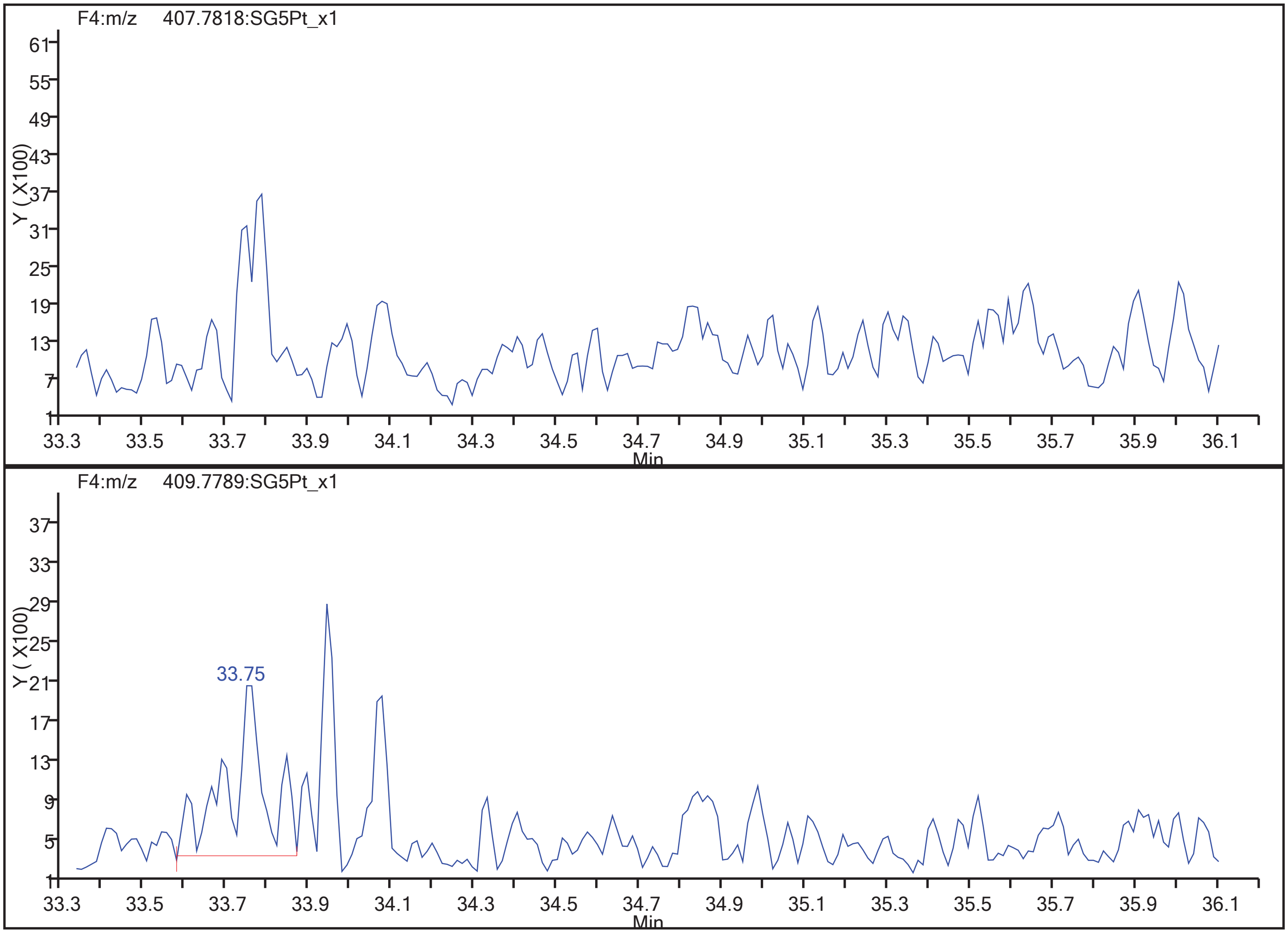
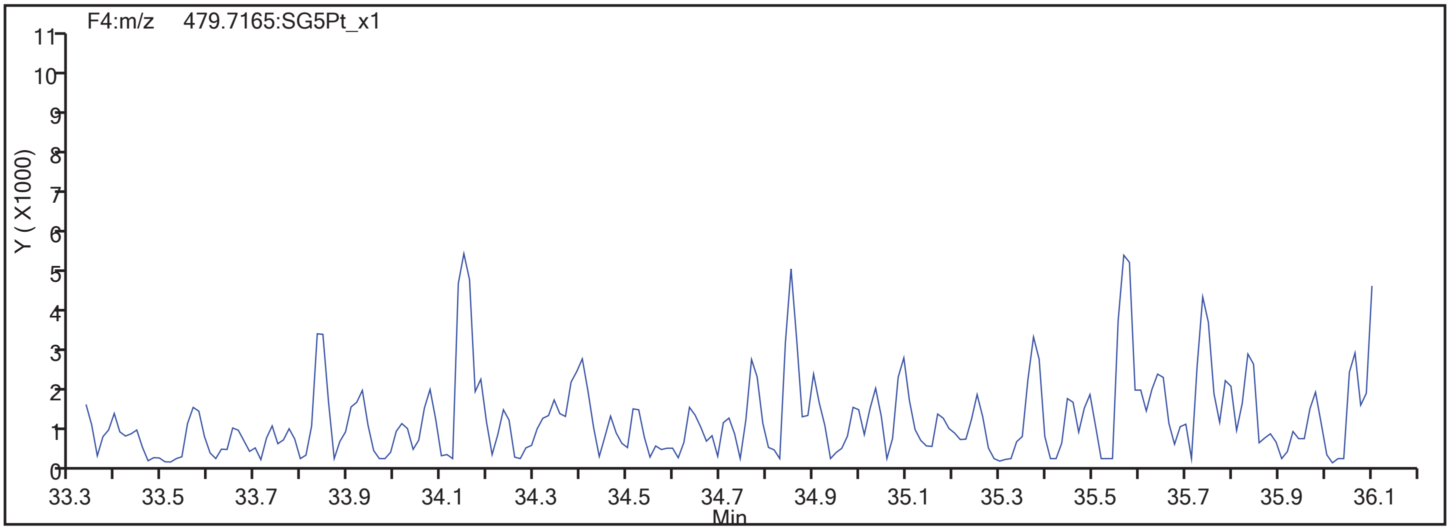
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF



HpCDF Interference Mass



Report Date: 13-Nov-2017 13:30:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46
TestAmerica Sacramento
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d
Injection Date: 12-Nov-2017 06:56:07 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS06NS
Worklist#: 194086 Sample Line#: 89
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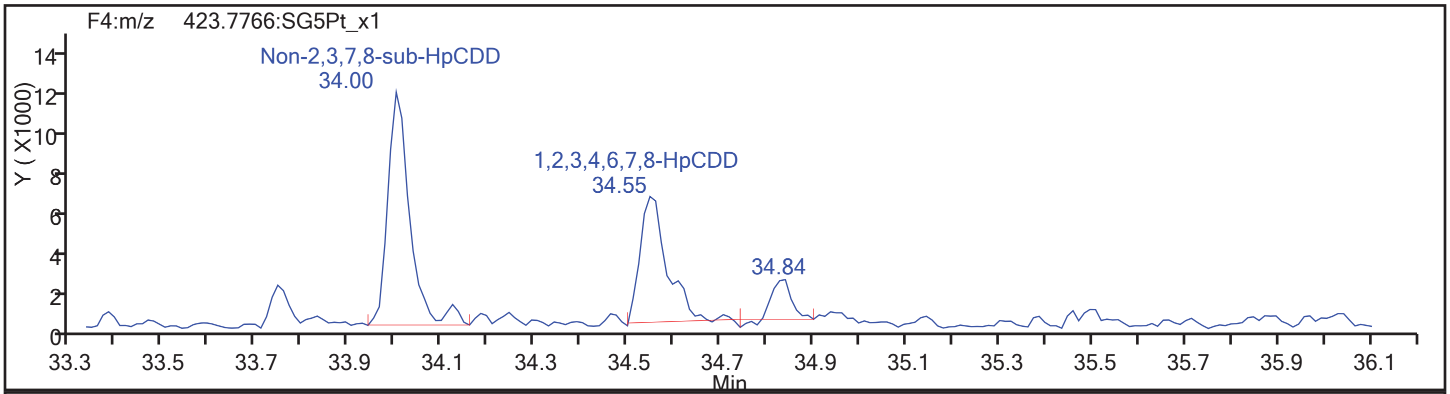
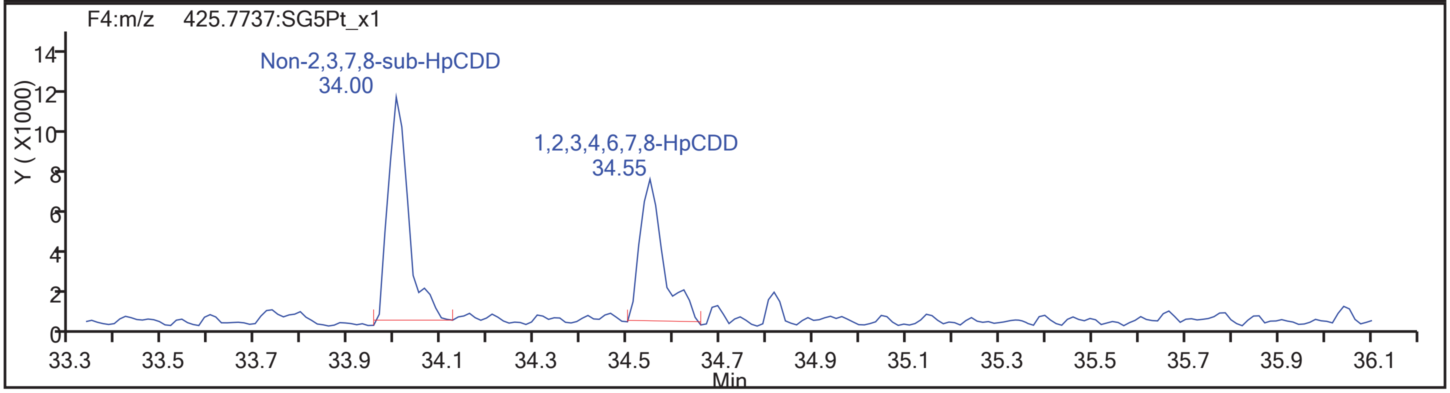
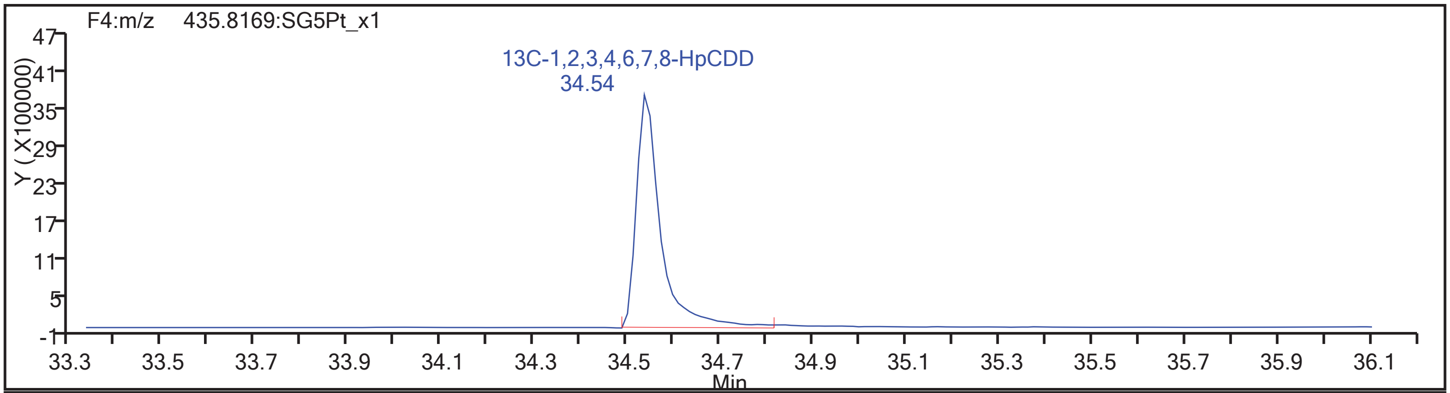
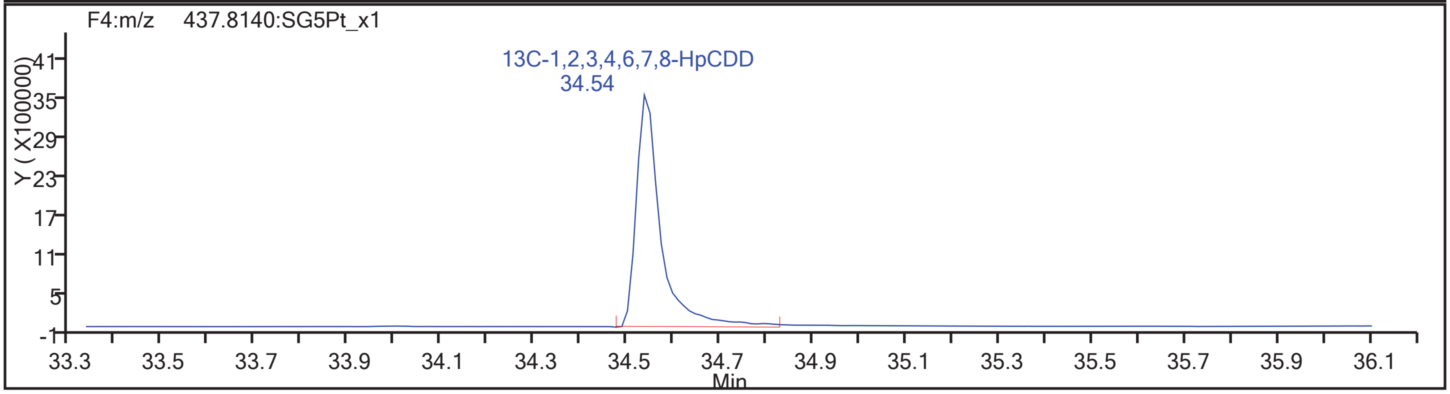
HpCDD





HpCDD Standards





Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d

Injection Date: 12-Nov-2017 06:56:07

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP013SS06NS

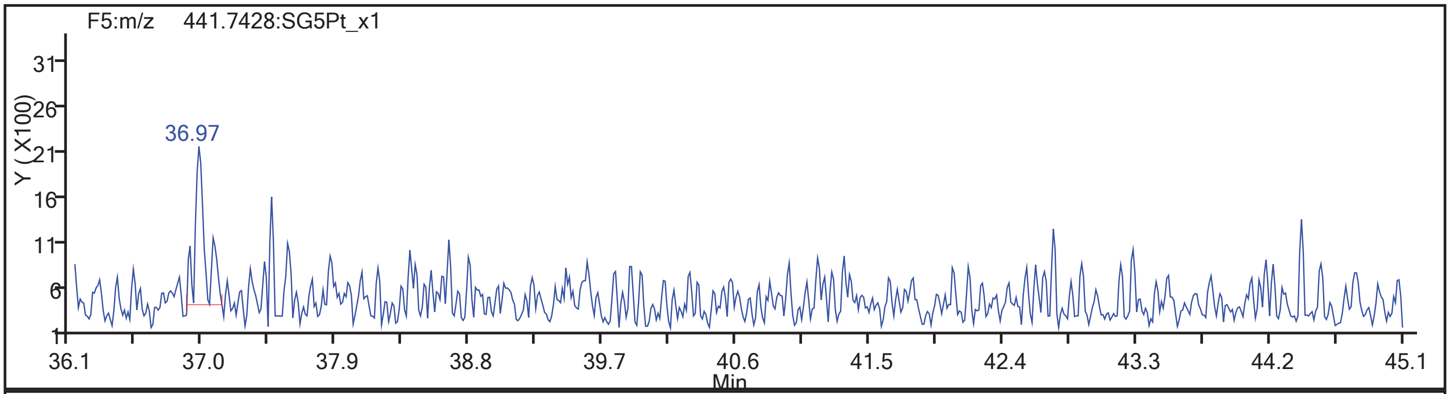
Worklist#: 194086

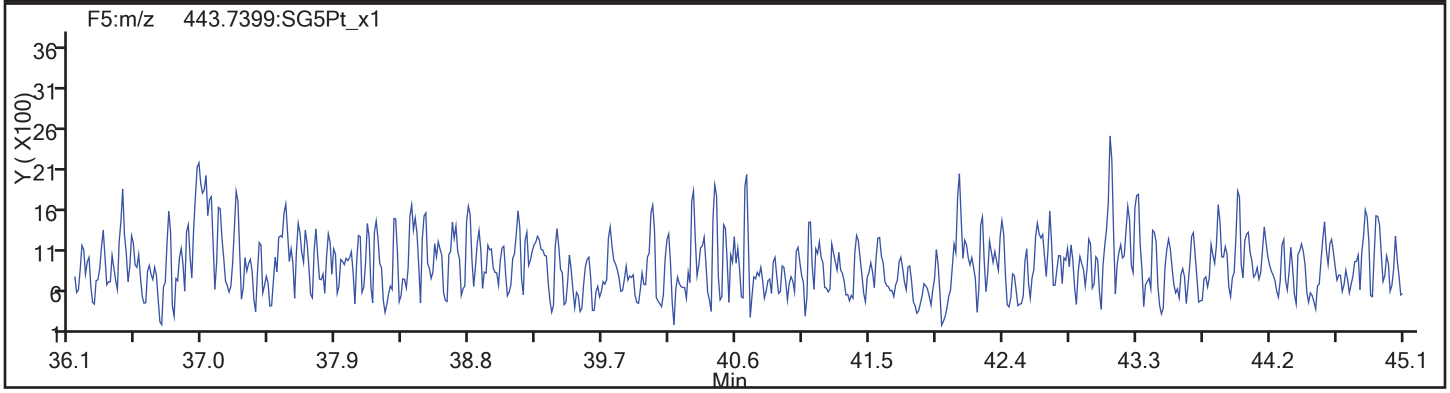
Sample Line#: 89

Column Type: DB-5

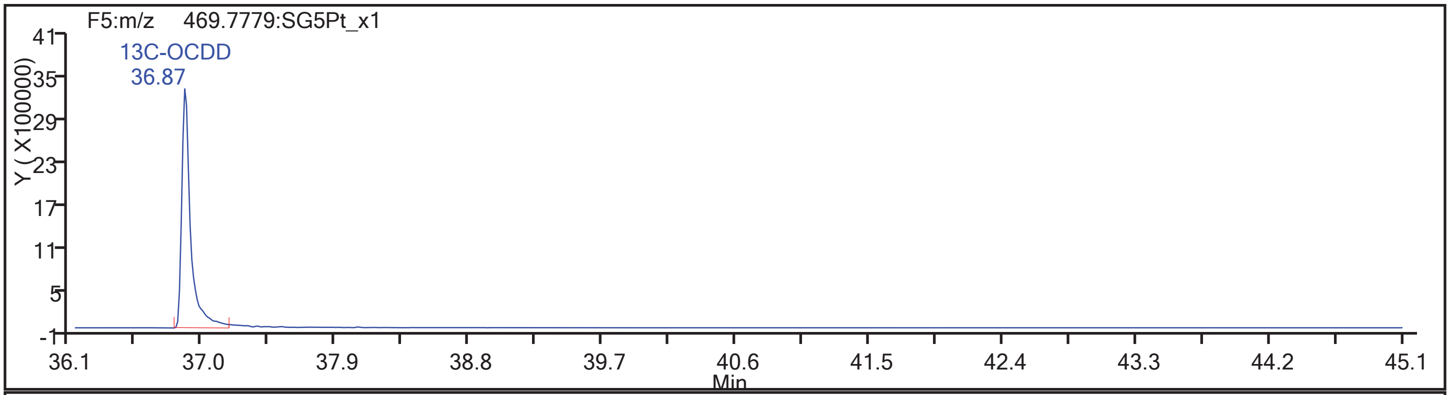
Column Dia: 0.32 mm

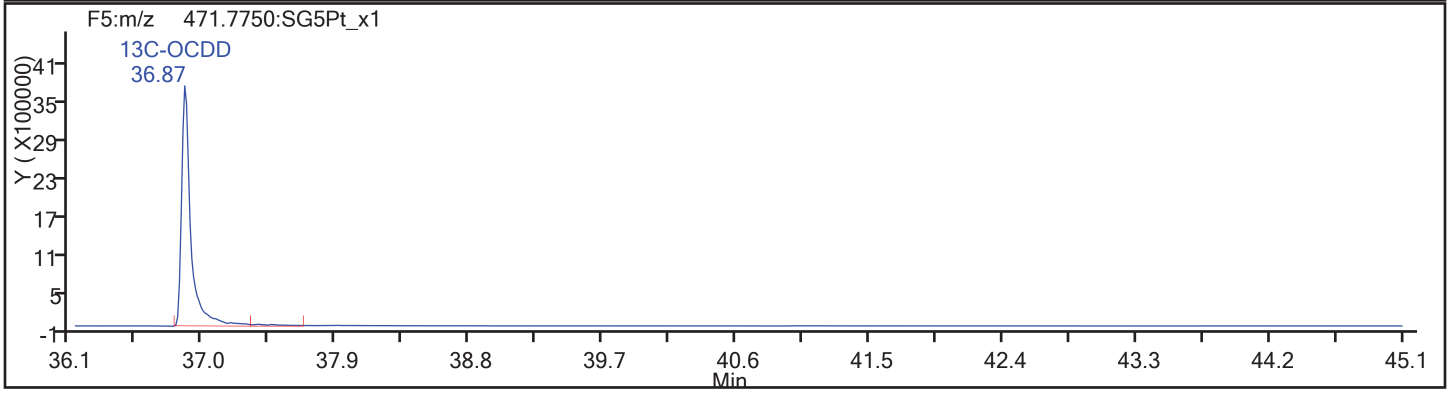
OCDF





OCDF Standards



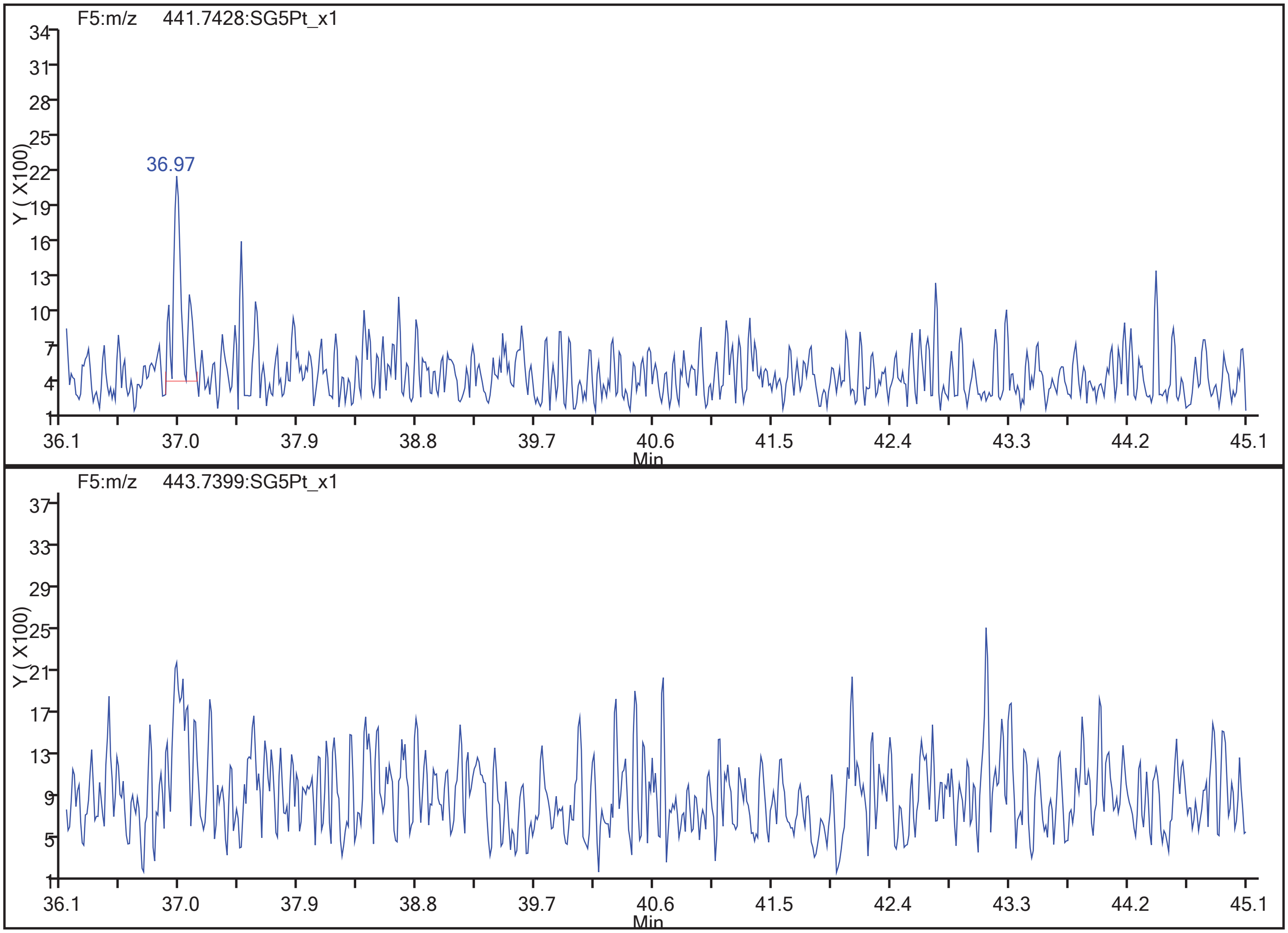


Report Date: 13-Nov-2017 13:30:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

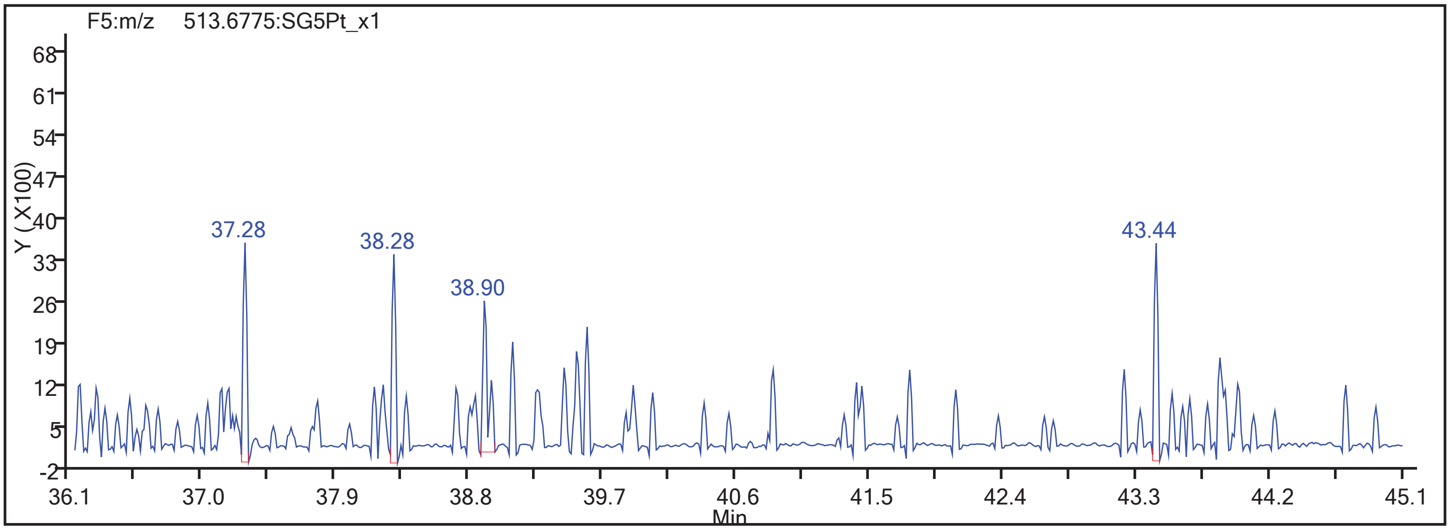
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Interference Mass



Report Date: 13-Nov-2017 13:30:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_89.d		
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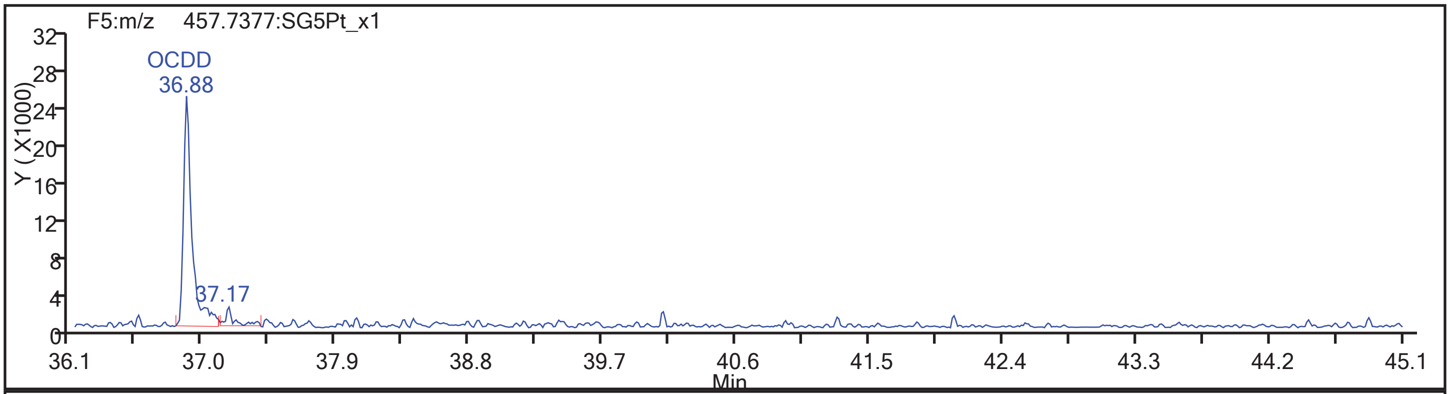
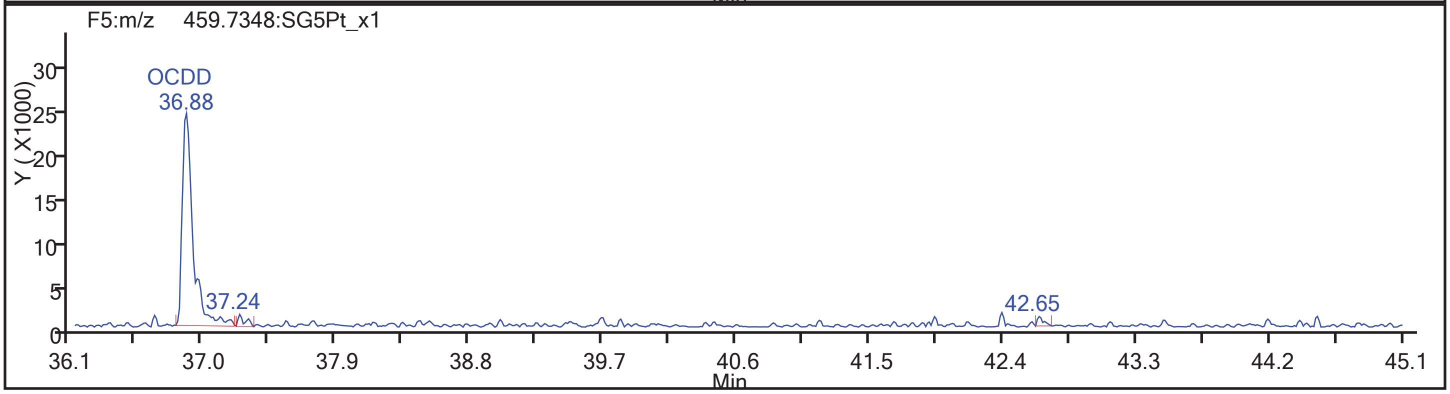
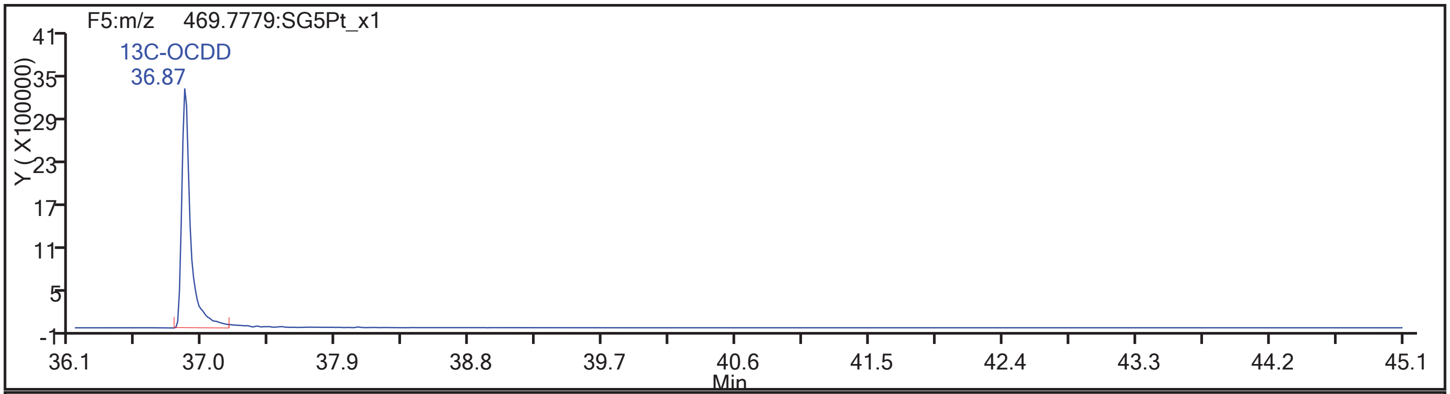
Worklist#:	194086	Sample Line#:	89
Column Type:	DB-5	Column Dia:	0.32 mm

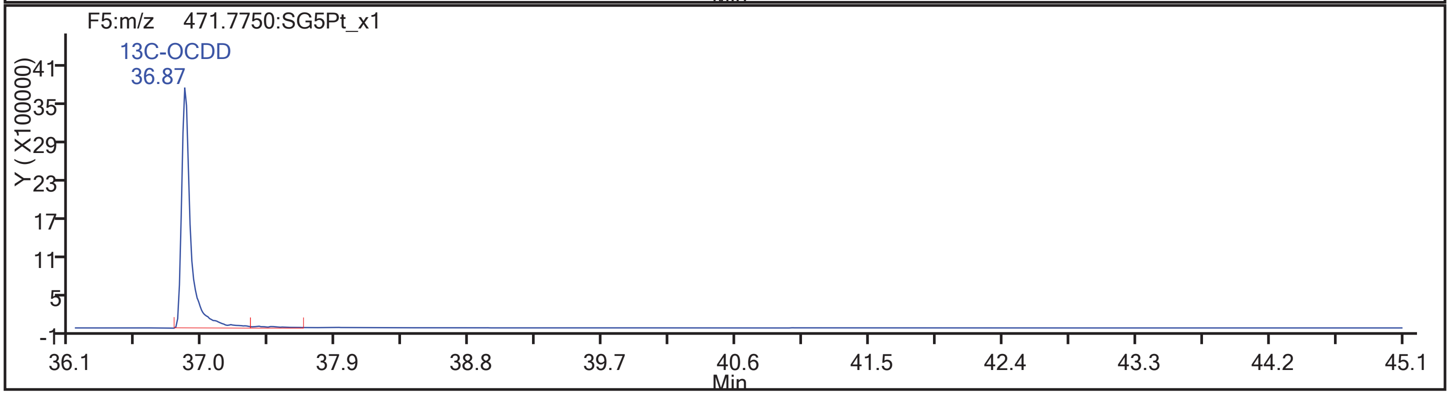
OCDD





OCDD Standards





Report Date: 13-Nov-2017 13:30:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
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Worklist#:	194086	Sample Line#:	89
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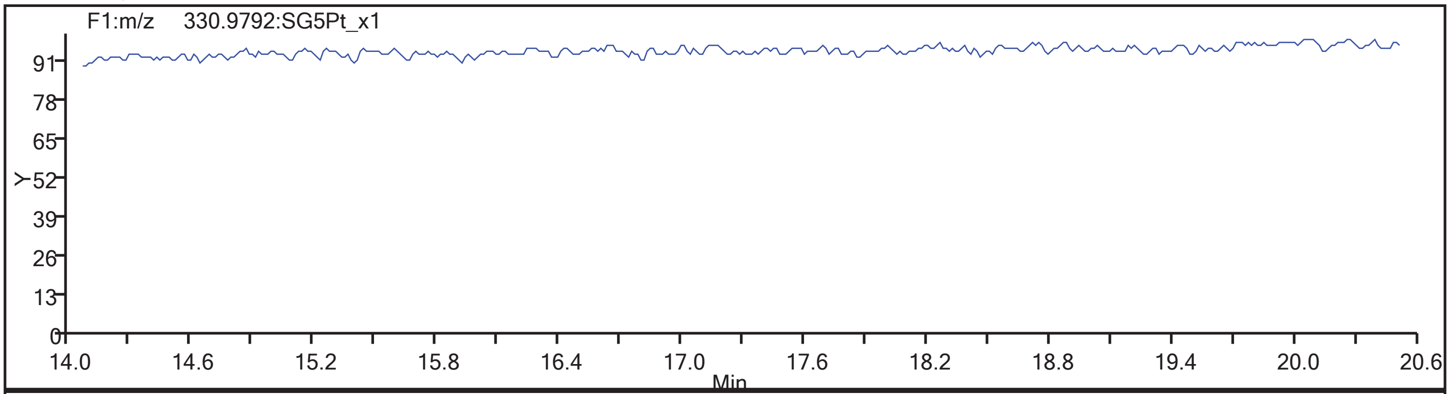

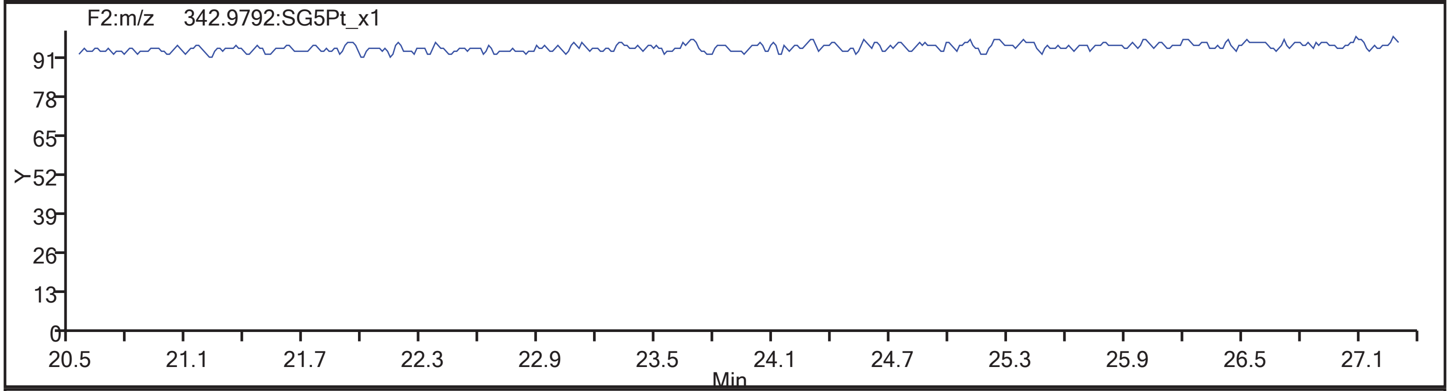

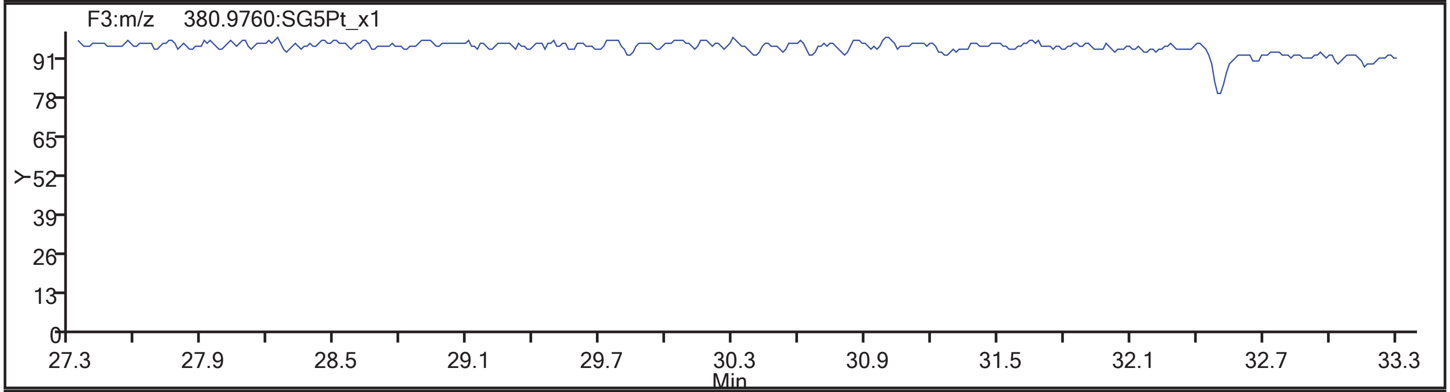

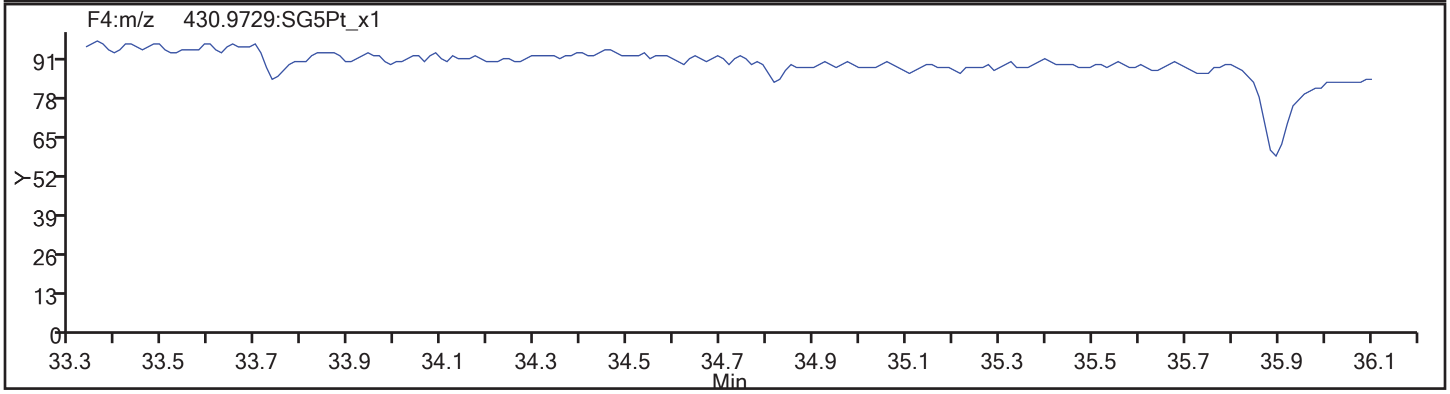

Report Date: 13-Nov-2017 13:30:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date:	12-Nov-2017 06:56:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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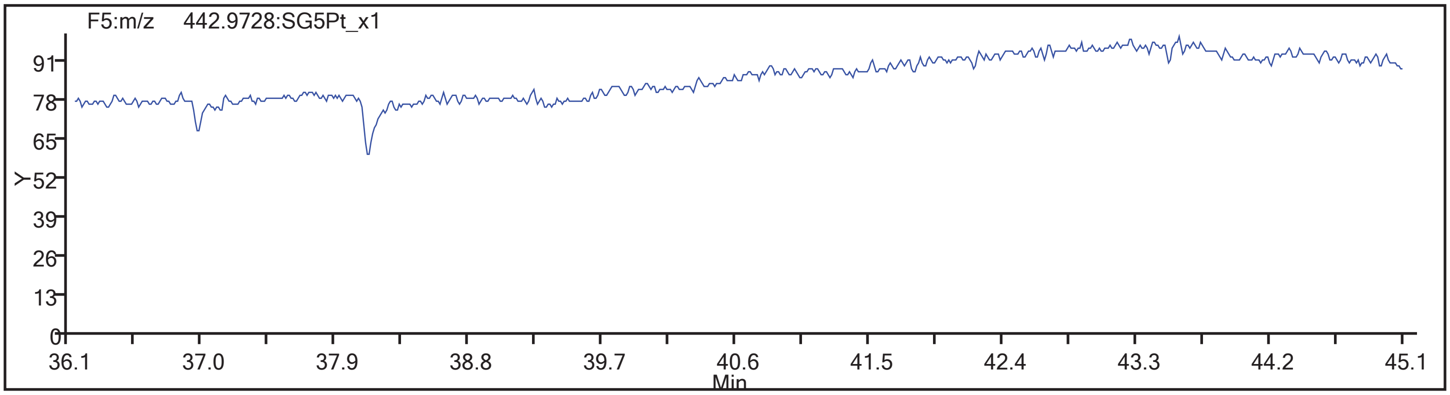


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 1603-49-43-

SDG No.:

Client Sample ID: SHAD041DP012SS06NS RE

Lab Sample ID: 1603-49-4319 RE

Matrix: Solid

Lab File ID: 16NO152D7_90.d

Analysis Method: 8-90A

Date Collected: 10/07/-015 17:18

Extract. Method: 8-90

Date Extracted: 11/16/-015 11:16

Sample wt/vol: 9.90(g)

Date Analyzed: 11/19/-015 19:06

Con. Extract Vol.: -0.0(uL)

Dilution Factor: 1

Injection Volume: -(uL)

Level: (low/med) Low

% Moisture: 16.-

GPC Cleanup:(Y/N) N

Analysis Batch No.: 197757

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*0.48*	*U H*	*1.2*	0.48	*0.098*
51207-31-9	*2,3,7,8-TCDF*	*0.48*	*U H*	*1.2*	0.48	*0.081*
40321-76-4	*1,2,3,7,8-PeCDD*	*0.90*	*U H*	*6.0*	0.90	*0.11*
57117-41-6	*1,2,3,7,8-PeCDF*	*0.90*	*U H*	*6.0*	0.90	*0.069*
57117-31-4	*2,3,4,7,8-PeCDF*	*0.90*	*U H*	*6.0*	0.90	*0.071*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*0.17*	*J H*	*6.0*	-.4	*0.065*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*2.4*	*U H*	*6.0*	-.4	*0.059*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*2.4*	*U H*	*6.0*	-.4	*0.056*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*0.90*	*U H*	*6.0*	0.90	*0.11*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*1.2*	*U H*	*6.0*	1.-	*0.10*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*1.2*	*U H*	*6.0*	1.-	*0.12*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*0.90*	*U H*	*6.0*	0.90	*0.11*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*1.3*	*J H*	*6.0*	1.-	*0.14*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*0.44*	*J H*	*6.0*	1.-	*0.097*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*2.4*	*U H*	*6.0*	-.4	*0.13*
3268-87-9	*OCDD*	*18*	*H B*	*12*	4.8	*0.17*
39001-02-0	*OCDF*	*3.1*	*J H*	*12*	4.8	*0.17*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
567-234037	12C3-,2,5,83TCDD	60		403127
8907934631	12C3-,2,5,83TCDF	61		403127
10951935931	12C31,-,2,5,83PeCDD	79		403127
10951935539	12C31,-,2,5,83PeCDF	79		403127
10951938137	12C31,-,2,6,5,83HxCDD	76		403127
1144-23983-	12C31,-,2,4,5,83HxCDF	76		403127
10951938235	12C31,-,2,4,6,5,83HpCDD	75		403127
10951938438	12C31,-,2,4,6,5,83HpCDF	70		403127
1144-239531	12C3OCDD	48		403127

Report Date: 06-Dec-2017 15:22:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d
Lims ID: 160-24924-G-19-B
Client ID: SHAD041DP013SS06NS
Sample Type: Client
Inject. Date: 19-Nov-2017 19:06:34 ALS Bottle#: 60 Worklist Smp#: 90
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-19-B 160-24924-G-19-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:21:23 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: dadunj Date: 06-Dec-2017 15:22:01

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	125621284	0.79	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	115556298	0.78	1.5089	61.0	61.0	0.2938	0.2938	60.97	
2,3,7,8-TCDF	17.720						0.0334	0.0334		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF							0.0334	0.0334		
D 13C-2,3,7,8-TCDD	18.445	75028129	0.77	0.9906	60.3	60.3	0.2212	0.2212	60.29	
2,3,7,8-TCDD	18.461						0.0408	0.0408		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD							0.0408	0.0408		
D 13C-1,2,3,7,8-PeCDF	22.883	83542323	1.58	1.1280	59.0	59.0	0.1842	0.1842	58.96	
1,2,3,7,8-PeCDF	22.910						0.0284	0.0284		
2,3,4,7,8-PeCDF	24.287						0.0293	0.0293		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF							0.0293	0.0293		
D 13C-1,2,3,7,8-PeCDD	25.010	53764094	1.69	0.7269	58.9	58.9	0.1420	0.1420	58.88	
1,2,3,7,8-PeCDD	25.037						0.0468	0.0468		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0468	0.0468		
D 13C-1,2,3,4,7,8-HxCDF	30.919	63042405	0.51	1.0279	56.1	56.1	0.4188	0.4188	56.05	
1,2,3,4,7,8-HxCDF	30.932						0.0471	0.0471		
1,2,3,6,7,8-HxCDF	31.092						0.0429	0.0429		
2,3,4,6,7,8-HxCDF	31.838						0.0459	0.0459		
D 13C-1,2,3,7,8,9-HxCDF	32.597	64691911	0.51							
1,2,3,7,8,9-HxCDF	32.597						0.0492	0.0492		
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF							0.0492	0.0492		
* 13C-1,2,3,7,8,9-HxCDD	32.410	109415846	1.26	1.4E+06	100.0	100.0				
1,2,3,4,7,8-HxCDD	32.024	38347	1.24	1.0646	0.0800	0.0686	0.0270	0.0270		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.104	52472379	1.21	0.8502	56.4	56.4	0.2947	0.2947	56.41	
1,2,3,6,7,8-HxCDD	32.024						0.0243	0.0243		RQU

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	32.424						0.0233	0.0233		
A Non-2,3,7,8-sub-HxCDD	31.252						0.0	0.0		
S Total HxCDD					0.0800	0.0686	0.0249	0.0249		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	35815652	0.48	0.6490	50.4	50.4	0.5588	0.5588	50.44	
1,2,3,4,6,7,8-HpCDF	34.022	103806	1.13	1.5871	0.1826	0.1826	0.0402	0.0402		
1,2,3,4,7,8,9-HpCDF	35.128						0.0519	0.0519		
A Non-2,3,7,8-sub-HpCDF	34.569	158948	1.04	1.4080	0.3572	0.3152	0.0453	0.3152		RQ
S Total HpCDF					0.5398	0.4978	0.0460	0.0460		RQ
1,2,3,4,6,7,8-HpCDD	34.836	207924	1.12	1.1631	0.5338	0.5338	0.0570	0.0570		
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	33488993	1.05	0.5387	56.8	56.8	0.3558	0.3558	56.82	
A Non-2,3,7,8-sub-HpCDD	35.261	162338	1.04	1.1631	0.4833	0.4168	0.0570	0.4168		RQ
S Total HpCDD					1.017	0.9506	0.0570	0.0570		RQ
D 13C-OCDD	37.245	42197399	0.89	0.4009	96.2	96.2	0.1479	0.1479	48.10	
OCDF	37.365	342776	0.78	1.2649	1.284	1.284	0.0714	0.0714		
OCDD	37.257	1653016	0.87	1.0390	7.540	7.540	0.0723	0.0723		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- U - Marked Undetected

Report Date: 06-Dec-2017 15:22:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d
Lims ID: 160-24924-G-19-B
Client ID: SHAD041DP013SS06NS
Sample Type: Client
Inject. Date: 19-Nov-2017 19:06:34 ALS Bottle#: 60 Worklist Smp#: 90
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-19-B 160-24924-G-19-B
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 15:21:23 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: dadunj Date: 06-Dec-2017 15:22:01

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		55345661	13057957	16011	40027	816		
333.9339	18.234	18.234	0		70275623	16390239	9798	24495	1673	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.972	50533958	11605177	32577	81442	356		
317.9389	17.720	17.705	1	0.972	65022340	15296116	19645	49112	779	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						1032	2580			
305.8987	17.720						2916	7290			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						1032	2580			
305.8987	17.402						2916	7290			
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.012	32686607	7325421	16011	40027	458		
333.9339	18.445	18.430	1	1.012	42341522	9121141	9798	24495	931	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461						2300	5750			
321.8936	18.461						825	2062			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						2300	5750			
321.8936	17.871						825	2062			
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.883	0	1.255	51182382	8561102	15737	39342	544		
353.8970	22.883	22.883	0	1.255	32359941	5590232	8735	21837	640	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910						534	1335			
341.8567	22.910						1305	3262			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	24.287						534	1335			
341.8567	24.287						1305	3262			
A F1 PeCDFs											
339.8597	20.426						527	1317			
341.8567	20.426						1284	3210			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						534	1335			
341.8567	23.668						1305	3262			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.372	33780719	4851061	6950	17375	698		
369.8919	25.010	25.010	0	1.372	19983375	2859271	5211	13027	549	1.69(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037						1151	2877			
357.8516	25.037						476	1190			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1151	2877			
357.8516	23.878						476	1190			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.919	0	0.954	21187877	4677948	18884	47210	248		
385.8610	30.919	30.919	0	0.954	41854528	8954504	32665	81662	274	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						2629	6572			
375.8178	30.932						833	2082			
1,2,3,6,7,8-HxCDF											
373.8208	31.092						2629	6572			
375.8178	31.092						833	2082			
2,3,4,6,7,8-HxCDF											
373.8208	31.838						2629	6572			
375.8178	31.838						833	2082			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.006	21937320	5913222	18884	47210	313		
385.8610	32.597	32.583	1	1.006	42754591	11347320	32665	81662	347	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597						2629	6572			
375.8178	32.597						833	2082			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						2629	6572			
375.8178	30.653						833	2082			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.410	0		61102470	16692229	14473	36182	1153		
403.8529	32.410	32.410	0		48313376	13244553	15527	38817	853	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	32.024	32.011	1	0.998	21228	7102	749	1872	9		
391.8127	32.024	32.011	1	0.998	23465	7871	771	1927	10	0.90(1.05-1.43)	
	Empc Correction				17119	5727	771	1927	7		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.991	28713524	7243259	14473	36182	500		
403.8529	32.104	32.091	1	0.991	23758855	5983703	15527	38817	385	1.21(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	32.104						749	1872			
391.8127	32.104						771	1927			
1,2,3,7,8,9-HxCDD											
389.8157	32.424						749	1872			
391.8127	32.424						771	1927			
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.252						749	1872			
391.8127	31.252						771	1927			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	11682216	3836552	14415	36037	266		
419.8220	34.010	33.998	1	1.049	24133436	7743118	29014	72535	267	0.48(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.010	1	1.000	54987	21389	1647	4117	13		
409.7789	34.022	34.010	1	1.000	48819	13816	1307	3267	11	1.13(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128						1647	4117			
409.7789	35.128						1307	3267			
A Non-2,3,7,8-sub-HpCDF											RQ
407.7818	34.326	34.569	-15	1.009	102195	25508	1647	4117	15		
	Empc Correction				81032	21969	1647	4117	13		
409.7789	34.338	34.569	-14	1.010	77916	21125	1307	3267	16	1.31(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.000	109762	27952	1403	3507	20		
425.7737	34.848	34.824	1	1.001	98162	27957	1292	3230	22	1.12(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.824	0	1.074	17122734	5297702	9738	24345	544		
437.8140	34.824	34.824	0	1.074	16366259	4870623	13214	33035	369	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											RQ
423.7766	34.277	35.261	-59	0.984	82761	31881	1403	3507	23		a
425.7737	34.265	35.261	-60	0.984	105510	31890	1292	3230	25	0.78(0.88-1.20)	
	Empc Correction				79577	30654	1292	3230	24		
13C-OCDD											
469.7779	37.245	37.245	0	1.149	19917962	5337307	3501	8752	1525		
471.7750	37.245	37.245	0	1.149	22279437	5997777	3601	9002	1666	0.89(0.76-1.02)	
OCDF											
441.7428	37.365	37.353	1	1.003	149684	46040	622	1555	74		
443.7399	37.353	37.353	0	1.003	193092	58748	1424	3560	41	0.78(0.76-1.02)	
OCDD											
457.7377	37.257	37.257	0	1.000	767649	214164	935	2337	229		
459.7348	37.257	37.257	0	1.000	885367	238638	769	1922	310	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d
Lims ID: 160-24924-G-19-B
Client ID: SHAD041DP013SS06NS
Inject. Date: 19-Nov-2017 19:06:34
Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195575
Lims Sample ID: 90

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	35815652	11579670
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	35815652	11579670

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	102195	25508	77916	21125	0.3572	1.31	RQ
34.326	81032	21969	77916	21125	0.3152		Empc Correction
Signal Totals:							
	81032	21969	77916	21125			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	180111	46633				1.31	RQ
	158948	43094					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3572 = (180111 * 100.000) / (35815652 * 1.408)
Empc Amount: 0.3152 = (158948 * 100.000) / (35815652 * 1.408)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d
Lims ID: 160-24924-G-19-B
Client ID: SHAD041DP013SS06NS
Inject. Date: 19-Nov-2017 19:06:34 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195575 Lims Sample ID: 90

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	33488993	10168325

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	33488993	10168325

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.277	82761	31881	105510	31890	0.4833	0.78	RQ
34.277	82761	31881	79577	30654	0.4168		Empc Correction
Signal Totals:							
	82761	31881	79577	30654			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	188271	63771				0.78	RQ
	162338	62535					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4833 = (188271 * 100.000) / (33488993 * 1.163)
Empc Amount: 0.4168 = (162338 * 100.000) / (33488993 * 1.163)

QC Flag Legend

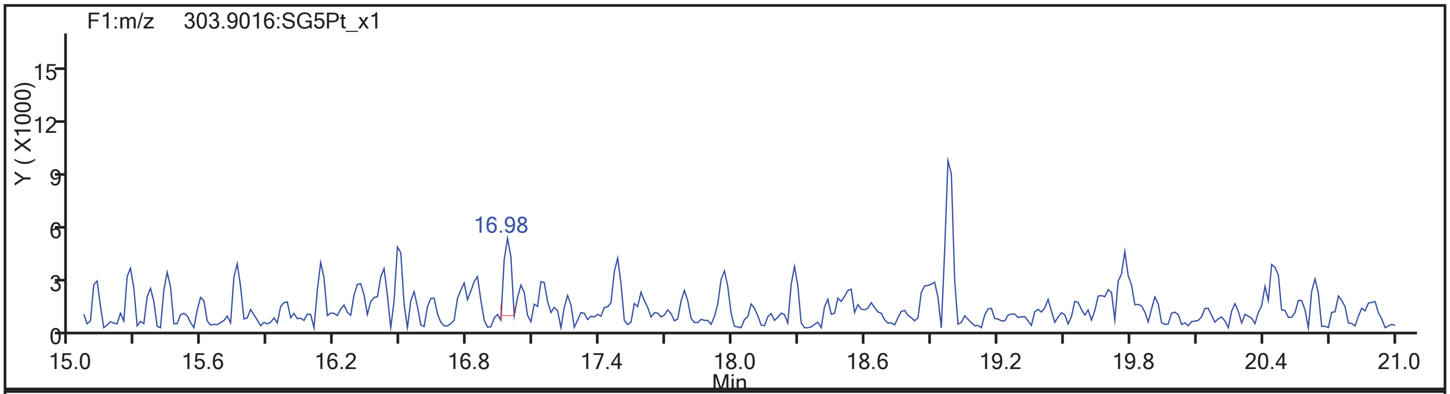
Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

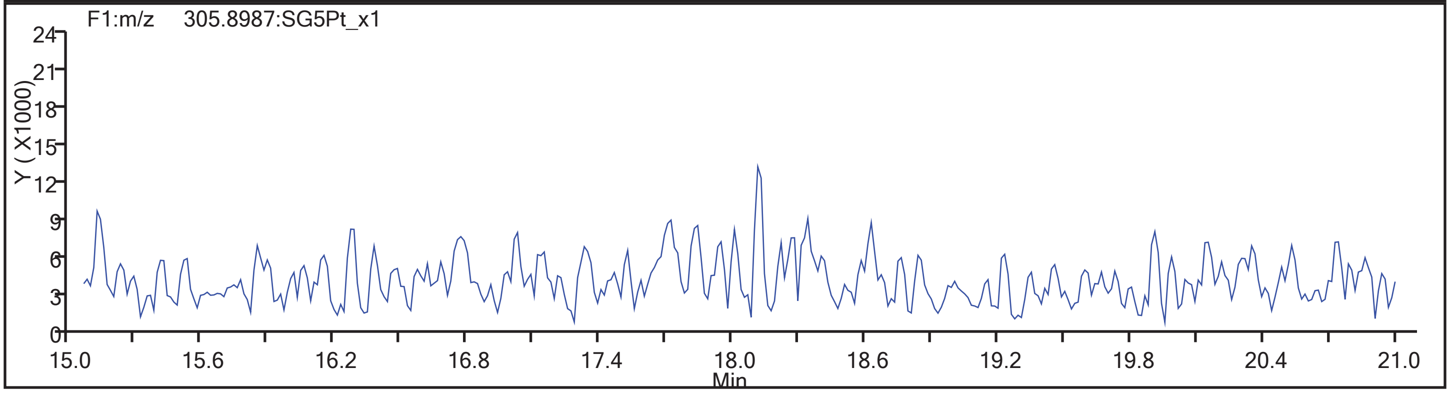
Report Date: 06-Dec-2017 15:22:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

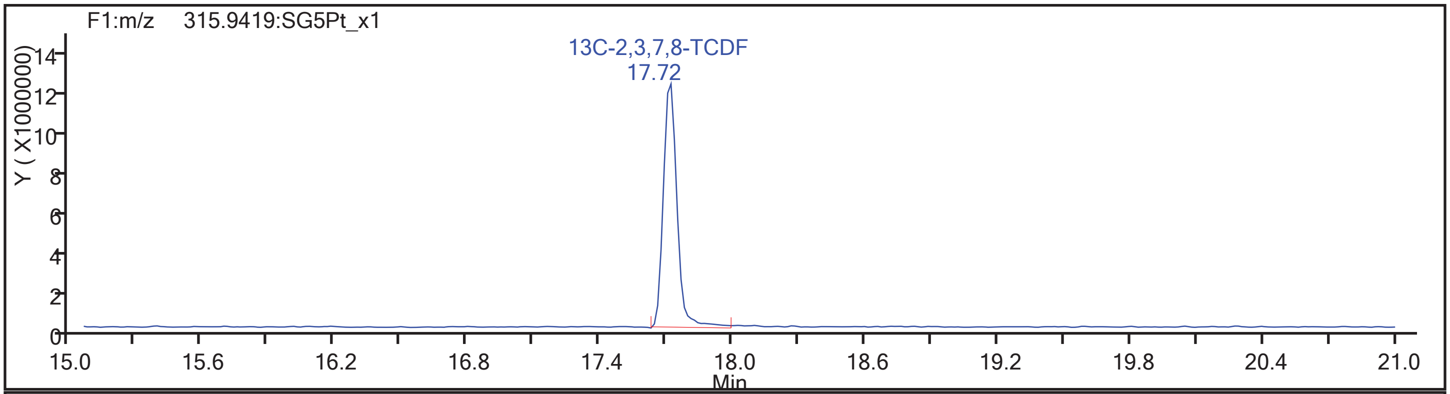
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d
Injection Date: 19-Nov-2017 19:06:34 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS06NS
Worklist#: 195575 Sample Line#: 90
Column Type: Column Dia:

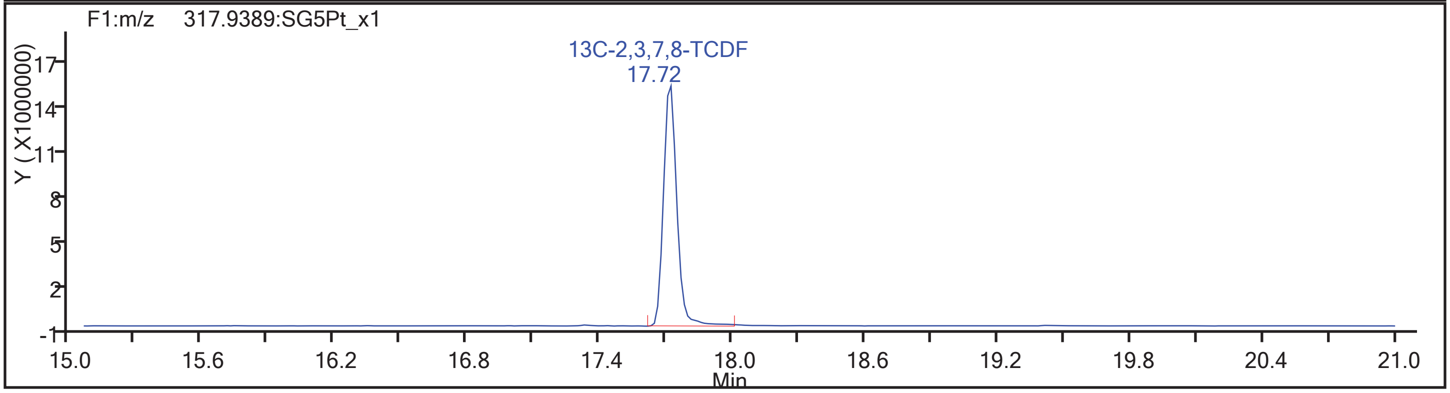
TCDF





TCDF Standards



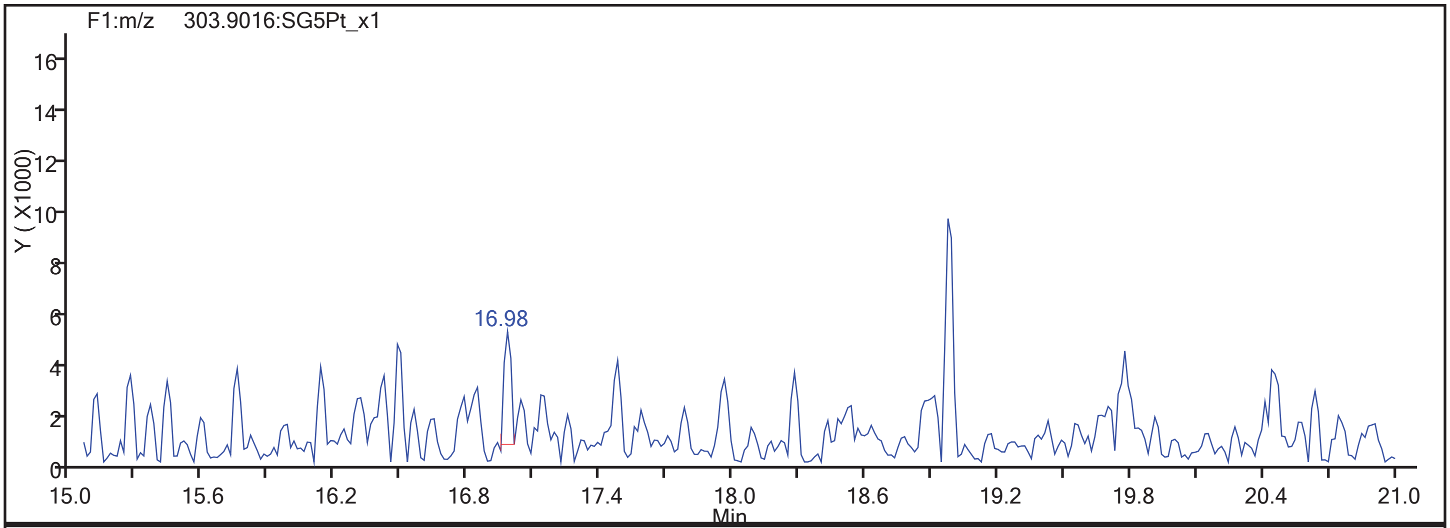


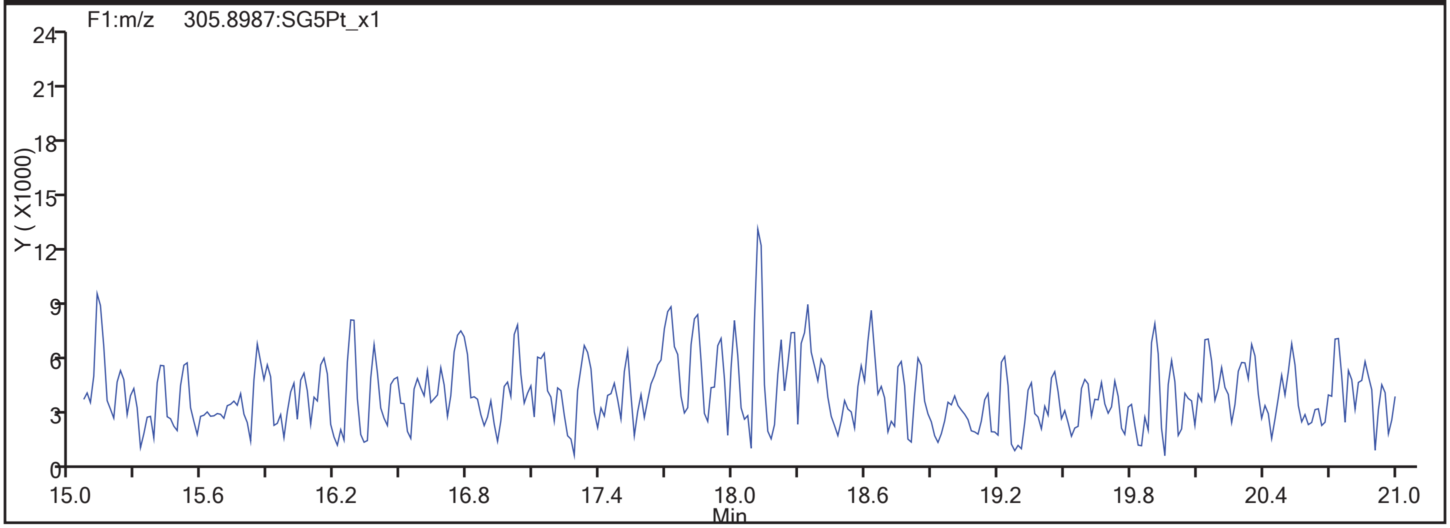
Report Date: 06-Dec-2017 15:22:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

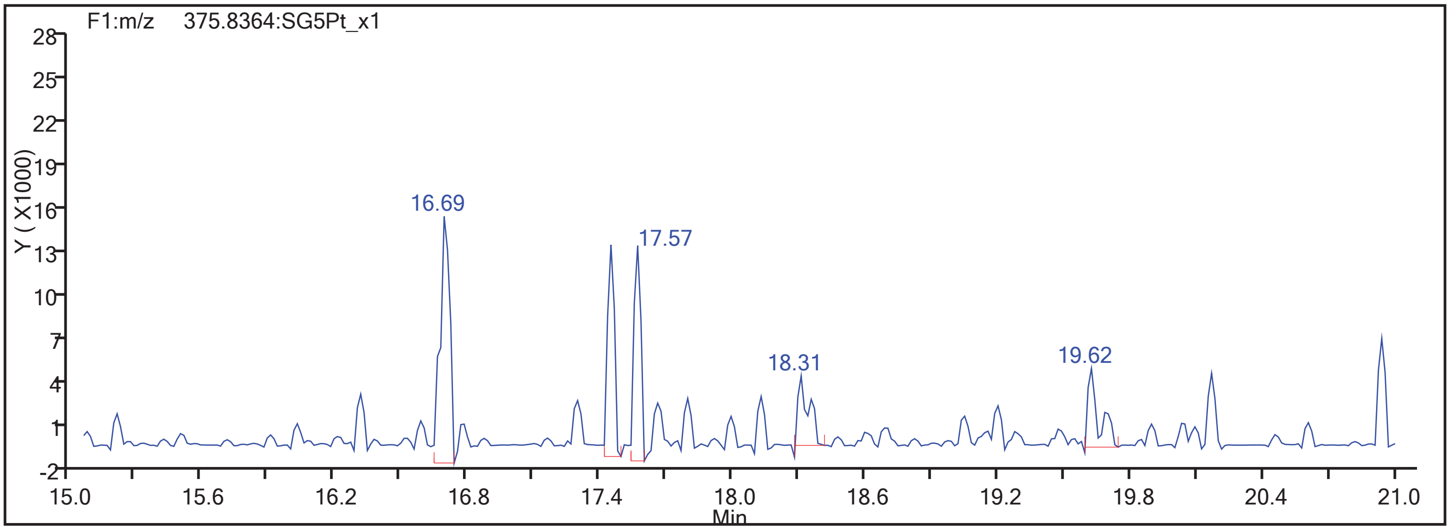
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d		
Injection Date:	19-Nov-2017 19:06:34	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	195575	Sample Line#:	90
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass

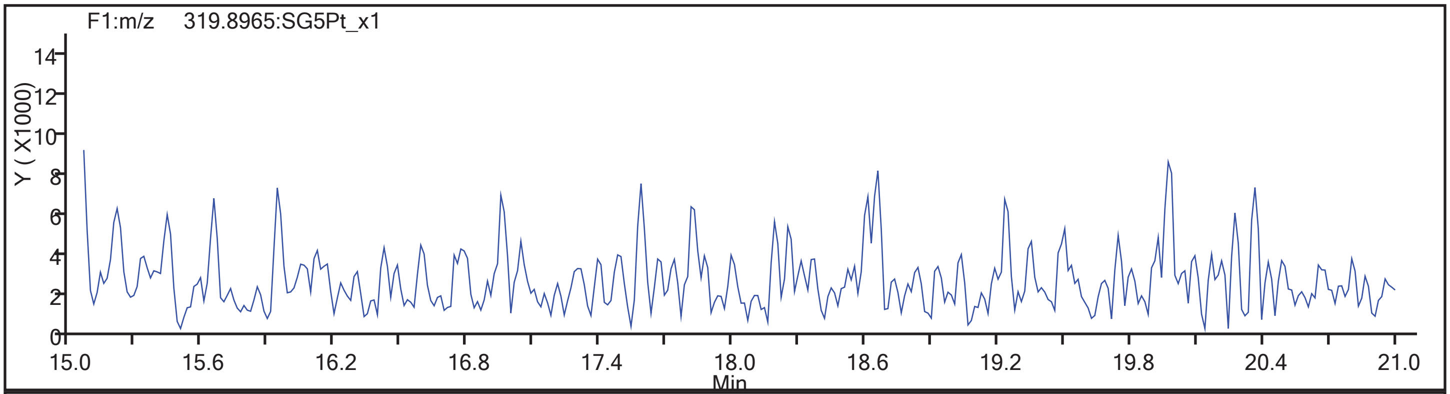


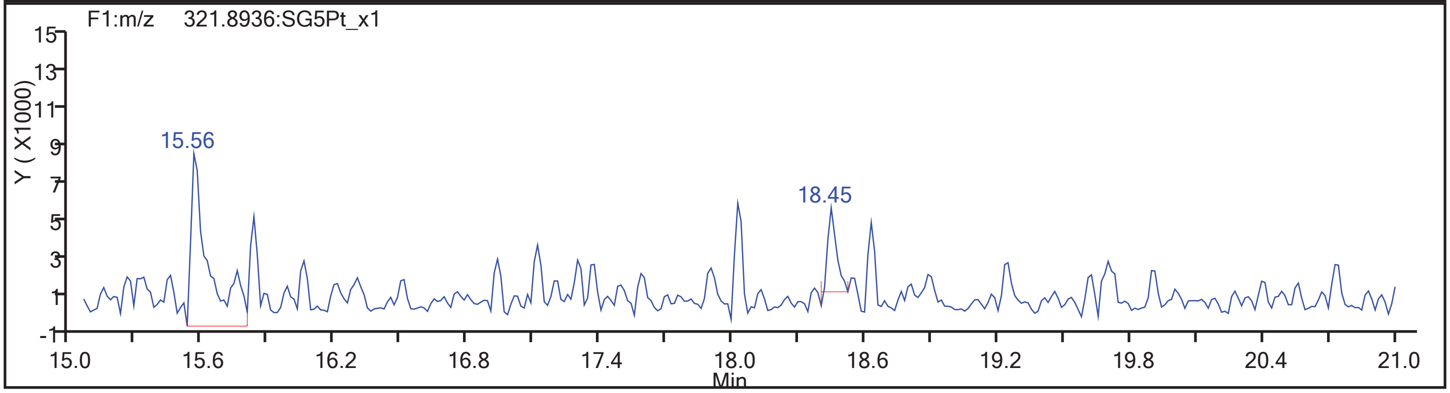
Report Date: 06-Dec-2017 15:22:02
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

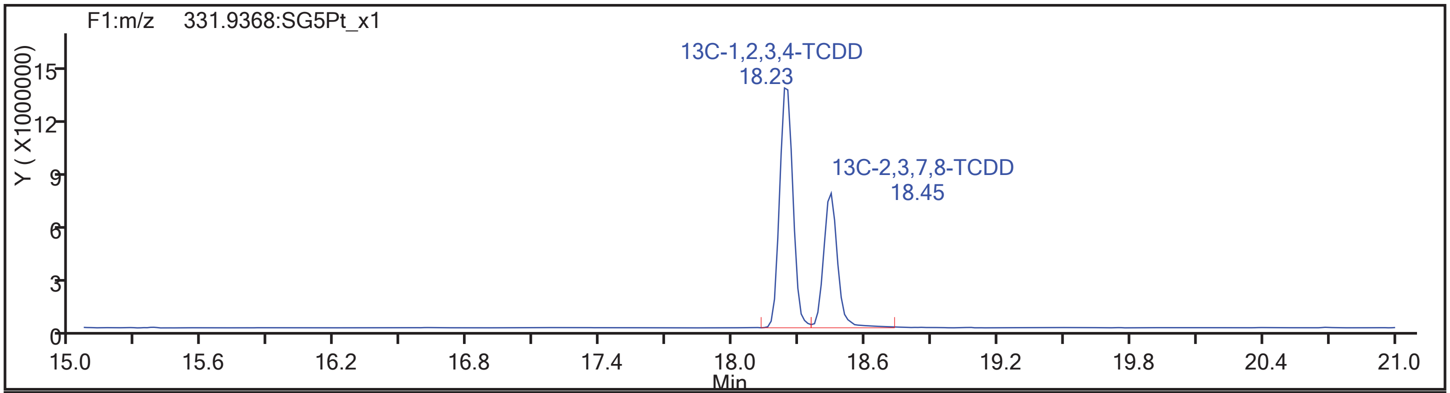
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d		
Injection Date:	19-Nov-2017 19:06:34	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	195575	Sample Line#:	90
Column Type:		Column Dia:	

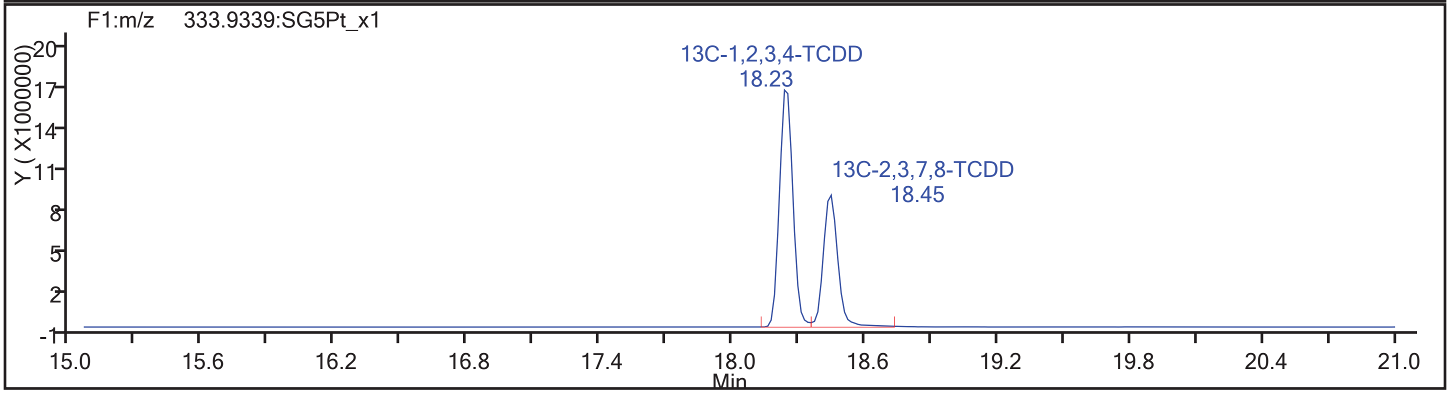
TCDD





TCDD Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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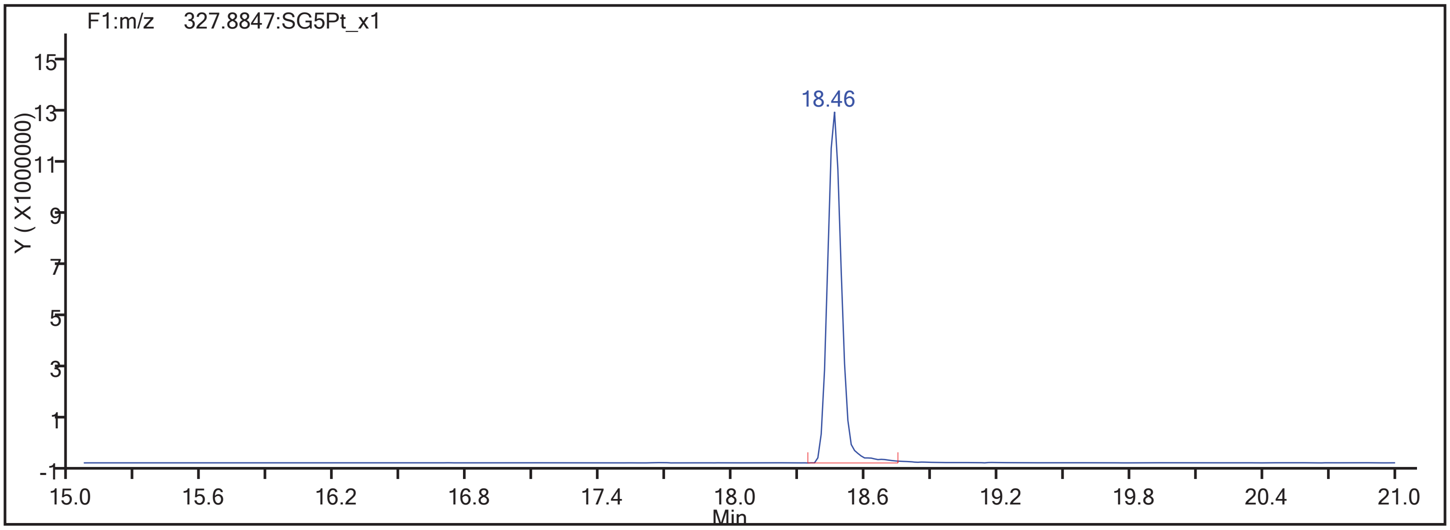
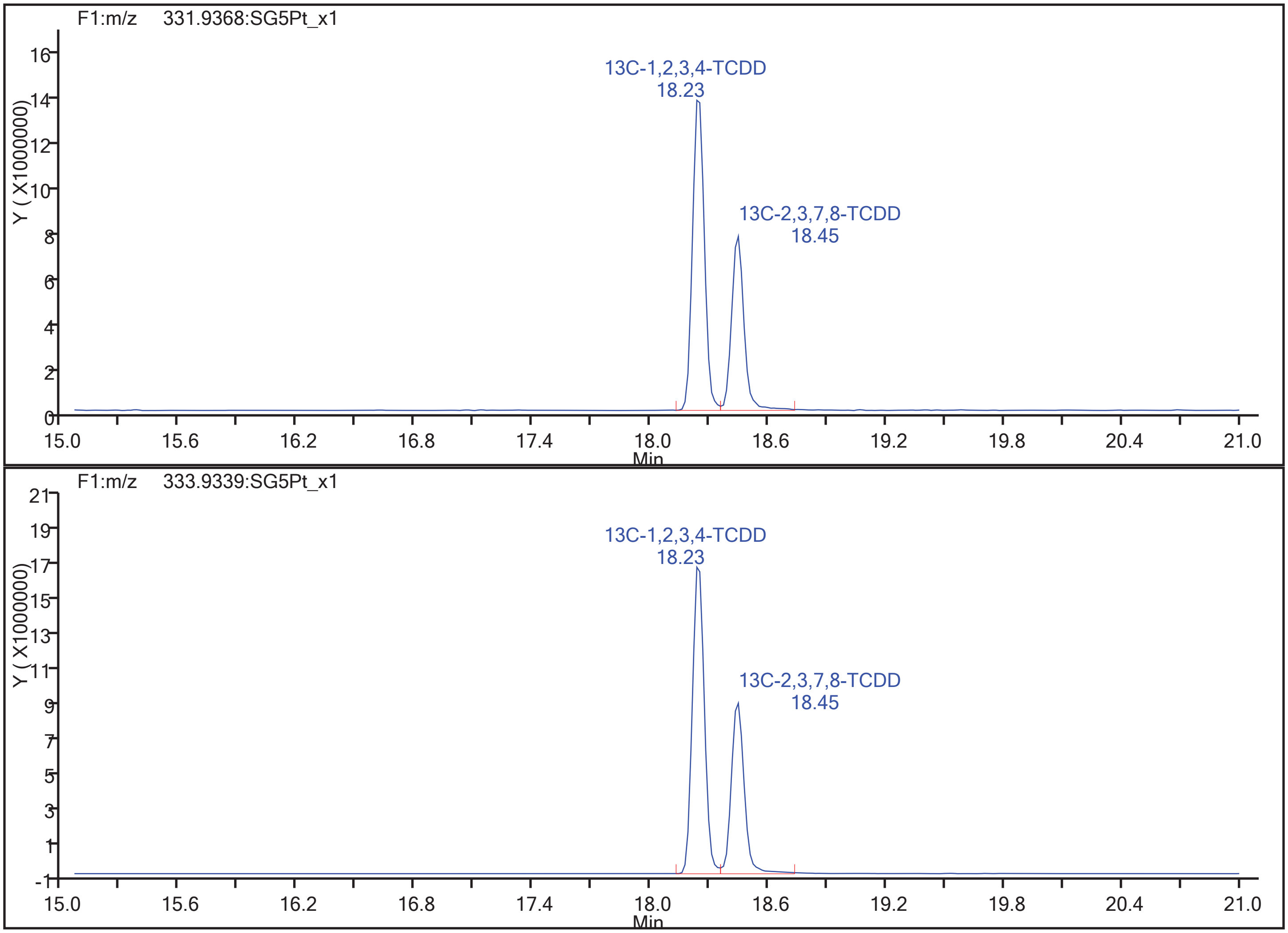
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



Report Date: 06-Dec-2017 15:22:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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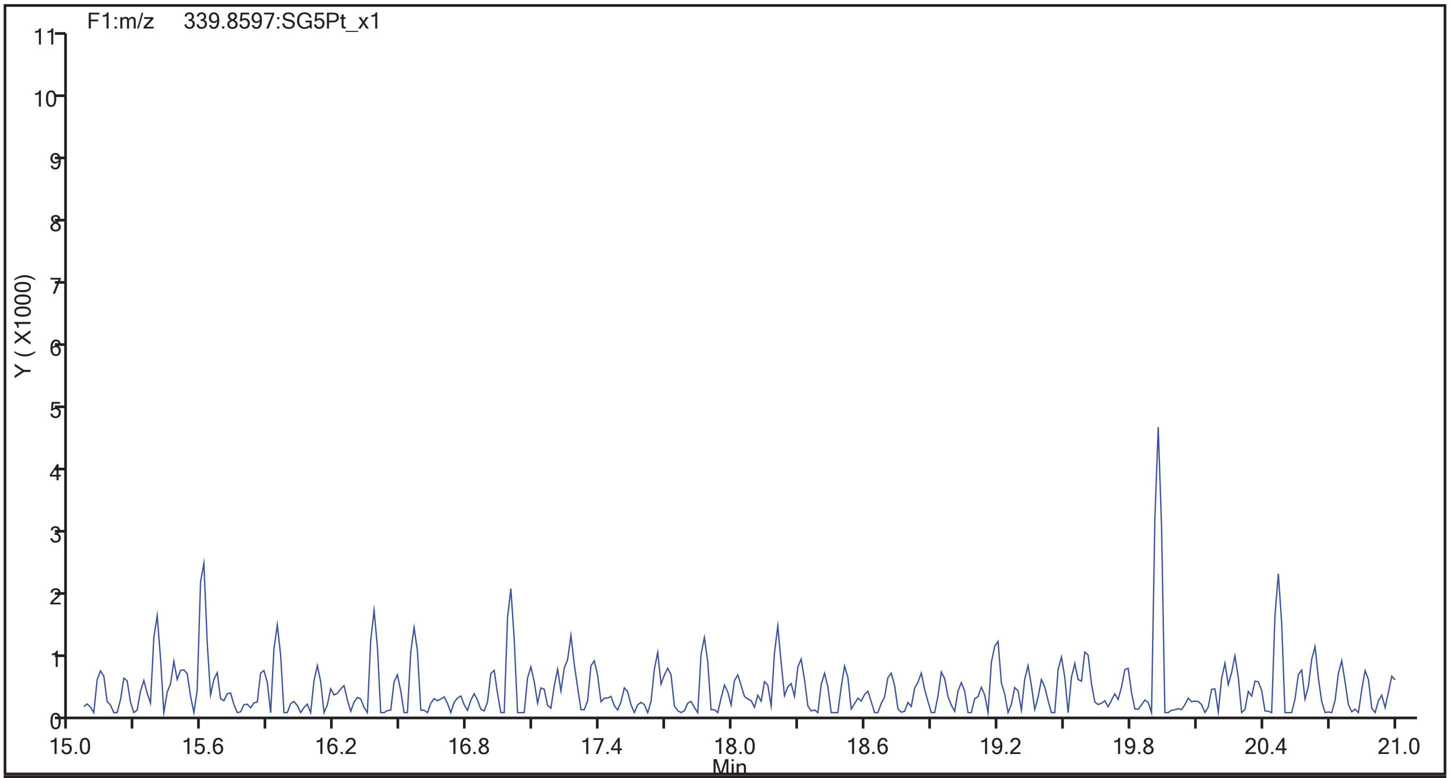
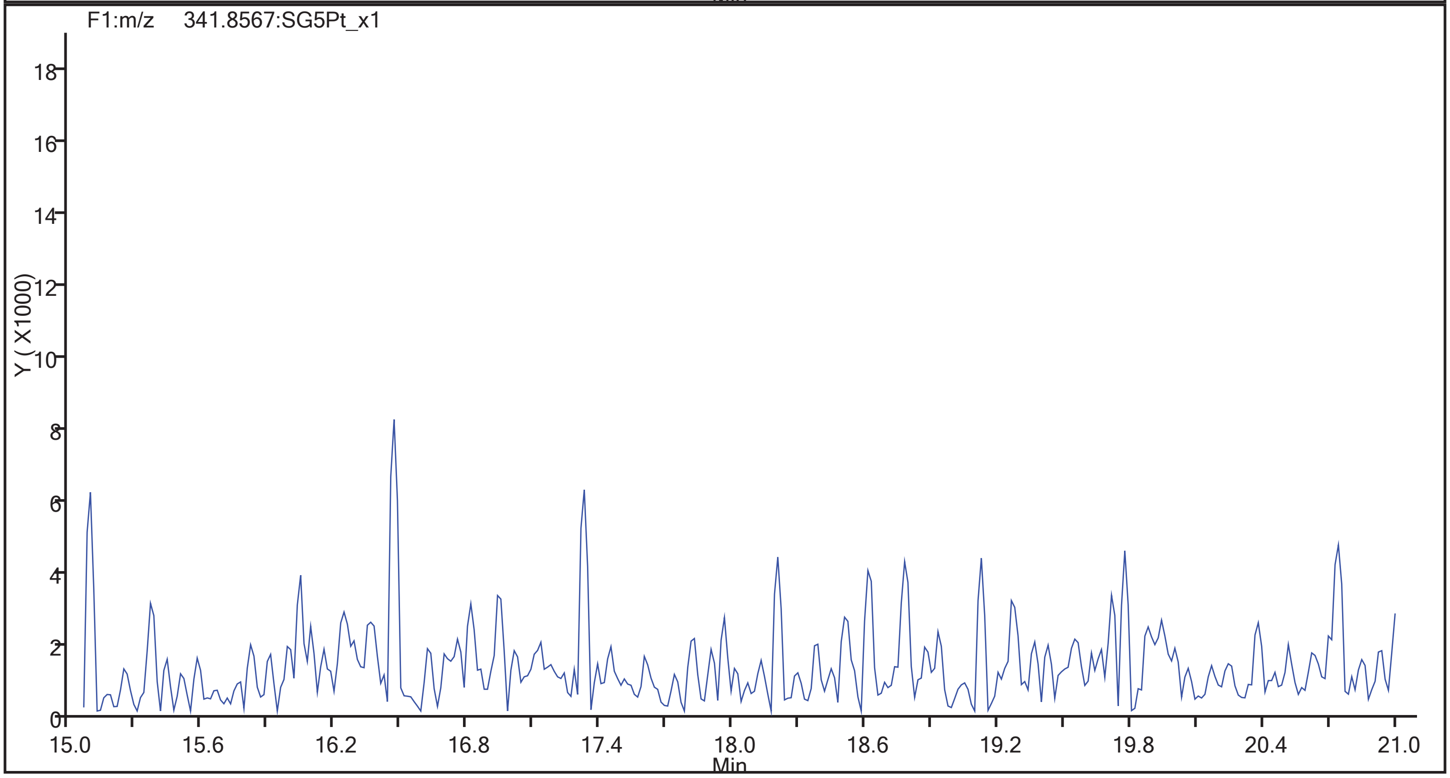
F1 PeCDFs





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TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d		
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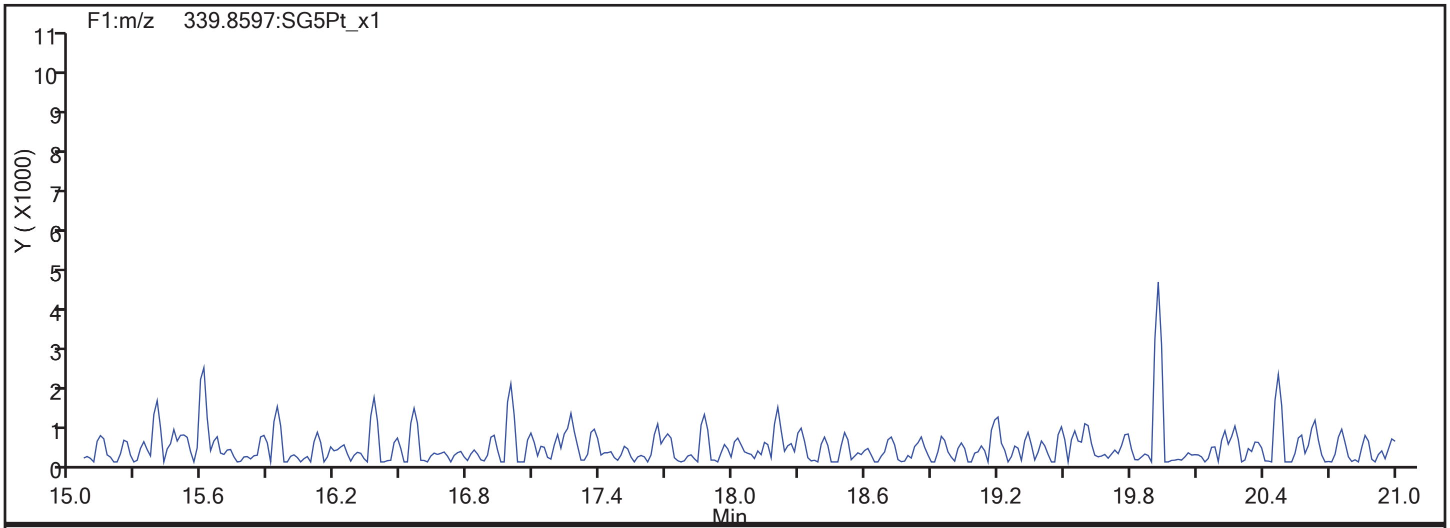
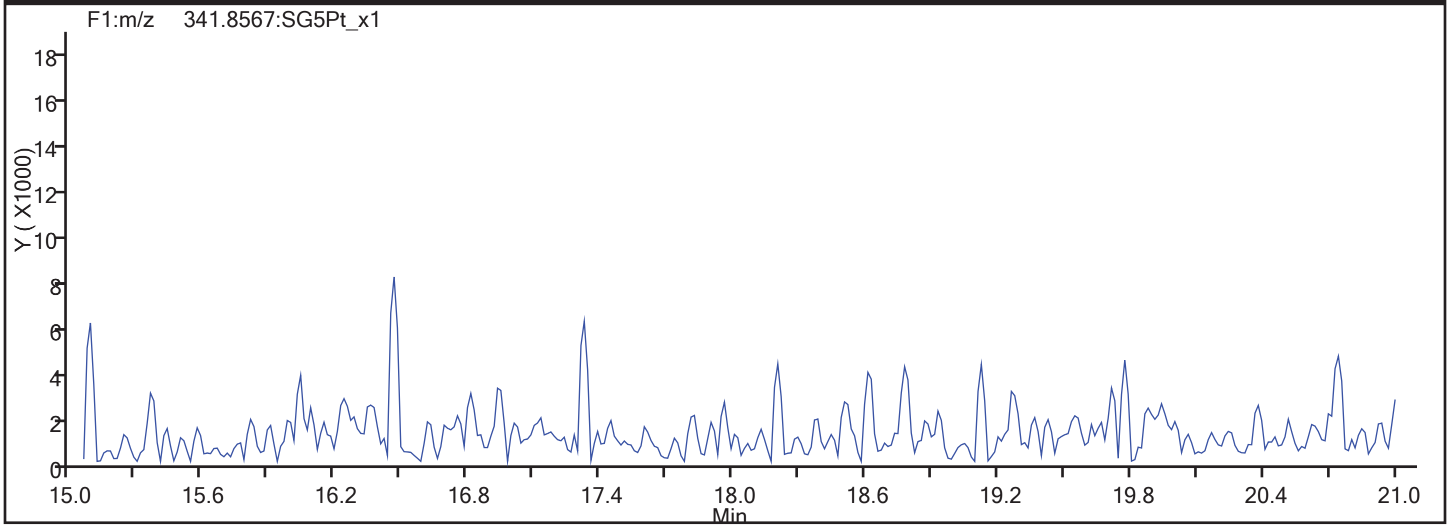
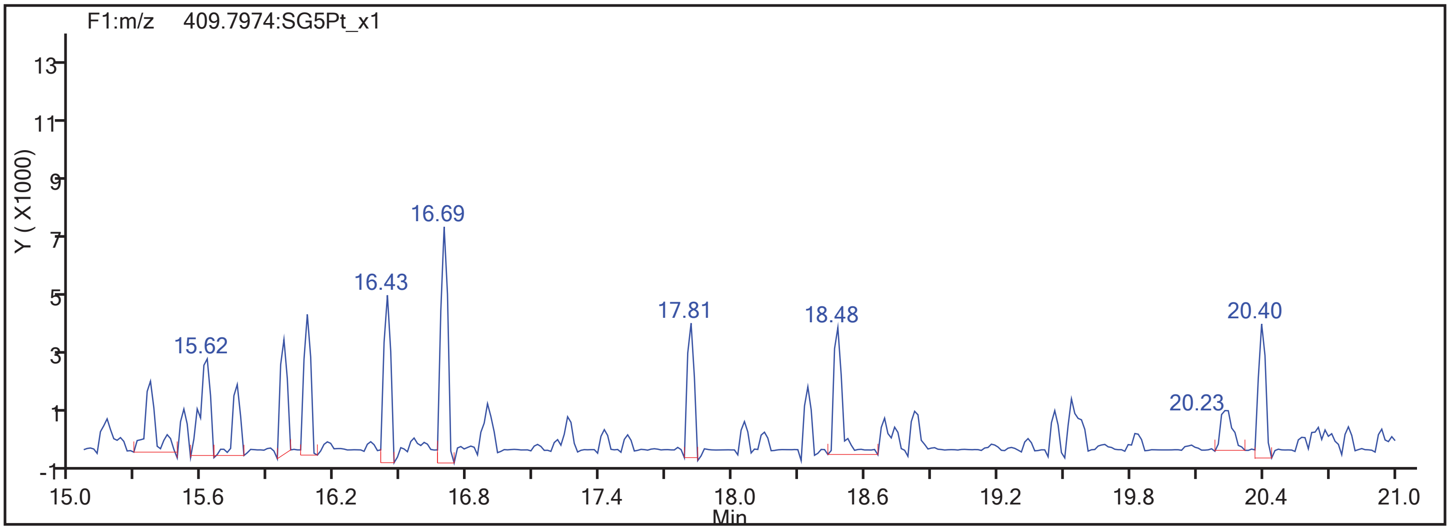




F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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Column Type:		Column Dia:	

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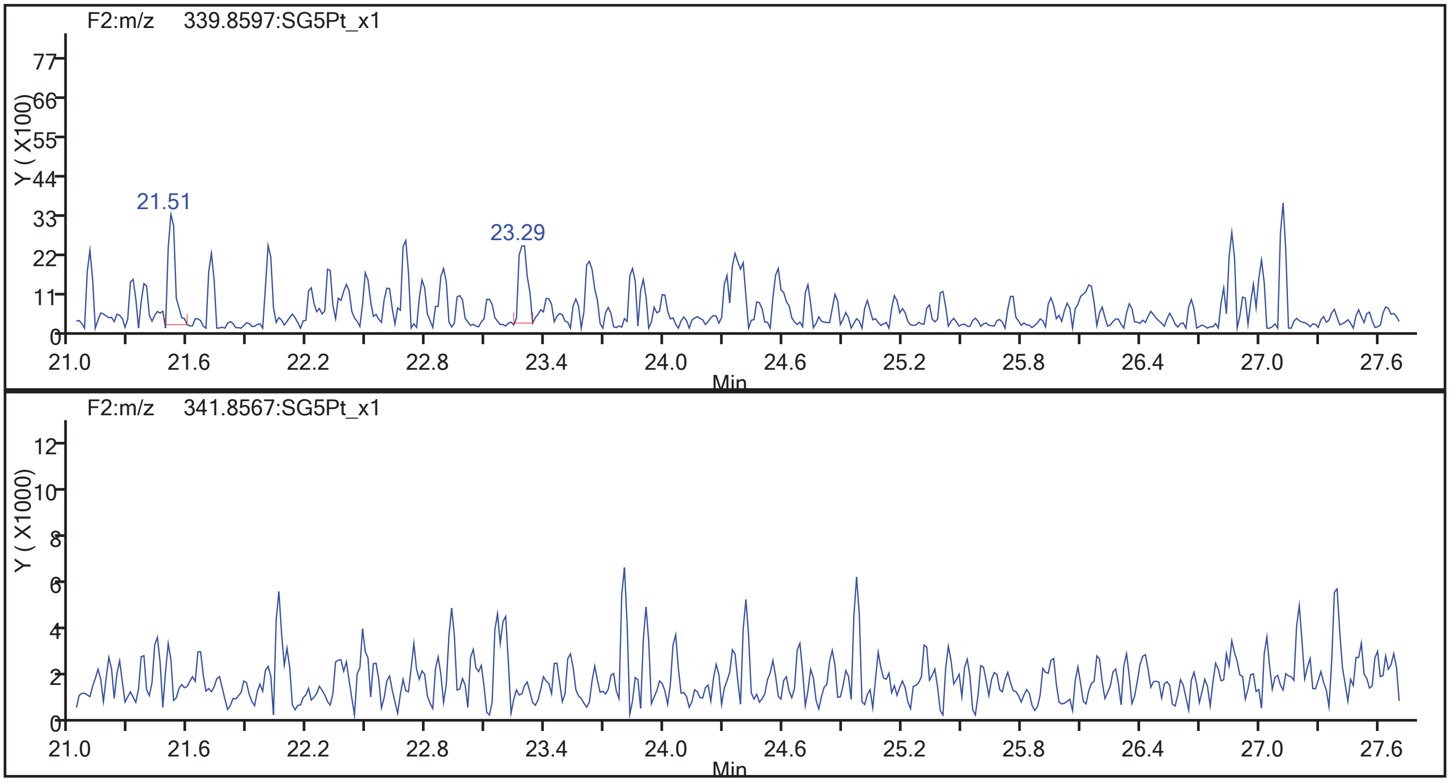

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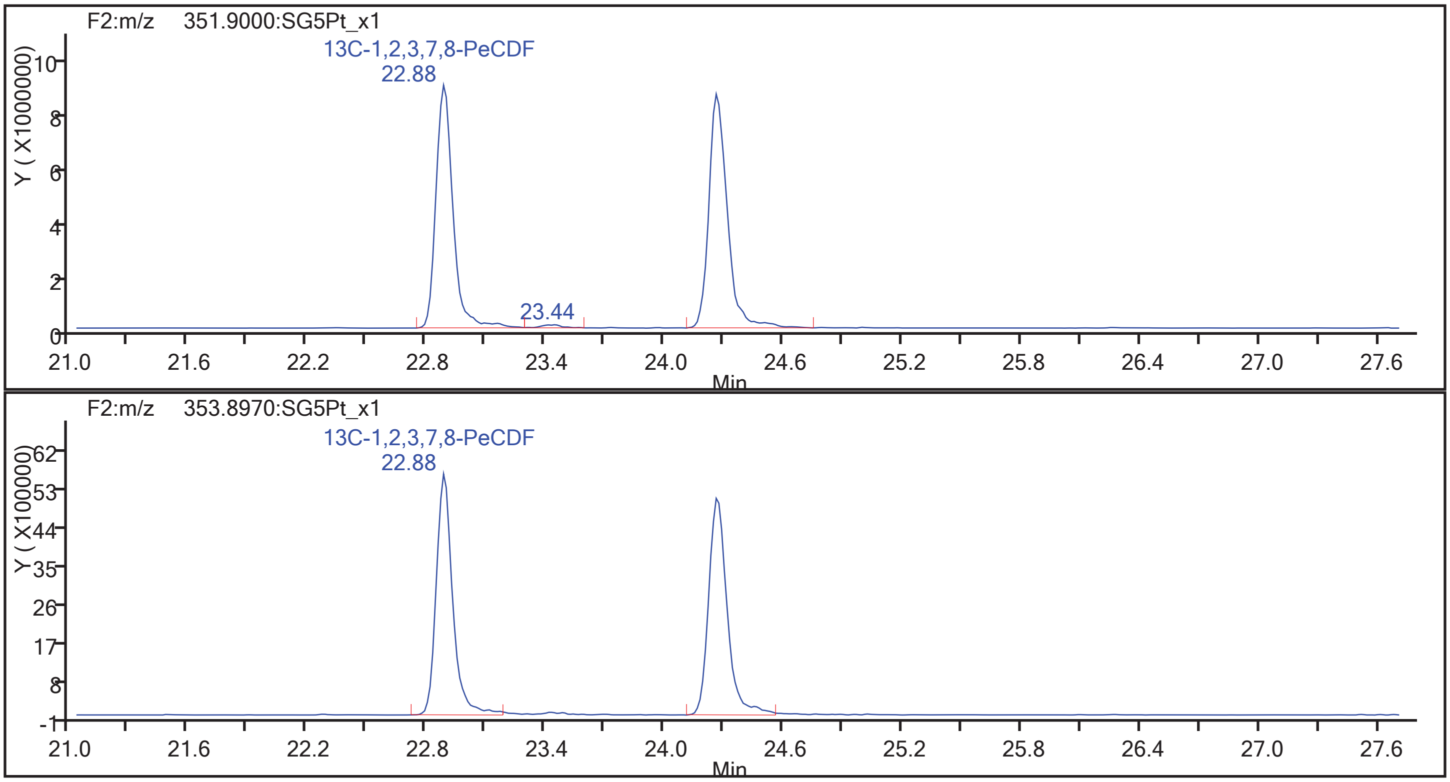

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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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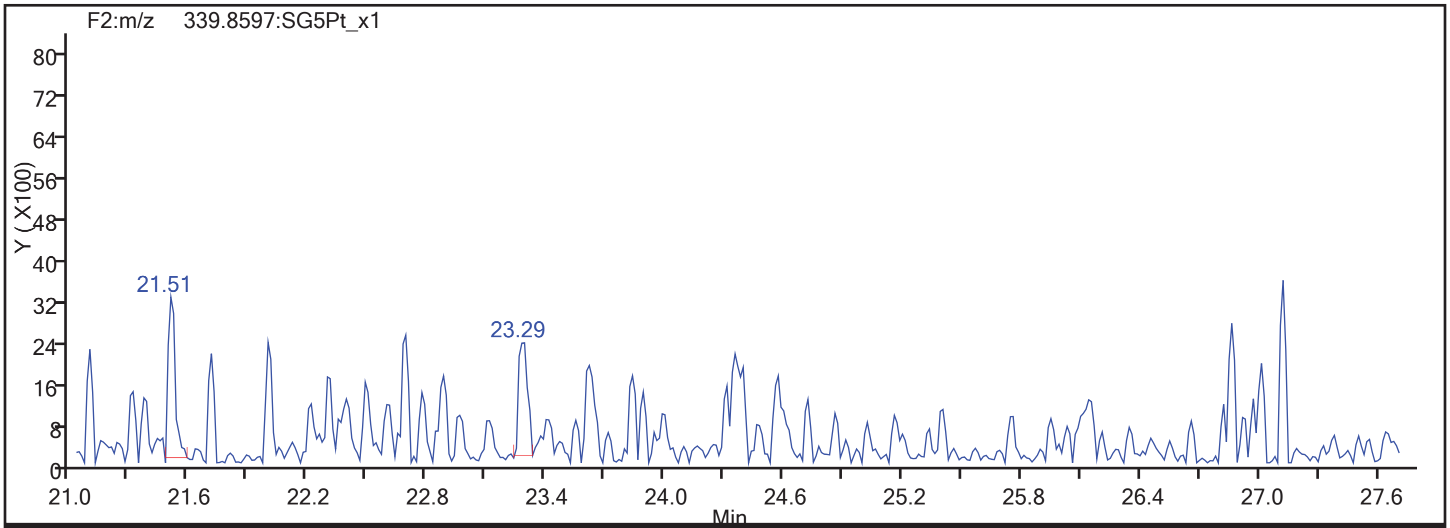
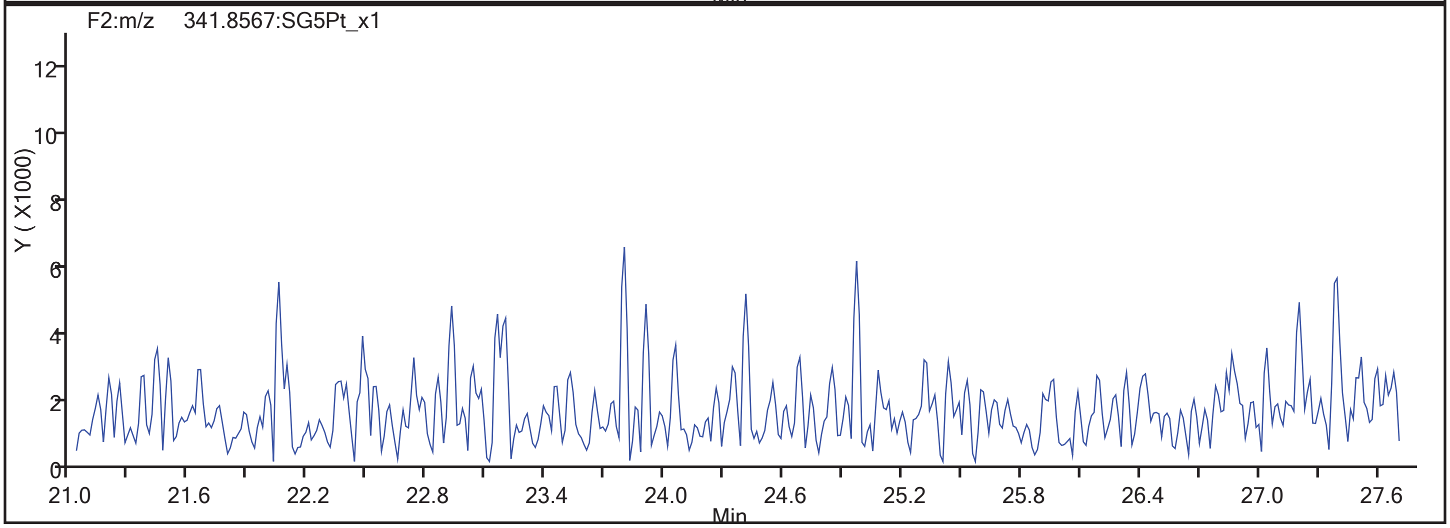
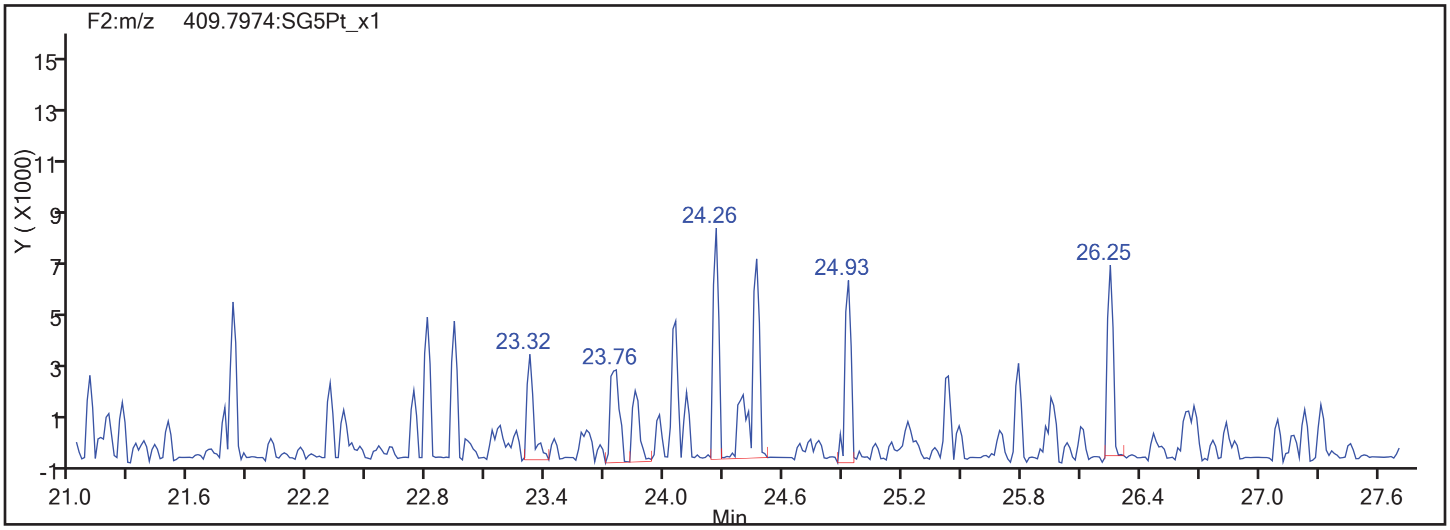
PeCDF





PeCDF Interference Mass



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TestAmerica Sacramento

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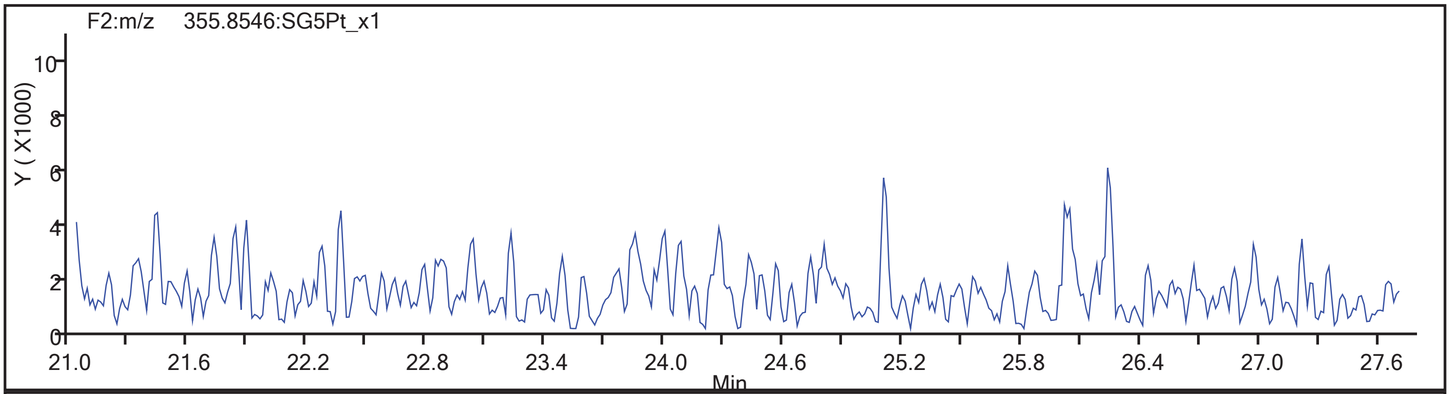
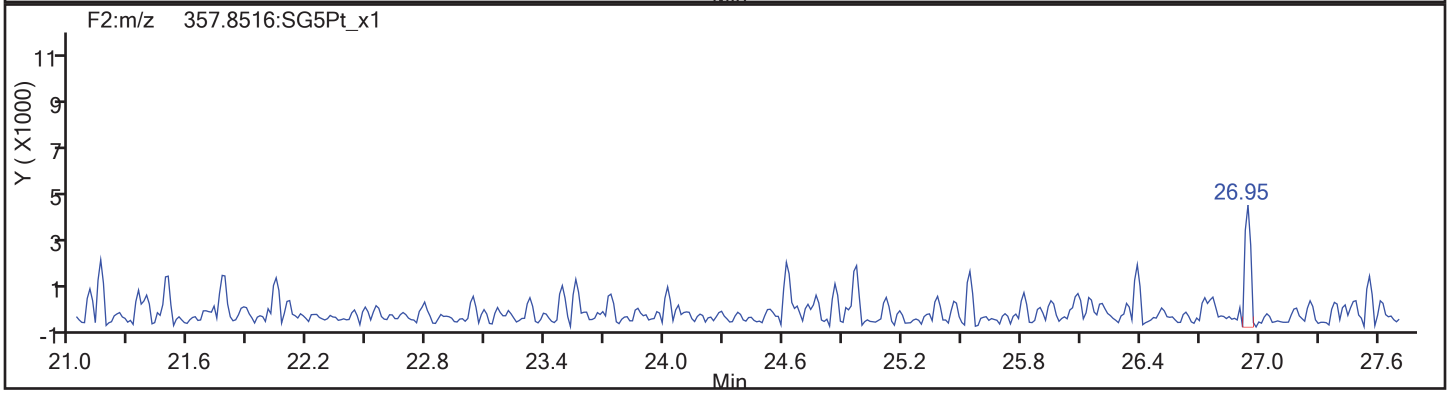
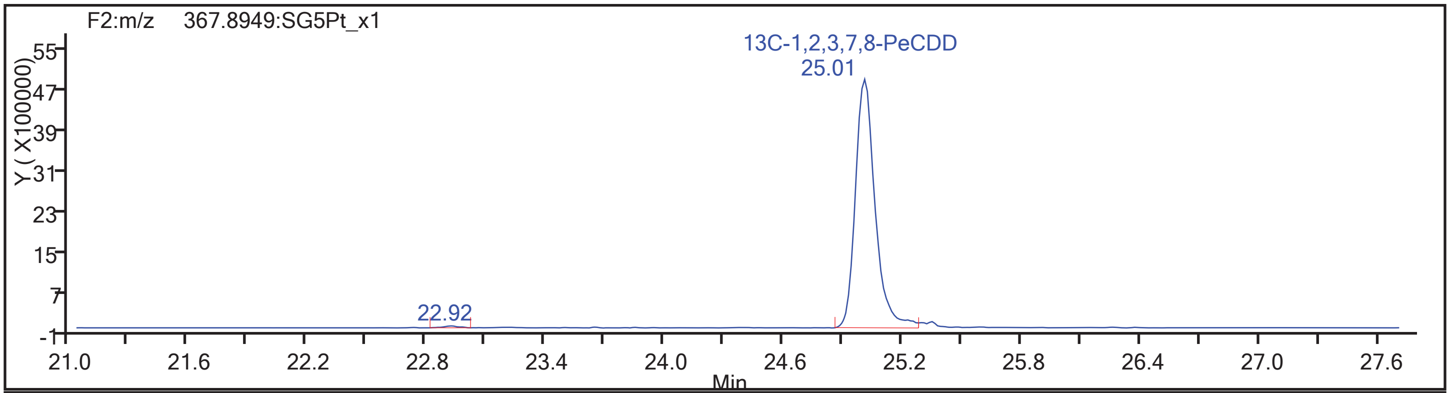
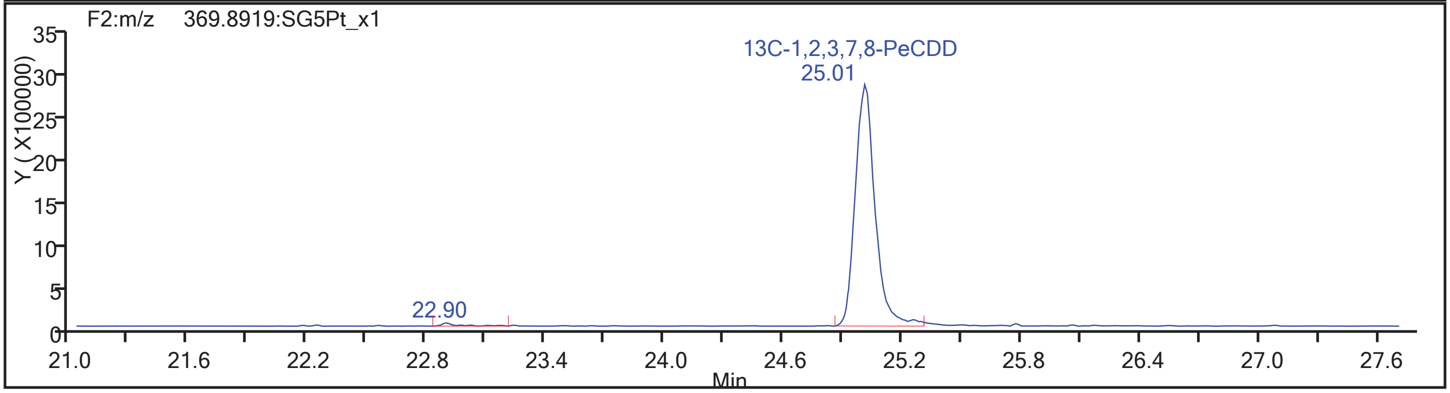




PeCDD Standards





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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 19:06:34 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
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Worklist#: 195575 Sample Line#: 90
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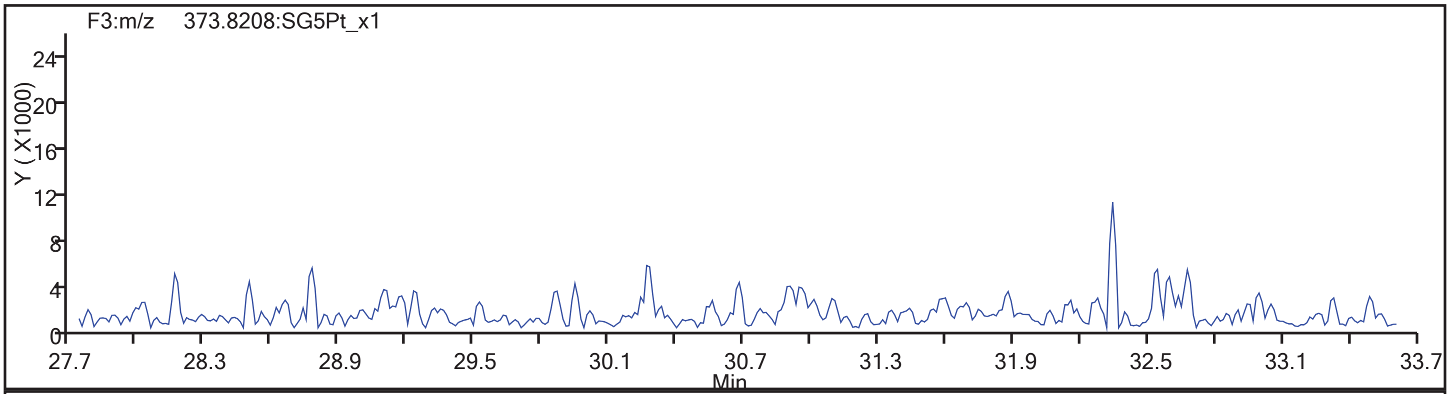
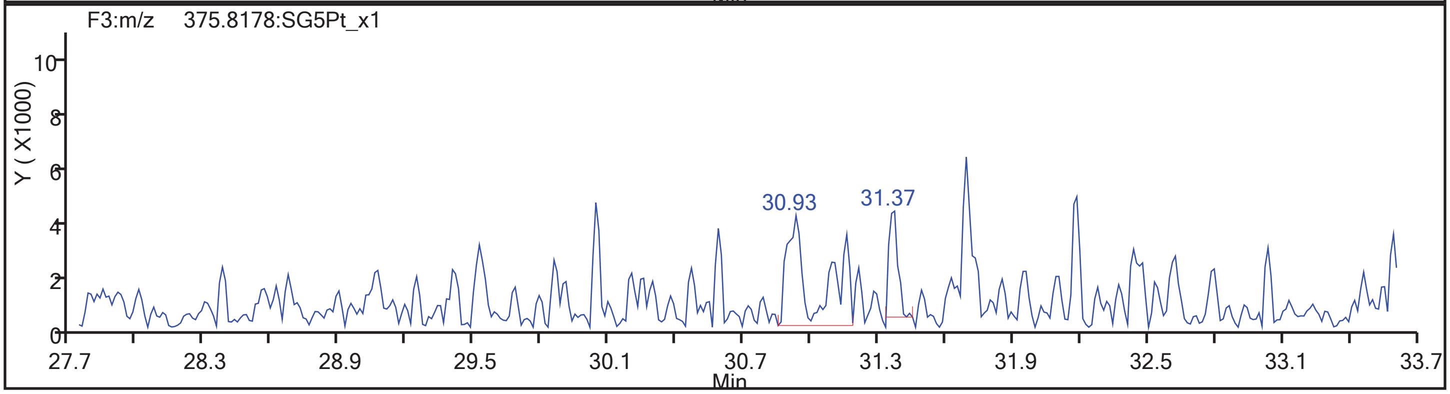
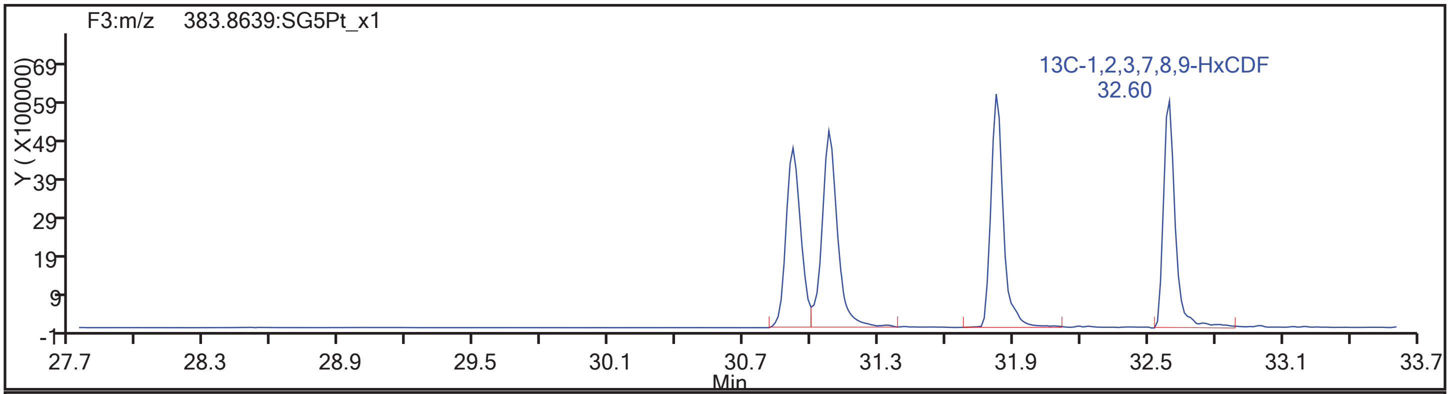
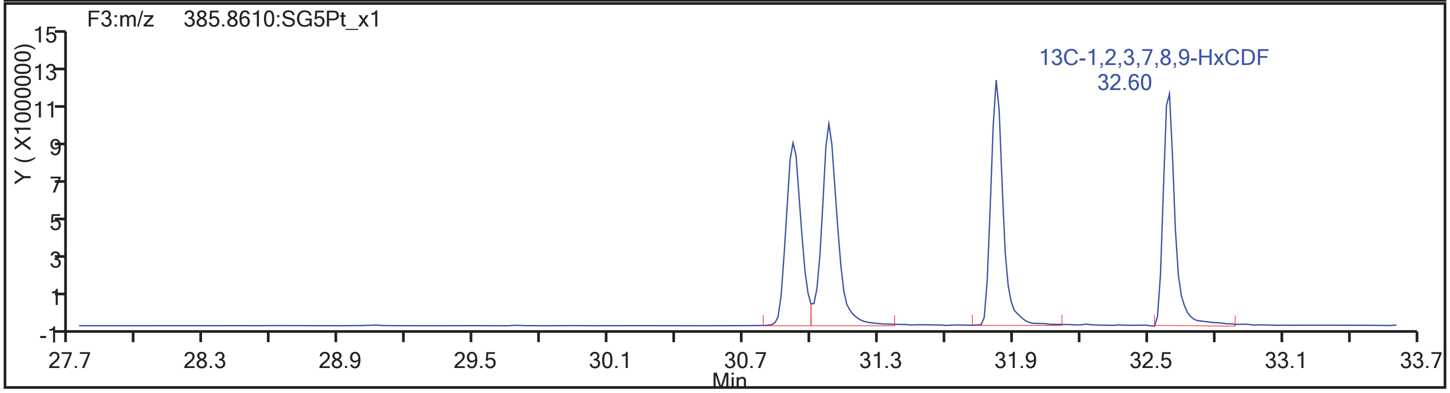
HxCDF





HxCDF Standards





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TestAmerica Sacramento

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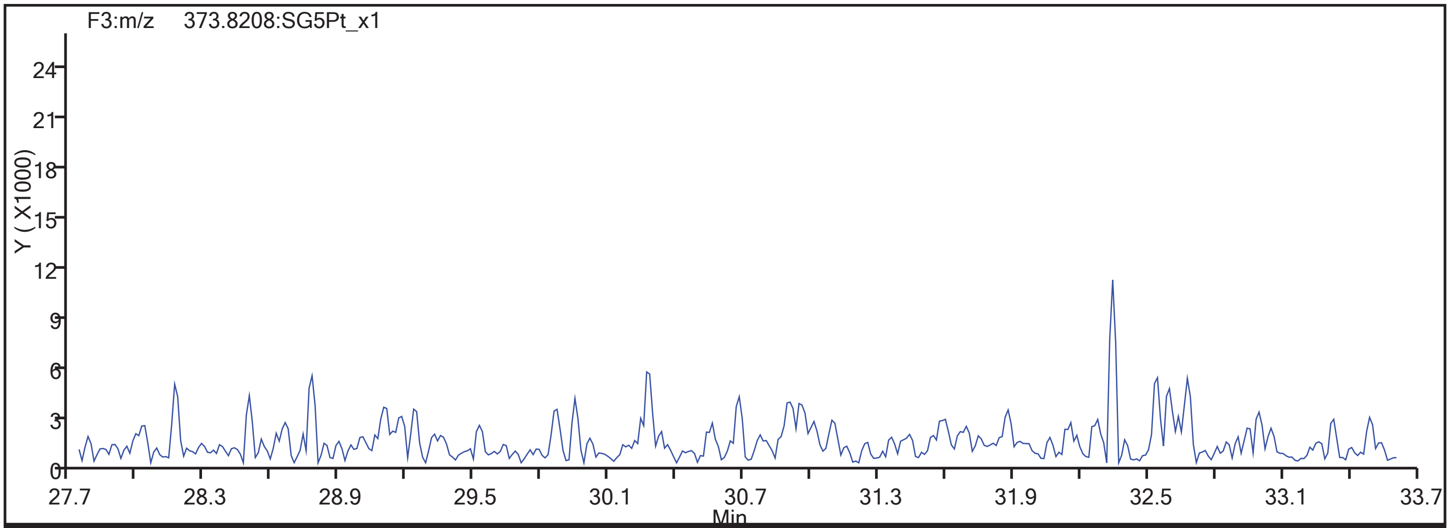
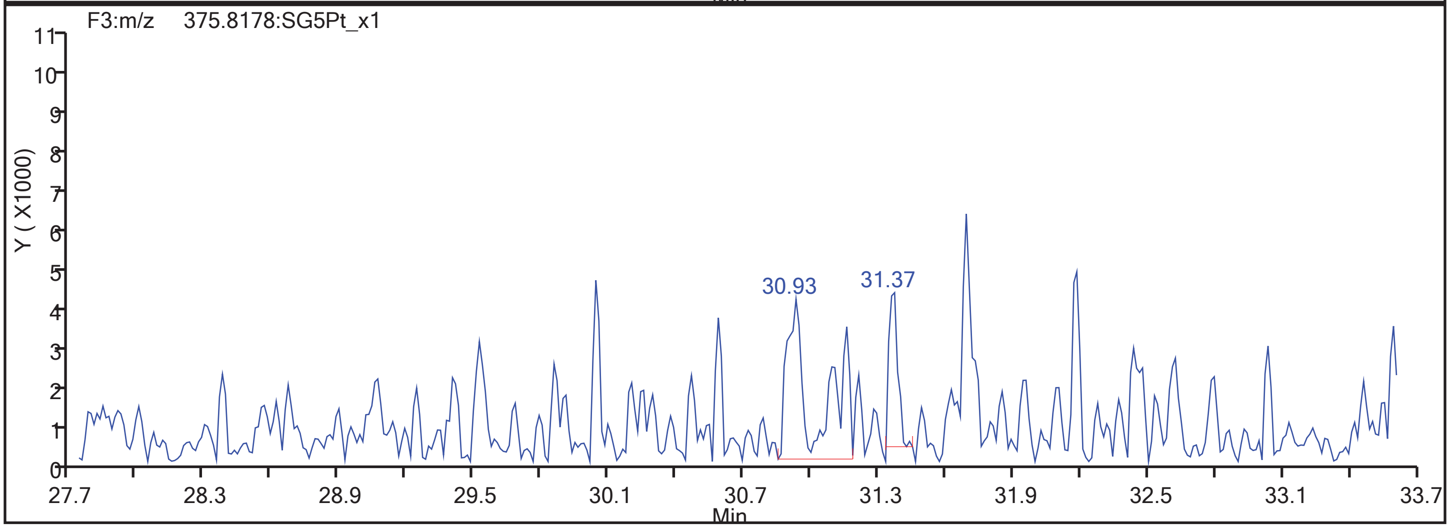
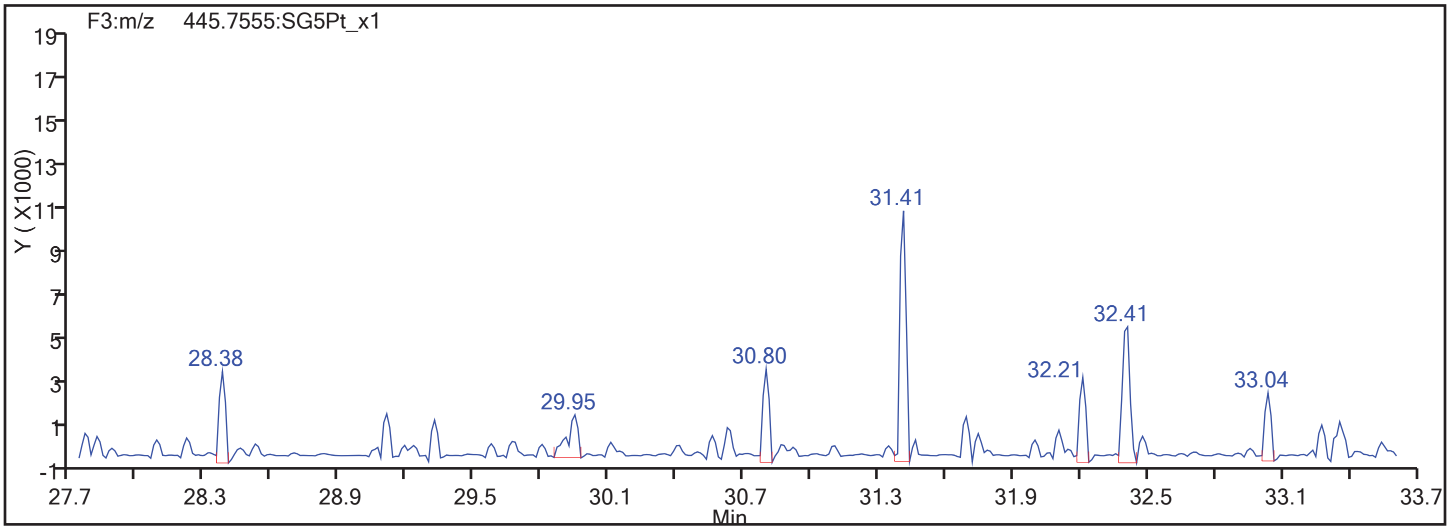




HxCDF Interference Mass



TestAmerica Sacramento

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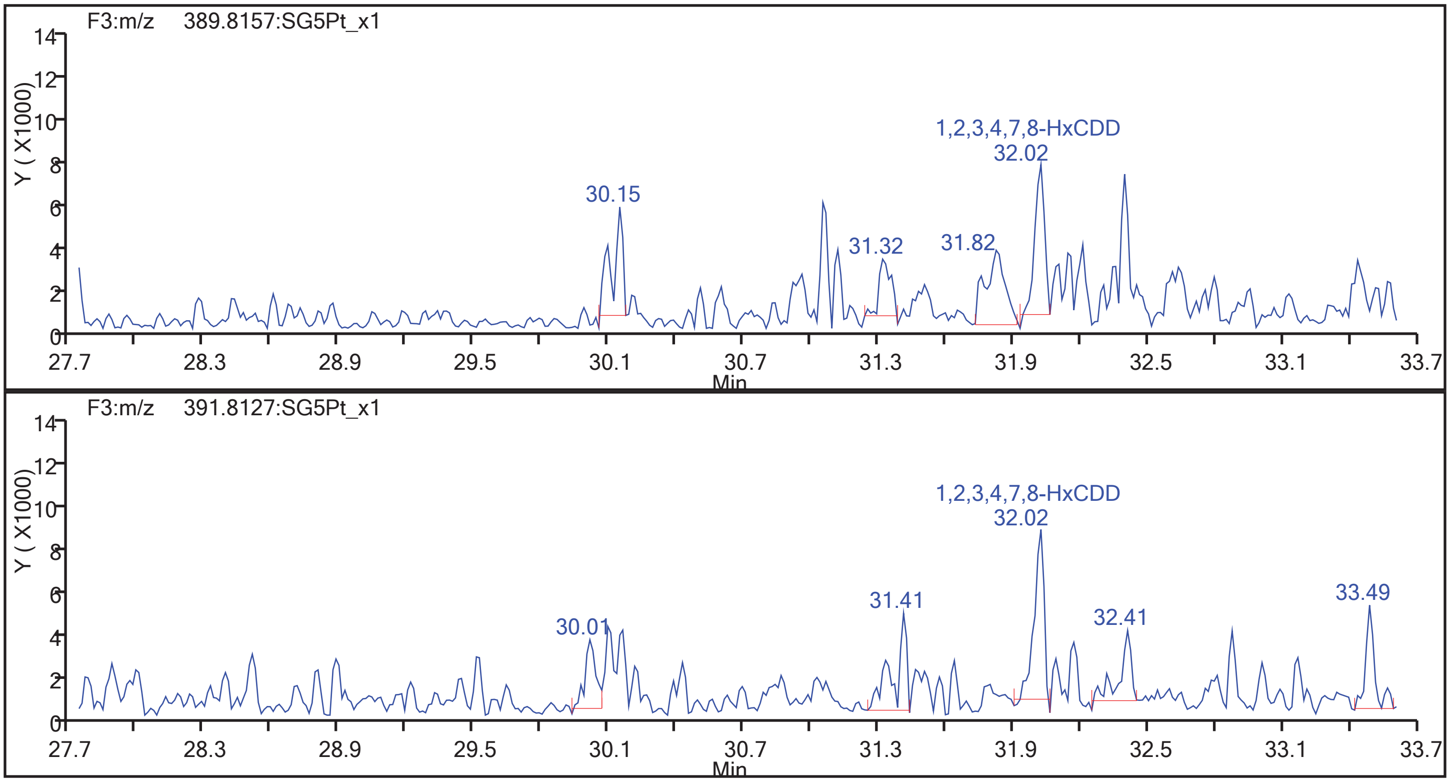
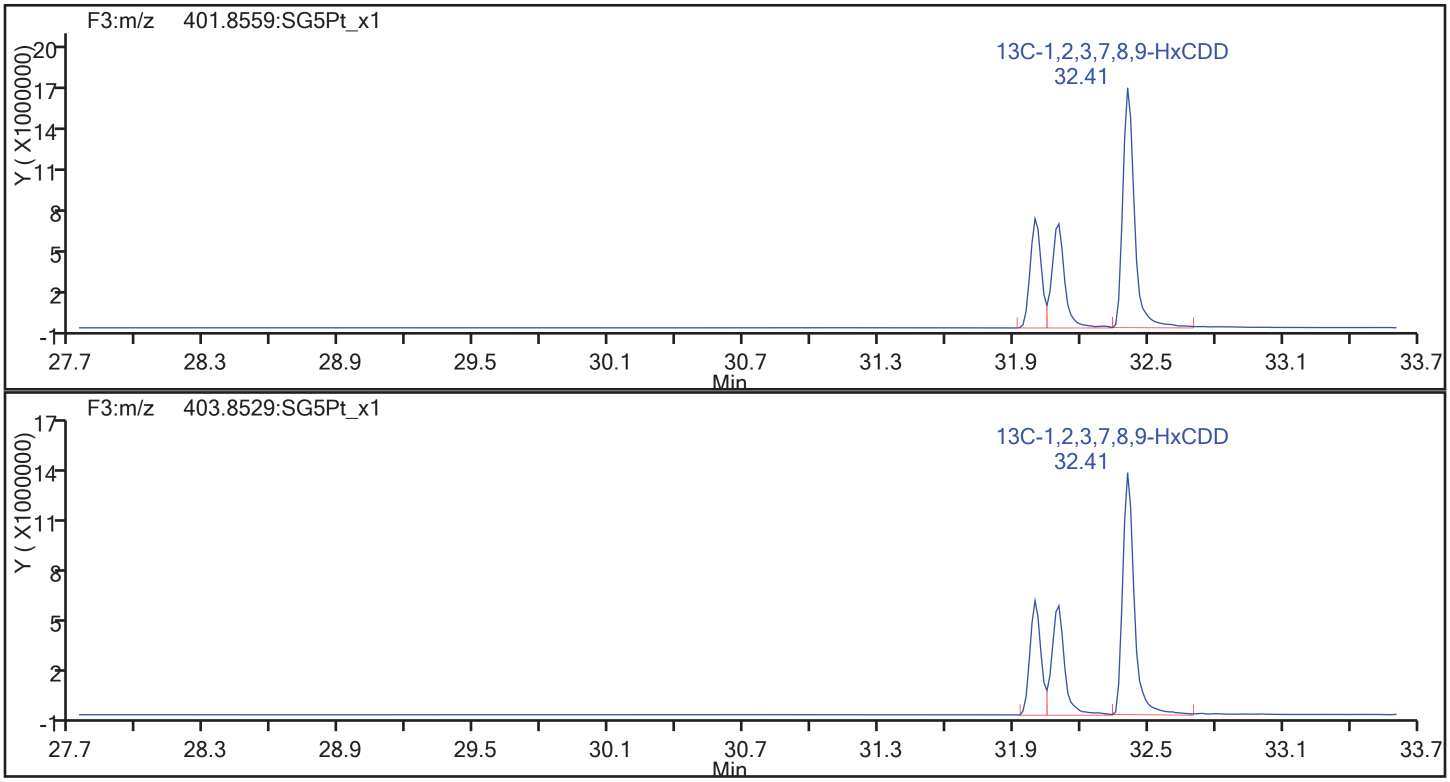


HxCDD Standards



Report Date: 06-Dec-2017 15:22:02　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Method: Dioxin_3D5　Limit Group: HR - 8290A_D5 - ICAL

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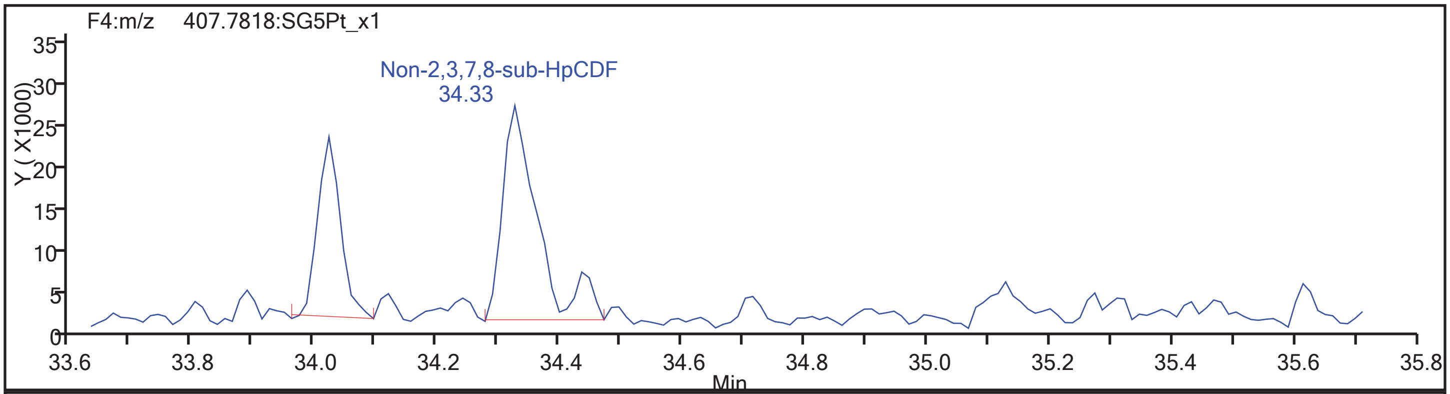

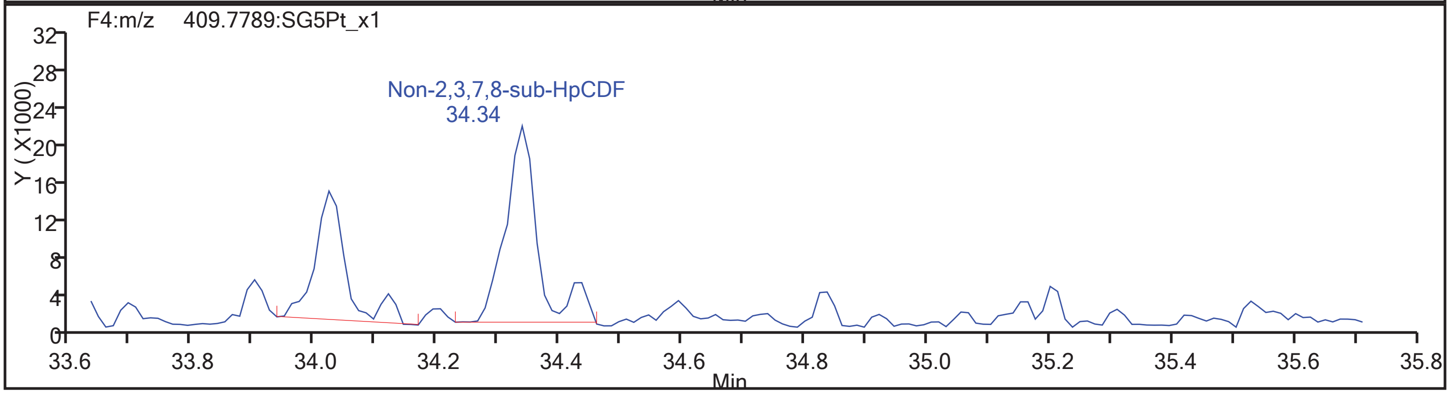

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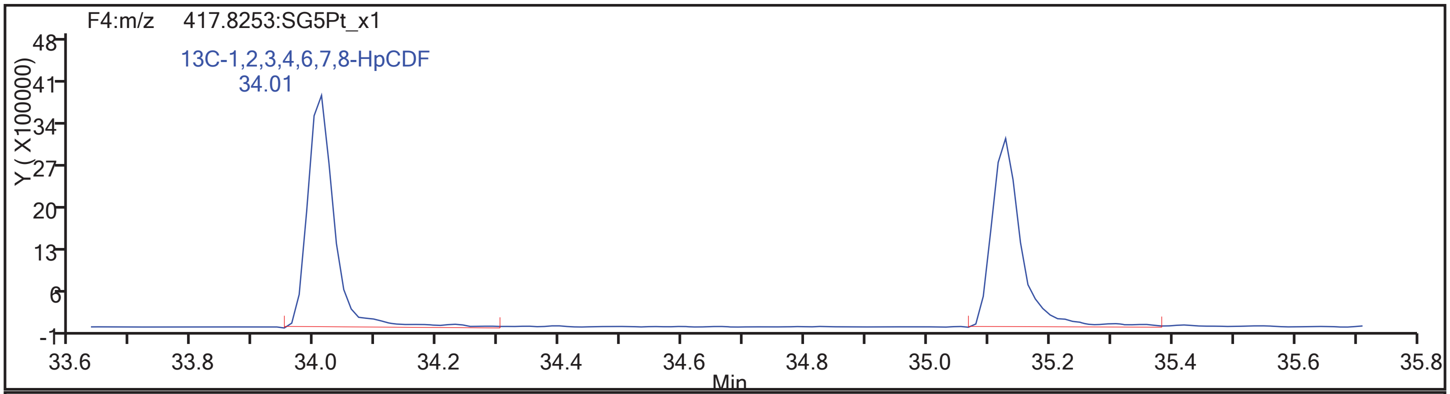

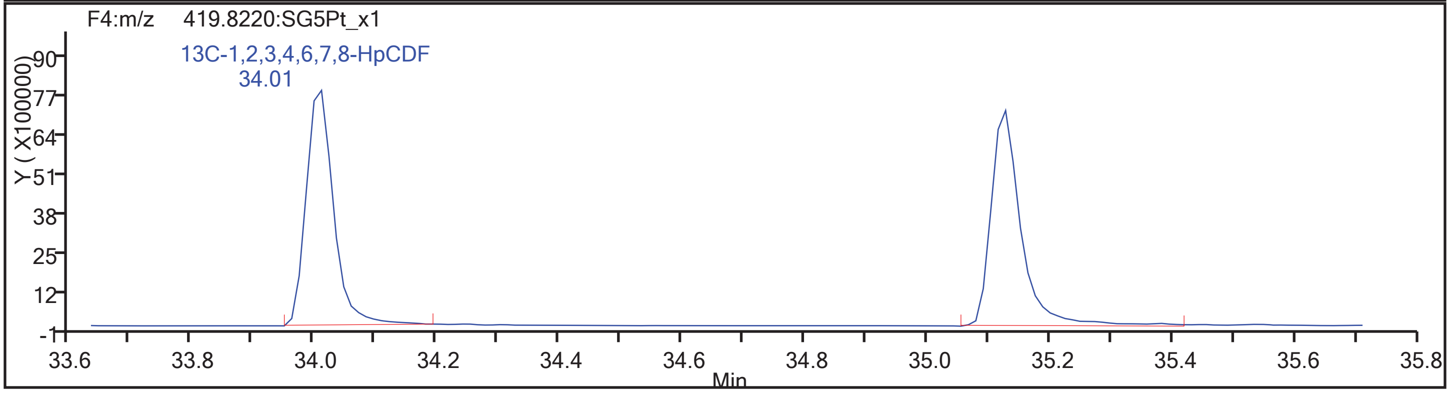

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TestAmerica Sacramento

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Injection Date:	19-Nov-2017 19:06:34	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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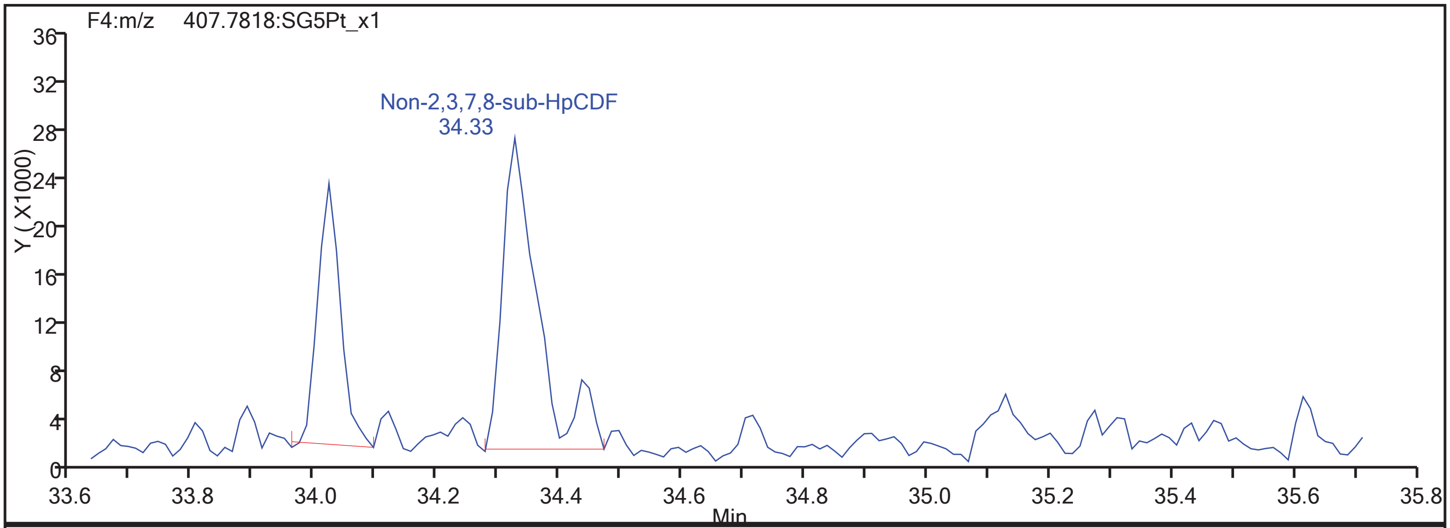
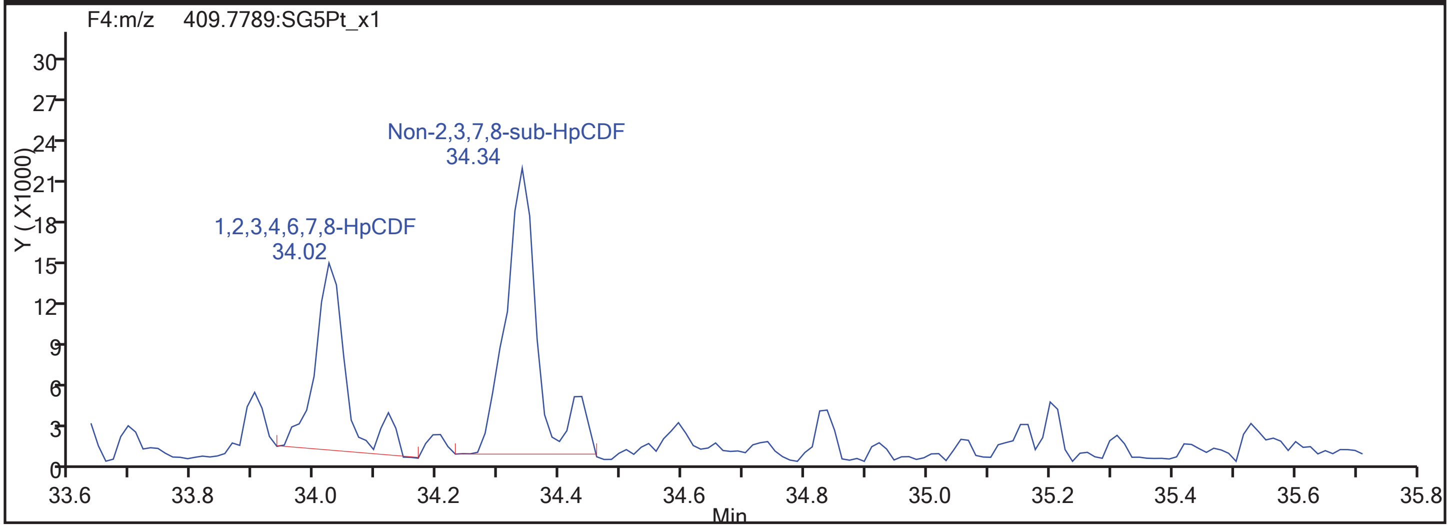
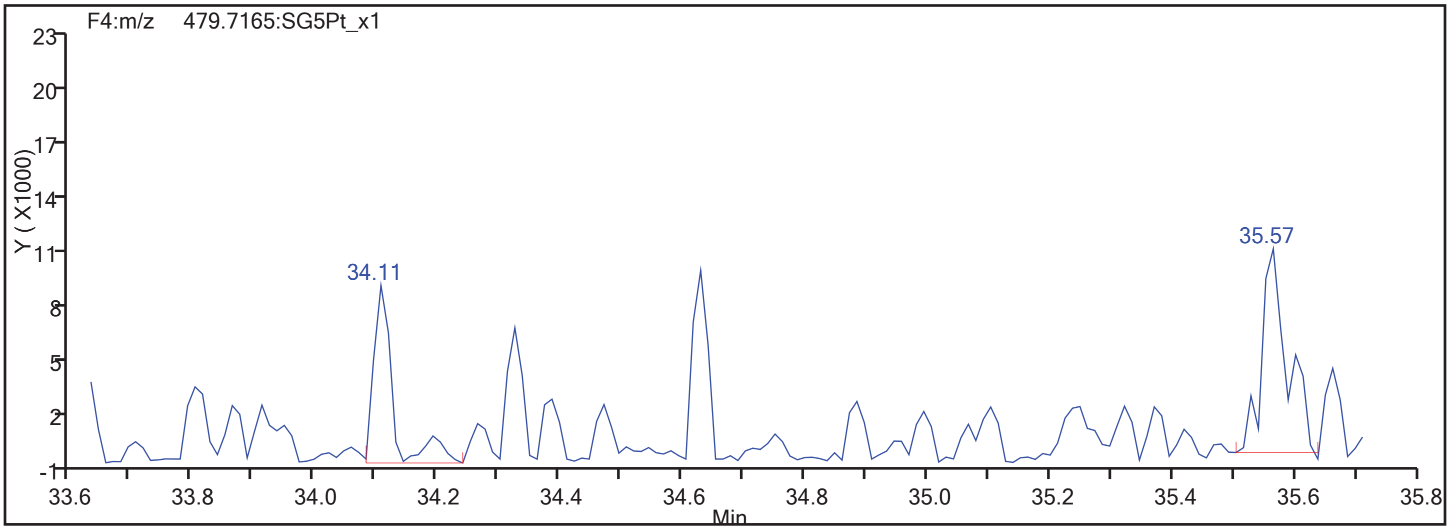




HpCDF Interference Mass



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TestAmerica Sacramento

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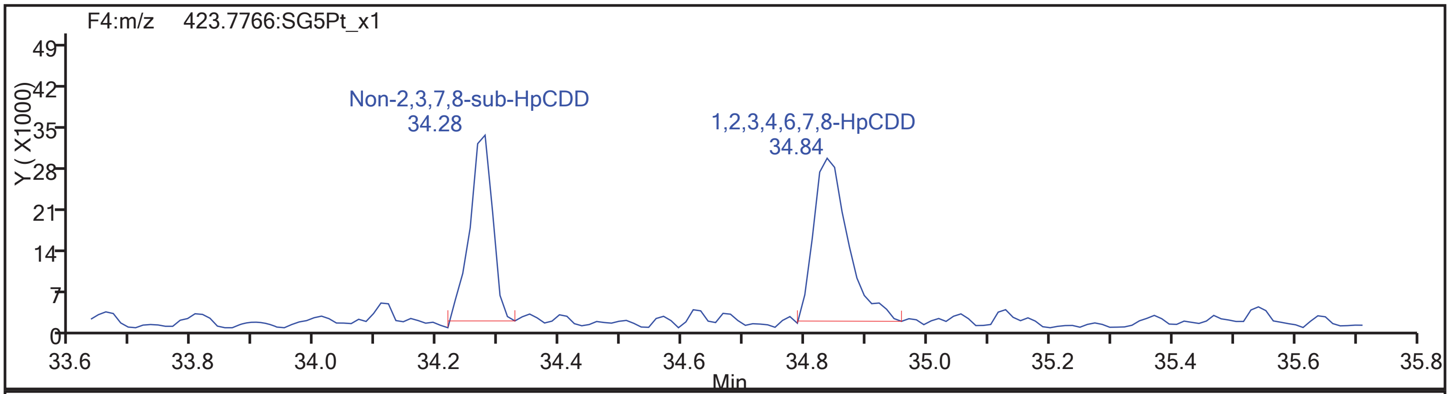

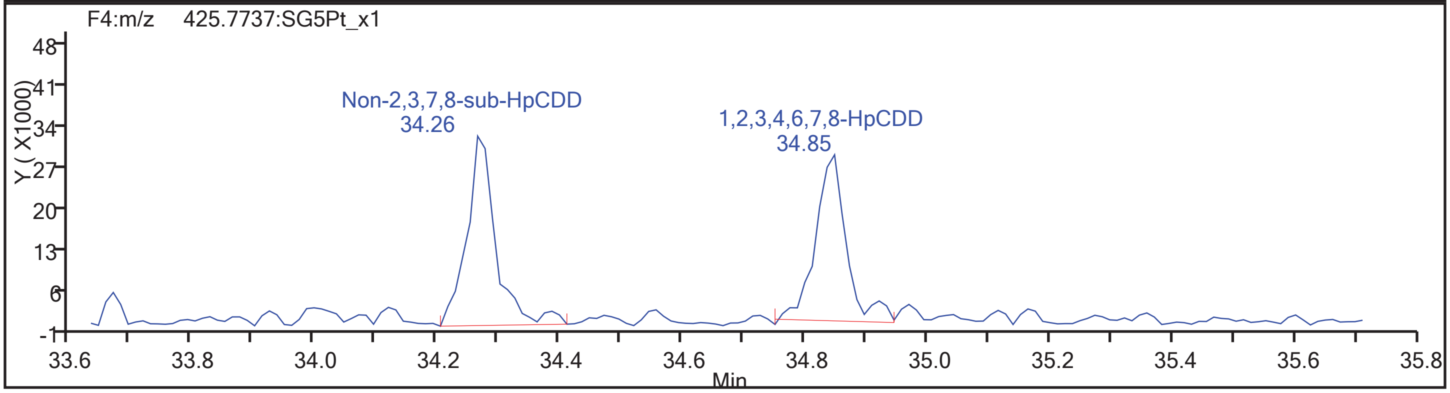

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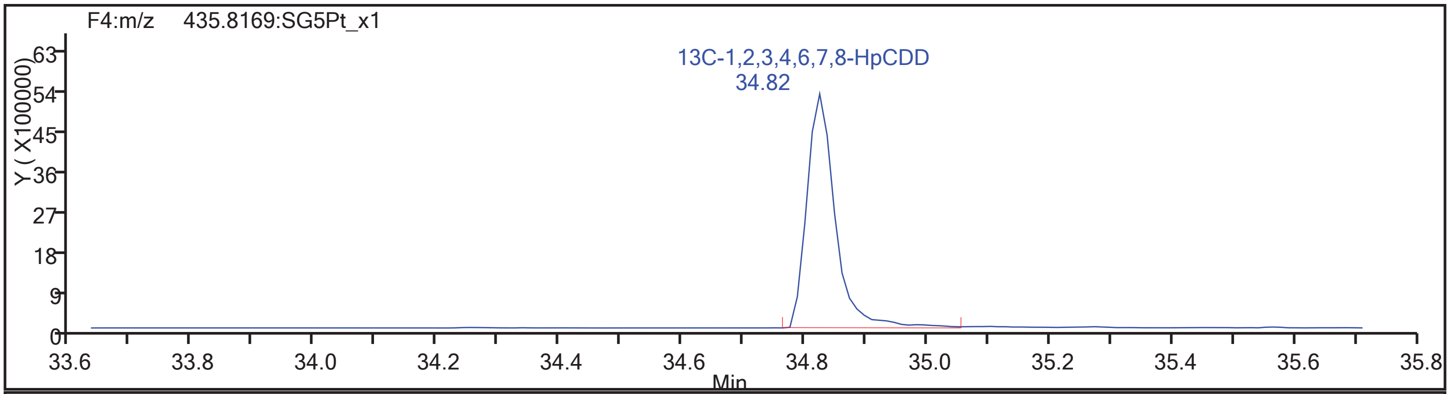

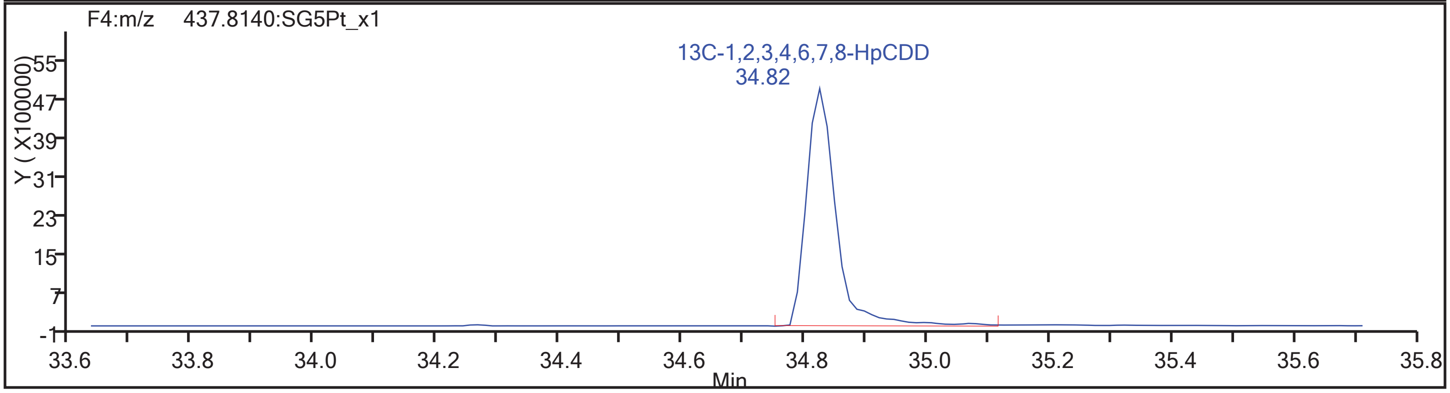

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TestAmerica Sacramento

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Injection Date: 19-Nov-2017 19:06:34 Injection Vol: 2.0 ul
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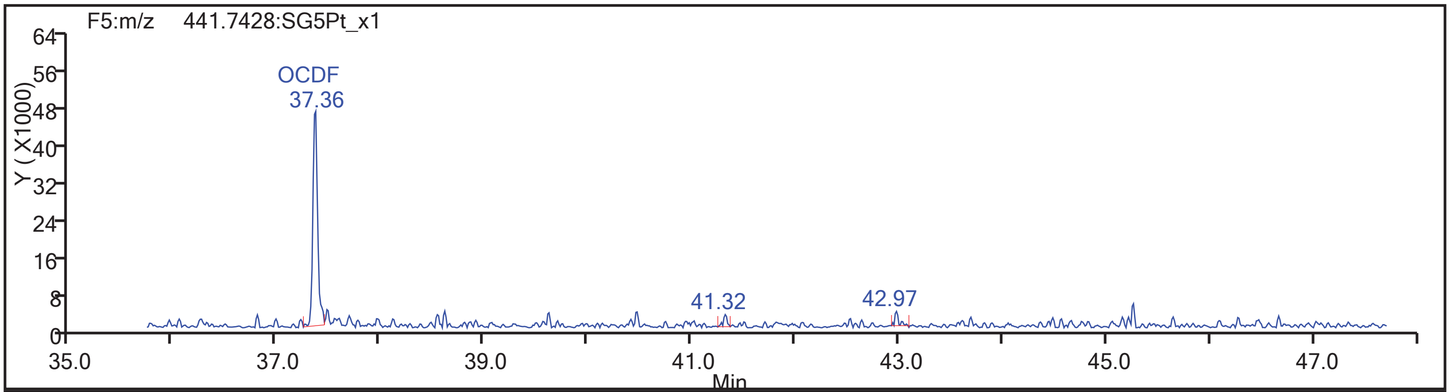
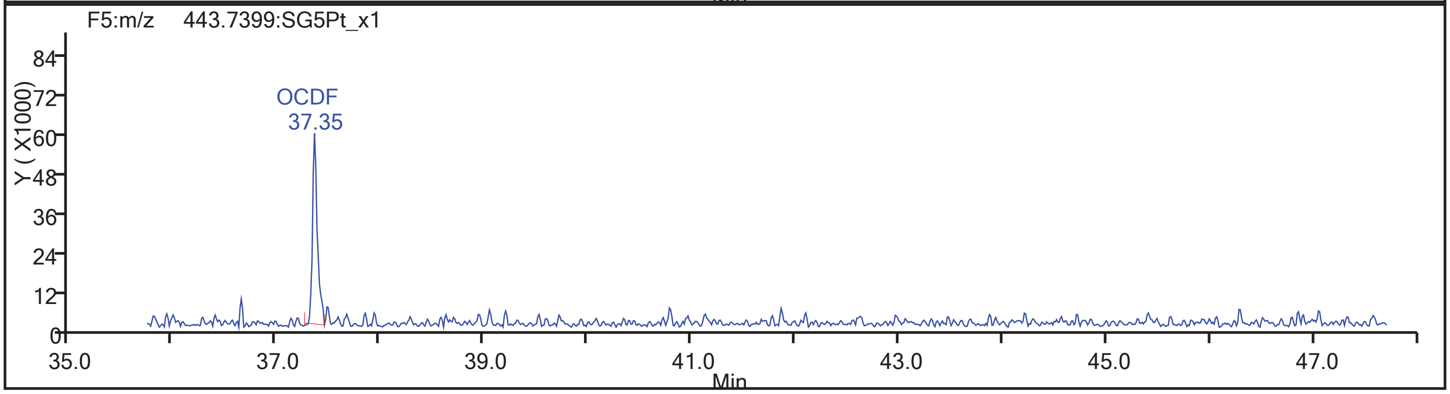
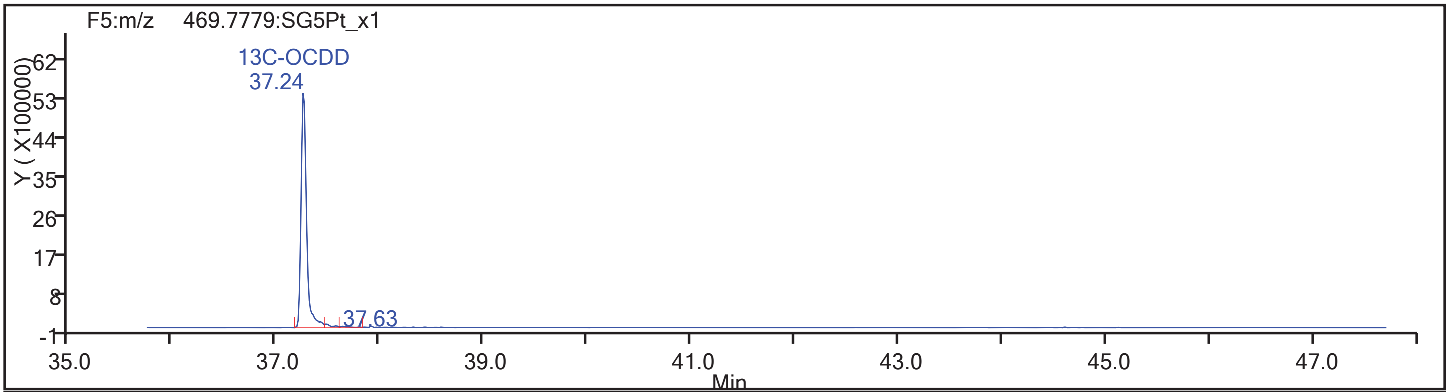
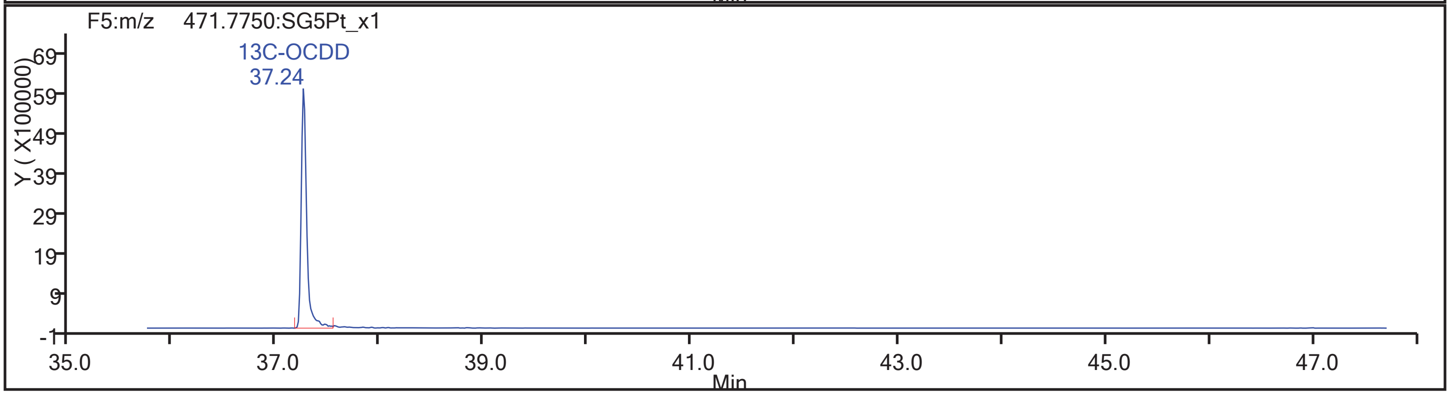




OCDF Standards





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TestAmerica Sacramento

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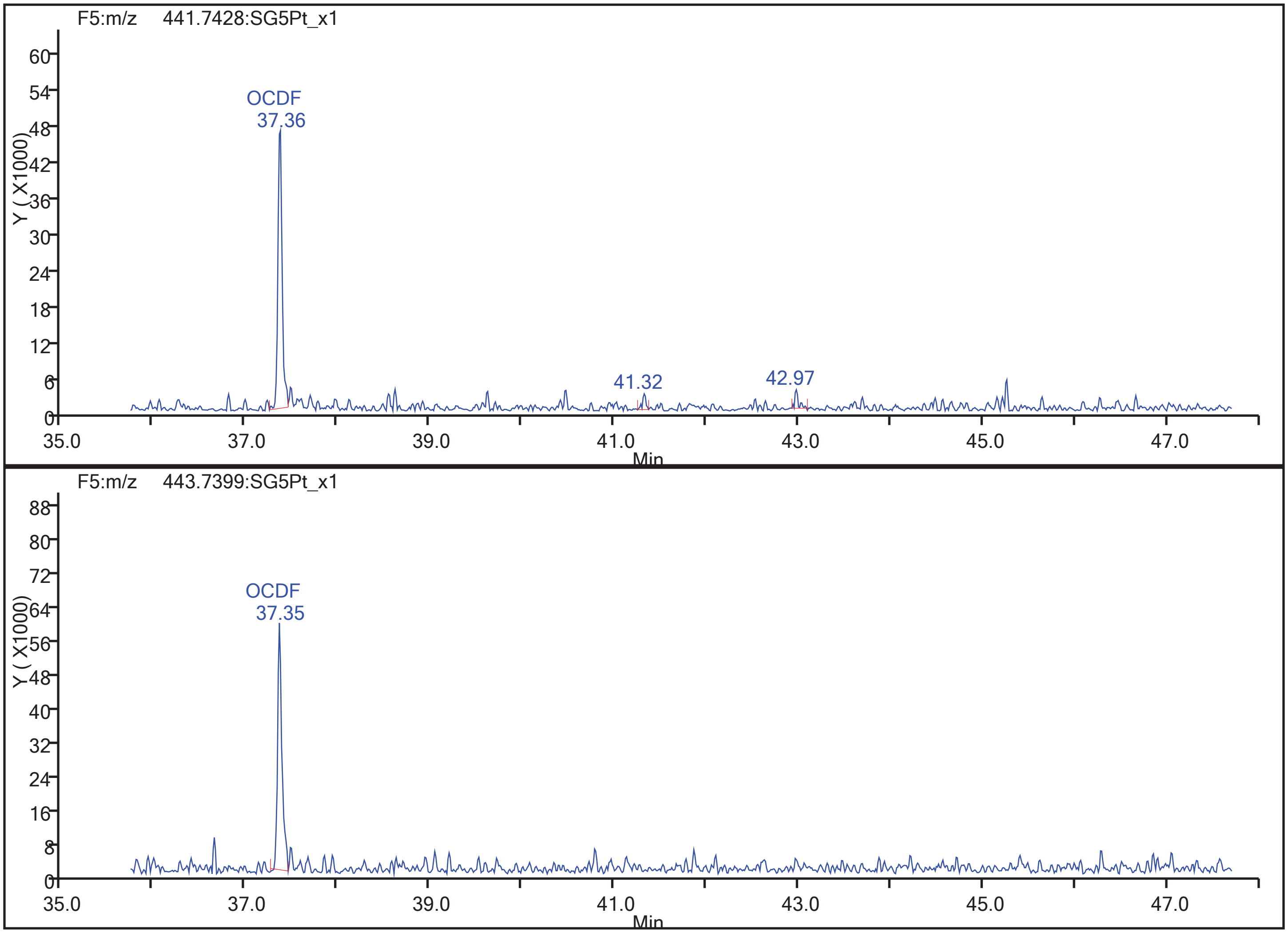
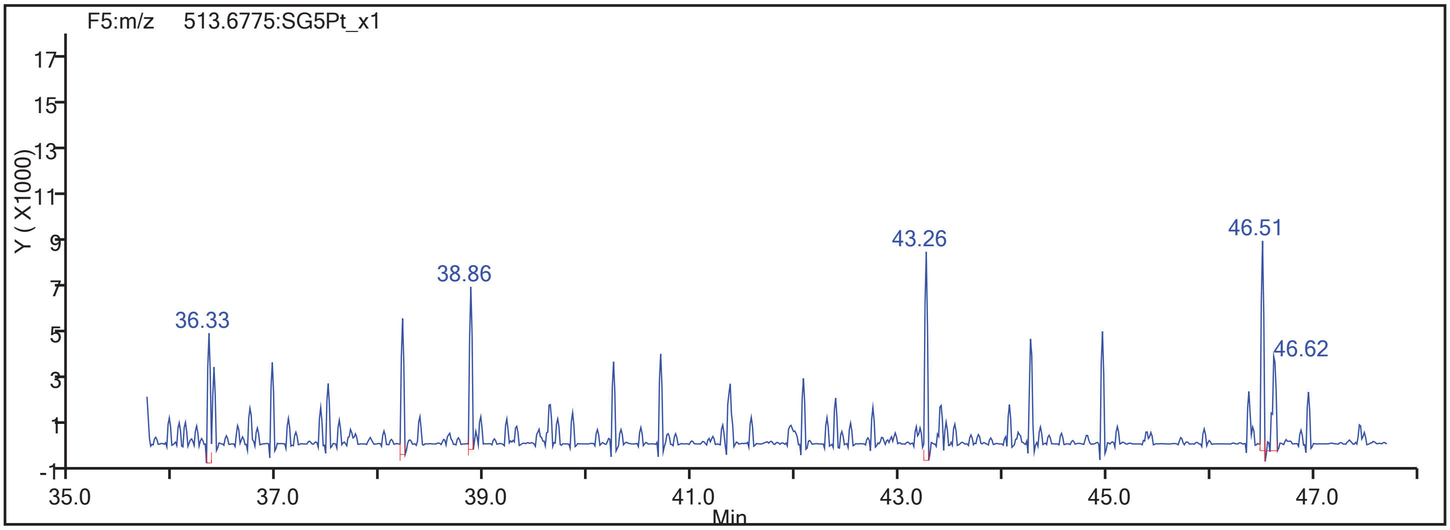


OCDF Interference Mass



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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 19-Nov-2017 19:06:34
Injection Vol: 2.0 ul
Instrument ID: 3D5
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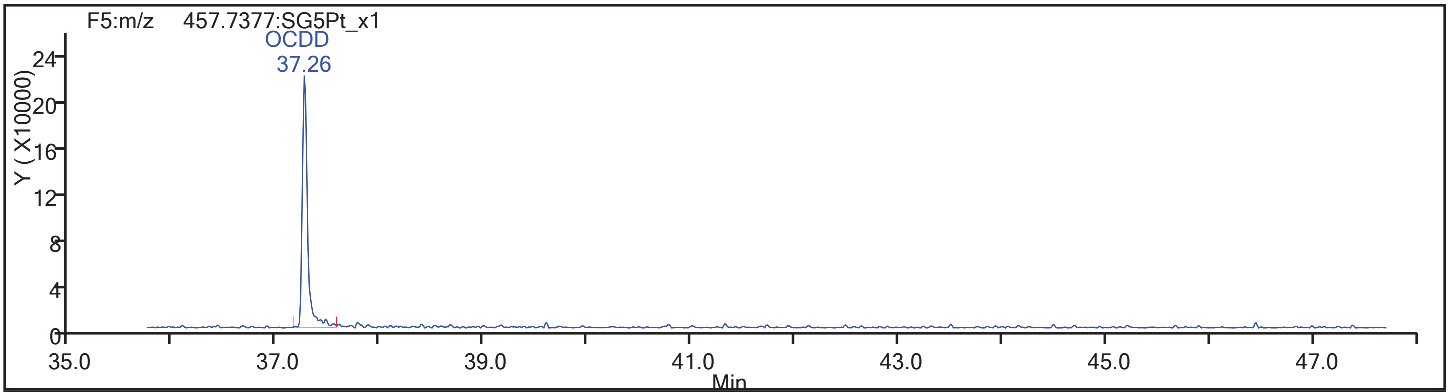
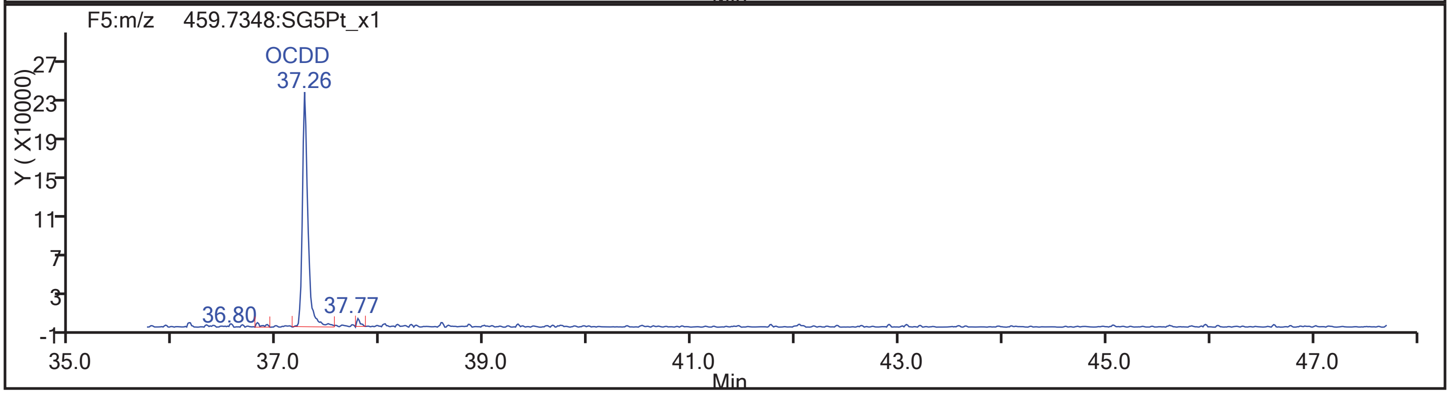
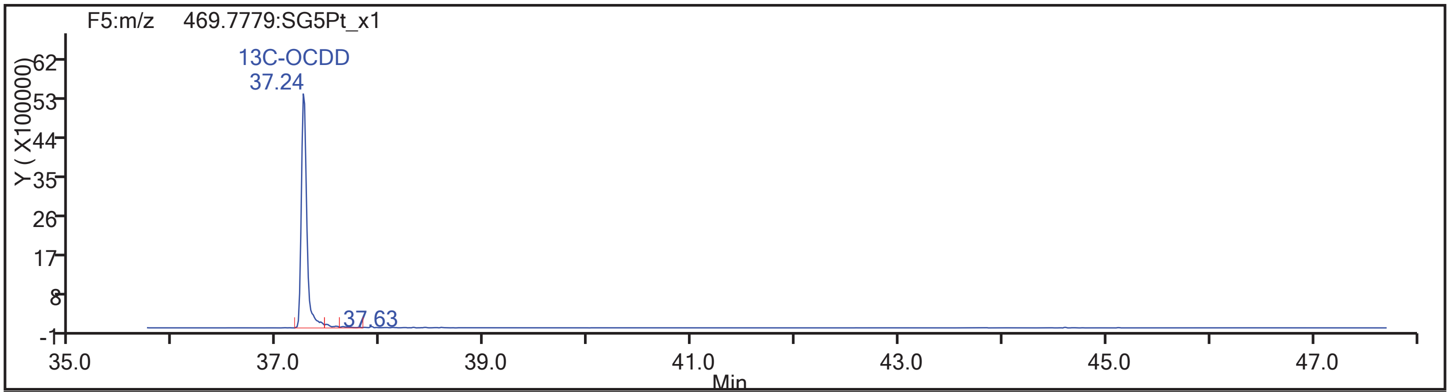
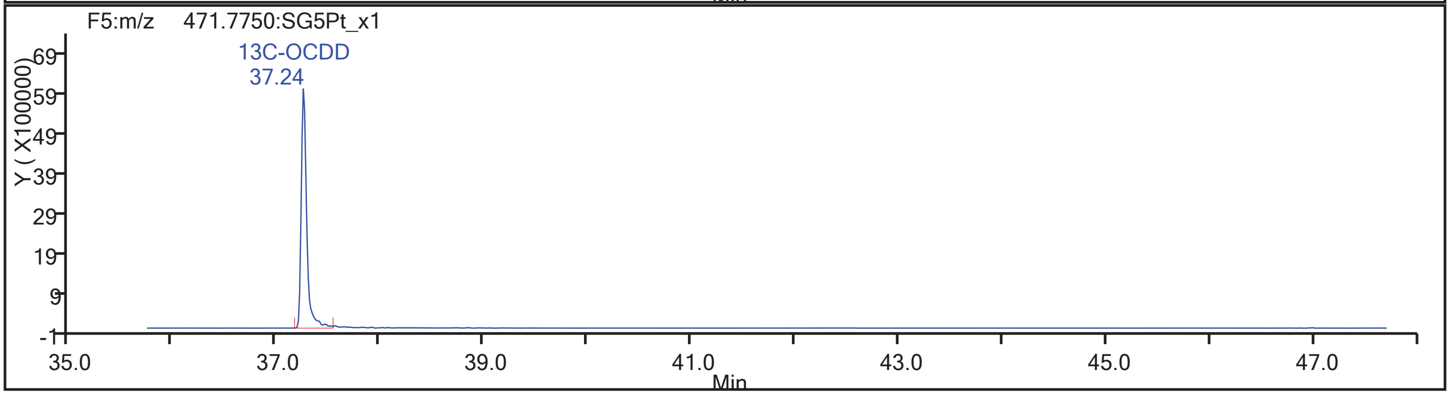




OCDD Standards

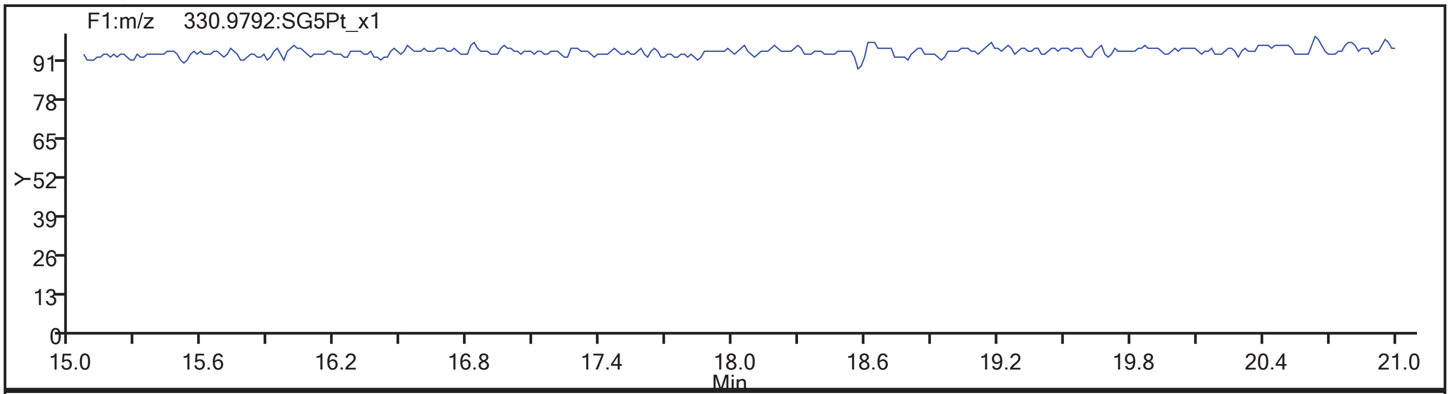


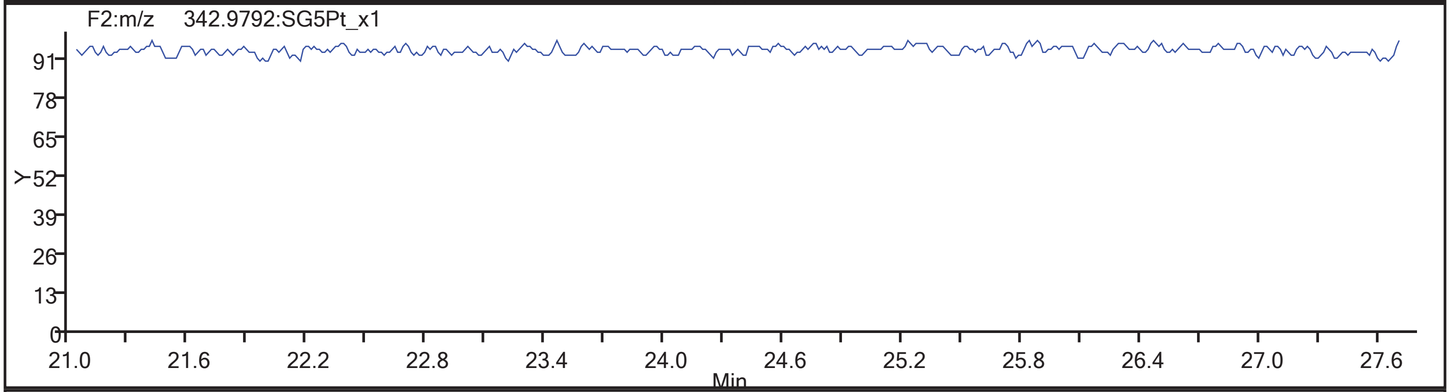


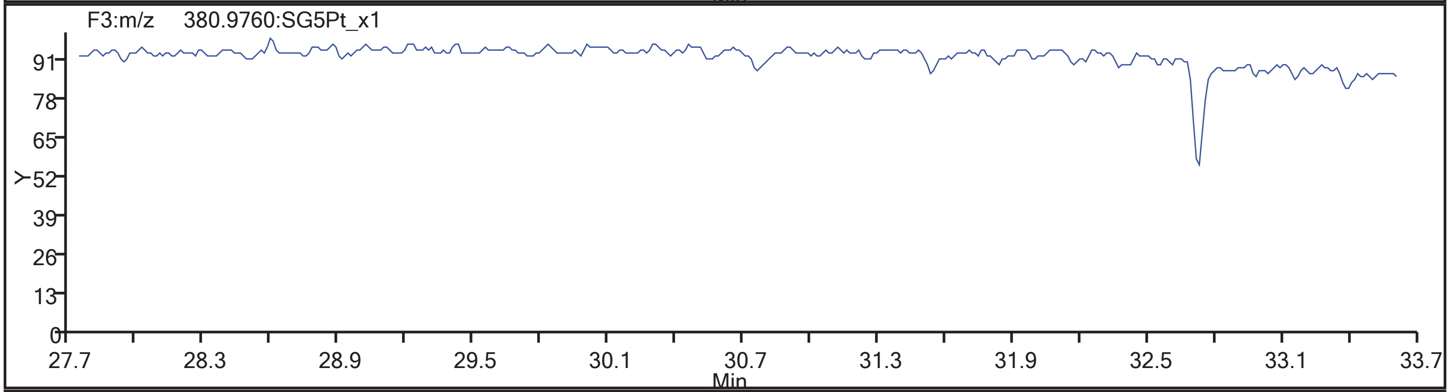
Report Date: 06-Dec-2017 15:22:03 Chrom Revision: 2.2 16-Aug-2017 16:24:46

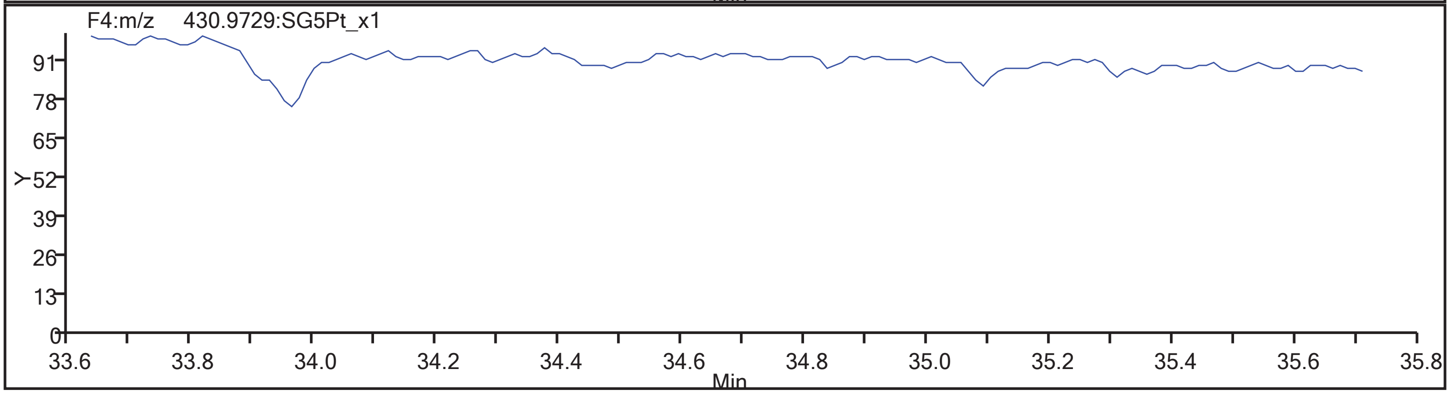
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d
Injection Date: 19-Nov-2017 19:06:34
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP013SS06NS
Worklist#: 195575
Sample Line#: 90
Column Type:
Column Dia:





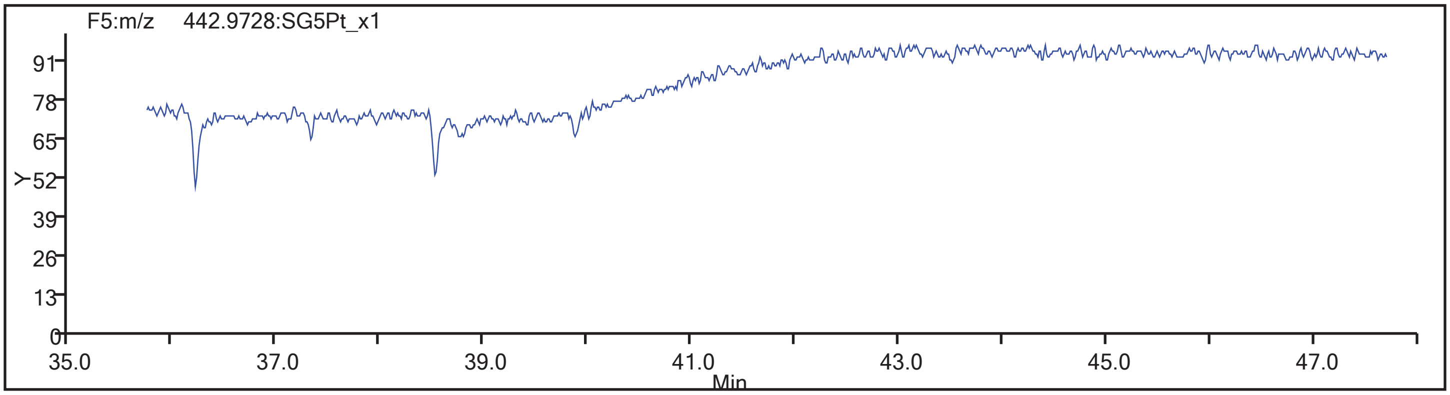




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_90.d

Injection Date:	19-Nov-2017 19:06:34	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP013SS06NS		
Worklist#:	195575	Sample Line#:	90
Column Type:		Column Dia:	



FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2 Analy Batch No.: 189155

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2017 00:08 Calibration End Date: 10/13/2017 03:12 Calibration ID: 35216

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-189155/4	12OC17B10D5_4.d
Level 2	IC 320-189155/3	12OC17B10D5_3.d
Level 3	IC 320-189155/2	12OC17B10D5_2.d
Level 4	IC 320-189155/6	12OC17B10D5_6.d
Level 5	IC 320-189155/5	12OC17B10D5_5.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	1.2422	1.1329	1.0657	1.1403	1.0896	AveID		1.1341				6.0		20.0			
2,3,7,8-TCDD	1.0377	1.0203	0.9353	1.0278	0.9754	AveID		0.9993				4.3		20.0			
1,2,3,7,8-PeCDF	1.2215	1.1712	1.1158	1.1880	1.1170	AveID		1.1627				4.0		20.0			
2,3,4,7,8-PeCDF	1.1808	1.1488	1.1008	1.1760	1.0912	AveID		1.1395				3.7		20.0			
1,2,3,7,8-PeCDD	1.0083	0.9343	0.8944	0.9766	0.9313	AveID		0.9490				4.6		20.0			
1,2,3,4,7,8-HxCDF	1.4965	1.3627	1.3910	1.4287	1.3273	AveID		1.4012				4.6		20.0			
1,2,3,6,7,8-HxCDF	1.8629	1.6823	1.6682	1.6849	1.5773	AveID		1.6951				6.1		20.0			
2,3,4,6,7,8-HxCDF	1.6465	1.4859	1.5121	1.5334	1.4247	AveID		1.5205				5.4		20.0			
1,2,3,4,7,8-HxCDD	0.9920	0.9338	0.8806	0.9825	0.9634	AveID		0.9505				4.7		20.0			
1,2,3,6,7,8-HxCDD	1.2930	1.2332	1.1857	1.2738	1.1858	AveID		1.2343				4.0		20.0			
1,2,3,7,8,9-HxCDD	1.3722	1.2645	1.1193	1.2704	1.2071	AveID		1.2467				7.4		20.0			
1,2,3,7,8,9-HxCDF	1.6160	1.3906	1.3038	1.4006	1.3386	AveID		1.4099				8.6		20.0			
1,2,3,4,6,7,8-HpCDF	1.8224	1.6505	1.5541	1.6363	1.5363	AveID		1.6399				6.9		20.0			
1,2,3,4,6,7,8-HpCDD	1.0585	1.0015	0.9483	1.0079	0.9496	AveID		0.9932				4.6		20.0			
1,2,3,4,7,8,9-HpCDF	1.4695	1.3292	1.2123	1.3349	1.3053	AveID		1.3302				6.9		20.0			
OCDD	1.1370	1.0741	1.0130	1.0674	1.0106	AveID		1.0604				4.9		20.0			
OCDF	1.3889	1.3344	1.2945	1.3842	1.3282	AveID		1.3460				3.0		20.0			
13C-2,3,7,8-TCDF	1.2820	1.2518	1.2686	1.2820	1.2860	Ave		1.2741				1.1		20.0			
13C-2,3,7,8-TCDD	0.9937	0.9856	0.9800	0.9953	1.0059	Ave		0.9921				1.0		20.0			
13C-1,2,3,7,8-PeCDF	0.9403	0.9424	0.9756	0.9859	1.0040	Ave		0.9696				2.9		20.0			
13C-1,2,3,7,8-PeCDD	0.7198	0.7415	0.7748	0.7803	0.7775	Ave		0.7588				3.5		20.0			
13C-1,2,3,4,7,8-HxCDF	0.9214	0.9581	0.9777	0.9775	0.9871	Ave		0.9644				2.7		20.0			
13C-1,2,3,6,7,8-HxCDD	0.8639	0.8551	0.9325	0.8759	0.8679	Ave		0.8791				3.5		20.0			
13C-1,2,3,4,6,7,8-HpCDF	0.7090	0.7229	0.8145	0.7830	0.7797	Ave		0.7618				5.8		20.0			
13C-1,2,3,4,6,7,8-HpCDD	0.7279	0.7286	0.8209	0.7977	0.8058	Ave		0.7762				5.7		20.0			
13C-OCDD	0.5598	0.5770	0.6704	0.6643	0.6855	Ave		0.6314				9.2		20.0			
37Cl4-2,3,7,8-TCDD	1.0877	0.9407	0.9931	1.1106	1.1011	Ave		1.0466				7.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2 Analy Batch No.: 189155

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2017 00:08 Calibration End Date: 10/13/2017 03:12 Calibration ID: 35216

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-189155/4	12OC17B10D5_4.d
Level 2	IC 320-189155/3	12OC17B10D5_3.d
Level 3	IC 320-189155/2	12OC17B10D5_2.d
Level 4	IC 320-189155/6	12OC17B10D5_6.d
Level 5	IC 320-189155/5	12OC17B10D5_5.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	327682	1485013	9064335	47766565	185119268	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	212174	1052900	6145857	33427987	129619356	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	1181597	5778420	36493886	191348906	740801785	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	1142306	5667998	36005634	189413301	723717293	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	746721	3626955	23230789	124492113	478332558	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	990980	5023015	33556006	179126145	676366493	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	1233661	6200927	40241337	211238927	803765089	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	1090332	5477161	36477804	192255623	726019079	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	615889	3072132	20260543	110378844	431672444	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	802793	4057180	27281474	143102643	531339317	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	851957	4159901	25753989	142715802	540860119	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	1070119	5125879	31450969	175606502	682142505	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	928537	4590101	31234142	164314741	618406122	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	553731	2807451	19208676	103117080	395039329	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	748768	3696712	24364270	134048153	525436478	2.50	10.0	50.0	200	1000
OCDD		AveID	914935	4768336	33512464	181878740	715340118	5.00	20.0	100	400	2000
OCDF		AveID	1117585	5924198	42825244	235850738	940135053	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	52758988	65538277	85055180	104723883	84950761	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	40891778	51597290	65706971	81307072	66442464	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	38694542	49338444	65415264	80533299	66320230	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	29622619	38818961	51947203	63740576	51361250	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	26488587	36860265	48246529	62687744	50959302	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	24835280	32898359	46016719	56170888	44806633	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	20381074	27811136	40195003	50210411	40253274	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	20924585	28031067	40511612	51153194	41600771	100	100	100	100	100
13C-OCDD	13CHx	Ave	32186815	44395654	66166537	85195739	70781056	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	223801	984948	6658351	36288815	145469904	0.500	2.00	10.0	40.0	200

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Sample List Report **MassLynx 4.1** 10D5

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\12OC17B10D5.SPL Page 1 of 3
Last Modified: Friday, October 13, 2017 00:36:21 Pacific Daylight Time
Printed: Friday, October 13, 2017 00:36:27 Pacific Daylight Time Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	12OC17B10D5_1	WDM HRDXNCP_00034	WDM 101217C	Tray01:1		---	ALM, SMA
2	12OC17B10D5_2	CS-4 HRDXNL4_00059	IC 101217E	Tray01:2	---	---	ALM, SMA
3	12OC17B10D5_3	C3-3 HRDXNL3_00019	IC 101217F	Tray01:4	---	---	ALM, SMA
4	12OC17B10D5_4	CS-2 HRDXNL2_00021	IC 101217G	Tray01:5	---	---	ALM, SMA
5	12OC17B10D5_5	CS-6 HRDXNL6_00018	IC 101217H	Tray01:6	---	---	ALM, SMA
6	12OC17B10D5_6	CS-5 HRDXNL5_00022	IC 101217I	Tray01:7	---	---	ALM, SMA
7	12OC17B10D5_7	ICV HRDXNIC_00032	ICV 101217A	Tray01:8	---	---	ALM, SMA
8	12OC17B10D5_8	WDM HRDXNCP_00034	WDM 101217D	Tray01:1		---	ALM, SMA
9	12OC17B10D5_9	CS-4 HRDXNL4_00058	CCV 101217	Tray01:2	---	---	ALM, SMA
10	12OC17B10D5_10	Reagent Blank C-14	RB 101217	Tray01:3	---	---	ALM, SMA
11	12OC17B10D5_11	MB 320-188148/1-A	MB 320-188148/1-A	Tray01:15	8290/Solid	36	ALM
12	12OC17B10D5_12	LCS 320-188148/2-A	LCS 320-188148/2-A	Tray01:16	8290/Solid	---	ALM
13	12OC17B10D5_13	LCSD 320-188148/3-A	LCSD 320-188148/3-A	Tray01:17	8290/Solid	---	ALM
14	12OC17B10D5_14	440-192316-F-1-B	440-192316-F-1-B	Tray01:18	8290/Solid	---	ALM
15	12OC17B10D5_15	440-192316-F-2-B	440-192316-F-2-B	Tray01:19	8290/Solid	---	ALM
16	12OC17B10D5_16	440-192270-F-1-B	440-192270-F-1-B	Tray01:20	8290/Solid	---	ALM
17	12OC17B10D5_17	440-192270-F-8-B	440-192270-F-8-B	Tray01:21	8290/Solid	---	ALM
18	12OC17B10D5_18	440-192190-F-2-B	440-192190-F-2-B	Tray01:22	8290/Solid	---	ALM
19	12OC17B10D5_19	440-192190-F-9-B	440-192190-F-9-B	Tray01:23	8290/Solid	---	ALM
20	12OC17B10D5_20	Reagent Blank C-14	RB 101217A	Tray01:3	---	---	ALM
21	12OC17B10D5_21	CS-4 HRDXNL4_00058	CCV 101217A	Tray01:2	---	---	ALM
22	12OC17B10D5_22	WDM HRDXNCP_00034	WDM 101217E	Tray01:1		---	ALM

Log file checked
|
Ajs
10-13-17

10D5

Sample Size	Units	MS File	Inlet File	Inject Volume	Process
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---

Process Options	**Action On Error**
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C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
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---	---
---	---
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---	---
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---	---
---	---
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C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
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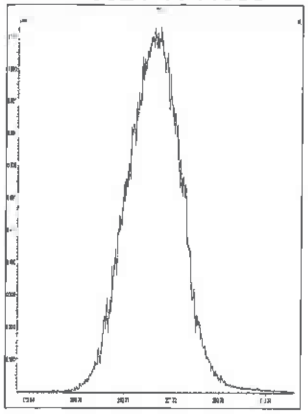
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: DIOXIN10D5NEW.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

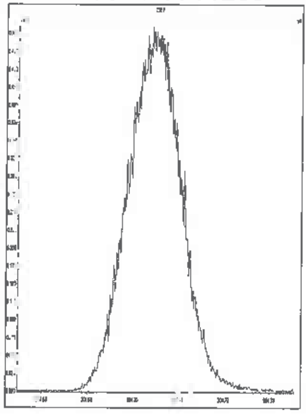
Printed: Thursday, October 12, 2017 23:10:01 Pacific Daylight Time

10D5

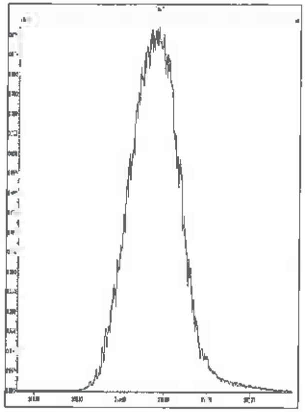
M 292.9824 R 11308



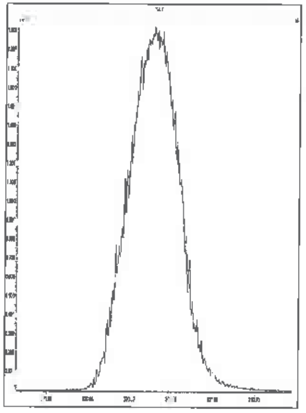
M 304.9824 R 11260



M 318.9792 R 11740



M 330.9792 R 12310



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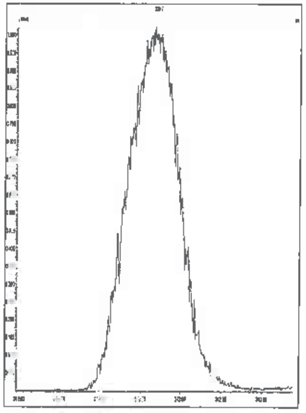
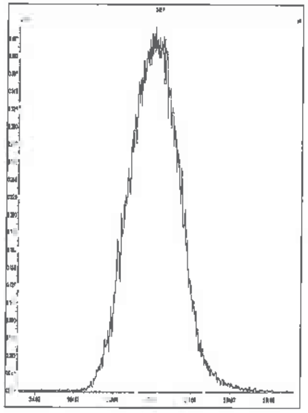
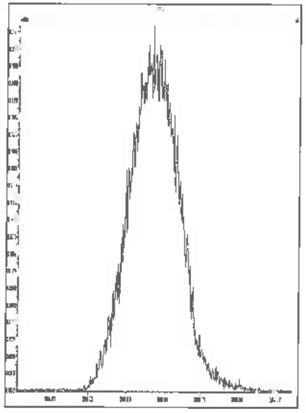


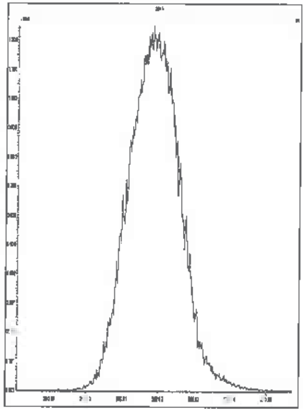
M 354.9792 R 12196



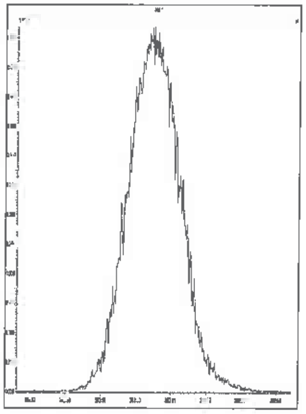
M 366.9792 R 12076



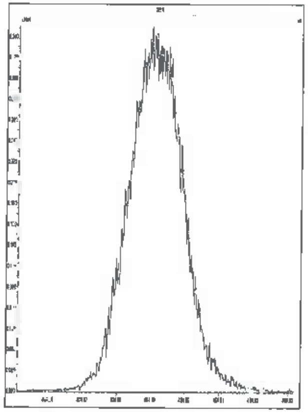
M 380.9760 R 11963



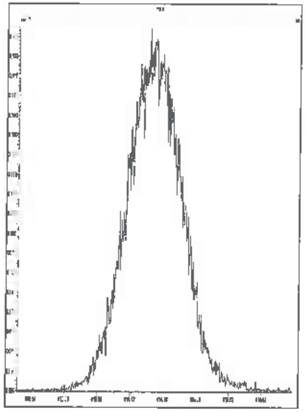
M 392.9760 R 11261



M 404.9760 R 11213



M 416.9760 R 11211



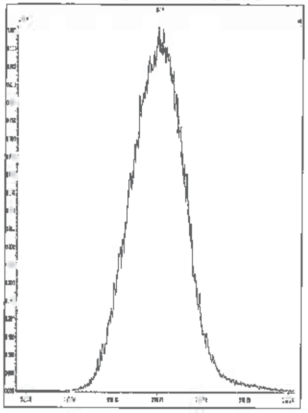
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: DIOXIN10D5NEW.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

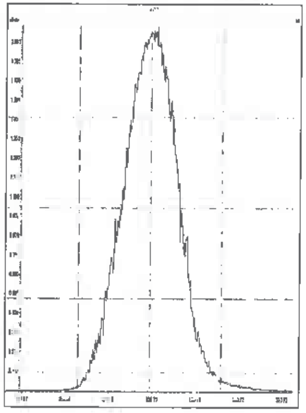
Printed: Thursday, October 12, 2017 23:12:18 Pacific Daylight Time

10D5

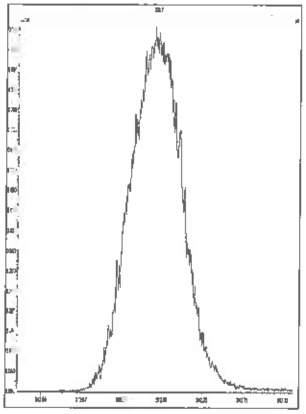
M 318.9792 R 11310



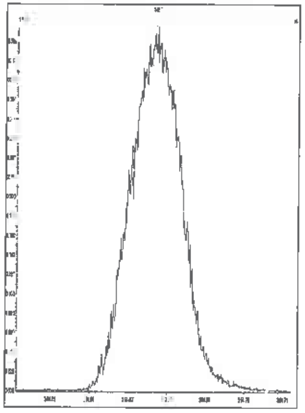
M 330.9792 R 11359



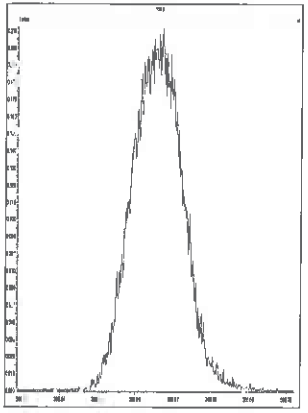
M 342.9792 R 11791



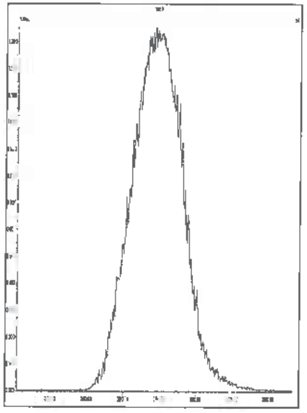
M 354.9792 R 12434



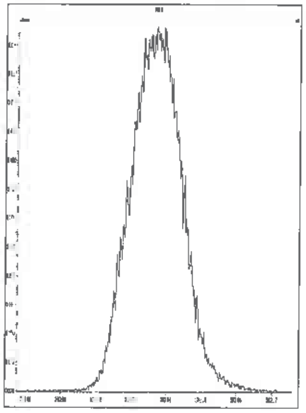
M 366.9792 R 12195



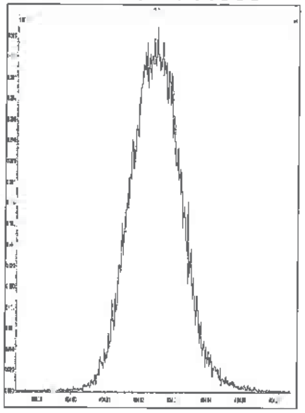
M 380.9760 R 12253



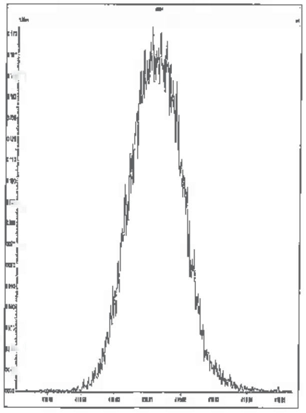
M 392.9760 R 11957



M 404.9760 R 11908



M 416.9760 R 11575



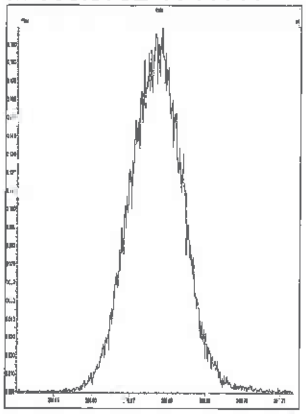
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: DIOXIN10D5NEW.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

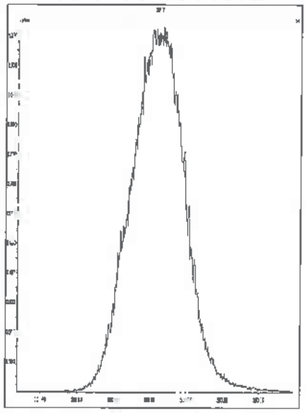
Printed: Thursday, October 12, 2017 23:13:57 Pacific Daylight Time

10D5

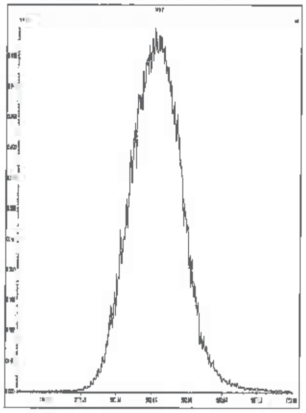
M 366.9792 R 11111



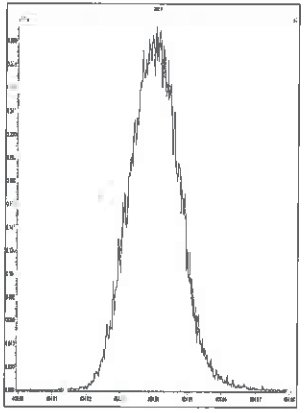
M 380.9760 R 11572



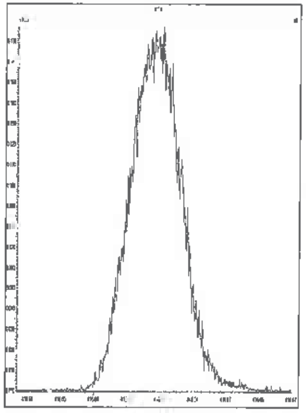
M 392.9760 R 11575



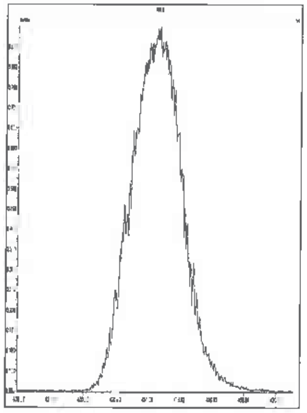
M 404.9760 R 11961



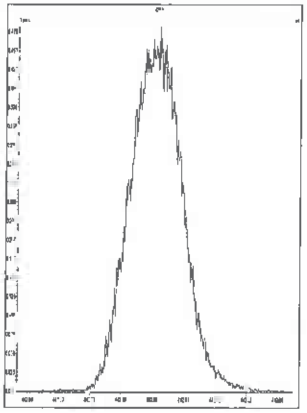
M 416.9760 R 11850



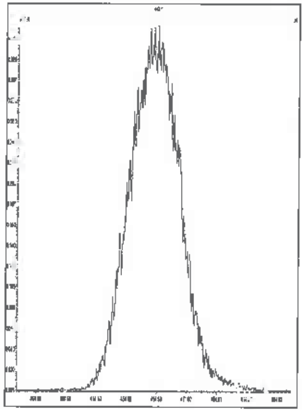
M 430.9728 R 12195



M 442.9728 R 12197



M 454.9728 R 12191



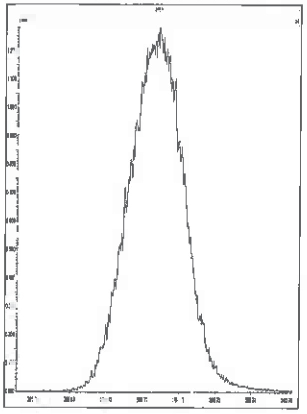
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: DIOXIN10D5NEW.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Thursday, October 12, 2017 23:16:48 Pacific Daylight Time

10D5

M 380.9760 R 11111



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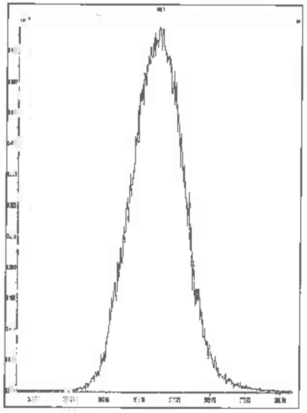
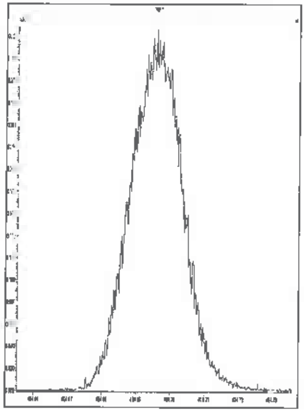
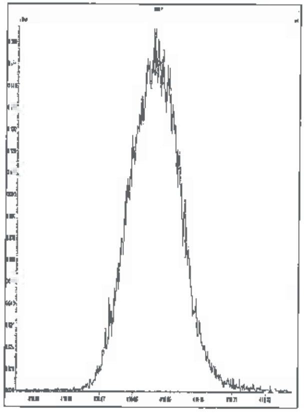


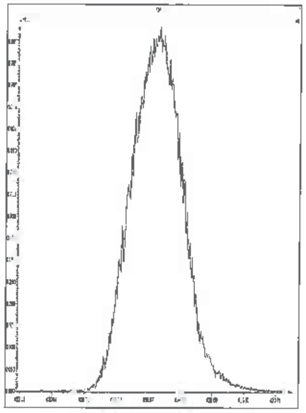
M 404.9760 R 11364



M 416.9760 R 11791



M 430.9728 R 12192



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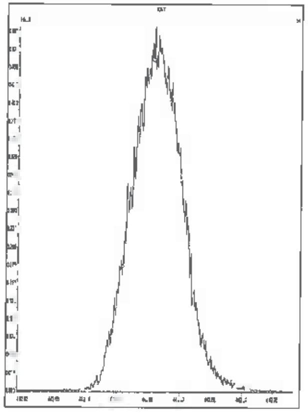

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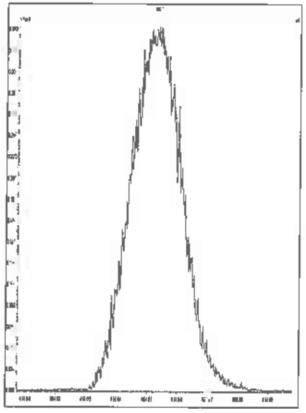
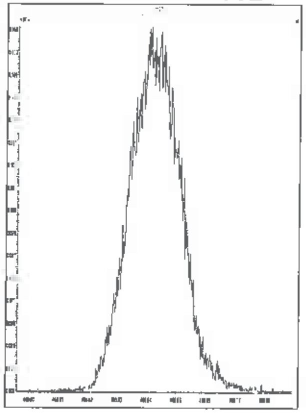
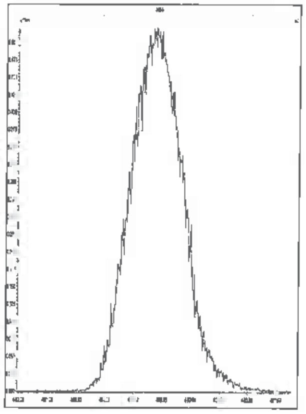


M 466.9728 R 11962



M 480.9696 R 11736



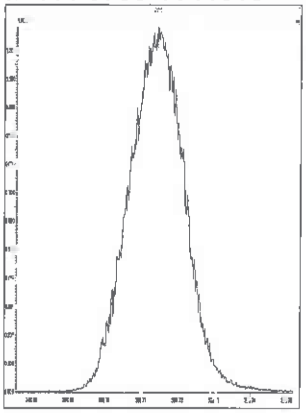
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: DIOXIN10D5NEW.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

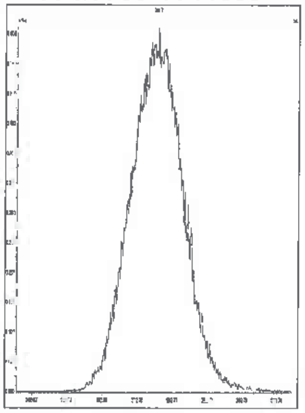
Printed: Thursday, October 12, 2017 23:17:18 Pacific Daylight Time

10D5

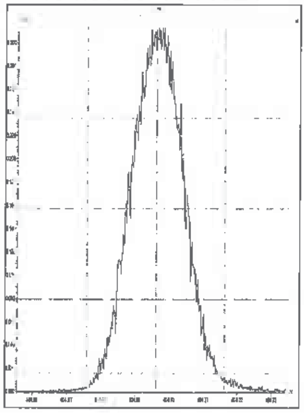
M 380.9760 R 11013



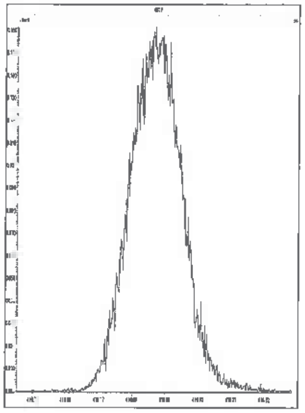
M 392.9760 R 11060



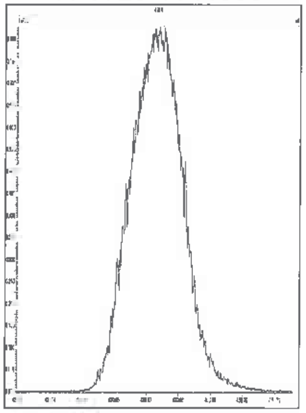
M 404.9760 R 11521



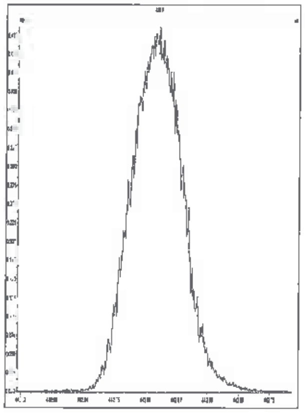
M 416.9760 R 11681



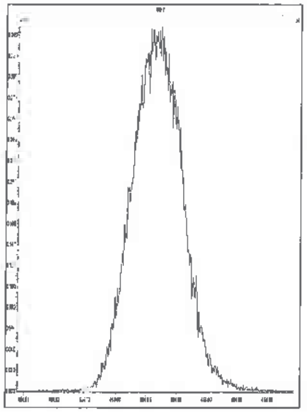
M 430.9728 R 11906



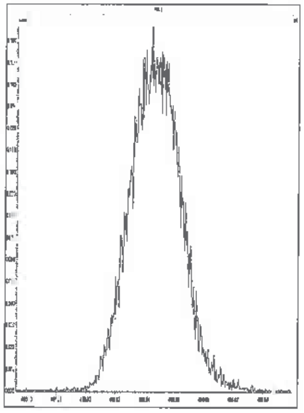
M 442.9728 R 11848



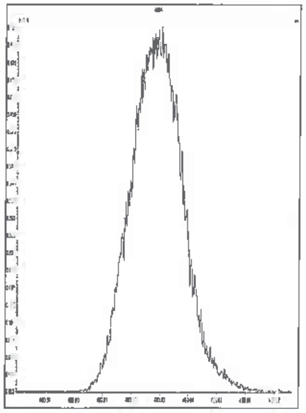
M 454.9728 R 12017



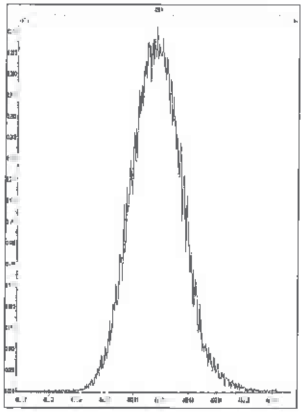
M 466.9728 R 11849



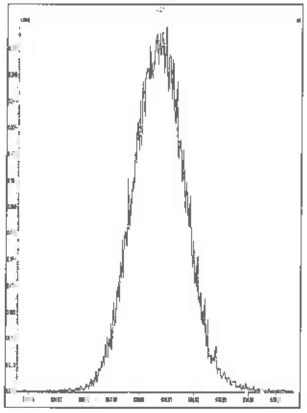
M 480.9696 R 11012



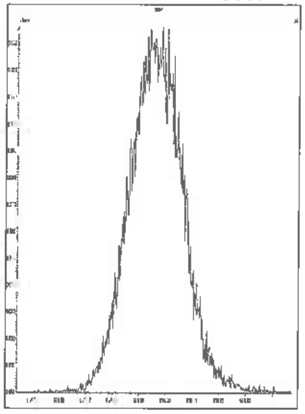
M 492.9696 R 11572



M 504.9696 R 11363

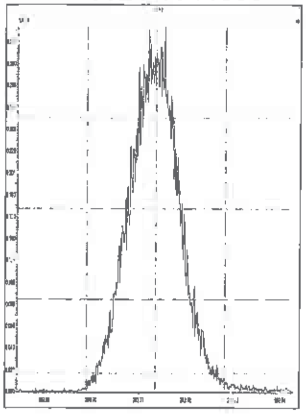


M 516.9697 R 11572

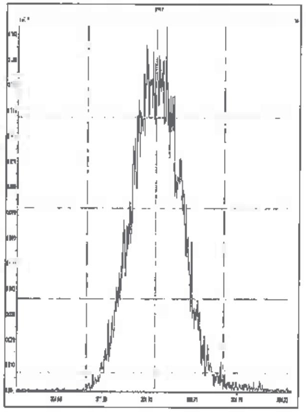


10D5

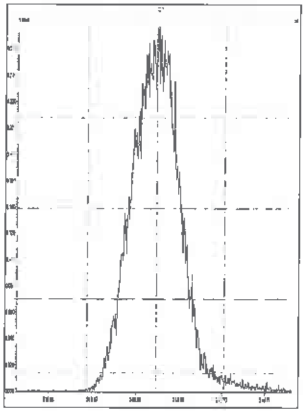
M 292.9824 R 11905



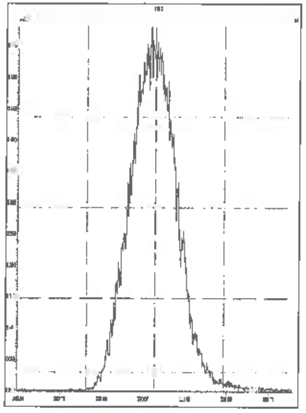
M 304.9824 R 12617



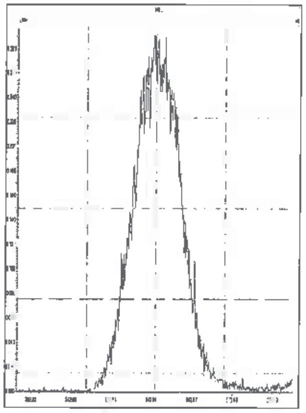
M 318.9792 R 13090



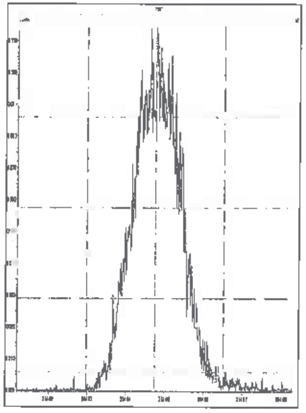
M 330.9792 R 13262



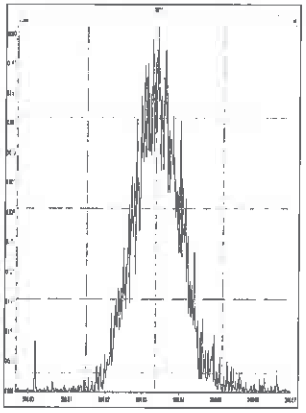
M 342.9792 R 13054



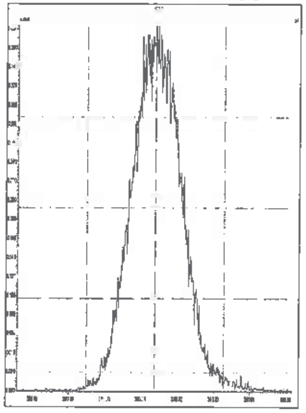
M 354.9792 R 13737



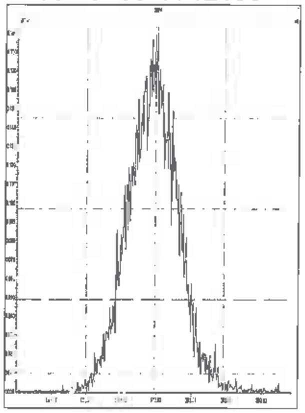
M 366.9792 R 14215



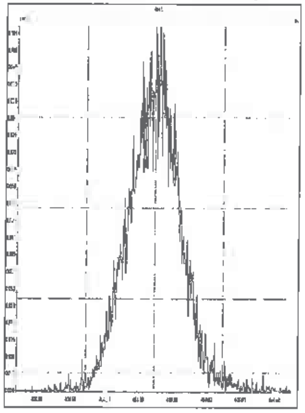
M 380.9760 R 12288



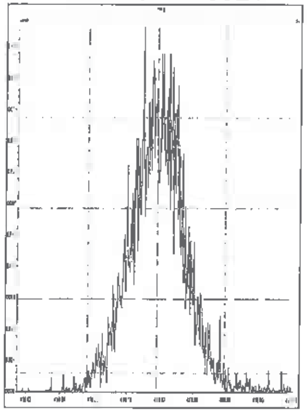
M 392.9760 R 12199



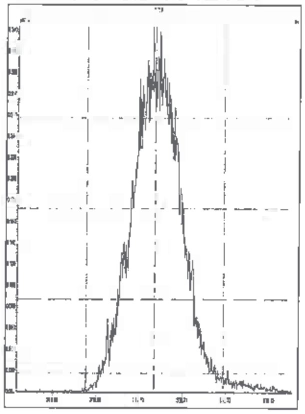
M 404.9760 R 12226



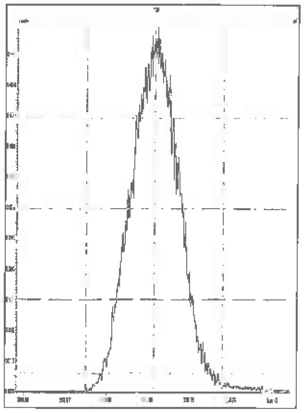
M 416.9760 R 13021



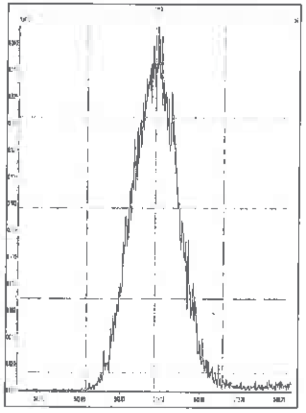
M 318.9792 R 12191



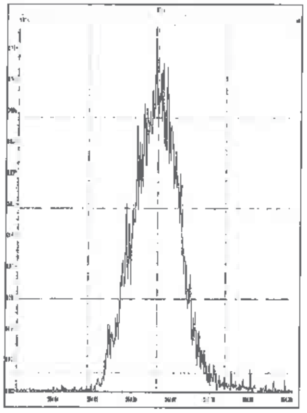
M 330.9792 R 12438



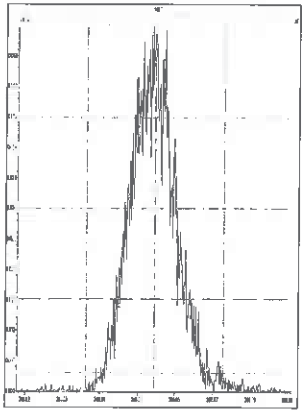
M 342.9792 R 12821



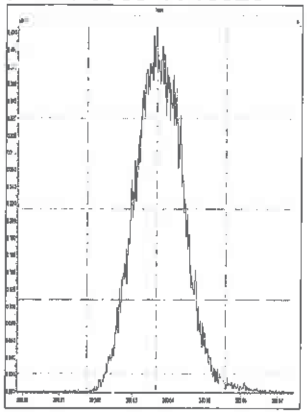
M 354.9792 R 13739

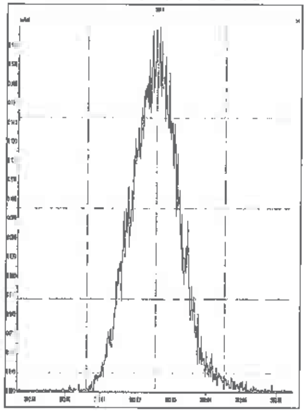


M 366.9792 R 14085



10D5


M 380.9760 R 13023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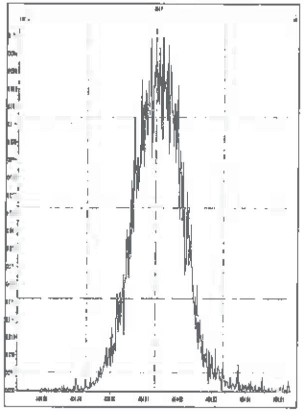
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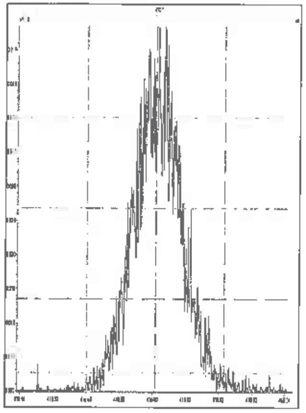
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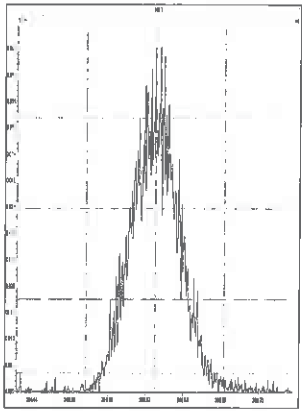
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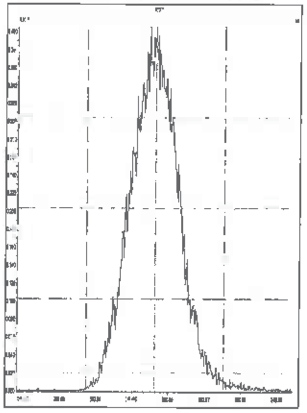
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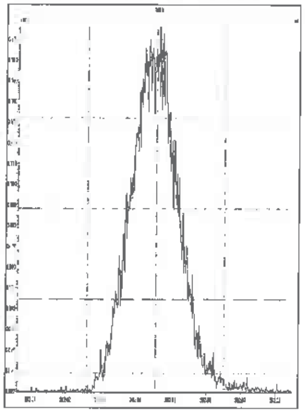
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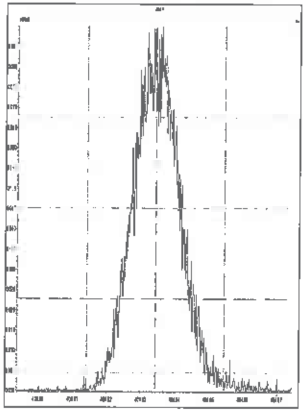
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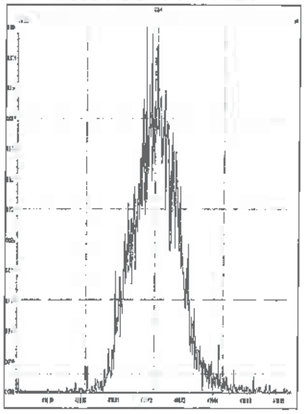
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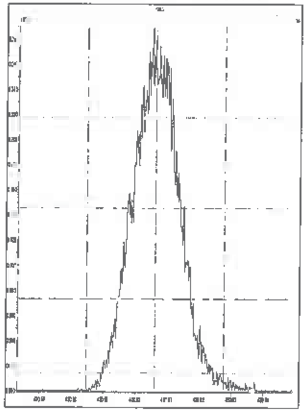
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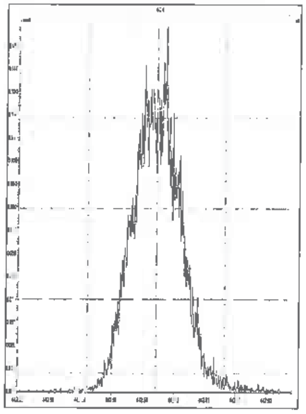
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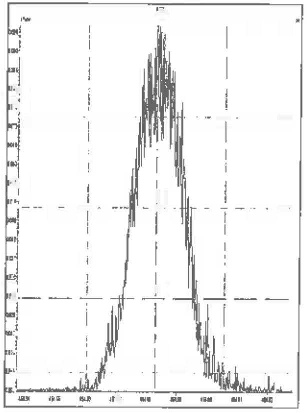
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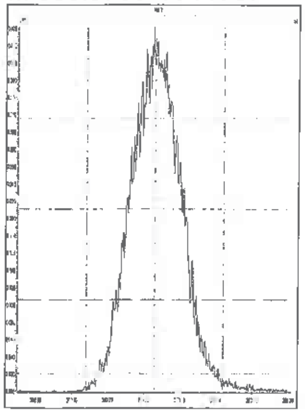
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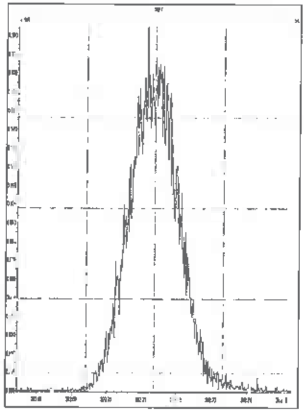
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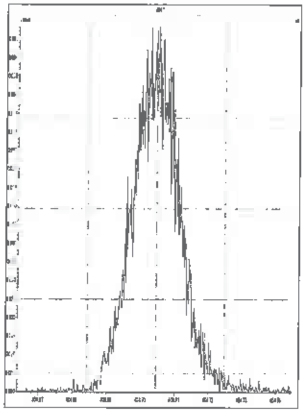
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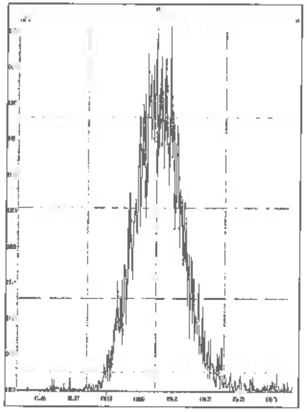
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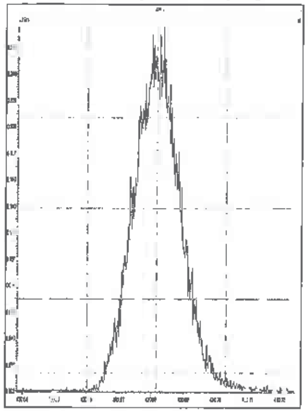
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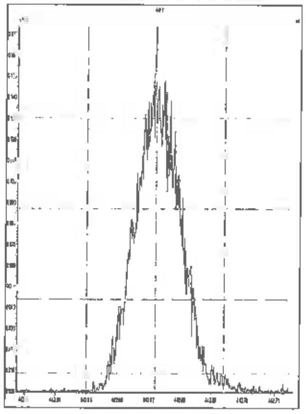
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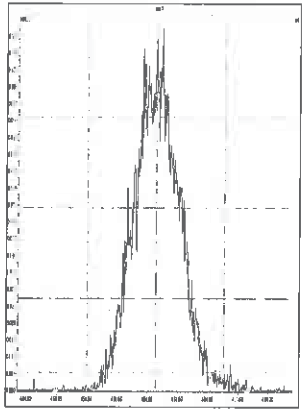
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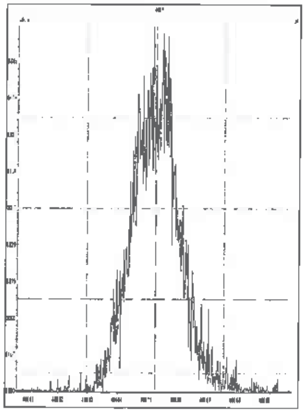
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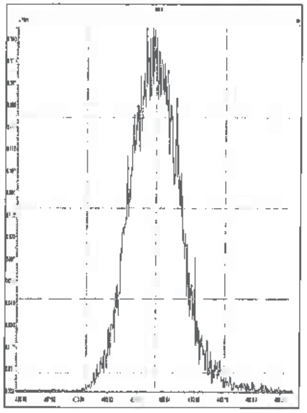
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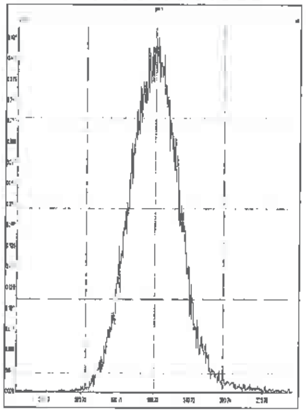
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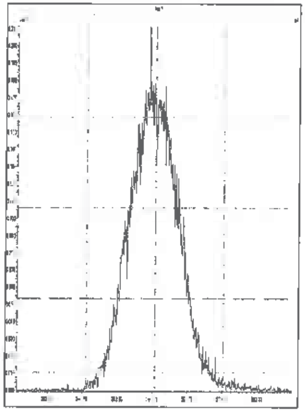
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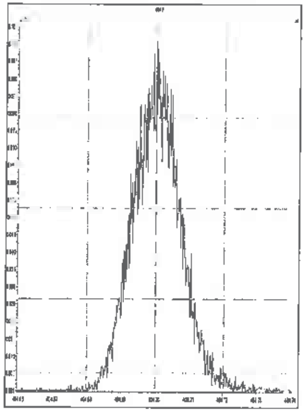
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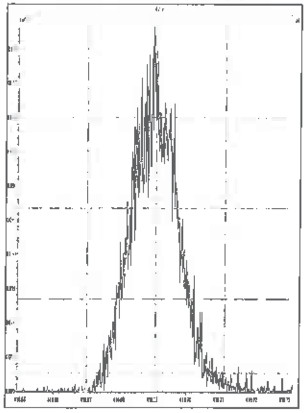
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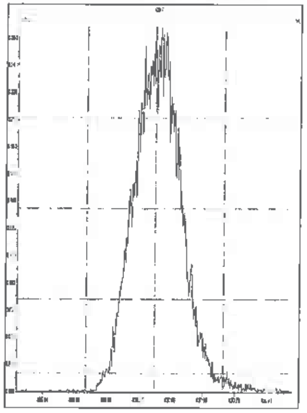
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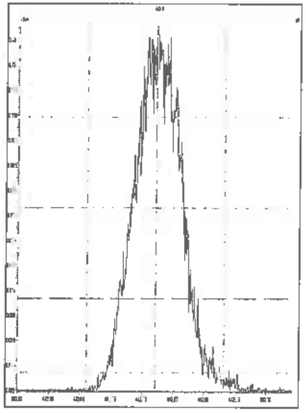
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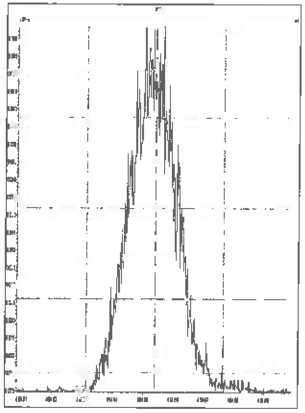
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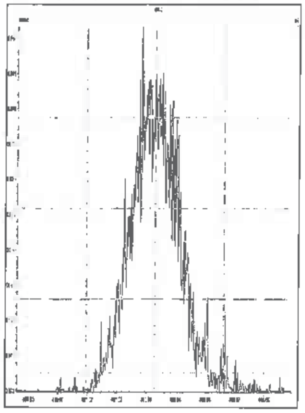
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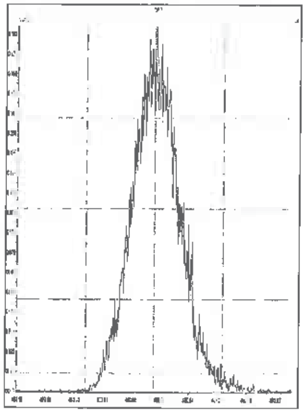
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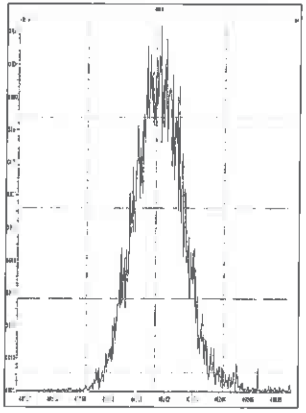
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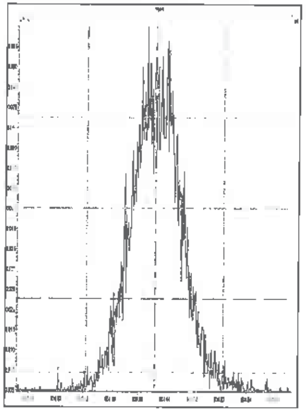
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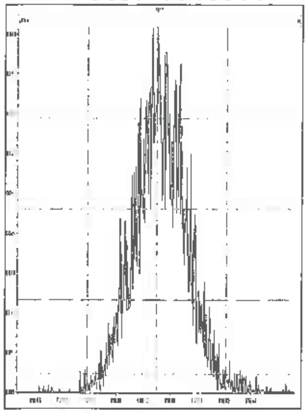

Resolution Check Report **MassLynx 4.1**

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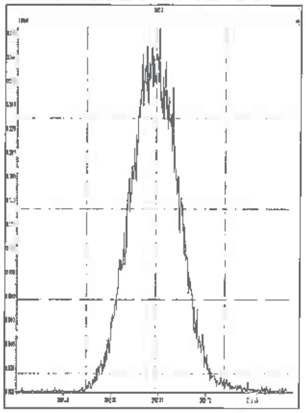

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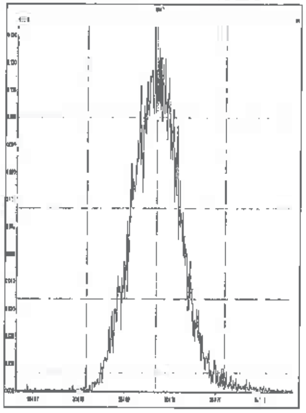

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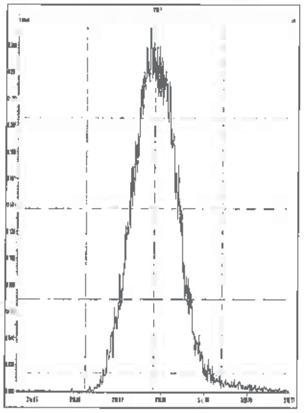

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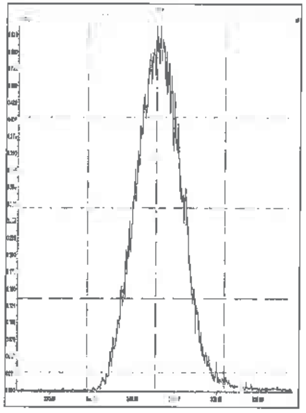

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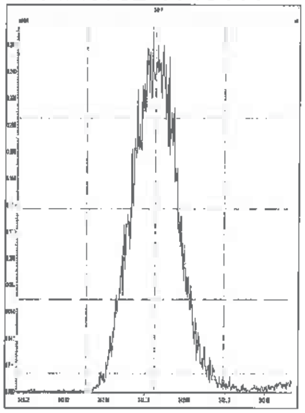

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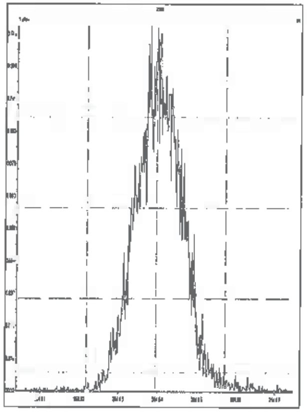

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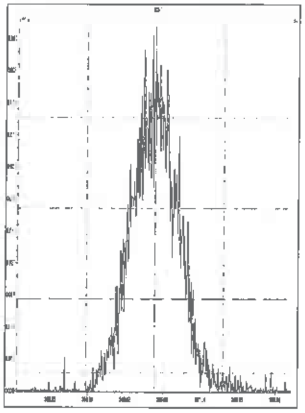

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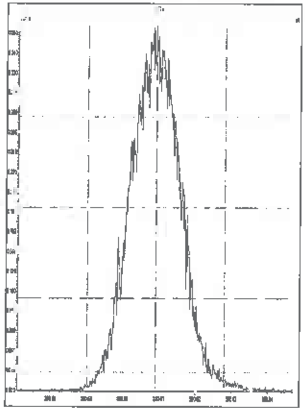

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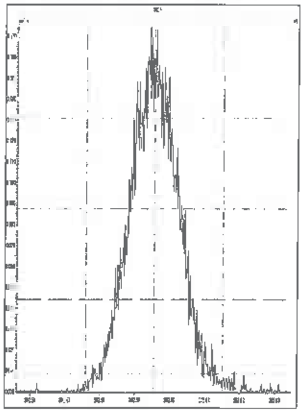

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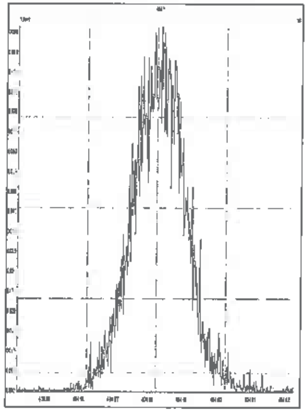

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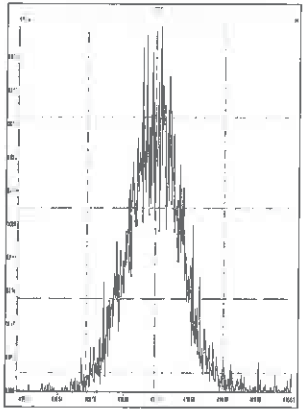

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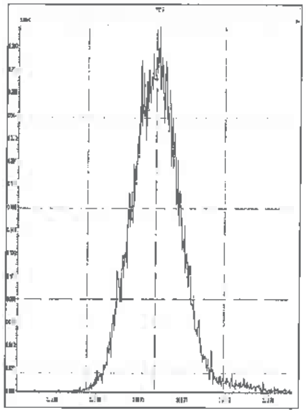

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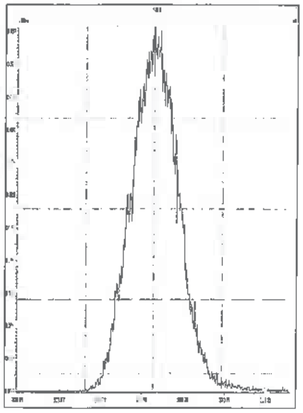

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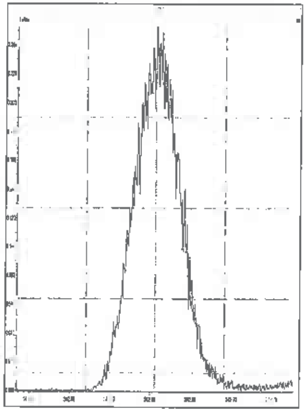

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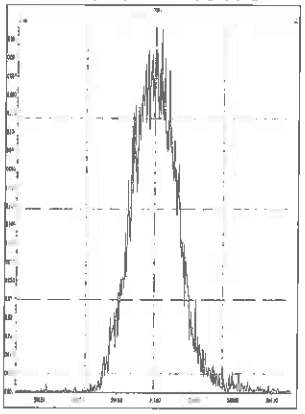

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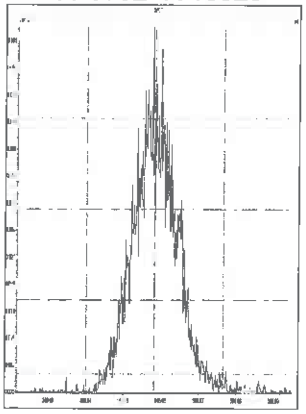

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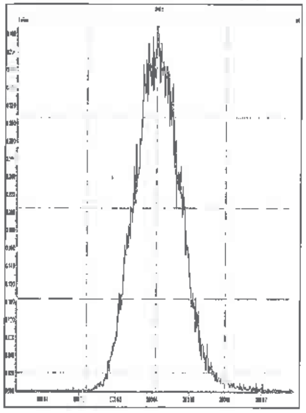

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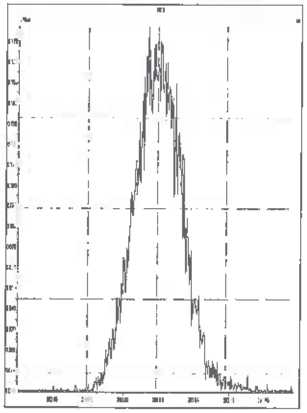

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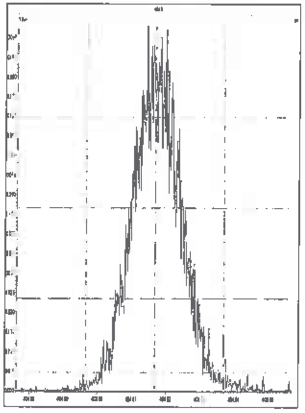

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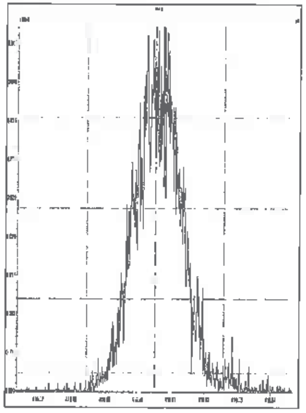

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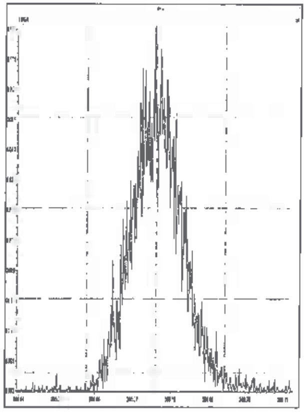

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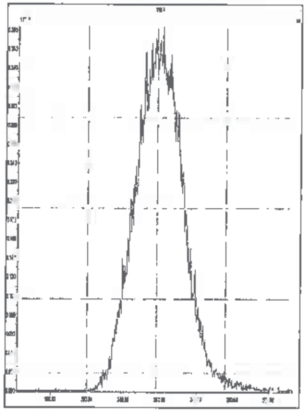

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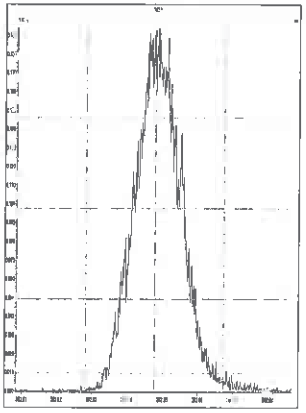

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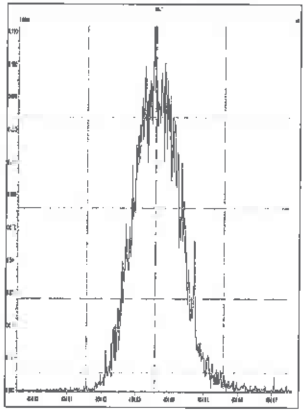

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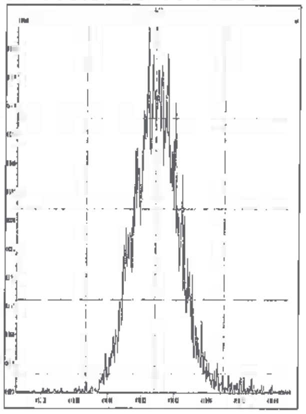

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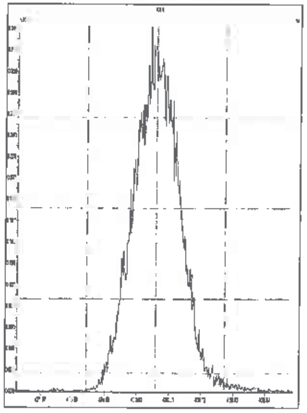

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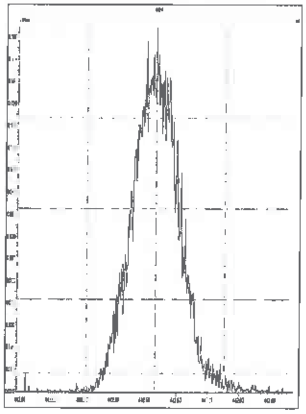

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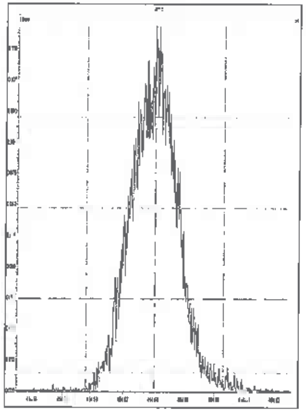

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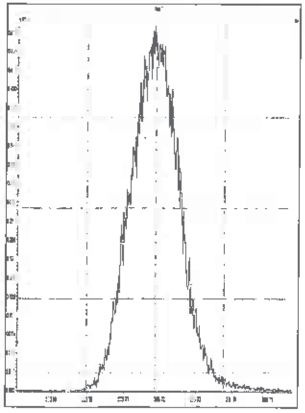

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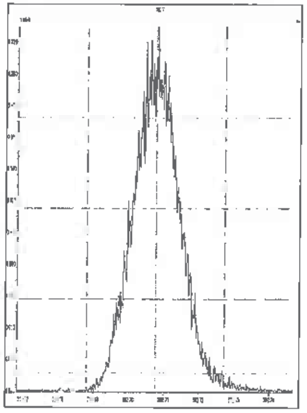

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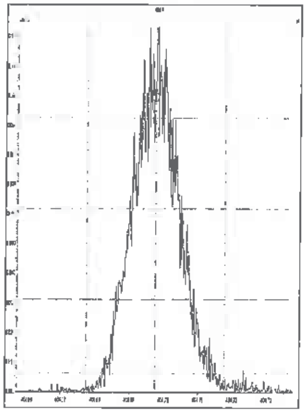

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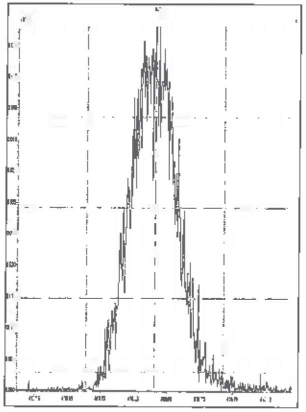

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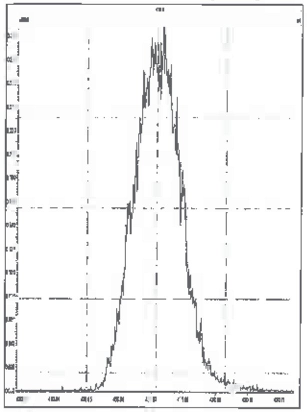
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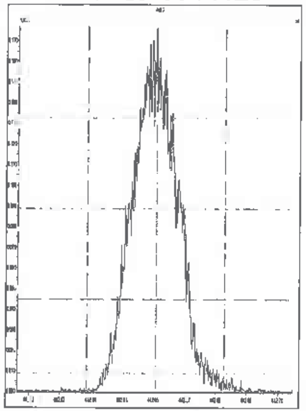
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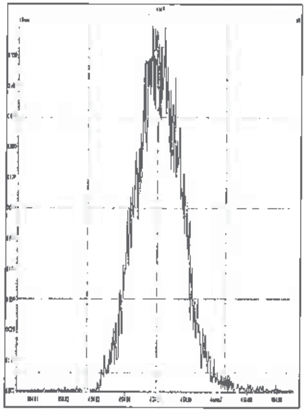
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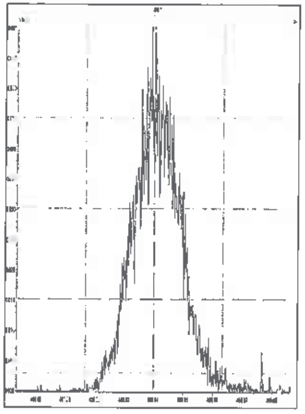
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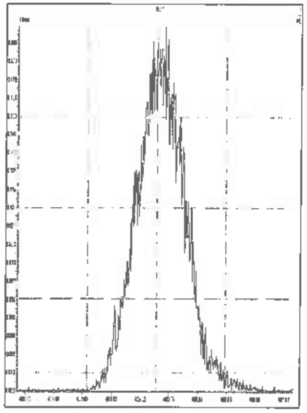
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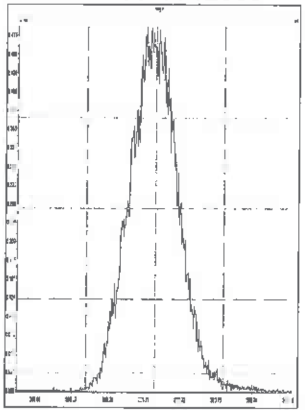
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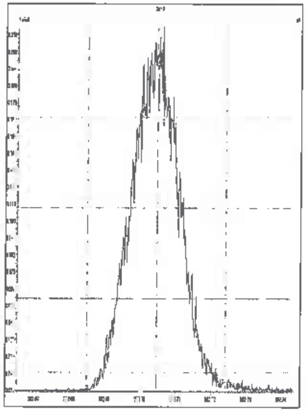
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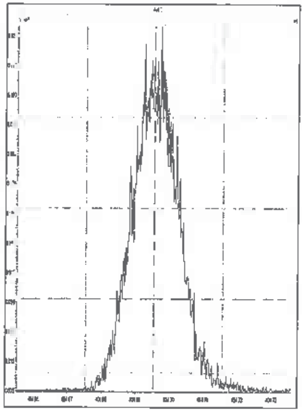
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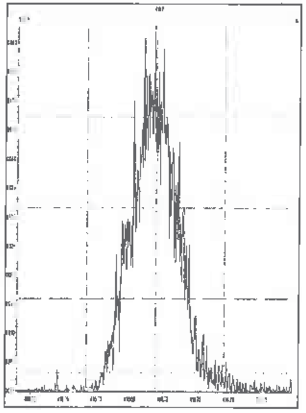
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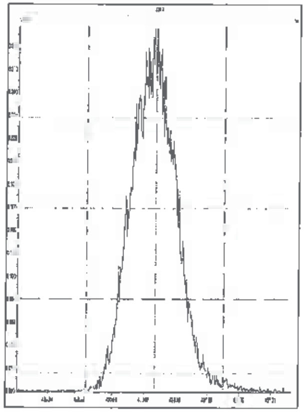
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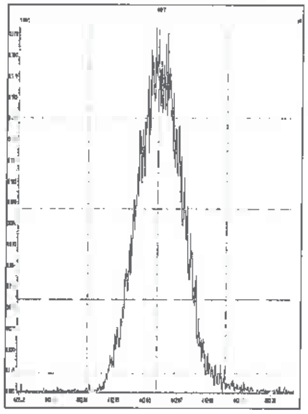
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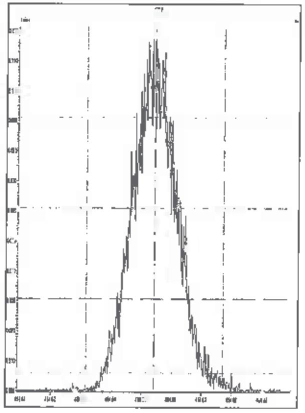
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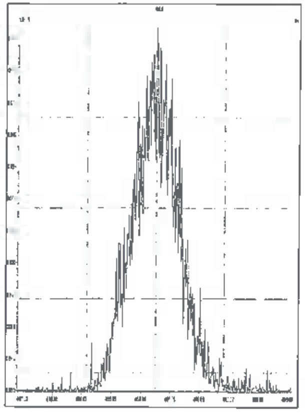
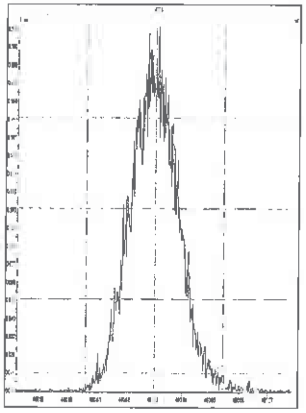
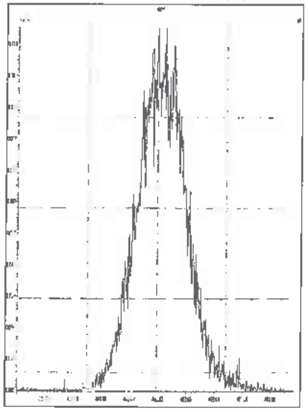
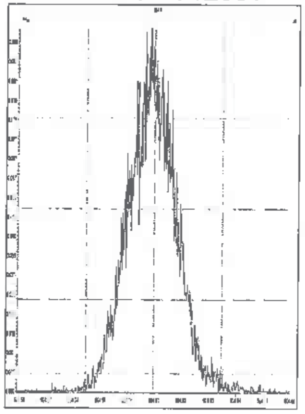

M 466.9728 R 14364

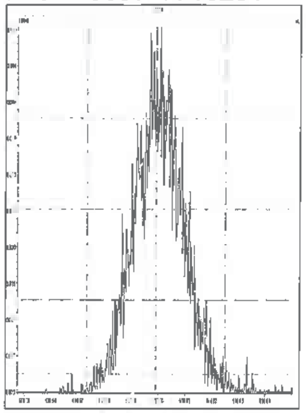

M 480.9696 R 12828


M 492.9696 R 13094


M 504.9696 R 12661

10D5

M 516.9697 R 13251



Report Date: 13-Oct-2017 10:55:24 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_2.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Oct-2017 00:08:25 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 101217E CS-4 HRDXNL4_00059
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:55:21 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:03:38

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.929	67048633	0.79	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.415	85055180	0.78	1.2741	99.6	99.6	0.2963	0.2963	99.57	
2,3,7,8-TCDF	17.430	9064335	0.78	1.1341	9.397	9.397	0.0372	0.0372	93.97	
A Non-2,3,7,8-sub-TCDF	17.128						0.0	0.0		
S Total TCDF					9.397	9.397	0.0372	0.0372		
D 13C-2,3,7,8-TCDD	18.126	65706971	0.77	0.9921	98.8	98.8	0.3392	0.3392	98.78	
2,3,7,8-TCDD	18.141	6145857	0.80	0.9993	9.360	9.360	0.0506	0.0506	93.60	
$ 37Cl4-2,3,7,8-TCDD	18.141	6658351		1.0466	9.488	9.488	0.0239	0.0239	94.88	
A Non-2,3,7,8-sub-TCDD	17.581						0.0	0.0		
S Total TCDD					9.360	9.360	0.0506	0.0506		
D 13C-1,2,3,7,8-PeCDF	22.519	65415264	1.60	0.9696	100.6	100.6	0.4365	0.4365	101	
1,2,3,7,8-PeCDF	22.533	36493886	1.60	1.1627	48.0	48.0	0.3200	0.3200	95.96	
D 13C-2,3,4,7,8-PeCDF	23.883	63749666	1.54							
2,3,4,7,8-PeCDF	23.910	36005634	1.59	1.1395	48.3	48.3	0.3265	0.3265	96.60	
A F1 PeCDFs	20.023						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.229						0.0	0.0		
S Total PeCDF					96.3	96.3	0.3232	0.3232		
D 13C-1,2,3,7,8-PeCDD	24.619	51947203	1.59	0.7588	102.1	102.1	0.2076	0.2076	102	
1,2,3,7,8-PeCDD	24.646	23230789	1.57	0.9490	47.1	47.1	0.1204	0.1204	94.25	
A Non-2,3,7,8-sub-PeCDD	23.521						0.0	0.0		
S Total PeCDD					47.1	47.1	0.1204	0.1204		
D 13C-1,2,3,4,7,8-HxCDF	30.673	48246529	0.52	0.9644	101.4	101.4	1.387	1.387	101	
1,2,3,4,7,8-HxCDF	30.699	33556006	1.27	1.4012	49.6	49.6	0.6605	0.6605	99.27	
D 13C-1,2,3,6,7,8-HxCDF	30.846	63399661	0.52							
1,2,3,6,7,8-HxCDF	30.873	40241337	1.27	1.6951	49.2	49.2	0.5460	0.5460	98.41	
D 13C-2,3,4,6,7,8-HxCDF	31.645	56973685	0.52							
2,3,4,6,7,8-HxCDF	31.658	36477804	1.26	1.5205	49.7	49.7	0.6087	0.6087	99.45	
D 13C-1,2,3,7,8,9-HxCDF	32.417	49781641	0.51							
1,2,3,7,8,9-HxCDF	32.430	31450969	1.25	1.4099	46.2	46.2	0.6565	0.6565	92.47	
A Non-2,3,7,8-sub-HxCDF	30.360						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					194.8	194.8	0.6179	0.6179		
* 13C-1,2,3,7,8,9-HxCDD	32.243	49349204	1.23	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.818	34605484	1.22							
1,2,3,4,7,8-HxCDD	31.831	20260543	1.25	0.9505	46.3	46.3	0.3597	0.3597	92.65	
D 13C-1,2,3,6,7,8-HxCDD	31.924	46016719	1.23	0.8791	106.1	106.1	0.7283	0.7283	106	
1,2,3,6,7,8-HxCDD	31.937	27281474	1.26	1.2343	48.0	48.0	0.2770	0.2770	96.06	
1,2,3,7,8,9-HxCDD	32.257	25753989	1.25	1.2467	44.9	44.9	0.2742	0.2742	89.78	
A Non-2,3,7,8-sub-HxCDD	30.999						0.0	0.0		
S Total HxCDD					139.2	139.2	0.3036	0.3036		
D 13C-1,2,3,4,6,7,8-HpCDF	33.819	40195003	0.43	0.7618	106.9	106.9	2.468	2.468	107	
1,2,3,4,6,7,8-HpCDF	33.831	31234142	1.05	1.6399	47.4	47.4	0.8674	0.8674	94.77	
D 13C-1,2,3,4,7,8,9-HpCDF	34.888	32867278	0.42							
1,2,3,4,7,8,9-HpCDF	34.900	24364270	1.05	1.3302	45.6	45.6	1.069	1.069	91.13	
A Non-2,3,7,8-sub-HpCDF	34.359						0.0	0.0		
S Total HpCDF					93.0	93.0	0.9684	0.9684		
D 13C-1,2,3,4,6,7,8-HpCDD	34.609	40511612	1.05	0.7762	105.8	105.8	1.222	1.222	106	
1,2,3,4,6,7,8-HpCDD	34.609	19208676	1.03	0.9932	47.7	47.7	0.4525	0.4525	95.48	
A Non-2,3,7,8-sub-HpCDD	35.319						0.0	0.0		
S Total HpCDD					47.7	47.7	0.4525	0.4525		
D 13C-OCDD	36.942	66166537	0.88	0.6314	212.4	212.4	0.4458	0.4458	106	
OCDF	37.050	42825244	0.91	1.3460	96.2	96.2	0.1618	0.1618	96.17	
OCDD	36.954	33512464	0.89	1.0604	95.5	95.5	0.1958	0.1958	95.53	

Reagents:

HRDXNL4_00059 Amount Added: 1.00 Units: mL

Report Date: 13-Oct-2017 10:55:24 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_2.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Oct-2017 00:08:25 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 101217E CS-4 HRDXNL4_00059
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:55:21 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:03:38

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.929	17.920	1		29515182	7147615	10379	25947	689		
333.9339	17.929	17.920	1		37533451	9050198	11424	28560	792	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.415	17.403	1	0.971	37223552	8702530	11597	28992	750		
317.9389	17.415	17.403	1	0.971	47831628	11206602	12865	32162	871	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.430	17.421	1	1.001	3966307	940135	1367	3417	688		
305.8987	17.430	17.421	1	1.001	5098028	1196379	1994	4985	600	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.128						1367	3417			
305.8987	17.128						1994	4985			
13C-2,3,7,8-TCDD											
331.9368	18.126	18.117	1	1.011	28547601	6318060	10379	25947	609		
333.9339	18.126	18.117	1	1.011	37159370	8131021	11424	28560	712	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.141	18.132	1	1.001	2722271	588905	1570	3925	375		
321.8936	18.141	18.132	1	1.001	3423586	748182	1355	3387	552	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.141	18.135	0	1.012	6658351	1436652	1619	4047	887		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.581						1570	3925			
321.8936	17.581						1355	3387			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.519	22.503	1	1.256	40224732	6419739	16352	40880	393		
353.8970	22.519	22.503	1	1.256	25190532	4063407	11071	27677	367	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.533	22.525	0	1.001	22476570	3628451	9073	22682	400		
341.8567	22.533	22.525	0	1.001	14017316	2302934	6528	16320	353	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.883	23.866	1	1.332	38616771	5936913	16352	40880	363		
353.8970	23.883	23.866	1	1.332	25132895	3843082	11071	27677	347	1.54(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.910	23.894	1	1.001	22128619	3414658	9073	22682	376		
341.8567	23.910	23.894	1	1.001	13877015	2142070	6528	16320	328	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.023						331	827			
341.8567	20.023						779	1947			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.229						9073	22682			
341.8567	23.229						6528	16320			
13C-1,2,3,7,8-PeCDD											
367.8949	24.619	24.603	1	1.373	31905037	4549498	5375	13437	846		
369.8919	24.619	24.603	1	1.373	20042166	2850876	4832	12080	590	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.646	24.630	1	1.001	14193005	2041386	2109	5272	968		
357.8516	24.646	24.630	1	1.001	9037784	1289408	1272	3180	1014	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.521						2109	5272			
357.8516	23.521						1272	3180			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.673	30.660	1	0.951	16500885	3091281	18974	47435	163		
385.8610	30.673	30.660	1	0.951	31745644	6029689	36937	92342	163	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.699	30.684	1	1.001	18757877	3559630	18705	46762	190		
375.8178	30.699	30.684	1	1.001	14798129	2766116	15063	37657	184	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.846	30.838	0	0.957	21562765	3774253	18974	47435	199		
385.8610	30.846	30.838	0	0.957	41836896	7303948	36937	92342	198	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.873	30.859	1	1.001	22546909	3952757	18705	46762	211		
375.8178	30.873	30.859	1	1.001	17694428	3129648	15063	37657	208	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.645	31.629	1	0.981	19577414	4434798	18974	47435	234		
385.8610	31.645	31.629	1	0.981	37396271	8435455	36937	92342	228	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.658	31.645	1	1.000	20314111	4722449	18705	46762	252		
375.8178	31.658	31.645	1	1.000	16163693	3702633	15063	37657	246	1.26(1.05-1.43)	

Report Date: 13-Oct-2017 10:55:24 Chrom Revision: 2.2 10-Oct-2017 10:31:20
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_2.d

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.417	32.409	0	1.005	16858765	3893814	18974	47435	205		
385.8610	32.417	32.409	0	1.005	32922876	7465429	36937	92342	202	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.430	32.422	0	1.000	17480320	4020759	18705	46762	215		
375.8178	32.430	32.422	0	1.000	13970649	3255225	15063	37657	216	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.360						18705	46762			
375.8178	30.360						15063	37657			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.243	32.230	1		27188980	5712862	14756	36890	387		
403.8529	32.243	32.230	1		22160224	4736621	12006	30015	395	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.818	31.810	0	0.987	19033490	5229264	14756	36890	354		
403.8529	31.818	31.810	0	0.987	15571994	4219510	12006	30015	351	1.22(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.831	31.823	0	1.000	11244840	3077267	7666	19165	401		
391.8127	31.831	31.823	0	1.000	9015703	2455751	6095	15237	403	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.924	31.911	1	0.990	25371013	5546938	14756	36890	376		
403.8529	31.924	31.911	1	0.990	20645706	4516461	12006	30015	376	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.937	31.927	1	1.000	15203572	3333641	7666	19165	435		
391.8127	31.937	31.927	1	1.000	12077902	2671876	6095	15237	438	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.257	32.244	1	1.014	14316722	3133350	7666	19165	409		
391.8127	32.257	32.244	1	1.014	11437267	2454953	6095	15237	403	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.999						7666	19165			
391.8127	30.999						6095	15237			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.819	33.807	1	1.049	12129549	3385642	22571	56427	150		
419.8220	33.819	33.807	1	1.049	28065454	7634381	56031	140077	136	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.831	33.814	1	1.000	15989855	4300967	33372	83430	129		
409.7789	33.819	33.814	0	1.000	15244287	4179761	29332	73330	142	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.888	34.881	0	1.082	9745726	2332430	22571	56427	103		
419.8220	34.888	34.881	0	1.082	23121552	5760821	56031	140077	103	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.900	34.893	0	1.000	12471492	3104602	33372	83430	93		
409.7789	34.900	34.893	0	1.000	11892778	3002682	29332	73330	102	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.359						33372	83430			
409.7789	34.359						29332	73330			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.609	34.592	1	1.073	20703747	4990712	18883	47207	264		
437.8140	34.609	34.592	1	1.073	19807865	4769086	20749	51872	230	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.609	34.601	0	1.000	9753982	2370257	8108	20270	292		
425.7737	34.609	34.601	0	1.000	9454694	2346422	9436	23590	249	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.319						8108	20270			
425.7737	35.319						9436	23590			
13C-OCDD											
469.7779	36.942	36.932	1	1.146	31062214	6595916	4878	12195	1352		
471.7750	36.942	36.932	1	1.146	35104323	7326890	6888	17220	1064	0.88(0.76-1.02)	
OCDF											
441.7428	37.050	37.038	1	1.003	20359797	4475932	2896	7240	1546		
443.7399	37.038	37.038	0	1.003	22465447	4840337	3167	7917	1528	0.91(0.76-1.02)	
OCDD											
457.7377	36.954	36.944	1	1.000	15769126	3338407	2824	7060	1182		
459.7348	36.954	36.944	1	1.000	17743338	3735331	2957	7392	1263	0.89(0.76-1.02)	

Reagents:

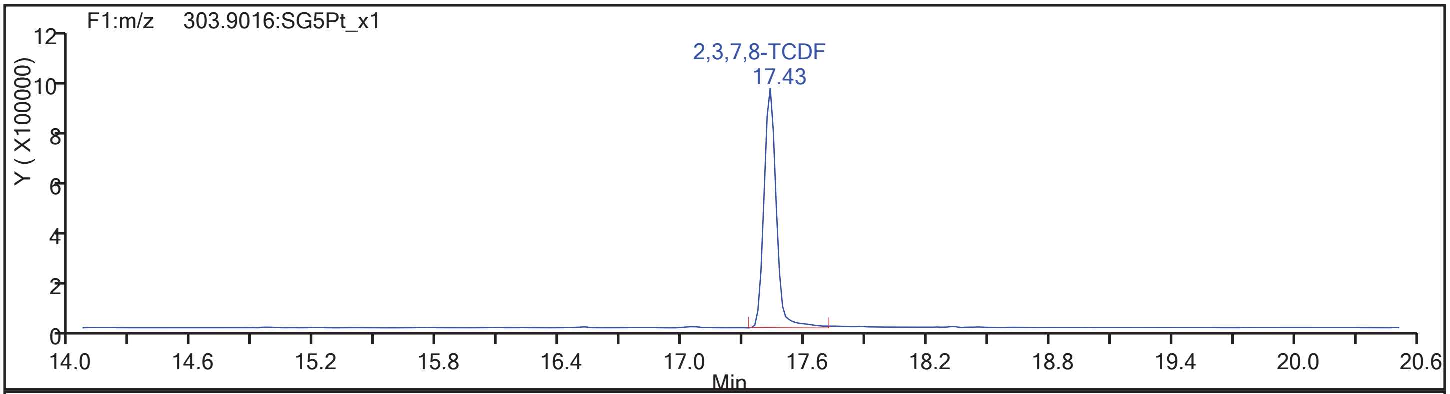
HRDXNL4_00059 Amount Added: 1.00 Units: mL

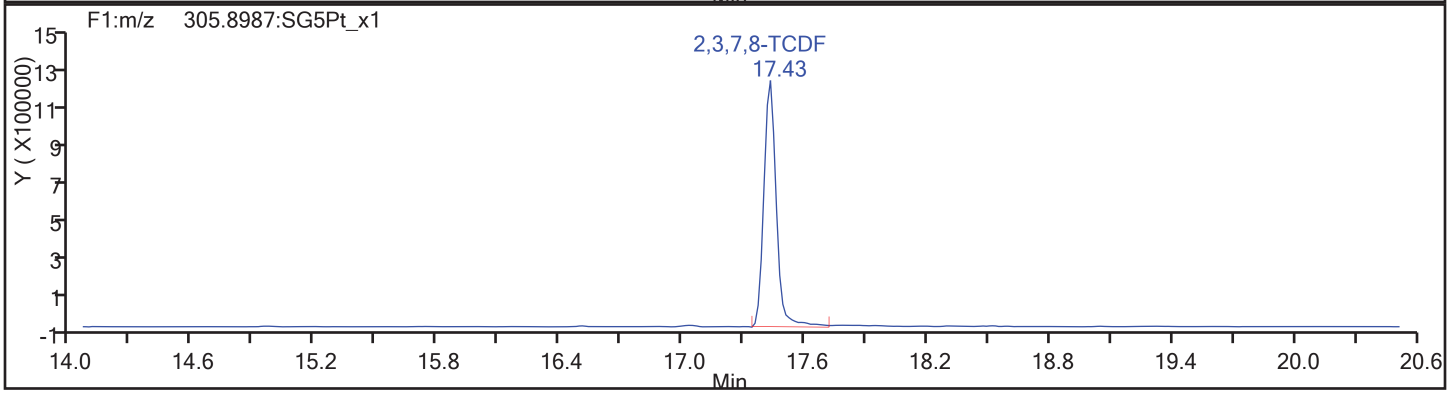
Report Date: 13-Oct-2017 10:55:25 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

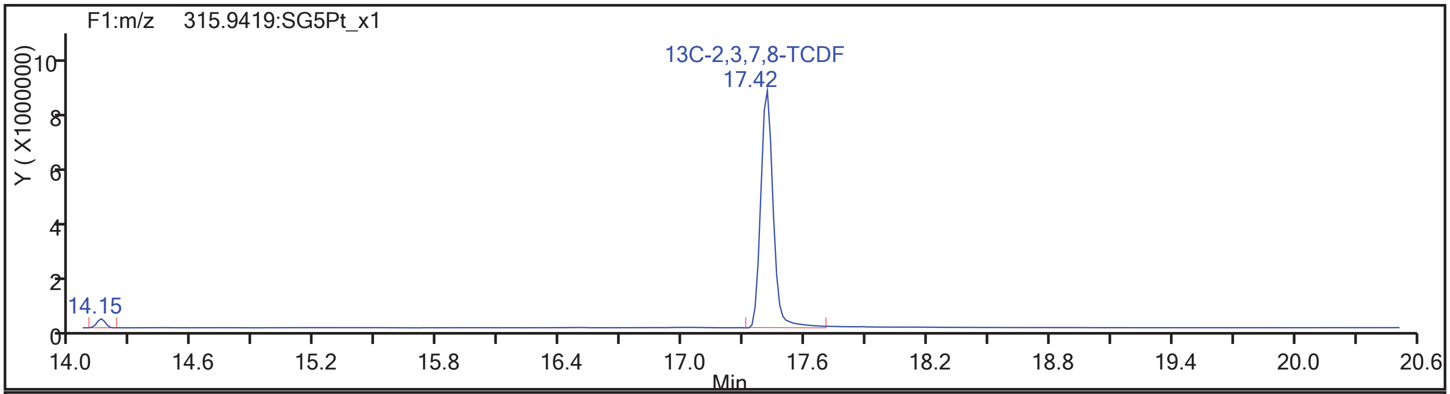
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_2.d		
Injection Date:	13-Oct-2017 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

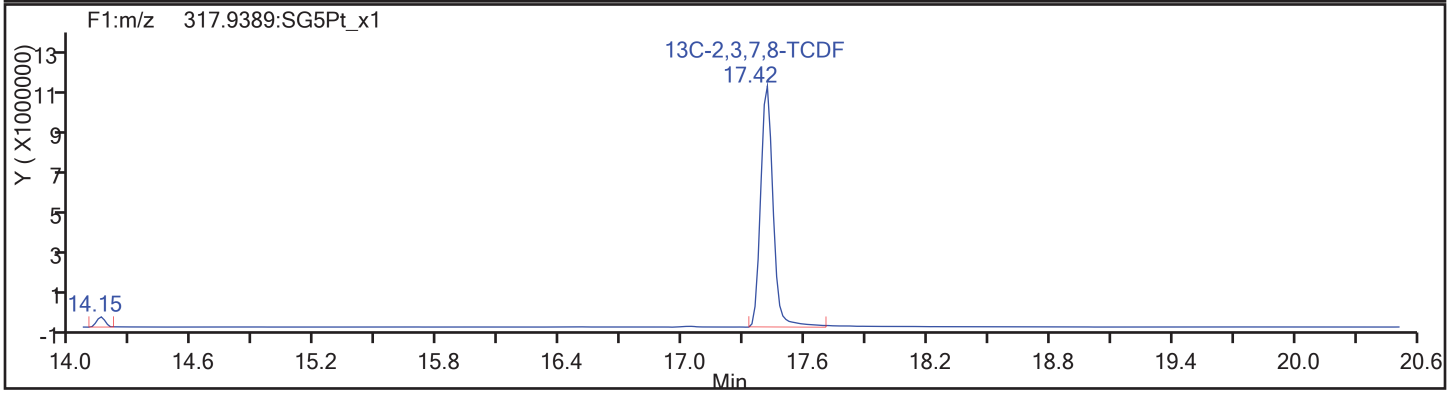
TCDF





TCDF Standards





TestAmerica Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

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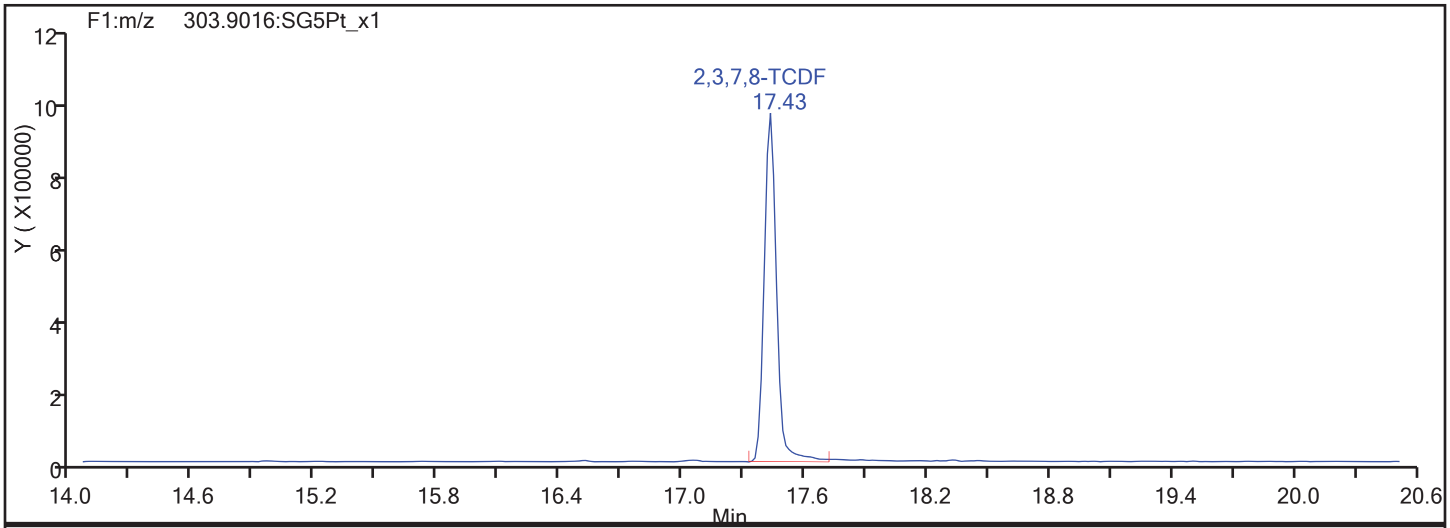
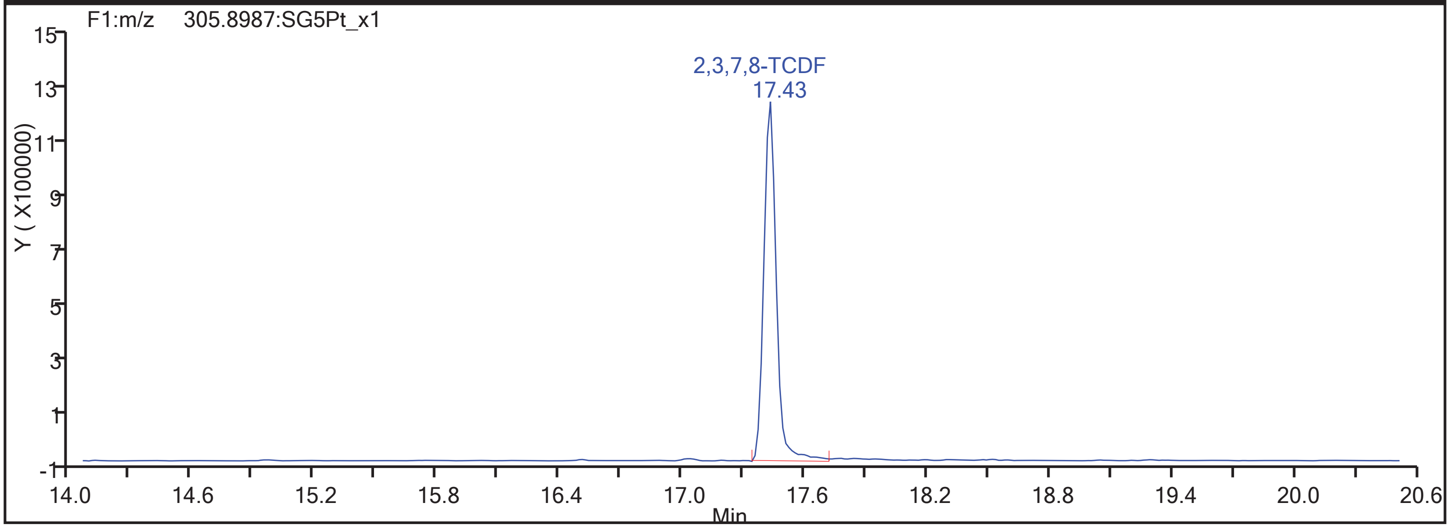
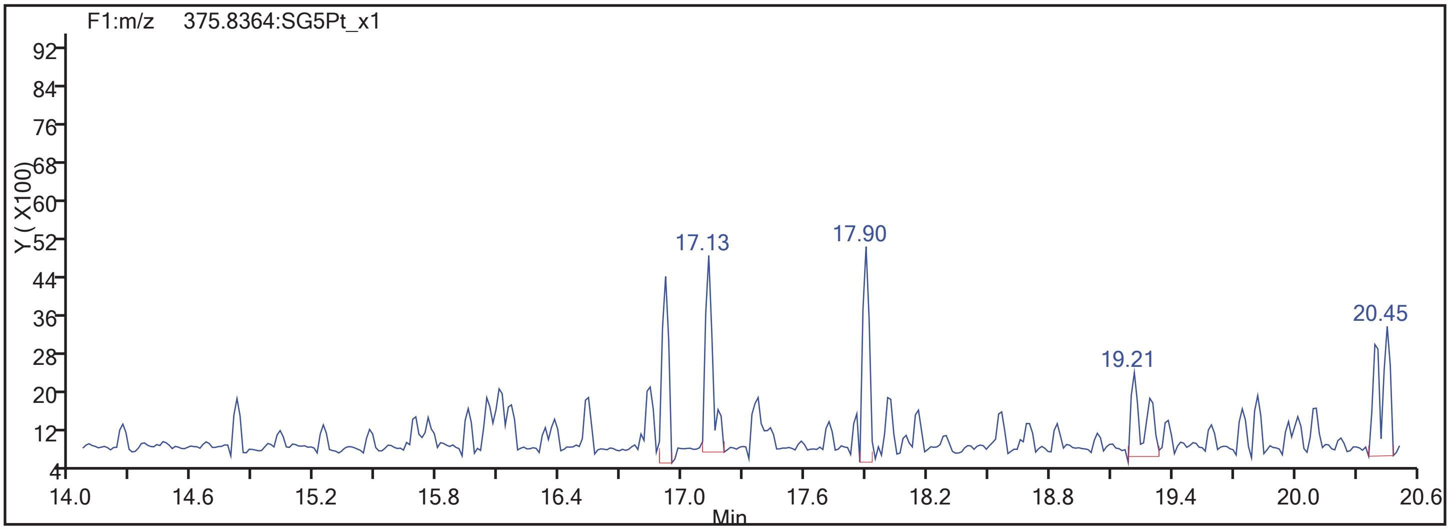




TCDF Interference Mass



Report Date: 13-Oct-2017 10:55:25 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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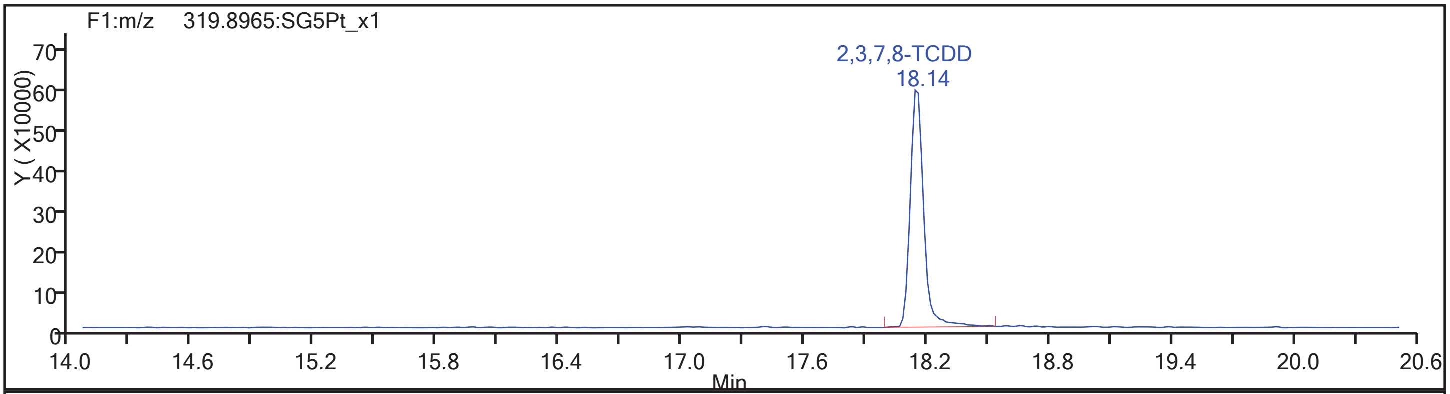
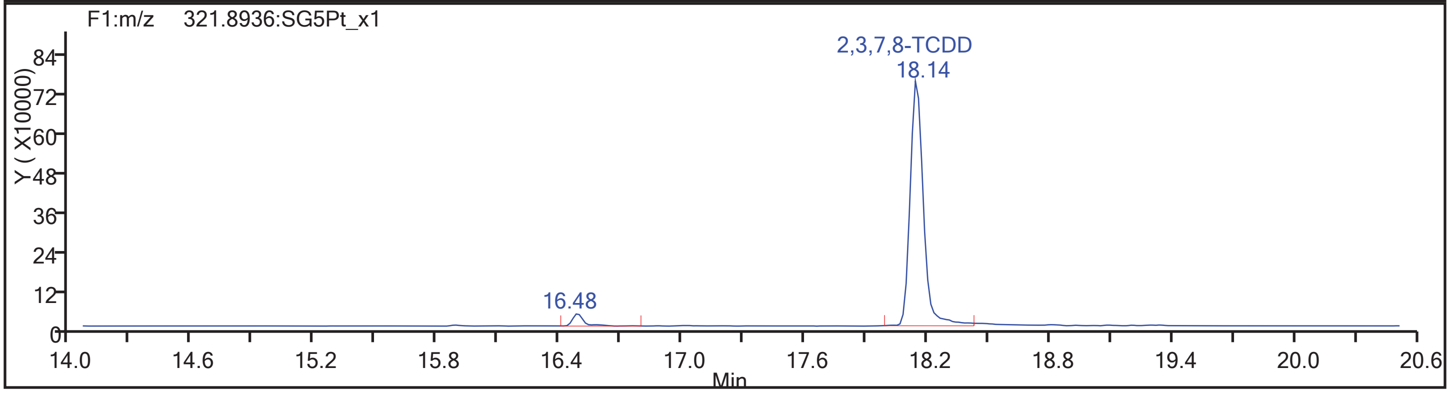
Column Dia: 0.32 mm

TCDD





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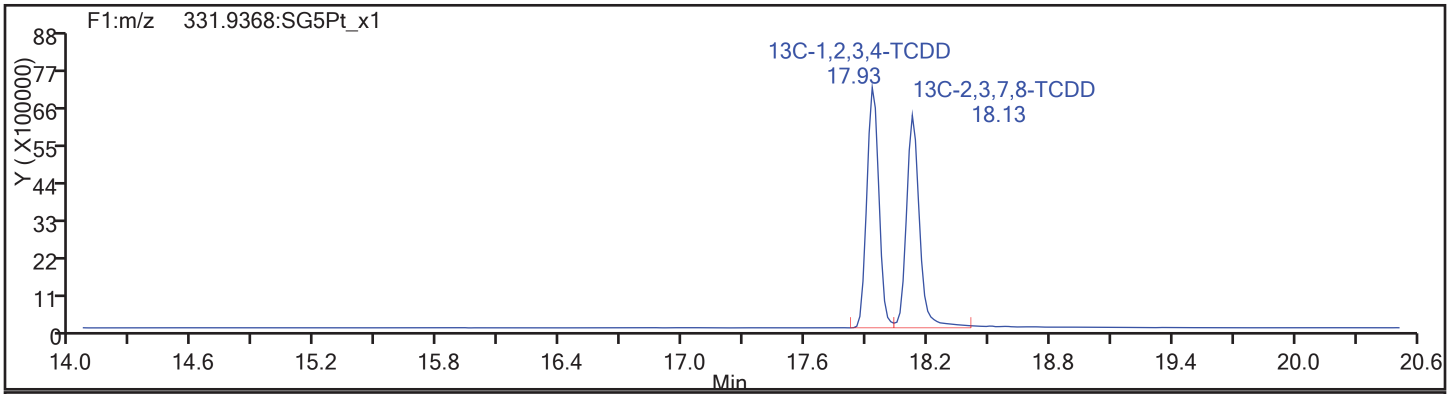

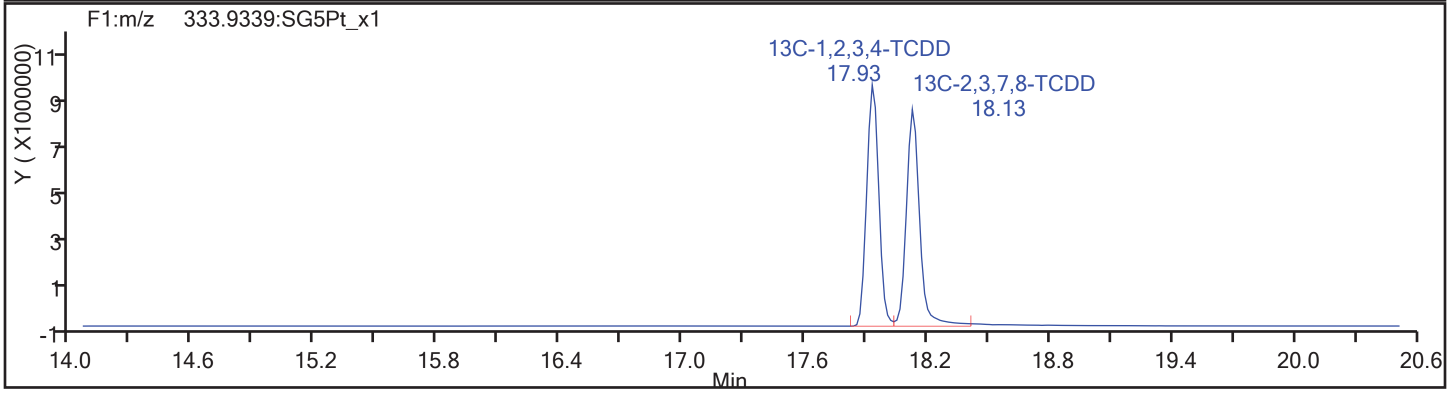

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TestAmerica Sacramento

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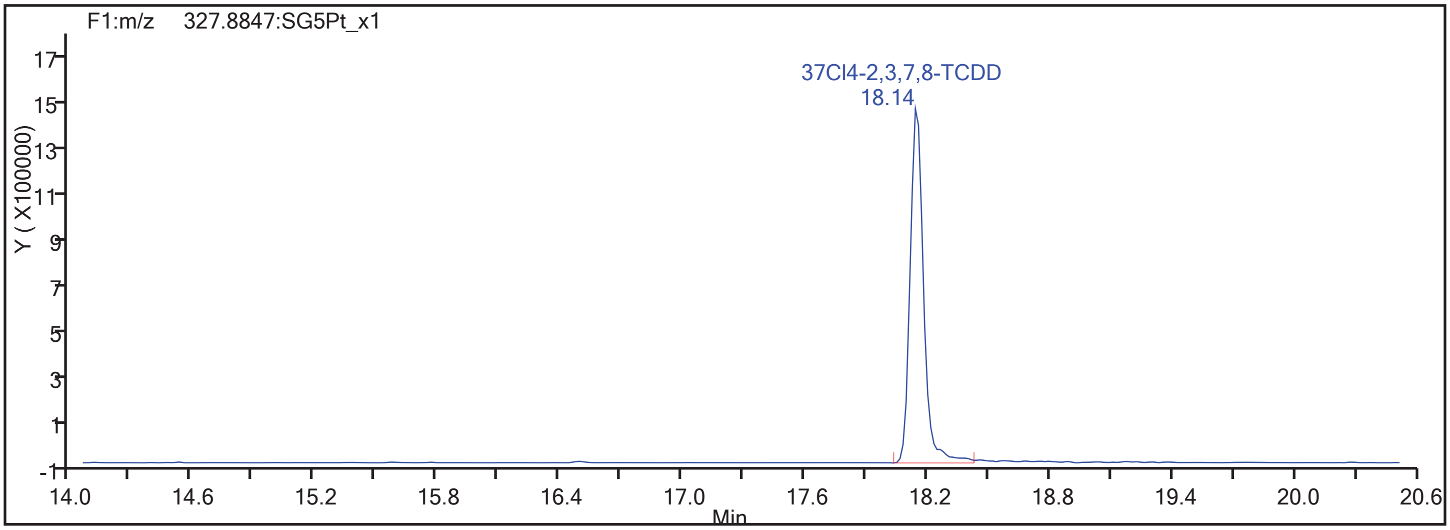
37Cl4-TCDD



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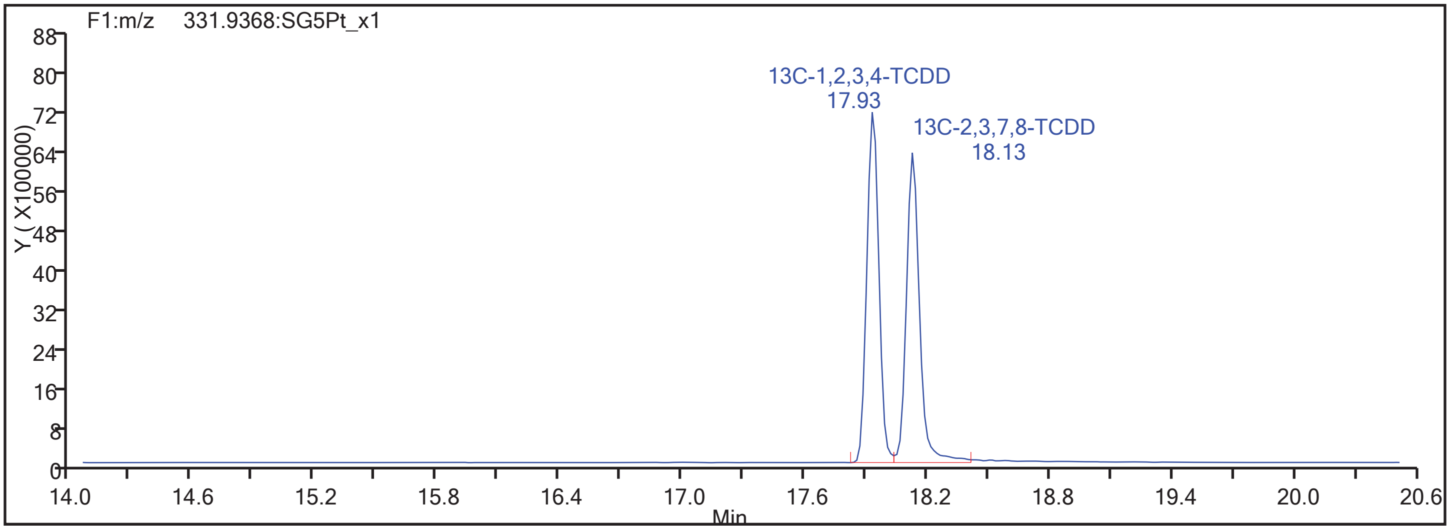

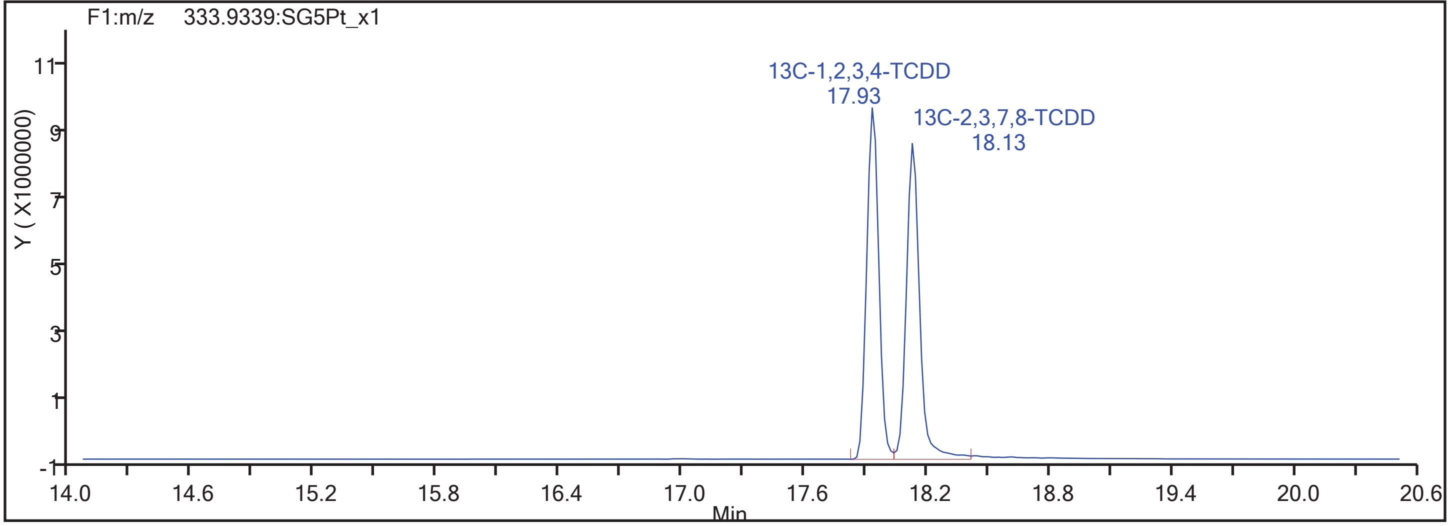

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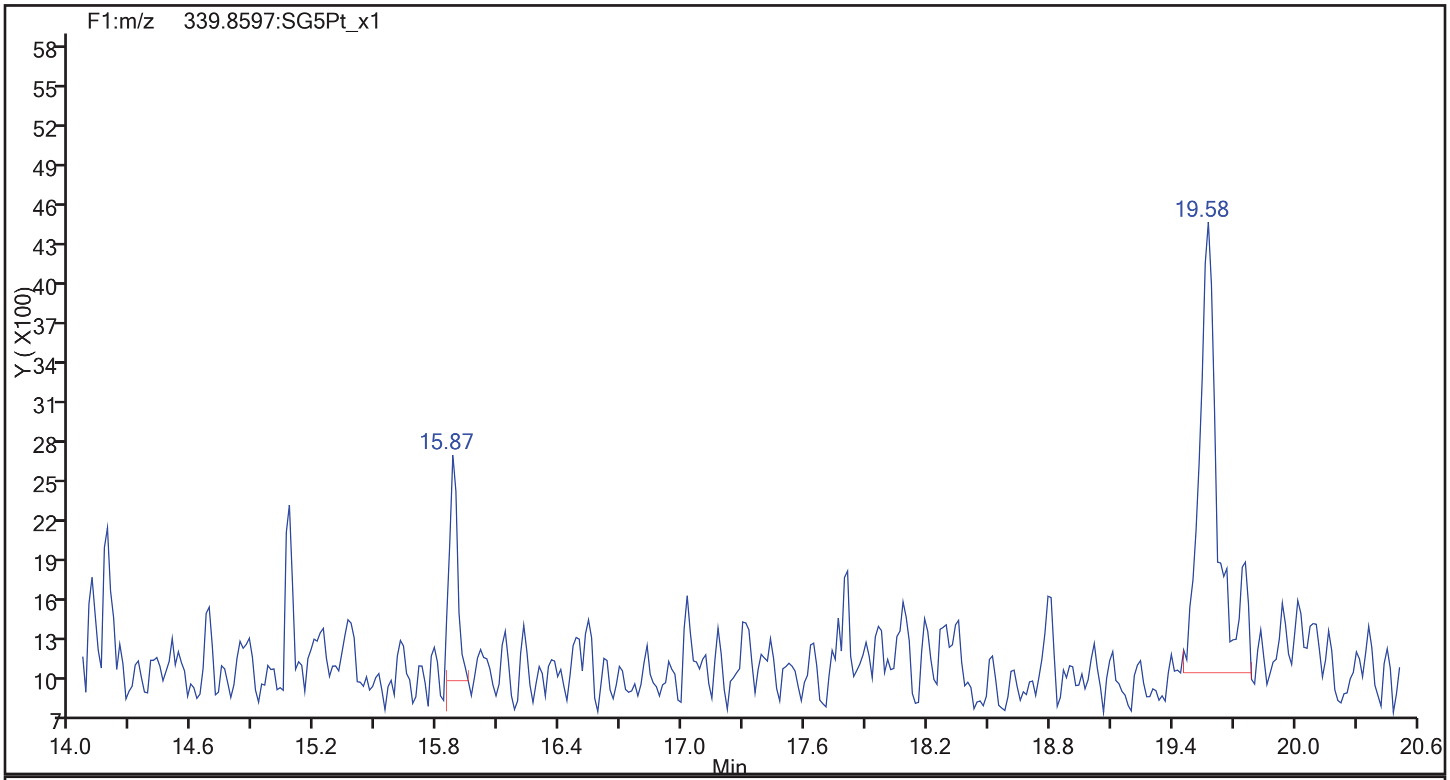
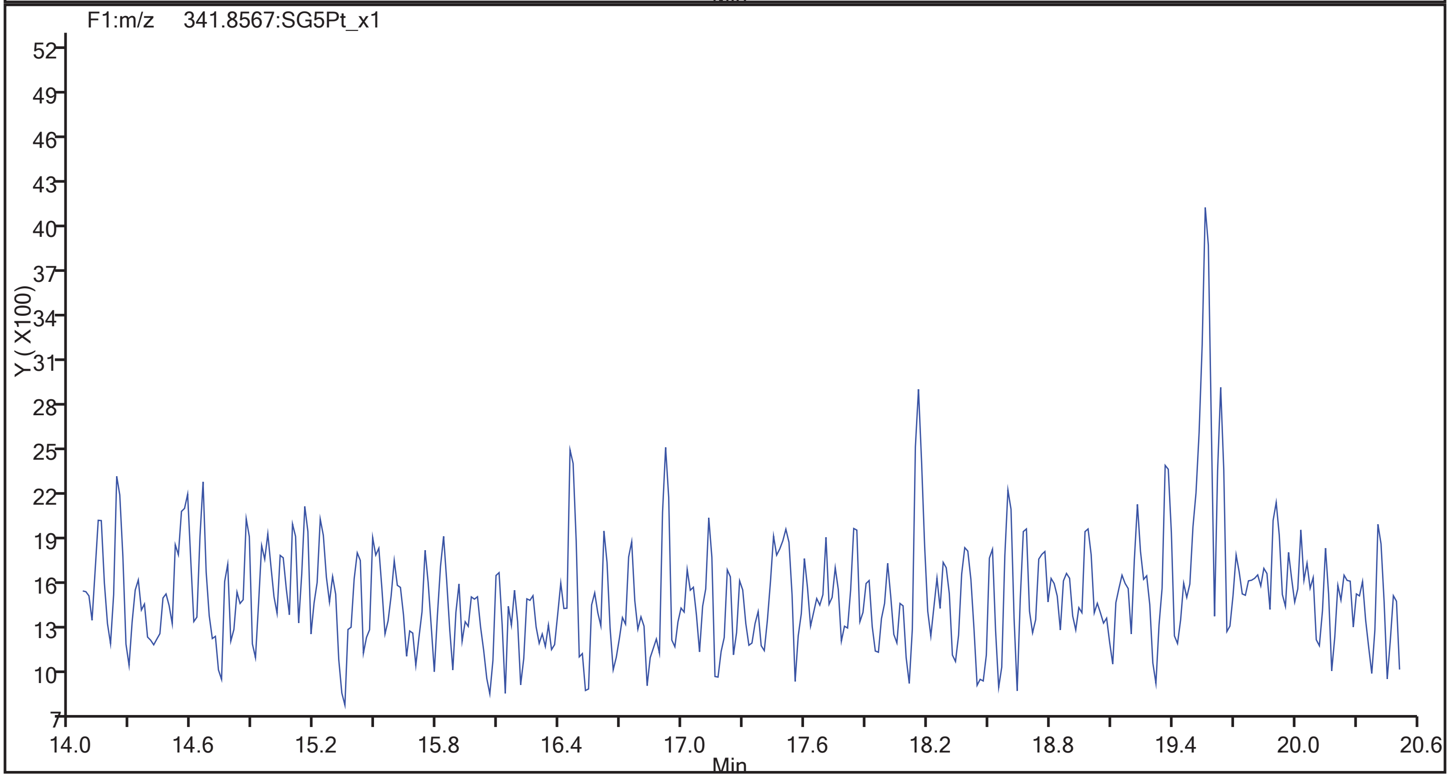
F1 PeCDFs





Report Date: 13-Oct-2017 10:55:25 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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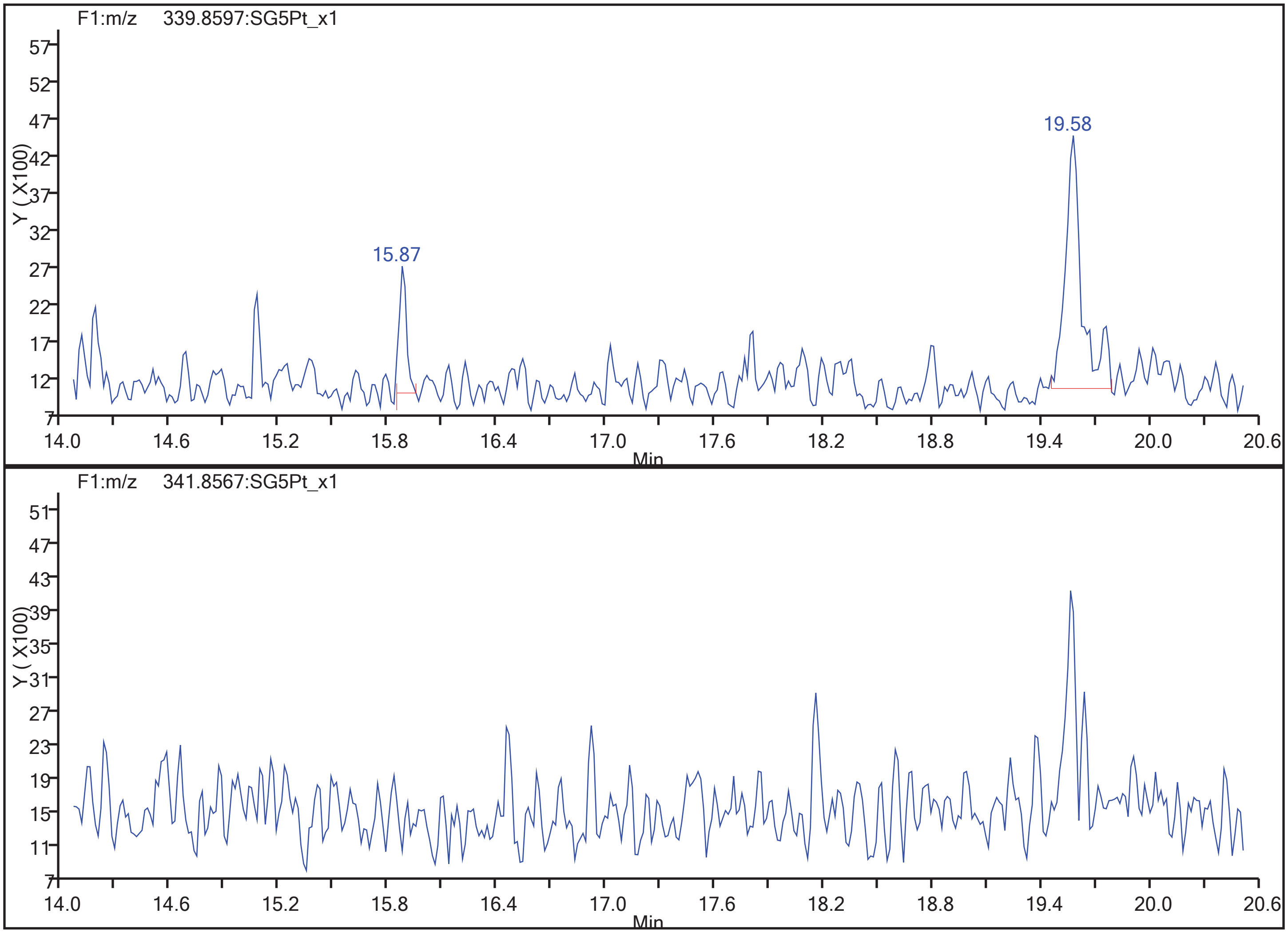
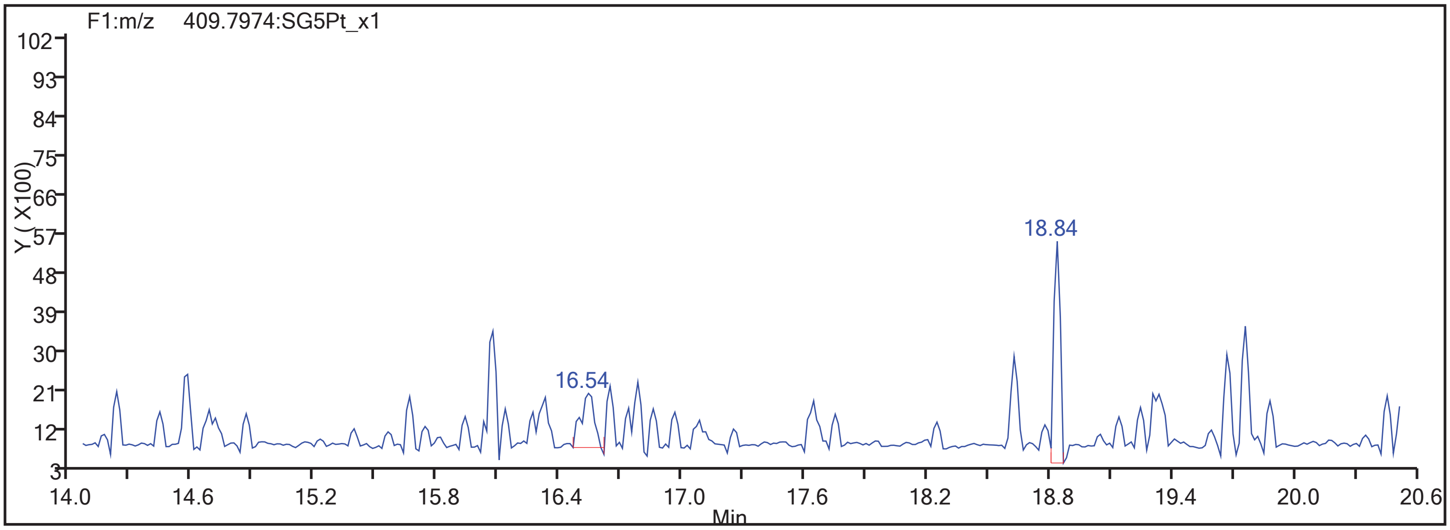
F1 PeCDFs



F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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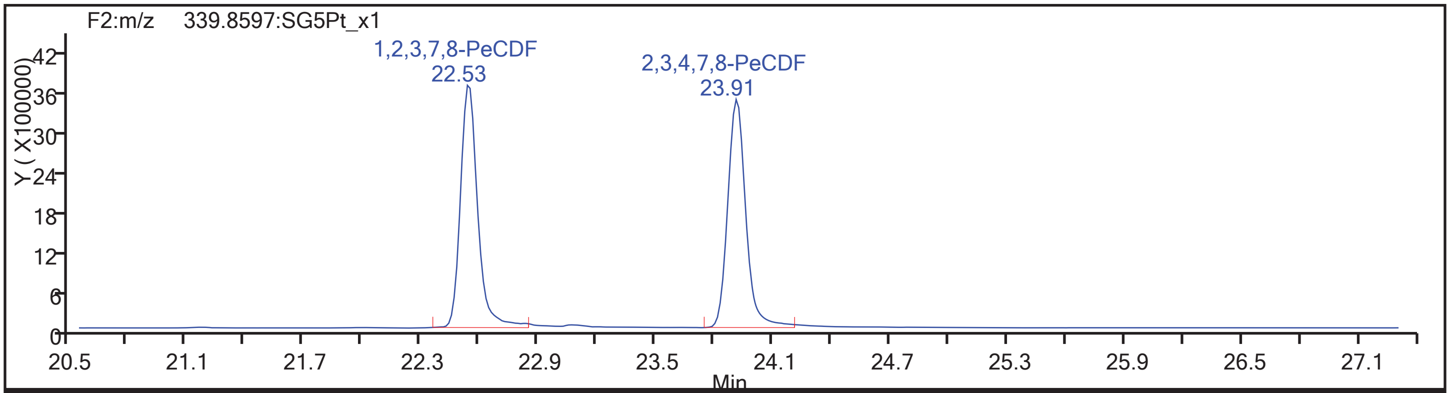
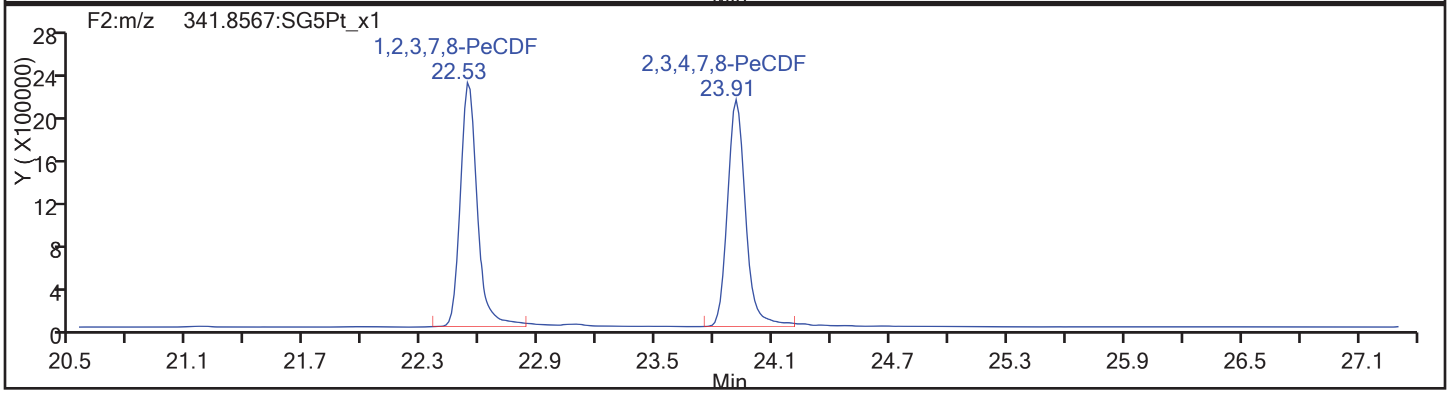
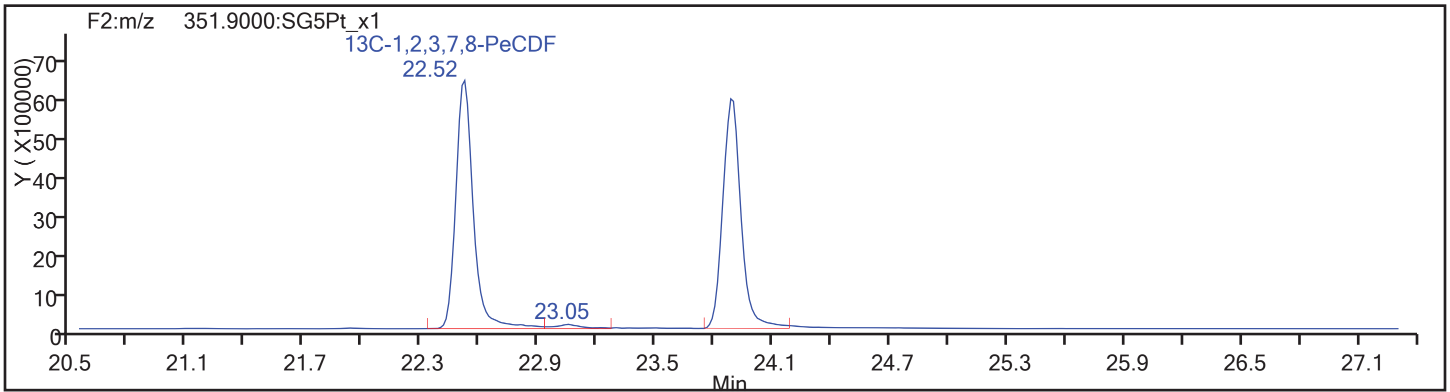
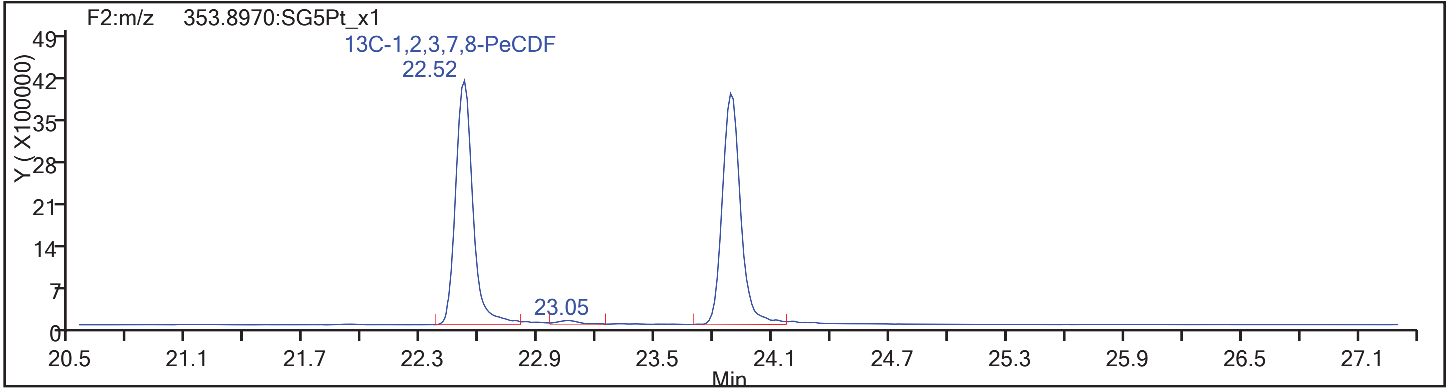
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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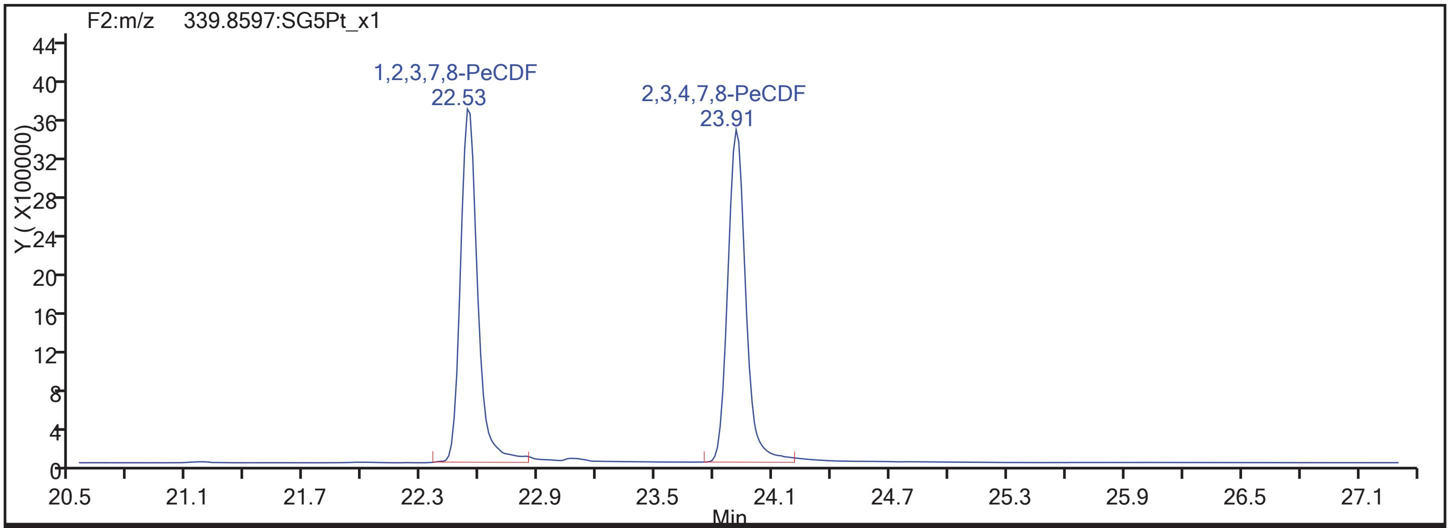

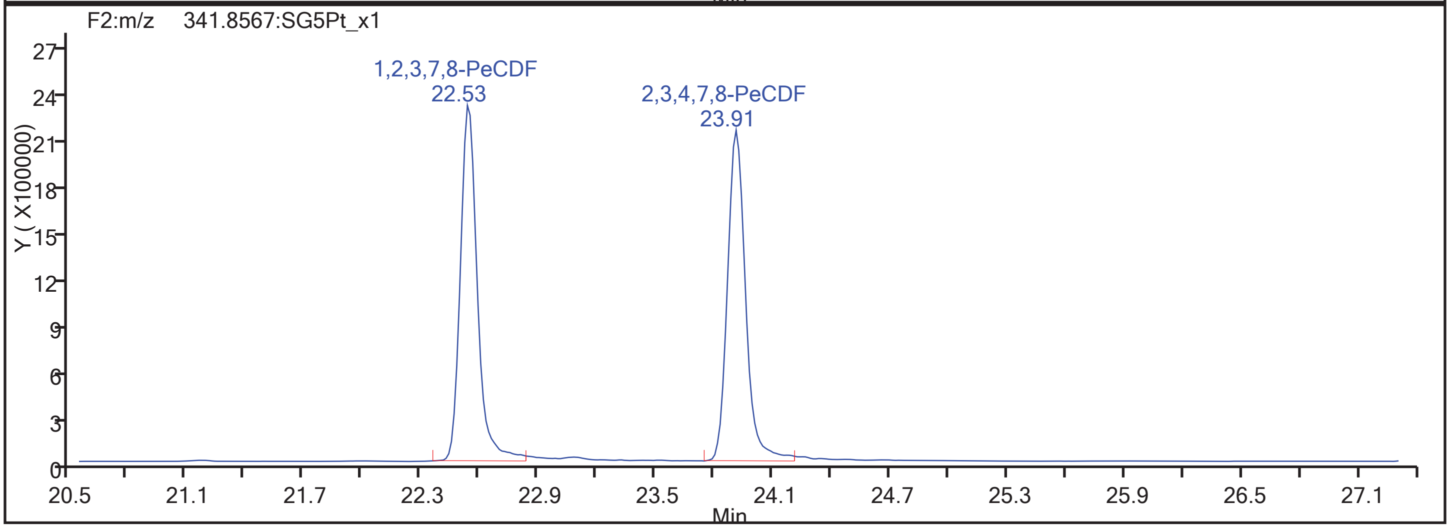

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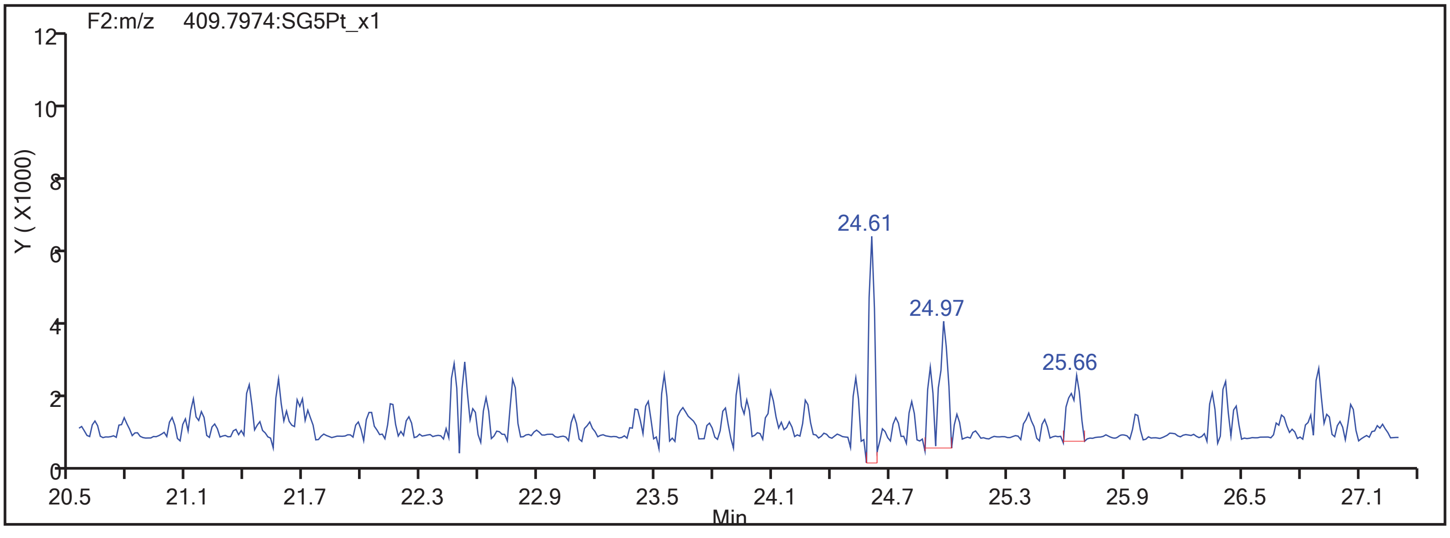

TestAmerica Sacramento

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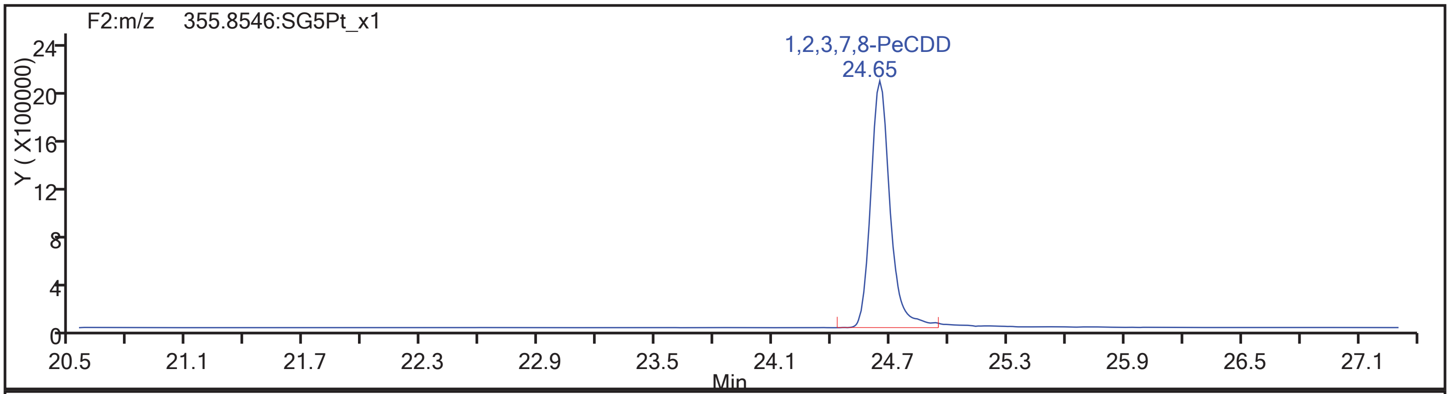
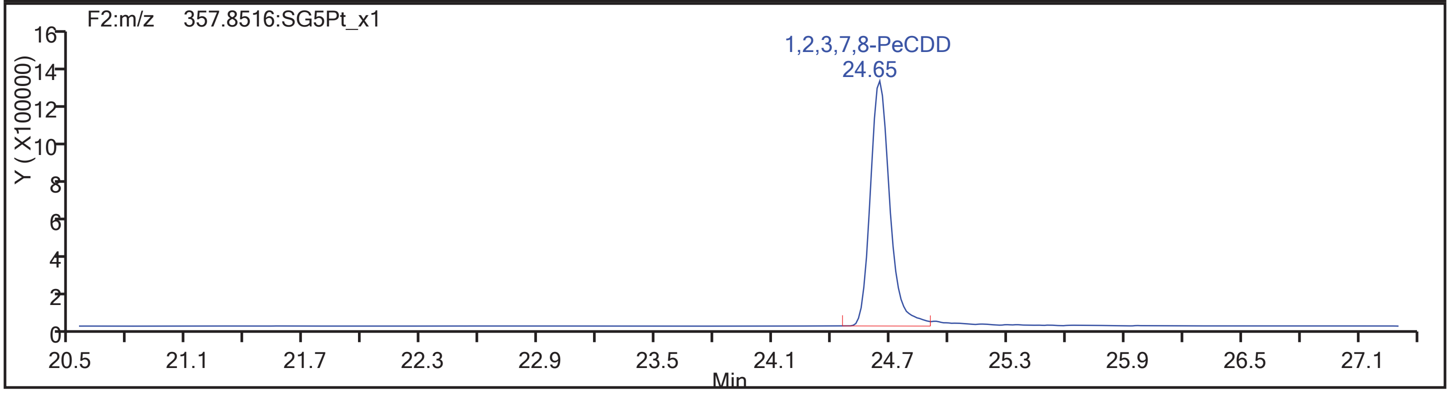
PeCDD





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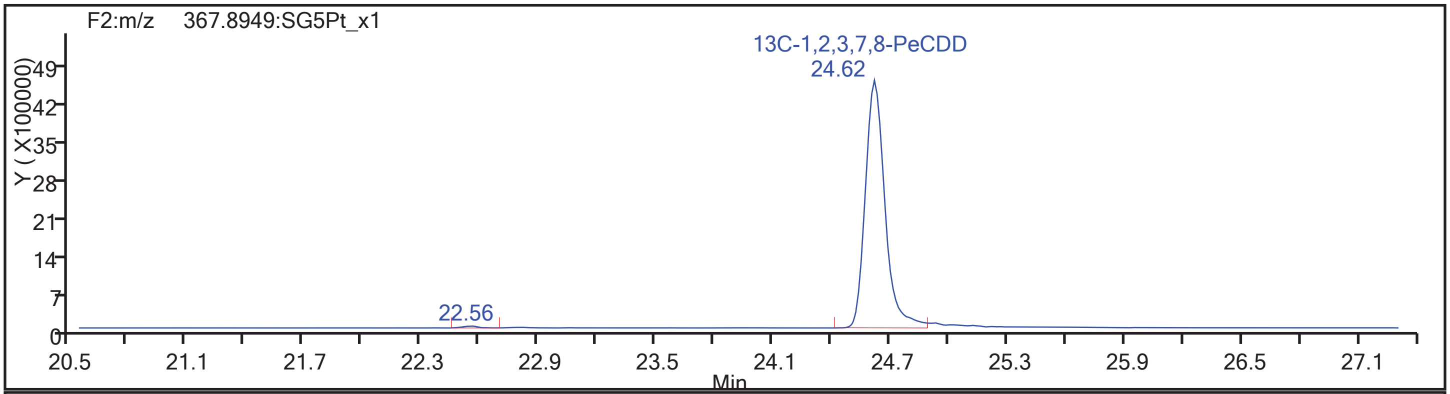

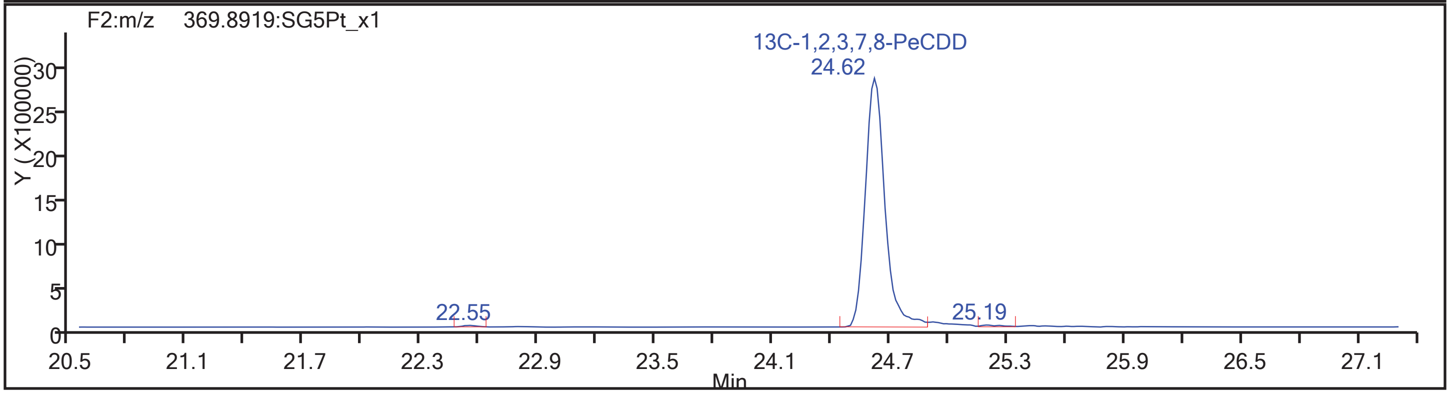

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TestAmerica Sacramento

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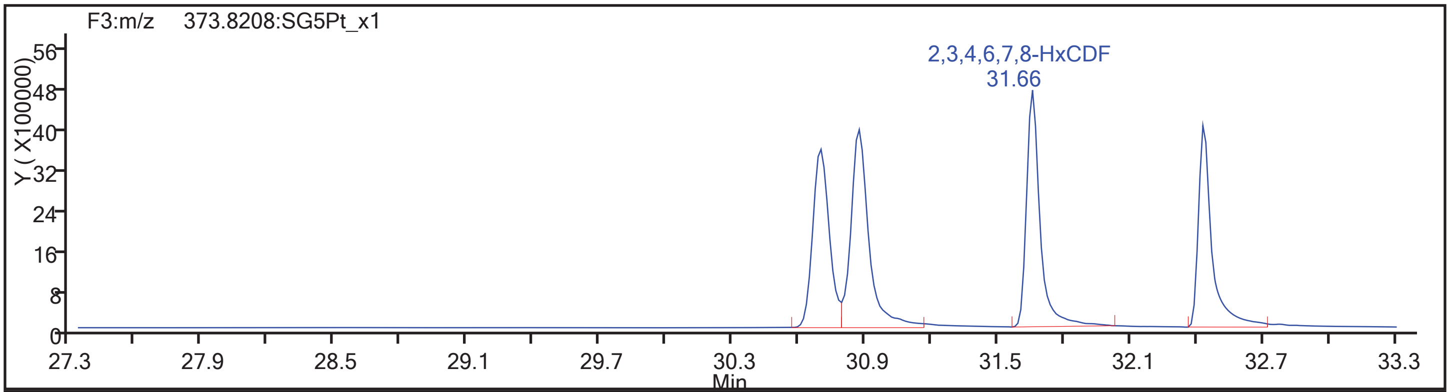
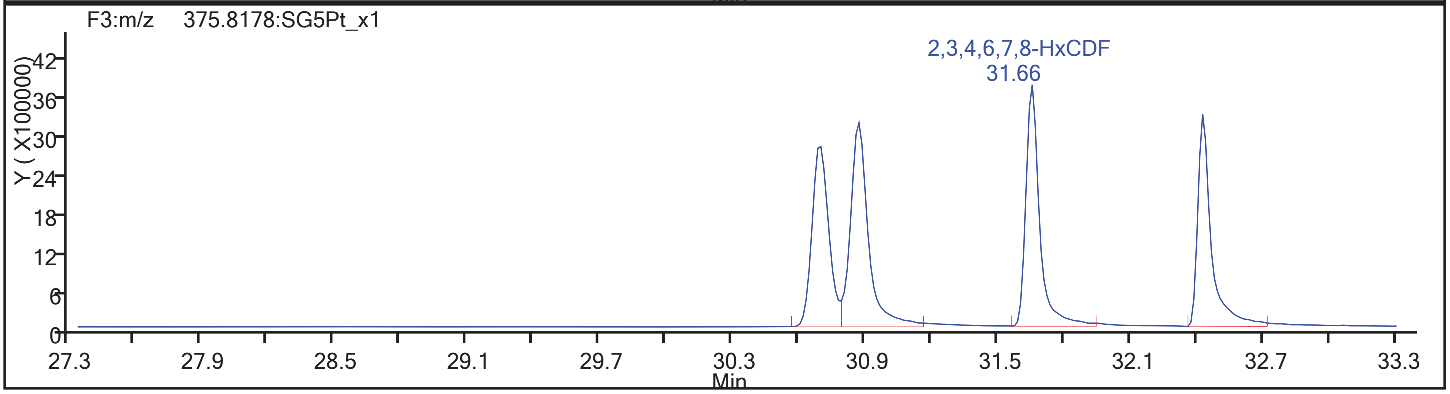
HxCDF





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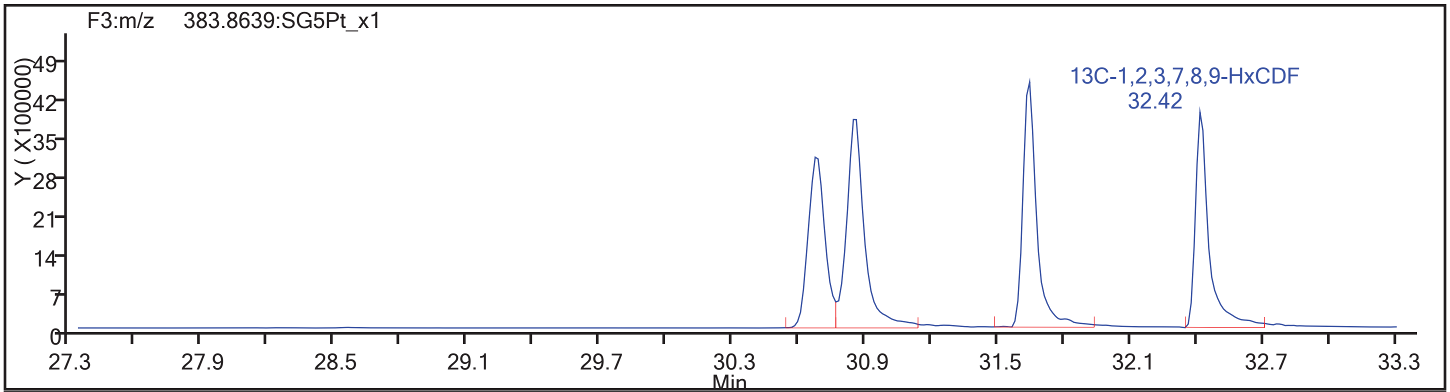

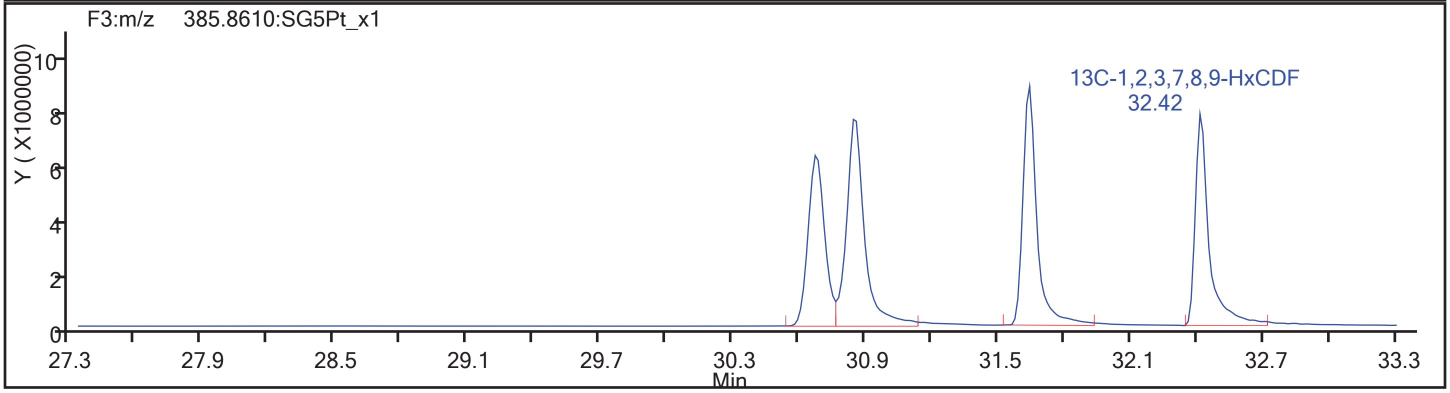

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TestAmerica Sacramento

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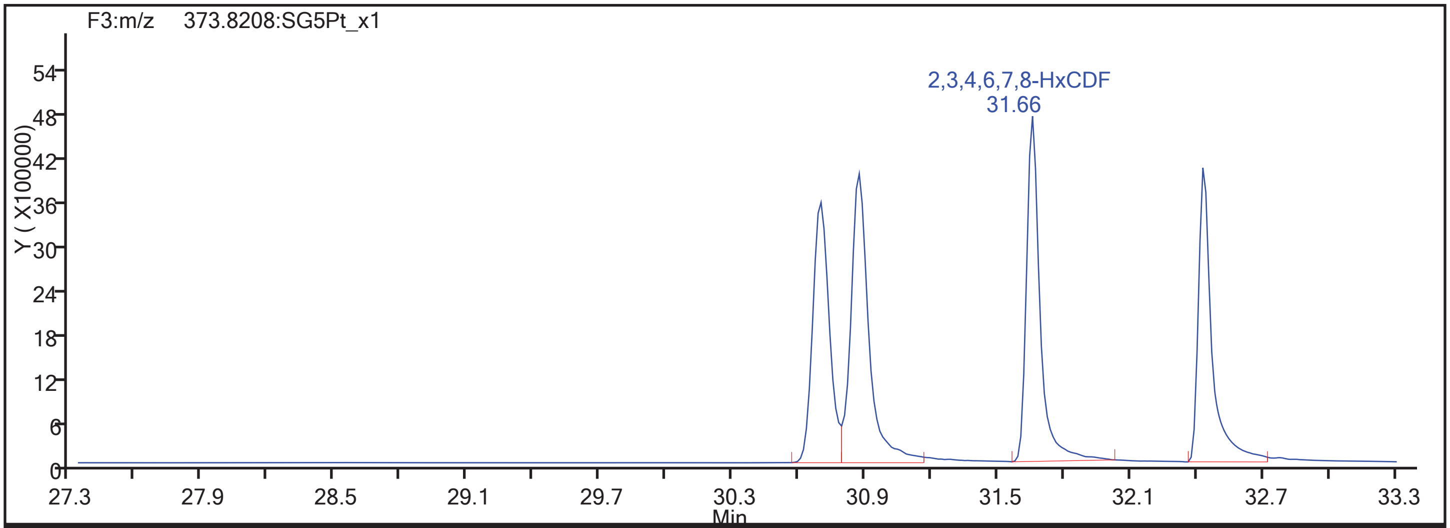
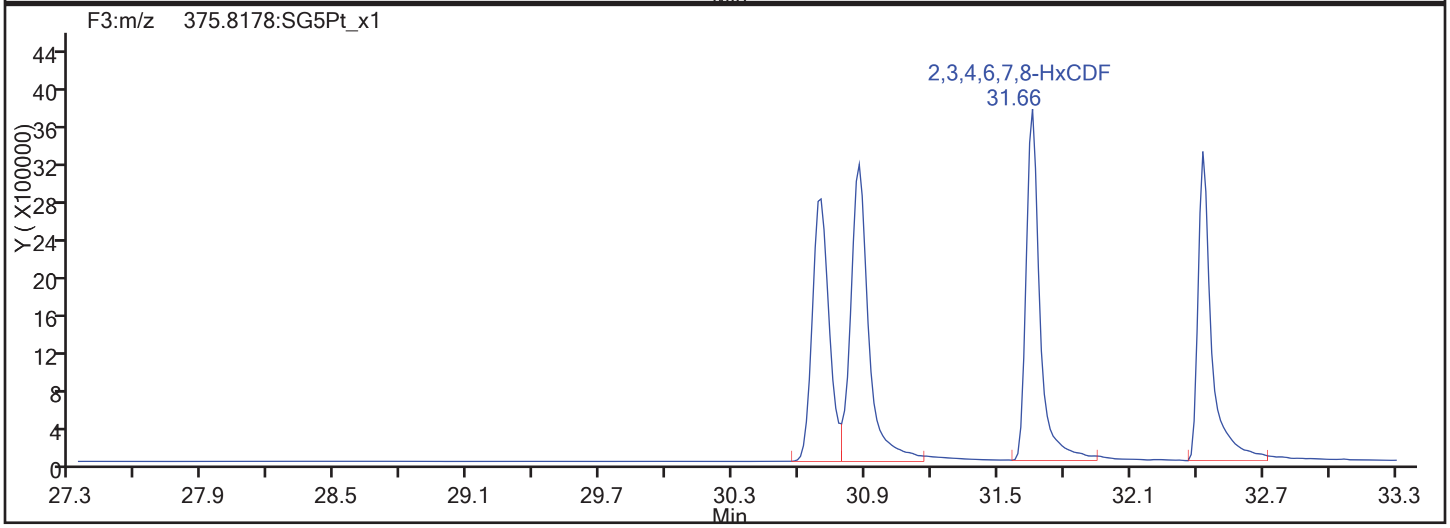
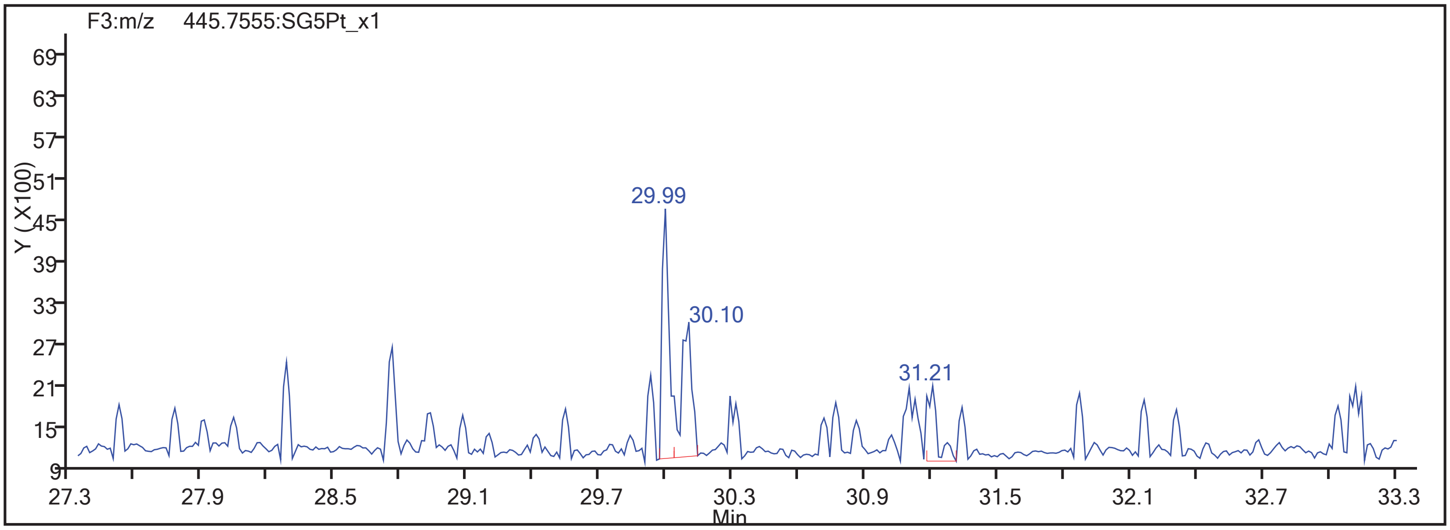




HxCDF Interference Mass



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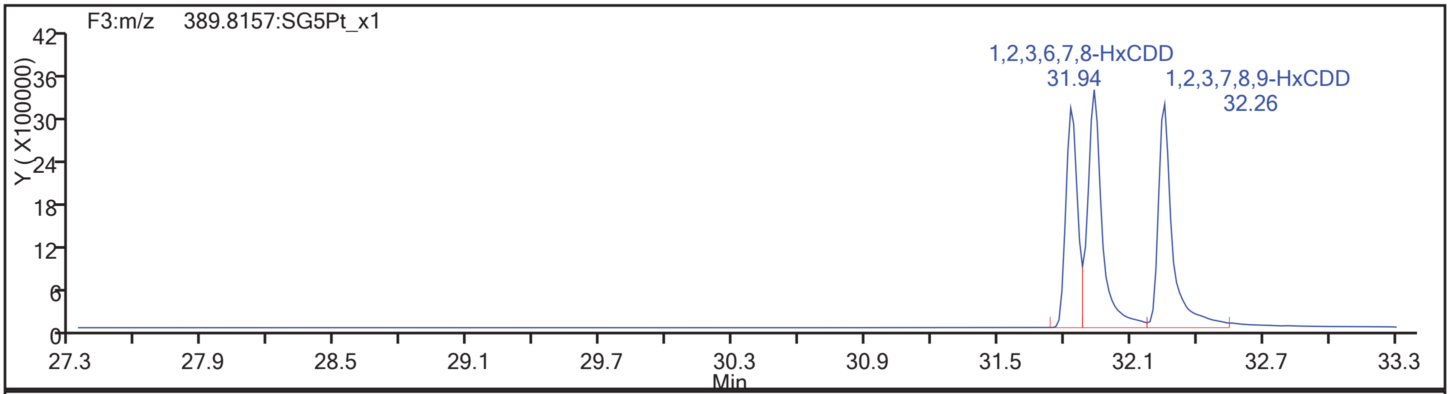

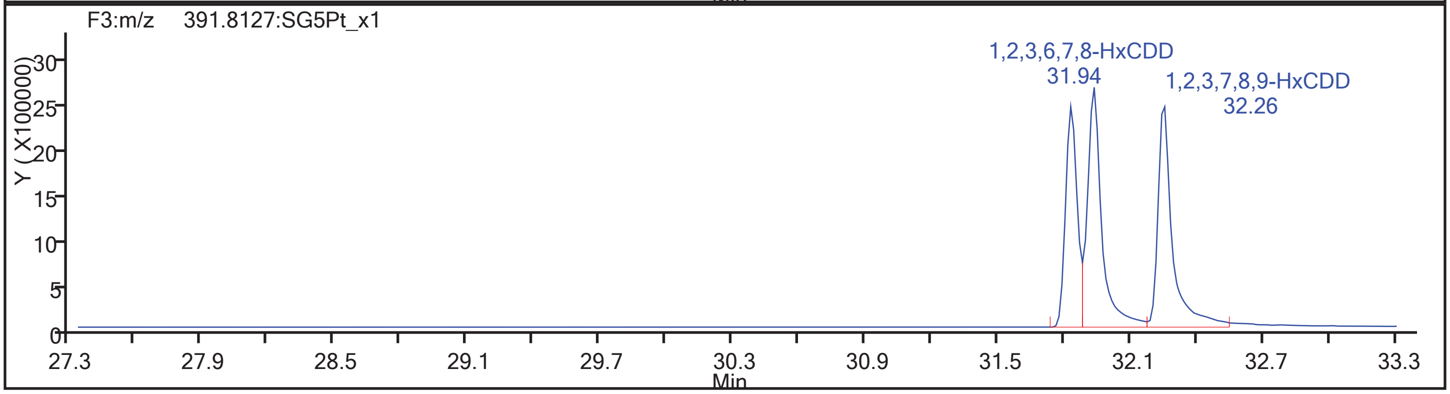

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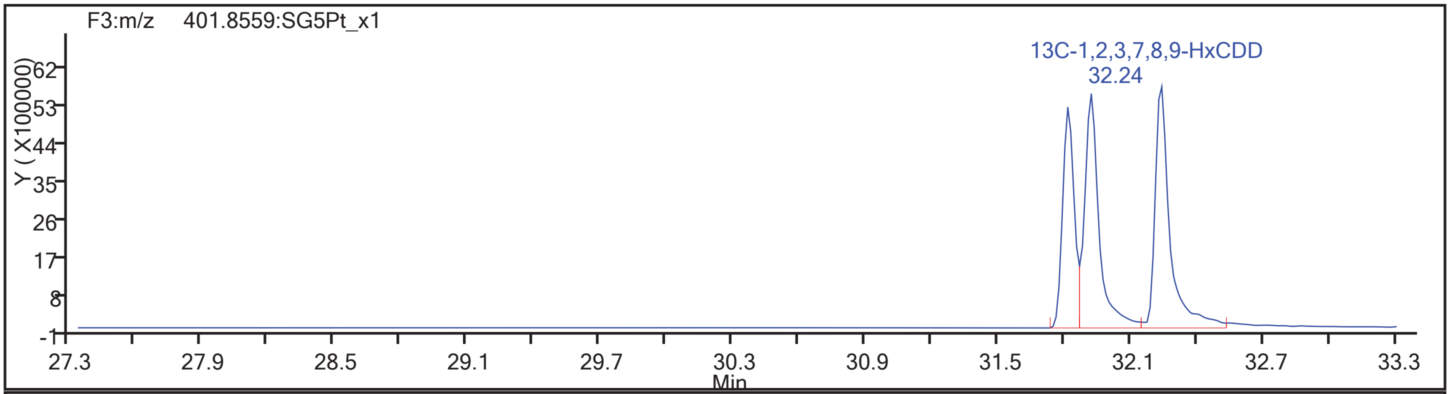

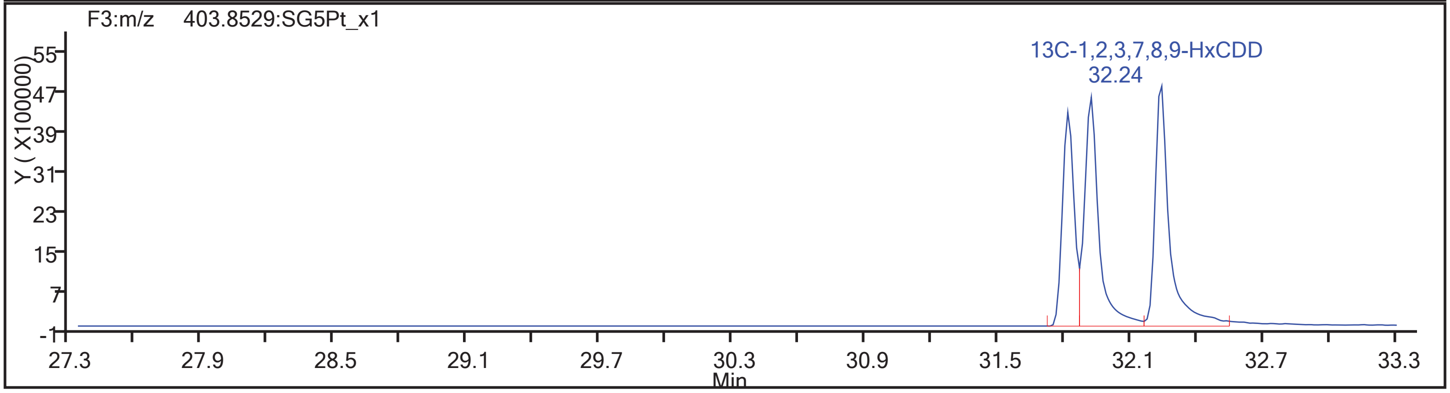

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Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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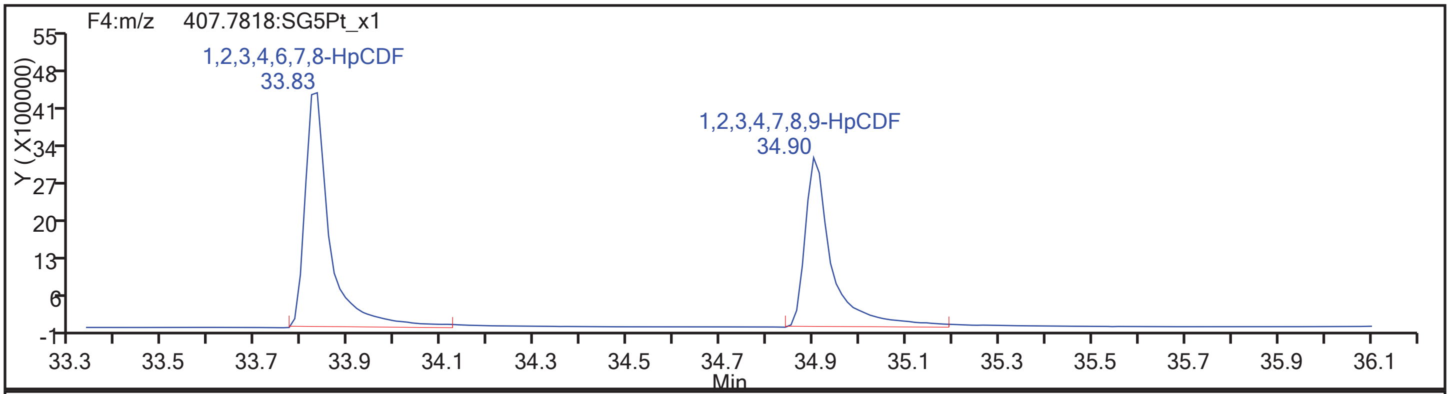
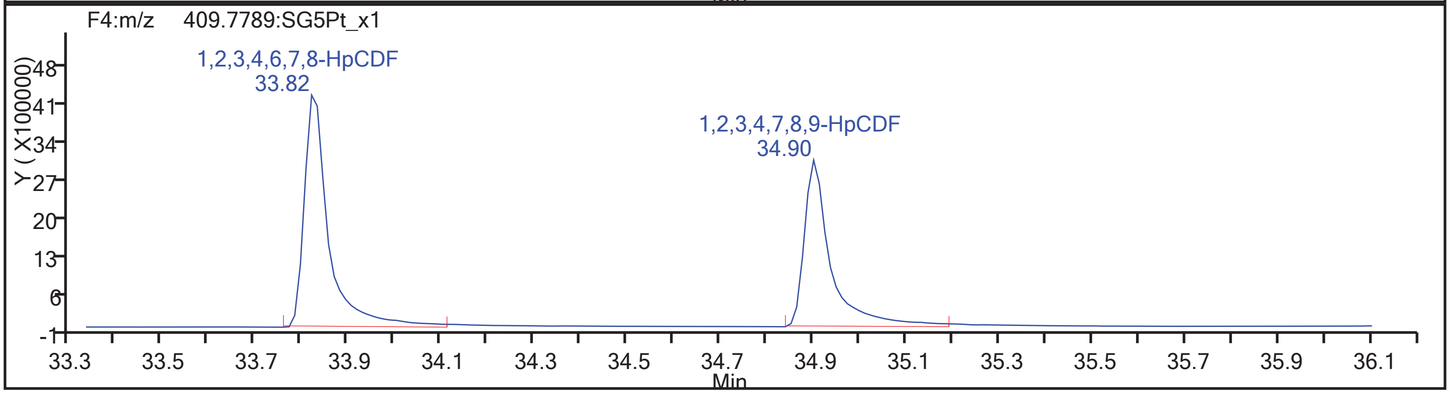
HpCDF





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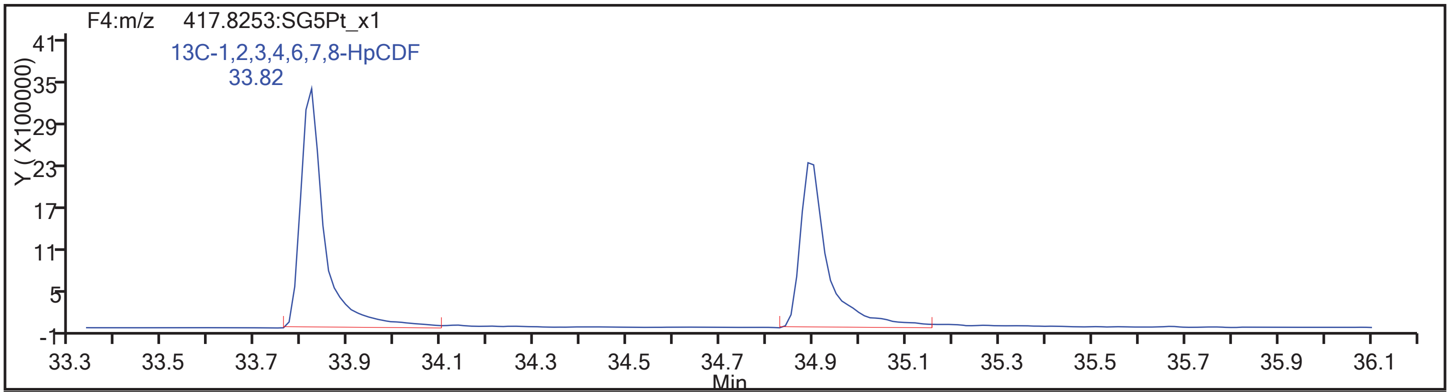

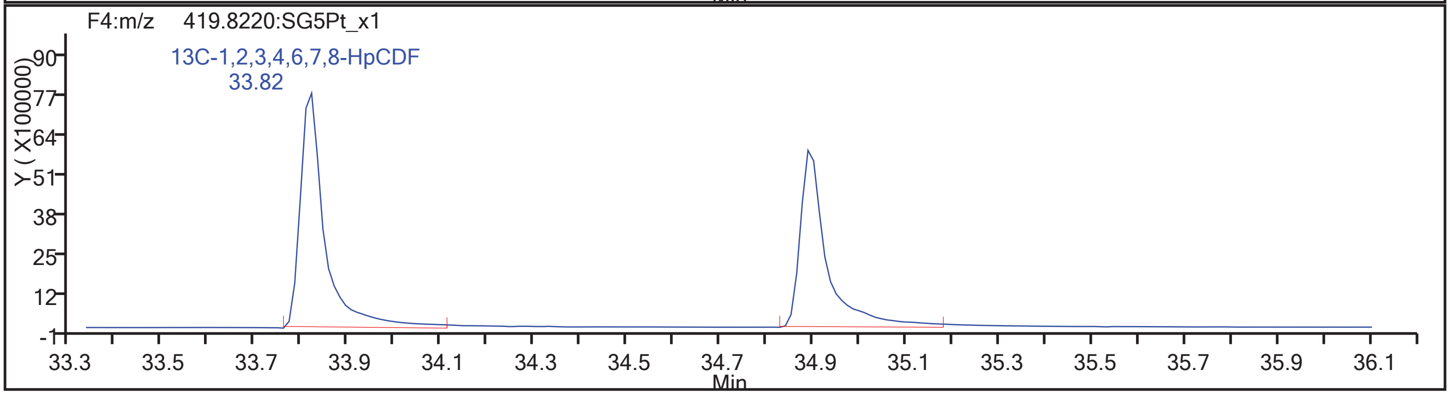

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TestAmerica Sacramento

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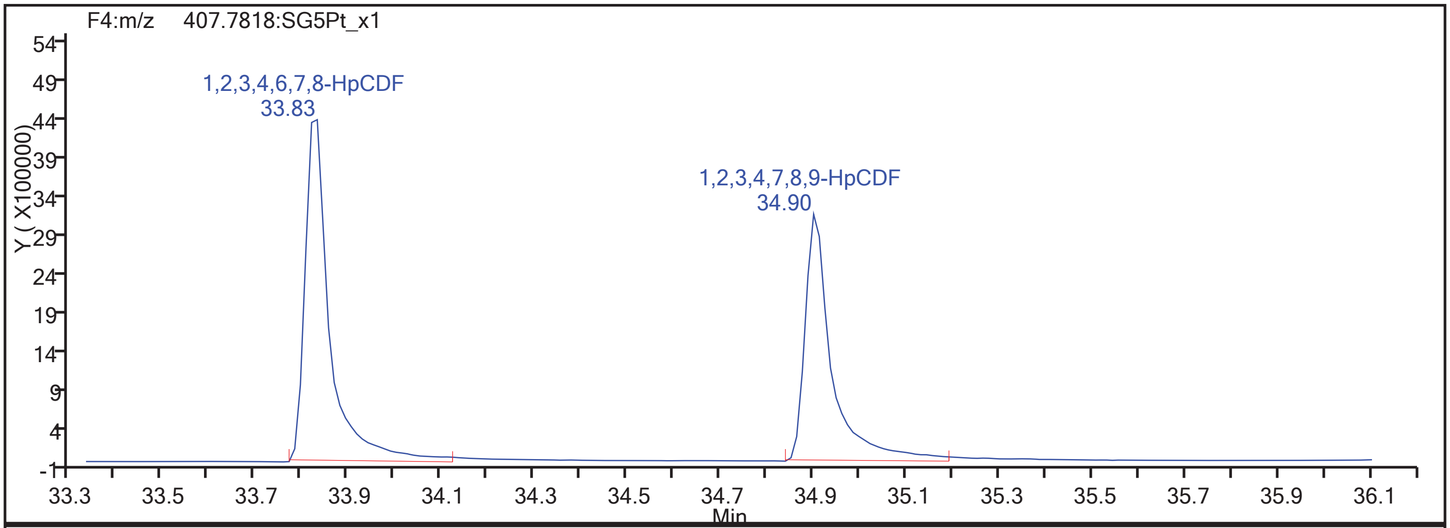
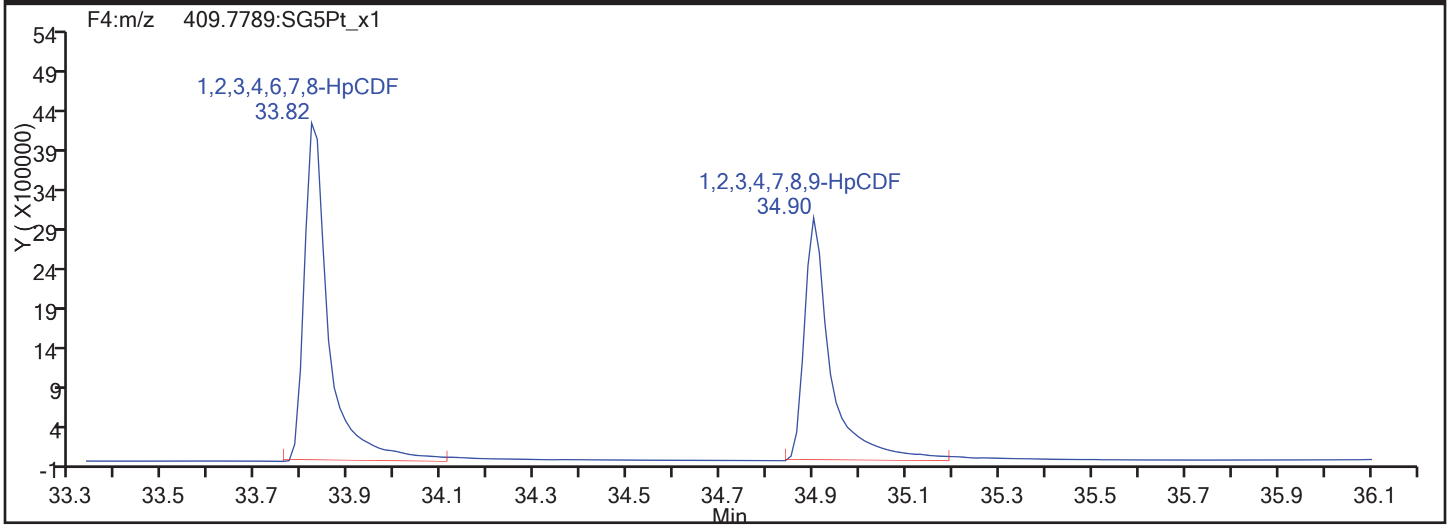
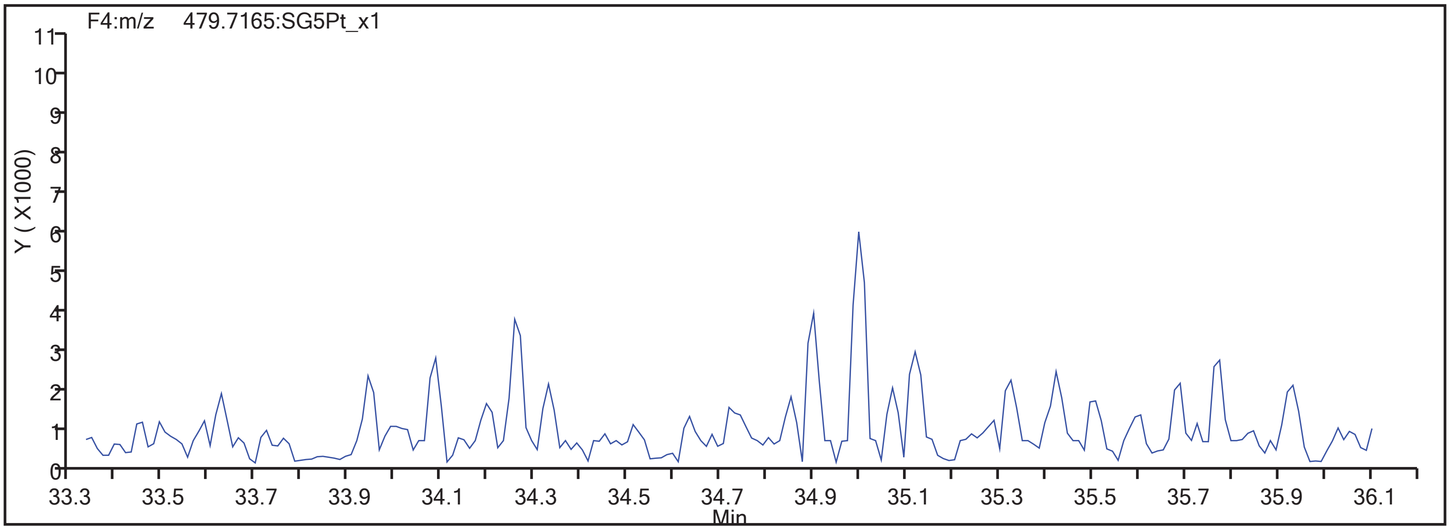




HpCDF Interference Mass



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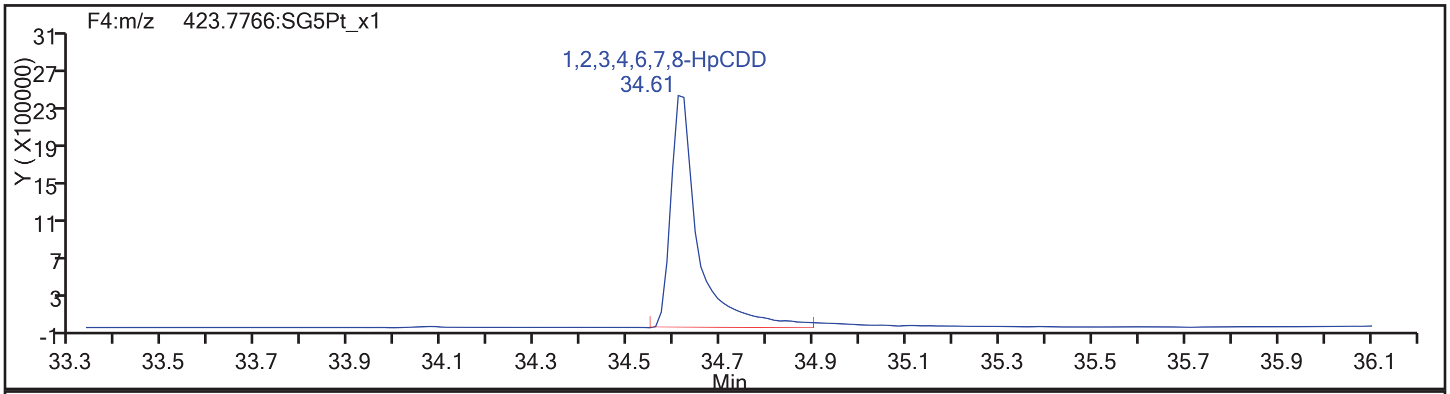
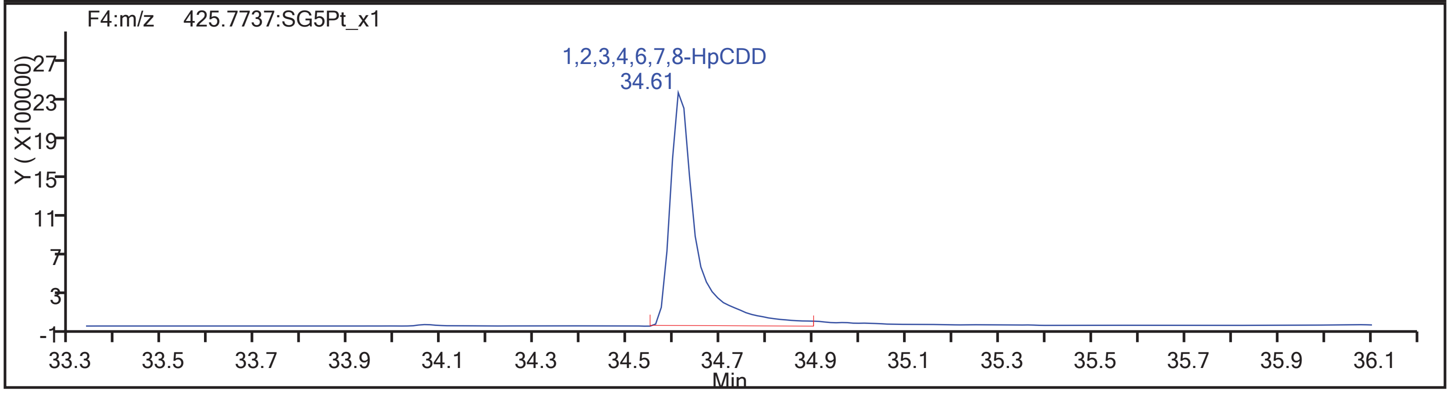
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_2.d

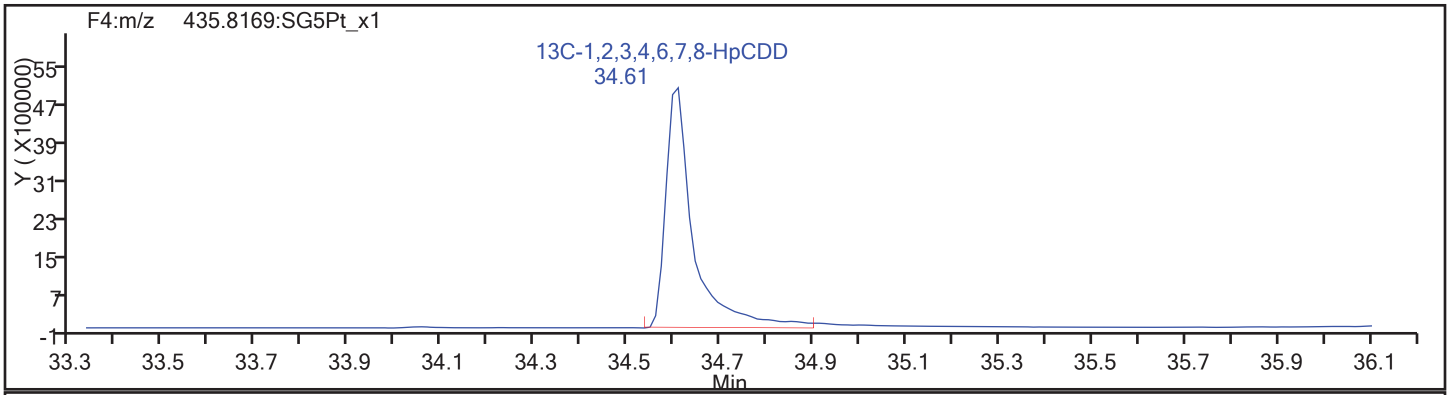
Injection Date:	13-Oct-2017 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

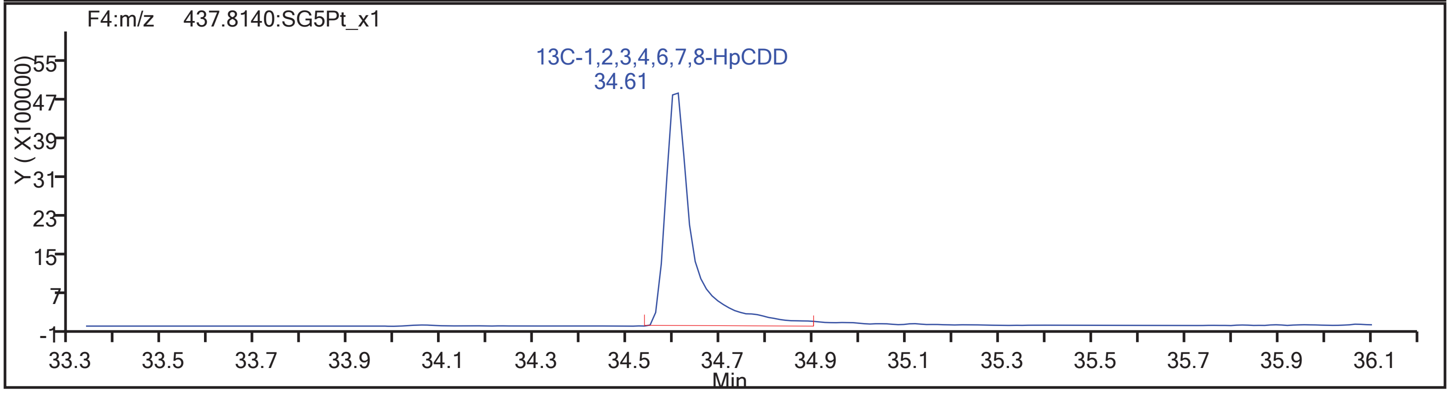
HpCDD





HpCDD Standards

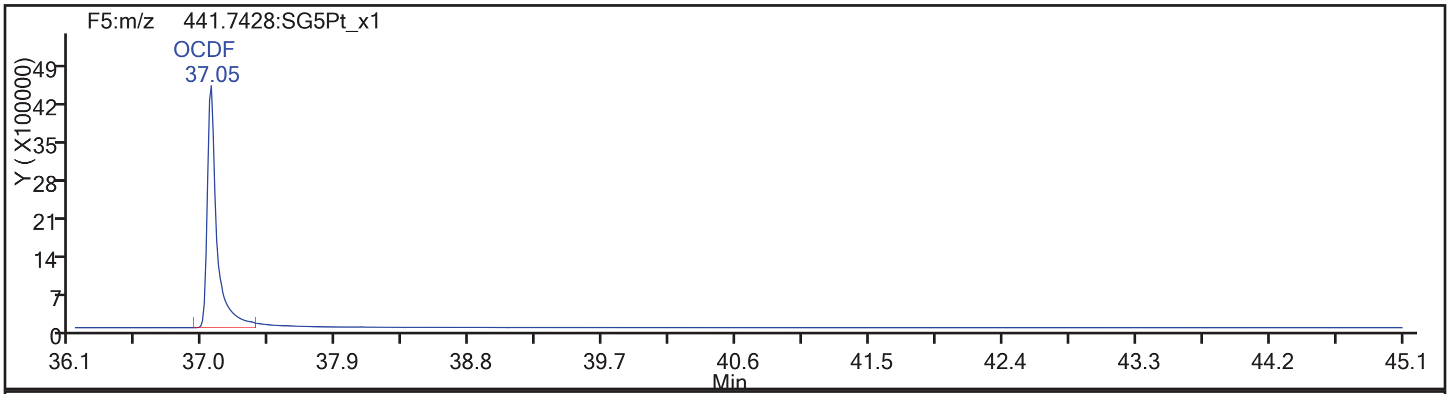


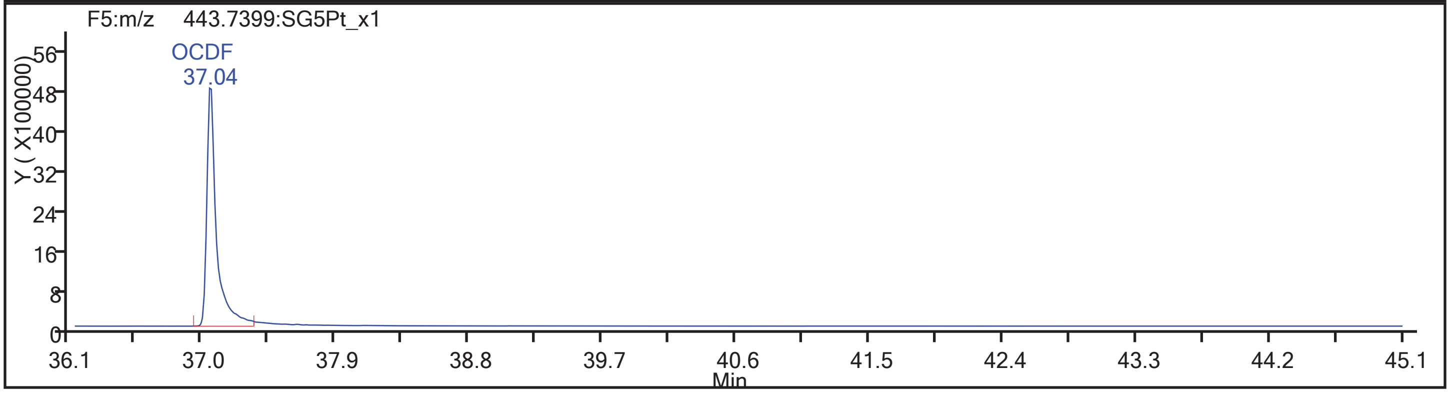


TestAmerica Sacramento

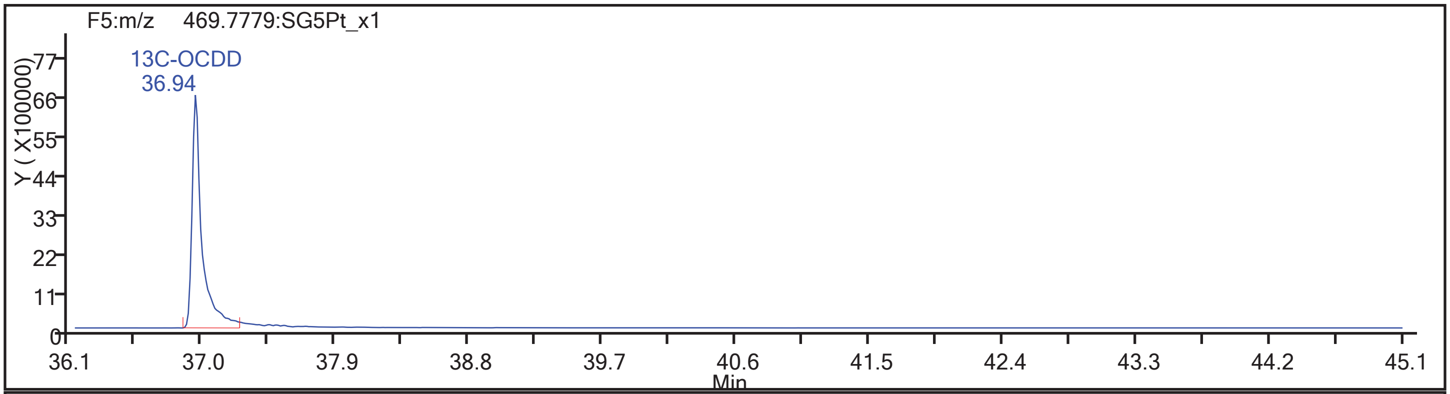
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_2.d		
Injection Date:	13-Oct-2017 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

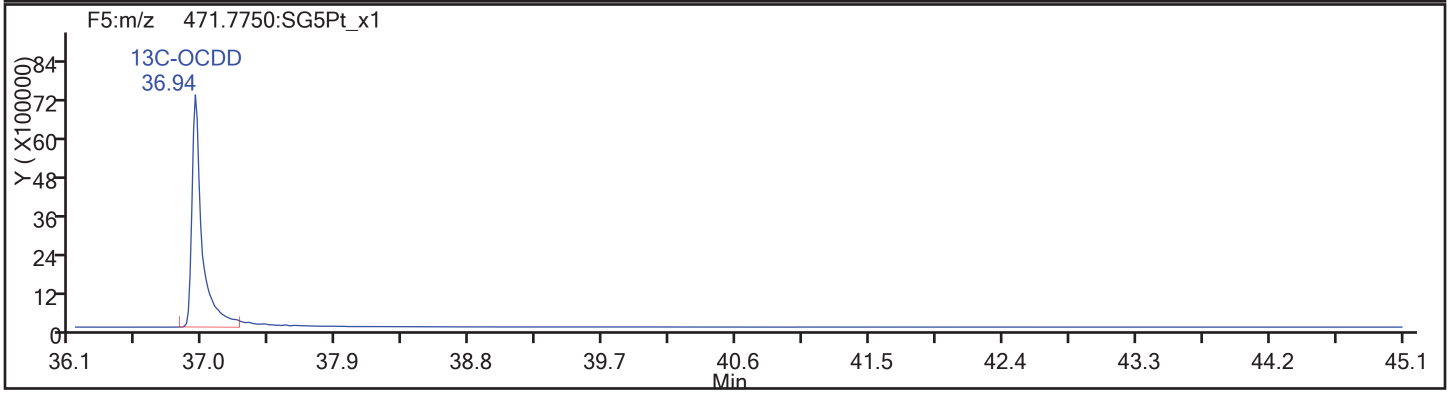
OCDF





OCDF Standards



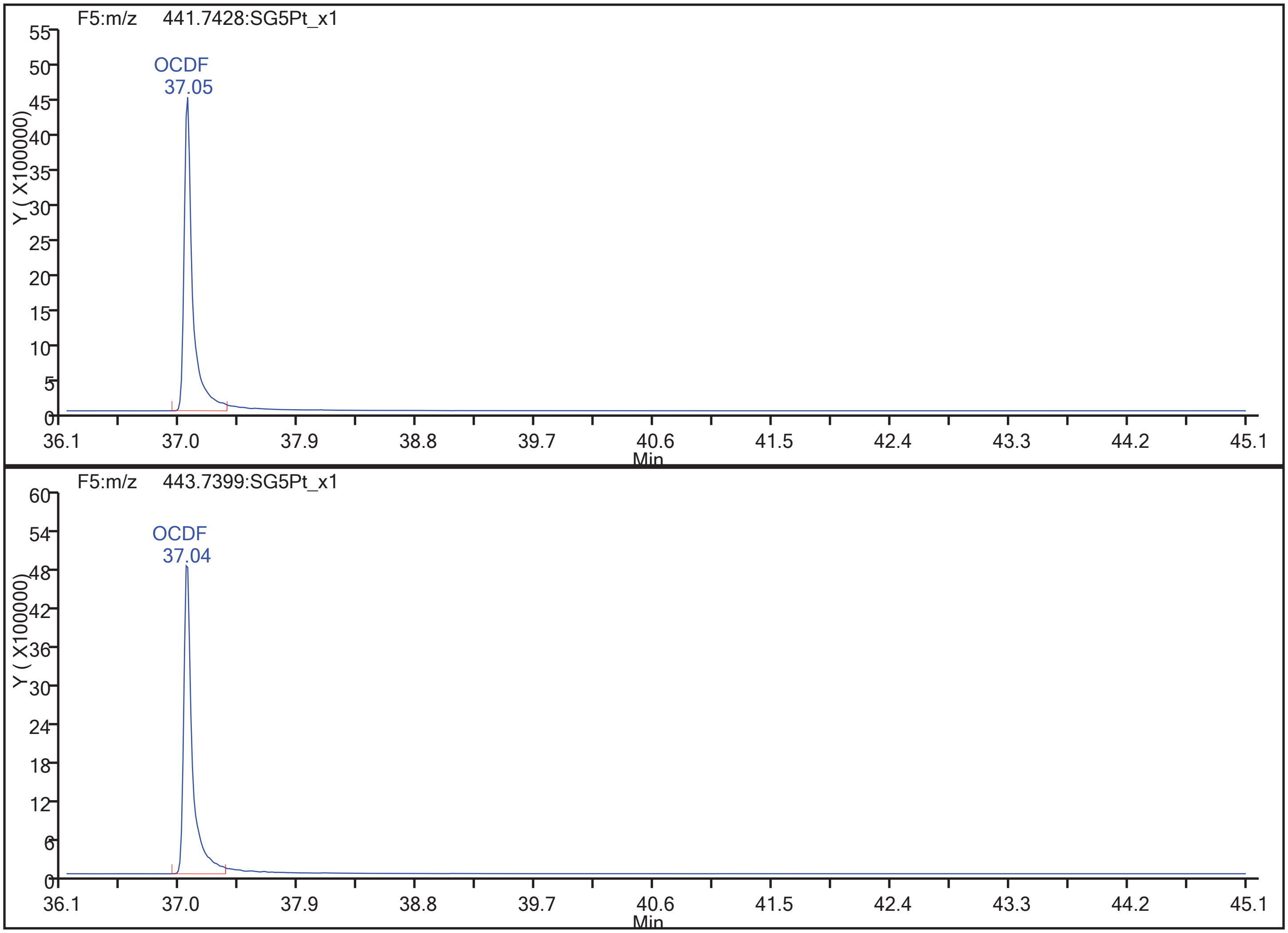


TestAmerica Sacramento

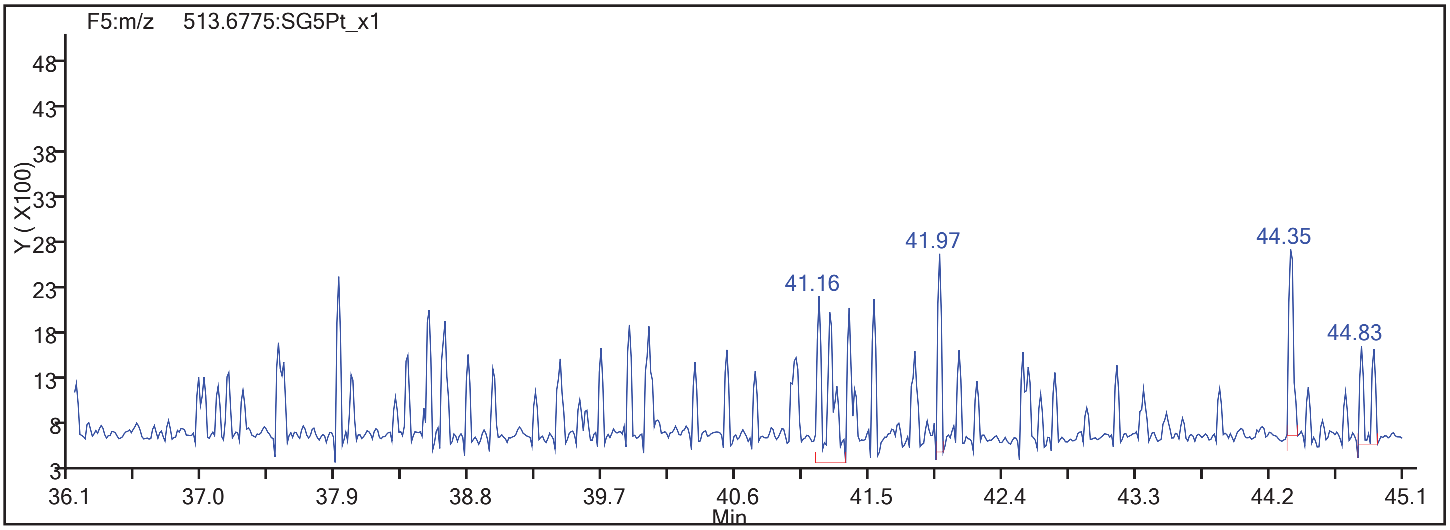
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_2.d

Injection Date:	13-Oct-2017 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Interference Mass

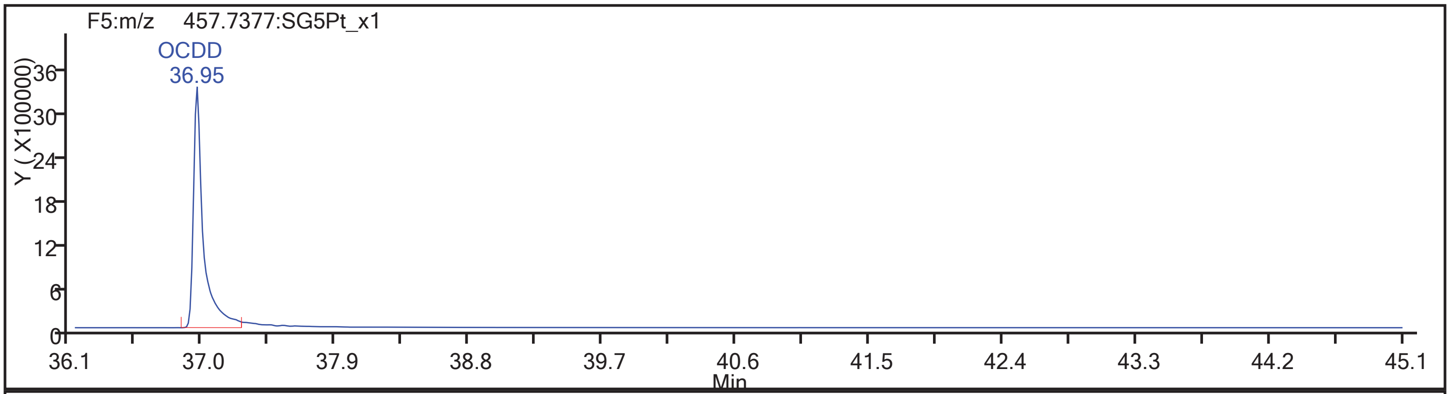


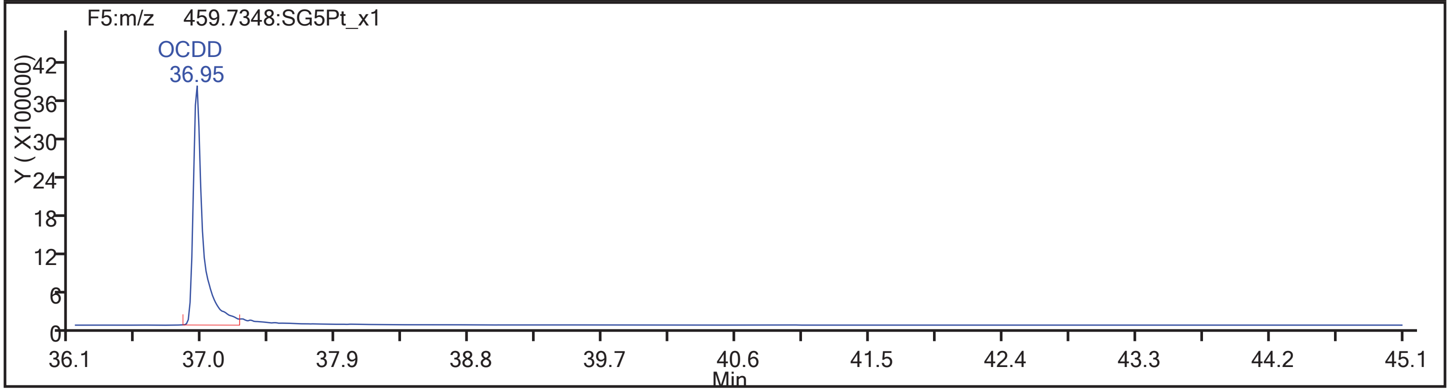
Report Date: 13-Oct-2017 10:55:25 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

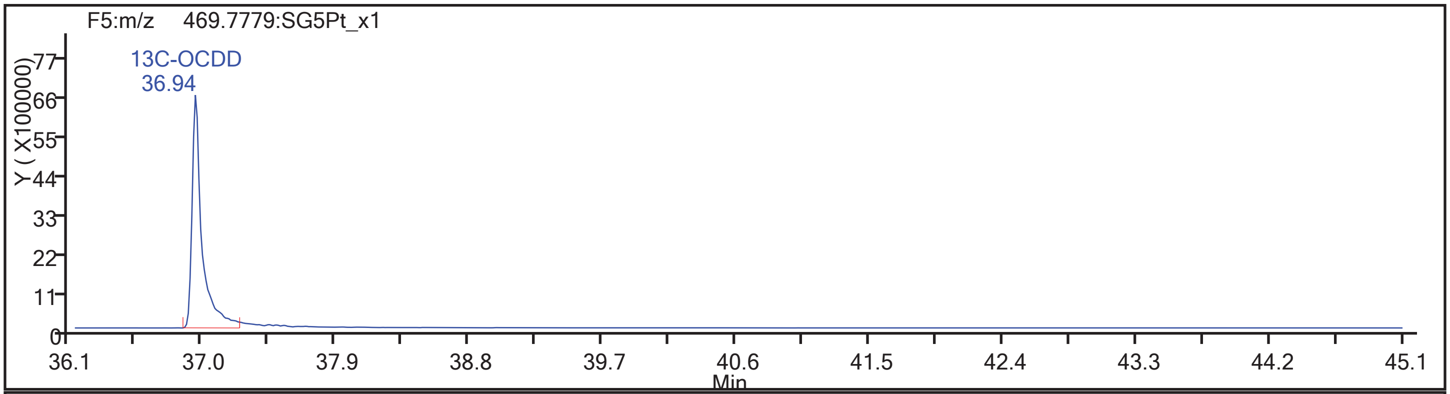
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_2.d		
Injection Date:	13-Oct-2017 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

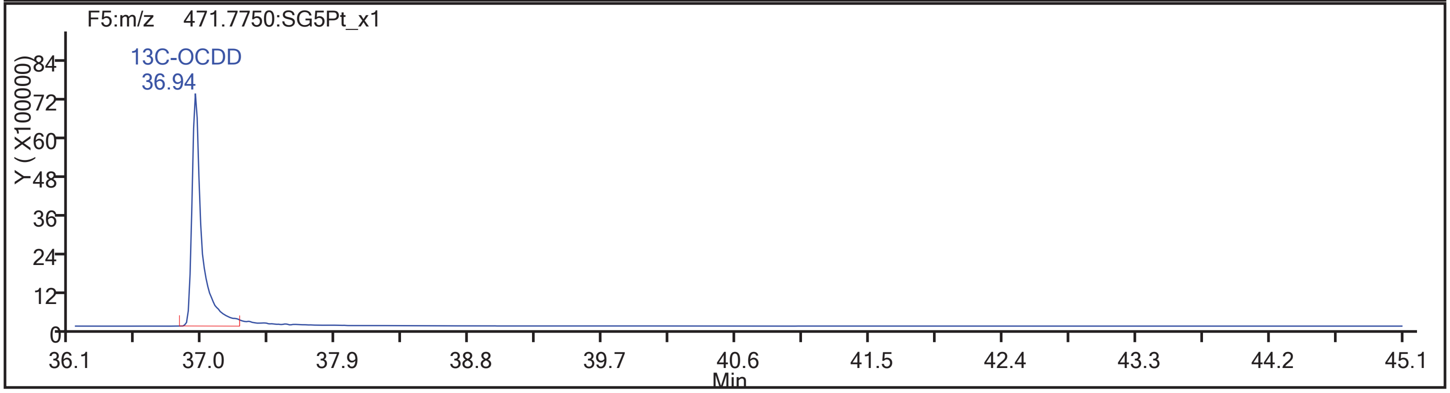
OCDD



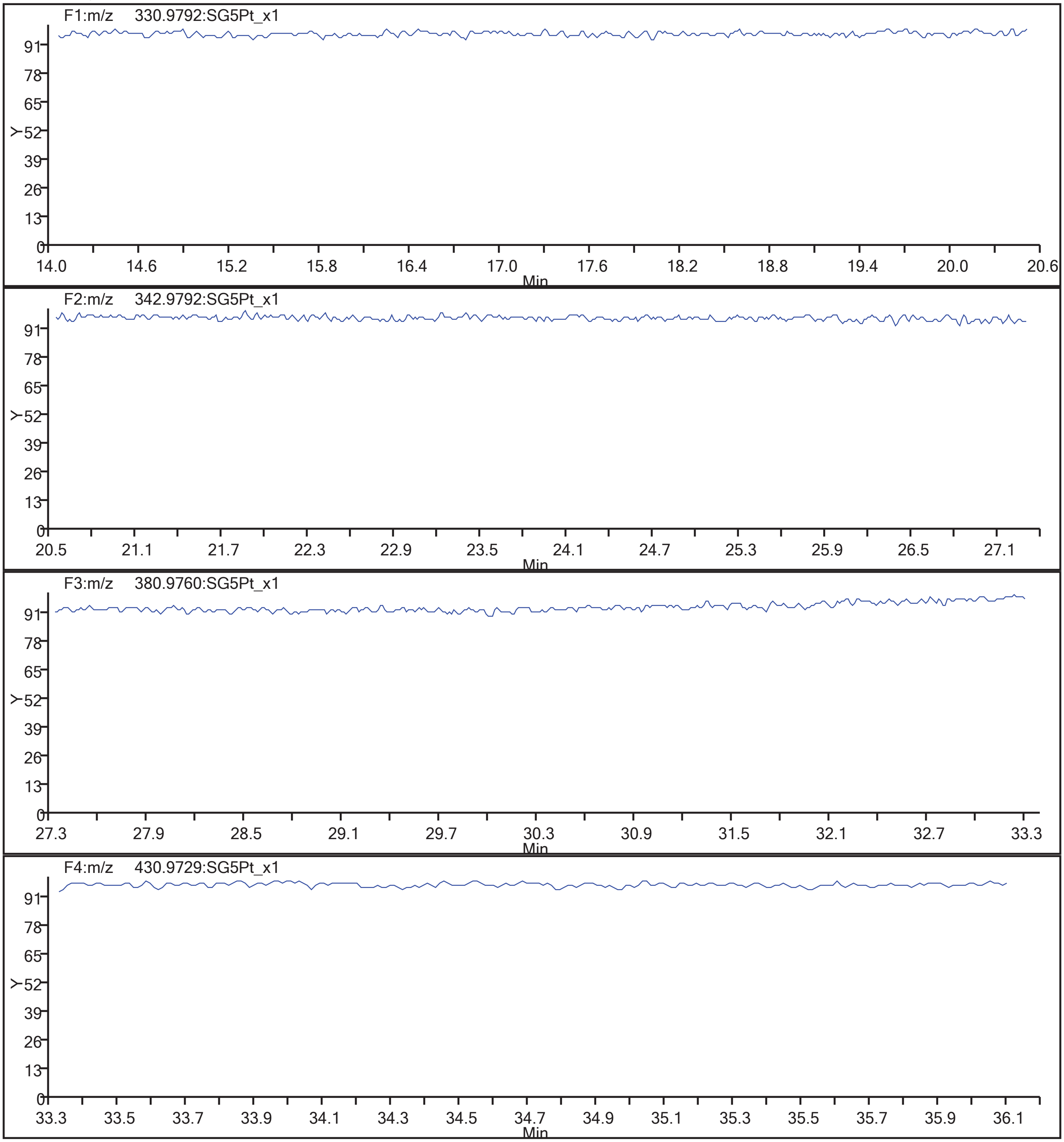


OCDD Standards



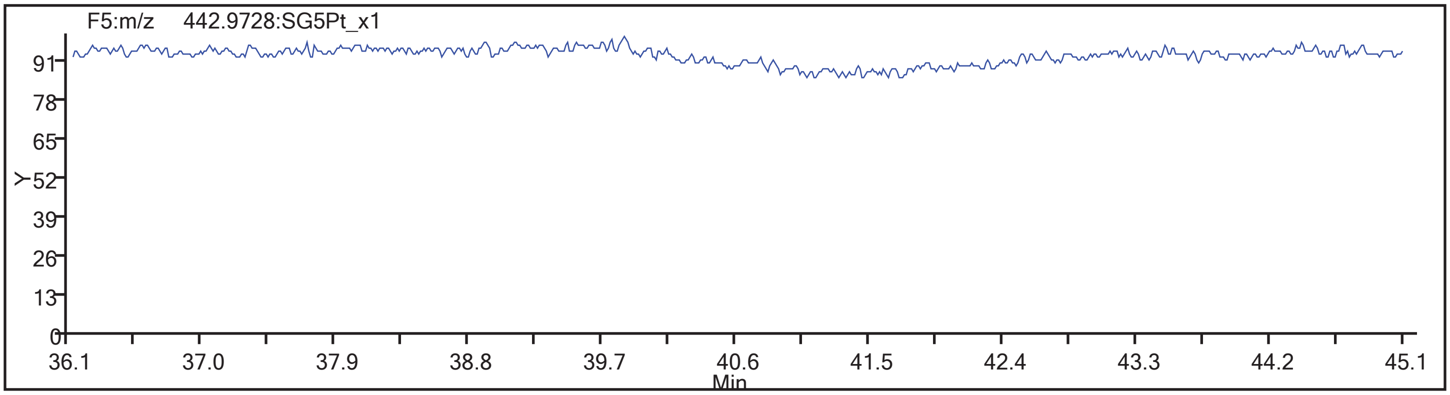


Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_2.d
Injection Date: 13-Oct-2017 00:08:25
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 2
Column Type: DB-5
Column Dia: 0.32 mm



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_2.d		
Injection Date:	13-Oct-2017 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 13-Oct-2017 10:55:36 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2017 00:54:35 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 101217F C3-3 HRDXNL3_00019
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:55:32 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:04:20

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.929	52353527	0.79	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.415	65538277	0.78	1.2741	98.3	98.3	0.2935	0.2935	98.25	
2,3,7,8-TCDF	17.430	1485013	0.82	1.1341	1.998	1.998	0.0240	0.0240	99.89	
A Non-2,3,7,8-sub-TCDF	17.128						0.0	0.0		
S Total TCDF					1.998	1.998	0.0240	0.0240		
D 13C-2,3,7,8-TCDD	18.126	51597290	0.76	0.9921	99.3	99.3	0.3910	0.3910	99.34	
2,3,7,8-TCDD	18.141	1052900	0.80	0.9993	2.042	2.042	0.0350	0.0350	102	
$ 37Cl4-2,3,7,8-TCDD	18.156	984948		1.0466	1.798	1.798	0.0132	0.0132	89.88	
A Non-2,3,7,8-sub-TCDD	17.581						0.0	0.0		
S Total TCDD					2.042	2.042	0.0350	0.0350		
D 13C-1,2,3,7,8-PeCDF	22.519	49338444	1.55	0.9696	97.2	97.2	0.3940	0.3940	97.19	
1,2,3,7,8-PeCDF	22.533	5778420	1.56	1.1627	10.1	10.1	0.1002	0.1002	101	
D 13C-2,3,4,7,8-PeCDF	23.883	49355778	1.55							
2,3,4,7,8-PeCDF	23.910	5667998	1.59	1.1395	10.1	10.1	0.1022	0.1022	101	
A F1 PeCDFs	20.023						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.229						0.0	0.0		
S Total PeCDF					20.2	20.2	0.1012	0.1012		
D 13C-1,2,3,7,8-PeCDD	24.619	38818961	1.59	0.7588	97.7	97.7	0.1783	0.1783	97.72	
1,2,3,7,8-PeCDD	24.646	3626955	1.57	0.9490	9.846	9.846	0.0761	0.0761	98.46	
A Non-2,3,7,8-sub-PeCDD	23.521						0.0	0.0		
S Total PeCDD					9.846	9.846	0.0761	0.0761		
D 13C-1,2,3,4,7,8-HxCDF	30.673	36860265	0.52	0.9644	99.4	99.4	1.353	1.353	99.35	
1,2,3,4,7,8-HxCDF	30.700	5023015	1.33	1.4012	9.725	9.725	0.1581	0.1581	97.25	
D 13C-1,2,3,6,7,8-HxCDF	30.846	45736810	0.51							
1,2,3,6,7,8-HxCDF	30.873	6200927	1.25	1.6951	9.924	9.924	0.1307	0.1307	99.24	
D 13C-2,3,4,6,7,8-HxCDF	31.645	40672690	0.52							
2,3,4,6,7,8-HxCDF	31.658	5477161	1.24	1.5205	9.772	9.772	0.1457	0.1457	97.72	
D 13C-1,2,3,7,8,9-HxCDF	32.417	38449541	0.51							
1,2,3,7,8,9-HxCDF	32.430	5125879	1.29	1.4099	9.863	9.863	0.1571	0.1571	98.63	
A Non-2,3,7,8-sub-HxCDF	30.360						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					39.3	39.3	0.1479	0.1479		
* 13C-1,2,3,7,8,9-HxCDD	32.244	38471425	1.22	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.818	25904485	1.23							
1,2,3,4,7,8-HxCDD	31.831	3072132	1.22	0.9505	9.825	9.825	0.1157	0.1157	98.25	
D 13C-1,2,3,6,7,8-HxCDD	31.924	32898359	1.23	0.8791	97.3	97.3	0.8250	0.8250	97.28	
1,2,3,6,7,8-HxCDD	31.938	4057180	1.28	1.2343	10.0	10.0	0.0891	0.0891	99.91	
1,2,3,7,8,9-HxCDD	32.257	4159901	1.27	1.2467	10.1	10.1	0.0882	0.0882	101	
A Non-2,3,7,8-sub-HxCDD	30.999						0.0	0.0		
S Total HxCDD					30.0	30.0	0.0977	0.0977		
D 13C-1,2,3,4,6,7,8-HpCDF	33.819	27811136	0.43	0.7618	94.9	94.9	2.158	2.158	94.89	
1,2,3,4,6,7,8-HpCDF	33.819	4590101	1.06	1.6399	10.1	10.1	0.1885	0.1885	101	
D 13C-1,2,3,4,7,8,9-HpCDF	34.888	24457134	0.42							
1,2,3,4,7,8,9-HpCDF	34.900	3696712	1.03	1.3302	10.0	10.0	0.2323	0.2323	99.92	
A Non-2,3,7,8-sub-HpCDF	34.359						0.0	0.0		
S Total HpCDF					20.1	20.1	0.2104	0.2104		
D 13C-1,2,3,4,6,7,8-HpCDD	34.597	28031067	1.03	0.7762	93.9	93.9	1.223	1.223	93.87	
1,2,3,4,6,7,8-HpCDD	34.609	2807451	1.04	0.9932	10.1	10.1	0.1300	0.1300	101	
A Non-2,3,7,8-sub-HpCDD	35.319						0.0	0.0		
S Total HpCDD					10.1	10.1	0.1300	0.1300		
D 13C-OCDD	36.942	44395654	0.88	0.6314	182.8	182.8	0.4828	0.4828	91.38	
OCDF	37.050	5924198	0.92	1.3460	19.8	19.8	0.1090	0.1090	99.14	
OCDD	36.954	4768336	0.90	1.0604	20.3	20.3	0.0833	0.0833	101	

Reagents:

HRDXNL3_00019 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2017 00:54:35 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 101217F C3-3 HRDXNL3_00019
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:55:32 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:04:20

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.929	17.920	1		23166599	5611163	8942	22355	628		
333.9339	17.929	17.920	1		29186928	6993292	10615	26537	659	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.415	17.403	1	0.971	28619395	6720488	11030	27575	609		
317.9389	17.415	17.403	1	0.971	36918882	8721627	7822	19555	1115	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.430	17.421	1	1.001	668707	162832	698	1745	233		
305.8987	17.430	17.421	1	1.001	816306	192786	986	2465	196	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.128						698	1745			
305.8987	17.128						986	2465			
13C-2,3,7,8-TCDD											
331.9368	18.126	18.117	1	1.011	22273216	4914945	8942	22355	550		
333.9339	18.126	18.117	1	1.011	29324074	6373306	10615	26537	600	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.141	18.132	1	1.001	468588	99961	993	2482	101		
321.8936	18.141	18.132	1	1.001	584312	125761	586	1465	215	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.156	18.135	1	1.013	984948	210723	698	1745	302		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.581						993	2482			
321.8936	17.581						586	1465			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.519	22.503	1	1.256	30018449	4873765	10775	26937	452		
353.8970	22.505	22.503	0	1.255	19319995	3156101	8487	21217	372	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.533	22.525	0	1.001	3519762	562703	1985	4962	283		
341.8567	22.533	22.525	0	1.001	2258658	361346	1757	4392	206	1.56(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.883	23.866	1	1.332	30000224	4548925	10775	26937	422		
353.8970	23.883	23.866	1	1.332	19355554	2977792	8487	21217	351	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.910	23.894	1	1.001	3478881	519719	1985	4962	262		
341.8567	23.896	23.894	0	1.001	2189117	330606	1757	4392	188	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.023						321	802			
341.8567	20.023						753	1882			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.229						1985	4962			
341.8567	23.229						1757	4392			
13C-1,2,3,7,8-PeCDD											
367.8949	24.619	24.603	1	1.373	23846898	3381724	3953	9882	855		
369.8919	24.619	24.603	1	1.373	14972063	2078302	2868	7170	725	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.646	24.630	1	1.001	2217966	312067	1044	2610	299		
357.8516	24.633	24.630	0	1.001	1408989	193352	533	1332	363	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.521						1044	2610			
357.8516	23.521						533	1332			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.673	30.660	1	0.951	12580283	2388369	13623	34057	175		
385.8610	30.673	30.660	1	0.951	24279982	4574380	28138	70345	163	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.700	30.684	1	1.001	2864446	540879	3541	8852	153		
375.8178	30.700	30.684	1	1.001	2158569	407784	2629	6572	155	1.33(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.846	30.838	0	0.957	15535636	2625826	13623	34057	193		
385.8610	30.846	30.838	0	0.957	30201174	5175692	28138	70345	184	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.873	30.859	1	1.001	3446298	584451	3541	8852	165		
375.8178	30.873	30.859	1	1.001	2754629	458027	2629	6572	174	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.645	31.629	1	0.981	13938219	3127961	13623	34057	230		
385.8610	31.645	31.629	1	0.981	26734471	5827678	28138	70345	207	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.658	31.645	1	1.000	3036385	662686	3541	8852	187		
375.8178	31.658	31.645	1	1.000	2440776	531582	2629	6572	202	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.417	32.409	0	1.005	13039748	2956022	13623	34057	217		
385.8610	32.417	32.409	0	1.005	25409793	5727233	28138	70345	204	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.430	32.422	0	1.000	2888272	654032	3541	8852	185		
375.8178	32.430	32.422	0	1.000	2237607	509008	2629	6572	194	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.360						3541	8852			
375.8178	30.360						2629	6572			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.244	32.230	1		21138304	4374529	13847	34617	316		
403.8529	32.244	32.230	1		17333121	3627821	9367	23417	387	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.818	31.810	0	0.987	14303054	3893393	13847	34617	281		
403.8529	31.818	31.810	0	0.987	11601431	3083114	9367	23417	329	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.831	31.823	0	1.000	1691086	455623	1771	4427	257		
391.8127	31.831	31.823	0	1.000	1381046	375132	1360	3400	276	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.924	31.911	1	0.990	18164978	3914395	13847	34617	283		
403.8529	31.924	31.911	1	0.990	14733381	3202525	9367	23417	342	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.938	31.927	1	1.000	2278842	491660	1771	4427	278		
391.8127	31.938	31.927	1	1.000	1778338	386727	1360	3400	284	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.257	32.244	1	1.014	2324037	477060	1771	4427	269		
391.8127	32.257	32.244	1	1.014	1835864	370113	1360	3400	272	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.999						1771	4427			
391.8127	30.999						1360	3400			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.819	33.807	1	1.049	8315162	2251308	17976	44940	125		
419.8220	33.819	33.807	1	1.049	19495974	5271758	34643	86607	152	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.819	33.814	0	1.000	2358422	616321	4662	11655	132		
409.7789	33.819	33.814	0	1.000	2231679	610691	4639	11597	132	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.888	34.881	0	1.082	7248633	1771796	17976	44940	99		
419.8220	34.888	34.881	0	1.082	17208501	4204224	34643	86607	121	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.900	34.893	0	1.000	1879800	466611	4662	11655	100		
409.7789	34.900	34.893	0	1.000	1816912	450380	4639	11597	97	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.359						4662	11655			
409.7789	34.359						4639	11597			

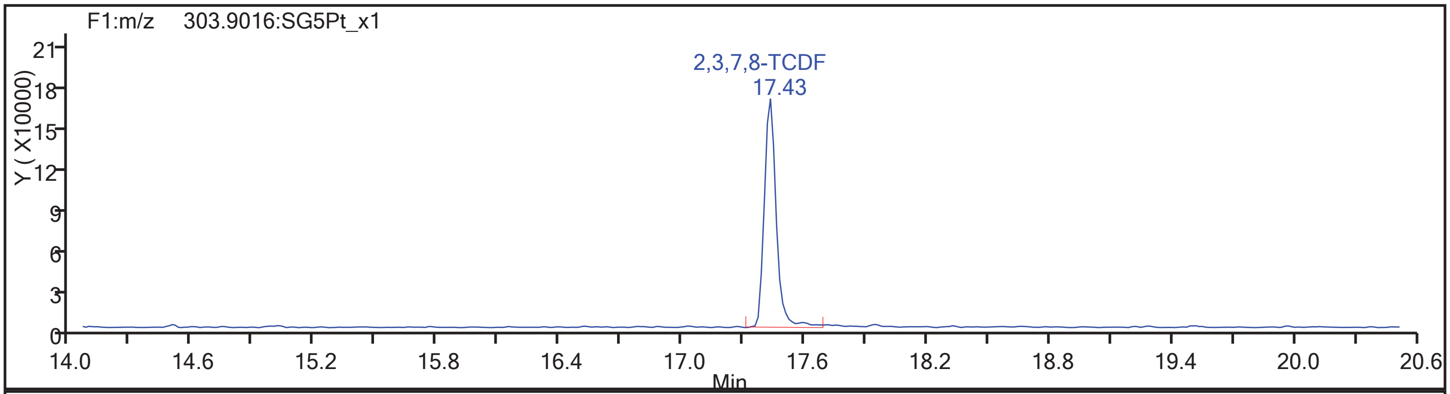
Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.597	34.592	0	1.073	14192214	3396296	17275	43187	197		
437.8140	34.597	34.592	0	1.073	13838853	3412327	13109	32772	260	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.609	34.601	0	1.000	1429105	351209	1679	4197	209		
425.7737	34.609	34.601	0	1.000	1378346	337734	1837	4592	184	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.319						1679	4197			
425.7737	35.319						1837	4592			
13C-OCDD											
469.7779	36.942	36.932	1	1.146	20835676	4373618	4417	11042	990		
471.7750	36.942	36.932	1	1.146	23559978	4952862	5341	13352	927	0.88(0.76-1.02)	
OCDF											
441.7428	37.050	37.038	1	1.003	2838582	608437	948	2370	642		
443.7399	37.038	37.038	0	1.003	3085616	674432	1788	4470	377	0.92(0.76-1.02)	
OCDD											
457.7377	36.954	36.944	1	1.000	2258019	467765	971	2427	482		
459.7348	36.954	36.944	1	1.000	2510317	521295	676	1690	771	0.90(0.76-1.02)	

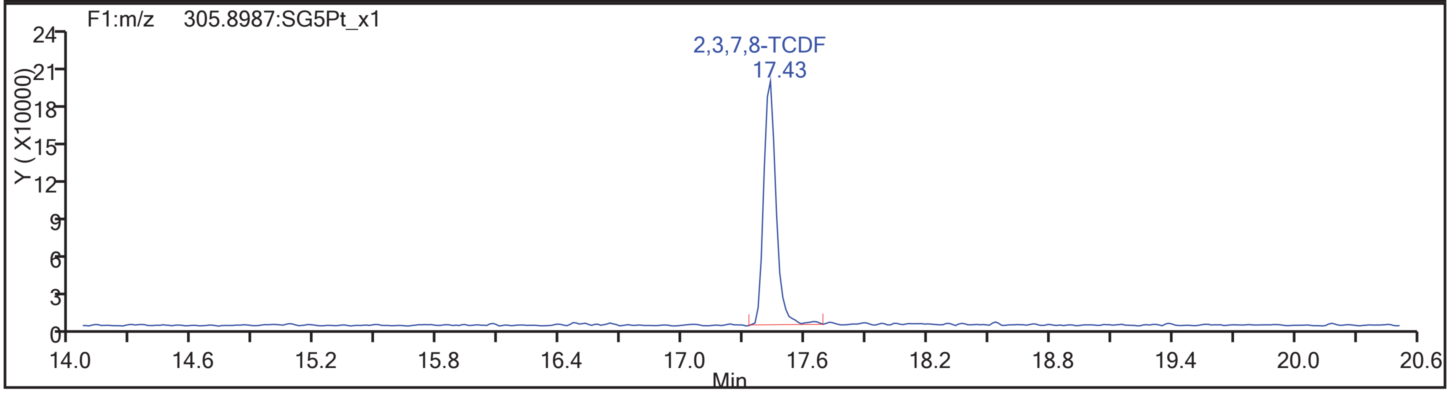
Reagents:

HRDXNL3_00019 Amount Added: 1.00 Units: mL

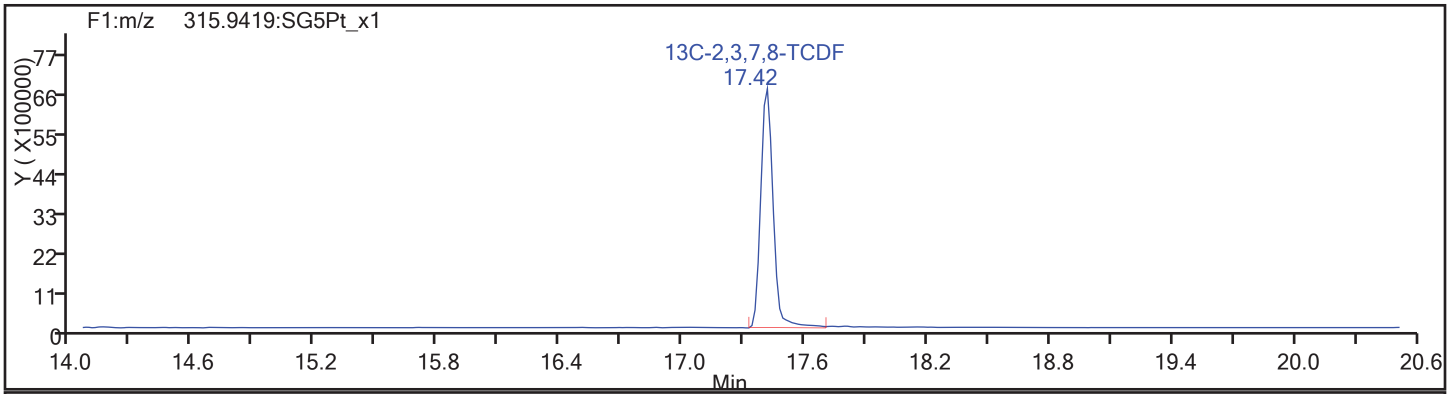
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d		
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

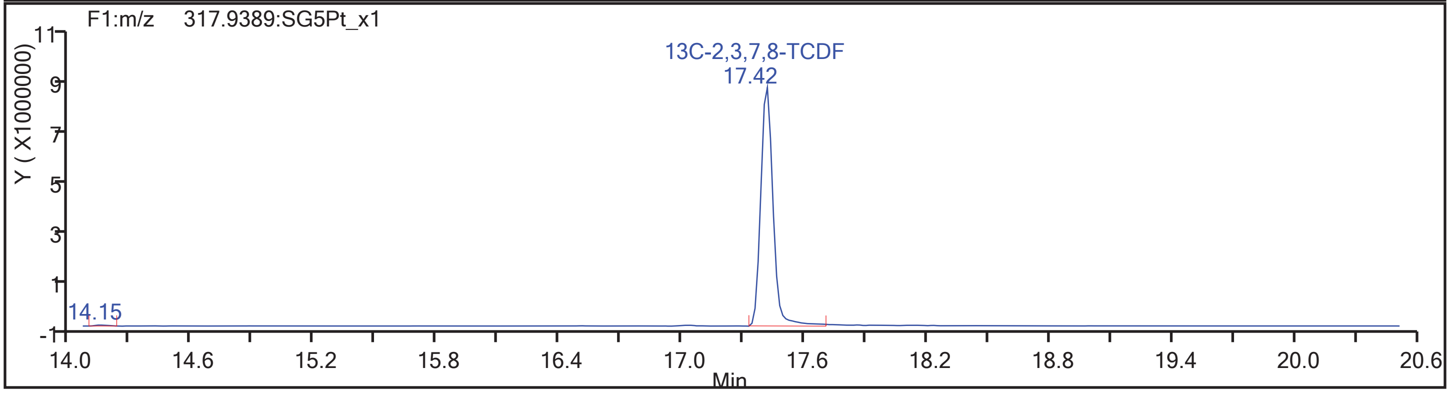
TCDF





TCDF Standards



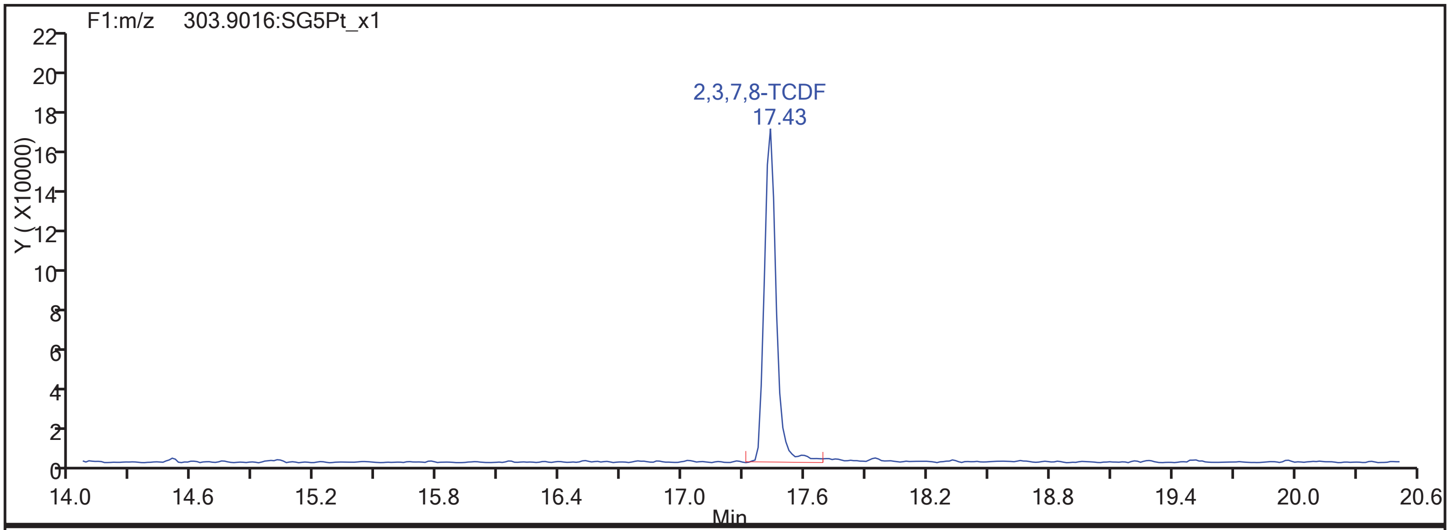


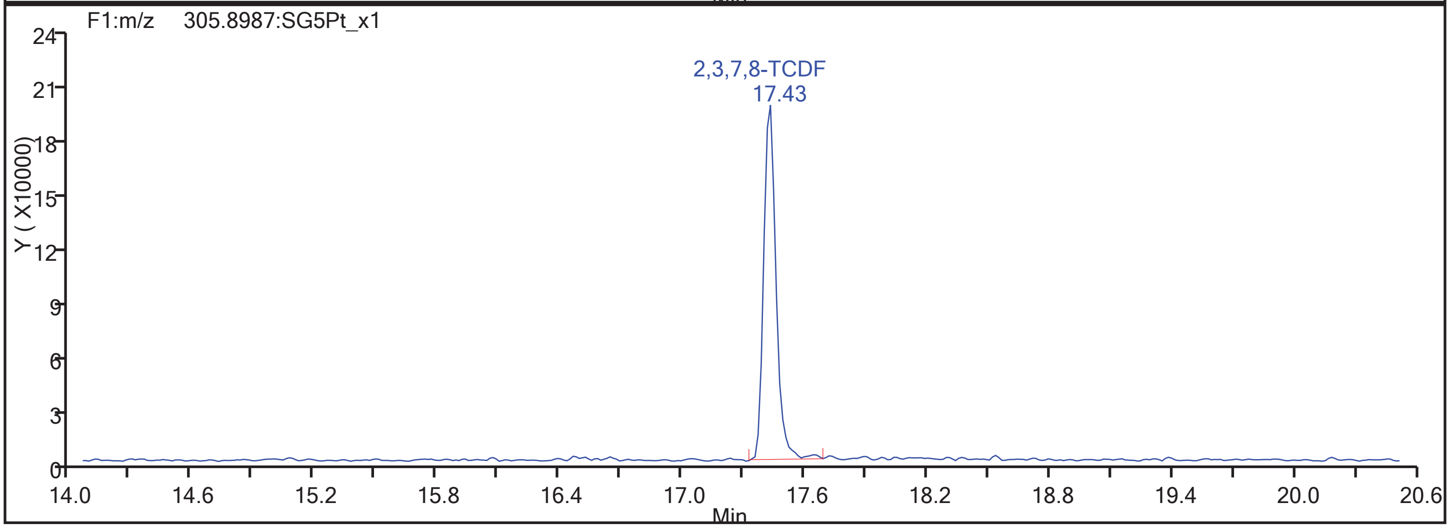
Report Date: 13-Oct-2017 10:55:37 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

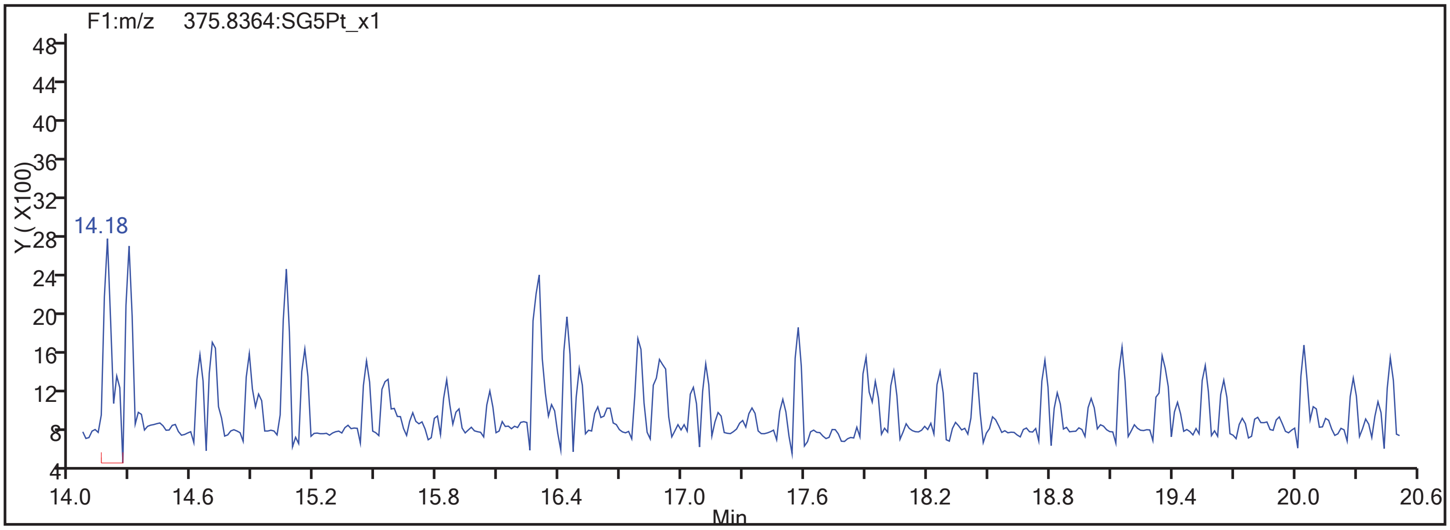
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d		
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Report Date: 13-Oct-2017 10:55:37 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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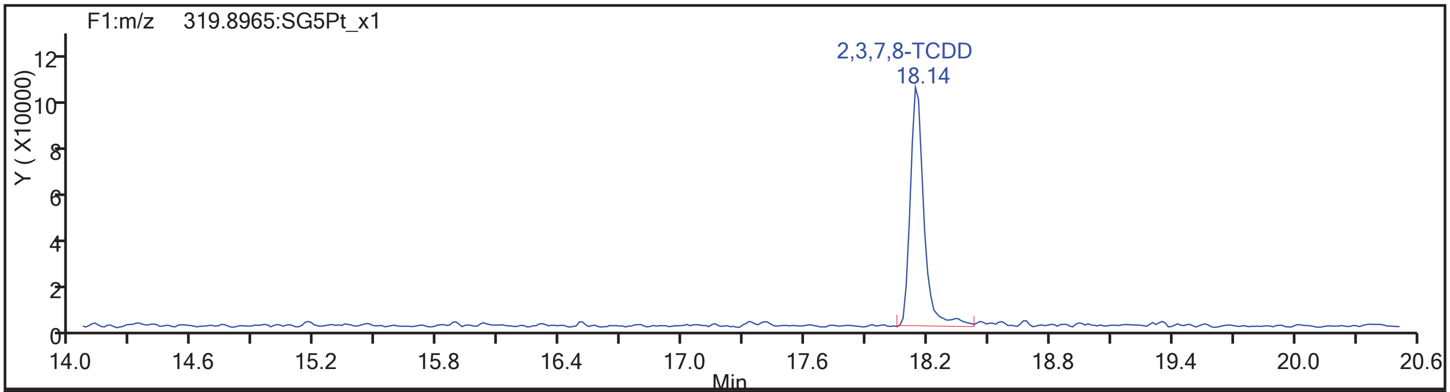
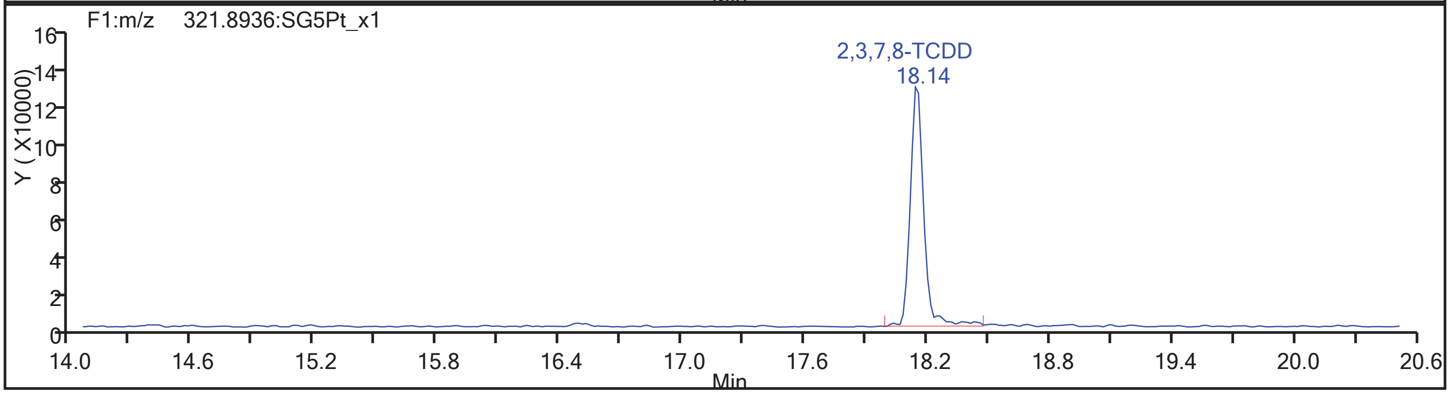
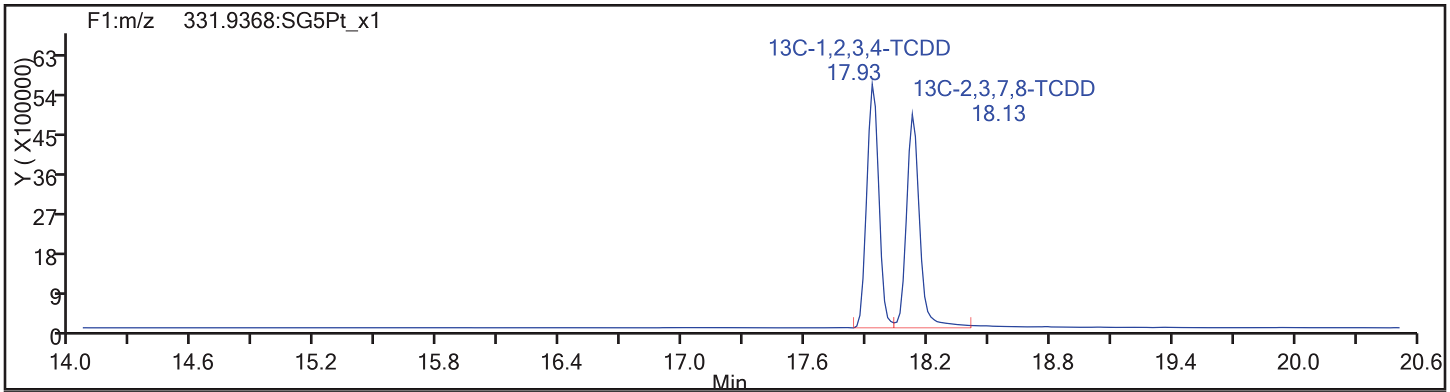
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

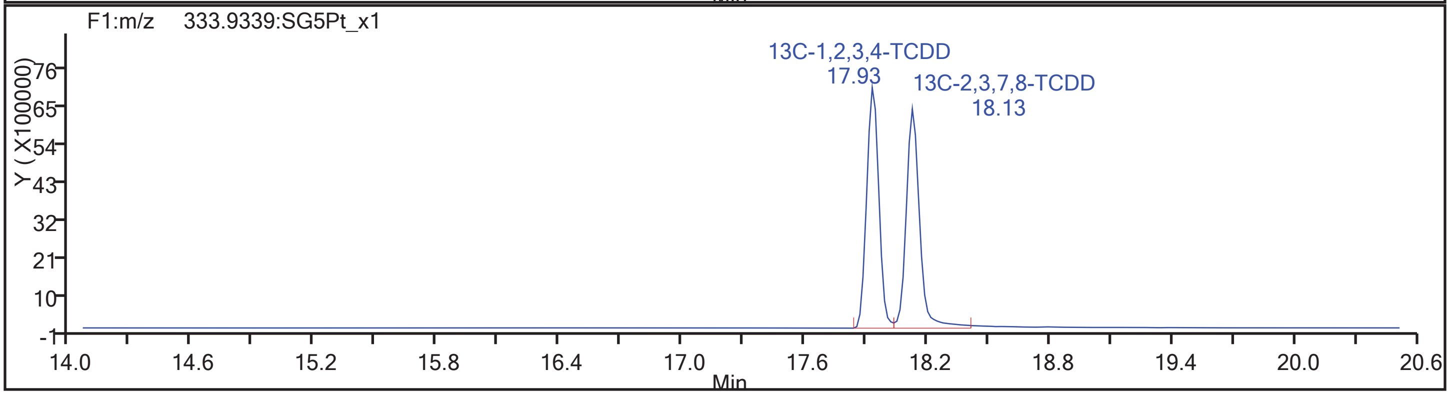
TCDD





TCDD Standards



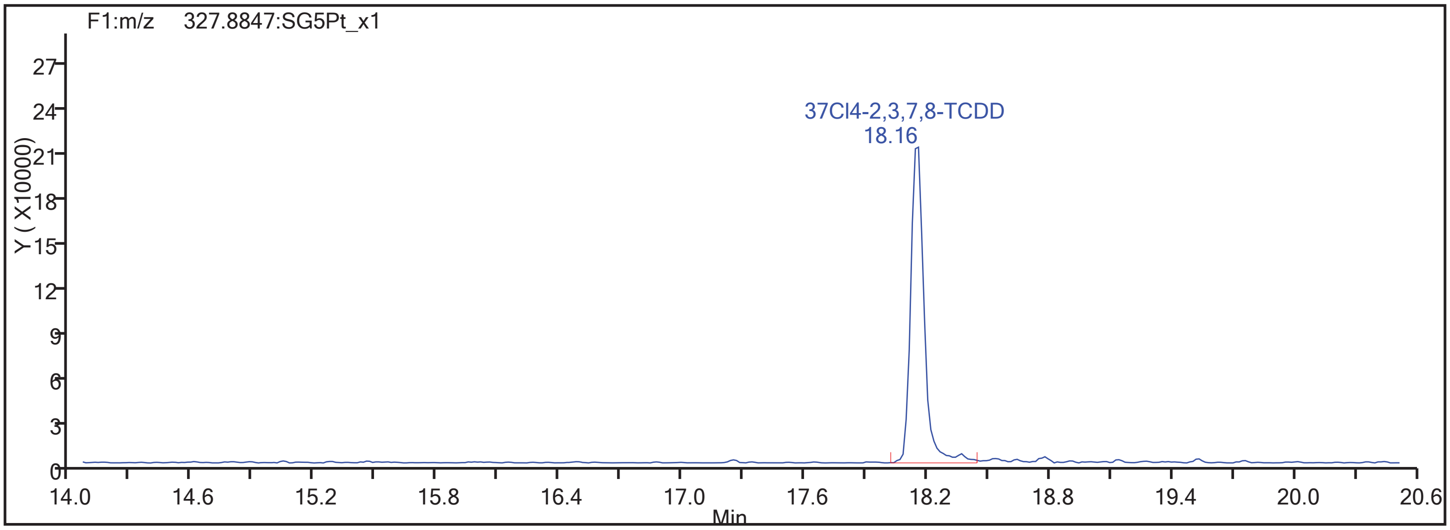


Report Date: 13-Oct-2017 10:55:37　Chrom Revision: 2.2 10-Oct-2017 10:31:20

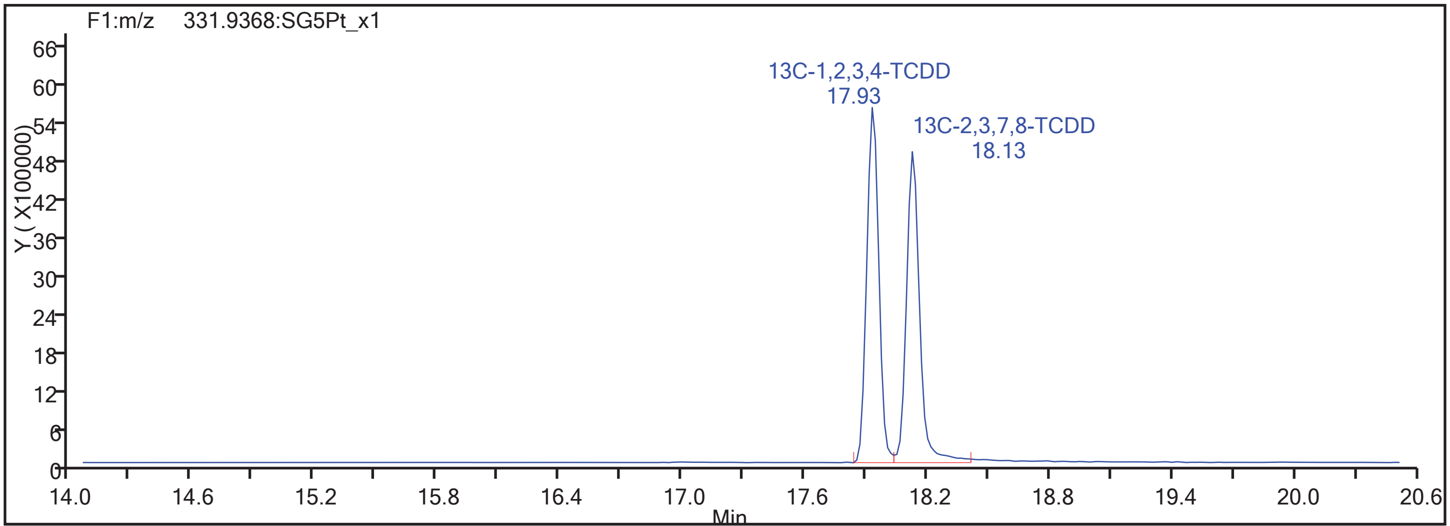
TestAmerica Sacramento

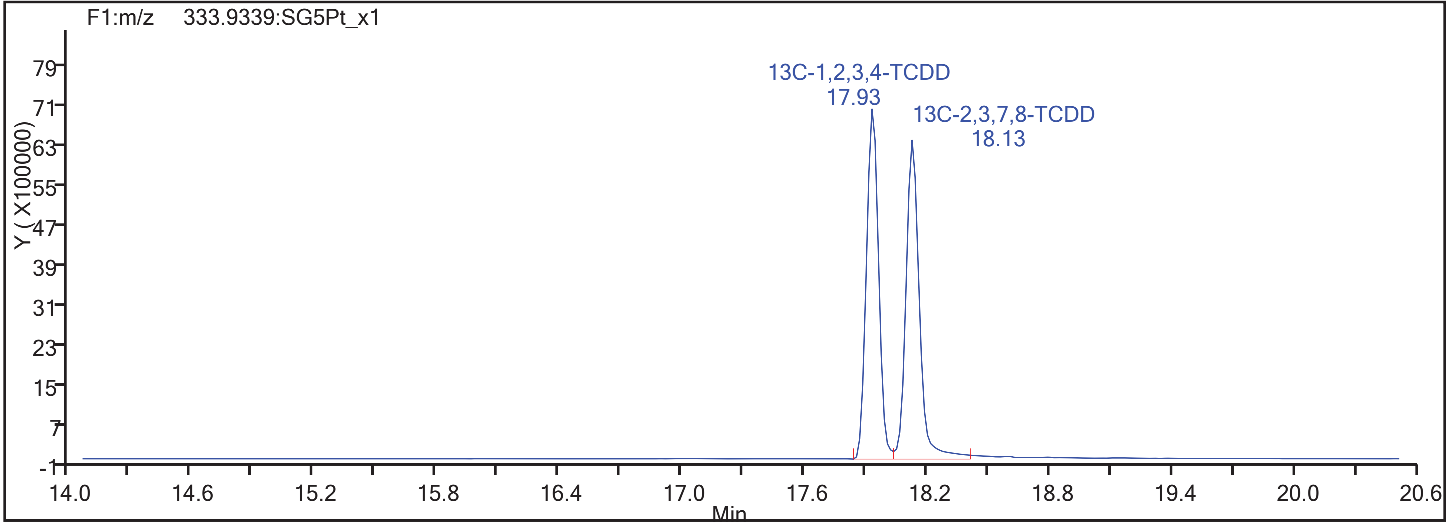
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d		
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards

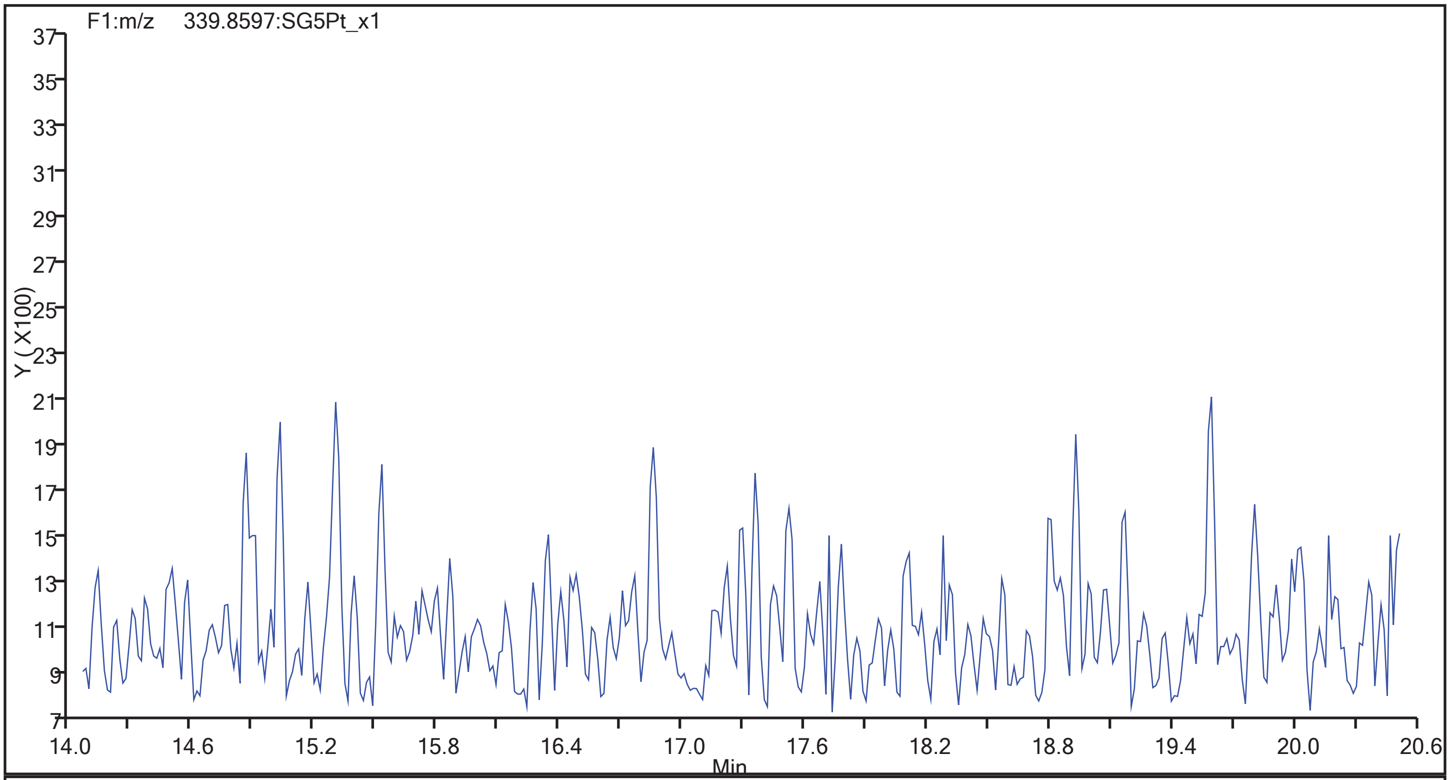


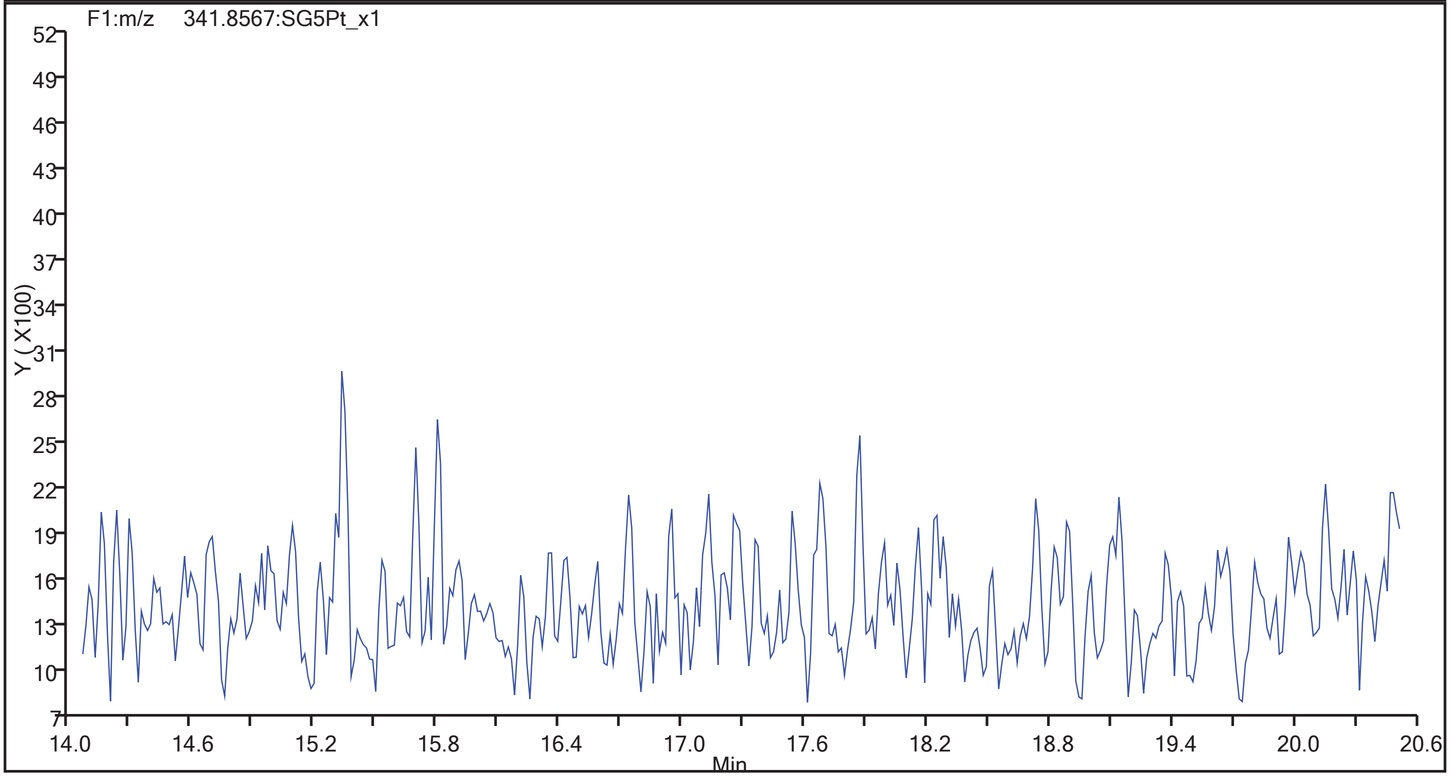


TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d
Injection Date: 13-Oct-2017 00:54:35
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 3
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs





TestAmerica Sacramento

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Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
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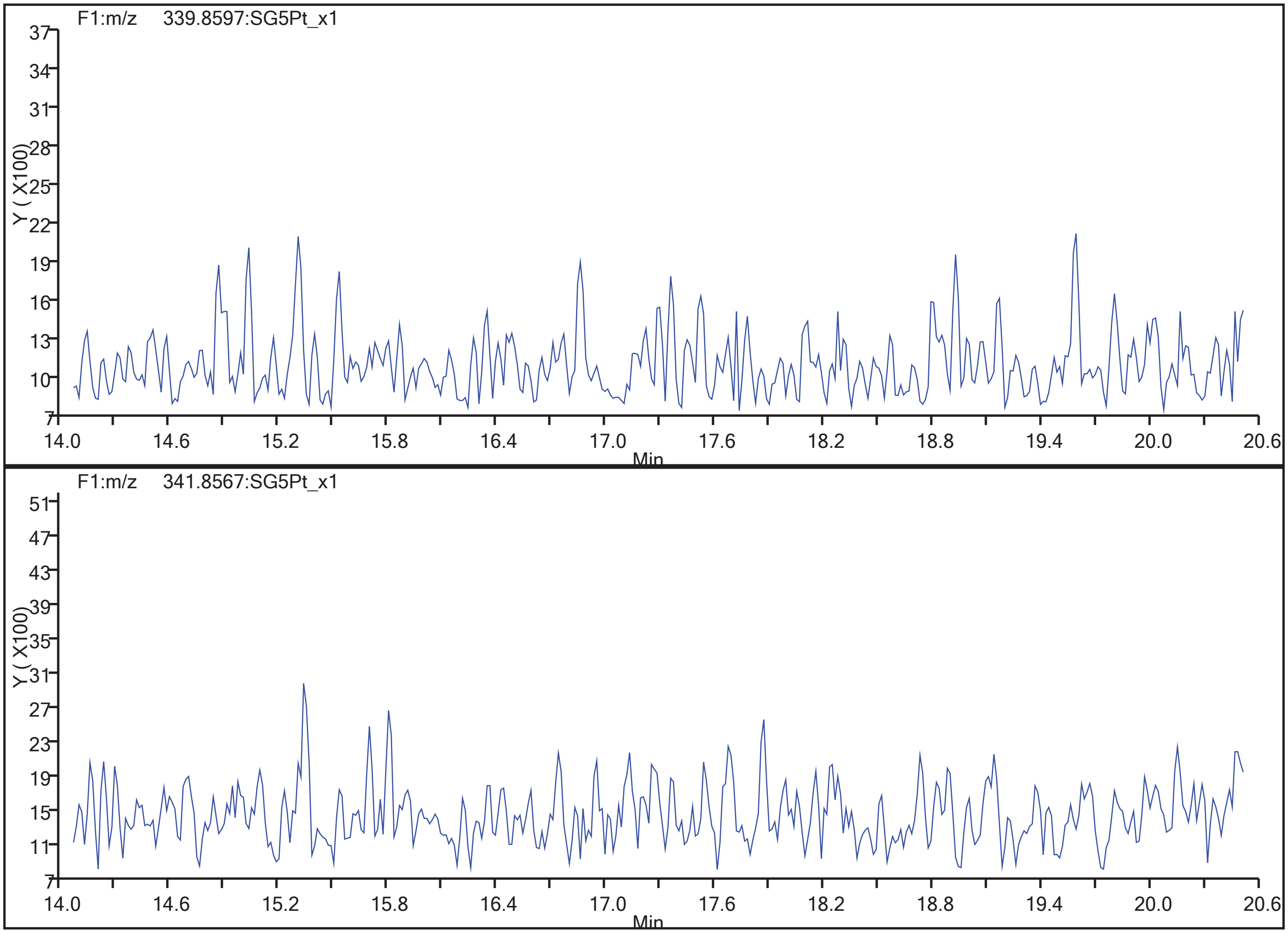
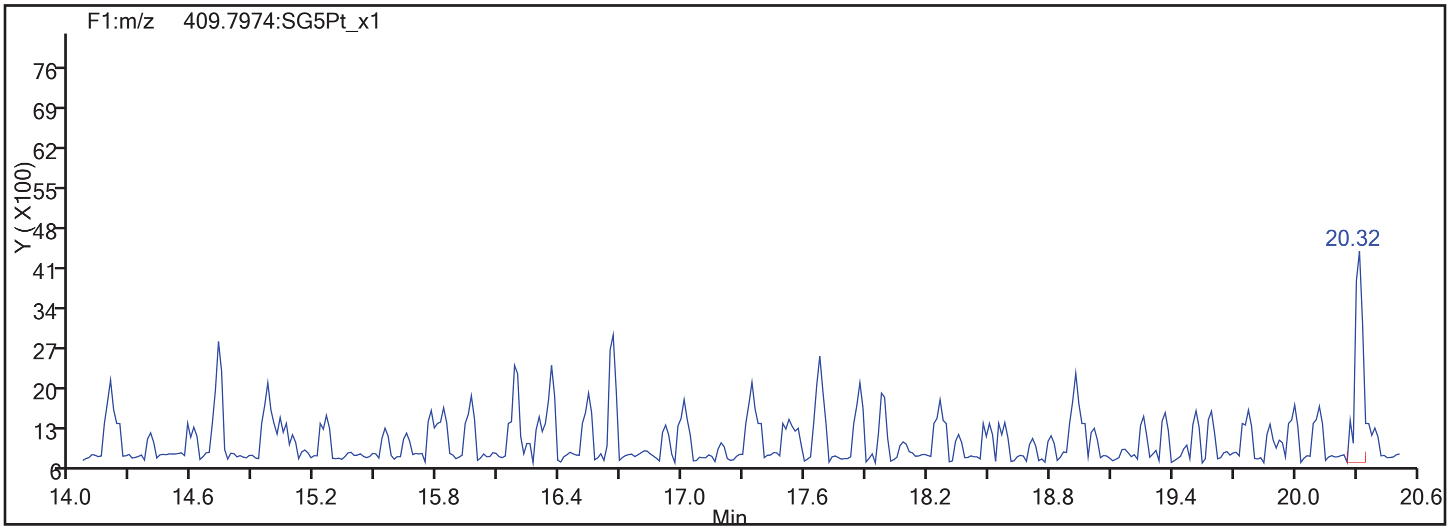
Sample Line#: 3
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs



F1 PeCDFs Interference Mass



TestAmerica Sacramento

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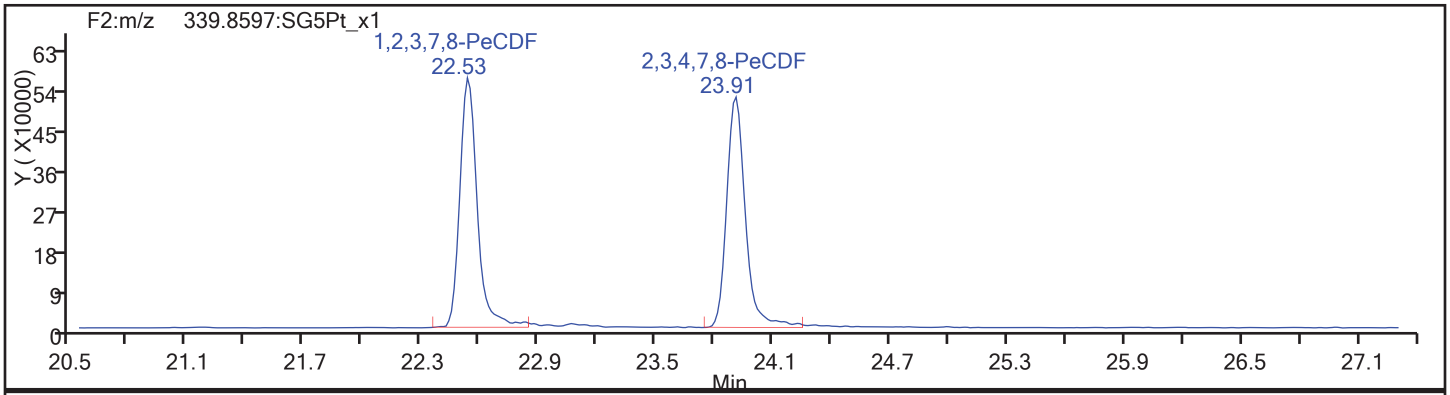
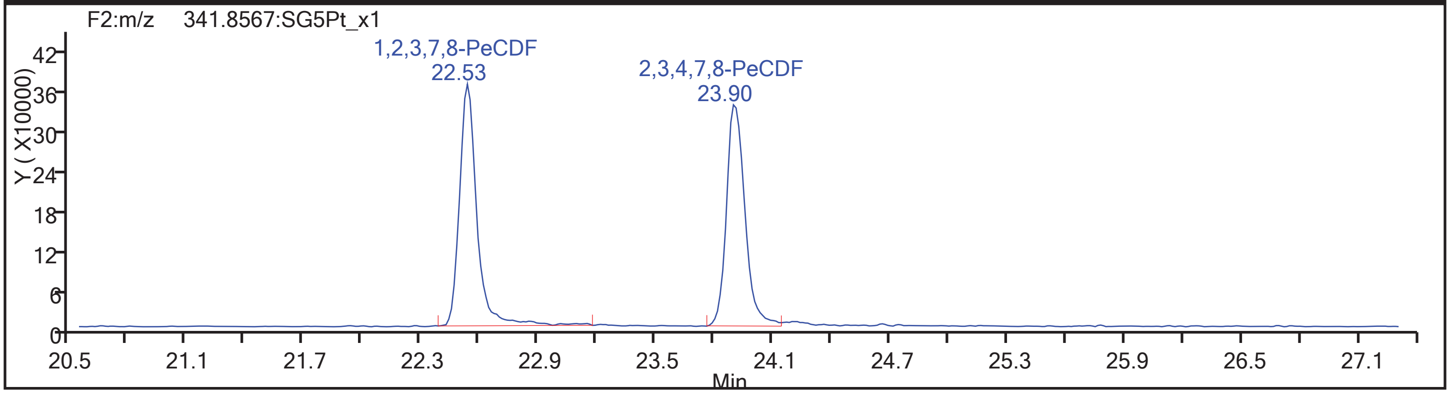
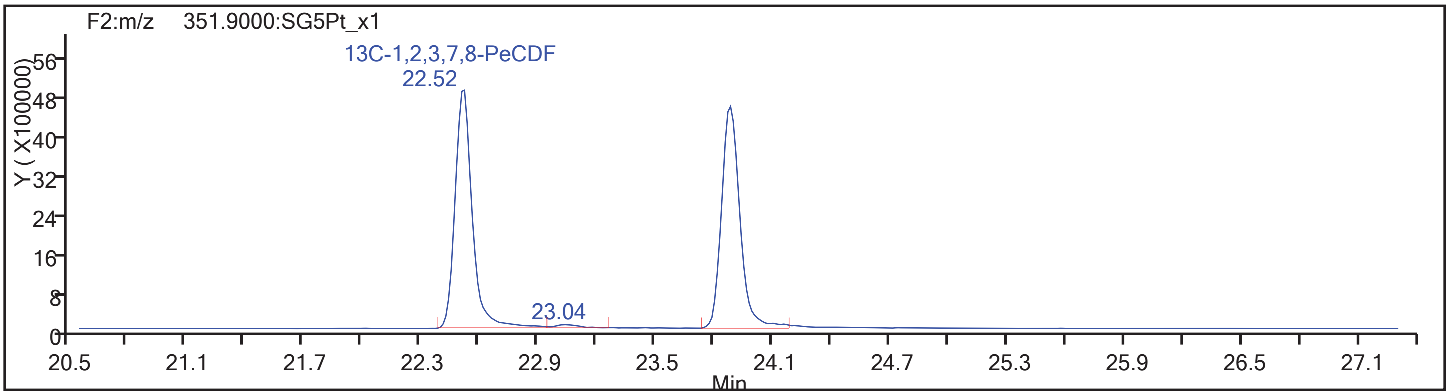
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

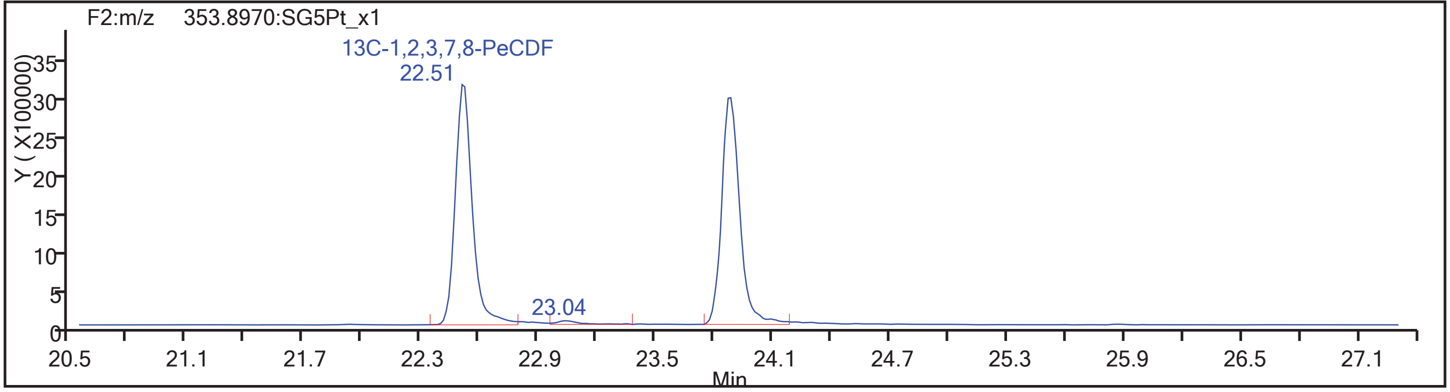
PeCDF





PeCDF Standards





Report Date: 13-Oct-2017 10:55:37 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d

Injection Date: 13-Oct-2017 00:54:35

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: ALM, SMA

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

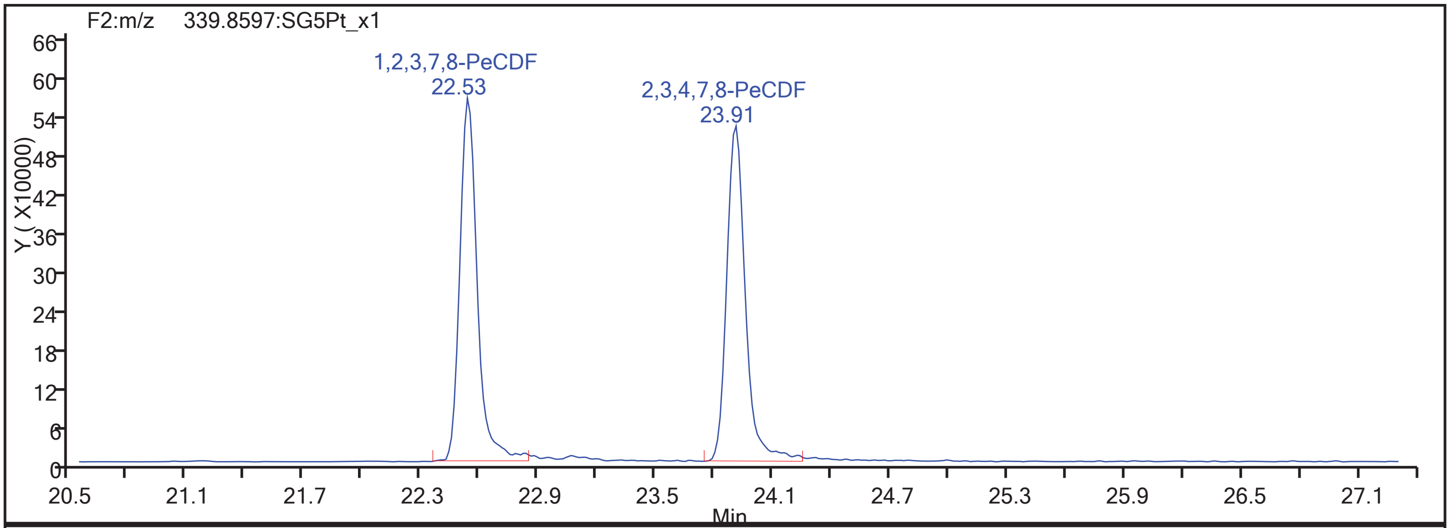
Worklist#: 189155

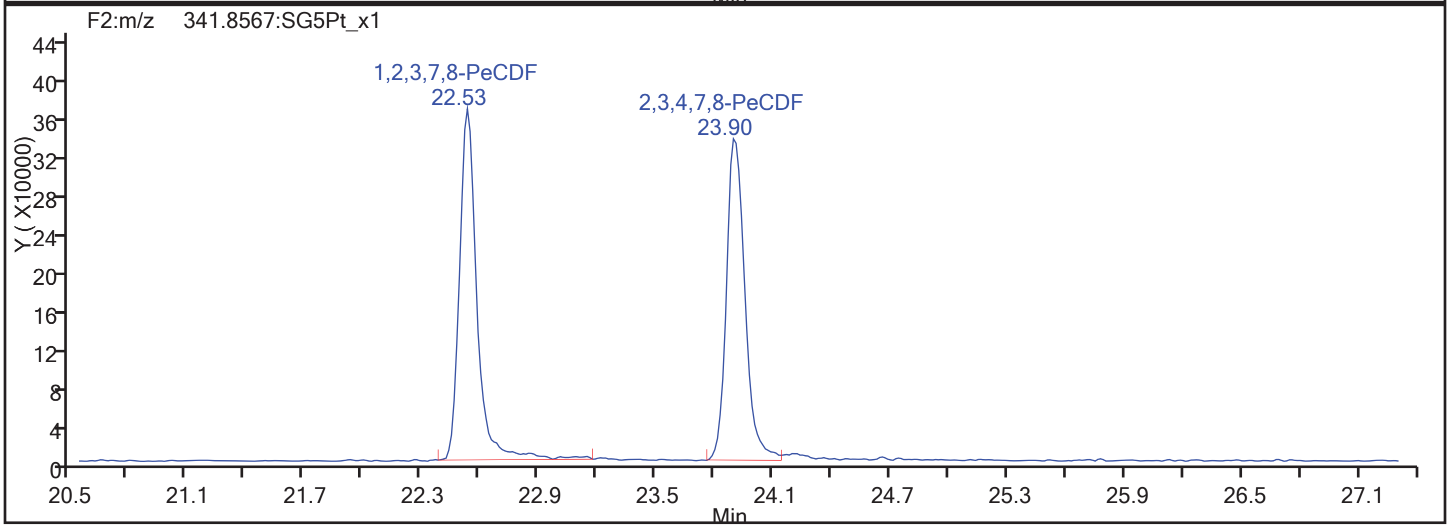
Sample Line#: 3

Column Type: DB-5

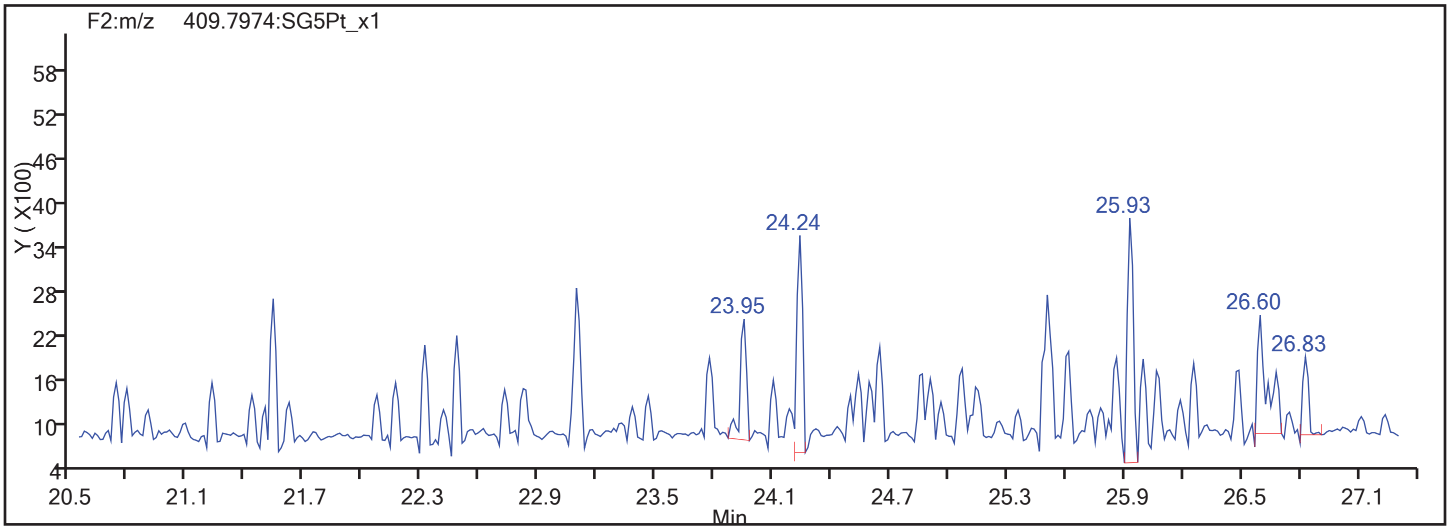
Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass

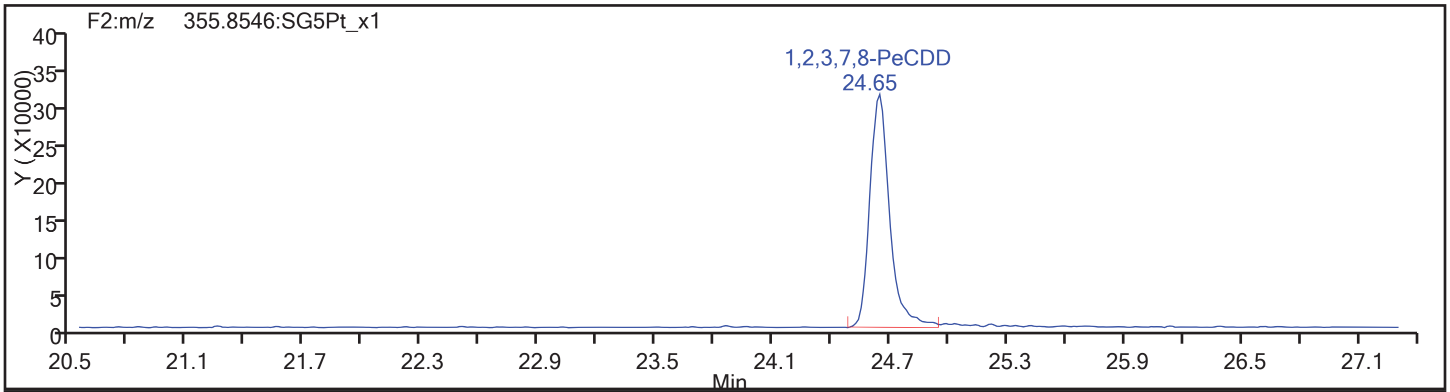


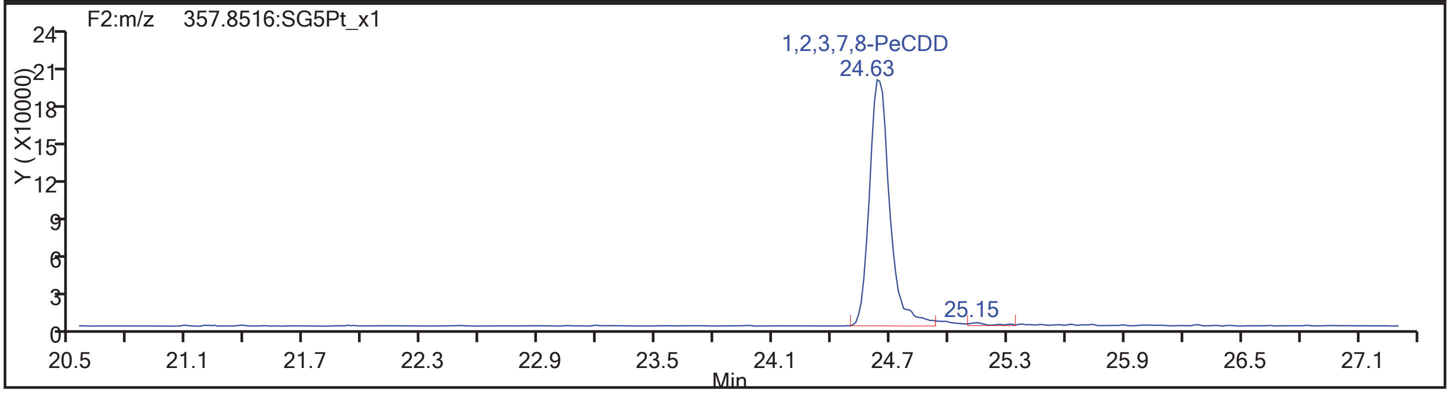
Report Date: 13-Oct-2017 10:55:37 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

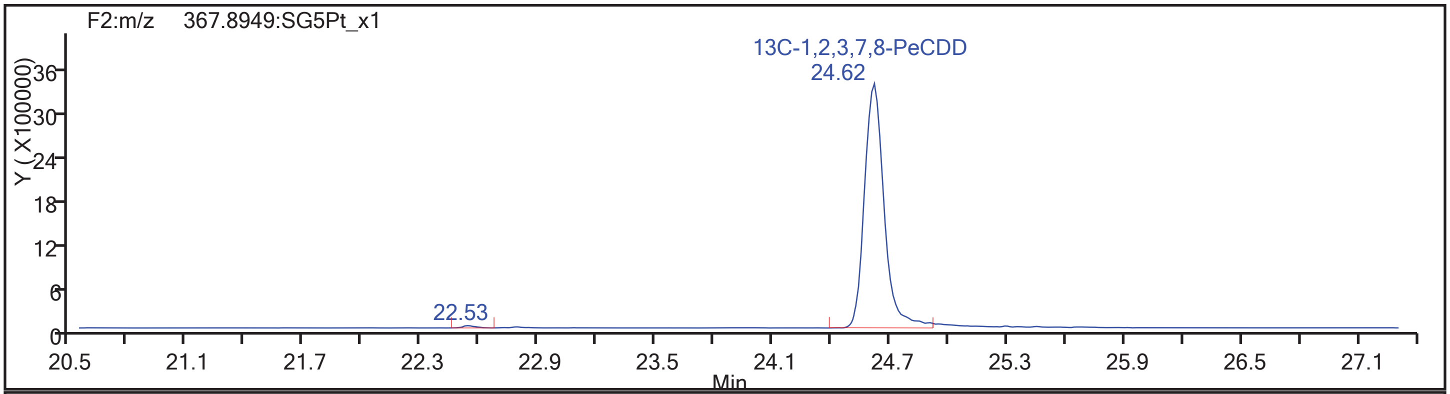
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d		
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

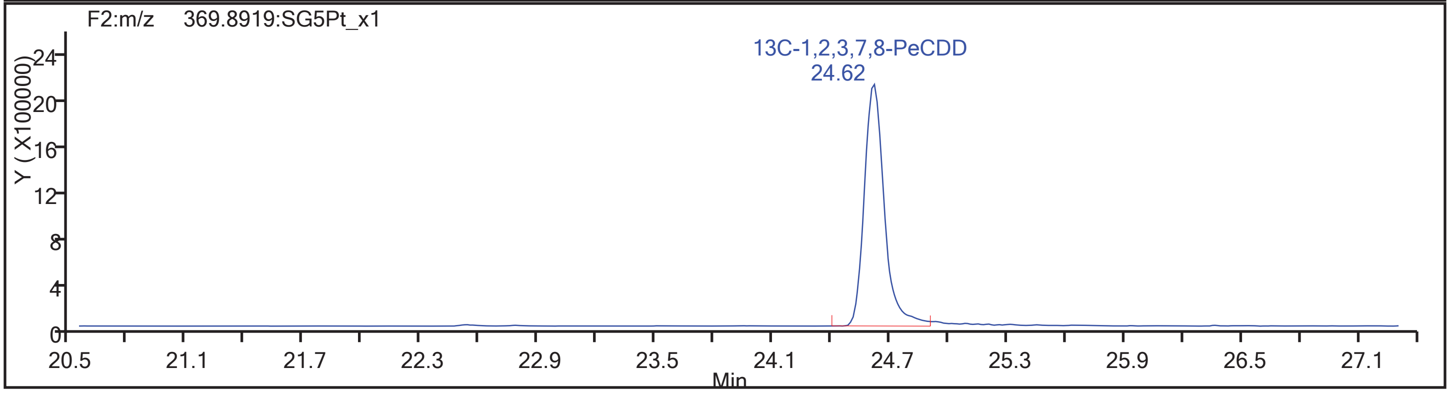
PeCDD





PeCDD Standards





Report Date: 13-Oct-2017 10:55:37　　Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d

Injection Date: 13-Oct-2017 00:54:35　　Injection Vol: 2.0 ul

Instrument ID: 10D5　　Operator ID: ALM, SMA

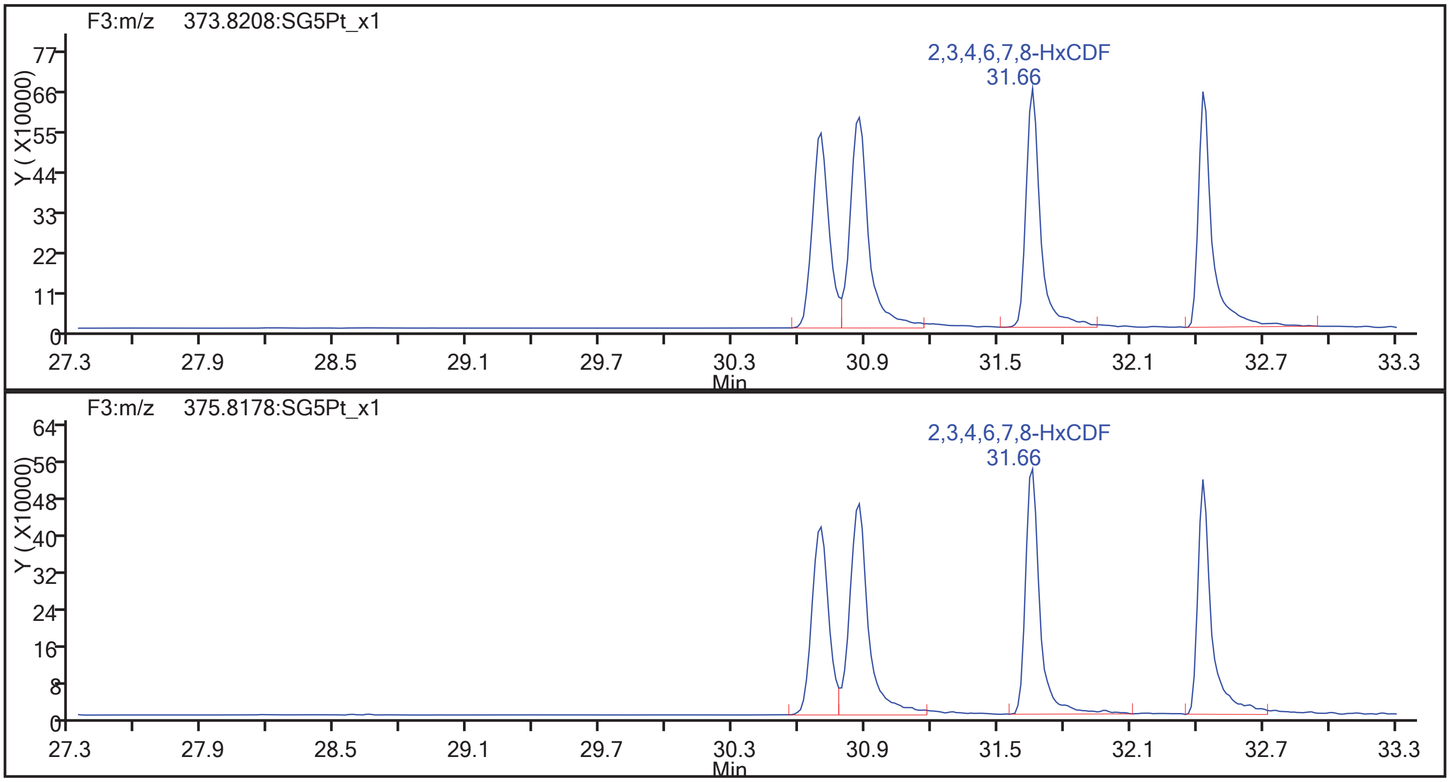
Method: Dioxin_10D5　　Limit Group: HR - 8290A_D5 - ICAL

Client ID:

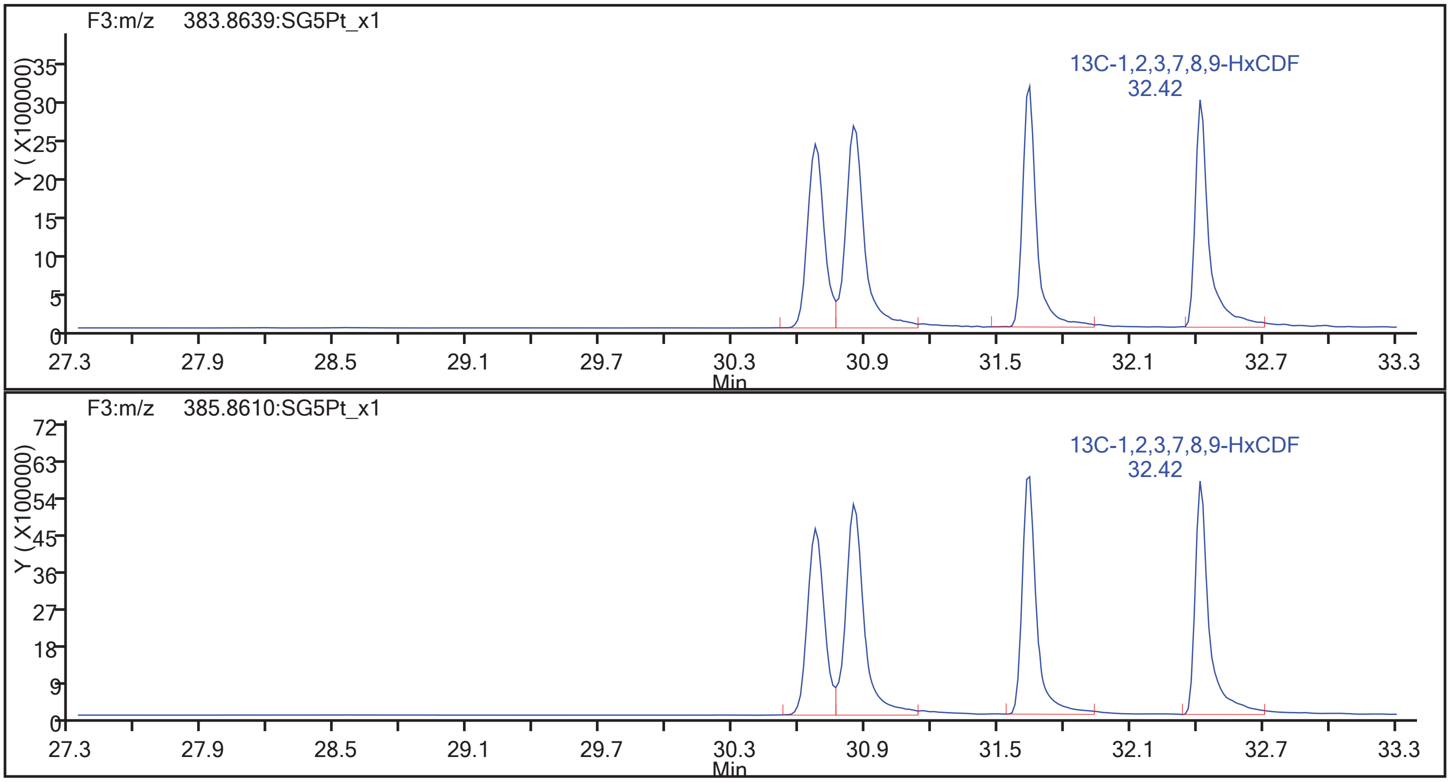
Worklist#: 189155　　Sample Line#: 3

Column Type: DB-5　　Column Dia: 0.32 mm

HxCDF



HxCDF Standards



Report Date: 13-Oct-2017 10:55:37 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d		
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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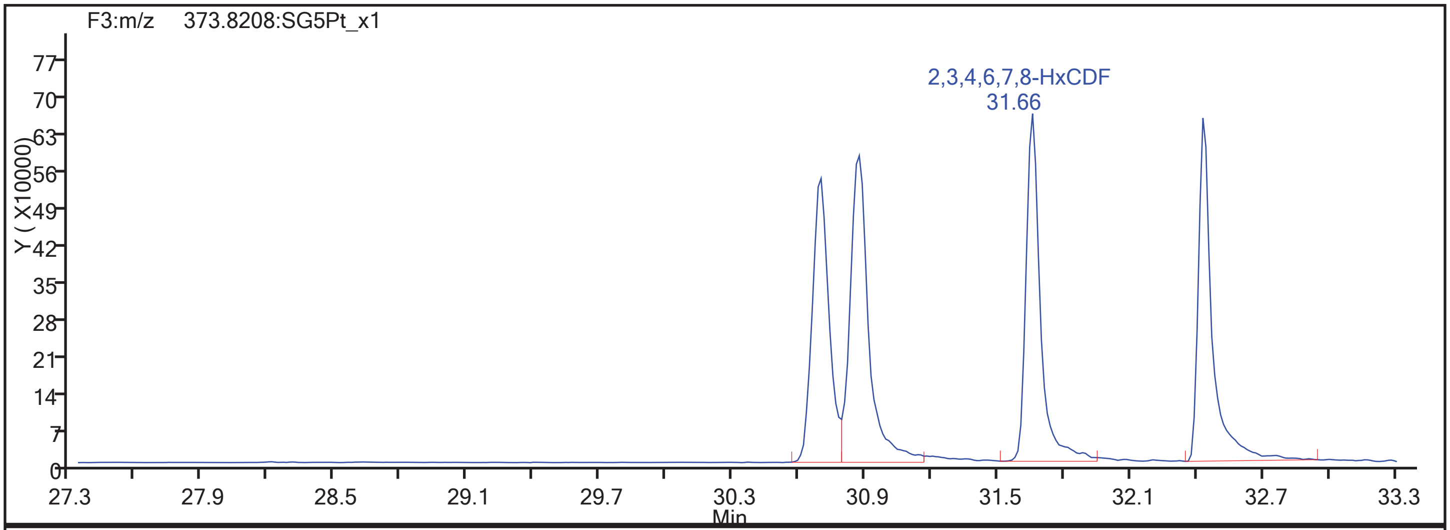
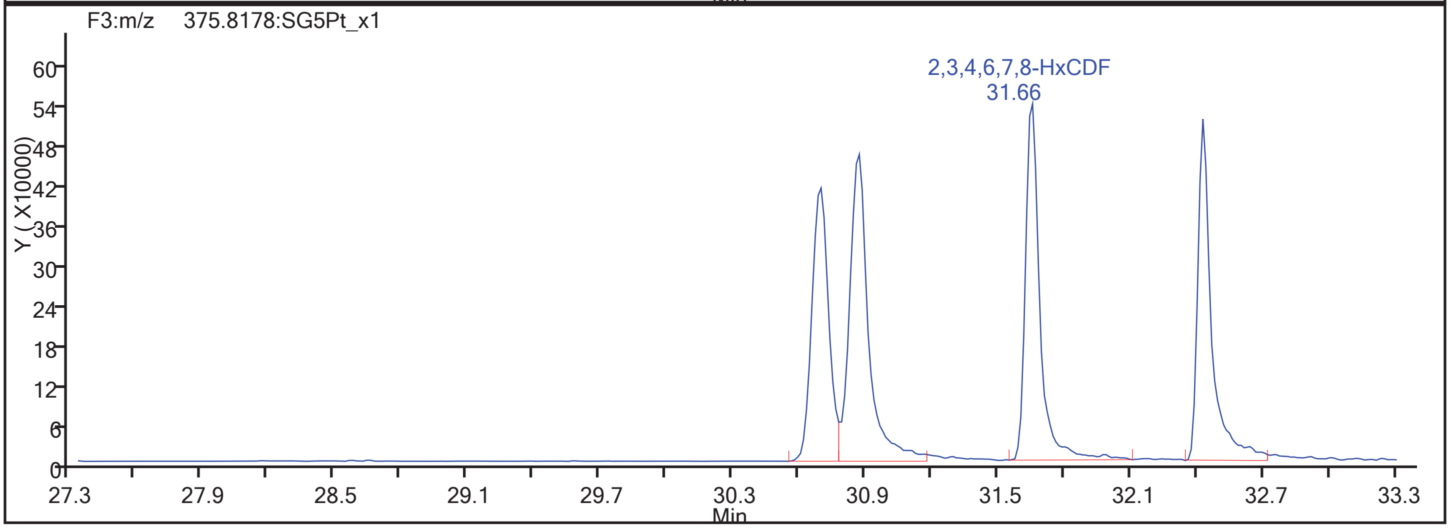
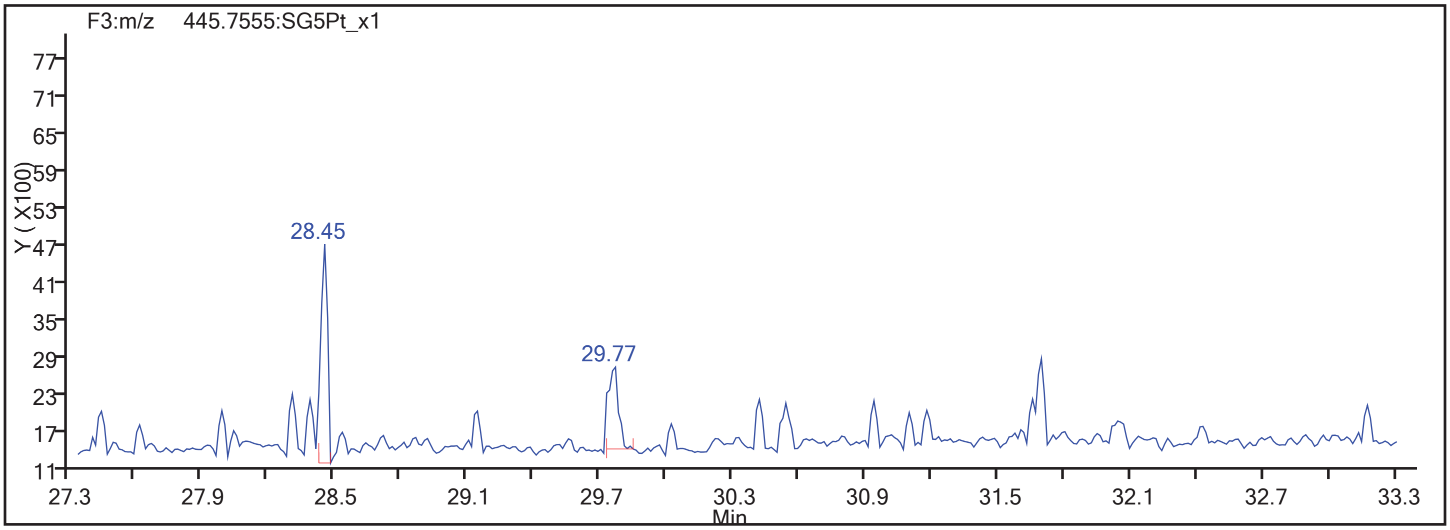
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



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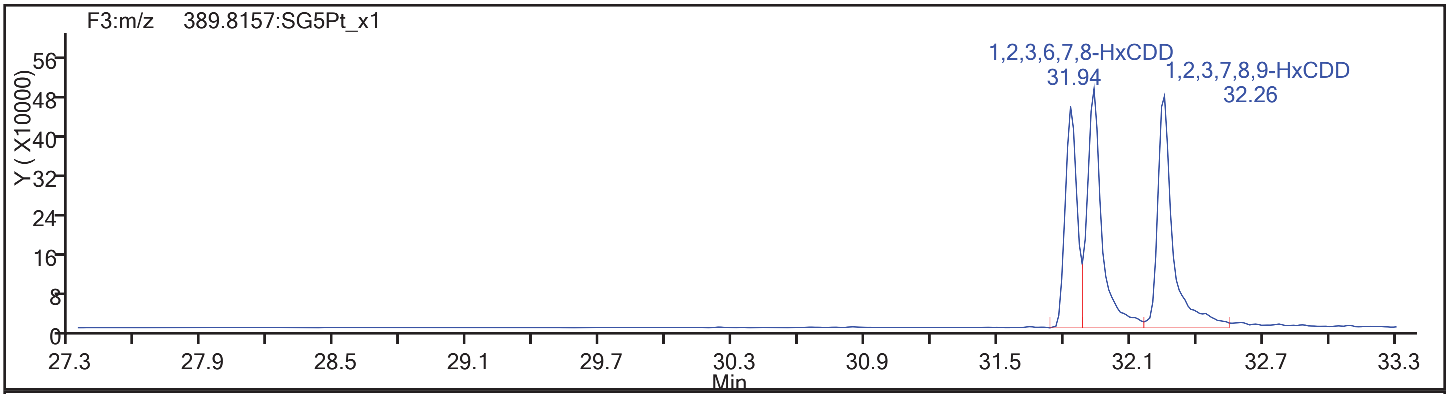
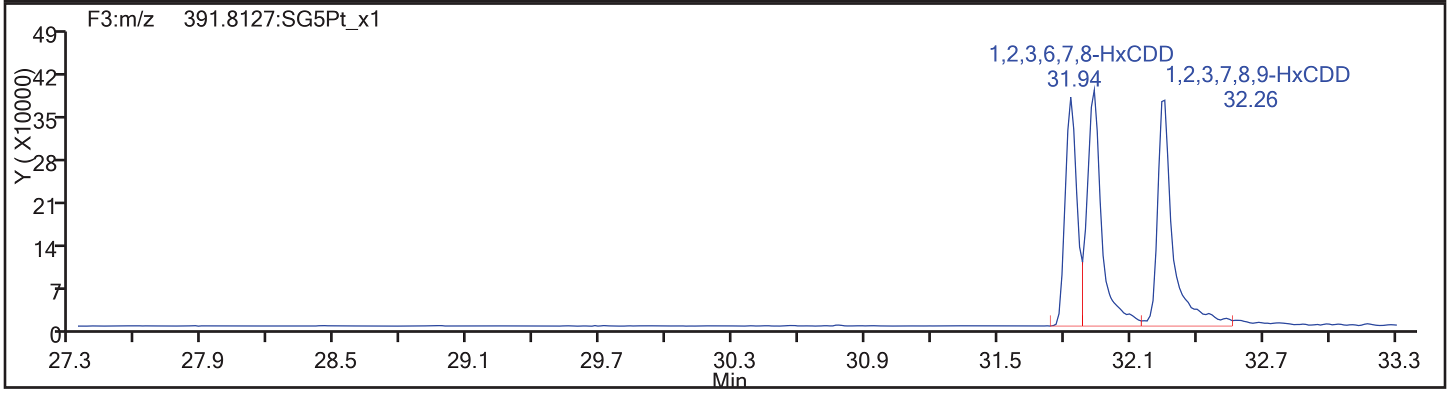
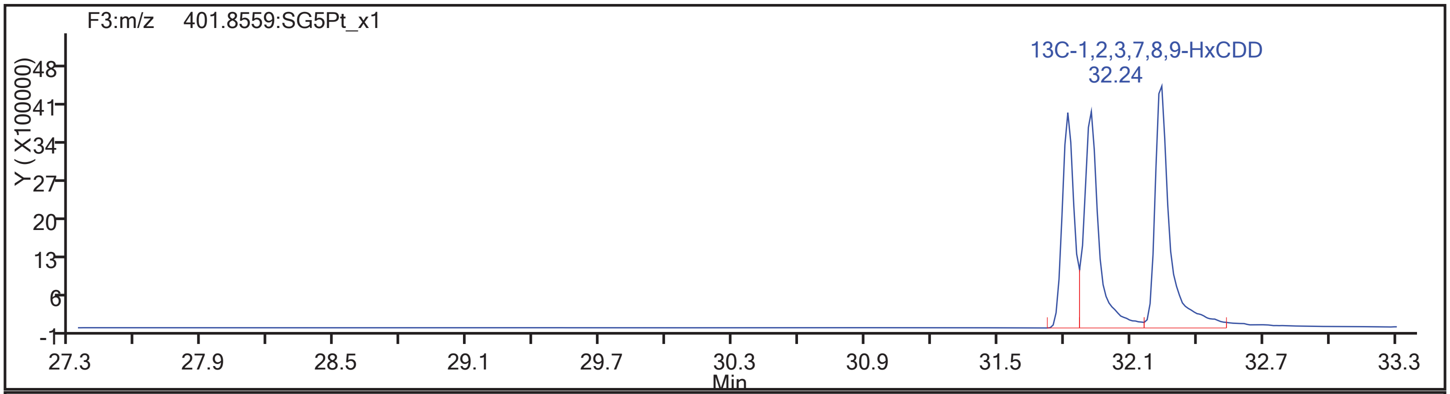
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

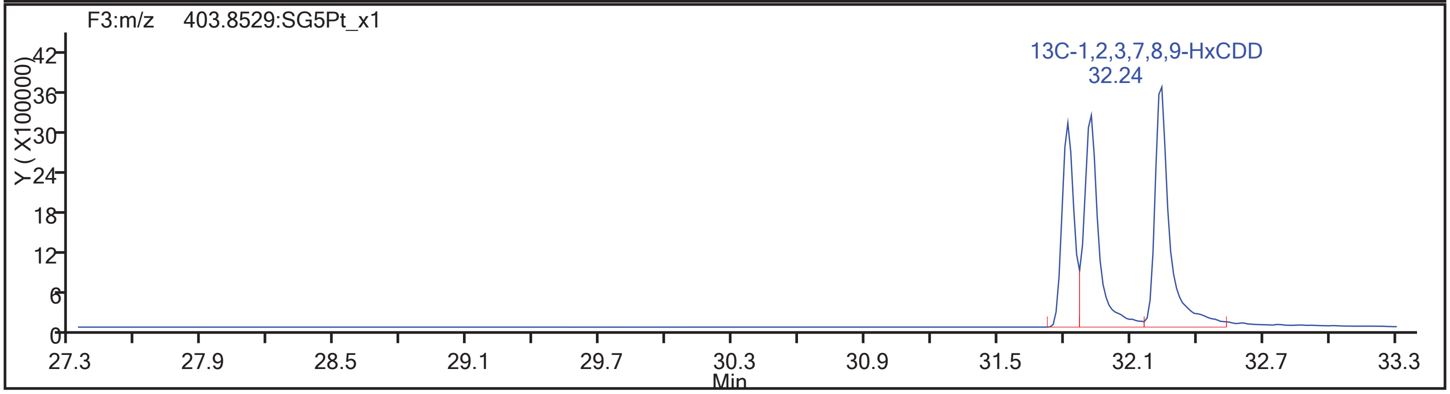
HxCDD





HxCDD Standards



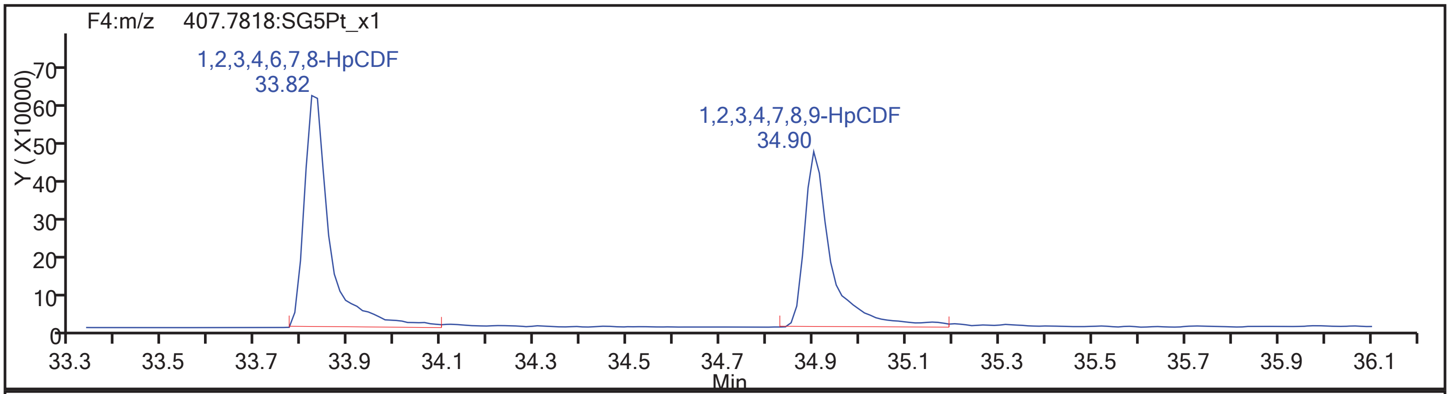


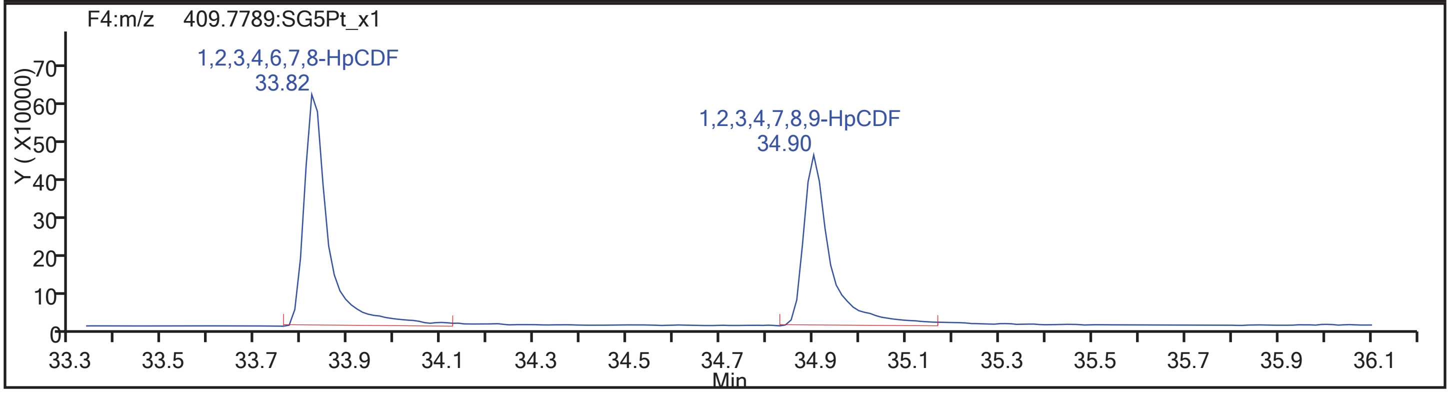
Report Date: 13-Oct-2017 10:55:37 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

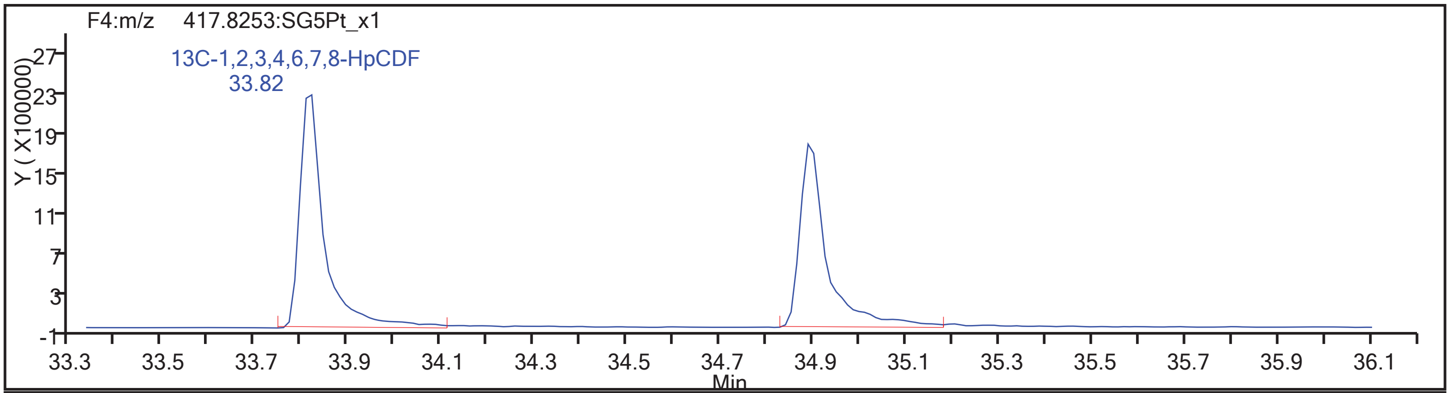
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d		
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

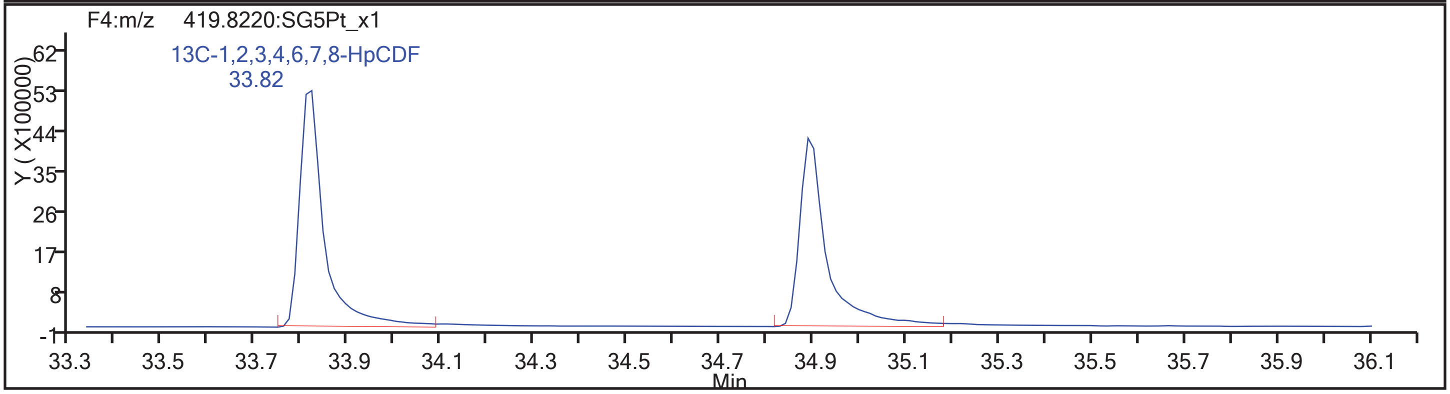
HpCDF





HpCDF Standards



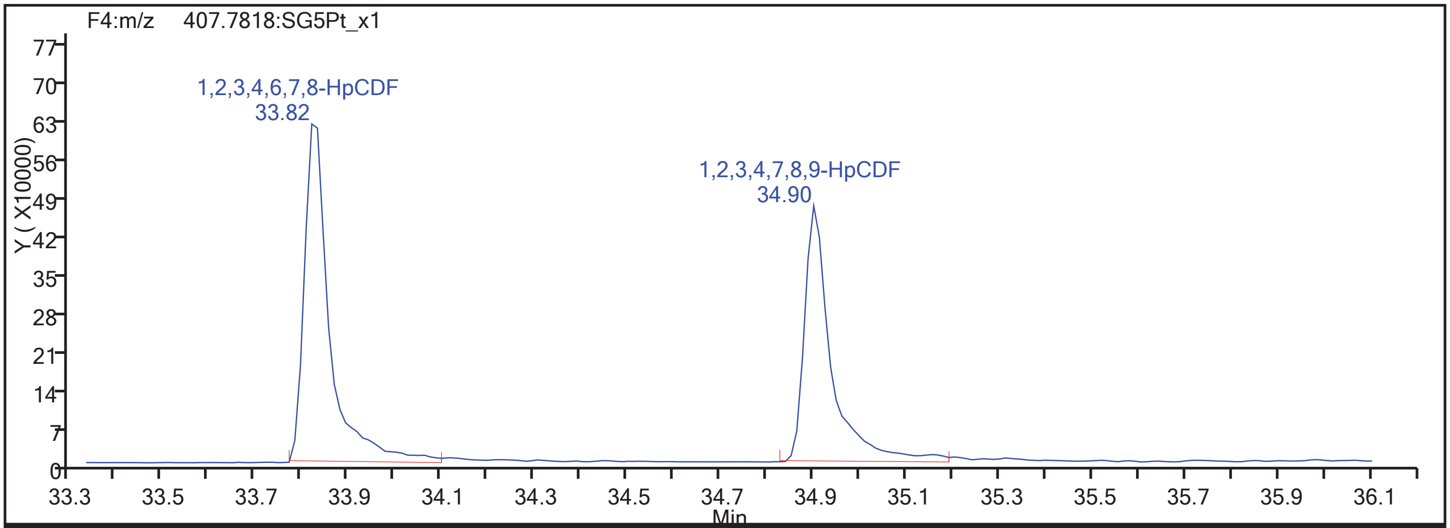


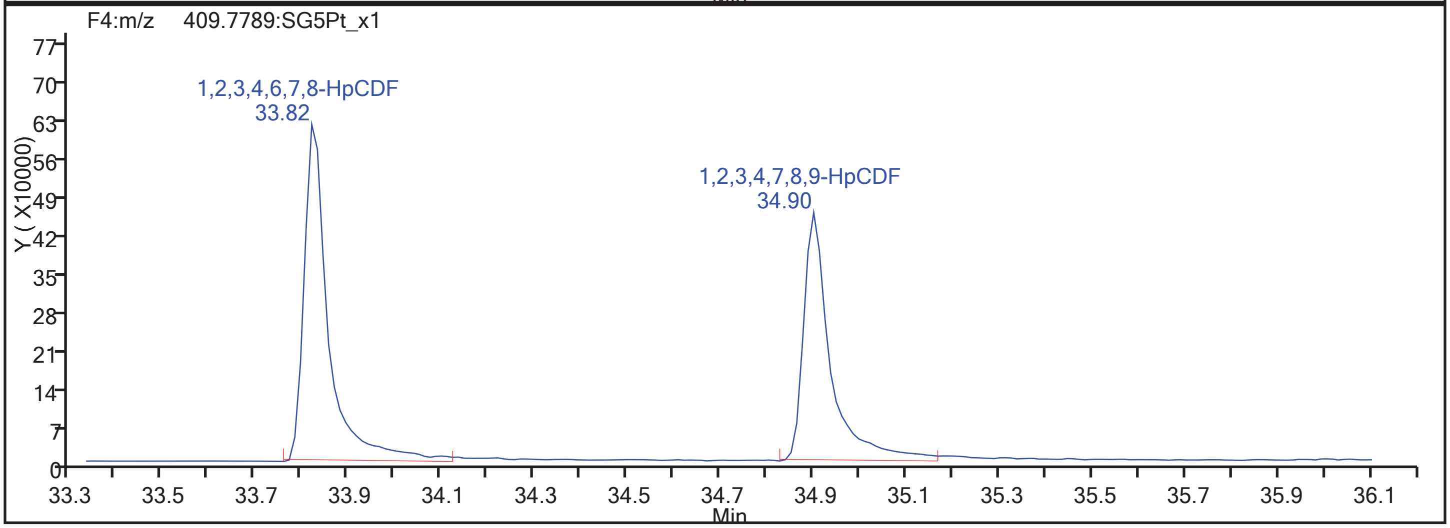
Report Date: 13-Oct-2017 10:55:37 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

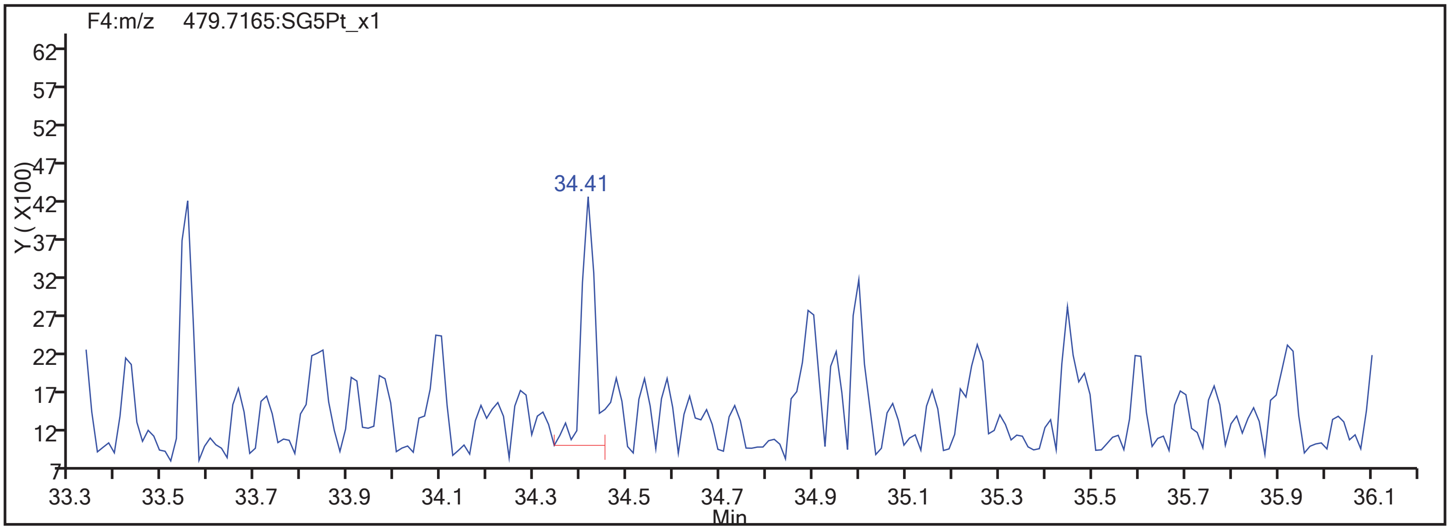
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d
Injection Date: 13-Oct-2017 00:54:35
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 3
Column Type: DB-5
Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass

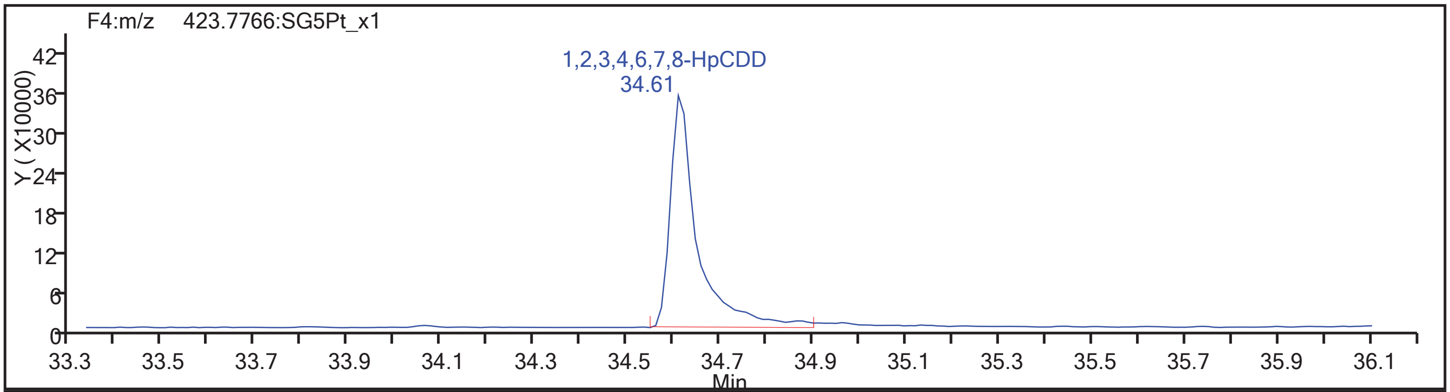


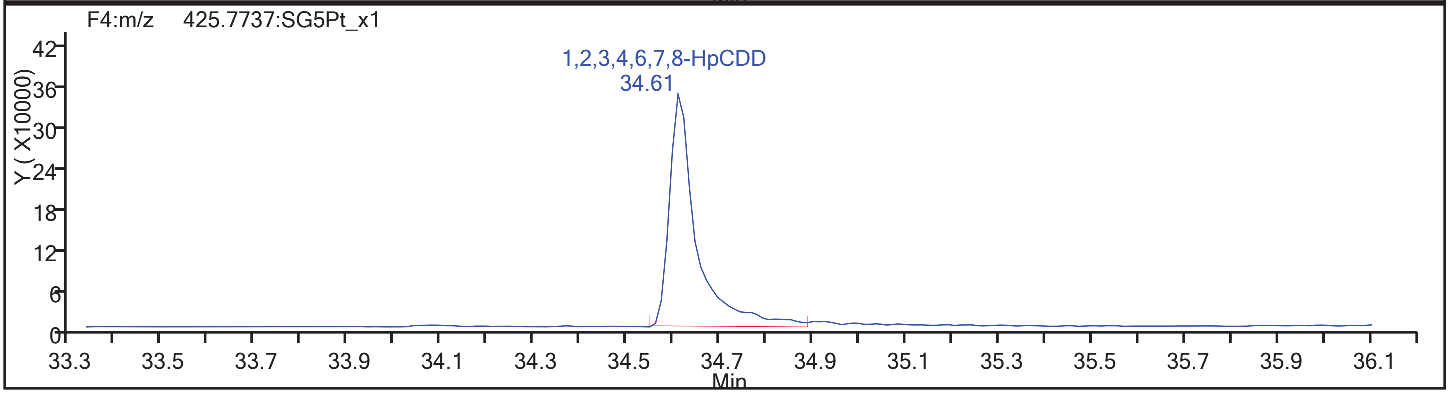
Report Date: 13-Oct-2017 10:55:37
Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

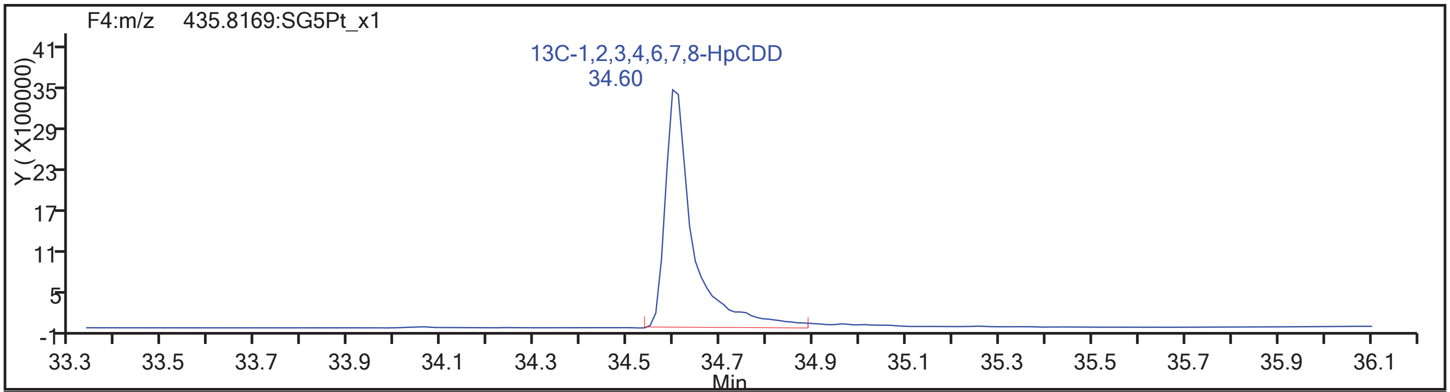
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d		
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

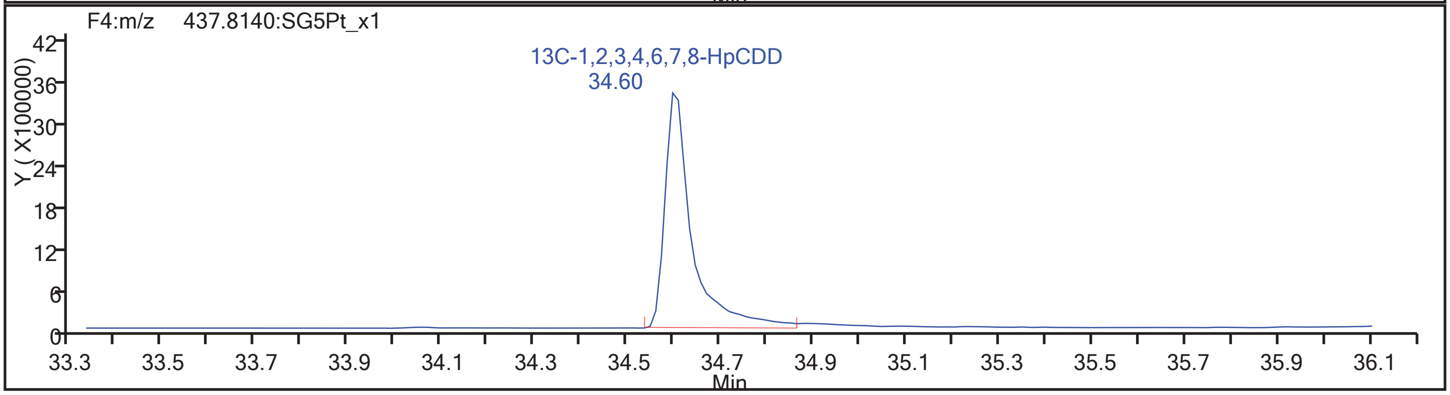
HpCDD





HpCDD Standards





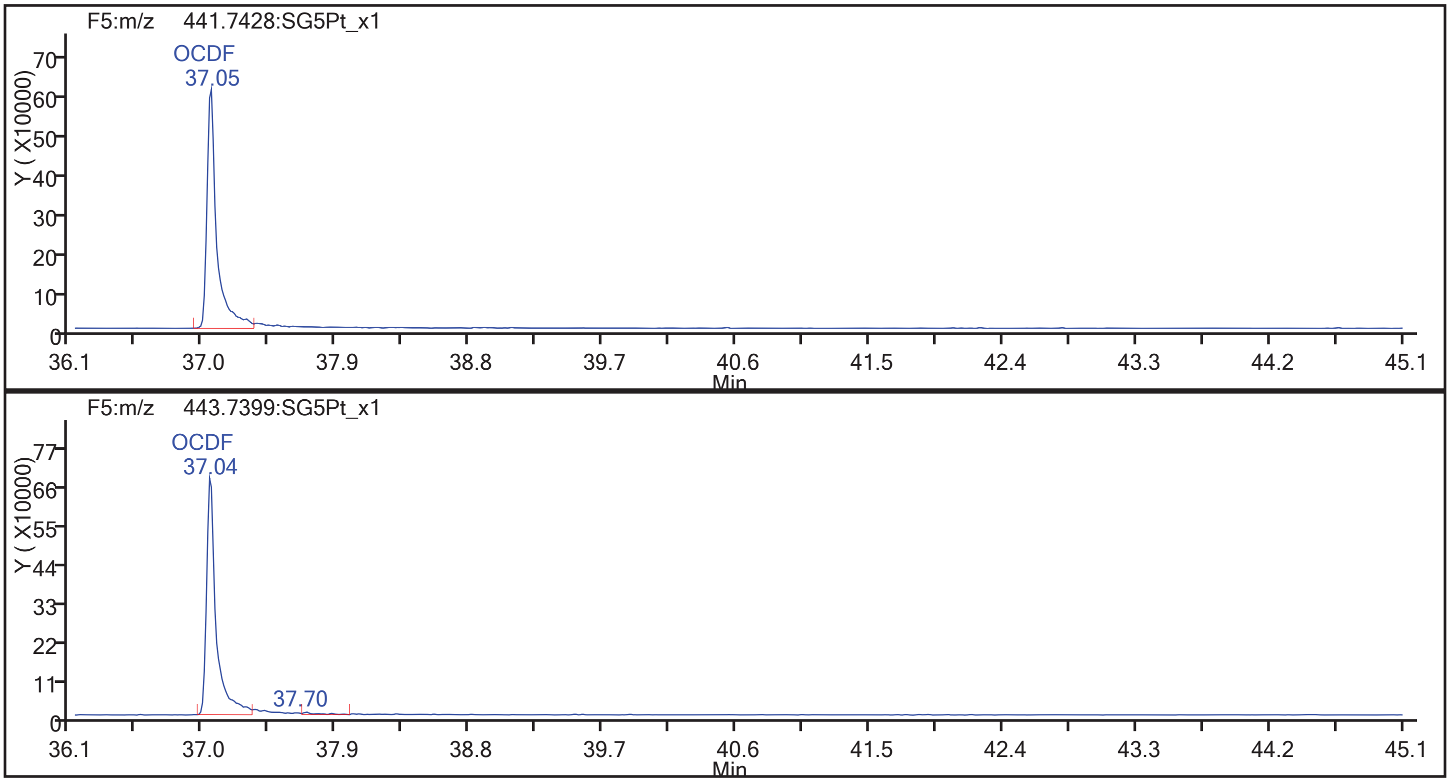
Report Date: 13-Oct-2017 10:55:37

Chrom Revision: 2.2 10-Oct-2017 10:31:20

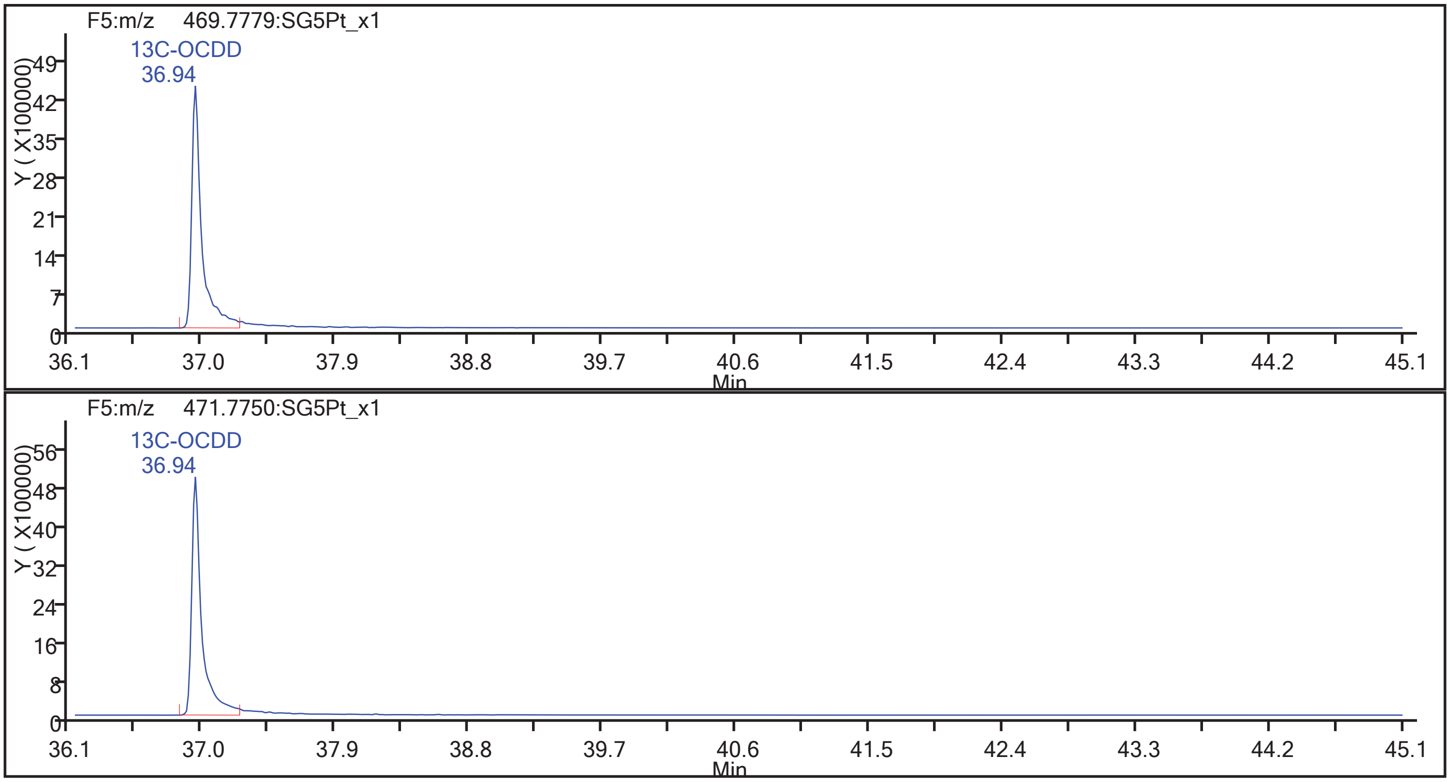
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d		
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Standards

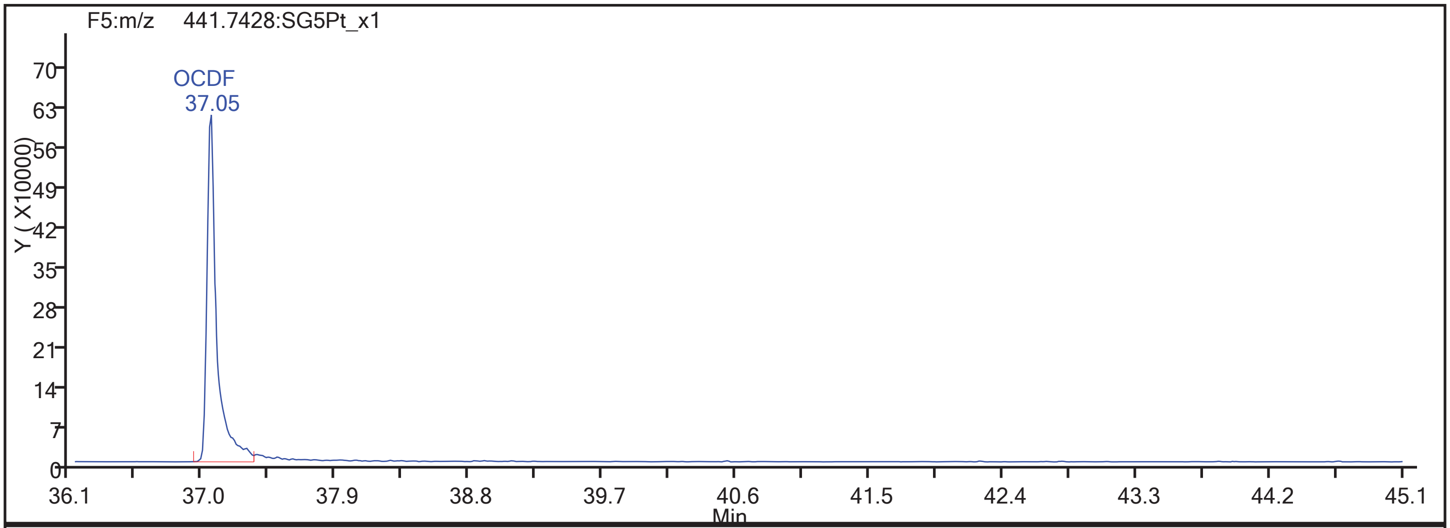


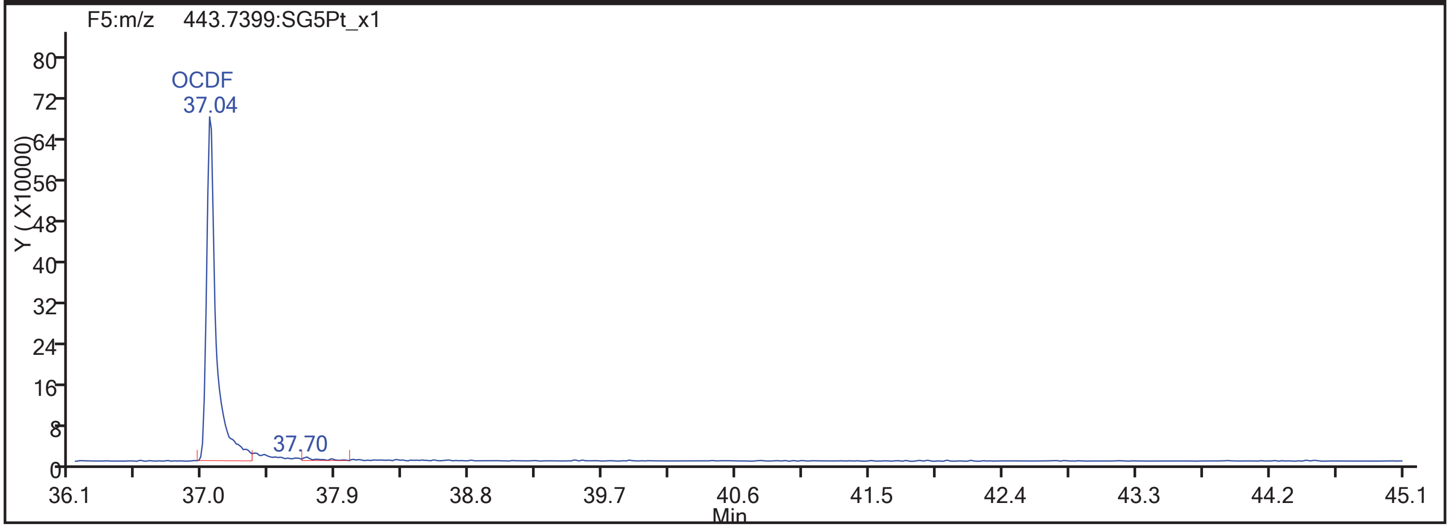
Report Date: 13-Oct-2017 10:55:37 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

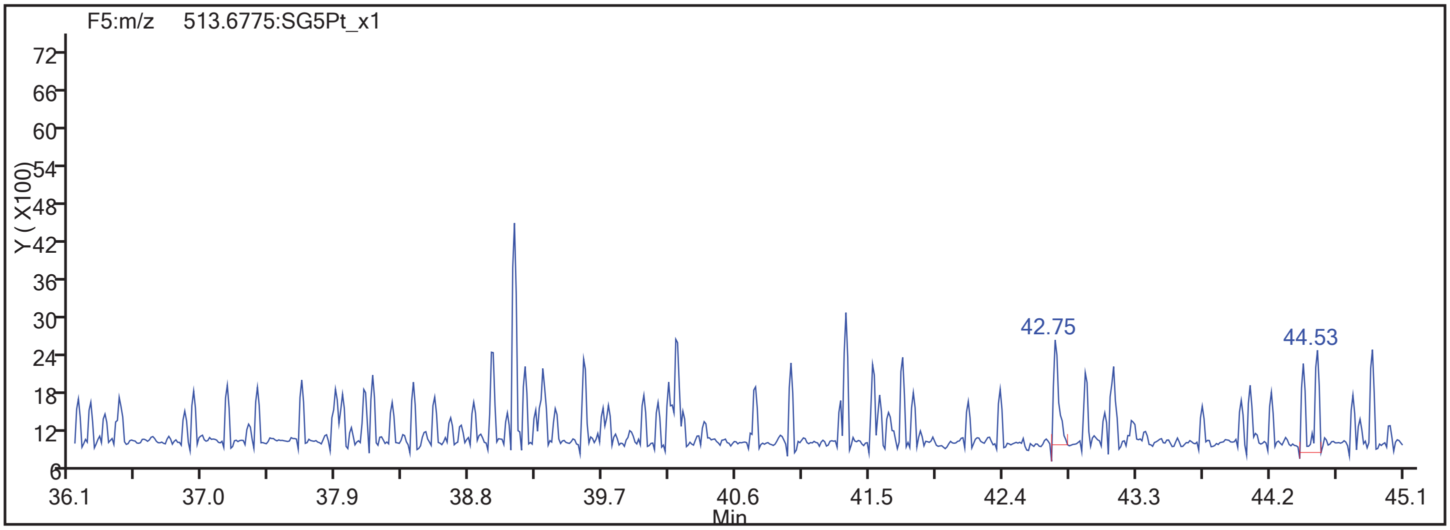
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d		
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

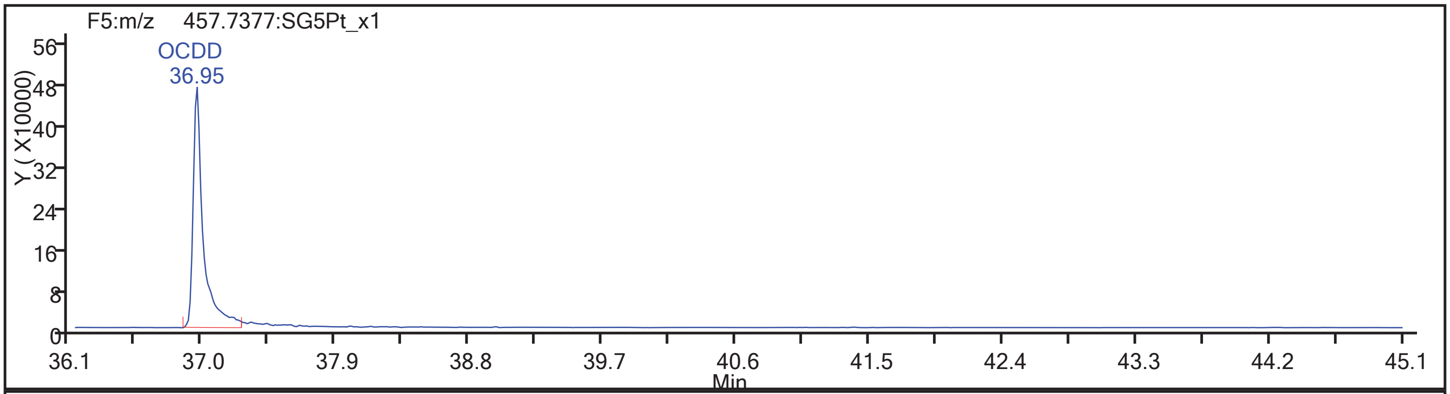


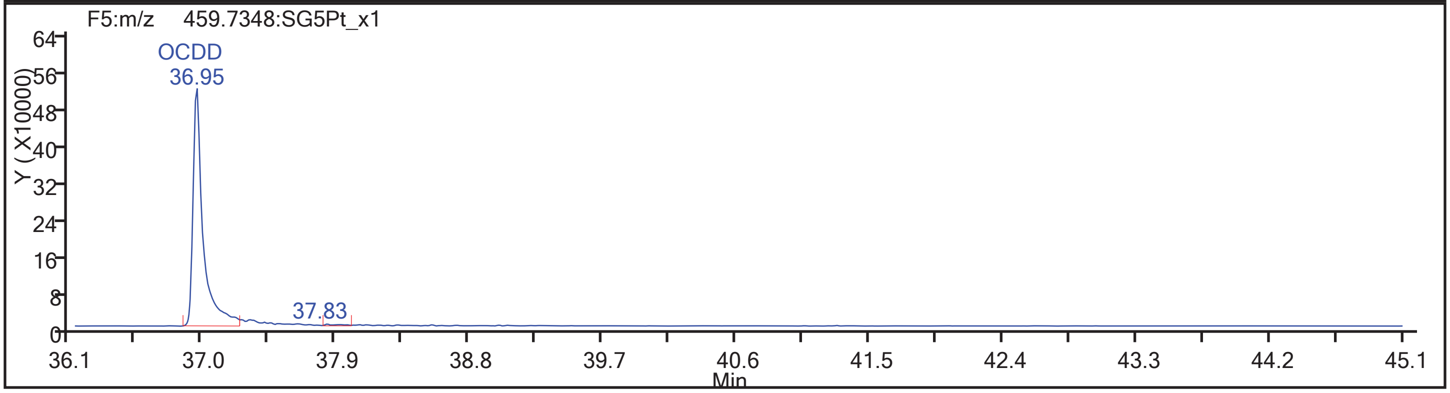
Report Date: 13-Oct-2017 10:55:37 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

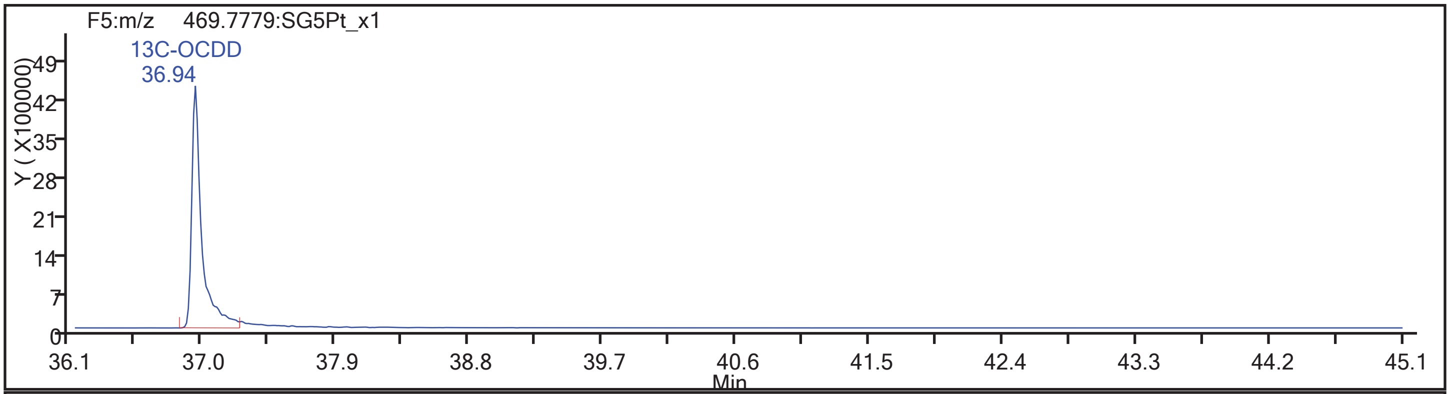
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d		
Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

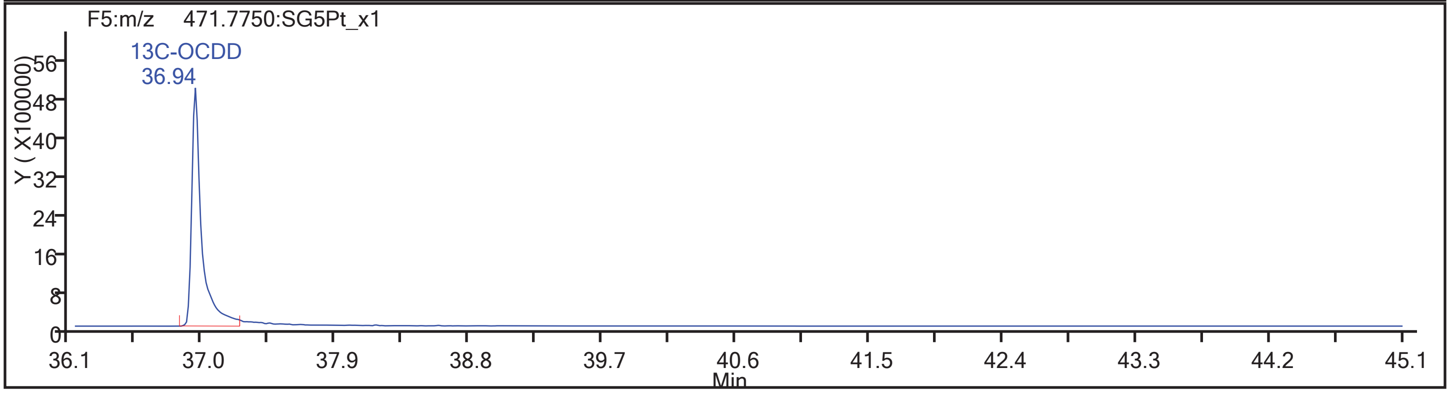
OCDD





OCDD Standards

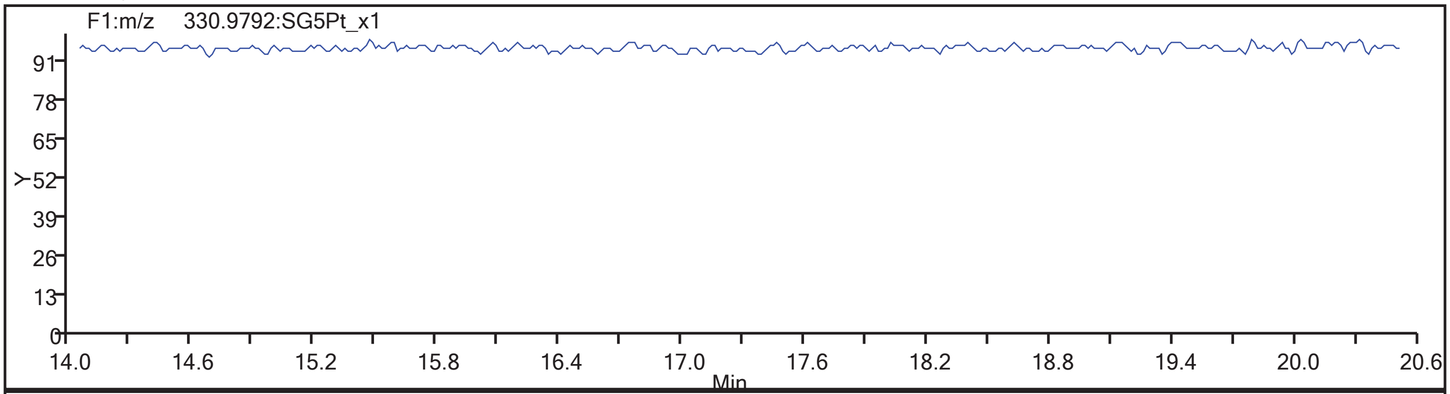


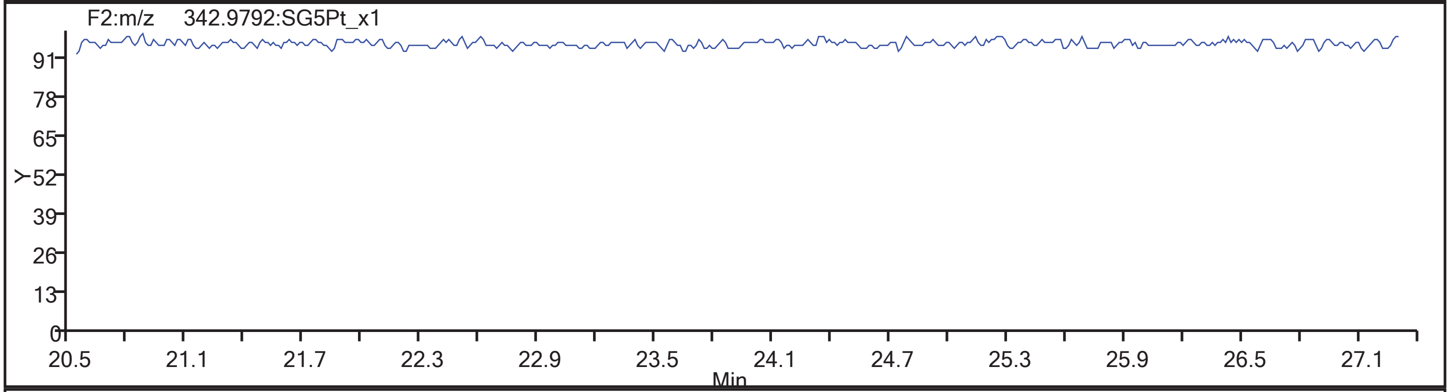


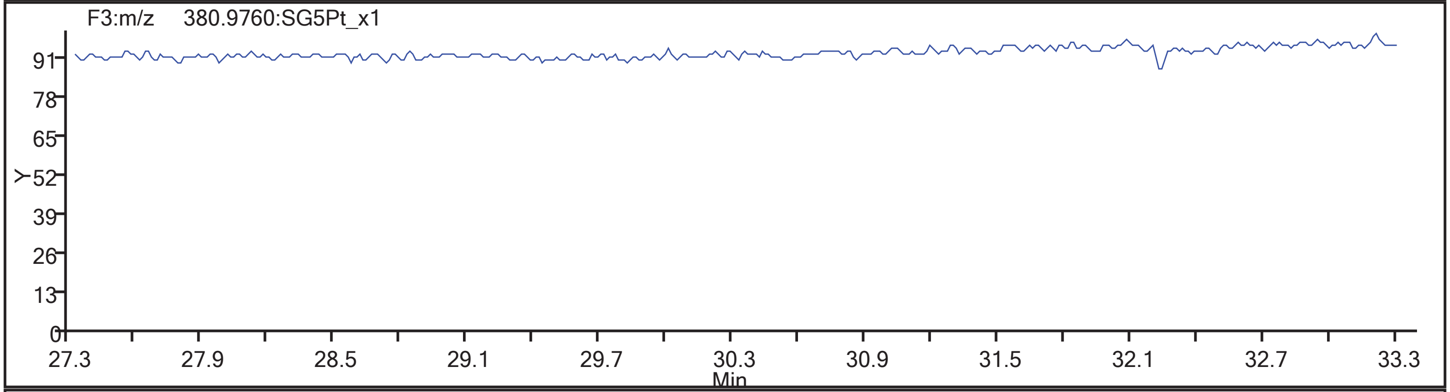
Report Date: 13-Oct-2017 10:55:37 Chrom Revision: 2.2 10-Oct-2017 10:31:20

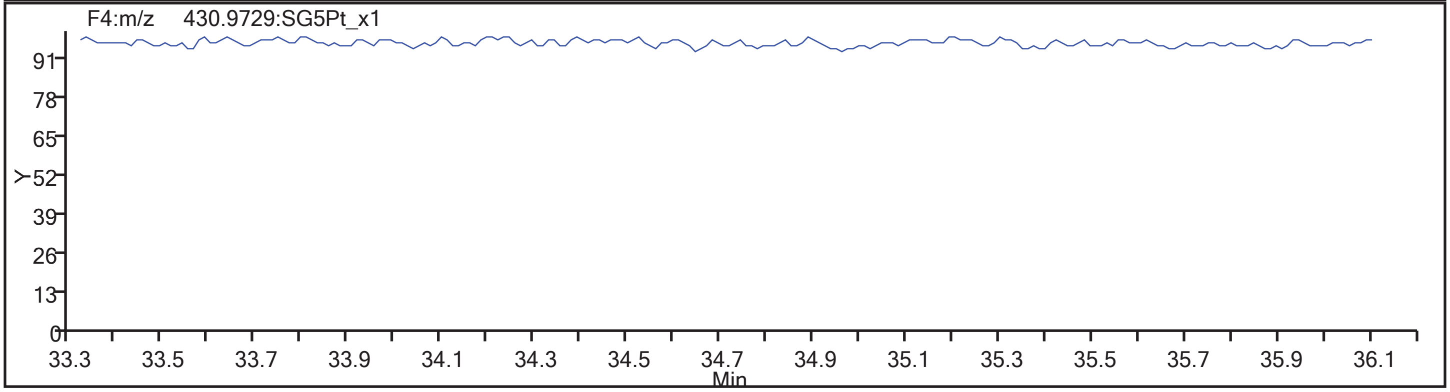
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d
Injection Date: 13-Oct-2017 00:54:35
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 3
Column Type: DB-5
Column Dia: 0.32 mm





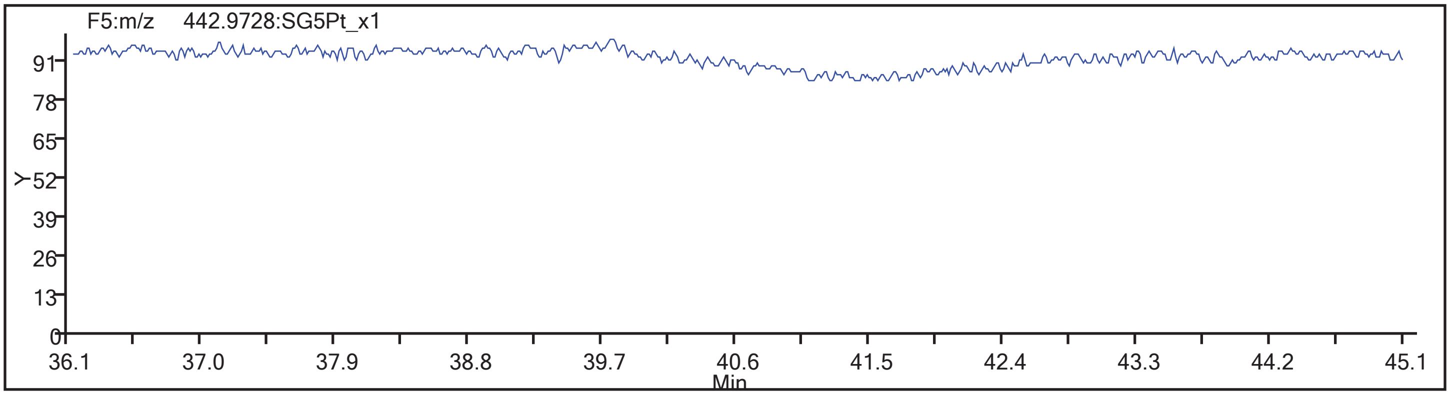




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_3.d

Injection Date:	13-Oct-2017 00:54:35	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2017 01:40:41 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 101217G CS-2 HRDXNL2_00021
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:55:44 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:05:25

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	41152154	0.77	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.385	52758988	0.78	1.2741	100.6	100.6	0.3494	0.3494	101	
2,3,7,8-TCDF	17.415	327682	0.79	1.1341	0.5476	0.5476	0.0233	0.0233	110	
A Non-2,3,7,8-sub-TCDF	17.128						0.0	0.0		
S Total TCDF					0.5476	0.5476	0.0233	0.0233		
D 13C-2,3,7,8-TCDD	18.111	40891778	0.75	0.9921	100.2	100.2	0.3329	0.3329	100	
2,3,7,8-TCDD	18.125	212174	0.86	0.9993	0.5192	0.5192	0.0332	0.0332	104	
$ 37Cl4-2,3,7,8-TCDD	18.125	223801		1.0466	0.5196	0.5196	0.0109	0.0109	104	
A Non-2,3,7,8-sub-TCDD	17.581						0.0	0.0		
S Total TCDD					0.5192	0.5192	0.0332	0.0332		
D 13C-1,2,3,7,8-PeCDF	22.492	38694542	1.54	0.9696	97.0	97.0	0.4121	0.4121	96.97	
1,2,3,7,8-PeCDF	22.519	1181597	1.62	1.1627	2.626	2.626	0.0504	0.0504	105	
D 13C-2,3,4,7,8-PeCDF	23.855	36156455	1.55							
2,3,4,7,8-PeCDF	23.883	1142306	1.61	1.1395	2.591	2.591	0.0514	0.0514	104	
A F1 PeCDFs	20.023						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.229						0.0	0.0		
S Total PeCDF					5.217	5.217	0.0509	0.0509		
D 13C-1,2,3,7,8-PeCDD	24.592	29622619	1.57	0.7588	94.9	94.9	0.2479	0.2479	94.87	
1,2,3,7,8-PeCDD	24.619	746721	1.61	0.9490	2.656	2.656	0.0504	0.0504	106	
A Non-2,3,7,8-sub-PeCDD	23.521						0.0	0.0		
S Total PeCDD					2.656	2.656	0.0504	0.0504		
D 13C-1,2,3,4,7,8-HxCDF	30.646	26488587	0.52	0.9644	95.5	95.5	1.292	1.292	95.55	
1,2,3,4,7,8-HxCDF	30.673	990980	1.32	1.4012	2.670	2.670	0.0739	0.0739	107	
D 13C-1,2,3,6,7,8-HxCDF	30.833	34400934	0.53							
1,2,3,6,7,8-HxCDF	30.846	1233661	1.22	1.6951	2.748	2.748	0.0611	0.0611	110	
D 13C-2,3,4,6,7,8-HxCDF	31.618	30806642	0.53							
2,3,4,6,7,8-HxCDF	31.631	1090332	1.32	1.5205	2.707	2.707	0.0681	0.0681	108	
D 13C-1,2,3,7,8,9-HxCDF	32.403	29497338	0.51							
1,2,3,7,8,9-HxCDF	32.417	1070119	1.33	1.4099	2.865	2.865	0.0735	0.0735	115	
A Non-2,3,7,8-sub-HxCDF	30.360						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					11.0	11.0	0.0692	0.0692		
* 13C-1,2,3,7,8,9-HxCDD	32.217	28747796	1.25	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.804	17731470	1.23							
1,2,3,4,7,8-HxCDD	31.818	615889	1.34	0.9505	2.609	2.609	0.0593	0.0593	104	
D 13C-1,2,3,6,7,8-HxCDD	31.897	24835280	1.23	0.8791	98.3	98.3	0.7079	0.7079	98.27	
1,2,3,6,7,8-HxCDD	31.911	802793	1.12	1.2343	2.619	2.619	0.0456	0.0456	105	
1,2,3,7,8,9-HxCDD	32.230	851957	1.23	1.2467	2.752	2.752	0.0452	0.0452	110	
A Non-2,3,7,8-sub-HxCDD	30.999						0.0	0.0		
S Total HxCDD					7.980	7.980	0.0500	0.0500		
D 13C-1,2,3,4,6,7,8-HpCDF	33.794	20381074	0.42	0.7618	93.1	93.1	2.127	2.127	93.06	
1,2,3,4,6,7,8-HpCDF	33.807	928537	1.08	1.6399	2.778	2.778	0.0670	0.0670	111	
D 13C-1,2,3,4,7,8,9-HpCDF	34.876	17779086	0.43							
1,2,3,4,7,8,9-HpCDF	34.888	748768	1.08	1.3302	2.762	2.762	0.0826	0.0826	110	
A Non-2,3,7,8-sub-HpCDF	34.359						0.0	0.0		
S Total HpCDF					5.540	5.540	0.0748	0.0748		
D 13C-1,2,3,4,6,7,8-HpCDD	34.584	20924585	1.06	0.7762	93.8	93.8	1.139	1.139	93.78	
1,2,3,4,6,7,8-HpCDD	34.596	553731	1.06	0.9932	2.664	2.664	0.0556	0.0556	107	
A Non-2,3,7,8-sub-HpCDD	35.319						0.0	0.0		
S Total HpCDD					2.664	2.664	0.0556	0.0556		
D 13C-OCDD	36.918	32186815	0.89	0.6314	177.3	177.3	0.5672	0.5672	88.66	
OCDF	37.026	1117585	0.96	1.3460	5.159	5.159	0.0674	0.0674	103	
OCDD	36.930	914935	0.96	1.0604	5.361	5.361	0.0689	0.0689	107	

Reagents:

HRDXNL2_00021 Amount Added: 1.00 Units: mL

Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	13-Oct-2017 01:40:41	ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC 101217G CS-2 HRDXNL2_00021				
Misc. Info.:	12OC17B10D5				
Operator ID:	ALM, SMA	Instrument ID:	10D5		
Sublist:	chrom-Dioxin_10D5*sub1				
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	13-Oct-2017 10:55:44	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK006				
First Level Reviewer: arghestanis		Date:	13-Oct-2017 08:05:25		

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.920	0		17948480	4344262	7059	17647	615		
333.9339	17.914	17.920	0		23203674	5707922	6221	15552	918	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.385	17.403	-1	0.970	23175733	5293678	10716	26790	494		
317.9389	17.400	17.403	0	0.971	29583255	6724589	7182	17955	936	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415	17.421	0	1.002	144572	34260	503	1257	68		
305.8987	17.400	17.421	-1	1.001	183110	42323	767	1917	55	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.128						503	1257			
305.8987	17.128						767	1917			
13C-2,3,7,8-TCDD											
331.9368	18.111	18.117	0	1.011	17518910	3848300	7059	17647	545		
333.9339	18.111	18.117	0	1.011	23372868	5099451	6221	15552	820	0.75(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.125	18.132	0	1.001	98397	23410	816	2040	29		
321.8936	18.111	18.132	-1	1.000	113777	23769	373	932	64	0.86(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.125	18.135	-1	1.012	223801	50574	459	1147	110		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.581						816	2040			
321.8936	17.581						373	932			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.492	22.503	-1	1.256	23487691	3807538	9915	24787	384		
353.8970	22.478	22.503	-1	1.255	15206851	2446884	6153	15382	398	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.519	22.525	0	1.001	730760	120144	683	1707	176		
341.8567	22.519	22.525	0	1.001	450837	65771	783	1957	84	1.62(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.855	23.866	-1	1.332	21989186	3367815	9915	24787	340		
353.8970	23.855	23.866	-1	1.332	14167269	2168839	6153	15382	352	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.883	23.894	-1	1.001	704125	106971	683	1707	157		
341.8567	23.883	23.894	-1	1.001	438181	69231	783	1957	88	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.023						262	655			
341.8567	20.023						612	1530			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.229						683	1707			
341.8567	23.229						783	1957			
13C-1,2,3,7,8-PeCDD											
367.8949	24.592	24.603	-1	1.373	18079813	2633476	4526	11315	582		
369.8919	24.592	24.603	-1	1.373	11542806	1655281	3037	7592	545	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.619	24.630	-1	1.001	460211	63066	522	1305	121		
357.8516	24.605	24.630	-1	1.001	286510	40390	299	747	135	1.61(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.521						522	1305			
357.8516	23.521						299	747			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.646	30.660	-1	0.951	9052643	1733102	11223	28057	154		
385.8610	30.646	30.660	-1	0.951	17435944	3320483	19743	49357	168	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.673	30.684	-1	1.001	563244	103616	1136	2840	91		
375.8178	30.673	30.684	-1	1.001	427736	79652	958	2395	83	1.32(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.833	30.838	0	0.957	11905635	2044327	11223	28057	182		
385.8610	30.833	30.838	0	0.957	22495299	3921753	19743	49357	199	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.846	30.859	-1	1.000	678660	118250	1136	2840	104		
375.8178	30.846	30.859	-1	1.000	555001	89863	958	2395	94	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.618	31.629	-1	0.981	10658509	2428609	11223	28057	216		
385.8610	31.618	31.629	-1	0.981	20148133	4699701	19743	49357	238	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.631	31.645	-1	1.000	620241	134044	1136	2840	118		
375.8178	31.631	31.645	-1	1.000	470091	103663	958	2395	108	1.32(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.403	32.409	0	1.006	9942884	2282155	11223	28057	203		
385.8610	32.403	32.409	0	1.006	19554454	4417744	19743	49357	224	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.417	32.422	0	1.000	610792	125443	1136	2840	110		
375.8178	32.417	32.422	0	1.000	459327	101160	958	2395	106	1.33(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.360						1136	2840			
375.8178	30.360						958	2395			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.217	32.230	-1		15988300	3485441	7415	18537	470		
403.8529	32.217	32.230	-1		12759496	2728441	8052	20130	339	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.804	31.810	0	0.987	9767059	2604081	7415	18537	351		
403.8529	31.804	31.810	0	0.987	7964411	2138864	8052	20130	266	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.818	31.823	0	1.000	352858	89243	721	1802	124		
391.8127	31.818	31.823	0	1.000	263031	69560	479	1197	145	1.34(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.897	31.911	-1	0.990	13689758	2940919	7415	18537	397		
403.8529	31.897	31.911	-1	0.990	11145522	2386175	8052	20130	296	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.911	31.927	-1	1.000	424930	90632	721	1802	126		
391.8127	31.911	31.927	-1	1.000	377863	76149	479	1197	159	1.12(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.230	32.244	-1	1.013	470714	100705	721	1802	140		
391.8127	32.230	32.244	-1	1.013	381243	83500	479	1197	174	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.999						721	1802			
391.8127	30.999						479	1197			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.794	33.807	-1	1.049	6070763	1684523	12469	31172	135		
419.8220	33.794	33.807	-1	1.049	14310311	4012071	27799	69497	144	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.807	33.814	0	1.000	481160	132300	1386	3465	95		
409.7789	33.807	33.814	0	1.000	447377	121435	1117	2792	109	1.08(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.876	34.881	0	1.083	5376615	1357974	12469	31172	109		
419.8220	34.876	34.881	0	1.083	12402471	3129047	27799	69497	113	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.888	34.893	0	1.000	388741	90307	1386	3465	65		
409.7789	34.888	34.893	0	1.000	360027	86304	1117	2792	77	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.359						1386	3465			
409.7789	34.359						1117	2792			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.584	34.592	0	1.073	10756421	2754294	11160	27900	247		
437.8140	34.584	34.592	0	1.073	10168164	2562996	10819	27047	237	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.596	34.601	0	1.000	284566	71797	682	1705	105		
425.7737	34.596	34.601	0	1.000	269165	62818	493	1232	127	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.319						682	1705			
425.7737	35.319						493	1232			
13C-OCDD											
469.7779	36.918	36.932	-1	1.146	15135649	3040751	2965	7412	1026		
471.7750	36.918	36.932	-1	1.146	17051166	3540632	5936	14840	596	0.89(0.76-1.02)	
OCDF											
441.7428	37.026	37.038	-1	1.003	546398	115586	451	1127	256		
443.7399	37.026	37.038	-1	1.003	571187	131967	743	1857	178	0.96(0.76-1.02)	
OCDD											
457.7377	36.930	36.944	-1	1.000	449293	91193	425	1062	215		
459.7348	36.930	36.944	-1	1.000	465642	95881	537	1342	179	0.96(0.76-1.02)	

Reagents:

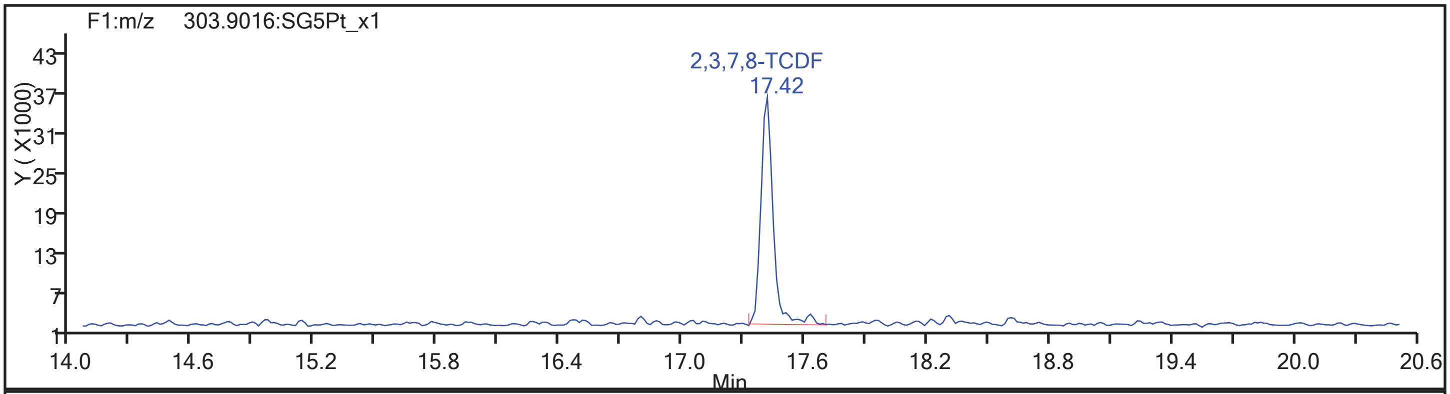
HRDXNL2_00021 Amount Added: 1.00 Units: mL

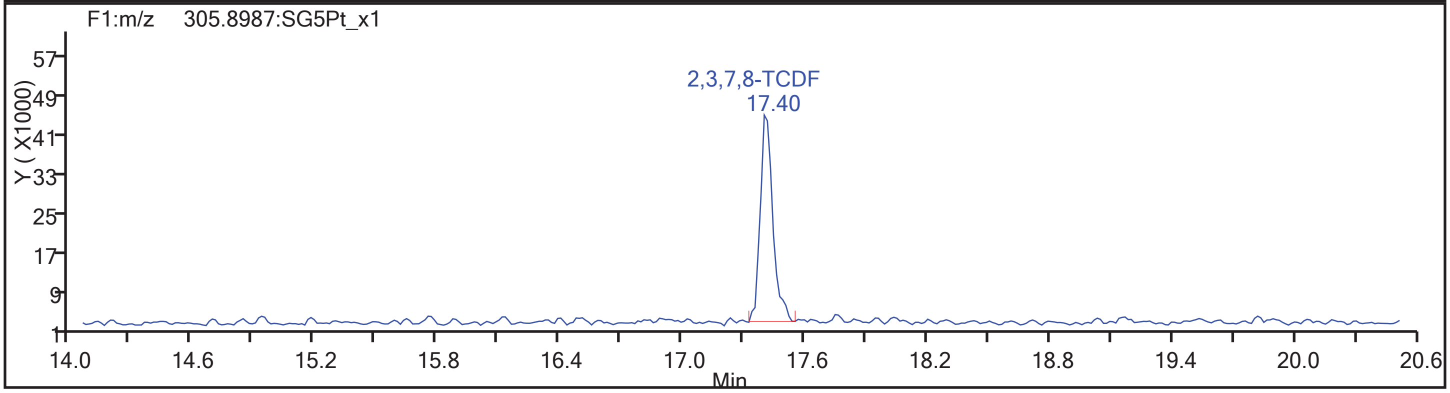
Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

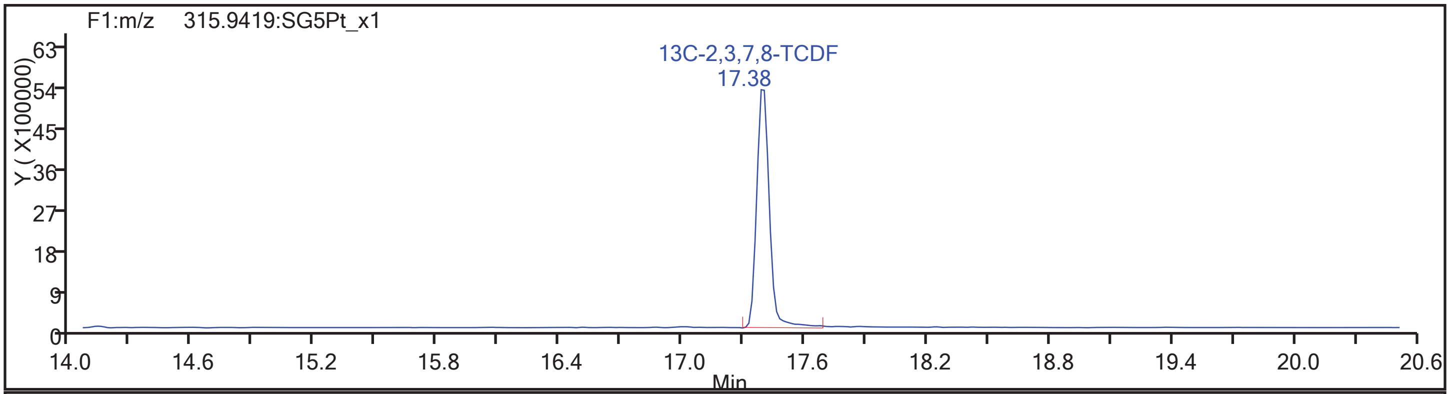
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d		
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

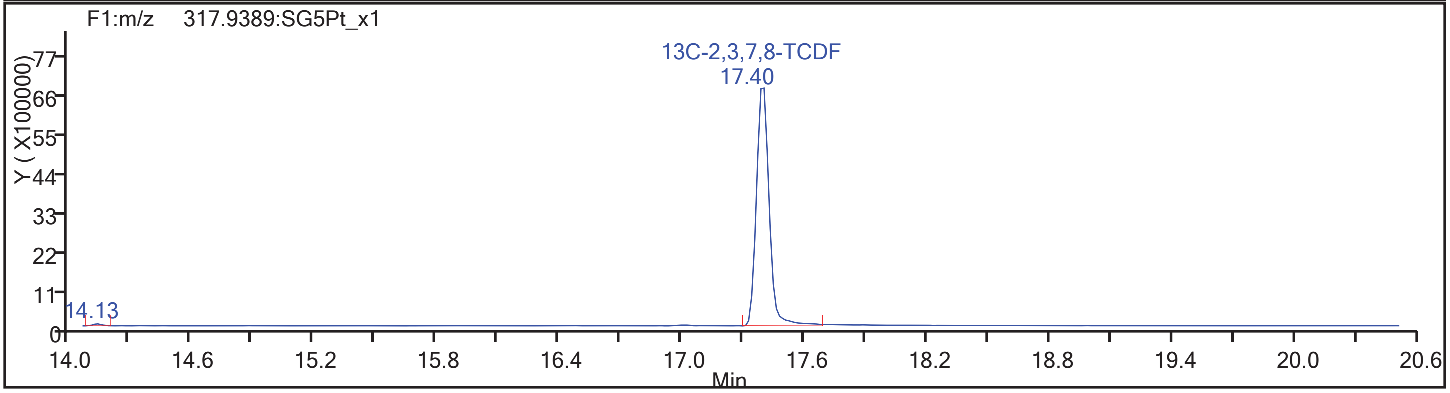
TCDF





TCDF Standards





Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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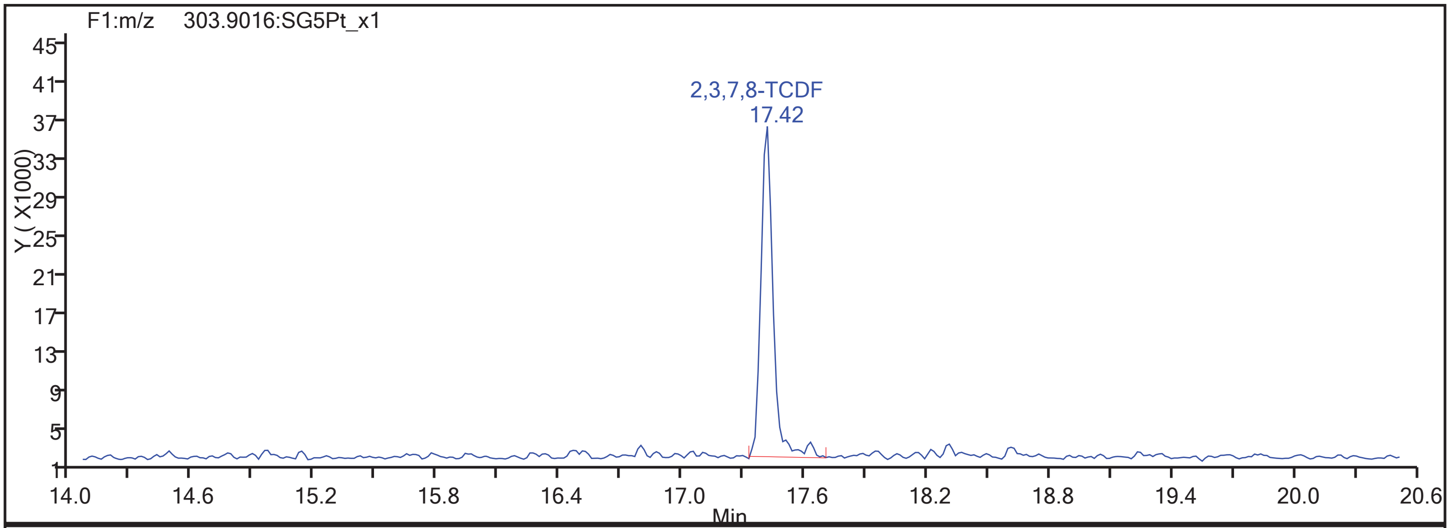
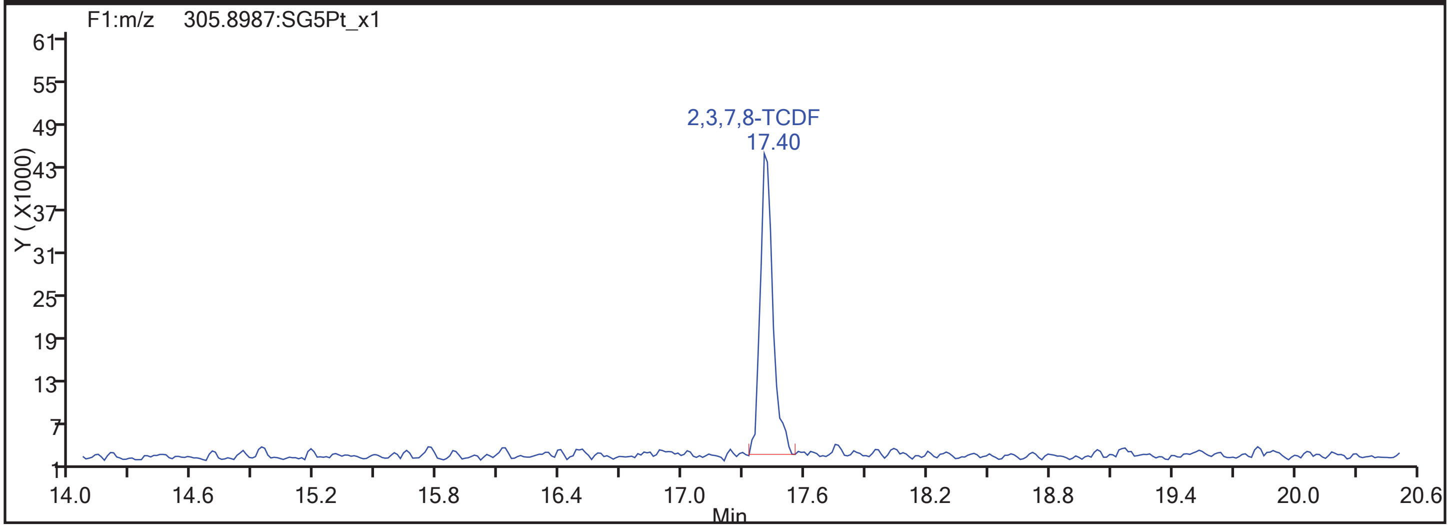
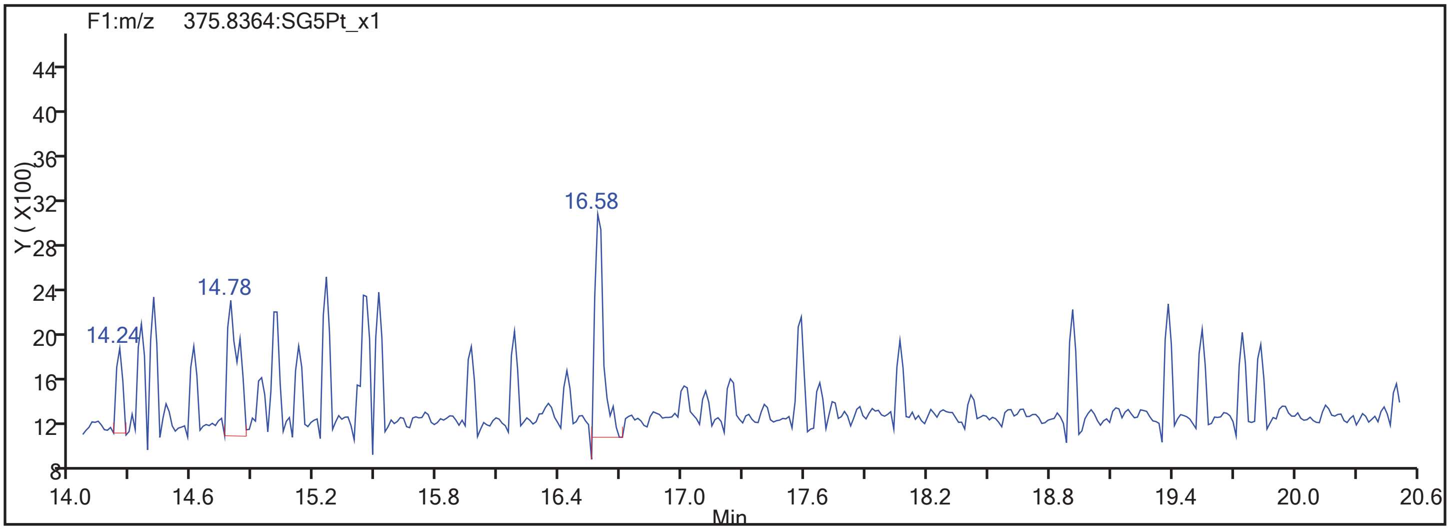
Injection Date: 13-Oct-2017 01:40:41
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 4
Column Type: DB-5
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



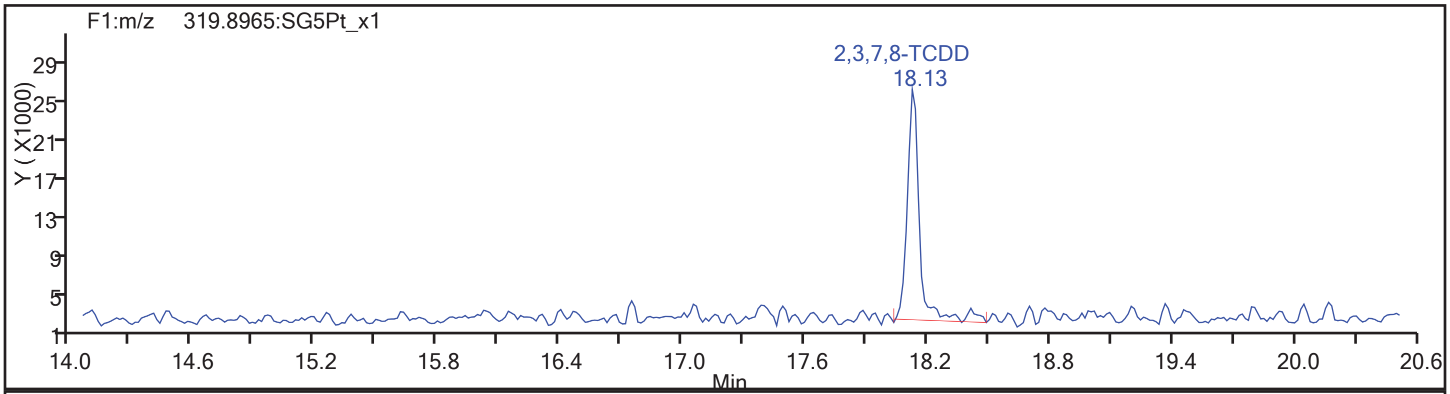
Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

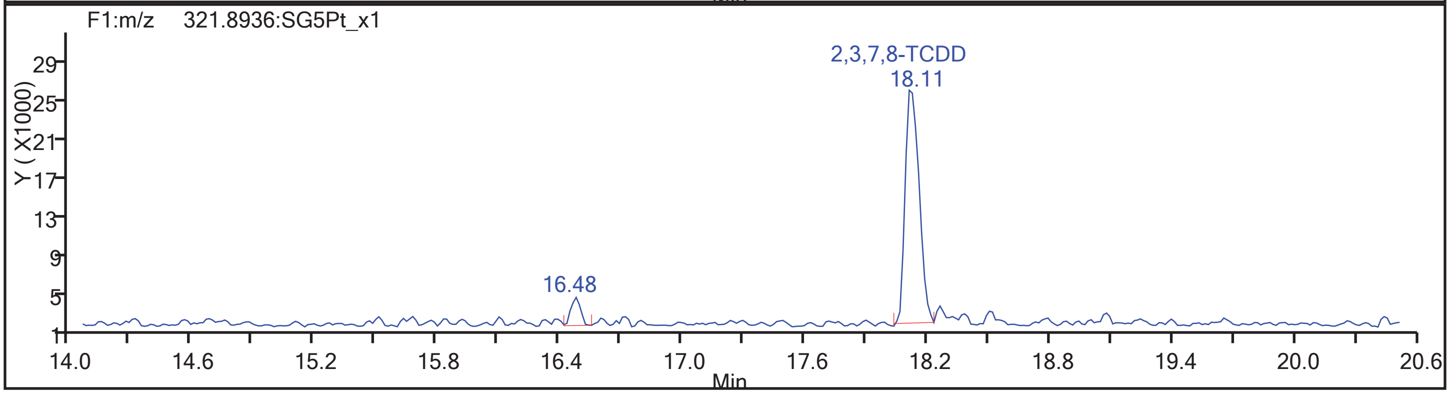
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d

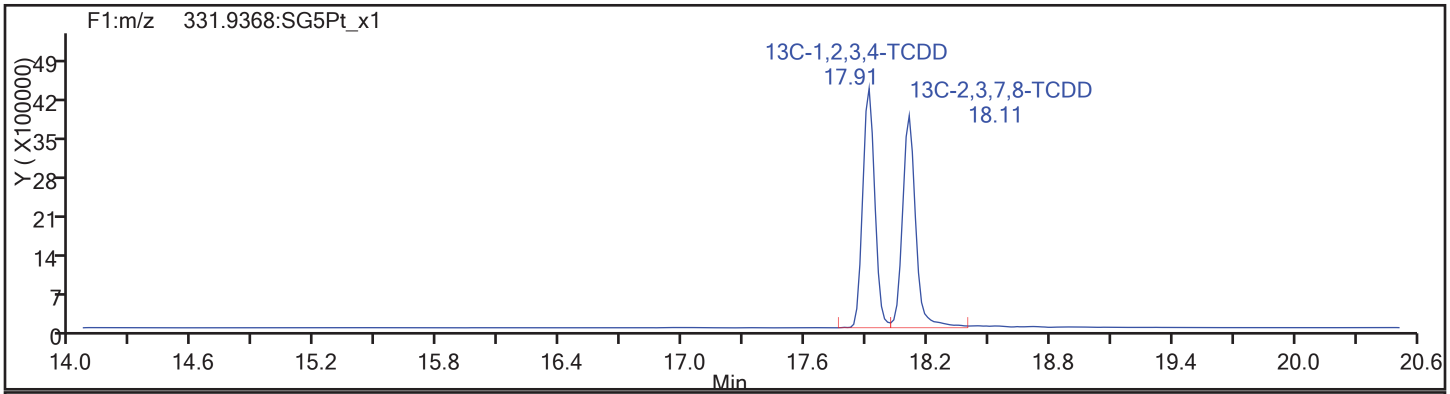
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

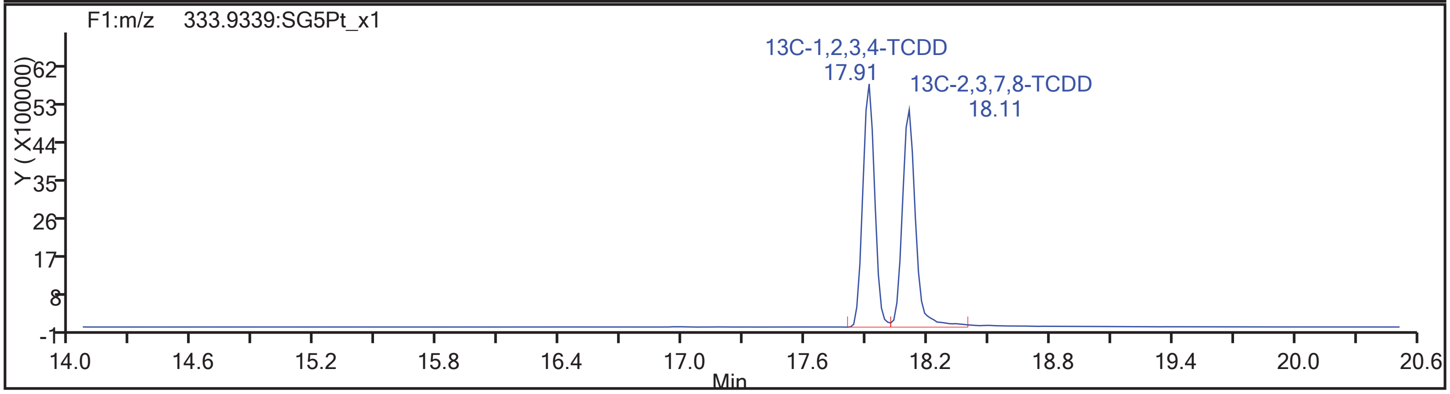
TCDD





TCDD Standards





TestAmerica Sacramento

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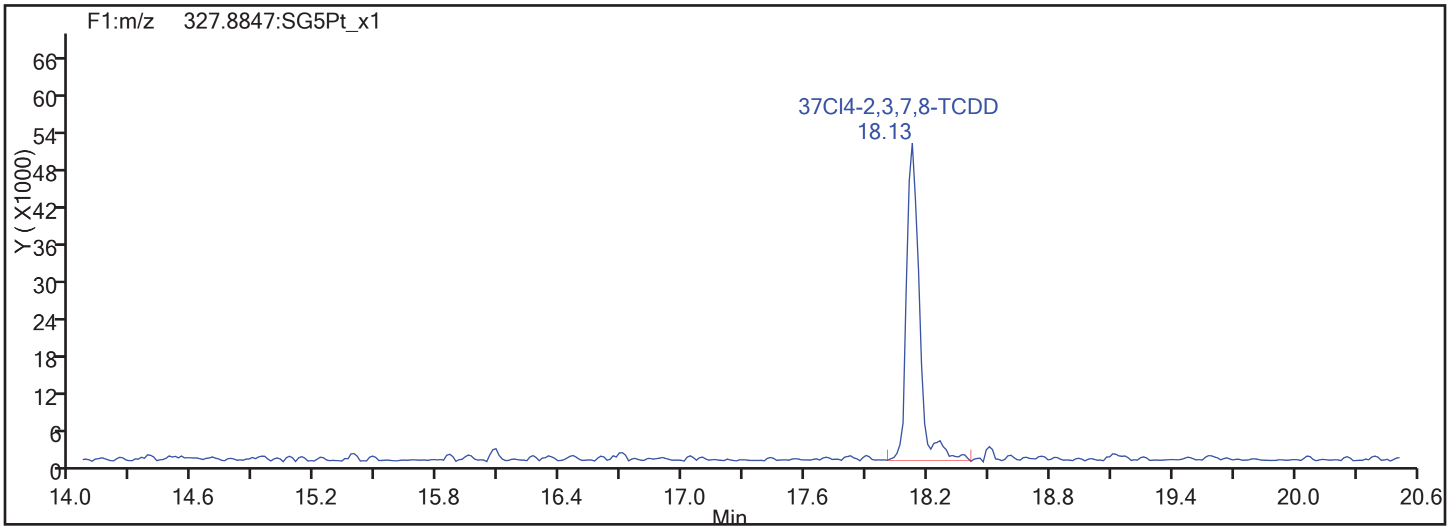
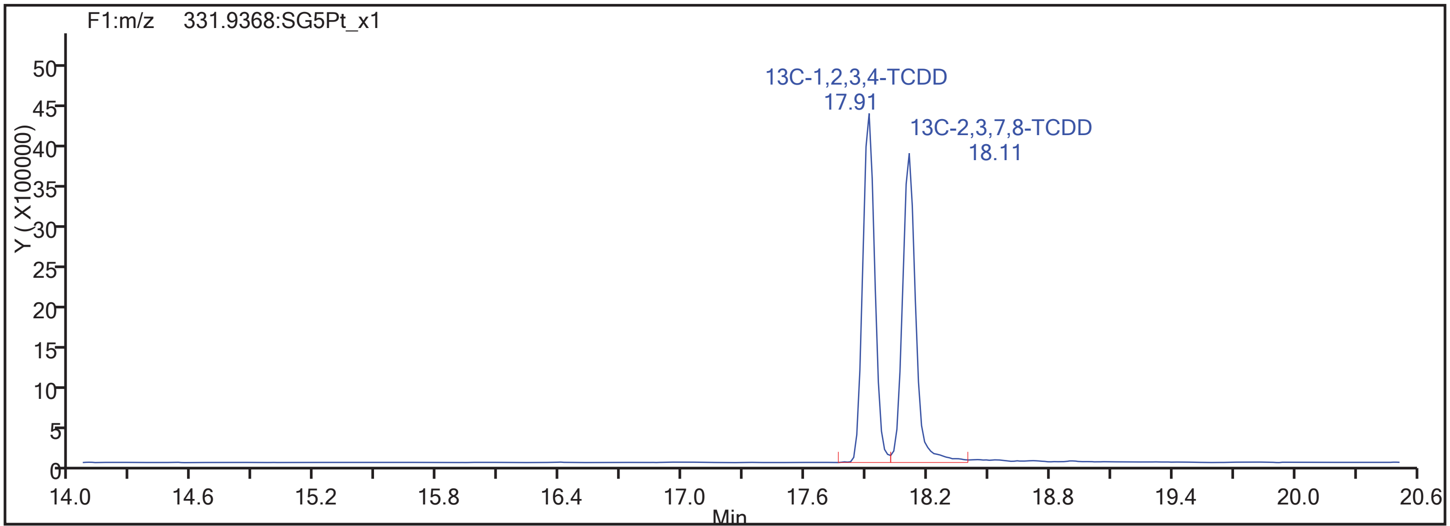
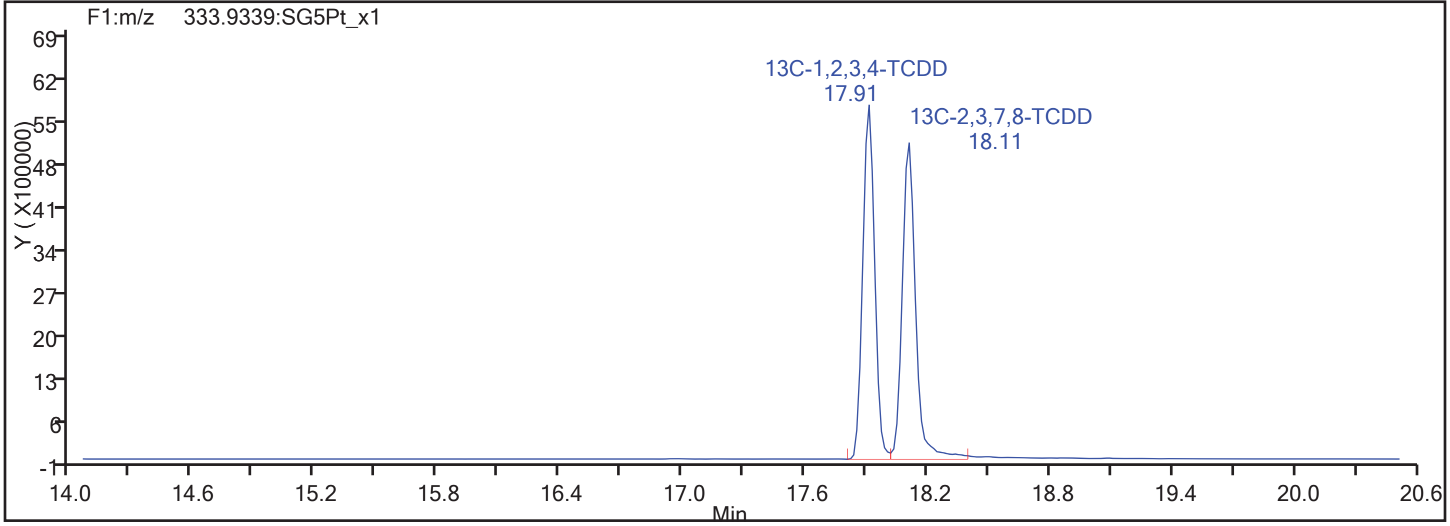
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d		
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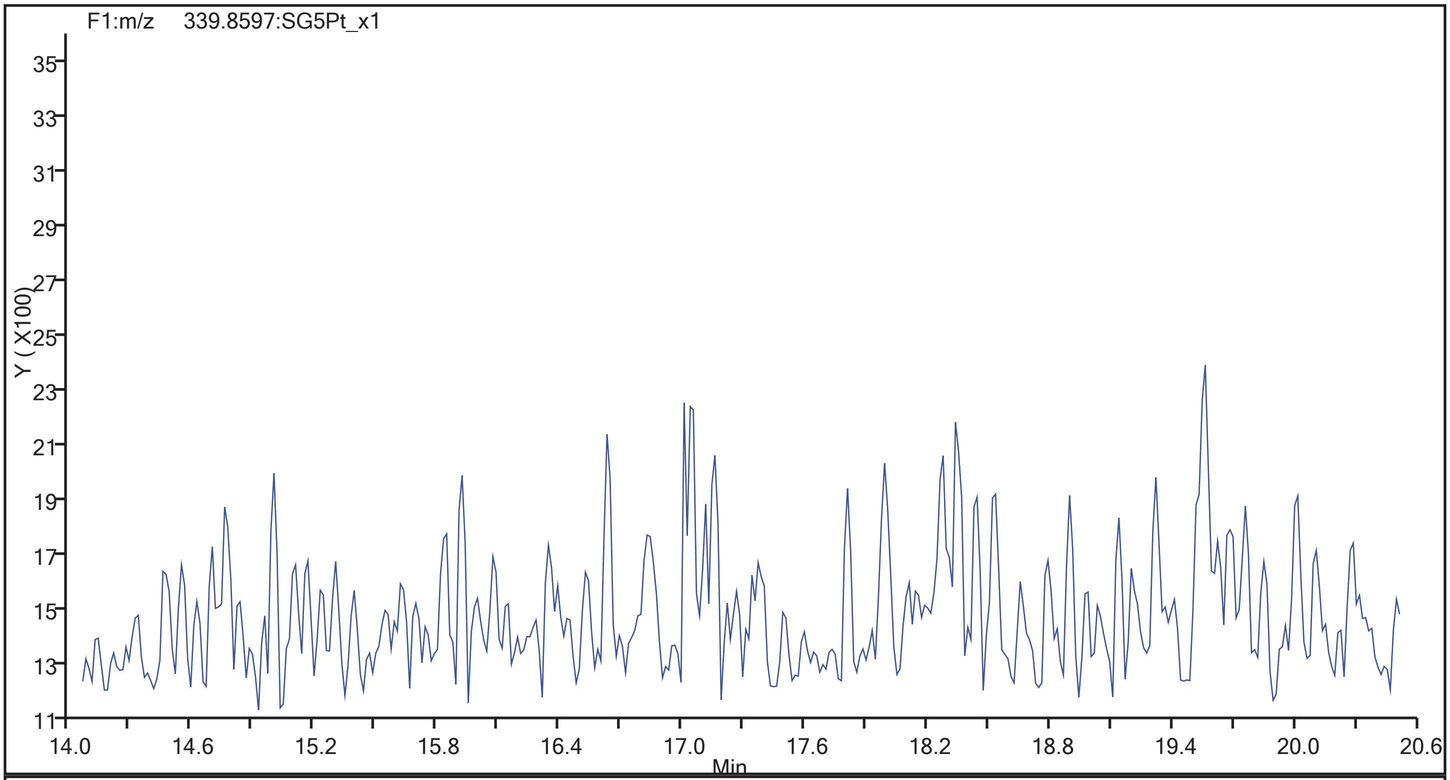
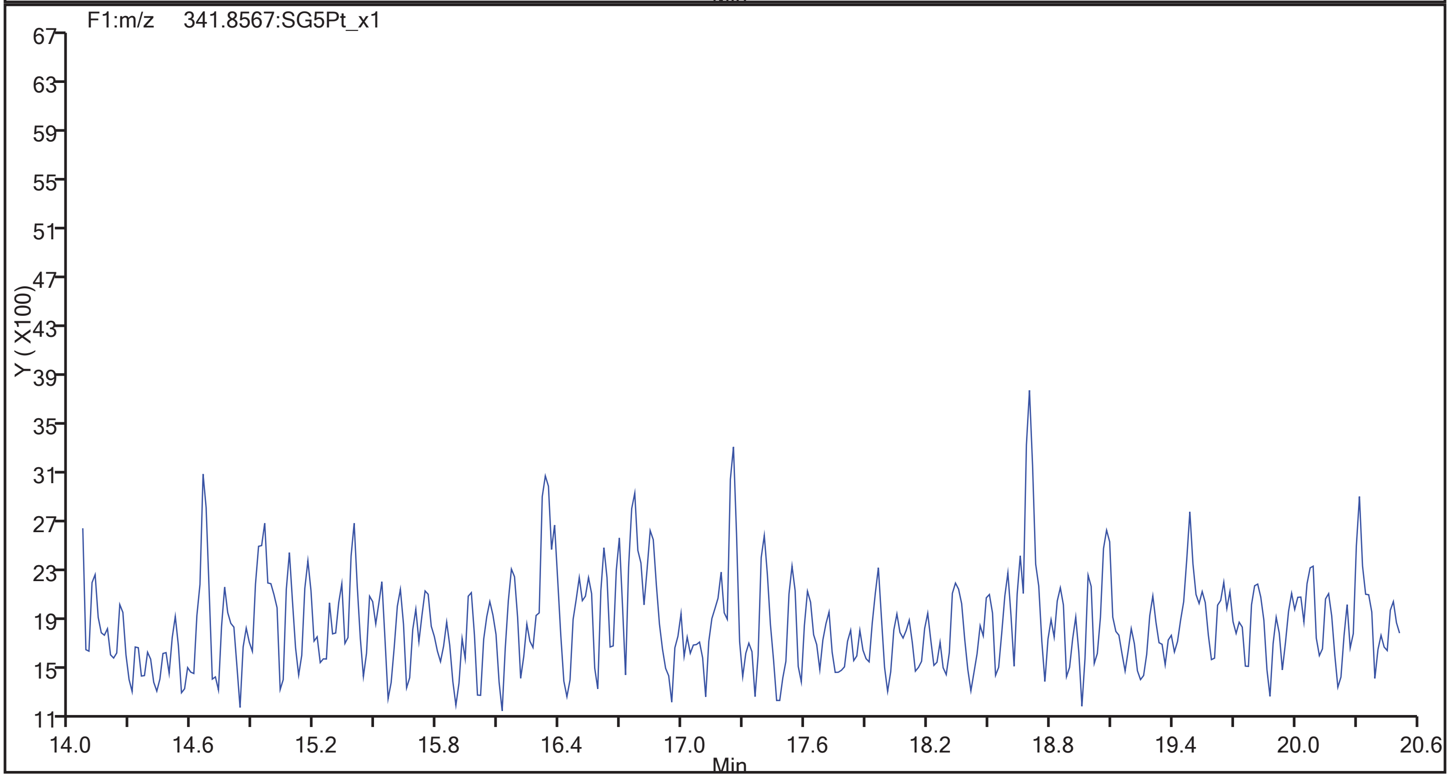
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d		
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Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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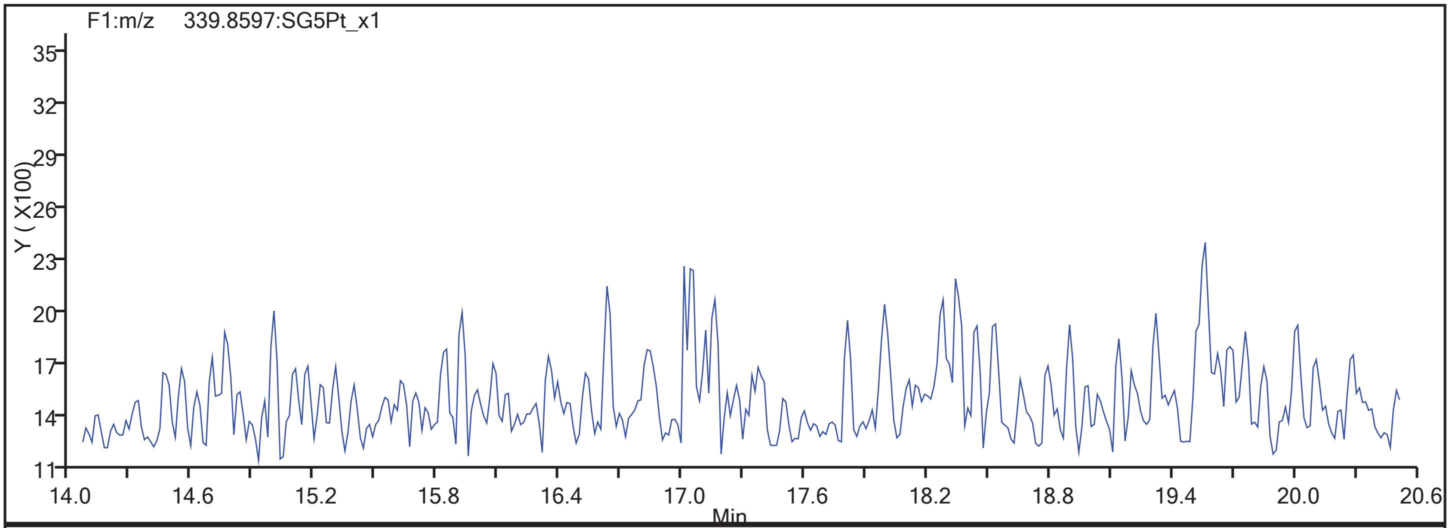
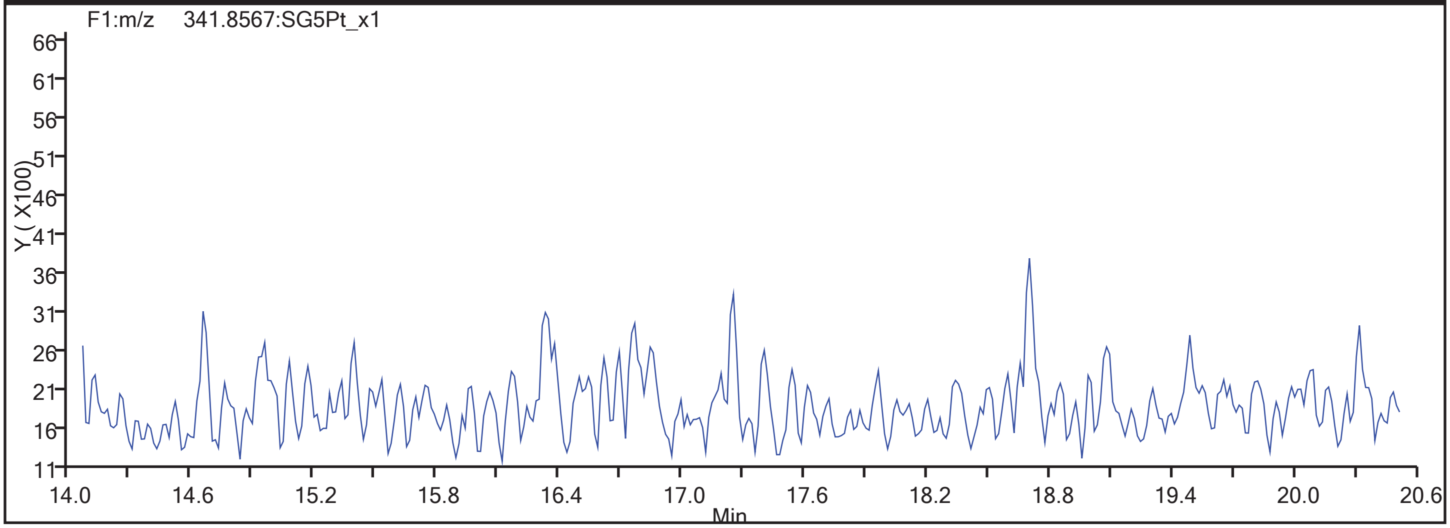
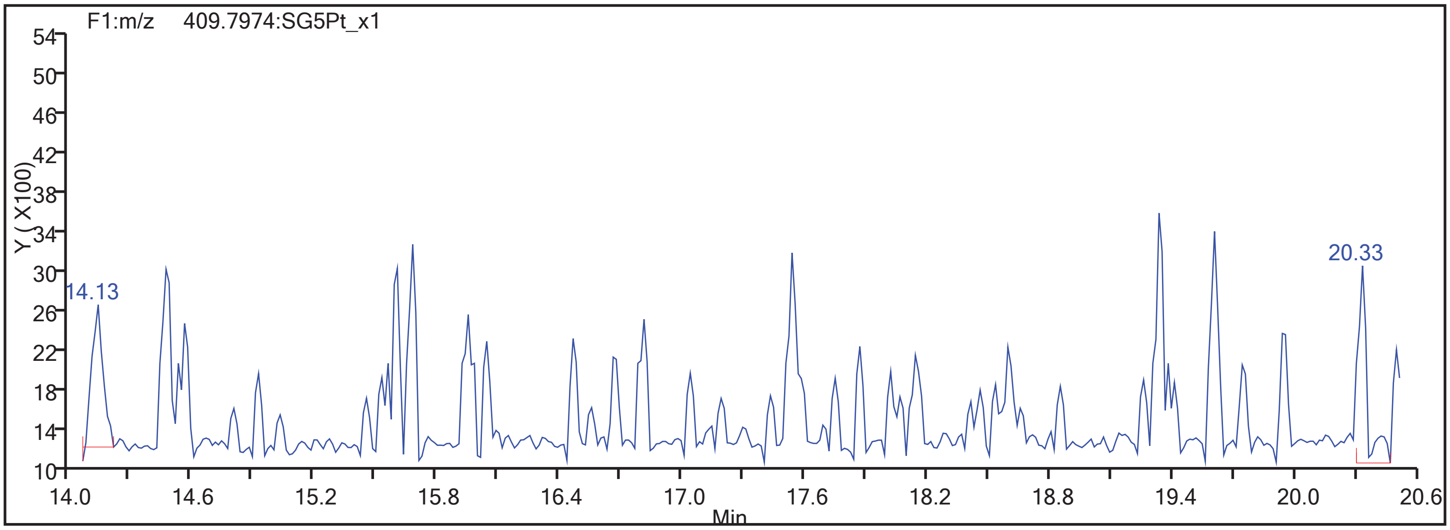
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



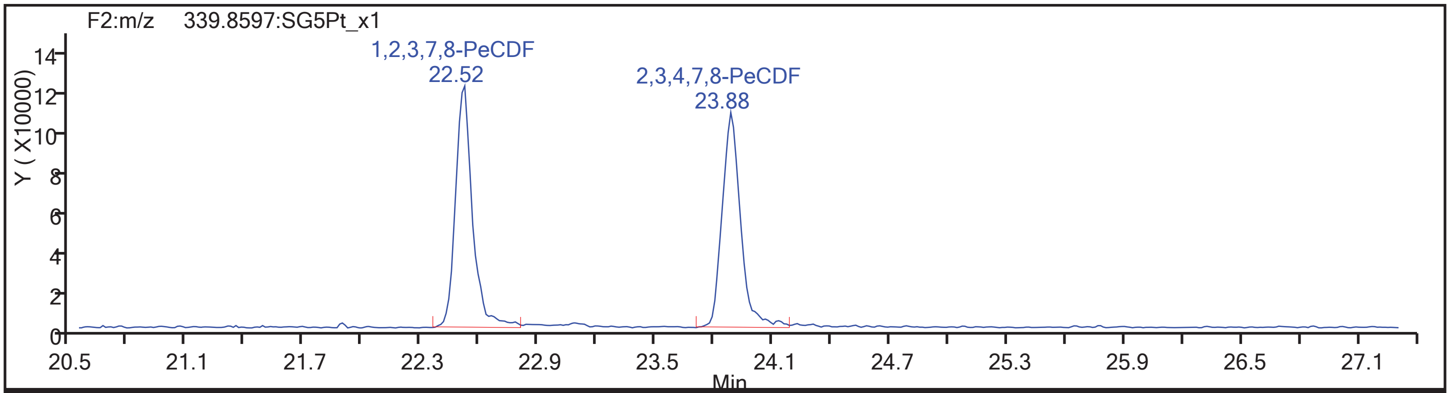
Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

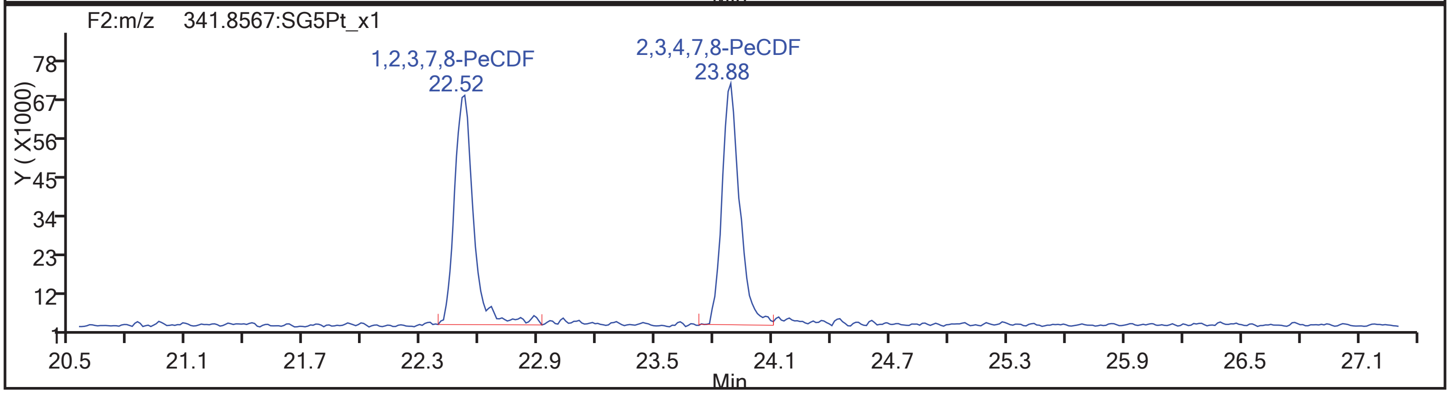
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d

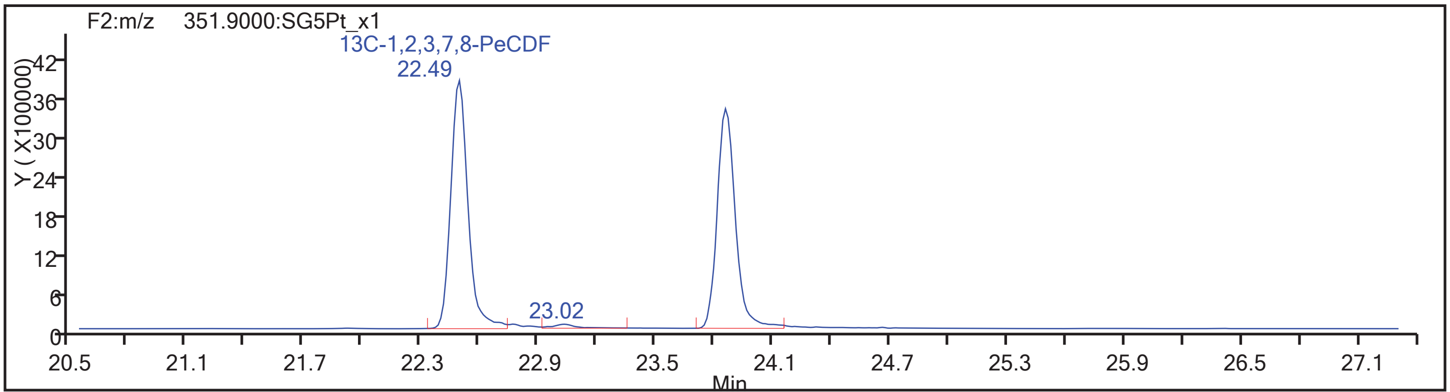
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

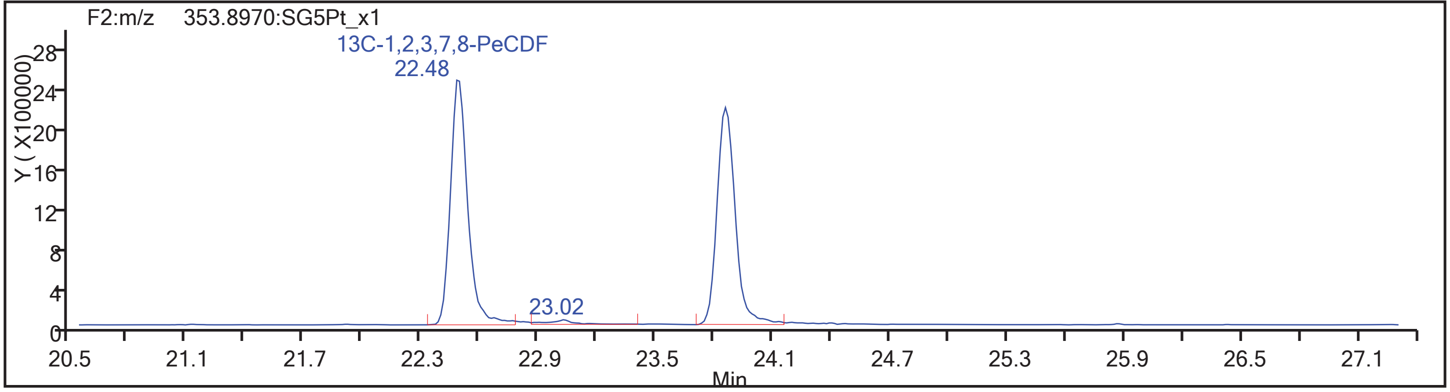
PeCDF





PeCDF Standards





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d

Injection Date: 13-Oct-2017 01:40:41 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: ALM, SMA

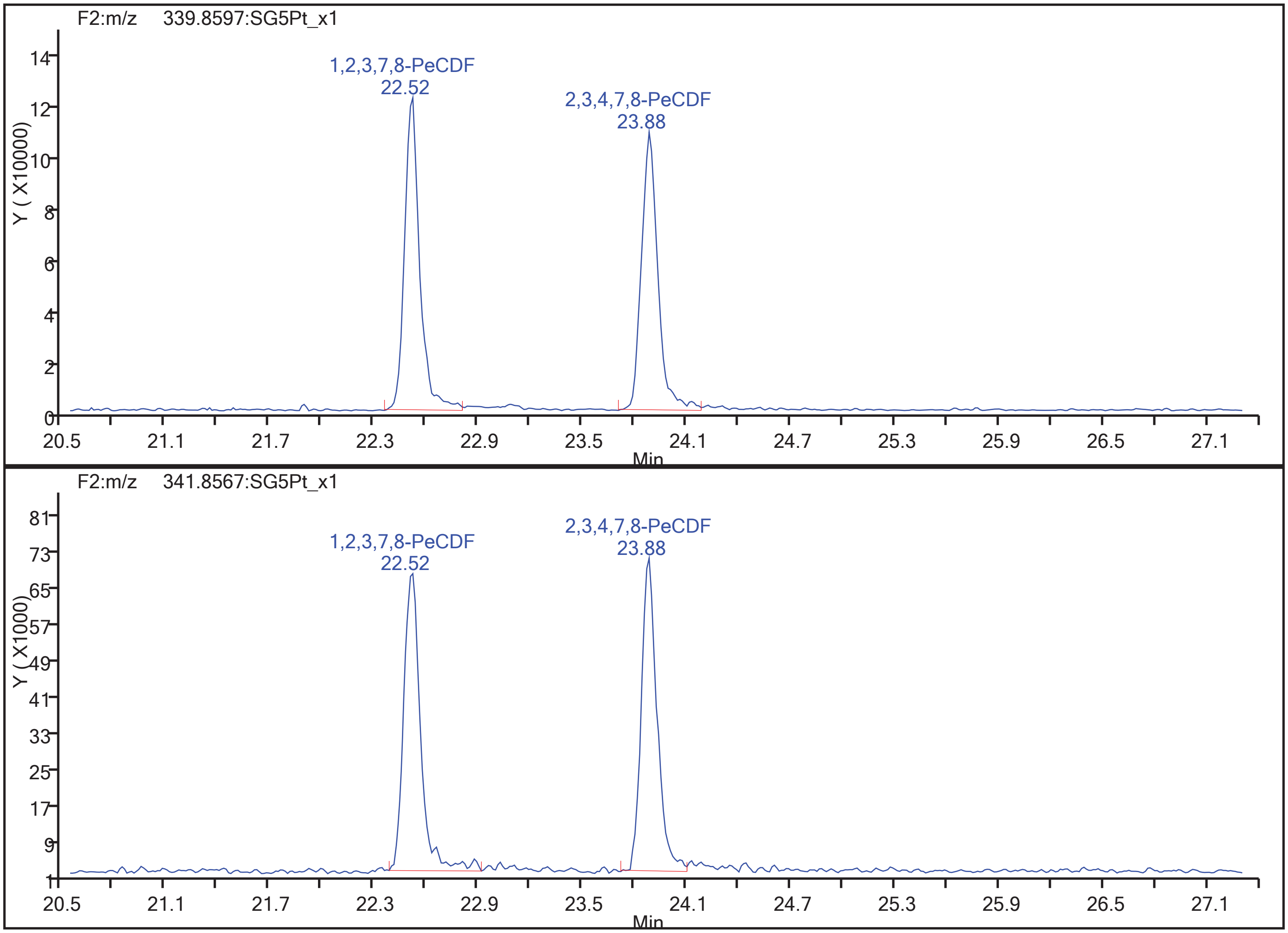
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

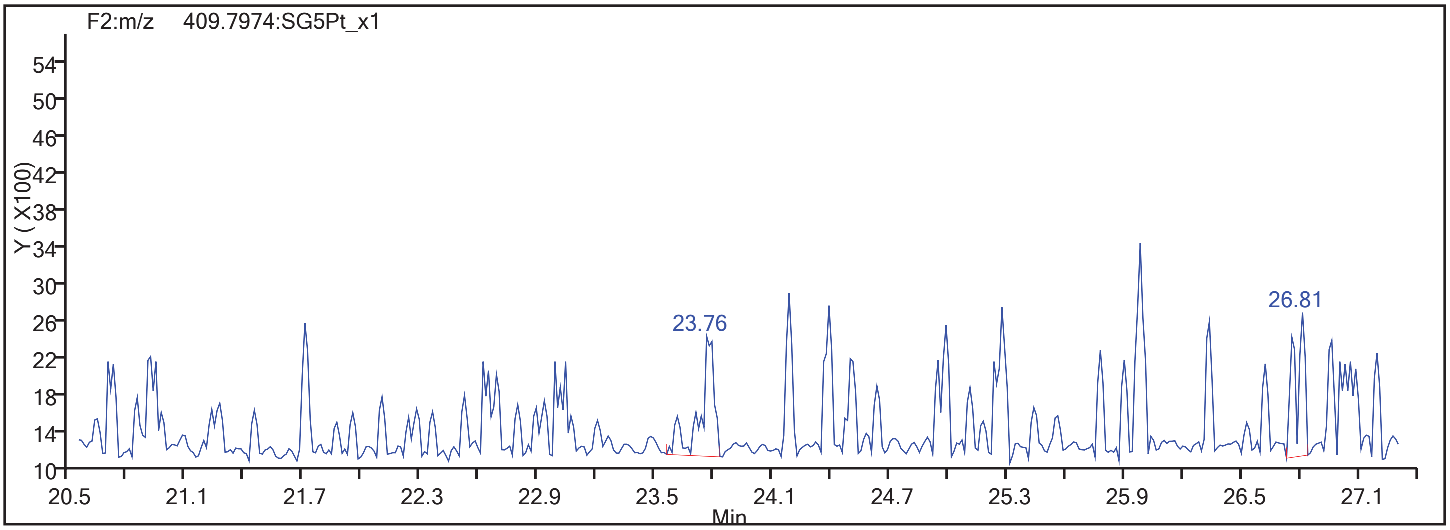
Worklist#: 189155 Sample Line#: 4

Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



PeCDF Interference Mass

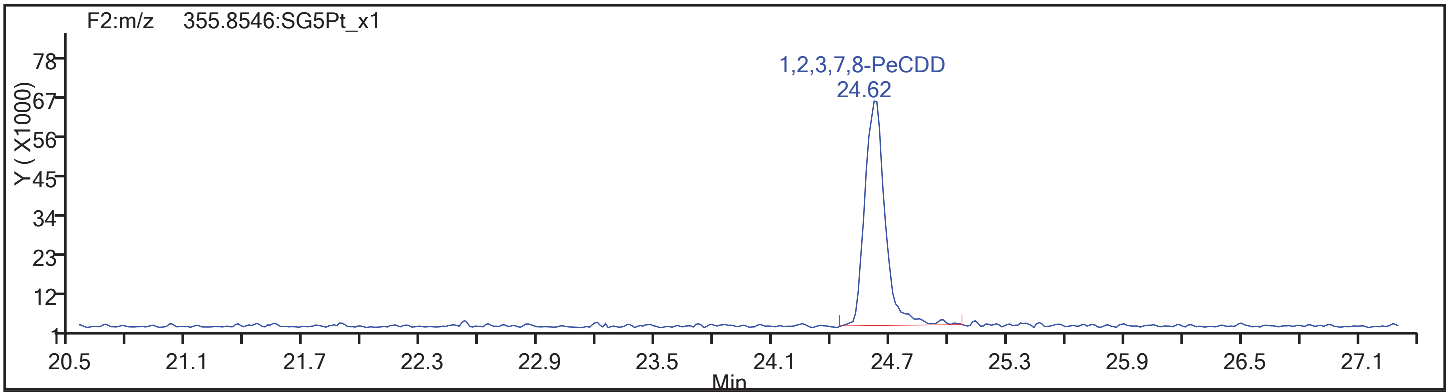


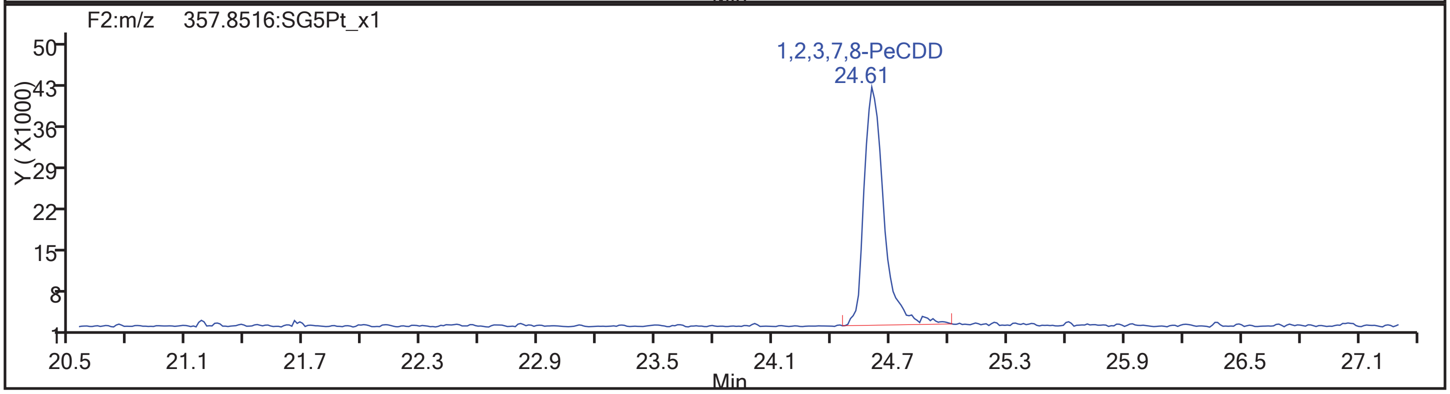
Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

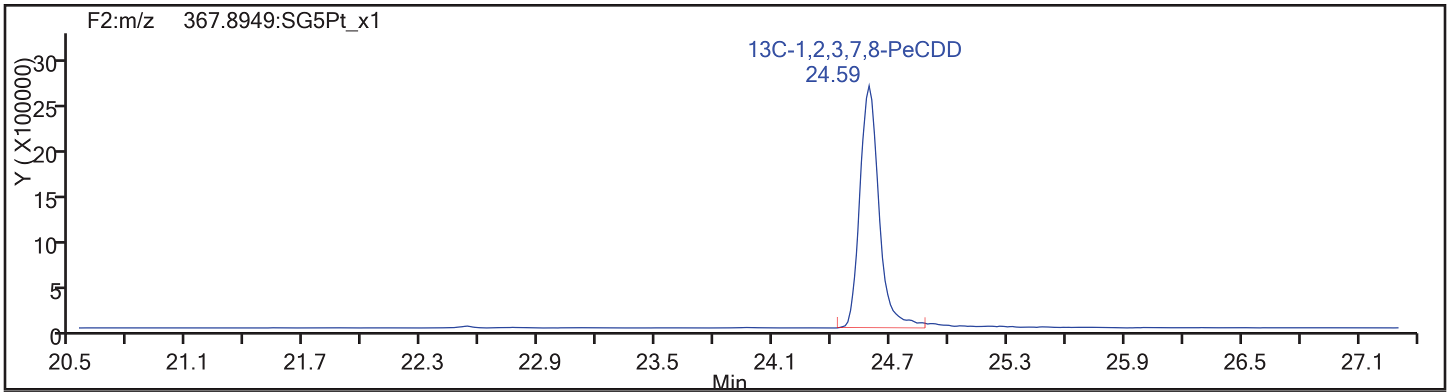
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d
Injection Date: 13-Oct-2017 01:40:41
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 4
Column Type: DB-5
Column Dia: 0.32 mm

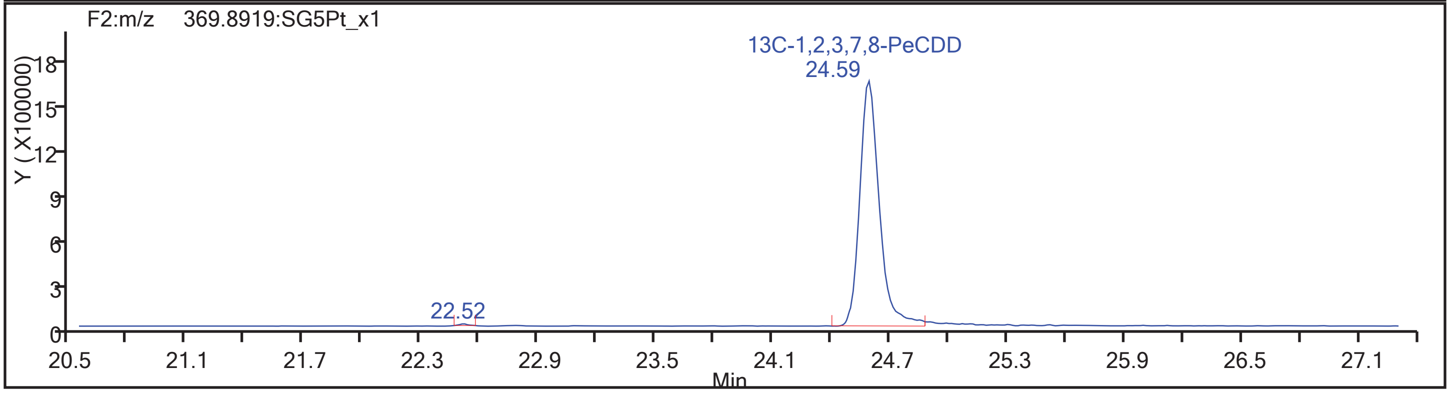
PeCDD





PeCDD Standards





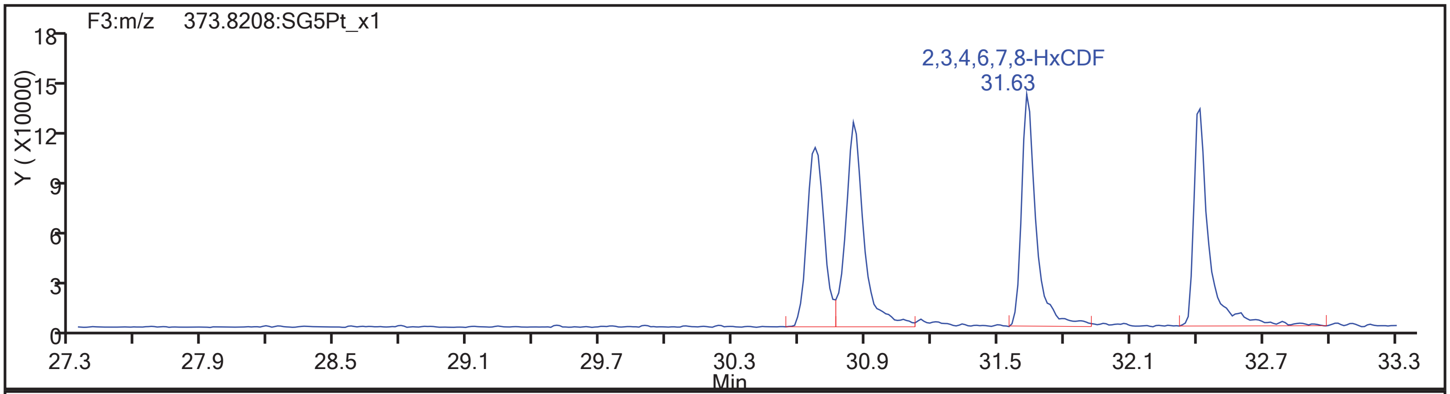
Report Date: 13-Oct-2017 10:55:48

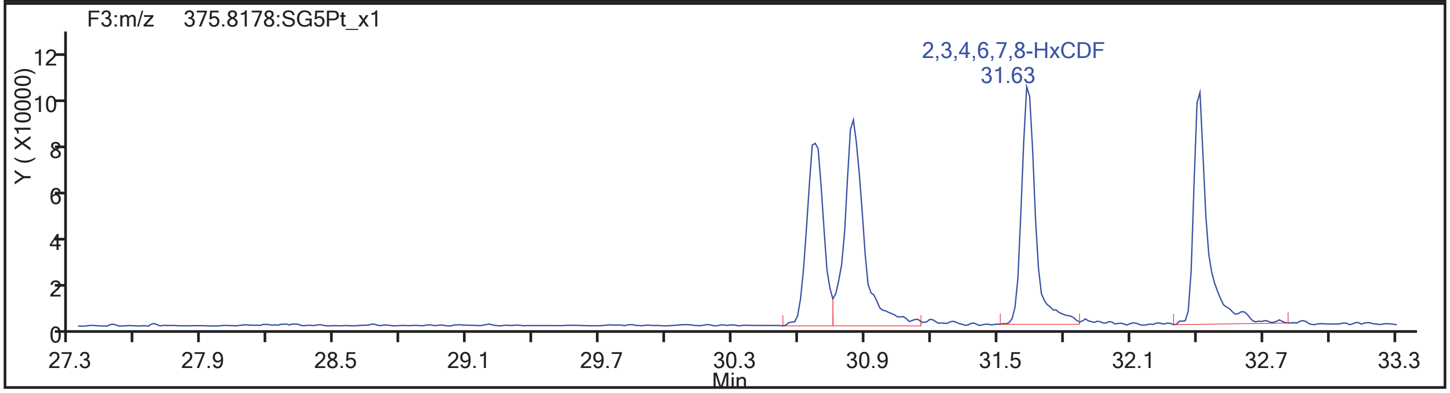
Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

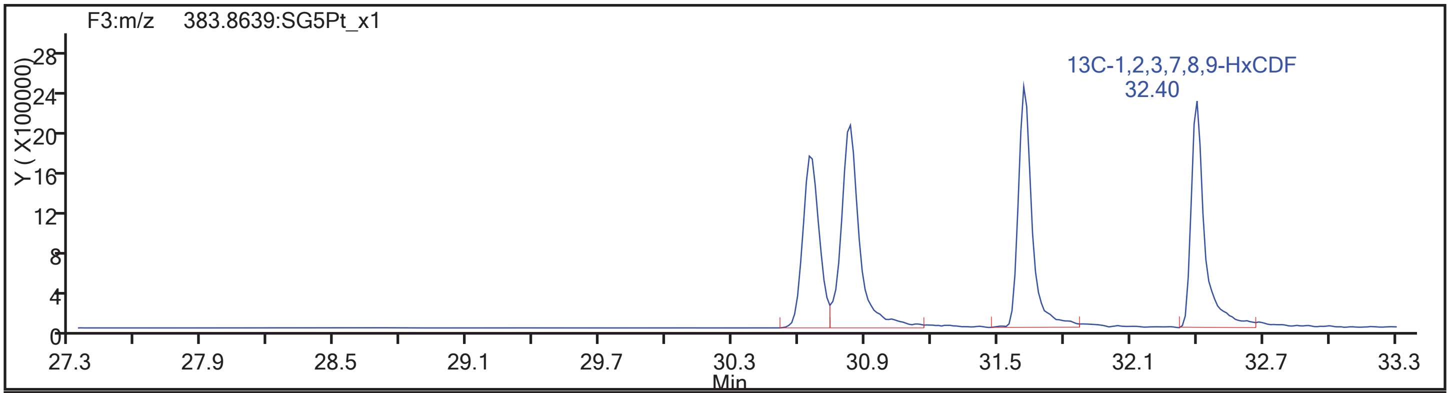
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d		
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

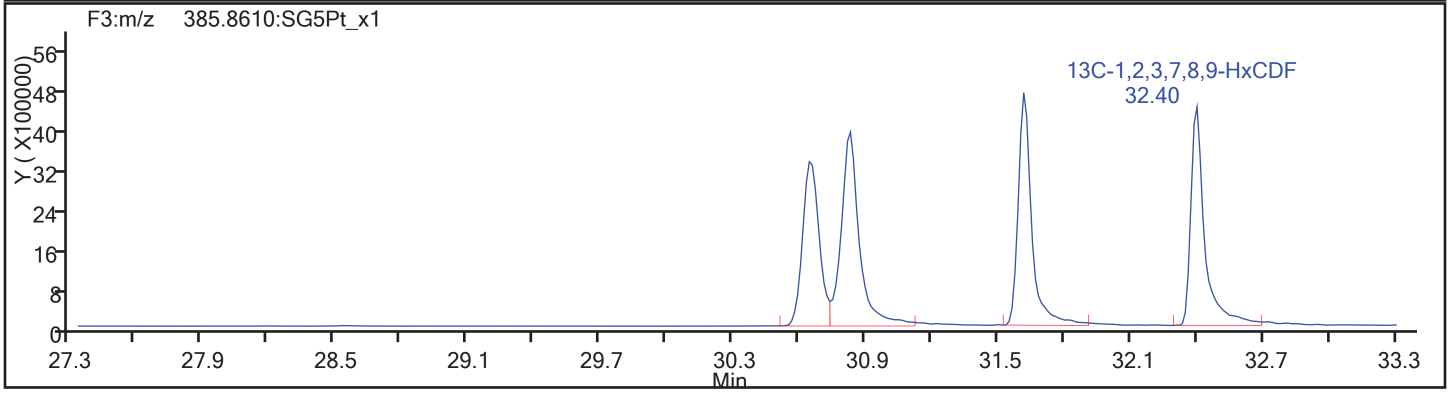
HxCDF





HxCDF Standards



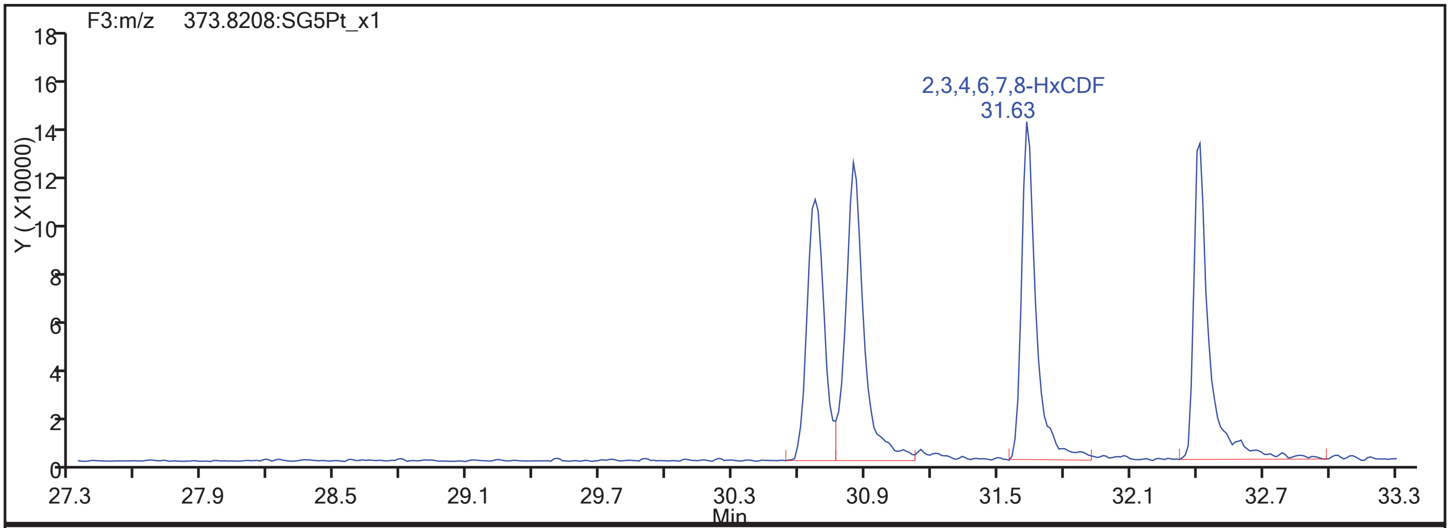


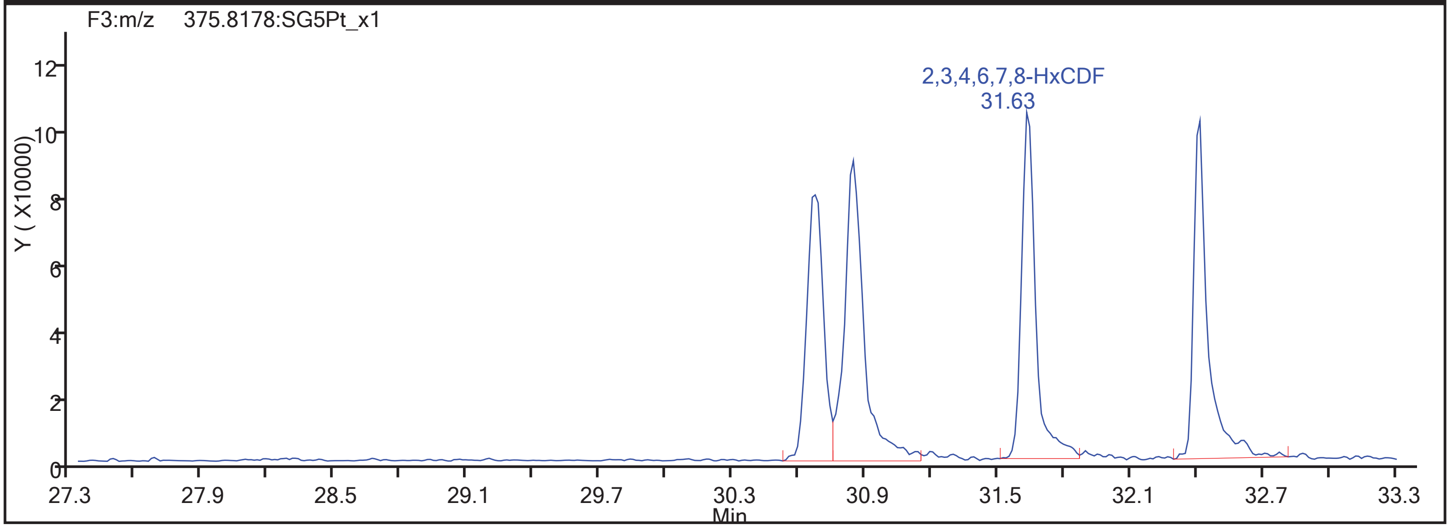
Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

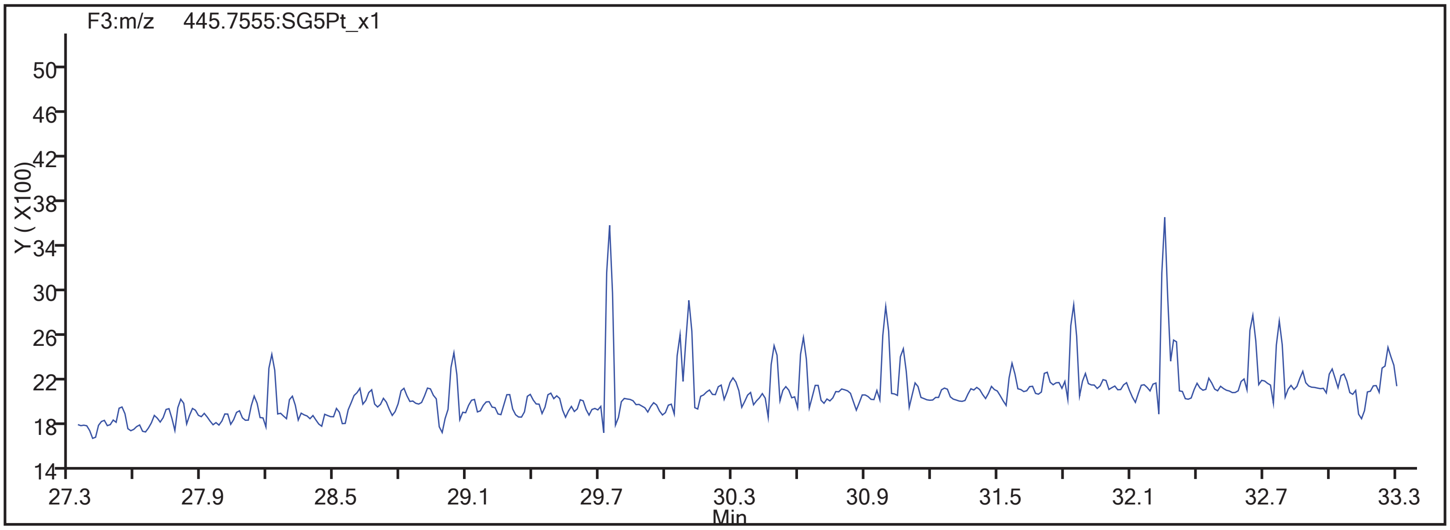
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d		
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass

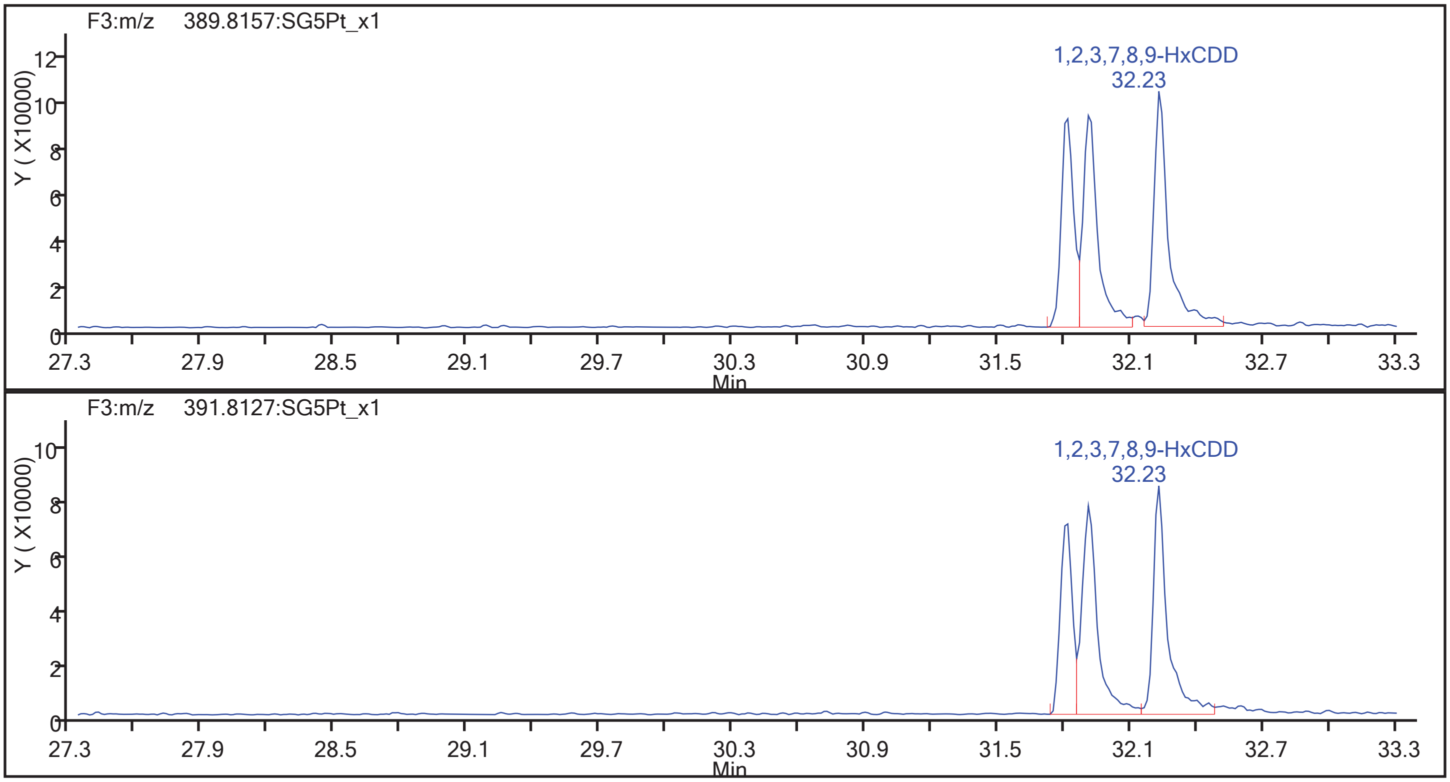


Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

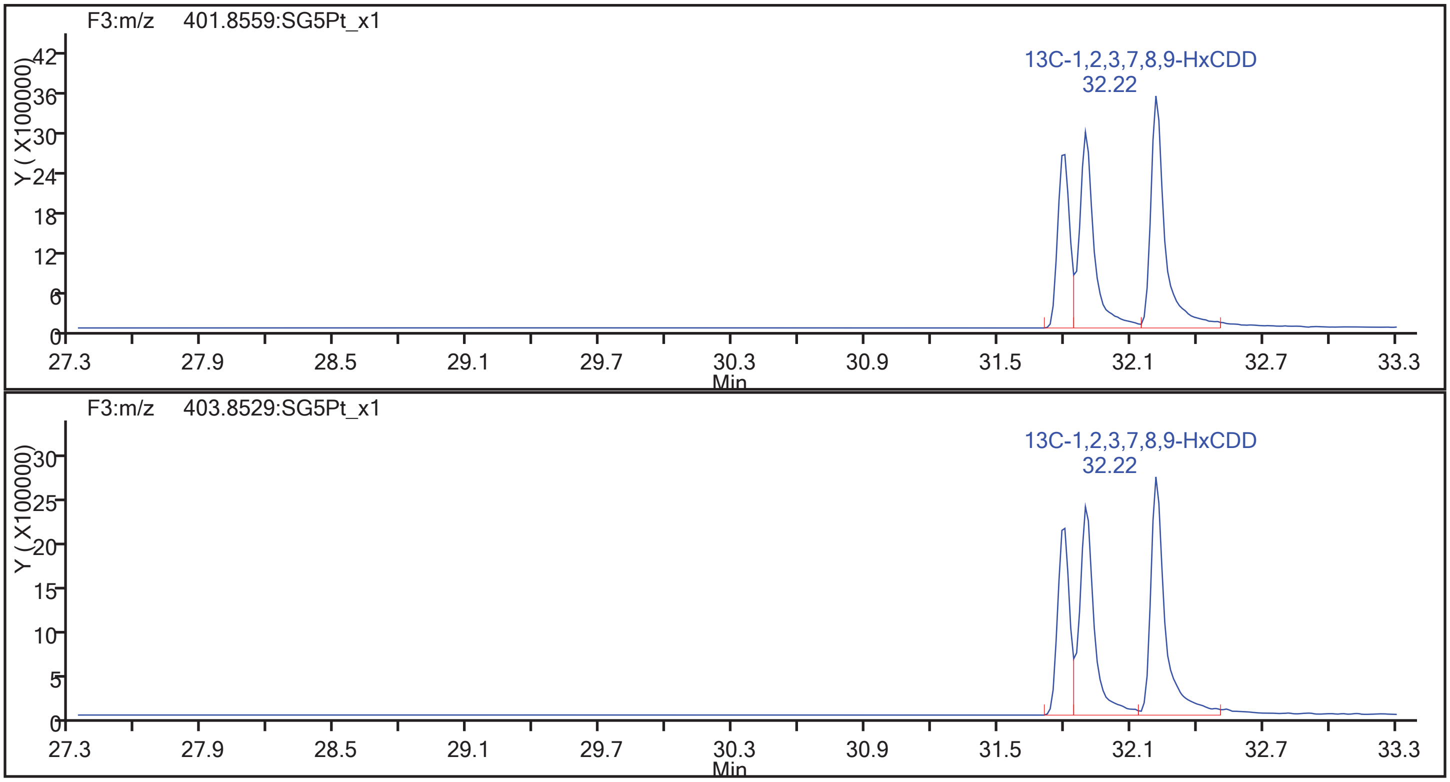
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d
Injection Date: 13-Oct-2017 01:40:41
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 4
Column Type: DB-5
Column Dia: 0.32 mm

HxCDD



HxCDD Standards



Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d		
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
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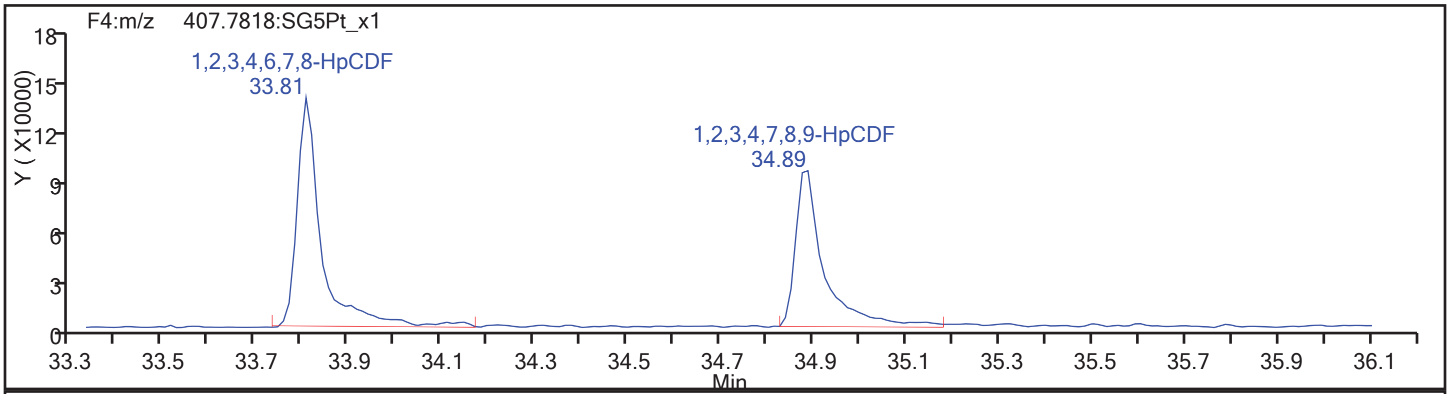
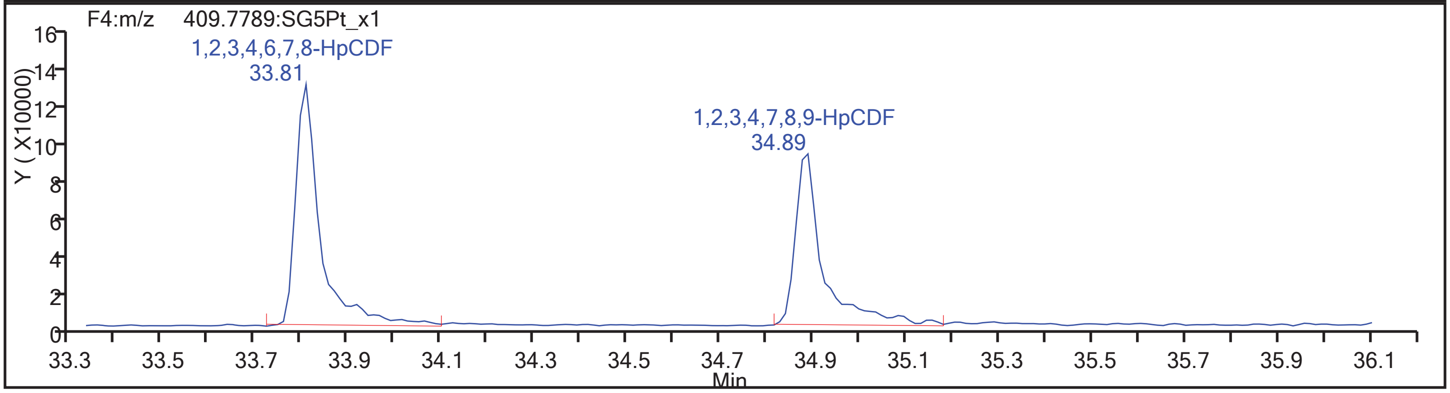
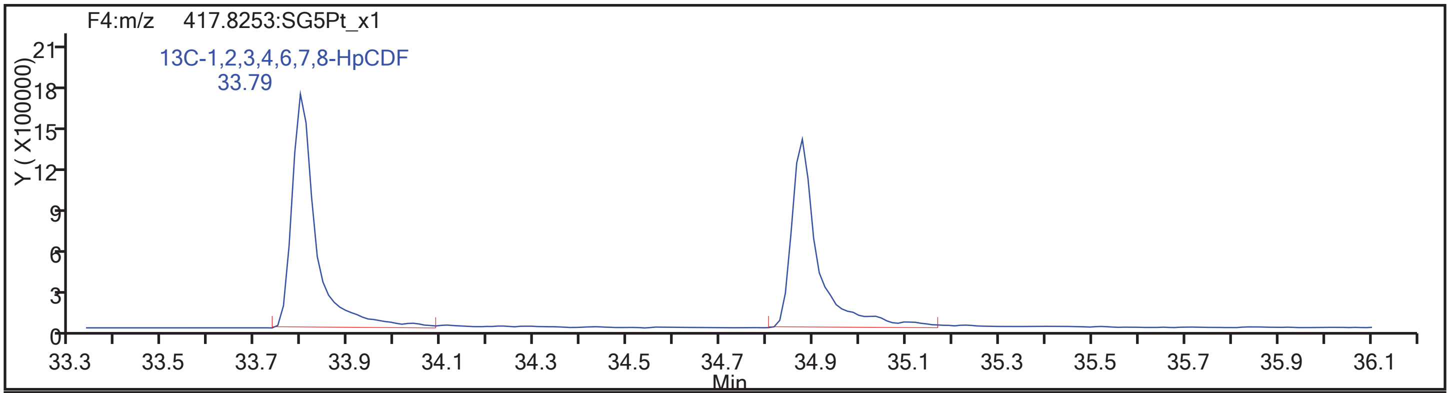
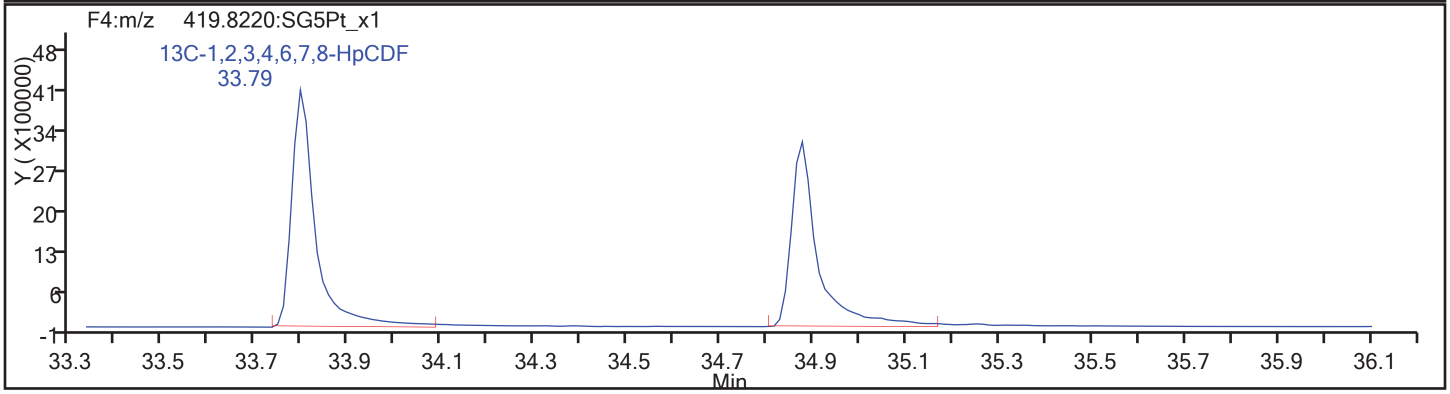
HpCDF





HpCDF Standards



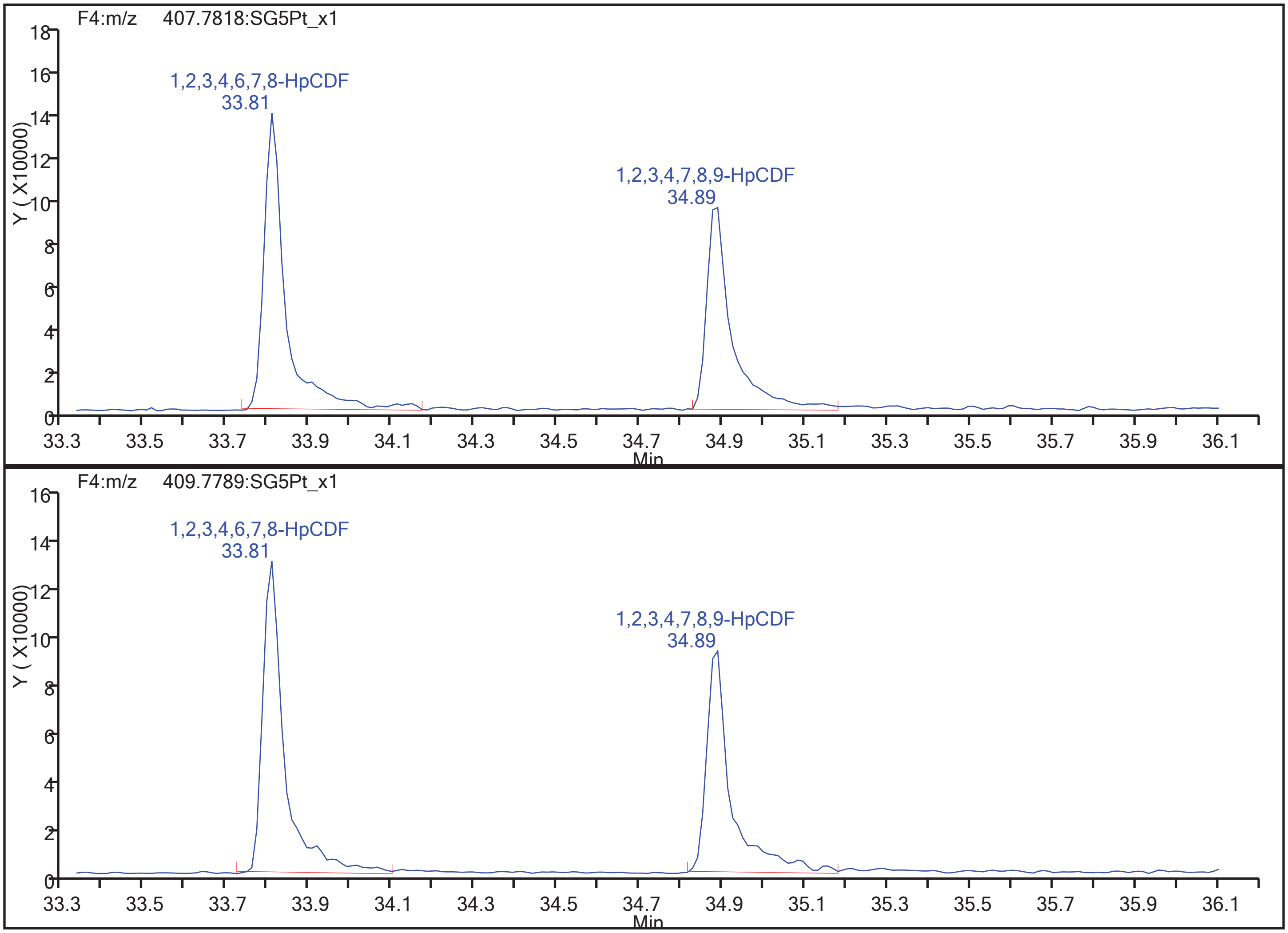


Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

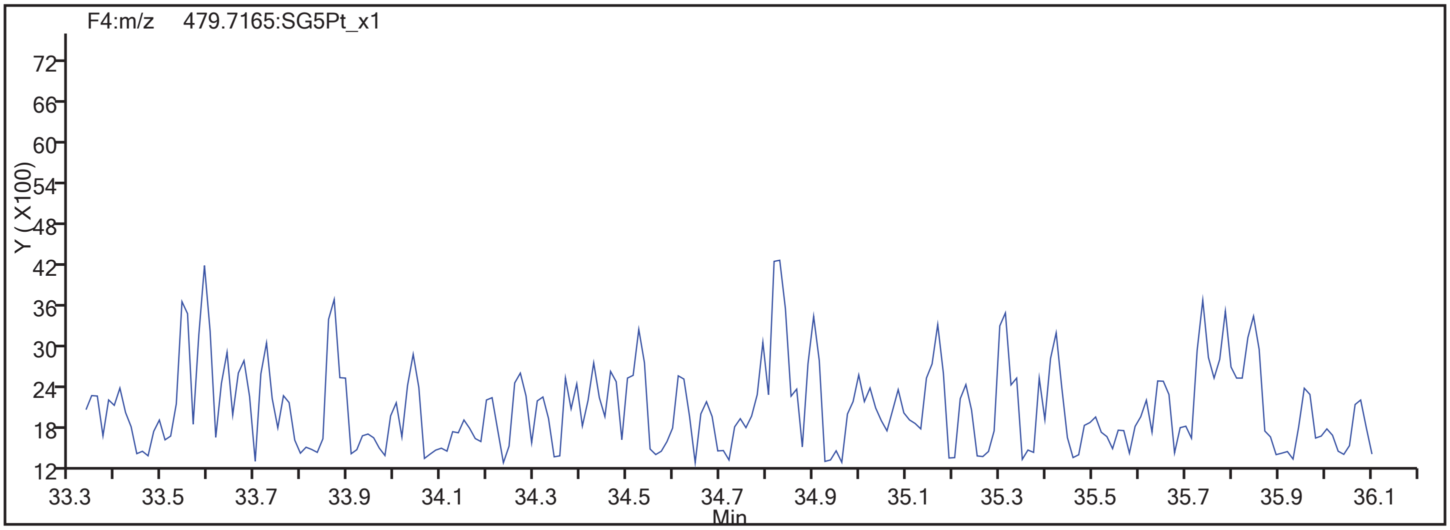
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d		
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF



HpCDF Interference Mass



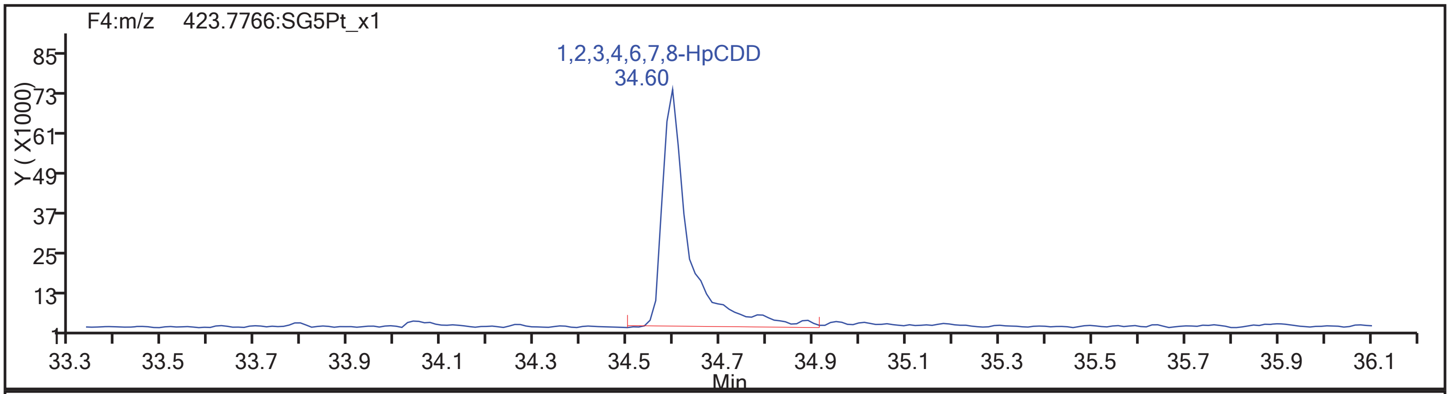
Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

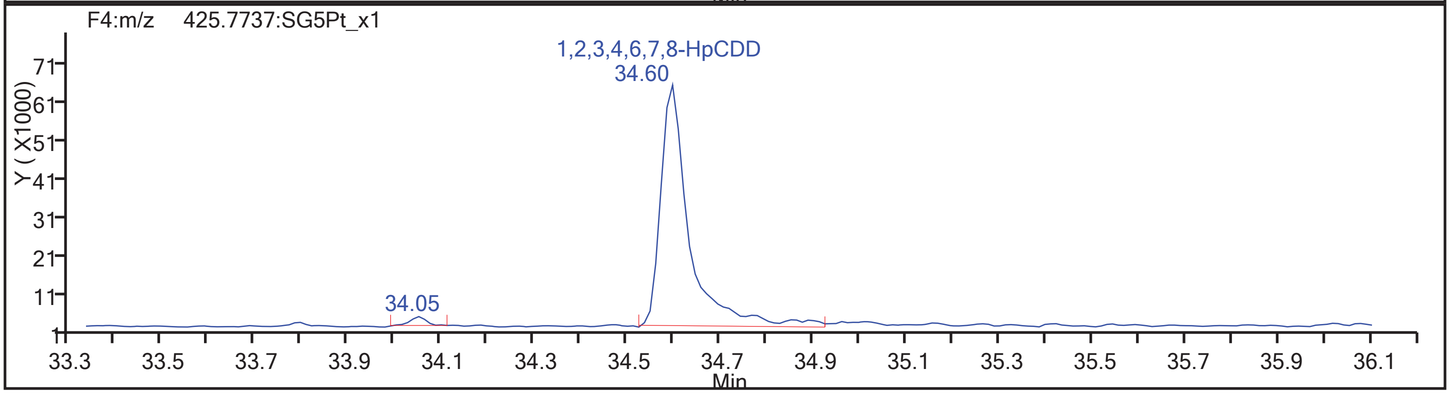
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d

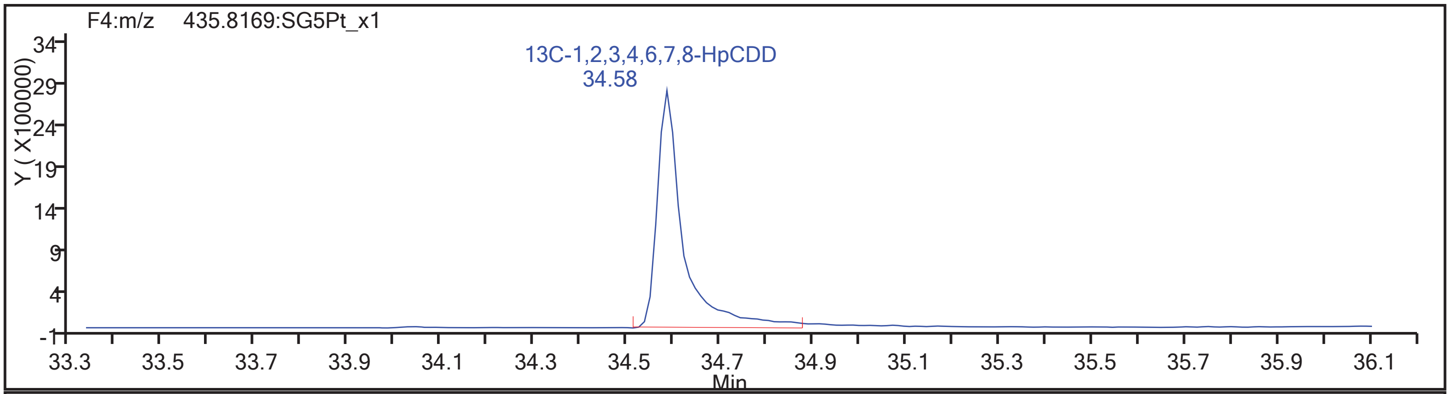
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

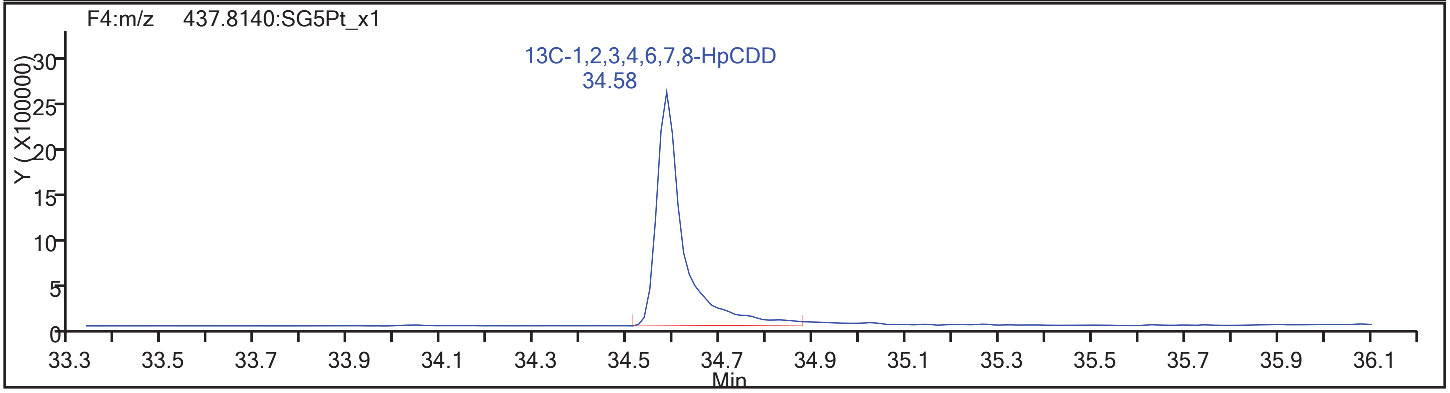
HpCDD





HpCDD Standards

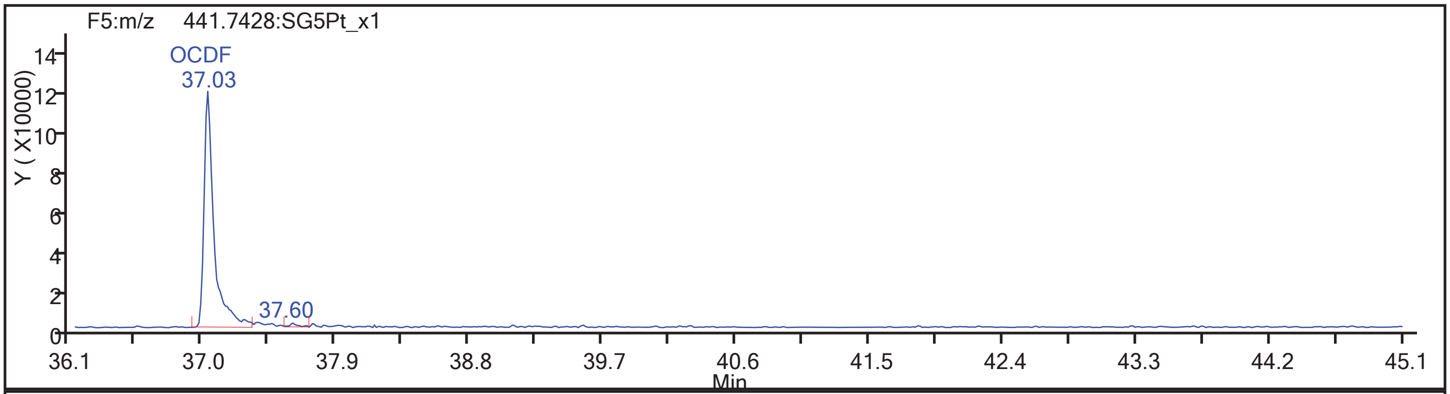


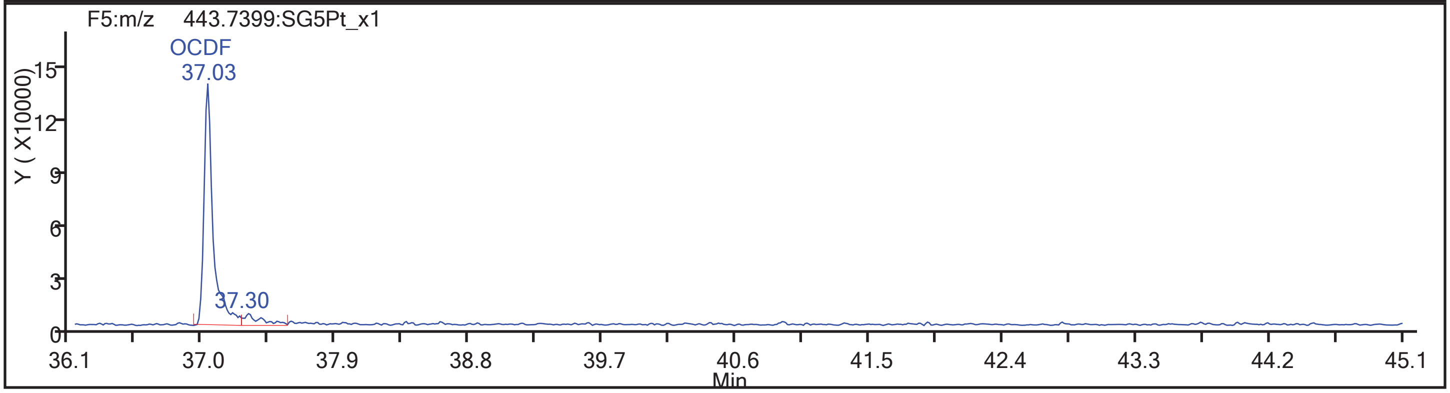


TestAmerica Sacramento

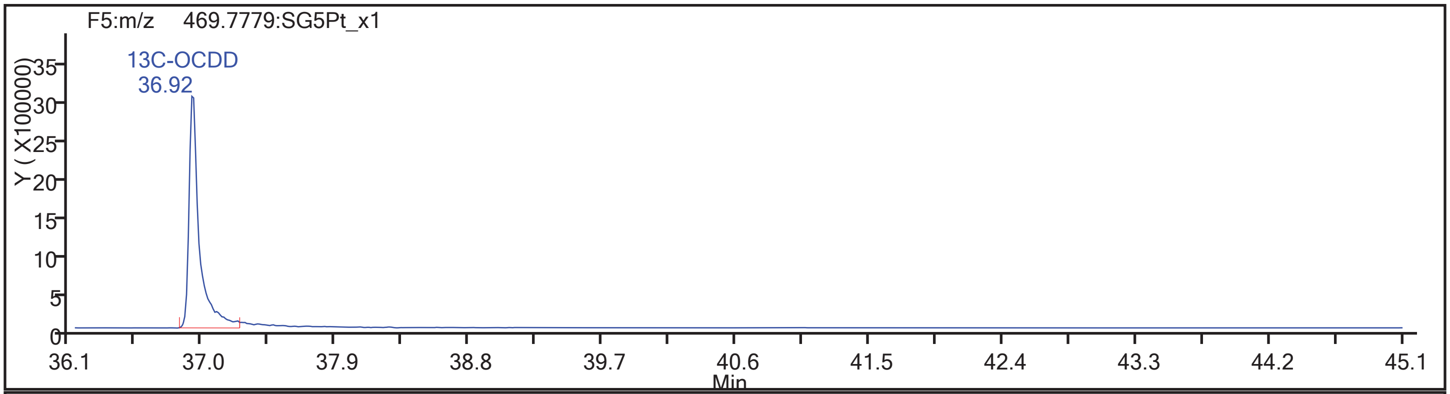
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d		
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

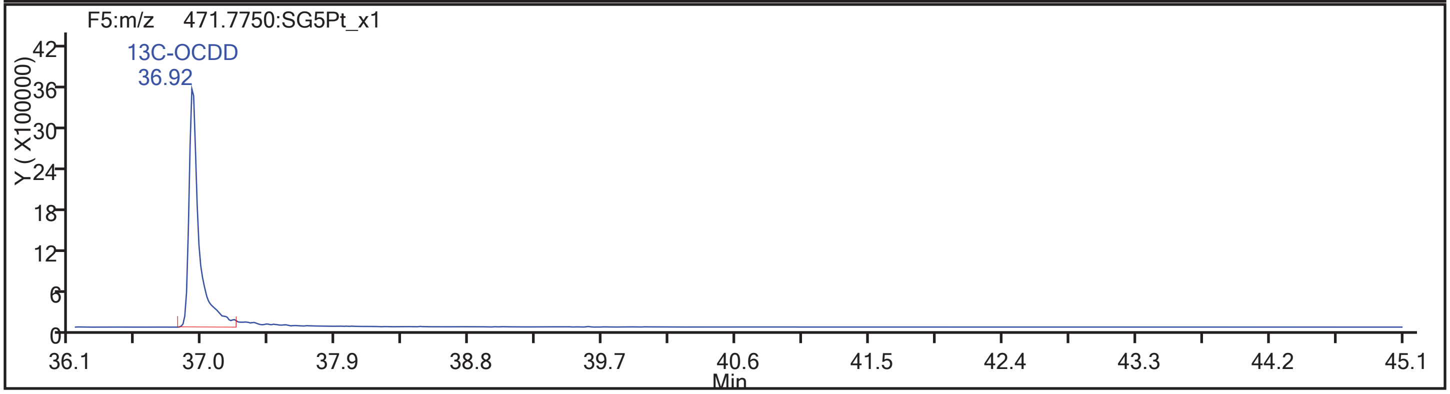
OCDF





OCDF Standards





Report Date: 13-Oct-2017 10:55:48
Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d		
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Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
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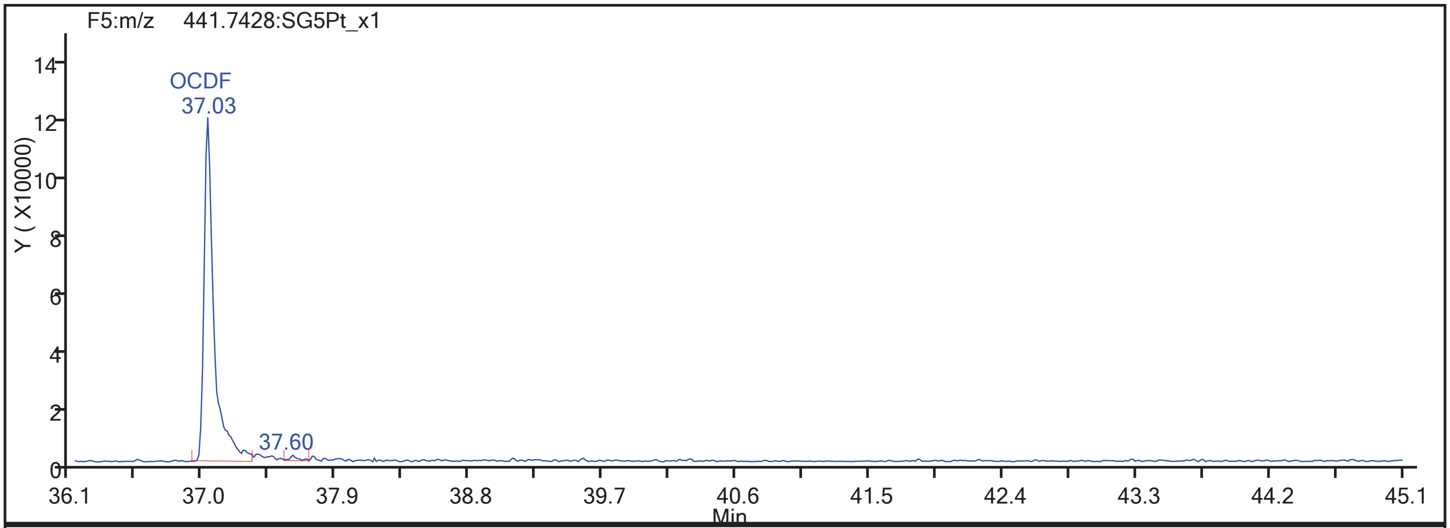
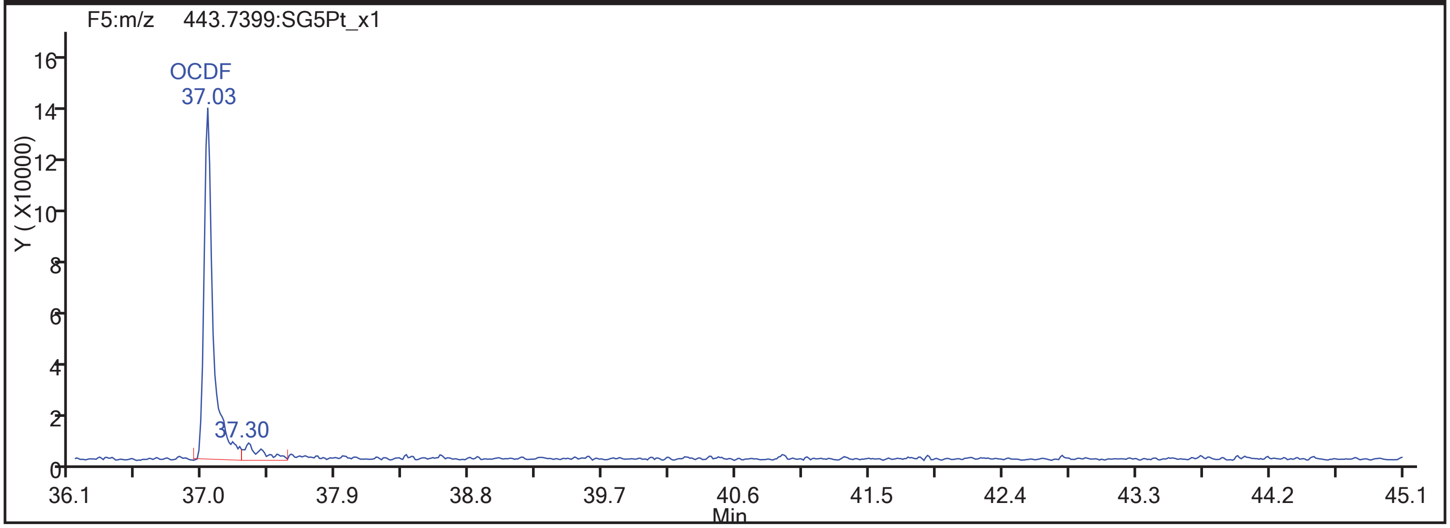
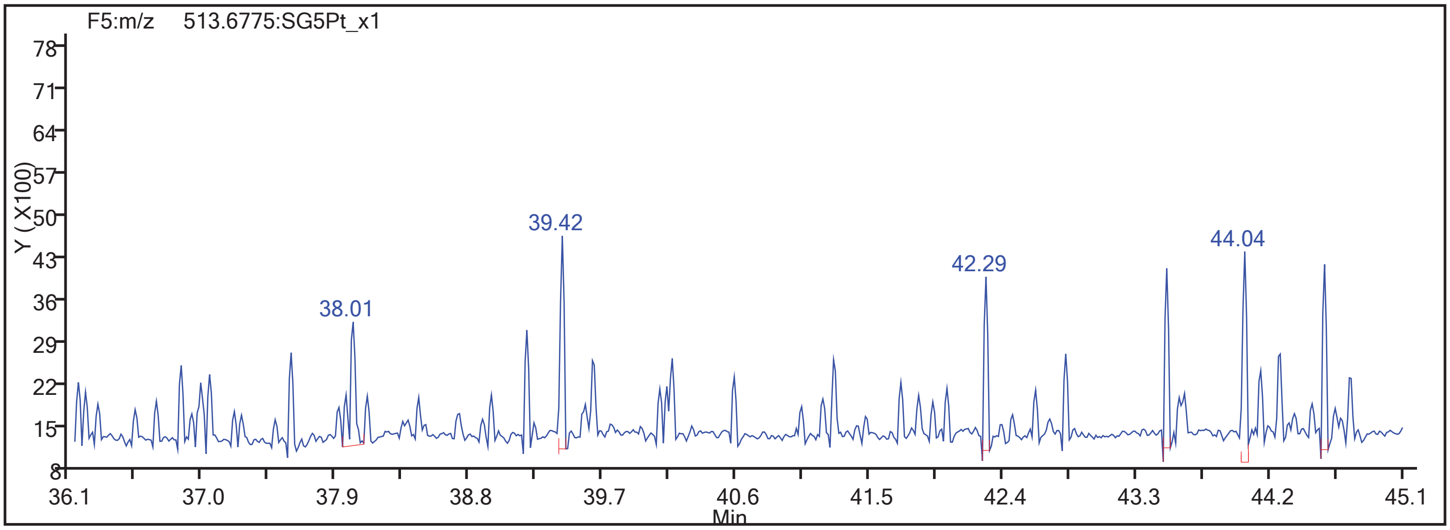
OCDF





OCDF Interference Mass



Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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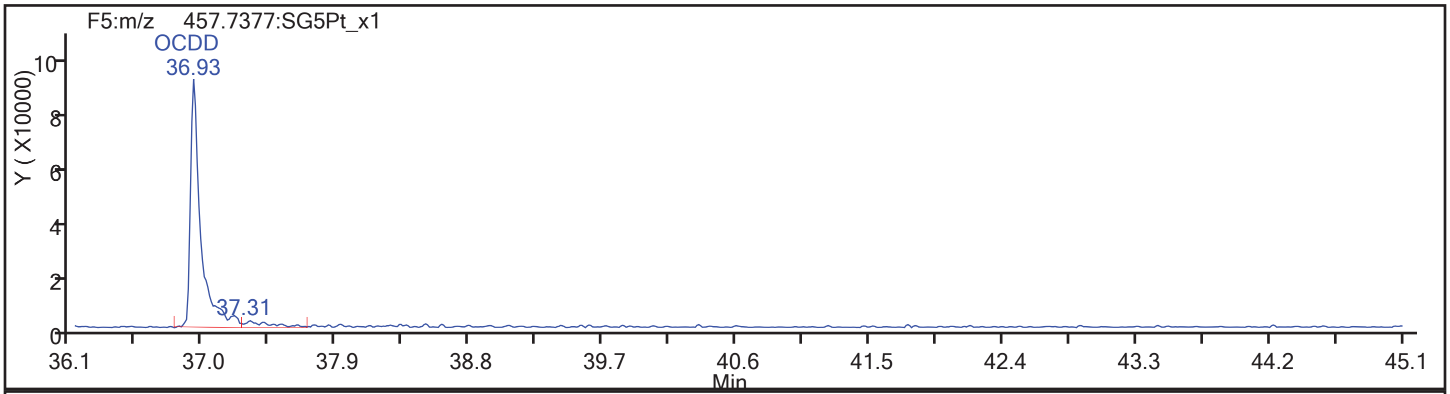
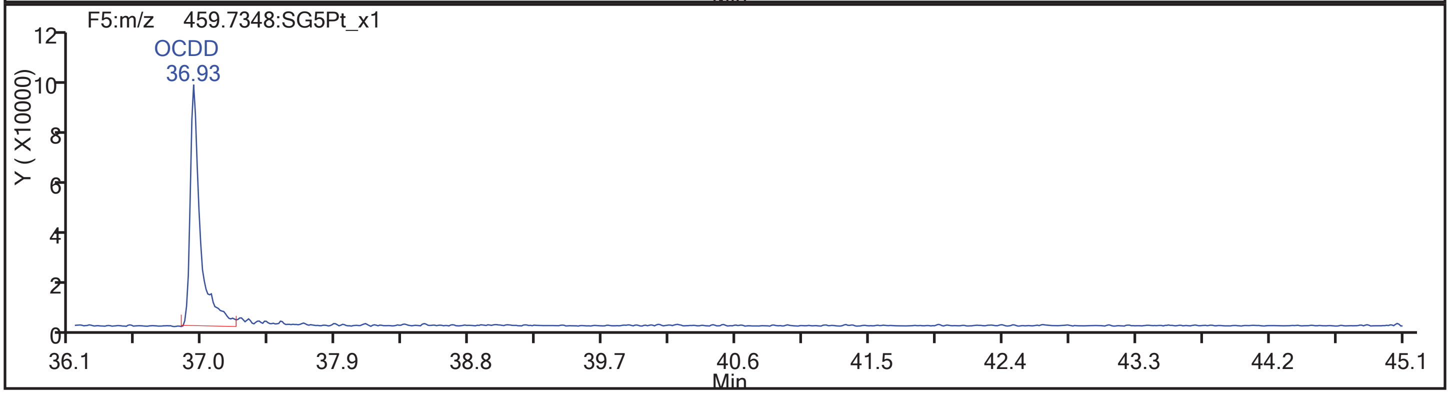
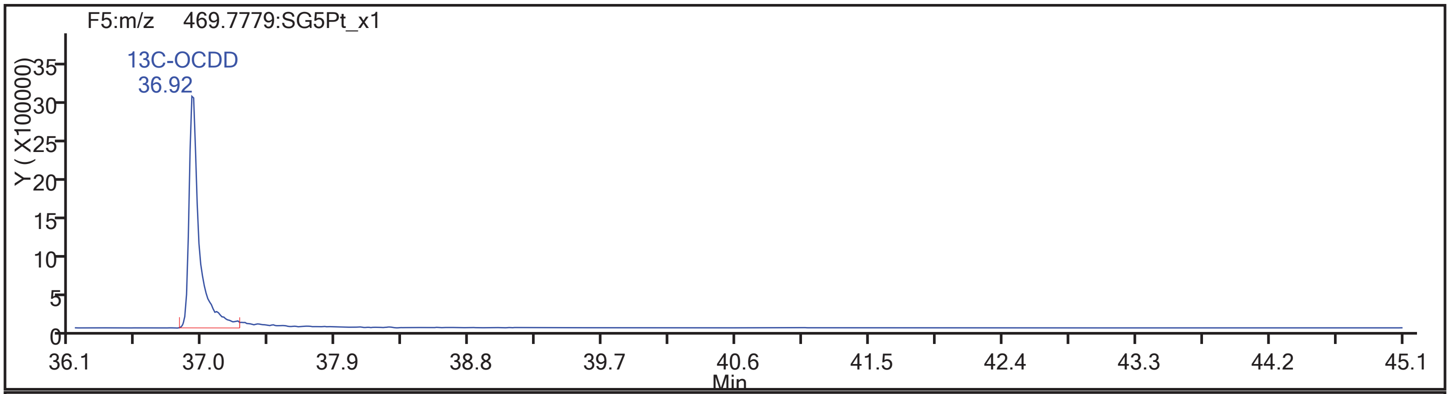
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

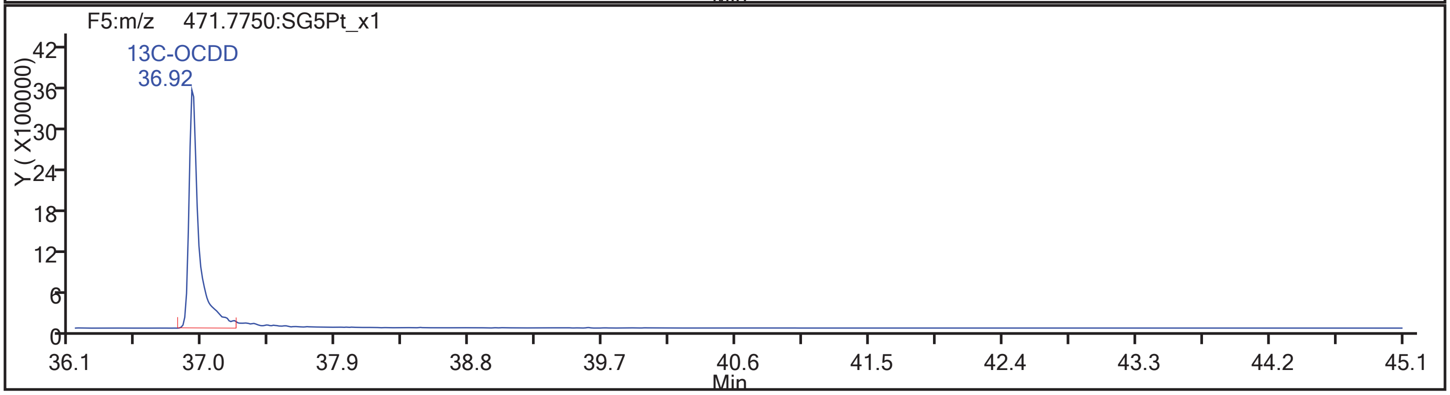
OCDD





OCDD Standards

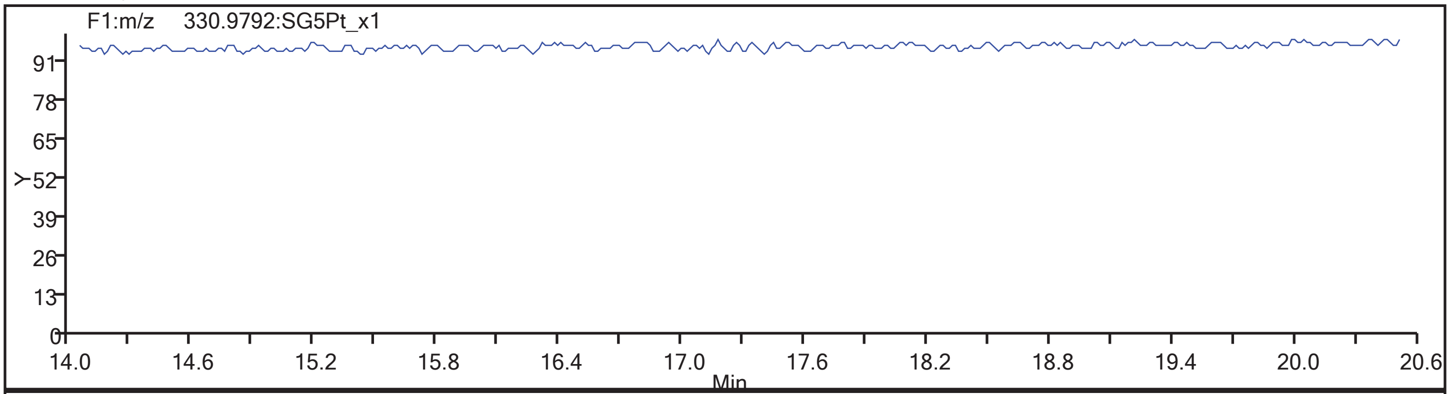


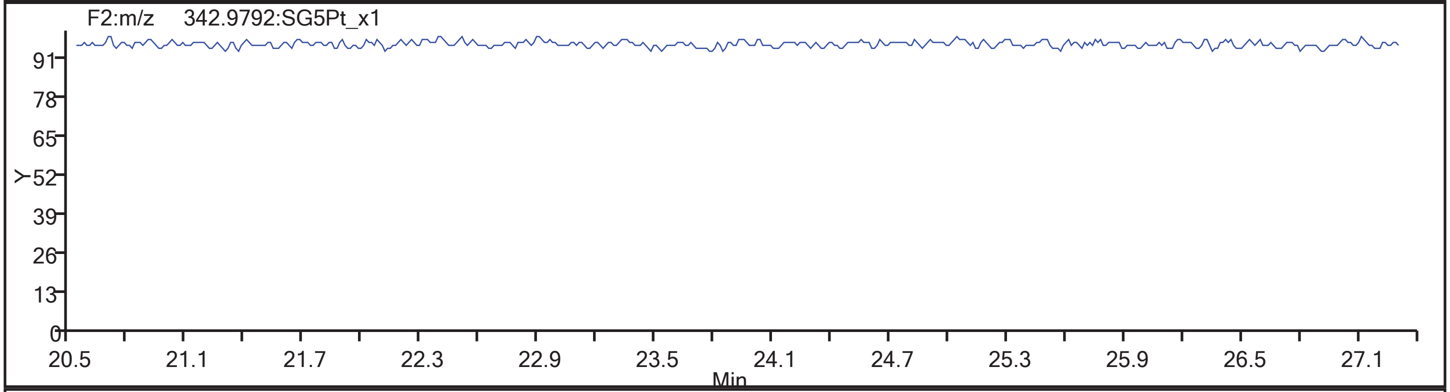


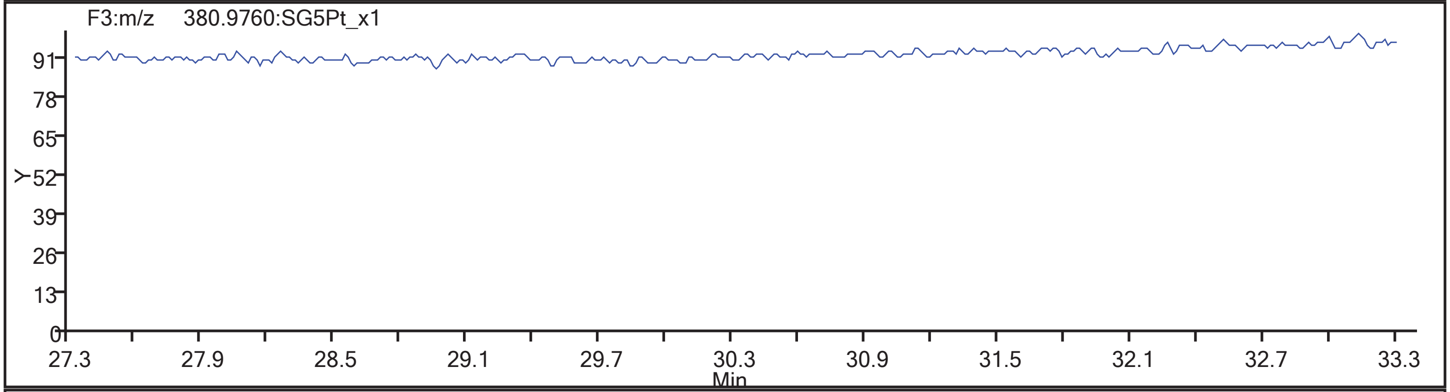
Report Date: 13-Oct-2017 10:55:48 Chrom Revision: 2.2 10-Oct-2017 10:31:20

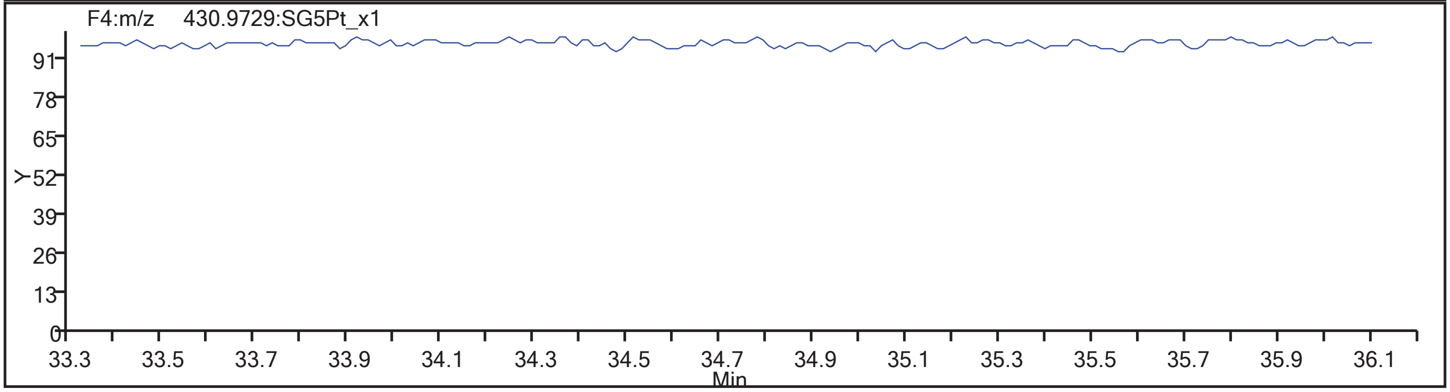
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d
Injection Date: 13-Oct-2017 01:40:41
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 4
Column Type: DB-5
Column Dia: 0.32 mm



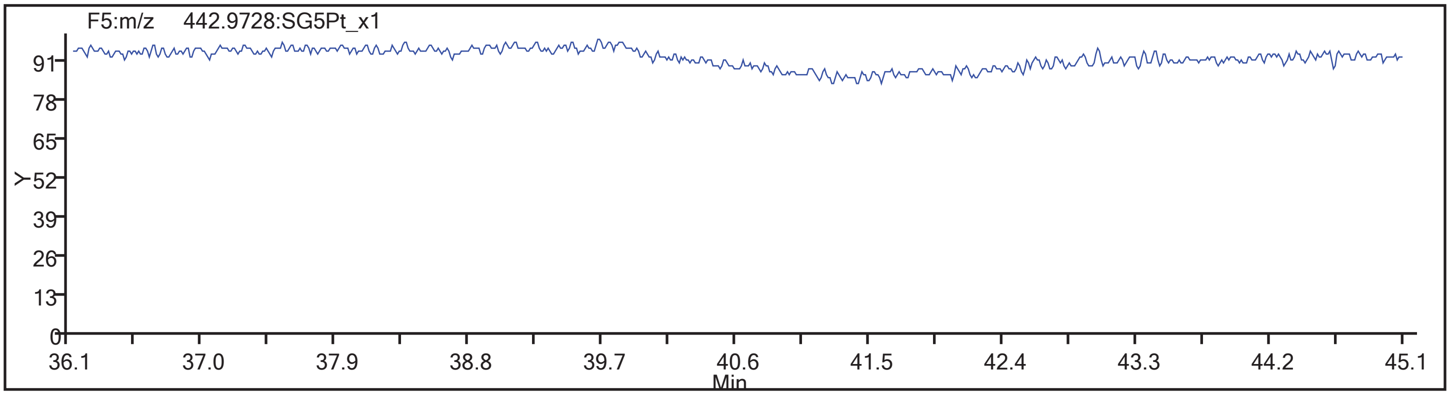






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_4.d		
Injection Date:	13-Oct-2017 01:40:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 13-Oct-2017 10:55:58 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2017 02:26:48 ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 101217H CS-6 HRDXNL6_00018
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:55:55 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:06:02

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	66055841	0.79	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	84950761	0.77	1.2741	100.9	100.9	0.2587	0.2587	101	
2,3,7,8-TCDF	17.415	185119268	0.78	1.1341	192.1	192.1	0.5035	0.5035	96.07	
A Non-2,3,7,8-sub-TCDF	17.128						0.0	0.0		
S Total TCDF					192.1	192.1	0.5035	0.5035		
D 13C-2,3,7,8-TCDD	18.111	66442464	0.76	0.9921	101.4	101.4	0.2931	0.2931	101	
2,3,7,8-TCDD	18.126	129619356	0.79	0.9993	195.2	195.2	0.3251	0.3251	97.61	
$ 37Cl4-2,3,7,8-TCDD	18.126	145469904		1.0466	210.4	210.4	0.2961	0.2961	105	
A Non-2,3,7,8-sub-TCDD	17.581						0.0	0.0		
S Total TCDD					195.2	195.2	0.3251	0.3251		
D 13C-1,2,3,7,8-PeCDF	22.492	66320230	1.52	0.9696	103.5	103.5	0.4119	0.4119	104	
1,2,3,7,8-PeCDF	22.519	740801785	1.59	1.1627	960.7	960.7	5.267	5.267	96.07	
D 13C-2,3,4,7,8-PeCDF	23.855	64846150	1.57							
2,3,4,7,8-PeCDF	23.883	723717293	1.57	1.1395	957.6	957.6	5.374	5.374	95.76	
A F1 PeCDFs	20.023						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.229						0.0	0.0		
S Total PeCDF					1918.3	1918.3	5.321	5.321		
D 13C-1,2,3,7,8-PeCDD	24.592	51361250	1.59	0.7588	102.5	102.5	0.1695	0.1695	102	
1,2,3,7,8-PeCDD	24.619	478332558	1.54	0.9490	981.4	981.4	1.571	1.571	98.14	
A Non-2,3,7,8-sub-PeCDD	23.521						0.0	0.0		
S Total PeCDD					981.4	981.4	1.571	1.571		
D 13C-1,2,3,4,7,8-HxCDF	30.660	50959302	0.52	0.9644	102.4	102.4	1.054	1.054	102	
1,2,3,4,7,8-HxCDF	30.673	676366493	1.26	1.4012	947.2	947.2	10.7	10.7	94.72	
D 13C-1,2,3,6,7,8-HxCDF	30.833	62445600	0.53							
1,2,3,6,7,8-HxCDF	30.859	803765089	1.26	1.6951	930.5	930.5	8.825	8.825	93.05	
D 13C-2,3,4,6,7,8-HxCDF	31.618	56777192	0.52							
2,3,4,6,7,8-HxCDF	31.645	726019079	1.25	1.5205	937.0	937.0	9.838	9.838	93.70	
D 13C-1,2,3,7,8,9-HxCDF	32.403	54870972	0.53							
1,2,3,7,8,9-HxCDF	32.417	682142505	1.27	1.4099	949.4	949.4	10.6	10.6	94.94	
A Non-2,3,7,8-sub-HxCDF	30.360						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					3764.1	3764.1	9.987	9.987		
* 13C-1,2,3,7,8,9-HxCDD	32.230	51624862	1.25	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.804	37215365	1.23							
1,2,3,4,7,8-HxCDD	31.818	431672444	1.25	0.9505	1013.6	1013.6	6.145	6.145	101	
D 13C-1,2,3,6,7,8-HxCDD	31.911	44806633	1.25	0.8791	98.7	98.7	0.5490	0.5490	98.73	
1,2,3,6,7,8-HxCDD	31.924	531339317	1.27	1.2343	960.7	960.7	4.732	4.732	96.07	
1,2,3,7,8,9-HxCDD	32.244	540860119	1.27	1.2467	968.2	968.2	4.685	4.685	96.82	
A Non-2,3,7,8-sub-HxCDD	30.999						0.0	0.0		
S Total HxCDD					2942.6	2942.6	5.187	5.187		
D 13C-1,2,3,4,6,7,8-HpCDF	33.807	40253274	0.43	0.7618	102.4	102.4	1.775	1.775	102	
1,2,3,4,6,7,8-HpCDF	33.807	618406122	1.05	1.6399	936.8	936.8	14.0	14.0	93.68	
D 13C-1,2,3,4,7,8,9-HpCDF	34.876	36801593	0.43							
1,2,3,4,7,8,9-HpCDF	34.888	525436478	1.05	1.3302	981.3	981.3	17.3	17.3	98.13	
A Non-2,3,7,8-sub-HpCDF	34.359						0.0	0.0		
S Total HpCDF					1918.1	1918.1	15.7	15.7		
D 13C-1,2,3,4,6,7,8-HpCDD	34.584	41600771	1.05	0.7762	103.8	103.8	0.8620	0.8620	104	
1,2,3,4,6,7,8-HpCDD	34.596	395039329	1.03	0.9932	956.1	956.1	6.774	6.774	95.61	
A Non-2,3,7,8-sub-HpCDD	35.319						0.0	0.0		
S Total HpCDD					956.1	956.1	6.774	6.774		
D 13C-OCDD	36.930	70781056	0.89	0.6314	217.1	217.1	0.3585	0.3585	109	
OCDF	37.038	940135053	0.91	1.3460	1973.6	1973.6	2.283	2.283	98.68	
OCDD	36.942	715340118	0.90	1.0604	1906.1	1906.1	2.892	2.892	95.31	

Reagents:

HRDXNL6_00018 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2017 02:26:48 ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 101217H CS-6 HRDXNL6_00018
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:55:55 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:06:02

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.920	0		29123718	7109706	9657	24142	736		
333.9339	17.914	17.920	0		36932123	9082229	9178	22945	990	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.403	0	0.971	37056266	8749998	11069	27672	790		
317.9389	17.400	17.403	0	0.971	47894495	11183023	10280	25700	1088	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415	17.421	0	1.001	81062170	19123881	21021	52552	910		
305.8987	17.415	17.421	0	1.001	104057098	24498885	24505	61262	1000	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.128						21021	52552			
305.8987	17.128						24505	61262			
13C-2,3,7,8-TCDD											
331.9368	18.111	18.117	0	1.011	28686531	6382429	9657	24142	661		
333.9339	18.111	18.117	0	1.011	37755933	8308645	9178	22945	905	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.126	18.132	0	1.001	57224406	12861963	8450	21125	1522		
321.8936	18.126	18.132	0	1.001	72394950	16339167	10644	26610	1535	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.126	18.135	-1	1.012	145469904	32939473	20069	50172	1641		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.581						8450	21125			
321.8936	17.581						10644	26610			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.492	22.503	-1	1.256	40038897	6712320	15758	39395	426		
353.8970	22.492	22.503	-1	1.256	26281333	4499966	10108	25270	445	1.52(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.519	22.525	0	1.001	454743549	75466307	168617	421542	448		
341.8567	22.519	22.525	0	1.001	286058236	47150781	106053	265132	445	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.855	23.866	-1	1.332	39626792	6239546	15758	39395	396		
353.8970	23.855	23.866	-1	1.332	25219358	3936019	10108	25270	389	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.883	23.894	-1	1.001	442562742	69659429	168617	421542	413		
341.8567	23.883	23.894	-1	1.001	281154551	44302622	106053	265132	418	1.57(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.023						287	717			
341.8567	20.023						645	1612			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.229						168617	421542			
341.8567	23.229						106053	265132			
13C-1,2,3,7,8-PeCDD											
367.8949	24.592	24.603	-1	1.373	31545793	4644175	4693	11732	990		
369.8919	24.592	24.603	-1	1.373	19815457	2950185	3635	9087	812	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.619	24.630	-1	1.001	289785700	42524820	27075	67687	1571		
357.8516	24.619	24.630	-1	1.001	188546858	27716000	18206	45515	1522	1.54(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.521						27075	67687			
357.8516	23.521						18206	45515			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.660	30.660	0	0.951	17518500	3342406	15977	39942	209		
385.8610	30.660	30.660	0	0.951	33440802	6317378	30699	76747	206	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.673	30.684	-1	1.000	377313688	71039166	320099	800247	222		
375.8178	30.673	30.684	-1	1.000	299052805	56172246	257896	644740	218	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.833	30.838	0	0.957	21498716	3905245	15977	39942	244		
385.8610	30.833	30.838	0	0.957	40946884	7380241	30699	76747	240	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.859	30.859	0	1.001	448724999	79122859	320099	800247	247		
375.8178	30.846	30.859	-1	1.000	355040090	62821472	257896	644740	244	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.618	31.629	-1	0.981	19469500	4436341	15977	39942	278		
385.8610	31.631	31.629	0	0.981	37307692	8434170	30699	76747	275	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.645	31.645	0	1.001	403597572	91607525	320099	800247	286		
375.8178	31.645	31.645	0	1.001	322421507	71625184	257896	644740	278	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.403	32.409	0	1.005	19119644	4600621	15977	39942	288		
385.8610	32.403	32.409	0	1.005	35751328	8533608	30699	76747	278	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.417	32.422	0	1.000	381607234	91043050	320099	800247	284		
375.8178	32.417	32.422	0	1.000	300535271	71854798	257896	644740	279	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.360						320099	800247			
375.8178	30.360						257896	644740			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.230	32.230	0		28701921	6361580	12164	30410	523		
403.8529	32.230	32.230	0		22922941	5113252	9988	24970	512	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.804	31.810	0	0.987	20496774	5359693	12164	30410	441		
403.8529	31.804	31.810	0	0.987	16718591	4364522	9988	24970	437	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.818	31.823	0	1.000	239868257	63597575	132996	332490	478		
391.8127	31.818	31.823	0	1.000	191804187	50134496	105098	262745	477	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.911	31.911	0	0.990	24848653	5659801	12164	30410	465		
403.8529	31.911	31.911	0	0.990	19957980	4531566	9988	24970	454	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.924	31.927	0	1.000	296872158	68265232	132996	332490	513		
391.8127	31.924	31.927	0	1.000	234467159	53543218	105098	262745	509	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.244	32.244	0	1.014	302184264	67156841	132996	332490	505		
391.8127	32.230	32.244	-1	1.013	238675855	52640596	105098	262745	501	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.999						132996	332490			
391.8127	30.999						105098	262745			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.807	33.807	0	1.049	12181361	3486542	18454	46135	189		
419.8220	33.807	33.807	0	1.049	28071913	7840242	43623	109057	180	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.807	33.814	0	1.000	316499235	87693939	530732	1326830	165		
409.7789	33.807	33.814	0	1.000	301906887	85607126	512610	1281525	167	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.876	34.881	0	1.082	11074952	2772567	18454	46135	150		
419.8220	34.876	34.881	0	1.082	25726641	6457345	43623	109057	148	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.888	34.893	0	1.000	268987766	68656543	530732	1326830	129		
409.7789	34.888	34.893	0	1.000	256448712	65883655	512610	1281525	129	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.359						530732	1326830			
409.7789	34.359						512610	1281525			

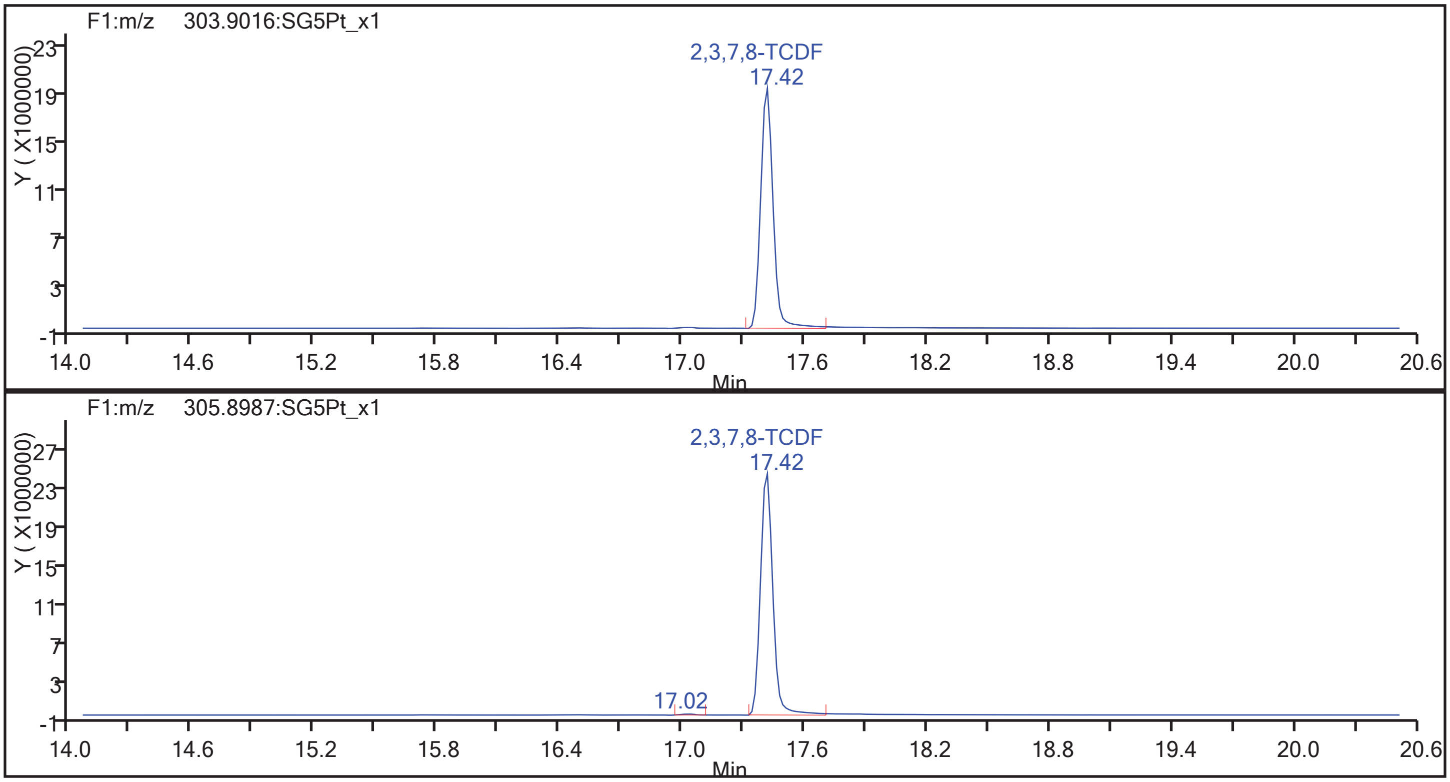
Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.584	34.592	0	1.073	21335907	5341723	15854	39635	337		
437.8140	34.584	34.592	0	1.073	20264864	5079198	14855	37137	342	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.596	34.601	0	1.000	200789317	50886126	141313	353282	360		
425.7737	34.596	34.601	0	1.000	194250012	49825272	139135	347837	358	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.319						141313	353282			
425.7737	35.319						139135	347837			
13C-OCDD											
469.7779	36.930	36.932	0	1.146	33387752	6905049	4617	11542	1496		
471.7750	36.930	36.932	0	1.146	37393304	7734495	5774	14435	1340	0.89(0.76-1.02)	
OCDF											
441.7428	37.038	37.038	0	1.003	446770163	102013059	42537	106342	2398		
443.7399	37.038	37.038	0	1.003	493364890	111919810	47454	118635	2358	0.91(0.76-1.02)	
OCDD											
457.7377	36.942	36.944	0	1.000	338482534	71707924	42599	106497	1683		
459.7348	36.942	36.944	0	1.000	376857584	80200819	47206	118015	1699	0.90(0.76-1.02)	

Reagents:

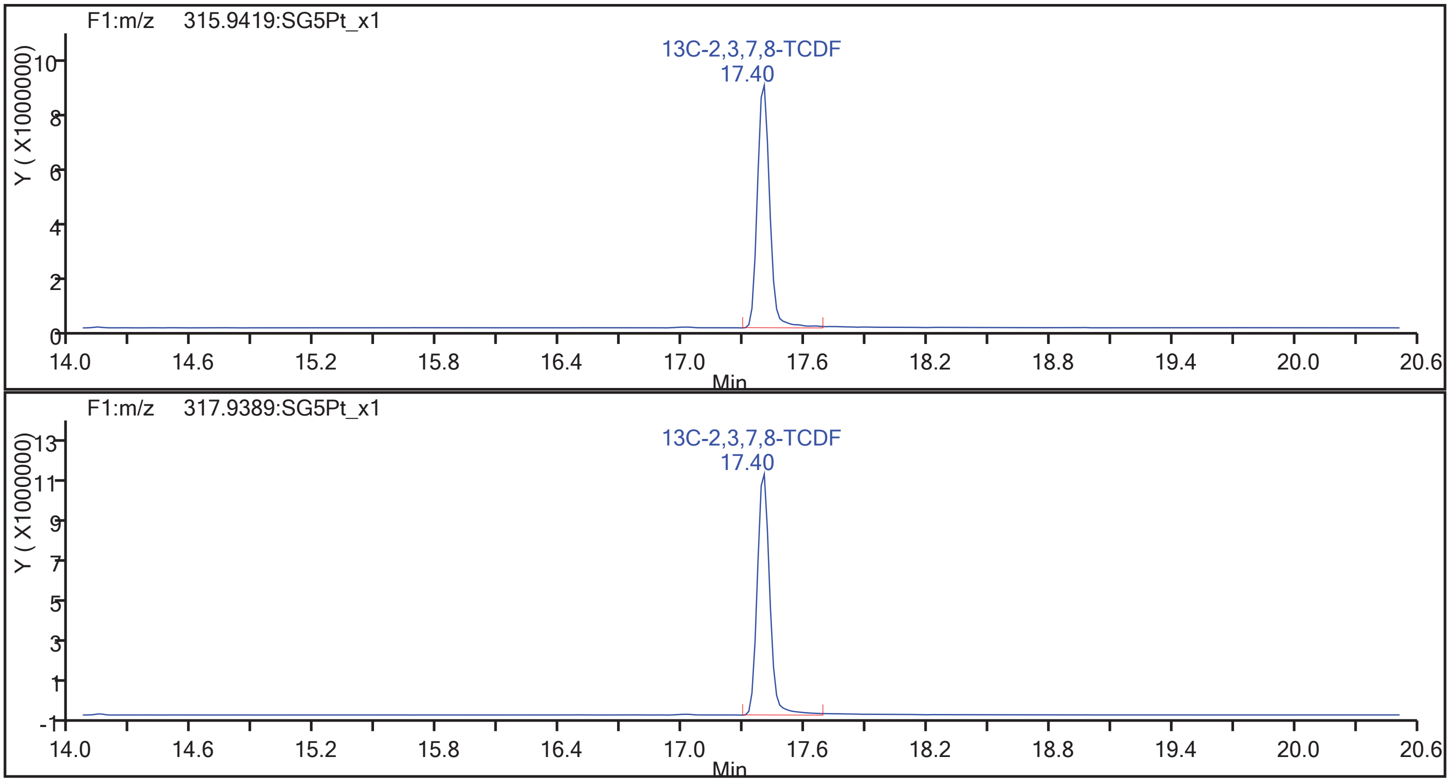
HRDXNL6_00018 Amount Added: 1.00 Units: mL

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_5.d		
Injection Date:	13-Oct-2017 02:26:48	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF



TCDF Standards

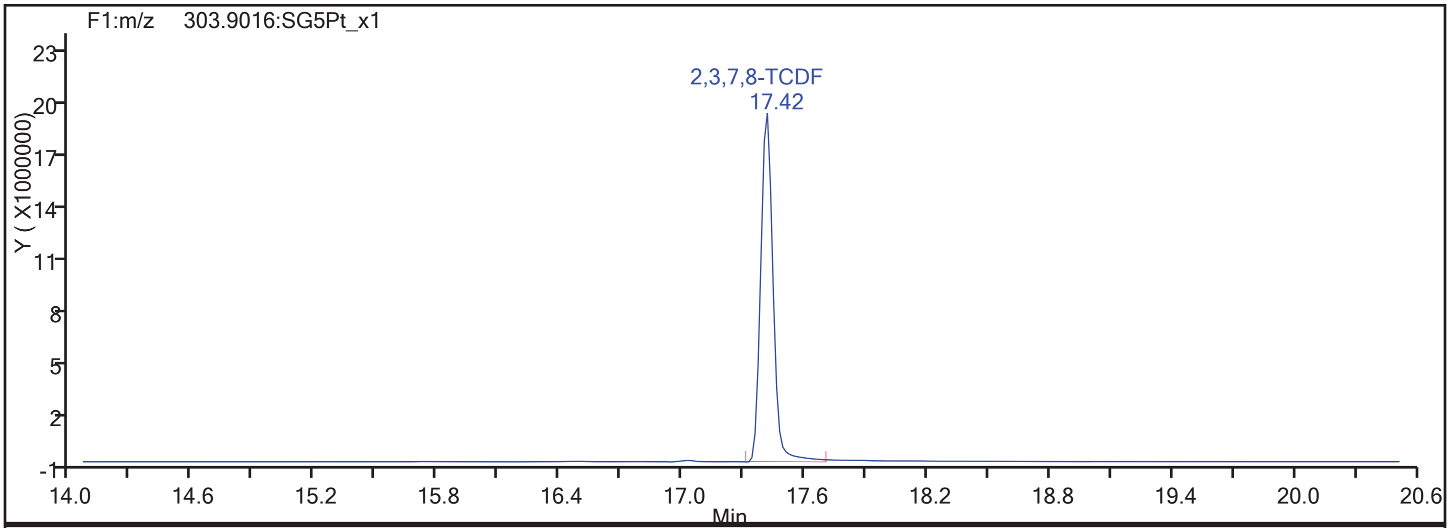


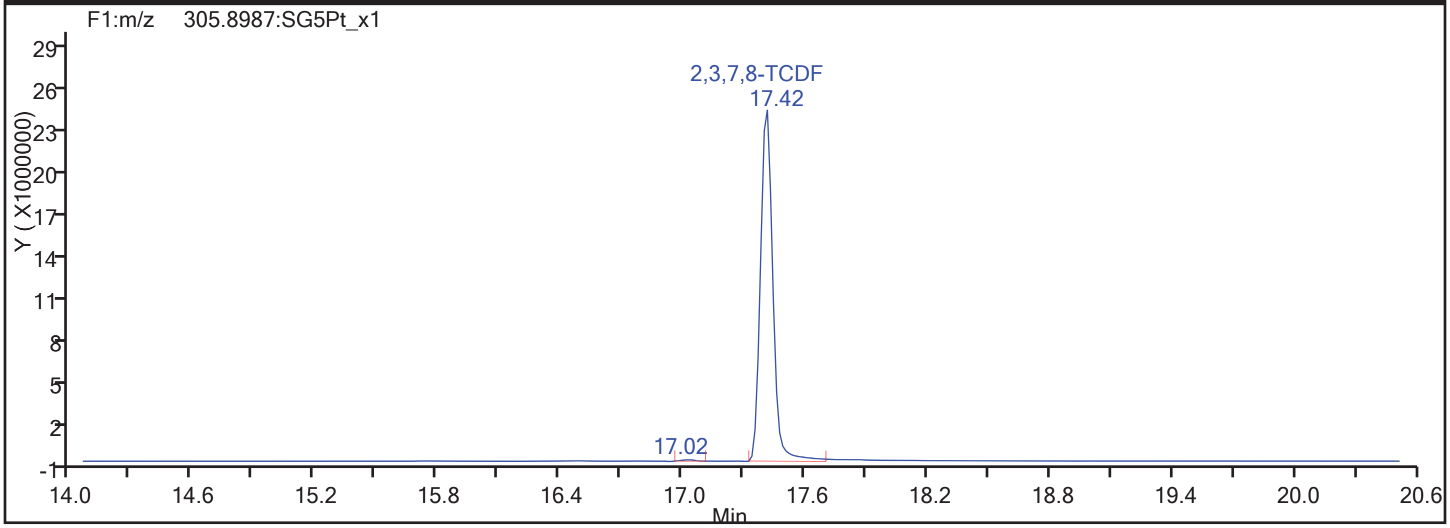
Report Date: 13-Oct-2017 10:55:58 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

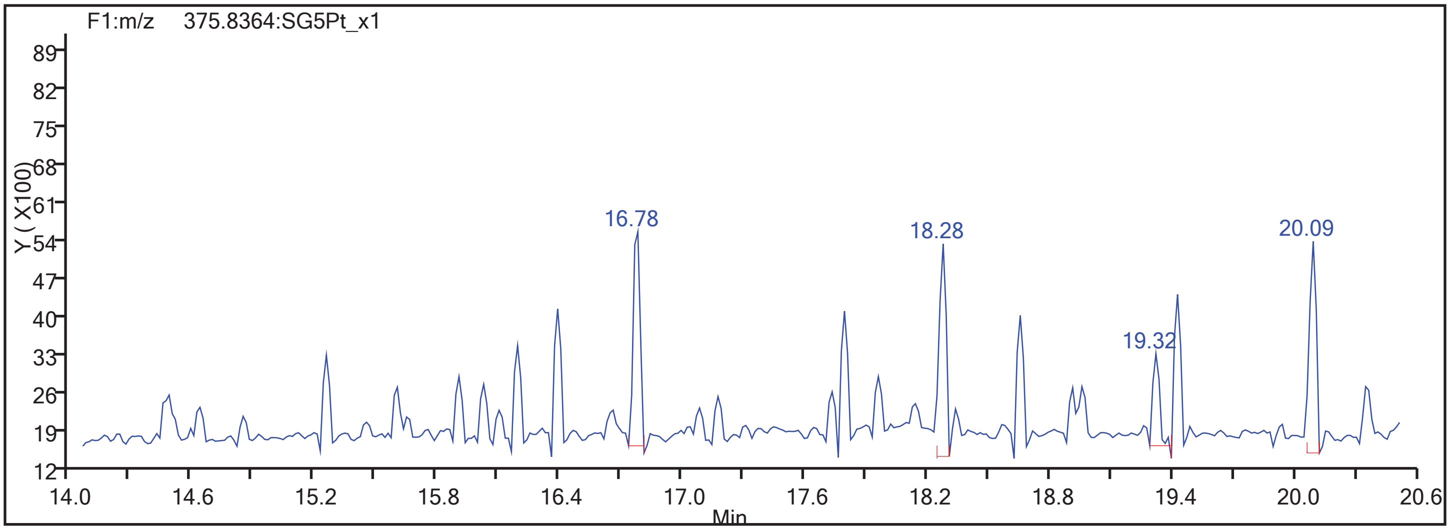
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_5.d		
Injection Date:	13-Oct-2017 02:26:48	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Report Date: 13-Oct-2017 10:55:58 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_5.d

Injection Date: 13-Oct-2017 02:26:48

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: ALM, SMA

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

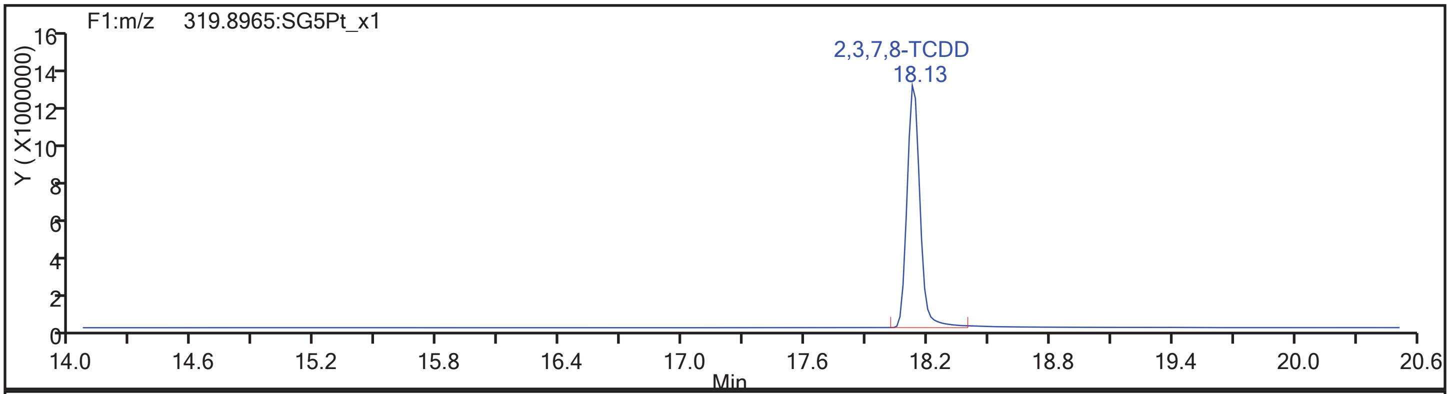
Worklist#: 189155

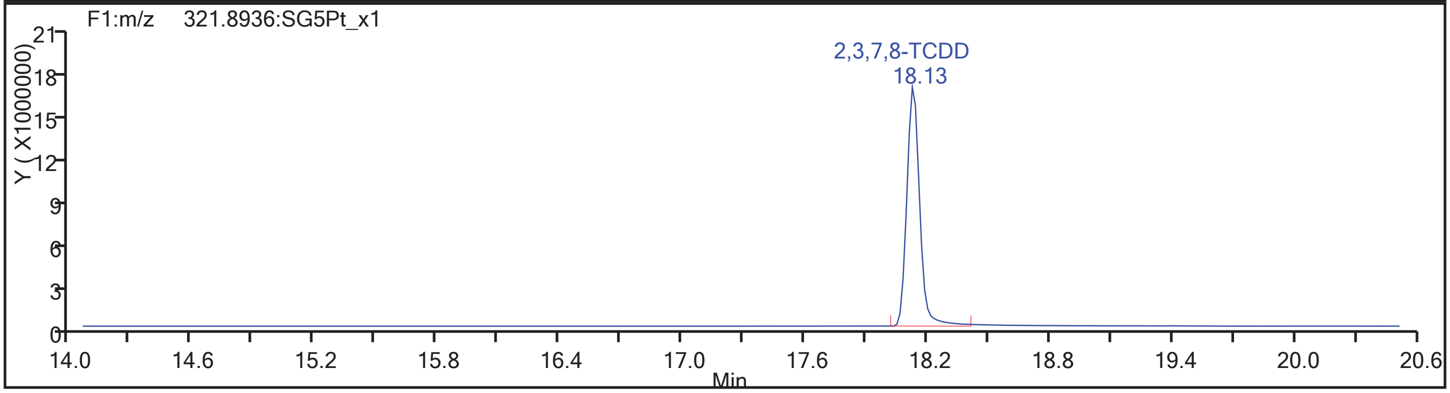
Sample Line#: 5

Column Type: DB-5

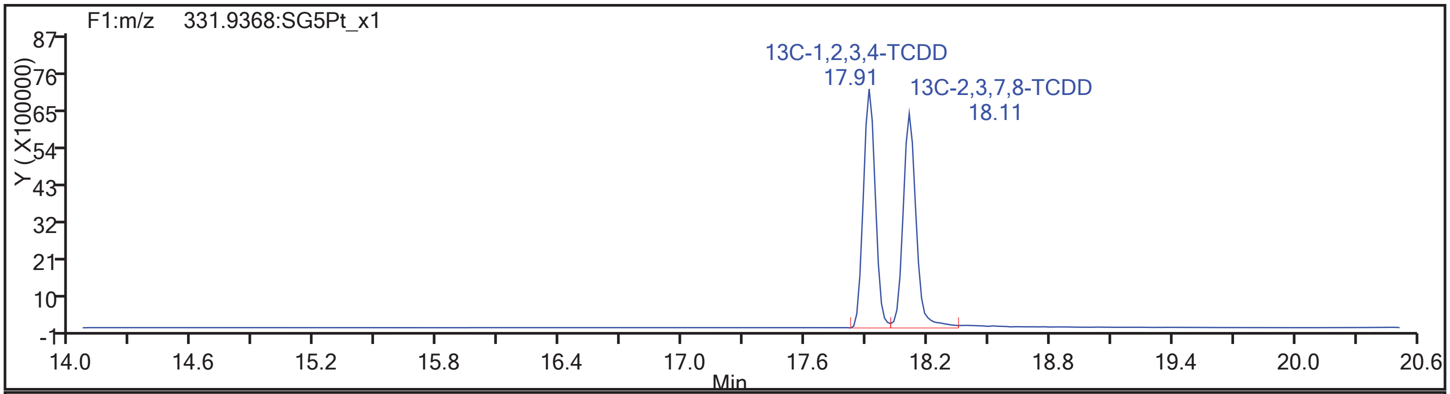
Column Dia: 0.32 mm

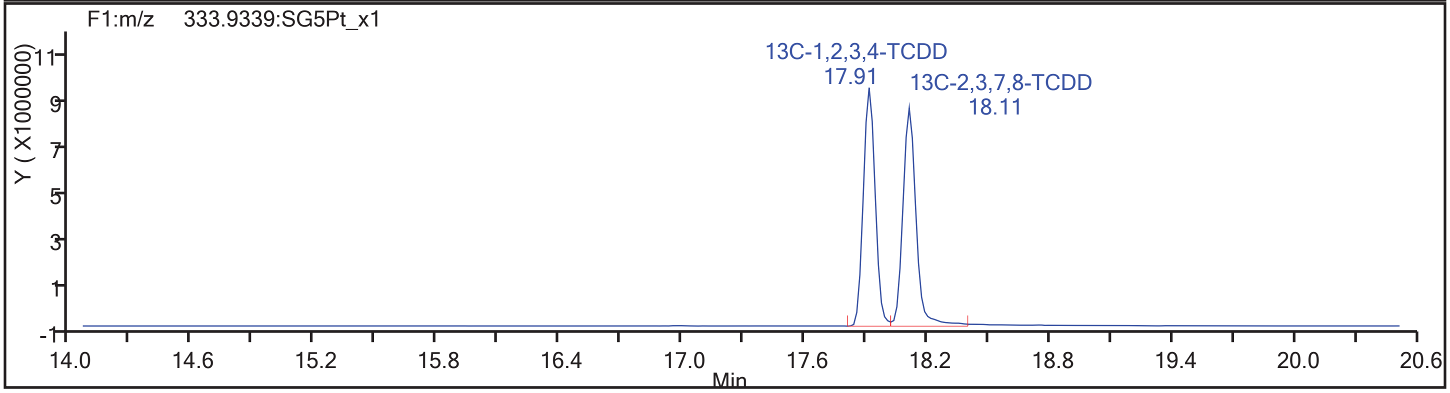
TCDD





TCDD Standards





Report Date: 13-Oct-2017 10:55:58 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_5.d

Injection Date:	13-Oct-2017 02:26:48	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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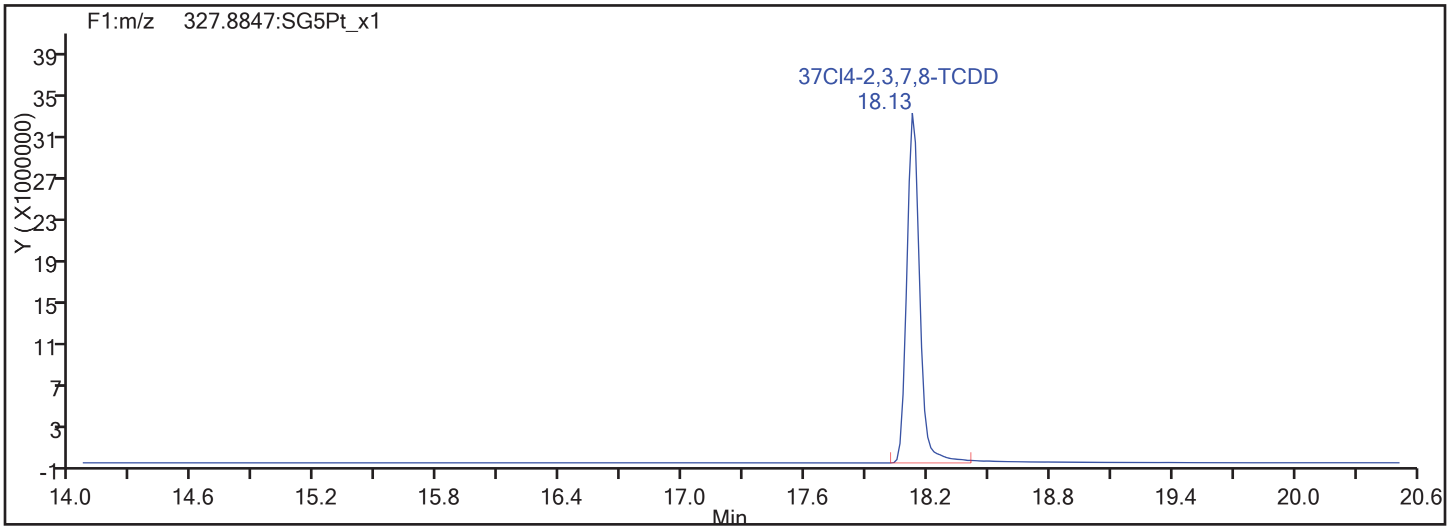
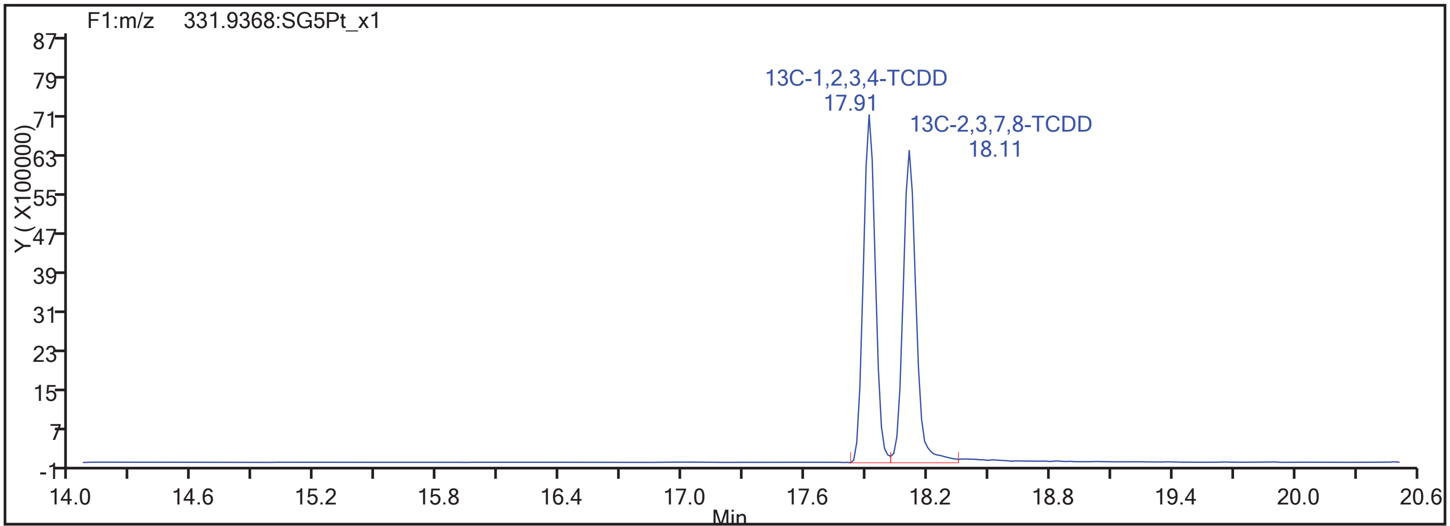
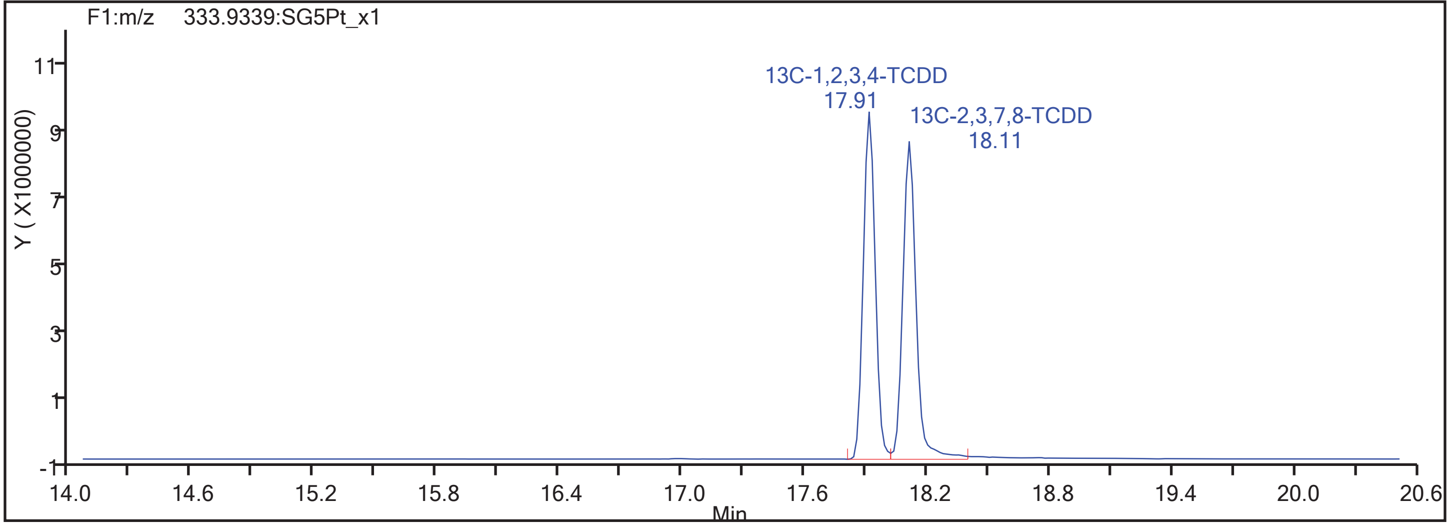
37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

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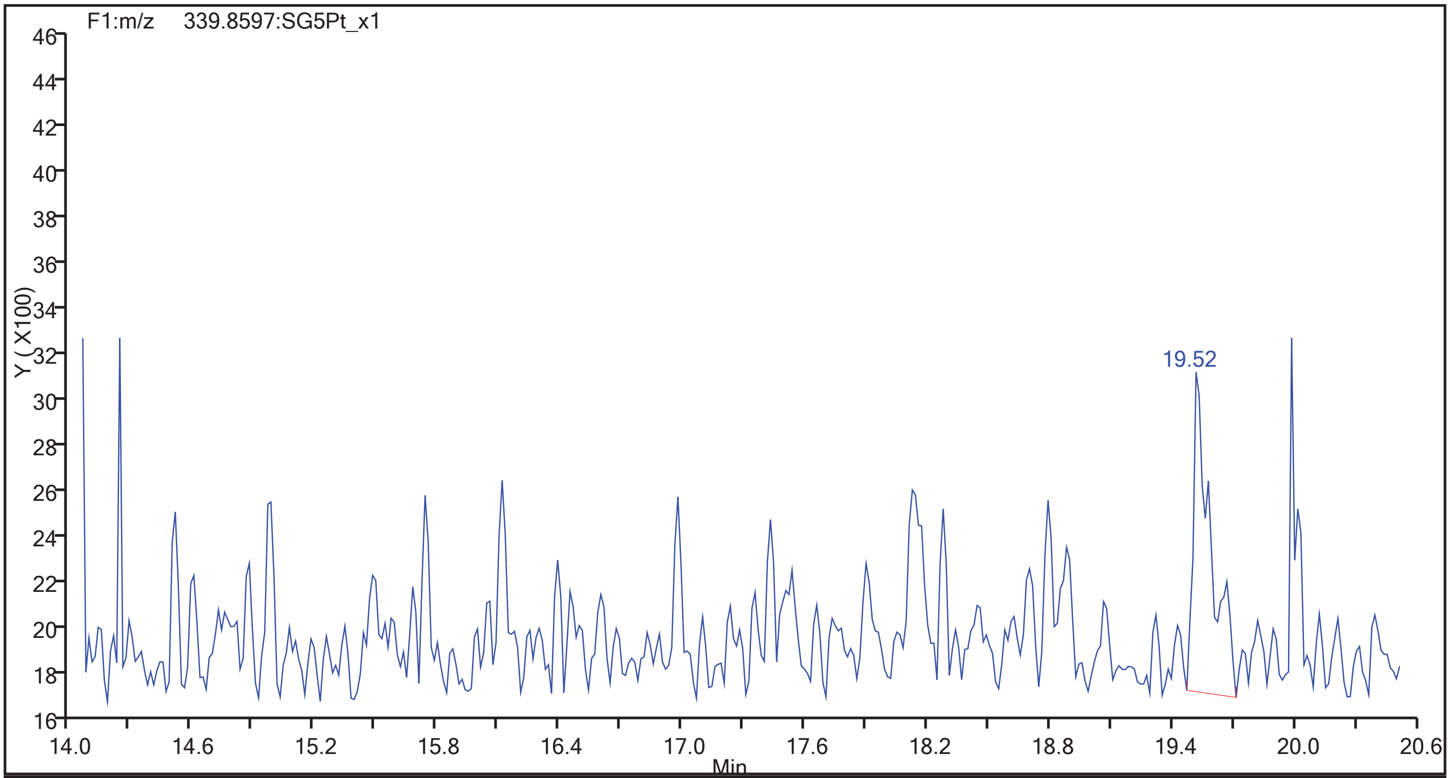
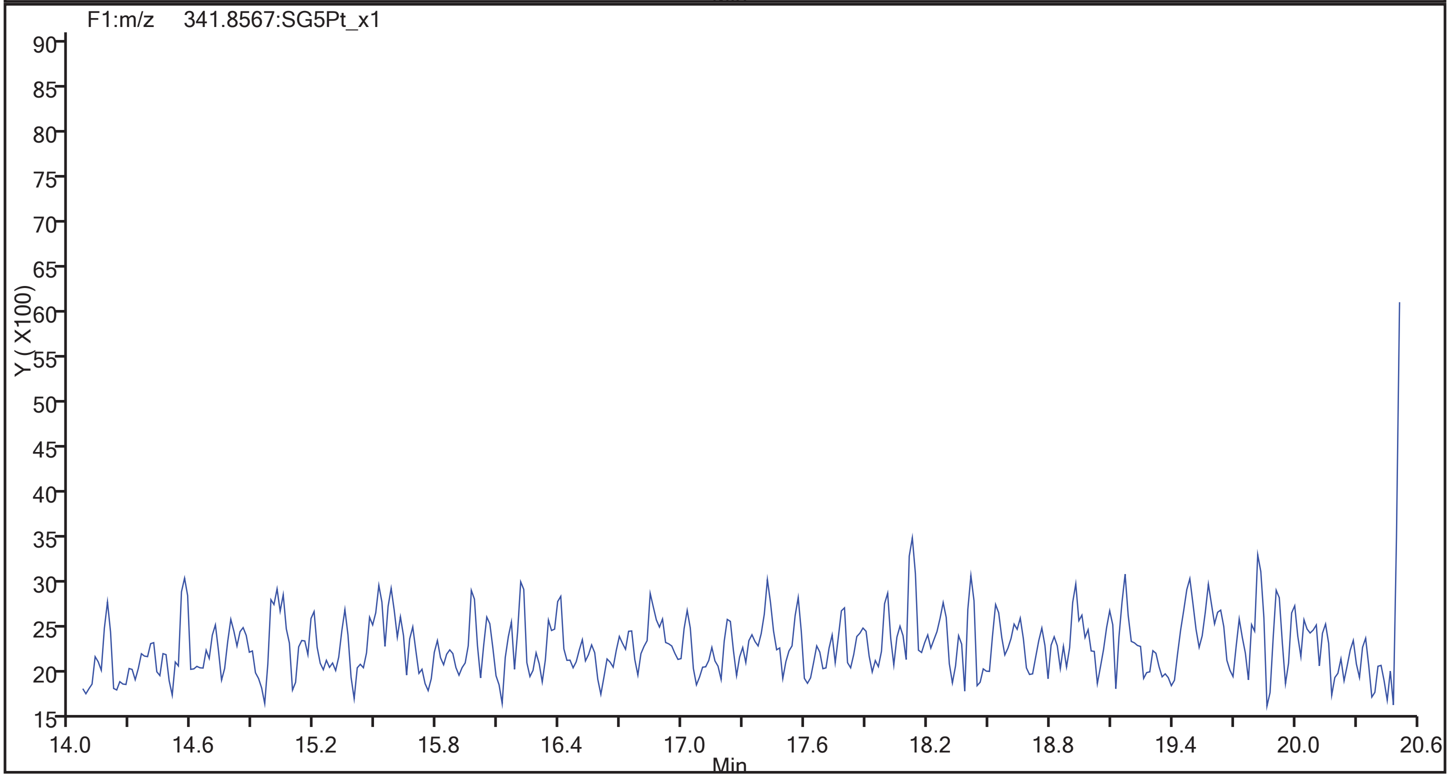
F1 PeCDFs





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TestAmerica Sacramento

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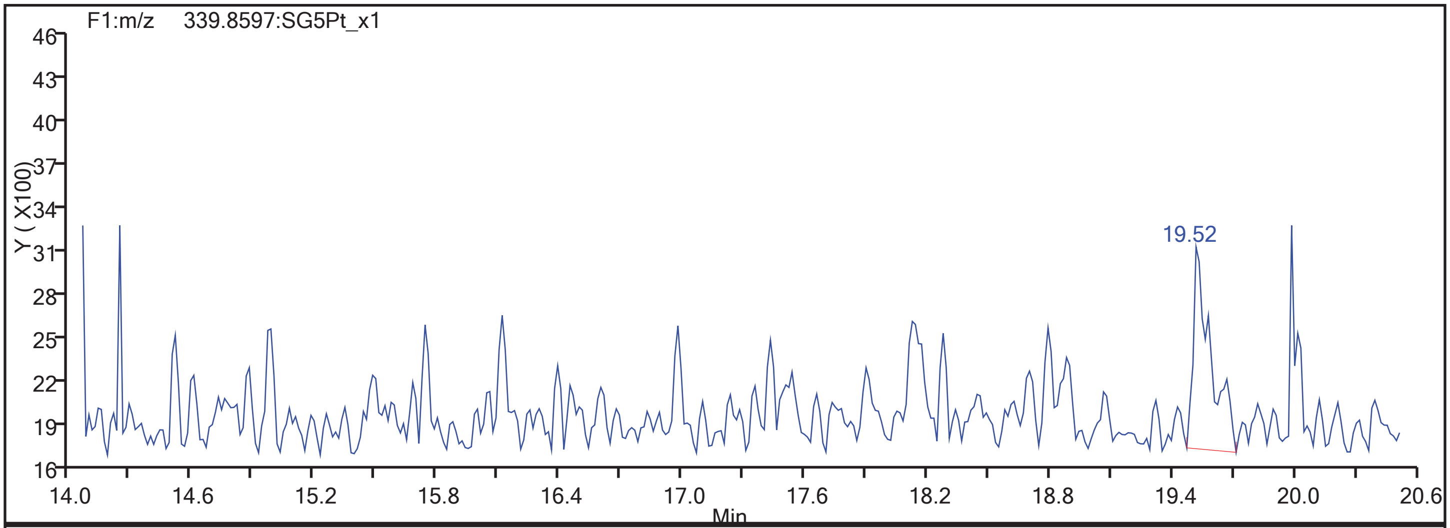

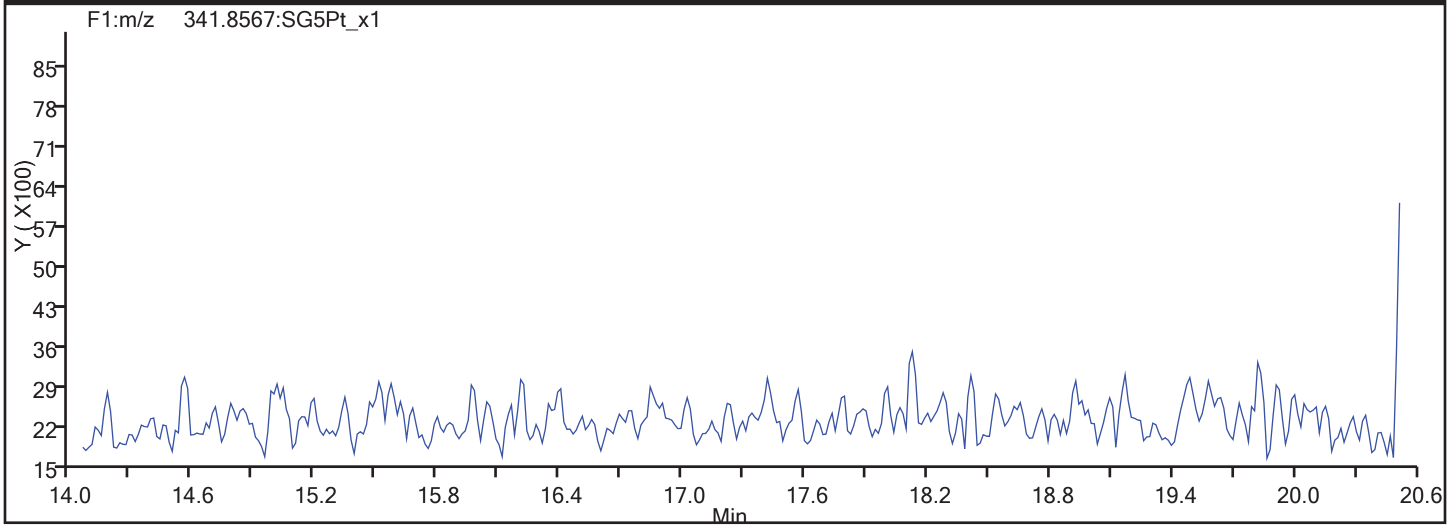

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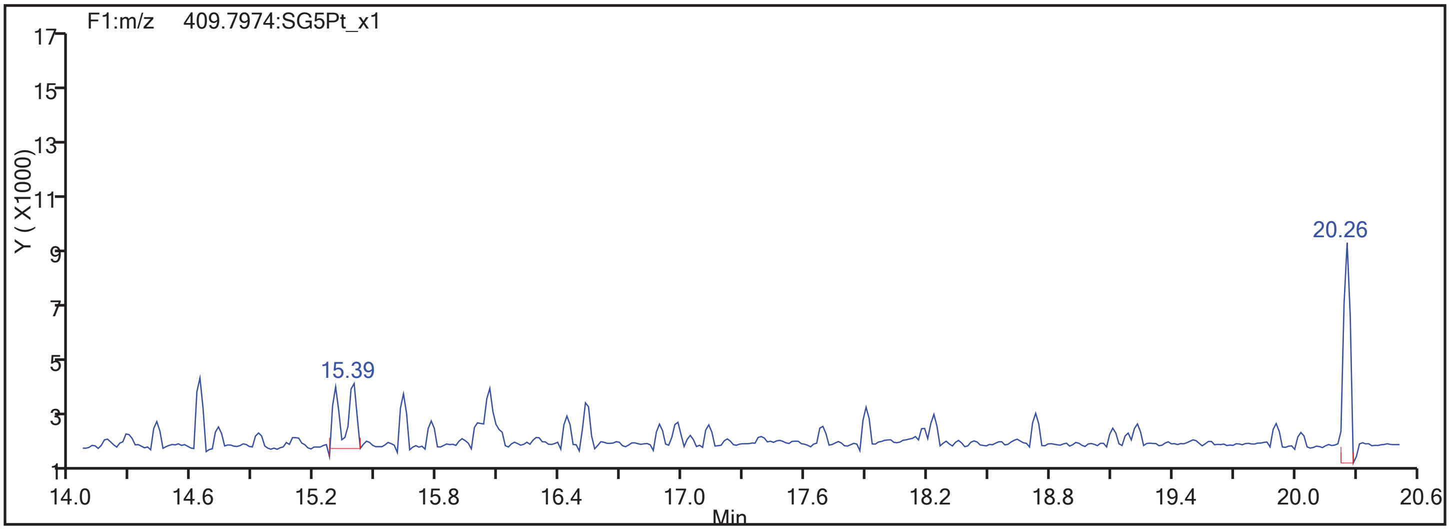

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TestAmerica Sacramento

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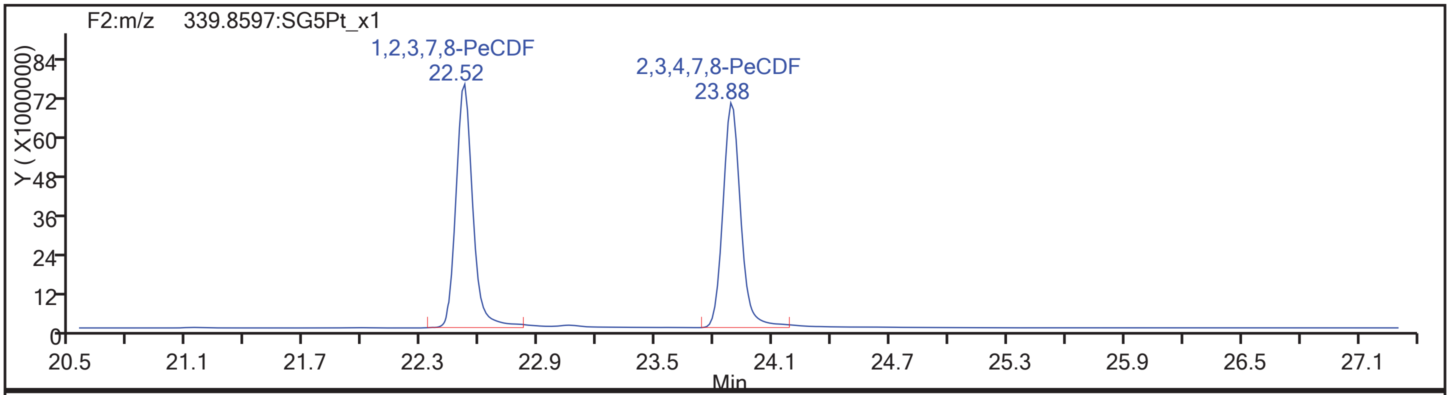

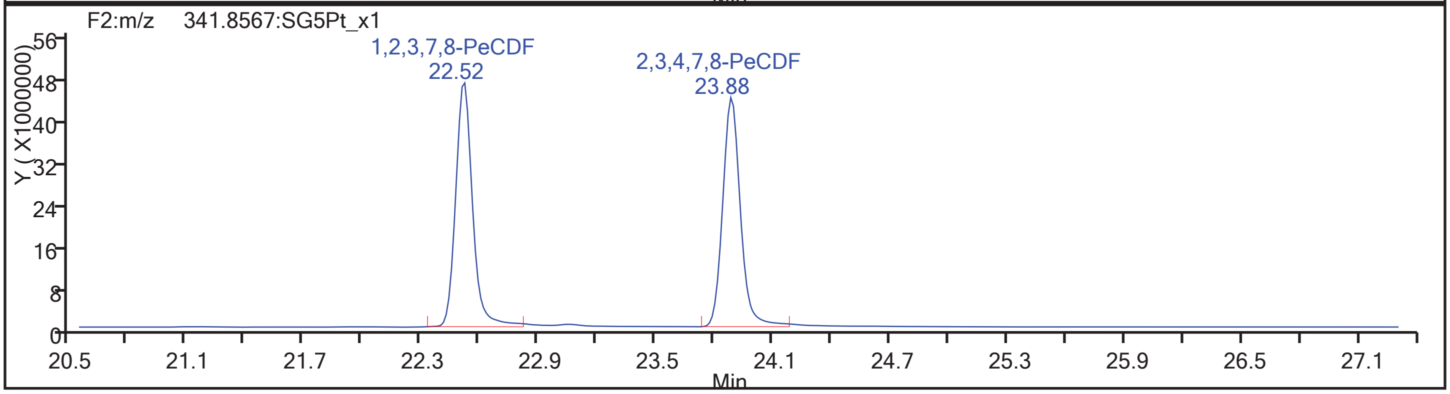

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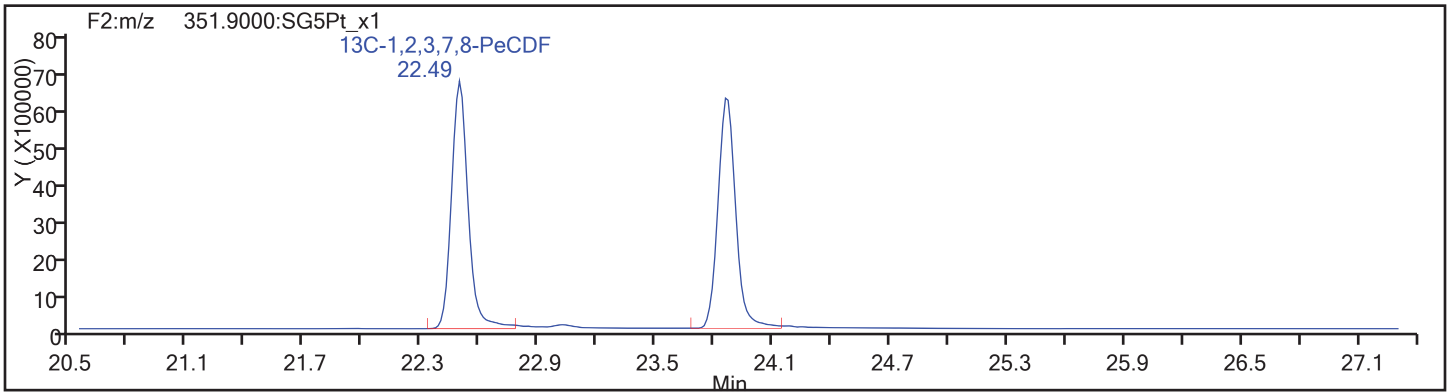

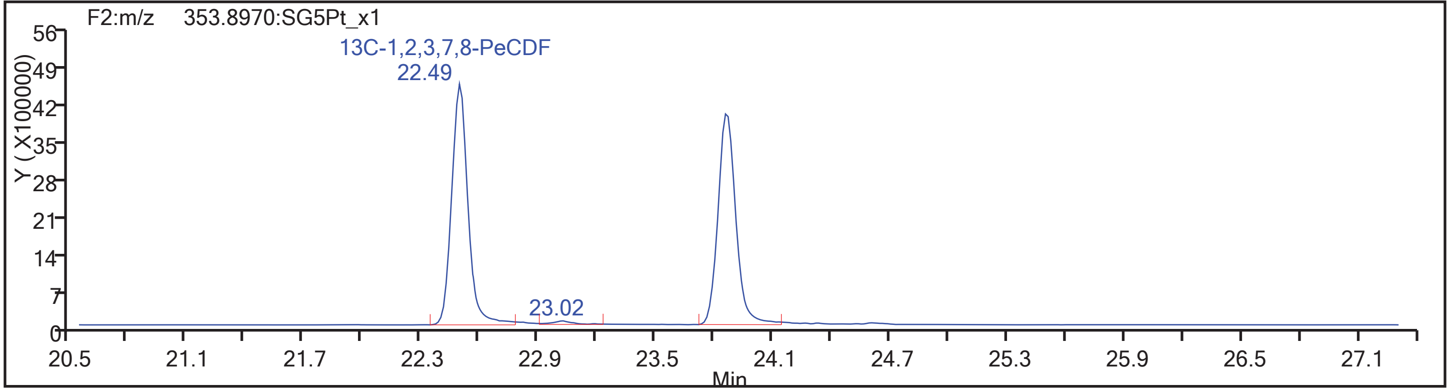

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Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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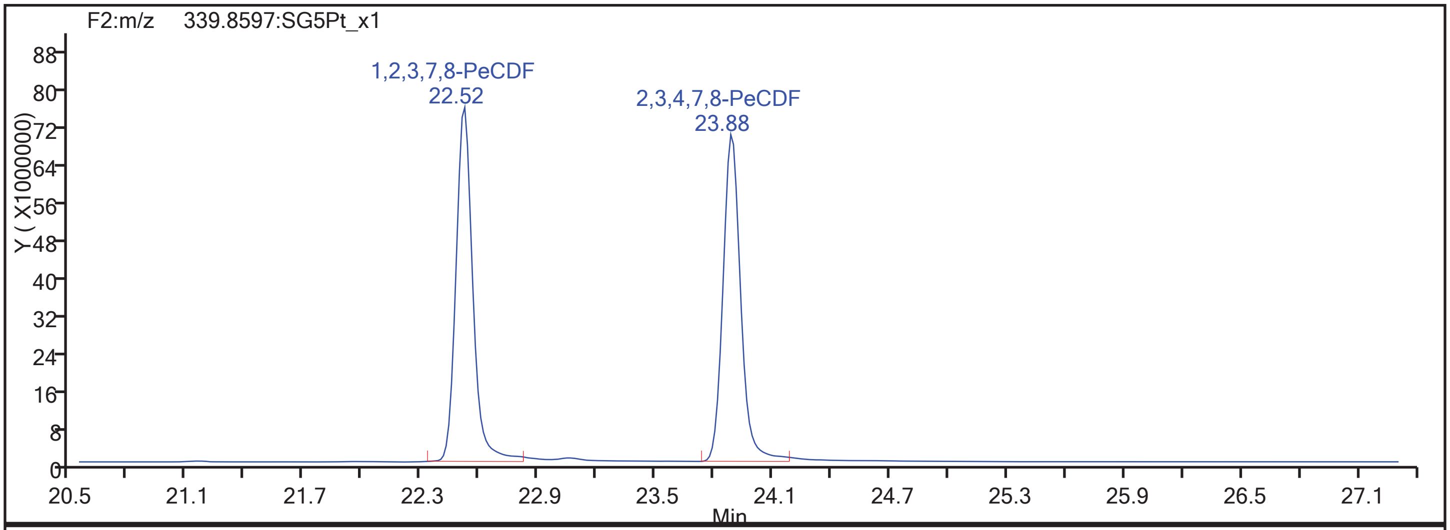
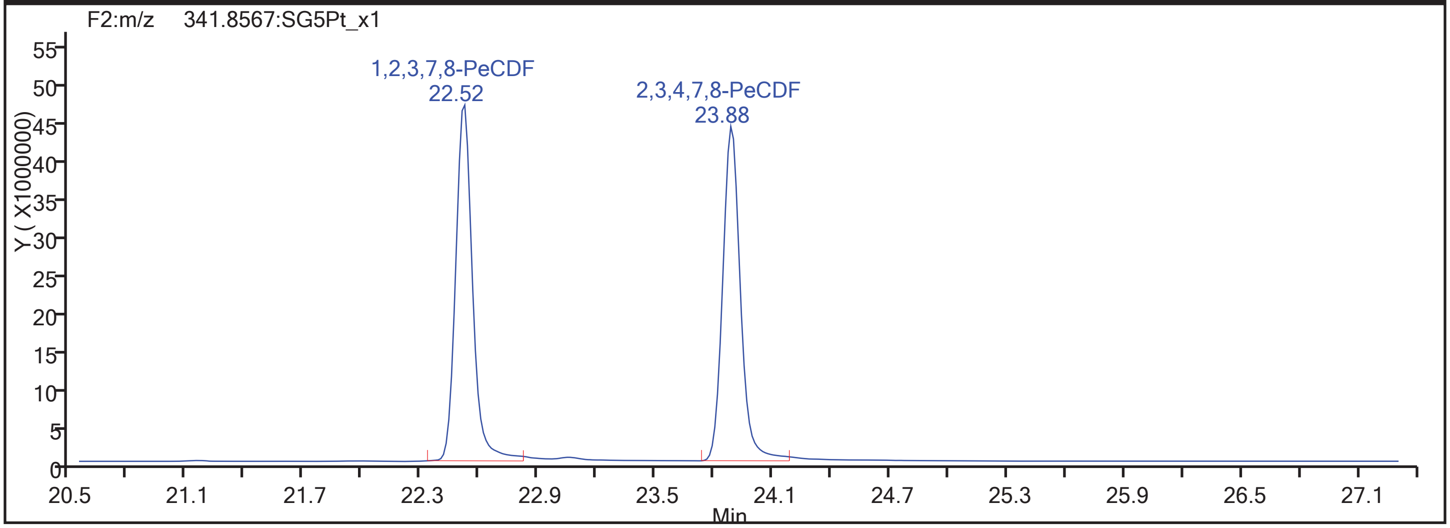
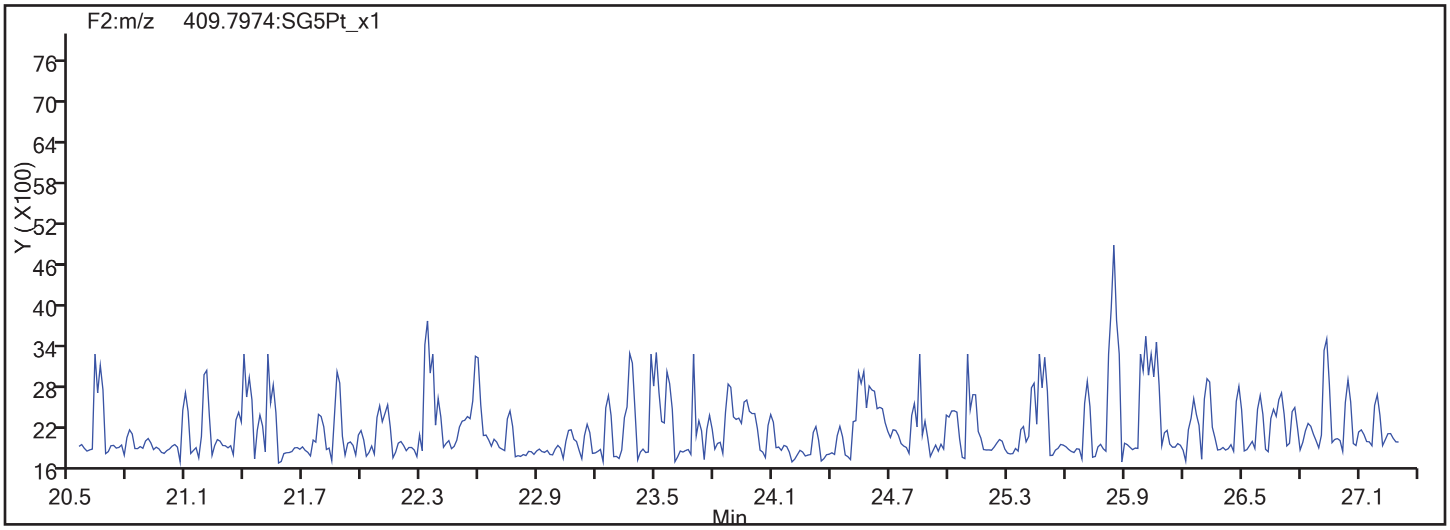




PeCDF Interference Mass



Report Date: 13-Oct-2017 10:55:59 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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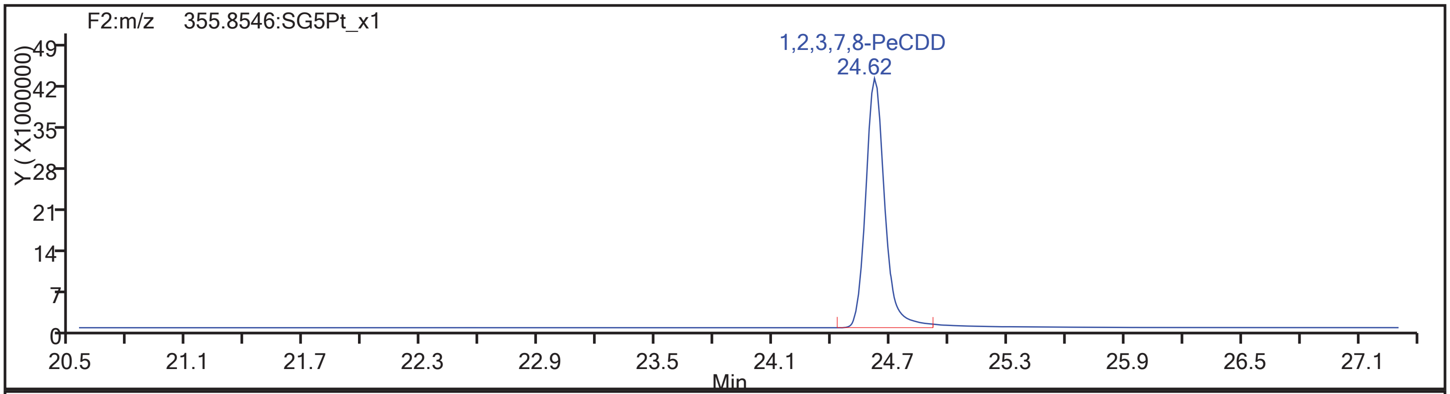

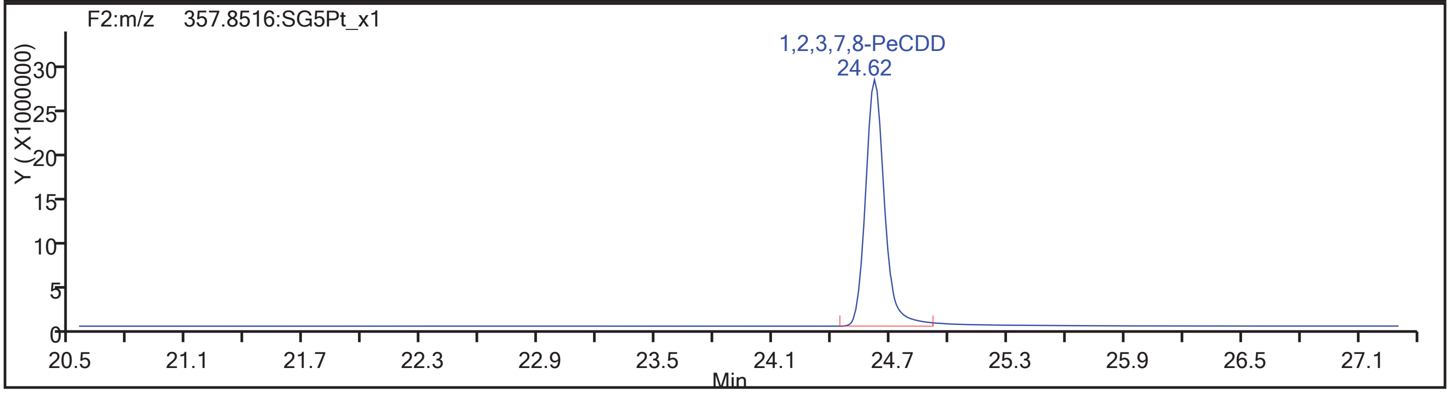

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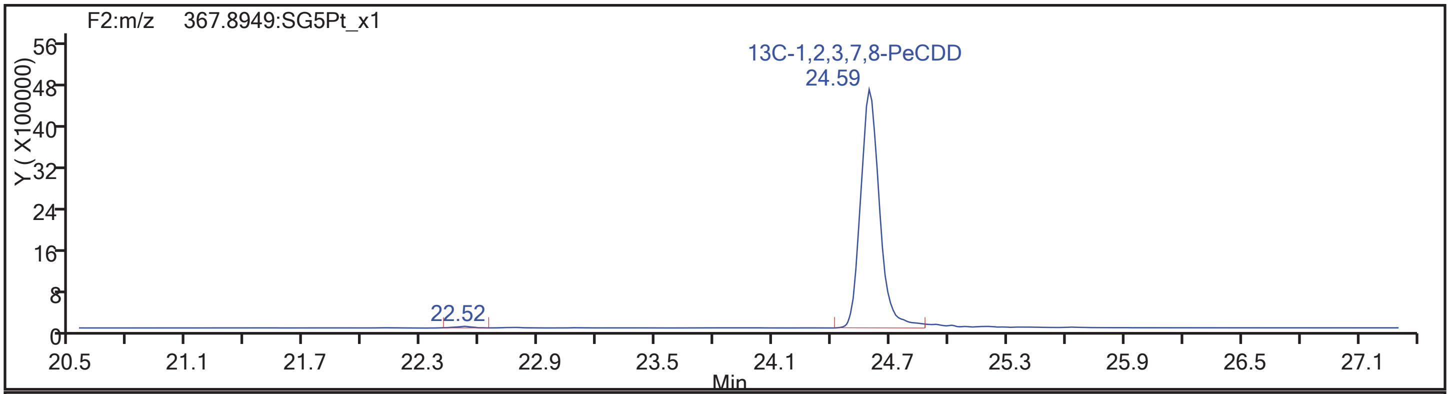

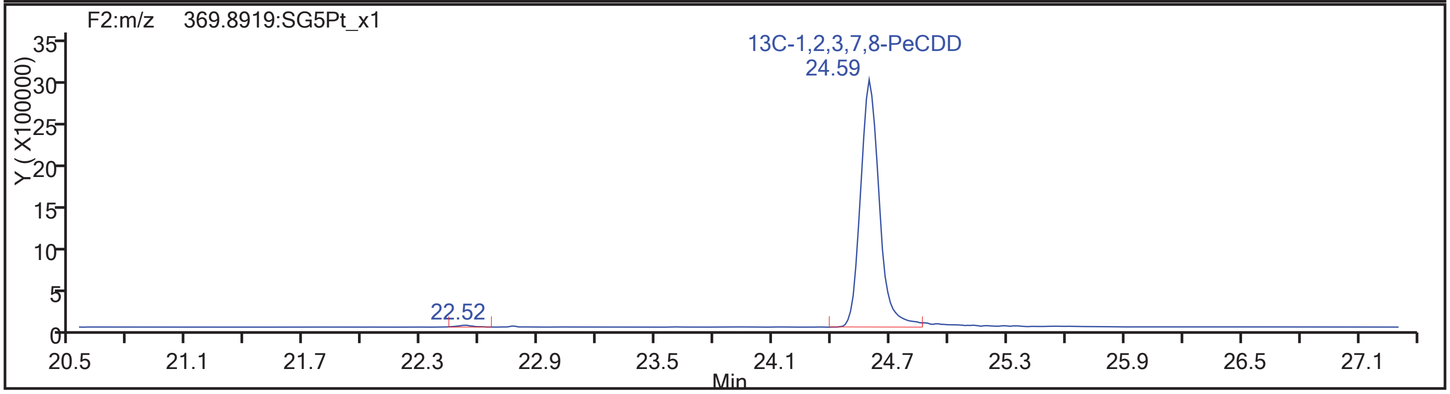

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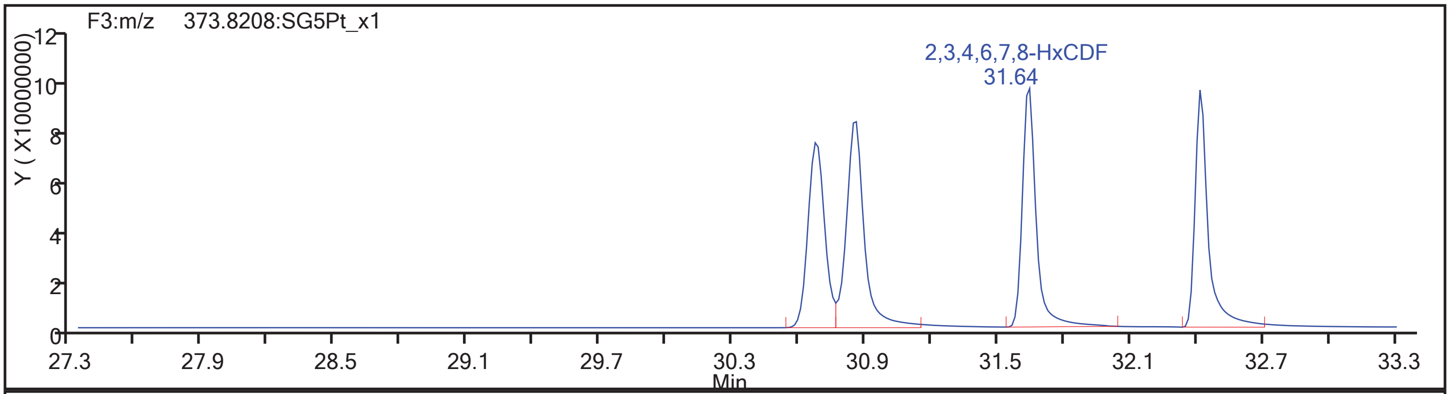
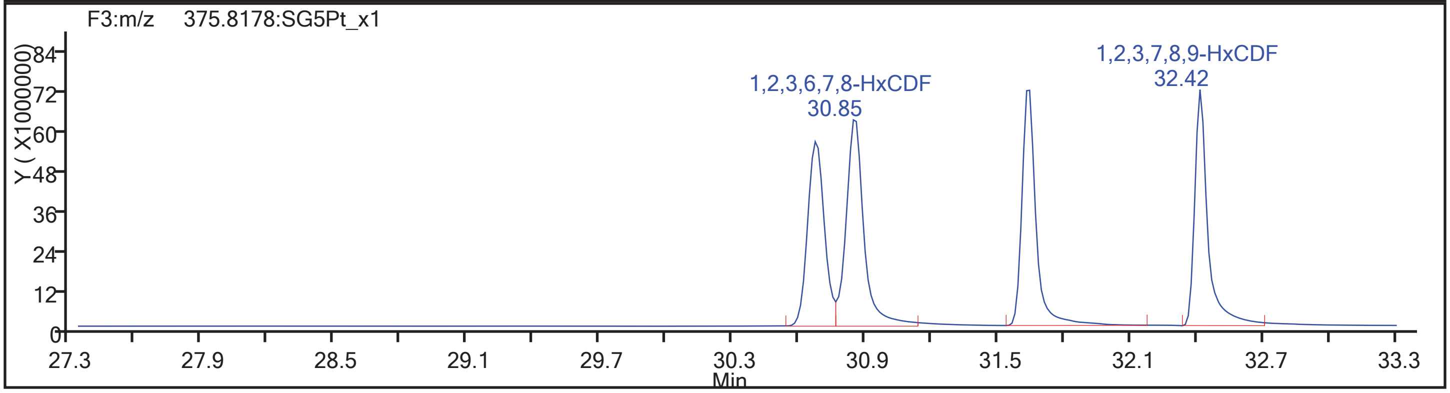
HxCDF





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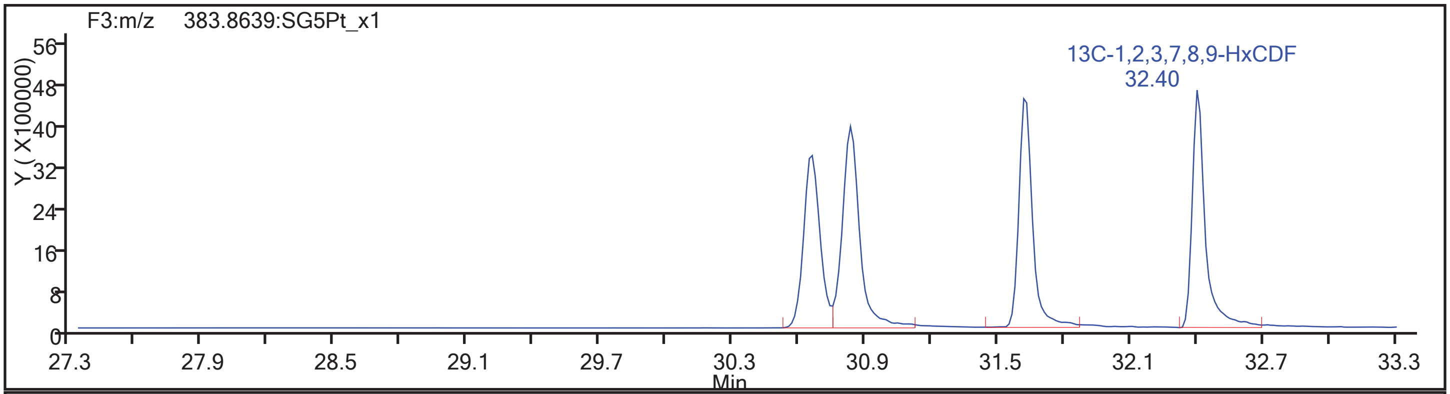

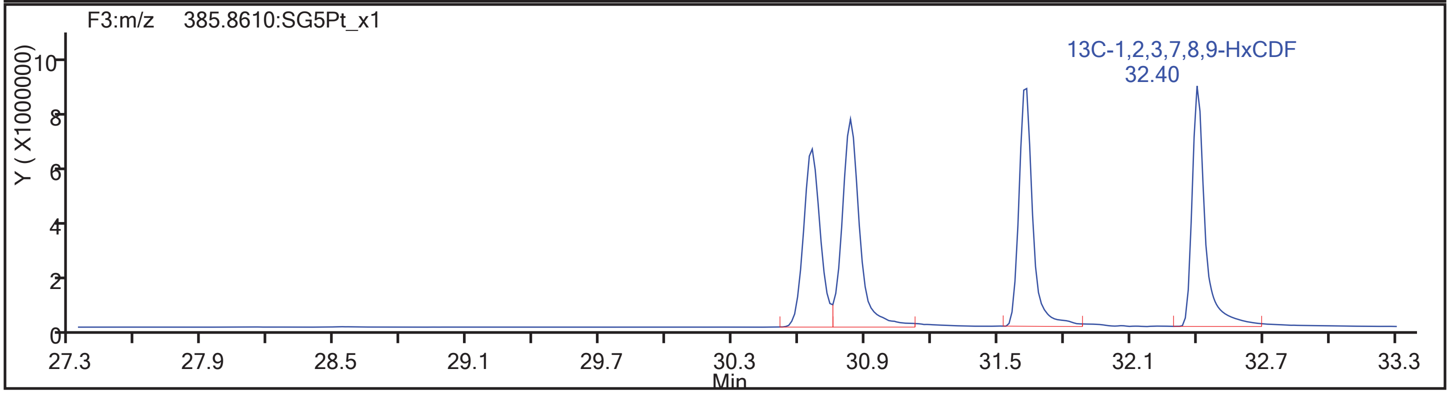

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TestAmerica Sacramento

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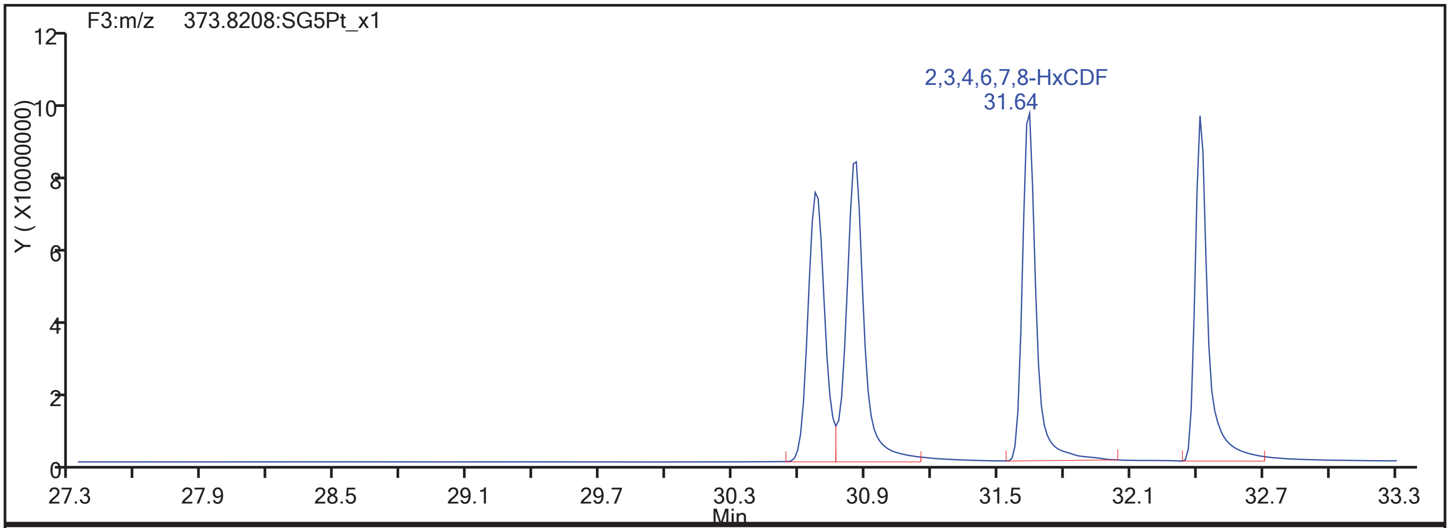
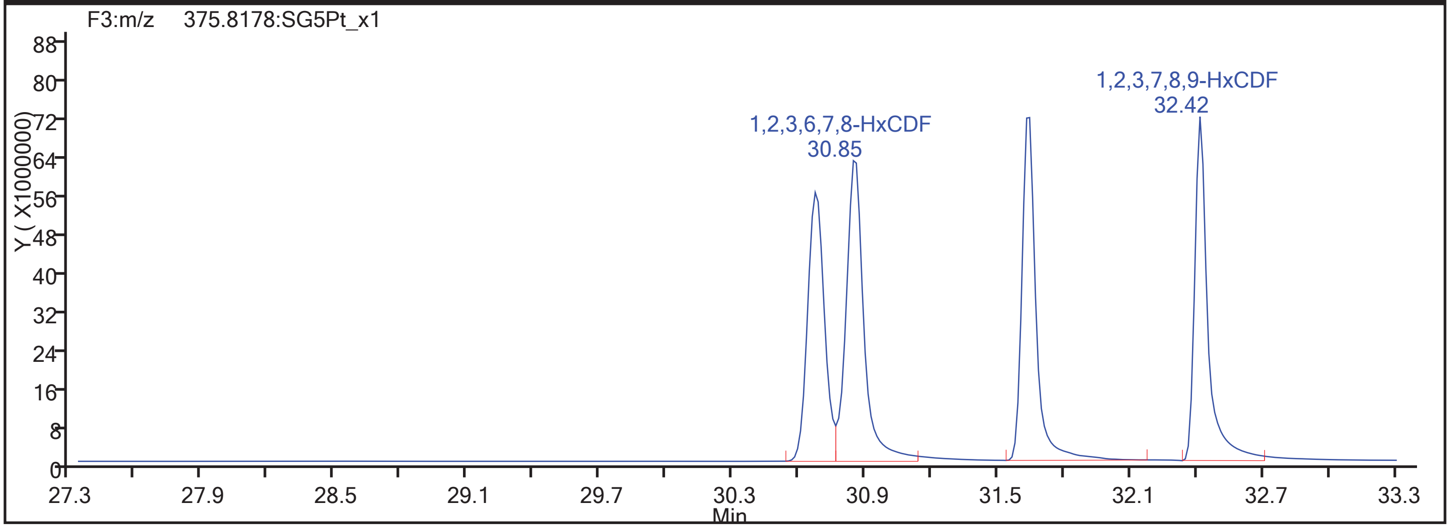
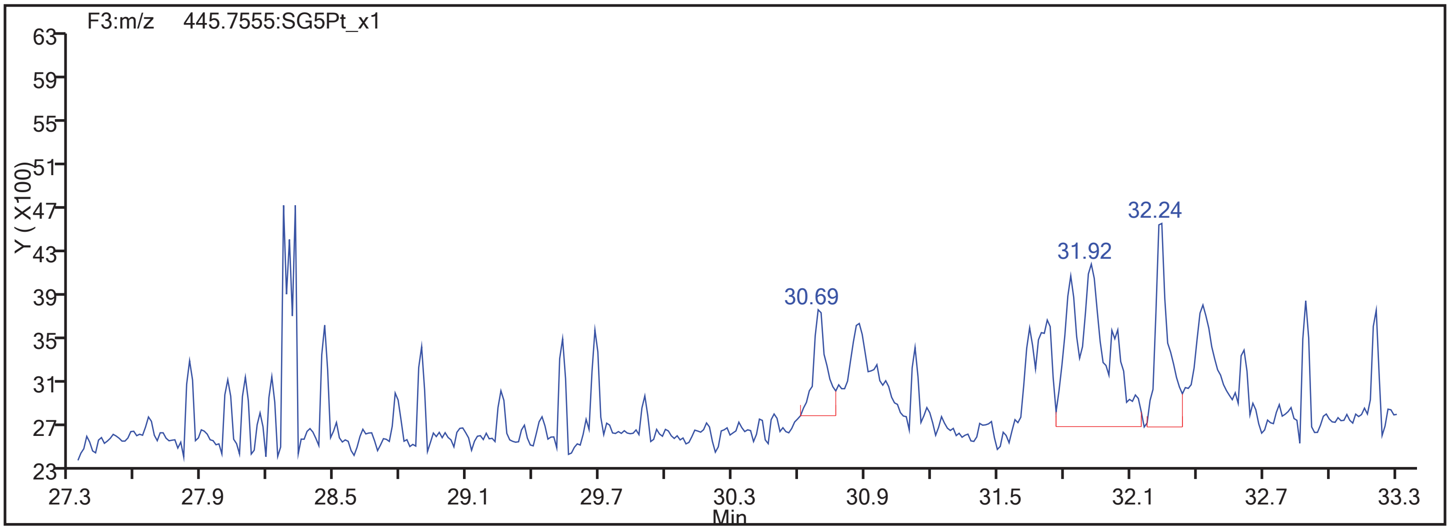




HxCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 13-Oct-2017 02:26:48

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: ALM, SMA

Method: Dioxin_10D5

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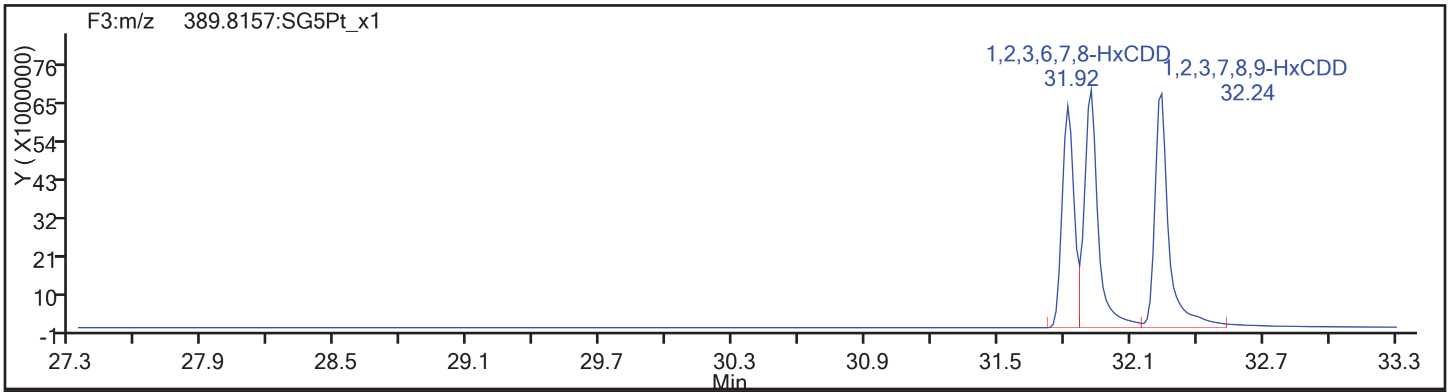

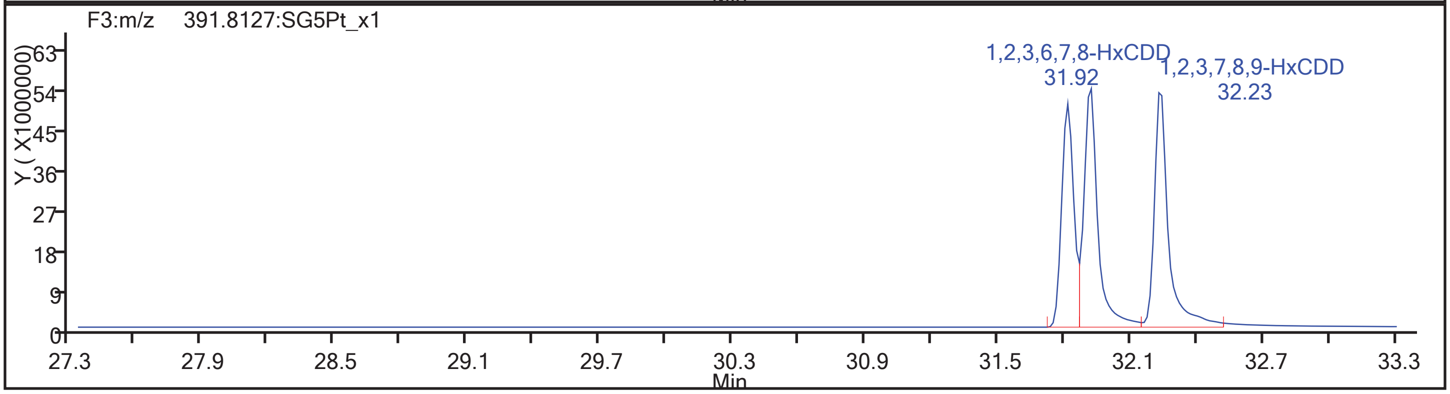

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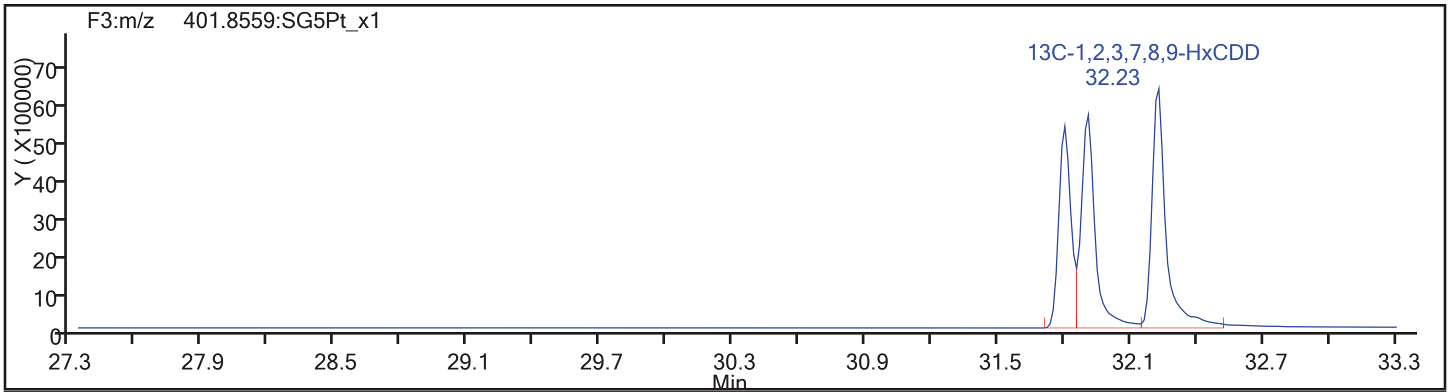

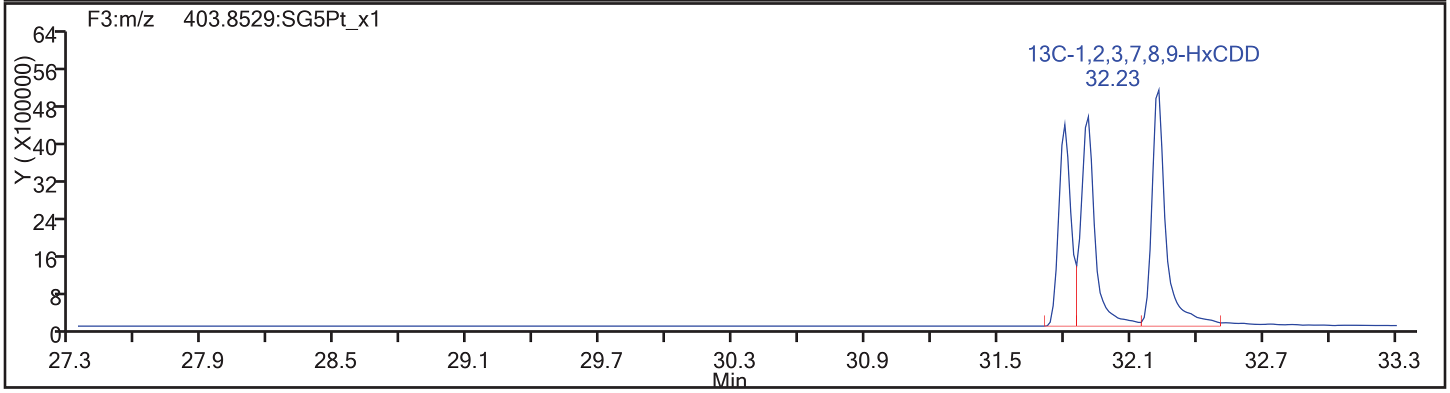

TestAmerica Sacramento

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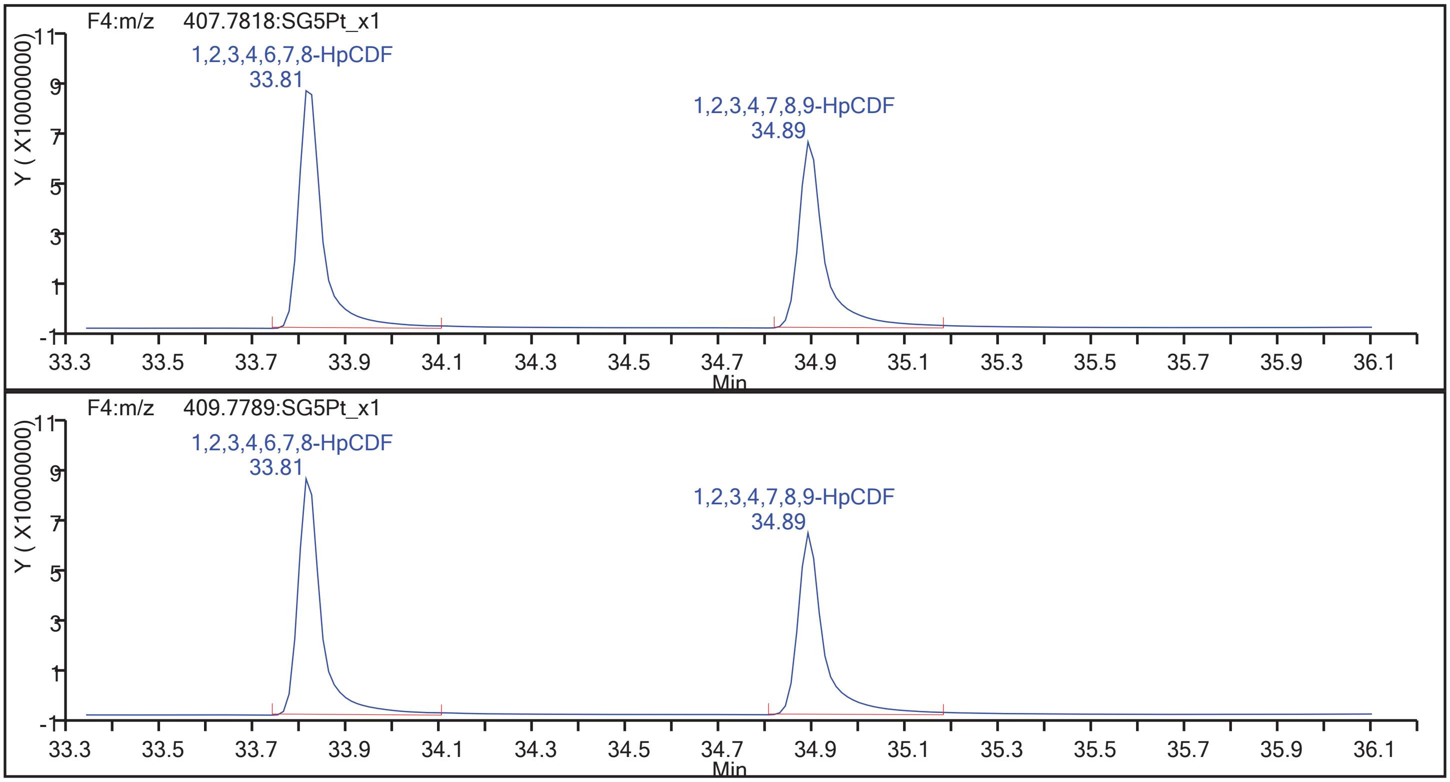

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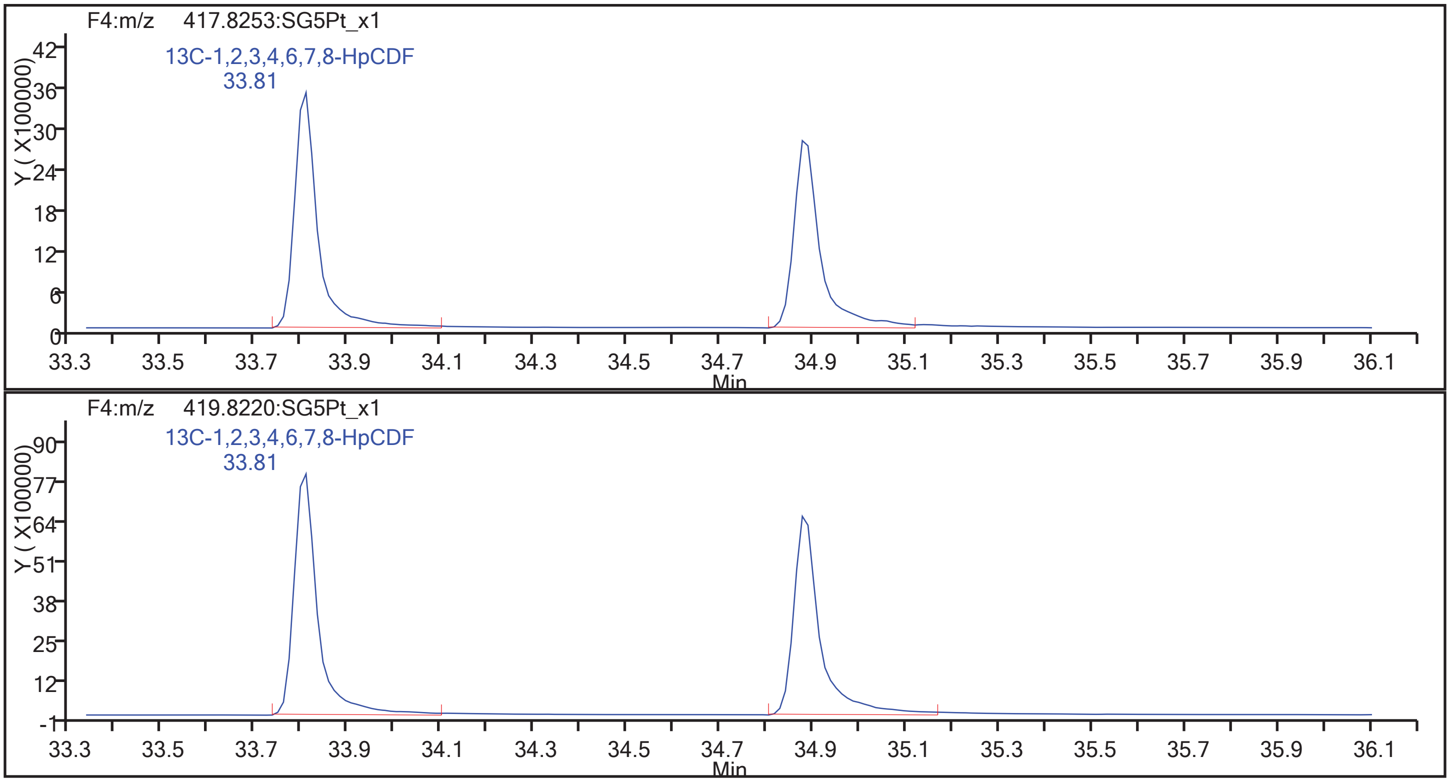

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TestAmerica Sacramento

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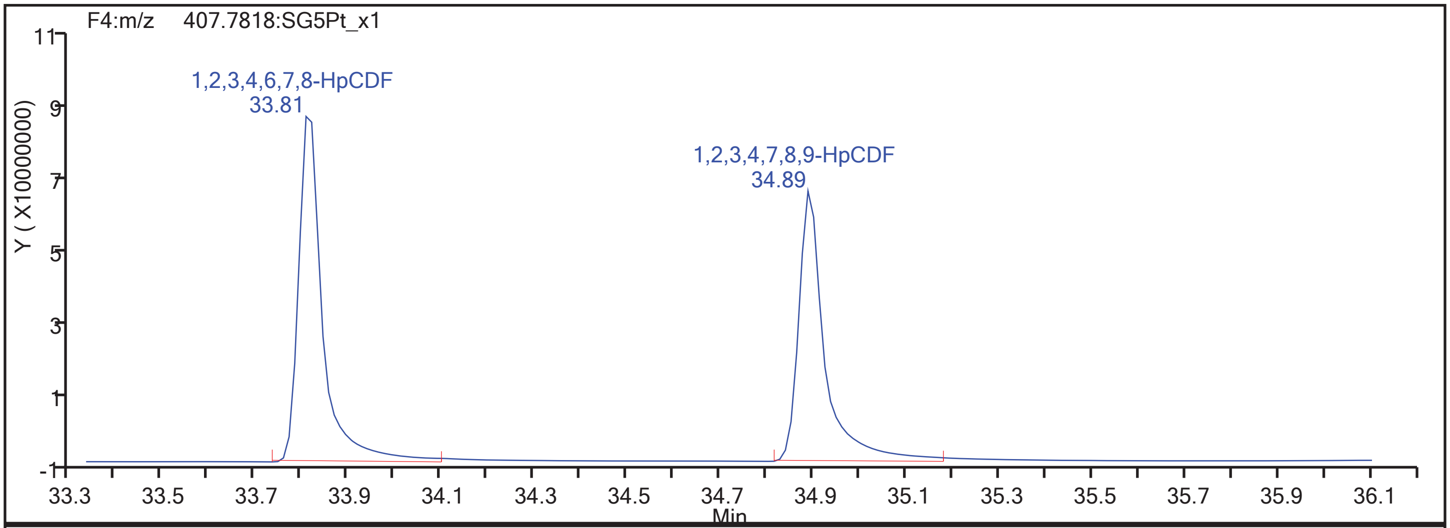
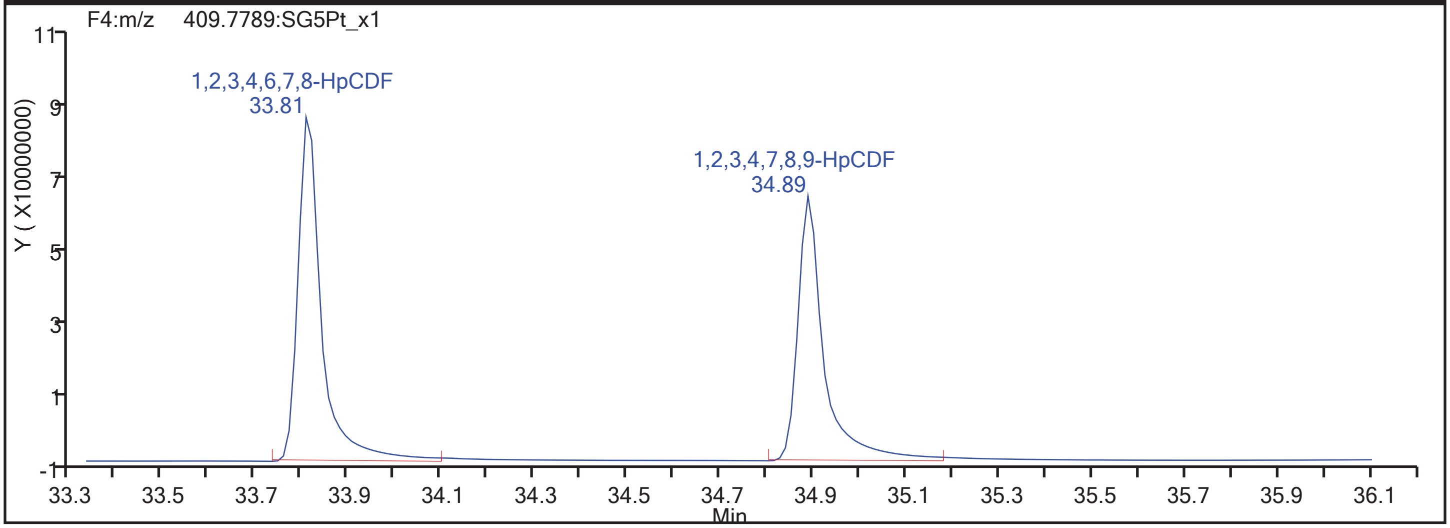
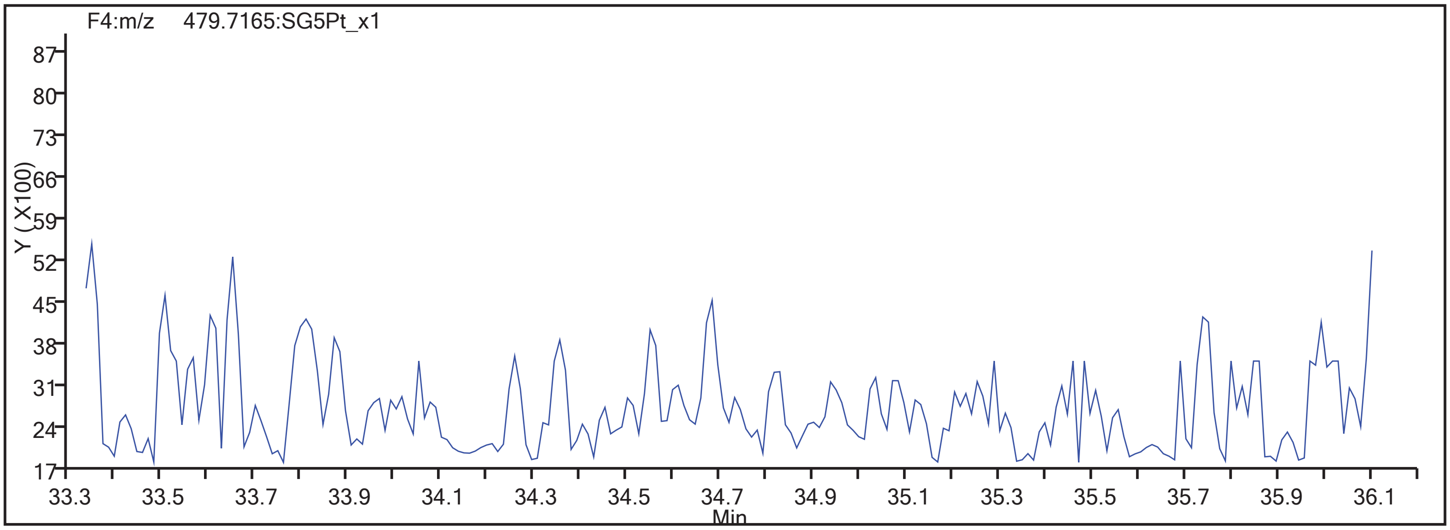




HpCDF Interference Mass



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TestAmerica Sacramento

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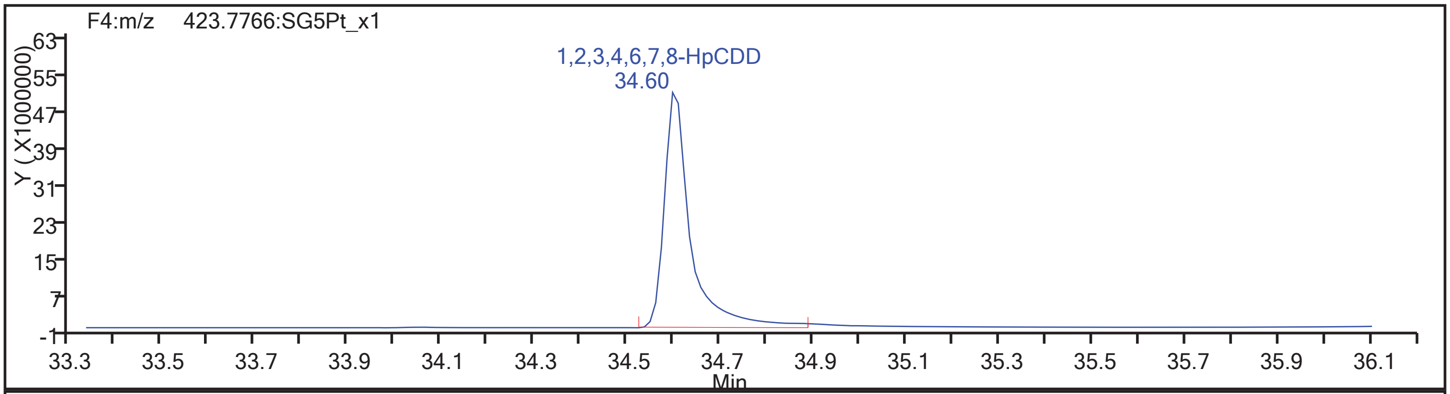
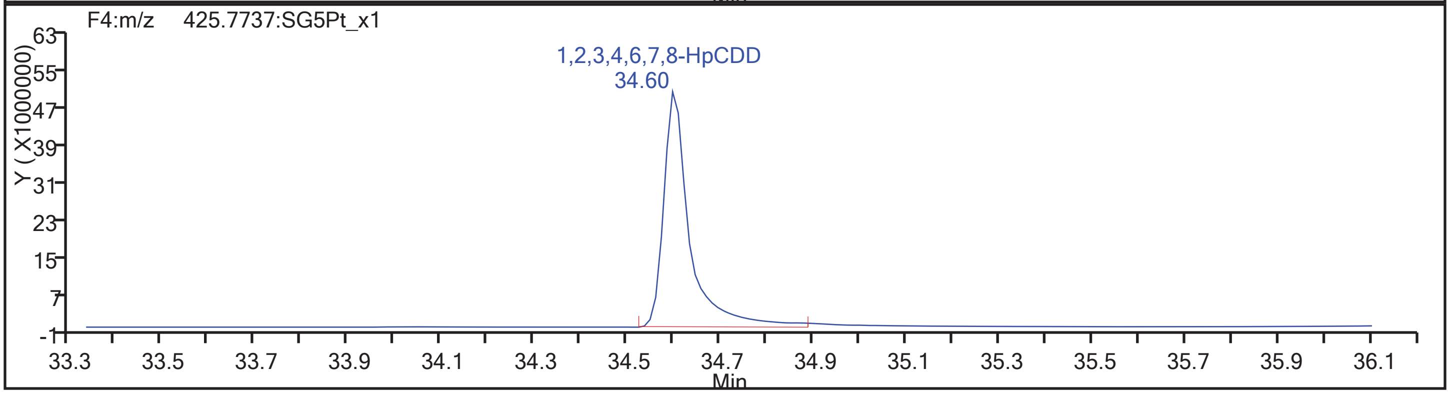
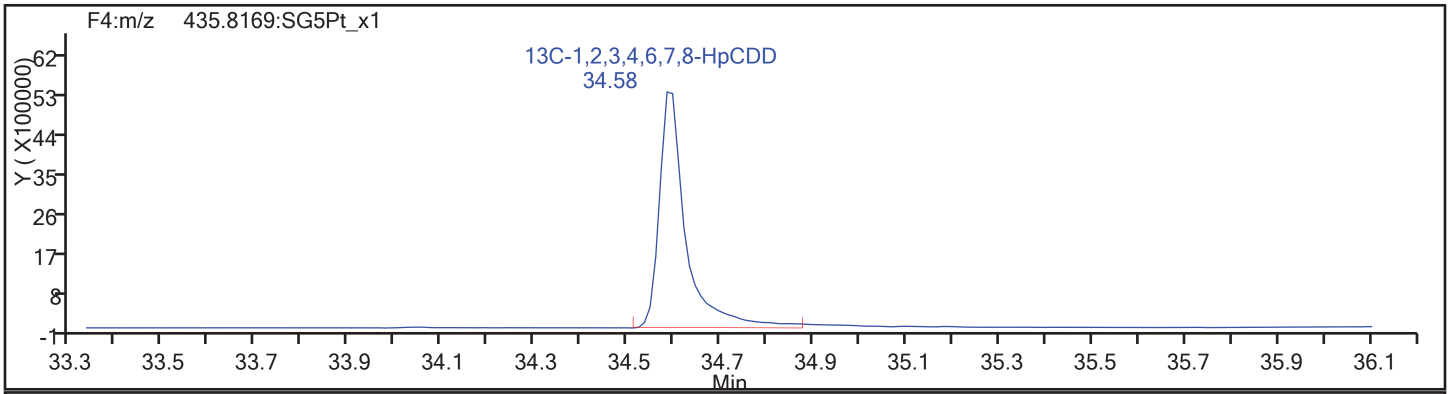
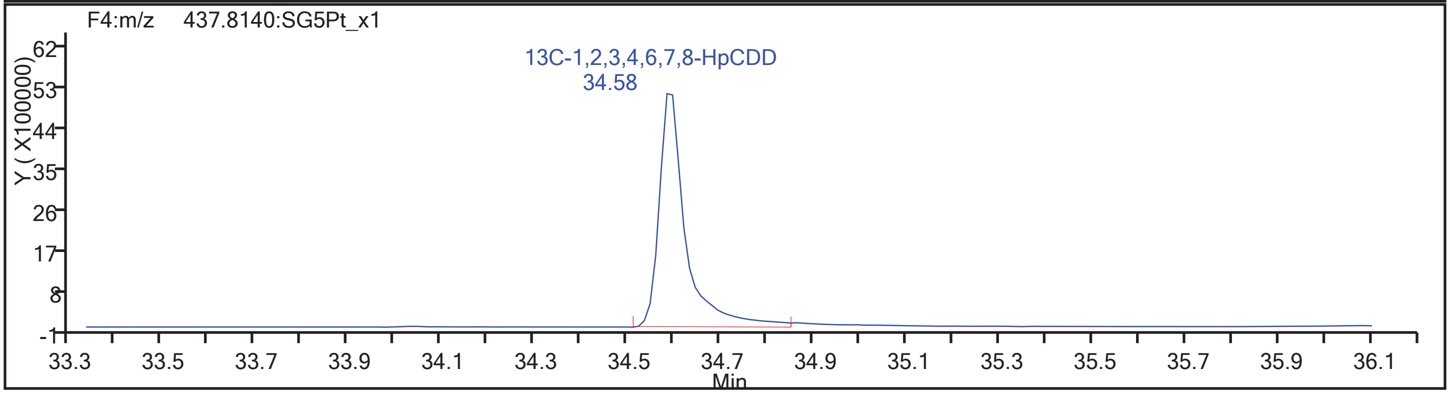




HpCDD Standards





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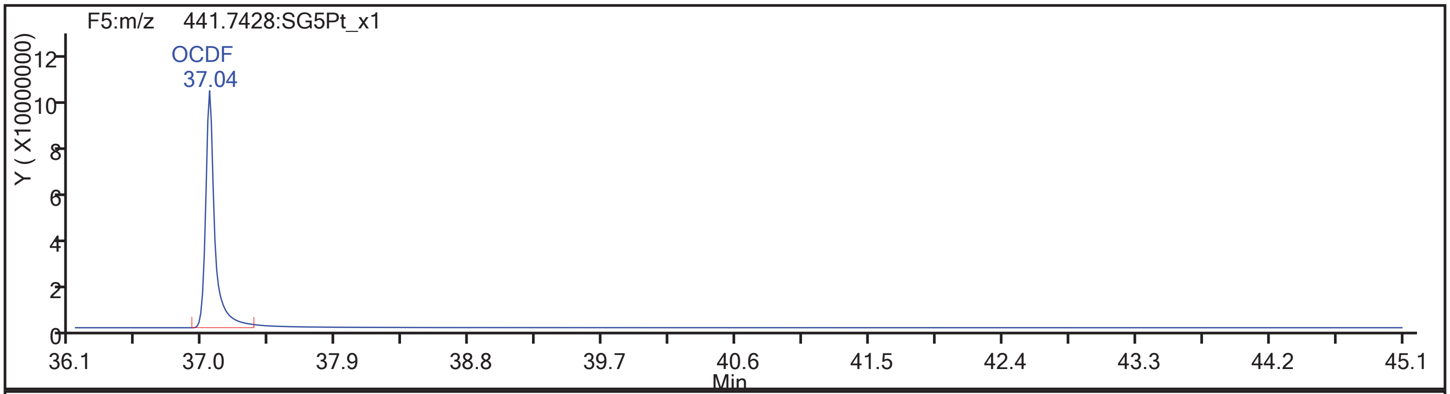
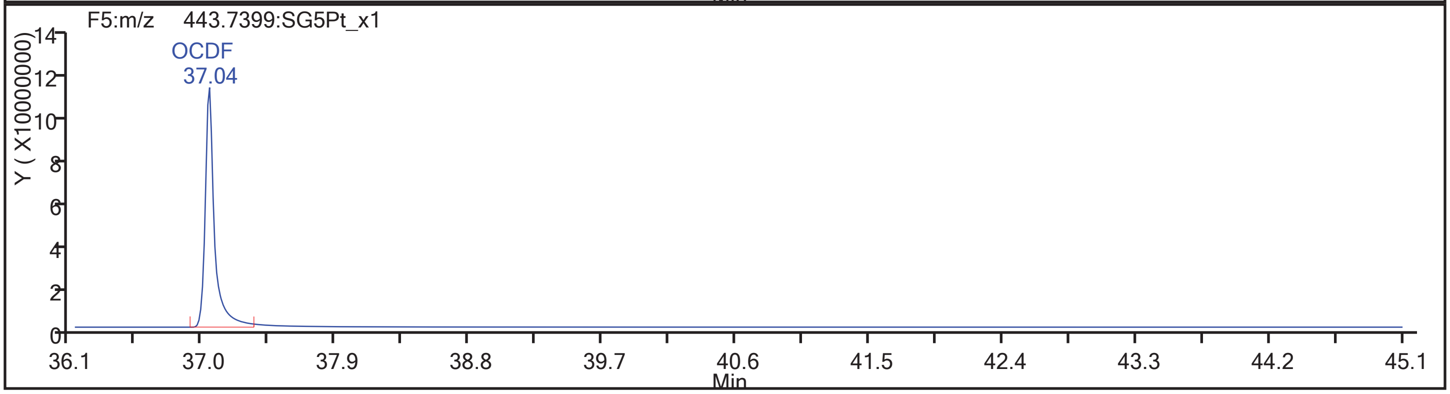
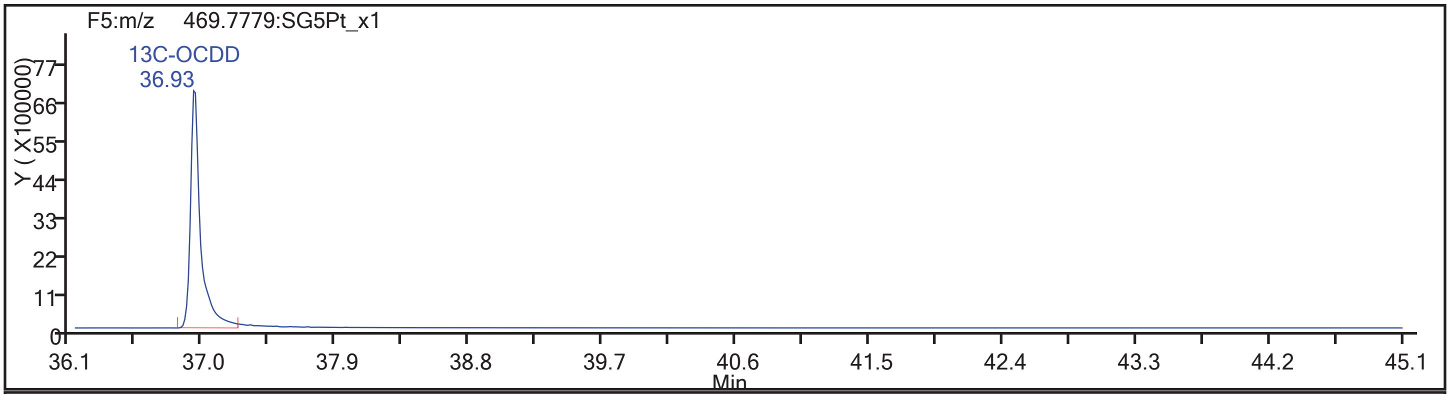
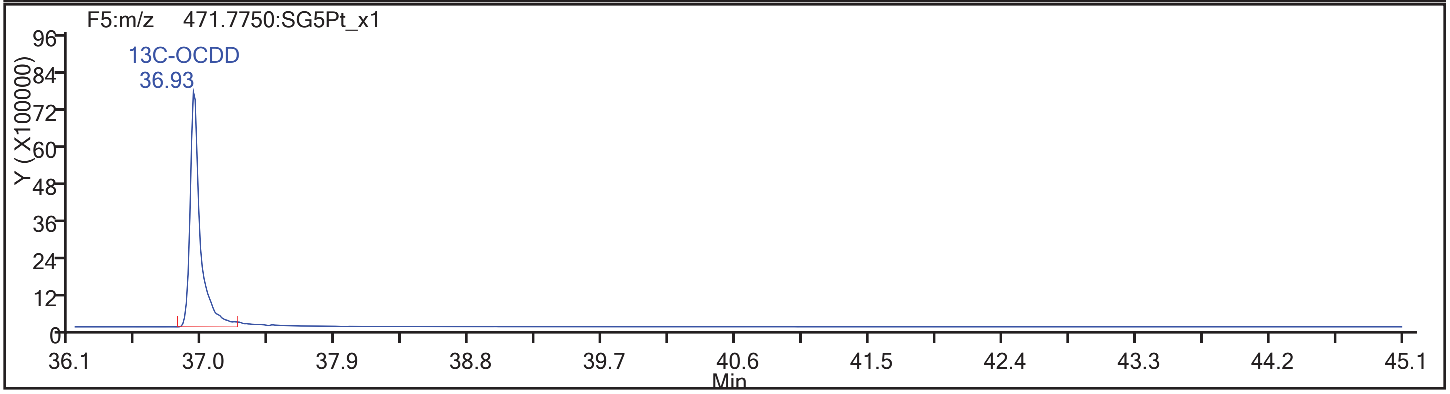
OCDF





OCDF Standards





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TestAmerica Sacramento

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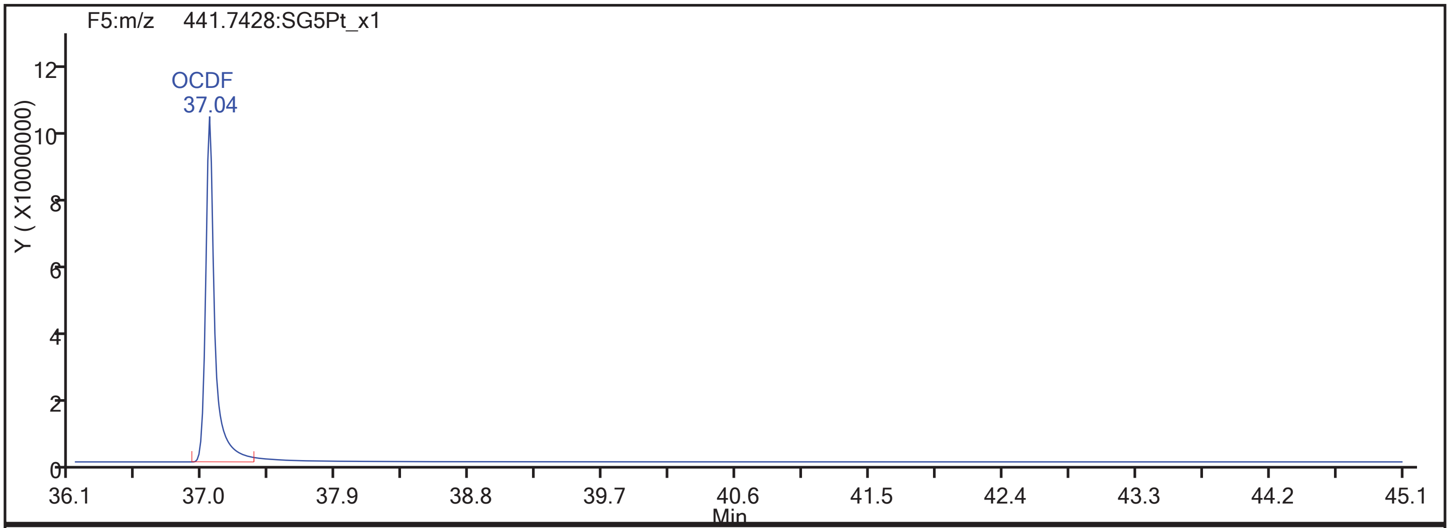
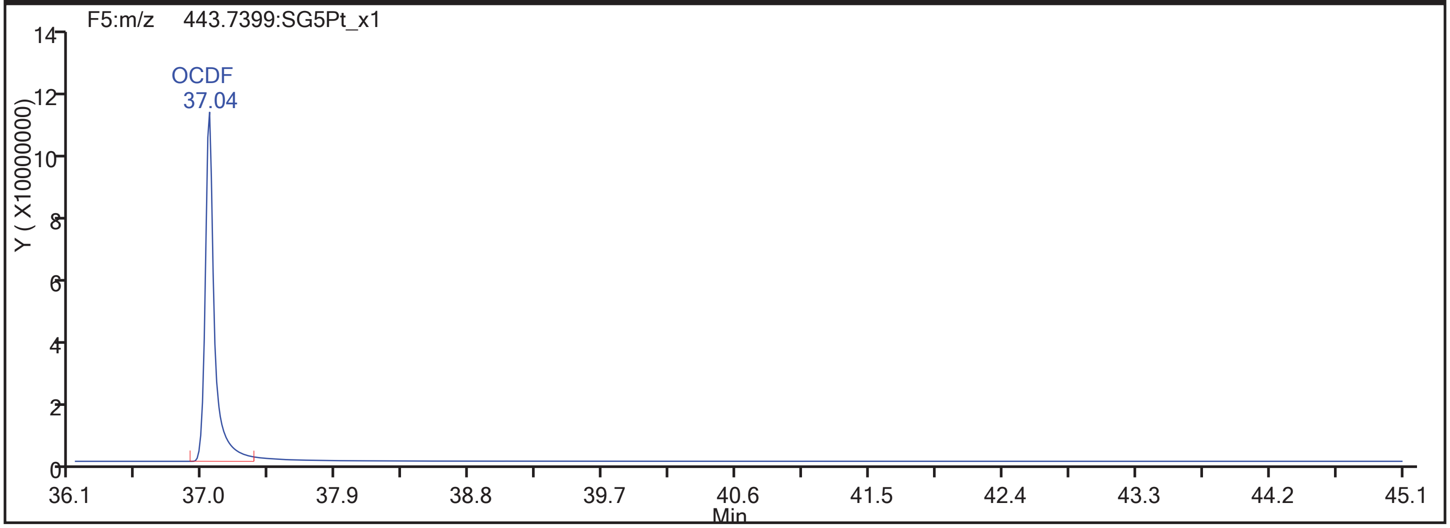
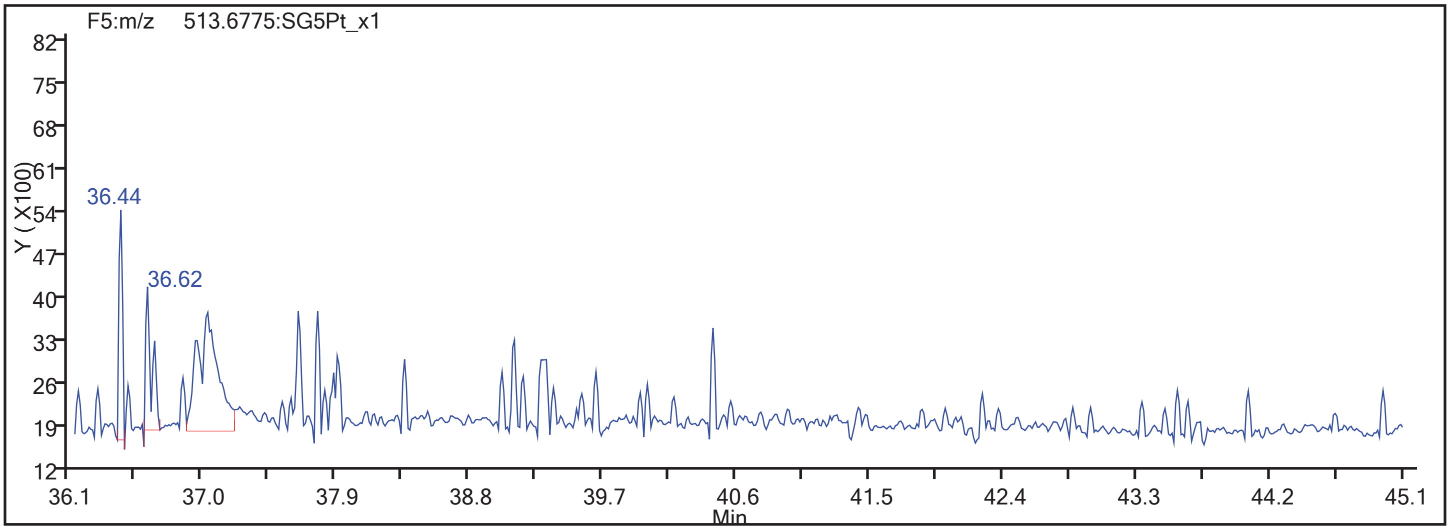




OCDF Interference Mass



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TestAmerica Sacramento

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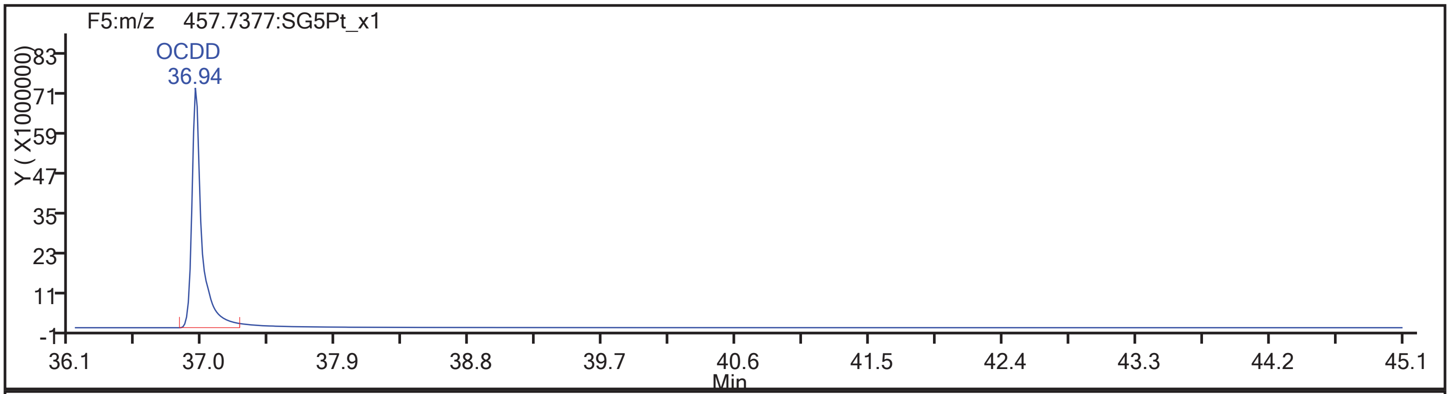
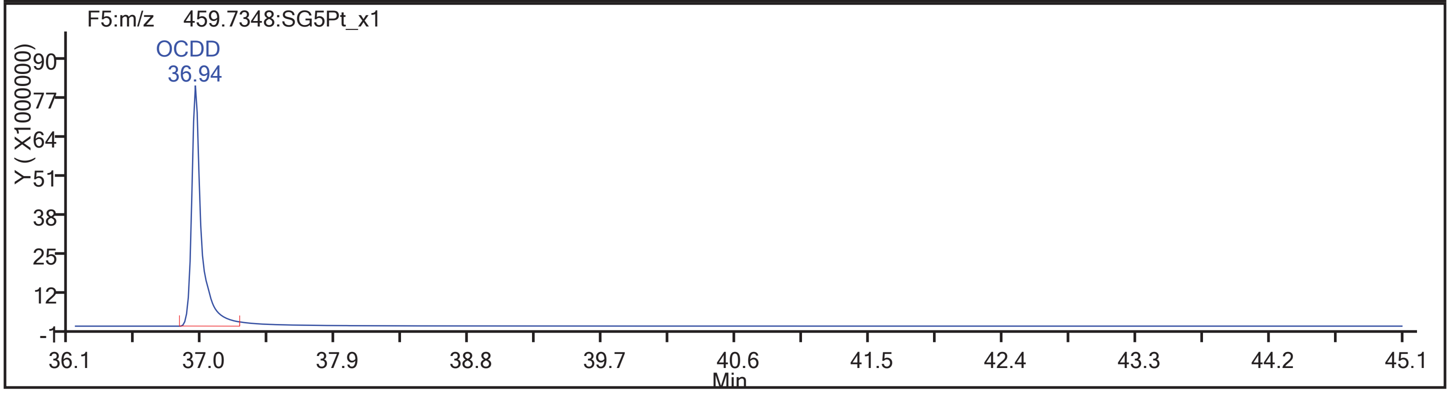
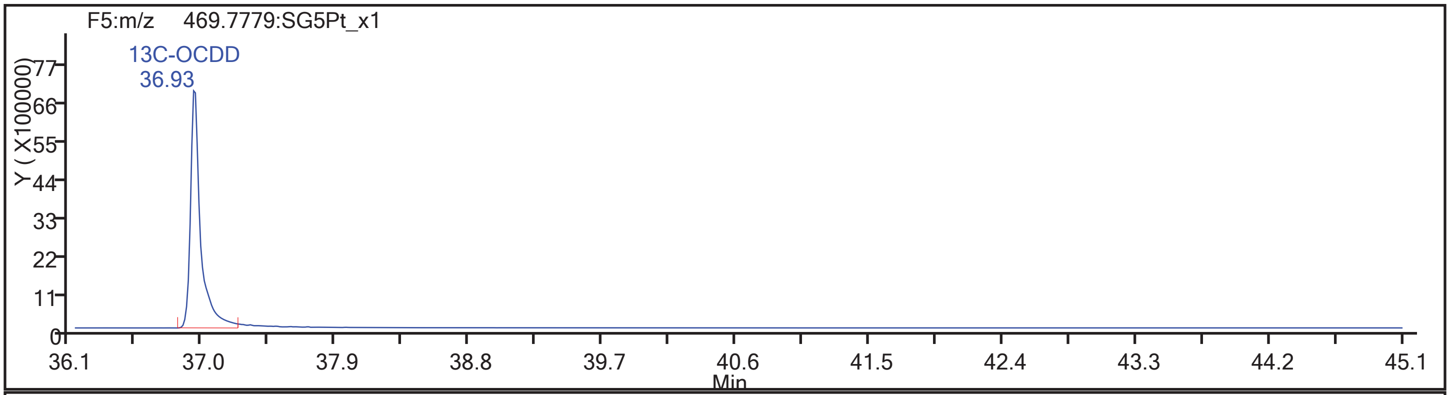
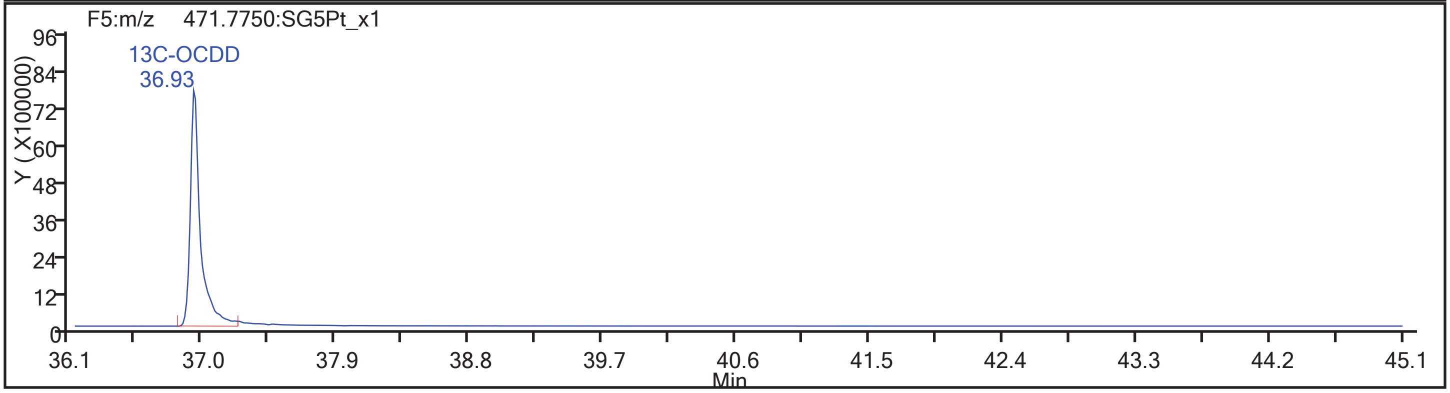




OCDD Standards

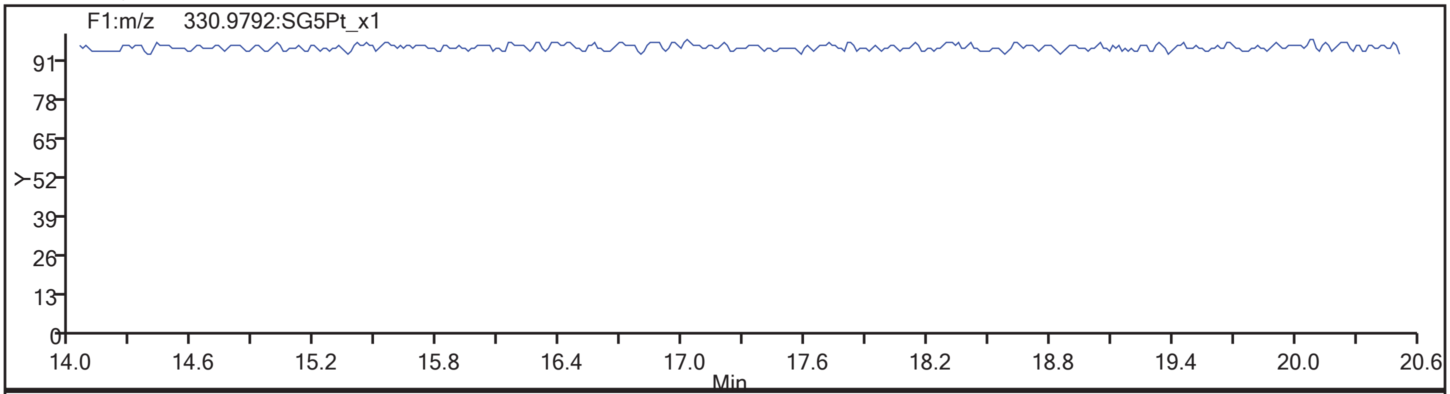


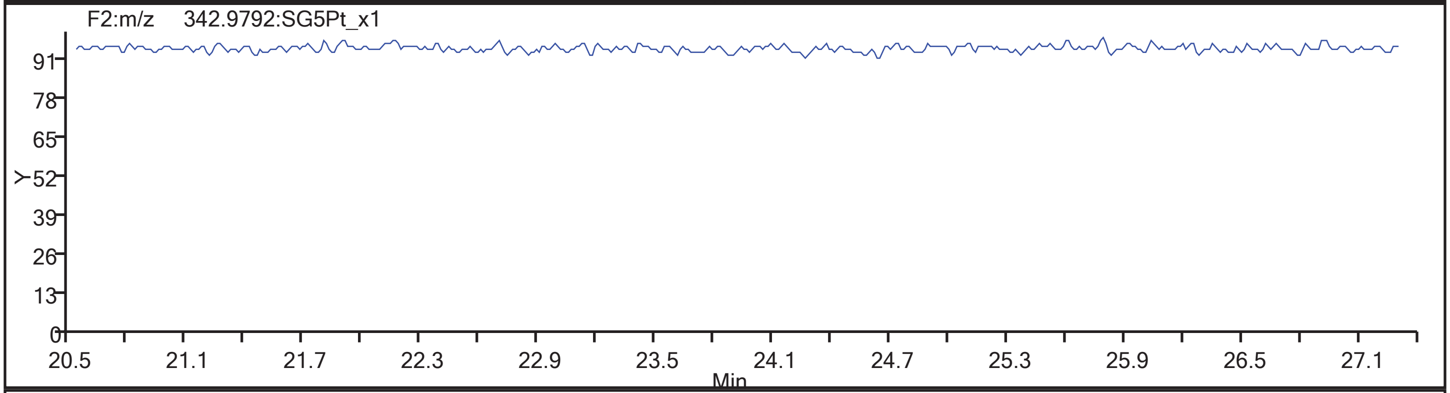


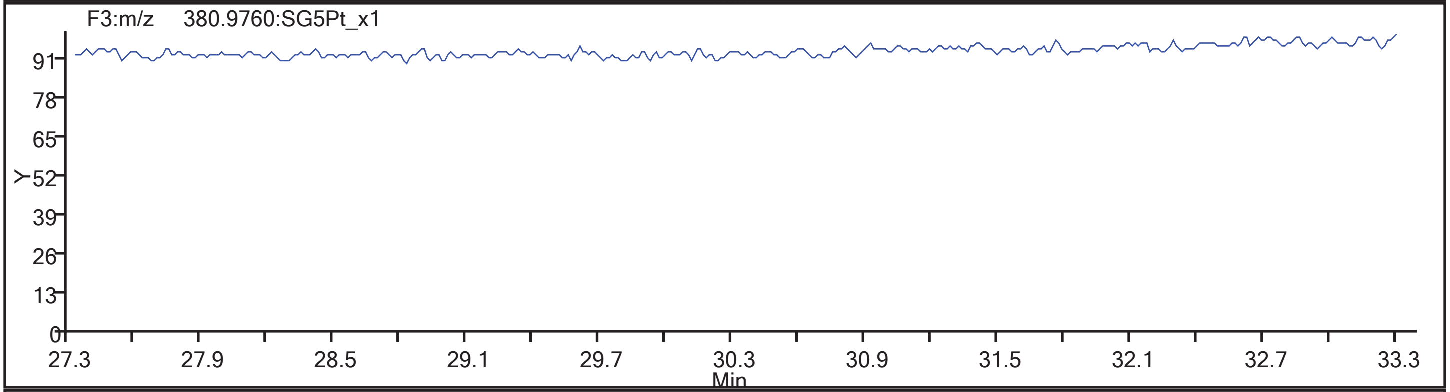
Report Date: 13-Oct-2017 10:55:59 Chrom Revision: 2.2 10-Oct-2017 10:31:20

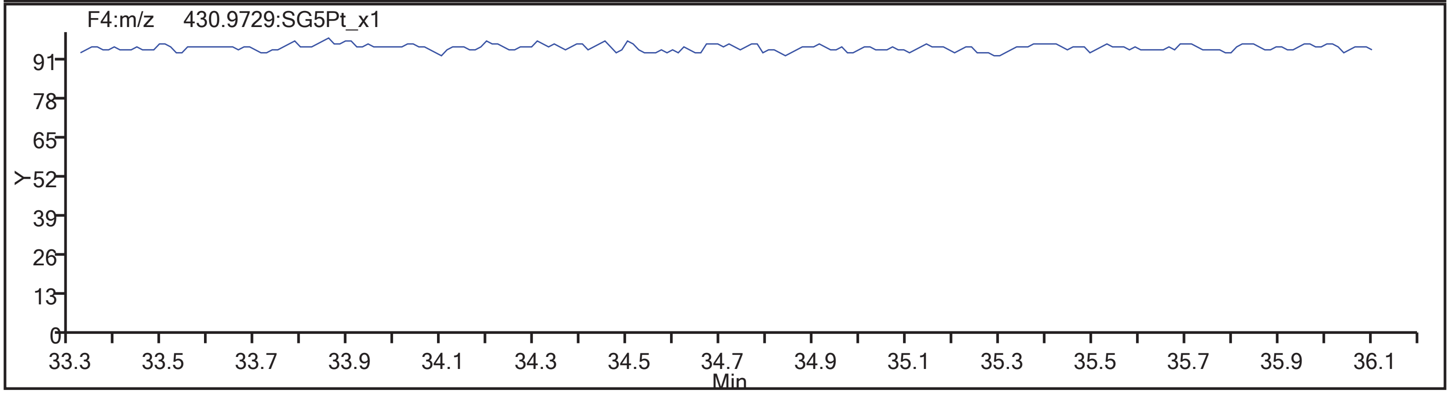
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_5.d		
Injection Date:	13-Oct-2017 02:26:48	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



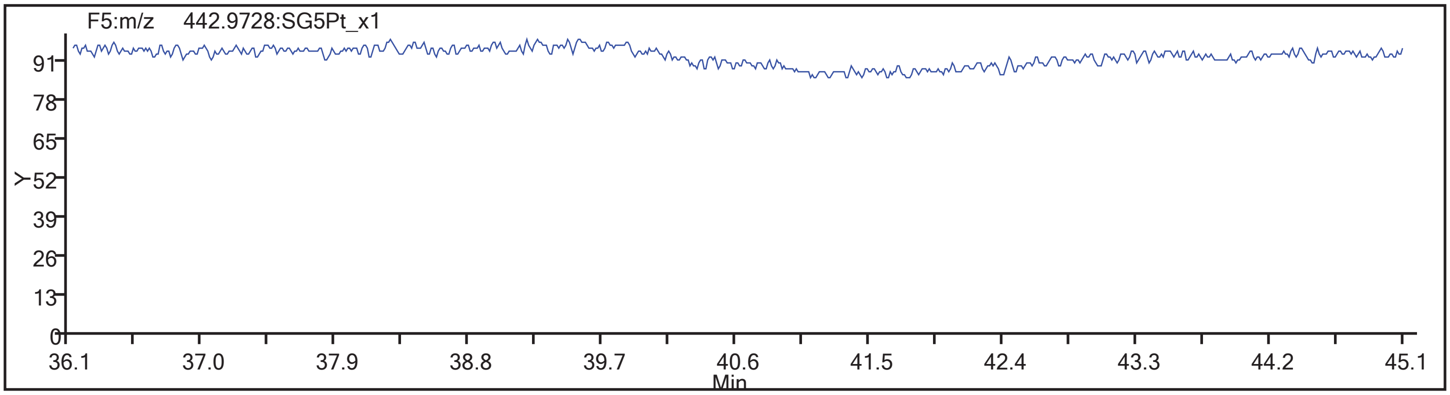






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_5.d		
Injection Date:	13-Oct-2017 02:26:48	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 13-Oct-2017 10:56:10 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2017 03:12:53 ALS Bottle#: 7 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 101217I CS-5 HRDXNL5_00022
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:56:06 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:15:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	81687821	0.79	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	104723883	0.78	1.2741	100.6	100.6	0.2833	0.2833	101	
2,3,7,8-TCDF	17.415	47766565	0.77	1.1341	40.2	40.2	0.1042	0.1042	101	
A Non-2,3,7,8-sub-TCDF	17.128						0.0	0.0		
S Total TCDF					40.2	40.2	0.1042	0.1042		
D 13C-2,3,7,8-TCDD	18.111	81307072	0.78	0.9921	100.3	100.3	0.3427	0.3427	100	
2,3,7,8-TCDD	18.126	33427987	0.80	0.9993	41.1	41.1	0.0844	0.0844	103	
$ 37Cl4-2,3,7,8-TCDD	18.126	36288815		1.0466	42.4	42.4	0.0857	0.0857	106	
A Non-2,3,7,8-sub-TCDD	17.581						0.0	0.0		
S Total TCDD					41.1	41.1	0.0844	0.0844		
D 13C-1,2,3,7,8-PeCDF	22.492	80533299	1.55	0.9696	101.7	101.7	0.4072	0.4072	102	
1,2,3,7,8-PeCDF	22.519	191348906	1.58	1.1627	204.4	204.4	1.169	1.169	102	
D 13C-2,3,4,7,8-PeCDF	23.855	79818746	1.54							
2,3,4,7,8-PeCDF	23.883	189413301	1.56	1.1395	206.4	206.4	1.193	1.193	103	
A F1 PeCDFs	20.023						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.229						0.0	0.0		
S Total PeCDF					410.8	410.8	1.181	1.181		
D 13C-1,2,3,7,8-PeCDD	24.592	63740576	1.58	0.7588	102.8	102.8	0.1523	0.1523	103	
1,2,3,7,8-PeCDD	24.619	124492113	1.55	0.9490	205.8	205.8	0.3794	0.3794	103	
A Non-2,3,7,8-sub-PeCDD	23.521						0.0	0.0		
S Total PeCDD					205.8	205.8	0.3794	0.3794		
D 13C-1,2,3,4,7,8-HxCDF	30.646	62687744	0.53	0.9644	101.4	101.4	1.126	1.126	101	
1,2,3,4,7,8-HxCDF	30.673	179126145	1.26	1.4012	203.9	203.9	2.383	2.383	102	
D 13C-1,2,3,6,7,8-HxCDF	30.833	78725821	0.50							
1,2,3,6,7,8-HxCDF	30.846	211238927	1.27	1.6951	198.8	198.8	1.970	1.970	99.40	
D 13C-2,3,4,6,7,8-HxCDF	31.618	71147478	0.53							
2,3,4,6,7,8-HxCDF	31.631	192255623	1.26	1.5205	201.7	201.7	2.196	2.196	101	
D 13C-1,2,3,7,8,9-HxCDF	32.403	66519550	0.53							
1,2,3,7,8,9-HxCDF	32.417	175606502	1.31	1.4099	198.7	198.7	2.369	2.369	99.34	
A Non-2,3,7,8-sub-HxCDF	30.360						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					803.1	803.1	2.230	2.230		
* 13C-1,2,3,7,8,9-HxCDD	32.217	64128115	1.24	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.804	45141245	1.33							
1,2,3,4,7,8-HxCDD	31.818	110378844	1.34	0.9505	206.7	206.7	1.344	1.344	103	
D 13C-1,2,3,6,7,8-HxCDD	31.897	56170888	1.17	0.8791	99.6	99.6	0.6204	0.6204	99.64	
1,2,3,6,7,8-HxCDD	31.924	143102643	1.20	1.2343	206.4	206.4	1.035	1.035	103	
1,2,3,7,8,9-HxCDD	32.230	142715802	1.26	1.2467	203.8	203.8	1.025	1.025	102	
A Non-2,3,7,8-sub-HxCDD	30.999						0.0	0.0		
S Total HxCDD					616.9	616.9	1.135	1.135		
D 13C-1,2,3,4,6,7,8-HpCDF	33.794	50210411	0.44	0.7618	102.8	102.8	1.992	1.992	103	
1,2,3,4,6,7,8-HpCDF	33.807	164314741	1.05	1.6399	199.6	199.6	3.226	3.226	99.78	
D 13C-1,2,3,4,7,8,9-HpCDF	34.876	43395580	0.43							
1,2,3,4,7,8,9-HpCDF	34.888	134048153	1.05	1.3302	200.7	200.7	3.977	3.977	100	
A Non-2,3,7,8-sub-HpCDF	34.359						0.0	0.0		
S Total HpCDF					400.3	400.3	3.602	3.602		
D 13C-1,2,3,4,6,7,8-HpCDD	34.584	51153194	1.04	0.7762	102.8	102.8	1.050	1.050	103	
1,2,3,4,6,7,8-HpCDD	34.596	103117080	1.04	0.9932	203.0	203.0	1.605	1.605	101	
A Non-2,3,7,8-sub-HpCDD	35.319						0.0	0.0		
S Total HpCDD					203.0	203.0	1.605	1.605		
D 13C-OCDD	36.930	85195739	0.87	0.6314	210.4	210.4	0.3796	0.3796	105	
OCDF	37.026	235850738	0.90	1.3460	411.3	411.3	0.5558	0.5558	103	
OCDD	36.942	181878740	0.90	1.0604	402.6	402.6	0.7028	0.7028	101	

Reagents:

HRDXNL5_00022 Amount Added: 1.00 Units: mL

Report Date: 13-Oct-2017 10:56:10 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2017 03:12:53 ALS Bottle#: 7 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 101217I CS-5 HRDXNL5_00022
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:56:06 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:15:28

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.920	0		36103769	8941892	12551	31377	712		
333.9339	17.914	17.920	0		45584052	11301679	14982	37455	754	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.403	0	0.971	45761857	10770661	11615	29037	927		
317.9389	17.400	17.403	0	0.971	58962026	13862456	17618	44045	787	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415	17.421	0	1.001	20774120	4930335	5343	13357	923		
305.8987	17.415	17.421	0	1.001	26992445	6356032	6298	15745	1009	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.128						5343	13357			
305.8987	17.128						6298	15745			
13C-2,3,7,8-TCDD											
331.9368	18.111	18.117	0	1.011	35634278	7861473	12551	31377	626		
333.9339	18.111	18.117	0	1.011	45672794	10002855	14982	37455	668	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.126	18.132	0	1.001	14805394	3279600	2973	7432	1103		
321.8936	18.126	18.132	0	1.001	18622593	4149189	3052	7630	1359	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.126	18.135	-1	1.012	36288815	8044850	7263	18157	1108		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.581						2973	7432			
321.8936	17.581						3052	7630			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.492	22.503	-1	1.256	48938422	8132446	18987	47467	428		
353.8970	22.492	22.503	-1	1.256	31594877	5280752	12983	32457	407	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.519	22.525	0	1.001	117200688	19342269	44554	111385	434		
341.8567	22.519	22.525	0	1.001	74148218	11974978	28377	70942	422	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.855	23.866	-1	1.332	48388657	7514160	18987	47467	396		
353.8970	23.855	23.866	-1	1.332	31430089	4979629	12983	32457	384	1.54(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.883	23.894	-1	1.001	115535296	17854963	44554	111385	401		
341.8567	23.883	23.894	-1	1.001	73878005	11426916	28377	70942	403	1.56(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.023						974	2435			
341.8567	20.023						1058	2645			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.229						44554	111385			
341.8567	23.229						28377	70942			
13C-1,2,3,7,8-PeCDD											
367.8949	24.592	24.603	-1	1.373	39000151	5793847	5151	12877	1125		
369.8919	24.592	24.603	-1	1.373	24740425	3720759	4209	10522	884	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.619	24.630	-1	1.001	75725280	11246357	8827	22067	1274		
357.8516	24.619	24.630	-1	1.001	48766833	7194029	4877	12192	1475	1.55(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.521						8827	22067			
357.8516	23.521						4877	12192			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.646	30.660	-1	0.951	21742212	3998659	21191	52977	189		
385.8610	30.646	30.660	-1	0.951	40945532	7797825	39435	98587	198	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.673	30.684	-1	1.001	100013119	19177593	88272	220680	217		
375.8178	30.673	30.684	-1	1.001	79113026	15170722	69317	173292	219	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.833	30.838	0	0.957	26408022	4800663	21191	52977	227		
385.8610	30.833	30.838	0	0.957	52317799	9196074	39435	98587	233	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.846	30.859	-1	1.000	118019536	21098380	88272	220680	239		
375.8178	30.846	30.859	-1	1.000	93219391	16796154	69317	173292	242	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.618	31.629	-1	0.981	24786769	5694204	21191	52977	269		
385.8610	31.618	31.629	-1	0.981	46360709	10604343	39435	98587	269	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.631	31.645	-1	1.000	107262090	23943618	88272	220680	271		
375.8178	31.631	31.645	-1	1.000	84993533	19239232	69317	173292	278	1.26(1.05-1.43)	

Report Date: 13-Oct-2017 10:56:10 Chrom Revision: 2.2 10-Oct-2017 10:31:20
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.403	32.409	0	1.006	22988482	5399451	21191	52977	255		
385.8610	32.403	32.409	0	1.006	43531068	10116496	39435	98587	257	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.417	32.422	0	1.000	99590151	22817687	88272	220680	258		
375.8178	32.417	32.422	0	1.000	76016351	17901575	69317	173292	258	1.31(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.360						88272	220680			
375.8178	30.360						69317	173292			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.217	32.230	-1		35445416	7725052	17362	43405	445		
403.8529	32.217	32.230	-1		28682699	6232527	13087	32717	476	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.804	31.810	0	0.987	25783779	6737965	17362	43405	388		
403.8529	31.804	31.810	0	0.987	19357466	5317930	13087	32717	406	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.818	31.823	0	1.000	63238920	16552563	35354	88385	468		
391.8127	31.818	31.823	0	1.000	47139924	12920462	27434	68585	471	1.34(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.897	31.911	-1	0.990	30296675	6818201	17362	43405	393		
403.8529	31.897	31.911	-1	0.990	25874213	5467003	13087	32717	418	1.17(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.924	31.927	0	1.001	78152754	17447899	35354	88385	494		
391.8127	31.911	31.927	-1	1.000	64949889	13965117	27434	68585	509	1.20(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.230	32.244	-1	1.013	79661725	17511117	35354	88385	495		
391.8127	32.230	32.244	-1	1.013	63054077	14042965	27434	68585	512	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.999						35354	88385			
391.8127	30.999						27434	68585			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.794	33.807	-1	1.049	15268273	4252901	25346	63365	168		
419.8220	33.794	33.807	-1	1.049	34942138	9667656	59370	148425	163	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.807	33.814	0	1.000	84162597	23769975	149637	374092	159		
409.7789	33.807	33.814	0	1.000	80152144	22741285	144955	362387	157	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.876	34.881	0	1.083	13122382	3291430	25346	63365	130		
419.8220	34.876	34.881	0	1.083	30273198	7662053	59370	148425	129	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.888	34.893	0	1.000	68679867	17412238	149637	374092	116		
409.7789	34.888	34.893	0	1.000	65368286	16281428	144955	362387	112	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.359						149637	374092			
409.7789	34.359						144955	362387			

Report Date: 13-Oct-2017 10:56:10 Chrom Revision: 2.2 10-Oct-2017 10:31:20
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

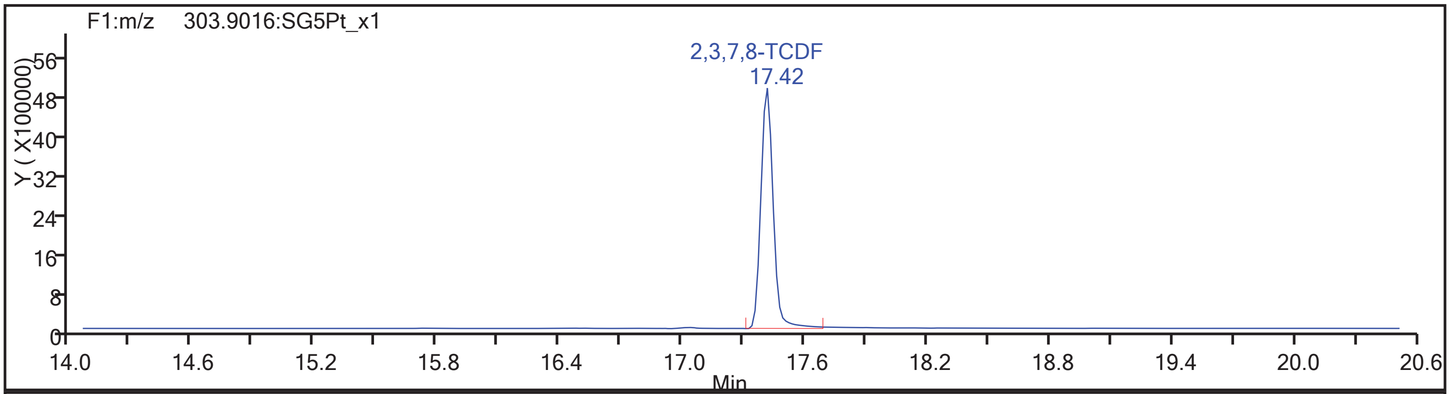
Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.584	34.592	0	1.073	26086656	6612156	22300	55750	297		
437.8140	34.584	34.592	0	1.073	25066538	6365244	23180	57950	275	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.596	34.601	0	1.000	52543744	13453259	42591	106477	316		
425.7737	34.596	34.601	0	1.000	50573336	12976124	40160	100400	323	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.319						42591	106477			
425.7737	35.319						40160	100400			
13C-OCDD											
469.7779	36.930	36.932	0	1.146	39626662	8421087	6571	16427	1282		
471.7750	36.930	36.932	0	1.146	45569077	9334751	6811	17027	1371	0.87(0.76-1.02)	
OCDF											
441.7428	37.026	37.038	-1	1.003	111880949	24238561	12659	31647	1915		
443.7399	37.026	37.038	-1	1.003	123969789	27169862	13908	34770	1954	0.90(0.76-1.02)	
OCDD											
457.7377	36.942	36.944	0	1.000	85997892	17604297	13096	32740	1344		
459.7348	36.930	36.944	-1	1.000	95880848	19770495	13369	33422	1479	0.90(0.76-1.02)	

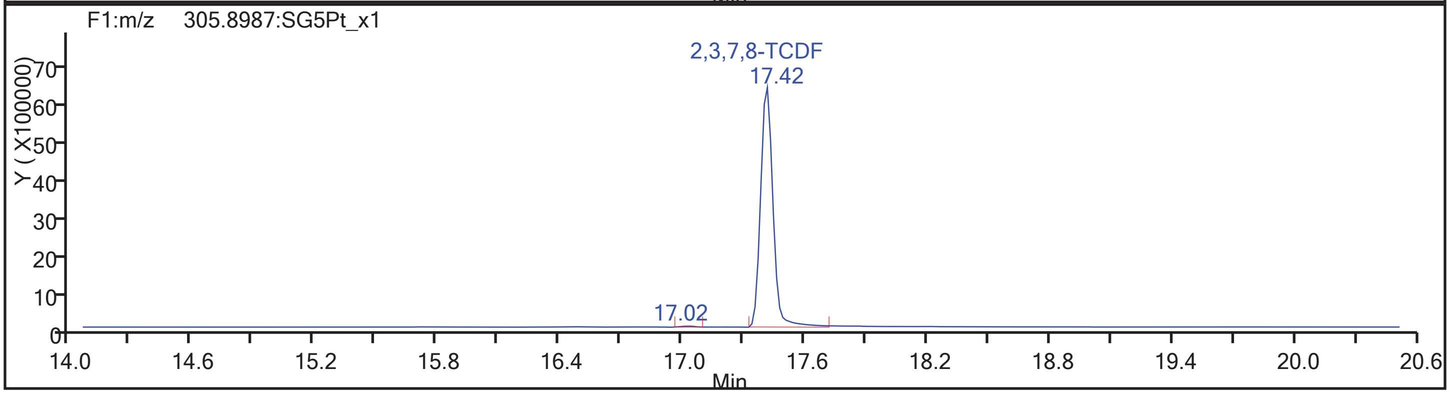
Reagents:

HRDXNL5_00022 Amount Added: 1.00 Units: mL

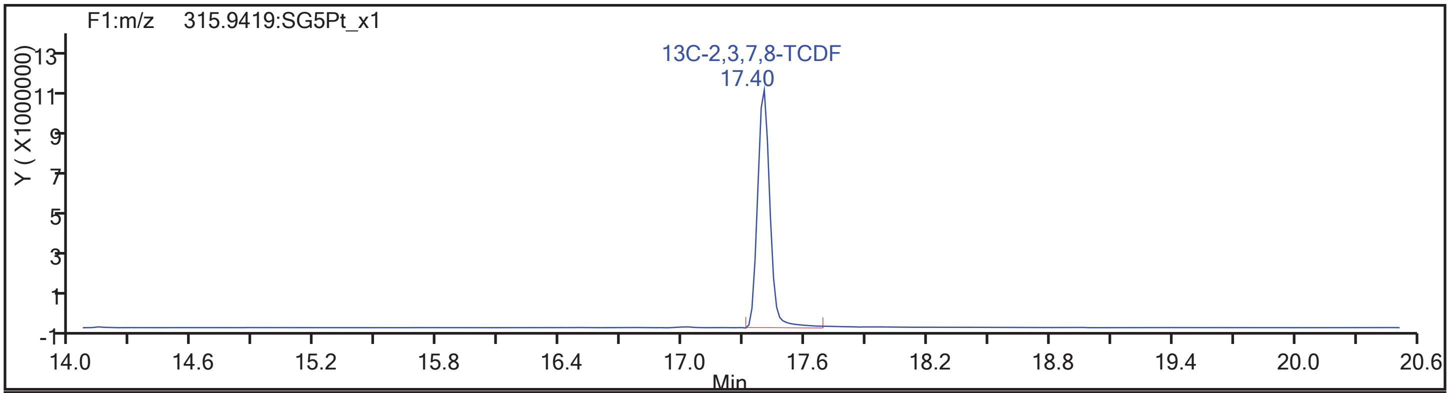
Report Date: 13-Oct-2017 10:56:10 Chrom Revision: 2.2 10-Oct-2017 10:31:20
TestAmerica Sacramento
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d
Injection Date: 13-Oct-2017 03:12:53 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: ALM, SMA
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

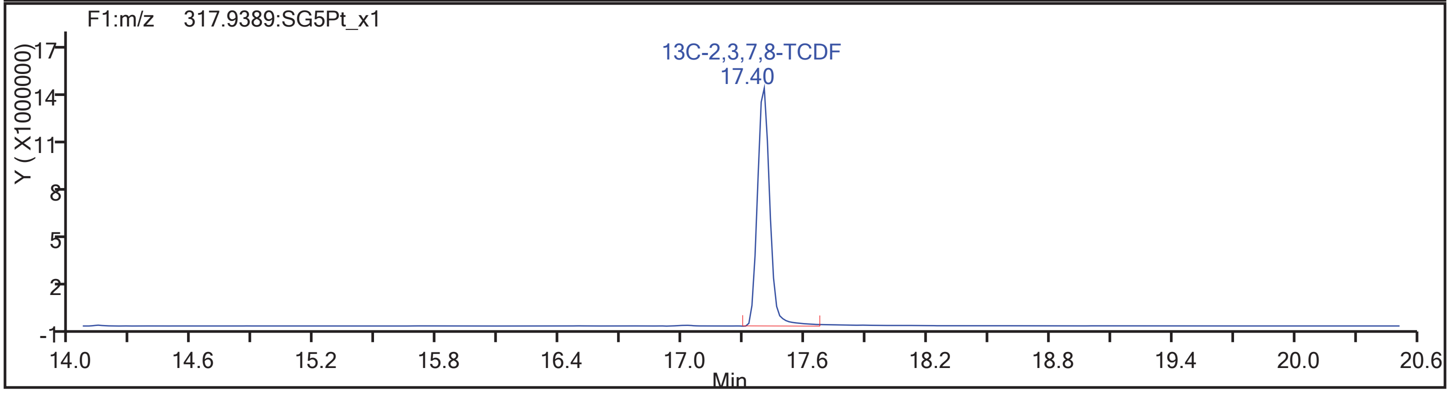
TCDF





TCDF Standards



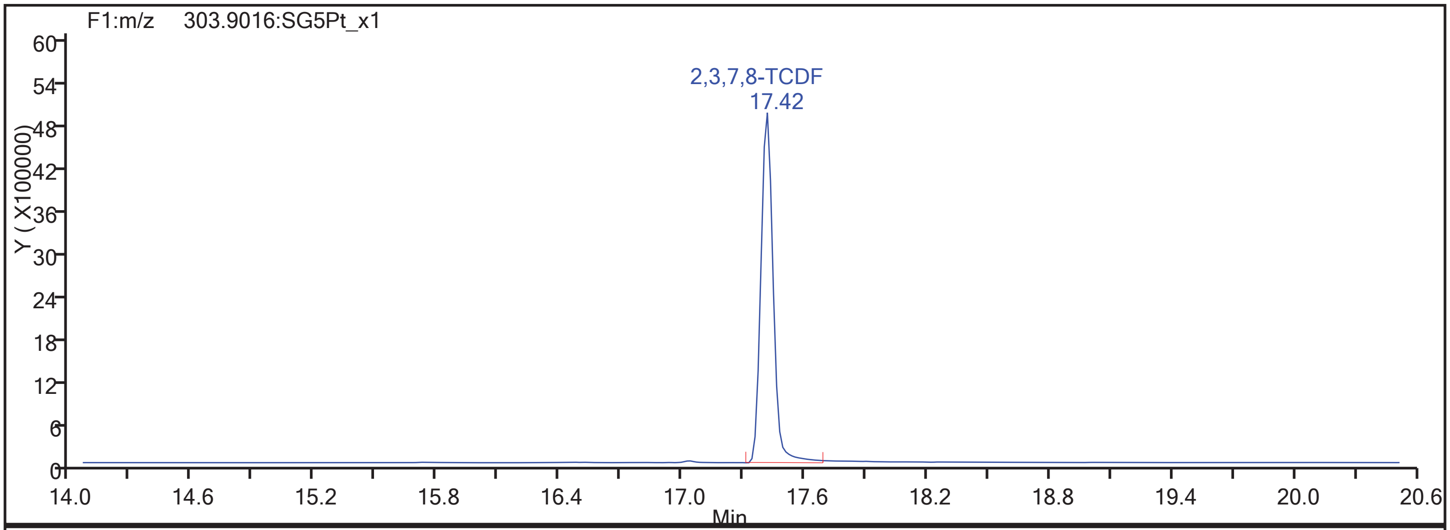


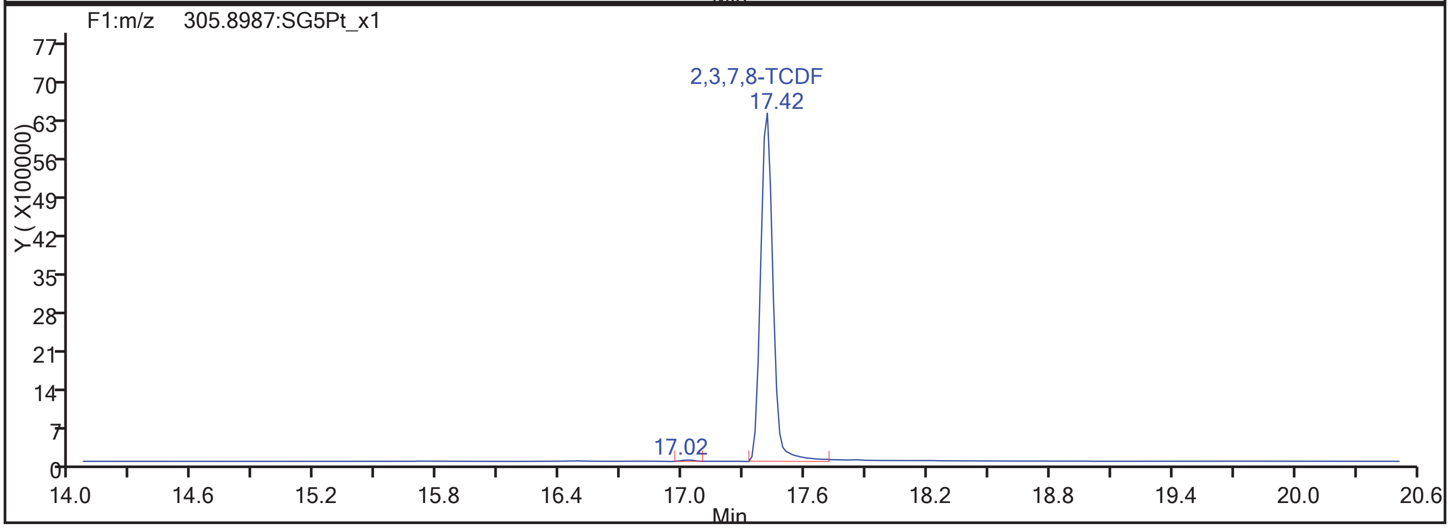
Report Date: 13-Oct-2017 10:56:10 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

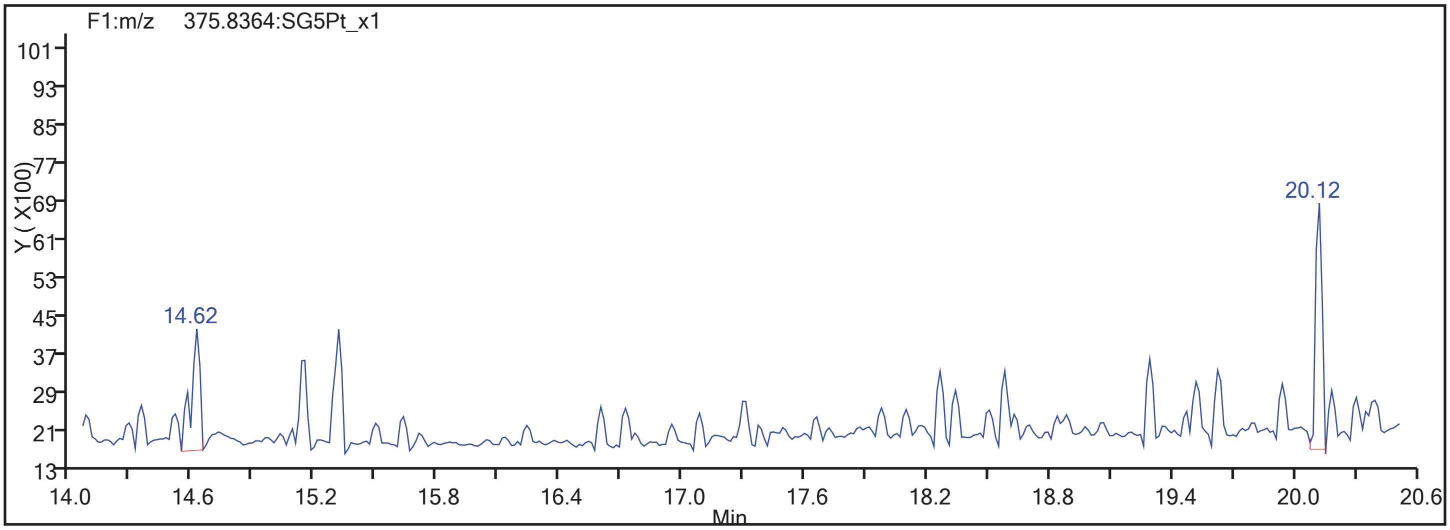
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d		
Injection Date:	13-Oct-2017 03:12:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



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Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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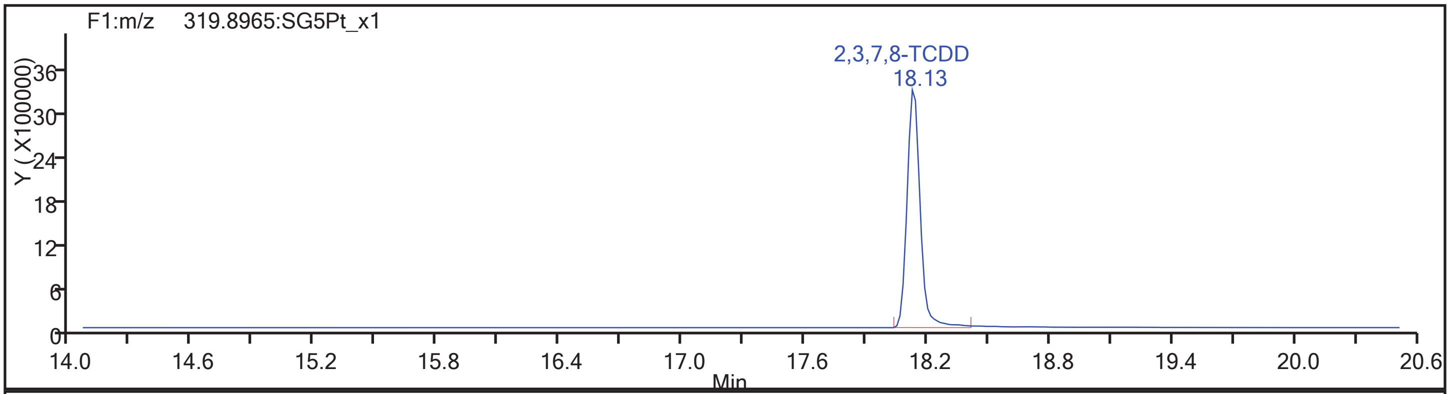
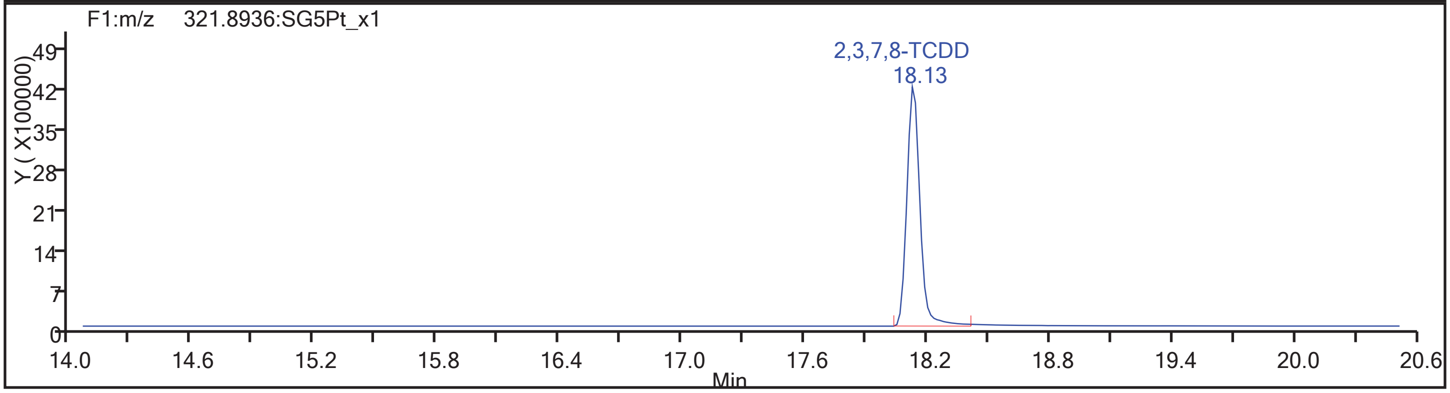
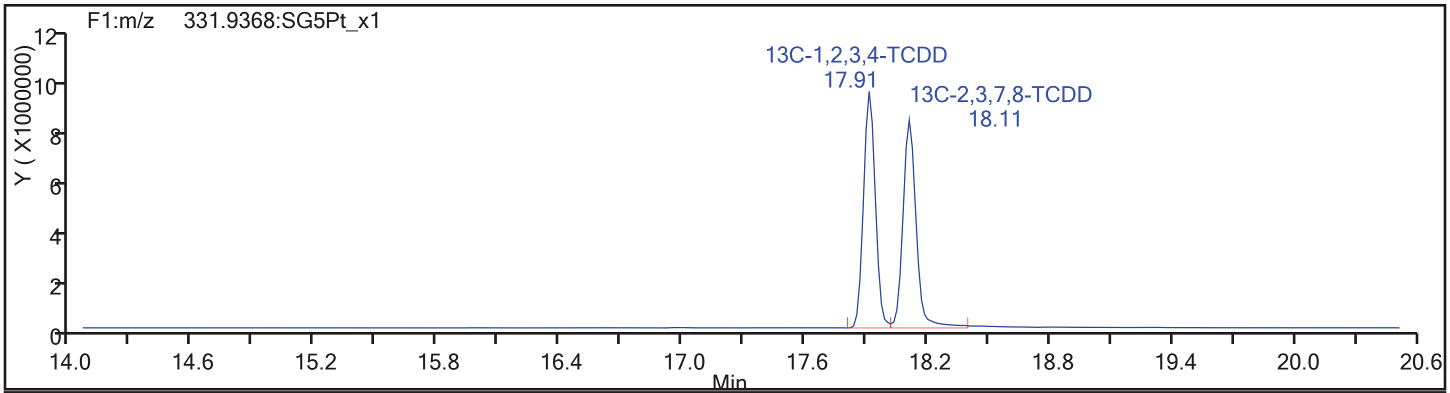
Column Type:	DB-5	Column Dia:	0.32 mm

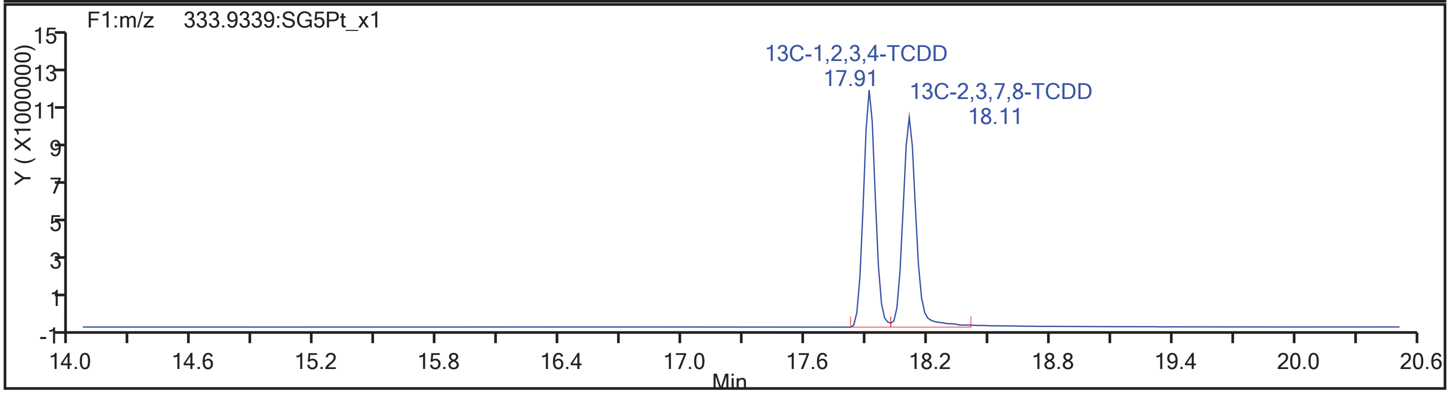
TCDD





TCDD Standards





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Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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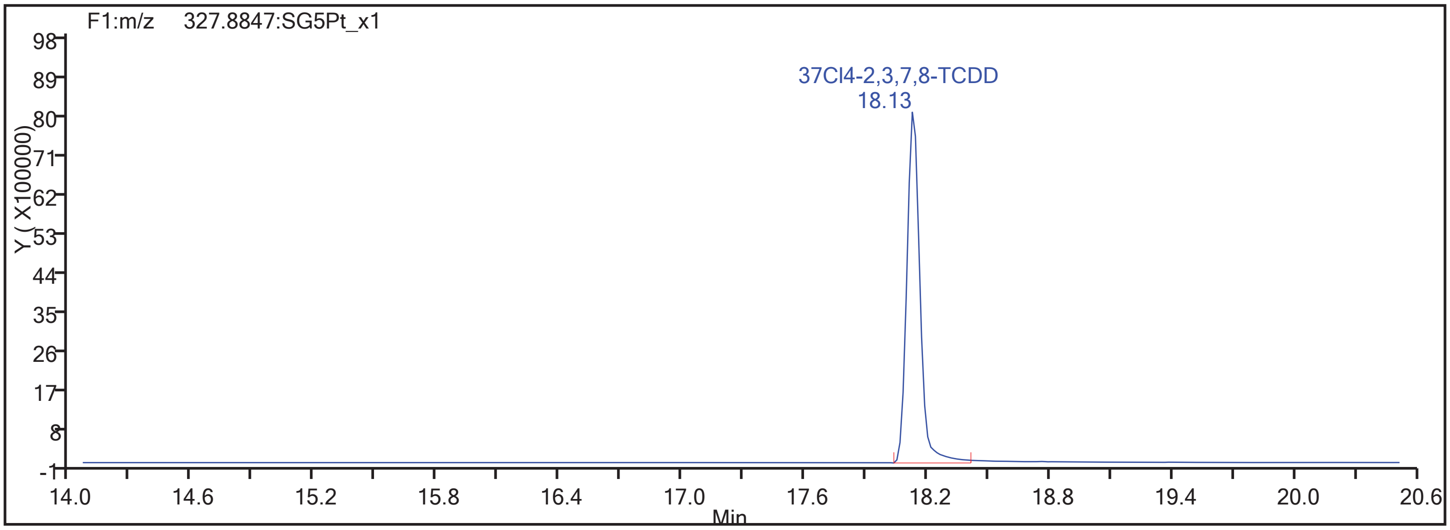
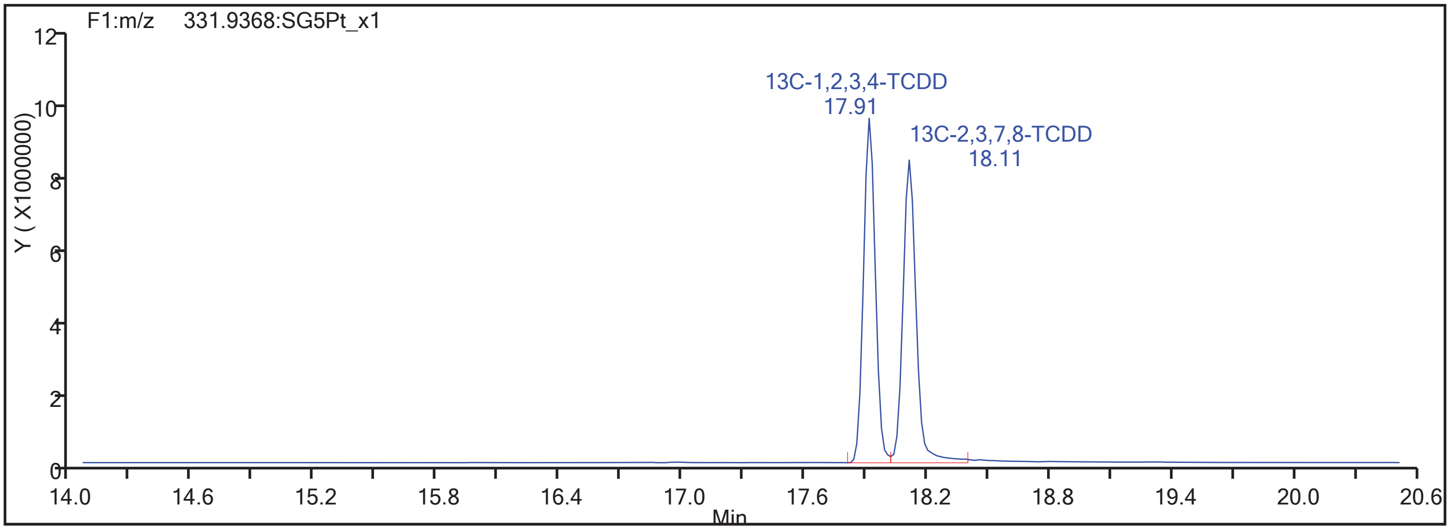
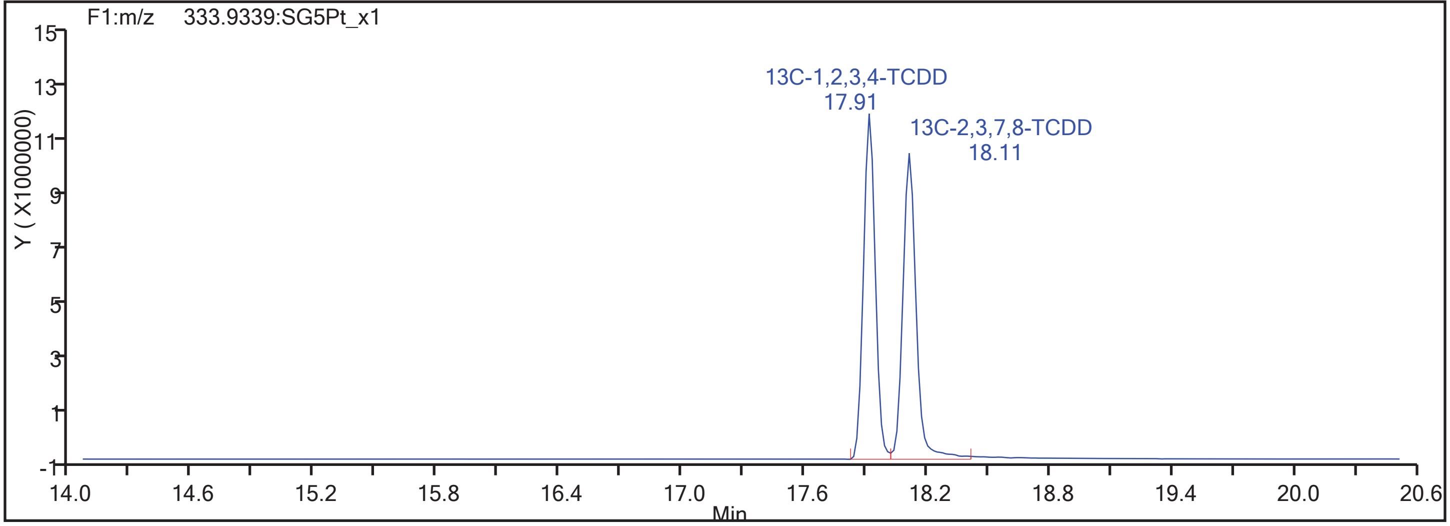
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 13-Oct-2017 10:56:10 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d		
Injection Date:	13-Oct-2017 03:12:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
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Client ID:			
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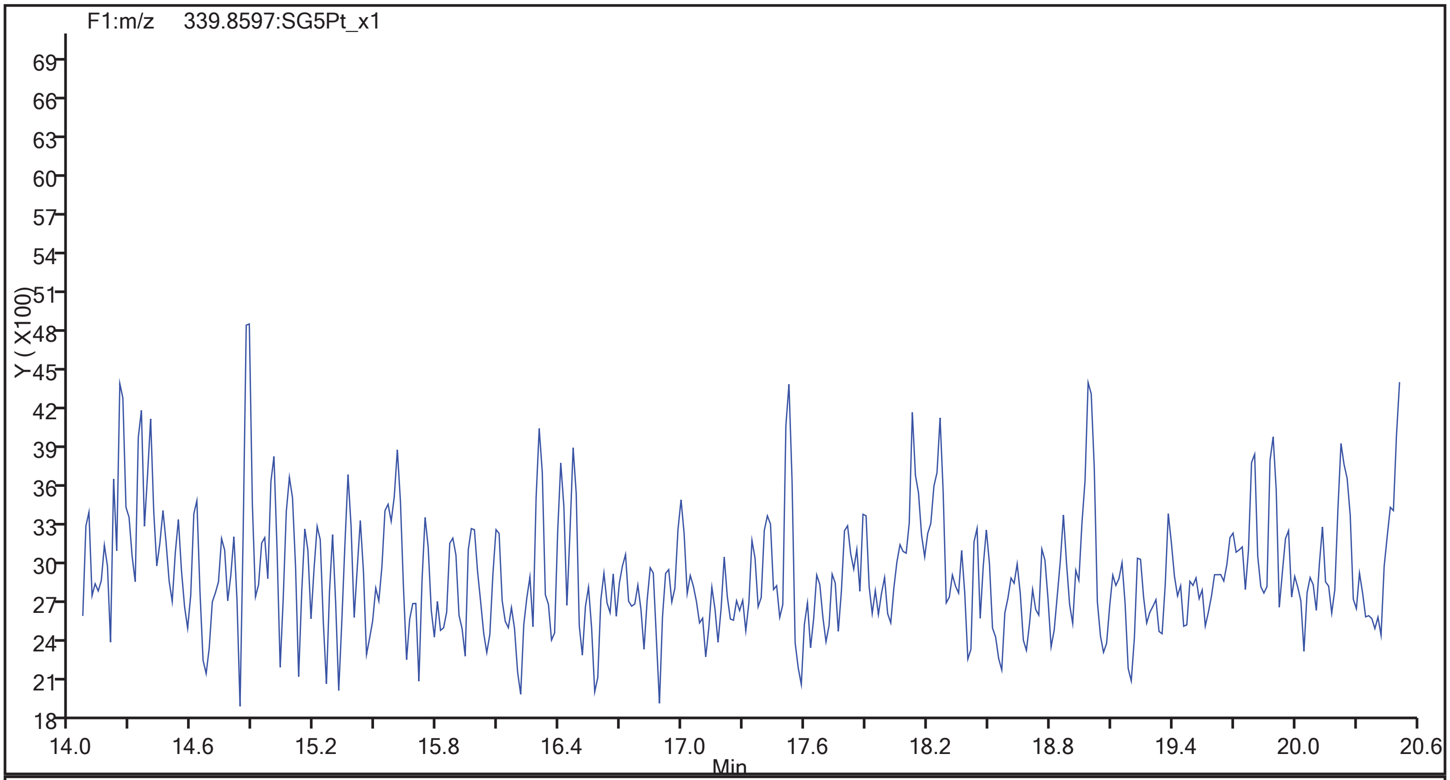
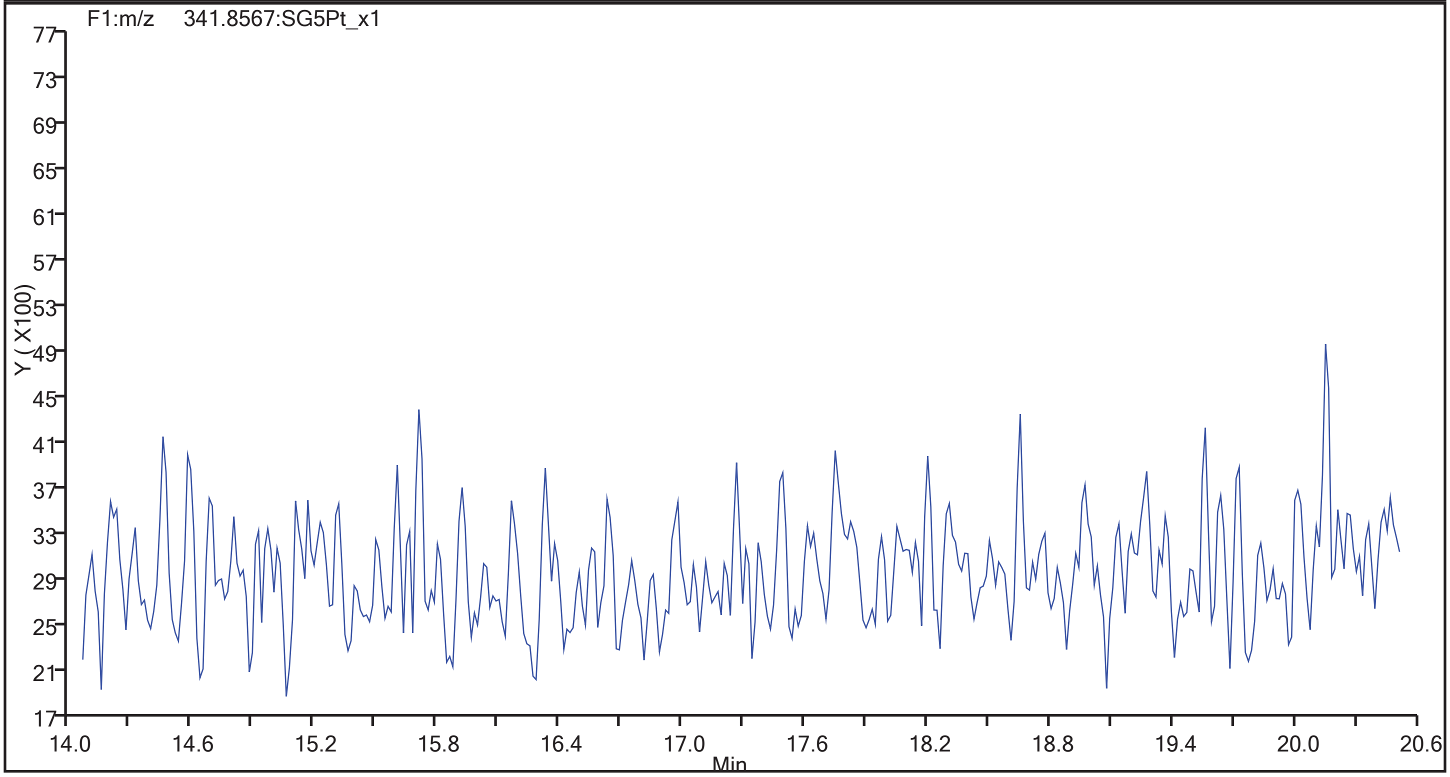
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





TestAmerica Sacramento

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Instrument ID:	10D5	Operator ID:	ALM, SMA
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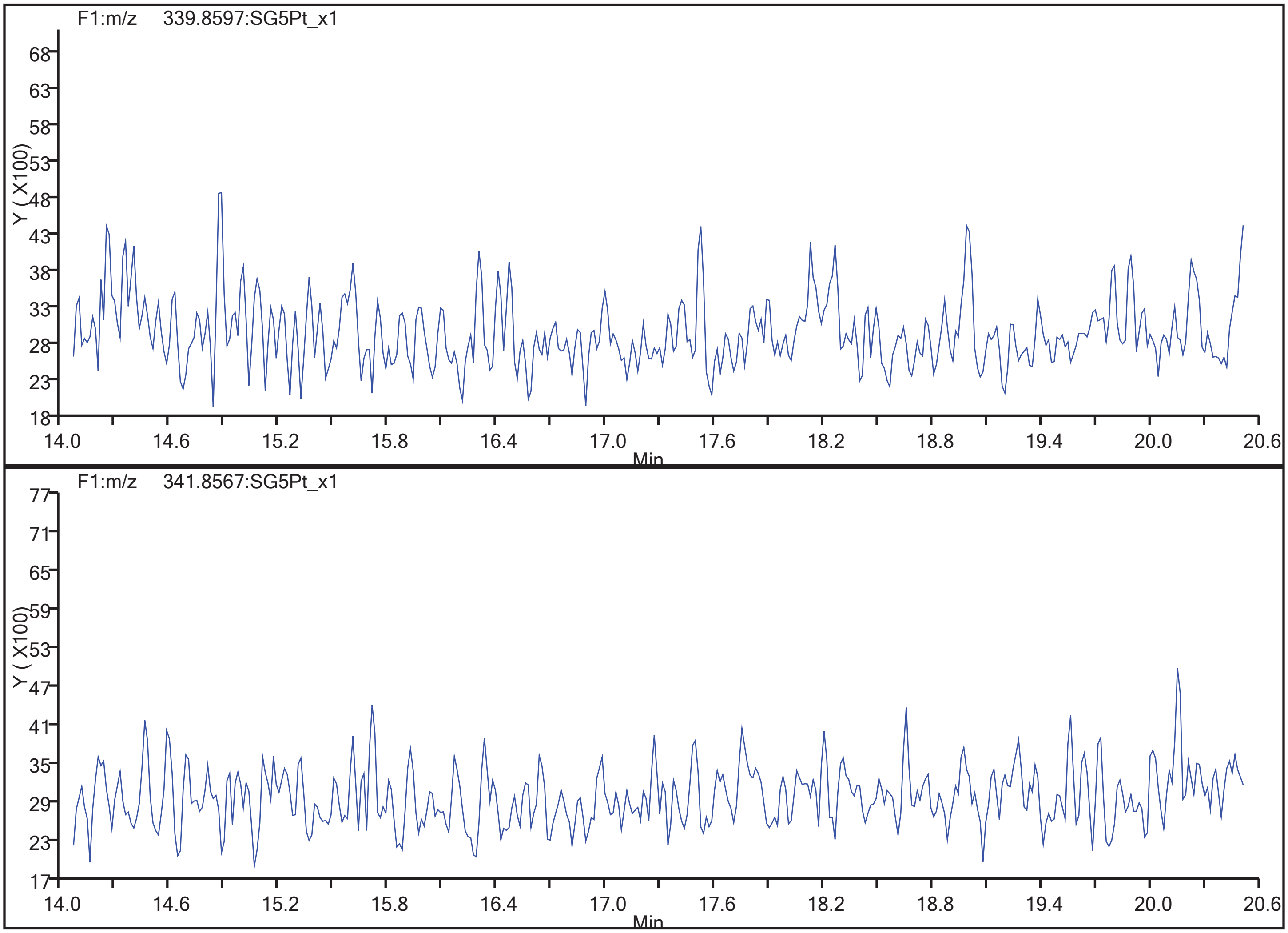
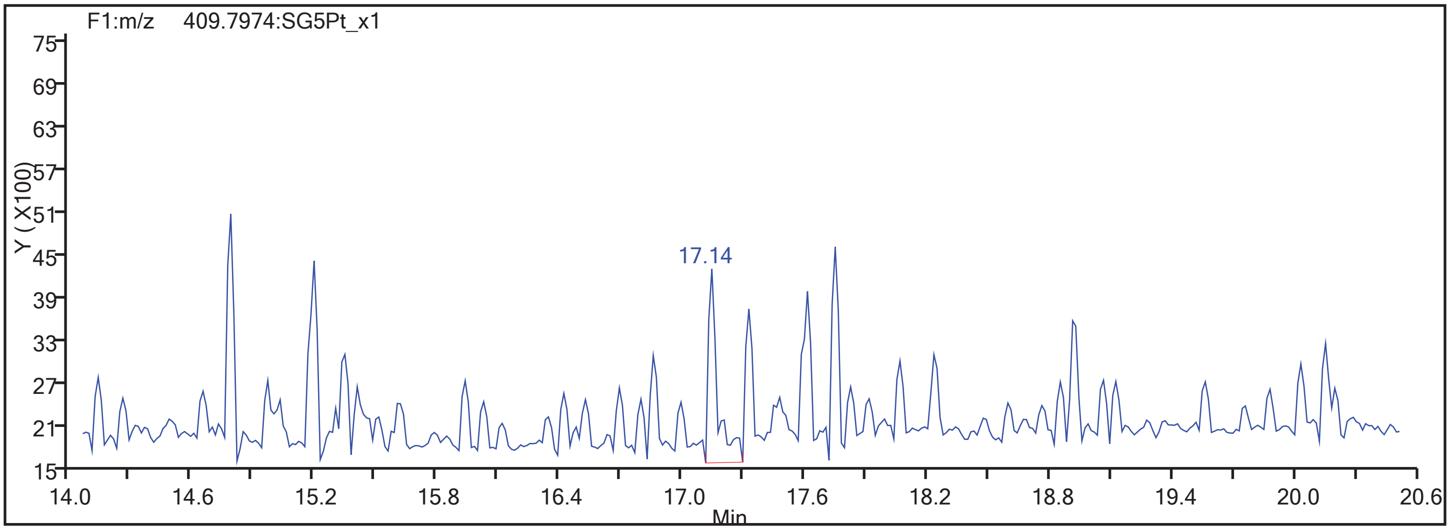
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



F1 PeCDFs Interference Mass



Report Date: 13-Oct-2017 10:56:10 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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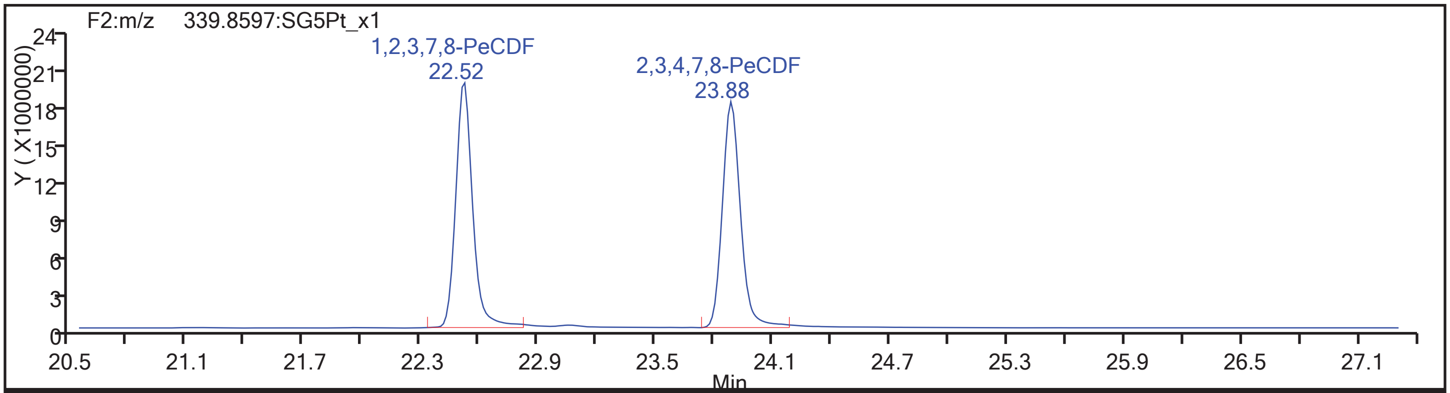
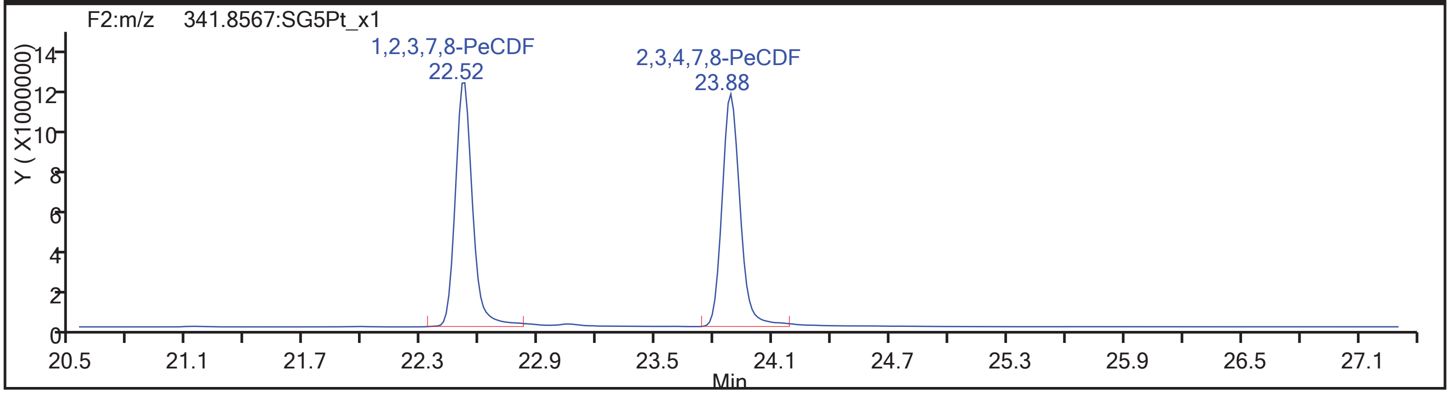
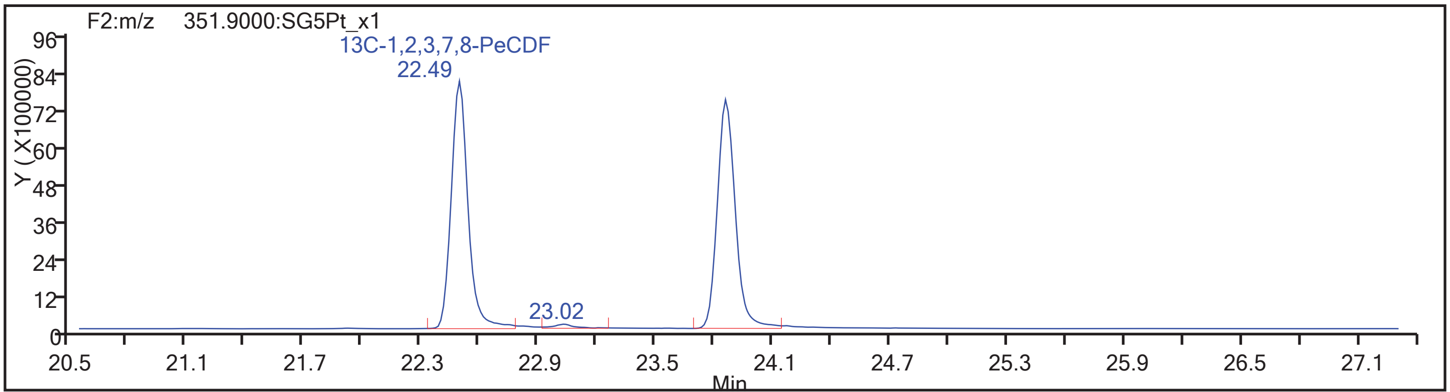
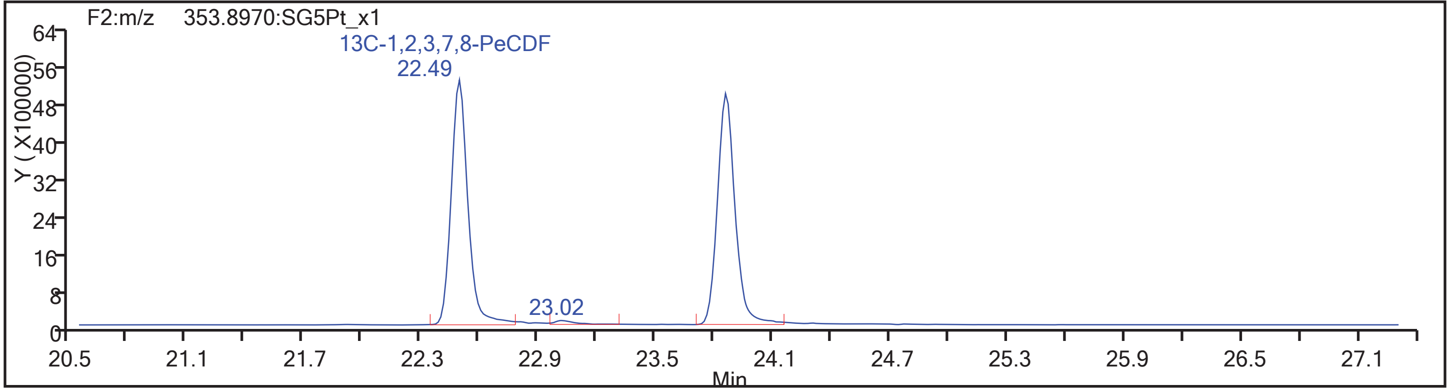
PeCDF





PeCDF Standards





TestAmerica Sacramento

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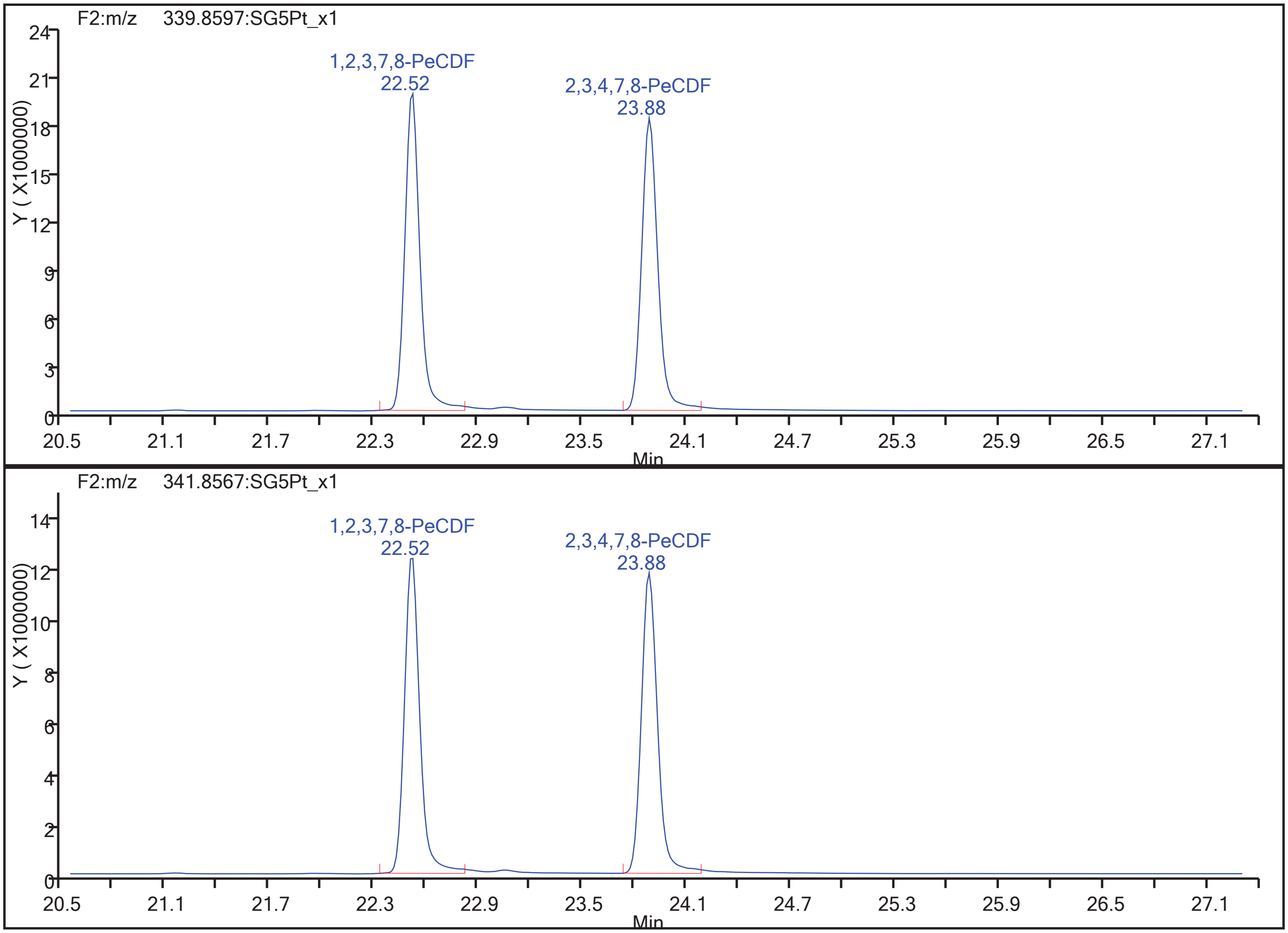
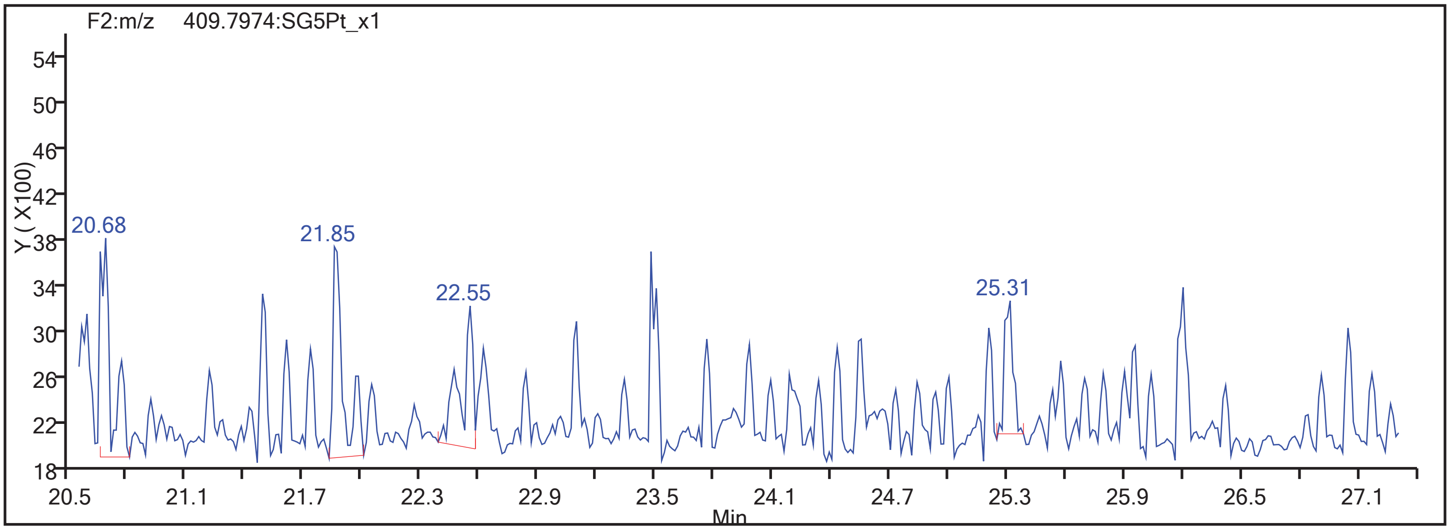
PeCDF



PeCDF Interference Mass

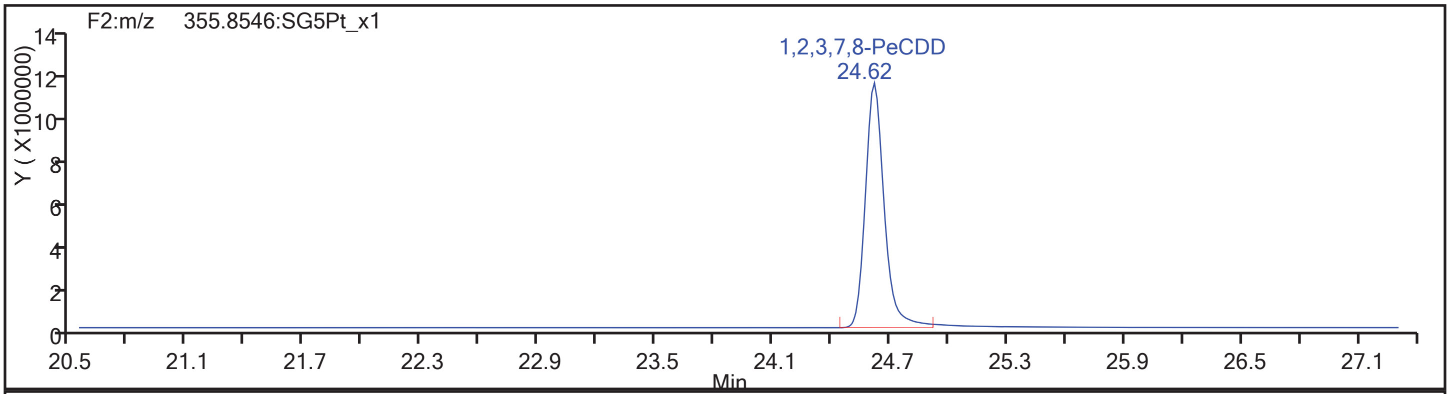


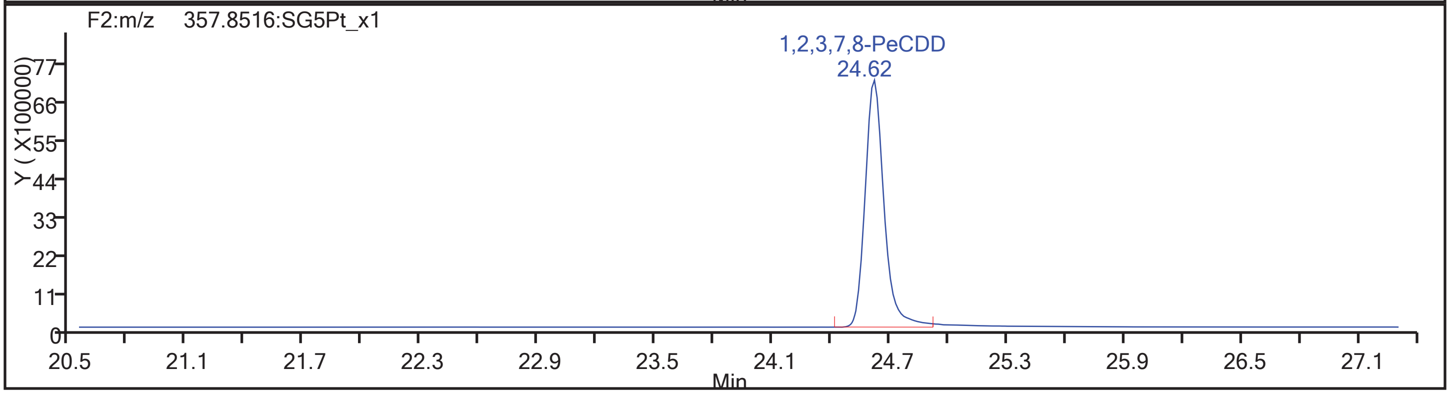
Report Date: 13-Oct-2017 10:56:10 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

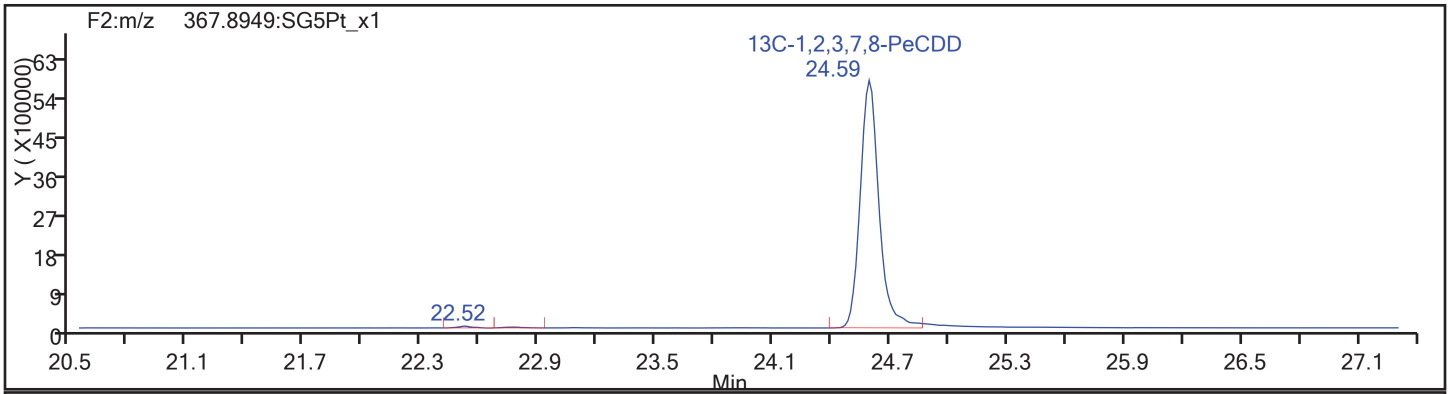
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d
Injection Date: 13-Oct-2017 03:12:53 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: ALM, SMA
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155 Sample Line#: 6
Column Type: DB-5 Column Dia: 0.32 mm

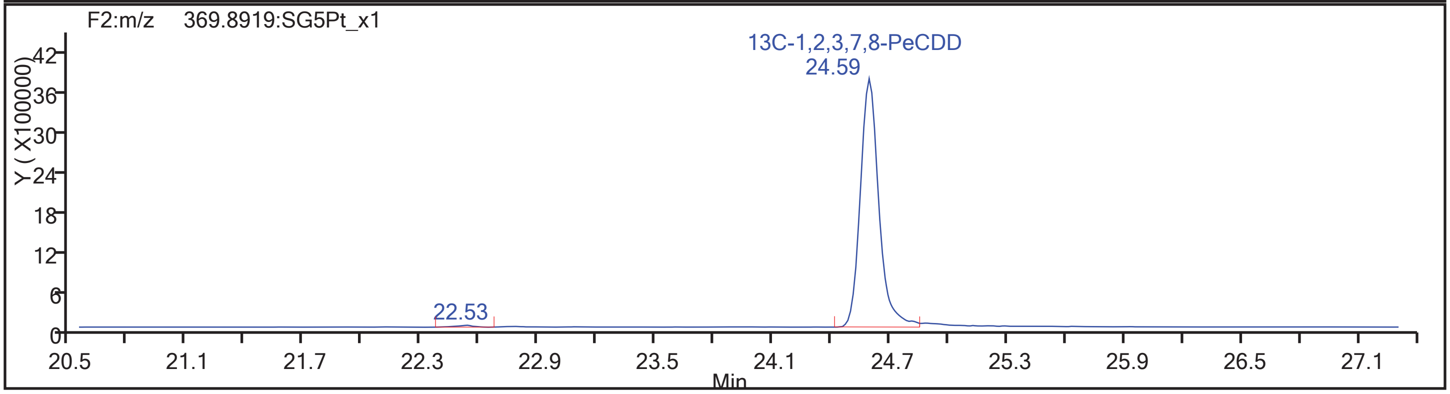
PeCDD





PeCDD Standards





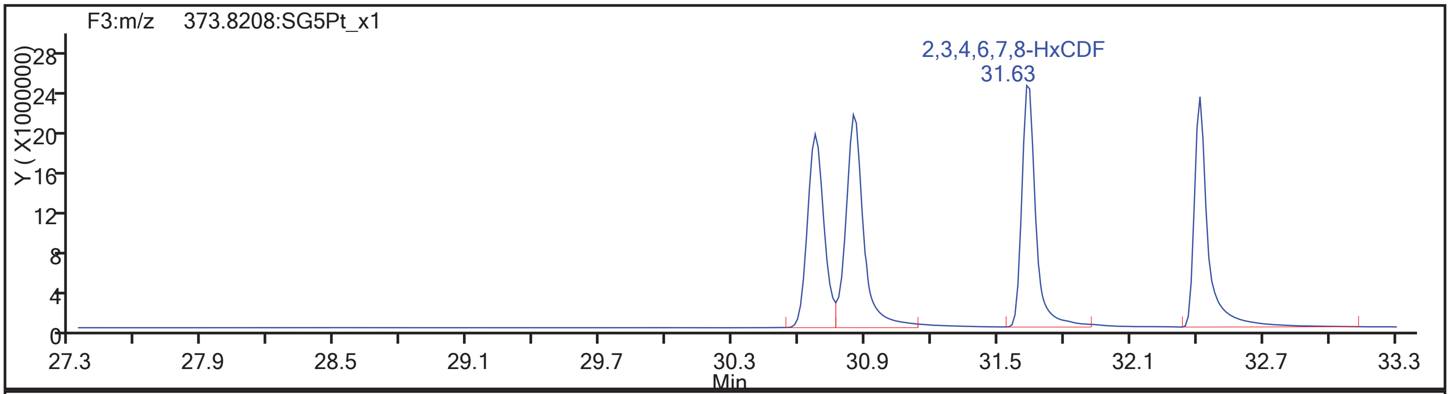
Report Date: 13-Oct-2017 10:56:11 Chrom Revision: 2.2 10-Oct-2017 10:31:20

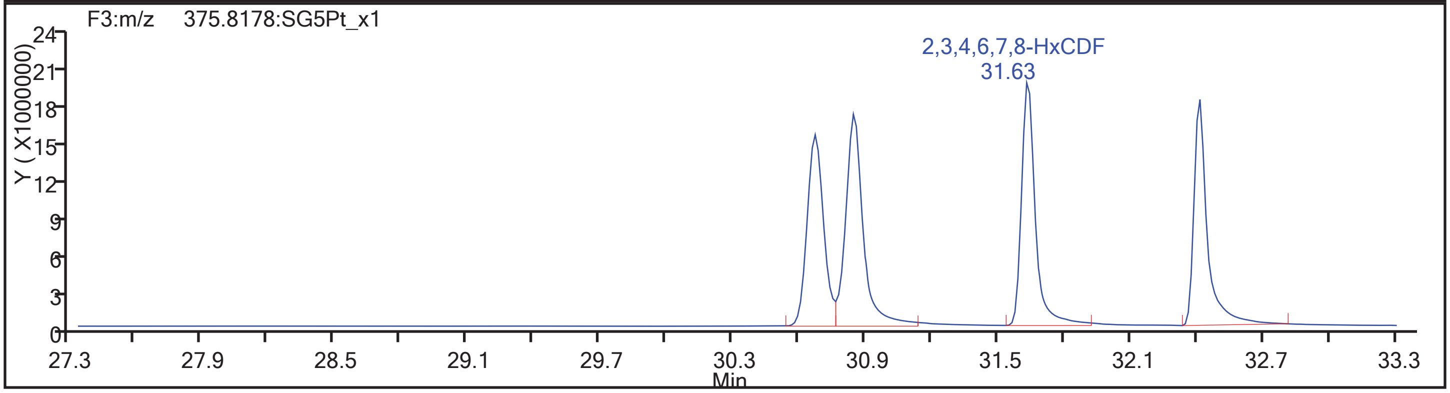
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

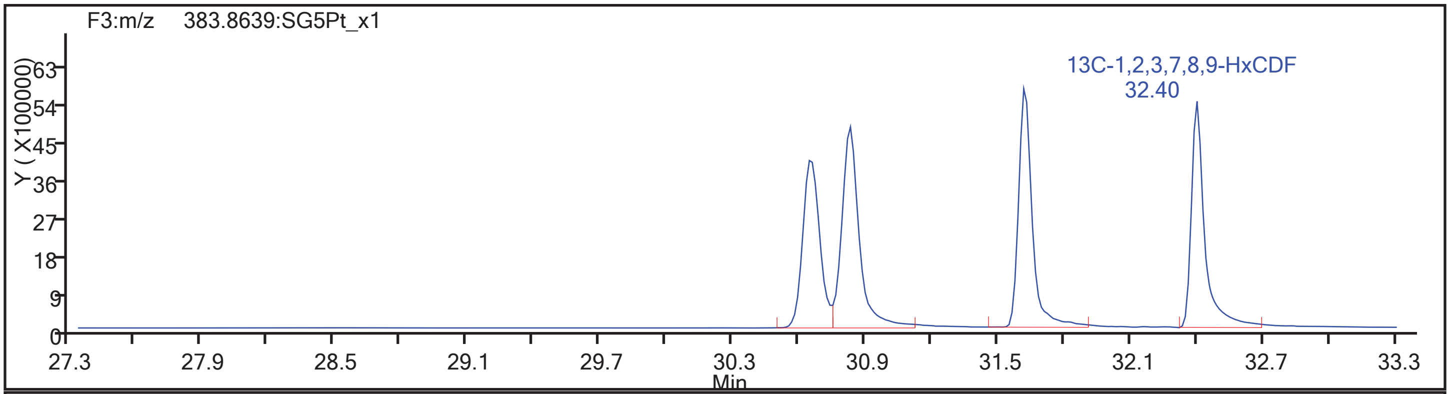
Injection Date:	13-Oct-2017 03:12:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

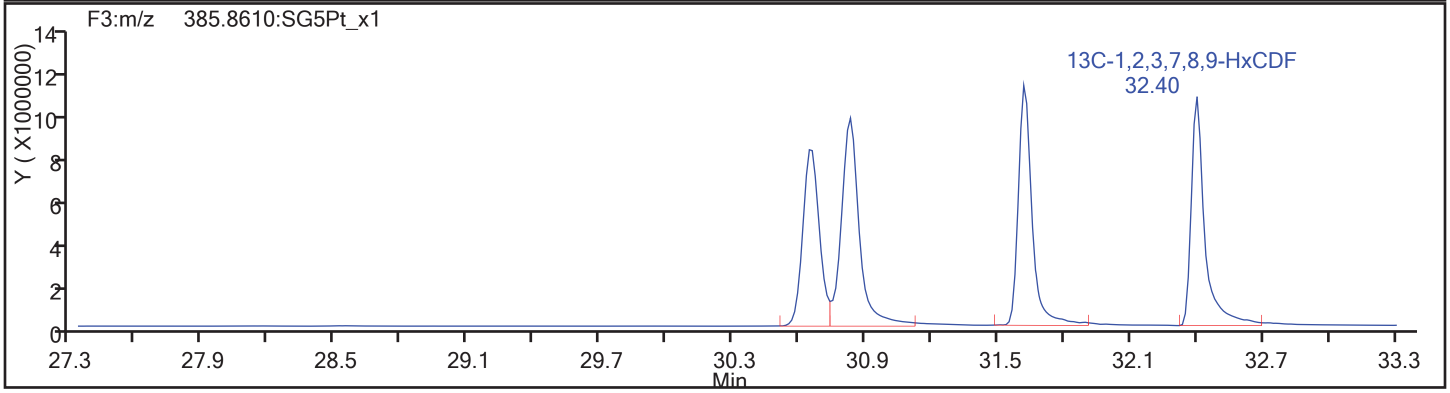
HxCDF





HxCDF Standards





Report Date: 13-Oct-2017 10:56:11 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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Injection Date: 13-Oct-2017 03:12:53 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: ALM, SMA
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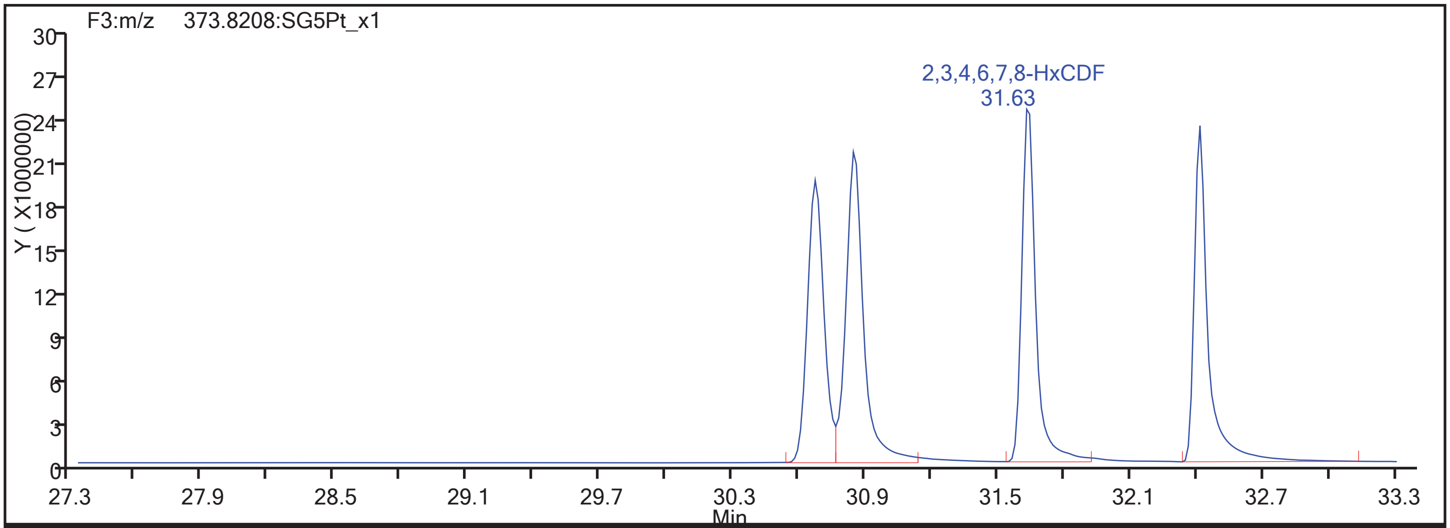
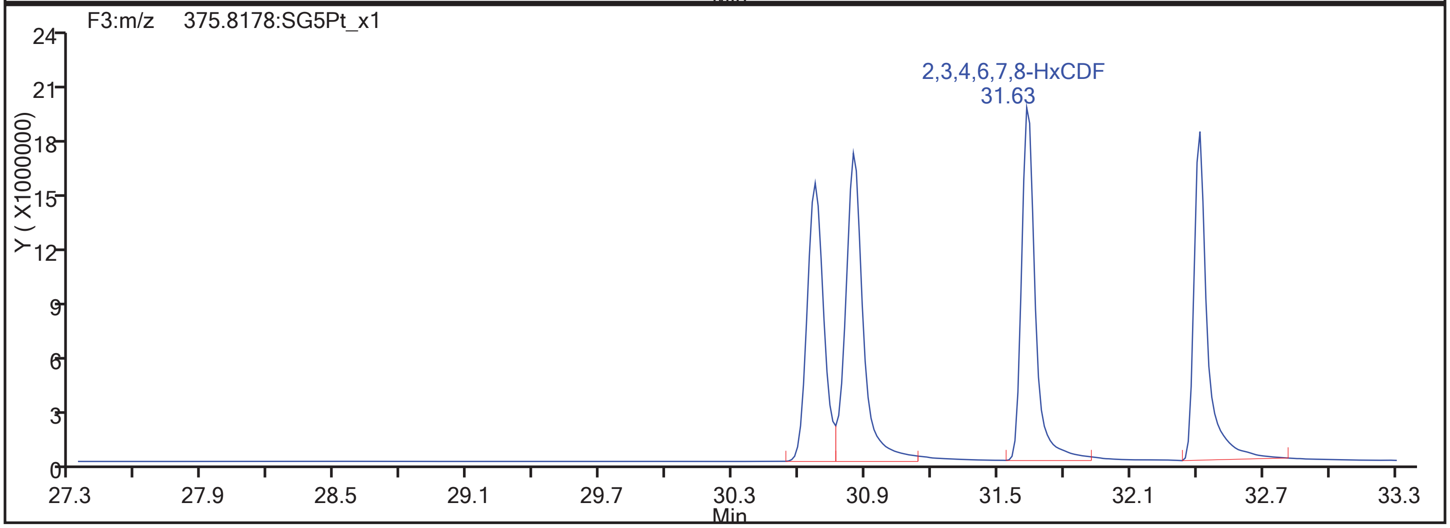
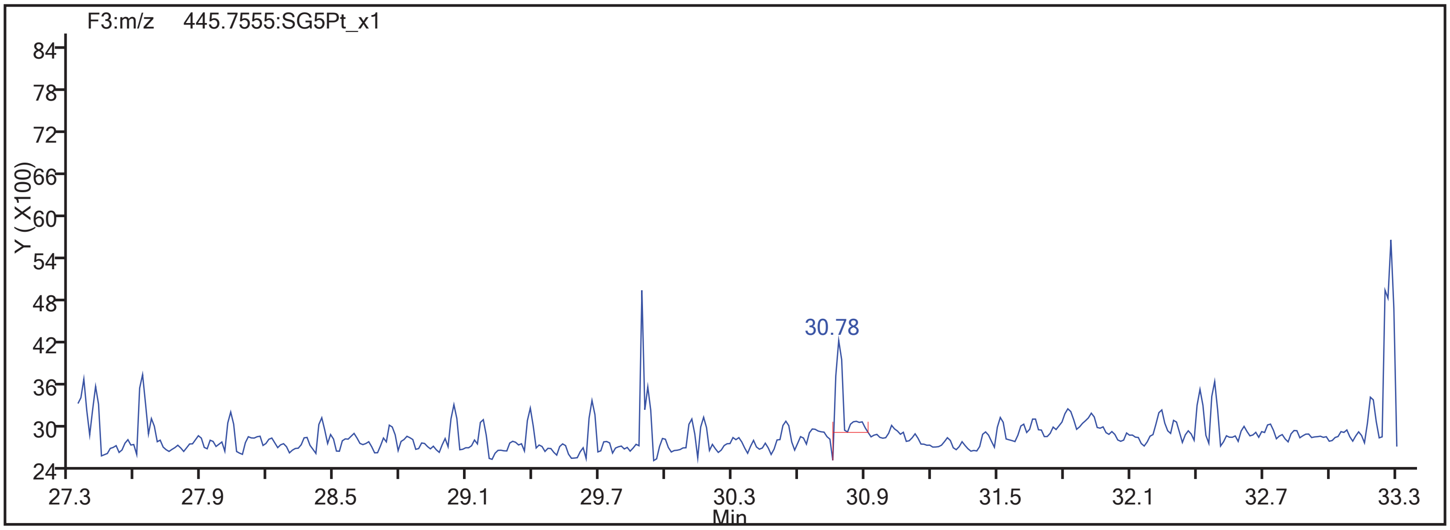
HxCDF





HxCDF Interference Mass



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TestAmerica Sacramento

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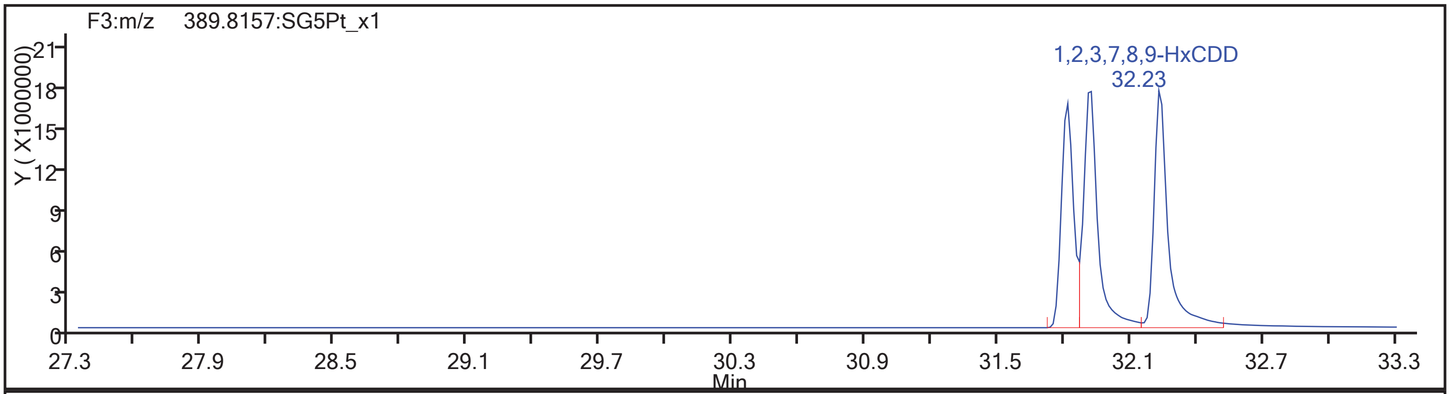
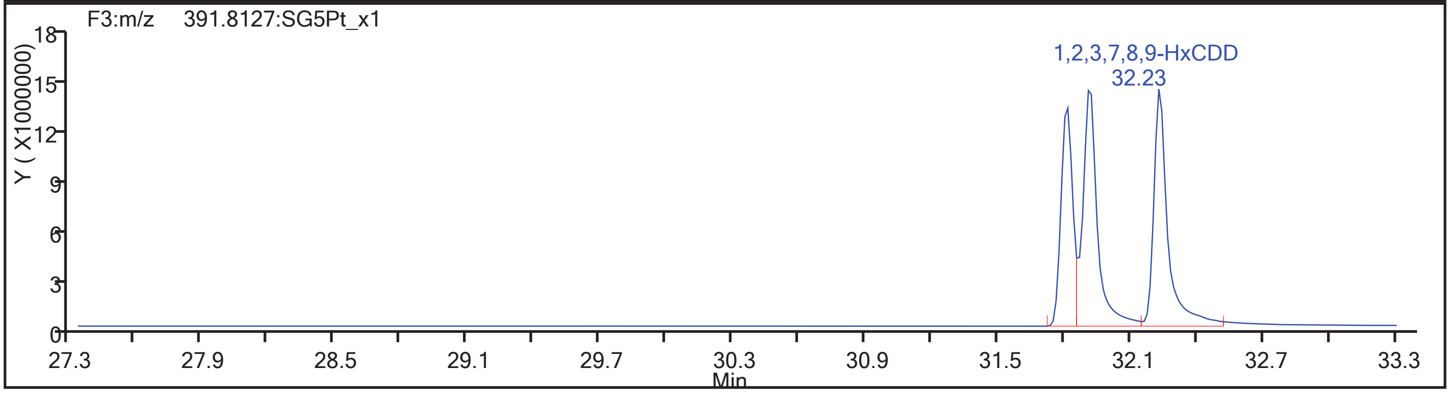
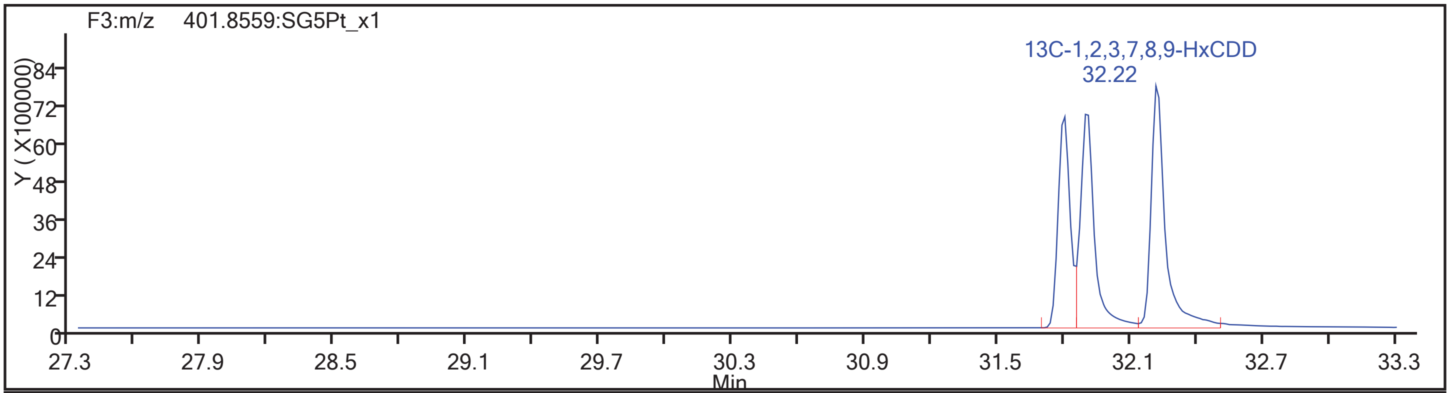
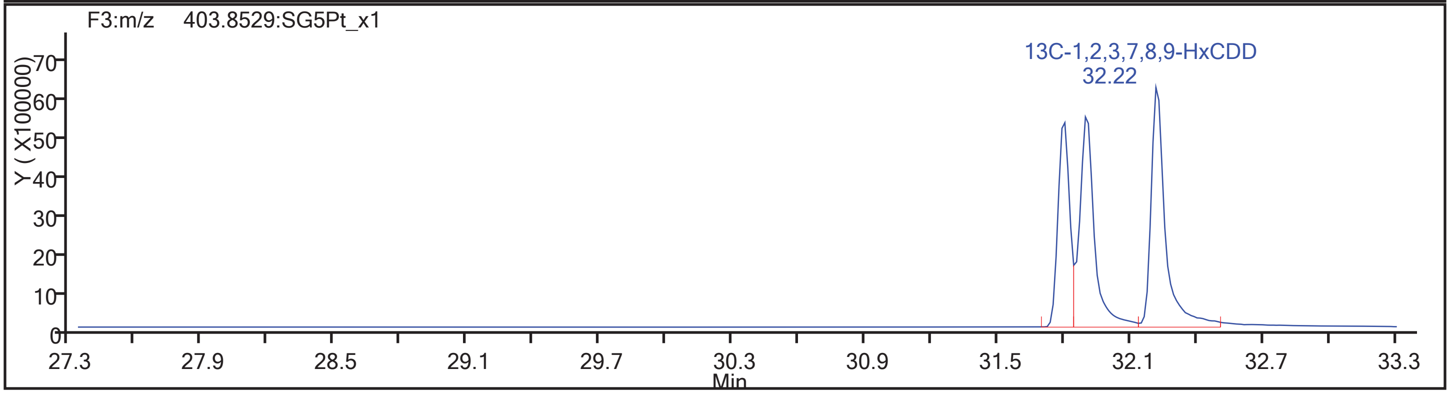
HxCDD





HxCDD Standards





Report Date: 13-Oct-2017 10:56:11 Chrom Revision: 2.2 10-Oct-2017 10:31:20
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d		
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Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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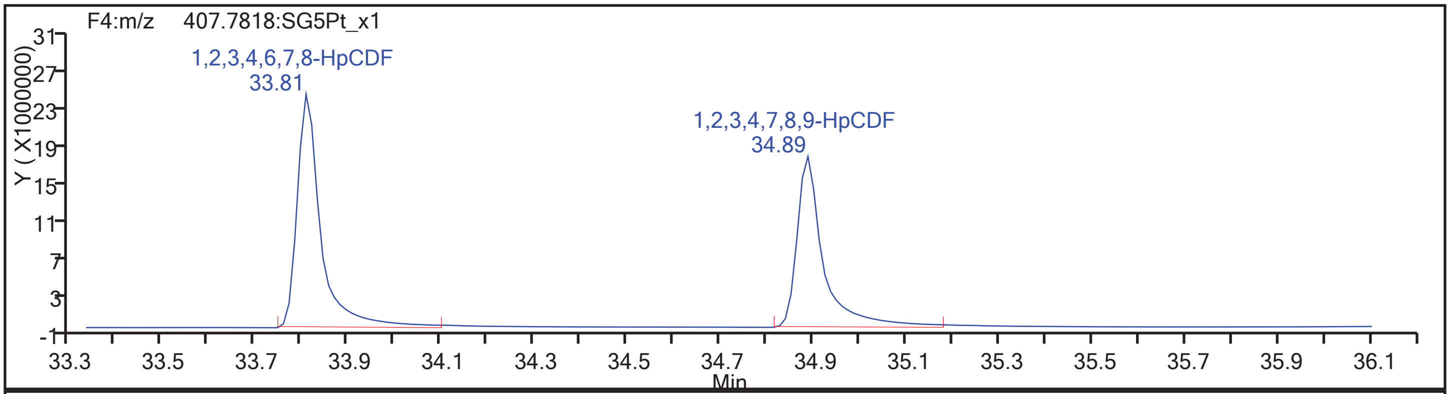
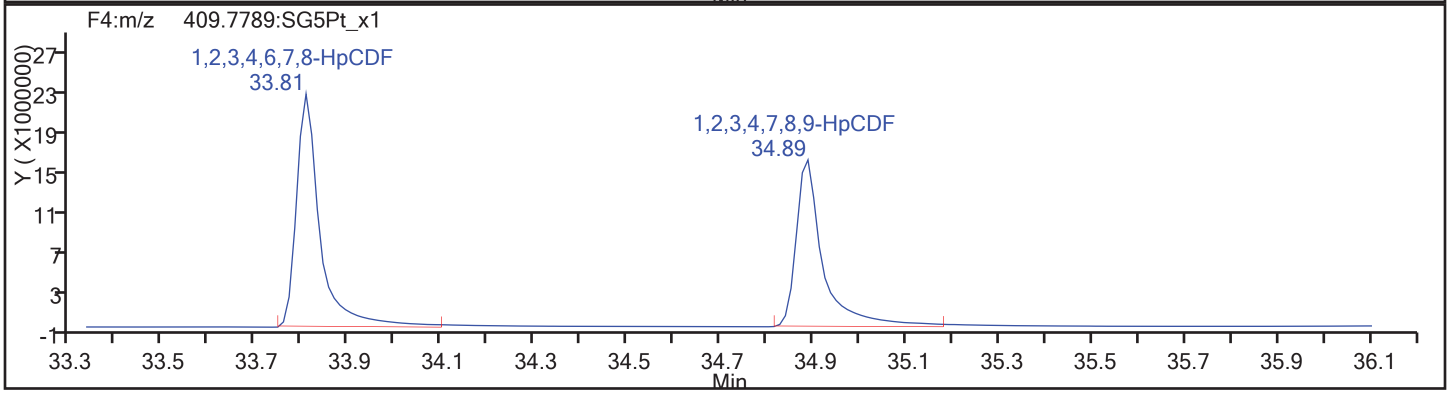
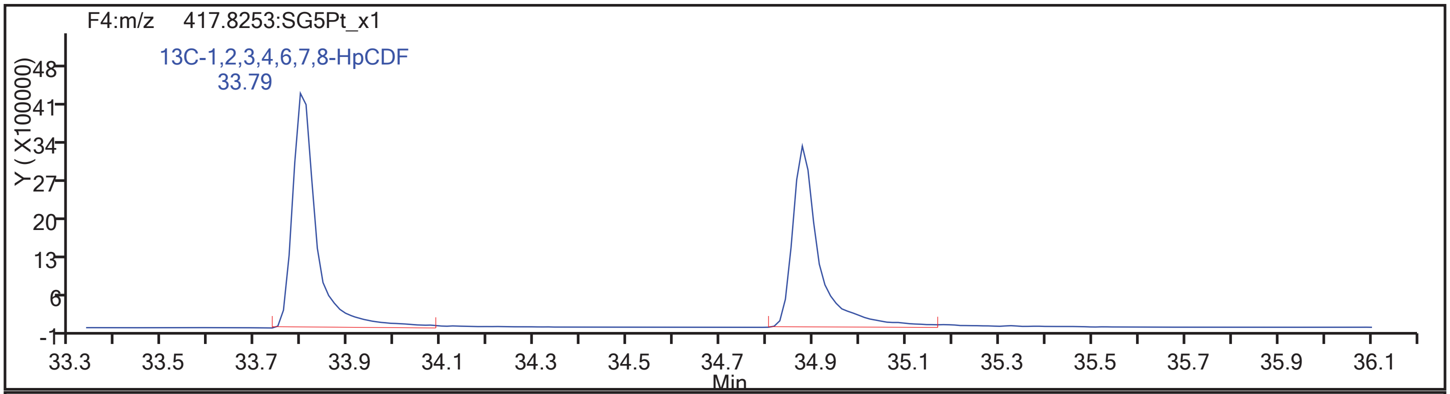
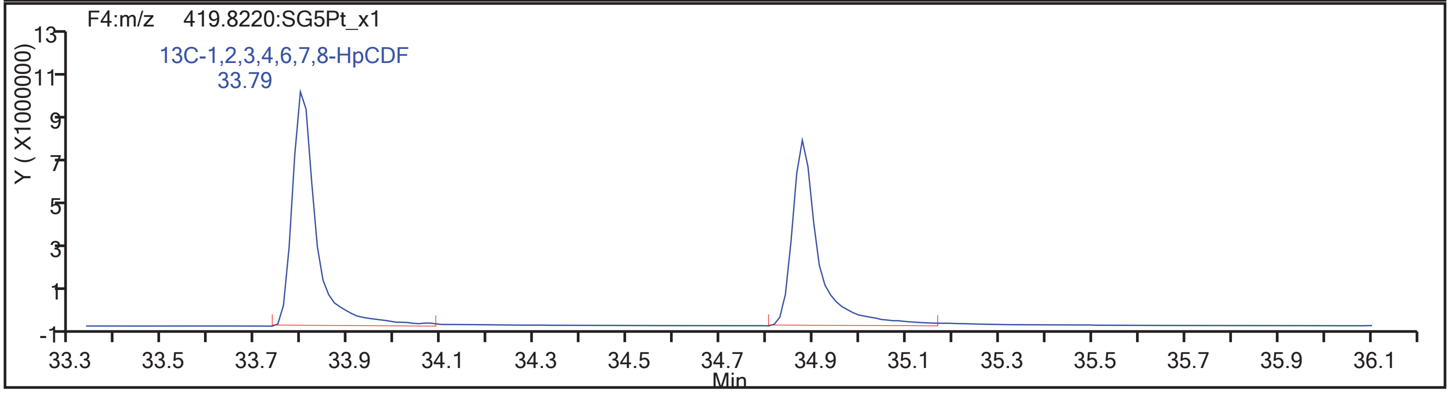
HpCDF





HpCDF Standards





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TestAmerica Sacramento

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Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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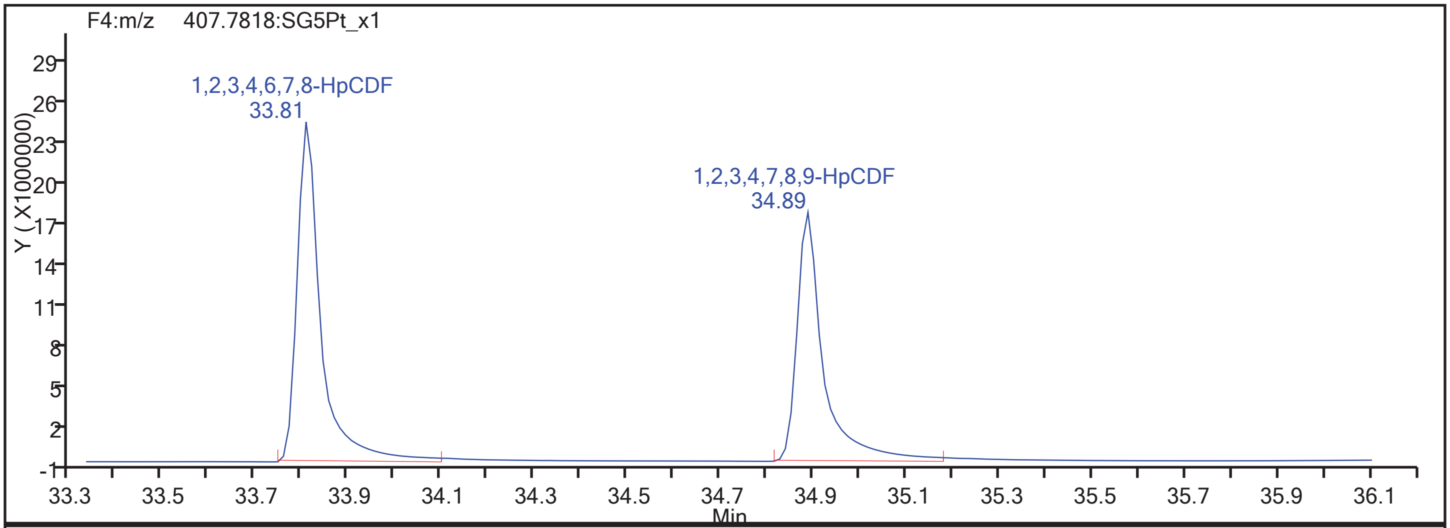
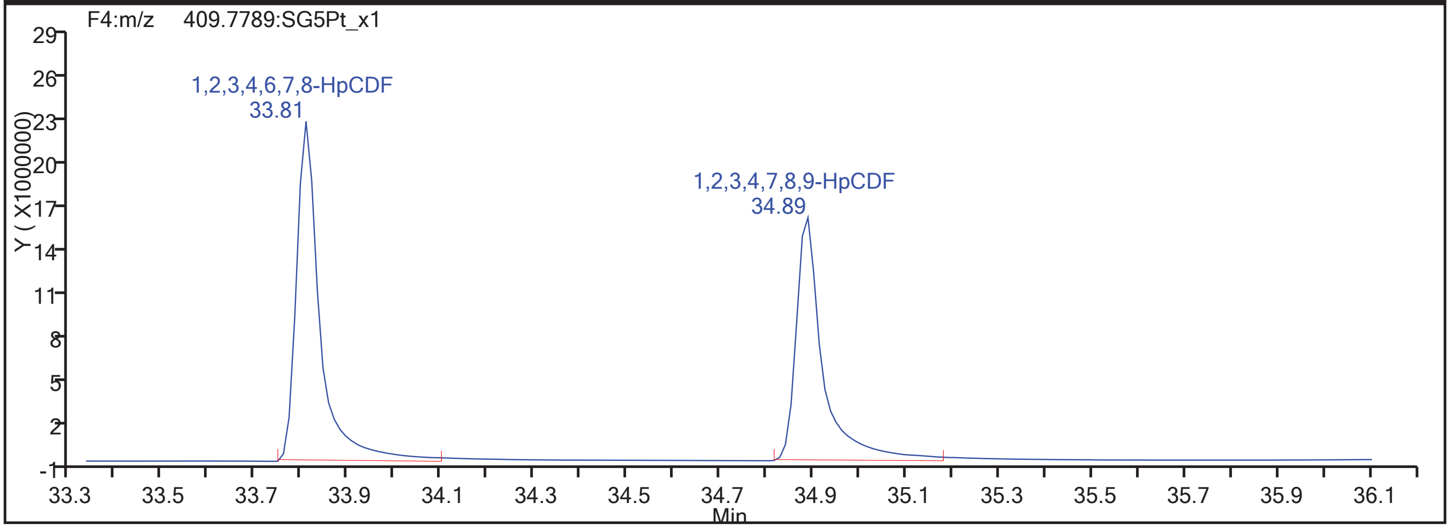
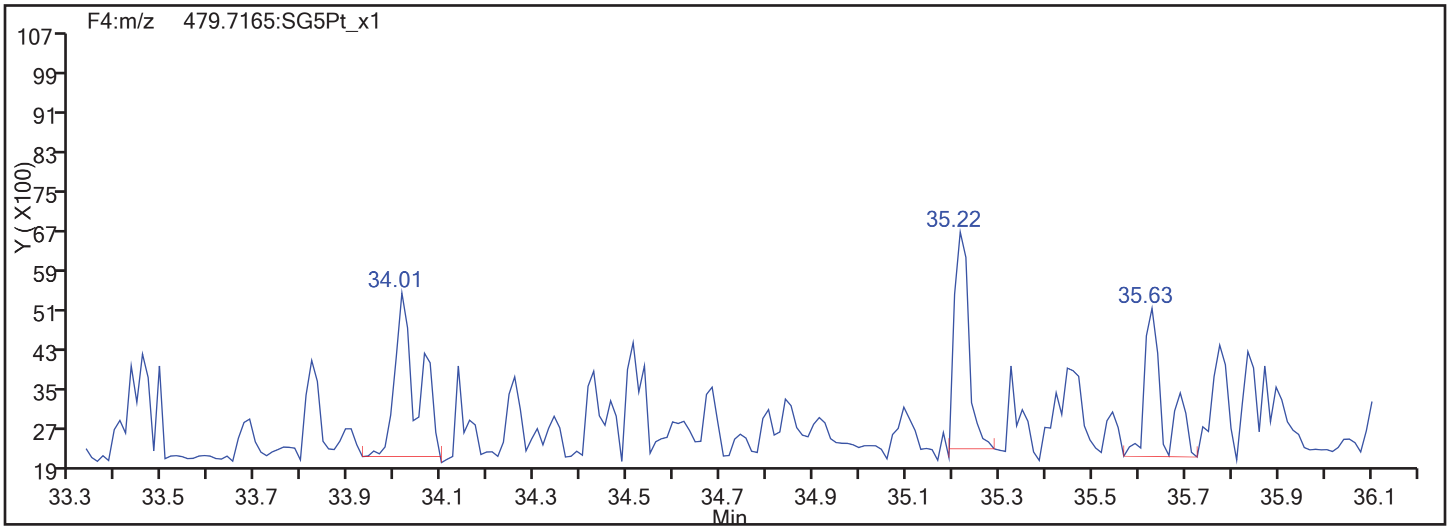
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass

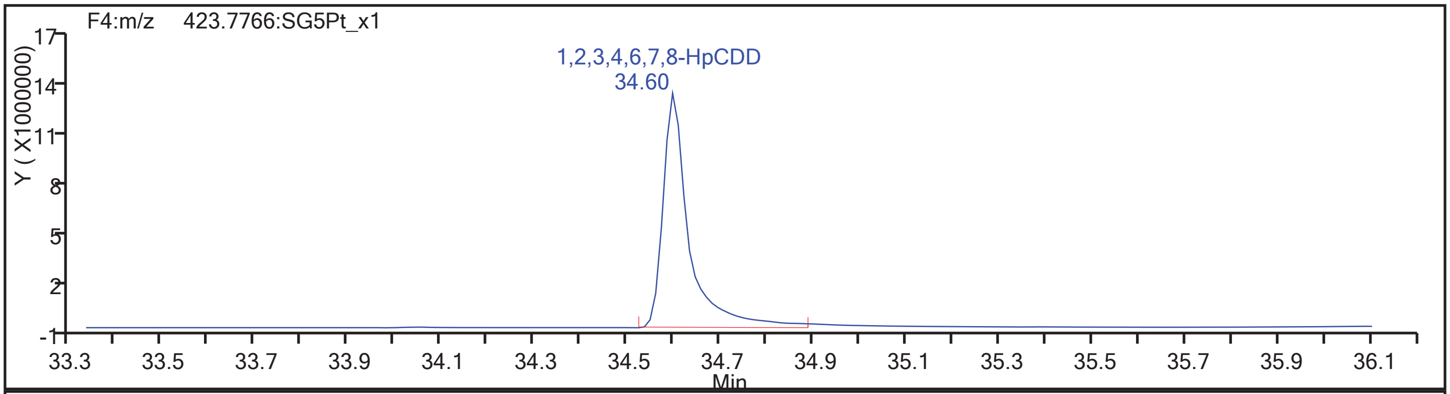


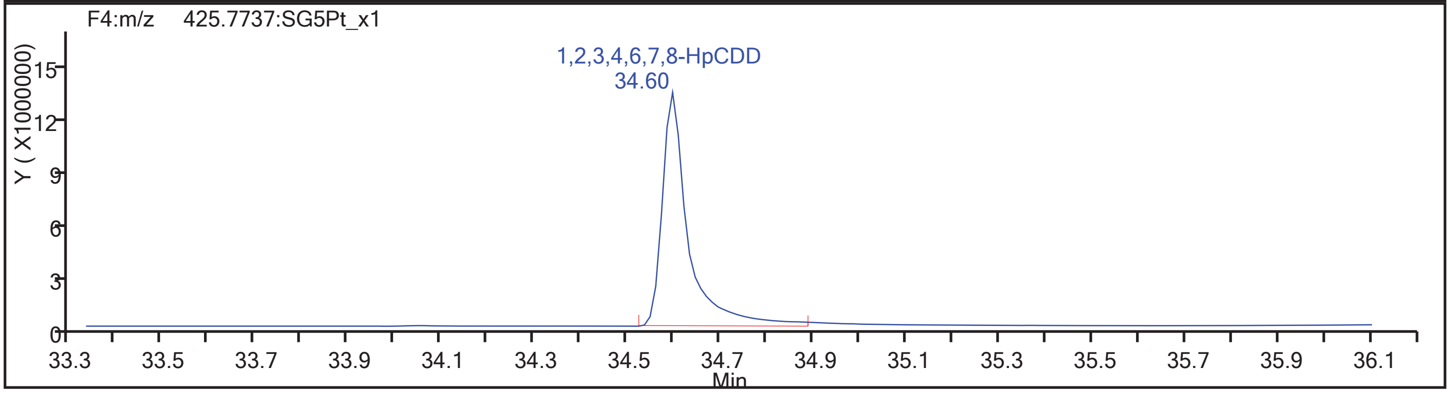
Report Date: 13-Oct-2017 10:56:11 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

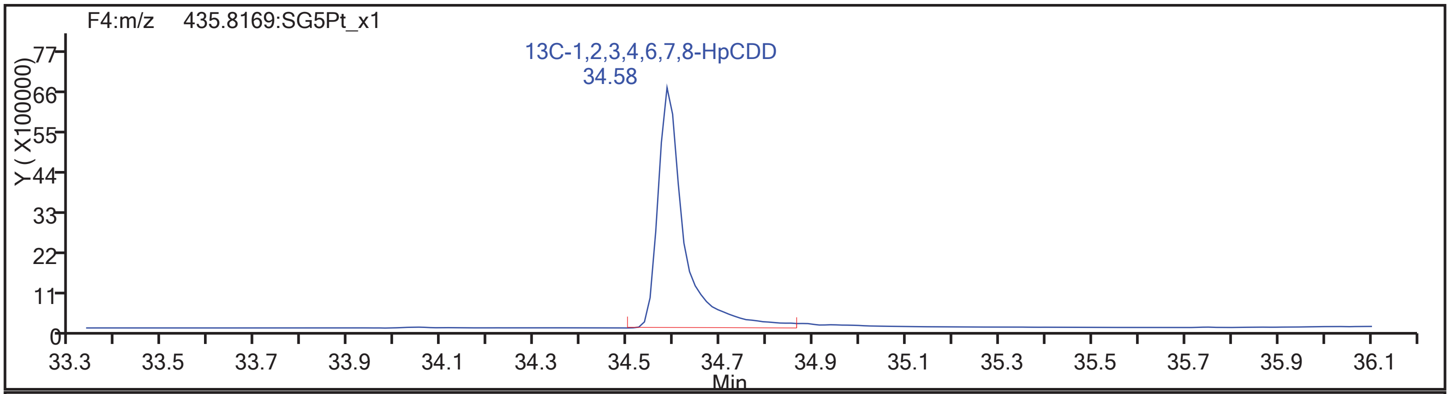
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d
Injection Date: 13-Oct-2017 03:12:53
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 6
Column Type: DB-5
Column Dia: 0.32 mm

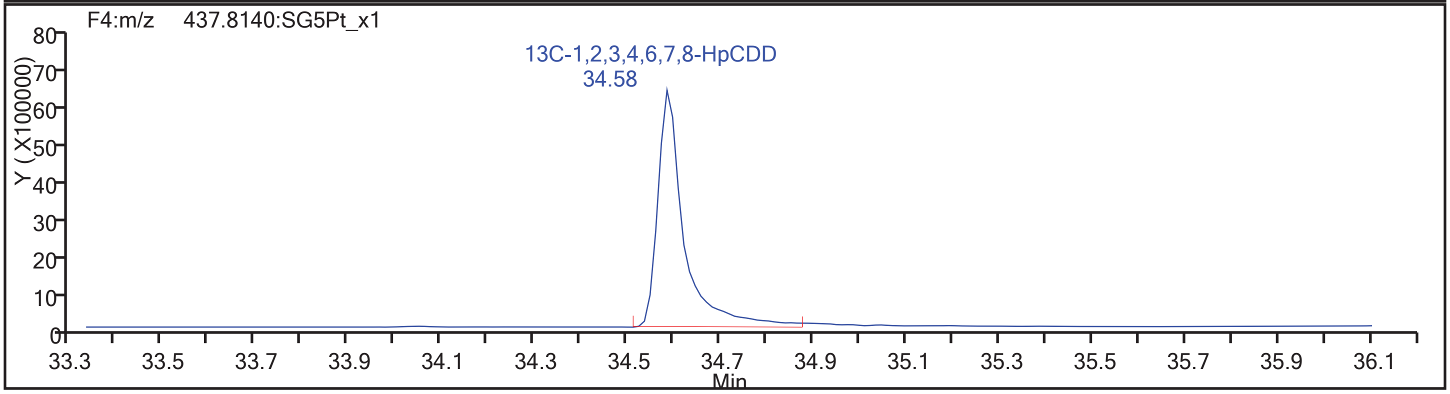
HpCDD





HpCDD Standards





Report Date: 13-Oct-2017 10:56:11 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Injection Date: 13-Oct-2017 03:12:53

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: ALM, SMA

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

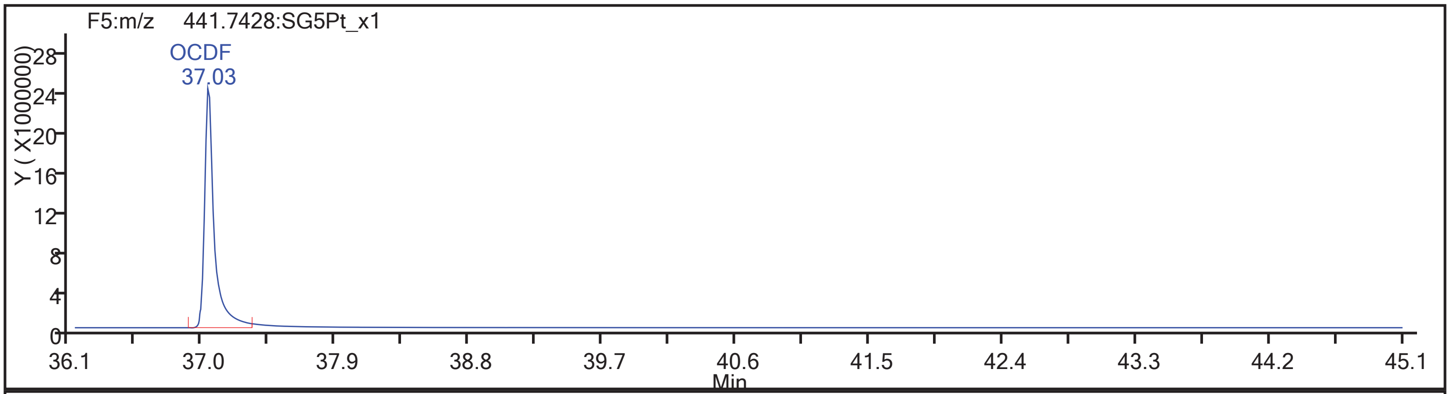
Worklist#: 189155

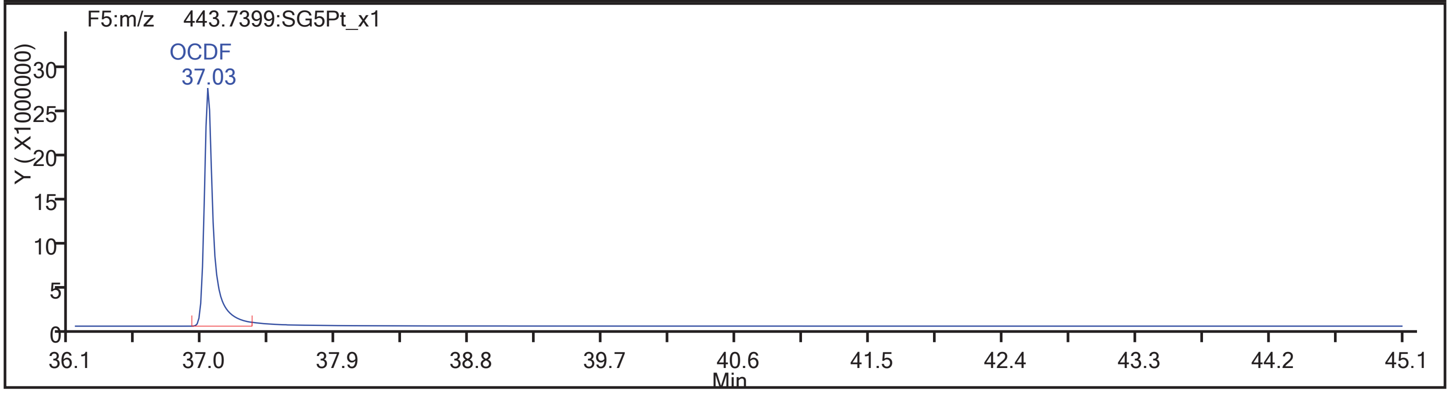
Sample Line#: 6

Column Type: DB-5

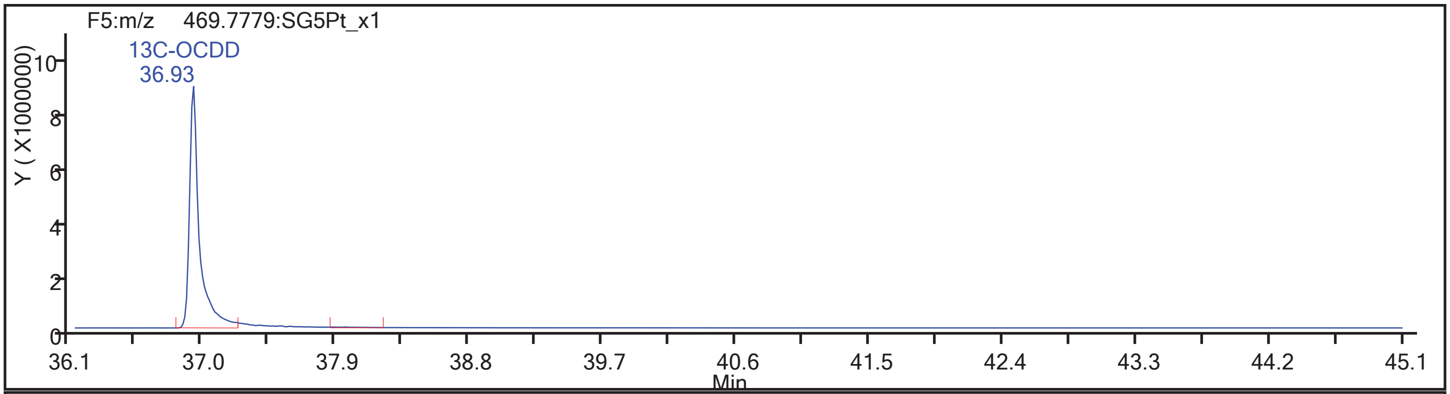
Column Dia: 0.32 mm

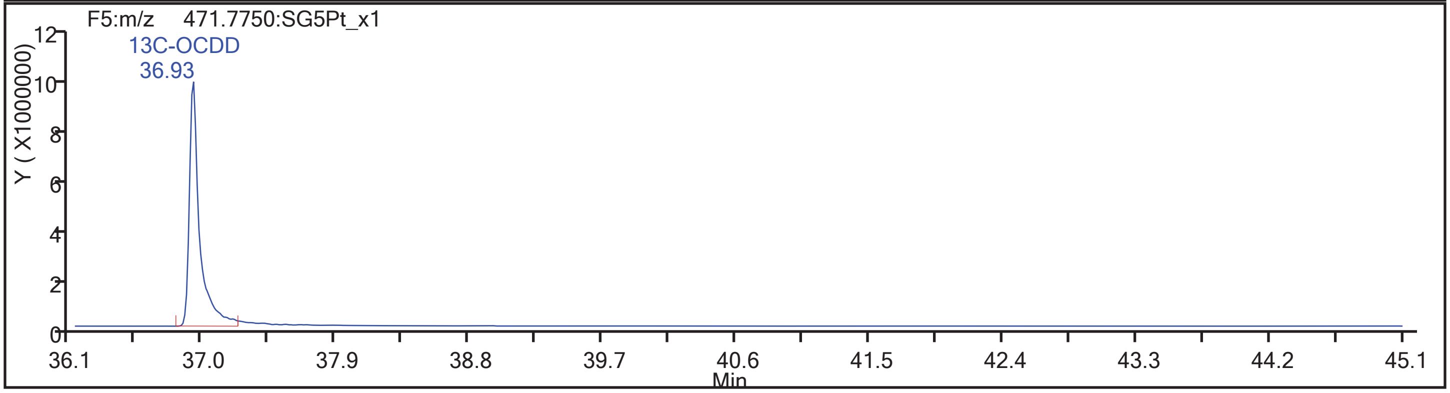
OCDF





OCDF Standards



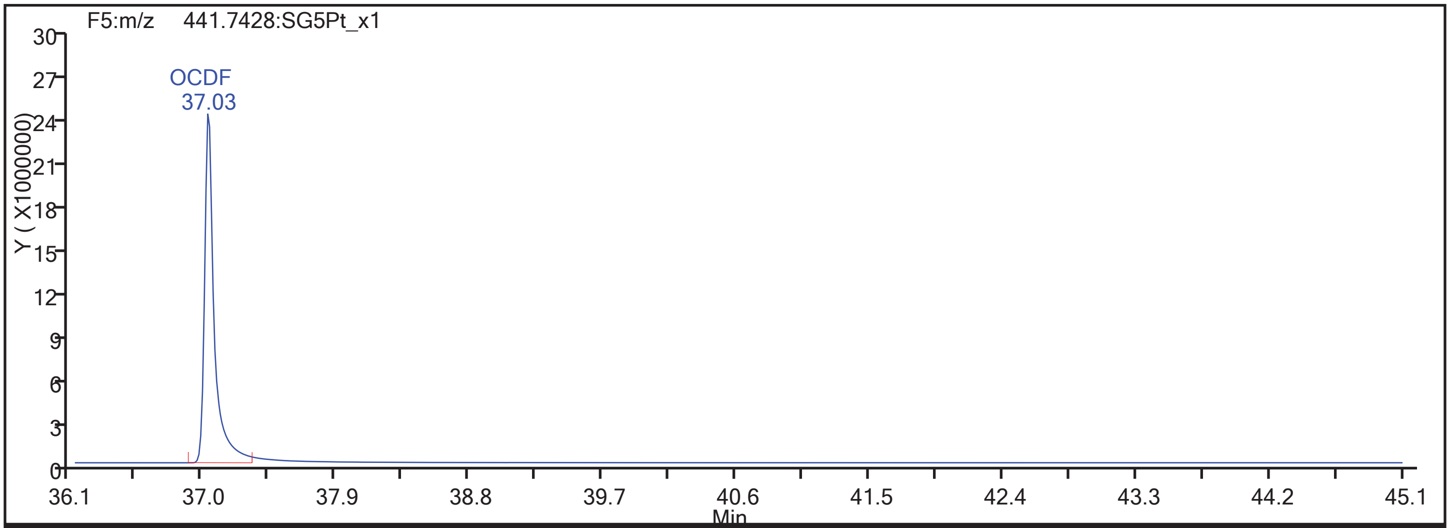


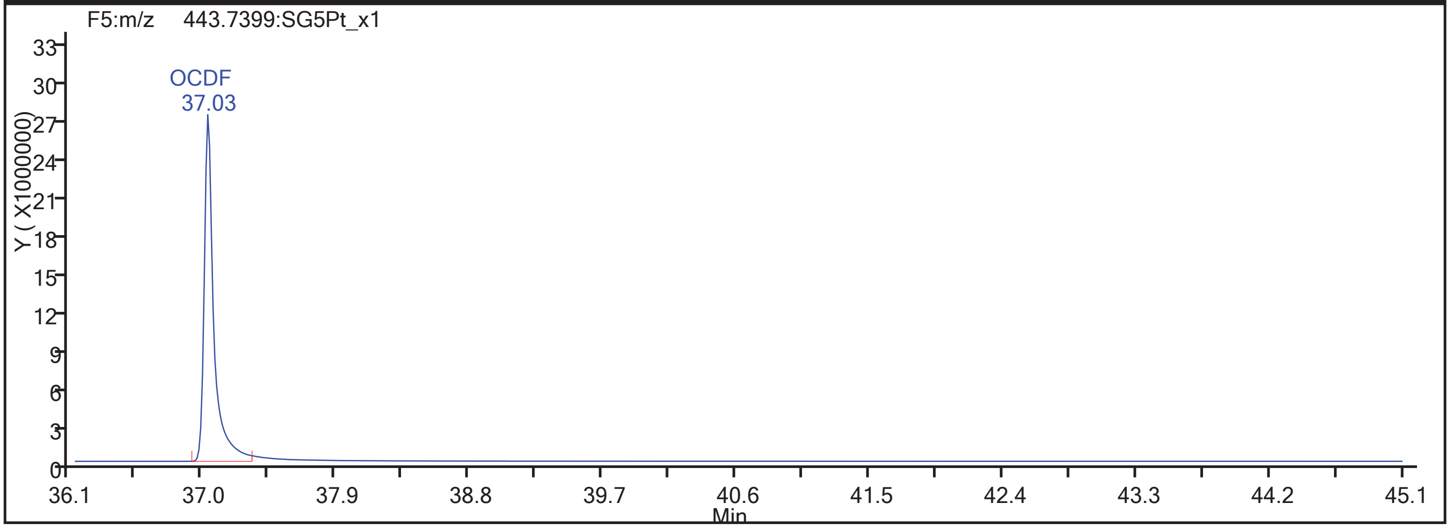
Report Date: 13-Oct-2017 10:56:11 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

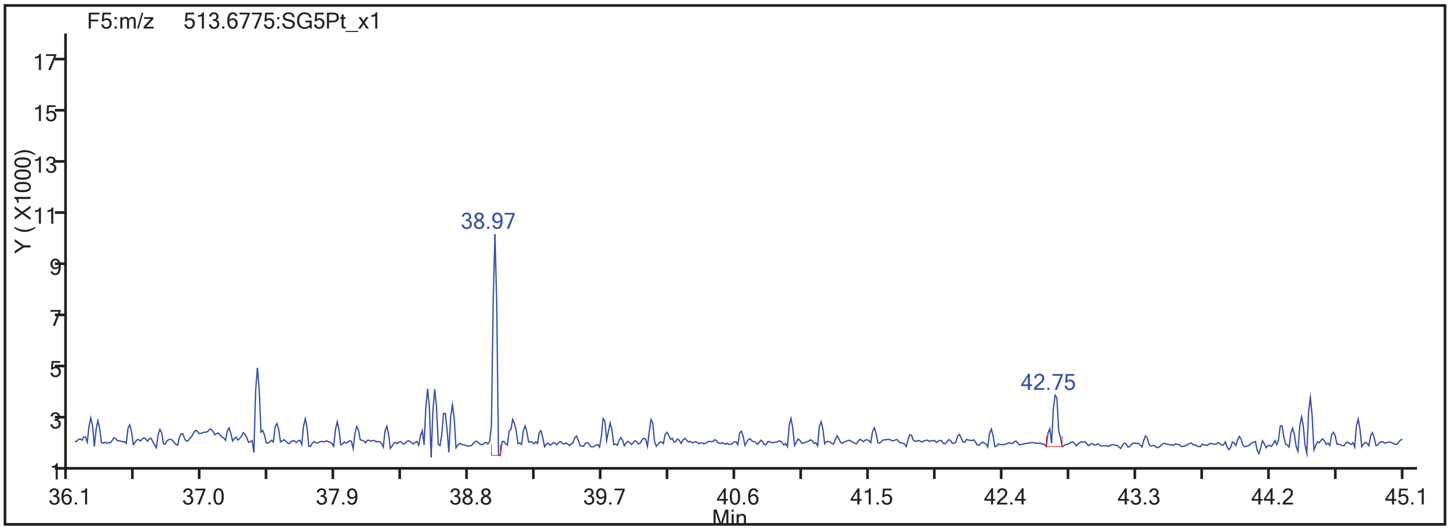
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d		
Injection Date:	13-Oct-2017 03:12:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



Report Date: 13-Oct-2017 10:56:11 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Injection Date: 13-Oct-2017 03:12:53

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: ALM, SMA

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

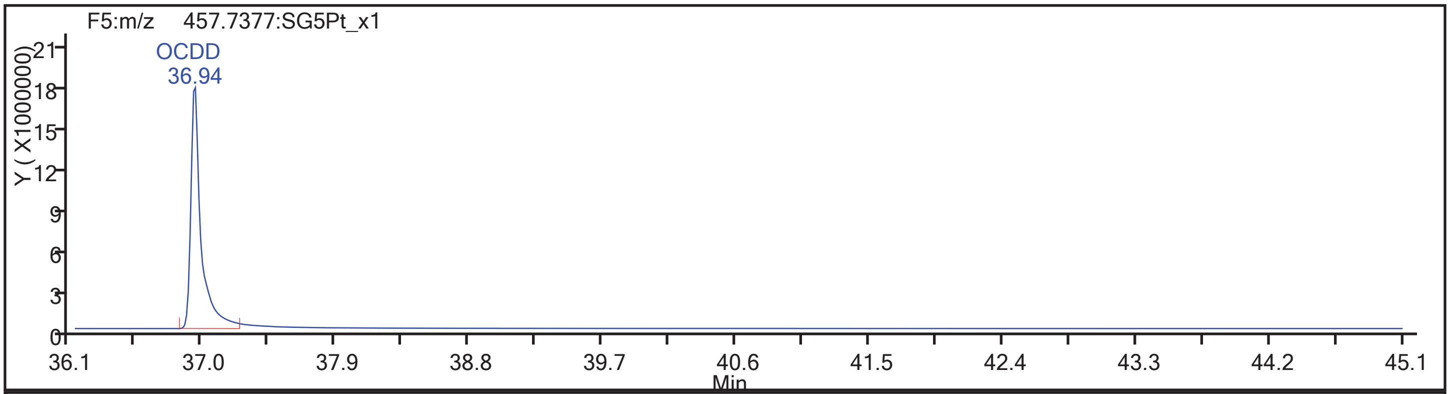
Worklist#: 189155

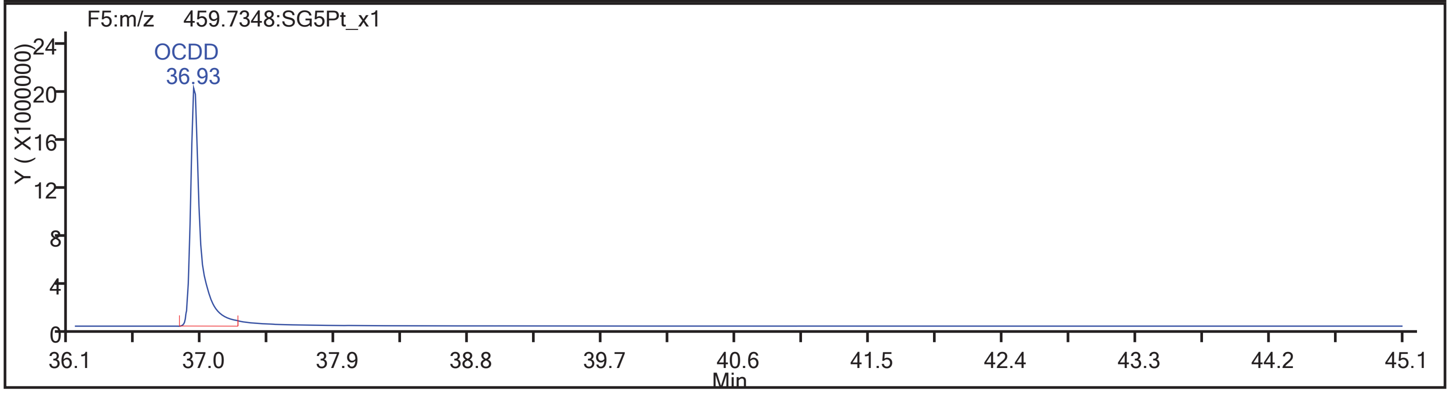
Sample Line#: 6

Column Type: DB-5

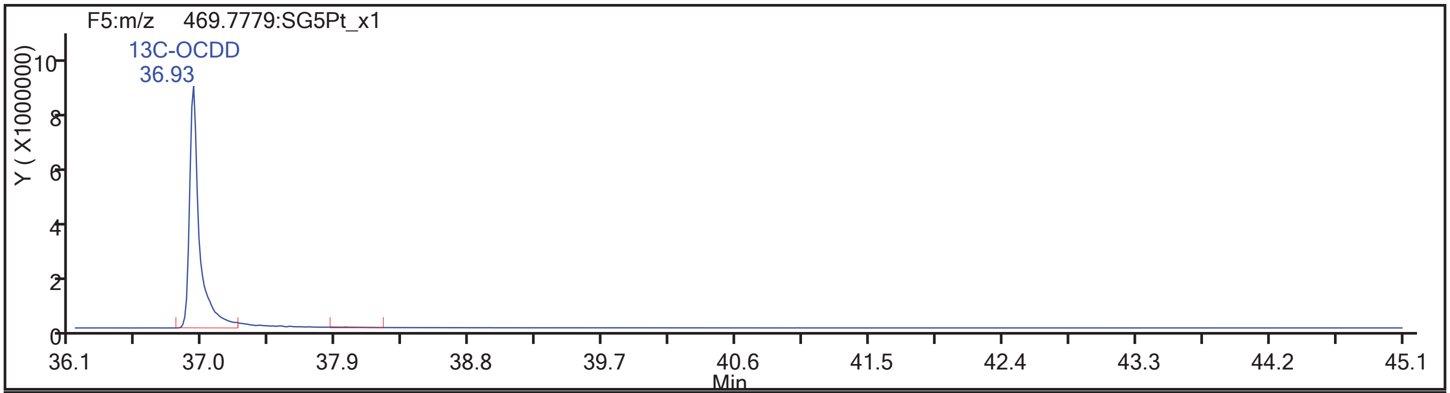
Column Dia: 0.32 mm

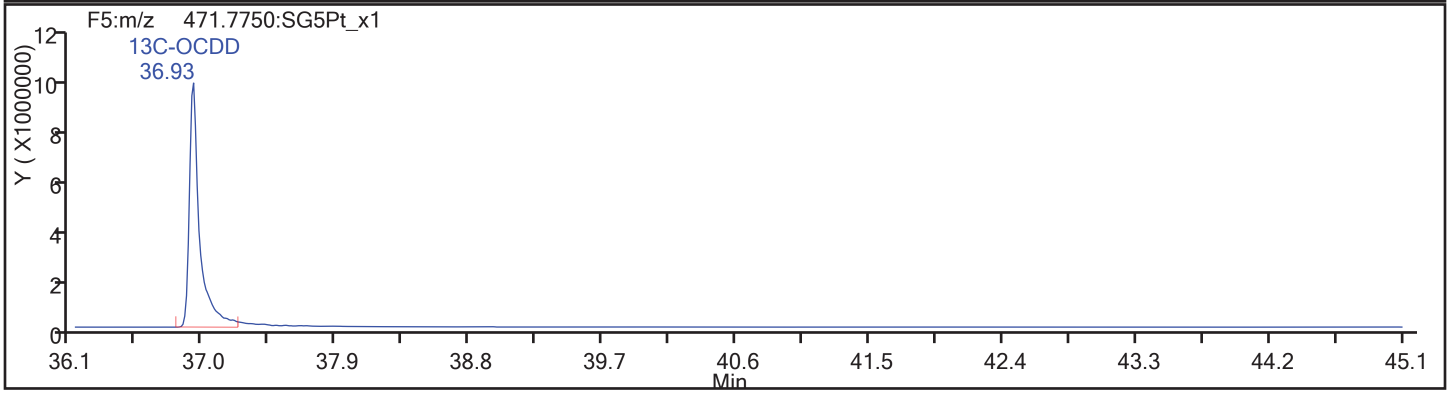
OCDD





OCDD Standards

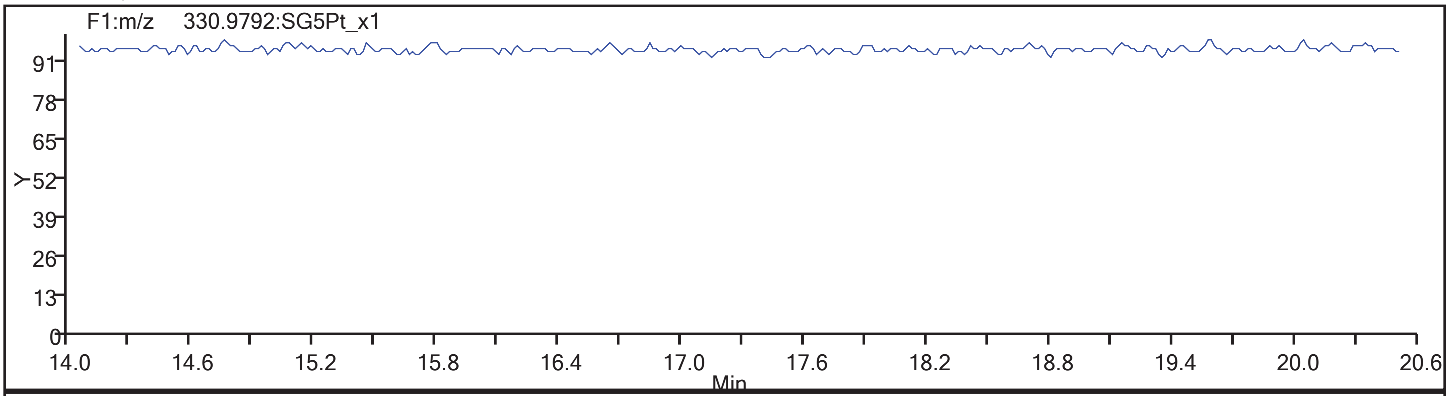




Report Date: 13-Oct-2017 10:56:11 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d		
Injection Date:	13-Oct-2017 03:12:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm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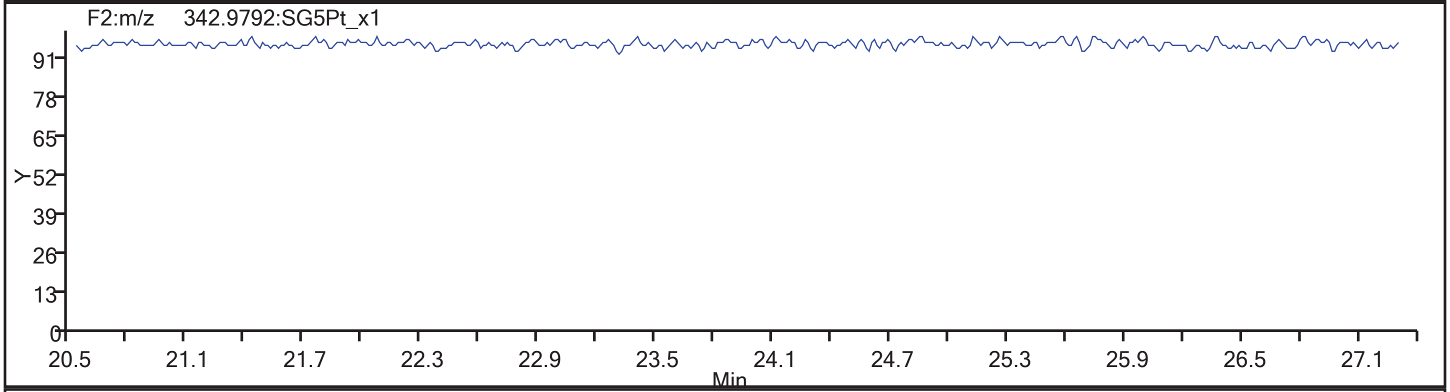
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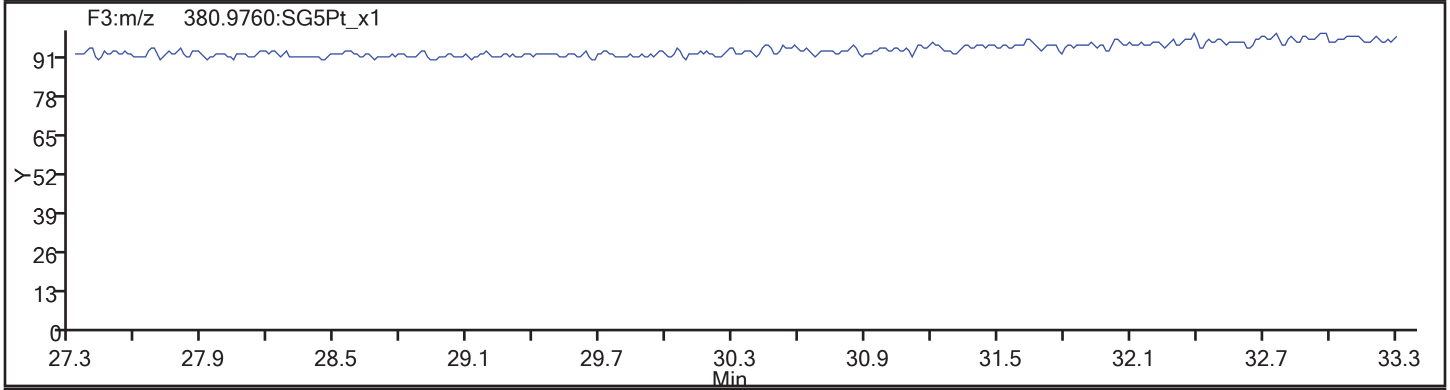
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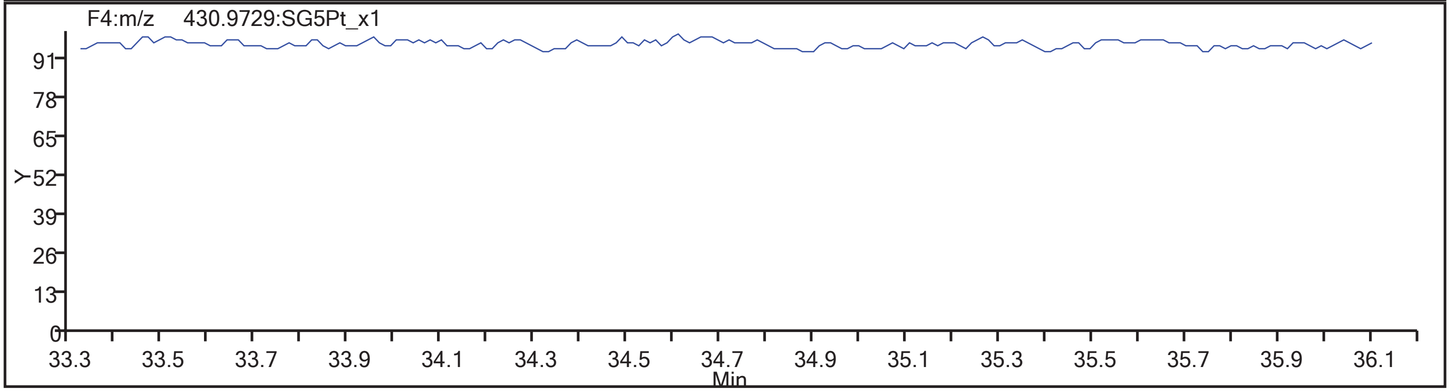
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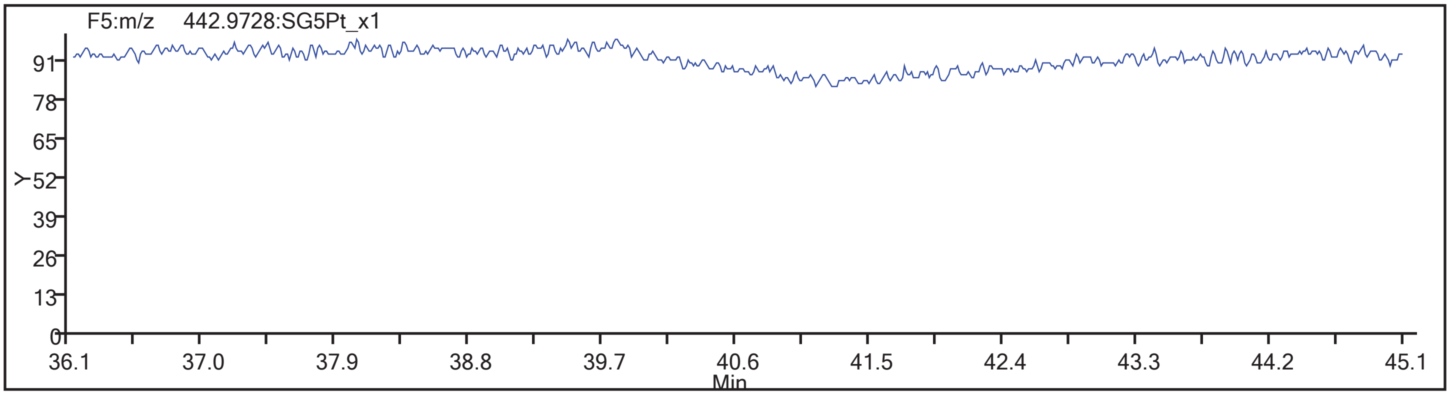
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d		
Injection Date:	13-Oct-2017 03:12:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2 Analy Batch No.: 194923

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/15/2017 11:51 Calibration End Date: 11/15/2017 15:05 Calibration ID: 36381

Calibration Files:

LEVEL:	LAB SAMPLE ID:	EPA SAMPLE NO:	LAB FILE ID:
Level 1	IC 320-194923/4	CS201	15NO173D5_4.d
Level 2	IC 320-194923/3	CS301	15NO173D5_3.d
Level 3	IC 320-194923/2	CS401	15NO173D5_2.d
Level 4	IC 320-194923/6	CS501	15NO173D5_6.d
Level 5	IC 320-194923/5	CS601	15NO173D5_5.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	1.1664	1.0861	1.0540	1.1153	1.0637	AveID		1.0971				4.1		20.0			
2,3,7,8-TCDD	1.2155	1.1447	1.1034	1.2038	1.1548	AveID		1.1645				3.9		20.0			
1,2,3,7,8-PeCDF	1.1658	1.1103	1.1288	1.1811	1.1248	AveID		1.1422				2.6		20.0			
2,3,4,7,8-PeCDF	1.1410	1.0700	1.1087	1.1445	1.0870	AveID		1.1102				2.9		20.0			
1,2,3,7,8-PeCDD	1.1127	1.1446	1.1053	1.1546	1.1189	AveID		1.1272				1.9		20.0			
1,2,3,4,7,8-HxCDF	1.3556	1.3206	1.3634	1.3817	1.3163	AveID		1.3475				2.1		20.0			
1,2,3,6,7,8-HxCDF	1.5614	1.4545	1.4646	1.5051	1.4113	AveID		1.4794				3.8		20.0			
2,3,4,6,7,8-HxCDF	1.4433	1.3507	1.3790	1.4121	1.3316	AveID		1.3833				3.3		20.0			
1,2,3,4,7,8-HxCDD	1.0482	1.0126	1.0446	1.1339	1.0839	AveID		1.0646				4.3		20.0			
1,2,3,6,7,8-HxCDD	1.1773	1.1998	1.1212	1.2366	1.1696	AveID		1.1809				3.6		20.0			
1,2,3,7,8,9-HxCDD	1.2289	1.2464	1.2326	1.2438	1.2037	AveID		1.2311				1.4		20.0			
1,2,3,7,8,9-HxCDF	1.3184	1.2611	1.3207	1.3250	1.2262	AveID		1.2903				3.4		20.0			
1,2,3,4,6,7,8-HpCDF	1.5958	1.5672	1.5916	1.6526	1.5281	AveID		1.5871				2.9		20.0			
1,2,3,4,6,7,8-HpCDD	1.1928	1.1630	1.1363	1.1931	1.1305	AveID		1.1631				2.6		20.0			
1,2,3,4,7,8,9-HpCDF	1.1704	1.1990	1.2397	1.3165	1.2193	AveID		1.2290				4.5		20.0			
OCDD	1.1403	1.0294	1.0038	1.0457	0.9759	AveID		1.0390				6.0		20.0			
OCDF	1.3089	1.2286	1.2359	1.3198	1.2312	AveID		1.2649				3.6		20.0			
13C-2,3,7,8-TCDF	1.5091	1.4745	1.4759	1.5430	1.5417	Ave		1.5089				2.2		20.0			
13C-2,3,7,8-TCDD	0.9924	0.9732	0.9794	0.9964	1.0116	Ave		0.9906				1.5		20.0			
13C-1,2,3,7,8-PeCDF	1.1132	1.1140	1.1002	1.1483	1.1644	Ave		1.1280				2.4		20.0			
13C-1,2,3,7,8-PeCDD	0.7294	0.6968	0.7133	0.7493	0.7455	Ave		0.7269				3.0		20.0			
13C-1,2,3,4,7,8-HxCDF	1.0040	1.0214	0.9770	1.0627	1.0746	Ave		1.0279				3.9		20.0			
13C-1,2,3,6,7,8-HxCDD	0.8457	0.8381	0.8442	0.8631	0.8597	Ave		0.8502				1.3		20.0			
13C-1,2,3,4,6,7,8-HpCDF	0.6458	0.6277	0.6357	0.6694	0.6663	Ave		0.6490				2.8		20.0			
13C-1,2,3,4,6,7,8-HpCDD	0.5338	0.5134	0.5334	0.5601	0.5526	Ave		0.5387				3.4		20.0			
13C-OCDD	0.3777	0.3819	0.3945	0.4236	0.4270	Ave		0.4009				5.8		20.0			
37Cl4-2,3,7,8-TCDD	1.1938	1.0159	1.1394	1.2636	1.2532	Ave		1.1732				8.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
Analy Batch No.: 194923

SDG No.:

Instrument ID: 3D5
GC Column: DB-5
ID: 0.32(mm)
Heated Purge: (Y/N) N

Calibration Start Date: 11/15/2017 11:51
Calibration End Date: 11/15/2017 15:05
Calibration ID: 36381

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-194923/4	15NO173D5_4.d
Level 2	IC 320-194923/3	15NO173D5_3.d
Level 3	IC 320-194923/2	15NO173D5_2.d
Level 4	IC 320-194923/6	15NO173D5_6.d
Level 5	IC 320-194923/5	15NO173D5_5.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	1433634	5213701	25071349	121290118	527606477	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	982447	3626675	17417812	84532435	375838014	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	5284811	20133367	100077296	477973863	2106885282	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	5172590	19401396	98289304	463158423	2036158592	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	3305212	12981193	63533363	304874023	1341819981	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	4686183	18632727	93645960	439300725	1938144710	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	5397284	20521156	100595355	478526591	2078075132	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	4989133	19056847	94715568	448946393	1960683495	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	3051875	11723395	61993267	292786371	1276916252	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	3427890	13890439	66538293	319313717	1377851865	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	3577976	14429332	73152527	321180900	1417951942	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	4557297	17792591	90707389	421282214	1805449358	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	3548186	13589605	71123819	330950881	1395108414	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	2192247	8247874	42609726	199912578	856082946	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	2602364	10396720	55395753	263643628	1113162560	2.50	10.0	50.0	200	1000
OCDD		AveID	2965942	10860072	55668122	265049361	1141889958	5.00	20.0	100	400	2000
OCDF		AveID	3404395	12961384	68543614	334506722	1440715325	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	245816116	240013319	237865351	271880051	248004367	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	161649466	158406002	157848950	175560557	162730233	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	181333339	181326533	177308932	202338487	187314045	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	118817010	113412916	114961326	132030603	119922529	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	138272000	141091741	137366518	158968506	147243267	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	116465562	115770551	118694231	129108098	117803363	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	88940238	86710933	89371867	100131429	91298338	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	73518782	70921625	74998558	83780515	75723686	100	100	100	100	100
13C-OCDD	13CHx	Ave	104036202	105500622	110918291	126728731	117013811	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	972306	3307365	18362807	89057537	403185089	0.500	2.00	10.0	40.0	200

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Sample List Report

MassLynx 4.1

3D5

Page 1 of 3

Sample List: C:\MassLynx\Data2017.PRO\SampleDB\15NO173D5.SPL
Last Modified: Wednesday, November 15, 2017 19:35:34 Pacific Standard Time
Printed: Wednesday, November 15, 2017 19:35:40 Pacific Standard Time

Page Position (1, 1)

	File Name	**File Text**	**Sample ID**	**Bottle**	**Method/Matrix**	**Box #**	**User**
1	15NO173D5_1	WDM HRDXNCP_00034	WDM111517	Tray01:1	---		SMA
2	15NO173D5_2	CS-4 HRDXNL4_00060	IC 111517	Tray01:2	---		SMA
3	15NO173D5_3	CS-3 HRDXNL3_00019	IC 111517A	Tray01:4	---		SMA
4	15NO173D5_4	CS-2 HRDXNL2_00021	IC 111517B	Tray01:5	---		SMA
5	15NO173D5_5	CS-6 HRDXNL6_00018	IC 111517C	Tray01:6	---		SMA
6	15NO173D5_6	CS-5 HRDXNL5_00022	IC 111517D	Tray01:7	---		SMA
7	15NO173D5_7	ICV HRDXNIC_00032	ICV 111517	Tray01:8	---		SMA
8	15NO173D5_8	WDM HRDXNCP_00034	WDM111517A	Tray01:1	---		SMA
9	15NO173D5_9	CS-4 HRDXNL4_00060	CCV 111517	Tray01:2	---		SMA
10	15NO173D5_10	Reagent Blank C-14	RB 111517A	Tray01:3	---		SMA
11	15NO173D5_11	MB 320-192583/1-A	MB 320-192583/1-A	Tray01:15	8290A/Solid	D983	SMA, ALM
12	15NO173D5_12	LCS 320-192583/2-A	LCS 320-192583/2-A	Tray01:16	8290A/Solid		SMA, ALM
13	15NO173D5_13	680-144745-A-11-A	680-144745-A-11-A	Tray01:17	8290A/Solid		SMA, ALM
14	15NO173D5_14	680-144745-A-12-A	680-144745-A-12-A	Tray01:18	8290A/Solid		SMA, ALM
15	15NO173D5_15	680-144745-A-13-A	680-144745-A-13-A	Tray01:19	8290A/Solid		SMA, ALM
16	15NO173D5_16	680-144854-B-12-A	680-144854-B-12-A	Tray01:20	8290A/Solid		SMA, ALM
17	15NO173D5_17	680-144854-B-12-B MS	680-144854-B-12-B MS	Tray01:21	8290A/Solid		SMA, ALM
18	15NO173D5_18	680-144854-B-12-C MSD	680-144854-B-12-C MSD	Tray01:22	8290A/Solid		SMA, ALM
19	15NO173D5_19	680-144854-B-13-A	680-144854-B-13-A	Tray01:23	8290A/Solid		SMA, ALM
20	15NO173D5_20	Reagent Blank C-14	RB 111517B	Tray01:3	---		SMA, ALM
21	15NO173D5_21	CS-4 HRDXNL4_00060	CCV 111517A	Tray01:2	---		SMA, ALM
22	15NO173D5_22	WDM HRDXNCP_00034	WDM111517B	Tray01:1	---		SMA, ALM
23	15NO173D5_23	Reagent Blank C-14	RB 111517C	Tray01:3	---		SMA, ALM
24	15NO173D5_24	MB 320-194683/1-A	MB 320-194683/1-A	Tray01:24	8290/Solid	45	SMA, ALM
25	15NO173D5_25	LCS 320-194683/2-A	LCS 320-194683/2-A	Tray01:25	8290/Solid		SMA, ALM
26	15NO173D5_26	LCSD 320-194683/3-A	LCSD 320-194683/3-A	Tray01:26	8290/Solid		SMA, ALM
27	15NO173D5_27	440-194890-B-1-B	440-194890-B-1-B	Tray01:27	8290/Solid		SMA, ALM
28	15NO173D5_28	680-144854-B-14-A	680-144854-B-14-A	Tray01:28	8290A/Solid	D983	SMA, ALM
29	15NO173D5_29	680-144854-A-15-A	680-144854-A-15-A	Tray01:29	8290A/Solid		SMA, ALM
30	15NO173D5_30	680-144854-A-16-A	680-144854-A-16-A	Tray01:30	8290A/Solid		SMA, ALM
31	15NO173D5_31	680-144854-A-17-A	680-144854-A-17-A	Tray01:31	8290A/Solid		SMA, ALM
32	15NO173D5_32	Reagent Blank C-14	RB 111517D	Tray01:3	---		SMA, ALM
33	15NO173D5_33	CS-4 HRDXNL4_00060	CCV 111517B	Tray01:2	---		SMA, ALM
34	15NO173D5_34	WDM HRDXNCP_00034	WDM111517C	Tray01:1	---		SMA, ALM
35	15NO173D5_35	Reagent Blank C-14	RB 111517	Tray01:3	---		SMA, ALM

Logfile ✓'d
11/16/17
KSS

Sample Size	Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C	Conc D
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	2	10	20	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	0.5	2.5	5	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	200	1000	2000	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	40	200	400	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---

Conc E	Conc F	Conc G	Process	Process Options	Action On Error
---	---	---	---	---	---
200	5	100	---	---	---
200	1	100	---	---	---
200	0.25	100	---	---	---
200	100	100	---	---	---
200	20	100	---	---	---
200	800	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	---	---	---
---	---	---	---	---	---
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---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	---	---	---

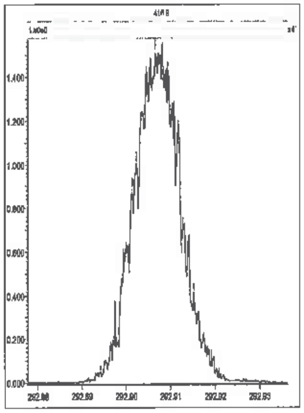
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

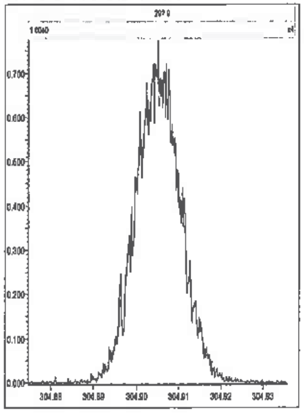
Printed: Wednesday, November 15, 2017 10:56:15 Pacific Standard Time

3D5

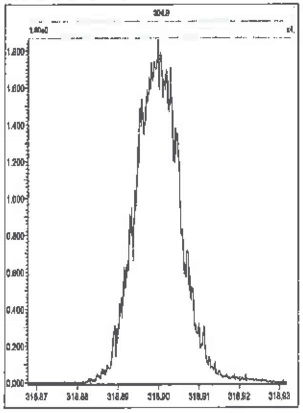
M 292.9824 R 12139



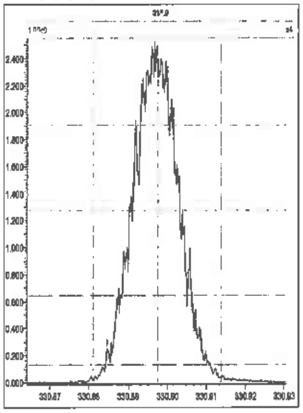
M 304.9824 R 12501



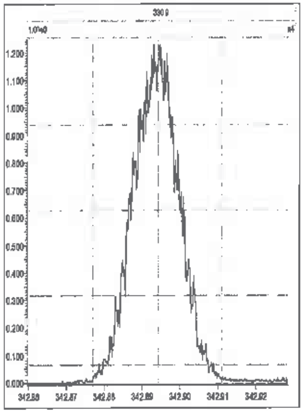
M 318.9792 R 12886



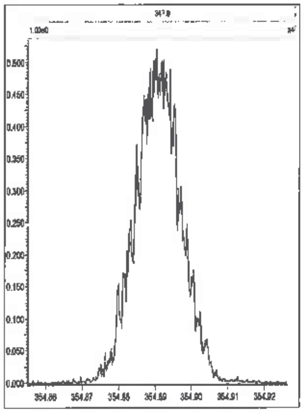
M 330.9792 R 12318



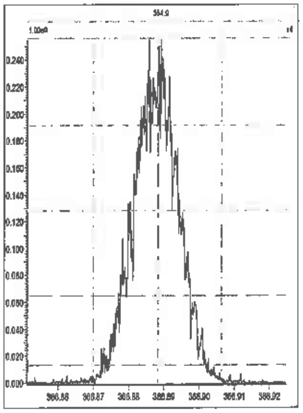
M 342.9792 R 12255



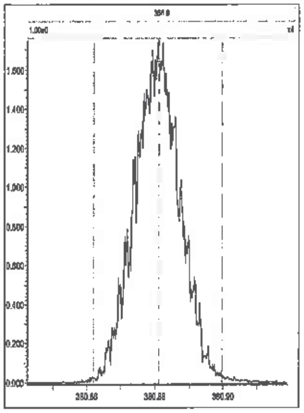
M 354.9792 R 12194



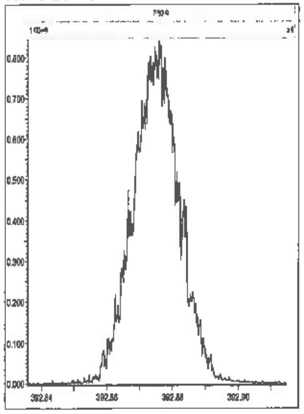
M 366.9792 R 13300



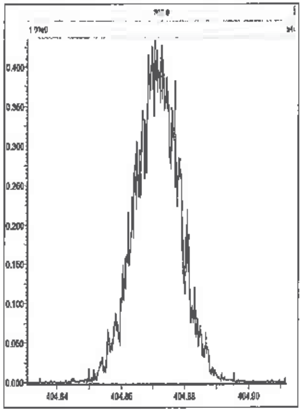
M 380.9760 R 12376



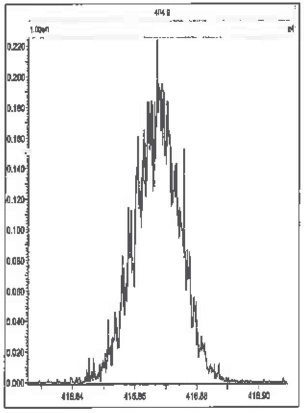
M 392.9760 R 12689



M 404.9760 R 12439



M 416.9760 R 12886



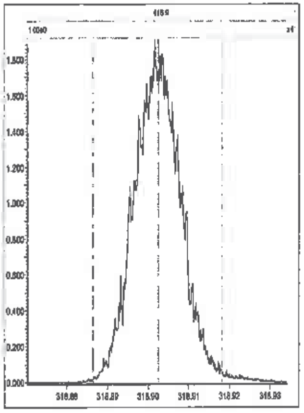
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

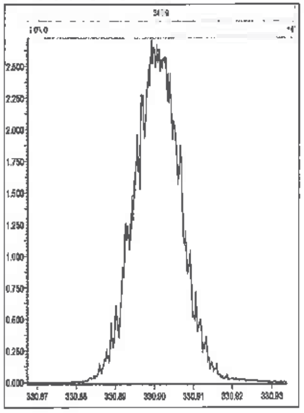
Printed: Wednesday, November 15, 2017 10:57:04 Pacific Standard Time

3D5

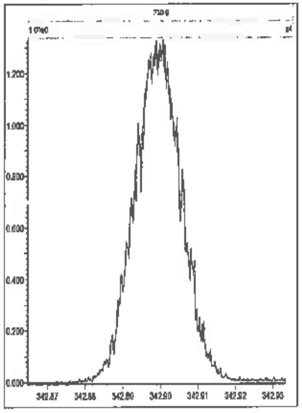
M 318.9792 R 12254



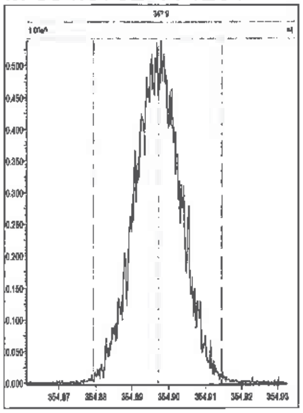
M 330.9792 R 12133



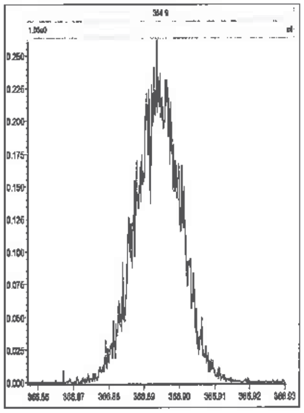
M 342.9792 R 12020



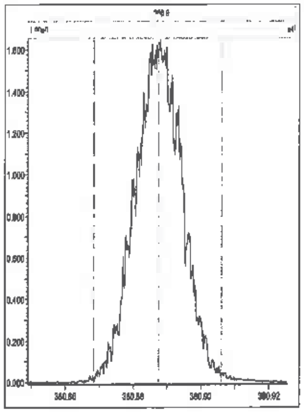
M 354.9792 R 12314



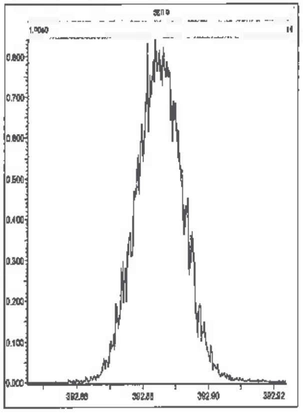
M 366.9792 R 12373



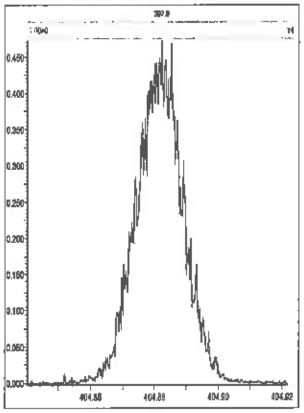
M 380.9760 R 12500



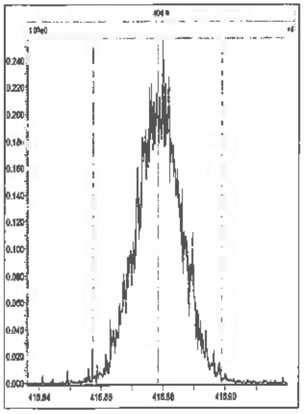
M 392.9760 R 12254



M 404.9760 R 12137



M 416.9760 R 12250



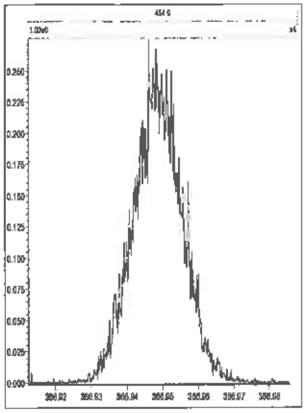
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

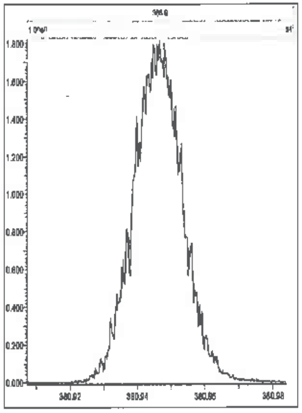
Printed: Wednesday, November 15, 2017 10:57:55 Pacific Standard Time

3D5

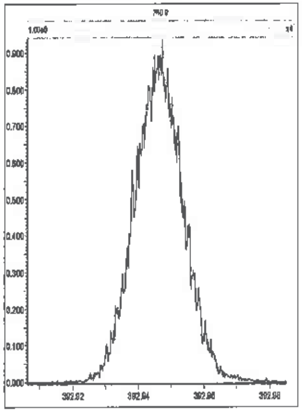
M 366.9792 R 11796



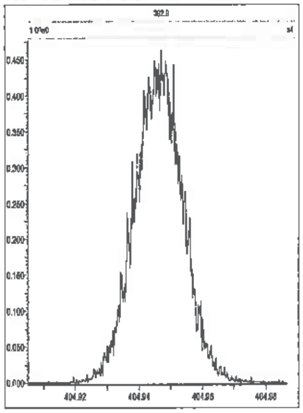
M 380.9760 R 11310



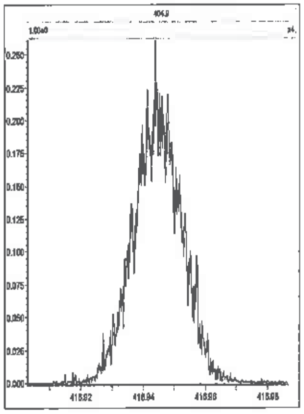
M 392.9760 R 11211



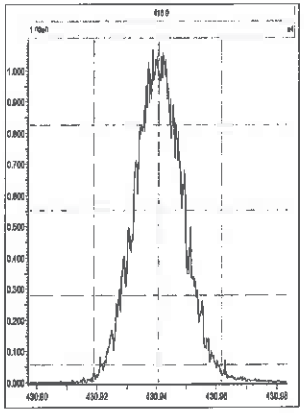
M 404.9760 R 11471



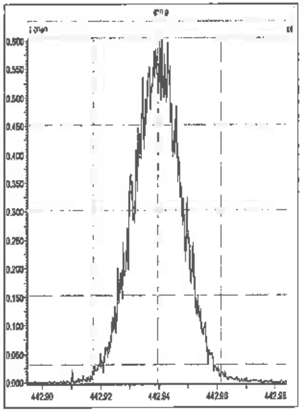
M 416.9760 R 12378



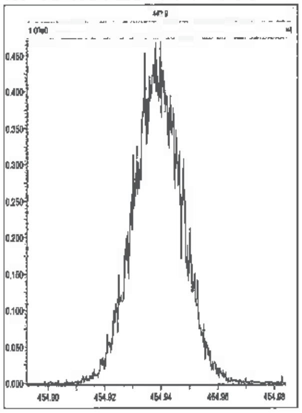
M 430.9728 R 11416



M 442.9728 R 11736



M 454.9728 R 11963



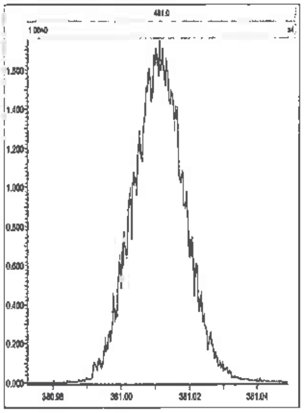
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

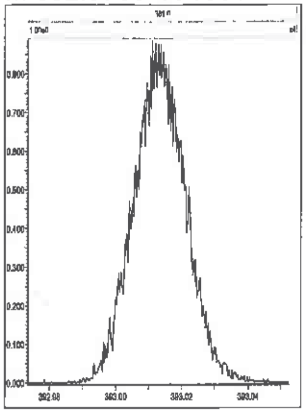
Printed: Wednesday, November 15, 2017 10:59:23 Pacific Standard Time

3D5

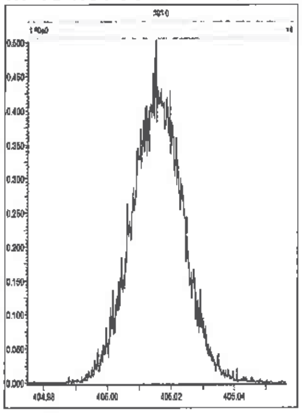
M 380.9760 R 10638



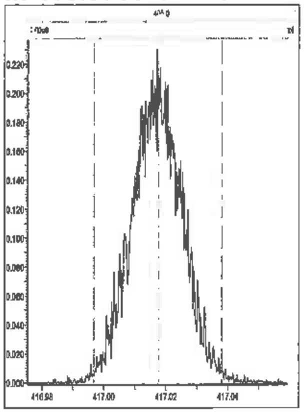
M 392.9760 R 10868



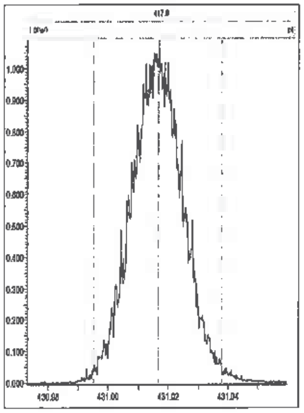
M 404.9760 R 11108



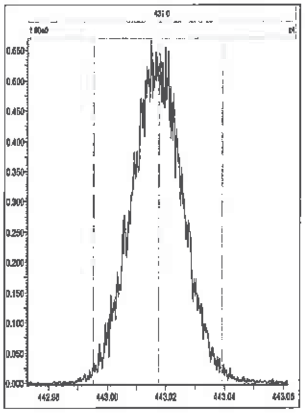
M 416.9760 R 12077



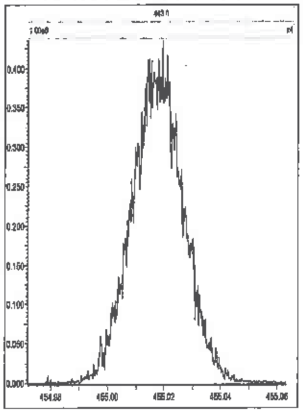
M 430.9728 R 10329



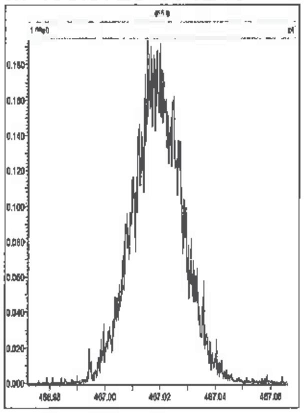
M 442.9728 R 11365



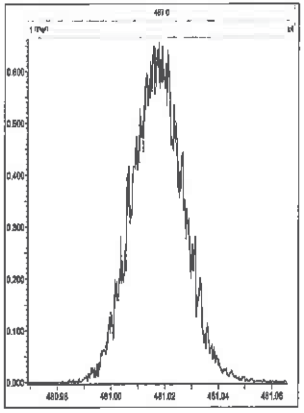
M 454.9728 R 11062



M 466.9728 R 12134



M 480.9696 R 10777



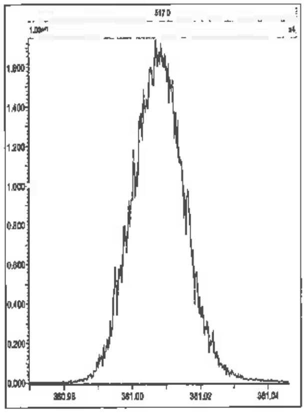
Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

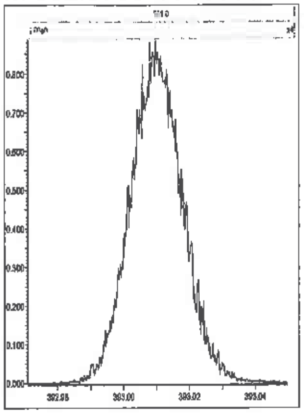
Printed: Wednesday, November 15, 2017 11:00:17 Pacific Standard Time

3D5

M 380.9760 R 10460



M 392.9760 R 10636



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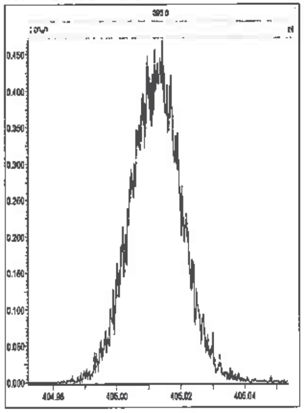

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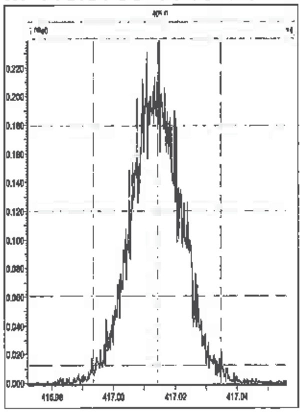

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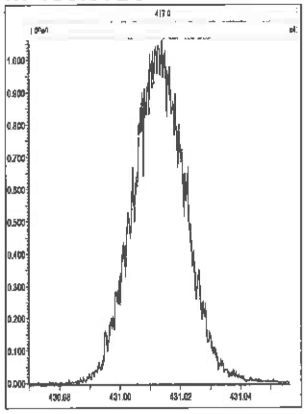

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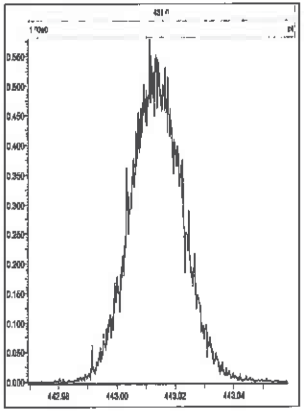

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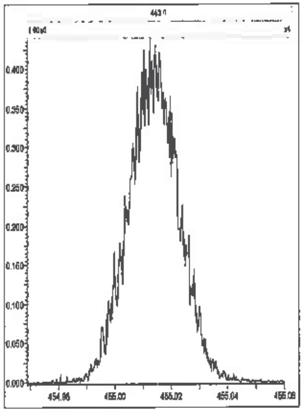

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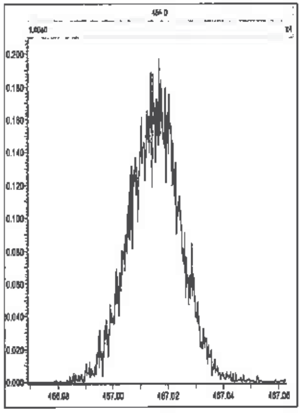

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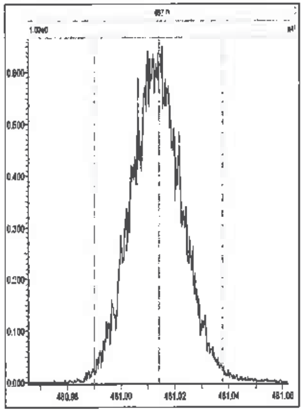

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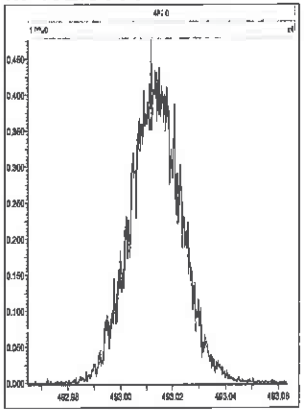

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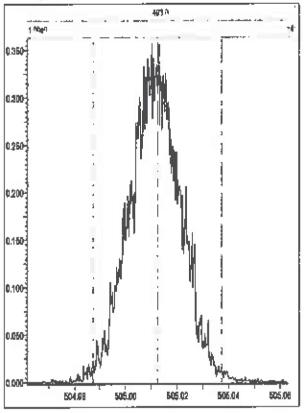

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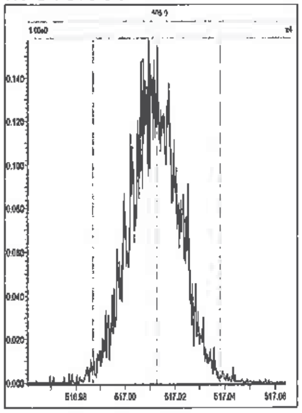

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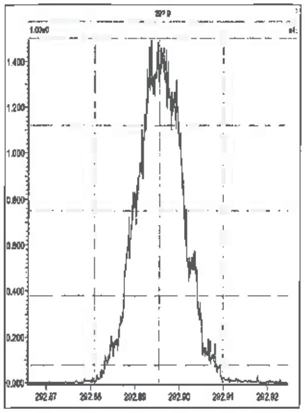

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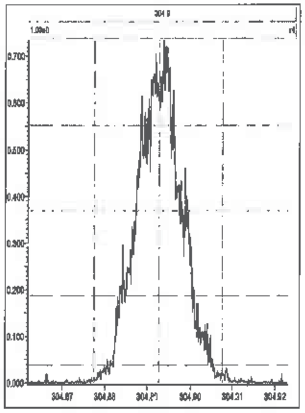

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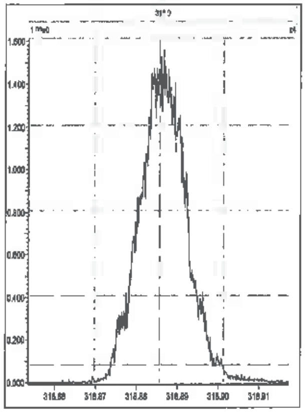

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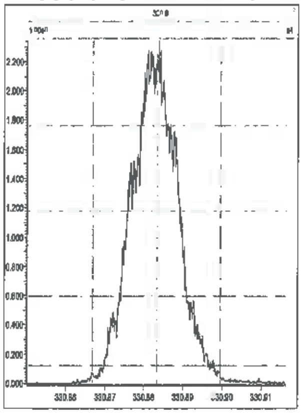

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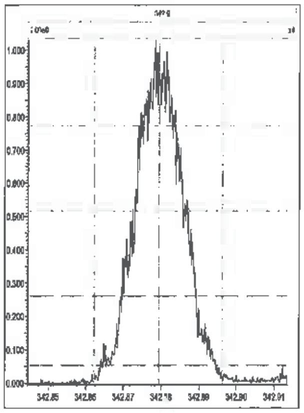

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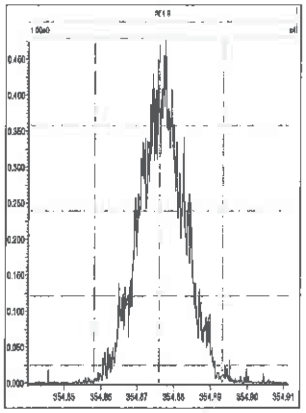

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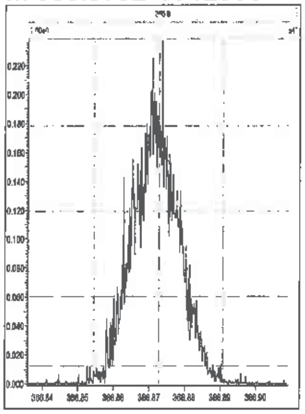

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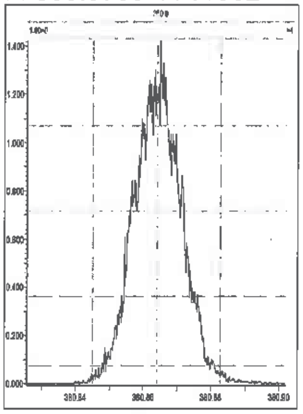

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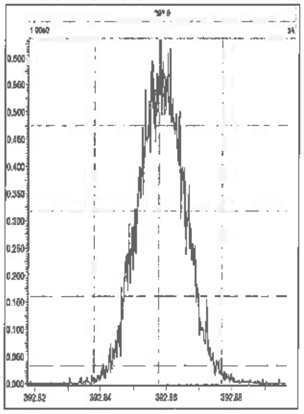

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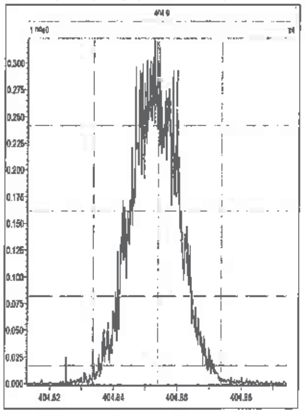

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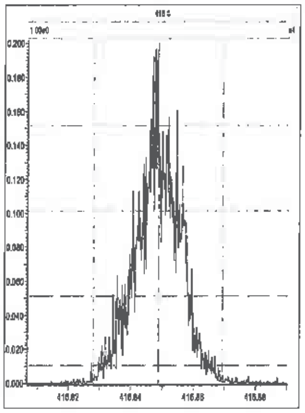

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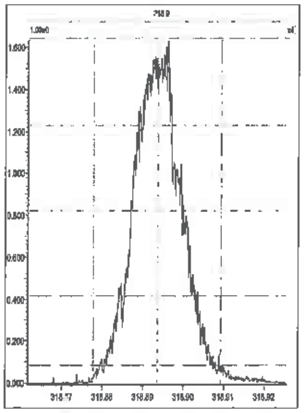

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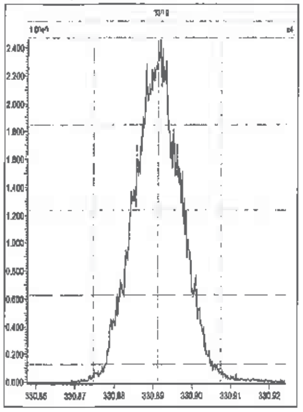

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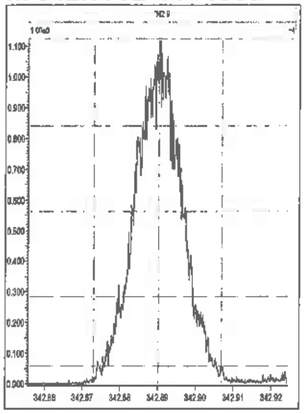

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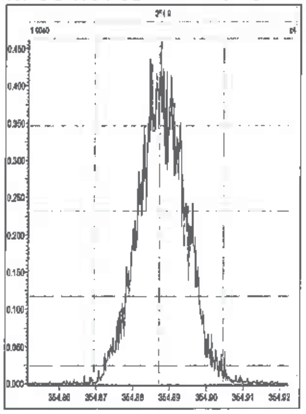

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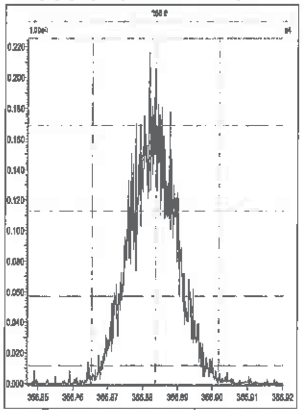

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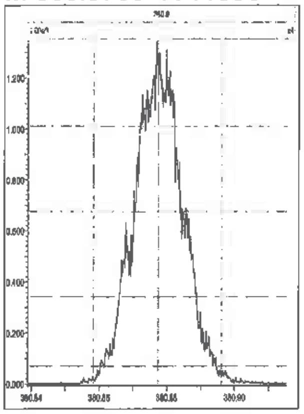

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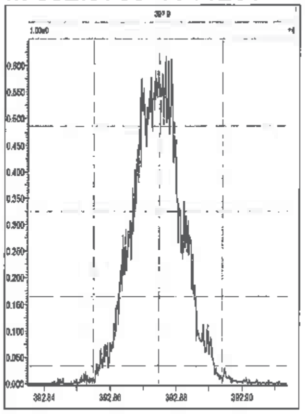

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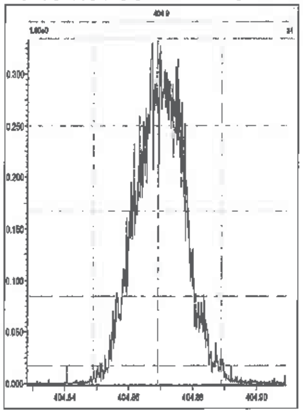

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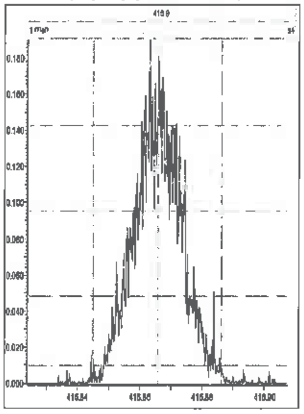

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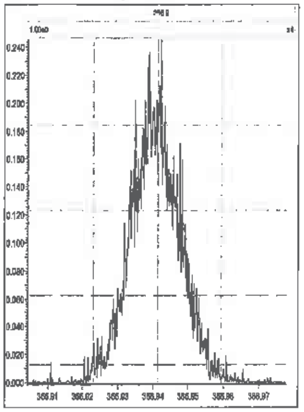

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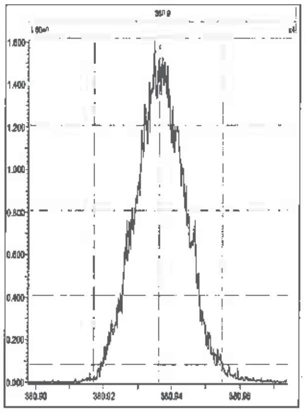

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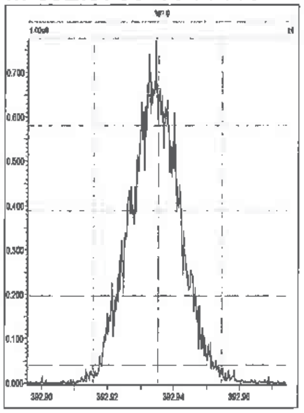

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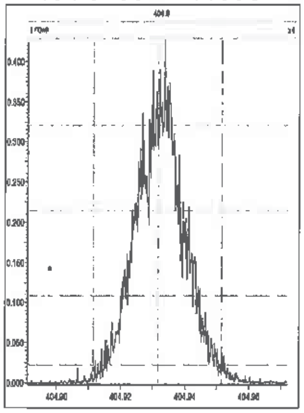

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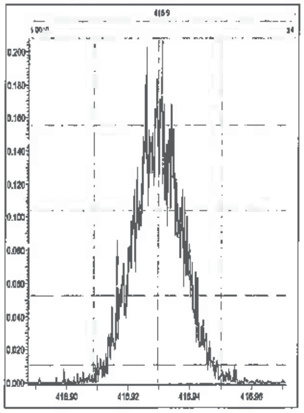

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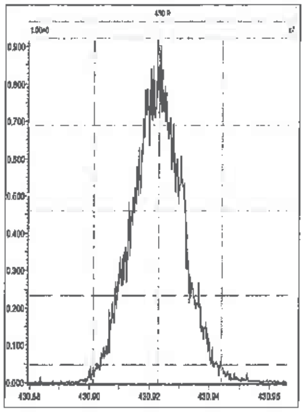

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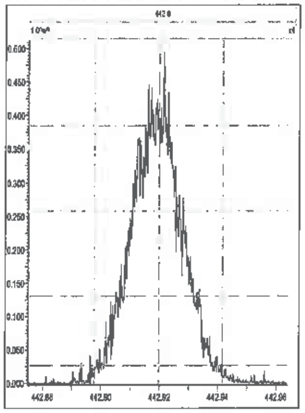

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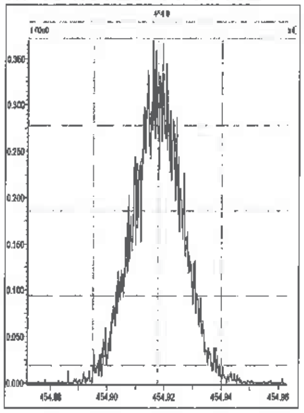

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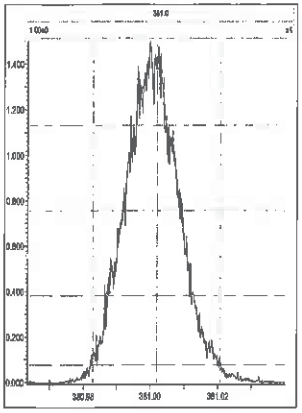

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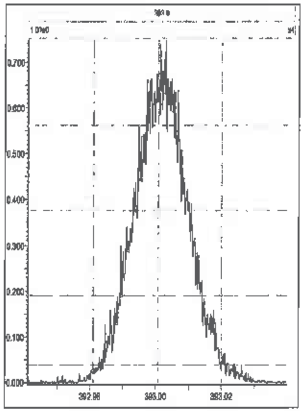

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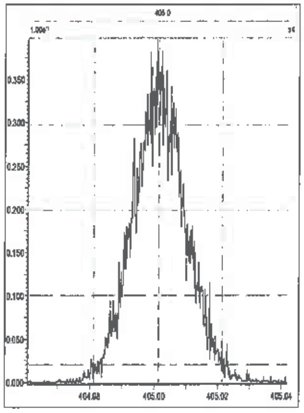

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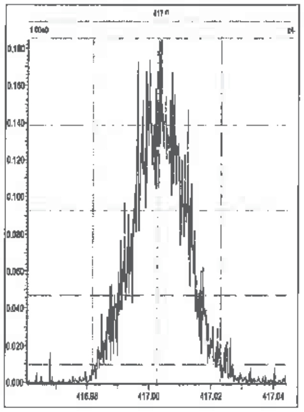

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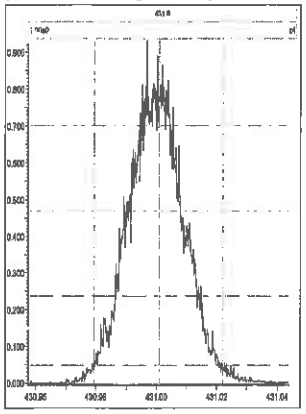

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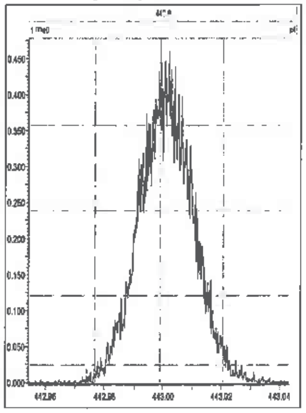

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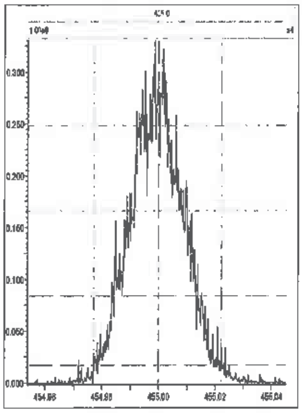

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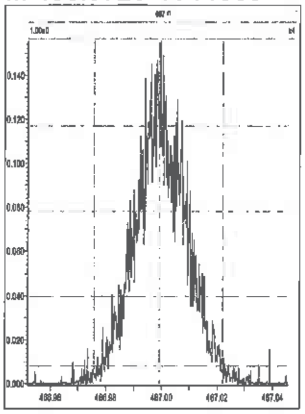

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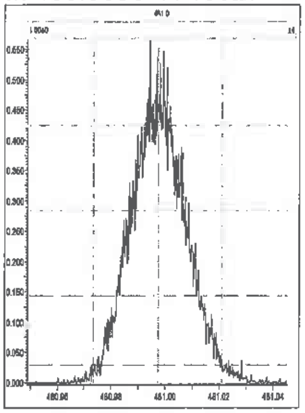

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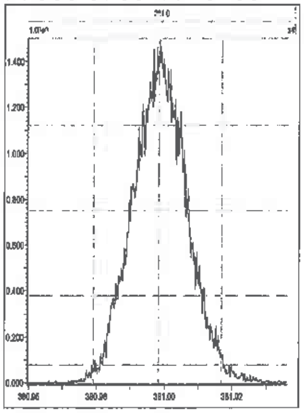

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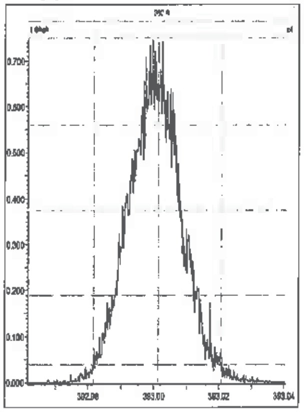

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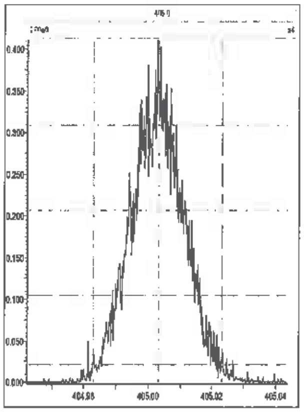

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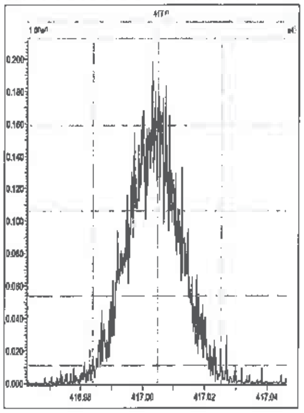

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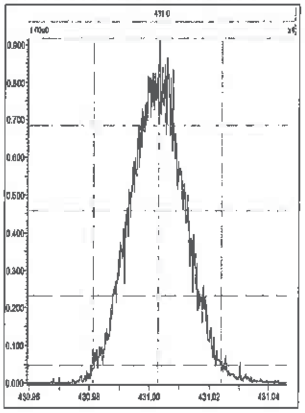

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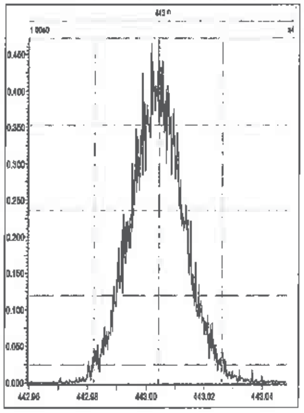

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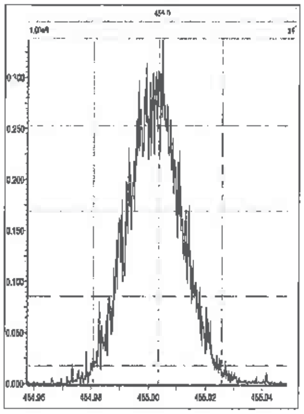

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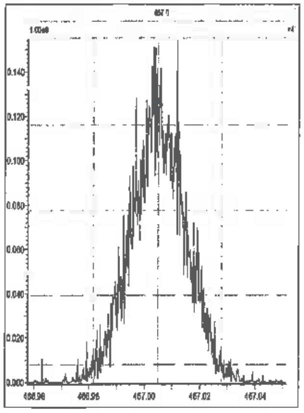

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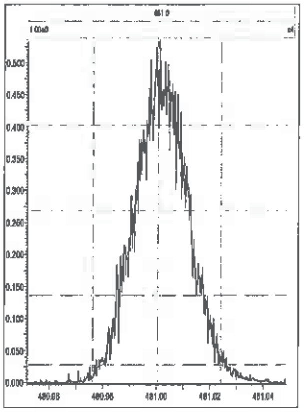

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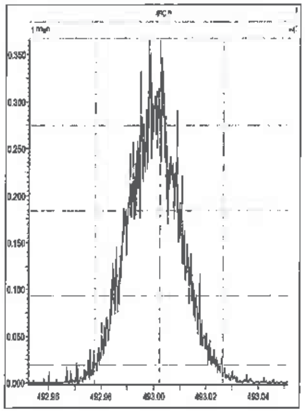

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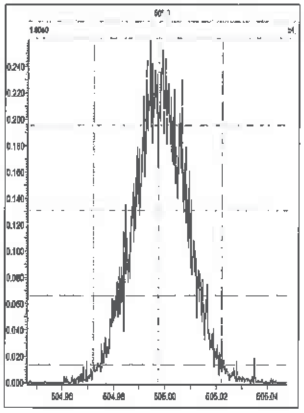

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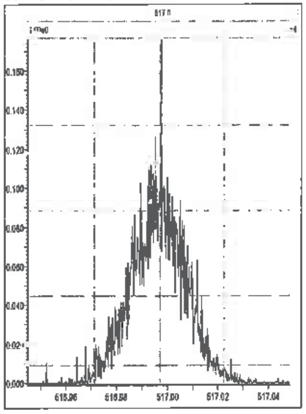

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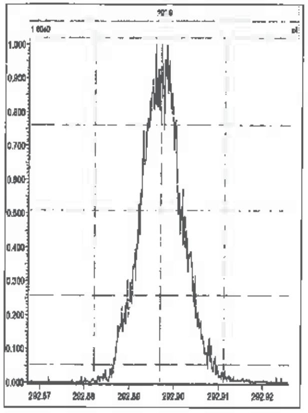
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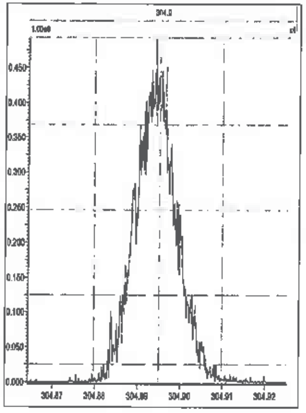
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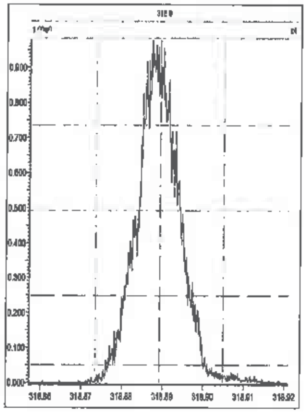
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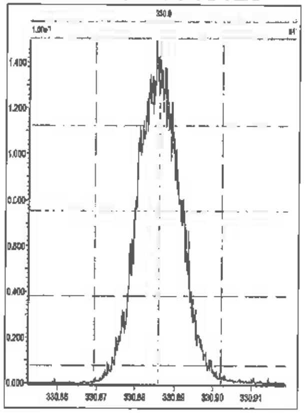
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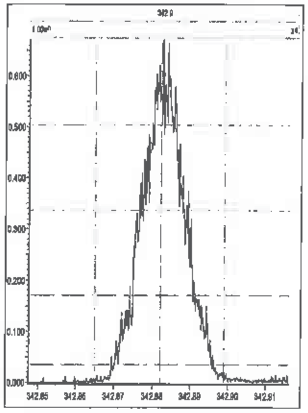
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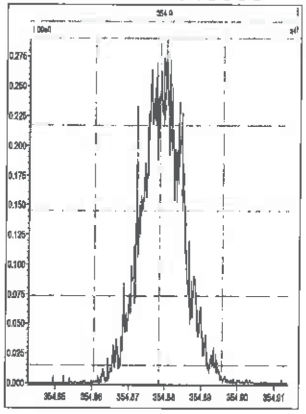
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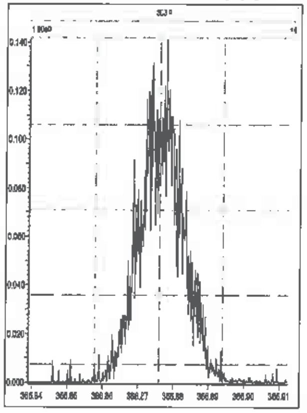
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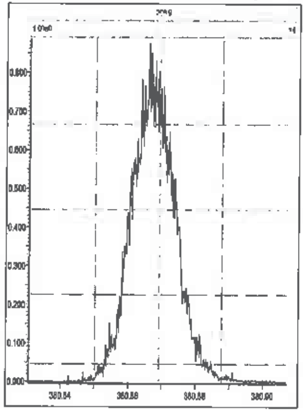
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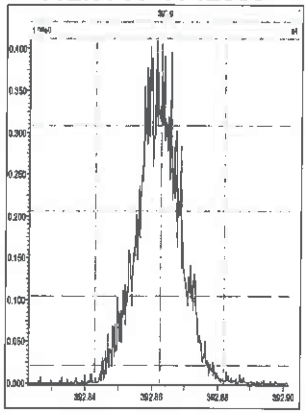
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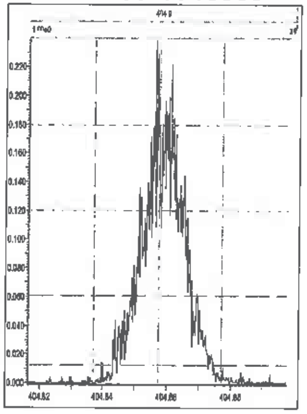
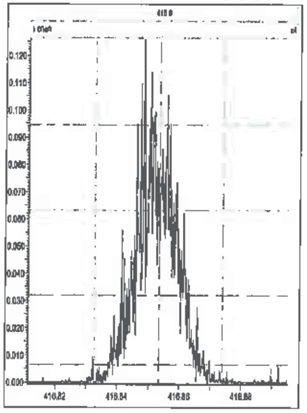
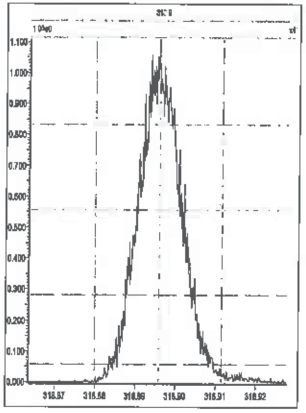
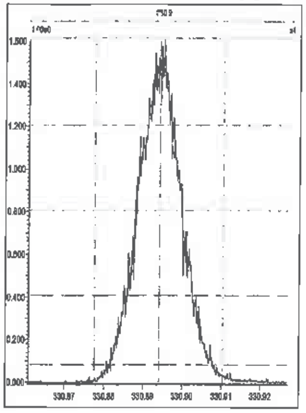
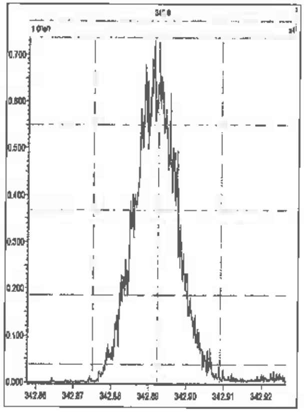
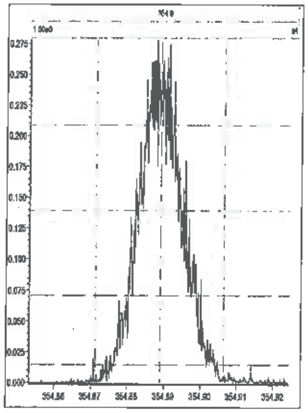

M 404.9760 R 13333

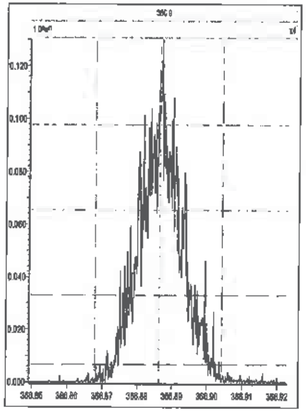

M 416.9760 R 14963


M 318.9792 R 13600


M 330.9792 R 12755

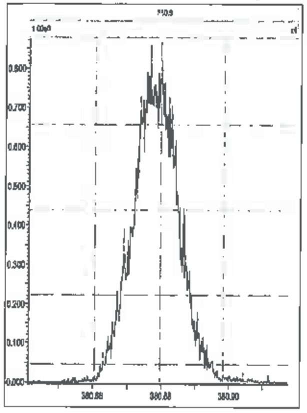

M 342.9792 R 12889


M 354.9792 R 13056

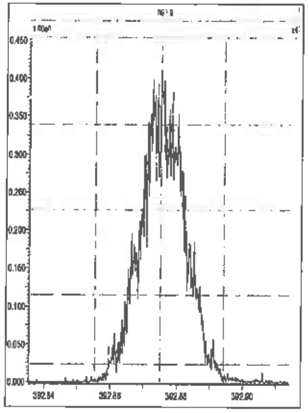

M 366.9792 R 13736

3D5

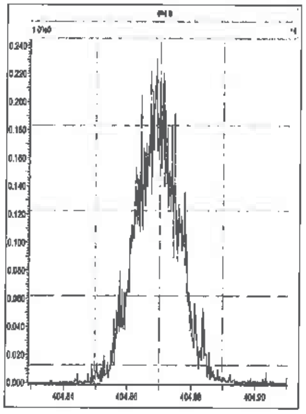
M 380.9760 R 12440



M 392.9760 R 13283



M 404.9760 R 13652



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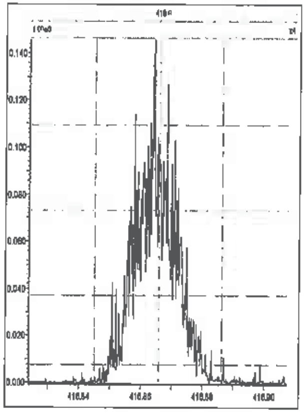
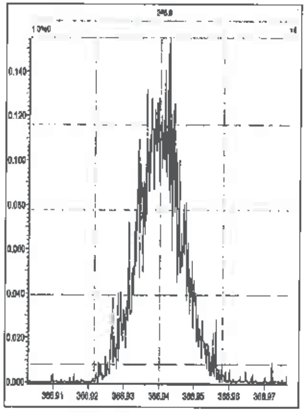
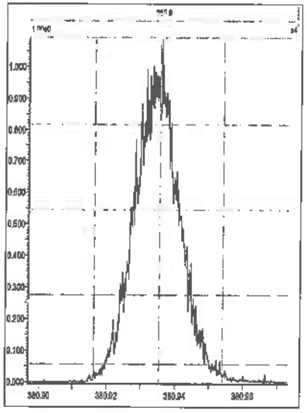


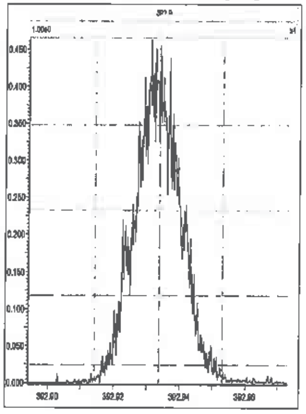
M 366.9792 R 13592



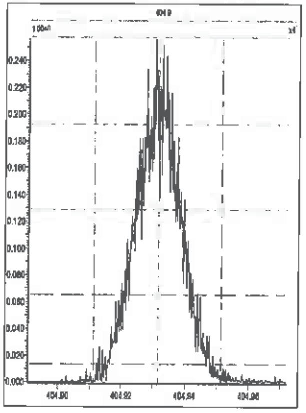
M 380.9760 R 12286



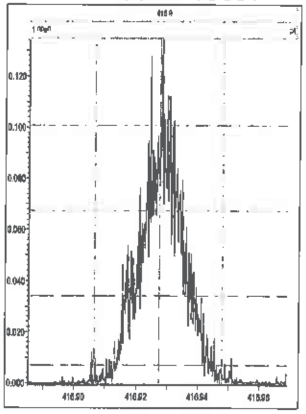
M 392.9760 R 12628



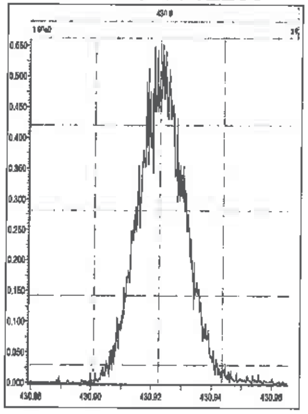
M 404.9760 R 12934



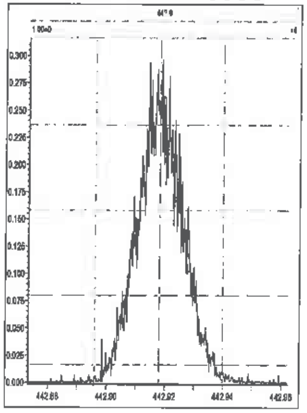
M 416.9760 R 13697



M 430.9728 R 12269



M 442.9728 R 13090



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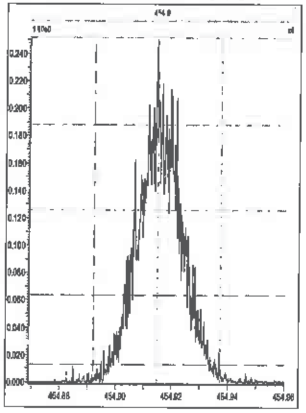
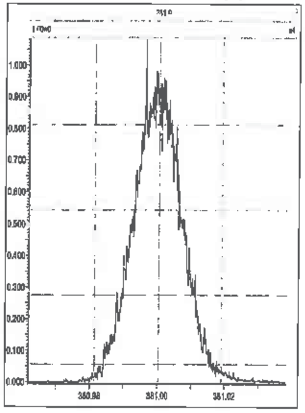
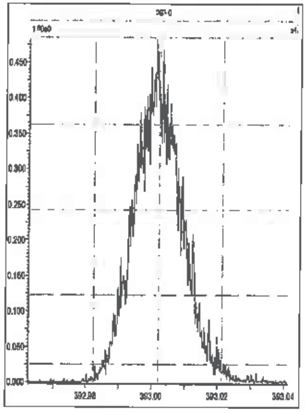


M 380.9760 R 11504



M 392.9760 R 12107



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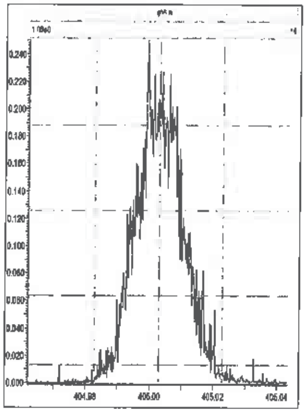

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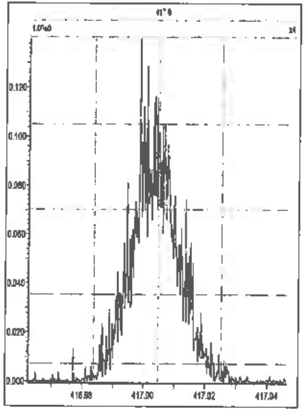
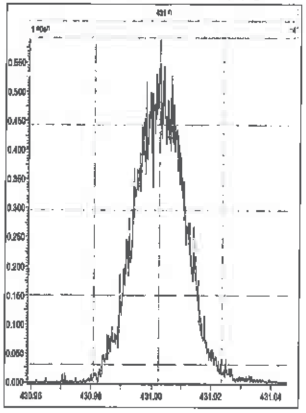


3D5

M 430.9728 R 11415



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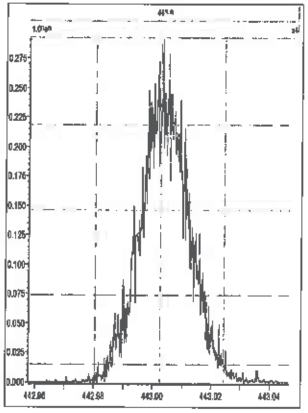

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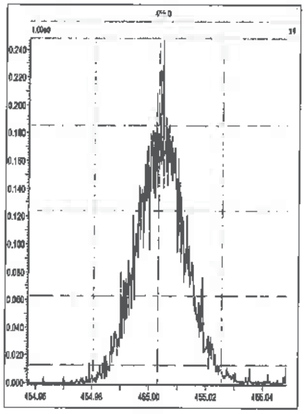
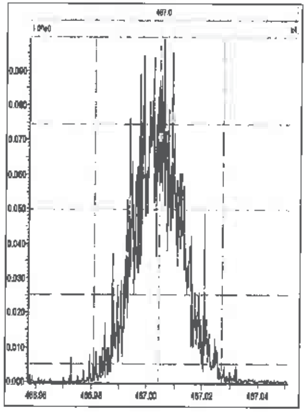


M 466.9728 R 12963



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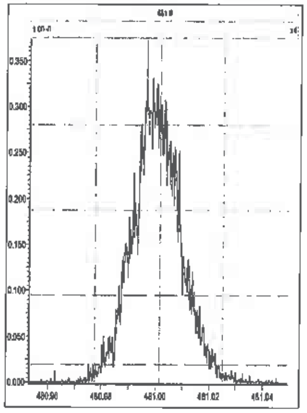
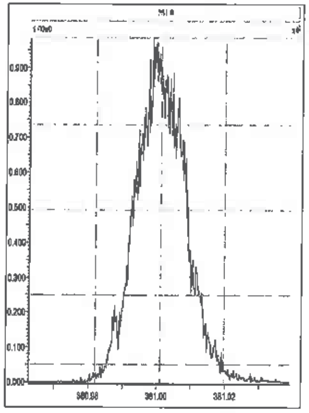
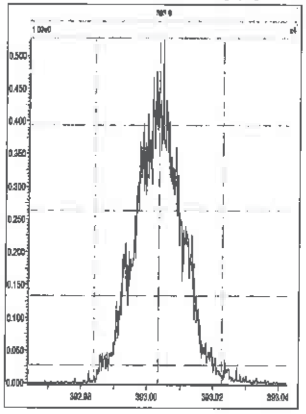


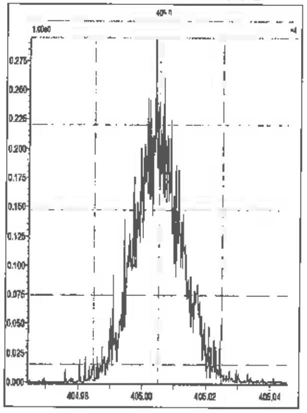
M 380.9760 R 11286



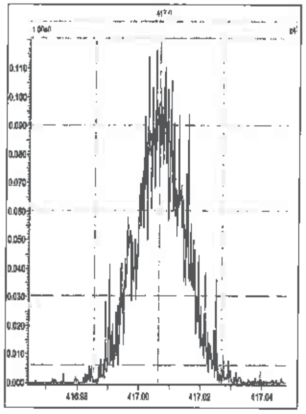
M 392.9760 R 12376



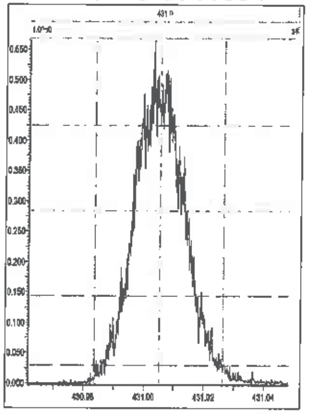
M 404.9760 R 12416



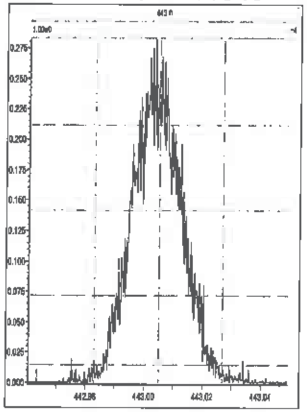
M 416.9760 R 12997



M 430.9728 R 11854



M 442.9728 R 11943



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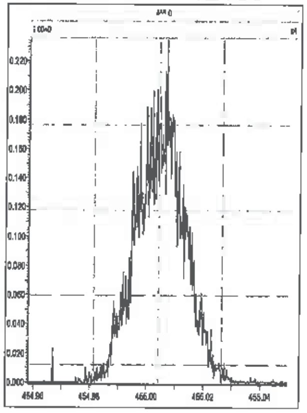
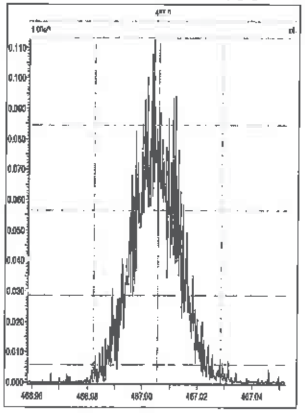
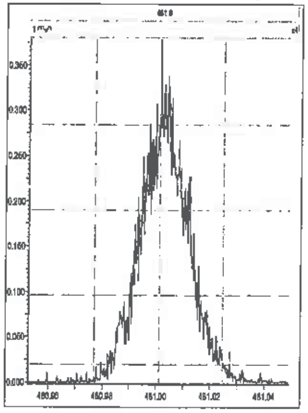


M 466.9728 R 12400



M 480.9696 R 12146



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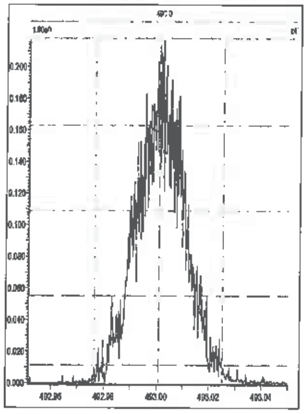

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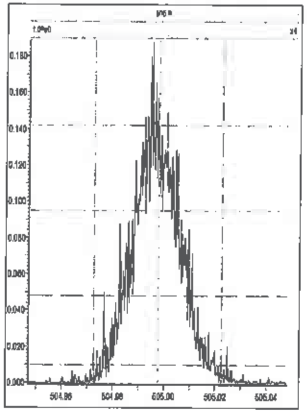
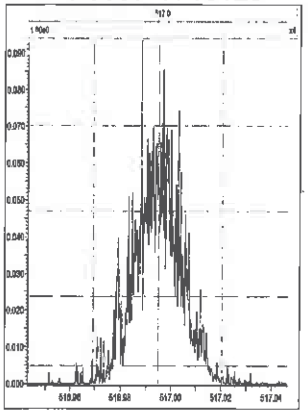


3D5

M 516.9697 R 13125



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d
Lims ID: IC 4 Lab Sample ID:
Client ID: CS401
Sample Type: IC Calib Level: 4
Inject. Date: 15-Nov-2017 11:51:45 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 111517 CS-4 HRDXNL4_00060
Misc. Info.: 15NO173D5
Operator ID: SMA Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 09:37:22 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 15-Nov-2017 14:35:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.340	161161152	0.827	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.810	237865351	0.816	1.5089	97.8	97.8	0.2329	0.2329	97.82	
2,3,7,8-TCDF	17.826	25071349	0.791	1.0971	9.607	9.607	0.0408	0.0408	96.07	
A Non-2,3,7,8-sub-TCDF	17.493						0.0423	0.0423		
S Total TCDF					9.607	9.607	0.0408	0.0408		
D 13C-2,3,7,8-TCDD	18.536	157848950	0.780	0.9906	98.9	98.9	0.2688	0.2688	98.88	
$ 37Cl4-2,3,7,8-TCDD	18.551	18362807		1.1732	9.712	9.712	0.0265	0.0265	97.12	
2,3,7,8-TCDD	18.566	17417812	0.788	1.1645	9.476	9.476	0.0462	0.0462	94.76	
A Non-2,3,7,8-sub-TCDD	17.962						0.0487	0.0487		
S Total TCDD					9.476	9.476	0.0462	0.0462		
D 13C-1,2,3,7,8-PeCDF	23.019	177308932	1.607	1.1280	97.5	97.5	0.2993	0.2993	97.53	
1,2,3,7,8-PeCDF	23.046	100077296	1.645	1.1422	49.4	49.4	0.2118	0.2118	98.83	
D 13C-2,3,4,7,8-PeCDF	24.424	170747547	1.631							
2,3,4,7,8-PeCDF	24.451	98289304	1.639	1.1102	49.9	49.9	0.2179	0.2179	99.86	
A F1 PeCDFs	20.479						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.750						0.0	0.0		
S Total PeCDF					99.3	99.3	0.2149	0.2149		
D 13C-1,2,3,7,8-PeCDD	25.174	114961326	1.588	0.7269	98.1	98.1	0.1286	0.1286	98.14	
1,2,3,7,8-PeCDD	25.201	63533363	1.633	1.1272	49.0	49.0	0.1002	0.1002	98.06	
A Non-2,3,7,8-sub-PeCDD	24.021						0.0	0.0		
S Total PeCDD					49.0	49.0	0.1002	0.1002		
D 13C-1,2,3,4,7,8-HxCDF	31.025	137366518	0.519	1.0279	95.0	95.0	0.4790	0.4790	95.05	
1,2,3,4,7,8-HxCDF	31.039	93645960	1.289	1.3475	50.6	50.6	0.2664	0.2664	101	
D 13C-1,2,3,6,7,8-HxCDF	31.185	163023798	0.517							
1,2,3,6,7,8-HxCDF	31.198	100595355	1.241	1.4794	49.5	49.5	0.2427	0.2427	99.00	
D 13C-2,3,4,6,7,8-HxCDF	31.904	148385186	0.529							
2,3,4,6,7,8-HxCDF	31.917	94715568	1.252	1.3833	49.8	49.8	0.2595	0.2595	99.69	
D 13C-1,2,3,7,8,9-HxCDF	32.663	142535366	0.512							
1,2,3,7,8,9-HxCDF	32.676	90707389	1.261	1.2903	51.2	51.2	0.2782	0.2782	102	
A Non-2,3,7,8-sub-HxCDF	30.786						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					201.1	201.1	0.2617	0.2617		
* 13C-1,2,3,7,8,9-HxCDD	32.477	140596665	1.264	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.077	100354978	1.276							
1,2,3,4,7,8-HxCDD	32.091	61993267	1.270	1.0646	49.1	49.1	0.1732	0.1732	98.12	
D 13C-1,2,3,6,7,8-HxCDD	32.171	118694231	1.259	0.8502	99.3	99.3	0.3668	0.3668	99.30	
1,2,3,6,7,8-HxCDD	32.184	66538293	1.279	1.1809	47.5	47.5	0.1562	0.1562	94.94	
1,2,3,7,8,9-HxCDD	32.490	73152527	1.284	1.2311	50.1	50.1	0.1498	0.1498	100	
A Non-2,3,7,8-sub-HxCDD	31.352						0.0	0.0		
S Total HxCDD					146.6	146.6	0.1597	0.1597		
D 13C-1,2,3,4,6,7,8-HpCDF	34.058	89371867	0.442	0.6490	97.9	97.9	1.056	1.056	97.95	
1,2,3,4,6,7,8-HpCDF	34.070	71123819	1.056	1.5871	50.1	50.1	0.4547	0.4547	100	
D 13C-1,2,3,4,7,8,9-HpCDF	35.176	73528382	0.434							
1,2,3,4,7,8,9-HpCDF	35.188	55395753	1.048	1.2290	50.4	50.4	0.5871	0.5871	101	
A Non-2,3,7,8-sub-HpCDF	34.617						0.5294	0.5294		
S Total HpCDF					100.6	100.6	0.5209	0.5209		
D 13C-1,2,3,4,6,7,8-HpCDD	34.873	74998558	1.075	0.5387	99.0	99.0	0.5304	0.5304	99.03	
1,2,3,4,6,7,8-HpCDD	34.885	42609726	1.065	1.1631	48.8	48.8	0.2651	0.2651	97.69	
A Non-2,3,7,8-sub-HpCDD	35.261						0.2699	0.2699		
S Total HpCDD					48.8	48.8	0.2651	0.2651		
D 13C-OCDD	37.305	110918291	0.892	0.4009	196.8	196.8	0.2268	0.2268	98.39	
OCDF	37.413	68543614	0.911	1.2649	97.7	97.7	0.1085	0.1085	97.71	
OCDD	37.317	55668122	0.893	1.0390	96.6	96.6	0.1318	0.1318	96.61	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d
Lims ID: IC 4 Lab Sample ID:
Client ID: CS401
Sample Type: IC Calib Level: 4
Inject. Date: 15-Nov-2017 11:51:45 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 111517 CS-4 HRDXNL4_00060
Misc. Info.: 15NO173D5
Operator ID: SMA Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 09:37:22 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 15-Nov-2017 14:35:14

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.340	18.346	0		72930613	17529064	24355	60887	720		
333.9339	18.340	18.346	0		88230539	21378743	17087	42717	1251	0.827(0.650-0.890)	
13C-2,3,7,8-TCDF											
315.9419	17.810	17.813	0	0.971	106886944	25889118	33560	83900	771		
317.9389	17.810	17.813	0	0.971	130978407	31689127	21127	52817	1500	0.816(0.650-0.890)	
2,3,7,8-TCDF											
303.9016	17.826	17.832	0	1.001	11074932	2597943	4733	11832	549		
305.8987	17.826	17.832	0	1.001	13996417	3297880	5581	13952	591	0.791(0.650-0.890)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.493						4733	11832			
305.8987	17.493						5581	13952			
13C-2,3,7,8-TCDD											
331.9368	18.536	18.545	-1	1.011	69145854	15030252	24355	60887	617		
333.9339	18.536	18.545	-1	1.011	88703096	19722653	17087	42717	1154	0.780(0.650-0.890)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.551	18.560	-1	1.012	18362807	4015962	4845	12112	829		
2,3,7,8-TCDD											
319.8965	18.566	18.563	0	1.002	7676374	1685005	3907	9767	431		
321.8936	18.566	18.563	0	1.002	9741438	2138982	3576	8940	598	0.788(0.650-0.890)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.962						3907	9767			
321.8936	17.962						3576	8940			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	23.019	23.027	0	1.255	109290422	18697690	31071	77677	602		
353.8970	23.019	23.027	0	1.255	68018510	11580531	21480	53700	539	1.607(1.320-1.780)	
1,2,3,7,8-PeCDF											
339.8597	23.046	23.054	0	1.001	62234900	10412529	17597	43992	592		
341.8567	23.046	23.054	0	1.001	37842396	6461001	11707	29267	552	1.645(1.320-1.780)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.424	24.432	0	1.332	105858907	16686631	31071	77677	537		
353.8970	24.424	24.432	0	1.332	64888640	10250138	21480	53700	477	1.631(1.320-1.780)	
2,3,4,7,8-PeCDF											
339.8597	24.451	24.456	0	1.001	61047825	9646344	17597	43992	548		
341.8567	24.451	24.456	0	1.001	37241479	5929475	11707	29267	506	1.639(1.320-1.780)	
A F1 PeCDFs											
339.8597	20.479						1577	3942			
341.8567	20.479						2271	5677			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.750						17597	43992			
341.8567	23.750						11707	29267			
13C-1,2,3,7,8-PeCDD											
367.8949	25.174	25.179	0	1.373	70536396	10577388	8434	21085	1254		
369.8919	25.174	25.179	0	1.373	44424930	6565622	6119	15297	1073	1.588(1.320-1.780)	
1,2,3,7,8-PeCDD											
355.8546	25.201	25.209	0	1.001	39402128	5846629	4401	11002	1328		
357.8516	25.201	25.209	0	1.001	24131235	3612345	3341	8352	1081	1.633(1.320-1.780)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.021						4401	11002			
357.8516	24.021						3341	8352			
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.025	31.031	0	0.955	46927183	10941539	25534	63835	429		
385.8610	31.025	31.031	0	0.955	90439335	20966062	50754	126885	413	0.519(0.430-0.590)	
1,2,3,4,7,8-HxCDF											
373.8208	31.039	31.047	0	1.000	52727653	11705472	25666	64165	456		
375.8178	31.039	31.047	0	1.000	40918307	9231599	20152	50380	458	1.289(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.185	31.183	0	0.960	55582531	12170028	25534	63835	477		
385.8610	31.185	31.183	0	0.960	107441267	22751471	50754	126885	448	0.517(0.430-0.590)	
1,2,3,6,7,8-HxCDF											
373.8208	31.198	31.204	0	1.000	55705910	11939928	25666	64165	465		
375.8178	31.198	31.204	0	1.000	44889445	9449865	20152	50380	469	1.241(1.050-1.430)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.904	31.907	0	0.982	51336847	13901495	25534	63835	544		
385.8610	31.904	31.907	0	0.982	97048339	25642077	50754	126885	505	0.529(0.430-0.590)	
2,3,4,6,7,8-HxCDF											
373.8208	31.917	31.923	0	1.000	52653061	14072726	25666	64165	548		
375.8178	31.917	31.923	0	1.000	42062507	11327958	20152	50380	562	1.252(1.050-1.430)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.663	32.660	0	1.006	48263161	12952458	25534	63835	507		
385.8610	32.663	32.660	0	1.006	94272205	25272368	50754	126885	498	0.512(0.430-0.590)	
1,2,3,7,8,9-HxCDF											
373.8208	32.676	32.674	0	1.000	50592887	13887953	25666	64165	541		
375.8178	32.663	32.674	-1	1.000	40114502	10816222	20152	50380	537	1.261(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.786						25666	64165			
375.8178	30.786						20152	50380			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.477	32.479	0		78493358	21467602	29923	74807	717		
403.8529	32.477	32.479	0		62103307	17265519	18388	45970	939	1.264(1.050-1.430)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.077	32.075	0	0.988	56266836	17035762	29923	74807	569		
403.8529	32.077	32.075	0	0.988	44088142	13409368	18388	45970	729	1.276(1.050-1.430)	
1,2,3,4,7,8-HxCDD											
389.8157	32.091	32.088	0	1.000	34685973	10069673	12392	30980	813		
391.8127	32.091	32.088	0	1.000	27307294	7933106	10550	26375	752	1.270(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.171	32.173	0	0.991	66155527	17352437	29923	74807	580		
403.8529	32.171	32.173	0	0.991	52538704	13749365	18388	45970	748	1.259(1.050-1.430)	
1,2,3,6,7,8-HxCDD											
389.8157	32.184	32.189	0	1.000	37342029	10210178	12392	30980	824		
391.8127	32.184	32.189	0	1.000	29196264	7943096	10550	26375	753	1.279(1.050-1.430)	
1,2,3,7,8,9-HxCDD											
389.8157	32.490	32.493	0	1.013	41128903	11310866	12392	30980	913		
391.8127	32.490	32.493	0	1.013	32023624	9068836	10550	26375	860	1.284(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.352						12392	30980			
391.8127	31.352						10550	26375			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.058	34.056	0	1.049	27391668	9260240	32045	80112	289		
419.8220	34.058	34.056	0	1.049	61980199	21111537	74089	185222	285	0.442(0.370-0.510)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.070	34.068	0	1.000	36534479	12174541	46823	117057	260		
409.7789	34.070	34.068	0	1.000	34589340	11574577	40839	102097	283	1.056(0.880-1.200)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.176	35.181	0	1.083	22263122	6941342	32045	80112	217		
419.8220	35.176	35.181	0	1.083	51265260	15567218	74089	185222	210	0.434(0.370-0.510)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.188	35.191	0	1.000	28345179	8896690	46823	117057	190		
409.7789	35.188	35.191	0	1.000	27050574	8418616	40839	102097	206	1.048(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.617						46823	117057			
409.7789	34.617						40839	102097			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.873	34.877	0	1.074	38850900	12035193	24056	60140	500		
437.8140	34.873	34.877	0	1.074	36147658	11263301	20213	50532	557	1.075(0.880-1.200)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.885	34.889	0	1.000	21972002	6794179	14041	35102	484		
425.7737	34.885	34.889	0	1.000	20637724	6460626	14696	36740	440	1.065(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						14041	35102			
425.7737	35.261						14696	36740			
13C-OCDD											
469.7779	37.305	37.310	0	1.149	52283617	14333046	7924	19810	1809		
471.7750	37.305	37.310	0	1.149	58634674	16578112	6162	15405	2690	0.892(0.760-1.020)	
OCDF											
441.7428	37.413	37.417	0	1.003	32668305	8888380	3701	9252	2402		
443.7399	37.413	37.417	0	1.003	35875309	10033886	4783	11957	2098	0.911(0.760-1.020)	
OCDD											
457.7377	37.317	37.317	0	1.000	26257570	7376121	4086	10215	1805		
459.7348	37.317	37.317	0	1.000	29410552	8295073	4381	10952	1893	0.893(0.760-1.020)	

Reagents:

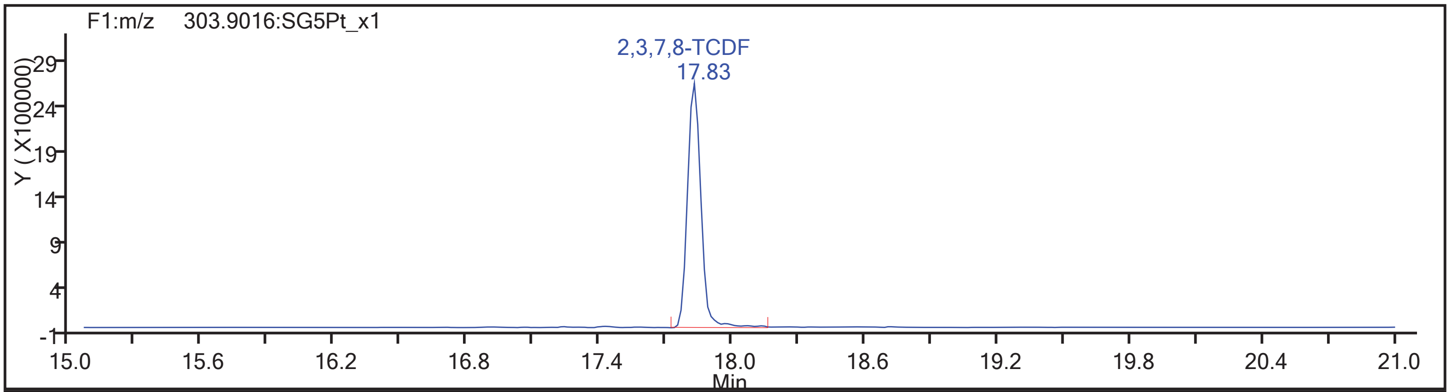
HRDXNL4_00060 Amount Added: 1.00 Units: mL

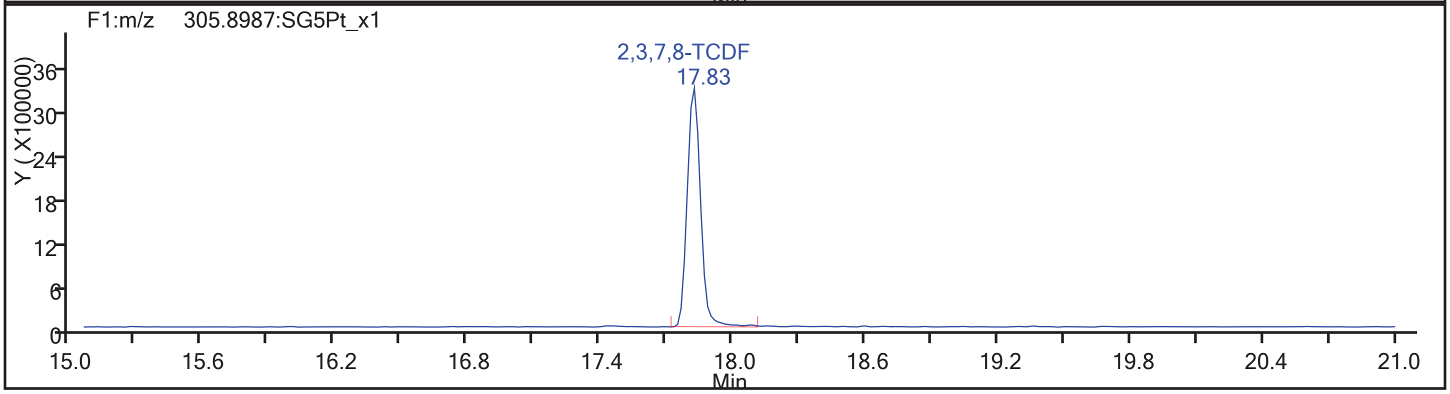
Report Date: 16-Nov-2017 09:37:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

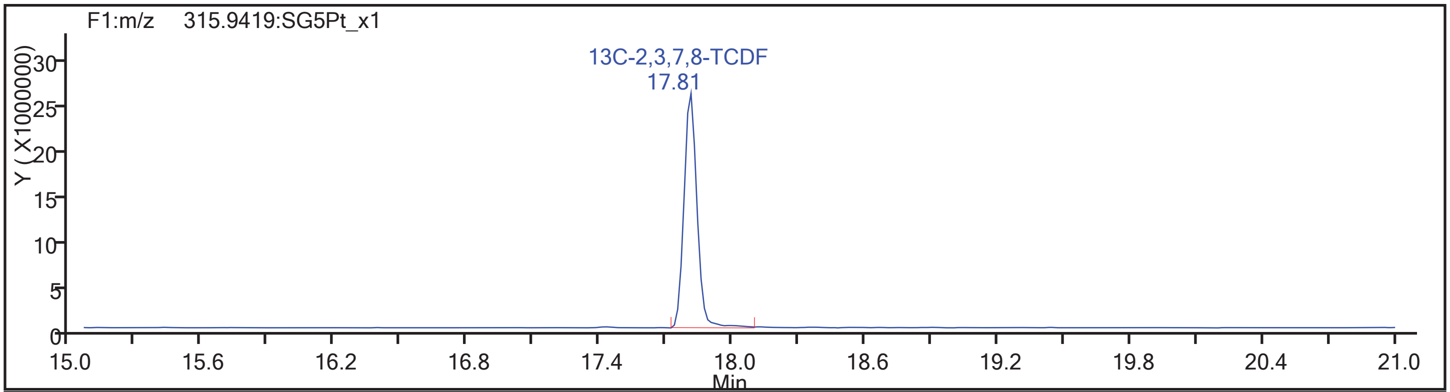
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d
Injection Date: 15-Nov-2017 11:51:45 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS401
Worklist#: 194923 Sample Line#: 2
Column Type: Column Dia:

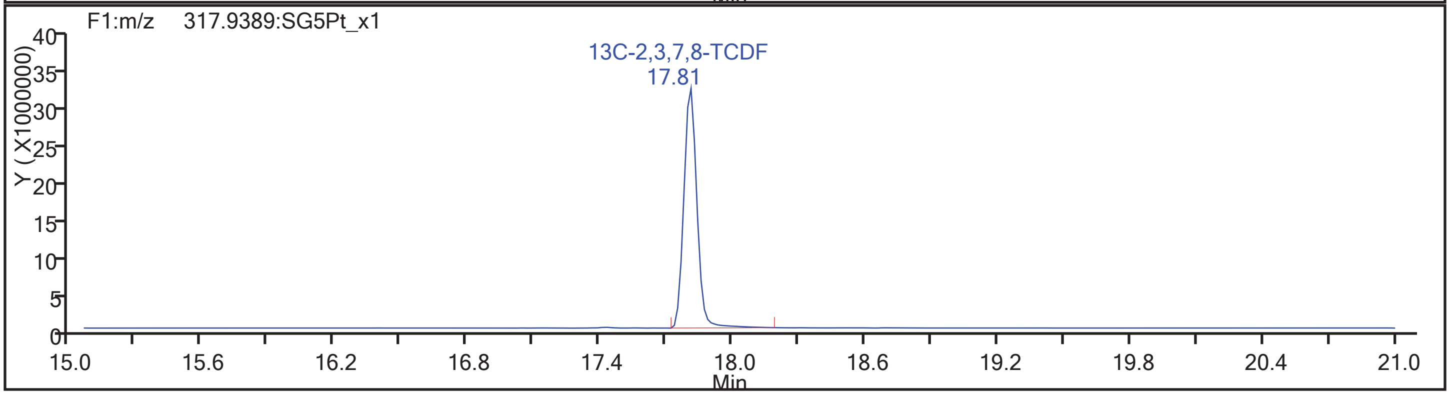
TCDF





TCDF Standards





TestAmerica Sacramento

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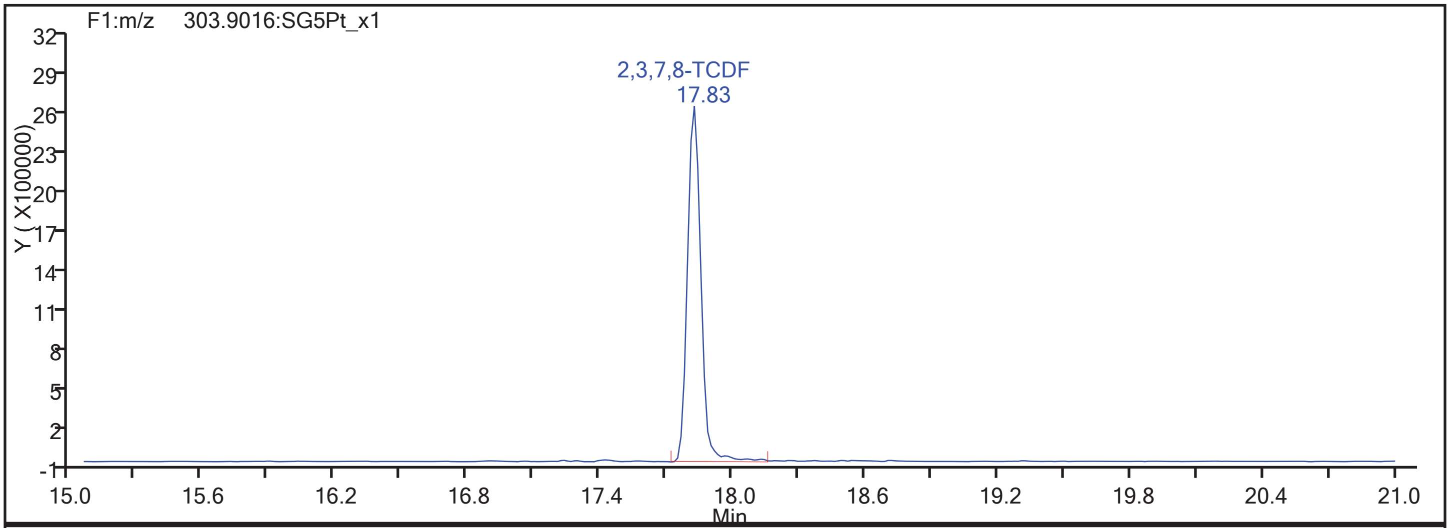
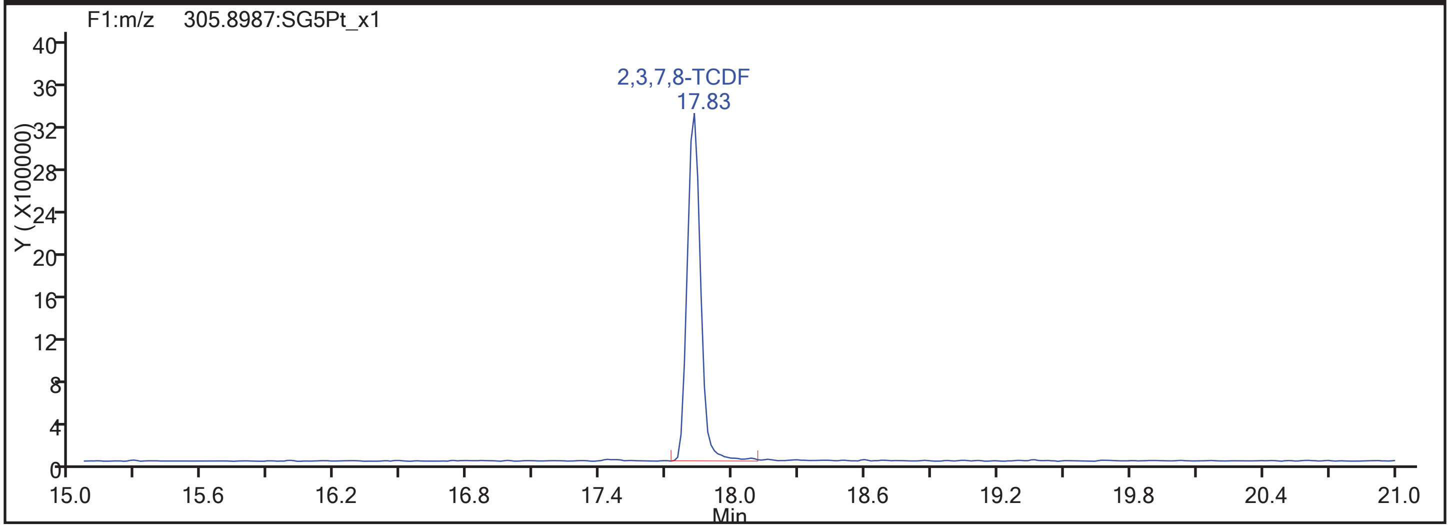
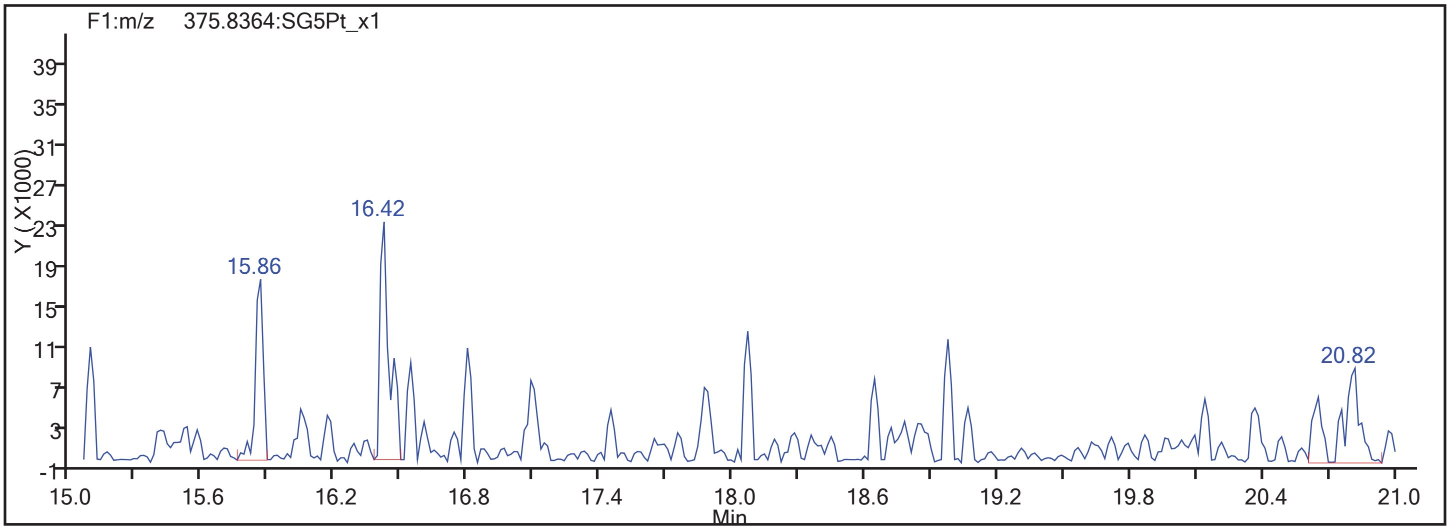
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS401		
Worklist#:	194923	Sample Line#:	2
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass



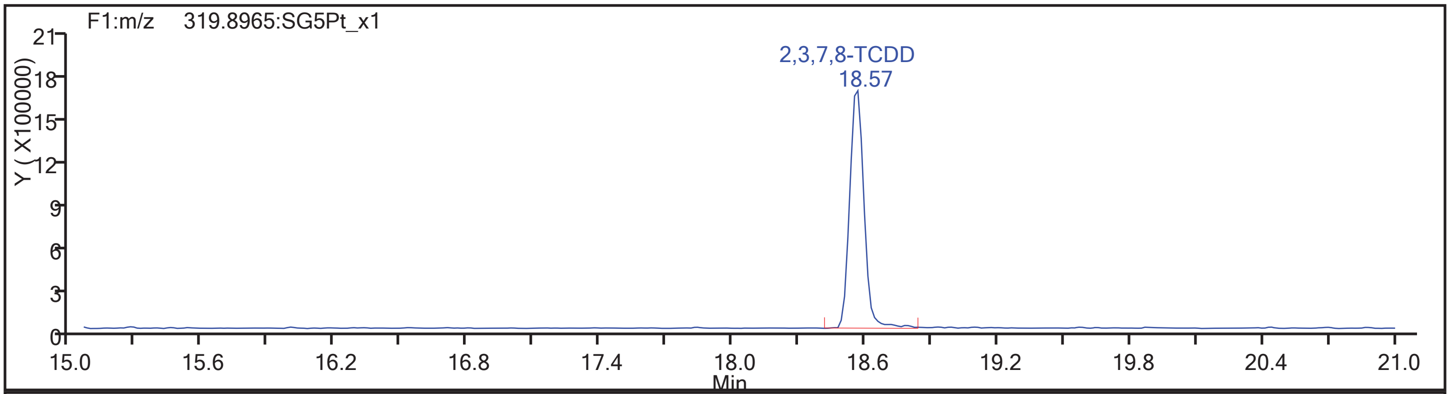
Report Date: 16-Nov-2017 09:37:26　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

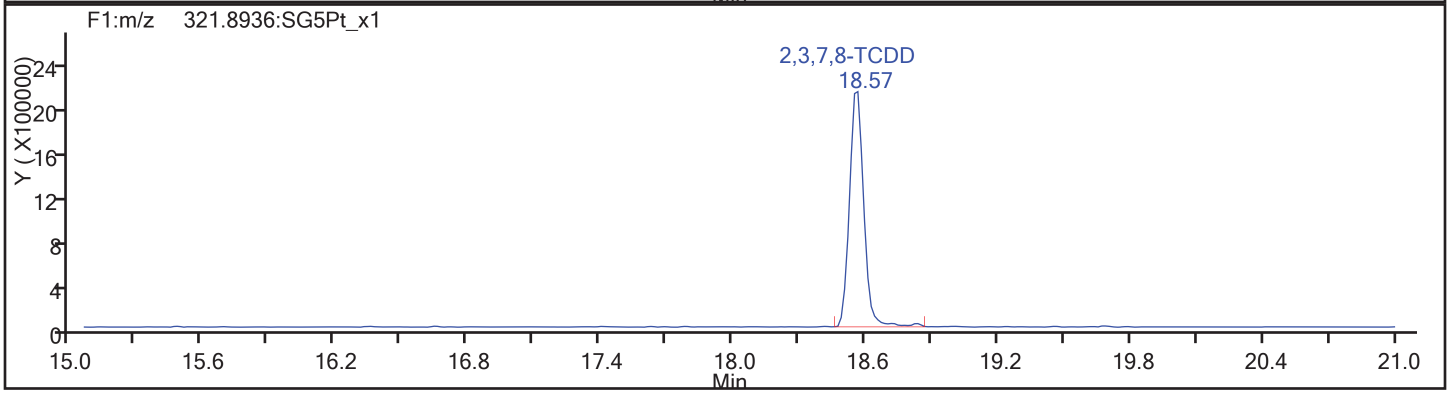
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d

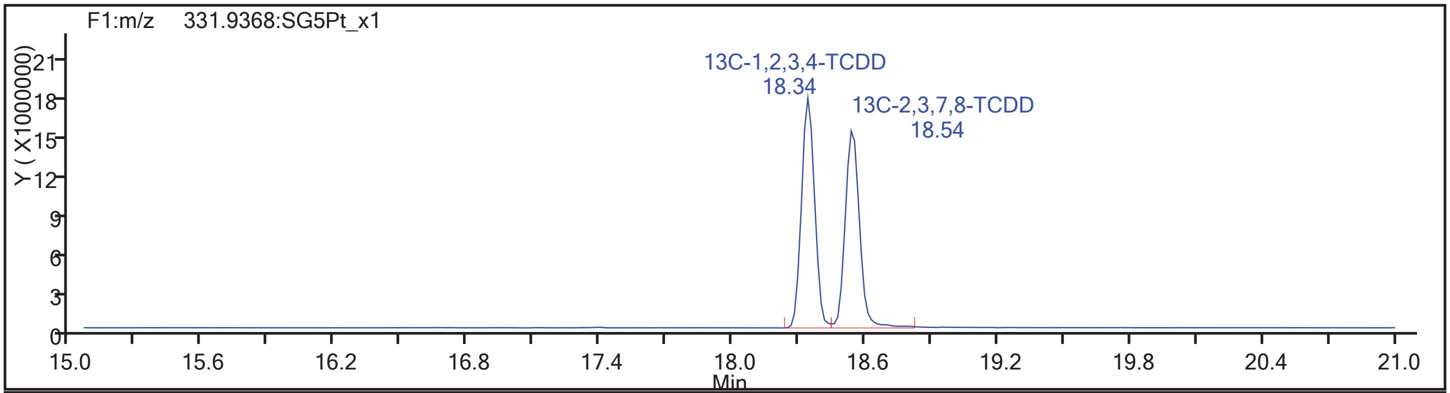
Injection Date:	15-Nov-2017 11:51:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS401		
Worklist#:	194923	Sample Line#:	2
Column Type:		Column Dia:	

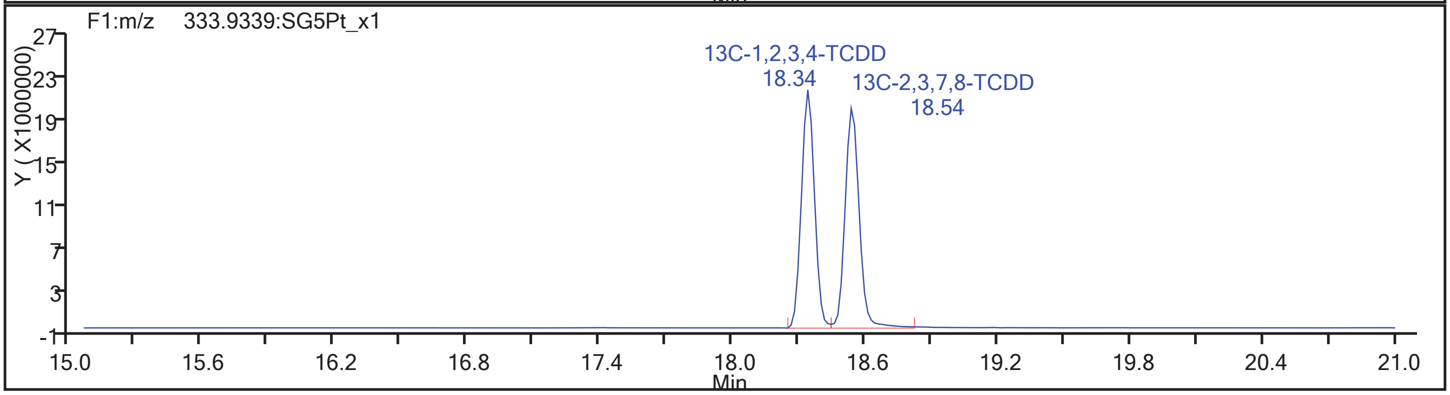
TCDD





TCDD Standards





Report Date: 16-Nov-2017 09:37:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d		
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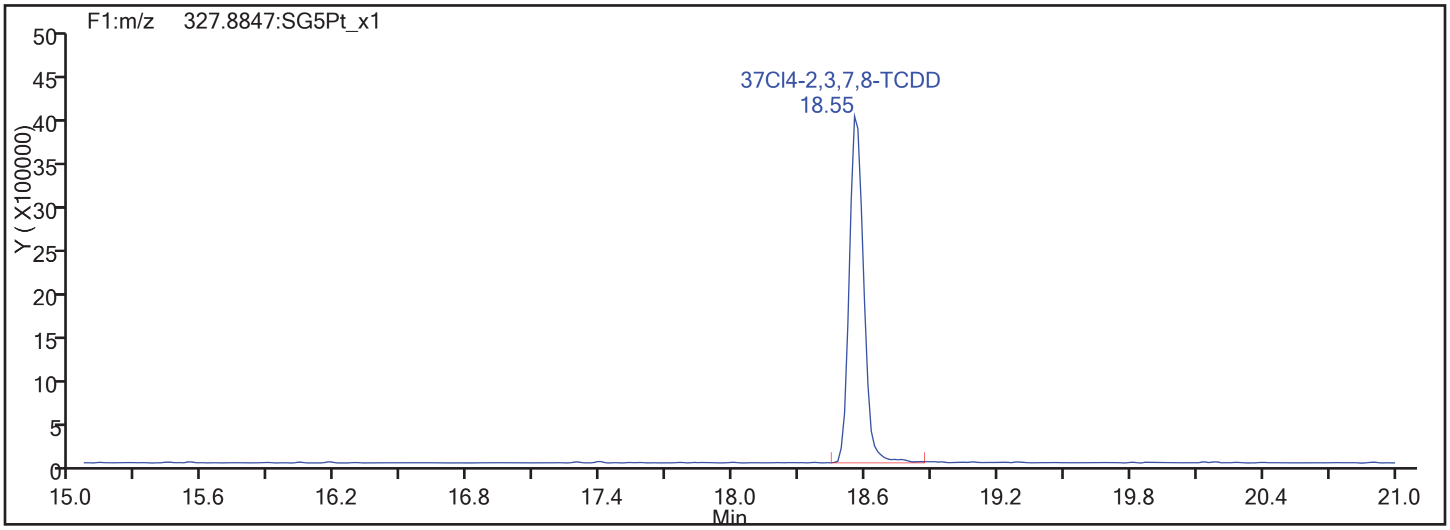
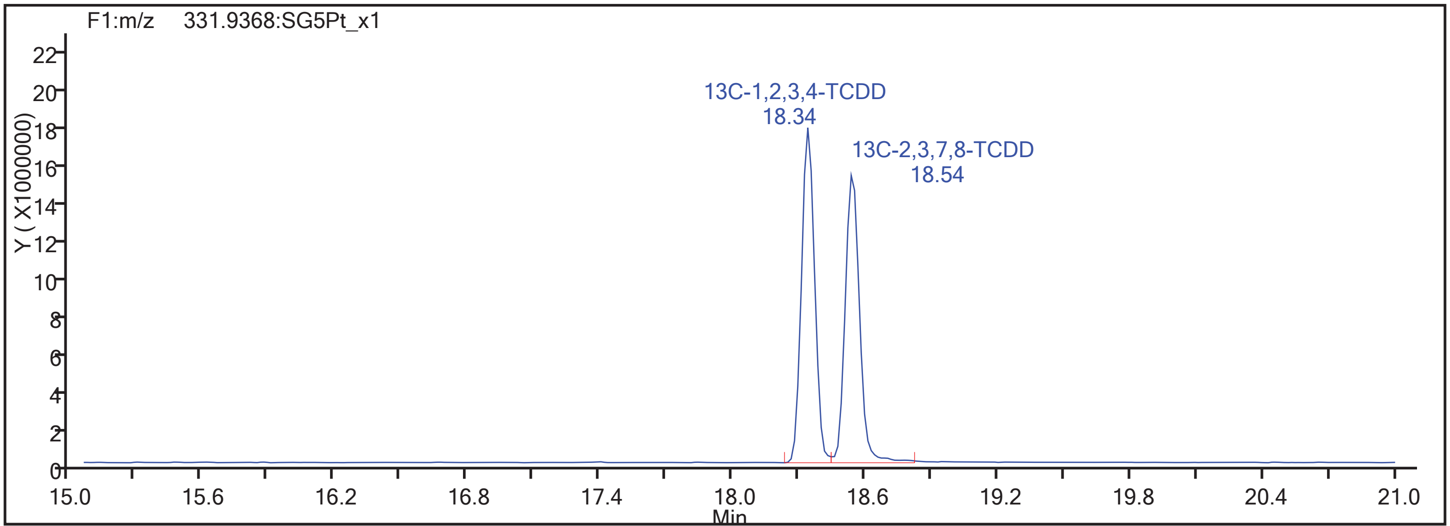
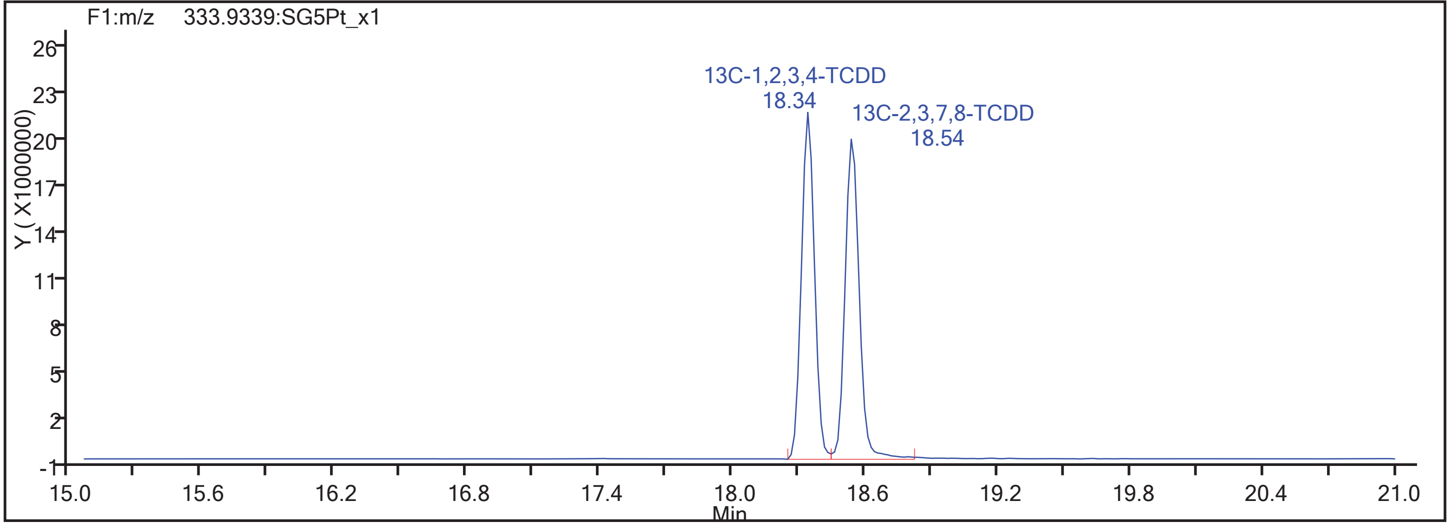
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS401		
Worklist#:	194923	Sample Line#:	2
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 16-Nov-2017 09:37:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d

Injection Date: 15-Nov-2017 11:51:45

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: CS401

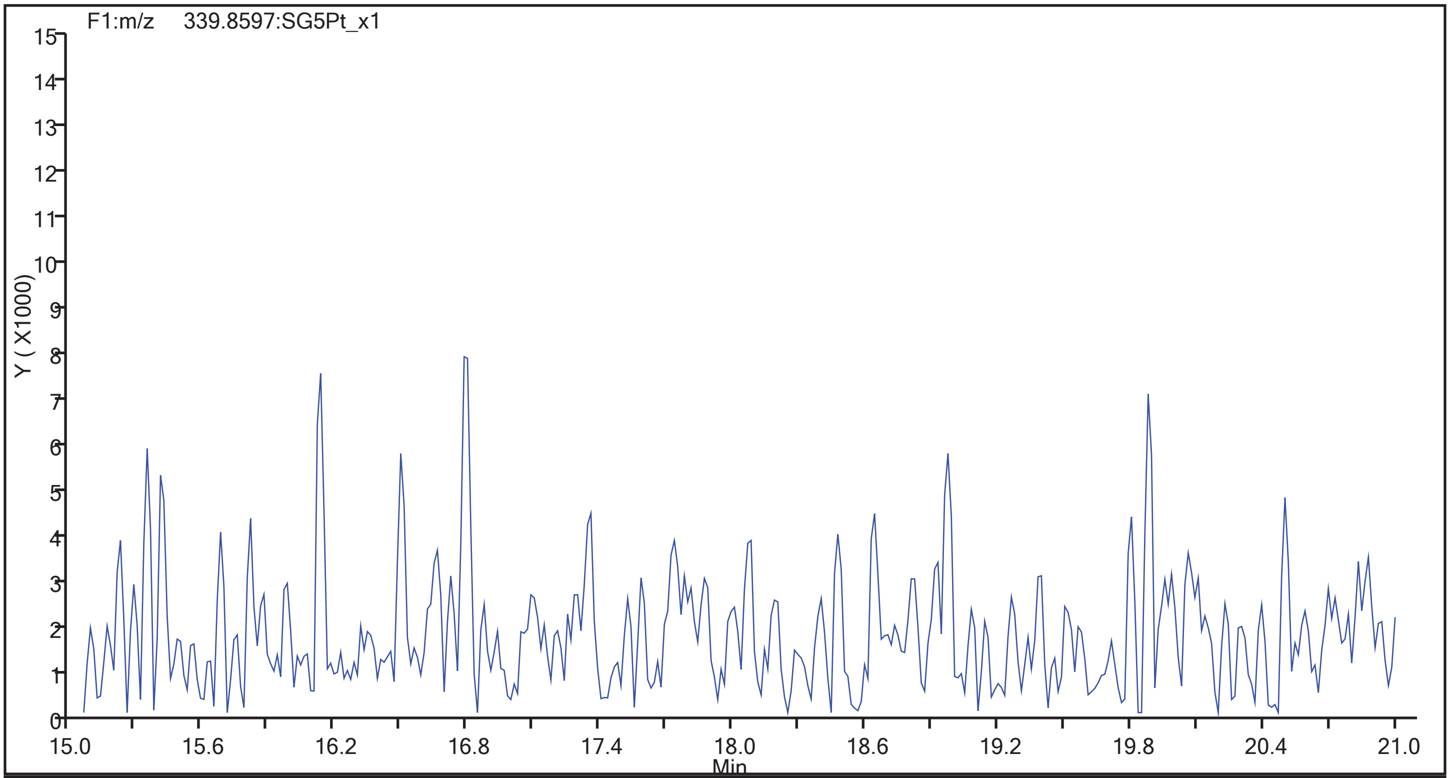
Worklist#: 194923

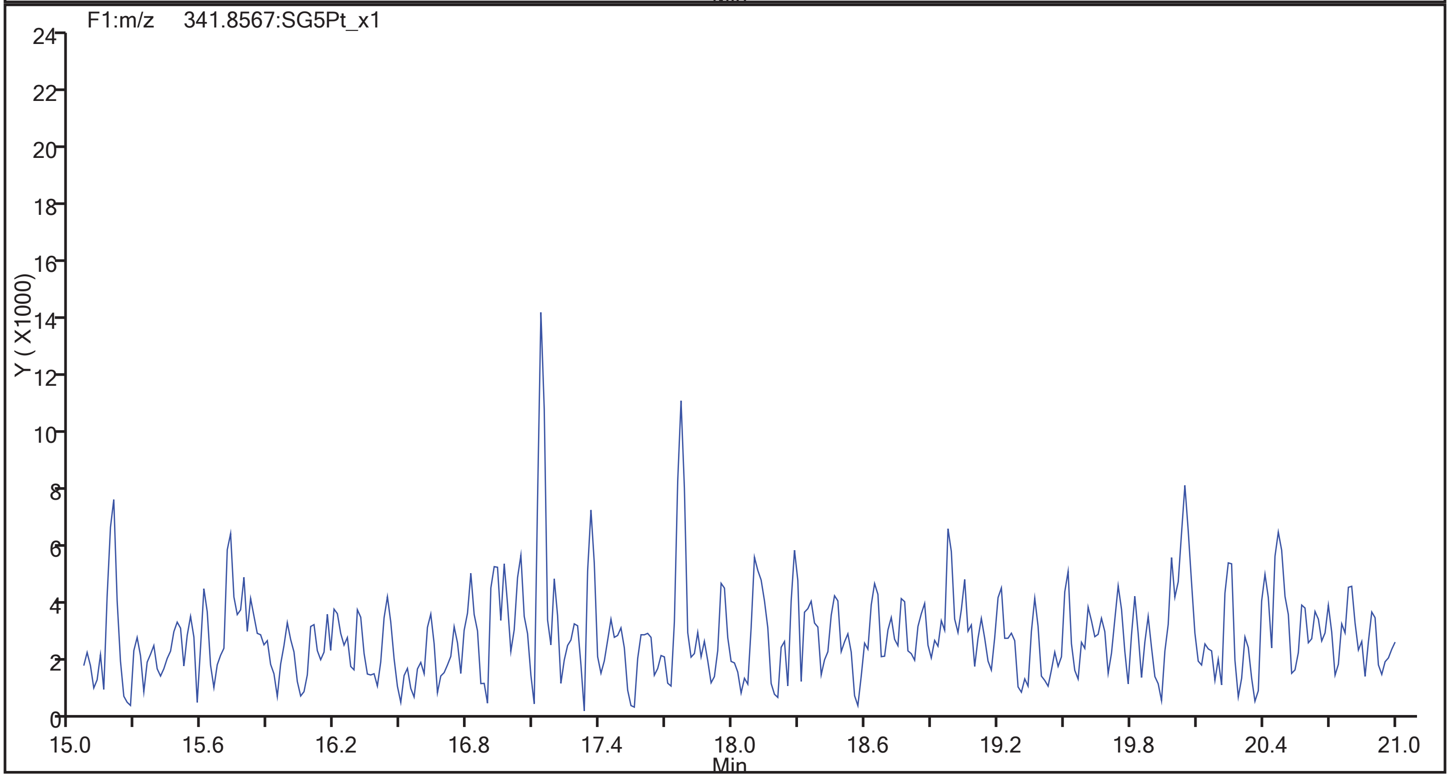
Sample Line#: 2

Column Type:

Column Dia:

F1 PeCDFs





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d

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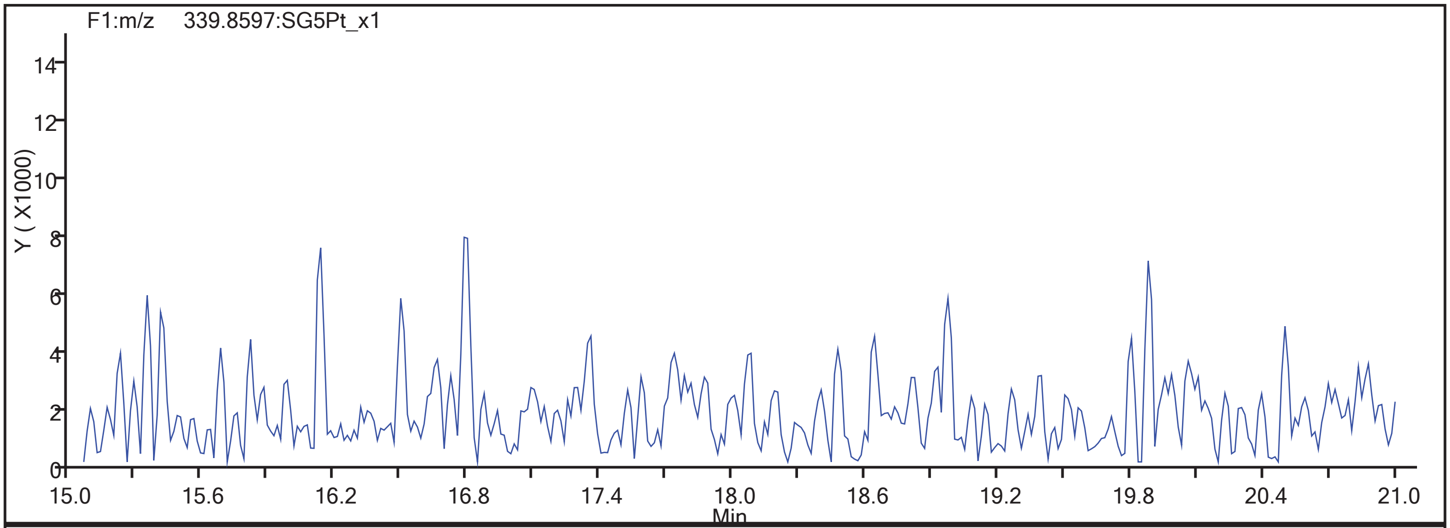
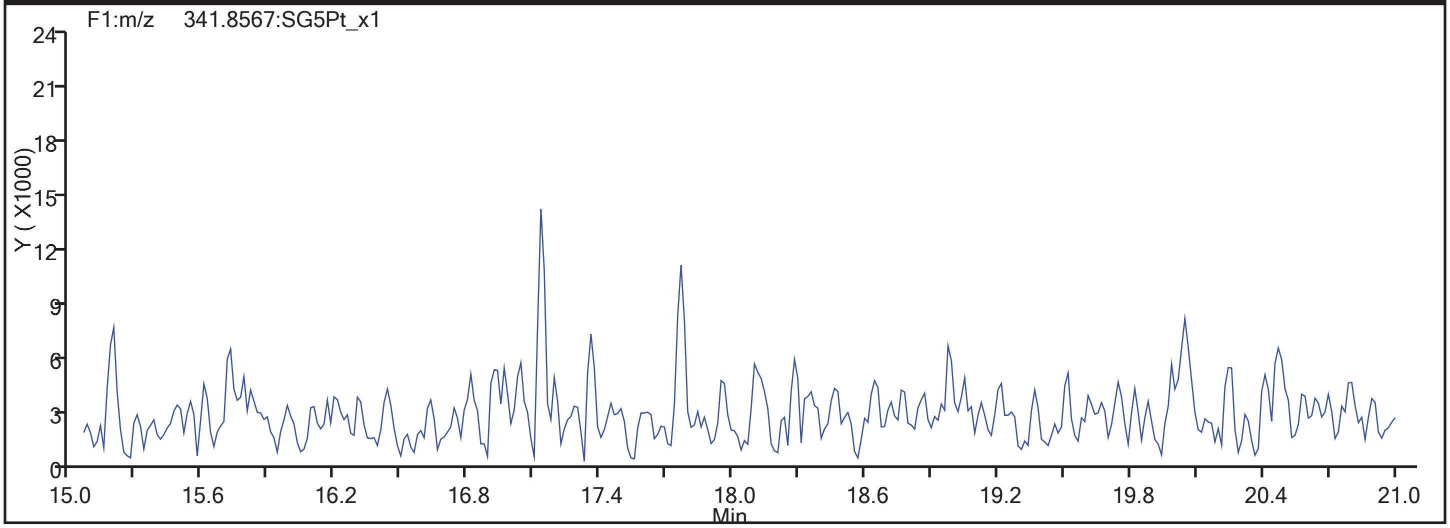
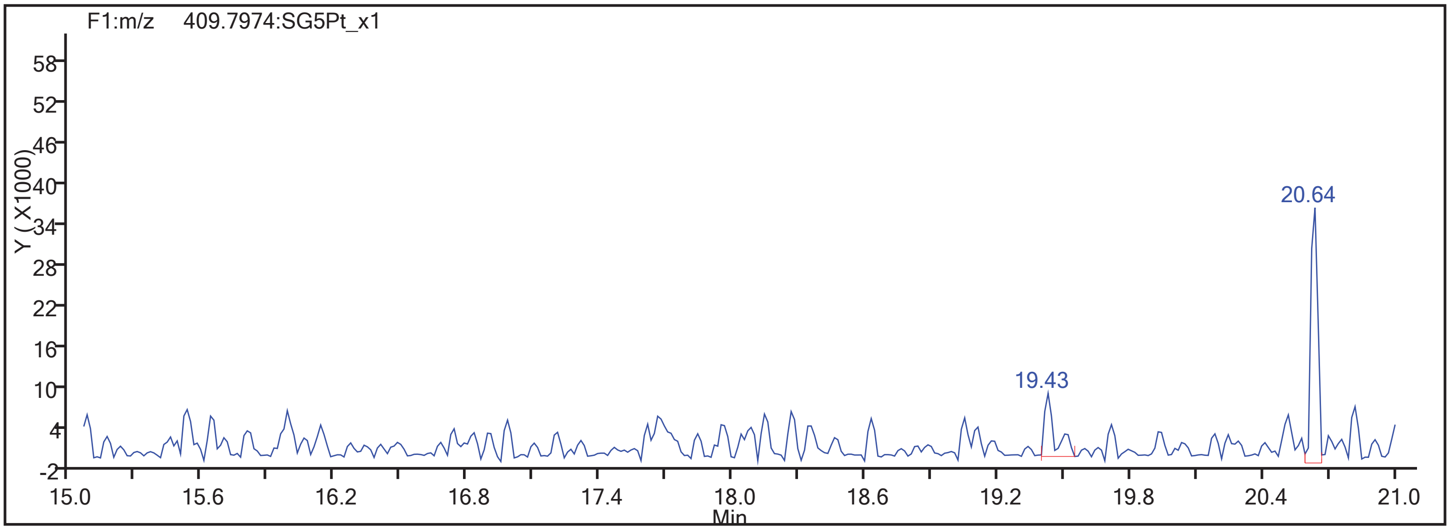
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS401		
Worklist#:	194923	Sample Line#:	2
Column Type:		Column Dia:	

F1 PeCDFs





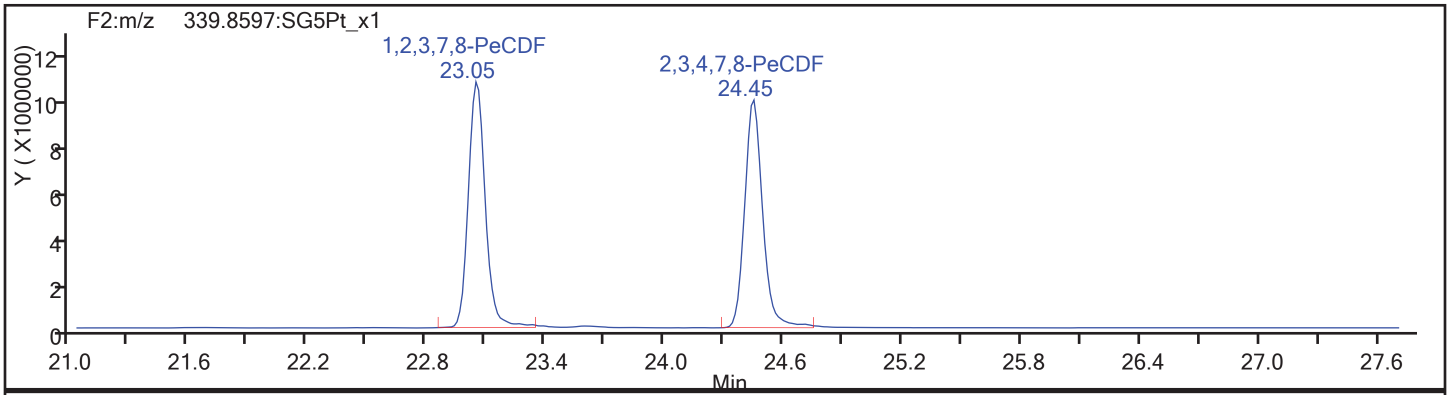
F1 PeCDFs Interference Mass

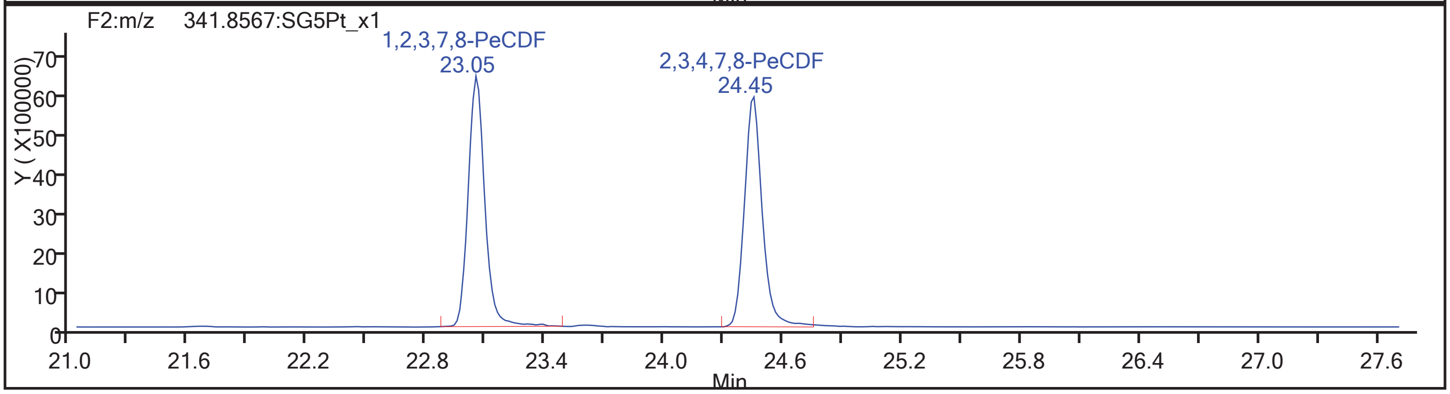


TestAmerica Sacramento

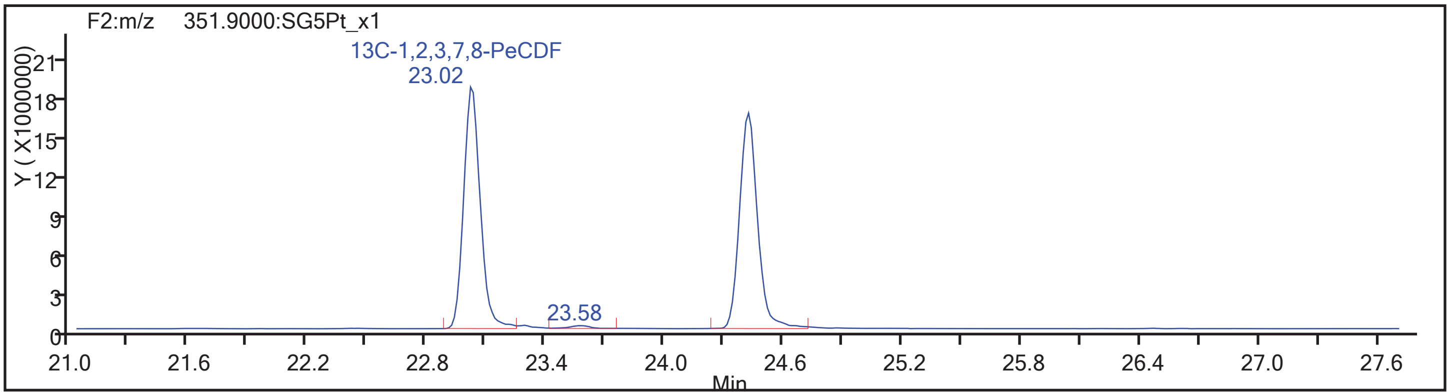
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d		
Injection Date:	15-Nov-2017 11:51:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS401		
Worklist#:	194923	Sample Line#:	2
Column Type:		Column Dia:	

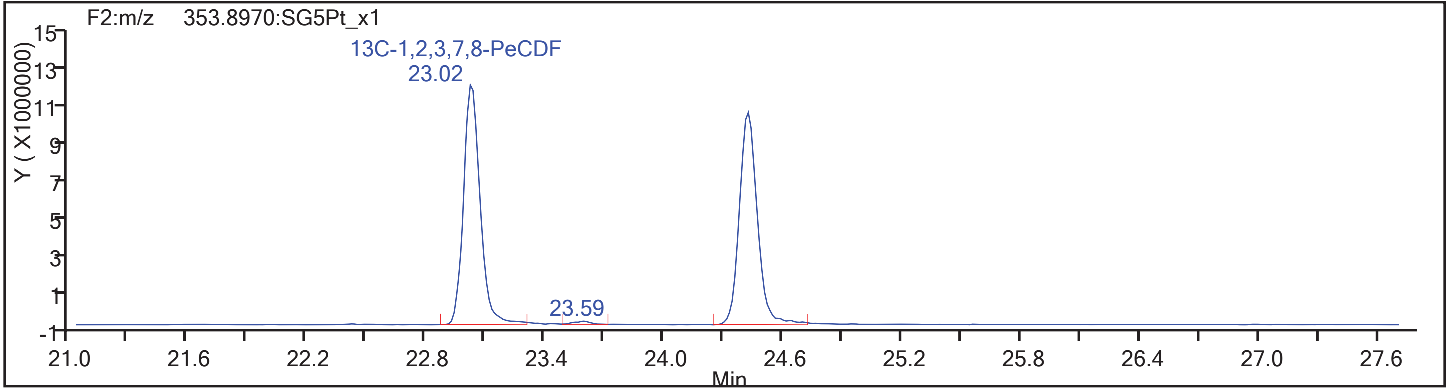
PeCDF





PeCDF Standards



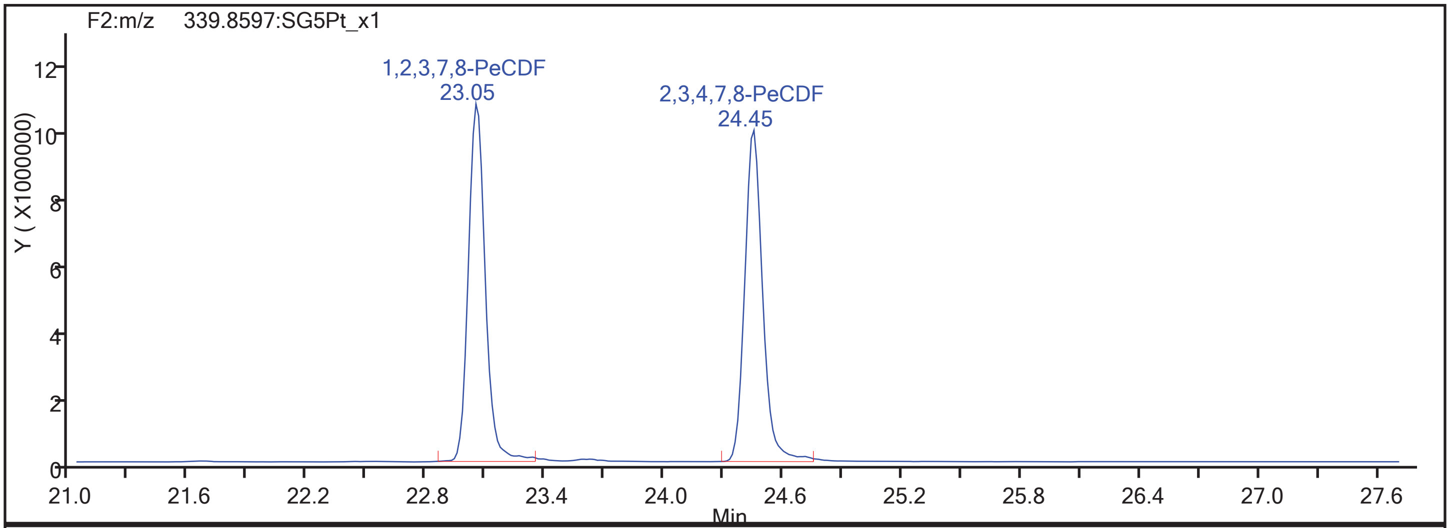


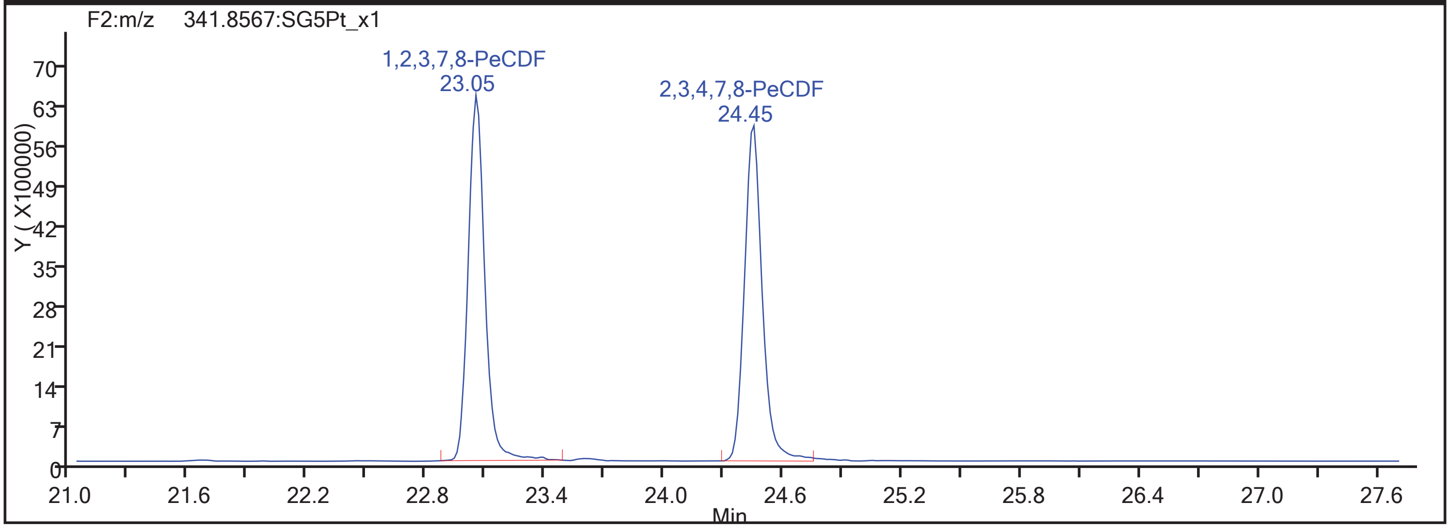
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d

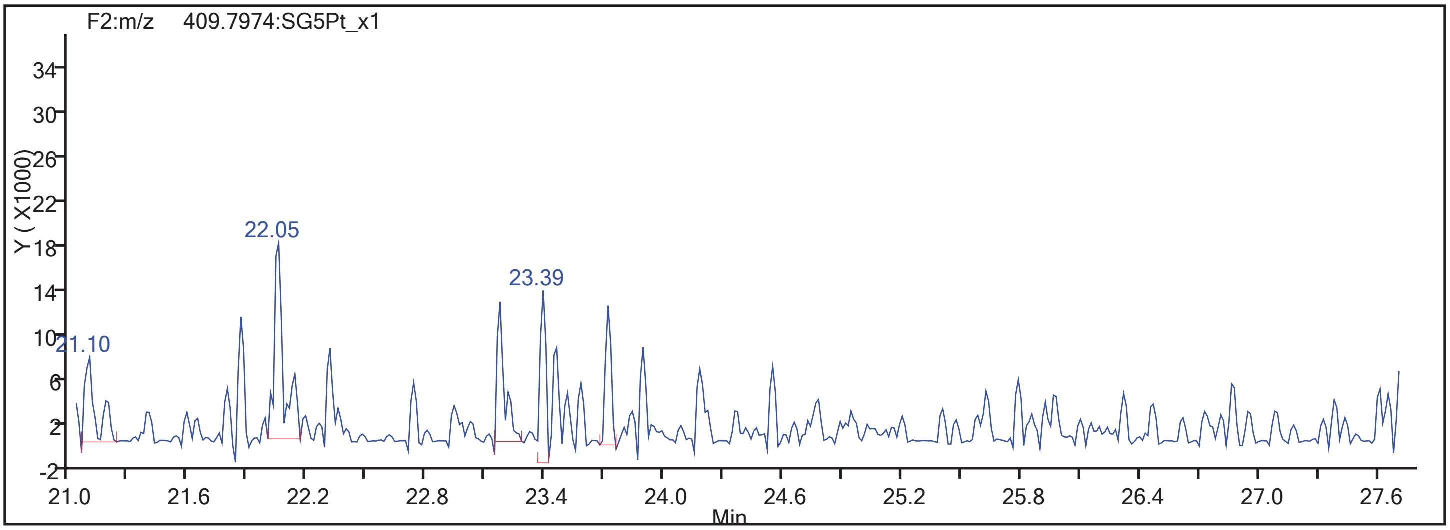
Injection Date:	15-Nov-2017 11:51:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS401		
Worklist#:	194923	Sample Line#:	2
Column Type:		Column Dia:	

PeCDF





PeCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d		
Injection Date:	15-Nov-2017 11:51:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS401		
Worklist#:	194923	Sample Line#:	2
Column Type:		Column Dia:	

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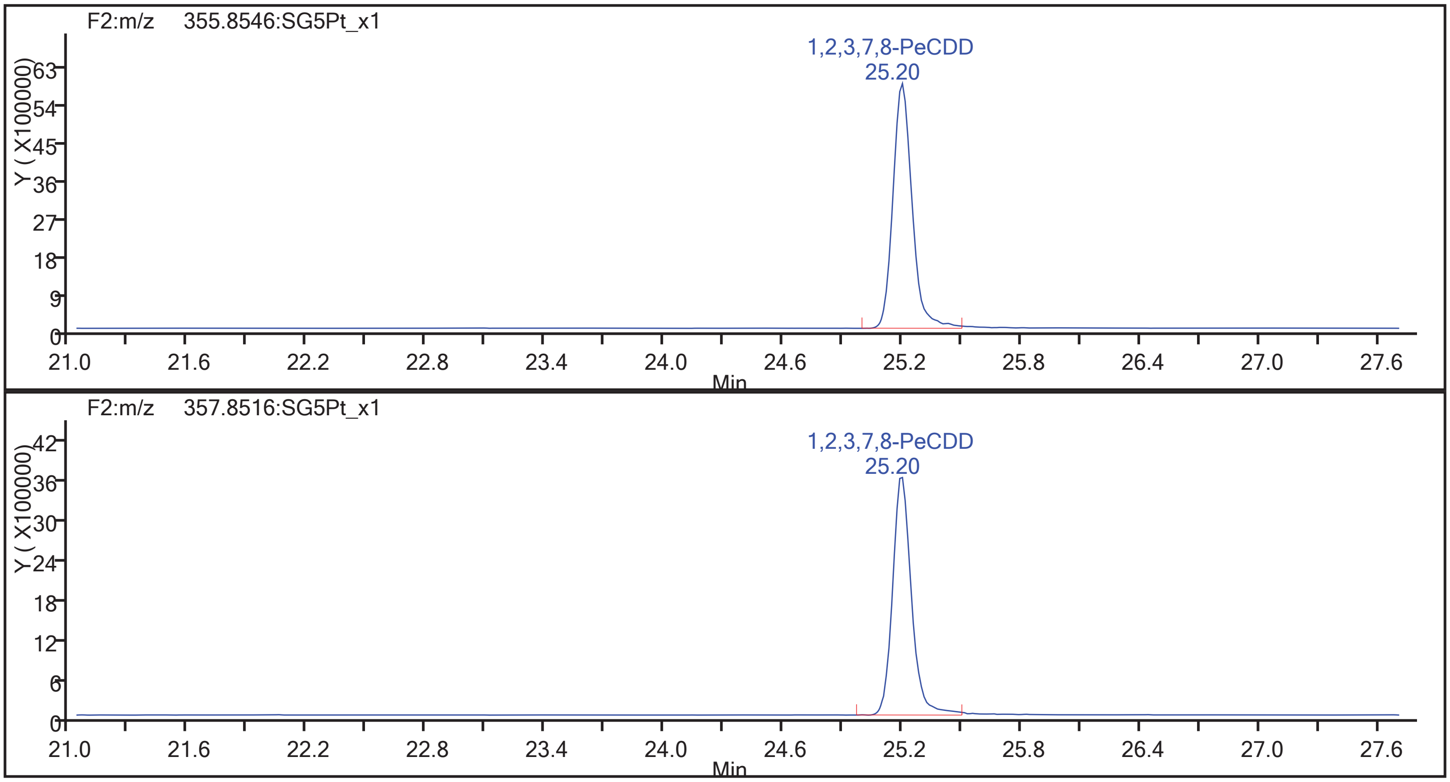
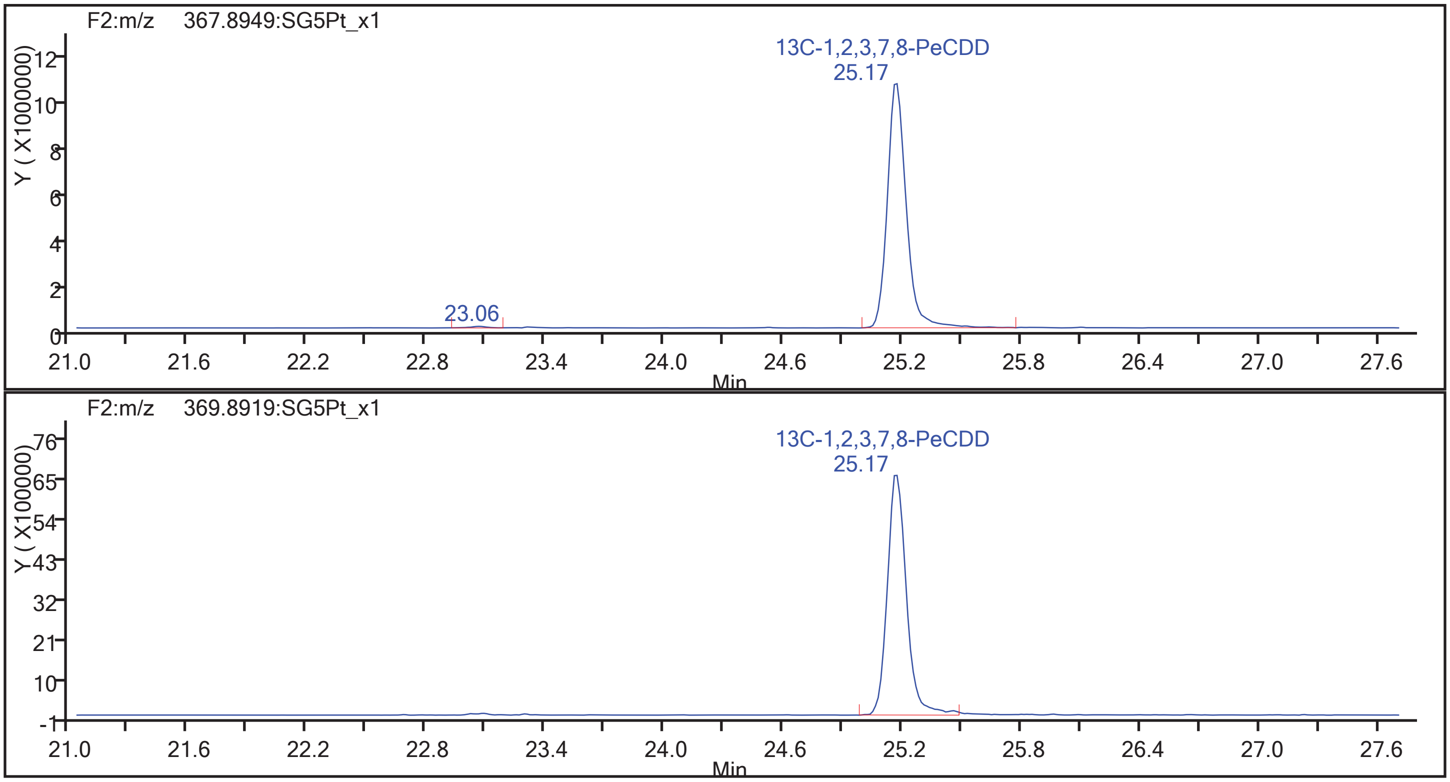


PeCDD Standards

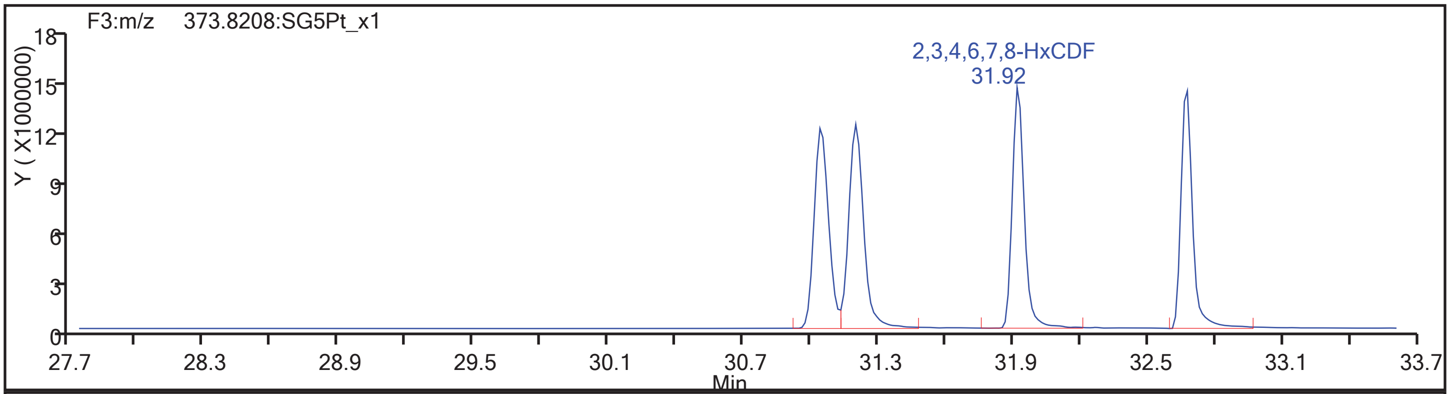


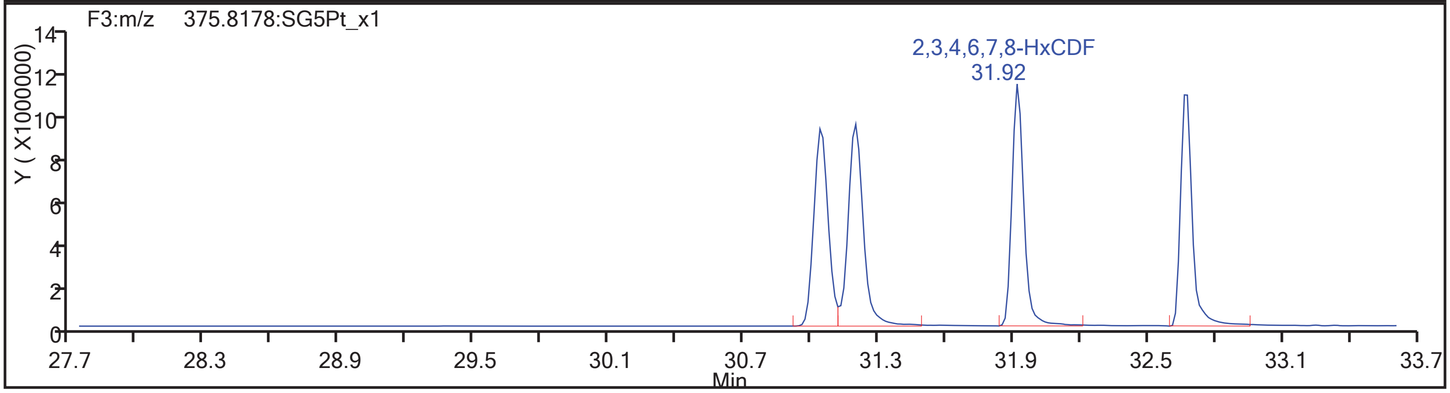
Report Date: 16-Nov-2017 09:37:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

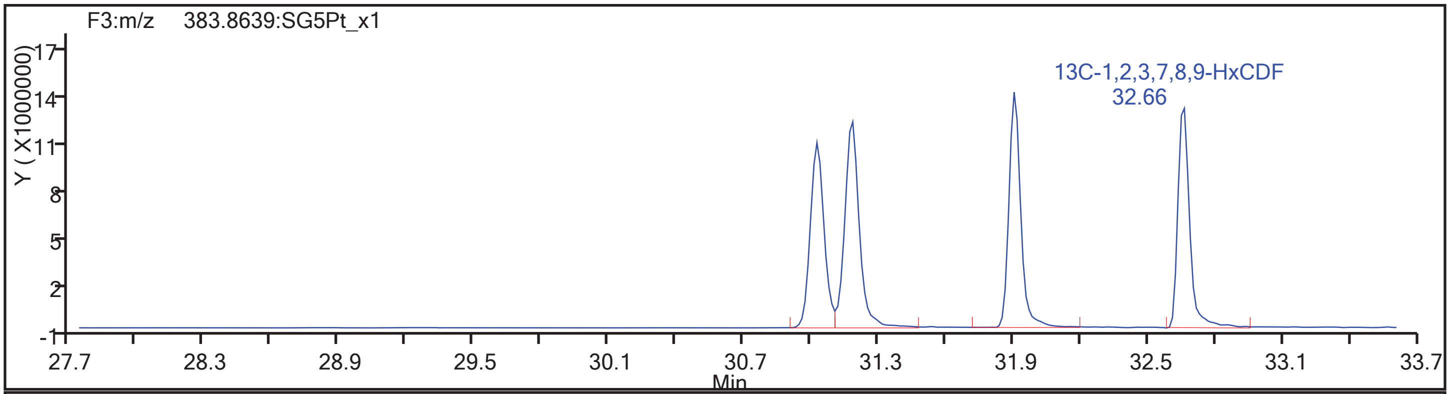
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d
Injection Date: 15-Nov-2017 11:51:45
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS401
Worklist#: 194923
Sample Line#: 2
Column Type:
Column Dia:

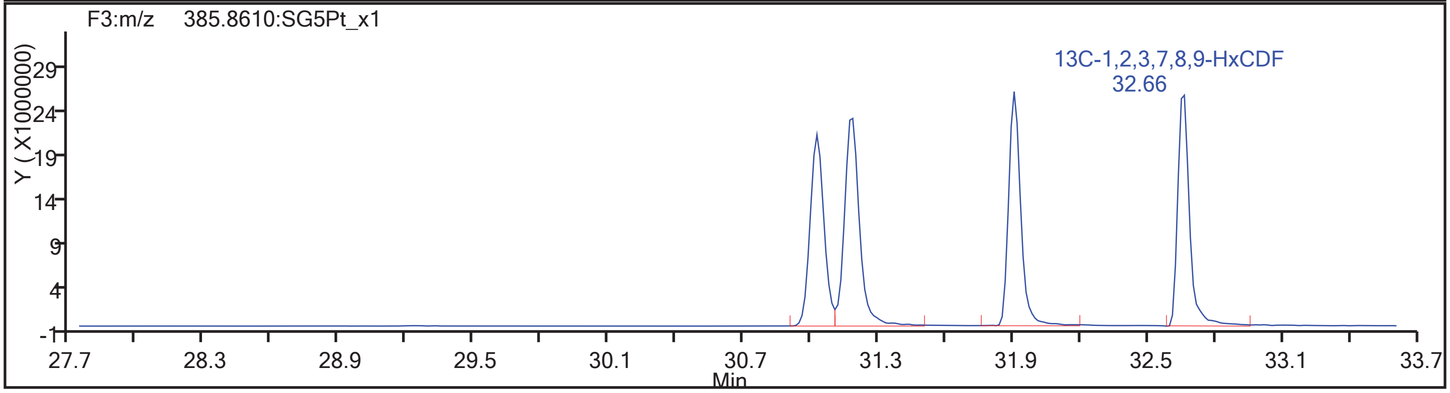
HxCDF





HxCDF Standards





Report Date: 16-Nov-2017 09:37:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d

Injection Date: 15-Nov-2017 11:51:45 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA

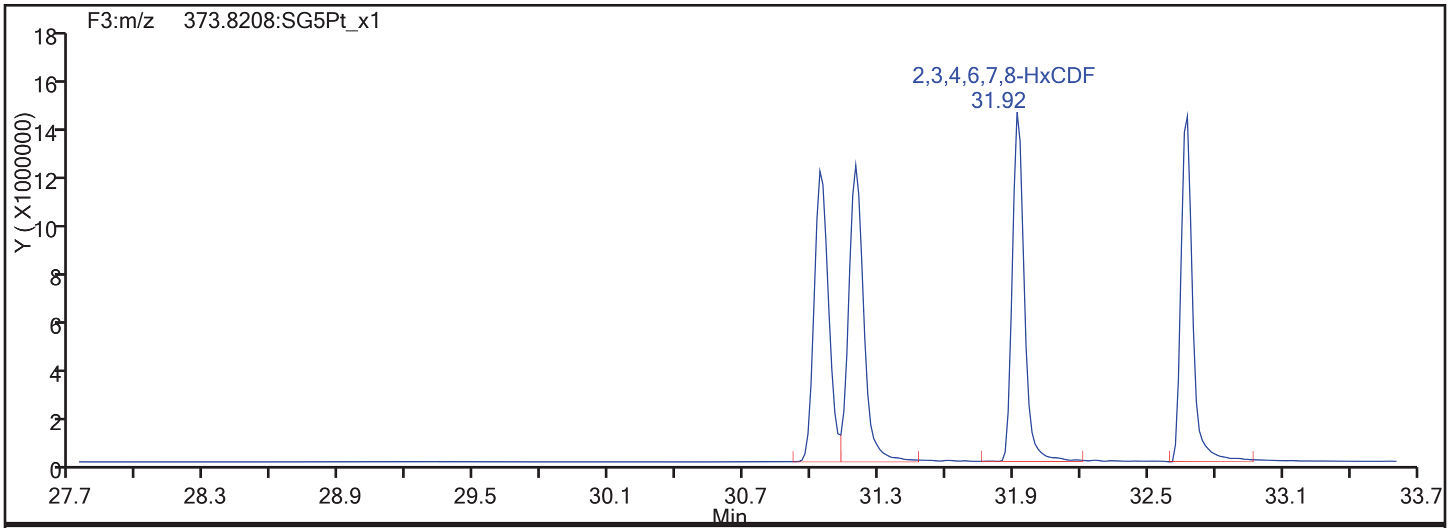
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

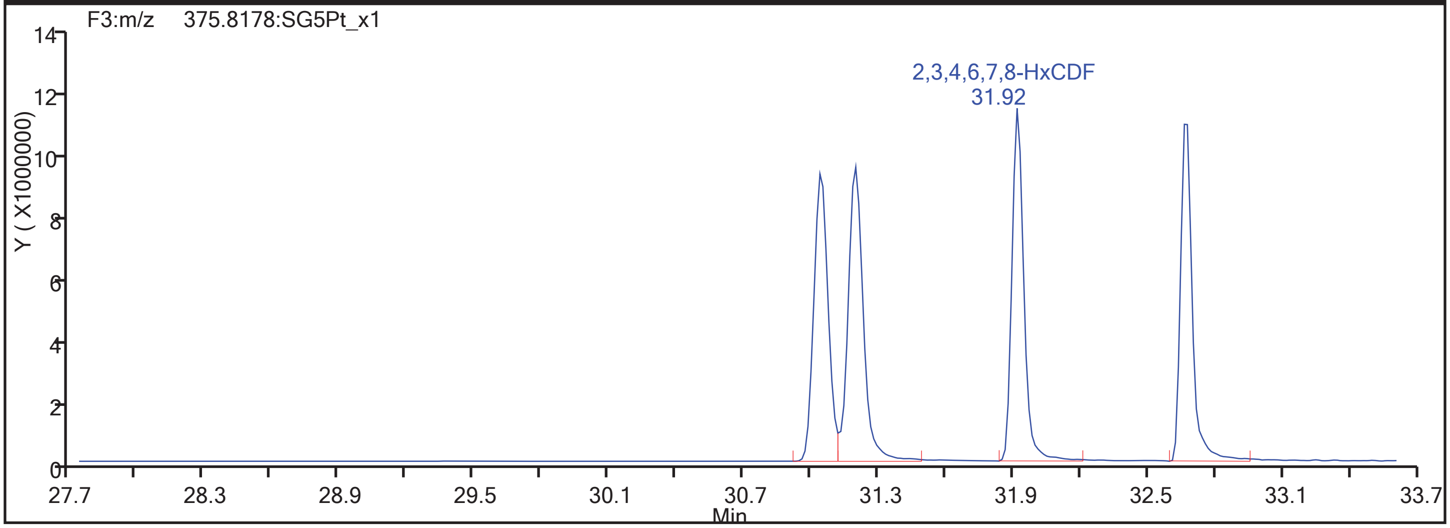
Client ID: CS401

Worklist#: 194923 Sample Line#: 2

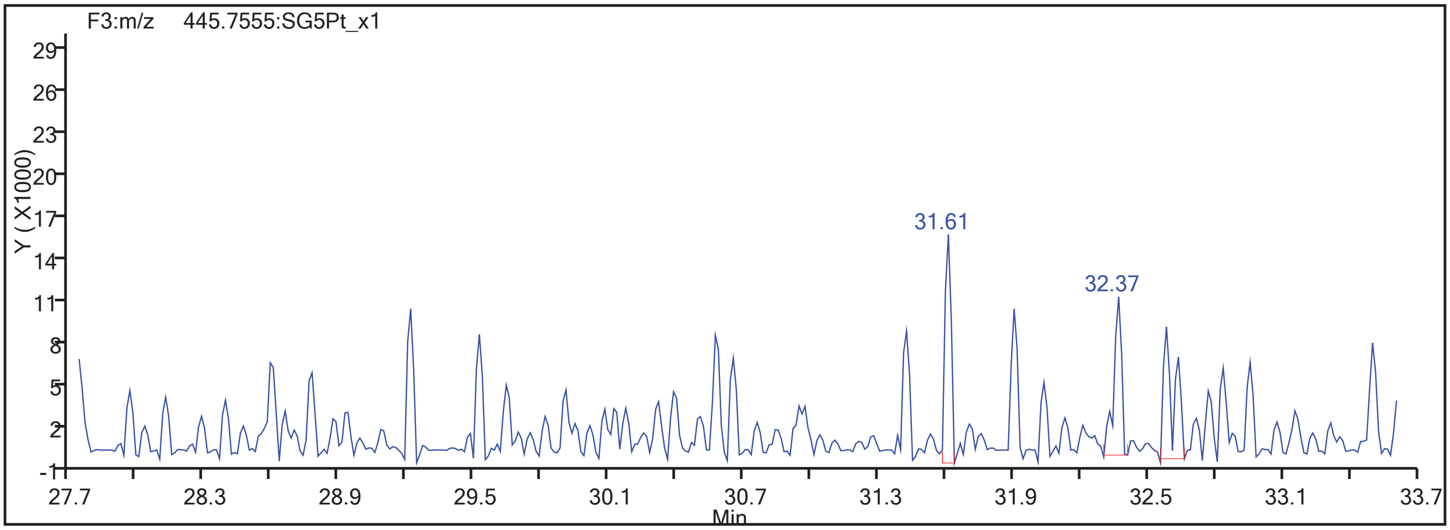
Column Type: Column Dia:

HxCDF





HxCDF Interference Mass

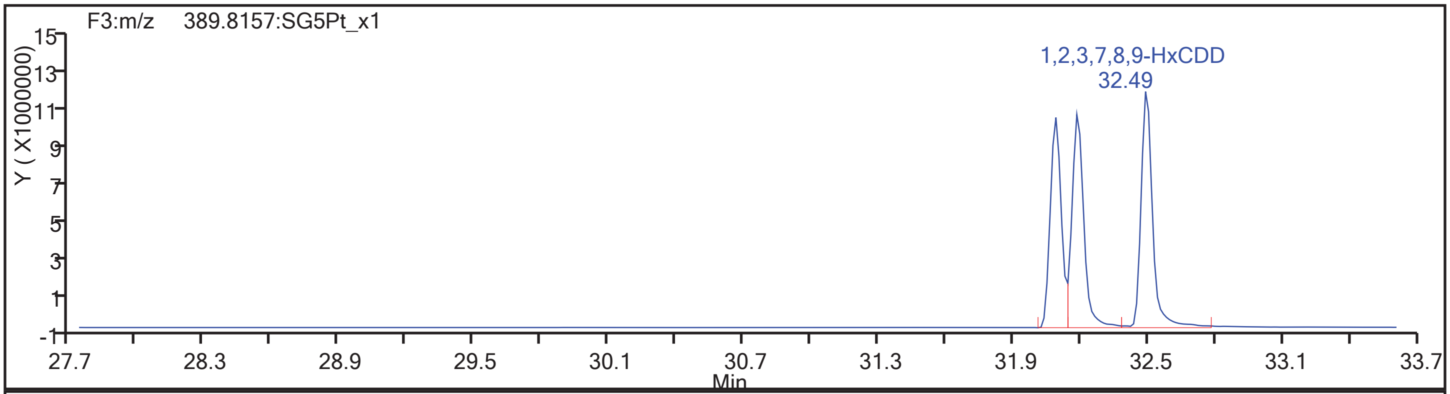


Report Date: 16-Nov-2017 09:37:26
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d
Injection Date: 15-Nov-2017 11:51:45
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS401
Worklist#: 194923
Sample Line#: 2
Column Type:
Column Dia:

HxCDD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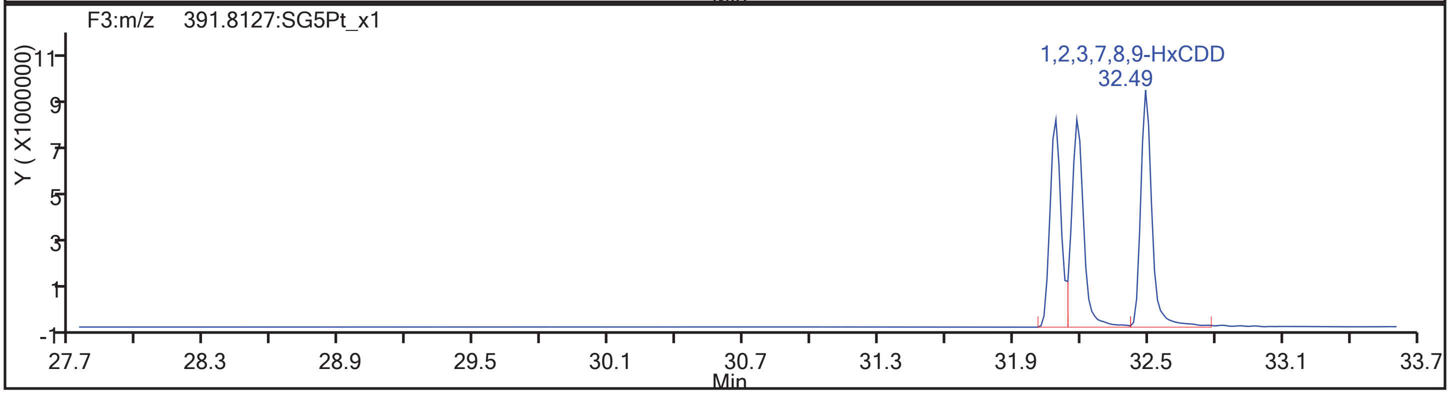
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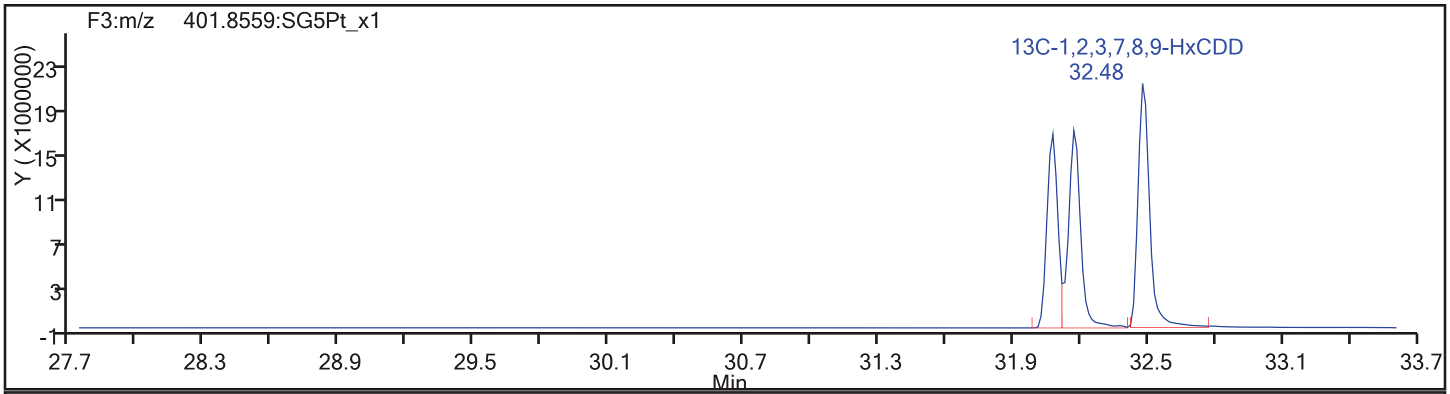
HxCDD Standards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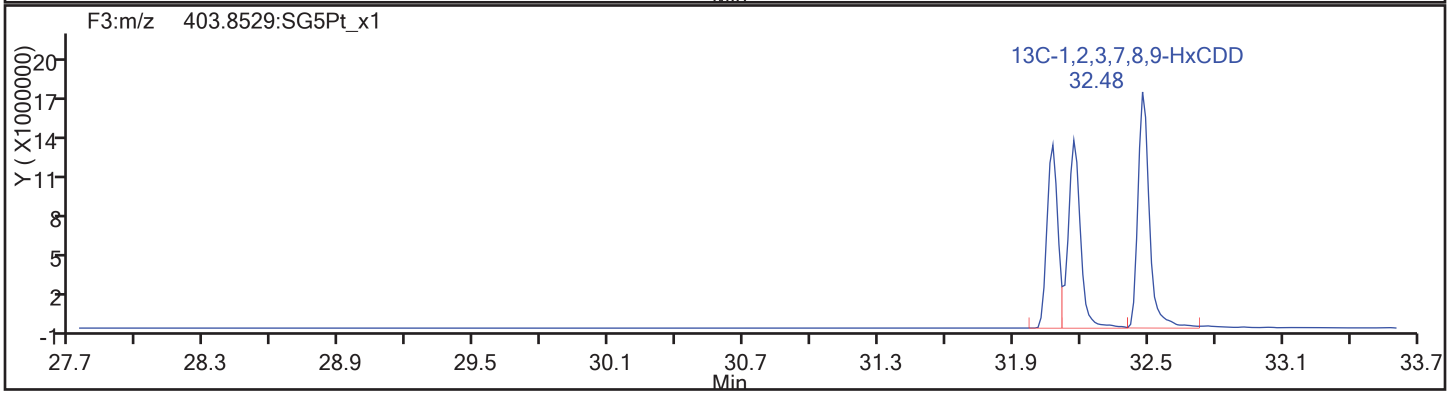
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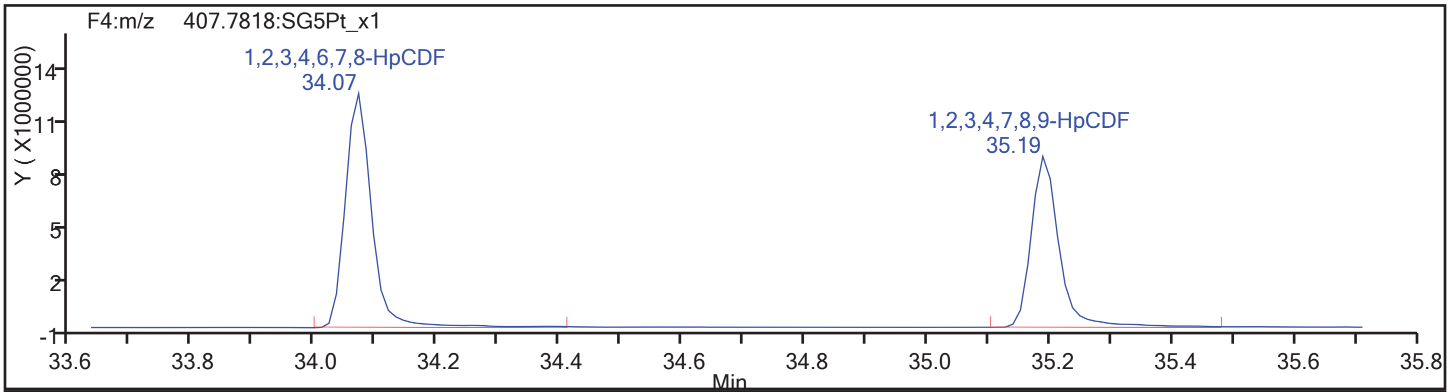
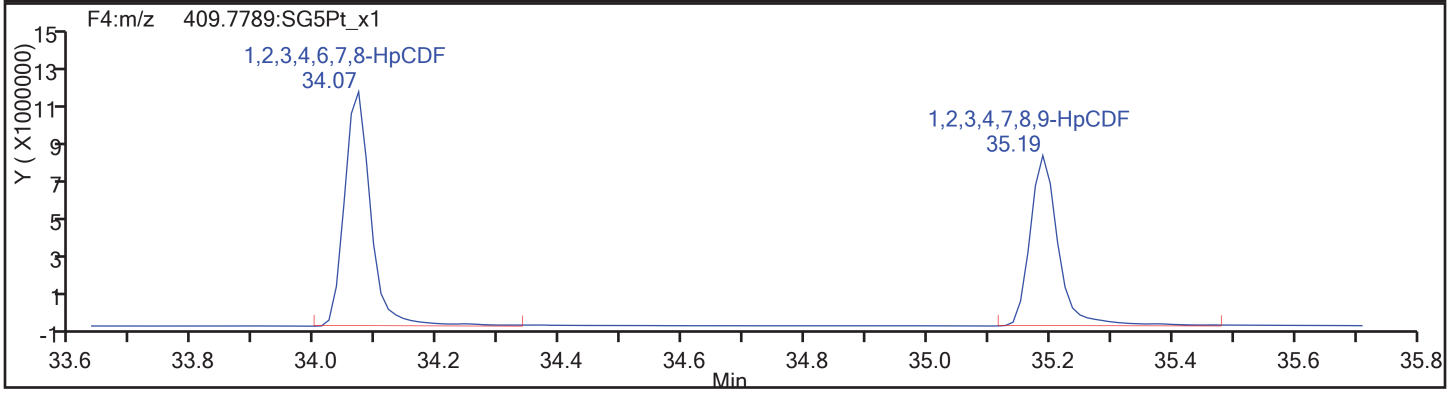
Report Date: 16-Nov-2017 09:37:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

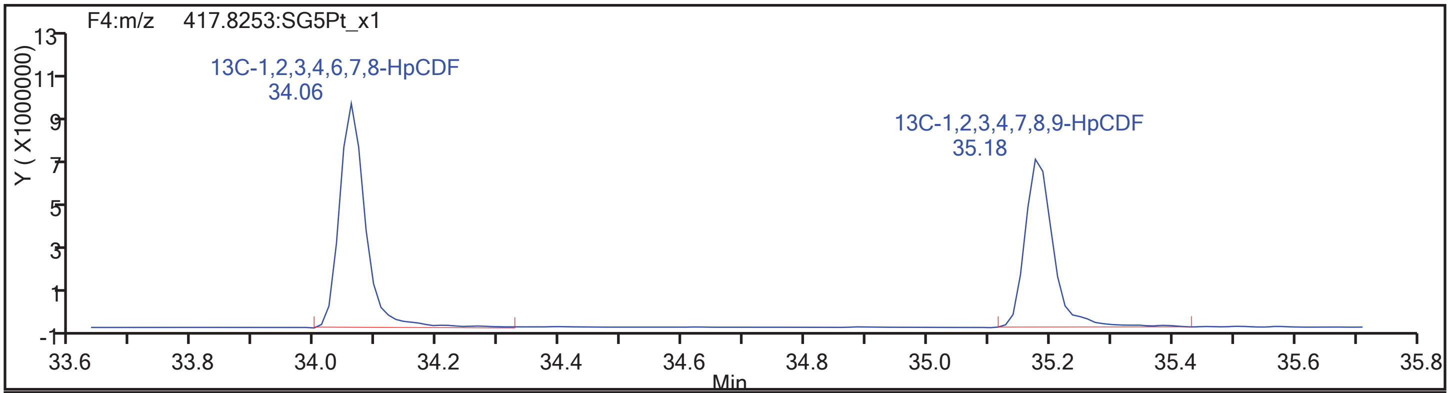
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d
Injection Date: 15-Nov-2017 11:51:45 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS401
Worklist#: 194923 Sample Line#: 2
Column Type: Column Dia:

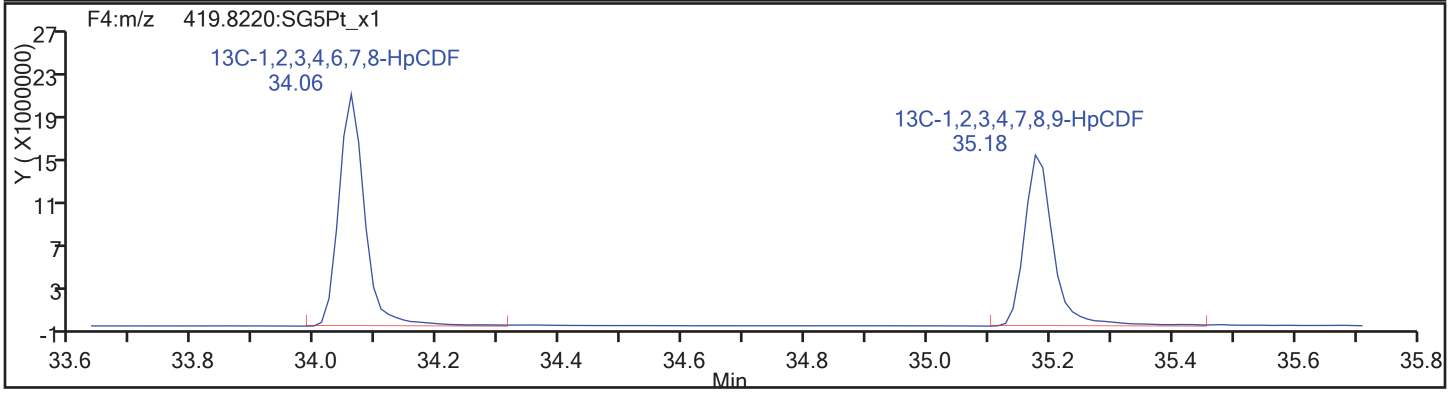
HpCDF





HpCDF Standards

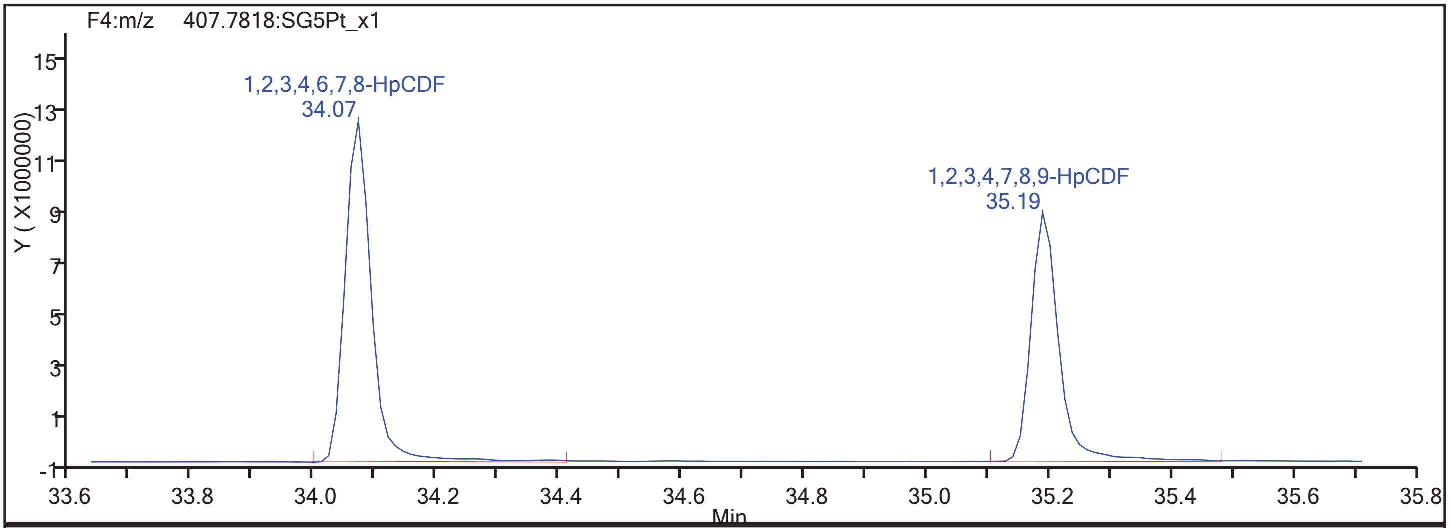


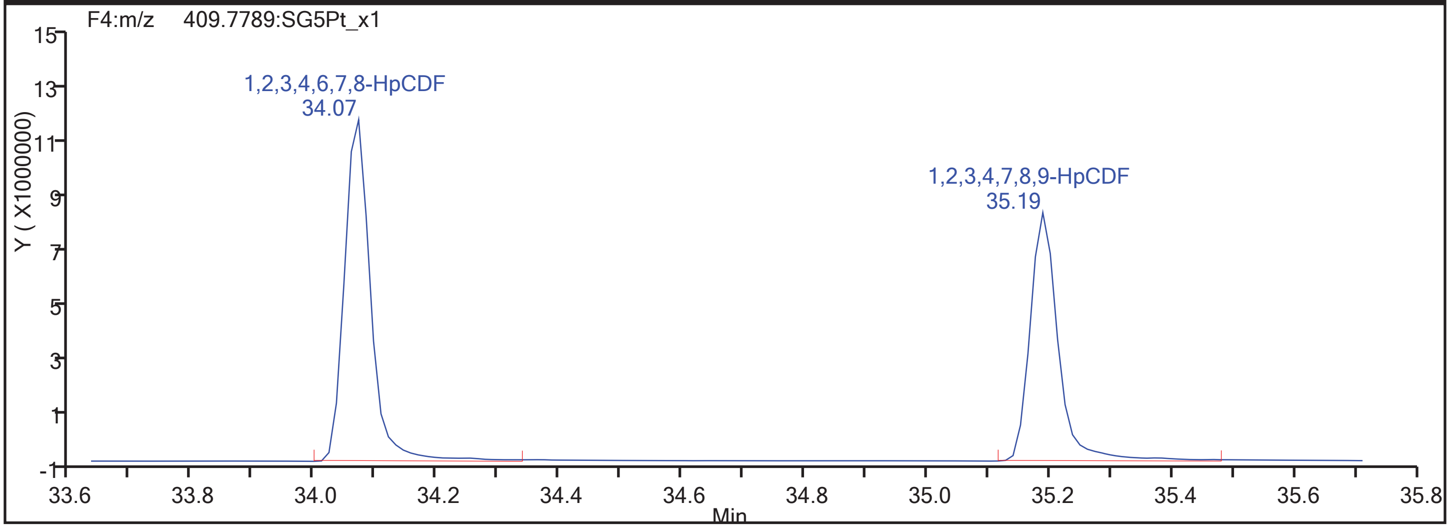


TestAmerica Sacramento

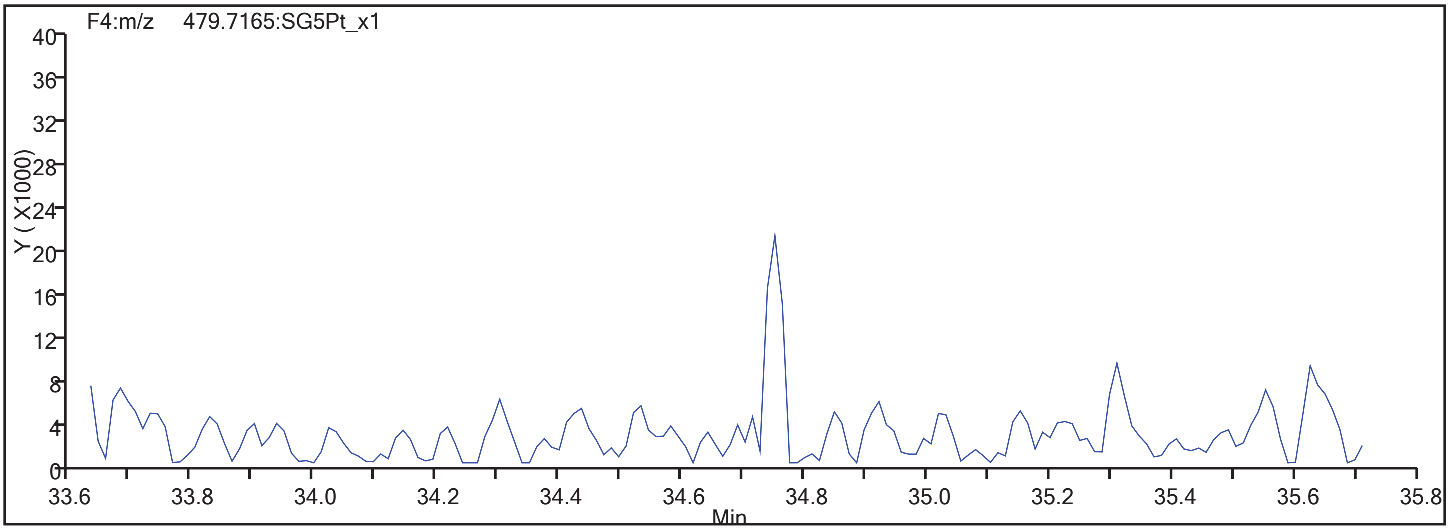
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d		
Injection Date:	15-Nov-2017 11:51:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS401		
Worklist#:	194923	Sample Line#:	2
Column Type:		Column Dia:	

HpCDF





HpCDF Interference Mass



Report Date: 16-Nov-2017 09:37:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d
Injection Date: 15-Nov-2017 11:51:45
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
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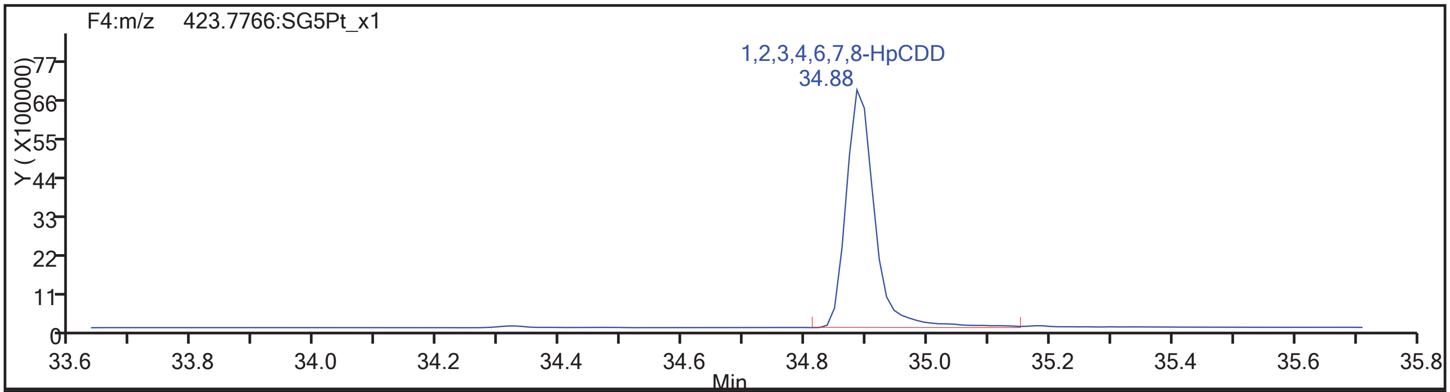
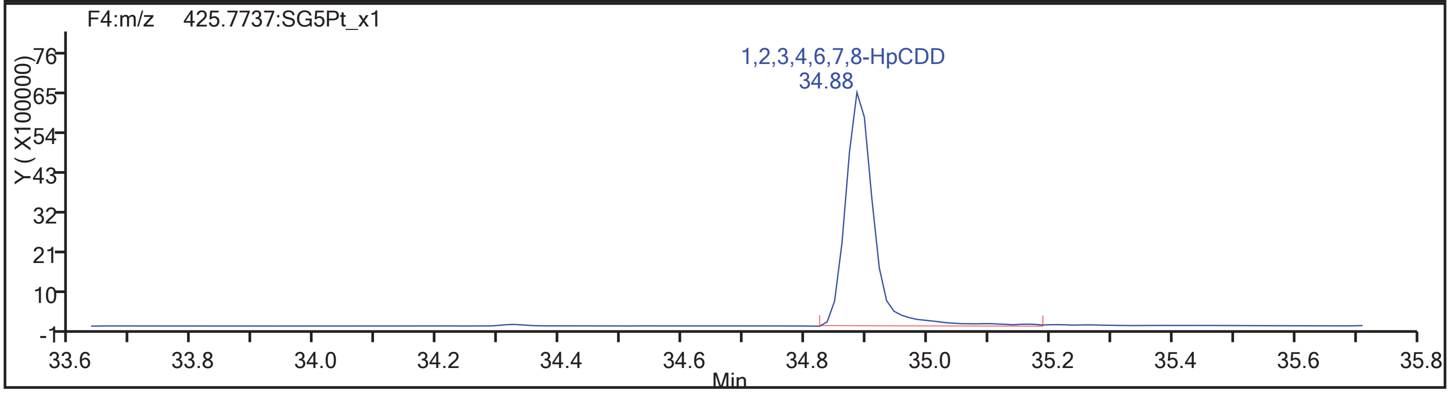
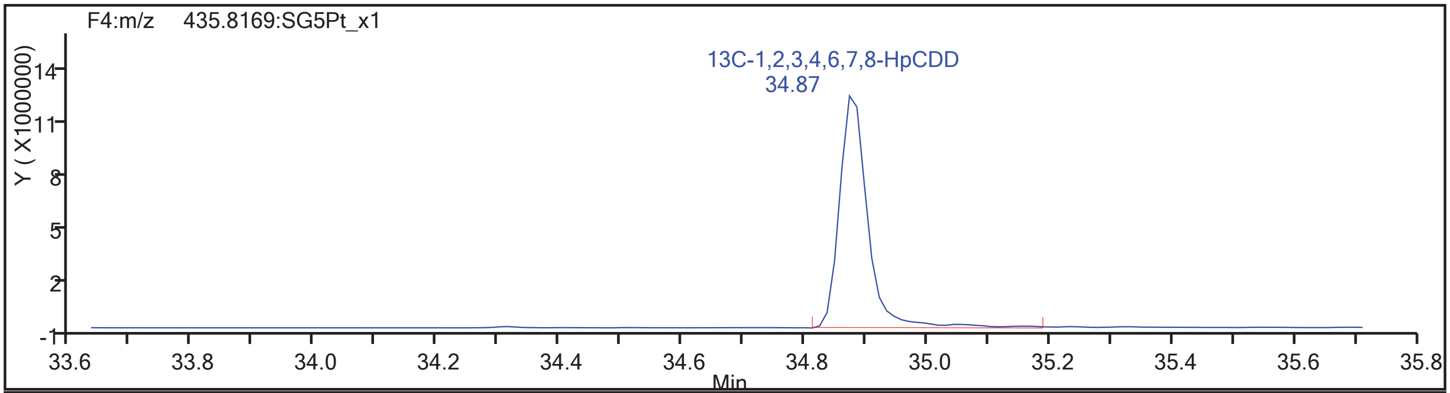
Client ID: CS401
Worklist#: 194923
Sample Line#: 2
Column Type:
Column Dia:

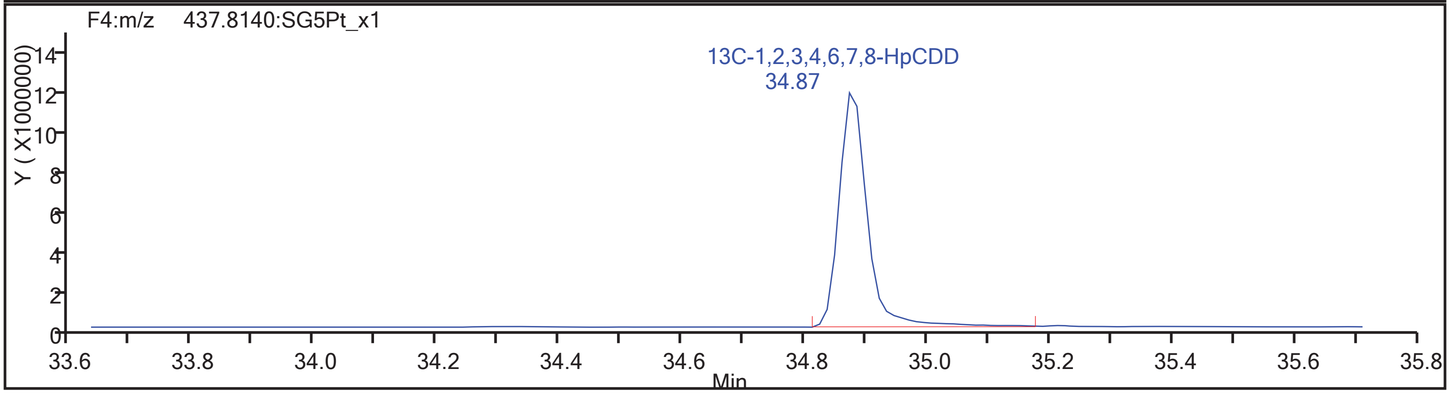
HpCDD





HpCDD Standards



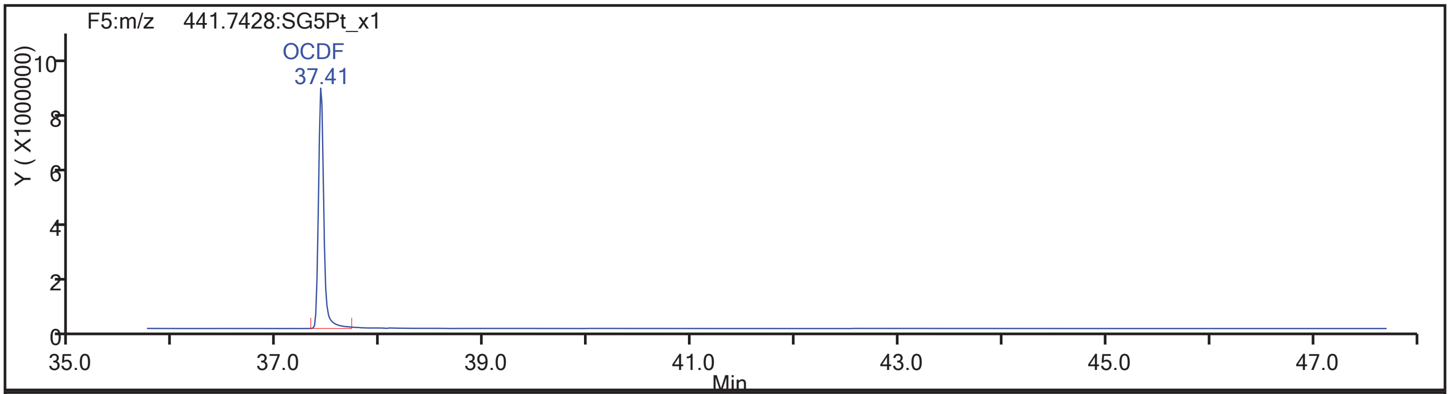


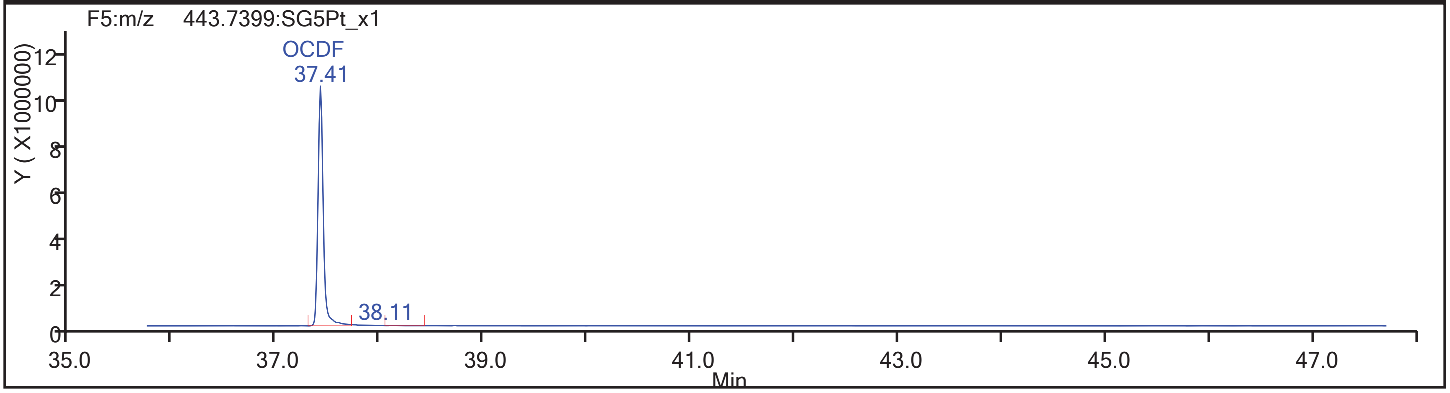
Report Date: 16-Nov-2017 09:37:26   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

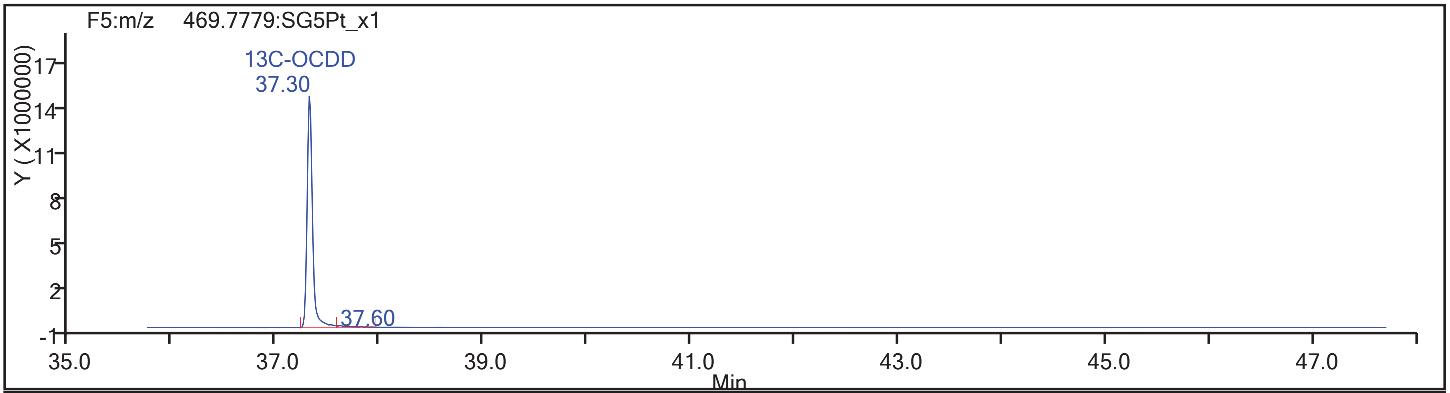
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d
Injection Date: 15-Nov-2017 11:51:45   Injection Vol: 2.0 ul
Instrument ID: 3D5   Operator ID: SMA
Method: Dioxin_3D5   Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS401
Worklist#: 194923   Sample Line#: 2
Column Type: Column Dia:

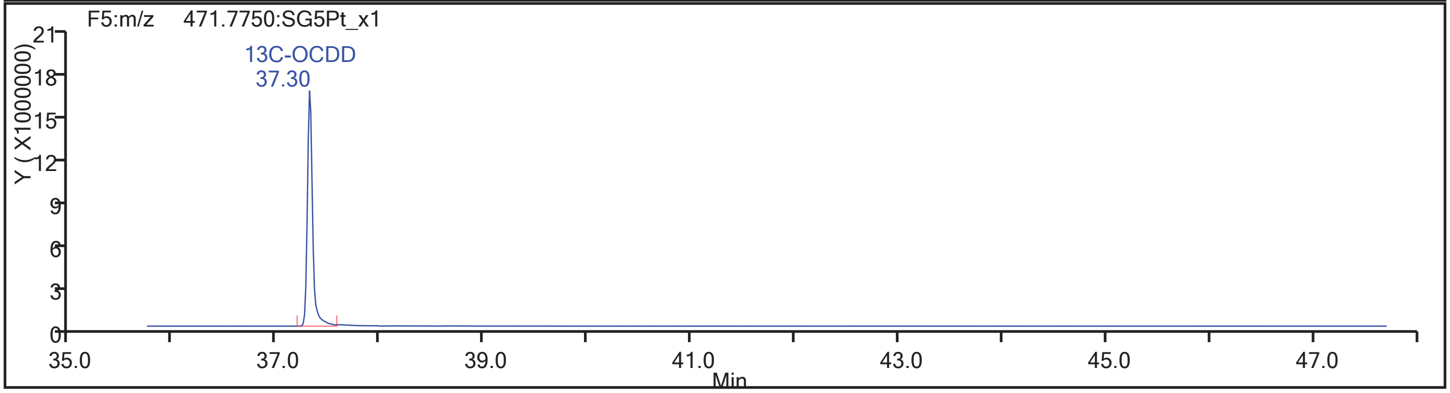
OCDF





OCDF Standards



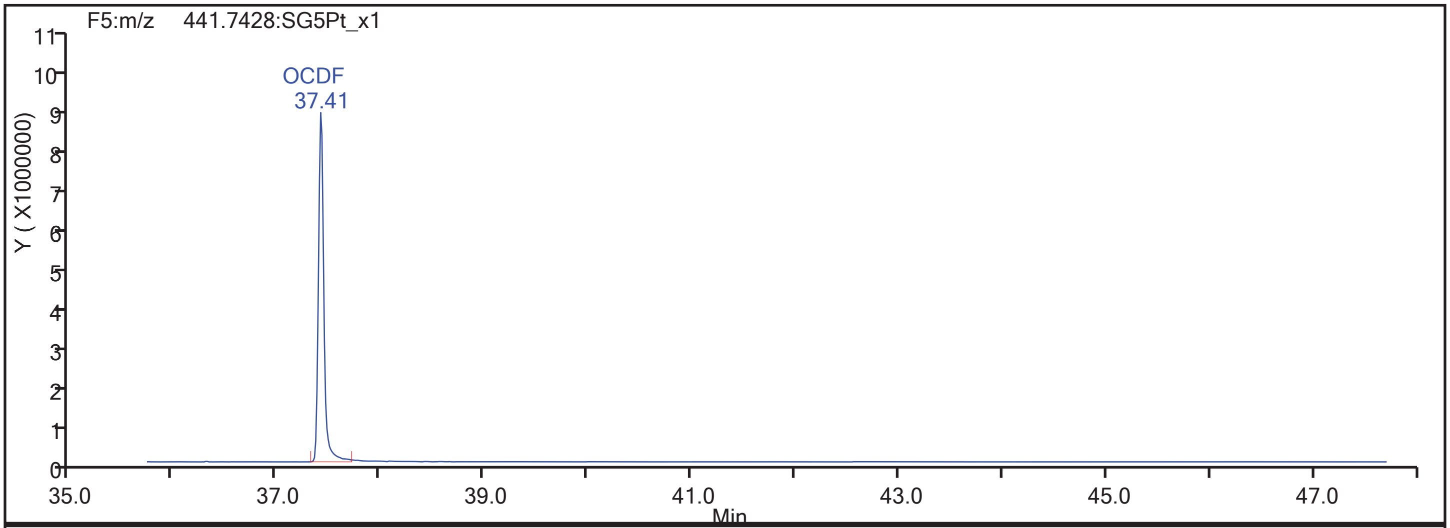


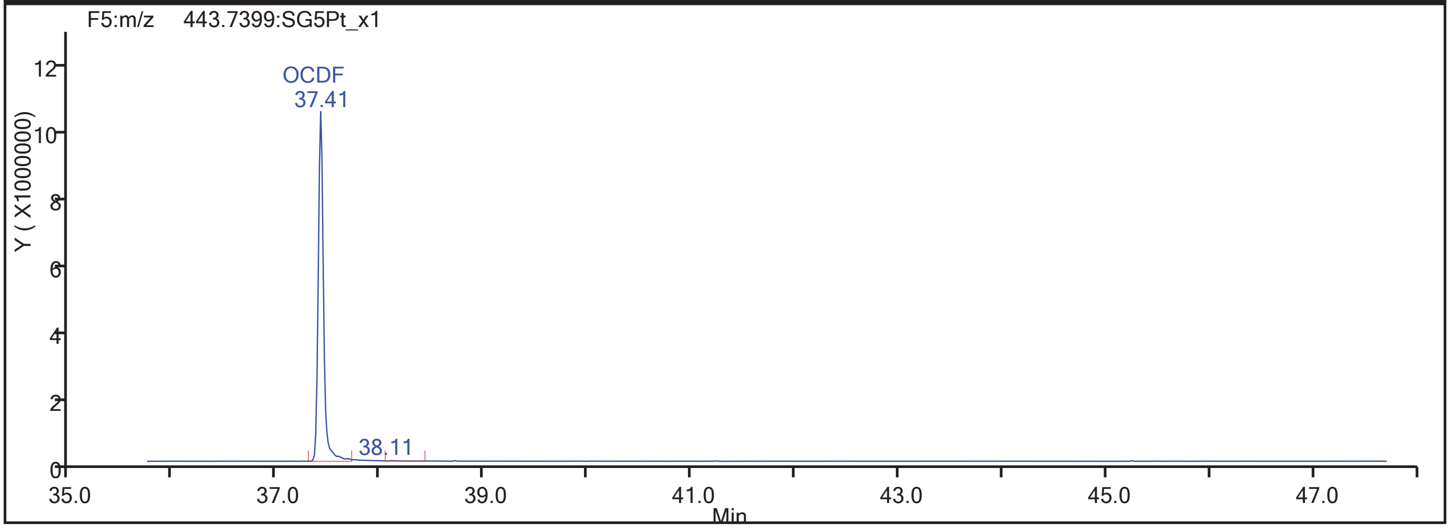
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d

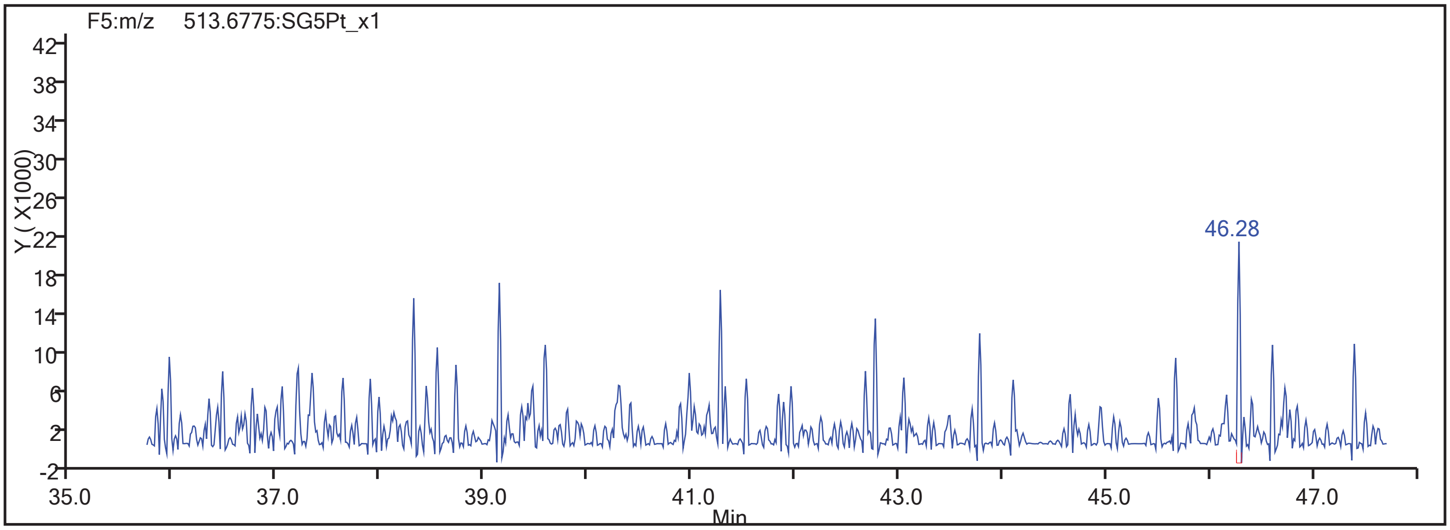
Injection Date:	15-Nov-2017 11:51:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS401		
Worklist#:	194923	Sample Line#:	2
Column Type:		Column Dia:	

OCDF





OCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d		
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Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS401		
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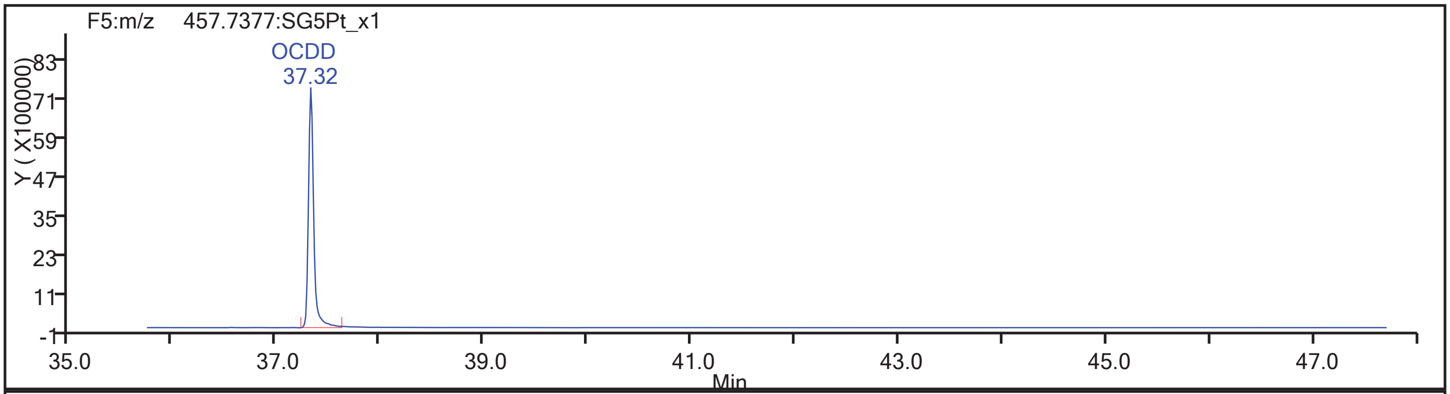
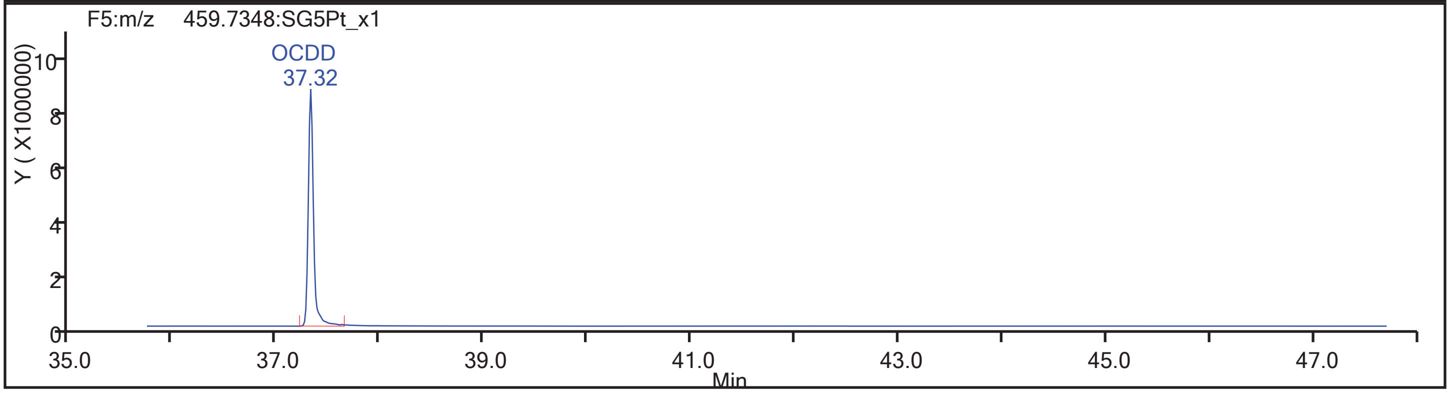
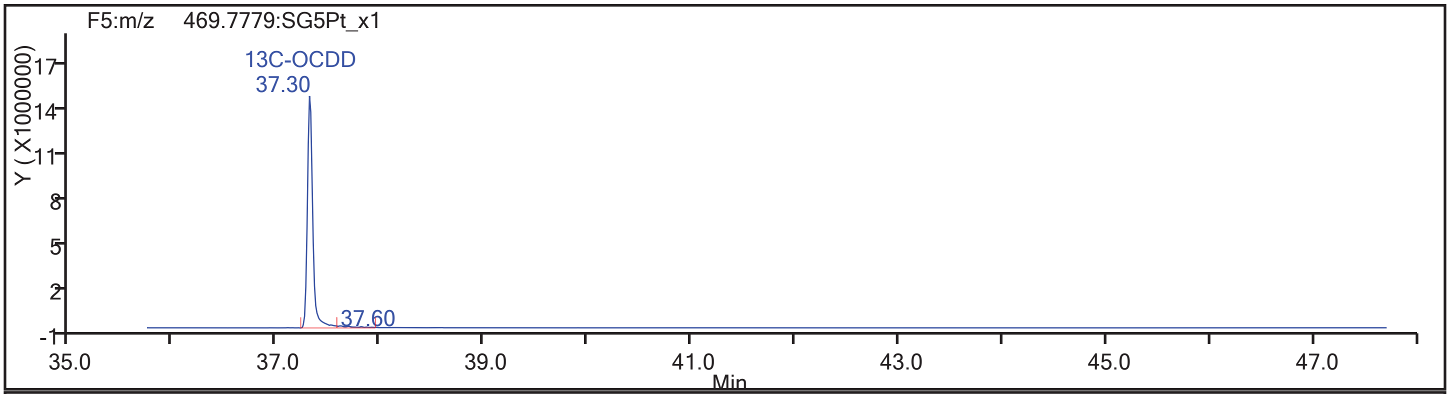
Column Type:		Column Dia:	

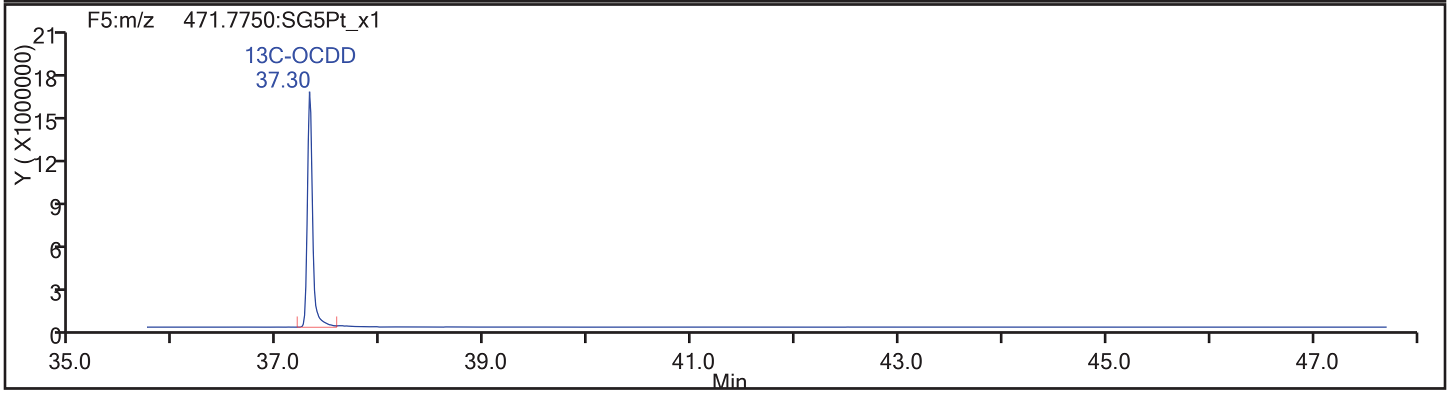
OCDD





OCDD Standards

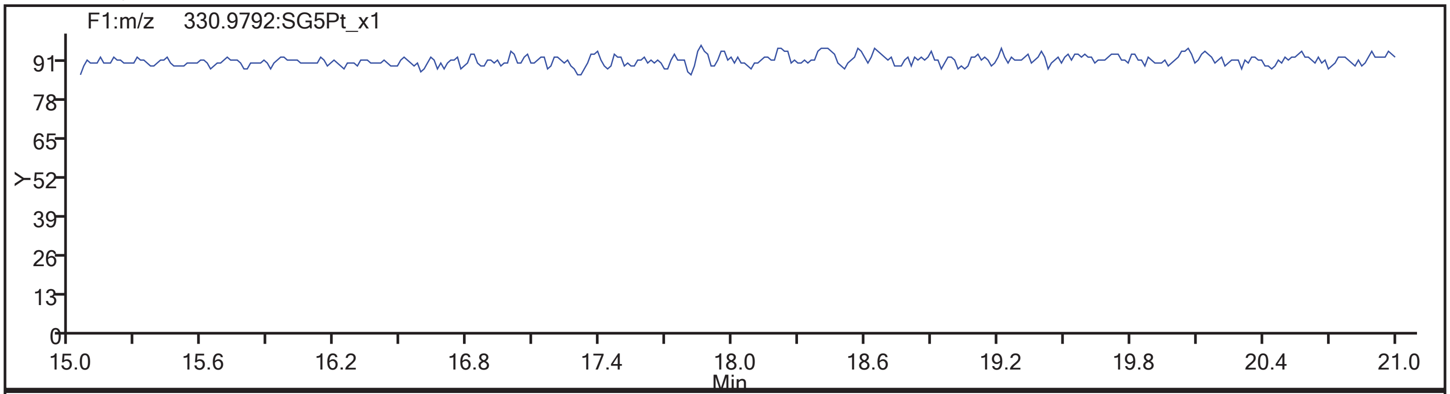


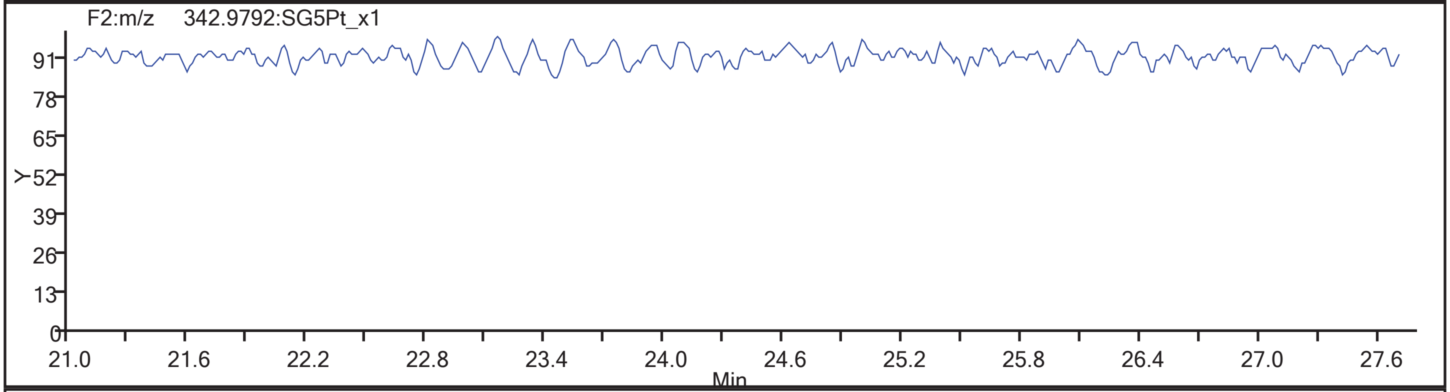


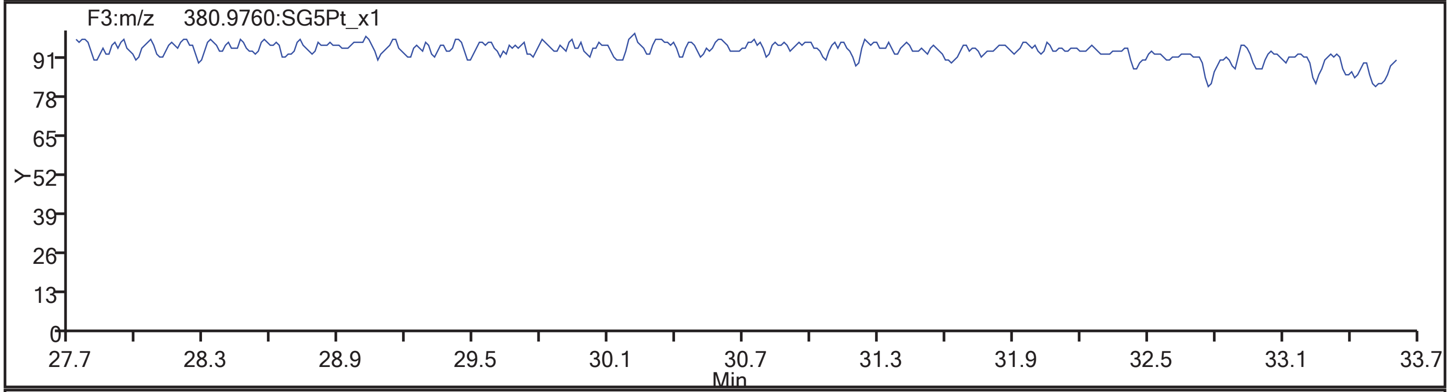
Report Date: 16-Nov-2017 09:37:26
Chrom Revision: 2.2 16-Aug-2017 16:24:46

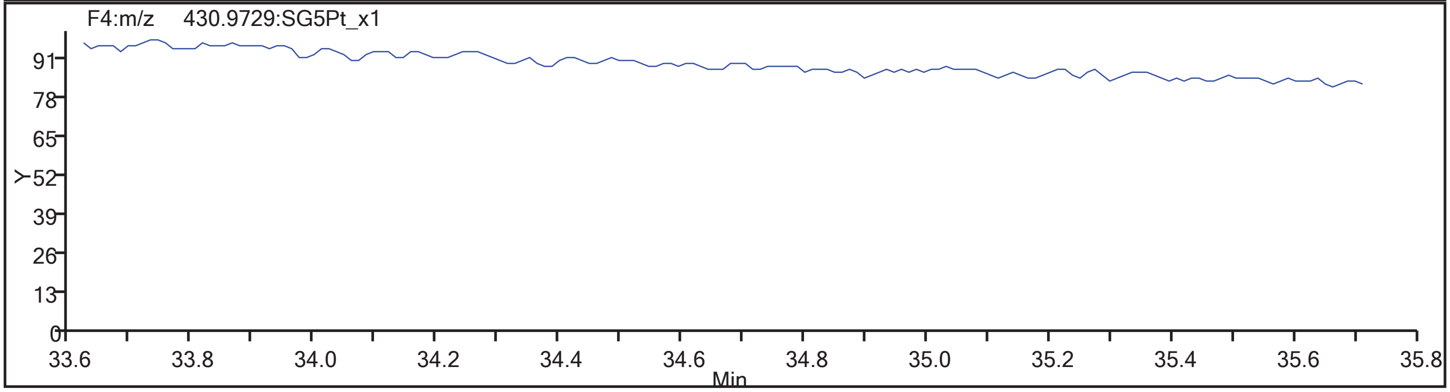
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d
Injection Date: 15-Nov-2017 11:51:45
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS401
Worklist#: 194923
Sample Line#: 2
Column Type:
Column Dia:









Report Date: 16-Nov-2017 09:37:26 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_2.d

Injection Date: 15-Nov-2017 11:51:45

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

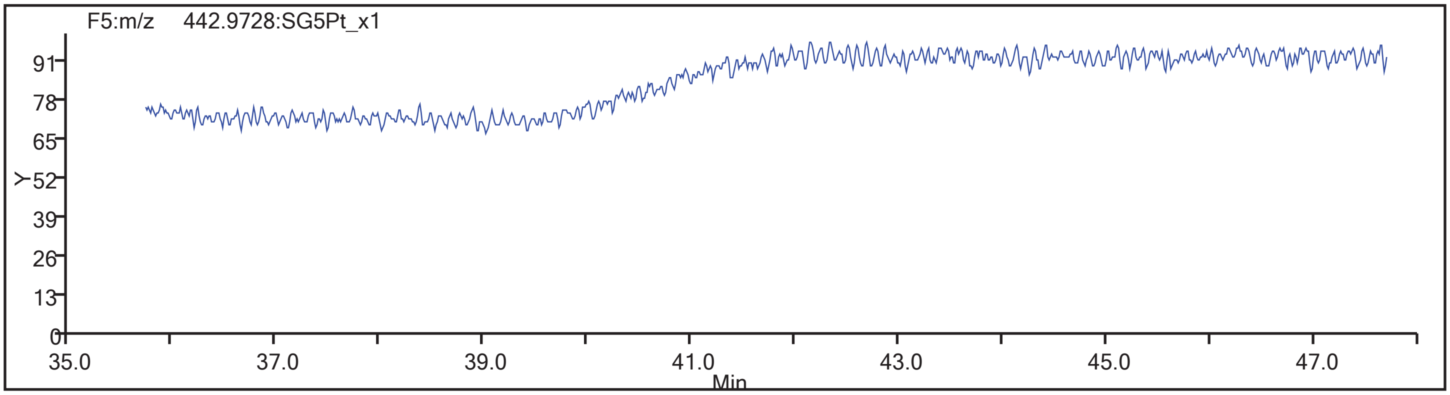
Client ID: CS401

Worklist#: 194923

Sample Line#: 2

Column Type:

Column Dia:



Report Date: 16-Nov-2017 09:37:35   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_3.d
Lims ID: IC 3   Lab Sample ID:
Client ID: CS301
Sample Type: IC   Calib Level: 3
Inject. Date: 15-Nov-2017 12:40:15   ALS Bottle#: 4   Worklist Smp#: 3
Injection Vol: 2.0 ul   Dil. Factor: 1.0000
Sample Info: IC 111517A CS-3 HRDXNL3_00019
Misc. Info.: 15NO173D5
Operator ID: SMA   Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 09:37:31   Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution   Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 :   Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis   Date: 15-Nov-2017 14:38:47

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.355	162772144	0.827	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.810	240013319	0.780	1.5089	97.7	97.7	0.2831	0.2831	97.73	
2,3,7,8-TCDF	17.841	5213701	0.788	1.0971	1.980	1.980	0.0298	0.0298	99.00	
A Non-2,3,7,8-sub-TCDF	17.493						0.0309	0.0309		
S Total TCDF					1.980	1.980	0.0298	0.0298		
D 13C-2,3,7,8-TCDD	18.551	158406002	0.786	0.9906	98.2	98.2	0.2259	0.2259	98.24	
$ 37Cl4-2,3,7,8-TCDD	18.566	3307365		1.1732	1.732	1.732	0.0204	0.0204	86.60	
2,3,7,8-TCDD	18.566	3626675	0.808	1.1645	1.966	1.966	0.0390	0.0390	98.31	
A Non-2,3,7,8-sub-TCDD	17.962						0.0379	0.0379		
S Total TCDD					1.966	1.966	0.0390	0.0390		
D 13C-1,2,3,7,8-PeCDF	23.033	181326533	1.651	1.1280	98.8	98.8	0.3186	0.3186	98.76	
1,2,3,7,8-PeCDF	23.060	20133367	1.591	1.1422	9.721	9.721	0.0703	0.0703	97.21	
D 13C-2,3,4,7,8-PeCDF	24.437	177425305	1.607							
2,3,4,7,8-PeCDF	24.451	19401396	1.600	1.1102	9.637	9.637	0.0724	0.0724	96.37	
A F1 PeCDFs	20.479						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.750						0.0	0.0		
S Total PeCDF					19.4	19.4	0.0713	0.0713		
D 13C-1,2,3,7,8-PeCDD	25.187	113412916	1.671	0.7269	95.9	95.9	0.1513	0.1513	95.86	
1,2,3,7,8-PeCDD	25.215	12981193	1.622	1.1272	10.2	10.2	0.0774	0.0774	102	
A Non-2,3,7,8-sub-PeCDD	24.021						0.0	0.0		
S Total PeCDD					10.2	10.2	0.0774	0.0774		
D 13C-1,2,3,4,7,8-HxCDF	31.039	141091741	0.536	1.0279	99.4	99.4	0.4675	0.4675	99.37	
1,2,3,4,7,8-HxCDF	31.052	18632727	1.268	1.3475	9.800	9.800	0.0812	0.0812	98.00	
D 13C-1,2,3,6,7,8-HxCDF	31.185	157670688	0.522							
1,2,3,6,7,8-HxCDF	31.212	20521156	1.309	1.4794	9.832	9.832	0.0739	0.0739	98.32	
D 13C-2,3,4,6,7,8-HxCDF	31.917	147643644	0.533							
2,3,4,6,7,8-HxCDF	31.931	19056847	1.282	1.3833	9.764	9.764	0.0791	0.0791	97.64	
D 13C-1,2,3,7,8,9-HxCDF	32.663	138723372	0.537							
1,2,3,7,8,9-HxCDF	32.676	17792591	1.281	1.2903	9.774	9.774	0.0848	0.0848	97.74	
A Non-2,3,7,8-sub-HxCDF	30.786						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					39.2	39.2	0.0797	0.0797		
* 13C-1,2,3,7,8,9-HxCDD	32.490	138130598	1.279	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.077	104086961	1.257							
1,2,3,4,7,8-HxCDD	32.090	11723395	1.240	1.0646	9.512	9.512	0.0717	0.0717	95.12	
D 13C-1,2,3,6,7,8-HxCDD	32.184	115770551	1.246	0.8502	98.6	98.6	0.4073	0.4073	98.58	
1,2,3,6,7,8-HxCDD	32.197	13890439	1.246	1.1809	10.2	10.2	0.0646	0.0646	102	
1,2,3,7,8,9-HxCDD	32.503	14429332	1.251	1.2311	10.1	10.1	0.0620	0.0620	101	
A Non-2,3,7,8-sub-HxCDD	31.352						0.0	0.0		
S Total HxCDD					29.8	29.8	0.0661	0.0661		
D 13C-1,2,3,4,6,7,8-HpCDF	34.058	86710933	0.445	0.6490	96.7	96.7	1.178	1.178	96.73	
1,2,3,4,6,7,8-HpCDF	34.070	13589605	1.101	1.5871	9.875	9.875	0.1150	0.1150	98.75	
D 13C-1,2,3,4,7,8,9-HpCDF	35.188	73487353	0.458							
1,2,3,4,7,8,9-HpCDF	35.201	10396720	1.096	1.2290	9.756	9.756	0.1485	0.1485	97.56	
A Non-2,3,7,8-sub-HpCDF	34.617						0.1302	0.1302		
S Total HpCDF					19.6	19.6	0.1317	0.1317		
D 13C-1,2,3,4,6,7,8-HpCDD	34.884	70921625	1.085	0.5387	95.3	95.3	0.4867	0.4867	95.31	
1,2,3,4,6,7,8-HpCDD	34.897	8247874	1.051	1.1631	10.0	10.0	0.0854	0.0854	99.99	
A Non-2,3,7,8-sub-HpCDD	35.261						0.1013	0.1013		
S Total HpCDD					10.0	10.0	0.0854	0.0854		
D 13C-OCDD	37.317	105500622	0.881	0.4009	190.5	190.5	0.2054	0.2054	95.25	
OCDF	37.425	12961384	0.903	1.2649	19.4	19.4	0.0742	0.0742	97.13	
OCDD	37.329	10860072	0.914	1.0390	19.8	19.8	0.0912	0.0912	99.07	

Reagents:

HRDXNL3_00019 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_3.d
Lims ID: IC 3
Lab Sample ID:
Client ID: CS301
Sample Type: IC
Calib Level: 3
Inject. Date: 15-Nov-2017 12:40:15
ALS Bottle#: 4
Worklist Smp#: 3
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Sample Info: IC 111517A CS-3 HRDXNL3_00019
Misc. Info.: 15NO173D5
Operator ID: SMA
Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 09:37:31
Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution
Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 :
Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis
Date: 15-Nov-2017 14:38:47

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.355	18.346	1		73687151	17698866	19936	49840	888		
333.9339	18.355	18.346	1		89084993	21226291	14905	37262	1424	0.827(0.650-0.890)	
13C-2,3,7,8-TCDF											
315.9419	17.810	17.813	0	0.970	105139395	24105850	40685	101712	592		
317.9389	17.810	17.813	0	0.970	134873924	31104203	25814	64535	1205	0.780(0.650-0.890)	
2,3,7,8-TCDF											
303.9016	17.841	17.832	1	1.002	2297399	551547	2822	7055	195		
305.8987	17.826	17.832	0	1.001	2916302	664446	4396	10990	151	0.788(0.650-0.890)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.493						2822	7055			
305.8987	17.493						4396	10990			
13C-2,3,7,8-TCDD											
331.9368	18.551	18.545	0	1.011	69696996	15826132	19936	49840	794		
333.9339	18.551	18.545	0	1.011	88709006	20112773	14905	37262	1349	0.786(0.650-0.890)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.566	18.560	0	1.012	3307365	765318	3734	9335	205		
2,3,7,8-TCDD											
319.8965	18.566	18.563	0	1.001	1620591	323208	3648	9120	89		
321.8936	18.566	18.563	0	1.001	2006084	448565	2877	7192	156	0.808(0.650-0.890)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.962						3648	9120			
321.8936	17.962						2877	7192			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	23.033	23.027	0	1.255	112939317	19261882	33634	84085	573		
353.8970	23.033	23.027	0	1.255	68387216	11635416	22332	55830	521	1.651(1.320-1.780)	
1,2,3,7,8-PeCDF											
339.8597	23.060	23.054	0	1.001	12364276	2074391	5165	12912	402		
341.8567	23.060	23.054	0	1.001	7769091	1220518	4763	11907	256	1.591(1.320-1.780)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.437	24.432	0	1.331	109380774	16770749	33634	84085	499		
353.8970	24.437	24.432	0	1.331	68044531	10624710	22332	55830	476	1.607(1.320-1.780)	
2,3,4,7,8-PeCDF											
339.8597	24.451	24.456	0	1.001	11938786	1798240	5165	12912	348		
341.8567	24.465	24.456	0	1.001	7462610	1081466	4763	11907	227	1.600(1.320-1.780)	
A F1 PeCDFs											
339.8597	20.479						1244	3110			
341.8567	20.479						2183	5457			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.750						5165	12912			
341.8567	23.750						4763	11907			
13C-1,2,3,7,8-PeCDD											
367.8949	25.187	25.179	0	1.372	70953865	10483411	9487	23717	1105		
369.8919	25.187	25.179	0	1.372	42459051	6347579	7641	19102	831	1.671(1.320-1.780)	
1,2,3,7,8-PeCDD											
355.8546	25.215	25.209	0	1.001	8030199	1102775	3544	8860	311		
357.8516	25.201	25.209	0	1.001	4950994	725459	2327	5817	312	1.622(1.320-1.780)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.021						3544	8860			
357.8516	24.021						2327	5817			
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.039	31.031	0	0.955	49207097	10709394	26480	66200	404		
385.8610	31.039	31.031	0	0.955	91884644	19967325	46821	117052	426	0.536(0.430-0.590)	
1,2,3,4,7,8-HxCDF											
373.8208	31.052	31.047	0	1.000	10417310	2346778	6910	17275	340		
375.8178	31.052	31.047	0	1.000	8215417	1876779	6512	16280	288	1.268(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.185	31.183	0	0.960	54047997	11550842	26480	66200	436		
385.8610	31.185	31.183	0	0.960	103622691	21885690	46821	117052	467	0.522(0.430-0.590)	
1,2,3,6,7,8-HxCDF											
373.8208	31.212	31.204	0	1.001	11632834	2424514	6910	17275	351		
375.8178	31.198	31.204	0	1.000	8888322	1803345	6512	16280	277	1.309(1.050-1.430)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.917	31.907	1	0.982	51307296	13170781	26480	66200	497		
385.8610	31.917	31.907	1	0.982	96336348	24929314	46821	117052	532	0.533(0.430-0.590)	
2,3,4,6,7,8-HxCDF											
373.8208	31.931	31.923	0	1.000	10705631	2806439	6910	17275	406		
375.8178	31.931	31.923	0	1.000	8351216	2143887	6512	16280	329	1.282(1.050-1.430)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.663	32.660	0	1.005	48461397	13634300	26480	66200	515		
385.8610	32.663	32.660	0	1.005	90261975	25208605	46821	117052	538	0.537(0.430-0.590)	
1,2,3,7,8,9-HxCDF											
373.8208	32.676	32.674	0	1.000	9991493	2792889	6910	17275	404		
375.8178	32.676	32.674	0	1.000	7801098	2167409	6512	16280	333	1.281(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.786						6910	17275			
375.8178	30.786						6512	16280			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.490	32.479	1		77522650	21514706	34152	85380	630		
403.8529	32.490	32.479	1		60607948	16618099	18661	46652	891	1.279(1.050-1.430)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.077	32.075	0	0.987	57962032	17476639	34152	85380	512		
403.8529	32.077	32.075	0	0.987	46124929	13625793	18661	46652	730	1.257(1.050-1.430)	
1,2,3,4,7,8-HxCDD											
389.8157	32.090	32.088	0	1.000	6489373	1921565	5375	13437	358		
391.8127	32.090	32.088	0	1.000	5234022	1543191	3765	9412	410	1.240(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.184	32.173	1	0.991	64234430	16529277	34152	85380	484		
403.8529	32.184	32.173	1	0.991	51536121	13405989	18661	46652	718	1.246(1.050-1.430)	
1,2,3,6,7,8-HxCDD											
389.8157	32.197	32.189	0	1.000	7705639	2048987	5375	13437	381		
391.8127	32.197	32.189	0	1.000	6184800	1596046	3765	9412	424	1.246(1.050-1.430)	
1,2,3,7,8,9-HxCDD											
389.8157	32.503	32.493	1	1.013	8017932	2187951	5375	13437	407		
391.8127	32.503	32.493	1	1.013	6411400	1675246	3765	9412	445	1.251(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.352						5375	13437			
391.8127	31.352						3765	9412			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.058	34.056	0	1.048	26718153	8576235	52028	130070	165		
419.8220	34.058	34.056	0	1.048	59992780	19385874	64609	161522	300	0.445(0.370-0.510)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.070	34.068	0	1.000	7120375	2339587	9435	23587	248		
409.7789	34.070	34.068	0	1.000	6469230	2195275	10976	27440	200	1.101(0.880-1.200)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.188	35.181	0	1.083	23094799	6866214	52028	130070	132		
419.8220	35.188	35.181	0	1.083	50392554	15082146	64609	161522	233	0.458(0.370-0.510)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.201	35.191	1	1.000	5435843	1587492	9435	23587	168		
409.7789	35.188	35.191	0	1.000	4960877	1534444	10976	27440	140	1.096(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.617						9435	23587			
409.7789	34.617						10976	27440			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.884	34.877	0	1.074	36903597	11766733	24008	60020	490		
437.8140	34.884	34.877	0	1.074	34018028	10579037	15979	39947	662	1.085(0.880-1.200)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.897	34.889	0	1.000	4225809	1313127	4512	11280	291		
425.7737	34.897	34.889	0	1.000	4022065	1202494	4367	10917	275	1.051(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						4512	11280			
425.7737	35.261						4367	10917			
13C-OCDD											
469.7779	37.317	37.310	0	1.149	49406017	13107724	6538	16345	2005		
471.7750	37.317	37.310	0	1.149	56094605	15417081	6020	15050	2561	0.881(0.760-1.020)	
OCDF											
441.7428	37.425	37.417	0	1.003	6149171	1697300	2542	6355	668		
443.7399	37.413	37.417	0	1.003	6812213	1840682	2810	7025	655	0.903(0.760-1.020)	
OCDD											
457.7377	37.329	37.317	1	1.000	5184646	1352742	2850	7125	475		
459.7348	37.317	37.317	0	1.000	5675426	1568603	2559	6397	613	0.914(0.760-1.020)	

Reagents:

HRDXNL3_00019 Amount Added: 1.00 Units: mL

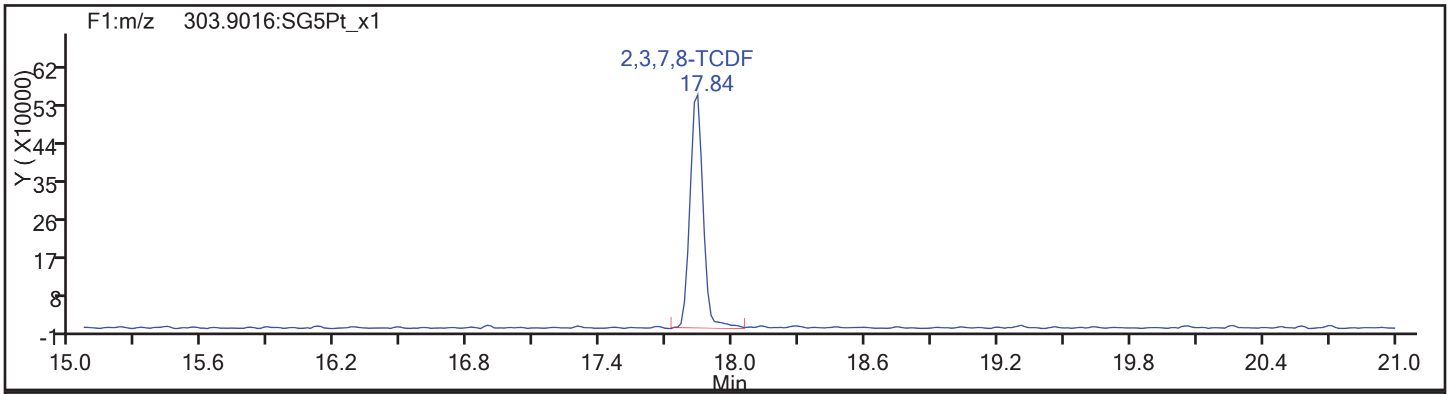
Report Date: 16-Nov-2017 09:37:35 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_3.d

Injection Date:	15-Nov-2017 12:40:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS301		
Worklist#:	194923	Sample Line#:	3
Column Type:		Column Dia:	

TCDF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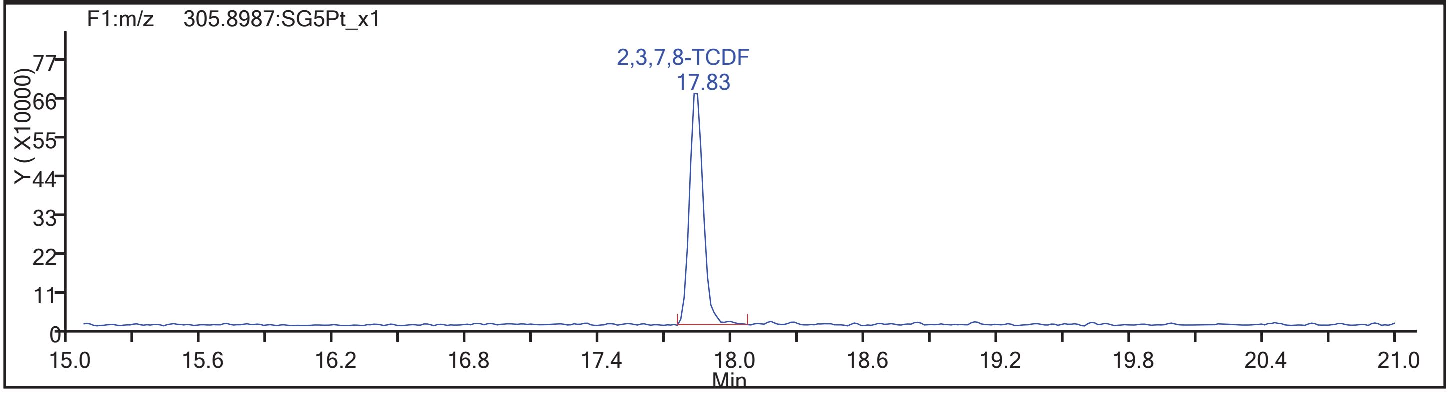
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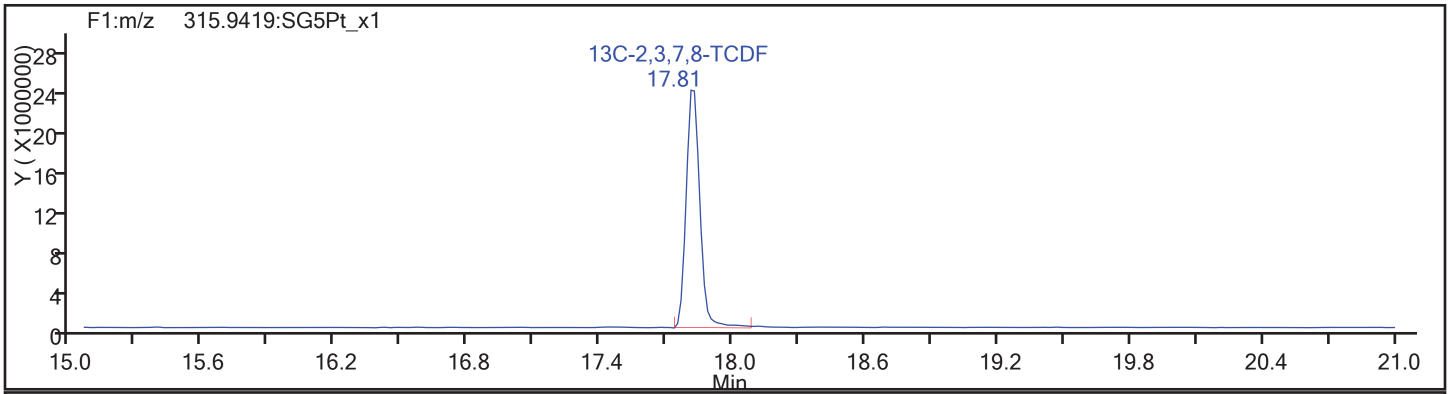
TCDF Standards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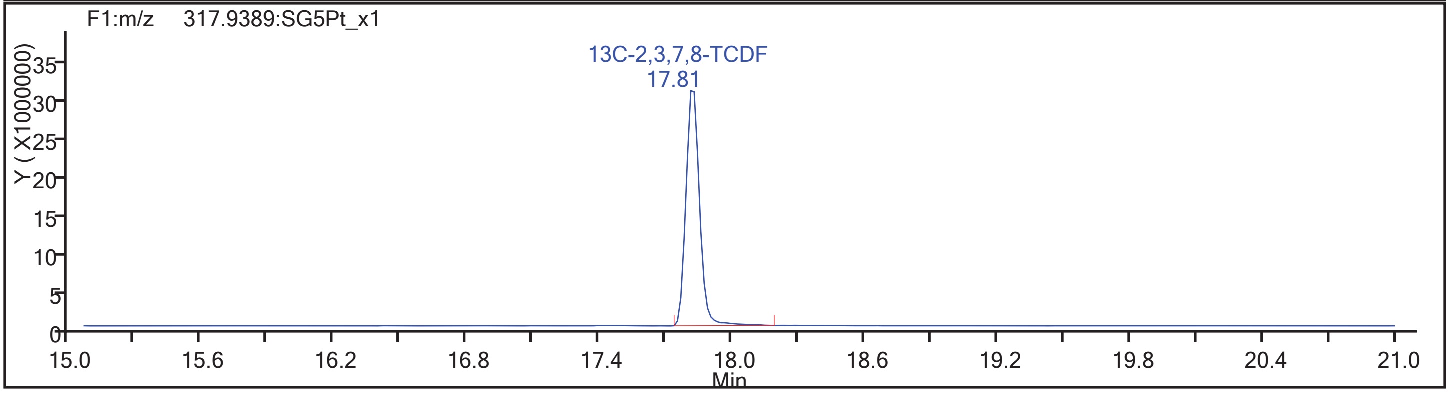
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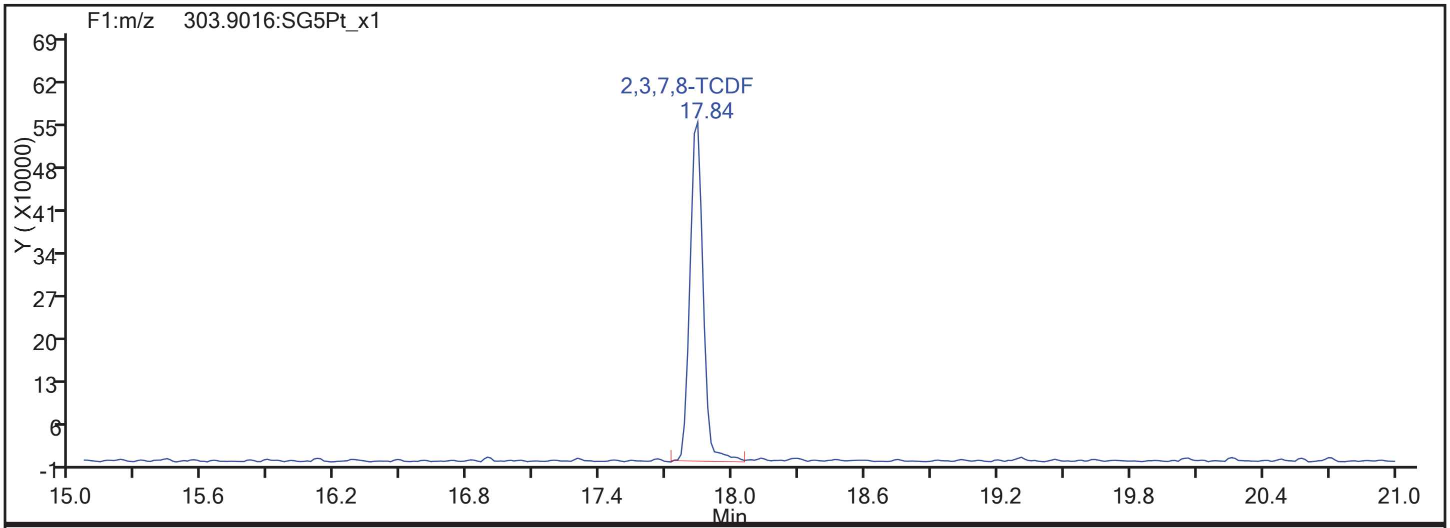
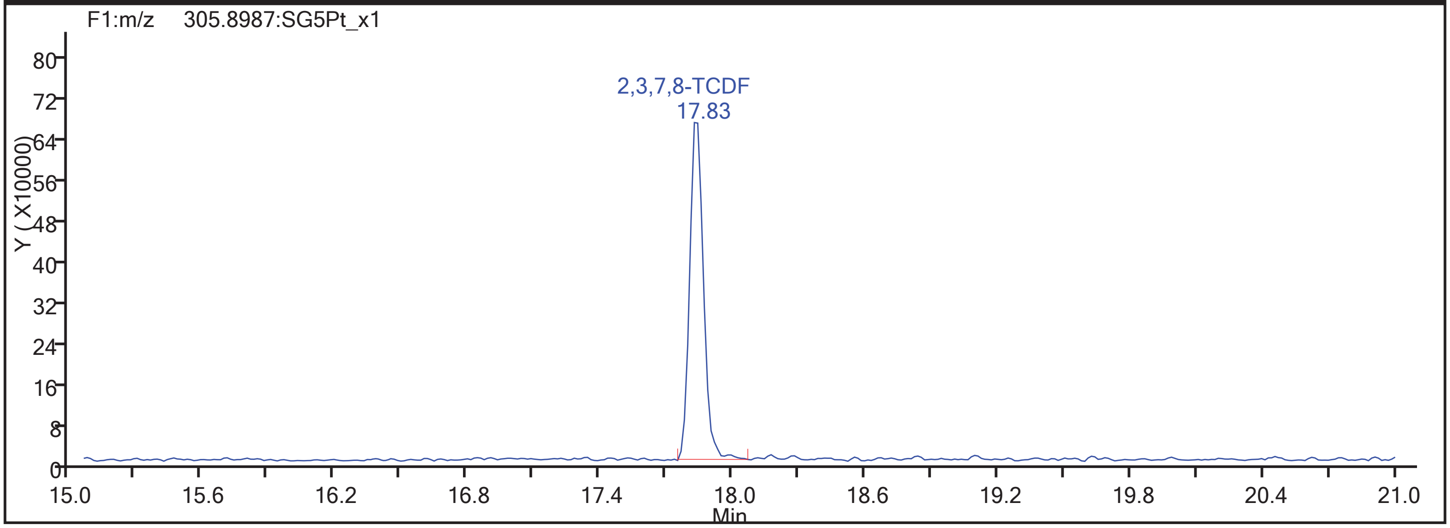
Report Date: 16-Nov-2017 09:37:35		Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

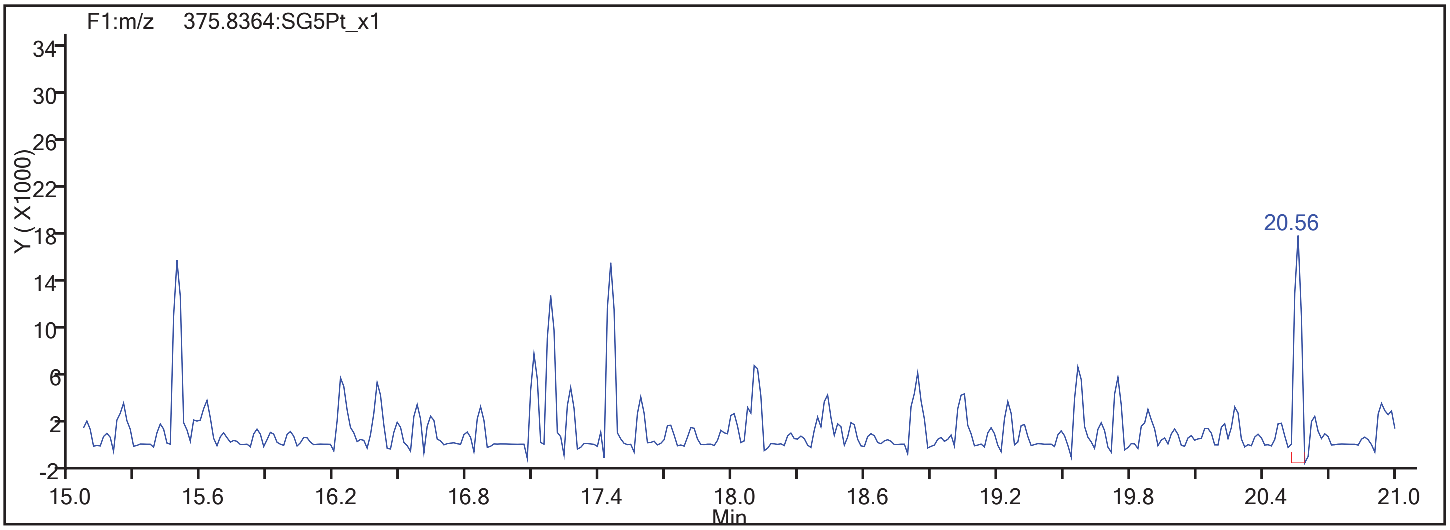
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_3.d		
Injection Date:	15-Nov-2017 12:40:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS301		
Worklist#:	194923	Sample Line#:	3
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass



Report Date: 16-Nov-2017 09:37:35 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_3.d

Injection Date: 15-Nov-2017 12:40:15 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA

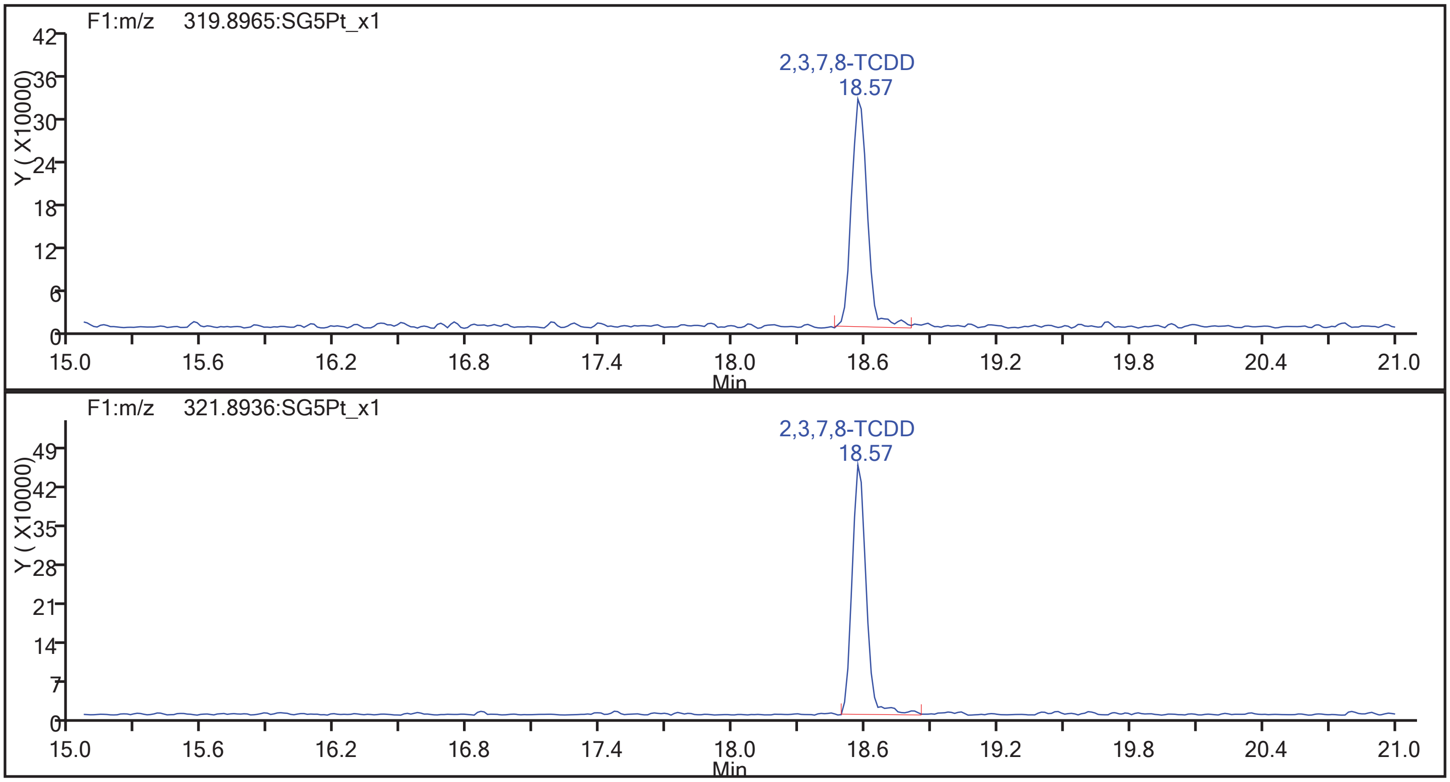
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: CS301

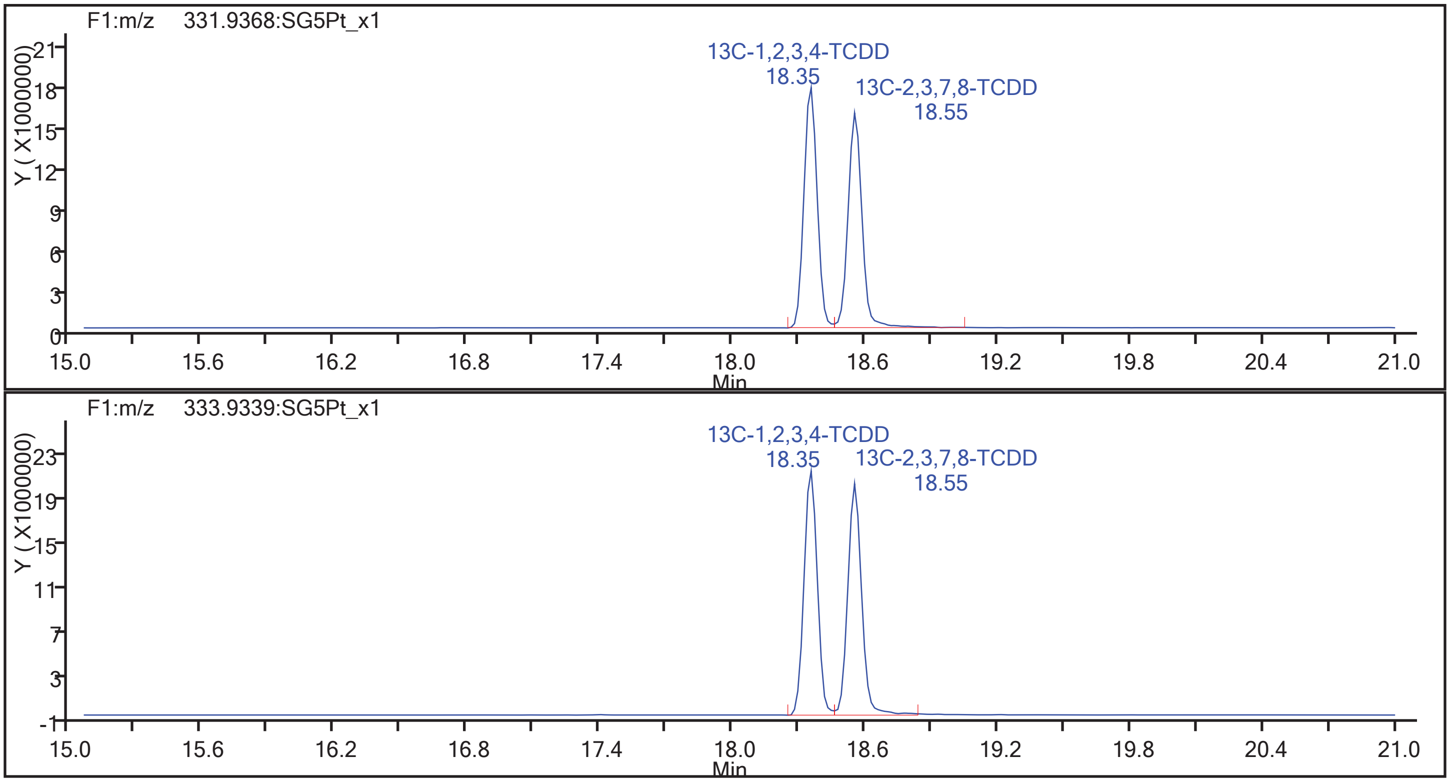
Worklist#: 194923 Sample Line#: 3

Column Type: Column Dia:

TCDD



TCDD Standards



Report Date: 16-Nov-2017 09:37:35 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 15-Nov-2017 12:40:15 Injection Vol: 2.0 ul

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Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: CS301

Worklist#: 194923 Sample Line#: 3

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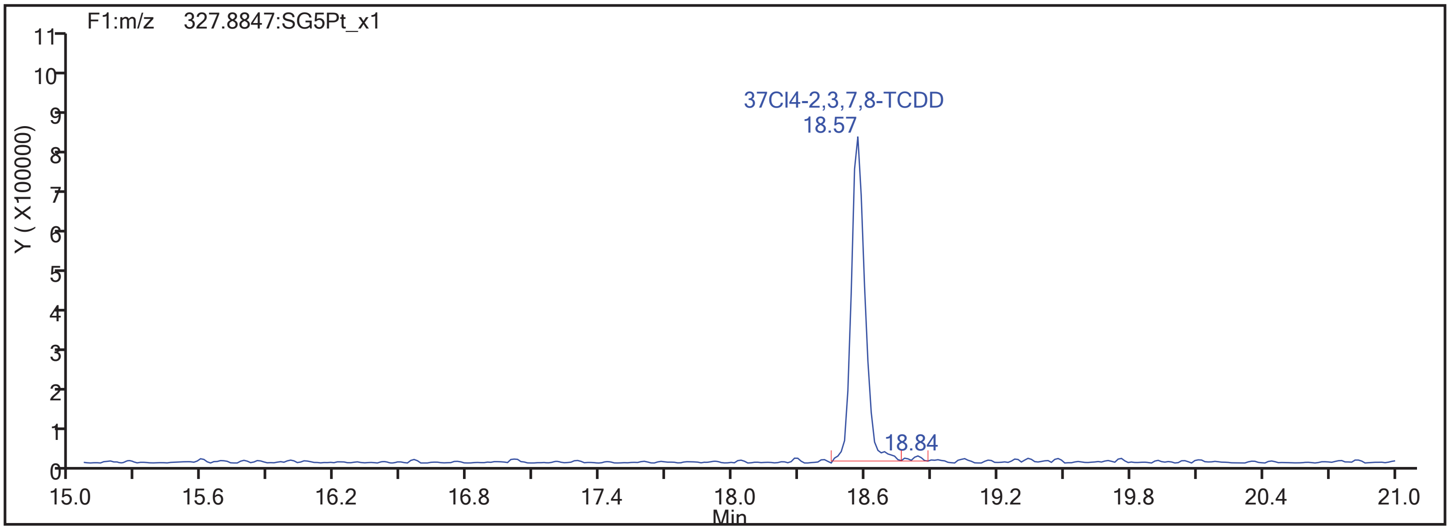

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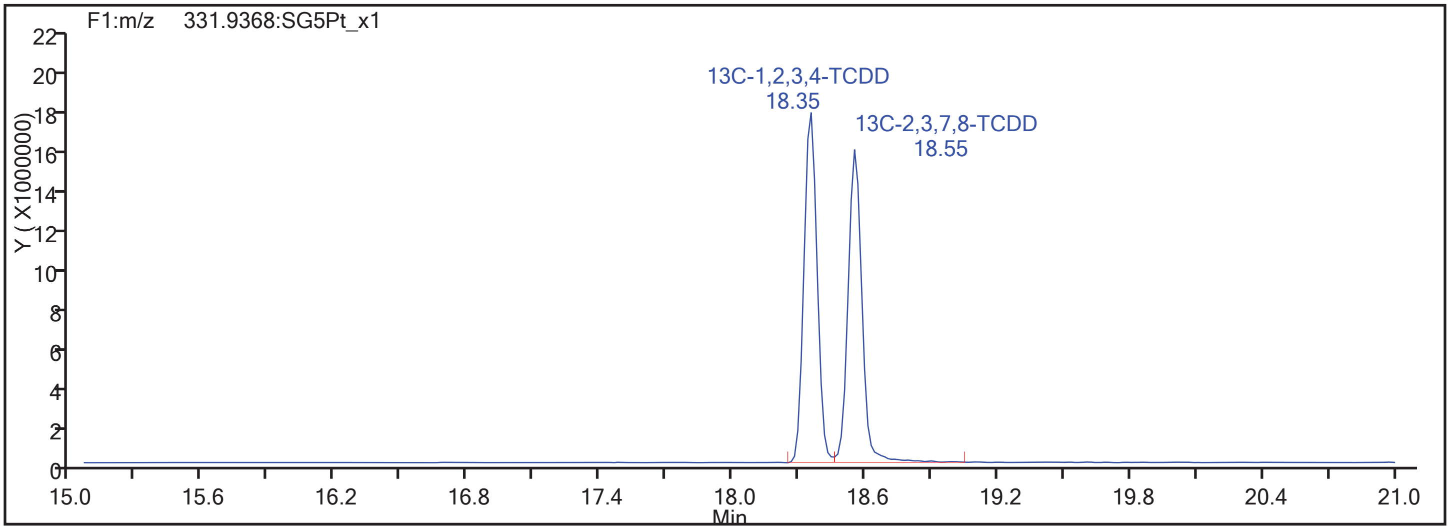

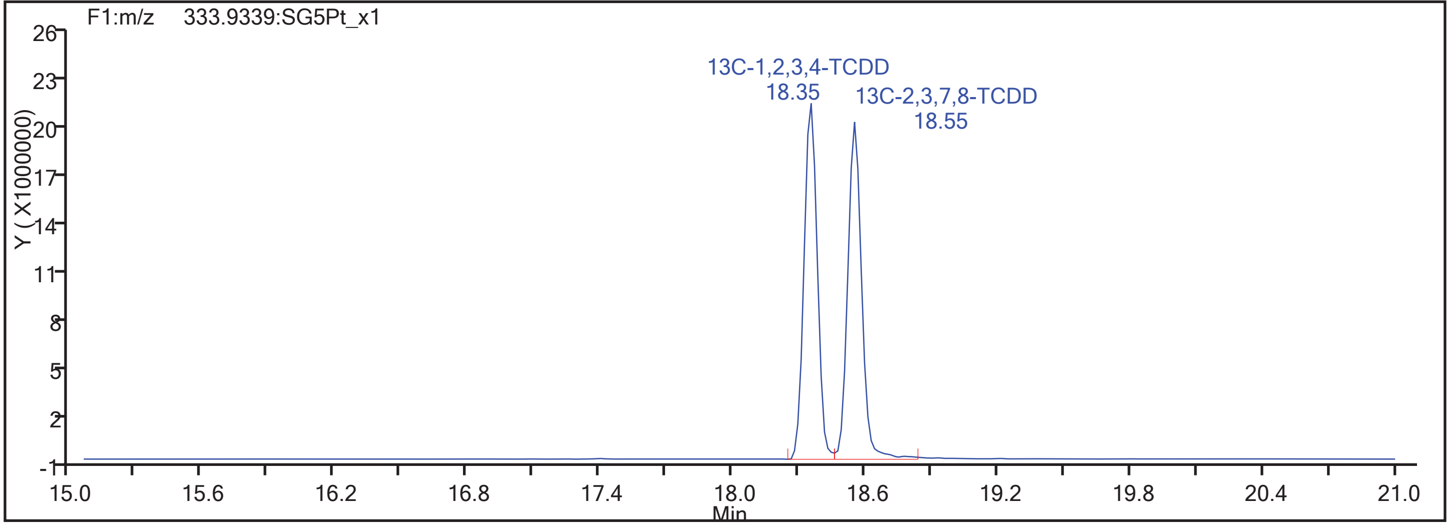

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TestAmerica Sacramento

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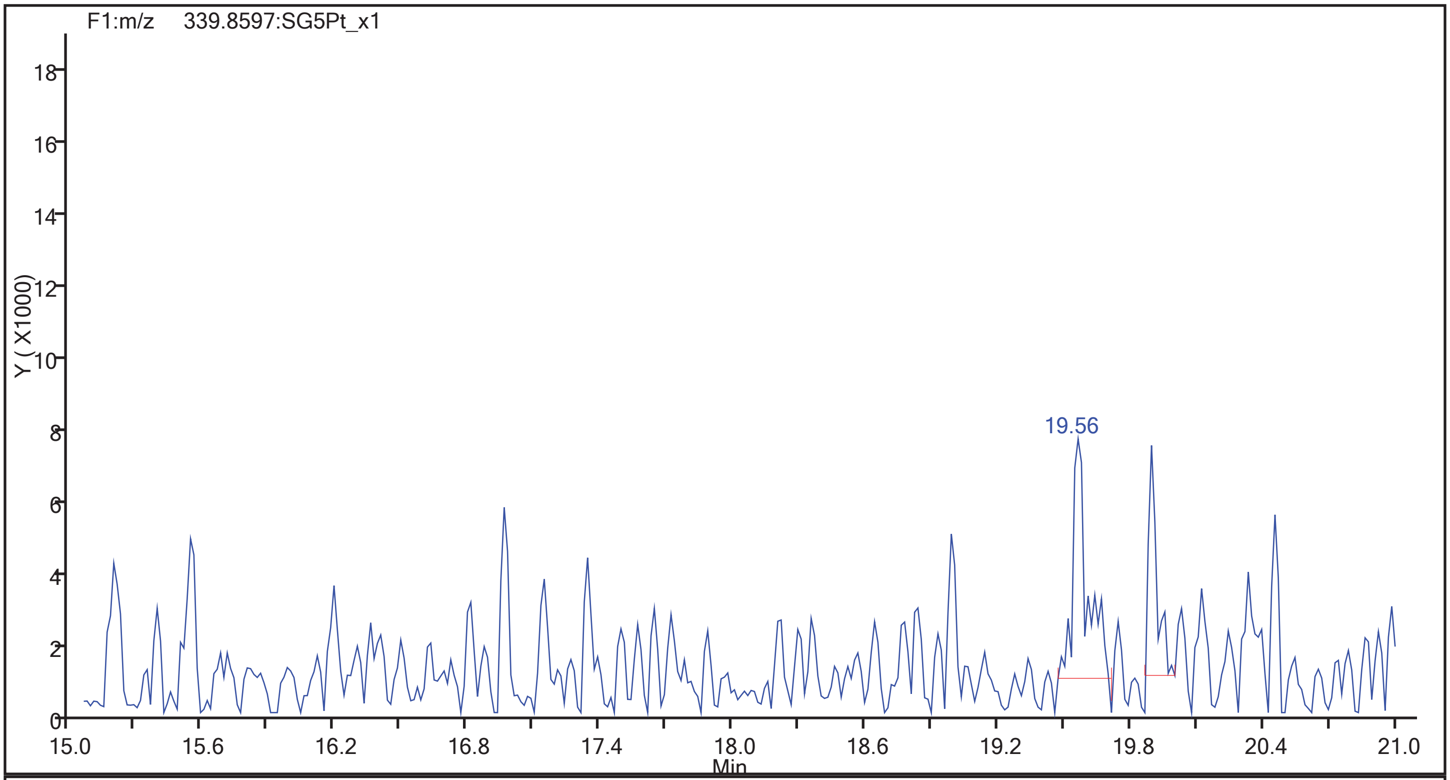
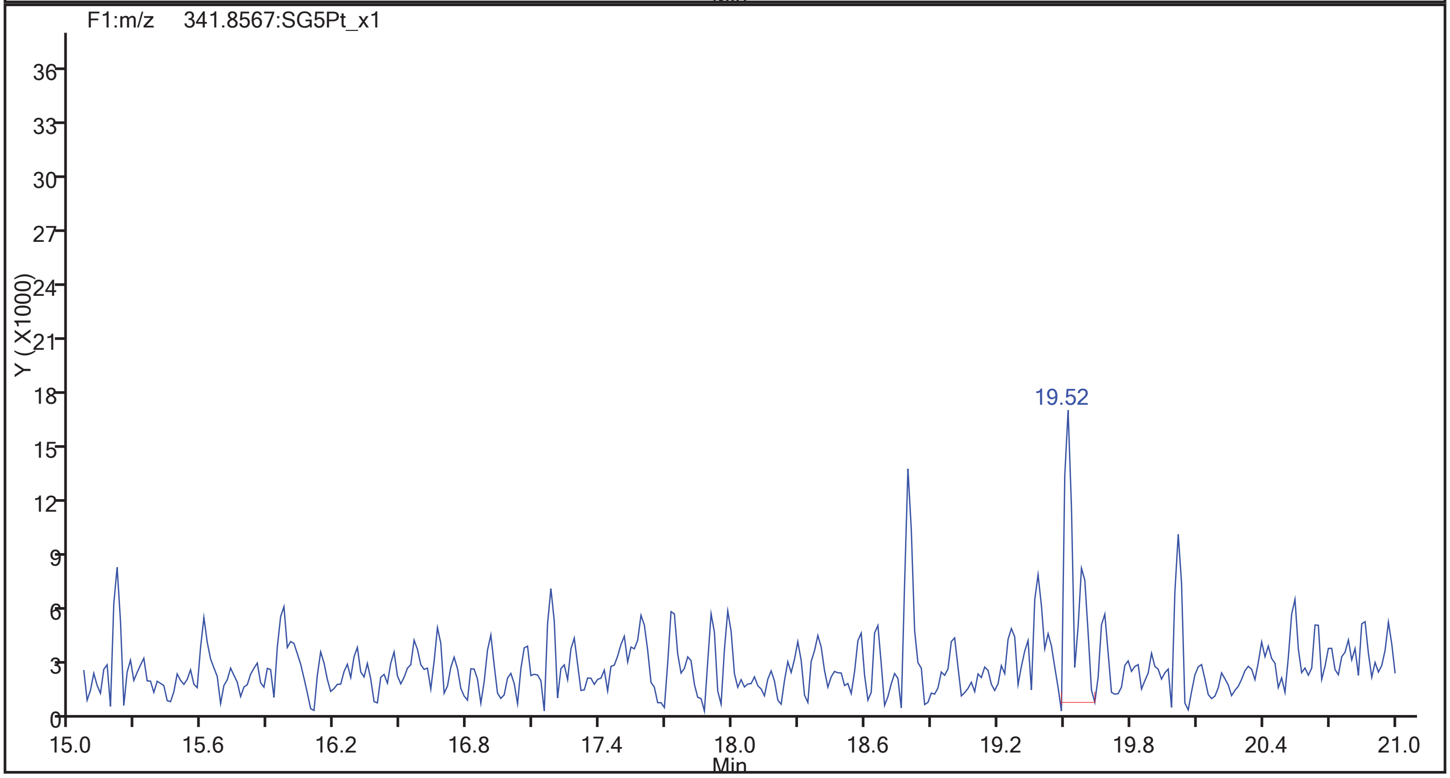
F1 PeCDFs





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TestAmerica Sacramento

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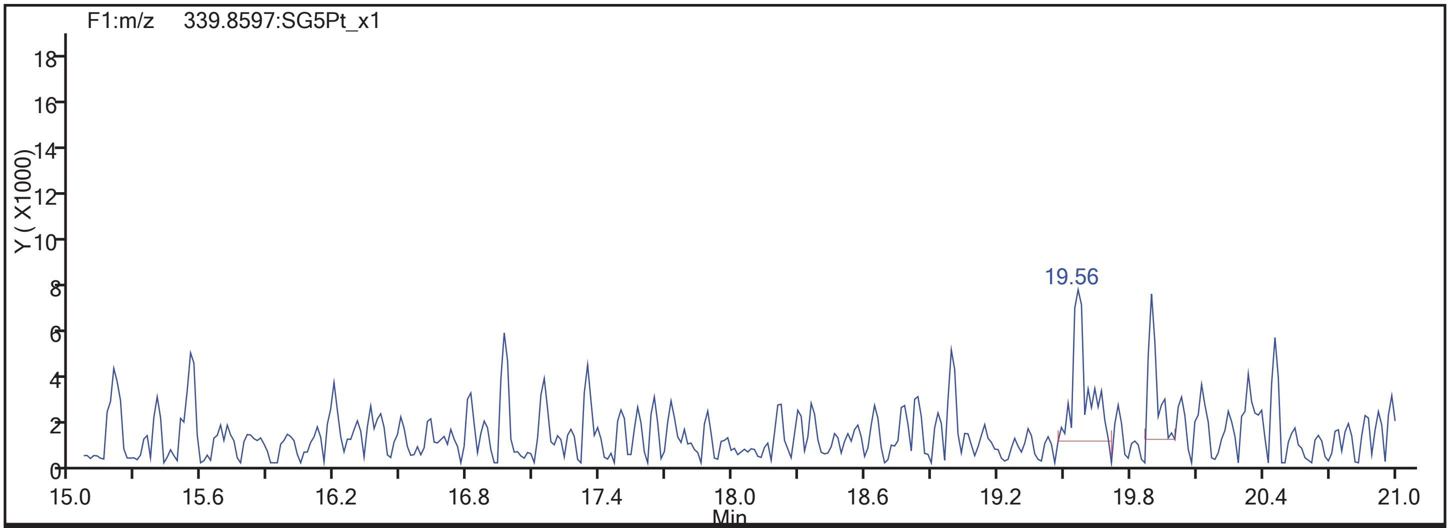
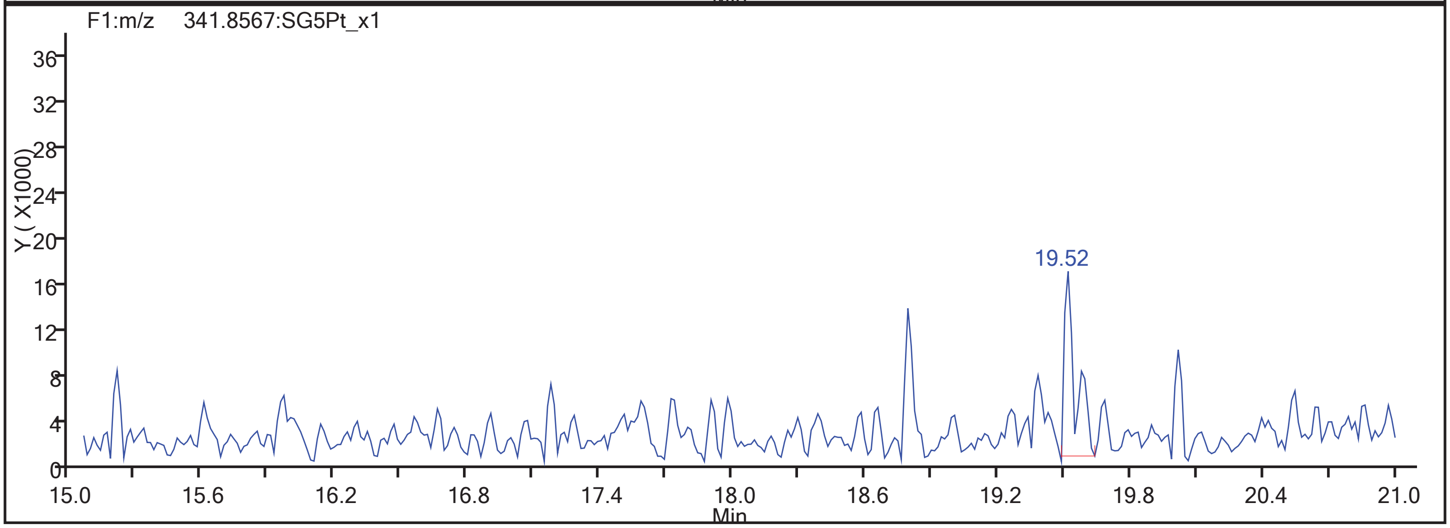
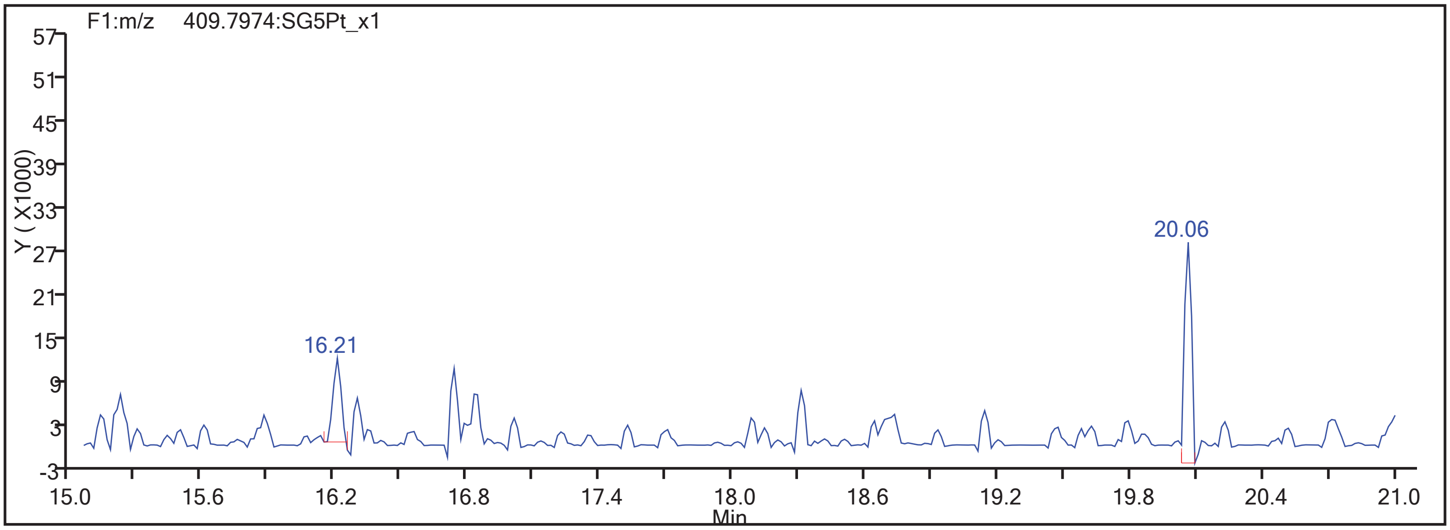




F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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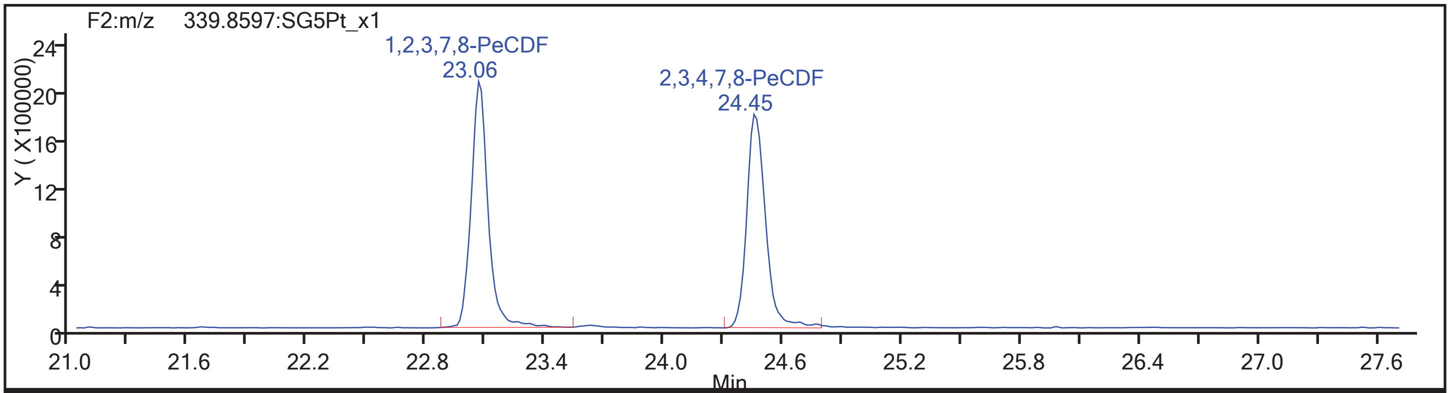
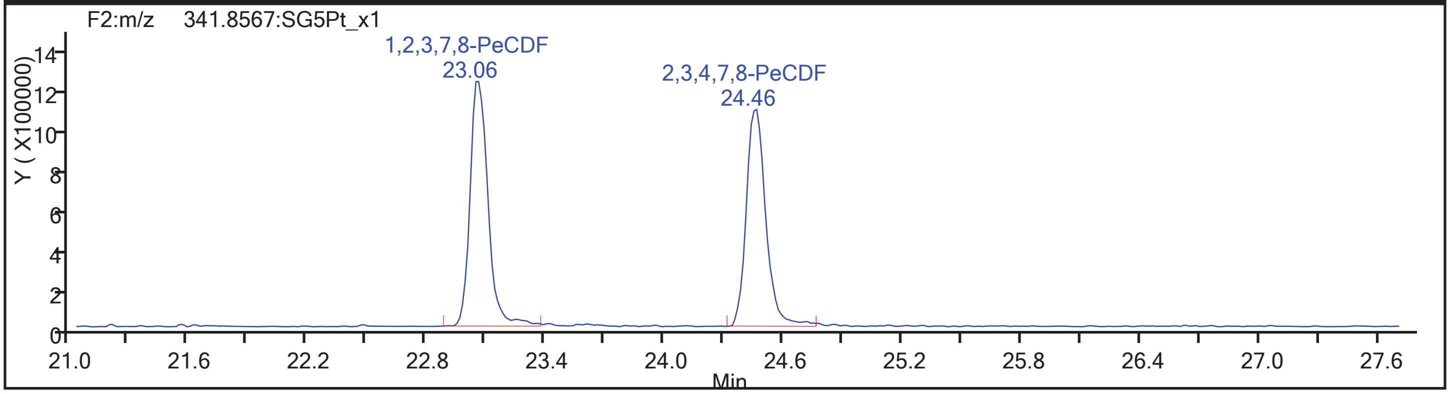
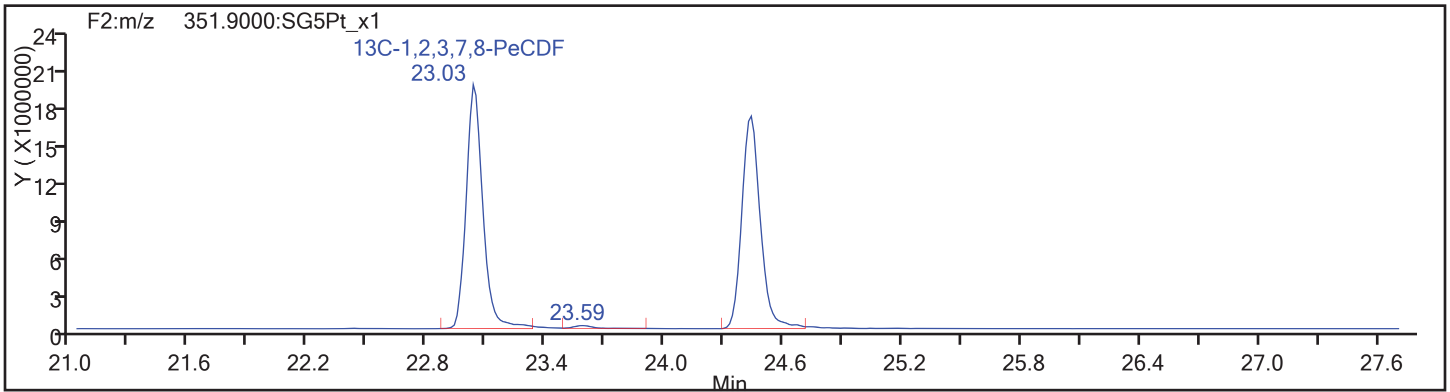
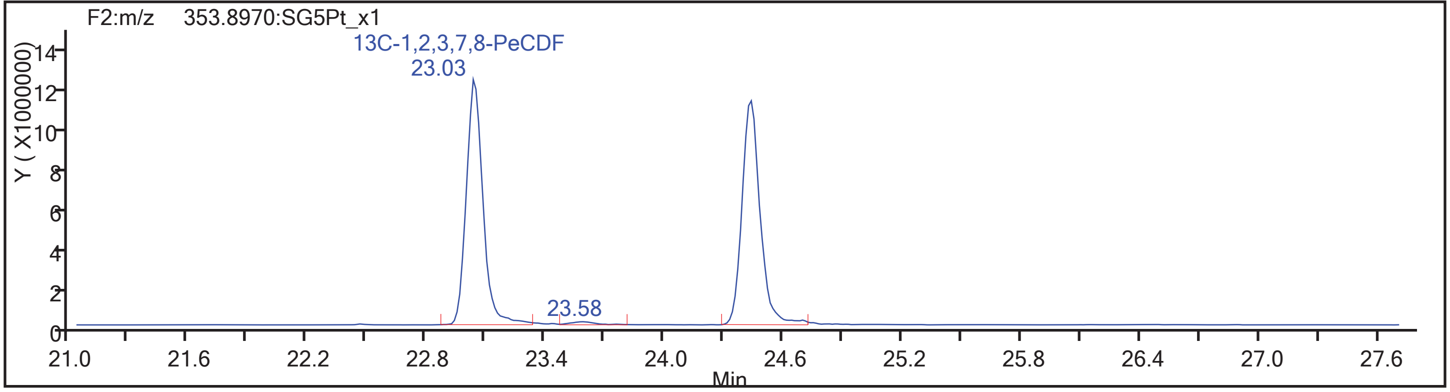




PeCDF Standards





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TestAmerica Sacramento

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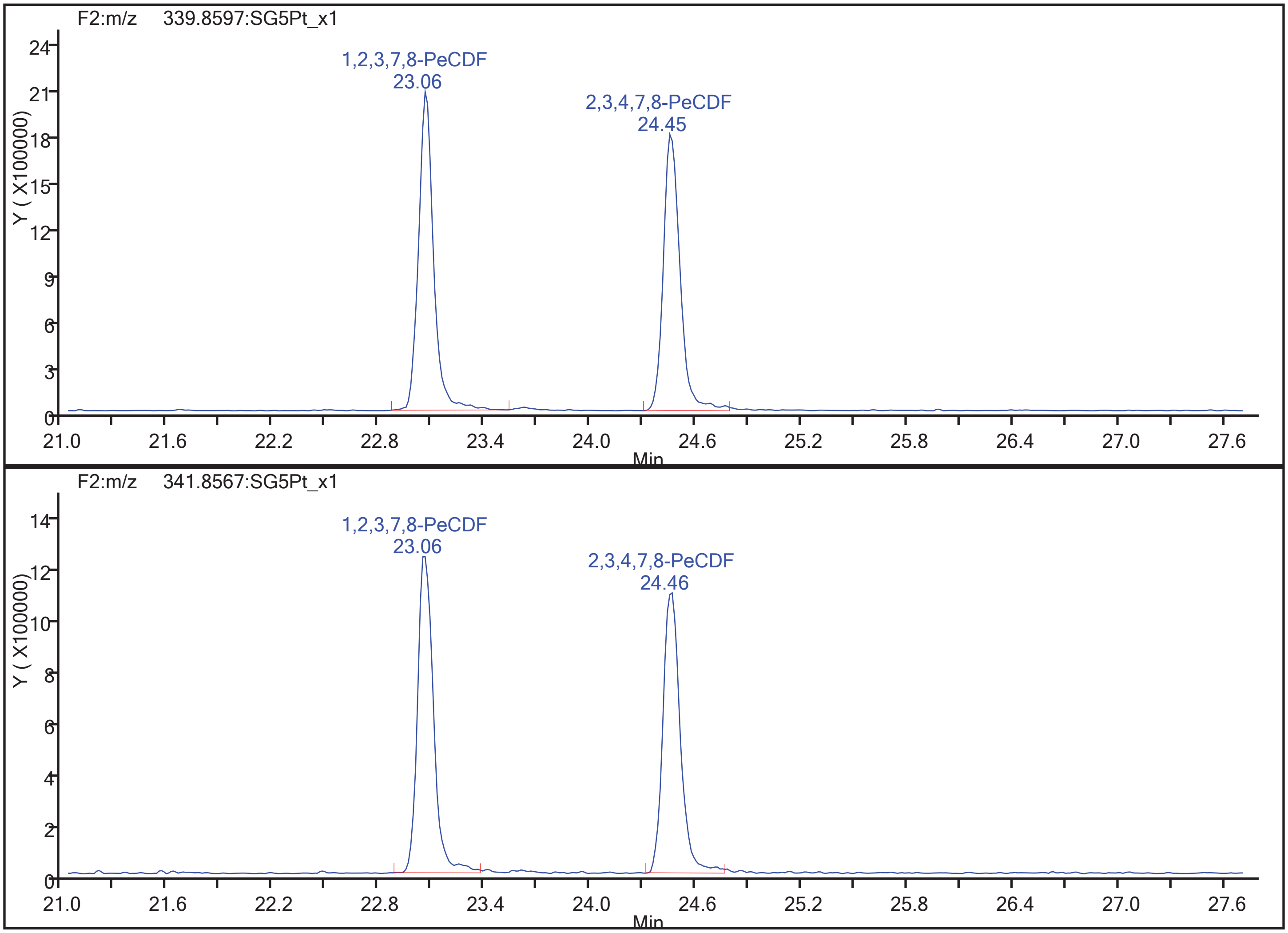
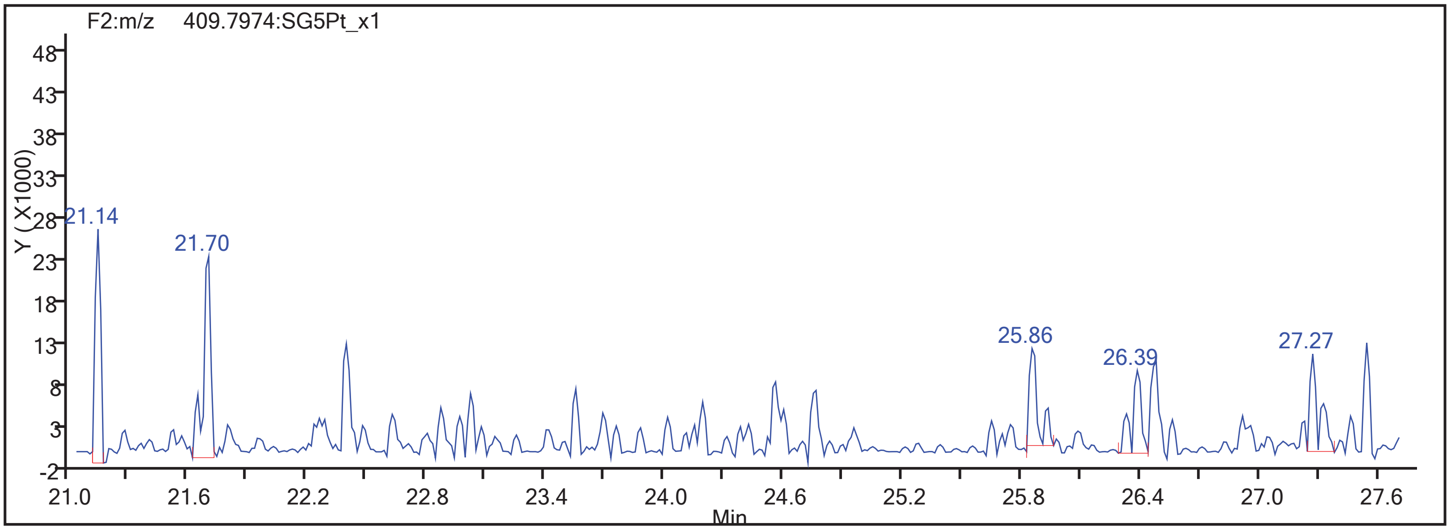


PeCDF Interference Mass



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TestAmerica Sacramento

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Column Type: Column Dia:

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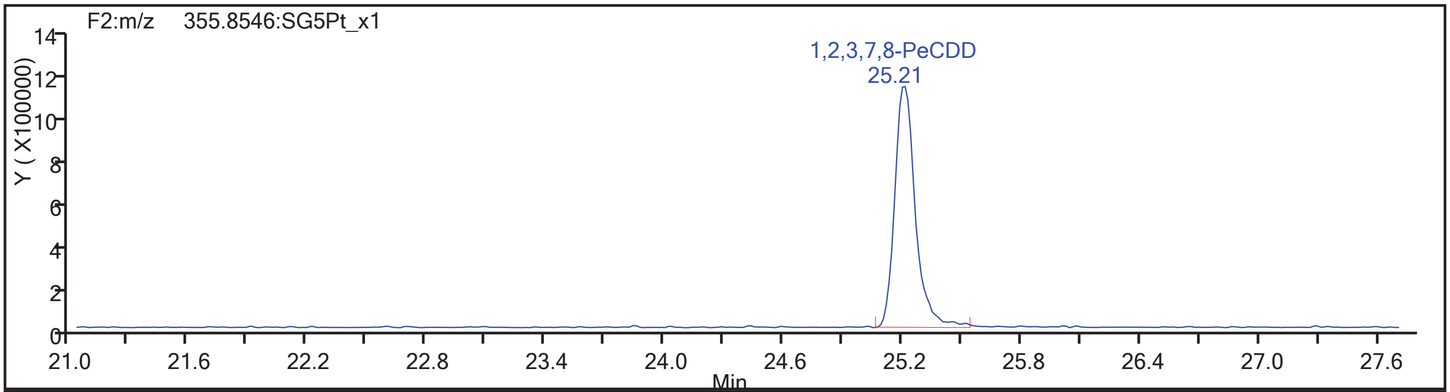
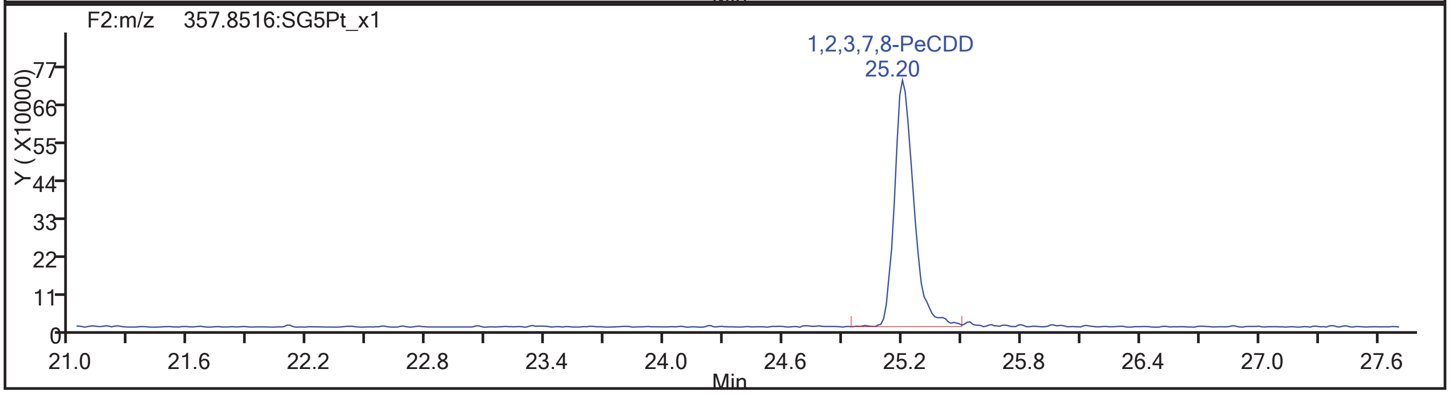
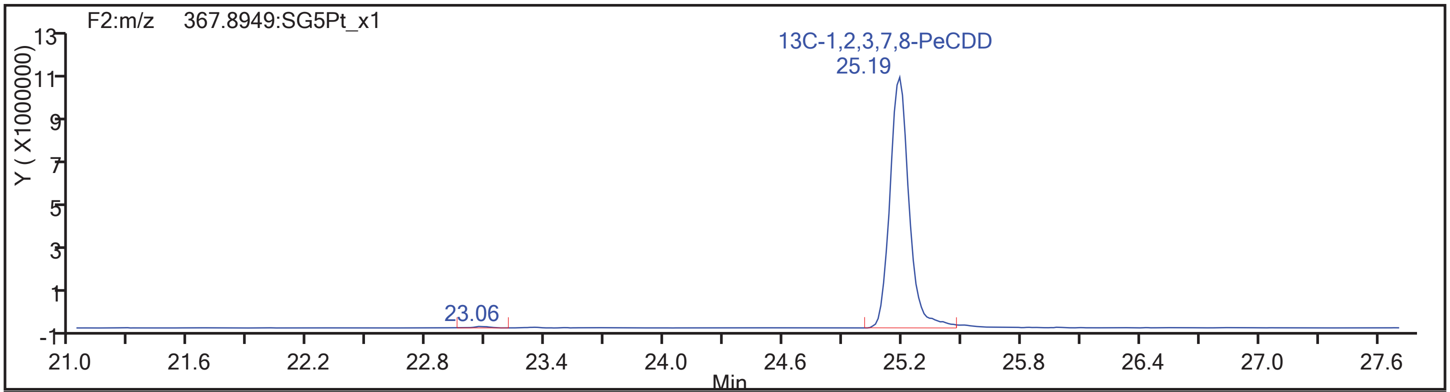
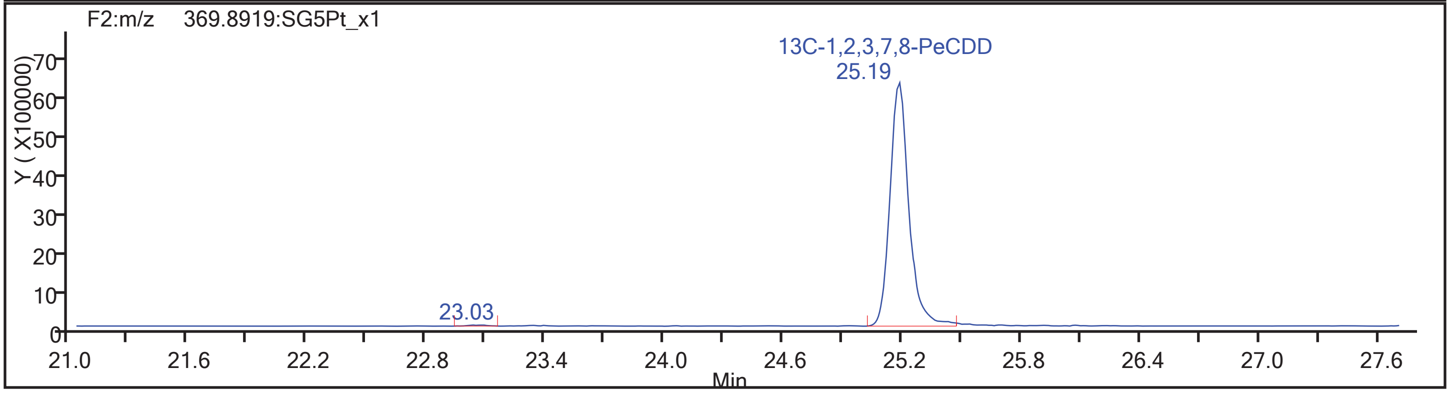




PeCDD Standards





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TestAmerica Sacramento

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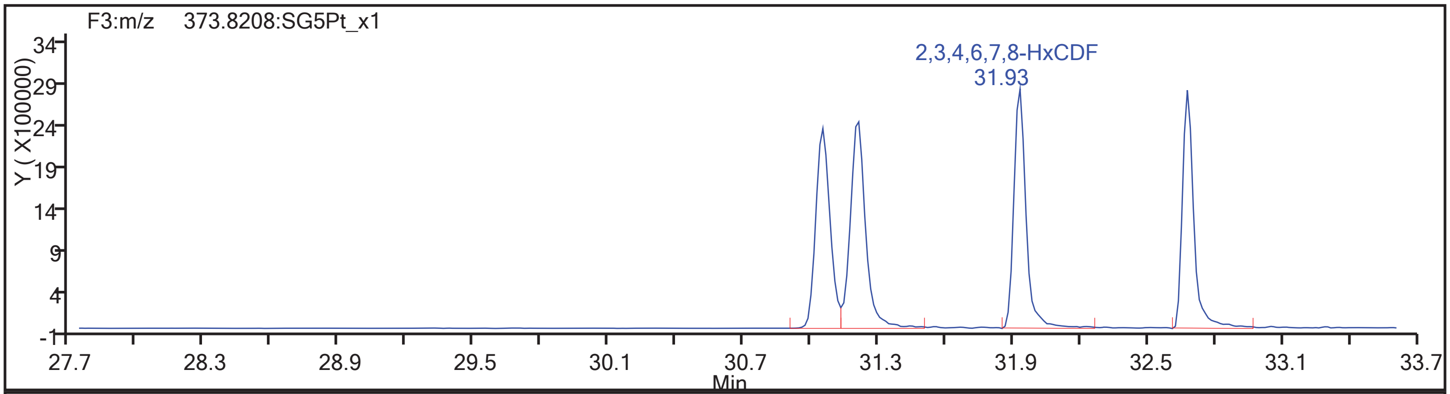
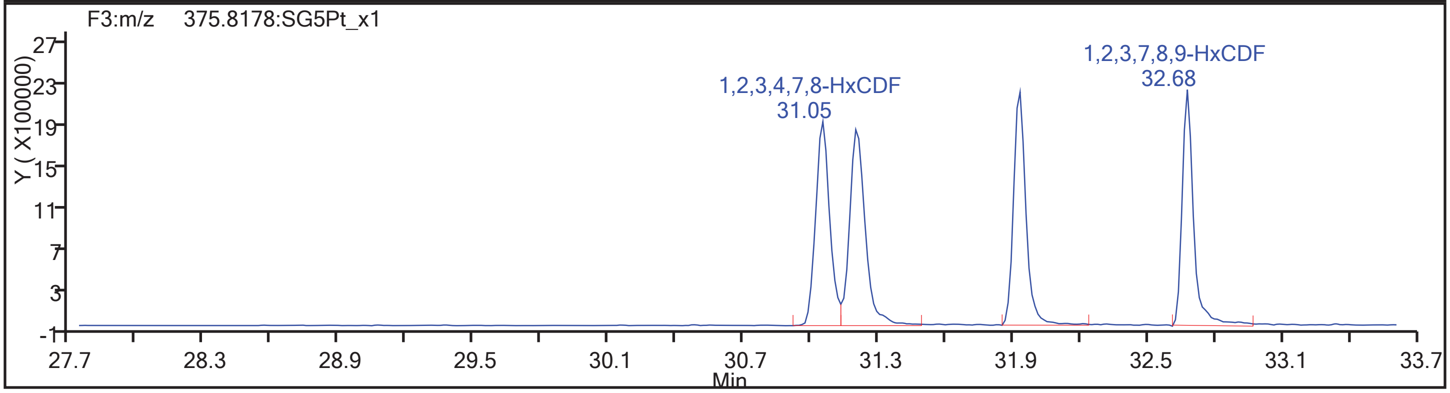
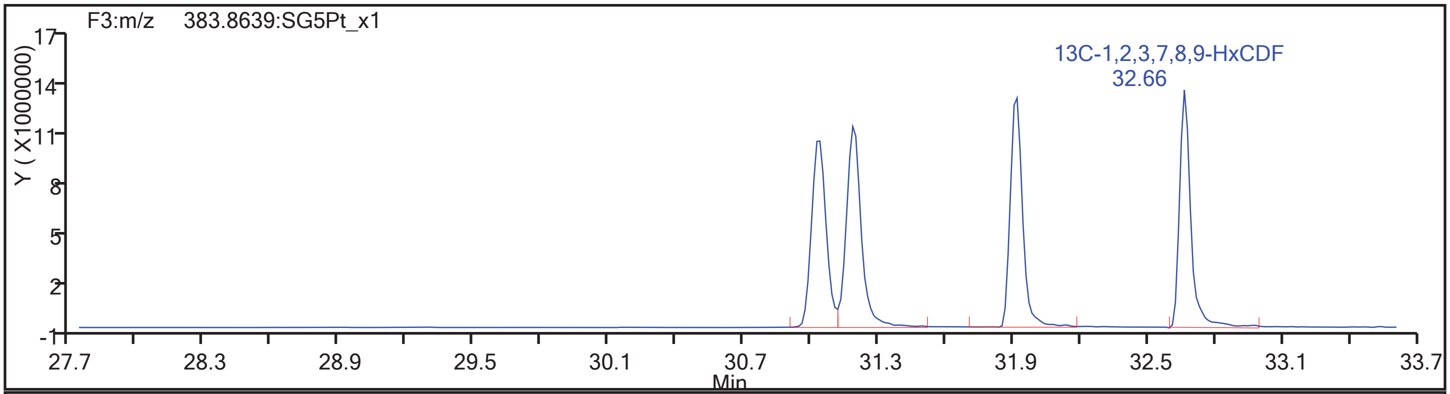
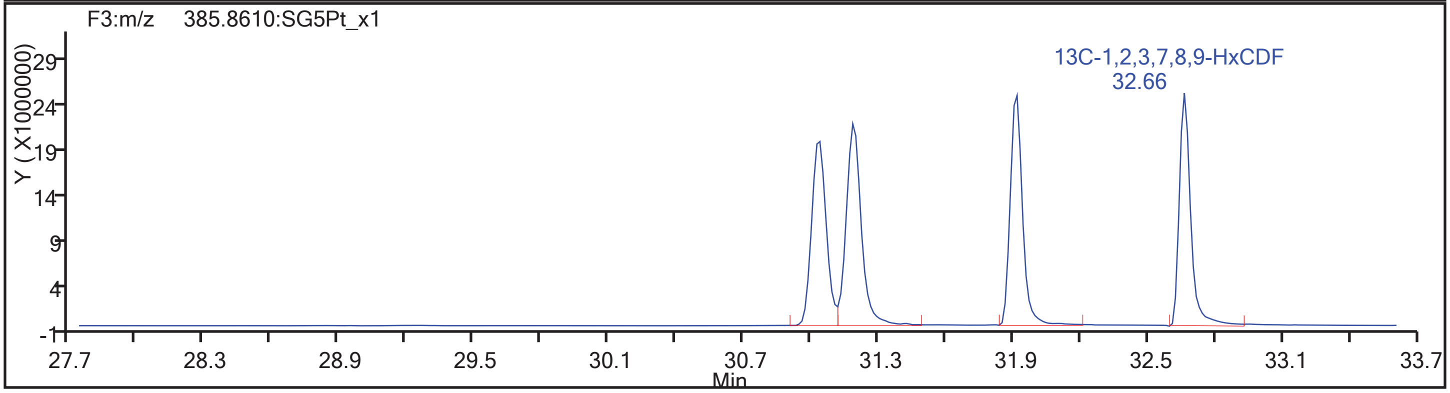




HxCDF Standards





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TestAmerica Sacramento

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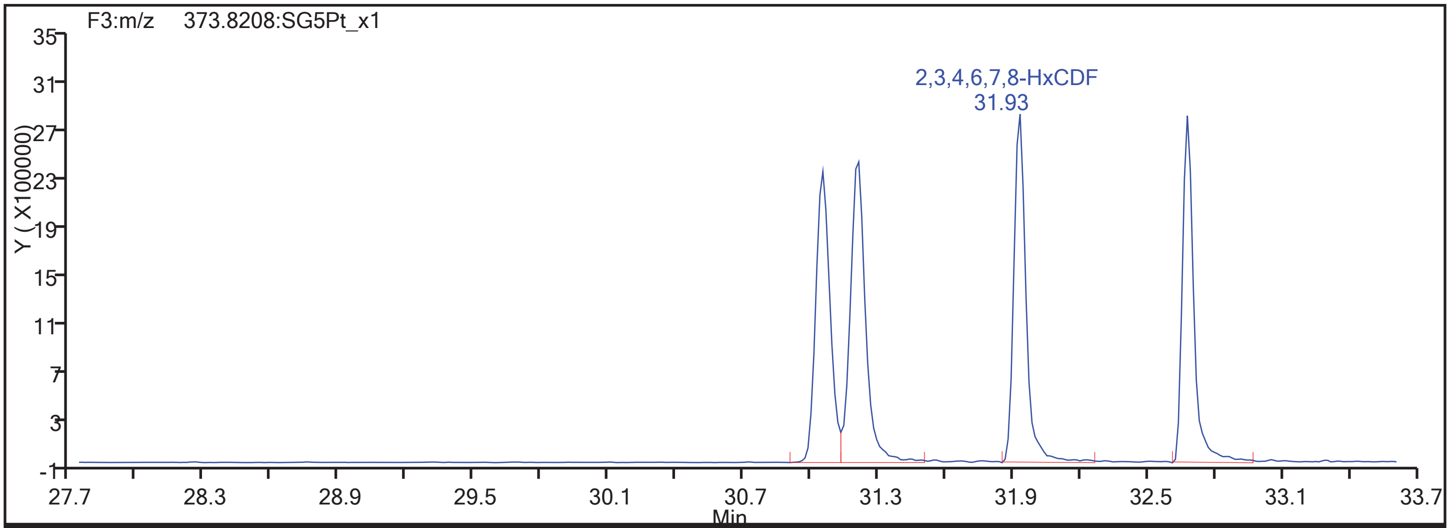
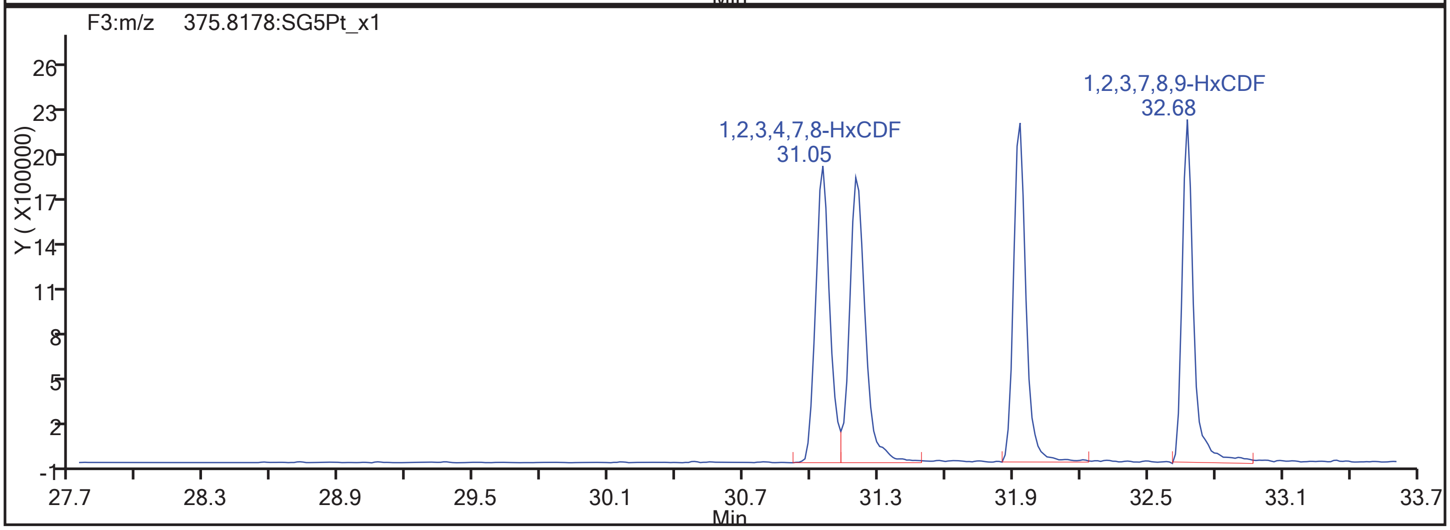
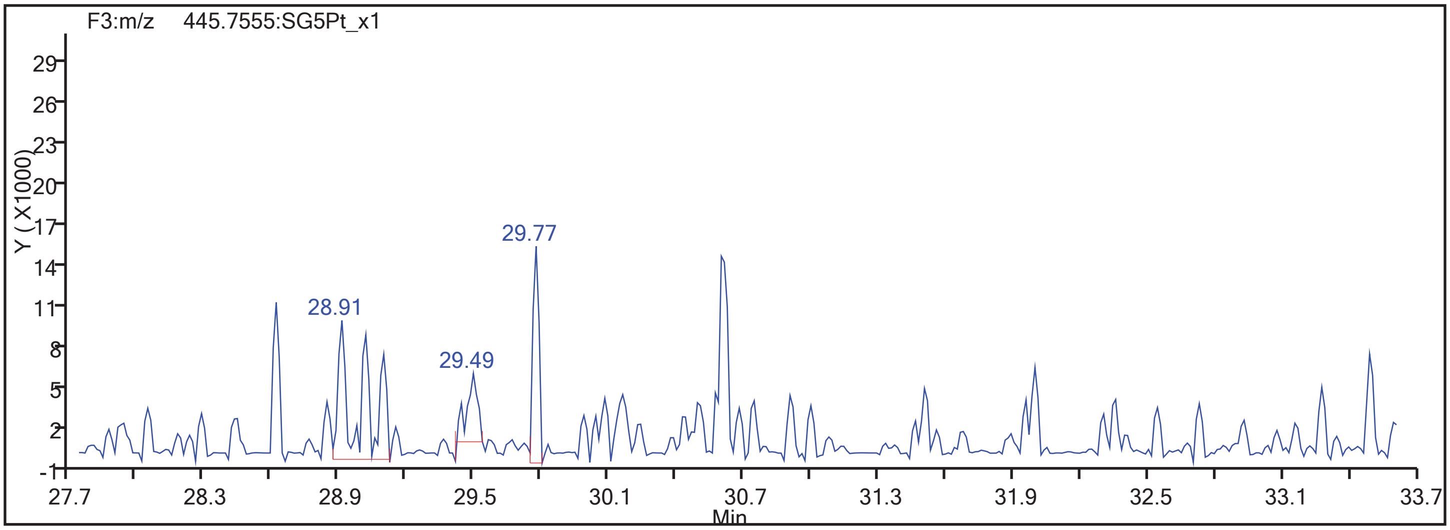




HxCDF Interference Mass



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TestAmerica Sacramento

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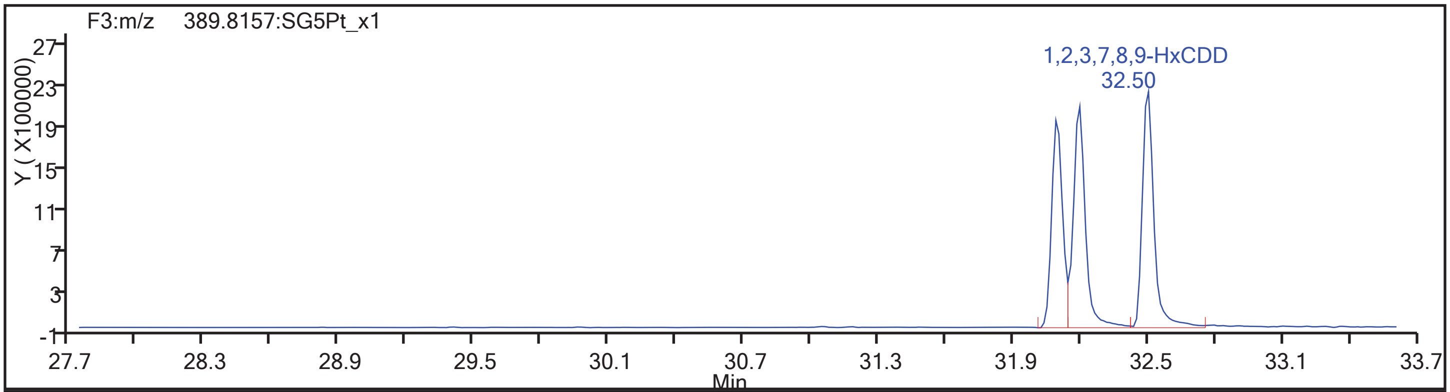

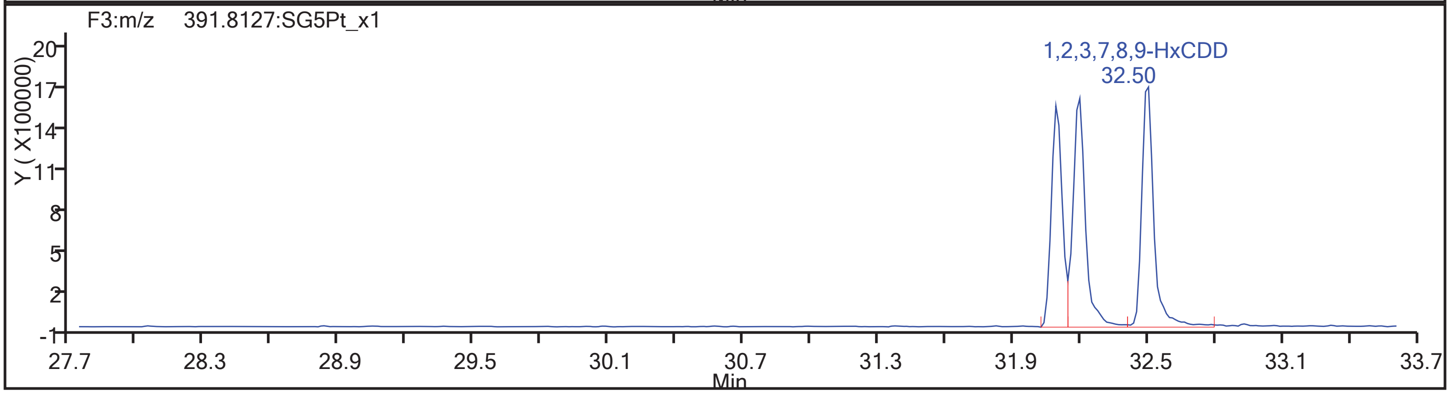

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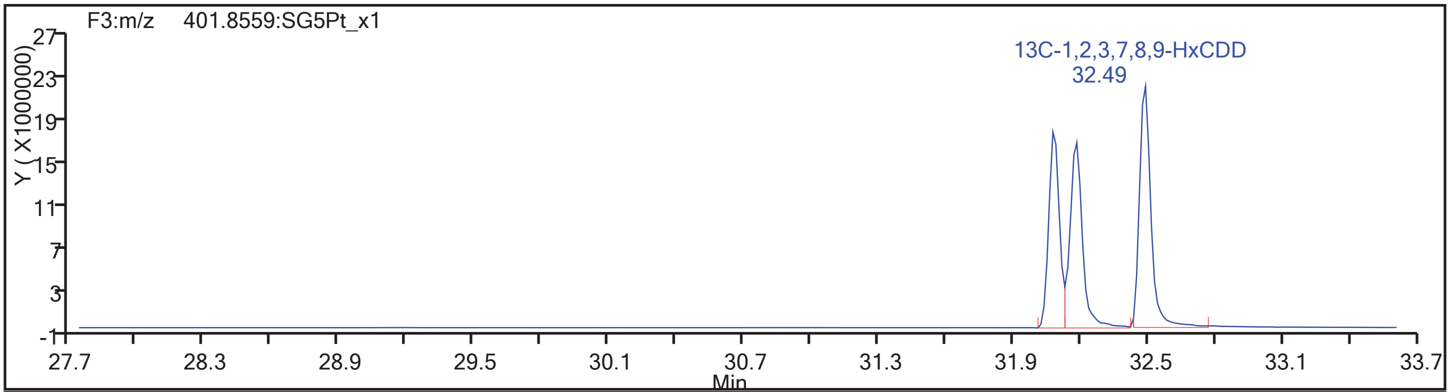

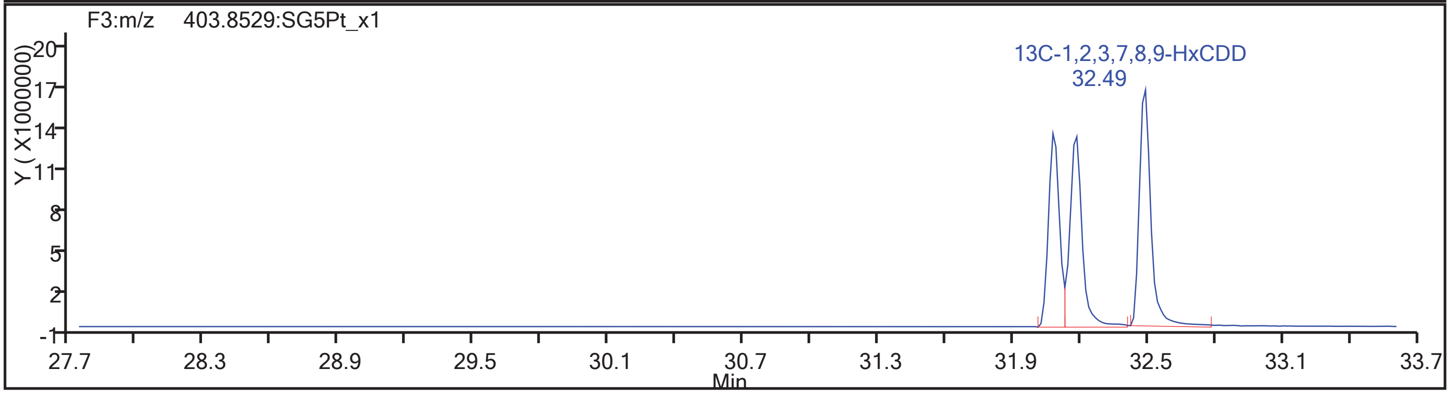

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TestAmerica Sacramento

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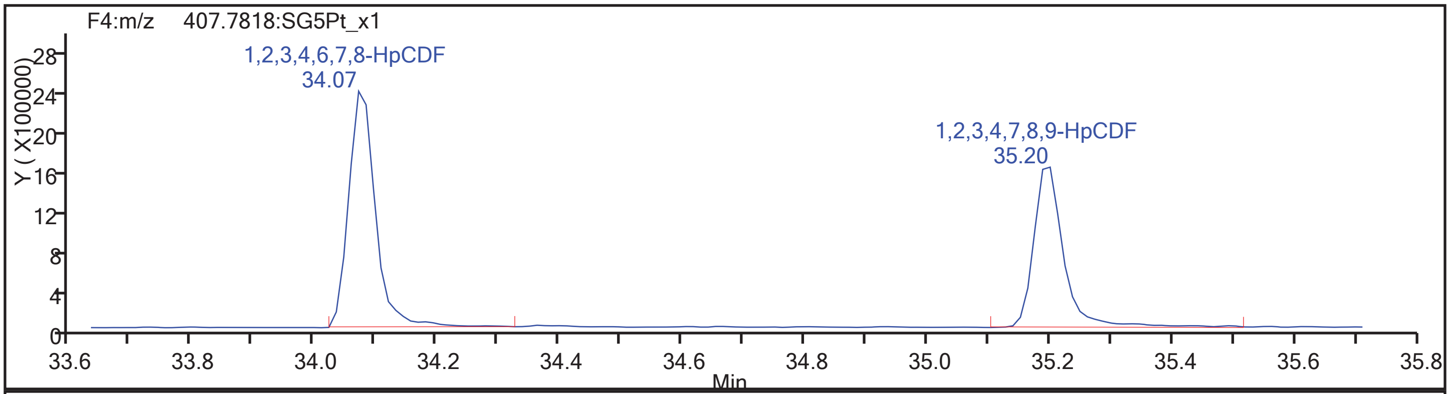

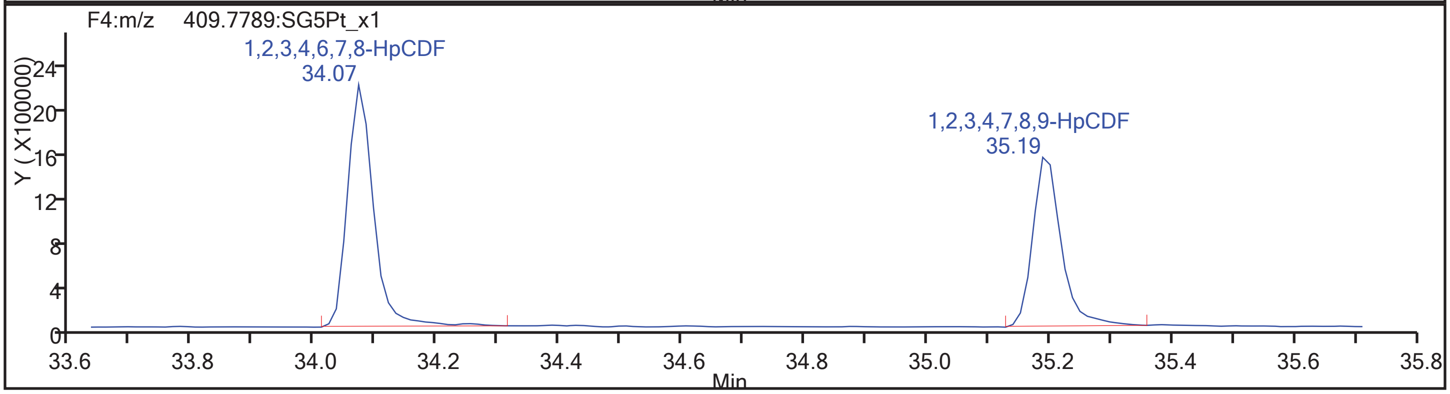

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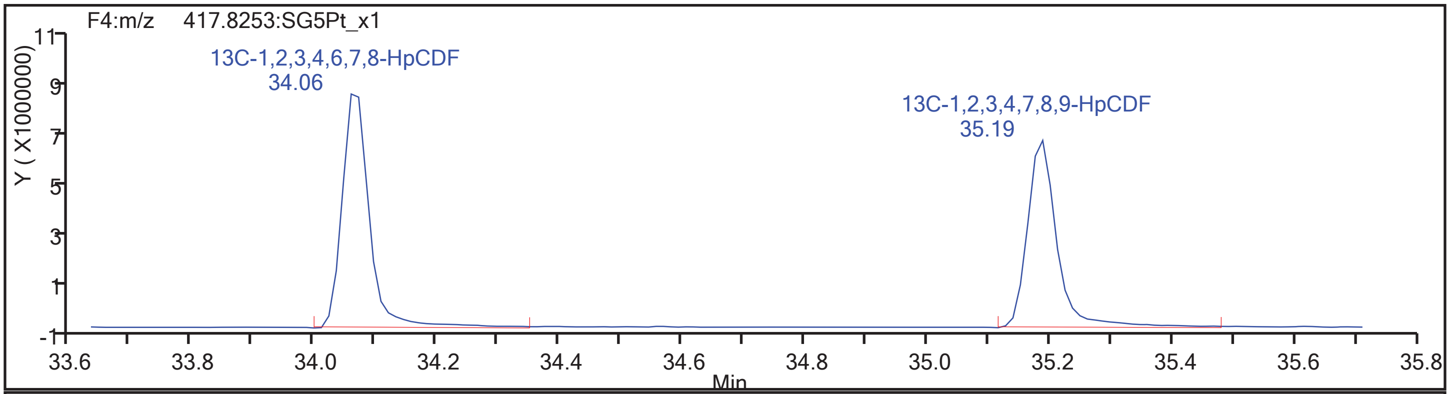

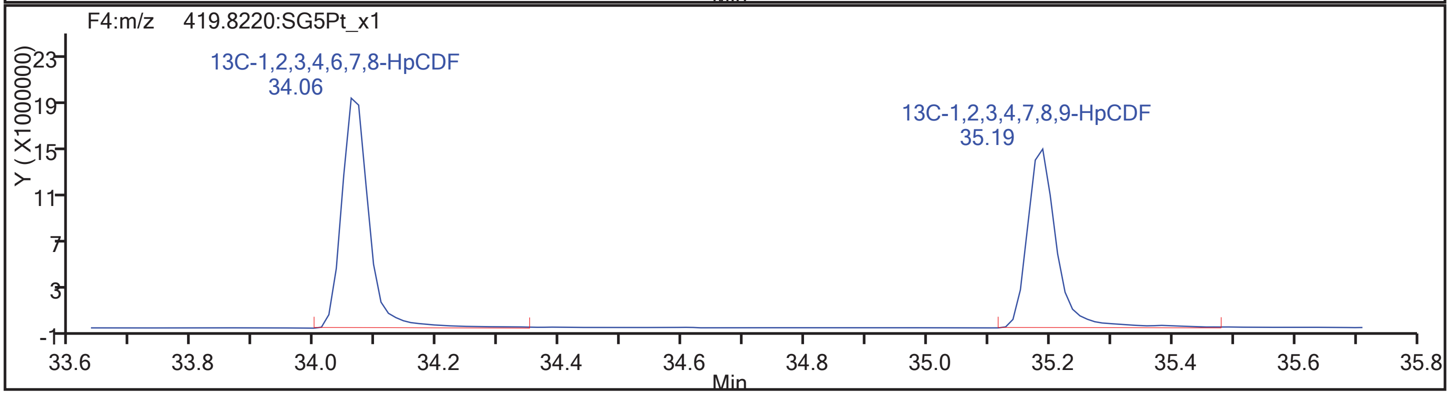

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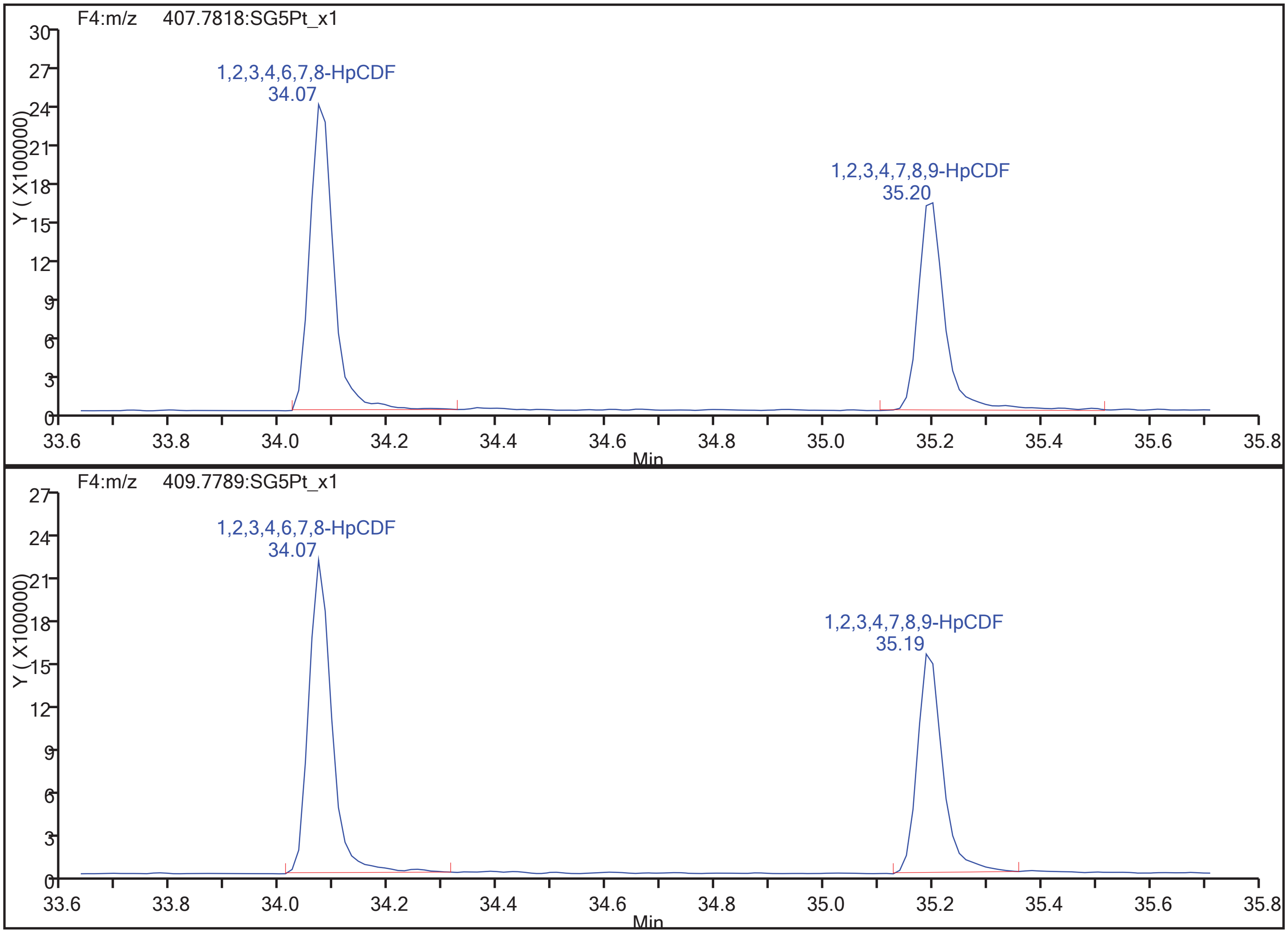
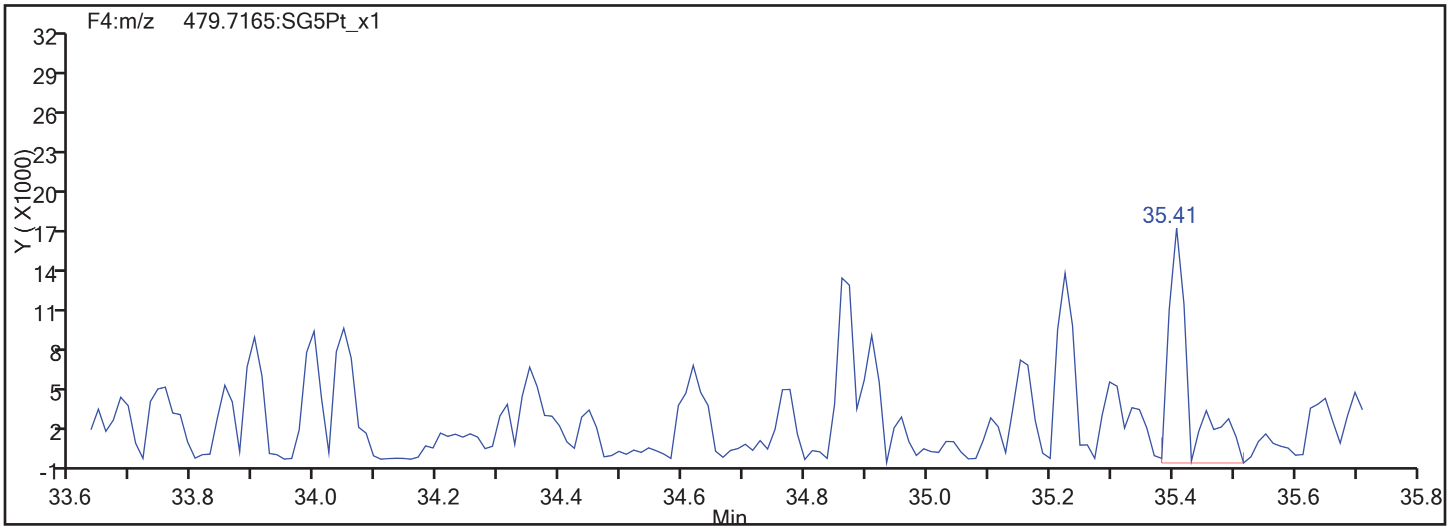


HpCDF Interference Mass



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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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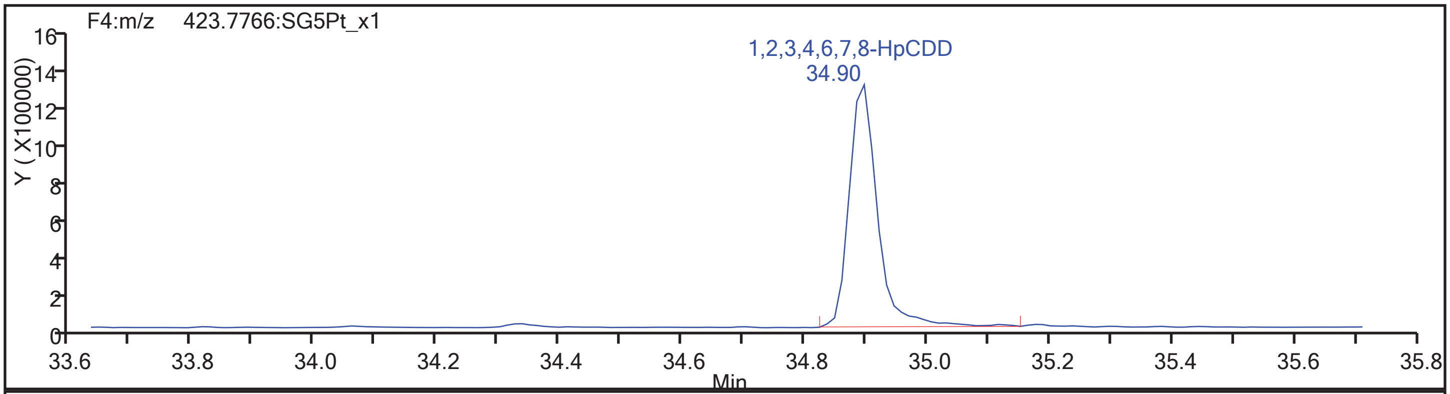

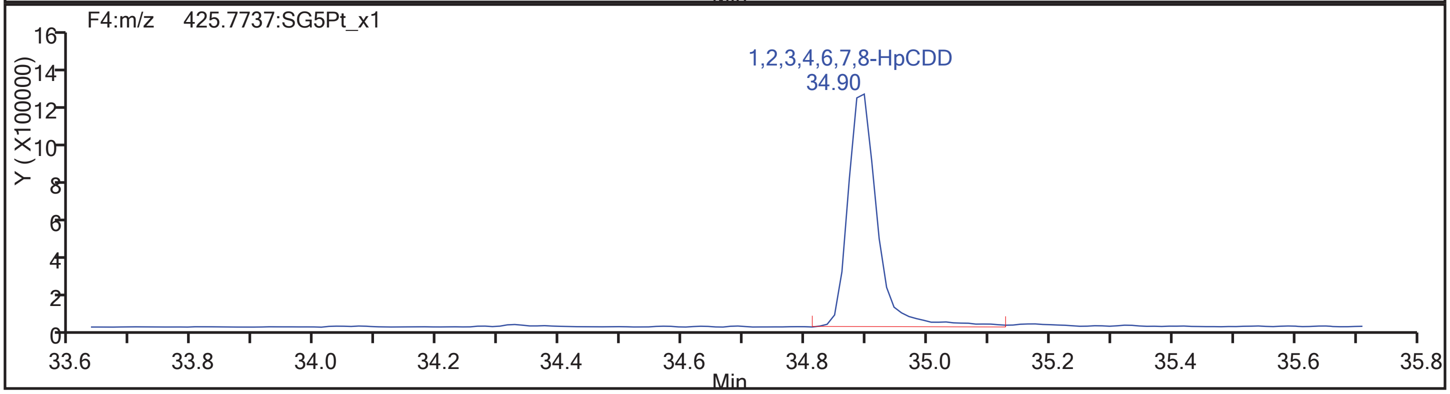

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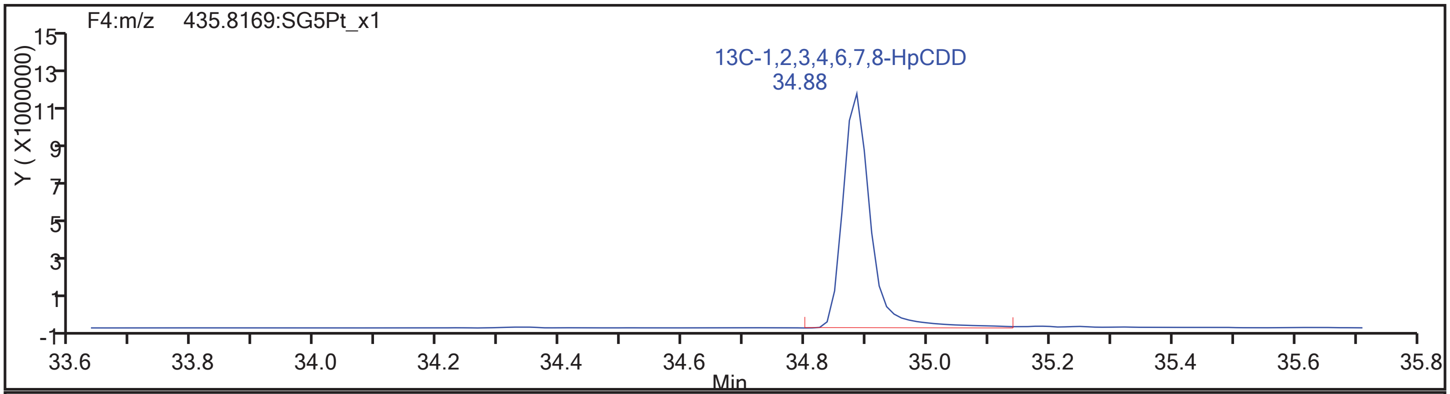

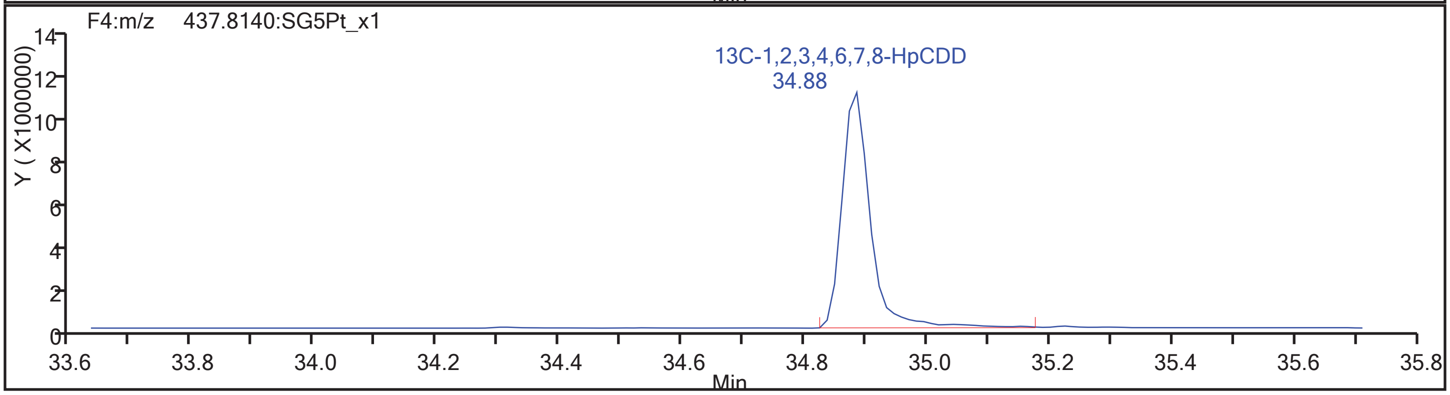

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TestAmerica Sacramento

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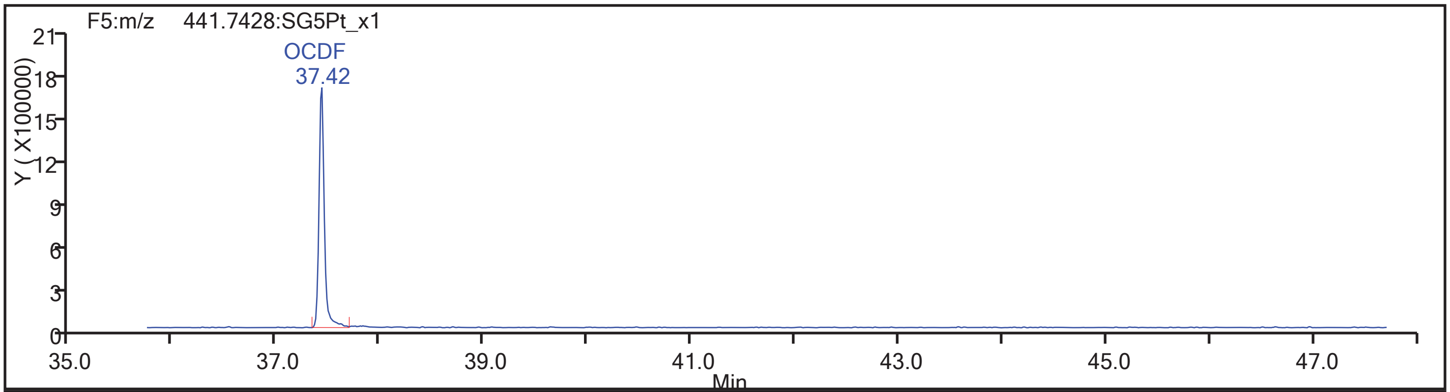
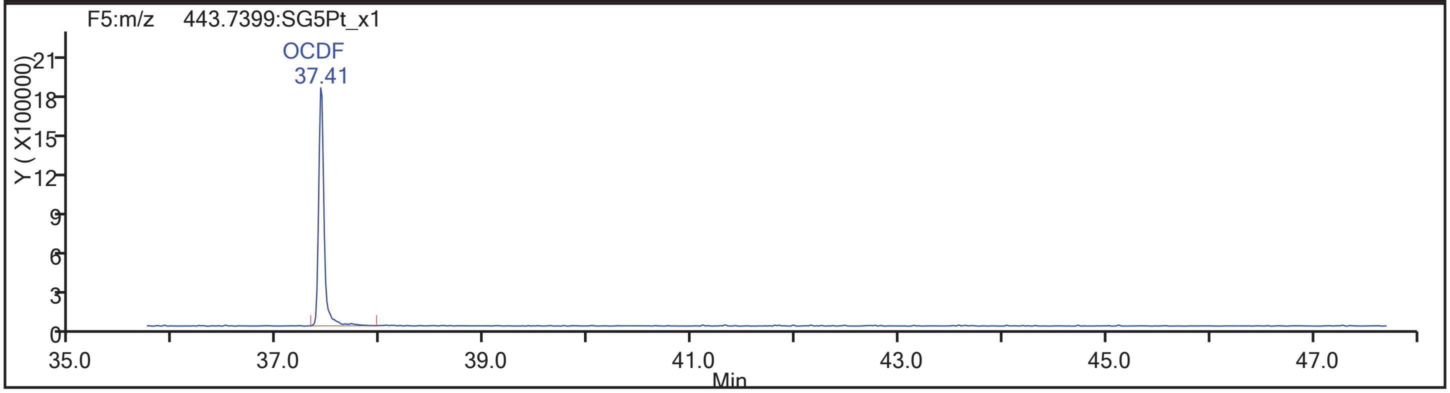
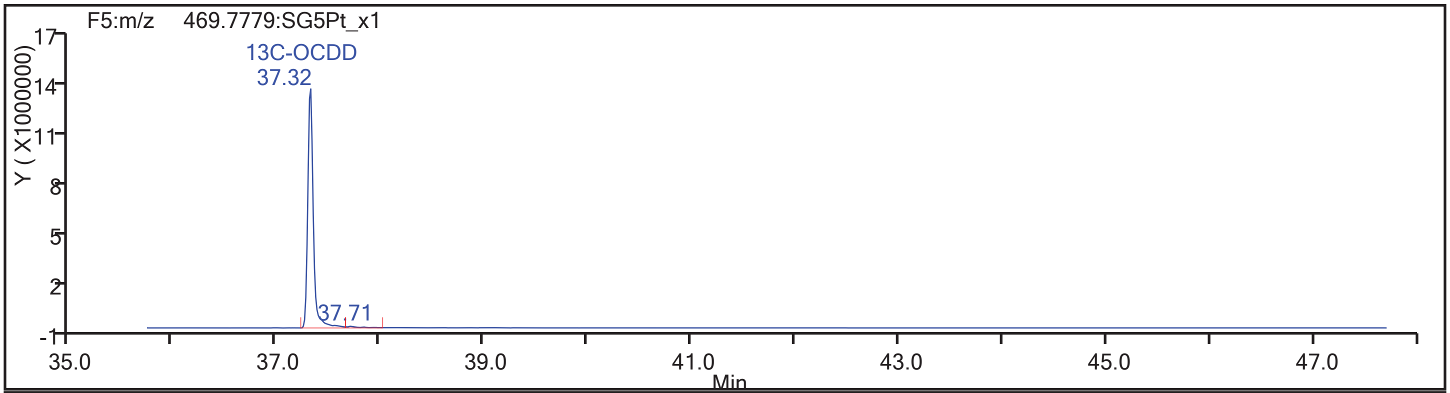
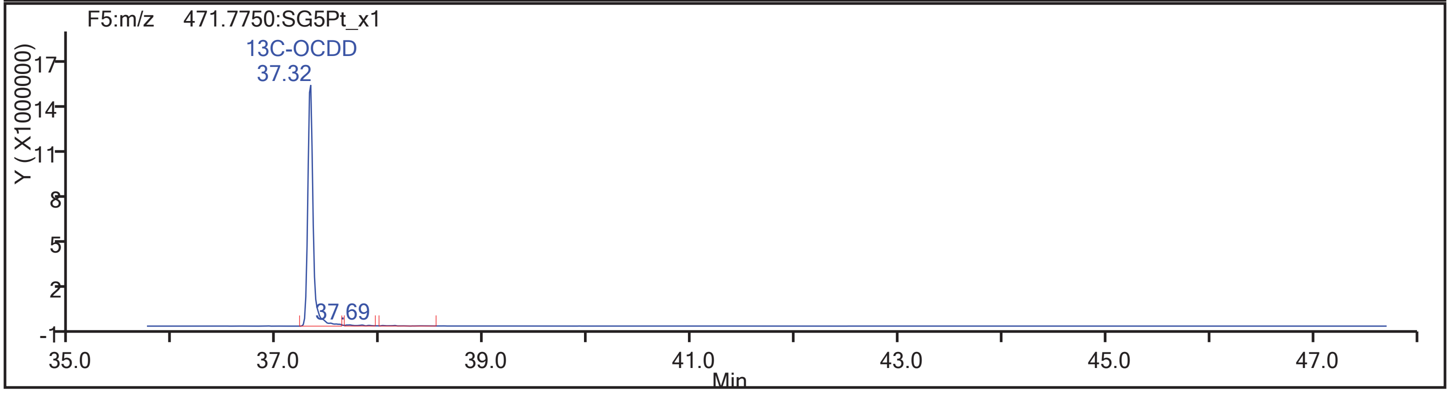




OCDF Standards





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TestAmerica Sacramento

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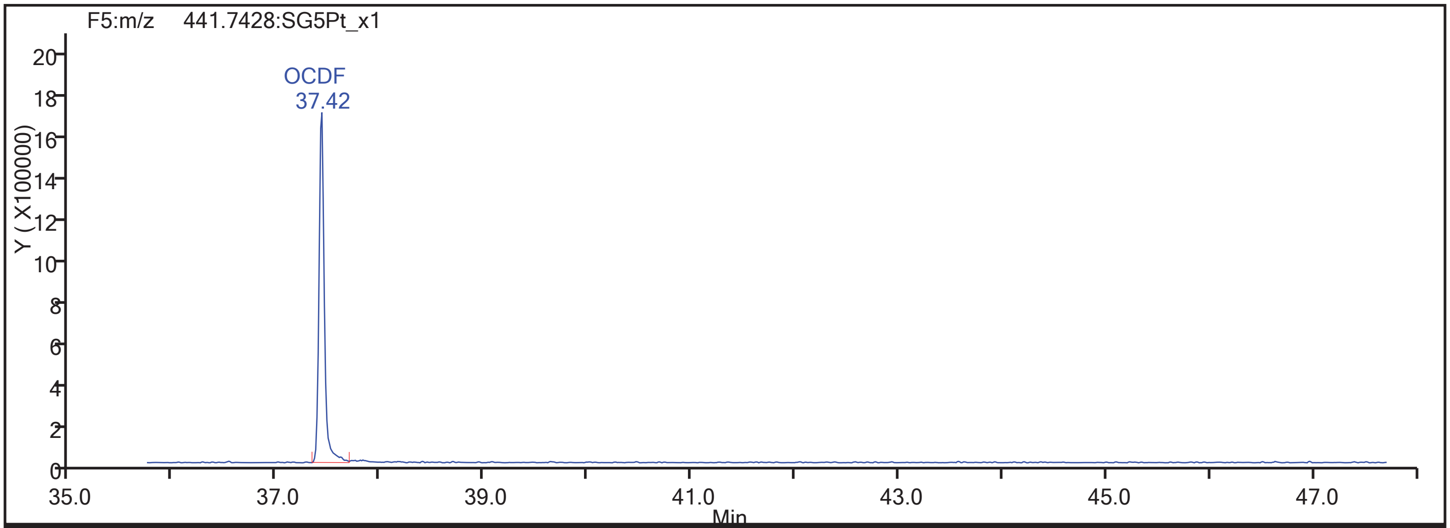
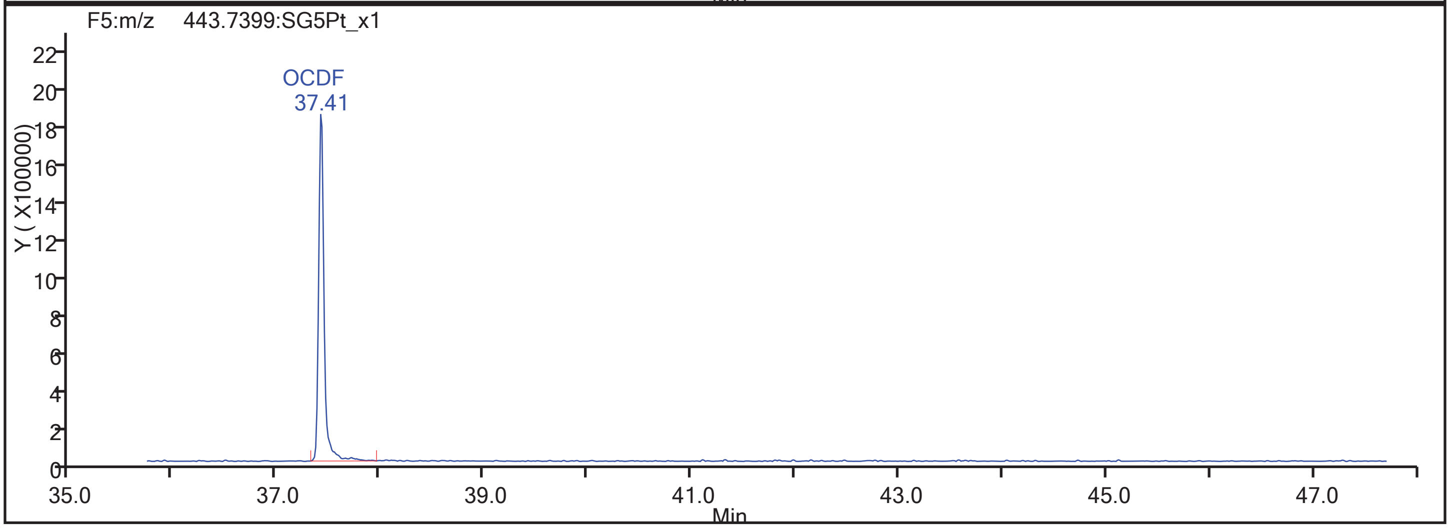
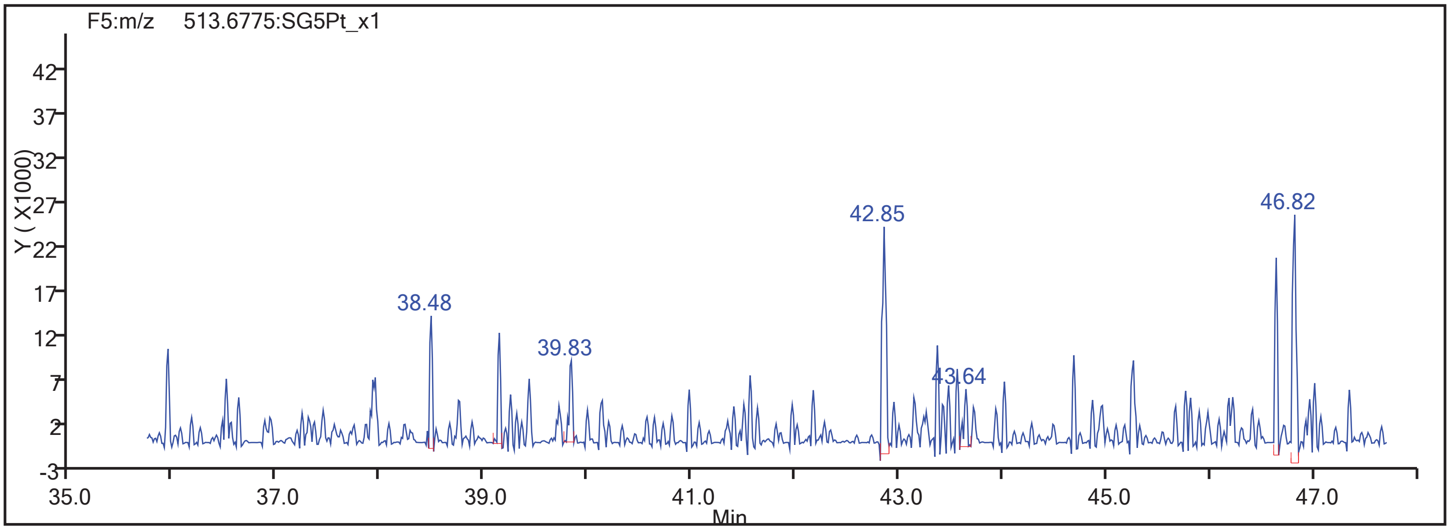




OCDF Interference Mass



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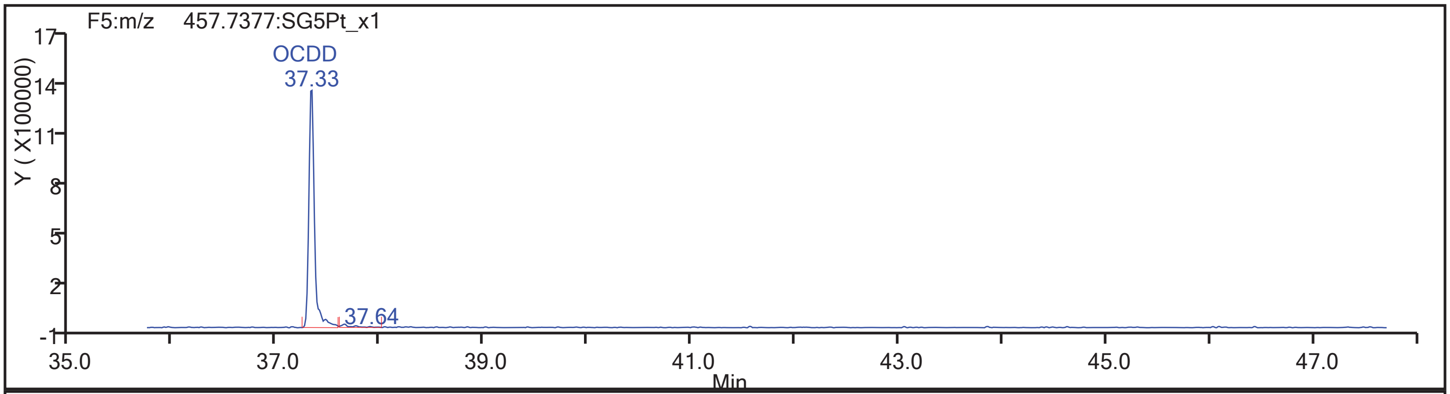
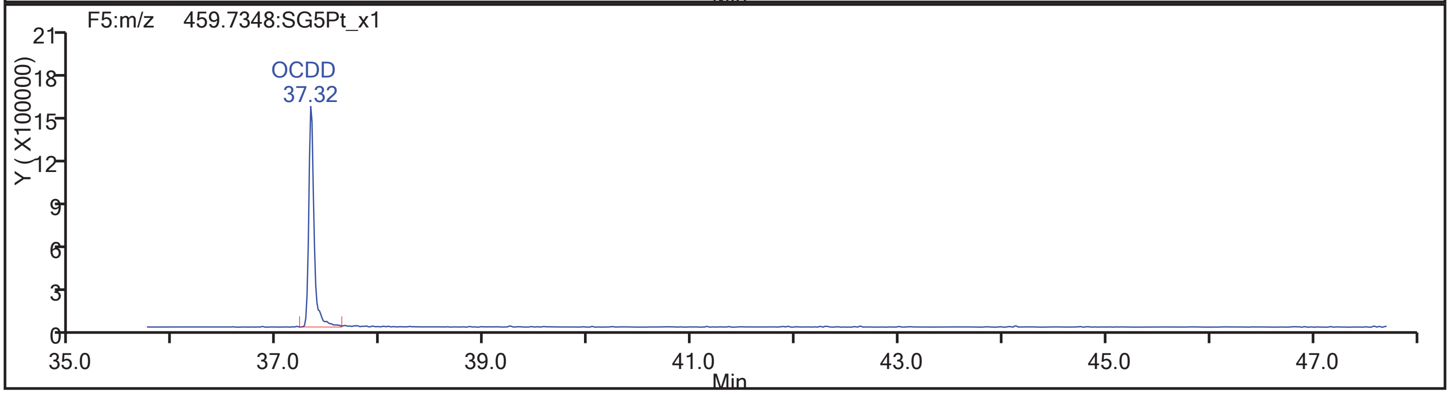
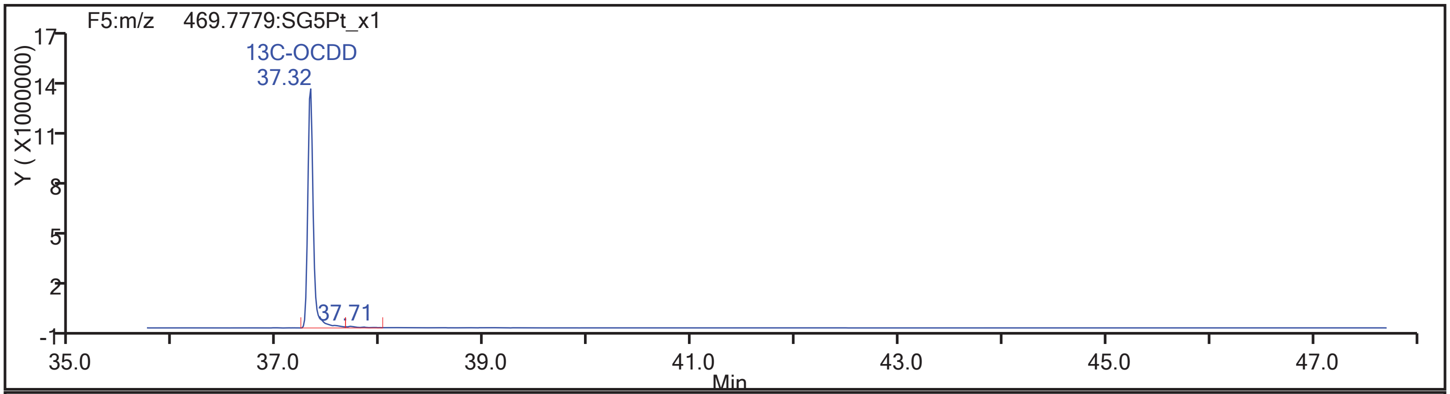
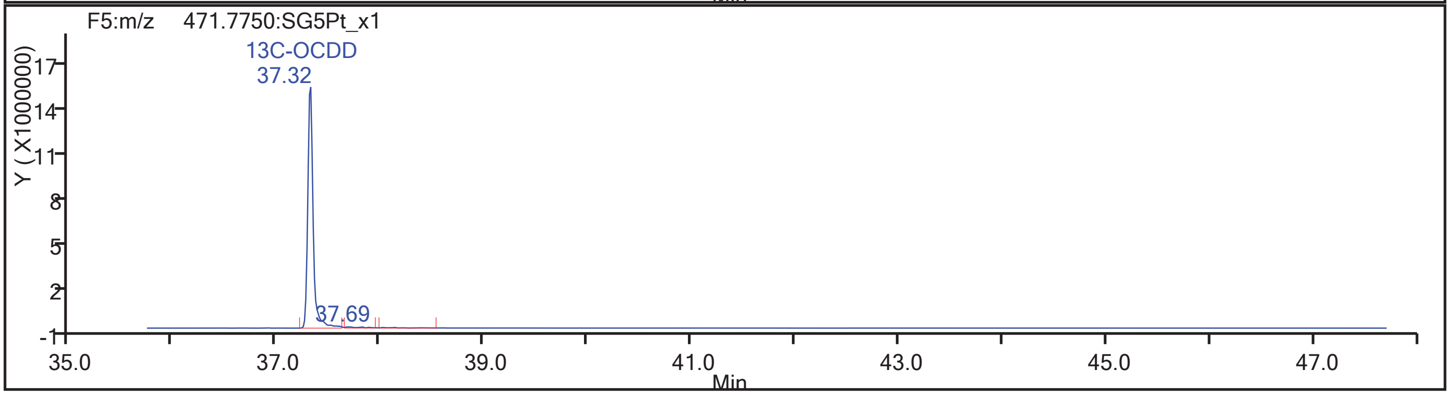




OCDD Standards

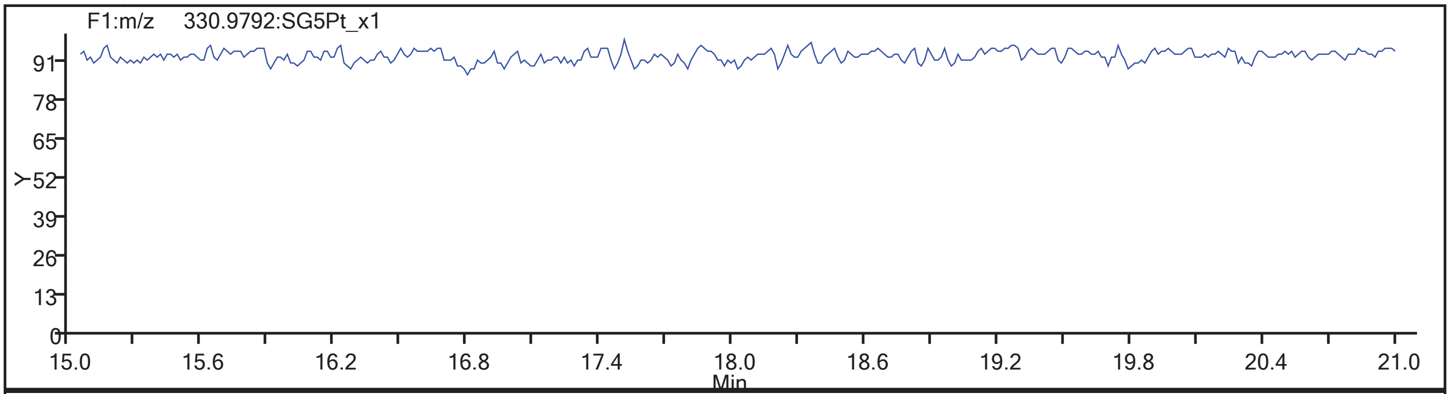


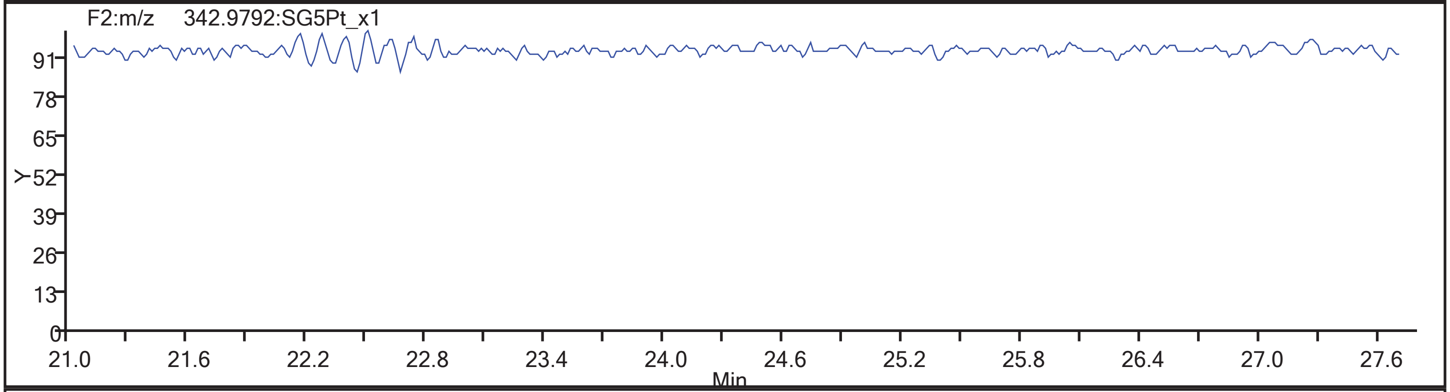


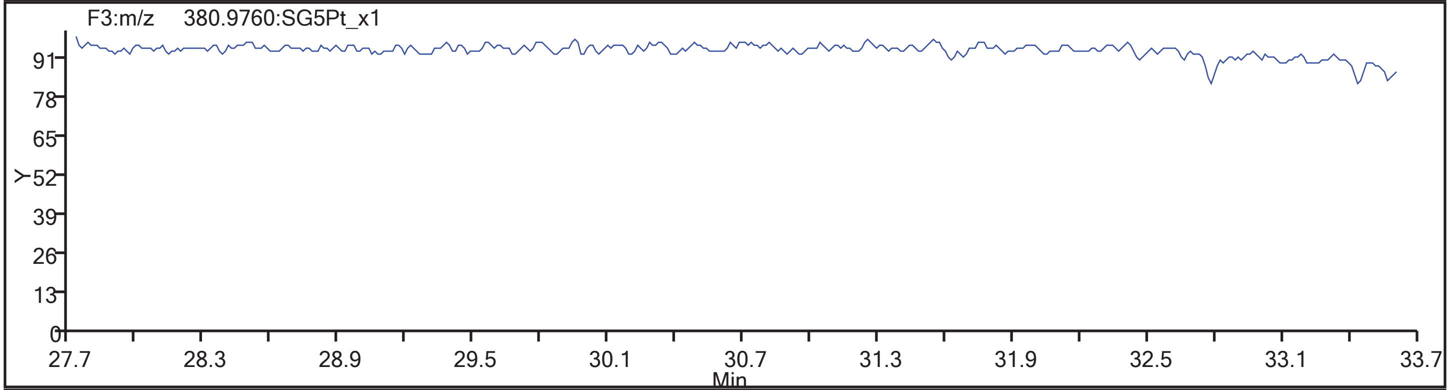
Report Date: 16-Nov-2017 09:37:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

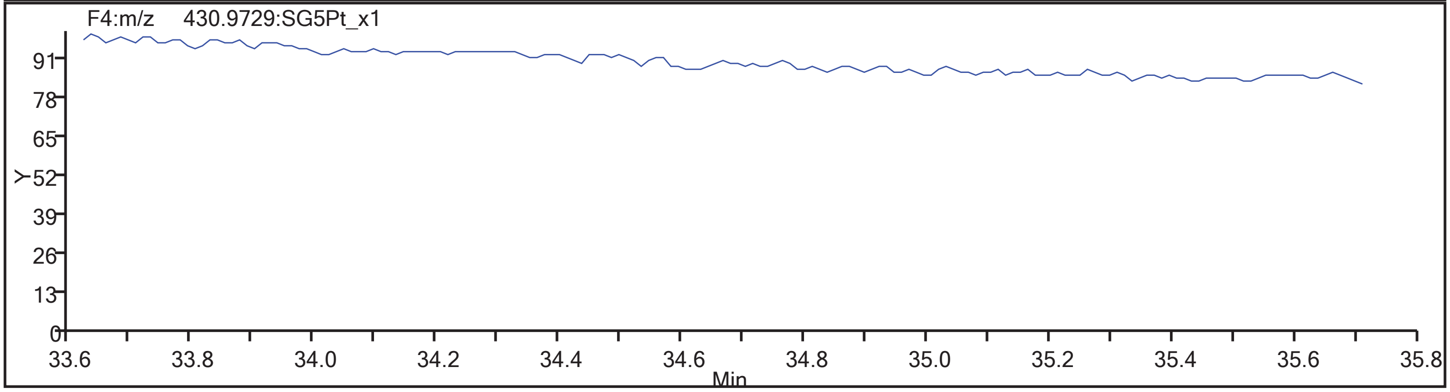
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_3.d
Injection Date: 15-Nov-2017 12:40:15
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS301
Worklist#: 194923
Sample Line#: 3
Column Type:
Column Dia:





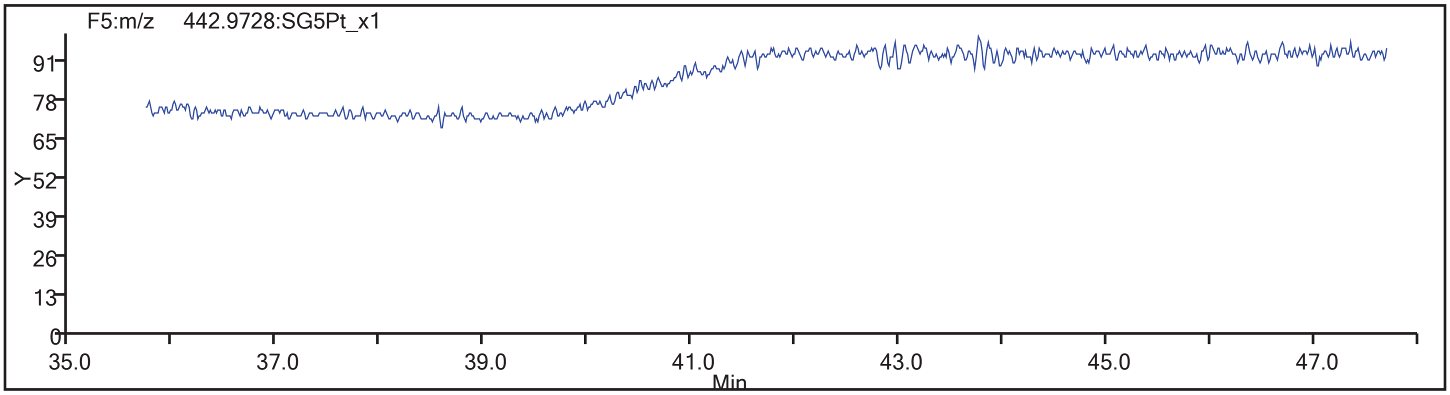




Report Date: 16-Nov-2017 09:37:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_3.d		
Injection Date:	15-Nov-2017 12:40:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS301		
Worklist#:	194923	Sample Line#:	3
Column Type:		Column Dia:	



Report Date: 16-Nov-2017 09:37:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_4.d				
Lims ID:	IC 2	Lab Sample ID:			
Client ID:	CS201				
Sample Type:	IC	Calib Level:	2		
Inject. Date:	15-Nov-2017 13:28:42	ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC 111517B CS-2 HRDXNL2_00021				
Misc. Info.:	15NO173D5				
Operator ID:	SMA	Instrument ID:	3D5		
Sublist:	chrom-Dioxin_3D5*sub1				
Method:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	16-Nov-2017 09:37:42	Calib Date:	15-Nov-2017 15:05:45		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d				
Column 1 :			Det: F1:HRSIR		
Process Host:	XAWRK015				

First Level Reviewer: arghestanis Date: 15-Nov-2017 14:34:00

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.340	162891603	0.790	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.810	245816116	0.788	1.5089	100.0	100.0	0.2737	0.2737	100	
2,3,7,8-TCDF	17.826	1433634	0.839	1.0971	0.5316	0.5316	0.0232	0.0232	106	
A Non-2,3,7,8-sub-TCDF	17.493						0.0237	0.0237		
S Total TCDF					0.5316	0.5316	0.0232	0.0232		
D 13C-2,3,7,8-TCDD	18.536	161649466	0.778	0.9906	100.2	100.2	0.2335	0.2335	100	
$ 37Cl4-2,3,7,8-TCDD	18.551	972306		1.1732	0.5088	0.5088	0.0167	0.0167	102	
2,3,7,8-TCDD	18.551	982447	0.703	1.1645	0.5219	0.5219	0.0303	0.0303	104	
A Non-2,3,7,8-sub-TCDD	17.962						0.0312	0.0312		
S Total TCDD					0.5219	0.5219	0.0303	0.0303		
D 13C-1,2,3,7,8-PeCDF	23.019	181333339	1.613	1.1280	98.7	98.7	0.3065	0.3065	98.69	
1,2,3,7,8-PeCDF	23.046	5284811	1.720	1.1422	2.552	2.552	0.0412	0.0412	102	
D 13C-2,3,4,7,8-PeCDF	24.424	179950345	1.601							
2,3,4,7,8-PeCDF	24.451	5172590	1.607	1.1102	2.569	2.569	0.0424	0.0424	103	
A F1 PeCDFs	20.479						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.750						0.0	0.0		
S Total PeCDF					5.121	5.121	0.0418	0.0418		
D 13C-1,2,3,7,8-PeCDD	25.174	118817010	1.586	0.7269	100.4	100.4	0.1713	0.1713	100	
1,2,3,7,8-PeCDD	25.201	3305212	1.667	1.1272	2.468	2.468	0.0587	0.0587	98.71	
A Non-2,3,7,8-sub-PeCDD	24.021						0.0	0.0		
S Total PeCDD					2.468	2.468	0.0587	0.0587		
D 13C-1,2,3,4,7,8-HxCDF	31.025	138272000	0.525	1.0279	97.7	97.7	0.5011	0.5011	97.67	
1,2,3,4,7,8-HxCDF	31.039	4686183	1.295	1.3475	2.515	2.515	0.0403	0.0403	101	
D 13C-1,2,3,6,7,8-HxCDF	31.172	163302641	0.506							
1,2,3,6,7,8-HxCDF	31.198	5397284	1.206	1.4794	2.639	2.639	0.0367	0.0367	106	
D 13C-2,3,4,6,7,8-HxCDF	31.904	151781769	0.524							
2,3,4,6,7,8-HxCDF	31.917	4989133	1.208	1.3833	2.608	2.608	0.0393	0.0393	104	
D 13C-1,2,3,7,8,9-HxCDF	32.650	141902159	0.525							
1,2,3,7,8,9-HxCDF	32.663	4557297	1.291	1.2903	2.554	2.554	0.0421	0.0421	102	
A Non-2,3,7,8-sub-HxCDF	30.786						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					10.3	10.3	0.0396	0.0396		
* 13C-1,2,3,7,8,9-HxCDD	32.477	137722684	1.298	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.064	100964387	1.304							
1,2,3,4,7,8-HxCDD	32.077	3051875	1.310	1.0646	2.461	2.461	0.0517	0.0517	98.45	
D 13C-1,2,3,6,7,8-HxCDD	32.171	116465562	1.273	0.8502	99.5	99.5	0.2888	0.2888	99.47	
1,2,3,6,7,8-HxCDD	32.184	3427890	1.188	1.1809	2.492	2.492	0.0466	0.0466	99.70	
1,2,3,7,8,9-HxCDD	32.490	3577976	1.185	1.2311	2.495	2.495	0.0447	0.0447	99.82	
A Non-2,3,7,8-sub-HxCDD	31.352						0.0	0.0		
S Total HxCDD					7.449	7.449	0.0477	0.0477		
D 13C-1,2,3,4,6,7,8-HpCDF	34.046	88940238	0.435	0.6490	99.5	99.5	0.8942	0.8942	99.51	
1,2,3,4,6,7,8-HpCDF	34.058	3548186	1.111	1.5871	2.514	2.514	0.0488	0.0488	101	
D 13C-1,2,3,4,7,8,9-HpCDF	35.176	70987685	0.445							
1,2,3,4,7,8,9-HpCDF	35.188	2602364	1.100	1.2290	2.381	2.381	0.0631	0.0631	95.23	
A Non-2,3,7,8-sub-HpCDF	34.617						0.0586	0.0586		
S Total HpCDF					4.895	4.895	0.0559	0.0559		
D 13C-1,2,3,4,6,7,8-HpCDD	34.872	73518782	1.070	0.5387	99.1	99.1	0.5761	0.5761	99.10	
1,2,3,4,6,7,8-HpCDD	34.884	2192247	1.140	1.1631	2.564	2.564	0.0561	0.0561	103	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0650	0.0650		
S Total HpCDD					2.564	2.564	0.0561	0.0561		
D 13C-OCDD	37.293	104036202	0.902	0.4009	188.4	188.4	0.2048	0.2048	94.21	
OCDF	37.401	3404395	0.903	1.2649	5.174	5.174	0.0638	0.0638	103	
OCDD	37.305	2965942	0.834	1.0390	5.488	5.488	0.0690	0.0690	110	

Reagents:

HRDXNL2_00021 Amount Added: 1.00 Units: mL

Report Date: 16-Nov-2017 09:37:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_4.d				
Lims ID:	IC 2	Lab Sample ID:			
Client ID:	CS201				
Sample Type:	IC	Calib Level:	2		
Inject. Date:	15-Nov-2017 13:28:42	ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC 111517B CS-2 HRDXNL2_00021				
Misc. Info.:	15NO173D5				
Operator ID:	SMA	Instrument ID:	3D5		
Sublist:	chrom-Dioxin_3D5*sub1				
Method:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	16-Nov-2017 09:37:42	Calib Date:	15-Nov-2017 15:05:45		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d				
Column 1 :			Det: F1:HRSIR		
Process Host:	XAWRK015				
First Level Reviewer: arghestanis		Date:	15-Nov-2017 14:34:00		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.340	18.346	0		71893308	16709968	19011	47527	879		
333.9339	18.340	18.346	0		90998295	21799655	16611	41527	1312	0.790(0.650-0.890)	
13C-2,3,7,8-TCDF											
315.9419	17.810	17.813	0	0.971	108296945	25622925	38866	97165	659		
317.9389	17.810	17.813	0	0.971	137519171	31992443	24743	61857	1293	0.788(0.650-0.890)	
2,3,7,8-TCDF											
303.9016	17.826	17.832	0	1.001	654112	148214	2269	5672	65		
305.8987	17.826	17.832	0	1.001	779522	198607	3607	9017	55	0.839(0.650-0.890)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.493						2269	5672			
305.8987	17.493						3607	9017			
13C-2,3,7,8-TCDD											
331.9368	18.536	18.545	-1	1.011	70736982	15737937	19011	47527	828		
333.9339	18.536	18.545	-1	1.011	90912484	20297879	16611	41527	1222	0.778(0.650-0.890)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.551	18.560	-1	1.012	972306	246536	3026	7565	81		
2,3,7,8-TCDD											
319.8965	18.551	18.563	-1	1.001	405419	96335	3030	7575	32		
321.8936	18.566	18.563	0	1.002	577028	118742	2061	5152	58	0.703(0.650-0.890)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.962						3030	7575			
321.8936	17.962						2061	5152			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	23.019	23.027	0	1.255	111931934	18454871	32917	82292	561		
353.8970	23.019	23.027	0	1.255	69401405	11653454	20336	50840	573	1.613(1.320-1.780)	
1,2,3,7,8-PeCDF											
339.8597	23.046	23.054	0	1.001	3341785	571694	2678	6695	213		
341.8567	23.046	23.054	0	1.001	1943026	300179	2994	7485	100	1.720(1.320-1.780)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.424	24.432	0	1.332	110773624	17013644	32917	82292	517		
353.8970	24.424	24.432	0	1.332	69176721	10884760	20336	50840	535	1.601(1.320-1.780)	
2,3,4,7,8-PeCDF											
339.8597	24.451	24.456	0	1.001	3188376	486773	2678	6695	182		
341.8567	24.465	24.456	0	1.002	1984214	299323	2994	7485	100	1.607(1.320-1.780)	
A F1 PeCDFs											
339.8597	20.479						1335	3337			
341.8567	20.479						2291	5727			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.750						2678	6695			
341.8567	23.750						2994	7485			
13C-1,2,3,7,8-PeCDD											
367.8949	25.174	25.179	0	1.373	72878249	10297688	9153	22882	1125		
369.8919	25.174	25.179	0	1.373	45938761	6899287	10022	25055	688	1.586(1.320-1.780)	
1,2,3,7,8-PeCDD											
355.8546	25.201	25.209	0	1.001	2065846	304348	3066	7665	99		
357.8516	25.187	25.209	-1	1.001	1239366	176866	1489	3722	119	1.667(1.320-1.780)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.021						3066	7665			
357.8516	24.021						1489	3722			
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.025	31.031	0	0.955	47623374	10431853	27393	68482	381		
385.8610	31.012	31.031	-1	0.955	90648626	19896793	51305	128262	388	0.525(0.430-0.590)	
1,2,3,4,7,8-HxCDF											
373.8208	31.039	31.047	0	1.000	2644495	600524	3574	8935	168		
375.8178	31.039	31.047	0	1.000	2041688	461320	3014	7535	153	1.295(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.172	31.183	-1	0.960	54865720	11831023	27393	68482	432		
385.8610	31.172	31.183	-1	0.960	108436921	23487044	51305	128262	458	0.506(0.430-0.590)	
1,2,3,6,7,8-HxCDF											
373.8208	31.198	31.204	0	1.001	2950381	620441	3574	8935	174		
375.8178	31.185	31.204	-1	1.000	2446903	508339	3014	7535	169	1.206(1.050-1.430)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.904	31.907	0	0.982	52205401	13330839	27393	68482	487		
385.8610	31.904	31.907	0	0.982	99576368	25616862	51305	128262	499	0.524(0.430-0.590)	
2,3,4,6,7,8-HxCDF											
373.8208	31.917	31.923	0	1.000	2729431	674895	3574	8935	189		
375.8178	31.917	31.923	0	1.000	2259702	551950	3014	7535	183	1.208(1.050-1.430)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.650	32.660	-1	1.005	48822778	13849073	27393	68482	506		
385.8610	32.650	32.660	-1	1.005	93079381	26125307	51305	128262	509	0.525(0.430-0.590)	
1,2,3,7,8,9-HxCDF											
373.8208	32.663	32.674	-1	1.000	2568088	746777	3574	8935	209		
375.8178	32.663	32.674	-1	1.000	1989209	583045	3014	7535	193	1.291(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.786						3574	8935			
375.8178	30.786						3014	7535			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.477	32.479	0		77792421	21613182	20686	51715	1045		
403.8529	32.477	32.479	0		59930263	16581837	16822	42055	986	1.298(1.050-1.430)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.064	32.075	-1	0.987	57136008	16865008	20686	51715	815		
403.8529	32.064	32.075	-1	0.987	43828379	13160871	16822	42055	782	1.304(1.050-1.430)	
1,2,3,4,7,8-HxCDD											
389.8157	32.077	32.088	-1	1.000	1730820	506124	3931	9827	129		
391.8127	32.077	32.088	-1	1.000	1321055	406561	2826	7065	144	1.310(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.171	32.173	0	0.991	65222311	17239804	20686	51715	833		
403.8529	32.171	32.173	0	0.991	51243251	13447204	16822	42055	799	1.273(1.050-1.430)	
1,2,3,6,7,8-HxCDD											
389.8157	32.184	32.189	0	1.000	1861458	505238	3931	9827	129		
391.8127	32.184	32.189	0	1.000	1566432	391423	2826	7065	139	1.188(1.050-1.430)	
1,2,3,7,8,9-HxCDD											
389.8157	32.490	32.493	0	1.013	1940119	552243	3931	9827	140		
391.8127	32.490	32.493	0	1.013	1637857	401205	2826	7065	142	1.185(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.352						3931	9827			
391.8127	31.352						2826	7065			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.046	34.056	-1	1.048	26965635	8757120	27973	69932	313		
419.8220	34.046	34.056	-1	1.048	61974603	19948355	60684	151710	329	0.435(0.370-0.510)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.058	34.068	-1	1.000	1867351	596493	4689	11722	127		
409.7789	34.058	34.068	-1	1.000	1680835	574216	4209	10522	136	1.111(0.880-1.200)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.176	35.181	0	1.083	21865252	6419905	27973	69932	230		
419.8220	35.176	35.181	0	1.083	49122433	14554076	60684	151710	240	0.445(0.370-0.510)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.188	35.191	0	1.000	1363384	397799	4689	11722	85		
409.7789	35.188	35.191	0	1.000	1238980	357509	4209	10522	85	1.100(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.617						4689	11722			
409.7789	34.617						4209	10522			

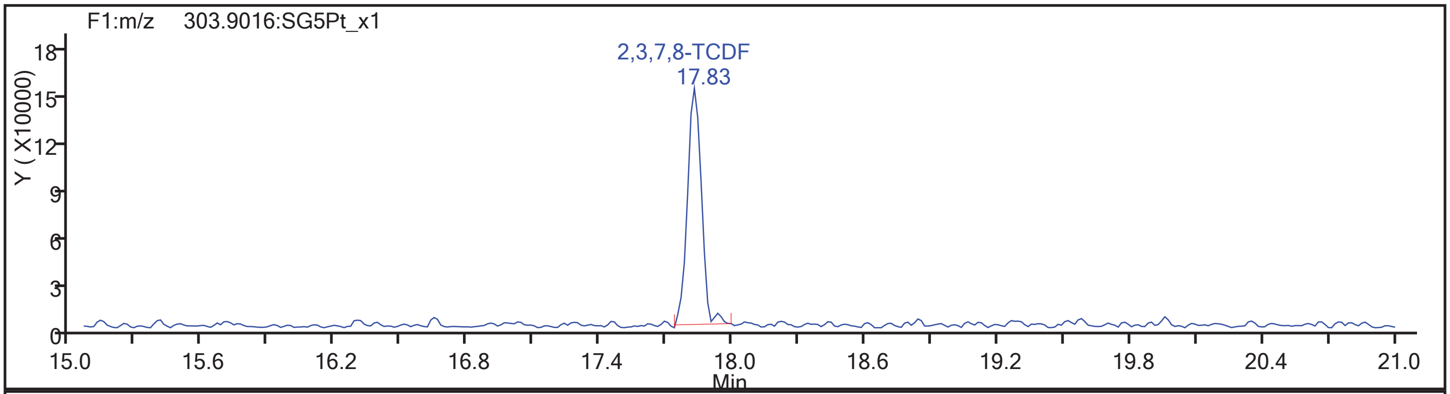
Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.872	34.877	0	1.074	38002531	11887309	26817	67042	443		
437.8140	34.872	34.877	0	1.074	35516251	11022366	20595	51487	535	1.070(0.880-1.200)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.884	34.889	0	1.000	1167755	354065	3203	8007	111		
425.7737	34.872	34.889	-1	1.000	1024492	313781	2780	6950	113	1.140(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						3203	8007			
425.7737	35.261						2780	6950			
13C-OCDD											
469.7779	37.293	37.310	-1	1.148	49328297	13074614	6143	15357	2128		
471.7750	37.293	37.310	-1	1.148	54707905	14911987	6401	16002	2330	0.902(0.760-1.020)	
OCDF											
441.7428	37.401	37.417	-1	1.003	1615851	428371	2021	5052	212		
443.7399	37.401	37.417	-1	1.003	1788544	463461	2499	6247	185	0.903(0.760-1.020)	
OCDD											
457.7377	37.305	37.317	-1	1.000	1348924	361683	2284	5710	158		
459.7348	37.305	37.317	-1	1.000	1617018	436604	1728	4320	253	0.834(0.760-1.020)	

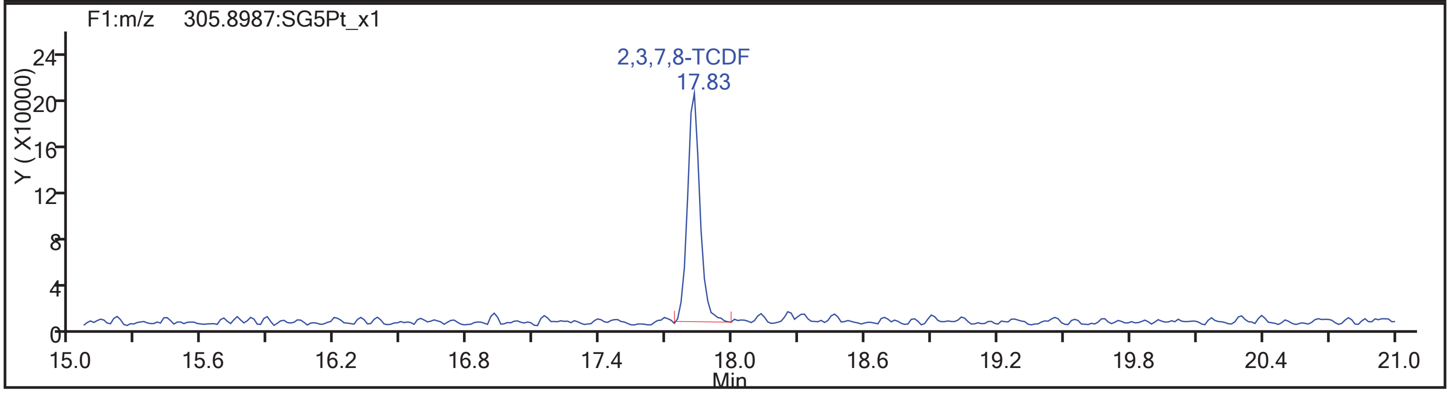
Reagents:

HRDXNL2_00021 Amount Added: 1.00 Units: mL

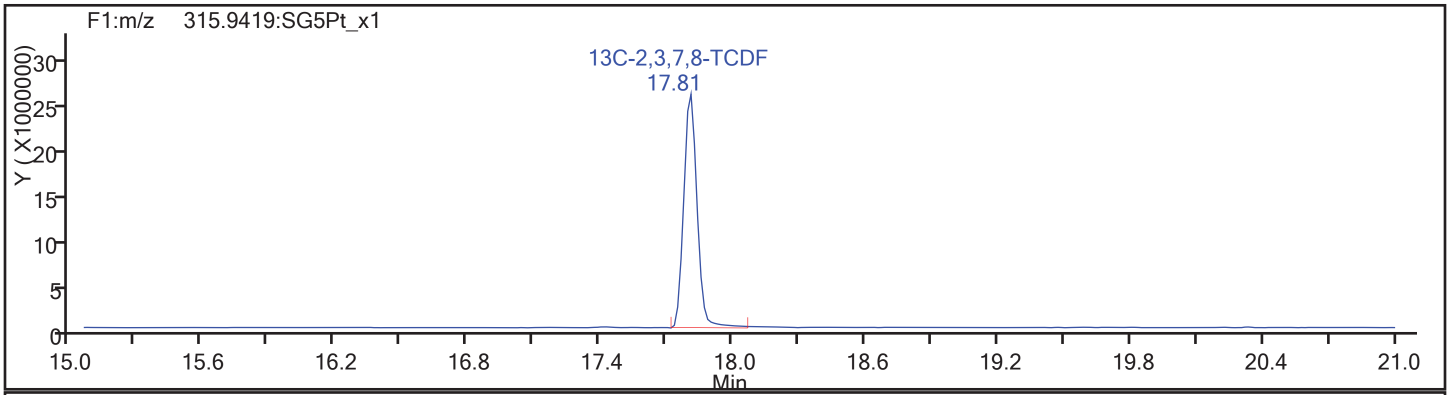
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_4.d		
Injection Date:	15-Nov-2017 13:28:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS201		
Worklist#:	194923	Sample Line#:	4
Column Type:		Column Dia:	

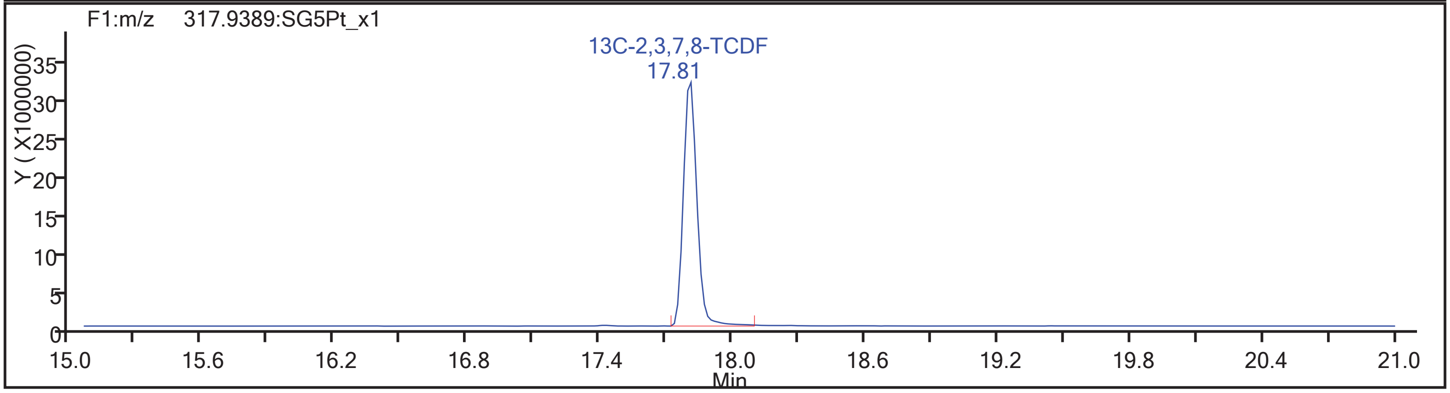
TCDF





TCDF Standards





Report Date: 16-Nov-2017 09:37:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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Column Type:		Column Dia:	

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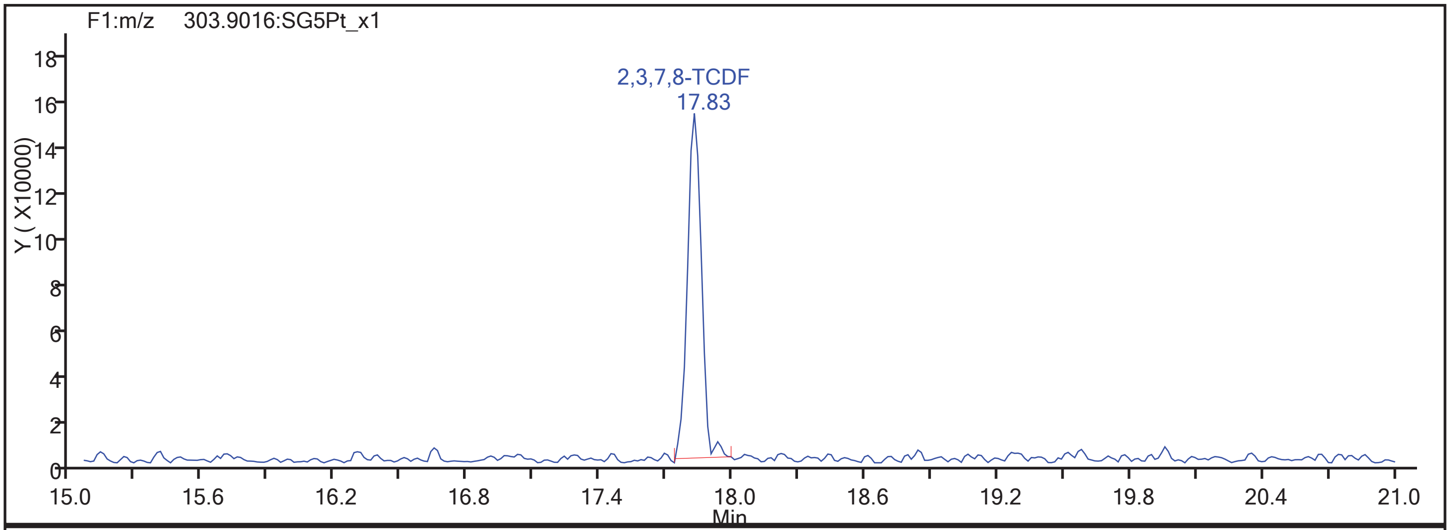
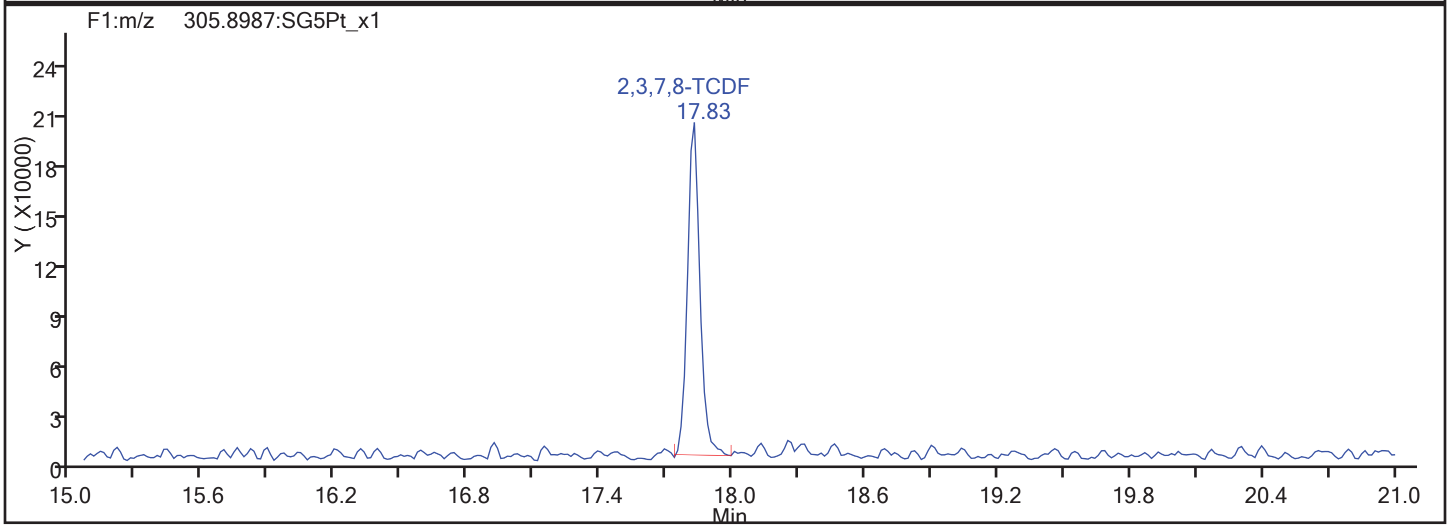
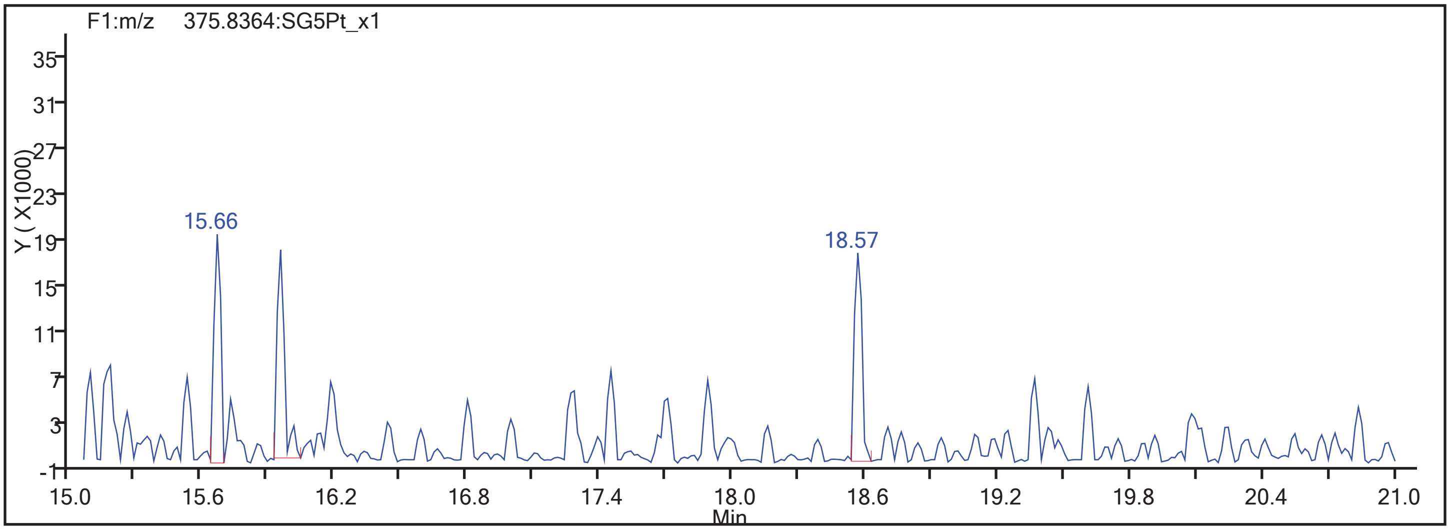




TCDF Interference Mass



Report Date: 16-Nov-2017 09:37:45		Chrom Revision: 2.2 16-Aug-2017 16:24:46	

TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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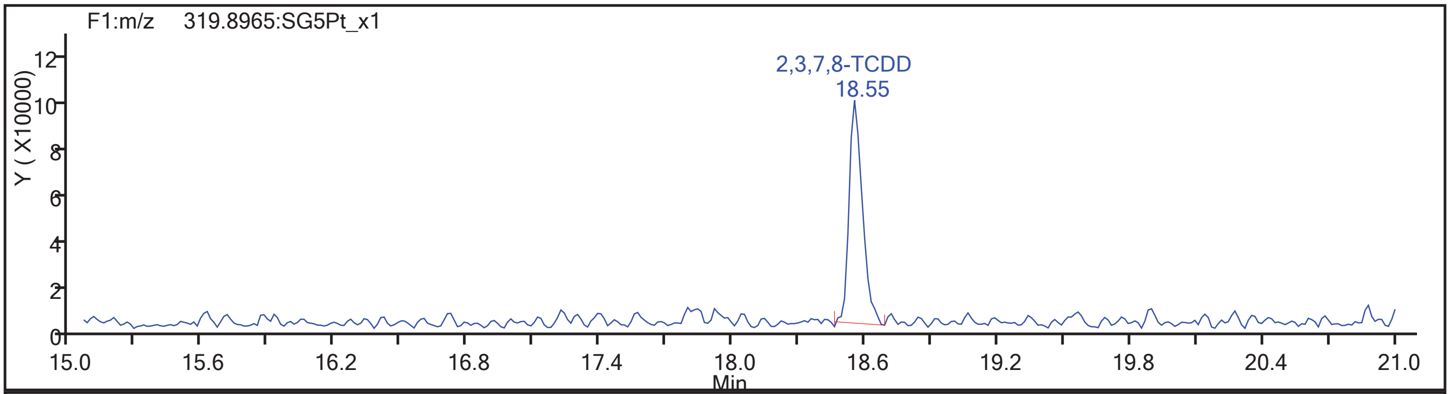
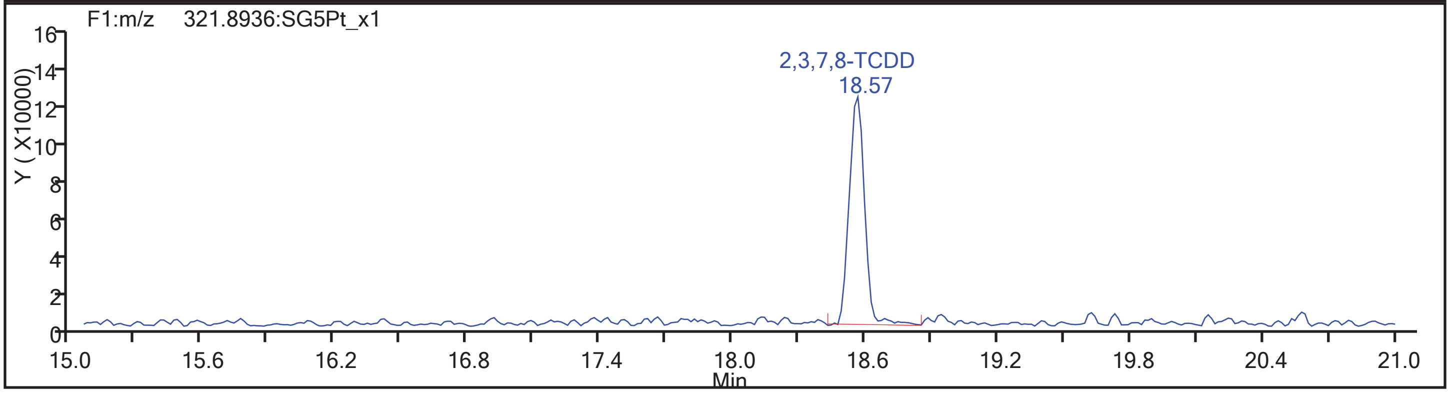
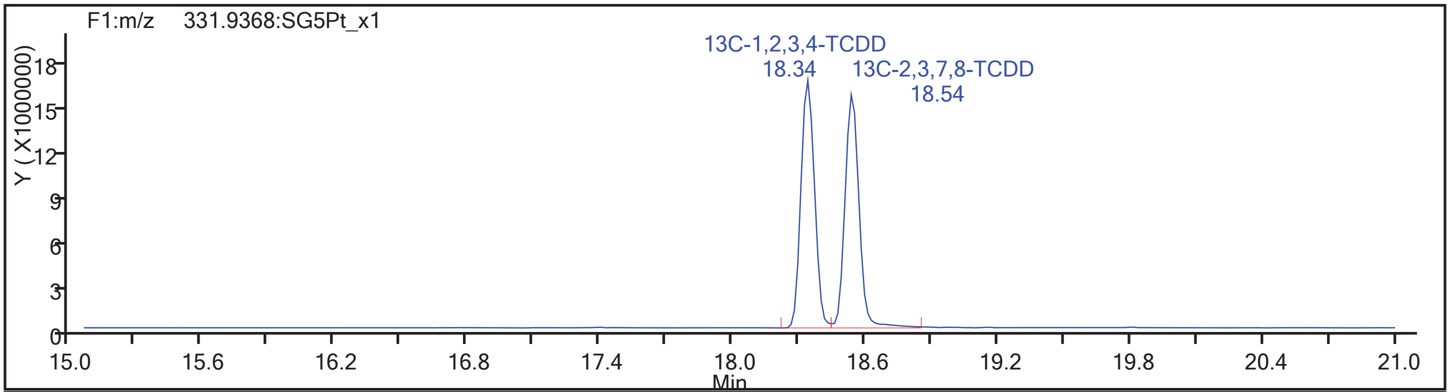
Worklist#:	194923	Sample Line#:	4
Column Type:		Column Dia:	

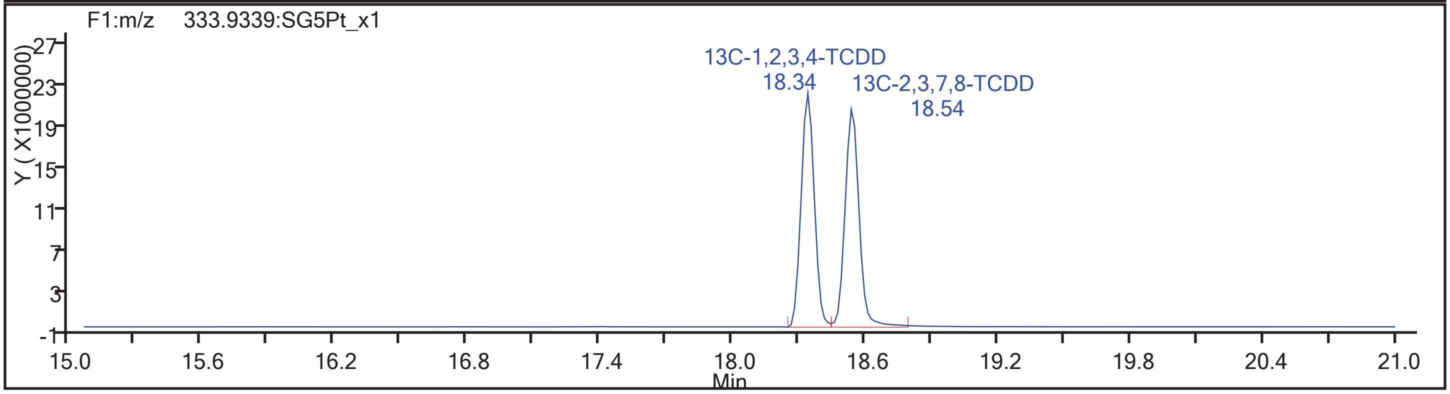
TCDD





TCDD Standards





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TestAmerica Sacramento

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Injection Date: 15-Nov-2017 13:28:42
Injection Vol: 2.0 ul
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Client ID: CS201
Worklist#: 194923
Sample Line#: 4
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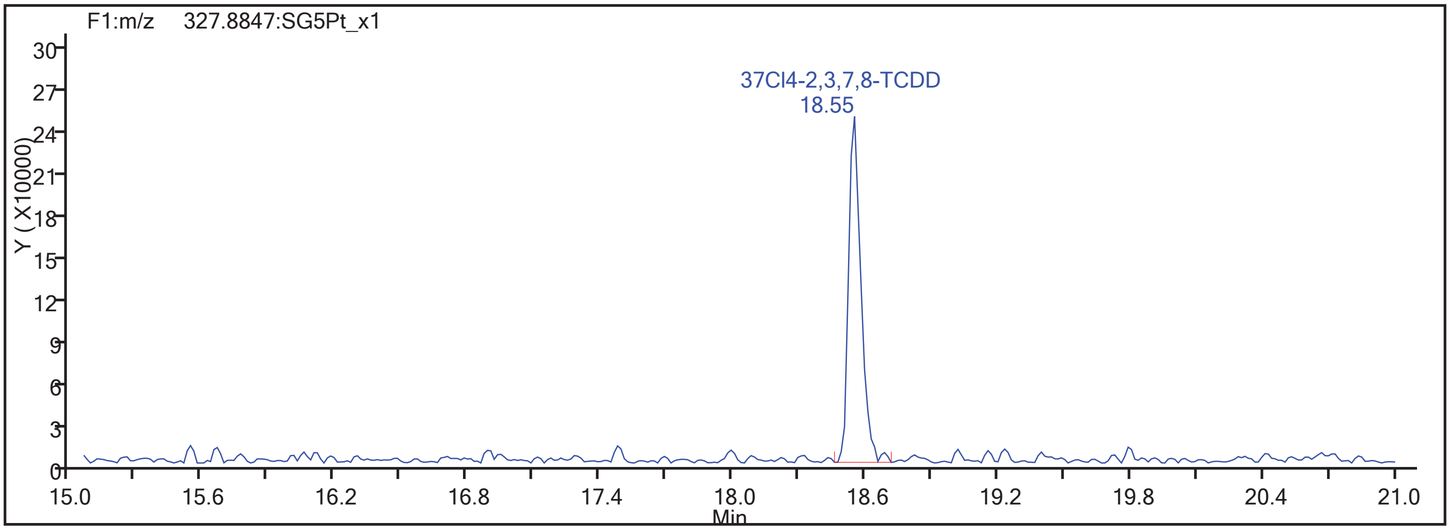
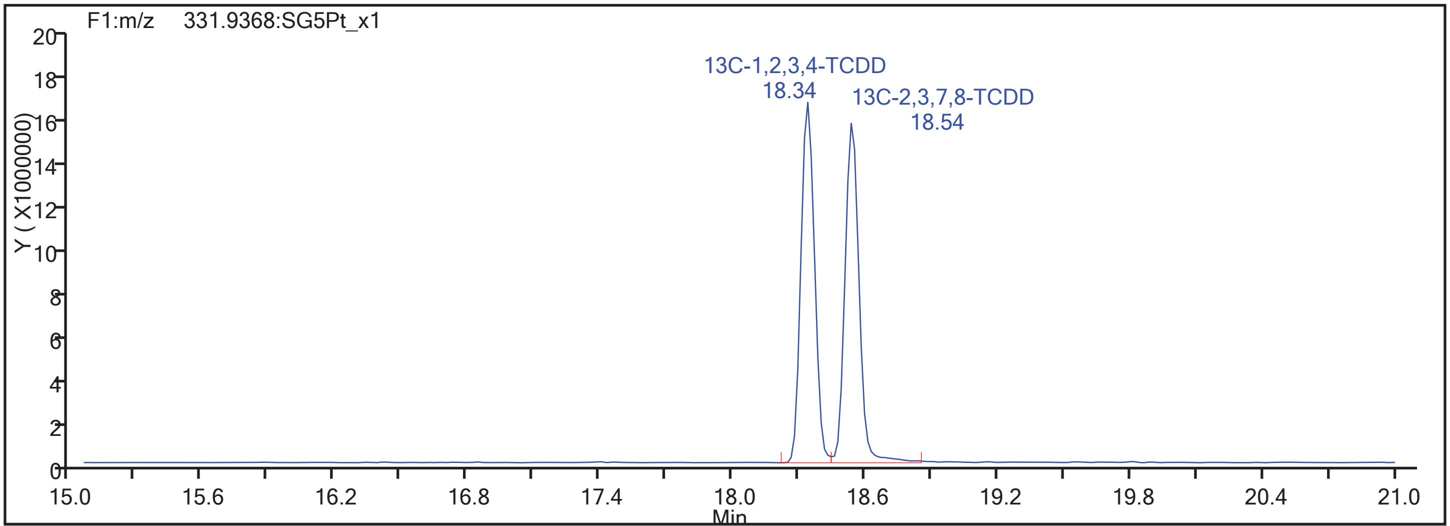
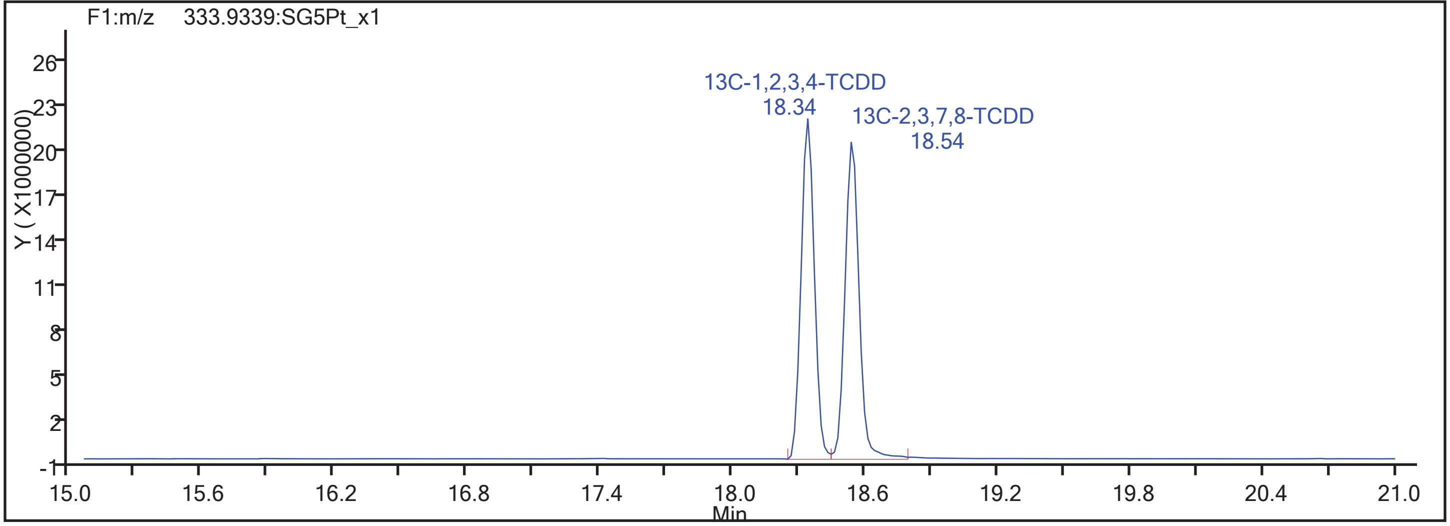
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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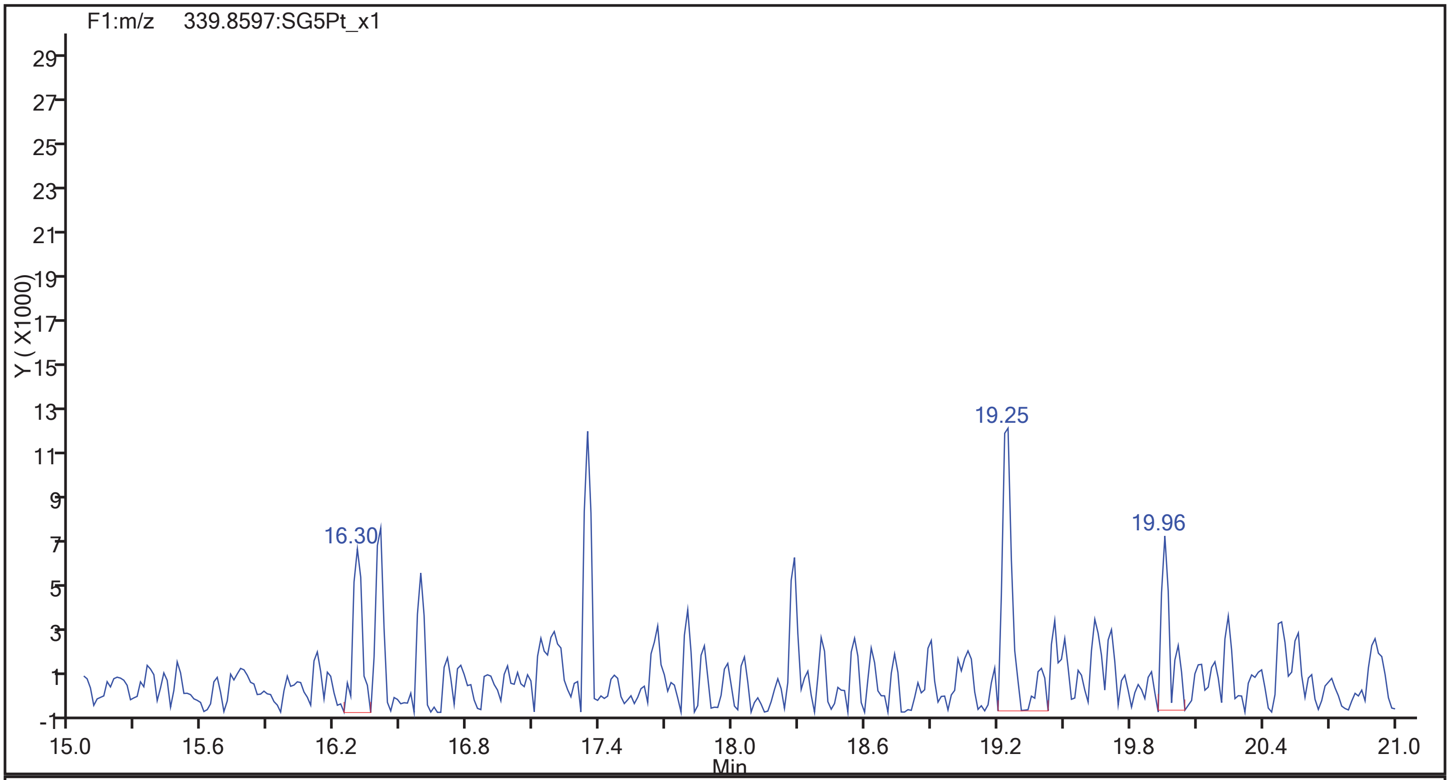
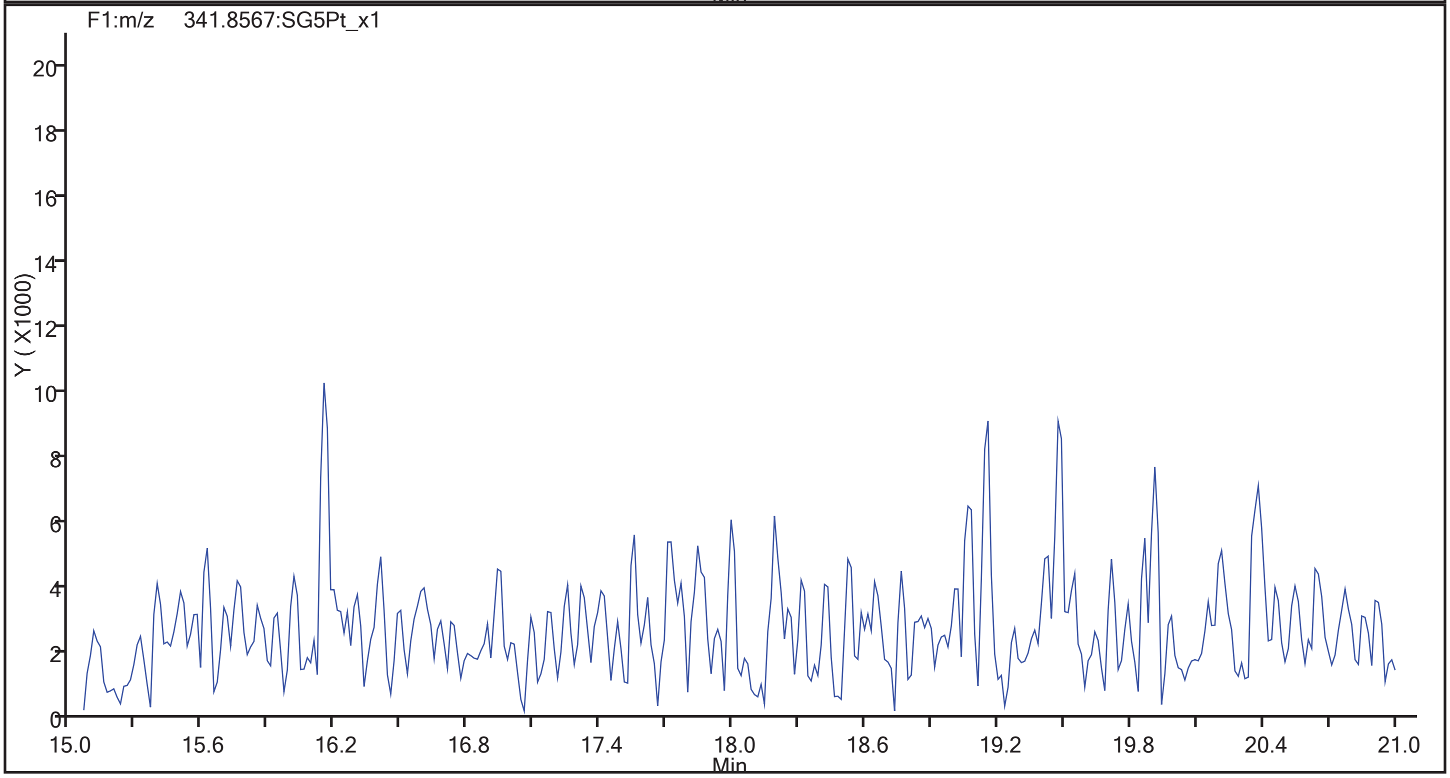
Worklist#:	194923	Sample Line#:	4
Column Type:		Column Dia:	

F1 PeCDFs





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TestAmerica Sacramento

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Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA

Method: Dioxin_3D5

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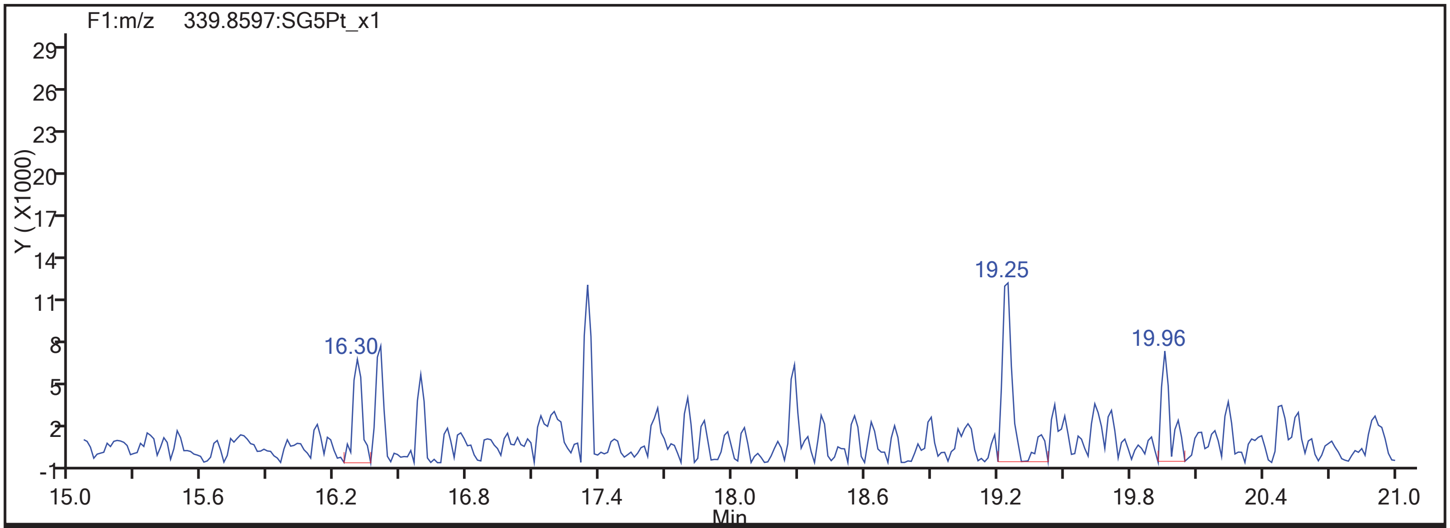
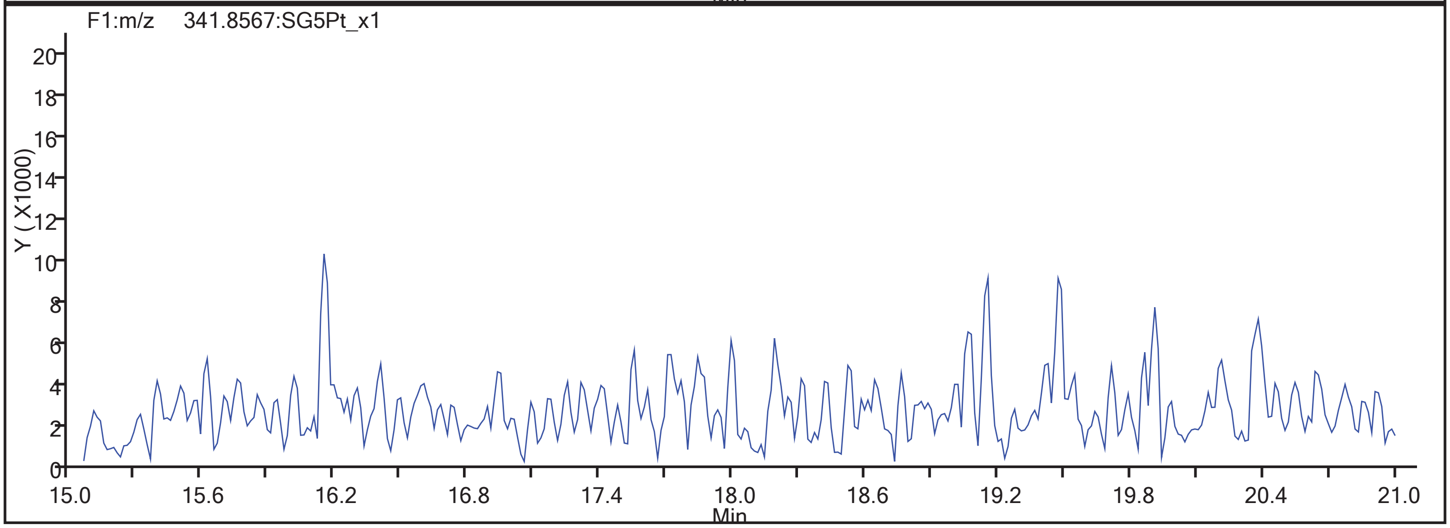
Sample Line#: 4

Column Type:

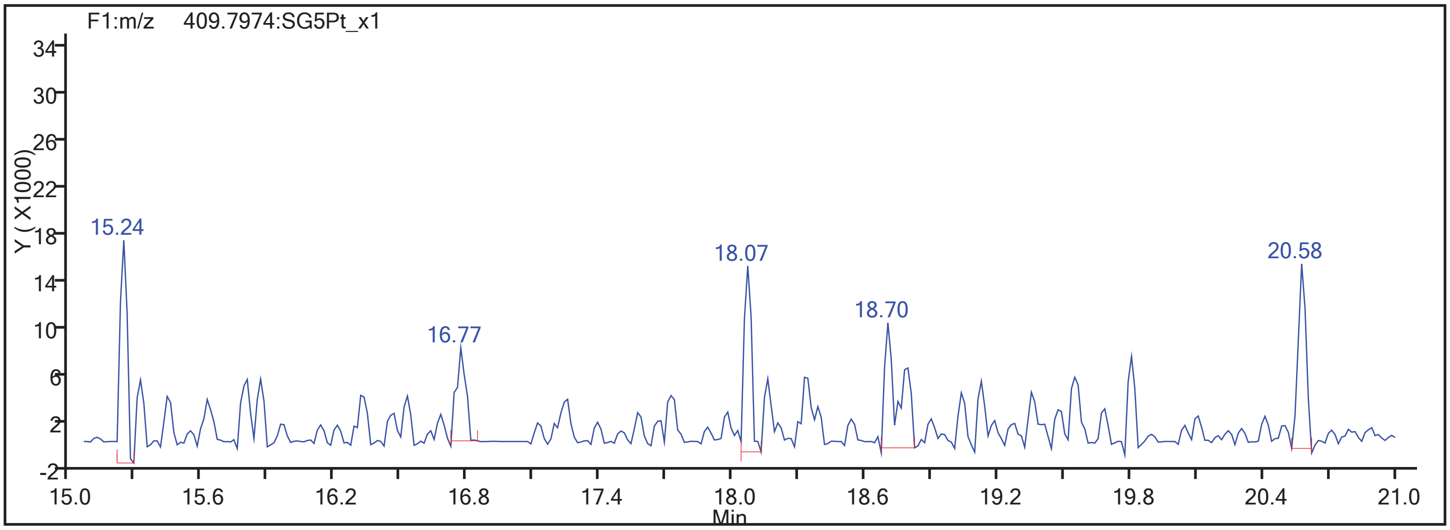
Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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Injection Date: 15-Nov-2017 13:28:42
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Instrument ID: 3D5
Operator ID: SMA
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Worklist#: 194923
Sample Line#: 4
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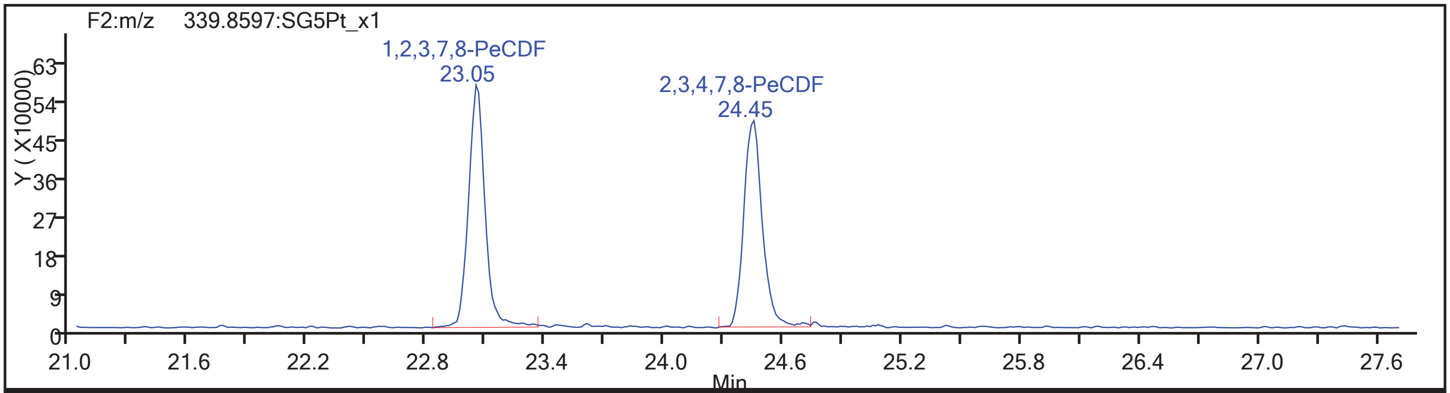
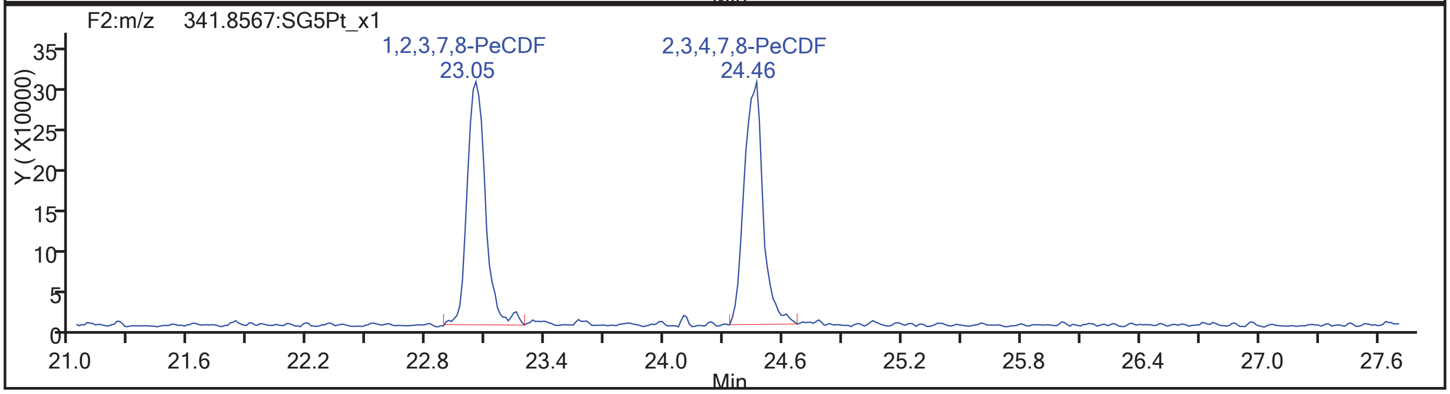
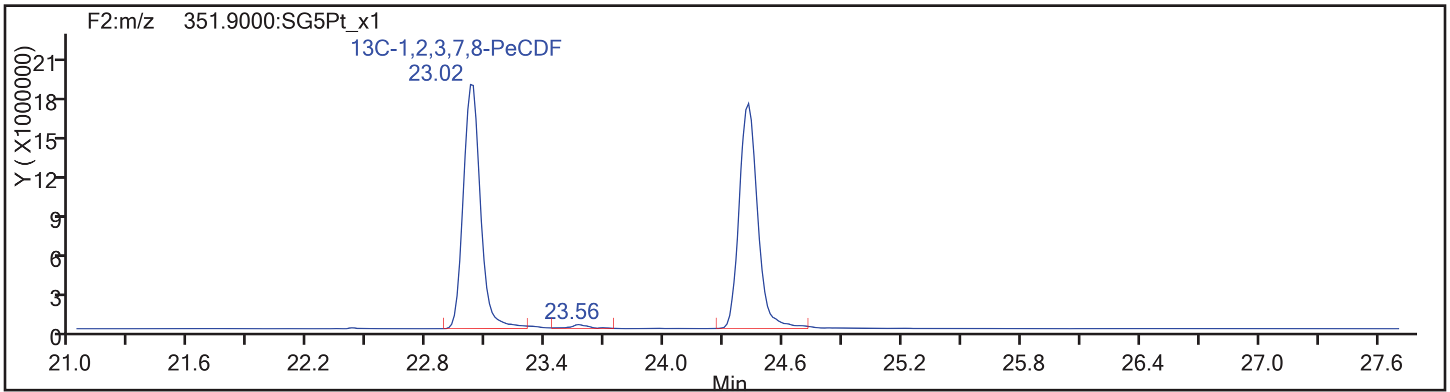
Column Dia:

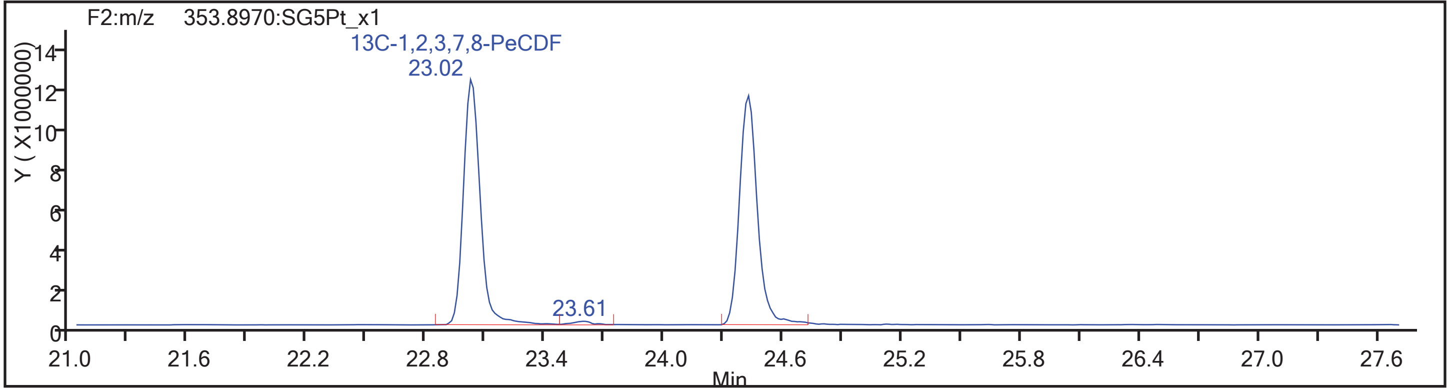
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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Instrument ID: 3D5 Operator ID: SMA

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Column Type: Column Dia:

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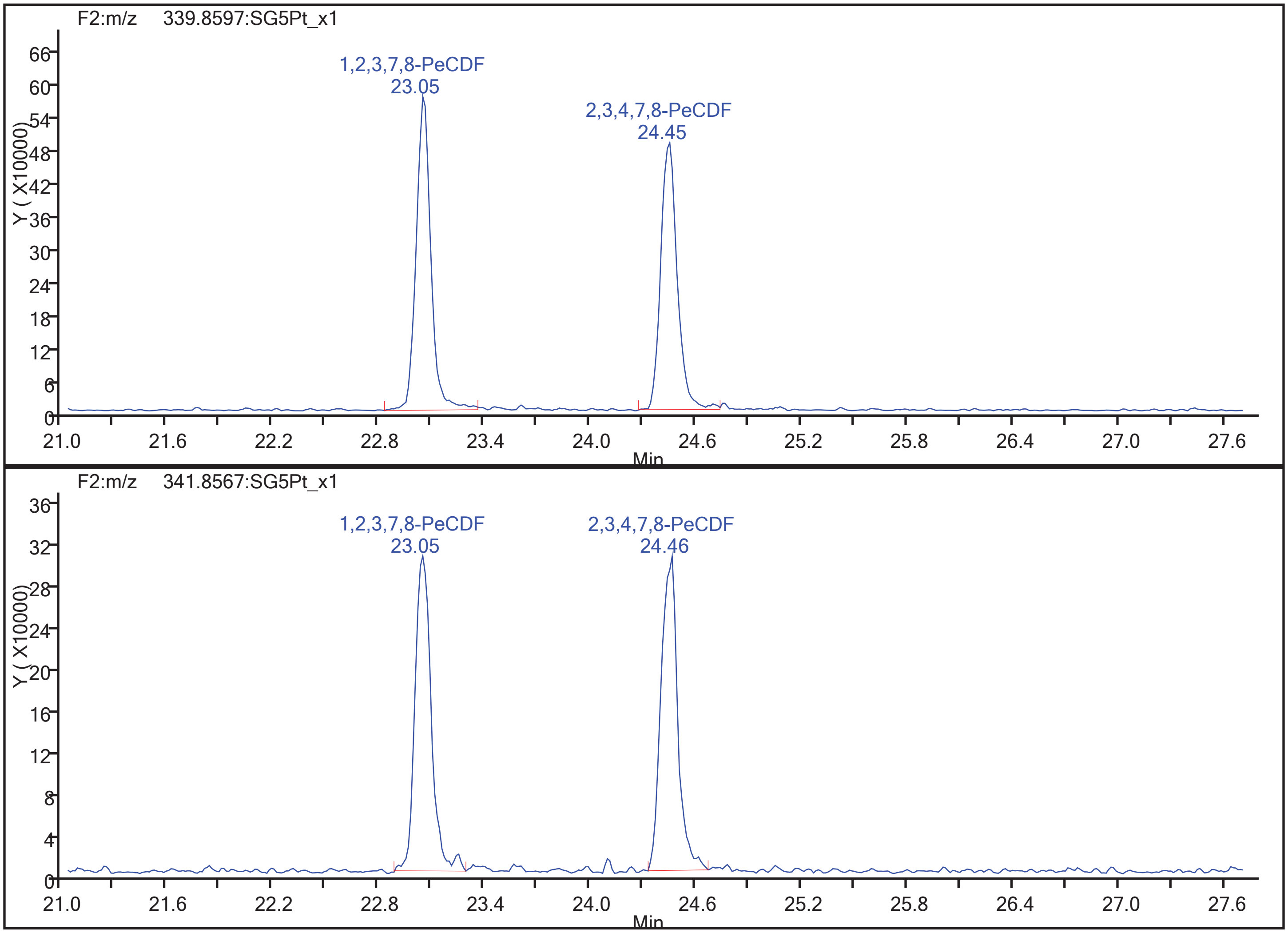
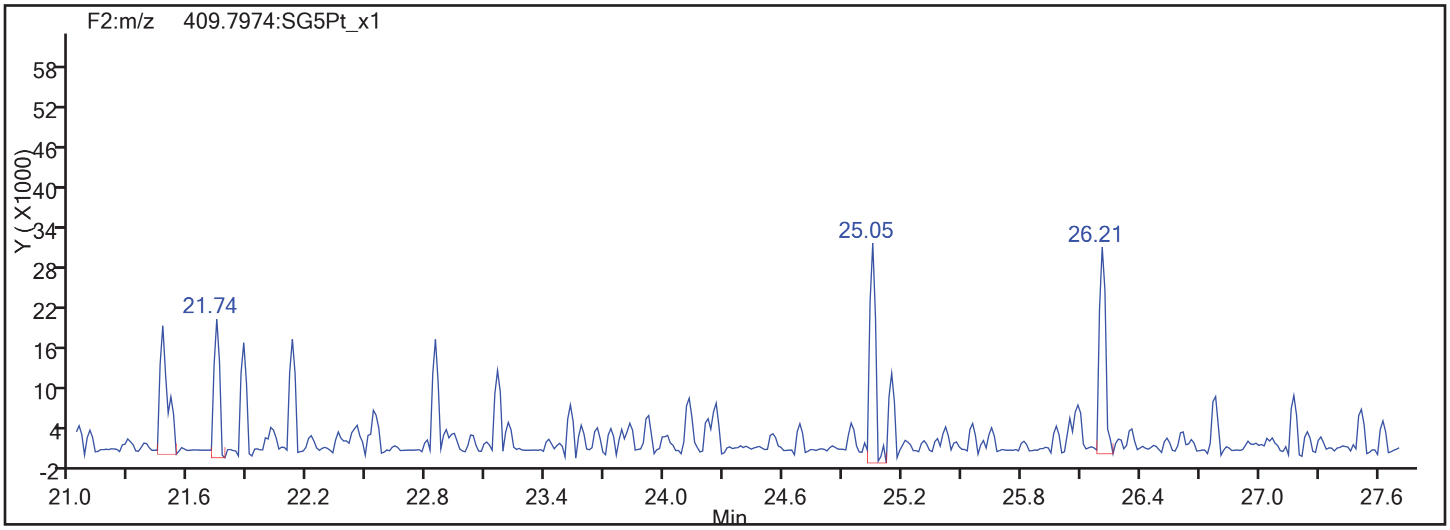


PeCDF Interference Mass



TestAmerica Sacramento

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Injection Date: 15-Nov-2017 13:28:42 Injection Vol: 2.0 ul

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Client ID: CS201

Worklist#: 194923 Sample Line#: 4

Column Type: Column Dia:

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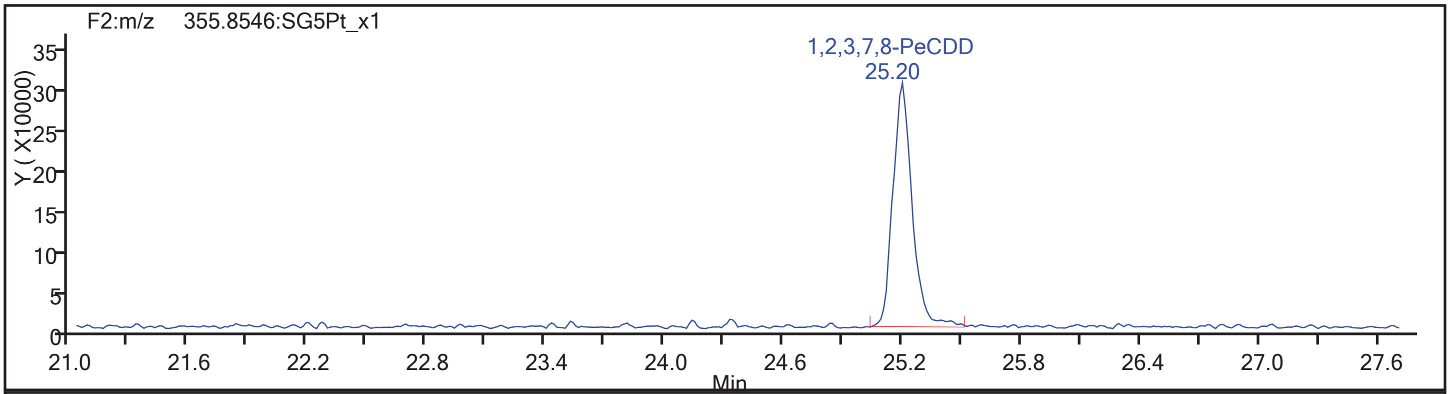
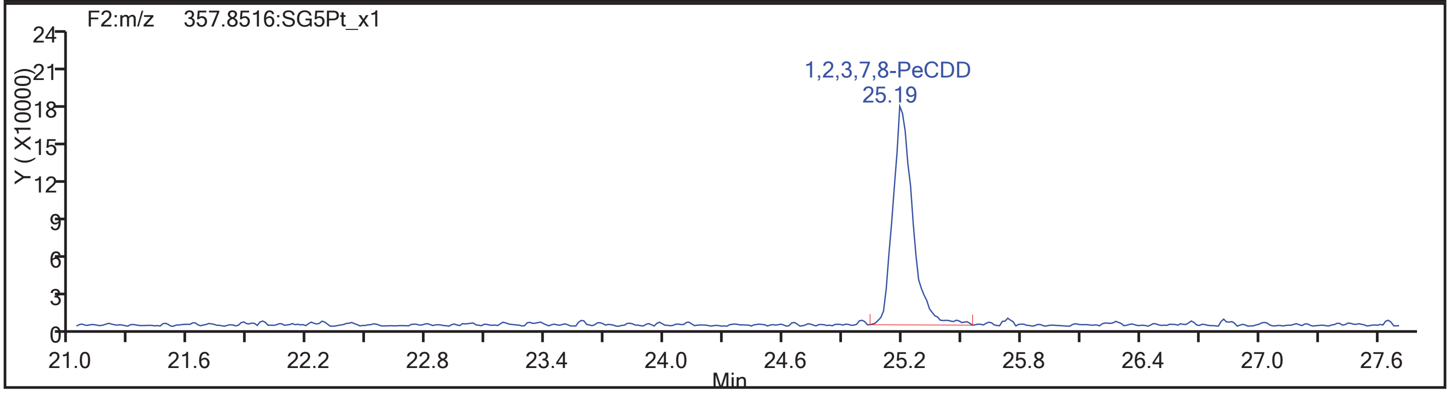
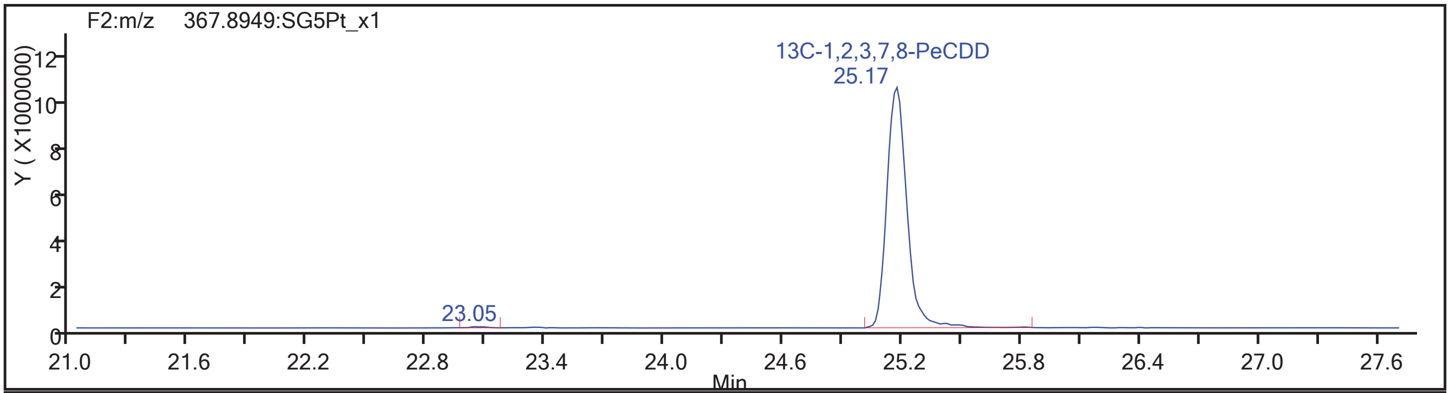
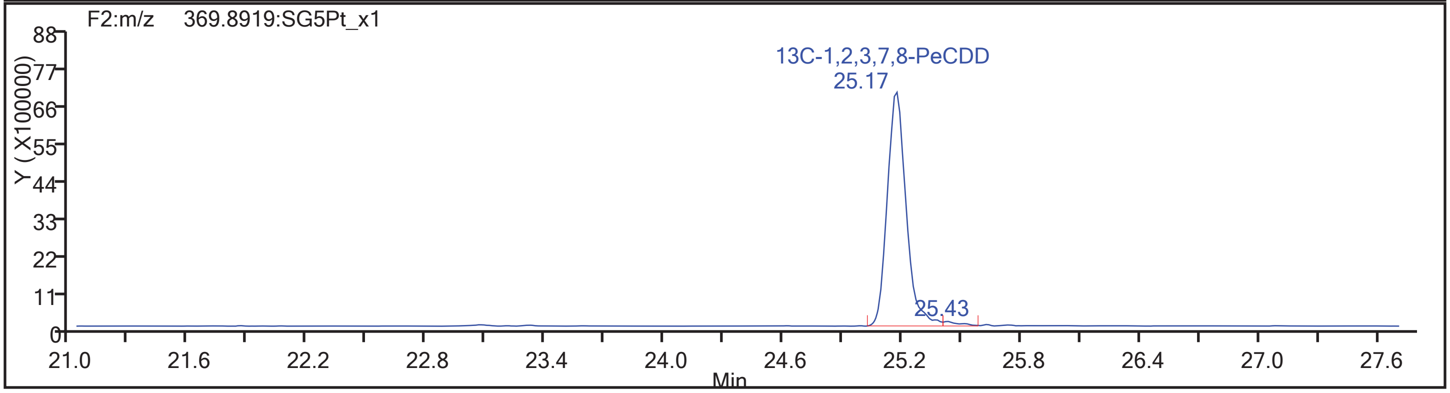




PeCDD Standards





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TestAmerica Sacramento

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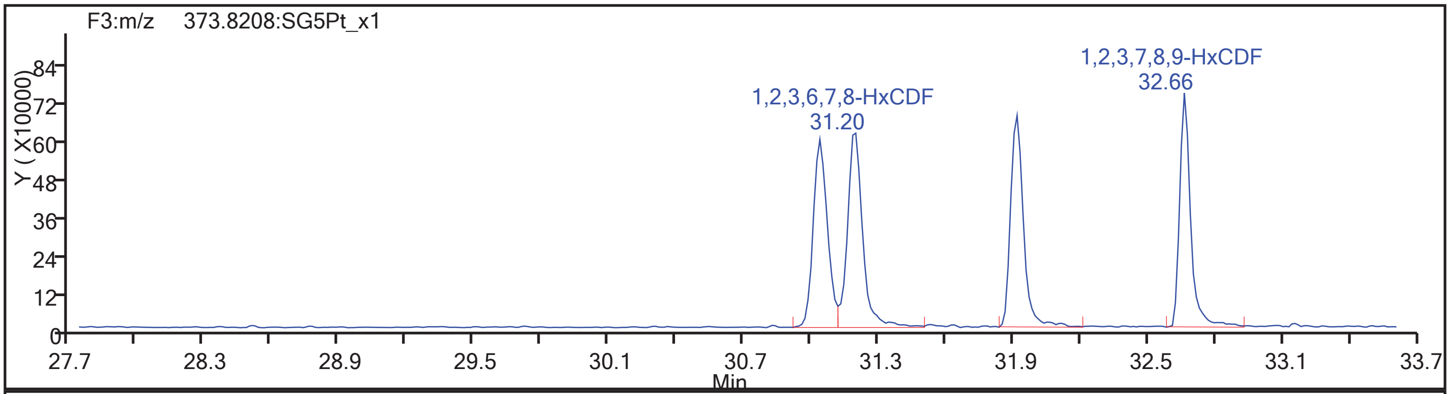
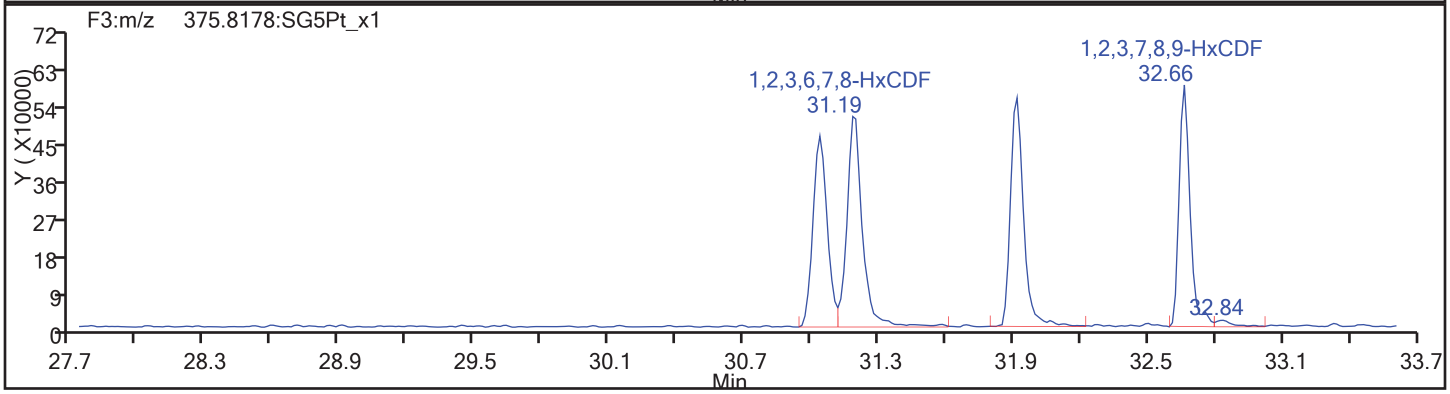
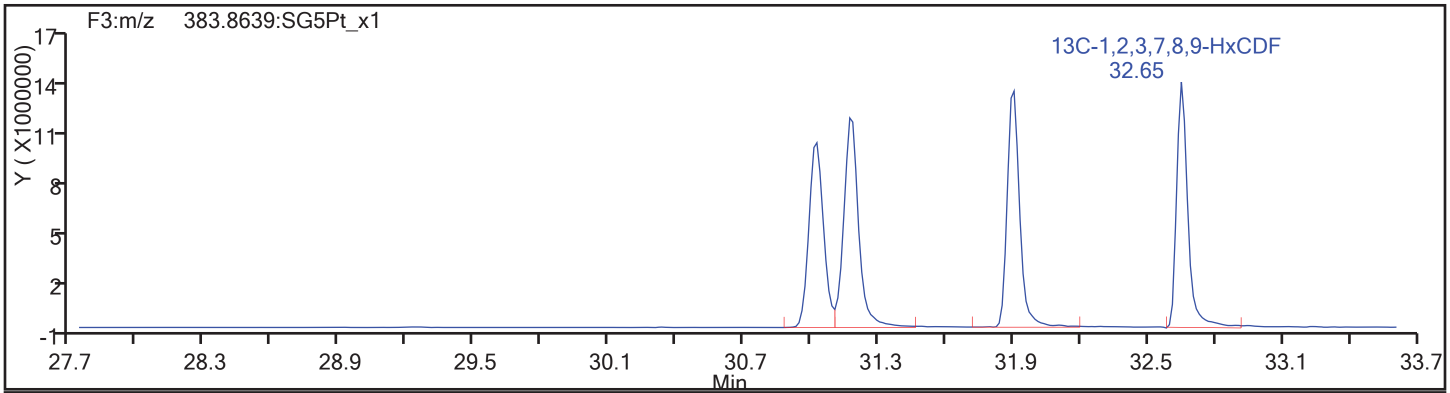
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS201		
Worklist#:	194923	Sample Line#:	4
Column Type:		Column Dia:	

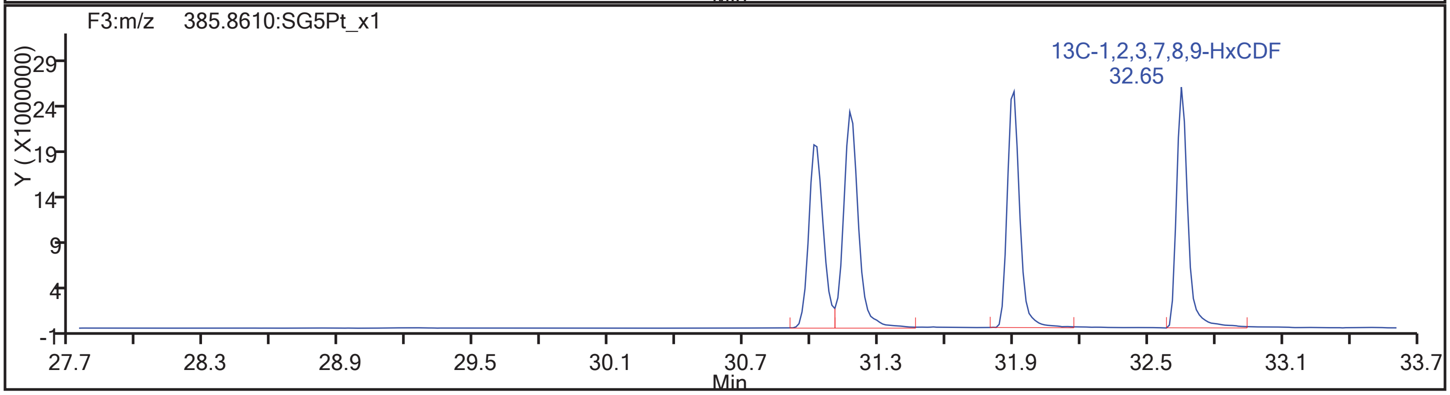
HxCDF





HxCDF Standards





TestAmerica Sacramento

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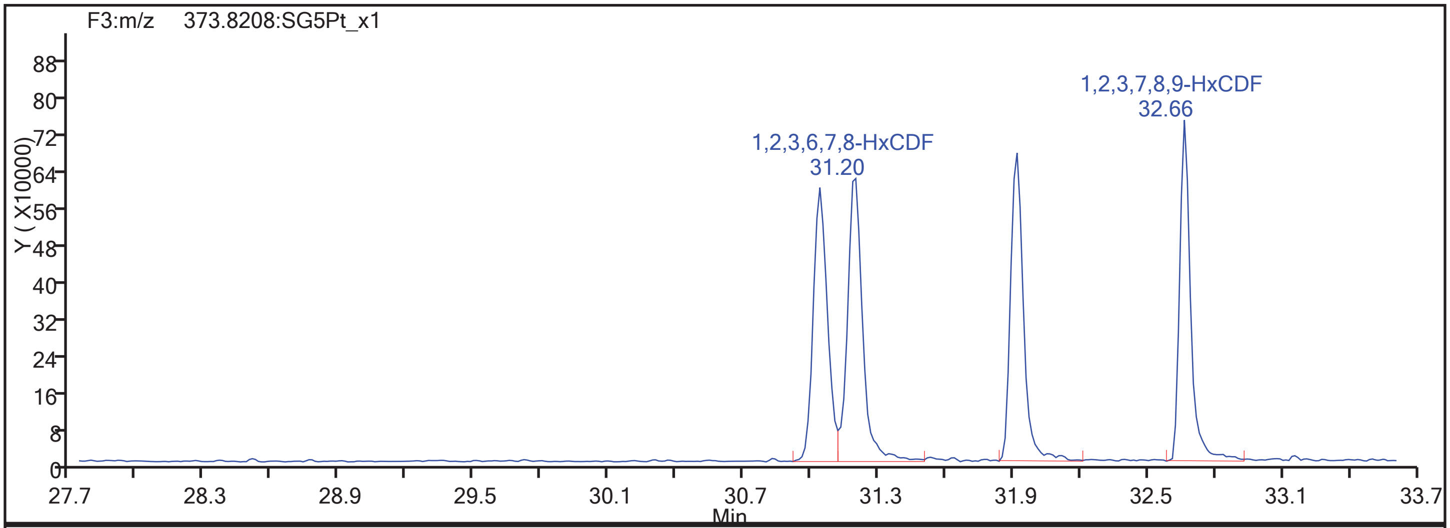
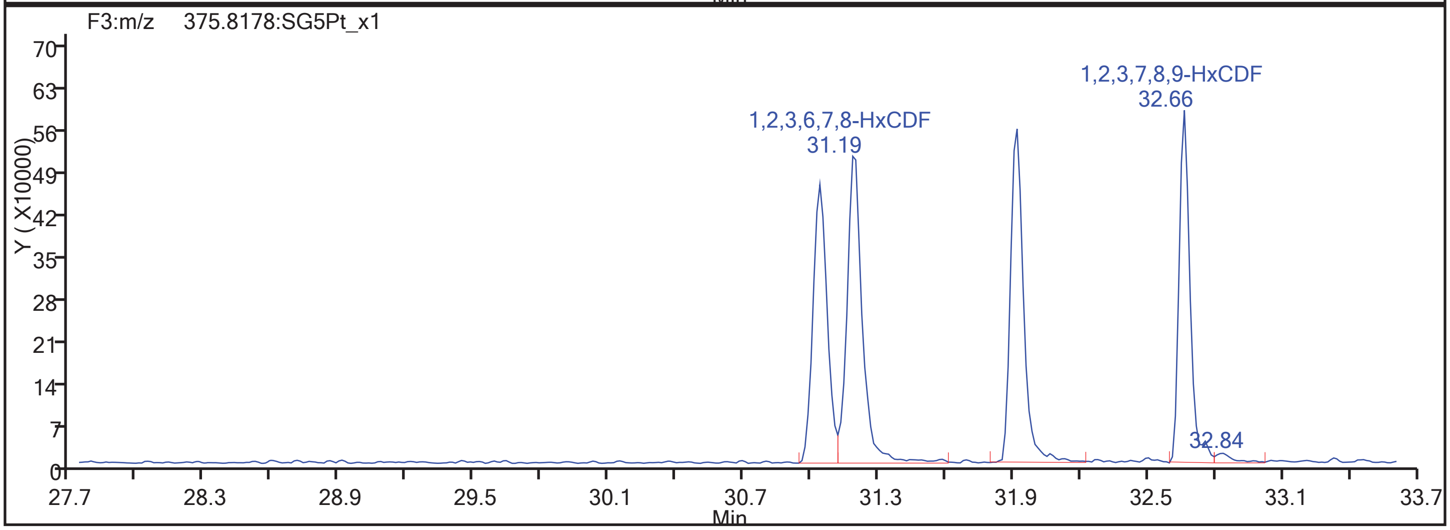
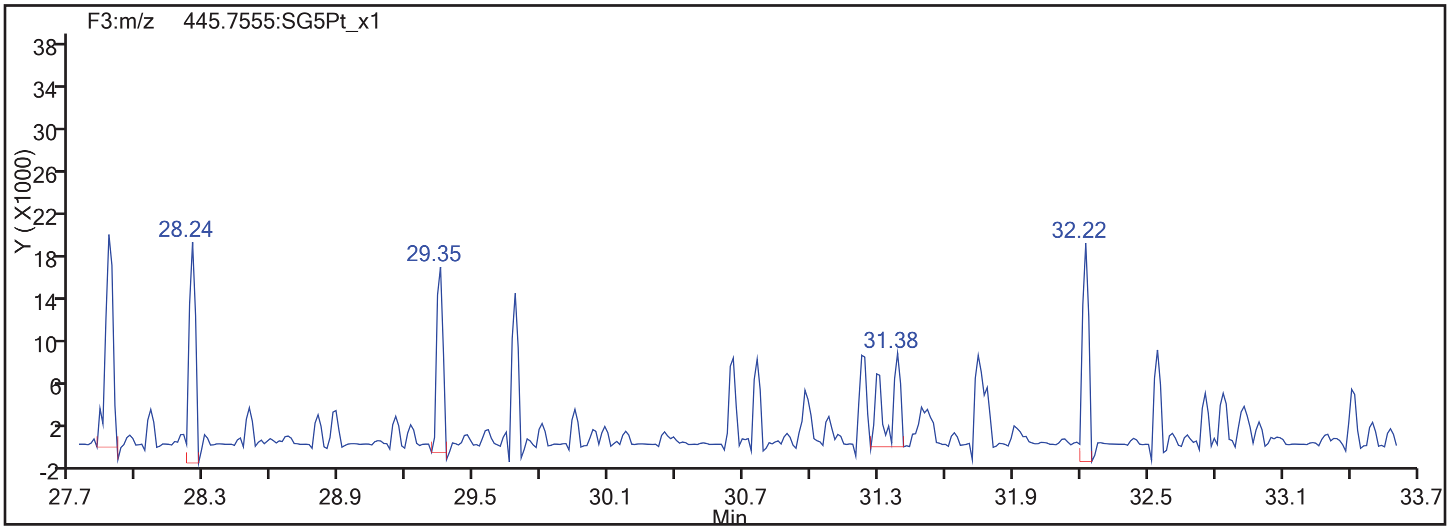




HxCDF Interference Mass



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Chrom Revision: 2.2 16-Aug-2017 16:24:46

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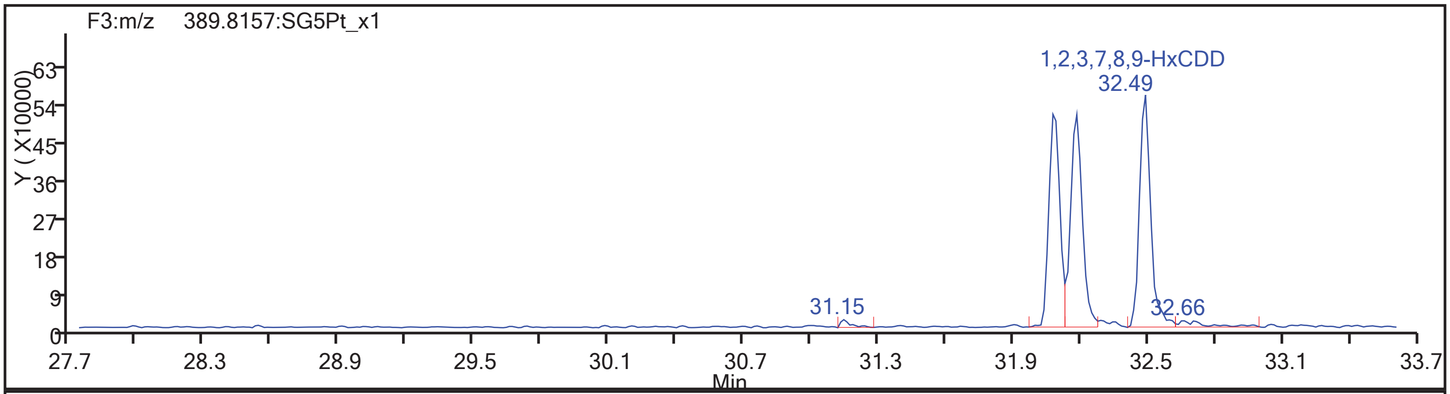

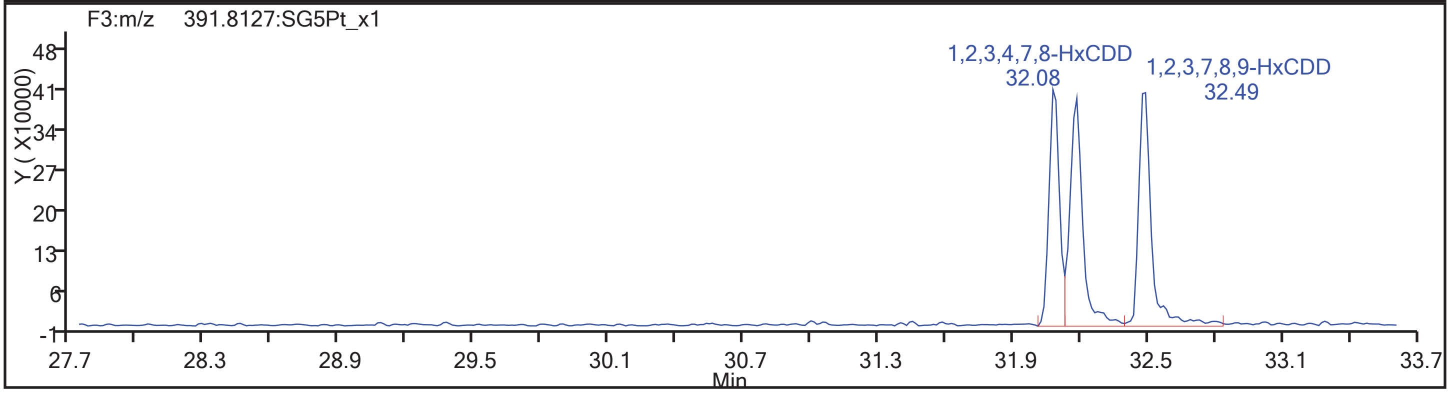

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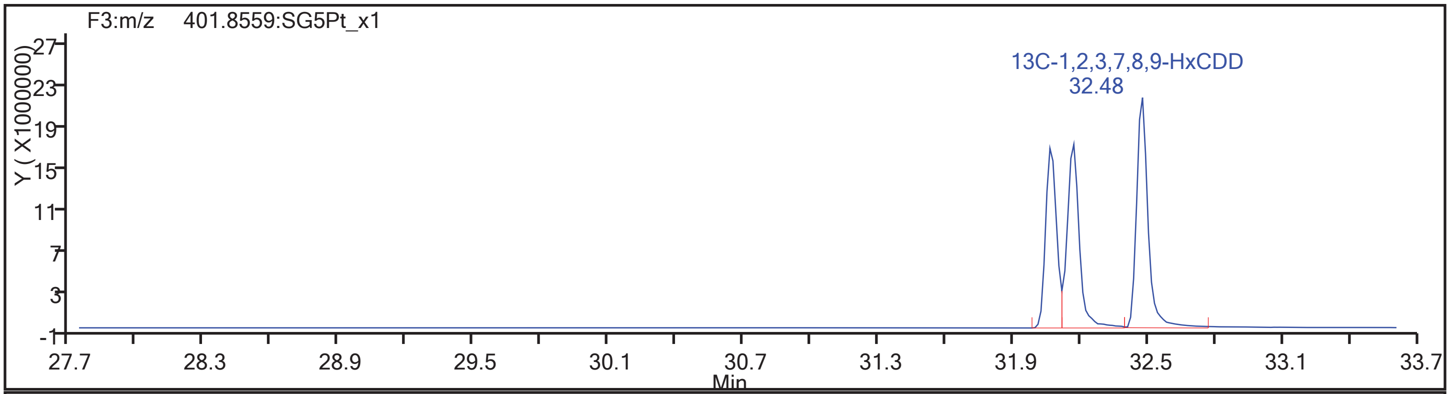

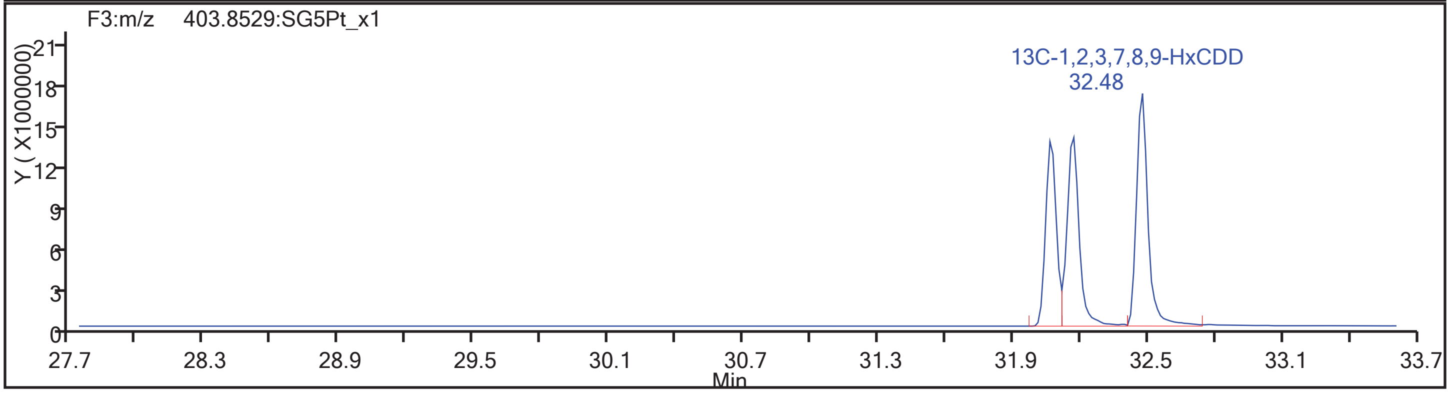

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TestAmerica Sacramento

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Injection Date: 15-Nov-2017 13:28:42
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Sample Line#: 4
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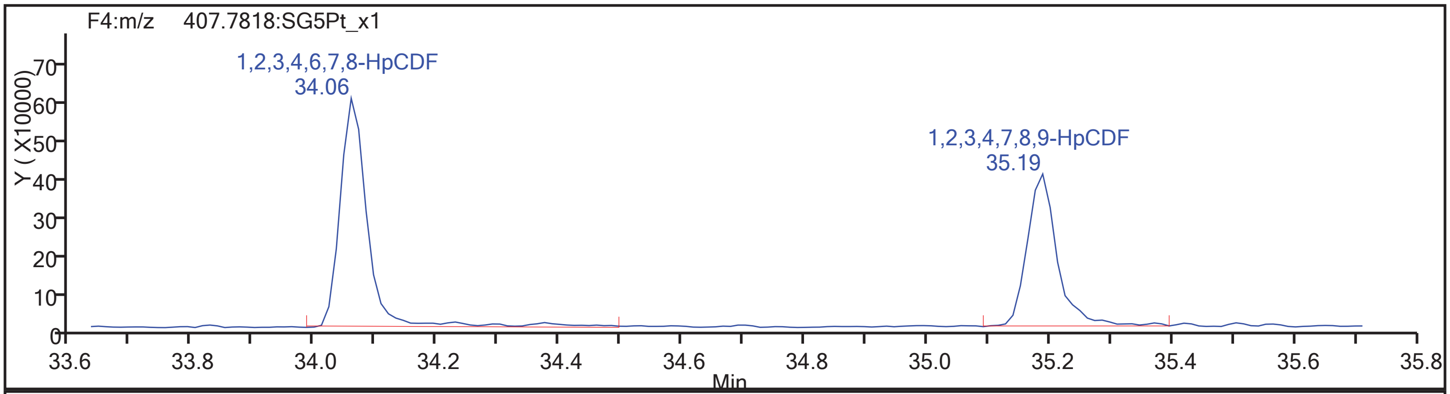
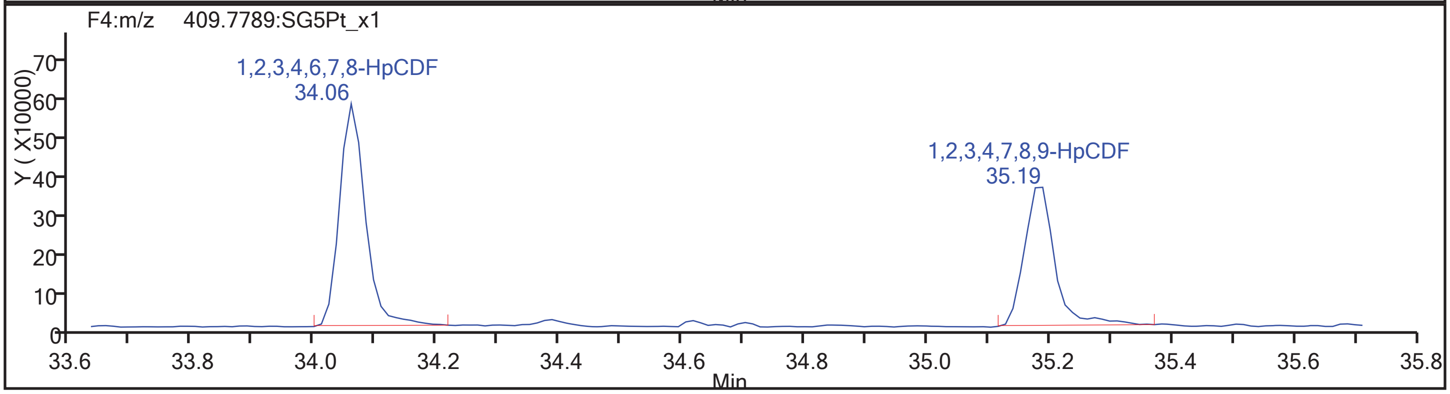
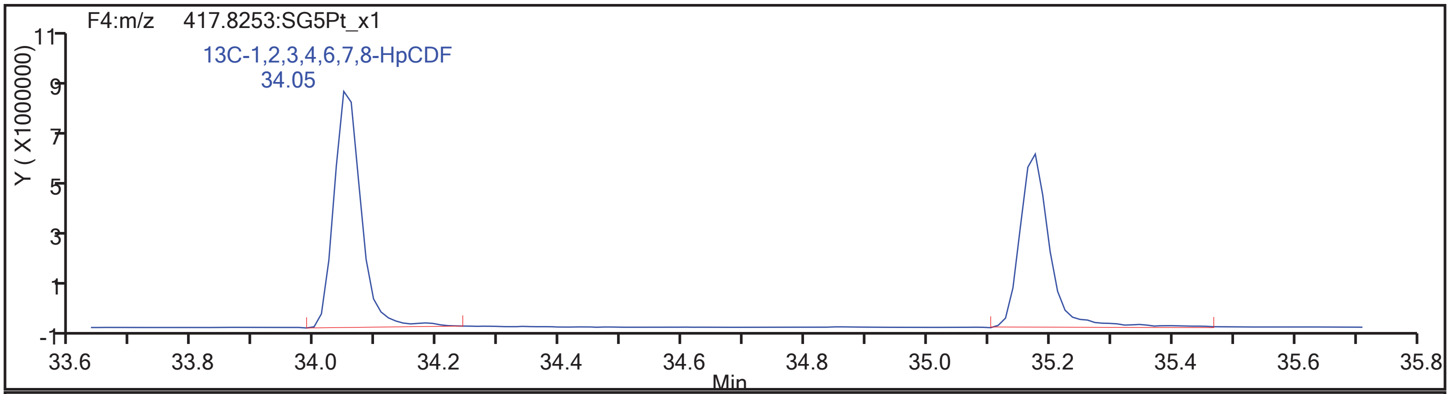
Column Dia:

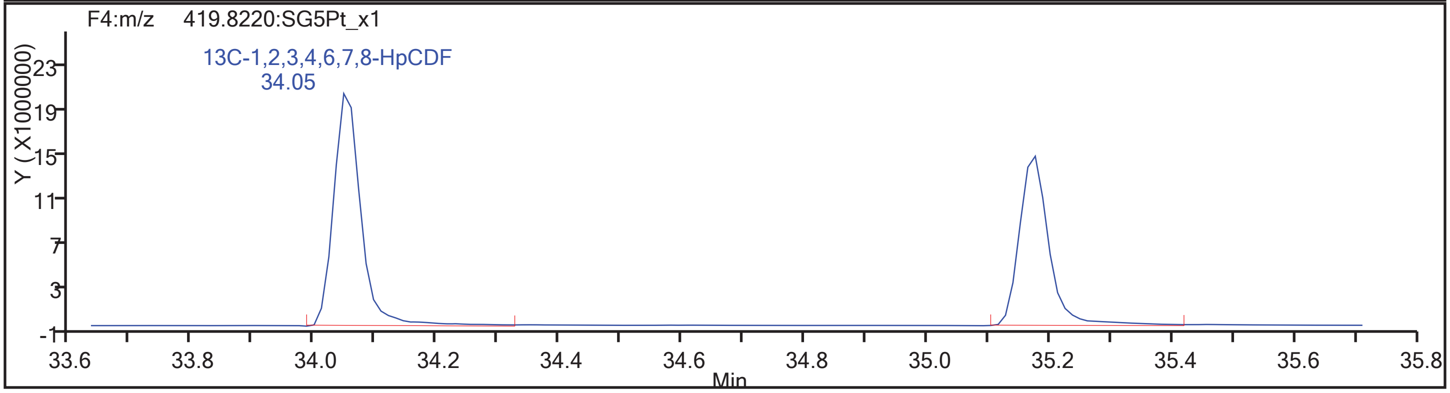
HpCDF





HpCDF Standards





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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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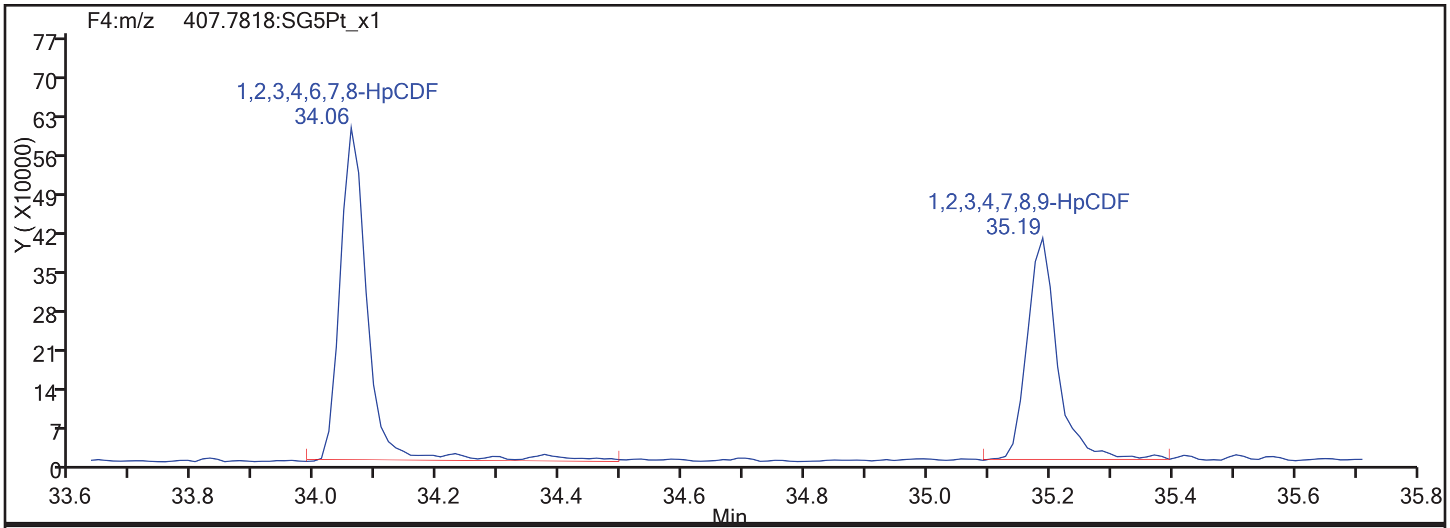
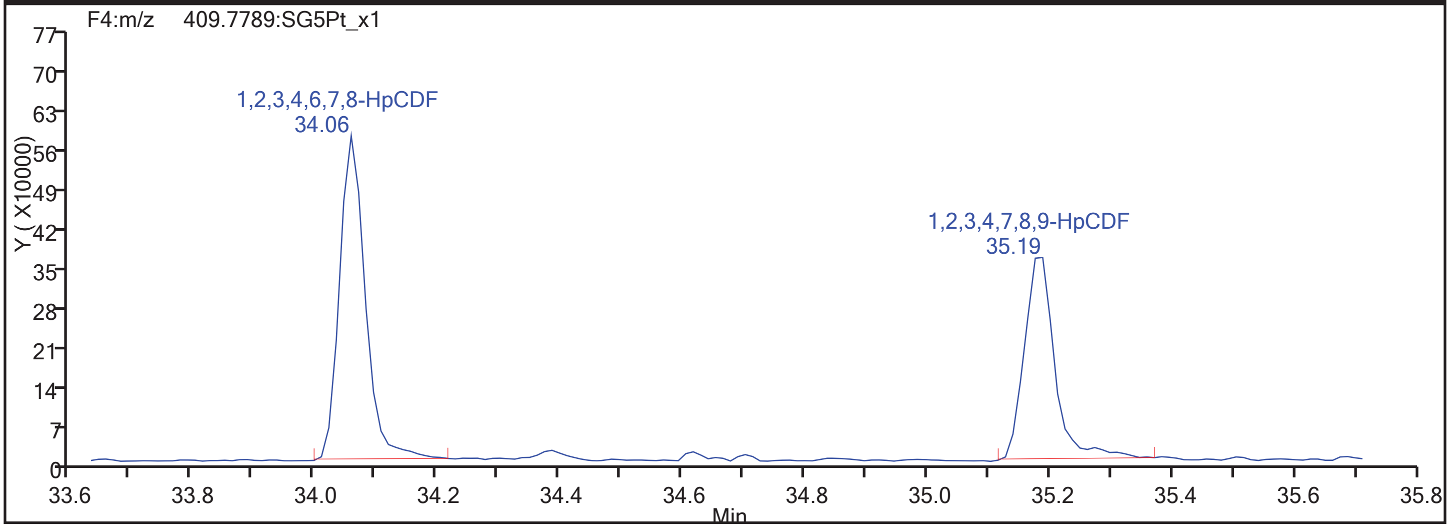
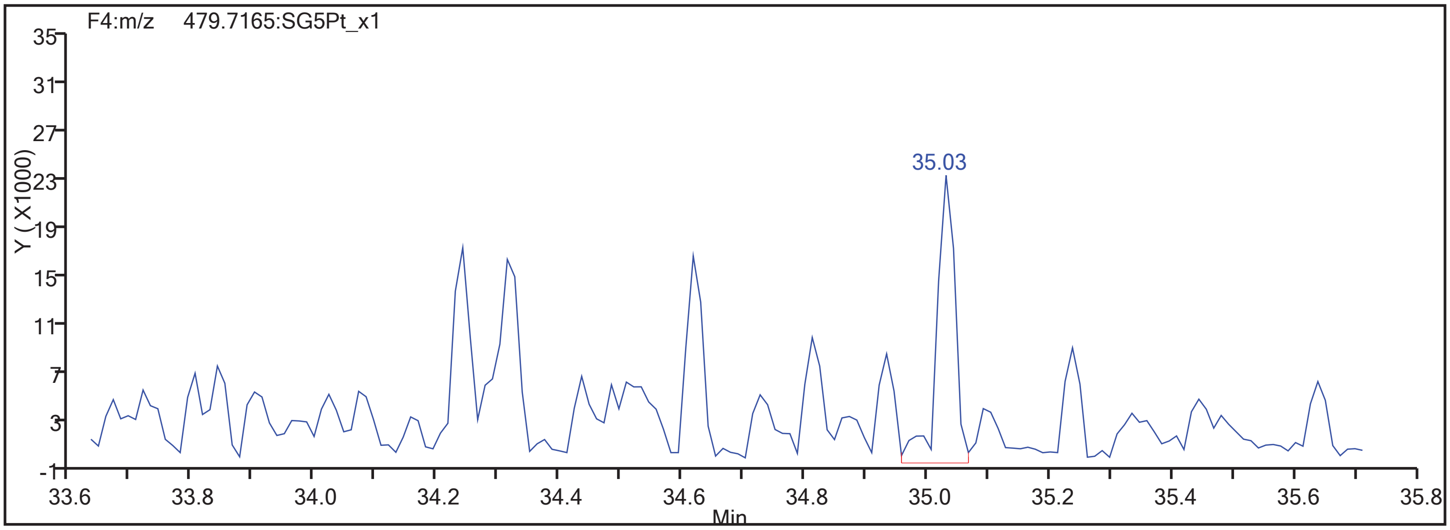
Column Type:		Column Dia:	

HpCDF





HpCDF Interference Mass



Report Date: 16-Nov-2017 09:37:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_4.d

Injection Date: 15-Nov-2017 13:28:42 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA

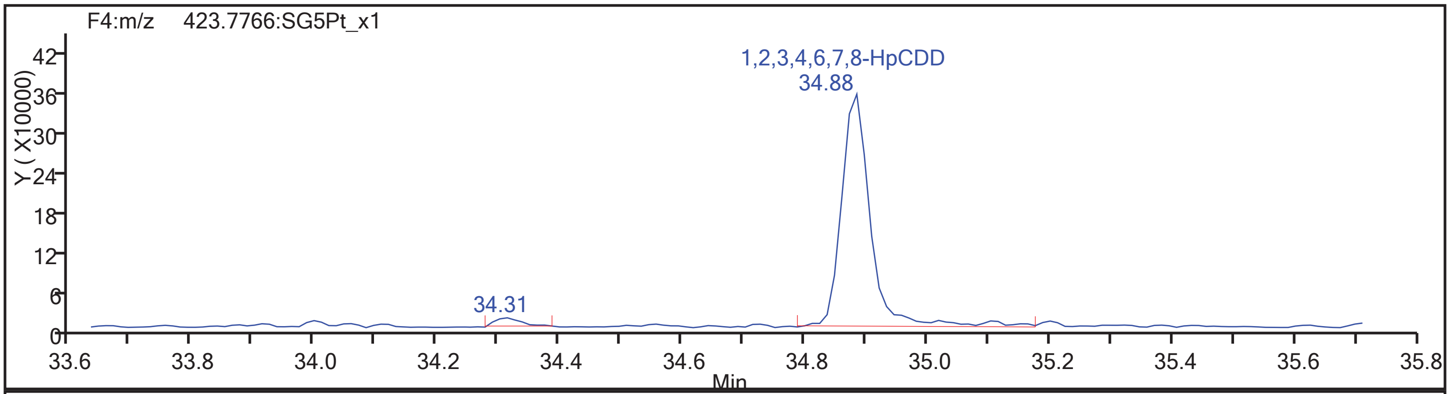
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

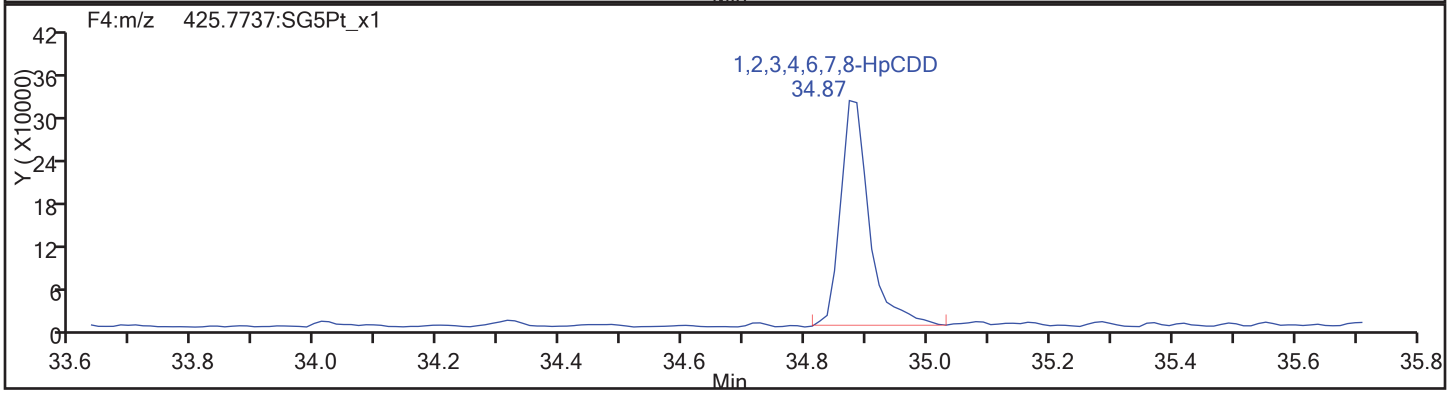
Client ID: CS201

Worklist#: 194923 Sample Line#: 4

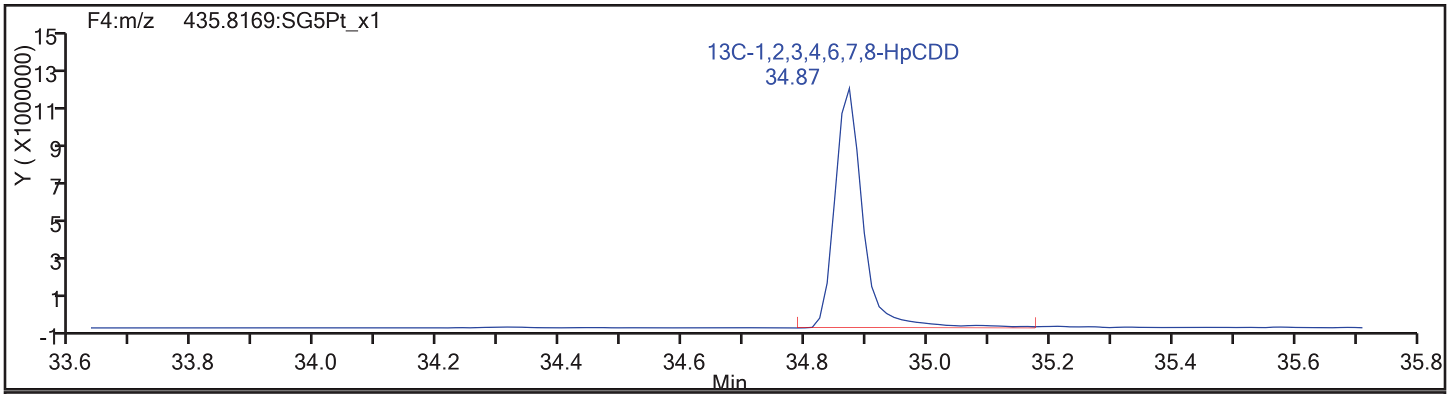
Column Type: Column Dia:

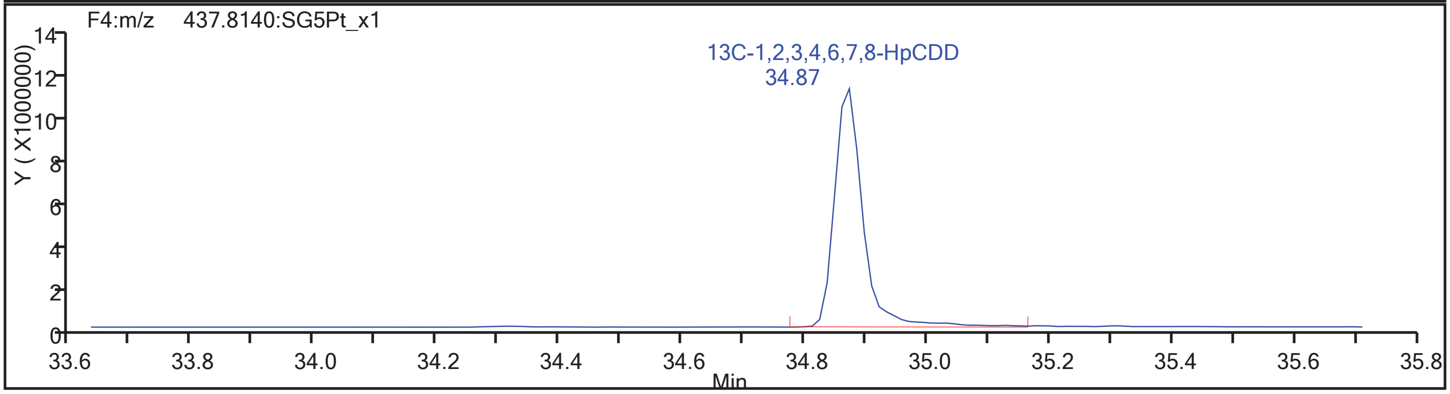
HpCDD





HpCDD Standards



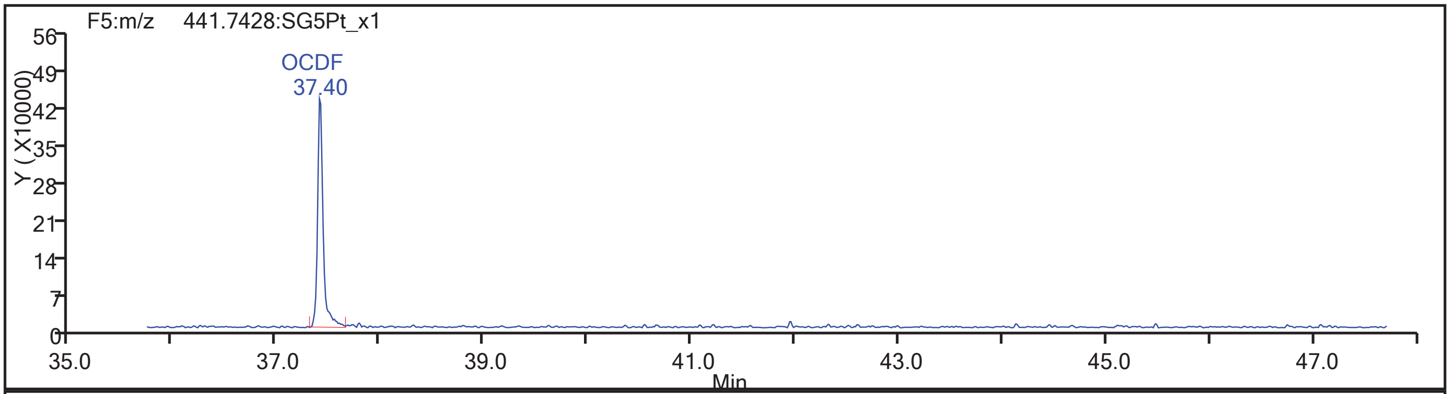


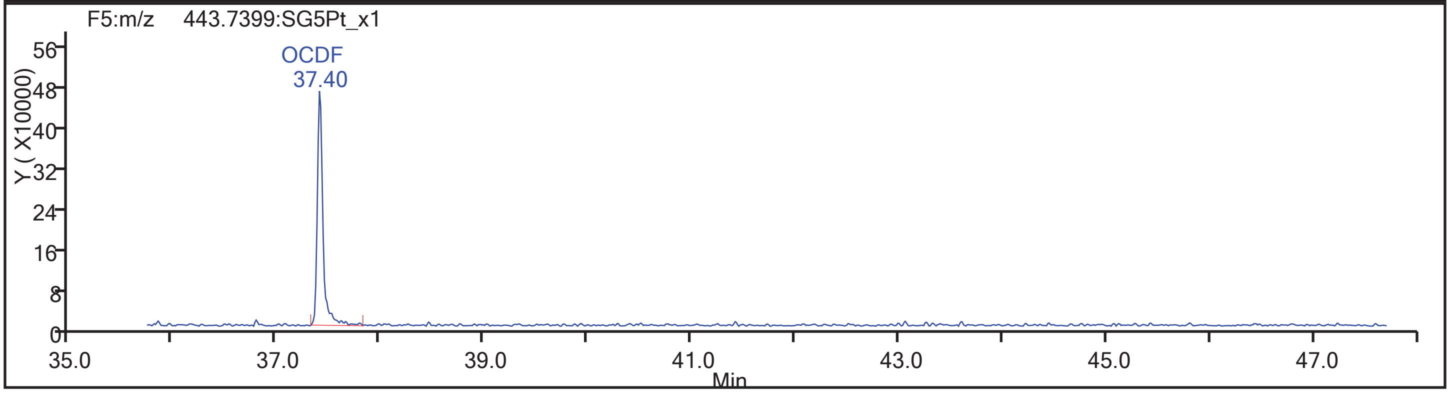
Report Date: 16-Nov-2017 09:37:46
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

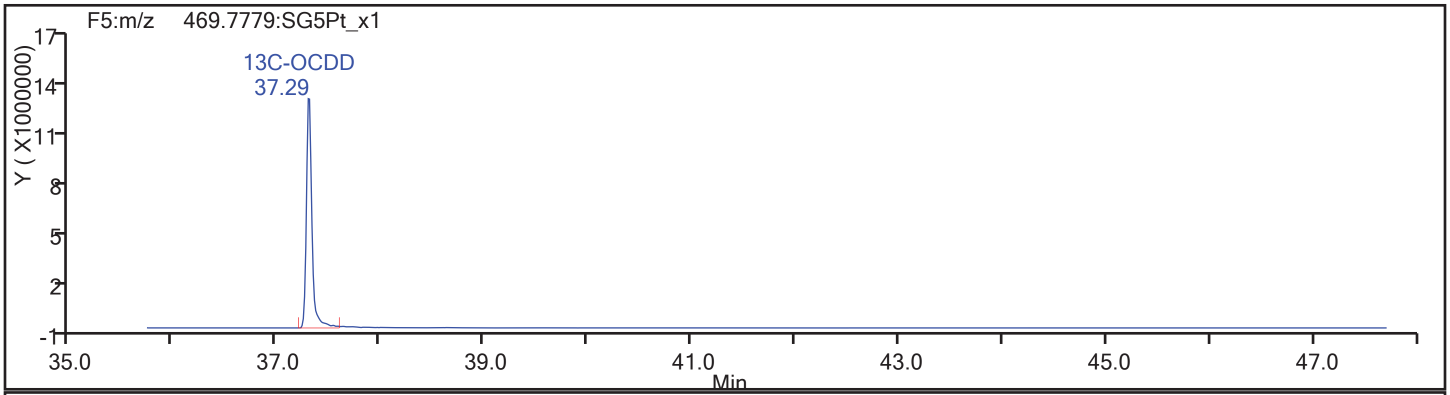
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_4.d
Injection Date: 15-Nov-2017 13:28:42
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS201
Worklist#: 194923
Sample Line#: 4
Column Type:
Column Dia:

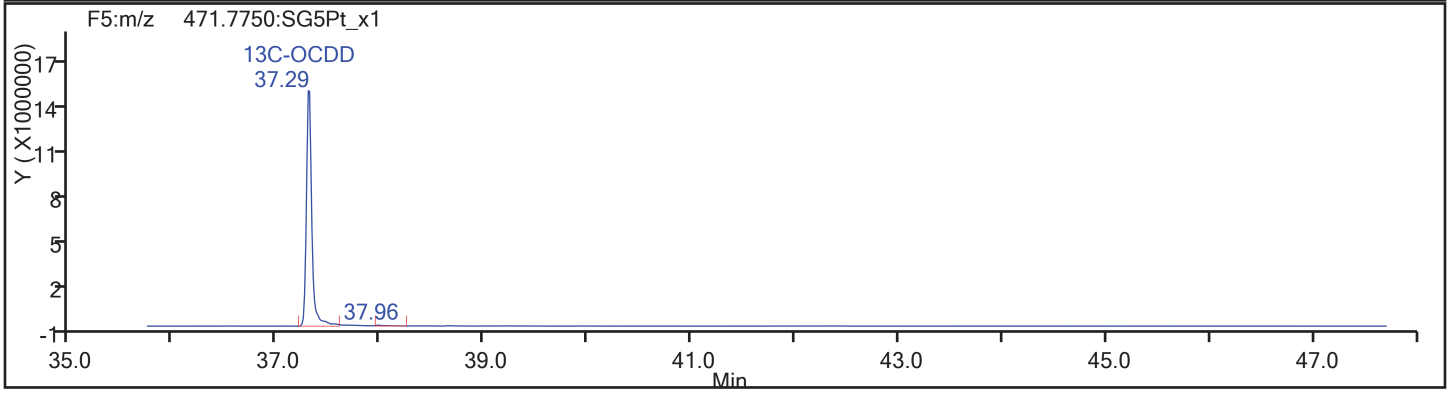
OCDF





OCDF Standards



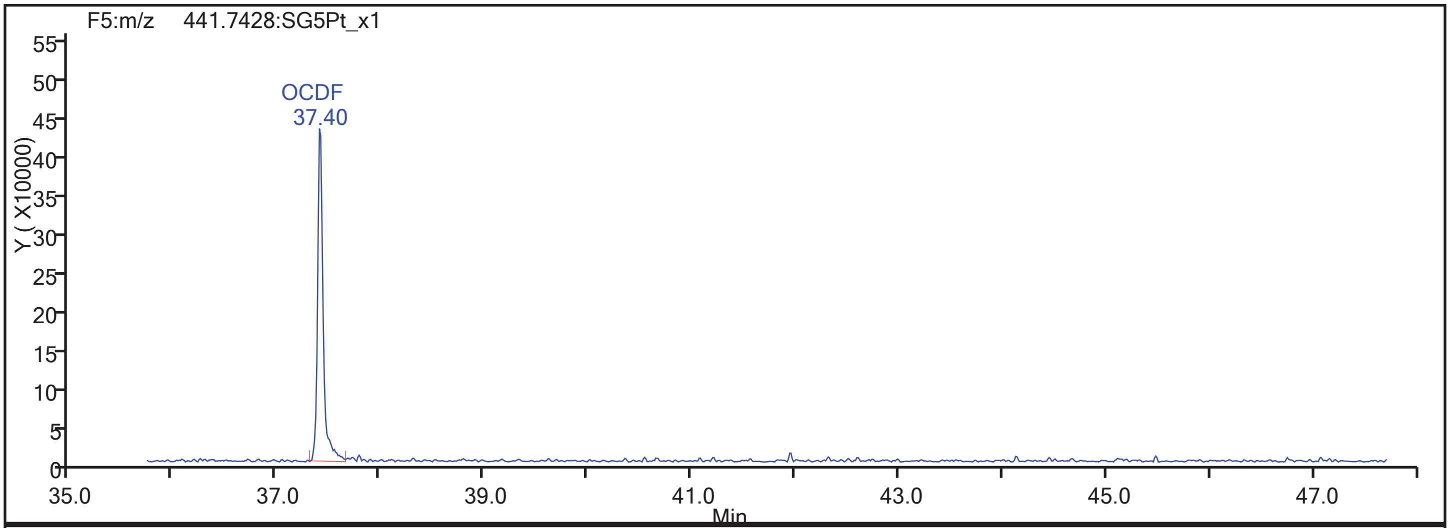


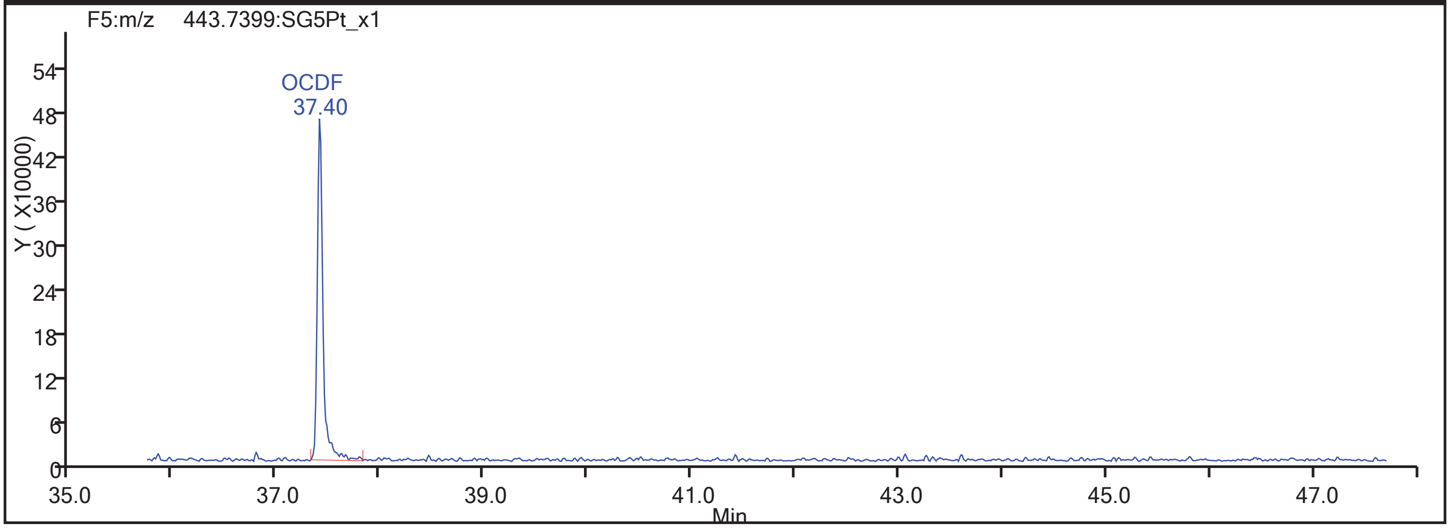
Report Date: 16-Nov-2017 09:37:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

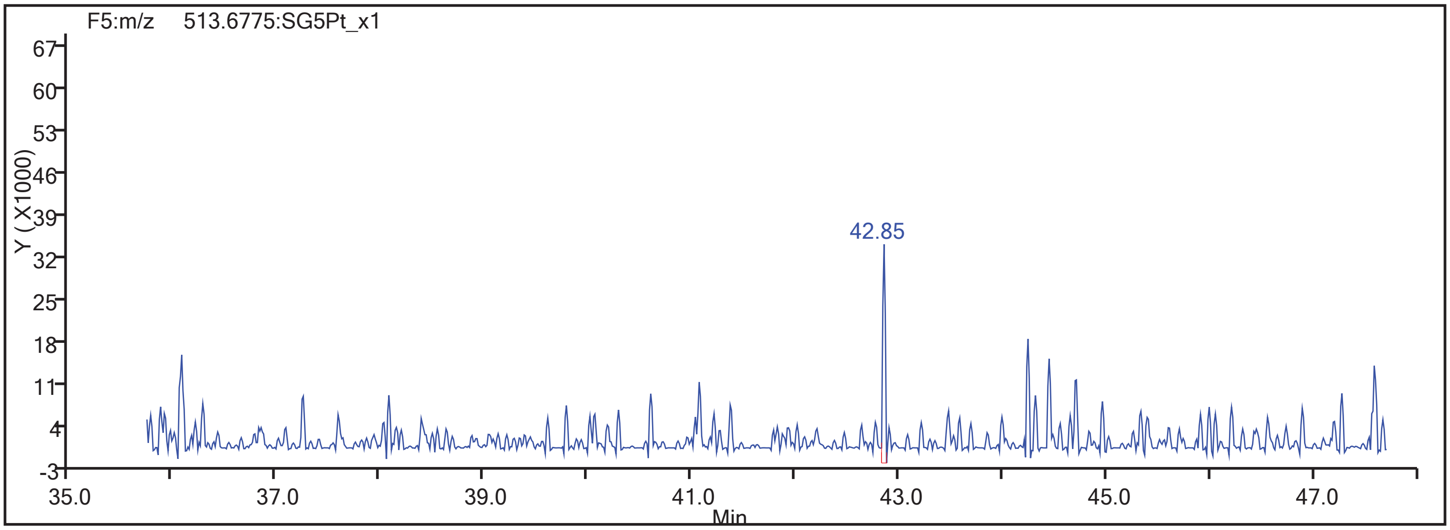
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_4.d		
Injection Date:	15-Nov-2017 13:28:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS201		
Worklist#:	194923	Sample Line#:	4
Column Type:		Column Dia:	

OCDF





OCDF Interference Mass

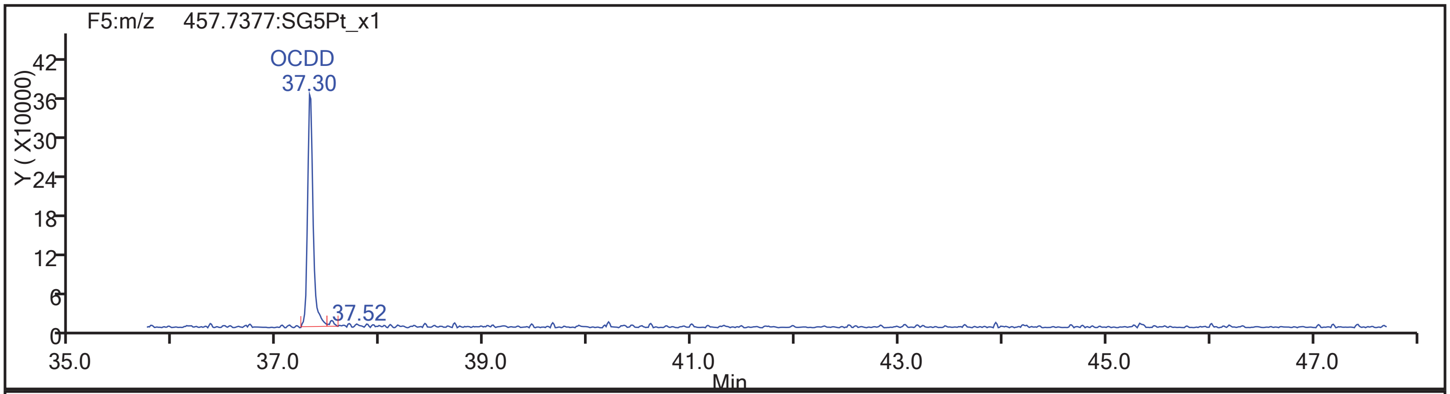


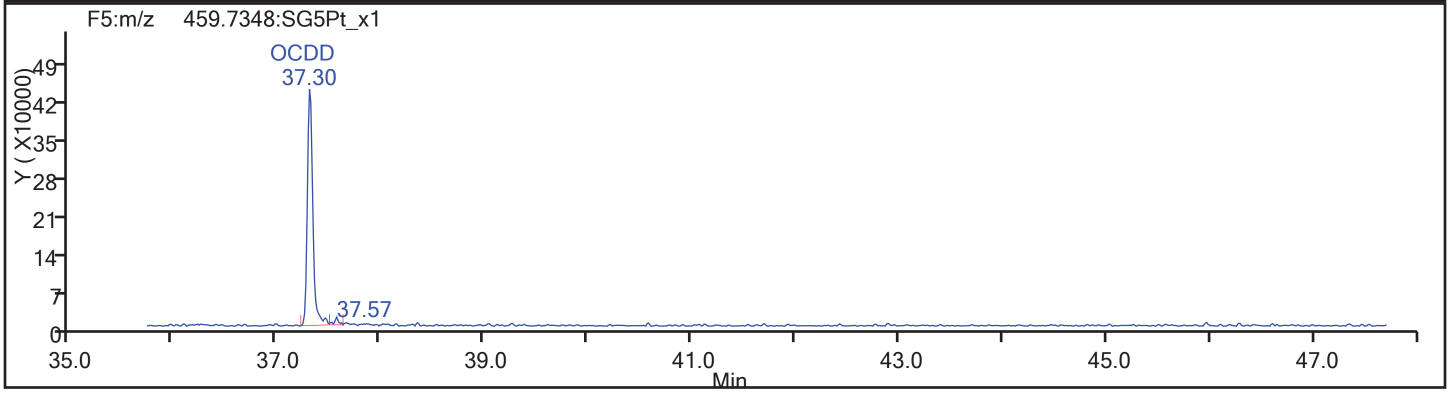
Report Date: 16-Nov-2017 09:37:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

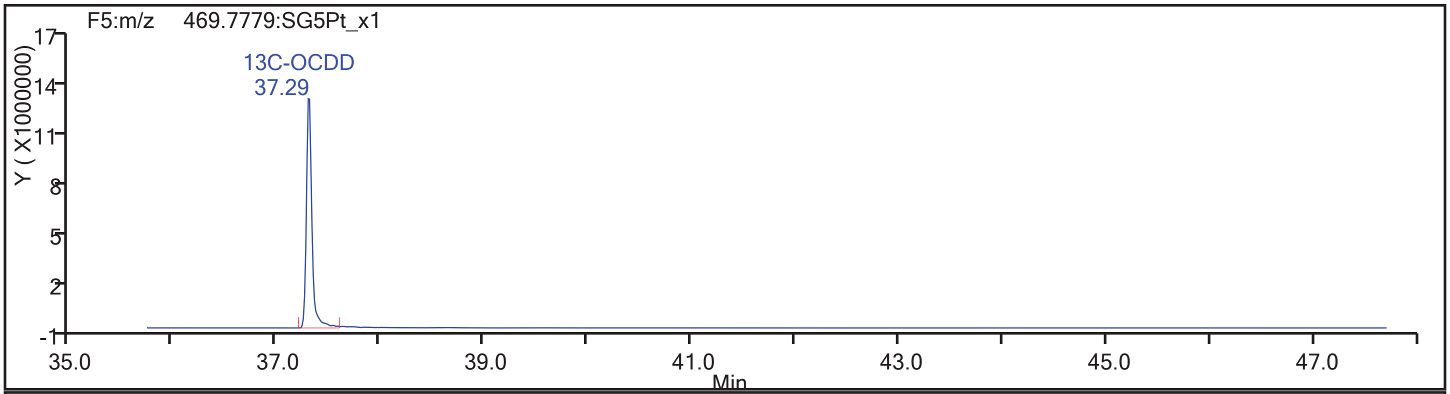
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_4.d		
Injection Date:	15-Nov-2017 13:28:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS201		
Worklist#:	194923	Sample Line#:	4
Column Type:		Column Dia:	

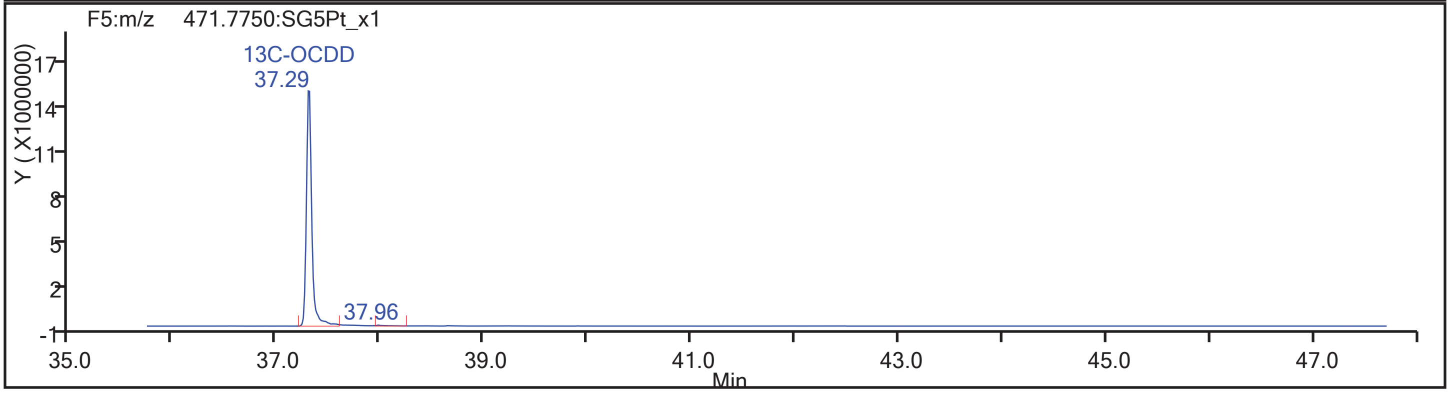
OCDD





OCDD Standards





Report Date: 16-Nov-2017 09:37:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_4.d

Injection Date: 15-Nov-2017 13:28:42

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

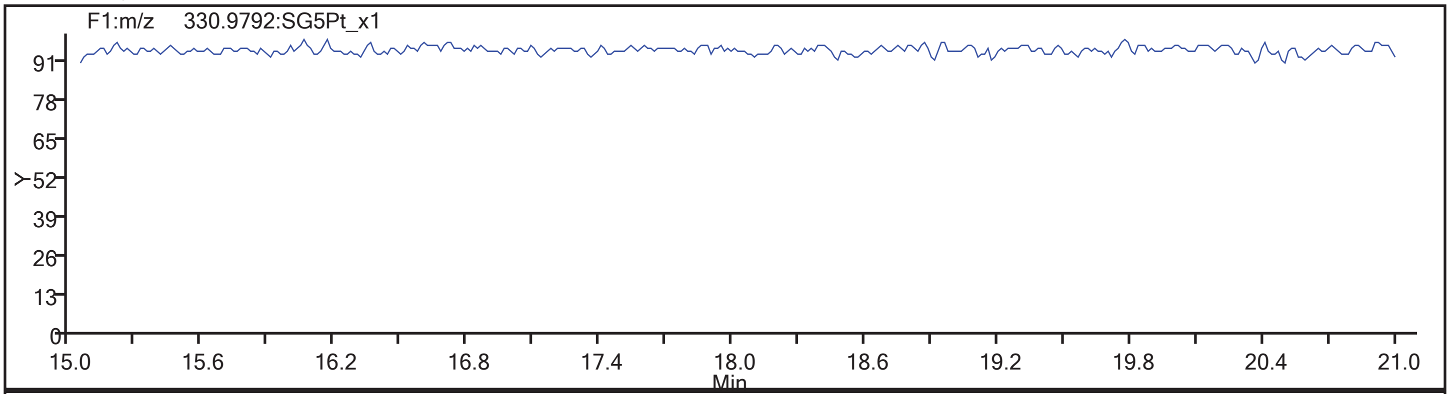
Client ID: CS201

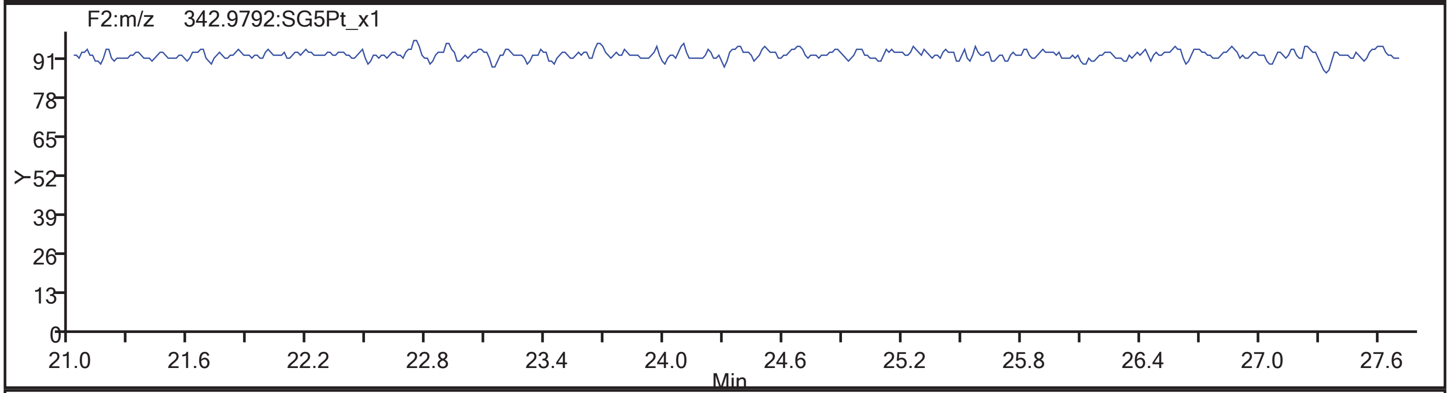
Worklist#: 194923

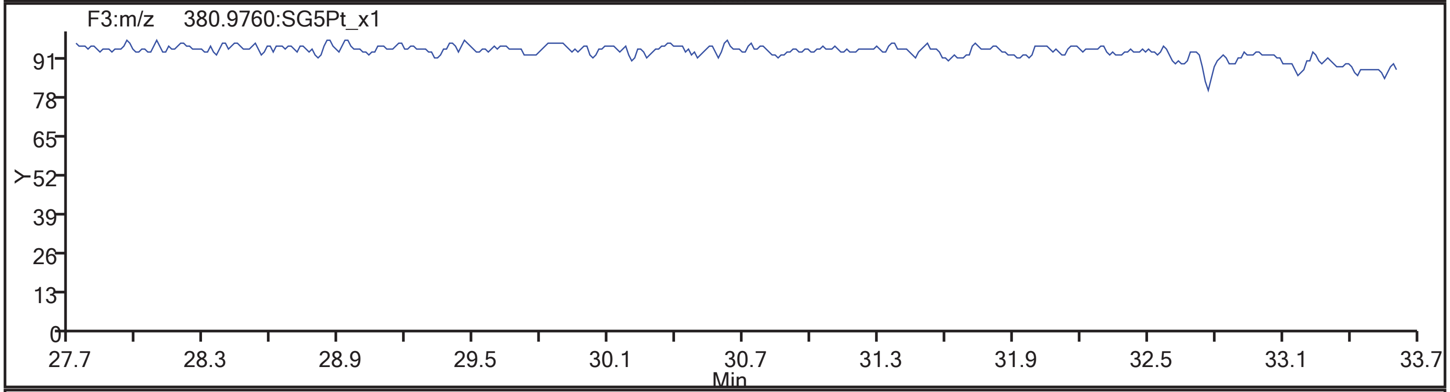
Sample Line#: 4

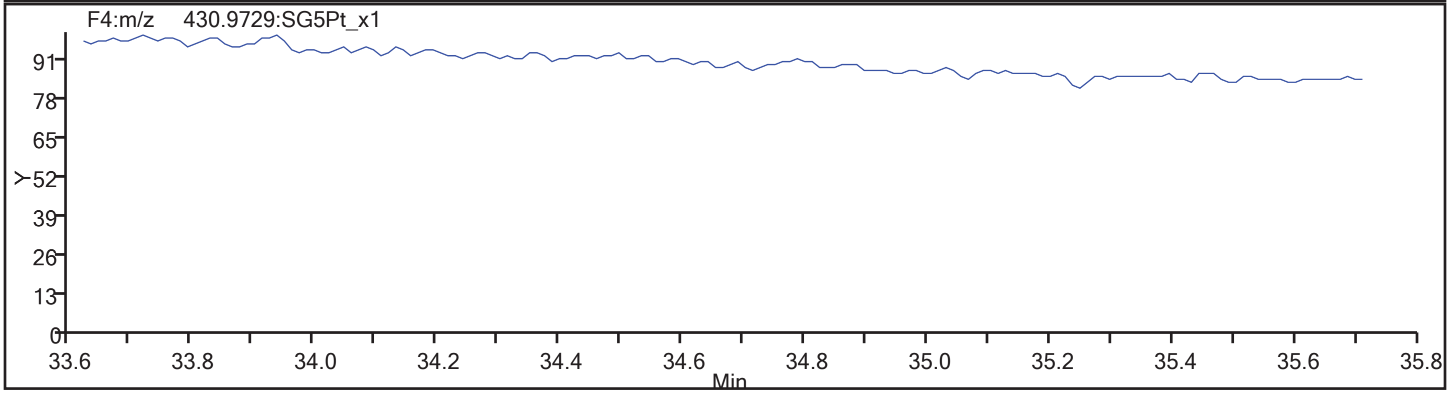
Column Type:

Column Dia:









TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_4.d

Injection Date: 15-Nov-2017 13:28:42 Injection Vol: 2.0 ul

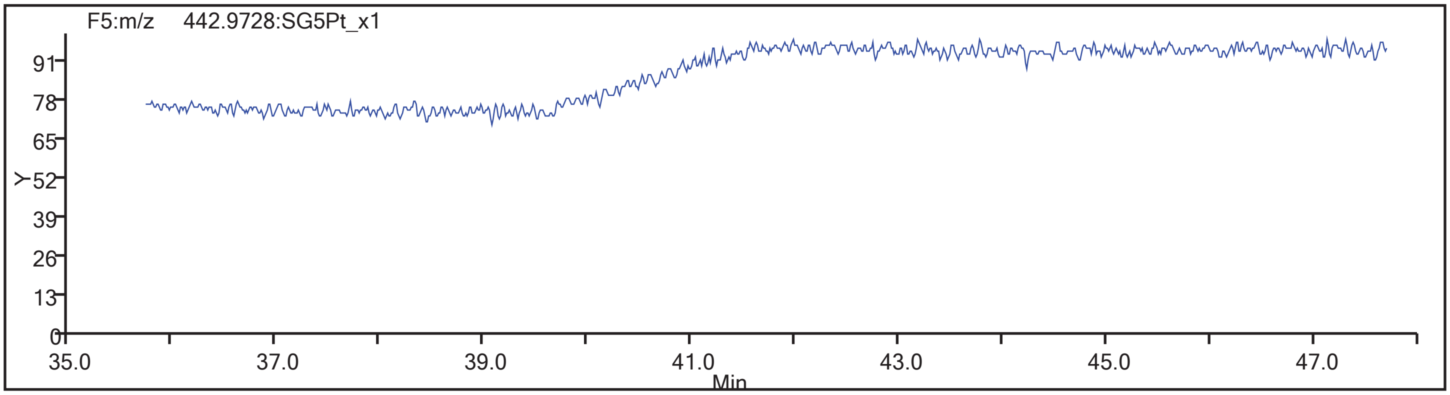
Instrument ID: 3D5 Operator ID: SMA

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: CS201

Worklist#: 194923 Sample Line#: 4

Column Type: Column Dia:



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d
Lims ID: IC 6 Lab Sample ID:
Client ID: CS601
Sample Type: IC Calib Level: 6
Inject. Date: 15-Nov-2017 14:17:15 ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 111517C CS-6 HRDXNL6_00018
Misc. Info.: 15NO173D5
Operator ID: SMA Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 09:37:52 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 15-Nov-2017 15:42:01

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.340	160863565	0.832	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.810	248004367	0.785	1.5089	102.2	102.2	0.3305	0.3305	102	
2,3,7,8-TCDF	17.826	527606477	0.788	1.0971	193.9	193.9	0.2696	0.2696	96.95	
A Non-2,3,7,8-sub-TCDF	17.493						0.0	0.0		n
S Total TCDF					193.9	193.9	0.2696	0.2696		
D 13C-2,3,7,8-TCDD	18.551	162730233	0.818	0.9906	102.1	102.1	0.2265	0.2265	102	
$ 37Cl4-2,3,7,8-TCDD	18.566	403185089		1.1732	213.6	213.6	0.1723	0.1723	107	
2,3,7,8-TCDD	18.566	375838014	0.799	1.1645	198.3	198.3	0.1972	0.1972	99.17	
A Non-2,3,7,8-sub-TCDD	17.962						0.0	0.0		
S Total TCDD					198.3	198.3	0.1972	0.1972		
D 13C-1,2,3,7,8-PeCDF	23.033	187314045	1.602	1.1280	103.2	103.2	0.2664	0.2664	103	
1,2,3,7,8-PeCDF	23.060	2106885282	1.613	1.1422	984.8	984.8	3.244	3.244	98.48	
D 13C-2,3,4,7,8-PeCDF	24.437	187068572	1.628							
2,3,4,7,8-PeCDF	24.465	2036158592	1.587	1.1102	979.1	979.1	3.337	3.337	97.91	
A F1 PeCDFs	20.479						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.750						0.0	0.0		
S Total PeCDF					1963.9	1963.9	3.290	3.290		
D 13C-1,2,3,7,8-PeCDD	25.174	119922529	1.626	0.7269	102.6	102.6	0.1855	0.1855	103	
1,2,3,7,8-PeCDD	25.215	1341819981	1.563	1.1272	992.6	992.6	0.5679	0.5679	99.26	
A Non-2,3,7,8-sub-PeCDD	24.021						0.0	0.0		
S Total PeCDD					992.6	992.6	0.5679	0.5679		
D 13C-1,2,3,4,7,8-HxCDF	31.025	147243267	0.516	1.0279	104.5	104.5	0.3556	0.3556	105	
1,2,3,4,7,8-HxCDF	31.052	1938144710	1.259	1.3475	976.8	976.8	3.983	3.983	97.68	
D 13C-1,2,3,6,7,8-HxCDF	31.185	169664203	0.516							
1,2,3,6,7,8-HxCDF	31.198	2078075132	1.257	1.4794	954.0	954.0	3.628	3.628	95.40	
D 13C-2,3,4,6,7,8-HxCDF	31.904	154844377	0.517							
2,3,4,6,7,8-HxCDF	31.917	1960683495	1.256	1.3833	962.6	962.6	3.880	3.880	96.26	
D 13C-1,2,3,7,8,9-HxCDF	32.663	146355519	0.525							
1,2,3,7,8,9-HxCDF	32.676	1805449358	1.273	1.2903	950.3	950.3	4.160	4.160	95.03	
A Non-2,3,7,8-sub-HxCDF	30.786						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					3843.7	3843.7	3.912	3.912		
* 13C-1,2,3,7,8,9-HxCDD	32.477	137025728	1.275	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.077	111231374	1.245							
1,2,3,4,7,8-HxCDD	32.091	1276916252	1.259	1.0646	1018.1	1018.1	2.442	2.442	102	
D 13C-1,2,3,6,7,8-HxCDD	32.171	117803363	1.237	0.8502	101.1	101.1	0.2535	0.2535	101	
1,2,3,6,7,8-HxCDD	32.184	1377851865	1.280	1.1809	990.4	990.4	2.202	2.202	99.04	
1,2,3,7,8,9-HxCDD	32.490	1417951942	1.268	1.2311	977.7	977.7	2.112	2.112	97.77	
A Non-2,3,7,8-sub-HxCDD	31.352						0.0	0.0		
S Total HxCDD					2986.3	2986.3	2.252	2.252		
D 13C-1,2,3,4,6,7,8-HpCDF	34.058	91298338	0.457	0.6490	102.7	102.7	0.7047	0.7047	103	
1,2,3,4,6,7,8-HpCDF	34.070	1395108414	1.051	1.5871	962.8	962.8	7.173	7.173	96.28	
D 13C-1,2,3,4,7,8,9-HpCDF	35.176	78243139	0.453							
1,2,3,4,7,8,9-HpCDF	35.188	1113162560	1.049	1.2290	992.1	992.1	9.263	9.263	99.21	
A Non-2,3,7,8-sub-HpCDF	34.617						0.0	0.0		
S Total HpCDF					1954.9	1954.9	8.218	8.218		
D 13C-1,2,3,4,6,7,8-HpCDD	34.873	75723686	1.109	0.5387	102.6	102.6	0.5222	0.5222	103	
1,2,3,4,6,7,8-HpCDD	34.885	856082946	1.067	1.1631	972.0	972.0	3.422	3.422	97.20	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					972.0	972.0	3.422	3.422		
D 13C-OCDD	37.317	117013811	0.892	0.4009	213.0	213.0	0.4286	0.4286	106	
OCDF	37.425	1440715325	0.906	1.2649	1946.8	1946.8	0.6466	0.6466	97.34	
OCDD	37.317	1141889958	0.880	1.0390	1878.4	1878.4	0.8378	0.8378	93.92	

Reagents:

HRDXNL6_00018 Amount Added: 1.00 Units: mL

Report Date: 16-Nov-2017 09:37:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d
Lims ID: IC 6 Lab Sample ID:
Client ID: CS601
Sample Type: IC Calib Level: 6
Inject. Date: 15-Nov-2017 14:17:15 ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 111517C CS-6 HRDXNL6_00018
Misc. Info.: 15NO173D5
Operator ID: SMA Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 09:37:52 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 15-Nov-2017 15:42:01

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.340	18.346	0		73036931	16981424	19212	48030	884		
333.9339	18.355	18.346	1		87826634	20198947	14155	35387	1427	0.832(0.650-0.890)	
13C-2,3,7,8-TCDF											
315.9419	17.810	17.813	0	0.971	109083667	25228481	42464	106160	594		
317.9389	17.810	17.813	0	0.971	138920700	32776714	31708	79270	1034	0.785(0.650-0.890)	
2,3,7,8-TCDF											
303.9016	17.826	17.832	0	1.001	232486724	54092398	29428	73570	1838		
305.8987	17.826	17.832	0	1.001	295119753	69125859	39191	97977	1764	0.788(0.650-0.890)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.448	17.493	-3	0.980	805180	196629	29428	73570	7		
305.8987	17.432	17.493	-4	0.979	1097697	242719	39191	97977	6	0.734(0.650-0.890)	
13C-2,3,7,8-TCDD											
331.9368	18.551	18.545	0	1.012	73207316	16646184	19212	48030	866		
333.9339	18.551	18.545	0	1.012	89522917	20018919	14155	35387	1414	0.818(0.650-0.890)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.566	18.560	0	1.012	403185089	92701309	30059	75147	3084		
2,3,7,8-TCDD											
319.8965	18.566	18.563	0	1.001	166882755	38638434	14149	35372	2731		
321.8936	18.566	18.563	0	1.001	208955259	47583743	19532	48830	2436	0.799(0.650-0.890)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.962						14149	35372			
321.8936	17.962						19532	48830			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	23.033	23.027	0	1.256	115336583	19458808	24564	61410	792		
353.8970	23.033	23.027	0	1.256	71977462	12006066	20121	50302	597	1.602(1.320-1.780)	
1,2,3,7,8-PeCDF											
339.8597	23.060	23.054	0	1.001	1300511397	217669262	287371	718427	757		
341.8567	23.060	23.054	0	1.001	806373885	134097825	178930	447325	749	1.613(1.320-1.780)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.437	24.432	0	1.332	115874518	17987984	24564	61410	732		
353.8970	24.437	24.432	0	1.332	71194054	11043771	20121	50302	549	1.628(1.320-1.780)	
2,3,4,7,8-PeCDF											
339.8597	24.465	24.456	0	1.001	1249113595	194540314	287371	718427	677		
341.8567	24.451	24.456	0	1.001	787044997	123374204	178930	447325	690	1.587(1.320-1.780)	
A F1 PeCDFs											
339.8597	20.479						1737	4342			
341.8567	20.479						2365	5912			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.750						287371	718427			
341.8567	23.750						178930	447325			
13C-1,2,3,7,8-PeCDD											
367.8949	25.174	25.179	0	1.373	74260619	11181643	11143	27857	1003		
369.8919	25.174	25.179	0	1.373	45661910	6919874	8913	22282	776	1.626(1.320-1.780)	
1,2,3,7,8-PeCDD											
355.8546	25.215	25.209	0	1.002	818324396	120226999	27733	69332	4335		
357.8516	25.201	25.209	0	1.001	523495585	76857682	18620	46550	4128	1.563(1.320-1.780)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.021						27733	69332			
357.8516	24.021						18620	46550			
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.025	31.031	0	0.955	50141653	11170490	20736	51840	539		
385.8610	31.025	31.031	0	0.955	97101614	21435342	36728	91820	584	0.516(0.430-0.590)	
1,2,3,4,7,8-HxCDF											
373.8208	31.052	31.047	0	1.001	1080200457	241402796	442649	1106622	545		
375.8178	31.052	31.047	0	1.001	857944253	190305201	257318	643295	740	1.259(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.185	31.183	0	0.960	57772217	12640640	20736	51840	610		
385.8610	31.185	31.183	0	0.960	111891986	24612606	36728	91820	670	0.516(0.430-0.590)	
1,2,3,6,7,8-HxCDF											
373.8208	31.198	31.204	0	1.000	1157282337	250037692	442649	1106622	565		
375.8178	31.198	31.204	0	1.000	920792795	202843556	257318	643295	788	1.257(1.050-1.430)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.904	31.907	0	0.982	52744586	14199233	20736	51840	685		
385.8610	31.904	31.907	0	0.982	102099791	27727734	36728	91820	755	0.517(0.430-0.590)	
2,3,4,6,7,8-HxCDF											
373.8208	31.917	31.923	0	1.000	1091538276	291715956	442649	1106622	659		
375.8178	31.917	31.923	0	1.000	869145219	234463918	257318	643295	911	1.256(1.050-1.430)	

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Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.663	32.660	0	1.006	50397879	15125709	20736	51840	729		
385.8610	32.663	32.660	0	1.006	95957640	27776370	36728	91820	756	0.525(0.430-0.590)	
1,2,3,7,8,9-HxCDF											
373.8208	32.676	32.674	0	1.000	1011079586	289442699	442649	1106622	654		
375.8178	32.676	32.674	0	1.000	794369772	223817902	257318	643295	870	1.273(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.786						442649	1106622			
375.8178	30.786						257318	643295			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.477	32.479	0		76787580	22023162	16953	42382	1299		
403.8529	32.477	32.479	0		60238148	17276008	16928	42320	1021	1.275(1.050-1.430)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.077	32.075	0	0.988	61687473	17843361	16953	42382	1053		
403.8529	32.077	32.075	0	0.988	49543901	14387144	16928	42320	850	1.245(1.050-1.430)	
1,2,3,4,7,8-HxCDD											
389.8157	32.091	32.088	0	1.000	711558786	214516962	173485	433712	1237		
391.8127	32.091	32.088	0	1.000	565357466	167943066	158848	397120	1057	1.259(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.171	32.173	0	0.991	65140234	17609390	16953	42382	1039		
403.8529	32.171	32.173	0	0.991	52663129	14345987	16928	42320	847	1.237(1.050-1.430)	
1,2,3,6,7,8-HxCDD											
389.8157	32.184	32.189	0	1.000	773460135	211799723	173485	433712	1221		
391.8127	32.184	32.189	0	1.000	604391730	169634114	158848	397120	1068	1.280(1.050-1.430)	
1,2,3,7,8,9-HxCDD											
389.8157	32.490	32.493	0	1.013	792850131	223380602	173485	433712	1288		
391.8127	32.490	32.493	0	1.013	625101811	178645859	158848	397120	1125	1.268(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.352						173485	433712			
391.8127	31.352						158848	397120			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.058	34.056	0	1.049	28646141	10039634	23090	57725	435		
419.8220	34.058	34.056	0	1.049	62652197	21792256	48799	121997	447	0.457(0.370-0.510)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.070	34.068	0	1.000	715017441	243951387	722767	1806917	338		
409.7789	34.070	34.068	0	1.000	680090973	227661383	726788	1816970	313	1.051(0.880-1.200)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.176	35.181	0	1.083	24403070	7688119	23090	57725	333		
419.8220	35.176	35.181	0	1.083	53840069	17006857	48799	121997	349	0.453(0.370-0.510)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.188	35.191	0	1.000	570005274	181298870	722767	1806917	251		
409.7789	35.188	35.191	0	1.000	543157286	172703375	726788	1816970	238	1.049(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.617						722767	1806917			
409.7789	34.617						726788	1816970			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.873	34.877	0	1.074	39817258	12373118	15664	39160	790		
437.8140	34.873	34.877	0	1.074	35906428	11408311	28559	71397	399	1.109(0.880-1.200)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.885	34.889	0	1.000	441932014	142502867	169851	424627	839		
425.7737	34.885	34.889	0	1.000	414150932	135034491	208801	522002	647	1.067(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						169851	424627			
425.7737	35.261						208801	522002			
13C-OCDD											
469.7779	37.317	37.310	0	1.149	55173439	15794427	8775	21937	1800		
471.7750	37.317	37.310	0	1.149	61840372	17134061	18240	45600	939	0.892(0.760-1.020)	
OCDF											
441.7428	37.425	37.417	0	1.003	684864206	190371210	25410	63525	7492		
443.7399	37.413	37.417	0	1.003	755851119	213616162	28456	71140	7507	0.906(0.760-1.020)	
OCDD											
457.7377	37.317	37.317	0	1.000	534545111	148806830	25670	64175	5797		
459.7348	37.317	37.317	0	1.000	607344847	171950316	31660	79150	5431	0.880(0.760-1.020)	

Reagents:

HRDXNL6_00018 Amount Added: 1.00 Units: mL

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d		
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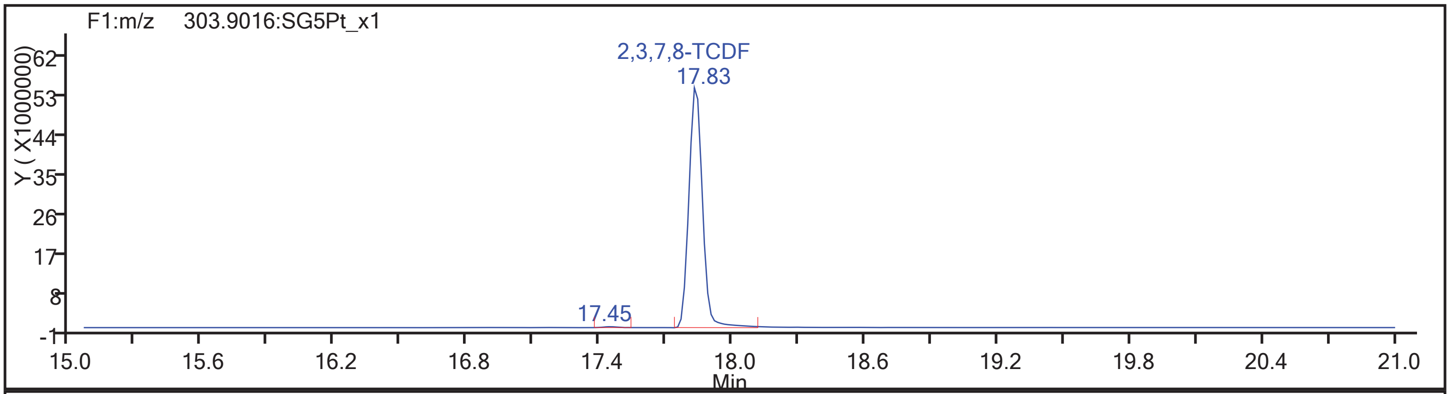
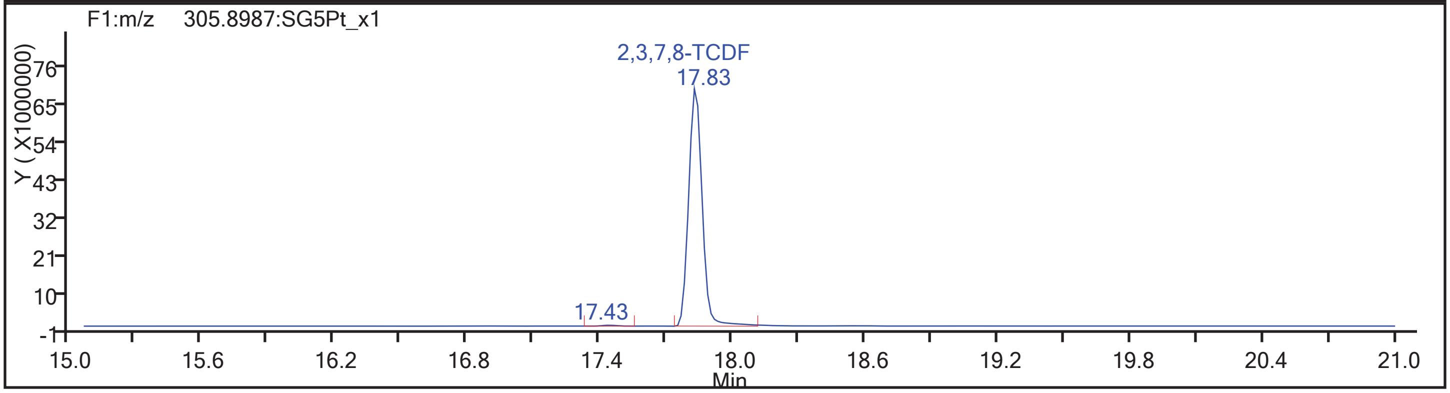
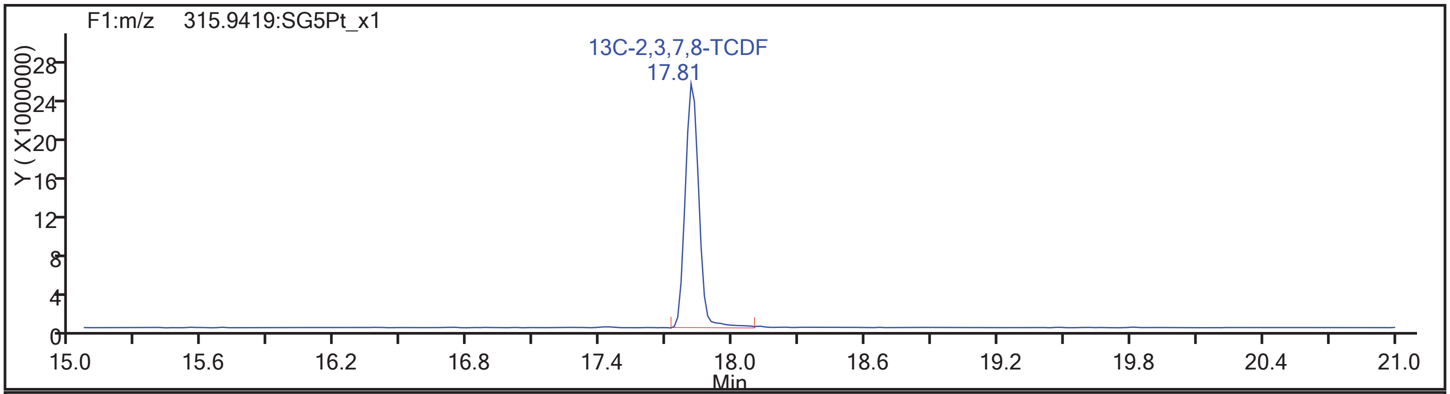
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS601		
Worklist#:	194923	Sample Line#:	5
Column Type:		Column Dia:	

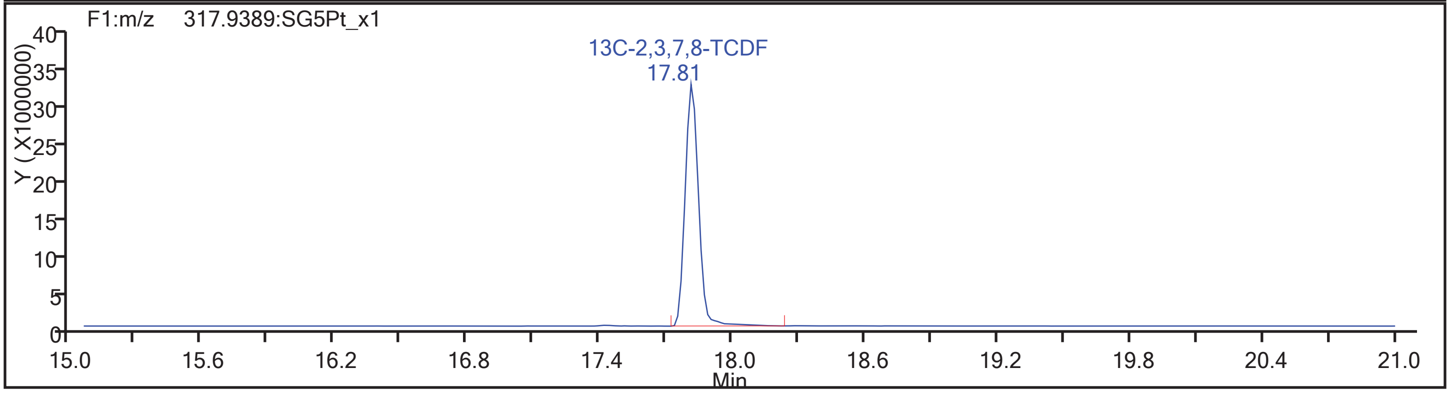
TCDF





TCDF Standards





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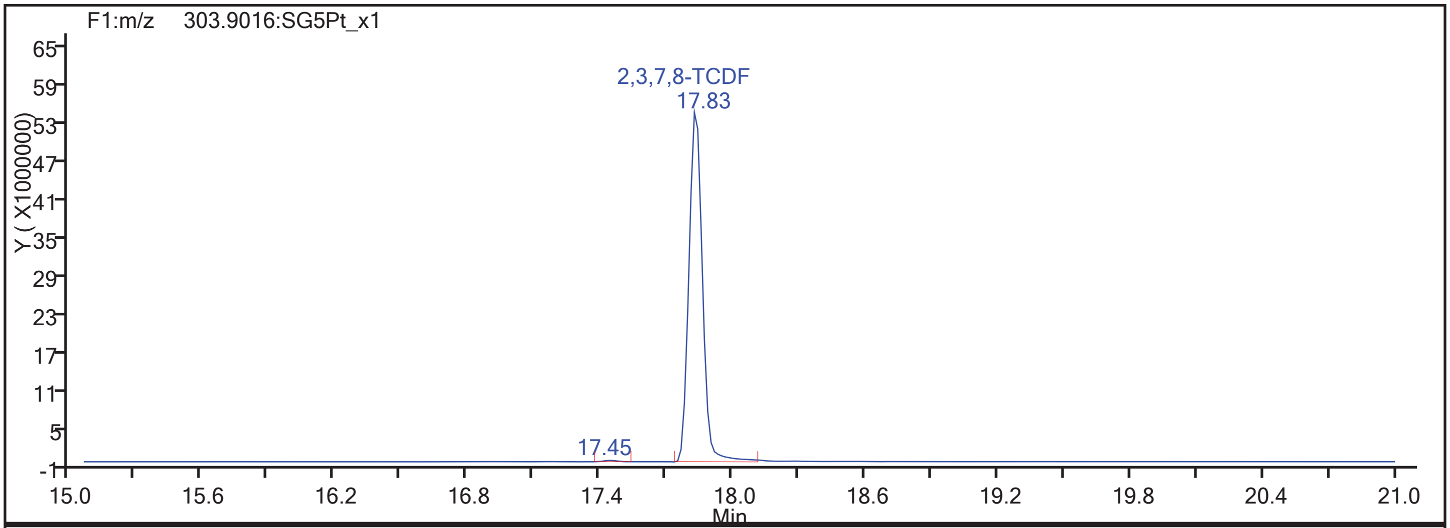
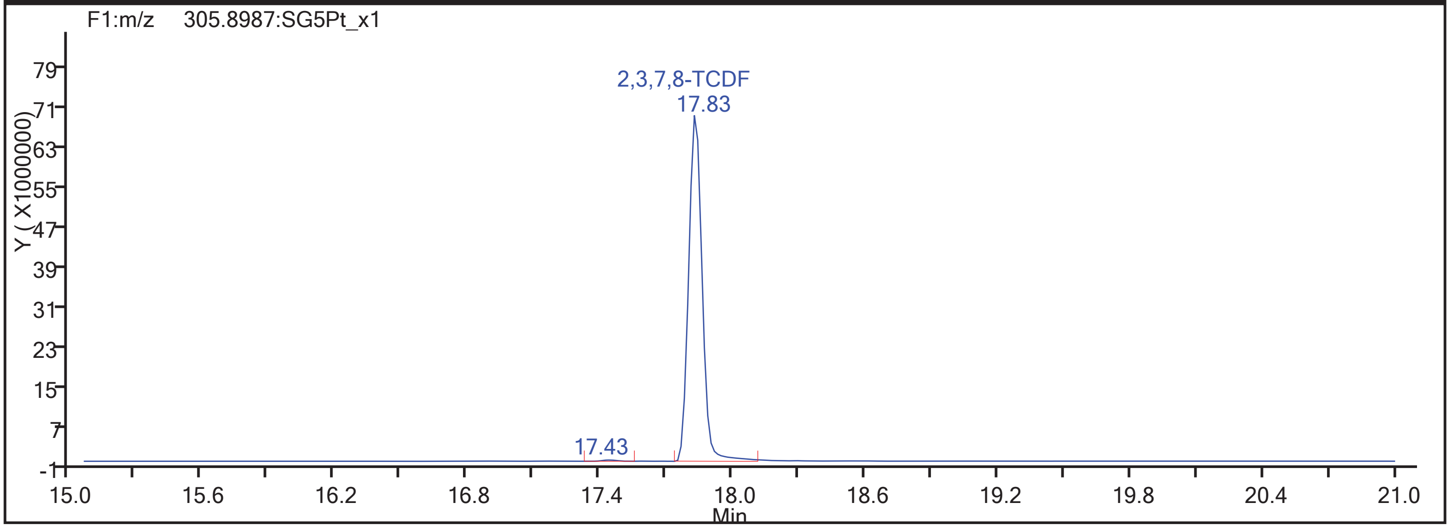
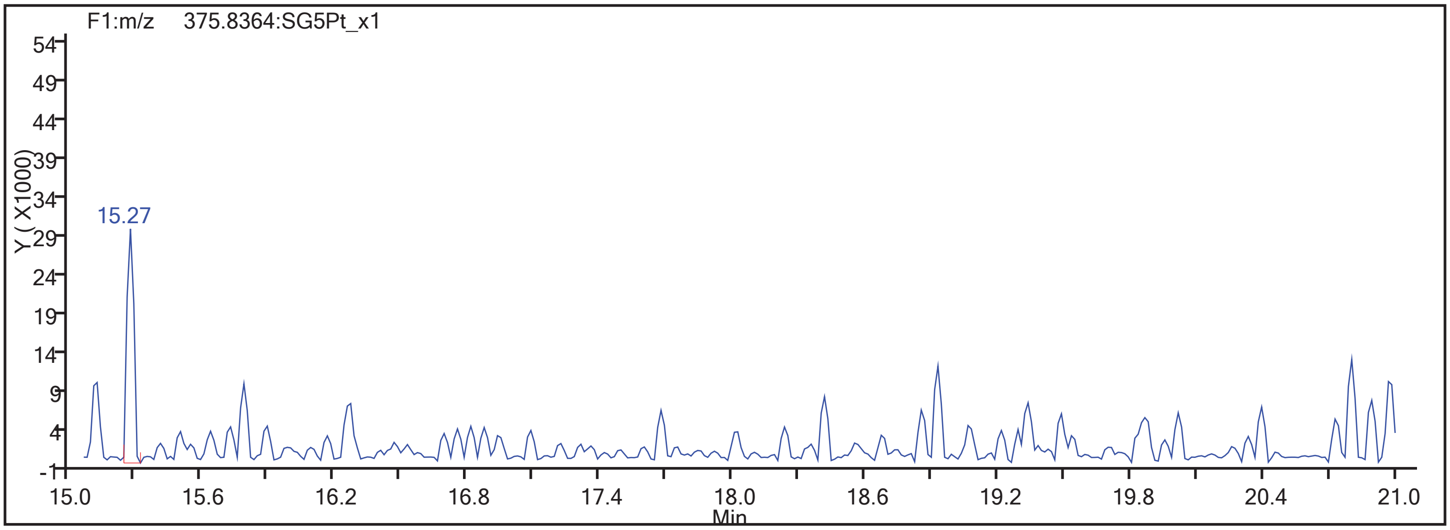
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS601		
Worklist#:	194923	Sample Line#:	5
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass



TestAmerica Sacramento

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Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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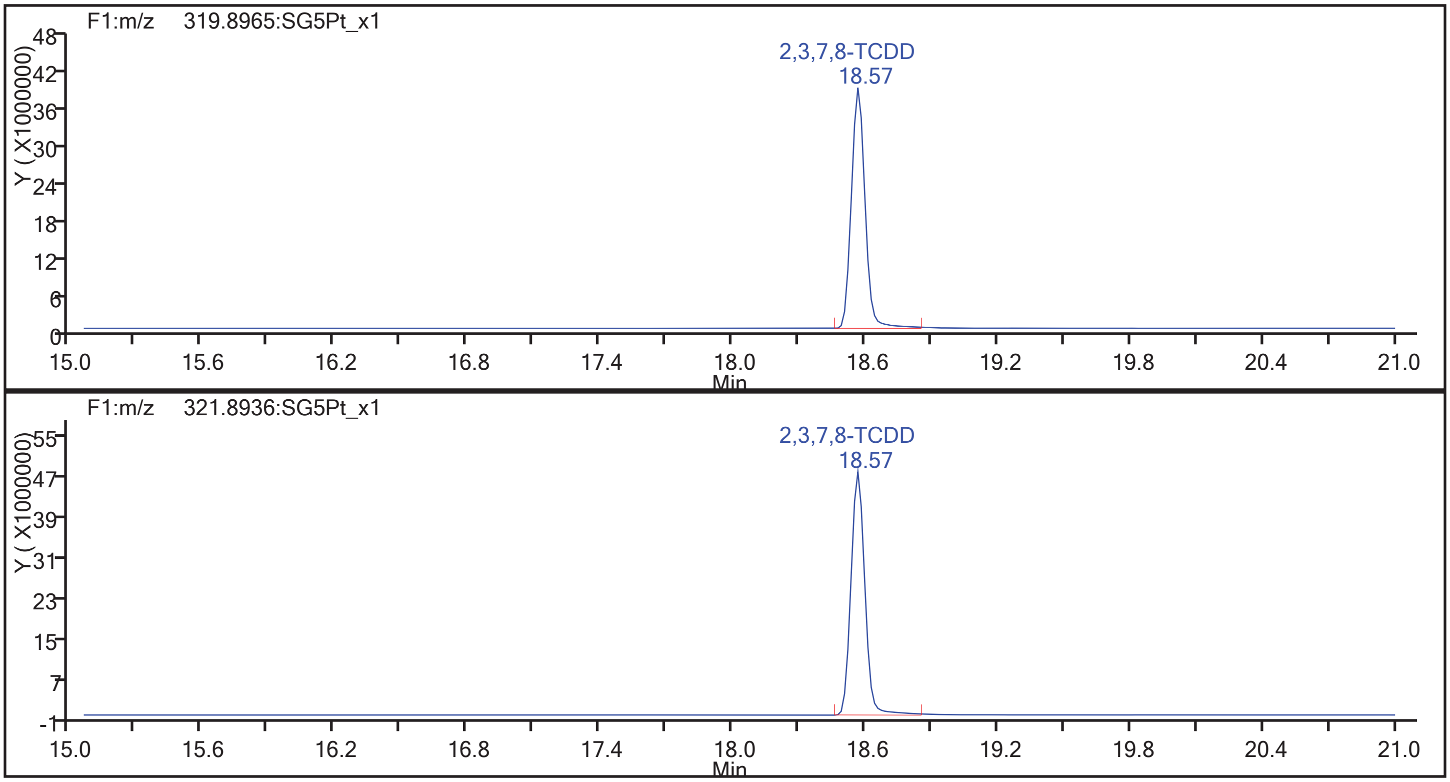
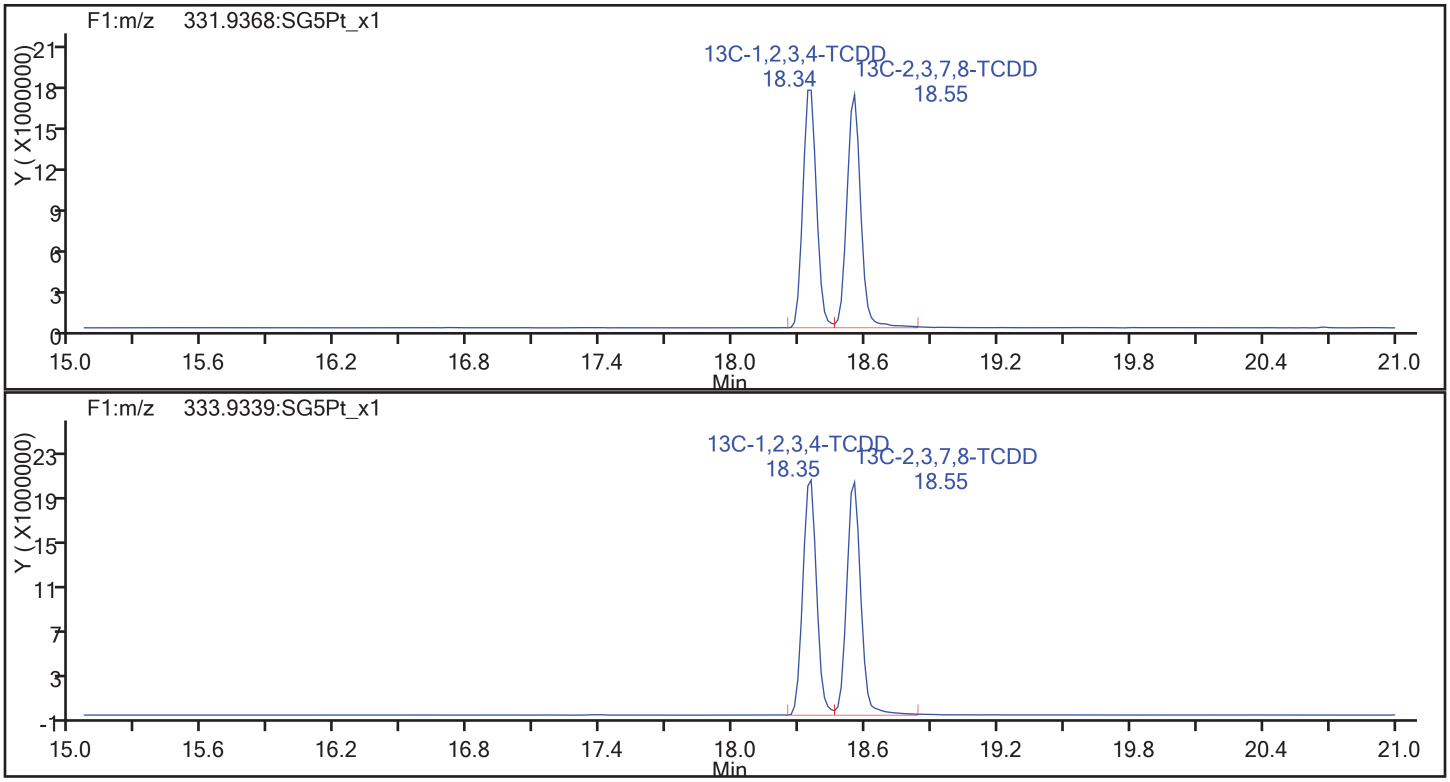
Column Type:		Column Dia:	

TCDD



TCDD Standards



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TestAmerica Sacramento

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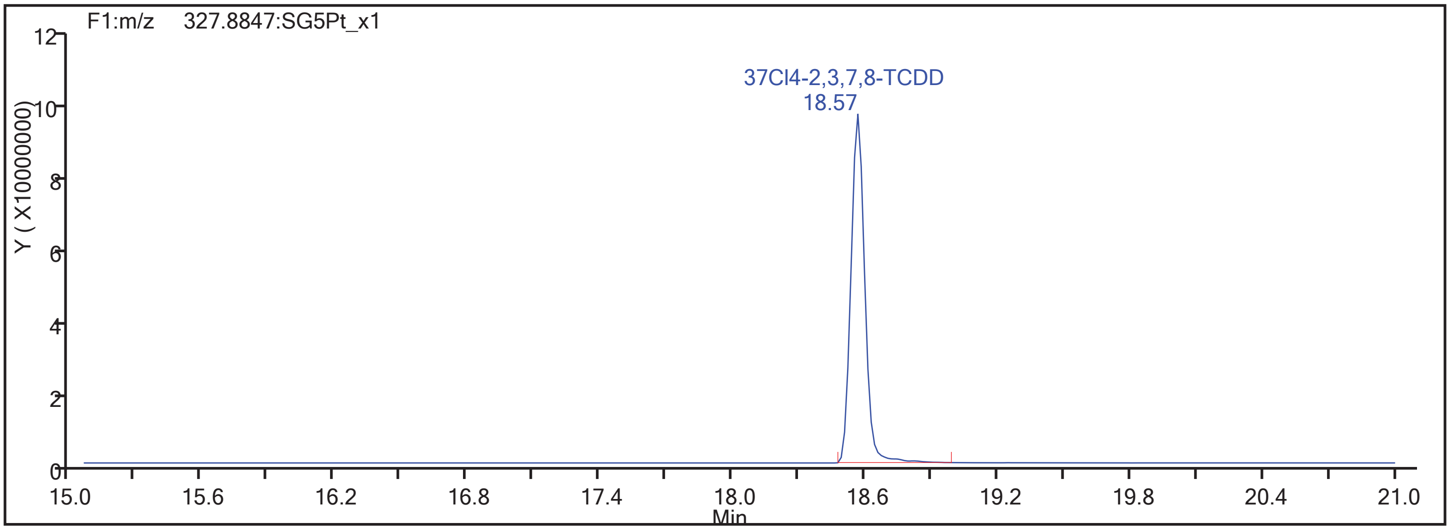
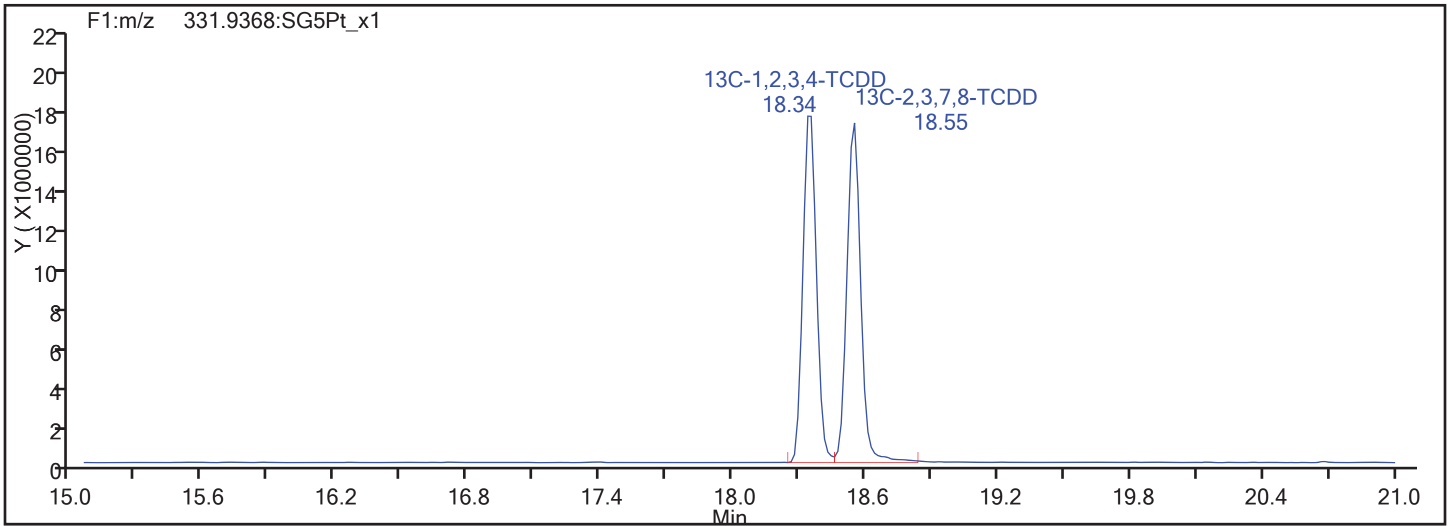
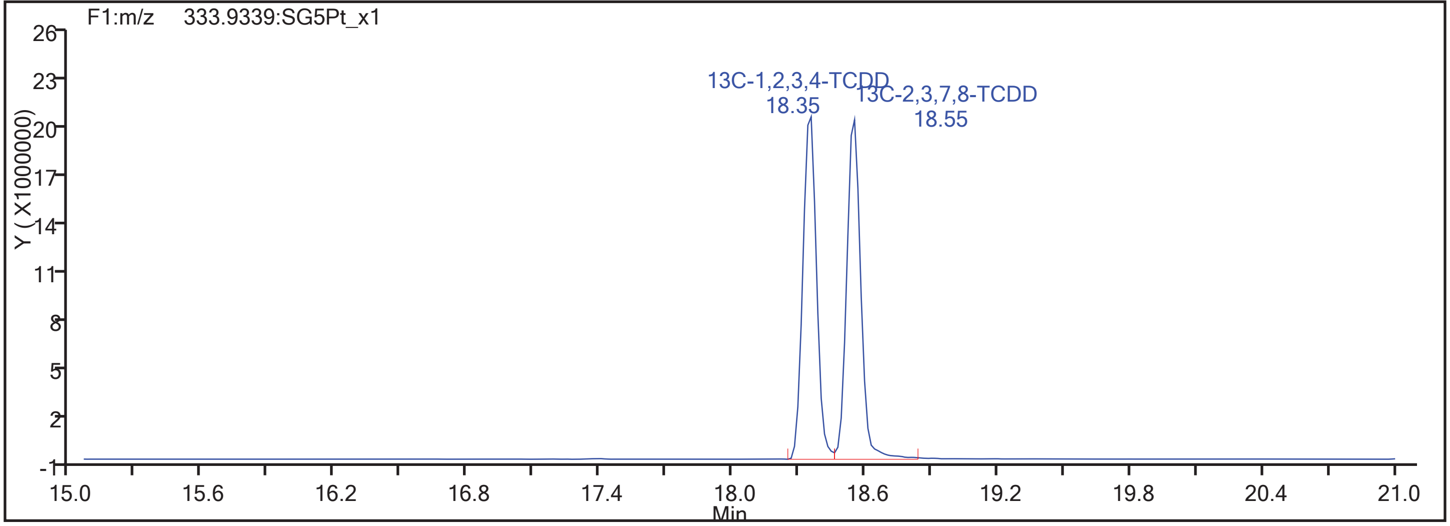
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS601		
Worklist#:	194923	Sample Line#:	5
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards





TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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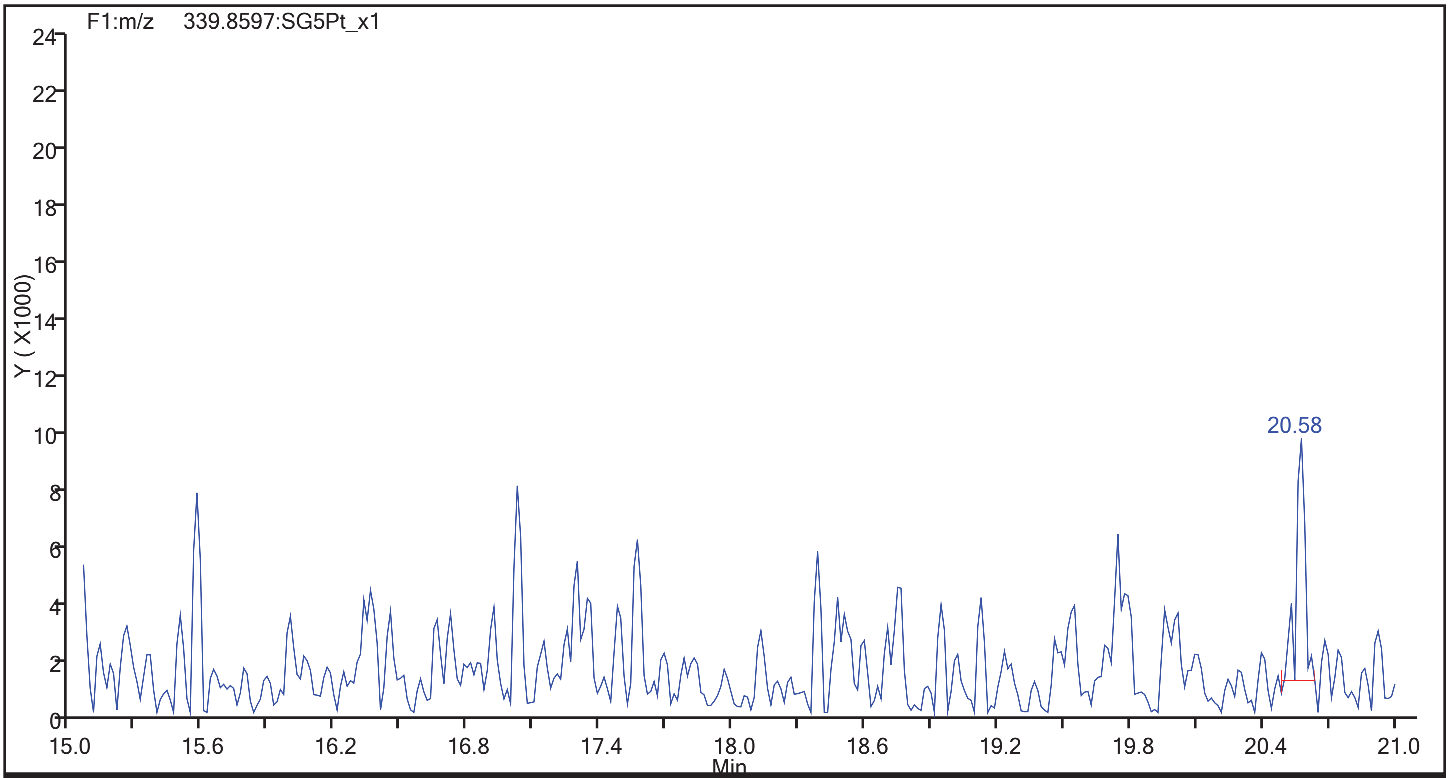
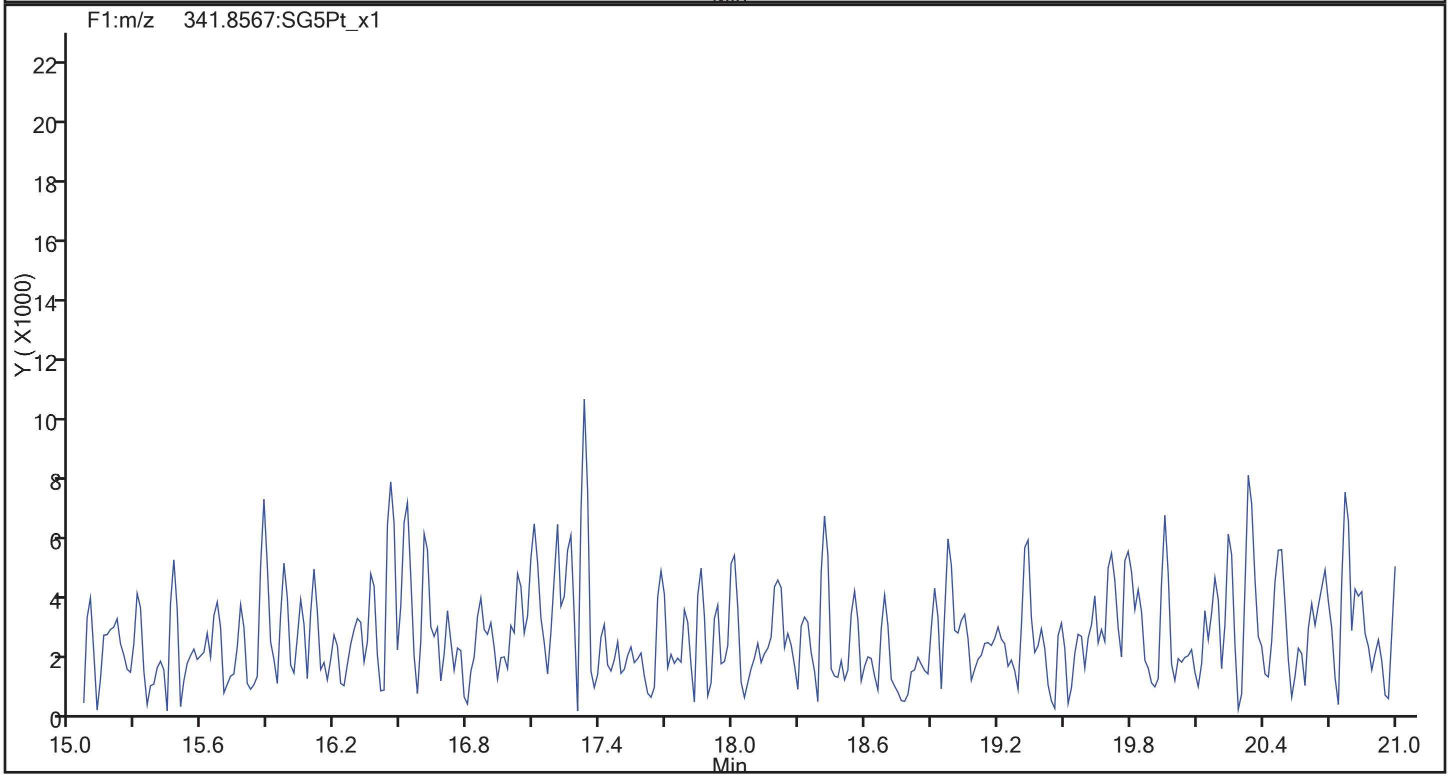
Worklist#:	194923	Sample Line#:	5
Column Type:		Column Dia:	

F1 PeCDFs





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Chrom Revision: 2.2 16-Aug-2017 16:24:44

TestAmerica Sacramento

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Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
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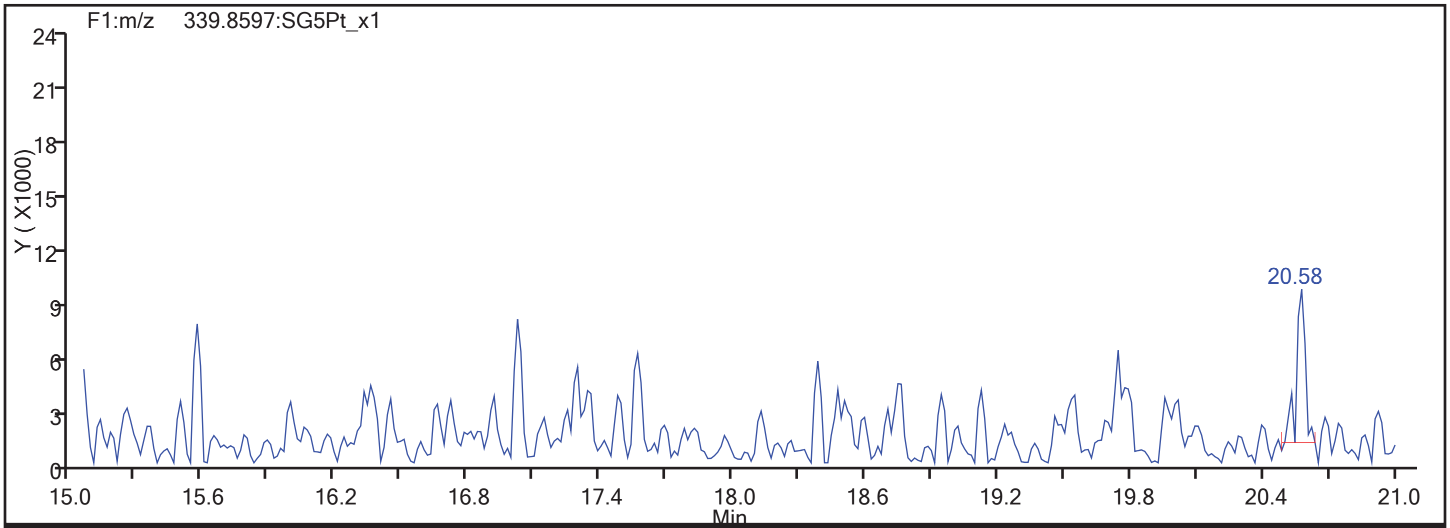
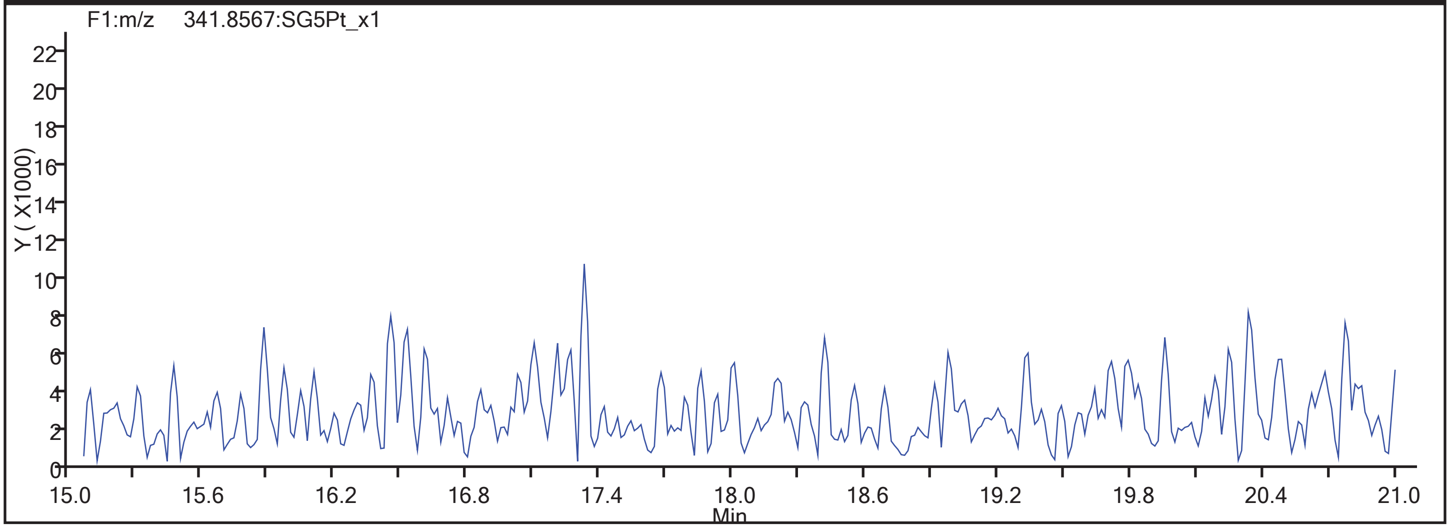
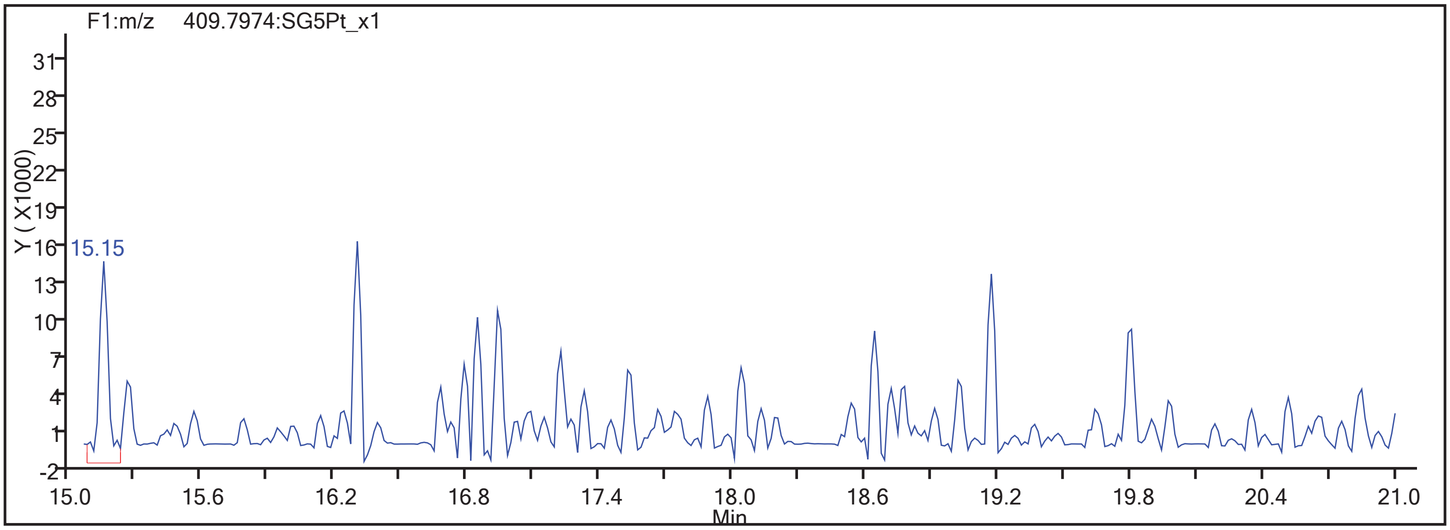
Sample Line#: 5
Column Type:
Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 16-Nov-2017 09:37:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 15-Nov-2017 14:17:15 Injection Vol: 2.0 ul
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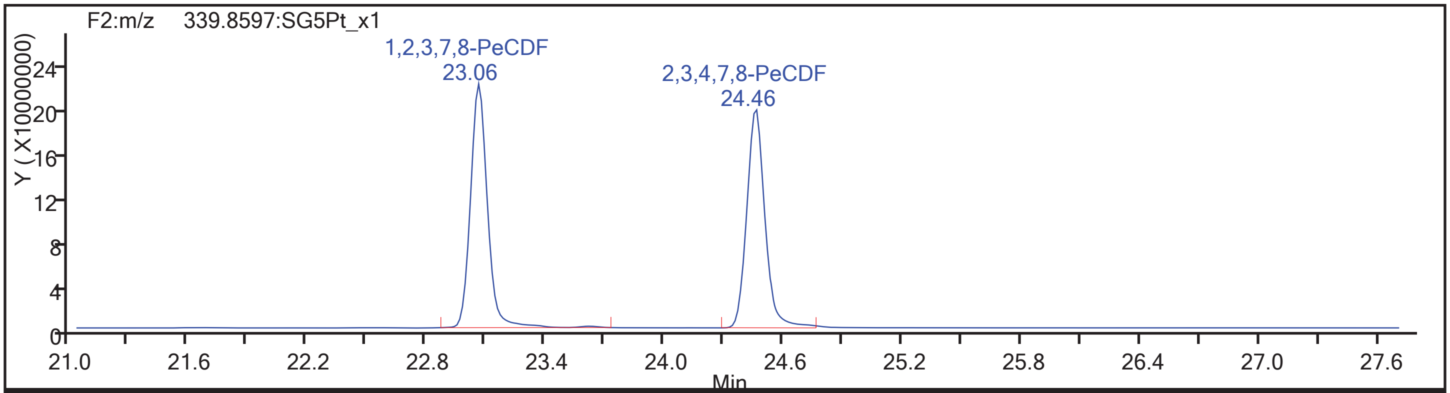
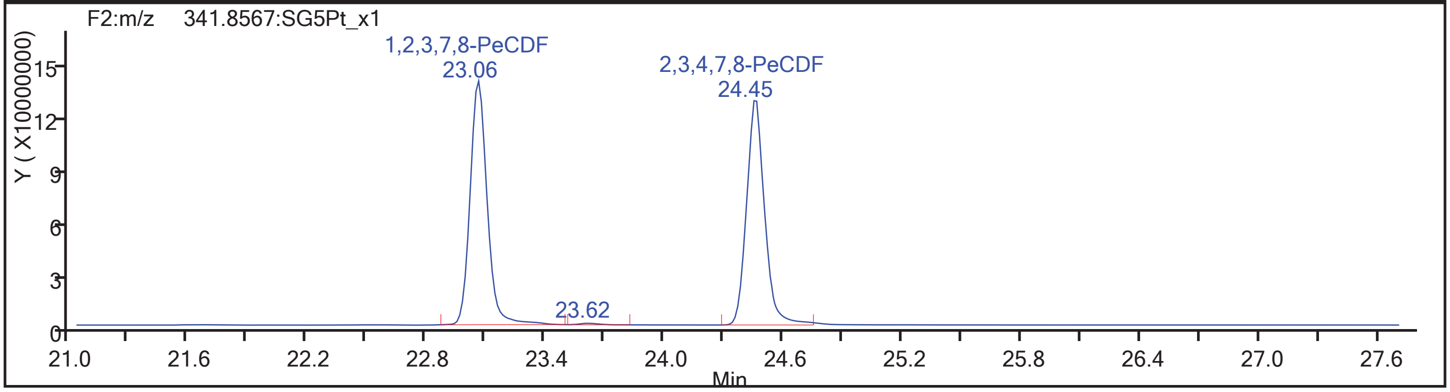
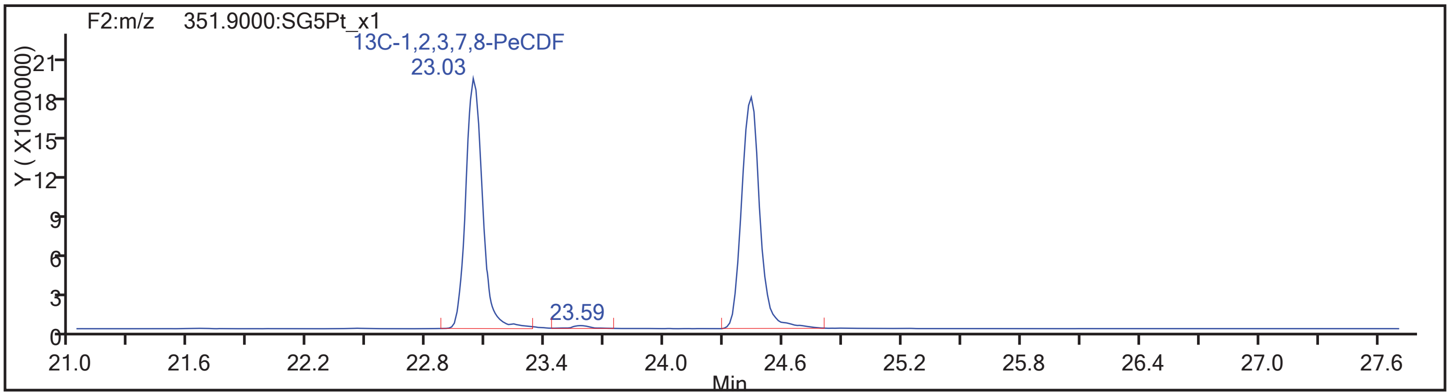
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS601
Worklist#: 194923 Sample Line#: 5
Column Type: Column Dia:

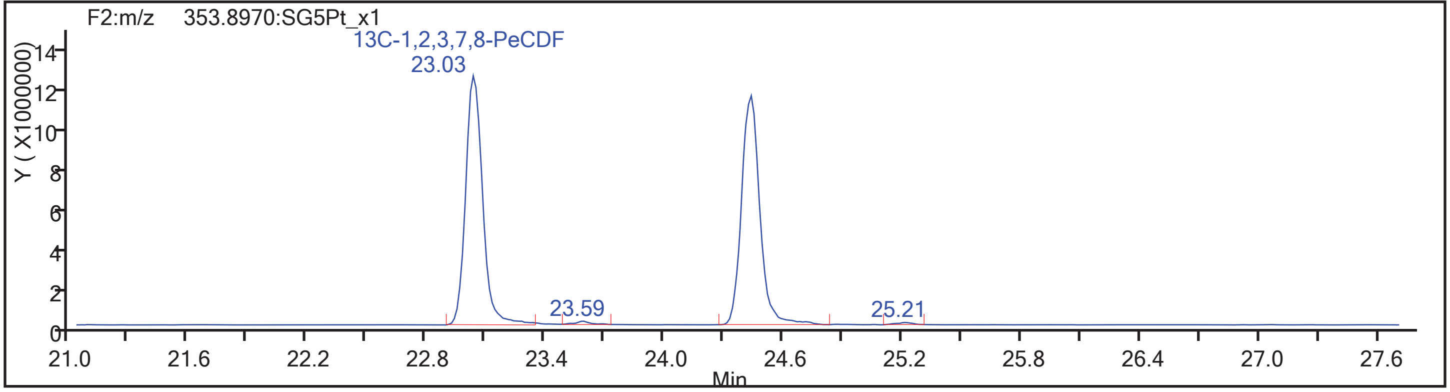
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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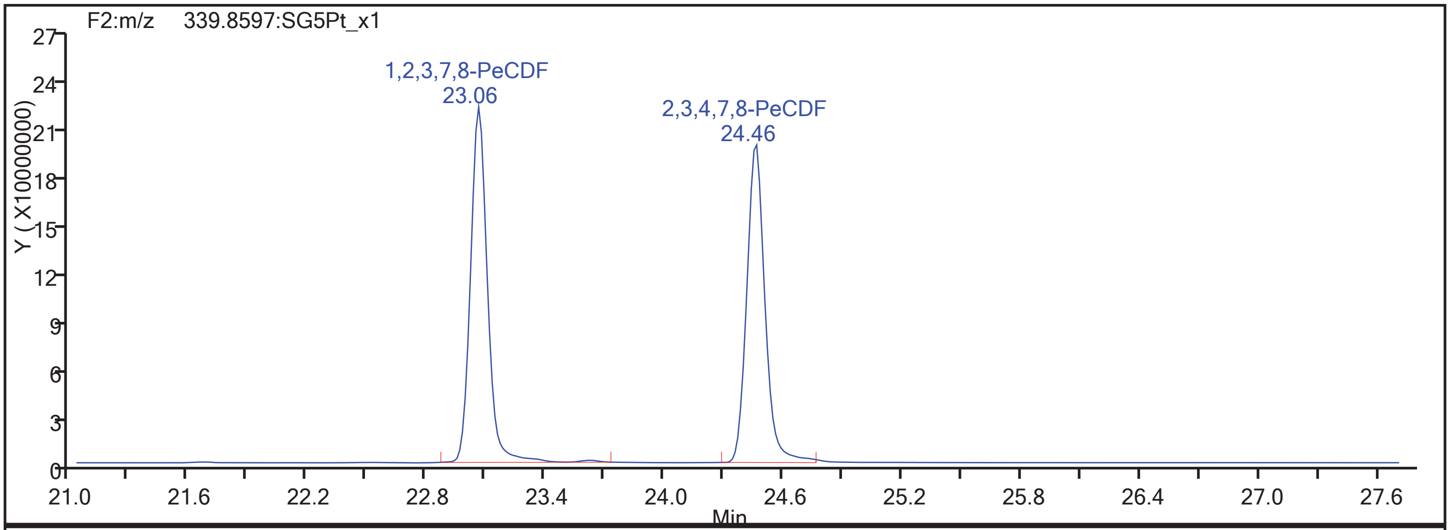
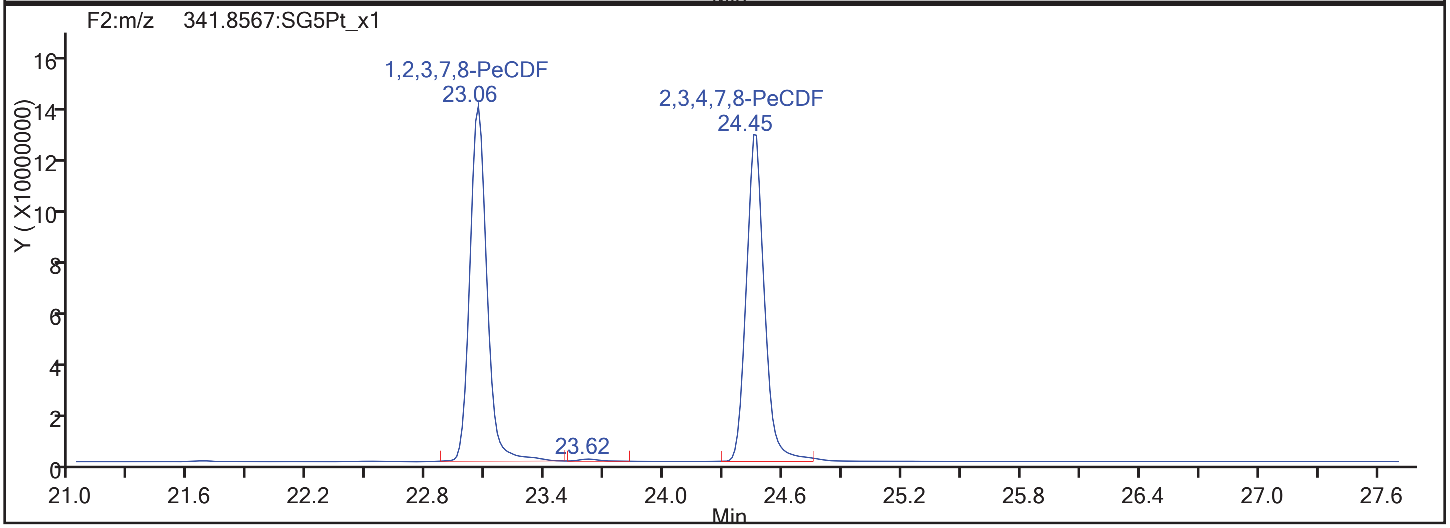
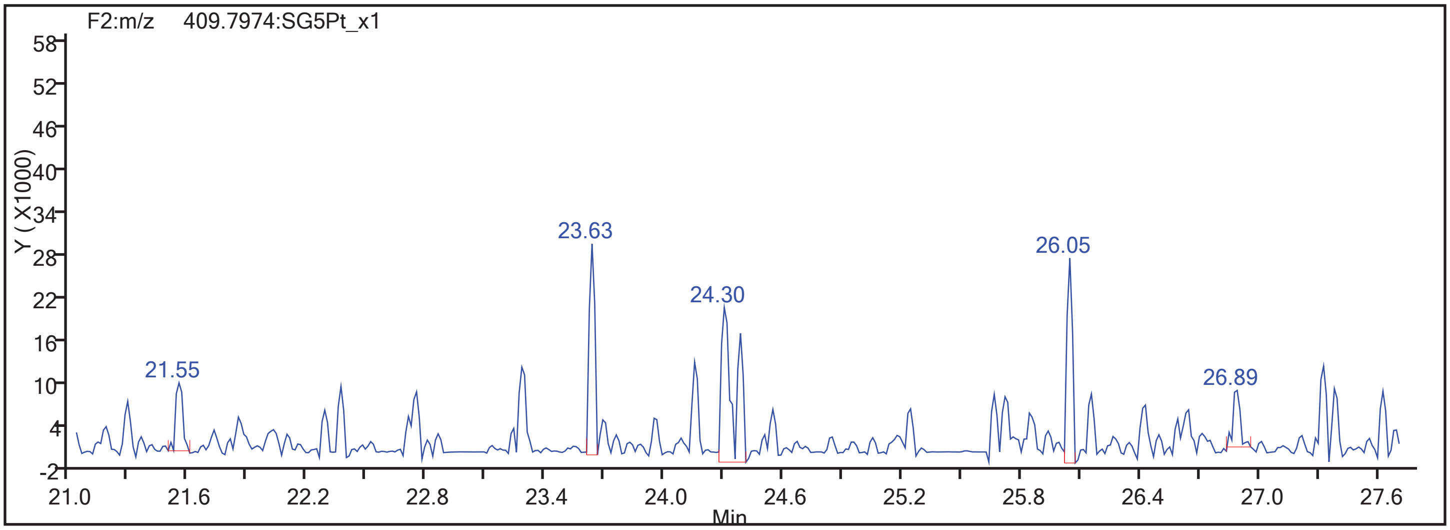
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS601		
Worklist#:	194923	Sample Line#:	5
Column Type:		Column Dia:	

PeCDF





PeCDF Interference Mass



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TestAmerica Sacramento

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Operator ID: SMA
Method: Dioxin_3D5
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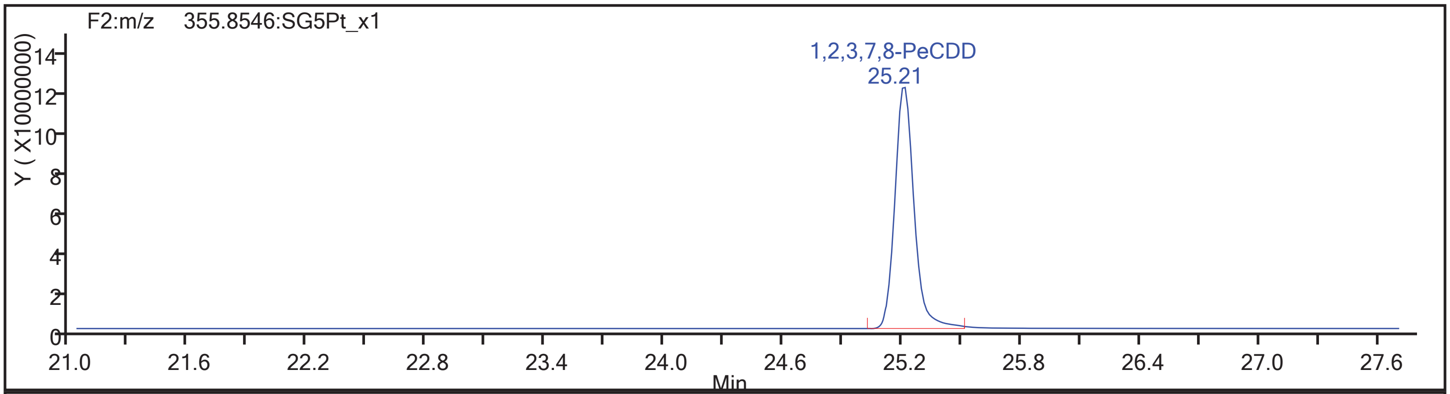
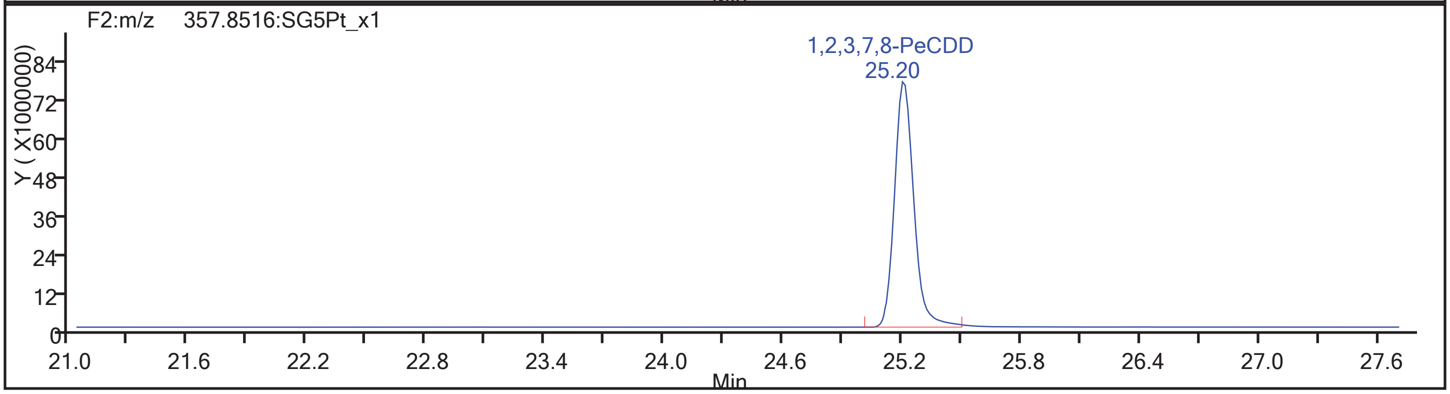
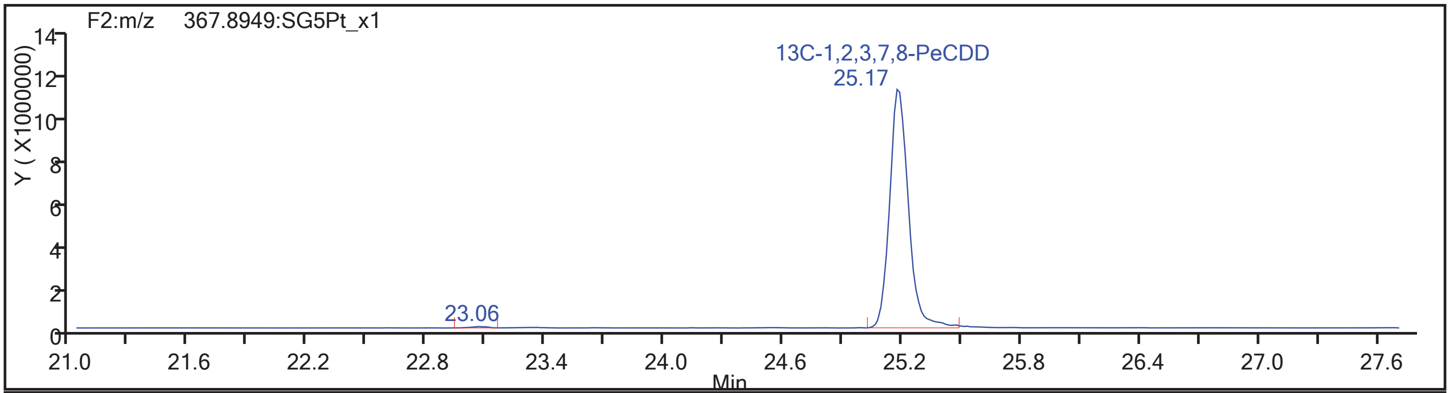
Client ID: CS601
Worklist#: 194923
Sample Line#: 5
Column Type:
Column Dia:

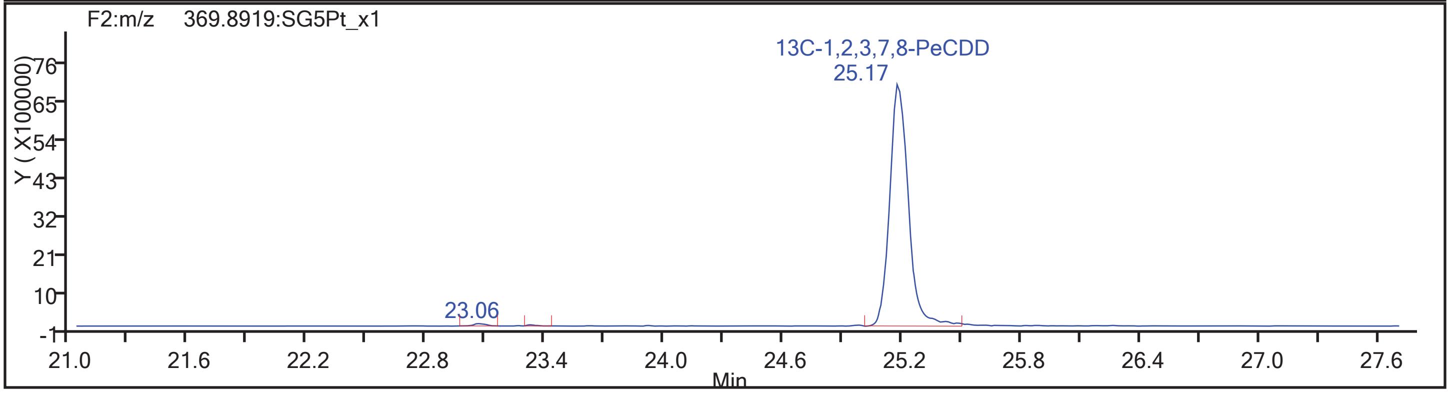
PeCDD





PeCDD Standards





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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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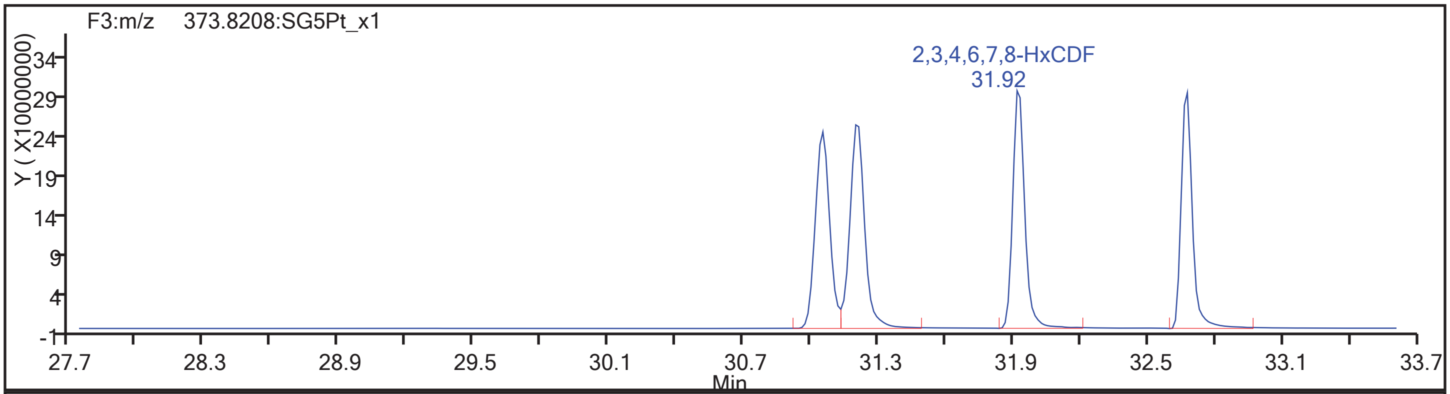
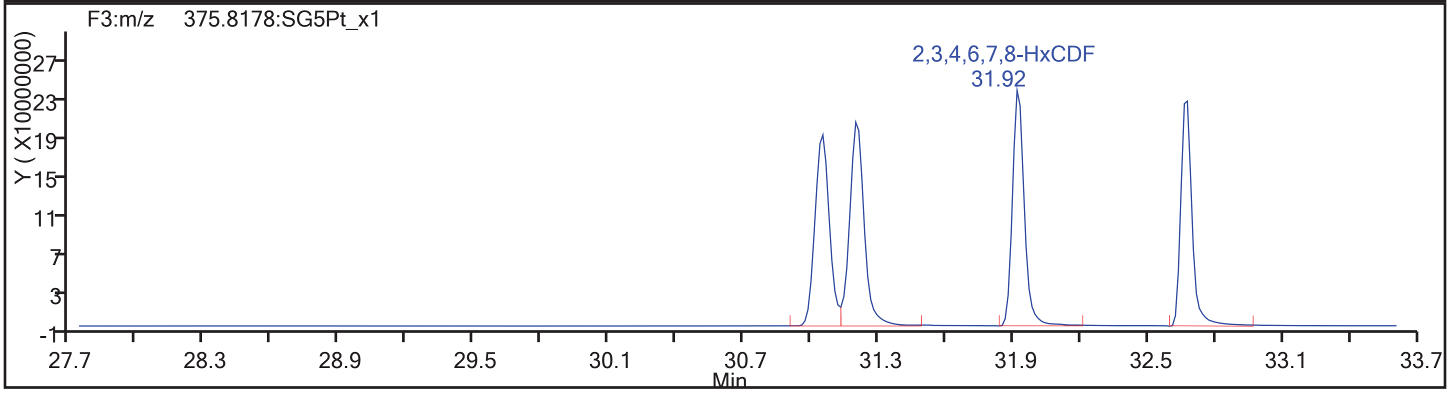
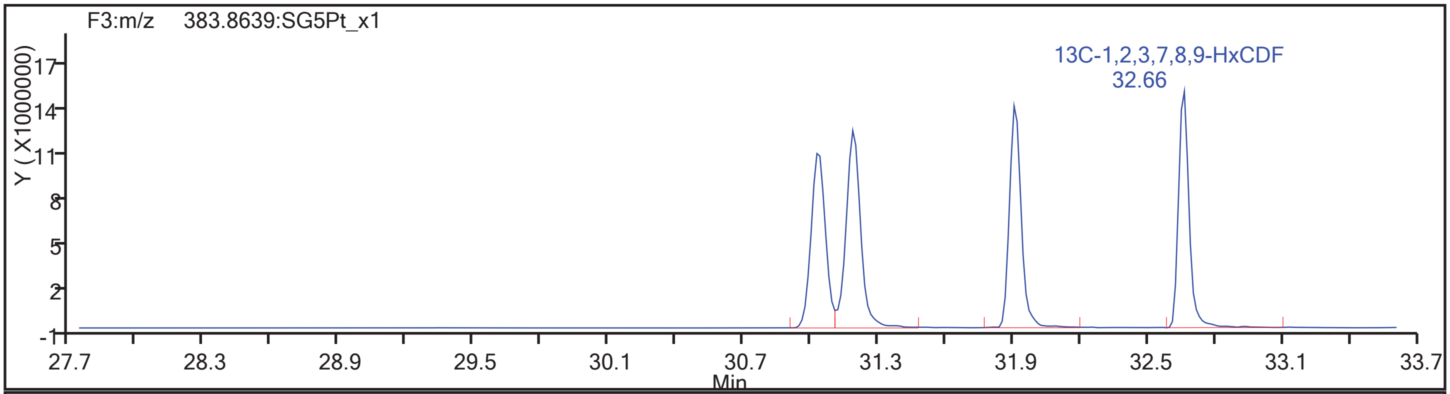
Injection Date: 15-Nov-2017 14:17:15
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS601
Worklist#: 194923
Sample Line#: 5
Column Type:
Column Dia:

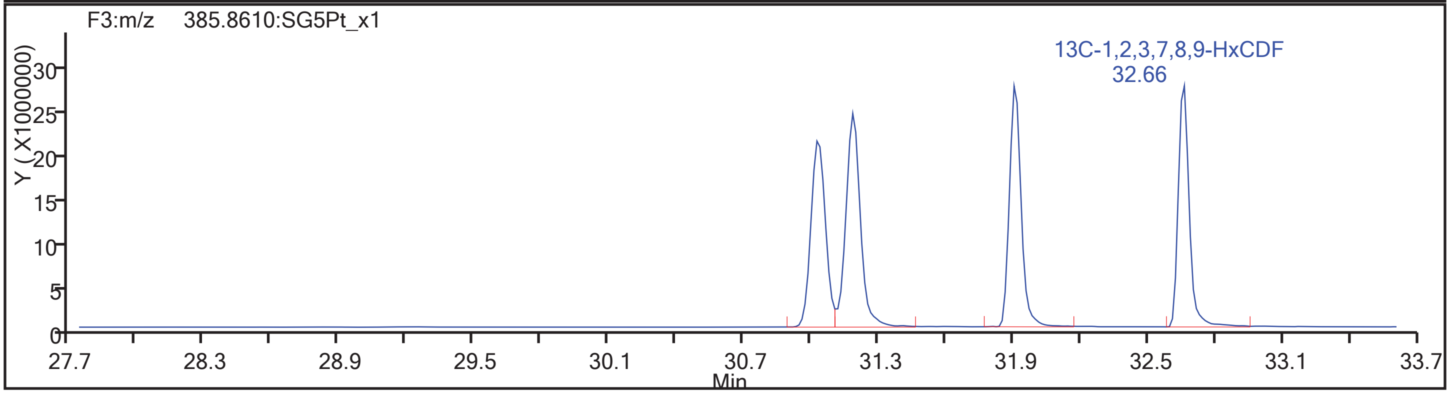
HxCDF





HxCDF Standards

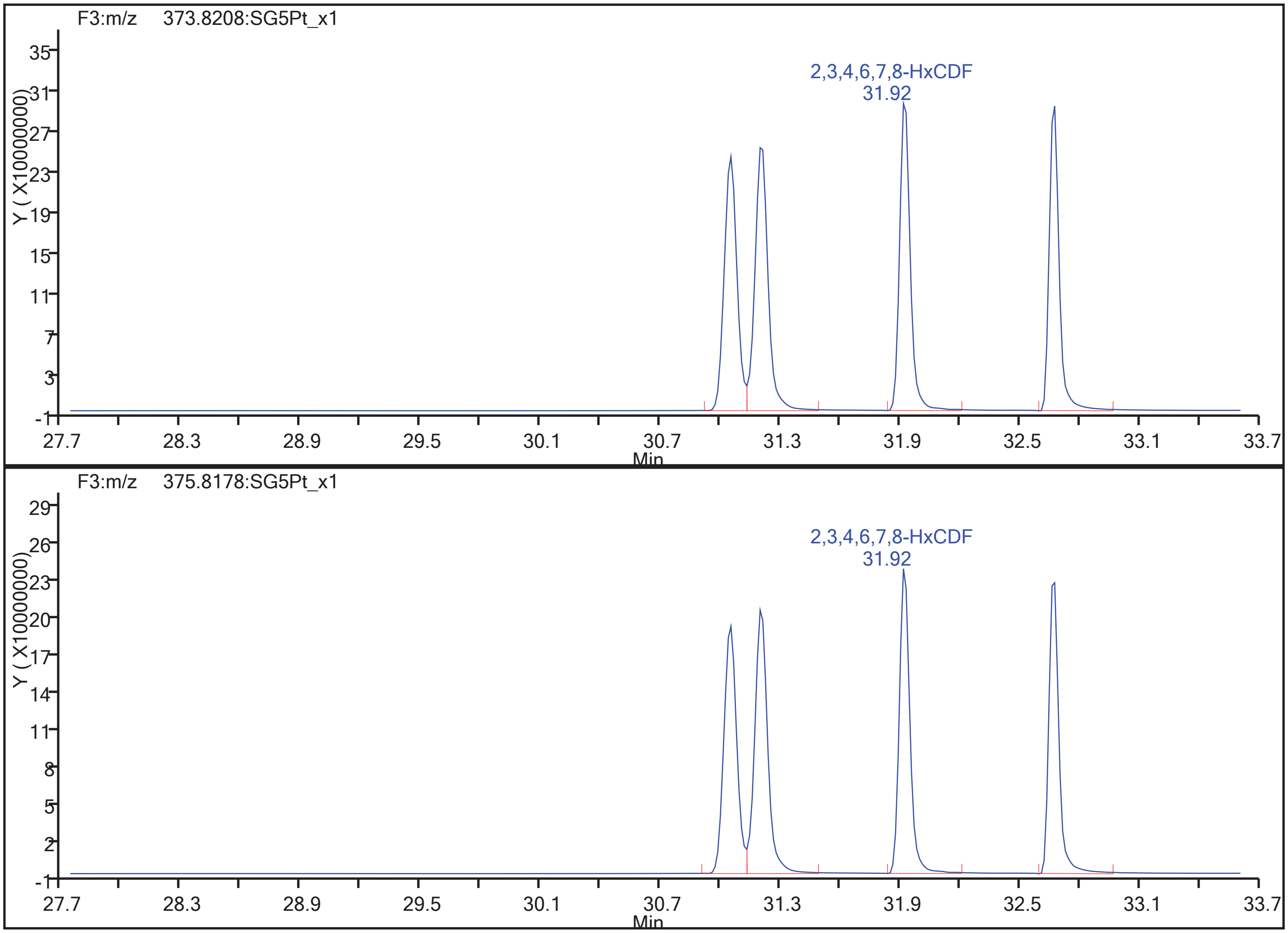




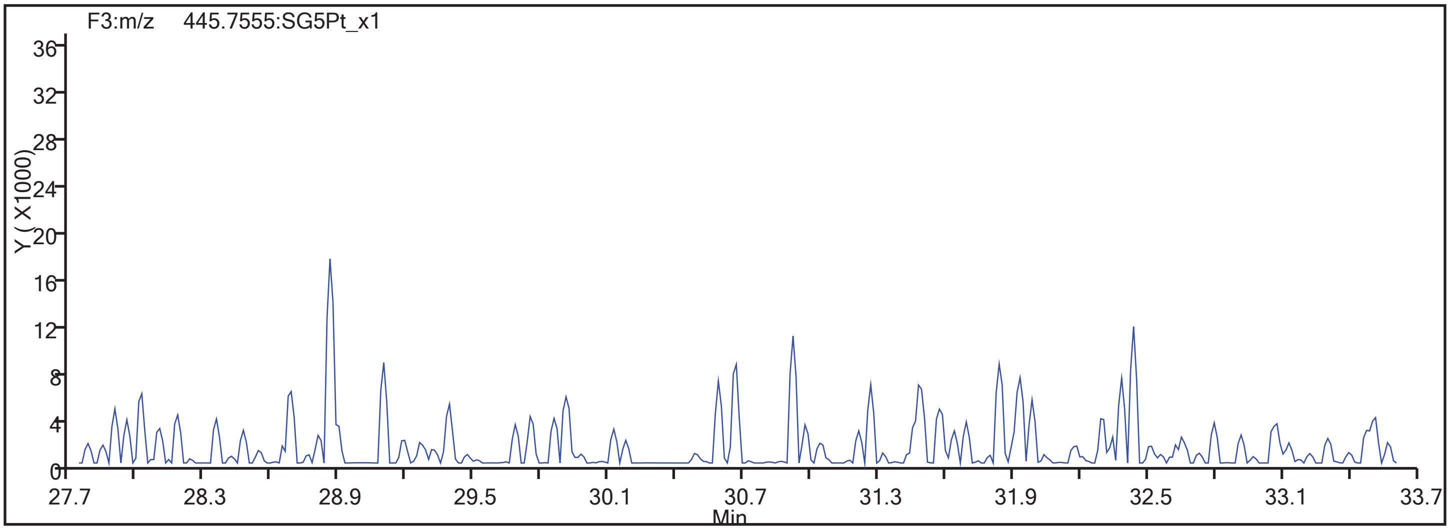
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d		
Injection Date:	15-Nov-2017 14:17:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS601		
Worklist#:	194923	Sample Line#:	5
Column Type:		Column Dia:	

HxCDF



HxCDF Interference Mass



Report Date: 16-Nov-2017 09:37:55
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d
Injection Date: 15-Nov-2017 14:17:15
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS601
Worklist#: 194923
Sample Line#: 5
Column Type:
Column Dia:

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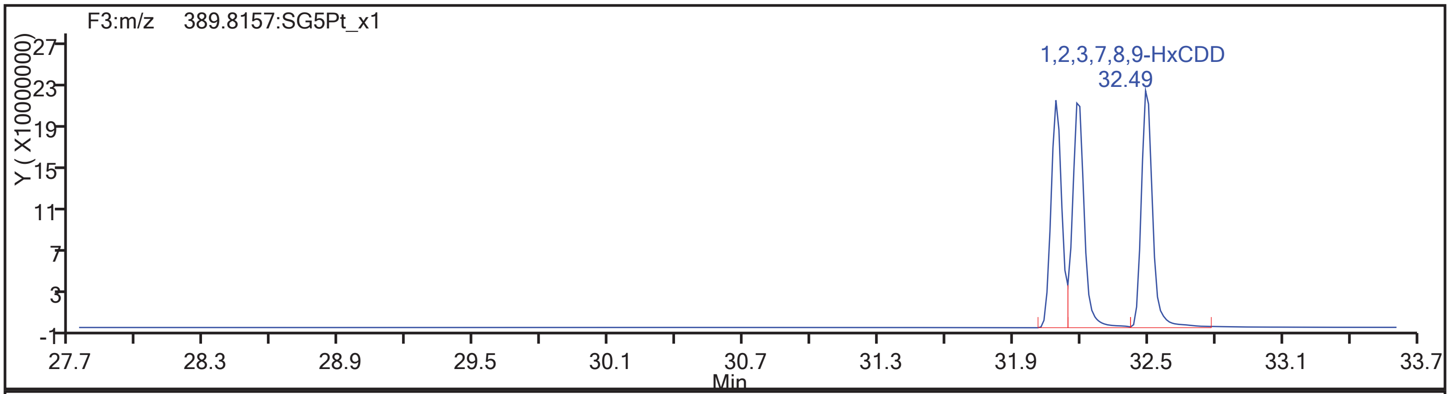
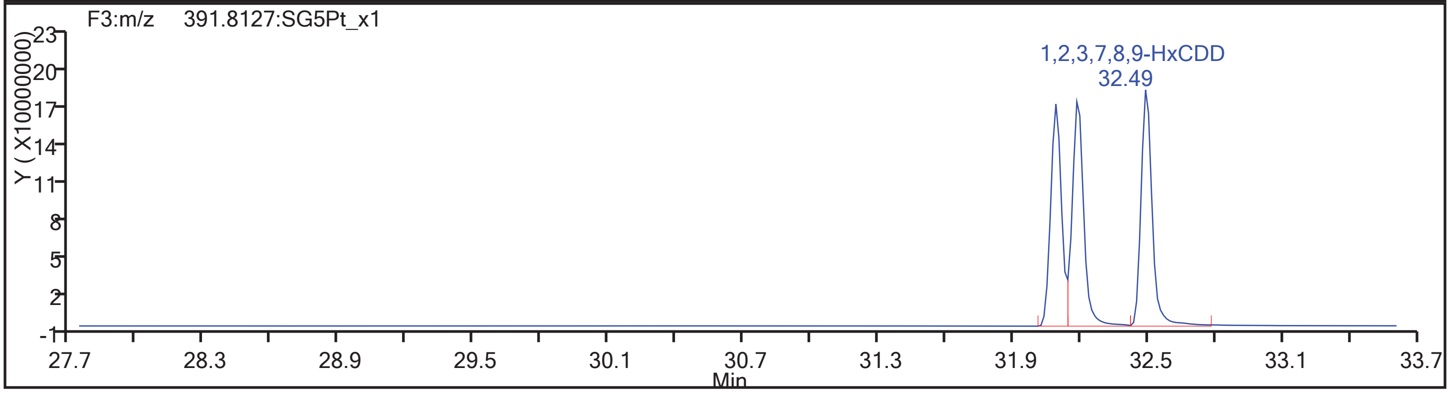
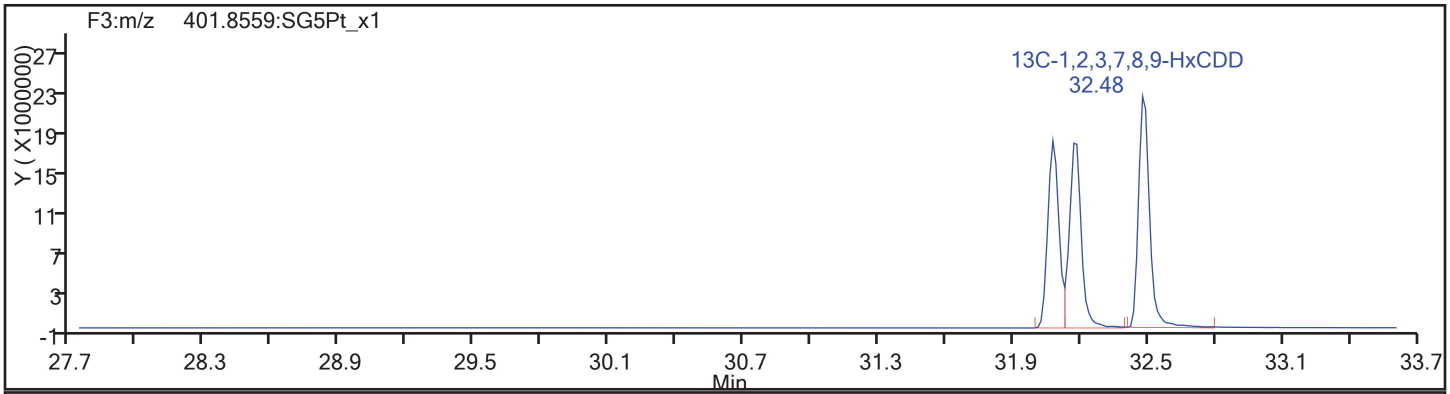
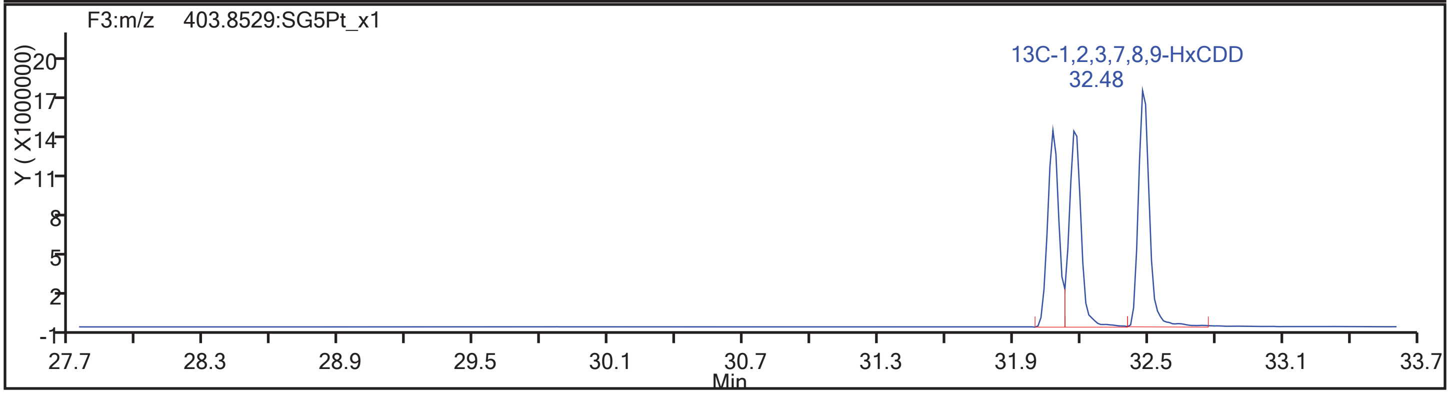




HxCDD Standards



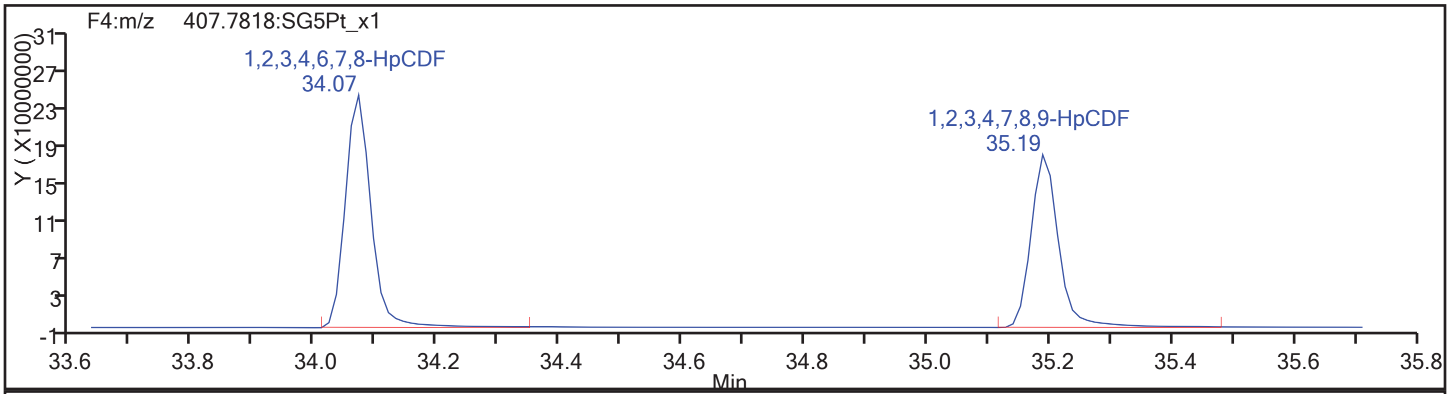


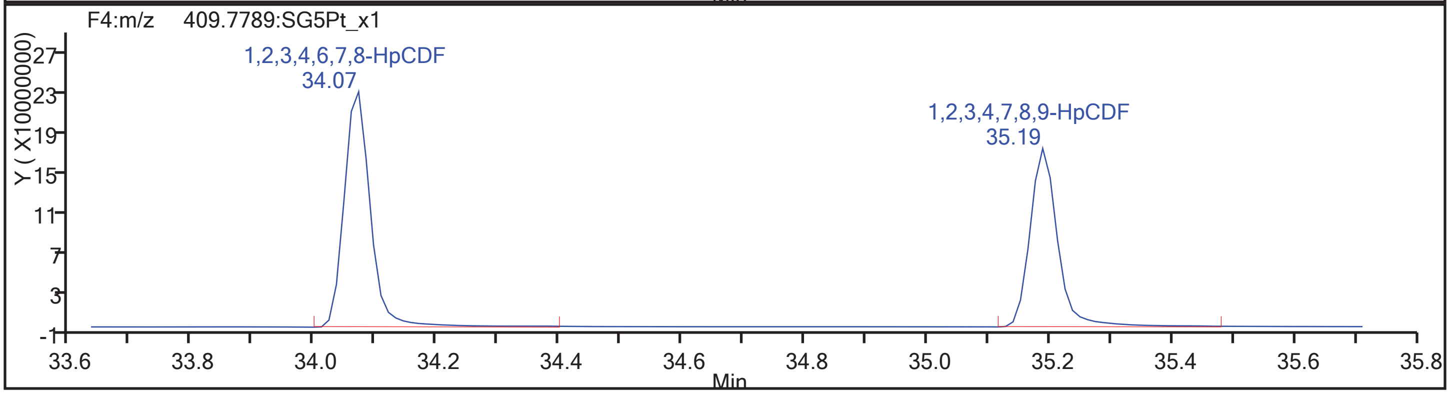
Report Date: 16-Nov-2017 09:37:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

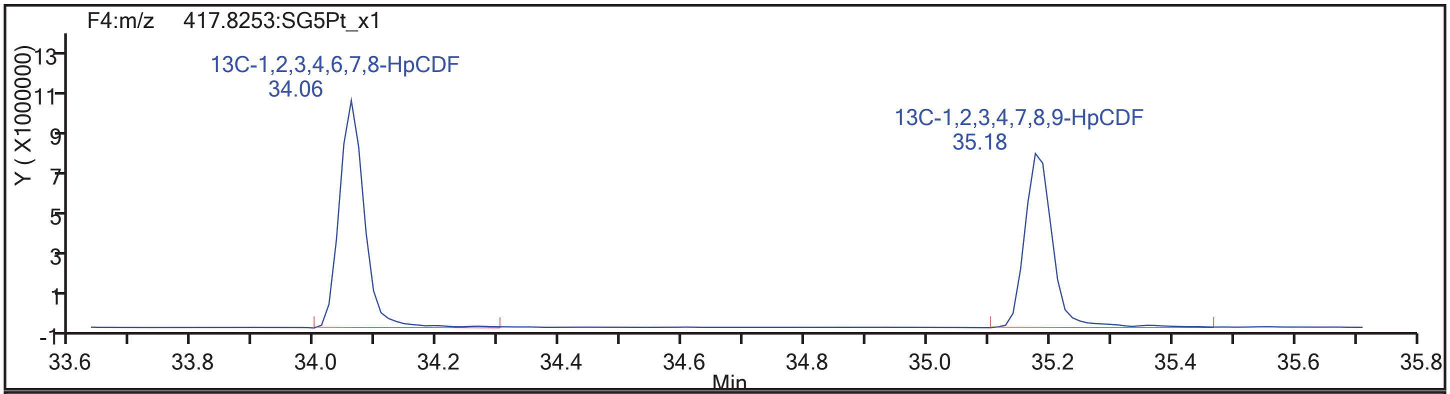
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d
Injection Date: 15-Nov-2017 14:17:15
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS601
Worklist#: 194923
Sample Line#: 5
Column Type:
Column Dia:

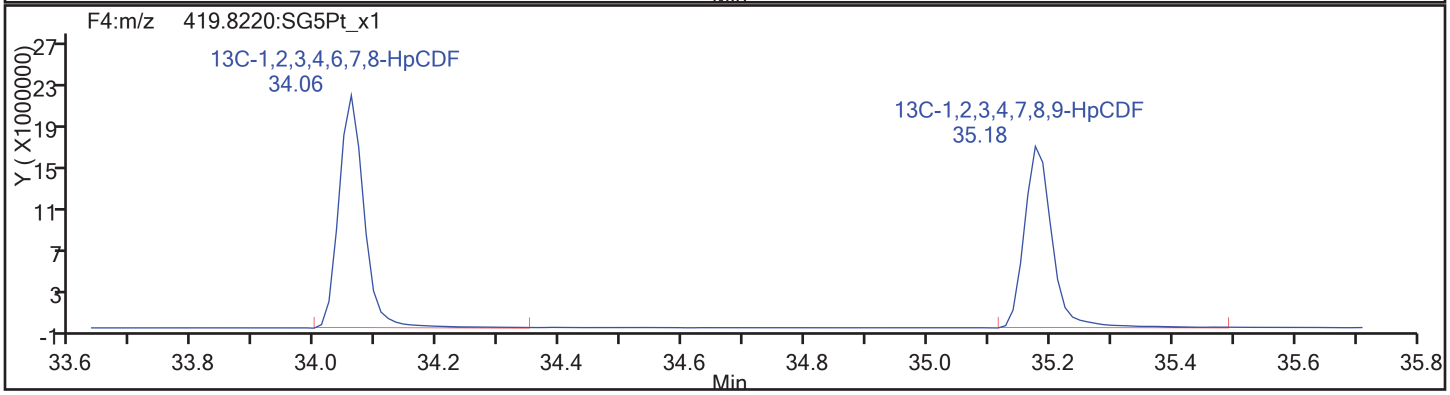
HpCDF





HpCDF Standards



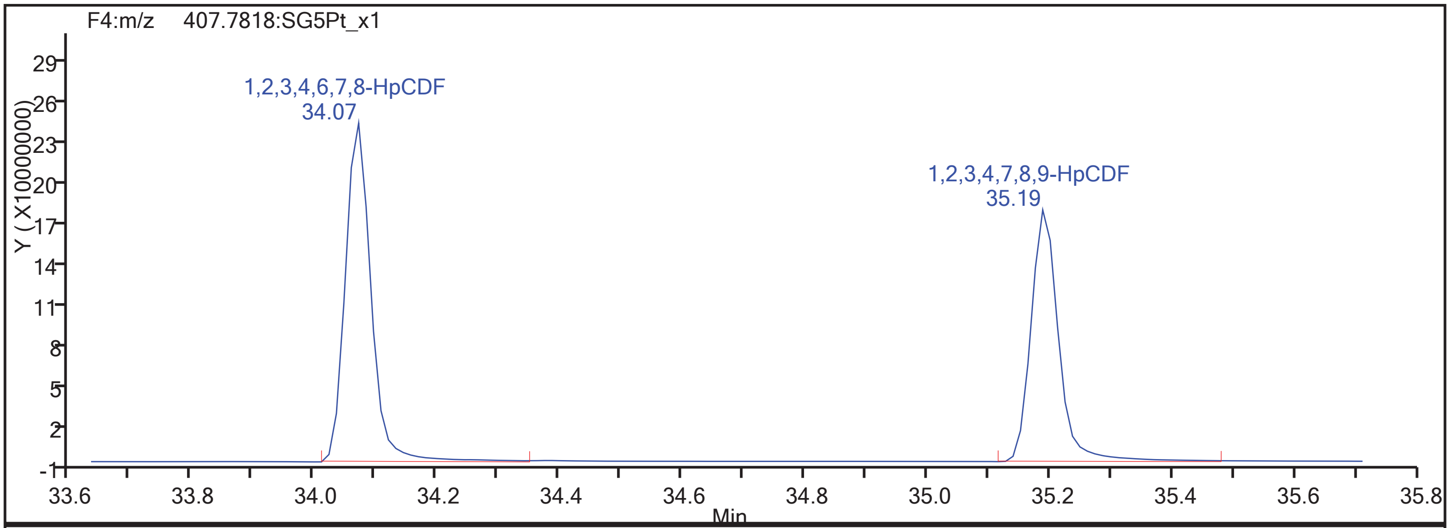


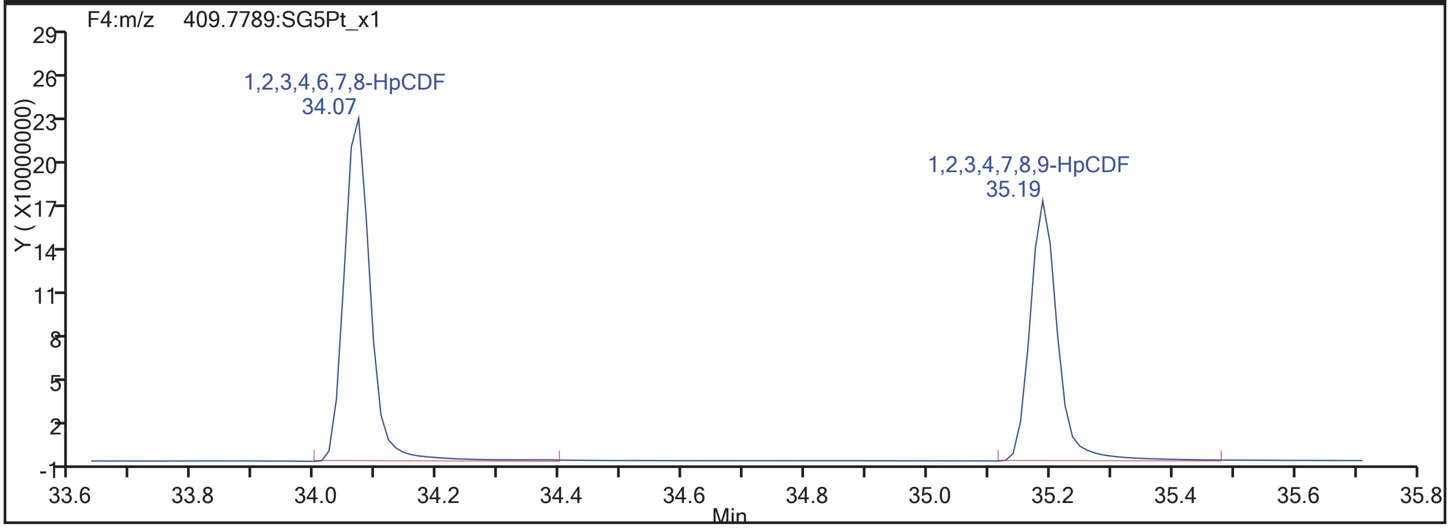
Report Date: 16-Nov-2017 09:37:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

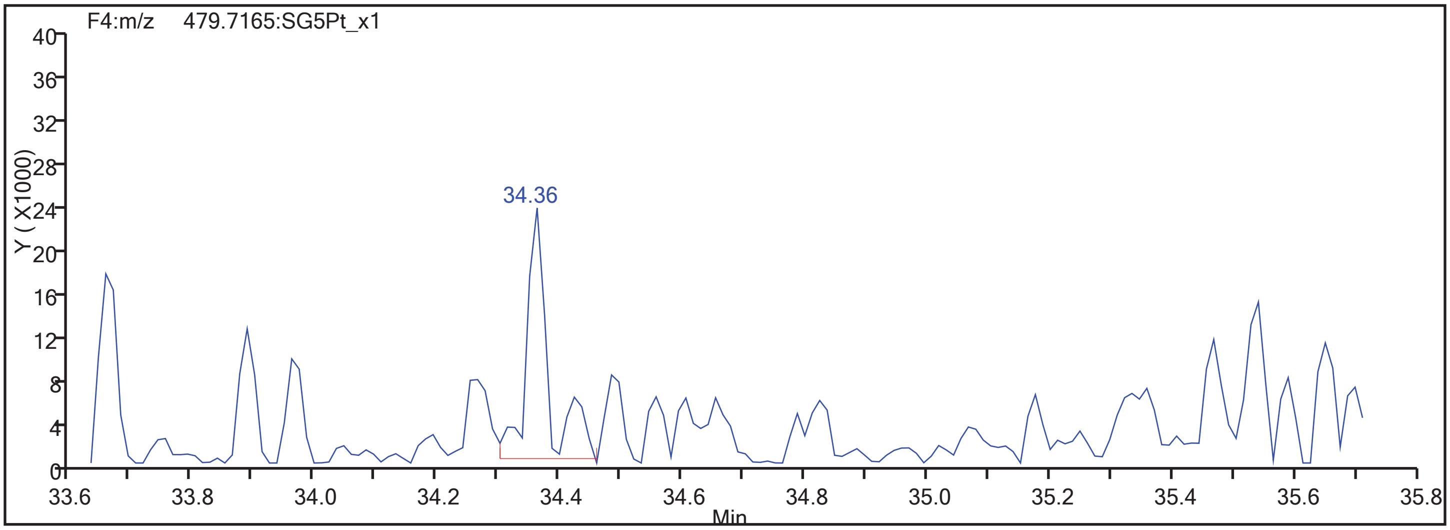
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d		
Injection Date:	15-Nov-2017 14:17:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS601		
Worklist#:	194923	Sample Line#:	5
Column Type:		Column Dia:	

HpCDF





HpCDF Interference Mass

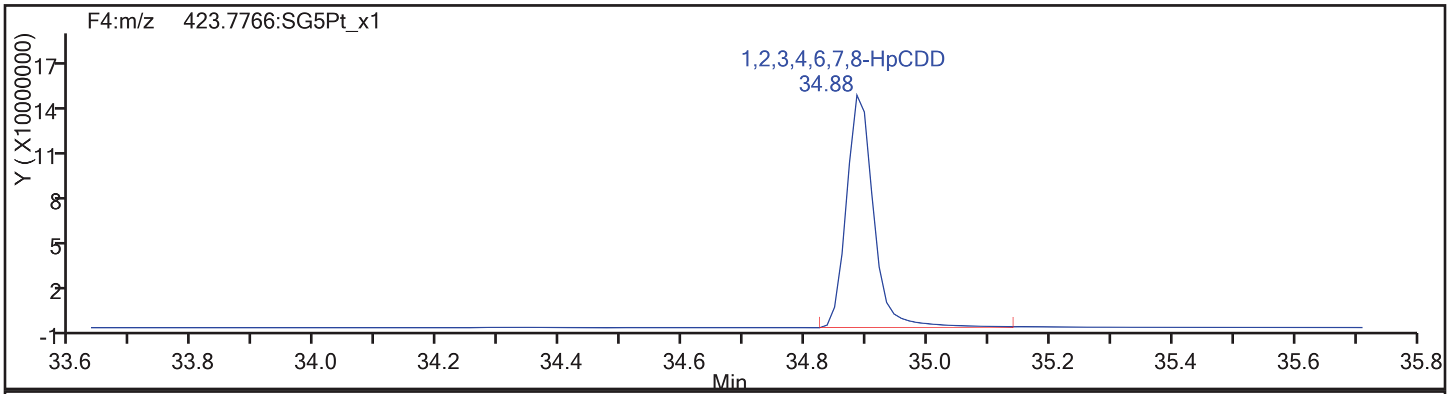


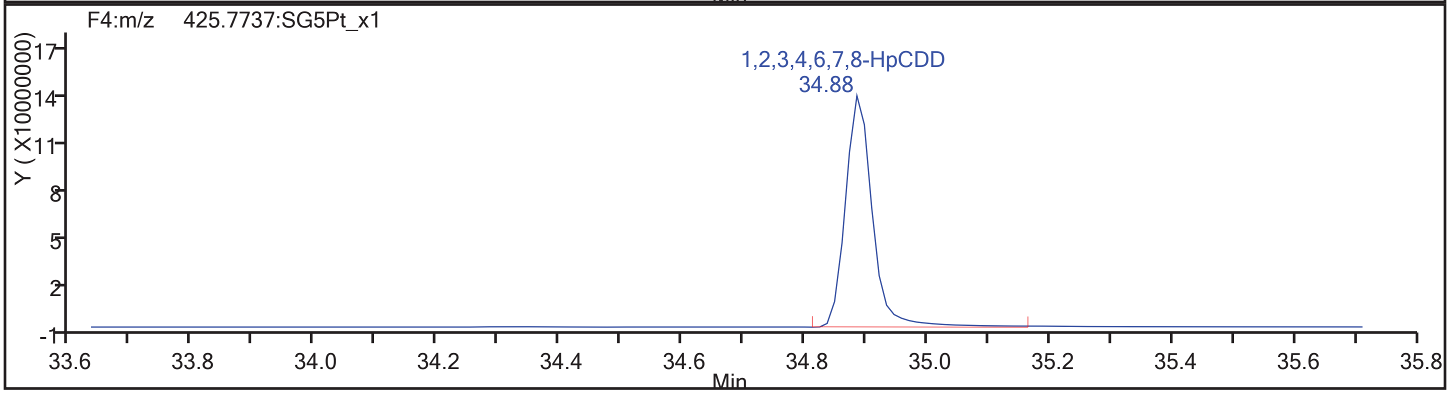
Report Date: 16-Nov-2017 09:37:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

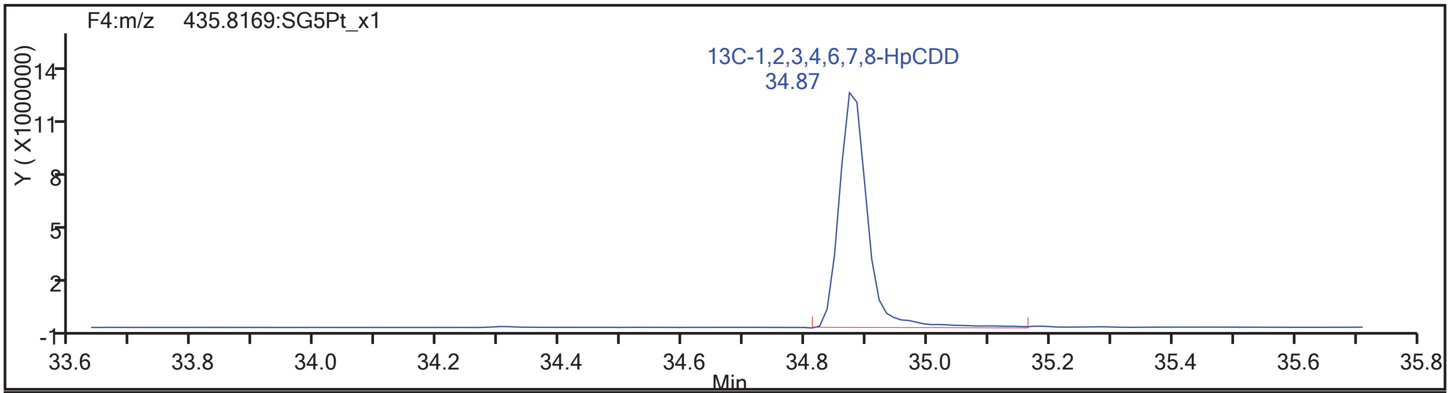
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d
Injection Date: 15-Nov-2017 14:17:15 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS601
Worklist#: 194923 Sample Line#: 5
Column Type: Column Dia:

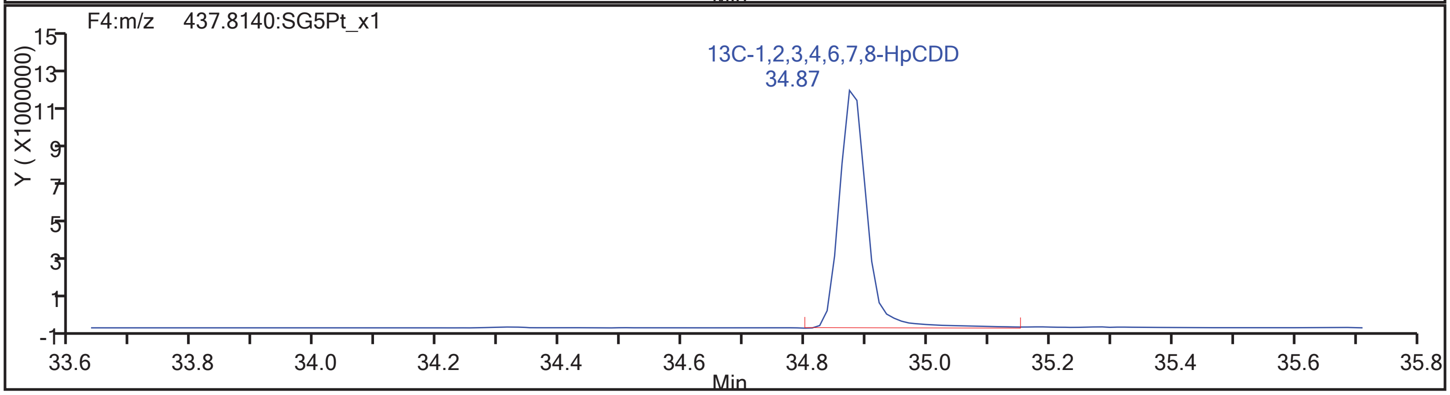
HpCDD





HpCDD Standards

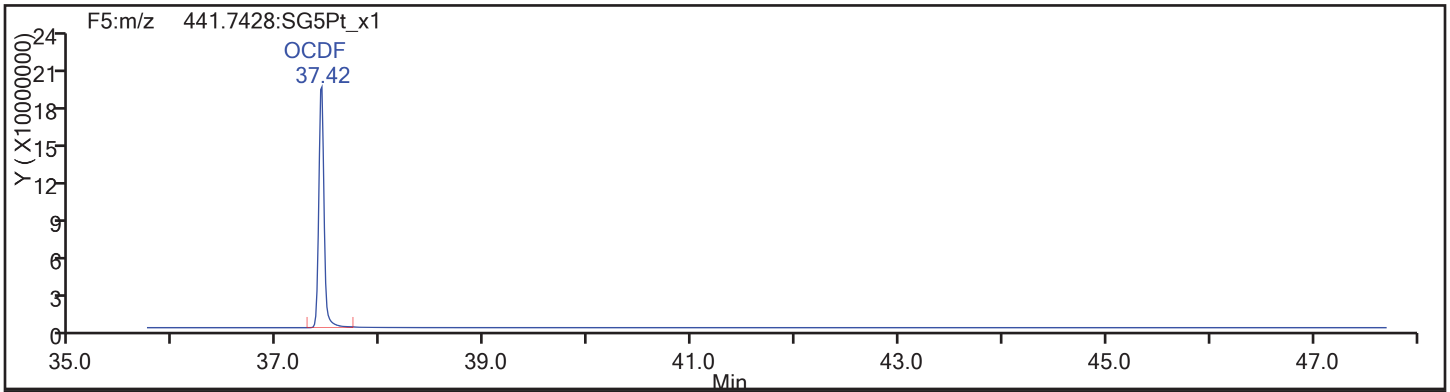


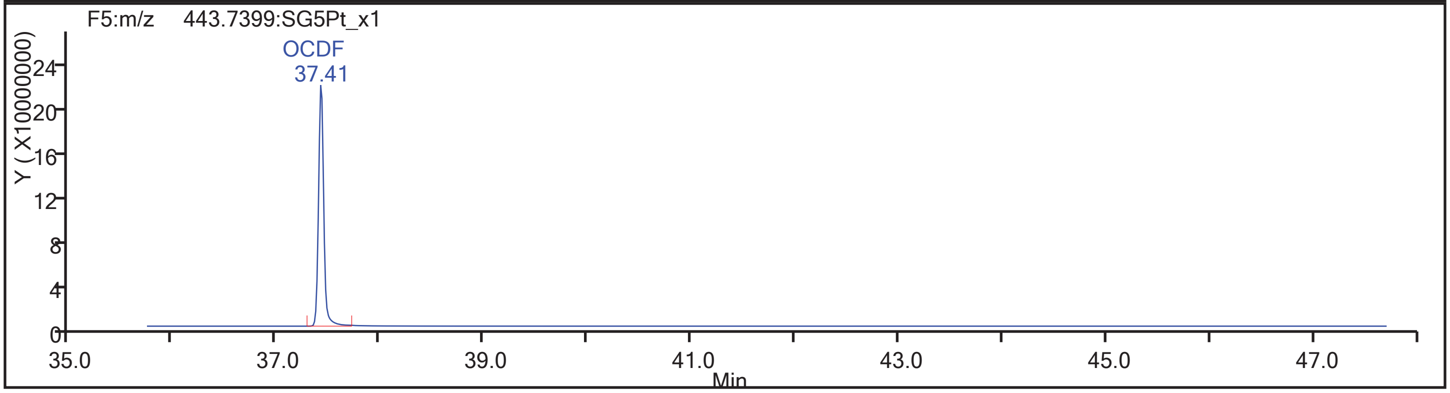


TestAmerica Sacramento

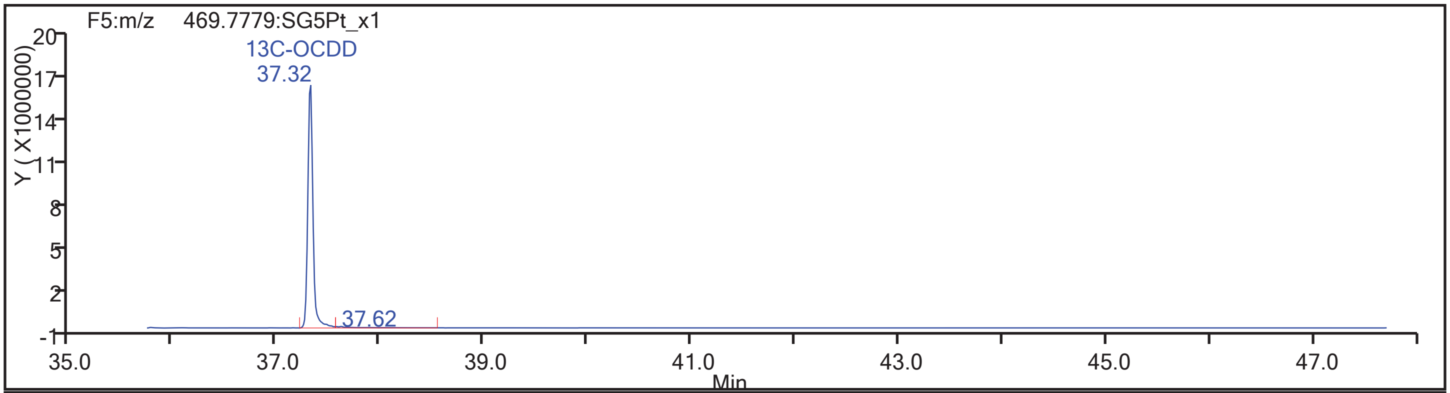
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d		
Injection Date:	15-Nov-2017 14:17:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS601		
Worklist#:	194923	Sample Line#:	5
Column Type:		Column Dia:	

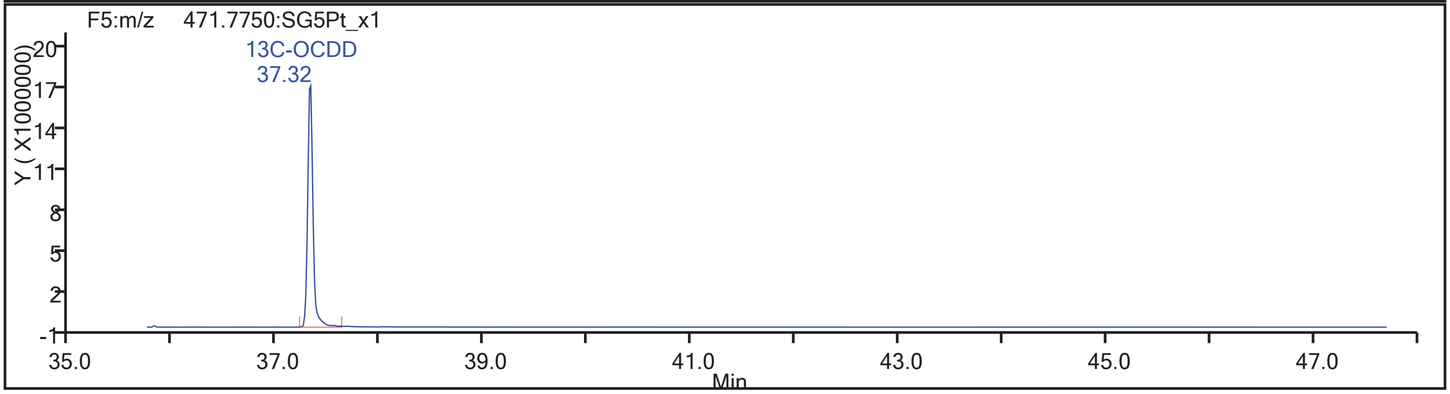
OCDF





OCDF Standards



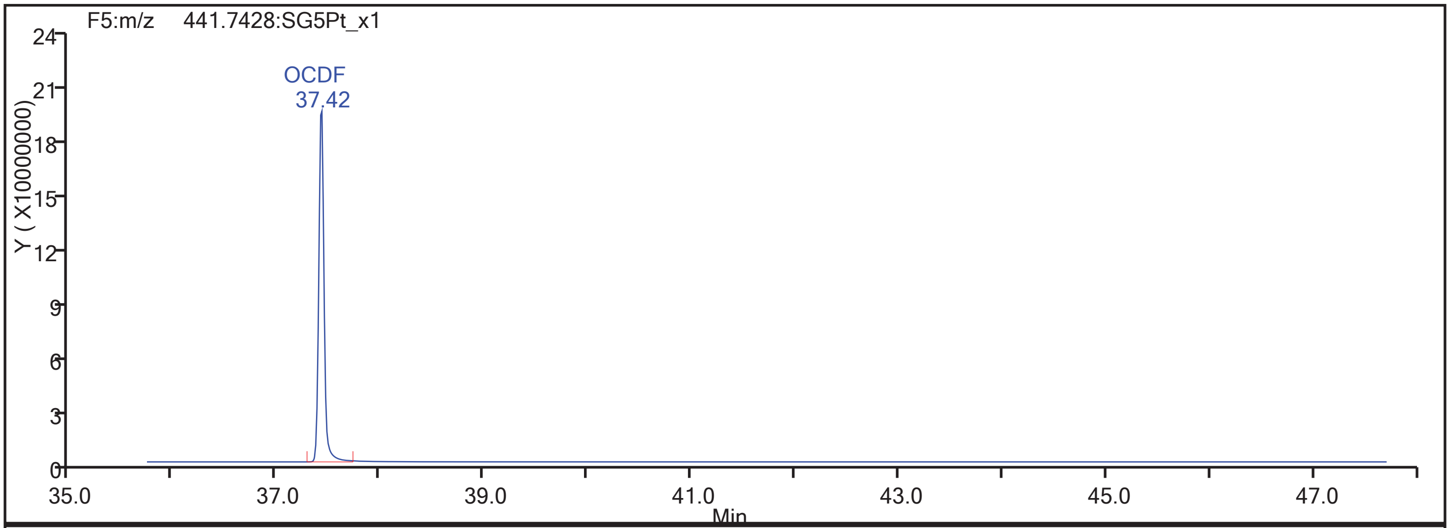


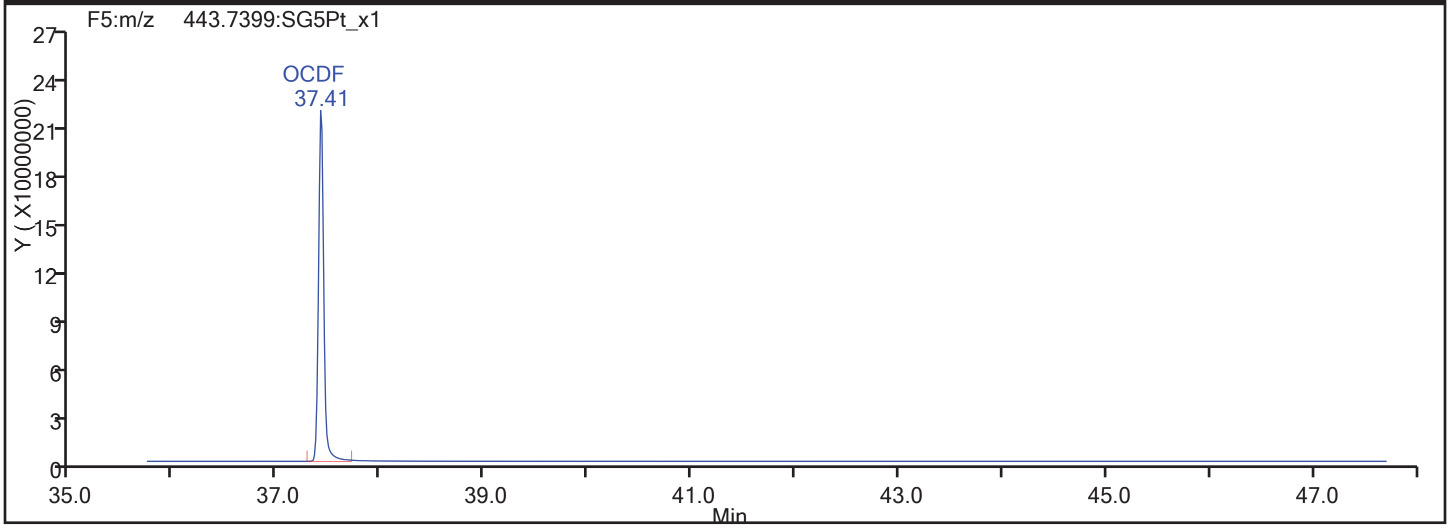
Report Date: 16-Nov-2017 09:37:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

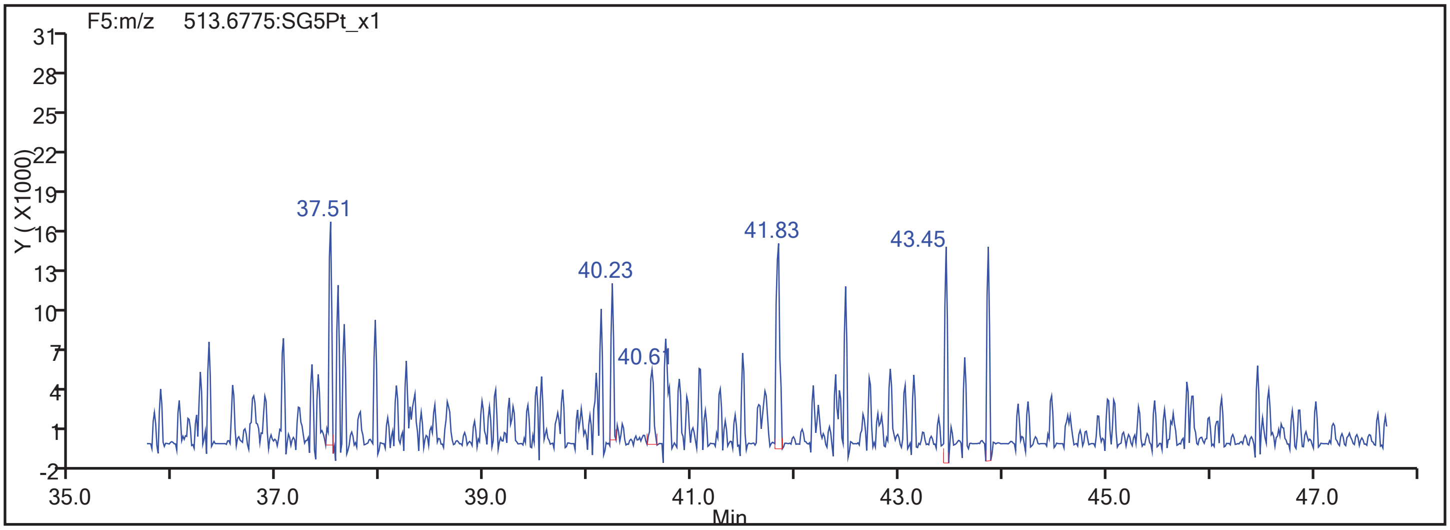
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d		
Injection Date:	15-Nov-2017 14:17:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS601		
Worklist#:	194923	Sample Line#:	5
Column Type:		Column Dia:	

OCDF





OCDF Interference Mass

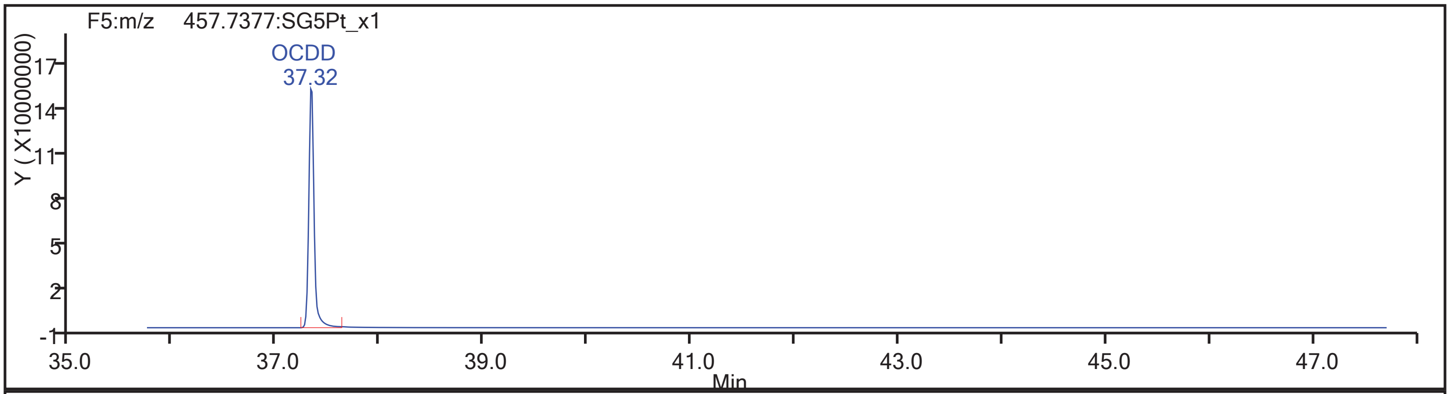


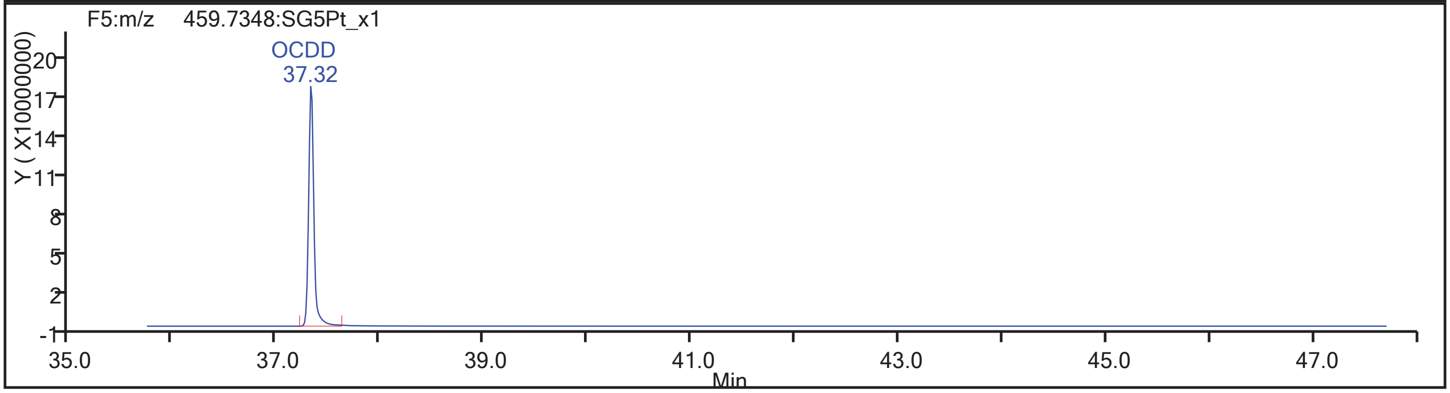
Report Date: 16-Nov-2017 09:37:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

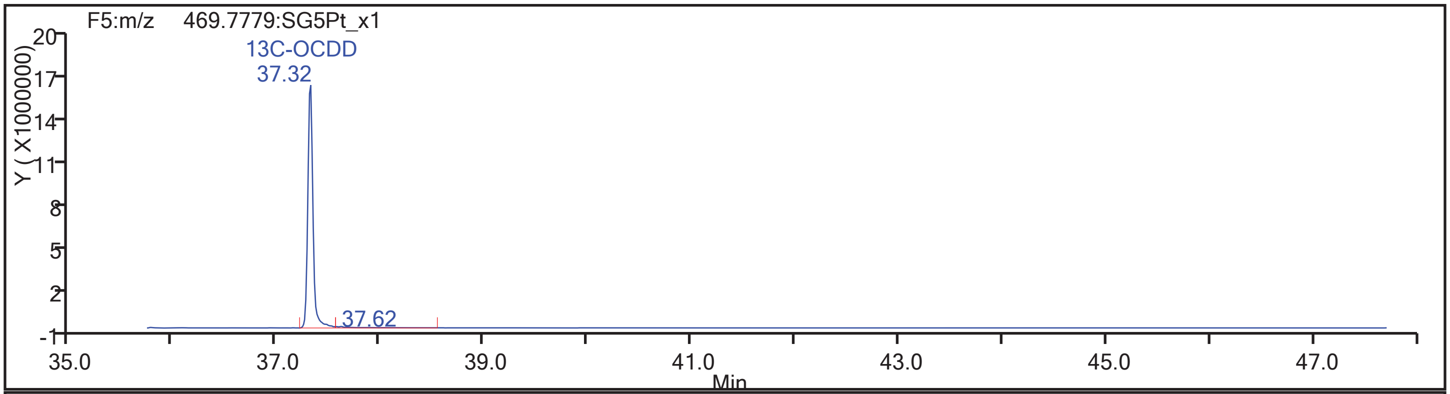
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d
Injection Date: 15-Nov-2017 14:17:15 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS601
Worklist#: 194923 Sample Line#: 5
Column Type: Column Dia:

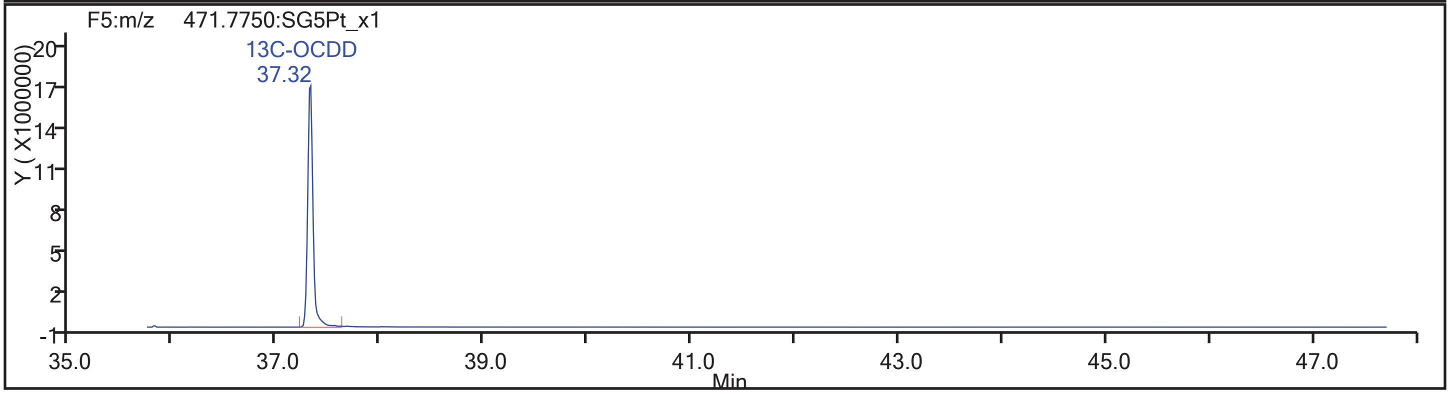
OCDD





OCDD Standards





Report Date: 16-Nov-2017 09:37:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d

Injection Date: 15-Nov-2017 14:17:15

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

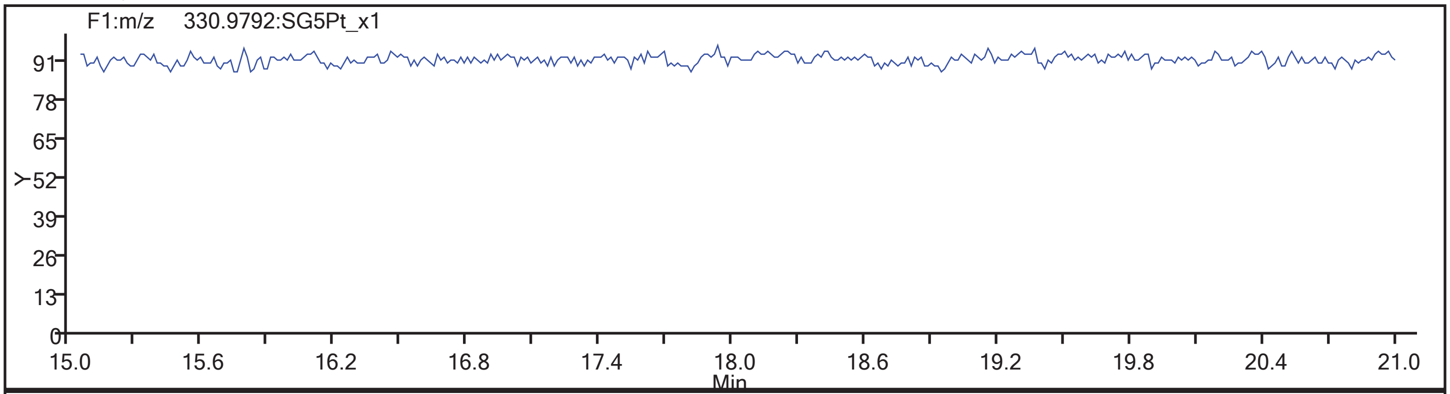
Client ID: CS601

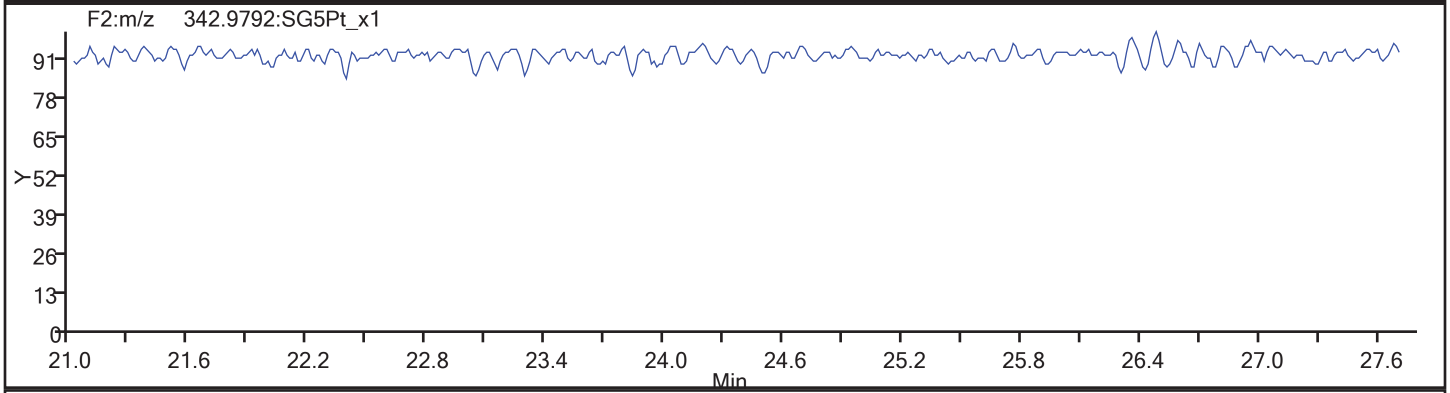
Worklist#: 194923

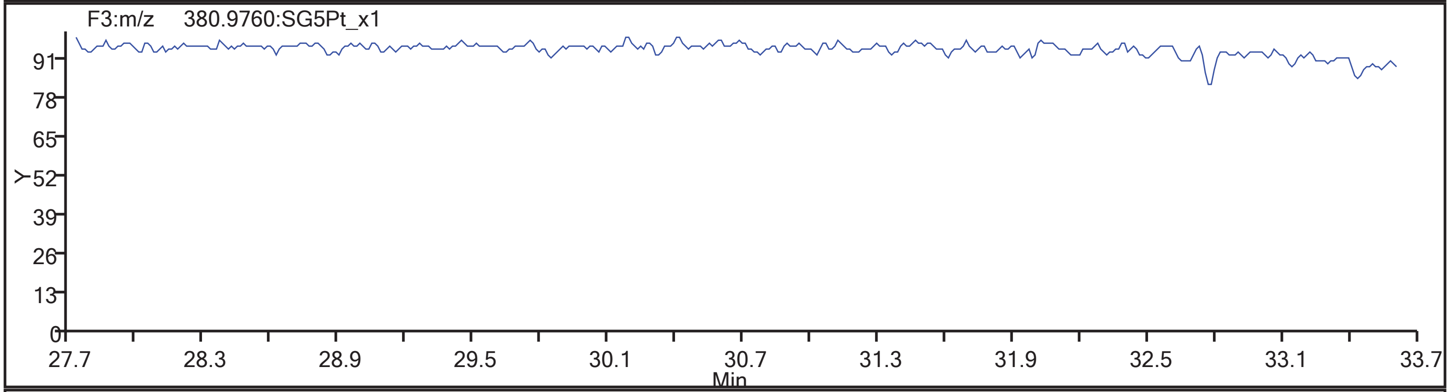
Sample Line#: 5

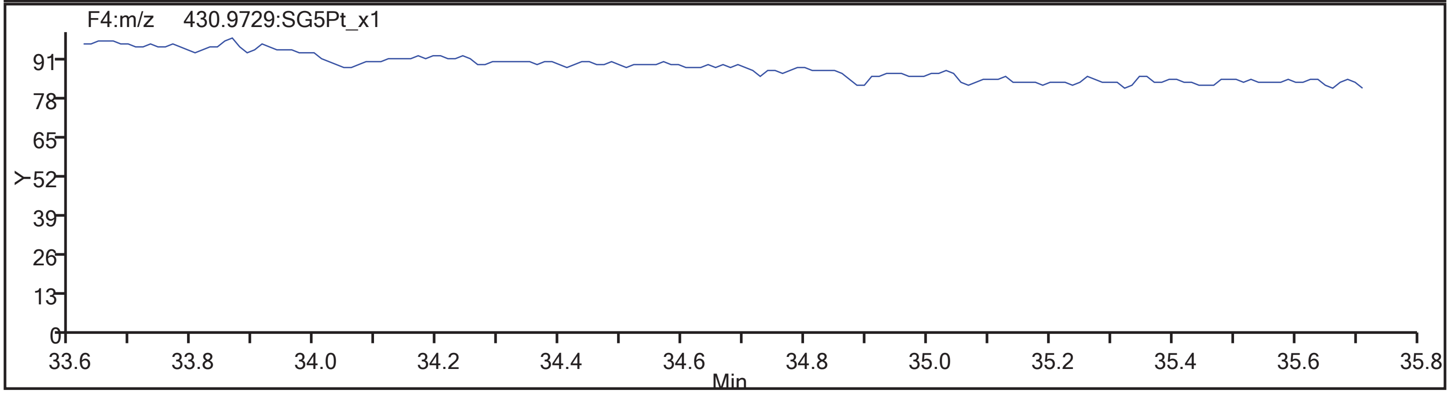
Column Type:

Column Dia:





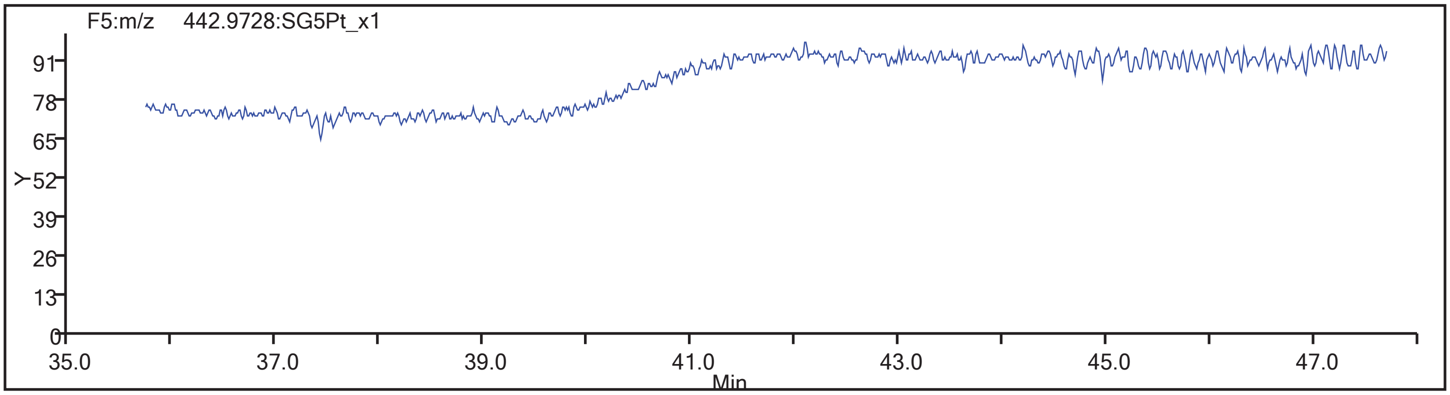




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_5.d

Injection Date:	15-Nov-2017 14:17:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS601		
Worklist#:	194923	Sample Line#:	5
Column Type:		Column Dia:	



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d
Lims ID: IC 5 Lab Sample ID:
Client ID: CS501
Sample Type: IC Calib Level: 5
Inject. Date: 15-Nov-2017 15:05:45 ALS Bottle#: 7 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 111517D CS-5 HRDXNL5_00022
Misc. Info.: 15NO173D5
Operator ID: SMA Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 09:38:04 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 15-Nov-2017 15:59:39

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.355	176203050	0.830	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.826	271880051	0.780	1.5089	102.3	102.3	0.2439	0.2439	102	
2,3,7,8-TCDF	17.841	121290118	0.776	1.0971	40.7	40.7	0.0795	0.0795	102	
A Non-2,3,7,8-sub-TCDF	17.493						0.0	0.0		
S Total TCDF					40.7	40.7	0.0795	0.0795		
D 13C-2,3,7,8-TCDD	18.551	175560557	0.775	0.9906	100.6	100.6	0.2110	0.2110	101	
$ 37Cl4-2,3,7,8-TCDD	18.566	89057537		1.1732	43.1	43.1	0.0568	0.0568	108	
2,3,7,8-TCDD	18.566	84532435	0.783	1.1645	41.3	41.3	0.0662	0.0662	103	
A Non-2,3,7,8-sub-TCDD	17.962						0.0	0.0		
S Total TCDD					41.3	41.3	0.0662	0.0662		
D 13C-1,2,3,7,8-PeCDF	23.033	202338487	1.581	1.1280	101.8	101.8	0.2842	0.2842	102	
1,2,3,7,8-PeCDF	23.060	477973863	1.610	1.1422	206.8	206.8	0.7102	0.7102	103	
D 13C-2,3,4,7,8-PeCDF	24.437	201240767	1.598							
2,3,4,7,8-PeCDF	24.465	463158423	1.581	1.1102	206.2	206.2	0.7306	0.7306	103	
A F1 PeCDFs	20.479						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.750						0.0	0.0		
S Total PeCDF					413.0	413.0	0.7204	0.7204		
D 13C-1,2,3,7,8-PeCDD	25.187	132030603	1.633	0.7269	103.1	103.1	0.1514	0.1514	103	
1,2,3,7,8-PeCDD	25.215	304874023	1.584	1.1272	204.9	204.9	0.2433	0.2433	102	
A Non-2,3,7,8-sub-PeCDD	24.021						0.0	0.0		
S Total PeCDD					204.9	204.9	0.2433	0.2433		
D 13C-1,2,3,4,7,8-HxCDF	31.039	158968506	0.540	1.0279	103.4	103.4	0.4408	0.4408	103	
1,2,3,4,7,8-HxCDF	31.052	439300725	1.263	1.3475	205.1	205.1	1.096	1.096	103	
D 13C-1,2,3,6,7,8-HxCDF	31.185	180139487	0.523							
1,2,3,6,7,8-HxCDF	31.212	478526591	1.261	1.4794	203.5	203.5	0.999	0.999	102	
D 13C-2,3,4,6,7,8-HxCDF	31.904	171154389	0.531							
2,3,4,6,7,8-HxCDF	31.931	448946393	1.280	1.3833	204.2	204.2	1.068	1.068	102	
D 13C-1,2,3,7,8,9-HxCDF	32.663	161714480	0.517							
1,2,3,7,8,9-HxCDF	32.676	421282214	1.272	1.2903	205.4	205.4	1.145	1.145	103	
A Non-2,3,7,8-sub-HxCDF	30.786						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					818.1	818.1	1.077	1.077		
* 13C-1,2,3,7,8,9-HxCDD	32.477	149589377	1.272	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.077	119727762	1.257							
1,2,3,4,7,8-HxCDD	32.091	292786371	1.257	1.0646	213.0	213.0	0.6631	0.6631	107	
D 13C-1,2,3,6,7,8-HxCDD	32.171	129108098	1.282	0.8502	101.5	101.5	0.3250	0.3250	102	
1,2,3,6,7,8-HxCDD	32.197	319313717	1.237	1.1809	209.4	209.4	0.5979	0.5979	105	
1,2,3,7,8,9-HxCDD	32.490	321180900	1.287	1.2311	202.1	202.1	0.5735	0.5735	101	
A Non-2,3,7,8-sub-HxCDD	31.352						0.0	0.0		
S Total HxCDD					624.5	624.5	0.6115	0.6115		
D 13C-1,2,3,4,6,7,8-HpCDF	34.058	100131429	0.436	0.6490	103.1	103.1	1.011	1.011	103	
1,2,3,4,6,7,8-HpCDF	34.070	330950881	1.054	1.5871	208.3	208.3	1.839	1.839	104	
D 13C-1,2,3,4,7,8,9-HpCDF	35.188	85035858	0.436							
1,2,3,4,7,8,9-HpCDF	35.188	263643628	1.053	1.2290	214.2	214.2	2.374	2.374	107	
A Non-2,3,7,8-sub-HpCDF	34.617						0.0	0.0		
S Total HpCDF					422.5	422.5	2.106	2.106		
D 13C-1,2,3,4,6,7,8-HpCDD	34.885	83780515	1.075	0.5387	104.0	104.0	0.5928	0.5928	104	
1,2,3,4,6,7,8-HpCDD	34.897	199912578	1.073	1.1631	205.2	205.2	0.8948	0.8948	103	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					205.2	205.2	0.8948	0.8948		
D 13C-OCDD	37.317	126728731	0.872	0.4009	211.3	211.3	0.2230	0.2230	106	
OCDF	37.425	334506722	0.918	1.2649	417.4	417.4	0.2307	0.2307	104	
OCDD	37.317	265049361	0.894	1.0390	402.6	402.6	0.2545	0.2545	101	

Reagents:

HRDXNL5_00022 Amount Added: 1.00 Units: mL

Report Date: 16-Nov-2017 09:38:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d
Lims ID: IC 5 Lab Sample ID:
Client ID: CS501
Sample Type: IC Calib Level: 5
Inject. Date: 15-Nov-2017 15:05:45 ALS Bottle#: 7 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 111517D CS-5 HRDXNL5_00022
Misc. Info.: 15NO173D5
Operator ID: SMA Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 09:38:04 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 15-Nov-2017 15:59:39

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.355	18.346	1		79936083	19250897	19951	49877	965		
333.9339	18.355	18.346	1		96266967	23143062	15494	38735	1494	0.830(0.650-0.890)	
13C-2,3,7,8-TCDF											
315.9419	17.826	17.813	1	0.971	119181203	27913869	39882	99705	700		
317.9389	17.826	17.813	1	0.971	152698848	35197912	22514	56285	1563	0.780(0.650-0.890)	
2,3,7,8-TCDF											
303.9016	17.841	17.832	1	1.001	53010457	12559293	9944	24860	1263		
305.8987	17.841	17.832	1	1.001	68279661	16059340	12071	30177	1330	0.776(0.650-0.890)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.493						9944	24860			
305.8987	17.493						12071	30177			
13C-2,3,7,8-TCDD											
331.9368	18.551	18.545	0	1.011	76675440	17482154	19951	49877	876		
333.9339	18.551	18.545	0	1.011	98885117	22979747	15494	38735	1483	0.775(0.650-0.890)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.566	18.560	0	1.012	89057537	20423451	11298	28245	1808		
2,3,7,8-TCDD											
319.8965	18.566	18.563	0	1.001	37117554	8392186	6641	16602	1264		
321.8936	18.566	18.563	0	1.001	47414881	10941621	5843	14607	1873	0.783(0.650-0.890)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.962						6641	16602			
321.8936	17.962						5843	14607			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	23.033	23.027	0	1.255	123930326	20672776	33011	82527	626		
353.8970	23.033	23.027	0	1.255	78408161	13540005	21351	53377	634	1.581(1.320-1.780)	
1,2,3,7,8-PeCDF											
339.8597	23.060	23.054	0	1.001	294820836	49192563	67186	167965	732		
341.8567	23.060	23.054	0	1.001	183153027	30268178	43822	109555	691	1.610(1.320-1.780)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.437	24.432	0	1.331	123775361	19083257	33011	82527	578		
353.8970	24.437	24.432	0	1.331	77465406	12118775	21351	53377	568	1.598(1.320-1.780)	
2,3,4,7,8-PeCDF											
339.8597	24.465	24.456	0	1.001	283731772	43765056	67186	167965	651		
341.8567	24.465	24.456	0	1.001	179426651	28176191	43822	109555	643	1.581(1.320-1.780)	
A F1 PeCDFs											
339.8597	20.479						2252	5630			
341.8567	20.479						2896	7240			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.750						67186	167965			
341.8567	23.750						43822	109555			
13C-1,2,3,7,8-PeCDD											
367.8949	25.187	25.179	0	1.372	81879181	12205131	10846	27115	1125		
369.8919	25.187	25.179	0	1.372	50151422	7554194	7820	19550	966	1.633(1.320-1.780)	
1,2,3,7,8-PeCDD											
355.8546	25.215	25.209	0	1.001	186899046	28937099	11042	27605	2621		
357.8516	25.215	25.209	0	1.001	117974977	17872417	10632	26580	1681	1.584(1.320-1.780)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.021						11042	27605			
357.8516	24.021						10632	26580			
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.039	31.031	0	0.956	55714848	12201850	26888	67220	454		
385.8610	31.025	31.031	0	0.955	103253658	22824629	48866	122165	467	0.540(0.430-0.590)	
1,2,3,4,7,8-HxCDF											
373.8208	31.052	31.047	0	1.000	245167326	55189784	97753	244382	565		
375.8178	31.052	31.047	0	1.000	194133399	44084377	109207	273017	404	1.263(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.185	31.183	0	0.960	61896096	13711654	26888	67220	510		
385.8610	31.185	31.183	0	0.960	118243391	26856661	48866	122165	550	0.523(0.430-0.590)	
1,2,3,6,7,8-HxCDF											
373.8208	31.212	31.204	0	1.001	266839231	58024686	97753	244382	594		
375.8178	31.198	31.204	0	1.000	211687360	46356863	109207	273017	424	1.261(1.050-1.430)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.904	31.907	0	0.982	59371457	15772955	26888	67220	587		
385.8610	31.904	31.907	0	0.982	111782932	29261846	48866	122165	599	0.531(0.430-0.590)	
2,3,4,6,7,8-HxCDF											
373.8208	31.931	31.923	0	1.001	252067681	65724447	97753	244382	672		
375.8178	31.918	31.923	0	1.000	196878712	50742833	109207	273017	465	1.280(1.050-1.430)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.663	32.660	0	1.006	55110651	16046372	26888	67220	597		
385.8610	32.663	32.660	0	1.006	106603829	30513857	48866	122165	624	0.517(0.430-0.590)	
1,2,3,7,8,9-HxCDF											
373.8208	32.676	32.674	0	1.000	235889135	67851624	97753	244382	694		
375.8178	32.676	32.674	0	1.000	185393079	53555543	109207	273017	490	1.272(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.786						97753	244382			
375.8178	30.786						109207	273017			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.477	32.479	0		83758095	23295067	25735	64337	905		
403.8529	32.477	32.479	0		65831282	18502415	20459	51147	904	1.272(1.050-1.430)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.077	32.075	0	0.988	66683922	20143650	25735	64337	783		
403.8529	32.077	32.075	0	0.988	53043840	15899882	20459	51147	777	1.257(1.050-1.430)	
1,2,3,4,7,8-HxCDD											
389.8157	32.091	32.088	0	1.000	163060315	49081008	66982	167455	733		
391.8127	32.091	32.088	0	1.000	129726056	38937140	32060	80150	1215	1.257(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.171	32.173	0	0.991	72534828	19634997	25735	64337	763		
403.8529	32.171	32.173	0	0.991	56573270	15435772	20459	51147	754	1.282(1.050-1.430)	
1,2,3,6,7,8-HxCDD											
389.8157	32.197	32.189	0	1.001	176574972	47461165	66982	167455	709		
391.8127	32.184	32.189	0	1.000	142738745	38783754	32060	80150	1210	1.237(1.050-1.430)	
1,2,3,7,8,9-HxCDD											
389.8157	32.490	32.493	0	1.013	180728782	48929076	66982	167455	730		
391.8127	32.490	32.493	0	1.013	140452118	38828864	32060	80150	1211	1.287(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.352						66982	167455			
391.8127	31.352						32060	80150			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.058	34.056	0	1.049	30394434	10289305	40223	100557	256		
419.8220	34.058	34.056	0	1.049	69736995	23569358	69525	173812	339	0.436(0.370-0.510)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.070	34.068	0	1.000	169809481	56589097	211095	527737	268		
409.7789	34.070	34.068	0	1.000	161141400	53786336	184097	460242	292	1.054(0.880-1.200)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.188	35.181	0	1.083	25826629	7686863	40223	100557	191		
419.8220	35.176	35.181	0	1.083	59209229	17952613	69525	173812	258	0.436(0.370-0.510)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.188	35.191	0	1.000	135204504	41494601	211095	527737	197		
409.7789	35.188	35.191	0	1.000	128439124	39783249	184097	460242	216	1.053(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.617						211095	527737			
409.7789	34.617						184097	460242			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.885	34.877	0	1.074	43403915	13426355	30908	77270	434		
437.8140	34.885	34.877	0	1.074	40376600	12231283	22481	56202	544	1.075(0.880-1.200)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.897	34.889	0	1.000	103461917	31730823	52089	130222	609		
425.7737	34.885	34.889	0	1.000	96450661	29351687	54725	136812	536	1.073(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						52089	130222			
425.7737	35.261						54725	136812			
13C-OCDD											
469.7779	37.317	37.310	0	1.149	59039623	16005089	7463	18657	2145		
471.7750	37.317	37.310	0	1.149	67689108	18733478	7488	18720	2502	0.872(0.760-1.020)	
OCDF											
441.7428	37.425	37.417	0	1.003	160082355	42784935	9621	24052	4447		
443.7399	37.413	37.417	0	1.003	174424367	47690099	10655	26637	4476	0.918(0.760-1.020)	
OCDD											
457.7377	37.317	37.317	0	1.000	125143880	34660075	8786	21965	3945		
459.7348	37.317	37.317	0	1.000	139905481	38898519	9589	23972	4057	0.894(0.760-1.020)	

Reagents:

HRDXNL5_00022 Amount Added: 1.00 Units: mL

Report Date: 16-Nov-2017 09:38:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Injection Date: 15-Nov-2017 15:05:45 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA

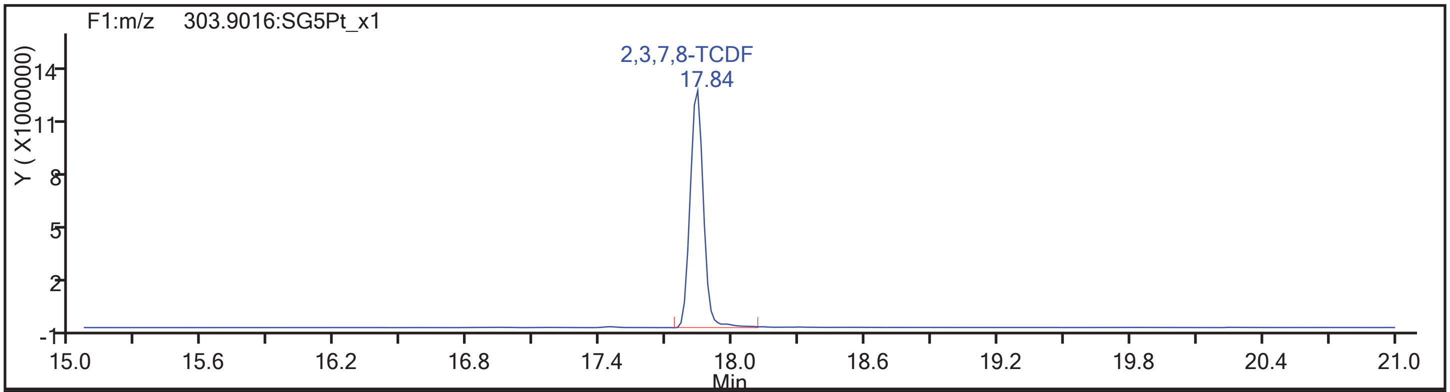
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

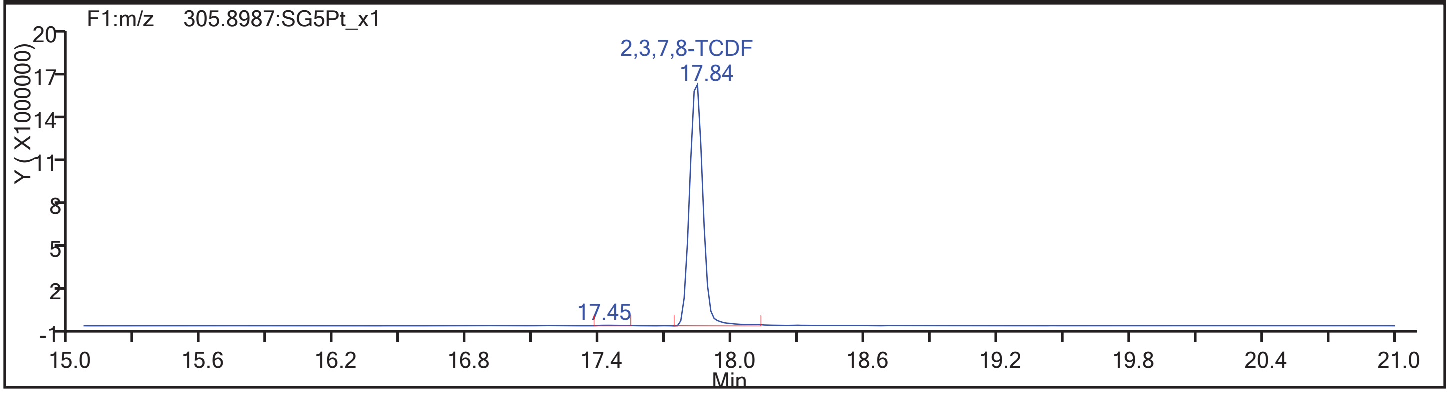
Client ID: CS501

Worklist#: 194923 Sample Line#: 6

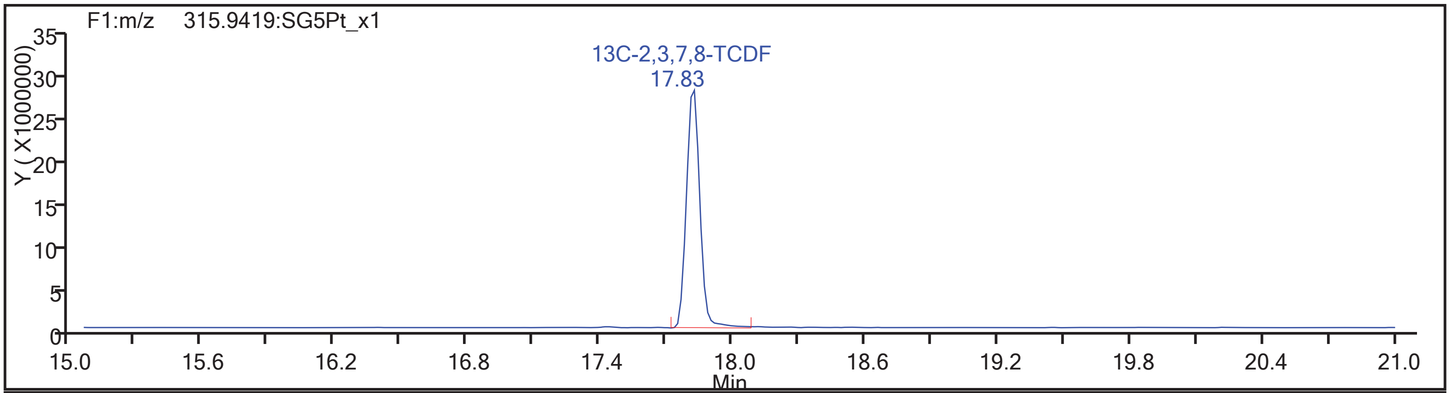
Column Type: Column Dia:

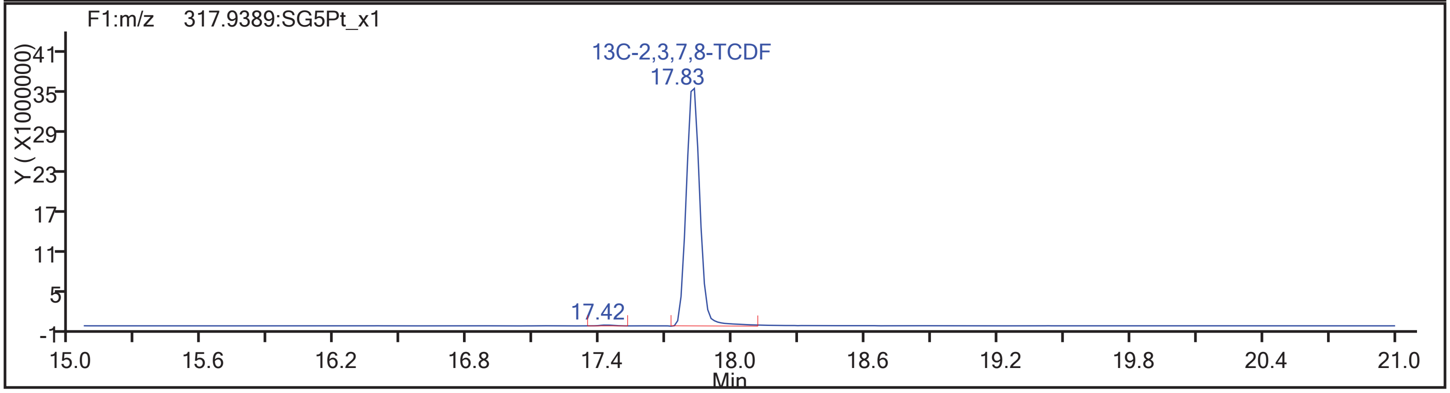
TCDF





TCDF Standards

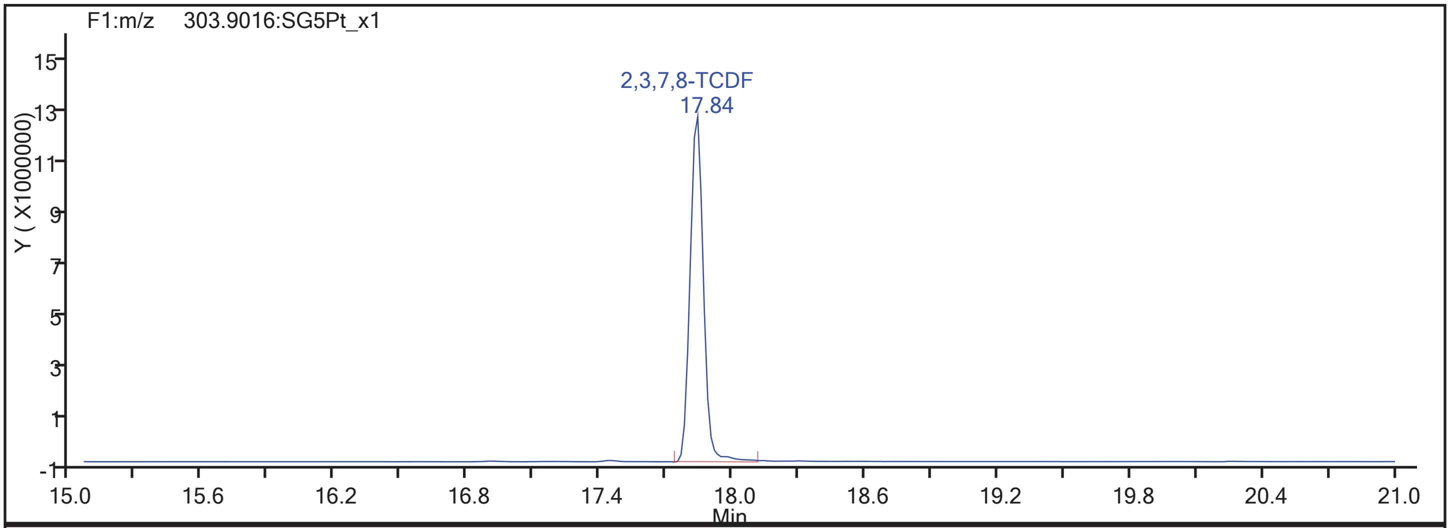


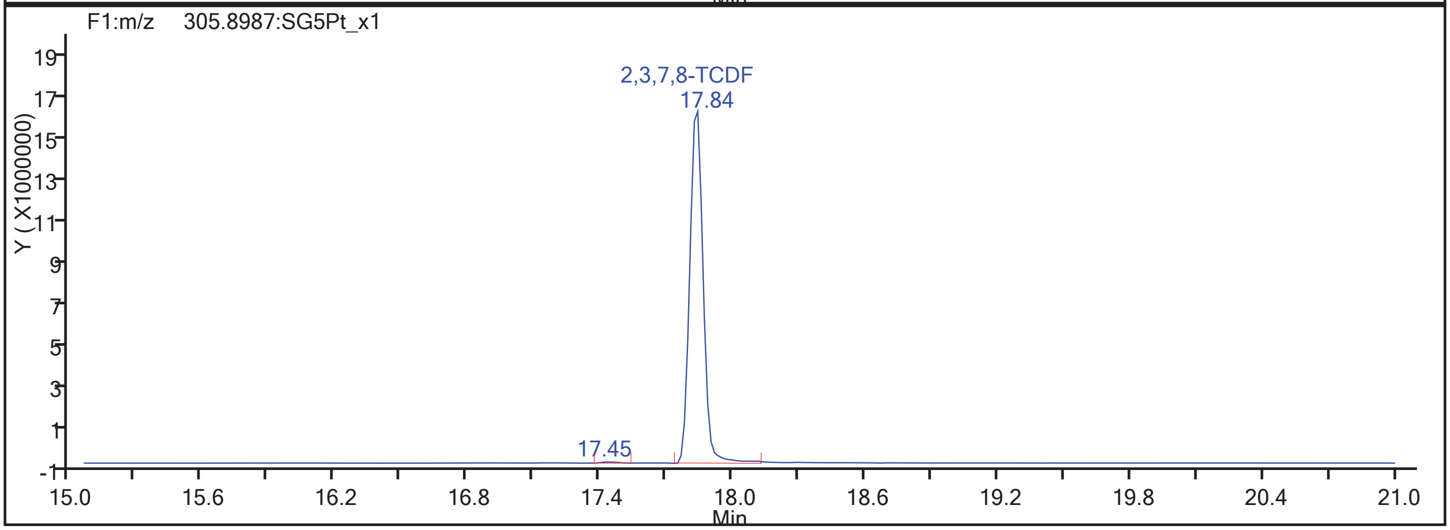


TestAmerica Sacramento

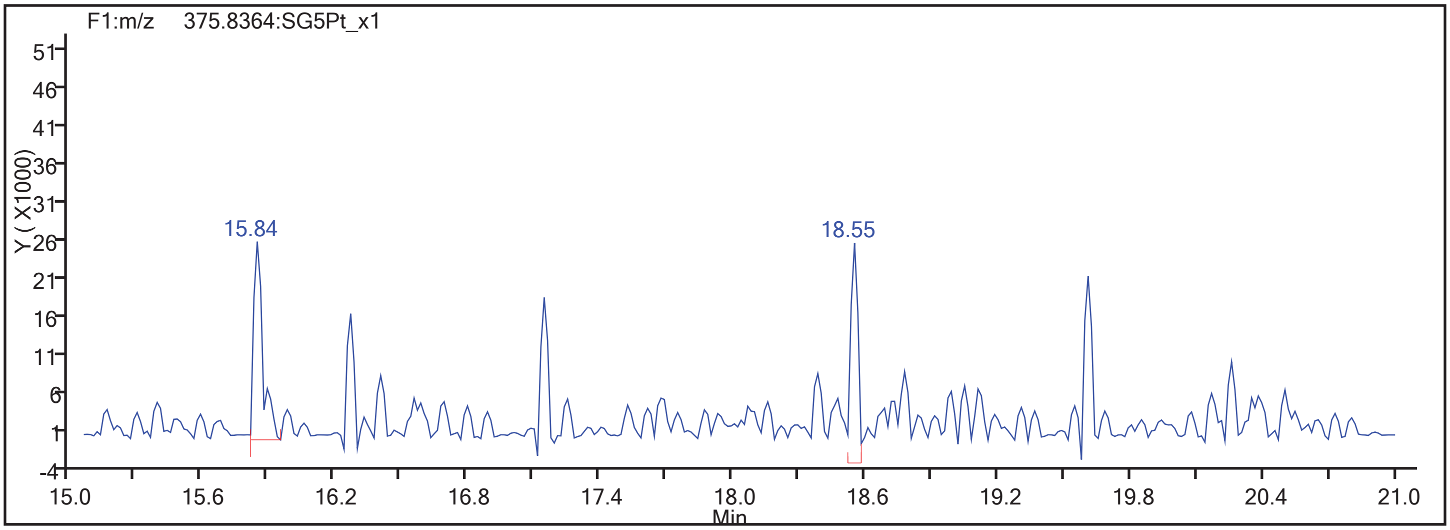
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d		
Injection Date:	15-Nov-2017 15:05:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS501		
Worklist#:	194923	Sample Line#:	6
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass

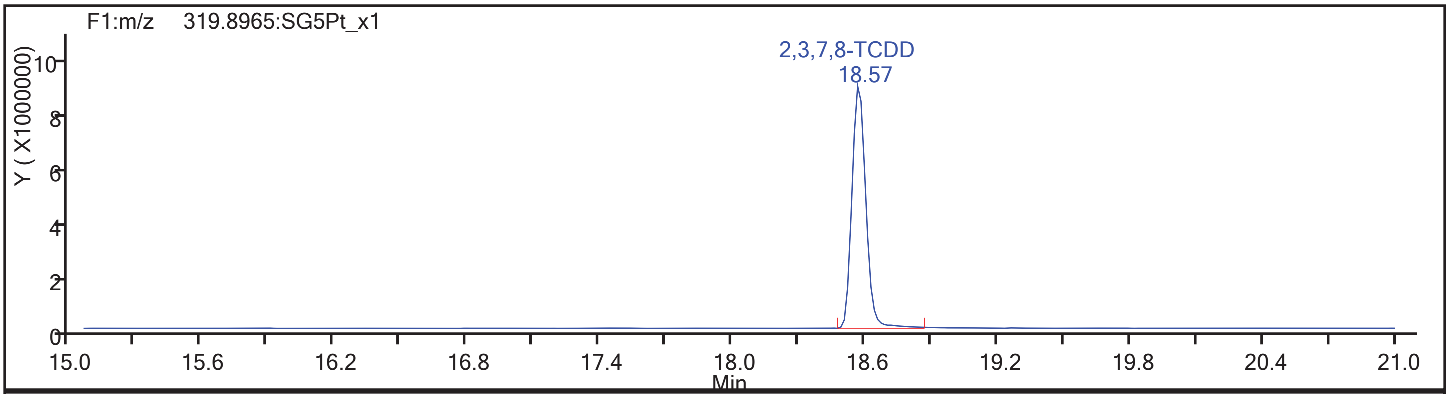


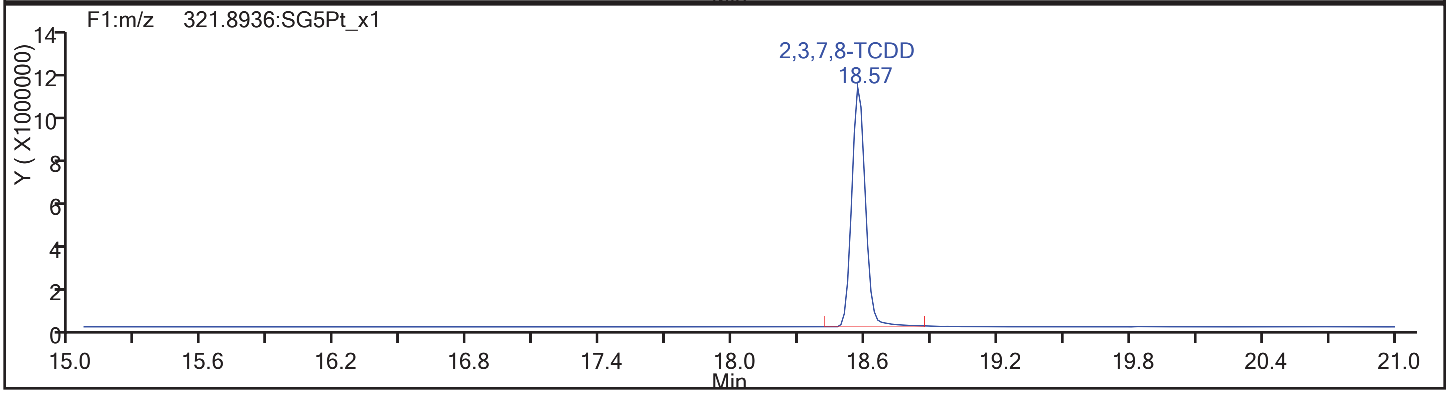
Report Date: 16-Nov-2017 09:38:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

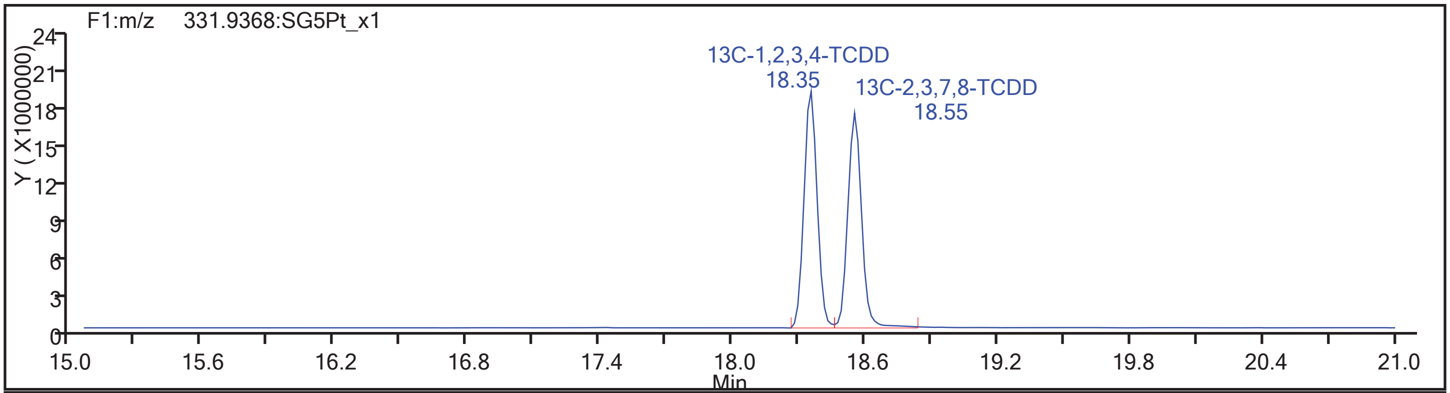
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d
Injection Date: 15-Nov-2017 15:05:45
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS501
Worklist#: 194923
Sample Line#: 6
Column Type:
Column Dia:

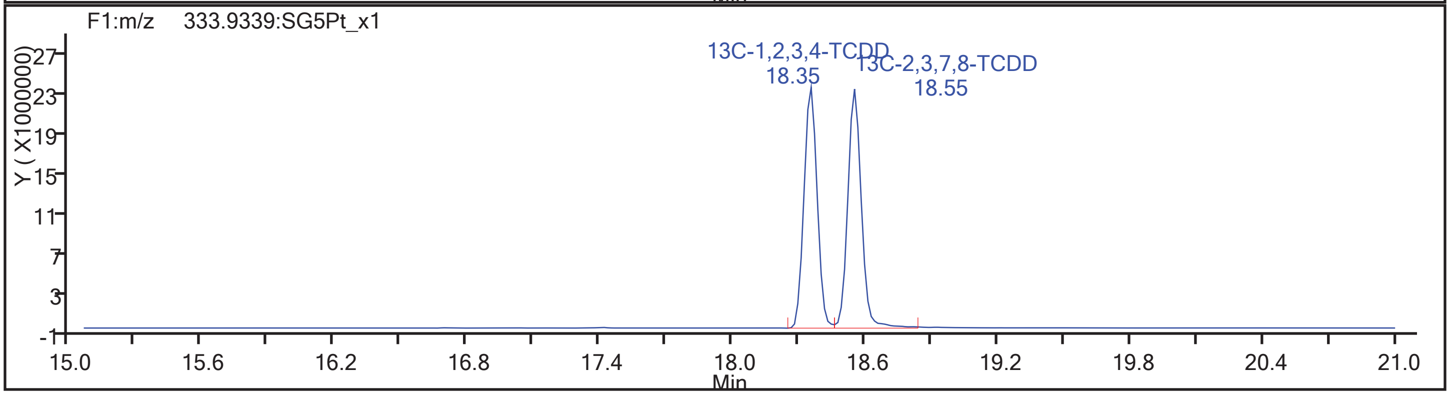
TCDD





TCDD Standards

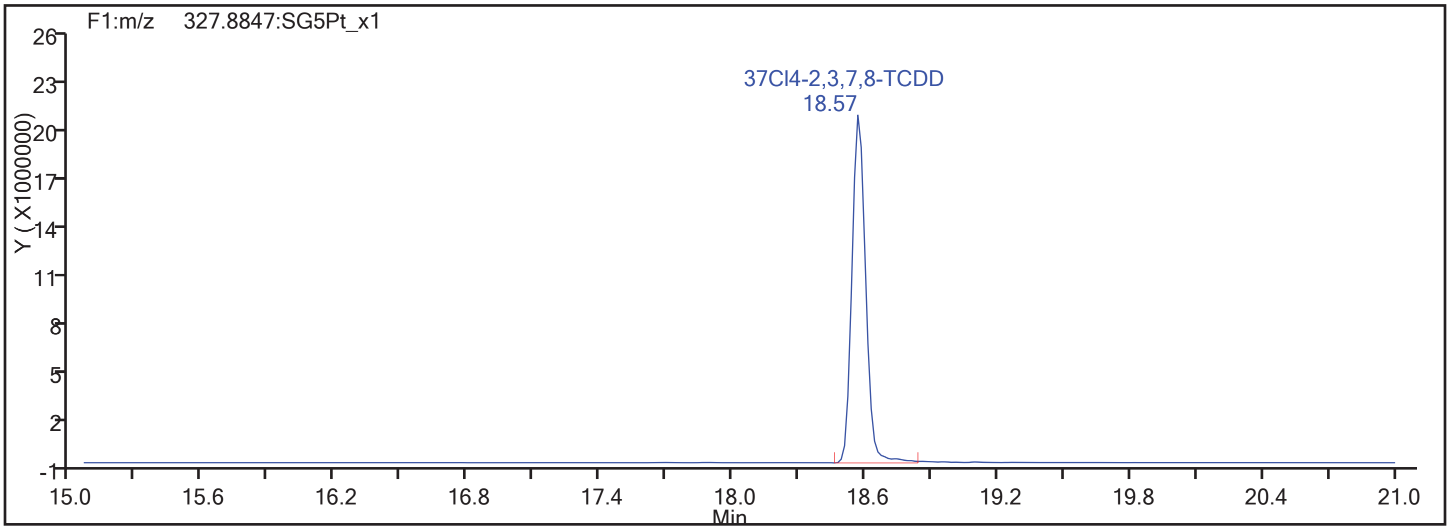




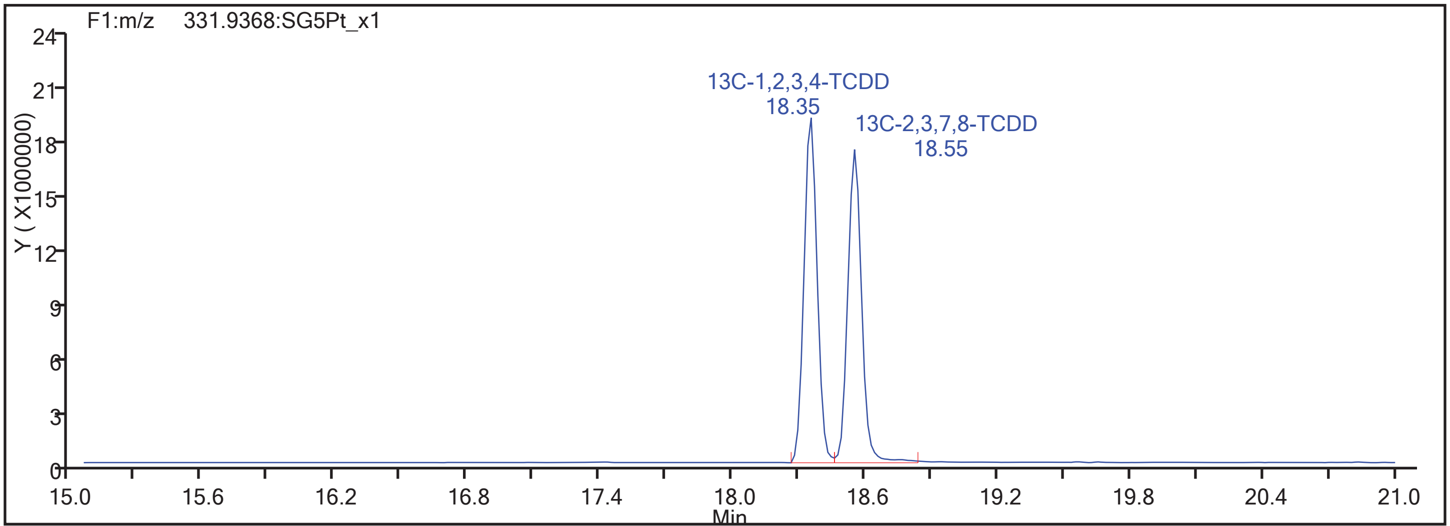
TestAmerica Sacramento

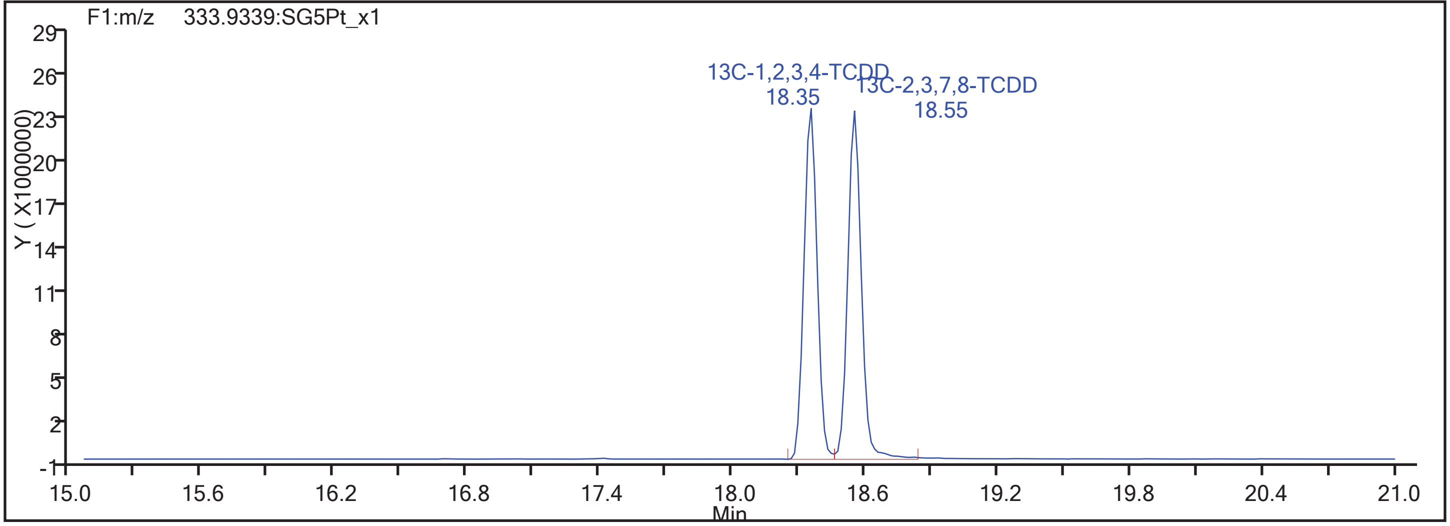
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d		
Injection Date:	15-Nov-2017 15:05:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS501		
Worklist#:	194923	Sample Line#:	6
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



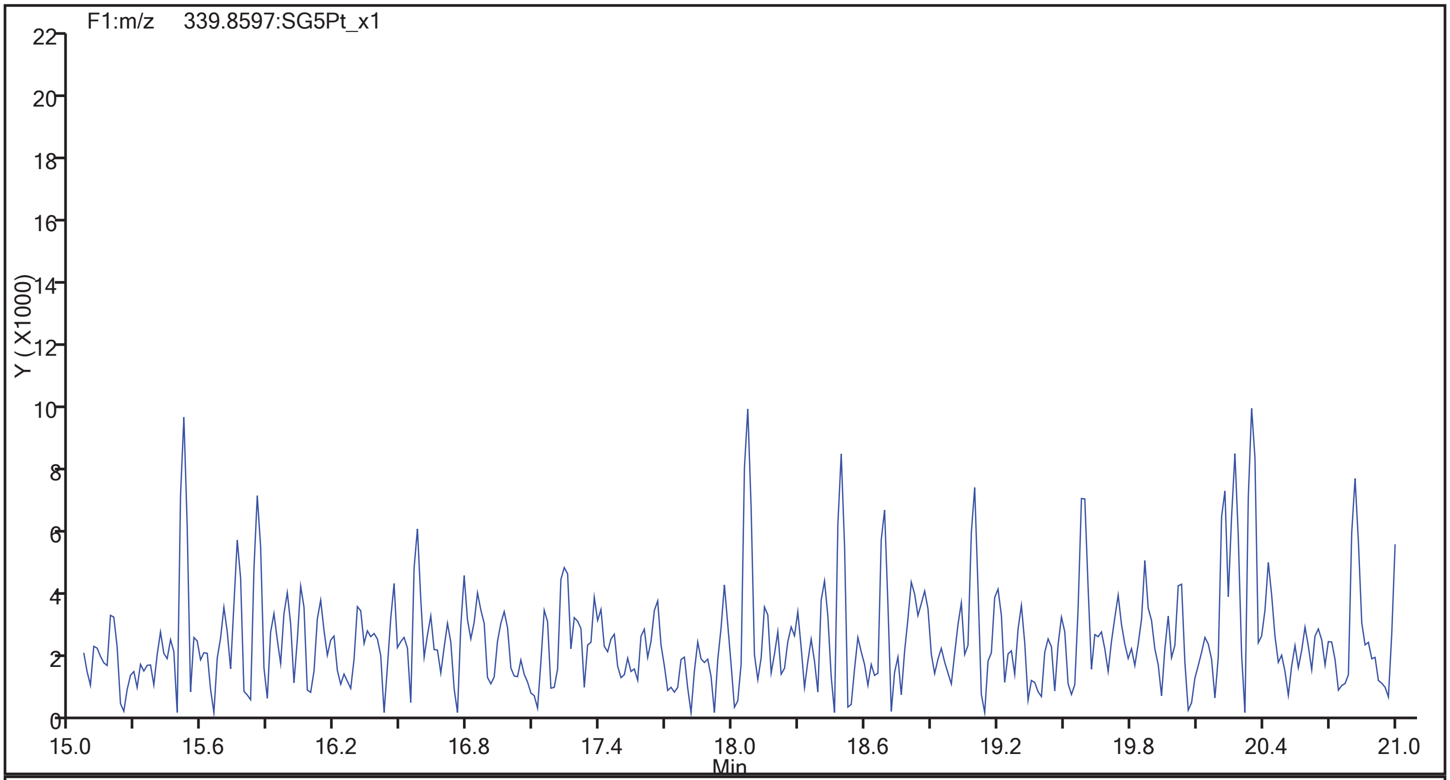


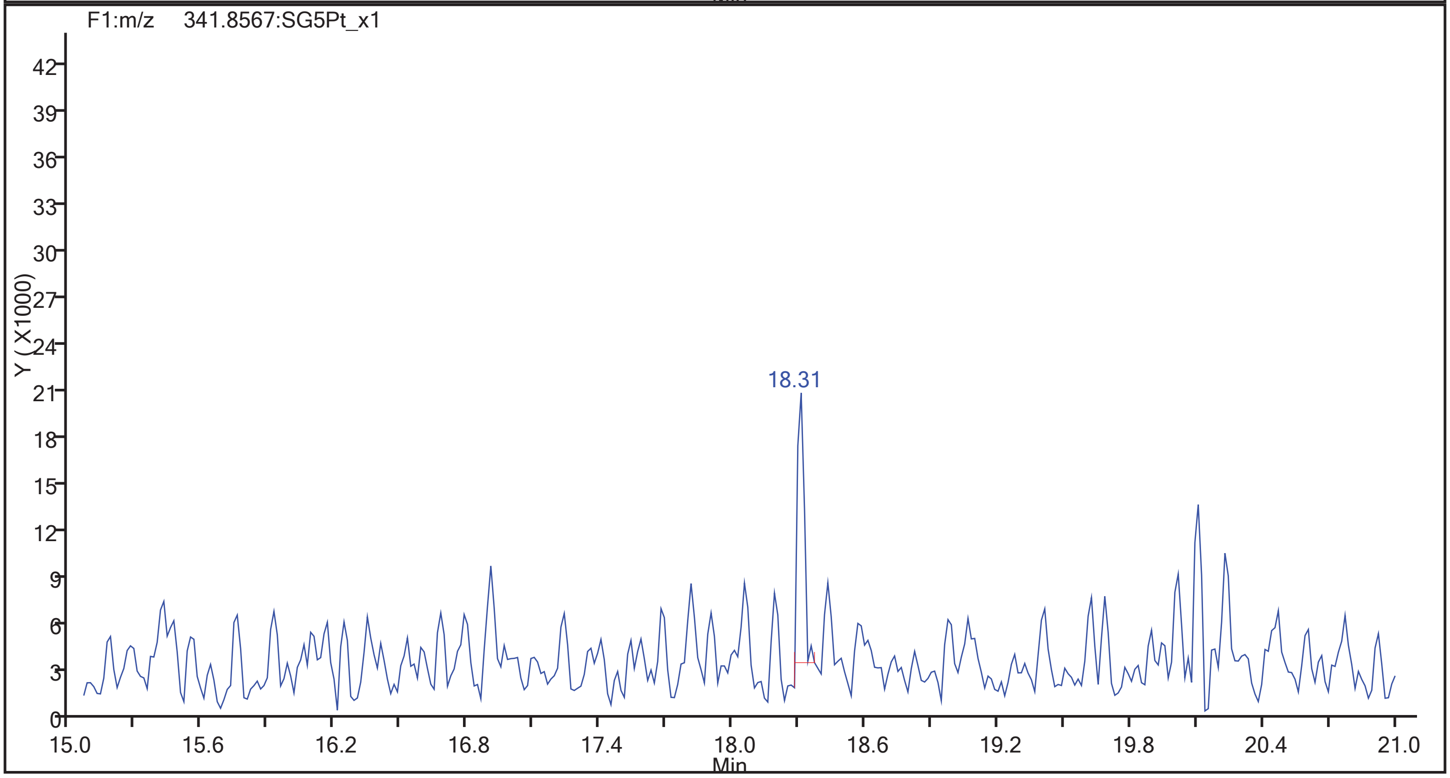
Report Date: 16-Nov-2017 09:38:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d		
Injection Date:	15-Nov-2017 15:05:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS501		
Worklist#:	194923	Sample Line#:	6
Column Type:		Column Dia:	

F1 PeCDFs



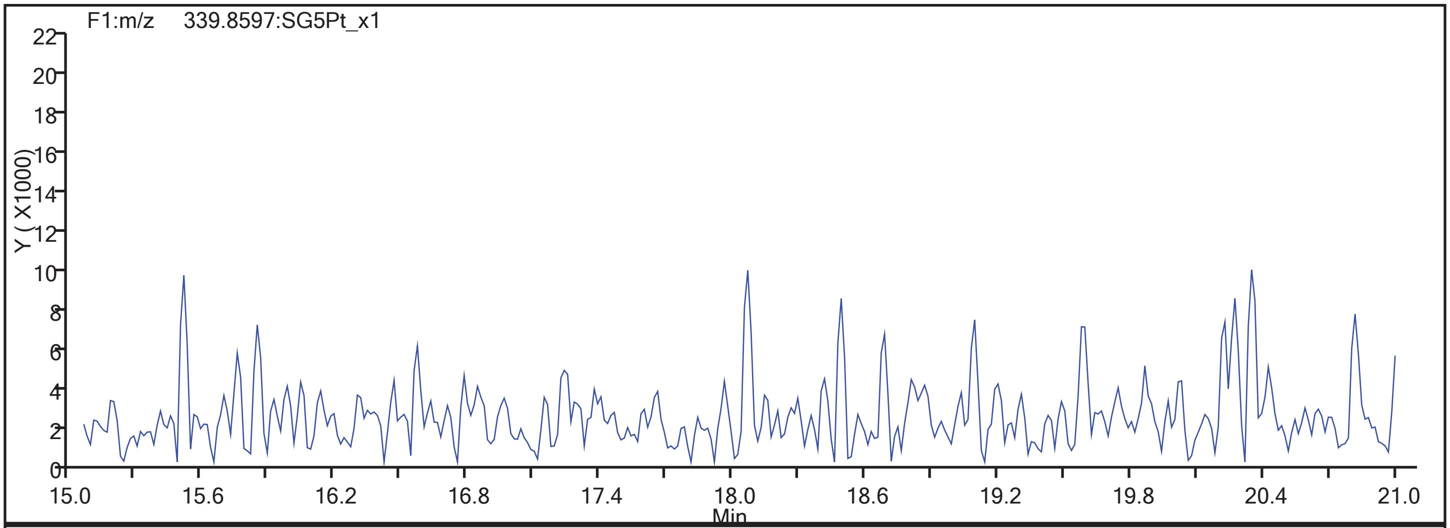


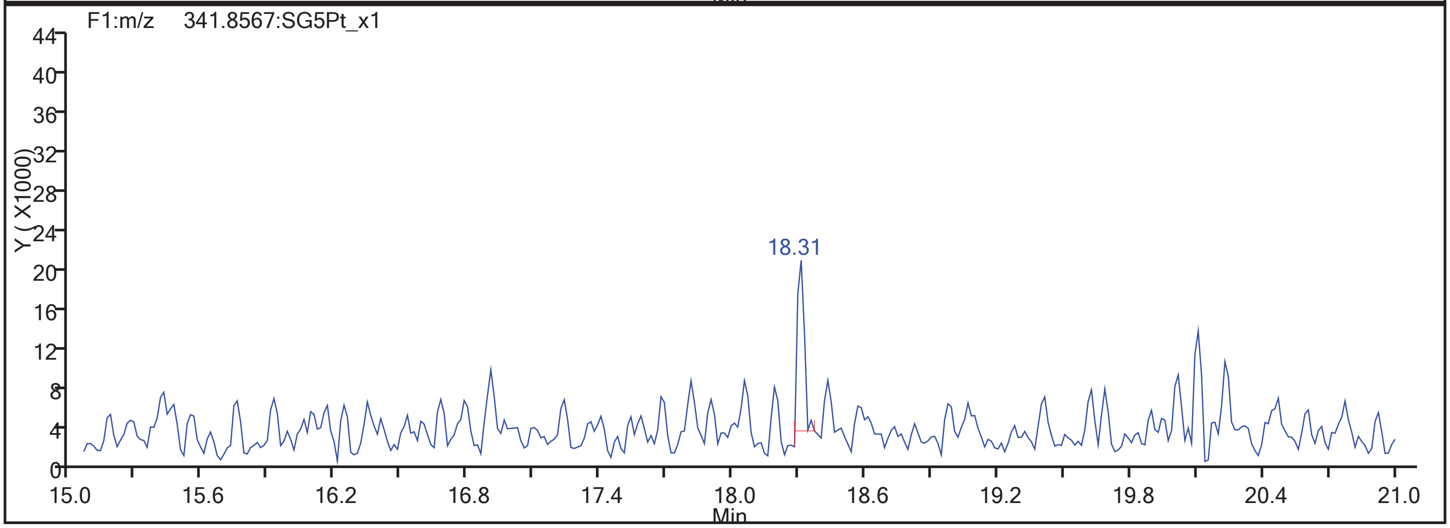
Report Date: 16-Nov-2017 09:38:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

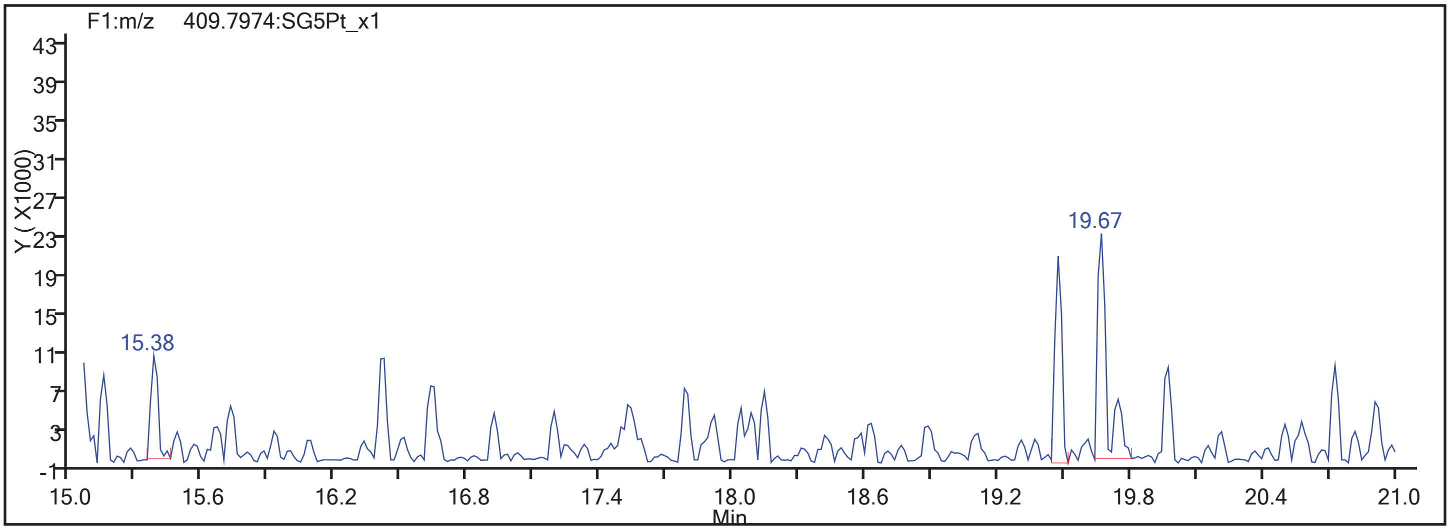
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d
Injection Date: 15-Nov-2017 15:05:45
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CS501
Worklist#: 194923
Sample Line#: 6
Column Type:
Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass

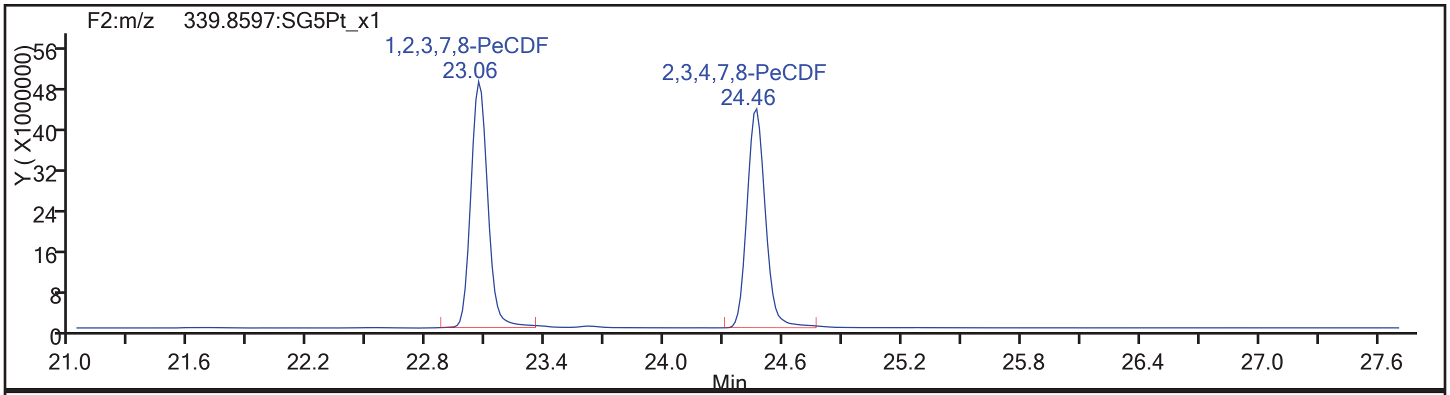


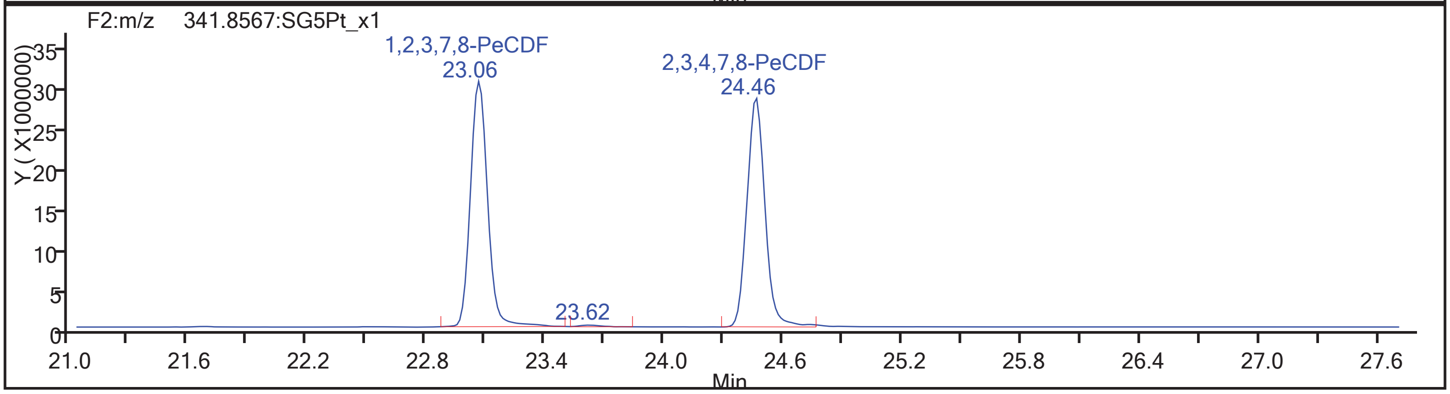
Report Date: 16-Nov-2017 09:38:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d		
Injection Date:	15-Nov-2017 15:05:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CS501		
Worklist#:	194923	Sample Line#:	6
Column Type:		Column Dia:	

PeCDF





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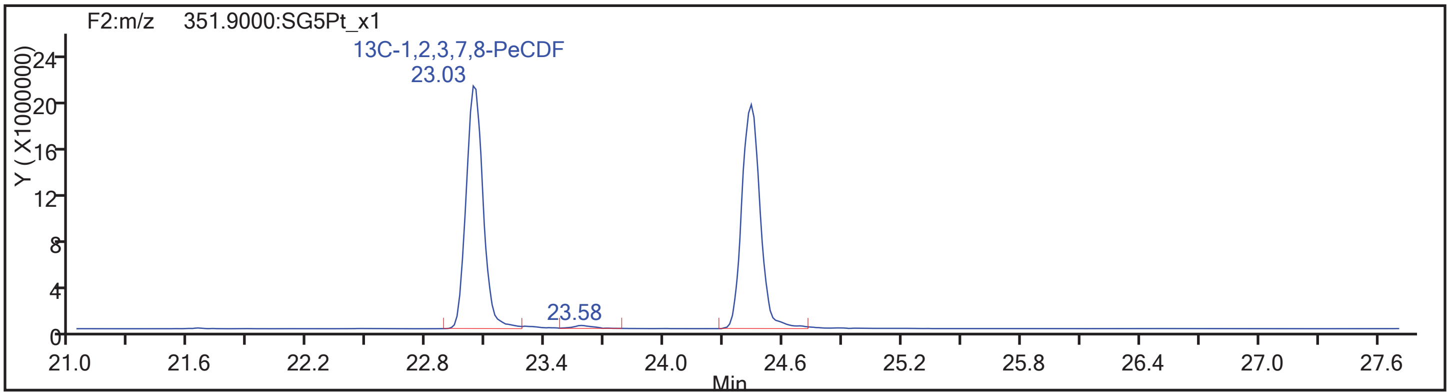

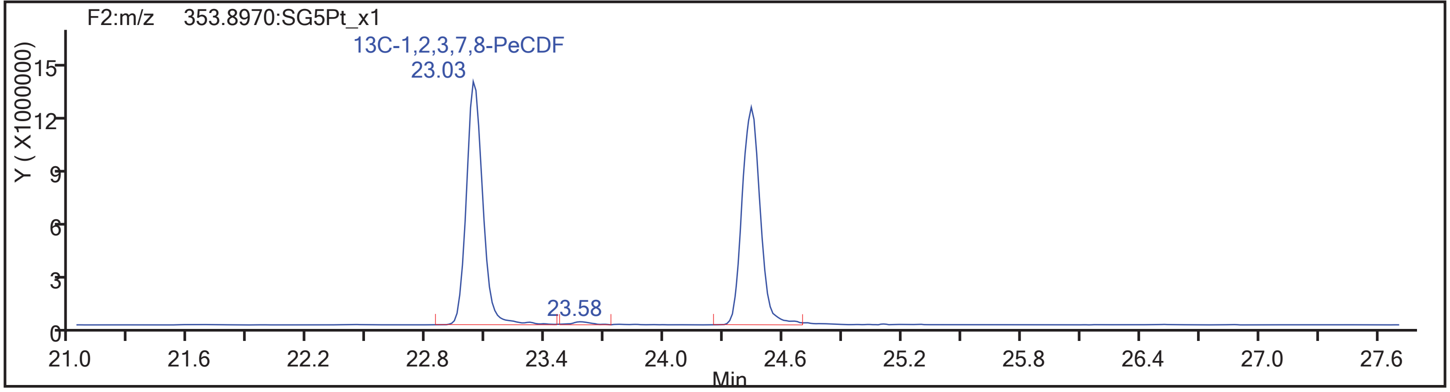

TestAmerica Sacramento

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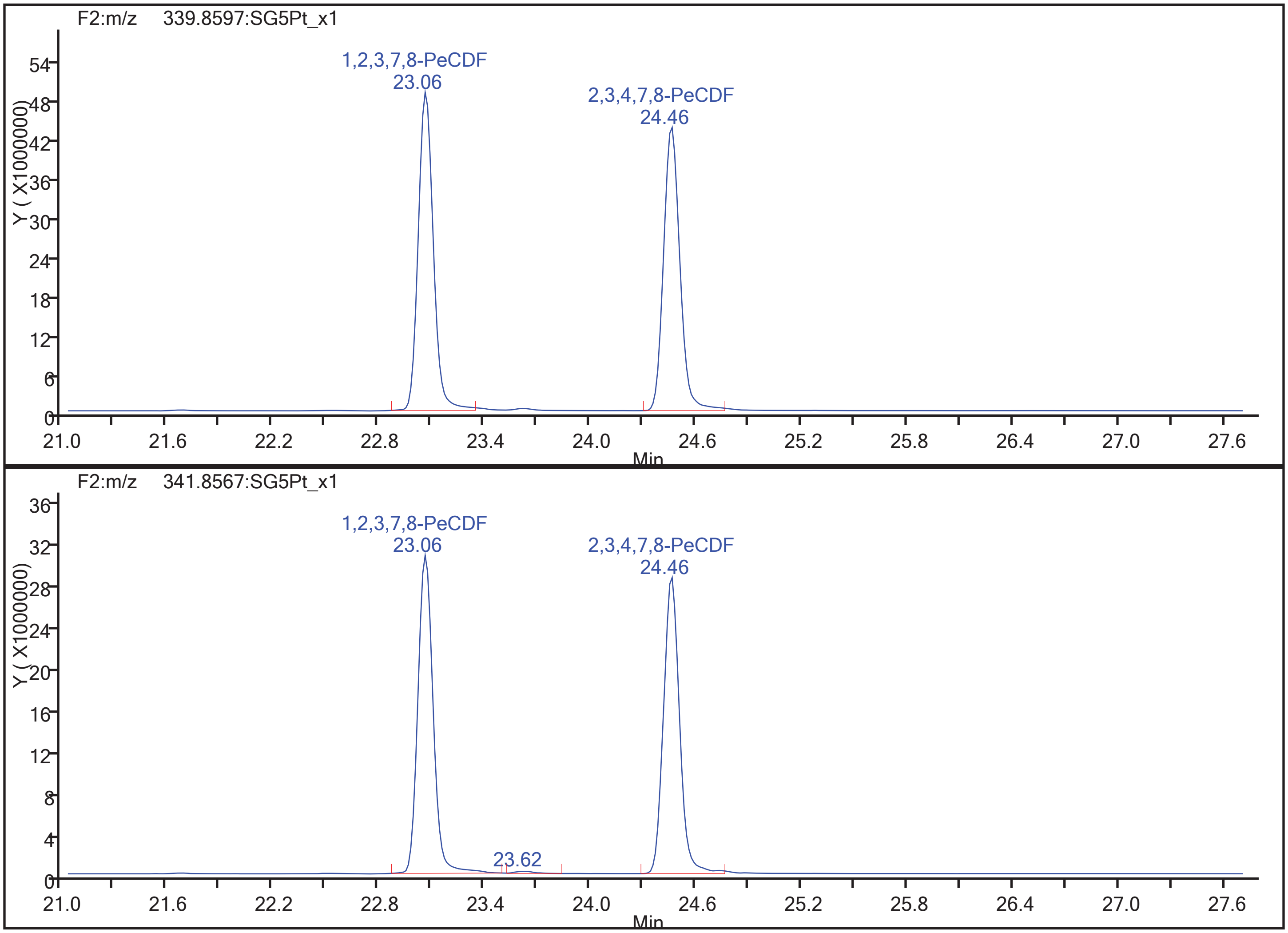

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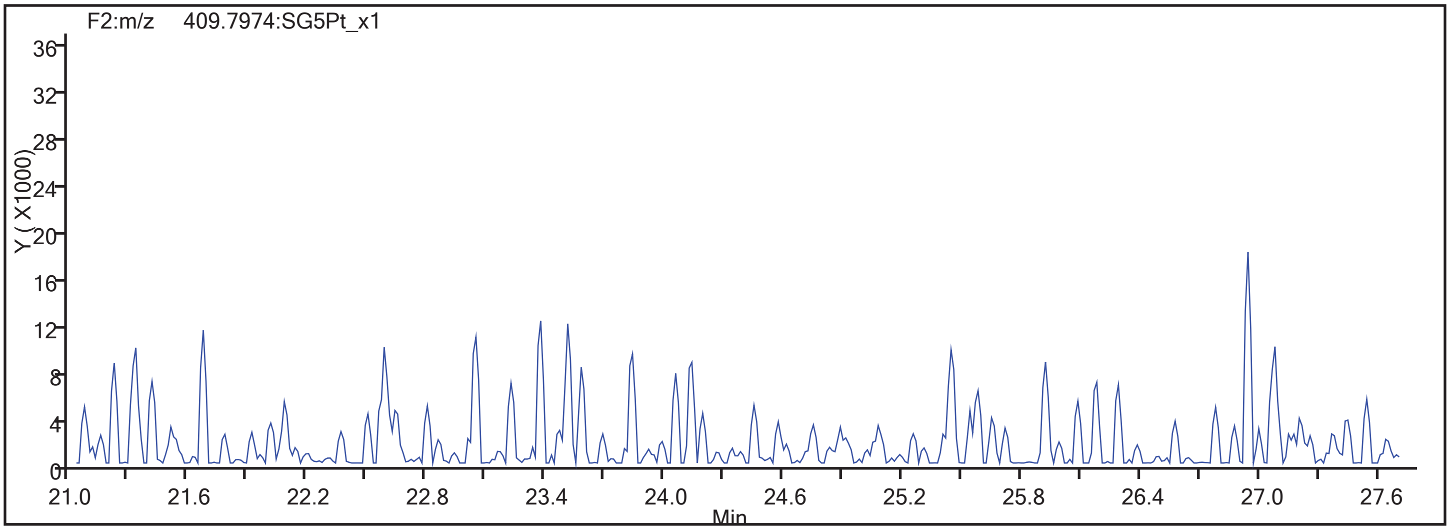

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TestAmerica Sacramento

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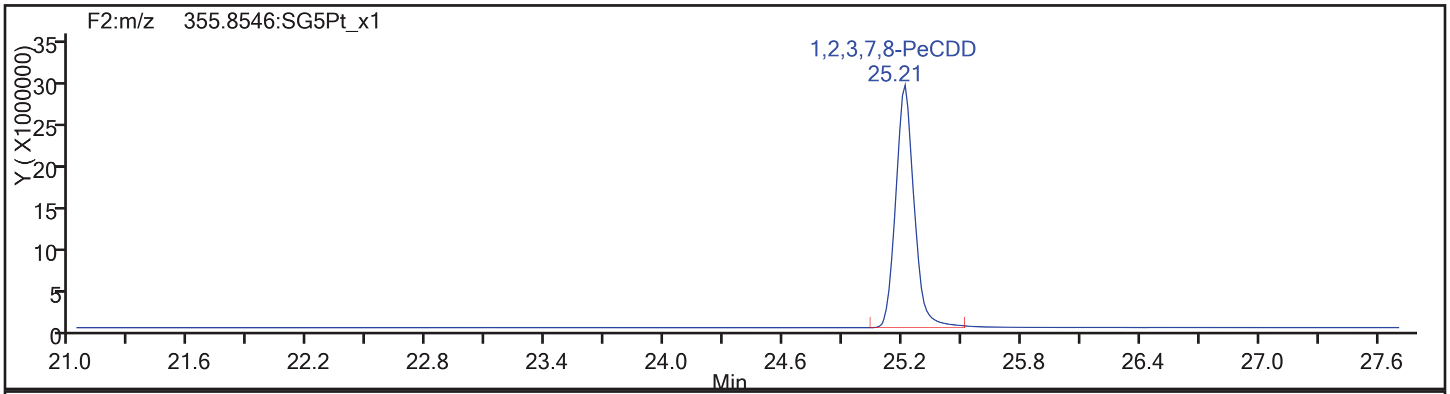

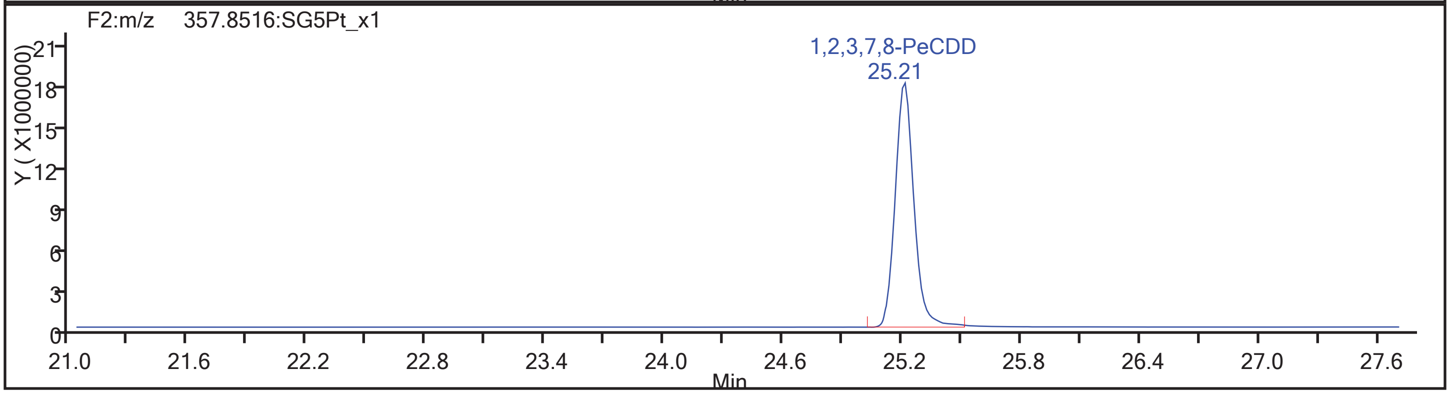

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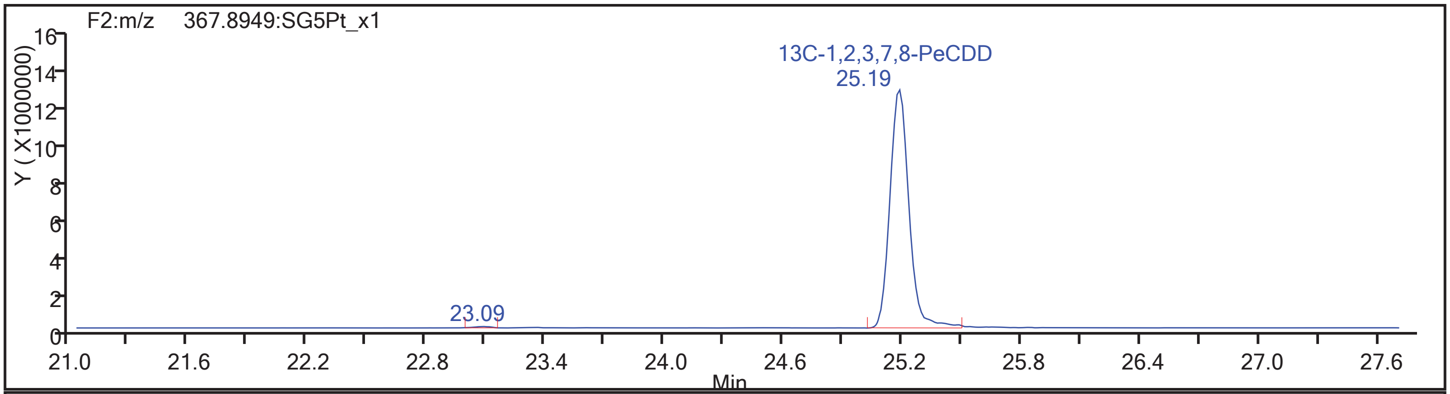

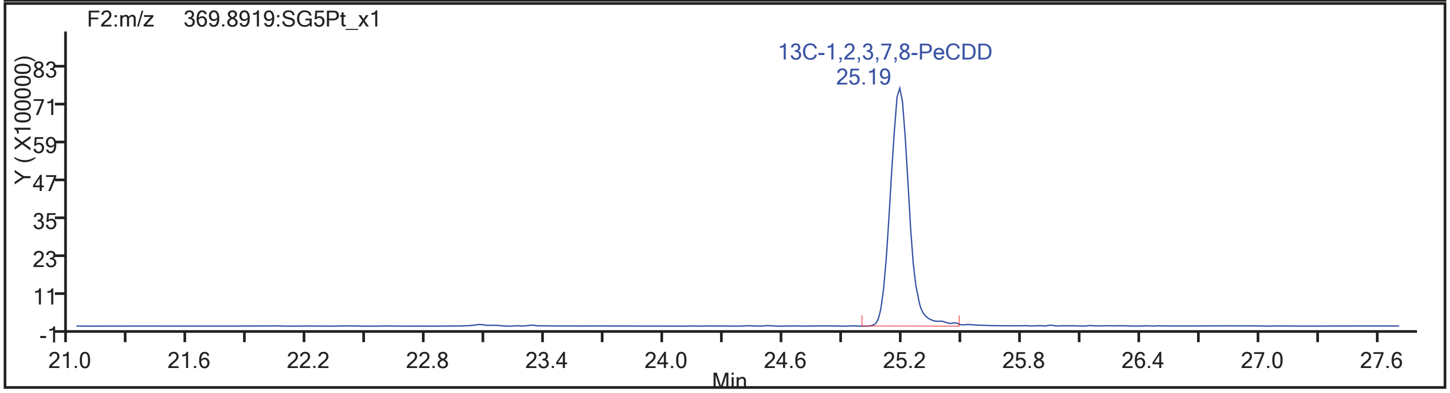

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TestAmerica Sacramento

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Instrument ID: 3D5 Operator ID: SMA

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: CS501

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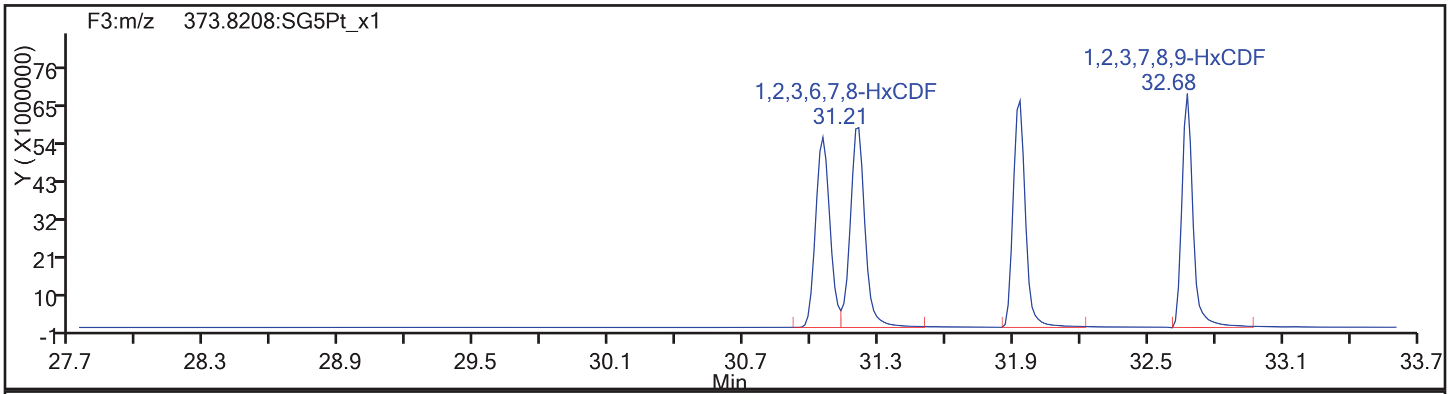

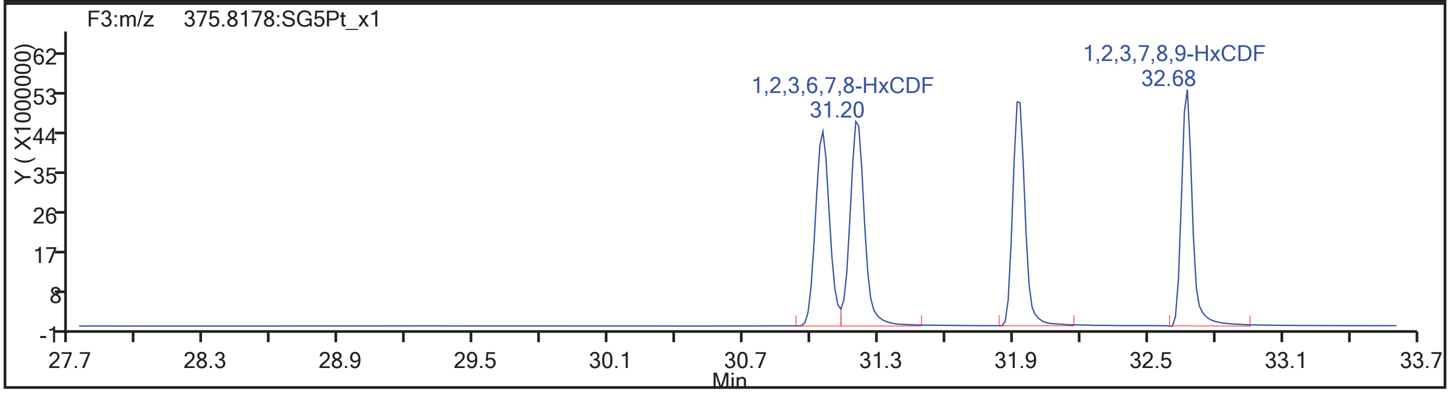

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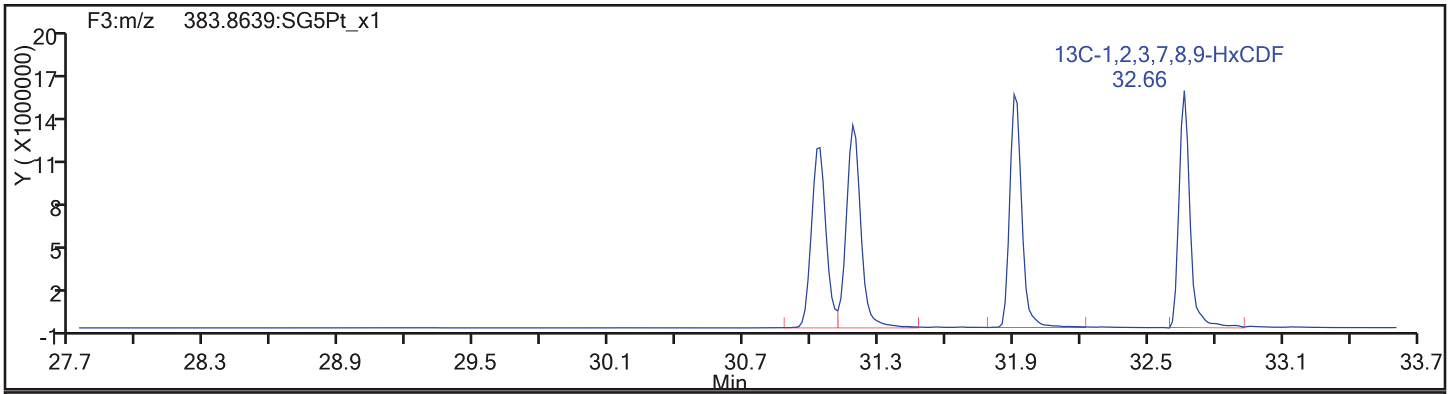

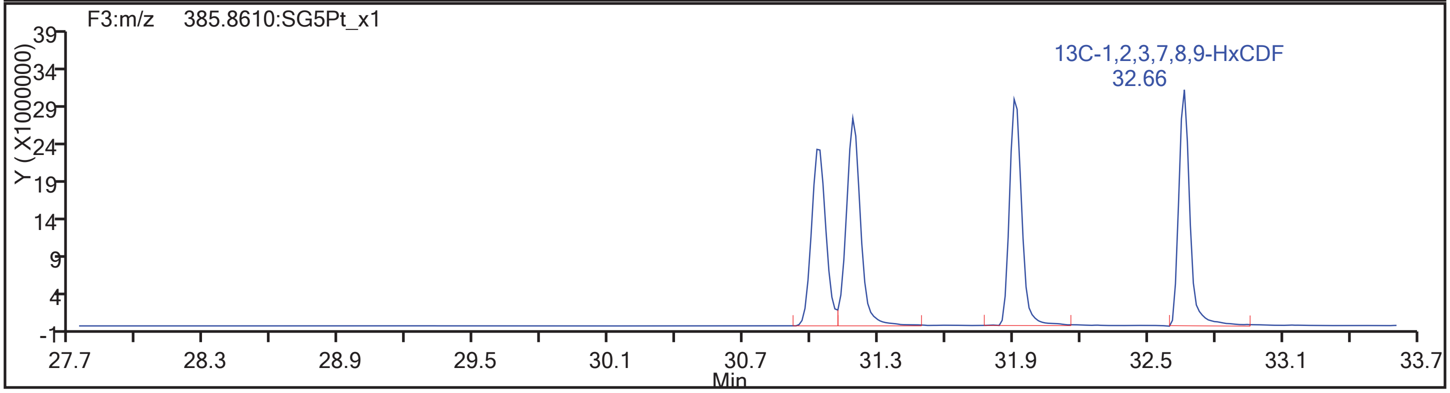

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TestAmerica Sacramento

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Injection Vol: 2.0 ul

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Method: Dioxin_3D5

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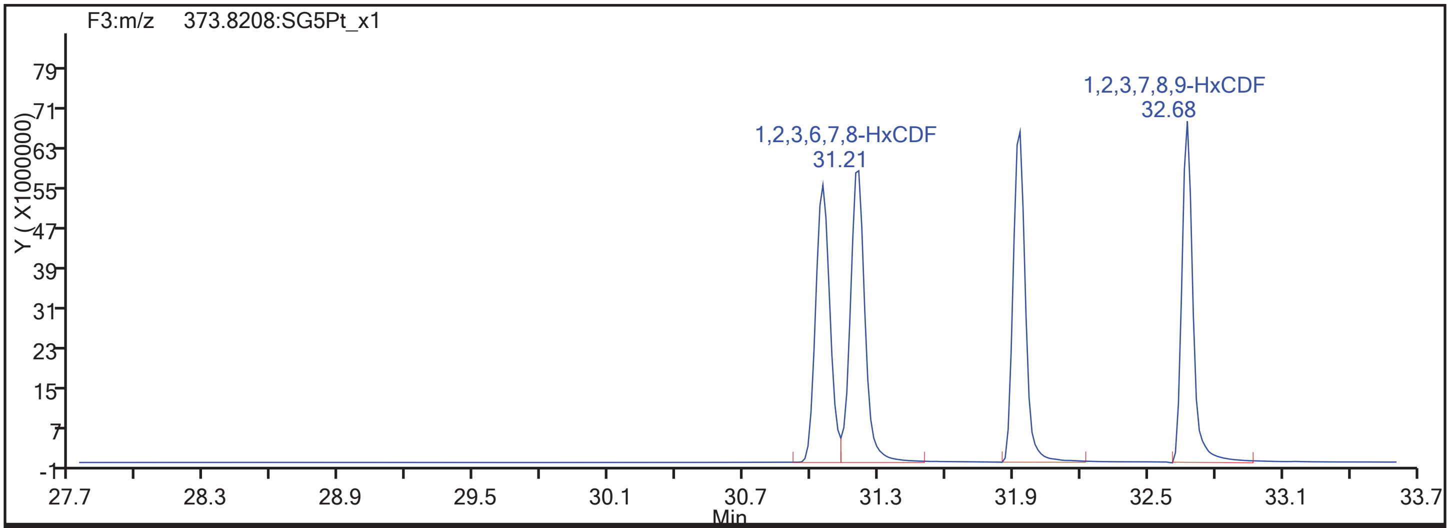
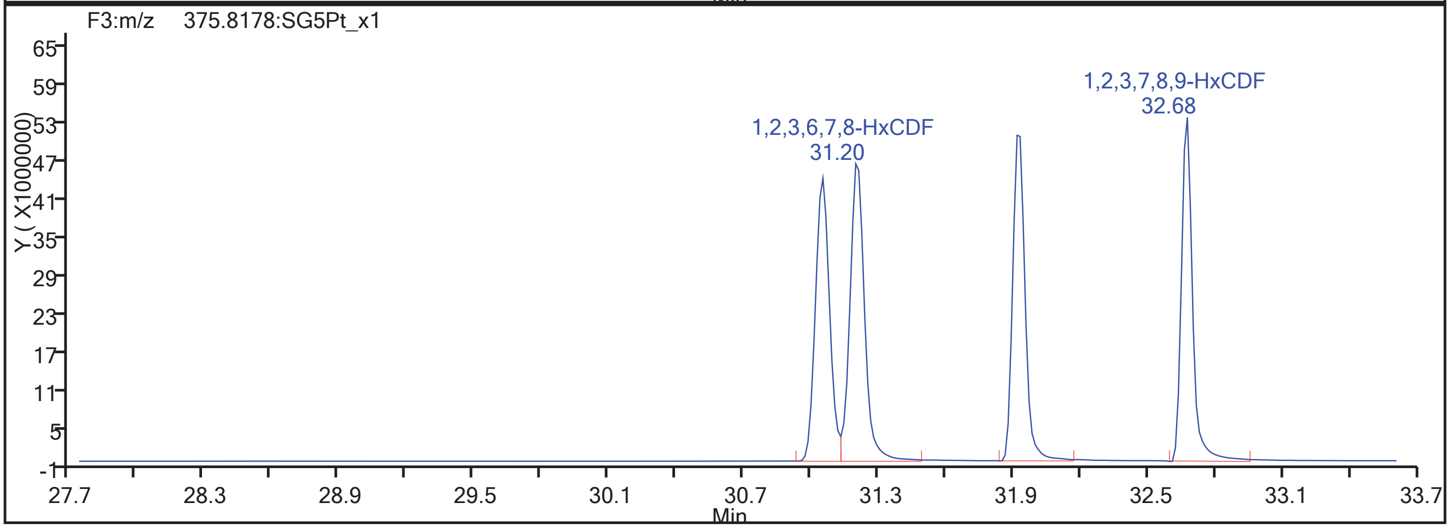
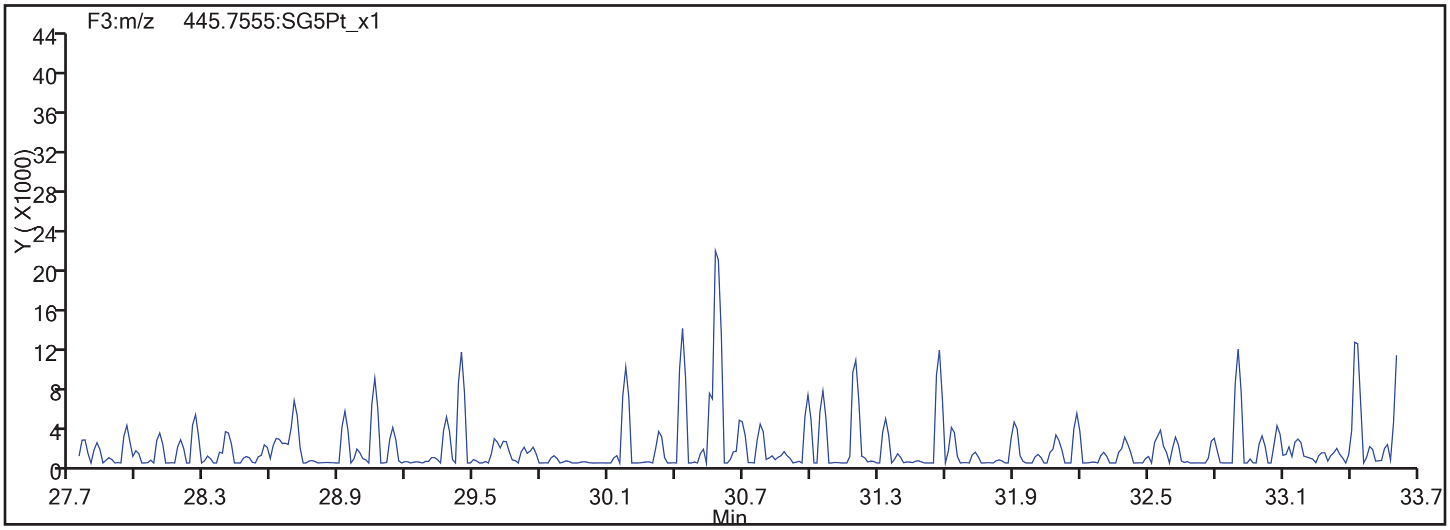




HxCDF Interference Mass



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TestAmerica Sacramento
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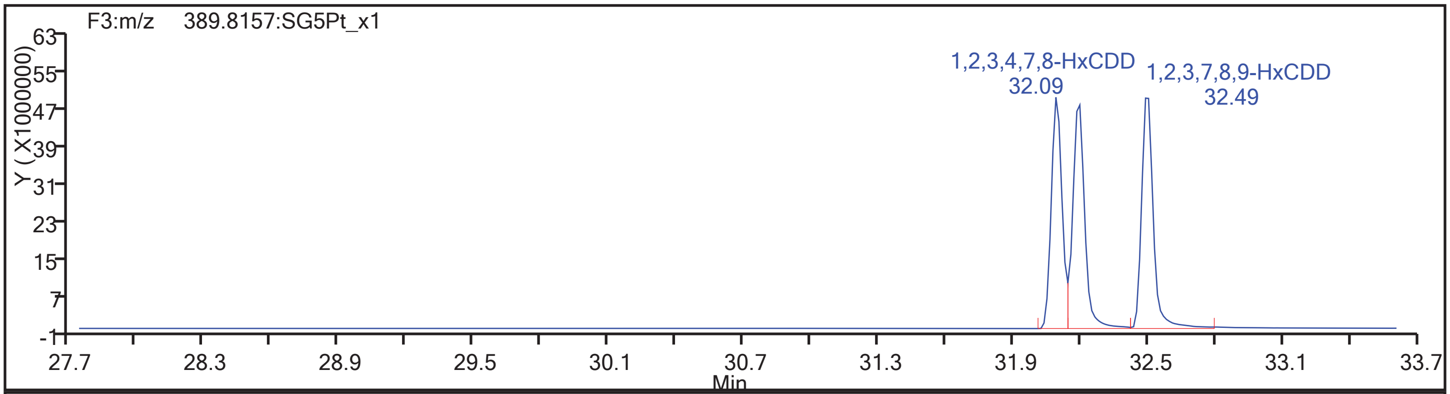

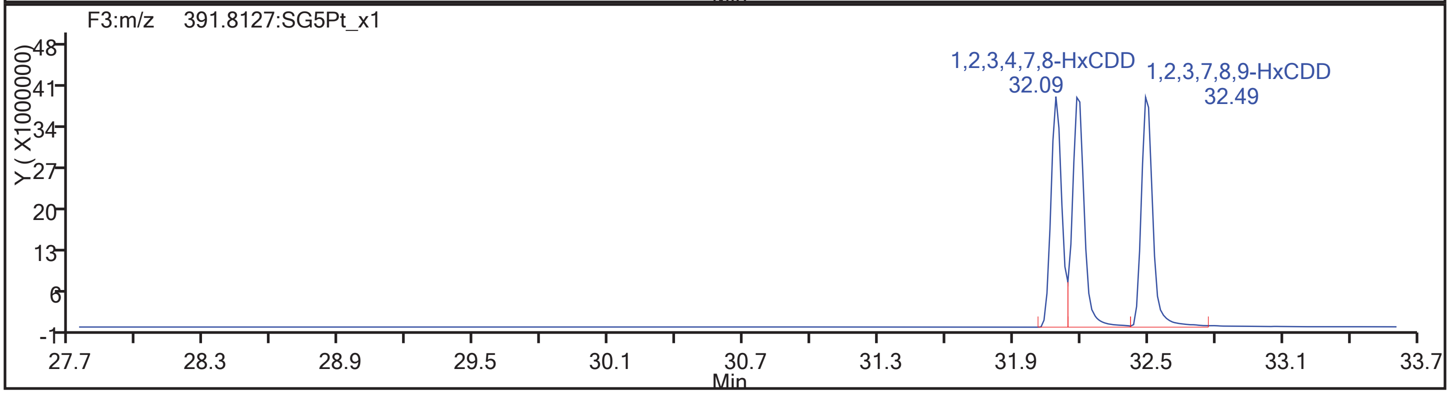

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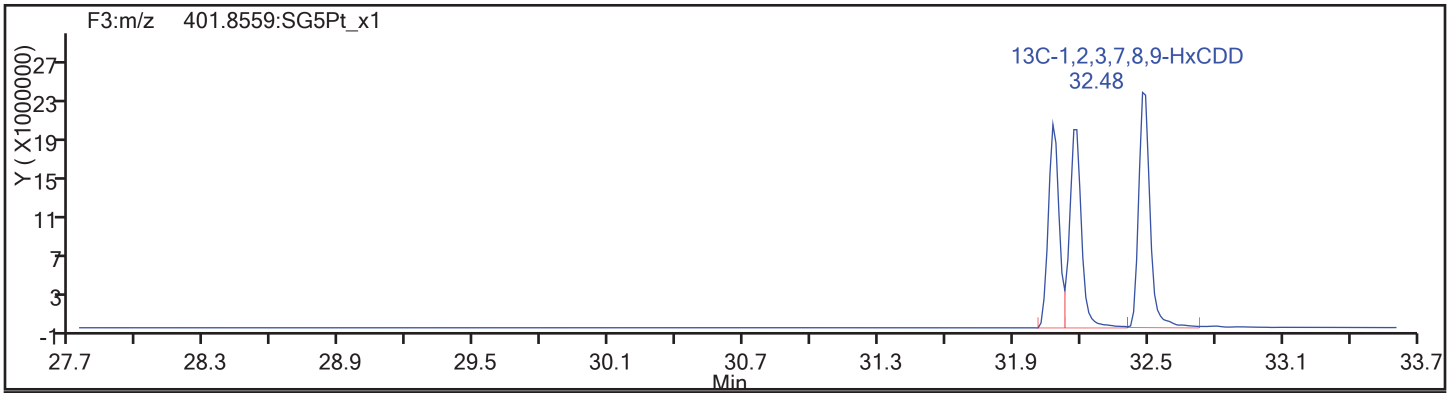

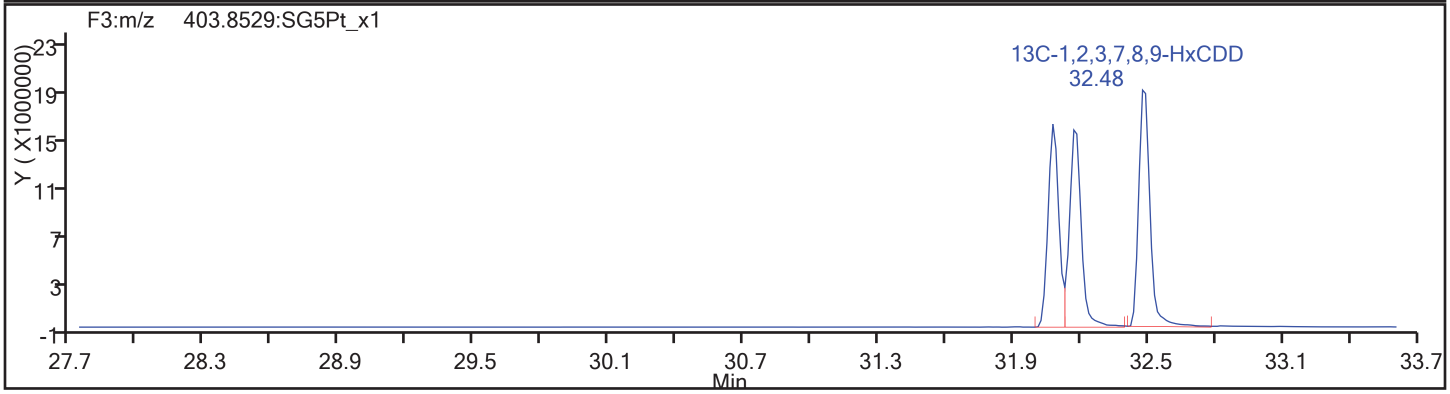

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TestAmerica Sacramento

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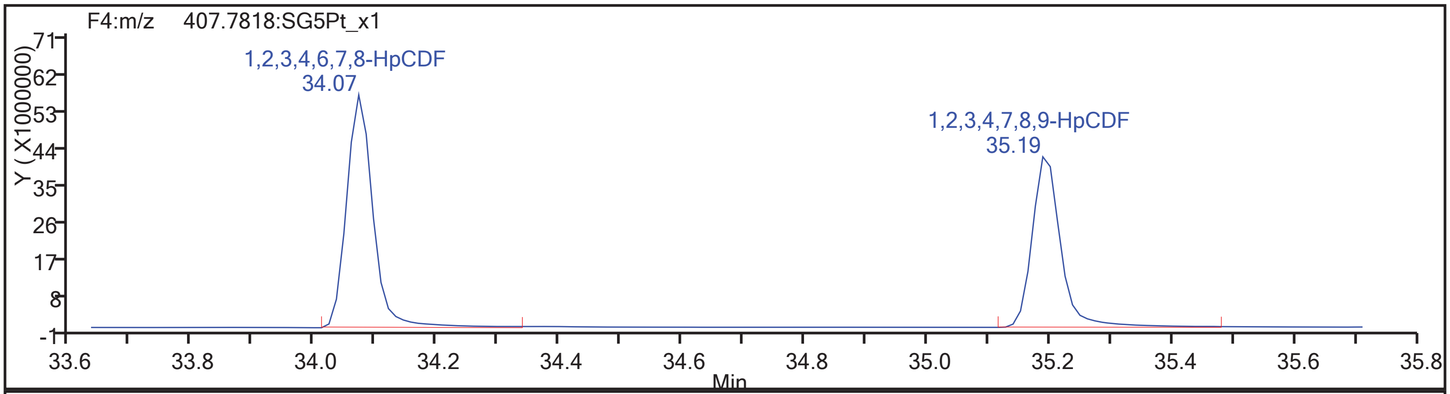

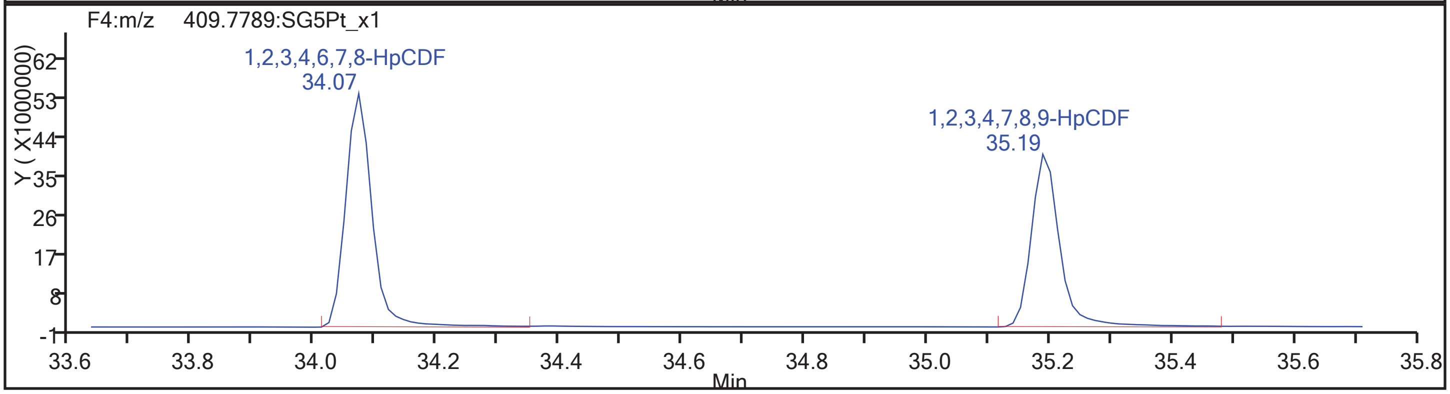

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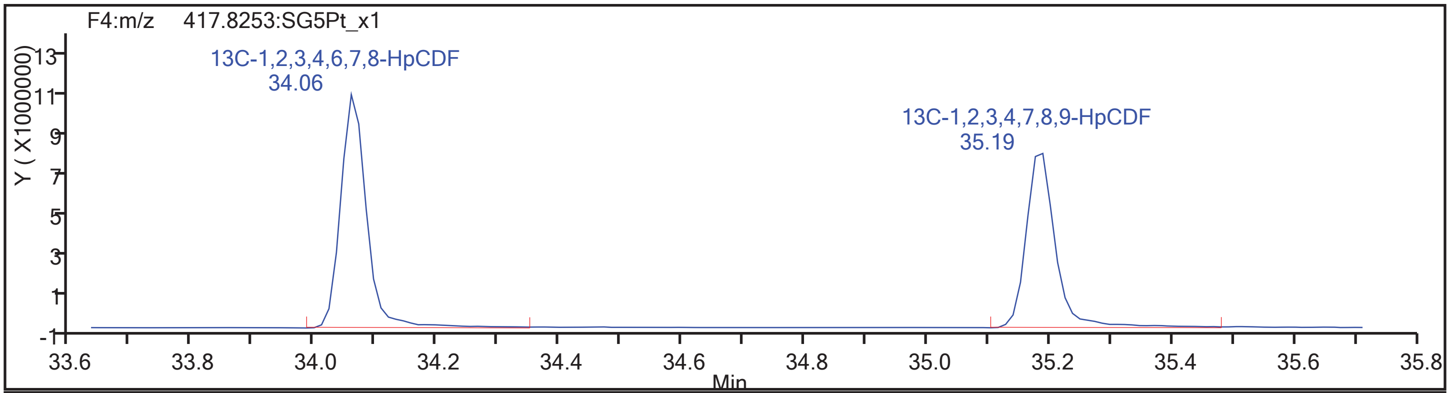

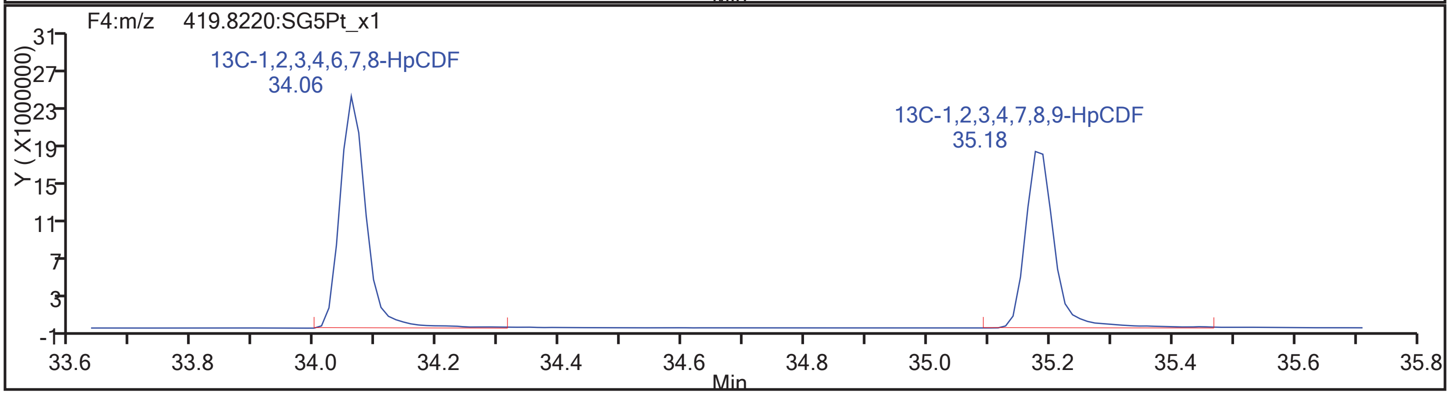

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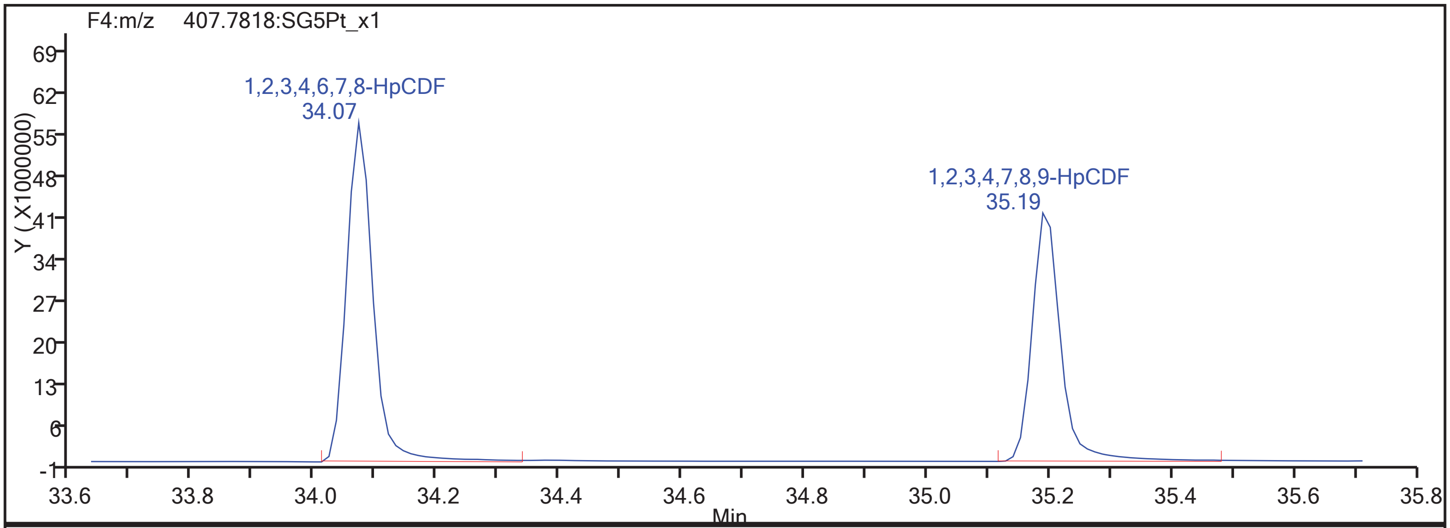
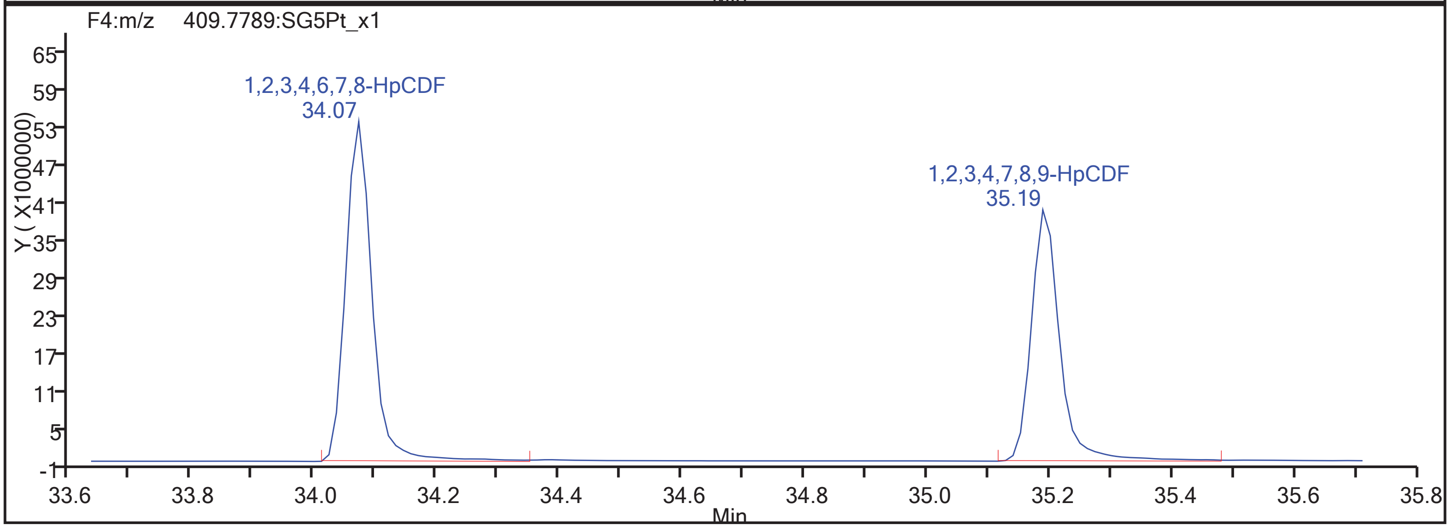
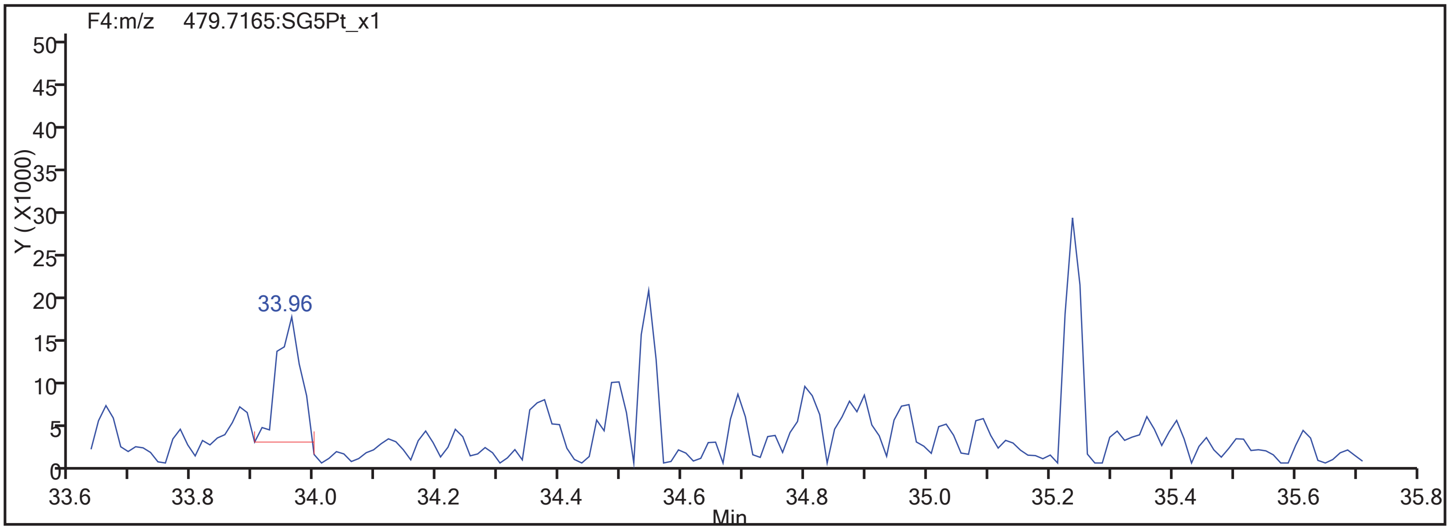




HpCDF Interference Mass



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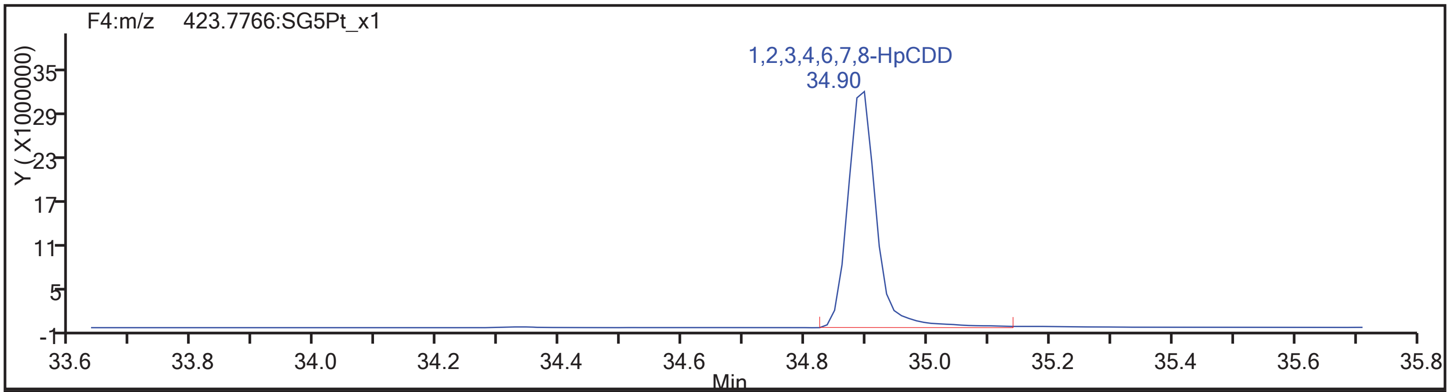

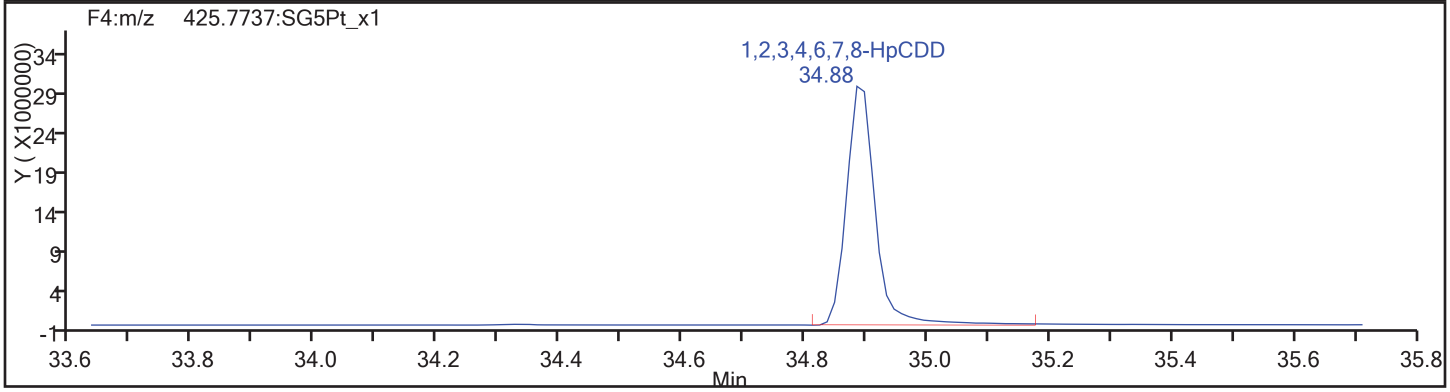

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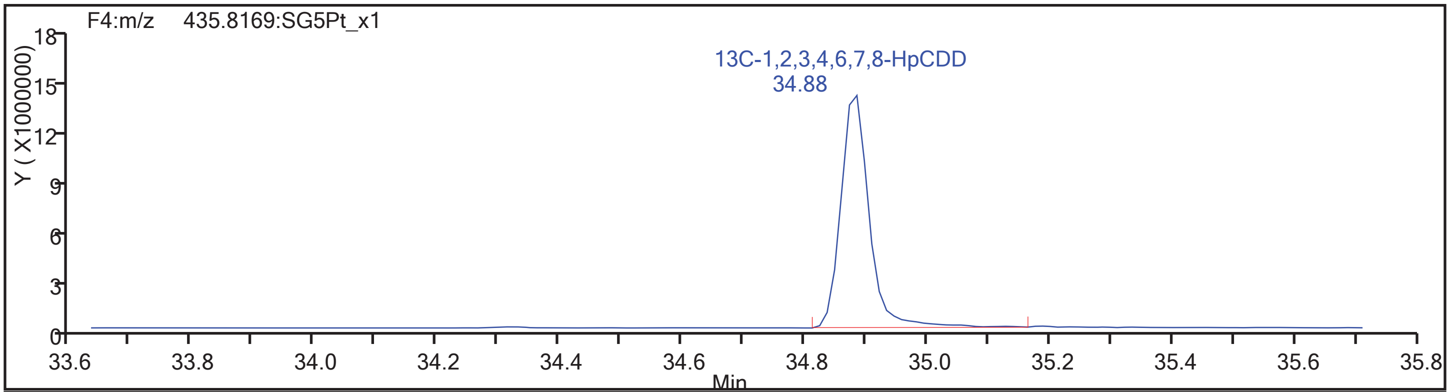

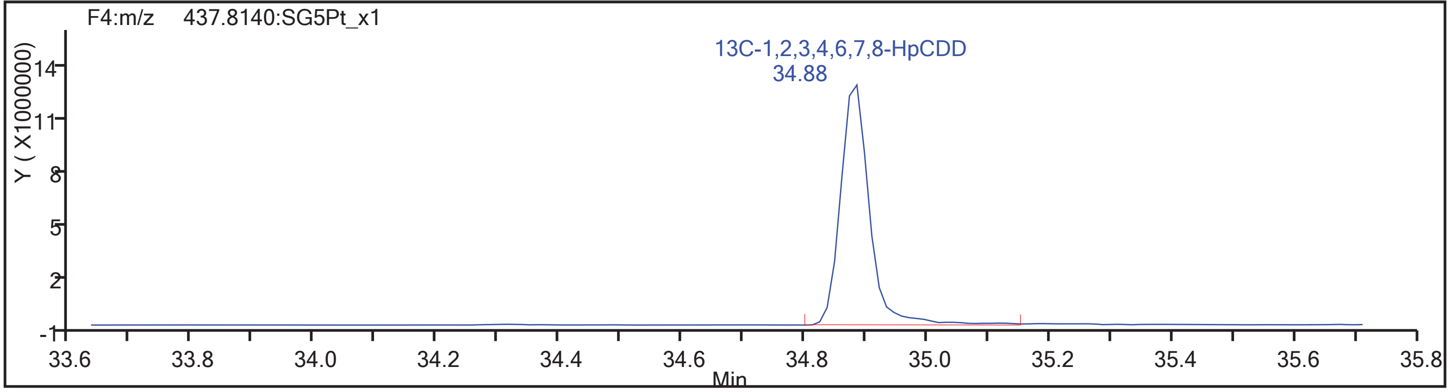

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Operator ID: SMA

Method: Dioxin_3D5

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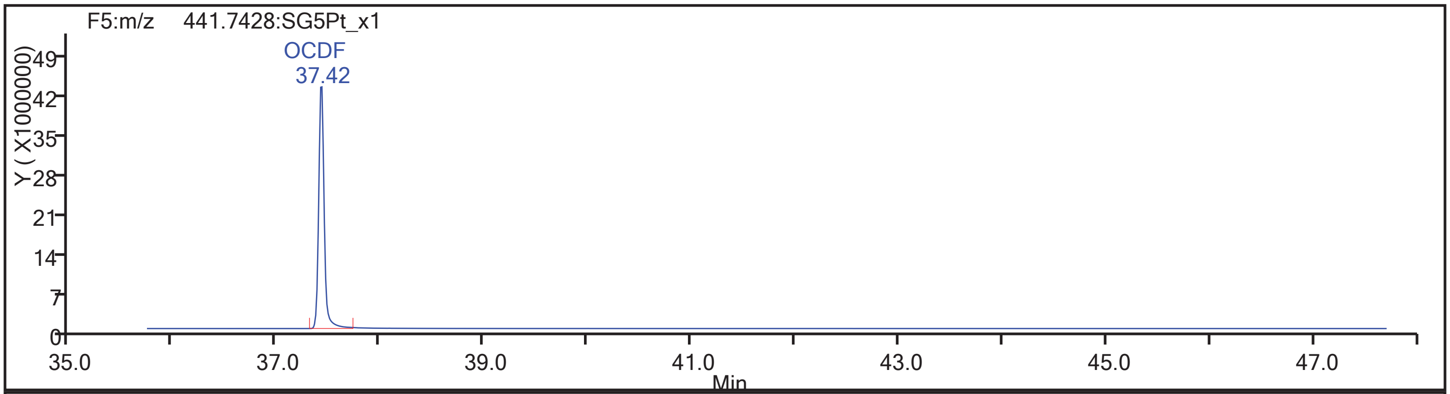

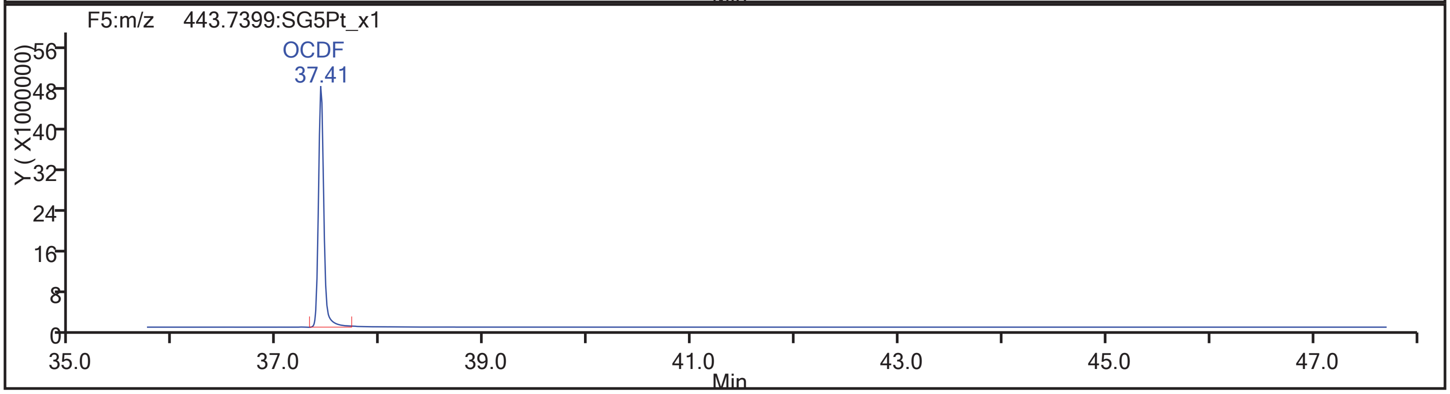

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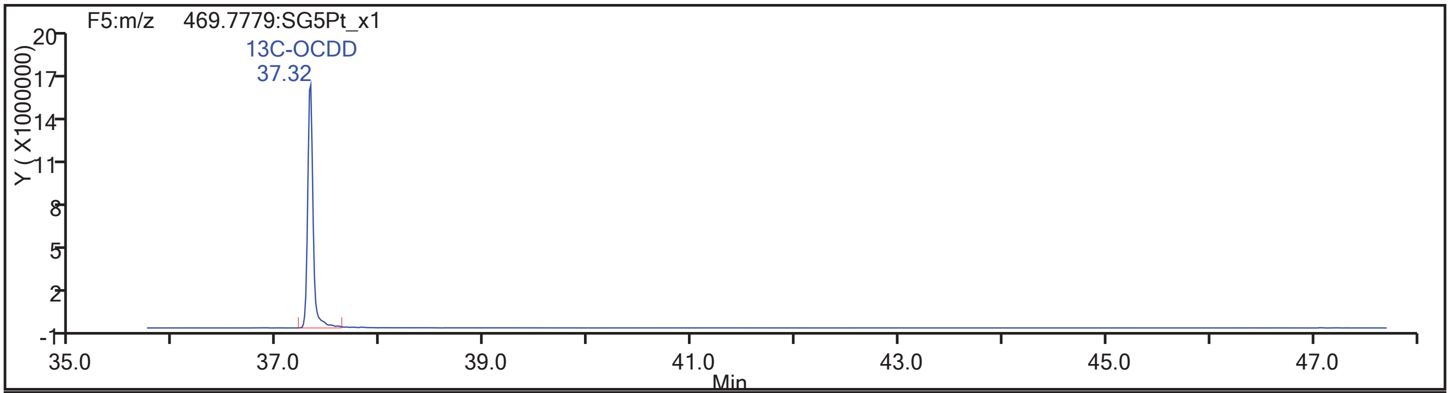

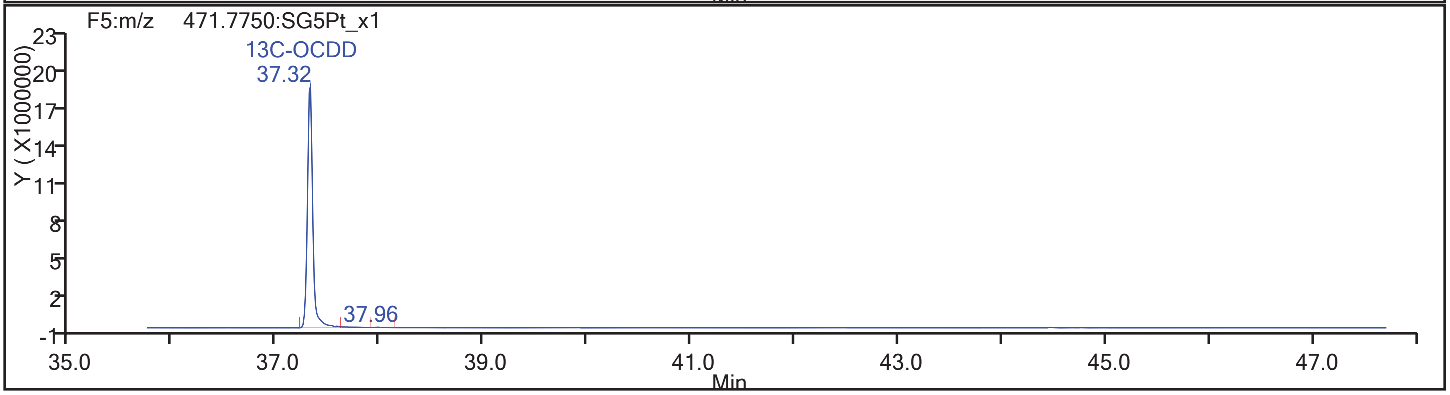

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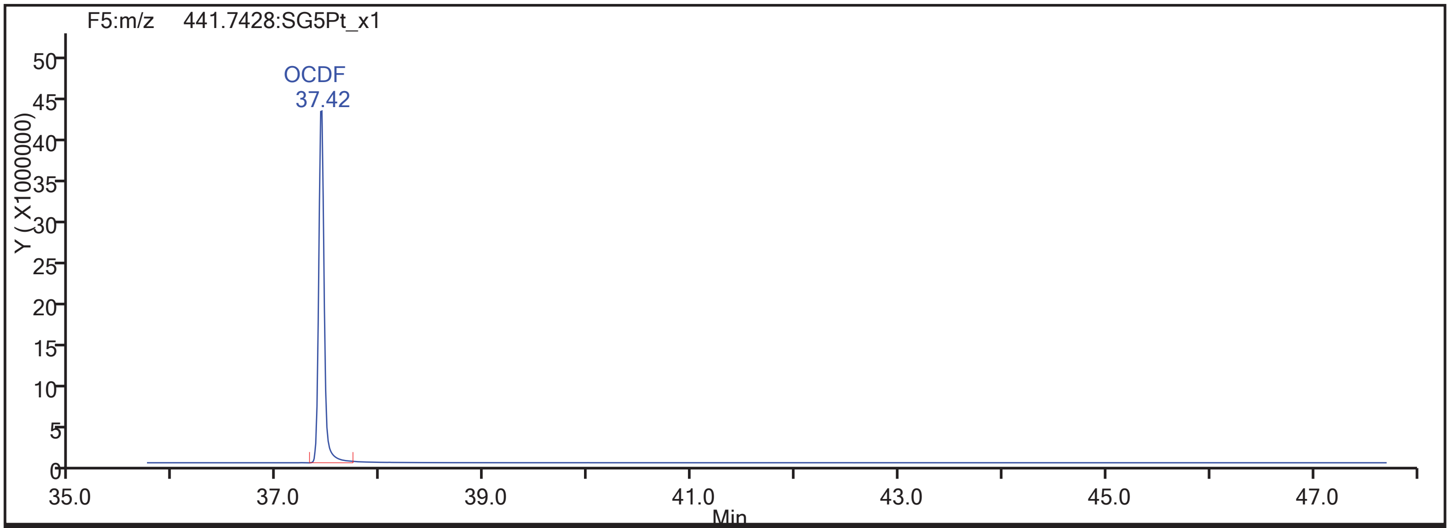
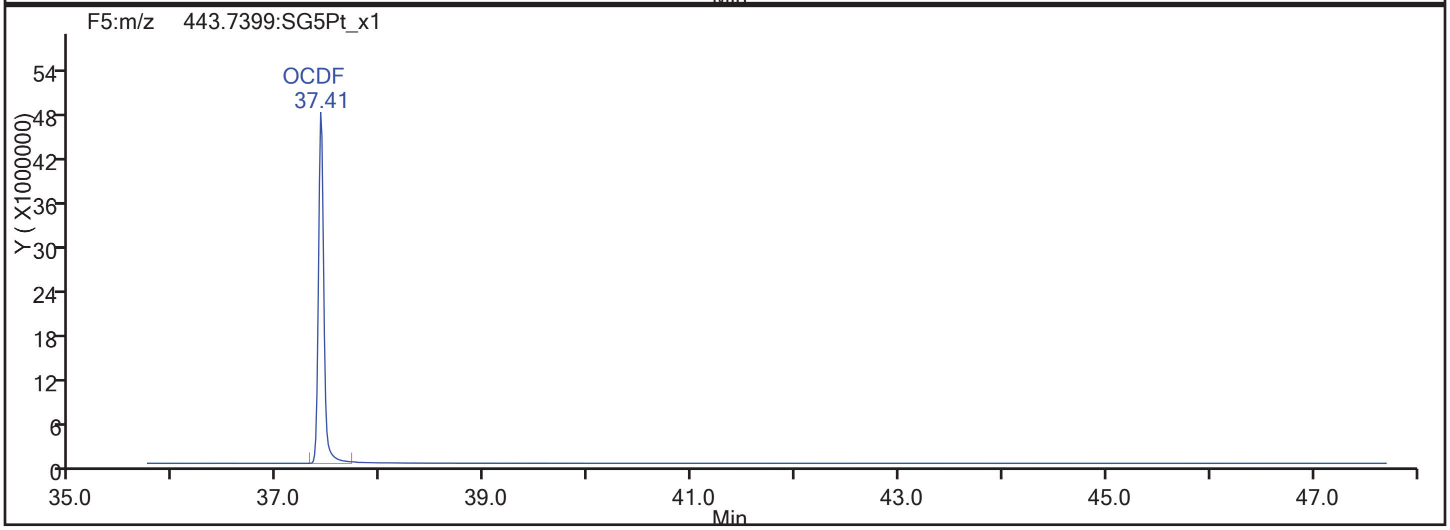
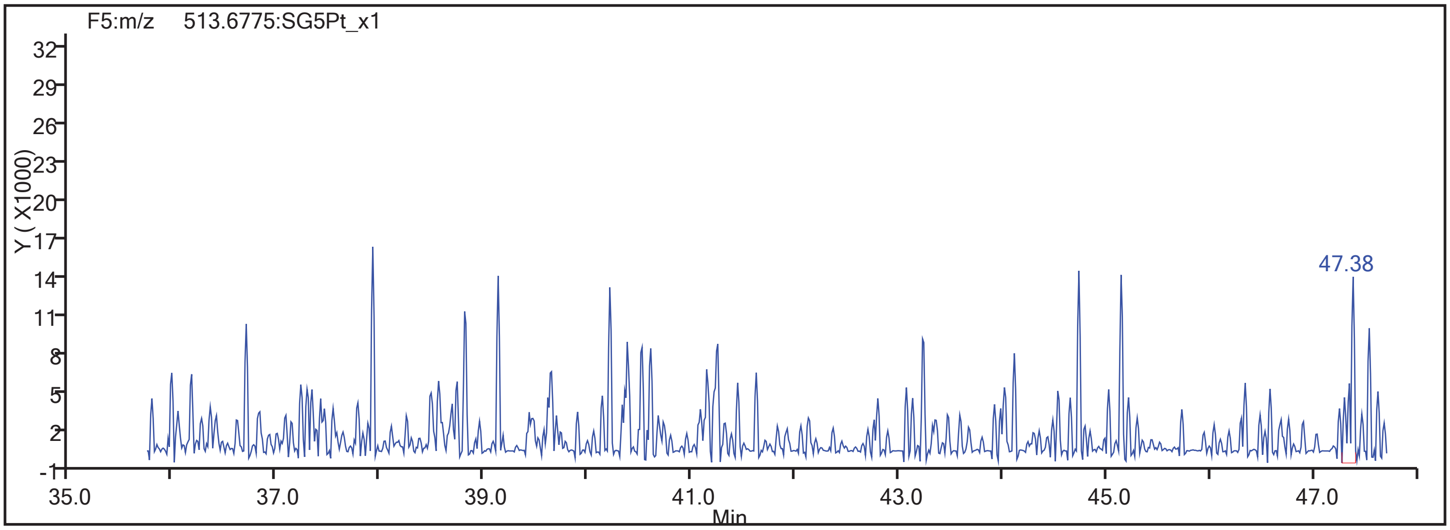




OCDF Interference Mass



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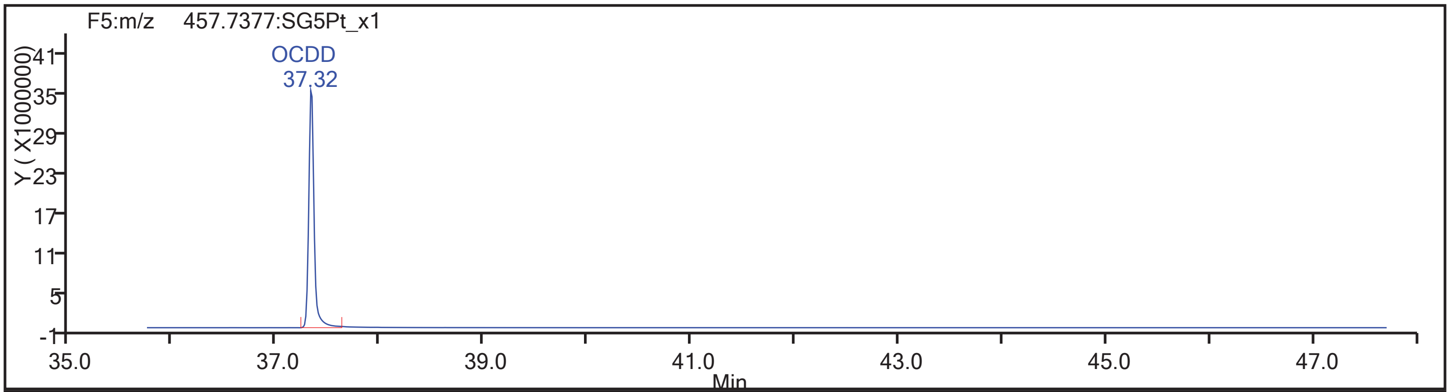

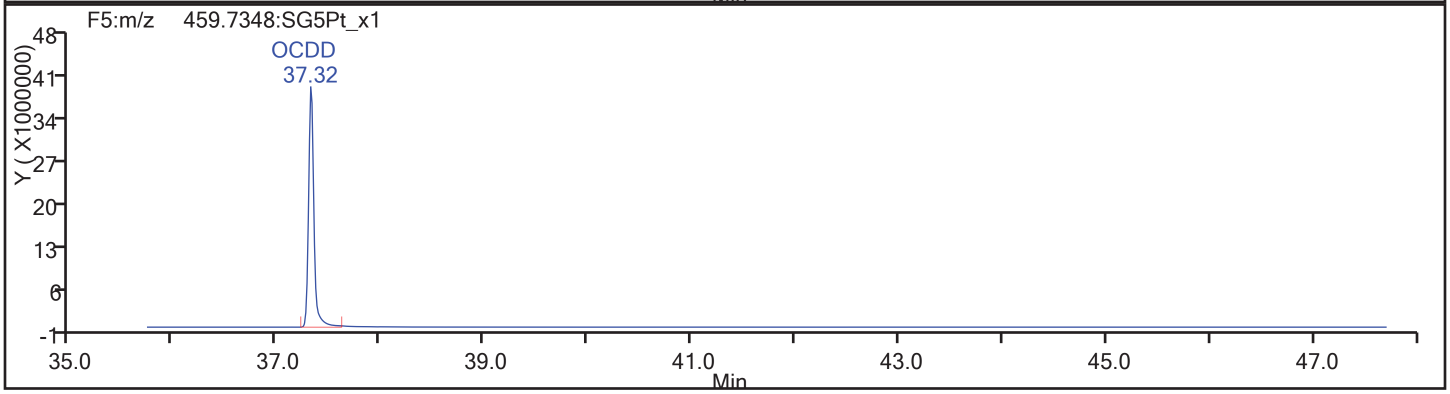

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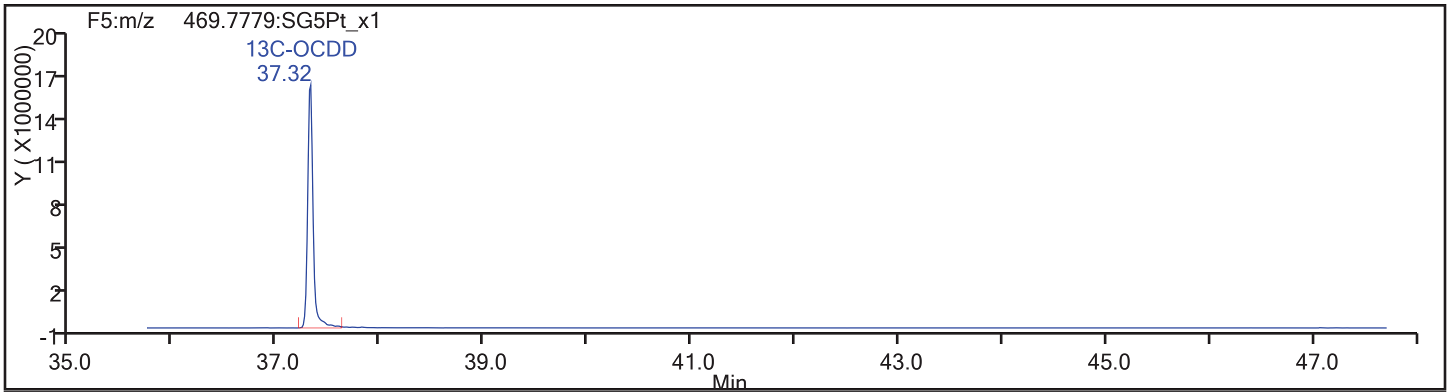

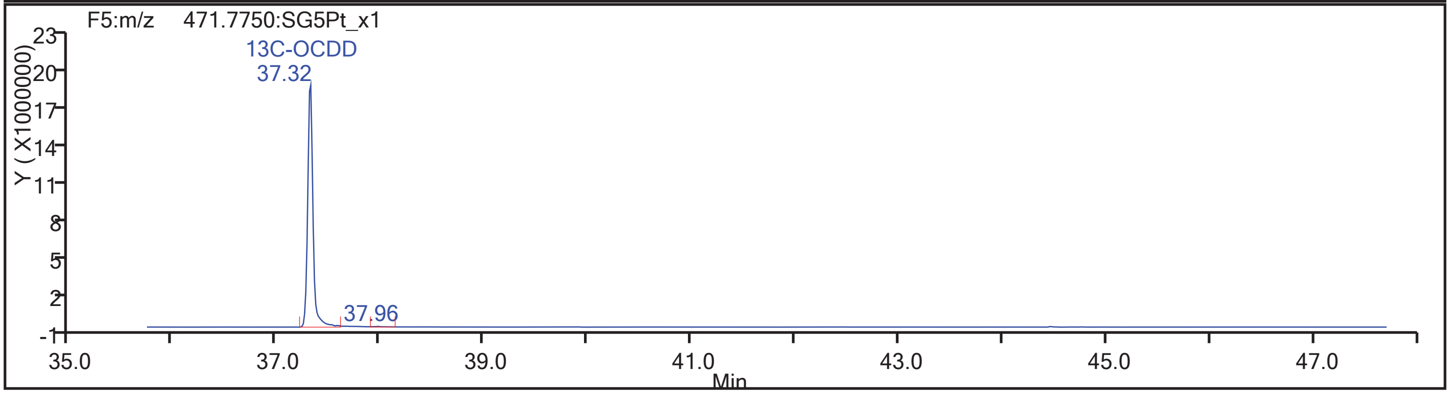

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Injection Date: 15-Nov-2017 15:05:45

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

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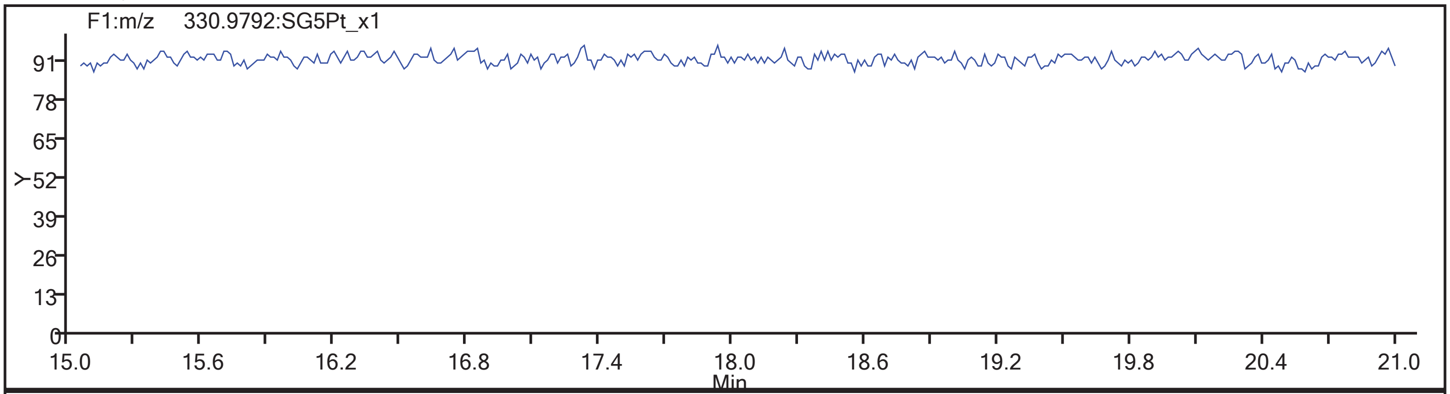

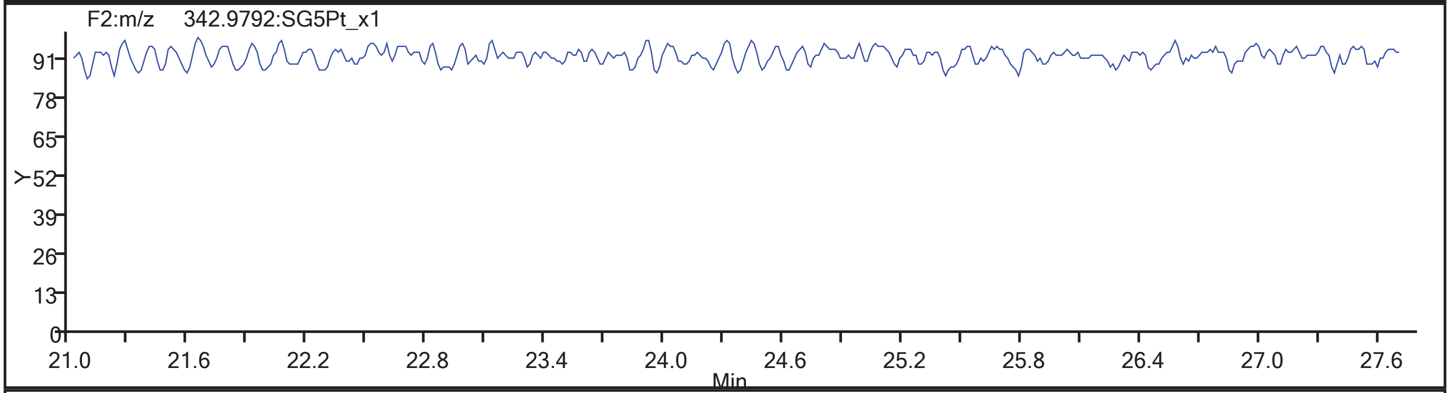

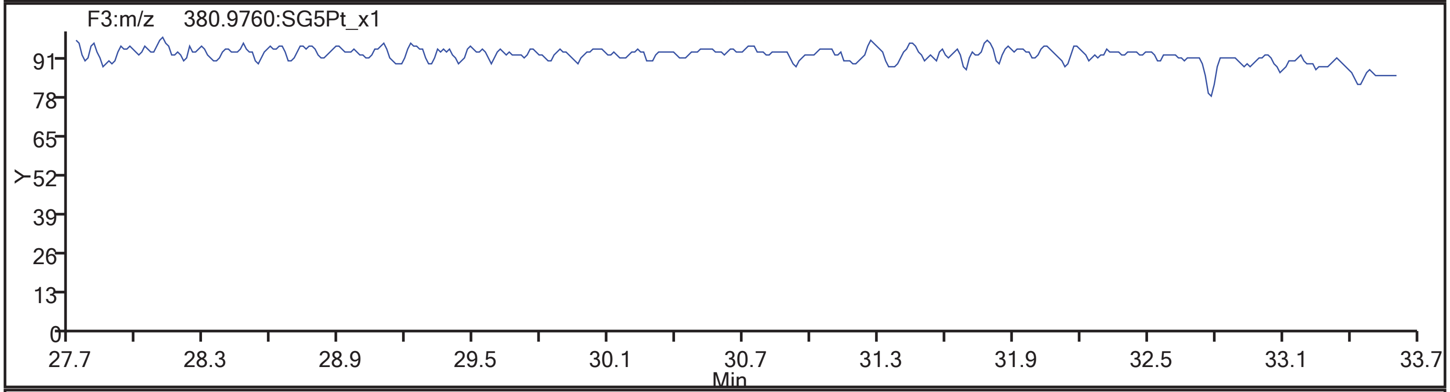

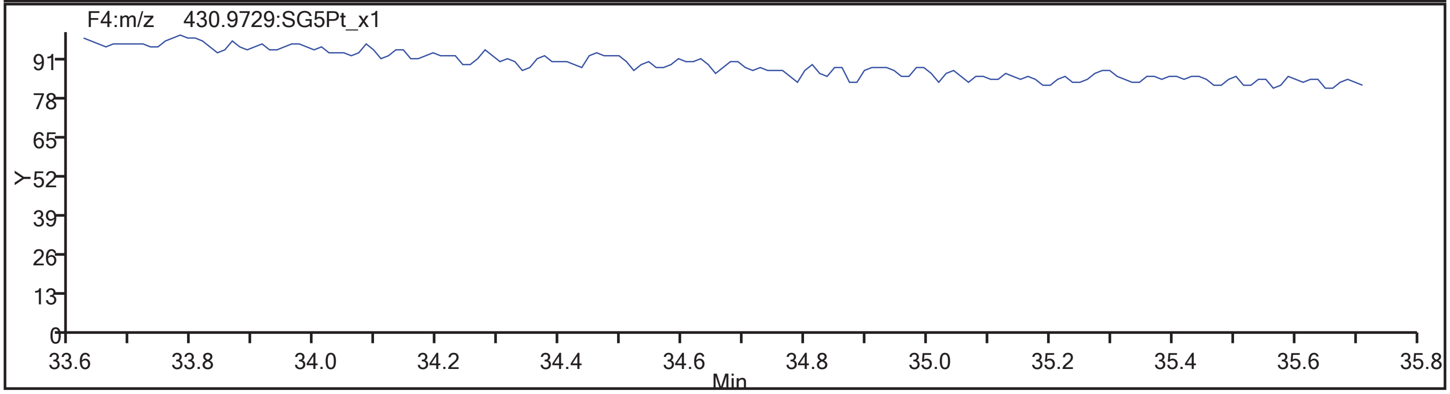

TestAmerica Sacramento

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Client ID:	CS501		
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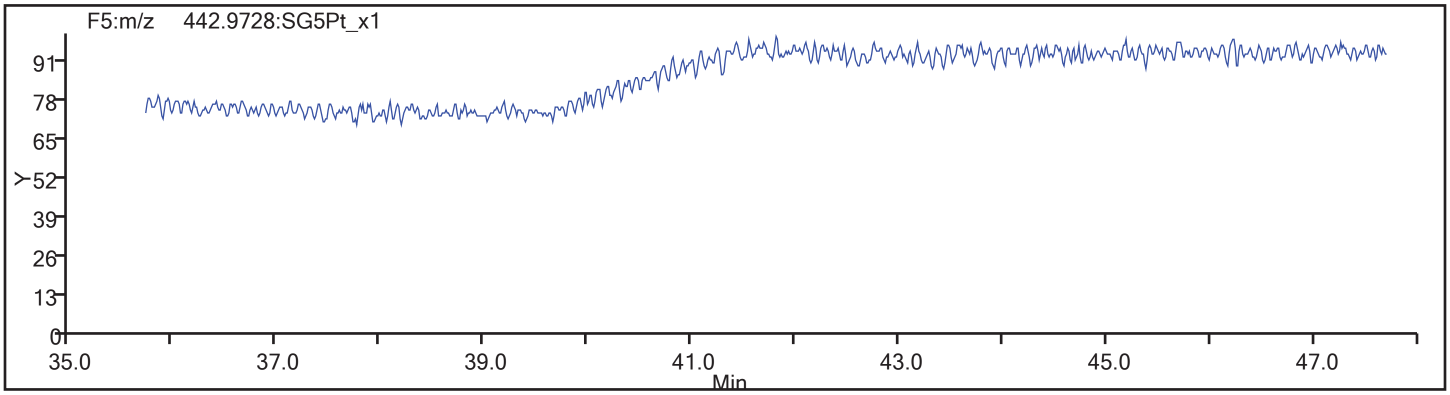


FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento   Job No.: 160-24924-2   Analy Batch No.: 153001

SDG No.:

Instrument ID: 9D2   GC Column: DB-225   ID: 0.32(mm)   Heated Purge: (Y/N) N

Calibration Start Date: 03/02/2017 14:04   Calibration End Date: 03/02/2017 16:36   Calibration ID: 28730

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-153001/4	02MR179D2_004.d
Level 2	IC 320-153001/3	02MR179D2_003.d
Level 3	IC 320-153001/2	02MR179D2_002.d
Level 4	IC 320-153001/6	02MR179D2_006.d
Level 5	IC 320-153001/5	02MR179D2_005.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDD	1.1858	1.1051	1.1162	1.0860	1.0684	AveID		1.1123				4.0		20.0			
2,3,7,8-TCDF	1.1702	1.0833	1.0795	1.0457	1.0136	AveID		1.0784				5.4		20.0			
13C-2,3,7,8-TCDD	0.9440	0.9479	0.9235	0.9759	0.9922	Ave		0.9567				2.8		20.0			
13C-2,3,7,8-TCDF	1.2536	1.2419	1.2690	1.2749	1.2598	Ave		1.2599				1.0		20.0			
37Cl4-2,3,7,8-TCDD	1.1389	1.1015	1.0765	1.1455	1.1414	Ave		1.1208				2.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2 Analy Batch No.: 153001

SDG No.:

Instrument ID: 9D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/02/2017 14:04 Calibration End Date: 03/02/2017 16:36 Calibration ID: 28730

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-153001/4	02MR179D2_004.d
Level 2	IC 320-153001/3	02MR179D2_003.d
Level 3	IC 320-153001/2	02MR179D2_002.d
Level 4	IC 320-153001/6	02MR179D2_006.d
Level 5	IC 320-153001/5	02MR179D2_005.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDD		AveID	1530827	5779049	29666101	127538788	601564618	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDF		AveID	2006166	7421991	39422230	160424721	724636306	0.500	2.00	10.0	40.0	200
13C-2,3,7,8-TCDD	13CTC	Ave	258187081	261471753	265771925	293597697	281521266	100	100	100	100	100
13C-2,3,7,8-TCDF	13CTC	Ave	342865118	342574094	365198533	383548392	357468339	100	100	100	100	100
37Cl4-2,3,7,8-TCDD	13CTC	Ave	1557490	6076704	30979395	137849801	647704398	0.500	2.00	10.0	40.0	200

Curve Type Legend:

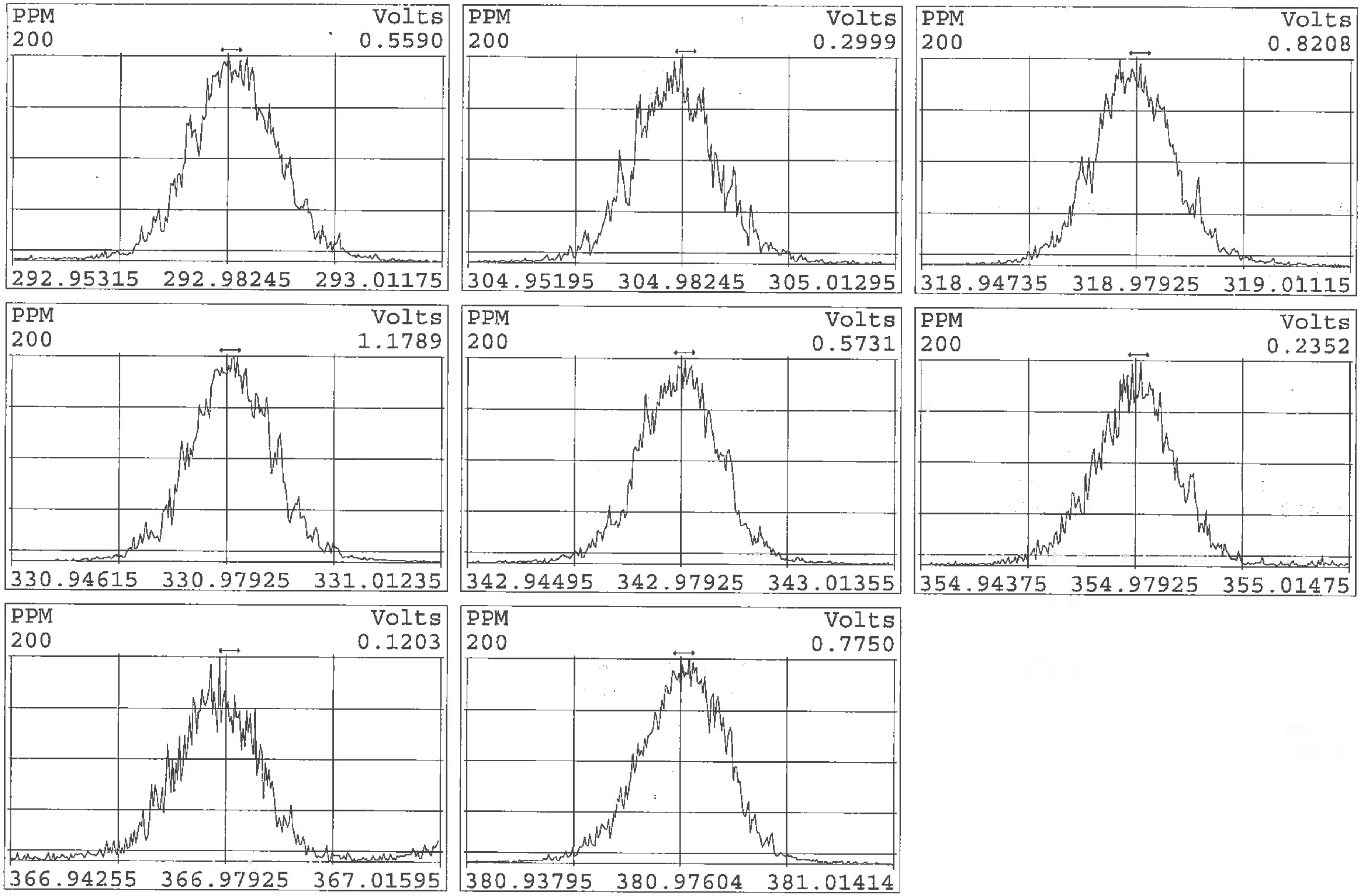
Ave = Average ISTD

AveID = Average isotope dilution

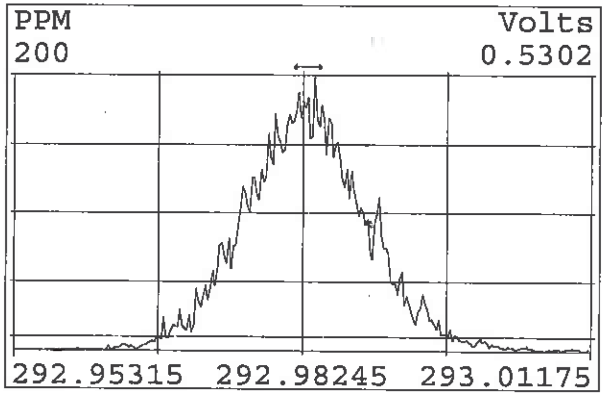
Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
02MR179D2	1	CPS 030217	DB225 CPSM HRDXNCP_00031				1.00000	
02MR179D2	2	IC 030217	CS-4 HRDXNL4_00052				1.00000	
02MR179D2	3	IC 030217A	CS-3 HRDXNL3_00018				1.00000	
02MR179D2	4	IC 030217B	CS-2 HRDXNL2_00020				1.00000	
02MR179D2	5	IC 030217C	CS-6 HRDXNL6_00017				1.00000	
02MR179D2	6	IC 030217D	CS-5 HRDXNL5_00021				1.00000	
02MR179D2	7	ICV 030217	2nd Source HRDXNIC_00031				1.00000	
02MR179D2	8	CPS 030217A	DB225 CPSM HRDXNCP_00031				1.00000	
02MR179D2	9						1.00000	
02MR179D2	10						1.00000	
02MR179D2	11						1.00000	
02MR179D2	12						1.00000	
02MR179D2	13						1.00000	
02MR179D2	14						1.00000	
02MR179D2	15						1.00000	
02MR179D2	16						1.00000	
02MR179D2	17						1.00000	
02MR179D2	18		KSS, SMA 03-02-17				1.00000	
02MR179D2	19						1.00000	

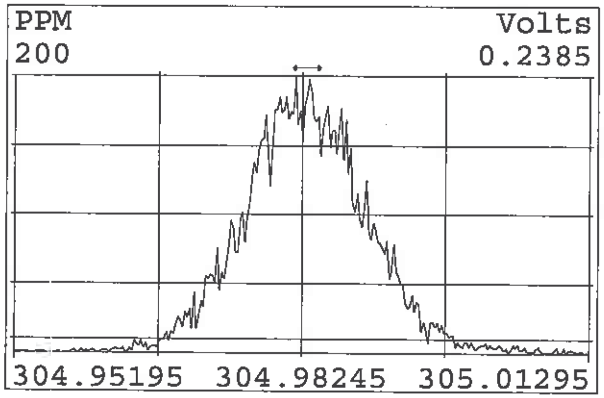
logfile checked
3-02-17 ALM

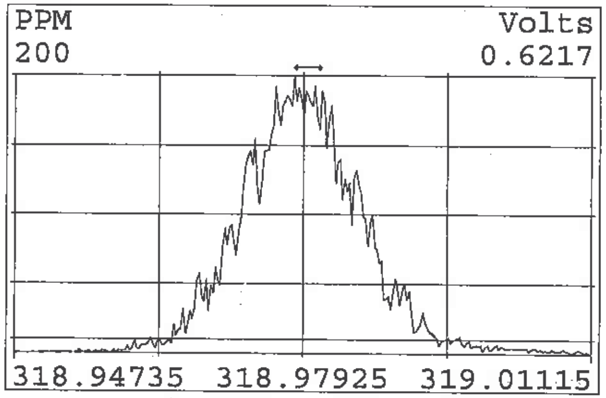
Peak Locate Examination: 2-MAR-2017:13:26 File:02MR179D2
Experiment:DB225RES Function:1 Reference:PFK

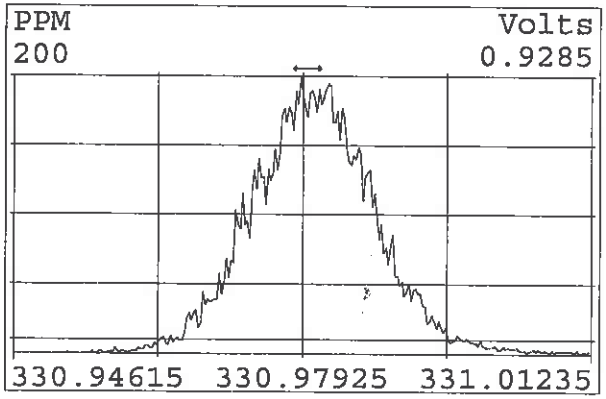


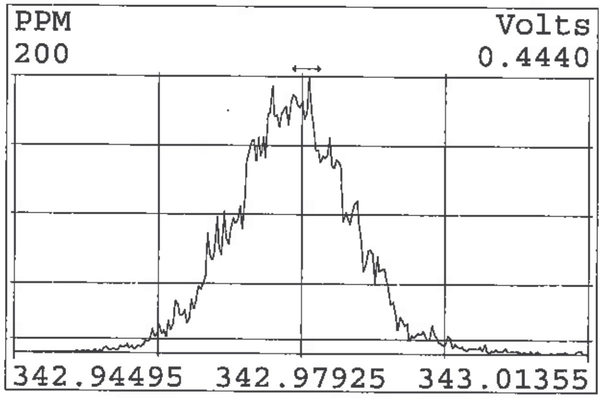
Peak Locate Examination: 2-MAR-2017:19:06 File:RESCHK02MR179D2
Experiment:DB225RES Function:1 Reference:PFK

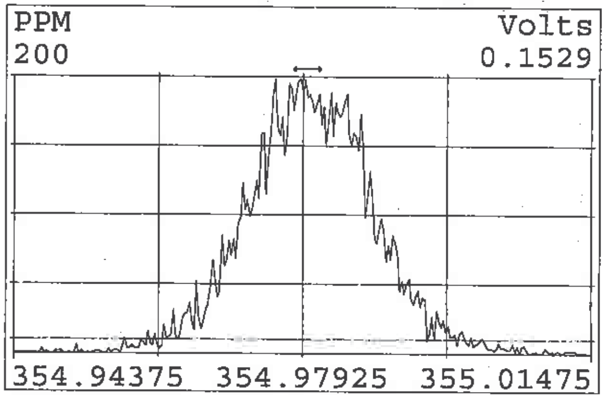


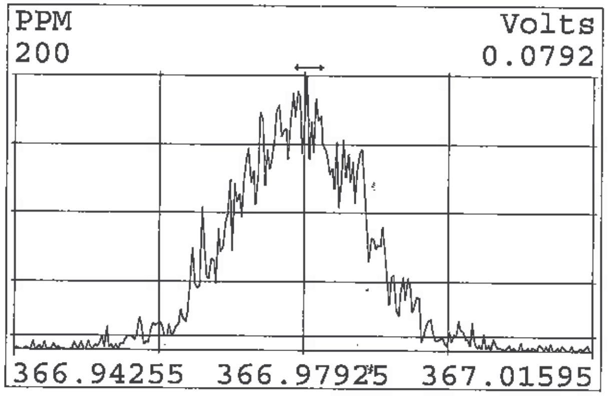


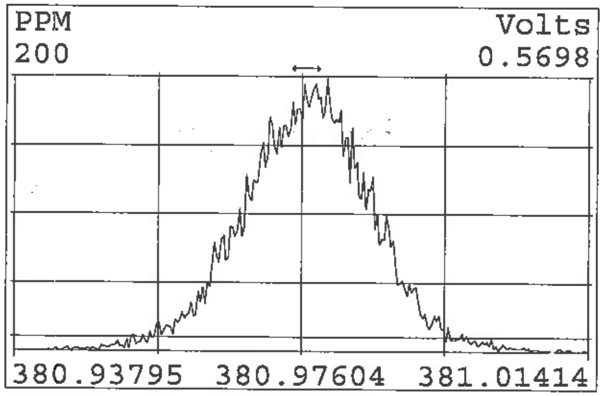












TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_002.d				
Lims ID:	IC CS4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	02-Mar-2017 14:04:48	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CS-4 HRDXNL4_00052				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	03-Mar-2017 09:14:23	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK026				

First Level Reviewer: stephensk Date: 03-Mar-2017 09:00:30

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.196	287774612	0.77	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.334	365198533	0.81	1.2599	100.7	100.7	0.2049	0.2049	101	
2,3,7,8-TCDF	16.362	39422230	0.74	1.0784	10.0	10.0	0.0306	0.0306	100	
D 13C-2,3,7,8-TCDD	14.935	265771925	0.76	0.9567	96.5	96.5	0.1589	0.1589	96.53	
$ 37Cl4-2,3,7,8-TCDD	14.949	30979395		1.1208	9.605	9.605	0.0215	0.0215	96.05	
2,3,7,8-TCDD	14.949	29666101	0.81	1.1123	10.0	10.0	0.0464	0.0464	100	
S Total Dioxins & Furans							0.000100	0.000100		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00052 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_002.d
Lims ID: IC CS4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Mar-2017 14:04:48 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00052
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2
Sublist: chrom-DXN_DB225_9D2*sub1

Method: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 03-Mar-2017 09:14:23 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK026

First Level Reviewer: stephensk Date: 03-Mar-2017 09:00:30

Signal	RT (min.)	Adj RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.196	15.198	0		125357748	27261901	18932	47330	1440		
333.9339	15.196	15.198	0		162416864	35510614	19250	48125	1845	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.334	16.342	0	1.075	163437647	31241994	35784	89460	873		
317.9389	16.334	16.342	0	1.075	201760886	39210304	29029	72572	1351	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.362	16.366	0	1.002	16766206	3215179	4674	11685	688		
305.8987	16.348	16.366	-1	1.001	22656024	4410174	4638	11595	951	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.935	14.932	0	0.983	115033692	24234451	18932	47330	1280		
333.9339	14.935	14.932	0	0.983	150738233	31442003	19250	48125	1633	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.949	14.951	0	0.984	30979395	6506297	6059	15147	1074		
2,3,7,8-TCDD											
319.8965	14.949	14.951	0	1.001	13303275	2859309	5329	13322	537		
321.8936	14.949	14.951	0	1.001	16362826	3451016	6166	15415	560	0.81(0.65-0.89)	
Total Dioxins & Furans											
303.9016		0.0	0				4674	11685			
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				4674	11685			

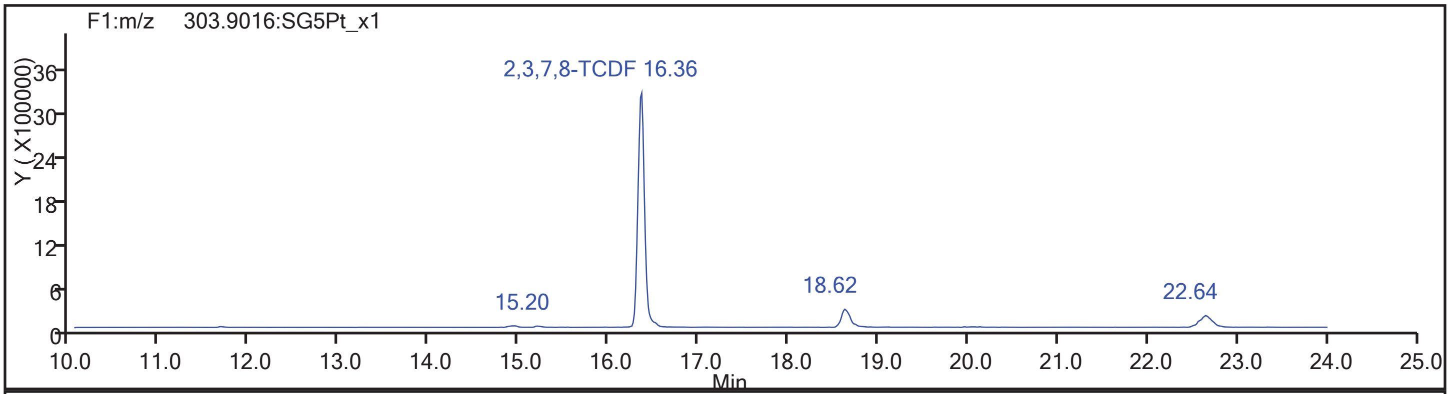
Reagents:

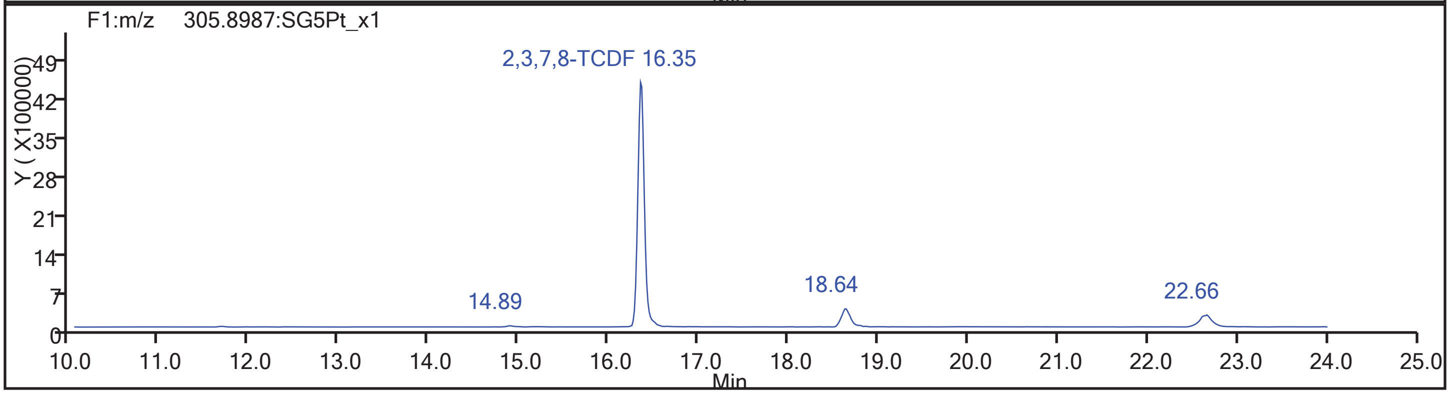
HRDXNL4_00052 Amount Added: 1.00 Units: mL

TestAmerica Sacramento

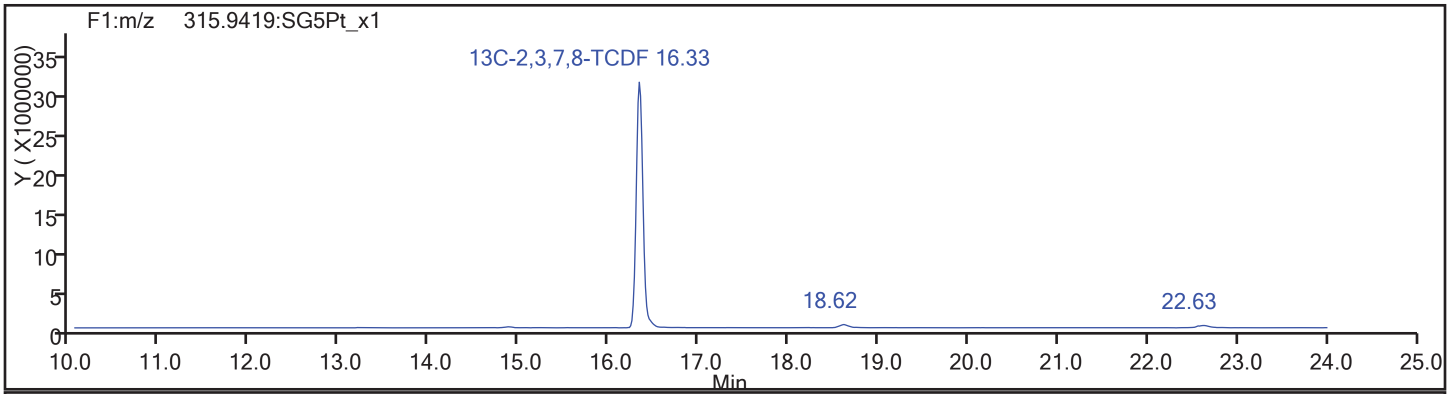
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_002.d		
Injection Date:	02-Mar-2017 14:04:48	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

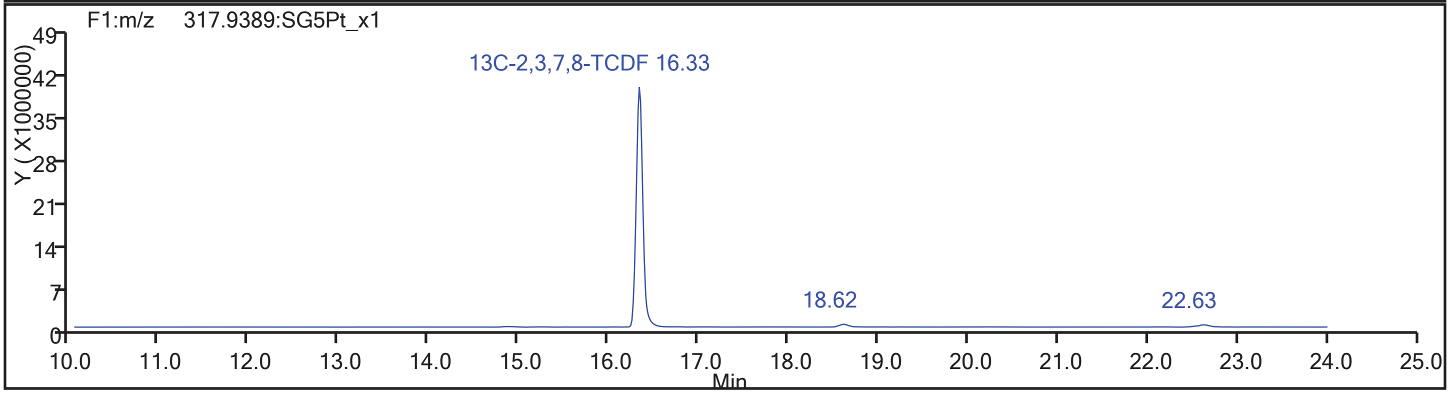
TCDF





TCDF Standards



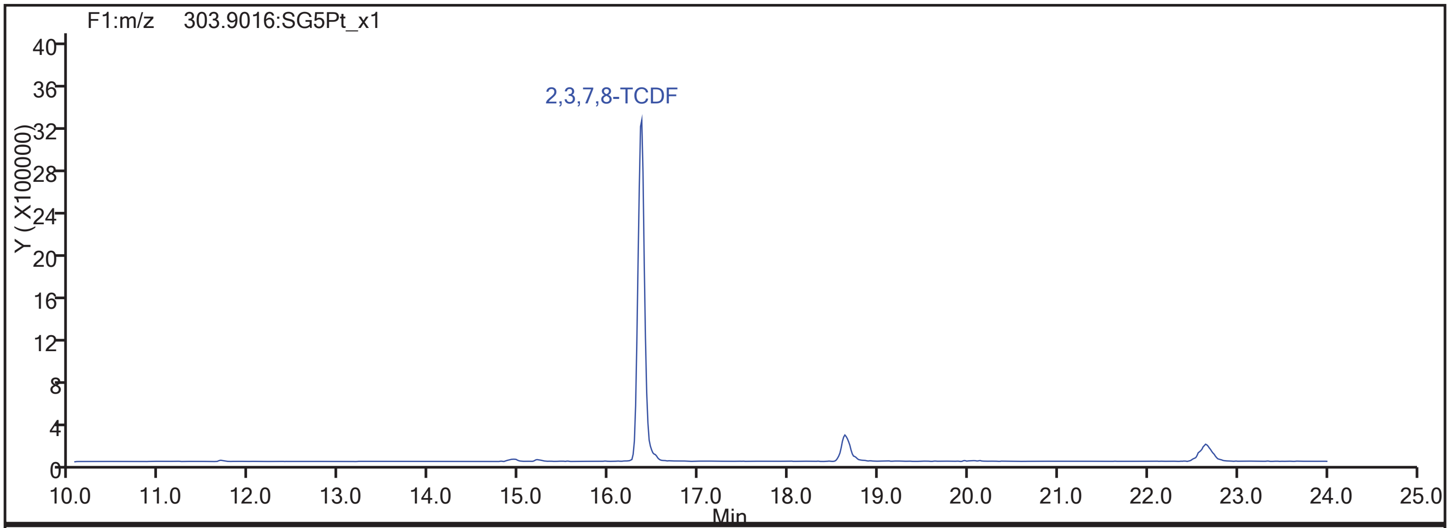


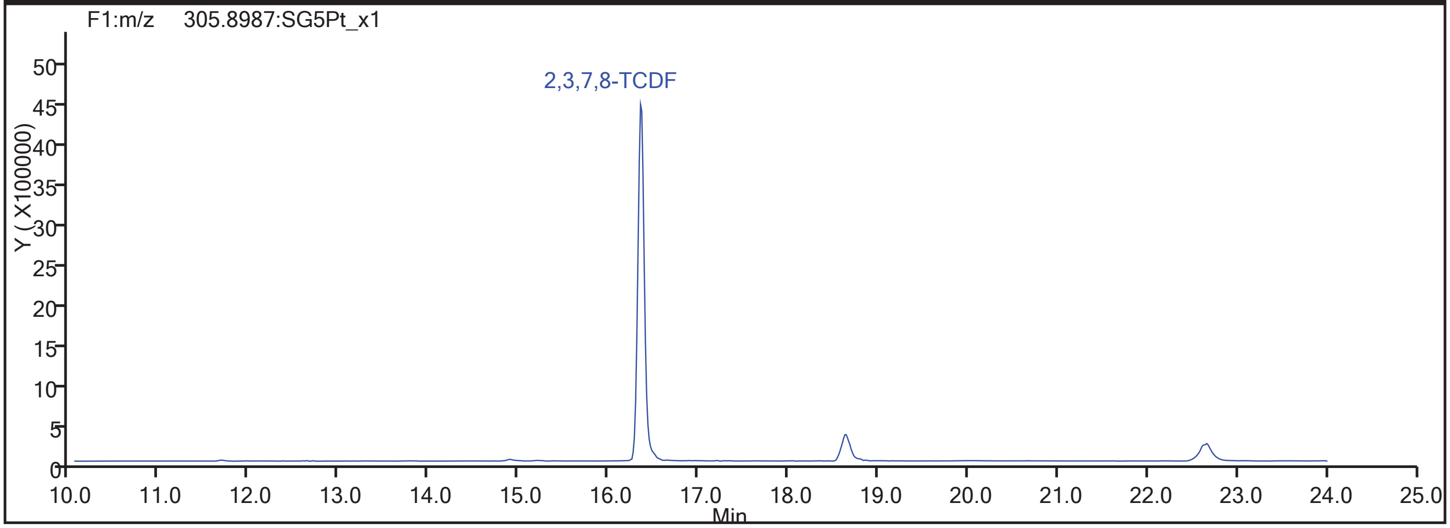
Report Date: 03-Mar-2017 09:14:25 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

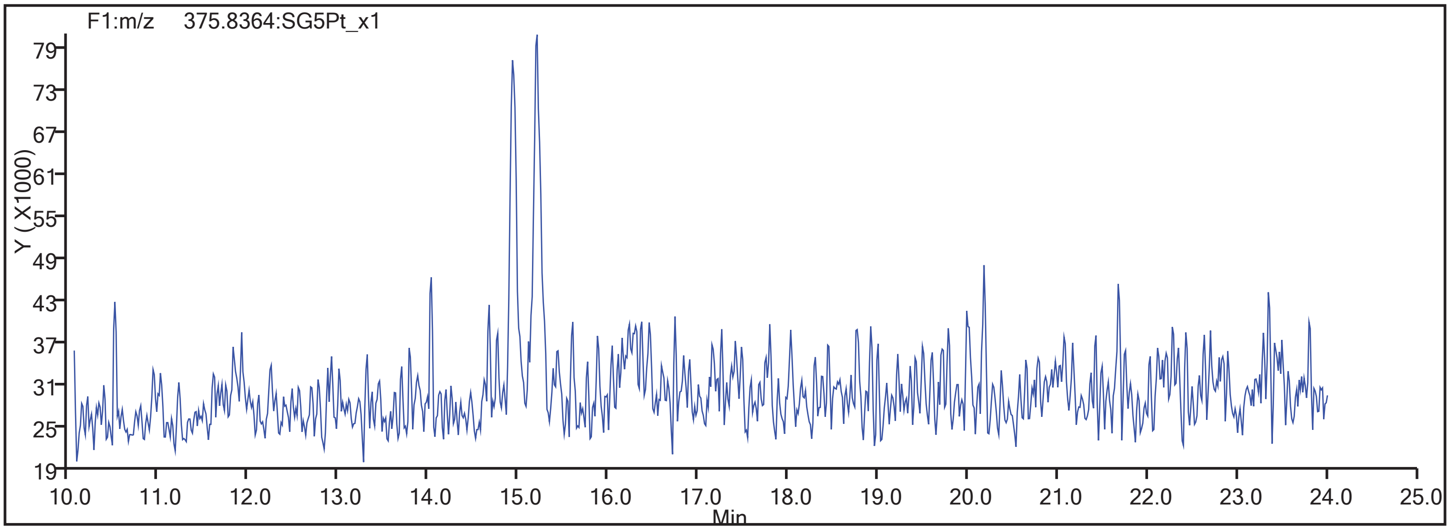
Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_002.d
Injection Date: 02-Mar-2017 14:04:48
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 153001
Sample Line#: 2
Column Type: DB-225
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



TestAmerica Sacramento

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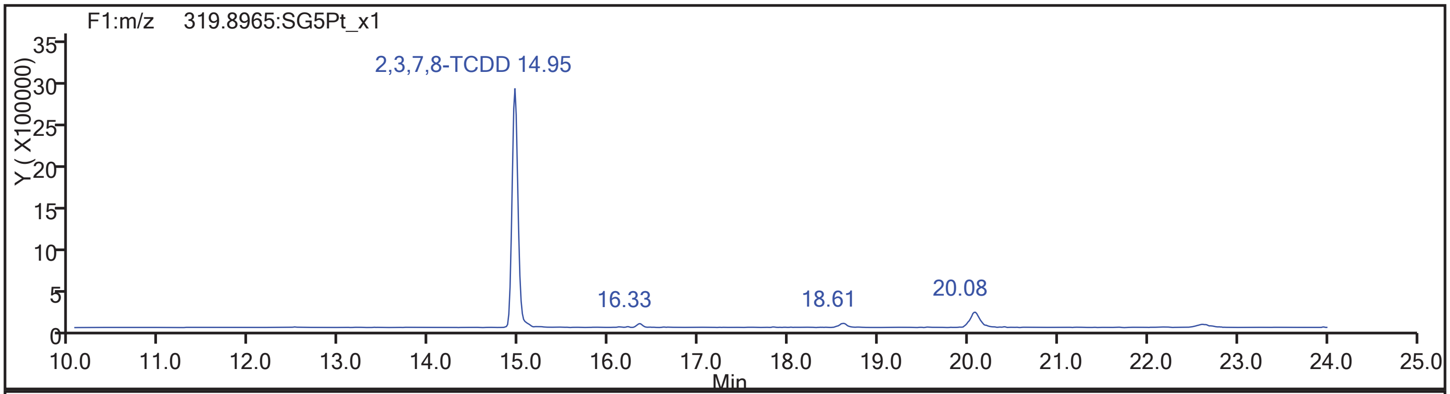
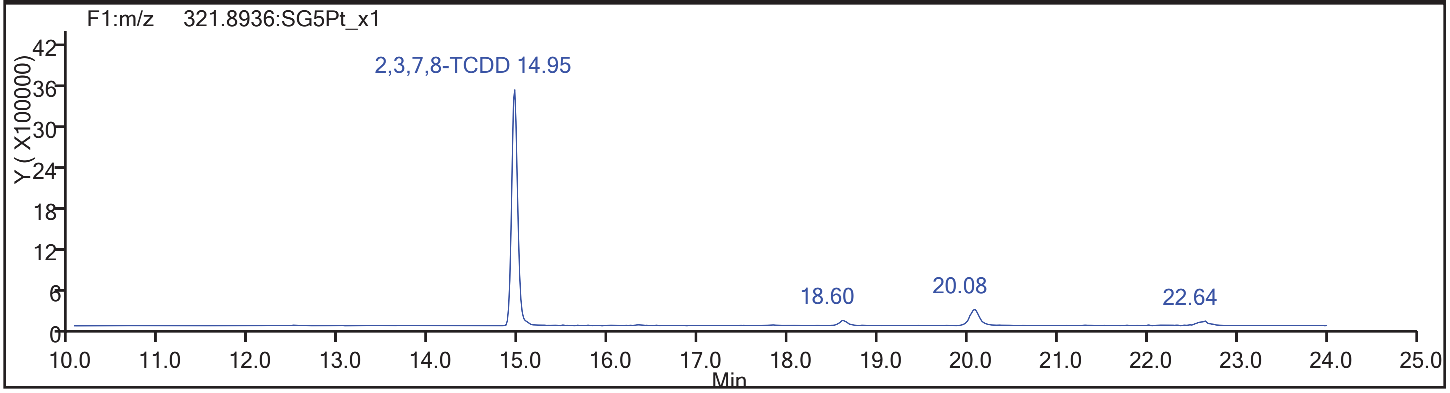
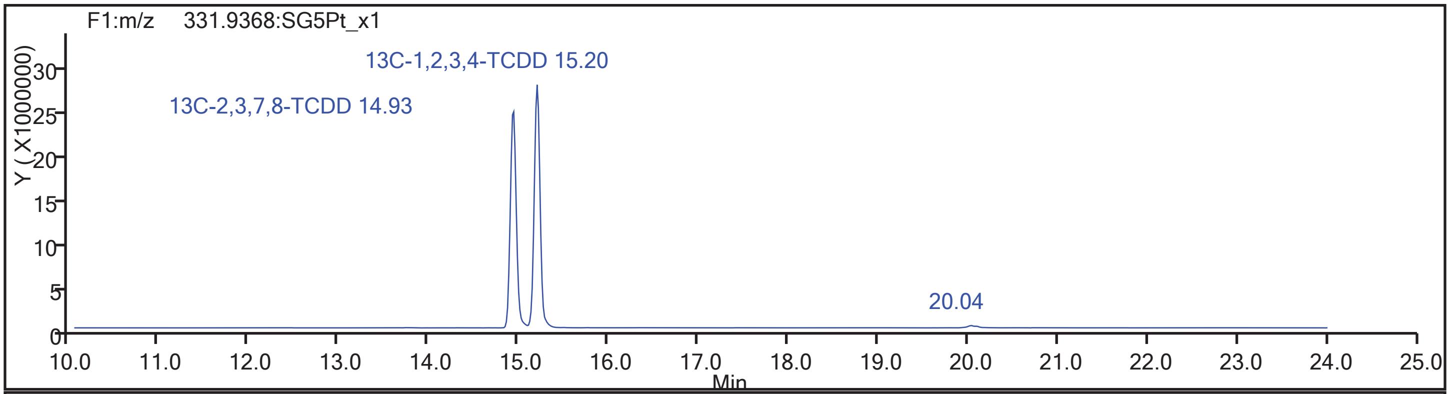
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

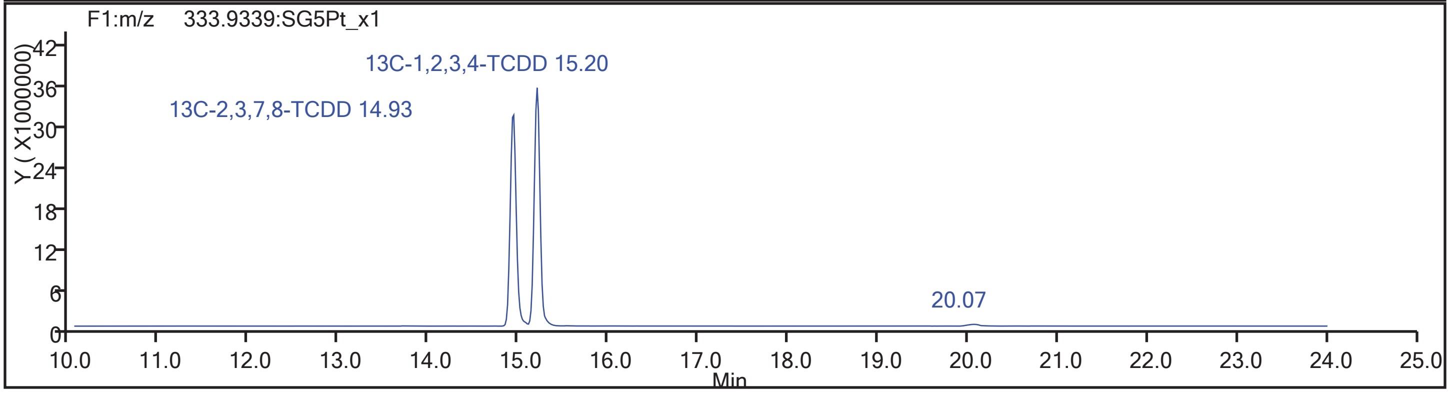
TCDD





TCDD Standards





Report Date: 03-Mar-2017 09:14:25 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

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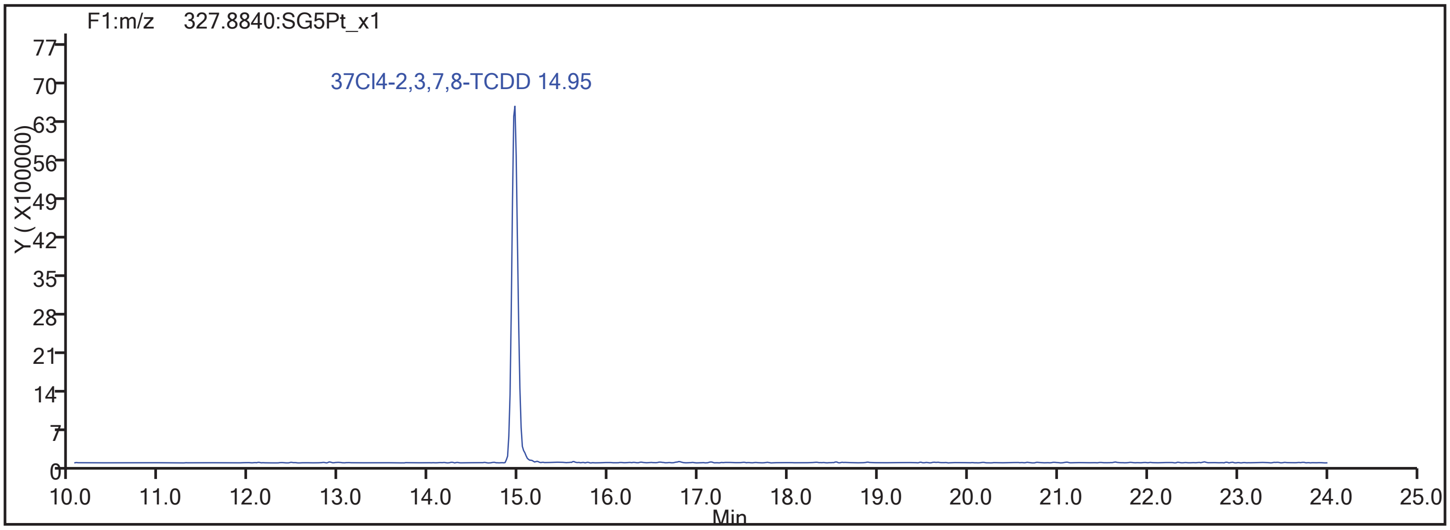
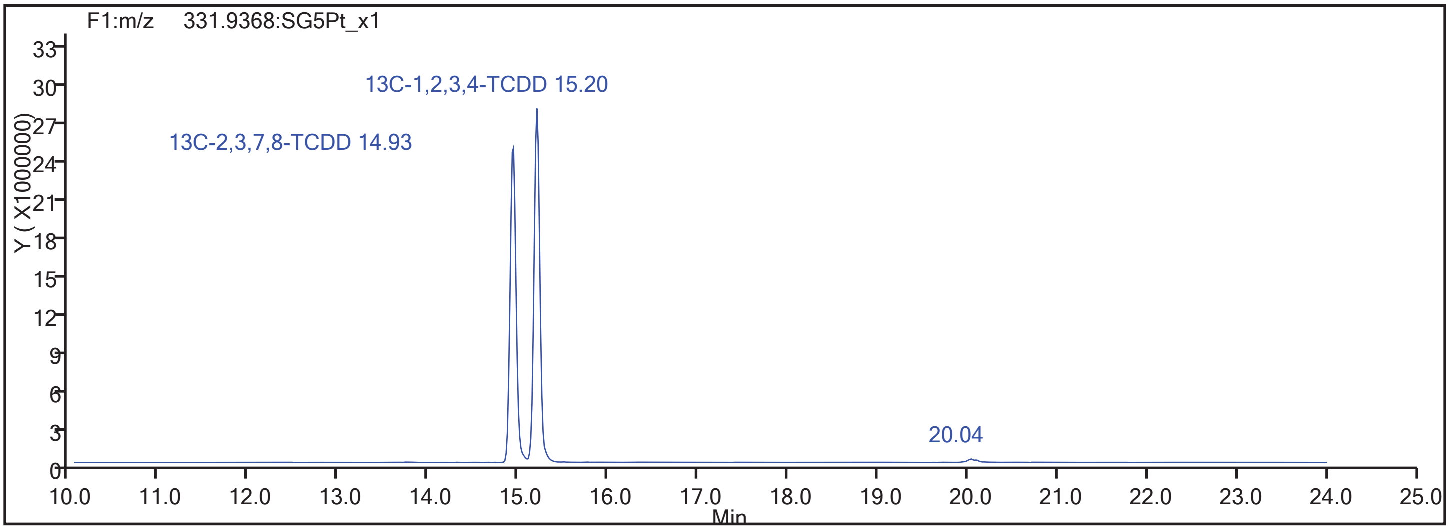
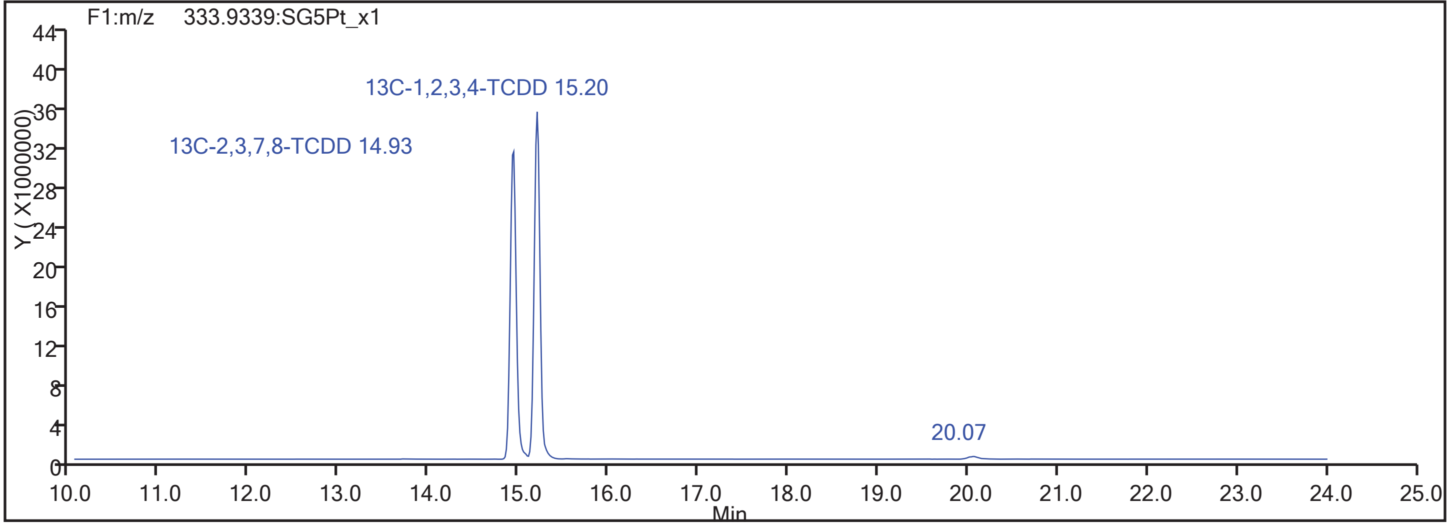
Injection Date:	02-Mar-2017 14:04:48	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





TestAmerica Sacramento

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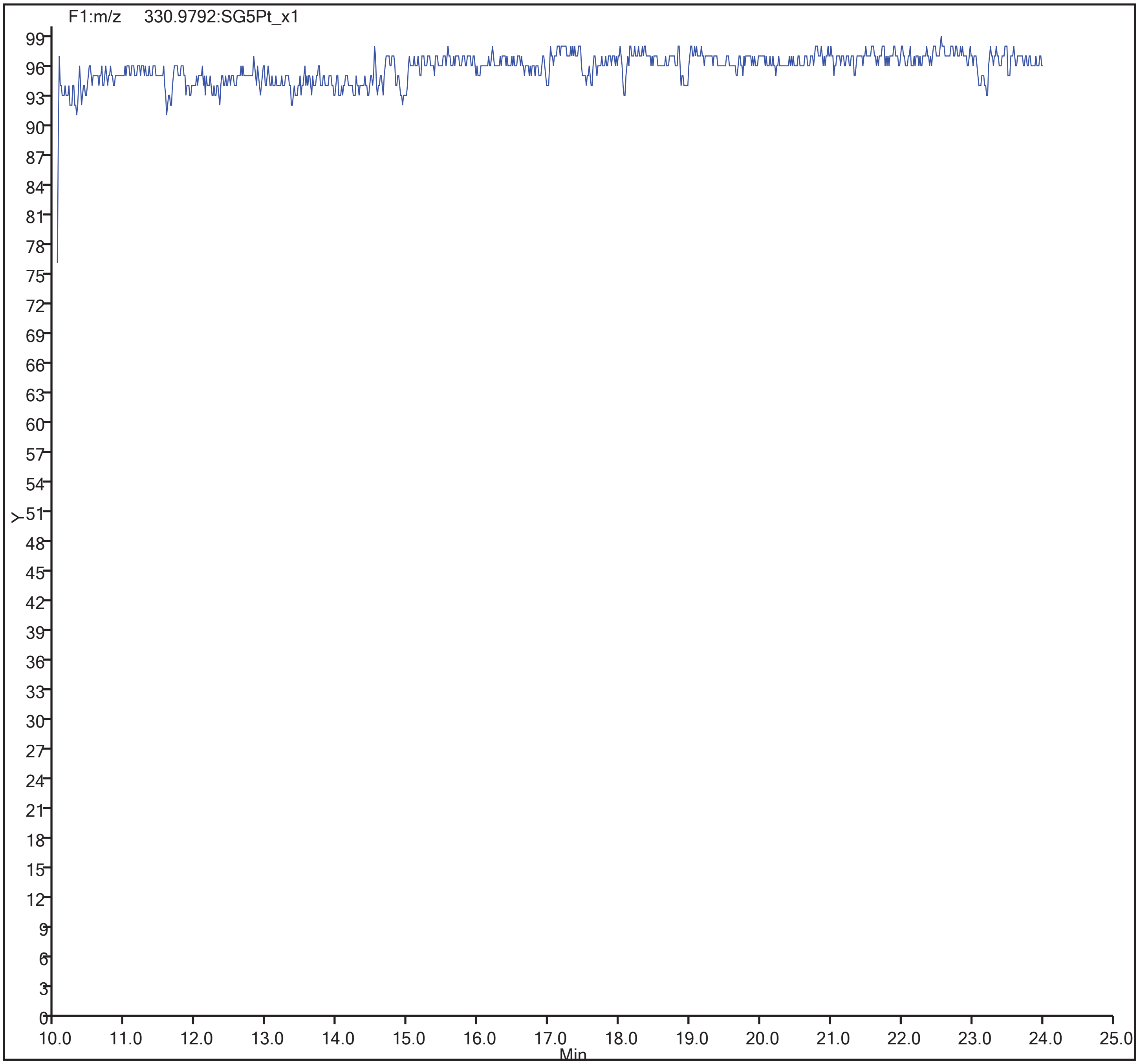
Injection Date: 02-Mar-2017 14:04:48
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 153001
Sample Line#: 2
Column Type: DB-225
Column Dia: 0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_003.d				
Lims ID:	IC CS3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	02-Mar-2017 14:42:37	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CS-3 HRDXNL3_00018				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	03-Mar-2017 09:14:28	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK026				

First Level Reviewer: stephensk Date: 03-Mar-2017 09:05:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.197	275840293	0.78	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.349	342574094	0.81	1.2599	98.6	98.6	0.2161	0.2161	98.58	
2,3,7,8-TCDF	16.363	7421991	0.74	1.0784	2.009	2.009	0.0258	0.0258	100	
D 13C-2,3,7,8-TCDD	14.936	261471753	0.78	0.9567	99.1	99.1	0.1451	0.1451	99.08	
$ 37Cl4-2,3,7,8-TCDD	14.950	6076704		1.1208	1.966	1.966	0.0242	0.0242	98.28	
2,3,7,8-TCDD	14.950	5779049	0.82	1.1123	1.987	1.987	0.0366	0.0366	99.35	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNL3_00018	Amount Added: 1.00	Units: mL

Report Date: 03-Mar-2017 09:14:30 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_003.d				
Lims ID:	IC CS3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	02-Mar-2017 14:42:37	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CS-3 HRDXNL3_00018				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	03-Mar-2017 09:14:28	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK026				

First Level Reviewer: stephensk Date: 03-Mar-2017 09:05:11

Signal	RT (min.)	Adj RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.197	15.198	0		120534429	24283899	17447	43617	1392		
333.9339	15.197	15.198	0		155305864	32046279	13835	34587	2316	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.349	16.342	0	1.076	153313237	29044715	33358	83395	871		
317.9389	16.349	16.342	0	1.076	189260857	35073071	27987	69967	1253	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.363	16.366	0	1.001	3165074	582186	2627	6567	222		
305.8987	16.363	16.366	0	1.001	4256917	774839	4504	11260	172	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.936	14.932	0	0.983	114204680	23484636	17447	43617	1346		
333.9339	14.936	14.932	0	0.983	147267073	30166403	13835	34587	2180	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.950	14.951	0	0.984	6076704	1260314	6111	15277	206		
2,3,7,8-TCDD											
319.8965	14.950	14.951	0	1.001	2595290	514173	4000	10000	129		
321.8936	14.950	14.951	0	1.001	3183759	638162	4728	11820	135	0.82(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				2627	6567			
Total Dioxins & Furans											
303.9016		0.0	0				2627	6567			

Reagents:

HRDXNL3_00018 Amount Added: 1.00 Units: mL

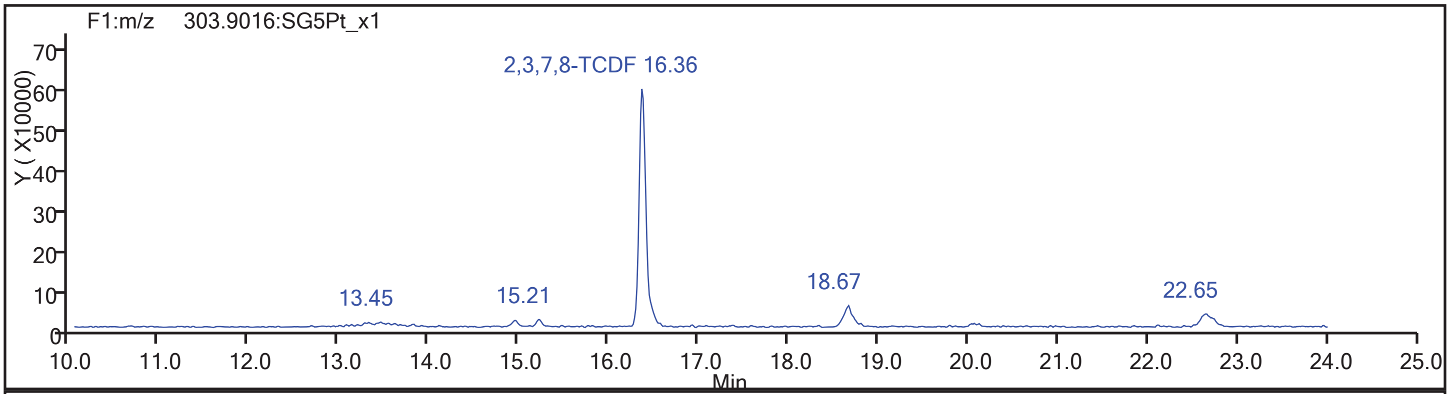
Report Date: 03-Mar-2017 09:14:30 Chrom Revision: 2.2 03-Feb-2017 15:35:04

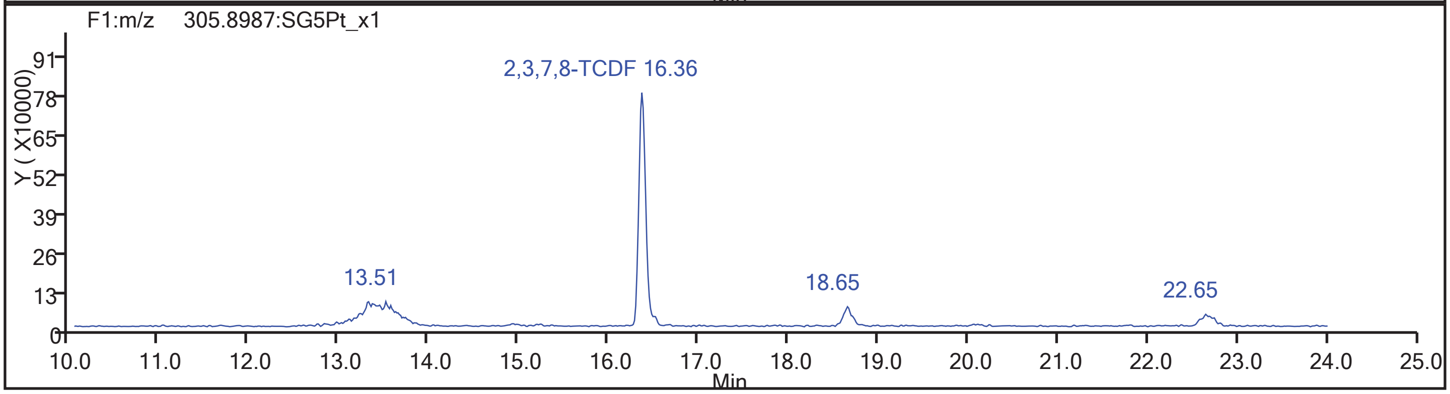
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_003.d

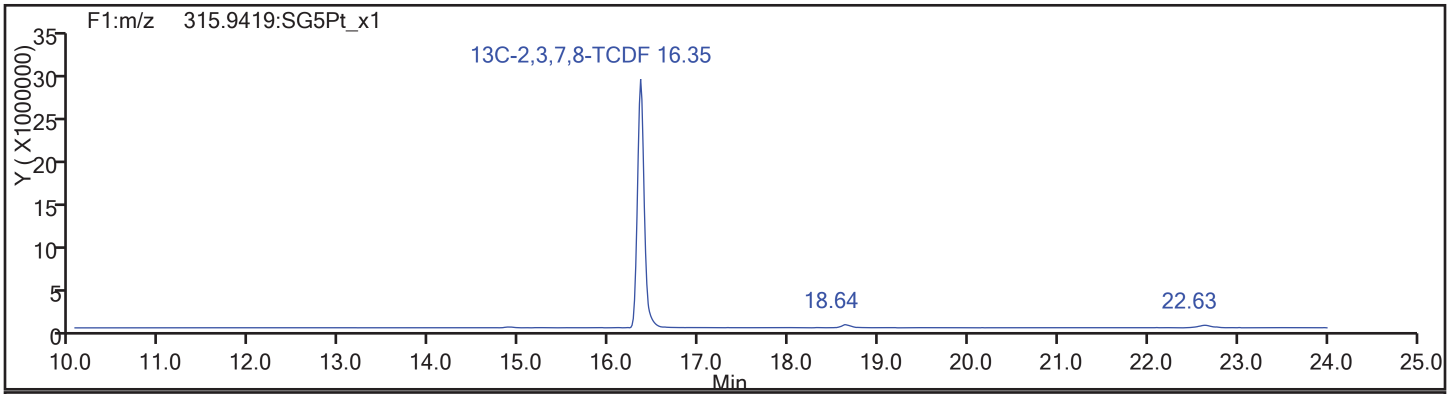
Injection Date:	02-Mar-2017 14:42:37	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

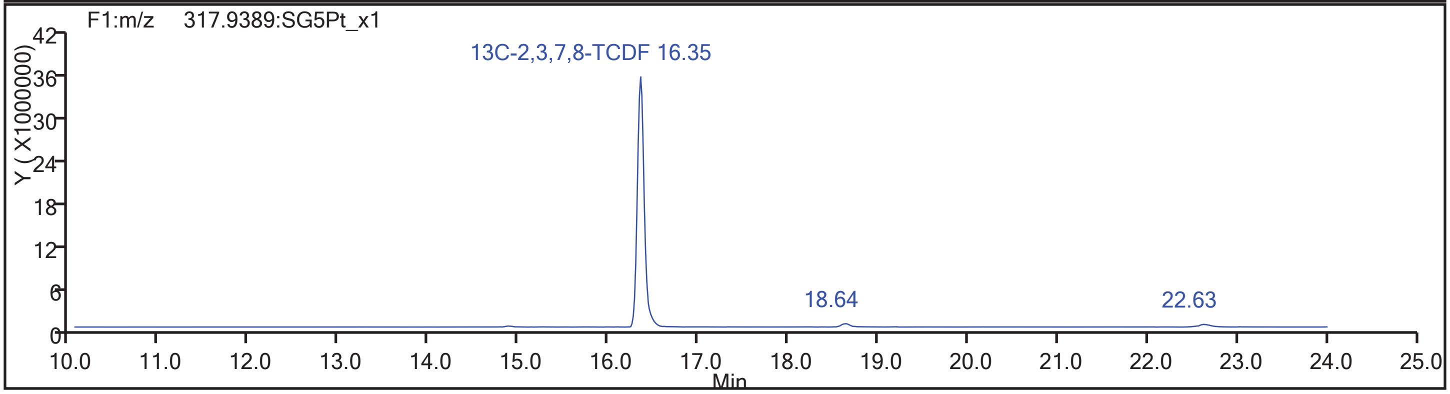
TCDF





TCDF Standards

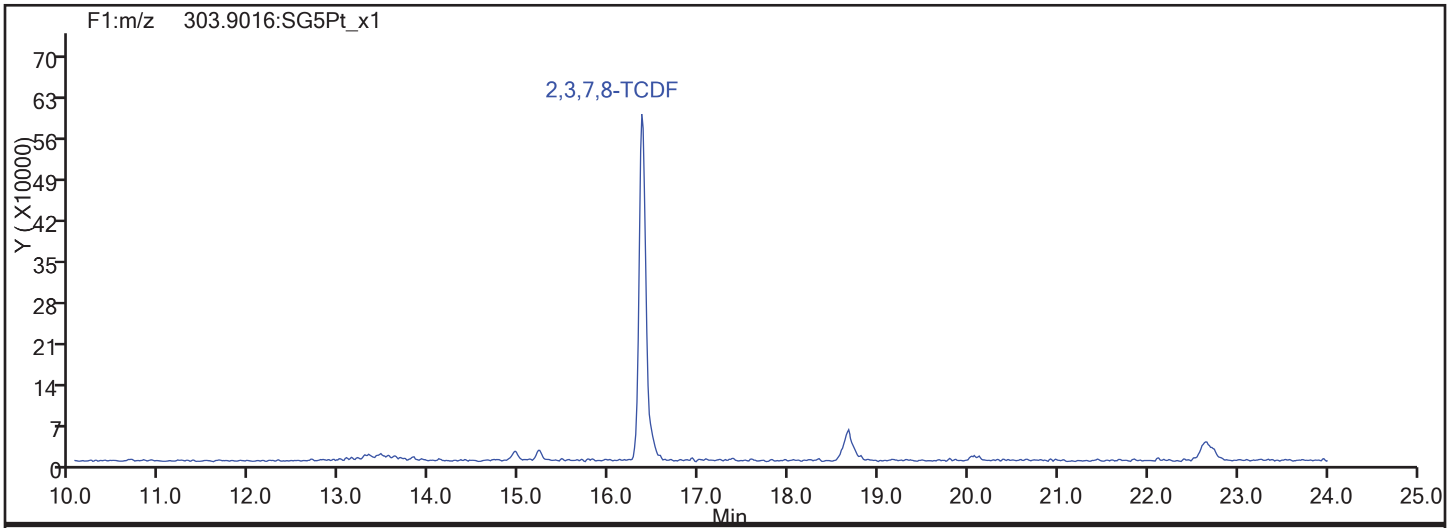


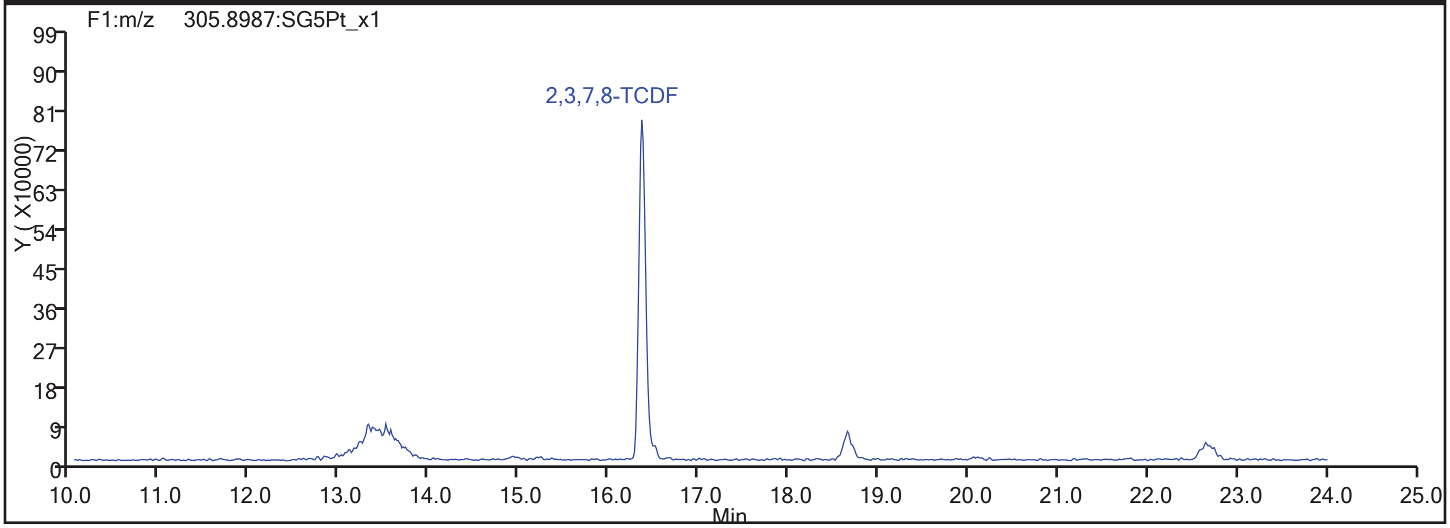


TestAmerica Sacramento

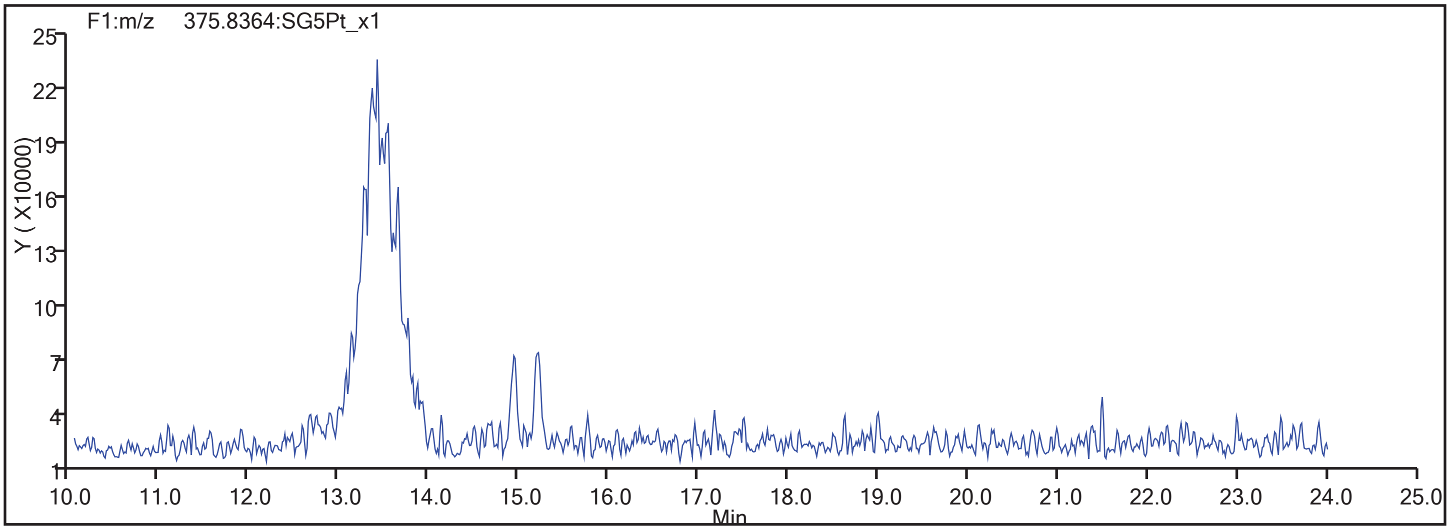
Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_003.d
Injection Date: 02-Mar-2017 14:42:37
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 153001
Sample Line#: 3
Column Type: DB-225
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass

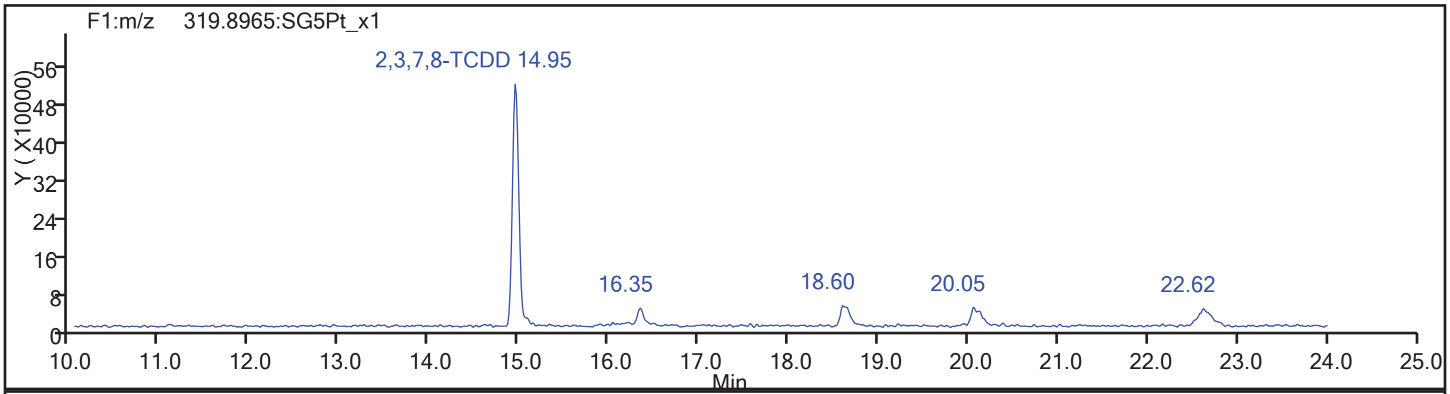


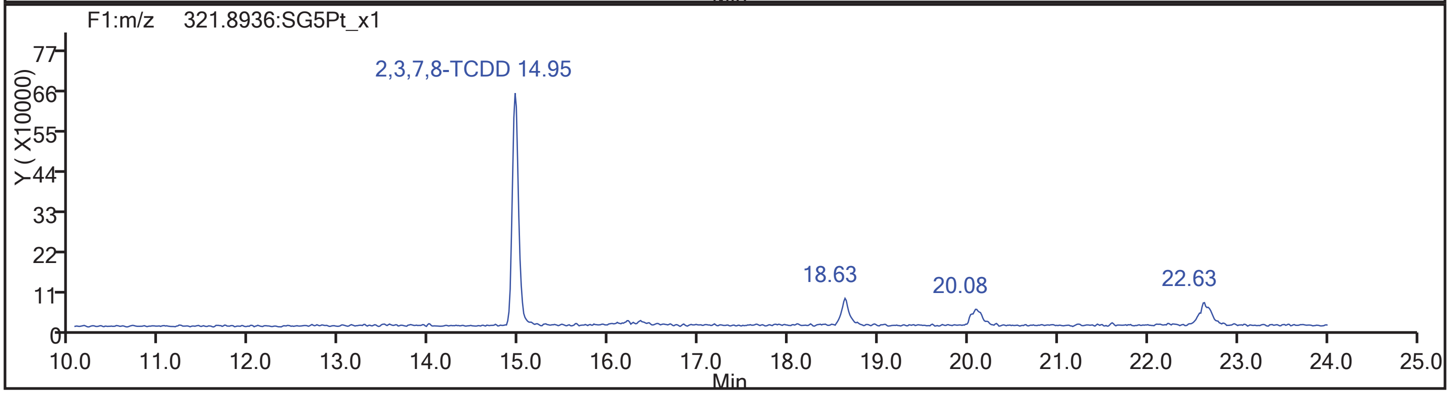
Report Date: 03-Mar-2017 09:14:30 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

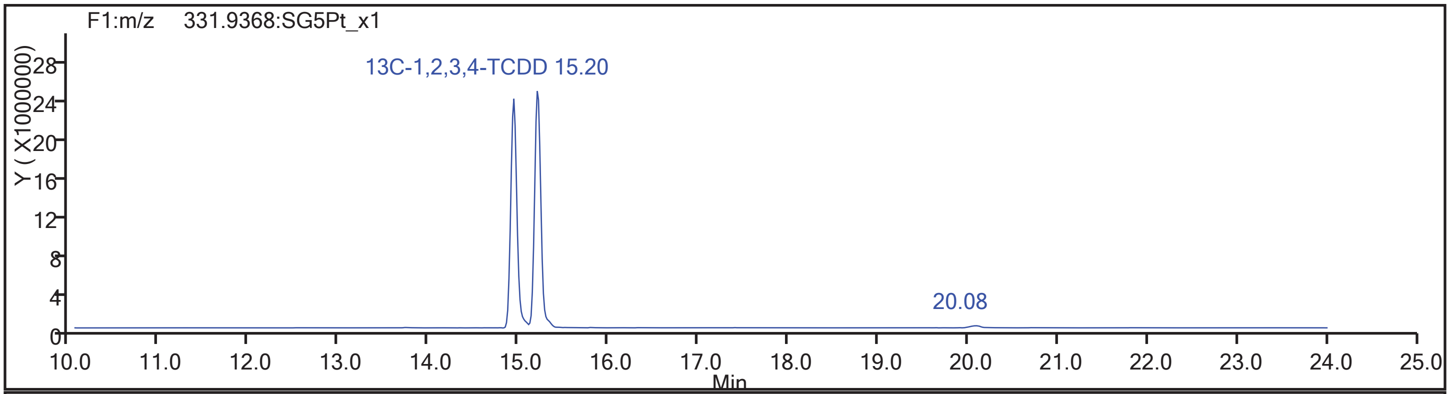
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_003.d		
Injection Date:	02-Mar-2017 14:42:37	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

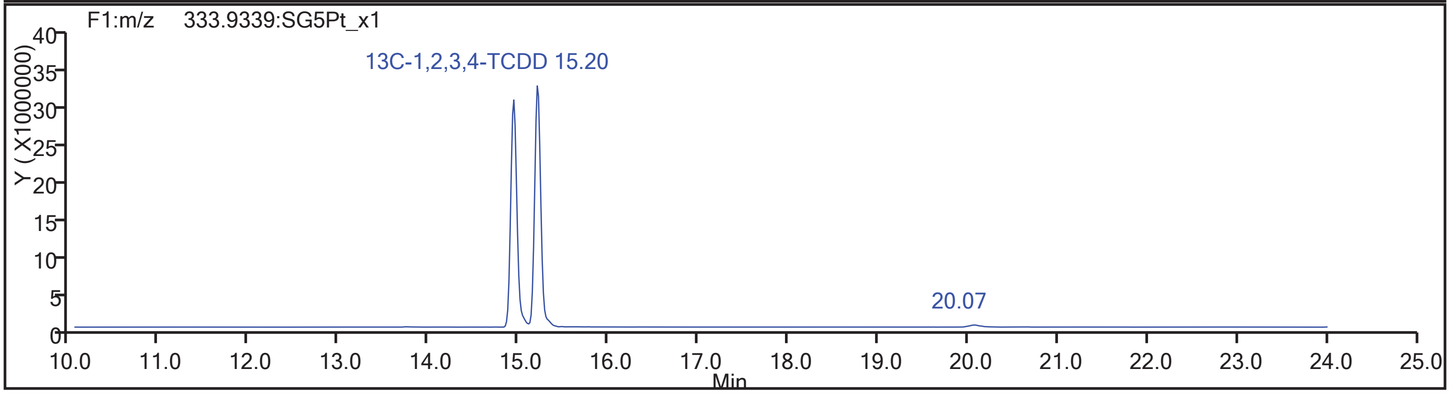
TCDD





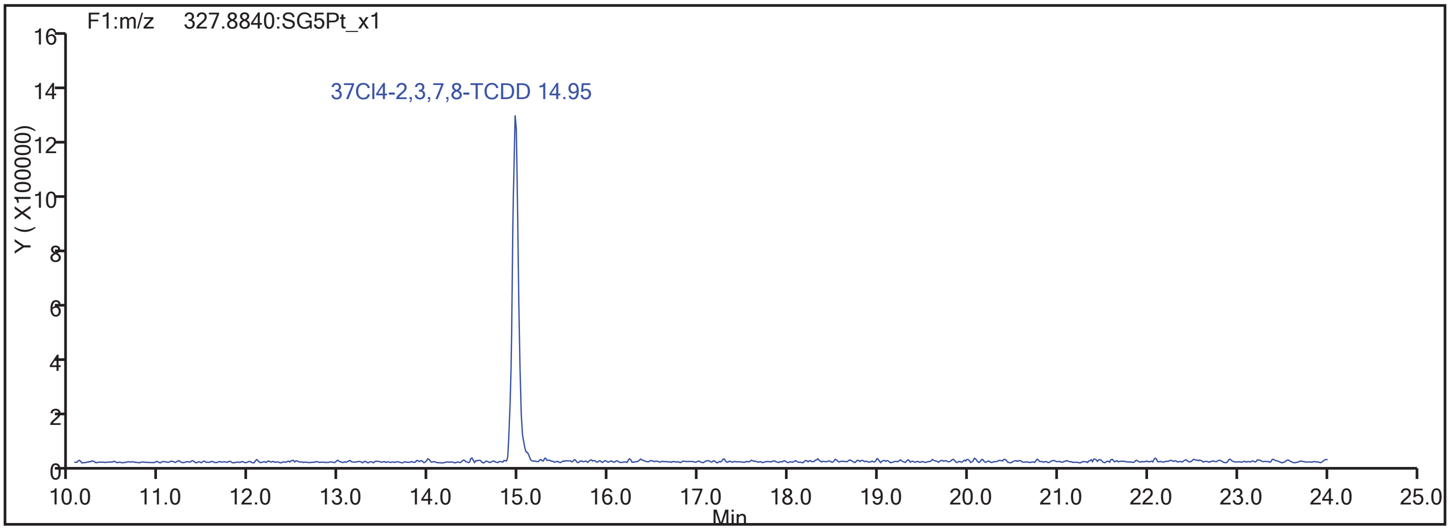
TCDD Standards



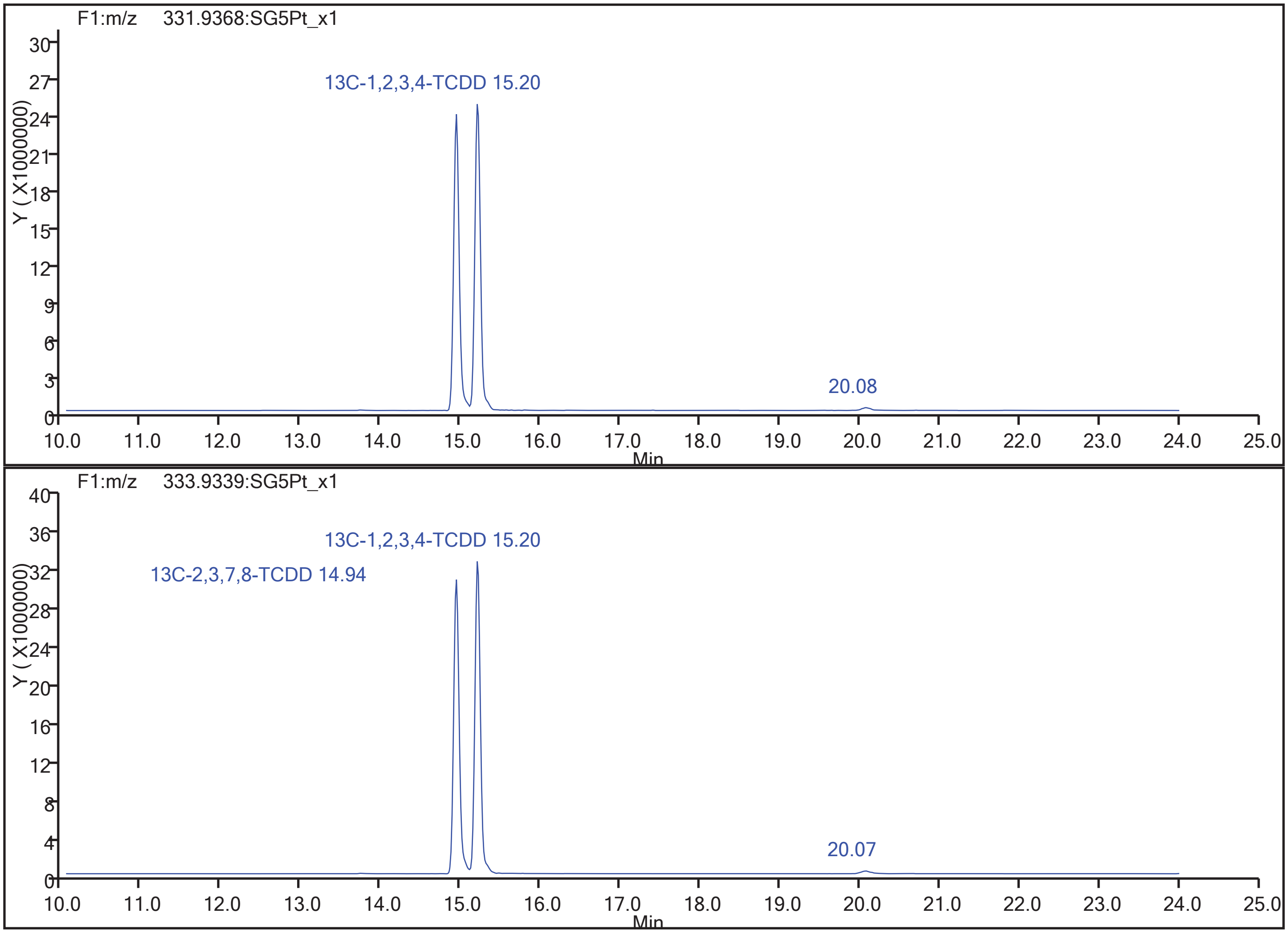


Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_003.d		
Injection Date:	02-Mar-2017 14:42:37	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

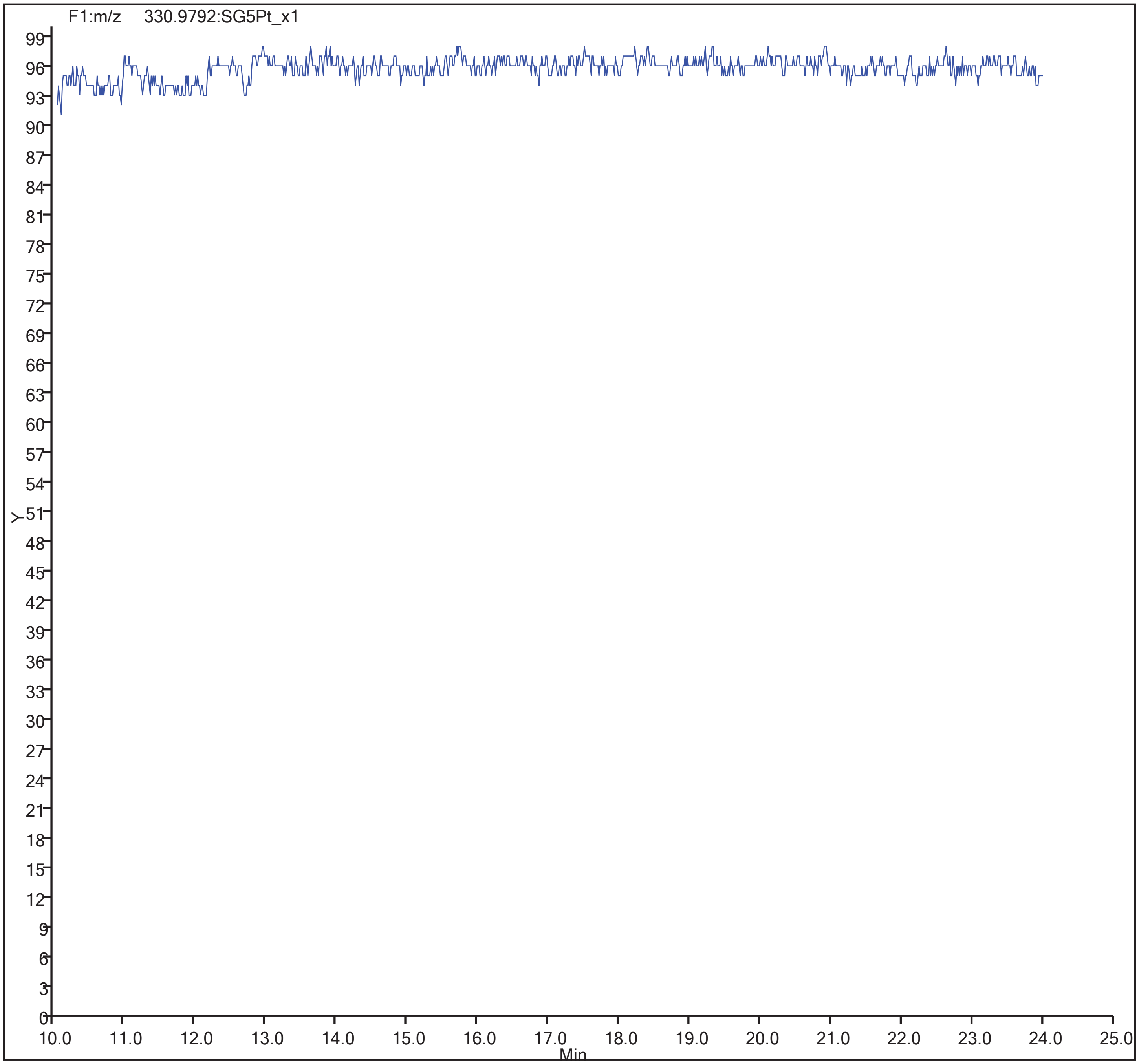


37Cl4-TCDD Standards



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_003.d
Injection Date: 02-Mar-2017 14:42:37
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 153001
Sample Line#: 3
Column Type: DB-225
Column Dia: 0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_004.d				
Lims ID:	IC CS2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	02-Mar-2017 15:20:26	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CS-2 HRDXNL2_00020				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	03-Mar-2017 09:14:33	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK026				

First Level Reviewer: stephensk Date: 03-Mar-2017 09:05:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.202	273501709	0.77	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.354	342865118	0.81	1.2599	99.5	99.5	0.1930	0.1930	99.50	
2,3,7,8-TCDF	16.381	2006166	0.67	1.0784	0.5426	0.5426	0.0225	0.0225	109	
D 13C-2,3,7,8-TCDD	14.941	258187081	0.77	0.9567	98.7	98.7	0.1419	0.1419	98.67	
$ 37Cl4-2,3,7,8-TCDD	14.955	1557490		1.1208	0.5081	0.5081	0.0244	0.0244	102	
2,3,7,8-TCDD	14.955	1530827	0.77	1.1123	0.5330	0.5330	0.0351	0.0351	107	
S Total Dioxins & Furans							0.000100	0.000100		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL2_00020 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_004.d
Lims ID: IC CS2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Mar-2017 15:20:26 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00020
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2
Sublist: chrom-DXN_DB225_9D2*sub1

Method: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 03-Mar-2017 09:14:33 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK026

First Level Reviewer: stephensk Date: 03-Mar-2017 09:05:28

Signal	RT (min.)	Adj RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.202	15.198	0		118891735	24928632	16081	40202	1550		
333.9339	15.202	15.198	0		154609974	32631655	15165	37912	2152	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.354	16.342	1	1.076	153116199	28612263	28858	72145	991		
317.9389	16.354	16.342	1	1.076	189748919	35675169	27134	67835	1315	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.381	16.366	1	1.002	806904	162513	2662	6655	61		
305.8987	16.381	16.366	1	1.002	1199262	224009	3566	8915	63	0.67(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.941	14.932	1	0.983	112136778	23392595	16081	40202	1455		
333.9339	14.941	14.932	1	0.983	146050303	30732218	15165	37912	2027	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.955	14.951	0	0.984	1557490	356141	6306	15765	56		
2,3,7,8-TCDD											
319.8965	14.955	14.951	0	1.001	667437	144658	3394	8485	43		
321.8936	14.955	14.951	0	1.001	863390	167967	5049	12622	33	0.77(0.65-0.89)	
Total Dioxins & Furans											
303.9016		0.0	0				2662	6655			
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				2662	6655			

Reagents:

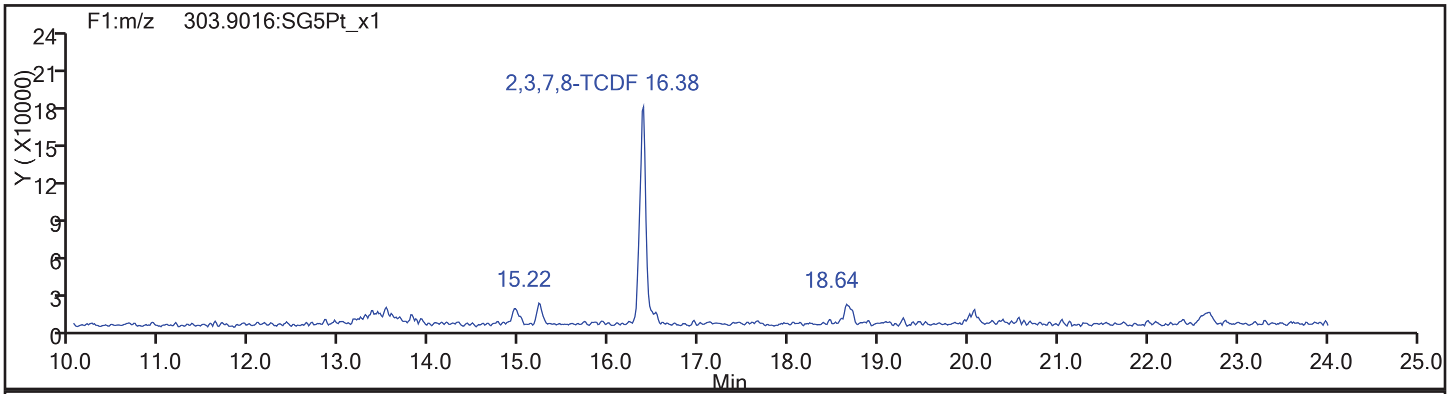
HRDXNL2_00020 Amount Added: 1.00 Units: mL

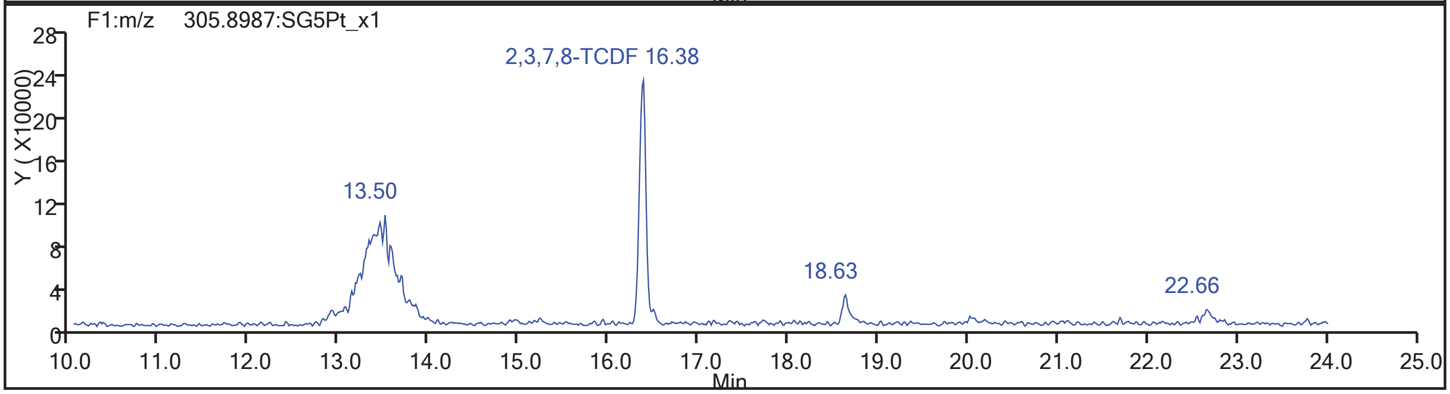
Report Date: 03-Mar-2017 09:14:35 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

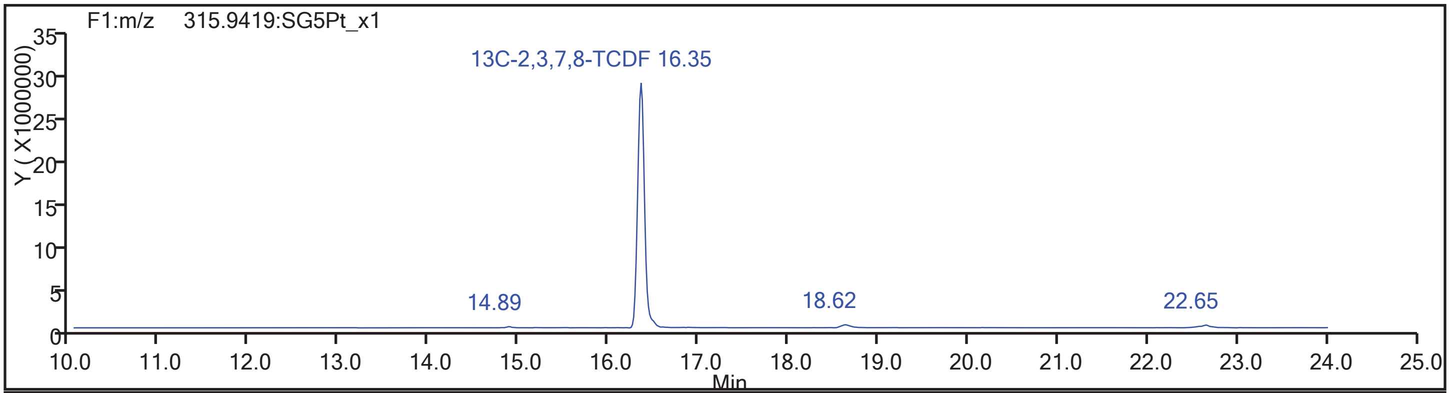
Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_004.d
Injection Date: 02-Mar-2017 15:20:26 Injection Vol: 2.0 ul
Instrument ID: 9D2 Operator ID:
Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 153001 Sample Line#: 4
Column Type: DB-225 Column Dia: 0.32 mm

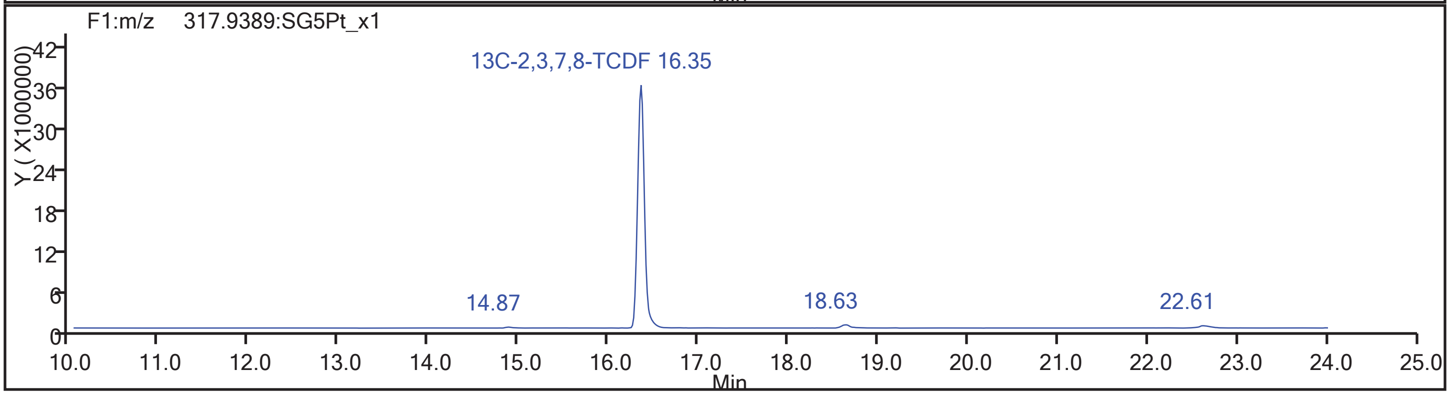
TCDF





TCDF Standards



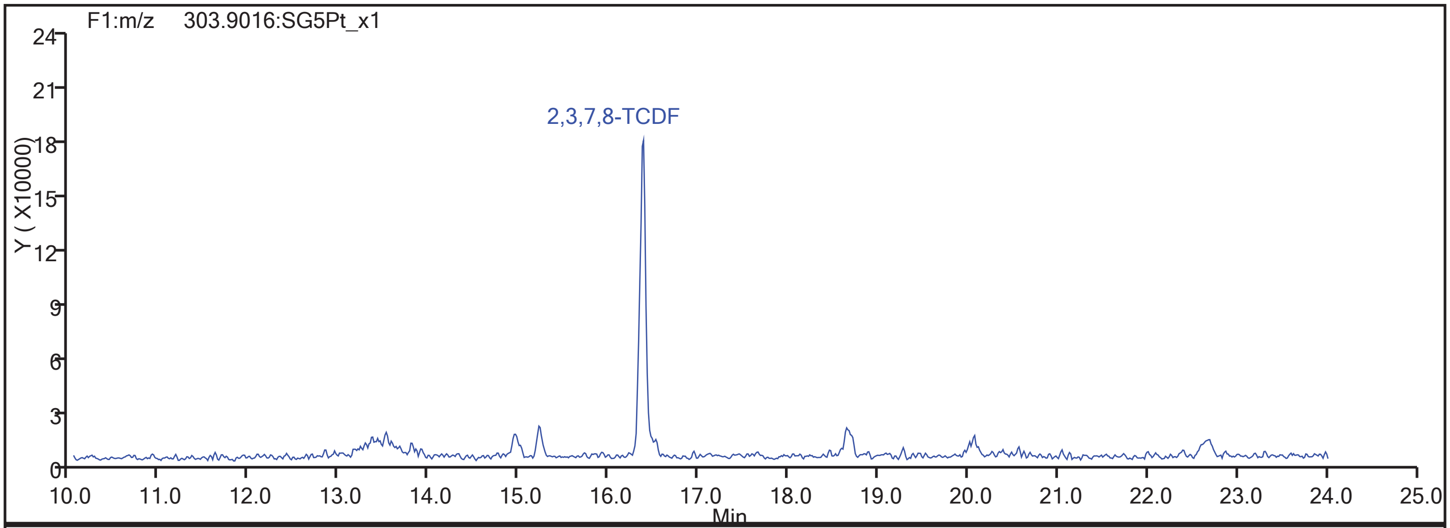


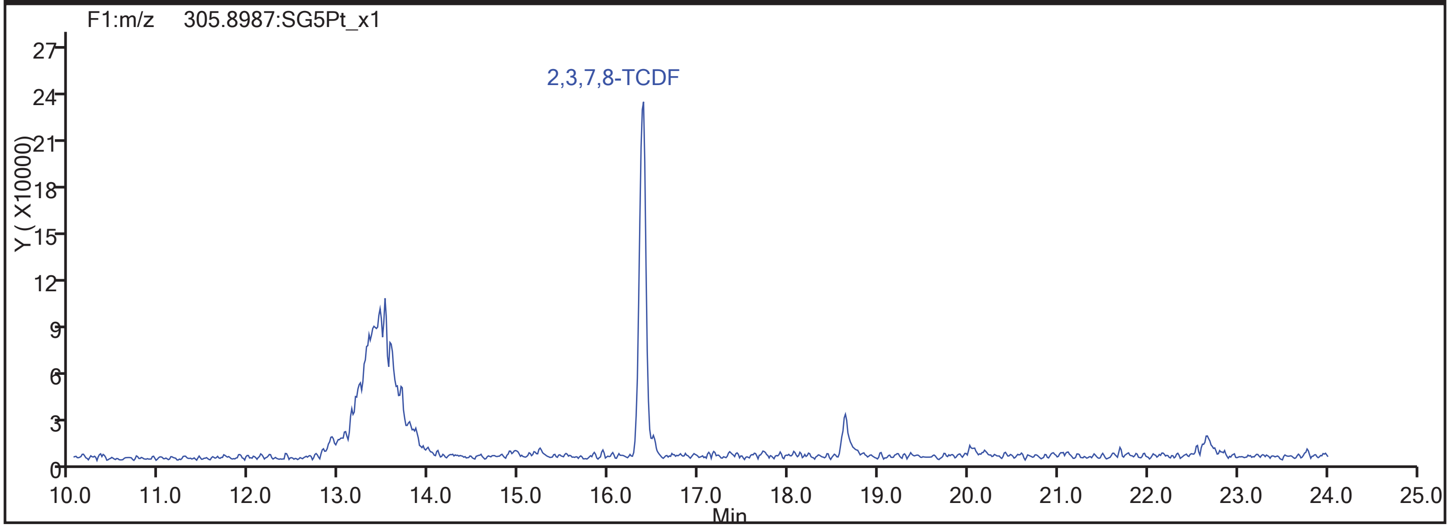
Report Date: 03-Mar-2017 09:14:35 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

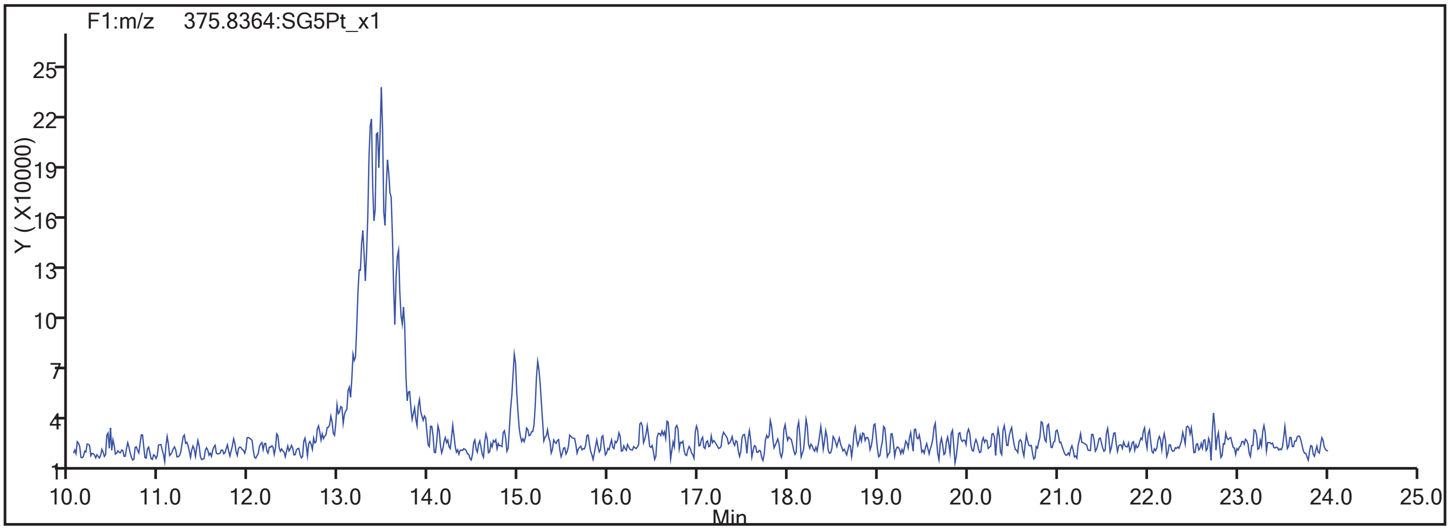
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_004.d		
Injection Date:	02-Mar-2017 15:20:26	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





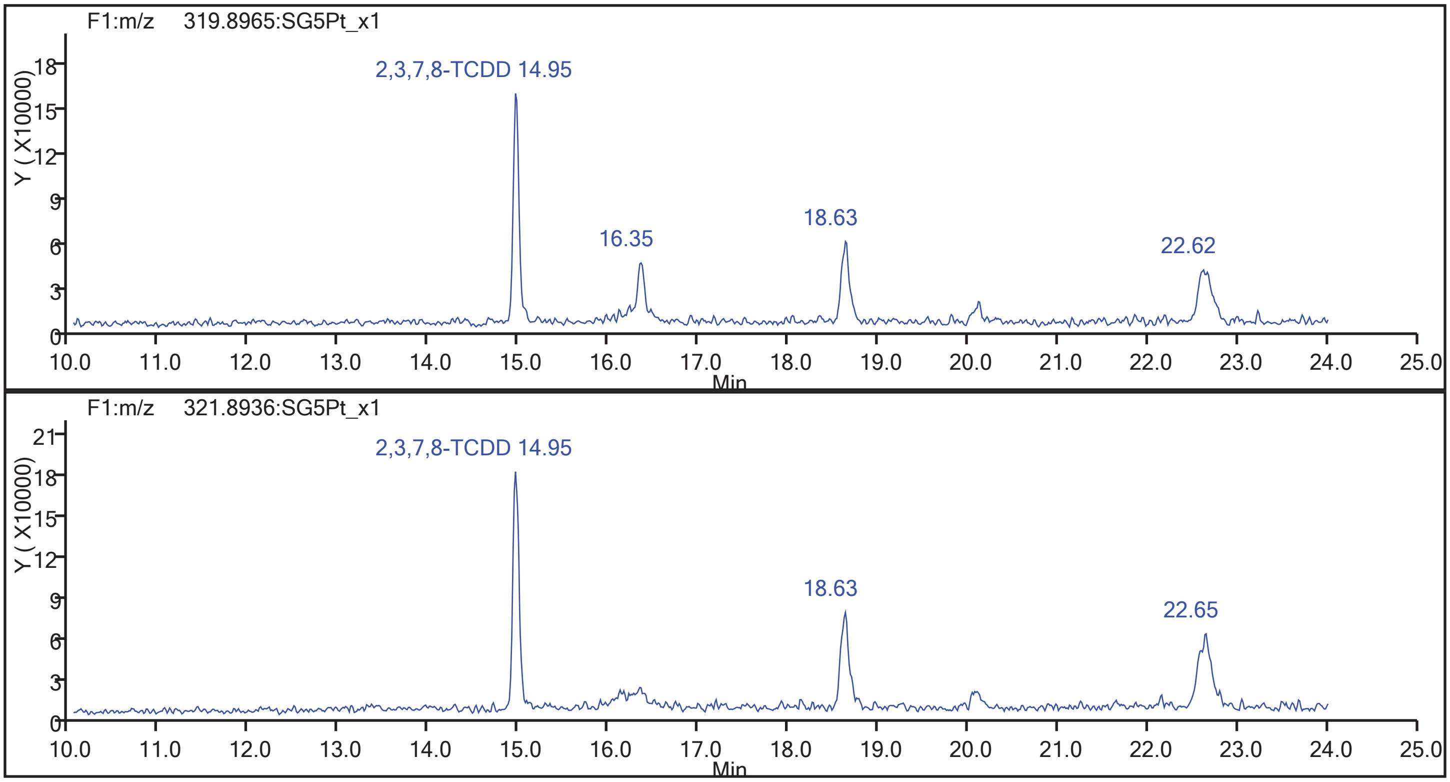
TCDF Interference Mass



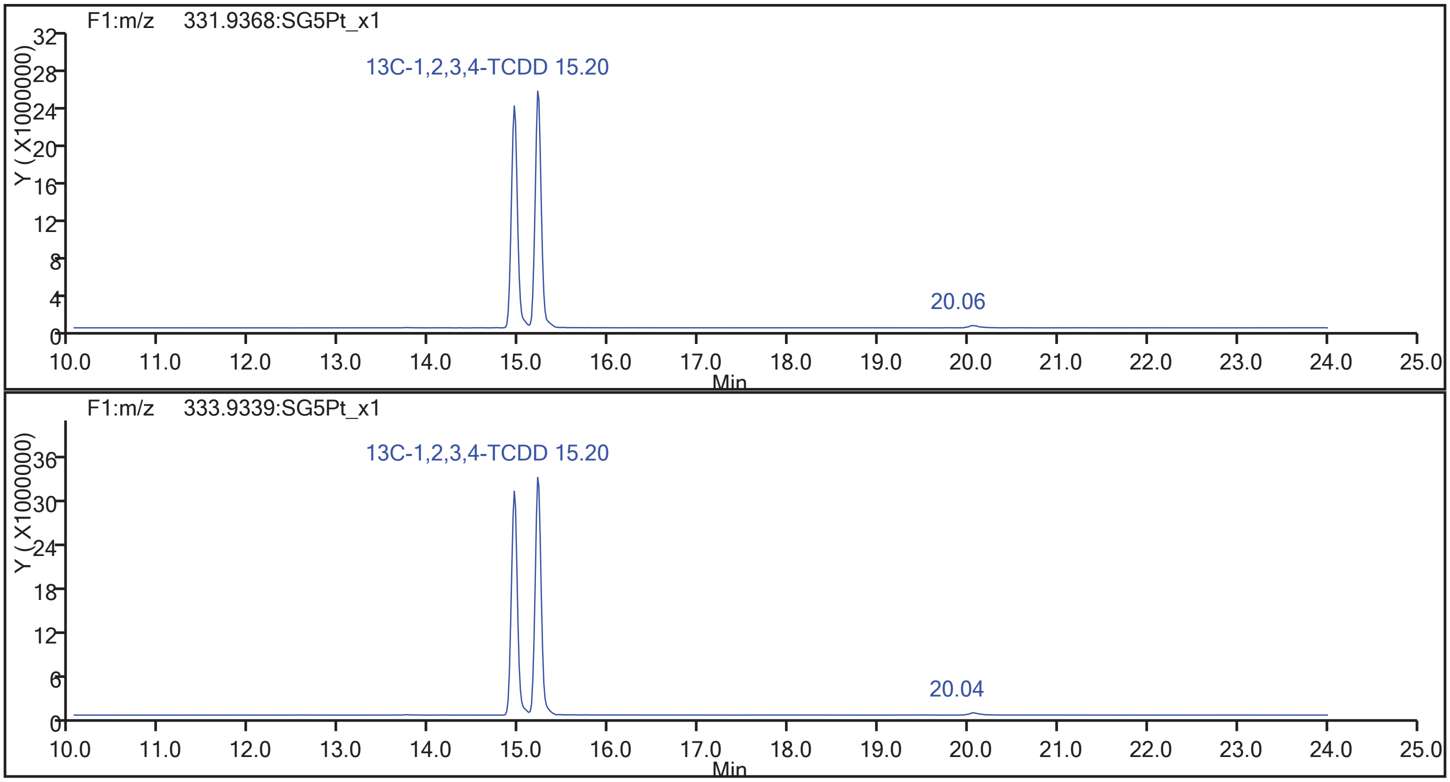
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_004.d		
Injection Date:	02-Mar-2017 15:20:26	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD



TCDD Standards

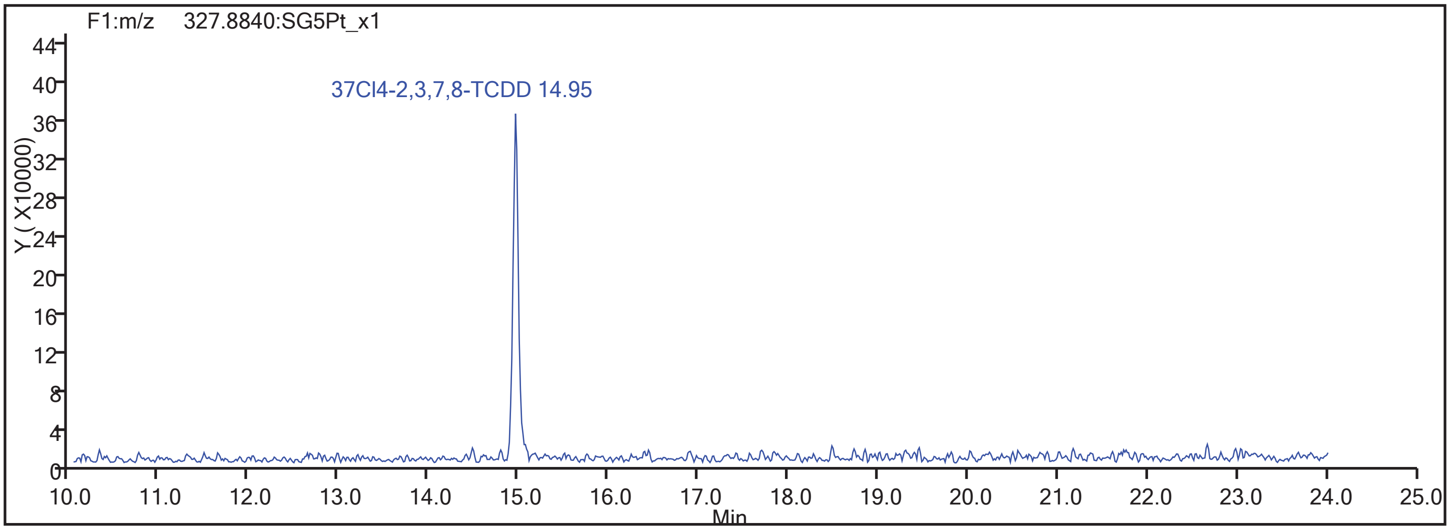


Report Date: 03-Mar-2017 09:14:35 Chrom Revision: 2.2 03-Feb-2017 15:35:04

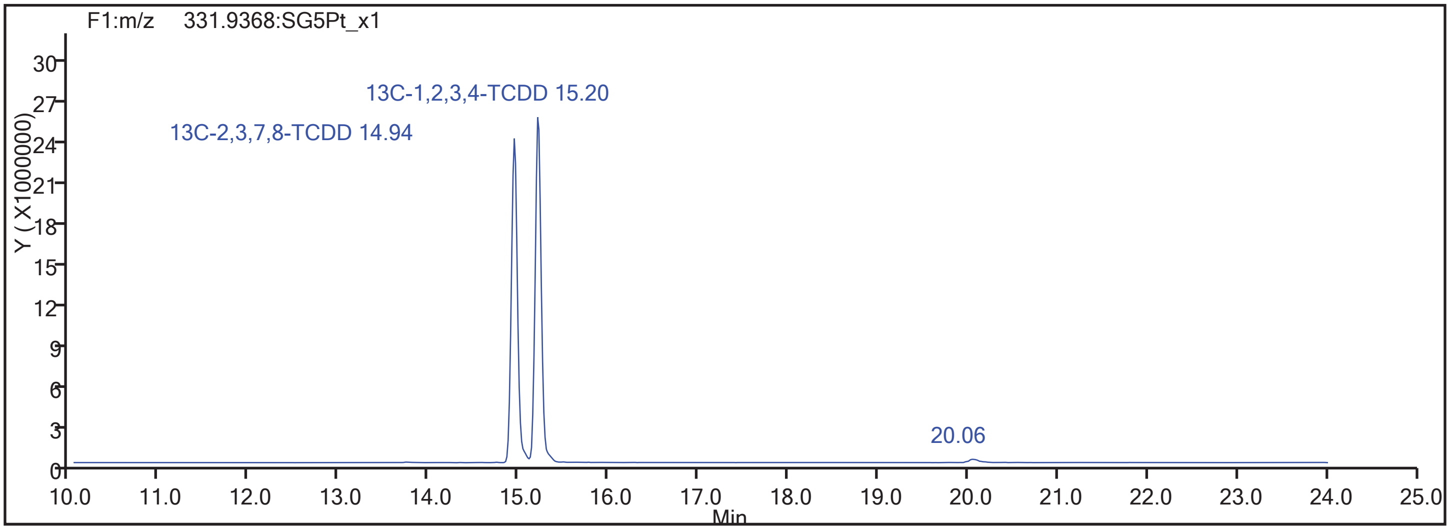
TestAmerica Sacramento

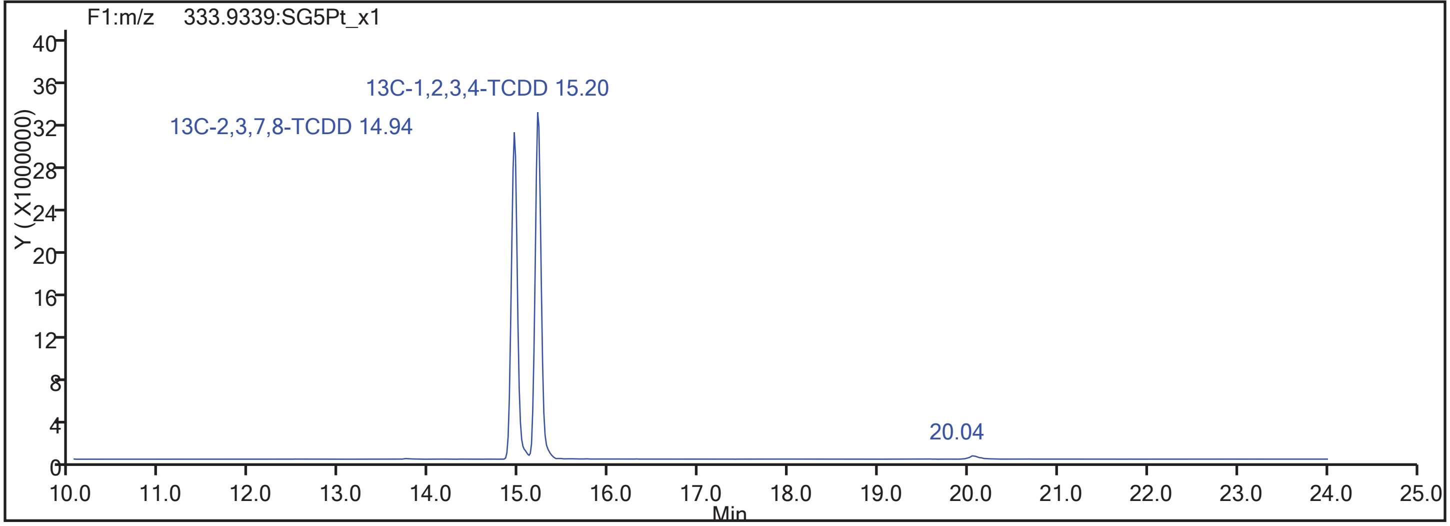
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_004.d		
Injection Date:	02-Mar-2017 15:20:26	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD



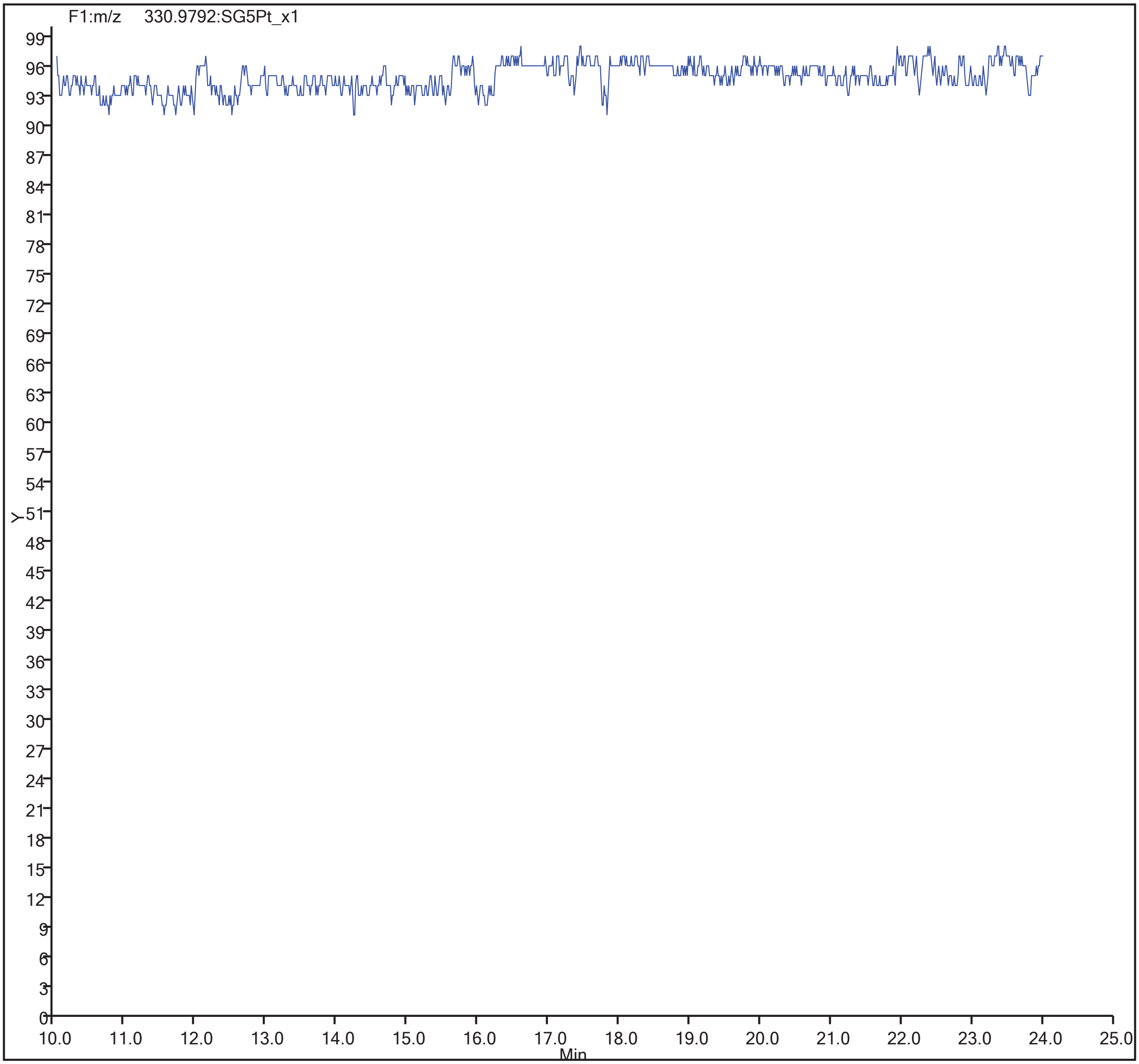
37Cl4-TCDD Standards





Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_004.d

Injection Date:	02-Mar-2017 15:20:26	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_005.d				
Lims ID:	IC CS6				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	02-Mar-2017 15:58:20	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CS-6 HRDXNL6_00017				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	03-Mar-2017 09:14:39	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK026				

First Level Reviewer: stephensk Date: 03-Mar-2017 09:05:55

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.196	283740529	0.77	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.335	357468339	0.81	1.2599	100.0	100.0	0.1969	0.1969	100	
2,3,7,8-TCDF	16.362	724636306	0.72	1.0784	188.0	188.0	0.1274	0.1274	93.98	
D 13C-2,3,7,8-TCDD	14.922	281521266	0.76	0.9567	103.7	103.7	0.1367	0.1367	104	
$ 37Cl4-2,3,7,8-TCDD	14.950	647704398		1.1208	203.7	203.7	0.0500	0.0500	102	
2,3,7,8-TCDD	14.950	601564618	0.81	1.1123	192.1	192.1	0.0899	0.0899	96.05	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNL6_00017 Amount Added: 1.00 Units: mL

Report Date: 03-Mar-2017 09:14:40 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_005.d
Lims ID: IC CS6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Mar-2017 15:58:20 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00017
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2
Sublist: chrom-DXN_DB225_9D2*sub1

Method: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 03-Mar-2017 09:14:39 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK026

First Level Reviewer: stephensk Date: 03-Mar-2017 09:05:55

Signal	RT (min.)	Adj RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.196	15.198	0		123777385	25512832	16450	41125	1551		
333.9339	15.196	15.198	0		159963144	32846088	14069	35172	2335	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.335	16.342	0	1.075	160066739	28608850	36267	90667	789		
317.9389	16.335	16.342	0	1.075	197401600	36129489	21635	54087	1670	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.362	16.366	0	1.002	302695944	56045040	14299	35747	3920		
305.8987	16.362	16.366	0	1.002	421940362	77972760	21268	53170	3666	0.72(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.922	14.932	-1	0.982	121746286	25408692	16450	41125	1545		
333.9339	14.922	14.932	-1	0.982	159774980	32916761	14069	35172	2340	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.950	14.951	0	0.984	647704398	131054946	13073	32682	10025		
2,3,7,8-TCDD											
319.8965	14.950	14.951	0	1.002	268697943	54974797	10125	25312	5430		
321.8936	14.950	14.951	0	1.002	332866675	67350344	13207	33017	5100	0.81(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				14299	35747			
Total Dioxins & Furans											
303.9016		0.0	0				14299	35747			

Reagents:

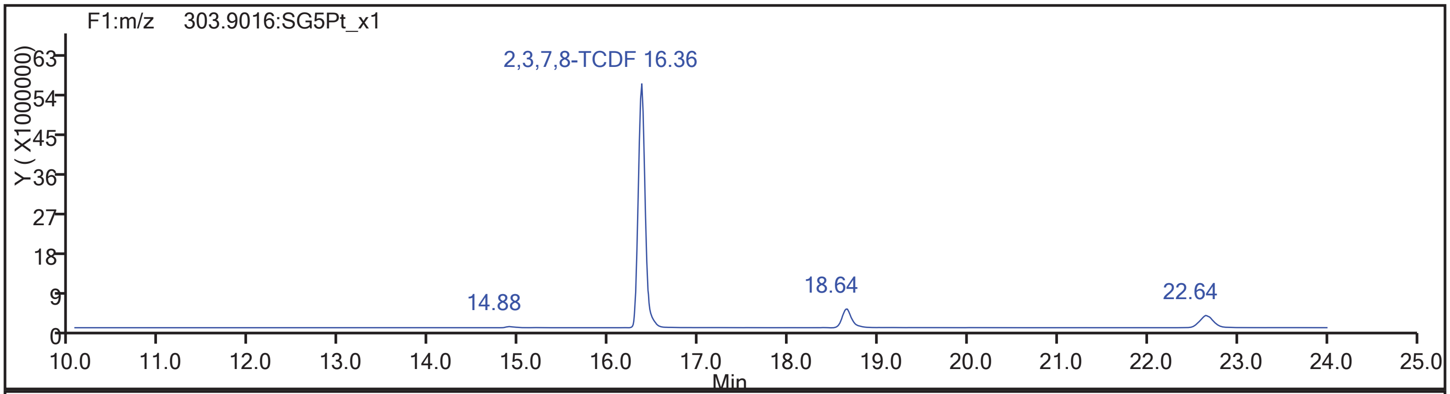
HRDXNL6_00017 Amount Added: 1.00 Units: mL

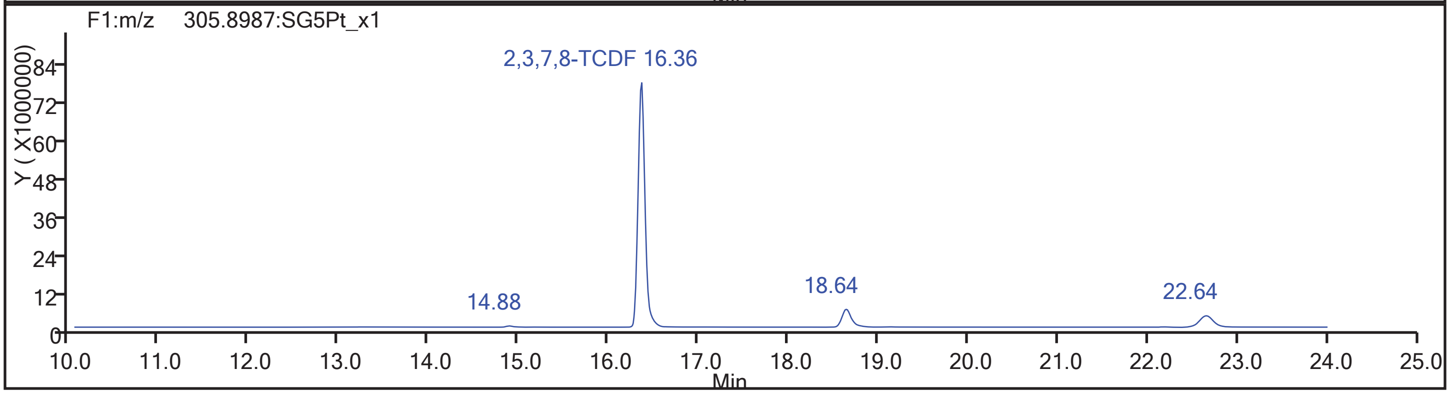
Report Date: 03-Mar-2017 09:14:40 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

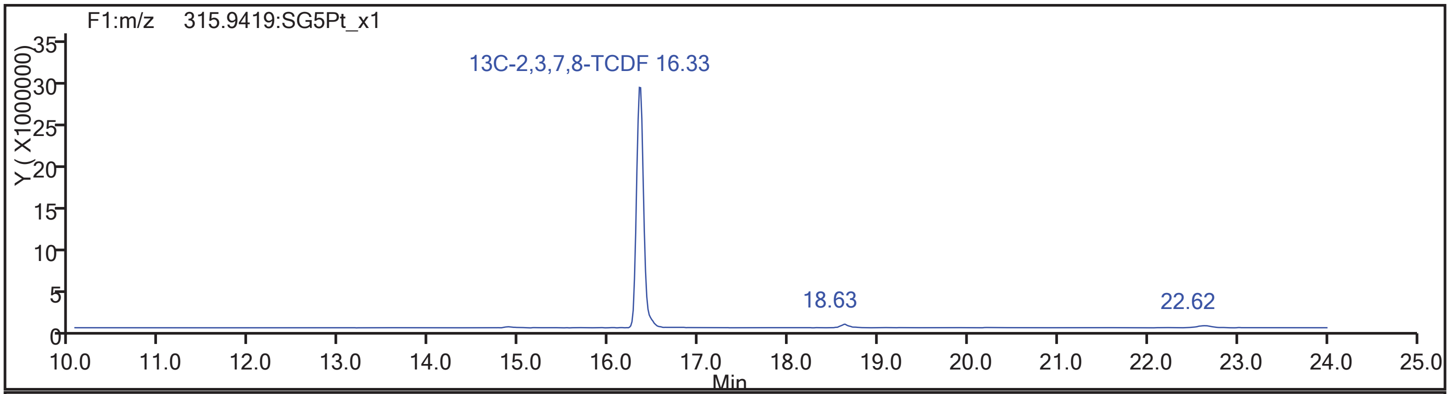
Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_005.d
Injection Date: 02-Mar-2017 15:58:20
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 153001
Sample Line#: 5
Column Type: DB-225
Column Dia: 0.32 mm

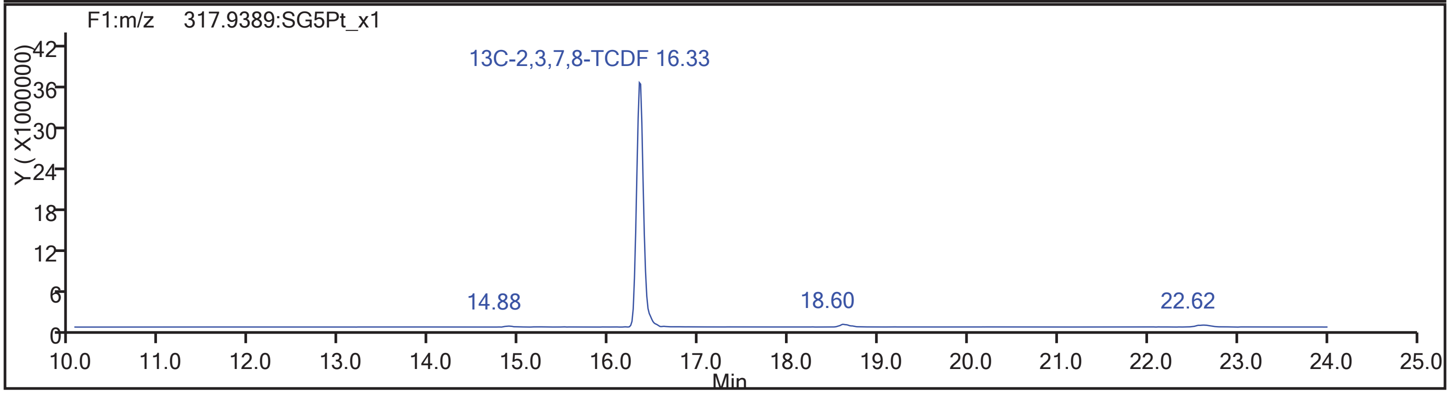
TCDF





TCDF Standards



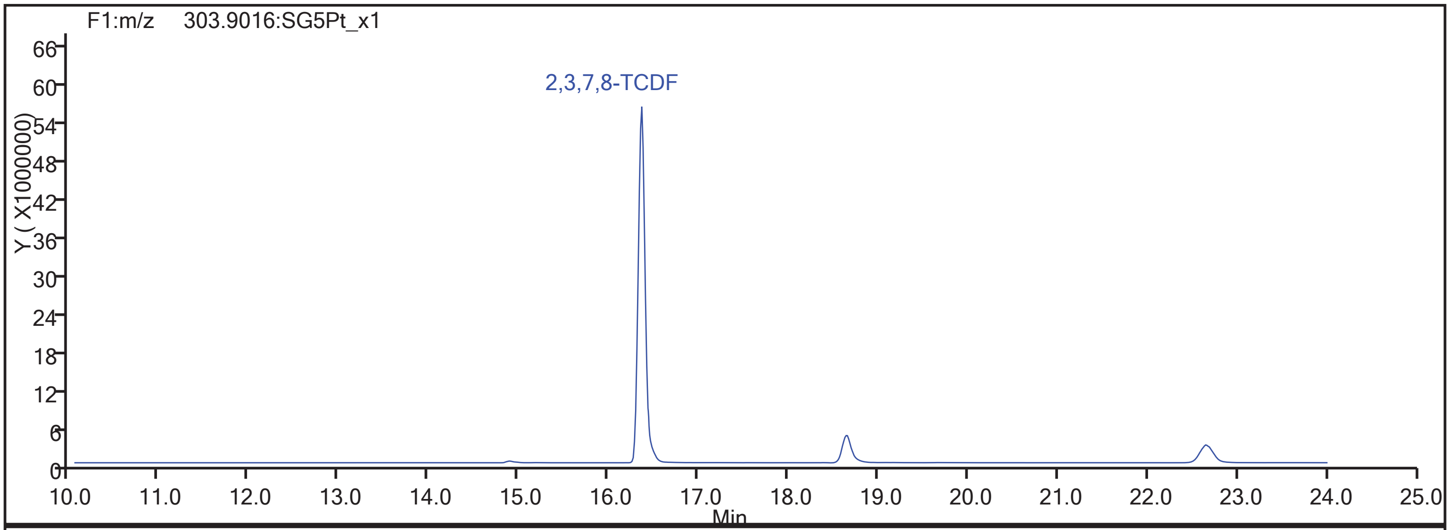


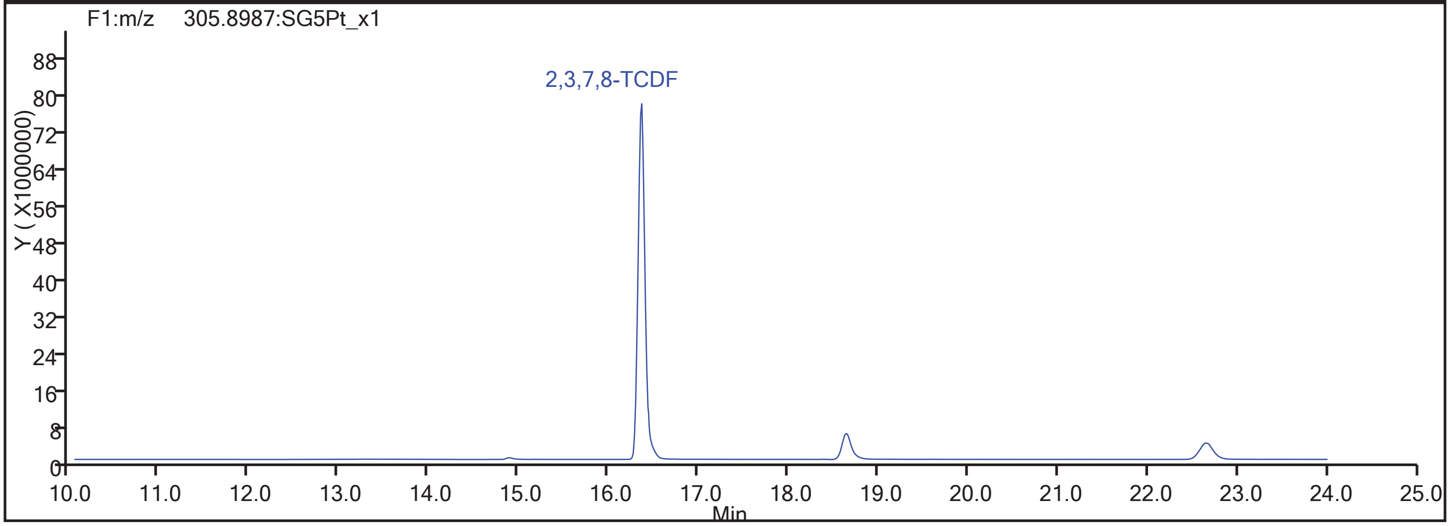
Report Date: 03-Mar-2017 09:14:40 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

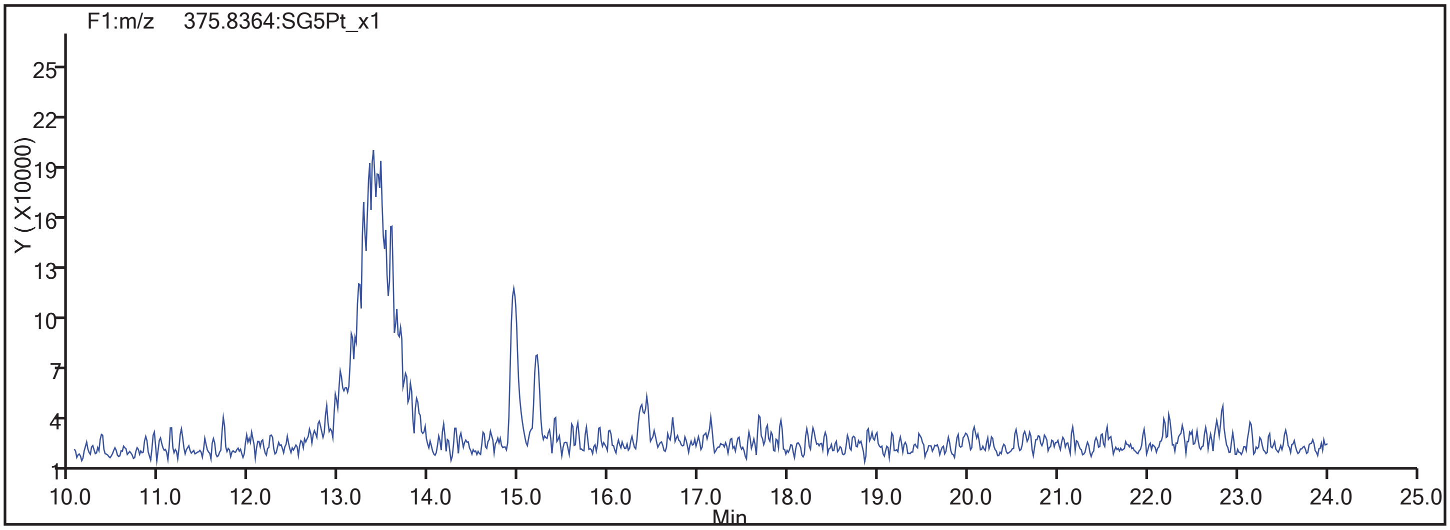
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_005.d		
Injection Date:	02-Mar-2017 15:58:20	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

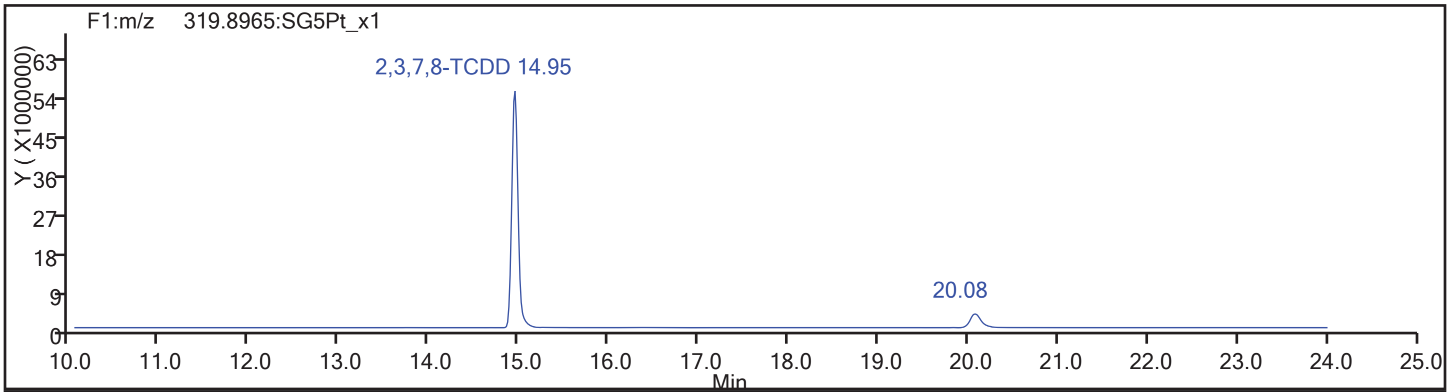


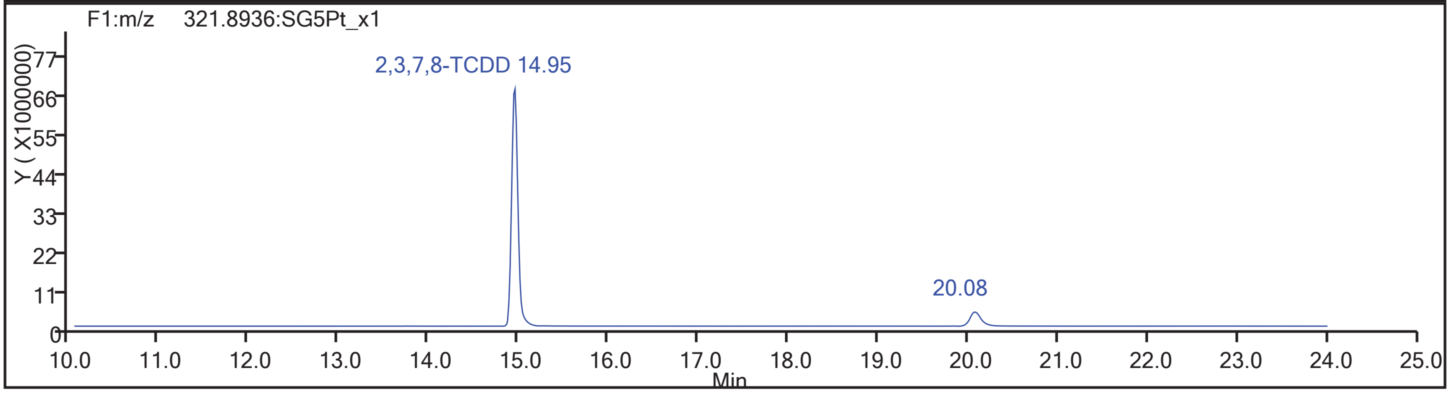
Report Date: 03-Mar-2017 09:14:41
Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

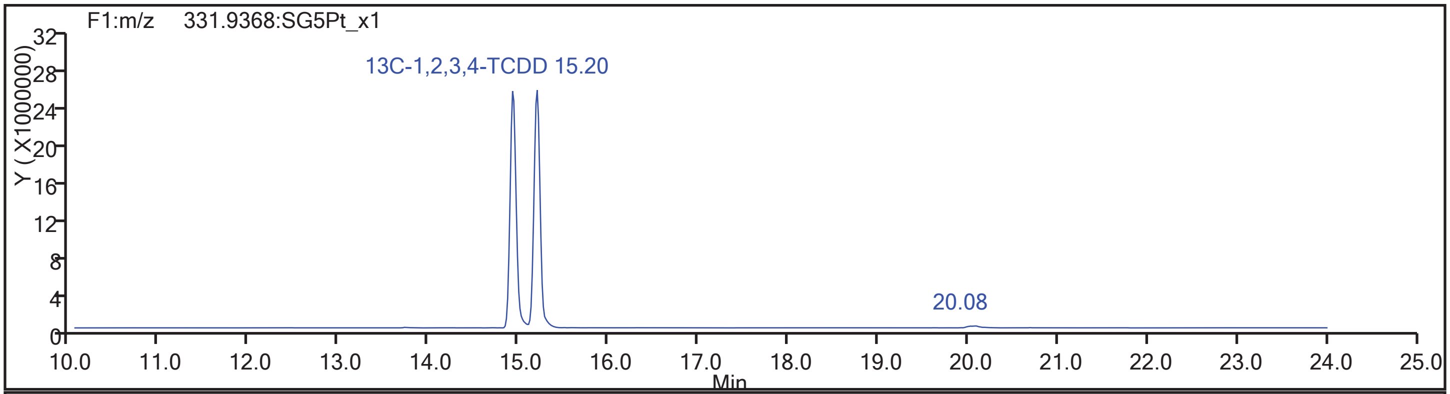
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_005.d		
Injection Date:	02-Mar-2017 15:58:20	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

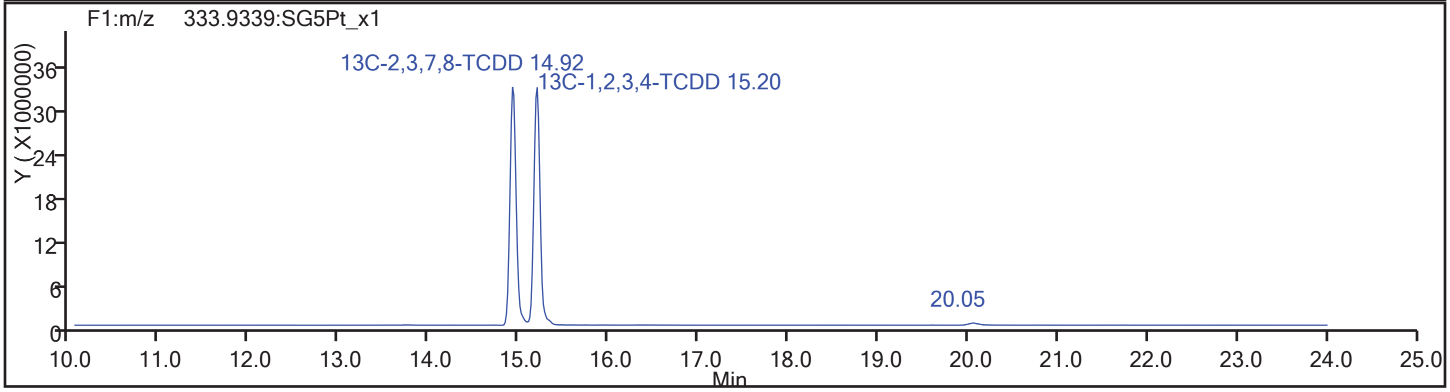
TCDD





TCDD Standards

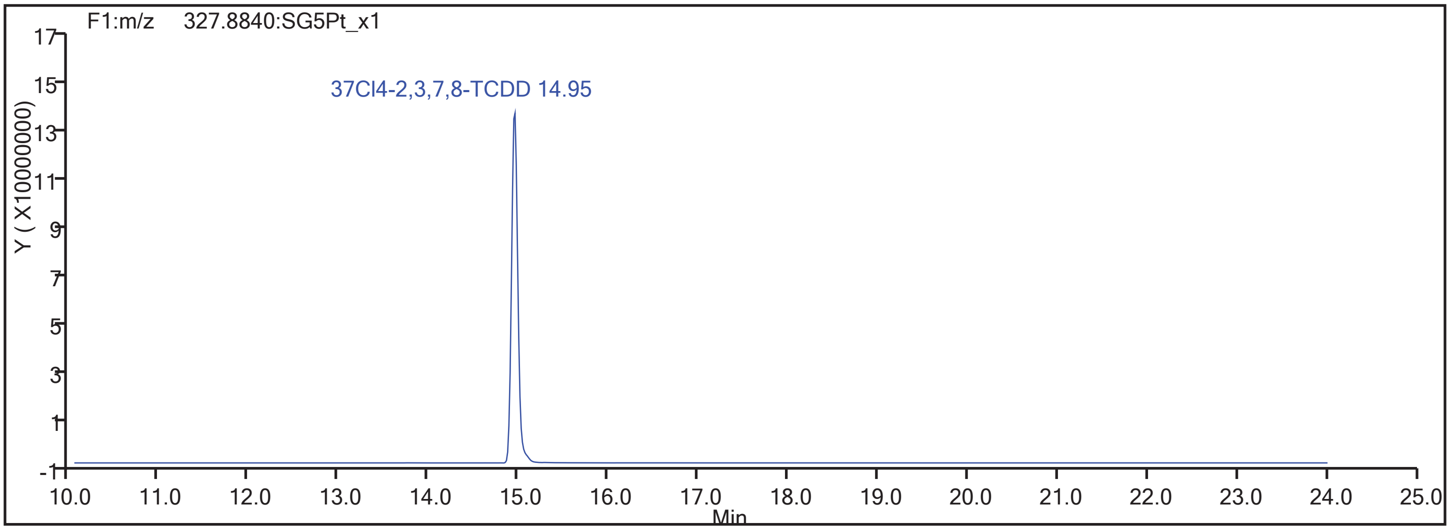




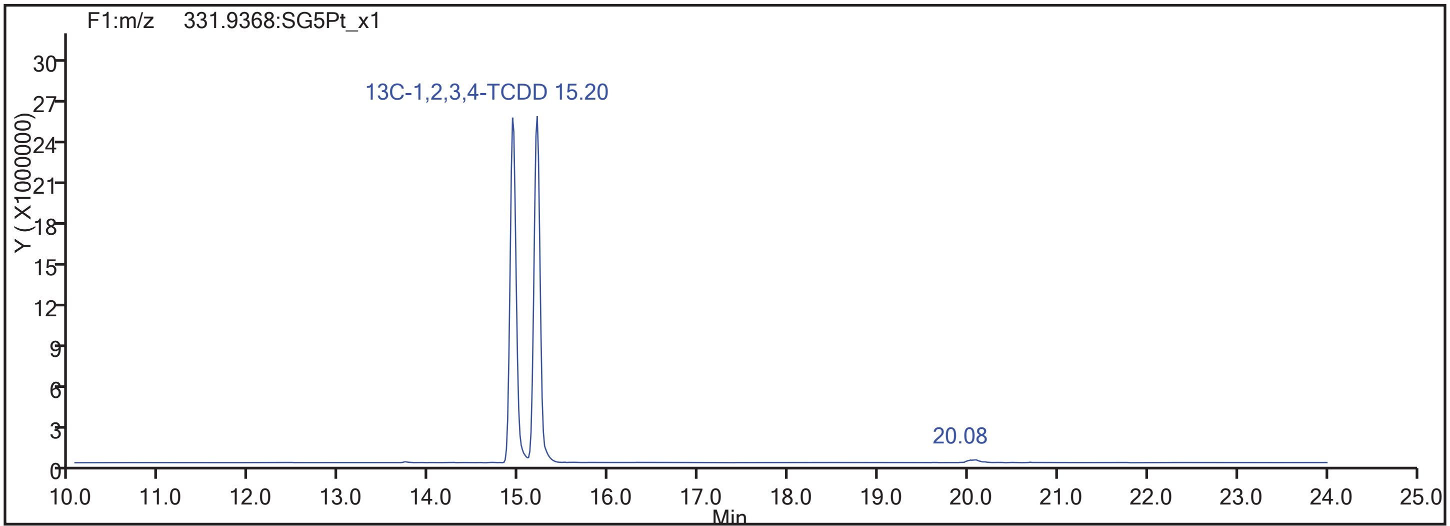
TestAmerica Sacramento

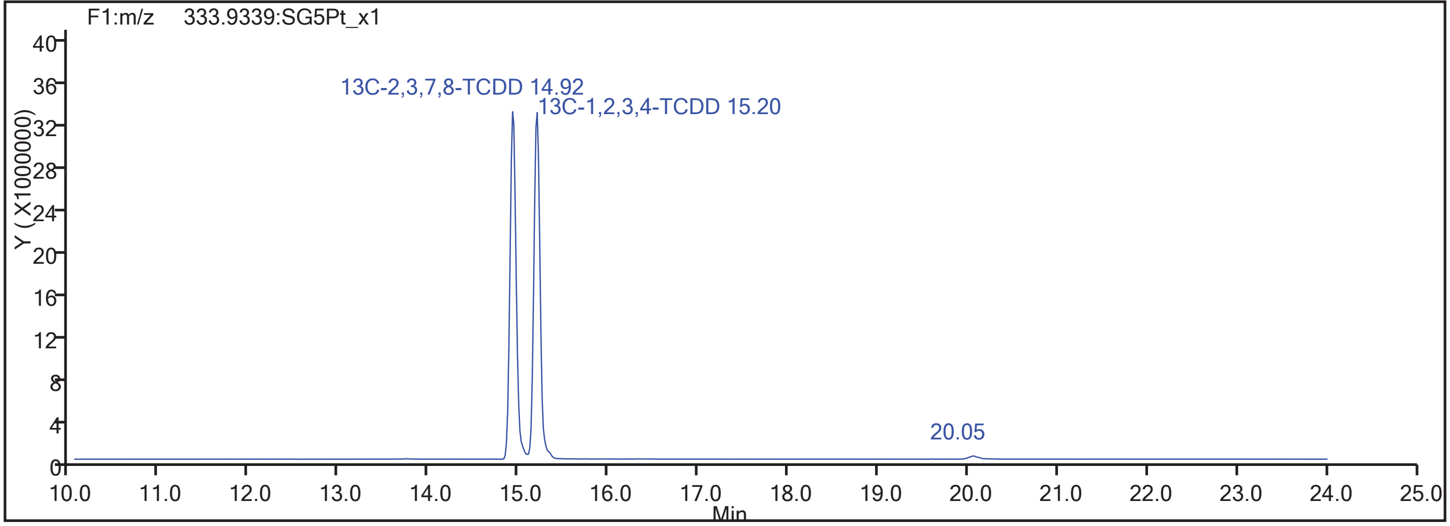
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_005.d		
Injection Date:	02-Mar-2017 15:58:20	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD



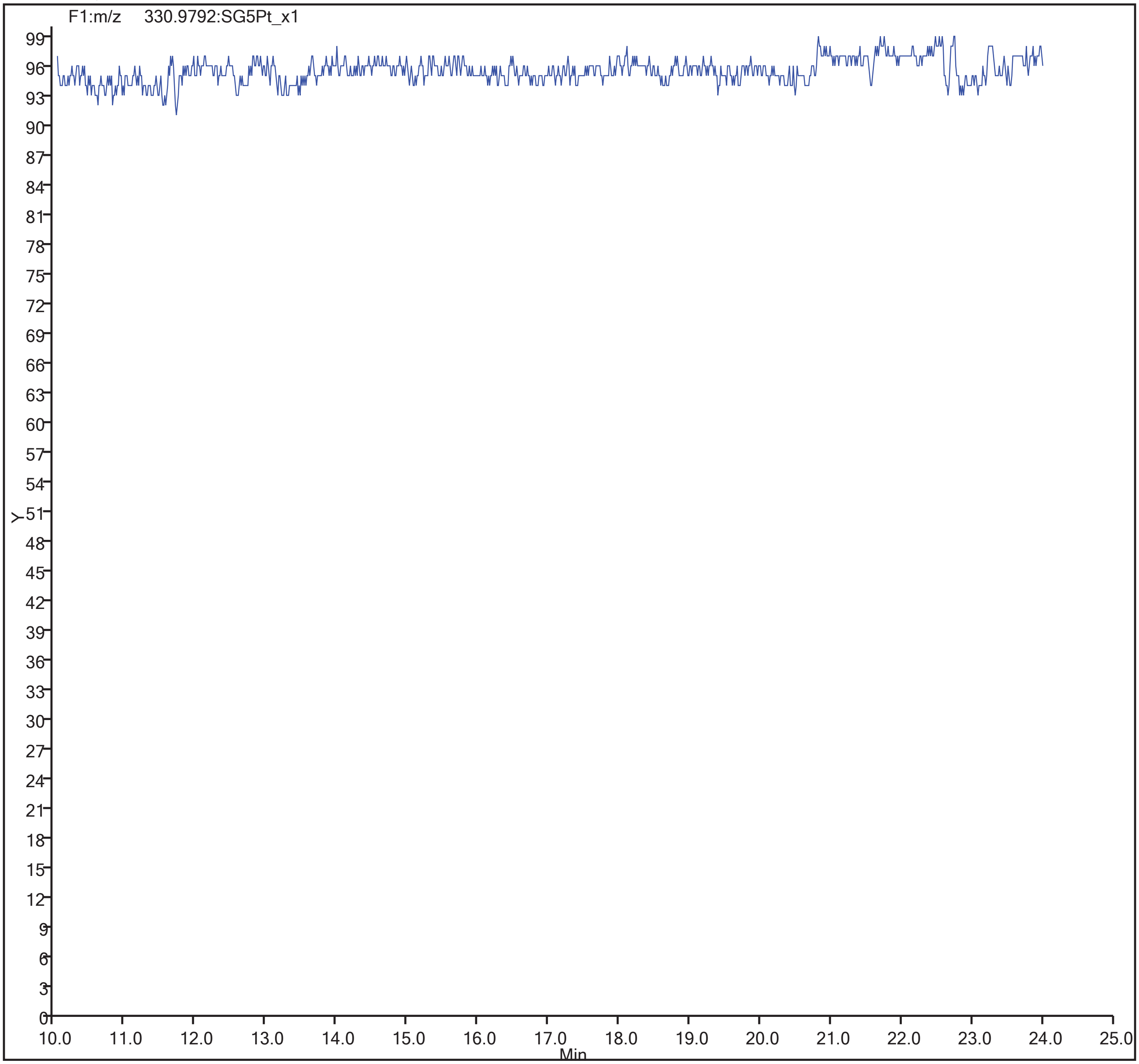
37Cl4-TCDD Standards





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_005.d
Injection Date: 02-Mar-2017 15:58:20
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 153001
Sample Line#: 5
Column Type: DB-225
Column Dia: 0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Lims ID:	IC CS5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	02-Mar-2017 16:36:13	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CS-5 HRDXNL5_00021				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	03-Mar-2017 09:14:44	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK026				

First Level Reviewer: stephensk Date: 03-Mar-2017 09:06:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.198	300840650	0.77	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.336	383548392	0.80	1.2599	101.2	101.2	0.2144	0.2144	101	
2,3,7,8-TCDF	16.364	160424721	0.72	1.0784	38.8	38.8	0.0583	0.0583	96.96	
D 13C-2,3,7,8-TCDD	14.923	293597697	0.77	0.9567	102.0	102.0	0.1396	0.1396	102	
$ 37Cl4-2,3,7,8-TCDD	14.951	137849801		1.1208	40.9	40.9	0.0301	0.0301	102	
2,3,7,8-TCDD	14.951	127538788	0.81	1.1123	39.1	39.1	0.0568	0.0568	97.63	
S Total Dioxins & Furans							0.000100	0.000100		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL5_00021 Amount Added: 1.00 Units: mL

Report Date: 03-Mar-2017 09:14:45 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Lims ID:	IC CS5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	02-Mar-2017 16:36:13	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CS-5 HRDXNL5_00021				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	03-Mar-2017 09:14:44	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK026				

First Level Reviewer: stephensk Date: 03-Mar-2017 09:06:08

Signal	RT (min.)	Adj RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.198	15.198	0		130763636	26967463	18032	45080	1496		
333.9339	15.198	15.198	0		170077014	35143507	15159	37897	2318	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.336	16.342	0	1.075	170657022	31094490	35052	87630	887		
317.9389	16.336	16.342	0	1.075	212891370	39011467	32067	80167	1217	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.364	16.366	0	1.002	67113904	12678635	6228	15570	2036		
305.8987	16.364	16.366	0	1.002	93310817	17644554	11411	28527	1546	0.72(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.923	14.932	0	0.982	127652098	26887802	18032	45080	1491		
333.9339	14.923	14.932	0	0.982	165945599	34991561	15159	37897	2308	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.951	14.951	0	0.984	137849801	28024128	8376	20940	3346		
2,3,7,8-TCDD											
319.8965	14.951	14.951	0	1.002	57184816	11899173	6651	16627	1789		
321.8936	14.951	14.951	0	1.002	70353972	14447447	8992	22480	1607	0.81(0.65-0.89)	
Total Dioxins & Furans											
303.9016		0.0	0				6228	15570			
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				6228	15570			

Reagents:

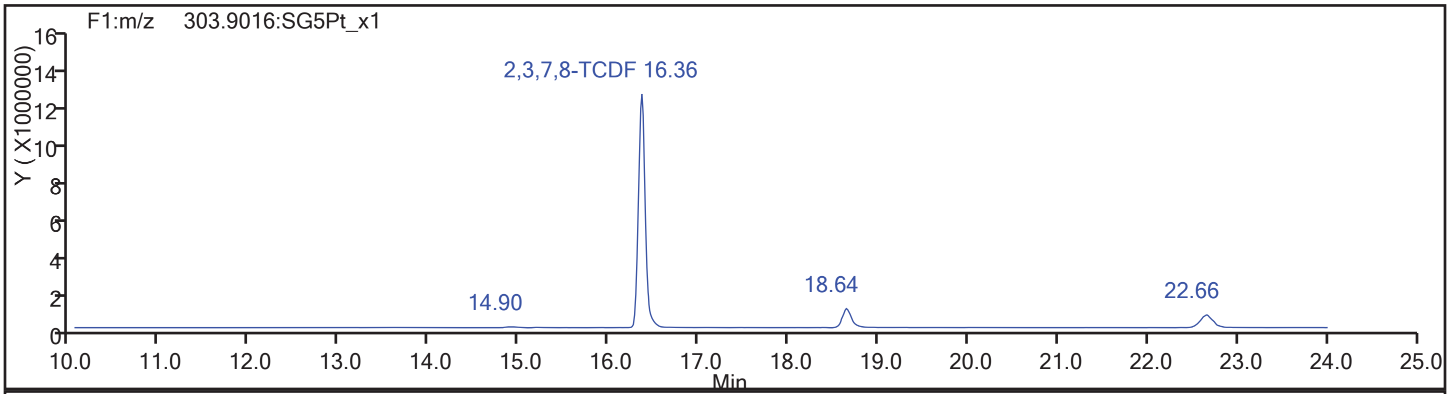
HRDXNL5_00021 Amount Added: 1.00 Units: mL

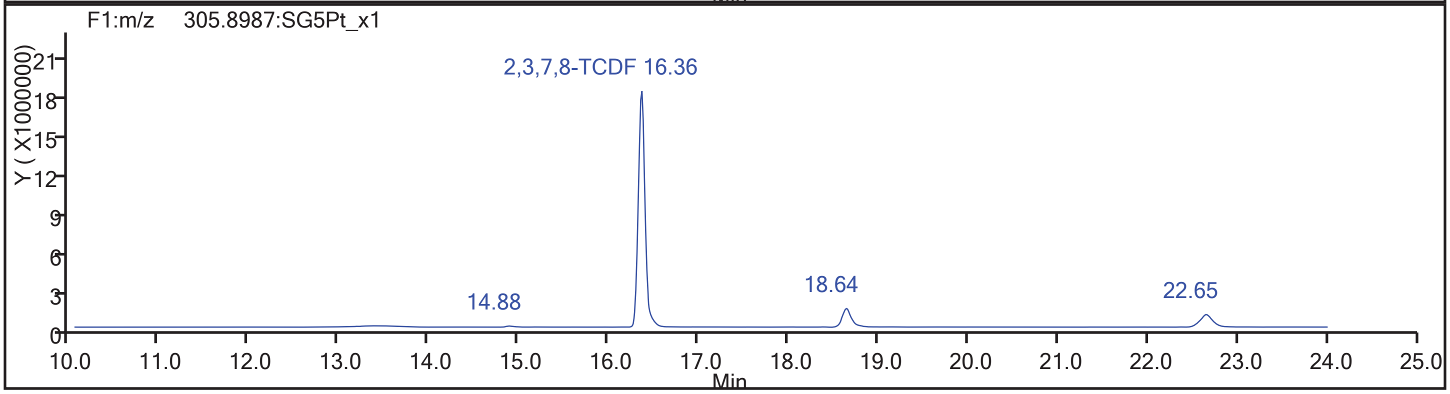
Report Date: 03-Mar-2017 09:14:46 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

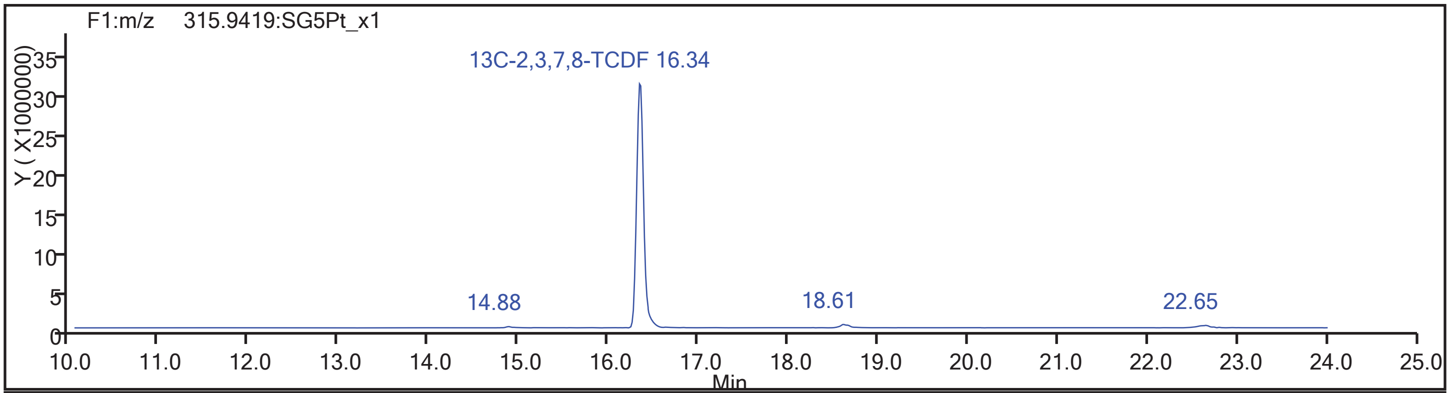
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d		
Injection Date:	02-Mar-2017 16:36:13	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

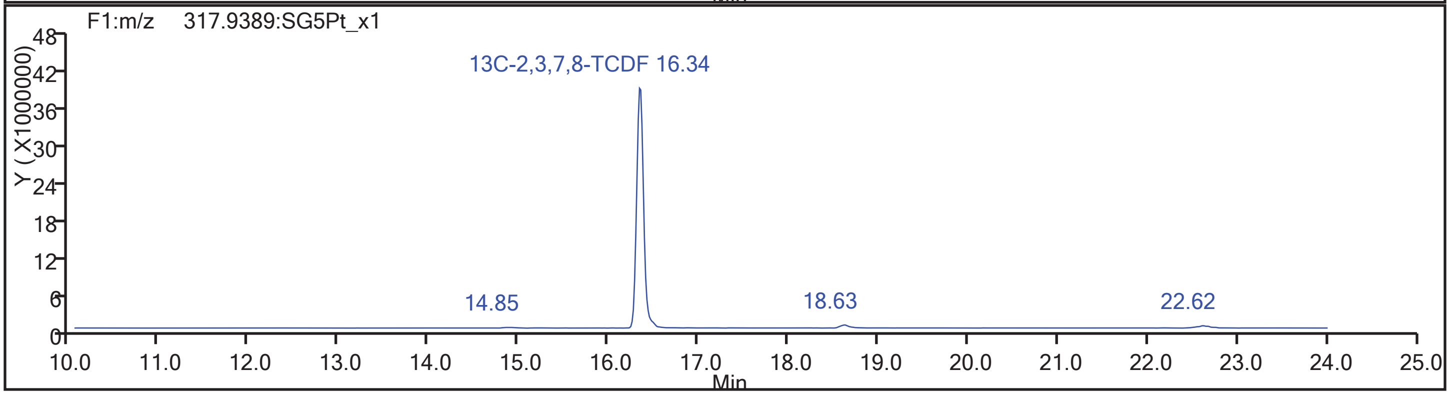
TCDF





TCDF Standards

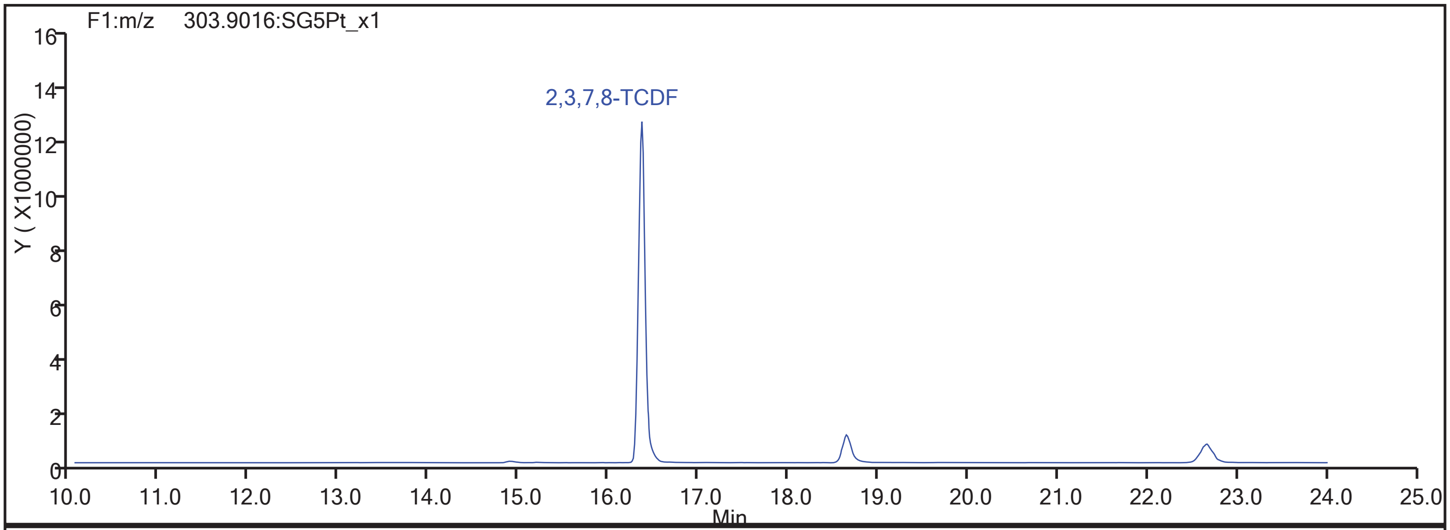


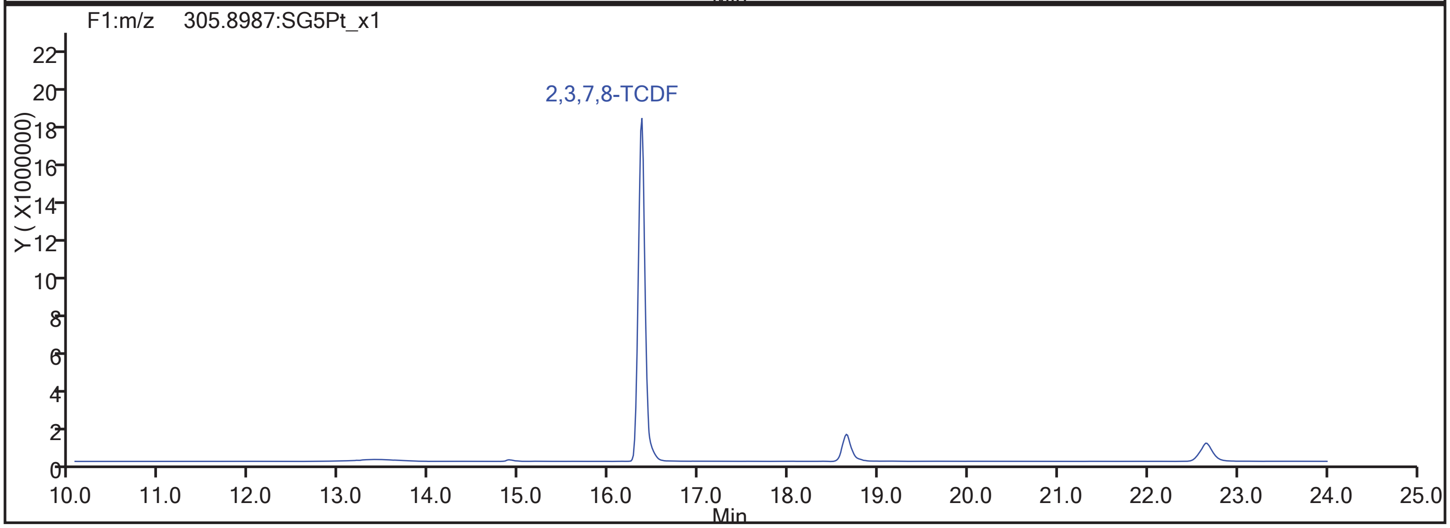


TestAmerica Sacramento

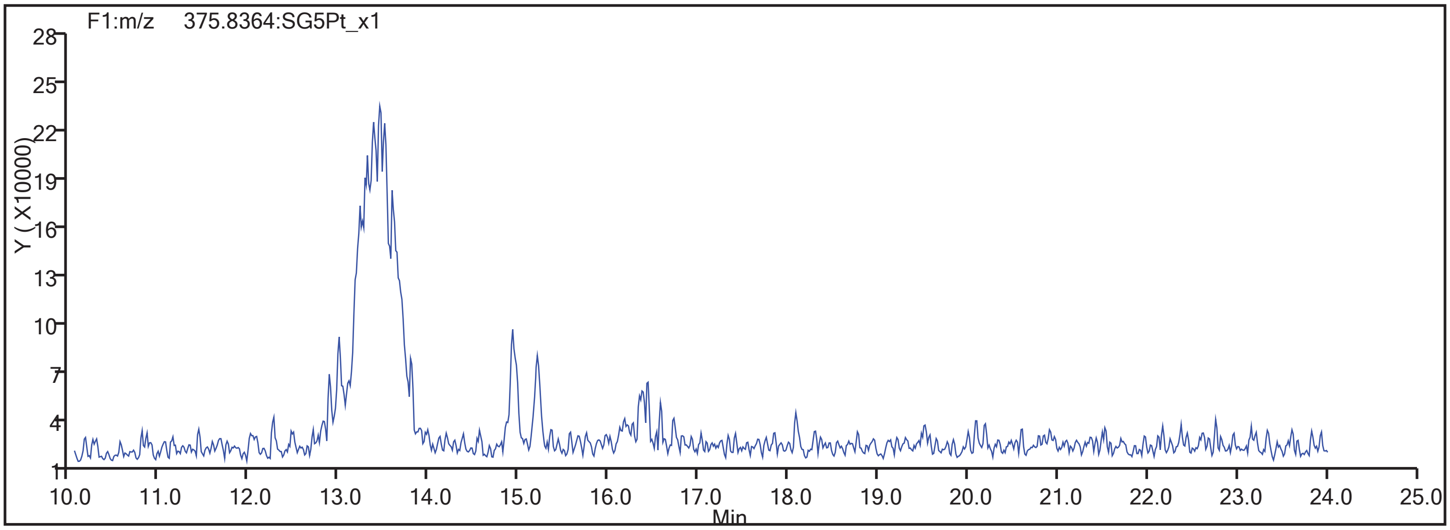
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d		
Injection Date:	02-Mar-2017 16:36:13	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

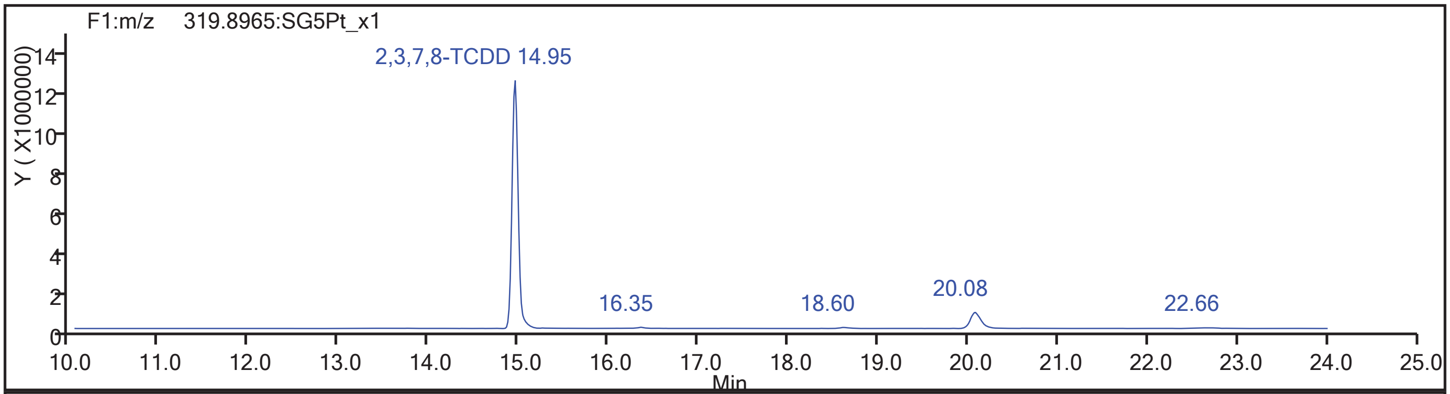


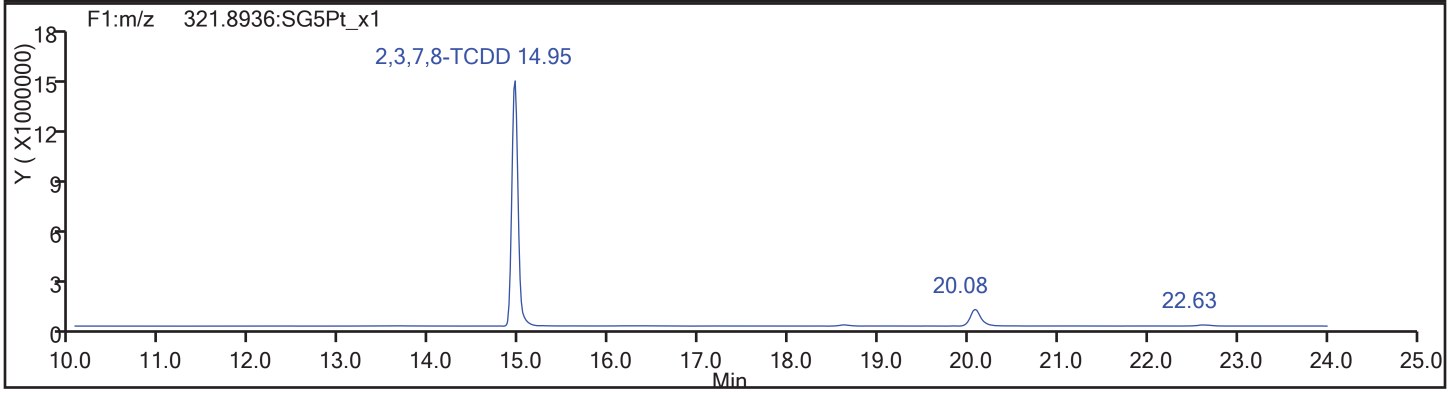
Report Date: 03-Mar-2017 09:14:46   Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

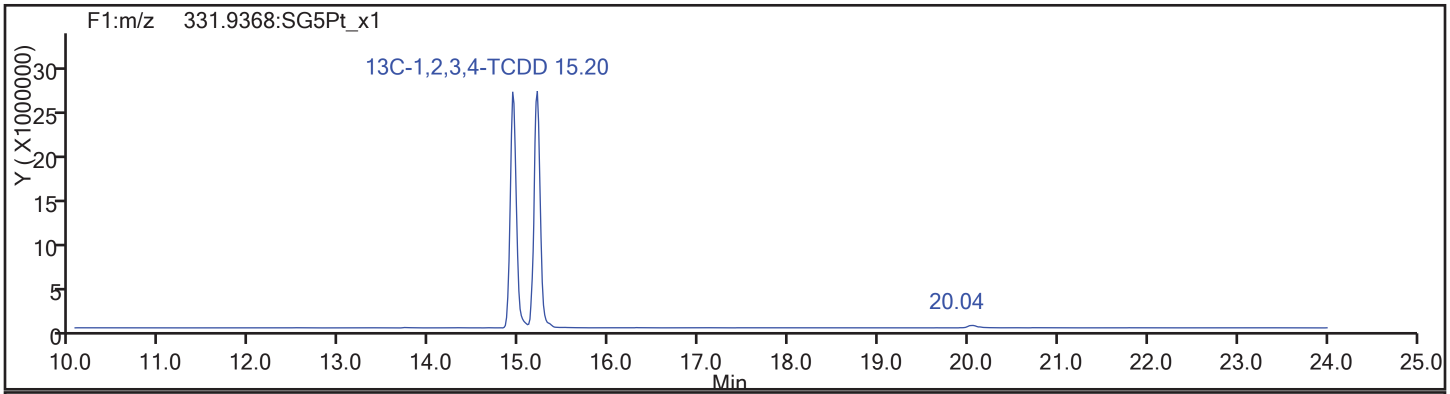
Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d
Injection Date: 02-Mar-2017 16:36:13   Injection Vol: 2.0 ul
Instrument ID: 9D2   Operator ID:
Method: DXN_DB225_9D2   Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 153001   Sample Line#: 6
Column Type: DB-225   Column Dia: 0.32 mm

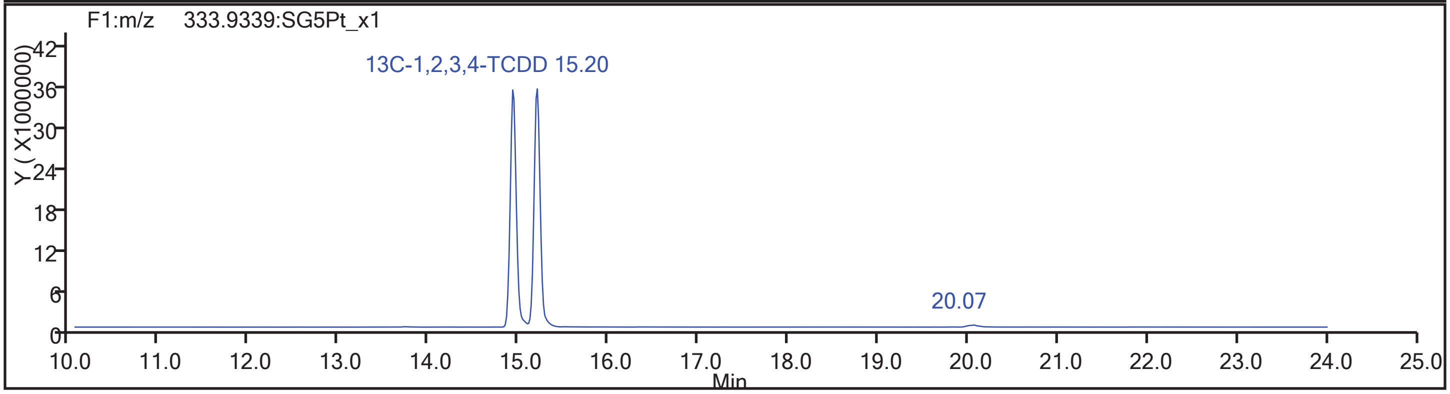
TCDD





TCDD Standards



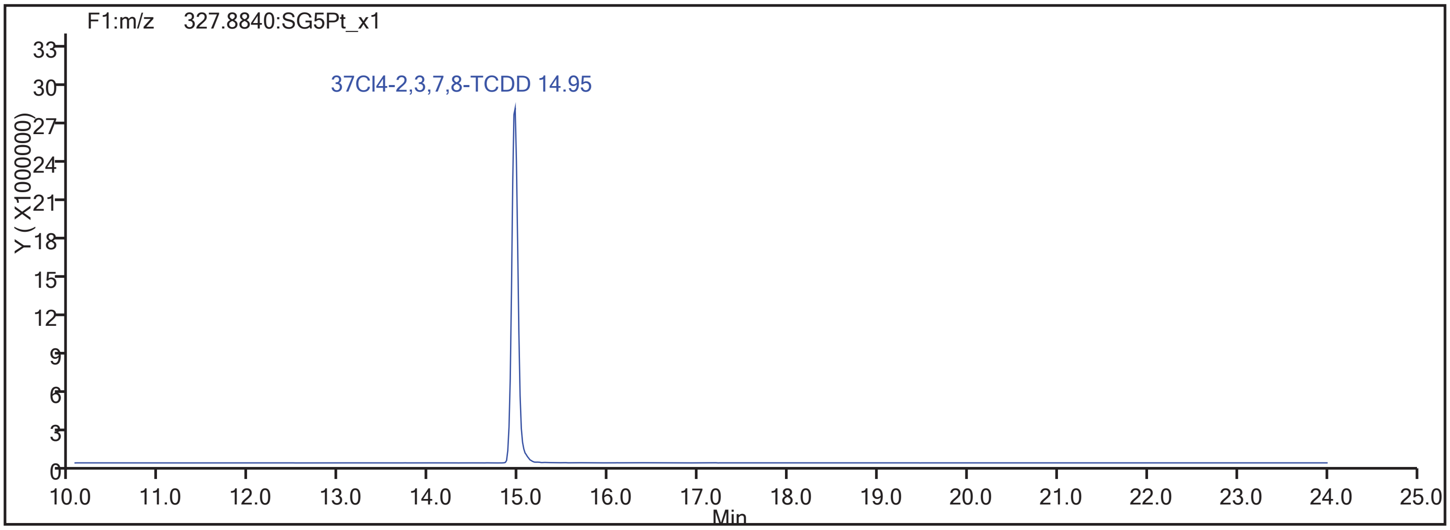


Report Date: 03-Mar-2017 09:14:46   Chrom Revision: 2.2 03-Feb-2017 15:35:04

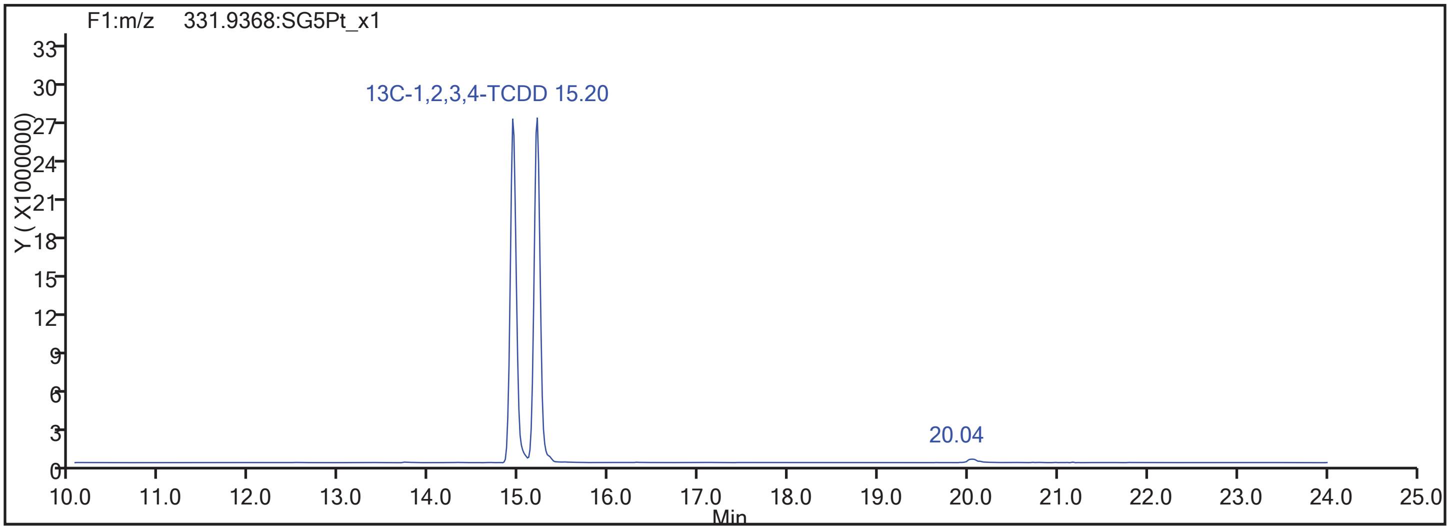
TestAmerica Sacramento

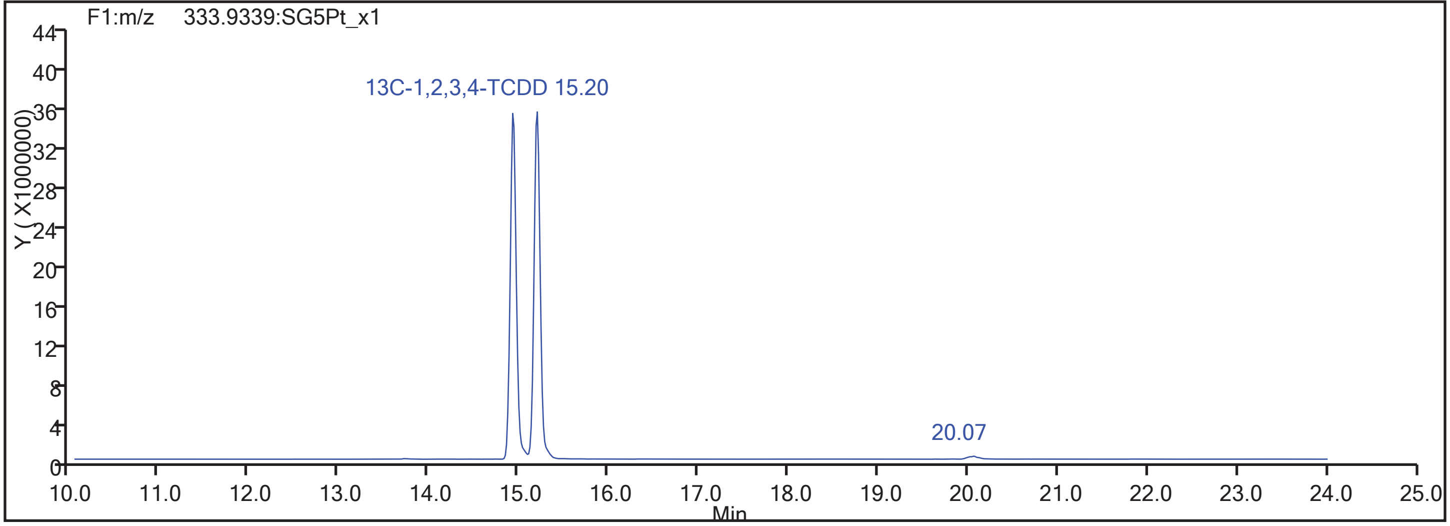
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d		
Injection Date:	02-Mar-2017 16:36:13	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

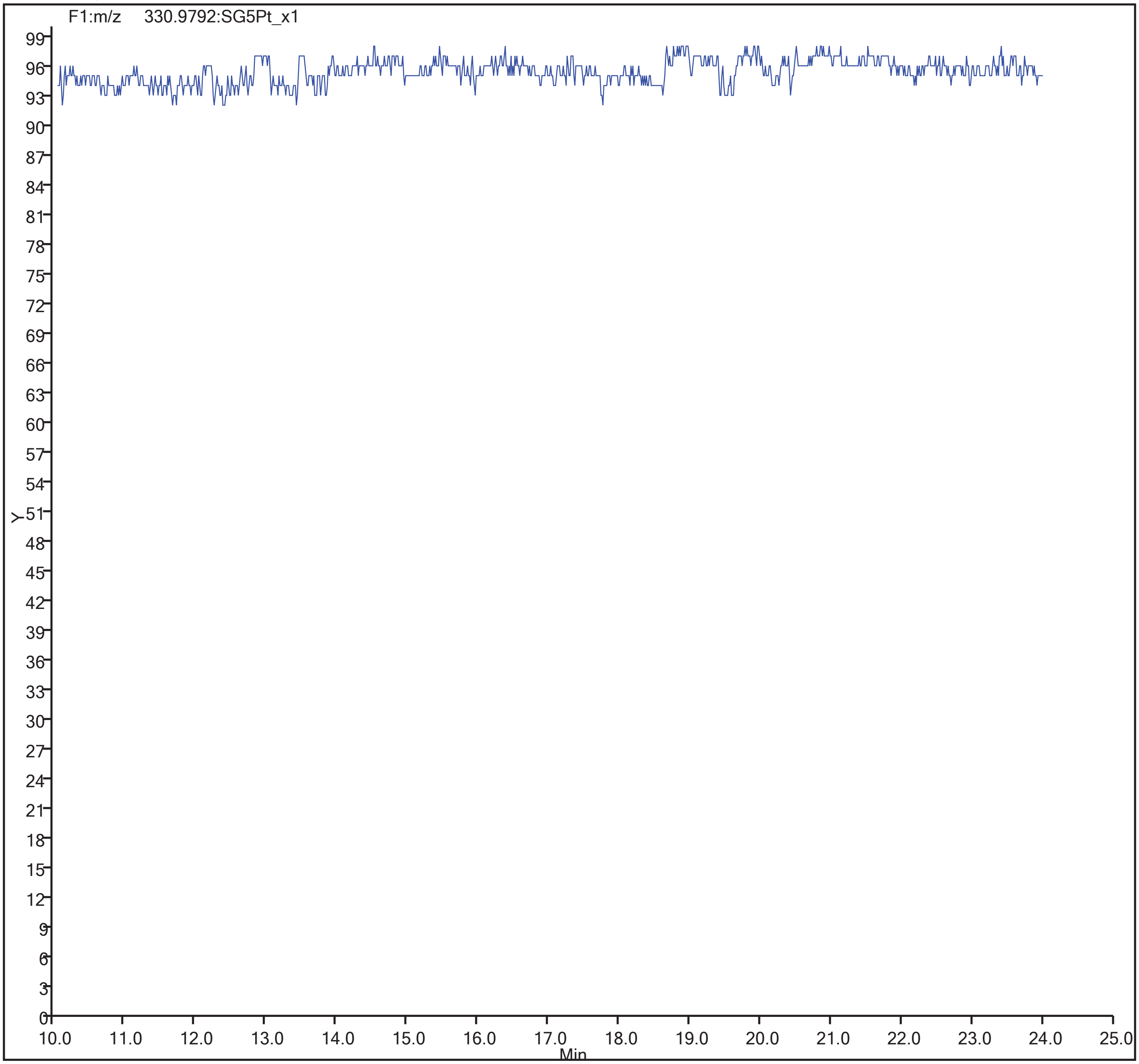


37Cl4-TCDD Standards





Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d
Injection Date: 02-Mar-2017 16:36:13
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 153001
Sample Line#: 6
Column Type: DB-225
Column Dia: 0.32 mm



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): CPS 320-153001/1

Instrument ID (1): 9D2

GC Column (1): DB-225

ID: 0.32(mm)

Date Analyzed (1): 03/02/2017 13:26

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.37	24

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_001.d				
Injection Date:	02-Mar-2017 13:26:59	Instrument ID:	9D2		
Lims ID:	CPS				
Client ID:	CPS01				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		

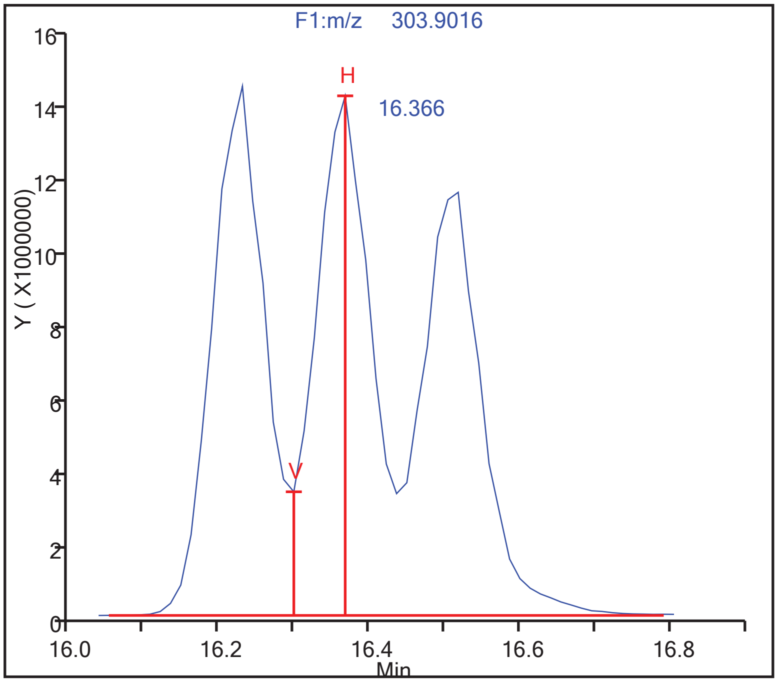
2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 3318536
H (Peak Height) = 13944584

%R = 24 <= 25
Passed



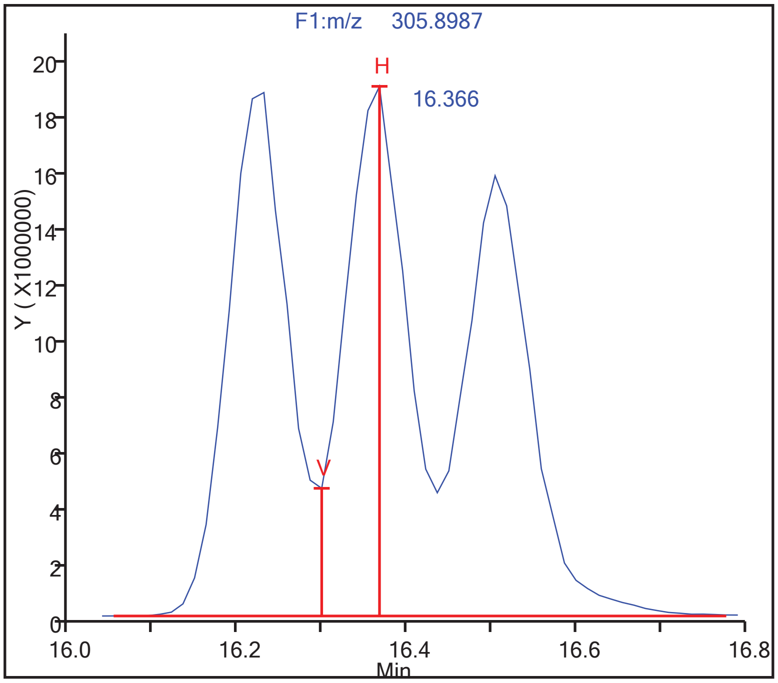
2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 4537147
H (Peak Height) = 18821948

%R = 24 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): WDM 320-189155/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 10/12/2017 23:19

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.14	24

FORM VI 8290A

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d				
Injection Date:	12-Oct-2017 23:19:44	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	ALM, SMA	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		

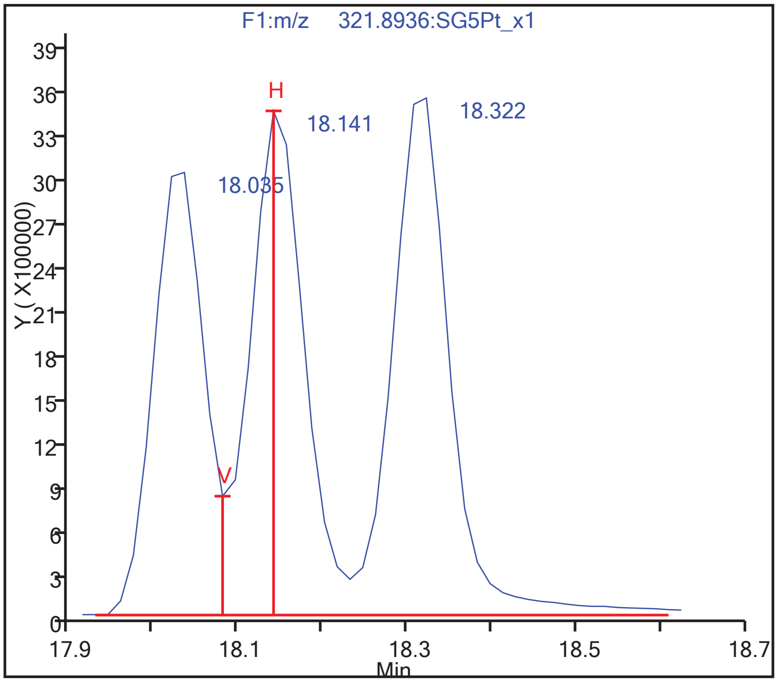
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 821167
H (Peak Height) = 3463220

%R = 24 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): CPS 320-193317/1

Instrument ID (1): 9D2

GC Column (1): DB-225

ID: 0.32(mm)

Date Analyzed (1): 11/07/2017 10:09

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.14	22

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_001.d				
Injection Date:	07-Nov-2017 10:09:47	Instrument ID:	9D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		

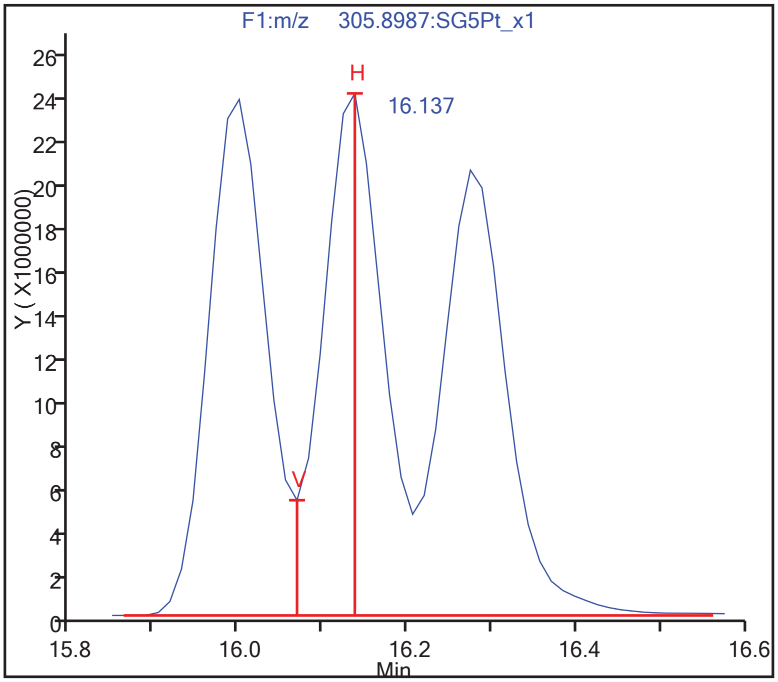
2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 5304335
H (Peak Height) = 24007148

%R = 22 <= 25
Passed



Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_001.d				
Injection Date:	07-Nov-2017 10:09:47	Instrument ID:	9D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): CPS 320-193641/1 Instrument ID (1): 9D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 11/07/2017 22:48

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.11	23

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_001.d				
Injection Date:	07-Nov-2017 22:48:19	Instrument ID:	9D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		

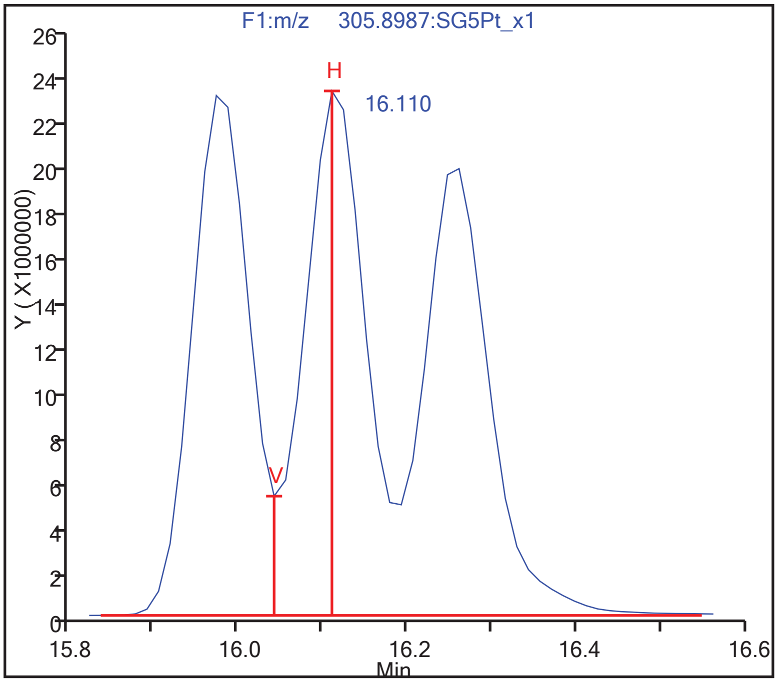
2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 5254984
H (Peak Height) = 23099378

%R = 23 <= 25
Passed



Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_001.d				
Injection Date:	07-Nov-2017 22:48:19	Instrument ID:	9D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): WDM 320-194084/53 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 11/11/2017 02:05

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.13	20

FORM VI 8290A

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d				
Injection Date:	11-Nov-2017 02:05:30	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	SMA, AJS	ALS Bottle#:	1	Worklist Smp#:	53
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		

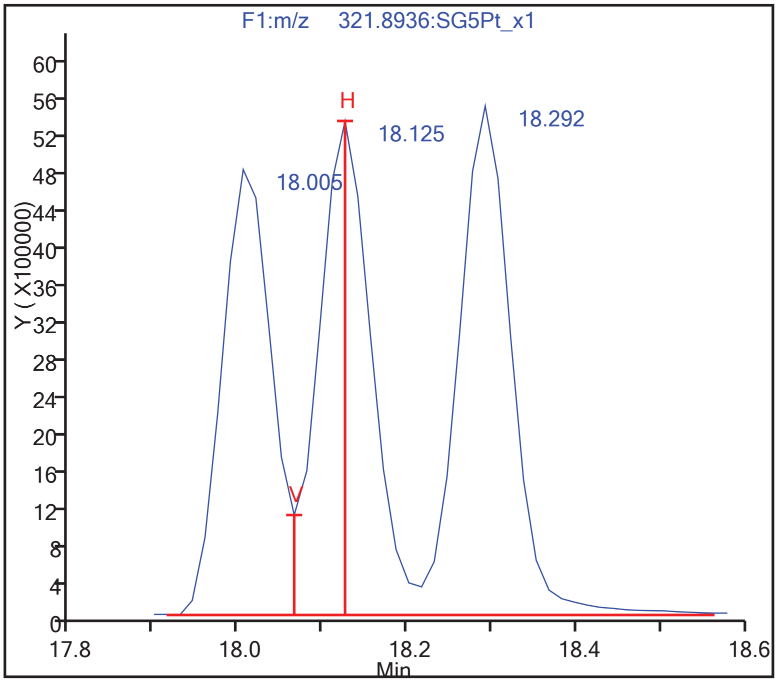
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1079555
H (Peak Height) = 5289675

%R = 20 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): WDM 320-194085/66 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 11/11/2017 12:35

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.11	21

FORM VI 8290A

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d				
Injection Date:	11-Nov-2017 12:35:08	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	1	Worklist Smp#:	66
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		

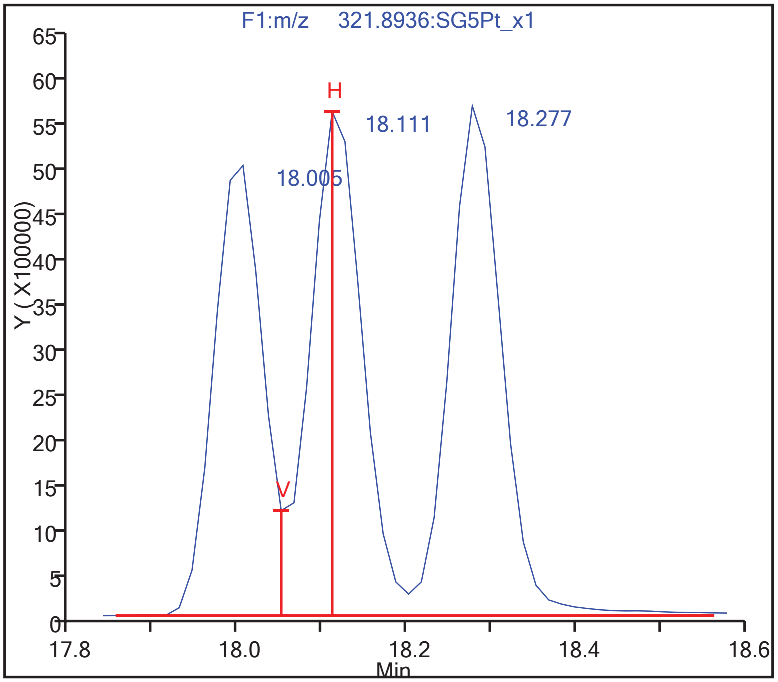
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1161673
H (Peak Height) = 5574875

%R = 21 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): WDM 320-194086/59 Instrument ID (1): 10D7

GC Column (1): DB-7 ID: 0.32(mm) Date Analyzed (1): 11/11/2015 23:04

ANALYTE	RT	RESOLUTION (%)
2,3,5,8-TCDD	18.13	21

FORM VI 8290A

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d				
Injection Date:	11-Nov-2017 23:04:47	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	1	Worklist Smp#:	79
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		

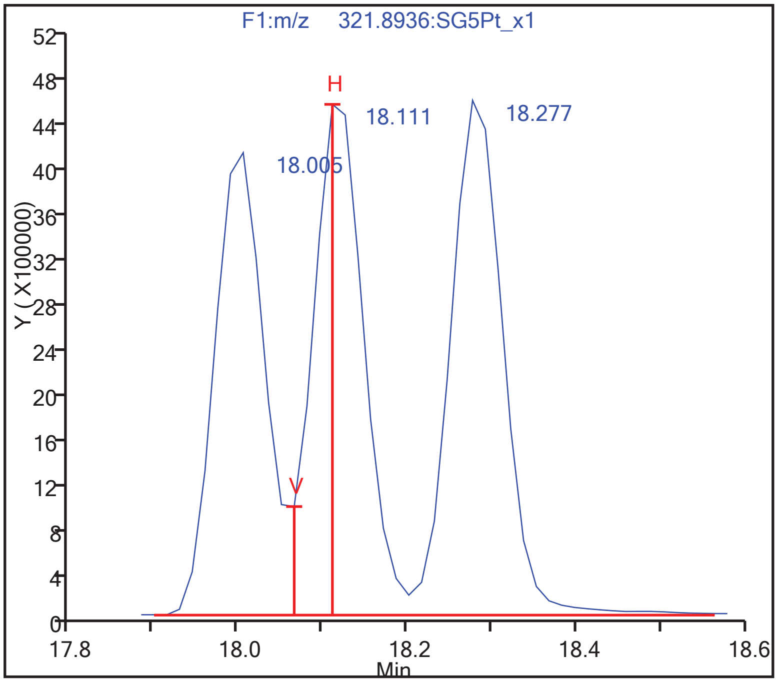
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 972875
H (Peak Height) = 4552719

%R = 21 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): WDM 320-194428/14

Instrument ID (1): 10D5

GC Column (1): DB-5

ID: 0.32(mm)

Date Analyzed (1): 11/13/2017 22:28

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.05	23

FORM VI 8290A

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_14.d				
Injection Date:	13-Nov-2017 22:28:15	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	1	Worklist Smp#:	14
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		

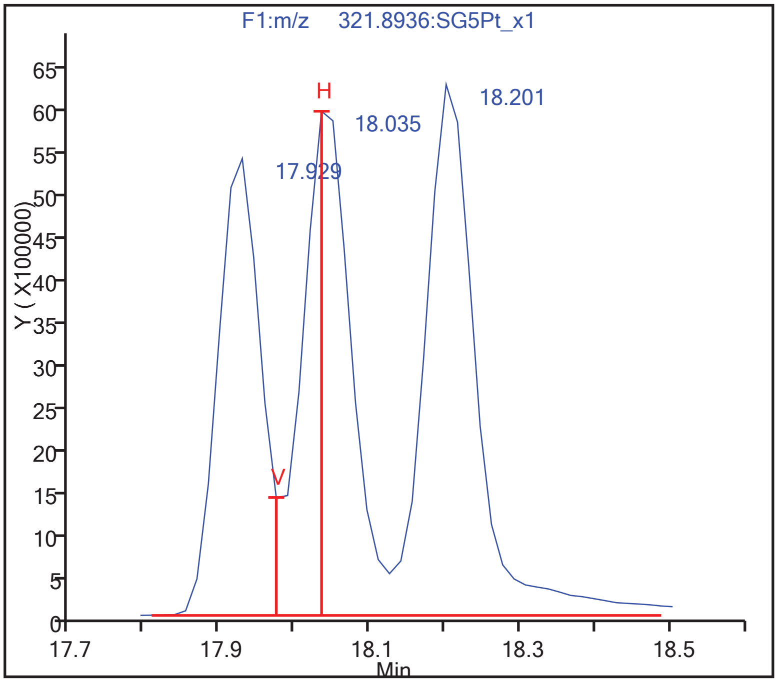
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1388851
H (Peak Height) = 5932812

%R = 23 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): WDM 320-194429/27 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 11/14/2017 09:06

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.02	20

FORM VI 8290A

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_27.d				
Injection Date:	14-Nov-2017 09:06:45	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	1	Worklist Smp#:	27
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL		

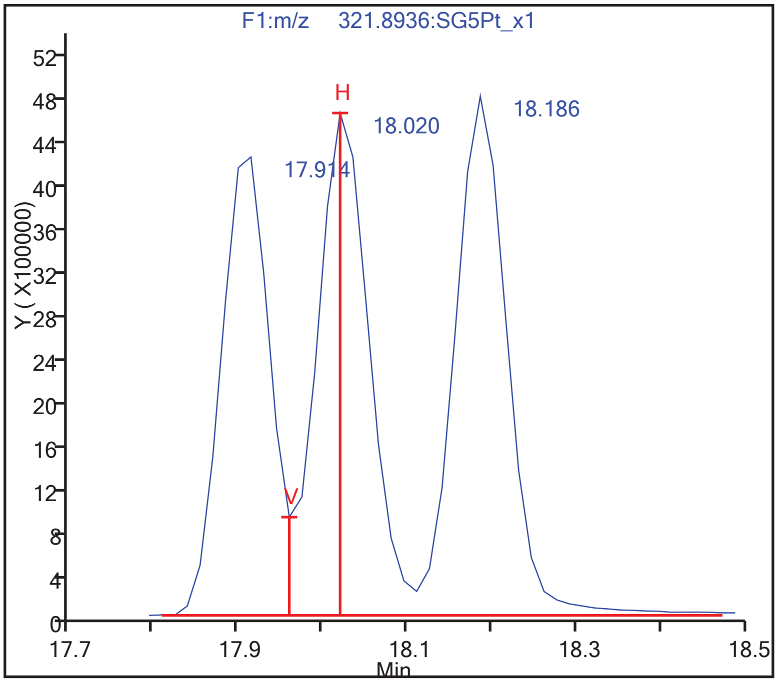
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 898114
H (Peak Height) = 4580881

%R = 20 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): WDM 320-194923/1

Instrument ID (1): 3D5

GC Column (1): DB-5

ID: 0.32(mm)

Date Analyzed (1): 11/15/2017 11:03

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.54	20

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d				
Injection Date:	15-Nov-2017 11:03:08	Instrument ID:	3D5		
Lims ID:	WDM	Lab Sample ID:			
Client ID:	WDM01				
Operator ID:	SMA	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:			
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		

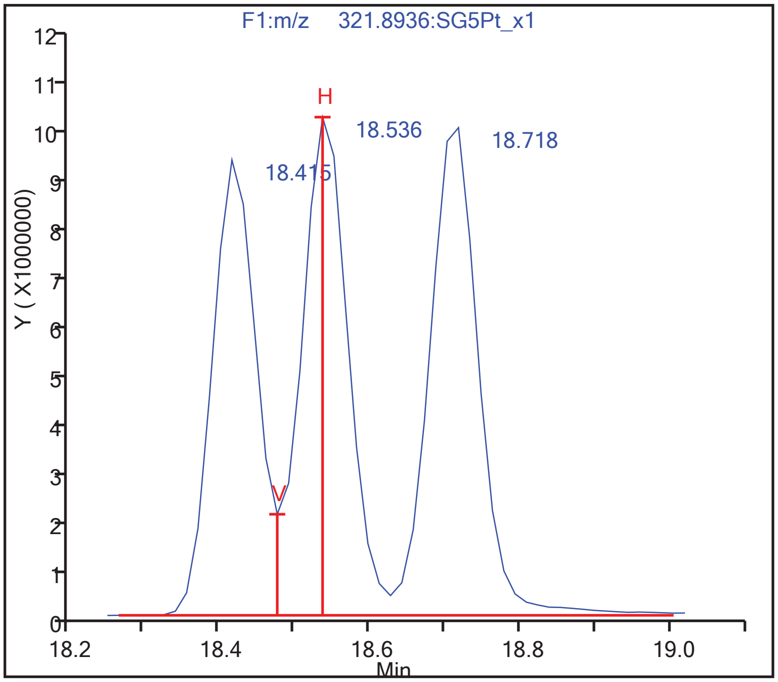
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2060104
H (Peak Height) = 10152973

%R = 20 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): WDM 320-195573/54 Instrument ID (1): 3D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 11/18/2017 12:59

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.46	19

FORM VI 8290A

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d				
Injection Date:	18-Nov-2017 12:59:42	Instrument ID:	3D5		
Lims ID:	WDM				
Client ID:	WDM01				
Operator ID:	SMA, ALM	ALS Bottle#:	1	Worklist Smp#:	54
Injection Vol:	2.0 ul	Column:			
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		

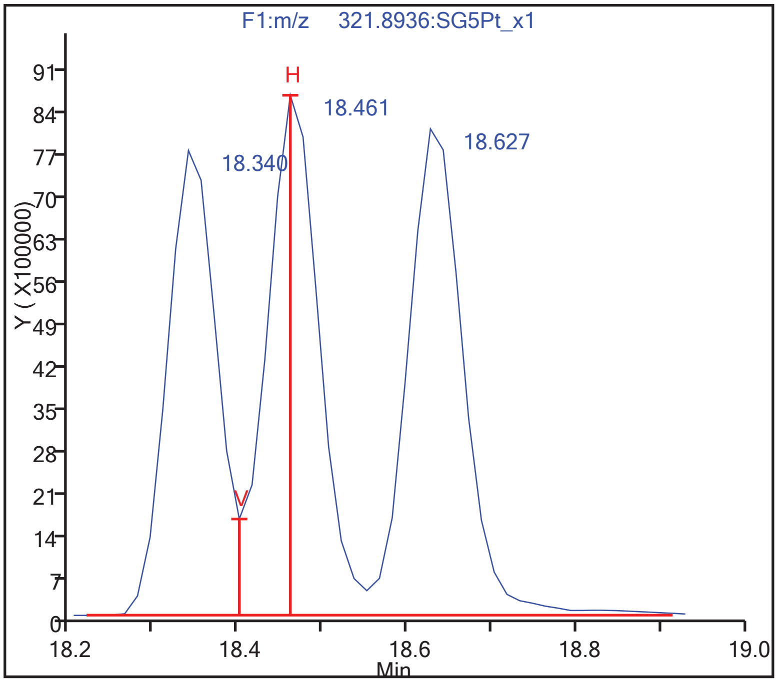
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1597051
H (Peak Height) = 8587129

%R = 19 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): WDM 320-195574/67 Instrument ID (1): 3D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 11/18/2017 23:50

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.45	19

FORM VI 8290A

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d				
Injection Date:	18-Nov-2017 23:50:29	Instrument ID:	3D5		
Lims ID:	WDM				
Client ID:	WDM01				
Operator ID:	SMA, ALM	ALS Bottle#:	1	Worklist Smp#:	67
Injection Vol:	2.0 ul	Column:			
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		

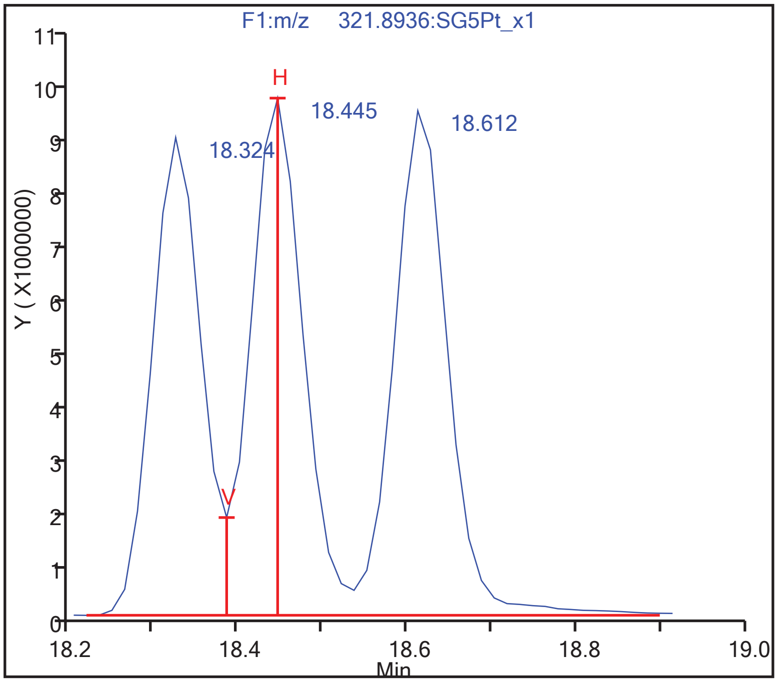
2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1769283
H (Peak Height) = 9328288

%R = 19 <= 25
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Lab Sample ID (1): WDM 320-195575/80
Instrument ID (1): 3D5
GC Column (1): DB-5
ID: 0.32(mm)
Date Analyzed (1): 11/19/2017 10:51

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.45	18

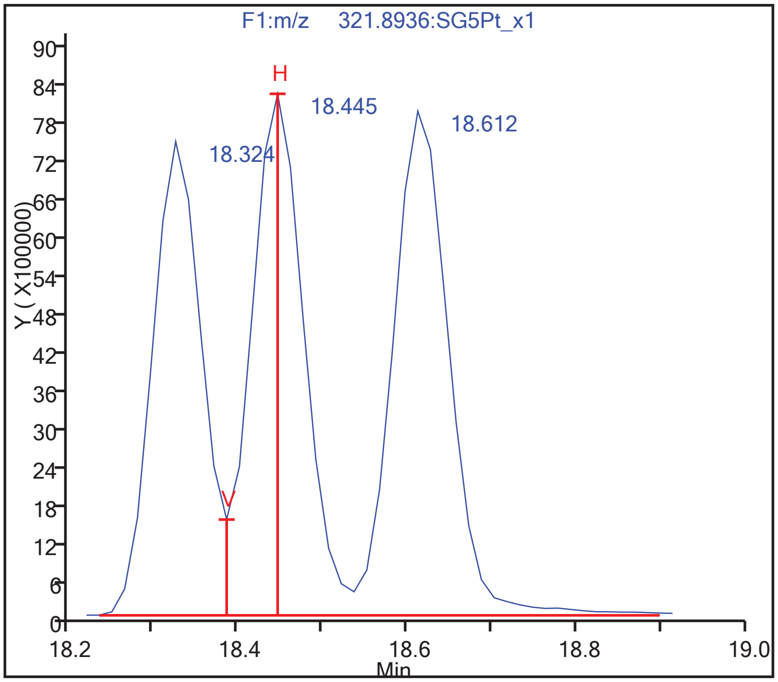
FORM VI 8290A

Resolution Report

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d
Injection Date: 19-Nov-2017 10:51:16 Instrument ID: 3D5
Lims ID: WDM
Client ID: WDM01
Operator ID: SMA, ALM ALS Bottle#: 1 Worklist Smp#: 80
Injection Vol: 2.0 ul Column:
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

2,3,7,8-TCDD



Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1513369
H (Peak Height) = 8218964

%R = 18 <= 25
Passed

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID (1): CPS 320-198469/1 Instrument ID (1): 9D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 12/05/2017 11:33

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.11	20

FORM VI 8290A

Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_001.d				
Injection Date:	05-Dec-2017 11:33:58	Instrument ID:	9D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		

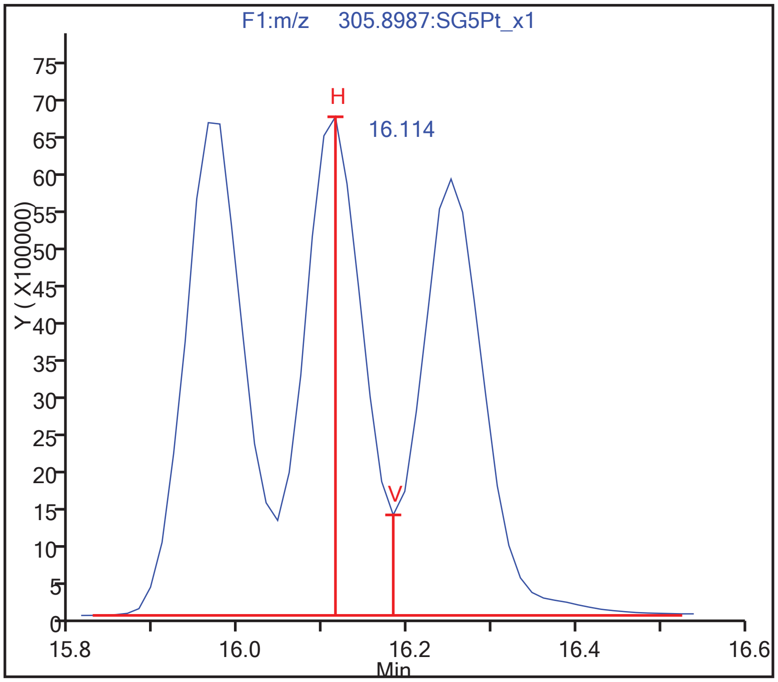
2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1341440
H (Peak Height) = 6669872

%R = 20 <= 25
Passed



Resolution Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_001.d				
Injection Date:	05-Dec-2017 11:33:58	Instrument ID:	9D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab Sample ID: ICV 320-189155/7

Calibration Date: 10/13/2017 03:58

Instrument ID: 10D5

Calib Start Date: 10/13/2017 00:08

GC Column: DB-5 ID: 0.32(mm)

Calib End Date: 10/13/2017 03:12

Lab File ID: 12OC17B10D5_7.d

Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.111		41.6	40.0	-2.1	20.0
2,3,7,8-TCDD	AveID	0.999	1.012		43.2	40.0	1.3	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.150		206	200	-1.1	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.116		202	200	-2.0	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9462		212	200	-0.3	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.385		199	200	-1.2	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.658		199	200	-2.2	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.500		197	200	-1.4	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	0.9652		219	200	1.6	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.221		206	200	-1.1	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.252		224	200	0.4	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.396		214	200	-1.0	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.603		207	200	-2.3	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9788		207	200	-1.4	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.311		217	200	-1.4	20.0
OCDD	AveID	1.060	1.020		403	400	-3.8	20.0
OCDF	AveID	1.346	1.345		416	400	-0.0	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.274		100	100	0.0	
13C-2,3,7,8-TCDD	Ave	0.9921	0.9780		99.8	100	-1.4	
13C-1,2,3,7,8-PeCDF	Ave	0.9696	0.9813		101	100	1.2	
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.7650		98.5	100	0.8	
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	0.9367		95.8	100	-2.9	
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.8424		90.3	100	-4.2	
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.7408		89.2	100	-2.8	
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.7546		91.0	100	-2.8	
13C-OCDD	Ave	0.6314	0.6125		182	200	-3.0	
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.004		40.4	40.0	-4.1	

FORM VII 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_7.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2017 03:58:57 ALS Bottle#: 8 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 101217A ICV HRDXNIC_00032
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist:

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:56:18 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:53:29

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	66276742	0.78	6.7E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	84442536	0.78	1.2722	100.1	100.1	0.2345	0.2345	100	
2,3,7,8-TCDF	17.415	37518017	0.77	1.0688	41.6	41.6	0.0964	0.0964	104	
A Non-2,3,7,8-sub-TCDF	17.128						0.0	0.0		
S Total TCDF					41.6	41.6	0.0964	0.0964		
D 13C-2,3,7,8-TCDD	18.111	64820877	0.77	0.9800	99.8	99.8	0.3061	0.3061	99.80	
2,3,7,8-TCDD	18.141	26252070	0.79	0.9375	43.2	43.2	0.0908	0.0908	108	
$ 37Cl4-2,3,7,8-TCDD	18.126	26622560		0.9931	40.4	40.4	0.0774	0.0774	101	
A Non-2,3,7,8-sub-TCDD	17.581						0.0	0.0		
S Total TCDD					43.2	43.2	0.0908	0.0908		
D 13C-1,2,3,7,8-PeCDF	22.492	65034769	1.51	0.9756	100.6	100.6	0.3959	0.3959	101	
1,2,3,7,8-PeCDF	22.519	149518932	1.58	1.1186	205.5	205.5	1.173	1.173	103	
D 13C-2,3,4,7,8-PeCDF	23.855	62521218	1.55							
2,3,4,7,8-PeCDF	23.883	145206883	1.58	1.1031	202.4	202.4	1.189	1.189	101	
A F1 PeCDFs	20.023						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.229						0.0	0.0		
S Total PeCDF					407.9	407.9	1.181	1.181		
D 13C-1,2,3,7,8-PeCDD	24.592	50698278	1.60	0.7765	98.5	98.5	0.1708	0.1708	98.52	
1,2,3,7,8-PeCDD	24.619	95938466	1.55	0.8940	211.7	211.7	0.3972	0.3972	106	
A Non-2,3,7,8-sub-PeCDD	23.521						0.0	0.0		
S Total PeCDD					211.7	211.7	0.3972	0.3972		
D 13C-1,2,3,4,7,8-HxCDF	30.660	48416007	0.52	0.9777	95.8	95.8	1.086	1.086	95.81	
1,2,3,4,7,8-HxCDF	30.673	134099757	1.26	1.3910	199.1	199.1	2.323	2.323	99.56	
D 13C-1,2,3,6,7,8-HxCDF	30.833	60792882	0.53							
1,2,3,6,7,8-HxCDF	30.846	160534311	1.26	1.6682	198.8	198.8	1.937	1.937	99.38	
D 13C-2,3,4,6,7,8-HxCDF	31.632	54989800	0.52							
2,3,4,6,7,8-HxCDF	31.645	145231797	1.26	1.5193	197.4	197.4	2.126	2.126	98.72	
D 13C-1,2,3,7,8,9-HxCDF	32.403	52625021	0.52							
1,2,3,7,8,9-HxCDF	32.417	135173320	1.29	1.3057	213.8	213.8	2.474	2.474	107	
A Non-2,3,7,8-sub-HxCDF	30.360						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					809.1	809.1	2.215	2.215		
* 13C-1,2,3,7,8,9-HxCDD	32.230	51689951	1.22	4.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.805	34464592	1.24							
1,2,3,4,7,8-HxCDD	31.818	84057128	1.27	0.8806	219.2	219.2	1.417	1.417	110	
D 13C-1,2,3,6,7,8-HxCDD	31.911	43542274	1.22	0.9325	90.3	90.3	0.5257	0.5257	90.34	
1,2,3,6,7,8-HxCDD	31.924	106296525	1.26	1.1857	205.9	205.9	1.052	1.052	103	
1,2,3,7,8,9-HxCDD	32.244	109027909	1.25	1.1193	223.7	223.7	1.114	1.114	112	
A Non-2,3,7,8-sub-HxCDD	30.999						0.0	0.0		
S Total HxCDD					648.8	648.8	1.194	1.194		
D 13C-1,2,3,4,6,7,8-HpCDF	33.807	38291729	0.44	0.8304	89.2	89.2	1.741	1.741	89.21	
1,2,3,4,6,7,8-HpCDF	33.819	122761911	1.06	1.5507	206.7	206.7	2.964	2.964	103	
D 13C-1,2,3,4,7,8,9-HpCDF	34.876	32925858	0.43							
1,2,3,4,7,8,9-HpCDF	34.888	100432461	1.05	1.2064	217.4	217.4	3.810	3.810	109	
A Non-2,3,7,8-sub-HpCDF	34.359						0.0	0.0		
S Total HpCDF					424.1	424.1	3.387	3.387		
D 13C-1,2,3,4,6,7,8-HpCDD	34.597	39006602	1.03	0.8288	91.0	91.0	0.8326	0.8326	91.05	
1,2,3,4,6,7,8-HpCDD	34.609	76360268	1.04	0.9479	206.5	206.5	1.626	1.626	103	
A Non-2,3,7,8-sub-HpCDD	35.319						0.0	0.0		
S Total HpCDD					206.5	206.5	1.626	1.626		
D 13C-OCDD	36.930	63323343	0.91	0.6717	182.4	182.4	0.2997	0.2997	91.20	
OCDF	37.038	170345461	0.90	1.2931	416.1	416.1	0.5599	0.5599	104	
OCDD	36.942	129195054	0.89	1.0130	402.8	402.8	0.7108	0.7108	101	

Reagents:

HRDXNIC_00032 Amount Added: 1.00 Units: mL

Report Date: 13-Oct-2017 10:56:21 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_7.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2017 03:58:57 ALS Bottle#: 8 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 101217A ICV HRDXNIC_00032
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5
Sublist:

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:56:18 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

First Level Reviewer: arghestanis Date: 13-Oct-2017 08:53:29

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.920	0		29134505	7130237	9797	24492	728		
333.9339	17.914	17.920	0		37142237	9125588	9708	24270	940	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.403	0	0.971	36887400	8940327	10011	25027	893		
317.9389	17.400	17.403	0	0.971	47555136	11442523	9386	23465	1219	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415	17.421	0	1.001	16367519	3960863	4359	10897	909		
305.8987	17.415	17.421	0	1.001	21150498	5015133	4043	10107	1240	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.128						4359	10897			
305.8987	17.128						4043	10107			
13C-2,3,7,8-TCDD											
331.9368	18.111	18.117	0	1.011	28299763	6114215	9797	24492	624		
333.9339	18.111	18.117	0	1.011	36521114	8002806	9708	24270	824	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.141	18.132	1	1.002	11617690	2516727	2403	6007	1047		
321.8936	18.126	18.132	0	1.001	14634380	3251407	2406	6015	1351	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.126	18.135	-1	1.012	26622560	5835333	4997	12492	1168		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.581						2403	6007			
321.8936	17.581						2406	6015			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.492	22.503	-1	1.256	39167044	6512318	15223	38057	428		
353.8970	22.492	22.503	-1	1.256	25867725	4310886	9892	24730	436	1.51(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.519	22.525	0	1.001	91588746	15109428	34632	86580	436		
341.8567	22.519	22.525	0	1.001	57930186	9609475	22156	55390	434	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.855	23.866	-1	1.332	38022690	5902887	15223	38057	388		
353.8970	23.855	23.866	-1	1.332	24498528	3751631	9892	24730	379	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.883	23.894	-1	1.001	88892625	13706015	34632	86580	396		
341.8567	23.883	23.894	-1	1.001	56314258	8673151	22156	55390	391	1.58(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.023						619	1547			
341.8567	20.023						607	1517			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.229						34632	86580			
341.8567	23.229						22156	55390			
13C-1,2,3,7,8-PeCDD											
367.8949	24.592	24.603	-1	1.373	31180064	4585111	5307	13267	864		
369.8919	24.592	24.603	-1	1.373	19518214	2903539	3317	8292	875	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.619	24.630	-1	1.001	58299033	8615721	6355	15887	1356		
357.8516	24.619	24.630	-1	1.001	37639433	5598690	4282	10705	1307	1.55(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.521						6355	15887			
357.8516	23.521						4282	10705			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.660	30.660	0	0.951	16611118	3195690	16694	41735	191		
385.8610	30.660	30.660	0	0.951	31804889	5939377	32074	80185	185	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.673	30.684	-1	1.000	74881164	14227576	65756	164390	216		
375.8178	30.673	30.684	-1	1.000	59218593	11306306	52300	130750	216	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.833	30.838	0	0.957	21010117	3862902	16694	41735	231		
385.8610	30.833	30.838	0	0.957	39782765	7289802	32074	80185	227	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.846	30.859	-1	1.000	89559276	15899942	65756	164390	242		
375.8178	30.846	30.859	-1	1.000	70975035	12648913	52300	130750	242	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.632	31.629	0	0.981	18865025	4330431	16694	41735	259		
385.8610	31.632	31.629	0	0.981	36124775	8267389	32074	80185	258	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.645	31.645	0	1.000	80996468	18959664	65756	164390	288		
375.8178	31.645	31.645	0	1.000	64235329	14892629	52300	130750	285	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.403	32.409	0	1.005	18115746	4201188	16694	41735	252		
385.8610	32.403	32.409	0	1.005	34509275	8051913	32074	80185	251	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.417	32.422	0	1.000	76086576	17793679	65756	164390	271		
375.8178	32.417	32.422	0	1.000	59086744	14057548	52300	130750	269	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.360						65756	164390			
375.8178	30.360						52300	130750			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.230	32.230	0		28443024	6370153	13173	32932	484		
403.8529	32.230	32.230	0		23246927	5115320	9349	23372	547	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.805	31.810	0	0.987	19086669	5247920	13173	32932	398		
403.8529	31.805	31.810	0	0.987	15377923	4133240	9349	23372	442	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.818	31.823	0	1.000	46961974	12670748	28236	70590	449		
391.8127	31.818	31.823	0	1.000	37095154	9935421	21547	53867	461	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.911	31.911	0	0.990	23958458	5510619	13173	32932	418		
403.8529	31.911	31.911	0	0.990	19583816	4466478	9349	23372	478	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.924	31.927	0	1.000	59301817	13445489	28236	70590	476		
391.8127	31.924	31.927	0	1.000	46994708	10776494	21547	53867	500	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.244	32.244	0	1.014	60668527	13352468	28236	70590	473		
391.8127	32.244	32.244	0	1.014	48359382	10658907	21547	53867	495	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.999						28236	70590			
391.8127	30.999						21547	53867			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.807	33.807	0	1.049	11728320	3393283	21666	54165	157		
419.8220	33.807	33.807	0	1.049	26563409	7728947	44772	111930	173	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.819	33.814	0	1.000	63070243	17853324	107052	267630	167		
409.7789	33.819	33.814	0	1.000	59691668	16557389	97427	243567	170	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.876	34.881	0	1.082	9846517	2433244	21666	54165	112		
419.8220	34.876	34.881	0	1.082	23079341	5694084	44772	111930	127	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.888	34.893	0	1.000	51518695	13082301	107052	267630	122		
409.7789	34.888	34.893	0	1.000	48913766	12630725	97427	243567	130	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.359						107052	267630			
409.7789	34.359						97427	243567			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.597	34.592	0	1.073	19749337	5077179	15846	39615	320		
437.8140	34.597	34.592	0	1.073	19257265	4753243	15859	39647	300	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.609	34.601	0	1.000	38853361	9704865	28817	72042	337		
425.7737	34.597	34.601	0	1.000	37506907	9541000	31806	79515	300	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.319						28817	72042			
425.7737	35.319						31806	79515			
13C-OCDD											
469.7779	36.930	36.932	0	1.146	30190530	6047464	4344	10860	1392		
471.7750	36.930	36.932	0	1.146	33132813	6956286	4904	12260	1418	0.91(0.76-1.02)	
OCDF											
441.7428	37.038	37.038	0	1.003	80563205	18029422	9096	22740	1982		
443.7399	37.038	37.038	0	1.003	89782256	19847698	9735	24337	2039	0.90(0.76-1.02)	
OCDD											
457.7377	36.942	36.944	0	1.000	60774705	13164069	9068	22670	1452		
459.7348	36.942	36.944	0	1.000	68420349	14723194	9659	24147	1524	0.89(0.76-1.02)	

Reagents:

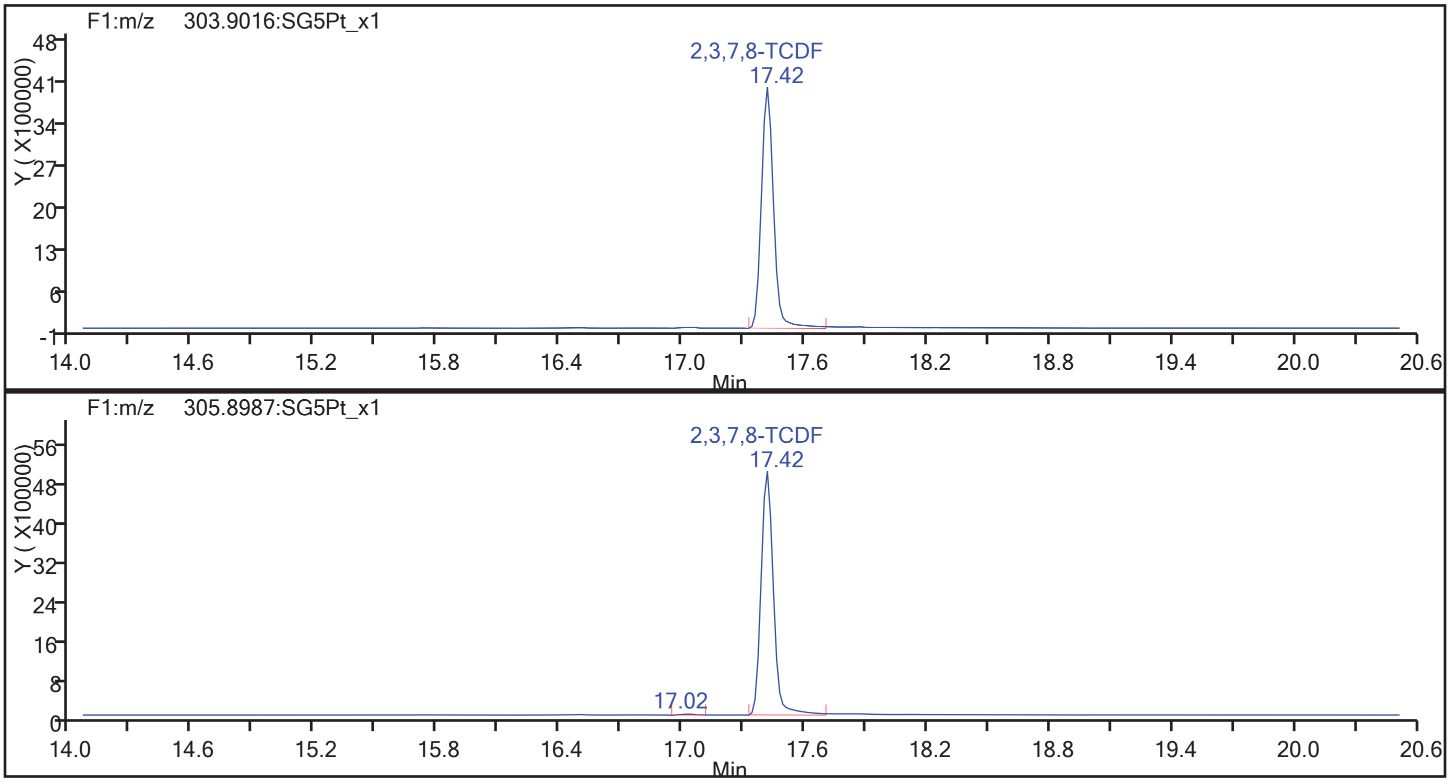
HRDXNIC_00032 Amount Added: 1.00 Units: mL

Report Date: 13-Oct-2017 10:56:21 Chrom Revision: 2.2 10-Oct-2017 10:31:20

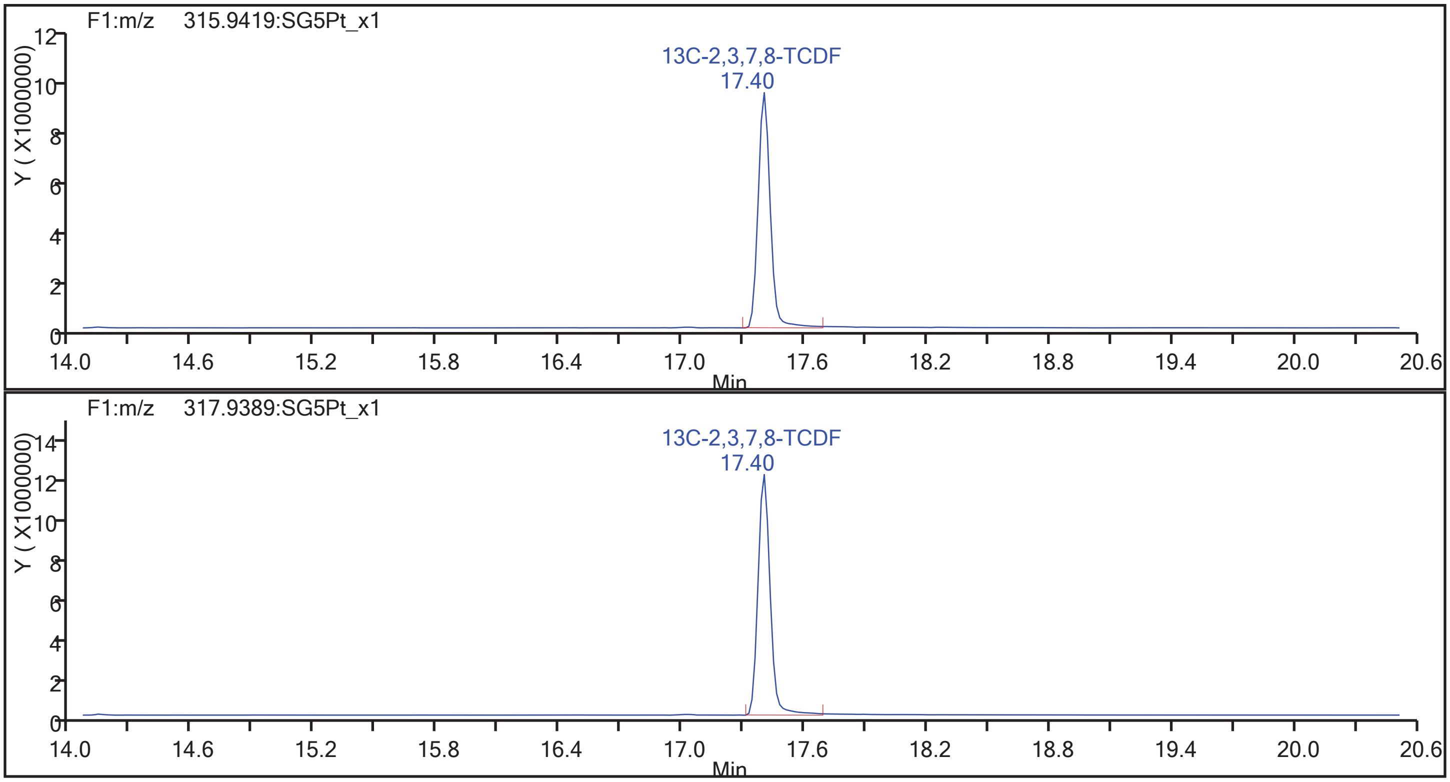
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_7.d
Injection Date: 13-Oct-2017 03:58:57
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 7
Column Type: DB-5
Column Dia: 0.32 mm

TCDF



TCDF Standards



TestAmerica Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

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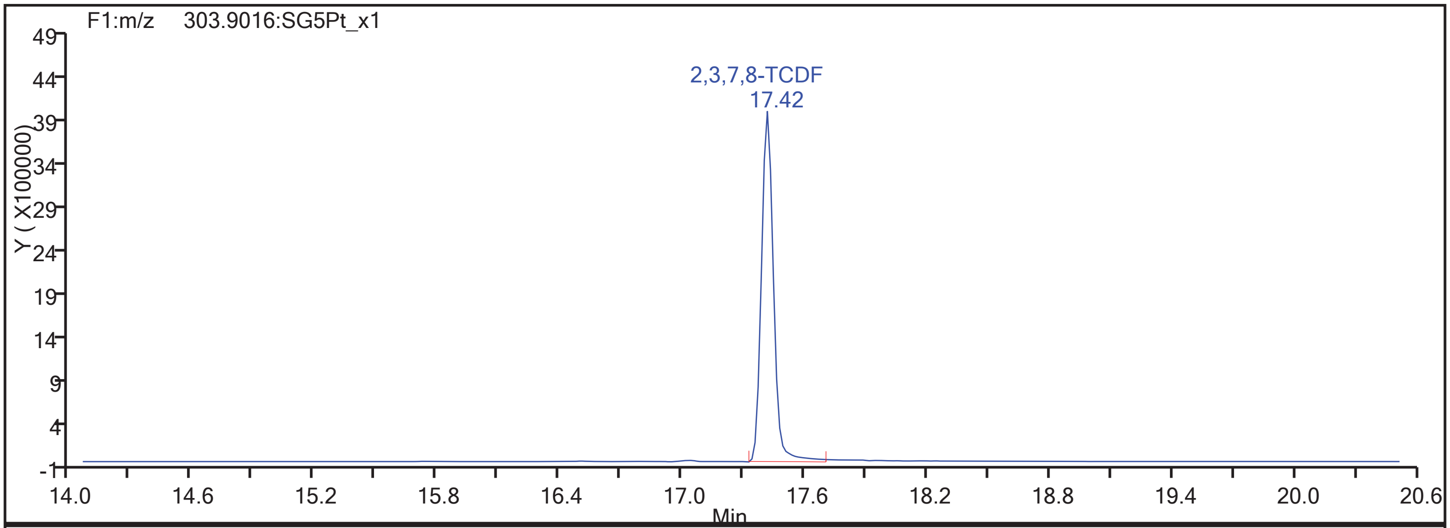
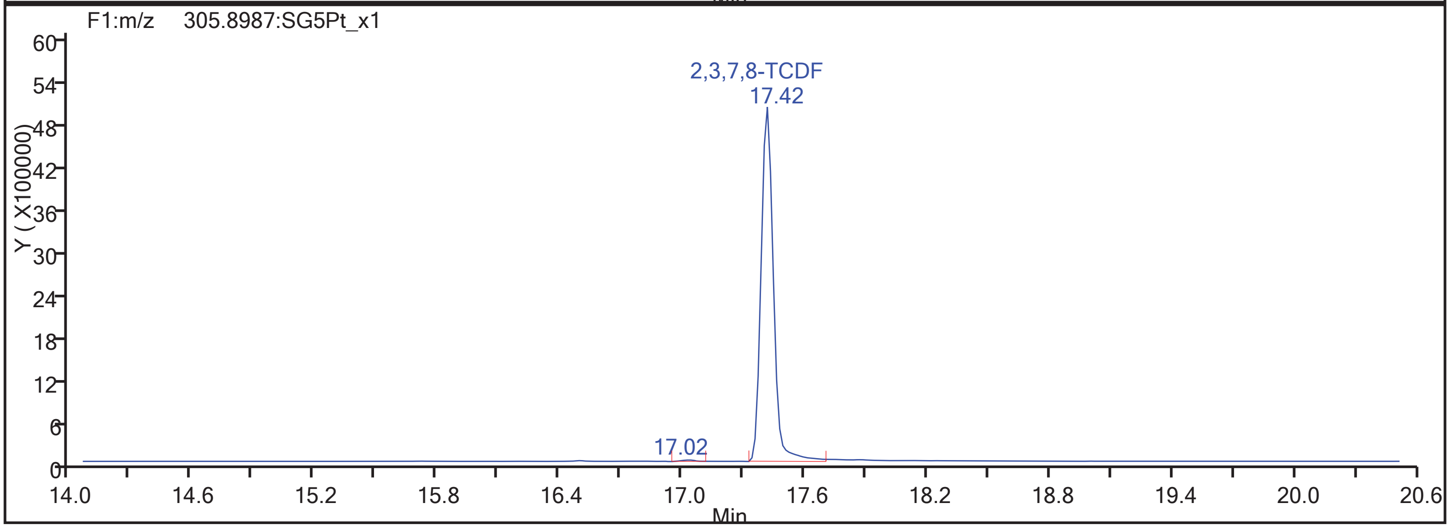
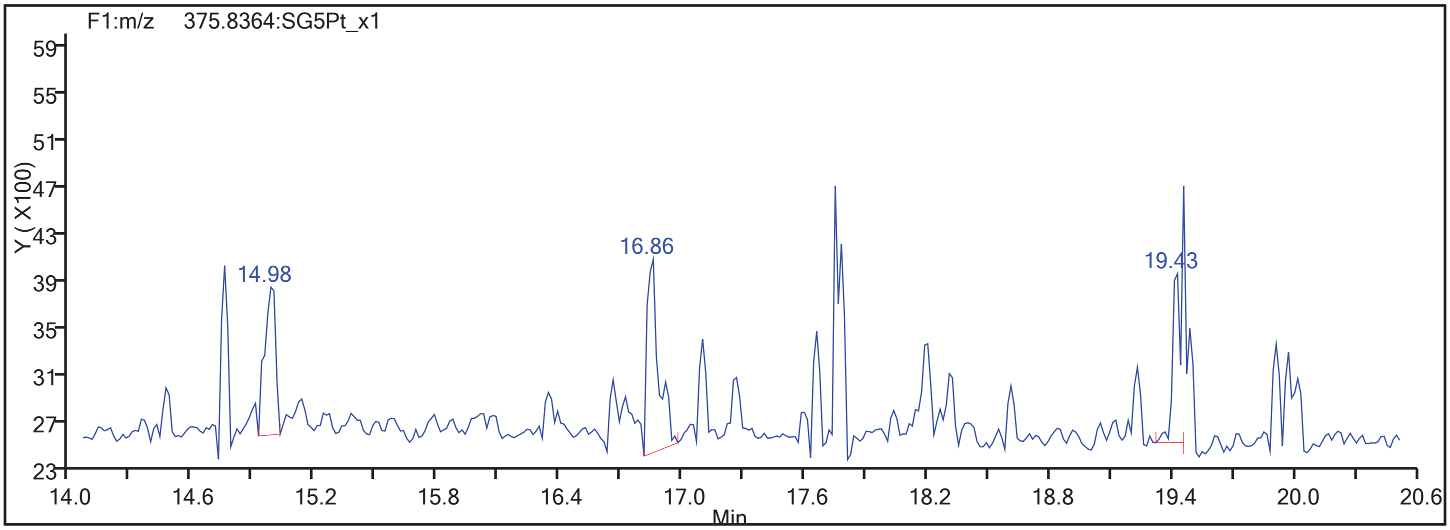




TCDF Interference Mass



Report Date: 13-Oct-2017 10:56:21 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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Injection Date:	13-Oct-2017 03:58:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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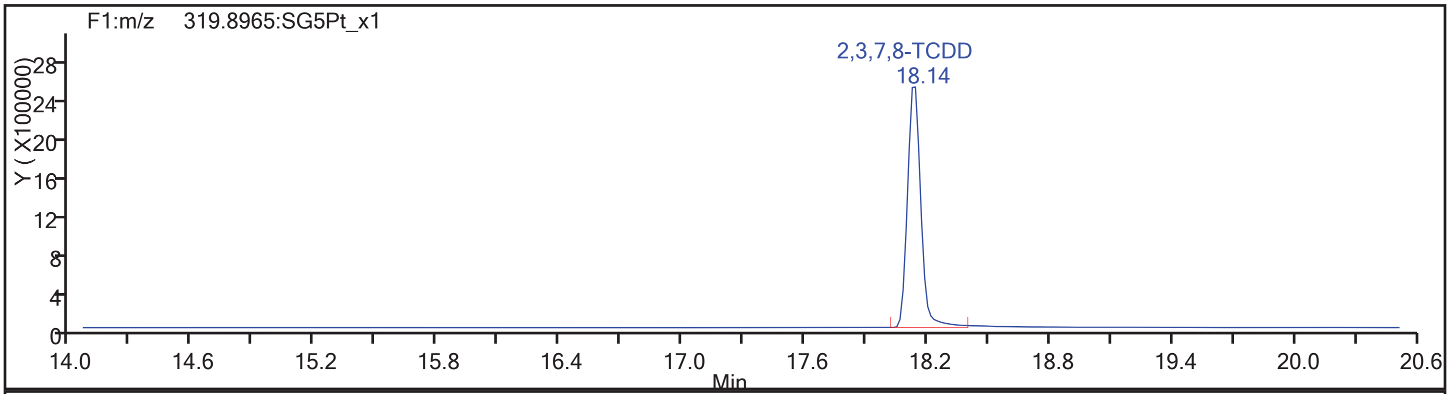
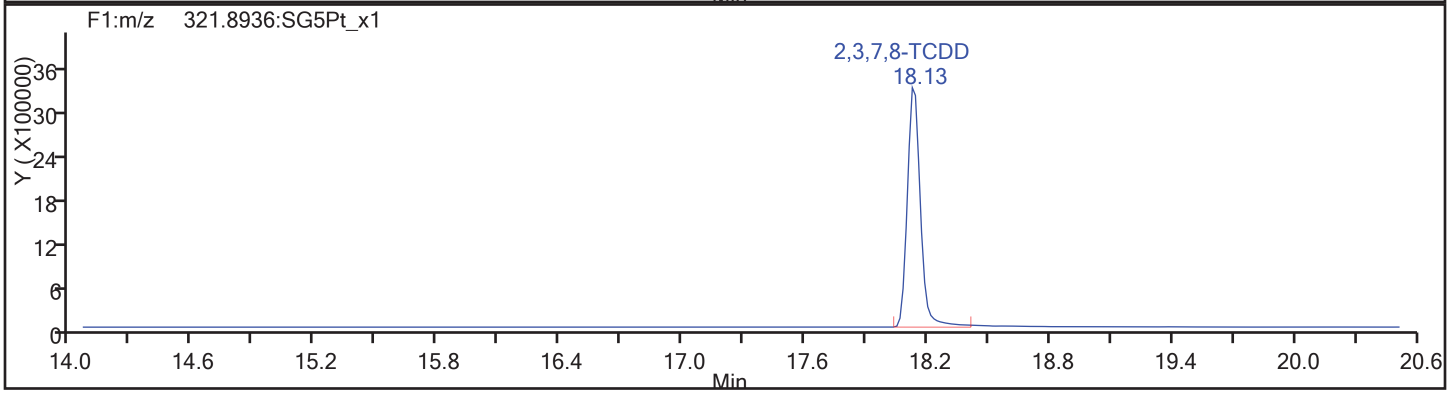
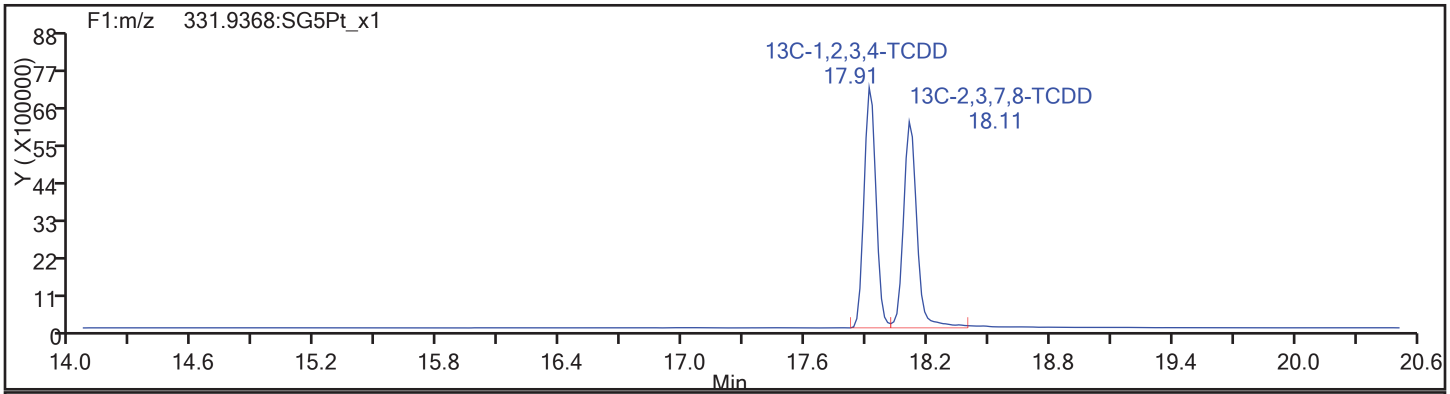
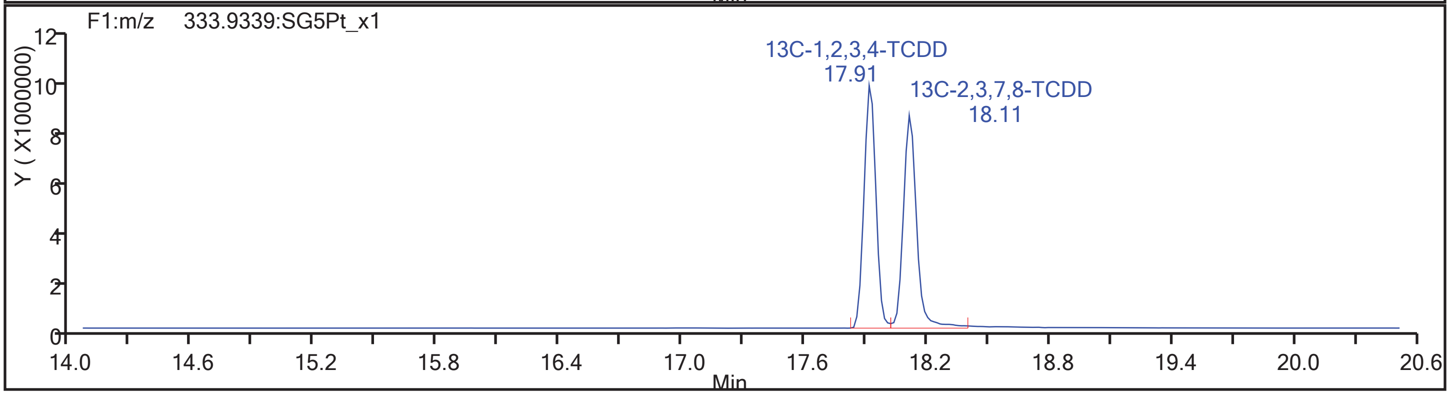
TCDD





TCDD Standards





Report Date: 13-Oct-2017 10:56:21 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

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Client ID:			
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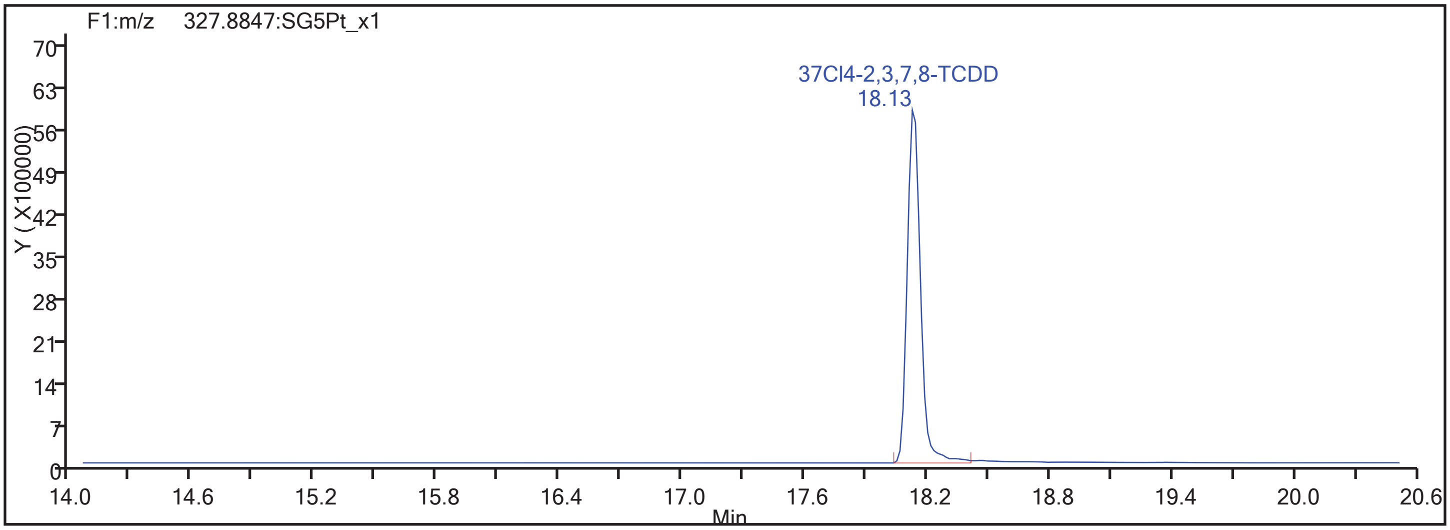
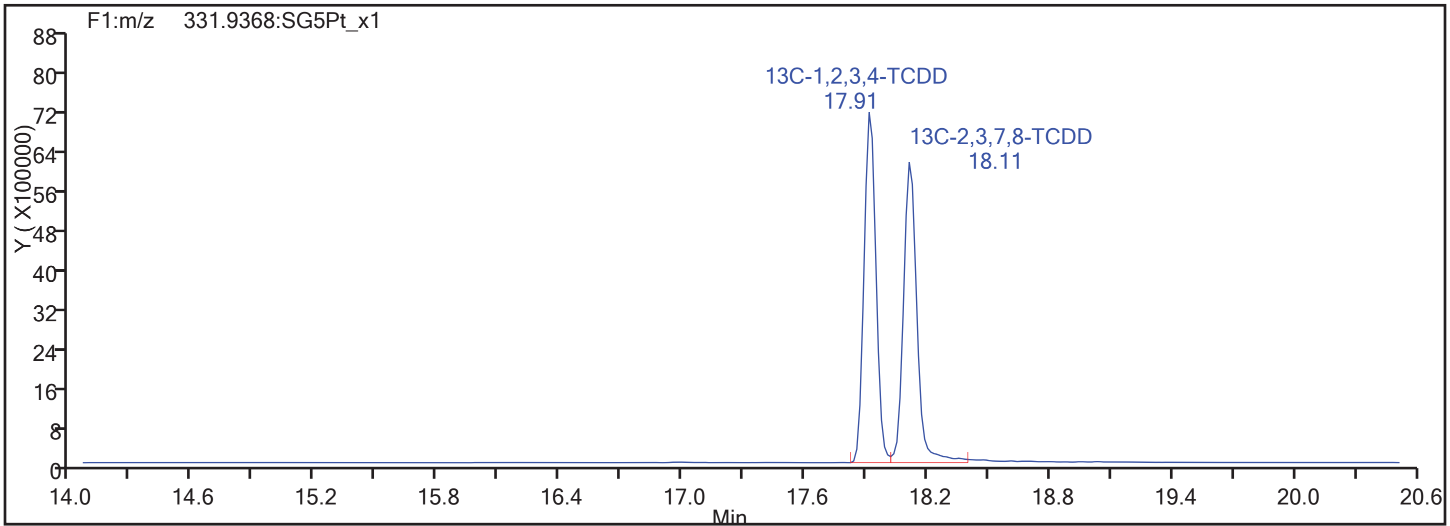
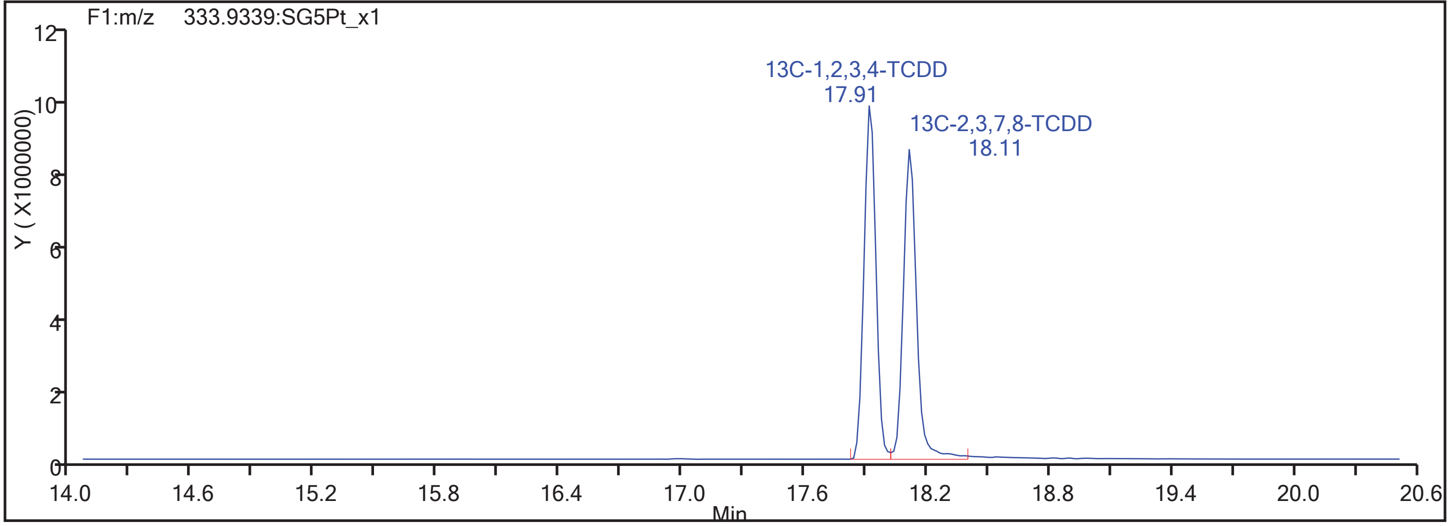
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

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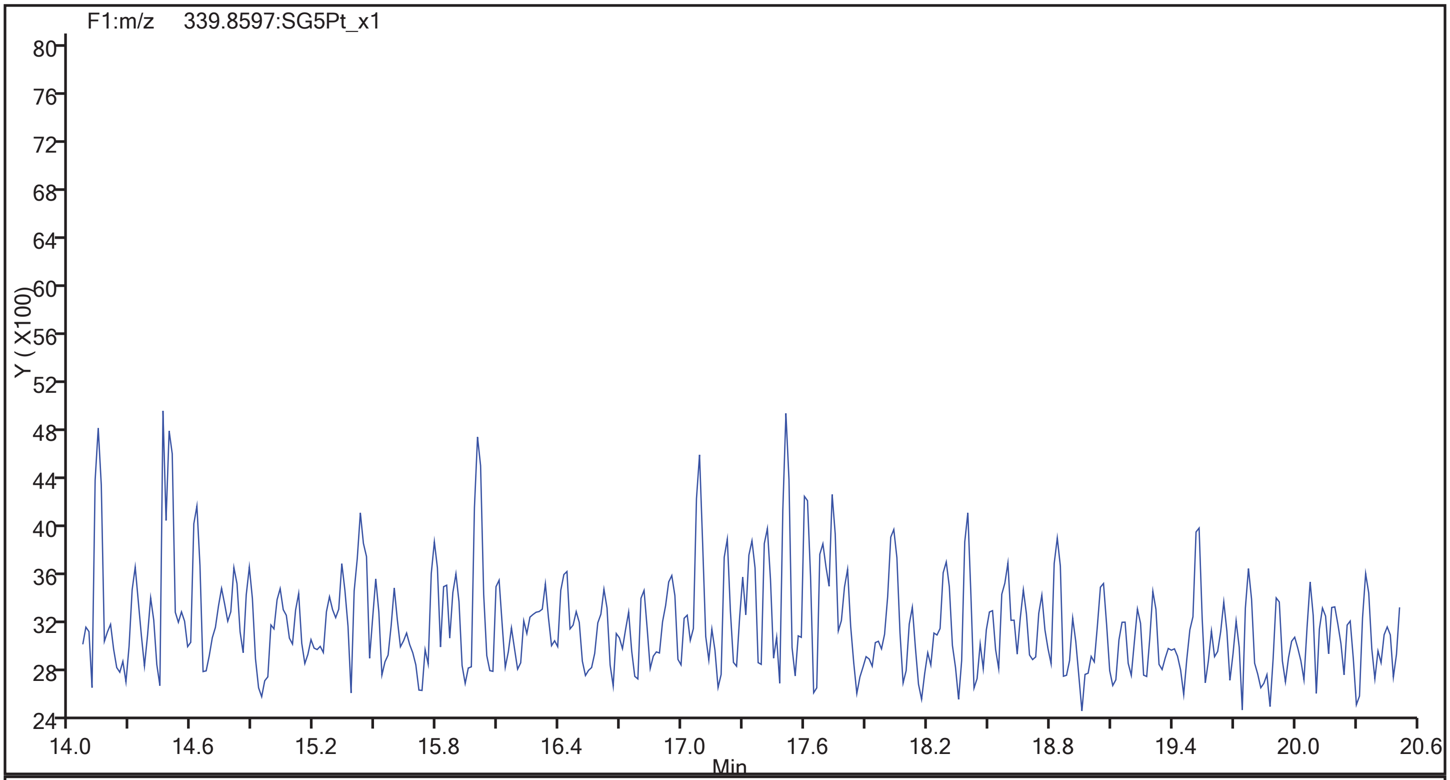
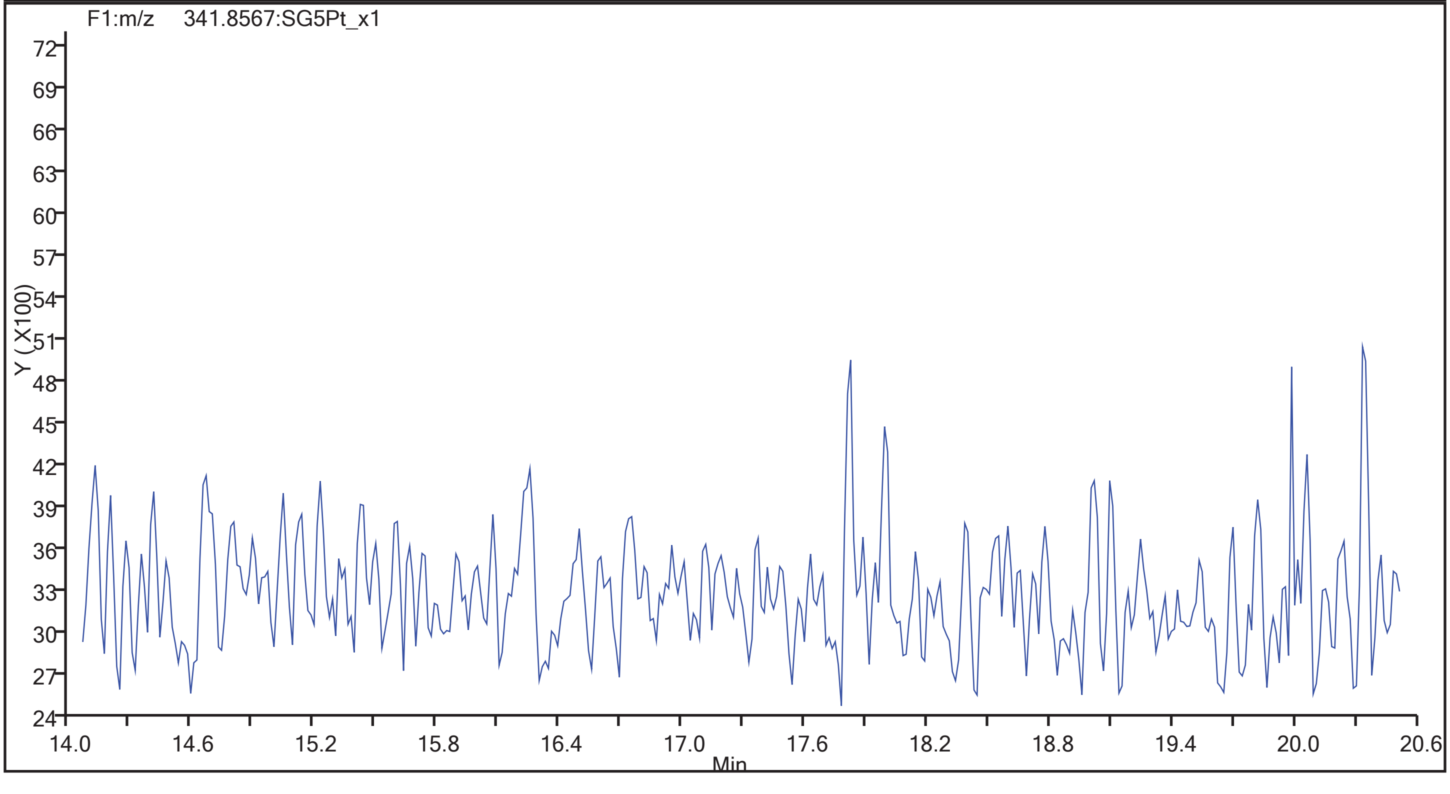
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





TestAmerica Sacramento

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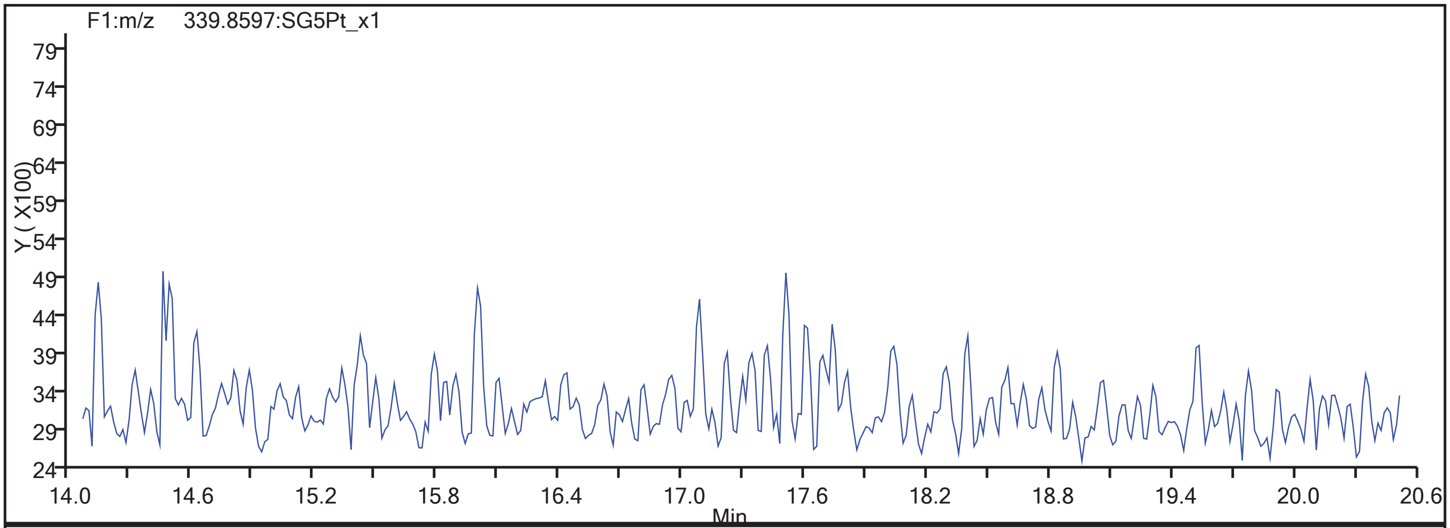
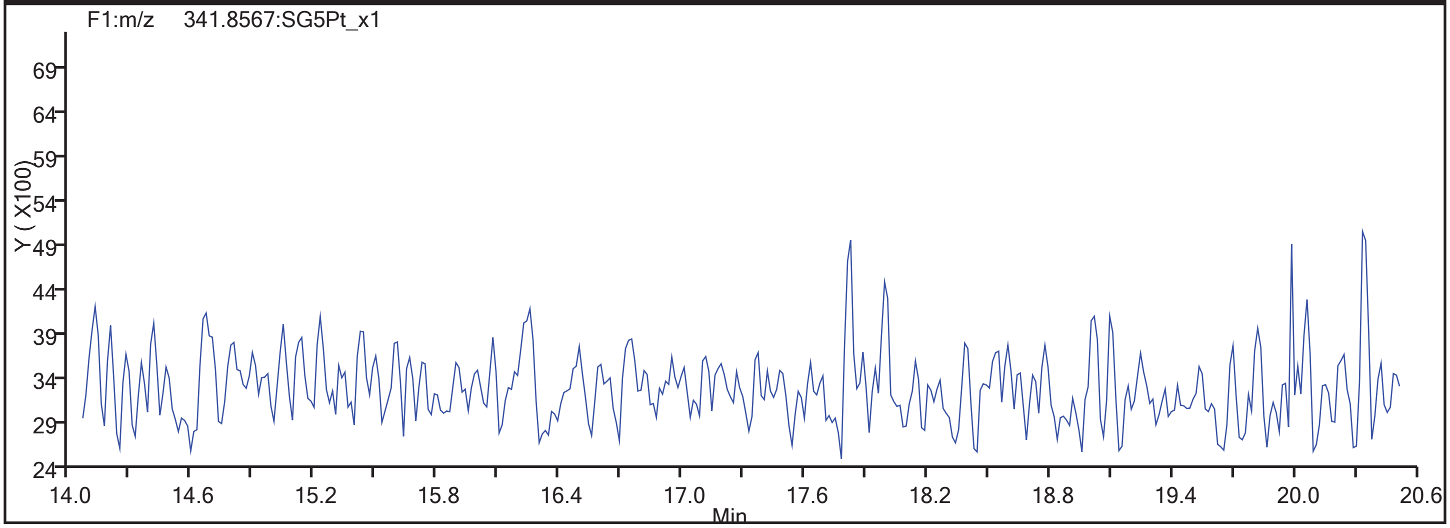
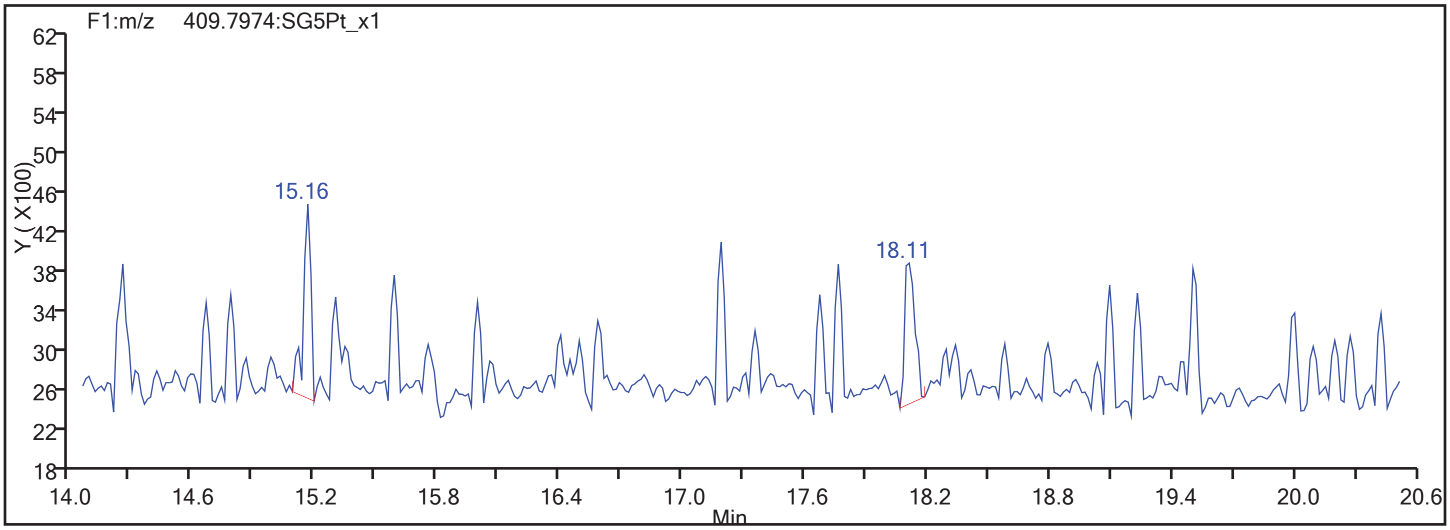
F1 PeCDFs





F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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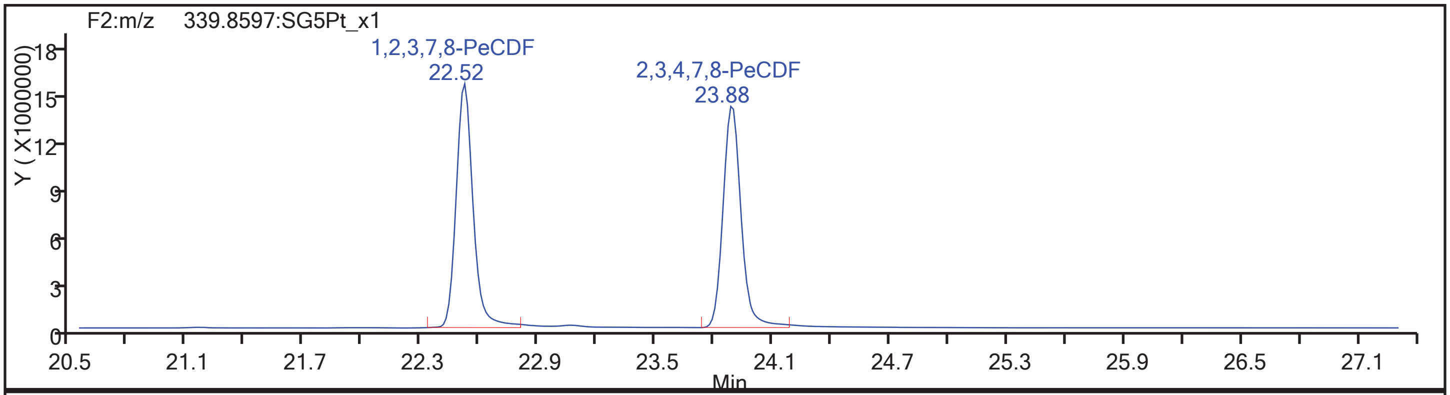
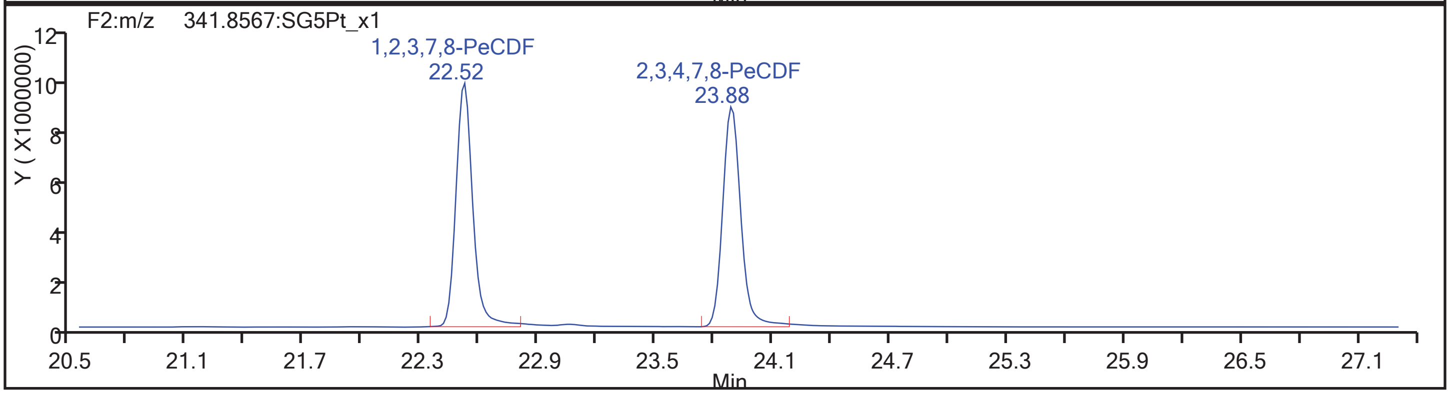
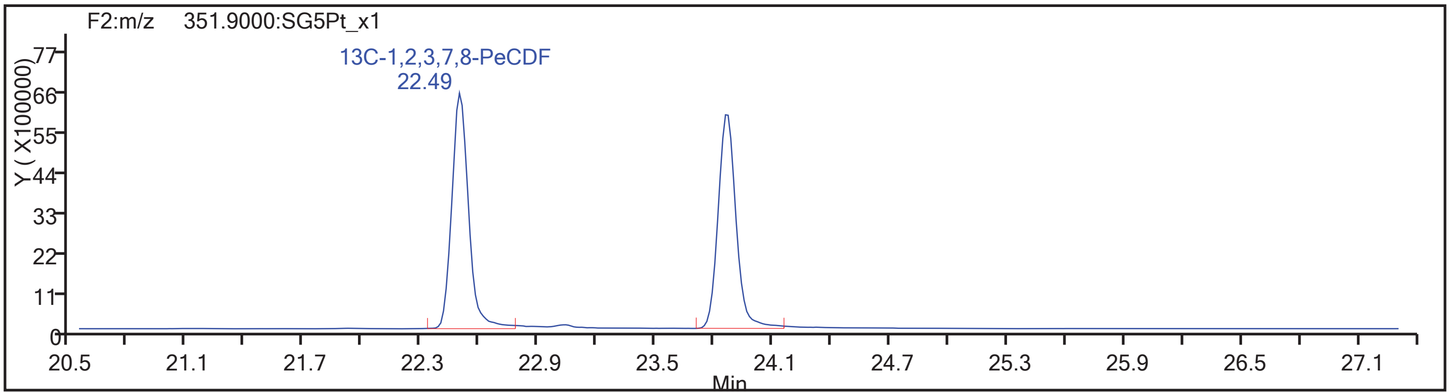
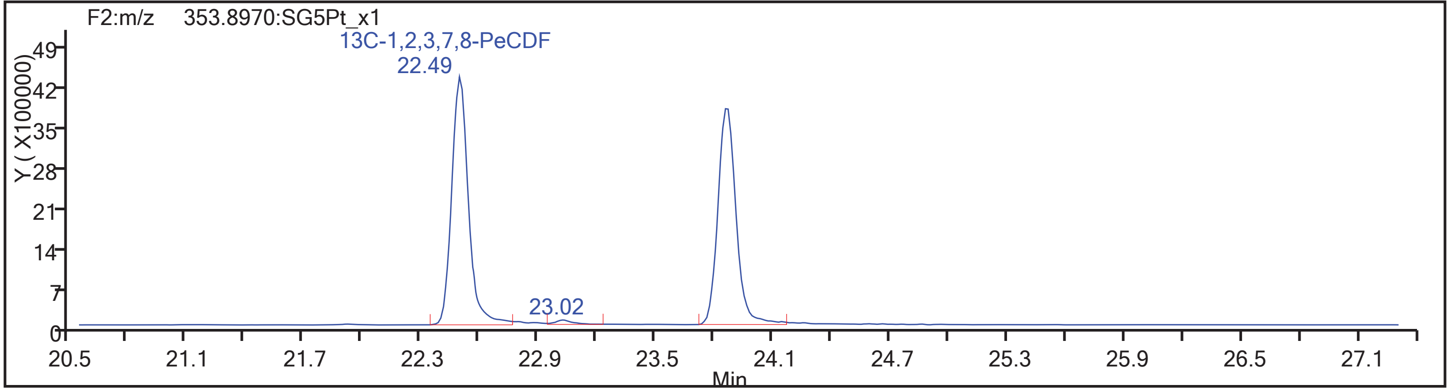
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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Injection Date: 13-Oct-2017 03:58:57
Injection Vol: 2.0 ul
Instrument ID: 10D5
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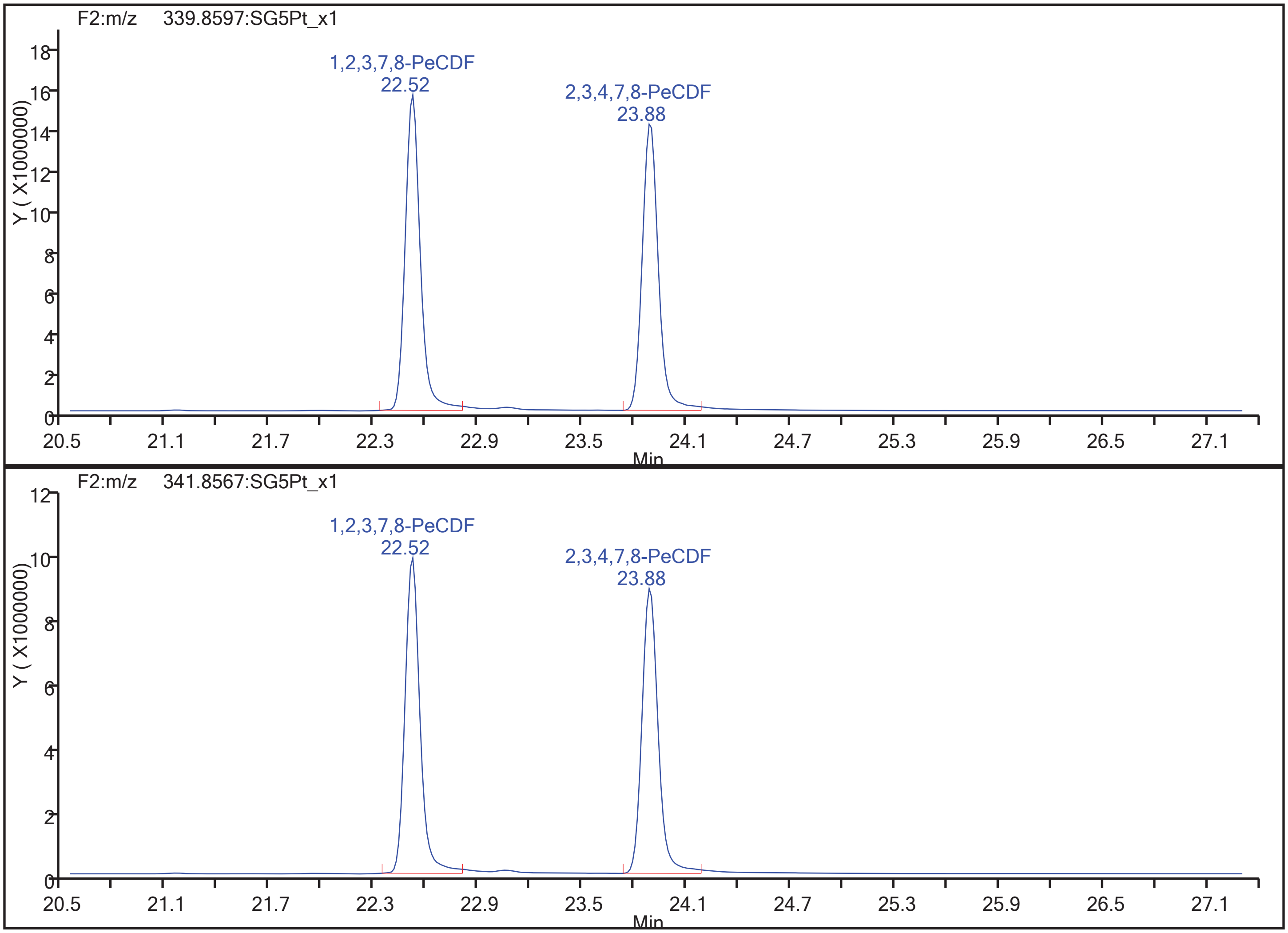
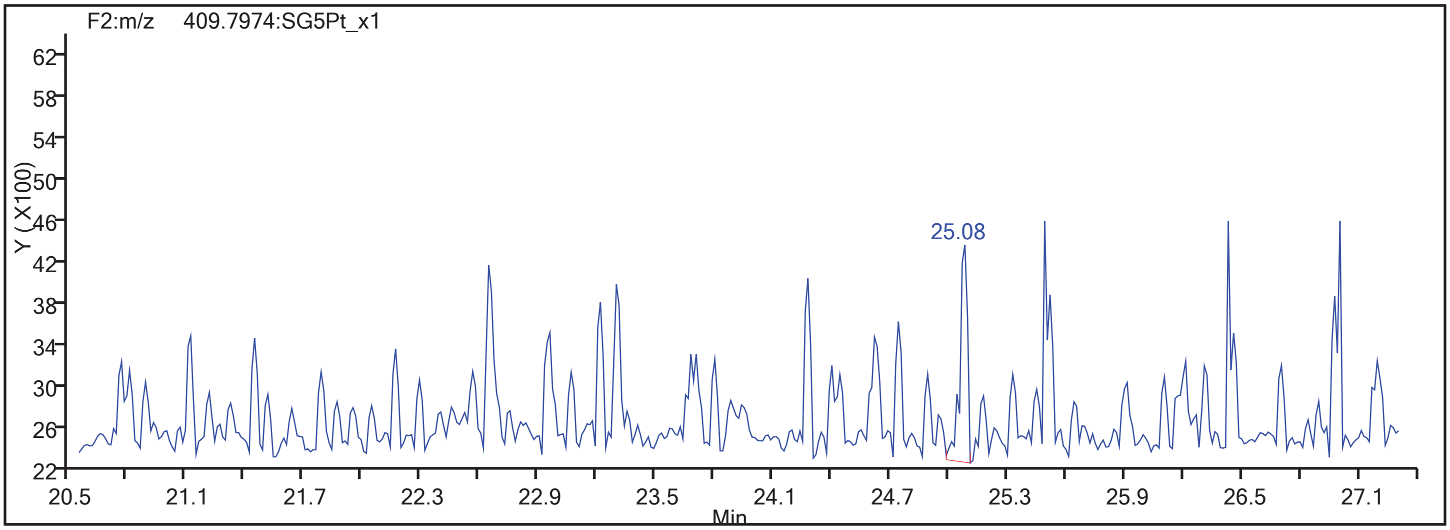
PeCDF



PeCDF Interference Mass



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TestAmerica Sacramento

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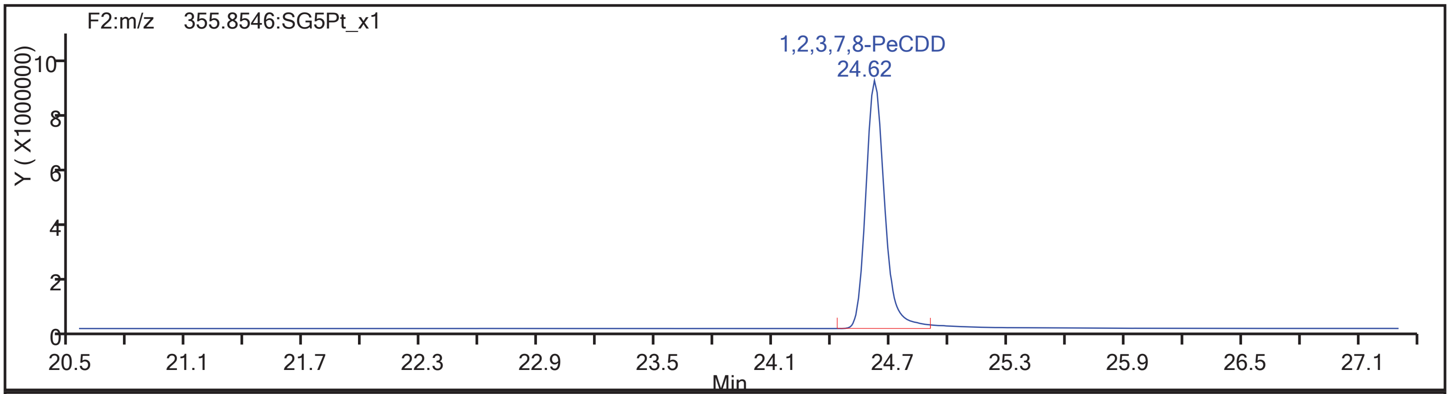
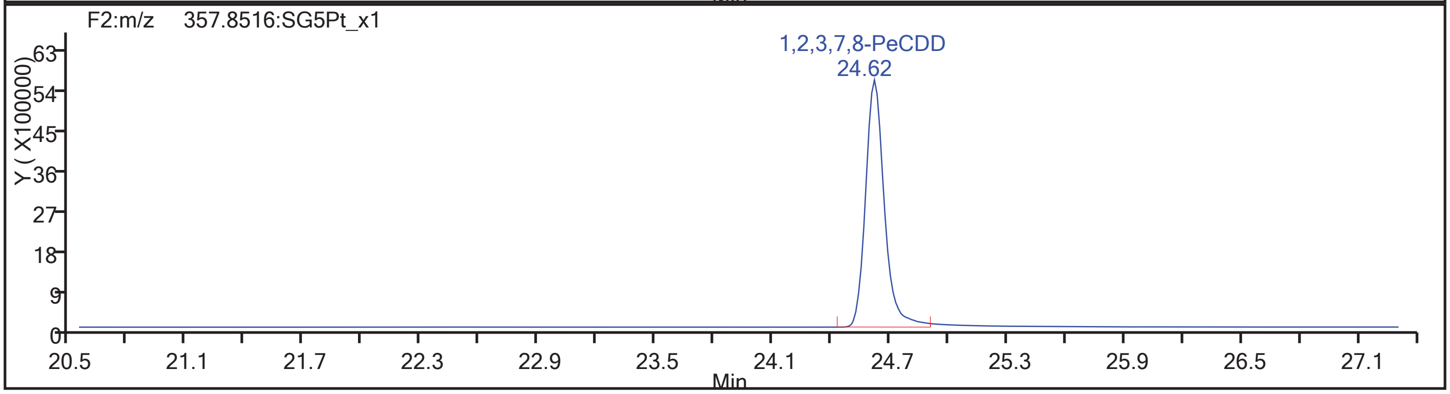
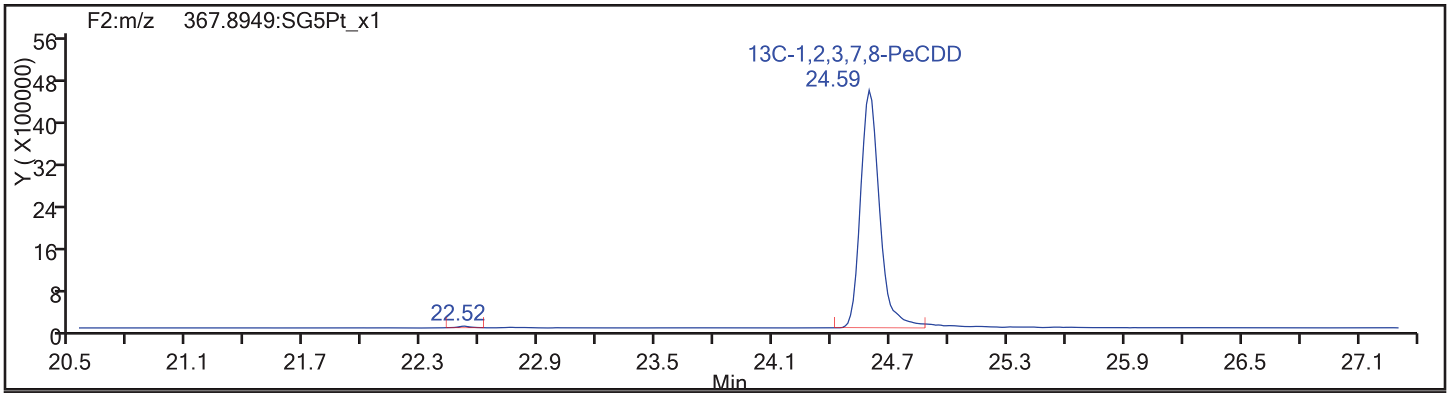
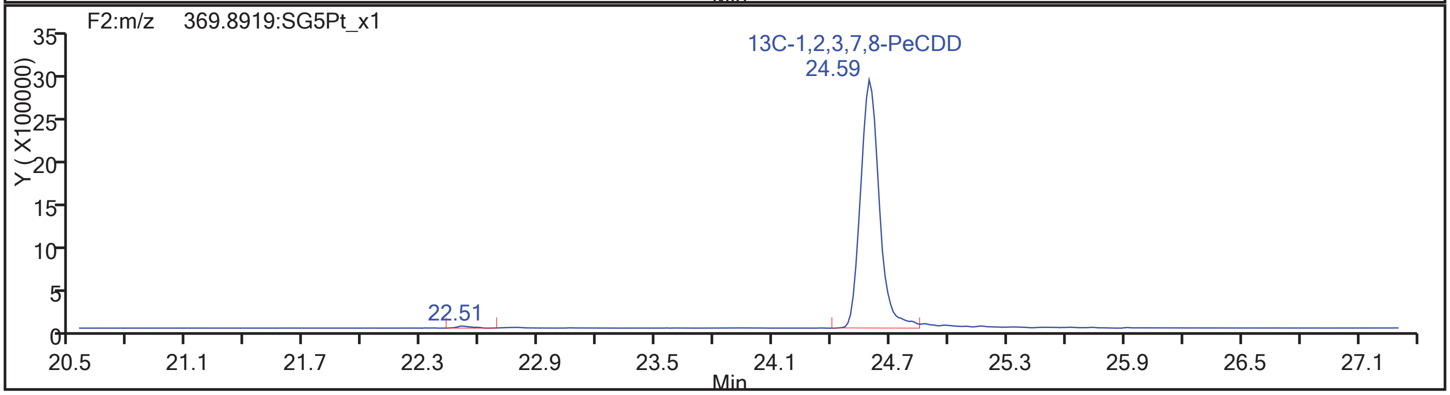
PeCDD





PeCDD Standards





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TestAmerica Sacramento

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Client ID:			
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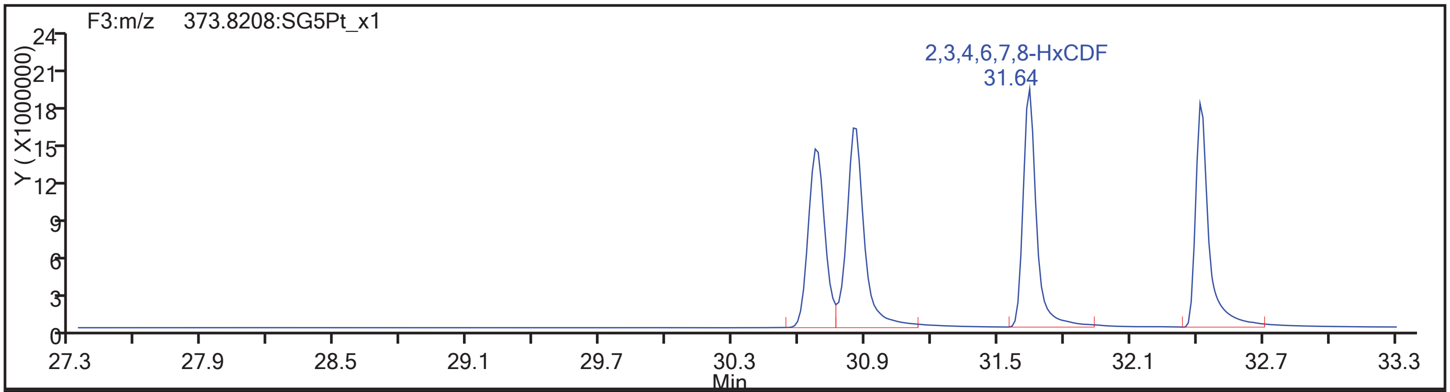
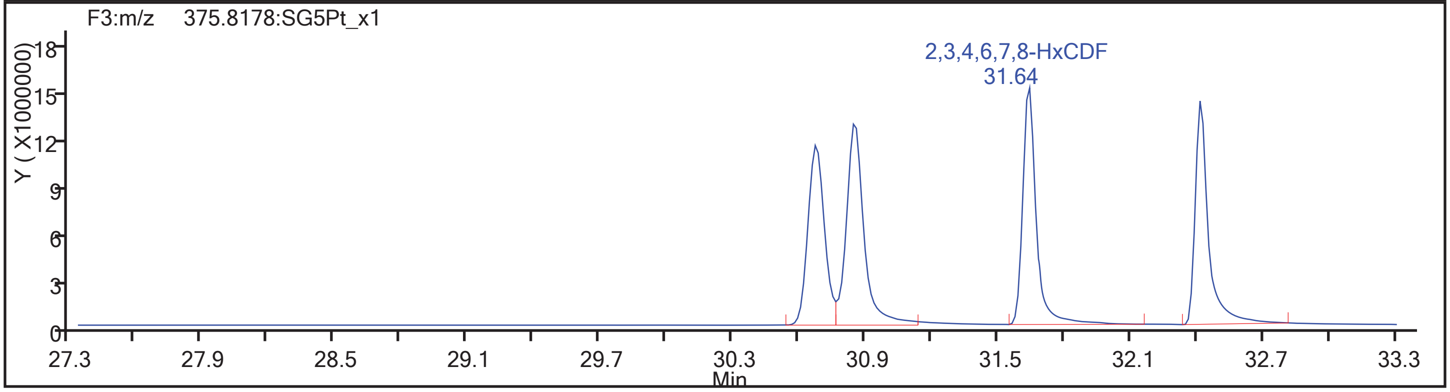
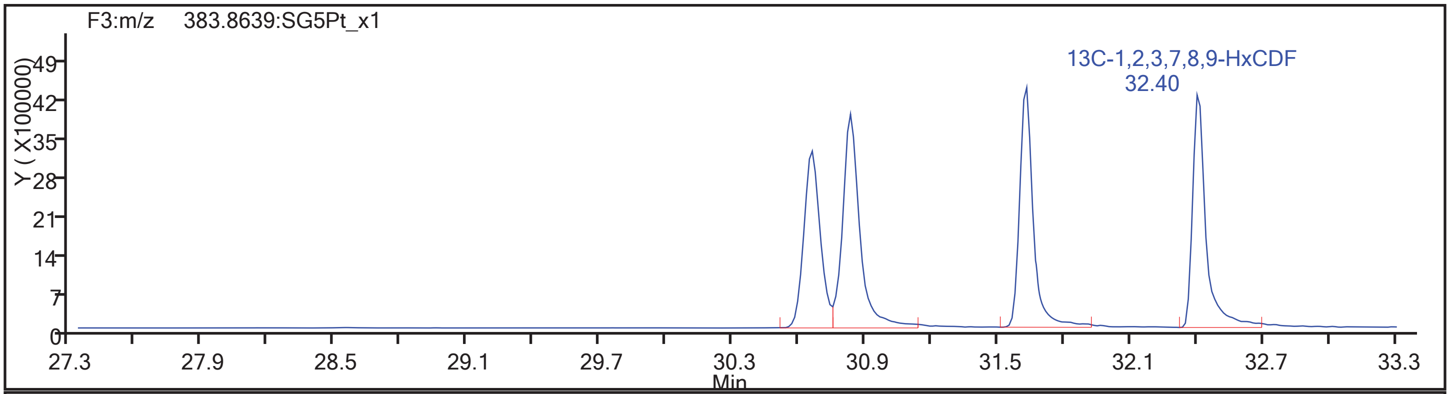
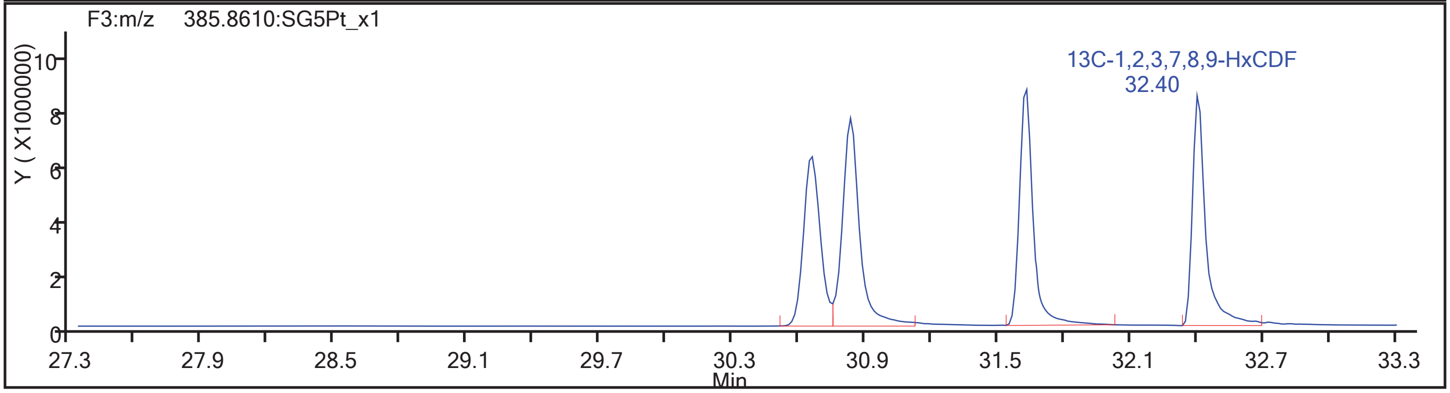
HxCDF





HxCDF Standards





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TestAmerica Sacramento

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Injection Date: 13-Oct-2017 03:58:57 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: ALM, SMA

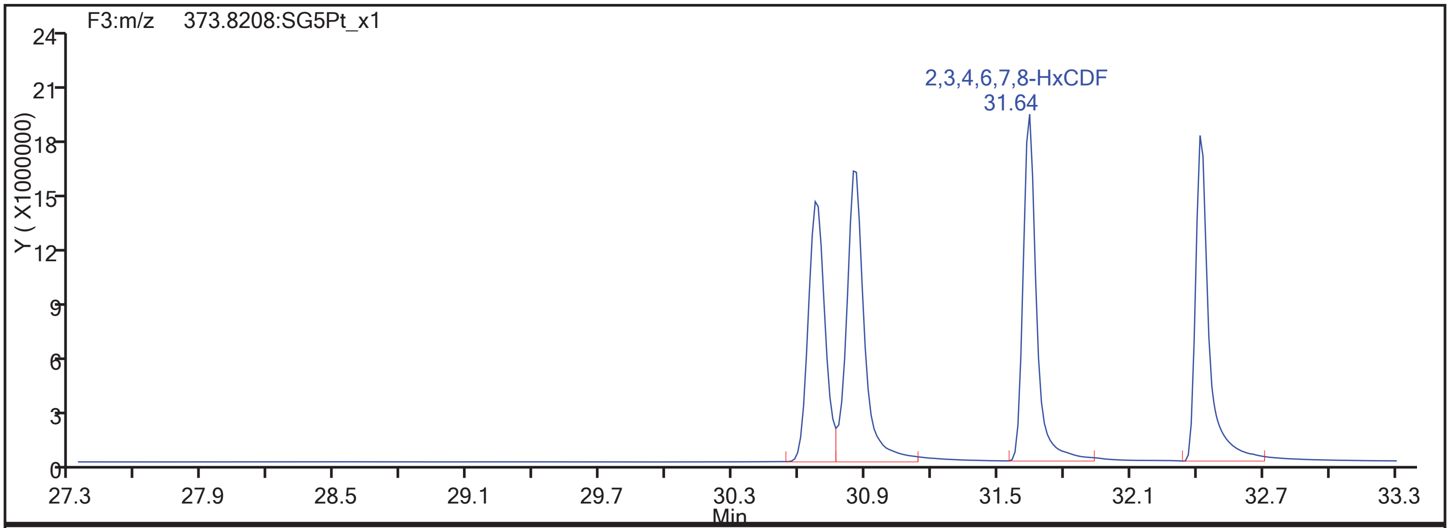
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

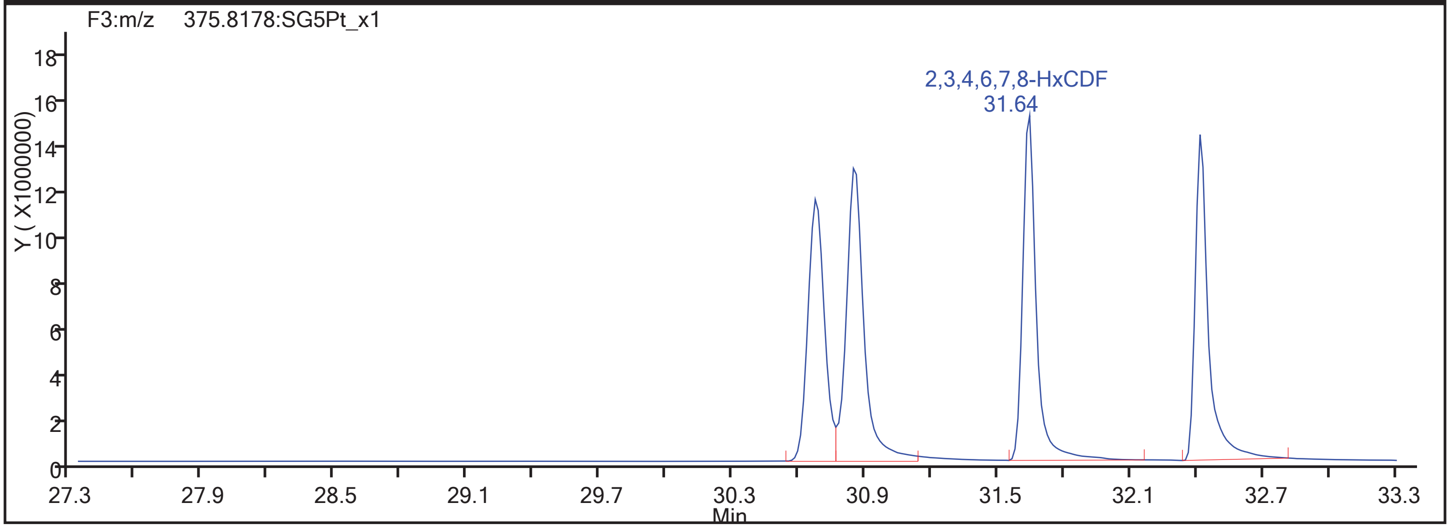
Client ID:

Worklist#: 189155 Sample Line#: 7

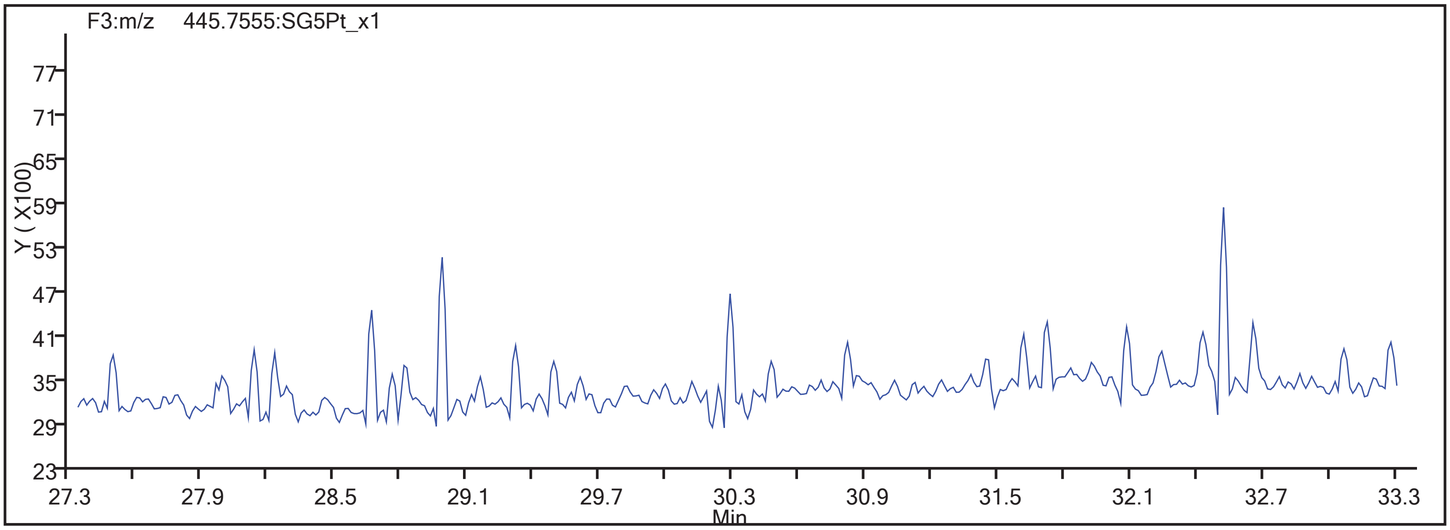
Column Type: DB-5 Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



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TestAmerica Sacramento

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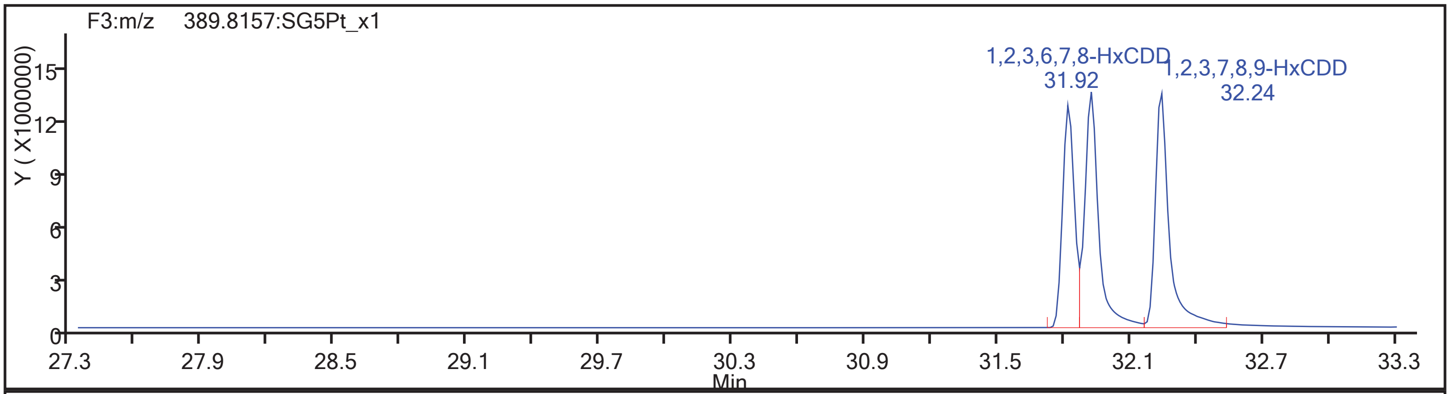
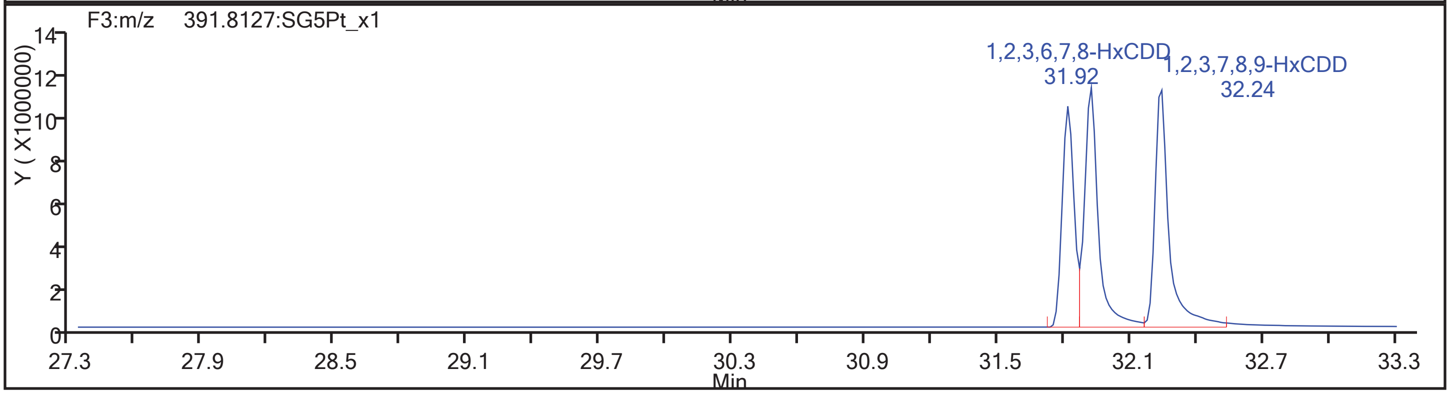
HxCDD





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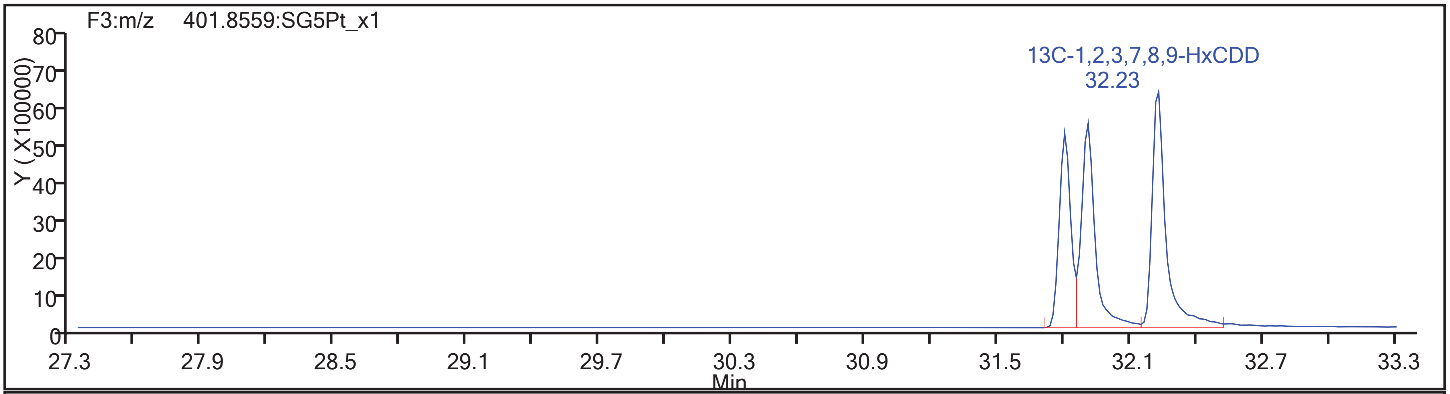

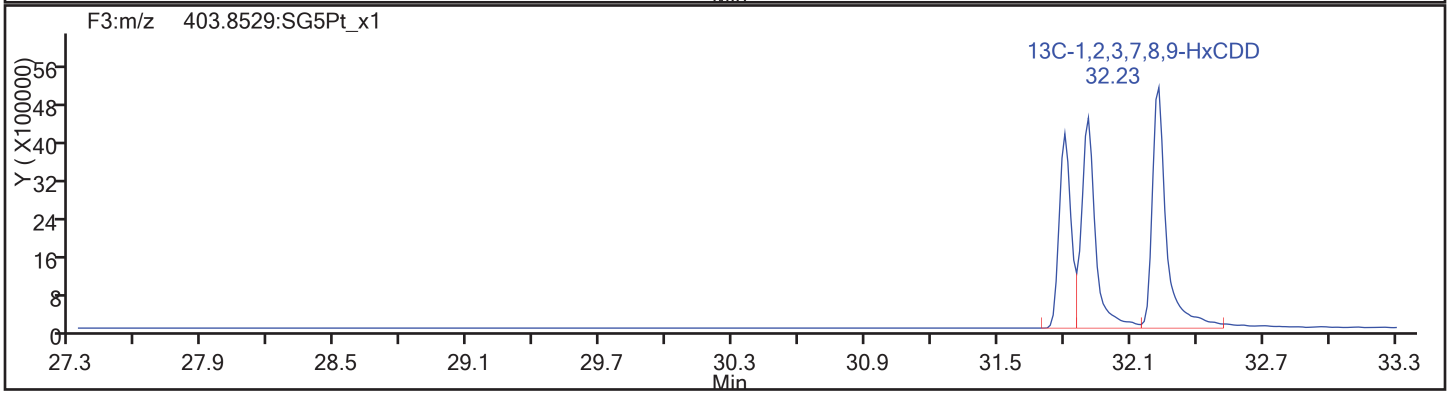

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TestAmerica Sacramento

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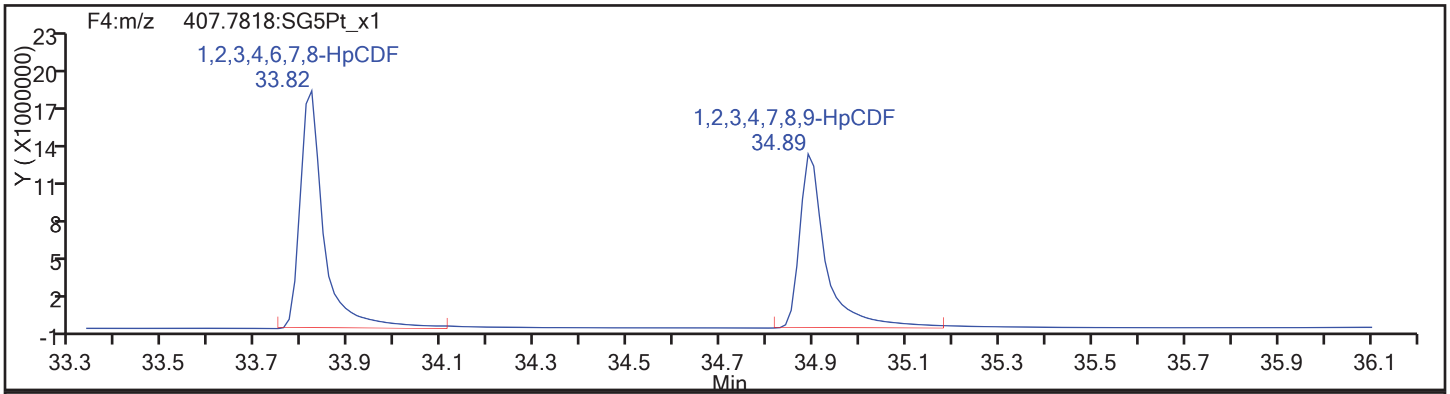
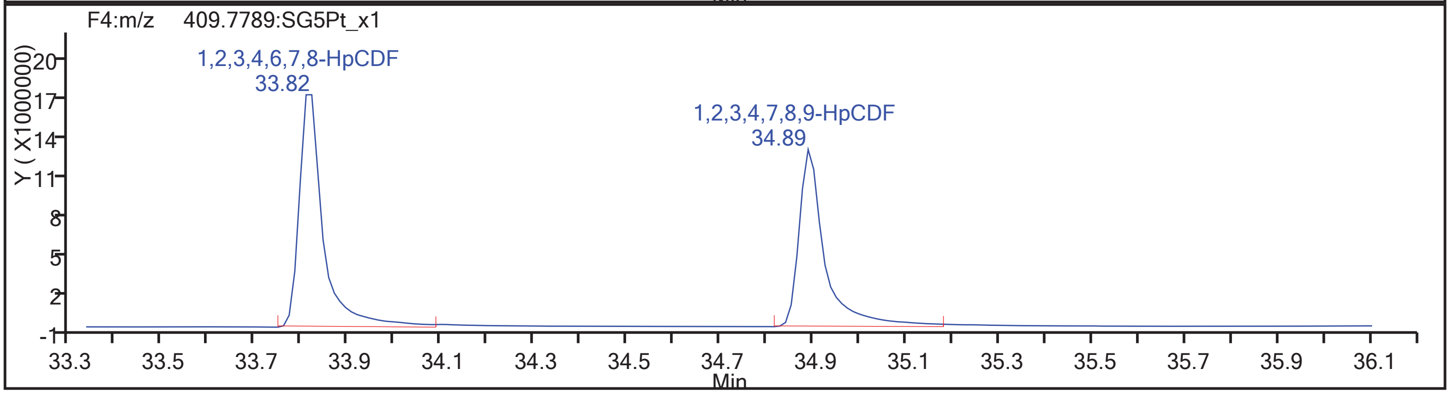
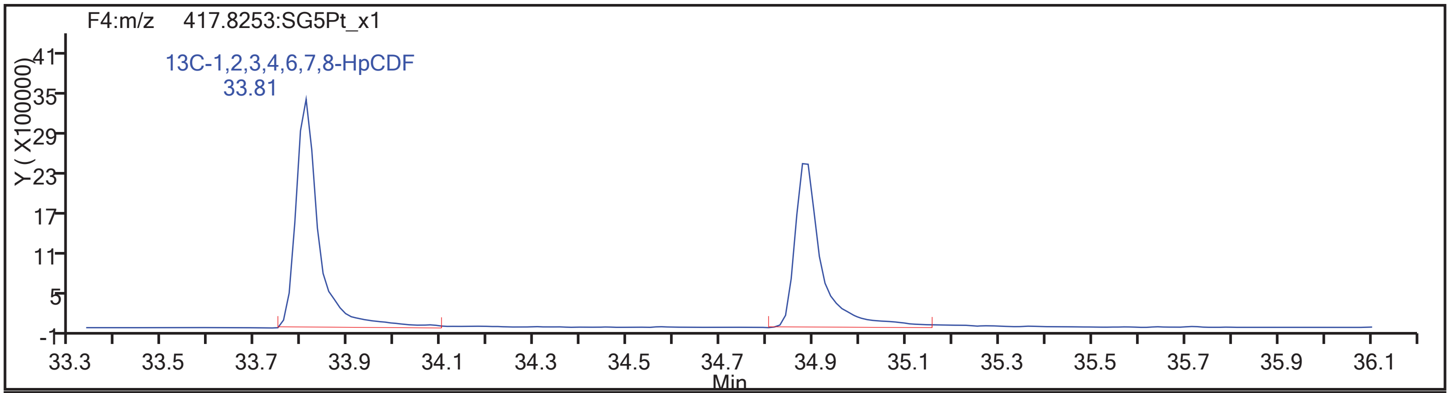
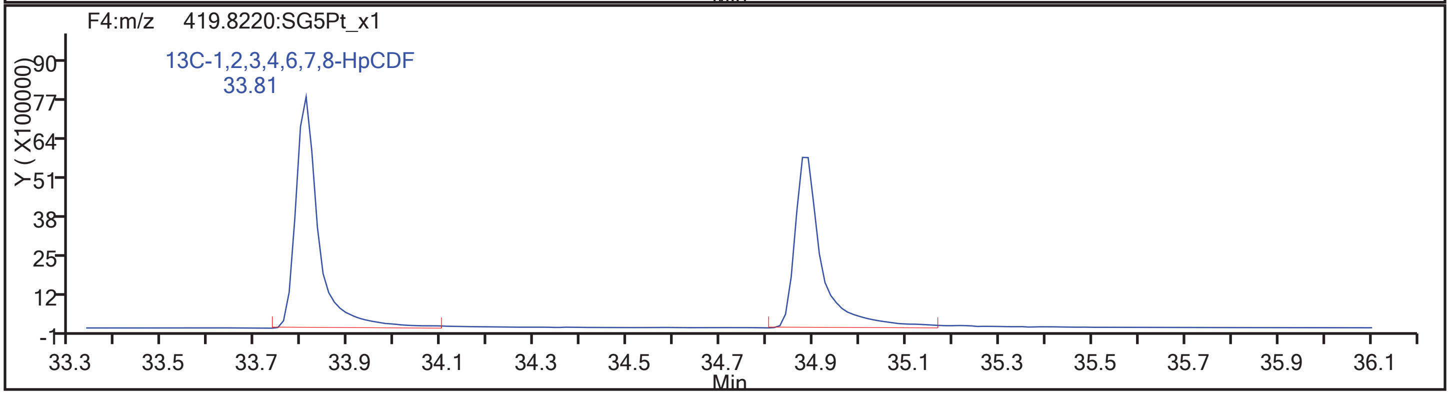




HpCDF Standards





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Instrument ID: 10D5 Operator ID: ALM, SMA
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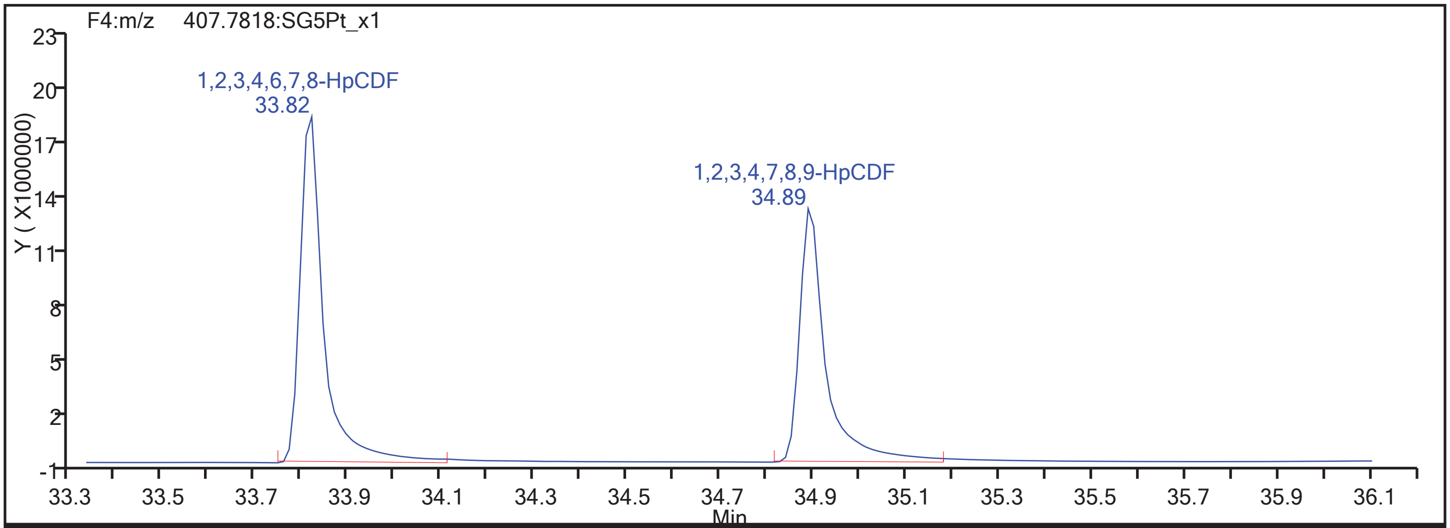
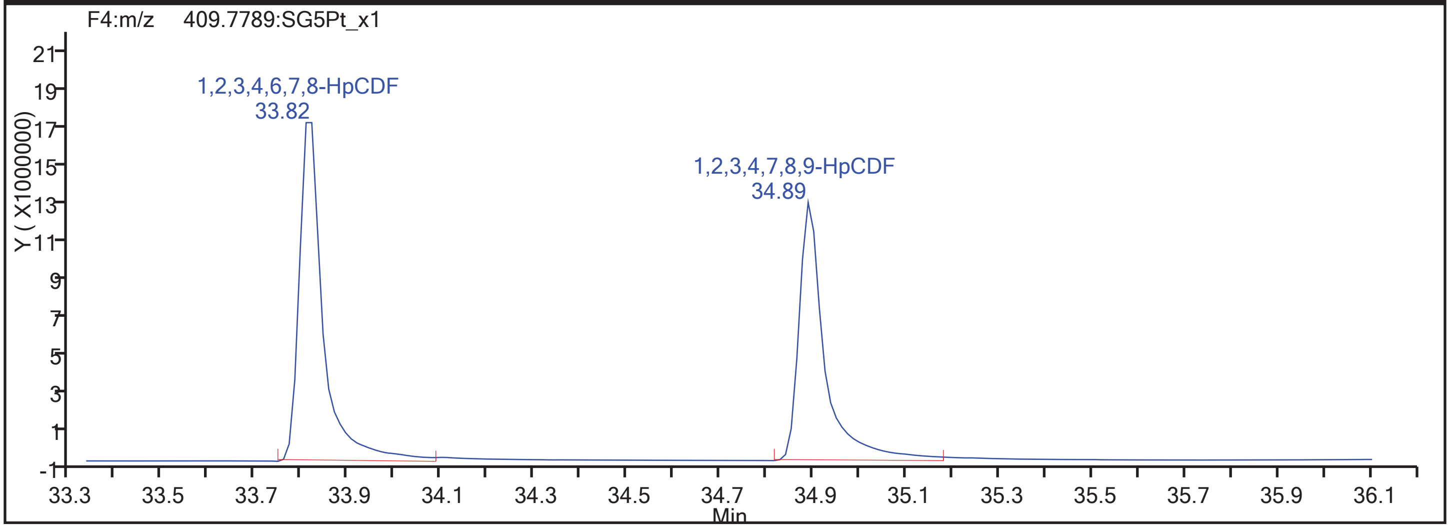
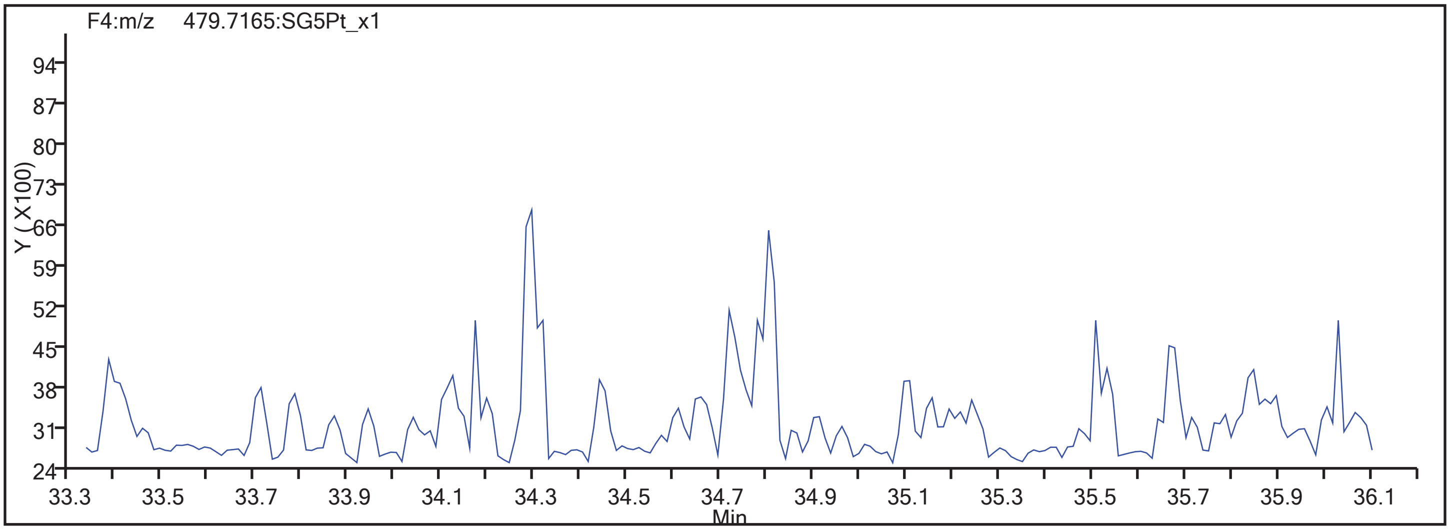
HpCDF



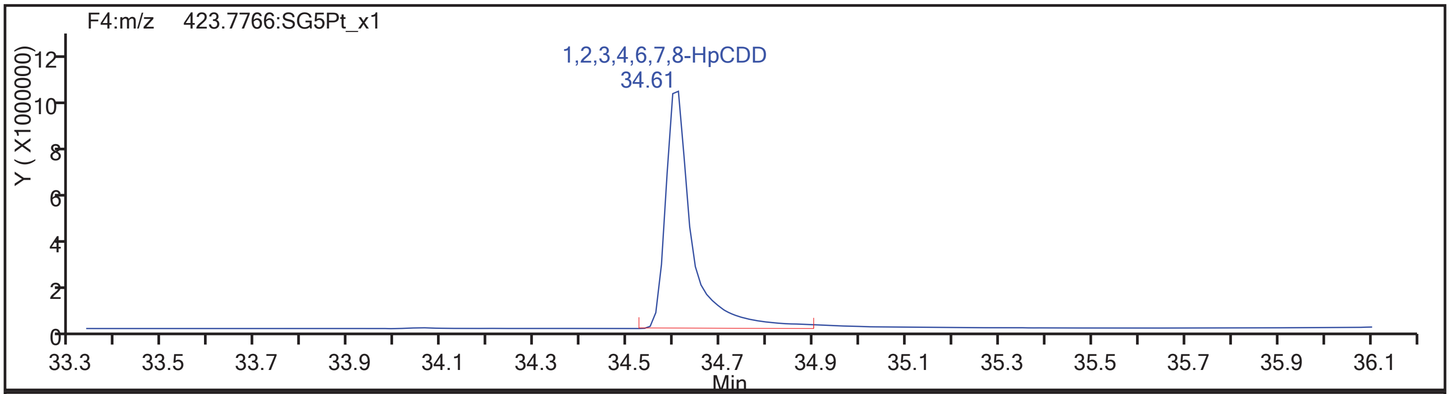


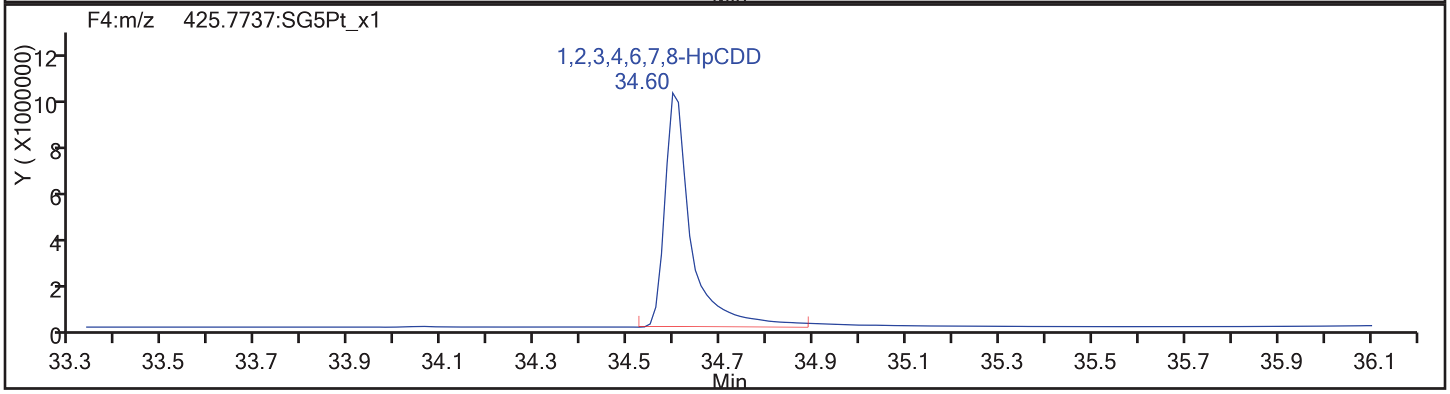
HpCDF Interference Mass



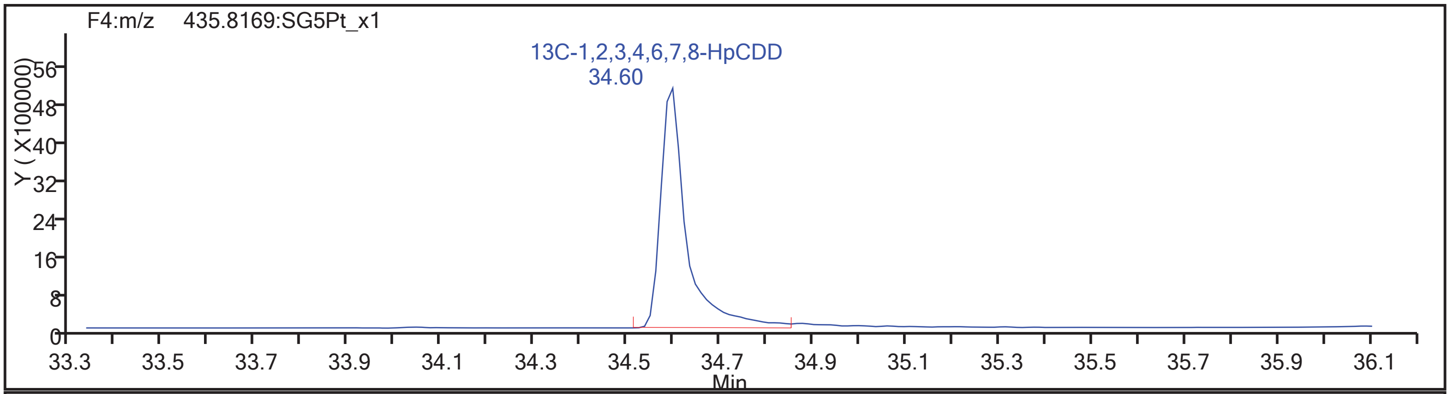
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_7.d
Injection Date: 13-Oct-2017 03:58:57 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: ALM, SMA
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155 Sample Line#: 7
Column Type: DB-5 Column Dia: 0.32 mm

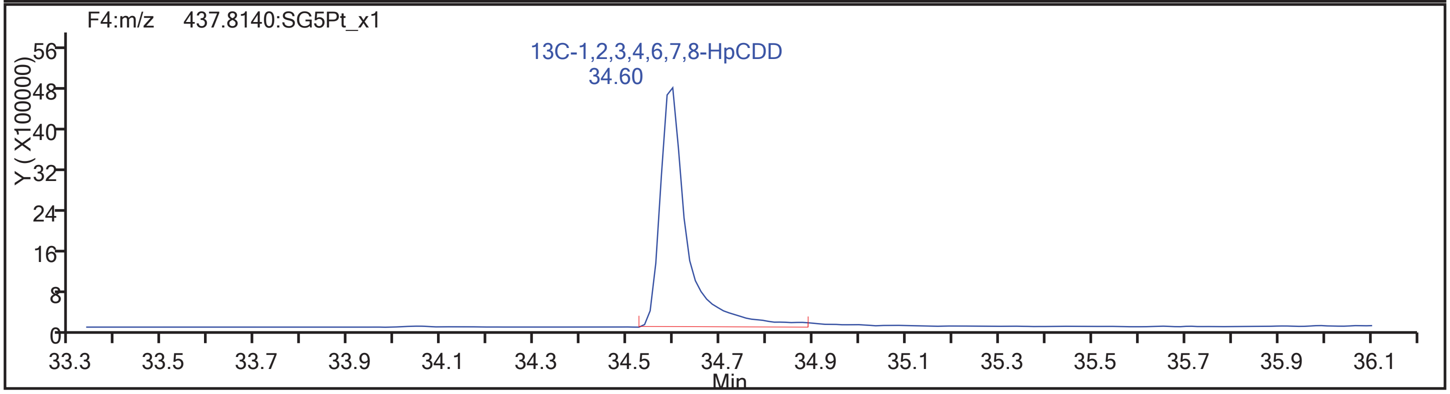
HpCDD





HpCDD Standards



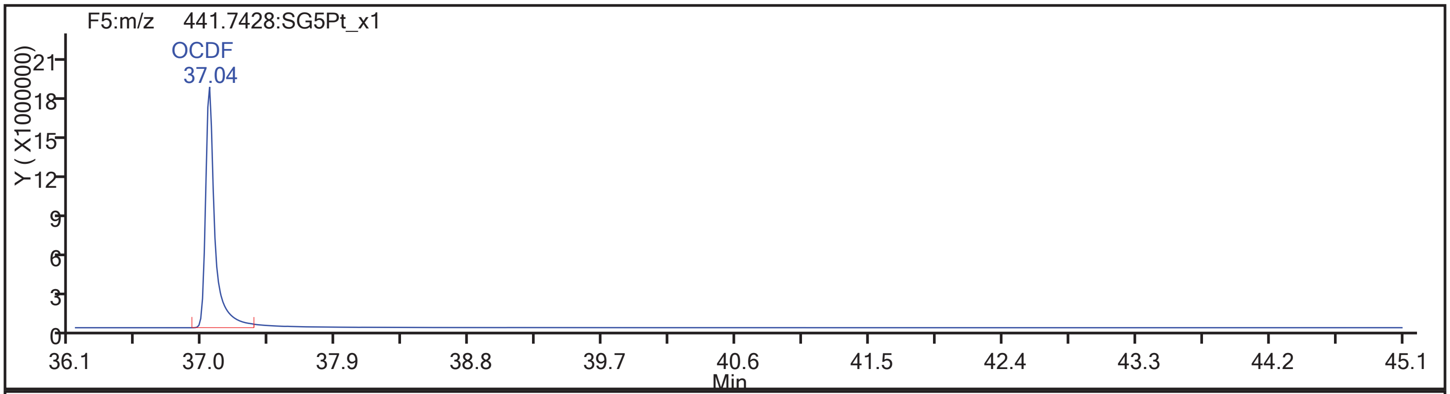


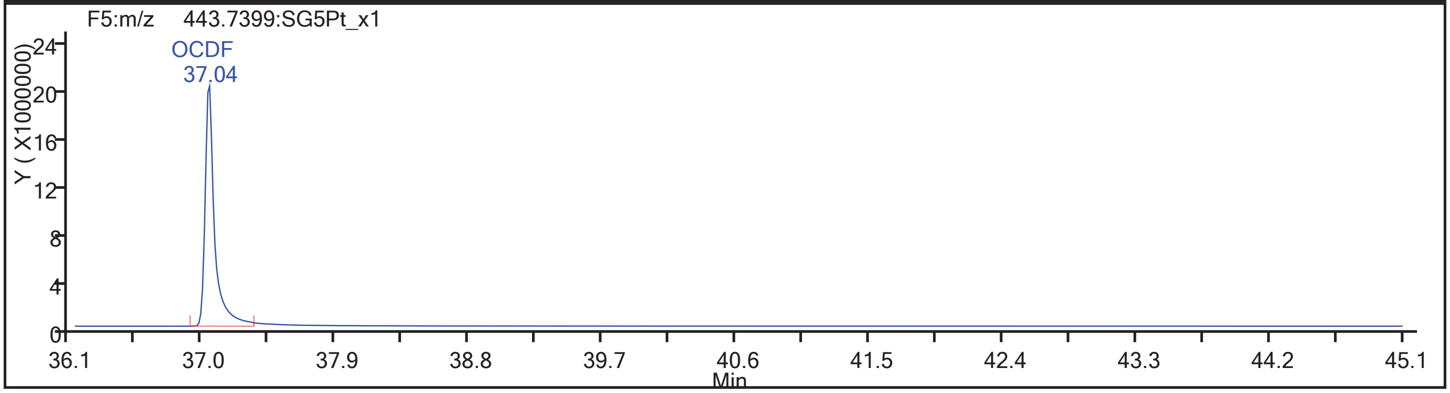
Report Date: 13-Oct-2017 10:56:21 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

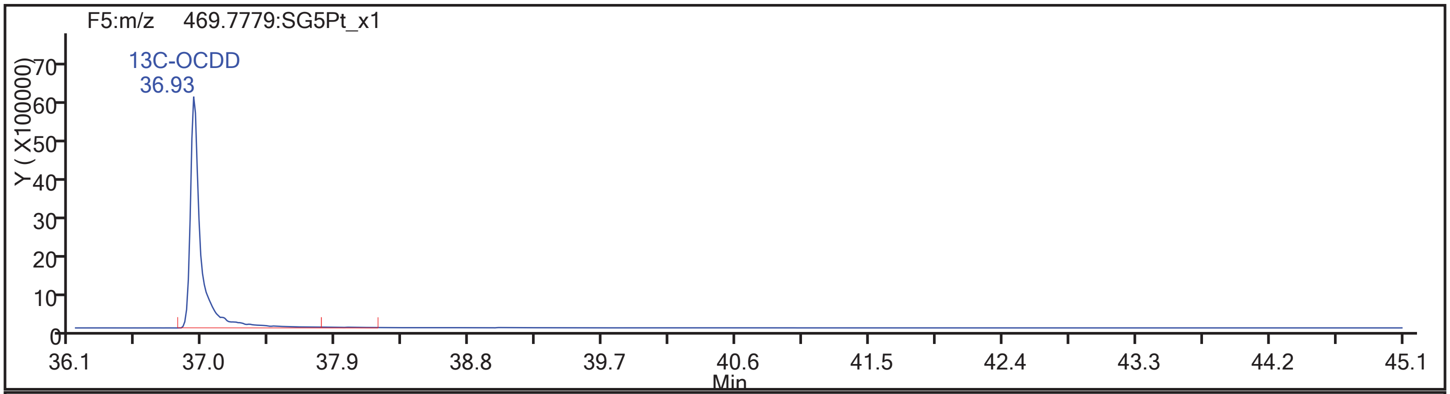
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_7.d		
Injection Date:	13-Oct-2017 03:58:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

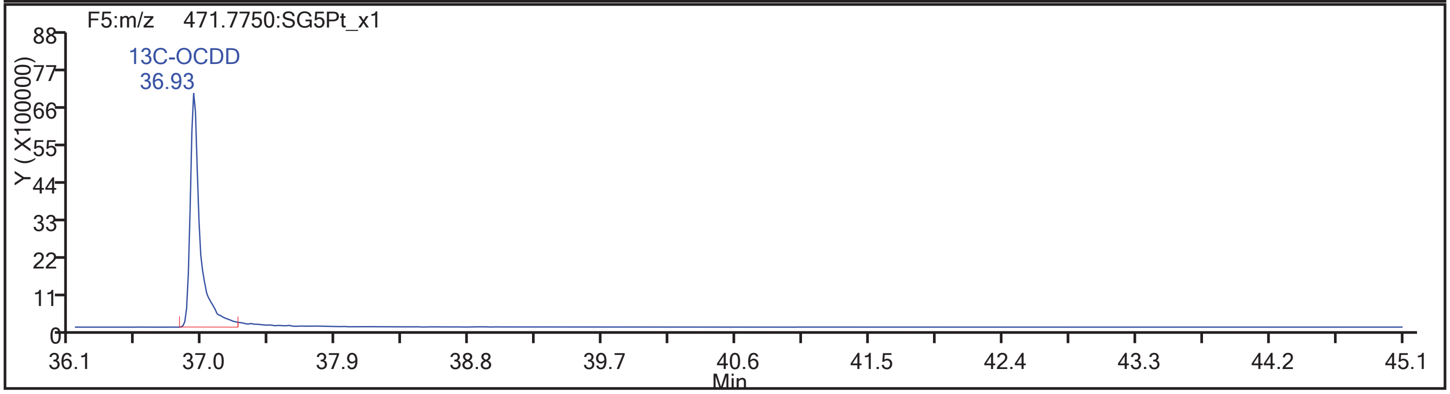
OCDF





OCDF Standards

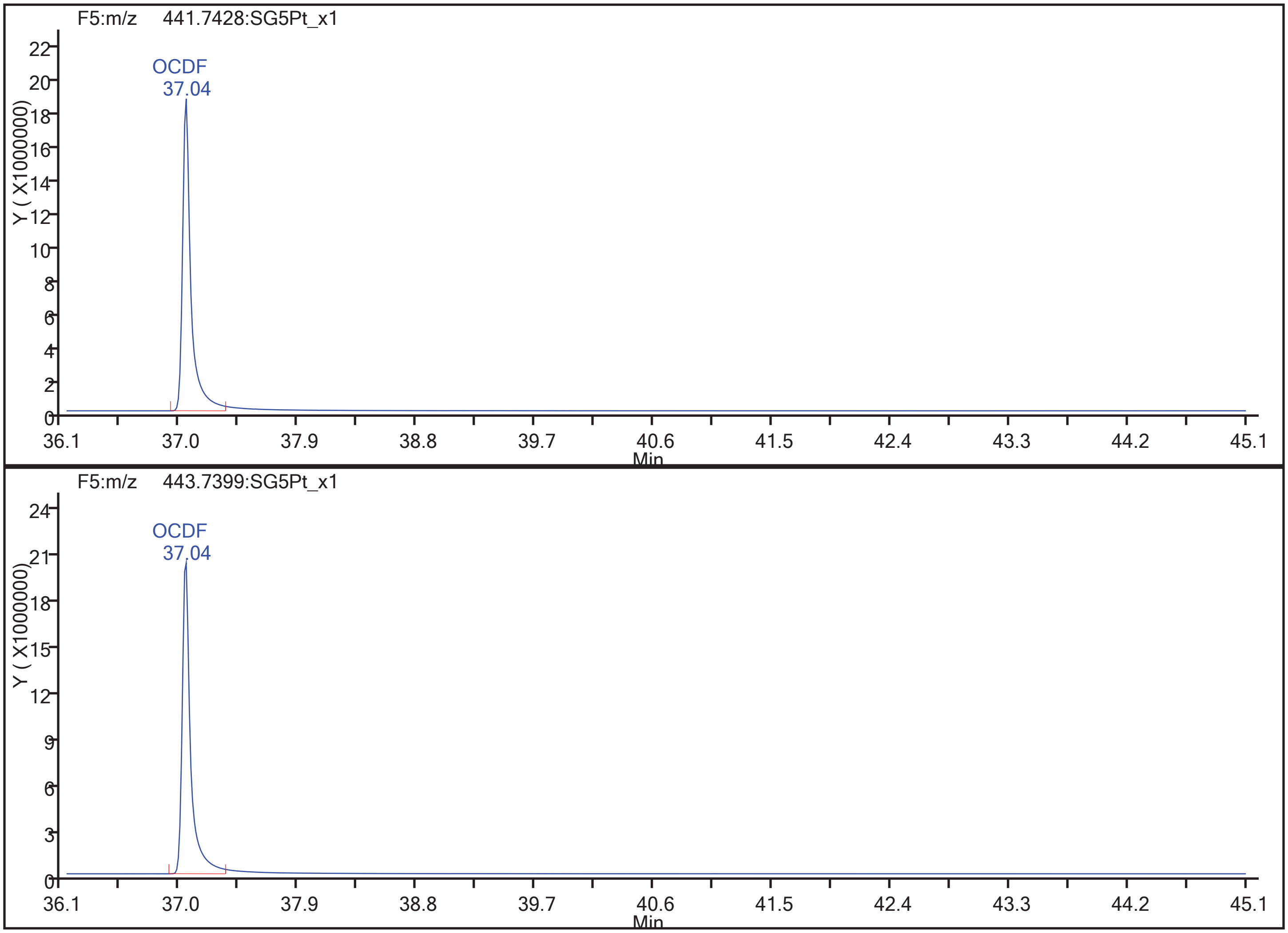




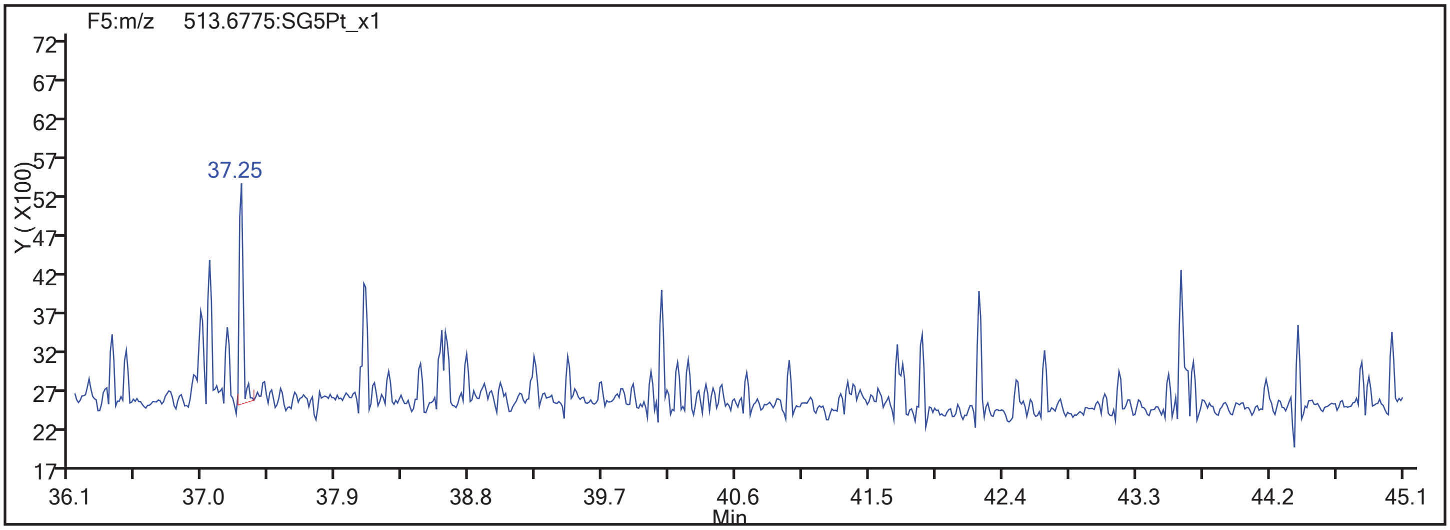
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_7.d		
Injection Date:	13-Oct-2017 03:58:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

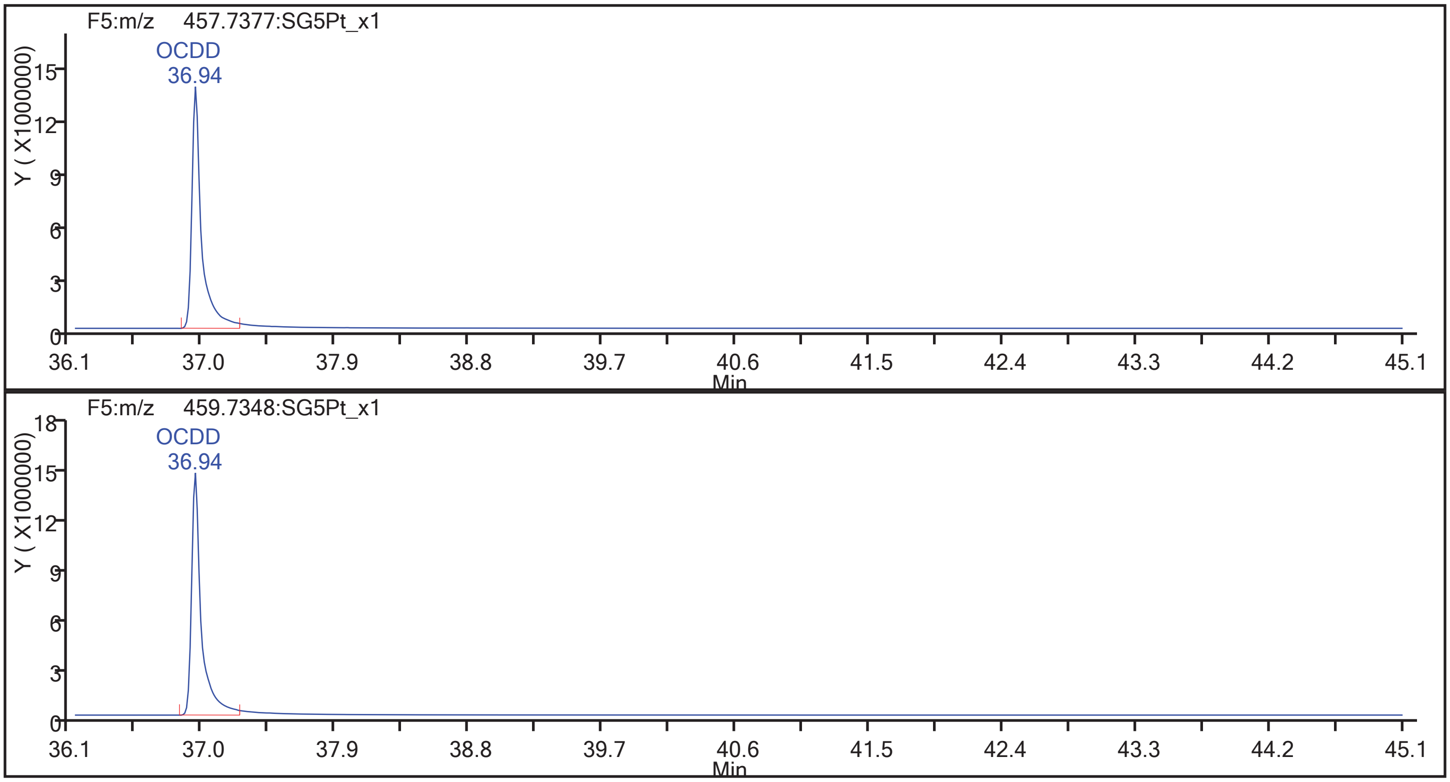


OCDF Interference Mass

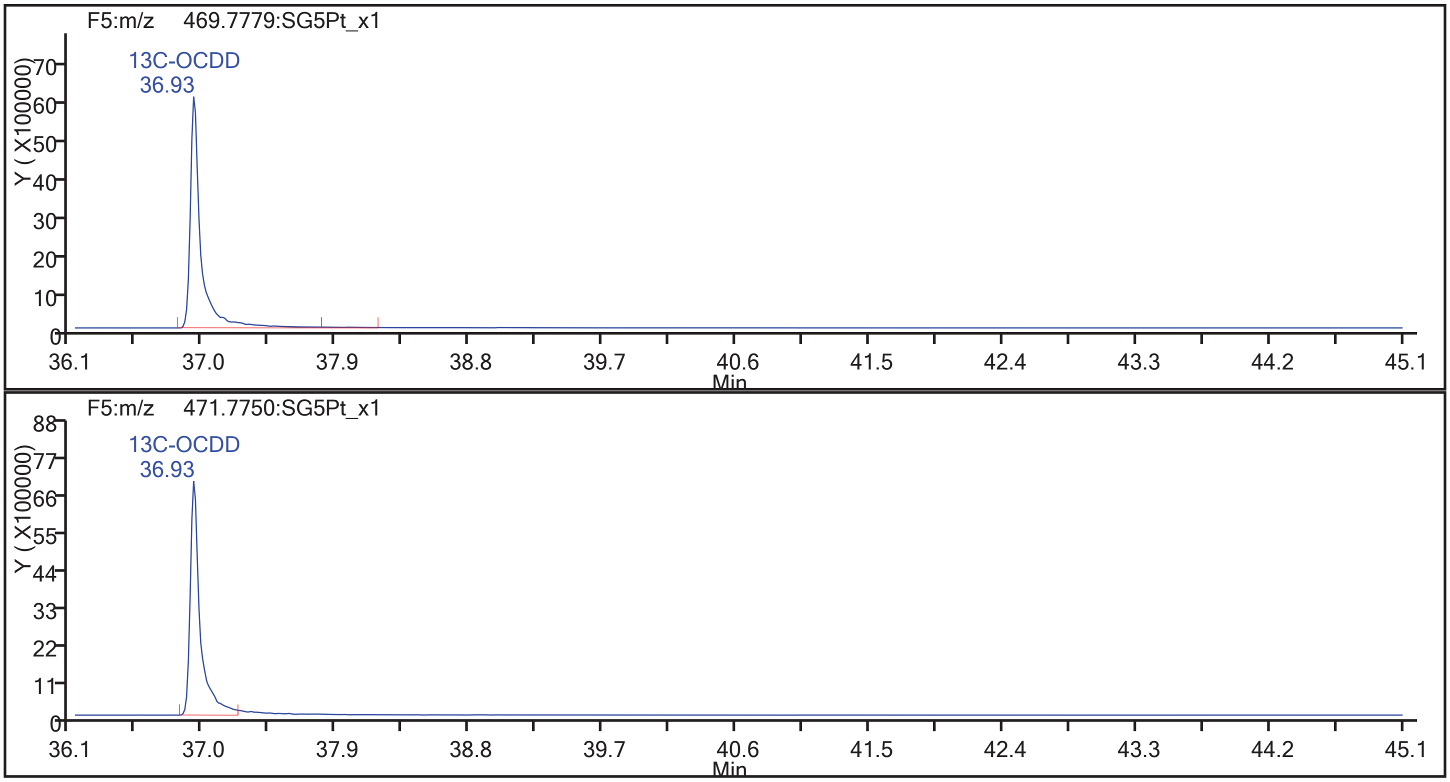


Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_7.d		
Injection Date:	13-Oct-2017 03:58:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

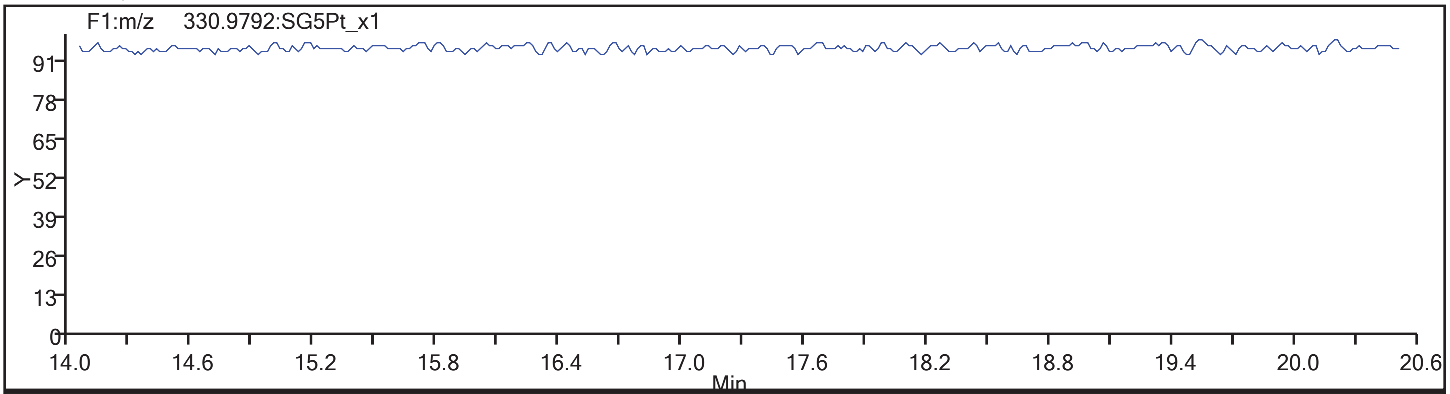


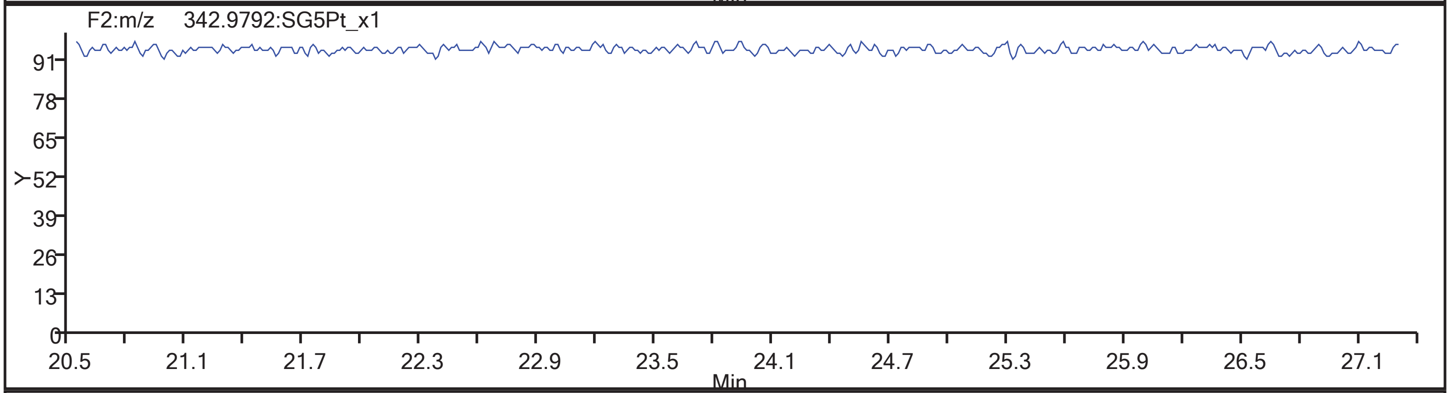
OCDD Standards

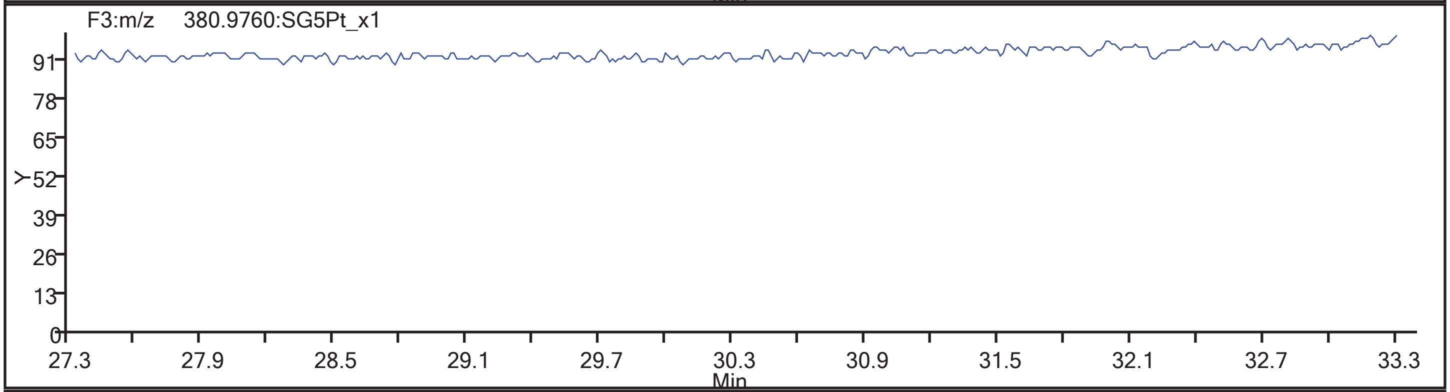


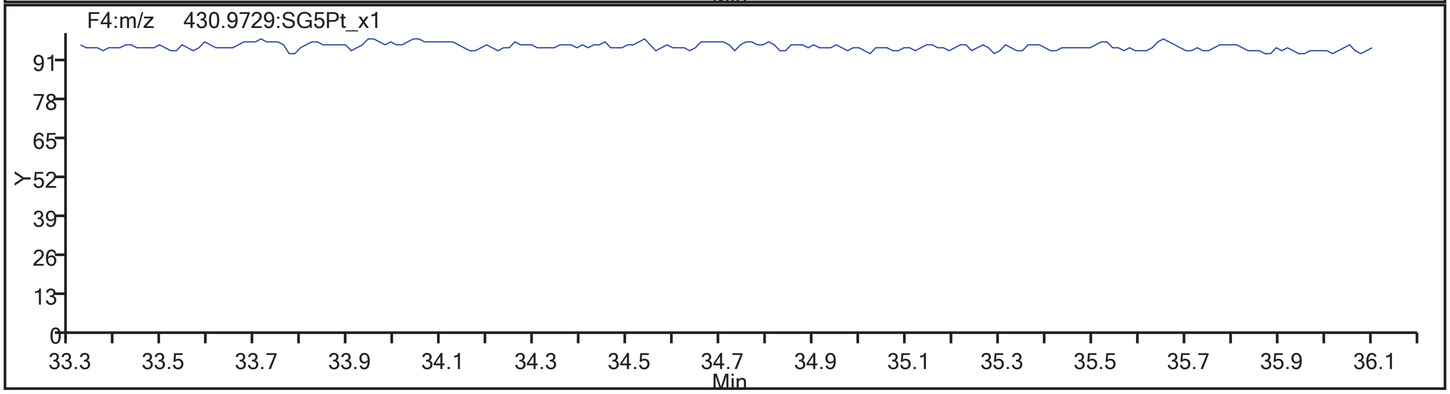
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_7.d		
Injection Date:	13-Oct-2017 03:58:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



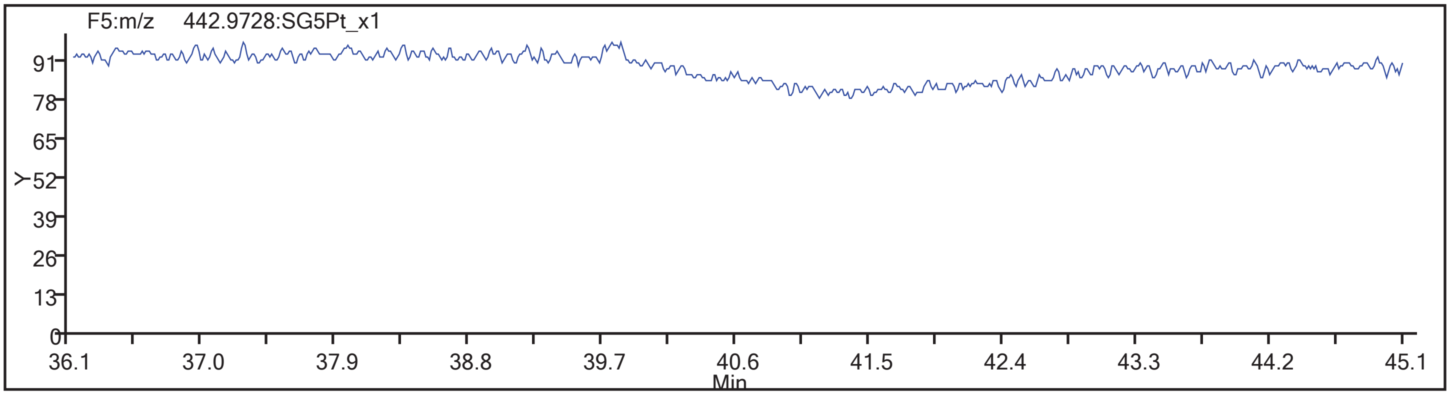






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_7.d		
Injection Date:	13-Oct-2017 03:58:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento   Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-194084/54   Calibration Date: 11/11/2017 03:01

Instrument ID: 10D5   Calib Start Date: 10/13/2017 00:08

GC Column: DB-5   ID: 0.32(mm)   Calib End Date: 10/13/2017 03:12

Lab File ID: 09NO1710D5_54.d   Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.064		9.38	10.0	-6.2	20.0
2,3,7,8-TCDD	AveID	0.999	0.9457		9.46	10.0	-5.4	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.094		47.1	50.0	-5.9	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.104		48.4	50.0	-3.2	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9289		48.9	50.0	-2.1	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.322		47.2	50.0	-5.6	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.512		44.6	50.0	-10.8	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.392		45.8	50.0	-8.5	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	0.9240		48.6	50.0	-2.8	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.184		48.0	50.0	-4.0	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.134		45.5	50.0	-9.0	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.223		43.4	50.0	-13.3	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.570		47.9	50.0	-4.3	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9470		47.7	50.0	-4.7	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.263		47.5	50.0	-5.1	20.0
OCDD	AveID	1.060	1.012		95.4	100	-4.6	20.0
OCDF	AveID	1.346	1.350		100	100	0.3	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.293		102	100	1.5	30.0
13C-2,3,7,8-TCDD	Ave	0.9921	0.9747		98.3	100	-1.7	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9696	1.048		108	100	8.1	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.8165		108	100	7.6	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	1.050		109	100	8.9	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.9069		103	100	3.2	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.7868		103	100	3.3	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.8117		105	100	4.6	30.0
13C-OCDD	Ave	0.6314	0.5962		189	200	-5.6	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.034		9.88	10.0	-1.2	

FORM VII 8290A

Report Date: 13-Nov-2017 13:33:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2017 03:01:38 ALS Bottle#: 2 Worklist Smp#: 54
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917H CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: SMA, AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:33:40 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:33:40

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	109515825	0.77	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	141647563	0.77	1.2741	101.5	101.5	0.3583	0.3583	102	
2,3,7,8-TCDF	17.415	15071001	0.76	1.1341	9.381	9.381	0.0288	0.0288	93.81	
A Non-2,3,7,8-sub-TCDF	17.113						0.0	0.0		
S Total TCDF					9.381	9.381	0.0288	0.0288		
D 13C-2,3,7,8-TCDD	18.111	106748839	0.77	0.9921	98.3	98.3	0.2352	0.2352	98.25	
$ 37Cl4-2,3,7,8-TCDD	18.125	11322033		1.0466	9.878	9.878	0.0150	0.0150	98.78	
2,3,7,8-TCDD	18.125	10095673	0.78	0.9993	9.464	9.464	0.0312	0.0312	94.64	
A Non-2,3,7,8-sub-TCDD	17.566						0.0	0.0		
S Total TCDD					9.464	9.464	0.0312	0.0312		
D 13C-1,2,3,7,8-PeCDF	22.451	114791558	1.55	0.9696	108.1	108.1	0.2964	0.2964	108	
1,2,3,7,8-PeCDF	22.465	62816698	1.61	1.1627	47.1	47.1	0.2072	0.2072	94.13	
D 13C-2,3,4,7,8-PeCDF	23.801	113905646	1.56							
2,3,4,7,8-PeCDF	23.828	63341003	1.59	1.1395	48.4	48.4	0.2115	0.2115	96.84	
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.175						0.0	0.0		
S Total PeCDF					95.5	95.5	0.2093	0.2093		
D 13C-1,2,3,7,8-PeCDD	24.524	89418879	1.60	0.7588	107.6	107.6	0.1635	0.1635	108	
1,2,3,7,8-PeCDD	24.551	41528357	1.55	0.9490	48.9	48.9	0.1002	0.1002	97.88	
A Non-2,3,7,8-sub-PeCDD	23.433						0.0	0.0		
S Total PeCDD					48.9	48.9	0.1002	0.1002		
D 13C-1,2,3,4,7,8-HxCDF	30.593	90011262	0.52	0.9644	108.9	108.9	0.8999	0.8999	109	
1,2,3,4,7,8-HxCDF	30.606	59511749	1.28	1.4012	47.2	47.2	0.4448	0.4448	94.37	
D 13C-1,2,3,6,7,8-HxCDF	30.766	108076882	0.53							
1,2,3,6,7,8-HxCDF	30.793	68060327	1.27	1.6951	44.6	44.6	0.3677	0.3677	89.21	
D 13C-2,3,4,6,7,8-HxCDF	31.578	100974467	0.52							
2,3,4,6,7,8-HxCDF	31.591	62629388	1.26	1.5205	45.8	45.8	0.4099	0.4099	91.52	
D 13C-1,2,3,7,8,9-HxCDF	32.363	89371105	0.52							
1,2,3,7,8,9-HxCDF	32.377	55045532	1.29	1.4099	43.4	43.4	0.4421	0.4421	86.75	
A Non-2,3,7,8-sub-HxCDF	30.267						0.0	0.0		

Report Date: 13-Nov-2017 13:33:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					180.9	180.9	0.4161	0.4161		
* 13C-1,2,3,7,8,9-HxCDD	32.177	85710524	1.22	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.751	61643788	1.25							
1,2,3,4,7,8-HxCDD	31.764	35909787	1.28	0.9505	48.6	48.6	0.3042	0.3042	97.21	
D 13C-1,2,3,6,7,8-HxCDD	31.858	77731099	1.23	0.8791	103.2	103.2	0.5753	0.5753	103	
1,2,3,6,7,8-HxCDD	31.871	46032873	1.28	1.2343	48.0	48.0	0.2342	0.2342	95.96	
1,2,3,7,8,9-HxCDD	32.190	44080328	1.25	1.2467	45.5	45.5	0.2319	0.2319	90.97	
A Non-2,3,7,8-sub-HxCDD	30.913						0.0	0.0		
S Total HxCDD					142.1	142.1	0.2568	0.2568		
D 13C-1,2,3,4,6,7,8-HpCDF	33.770	67434214	0.43	0.7618	103.3	103.3	2.343	2.343	103	
1,2,3,4,6,7,8-HpCDF	33.782	52937380	1.06	1.6399	47.9	47.9	0.5855	0.5855	95.74	
D 13C-1,2,3,4,7,8,9-HpCDF	34.851	57793172	0.43							
1,2,3,4,7,8,9-HpCDF	34.863	42568273	1.05	1.3302	47.5	47.5	0.7218	0.7218	94.91	
A Non-2,3,7,8-sub-HpCDF	34.311						0.0	0.0		
S Total HpCDF					95.3	95.3	0.6536	0.6536		
D 13C-1,2,3,4,6,7,8-HpCDD	34.560	69568194	1.07	0.7762	104.6	104.6	0.8768	0.8768	105	
1,2,3,4,6,7,8-HpCDD	34.572	32938674	1.04	0.9932	47.7	47.7	0.3484	0.3484	95.34	
A Non-2,3,7,8-sub-HpCDD	34.287						0.0	0.0		
S Total HpCDD					47.7	47.7	0.3484	0.3484		
D 13C-OCDD	36.894	102192092	0.89	0.6314	188.8	188.8	0.2844	0.2844	94.42	
OCDF	36.990	68957388	0.91	1.3460	100.3	100.3	0.1420	0.1420	100	
OCDD	36.906	51693916	0.89	1.0604	95.4	95.4	0.2116	0.2116	95.41	

Reagents:

HRDXNL4_00059 Amount Added: 1.00 Units: mL

Report Date: 13-Nov-2017 13:33:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2017 03:01:38 ALS Bottle#: 2 Worklist Smp#: 54
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917H CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: SMA, AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:33:40 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:33:40

Signal	RT (min.)	Exp RT (min.)	R Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		47589183	12138386	14321	35802	848		
333.9339	17.914	17.914	0		61926642	15670143	11633	29082	1347	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	61610862	15256554	37400	93500	408		
317.9389	17.400	17.400	0	0.971	80036701	19945188	13379	33447	1491	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415	17.415	0	1.001	6525639	1590297	2060	5150	772		
305.8987	17.415	17.415	0	1.001	8545362	2082746	2533	6332	822	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.113						2060	5150			
305.8987	17.113						2533	6332			
13C-2,3,7,8-TCDD											
331.9368	18.111	18.111	0	1.011	46340540	10674938	14321	35802	745		
333.9339	18.111	18.111	0	1.011	60408299	13951631	11633	29082	1199	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.125	18.125	0	1.012	11322033	2590816	1748	4370	1482		
2,3,7,8-TCDD											
319.8965	18.125	18.125	0	1.001	4438987	1027791	1767	4417	582		
321.8936	18.125	18.125	0	1.001	5656686	1322649	1303	3257	1015	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.566						1767	4417			
321.8936	17.566						1303	3257			

Signal	RT (min.)	Exp RT (min.)	R Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.451	22.451	0	1.253	69764037	11970227	19184	47960	624		
353.8970	22.451	22.451	0	1.253	45027521	7756129	12790	31975	606	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.465	22.465	0	1.001	38728851	6693856	10968	27420	610		
341.8567	22.465	22.465	0	1.001	24087847	4182476	8045	20112	520	1.61(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.801	23.801	0	1.329	69335606	11158019	19184	47960	582		
353.8970	23.801	23.801	0	1.329	44570040	7184918	12790	31975	562	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.828	23.828	0	1.061	38931364	6238474	10968	27420	569		
341.8567	23.828	23.828	0	1.061	24409639	3881516	8045	20112	482	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.001						396	990			
341.8567	20.001						1056	2640			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.175						10968	27420			
341.8567	23.175						8045	20112			
13C-1,2,3,7,8-PeCDD											
367.8949	24.524	24.524	0	1.369	55087359	8523285	9067	22667	940		
369.8919	24.524	24.524	0	1.369	34331520	5270606	4730	11825	1114	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551	24.551	0	1.001	25225378	3808580	3515	8787	1084		
357.8516	24.551	24.551	0	1.001	16302979	2524557	1734	4335	1456	1.55(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.433						3515	8787			
357.8516	23.433						1734	4335			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.593	30.593	0	0.951	30676448	5968854	23365	58412	255		
385.8610	30.593	30.593	0	0.951	59334814	11551988	45450	113625	254	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.606	30.606	0	1.000	33355499	6537197	25086	62715	261		
375.8178	30.606	30.606	0	1.000	26156250	5125523	18596	46490	276	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.766	30.766	0	0.956	37414792	6816122	23365	58412	292		
385.8610	30.766	30.766	0	0.956	70662090	12975478	45450	113625	285	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.793	30.793	0	1.007	38015471	7013527	25086	62715	280		
375.8178	30.793	30.793	0	1.007	30044856	5455367	18596	46490	293	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.578	31.578	0	0.981	34559055	8265988	23365	58412	354		
385.8610	31.578	31.578	0	0.981	66415412	15963505	45450	113625	351	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.591	31.591	0	1.033	34896798	8457539	25086	62715	337		
375.8178	31.591	31.591	0	1.033	27732590	6670667	18596	46490	359	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	R Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.363	32.363	0	1.006	30627316	7376241	23365	58412	316		
385.8610	32.363	32.363	0	1.006	58743789	14021633	45450	113625	309	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.377	32.377	0	1.058	30963713	7367266	25086	62715	294		
375.8178	32.377	32.377	0	1.058	24081819	5684601	18596	46490	306	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.267						25086	62715			
375.8178	30.267						18596	46490			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.177	32.177	0		47146600	10879865	23711	59277	459		
403.8529	32.177	32.177	0		38563924	8942849	16391	40977	546	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.751	31.751	0	0.987	34287099	9709588	23711	59277	409		
403.8529	31.751	31.751	0	0.987	27356689	7716224	16391	40977	471	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.764	31.764	0	0.997	20177329	5647530	12497	31242	452		
391.8127	31.764	31.764	0	0.997	15732458	4431815	8503	21257	521	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.858	31.858	0	0.990	42946403	9941111	23711	59277	419		
403.8529	31.858	31.858	0	0.990	34784696	8218128	16391	40977	501	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.871	31.871	0	1.000	25873696	6071245	12497	31242	486		
391.8127	31.871	31.871	0	1.000	20159177	4832212	8503	21257	568	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.190	32.190	0	1.010	24494682	5675477	12497	31242	454		
391.8127	32.190	32.190	0	1.010	19585646	4700452	8503	21257	553	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.913						12497	31242			
391.8127	30.913						8503	21257			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.770	33.770	0	1.050	20441017	6336737	40896	102240	155		
419.8220	33.770	33.770	0	1.050	46993197	14177803	100621	251552	141	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.782	33.782	0	1.000	27212376	8197989	40906	102265	200		
409.7789	33.782	33.782	0	1.000	25725004	7682931	37882	94705	203	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.851	34.851	0	1.083	17276252	4419803	40896	102240	108		
419.8220	34.851	34.851	0	1.083	40516920	10288904	100621	251552	102	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.863	34.863	0	1.032	21850361	5520739	40906	102265	135		
409.7789	34.851	34.863	-1	1.032	20717912	5254400	37882	94705	139	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.311						40906	102265			
409.7789	34.311						37882	94705			

Signal	RT (min.)	Exp RT (min.)	R Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.560	34.560	0	1.074	35895825	9592912	27789	69472	345		
437.8140	34.560	34.560	0	1.074	33672369	9080789	26175	65437	347	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.572	34.572	0	1.000	16758092	4527363	12283	30707	369		
425.7737	34.572	34.572	0	1.000	16180582	4313020	13560	33900	318	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.287						12283	30707			
425.7737	34.287						13560	33900			
13C-OCDD											
469.7779	36.894	36.894	0	1.147	47979123	10541358	6477	16192	1628		
471.7750	36.894	36.894	0	1.147	54212969	12047261	7763	19407	1552	0.89(0.76-1.02)	
OCDF											
441.7428	36.990	36.990	0	1.003	32806324	7432022	3778	9445	1967		
443.7399	36.990	36.990	0	1.003	36151064	8261181	4859	12147	1700	0.91(0.76-1.02)	
OCDD											
457.7377	36.906	36.906	0	1.000	24304453	5401547	6830	17075	791		
459.7348	36.906	36.906	0	1.000	27389463	6015274	3306	8265	1820	0.89(0.76-1.02)	

Reagents:

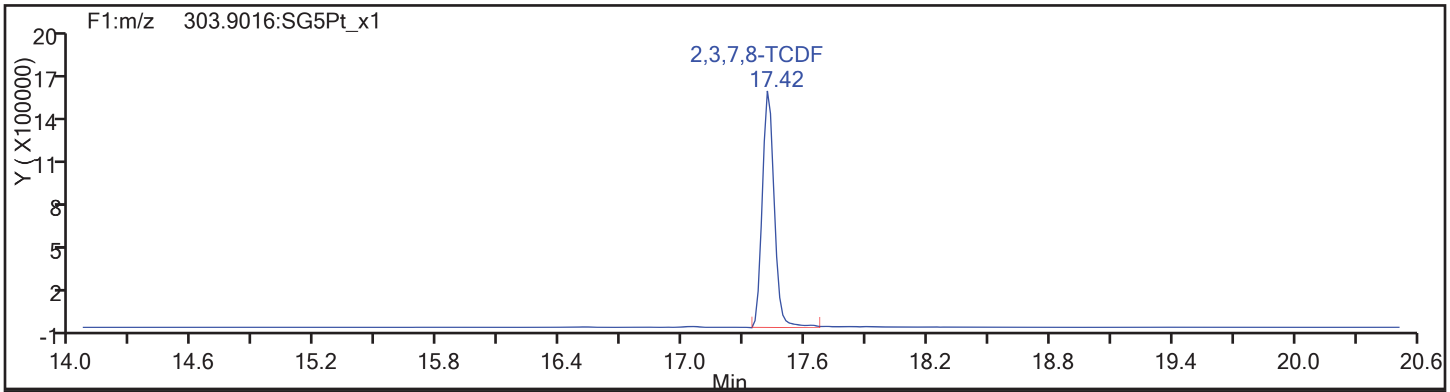
HRDXNL4_00059 Amount Added: 1.00 Units: mL

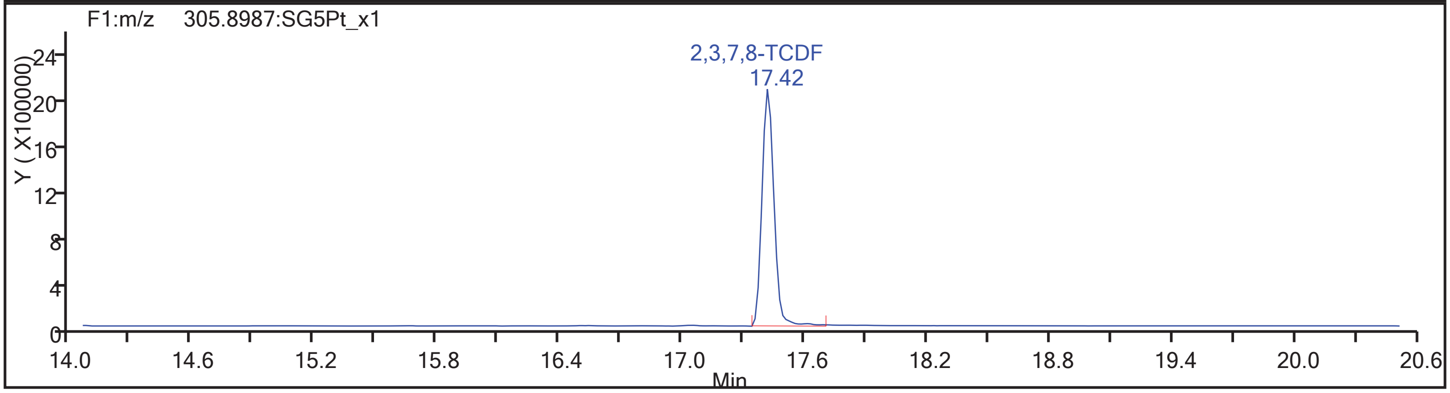
Report Date: 13-Nov-2017 13:33:41		Chrom Revision: 2.2 16-Aug-2017 16:24:46	

TestAmerica Sacramento

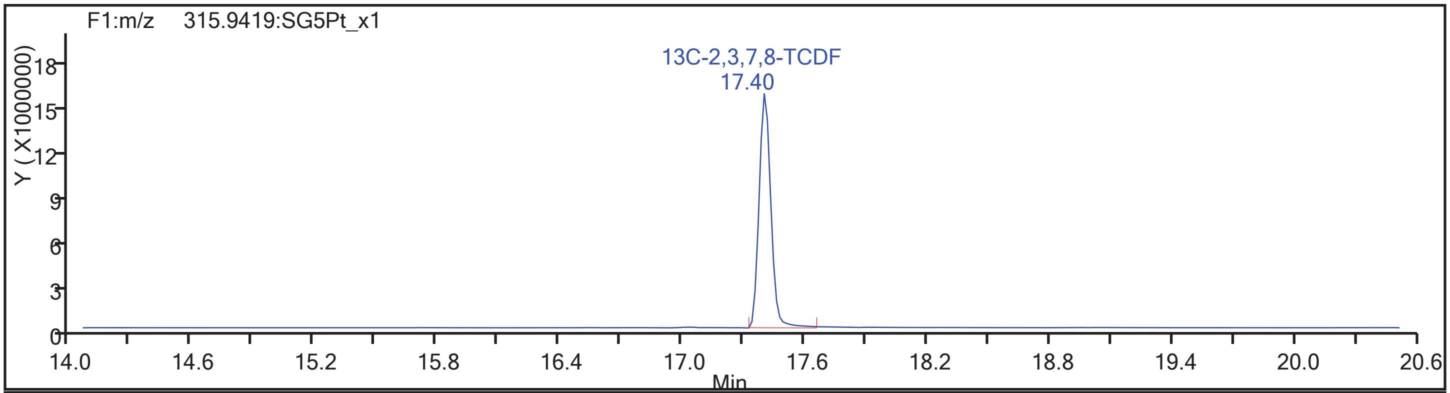
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d		
Injection Date:	11-Nov-2017 03:01:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	54
Column Type:	DB-5	Column Dia:	0.32 mm

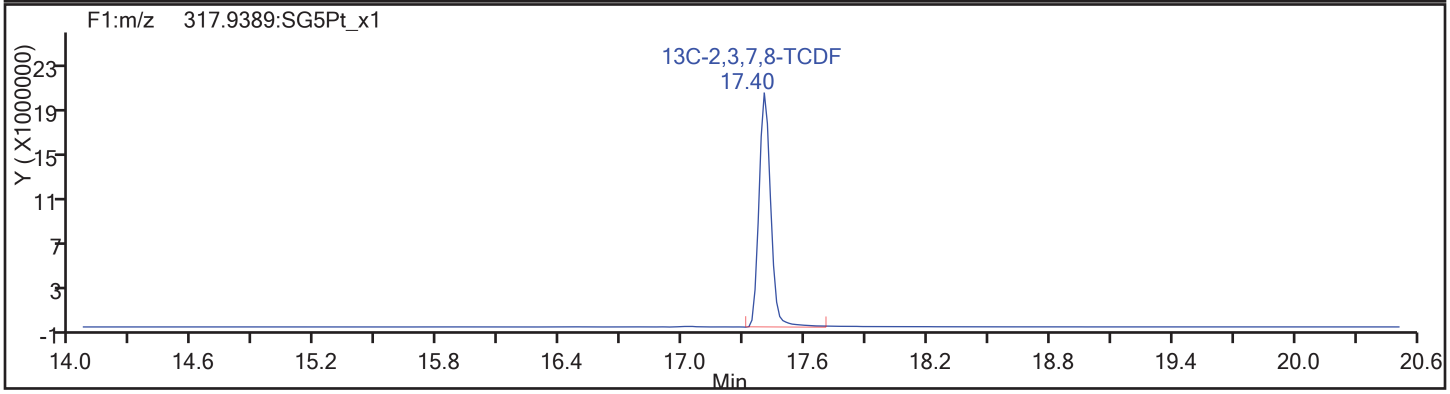
TCDF





TCDF Standards





TestAmerica Sacramento

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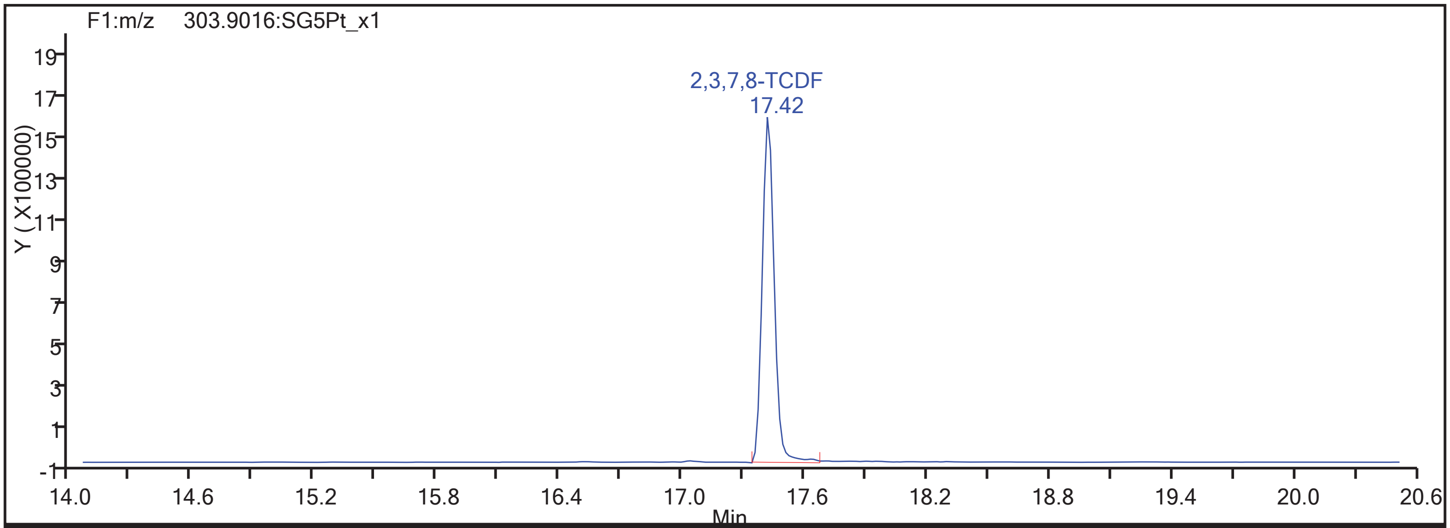
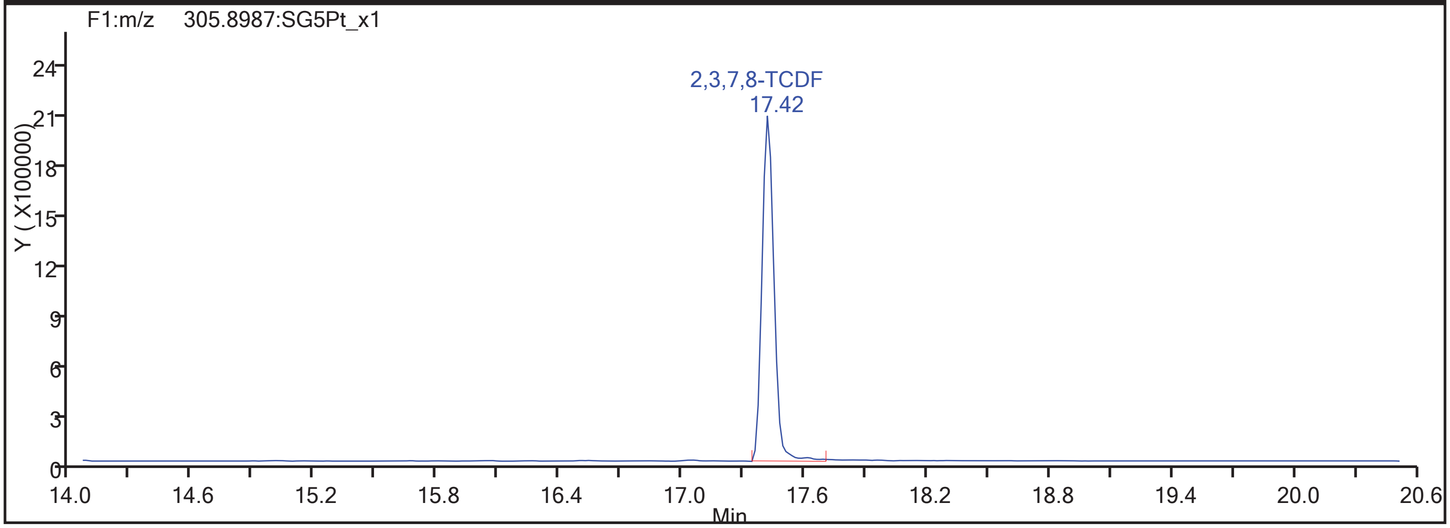
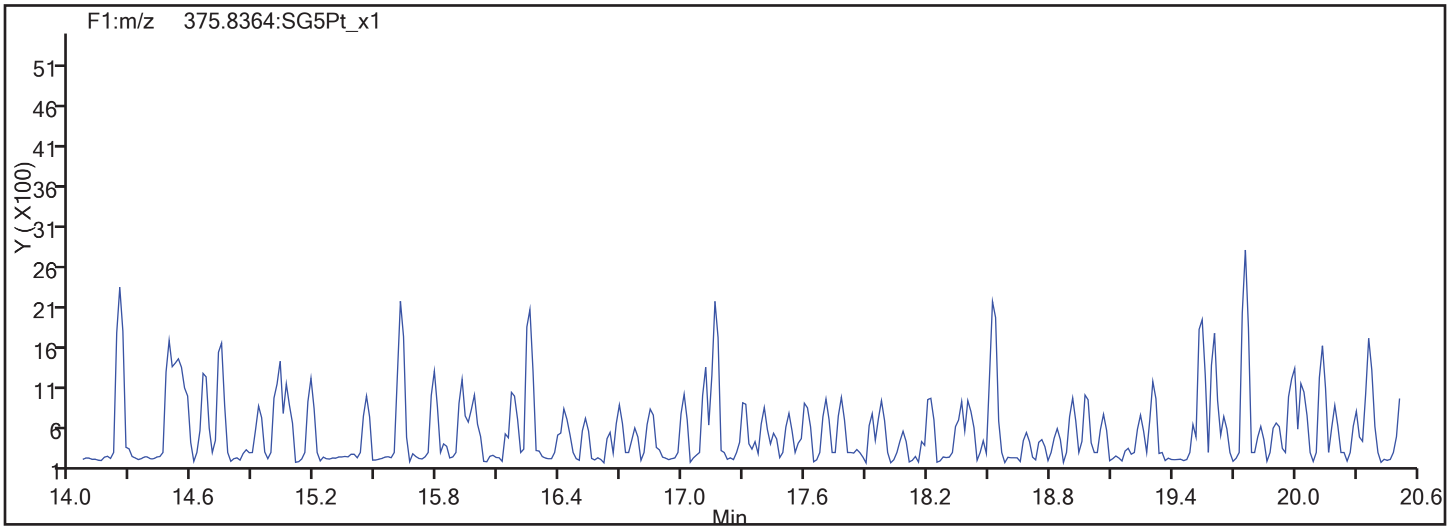
Injection Date: 11-Nov-2017 03:01:38 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: SMA, AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084 Sample Line#: 54
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



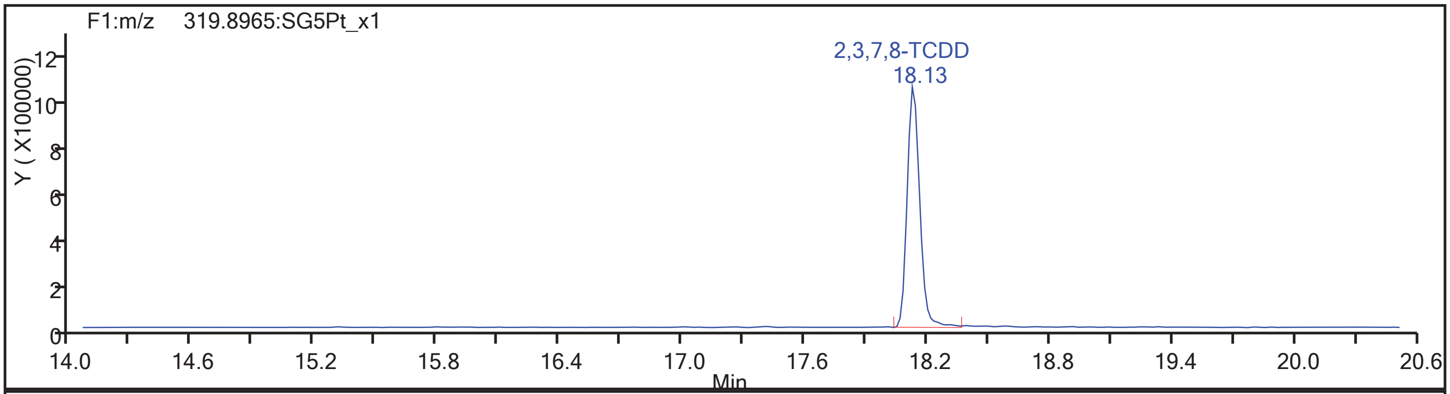
Report Date: 13-Nov-2017 13:33:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

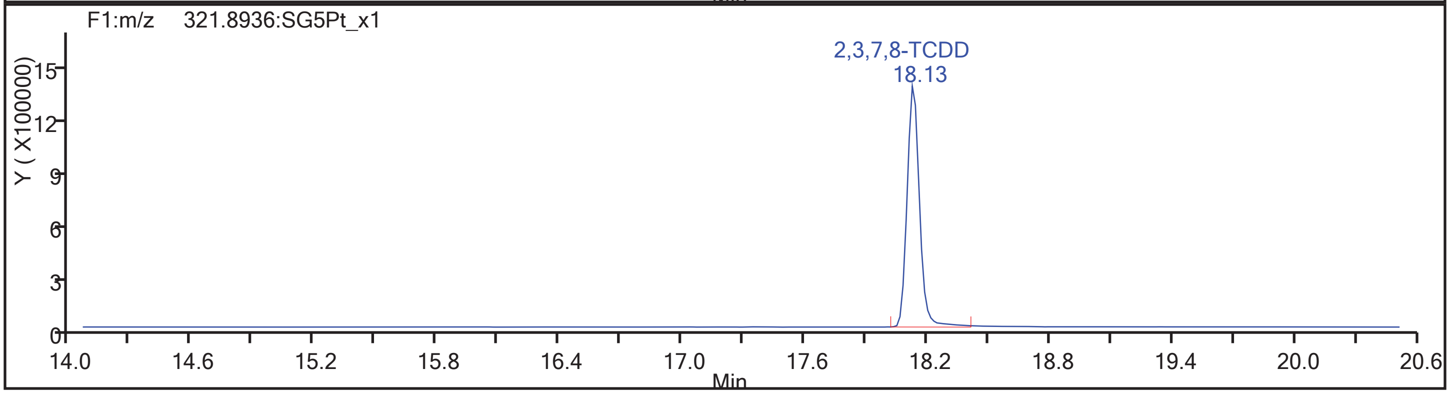
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d

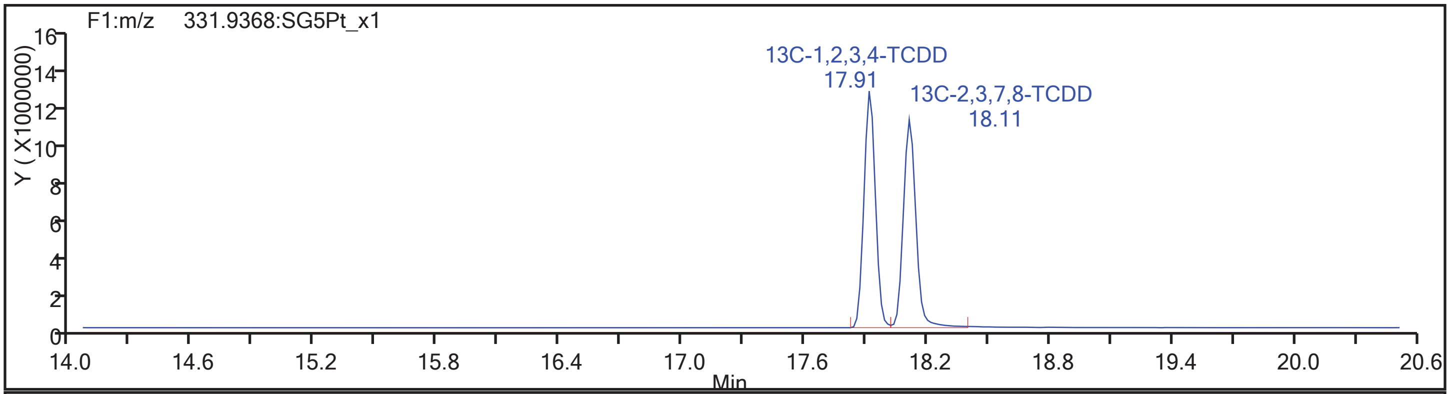
Injection Date:	11-Nov-2017 03:01:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	54
Column Type:	DB-5	Column Dia:	0.32 mm

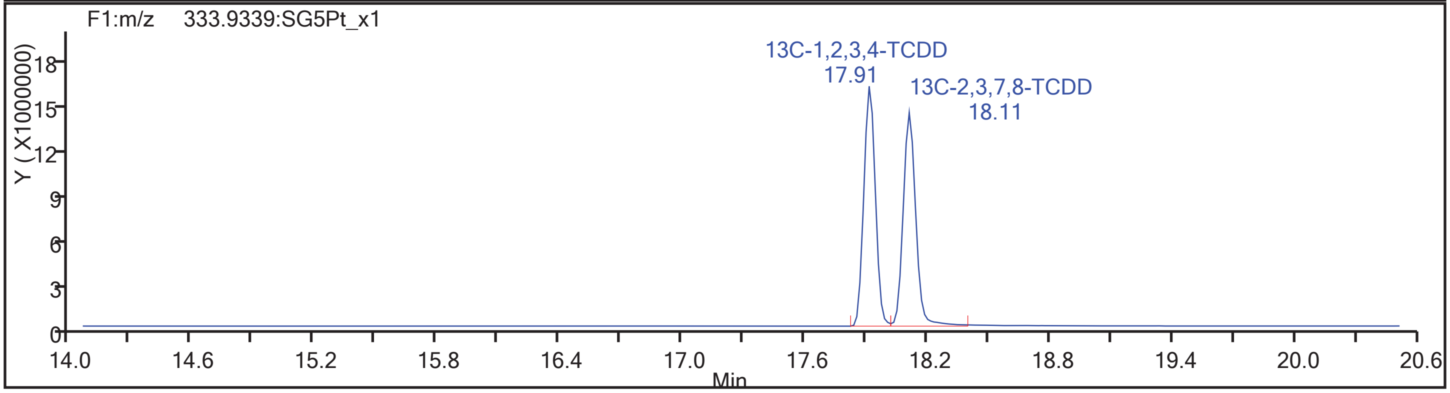
TCDD





TCDD Standards





Report Date: 13-Nov-2017 13:33:41
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d
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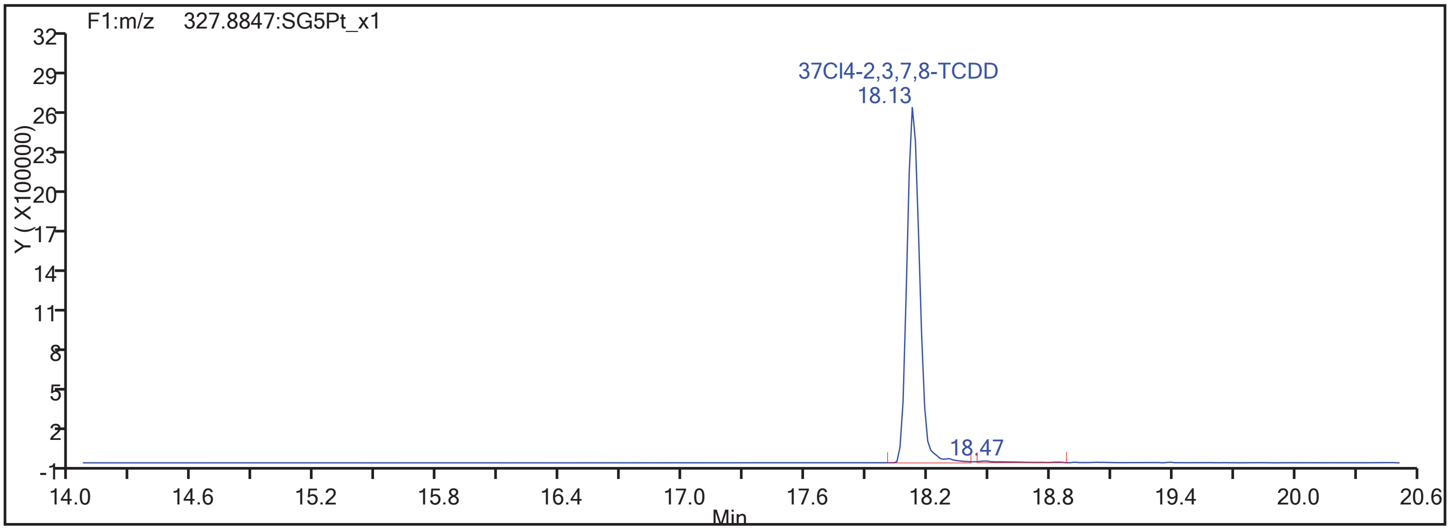
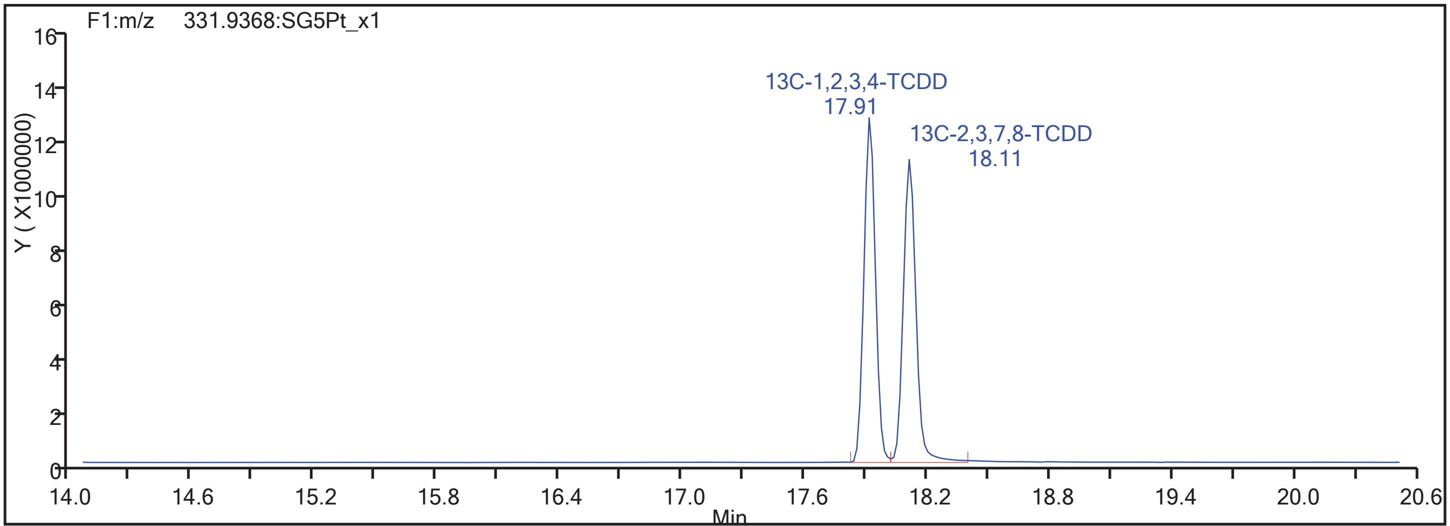
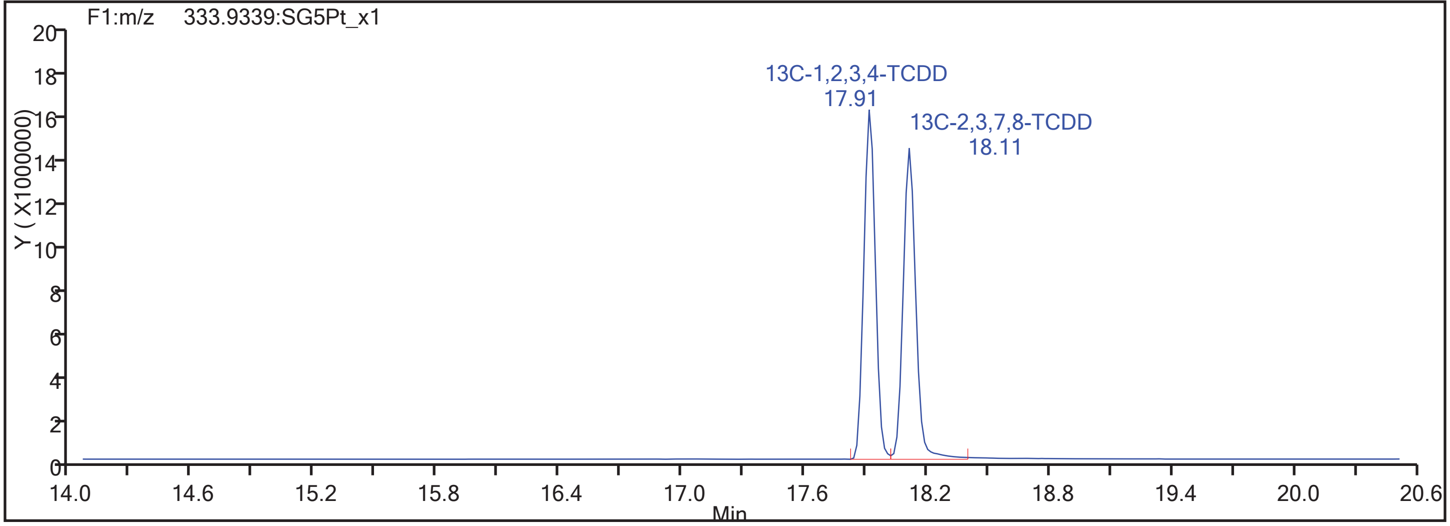
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: SMA, AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 54
Column Type: DB-5
Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





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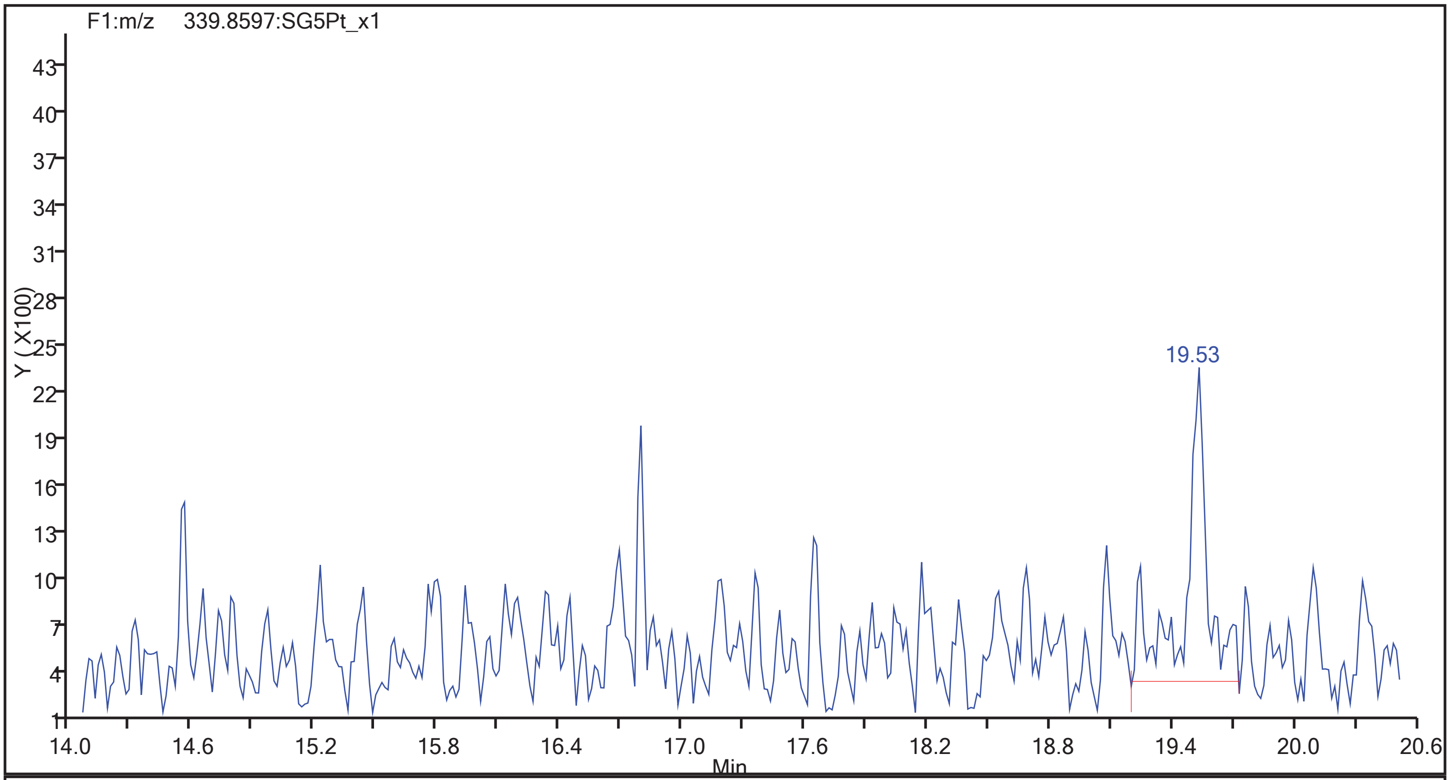
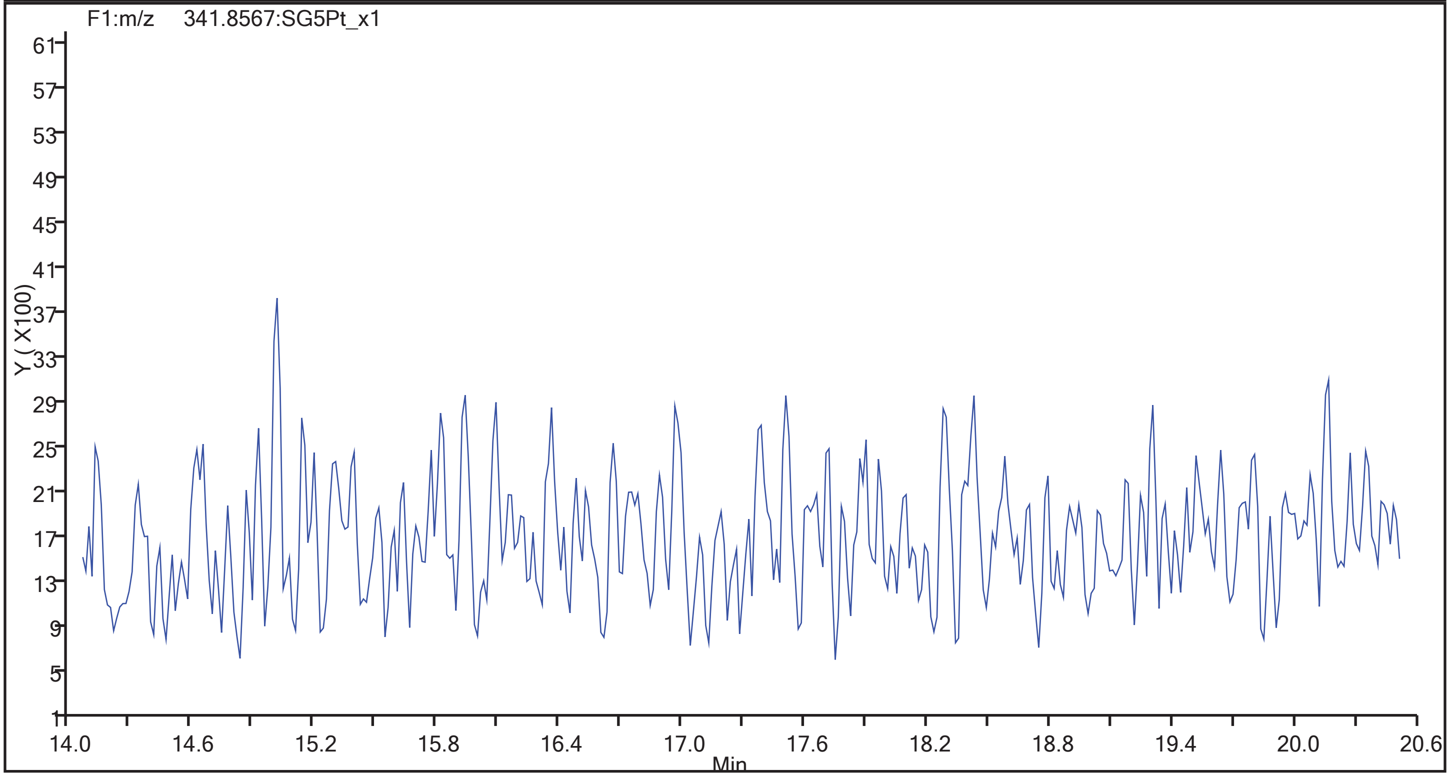
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d		
Injection Date:	11-Nov-2017 03:01:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	54
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Report Date: 13-Nov-2017 13:33:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d		
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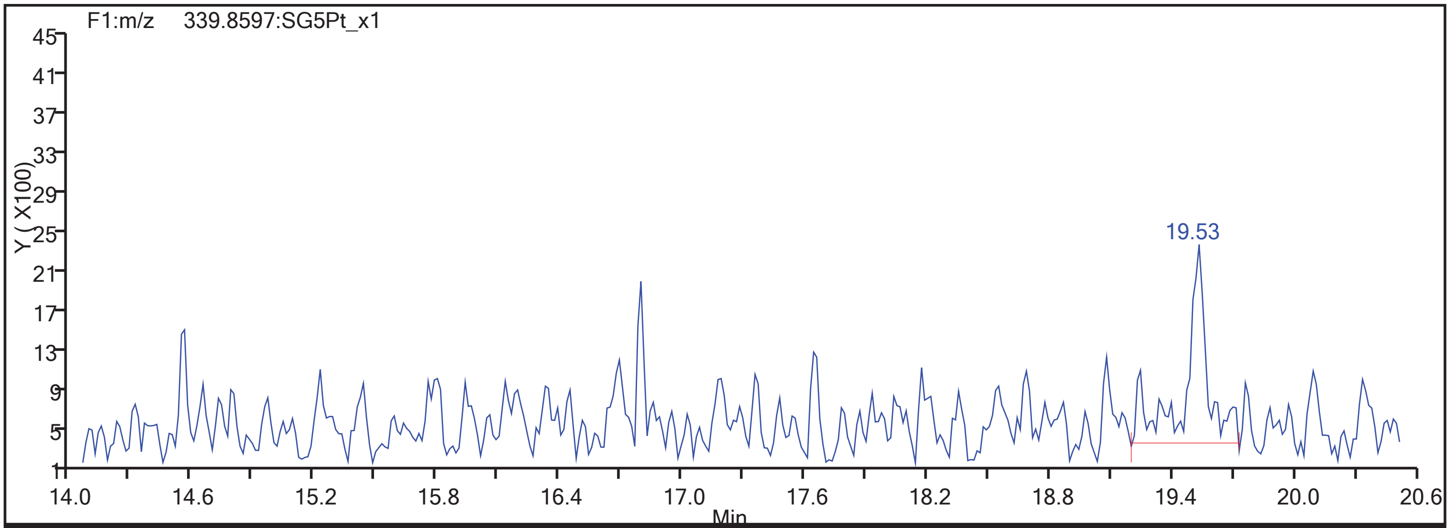
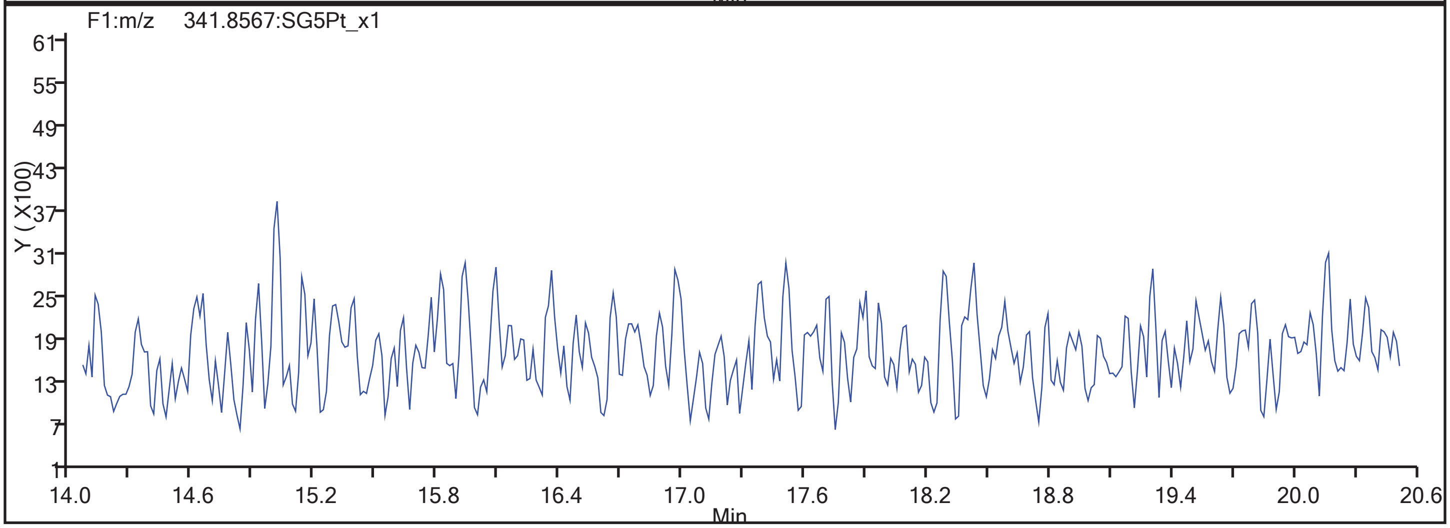
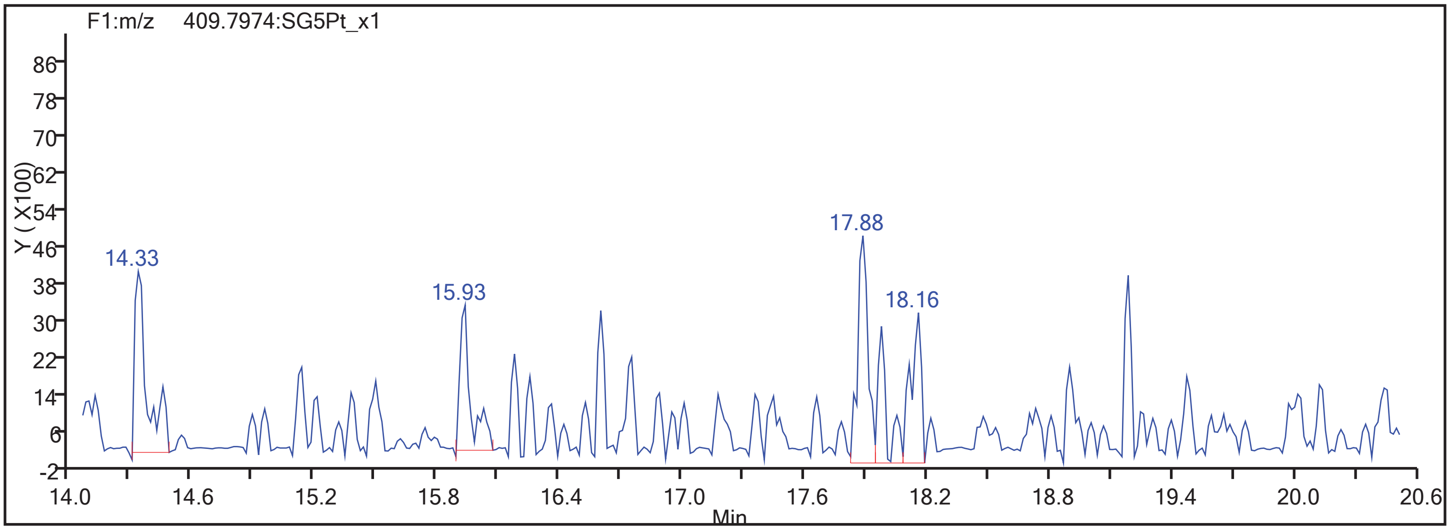
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	54
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 13-Nov-2017 13:33:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d		
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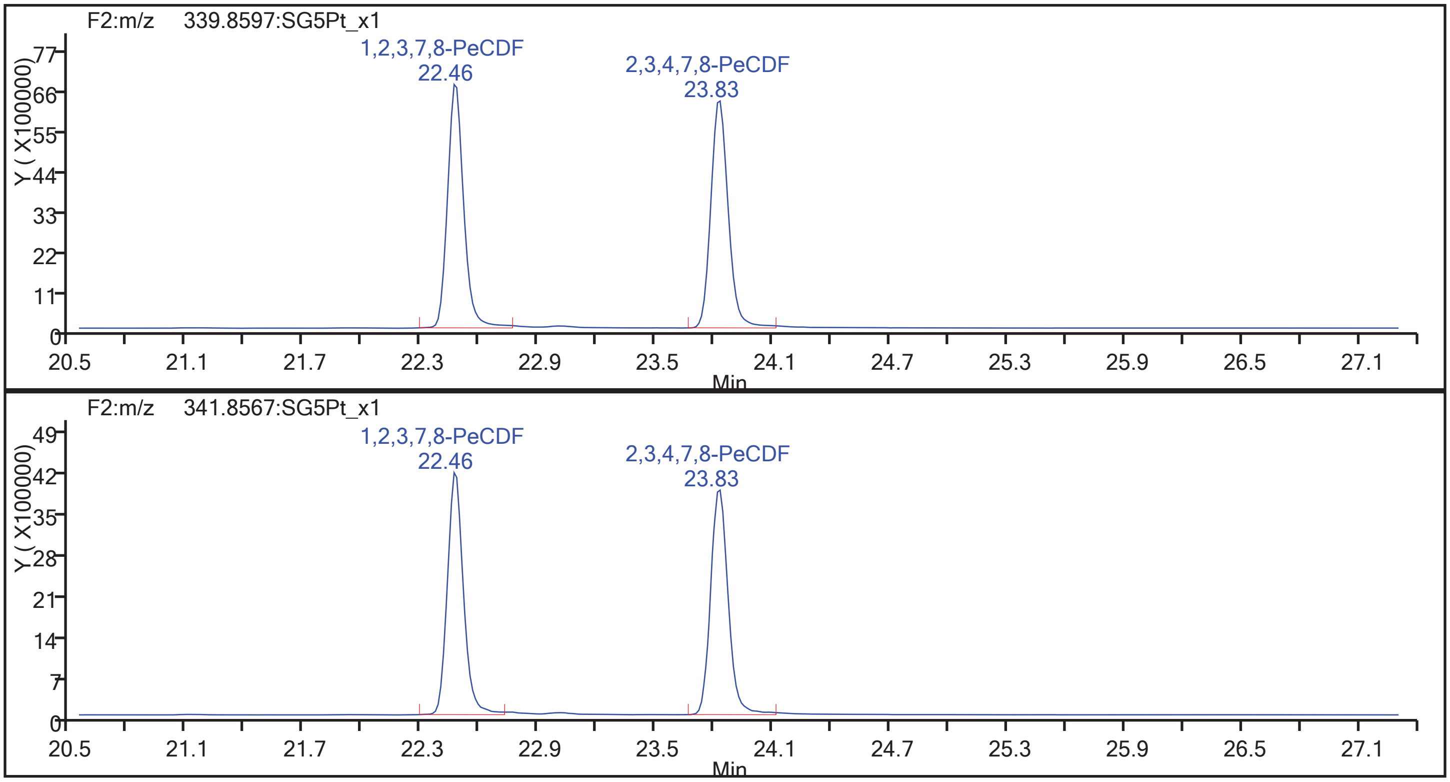
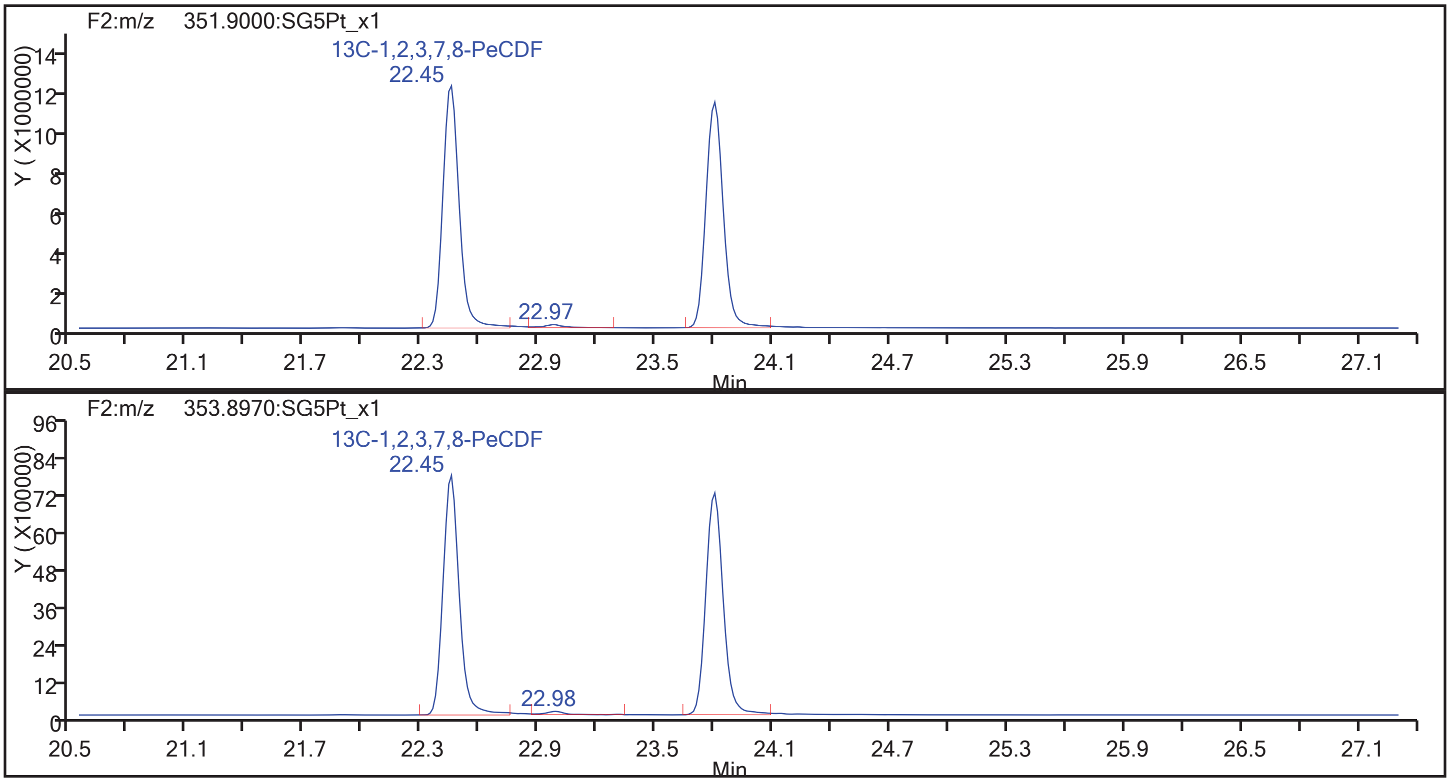
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	54
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



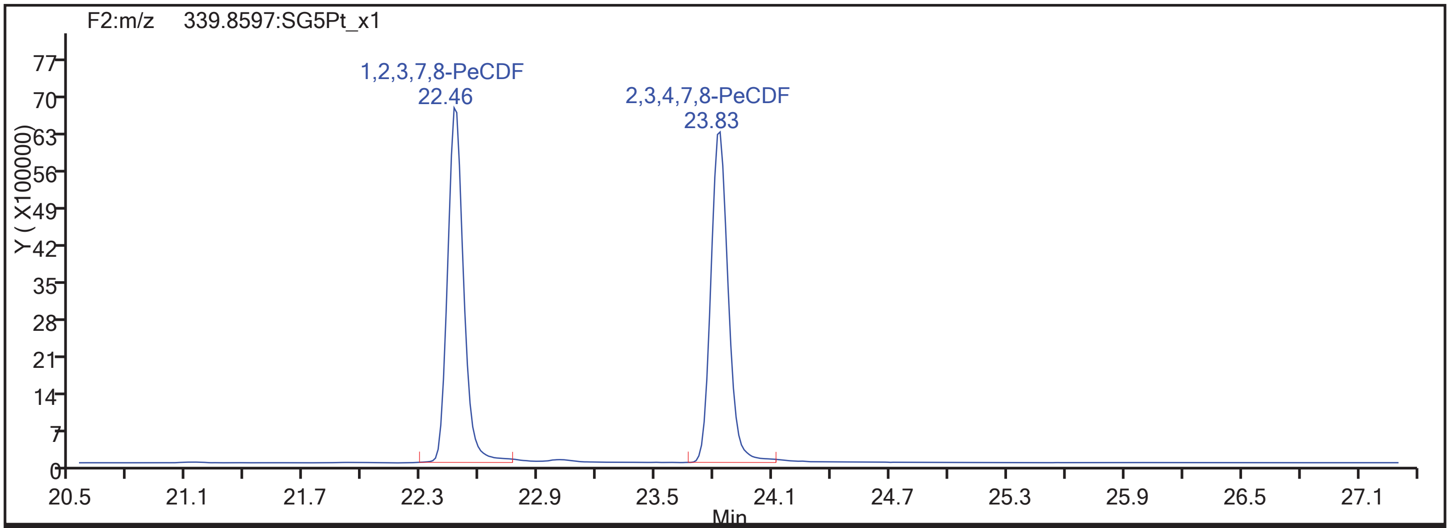
Report Date: 13-Nov-2017 13:33:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

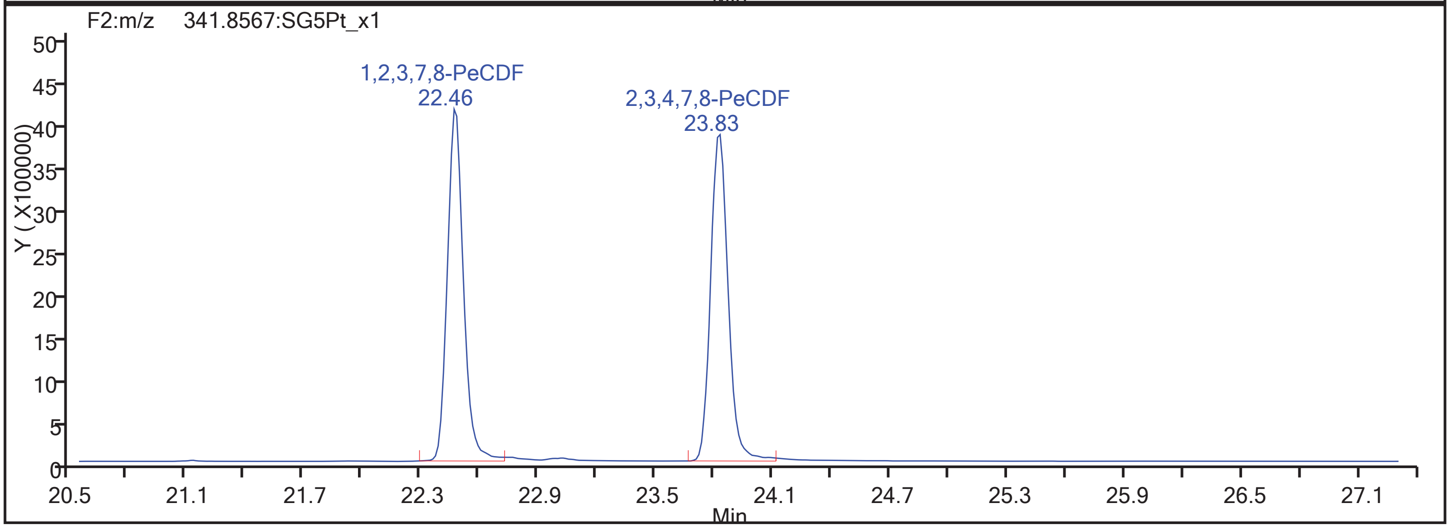
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d

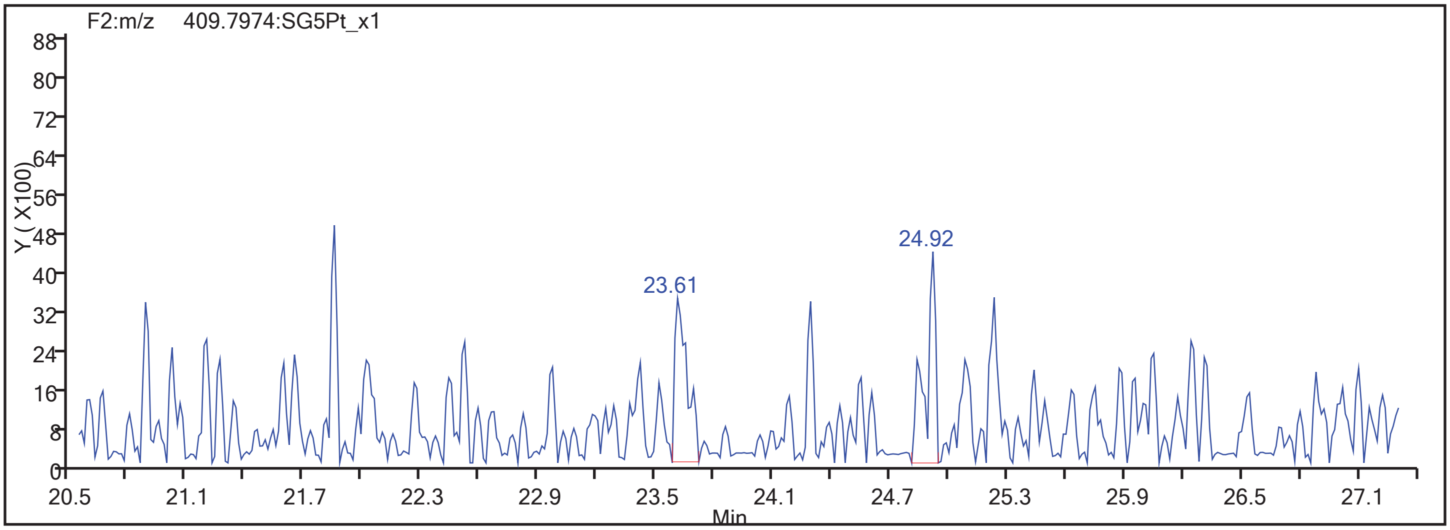
Injection Date:	11-Nov-2017 03:01:38	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	54
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_54.d

Injection Date: 11-Nov-2017 03:01:38

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: SMA, AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 194084

Sample Line#: 54

Column Type: DB-5

Column Dia: 0.32 mm

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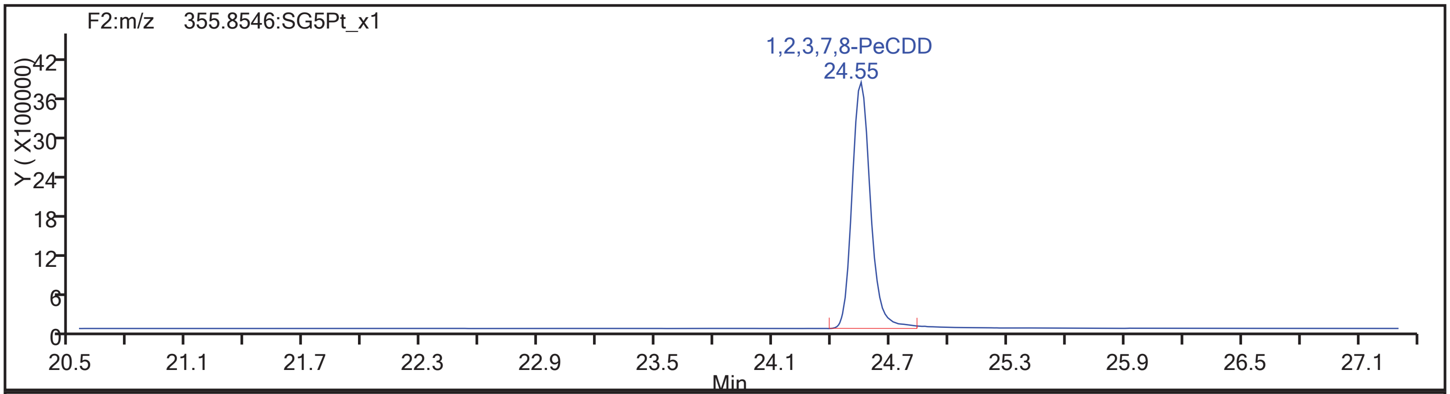

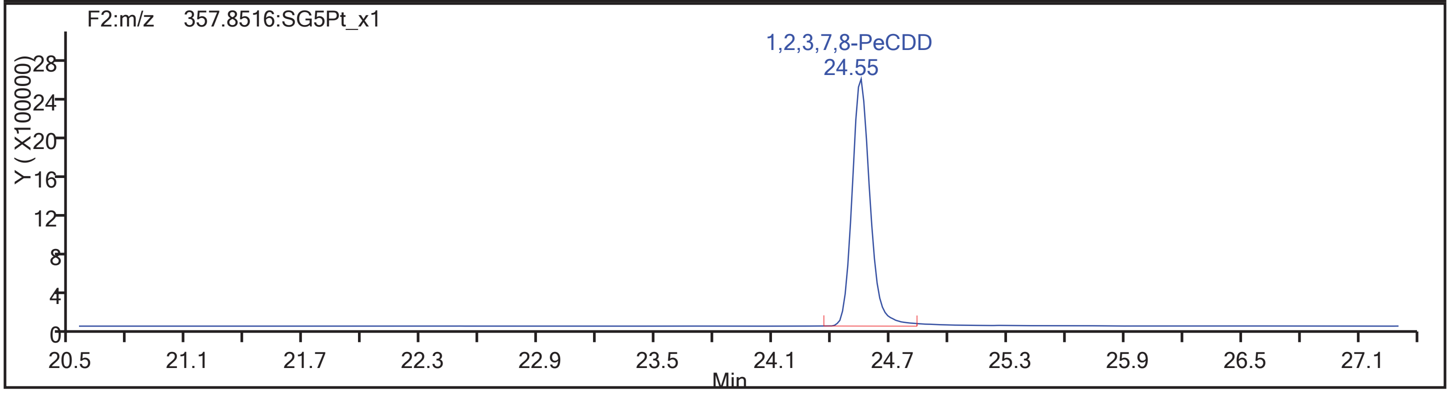

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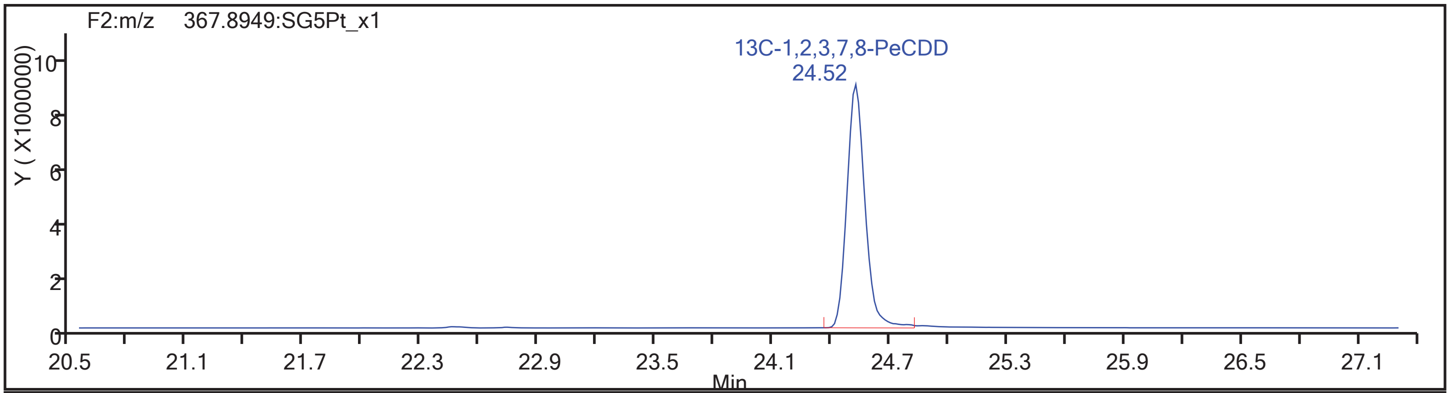

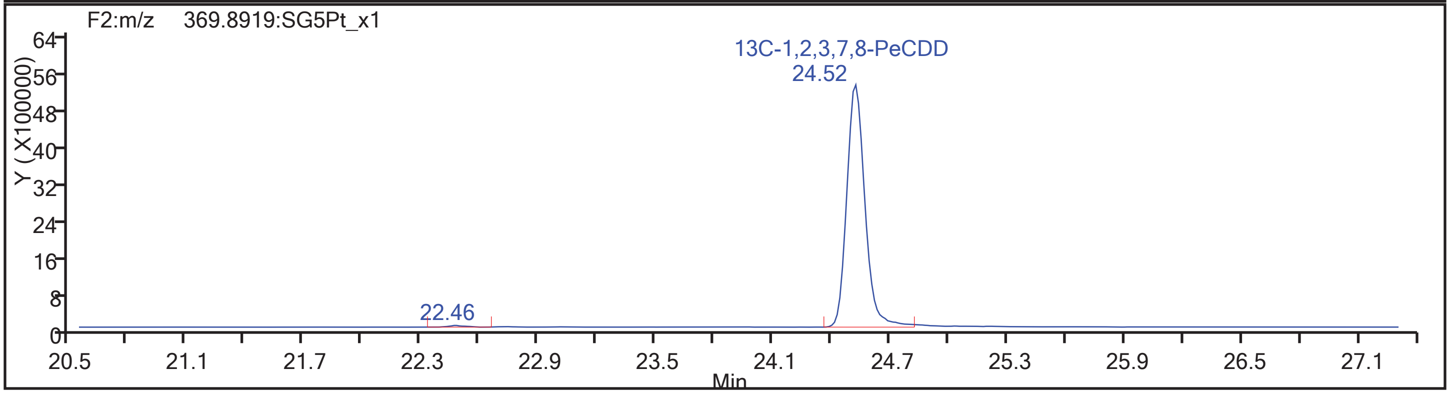

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TestAmerica Sacramento

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Client ID:
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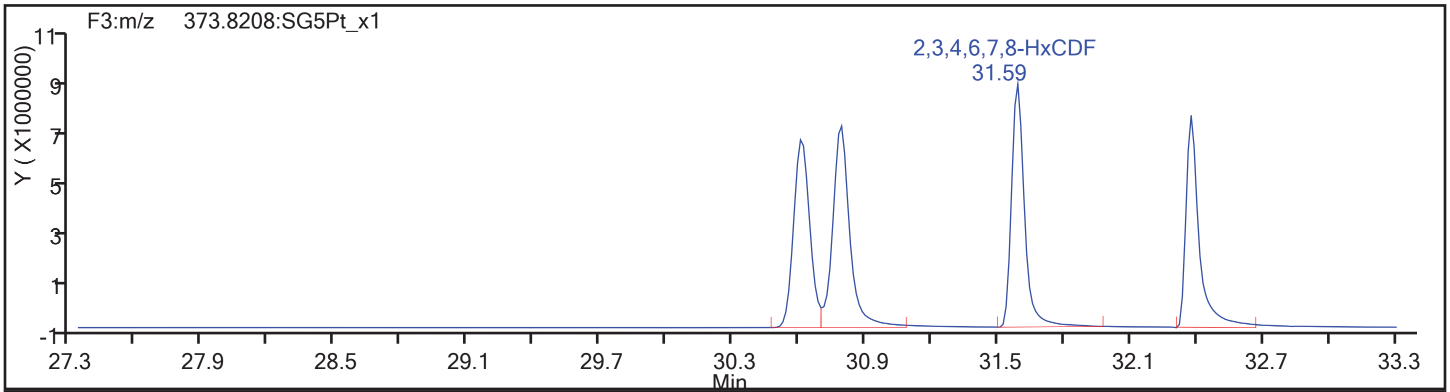
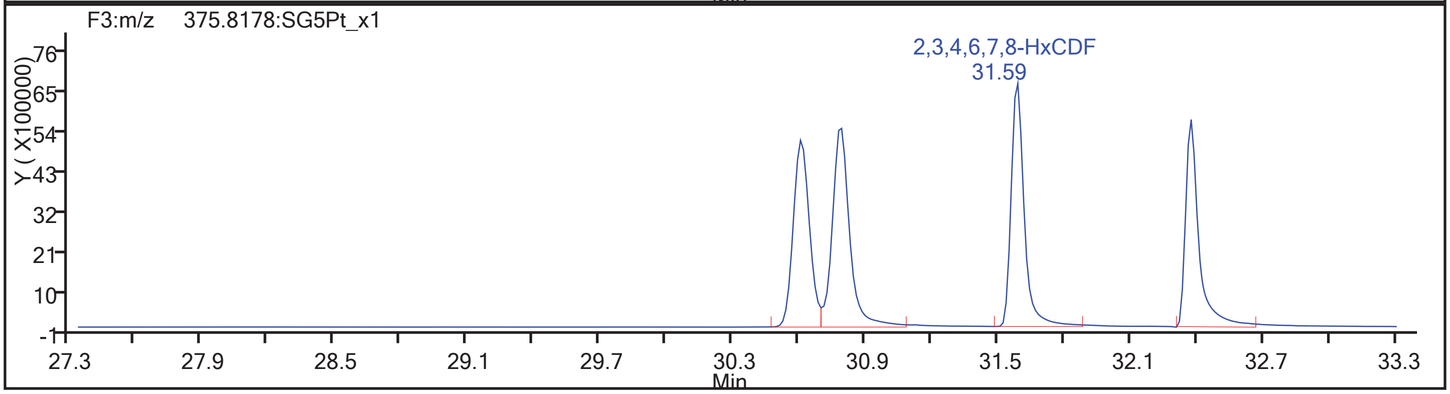
HxCDF





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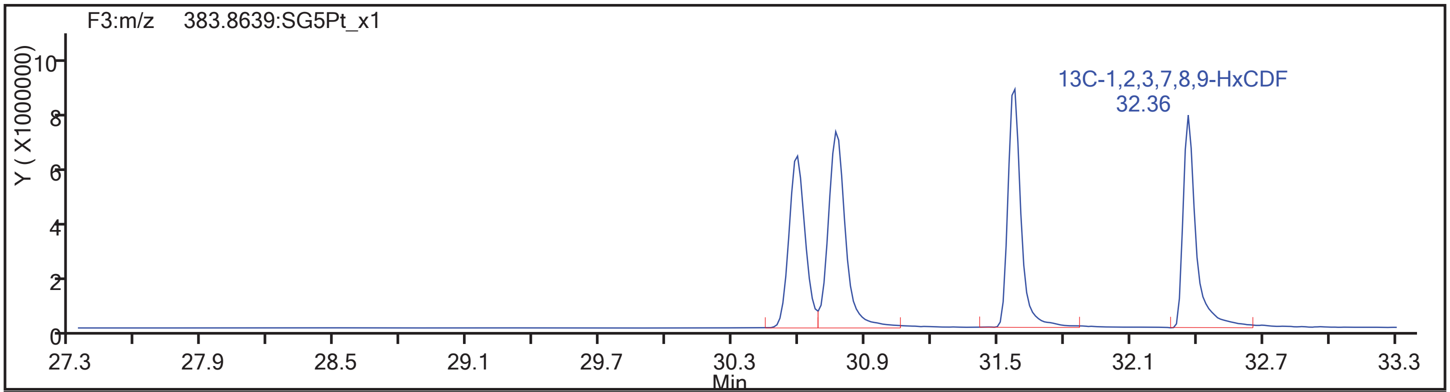

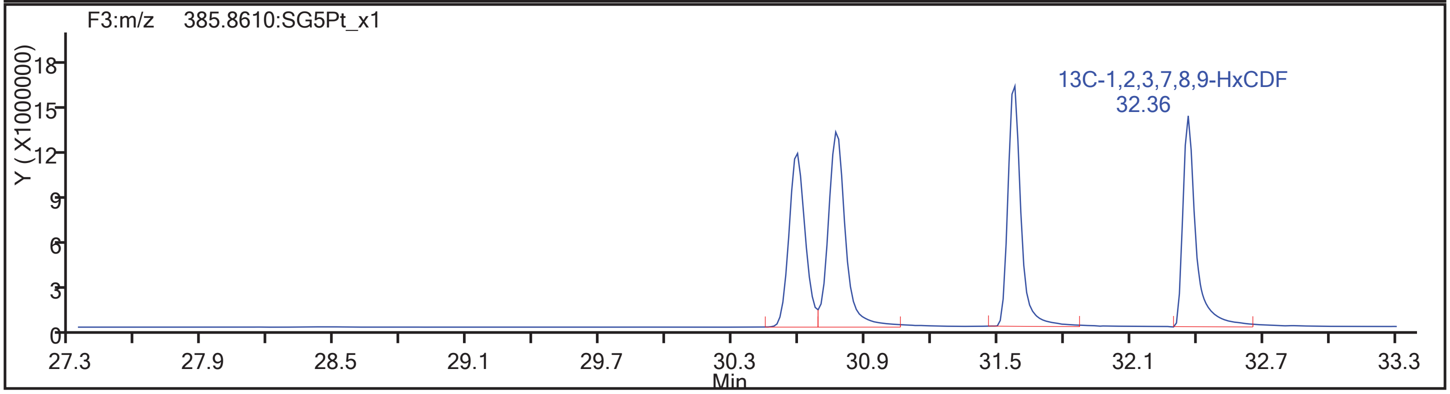

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TestAmerica Sacramento

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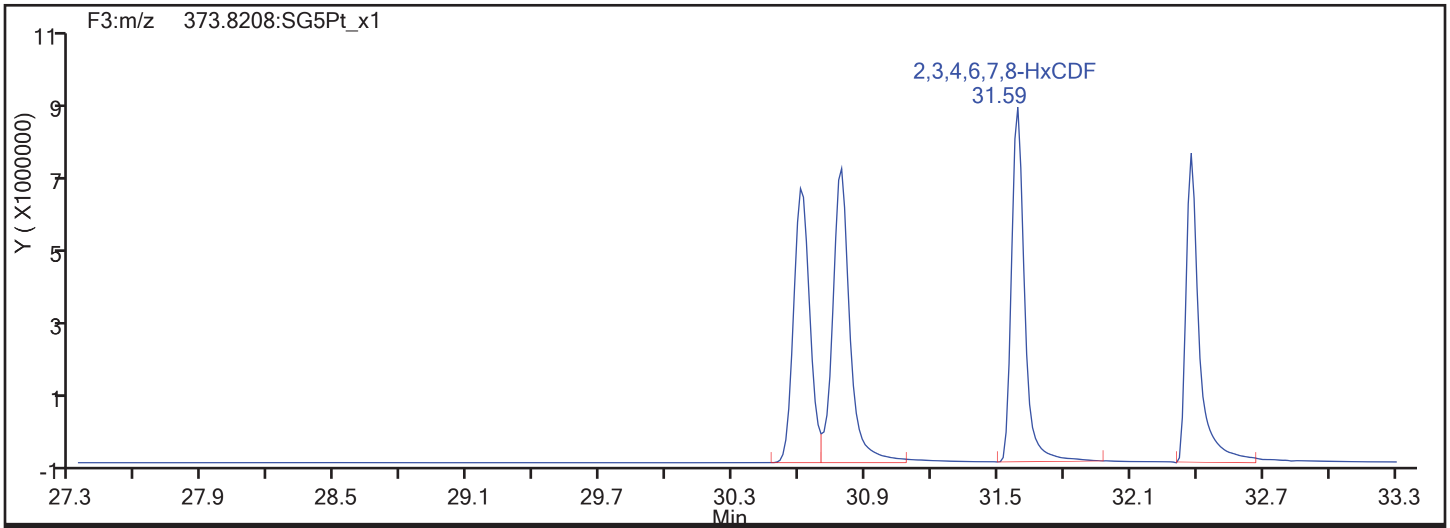
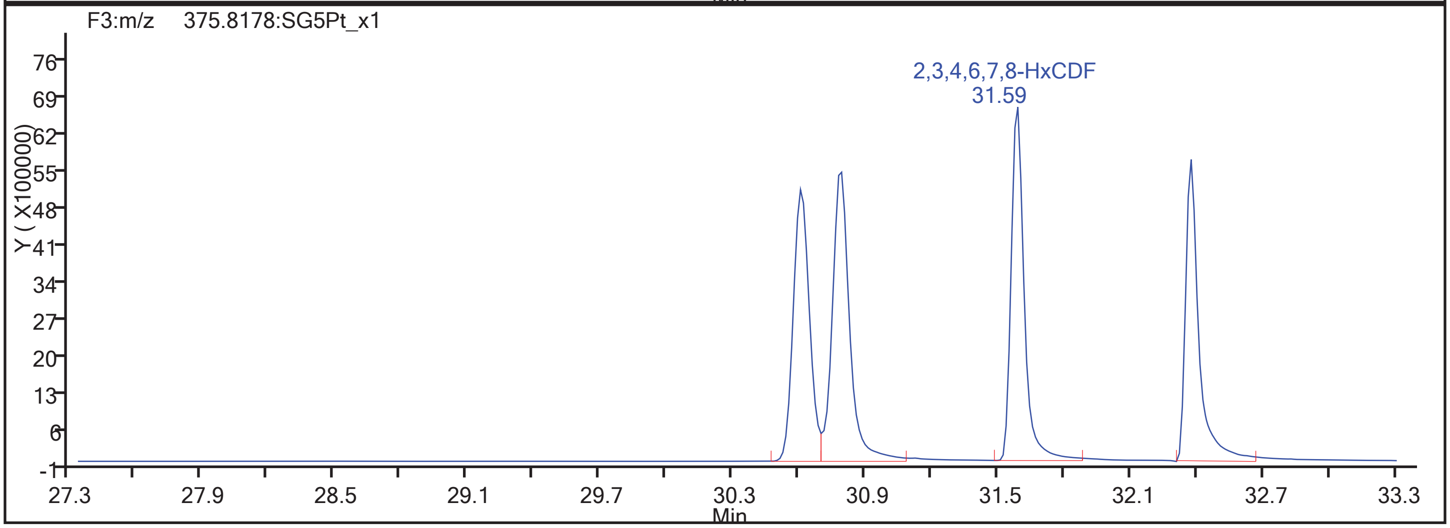
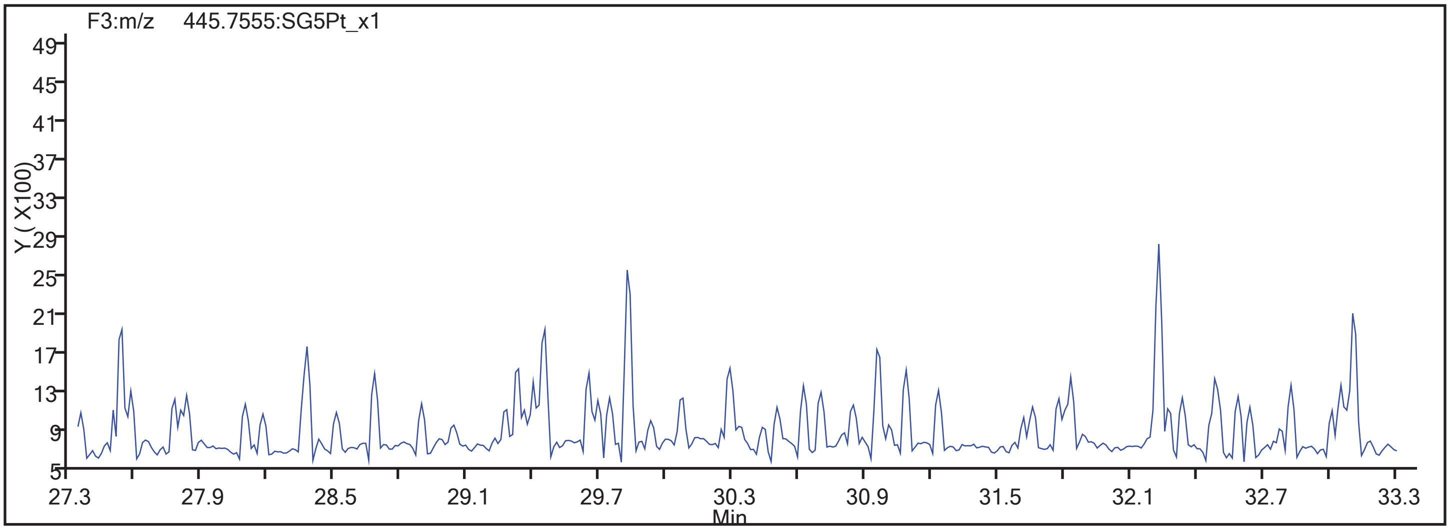




HxCDF Interference Mass



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TestAmerica Sacramento

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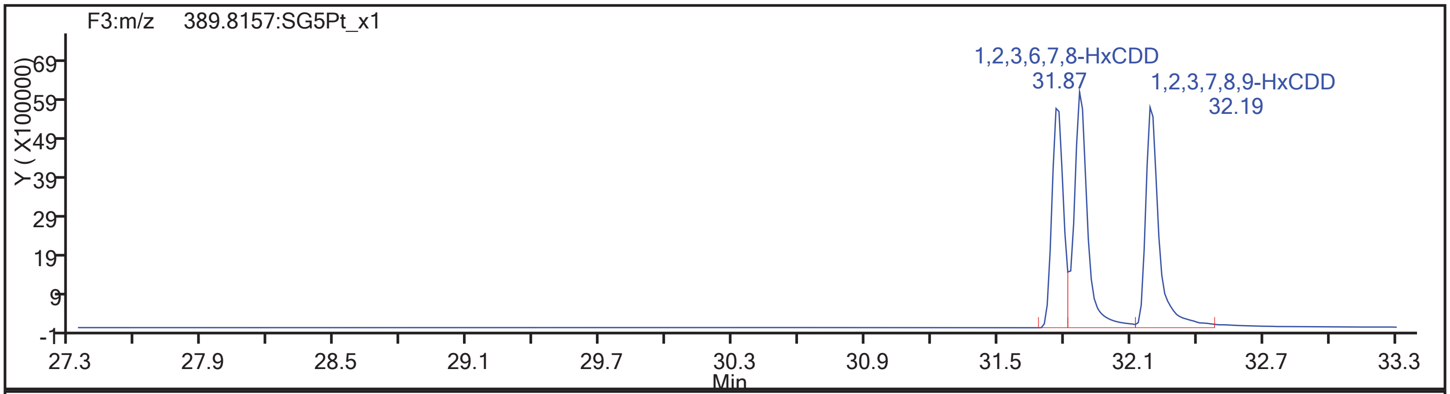
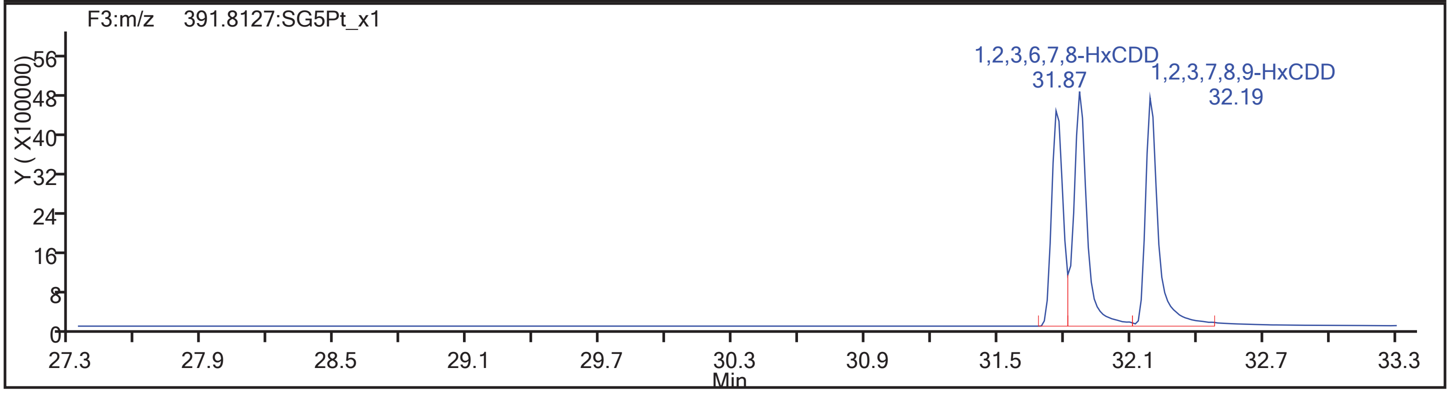
HxCDD





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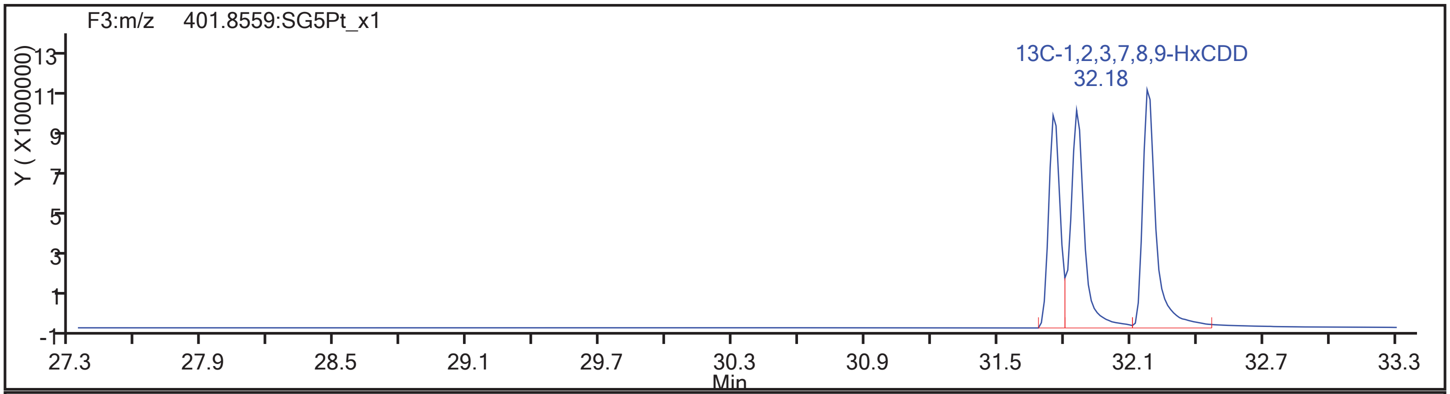

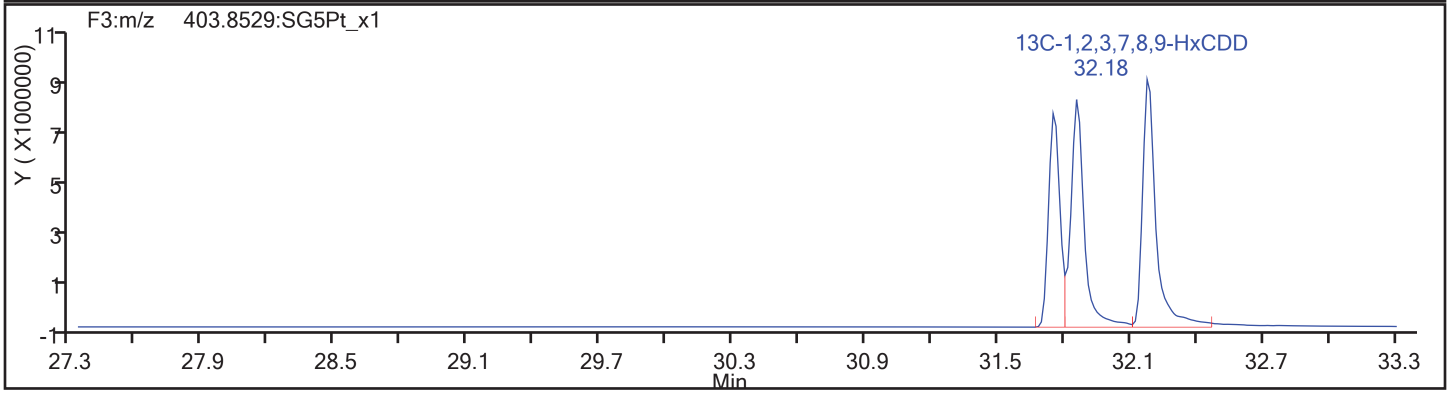

TestAmerica Sacramento

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Client ID:			
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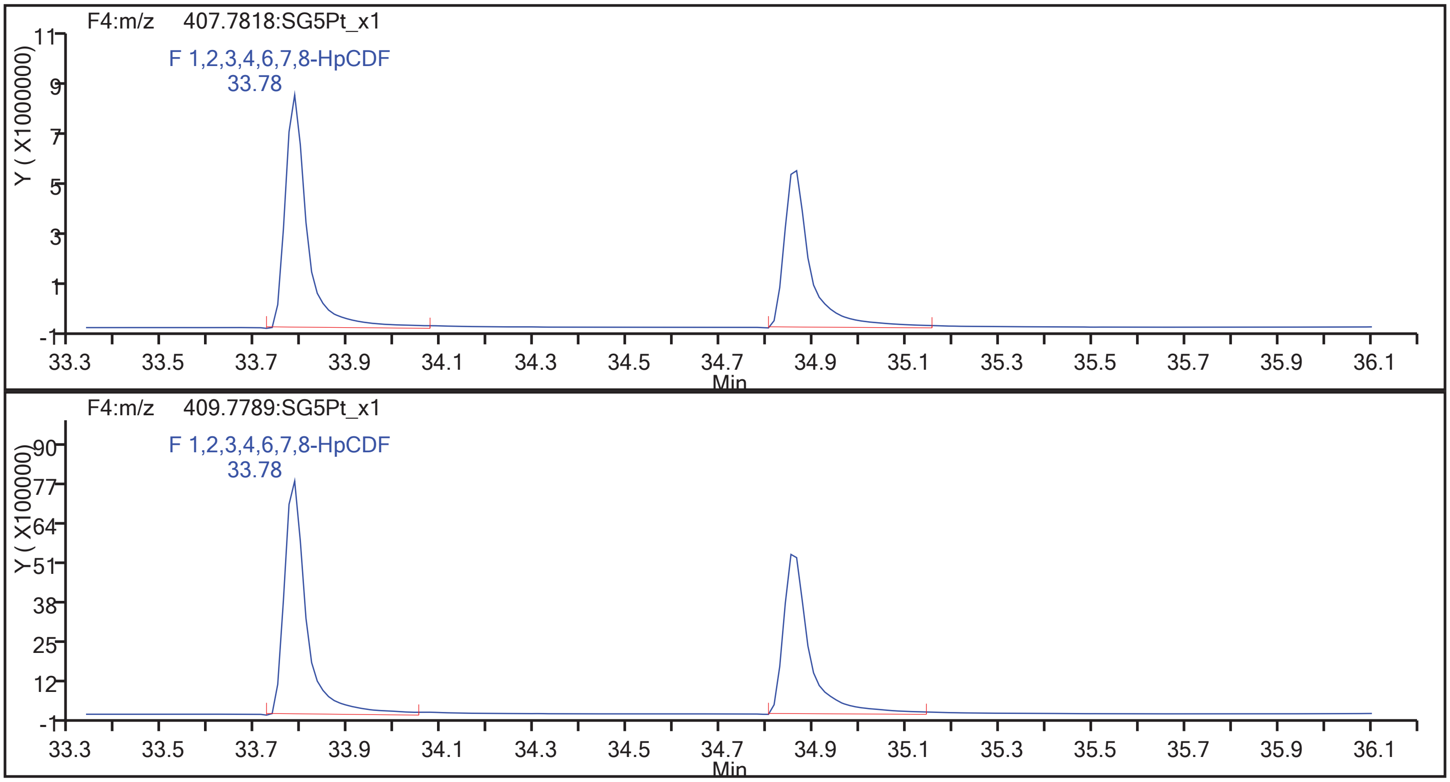

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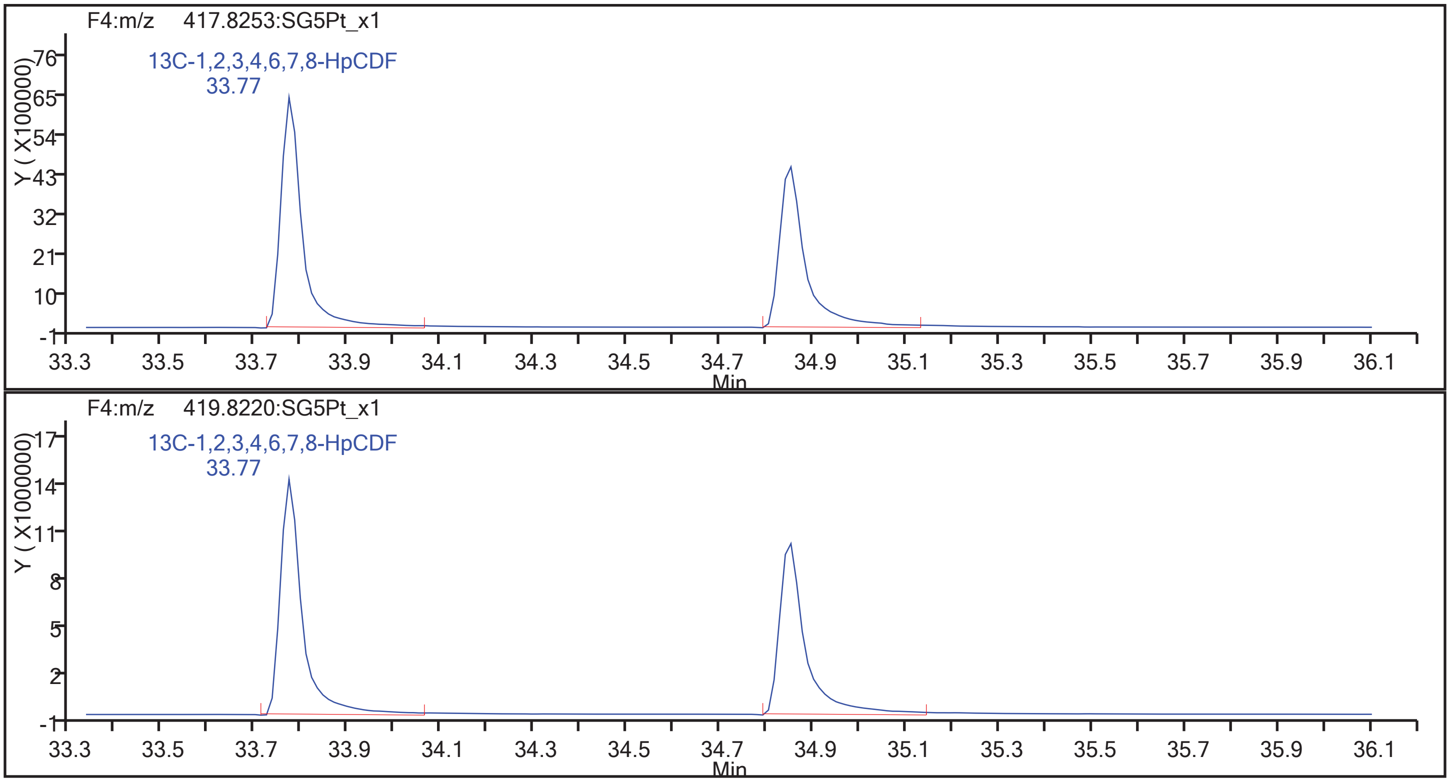

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TestAmerica Sacramento

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Injection Date: 11-Nov-2017 03:01:38 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: SMA, AJS

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Client ID:

Worklist#: 194084 Sample Line#: 54

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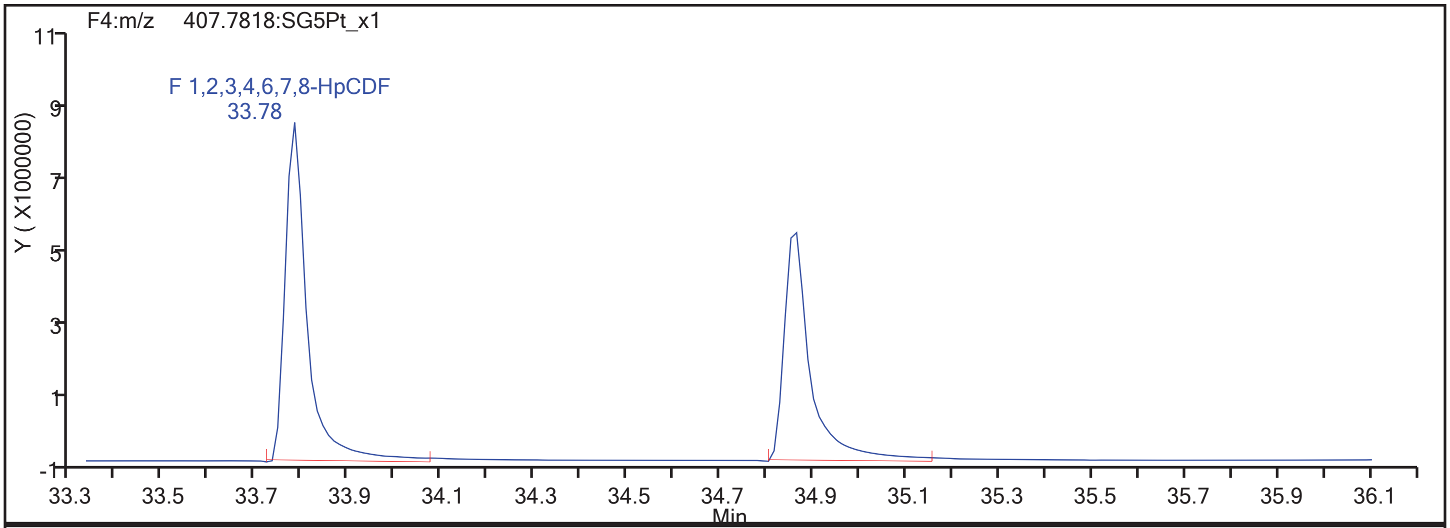
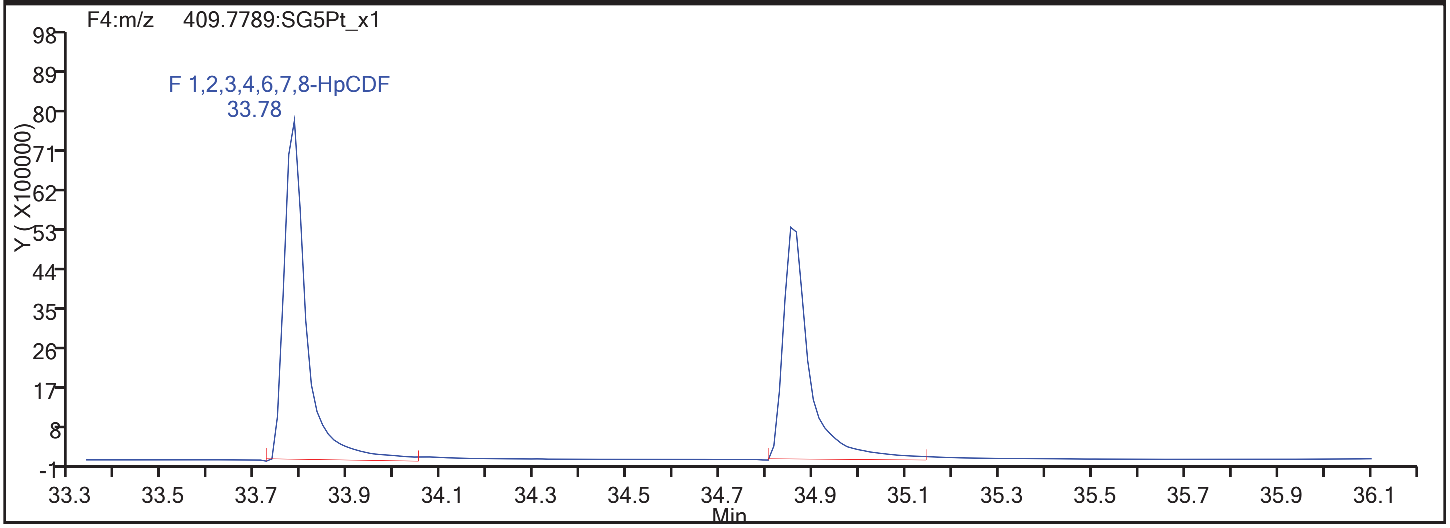
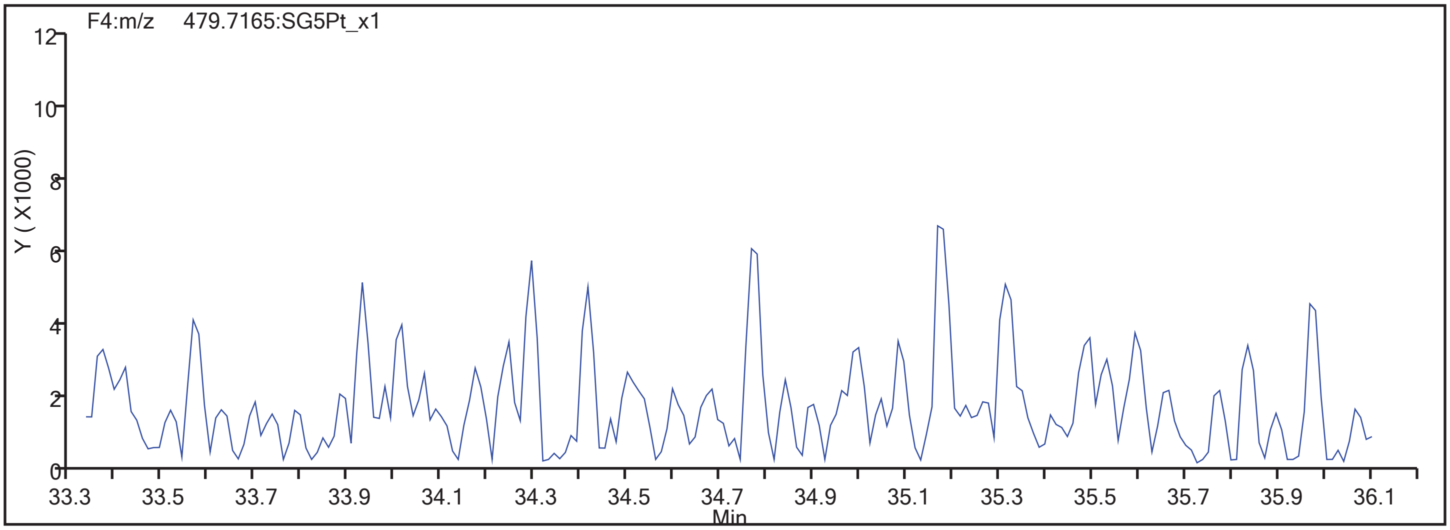




HpCDF Interference Mass



TestAmerica Sacramento

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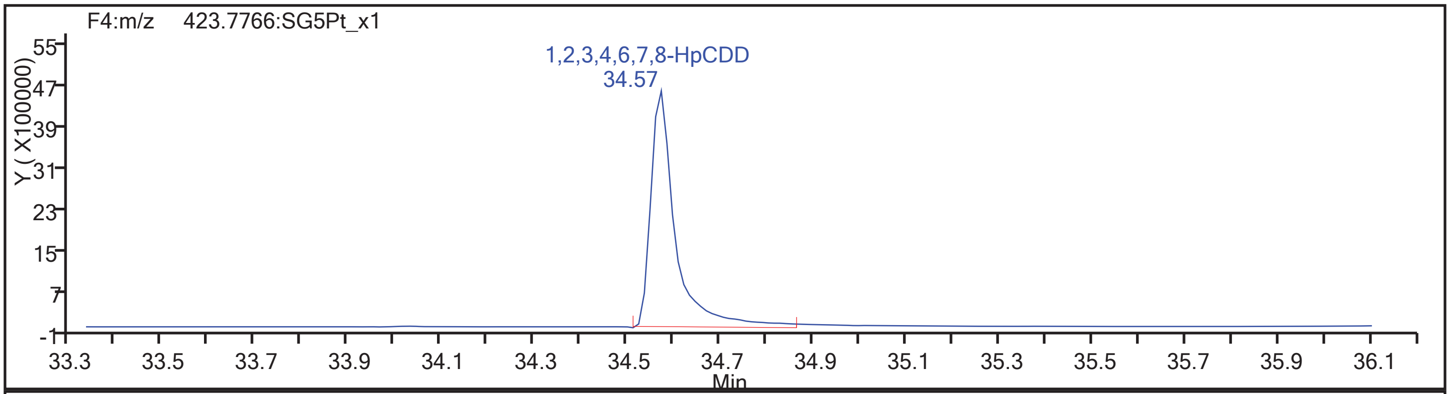

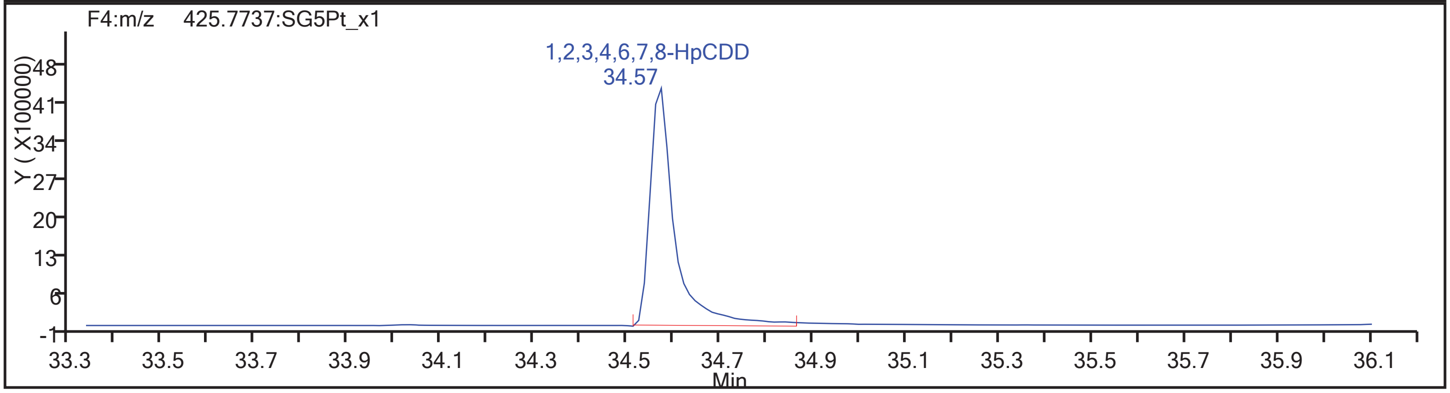

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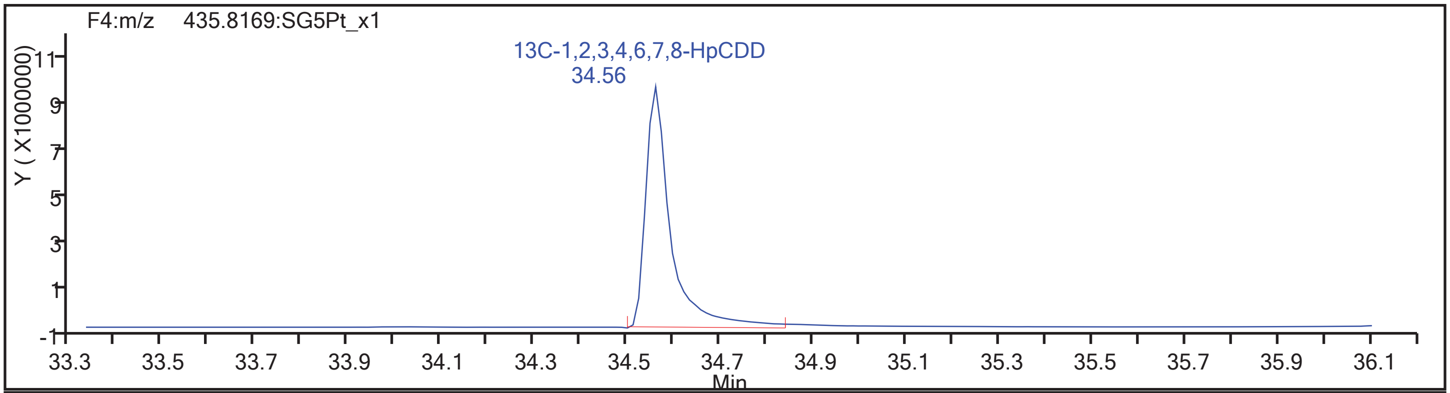

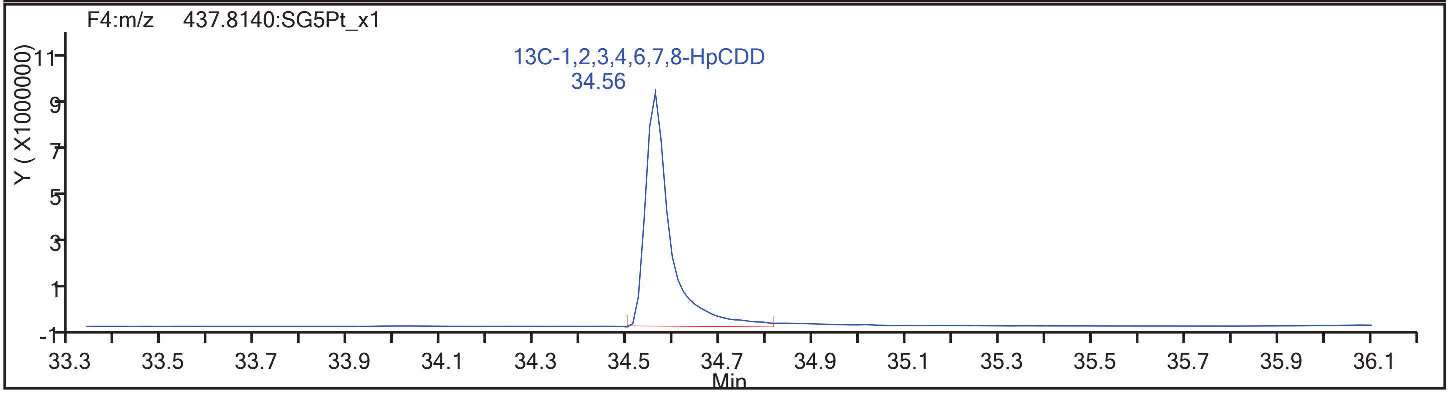

TestAmerica Sacramento

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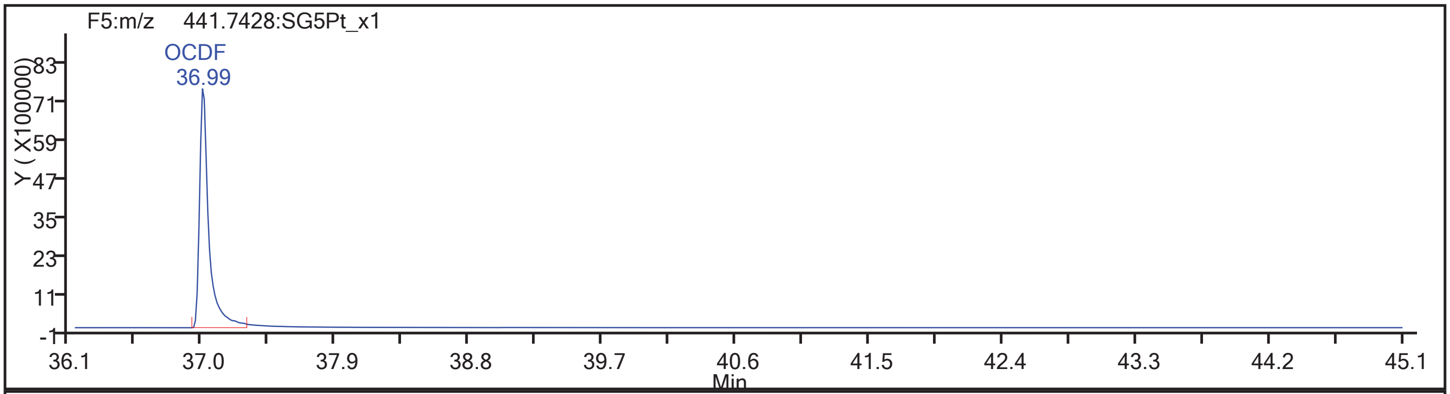
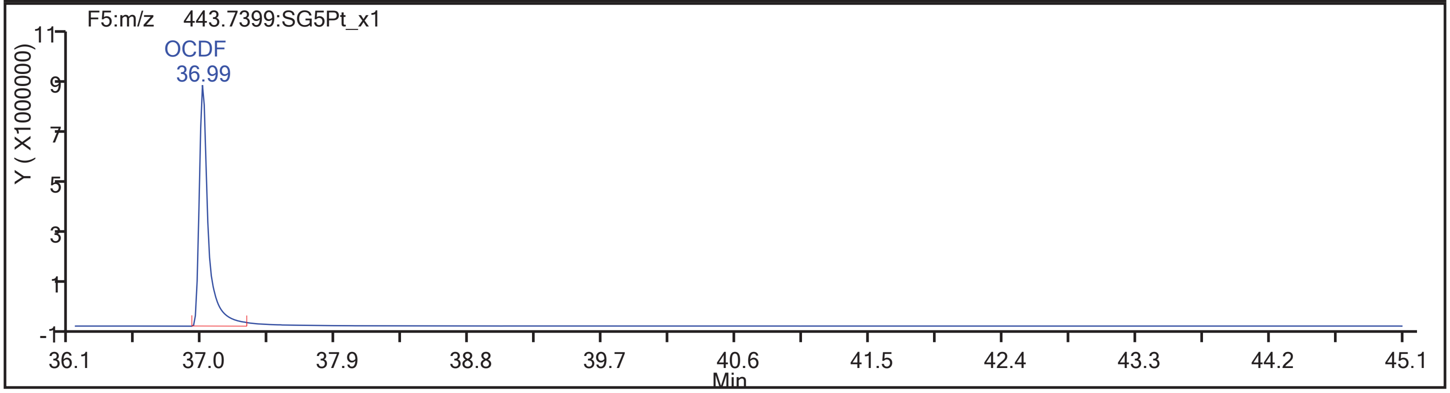
OCDF





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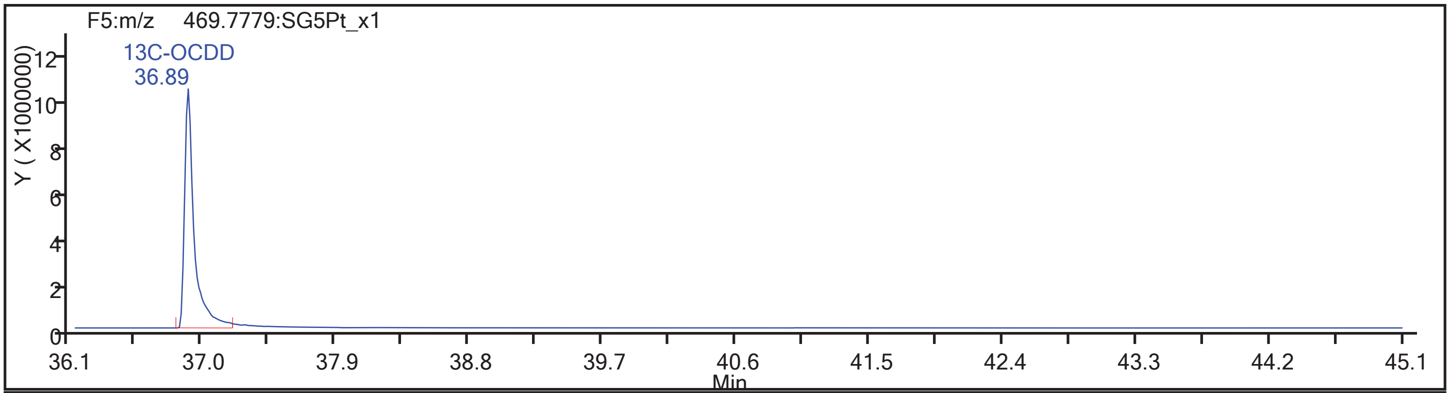

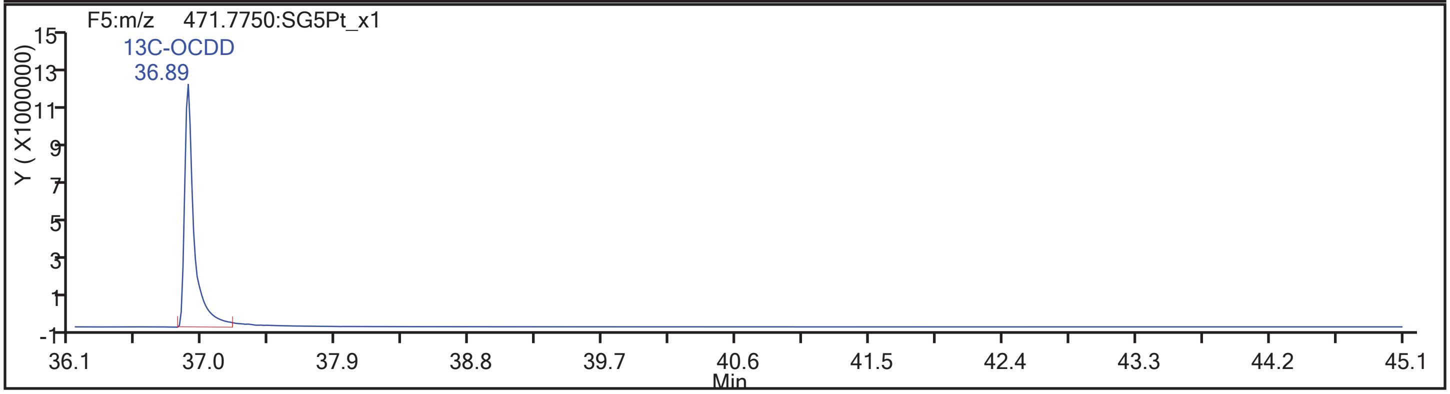

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TestAmerica Sacramento

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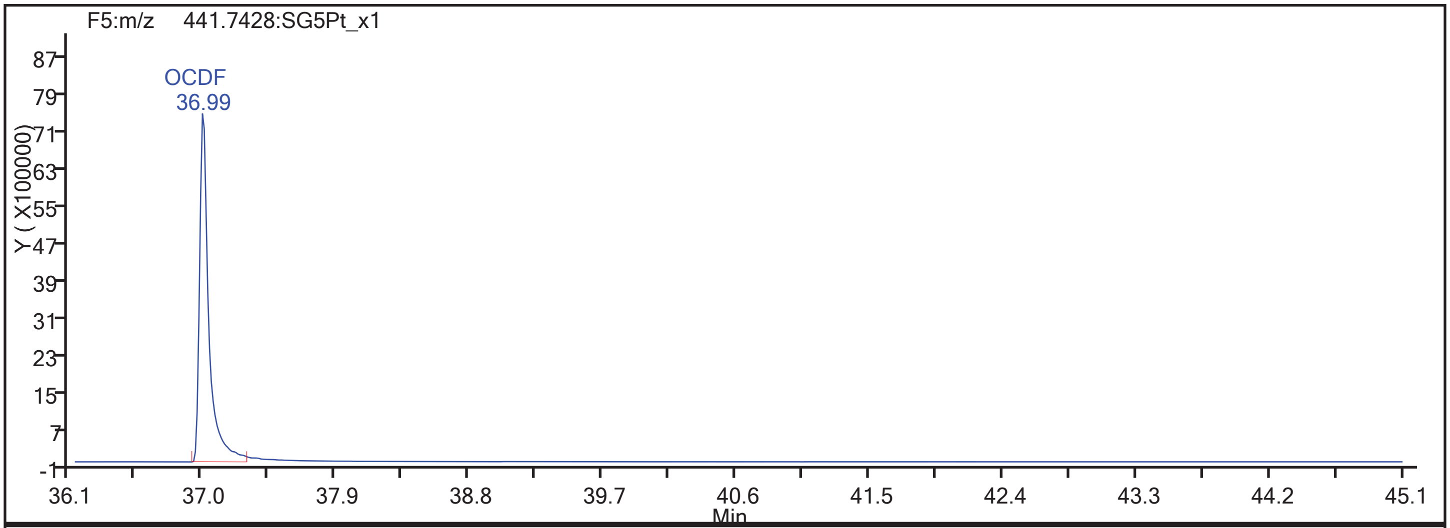
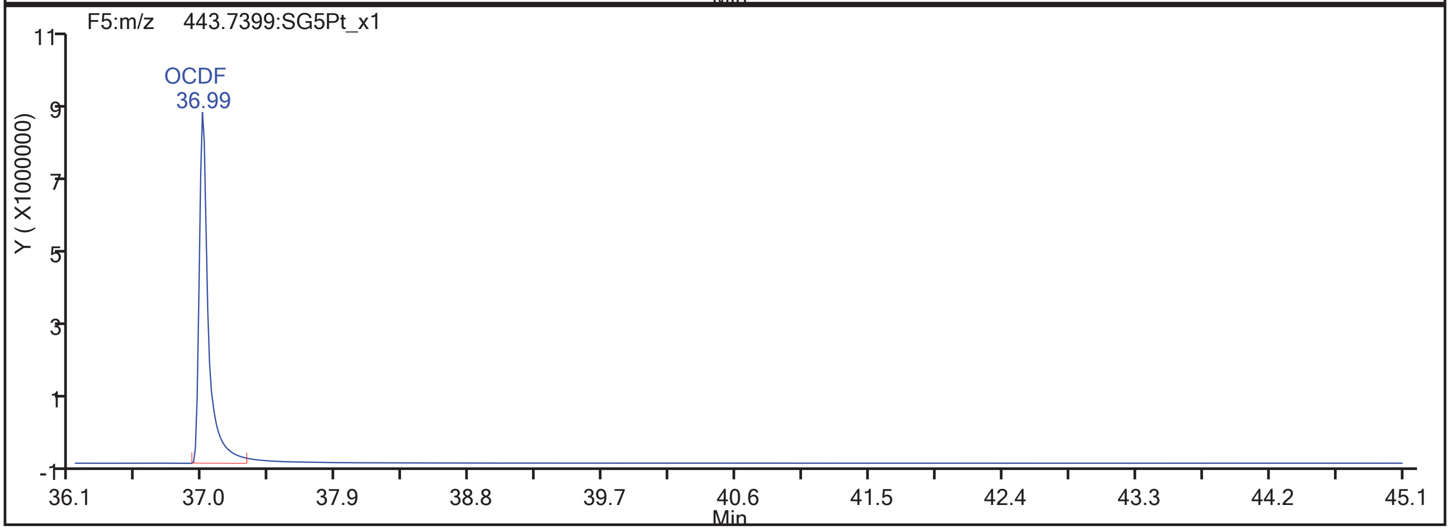
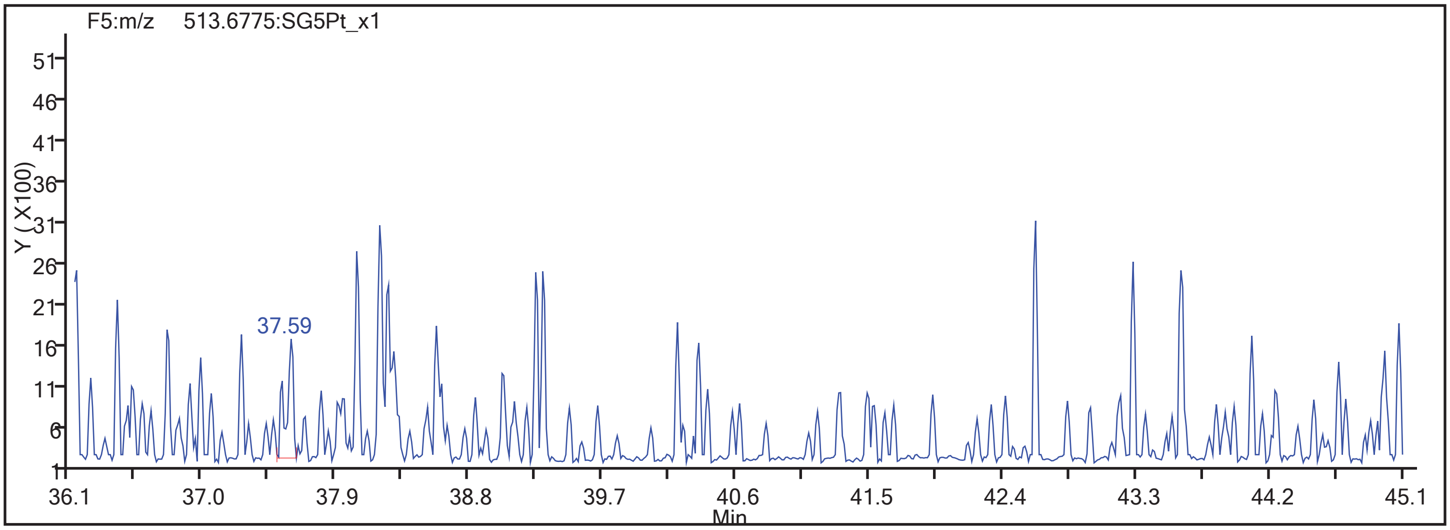




OCDF Interference Mass



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TestAmerica Sacramento

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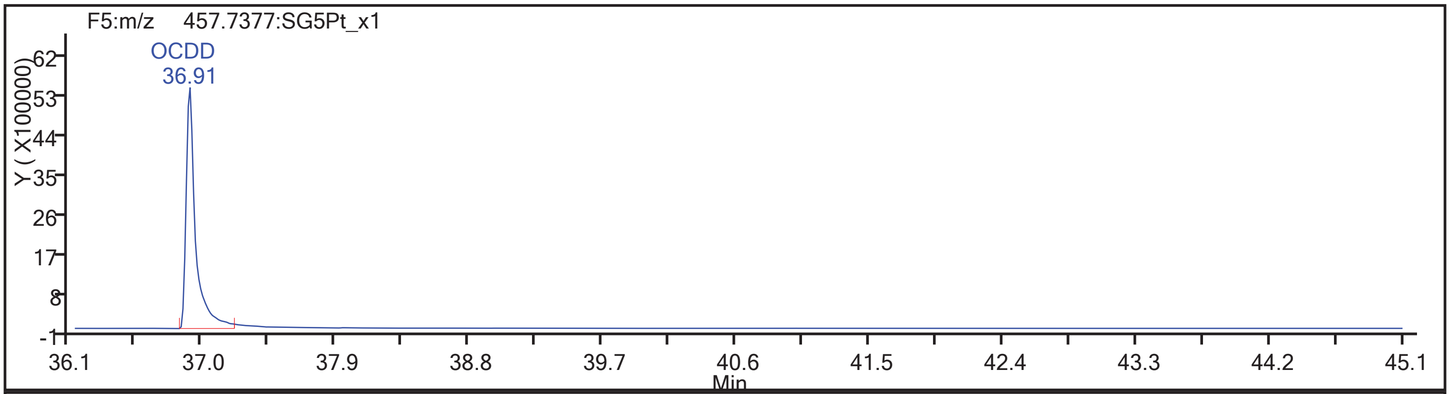

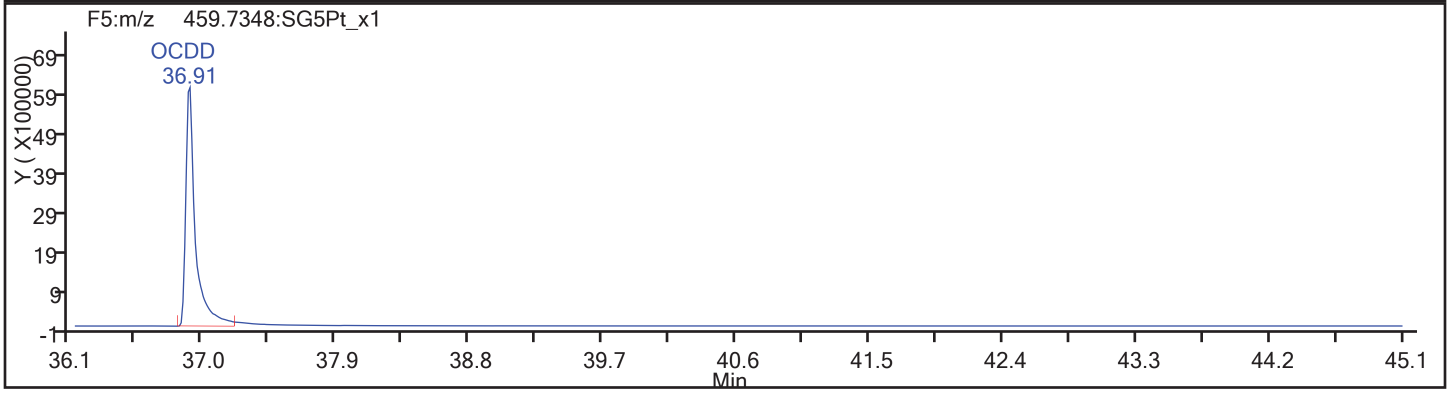

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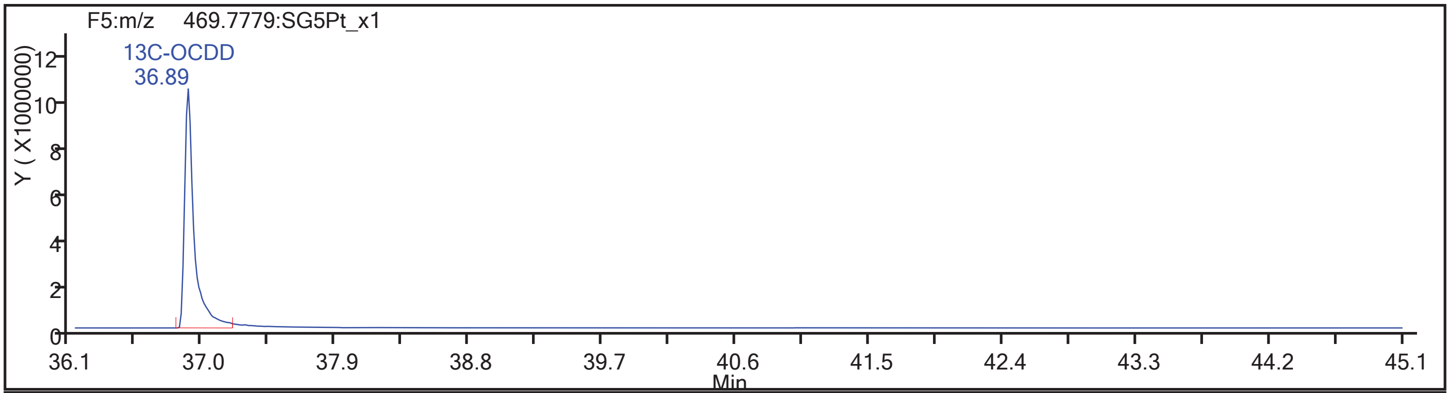

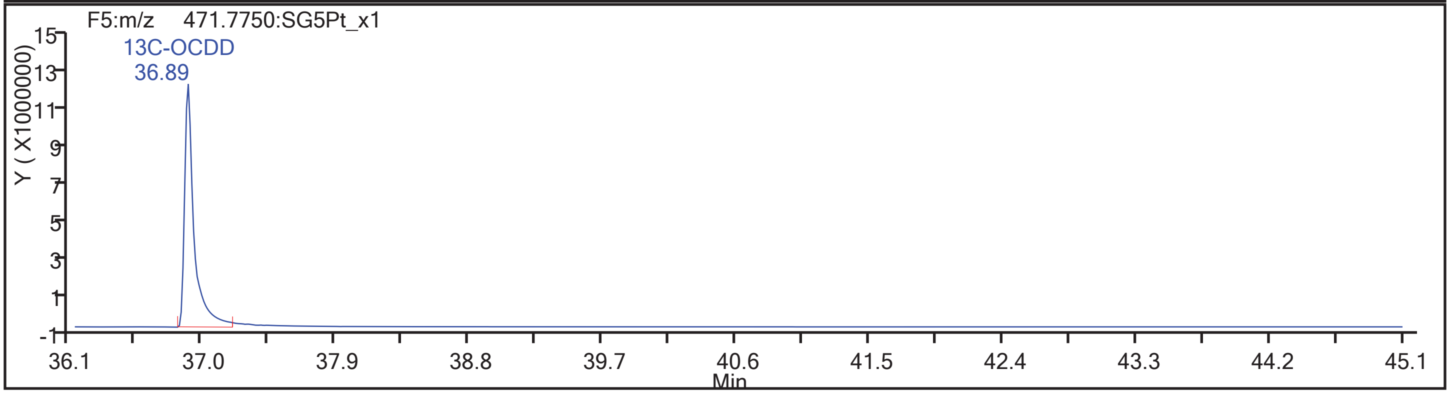

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TestAmerica Sacramento

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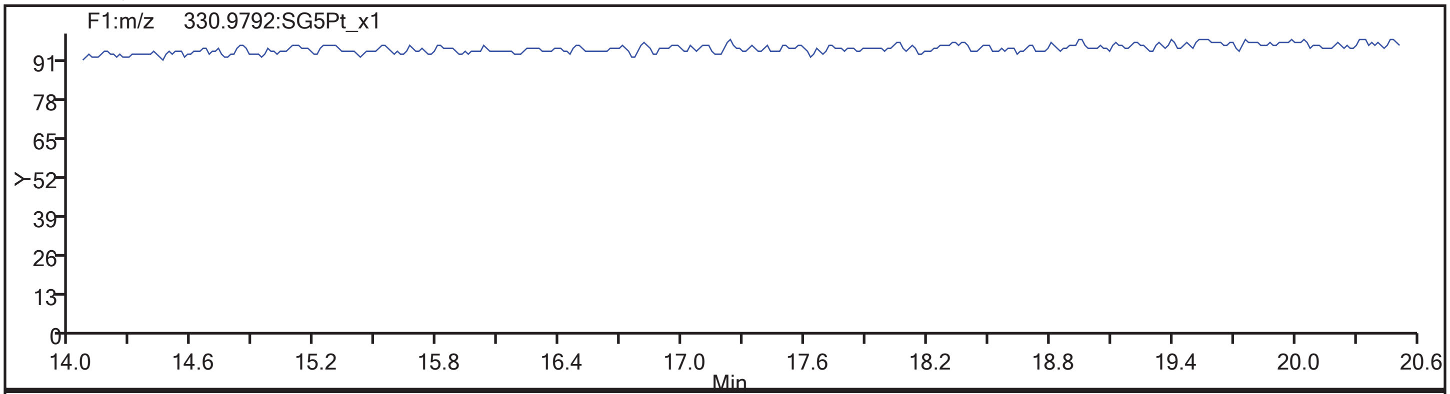

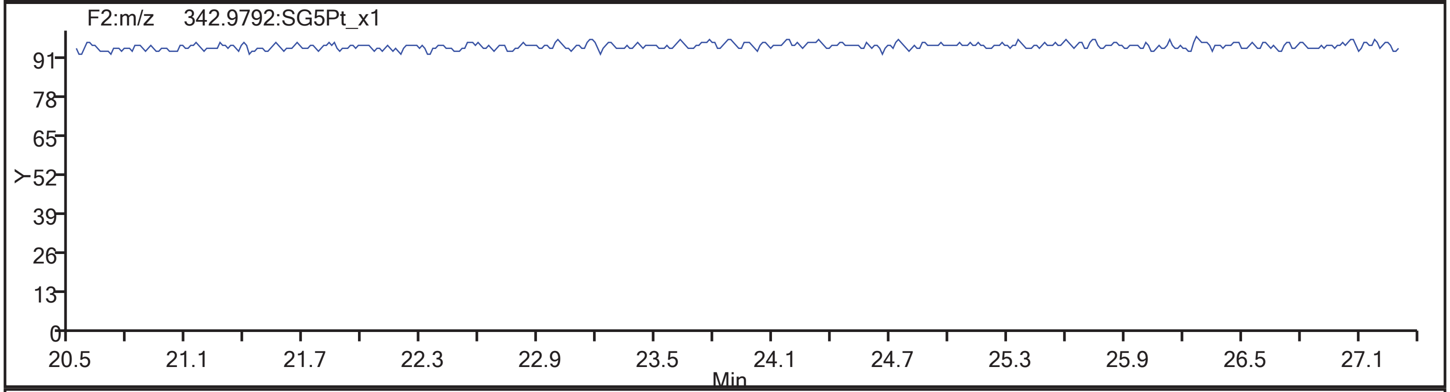

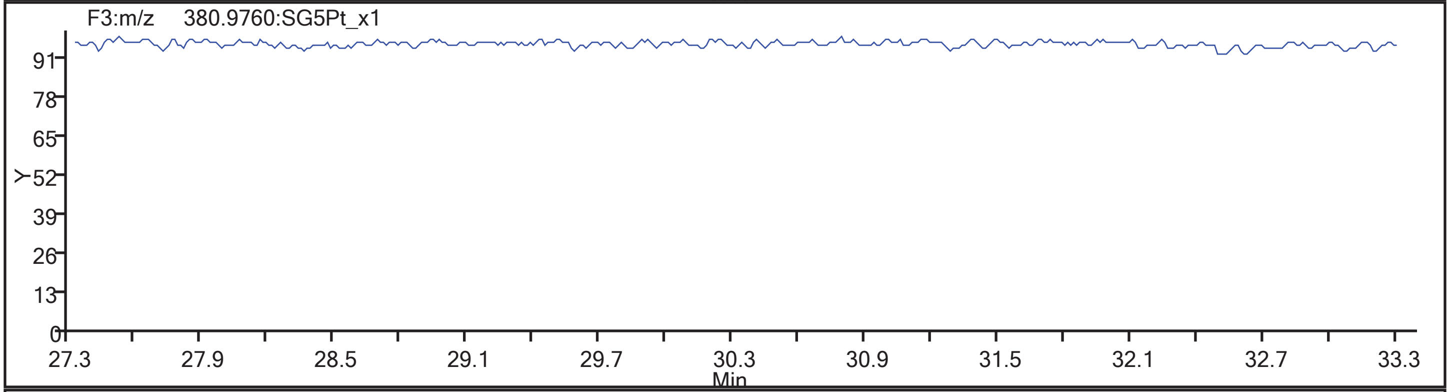

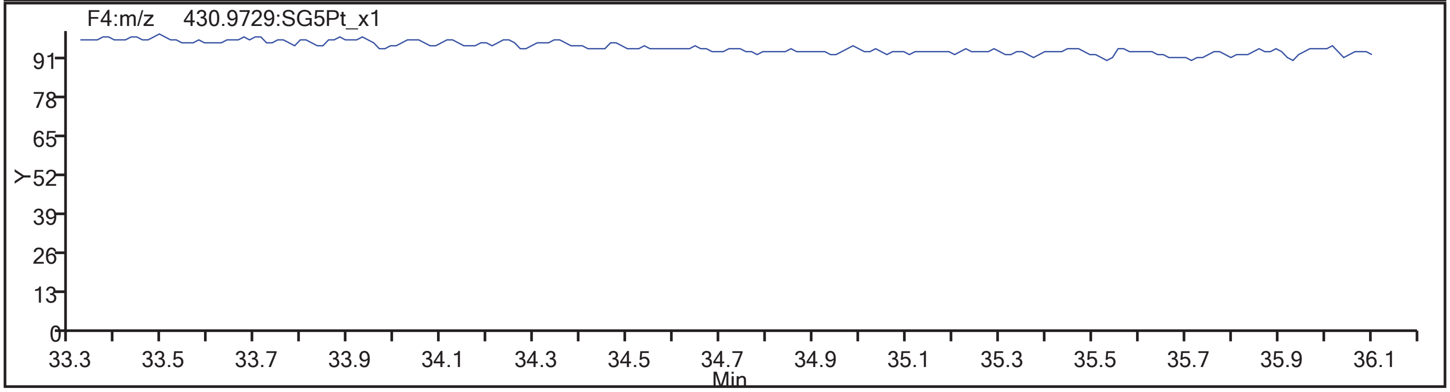

TestAmerica Sacramento

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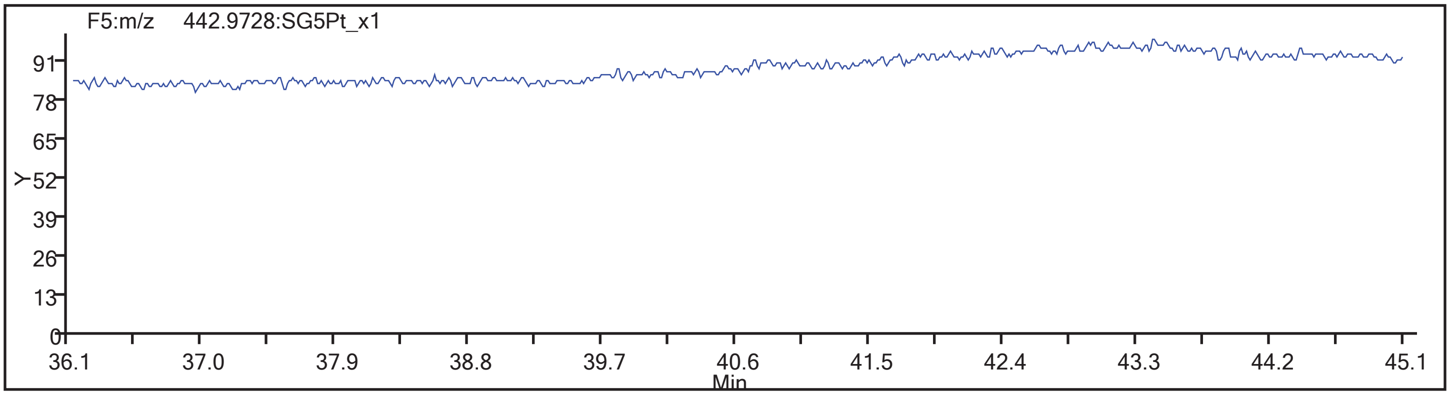

Sample List Report **MassLynx 4.1** 10D5

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Printed: Saturday, November 11, 2017 21:56:15 Pacific Standard Time Page Position (1, 1)

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2	09NO1710D5_2	CS-4 HRDXNL4_00059	CCV 110917	Tray01:2		---
3	09NO1710D5_3	Reagent Blank C-14	RB 110917	Tray01:3		---
4	09NO1710D5_4	mb 320-191260/1-a	mb 320-191260/1-a	Tray01:71	1613B/Water	42
5	09NO1710D5_5	lcs 320-191260/2-a	lcs 320-191260/2-a	Tray01:72	1613B/Water	
6	09NO1710D5_6	lcsd 320-191260/3-a	lcsd 320-191260/3-a	Tray01:73	1613B/Water	
7	09NO1710D5_7	lb 320-190971/1-b	lb 320-190971/1-b	Tray01:74	1613B/Water	
8	09NO1710D5_8	560-70465-a-1-e	560-70465-a-1-e	Tray01:75	1613B/Water	
9	09NO1710D5_9	lcs 320-188490/2-a RI	lcs 320-188490/2-a RI	Tray01:76	8290A_D5/Water	D974
10	09NO1710D5_10	lcsd 320-188490/3-a RI	lcsd 320-188490/3-a RI	Tray01:77	8290A_D5/Water	
11	09NO1710D5_11	lcs 320-184197/2-a RI	lcs 320-184197/2-a RI	Tray01:78	8290/1613/Water	40
12	09NO1710D5_12	CS-4 HRDXNL4_00059	CCV 110917A	Tray01:2		---
13	09NO1710D5_13	WDM HRDXNCP_00034	WDM 110917A	Tray01:1		---
14	09NO1710D5_14	CS-4 HRDXNL4_00059	CCV 110917B	Tray01:2		---
15	09NO1710D5_15	Reagent Blank C-14	RB 110917A	Tray01:3		---
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17	09NO1710D5_17	LCS 320-189625/2-A	LCS 320-189625/2-A	Tray01:86	8290A_D5/Solid	
18	09NO1710D5_18	LCSD 320-189625/3-A	LCSD 320-189625/3-A	Tray01:87	8290A_D5/Solid	
19	09NO1710D5_19	160-24917-F-1-A	160-24917-F-1-A	Tray01:88	8290A_D5/Solid	
20	09NO1710D5_20	160-24917-F-2-A	160-24917-F-2-A	Tray01:89	8290A_D5/Solid	
21	09NO1710D5_21	160-24917-F-3-A	160-24917-F-3-A	Tray01:90	8290A_D5/Solid	
22	09NO1710D5_22	160-24917-F-4-A	160-24917-F-4-A	Tray01:91	8290A_D5/Solid	
23	09NO1710D5_23	160-24917-F-5-A	160-24917-F-5-A	Tray01:92	8290A_D5/Solid	
24	09NO1710D5_24	Reagent Blank C-14	RB 110917B	Tray01:3		---
25	09NO1710D5_25	CS-4 HRDXNL4_00059	CCV 110917C	Tray01:2		---
26	09NO1710D5_26	WDM HRDXNCP_00034	WDM 110917B	Tray01:1		---
27	09NO1710D5_27	CS-4 HRDXNL4_00059	CCV 110917D	Tray01:2		---
28	09NO1710D5_28	Reagent Blank C-14	RB 110917C	Tray01:3		---
29	09NO1710D5_29	160-24917-f-6-a	160-24917-f-6-a	Tray01:4	8290A_D5/Solid	D978
30	09NO1710D5_30	160-24917-f-7-a	160-24917-f-7-a	Tray01:5	8290A_D5/Solid	
31	09NO1710D5_31	160-24917-f-8-a	160-24917-f-8-a	Tray01:6	8290A_D5/Solid	
32	09NO1710D5_32	160-24917-f-9-a	160-24917-f-9-a	Tray01:7	8290A_D5/Solid	
33	09NO1710D5_33	160-24917-f-10-a	160-24917-f-10-a	Tray01:8	8290A_D5/Solid	
34	09NO1710D5_34	160-24917-f-11-a	160-24917-f-11-a	Tray01:9	8290A_D5/Solid	
35	09NO1710D5_35	160-24917-f-12-a	160-24917-f-12-a	Tray01:10	8290A_D5/Solid	
36	09NO1710D5_36	160-24917-f-13-a	160-24917-f-13-a	Tray01:11	8290A_D5/Solid	
37	09NO1710D5_37	Reagent Blank C-14	RB 110917D	Tray01:3		---
38	09NO1710D5_38	CS-4 HRDXNL4_00059	CCV 110917E	Tray01:2		---
39	09NO1710D5_39	WDM HRDXNCP_00034	WDM 110917C	Tray01:1		---
40	09NO1710D5_40	CS-4 HRDXNL4_00059	CCV 110917F	Tray01:2		---
41	09NO1710D5_41	Reagent Blank C-14	RB 110917E	Tray01:3		---
42	09NO1710D5_42	160-24917-f-14-a	160-24917-f-14-a	Tray01:15	8290A_D5/Solid	D978
43	09NO1710D5_43	160-24917-f-15-a	160-24917-f-15-a	Tray01:16	8290A_D5/Solid	
44	09NO1710D5_44	160-24917-f-16-a	160-24917-f-16-a	Tray01:17	8290A_D5/Solid	
45	09NO1710D5_45	160-24917-f-17-a	160-24917-f-17-a	Tray01:18	8290A_D5/Solid	
46	09NO1710D5_46	160-24917-f-18-a	160-24917-f-18-a	Tray01:19	8290A_D5/Solid	
47	09NO1710D5_47	160-24917-f-19-a	160-24917-f-19-a	Tray01:20	8290A_D5/Solid	
48	09NO1710D5_48	160-24917-f-20-a	160-24917-f-20-a	Tray01:21	8290A_D5/Solid	
49	09NO1710D5_49	160-24917-f-20-b ms	160-24917-f-20-b ms	Tray01:22	8290A_D5/Solid	
50	09NO1710D5_50	160-24917-f-20-c msd	160-24917-f-20-c msd	Tray01:23	8290A_D5/Solid	
51	09NO1710D5_51	Reagent Blank C-14	RB 110917F	Tray01:3		---
52	09NO1710D5_52	CS-4 HRDXNL4_00059	CCV 110917G	Tray01:2		---
53	09NO1710D5_53	WDM HRDXNCP_00034	WDM 110917D	Tray01:1		---
54	09NO1710D5_54	CS-4 HRDXNL4_00059	CCV 110917H	Tray01:2		---
55	09NO1710D5_55	Reagent Blank C-14	RB 110917G	Tray01:3		---
56	09NO1710D5_56	mb 320-189721/1-a	mb 320-189721/1-a	Tray01:29	8290A_D5/Solid	D981
57	09NO1710D5_57	lcs 320-189721/2-a	lcs 320-189721/2-a	Tray01:30	8290A_D5/Solid	
58	09NO1710D5_58	lcsd 320-189721/3-a	lcsd 320-189721/3-a	Tray01:31	8290A_D5/Solid	

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
59	09NO1710D5_59	160-24924-g-1-a	160-24924-g-1-a	Tray01:32	8290A_D5/Solid	
60	09NO1710D5_60	160-24924-g-2-a	160-24924-g-2-a	Tray01:33	8290A_D5/Solid	
61	09NO1710D5_61	160-24924-g-3-a	160-24924-g-3-a	Tray01:34	8290A_D5/Solid	
62	09NO1710D5_62	160-24924-g-4-a	160-24924-g-4-a	Tray01:35	8290A_D5/Solid	
63	09NO1710D5_63	160-24924-g-5-a	160-24924-g-5-a	Tray01:36	8290A_D5/Solid	
64	09NO1710D5_64	Reagent Blank C-14	RB 110917H	Tray01:3		---
65	09NO1710D5_65	CS-4 HRDXNL4_00059	CCV 110917I	Tray01:2		---
66	09NO1710D5_66	WDM HRDXNCP_00034	WDM 110917E	Tray01:1		---
67	09NO1710D5_67	CS-4 HRDXNL4_00059	CCV 110917J	Tray01:2		---
68	09NO1710D5_68	Reagent Blank C-14	RB 110917I	Tray01:3		---
69	09NO1710D5_69	160-24924-g-6-a	160-24924-g-6-a	Tray01:43	8290A_D5/Solid	D981
70	09NO1710D5_70	160-24924-g-7-a	160-24924-g-7-a	Tray01:44	8290A_D5/Solid	
71	09NO1710D5_71	160-24924-g-8-a	160-24924-g-8-a	Tray01:45	8290A_D5/Solid	
72	09NO1710D5_72	160-24924-g-9-a	160-24924-g-9-a	Tray01:46	8290A_D5/Solid	
73	09NO1710D5_73	160-24924-g-9-b ms	160-24924-g-9-b ms	Tray01:47	8290A_D5/Solid	
74	09NO1710D5_74	160-24924-g-9-c msd	160-24924-g-9-c msd	Tray01:48	8290A_D5/Solid	
75	09NO1710D5_75	160-24924-g-10-a	160-24924-g-10-a	Tray01:49	8290A_D5/Solid	
76	09NO1710D5_76	160-24924-g-11-a	160-24924-g-11-a	Tray01:50	8290A_D5/Solid	
77	09NO1710D5_77	Reagent Blank C-14	RB 110917J	Tray01:3		---
78	09NO1710D5_78	CS-4 HRDXNL4_00060	CCV 110917K	Tray01:2		---
79	09NO1710D5_79	WDM HRDXNCP_00034	WDM 110917F	Tray01:1		---
80	09NO1710D5_80	CS-4 HRDXNL4_00060	CCV 110917L	Tray01:2		---
81	09NO1710D5_81	Reagent Blank C-14	RB 110917K	Tray01:3		---
82	09NO1710D5_82	160-24924-g-12-a	160-24924-g-12-a	Tray01:57	8290A_D5/Solid	D981
83	09NO1710D5_83	160-24924-g-13-a	160-24924-g-13-a	Tray01:58	8290A_D5/Solid	
84	09NO1710D5_84	160-24924-g-14-a	160-24924-g-14-a	Tray01:59	8290A_D5/Solid	
85	09NO1710D5_85	160-24924-g-15-a	160-24924-g-15-a	Tray01:60	8290A_D5/Solid	
86	09NO1710D5_86	160-24924-g-16-a	160-24924-g-16-a	Tray01:61	8290A_D5/Solid	
87	09NO1710D5_87	160-24924-g-17-a	160-24924-g-17-a	Tray01:62	8290A_D5/Solid	
88	09NO1710D5_88	160-24924-g-18-a	160-24924-g-18-a	Tray01:63	8290A_D5/Solid	
89	09NO1710D5_89	160-24924-g-19-a	160-24924-g-19-a	Tray01:64	8290A_D5/Solid	
90	09NO1710D5_90	Reagent Blank C-14	RB 110917L	Tray01:3		---
91	09NO1710D5_91	CS-4 HRDXNL4_00060	CCV 110917M	Tray01:2		---
92	09NO1710D5_92	WDM HRDXNCP_00034	WDM 110917G	Tray01:1		---
93	09NO1710D5_93	CS-4 HRDXNL4_00060	CCV 110917N	Tray01:2		---
94	09NO1710D5_94	Reagent Blank C-14	RB 110917M	Tray01:3		---
95	09NO1710D5_95	mb 320-189776/1-a	mb 320-189776/1-a	Tray01:71	8290A_D5/Solid	D979
96	09NO1710D5_96	lcs 320-189776/2-a	lcs 320-189776/2-a	Tray01:72	8290A_D5/Solid	
97	09NO1710D5_97	lcsd 320-189776/3-a	lcsd 320-189776/3-a	Tray01:73	8290A_D5/Solid	
98	09NO1710D5_98	160-24922-g-1-a	160-24922-g-1-a	Tray01:74	8290A_D5/Solid	
99	09NO1710D5_99	160-24922-g-2-a	160-24922-g-2-a	Tray01:75	8290A_D5/Solid	
100	09NO1710D5_100	160-24922-g-3-a	160-24922-g-3-a	Tray01:76	8290A_D5/Solid	
101	09NO1710D5_101	160-24922-g-4-a	160-24922-g-4-a	Tray01:77	8290A_D5/Solid	
102	09NO1710D5_102	160-24922-g-5-a	160-24922-g-5-a	Tray01:78	8290A_D5/Solid	
103	09NO1710D5_103	160-24922-g-6-a	160-24922-g-6-a	Tray01:79	8290A_D5/Solid	
104	09NO1710D5_104	Reagent Blank C-14	RB 110917N	Tray01:3		---
105	09NO1710D5_105	CS-4 HRDXNL4_00060	CCV 110917O	Tray01:2		---
106	09NO1710D5_106	WDM HRDXNCP_00034	WDM 110917H	Tray01:1		---
107	09NO1710D5_107	CS-4 HRDXNL4_00060	CCV 110917P	Tray01:2		---
108	09NO1710D5_108	Reagent Blank C-14	RB 110917O	Tray01:3		---
109	09NO1710D5_109	160-24922-g-7-a	160-24922-g-7-a	Tray01:85	8290A_D5/Solid	D979
110	09NO1710D5_110	160-24922-g-8-a	160-24922-g-8-a	Tray01:86	8290A_D5/Solid	
111	09NO1710D5_111	160-24922-g-9-a	160-24922-g-9-a	Tray01:87	8290A_D5/Solid	
112	09NO1710D5_112	160-24922-g-10-a	160-24922-g-10-a	Tray01:88	8290A_D5/Solid	
113	09NO1710D5_113	160-24922-g-11-a	160-24922-g-11-a	Tray01:89	8290A_D5/Solid	
114	09NO1710D5_114	160-24922-g-12-a	160-24922-g-12-a	Tray01:90	8290A_D5/Solid	
115	09NO1710D5_115	160-24922-g-13-a	160-24922-g-13-a	Tray01:91	8290A_D5/Solid	
116	09NO1710D5_116	160-24922-g-13-b ms	160-24922-g-13-b ms	Tray01:92	8290A_D5/Solid	

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\09NO1710D5.SPL
Last Modified: Saturday, November 11, 2017 21:55:48 Pacific Standard Time
Printed: Saturday, November 11, 2017 21:56:15 Pacific Standard Time

Page Position (1, 3)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
117	09NO1710D5_117	160-24922-g-13-c msd	160-24922-g-13-c msd	Tray01:93	8290A_D5/Solid	
118	09NO1710D5_118	Reagent Blank C-14	RB 110917P	Tray01:3		---
119	09NO1710D5_119	CS-4 HRDXNL4_00060	CCV 110917Q	Tray01:2		---
120	09NO1710D5_120	WDM HRDXNCP_00034	WDM 110917I	Tray01:1		---
121	09NO1710D5_121	CS-4 HRDXNL4_00060	CCV 110917R	Tray01:2		---
122	09NO1710D5_122	Reagent Blank C-14	RB 110917Q	Tray01:3		---

Logfile ✓'d
11-12-17 KSS

User	Sample Size	Units	MS File	Inlet File	Inject Volume	Process
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	0.200000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	0.200000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
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SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\09NO1710D5.SPL
Last Modified: Saturday, November 11, 2017 21:55:48 Pacific Standard Time
Printed: Saturday, November 11, 2017 21:56:15 Pacific Standard Time

User	Sample Size	Units	MS File	Inlet File	Inject Volume	Process
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\09NO1710D5.SPL
Last Modified: Saturday, November 11, 2017 21:55:48 Pacific Standard Time
Printed: Saturday, November 11, 2017 21:56:15 Pacific Standard Time

User	Sample Size	Units	MS File	Inlet File	Inject Volume	Process
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AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---

Process Options	Action On Error
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Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\09NO1710D5.SPL
Last Modified: Saturday, November 11, 2017 21:55:48 Pacific Standard Time
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Sample List Report **MassLynx 4.1** Page 9 of 9

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\09NO1710D5.SPL
Last Modified: Saturday, November 11, 2017 21:55:48 Pacific Standard Time
Printed: Saturday, November 11, 2017 21:56:15 Pacific Standard Time

Page Position (3, 3)

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10D5

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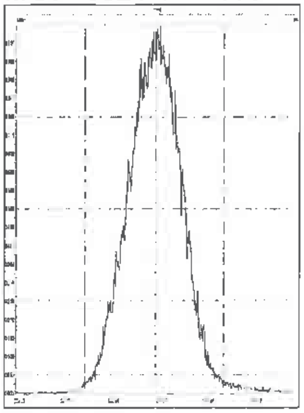

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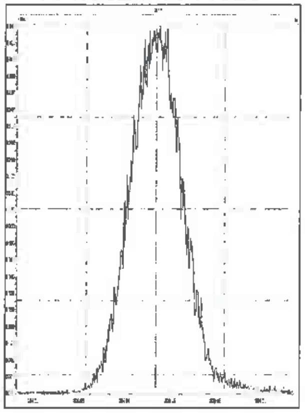

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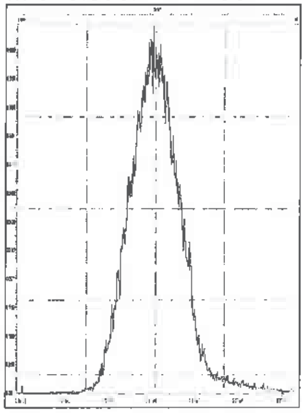

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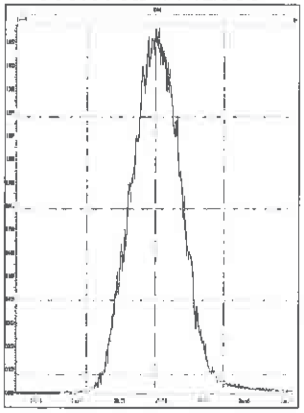

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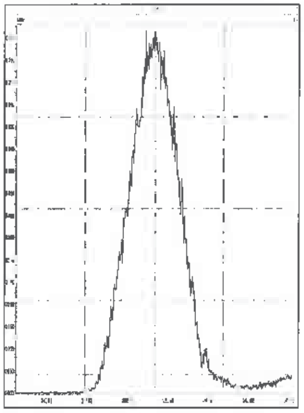

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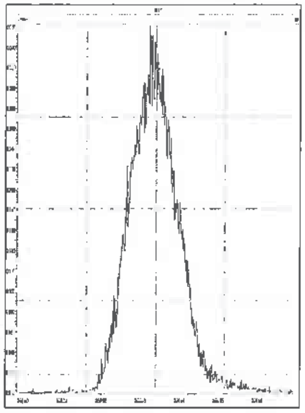

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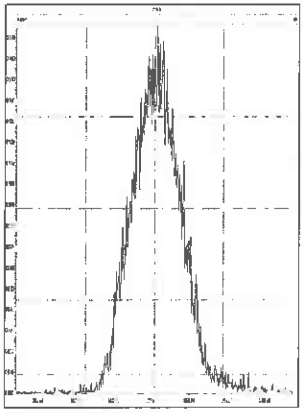

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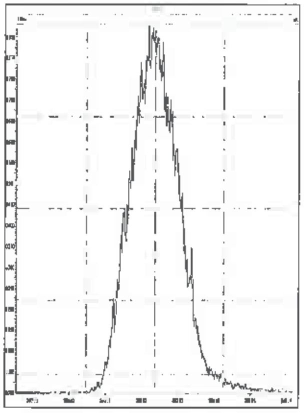

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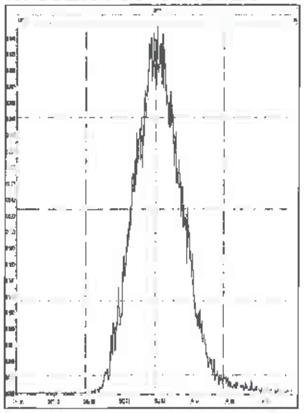

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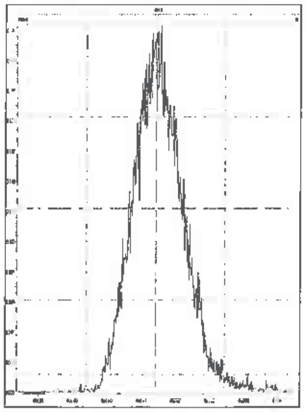

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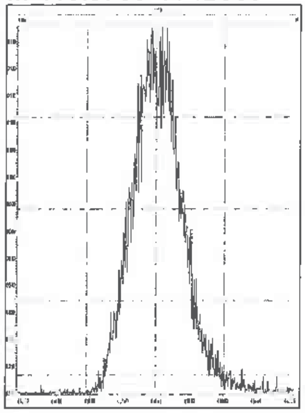

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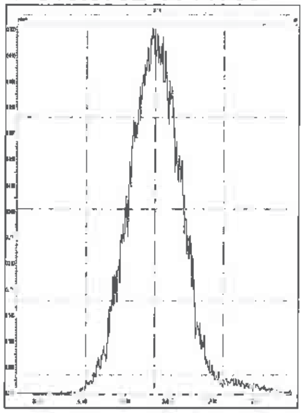

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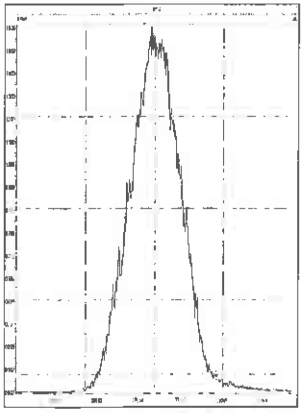

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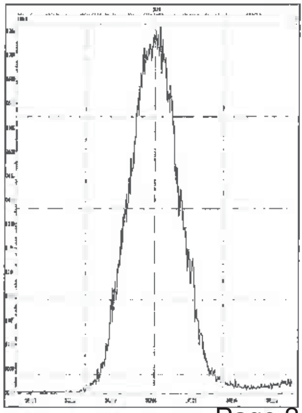

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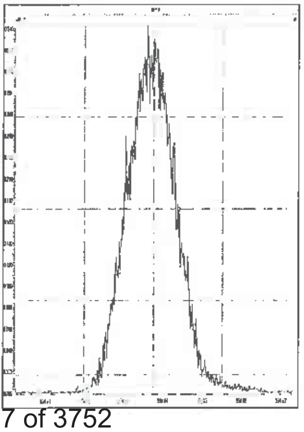

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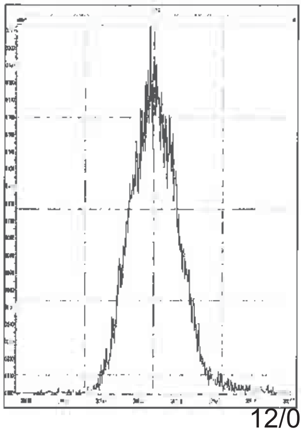

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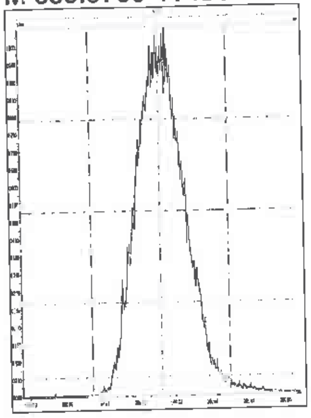

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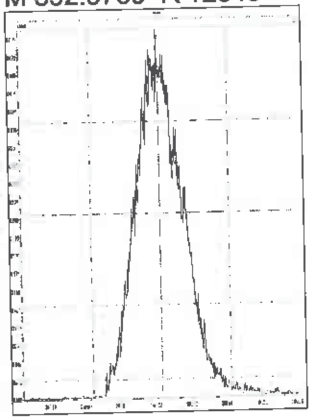

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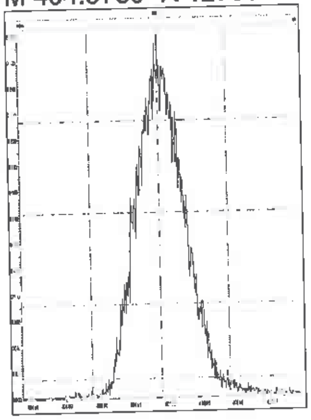

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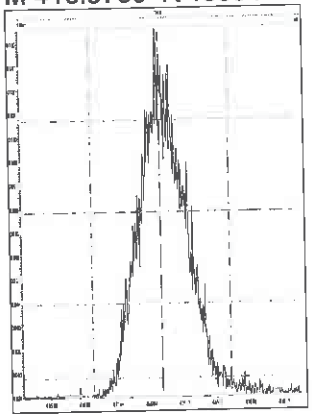

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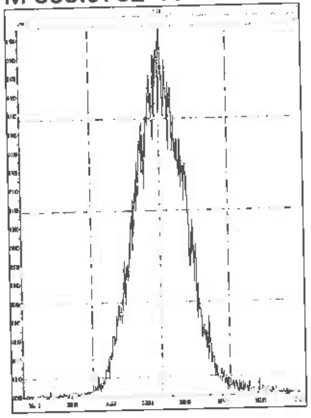

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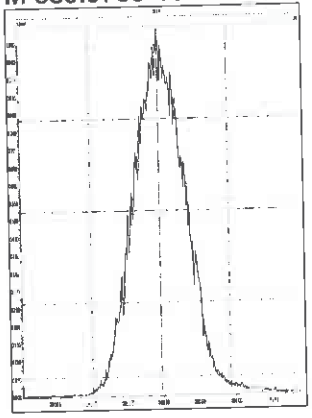

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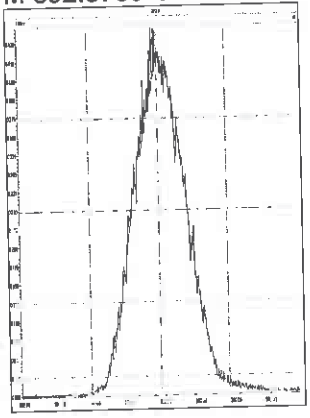

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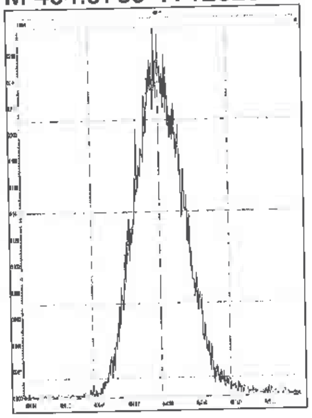

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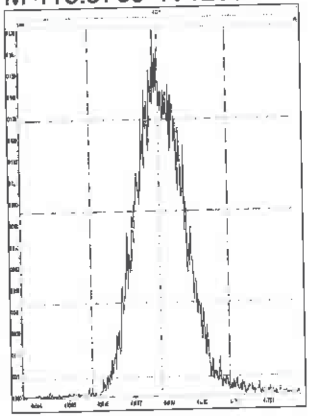

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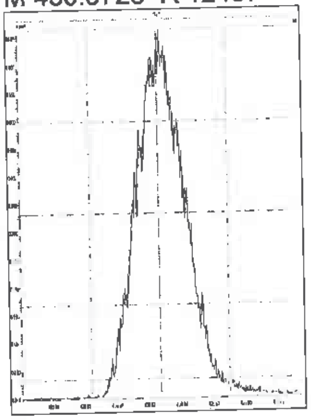

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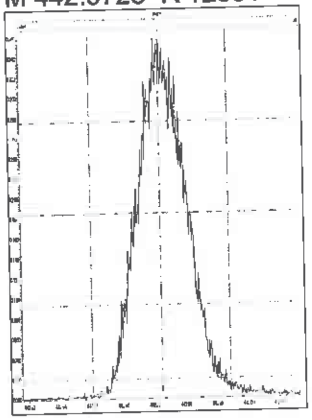

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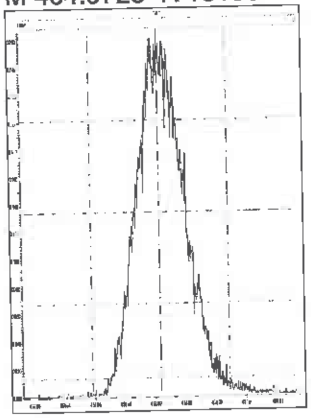

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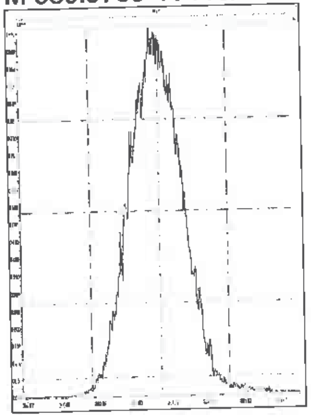

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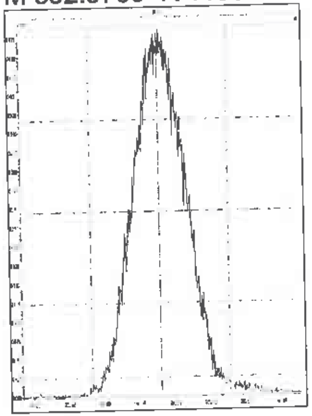

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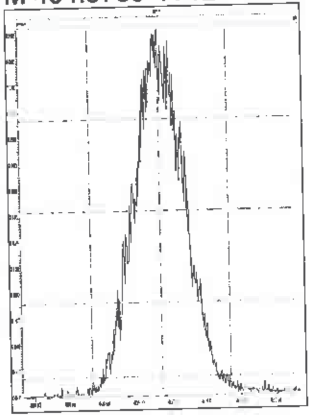

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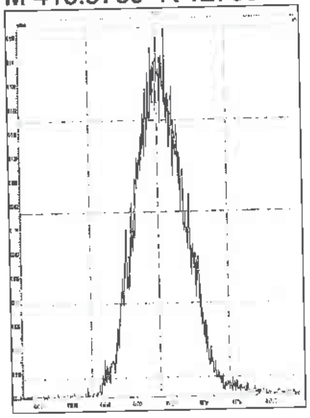

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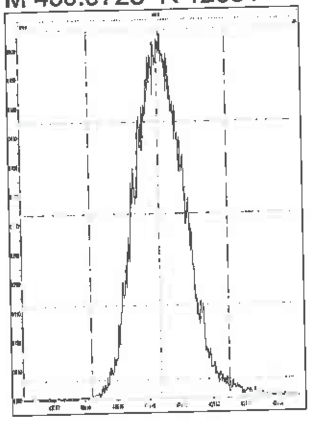

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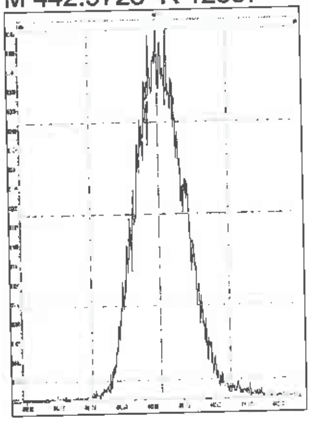

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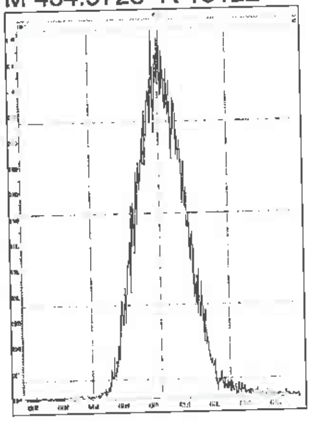

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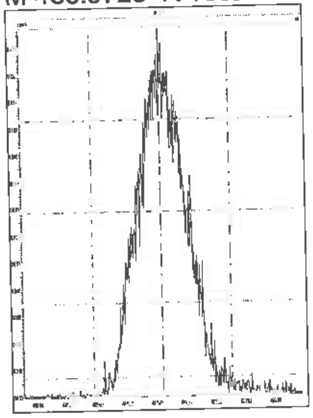

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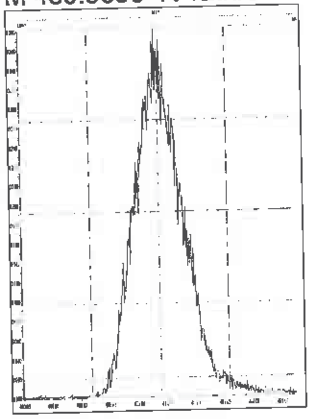

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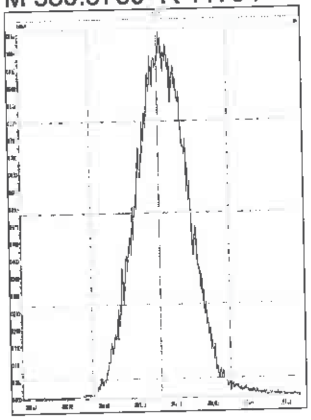

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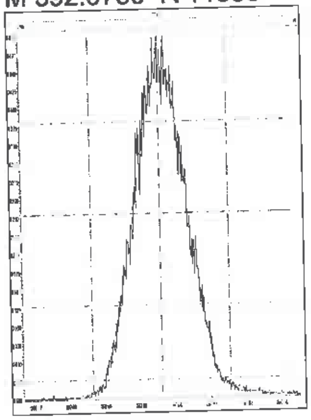

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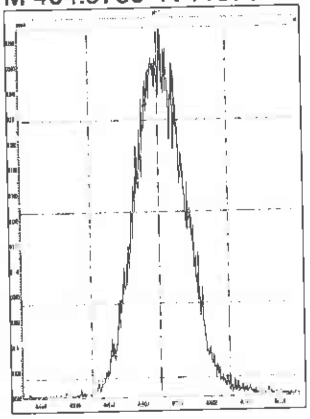

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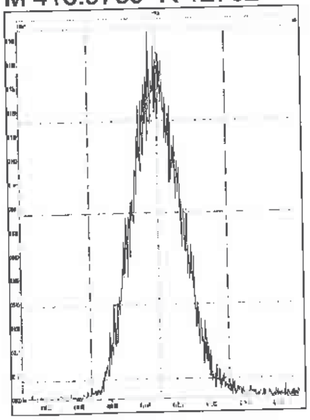

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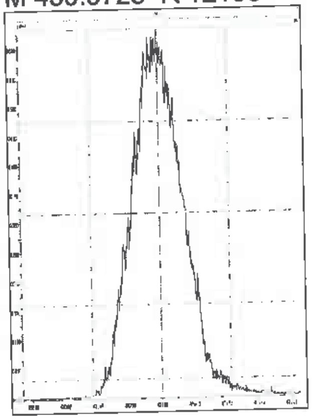

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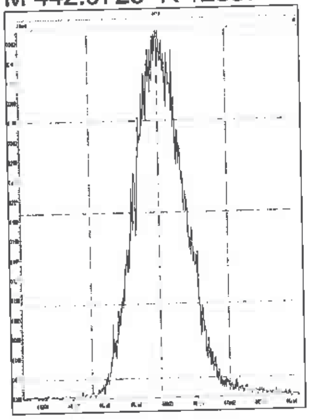

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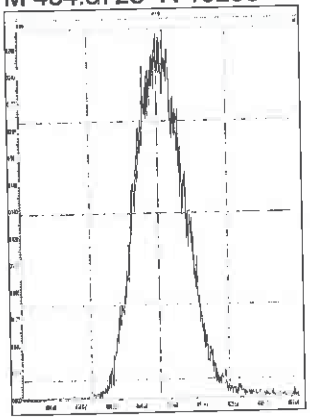

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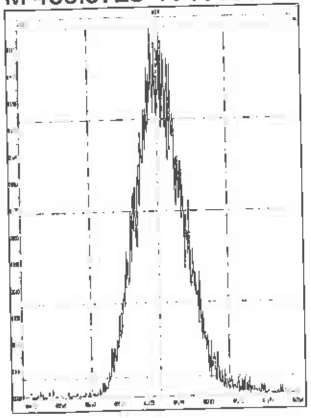

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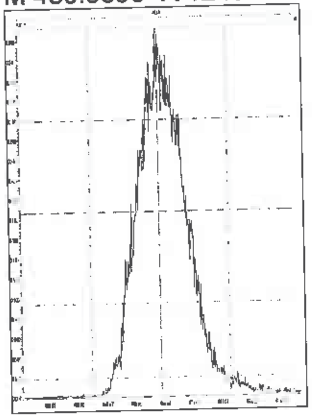

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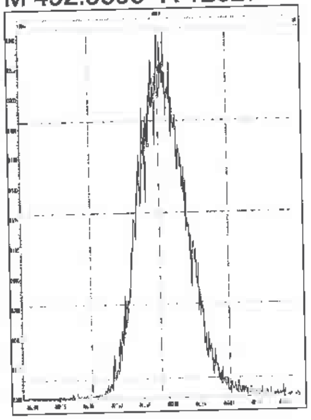

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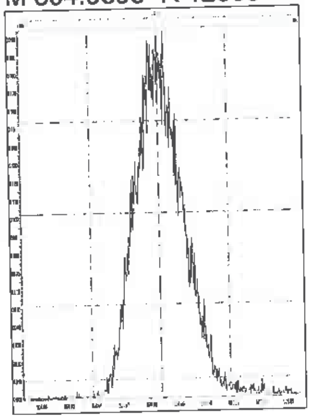

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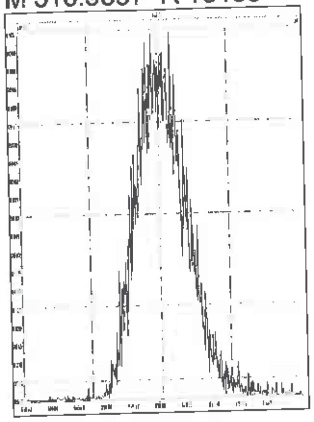

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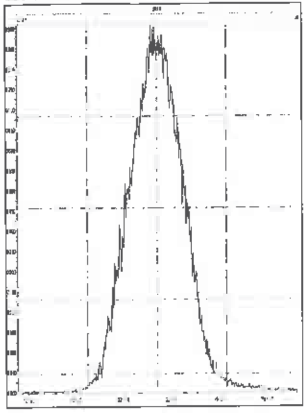

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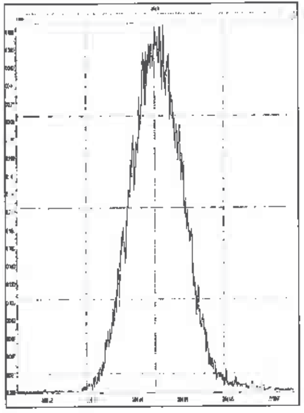

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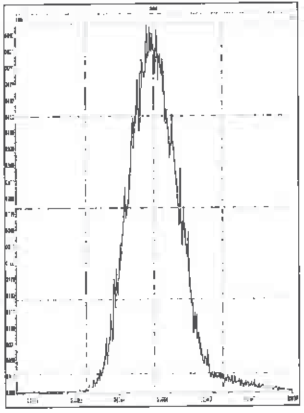

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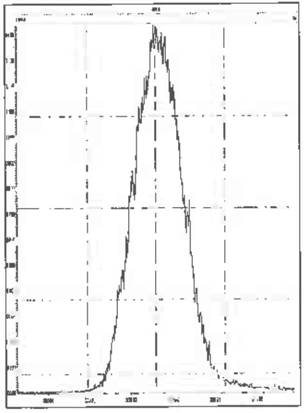

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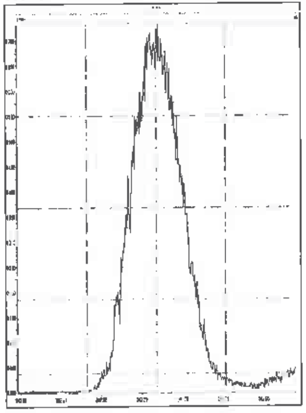

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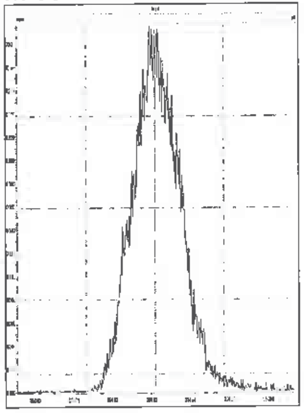

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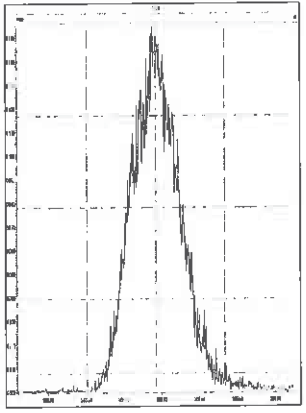

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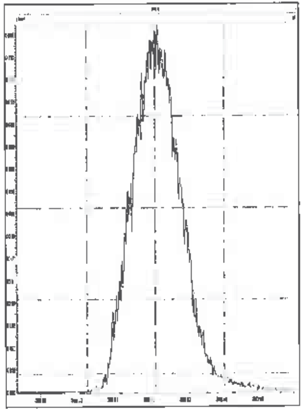

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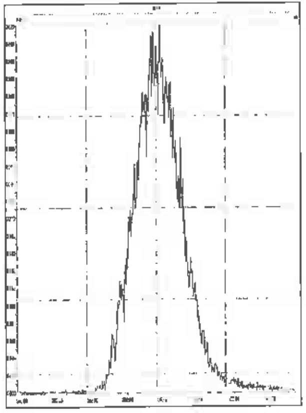

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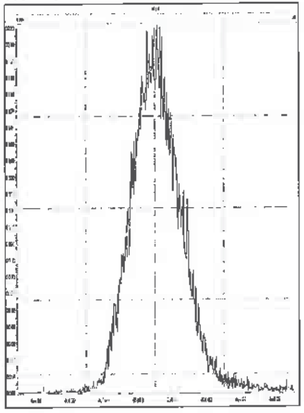

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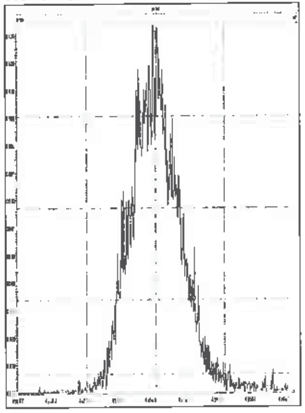

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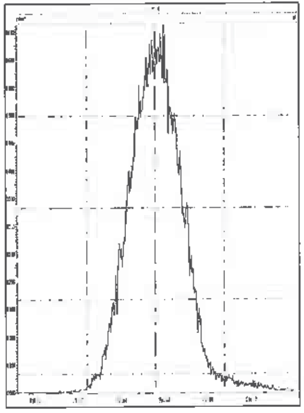

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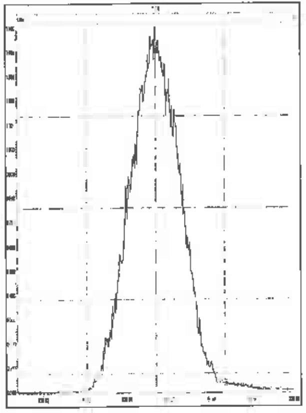

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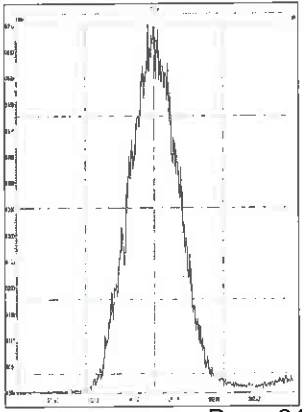

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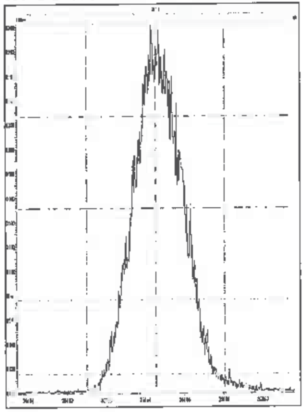

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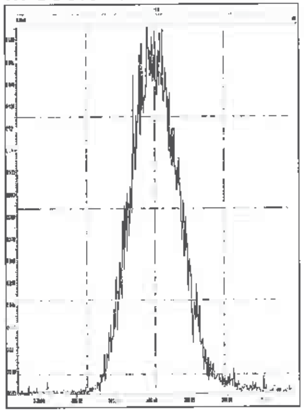

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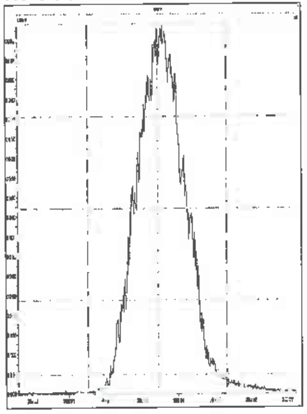

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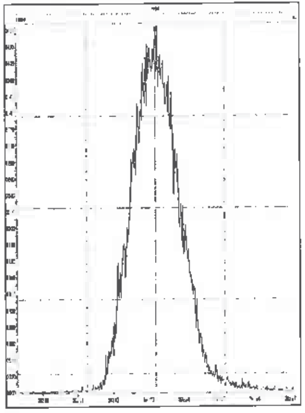

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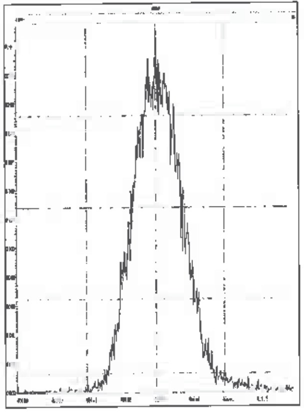

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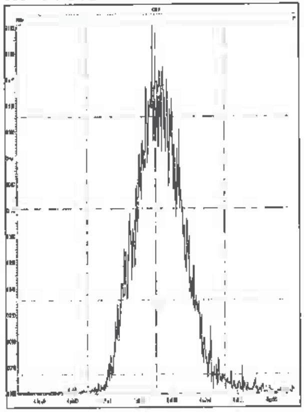

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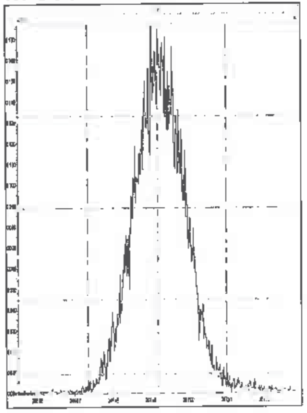

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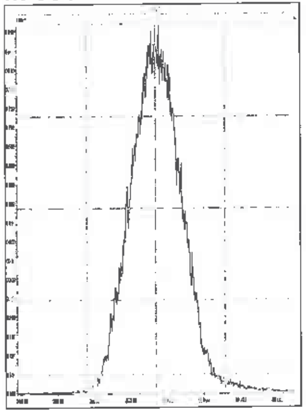

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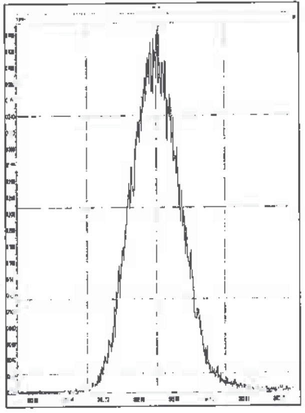

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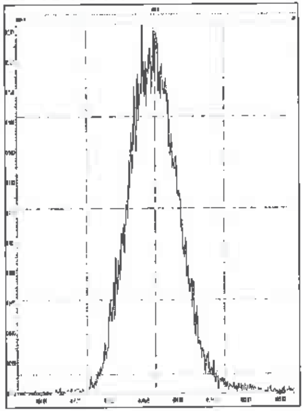

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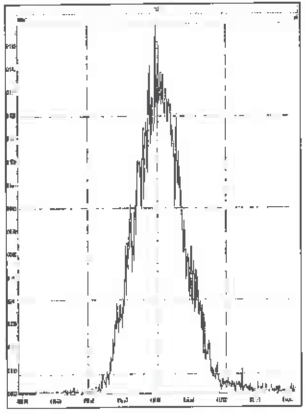

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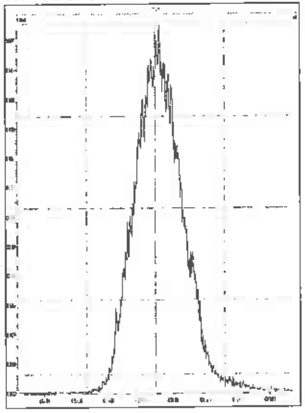

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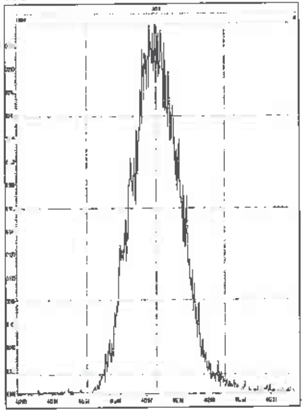

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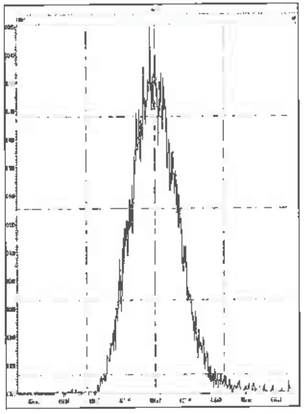

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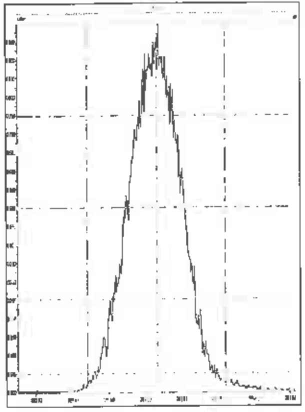

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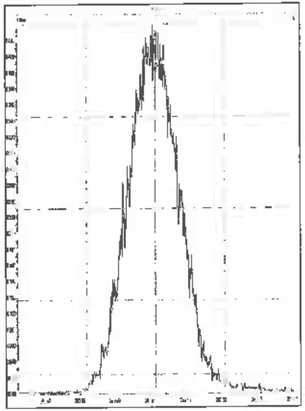

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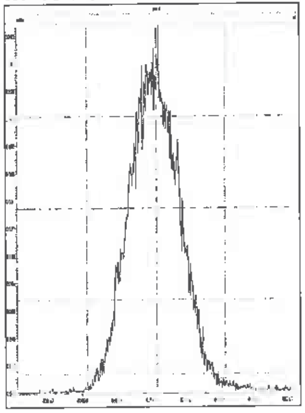

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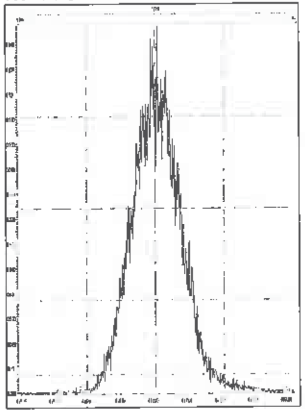

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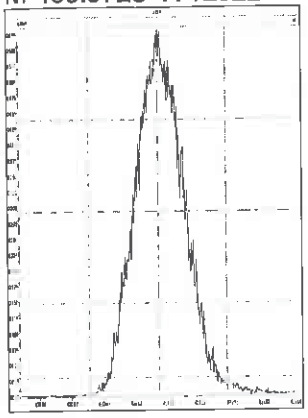

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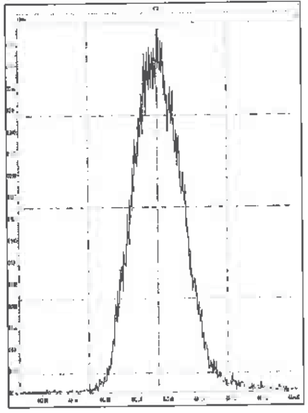

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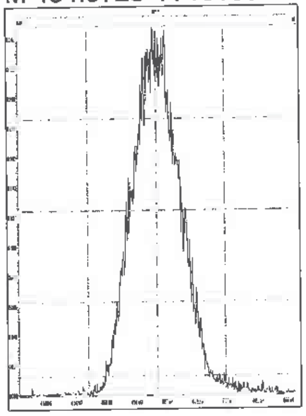

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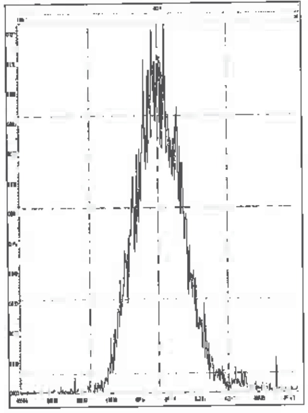

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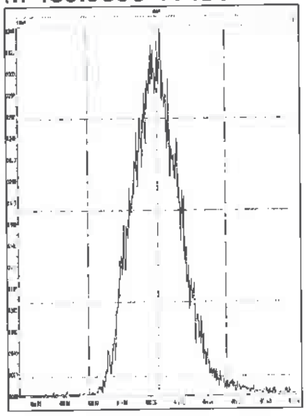

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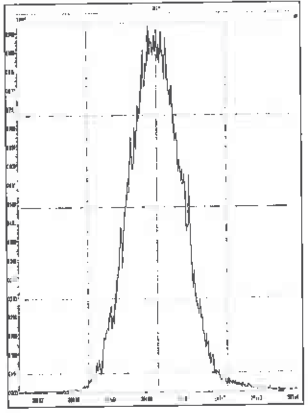

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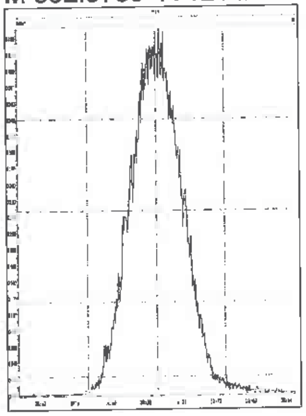

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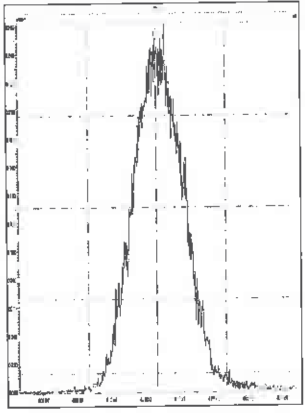

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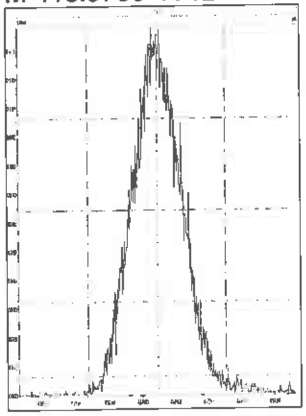

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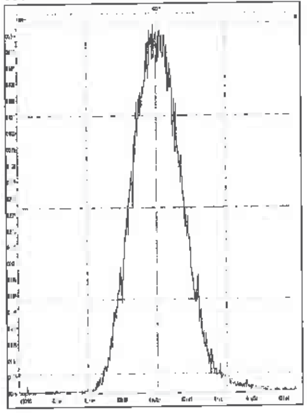

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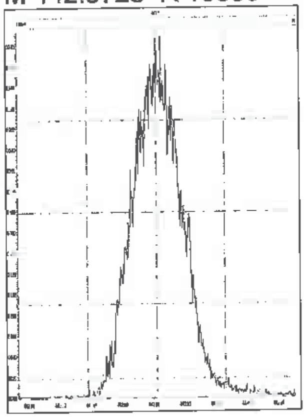

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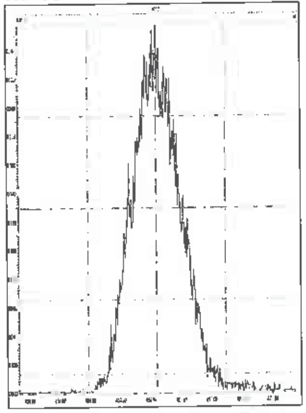

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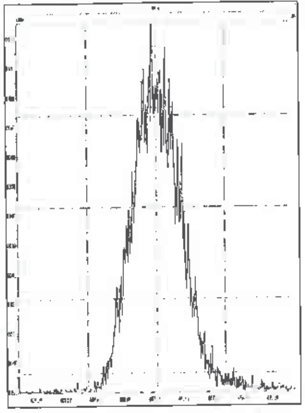

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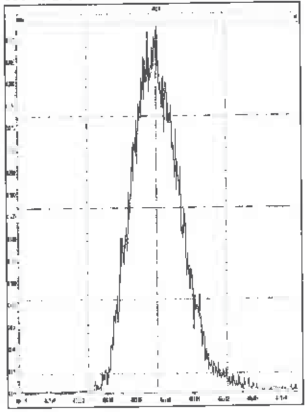

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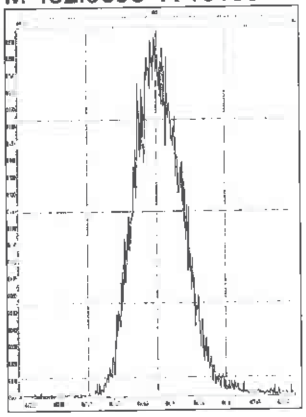

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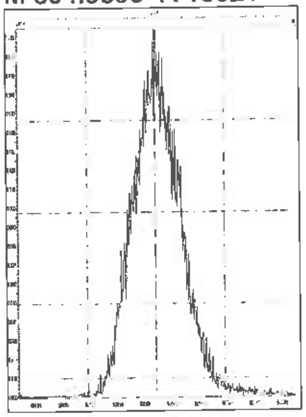

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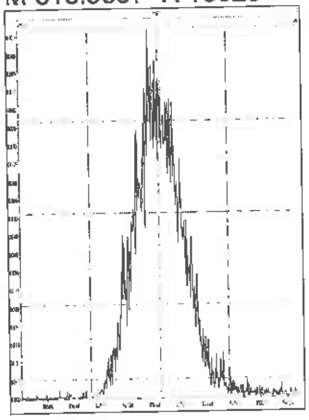

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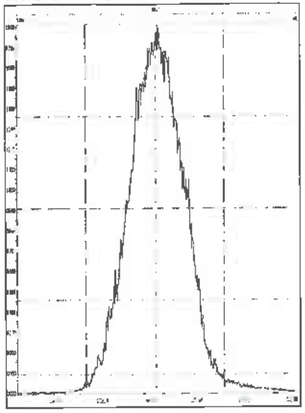

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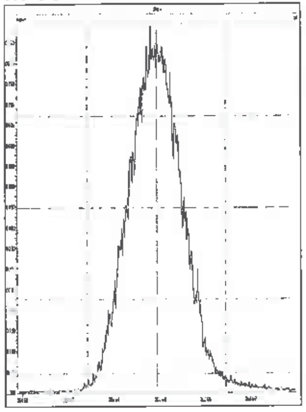

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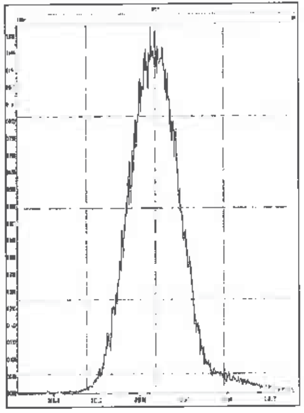

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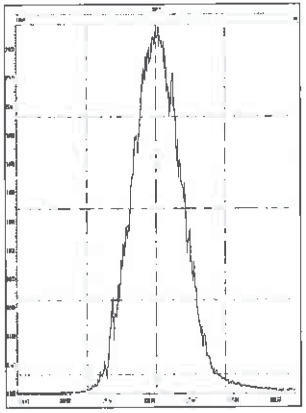

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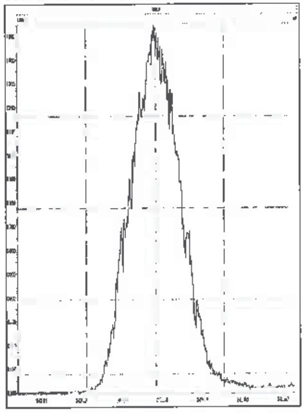

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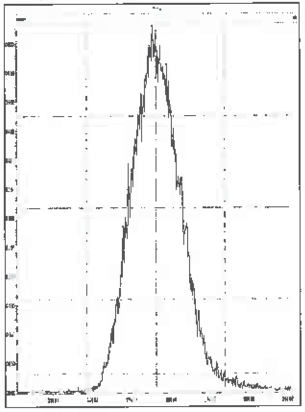

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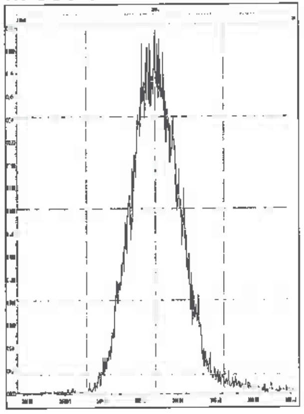

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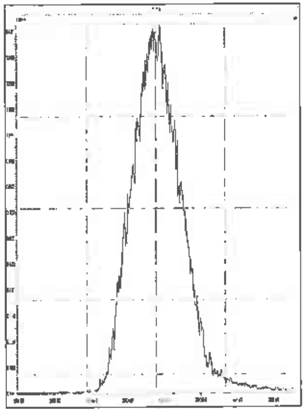

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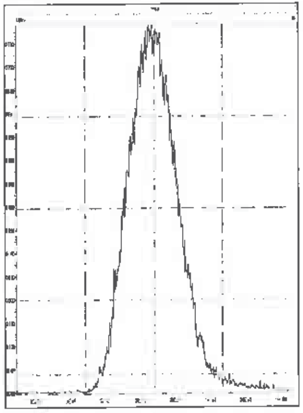

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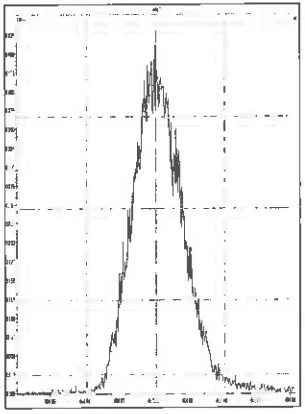

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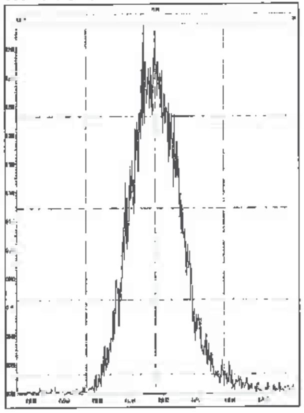

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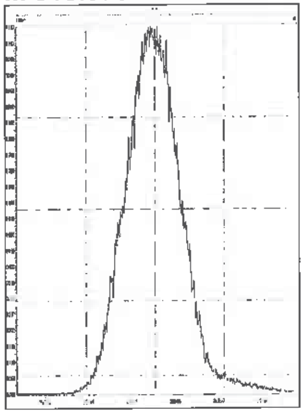

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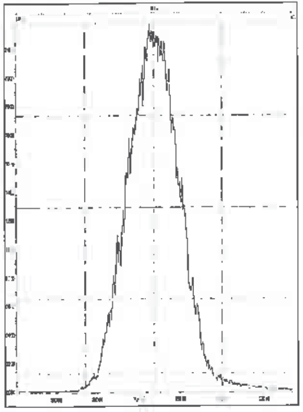

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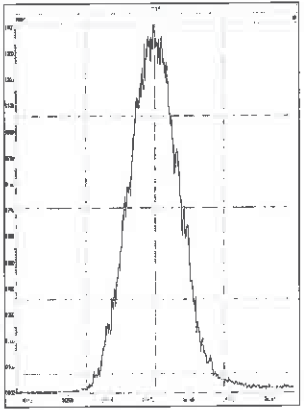

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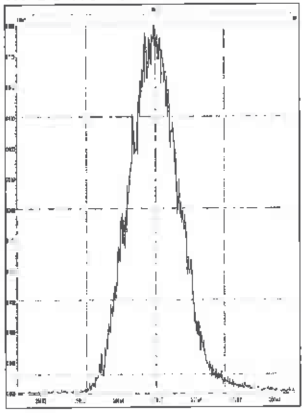

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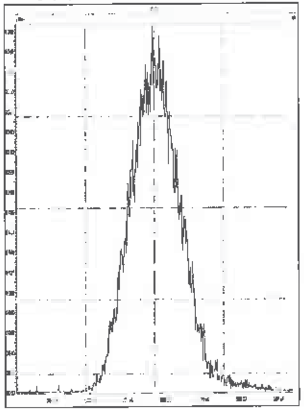

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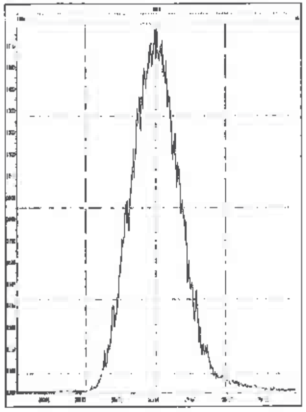

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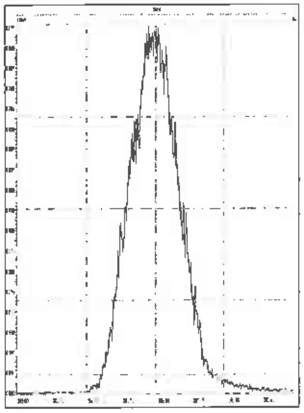

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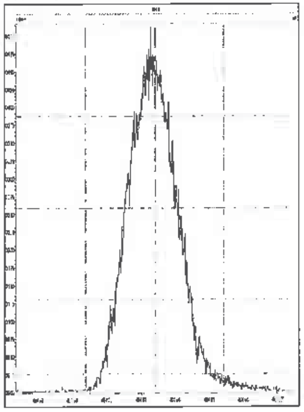

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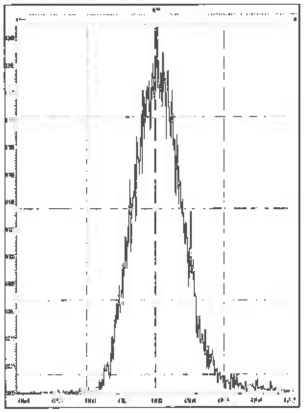

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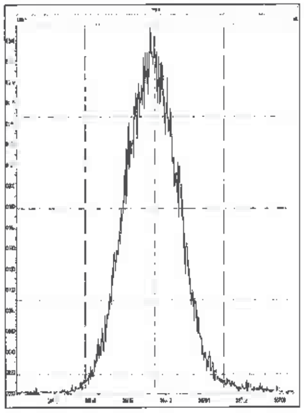

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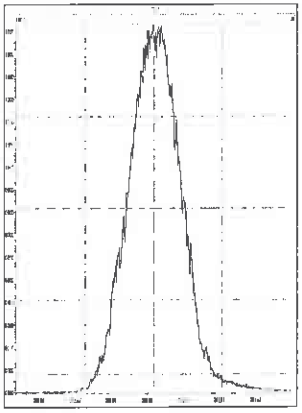

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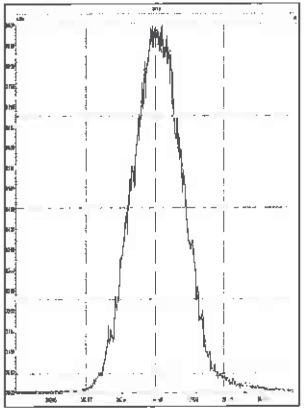

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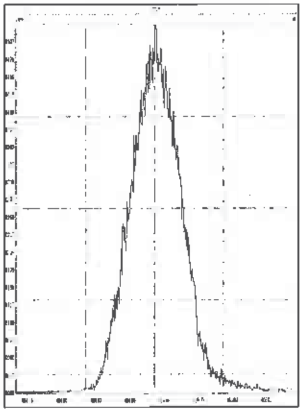

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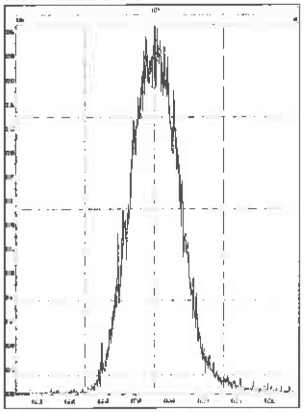

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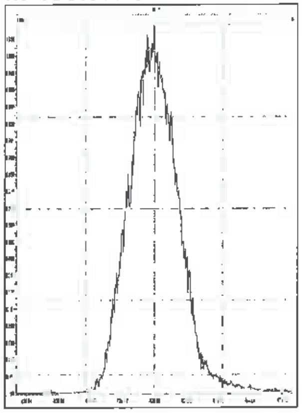

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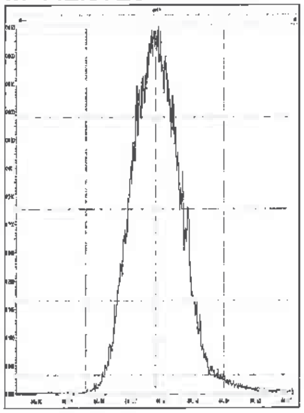

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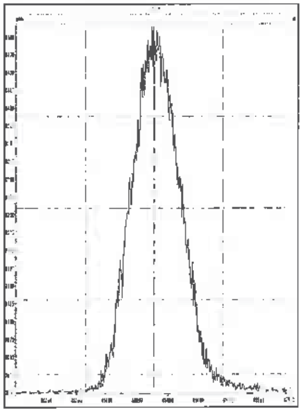

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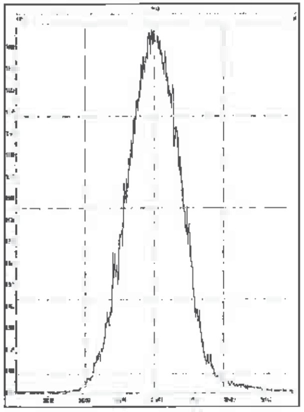

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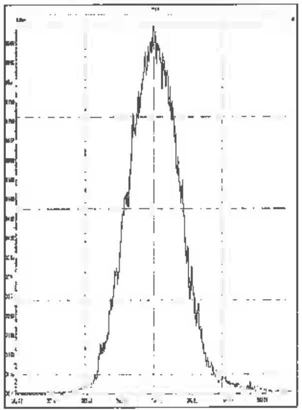

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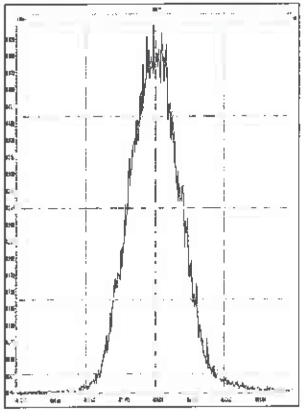

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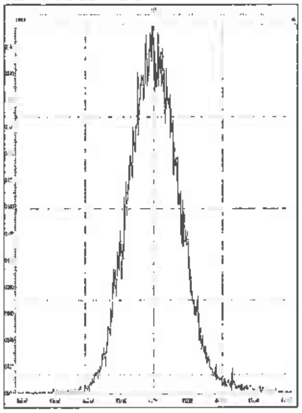

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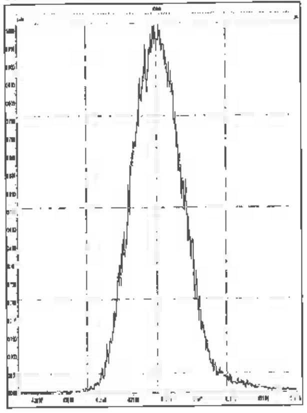
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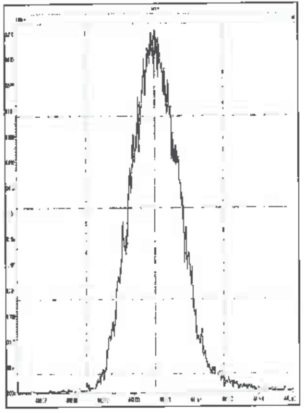
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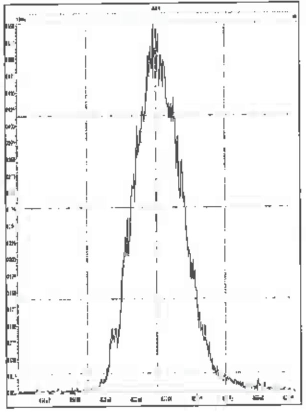
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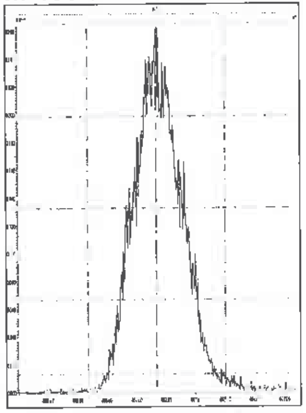
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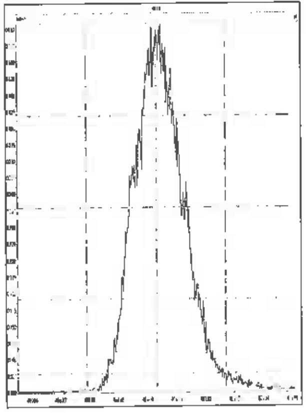
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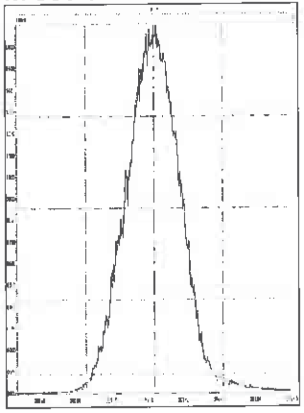
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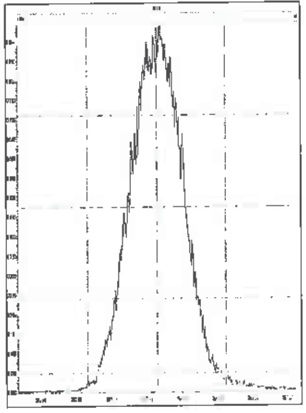
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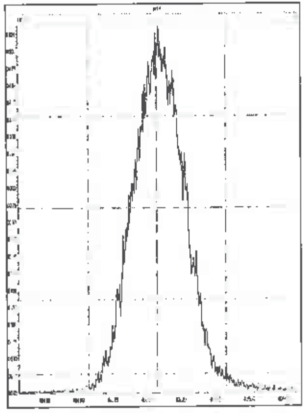
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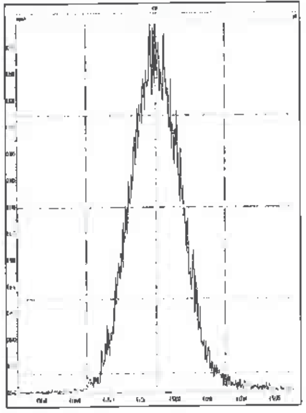
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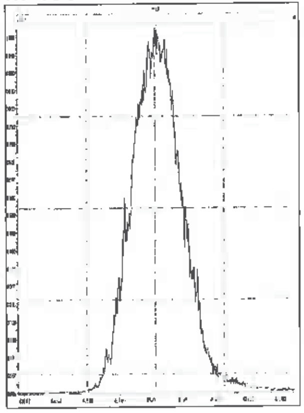
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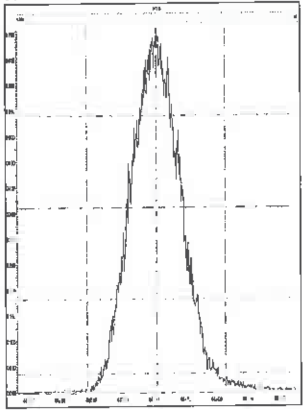
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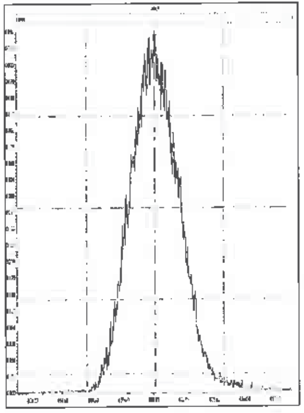
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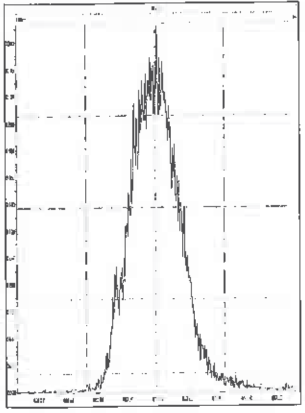
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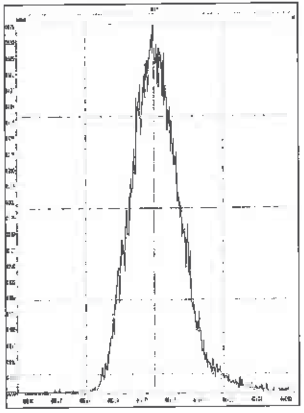
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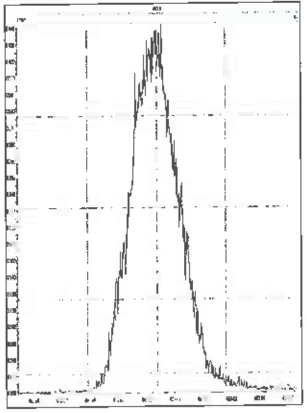
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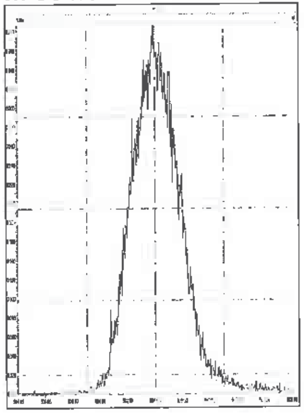
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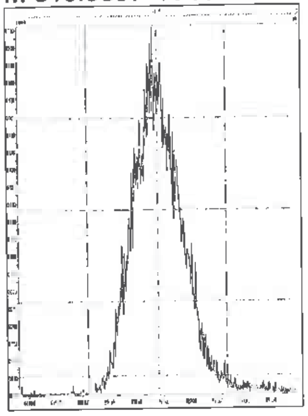

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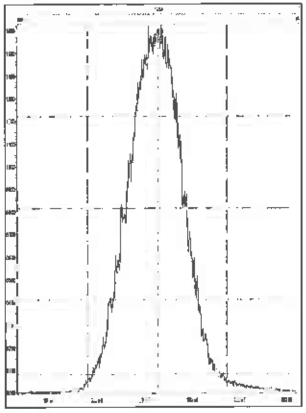

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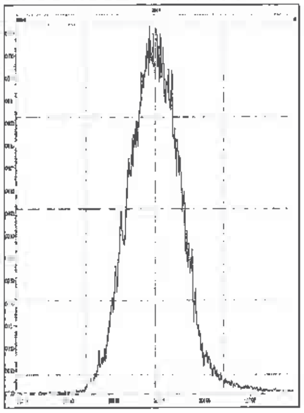

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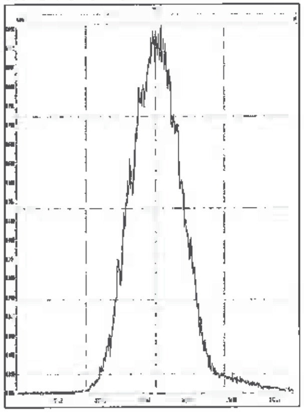

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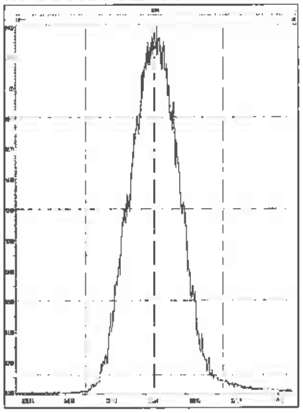

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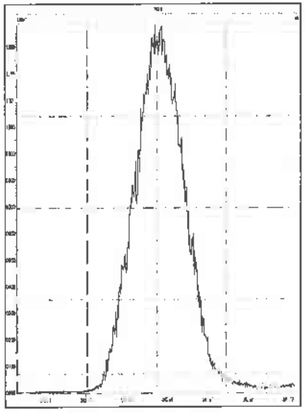

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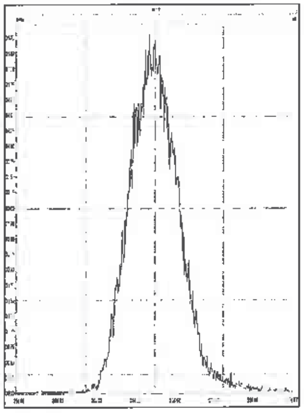

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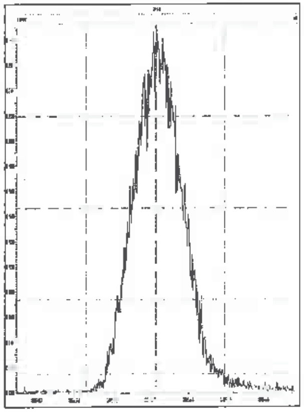

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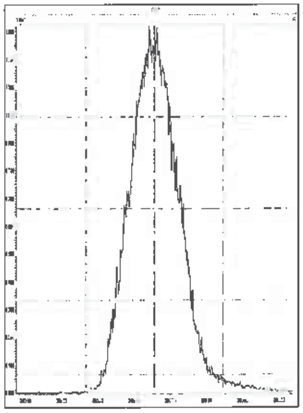

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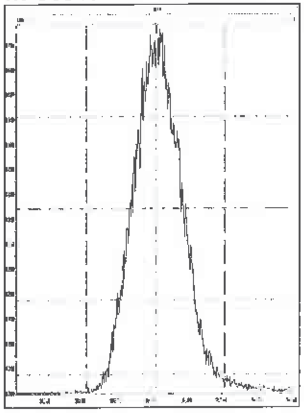

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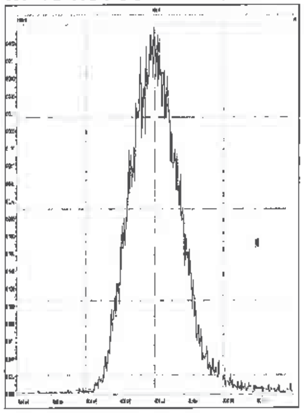

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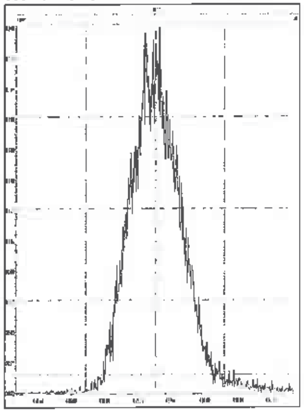

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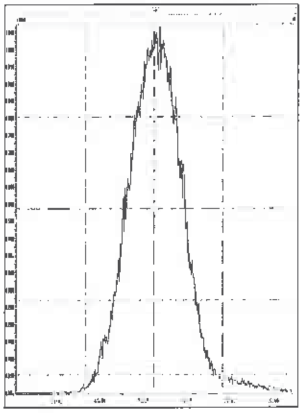

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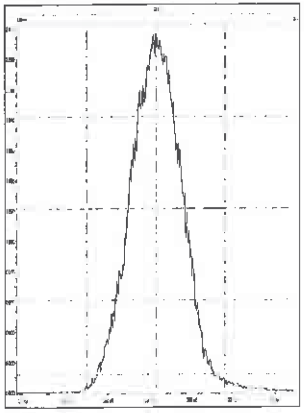

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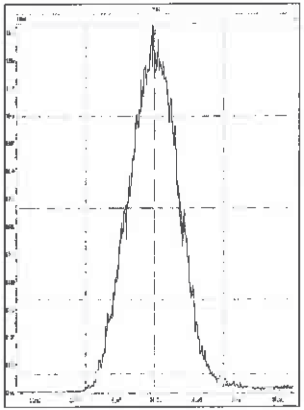

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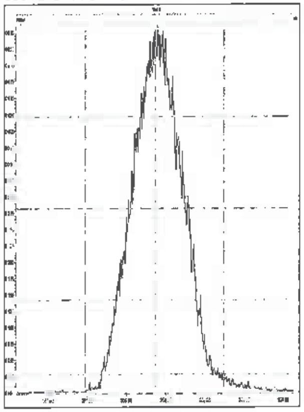

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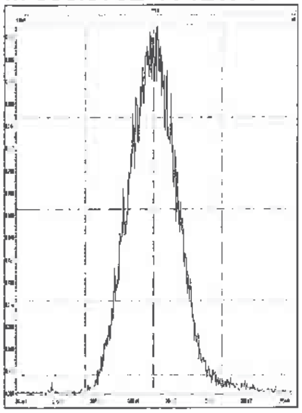

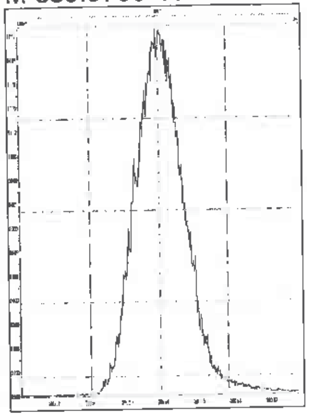
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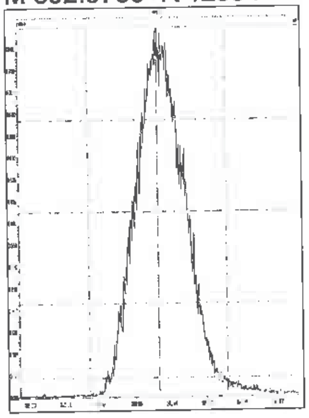
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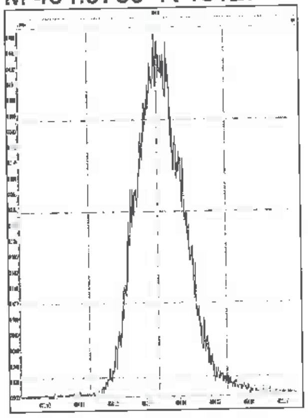
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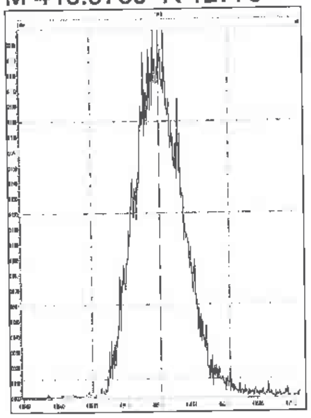
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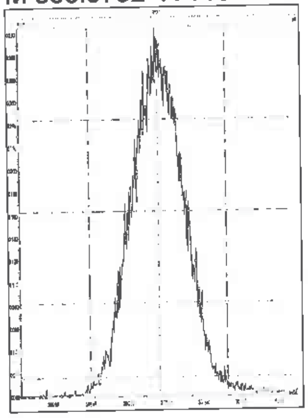
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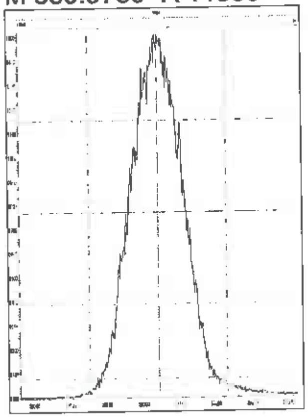
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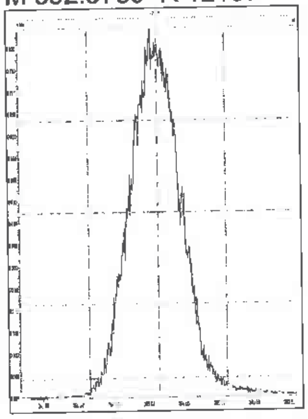
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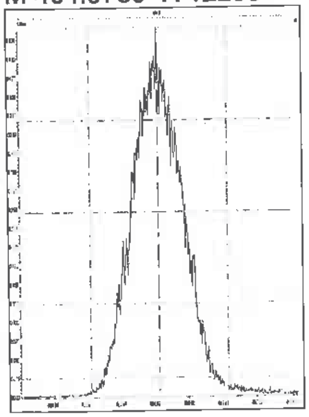
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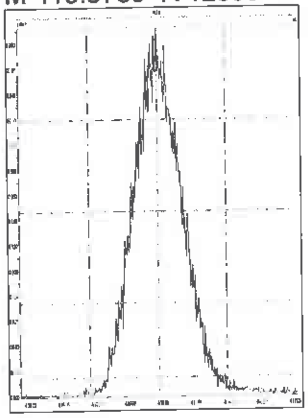
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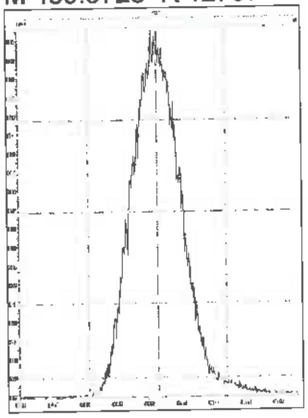
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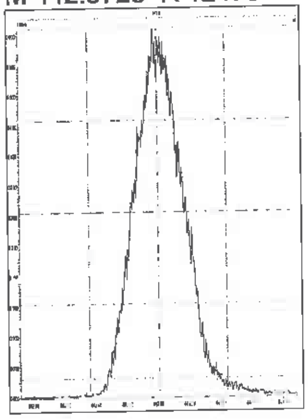
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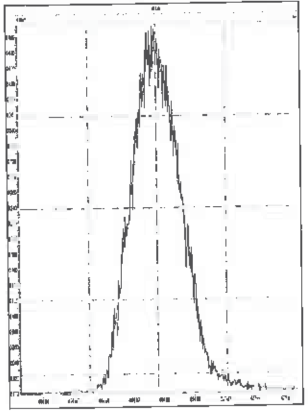
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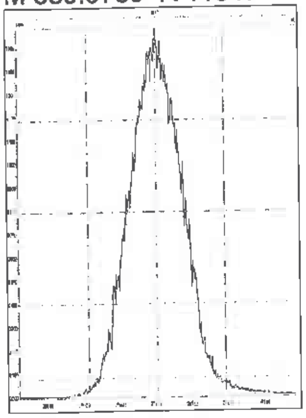
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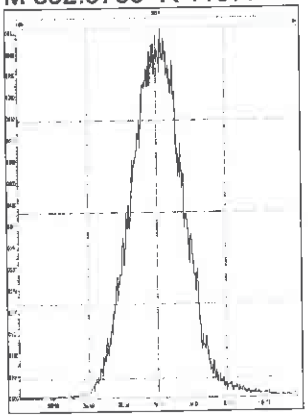
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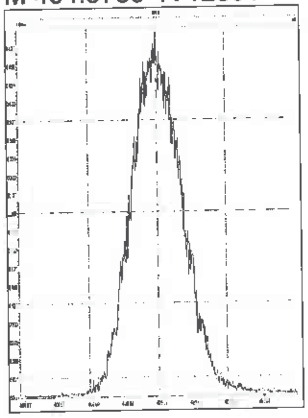
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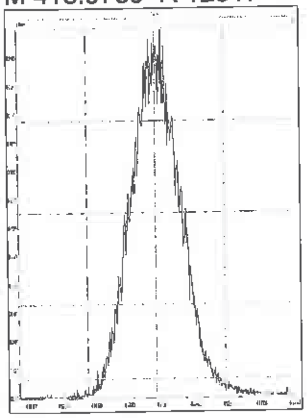
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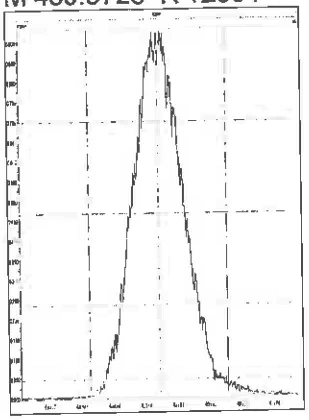
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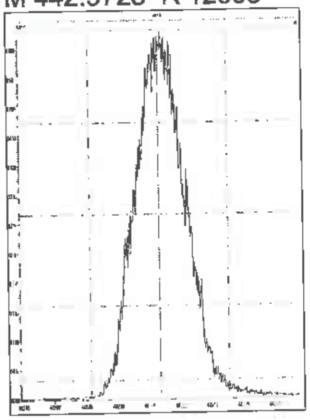
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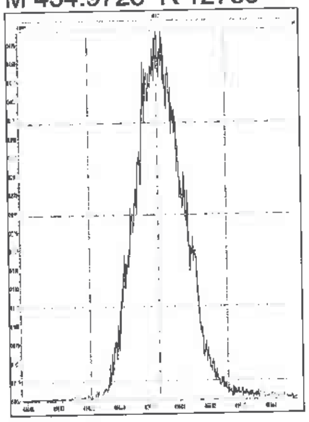
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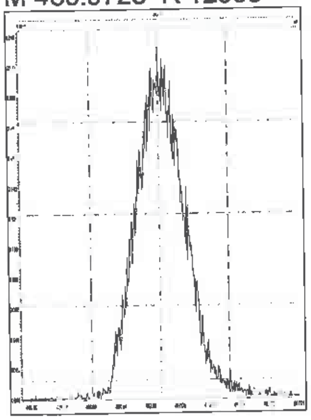
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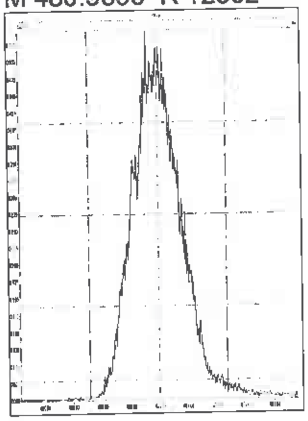
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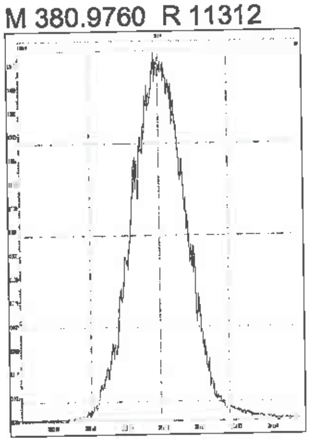
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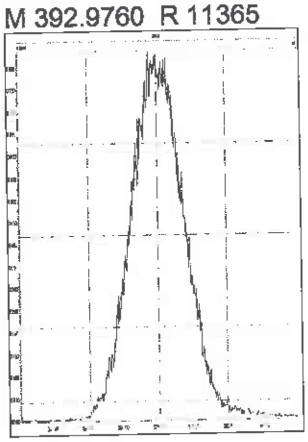
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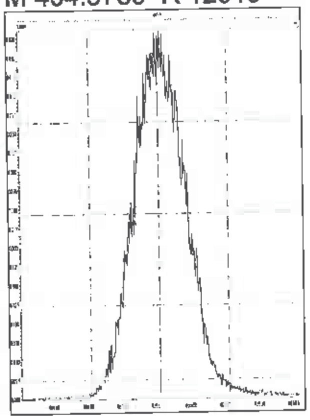
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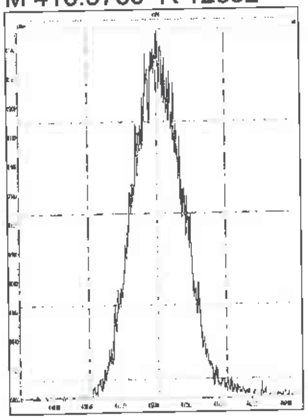
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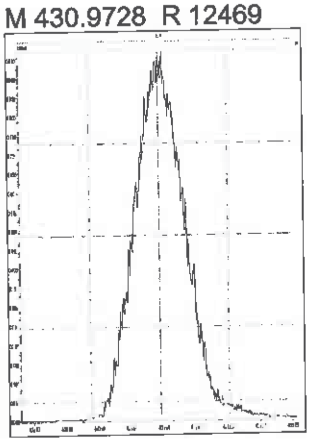
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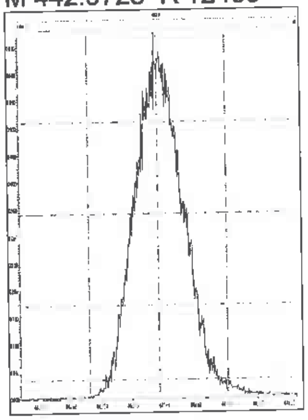
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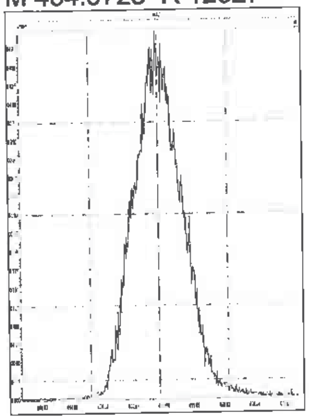
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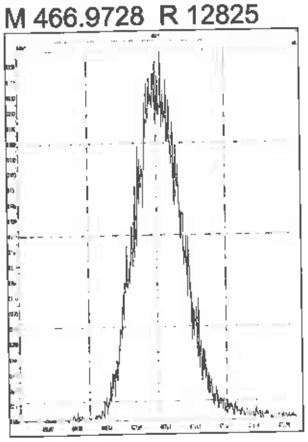
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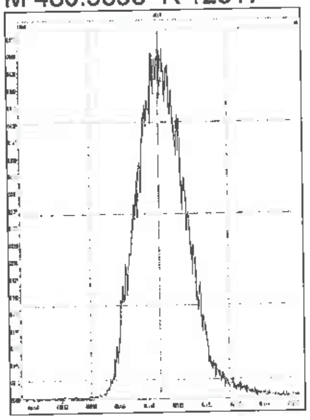
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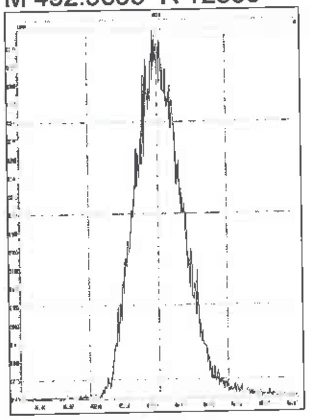
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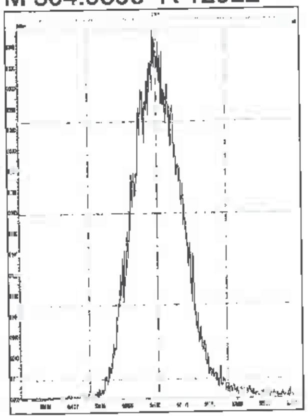
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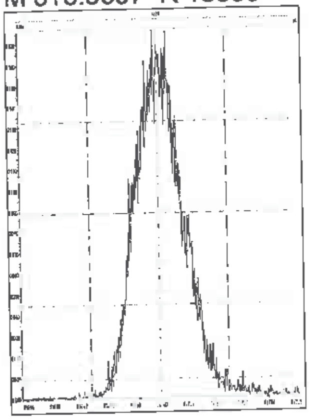

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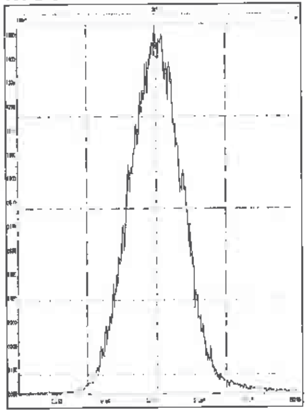

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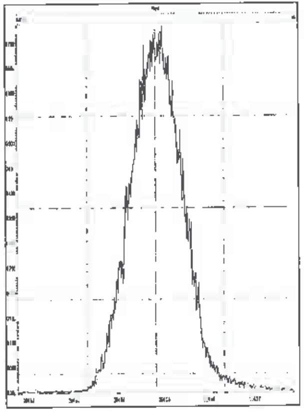

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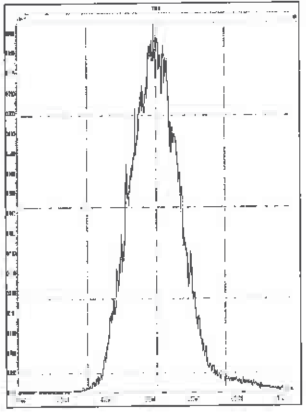

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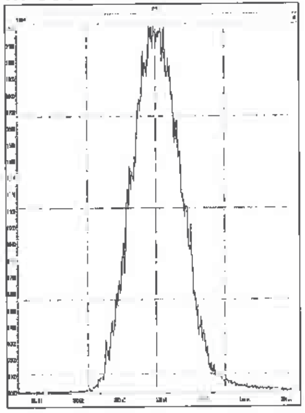

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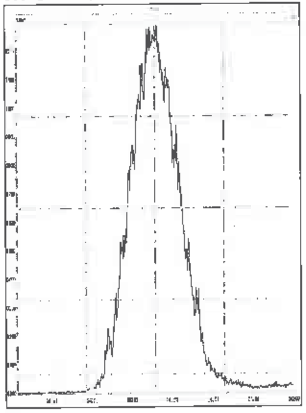

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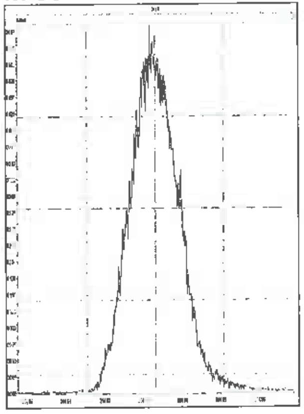

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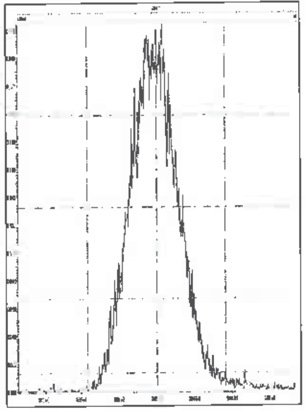

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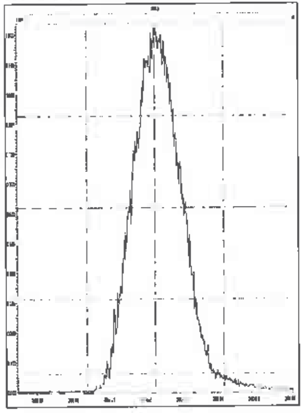

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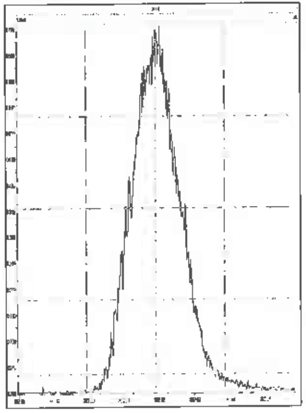

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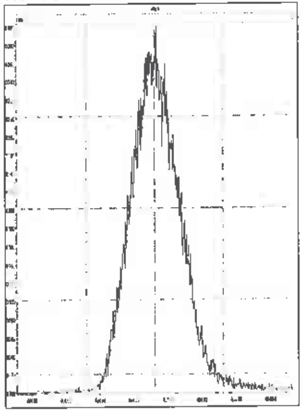

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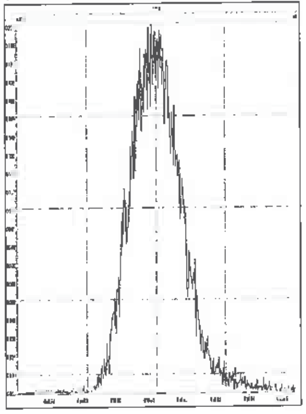

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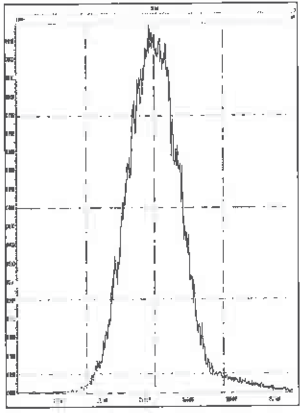

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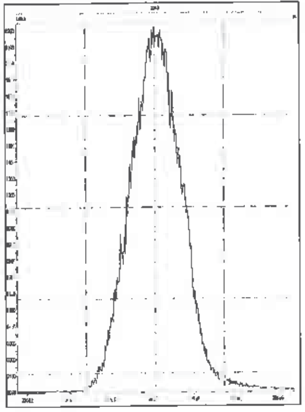

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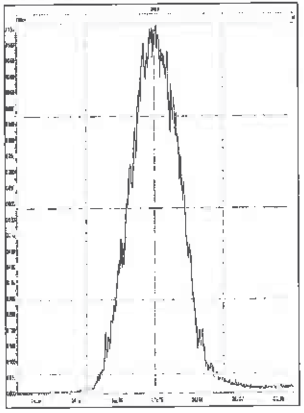

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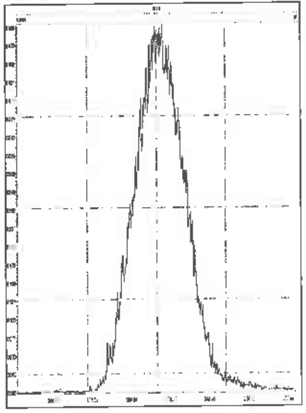

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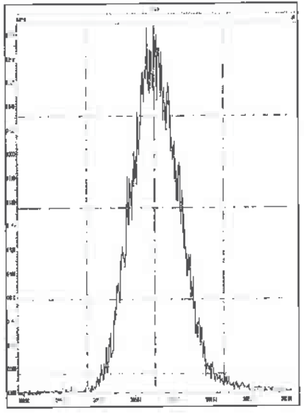

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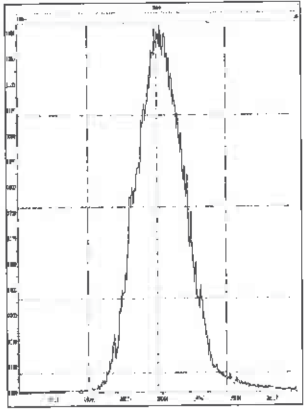

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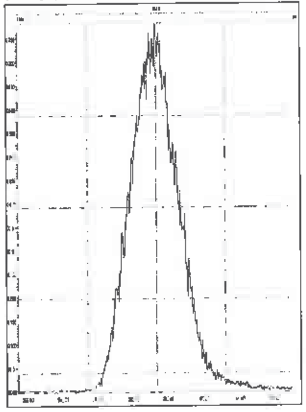

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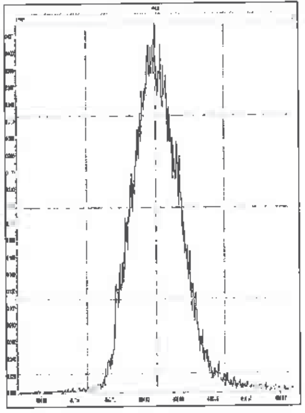

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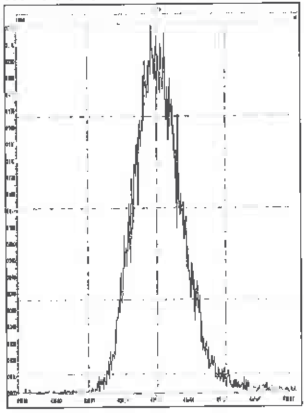

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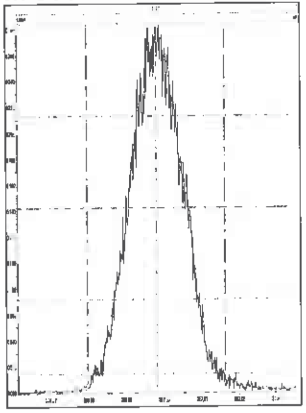

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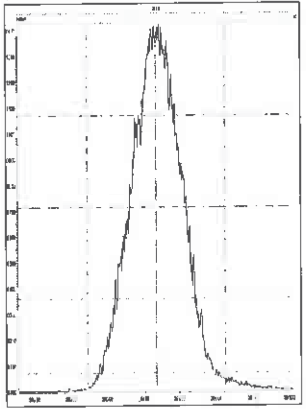

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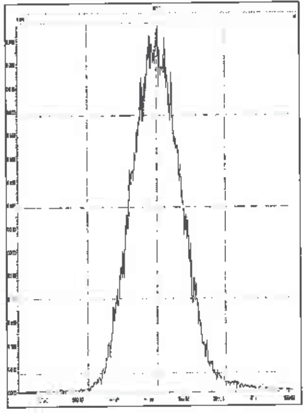

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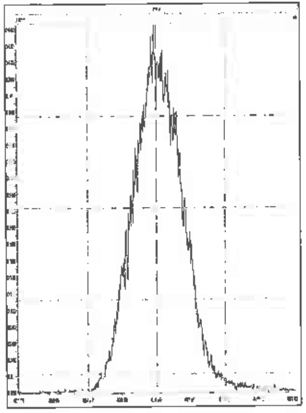

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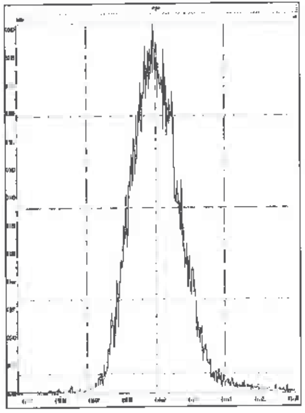

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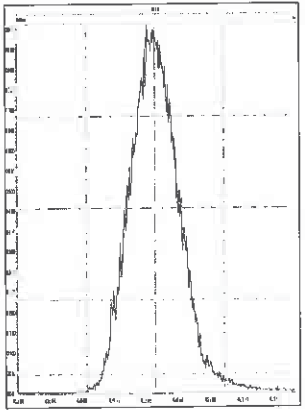

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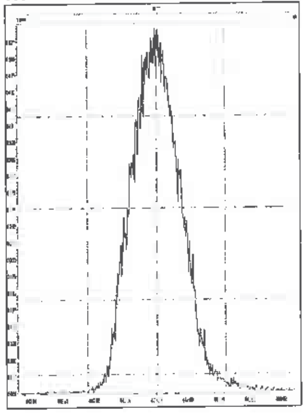

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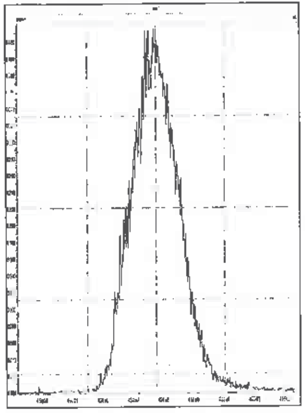

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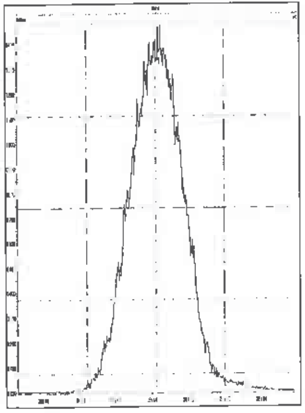

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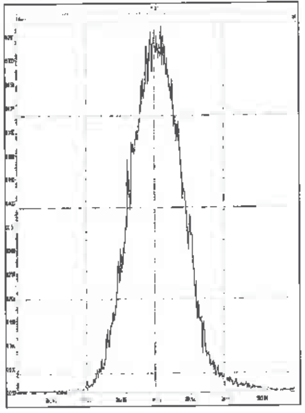

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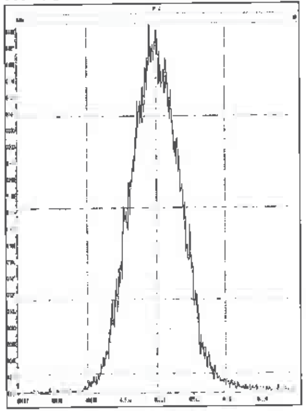

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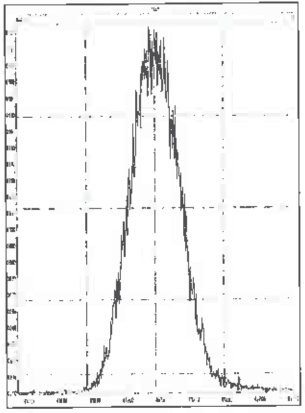

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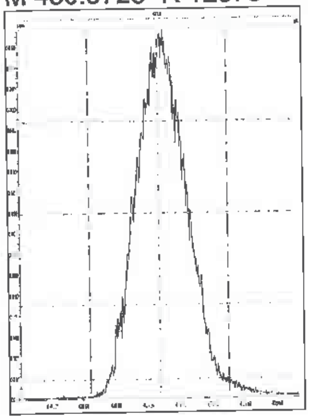

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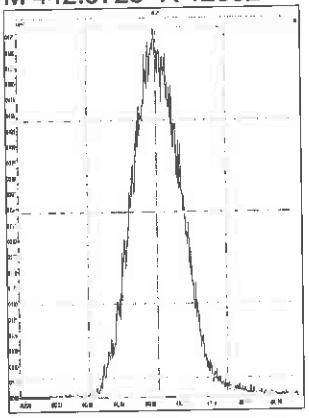

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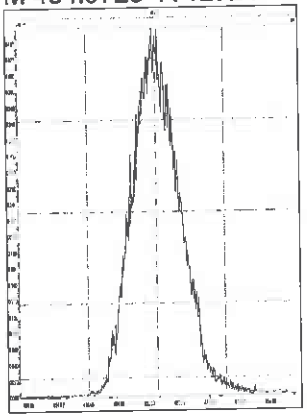

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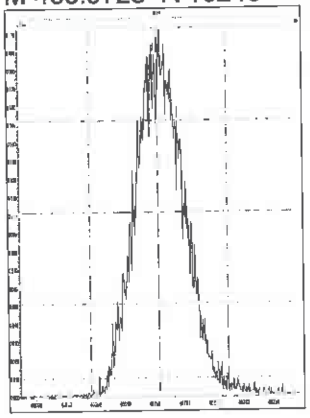

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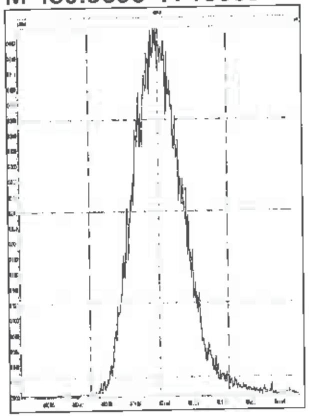

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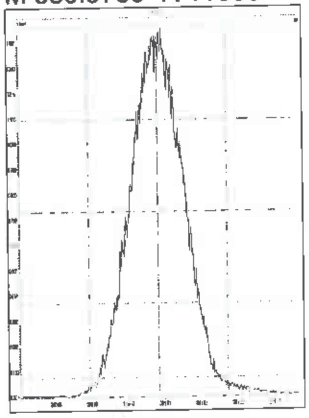

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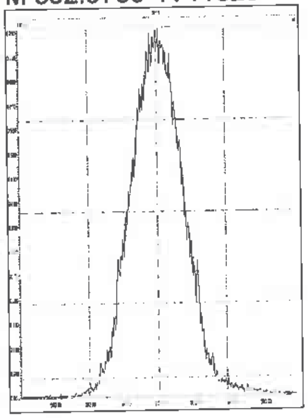

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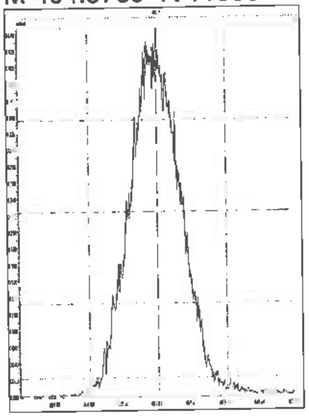

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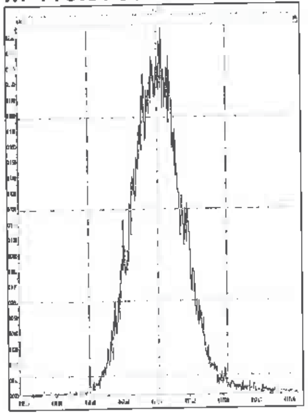

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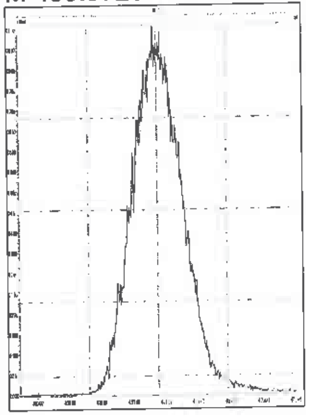

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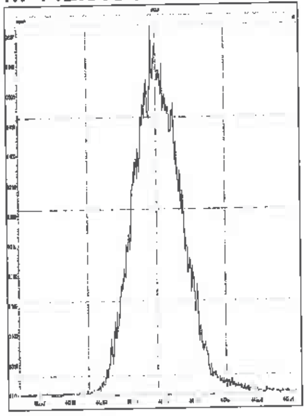

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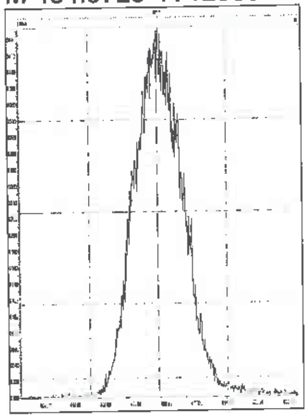

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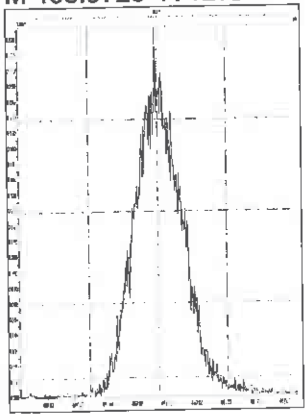

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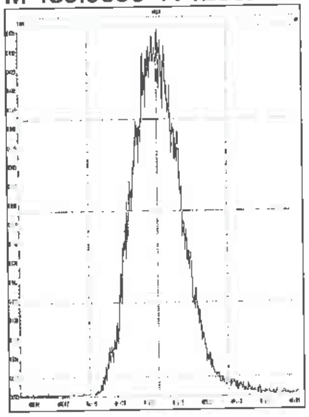

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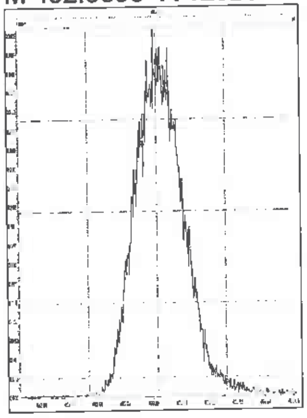

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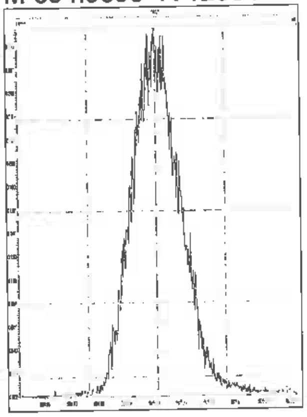

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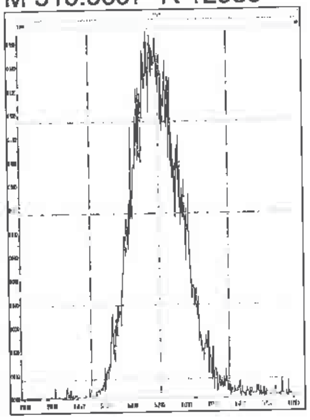

Resolution Check Report

MassLynx 4.1

Printed: Saturday, November 11, 2017 11:38:57 Pacific Standard Time

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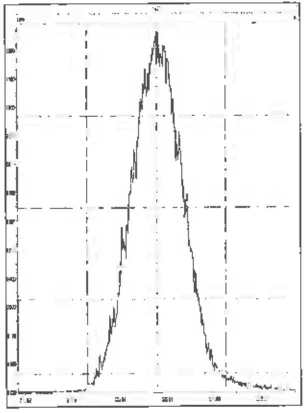

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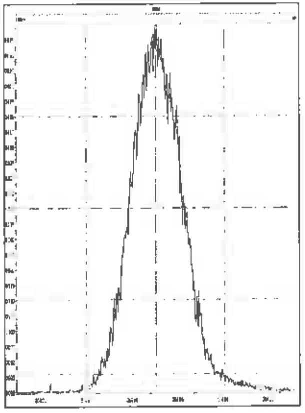

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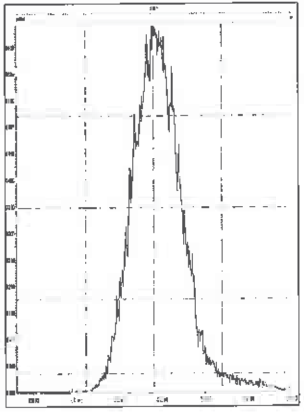

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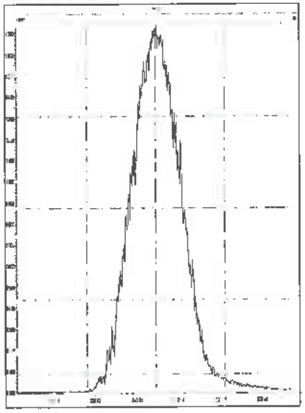

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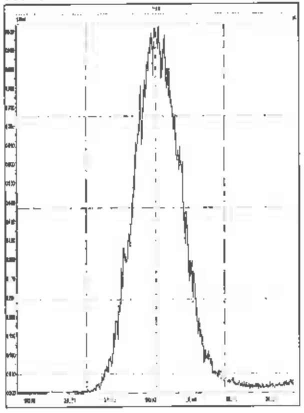

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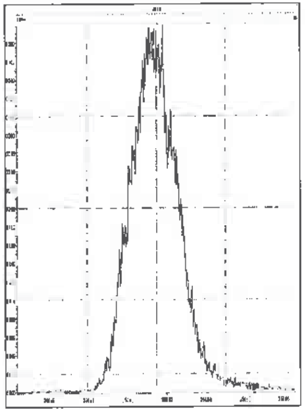

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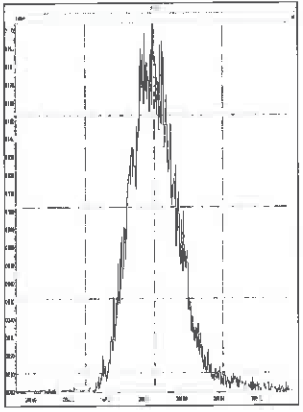

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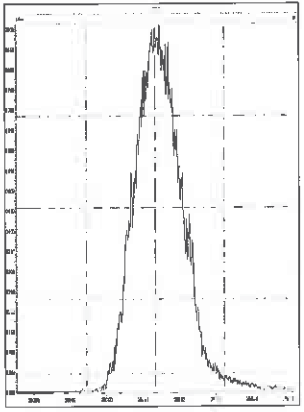

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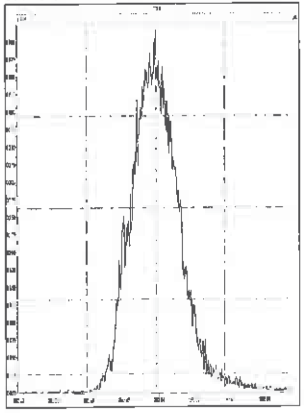

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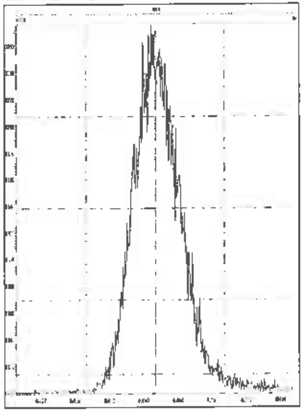

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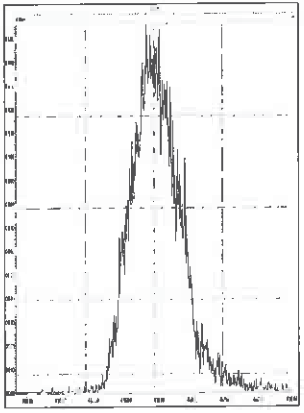

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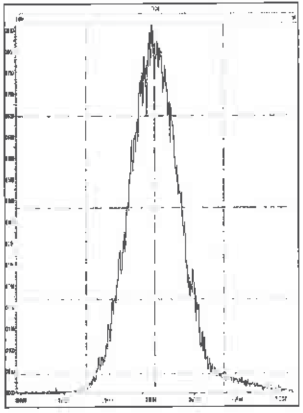

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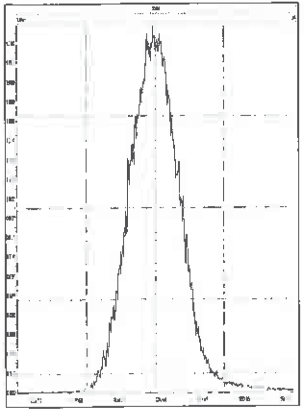

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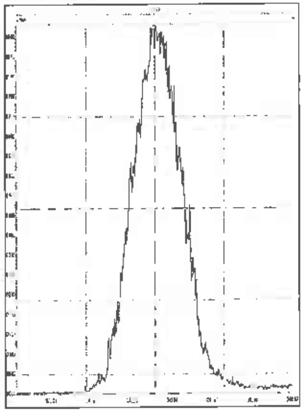

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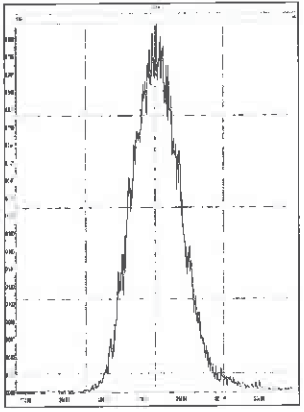

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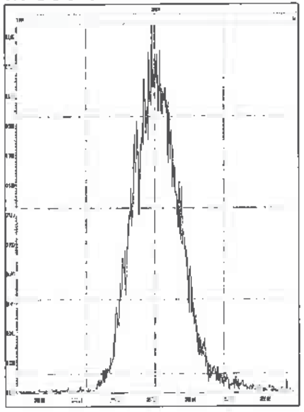

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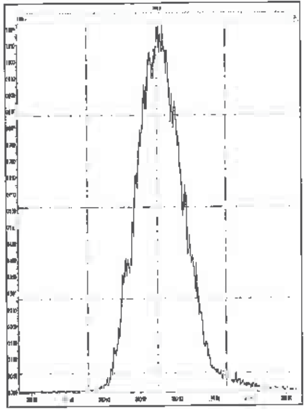

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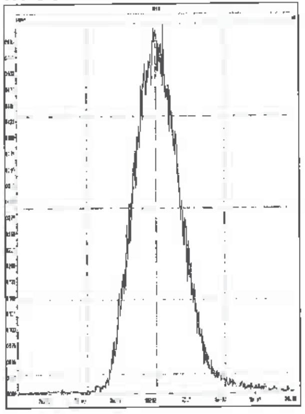

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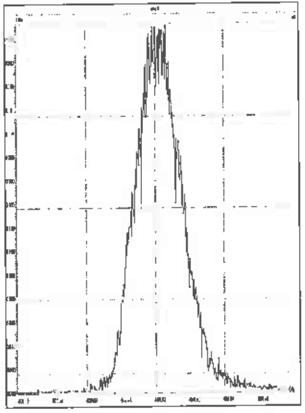

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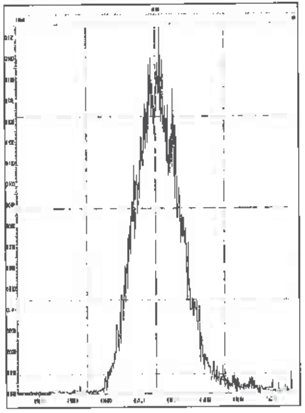

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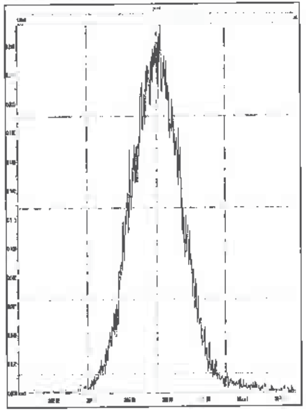

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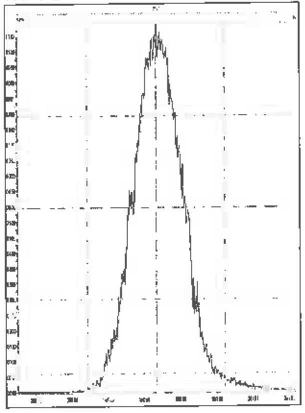

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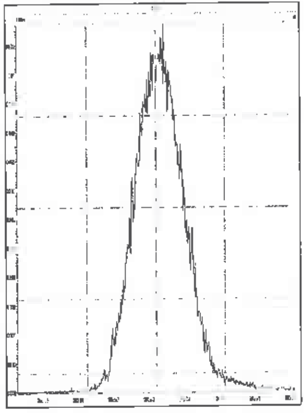

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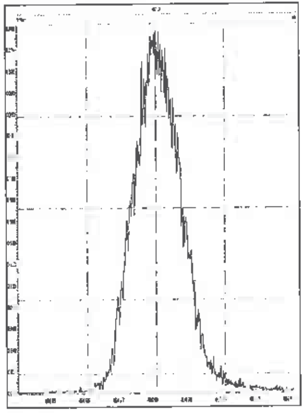

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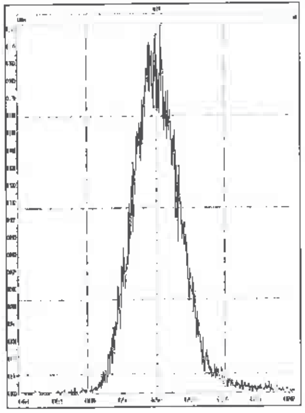

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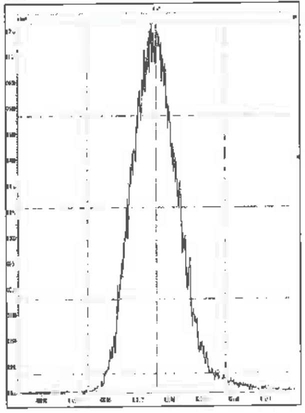

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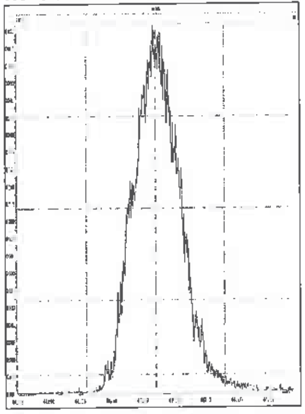

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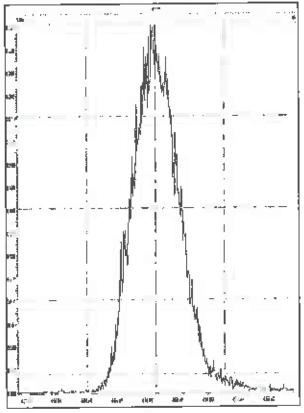

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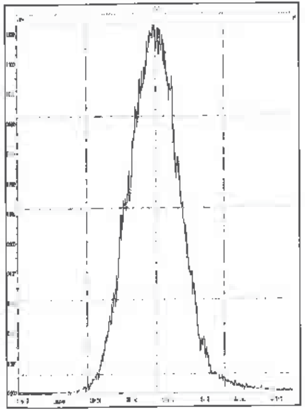

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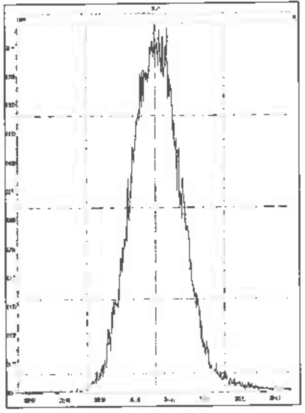

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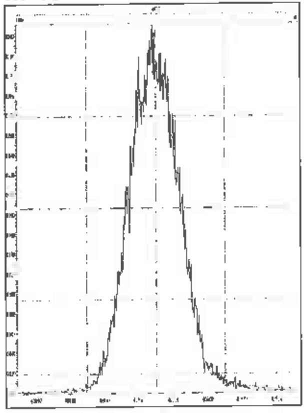

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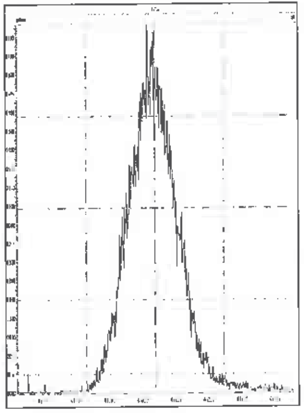

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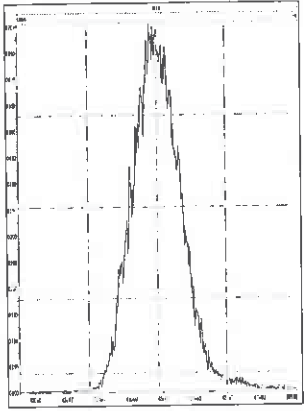

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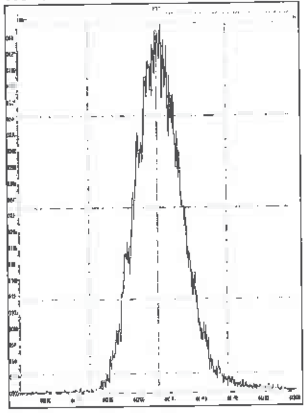

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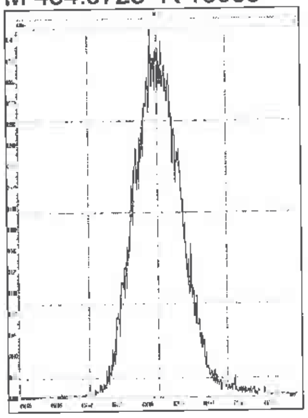

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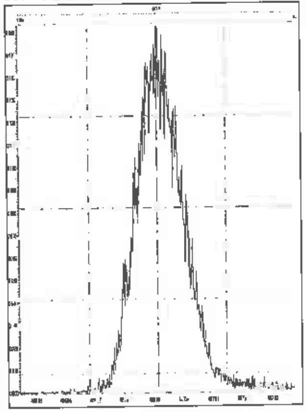

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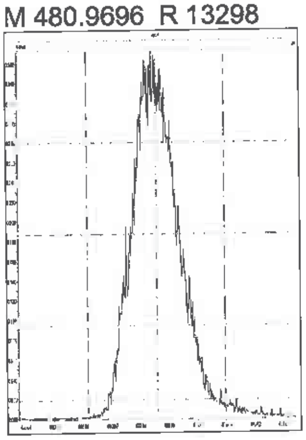

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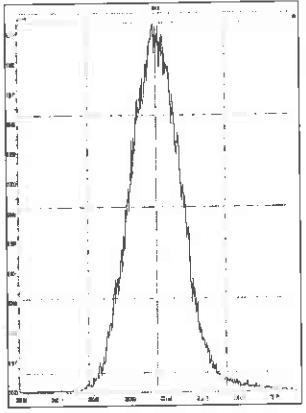

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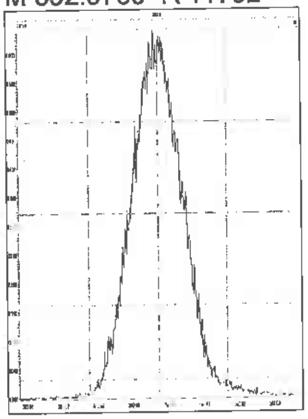

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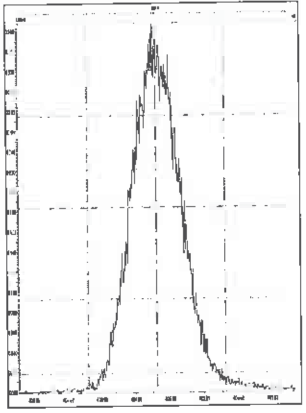

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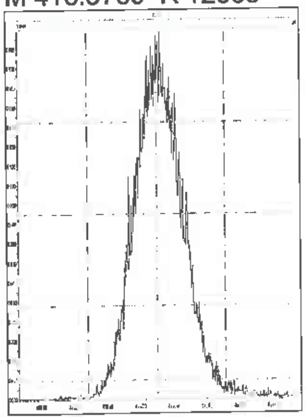

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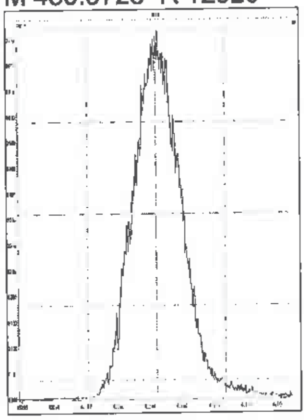

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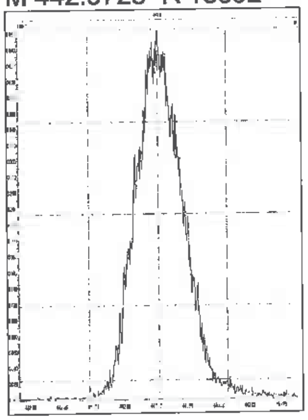

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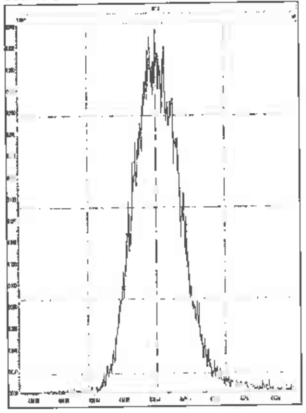

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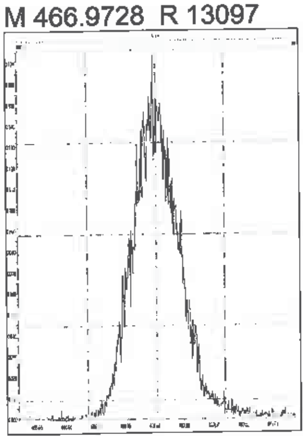

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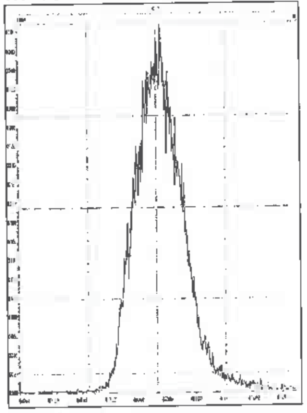

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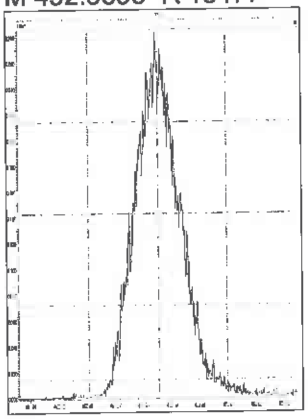

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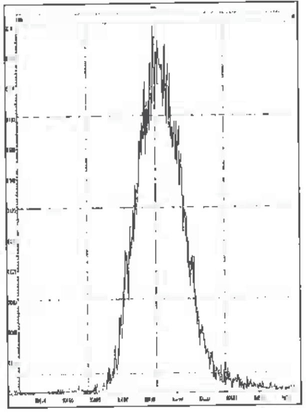

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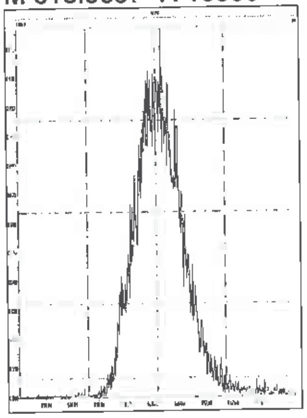

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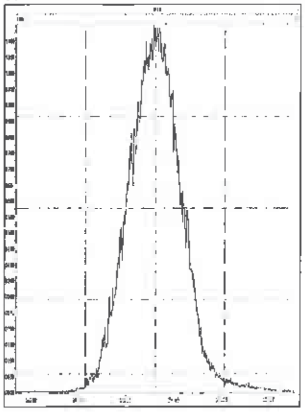

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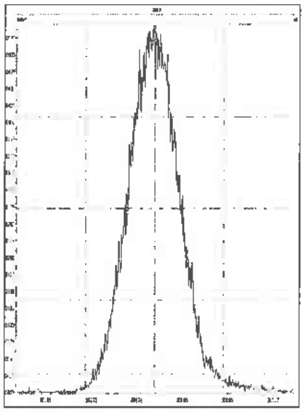

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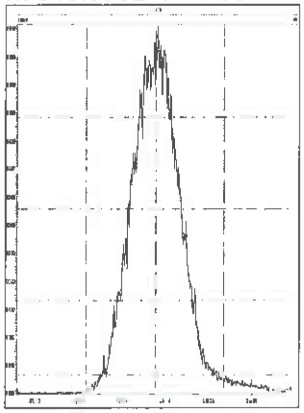

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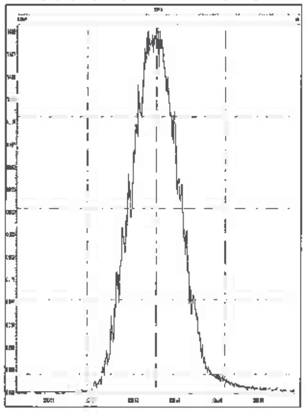

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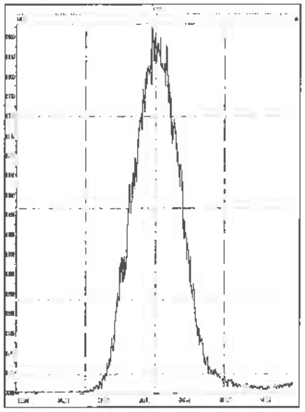

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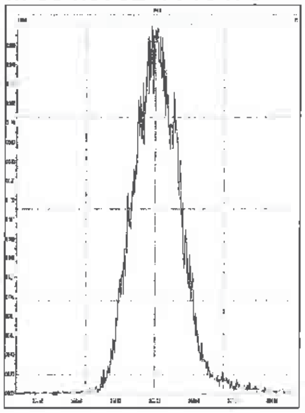

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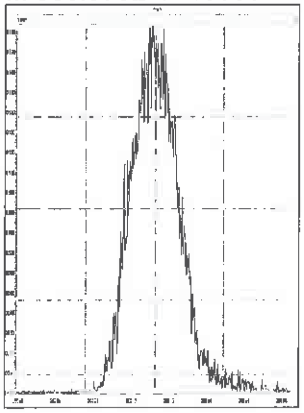

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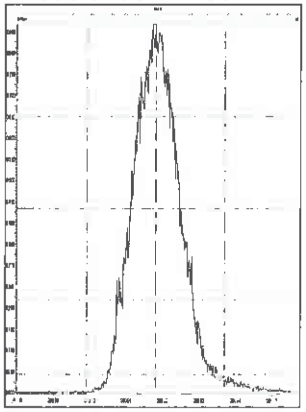

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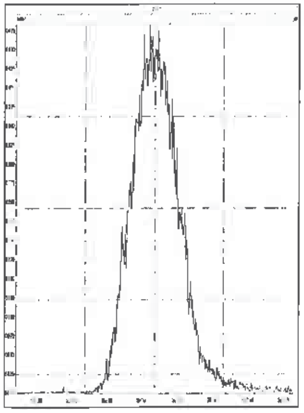

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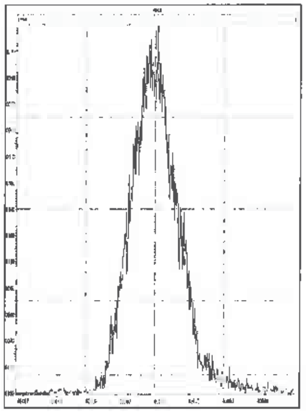

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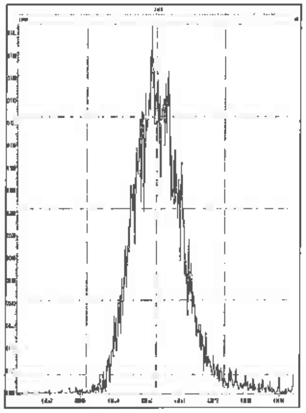

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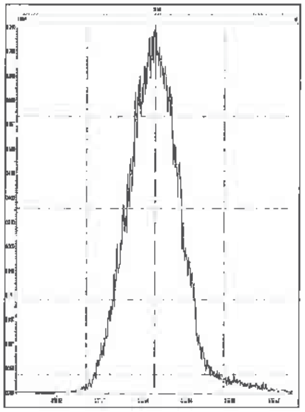

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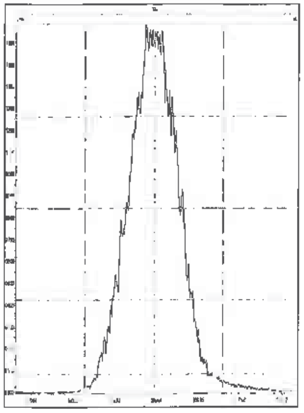

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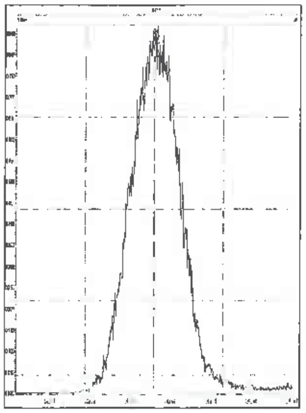

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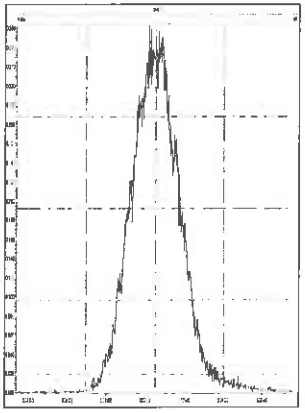

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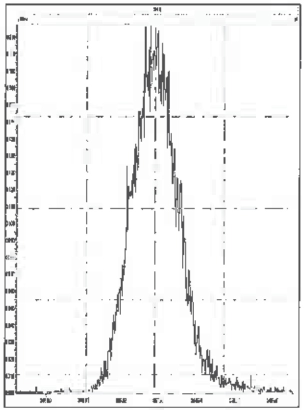

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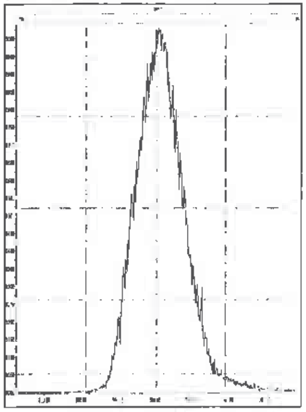

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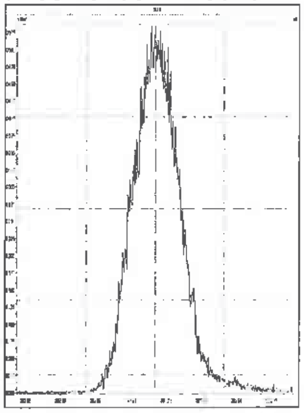

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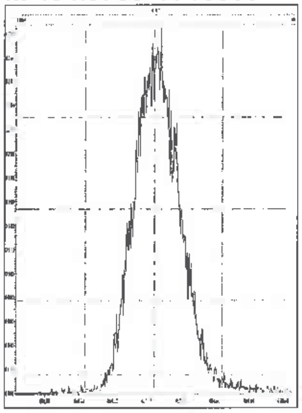

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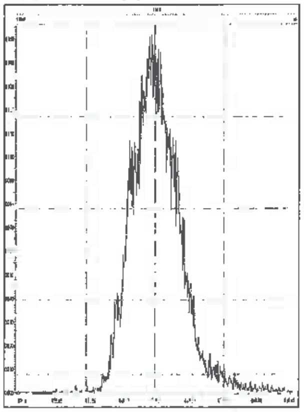

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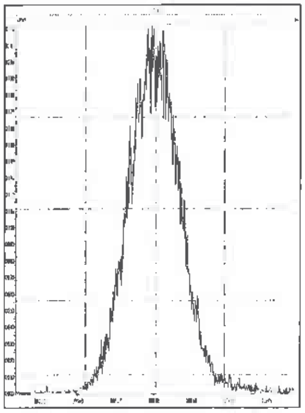

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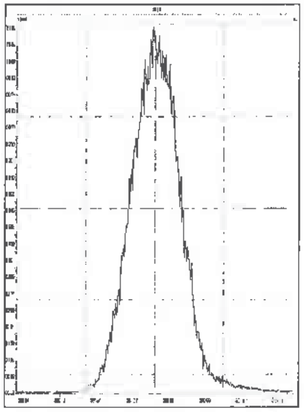

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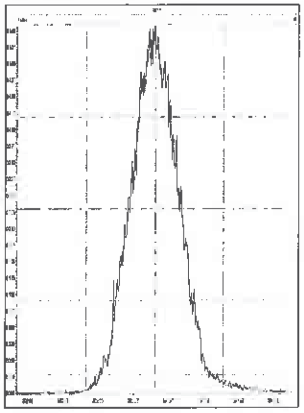

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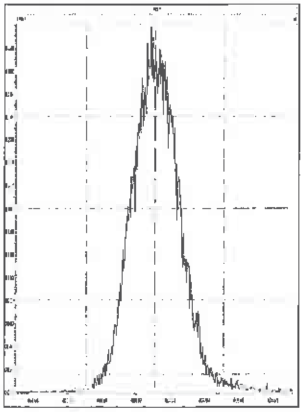

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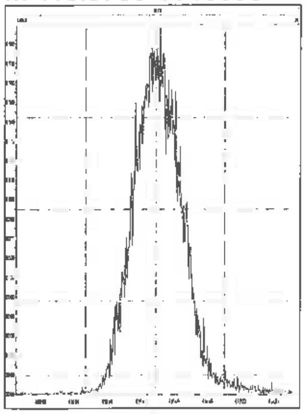

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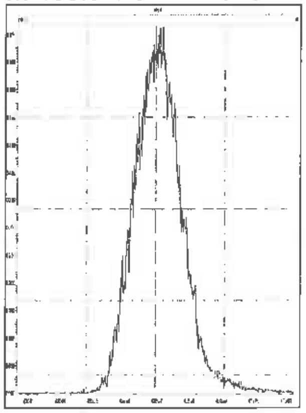

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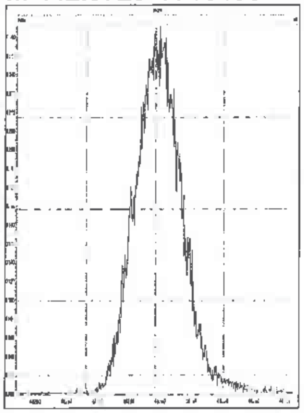

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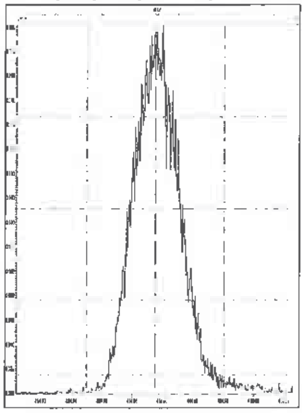

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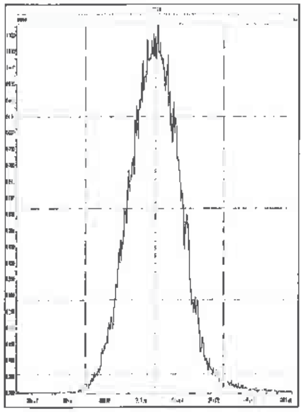

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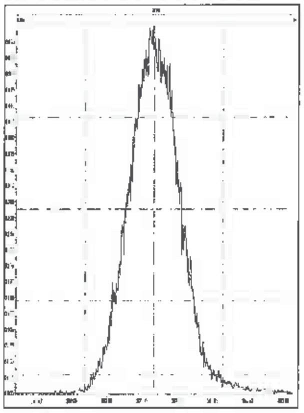

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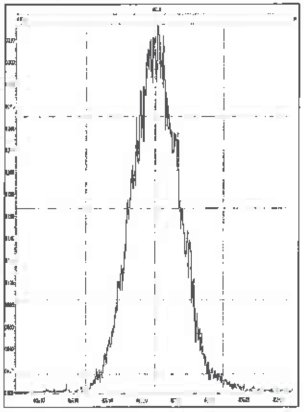

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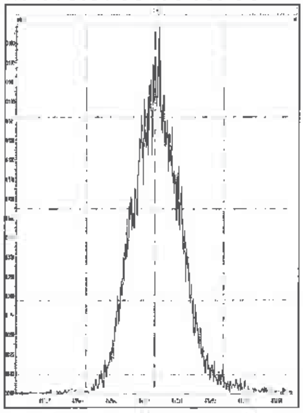

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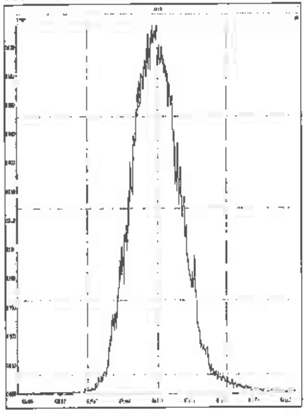
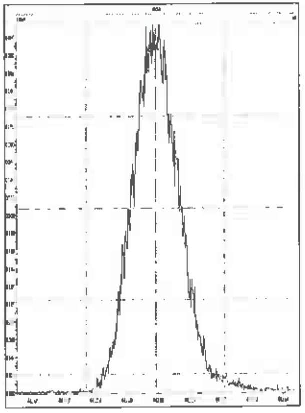
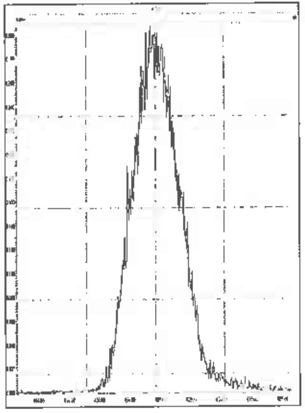


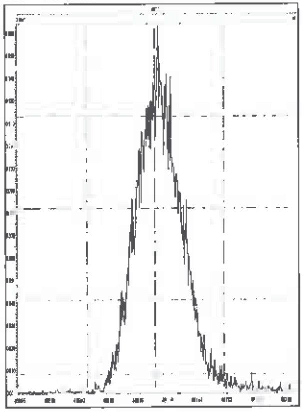
M 442.9728 R 13337



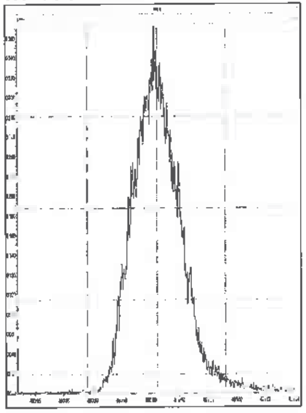
M 454.9728 R 13742



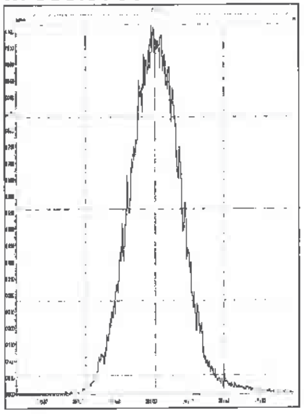
M 466.9728 R 13858



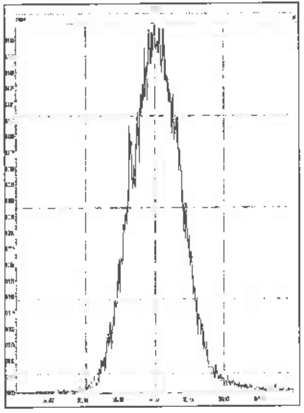
M 480.9696 R 13029



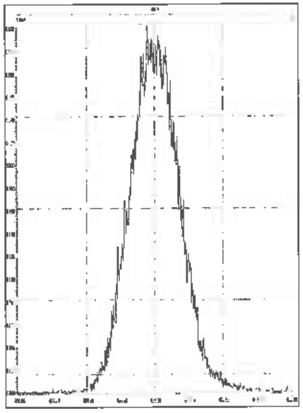
M 380.9760 R 11796



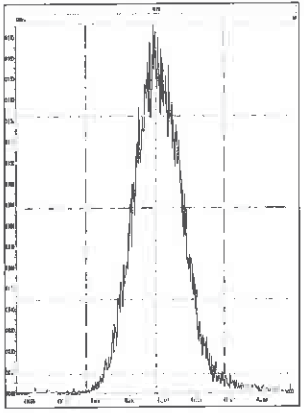
M 392.9760 R 11990



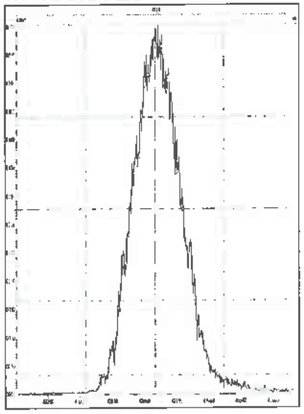
M 404.9760 R 12507



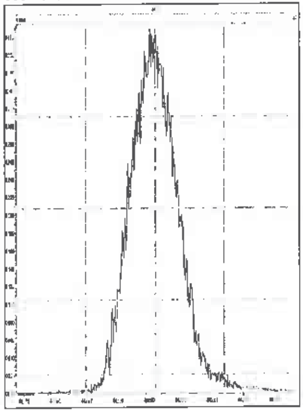
M 416.9760 R 12598



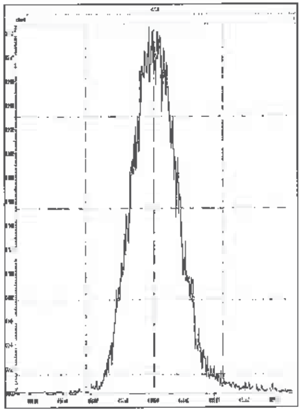
M 430.9728 R 12757



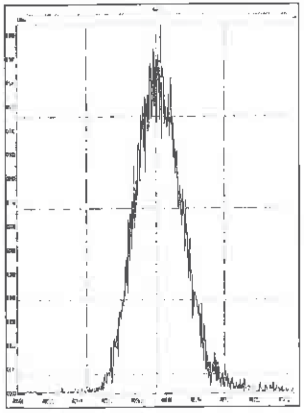
M 442.9728 R 13477



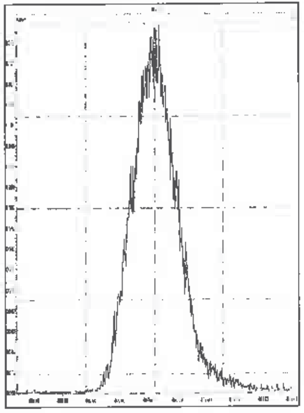
M 454.9728 R 13566



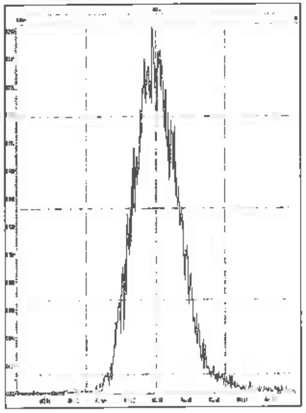
M 466.9728 R 14131



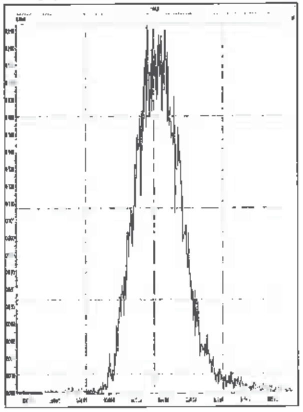
M 480.9696 R 13522



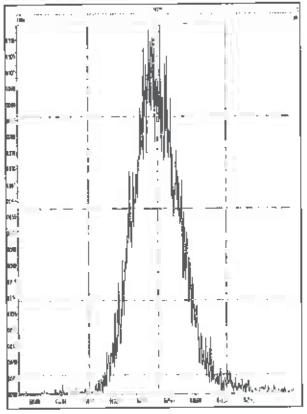
M 492.9696 R 13851



M 504.9696 R 13513



M 516.9697 R 13851



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento   Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-194084/65   Calibration Date: 11/11/2017 11:39

Instrument ID: 10D5   Calib Start Date: 10/13/2017 00:08

GC Column: DB-5   ID: 0.32(mm)   Calib End Date: 10/13/2017 03:12

Lab File ID: 09NO1710D5_65.d   Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.062		9.36	10.0	-6.4	20.0
2,3,7,8-TCDD	AveID	0.999	0.9491		9.50	10.0	-5.0	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.114		47.9	50.0	-4.2	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.132		49.6	50.0	-0.7	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9439		49.7	50.0	-0.5	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.335		47.7	50.0	-4.7	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.463		43.2	50.0	-13.7	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.403		46.1	50.0	-7.7	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	1.047		55.1	50.0	10.1	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.194		48.3	50.0	-3.3	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.232		49.4	50.0	-1.2	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.236		43.8	50.0	-12.3	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.578		48.1	50.0	-3.8	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9553		48.1	50.0	-3.8	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.272		47.8	50.0	-4.4	20.0
OCDD	AveID	1.060	1.016		95.8	100	-4.2	20.0
OCDF	AveID	1.346	1.354		101	100	0.6	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.363		107	100	6.9	30.0
13C-2,3,7,8-TCDD	Ave	0.9921	1.011		102	100	1.9	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9696	1.116		115	100	15.1	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.8676		114	100	14.3	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	1.068		111	100	10.8	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.8489		96.6	100	-3.4	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.7867		103	100	3.3	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.7995		103	100	3.0	30.0
13C-OCDD	Ave	0.6314	0.5792		183	200	-8.3	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.081		10.3	10.0	3.3	

Report Date: 13-Nov-2017 13:32:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2017 11:39:00 ALS Bottle#: 2 Worklist Smp#: 65
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917I CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:32:50 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: arghestanis Date: 11-Nov-2017 13:33:20

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	91690304	0.79	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	124938848	0.79	1.2741	106.9	106.9	0.2100	0.2100	107	
2,3,7,8-TCDF	17.415	13265874	0.77	1.1341	9.362	9.362	0.0314	0.0314	93.62	
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF					9.362	9.362	0.0314	0.0314		
D 13C-2,3,7,8-TCDD	18.095	92709821	0.78	0.9921	101.9	101.9	0.2161	0.2161	102	
$ 37Cl4-2,3,7,8-TCDD	18.125	9916250		1.0466	10.3	10.3	0.0165	0.0165	103	
2,3,7,8-TCDD	18.125	8798638	0.79	0.9993	9.497	9.497	0.0293	0.0293	94.97	
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD					9.497	9.497	0.0293	0.0293		
D 13C-1,2,3,7,8-PeCDF	22.437	102313461	1.56	0.9696	115.1	115.1	0.2971	0.2971	115	
1,2,3,7,8-PeCDF	22.451	56990172	1.60	1.1627	47.9	47.9	0.1770	0.1770	95.82	
D 13C-2,3,4,7,8-PeCDF	23.787	101918114	1.56							
2,3,4,7,8-PeCDF	23.814	57885577	1.62	1.1395	49.6	49.6	0.1806	0.1806	99.30	
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF					97.6	97.6	0.1788	0.1788		
D 13C-1,2,3,7,8-PeCDD	24.510	79549342	1.59	0.7588	114.3	114.3	0.1489	0.1489	114	
1,2,3,7,8-PeCDD	24.537	37542441	1.57	0.9490	49.7	49.7	0.0846	0.0846	99.46	
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD					49.7	49.7	0.0846	0.0846		
D 13C-1,2,3,4,7,8-HxCDF	30.580	86164128	0.52	0.9644	110.8	110.8	0.7308	0.7308	111	
1,2,3,4,7,8-HxCDF	30.593	57534030	1.28	1.4012	47.7	47.7	0.3559	0.3559	95.31	
D 13C-1,2,3,6,7,8-HxCDF	30.753	101046952	0.52							
1,2,3,6,7,8-HxCDF	30.779	63044101	1.26	1.6951	43.2	43.2	0.2942	0.2942	86.33	
D 13C-2,3,4,6,7,8-HxCDF	31.565	95404901	0.53							
2,3,4,6,7,8-HxCDF	31.578	60443593	1.27	1.5205	46.1	46.1	0.3280	0.3280	92.27	
D 13C-1,2,3,7,8,9-HxCDF	32.350	86215159	0.52							
1,2,3,7,8,9-HxCDF	32.363	53256775	1.28	1.4099	43.8	43.8	0.3537	0.3537	87.68	
A Non-2,3,7,8-sub-HxCDF	30.261						0.0	0.0		

Report Date: 13-Nov-2017 13:32:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					180.8	180.8	0.3329	0.3329		
* 13C-1,2,3,7,8,9-HxCDD	32.177	80641255	1.26	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.751	61020105	1.26							
1,2,3,4,7,8-HxCDD	31.764	35834693	1.28	0.9505	55.1	55.1	0.2664	0.2664	110	
D 13C-1,2,3,6,7,8-HxCDD	31.844	68457788	1.26	0.8791	96.6	96.6	0.4734	0.4734	96.57	
1,2,3,6,7,8-HxCDD	31.871	40853551	1.26	1.2343	48.3	48.3	0.2052	0.2052	96.70	
1,2,3,7,8,9-HxCDD	32.190	42165973	1.27	1.2467	49.4	49.4	0.2031	0.2031	98.81	
A Non-2,3,7,8-sub-HxCDD	30.899						0.0	0.0		
S Total HxCDD					152.8	152.8	0.2249	0.2249		
1,2,3,4,6,7,8-HpCDF	33.770	50039824	1.07	1.6399	48.1	48.1	0.6386	0.6386	96.20	
D 13C-1,2,3,4,6,7,8-HpCDF	33.770	63438997	0.44	0.7618	103.3	103.3	1.508	1.508	103	
D 13C-1,2,3,4,7,8,9-HpCDF	34.839	54619358	0.43							
1,2,3,4,7,8,9-HpCDF	34.852	40337158	1.07	1.3302	47.8	47.8	0.7872	0.7872	95.60	
A Non-2,3,7,8-sub-HpCDF	34.311						0.0	0.0		
S Total HpCDF					95.9	95.9	0.7129	0.7129		
D 13C-1,2,3,4,6,7,8-HpCDD	34.548	64470159	1.07	0.7762	103.0	103.0	1.112	1.112	103	
1,2,3,4,6,7,8-HpCDD	34.560	30794577	1.01	0.9932	48.1	48.1	0.3912	0.3912	96.19	
A Non-2,3,7,8-sub-HpCDD	34.287						0.0	0.0		
S Total HpCDD					48.1	48.1	0.3912	0.3912		
D 13C-OCDD	36.882	93414225	0.87	0.6314	183.5	183.5	0.2570	0.2570	91.73	
OCDF	36.990	63238968	0.92	1.3460	100.6	100.6	0.1455	0.1455	101	
OCDD	36.894	47439015	0.88	1.0604	95.8	95.8	0.1511	0.1511	95.78	

Reagents:

HRDXNL4_00059 Amount Added: 1.00 Units: mL

Report Date: 13-Nov-2017 13:32:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2017 11:39:00 ALS Bottle#: 2 Worklist Smp#: 65
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917I CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:32:50 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: arghestanis Date: 11-Nov-2017 13:33:20

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		40384724	9966028	10464	26160	952		
333.9339	17.914	17.914	0		51305580	12354477	8674	21685	1424	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	55037574	13260960	13948	34870	951		
317.9389	17.385	17.400	-1	0.970	69901274	16862806	9935	24837	1697	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415	17.415	0	1.001	5769350	1391545	1602	4005	869		
305.8987	17.400	17.415	-1	1.000	7496524	1802040	2695	6737	669	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						1602	4005			
305.8987	17.105						2695	6737			
13C-2,3,7,8-TCDD											
331.9368	18.095	18.095	0	1.010	40673084	9430252	10464	26160	901		
333.9339	18.095	18.095	0	1.010	52036737	12100622	8674	21685	1395	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.125	18.125	0	1.012	9916250	2300873	1544	3860	1490		
2,3,7,8-TCDD											
319.8965	18.125	18.125	0	1.002	3878627	906467	1435	3587	632		
321.8936	18.125	18.125	0	1.002	4920011	1152069	1087	2717	1060	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						1435	3587			
321.8936	17.559						1087	2717			

Report Date: 13-Nov-2017 13:32:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.437	22.437	0	1.253	62294584	10855255	14985	37462	724		
353.8970	22.437	22.437	0	1.253	40018877	6912585	10737	26842	644	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.451	22.451	0	1.001	35087877	6018195	8599	21497	700		
341.8567	22.451	22.451	0	1.001	21902295	3818237	6029	15072	633	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.787	23.787	0	1.328	62041363	10145558	14985	37462	677		
353.8970	23.787	23.787	0	1.328	39876751	6618099	10737	26842	616	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.814	23.814	0	1.061	35757558	5889000	8599	21497	685		
341.8567	23.814	23.814	0	1.061	22128019	3626623	6029	15072	602	1.62(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.001						317	792			
341.8567	20.001						1088	2720			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						8599	21497			
341.8567	23.161						6029	15072			
13C-1,2,3,7,8-PeCDD											
367.8949	24.510	24.510	0	1.368	48811324	7708217	5662	14155	1361		
369.8919	24.510	24.510	0	1.368	30738018	4945575	4427	11067	1117	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.537	24.537	0	1.001	22929112	3602879	2555	6387	1410		
357.8516	24.537	24.537	0	1.001	14613329	2266285	1509	3772	1502	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						2555	6387			
357.8516	23.419						1509	3772			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.580	30.580	0	0.950	29596453	5904120	19634	49085	301		
385.8610	30.580	30.580	0	0.950	56567675	11045235	37546	93865	294	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.593	30.593	0	1.000	32307023	6483714	19433	48582	334		
375.8178	30.593	30.593	0	1.000	25227007	5123935	14378	35945	356	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.753	30.753	0	0.956	34543743	6678721	19634	49085	340		
385.8610	30.753	30.753	0	0.956	66503209	12742638	37546	93865	339	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.779	30.779	0	1.007	35157311	6747167	19433	48582	347		
375.8178	30.779	30.779	0	1.007	27886790	5244515	14378	35945	365	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.565	31.565	0	0.981	33062320	8480416	19634	49085	432		
385.8610	31.565	31.565	0	0.981	62342581	15907578	37546	93865	424	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.578	31.578	0	1.033	33766370	8709411	19433	48582	448		
375.8178	31.578	31.578	0	1.033	26677223	6883316	14378	35945	479	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.350	32.350	0	1.005	29624571	7522293	19634	49085	383		
385.8610	32.350	32.350	0	1.005	56590588	14185066	37546	93865	378	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.363	32.363	0	1.058	29868937	7418043	19433	48582	382		
375.8178	32.363	32.363	0	1.058	23387838	5877839	14378	35945	409	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.261						19433	48582			
375.8178	30.261						14378	35945			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.177	32.177	0		44896204	11320256	18282	45705	619		
403.8529	32.177	32.177	0		35745051	8963967	15483	38707	579	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.751	31.751	0	0.987	33967180	9424058	18282	45705	515		
403.8529	31.751	31.751	0	0.987	27052925	7550221	15483	38707	488	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.764	31.764	0	0.997	20097110	5690635	8942	22355	636		
391.8127	31.764	31.764	0	0.997	15737583	4370986	8476	21190	516	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.844	31.844	0	0.990	38220883	9546649	18282	45705	522		
403.8529	31.844	31.844	0	0.990	30236905	7647879	15483	38707	494	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.871	31.871	0	1.001	22807461	5717815	8942	22355	639		
391.8127	31.858	31.871	-1	1.000	18046090	4558888	8476	21190	538	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.190	32.190	0	1.011	23619239	6044423	8942	22355	676		
391.8127	32.190	32.190	0	1.011	18546734	4685220	8476	21190	553	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.899						8942	22355			
391.8127	30.899						8476	21190			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.770	33.770	0	1.000	25838907	7967578	39341	98352	203		
409.7789	33.770	33.770	0	1.000	24200917	7585189	40799	101997	186	1.07(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.770	33.770	0	1.050	19388671	5837841	26289	65722	222		
419.8220	33.758	33.770	-1	1.049	44050326	13293791	66898	167245	199	0.44(0.37-0.51)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.839	34.839	0	1.083	16450120	4712633	26289	65722	179		
419.8220	34.839	34.839	0	1.083	38169238	10733651	66898	167245	160	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.852	34.852	0	1.032	20852852	5986459	39341	98352	152		
409.7789	34.852	34.852	0	1.032	19484306	5531262	40799	101997	136	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.311						39341	98352			
409.7789	34.311						40799	101997			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.548	34.548	0	1.074	33294949	9327430	35504	88760	263		
437.8140	34.548	34.548	0	1.074	31175210	8662684	34542	86355	251	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.560	34.560	0	1.000	15456741	4441087	18048	45120	246		
425.7737	34.560	34.560	0	1.000	15337836	4477066	9910	24775	452	1.01(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.287						18048	45120			
425.7737	34.287						9910	24775			
13C-OCDD											
469.7779	36.882	36.882	0	1.146	43507458	10312629	4314	10785	2391		
471.7750	36.882	36.882	0	1.146	49906767	11825076	8851	22127	1336	0.87(0.76-1.02)	
OCDF											
441.7428	36.990	36.990	0	1.003	30237703	7418082	3402	8505	2181		
443.7399	36.978	36.990	-1	1.003	33001265	7868596	5269	13172	1493	0.92(0.76-1.02)	
OCDD											
457.7377	36.894	36.894	0	1.000	22235471	5382683	3323	8307	1620		
459.7348	36.894	36.894	0	1.000	25203544	6115717	3769	9422	1623	0.88(0.76-1.02)	

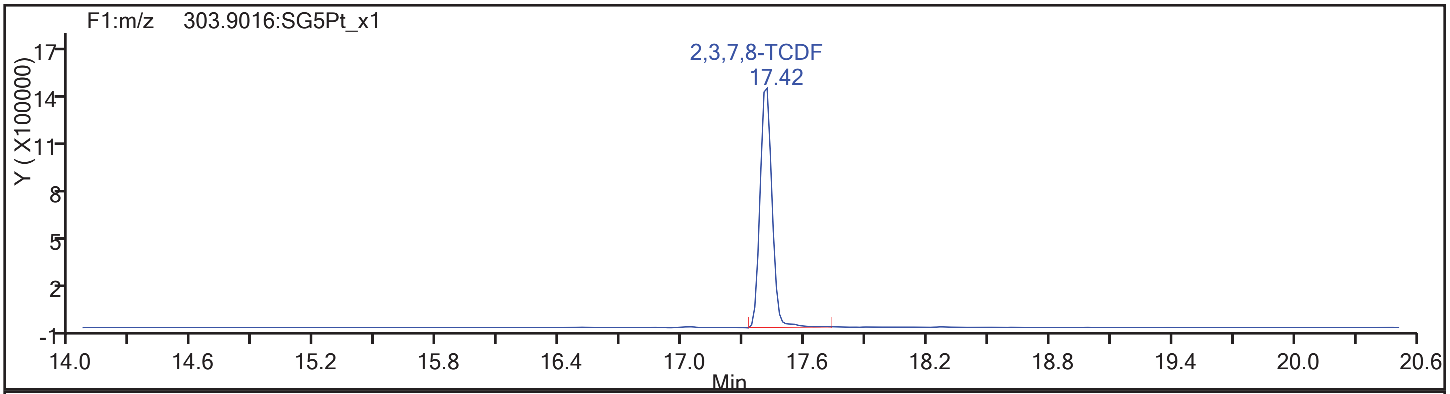
Reagents:

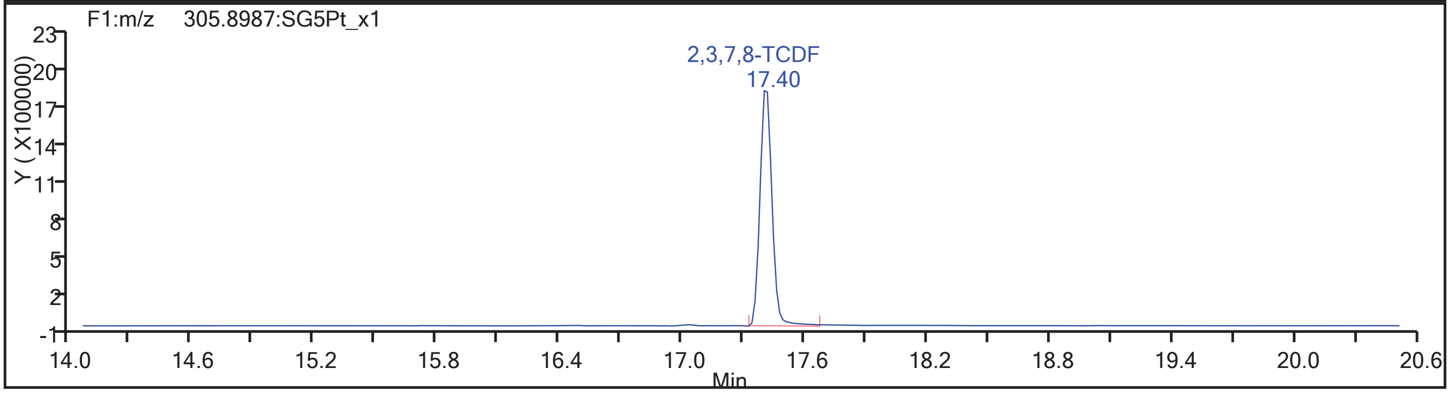
HRDXNL4_00059 Amount Added: 1.00 Units: mL

TestAmerica Sacramento

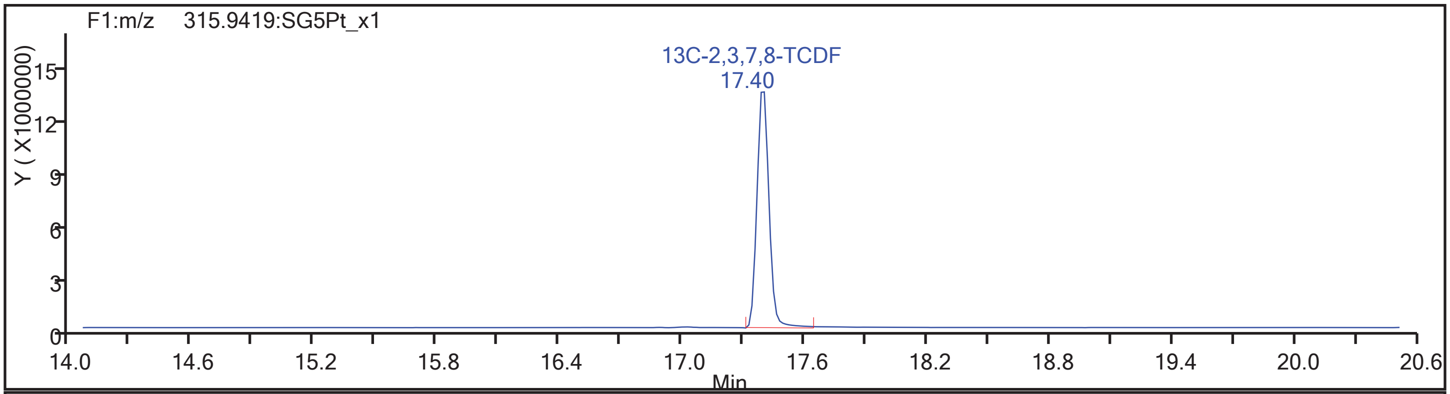
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d		
Injection Date:	11-Nov-2017 11:39:00	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	65
Column Type:	DB-5	Column Dia:	0.32 mm

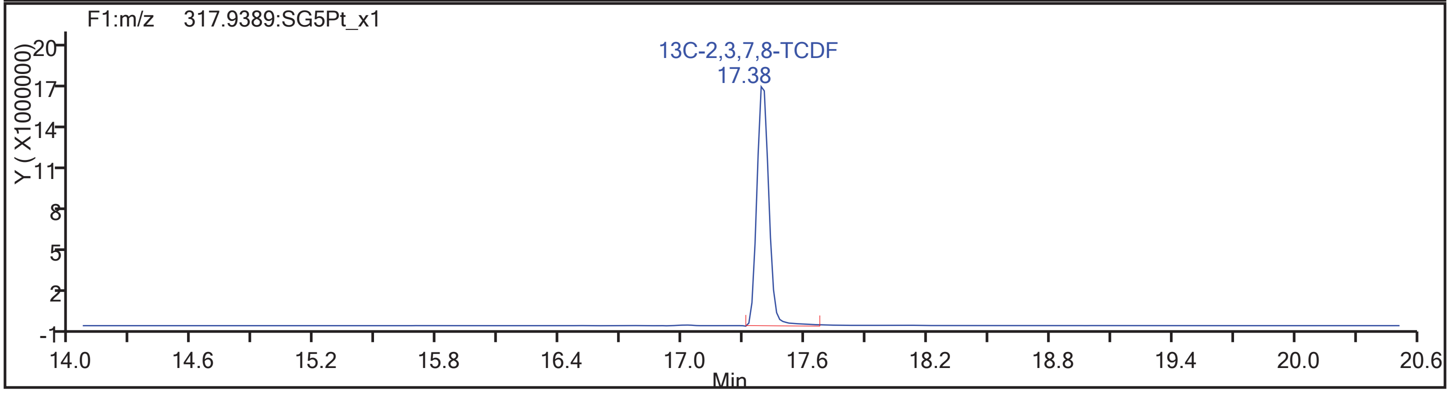
TCDF





TCDF Standards





TestAmerica Sacramento

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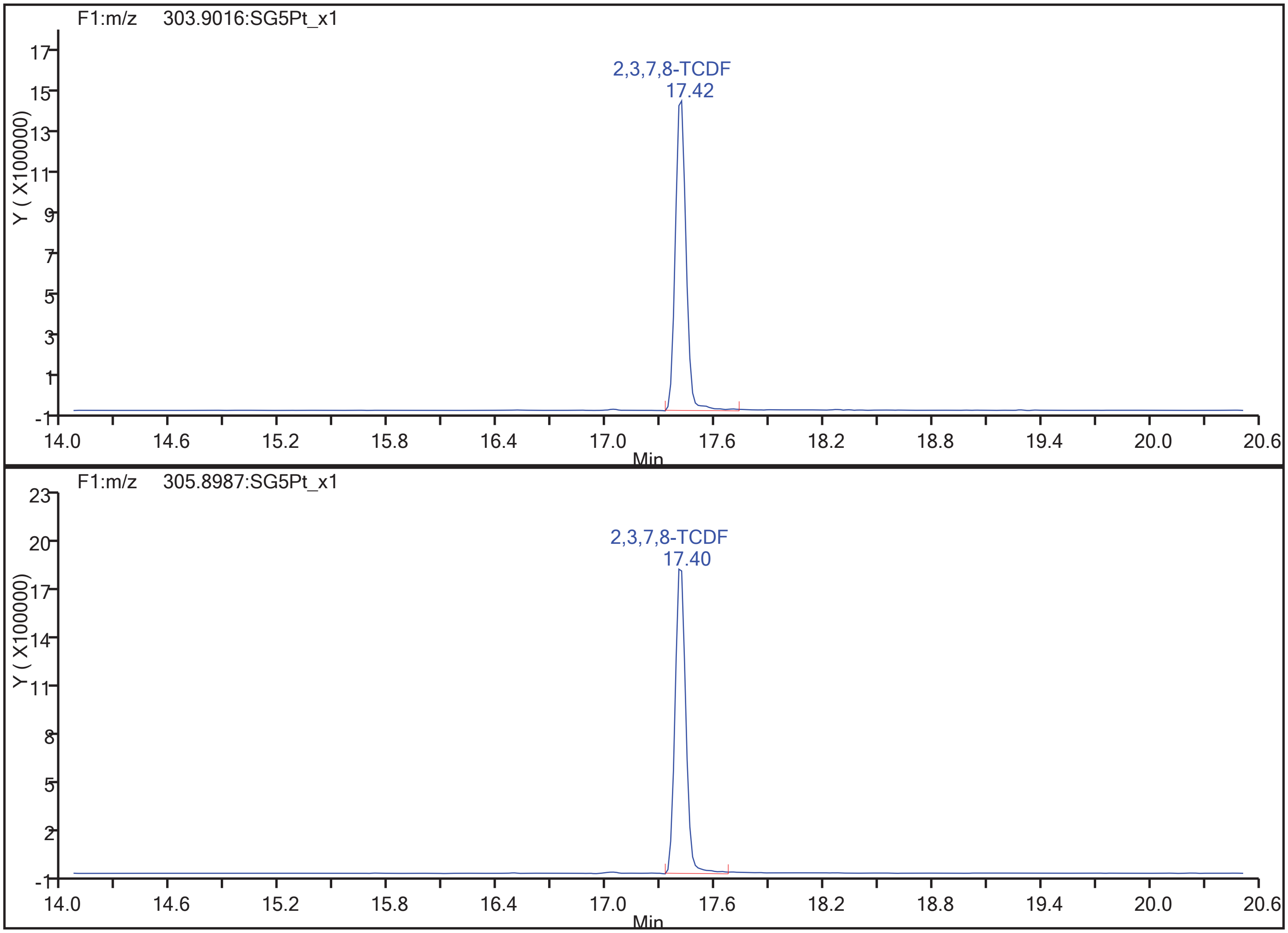
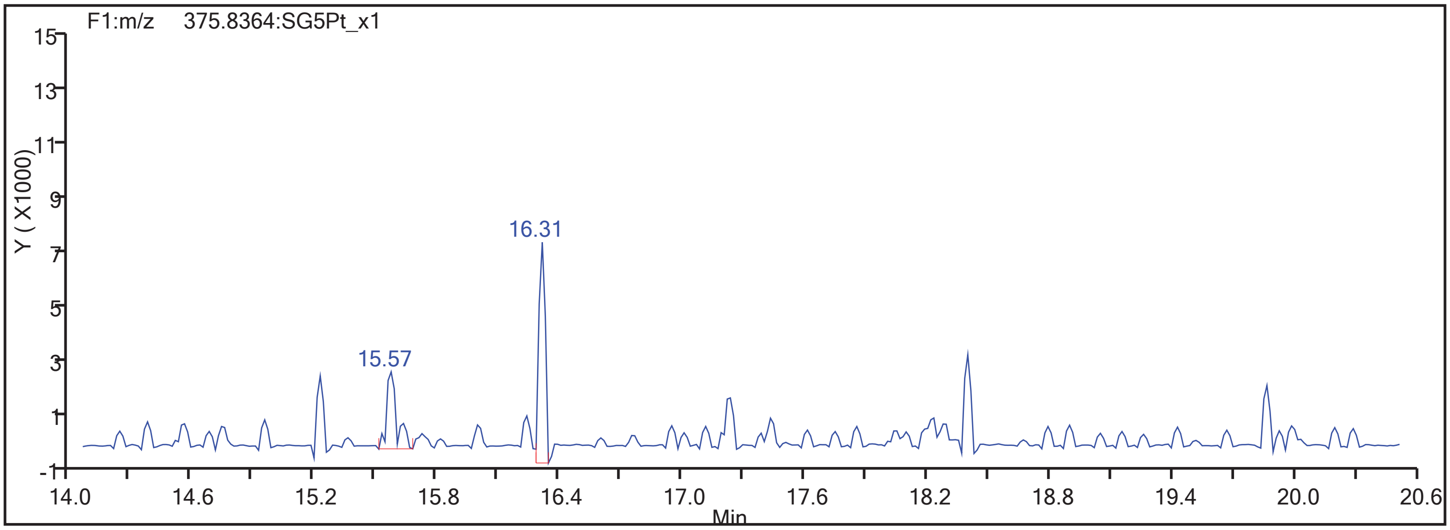
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	65
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF



TCDF Interference Mass



TestAmerica Sacramento

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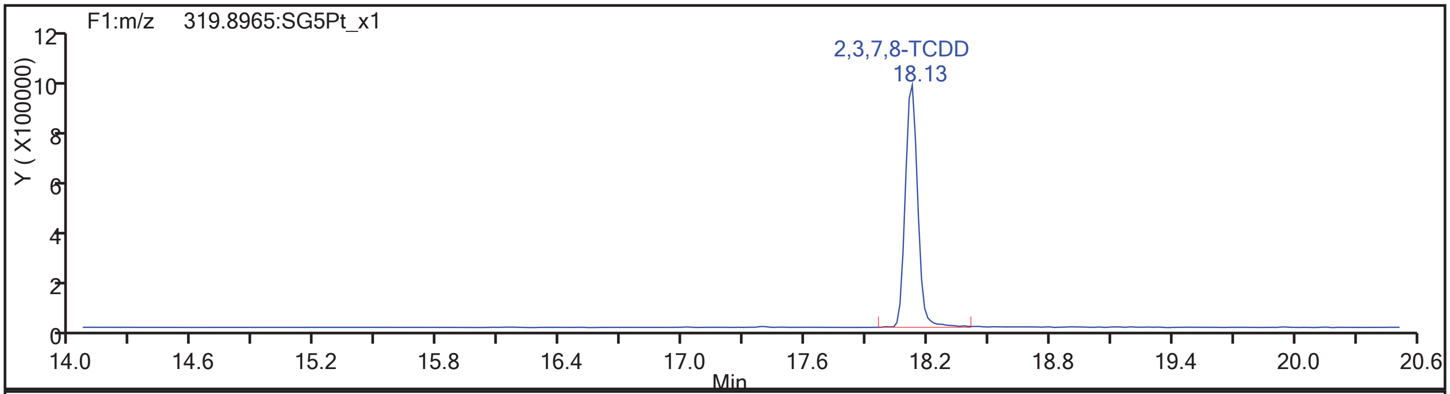
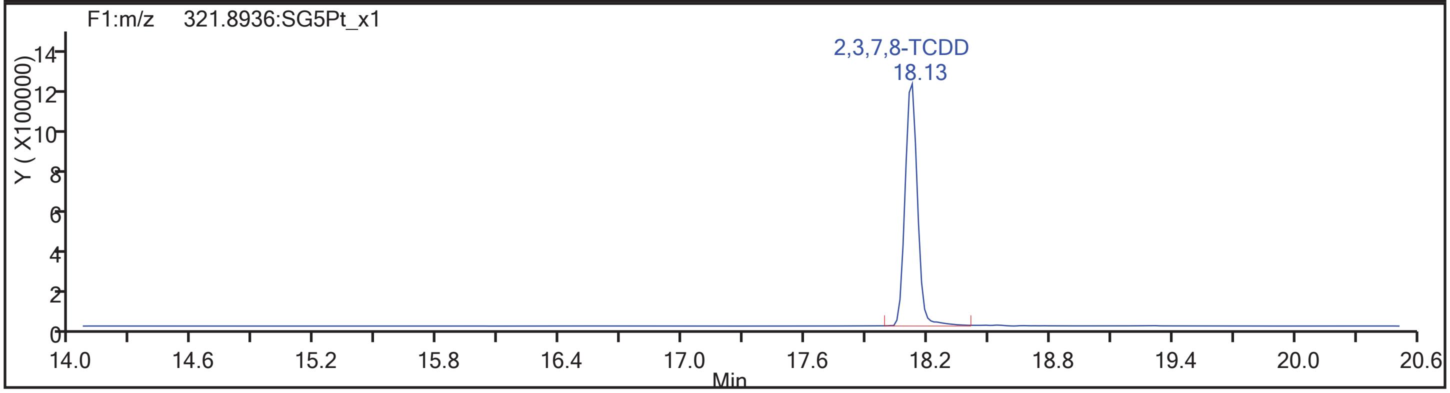
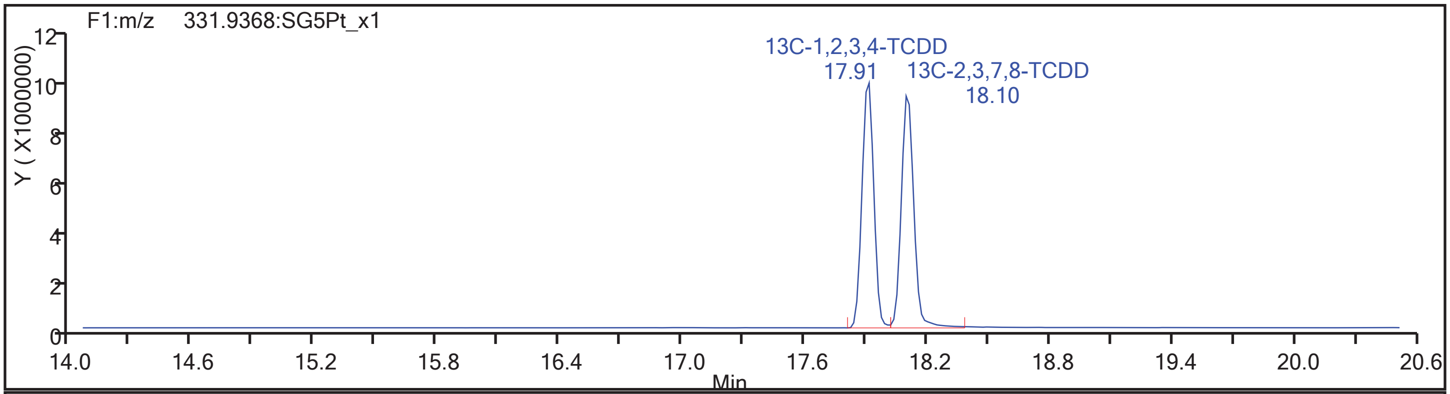
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	65
Column Type:	DB-5	Column Dia:	0.32 mm

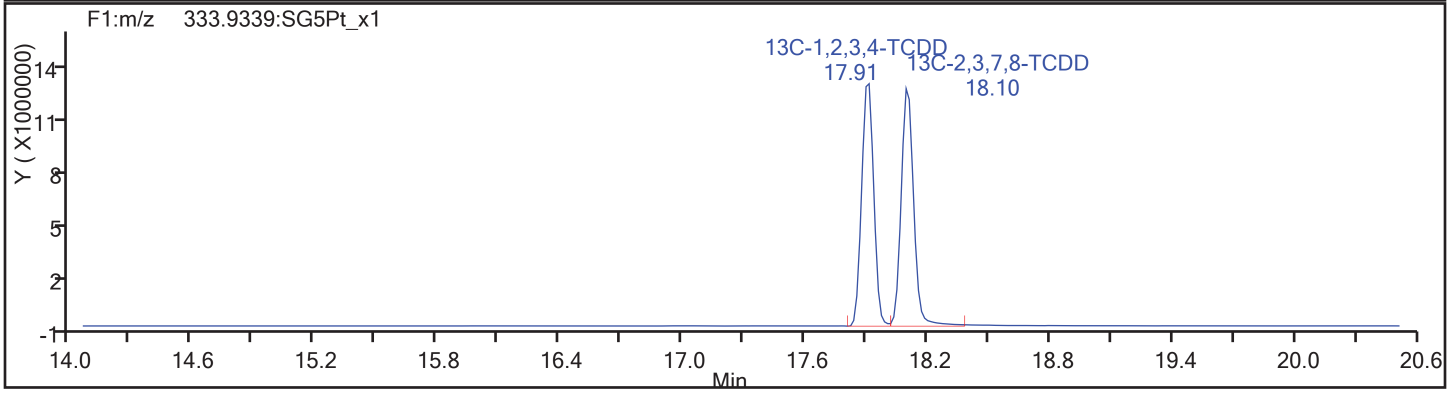
TCDD





TCDD Standards





Report Date: 13-Nov-2017 13:32:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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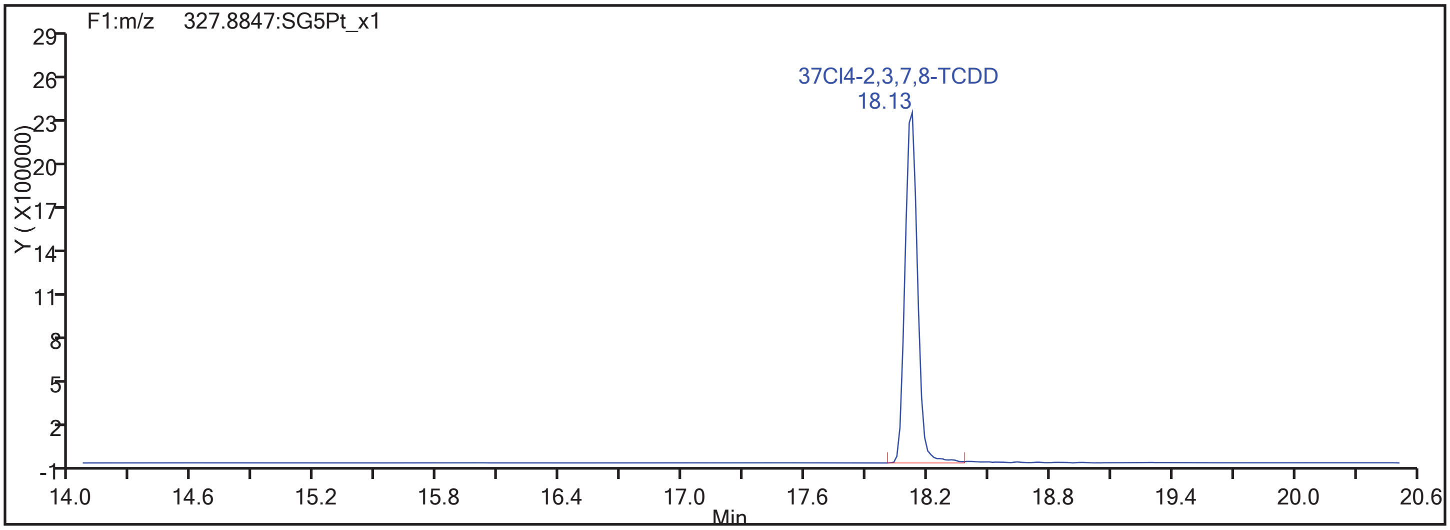
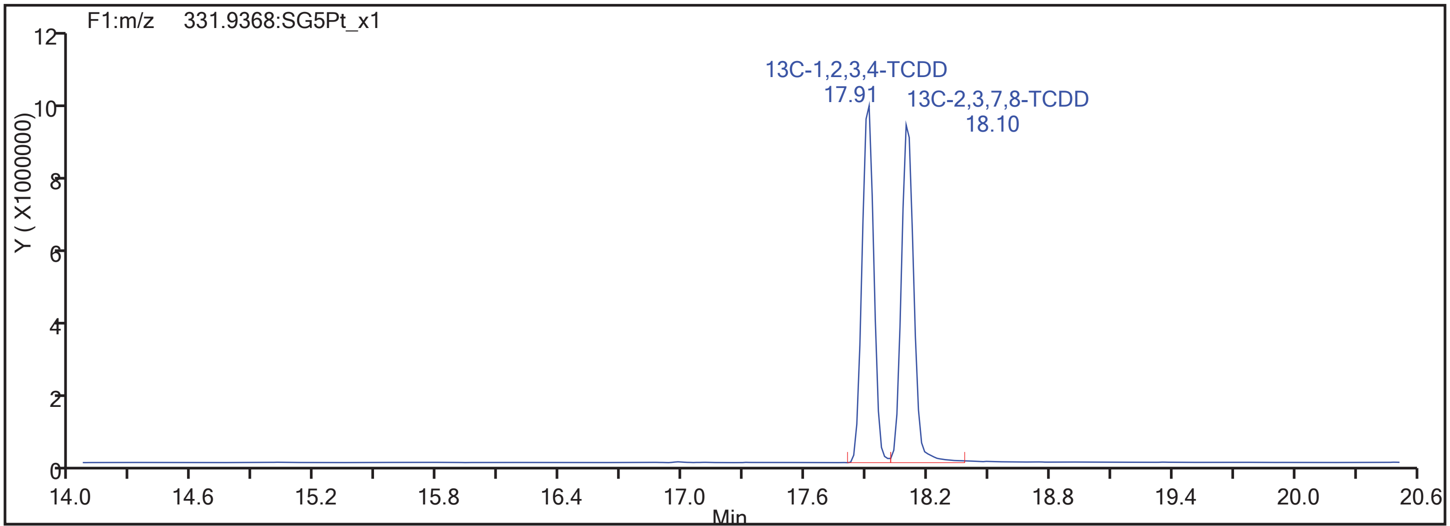
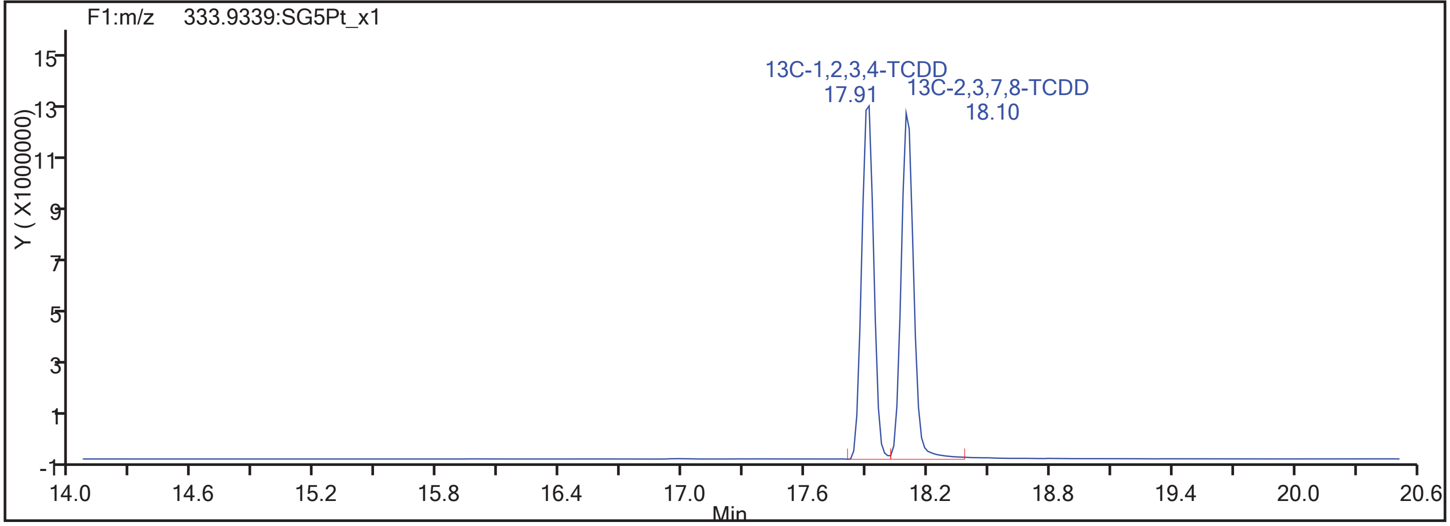
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084 Sample Line#: 65
Column Type: DB-5 Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

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Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
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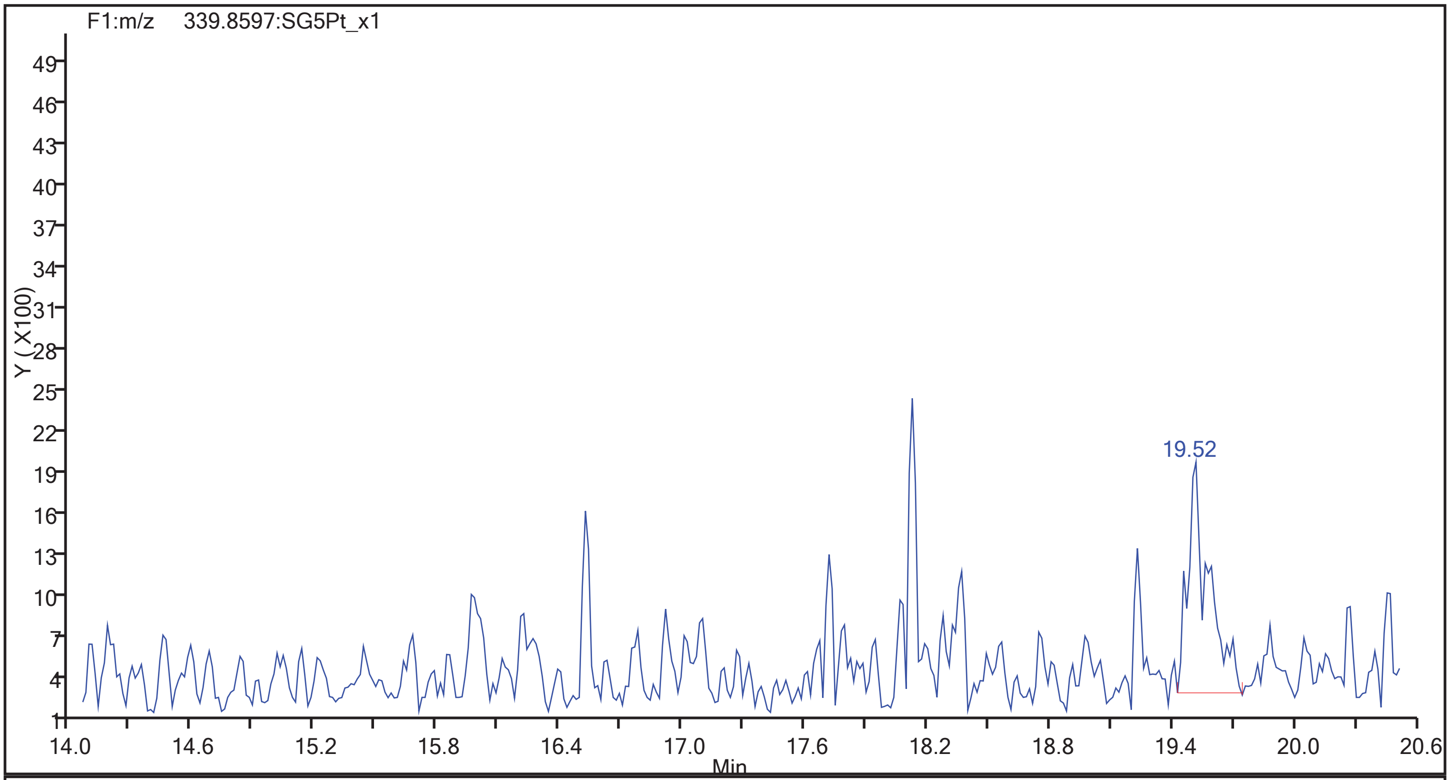
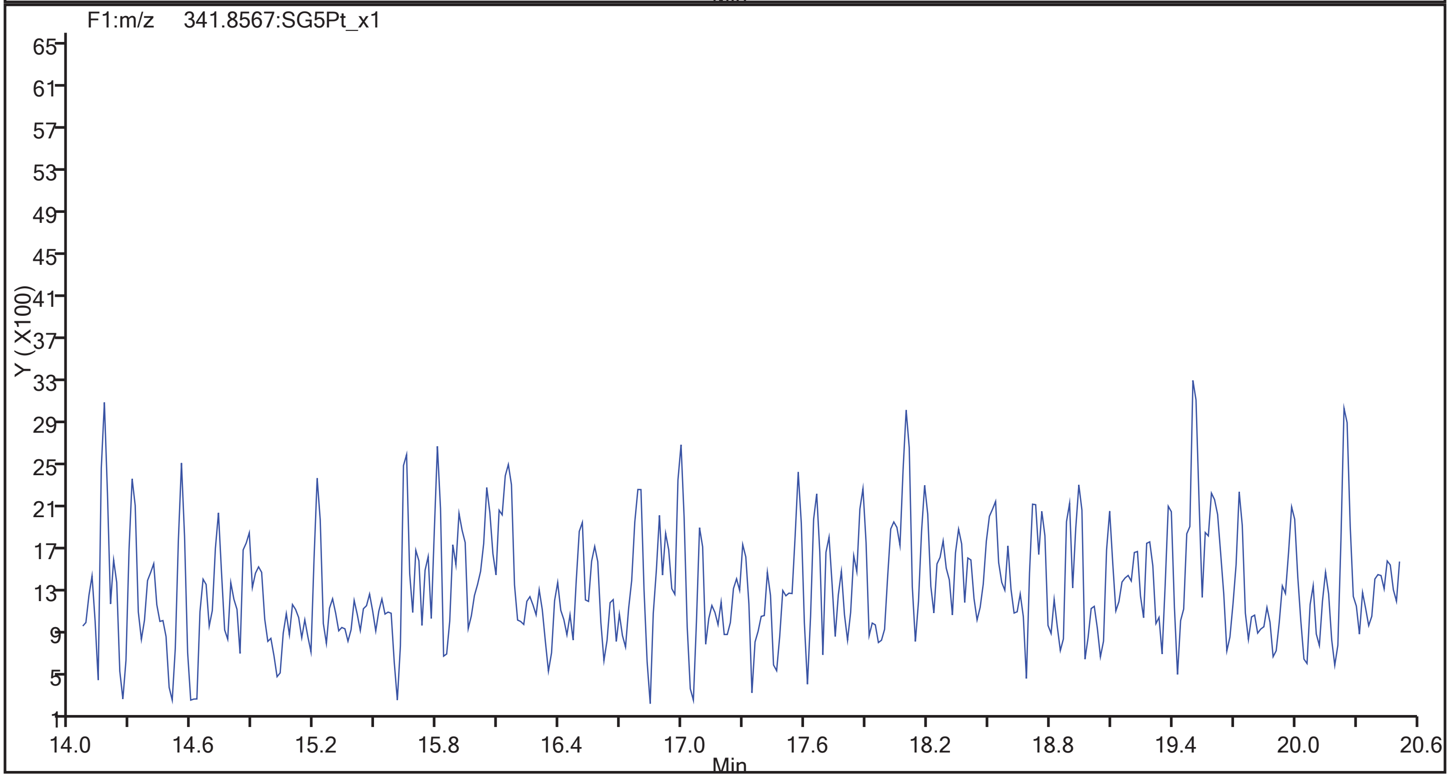
Client ID:
Worklist#: 194084
Sample Line#: 65
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs





Report Date: 13-Nov-2017 13:32:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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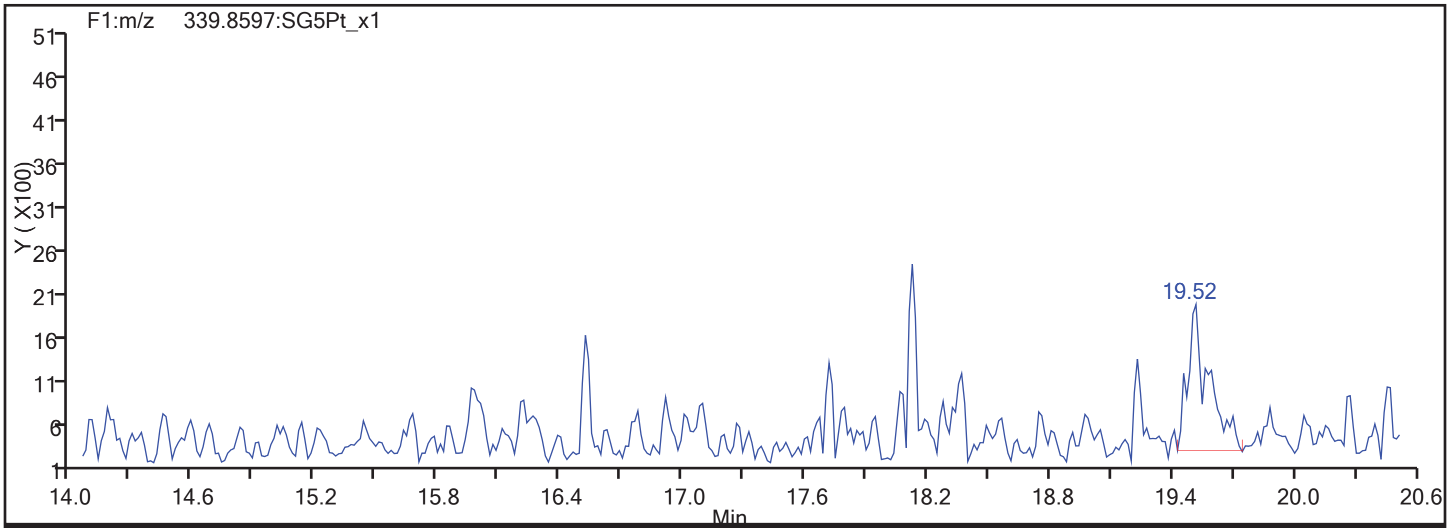
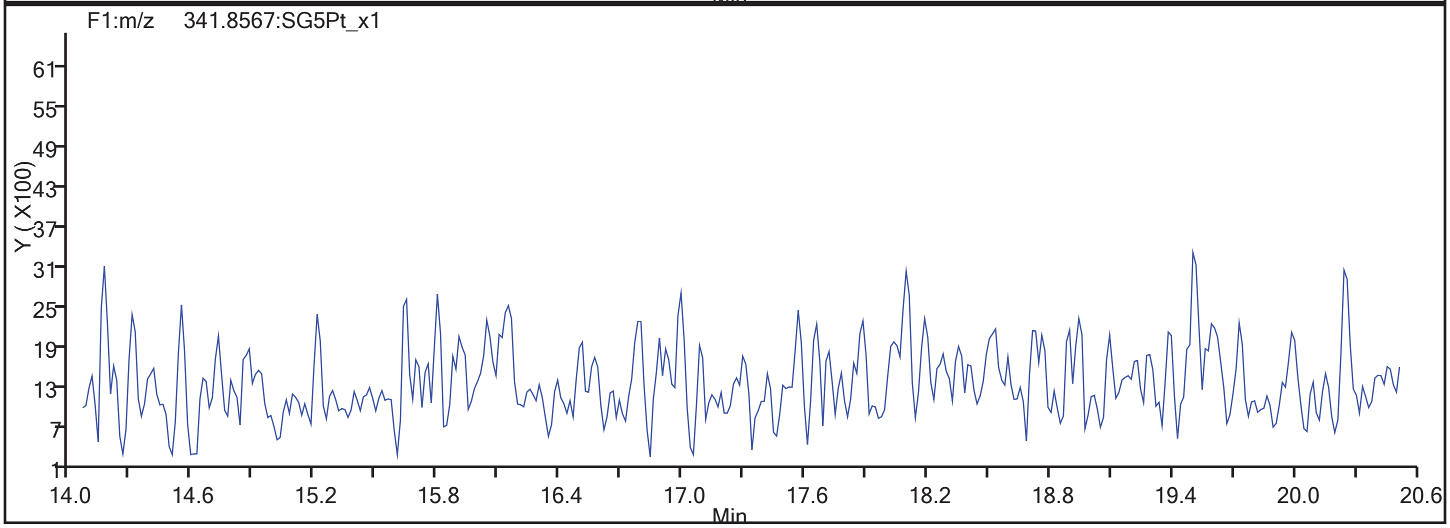
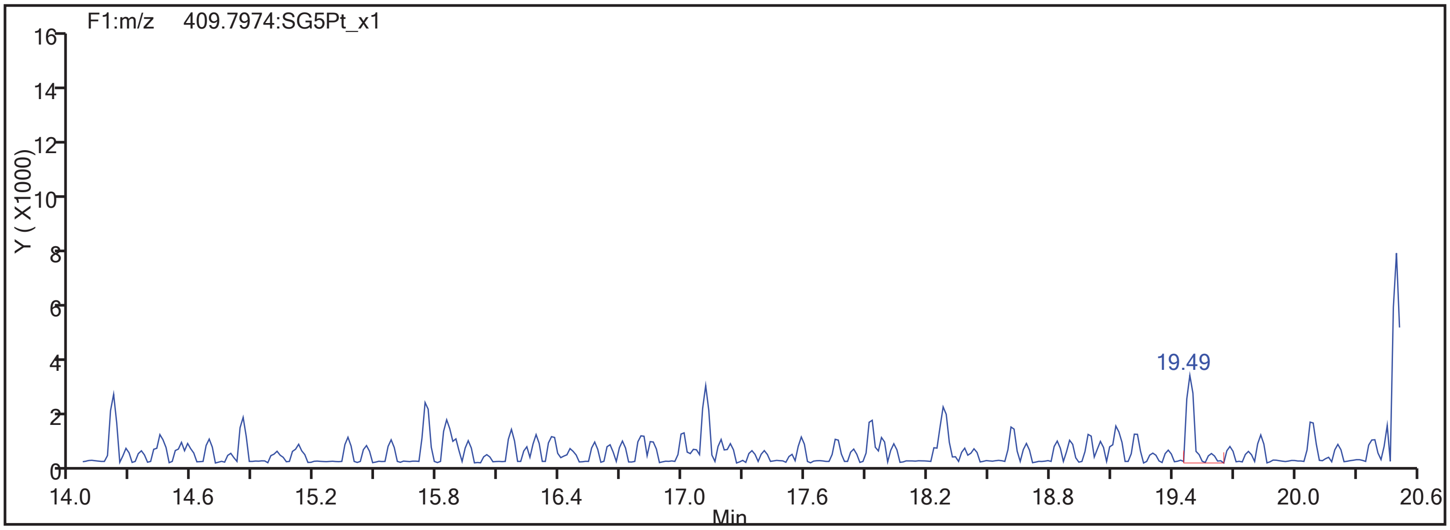
Injection Date:	11-Nov-2017 11:39:00	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	65
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 13-Nov-2017 13:32:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 11-Nov-2017 11:39:00
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
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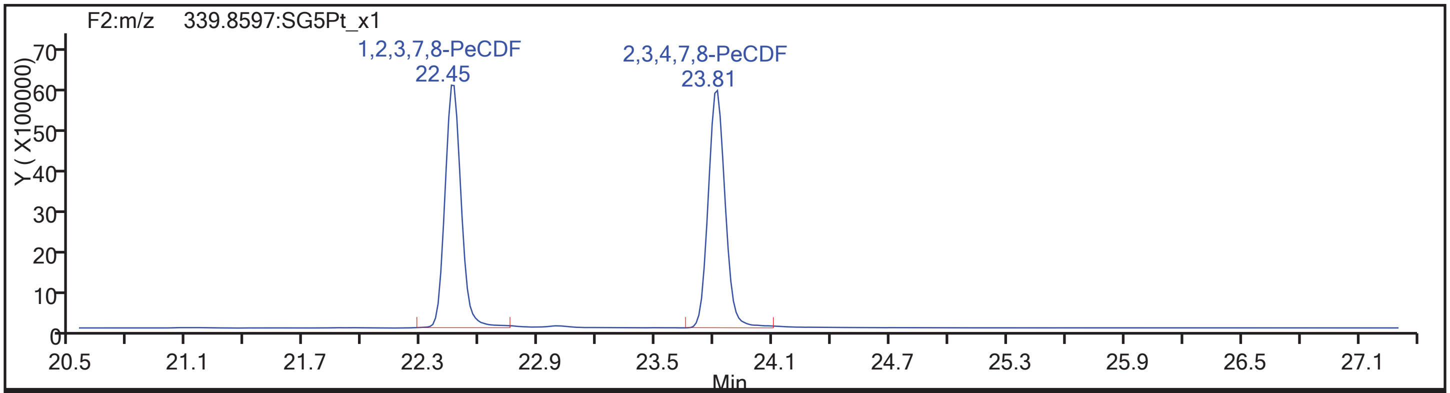
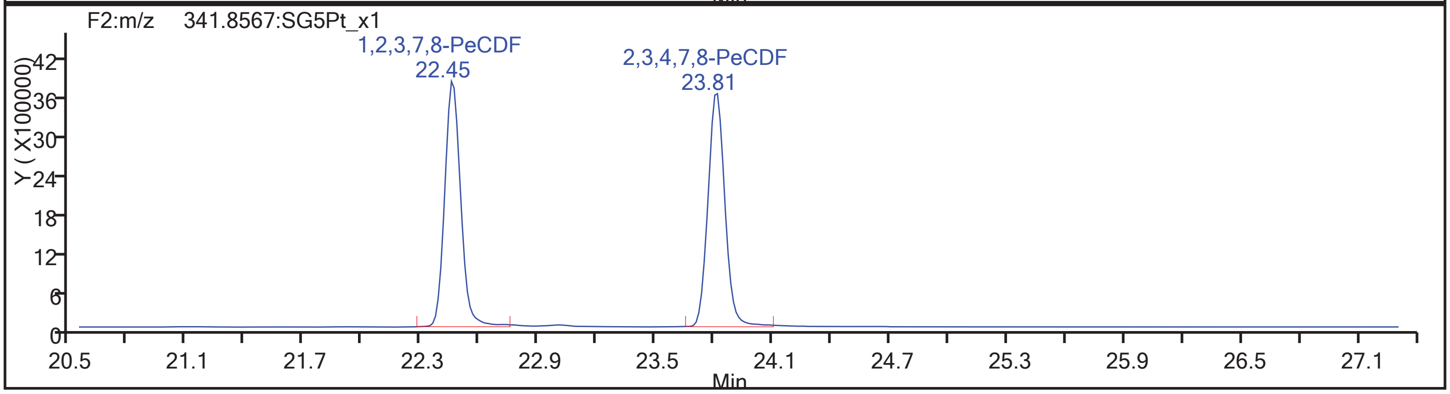
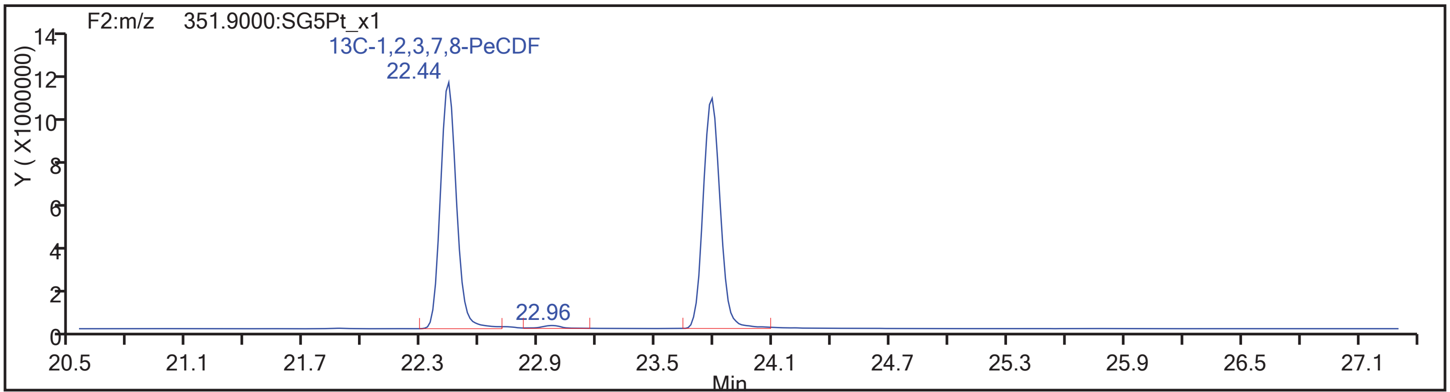
Client ID:
Worklist#: 194084
Sample Line#: 65
Column Type: DB-5
Column Dia: 0.32 mm

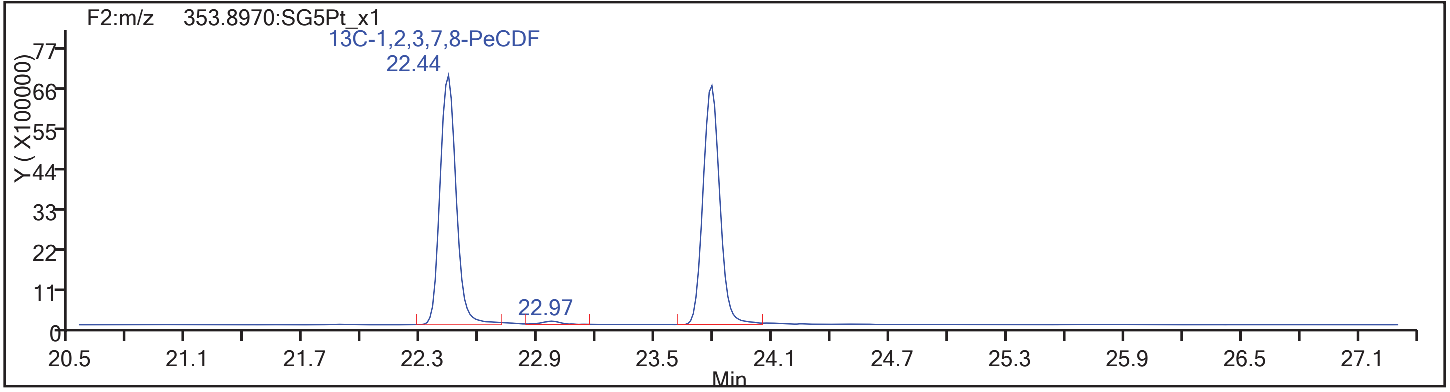
PeCDF





PeCDF Standards





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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d
Injection Date: 11-Nov-2017 11:39:00
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
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Client ID:
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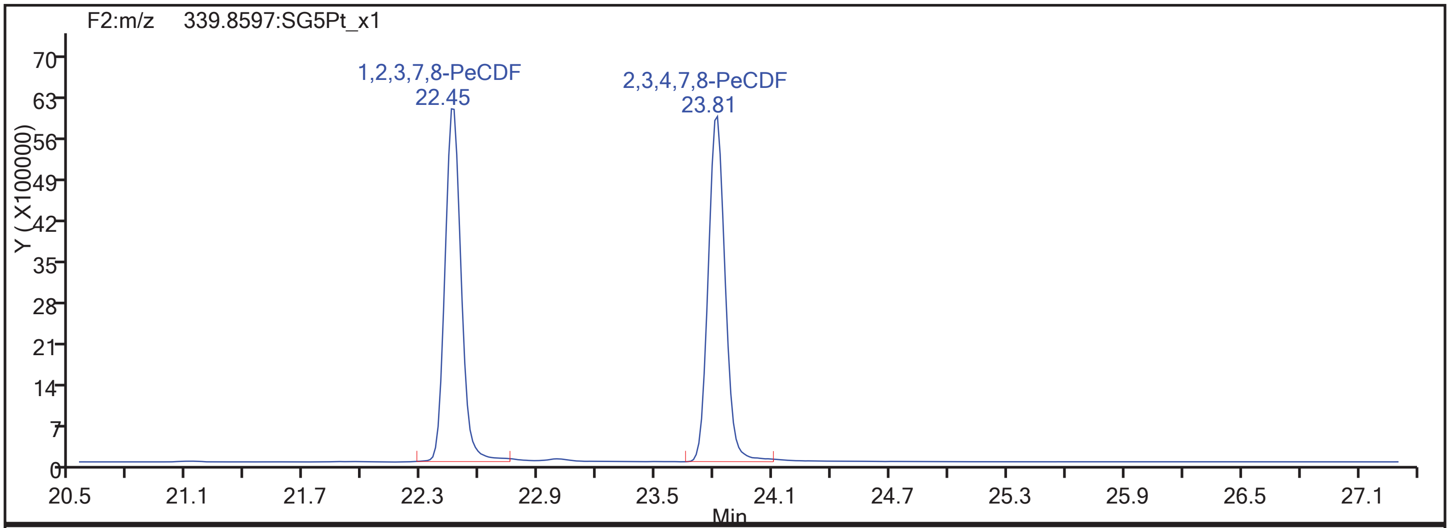
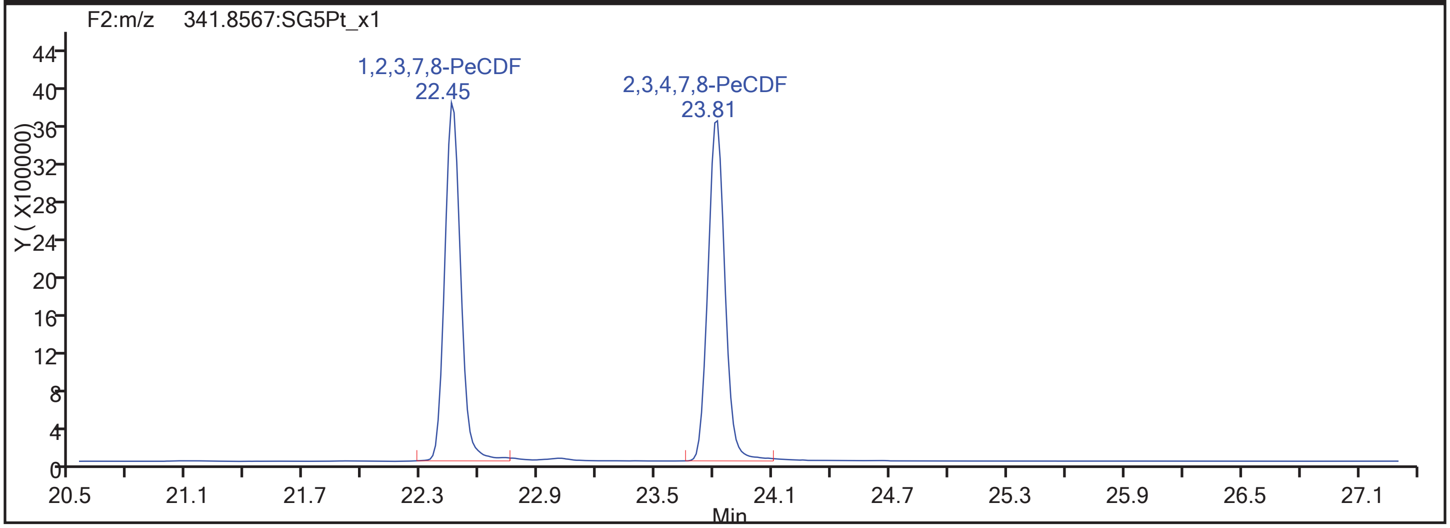
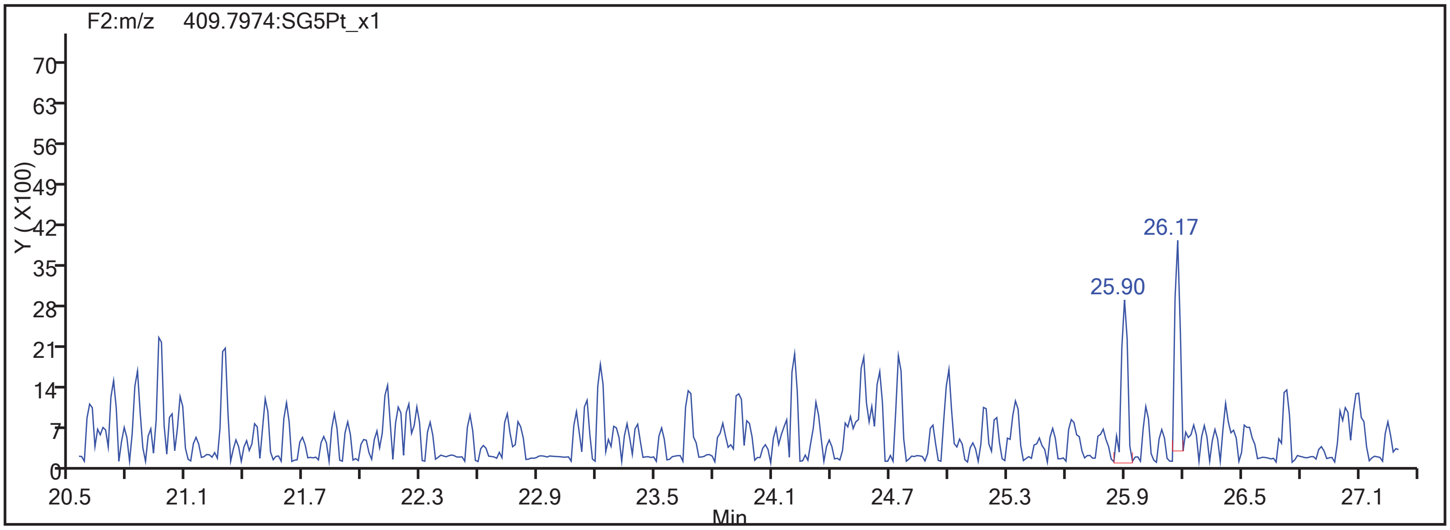
Sample Line#: 65
Column Type: DB-5
Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass



Report Date: 13-Nov-2017 13:32:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d		
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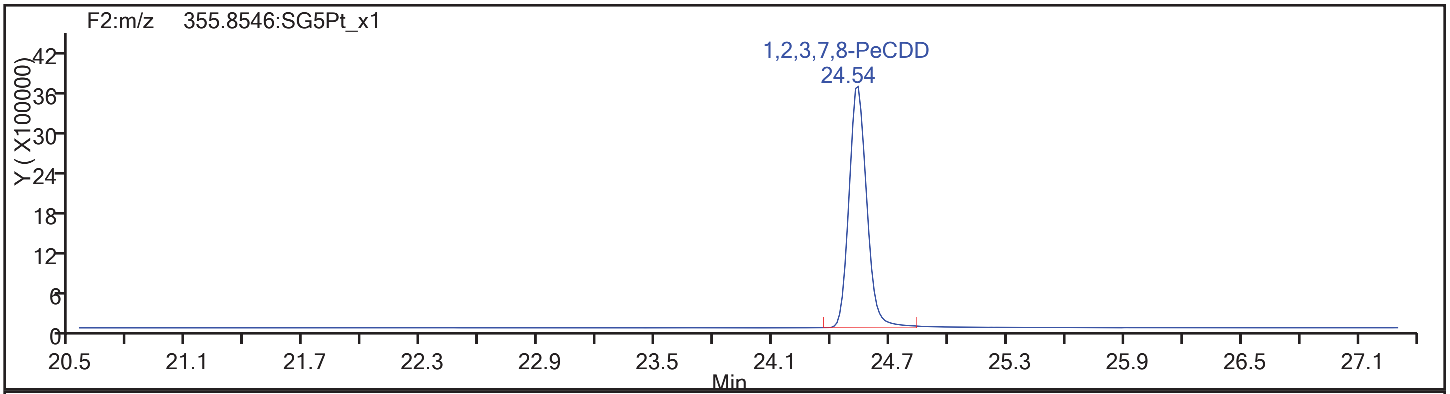
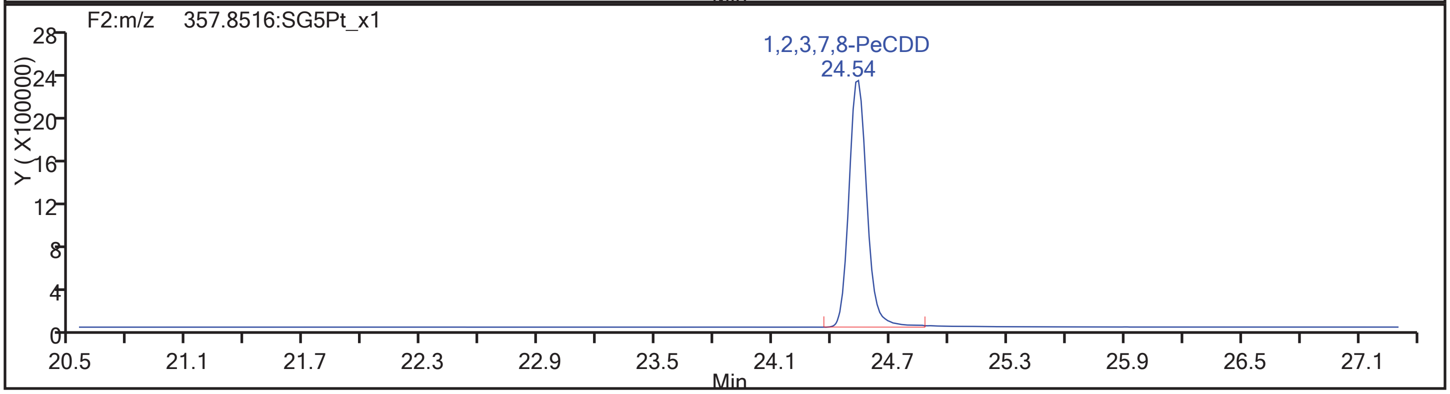
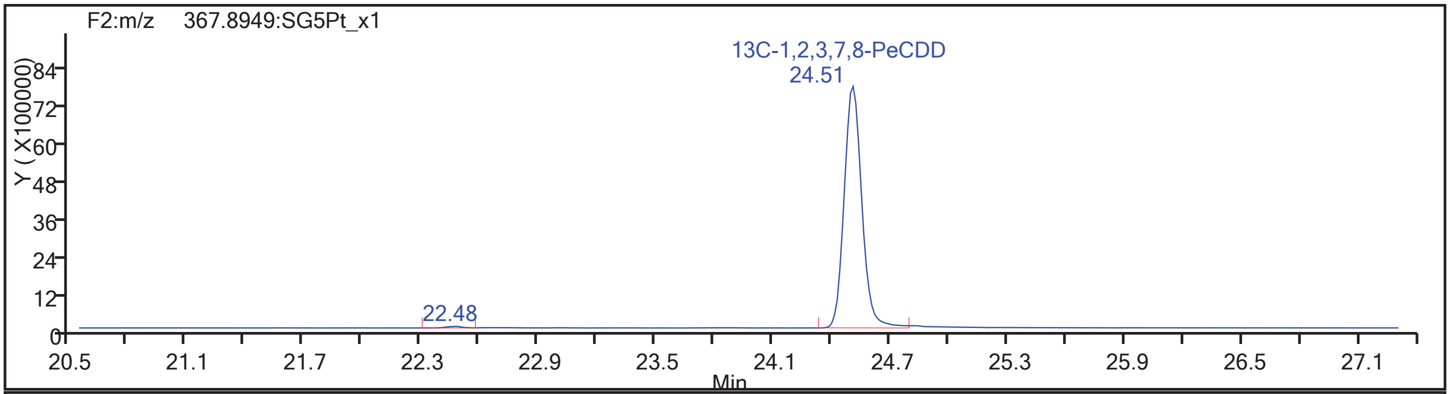
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	65
Column Type:	DB-5	Column Dia:	0.32 mm

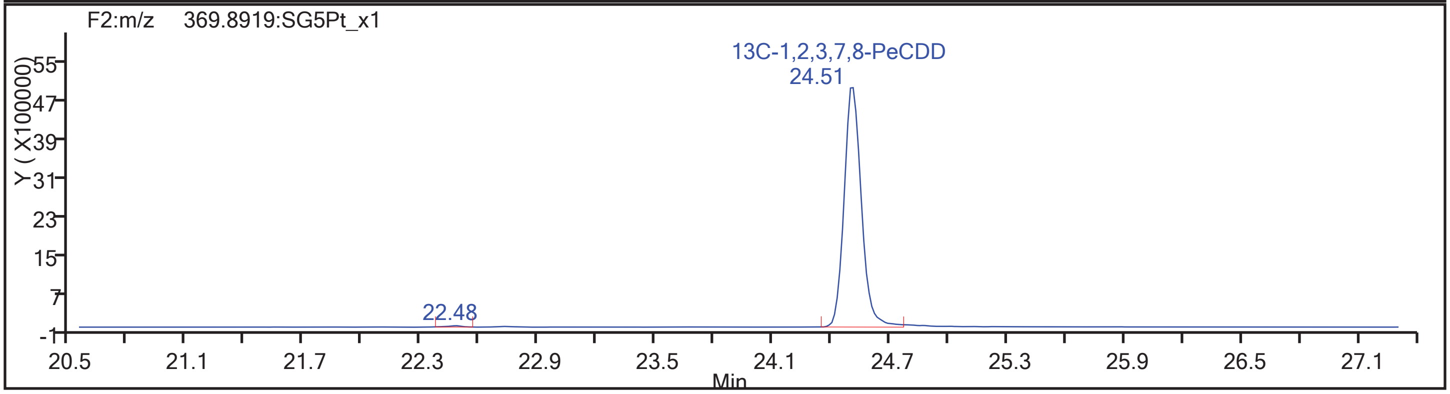
PeCDD





PeCDD Standards





Report Date: 13-Nov-2017 13:32:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d

Injection Date: 11-Nov-2017 11:39:00 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

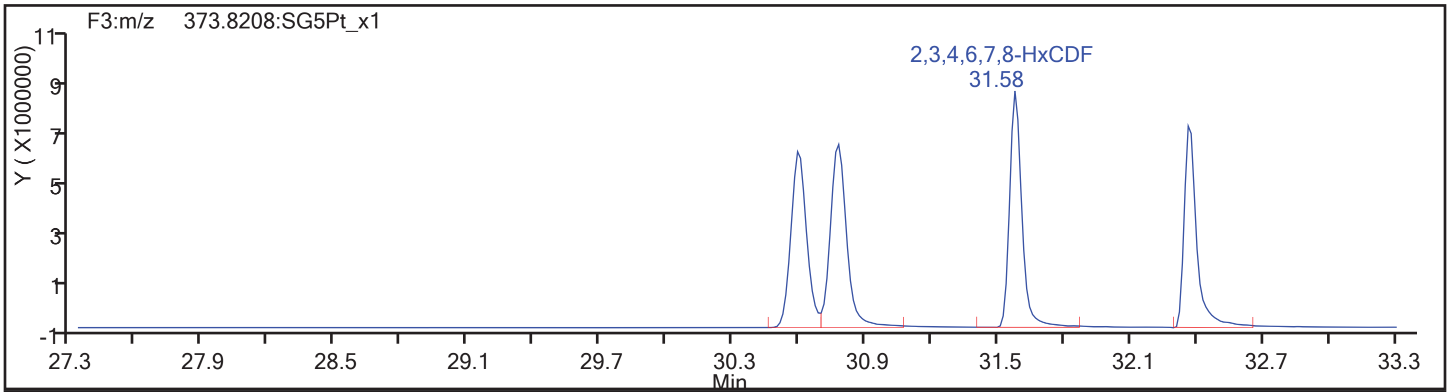
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

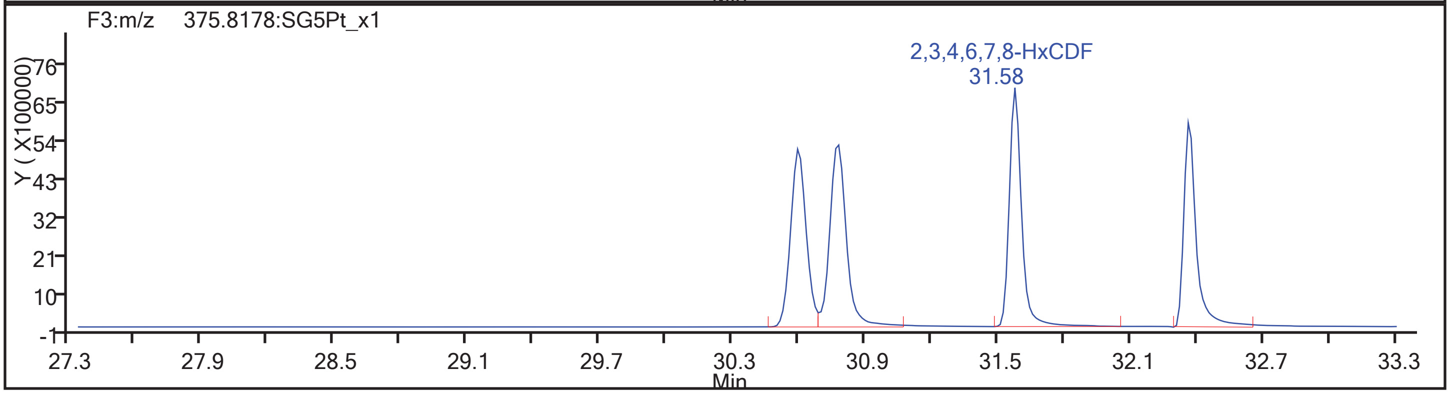
Client ID:

Worklist#: 194084 Sample Line#: 65

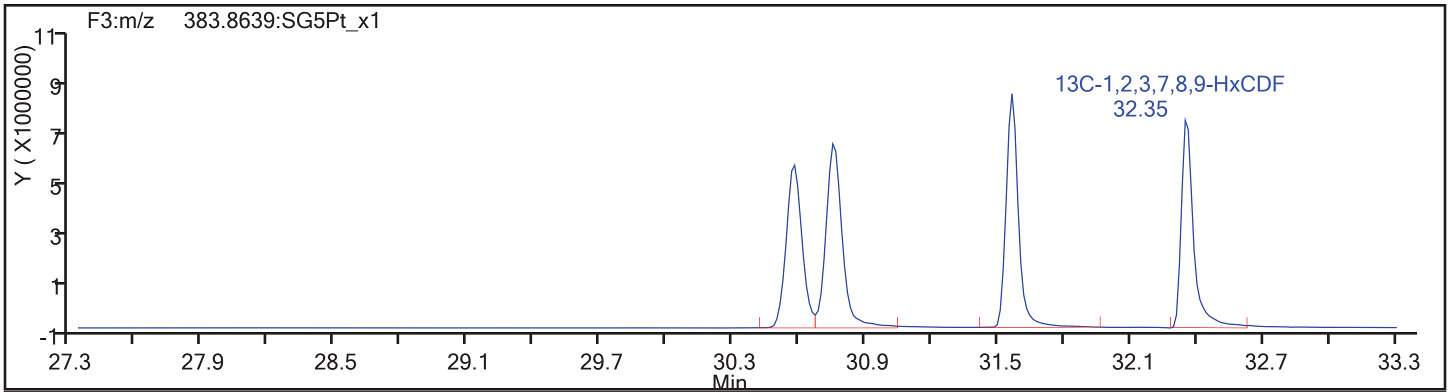
Column Type: DB-5 Column Dia: 0.32 mm

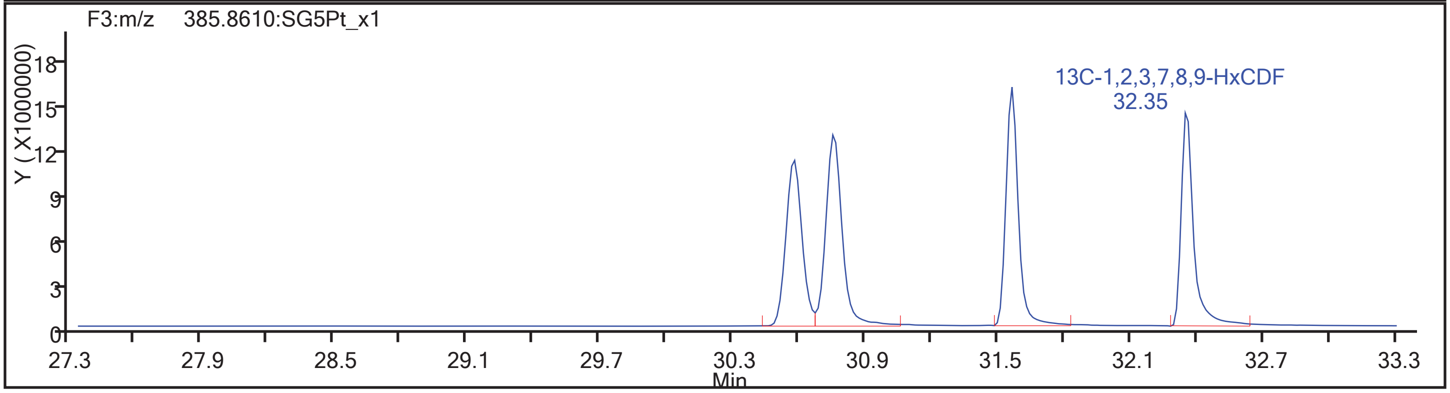
HxCDF





HxCDF Standards



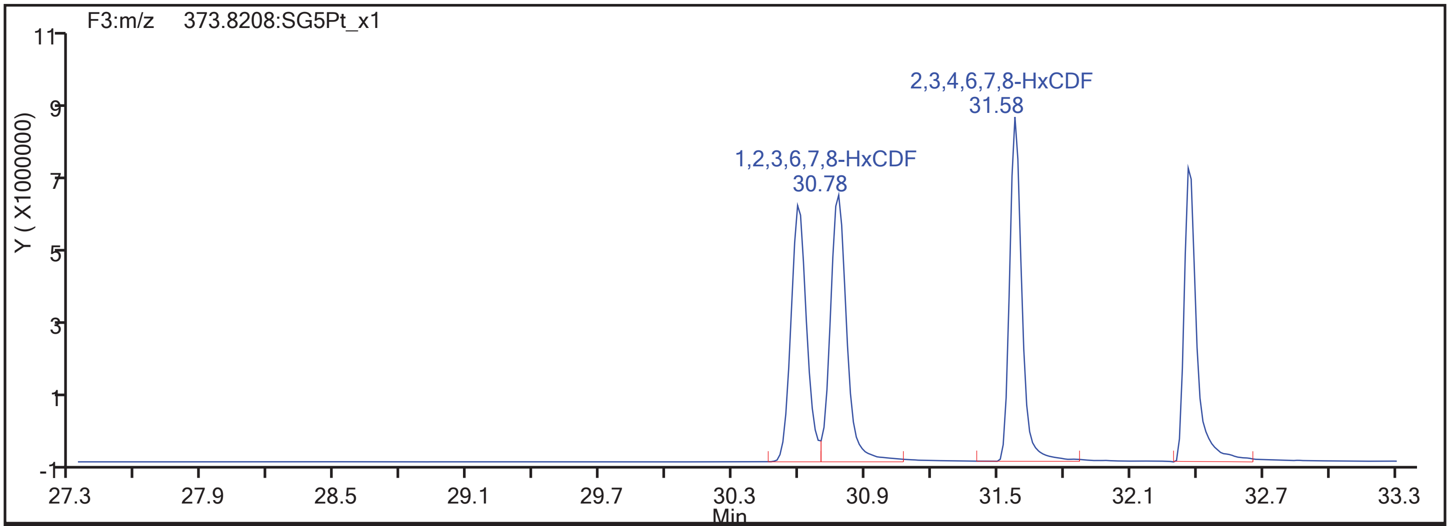


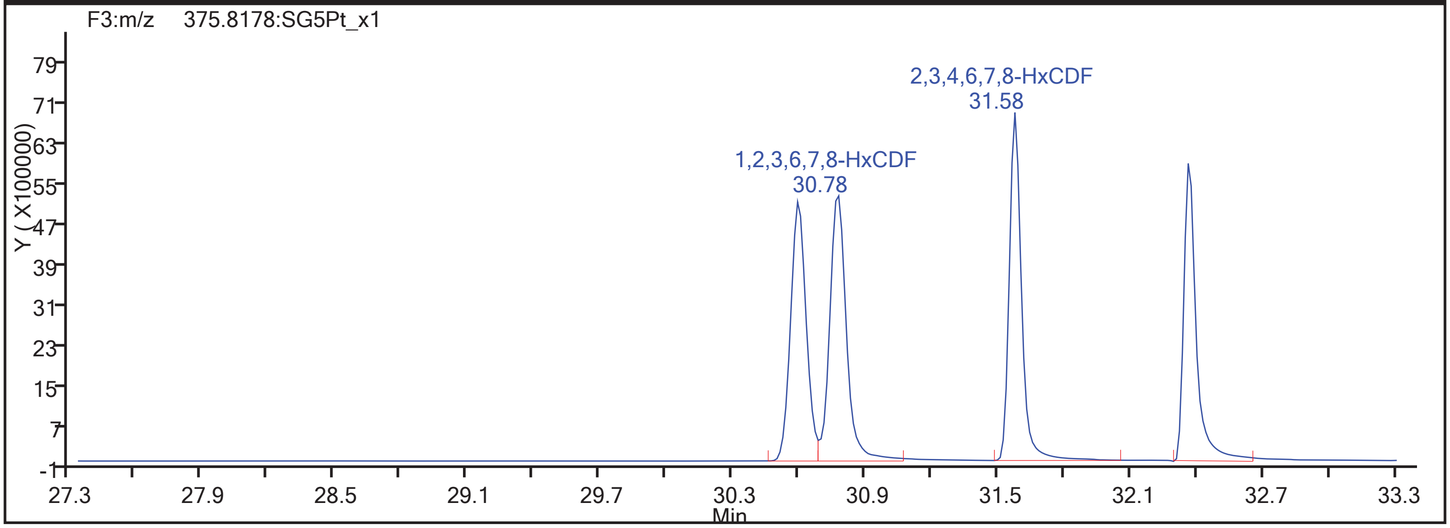
Report Date: 13-Nov-2017 13:32:52   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

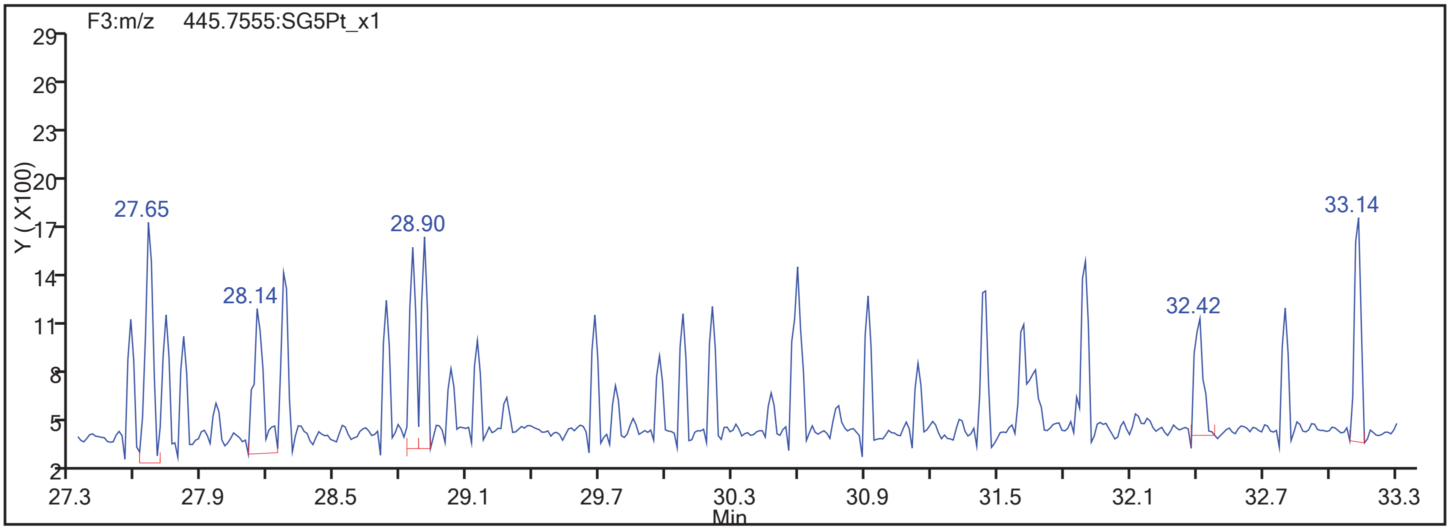
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d
Injection Date: 11-Nov-2017 11:39:00   Injection Vol: 2.0 ul
Instrument ID: 10D5   Operator ID: AJS
Method: Dioxin_10D5   Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084   Sample Line#: 65
Column Type: DB-5   Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



TestAmerica Sacramento

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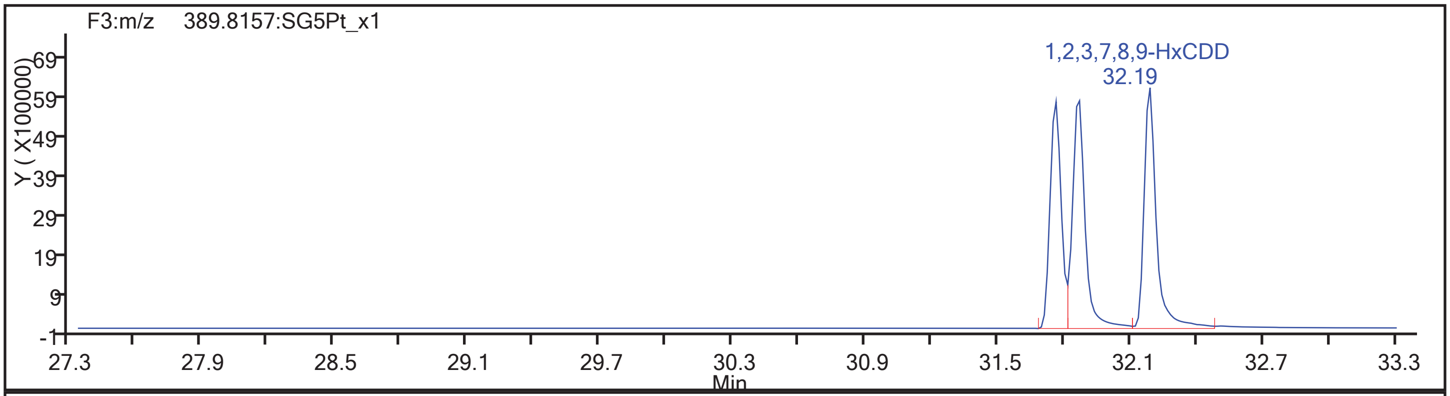
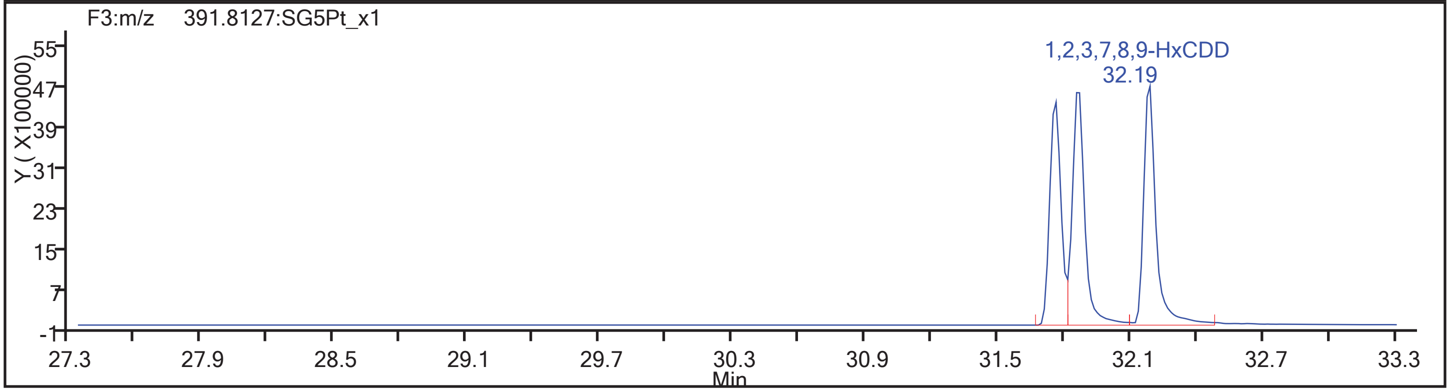
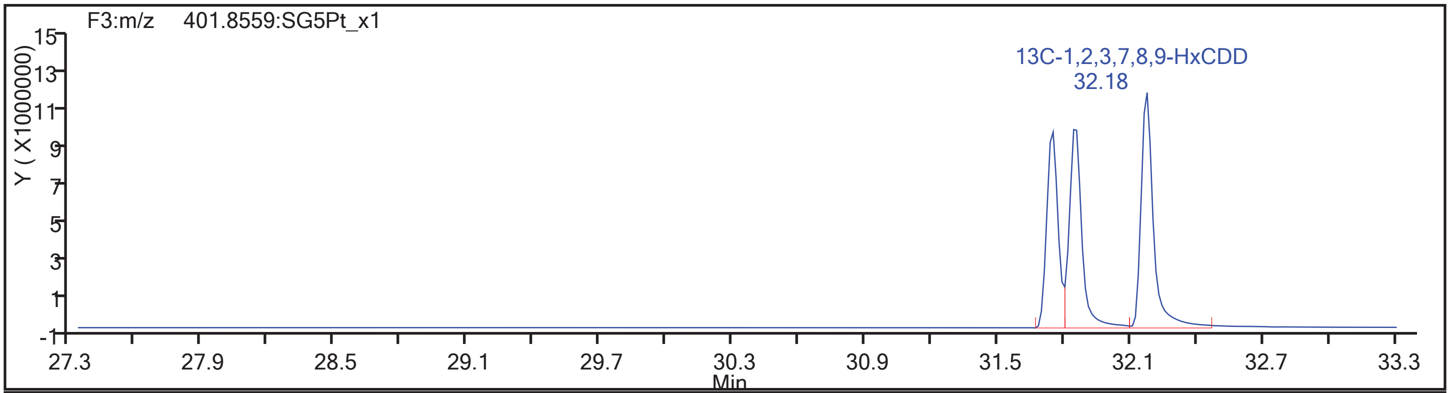
Injection Date: 11-Nov-2017 11:39:00
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 65
Column Type: DB-5
Column Dia: 0.32 mm

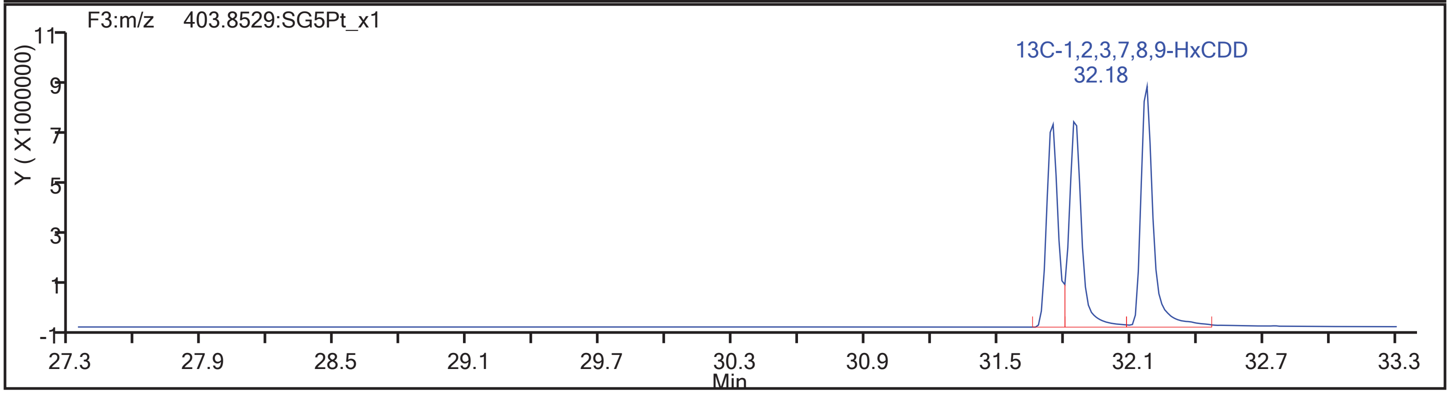
HxCDD





HxCDD Standards





Report Date: 13-Nov-2017 13:32:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d

Injection Date: 11-Nov-2017 11:39:00

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

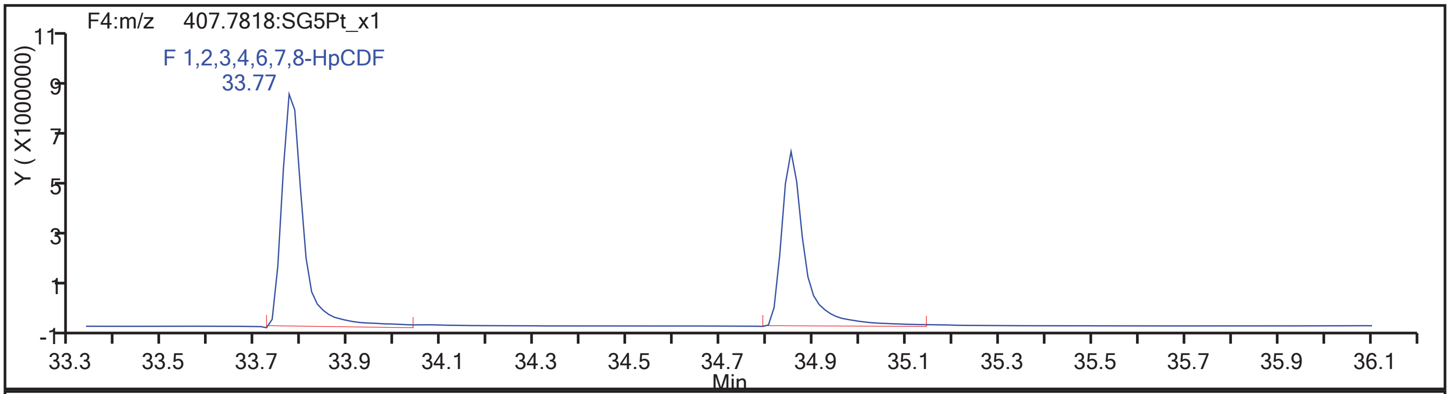
Worklist#: 194084

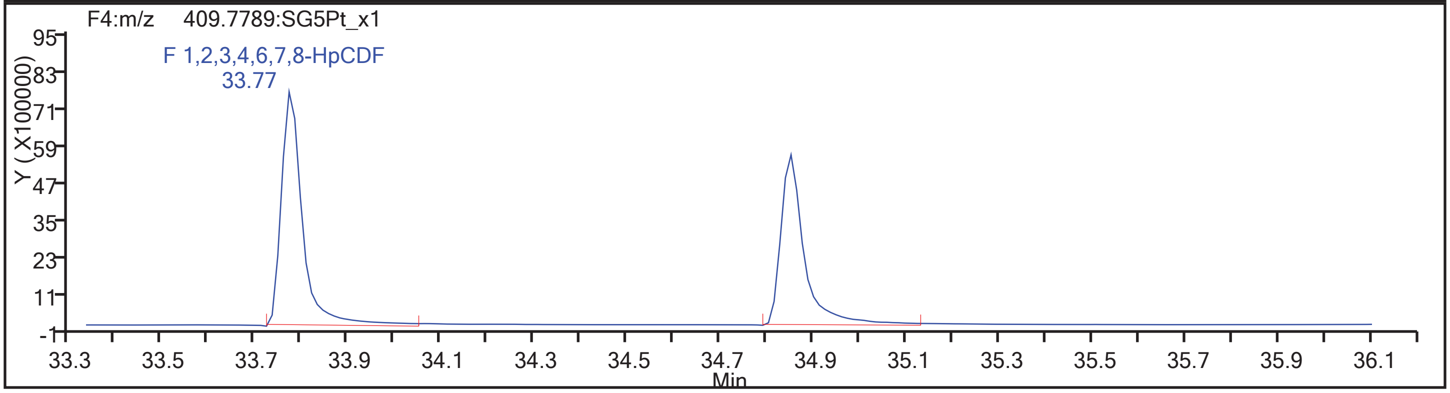
Sample Line#: 65

Column Type: DB-5

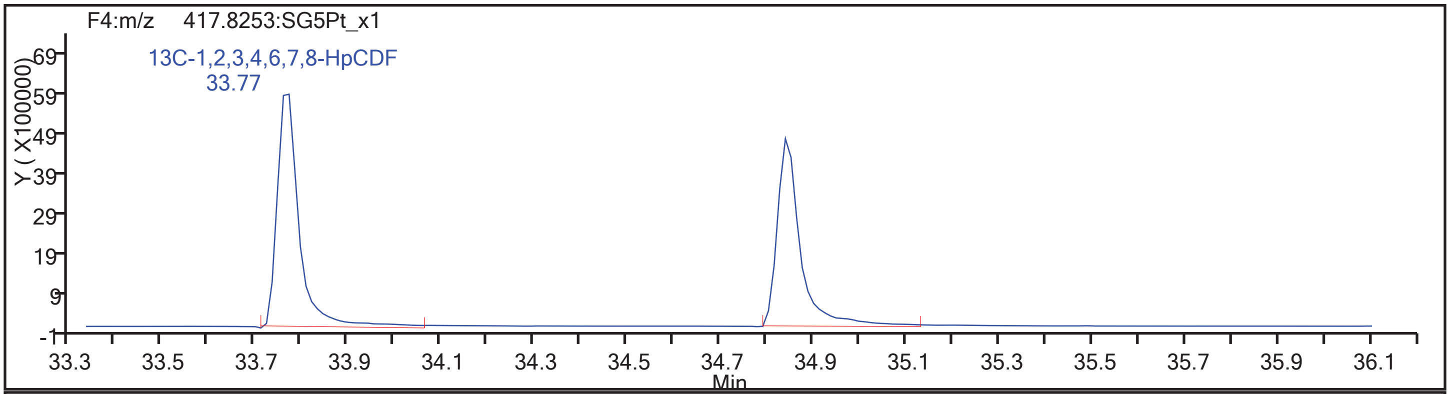
Column Dia: 0.32 mm

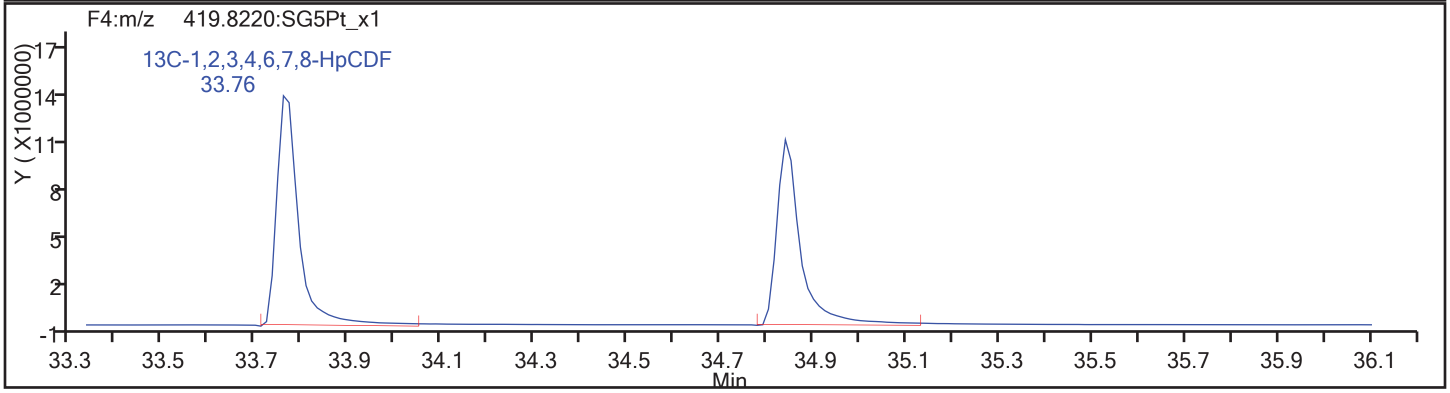
HpCDF





HpCDF Standards





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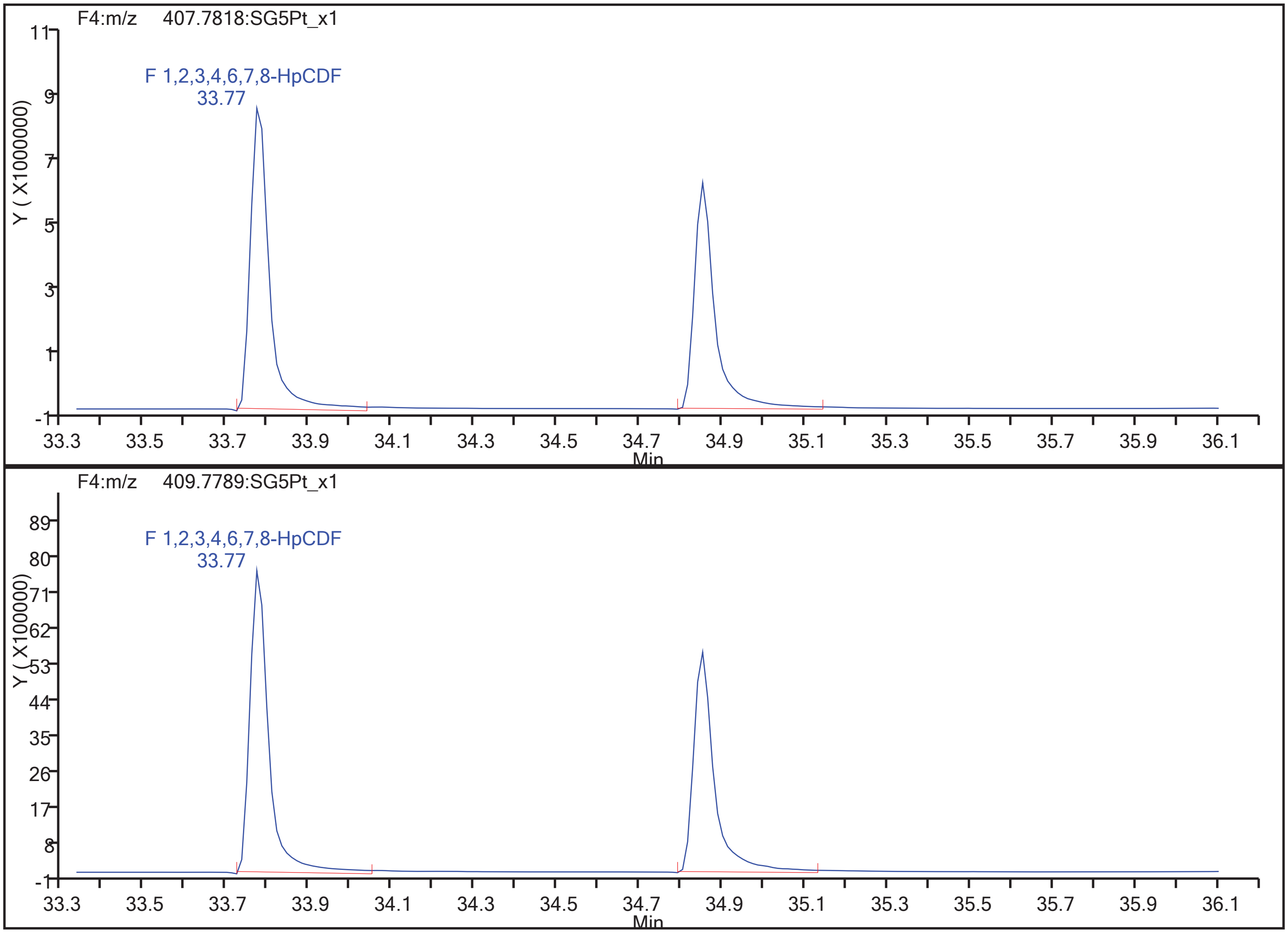
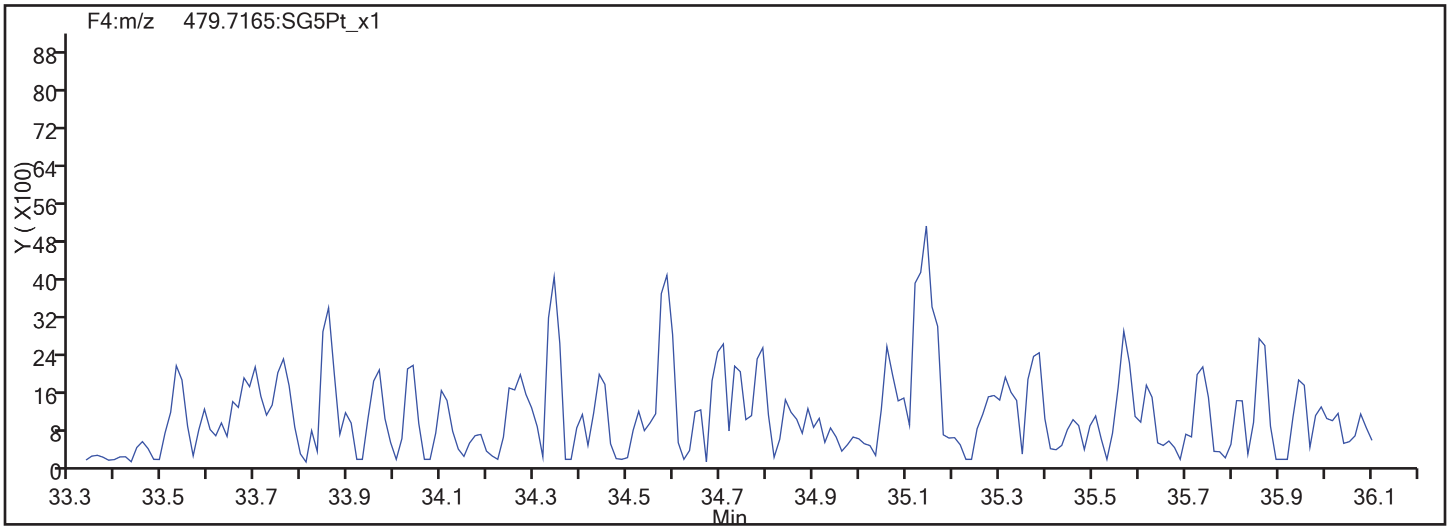
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084 Sample Line#: 65
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF



HpCDF Interference Mass

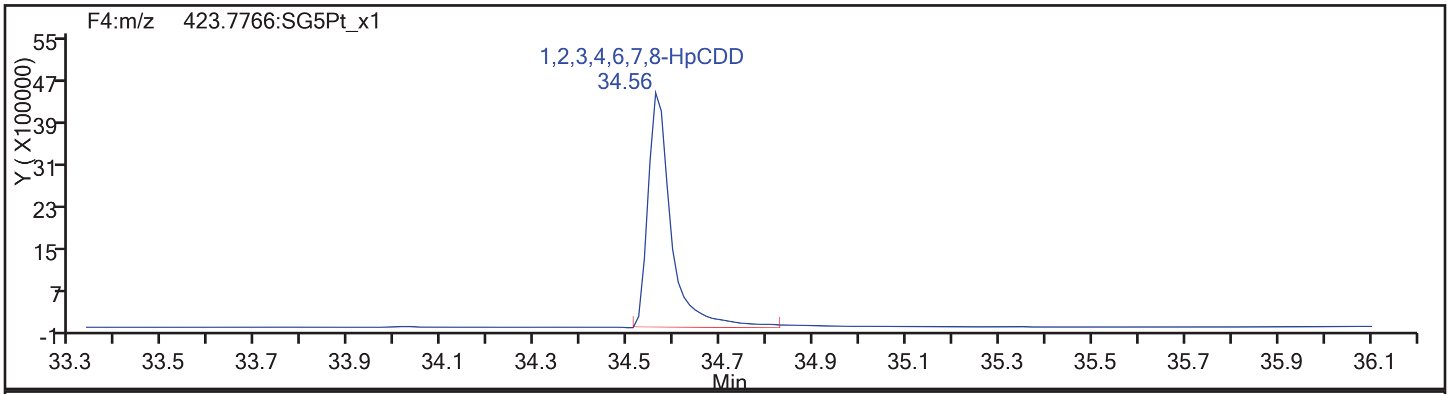


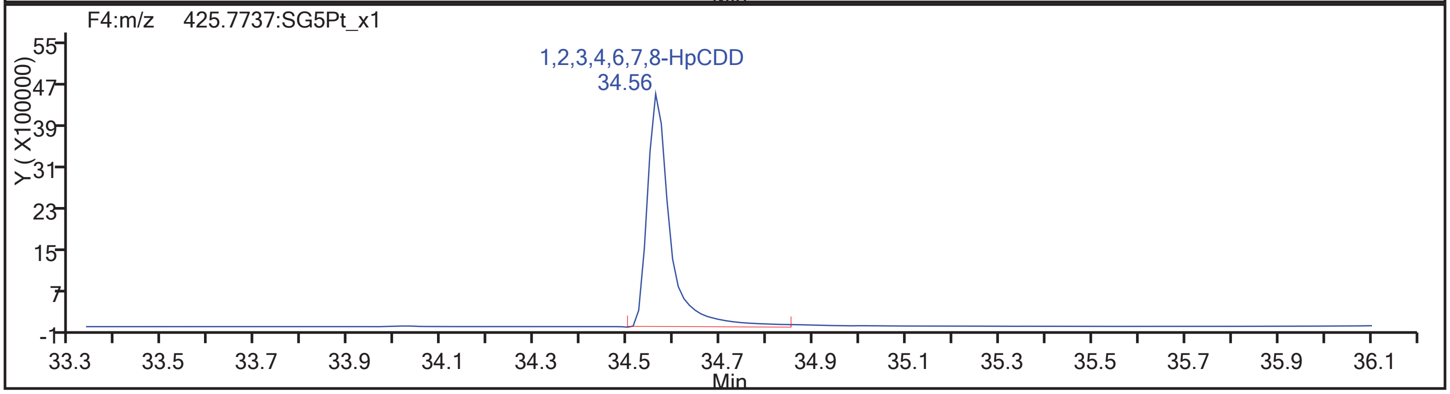
Report Date: 13-Nov-2017 13:32:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

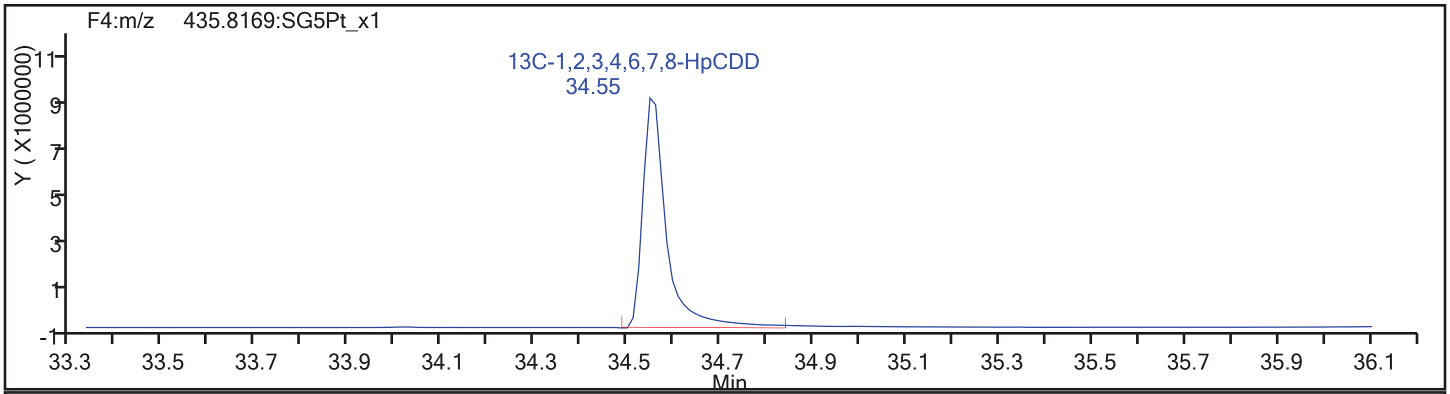
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d		
Injection Date:	11-Nov-2017 11:39:00	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	65
Column Type:	DB-5	Column Dia:	0.32 mm

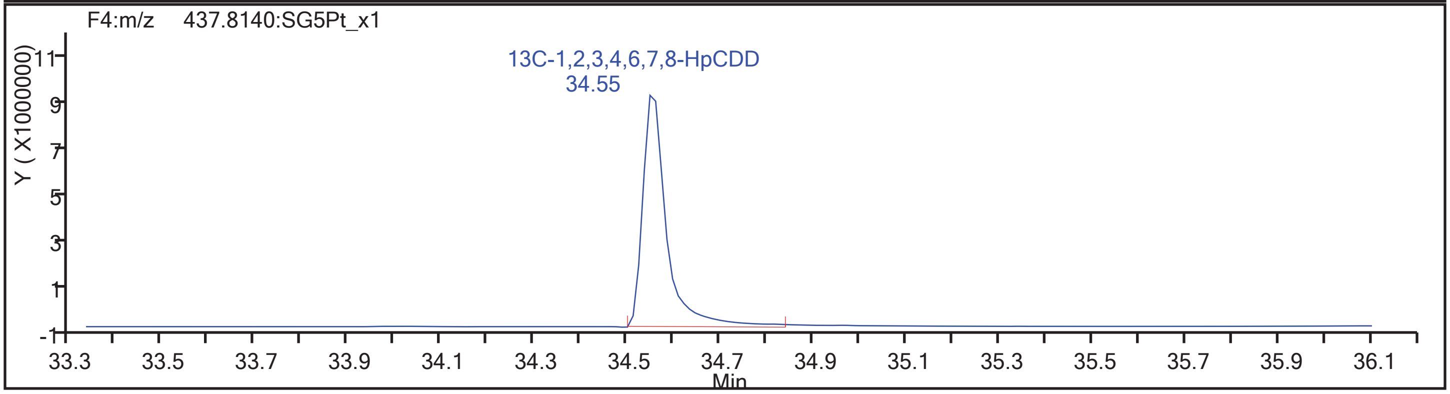
HpCDD





HpCDD Standards





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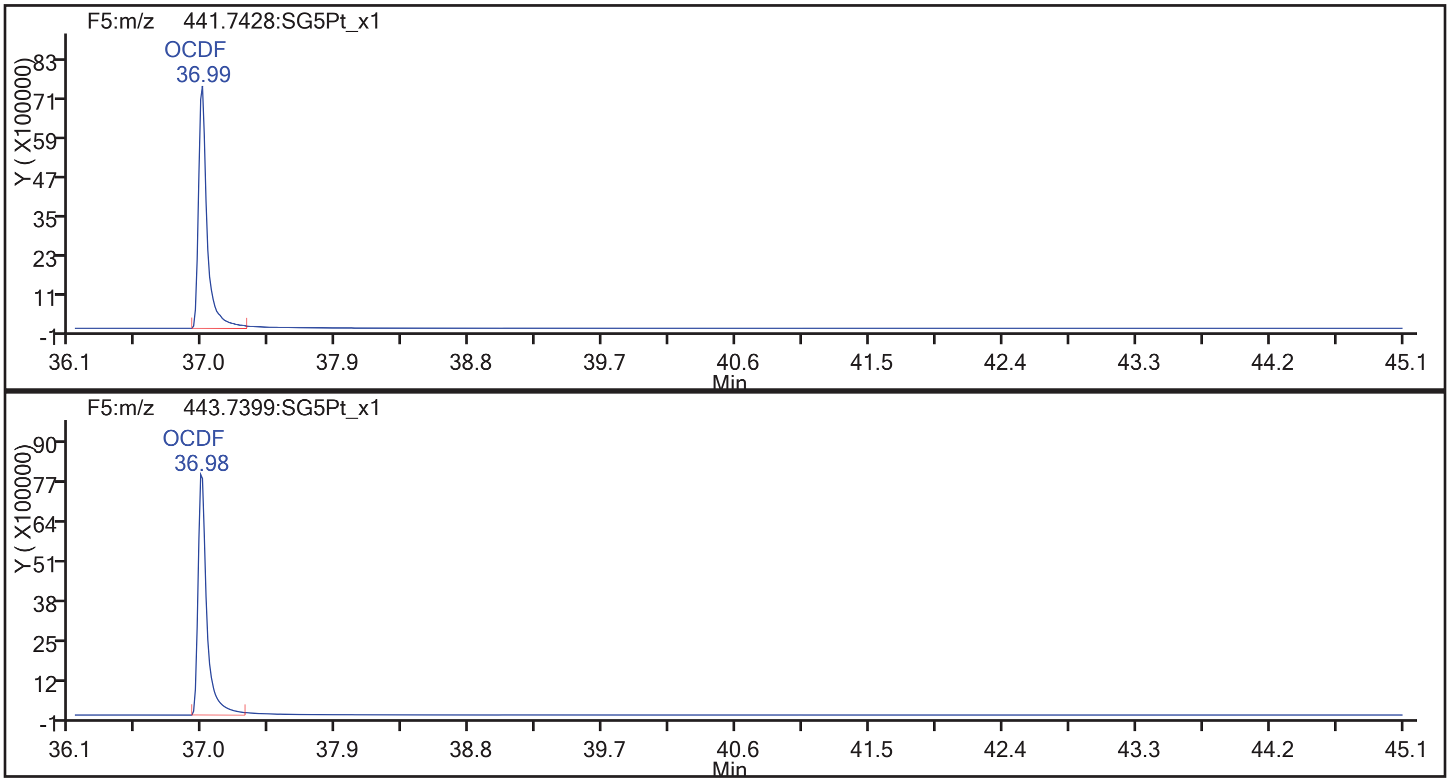
Injection Date:	11-Nov-2017 11:39:00	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	65
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



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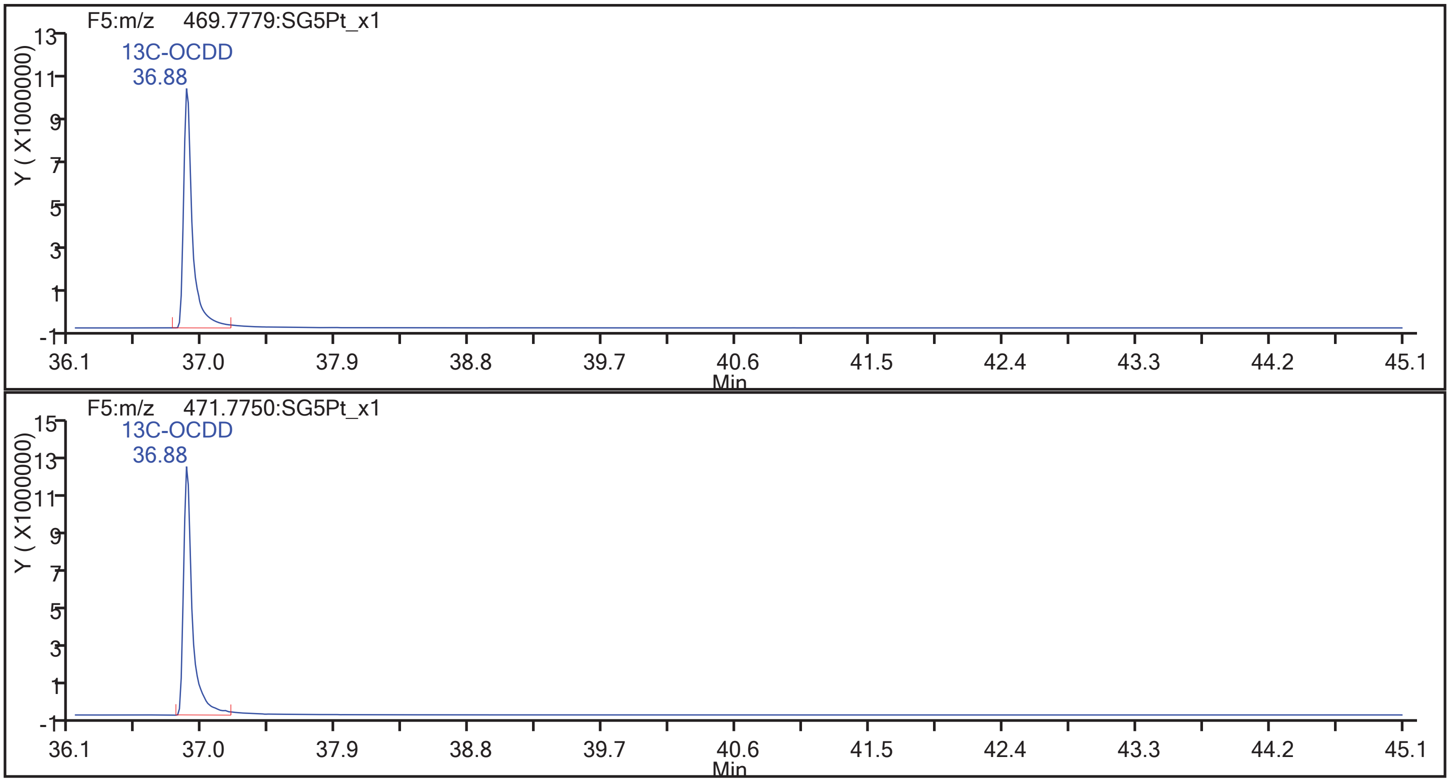

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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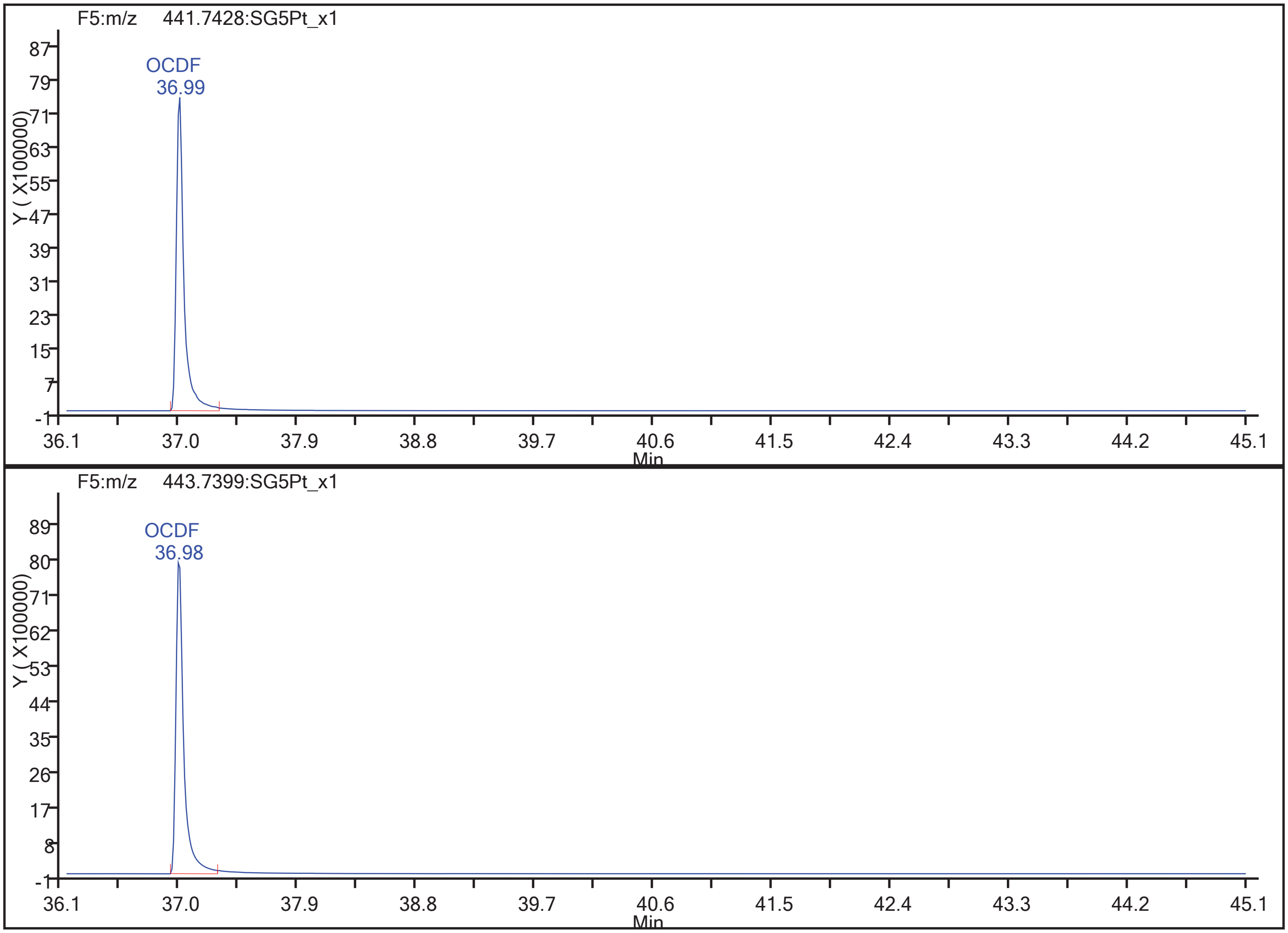
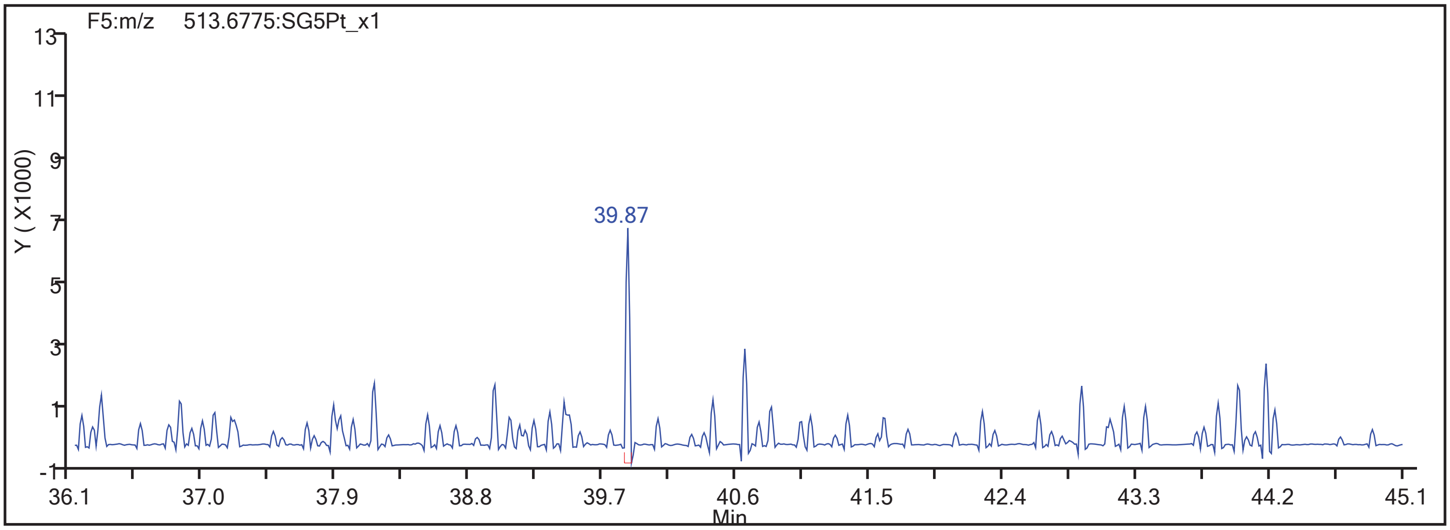


OCDF Interference Mass



Report Date: 13-Nov-2017 13:32:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_65.d		
Injection Date:	11-Nov-2017 11:39:00	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	65
Column Type:	DB-5	Column Dia:	0.32 mm

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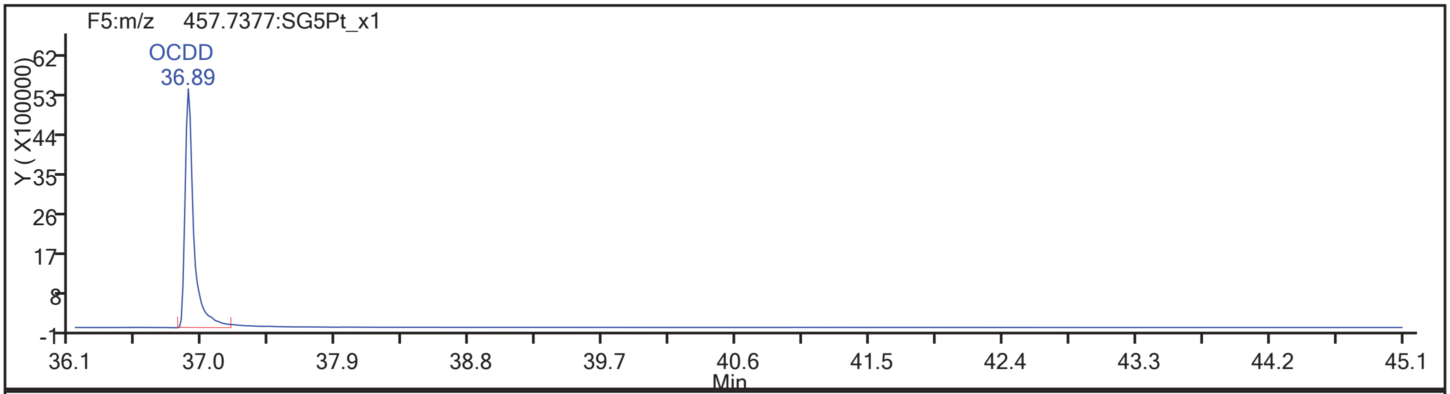
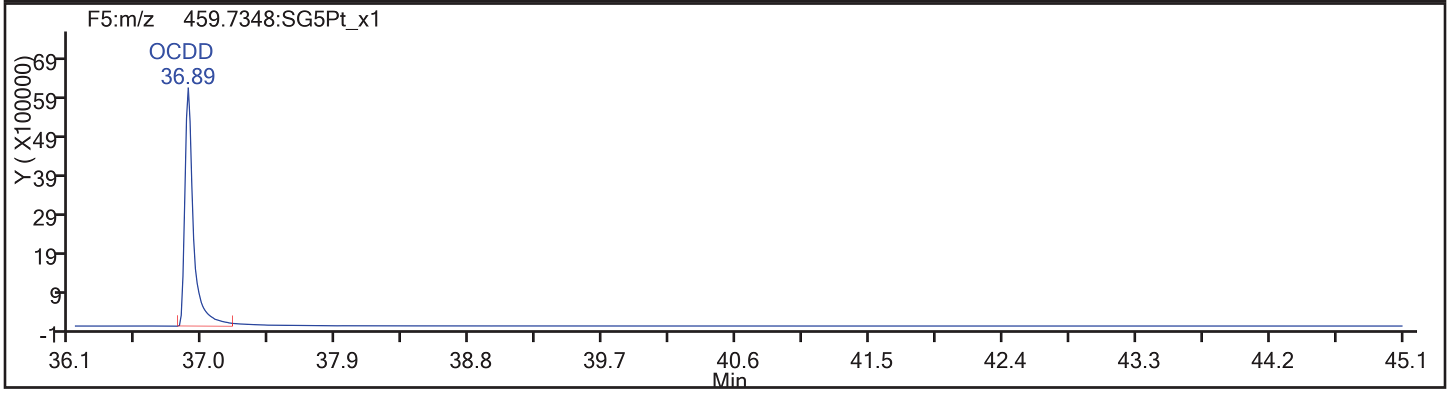
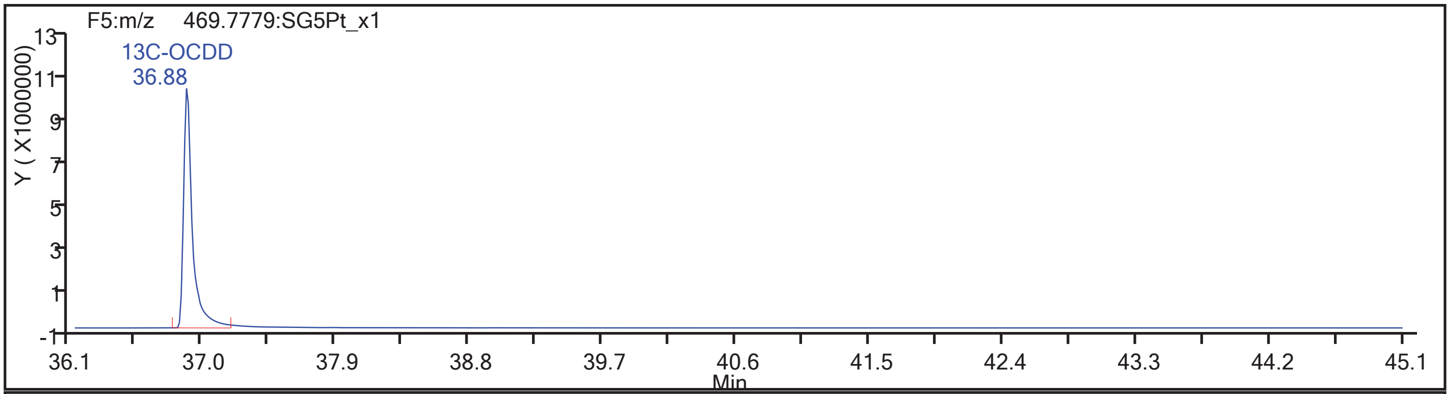
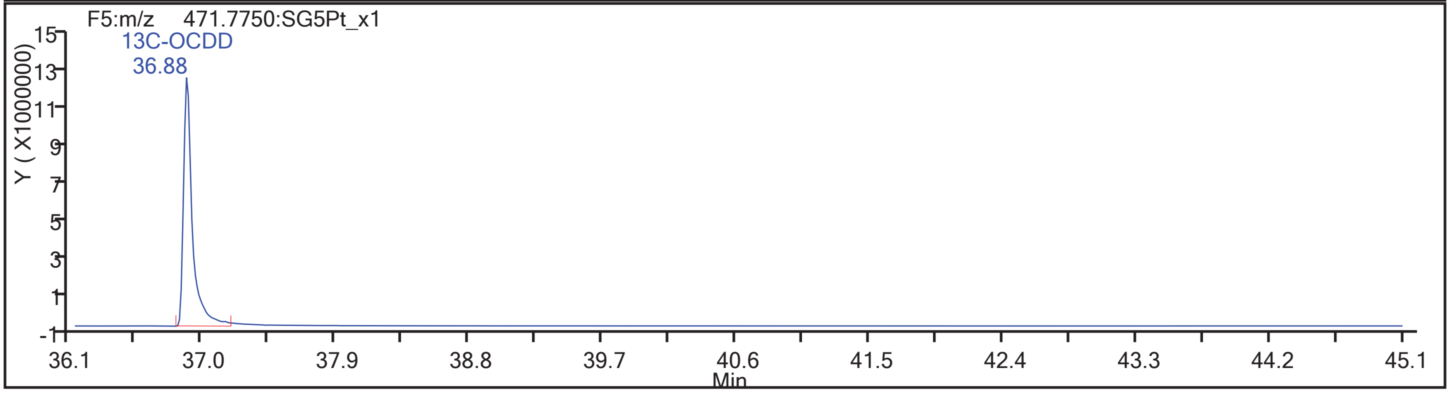




OCDD Standards





Report Date: 13-Nov-2017 13:32:52
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
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Client ID:
Worklist#: 194084
Sample Line#: 65
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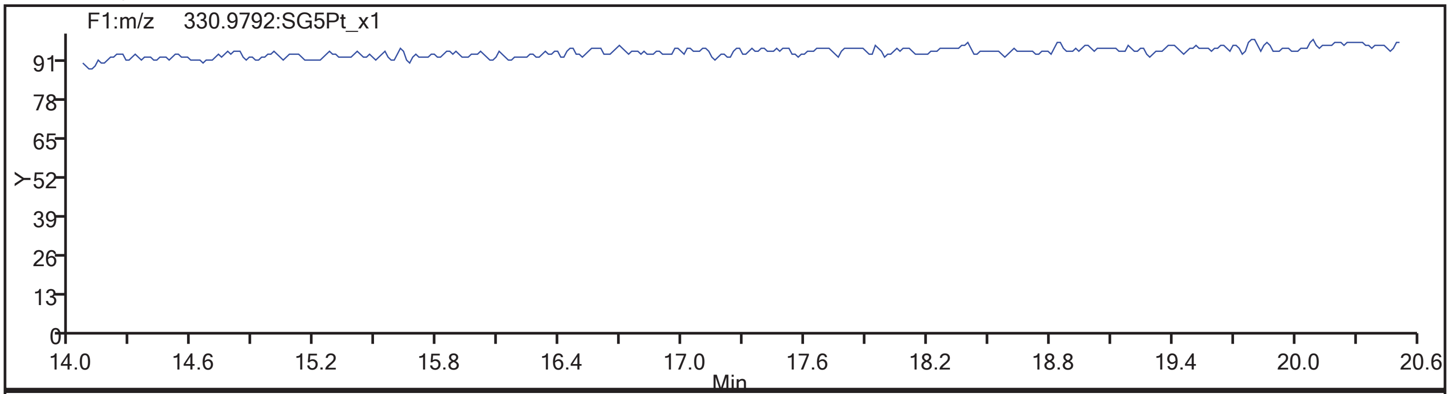
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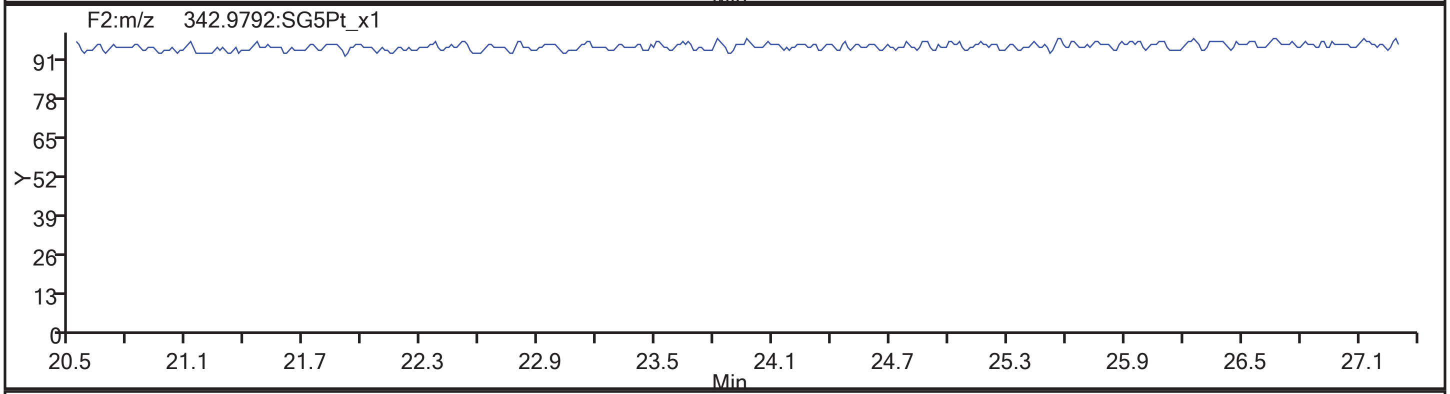
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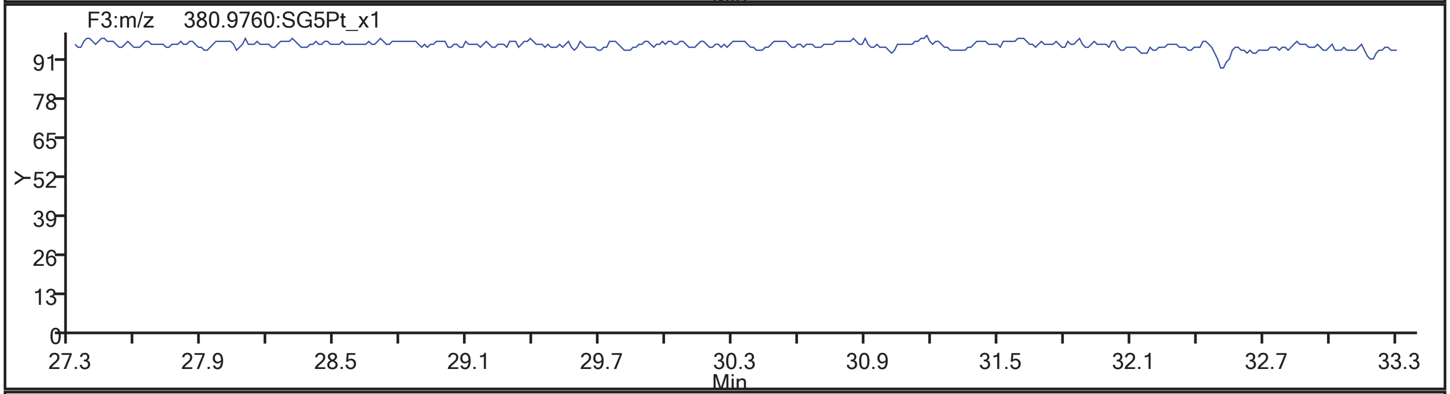
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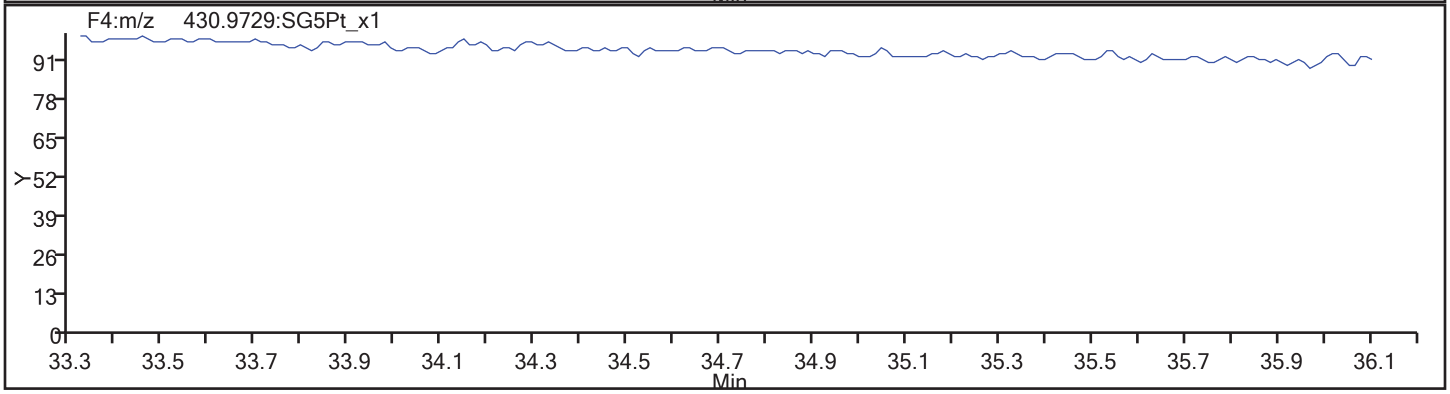
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TestAmerica Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	65
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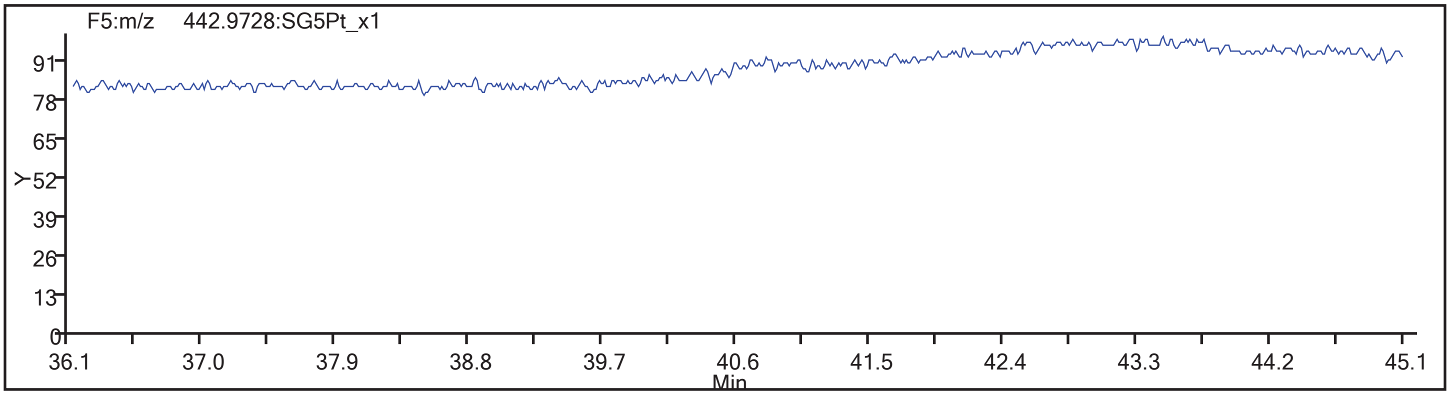

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-194085/67 Calibration Date: 11/11/2017 13:31

Instrument ID: 10D5 Calib Start Date: 10/13/2017 00:08

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 10/13/2017 03:12

Lab File ID: 09NO1710D5_67.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.050		9.26	10.0	-7.4	20.0
2,3,7,8-TCDD	AveID	0.999	0.9323		9.33	10.0	-6.7	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.095		47.1	50.0	-5.8	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.102		48.3	50.0	-3.3	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9279		48.9	50.0	-2.2	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.327		47.4	50.0	-5.3	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.469		43.3	50.0	-13.3	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.388		45.6	50.0	-8.7	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	1.010		53.1	50.0	6.3	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.195		48.4	50.0	-3.2	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.190		47.7	50.0	-4.5	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.223		43.4	50.0	-13.2	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.587		48.4	50.0	-3.2	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9469		47.7	50.0	-4.7	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.268		47.7	50.0	-4.7	20.0
OCDD	AveID	1.060	0.996		93.9	100	-6.1	20.0
OCDF	AveID	1.346	1.325		98.5	100	-1.5	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.321		104	100	3.7	30.0
13C-2,3,7,8-TCDD	Ave	0.9921	0.996		100	100	0.4	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9696	1.091		112	100	12.5	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.8433		111	100	11.1	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	1.060		110	100	9.9	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.8598		97.8	100	-2.2	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.7715		101	100	1.3	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.8010		103	100	3.2	30.0
13C-OCDD	Ave	0.6314	0.5947		188	200	-5.8	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.062		10.1	10.0	1.4	

FORM VII 8290A

Sample List Report **MassLynx 4.1** 10D5

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\09NO1710D5.SPL Page 1 of 9
Last Modified: Saturday, November 11, 2017 21:55:48 Pacific Standard Time
Printed: Saturday, November 11, 2017 21:56:15 Pacific Standard Time Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	09NO1710D5_1	WDM HRDXNCP_00034	WDM 110917	Tray01:1		---
2	09NO1710D5_2	CS-4 HRDXNL4_00059	CCV 110917	Tray01:2		---
3	09NO1710D5_3	Reagent Blank C-14	RB 110917	Tray01:3		---
4	09NO1710D5_4	mb 320-191260/1-a	mb 320-191260/1-a	Tray01:71	1613B/Water	42
5	09NO1710D5_5	lcs 320-191260/2-a	lcs 320-191260/2-a	Tray01:72	1613B/Water	
6	09NO1710D5_6	lcsd 320-191260/3-a	lcsd 320-191260/3-a	Tray01:73	1613B/Water	
7	09NO1710D5_7	lb 320-190971/1-b	lb 320-190971/1-b	Tray01:74	1613B/Water	
8	09NO1710D5_8	560-70465-a-1-e	560-70465-a-1-e	Tray01:75	1613B/Water	
9	09NO1710D5_9	lcs 320-188490/2-a RI	lcs 320-188490/2-a RI	Tray01:76	8290A_D5/Water	D974
10	09NO1710D5_10	lcsd 320-188490/3-a RI	lcsd 320-188490/3-a RI	Tray01:77	8290A_D5/Water	
11	09NO1710D5_11	lcs 320-184197/2-a RI	lcs 320-184197/2-a RI	Tray01:78	8290/1613/Water	40
12	09NO1710D5_12	CS-4 HRDXNL4_00059	CCV 110917A	Tray01:2		---
13	09NO1710D5_13	WDM HRDXNCP_00034	WDM 110917A	Tray01:1		---
14	09NO1710D5_14	CS-4 HRDXNL4_00059	CCV 110917B	Tray01:2		---
15	09NO1710D5_15	Reagent Blank C-14	RB 110917A	Tray01:3		---
16	09NO1710D5_16	MB 320-189625/1-A	MB 320-189625/1-A	Tray01:85	8290A_D5/Solid	D978
17	09NO1710D5_17	LCS 320-189625/2-A	LCS 320-189625/2-A	Tray01:86	8290A_D5/Solid	
18	09NO1710D5_18	LCSD 320-189625/3-A	LCSD 320-189625/3-A	Tray01:87	8290A_D5/Solid	
19	09NO1710D5_19	160-24917-F-1-A	160-24917-F-1-A	Tray01:88	8290A_D5/Solid	
20	09NO1710D5_20	160-24917-F-2-A	160-24917-F-2-A	Tray01:89	8290A_D5/Solid	
21	09NO1710D5_21	160-24917-F-3-A	160-24917-F-3-A	Tray01:90	8290A_D5/Solid	
22	09NO1710D5_22	160-24917-F-4-A	160-24917-F-4-A	Tray01:91	8290A_D5/Solid	
23	09NO1710D5_23	160-24917-F-5-A	160-24917-F-5-A	Tray01:92	8290A_D5/Solid	
24	09NO1710D5_24	Reagent Blank C-14	RB 110917B	Tray01:3		---
25	09NO1710D5_25	CS-4 HRDXNL4_00059	CCV 110917C	Tray01:2		---
26	09NO1710D5_26	WDM HRDXNCP_00034	WDM 110917B	Tray01:1		---
27	09NO1710D5_27	CS-4 HRDXNL4_00059	CCV 110917D	Tray01:2		---
28	09NO1710D5_28	Reagent Blank C-14	RB 110917C	Tray01:3		---
29	09NO1710D5_29	160-24917-f-6-a	160-24917-f-6-a	Tray01:4	8290A_D5/Solid	D978
30	09NO1710D5_30	160-24917-f-7-a	160-24917-f-7-a	Tray01:5	8290A_D5/Solid	
31	09NO1710D5_31	160-24917-f-8-a	160-24917-f-8-a	Tray01:6	8290A_D5/Solid	
32	09NO1710D5_32	160-24917-f-9-a	160-24917-f-9-a	Tray01:7	8290A_D5/Solid	
33	09NO1710D5_33	160-24917-f-10-a	160-24917-f-10-a	Tray01:8	8290A_D5/Solid	
34	09NO1710D5_34	160-24917-f-11-a	160-24917-f-11-a	Tray01:9	8290A_D5/Solid	
35	09NO1710D5_35	160-24917-f-12-a	160-24917-f-12-a	Tray01:10	8290A_D5/Solid	
36	09NO1710D5_36	160-24917-f-13-a	160-24917-f-13-a	Tray01:11	8290A_D5/Solid	
37	09NO1710D5_37	Reagent Blank C-14	RB 110917D	Tray01:3		---
38	09NO1710D5_38	CS-4 HRDXNL4_00059	CCV 110917E	Tray01:2		---
39	09NO1710D5_39	WDM HRDXNCP_00034	WDM 110917C	Tray01:1		---
40	09NO1710D5_40	CS-4 HRDXNL4_00059	CCV 110917F	Tray01:2		---
41	09NO1710D5_41	Reagent Blank C-14	RB 110917E	Tray01:3		---
42	09NO1710D5_42	160-24917-f-14-a	160-24917-f-14-a	Tray01:15	8290A_D5/Solid	D978
43	09NO1710D5_43	160-24917-f-15-a	160-24917-f-15-a	Tray01:16	8290A_D5/Solid	
44	09NO1710D5_44	160-24917-f-16-a	160-24917-f-16-a	Tray01:17	8290A_D5/Solid	
45	09NO1710D5_45	160-24917-f-17-a	160-24917-f-17-a	Tray01:18	8290A_D5/Solid	
46	09NO1710D5_46	160-24917-f-18-a	160-24917-f-18-a	Tray01:19	8290A_D5/Solid	
47	09NO1710D5_47	160-24917-f-19-a	160-24917-f-19-a	Tray01:20	8290A_D5/Solid	
48	09NO1710D5_48	160-24917-f-20-a	160-24917-f-20-a	Tray01:21	8290A_D5/Solid	
49	09NO1710D5_49	160-24917-f-20-b ms	160-24917-f-20-b ms	Tray01:22	8290A_D5/Solid	
50	09NO1710D5_50	160-24917-f-20-c msd	160-24917-f-20-c msd	Tray01:23	8290A_D5/Solid	
51	09NO1710D5_51	Reagent Blank C-14	RB 110917F	Tray01:3		---
52	09NO1710D5_52	CS-4 HRDXNL4_00059	CCV 110917G	Tray01:2		---
53	09NO1710D5_53	WDM HRDXNCP_00034	WDM 110917D	Tray01:1		---
54	09NO1710D5_54	CS-4 HRDXNL4_00059	CCV 110917H	Tray01:2		---
55	09NO1710D5_55	Reagent Blank C-14	RB 110917G	Tray01:3		---
56	09NO1710D5_56	mb 320-189721/1-a	mb 320-189721/1-a	Tray01:29	8290A_D5/Solid	D981
57	09NO1710D5_57	lcs 320-189721/2-a	lcs 320-189721/2-a	Tray01:30	8290A_D5/Solid	
58	09NO1710D5_58	lcsd 320-189721/3-a	lcsd 320-189721/3-a	Tray01:31	8290A_D5/Solid	

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
59	09NO1710D5_59	160-24924-g-1-a	160-24924-g-1-a	Tray01:32	8290A_D5/Solid	
60	09NO1710D5_60	160-24924-g-2-a	160-24924-g-2-a	Tray01:33	8290A_D5/Solid	
61	09NO1710D5_61	160-24924-g-3-a	160-24924-g-3-a	Tray01:34	8290A_D5/Solid	
62	09NO1710D5_62	160-24924-g-4-a	160-24924-g-4-a	Tray01:35	8290A_D5/Solid	
63	09NO1710D5_63	160-24924-g-5-a	160-24924-g-5-a	Tray01:36	8290A_D5/Solid	
64	09NO1710D5_64	Reagent Blank C-14	RB 110917H	Tray01:3		---
65	09NO1710D5_65	CS-4 HRDXNL4_00059	CCV 110917I	Tray01:2		---
66	09NO1710D5_66	WDM HRDXNCP_00034	WDM 110917E	Tray01:1		---
67	09NO1710D5_67	CS-4 HRDXNL4_00059	CCV 110917J	Tray01:2		---
68	09NO1710D5_68	Reagent Blank C-14	RB 110917I	Tray01:3		---
69	09NO1710D5_69	160-24924-g-6-a	160-24924-g-6-a	Tray01:43	8290A_D5/Solid	D981
70	09NO1710D5_70	160-24924-g-7-a	160-24924-g-7-a	Tray01:44	8290A_D5/Solid	
71	09NO1710D5_71	160-24924-g-8-a	160-24924-g-8-a	Tray01:45	8290A_D5/Solid	
72	09NO1710D5_72	160-24924-g-9-a	160-24924-g-9-a	Tray01:46	8290A_D5/Solid	
73	09NO1710D5_73	160-24924-g-9-b ms	160-24924-g-9-b ms	Tray01:47	8290A_D5/Solid	
74	09NO1710D5_74	160-24924-g-9-c msd	160-24924-g-9-c msd	Tray01:48	8290A_D5/Solid	
75	09NO1710D5_75	160-24924-g-10-a	160-24924-g-10-a	Tray01:49	8290A_D5/Solid	
76	09NO1710D5_76	160-24924-g-11-a	160-24924-g-11-a	Tray01:50	8290A_D5/Solid	
77	09NO1710D5_77	Reagent Blank C-14	RB 110917J	Tray01:3		---
78	09NO1710D5_78	CS-4 HRDXNL4_00060	CCV 110917K	Tray01:2		---
79	09NO1710D5_79	WDM HRDXNCP_00034	WDM 110917F	Tray01:1		---
80	09NO1710D5_80	CS-4 HRDXNL4_00060	CCV 110917L	Tray01:2		---
81	09NO1710D5_81	Reagent Blank C-14	RB 110917K	Tray01:3		---
82	09NO1710D5_82	160-24924-g-12-a	160-24924-g-12-a	Tray01:57	8290A_D5/Solid	D981
83	09NO1710D5_83	160-24924-g-13-a	160-24924-g-13-a	Tray01:58	8290A_D5/Solid	
84	09NO1710D5_84	160-24924-g-14-a	160-24924-g-14-a	Tray01:59	8290A_D5/Solid	
85	09NO1710D5_85	160-24924-g-15-a	160-24924-g-15-a	Tray01:60	8290A_D5/Solid	
86	09NO1710D5_86	160-24924-g-16-a	160-24924-g-16-a	Tray01:61	8290A_D5/Solid	
87	09NO1710D5_87	160-24924-g-17-a	160-24924-g-17-a	Tray01:62	8290A_D5/Solid	
88	09NO1710D5_88	160-24924-g-18-a	160-24924-g-18-a	Tray01:63	8290A_D5/Solid	
89	09NO1710D5_89	160-24924-g-19-a	160-24924-g-19-a	Tray01:64	8290A_D5/Solid	
90	09NO1710D5_90	Reagent Blank C-14	RB 110917L	Tray01:3		---
91	09NO1710D5_91	CS-4 HRDXNL4_00060	CCV 110917M	Tray01:2		---
92	09NO1710D5_92	WDM HRDXNCP_00034	WDM 110917G	Tray01:1		---
93	09NO1710D5_93	CS-4 HRDXNL4_00060	CCV 110917N	Tray01:2		---
94	09NO1710D5_94	Reagent Blank C-14	RB 110917M	Tray01:3		---
95	09NO1710D5_95	mb 320-189776/1-a	mb 320-189776/1-a	Tray01:71	8290A_D5/Solid	D979
96	09NO1710D5_96	lcs 320-189776/2-a	lcs 320-189776/2-a	Tray01:72	8290A_D5/Solid	
97	09NO1710D5_97	lcsd 320-189776/3-a	lcsd 320-189776/3-a	Tray01:73	8290A_D5/Solid	
98	09NO1710D5_98	160-24922-g-1-a	160-24922-g-1-a	Tray01:74	8290A_D5/Solid	
99	09NO1710D5_99	160-24922-g-2-a	160-24922-g-2-a	Tray01:75	8290A_D5/Solid	
100	09NO1710D5_100	160-24922-g-3-a	160-24922-g-3-a	Tray01:76	8290A_D5/Solid	
101	09NO1710D5_101	160-24922-g-4-a	160-24922-g-4-a	Tray01:77	8290A_D5/Solid	
102	09NO1710D5_102	160-24922-g-5-a	160-24922-g-5-a	Tray01:78	8290A_D5/Solid	
103	09NO1710D5_103	160-24922-g-6-a	160-24922-g-6-a	Tray01:79	8290A_D5/Solid	
104	09NO1710D5_104	Reagent Blank C-14	RB 110917N	Tray01:3		---
105	09NO1710D5_105	CS-4 HRDXNL4_00060	CCV 110917O	Tray01:2		---
106	09NO1710D5_106	WDM HRDXNCP_00034	WDM 110917H	Tray01:1		---
107	09NO1710D5_107	CS-4 HRDXNL4_00060	CCV 110917P	Tray01:2		---
108	09NO1710D5_108	Reagent Blank C-14	RB 110917O	Tray01:3		---
109	09NO1710D5_109	160-24922-g-7-a	160-24922-g-7-a	Tray01:85	8290A_D5/Solid	D979
110	09NO1710D5_110	160-24922-g-8-a	160-24922-g-8-a	Tray01:86	8290A_D5/Solid	
111	09NO1710D5_111	160-24922-g-9-a	160-24922-g-9-a	Tray01:87	8290A_D5/Solid	
112	09NO1710D5_112	160-24922-g-10-a	160-24922-g-10-a	Tray01:88	8290A_D5/Solid	
113	09NO1710D5_113	160-24922-g-11-a	160-24922-g-11-a	Tray01:89	8290A_D5/Solid	
114	09NO1710D5_114	160-24922-g-12-a	160-24922-g-12-a	Tray01:90	8290A_D5/Solid	
115	09NO1710D5_115	160-24922-g-13-a	160-24922-g-13-a	Tray01:91	8290A_D5/Solid	
116	09NO1710D5_116	160-24922-g-13-b ms	160-24922-g-13-b ms	Tray01:92	8290A_D5/Solid	

	File Name	**File Text**	**Sample ID**	**Bottle**	**Method/Matrix**	**Box #**
117	09NO1710D5_117	160-24922-g-13-c msd	160-24922-g-13-c msd	Tray01:93	8290A_D5/Solid	
118	09NO1710D5_118	Reagent Blank C-14	RB 110917P	Tray01:3		---
119	09NO1710D5_119	CS-4 HRDXNL4_00060	CCV 110917Q	Tray01:2		---
120	09NO1710D5_120	WDM HRDXNCP_00034	WDM 110917I	Tray01:1		---
121	09NO1710D5_121	CS-4 HRDXNL4_00060	CCV 110917R	Tray01:2		---
122	09NO1710D5_122	Reagent Blank C-14	RB 110917Q	Tray01:3		---

Logfile ✓'d
11-12-17 KSS

Sample List Report **MassLynx 4.1**

10D5

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\09NO1710D5.SPL

Last Modified: Saturday, November 11, 2017 21:55:48 Pacific Standard Time

Printed: Saturday, November 11, 2017 21:56:15 Pacific Standard Time

User	Sample Size	Units	MS File	Inlet File	Inject Volume	Process
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	0.200000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	0.200000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
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SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---

User	Sample Size	Units	MS File	Inlet File	Inject Volume	Process
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
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AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---

User	Sample Size	Units	MS File	Inlet File	Inject Volume	Process
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AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---

Process Options	**Action On Error**
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Process Options	**Action On Error**
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Process Options	**Action On Error**
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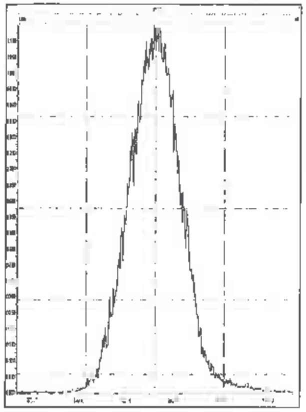
10D5

M 292.9824 R 11876



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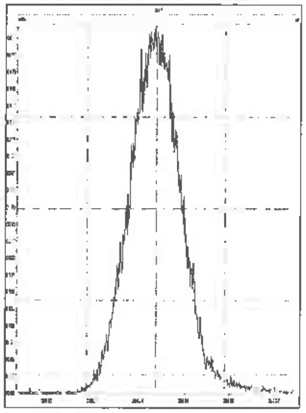
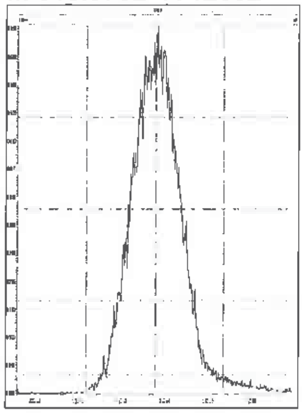


M 318.9792 R 12562



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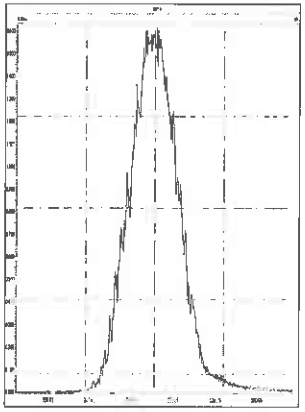
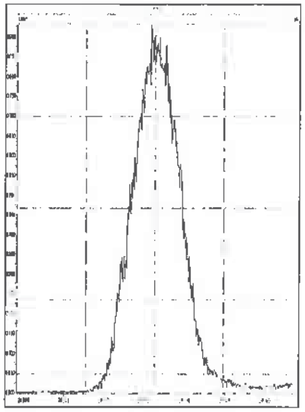


M 342.9792 R 12695



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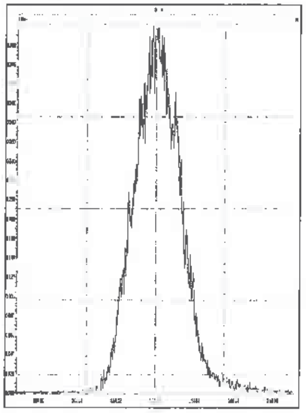

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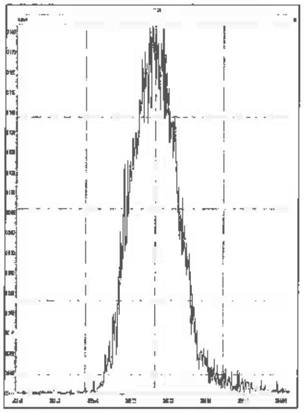

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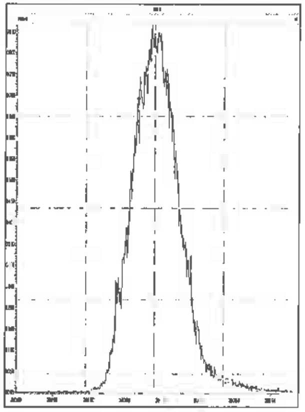

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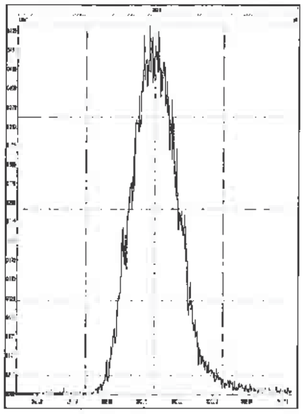

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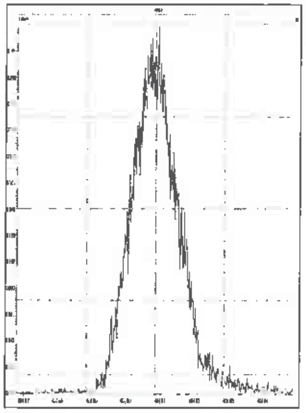

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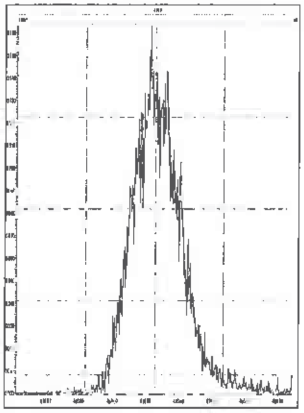

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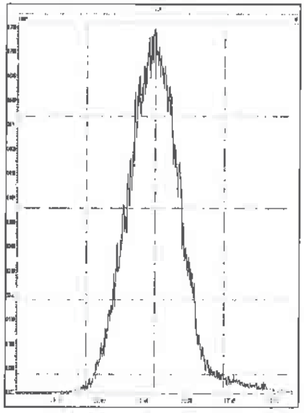

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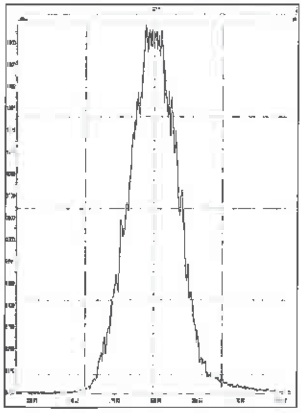

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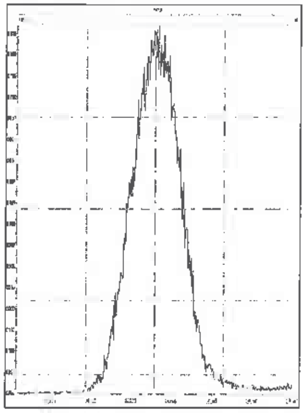

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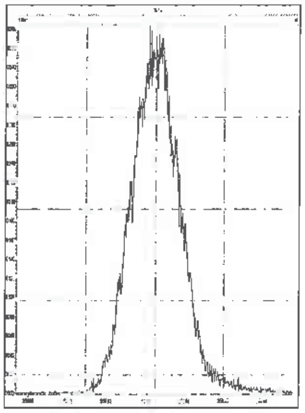

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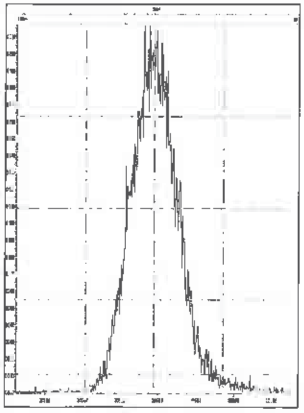

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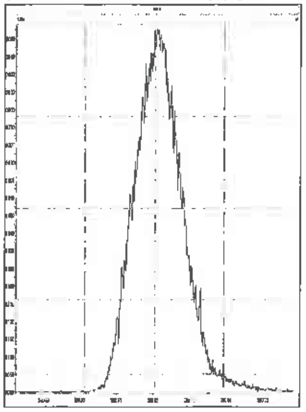
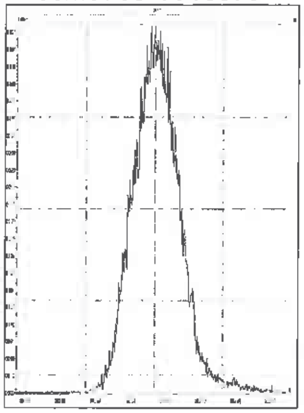
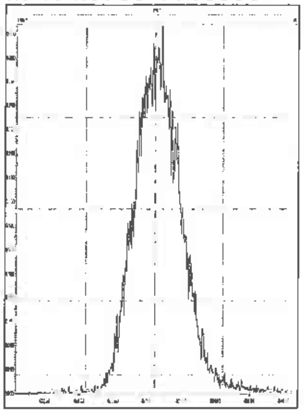
M 380.9760 R 13091



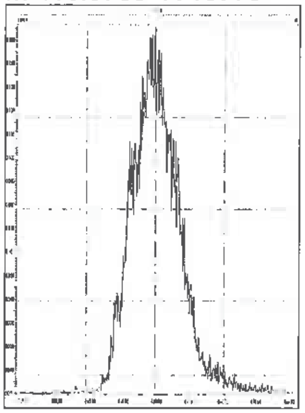
M 392.9760 R 13378



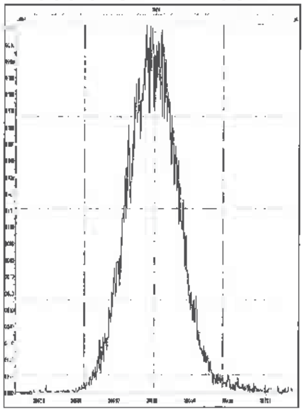
M 404.9760 R 13303



M 416.9760 R 13776



M 366.9792 R 11961



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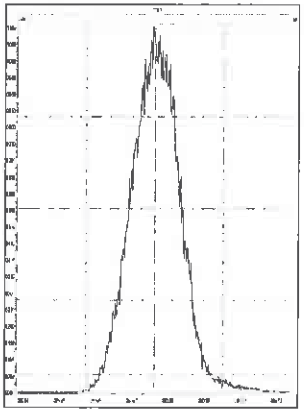
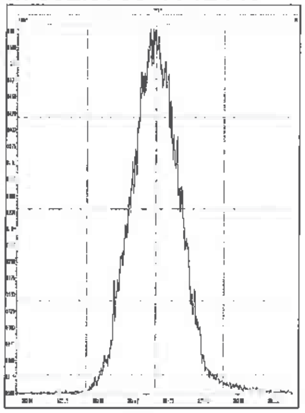


M 392.9760 R 12440



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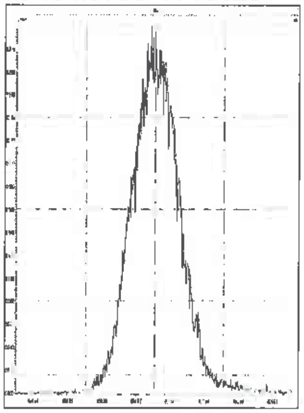
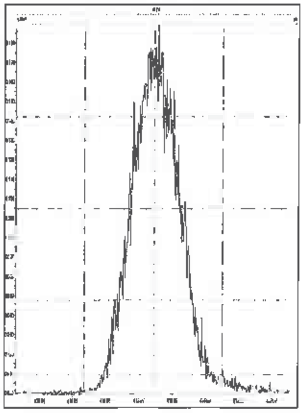
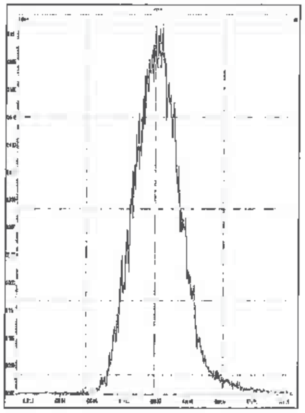


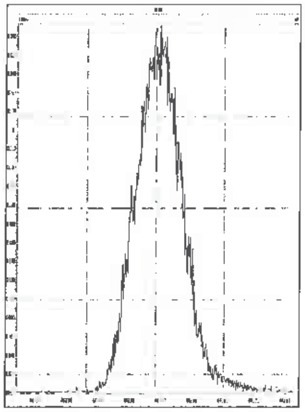
M 416.9760 R 13968



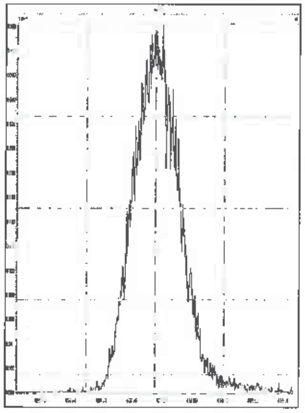
M 430.9728 R 12825



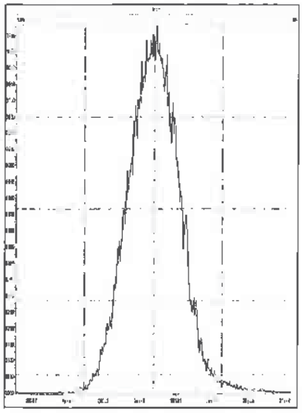
M 442.9728 R 13406



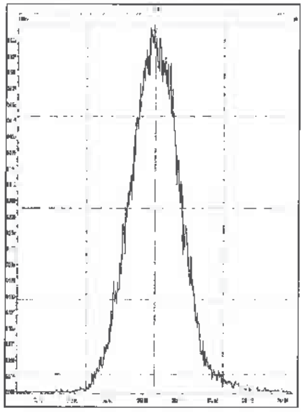
M 454.9728 R 13404



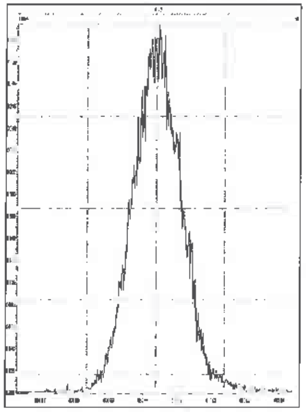
M 380.9760 R 11739



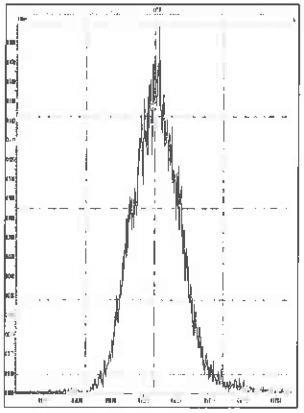
M 392.9760 R 11962



M 404.9760 R 12525



M 416.9760 R 13230



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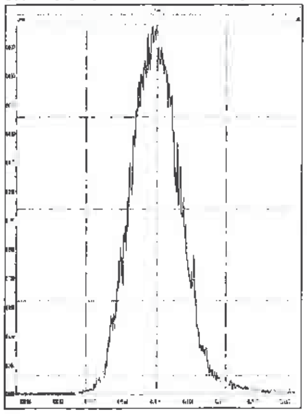
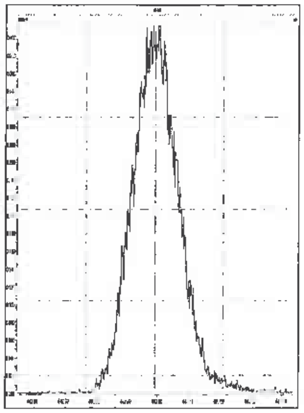
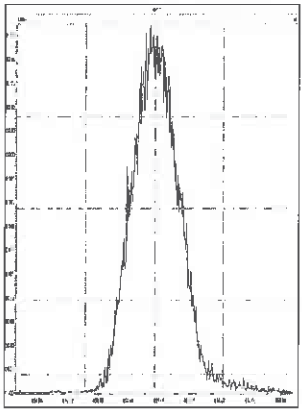
M 430.9728 R 12788



M 442.9728 R 13337



M 454.9728 R 13742



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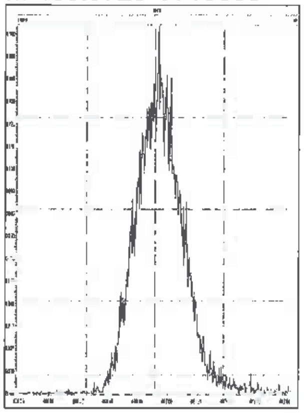

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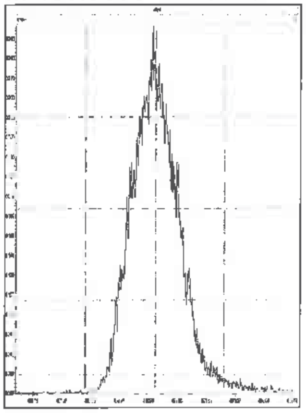

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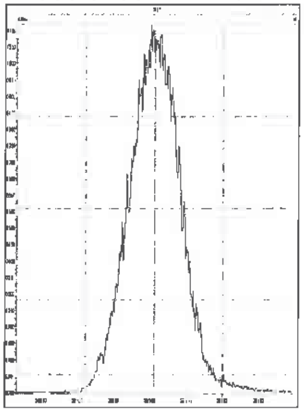

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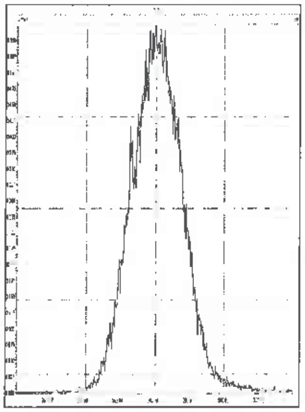

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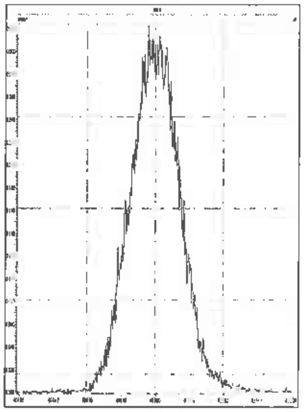

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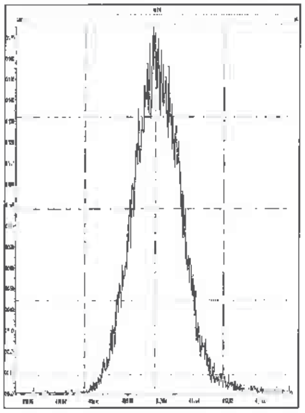

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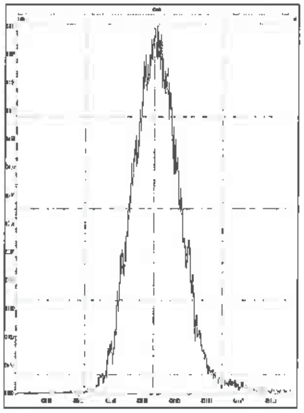

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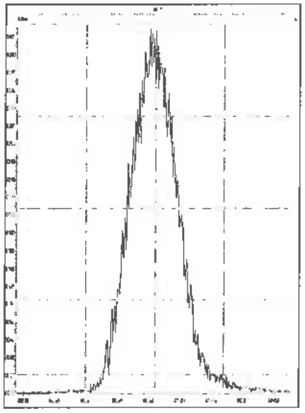

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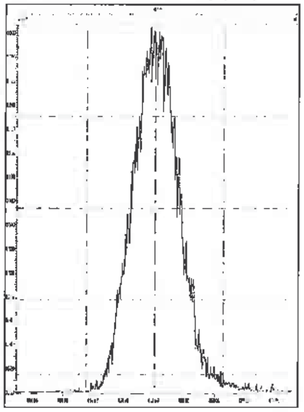

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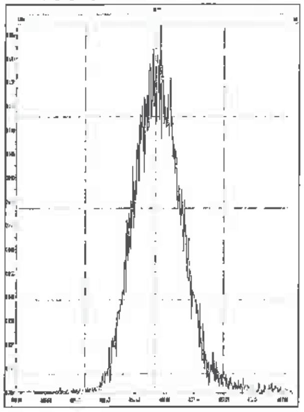

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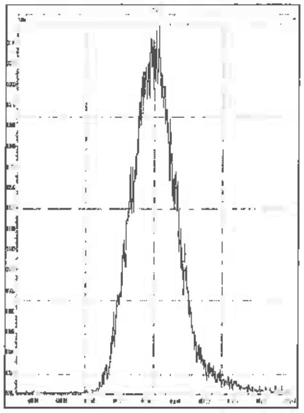

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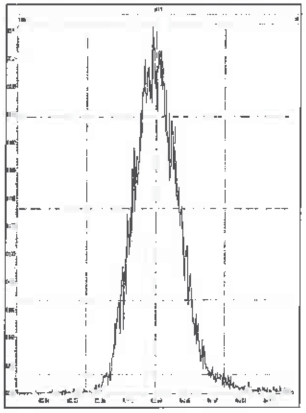

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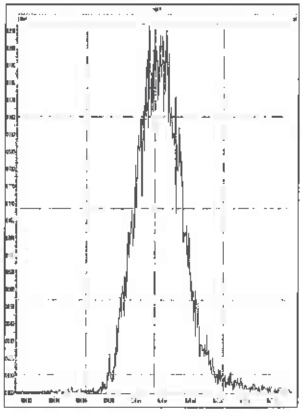
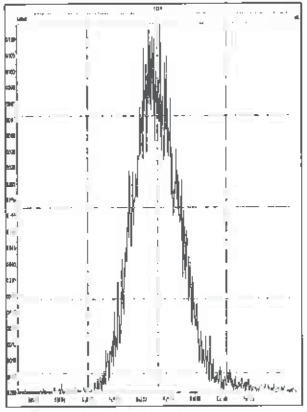


10D5

M 516.9697 R 13851



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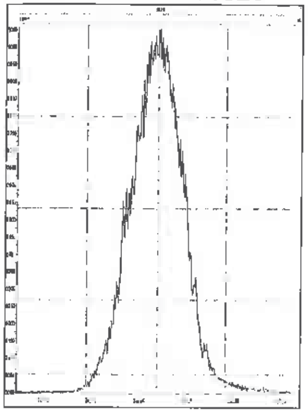
M 292.9824 R 11520



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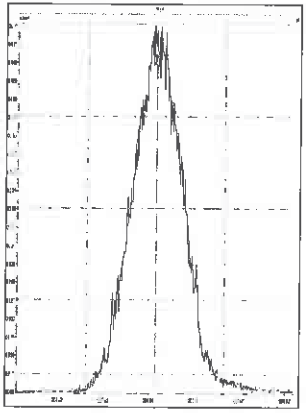

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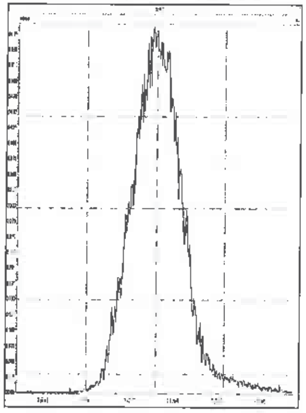

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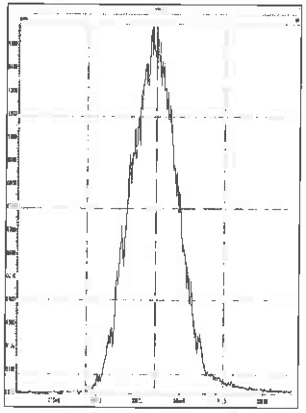

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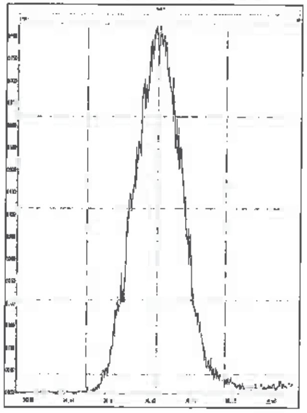
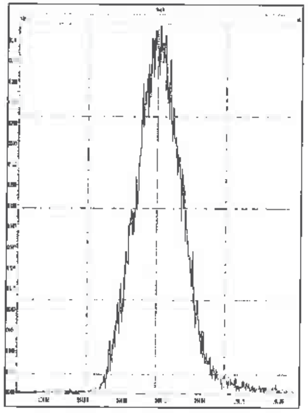


M 354.9792 R 12988



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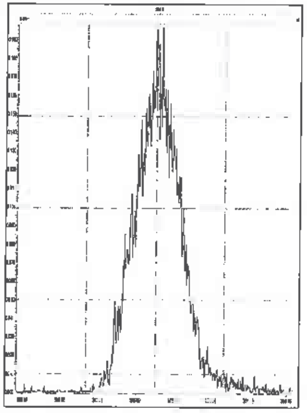

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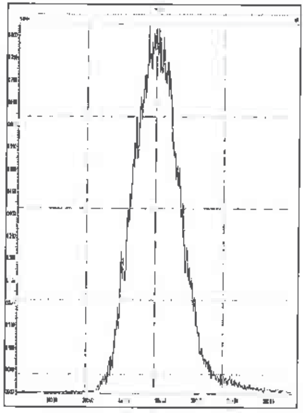

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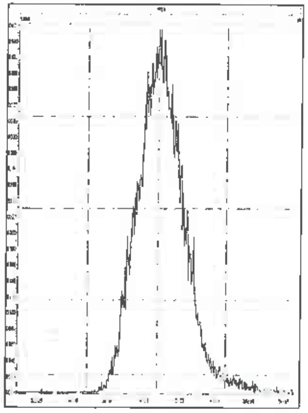

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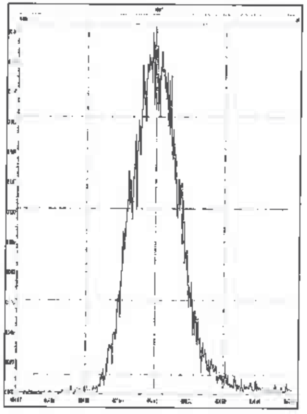

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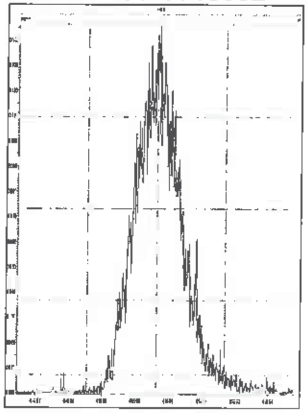

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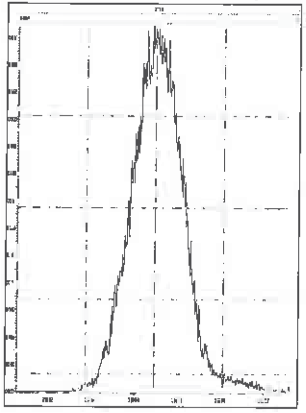

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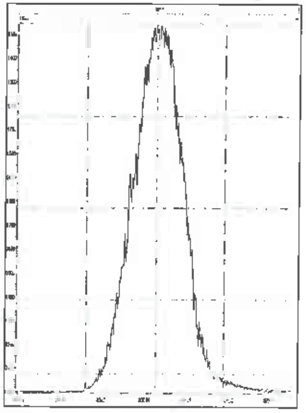

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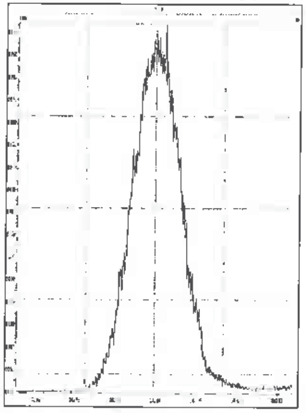

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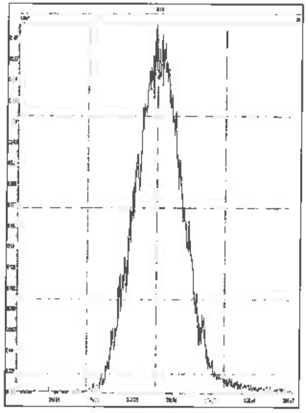

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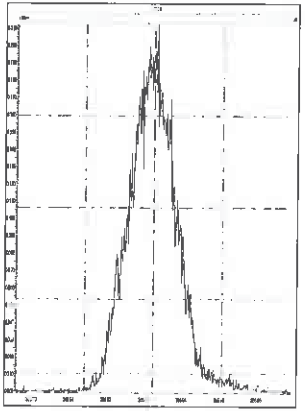

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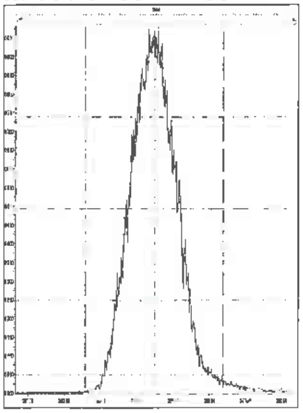
M 380.9760 R 13021



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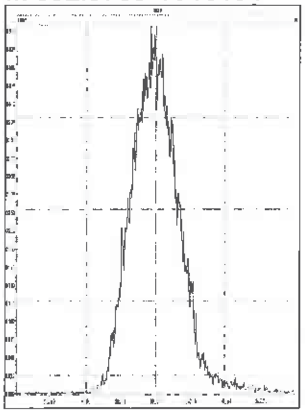

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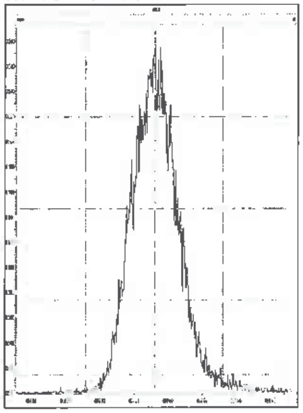

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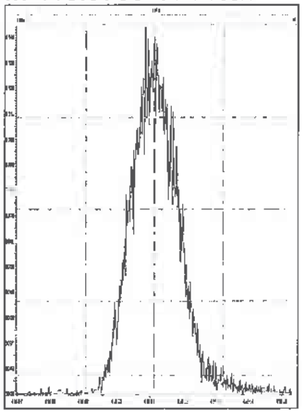

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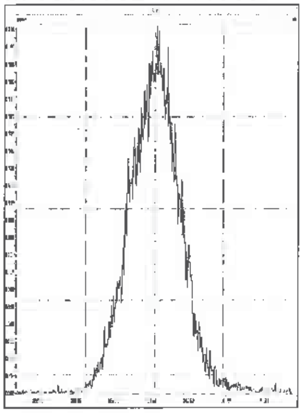

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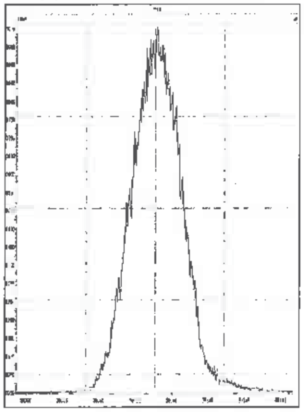

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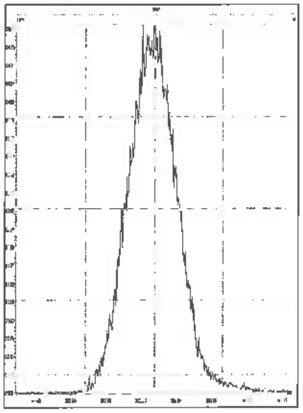

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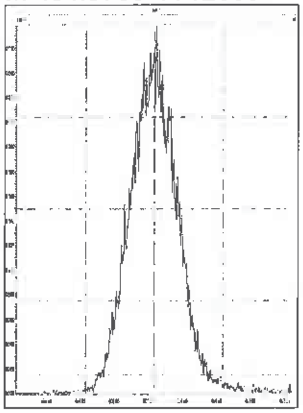

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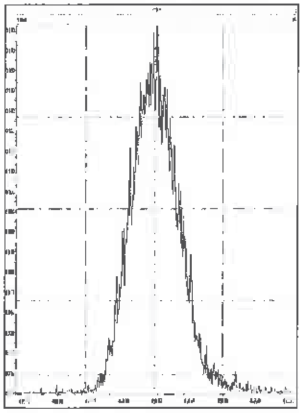

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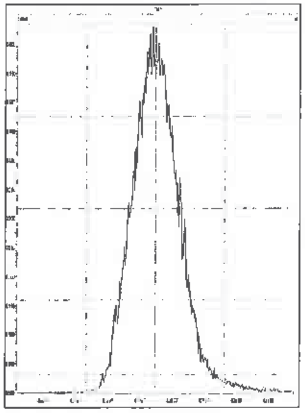

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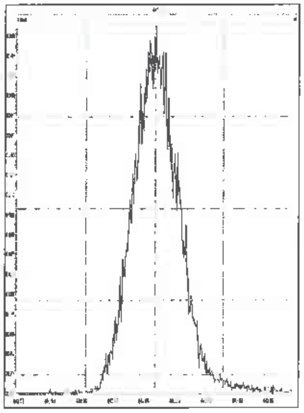

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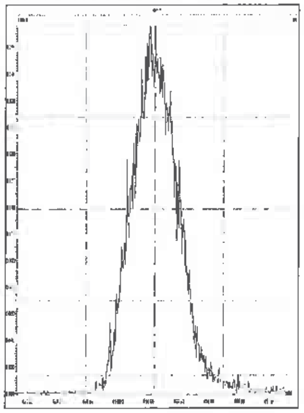

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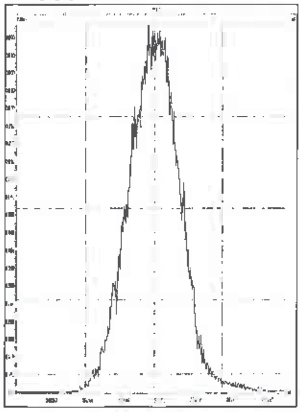

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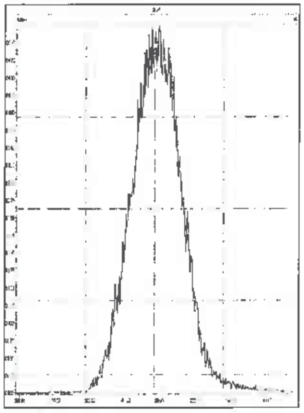

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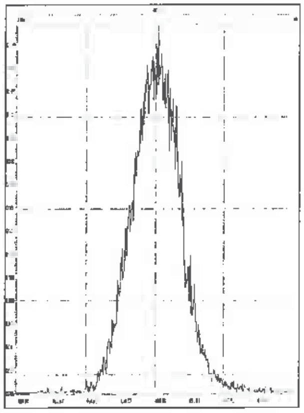
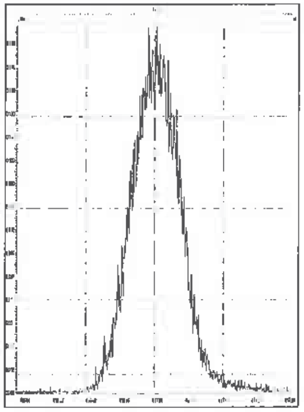


M 416.9760 R 12723



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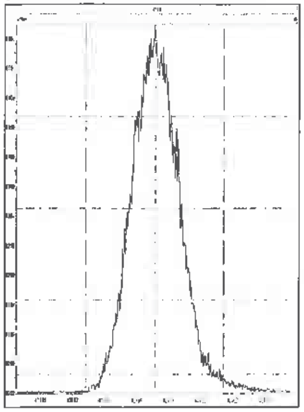
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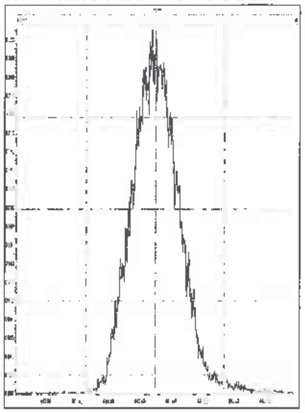
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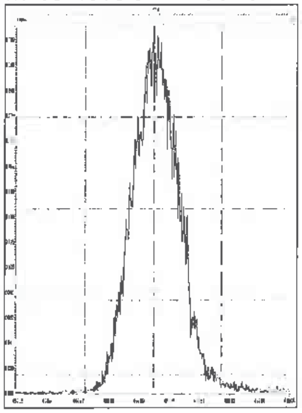
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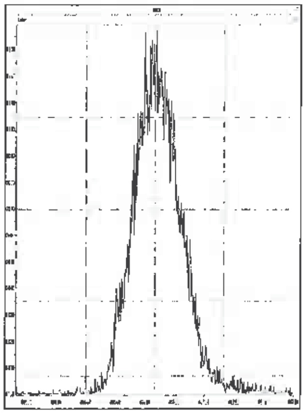
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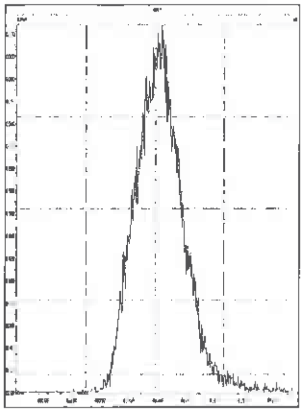
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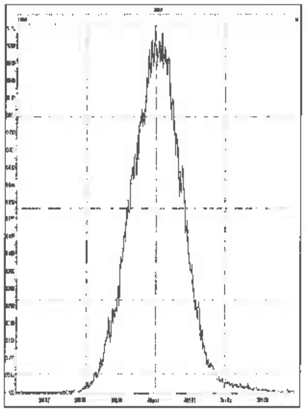
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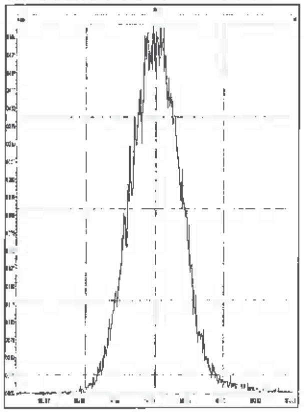
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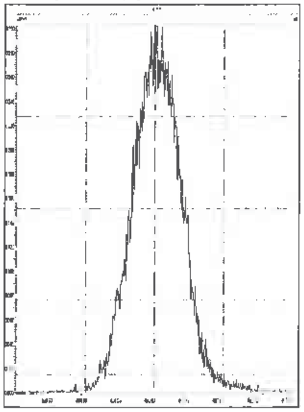
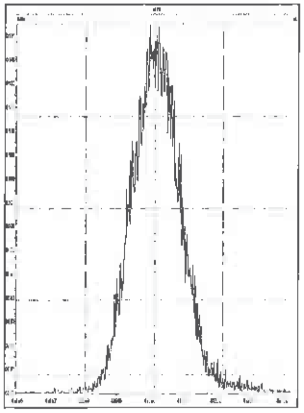

M 404.9760 R 12887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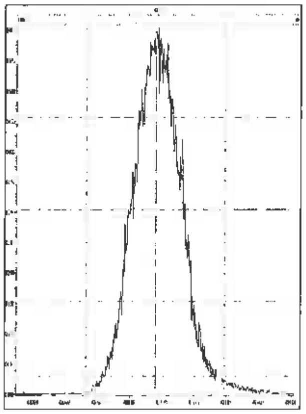
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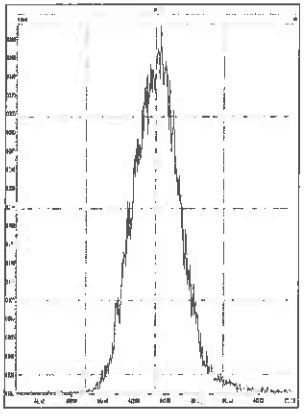
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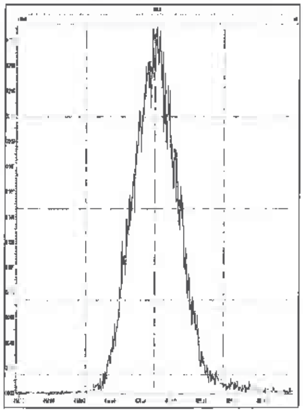
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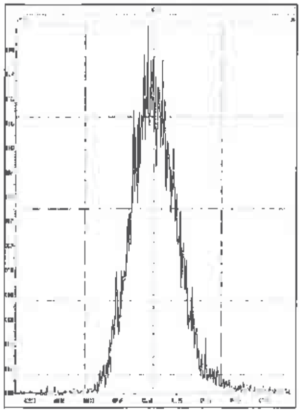
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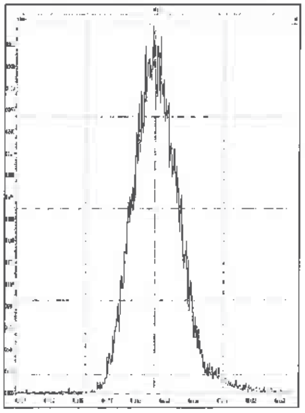
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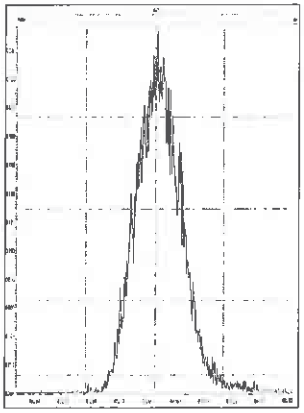
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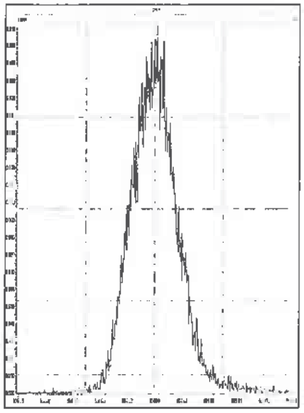
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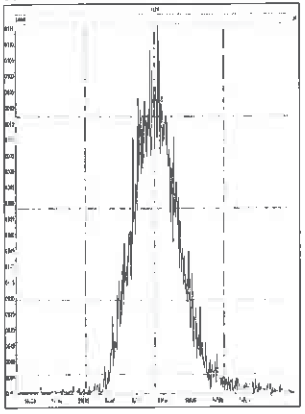
M 516.9697 R 13935



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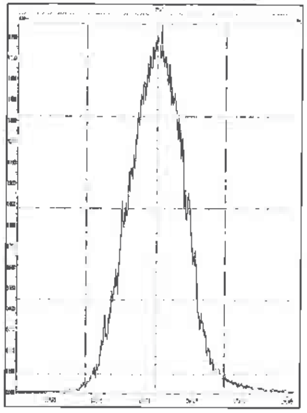

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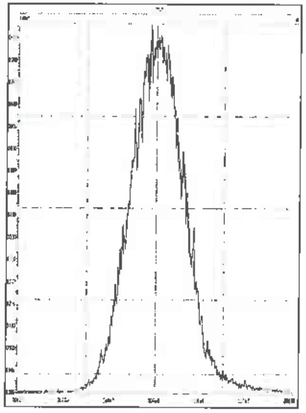
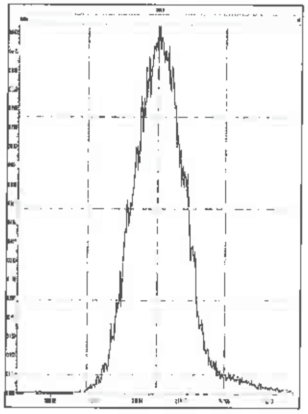
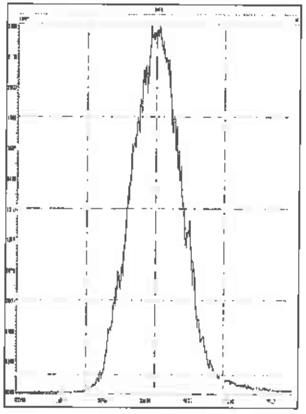


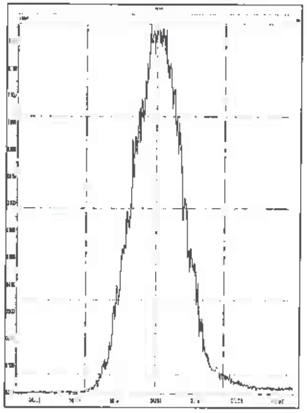
M 318.9792 R 11737



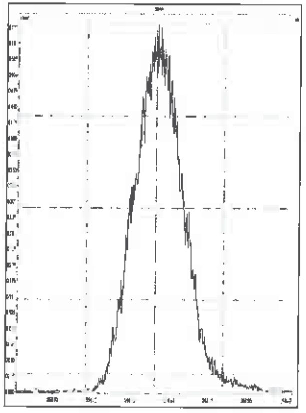
M 330.9792 R 11904



M 342.9792 R 12278



M 354.9792 R 12023



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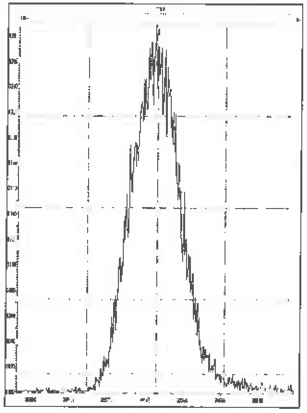

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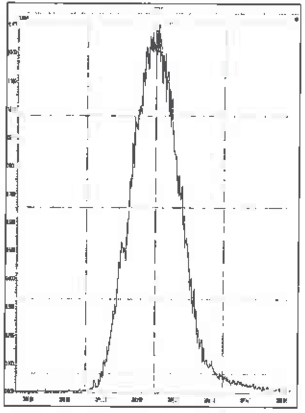
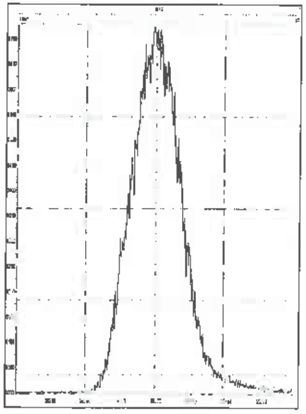


M 392.9760 R 12438



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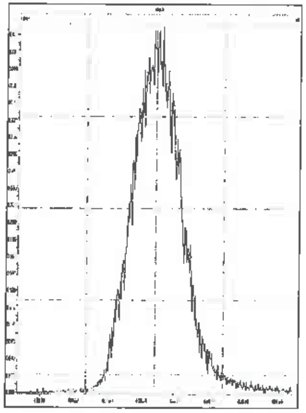
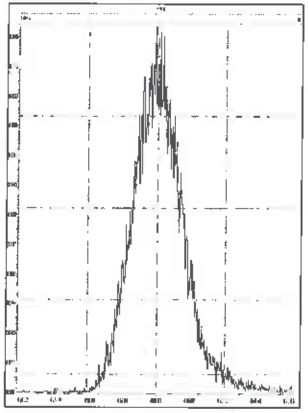
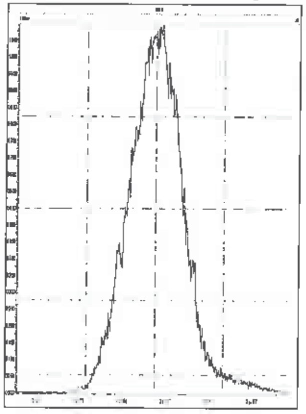


M 416.9760 R 12766



M 318.9792 R 11110



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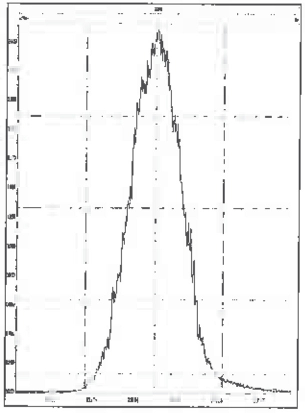
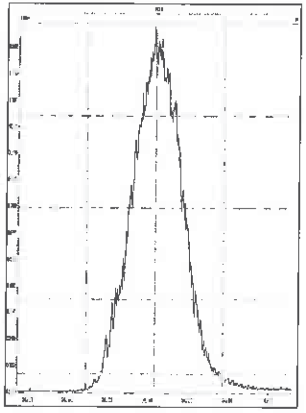


M 342.9792 R 11547



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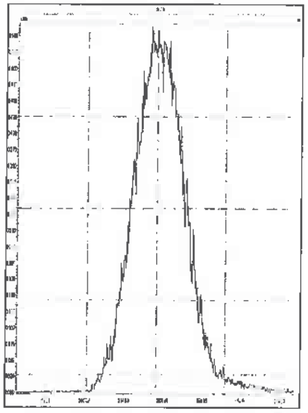
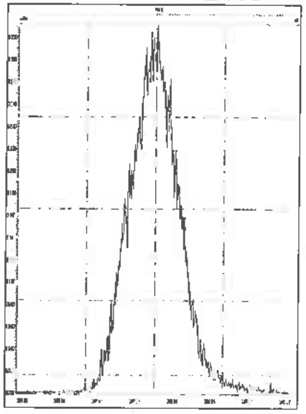


M 366.9792 R 12416



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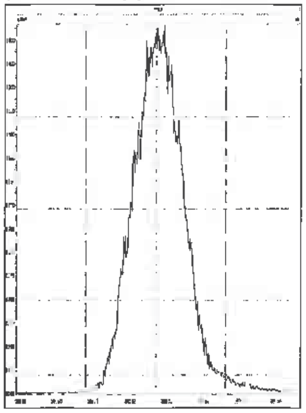
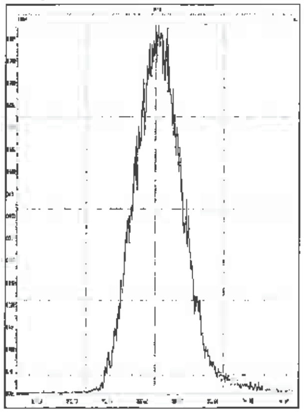
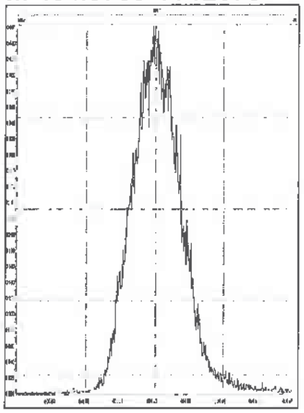
M 380.9760 R 11963



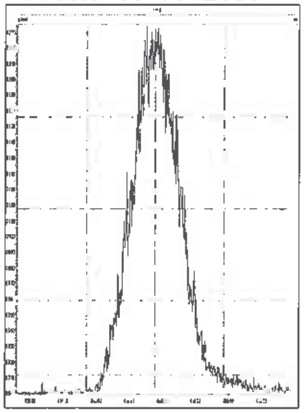
M 392.9760 R 12438



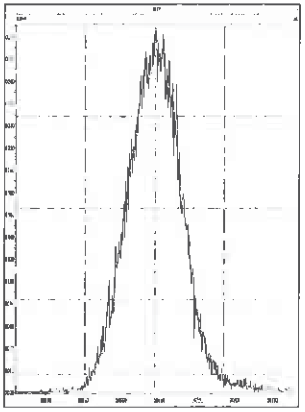
M 404.9760 R 12376



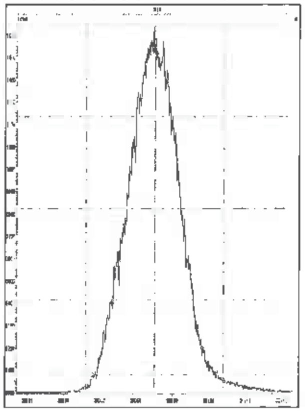
M 416.9760 R 12195



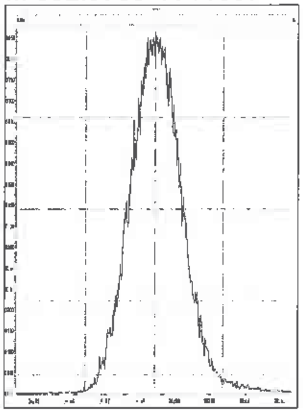
M 366.9792 R 11014



M 380.9760 R 11521



M 392.9760 R 11657



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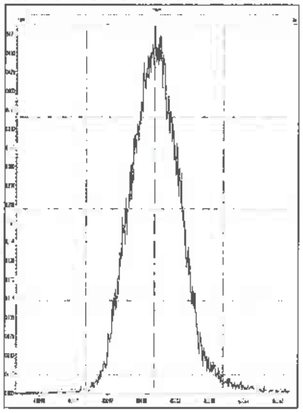

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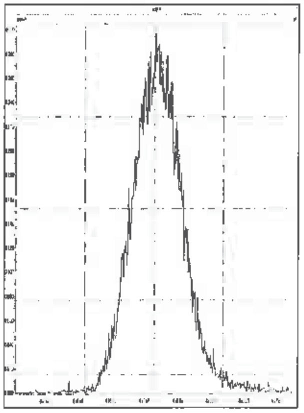
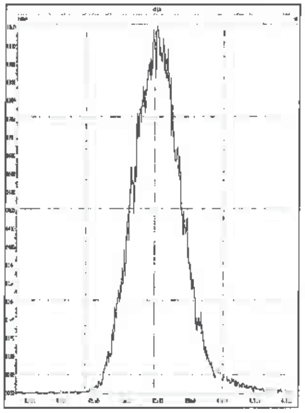


M 430.9728 R 12406



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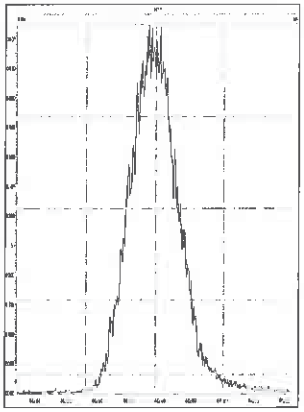

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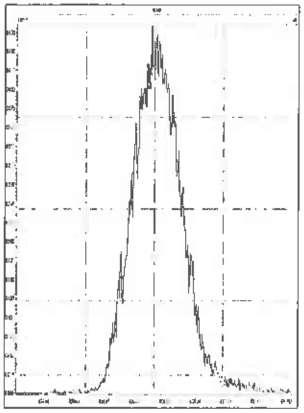

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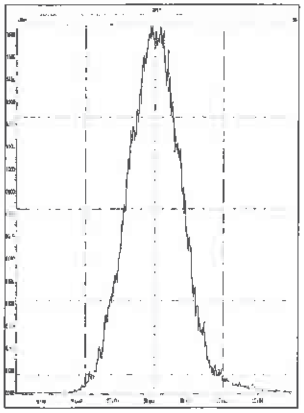

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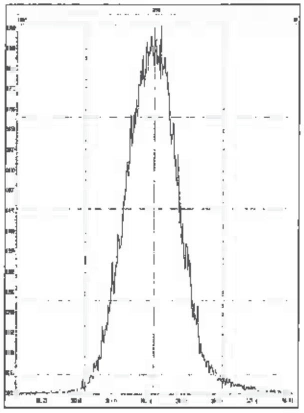

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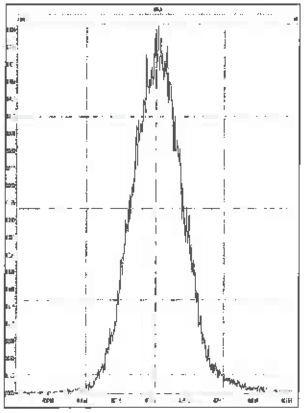

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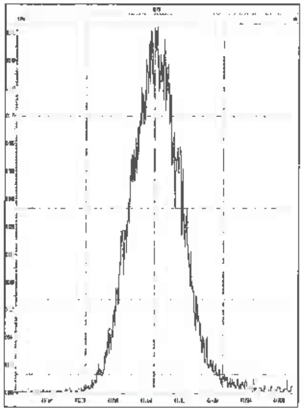

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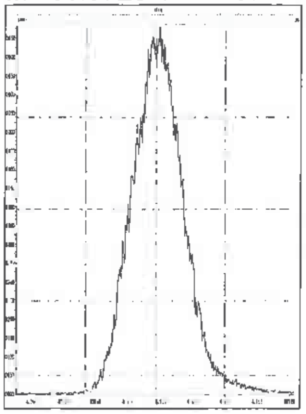

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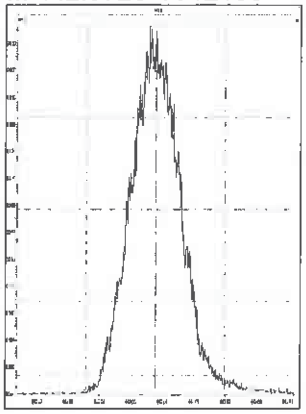

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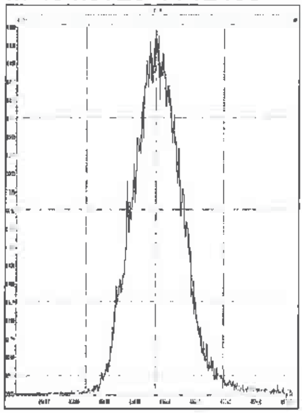

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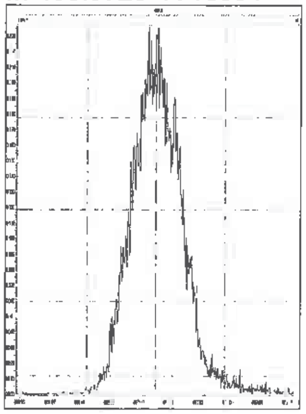

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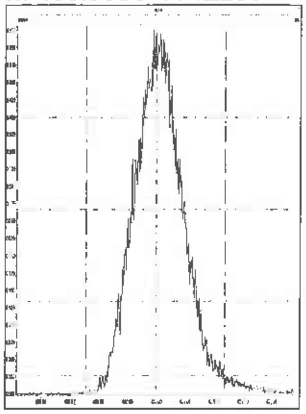

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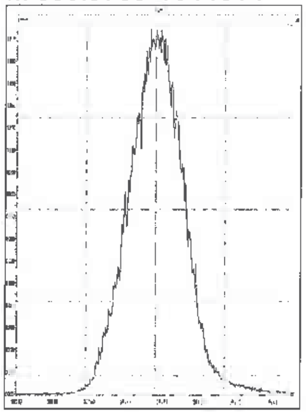

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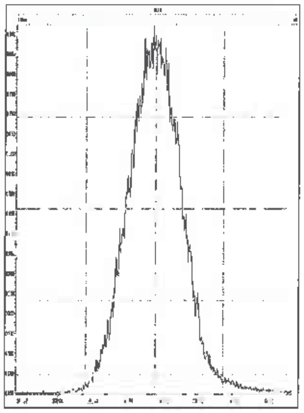

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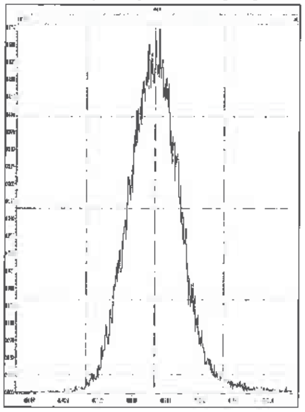

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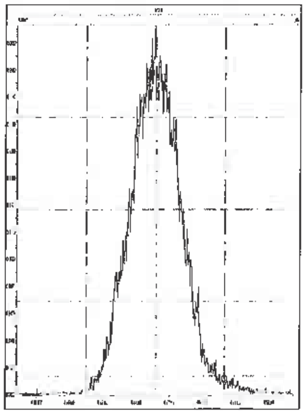

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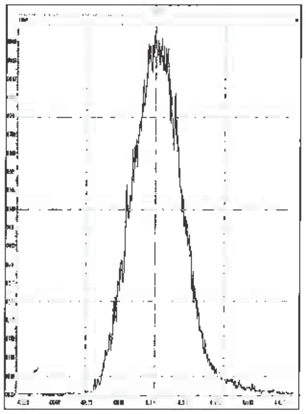

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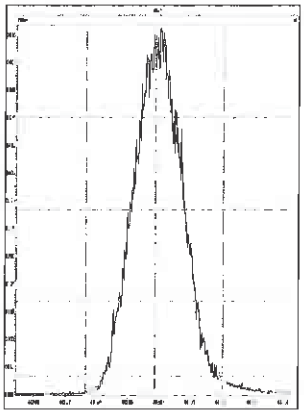

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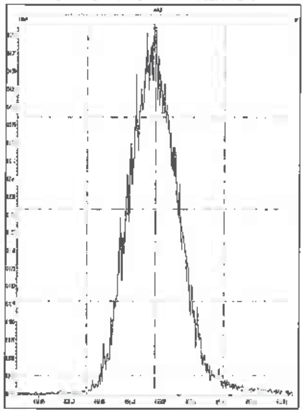

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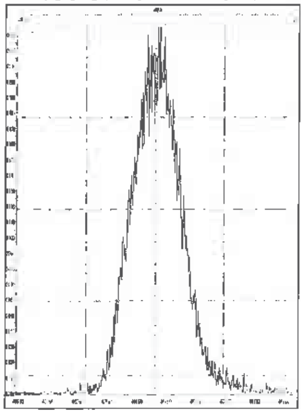

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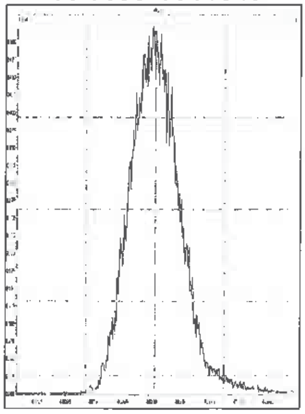

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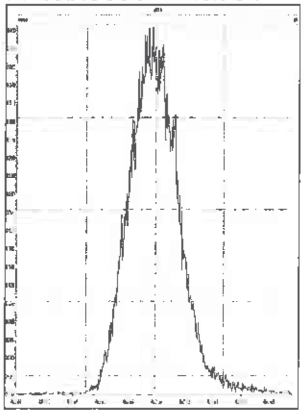

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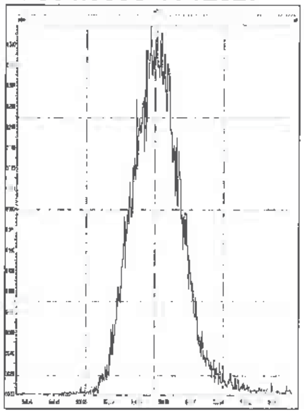

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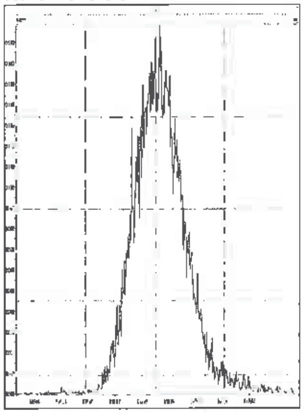

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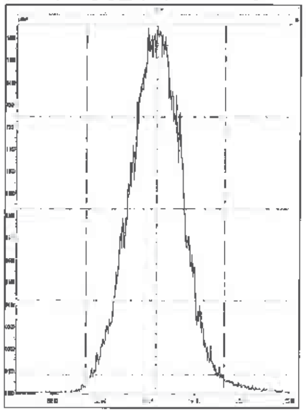

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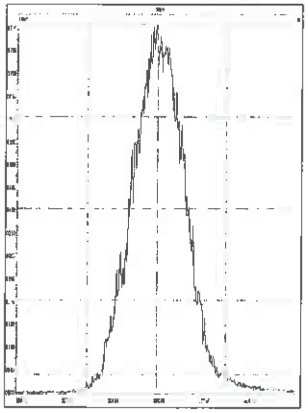

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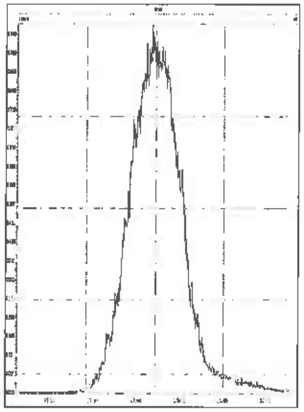

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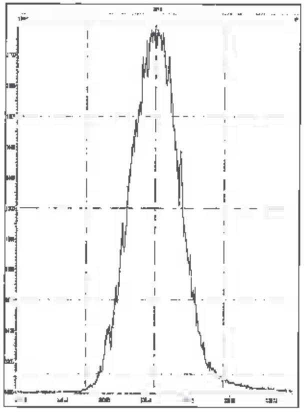

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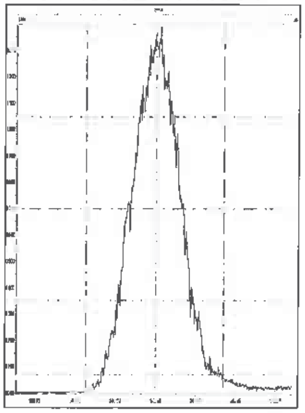

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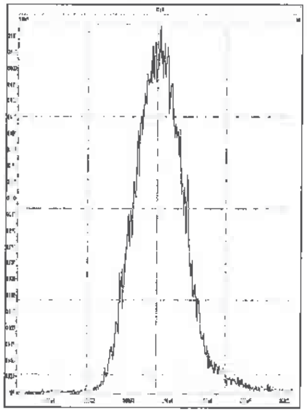

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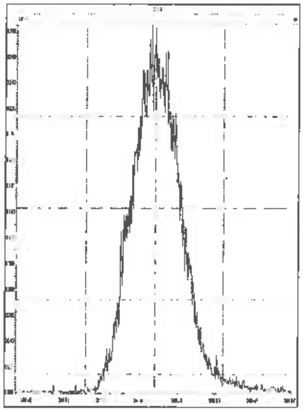

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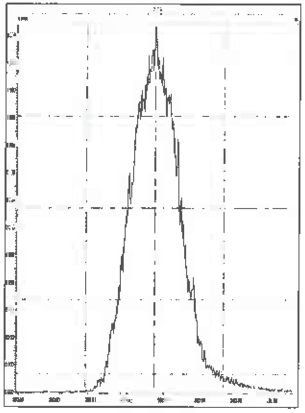

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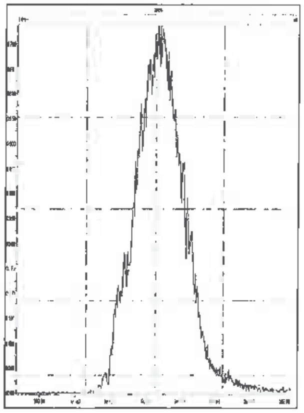

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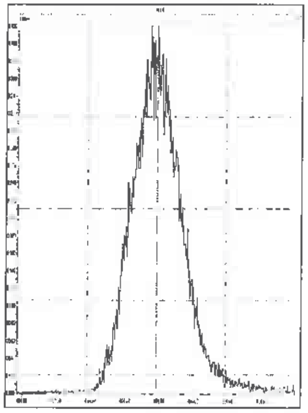

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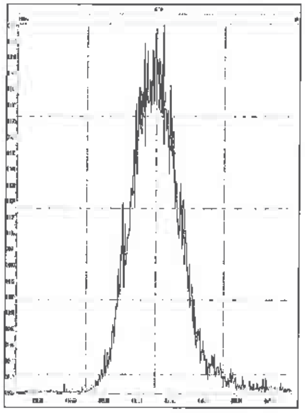

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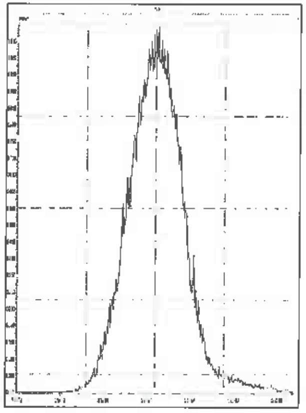

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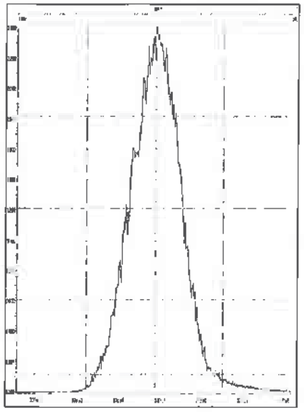

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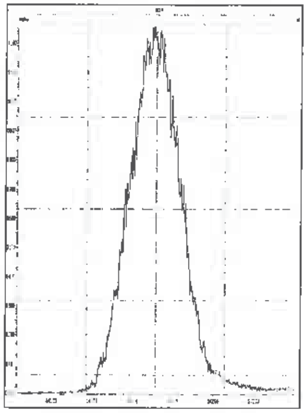

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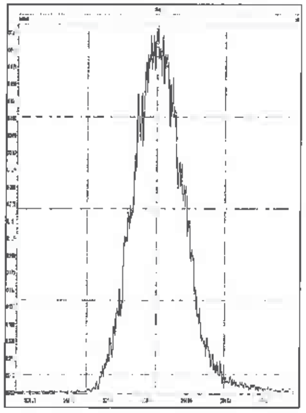

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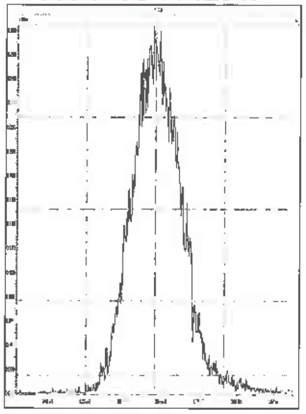

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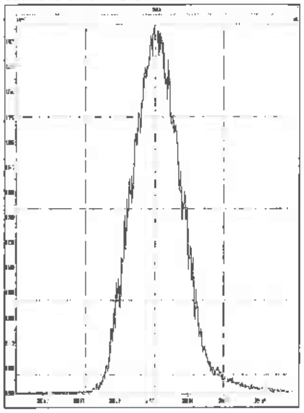

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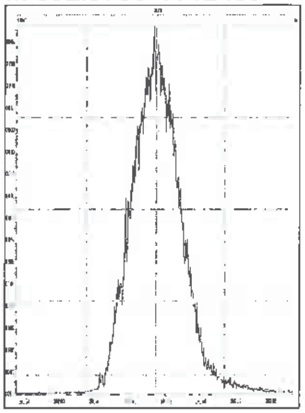

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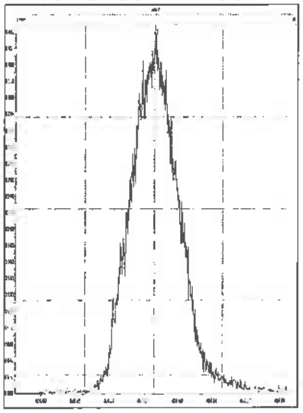

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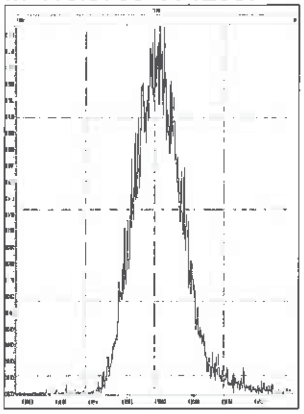

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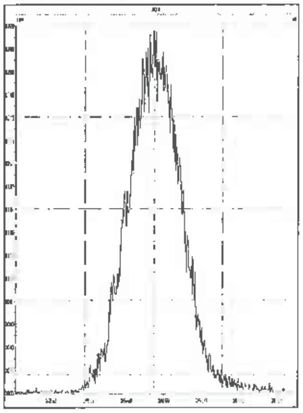

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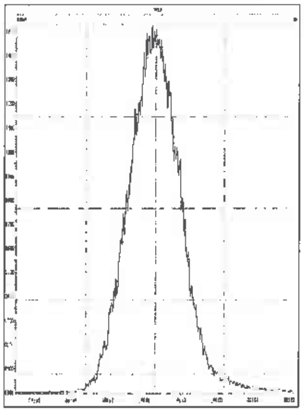

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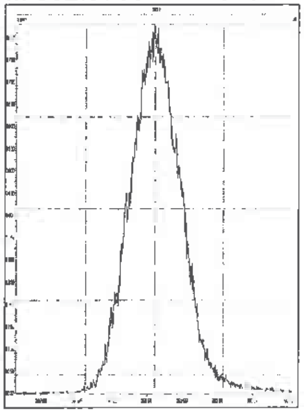

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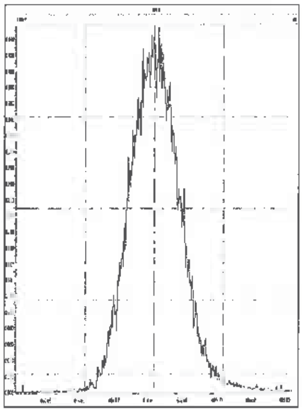

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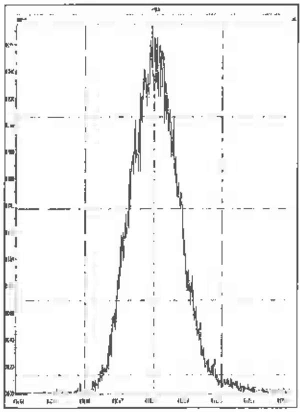
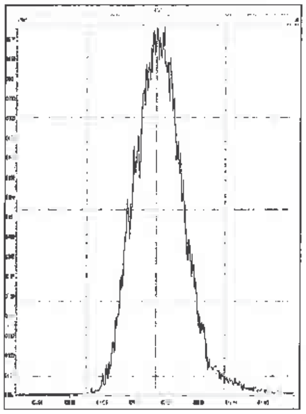


M 430.9728 R 12531



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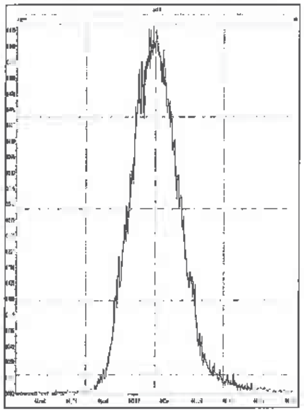

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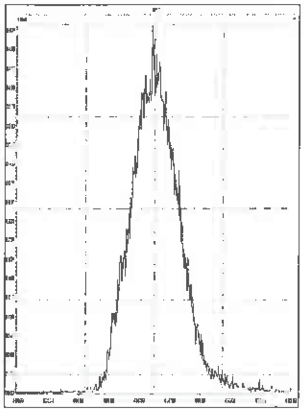

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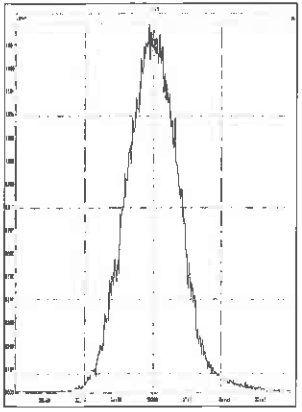

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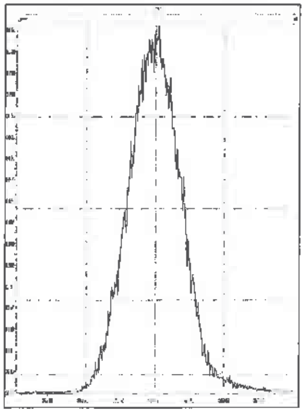

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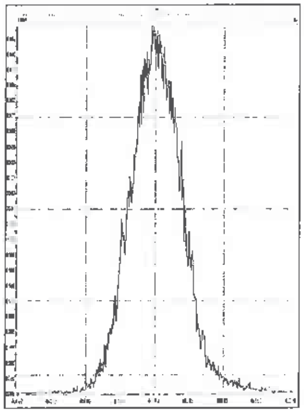

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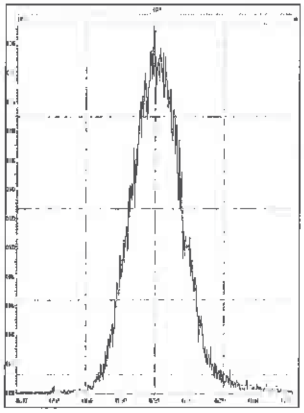

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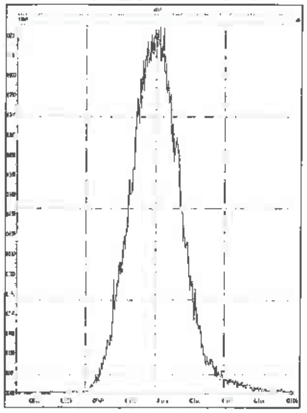
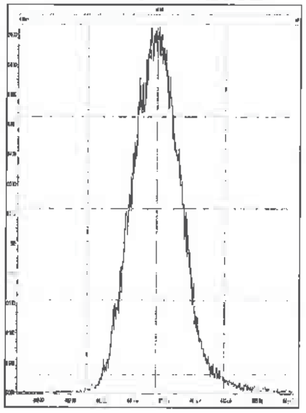
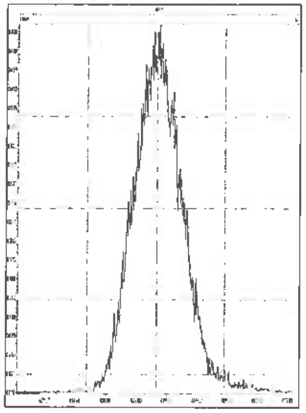


M 442.9728 R 12362



M 454.9728 R 12631



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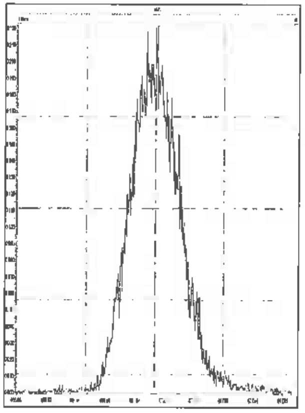

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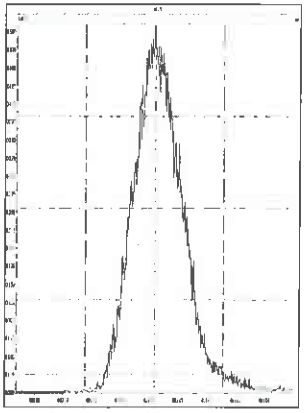

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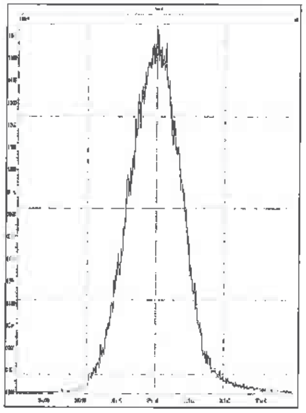

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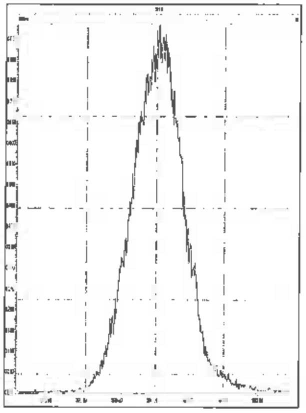

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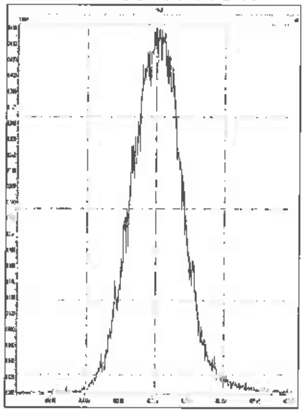

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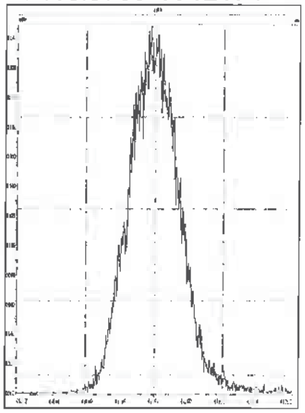

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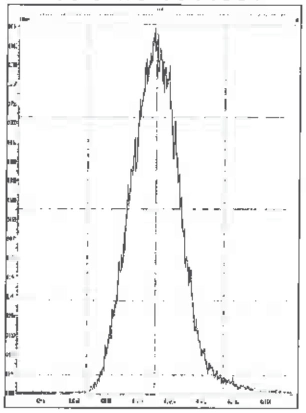

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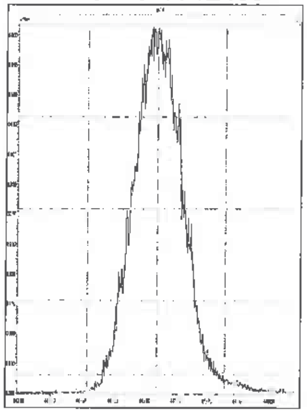

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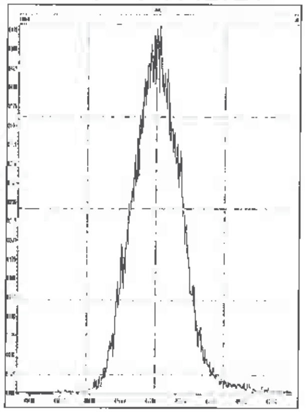

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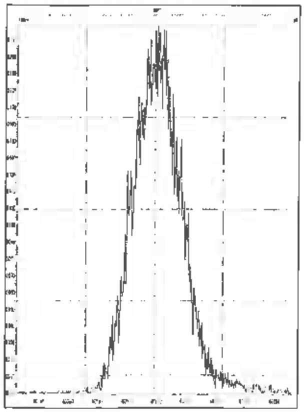

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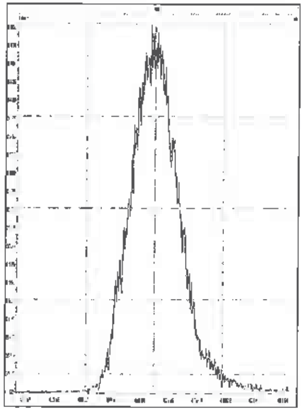

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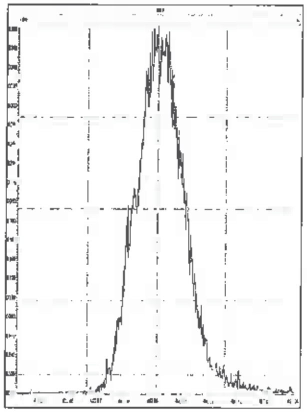

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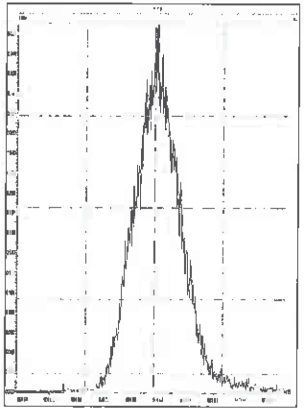

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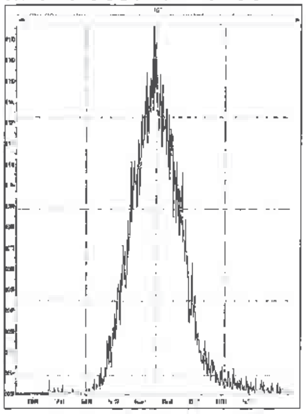

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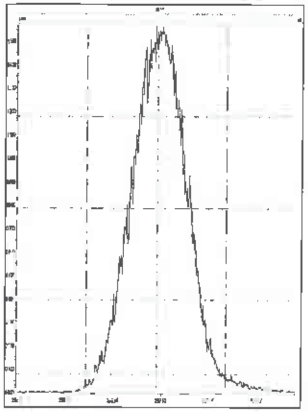

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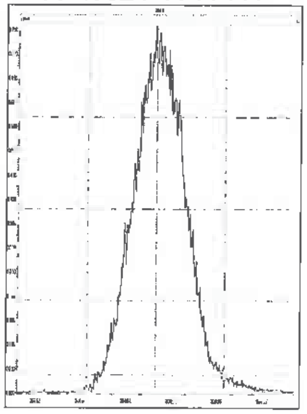

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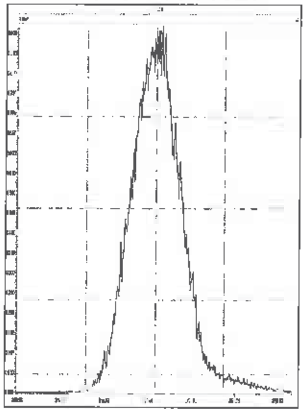

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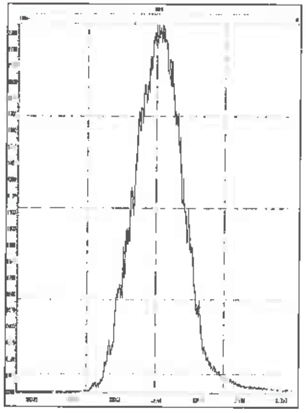

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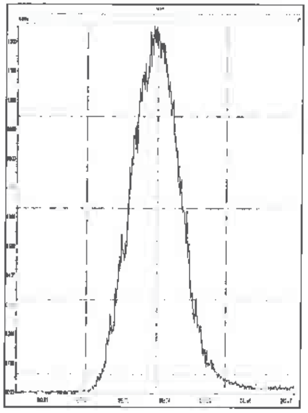

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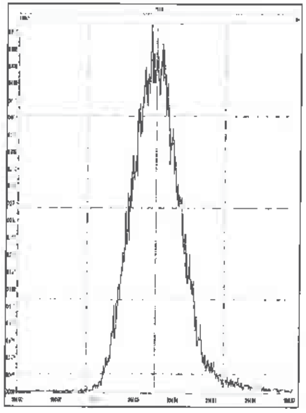

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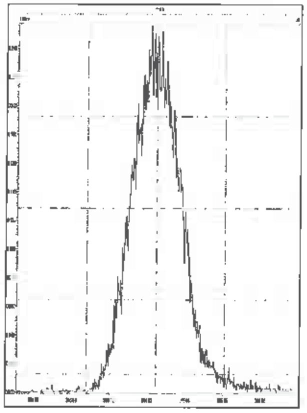

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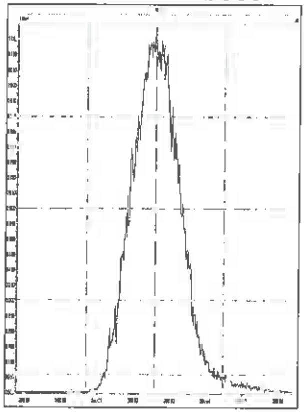

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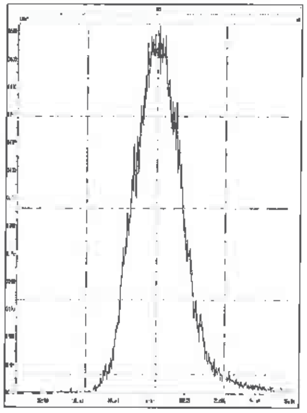

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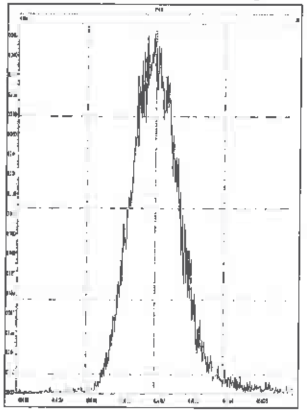

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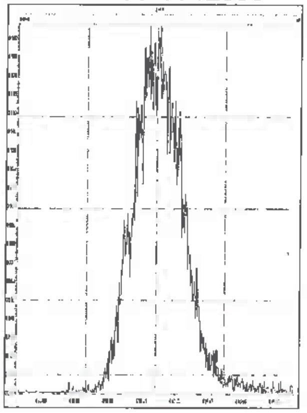

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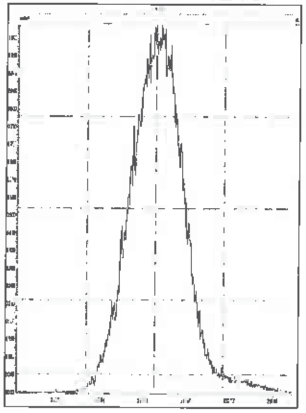

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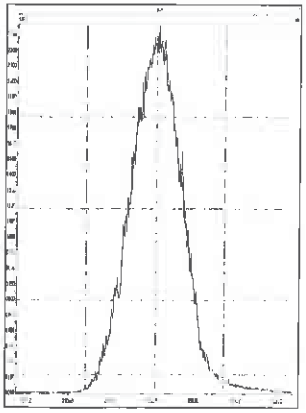

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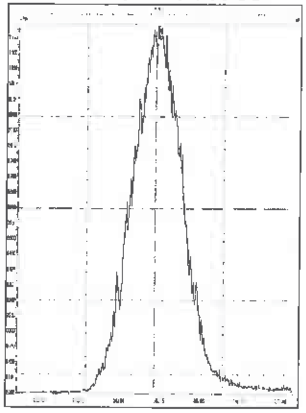

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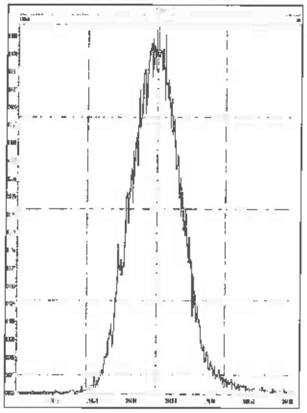

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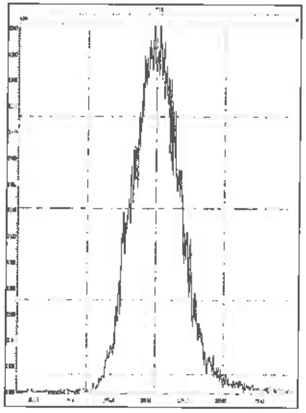

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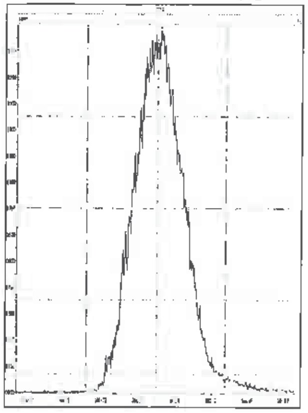

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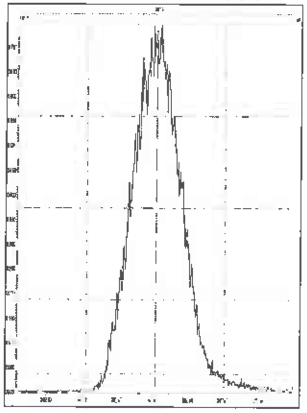

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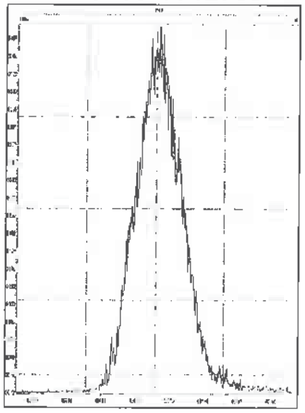

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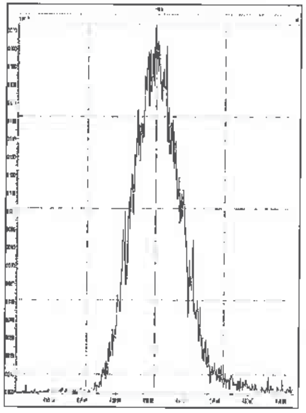

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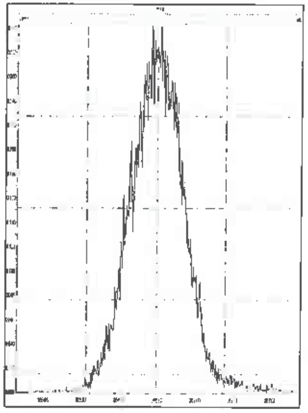

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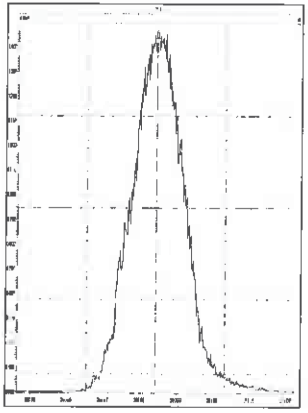

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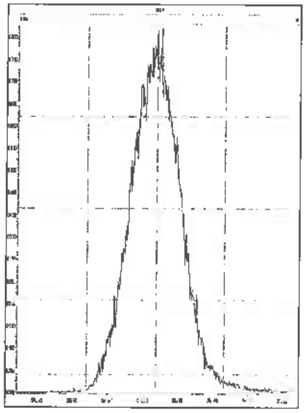

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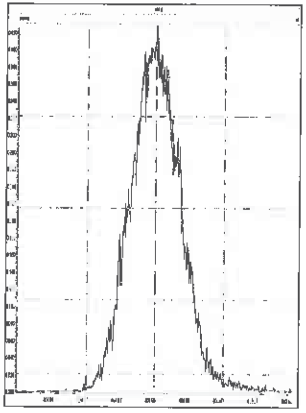

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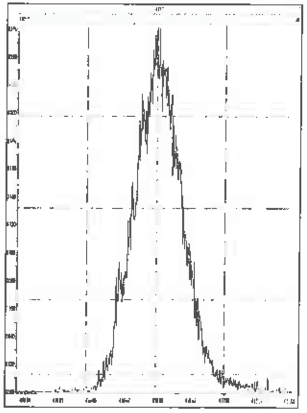

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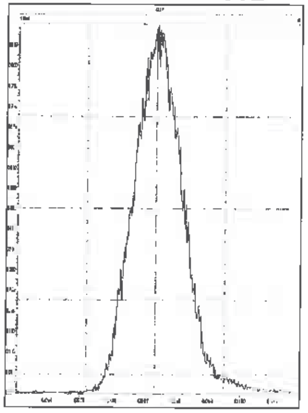

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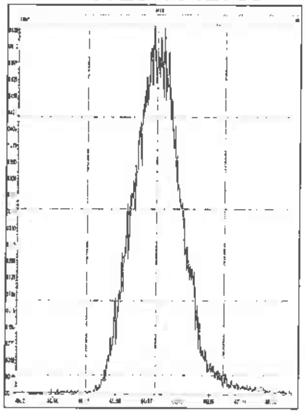

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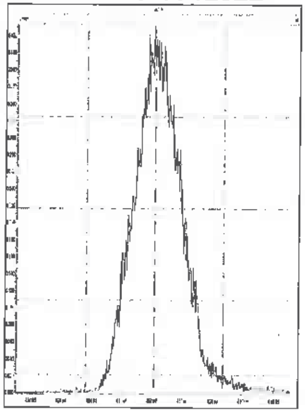

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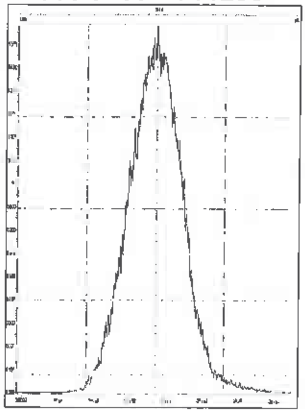

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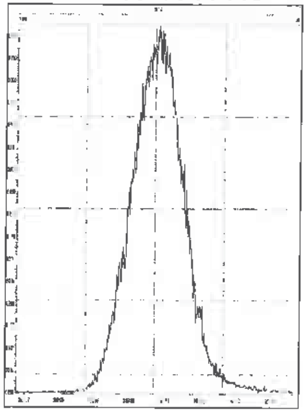

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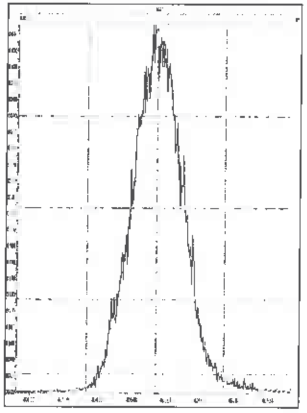

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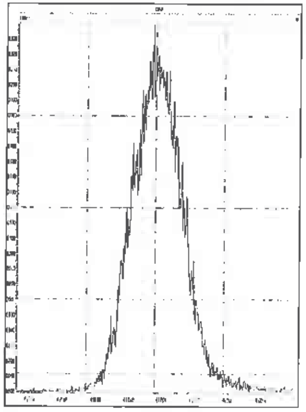

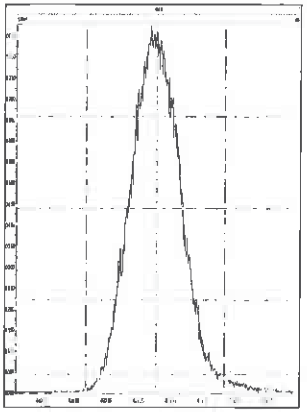
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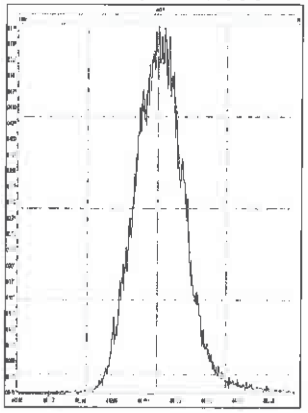
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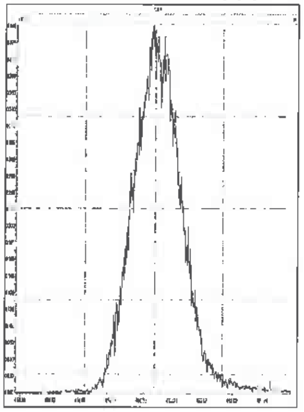
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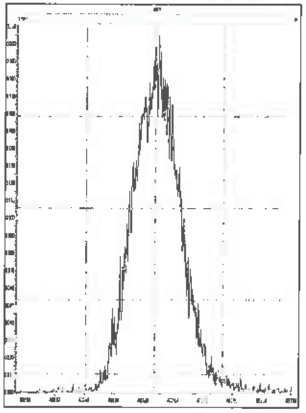
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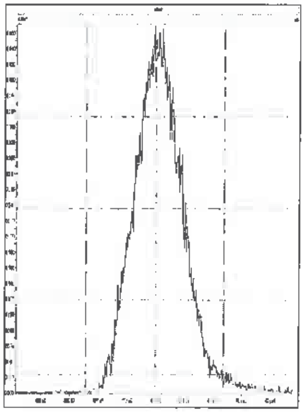
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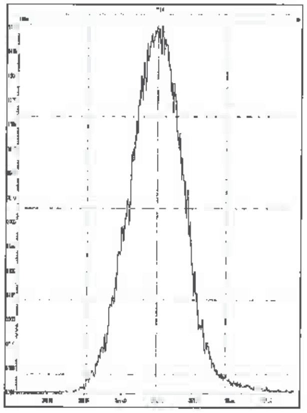
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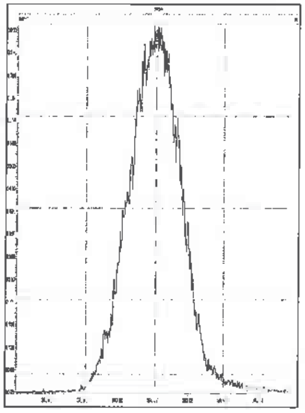
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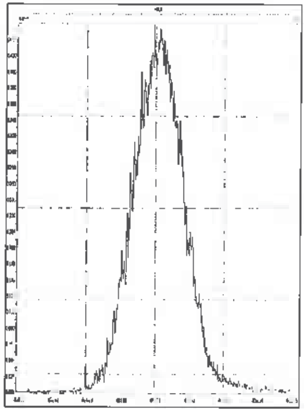
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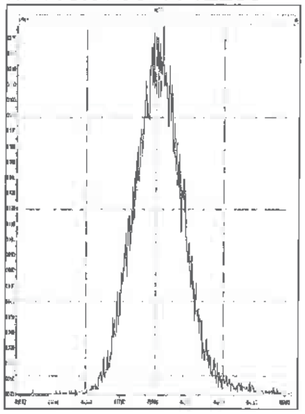
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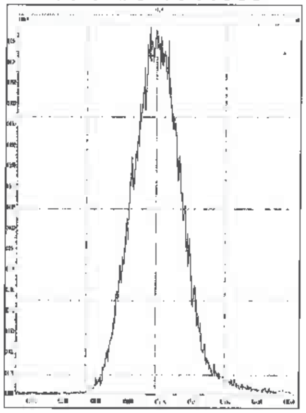
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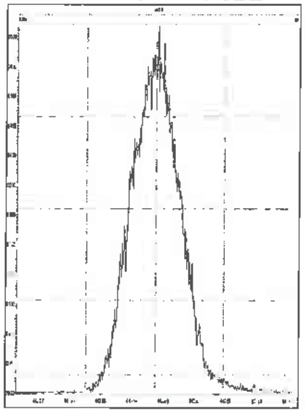
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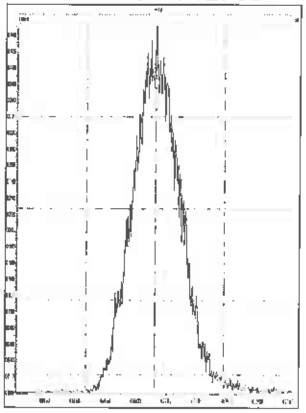
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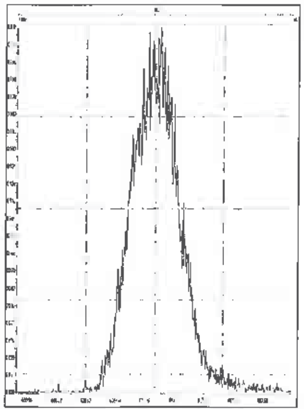
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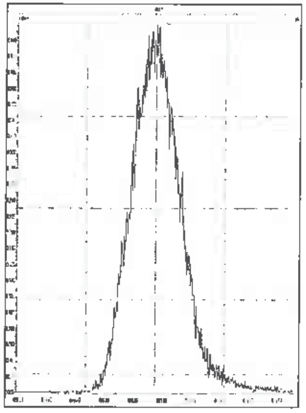
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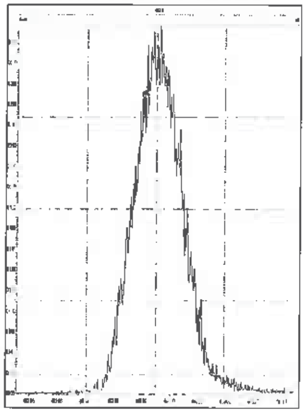
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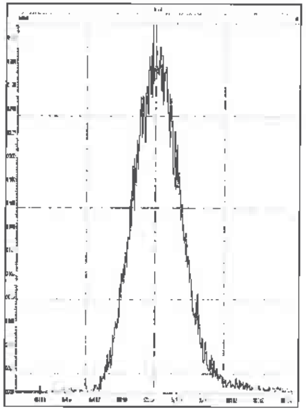
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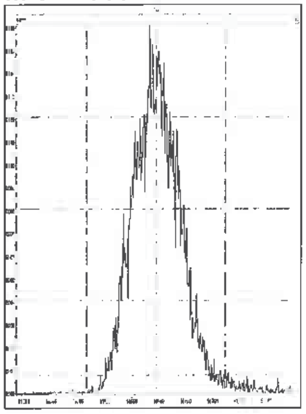

Resolution Check Report **MassLynx 4.1**

Printed: Sunday, November 12, 2017 08:38:20 Pacific Standard Time

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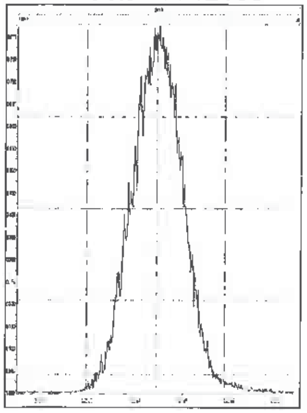

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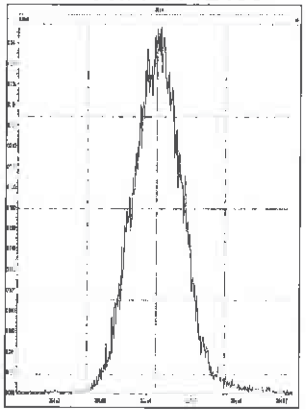

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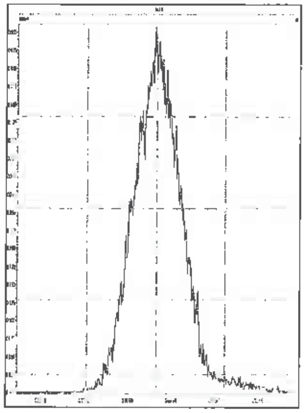

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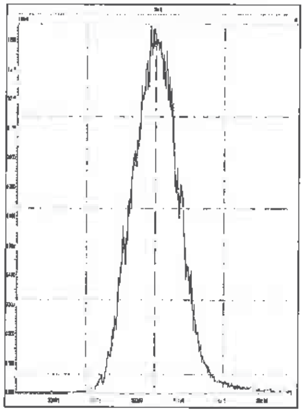

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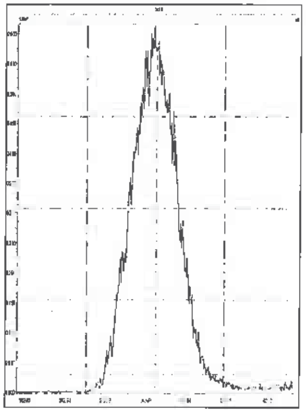

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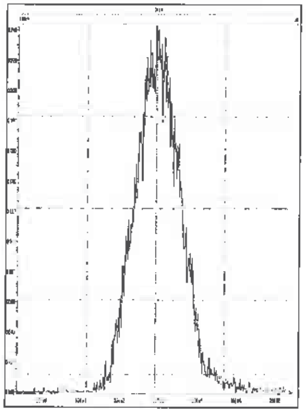

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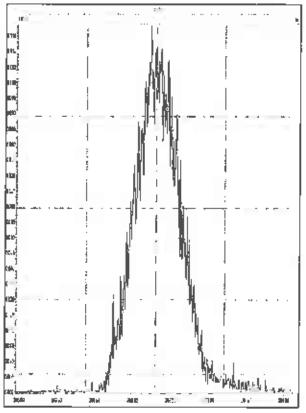

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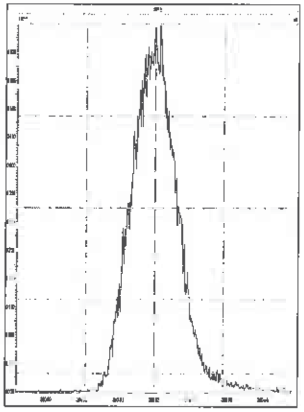

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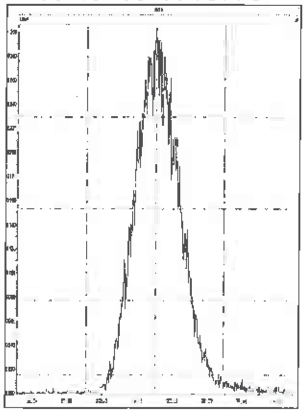

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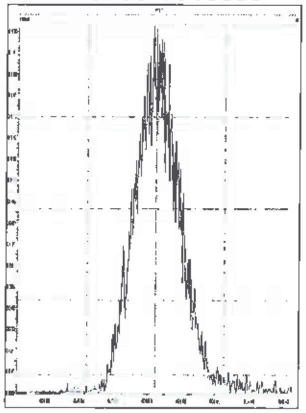

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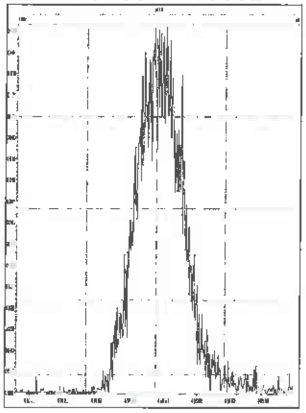

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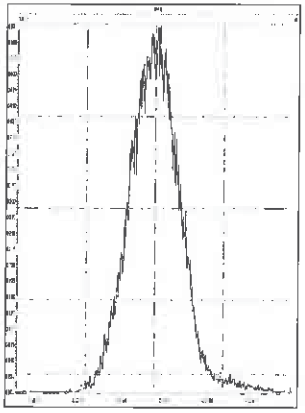

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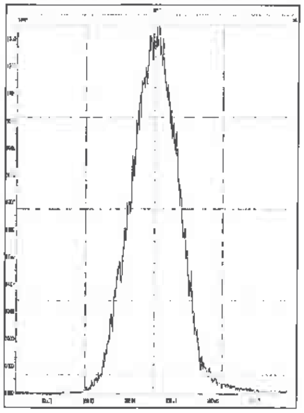

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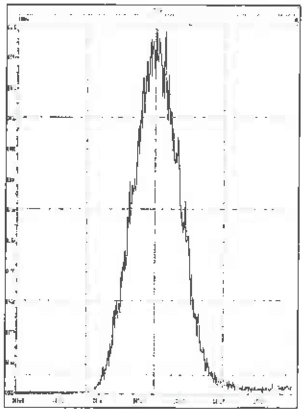

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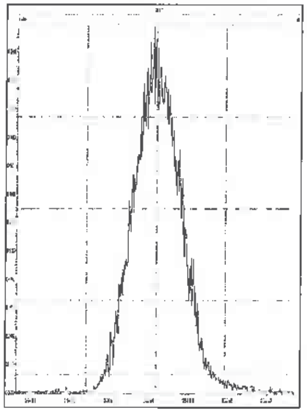

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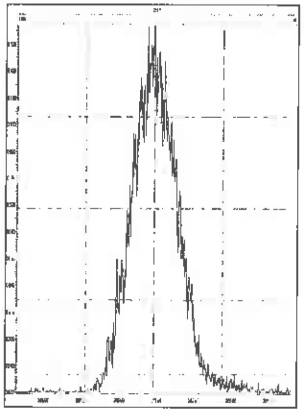

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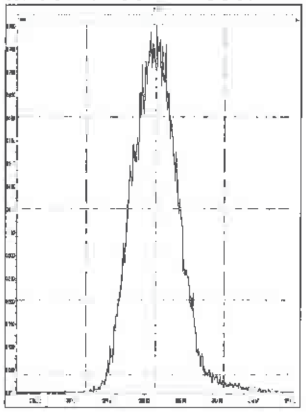
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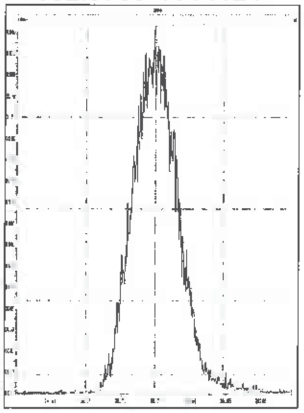
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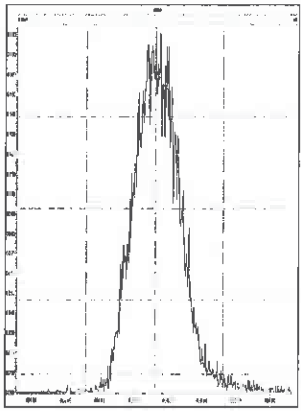
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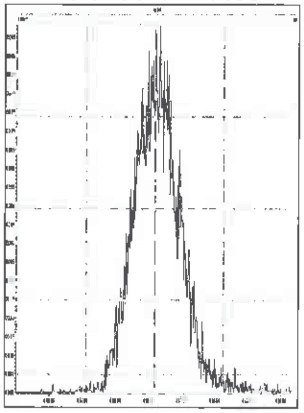
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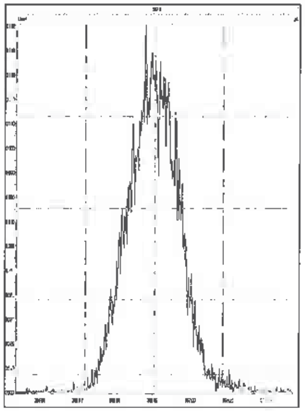
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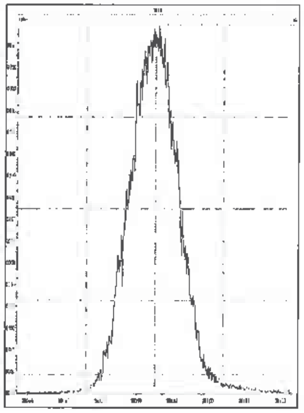
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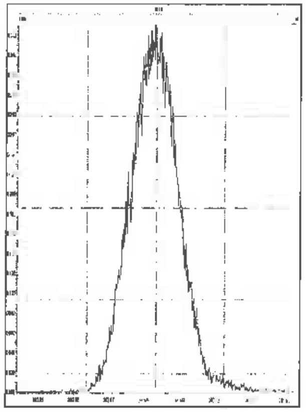
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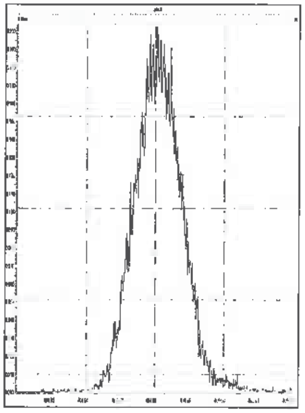
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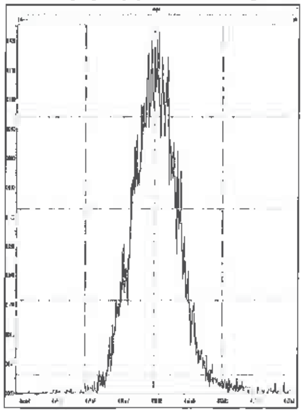
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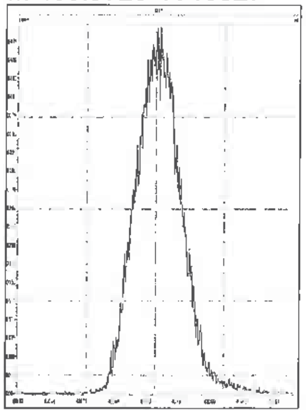
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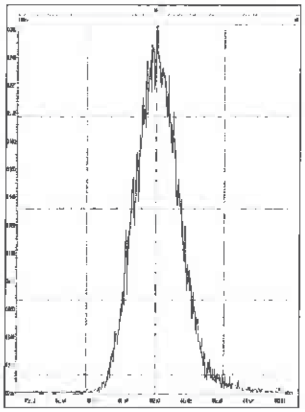
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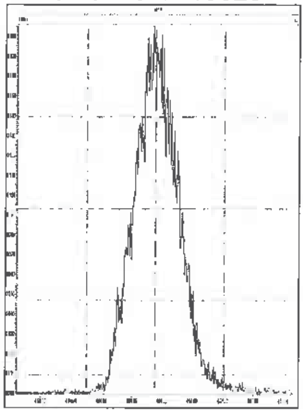
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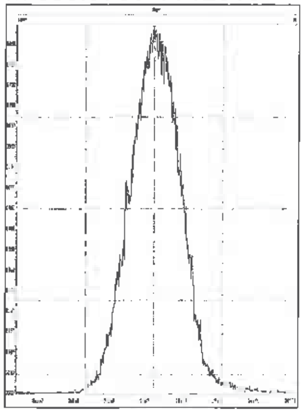
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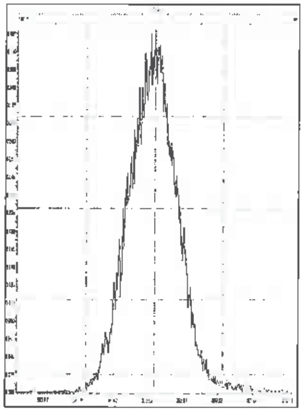
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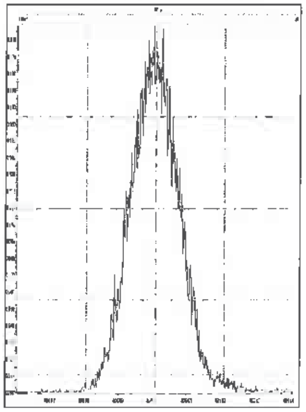
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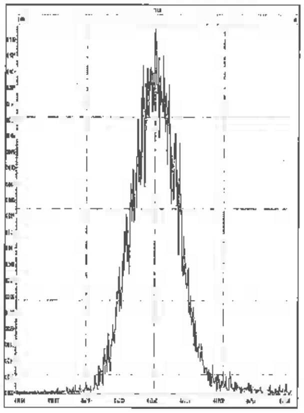
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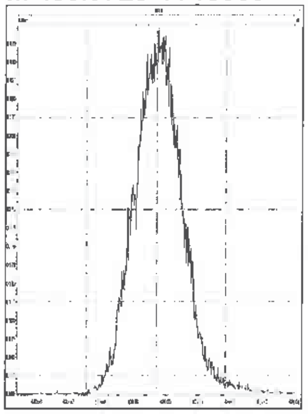
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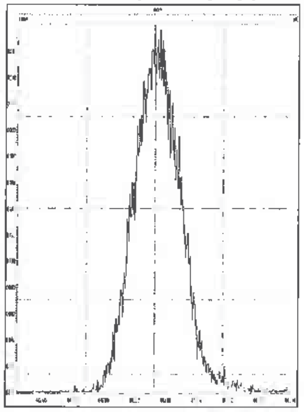
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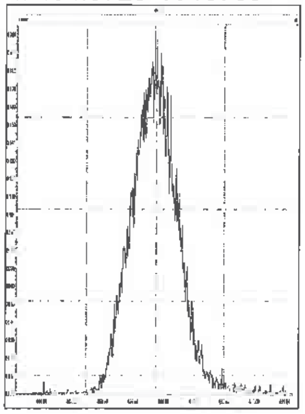
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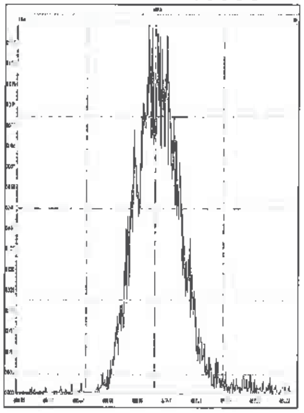
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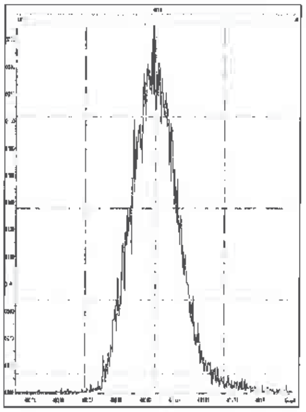
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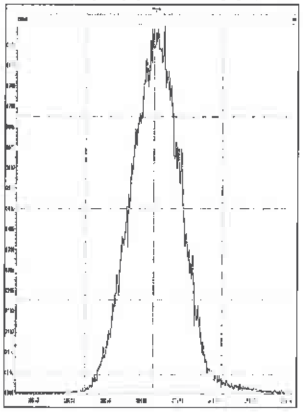
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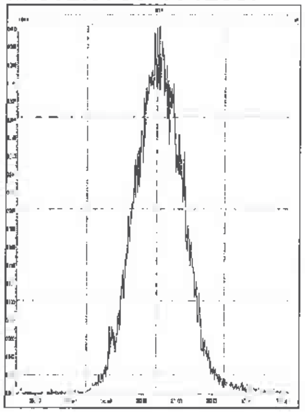
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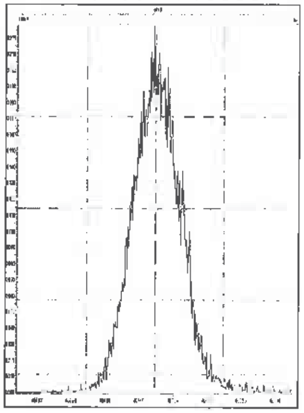
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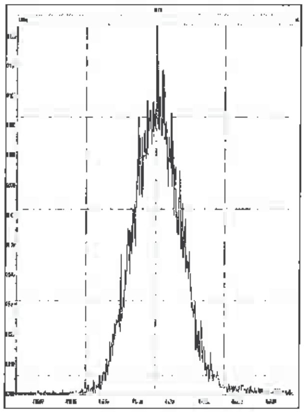
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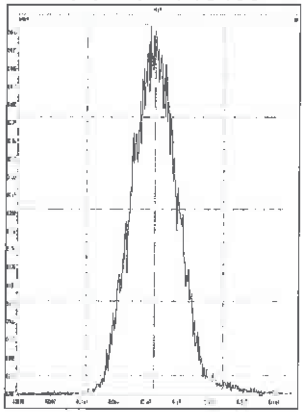
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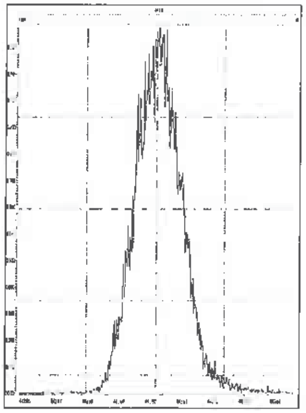
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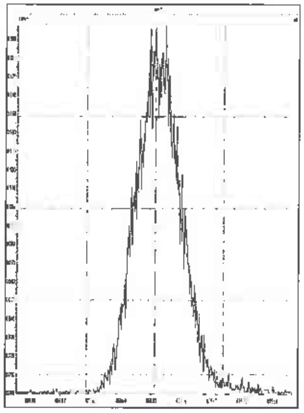
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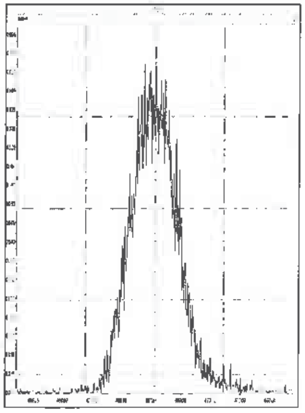
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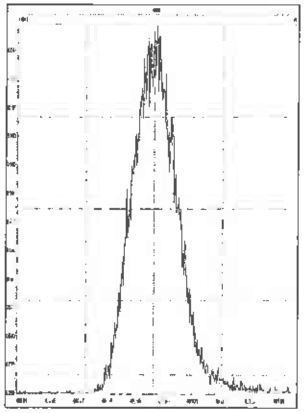
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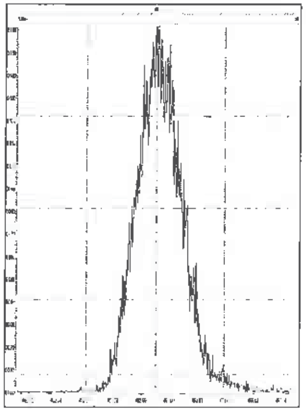
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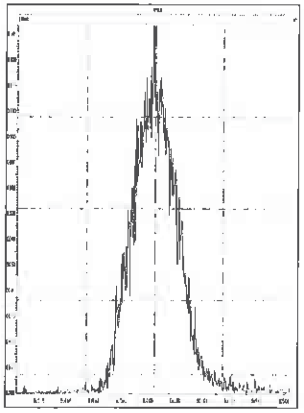
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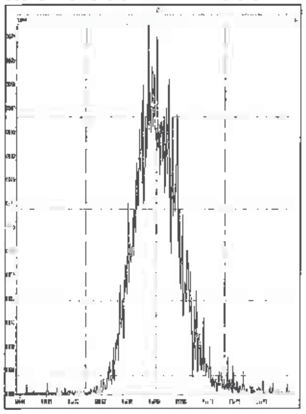

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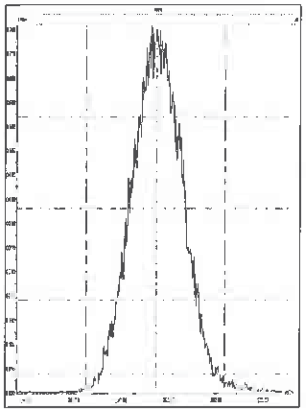

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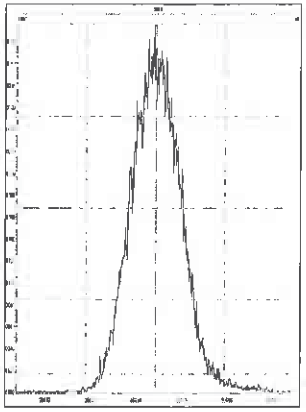

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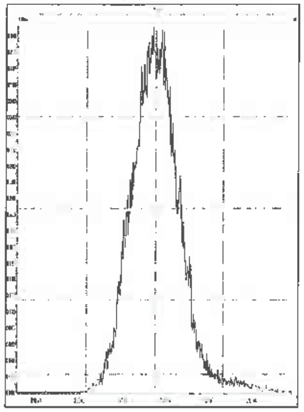

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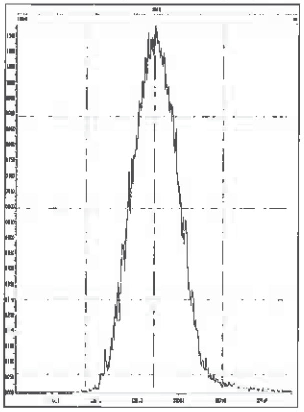

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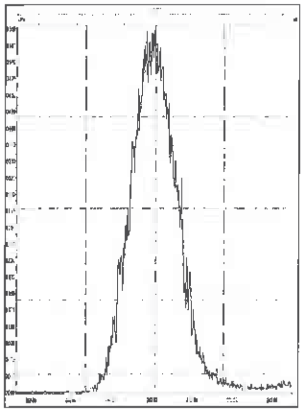

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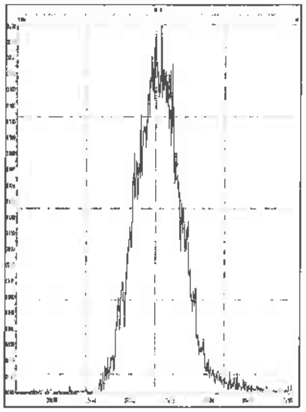

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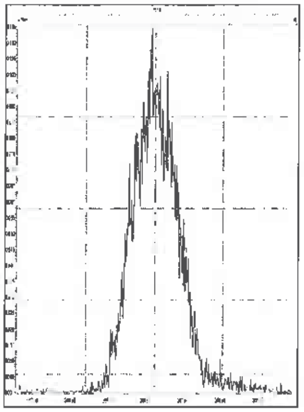

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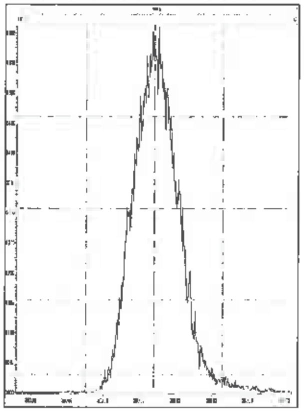

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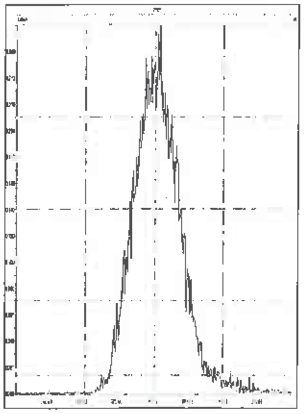

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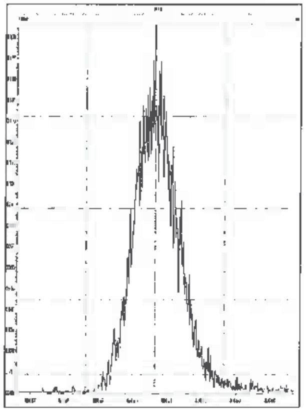

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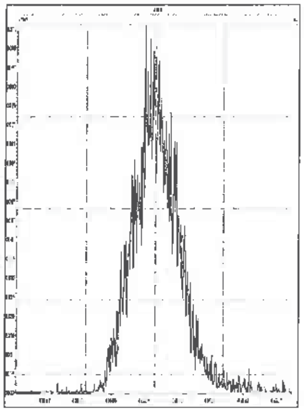

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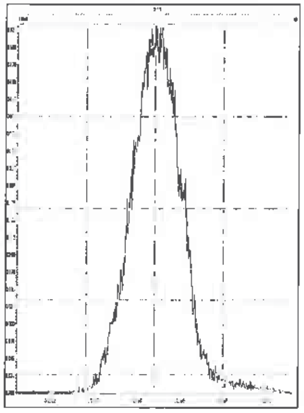

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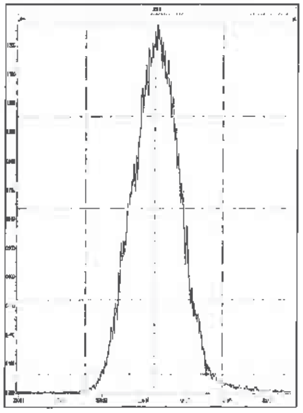

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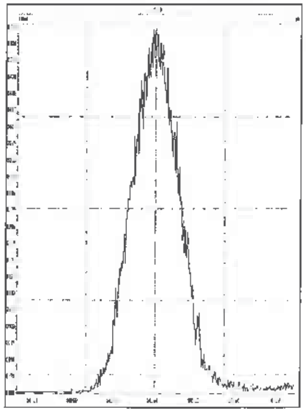

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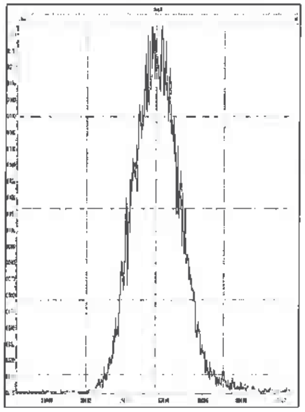

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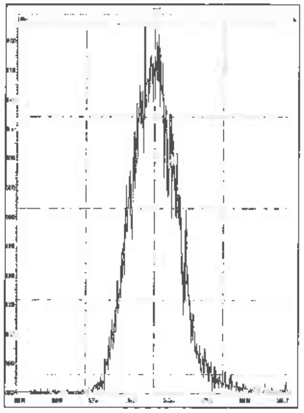

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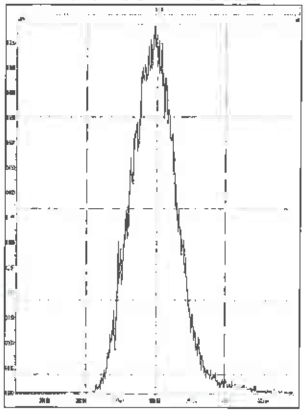

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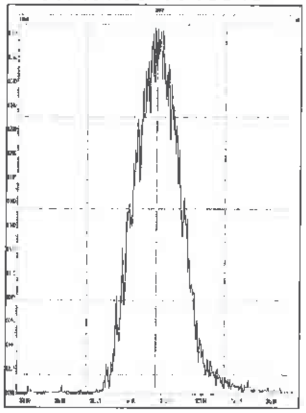

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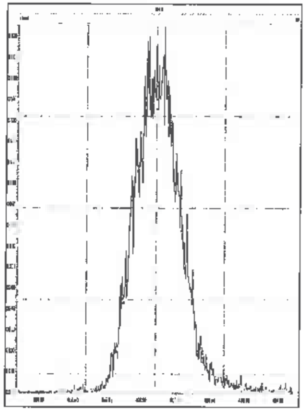

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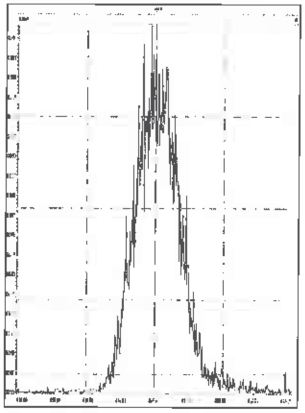

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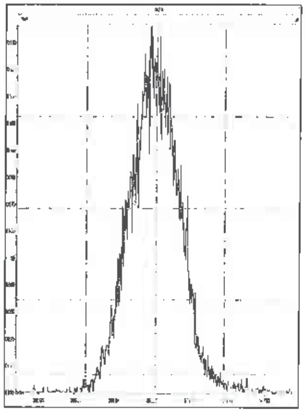

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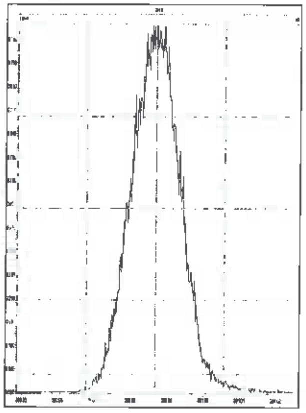

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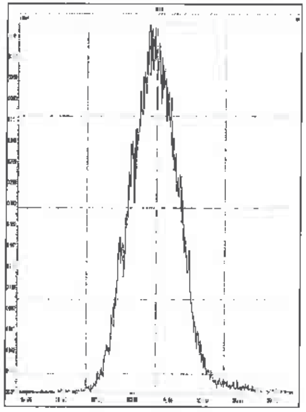

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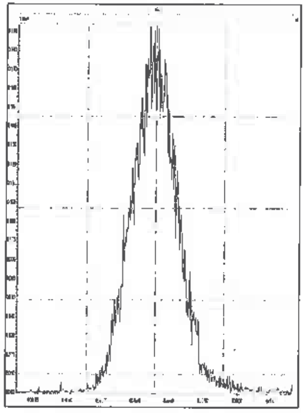

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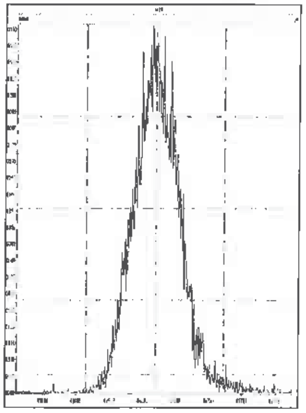

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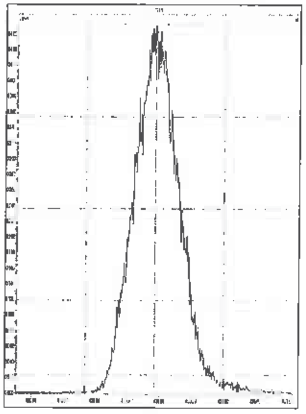

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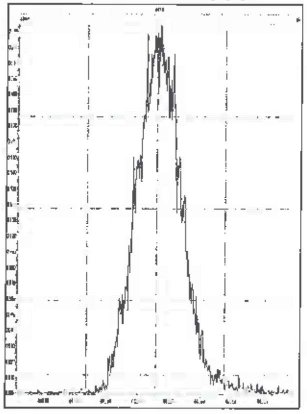

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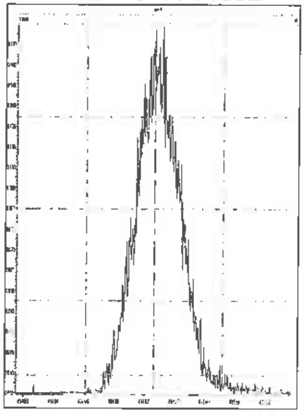

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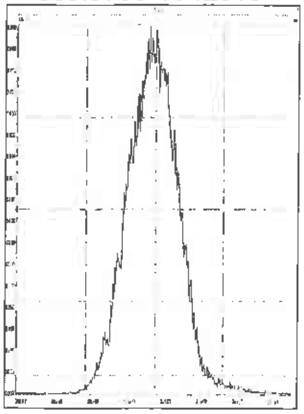

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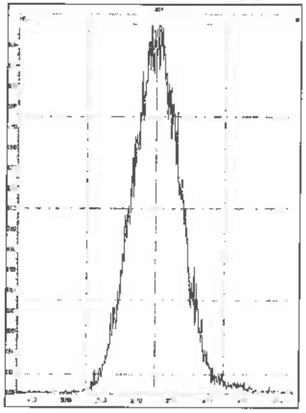

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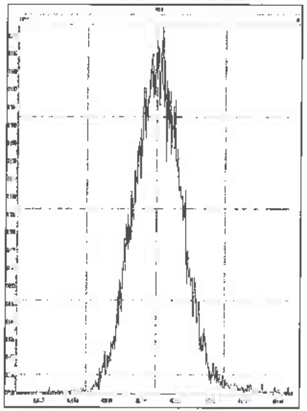

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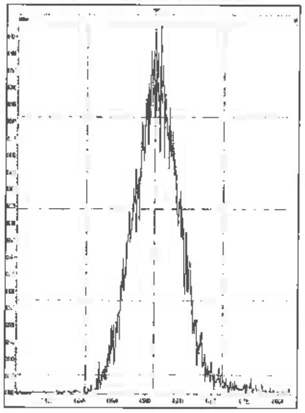

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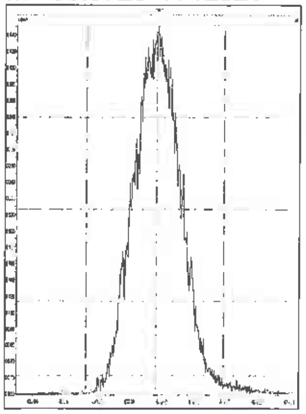

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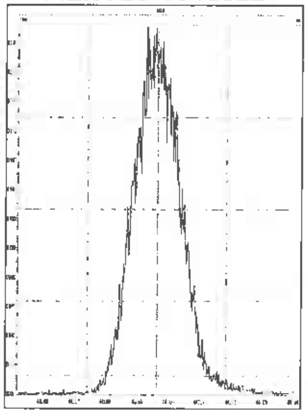

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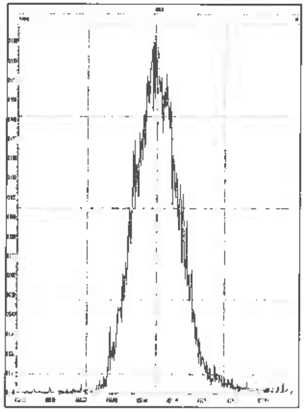

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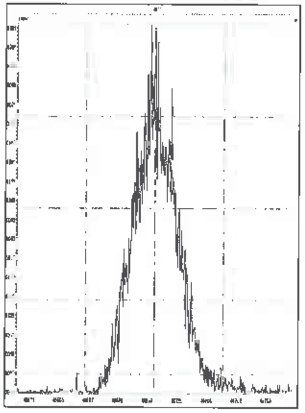
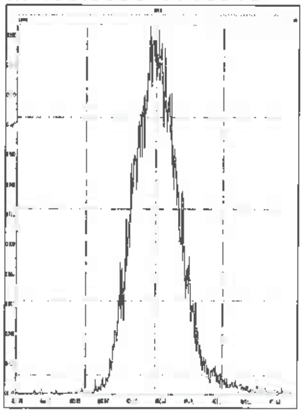
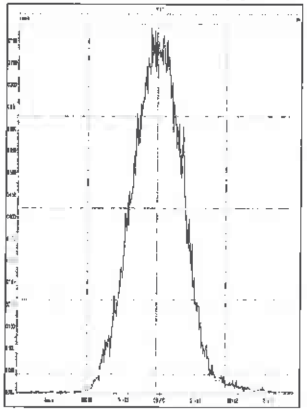


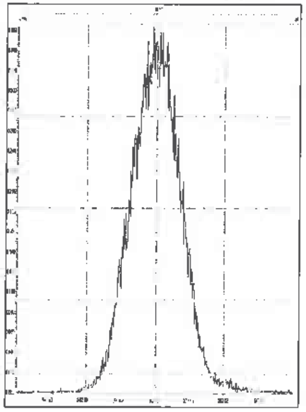
M 480.9696 R 13513



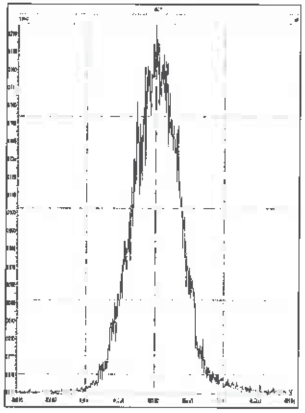
M 380.9760 R 11962



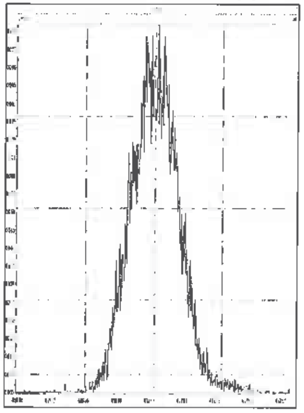
M 392.9760 R 12562



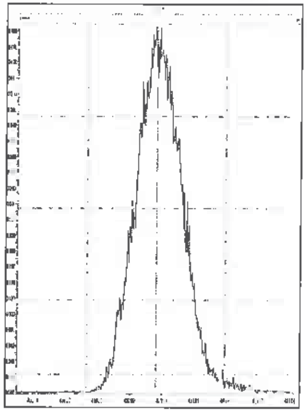
M 404.9760 R 13333



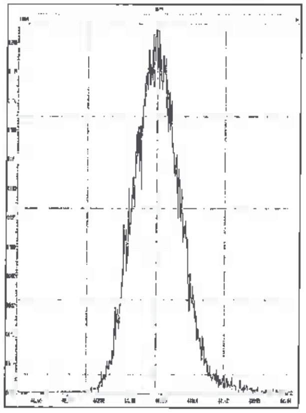
M 416.9760 R 13550



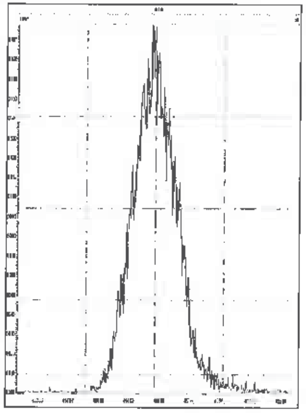
M 430.9728 R 13262



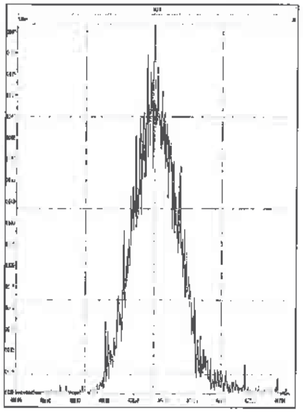
M 442.9728 R 13698



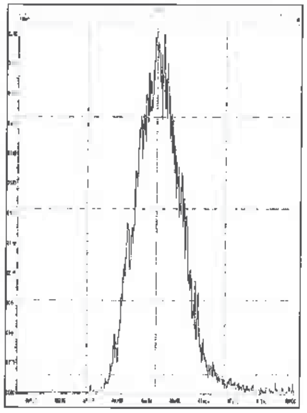
M 454.9728 R 14018



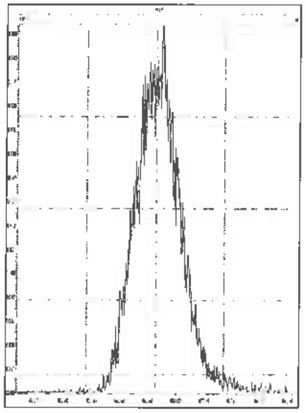
M 466.9728 R 13592



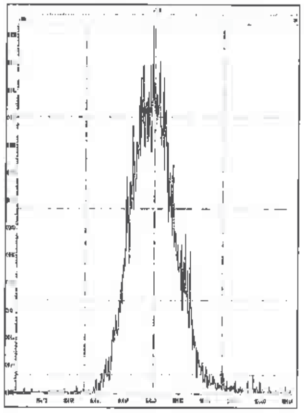
M 480.9696 R 13742



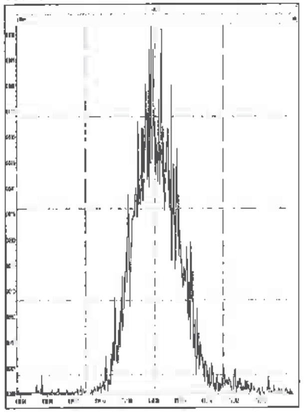
M 492.9696 R 13664



M 504.9696 R 15446



M 516.9697 R 14495



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2017 13:31:17 ALS Bottle#: 2 Worklist Smp#: 67
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917J CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:32:29 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: arghestanis Date: 11-Nov-2017 14:17:48

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	99229714	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	131089347	0.77	1.2741	103.7	103.7	0.2120	0.2120	104	
2,3,7,8-TCDF	17.415	13762605	0.76	1.1341	9.257	9.257	0.0306	0.0306	92.57	
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF					9.257	9.257	0.0306	0.0306		
D 13C-2,3,7,8-TCDD	18.111	98862651	0.78	0.9921	100.4	100.4	0.2325	0.2325	100	
$ 37Cl4-2,3,7,8-TCDD	18.126	10535782		1.0466	10.1	10.1	0.0217	0.0217	101	
2,3,7,8-TCDD	18.126	9216811	0.79	0.9993	9.329	9.329	0.0286	0.0286	93.29	
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD					9.329	9.329	0.0286	0.0286		
D 13C-1,2,3,7,8-PeCDF	22.437	108219912	1.54	0.9696	112.5	112.5	0.2861	0.2861	112	
1,2,3,7,8-PeCDF	22.465	59242134	1.60	1.1627	47.1	47.1	0.1831	0.1831	94.17	
D 13C-2,3,4,7,8-PeCDF	23.801	107315531	1.55							
2,3,4,7,8-PeCDF	23.815	59617333	1.59	1.1395	48.3	48.3	0.1868	0.1868	96.69	
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF					95.4	95.4	0.1850	0.1850		
D 13C-1,2,3,7,8-PeCDD	24.524	83679556	1.61	0.7588	111.1	111.1	0.1401	0.1401	111	
1,2,3,7,8-PeCDD	24.551	38820924	1.56	0.9490	48.9	48.9	0.0756	0.0756	97.77	
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD					48.9	48.9	0.0756	0.0756		
D 13C-1,2,3,4,7,8-HxCDF	30.580	87143788	0.52	0.9644	109.9	109.9	0.7363	0.7363	110	
1,2,3,4,7,8-HxCDF	30.607	57832689	1.27	1.4012	47.4	47.4	0.3714	0.3714	94.72	
D 13C-1,2,3,6,7,8-HxCDF	30.766	103344222	0.51							
1,2,3,6,7,8-HxCDF	30.780	64027660	1.27	1.6951	43.3	43.3	0.3070	0.3070	86.69	
D 13C-2,3,4,6,7,8-HxCDF	31.565	96518882	0.52							
2,3,4,6,7,8-HxCDF	31.578	60483999	1.26	1.5205	45.6	45.6	0.3423	0.3423	91.29	
D 13C-1,2,3,7,8,9-HxCDF	32.364	87366549	0.52							
1,2,3,7,8,9-HxCDF	32.377	53309811	1.27	1.4099	43.4	43.4	0.3692	0.3692	86.78	
A Non-2,3,7,8-sub-HxCDF	30.261						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					179.7	179.7	0.3475	0.3475		
* 13C-1,2,3,7,8,9-HxCDD	32.177	82239331	1.23	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.751	61799175	1.24							
1,2,3,4,7,8-HxCDD	31.765	35709417	1.26	0.9505	53.1	53.1	0.2610	0.2610	106	
D 13C-1,2,3,6,7,8-HxCDD	31.858	70705082	1.25	0.8791	97.8	97.8	0.4641	0.4641	97.80	
1,2,3,6,7,8-HxCDD	31.871	42258126	1.27	1.2343	48.4	48.4	0.2009	0.2009	96.84	
1,2,3,7,8,9-HxCDD	32.190	42069049	1.28	1.2467	47.7	47.7	0.1990	0.1990	95.45	
A Non-2,3,7,8-sub-HxCDD	30.899						0.0	0.0		
S Total HxCDD					149.3	149.3	0.2203	0.2203		
D 13C-1,2,3,4,6,7,8-HpCDF	33.770	63446262	0.43	0.7618	101.3	101.3	1.319	1.319	101	
1,2,3,4,6,7,8-HpCDF	33.783	50339630	1.06	1.6399	48.4	48.4	0.6042	0.6042	96.76	
D 13C-1,2,3,4,7,8,9-HpCDF	34.840	53681180	0.43							
1,2,3,4,7,8,9-HpCDF	34.852	40232677	1.06	1.3302	47.7	47.7	0.7448	0.7448	95.34	
A Non-2,3,7,8-sub-HpCDF	34.311						0.0	0.0		
S Total HpCDF					96.1	96.1	0.6745	0.6745		
1,2,3,4,6,7,8-HpCDD	34.560	31187155	1.03	0.9932	47.7	47.7	0.4271	0.4271	95.33	
D 13C-1,2,3,4,6,7,8-HpCDD	34.560	65875866	1.05	0.7762	103.2	103.2	0.8480	0.8480	103	
A Non-2,3,7,8-sub-HpCDD	34.287						0.0	0.0		
S Total HpCDD					47.7	47.7	0.4271	0.4271		
D 13C-OCDD	36.894	97810910	0.86	0.6314	188.4	188.4	0.3497	0.3497	94.18	
OCDF	36.990	64819663	0.91	1.3460	98.5	98.5	0.1838	0.1838	98.47	
OCDD	36.894	48718359	0.90	1.0604	93.9	93.9	0.3229	0.3229	93.94	

Reagents:

HRDXNL4_00059 Amount Added: 1.00 Units: mL

Report Date: 13-Nov-2017 13:32:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2017 13:31:17 ALS Bottle#: 2 Worklist Smp#: 67
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917J CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:32:29 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: arghestanis Date: 11-Nov-2017 14:17:48

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		43329768	10934387	13782	34455	793		
333.9339	17.914	17.914	0		55899946	13976707	9202	23005	1519	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	57194645	14236360	13617	34042	1045		
317.9389	17.400	17.400	0	0.971	73894702	18526785	13300	33250	1393	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415	17.415	0	1.001	5947437	1485531	1211	3027	1227		
305.8987	17.415	17.415	0	1.001	7815168	1959368	3338	8345	587	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						1211	3027			
305.8987	17.105						3338	8345			
13C-2,3,7,8-TCDD											
331.9368	18.111	18.111	0	1.011	43213922	10044412	13782	34455	729		
333.9339	18.111	18.111	0	1.011	55648729	12869289	9202	23005	1399	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.126	18.126	0	1.012	10535782	2500117	2265	5662	1104		
2,3,7,8-TCDD											
319.8965	18.126	18.126	0	1.001	4066048	939204	1517	3792	619		
321.8936	18.126	18.126	0	1.001	5150763	1210002	1104	2760	1096	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						1517	3792			
321.8936	17.559						1104	2760			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.437	22.437	0	1.253	65694424	11267922	16448	41120	685		
353.8970	22.451	22.437	1	1.253	42525488	7311448	11191	27977	653	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.465	22.465	0	1.001	36482589	6448137	9358	23395	689		
341.8567	22.465	22.465	0	1.001	22759545	3982633	6464	16160	616	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.801	23.801	0	1.329	65280062	10755133	16448	41120	654		
353.8970	23.801	23.801	0	1.329	42035469	6848208	11191	27977	612	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.815	23.815	0	1.061	36565946	6091269	9358	23395	651		
341.8567	23.815	23.815	0	1.061	23051387	3856787	6464	16160	597	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.001						321	802			
341.8567	20.001						828	2070			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						9358	23395			
341.8567	23.161						6464	16160			
13C-1,2,3,7,8-PeCDD											
367.8949	24.524	24.524	0	1.369	51638342	7973406	6747	16867	1182		
369.8919	24.524	24.524	0	1.369	32041214	4941349	3846	9615	1285	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551	24.551	0	1.001	23675647	3731607	2095	5237	1781		
357.8516	24.537	24.551	-1	1.001	15145277	2382921	1612	4030	1478	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						2095	5237			
357.8516	23.419						1612	4030			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.580	30.580	0	0.950	29979912	5867624	20603	51507	285		
385.8610	30.580	30.580	0	0.950	57163876	11184125	38291	95727	292	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.607	30.607	0	1.001	32337255	6456829	19839	49597	325		
375.8178	30.607	30.607	0	1.001	25495434	5005728	15661	39152	320	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.766	30.766	0	0.956	35063088	6787893	20603	51507	329		
385.8610	30.766	30.766	0	0.956	68281134	12857610	38291	95727	336	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.780	30.780	0	1.007	35778576	6870329	19839	49597	346		
375.8178	30.780	30.780	0	1.007	28249084	5460544	15661	39152	349	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.565	31.565	0	0.981	33211124	8385423	20603	51507	407		
385.8610	31.565	31.565	0	0.981	63307758	15894025	38291	95727	415	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.578	31.578	0	1.033	33776046	8227433	19839	49597	415		
375.8178	31.578	31.578	0	1.033	26707953	6676557	15661	39152	426	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.364	32.364	0	1.006	29846487	7312951	20603	51507	355		
385.8610	32.364	32.364	0	1.006	57520062	14022979	38291	95727	366	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.377	32.377	0	1.059	29779922	7295337	19839	49597	368		
375.8178	32.364	32.377	-1	1.058	23529889	5824332	15661	39152	372	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.261						19839	49597			
375.8178	30.261						15661	39152			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.177	32.177	0		45294225	11444403	20006	50015	572		
403.8529	32.177	32.177	0		36945106	9291736	13832	34580	672	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.751	31.751	0	0.987	34158073	9625086	20006	50015	481		
403.8529	31.751	31.751	0	0.987	27641102	7797489	13832	34580	564	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.765	31.765	0	0.997	19927200	5762065	9330	23325	618		
391.8127	31.765	31.765	0	0.997	15782217	4508308	7715	19287	584	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.858	31.858	0	0.990	39317675	9531505	20006	50015	476		
403.8529	31.858	31.858	0	0.990	31387407	7648173	13832	34580	553	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.871	31.871	0	1.000	23681399	5862889	9330	23325	628		
391.8127	31.871	31.871	0	1.000	18576727	4608012	7715	19287	597	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.190	32.190	0	1.010	23598248	5939872	9330	23325	637		
391.8127	32.190	32.190	0	1.010	18470801	4638027	7715	19287	601	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.899						9330	23325			
391.8127	30.899						7715	19287			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.770	33.770	0	1.050	19220972	5952855	23321	58302	255		
419.8220	33.770	33.770	0	1.050	44225290	13344230	60025	150062	222	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.783	33.783	0	1.000	25846931	7704497	39511	98777	195		
409.7789	33.770	33.783	-1	1.000	24492699	7379340	36969	92422	200	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.840	34.840	0	1.083	16080575	4379518	23321	58302	188		
419.8220	34.840	34.840	0	1.083	37600605	10157967	60025	150062	169	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.852	34.852	0	1.032	20716196	5731809	39511	98777	145		
409.7789	34.852	34.852	0	1.032	19516481	5438863	36969	92422	147	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.311						39511	98777			
409.7789	34.311						36969	92422			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.560	34.560	0	1.000	15825317	4375443	15597	38992	281		
425.7737	34.560	34.560	0	1.000	15361838	4389542	14997	37492	293	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.560	34.560	0	1.074	33756097	9251322	26931	67327	344		
437.8140	34.548	34.560	-1	1.074	32119769	8780100	27666	69165	317	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.287						15597	38992			
425.7737	34.287						14997	37492			
13C-OCDD											
469.7779	36.894	36.894	0	1.147	45297383	10168842	5902	14755	1723		
471.7750	36.882	36.894	-1	1.146	52513527	11820837	12414	31035	952	0.86(0.76-1.02)	
OCDF											
441.7428	36.990	36.990	0	1.003	30959457	7481483	5159	12897	1450		
443.7399	36.990	36.990	0	1.003	33860206	8036869	5720	14300	1405	0.91(0.76-1.02)	
OCDD											
457.7377	36.894	36.894	0	1.000	23014385	5397112	5372	13430	1005		
459.7348	36.894	36.894	0	1.000	25703974	6160563	9687	24217	636	0.90(0.76-1.02)	

Reagents:

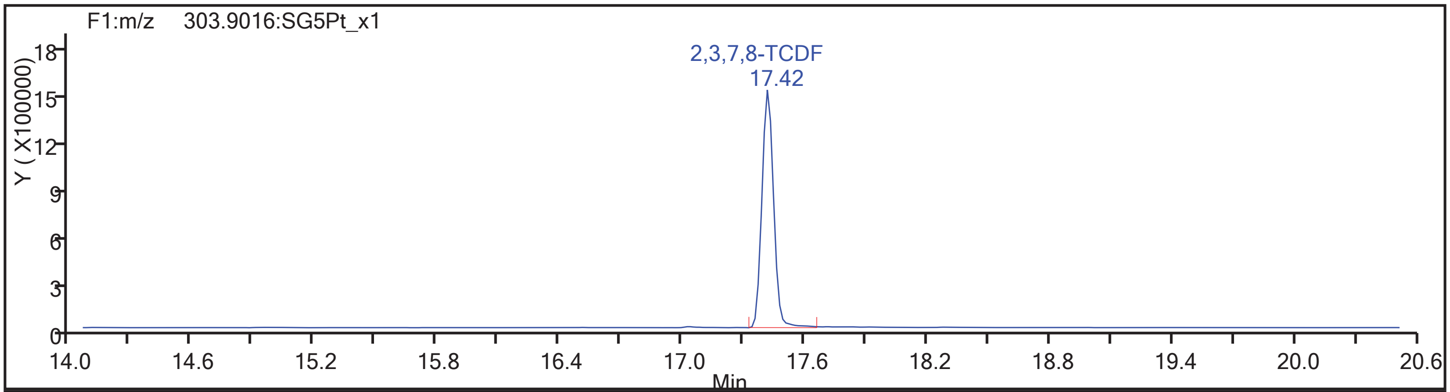
HRDXNL4_00059 Amount Added: 1.00 Units: mL

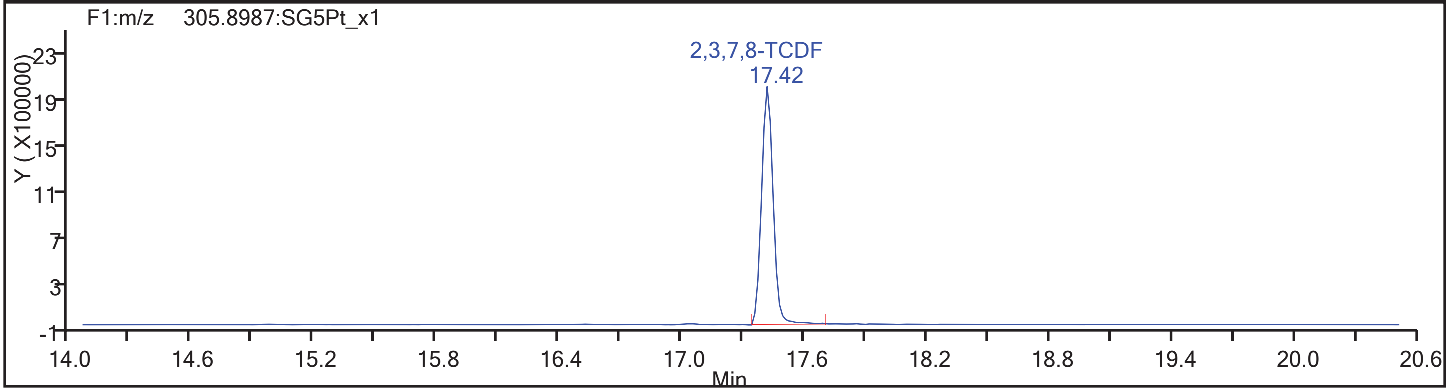
Report Date: 13-Nov-2017 13:32:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

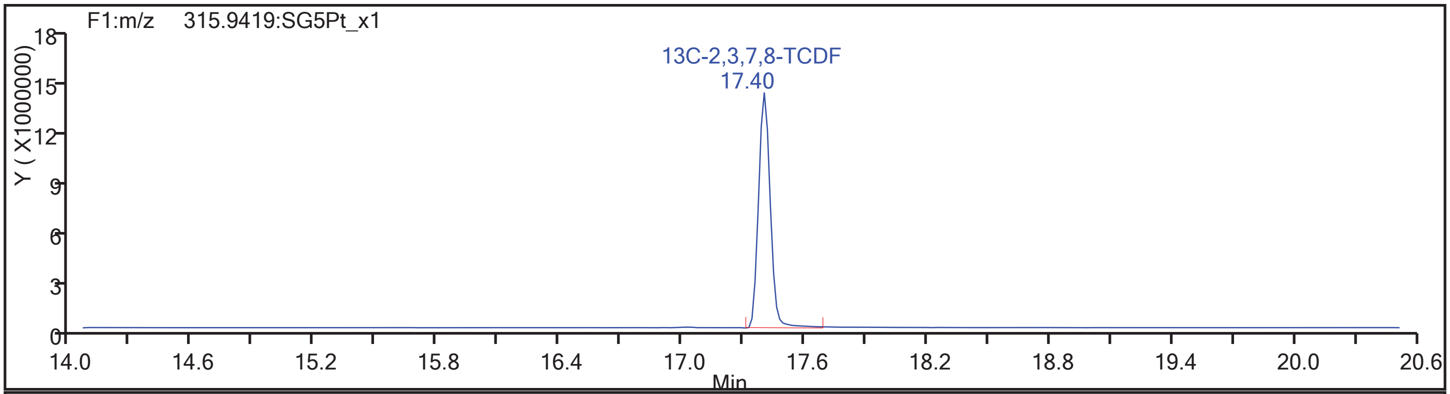
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d		
Injection Date:	11-Nov-2017 13:31:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	67
Column Type:	DB-5	Column Dia:	0.32 mm

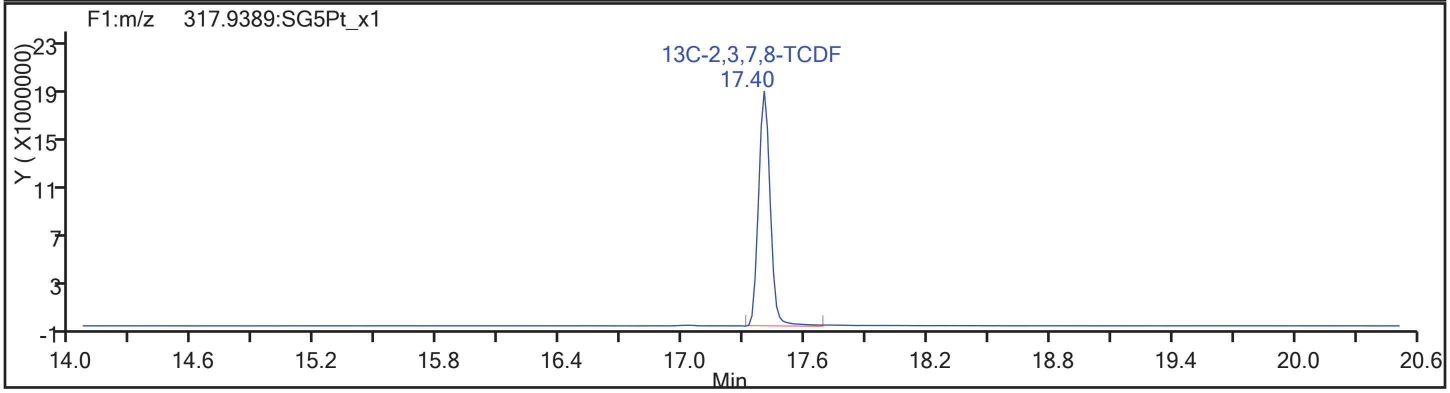
TCDF





TCDF Standards





TestAmerica Sacramento

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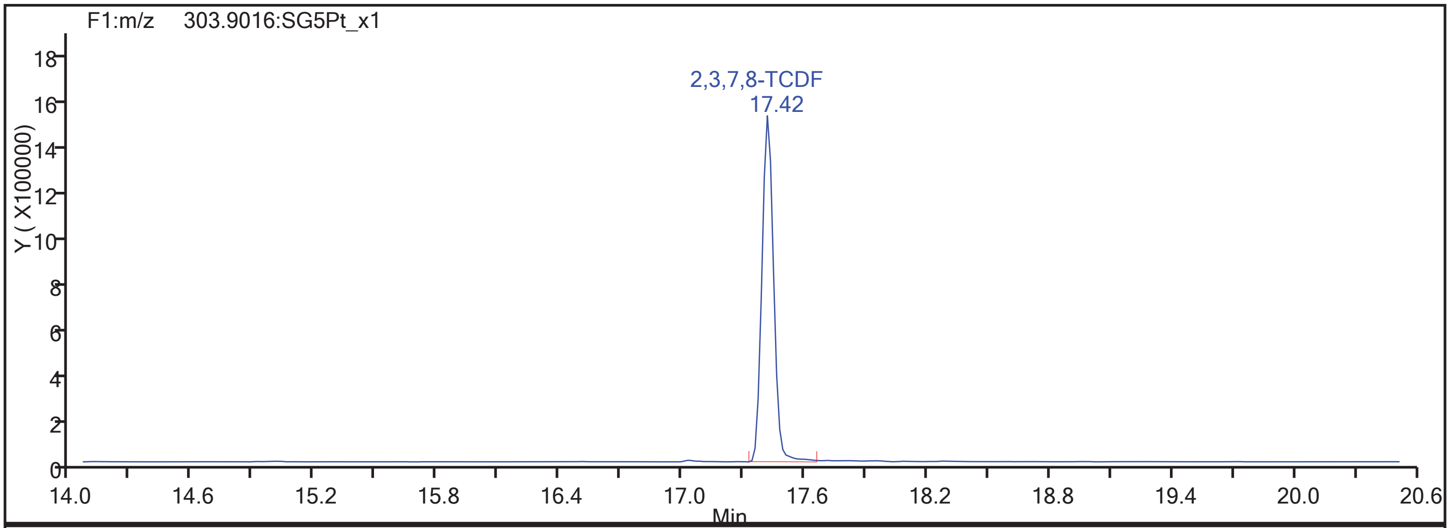
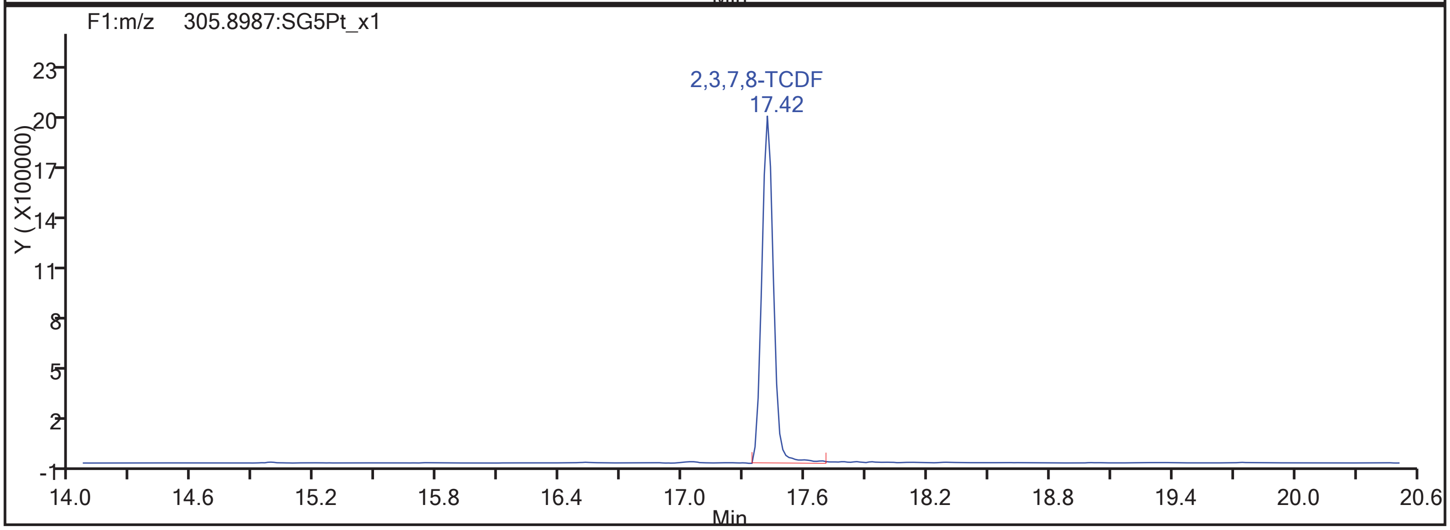
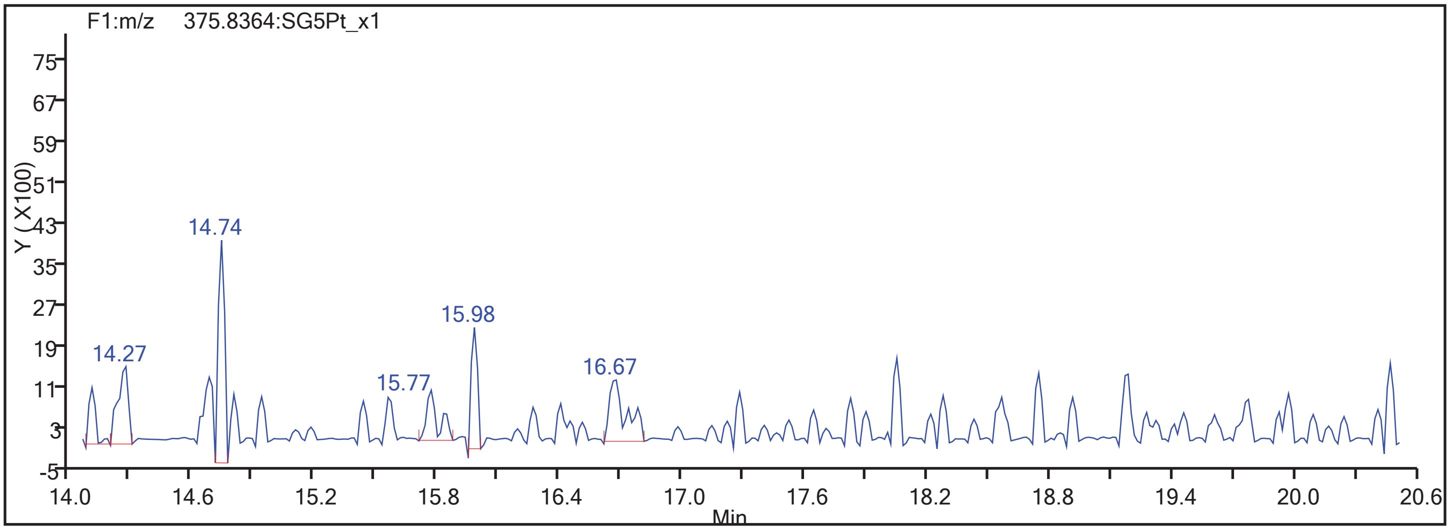
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	67
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



TestAmerica Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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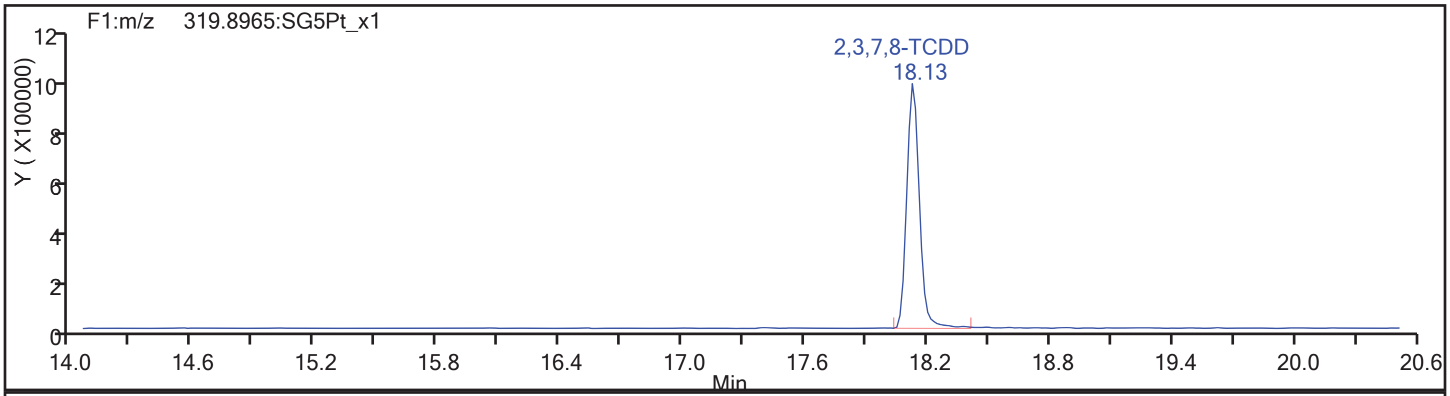
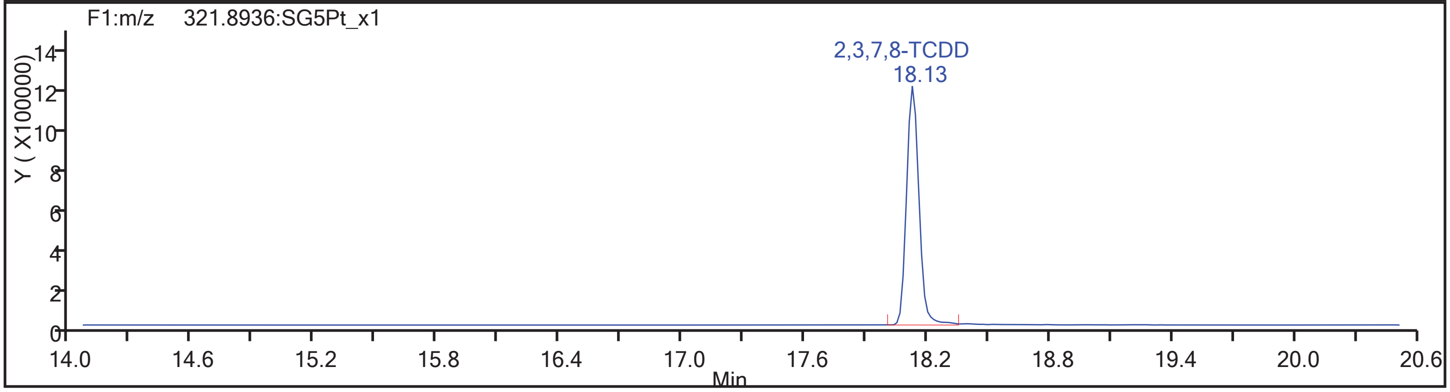
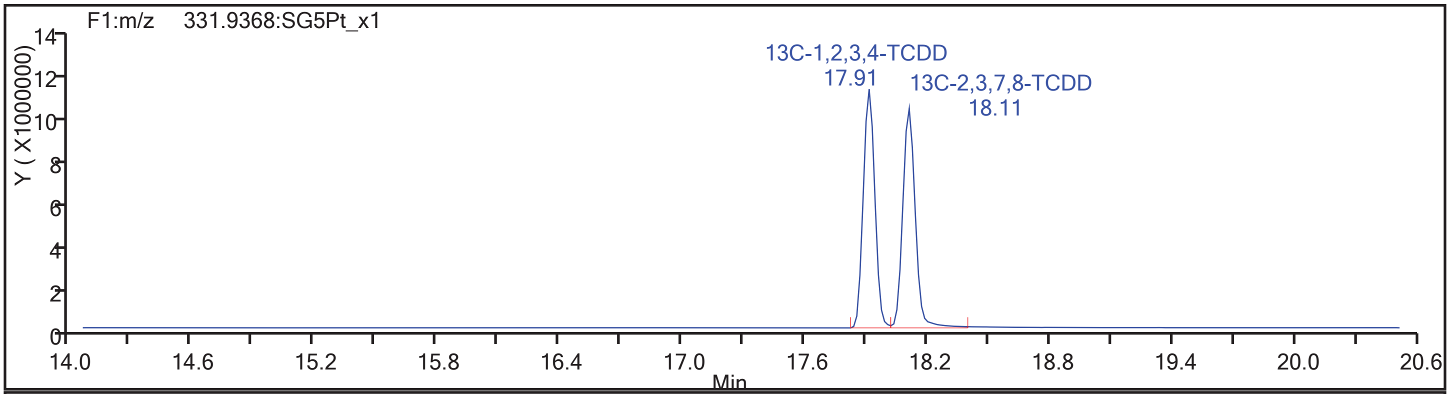
Column Type:	DB-5	Column Dia:	0.32 mm

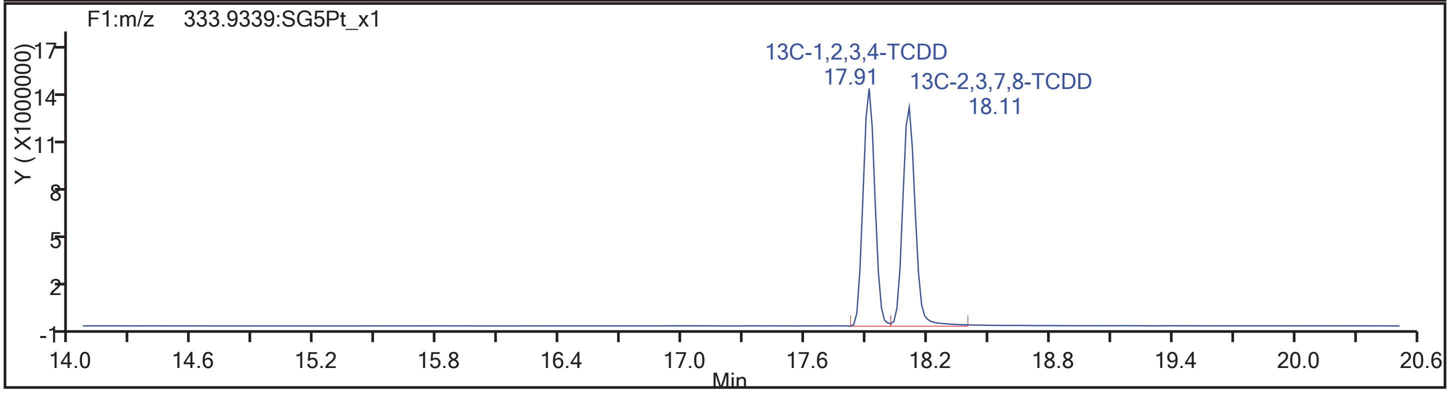
TCDD





TCDD Standards





Report Date: 13-Nov-2017 13:32:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d
Injection Date: 11-Nov-2017 13:31:17
Injection Vol: 2.0 ul
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Operator ID: AJS
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Client ID:
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Sample Line#: 67
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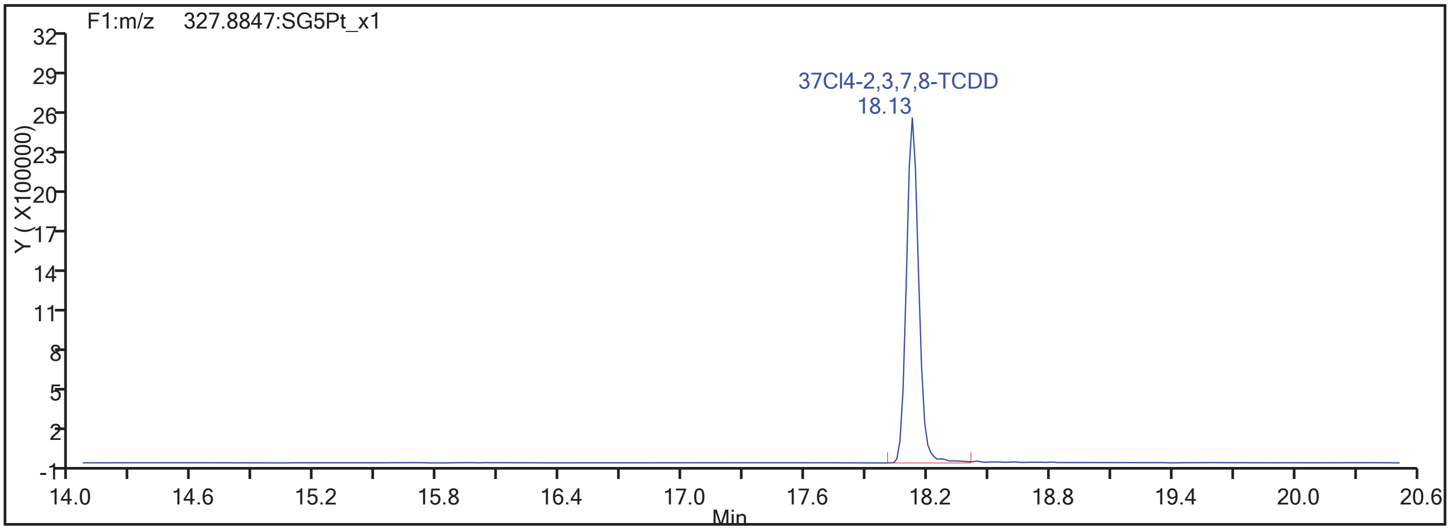
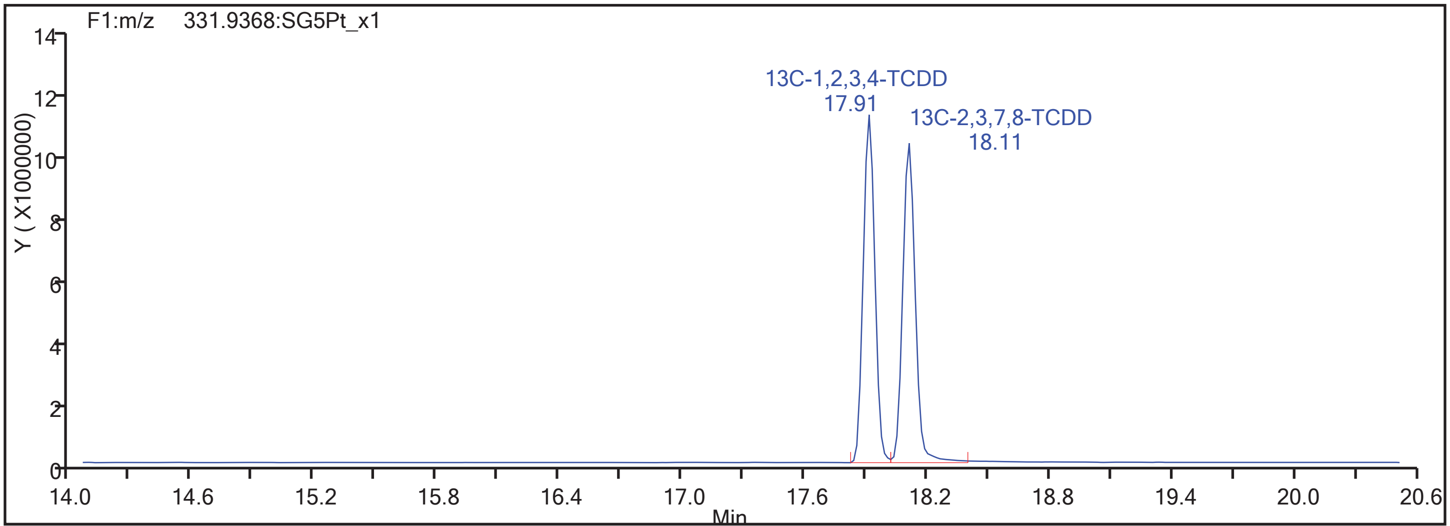
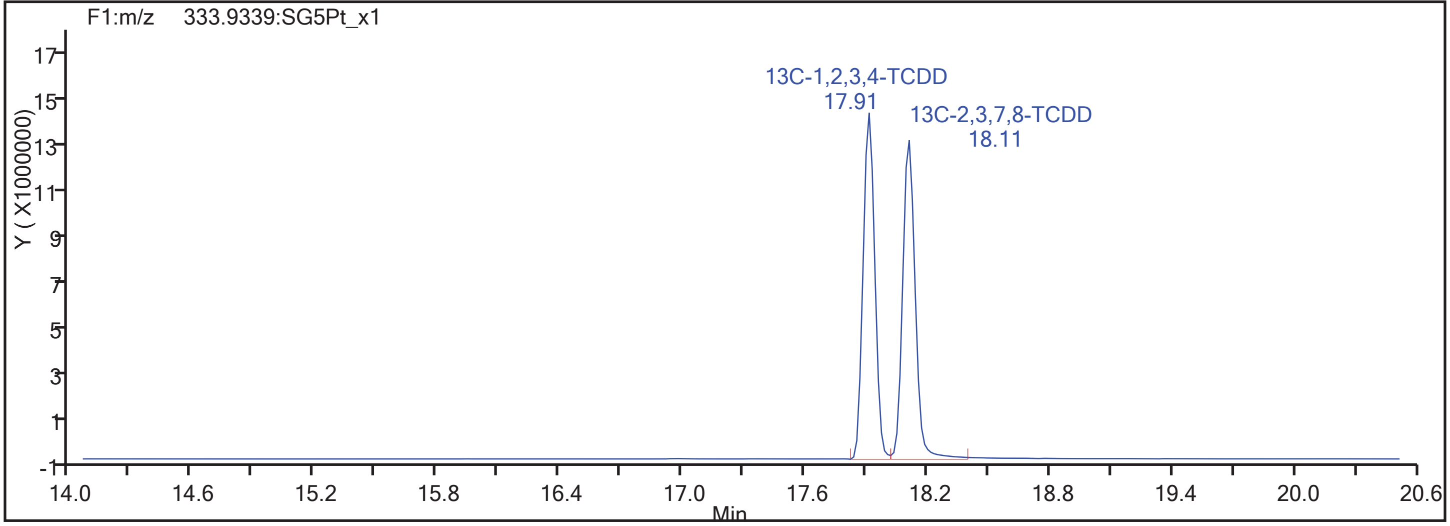
Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 13-Nov-2017 13:32:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 11-Nov-2017 13:31:17 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

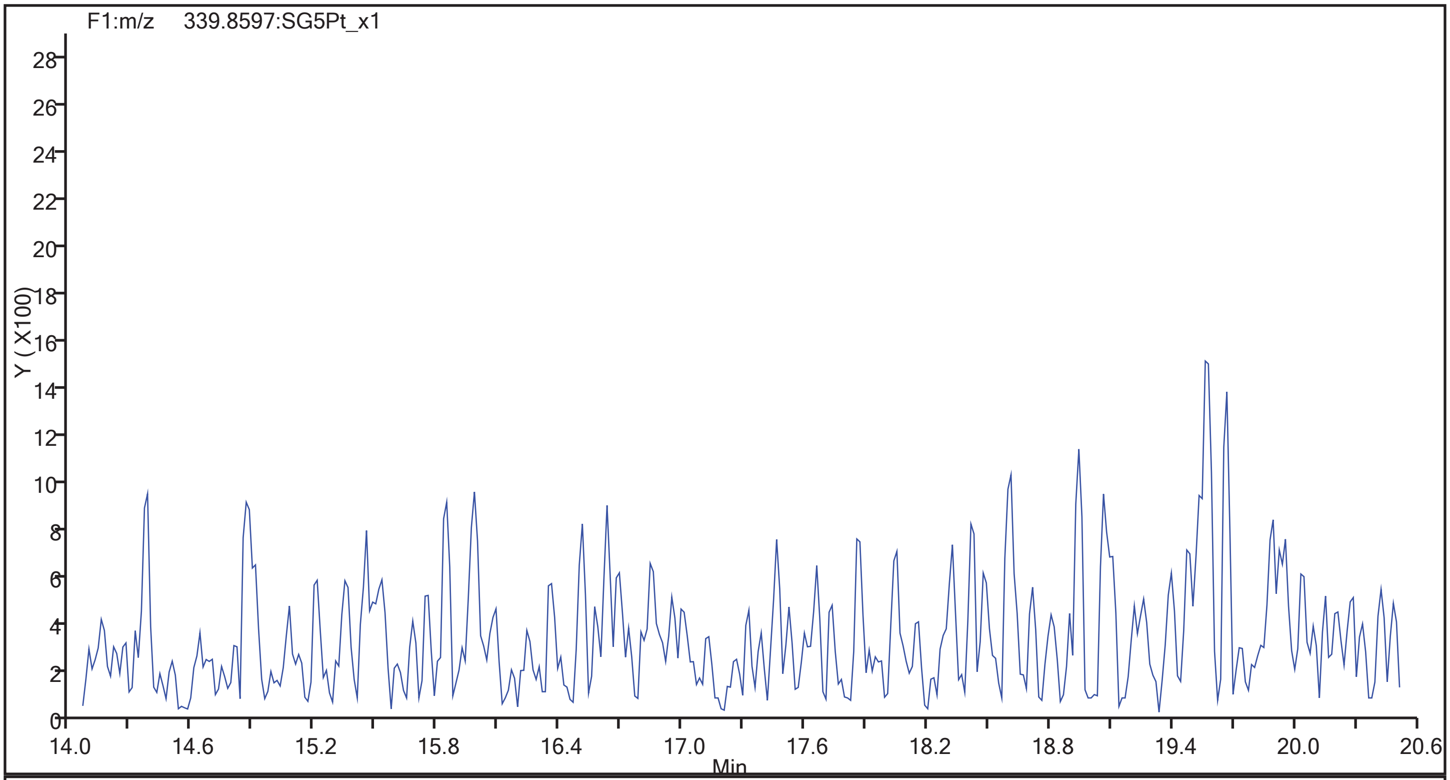
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

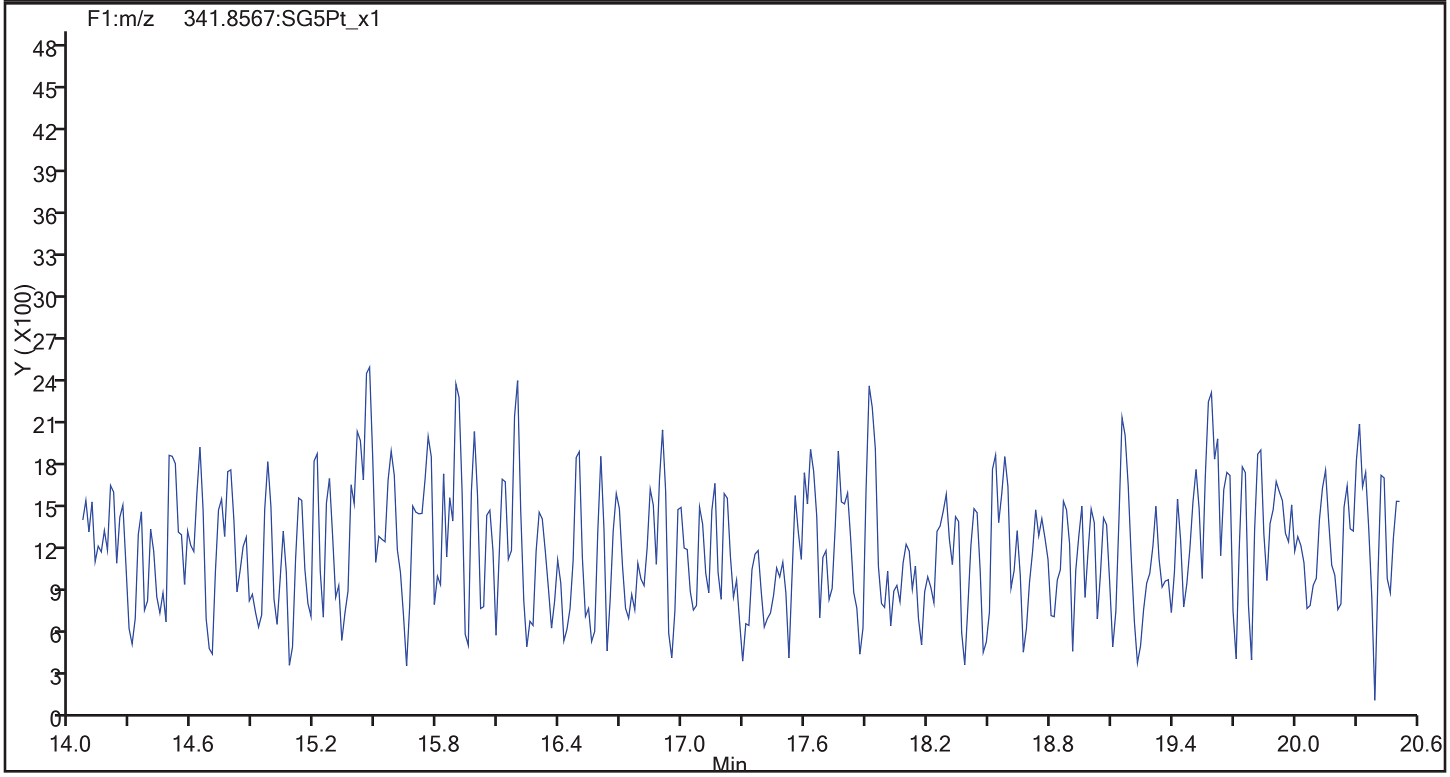
Client ID:

Worklist#: 194085 Sample Line#: 67

Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs





Report Date: 13-Nov-2017 13:32:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d		
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Client ID:			
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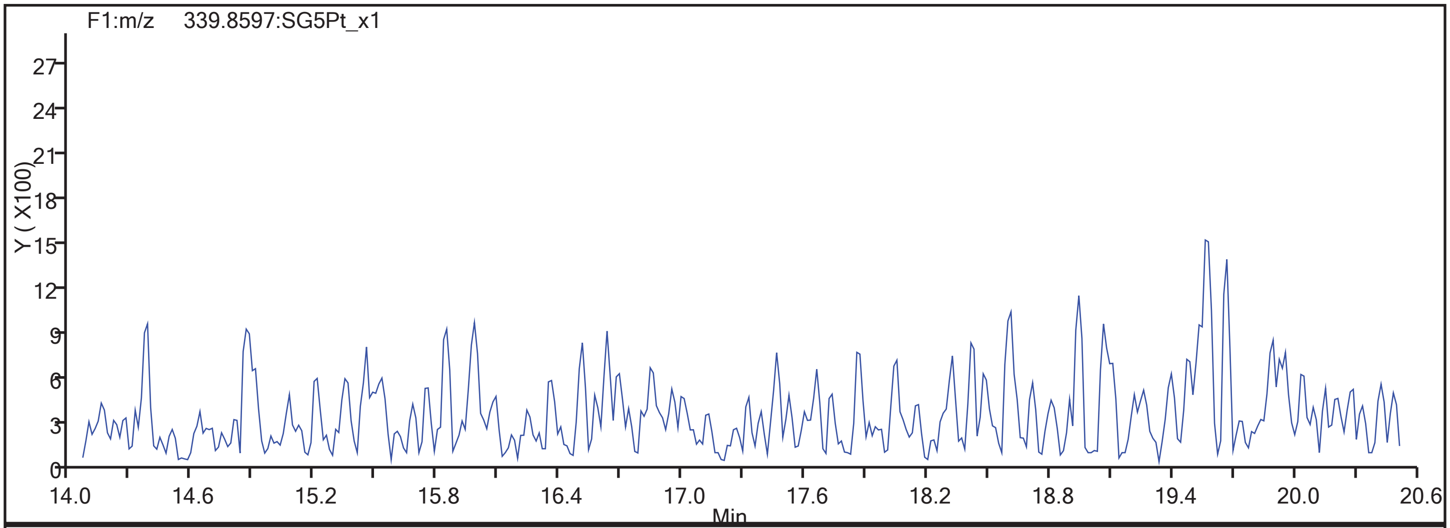
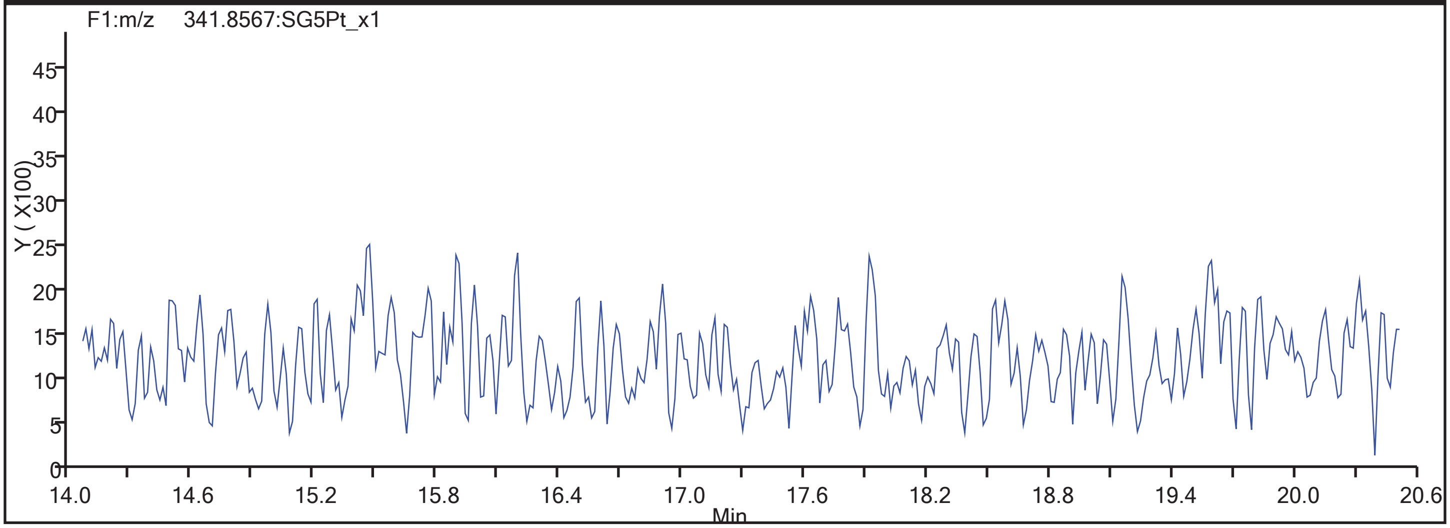
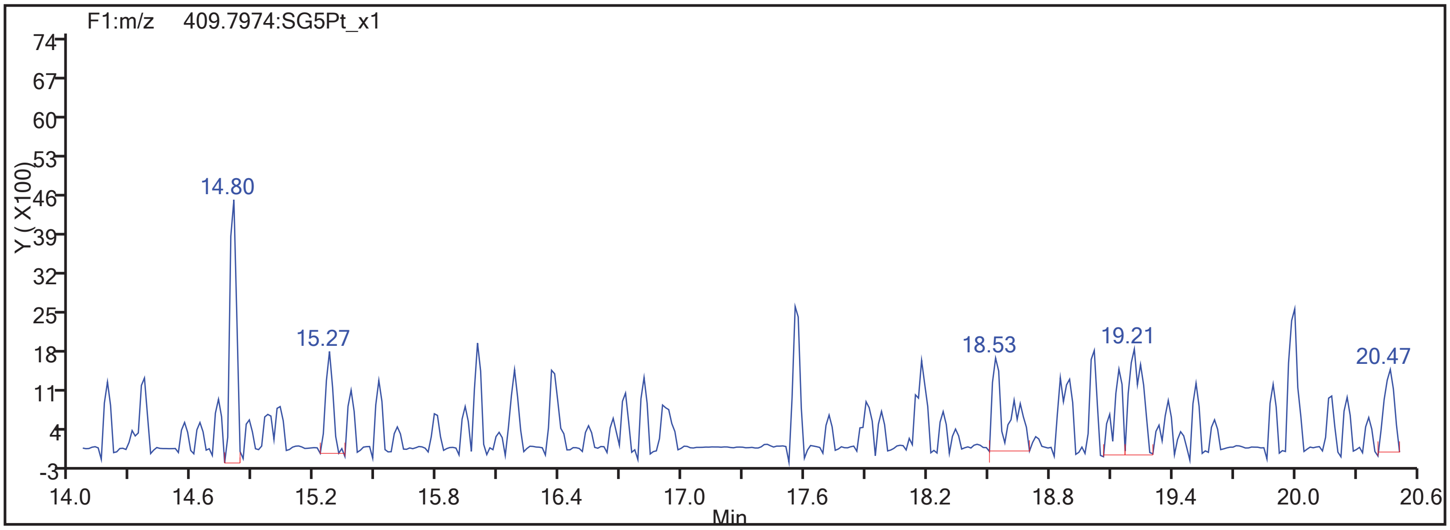
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 13-Nov-2017 13:32:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 11-Nov-2017 13:31:17
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
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Client ID:
Worklist#: 194085
Sample Line#: 67
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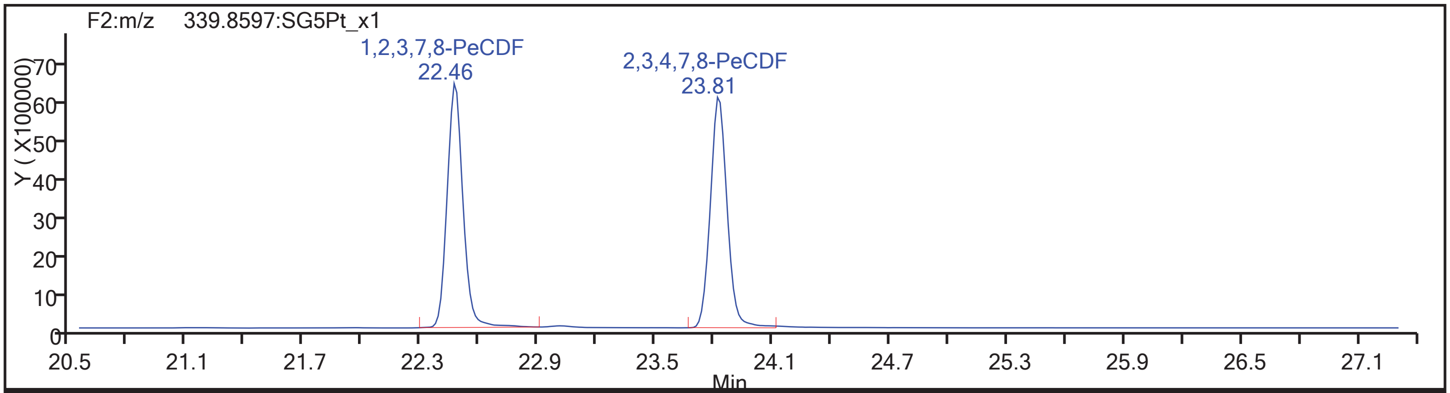
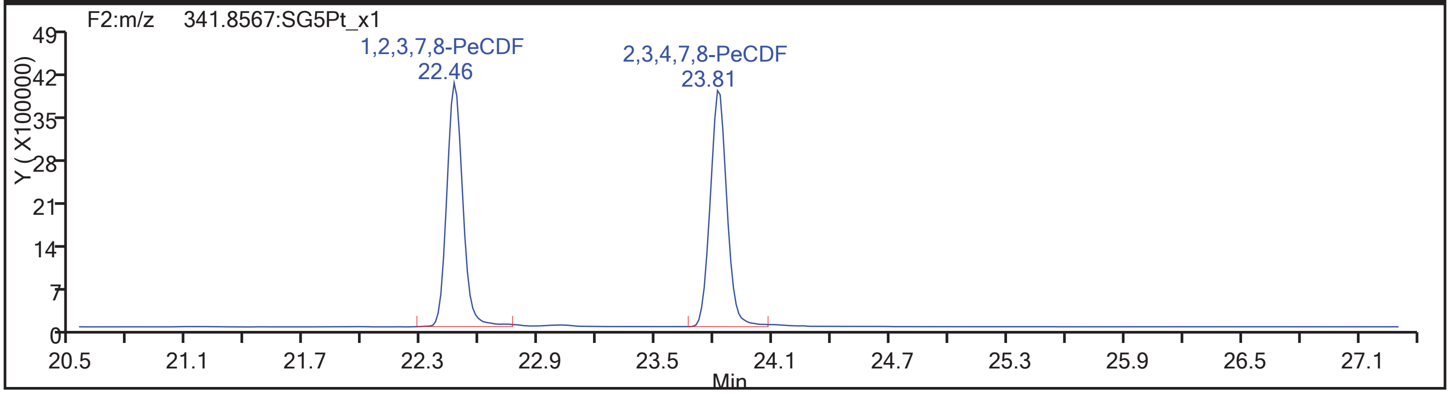
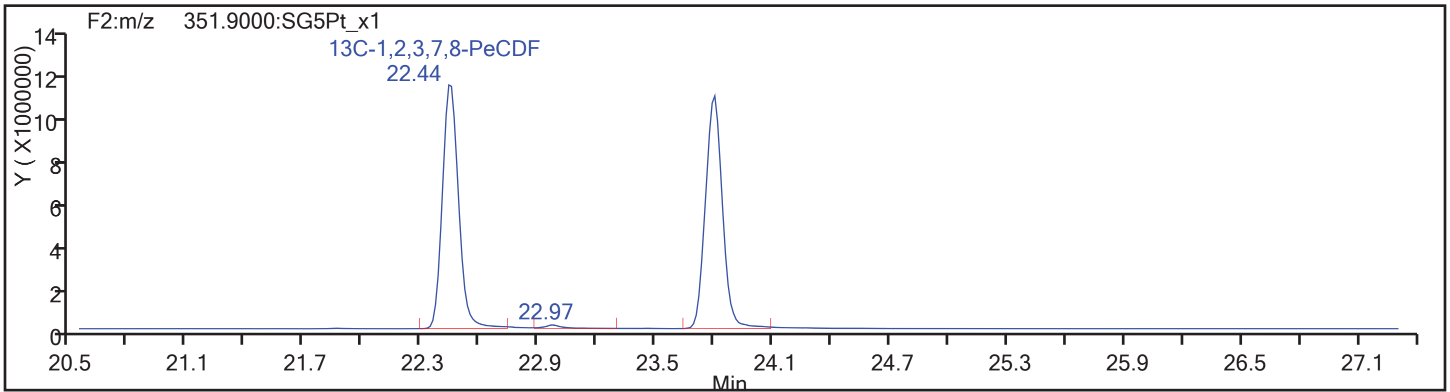
Column Dia: 0.32 mm

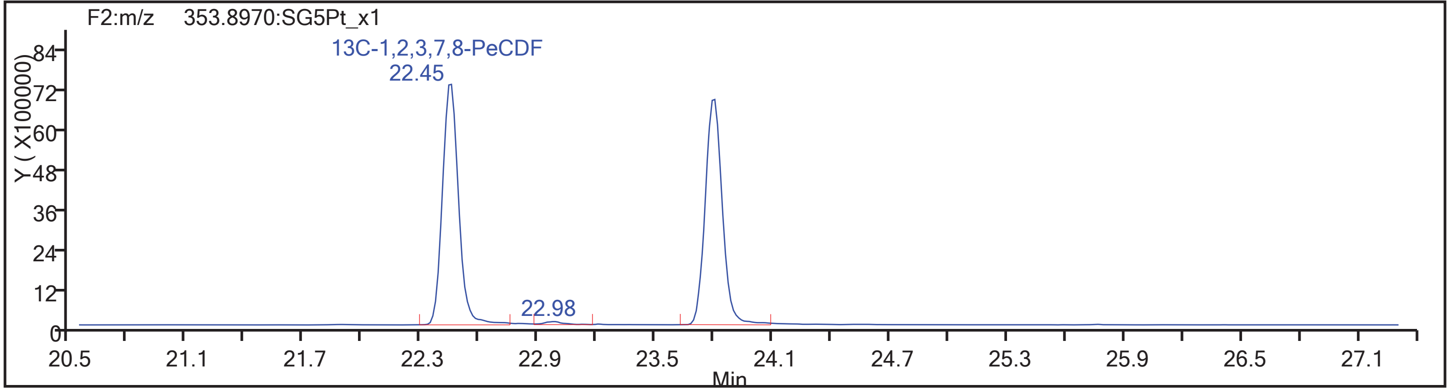
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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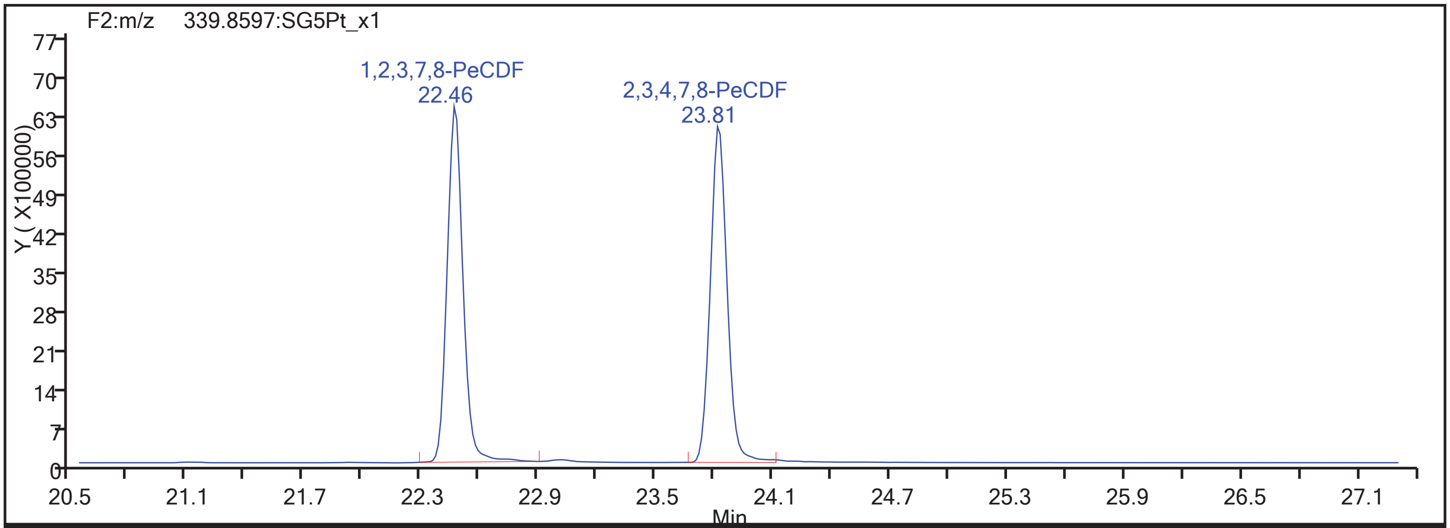
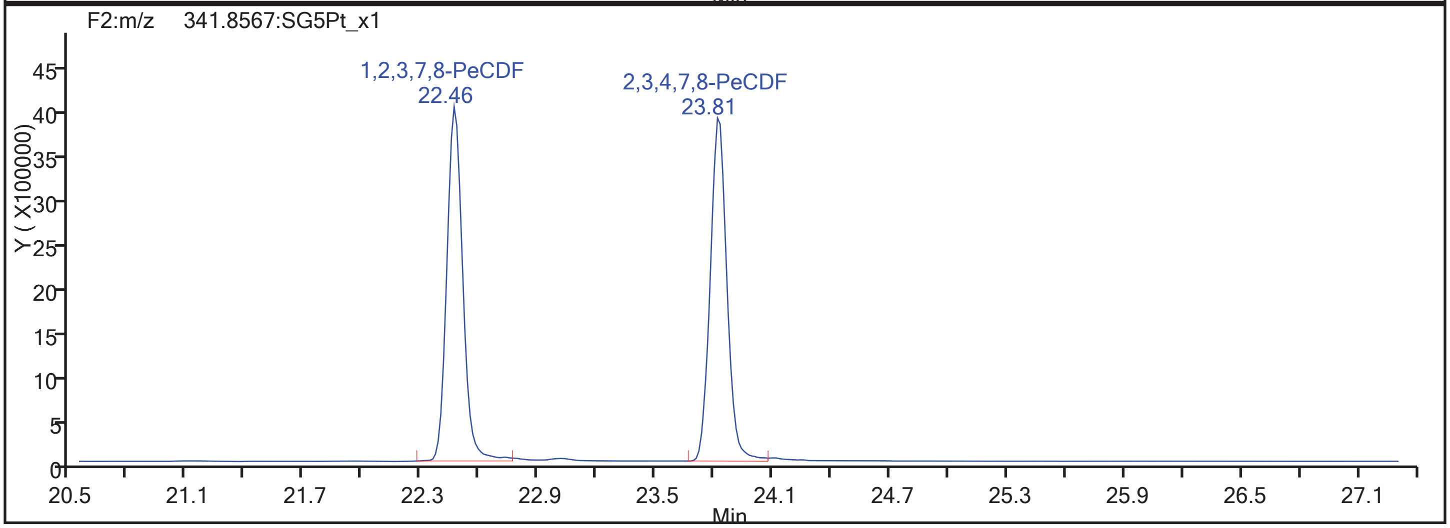
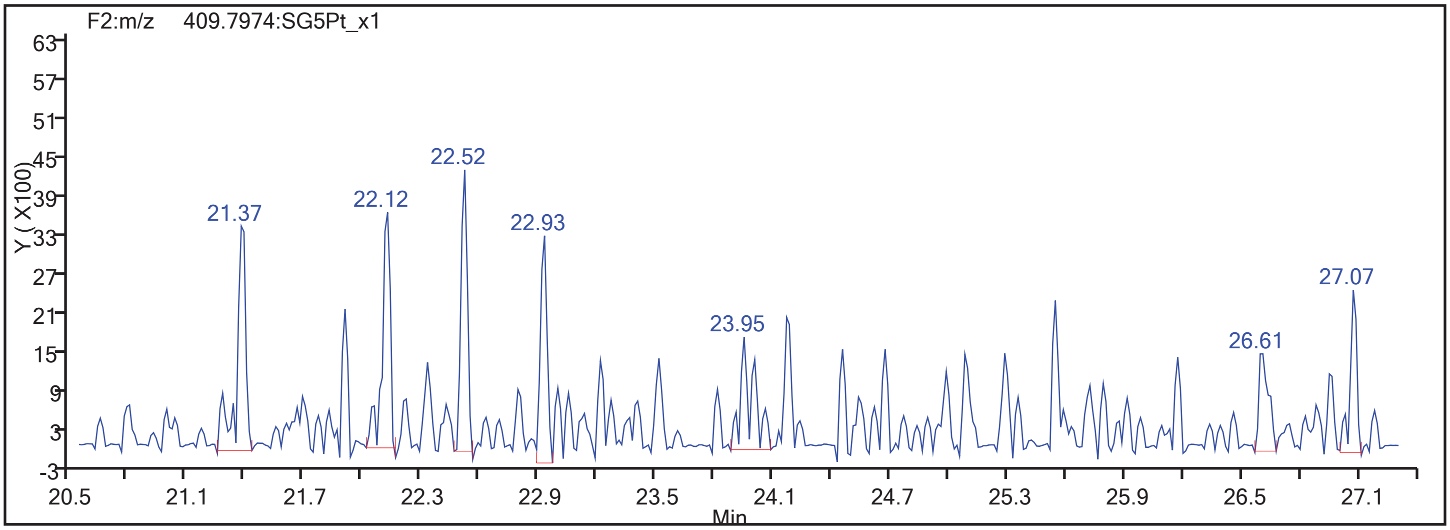
Client ID:			
Worklist#:	194085	Sample Line#:	67
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



TestAmerica Sacramento

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Client ID:
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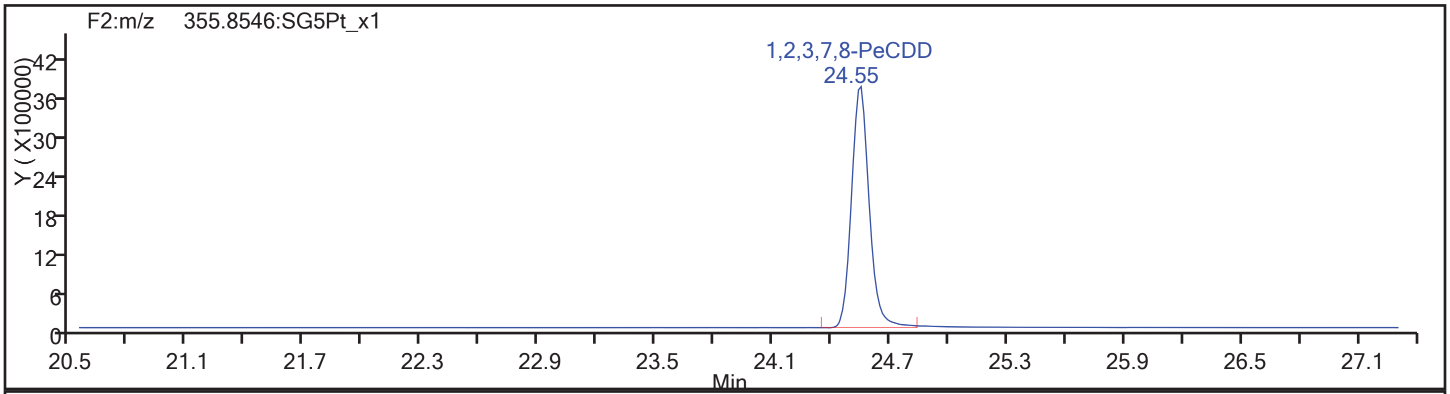
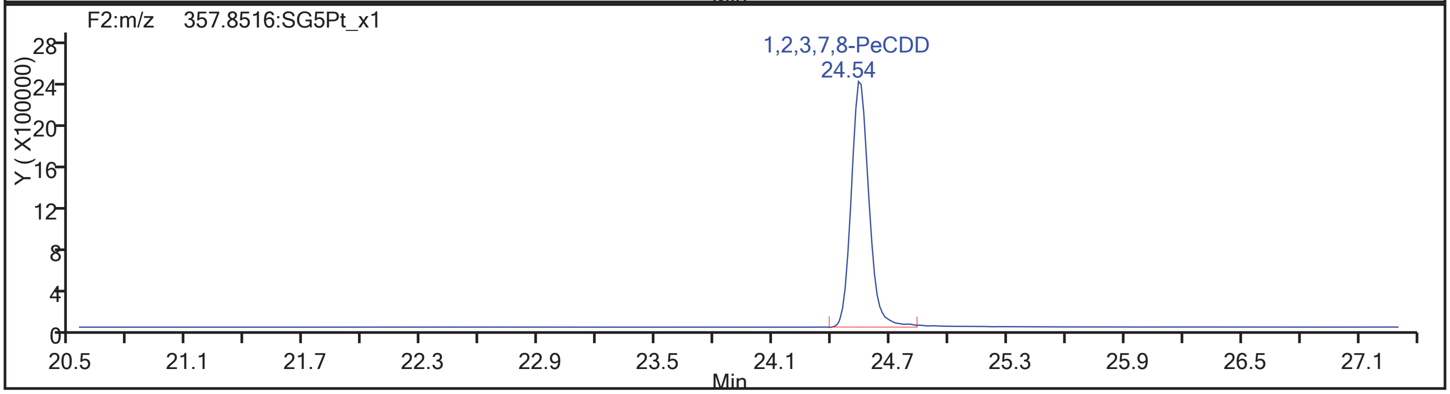
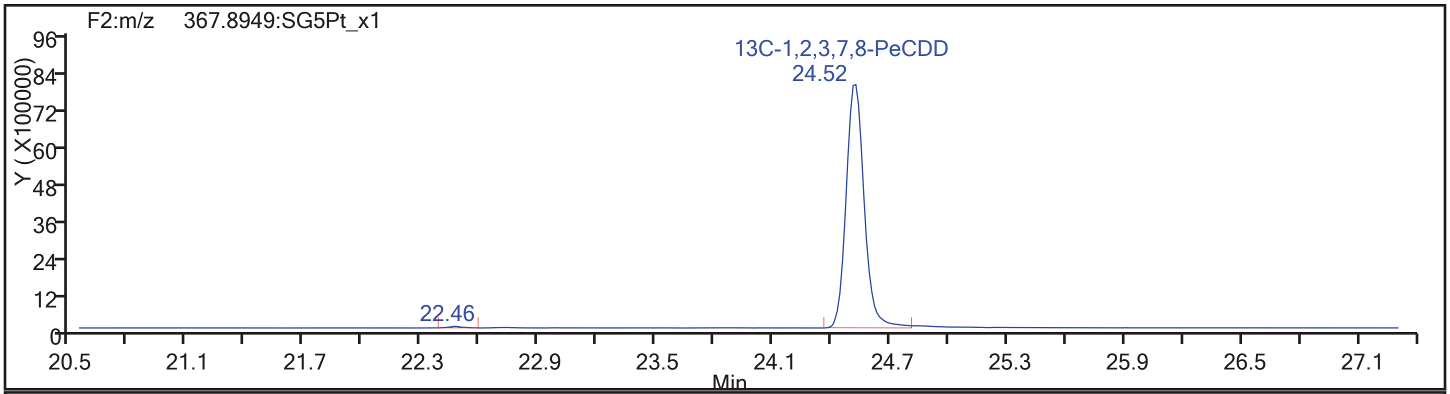
Sample Line#: 67
Column Type: DB-5
Column Dia: 0.32 mm

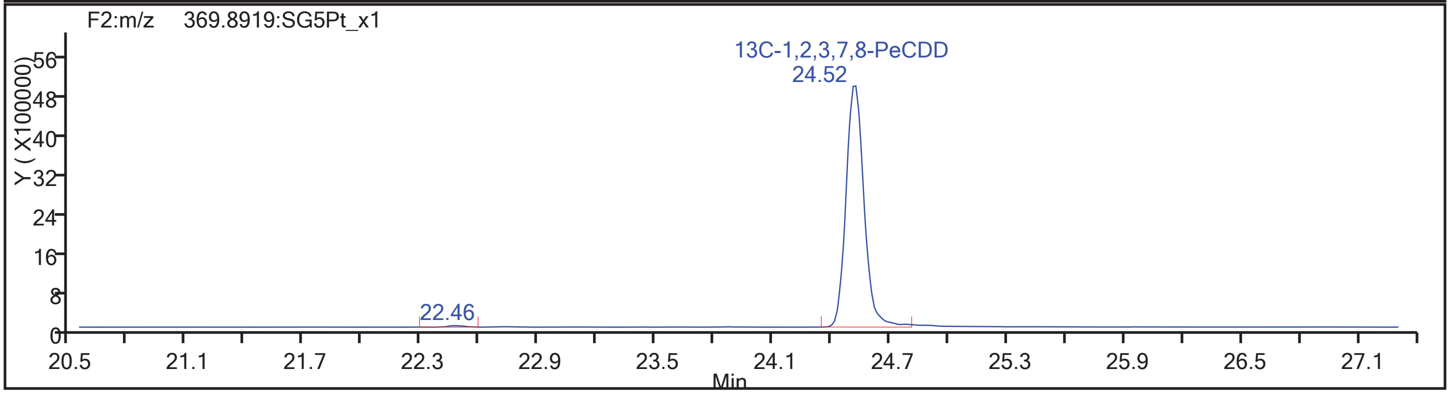
PeCDD





PeCDD Standards





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TestAmerica Sacramento

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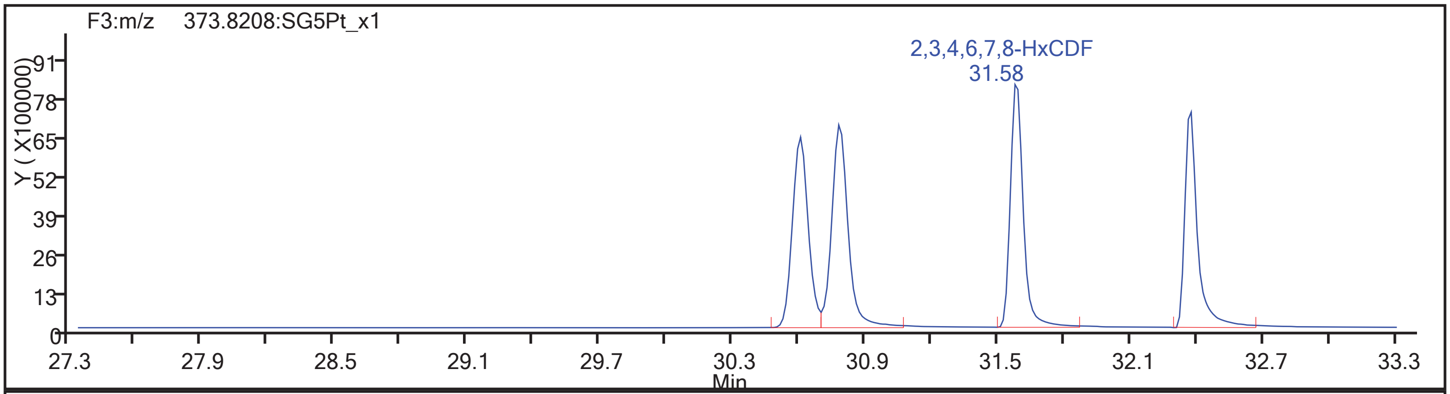
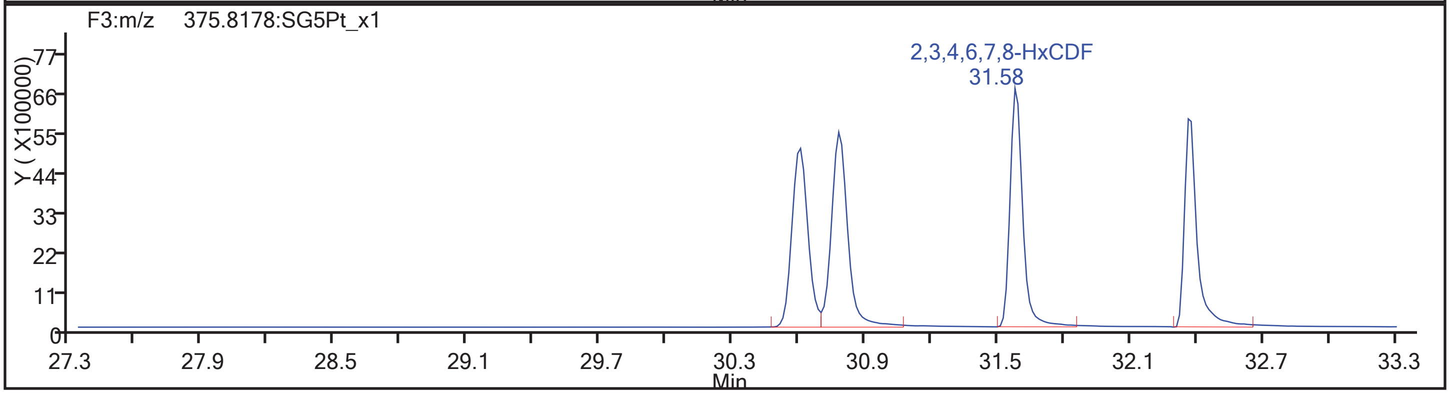
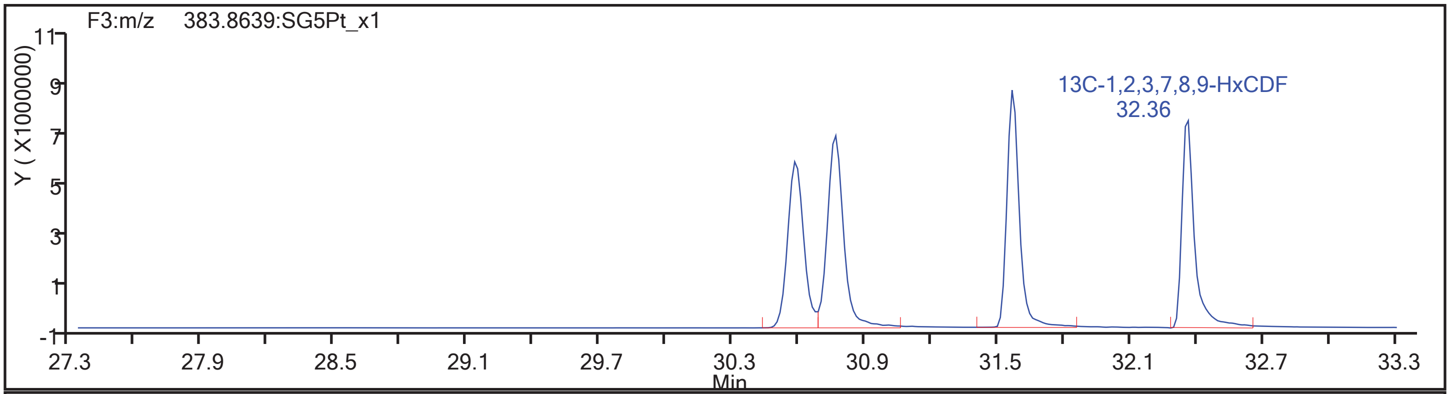
Injection Date:	11-Nov-2017 13:31:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	67
Column Type:	DB-5	Column Dia:	0.32 mm

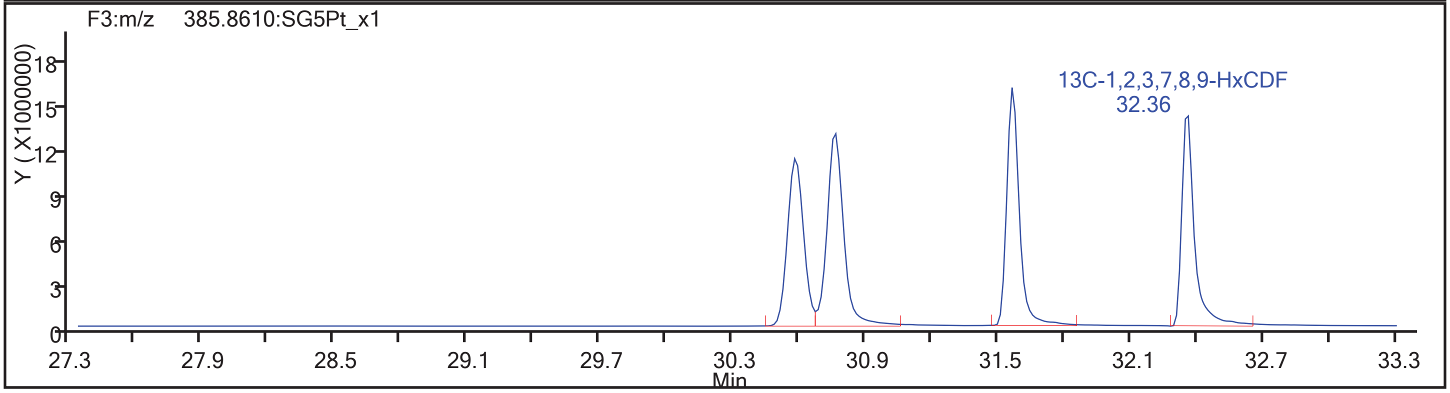
HxCDF





HxCDF Standards





Report Date: 13-Nov-2017 13:32:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Client ID:			
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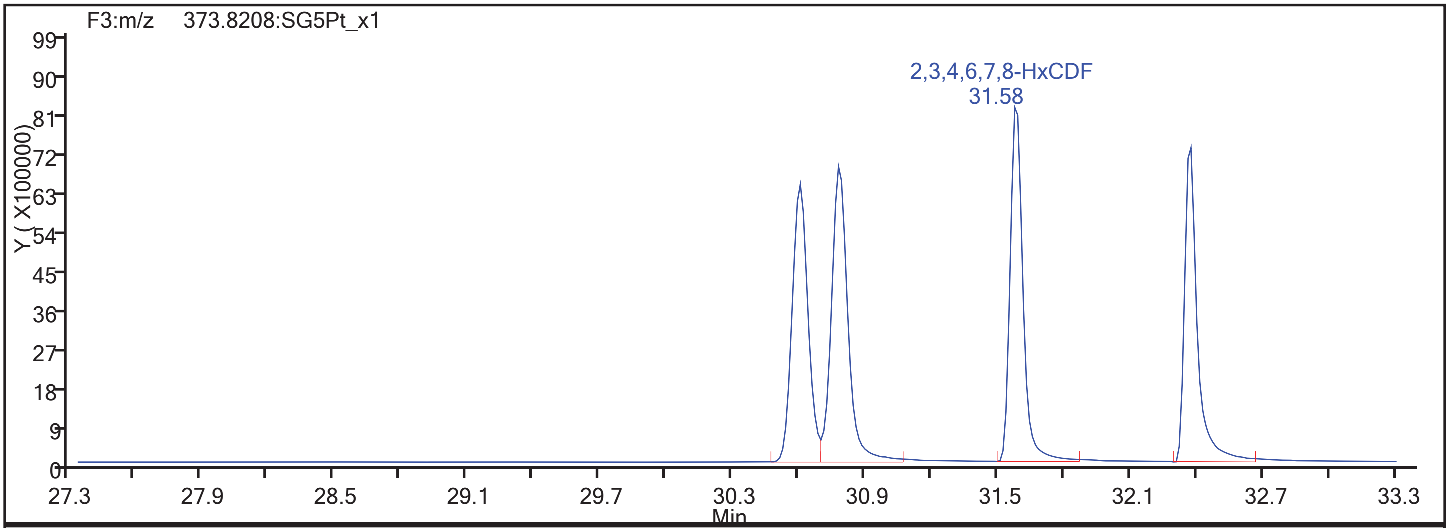
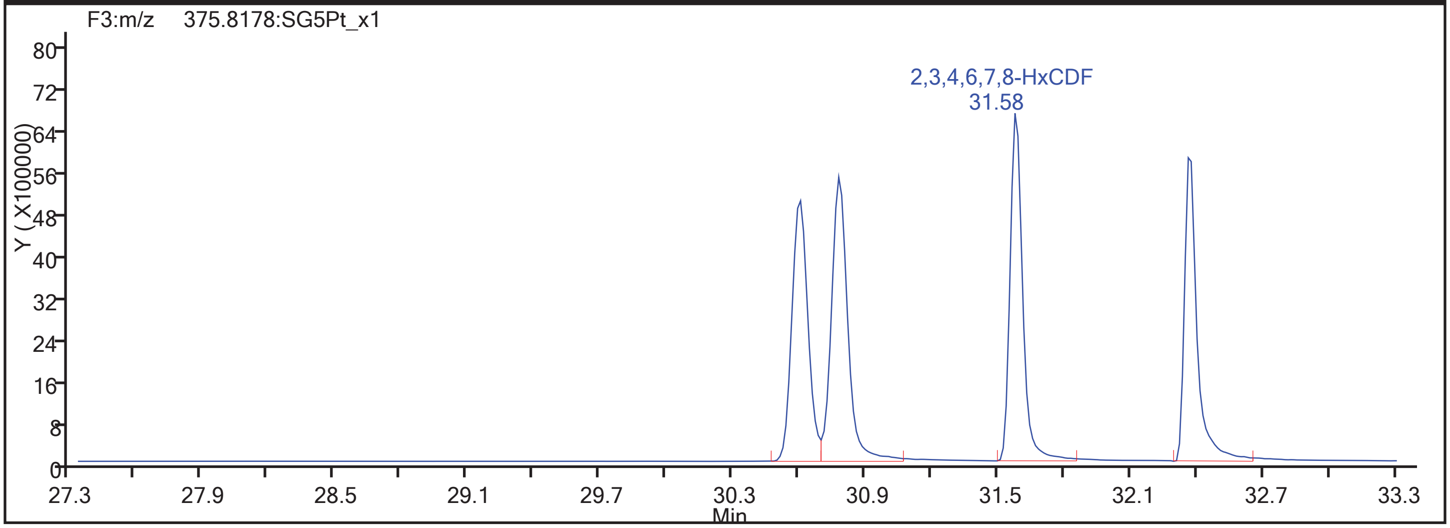
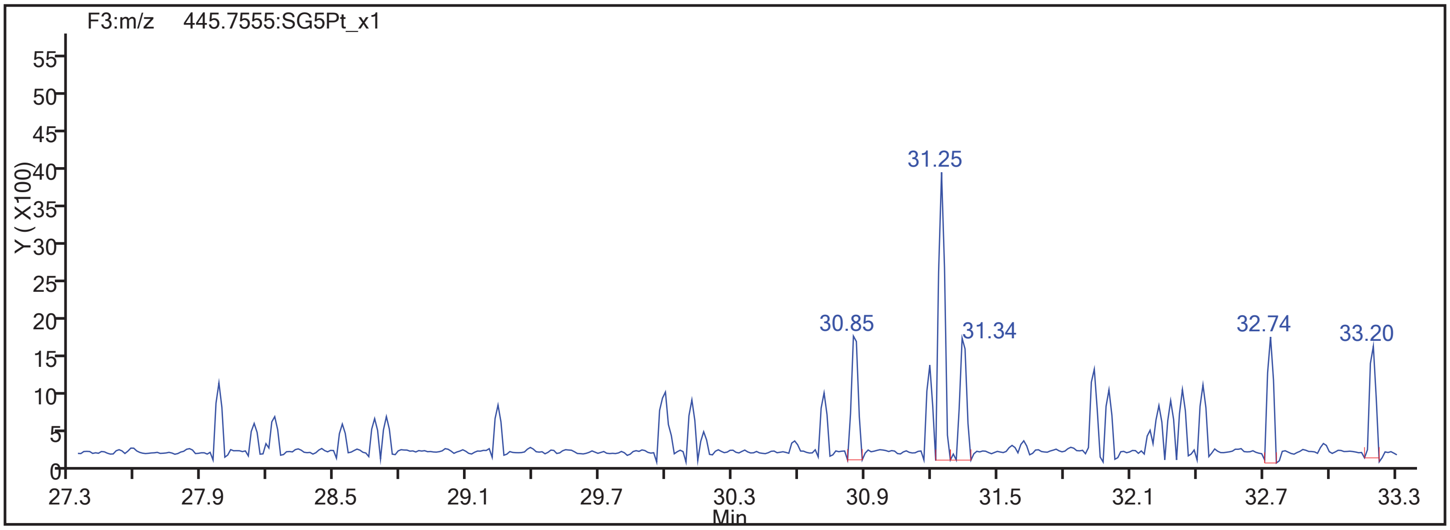
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 11-Nov-2017 13:31:17
Injection Vol: 2.0 ul
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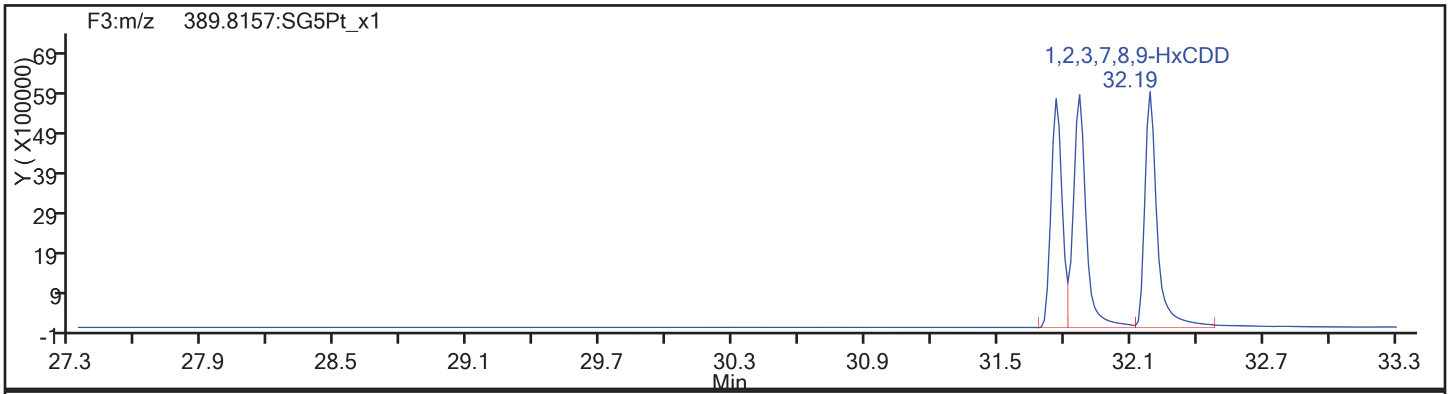
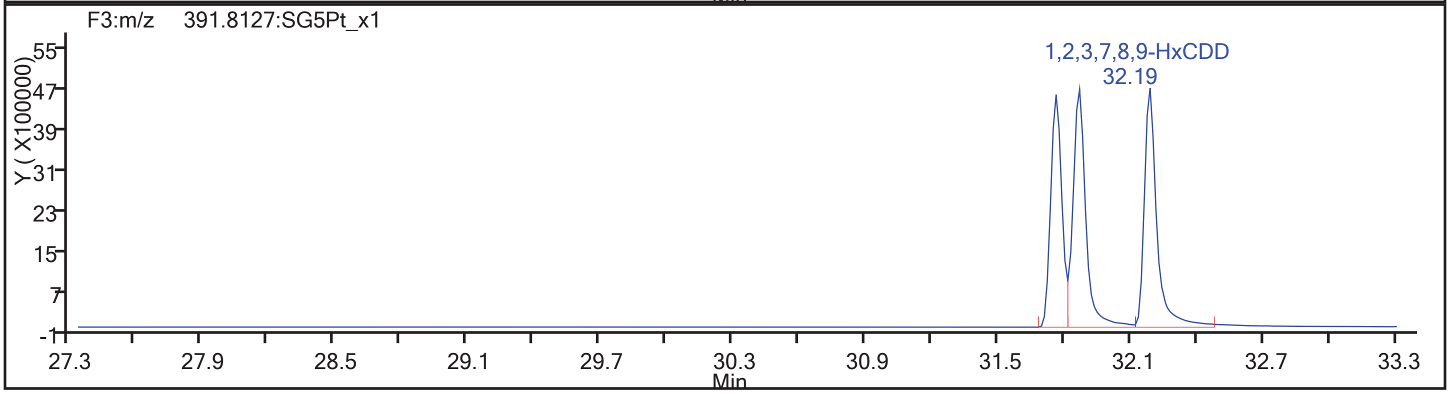
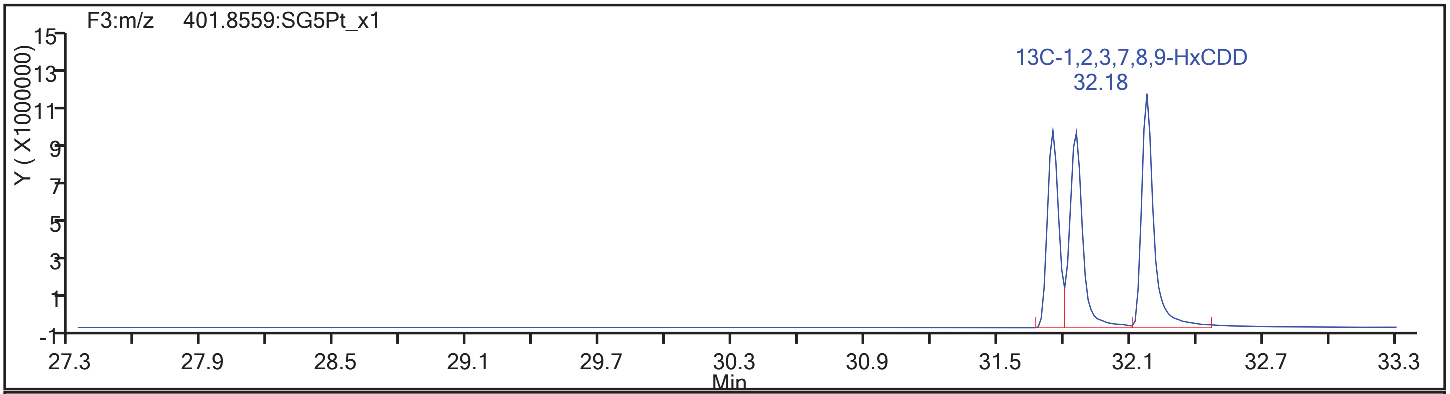
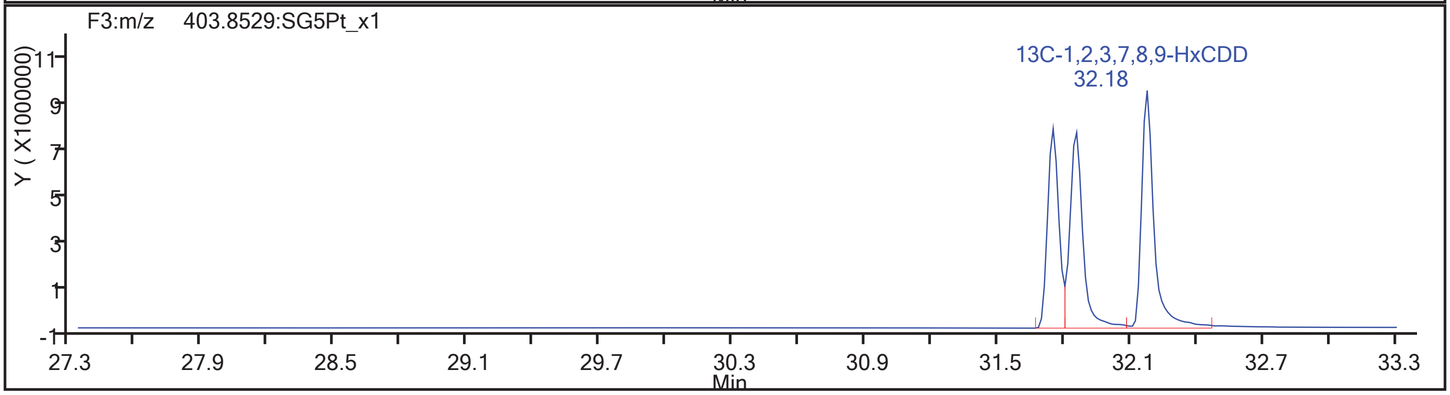
HxCDD





HxCDD Standards





TestAmerica Sacramento

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Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
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Sample Line#: 67
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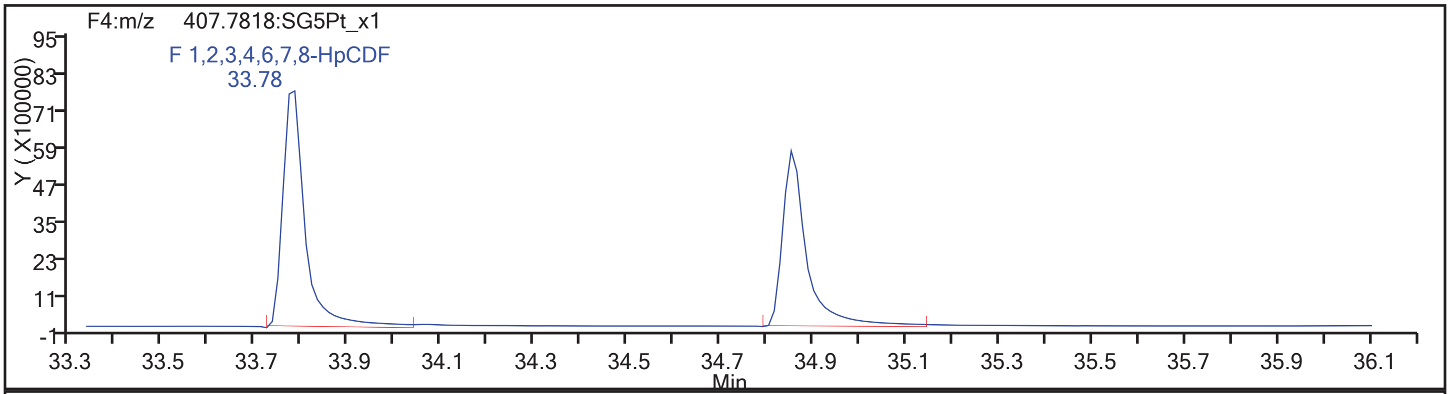
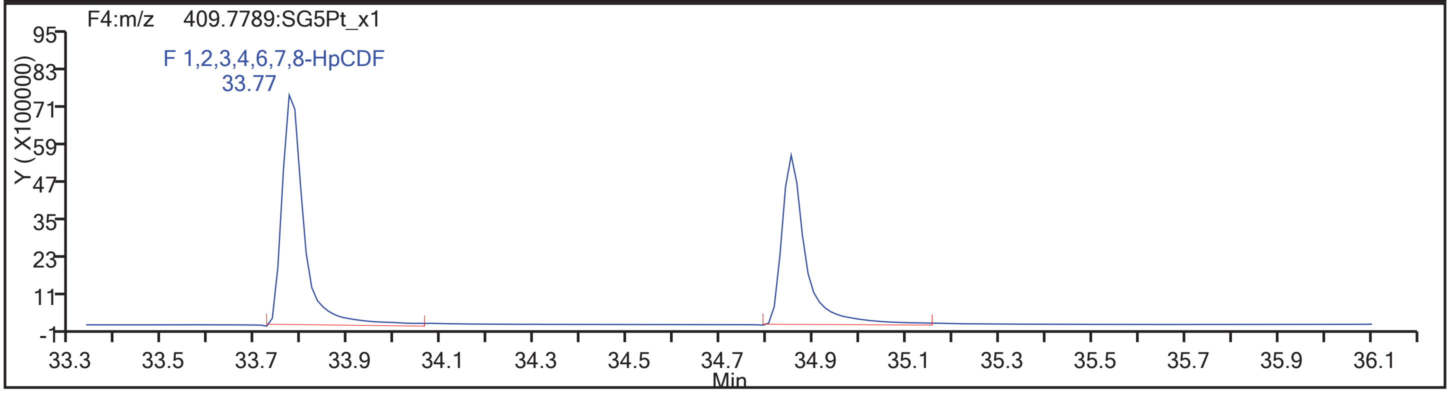
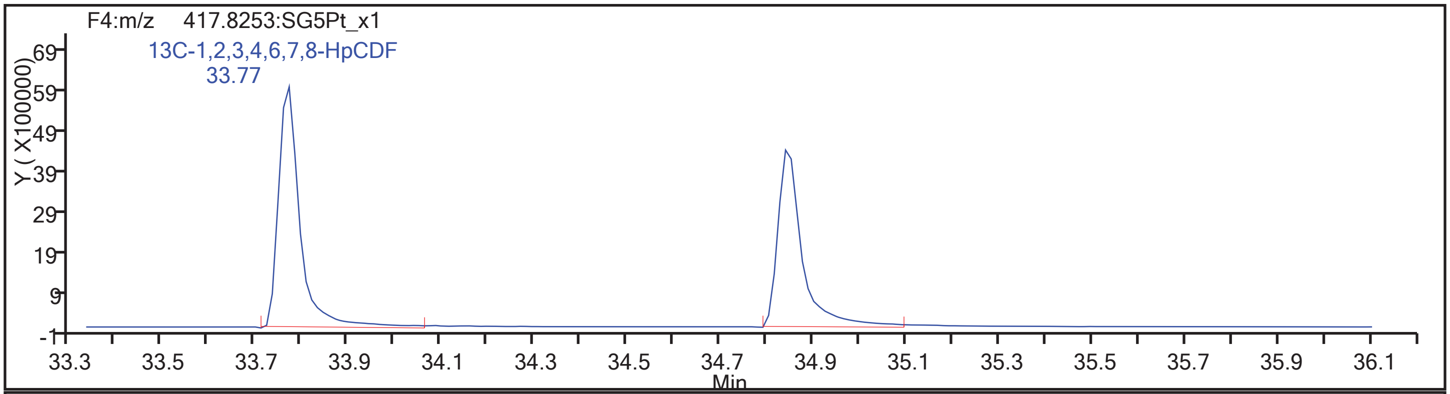
Column Dia: 0.32 mm

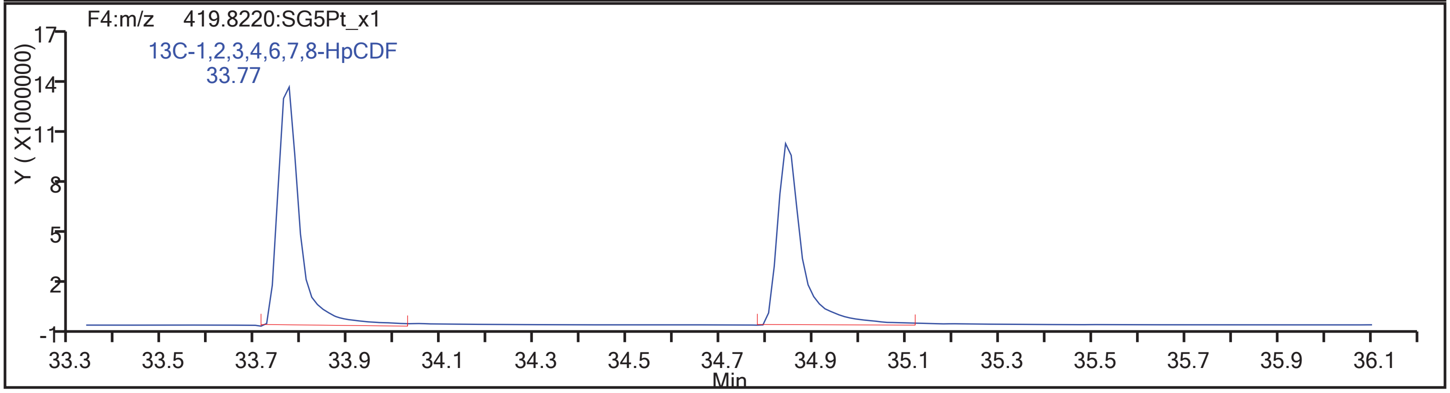
HpCDF





HpCDF Standards



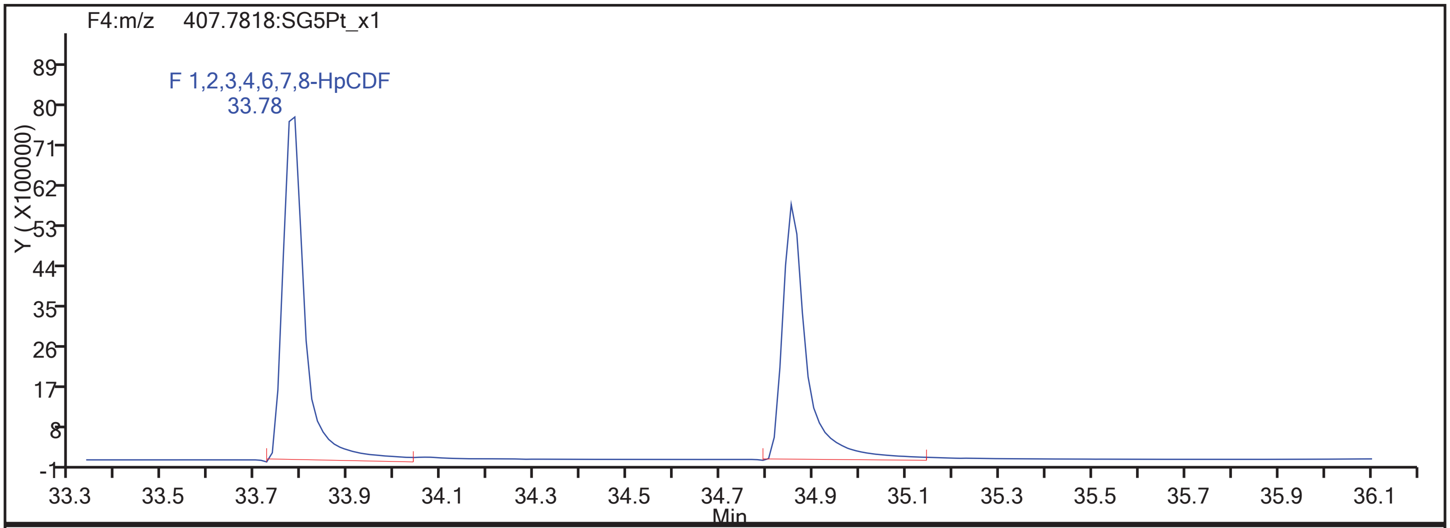


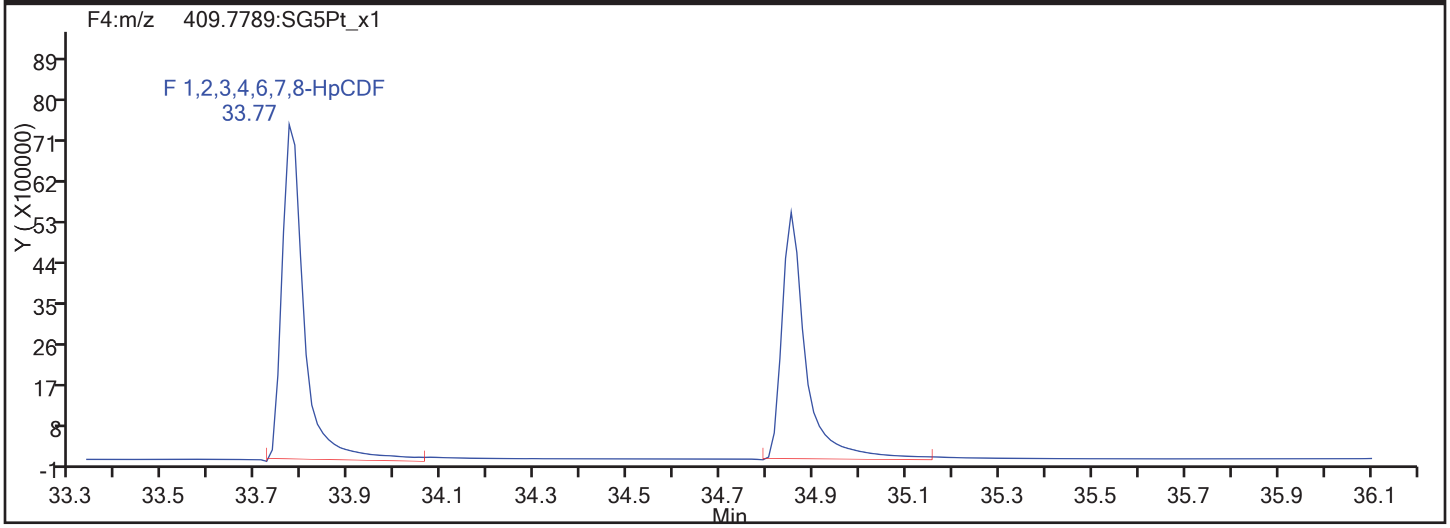
Report Date: 13-Nov-2017 13:32:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

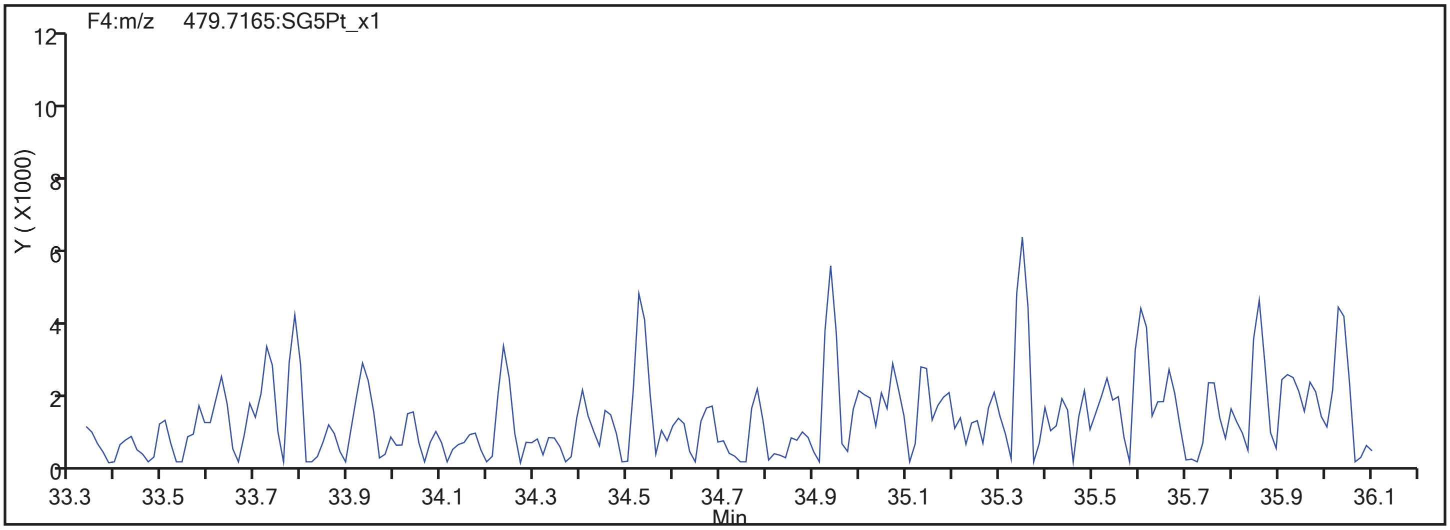
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d		
Injection Date:	11-Nov-2017 13:31:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	67
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF



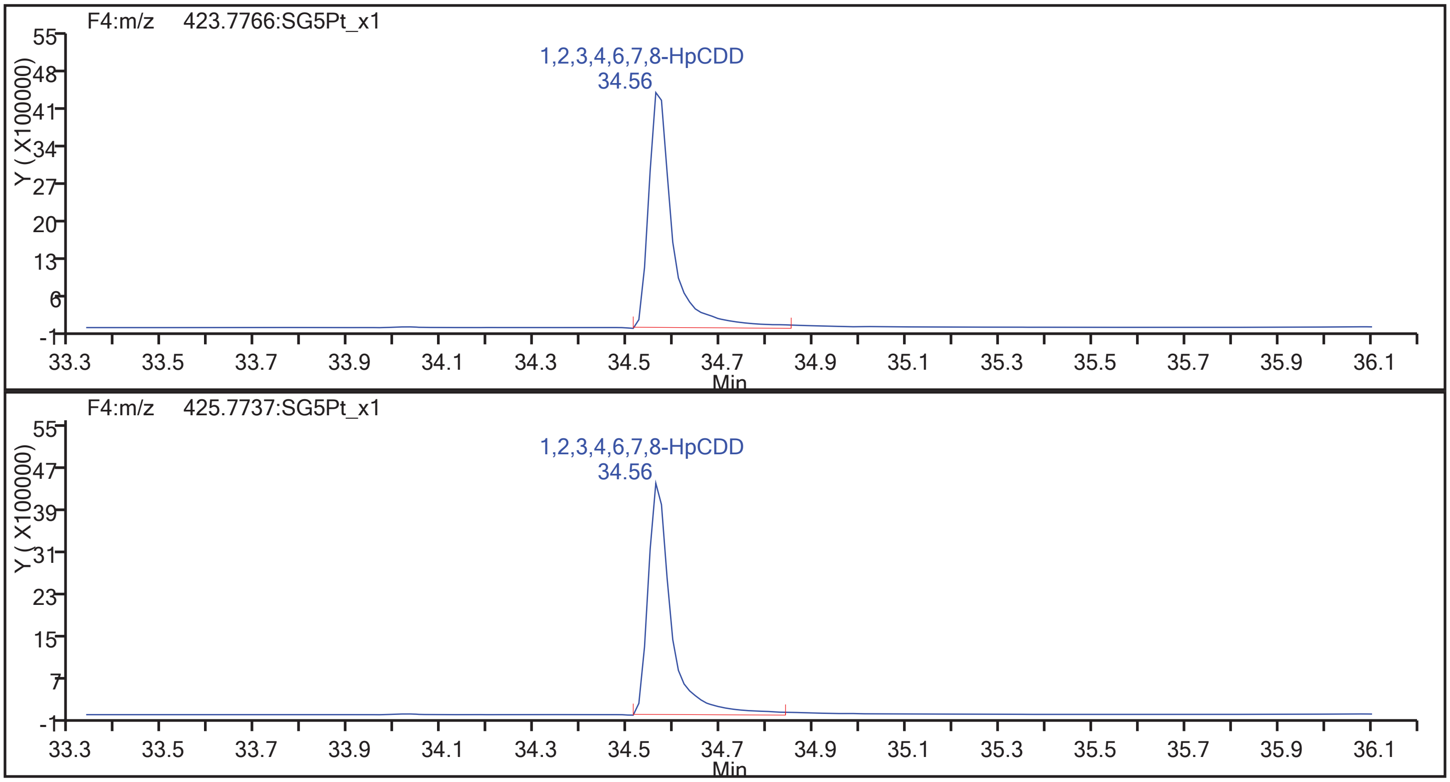


HpCDF Interference Mass

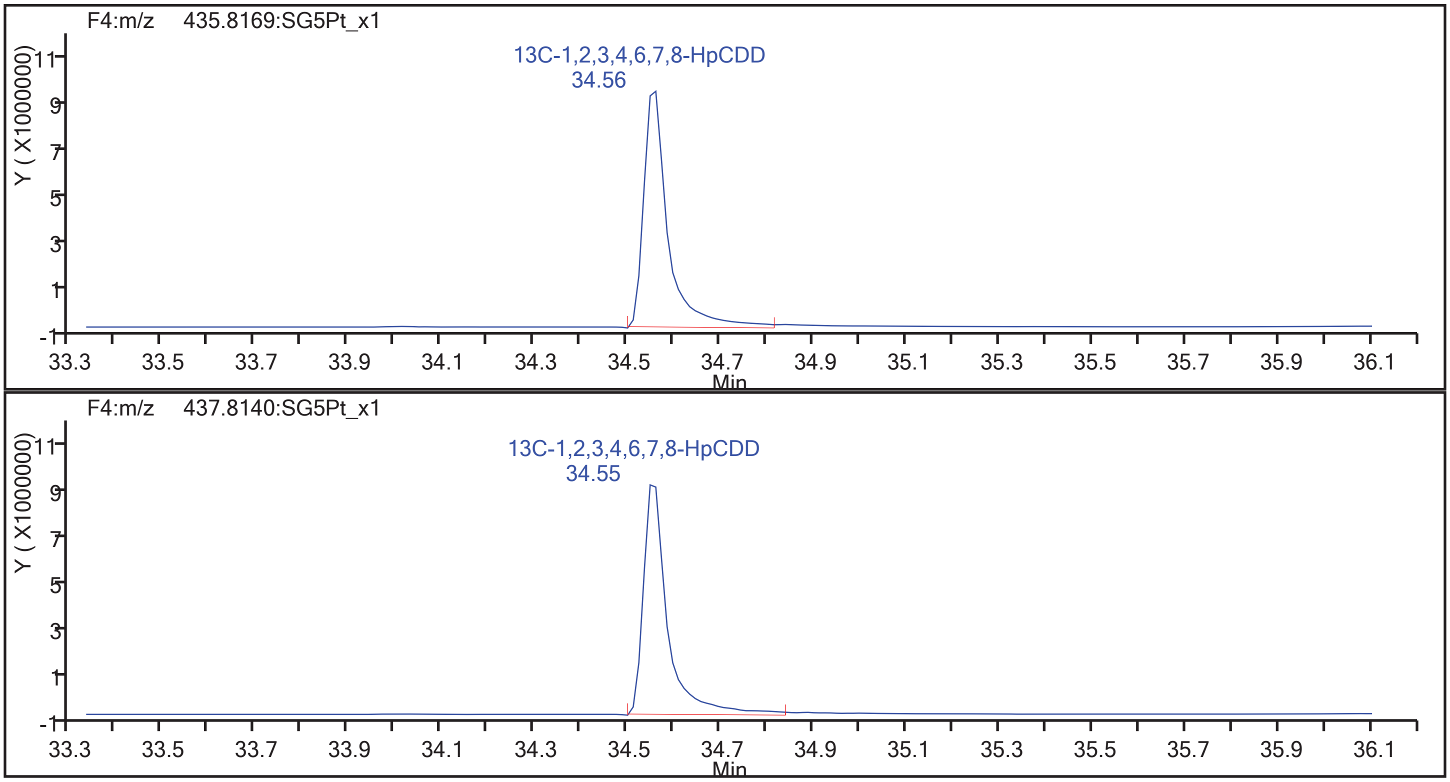


Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d		
Injection Date:	11-Nov-2017 13:31:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	67
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD



HpCDD Standards

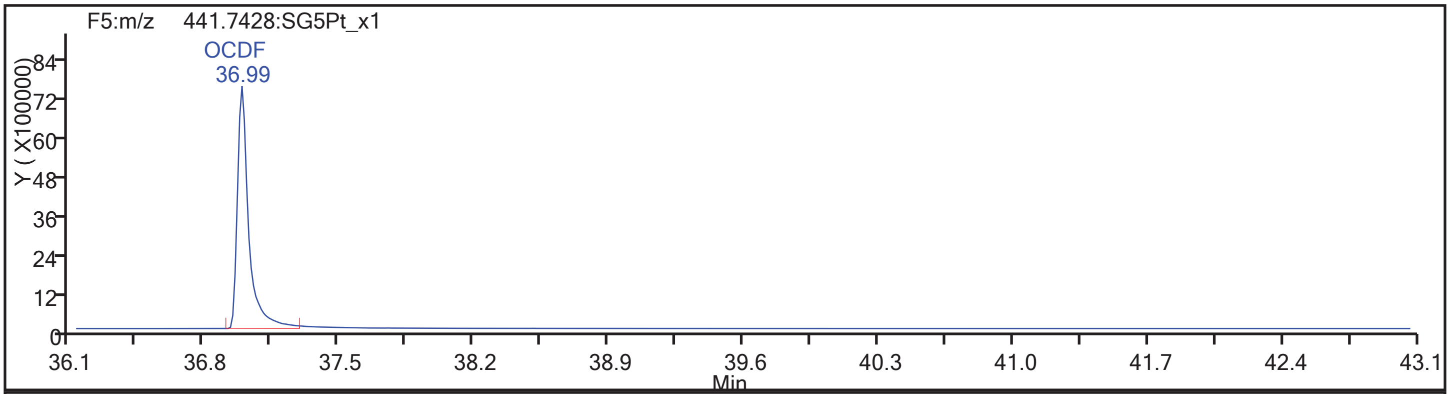


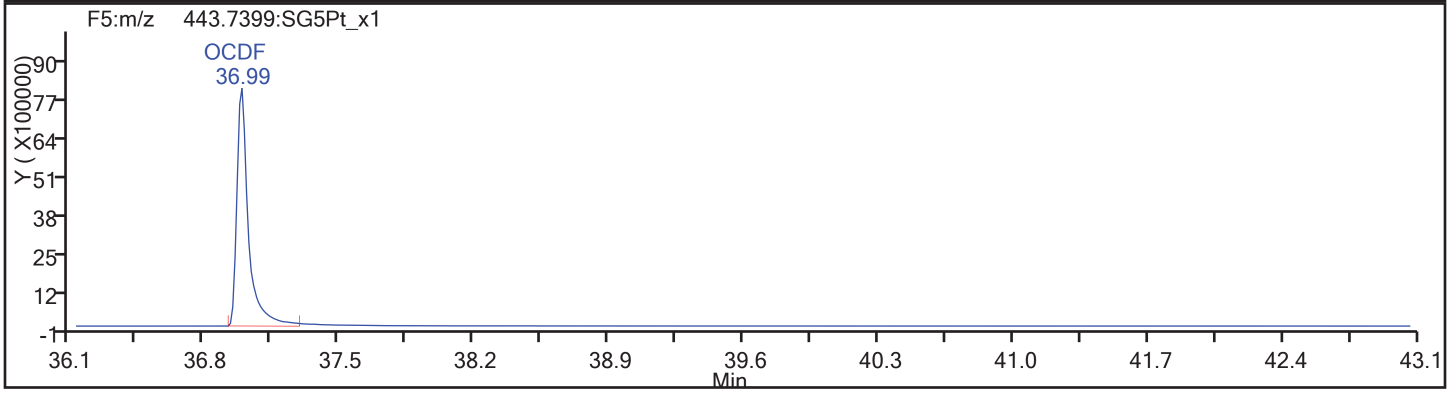
Report Date: 13-Nov-2017 13:32:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

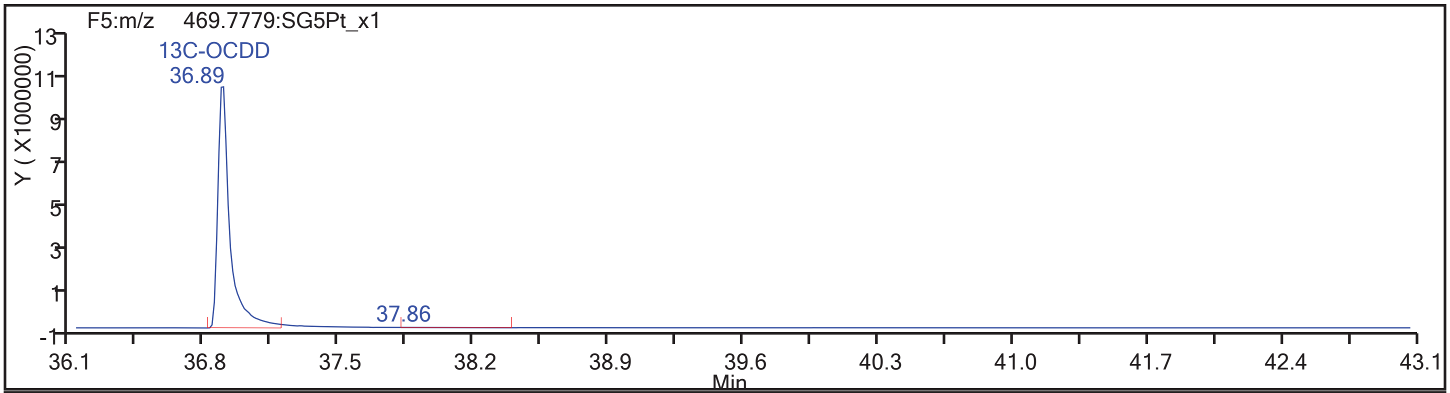
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d		
Injection Date:	11-Nov-2017 13:31:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	67
Column Type:	DB-5	Column Dia:	0.32 mm

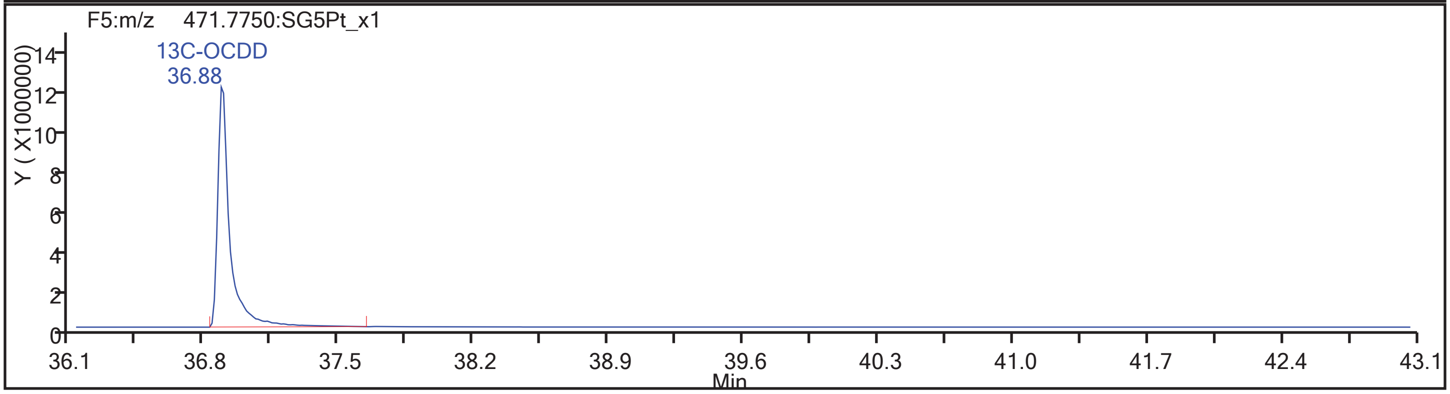
OCDF





OCDF Standards





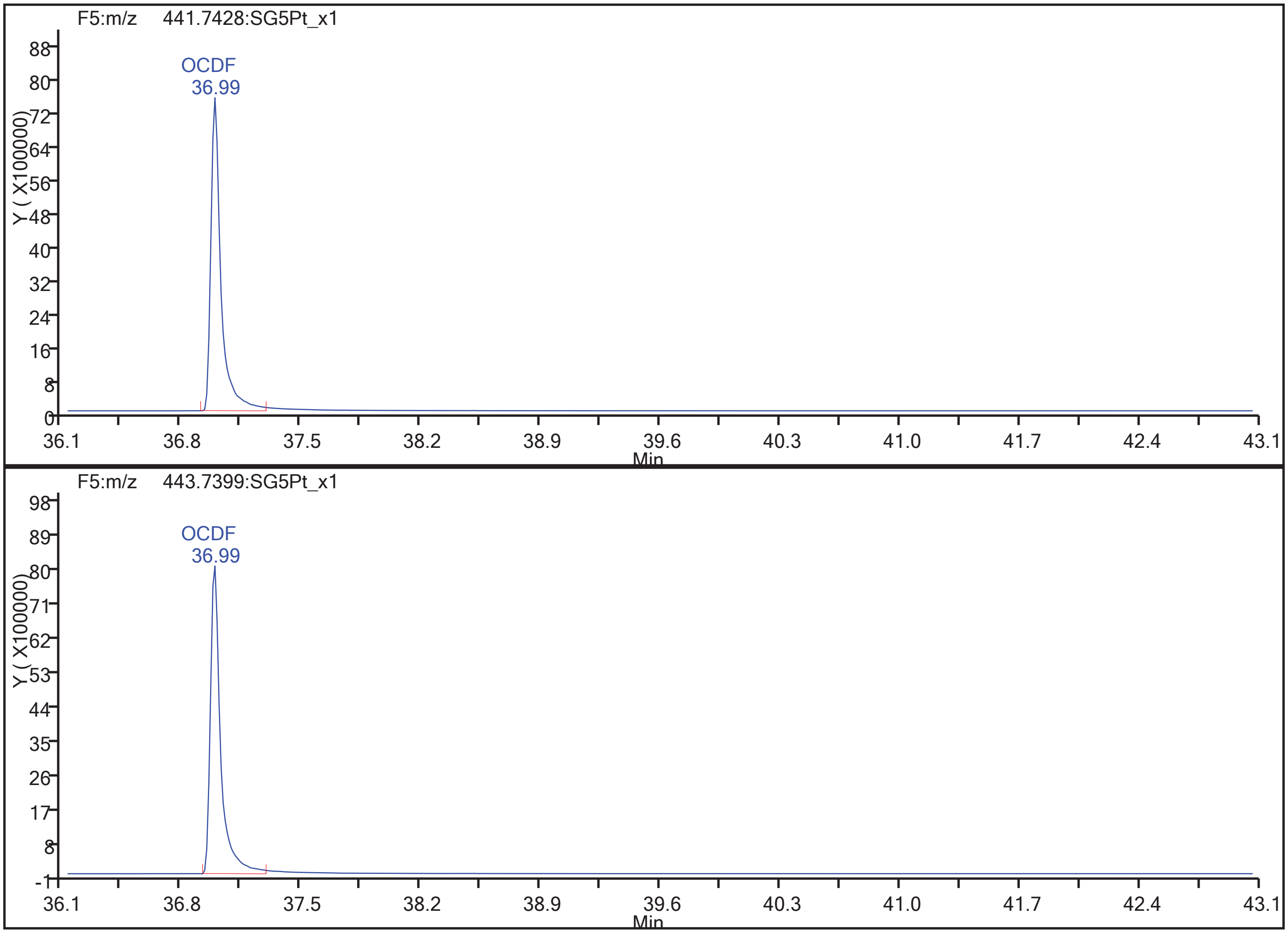
Report Date: 13-Nov-2017 13:32:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

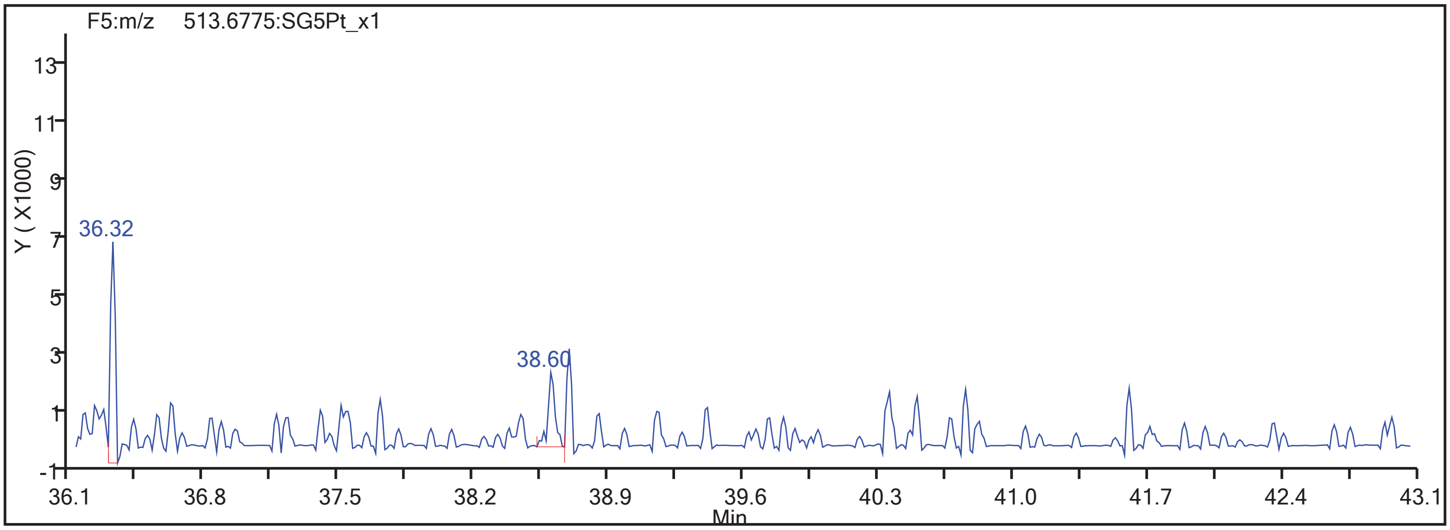
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d

Injection Date:	11-Nov-2017 13:31:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	67
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Interference Mass

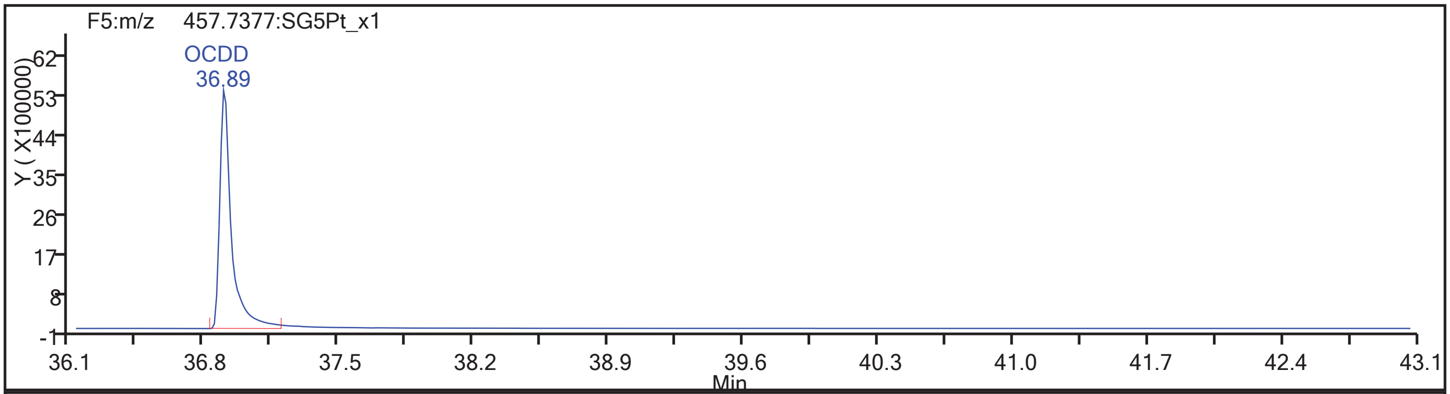


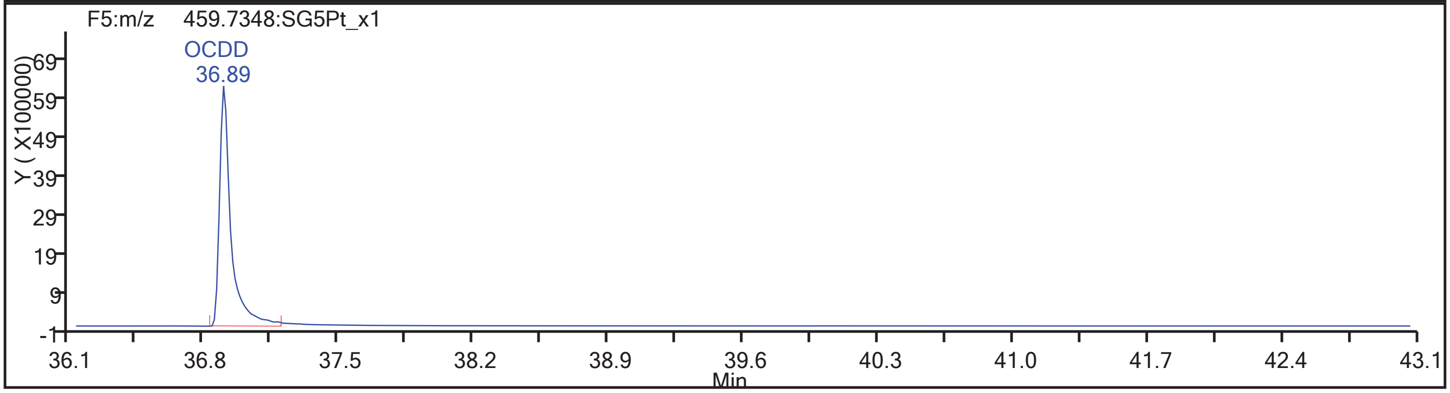
Report Date: 13-Nov-2017 13:32:31　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

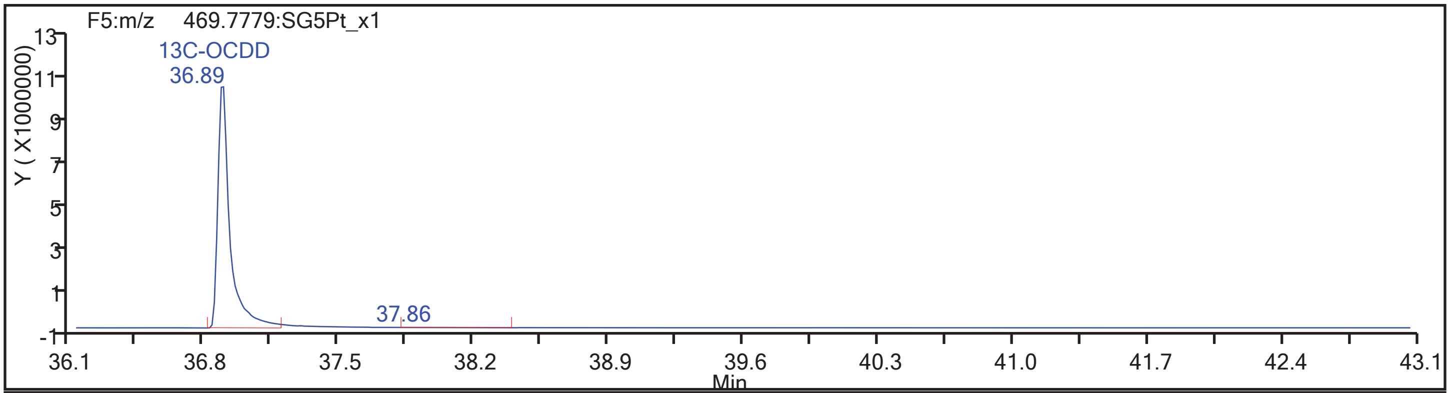
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d		
Injection Date:	11-Nov-2017 13:31:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	67
Column Type:	DB-5	Column Dia:	0.32 mm

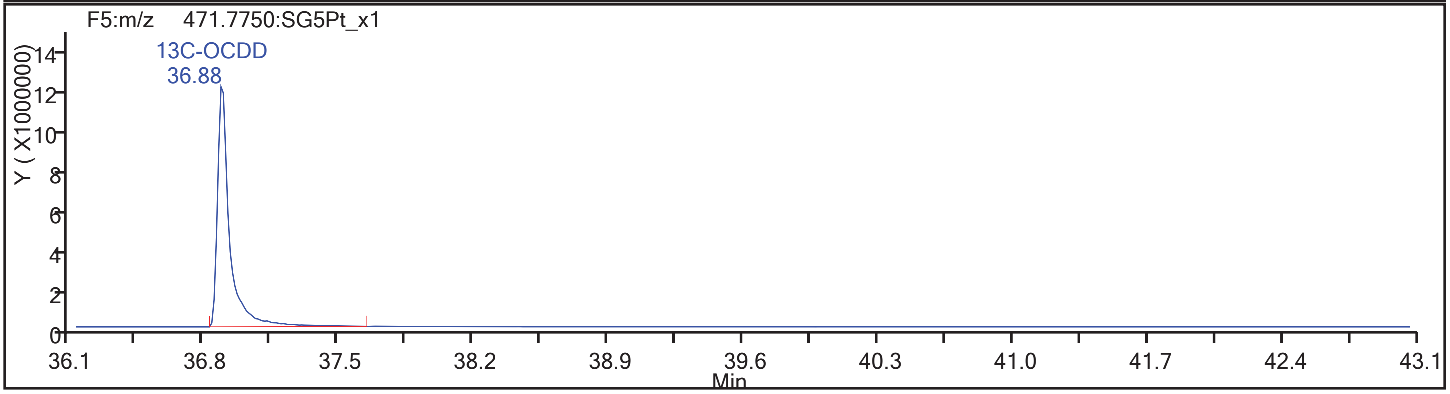
OCDD





OCDD Standards





Report Date: 13-Nov-2017 13:32:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d

Injection Date: 11-Nov-2017 13:31:17

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

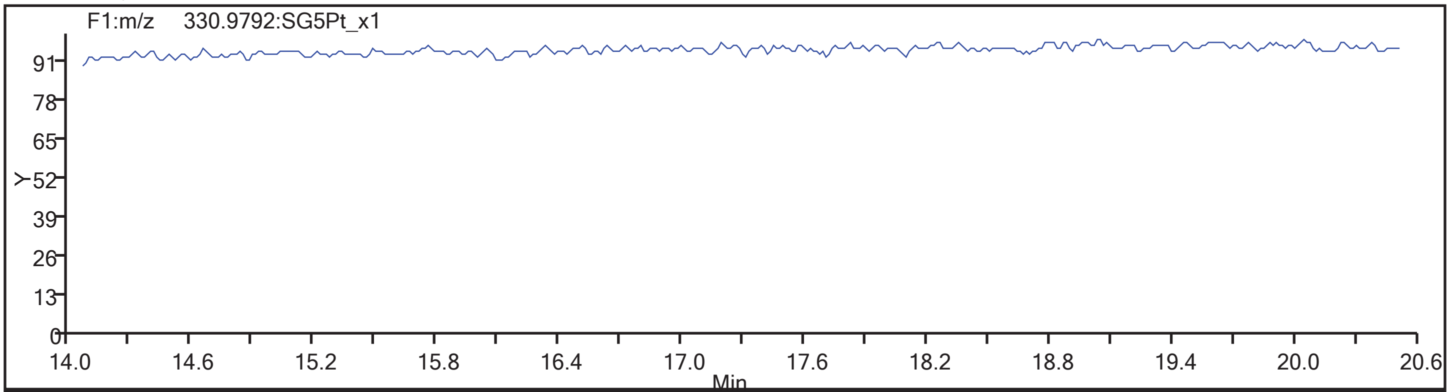
Client ID:

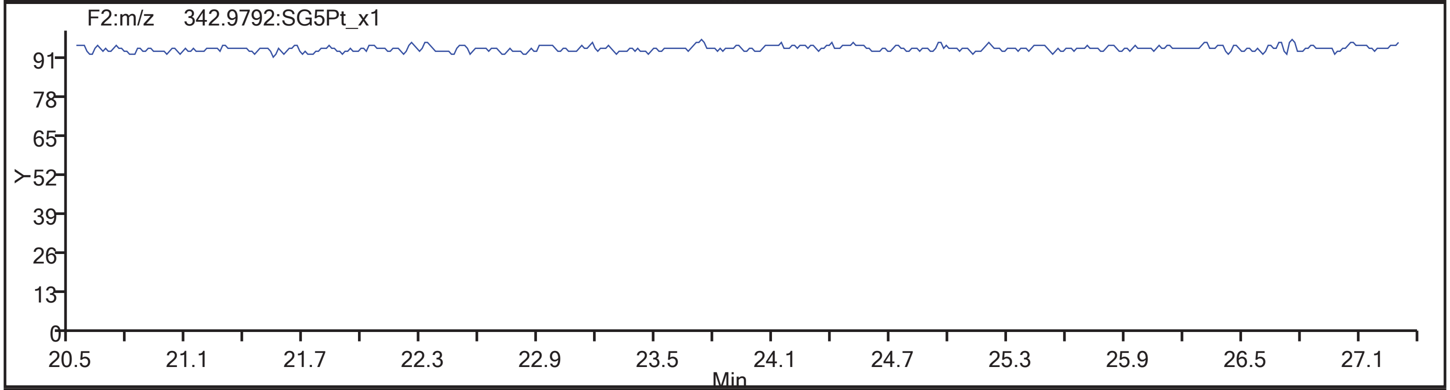
Worklist#: 194085

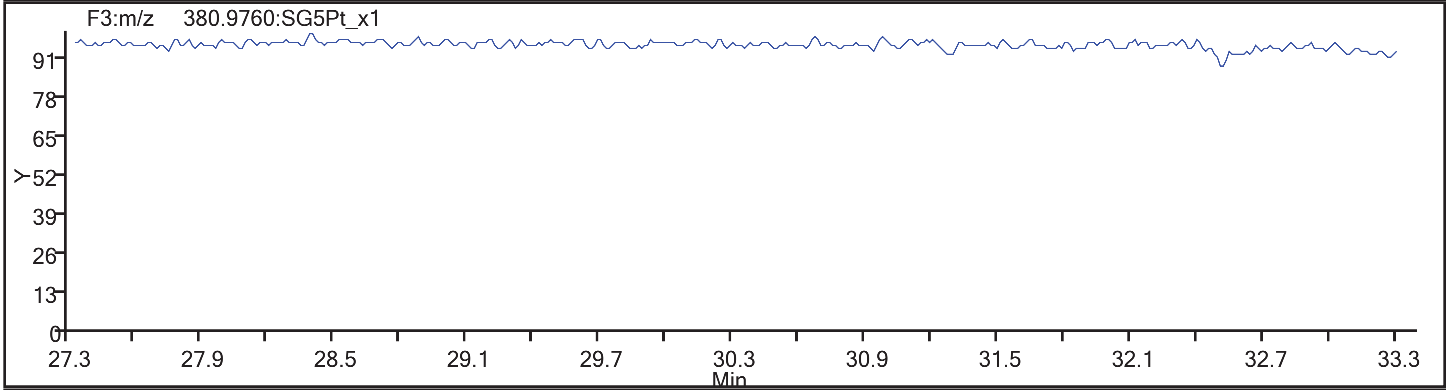
Sample Line#: 67

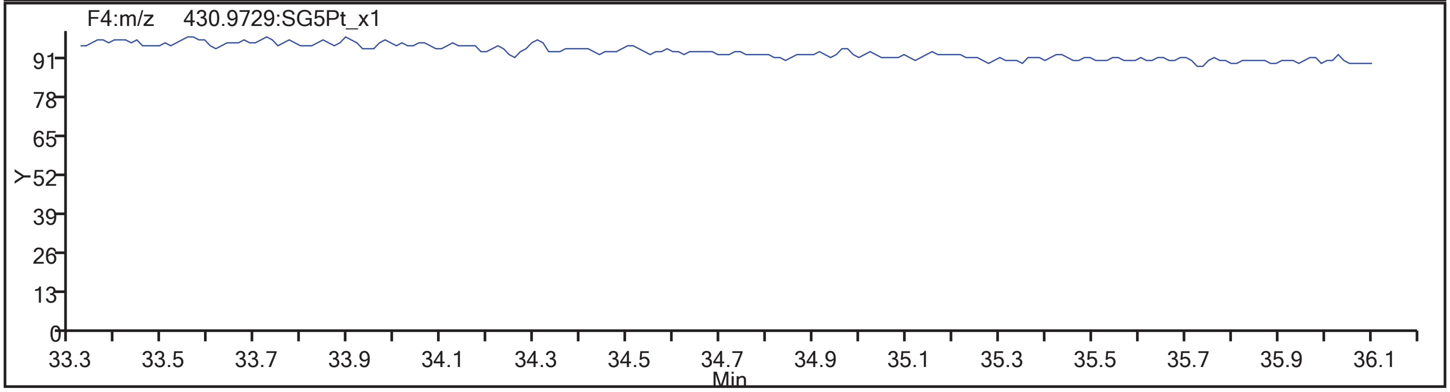
Column Type: DB-5

Column Dia: 0.32 mm



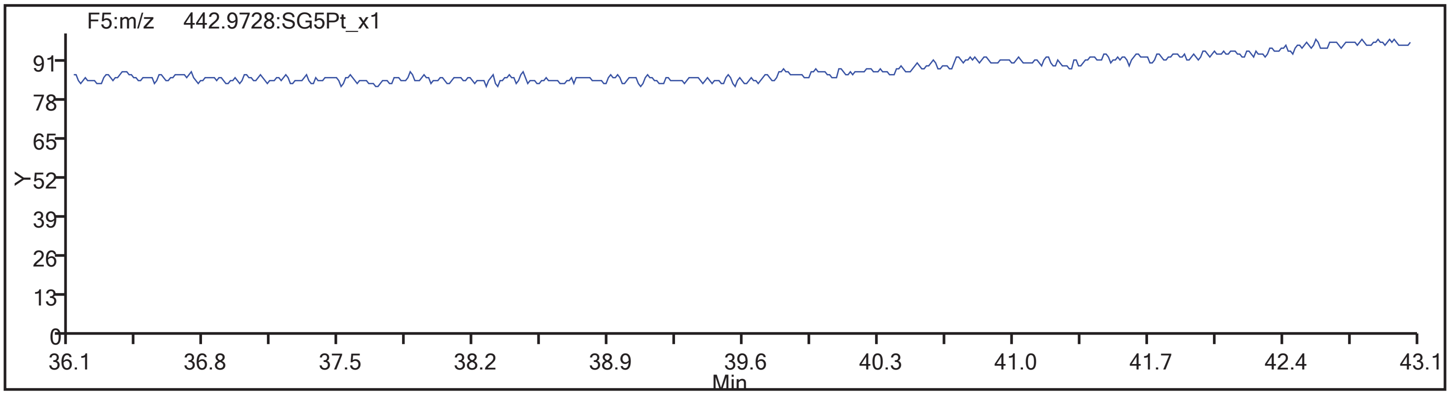






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_67.d		
Injection Date:	11-Nov-2017 13:31:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	67
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-194085/78

Calibration Date: 11/11/2017 22:08

Instrument ID: 10D5

Calib Start Date: 10/13/2017 00:08

GC Column: DB-5

ID: 0.32(mm)

Calib End Date: 10/13/2017 03:12

Lab File ID: 09NO1710D5_78.d

Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.089		9.60	10.0	-4.0	20.0
2,3,7,8-TCDD	AveID	0.999	0.9885		9.89	10.0	-1.1	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.132		48.7	50.0	-2.6	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.127		49.4	50.0	-1.1	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9463		49.9	50.0	-0.3	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.371		48.9	50.0	-2.1	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.527		45.0	50.0	-9.9	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.435		47.2	50.0	-5.6	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	1.002		52.7	50.0	5.5	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.224		49.6	50.0	-0.9	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.199		48.1	50.0	-3.9	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.294		45.9	50.0	-8.2	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.596		48.7	50.0	-2.7	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9757		49.1	50.0	-1.8	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.263		47.5	50.0	-5.0	20.0
OCDD	AveID	1.060	1.043		98.3	100	-1.7	20.0
OCDF	AveID	1.346	1.379		102	100	2.4	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.324		104	100	3.9	30.0
13C-2,3,7,8-TCDD	Ave	0.9921	0.9748		98.3	100	-1.7	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9696	1.050		108	100	8.3	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.8177		108	100	7.8	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	1.056		110	100	9.5	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.8867		101	100	0.9	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.8162		107	100	7.1	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.8031		103	100	3.5	30.0
13C-OCDD	Ave	0.6314	0.6173		196	200	-2.2	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.056		10.1	10.0	0.9	

FORM VII 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2017 22:08:39 ALS Bottle#: 2 Worklist Smp#: 78
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917K CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:32:09 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: shardaa Date: 12-Nov-2017 10:00:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.899	89444958	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.385	118407021	0.79	1.2741	103.9	103.9	0.4478	0.4478	104	
2,3,7,8-TCDF	17.400	12896183	0.77	1.1341	9.603	9.603	0.0291	0.0291	96.03	
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF					9.603	9.603	0.0291	0.0291		
D 13C-2,3,7,8-TCDD	18.080	87186567	0.77	0.9921	98.3	98.3	0.2501	0.2501	98.25	
$ 37Cl4-2,3,7,8-TCDD	18.111	9444951		1.0466	10.1	10.1	0.0200	0.0200	101	
2,3,7,8-TCDD	18.111	8618055	0.78	0.9993	9.891	9.891	0.0346	0.0346	98.91	
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD					9.891	9.891	0.0346	0.0346		
D 13C-1,2,3,7,8-PeCDF	22.424	93913787	1.52	0.9696	108.3	108.3	0.2706	0.2706	108	
1,2,3,7,8-PeCDF	22.437	53160669	1.59	1.1627	48.7	48.7	0.1746	0.1746	97.37	
D 13C-2,3,4,7,8-PeCDF	23.774	92359033	1.53							
2,3,4,7,8-PeCDF	23.801	52920250	1.59	1.1395	49.4	49.4	0.1782	0.1782	98.90	
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF					98.1	98.1	0.1764	0.1764		
D 13C-1,2,3,7,8-PeCDD	24.496	73141019	1.62	0.7588	107.8	107.8	0.1465	0.1465	108	
1,2,3,7,8-PeCDD	24.524	34607965	1.58	0.9490	49.9	49.9	0.0845	0.0845	99.72	
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD					49.9	49.9	0.0845	0.0845		
D 13C-1,2,3,4,7,8-HxCDF	30.567	75497941	0.52	0.9644	109.5	109.5	0.7378	0.7378	110	
1,2,3,4,7,8-HxCDF	30.593	51762442	1.26	1.4012	48.9	48.9	0.3883	0.3883	97.86	
D 13C-1,2,3,6,7,8-HxCDF	30.753	91273743	0.53							
1,2,3,6,7,8-HxCDF	30.766	57643877	1.27	1.6951	45.0	45.0	0.3210	0.3210	90.09	
D 13C-2,3,4,6,7,8-HxCDF	31.552	84797187	0.53							
2,3,4,6,7,8-HxCDF	31.578	54160388	1.27	1.5205	47.2	47.2	0.3578	0.3578	94.36	
D 13C-1,2,3,7,8,9-HxCDF	32.350	77671679	0.52							
1,2,3,7,8,9-HxCDF	32.364	48865073	1.27	1.4099	45.9	45.9	0.3859	0.3859	91.81	
A Non-2,3,7,8-sub-HxCDF	30.261						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					187.1	187.1	0.3632	0.3632		
* 13C-1,2,3,7,8,9-HxCDD	32.164	71491864	1.24	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.738	52970830	1.27							
1,2,3,4,7,8-HxCDD	31.751	31773637	1.26	0.9505	52.7	52.7	0.2472	0.2472	105	
D 13C-1,2,3,6,7,8-HxCDD	31.844	63390937	1.24	0.8791	100.9	100.9	0.4228	0.4228	101	
1,2,3,6,7,8-HxCDD	31.858	38784201	1.27	1.2343	49.6	49.6	0.1904	0.1904	99.14	
1,2,3,7,8,9-HxCDD	32.177	37991986	1.25	1.2467	48.1	48.1	0.1885	0.1885	96.15	
A Non-2,3,7,8-sub-HxCDD	30.899						0.0	0.0		
S Total HxCDD					150.4	150.4	0.2087	0.2087		
D 13C-1,2,3,4,6,7,8-HpCDF	33.758	58348847	0.44	0.7618	107.1	107.1	2.085	2.085	107	
1,2,3,4,6,7,8-HpCDF	33.771	46571579	1.04	1.6399	48.7	48.7	0.6745	0.6745	97.34	
D 13C-1,2,3,4,7,8,9-HpCDF	34.840	49137541	0.43							
1,2,3,4,7,8,9-HpCDF	34.852	36858604	1.04	1.3302	47.5	47.5	0.8316	0.8316	94.97	
A Non-2,3,7,8-sub-HpCDF	34.311						0.0	0.0		
S Total HpCDF					96.2	96.2	0.7531	0.7531		
D 13C-1,2,3,4,6,7,8-HpCDD	34.548	57418332	1.06	0.7762	103.5	103.5	0.6379	0.6379	103	
1,2,3,4,6,7,8-HpCDD	34.560	28010931	1.03	0.9932	49.1	49.1	0.3357	0.3357	98.24	
A Non-2,3,7,8-sub-HpCDD	34.287						0.0	0.0		
S Total HpCDD					49.1	49.1	0.3357	0.3357		
D 13C-OCDD	36.882	88263668	0.86	0.6314	195.5	195.5	0.4409	0.4409	97.77	
OCDF	36.978	60837516	0.90	1.3460	102.4	102.4	0.1690	0.1690	102	
OCDD	36.894	46025609	0.88	1.0604	98.3	98.3	0.2275	0.2275	98.35	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2017 22:08:39 ALS Bottle#: 2 Worklist Smp#: 78
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917K CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:32:09 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: shardaa Date: 12-Nov-2017 10:00:14

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.899	17.899	0		39178602	9574960	12364	30910	774		
333.9339	17.899	17.899	0		50266356	12359219	9405	23512	1314	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.385	17.385	0	0.971	52293995	12620352	38284	95710	330		
317.9389	17.385	17.385	0	0.971	66113026	16028784	11774	29435	1361	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.400	17.400	0	1.001	5621637	1369245	1499	3747	913		
305.8987	17.400	17.400	0	1.001	7274546	1776985	2278	5695	780	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						1499	3747			
305.8987	17.105						2278	5695			
13C-2,3,7,8-TCDD											
331.9368	18.080	18.080	0	1.010	37986477	8686025	12364	30910	703		
333.9339	18.080	18.080	0	1.010	49200090	11233613	9405	23512	1194	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.111	18.111	0	1.012	9444951	2224487	1836	4590	1212		
2,3,7,8-TCDD											
319.8965	18.111	18.111	0	1.002	3777519	886140	1806	4515	491		
321.8936	18.111	18.111	0	1.002	4840536	1139928	953	2382	1196	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						1806	4515			
321.8936	17.559						953	2382			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.424	22.424	0	1.253	56644034	9972066	13765	34412	724		
353.8970	22.424	22.424	0	1.253	37269753	6620705	9255	23137	715	1.52(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.437	22.437	0	1.001	32623643	5580290	7721	19302	723		
341.8567	22.437	22.437	0	1.001	20537026	3552282	5754	14385	617	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.774	23.774	0	1.328	55920688	9263264	13765	34412	673		
353.8970	23.774	23.774	0	1.328	36438345	6010190	9255	23137	649	1.53(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.801	23.801	0	1.061	32485284	5362131	7721	19302	694		
341.8567	23.801	23.801	0	1.061	20434966	3362411	5754	14385	584	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.001						420	1050			
341.8567	20.001						1028	2570			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						7721	19302			
341.8567	23.161						5754	14385			
13C-1,2,3,7,8-PeCDD											
367.8949	24.496	24.496	0	1.369	45234815	7073650	6136	15340	1153		
369.8919	24.496	24.496	0	1.369	27906204	4430424	3615	9037	1226	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.524	24.524	0	1.001	21211810	3278568	2531	6327	1295		
357.8516	24.524	24.524	0	1.001	13396155	2079893	1159	2897	1795	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						2531	6327			
357.8516	23.419						1159	2897			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.567	30.567	0	0.950	25906339	5103914	16882	42205	302		
385.8610	30.567	30.567	0	0.950	49591602	9602310	31377	78442	306	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.593	30.593	0	1.001	28817741	5532298	18438	46095	300		
375.8178	30.593	30.593	0	1.001	22944701	4354159	13567	33917	321	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.753	30.753	0	0.956	31443575	5951822	16882	42205	353		
385.8610	30.753	30.753	0	0.956	59830168	11177531	31377	78442	356	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.766	30.766	0	1.007	32215655	6048043	18438	46095	328		
375.8178	30.766	30.766	0	1.007	25428222	4869970	13567	33917	359	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.552	31.552	0	0.981	29266024	7068836	16882	42205	419		
385.8610	31.552	31.552	0	0.981	55531163	13387810	31377	78442	427	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.578	31.578	0	1.033	30320299	7386038	18438	46095	401		
375.8178	31.578	31.578	0	1.033	23840089	5749273	13567	33917	424	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.350	32.350	0	1.006	26545362	6623029	16882	42205	392		
385.8610	32.350	32.350	0	1.006	51126317	12680541	31377	78442	404	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.364	32.364	0	1.059	27321505	6783301	18438	46095	368		
375.8178	32.364	32.364	0	1.059	21543568	5316253	13567	33917	392	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.261						18438	46095			
375.8178	30.261						13567	33917			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.164	32.164	0		39554590	9475041	14890	37225	636		
403.8529	32.164	32.164	0		31937274	7482498	10322	25805	725	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.738	31.738	0	0.987	29684306	8440046	14890	37225	567		
403.8529	31.738	31.738	0	0.987	23286524	6604682	10322	25805	640	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.751	31.751	0	0.997	17711077	4994687	7955	19887	628		
391.8127	31.751	31.751	0	0.997	14062560	3978976	6485	16212	614	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.844	31.844	0	0.990	35117904	8458770	14890	37225	568		
403.8529	31.844	31.844	0	0.990	28273033	6905371	10322	25805	669	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.858	31.858	0	1.000	21701266	5310871	7955	19887	668		
391.8127	31.858	31.858	0	1.000	17082935	4172819	6485	16212	643	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.177	32.177	0	1.010	21117806	5082991	7955	19887	639		
391.8127	32.177	32.177	0	1.010	16874180	4159818	6485	16212	641	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.899						7955	19887			
391.8127	30.899						6485	16212			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.758	33.758	0	1.050	17708633	5556090	31635	79087	176		
419.8220	33.758	33.758	0	1.050	40640214	12610419	76091	190227	166	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.771	33.771	0	1.000	23776333	7441087	52390	130975	142		
409.7789	33.771	33.771	0	1.000	22795246	7053492	27992	69980	252	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.840	34.840	0	1.083	14730086	3975694	31635	79087	126		
419.8220	34.840	34.840	0	1.083	34407455	9387123	76091	190227	123	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.852	34.852	0	1.032	18827066	5191502	52390	130975	99		
409.7789	34.852	34.852	0	1.032	18031538	4830640	27992	69980	173	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.311						52390	130975			
409.7789	34.311						27992	69980			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.548	34.548	0	1.074	29543785	8559943	19228	48070	445		
437.8140	34.548	34.548	0	1.074	27874547	8089903	14355	35887	564	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.560	34.560	0	1.000	14185893	4202816	10948	27370	384		
425.7737	34.560	34.560	0	1.000	13825038	3943396	11257	28142	350	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.287						10948	27370			
425.7737	34.287						11257	28142			
13C-OCDD											
469.7779	36.882	36.882	0	1.147	40931824	9646342	9185	22962	1050		
471.7750	36.882	36.882	0	1.147	47331844	11134912	9699	24247	1148	0.86(0.76-1.02)	
OCDF											
441.7428	36.978	36.978	0	1.003	28863459	7004466	5256	13140	1333		
443.7399	36.978	36.978	0	1.003	31974057	7929274	4199	10497	1888	0.90(0.76-1.02)	
OCDD											
457.7377	36.894	36.894	0	1.000	21548666	5179632	4121	10302	1257		
459.7348	36.894	36.894	0	1.000	24476943	5724183	5908	14770	969	0.88(0.76-1.02)	

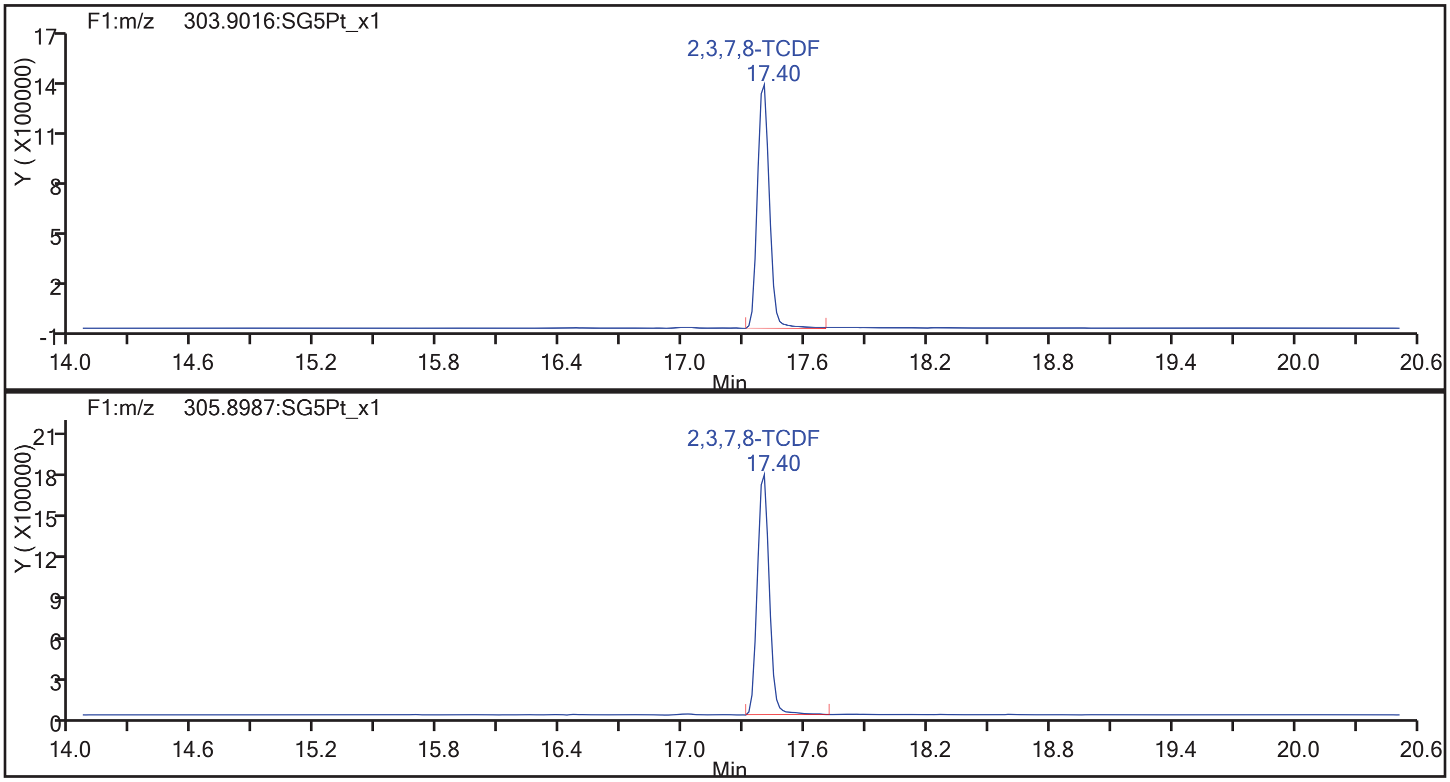
Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

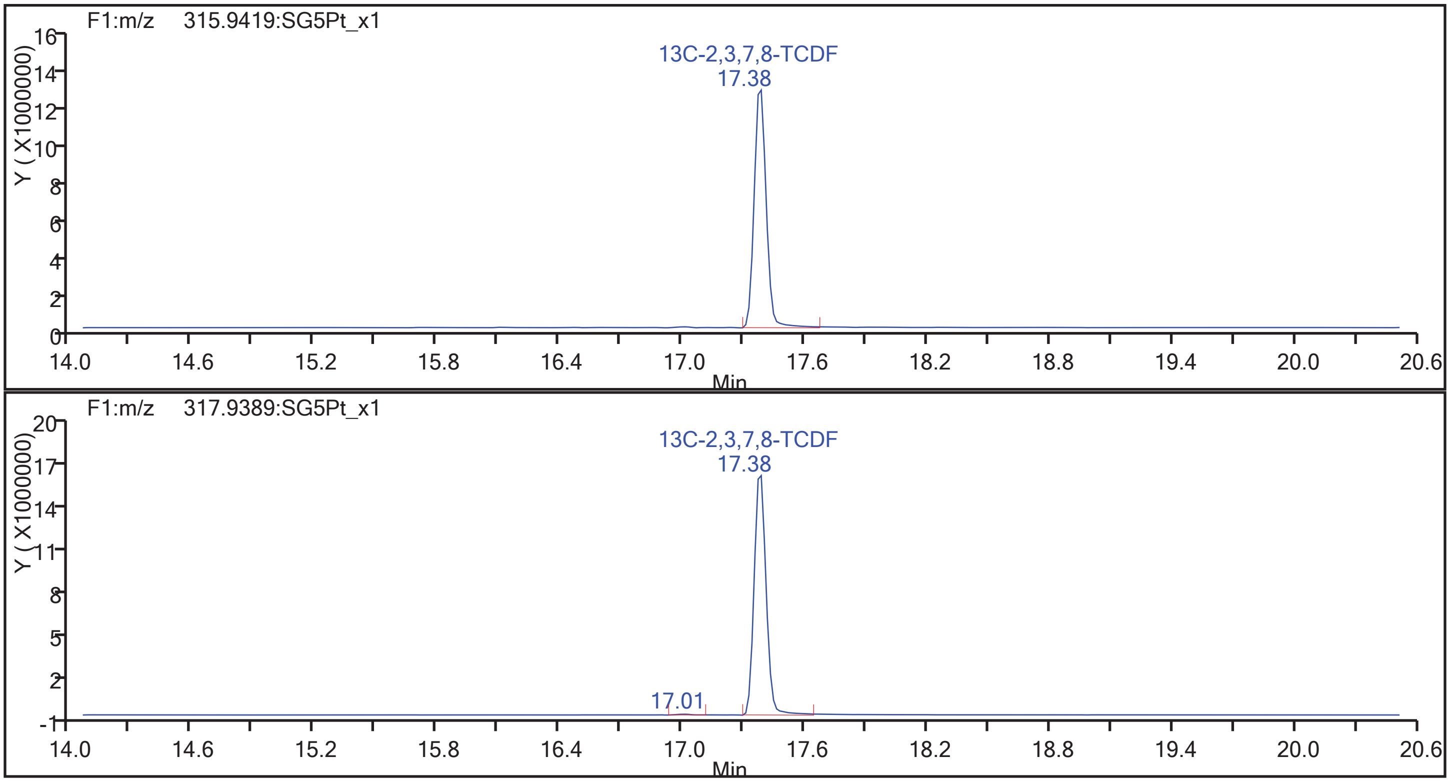
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d
Injection Date: 11-Nov-2017 22:08:39
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194085
Sample Line#: 78
Column Type: DB-5
Column Dia: 0.32 mm

TCDF



TCDF Standards



Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d

Injection Date: 11-Nov-2017 22:08:39

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

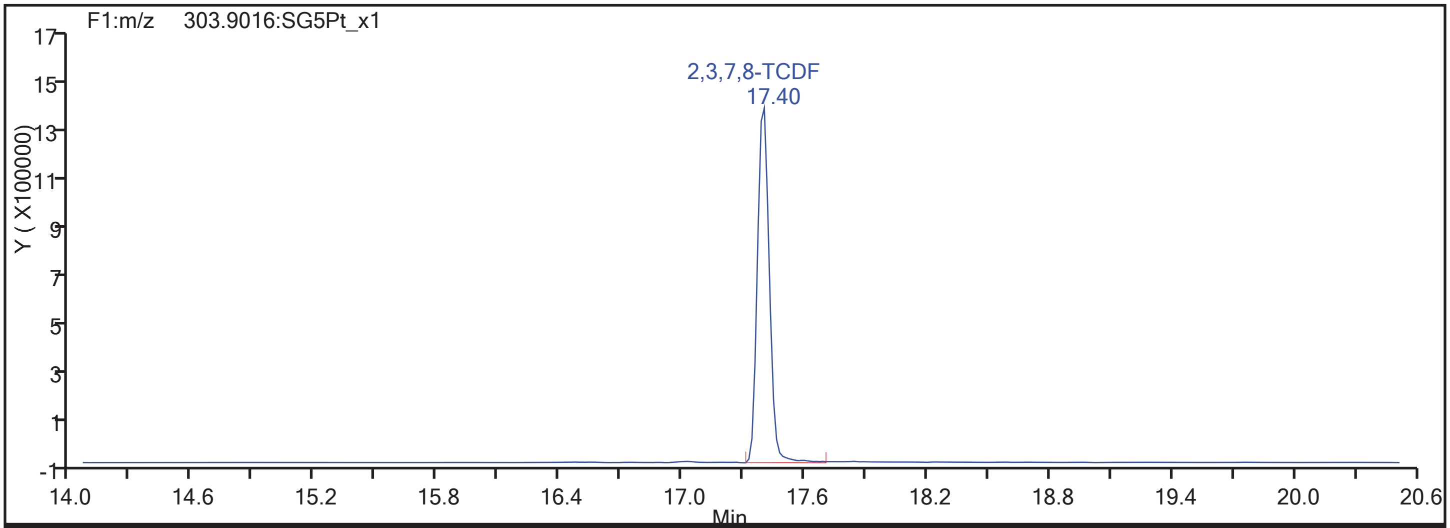
Worklist#: 194085

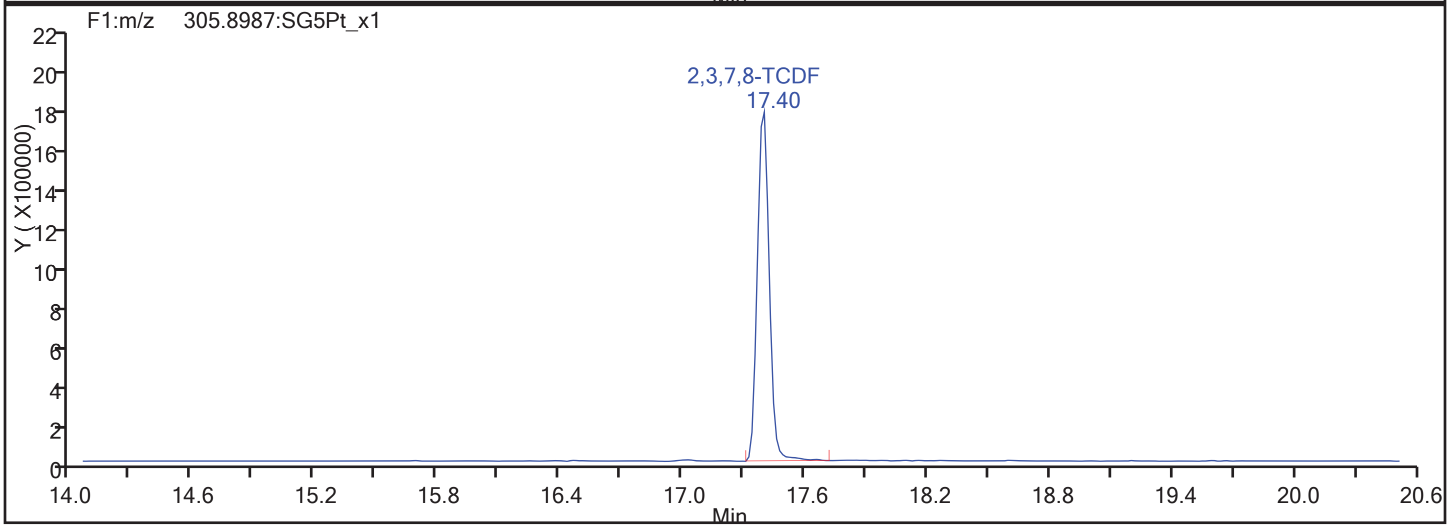
Sample Line#: 78

Column Type: DB-5

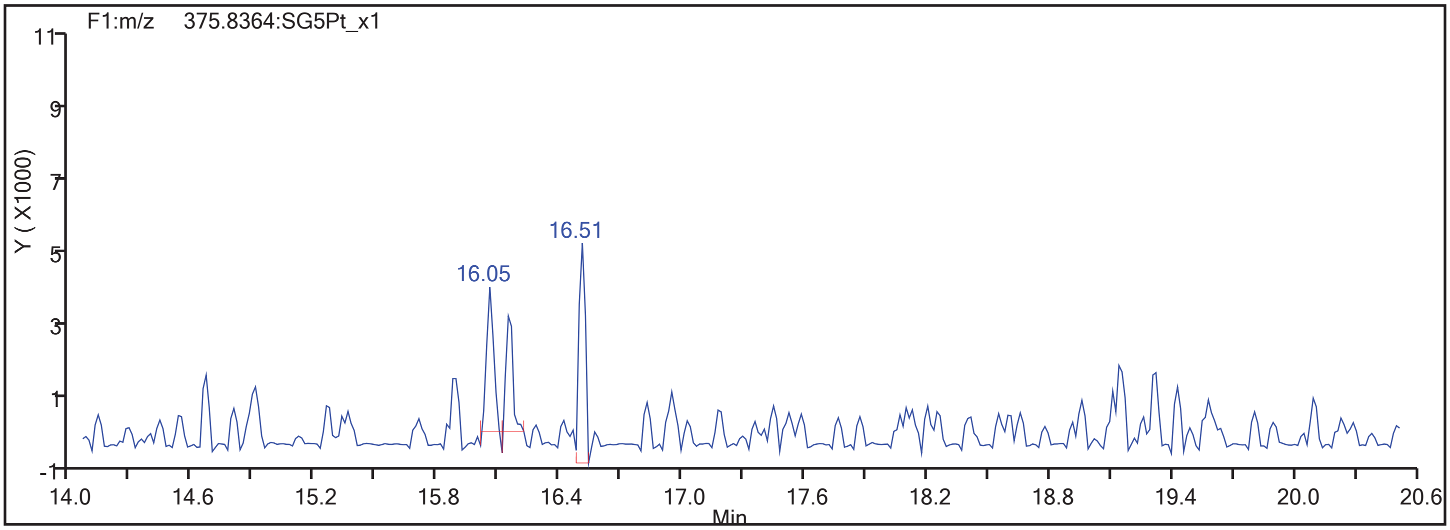
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass

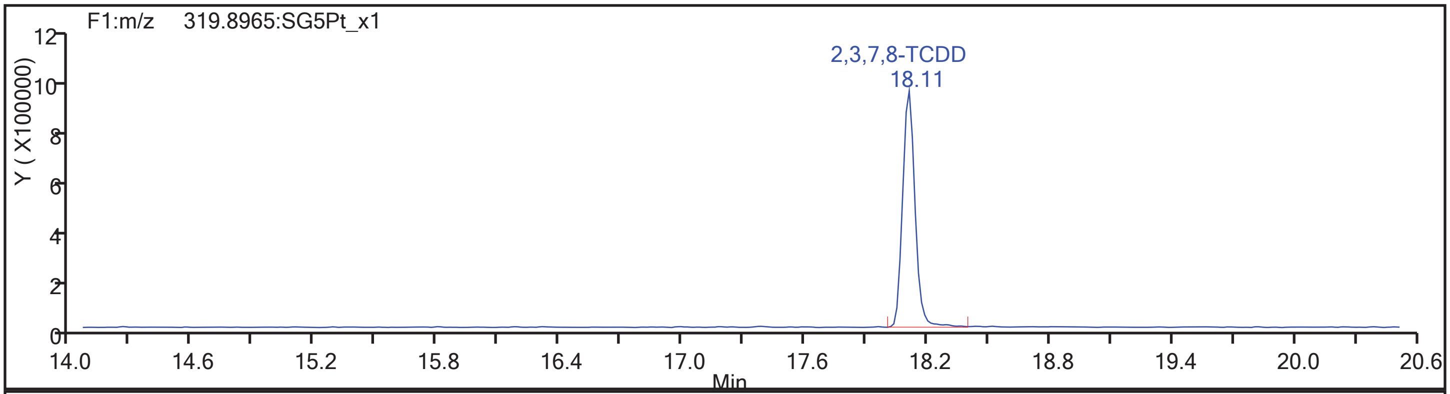


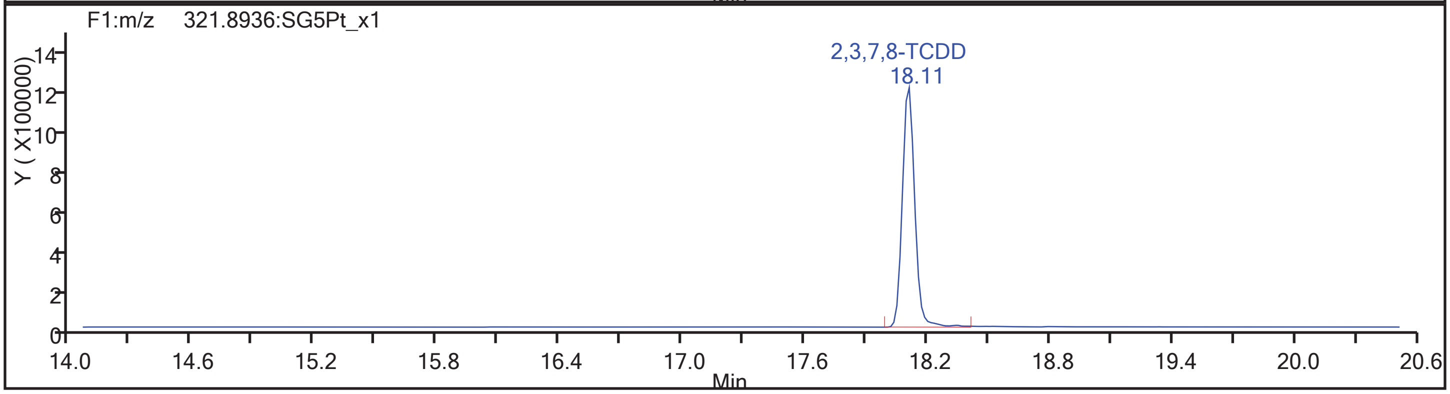
Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

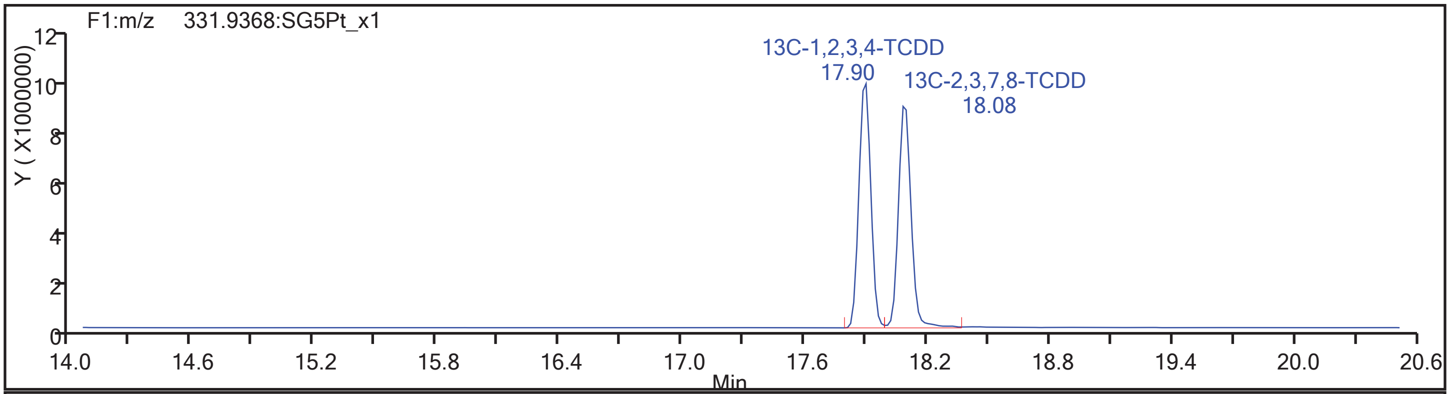
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d
Injection Date: 11-Nov-2017 22:08:39
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194085
Sample Line#: 78
Column Type: DB-5
Column Dia: 0.32 mm

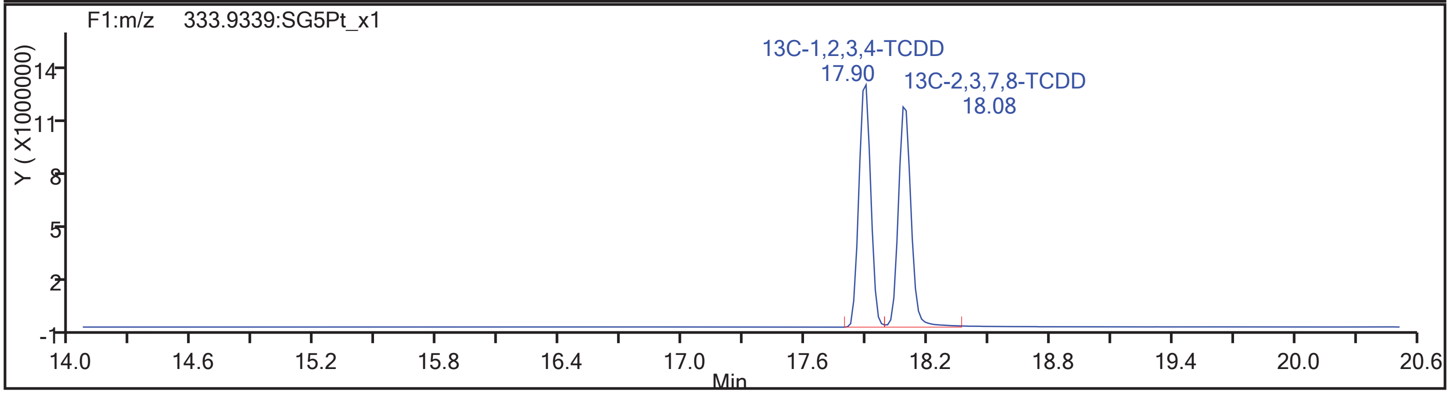
TCDD





TCDD Standards



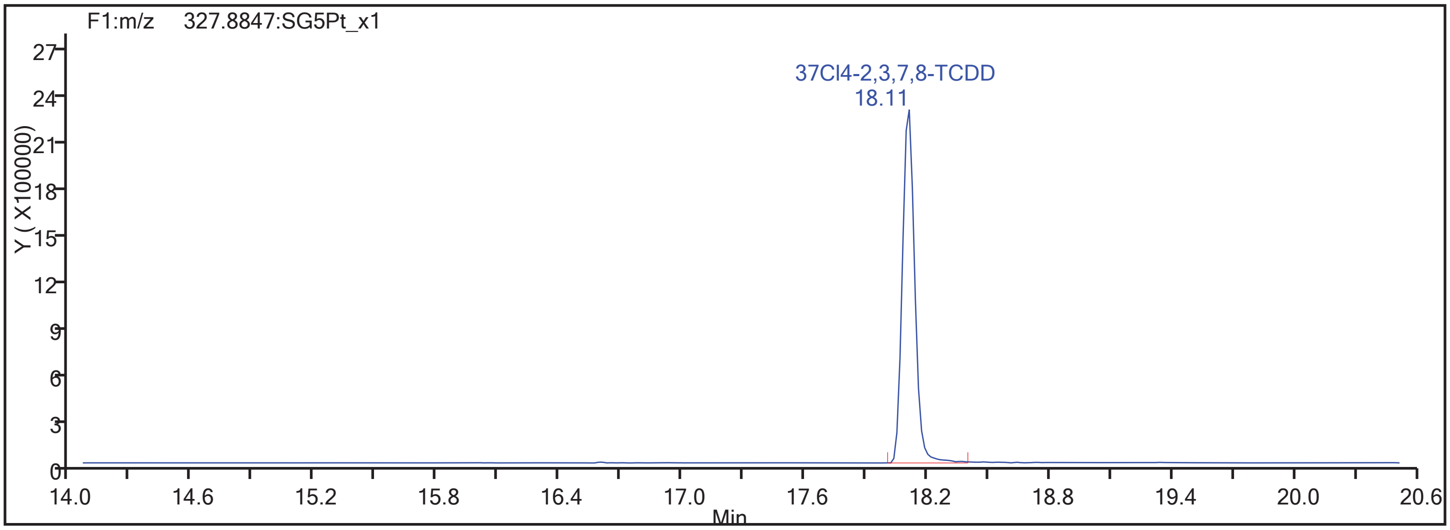


Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

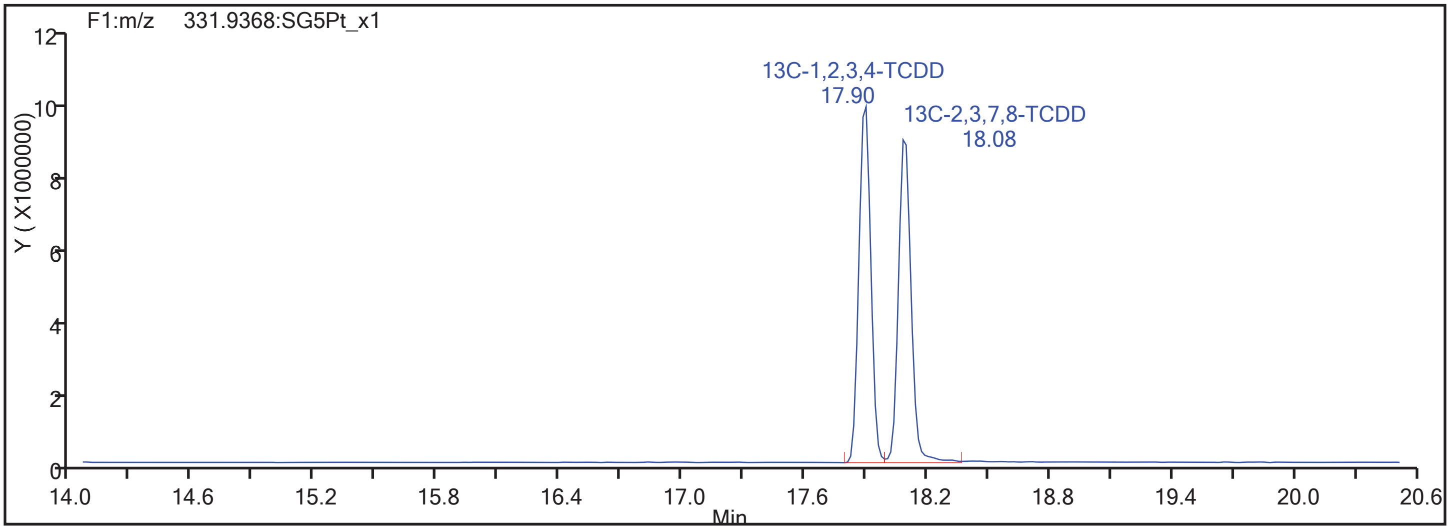
TestAmerica Sacramento

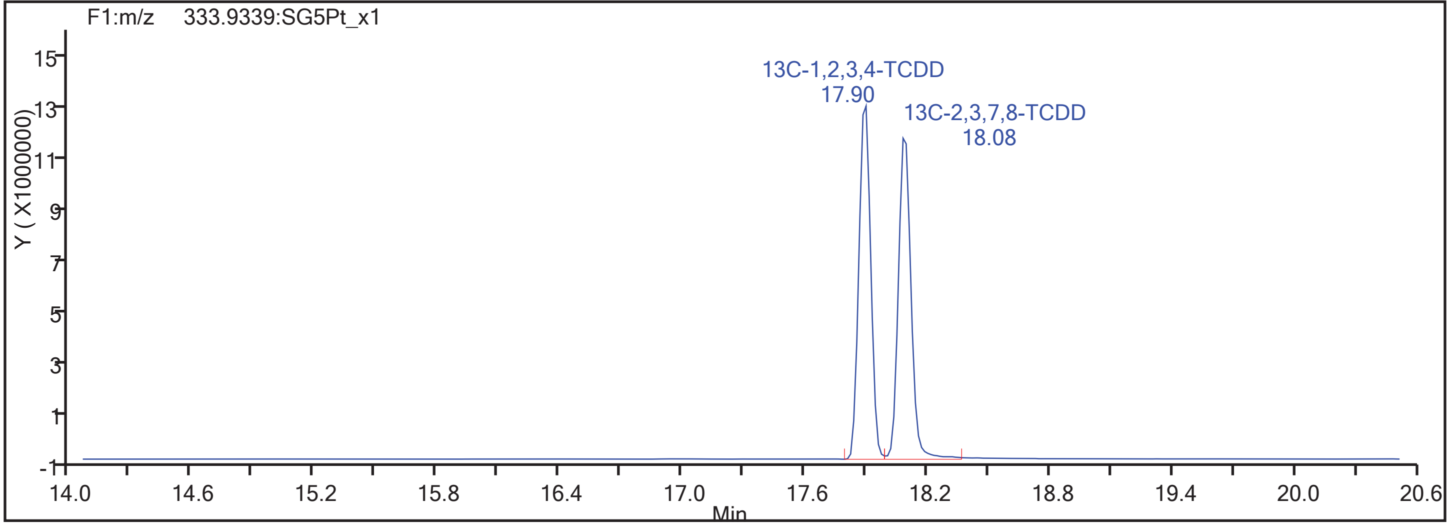
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d		
Injection Date:	11-Nov-2017 22:08:39	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	78
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d

Injection Date: 11-Nov-2017 22:08:39 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

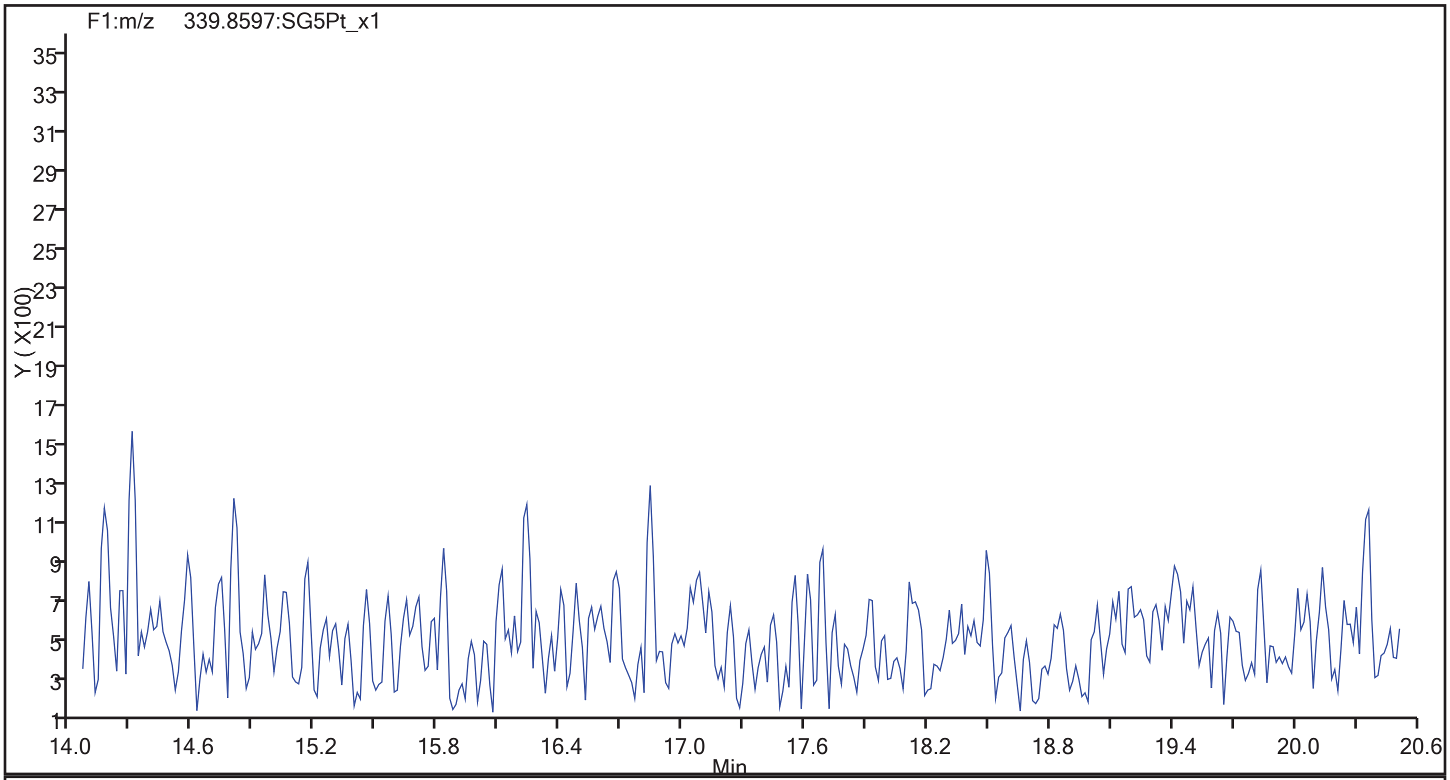
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

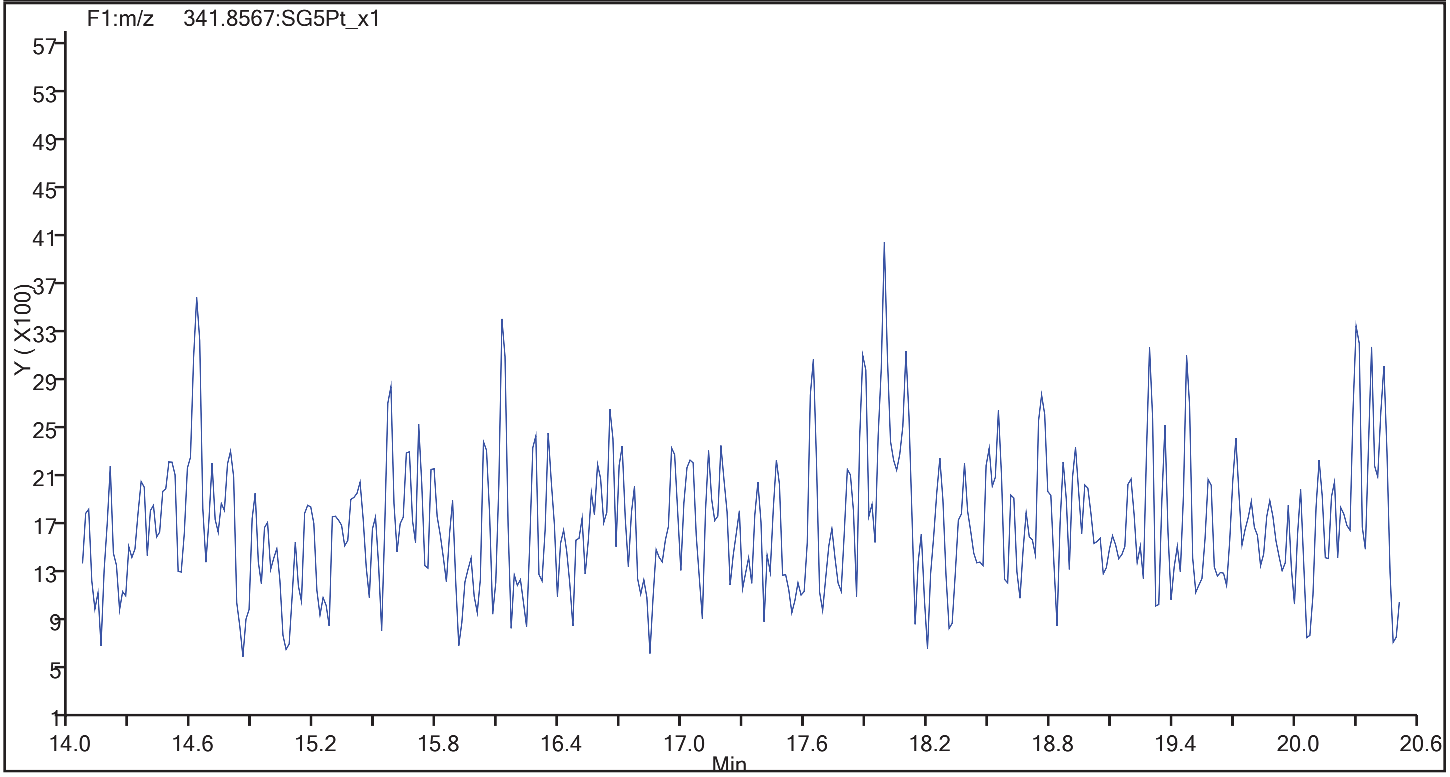
Client ID:

Worklist#: 194085 Sample Line#: 78

Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs



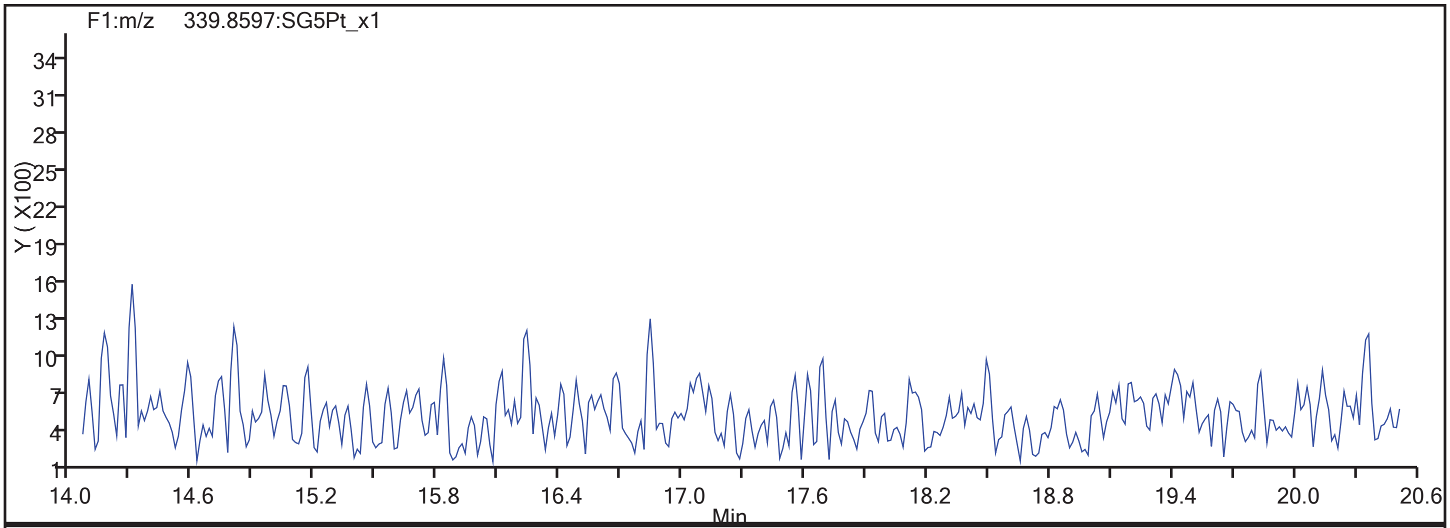


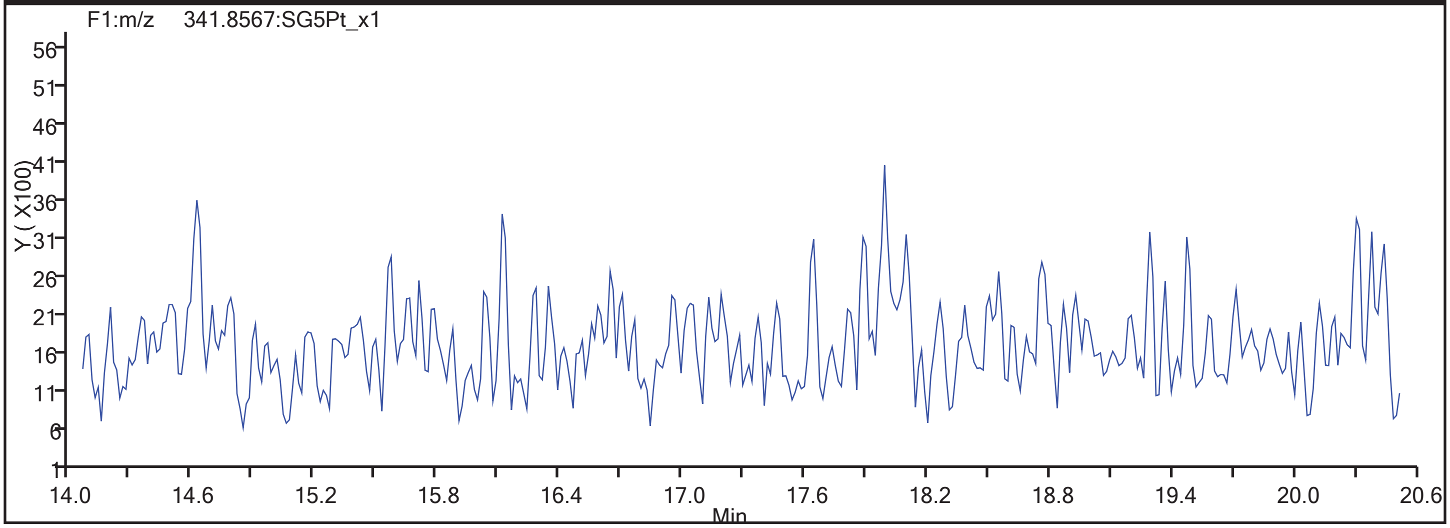
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d

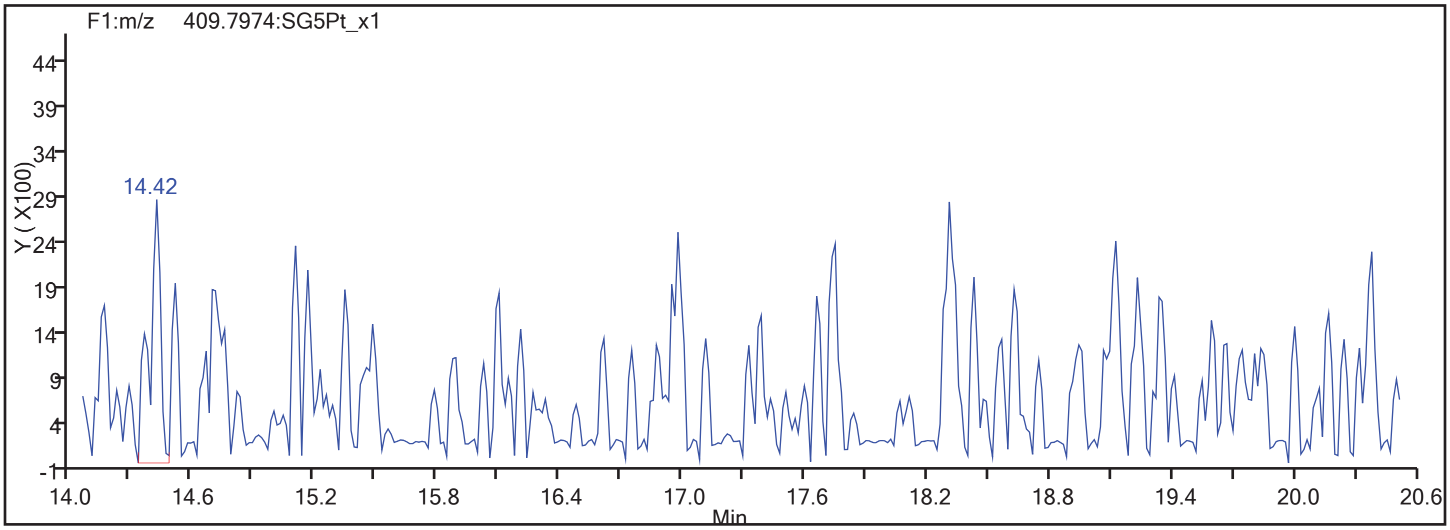
Injection Date:	11-Nov-2017 22:08:39	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	78
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



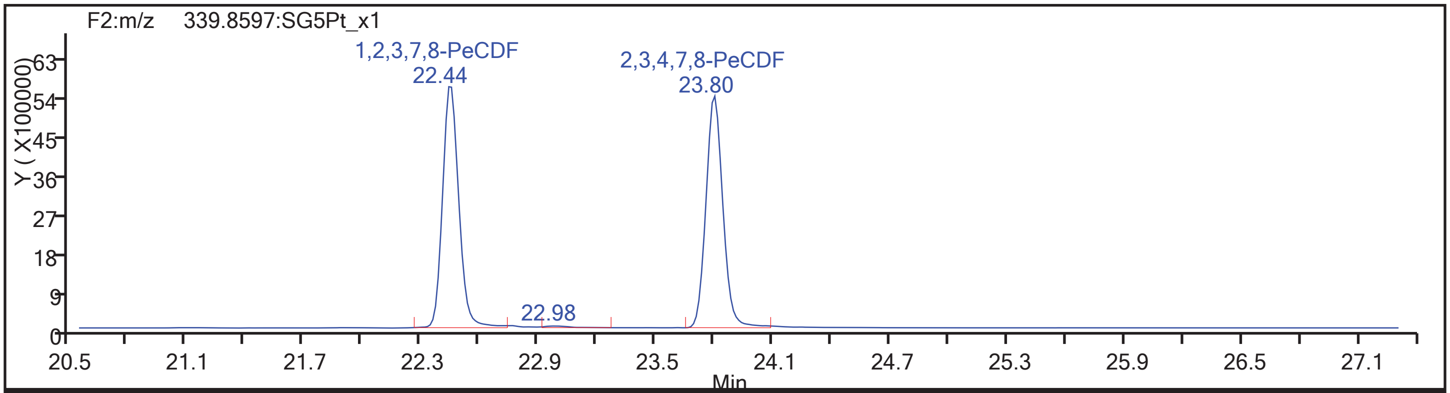
Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

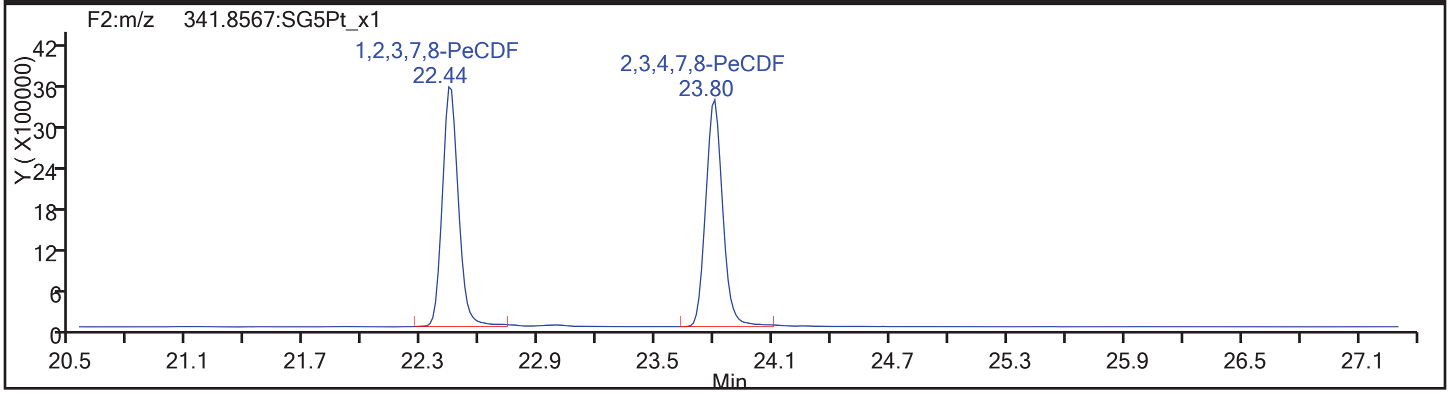
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d

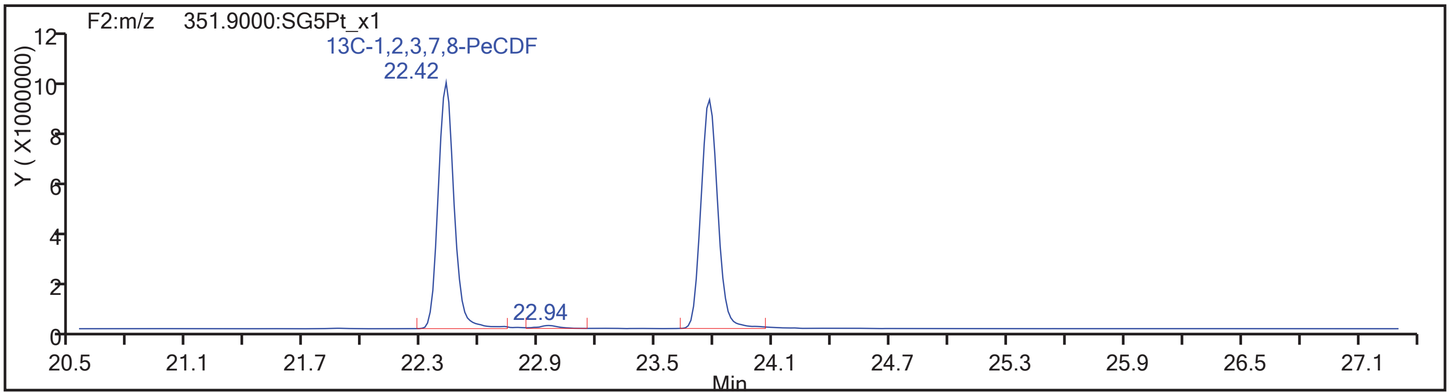
Injection Date:	11-Nov-2017 22:08:39	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	78
Column Type:	DB-5	Column Dia:	0.32 mm

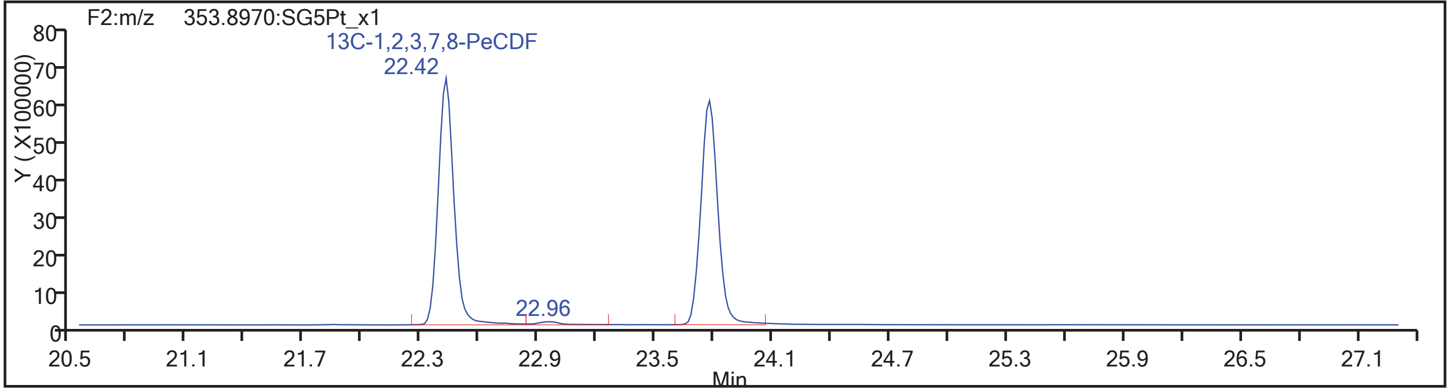
PeCDF





PeCDF Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d		
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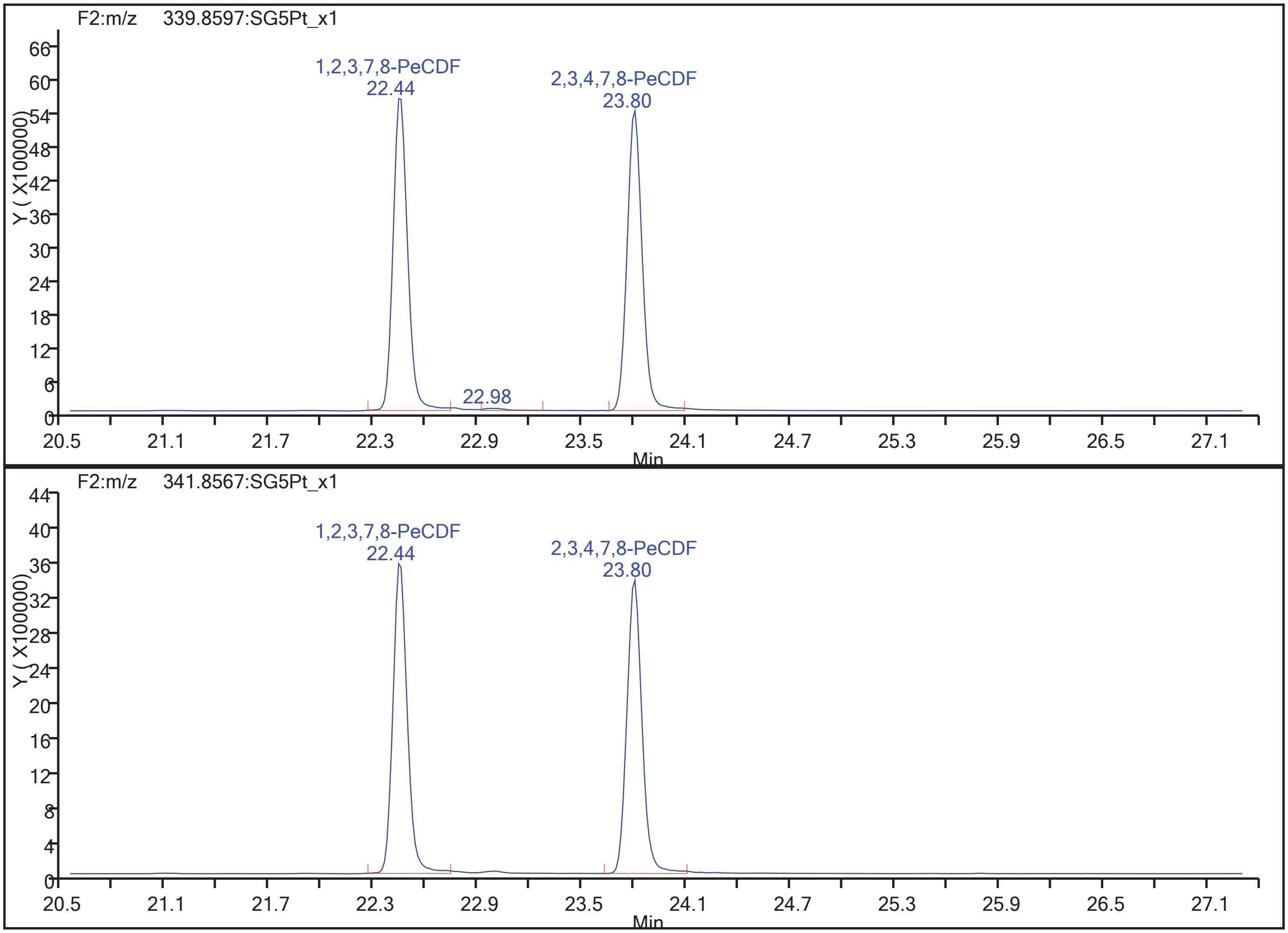
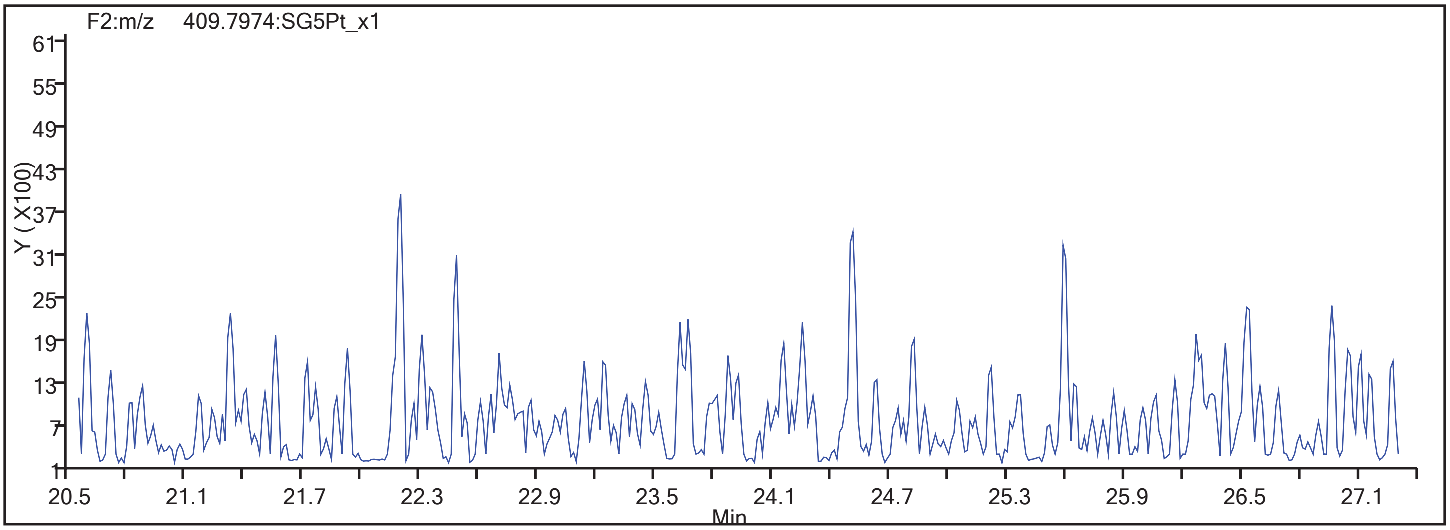
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	78
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Interference Mass



Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 11-Nov-2017 22:08:39

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

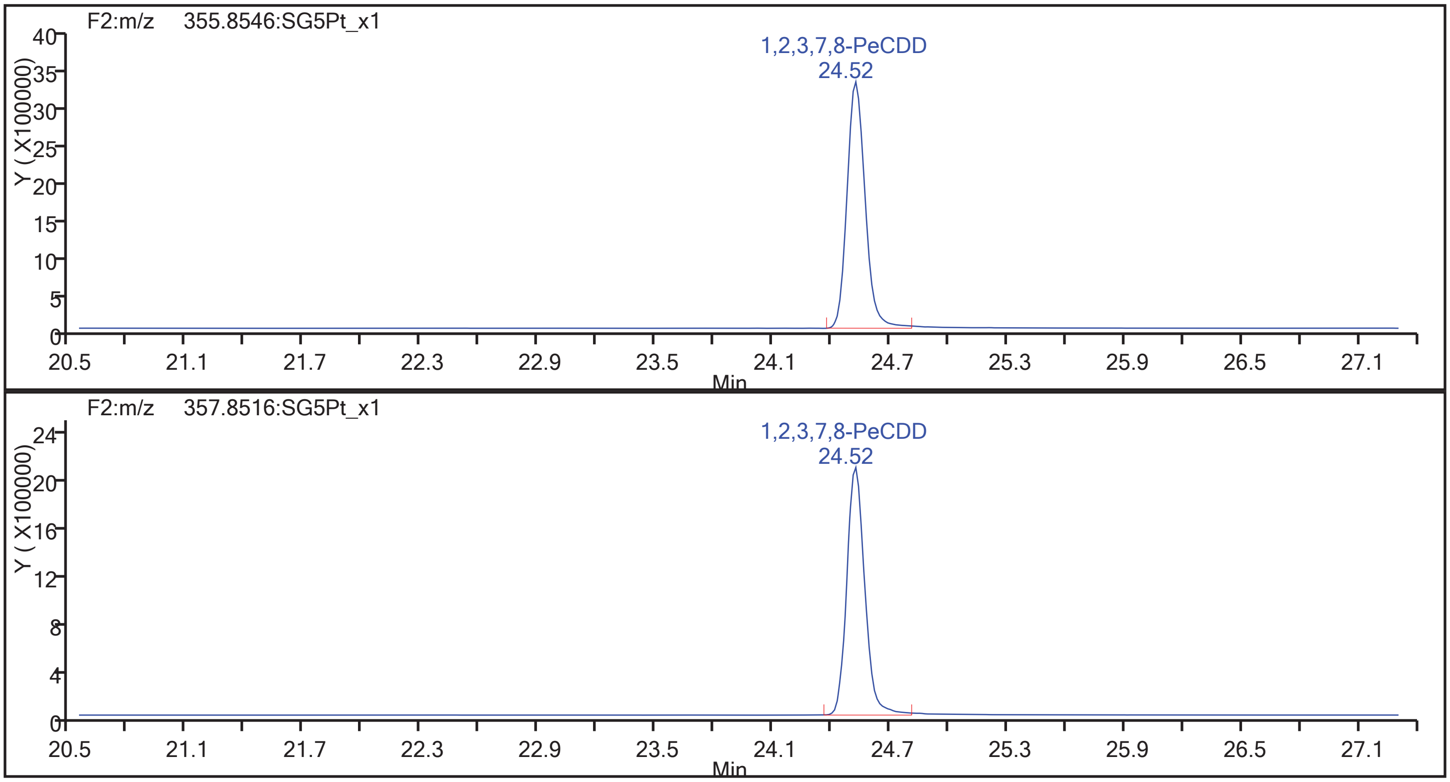
Worklist#: 194085

Sample Line#: 78

Column Type: DB-5

Column Dia: 0.32 mm

PeCDD



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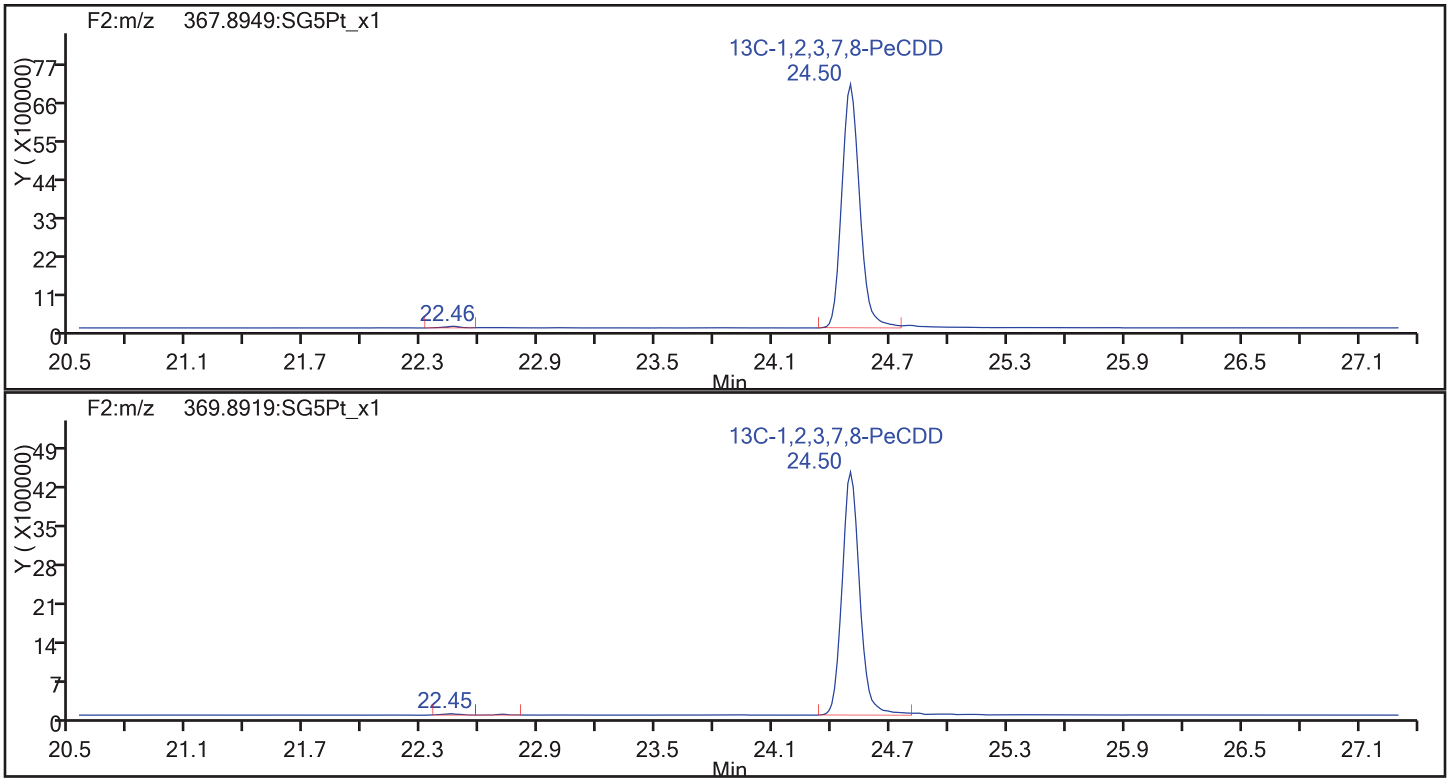

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TestAmerica Sacramento

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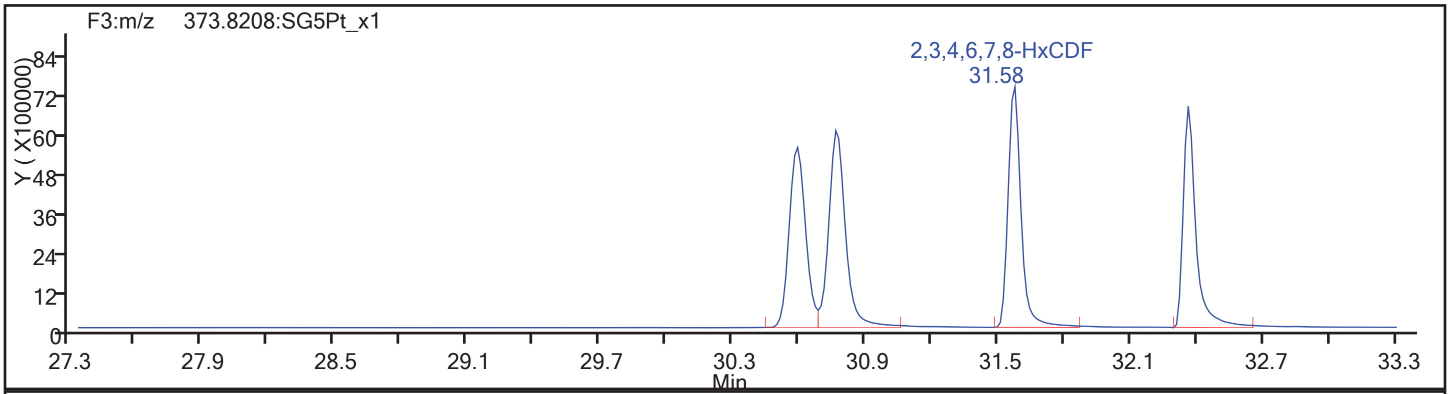
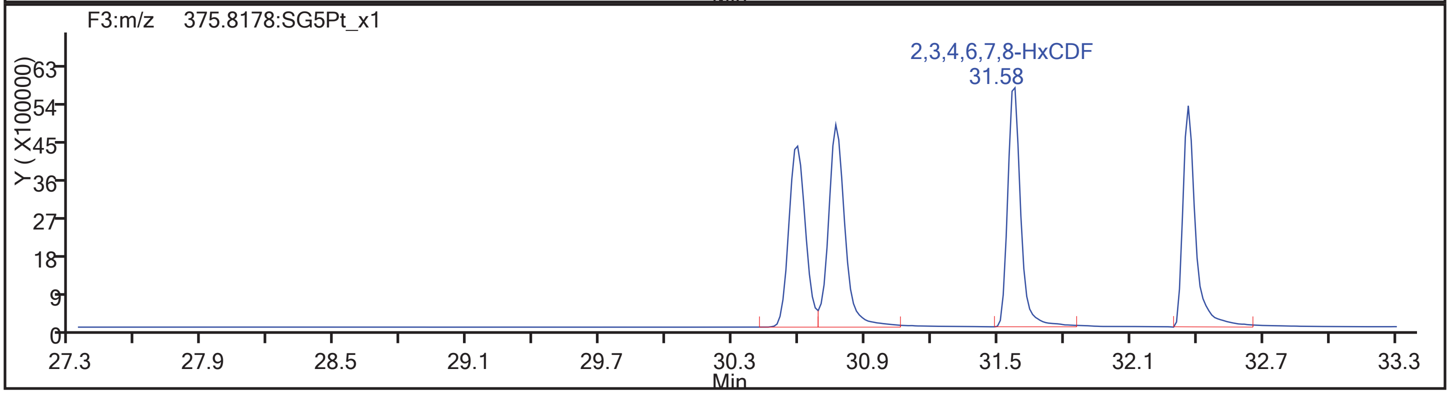
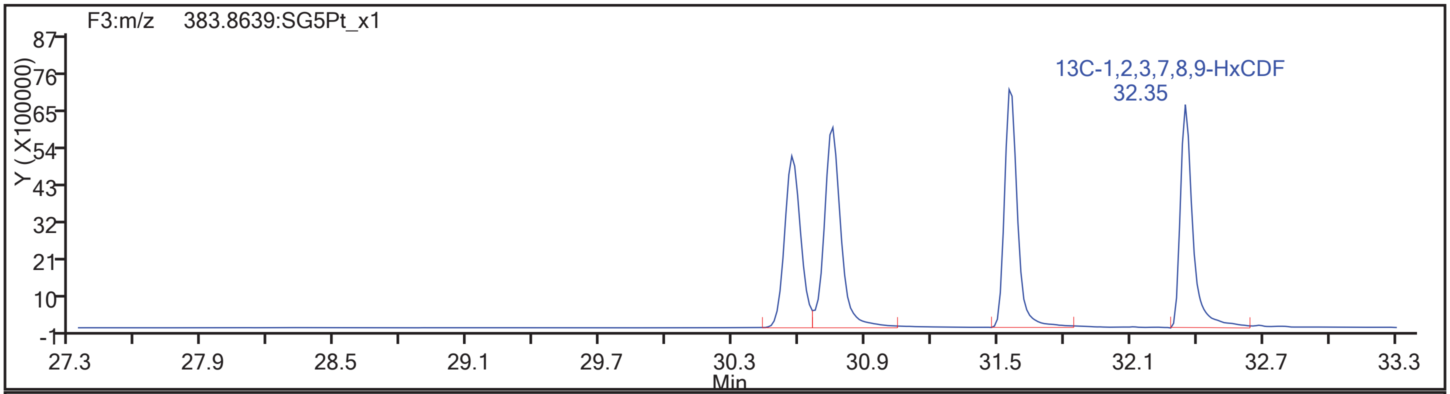
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	78
Column Type:	DB-5	Column Dia:	0.32 mm

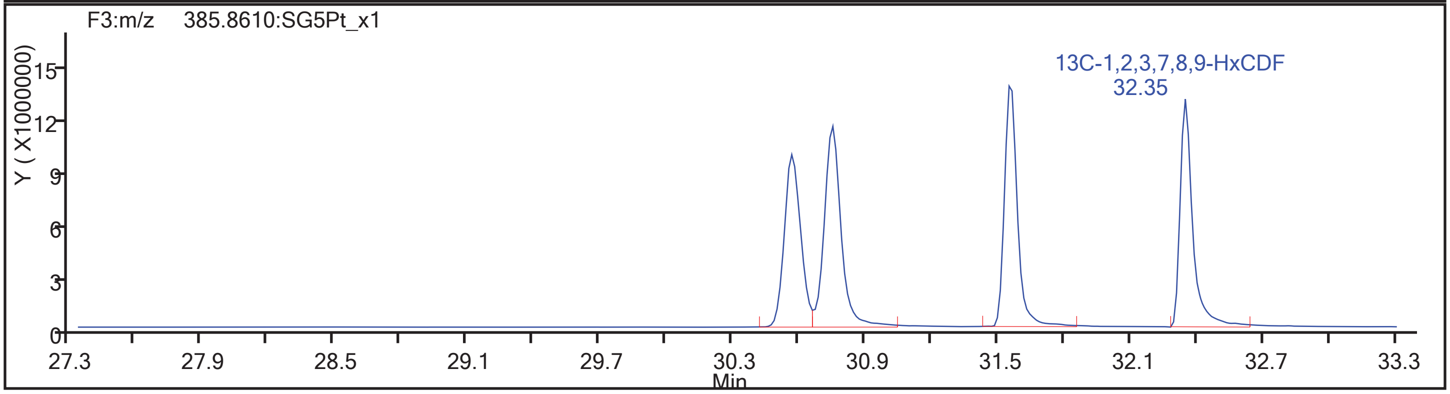
HxCDF





HxCDF Standards





Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Client ID:
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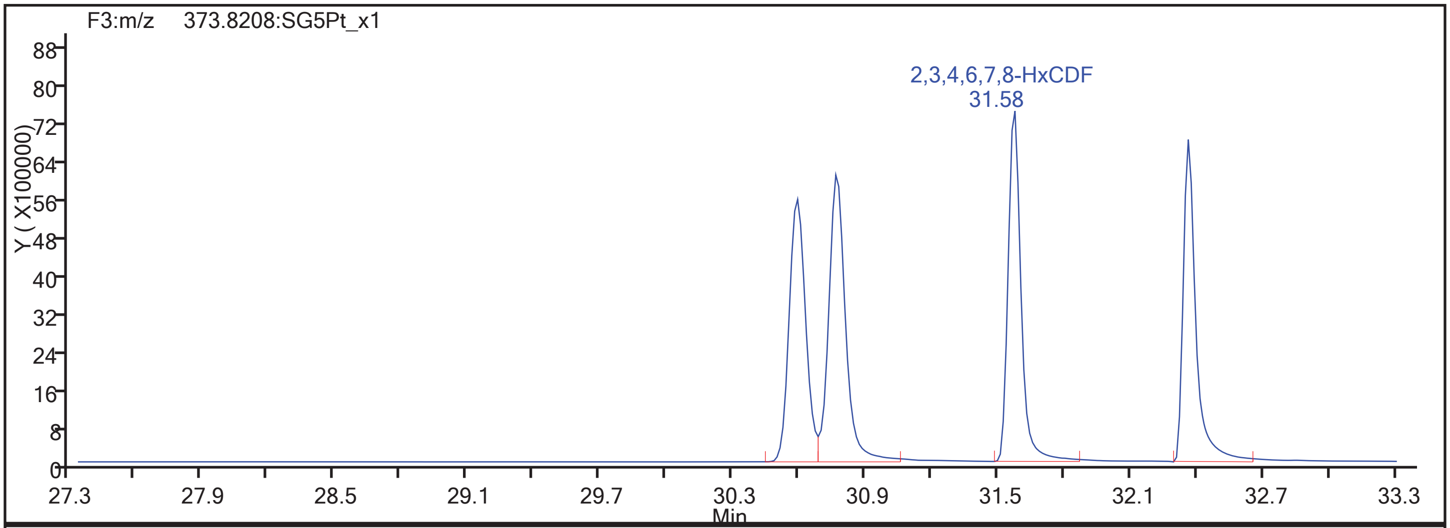
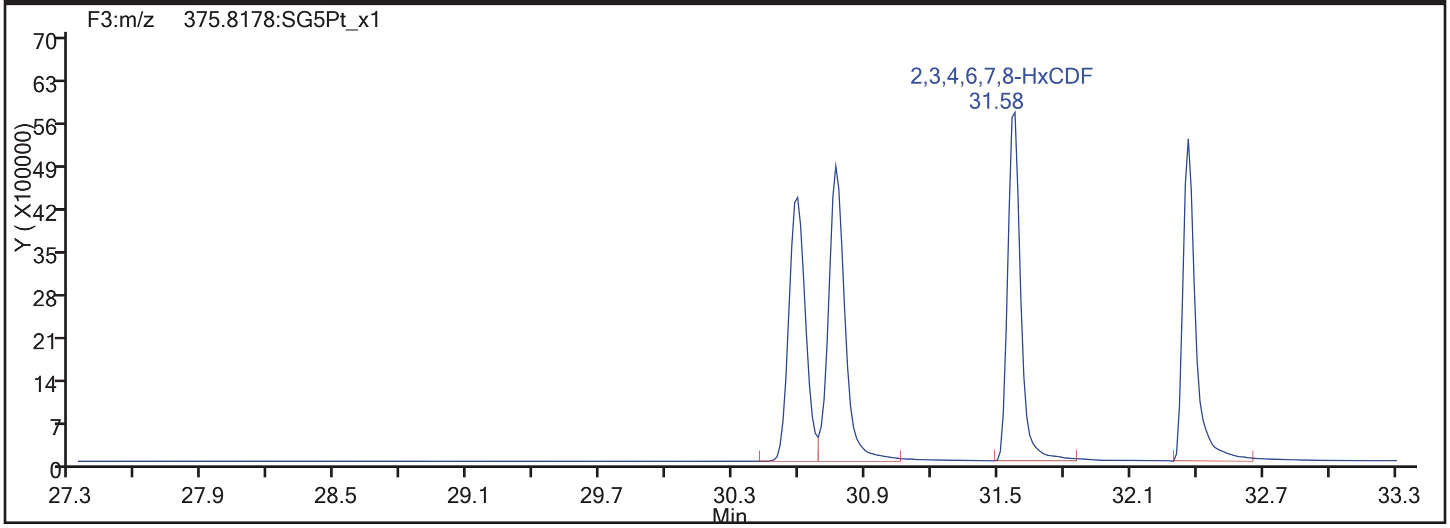
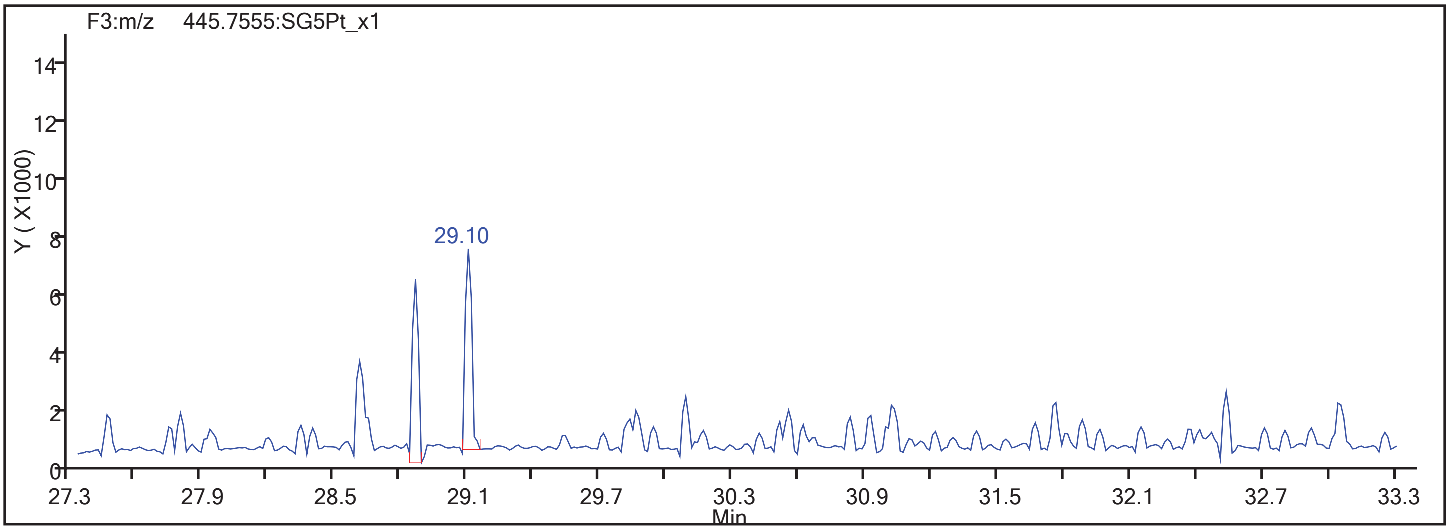
HxCDF





HxCDF Interference Mass



Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Client ID:			
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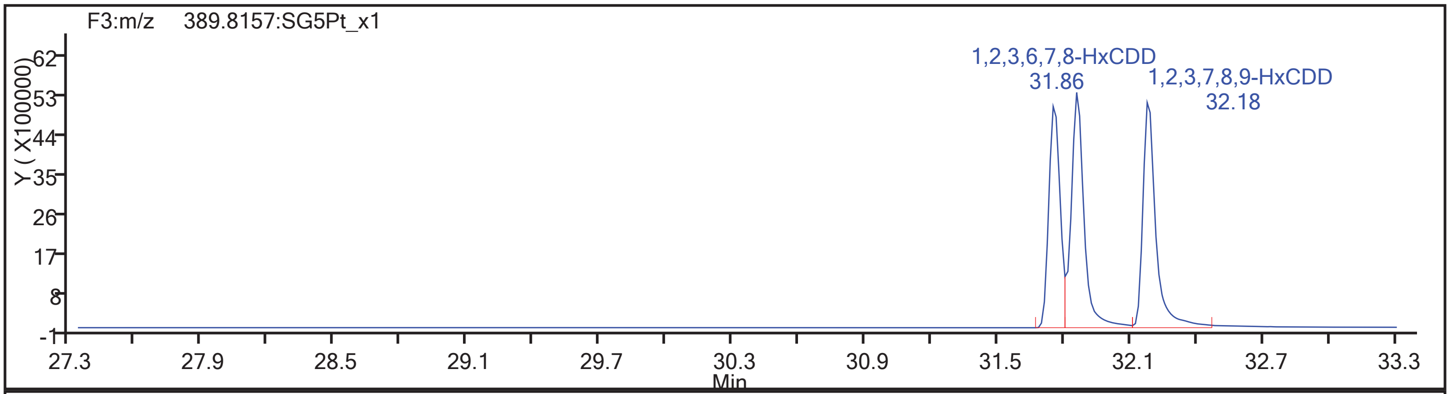
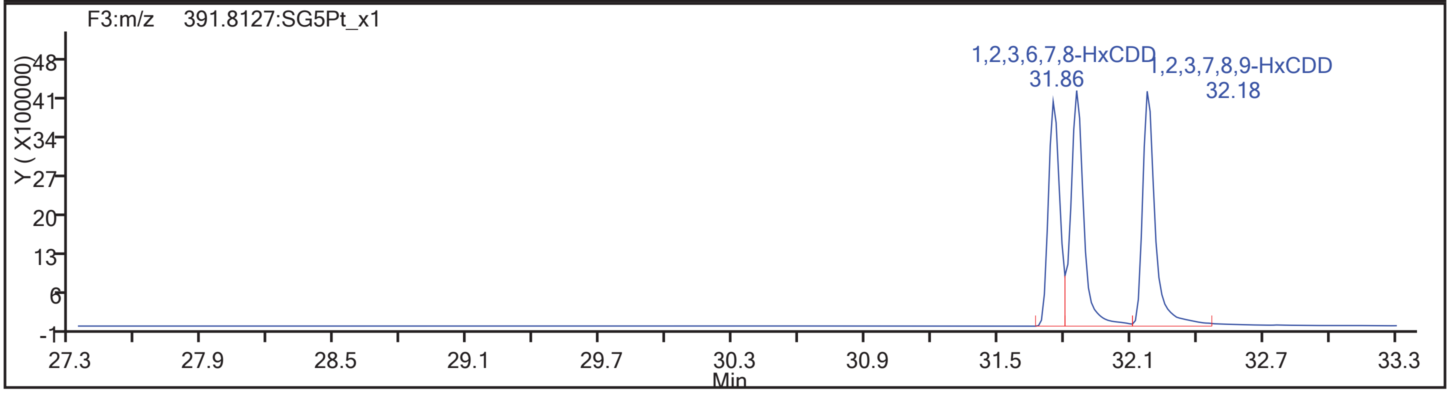
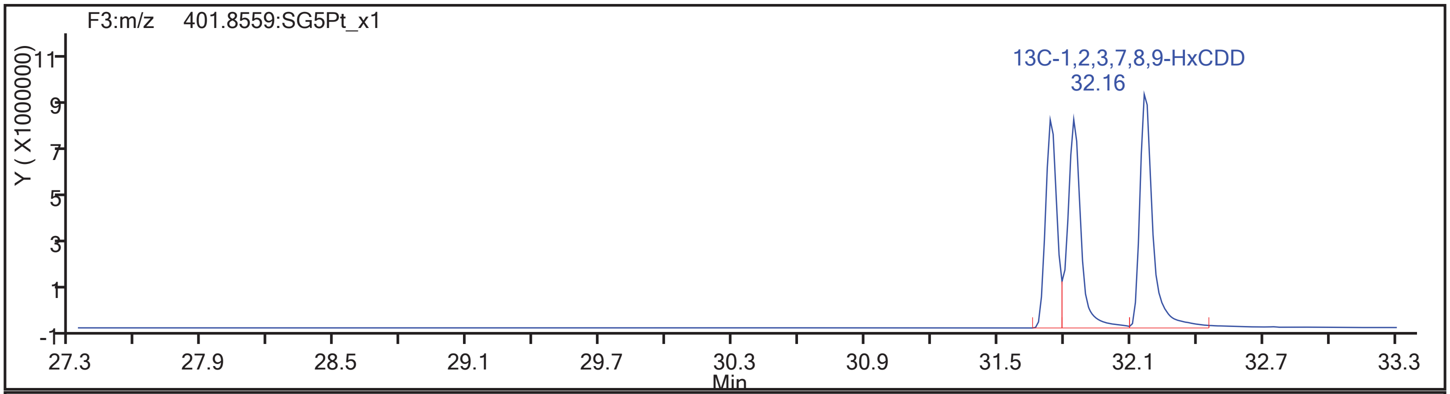
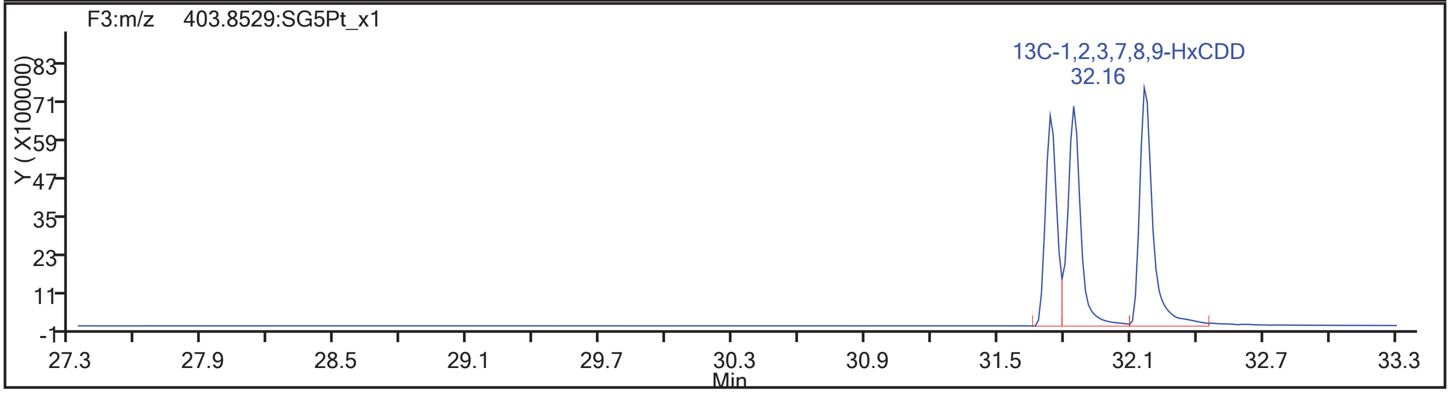
HxCDD





HxCDD Standards





Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Vol: 2.0 ul
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Method: Dioxin_10D5
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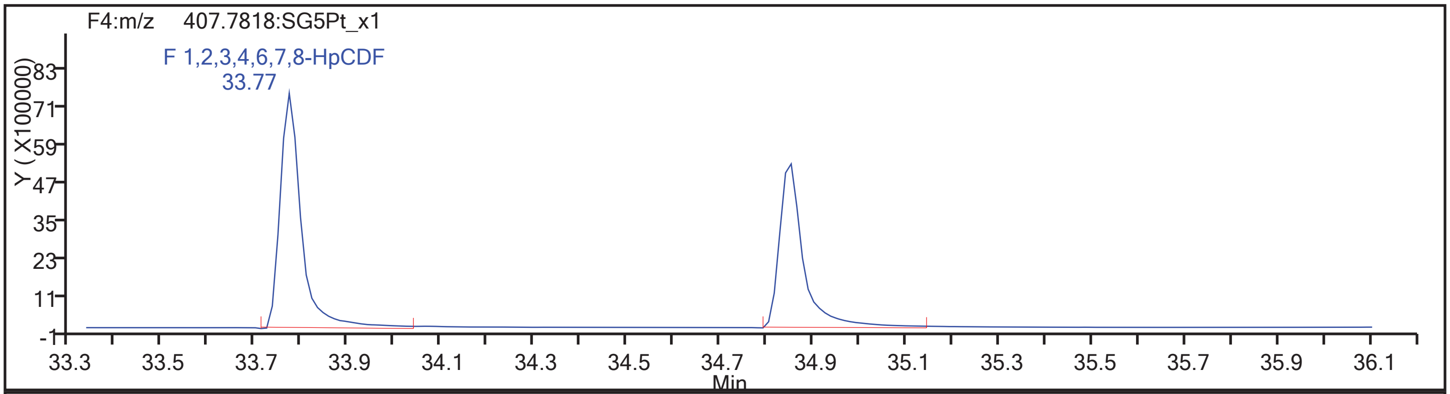
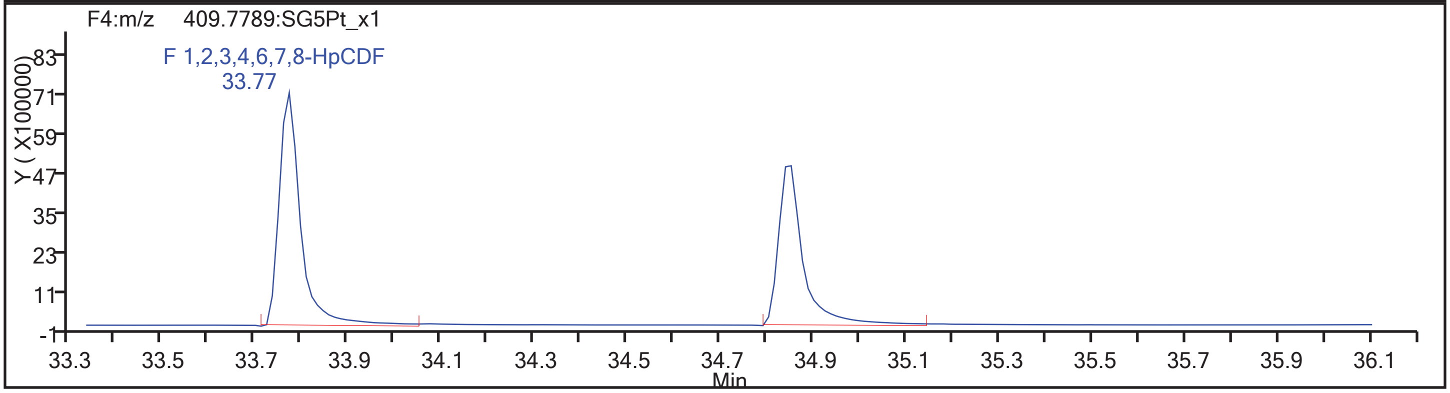
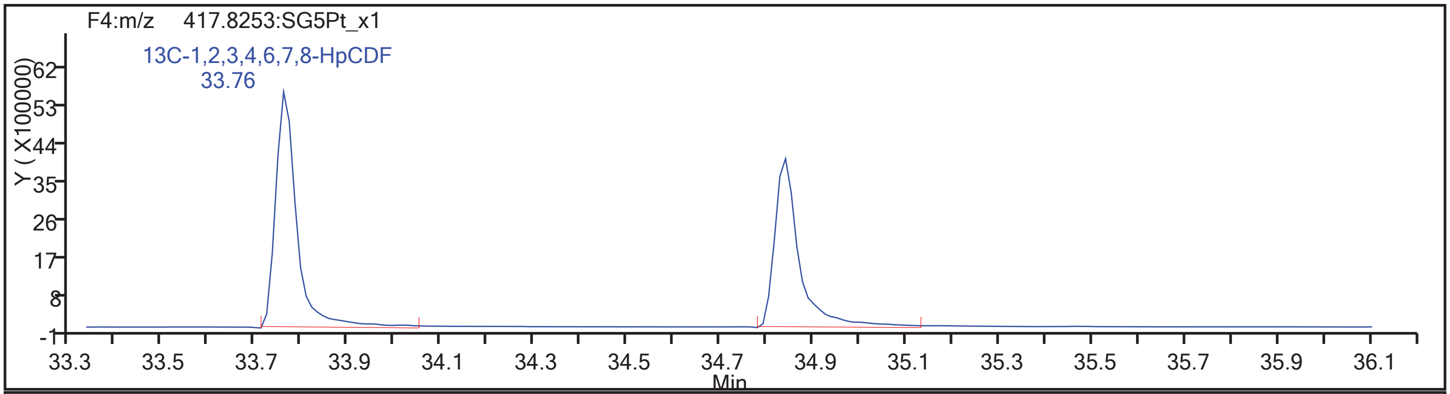
Client ID:
Worklist#: 194085
Sample Line#: 78
Column Type: DB-5
Column Dia: 0.32 mm

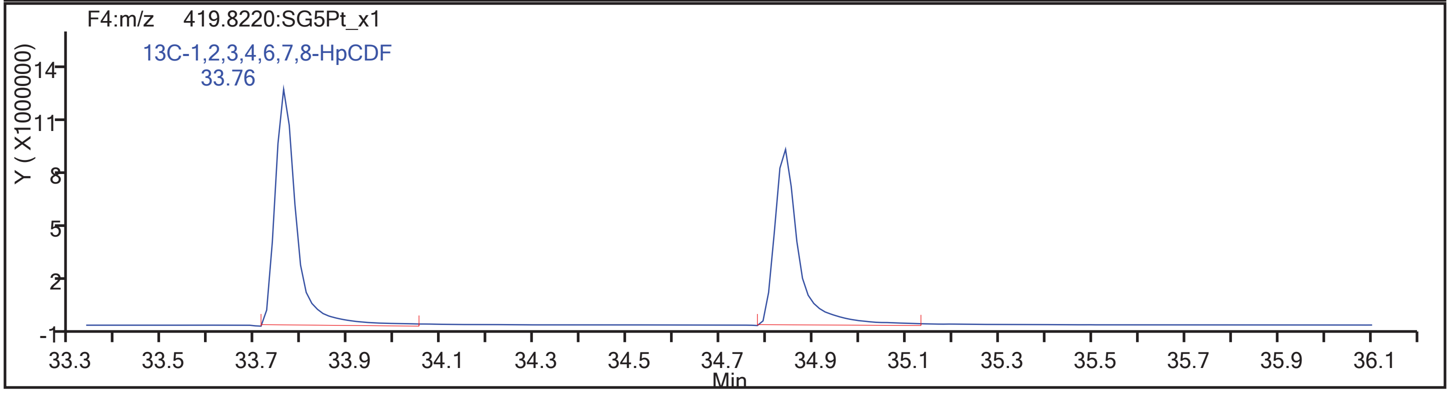
HpCDF





HpCDF Standards





Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d		
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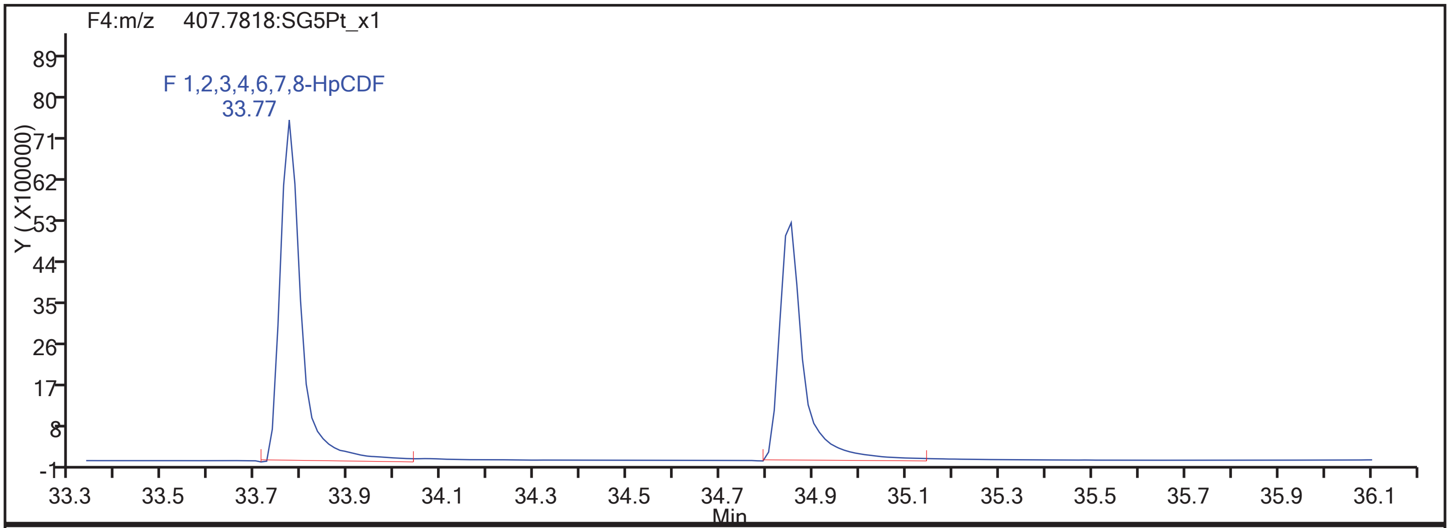
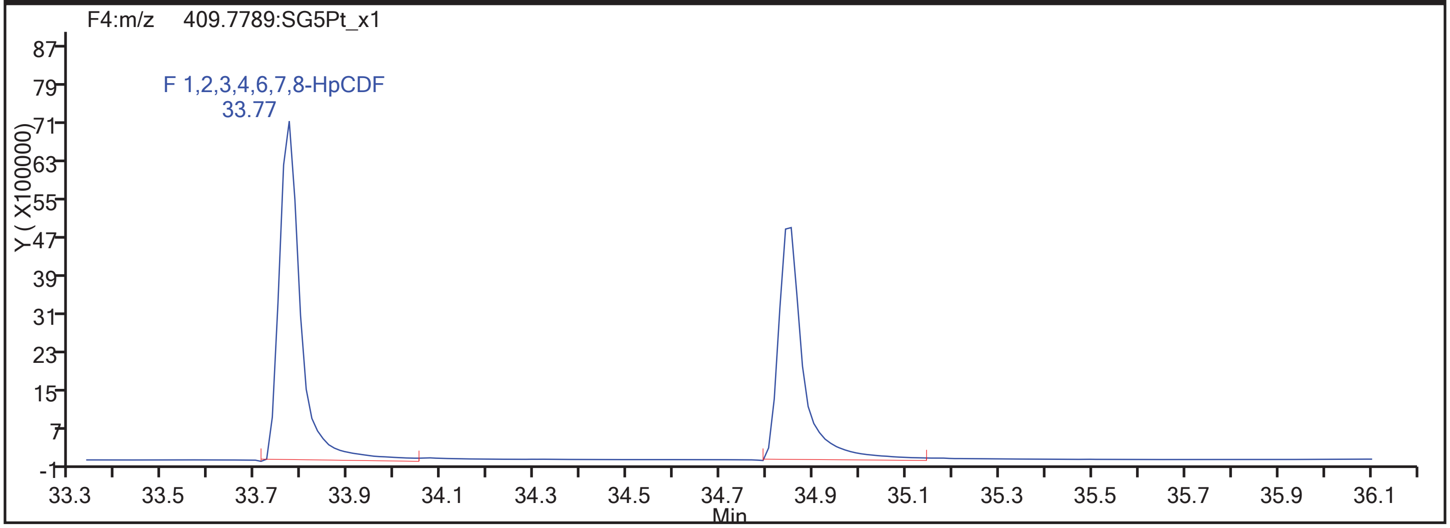
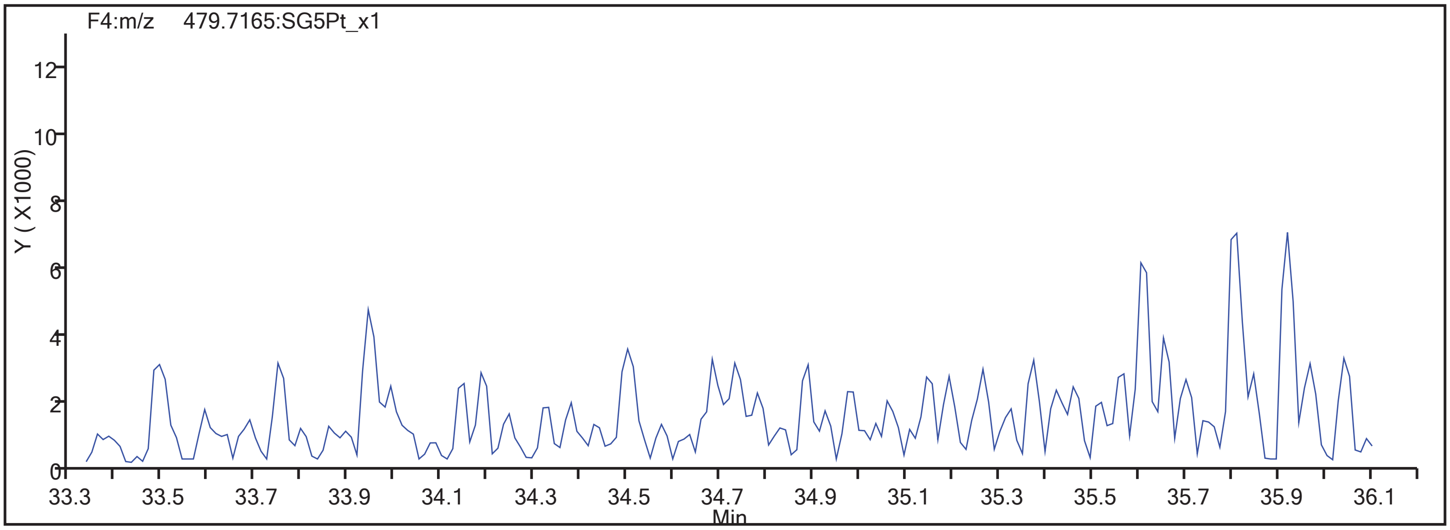
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	78
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Report Date: 13-Nov-2017 13:32:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d

Injection Date: 11-Nov-2017 22:08:39 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

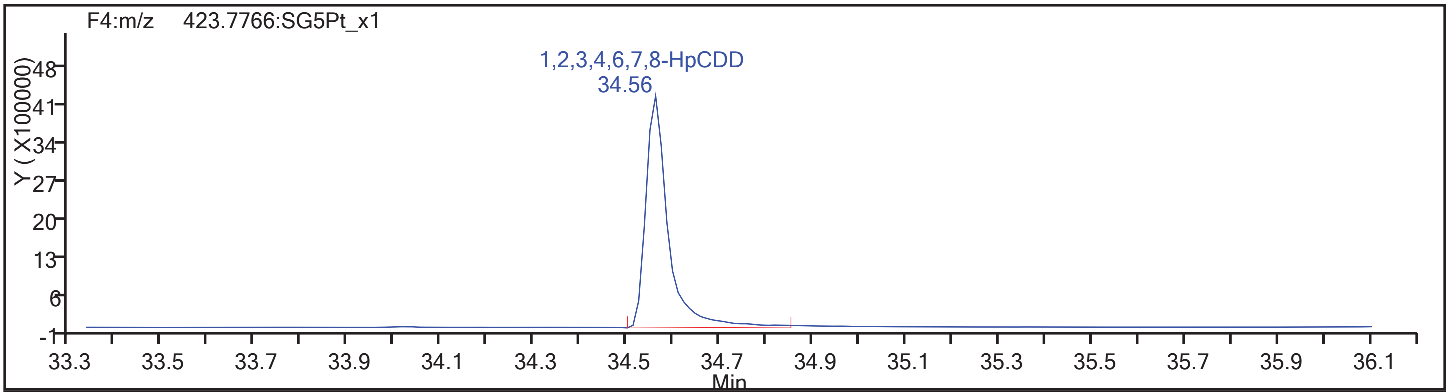
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

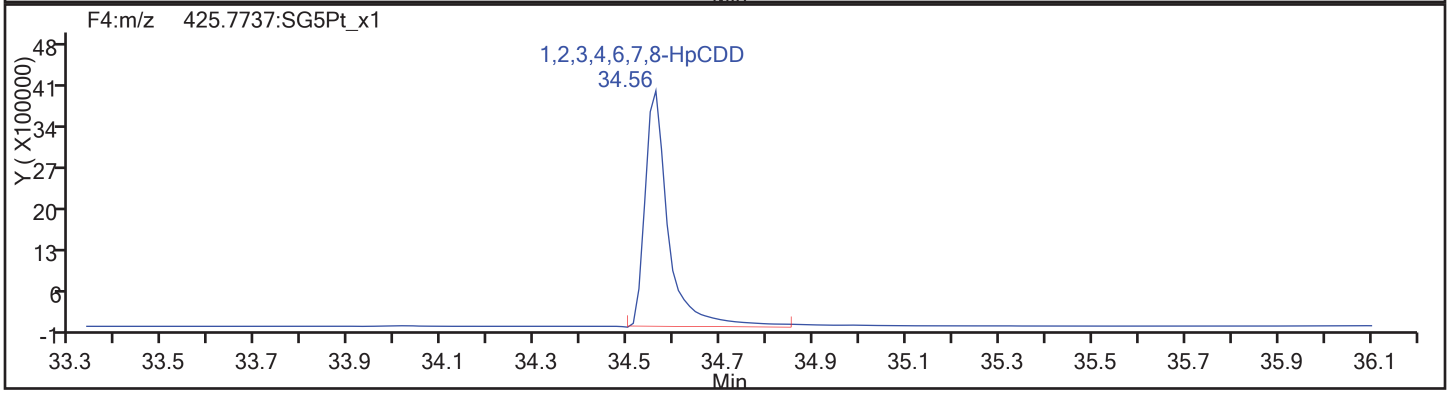
Client ID:

Worklist#: 194085 Sample Line#: 78

Column Type: DB-5 Column Dia: 0.32 mm

HpCDD





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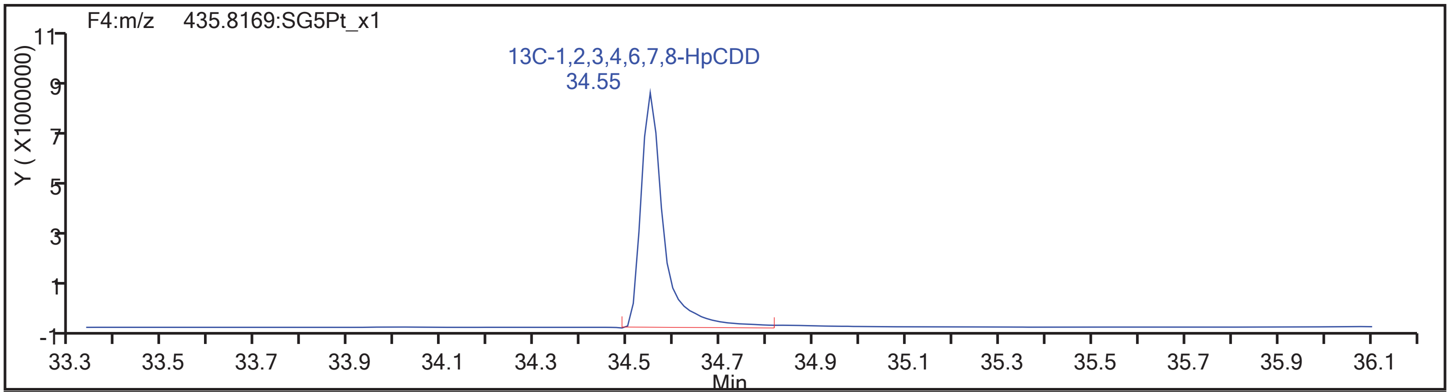

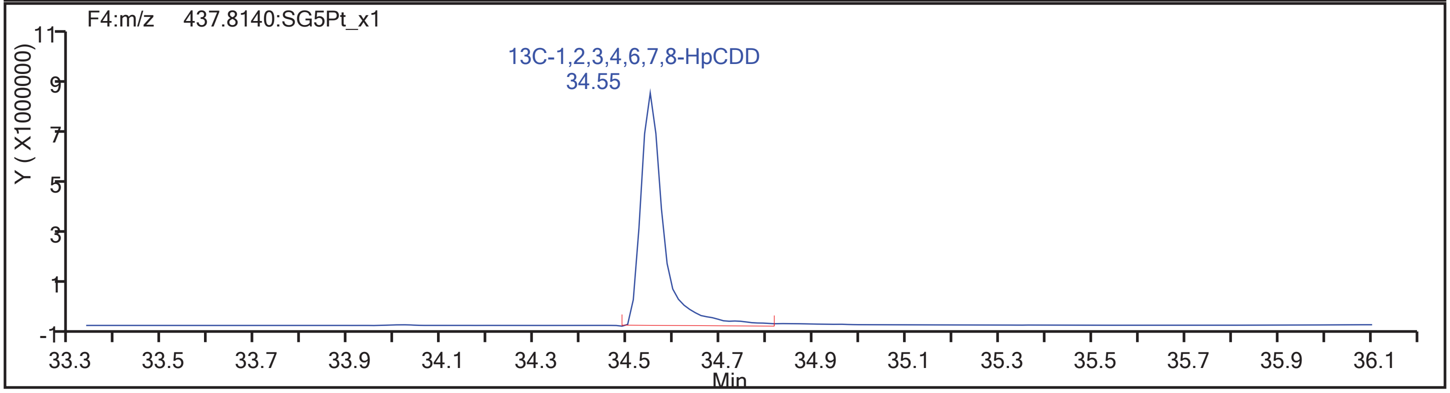

TestAmerica Sacramento

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Injection Date: 11-Nov-2017 22:08:39
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
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Client ID:
Worklist#: 194085
Sample Line#: 78
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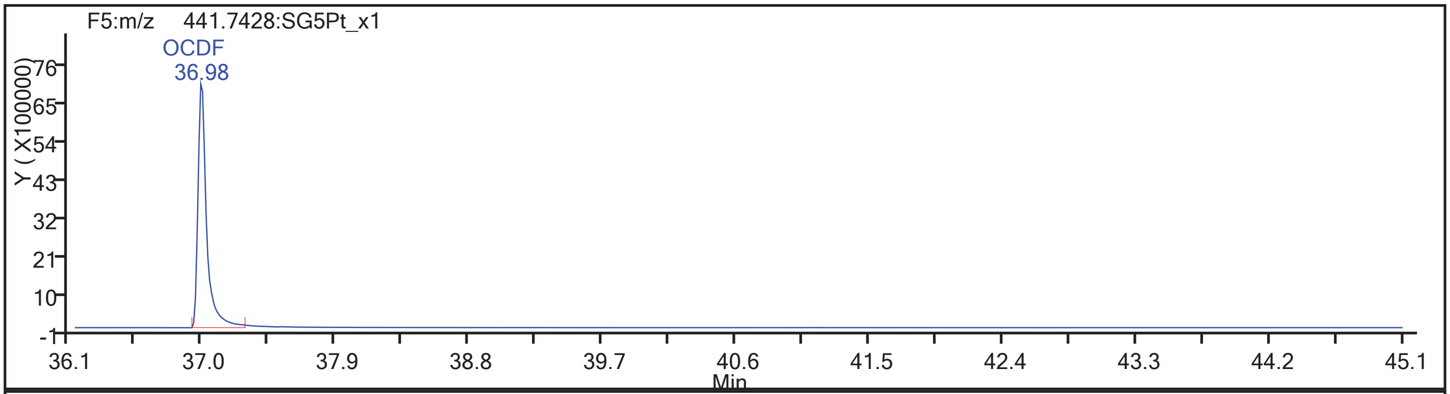
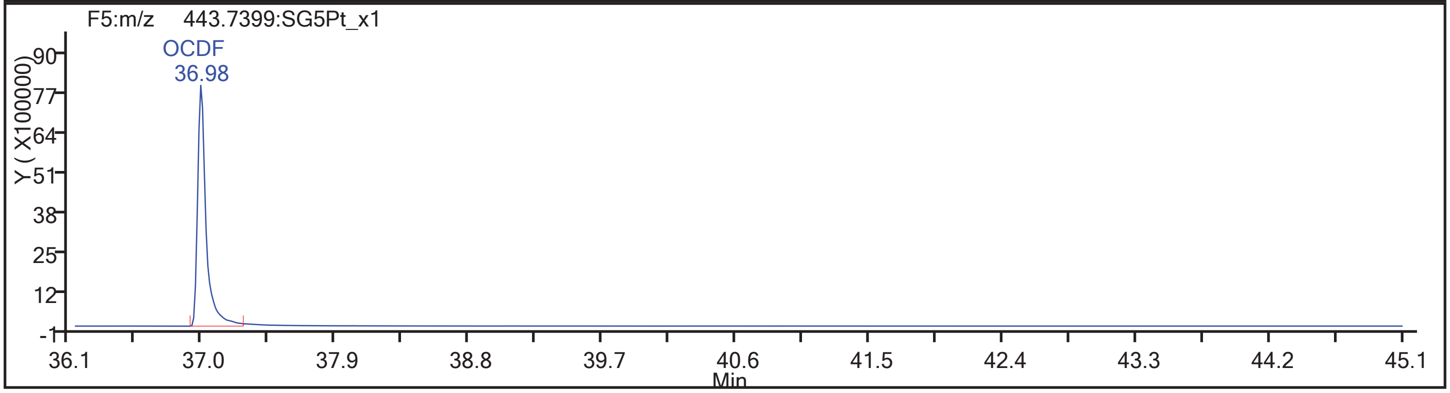
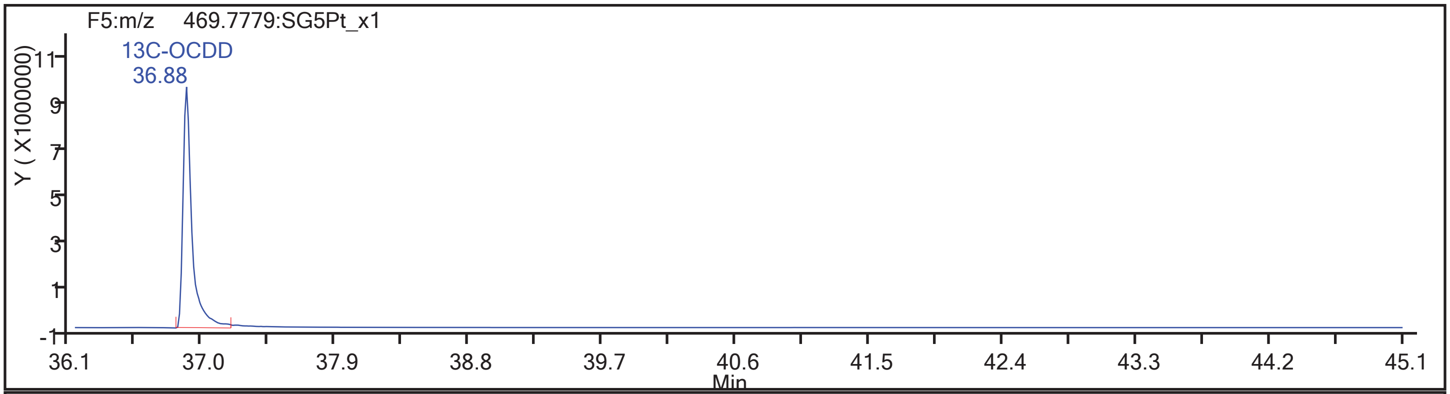
Column Dia: 0.32 mm

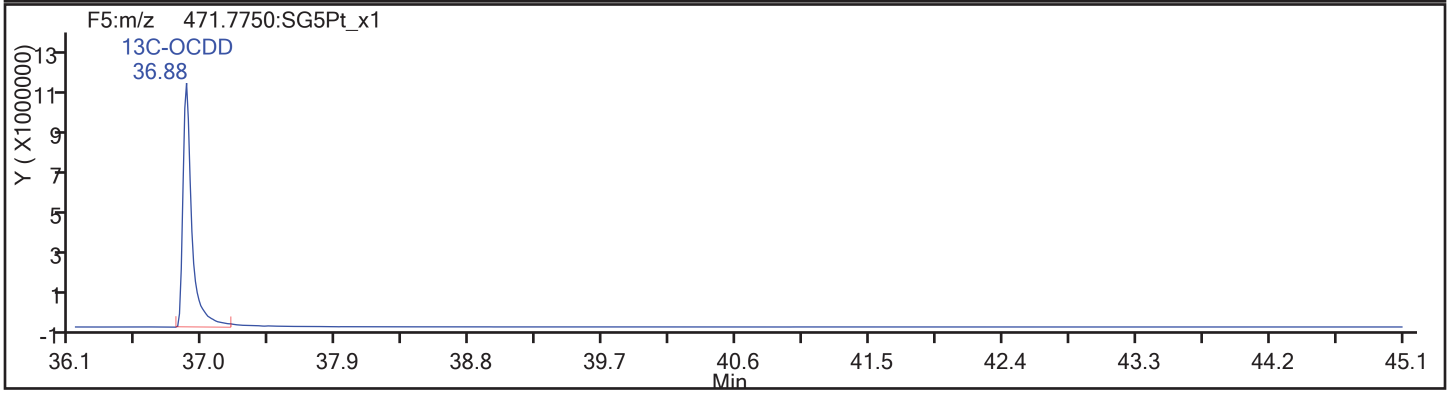
OCDF





OCDF Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_78.d		
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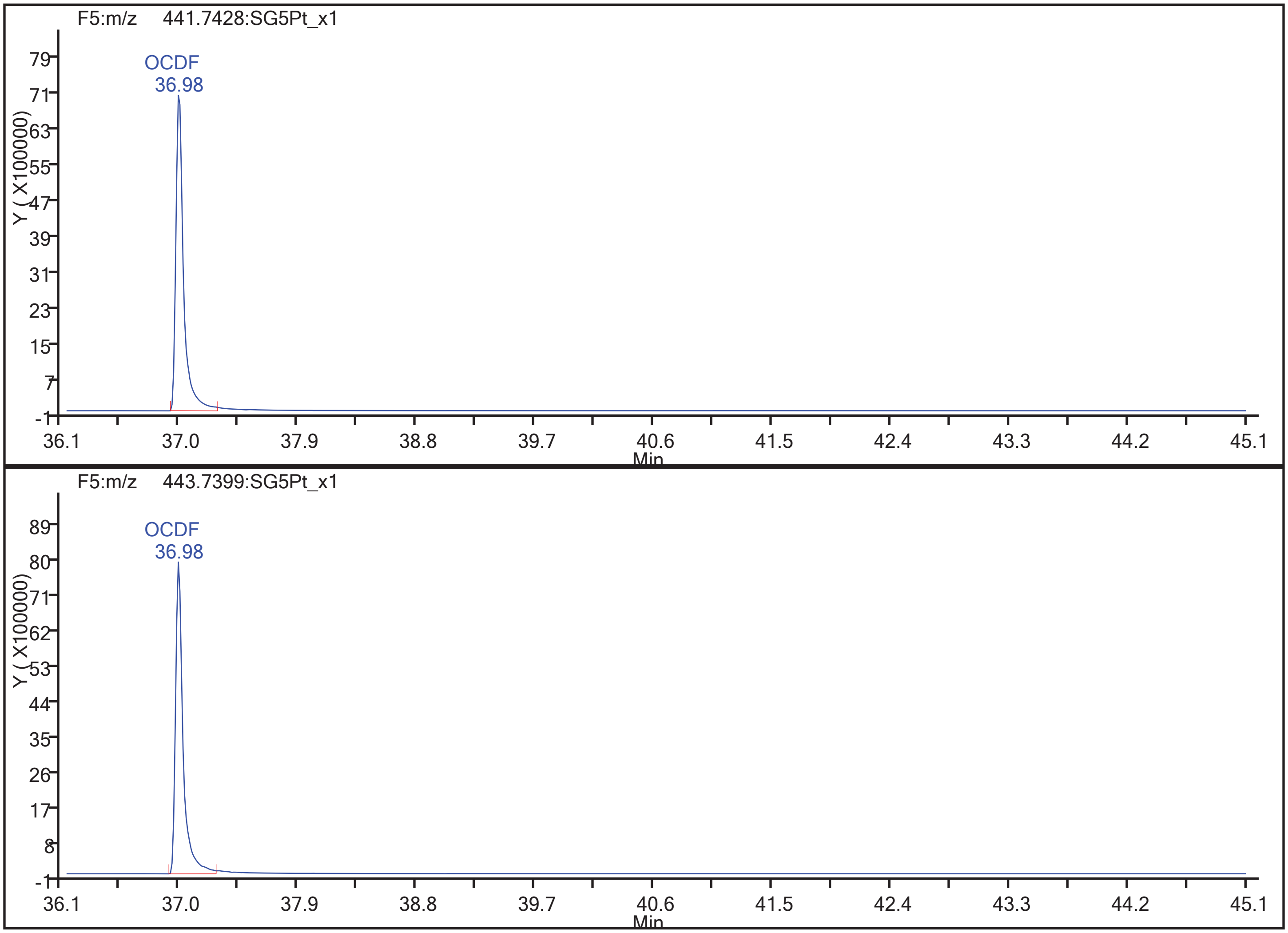
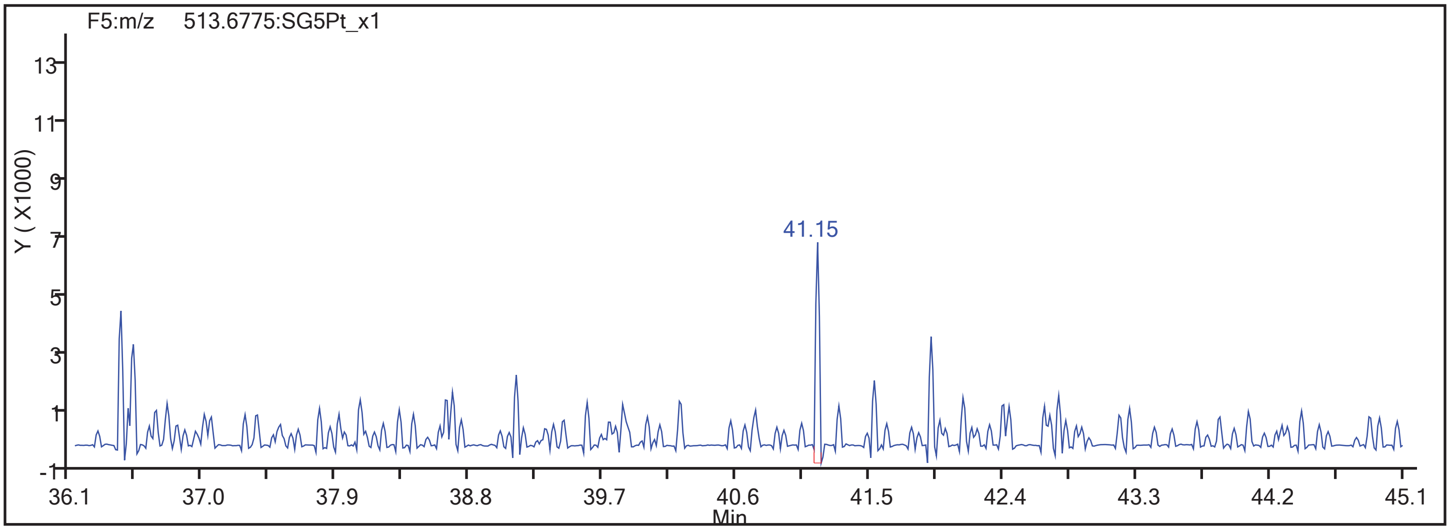
Client ID:			
Worklist#:	194085	Sample Line#:	78
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



OCDF Interference Mass



Report Date: 13-Nov-2017 13:32:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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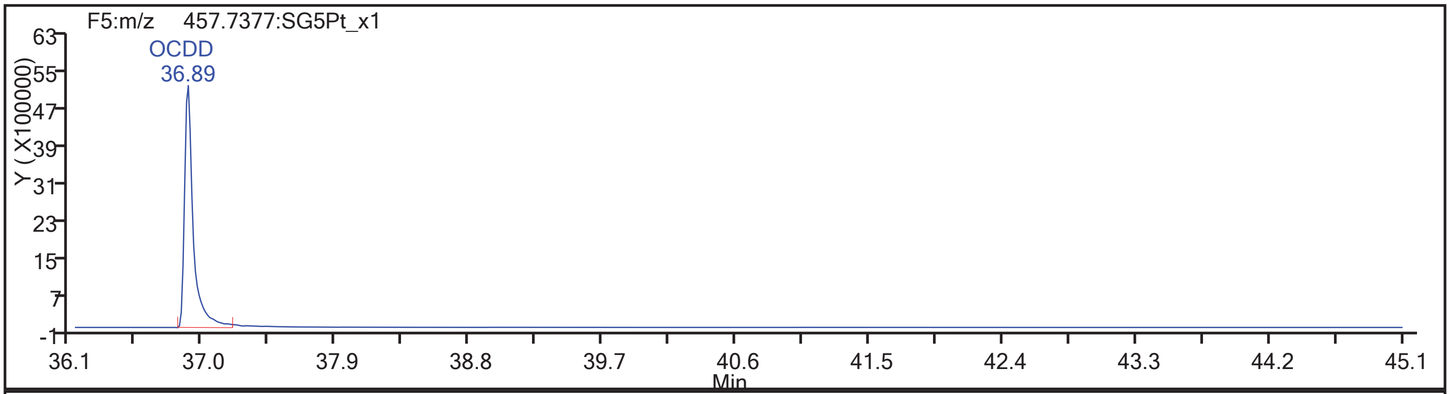
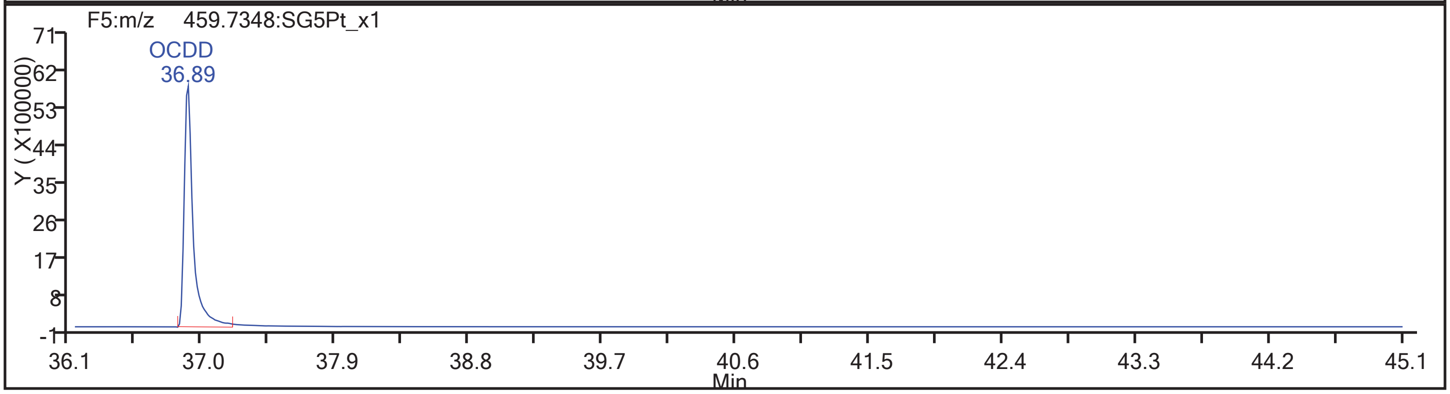
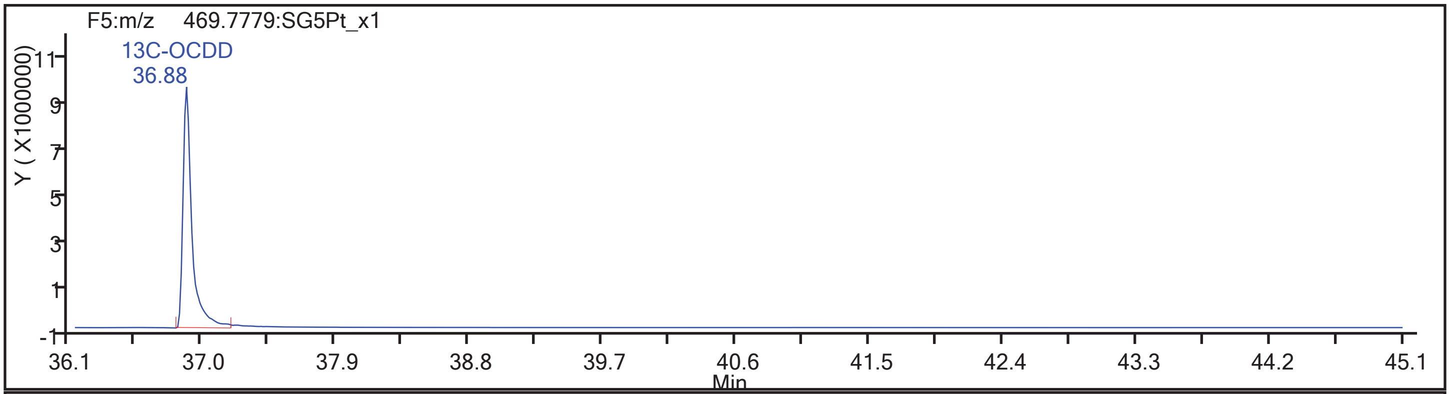
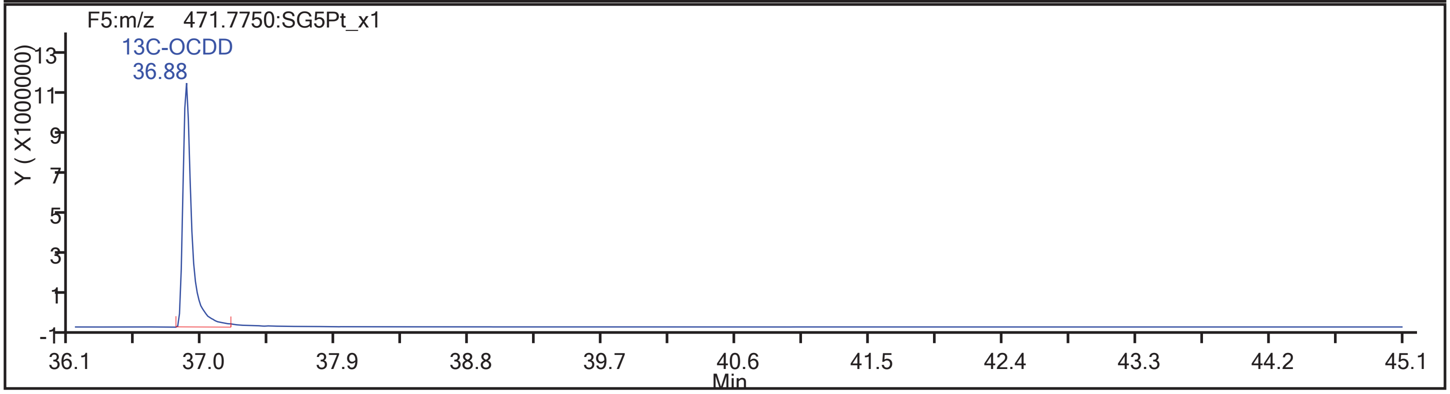




OCDD Standards





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TestAmerica Sacramento

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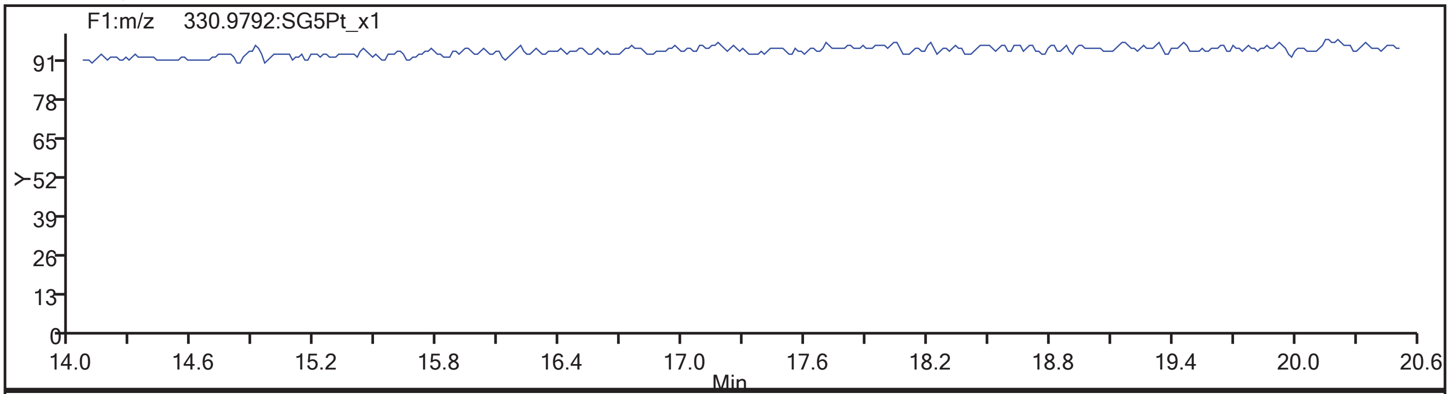

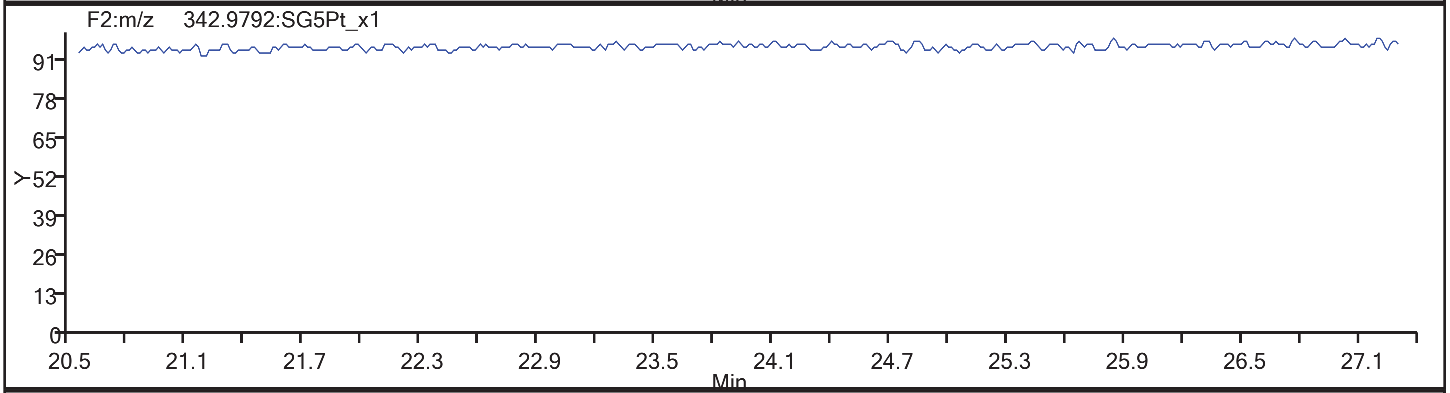

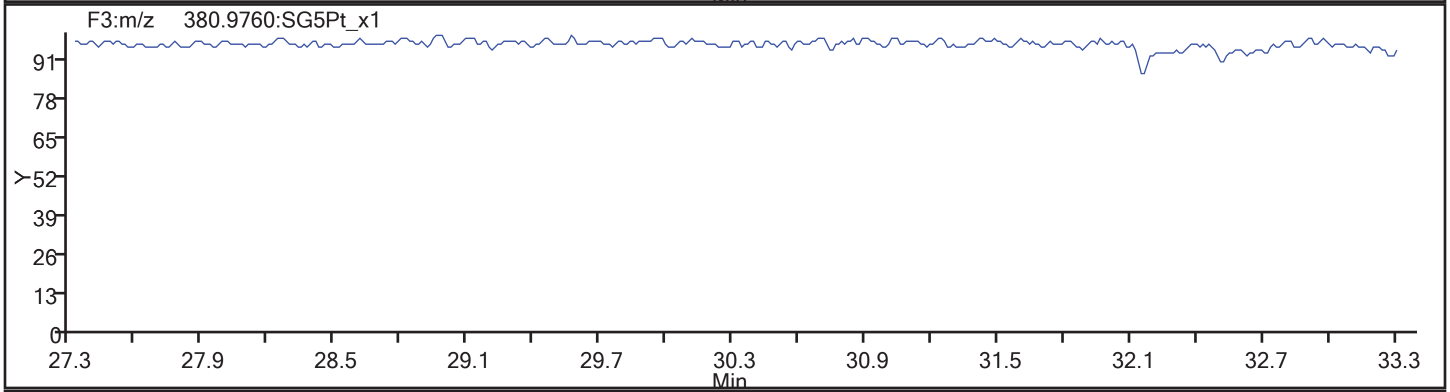

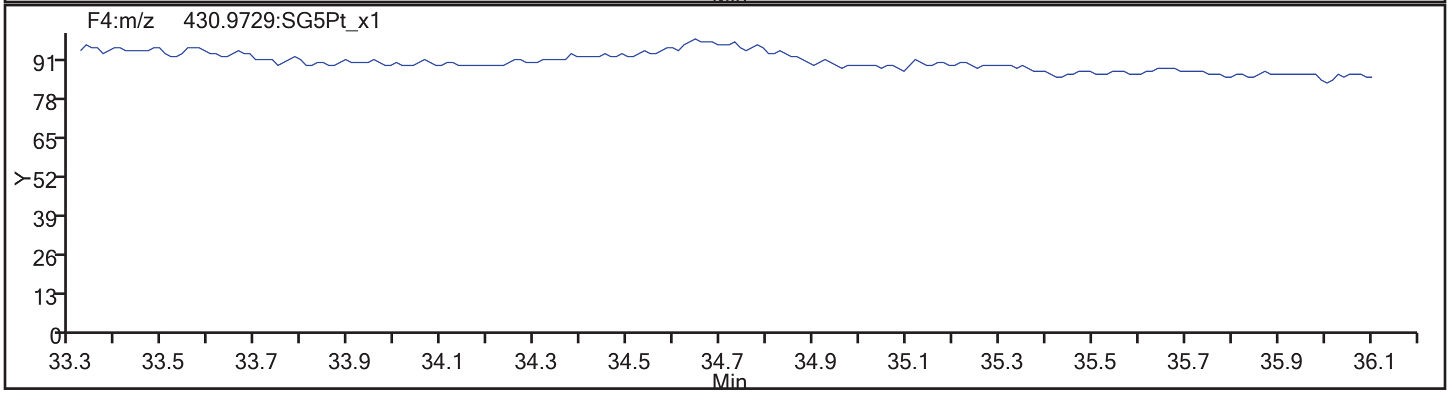

TestAmerica Sacramento

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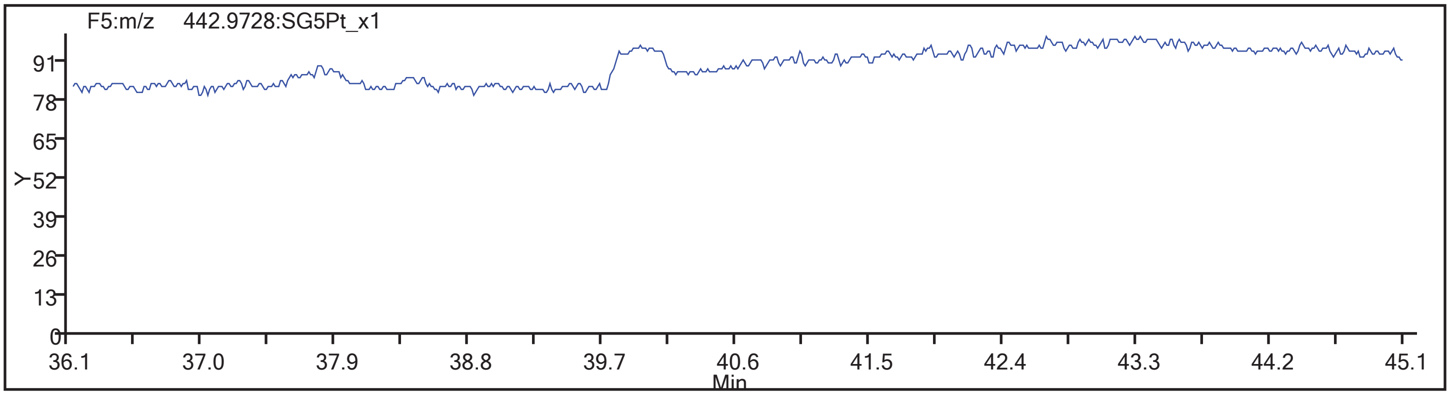
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	78
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-194086/80 Calibration Date: 11/12/2017 00:00

Instrument ID: 10D5 Calib Start Date: 10/13/2017 00:08

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 10/13/2017 03:12

Lab File ID: 09NO1710D5_80.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.086		9.57	10.0	-4.3	20.0
2,3,7,8-TCDD	AveID	0.999	0.9640		9.65	10.0	-3.5	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.136		48.9	50.0	-2.3	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.142		50.1	50.0	0.2	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9632		50.7	50.0	1.5	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.379		49.2	50.0	-1.6	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.545		45.6	50.0	-8.8	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.452		47.7	50.0	-4.5	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	1.004		52.8	50.0	5.7	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.208		49.0	50.0	-2.1	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.188		47.6	50.0	-4.7	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.272		45.1	50.0	-9.8	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.607		49.0	50.0	-2.0	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9779		49.2	50.0	-1.5	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.312		49.3	50.0	-1.3	20.0
OCDD	AveID	1.060	1.037		97.8	100	-2.2	20.0
OCDF	AveID	1.346	1.381		103	100	2.6	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.362		107	100	6.9	30.0
13C-2,3,7,8-TCDD	Ave	0.9921	1.007		101	100	1.5	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9696	1.081		112	100	11.5	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.8242		109	100	8.6	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	1.079		112	100	11.9	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.8966		102	100	2.0	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.7921		104	100	4.0	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.8045		104	100	3.6	30.0
13C-OCDD	Ave	0.6314	0.5952		189	200	-5.7	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.063		10.2	10.0	1.6	

Sample List Report **MassLynx 4.1** 10D5

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	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	09NO1710D5_1	WDM HRDXNCP_00034	WDM 110917	Tray01:1		---
2	09NO1710D5_2	CS-4 HRDXNL4_00059	CCV 110917	Tray01:2		---
3	09NO1710D5_3	Reagent Blank C-14	RB 110917	Tray01:3		---
4	09NO1710D5_4	mb 320-191260/1-a	mb 320-191260/1-a	Tray01:71	1613B/Water	42
5	09NO1710D5_5	lcs 320-191260/2-a	lcs 320-191260/2-a	Tray01:72	1613B/Water	
6	09NO1710D5_6	lcsd 320-191260/3-a	lcsd 320-191260/3-a	Tray01:73	1613B/Water	
7	09NO1710D5_7	lb 320-190971/1-b	lb 320-190971/1-b	Tray01:74	1613B/Water	
8	09NO1710D5_8	560-70465-a-1-e	560-70465-a-1-e	Tray01:75	1613B/Water	
9	09NO1710D5_9	lcs 320-188490/2-a RI	lcs 320-188490/2-a RI	Tray01:76	8290A_D5/Water	D974
10	09NO1710D5_10	lcsd 320-188490/3-a RI	lcsd 320-188490/3-a RI	Tray01:77	8290A_D5/Water	
11	09NO1710D5_11	lcs 320-184197/2-a RI	lcs 320-184197/2-a RI	Tray01:78	8290/1613/Water	40
12	09NO1710D5_12	CS-4 HRDXNL4_00059	CCV 110917A	Tray01:2		---
13	09NO1710D5_13	WDM HRDXNCP_00034	WDM 110917A	Tray01:1		---
14	09NO1710D5_14	CS-4 HRDXNL4_00059	CCV 110917B	Tray01:2		---
15	09NO1710D5_15	Reagent Blank C-14	RB 110917A	Tray01:3		---
16	09NO1710D5_16	MB 320-189625/1-A	MB 320-189625/1-A	Tray01:85	8290A_D5/Solid	D978
17	09NO1710D5_17	LCS 320-189625/2-A	LCS 320-189625/2-A	Tray01:86	8290A_D5/Solid	
18	09NO1710D5_18	LCSD 320-189625/3-A	LCSD 320-189625/3-A	Tray01:87	8290A_D5/Solid	
19	09NO1710D5_19	160-24917-F-1-A	160-24917-F-1-A	Tray01:88	8290A_D5/Solid	
20	09NO1710D5_20	160-24917-F-2-A	160-24917-F-2-A	Tray01:89	8290A_D5/Solid	
21	09NO1710D5_21	160-24917-F-3-A	160-24917-F-3-A	Tray01:90	8290A_D5/Solid	
22	09NO1710D5_22	160-24917-F-4-A	160-24917-F-4-A	Tray01:91	8290A_D5/Solid	
23	09NO1710D5_23	160-24917-F-5-A	160-24917-F-5-A	Tray01:92	8290A_D5/Solid	
24	09NO1710D5_24	Reagent Blank C-14	RB 110917B	Tray01:3		---
25	09NO1710D5_25	CS-4 HRDXNL4_00059	CCV 110917C	Tray01:2		---
26	09NO1710D5_26	WDM HRDXNCP_00034	WDM 110917B	Tray01:1		---
27	09NO1710D5_27	CS-4 HRDXNL4_00059	CCV 110917D	Tray01:2		---
28	09NO1710D5_28	Reagent Blank C-14	RB 110917C	Tray01:3		---
29	09NO1710D5_29	160-24917-f-6-a	160-24917-f-6-a	Tray01:4	8290A_D5/Solid	D978
30	09NO1710D5_30	160-24917-f-7-a	160-24917-f-7-a	Tray01:5	8290A_D5/Solid	
31	09NO1710D5_31	160-24917-f-8-a	160-24917-f-8-a	Tray01:6	8290A_D5/Solid	
32	09NO1710D5_32	160-24917-f-9-a	160-24917-f-9-a	Tray01:7	8290A_D5/Solid	
33	09NO1710D5_33	160-24917-f-10-a	160-24917-f-10-a	Tray01:8	8290A_D5/Solid	
34	09NO1710D5_34	160-24917-f-11-a	160-24917-f-11-a	Tray01:9	8290A_D5/Solid	
35	09NO1710D5_35	160-24917-f-12-a	160-24917-f-12-a	Tray01:10	8290A_D5/Solid	
36	09NO1710D5_36	160-24917-f-13-a	160-24917-f-13-a	Tray01:11	8290A_D5/Solid	
37	09NO1710D5_37	Reagent Blank C-14	RB 110917D	Tray01:3		---
38	09NO1710D5_38	CS-4 HRDXNL4_00059	CCV 110917E	Tray01:2		---
39	09NO1710D5_39	WDM HRDXNCP_00034	WDM 110917C	Tray01:1		---
40	09NO1710D5_40	CS-4 HRDXNL4_00059	CCV 110917F	Tray01:2		---
41	09NO1710D5_41	Reagent Blank C-14	RB 110917E	Tray01:3		---
42	09NO1710D5_42	160-24917-f-14-a	160-24917-f-14-a	Tray01:15	8290A_D5/Solid	D978
43	09NO1710D5_43	160-24917-f-15-a	160-24917-f-15-a	Tray01:16	8290A_D5/Solid	
44	09NO1710D5_44	160-24917-f-16-a	160-24917-f-16-a	Tray01:17	8290A_D5/Solid	
45	09NO1710D5_45	160-24917-f-17-a	160-24917-f-17-a	Tray01:18	8290A_D5/Solid	
46	09NO1710D5_46	160-24917-f-18-a	160-24917-f-18-a	Tray01:19	8290A_D5/Solid	
47	09NO1710D5_47	160-24917-f-19-a	160-24917-f-19-a	Tray01:20	8290A_D5/Solid	
48	09NO1710D5_48	160-24917-f-20-a	160-24917-f-20-a	Tray01:21	8290A_D5/Solid	
49	09NO1710D5_49	160-24917-f-20-b ms	160-24917-f-20-b ms	Tray01:22	8290A_D5/Solid	
50	09NO1710D5_50	160-24917-f-20-c msd	160-24917-f-20-c msd	Tray01:23	8290A_D5/Solid	
51	09NO1710D5_51	Reagent Blank C-14	RB 110917F	Tray01:3		---
52	09NO1710D5_52	CS-4 HRDXNL4_00059	CCV 110917G	Tray01:2		---
53	09NO1710D5_53	WDM HRDXNCP_00034	WDM 110917D	Tray01:1		---
54	09NO1710D5_54	CS-4 HRDXNL4_00059	CCV 110917H	Tray01:2		---
55	09NO1710D5_55	Reagent Blank C-14	RB 110917G	Tray01:3		---
56	09NO1710D5_56	mb 320-189721/1-a	mb 320-189721/1-a	Tray01:29	8290A_D5/Solid	D981
57	09NO1710D5_57	lcs 320-189721/2-a	lcs 320-189721/2-a	Tray01:30	8290A_D5/Solid	
58	09NO1710D5_58	lcsd 320-189721/3-a	lcsd 320-189721/3-a	Tray01:31	8290A_D5/Solid	

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	File Name	**File Text**	**Sample ID**	**Bottle**	**Method/Matrix**	**Box #**
59	09NO1710D5_59	160-24924-g-1-a	160-24924-g-1-a	Tray01:32	8290A_D5/Solid	
60	09NO1710D5_60	160-24924-g-2-a	160-24924-g-2-a	Tray01:33	8290A_D5/Solid	
61	09NO1710D5_61	160-24924-g-3-a	160-24924-g-3-a	Tray01:34	8290A_D5/Solid	
62	09NO1710D5_62	160-24924-g-4-a	160-24924-g-4-a	Tray01:35	8290A_D5/Solid	
63	09NO1710D5_63	160-24924-g-5-a	160-24924-g-5-a	Tray01:36	8290A_D5/Solid	
64	09NO1710D5_64	Reagent Blank C-14	RB 110917H	Tray01:3		---
65	09NO1710D5_65	CS-4 HRDXNL4_00059	CCV 110917I	Tray01:2		---
66	09NO1710D5_66	WDM HRDXNCP_00034	WDM 110917E	Tray01:1		---
67	09NO1710D5_67	CS-4 HRDXNL4_00059	CCV 110917J	Tray01:2		---
68	09NO1710D5_68	Reagent Blank C-14	RB 110917I	Tray01:3		---
69	09NO1710D5_69	160-24924-g-6-a	160-24924-g-6-a	Tray01:43	8290A_D5/Solid	D981
70	09NO1710D5_70	160-24924-g-7-a	160-24924-g-7-a	Tray01:44	8290A_D5/Solid	
71	09NO1710D5_71	160-24924-g-8-a	160-24924-g-8-a	Tray01:45	8290A_D5/Solid	
72	09NO1710D5_72	160-24924-g-9-a	160-24924-g-9-a	Tray01:46	8290A_D5/Solid	
73	09NO1710D5_73	160-24924-g-9-b ms	160-24924-g-9-b ms	Tray01:47	8290A_D5/Solid	
74	09NO1710D5_74	160-24924-g-9-c msd	160-24924-g-9-c msd	Tray01:48	8290A_D5/Solid	
75	09NO1710D5_75	160-24924-g-10-a	160-24924-g-10-a	Tray01:49	8290A_D5/Solid	
76	09NO1710D5_76	160-24924-g-11-a	160-24924-g-11-a	Tray01:50	8290A_D5/Solid	
77	09NO1710D5_77	Reagent Blank C-14	RB 110917J	Tray01:3		---
78	09NO1710D5_78	CS-4 HRDXNL4_00060	CCV 110917K	Tray01:2		---
79	09NO1710D5_79	WDM HRDXNCP_00034	WDM 110917F	Tray01:1		---
80	09NO1710D5_80	CS-4 HRDXNL4_00060	CCV 110917L	Tray01:2		---
81	09NO1710D5_81	Reagent Blank C-14	RB 110917K	Tray01:3		---
82	09NO1710D5_82	160-24924-g-12-a	160-24924-g-12-a	Tray01:57	8290A_D5/Solid	D981
83	09NO1710D5_83	160-24924-g-13-a	160-24924-g-13-a	Tray01:58	8290A_D5/Solid	
84	09NO1710D5_84	160-24924-g-14-a	160-24924-g-14-a	Tray01:59	8290A_D5/Solid	
85	09NO1710D5_85	160-24924-g-15-a	160-24924-g-15-a	Tray01:60	8290A_D5/Solid	
86	09NO1710D5_86	160-24924-g-16-a	160-24924-g-16-a	Tray01:61	8290A_D5/Solid	
87	09NO1710D5_87	160-24924-g-17-a	160-24924-g-17-a	Tray01:62	8290A_D5/Solid	
88	09NO1710D5_88	160-24924-g-18-a	160-24924-g-18-a	Tray01:63	8290A_D5/Solid	
89	09NO1710D5_89	160-24924-g-19-a	160-24924-g-19-a	Tray01:64	8290A_D5/Solid	
90	09NO1710D5_90	Reagent Blank C-14	RB 110917L	Tray01:3		---
91	09NO1710D5_91	CS-4 HRDXNL4_00060	CCV 110917M	Tray01:2		---
92	09NO1710D5_92	WDM HRDXNCP_00034	WDM 110917G	Tray01:1		---
93	09NO1710D5_93	CS-4 HRDXNL4_00060	CCV 110917N	Tray01:2		---
94	09NO1710D5_94	Reagent Blank C-14	RB 110917M	Tray01:3		---
95	09NO1710D5_95	mb 320-189776/1-a	mb 320-189776/1-a	Tray01:71	8290A_D5/Solid	D979
96	09NO1710D5_96	lcs 320-189776/2-a	lcs 320-189776/2-a	Tray01:72	8290A_D5/Solid	
97	09NO1710D5_97	lcsd 320-189776/3-a	lcsd 320-189776/3-a	Tray01:73	8290A_D5/Solid	
98	09NO1710D5_98	160-24922-g-1-a	160-24922-g-1-a	Tray01:74	8290A_D5/Solid	
99	09NO1710D5_99	160-24922-g-2-a	160-24922-g-2-a	Tray01:75	8290A_D5/Solid	
100	09NO1710D5_100	160-24922-g-3-a	160-24922-g-3-a	Tray01:76	8290A_D5/Solid	
101	09NO1710D5_101	160-24922-g-4-a	160-24922-g-4-a	Tray01:77	8290A_D5/Solid	
102	09NO1710D5_102	160-24922-g-5-a	160-24922-g-5-a	Tray01:78	8290A_D5/Solid	
103	09NO1710D5_103	160-24922-g-6-a	160-24922-g-6-a	Tray01:79	8290A_D5/Solid	
104	09NO1710D5_104	Reagent Blank C-14	RB 110917N	Tray01:3		---
105	09NO1710D5_105	CS-4 HRDXNL4_00060	CCV 110917O	Tray01:2		---
106	09NO1710D5_106	WDM HRDXNCP_00034	WDM 110917H	Tray01:1		---
107	09NO1710D5_107	CS-4 HRDXNL4_00060	CCV 110917P	Tray01:2		---
108	09NO1710D5_108	Reagent Blank C-14	RB 110917O	Tray01:3		---
109	09NO1710D5_109	160-24922-g-7-a	160-24922-g-7-a	Tray01:85	8290A_D5/Solid	D979
110	09NO1710D5_110	160-24922-g-8-a	160-24922-g-8-a	Tray01:86	8290A_D5/Solid	
111	09NO1710D5_111	160-24922-g-9-a	160-24922-g-9-a	Tray01:87	8290A_D5/Solid	
112	09NO1710D5_112	160-24922-g-10-a	160-24922-g-10-a	Tray01:88	8290A_D5/Solid	
113	09NO1710D5_113	160-24922-g-11-a	160-24922-g-11-a	Tray01:89	8290A_D5/Solid	
114	09NO1710D5_114	160-24922-g-12-a	160-24922-g-12-a	Tray01:90	8290A_D5/Solid	
115	09NO1710D5_115	160-24922-g-13-a	160-24922-g-13-a	Tray01:91	8290A_D5/Solid	
116	09NO1710D5_116	160-24922-g-13-b ms	160-24922-g-13-b ms	Tray01:92	8290A_D5/Solid	

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
117	09NO1710D5_117	160-24922-g-13-c msd	160-24922-g-13-c msd	Tray01:93	8290A_D5/Solid	
118	09NO1710D5_118	Reagent Blank C-14	RB 110917P	Tray01:3		---
119	09NO1710D5_119	CS-4 HRDXNL4_00060	CCV 110917Q	Tray01:2		---
120	09NO1710D5_120	WDM HRDXNCP_00034	WDM 110917I	Tray01:1		---
121	09NO1710D5_121	CS-4 HRDXNL4_00060	CCV 110917R	Tray01:2		---
122	09NO1710D5_122	Reagent Blank C-14	RB 110917Q	Tray01:3		---

Logfile ✓'d
11-12-17 KSS

User	Sample Size	Units	MS File	Inlet File	Inject Volume	Process
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	0.200000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	0.200000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
SMA, AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---

User	Sample Size	Units	MS File	Inlet File	Inject Volume	Process
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
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AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
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AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---

User	Sample Size	Units	MS File	Inlet File	Inject Volume	Process
AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
AJS	1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---

Process Options	Action On Error
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C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
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Process Options	Action On Error
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10D5

Process Options	**Action On Error**
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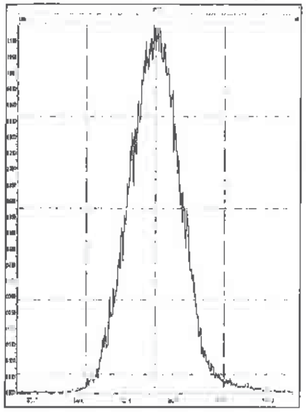
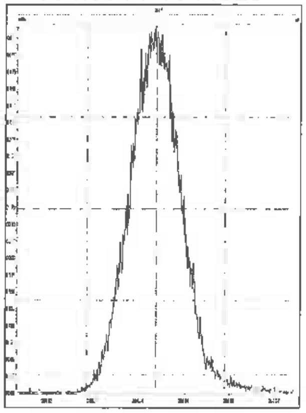
10D5

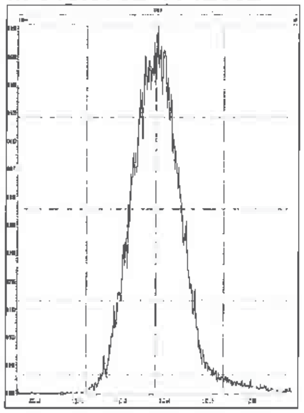
M 292.9824 R 11876



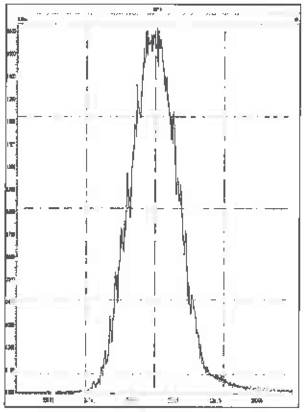
M 304.9824 R 11825



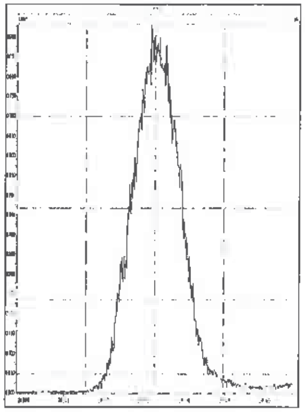
M 318.9792 R 12562



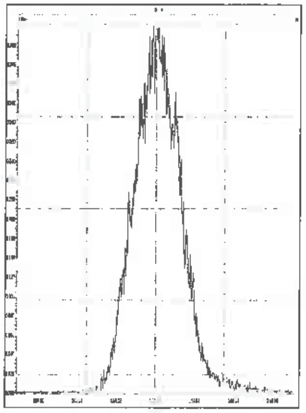
M 330.9792 R 12820



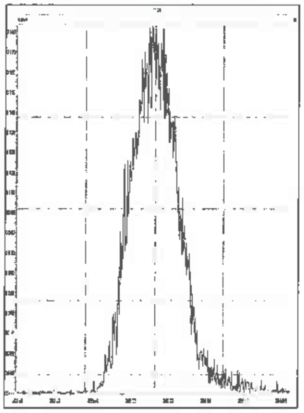
M 342.9792 R 12695



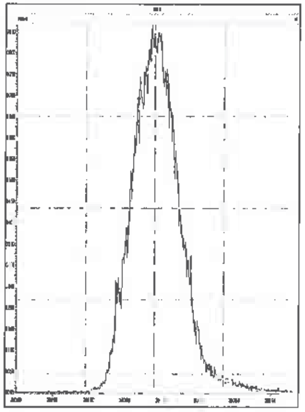
M 354.9792 R 13476



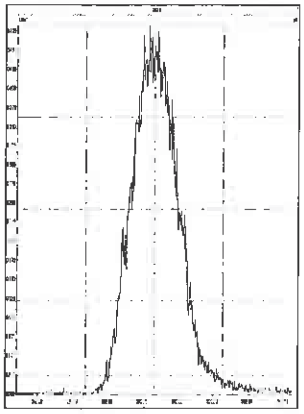
M 366.9792 R 13335



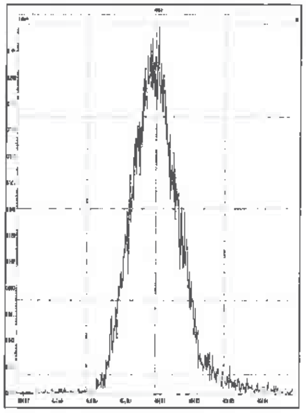
M 380.9760 R 13021



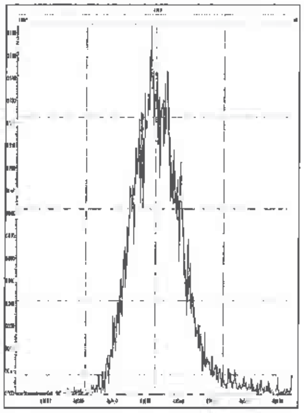
M 392.9760 R 13055



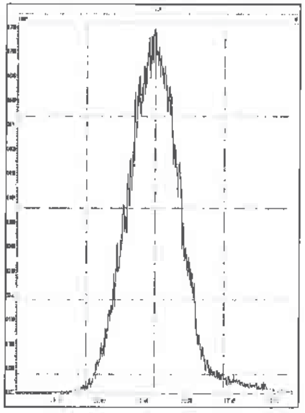
M 404.9760 R 13441



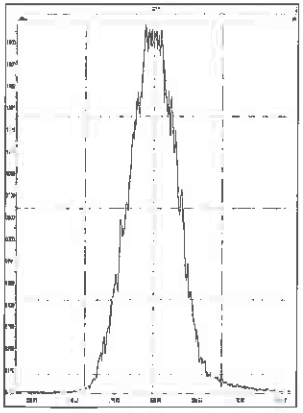
M 416.9760 R 13127



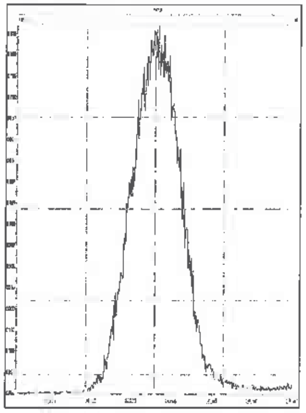
M 318.9792 R 12165



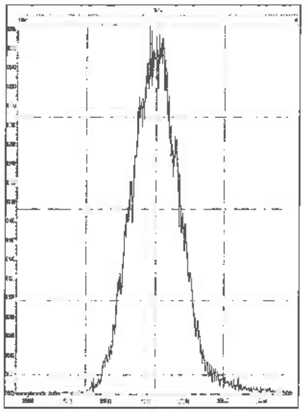
M 330.9792 R 12438



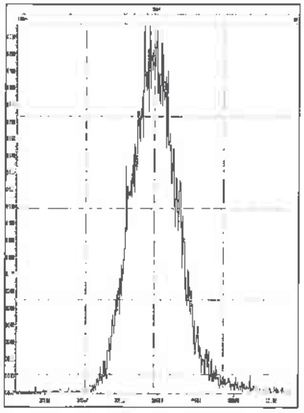
M 342.9792 R 12377



M 354.9792 R 12726

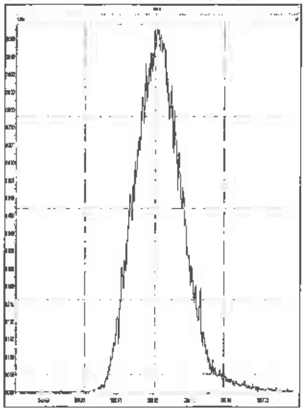


M 366.9792 R 13368

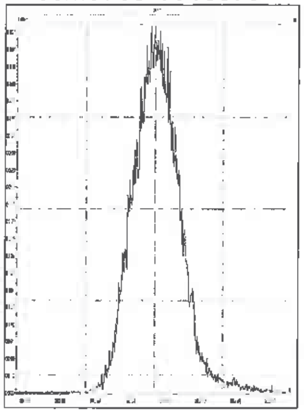


10D5

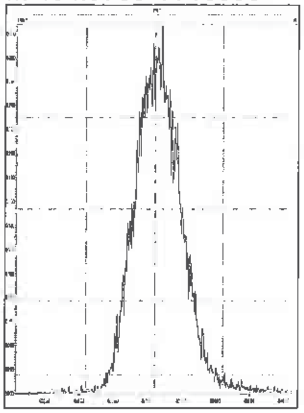
M 380.9760 R 13091



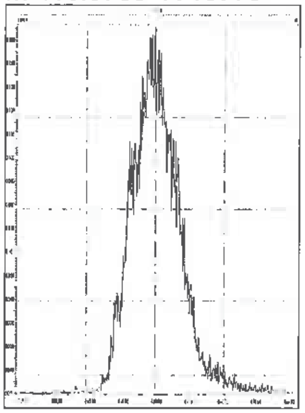
M 392.9760 R 13378



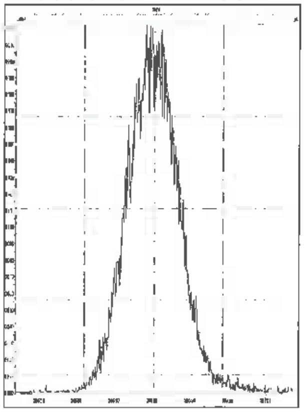
M 404.9760 R 13303



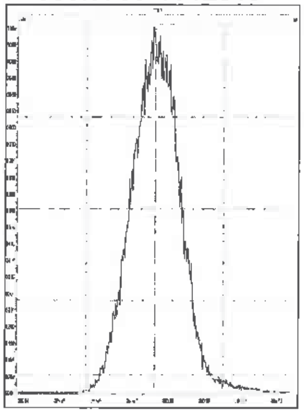
M 416.9760 R 13776



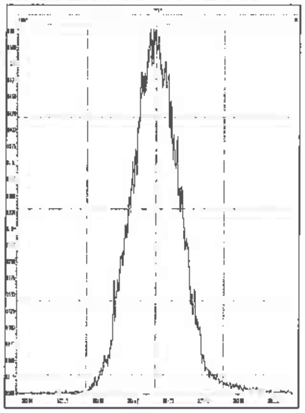
M 366.9792 R 11961



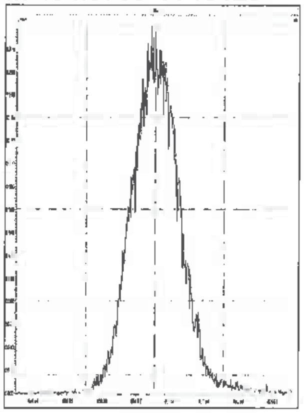
M 380.9760 R 12315



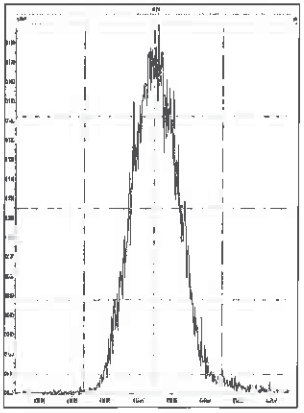
M 392.9760 R 12440



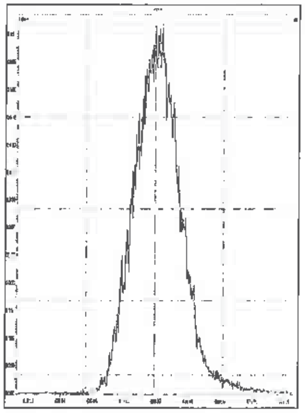
M 404.9760 R 13123



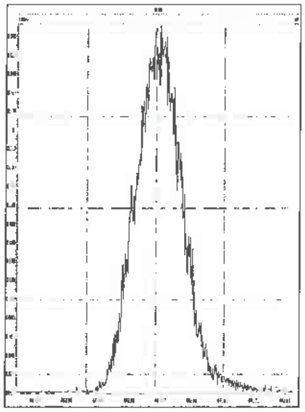
M 416.9760 R 13968



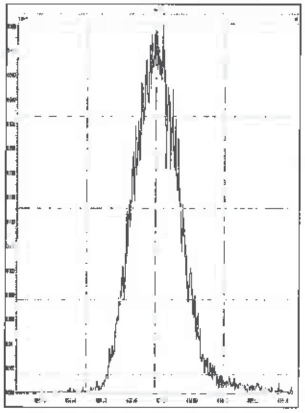
M 430.9728 R 12825



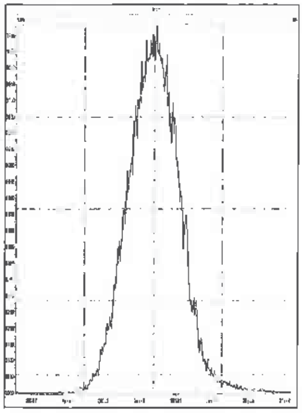
M 442.9728 R 13406



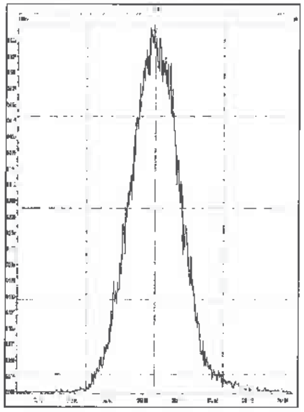
M 454.9728 R 13404



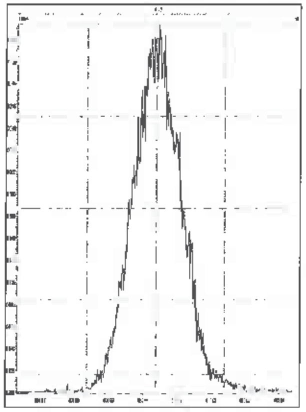
M 380.9760 R 11739



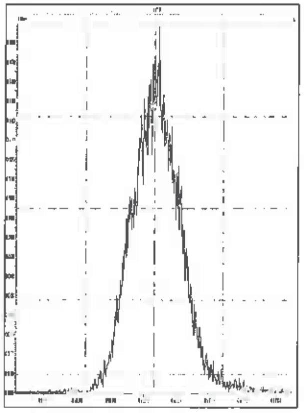
M 392.9760 R 11962



M 404.9760 R 12525

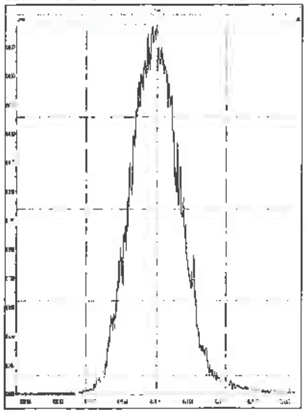


M 416.9760 R 13230

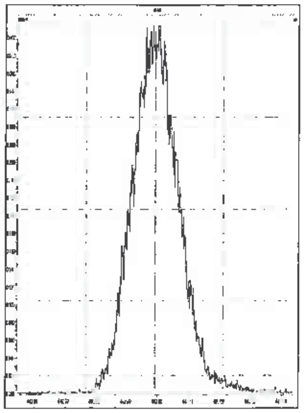


10D5

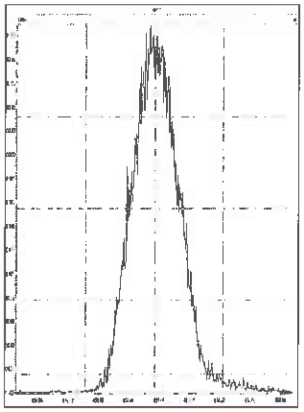
M 430.9728 R 12788



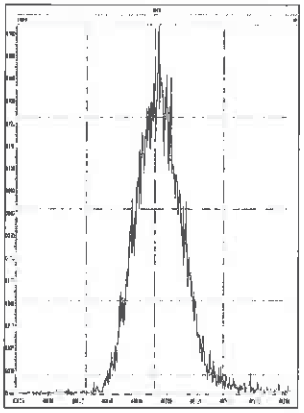
M 442.9728 R 13337



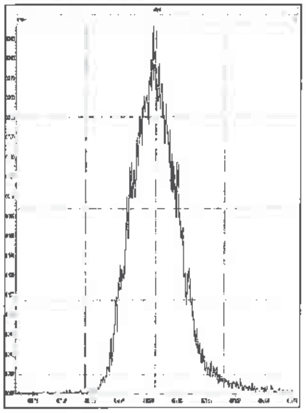
M 454.9728 R 13742



M 466.9728 R 13858



M 480.9696 R 13029



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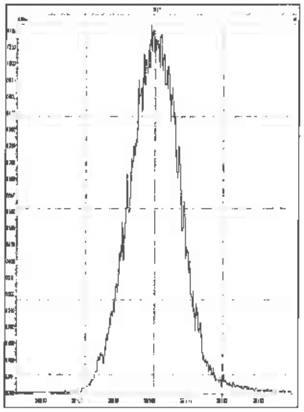
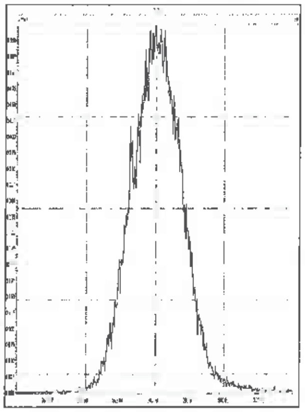
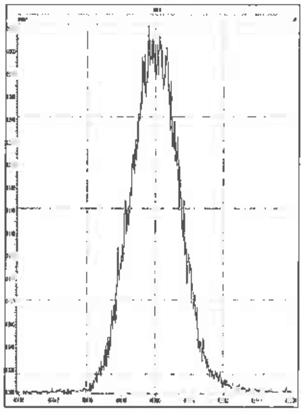


M 392.9760 R 11990



M 404.9760 R 12507



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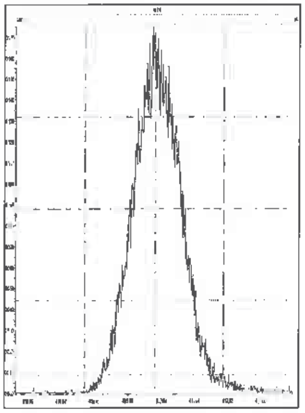

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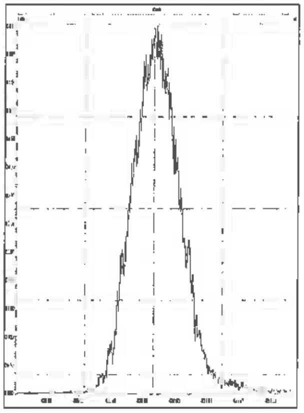

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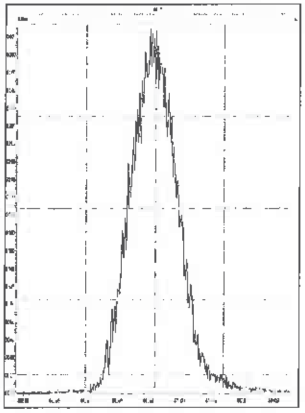

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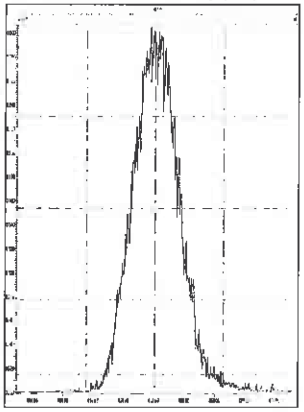

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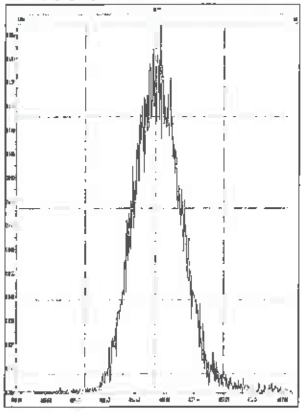

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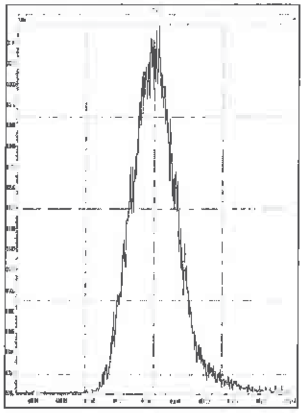

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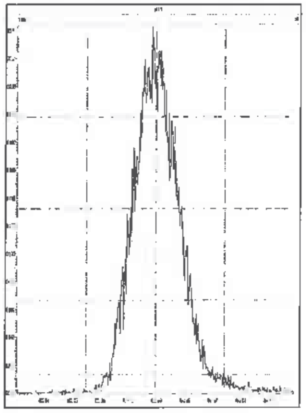

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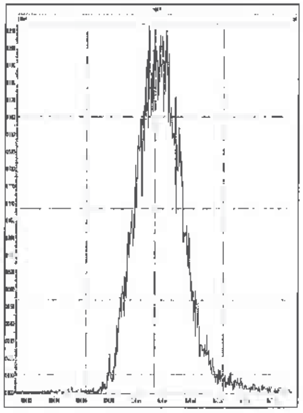

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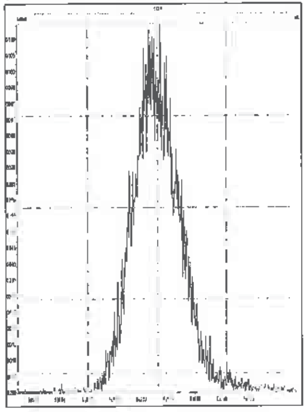

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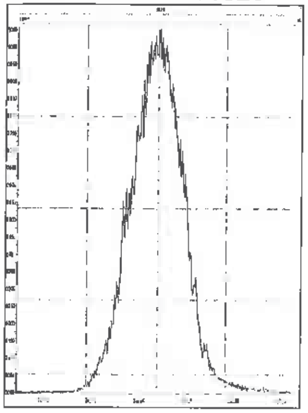

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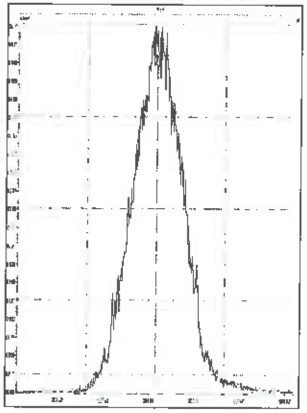

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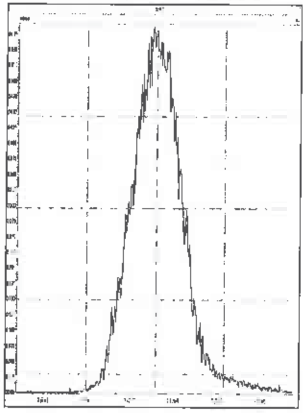

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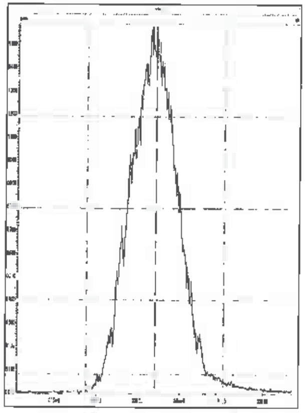

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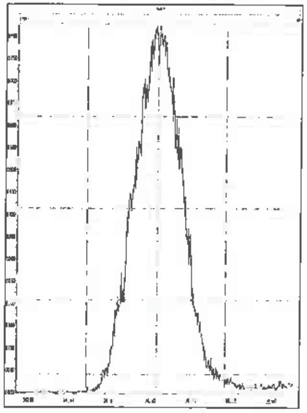

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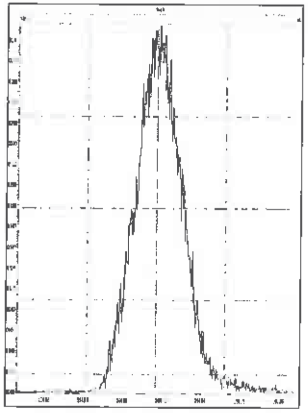

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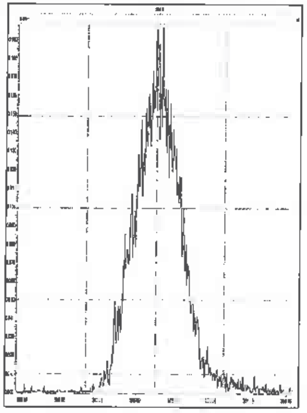

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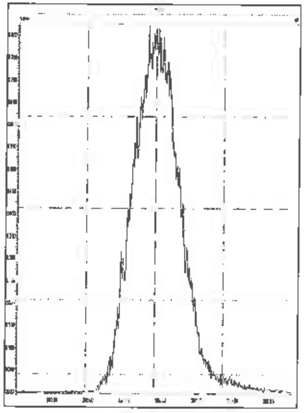

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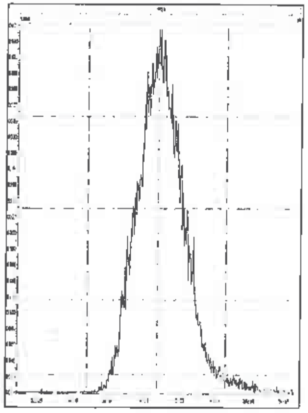

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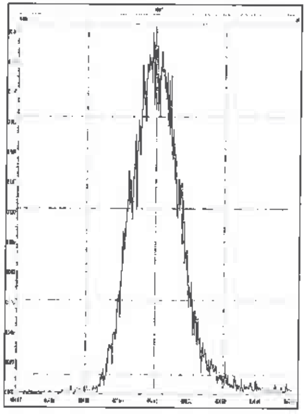

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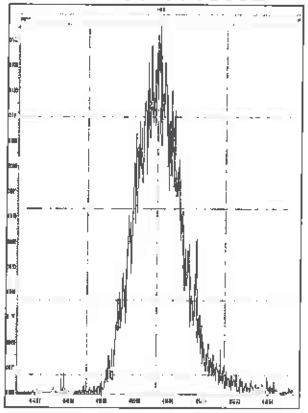

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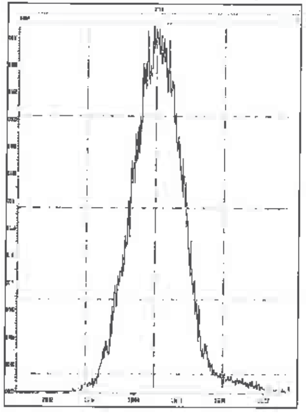

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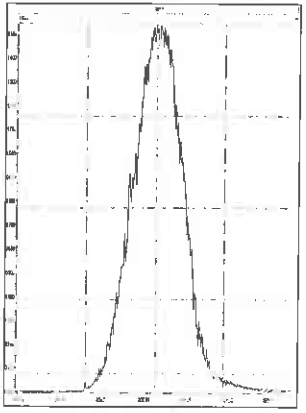

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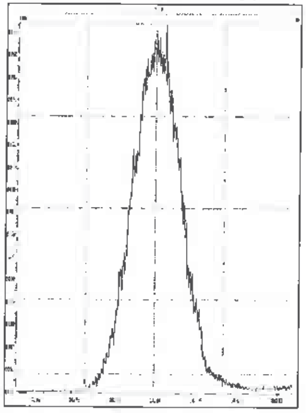

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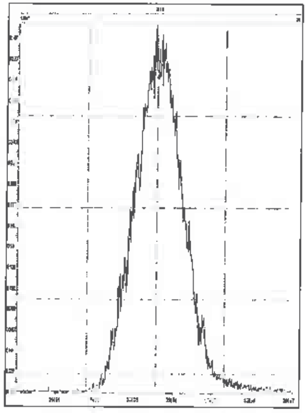

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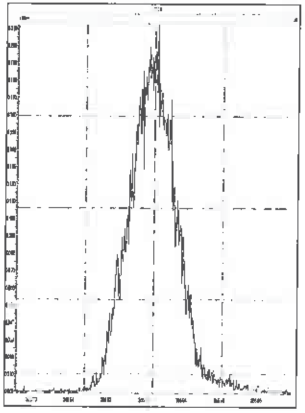

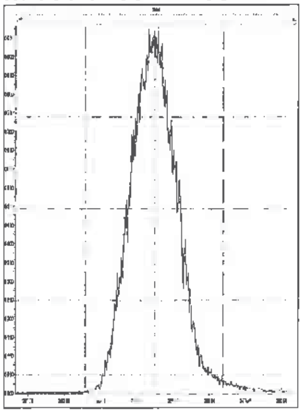
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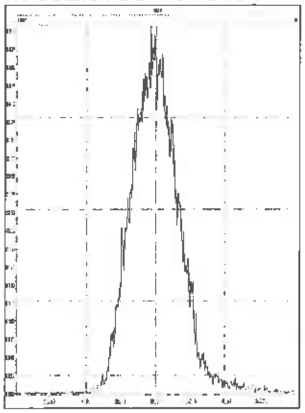
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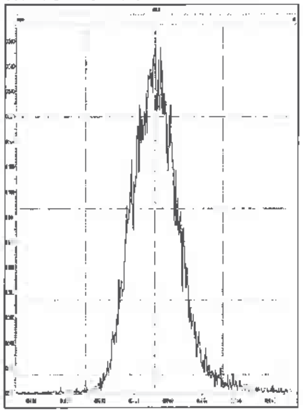
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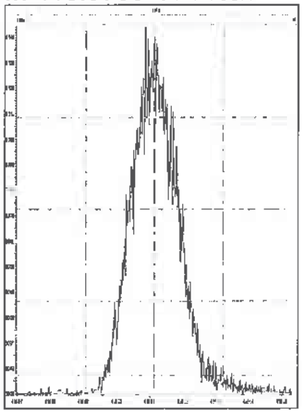
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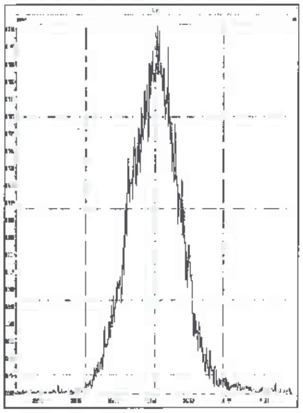
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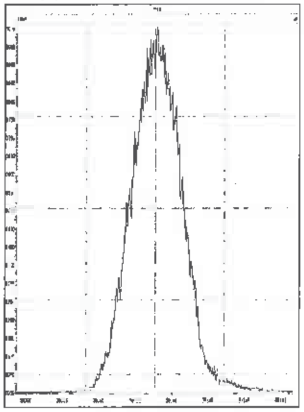
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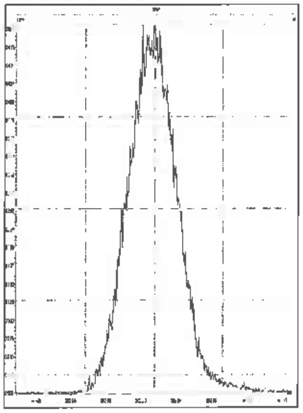
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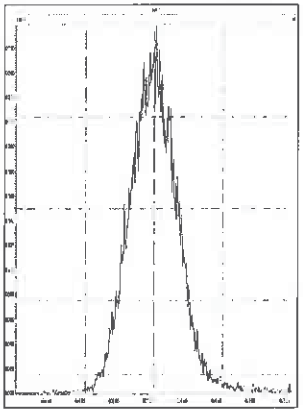
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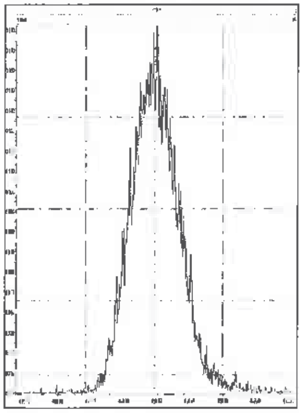
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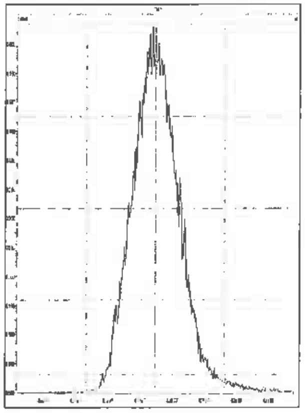
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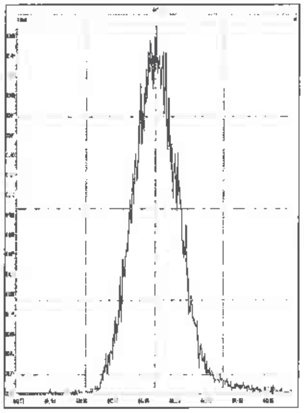
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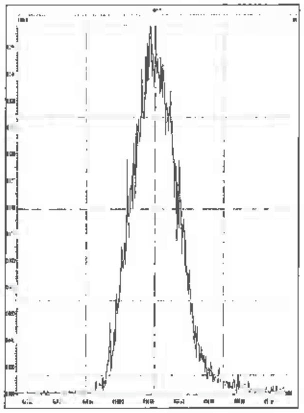
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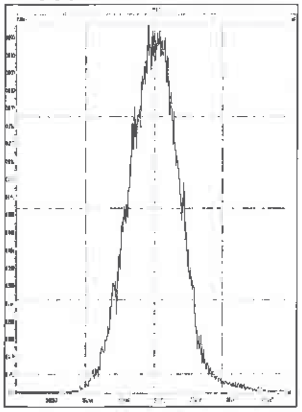
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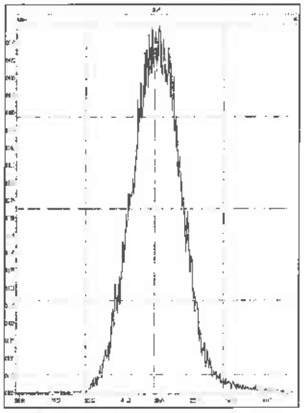
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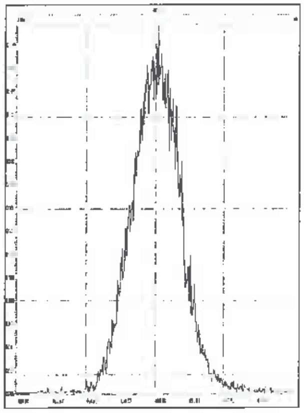
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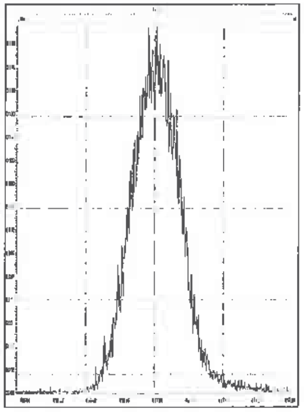
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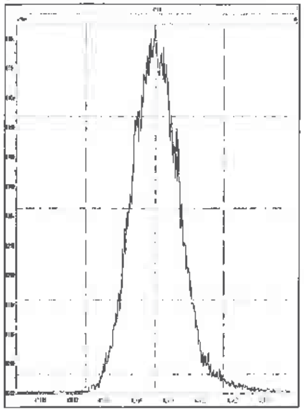

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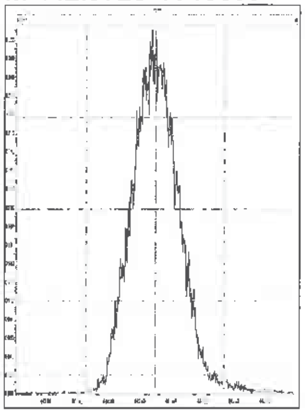

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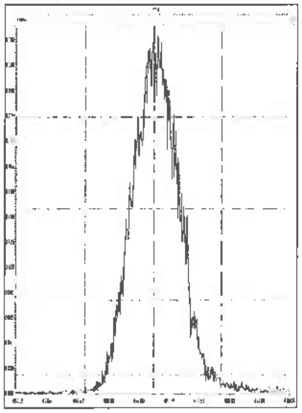

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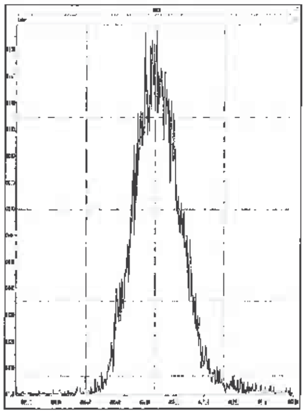

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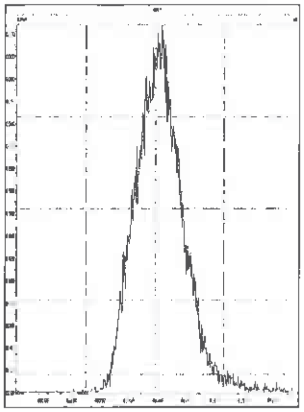

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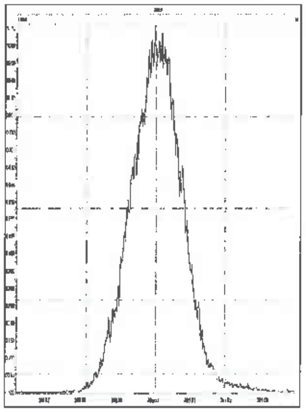

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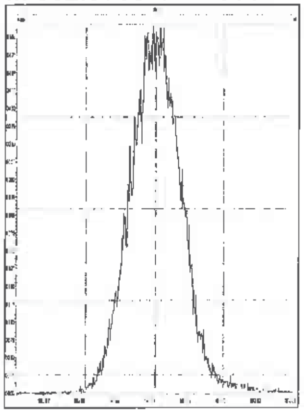

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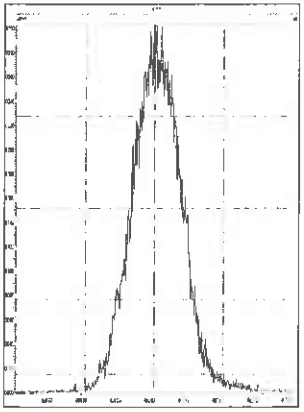

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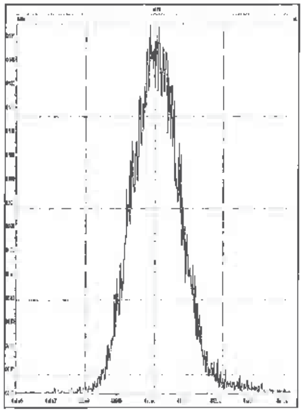

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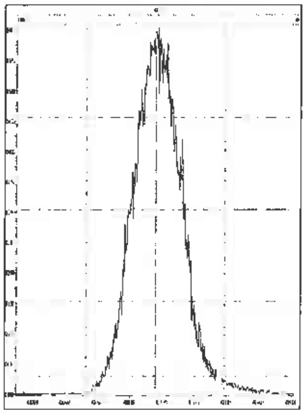

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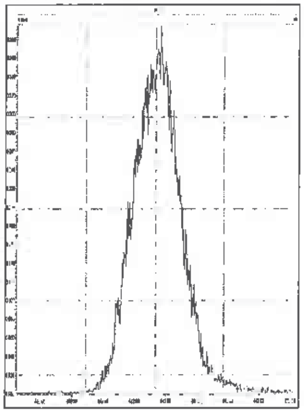

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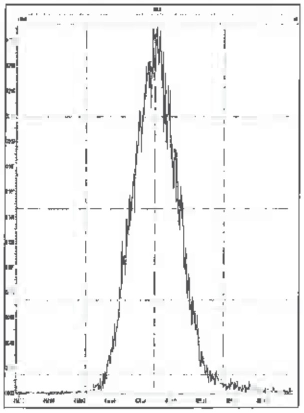

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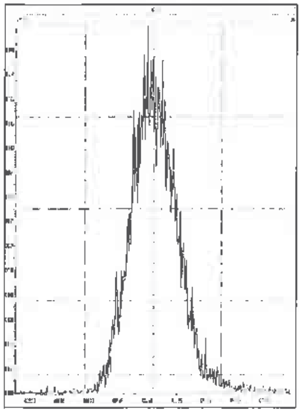

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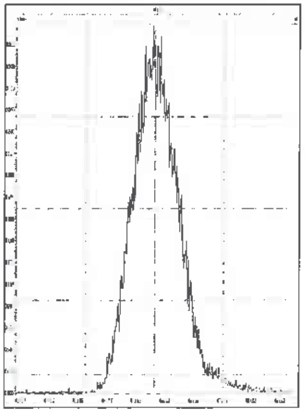

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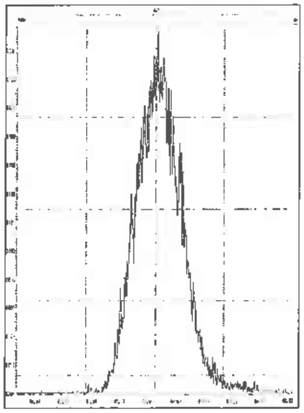

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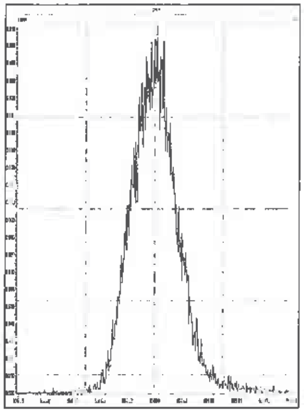

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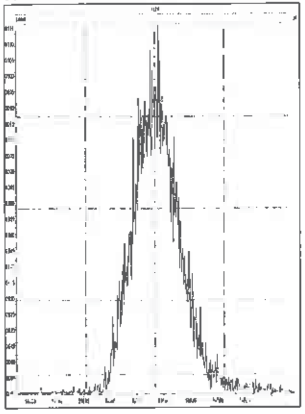

Resolution Check Report **MassLynx 4.1**

Printed: Saturday, November 11, 2017 22:08:36 Pacific Standard Time

10D5

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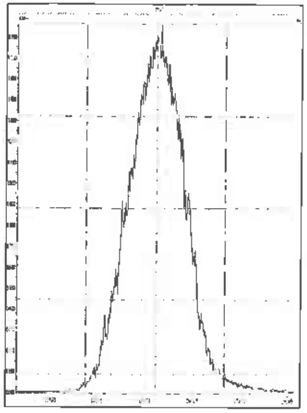

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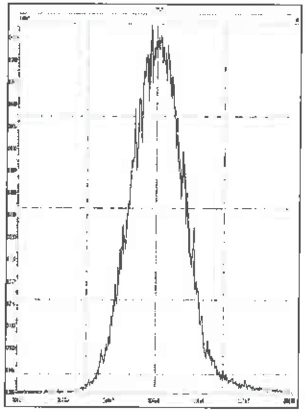

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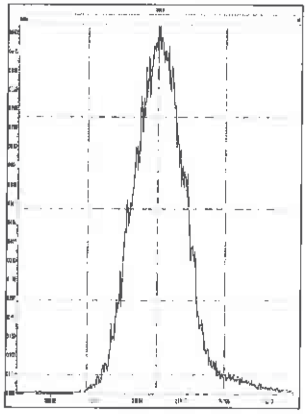

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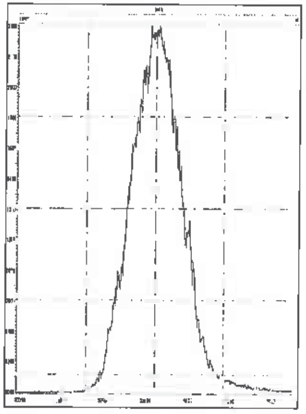

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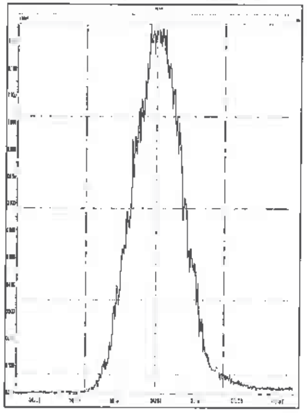

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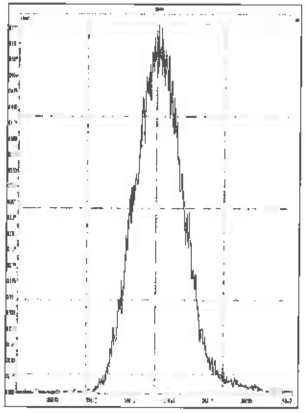

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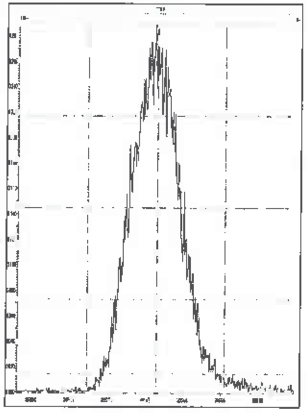

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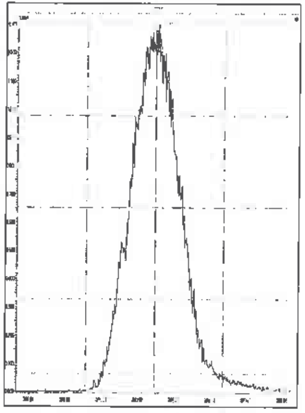

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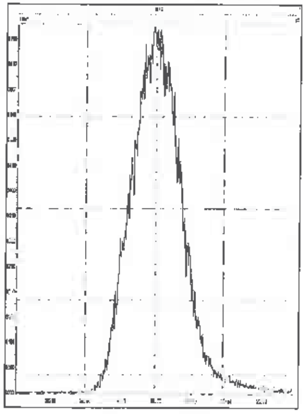

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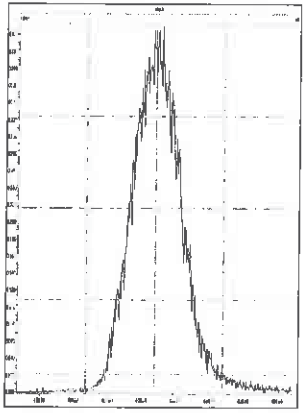

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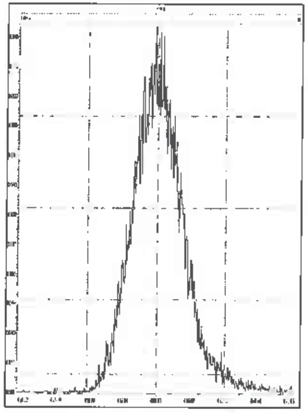

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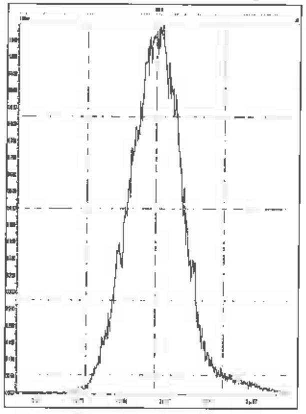

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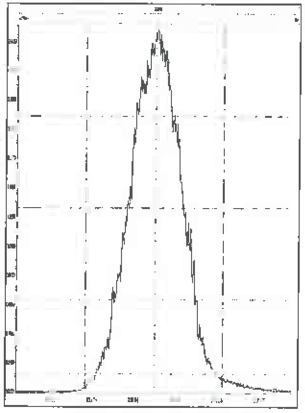

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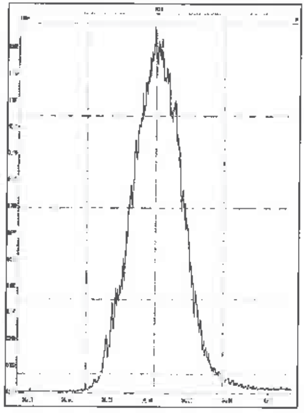

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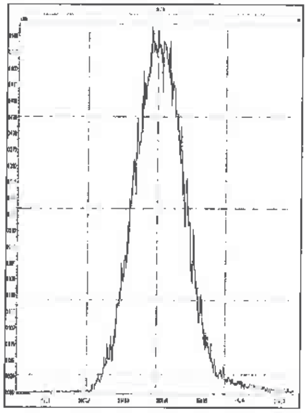

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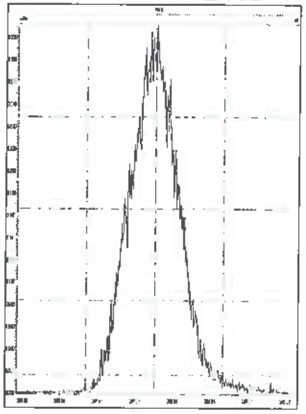

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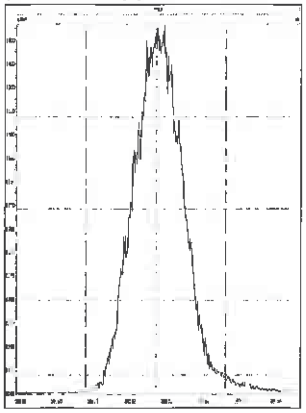

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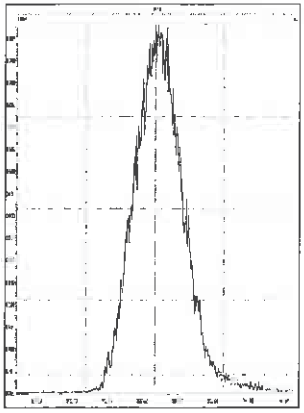

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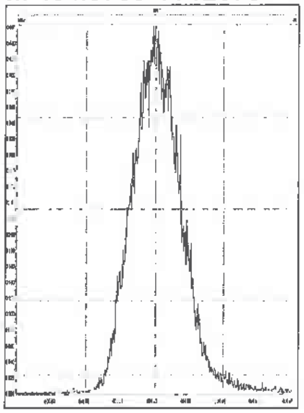

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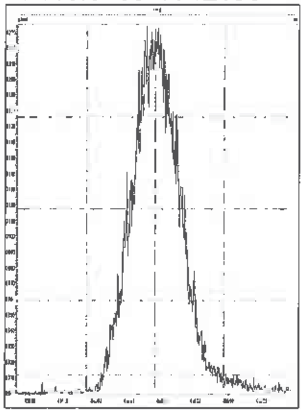

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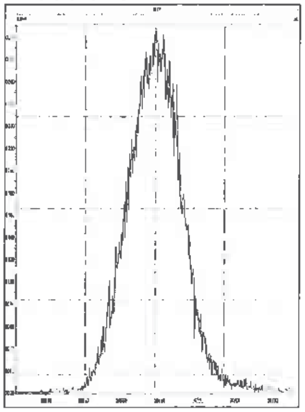

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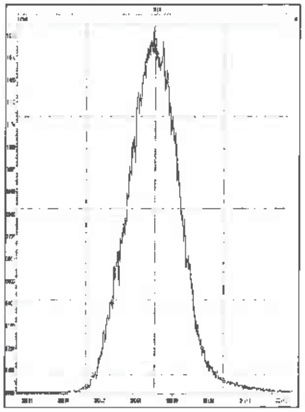

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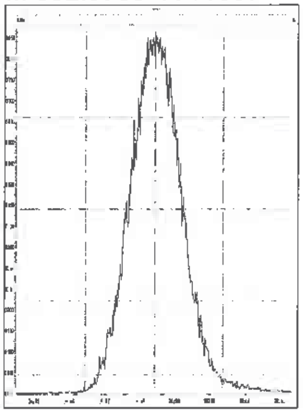

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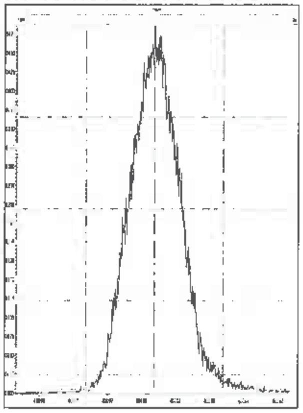

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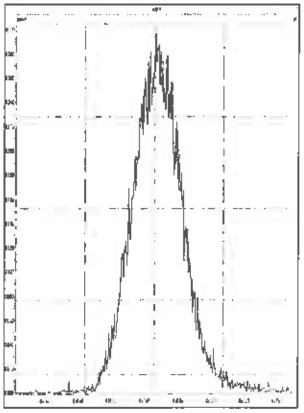

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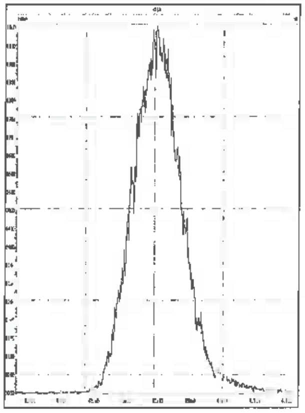

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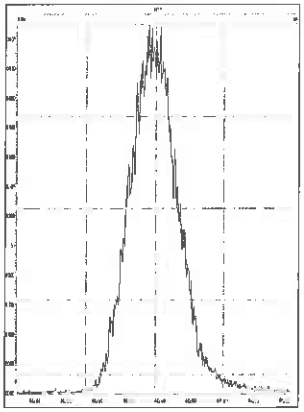

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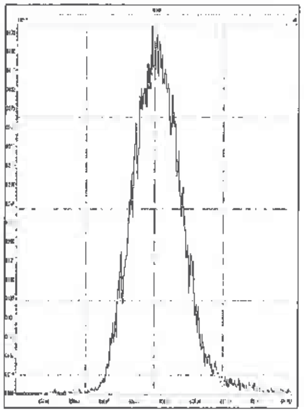

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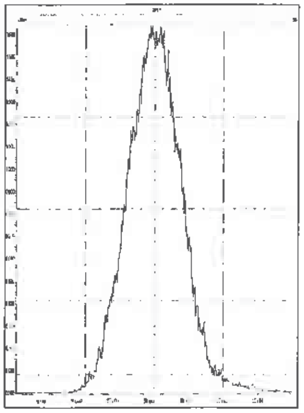

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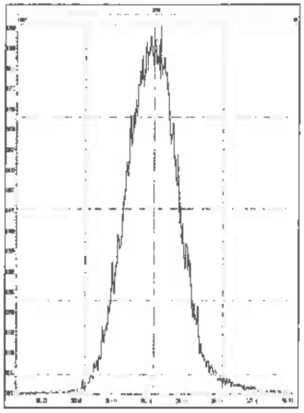

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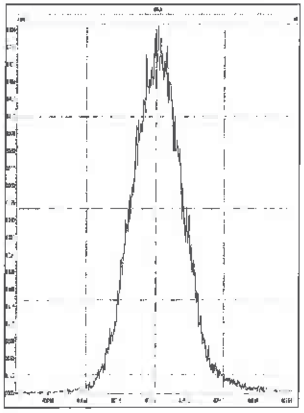

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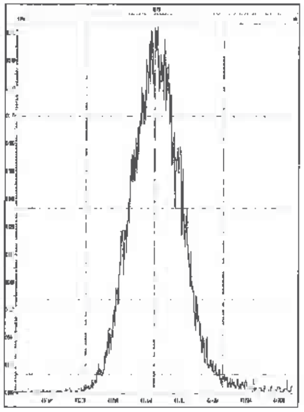

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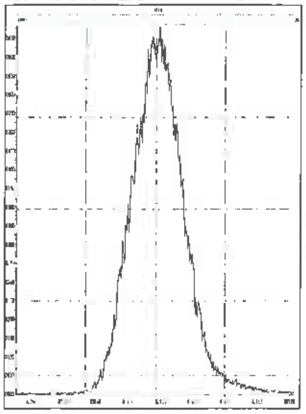

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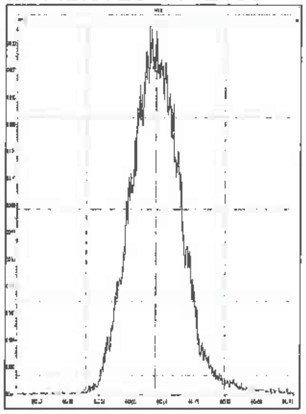

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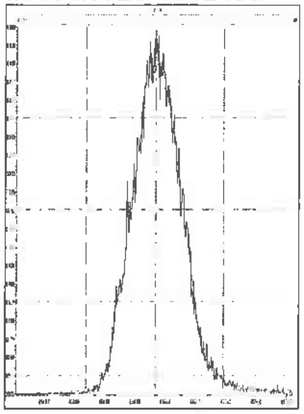

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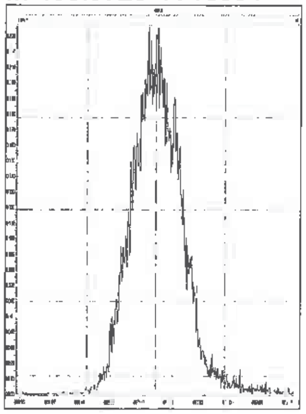

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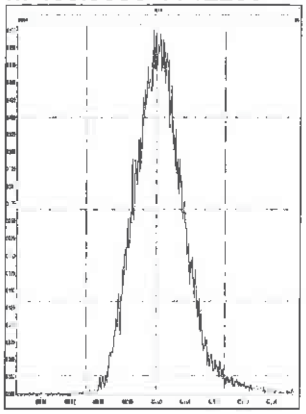

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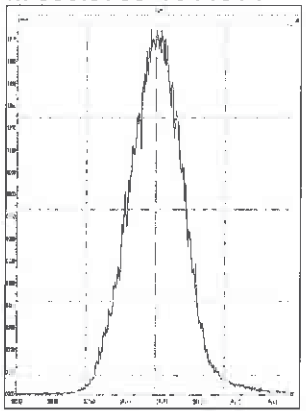

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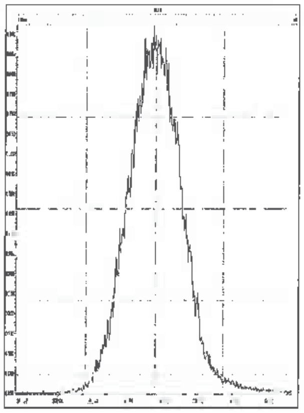

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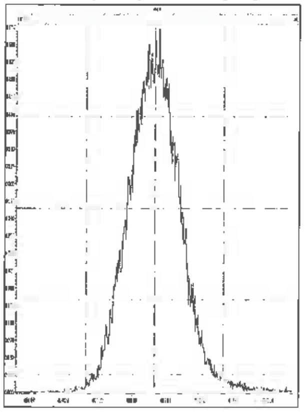

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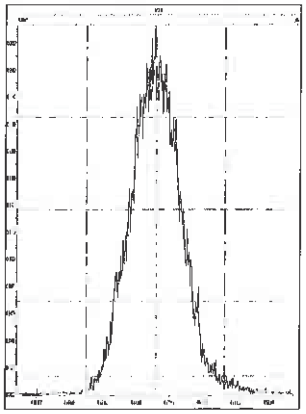

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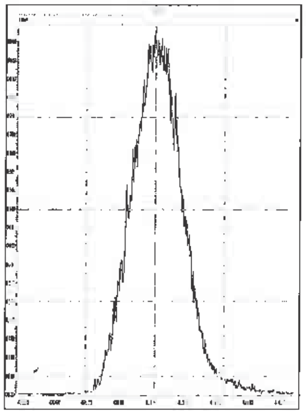

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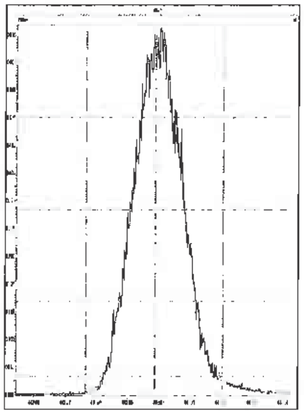

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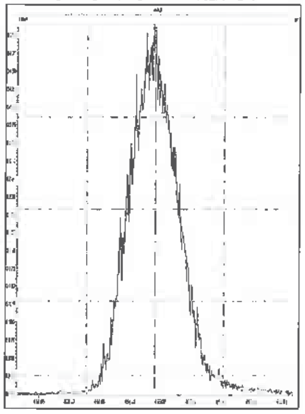

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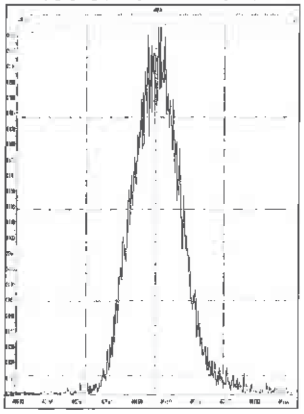

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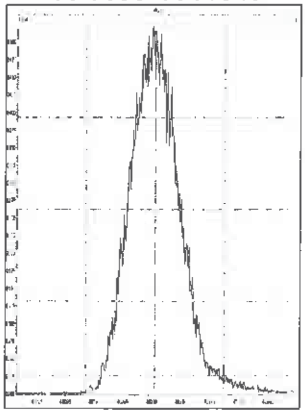

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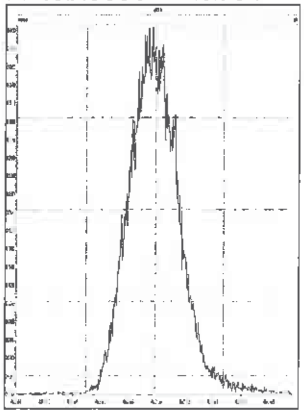

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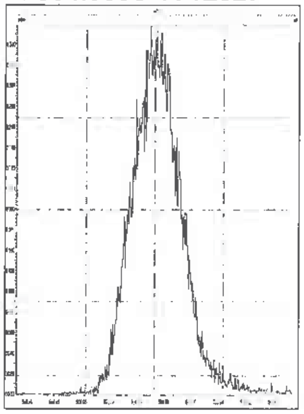

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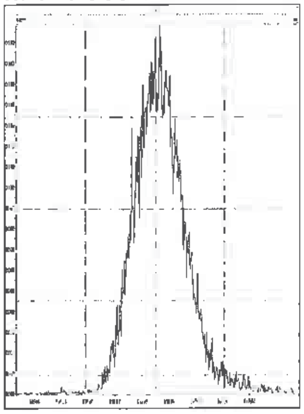

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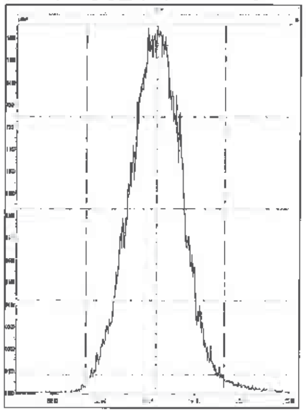

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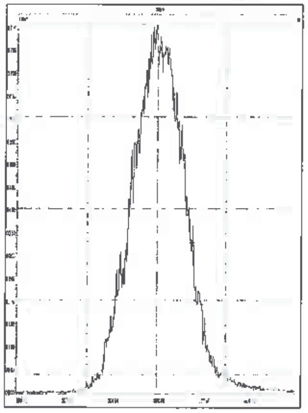

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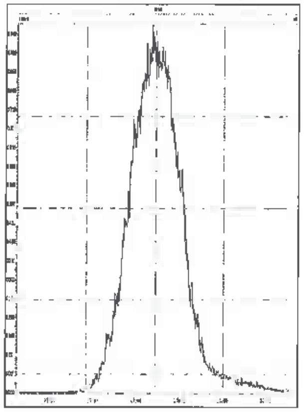

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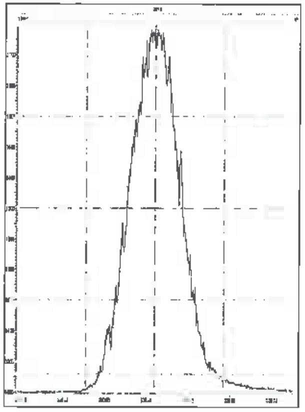

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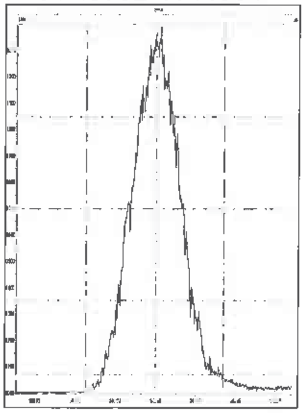

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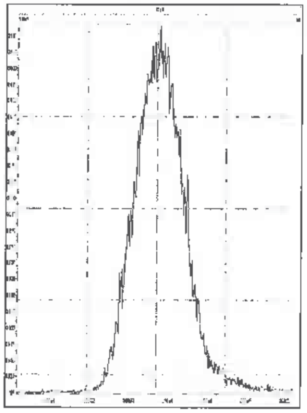

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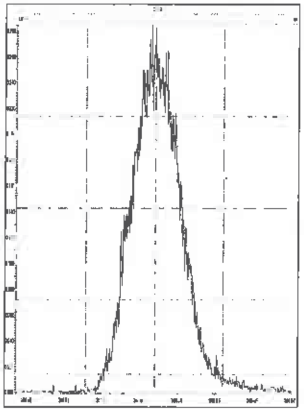

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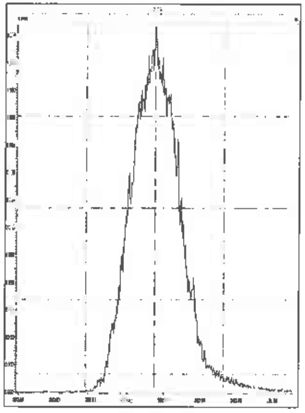

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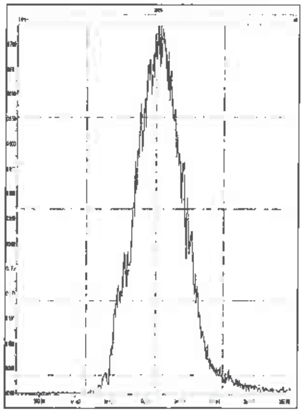

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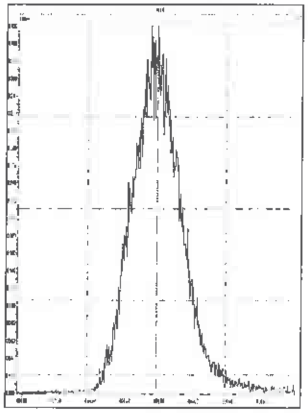

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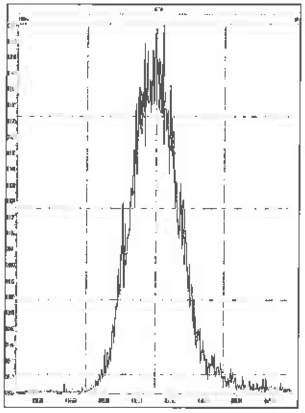

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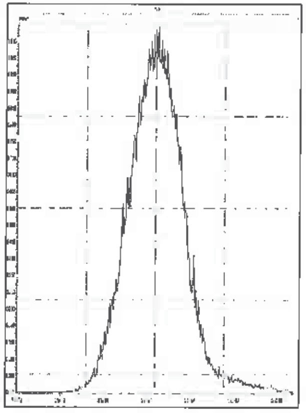

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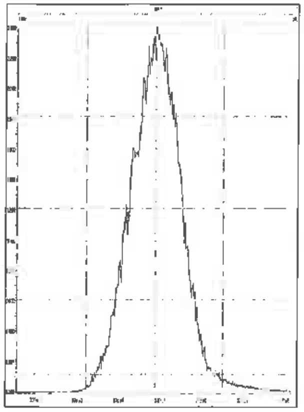

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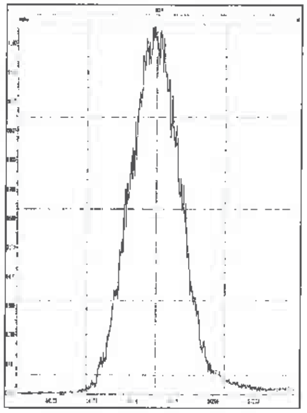

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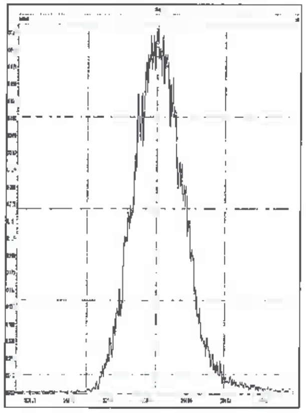

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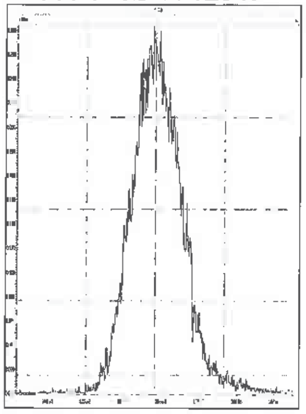

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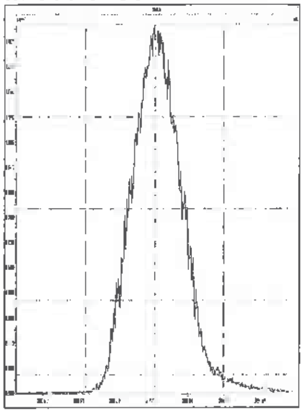

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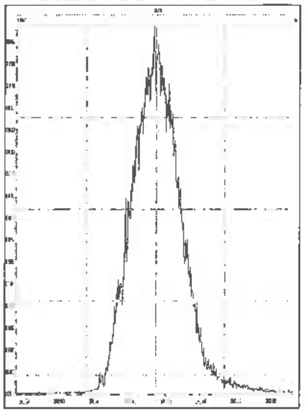

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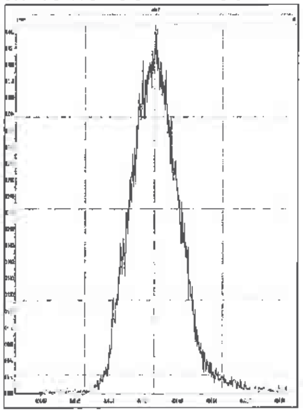

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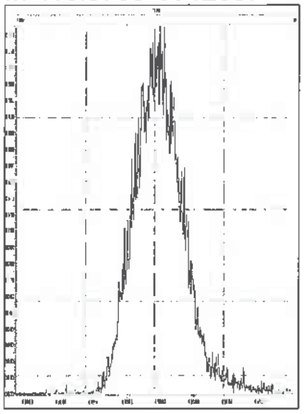

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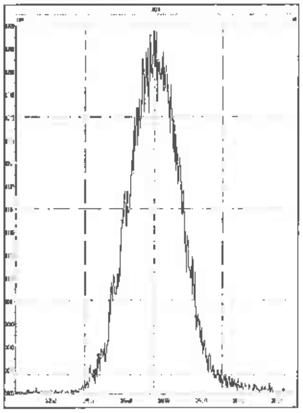

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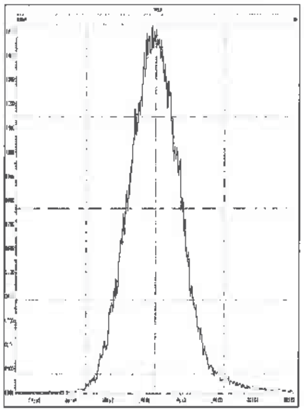

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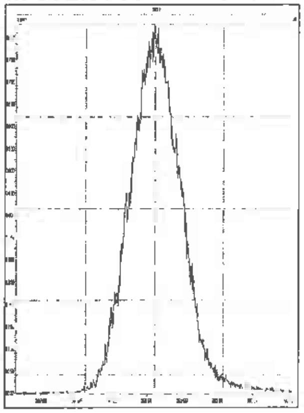

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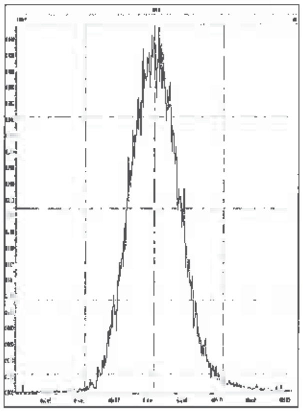

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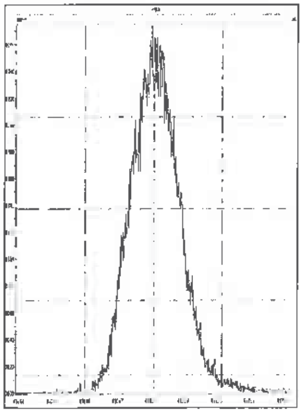

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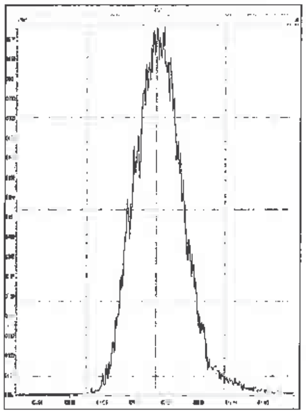

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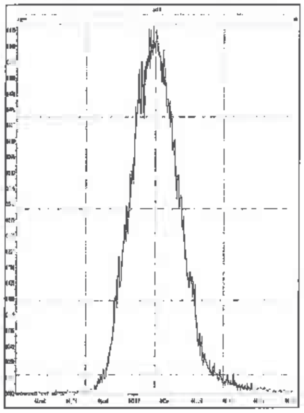

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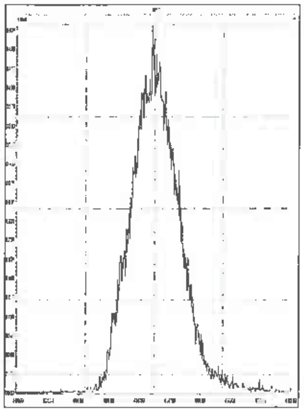

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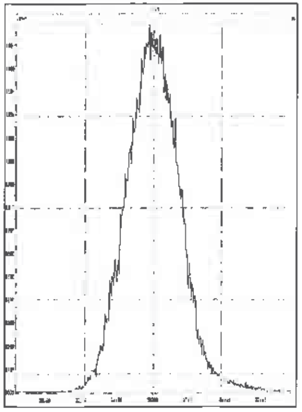

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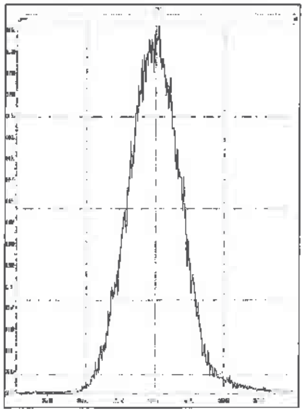

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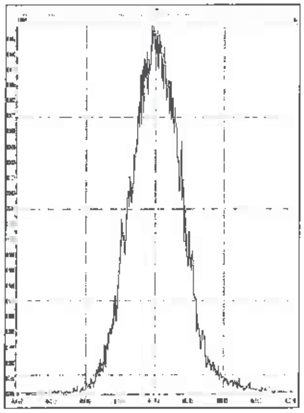

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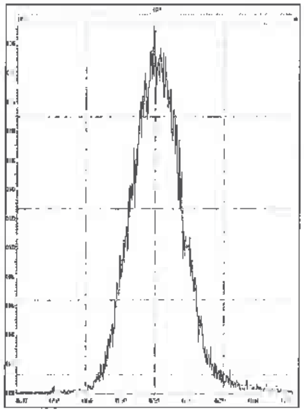

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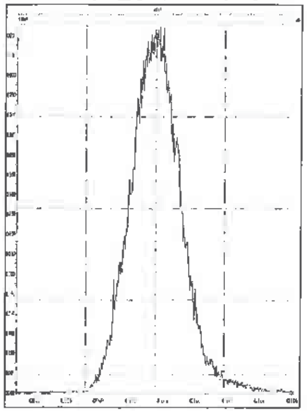
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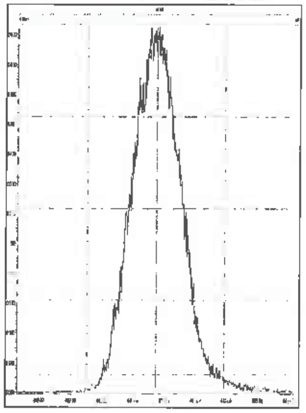
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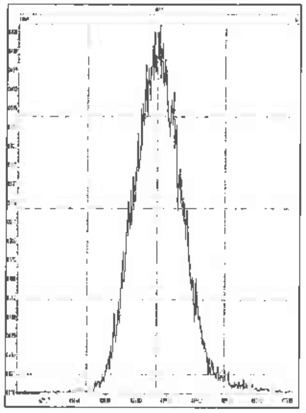
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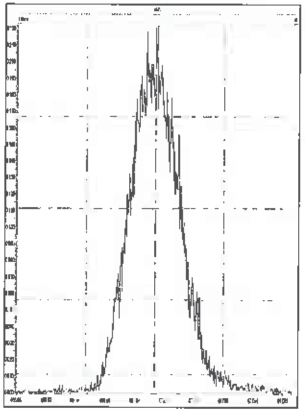
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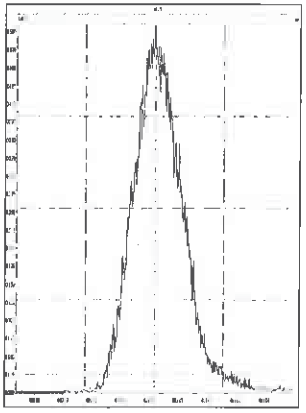
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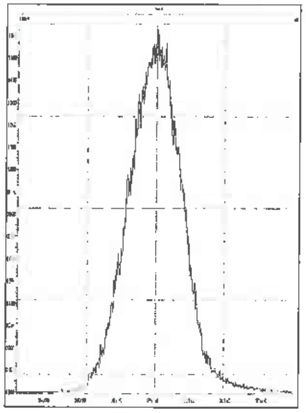
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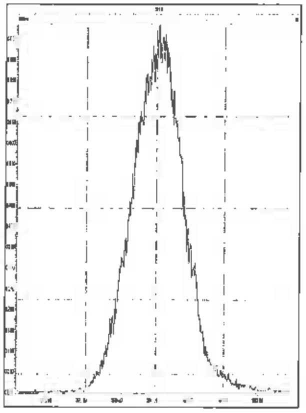
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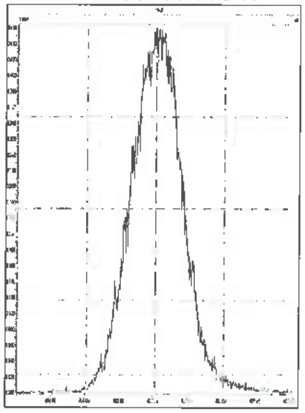
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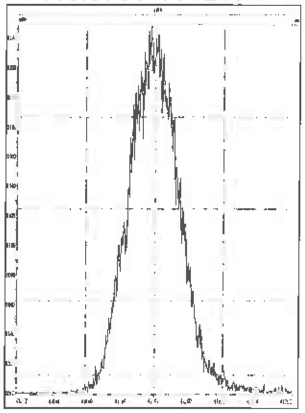
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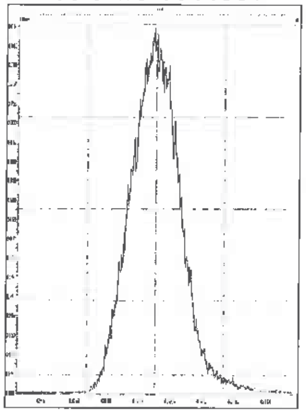
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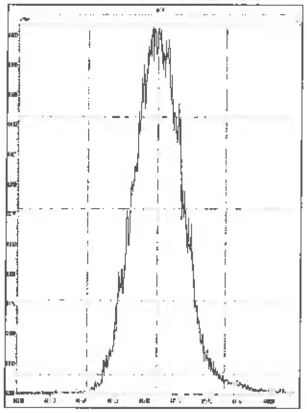
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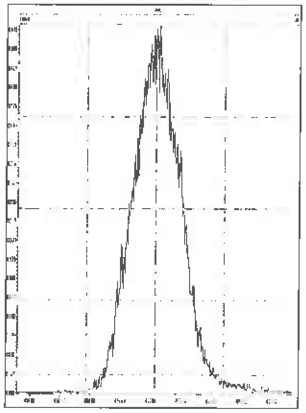
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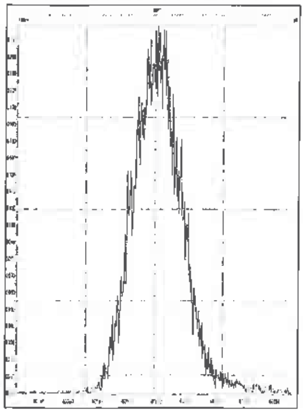
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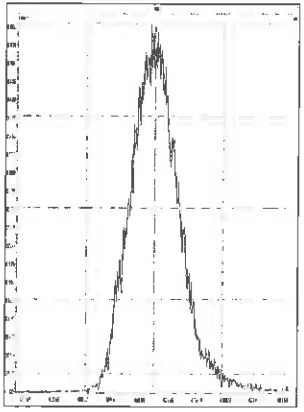
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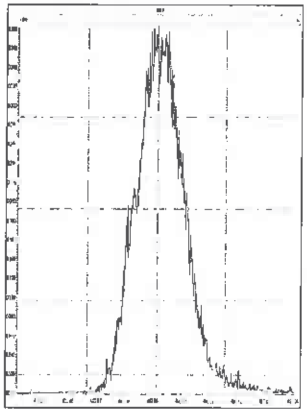
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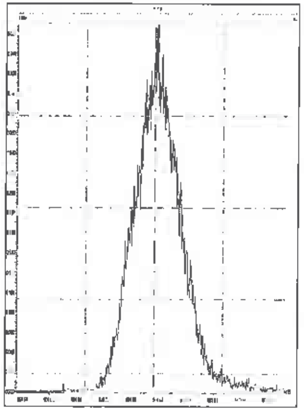
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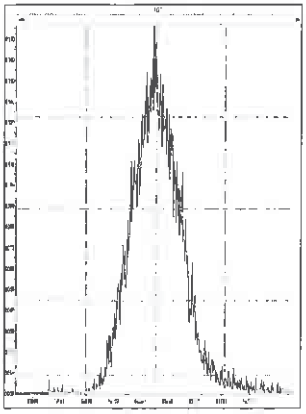

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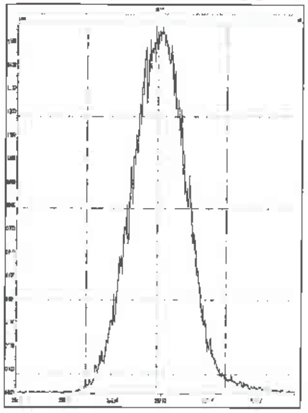
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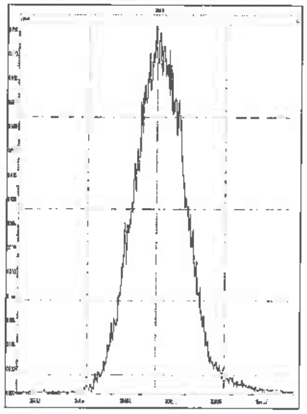
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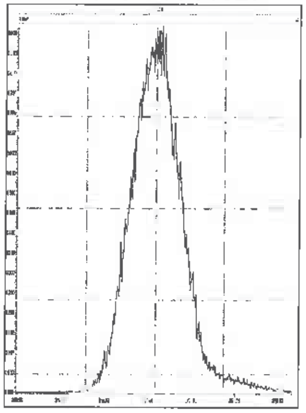
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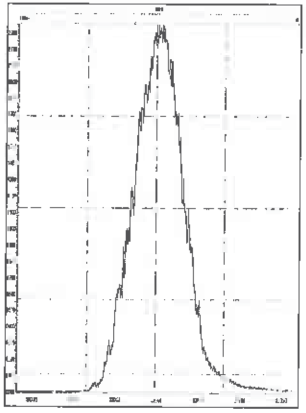
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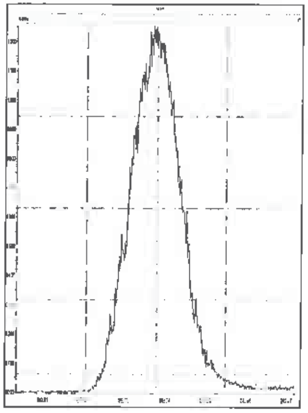
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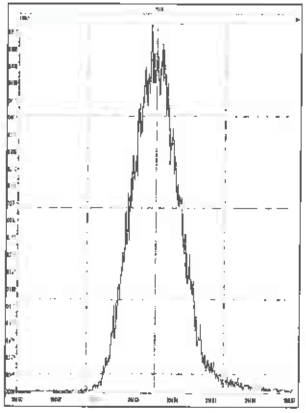
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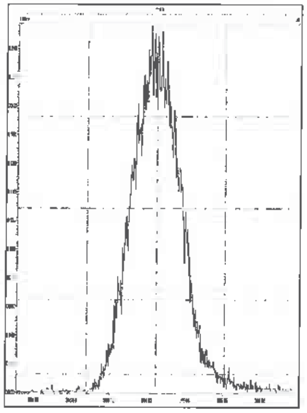
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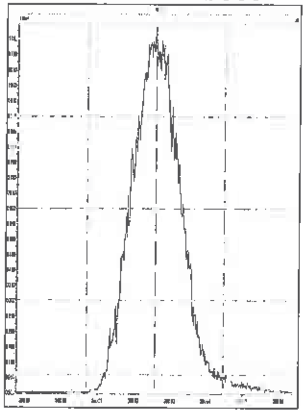
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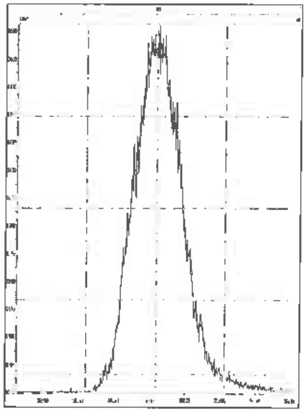
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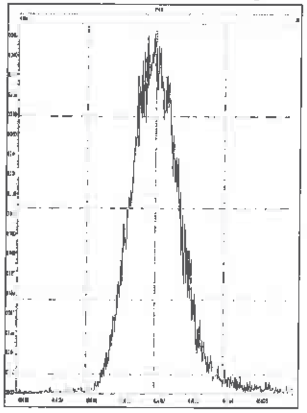
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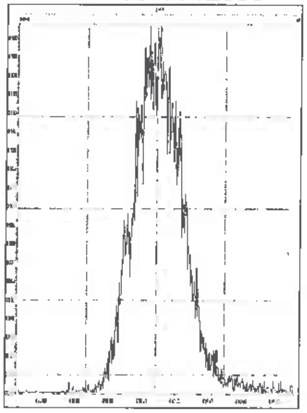
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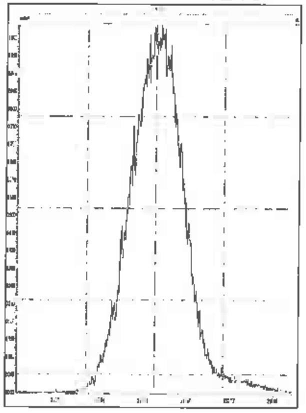
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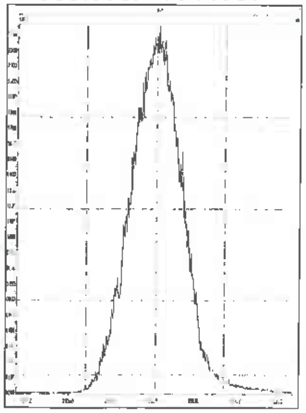
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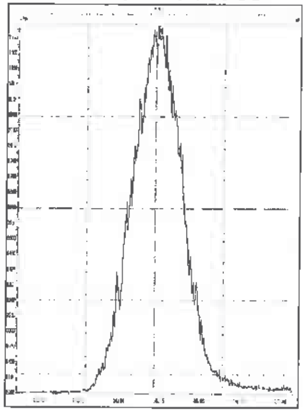
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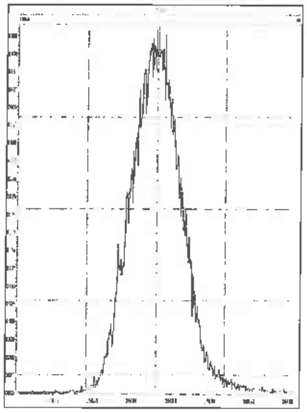
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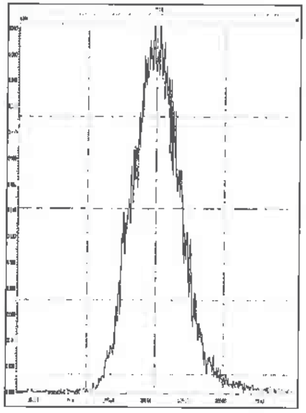
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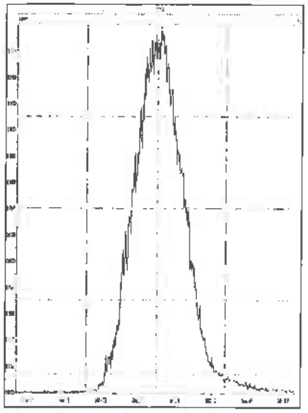
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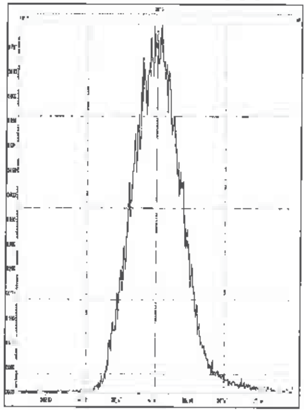
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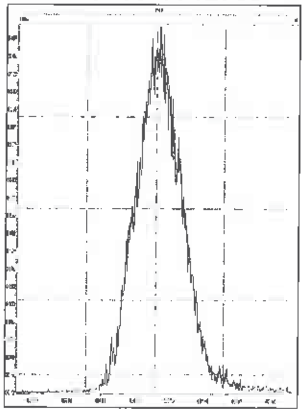
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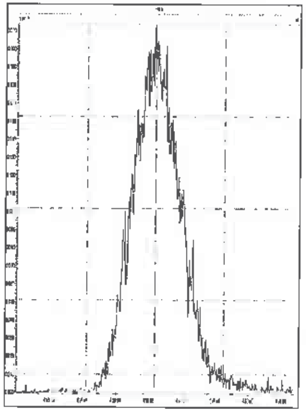
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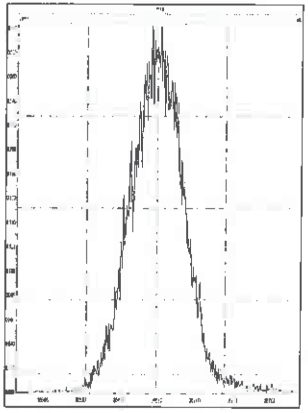
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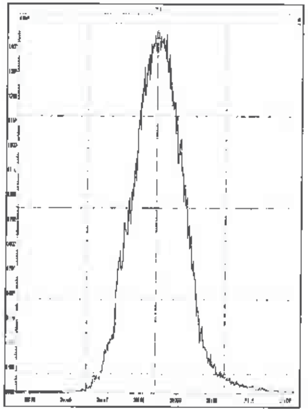
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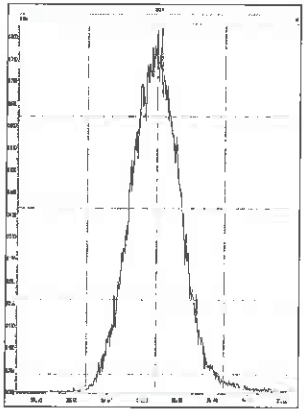
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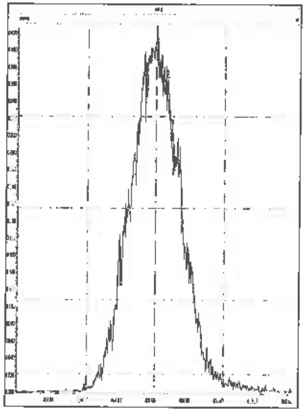
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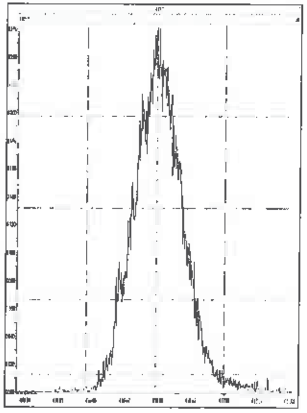
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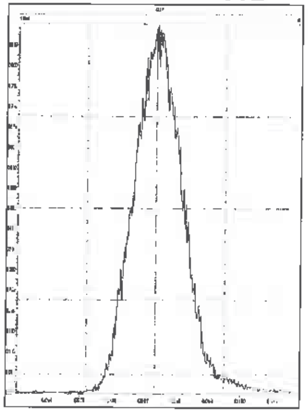
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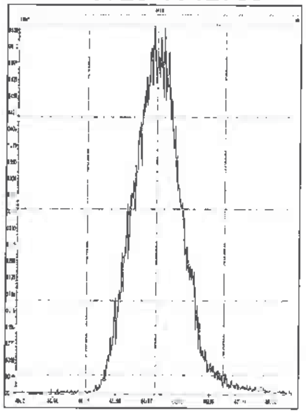
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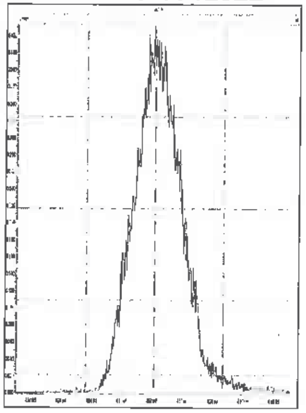
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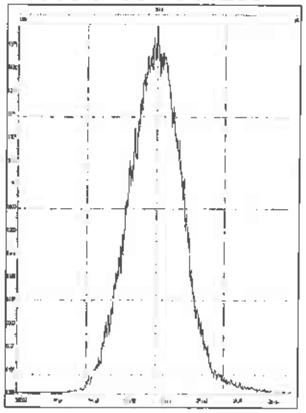
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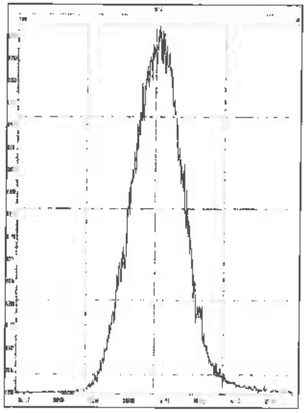
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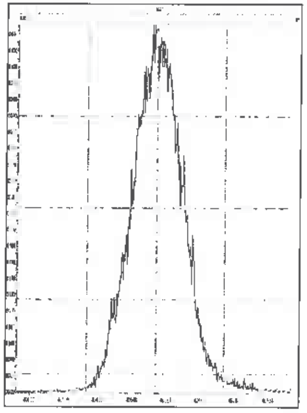
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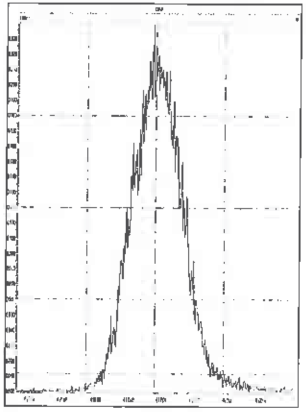
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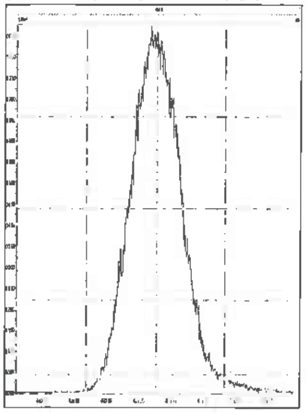
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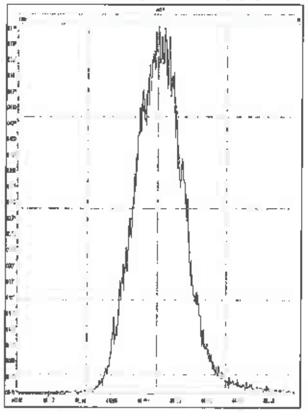
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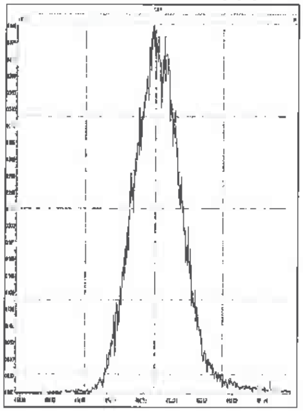
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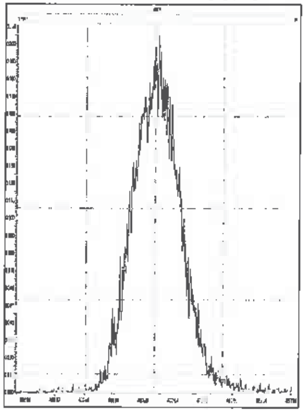
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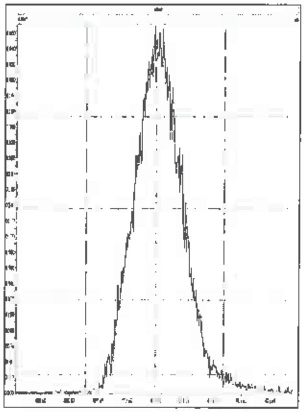
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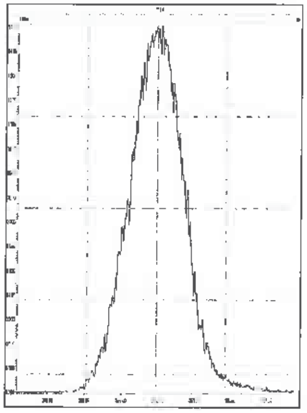
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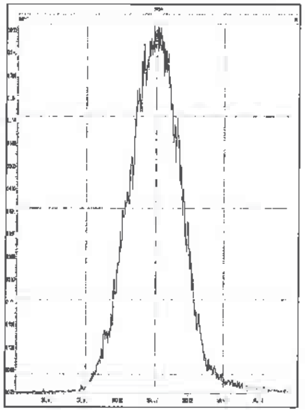
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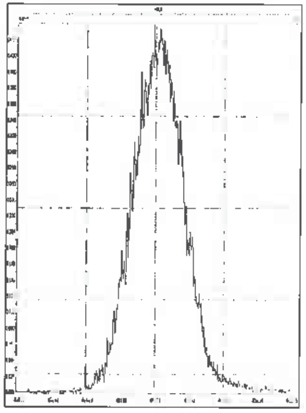
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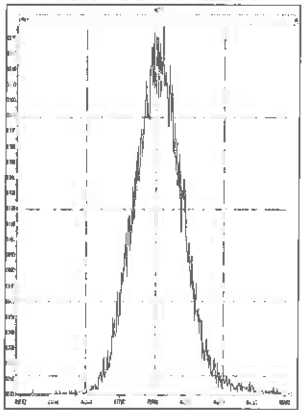
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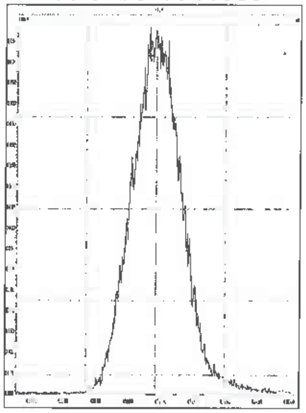
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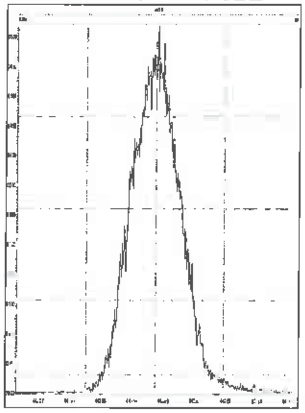
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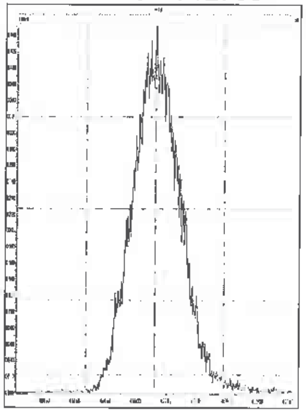
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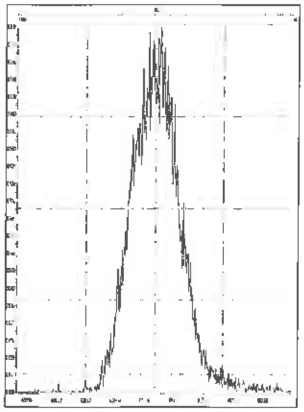
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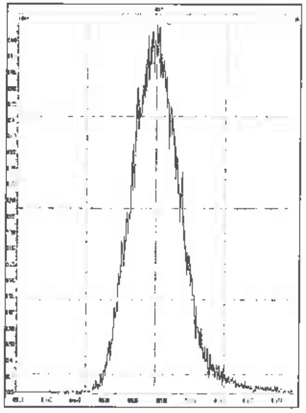
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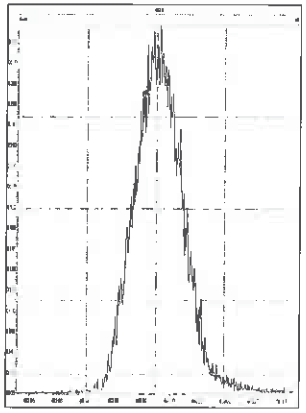
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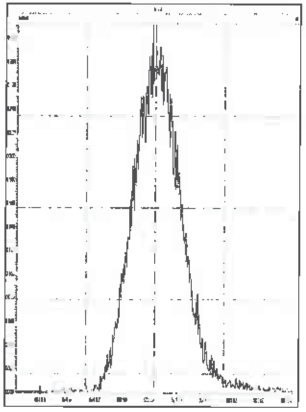
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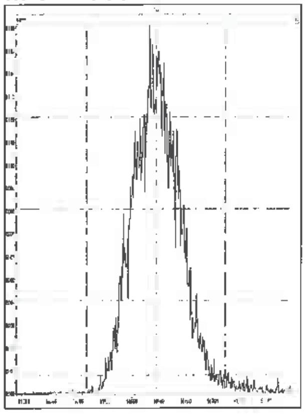

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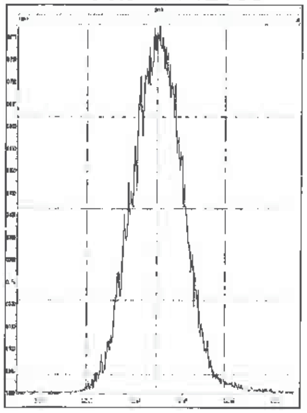

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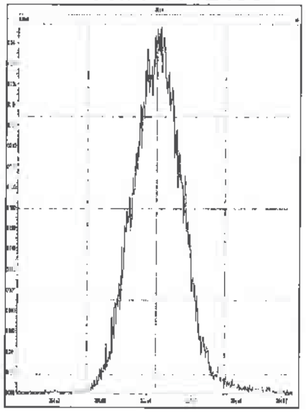

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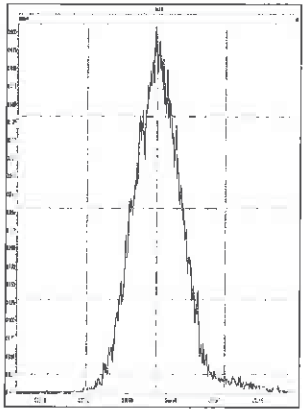

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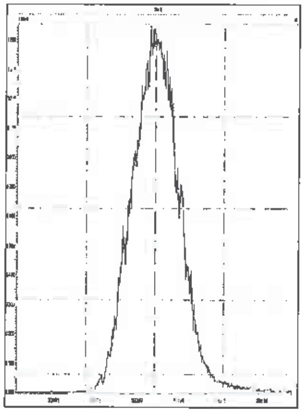

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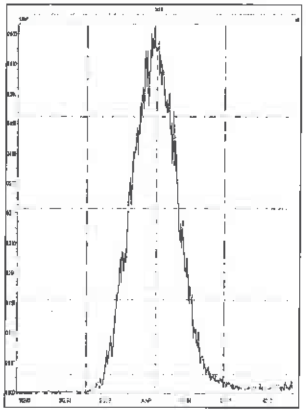

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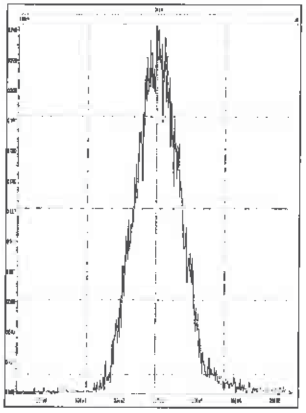

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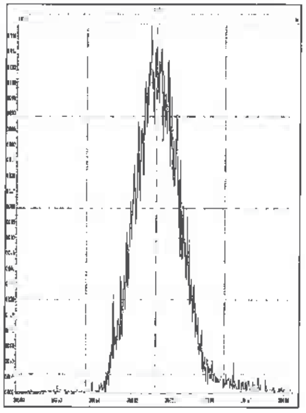

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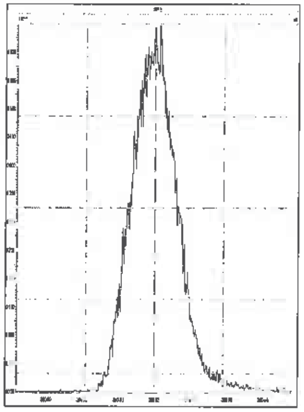

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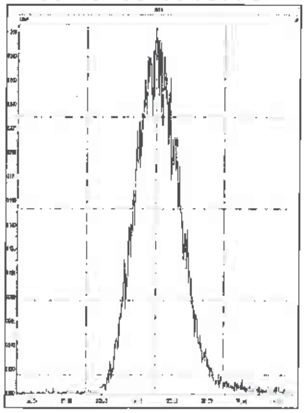

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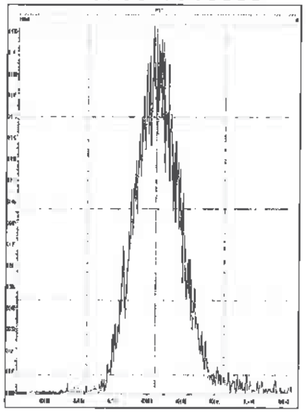

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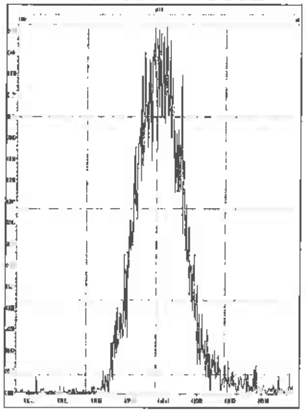

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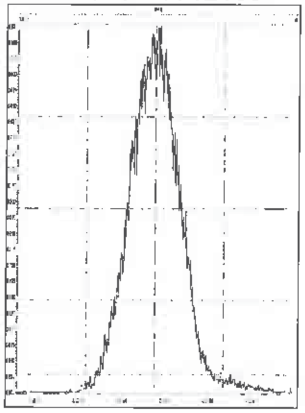

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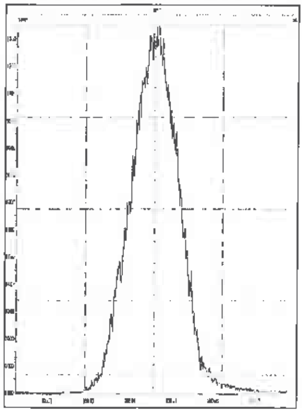

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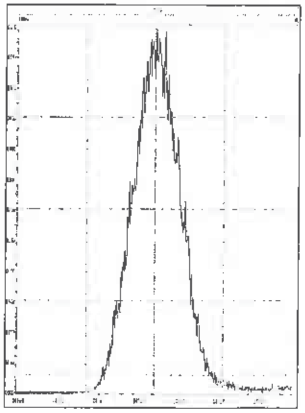

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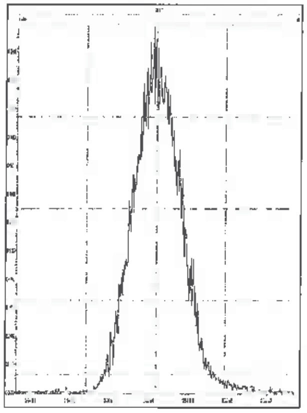

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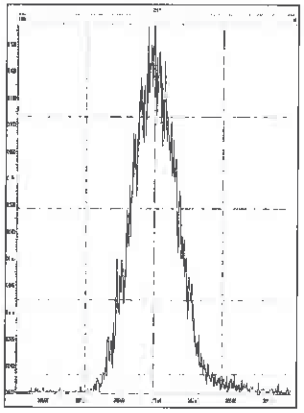

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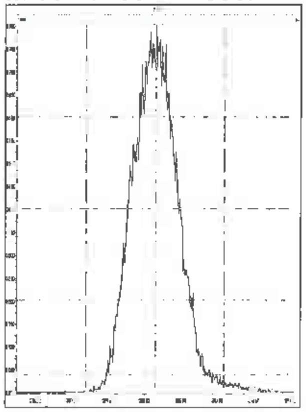

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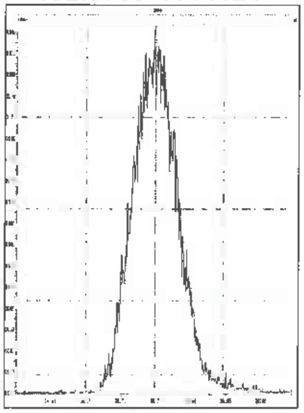

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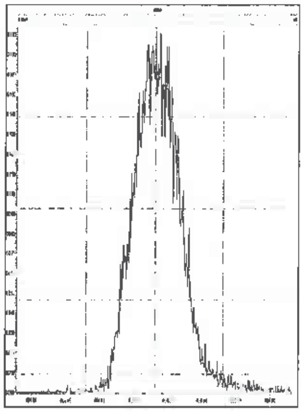

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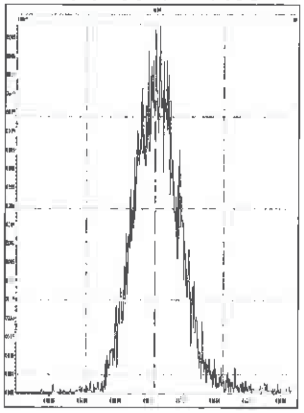

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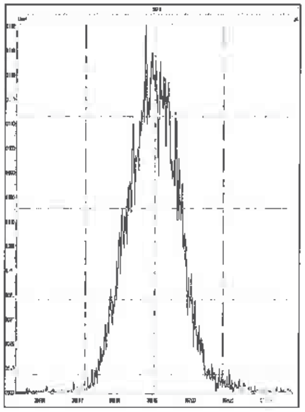

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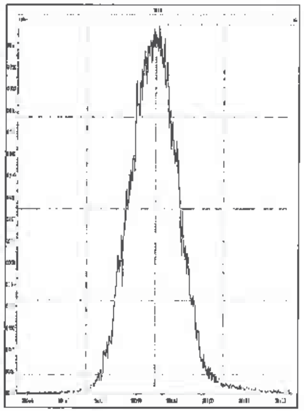

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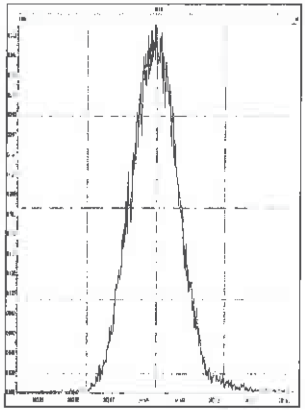

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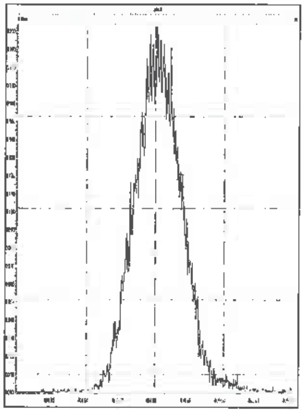

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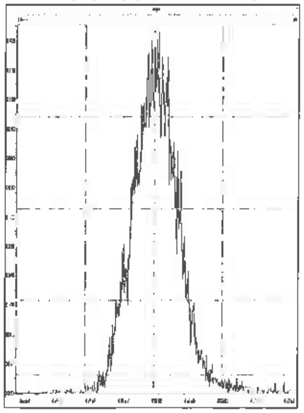

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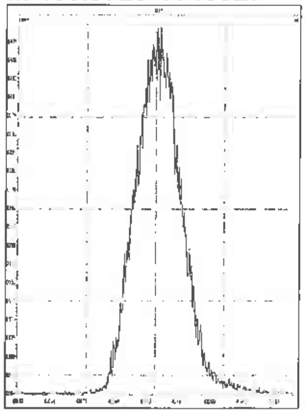

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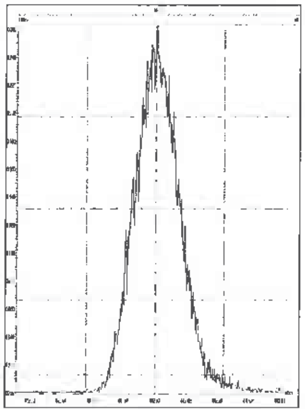

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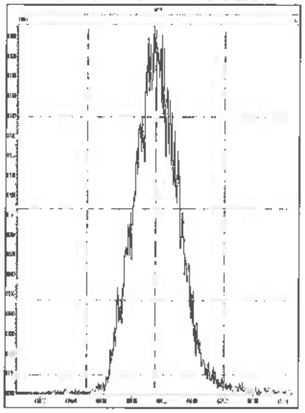

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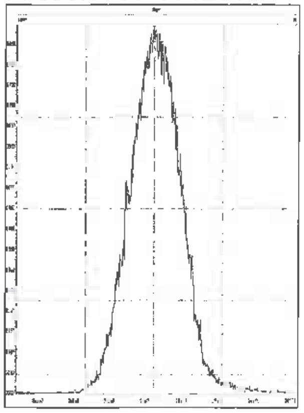

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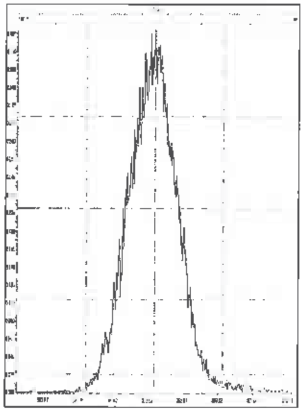

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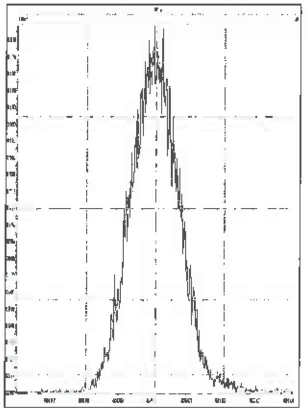

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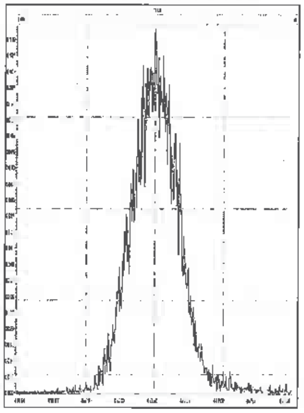

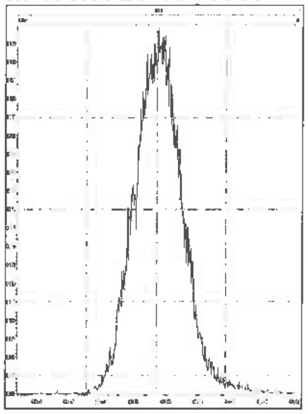
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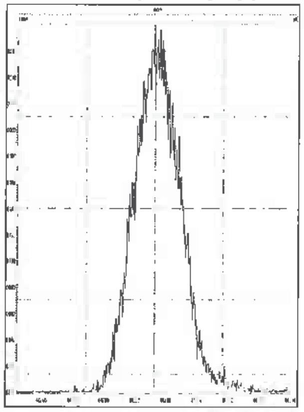
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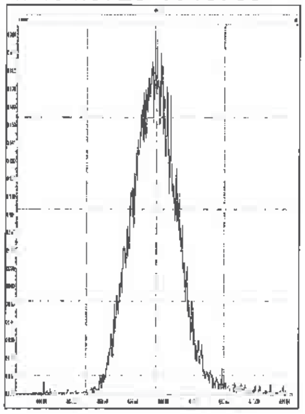
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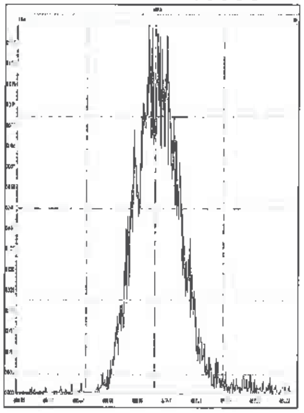
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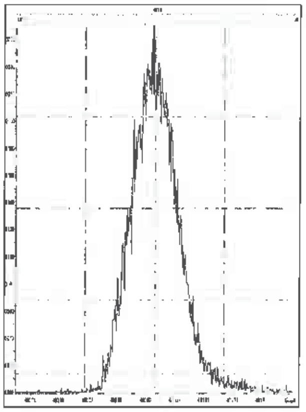
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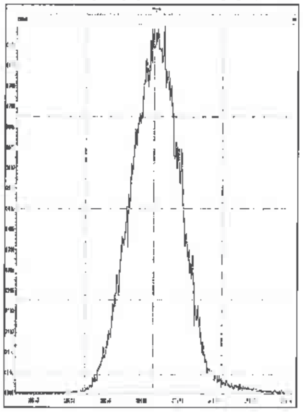
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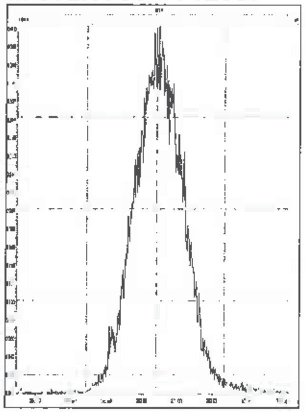
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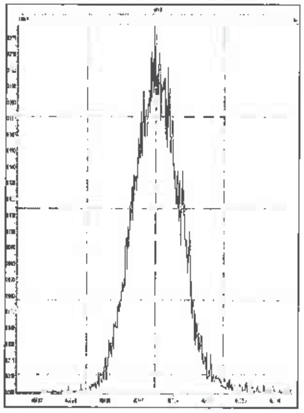
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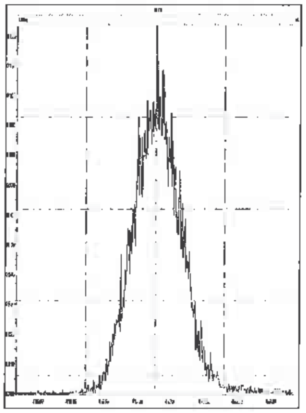
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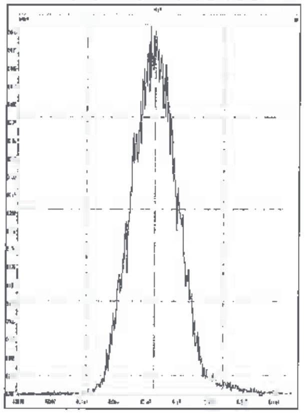
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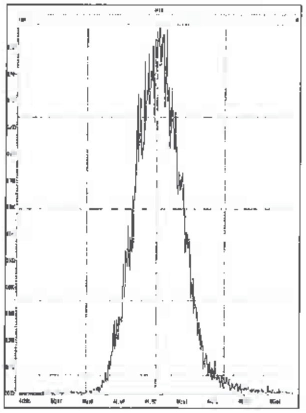
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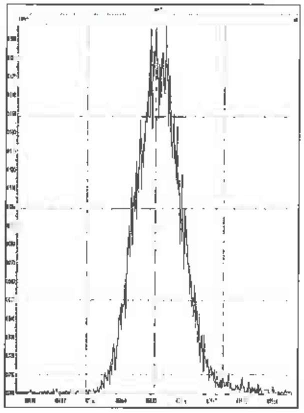
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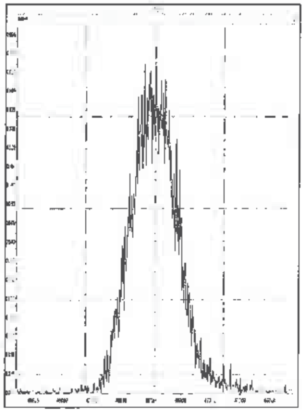
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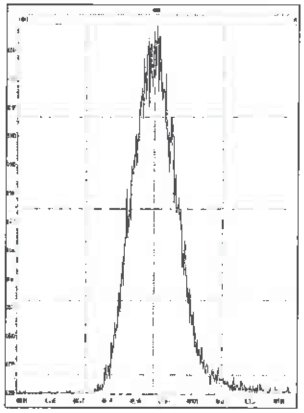
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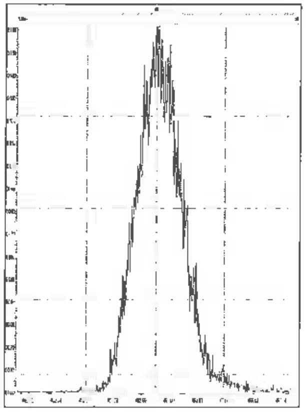
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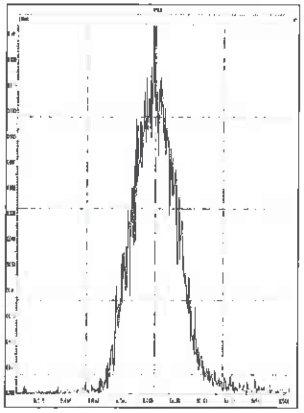
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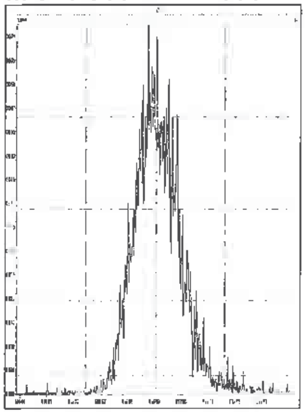

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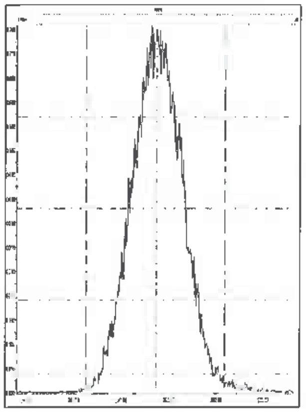

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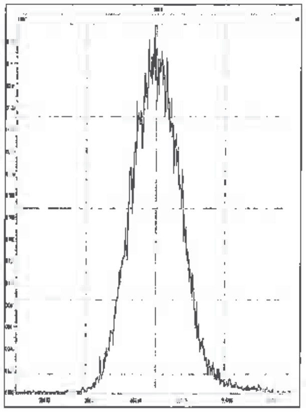

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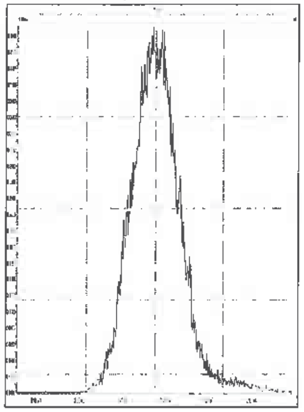

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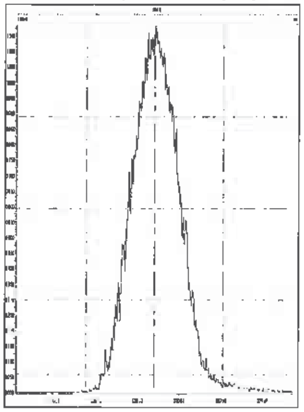

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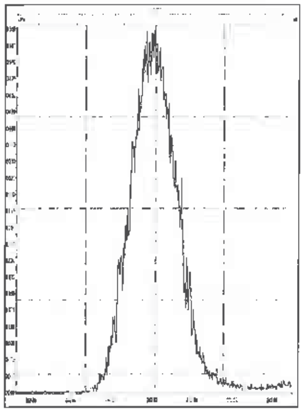

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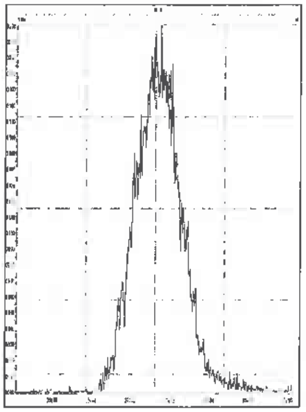

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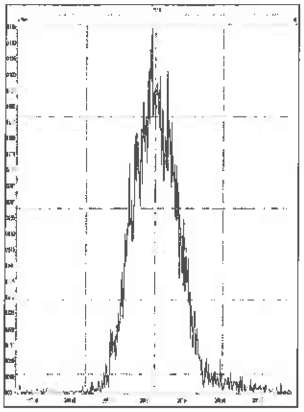

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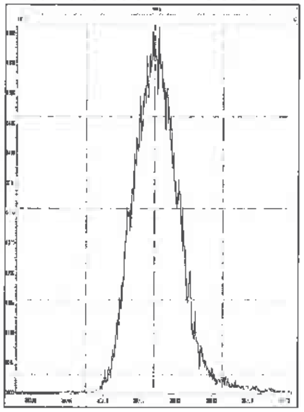

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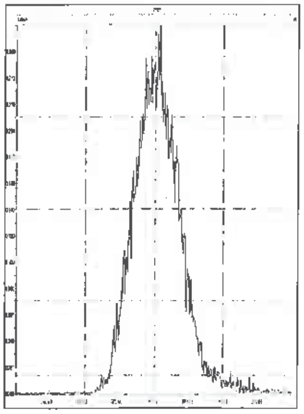

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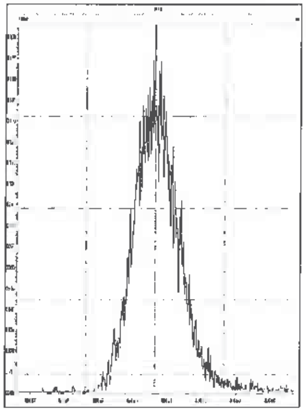

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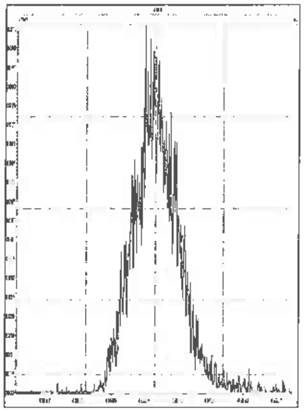

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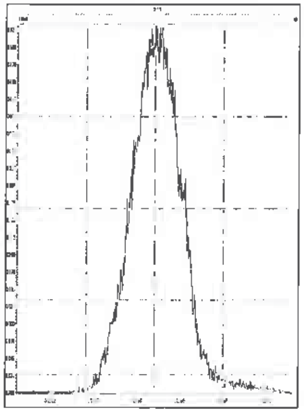

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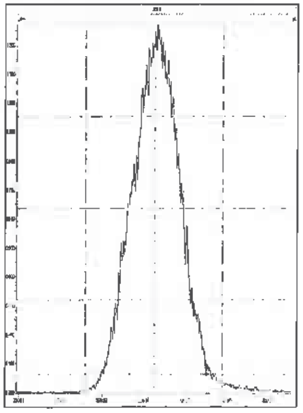

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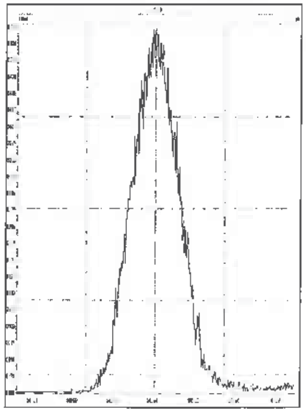

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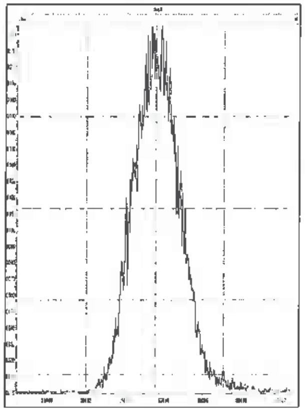

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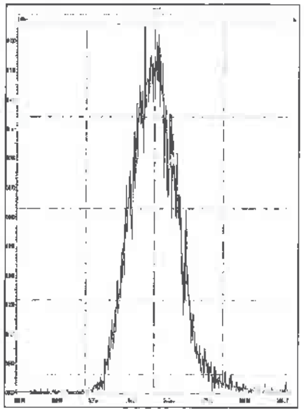

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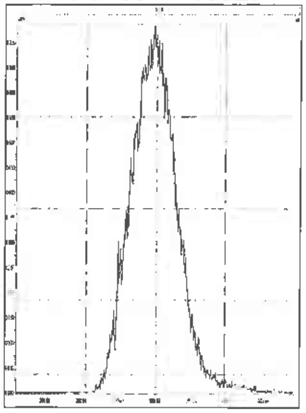

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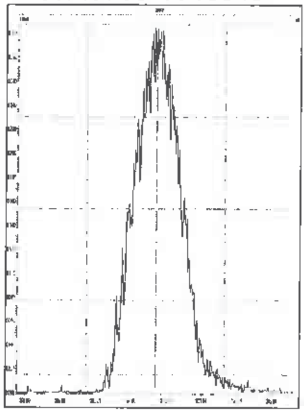

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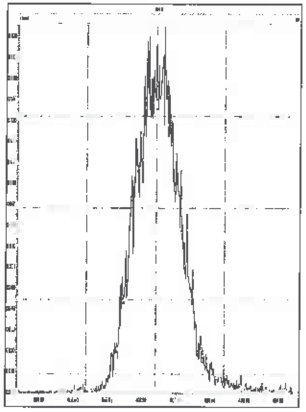

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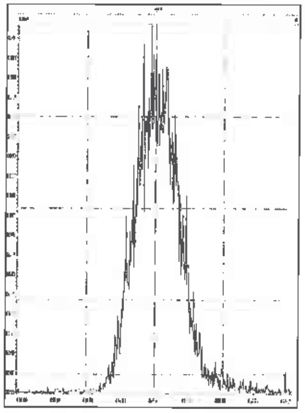

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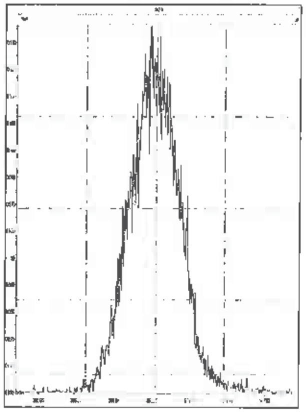

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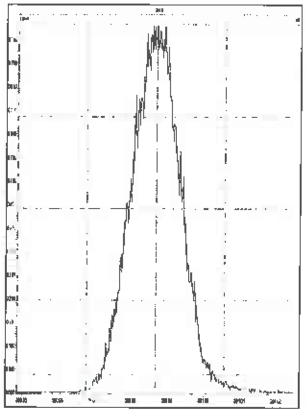
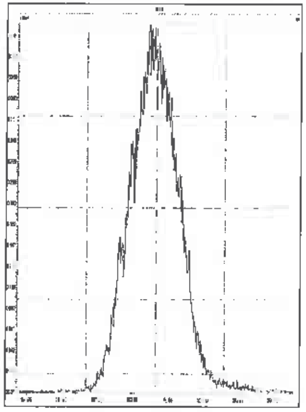
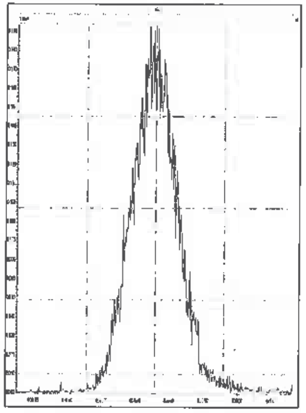


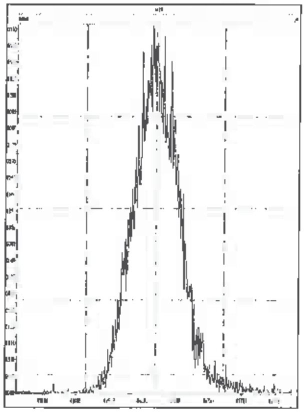
M 392.9760 R 12920



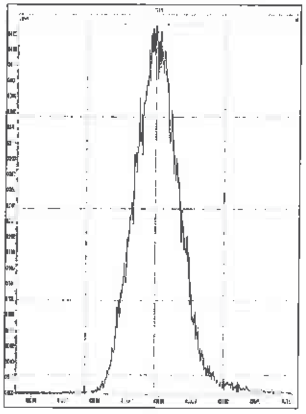
M 404.9760 R 13370



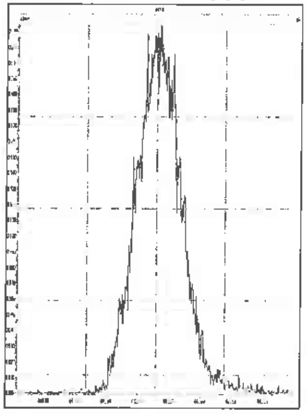
M 416.9760 R 13966



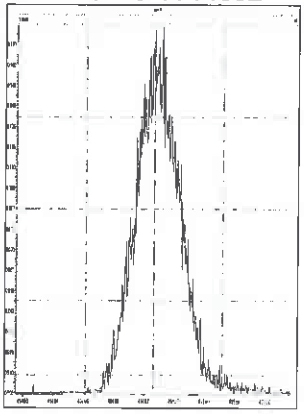
M 430.9728 R 13515



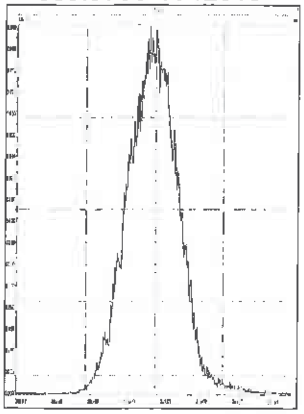
M 442.9728 R 13662



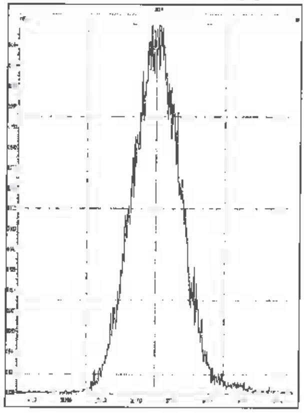
M 454.9728 R 14582



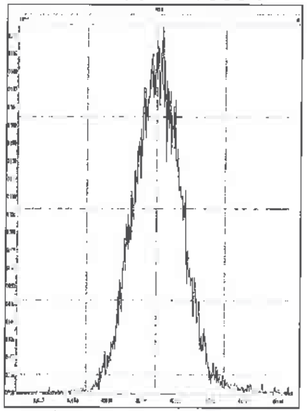
M 380.9760 R 12019



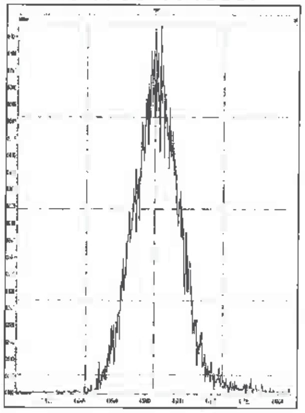
M 392.9760 R 12756



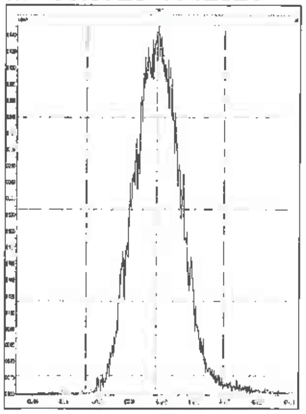
M 404.9760 R 13094

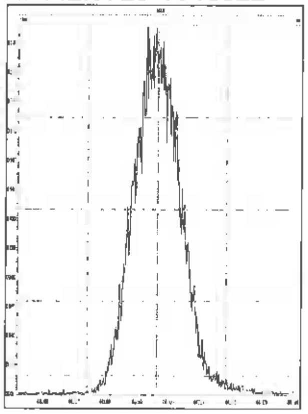


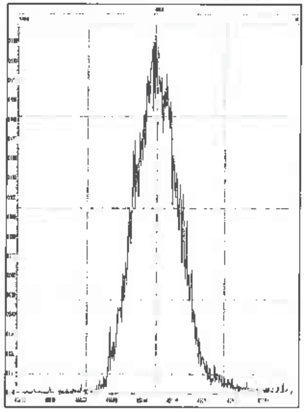
M 416.9760 R 13557

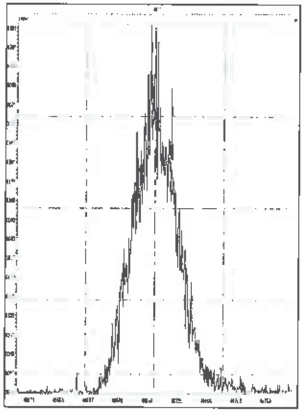


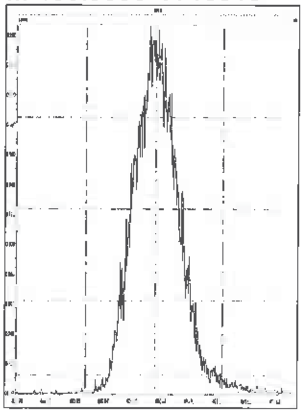
10D5

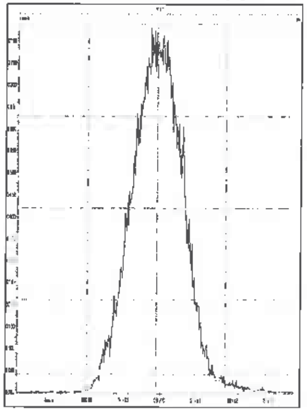

M 430.9728 R 12821

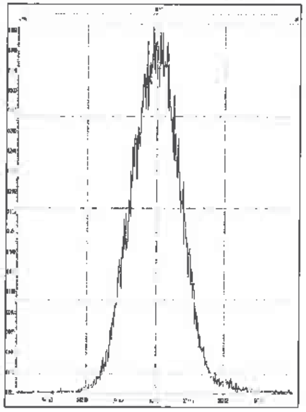

M 442.9728 R 13822

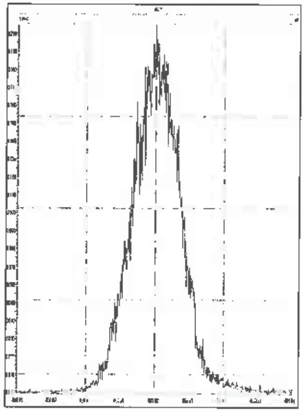

M 454.9728 R 14048

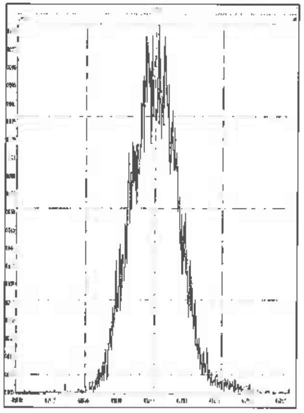

M 466.9728 R 14906

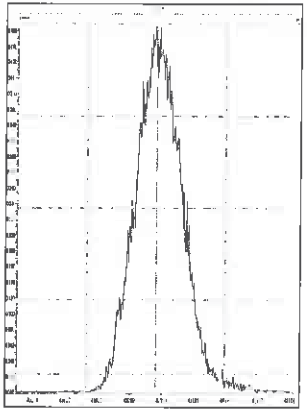

M 480.9696 R 13513

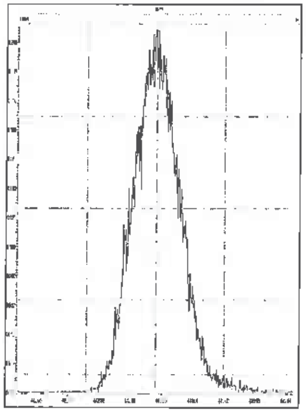

M 380.9760 R 11962

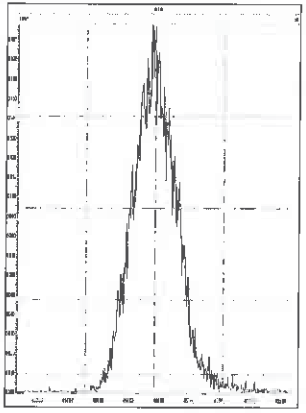

M 392.9760 R 12562

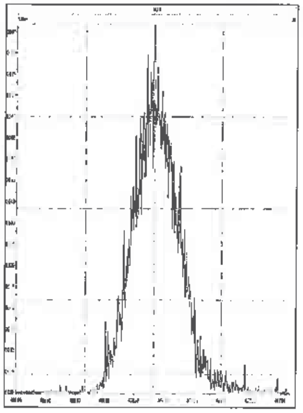

M 404.9760 R 13333

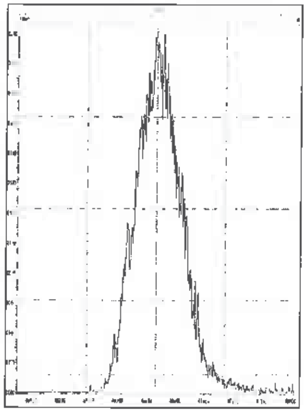

M 416.9760 R 13550

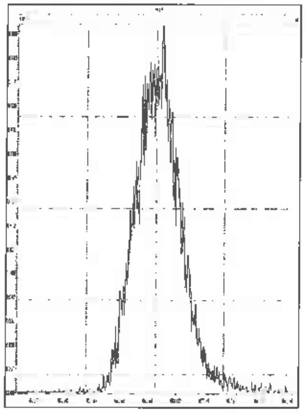

M 430.9728 R 13262

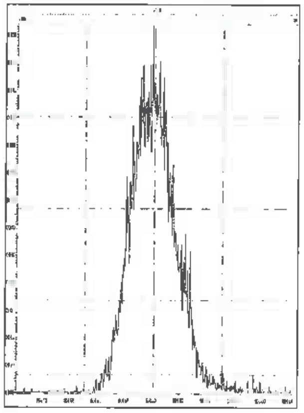

M 442.9728 R 13698


M 454.9728 R 14018

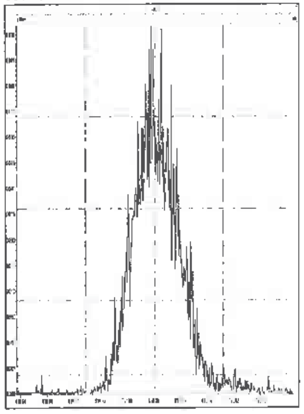

M 466.9728 R 13592


M 480.9696 R 13742


M 492.9696 R 13664


M 504.9696 R 15446

M 516.9697 R 14495



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 12-Nov-2017 00:00:55 ALS Bottle#: 2 Worklist Smp#: 80
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917L CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:31:22 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:31:22

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.884	82827726	0.79	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.370	112798318	0.78	1.2741	106.9	106.9	0.4637	0.4637	107	
2,3,7,8-TCDF	17.385	12246770	0.80	1.1341	9.573	9.573	0.0297	0.0297	95.73	
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF					9.573	9.573	0.0297	0.0297		
D 13C-2,3,7,8-TCDD	18.080	83389984	0.79	0.9921	101.5	101.5	0.2874	0.2874	101	
$ 37Cl4-2,3,7,8-TCDD	18.095	8808515		1.0466	10.2	10.2	0.0214	0.0214	102	
2,3,7,8-TCDD	18.095	8038695	0.79	0.9993	9.646	9.646	0.0349	0.0349	96.46	
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD					9.646	9.646	0.0349	0.0349		
D 13C-1,2,3,7,8-PeCDF	22.410	89563594	1.55	0.9696	111.5	111.5	0.2925	0.2925	112	
1,2,3,7,8-PeCDF	22.437	50878224	1.60	1.1627	48.9	48.9	0.1800	0.1800	97.72	
D 13C-2,3,4,7,8-PeCDF	23.760	88056697	1.56							
2,3,4,7,8-PeCDF	23.787	51157811	1.59	1.1395	50.1	50.1	0.1837	0.1837	100	
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		
S Total PeCDF					99.0	99.0	0.1818	0.1818		
D 13C-1,2,3,7,8-PeCDD	24.483	68266741	1.60	0.7588	108.6	108.6	0.1613	0.1613	109	
1,2,3,7,8-PeCDD	24.510	32875531	1.57	0.9490	50.7	50.7	0.0910	0.0910	101	
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD					50.7	50.7	0.0910	0.0910		
D 13C-1,2,3,4,7,8-HxCDF	30.553	72625820	0.52	0.9644	111.9	111.9	0.8642	0.8642	112	
1,2,3,4,7,8-HxCDF	30.580	50088335	1.29	1.4012	49.2	49.2	0.4208	0.4208	98.44	
D 13C-1,2,3,6,7,8-HxCDF	30.739	87734326	0.52							
1,2,3,6,7,8-HxCDF	30.753	56115791	1.27	1.6951	45.6	45.6	0.3479	0.3479	91.17	
D 13C-2,3,4,6,7,8-HxCDF	31.551	81146453	0.52							
2,3,4,6,7,8-HxCDF	31.565	52712380	1.27	1.5205	47.7	47.7	0.3878	0.3878	95.47	
D 13C-1,2,3,7,8,9-HxCDF	32.337	73161871	0.52							
1,2,3,7,8,9-HxCDF	32.350	46194322	1.29	1.4099	45.1	45.1	0.4183	0.4183	90.23	
A Non-2,3,7,8-sub-HxCDF	30.254						0.0	0.0		

Report Date: 13-Nov-2017 13:31:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					187.6	187.6	0.3937	0.3937		
* 13C-1,2,3,7,8,9-HxCDD	32.164	67293996	1.26	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.724	48469103	1.26							
1,2,3,4,7,8-HxCDD	31.751	30295586	1.34	0.9505	52.8	52.8	0.3438	0.3438	106	
D 13C-1,2,3,6,7,8-HxCDD	31.831	60337829	1.26	0.8791	102.0	102.0	0.4900	0.4900	102	
1,2,3,6,7,8-HxCDD	31.844	36457374	1.21	1.2343	49.0	49.0	0.2647	0.2647	97.90	
1,2,3,7,8,9-HxCDD	32.177	35830756	1.28	1.2467	47.6	47.6	0.2621	0.2621	95.27	
A Non-2,3,7,8-sub-HxCDD	30.893						0.0	0.0		
S Total HxCDD					149.4	149.4	0.2902	0.2902		
D 13C-1,2,3,4,6,7,8-HpCDF	33.746	53300148	0.42	0.7618	104.0	104.0	1.972	1.972	104	
1,2,3,4,6,7,8-HpCDF	33.758	42831603	1.06	1.6399	49.0	49.0	0.8258	0.8258	98.01	
D 13C-1,2,3,4,7,8,9-HpCDF	34.827	45772021	0.43							
1,2,3,4,7,8,9-HpCDF	34.839	34976950	1.07	1.3302	49.3	49.3	1.018	1.018	98.66	
A Non-2,3,7,8-sub-HpCDF	34.305						0.0	0.0		
S Total HpCDF					98.3	98.3	0.9219	0.9219		
D 13C-1,2,3,4,6,7,8-HpCDD	34.535	54138775	1.05	0.7762	103.6	103.6	1.125	1.125	104	
1,2,3,4,6,7,8-HpCDD	34.548	26471708	1.03	0.9932	49.2	49.2	0.3081	0.3081	98.46	
A Non-2,3,7,8-sub-HpCDD	34.286						0.0	0.0		
S Total HpCDD					49.2	49.2	0.3081	0.3081		
D 13C-OCDD	36.870	80110825	0.90	0.6314	188.5	188.5	0.5363	0.5363	94.27	
OCDF	36.978	55333025	0.91	1.3460	102.6	102.6	0.1535	0.1535	103	
OCDD	36.882	41531738	0.90	1.0604	97.8	97.8	0.3820	0.3820	97.78	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

Report Date: 13-Nov-2017 13:31:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 12-Nov-2017 00:00:55 ALS Bottle#: 2 Worklist Smp#: 80
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917L CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:31:22 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:31:22

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.884	17.884	0		36633551	9089175	13234	33085	687		
333.9339	17.884	17.884	0		46194175	11355760	10084	25210	1126	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.370	17.370	0	0.971	49256968	12264004	37705	94262	325		
317.9389	17.370	17.370	0	0.971	63541350	15766391	10614	26535	1485	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.385	17.385	0	1.001	5455191	1365246	1379	3447	990		
305.8987	17.385	17.385	0	1.001	6791579	1710513	2396	5990	714	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						1379	3447			
305.8987	17.105						2396	5990			
13C-2,3,7,8-TCDD											
331.9368	18.080	18.080	0	1.011	36727973	8609982	13234	33085	651		
333.9339	18.080	18.080	0	1.011	46662011	10635997	10084	25210	1055	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.095	18.095	0	1.012	8808515	2112199	1828	4570	1155		
2,3,7,8-TCDD											
319.8965	18.095	18.095	0	1.001	3548700	832948	1590	3975	524		
321.8936	18.095	18.095	0	1.001	4489995	1056263	1093	2732	966	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						1590	3975			
321.8936	17.559						1093	2732			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.410	22.410	0	1.253	54451463	9498464	13744	34360	691		
353.8970	22.410	22.410	0	1.253	35112131	6157423	9453	23632	651	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.437	22.437	0	1.001	31315213	5404140	7764	19410	696		
341.8567	22.437	22.437	0	1.001	19563011	3384369	5343	13357	633	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.760	23.760	0	1.329	53608606	8861882	13744	34360	645		
353.8970	23.760	23.760	0	1.329	34448091	5836905	9453	23632	617	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.787	23.787	0	1.061	31396631	5136549	7764	19410	662		
341.8567	23.787	23.787	0	1.061	19761180	3282065	5343	13357	614	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.001						424	1060			
341.8567	20.001						946	2365			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.161						7764	19410			
341.8567	23.161						5343	13357			
13C-1,2,3,7,8-PeCDD											
367.8949	24.483	24.483	0	1.369	41995692	6460449	6315	15787	1023		
369.8919	24.483	24.483	0	1.369	26271049	3983964	3697	9242	1078	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.510	24.510	0	1.001	20096560	3074330	2229	5572	1379		
357.8516	24.510	24.510	0	1.001	12778971	1985528	1379	3447	1440	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						2229	5572			
357.8516	23.419						1379	3447			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.553	30.553	0	0.950	24912327	4746636	17390	43475	273		
385.8610	30.553	30.553	0	0.950	47713493	9188283	34205	85512	269	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.580	30.580	0	1.001	28187910	5471973	18603	46507	294		
375.8178	30.580	30.580	0	1.001	21900425	4209019	14267	35667	295	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.739	30.739	0	0.956	29832851	5684475	17390	43475	327		
385.8610	30.739	30.739	0	0.956	57901475	10505930	34205	85512	307	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.753	30.753	0	1.007	31401498	5780356	18603	46507	311		
375.8178	30.753	30.753	0	1.007	24714293	4576260	14267	35667	321	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.551	31.551	0	0.981	27934866	6592892	17390	43475	379		
385.8610	31.551	31.551	0	0.981	53211587	12529580	34205	85512	366	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.565	31.565	0	1.033	29449018	7263984	18603	46507	390		
375.8178	31.565	31.565	0	1.033	23263362	5552831	14267	35667	389	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.337	32.337	0	1.005	25102941	6066831	17390	43475	349		
385.8610	32.337	32.337	0	1.005	48058930	11577107	34205	85512	338	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.350	32.350	0	1.059	25991272	6204813	18603	46507	334		
375.8178	32.350	32.350	0	1.059	20203050	4868040	14267	35667	341	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.254						18603	46507			
375.8178	30.254						14267	35667			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.164	32.164	0		37581686	8691277	13268	33170	655		
403.8529	32.164	32.164	0		29712310	6784986	13399	33497	506	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.724	31.724	0	0.986	26982935	7537187	13268	33170	568		
403.8529	31.724	31.724	0	0.986	21486168	6011911	13399	33497	449	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.751	31.751	0	0.997	17345509	4534210	9752	24380	465		
391.8127	31.738	31.751	-1	0.997	12950077	3632398	8443	21107	430	1.34(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.831	31.831	0	0.990	33587462	7683708	13268	33170	579		
403.8529	31.831	31.831	0	0.990	26750367	6235992	13399	33497	465	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.844	31.844	0	1.000	19950347	4803986	9752	24380	493		
391.8127	31.844	31.844	0	1.000	16507027	3856654	8443	21107	457	1.21(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.177	32.177	0	1.011	20090147	4703802	9752	24380	482		
391.8127	32.164	32.177	-1	1.010	15740609	3728981	8443	21107	442	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.893						9752	24380			
391.8127	30.893						8443	21107			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.746	33.746	0	1.049	15888630	4763217	27755	69387	172		
419.8220	33.746	33.746	0	1.049	37411518	11120007	65231	163077	170	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.758	33.758	0	1.000	22022866	6651890	44213	110532	150		
409.7789	33.758	33.758	0	1.000	20808737	6294934	41825	104562	151	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.827	34.827	0	1.083	13745769	3749490	27755	69387	135		
419.8220	34.827	34.827	0	1.083	32026252	8536896	65231	163077	131	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.839	34.839	0	1.032	18086263	4819789	44213	110532	109		
409.7789	34.839	34.839	0	1.032	16890687	4447373	41825	104562	106	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.305						44213	110532			
409.7789	34.305						41825	104562			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.535	34.535	0	1.074	27734467	7586714	18811	47027	403		
437.8140	34.535	34.535	0	1.074	26404308	7294114	35239	88097	207	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.548	34.548	0	1.000	13451802	3708301	8487	21217	437		
425.7737	34.548	34.548	0	1.000	13019906	3590631	9728	24320	369	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.286						8487	21217			
425.7737	34.286						9728	24320			
13C-OCDD											
469.7779	36.870	36.870	0	1.146	37862484	8315631	7424	18560	1120		
471.7750	36.870	36.870	0	1.146	42248341	9402464	13538	33845	695	0.90(0.76-1.02)	
OCDF											
441.7428	36.978	36.978	0	1.003	26405604	6042821	3275	8187	1845		
443.7399	36.966	36.978	-1	1.003	28927421	6809561	4048	10120	1682	0.91(0.76-1.02)	
OCDD											
457.7377	36.882	36.882	0	1.000	19662843	4444258	5976	14940	744		
459.7348	36.882	36.882	0	1.000	21868895	4954297	8380	20950	591	0.90(0.76-1.02)	

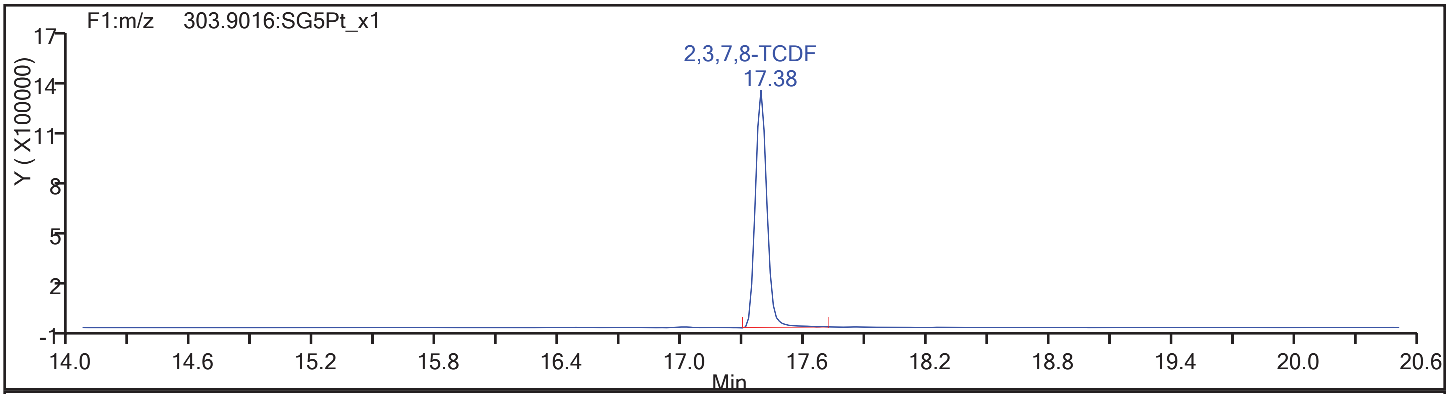
Reagents:

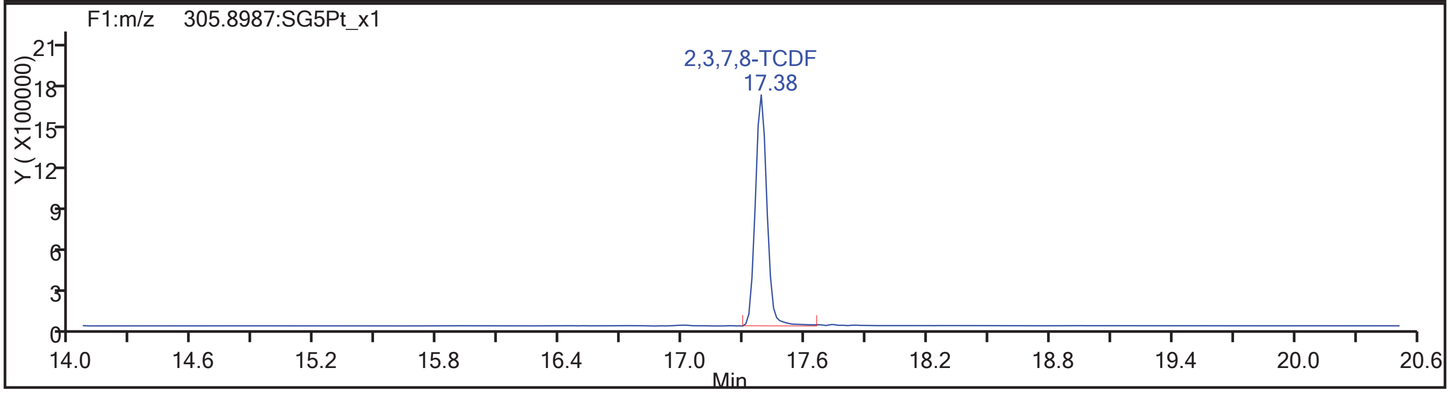
HRDXNL4_00060 Amount Added: 1.00 Units: mL

TestAmerica Sacramento

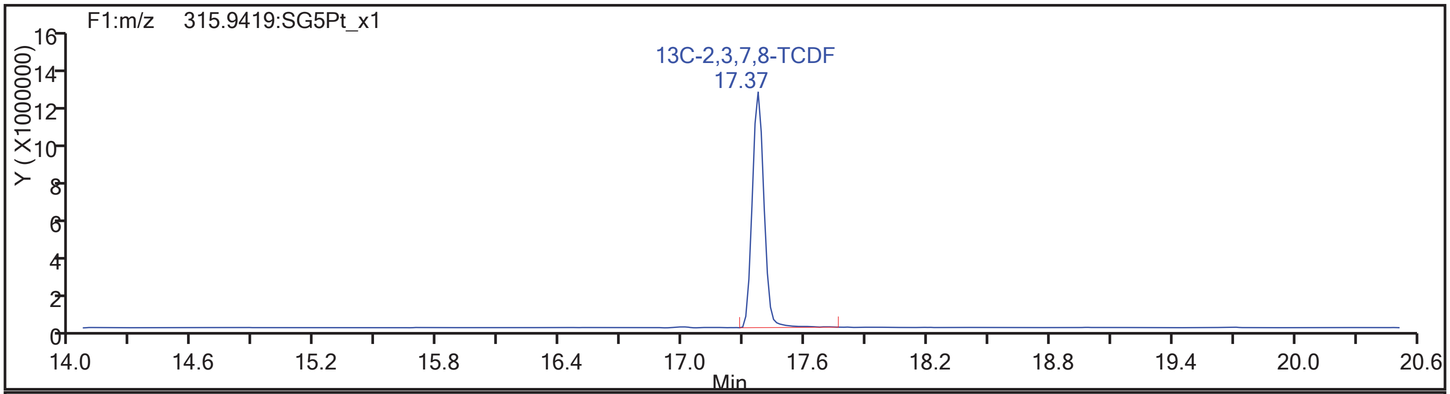
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d		
Injection Date:	12-Nov-2017 00:00:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	80
Column Type:	DB-5	Column Dia:	0.32 mm

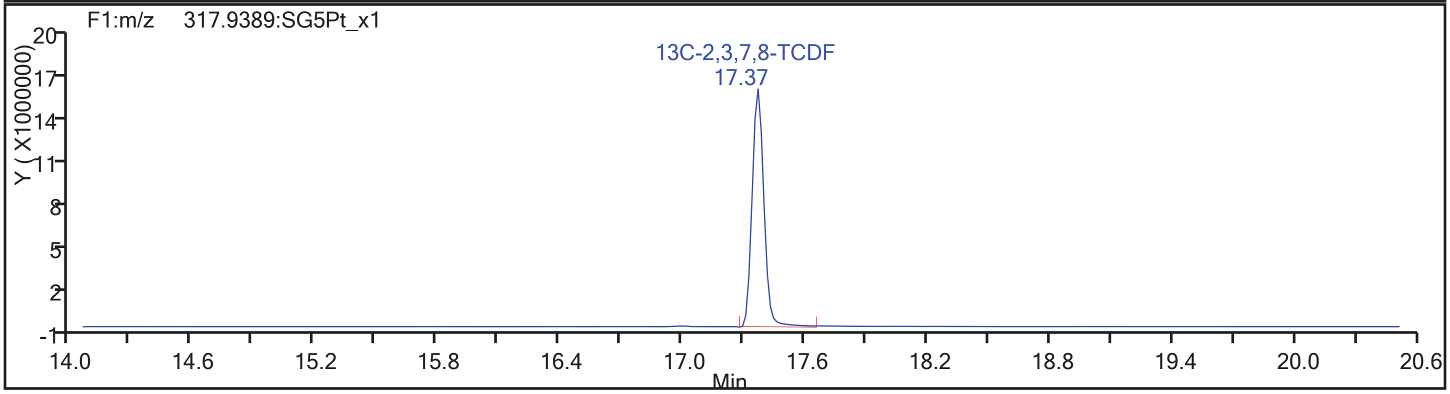
TCDF





TCDF Standards





Report Date: 13-Nov-2017 13:31:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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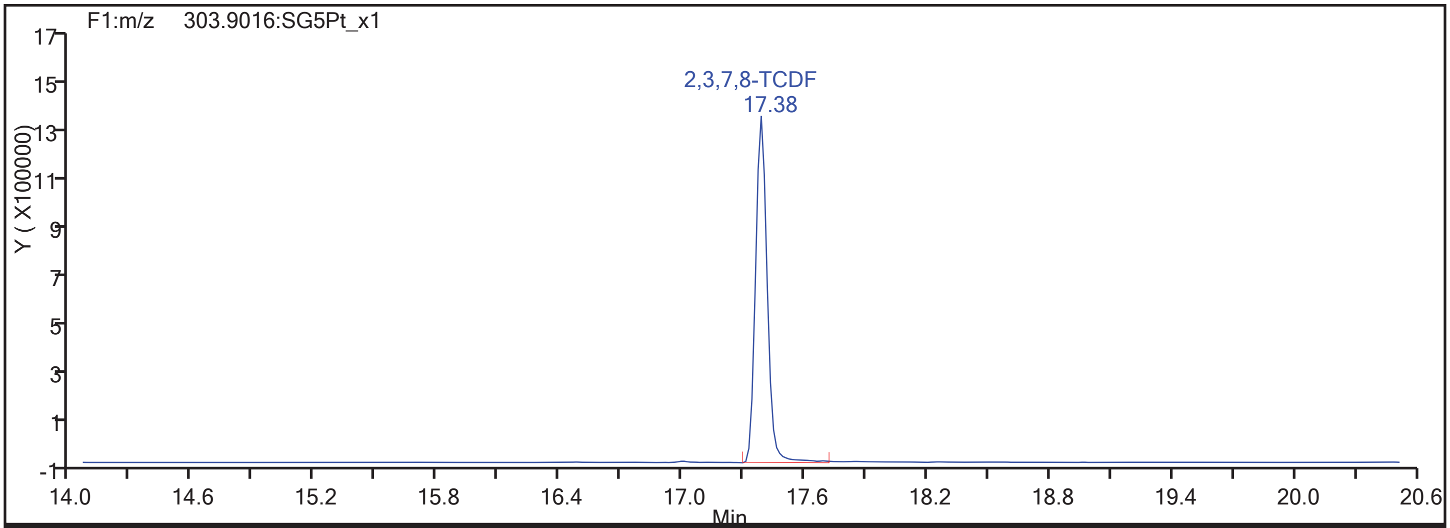
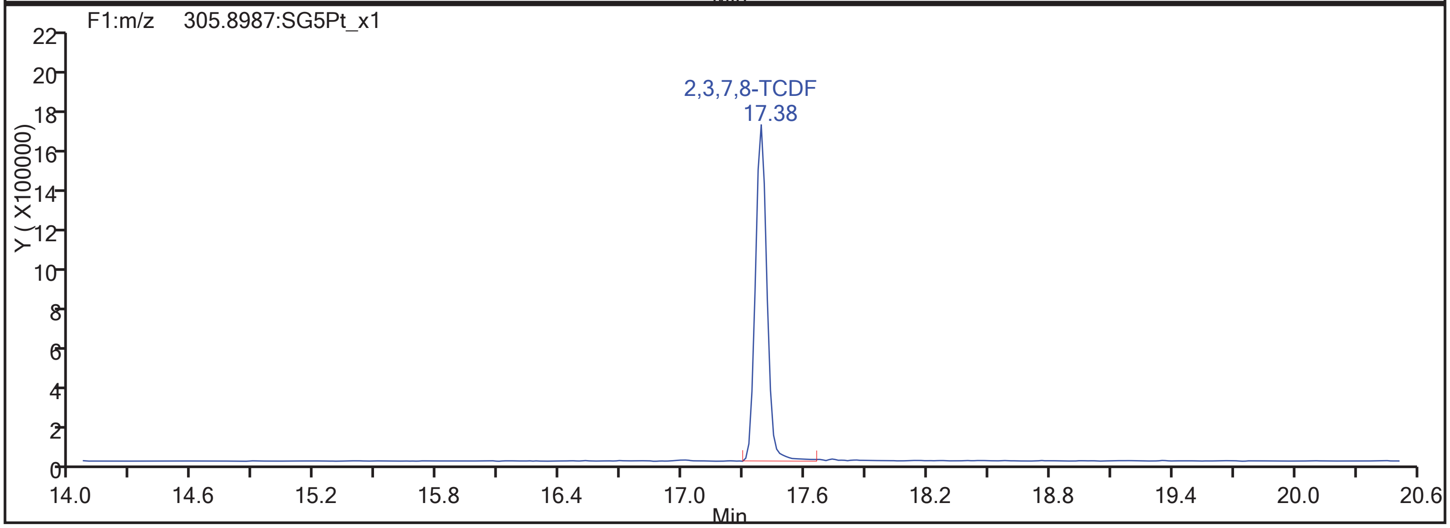
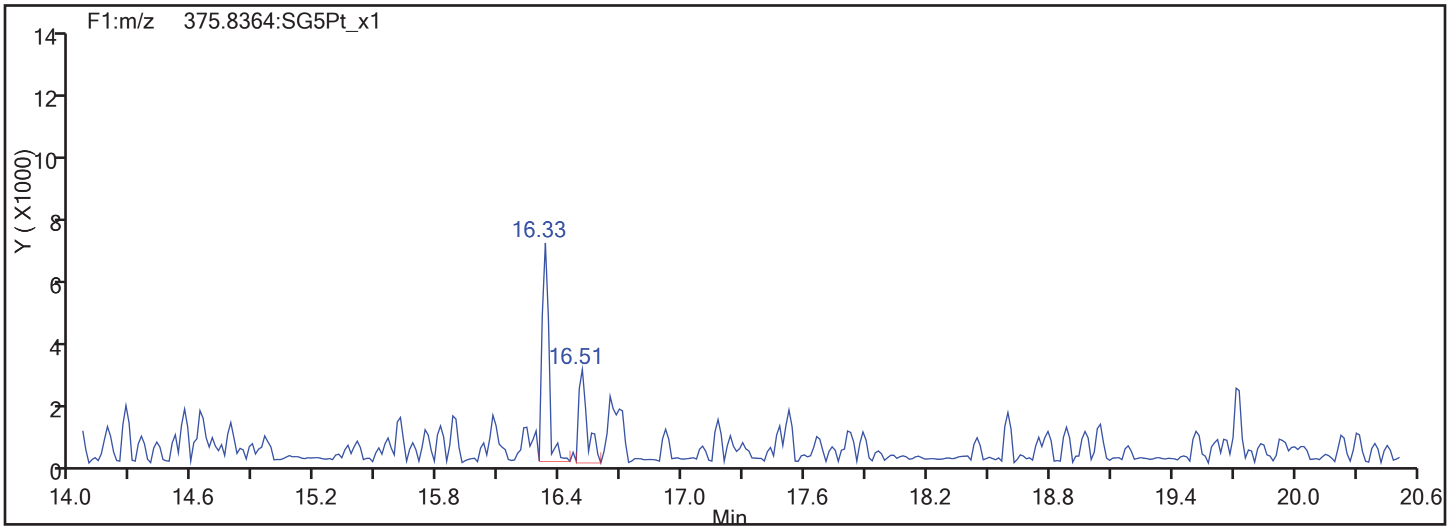
Injection Date: 12-Nov-2017 00:00:55 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086 Sample Line#: 80
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



Report Date: 13-Nov-2017 13:31:23　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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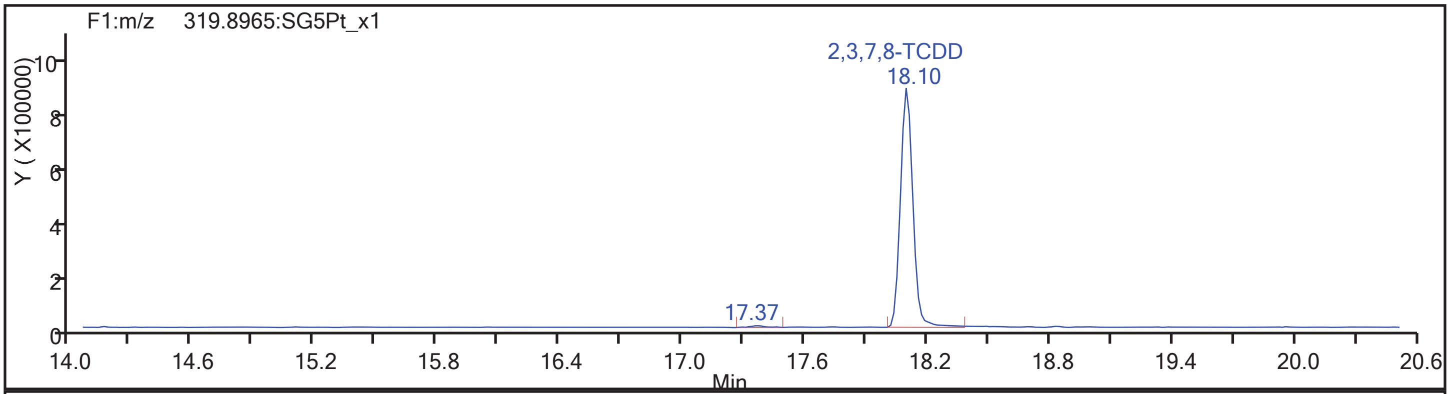
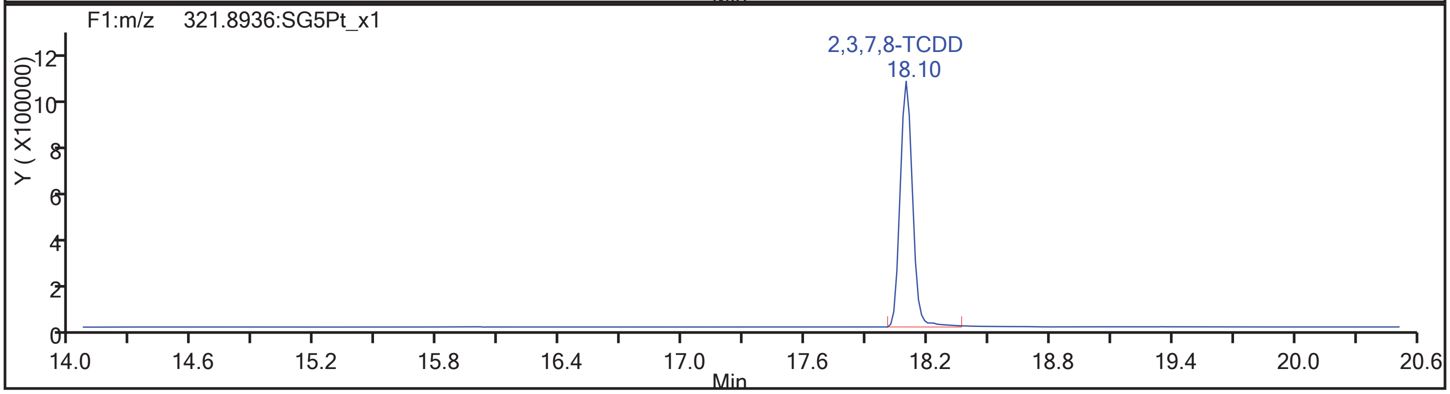
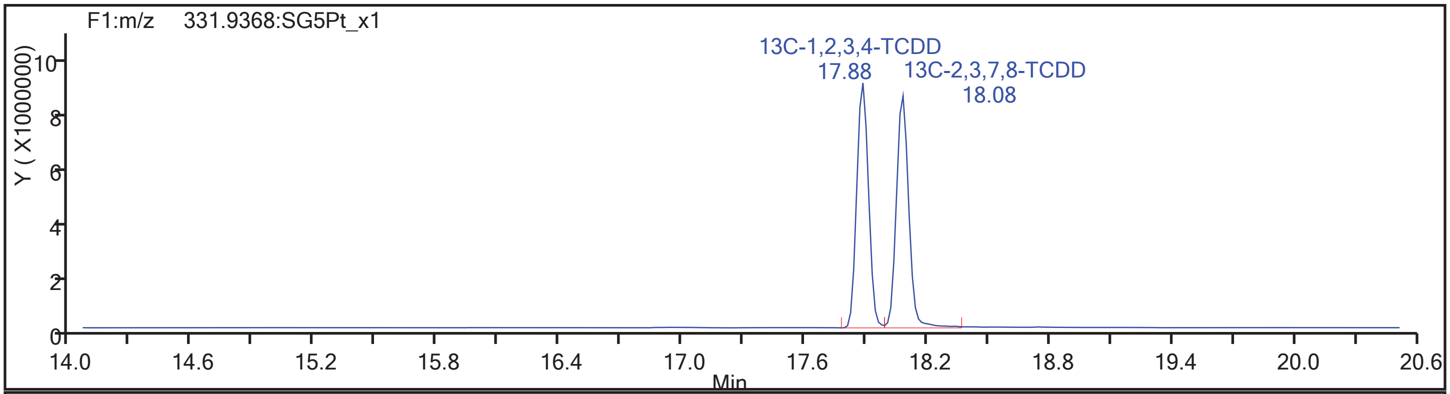
Injection Date:	12-Nov-2017 00:00:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	80
Column Type:	DB-5	Column Dia:	0.32 mm

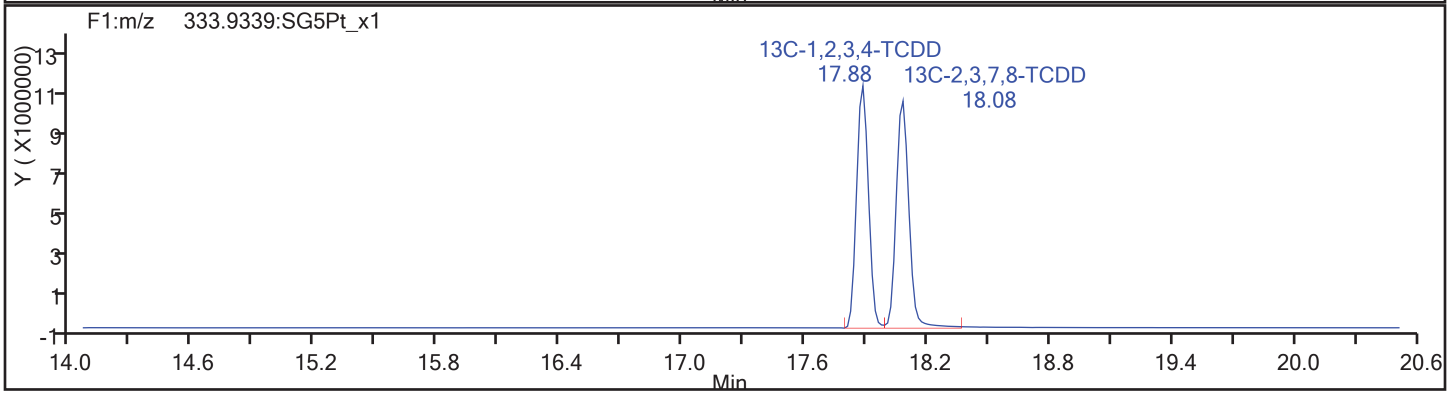
TCDD





TCDD Standards





Report Date: 13-Nov-2017 13:31:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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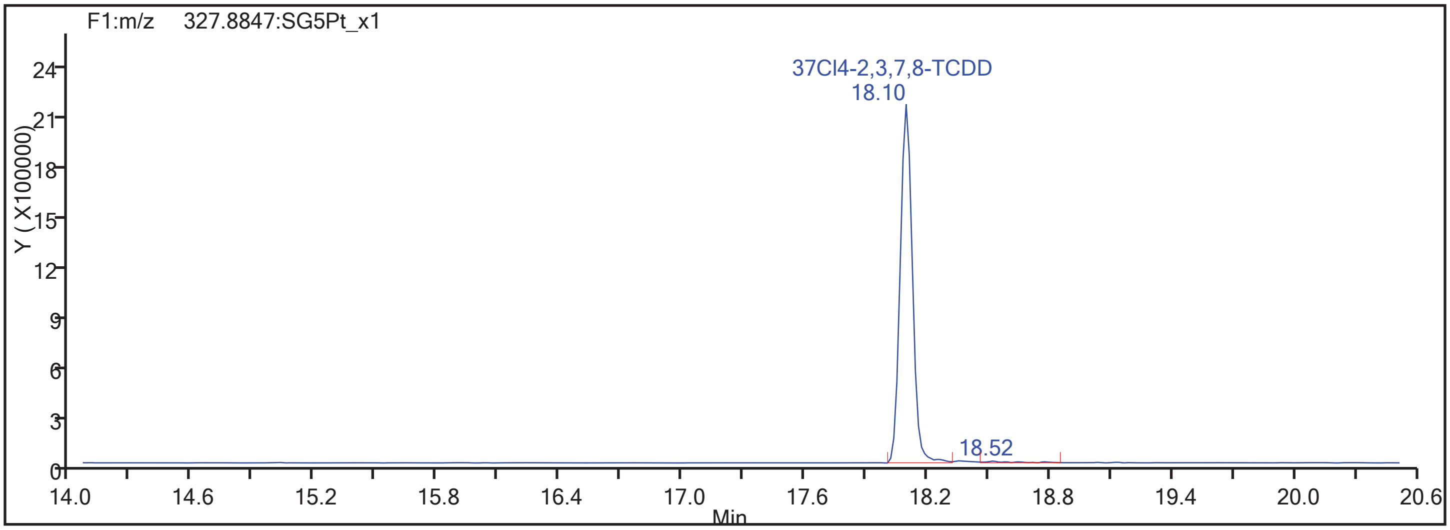
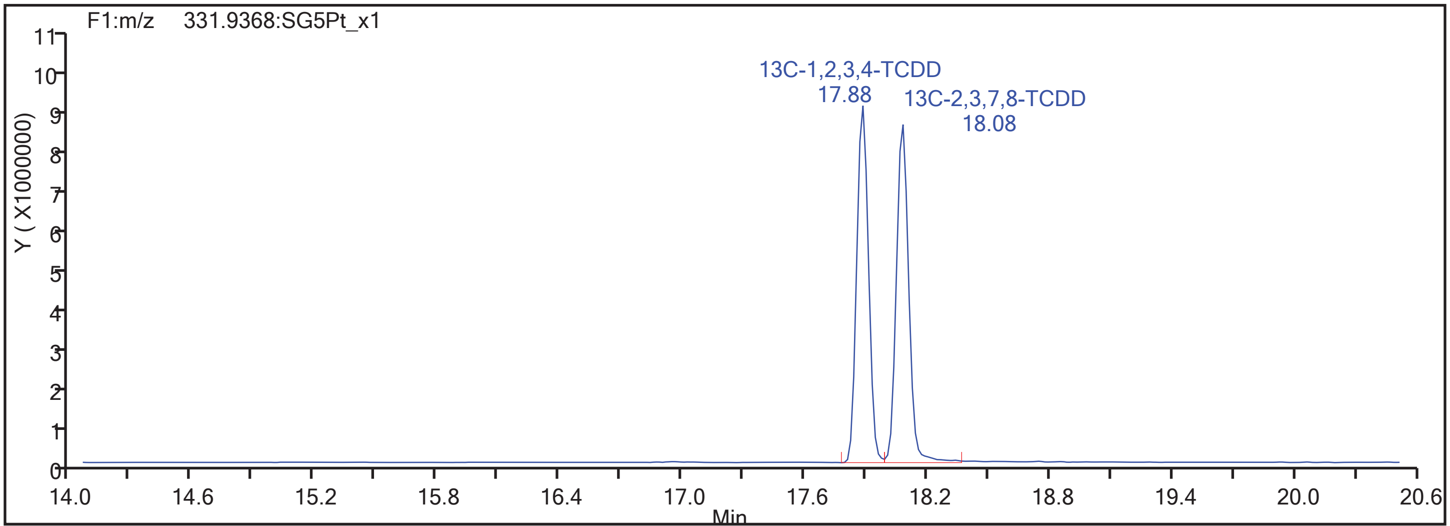
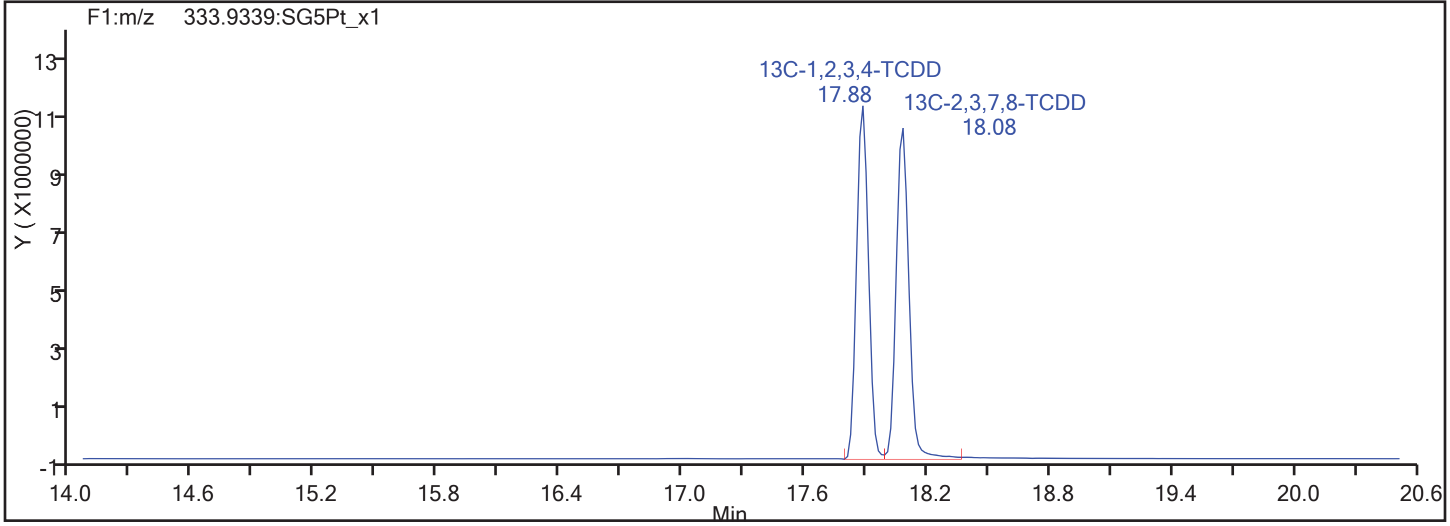
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	80
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 13-Nov-2017 13:31:23　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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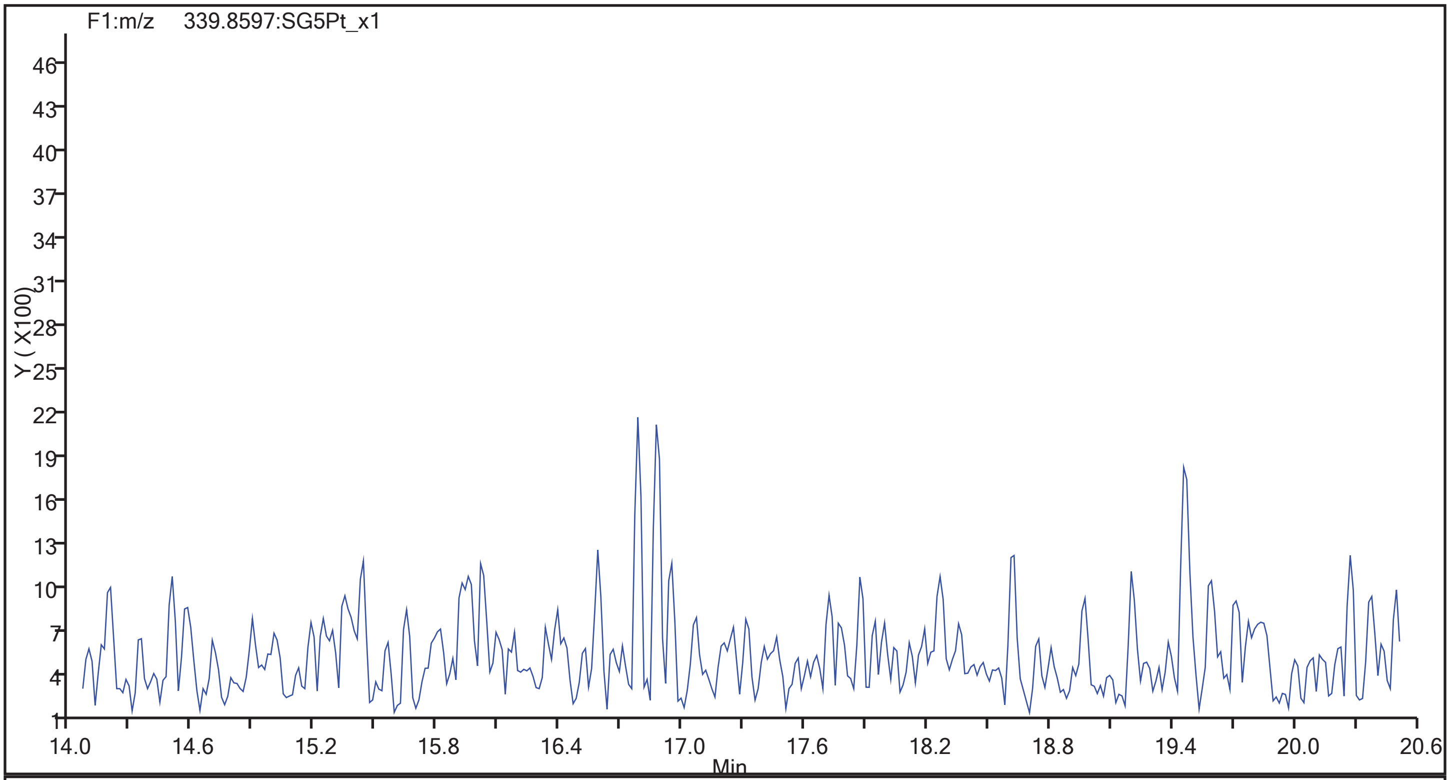
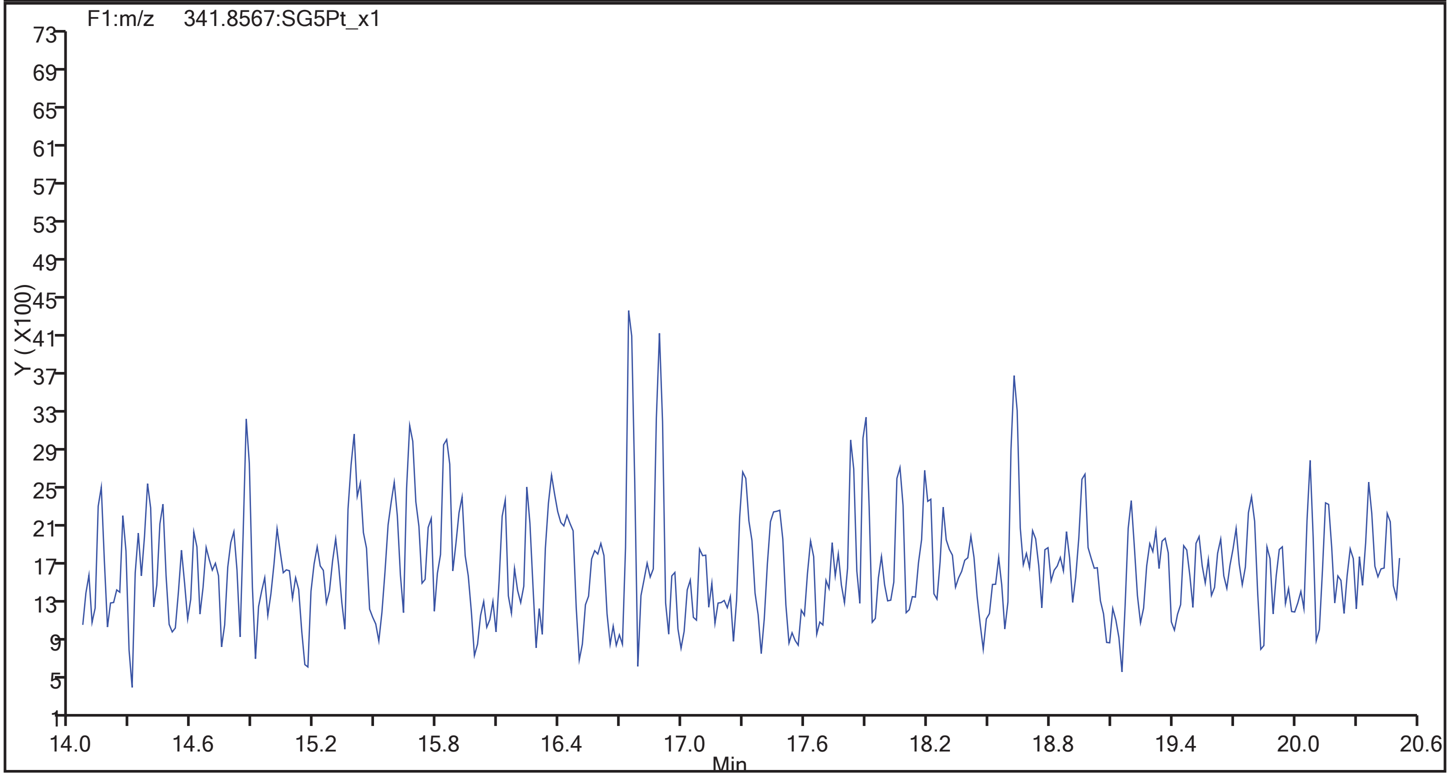
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	80
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





TestAmerica Sacramento

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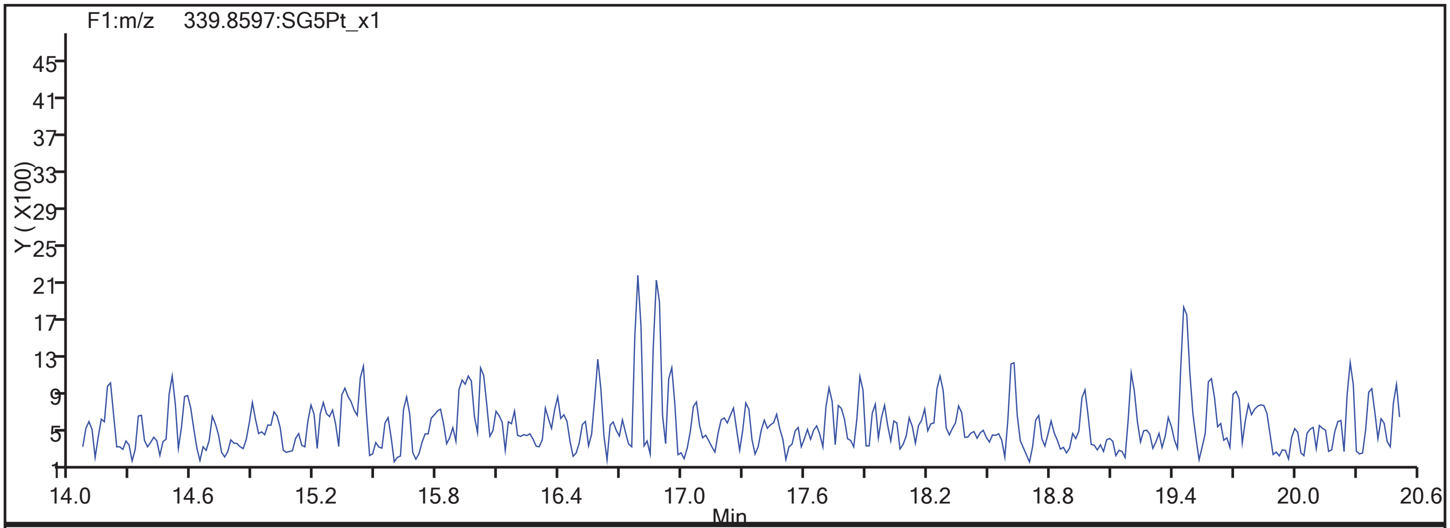
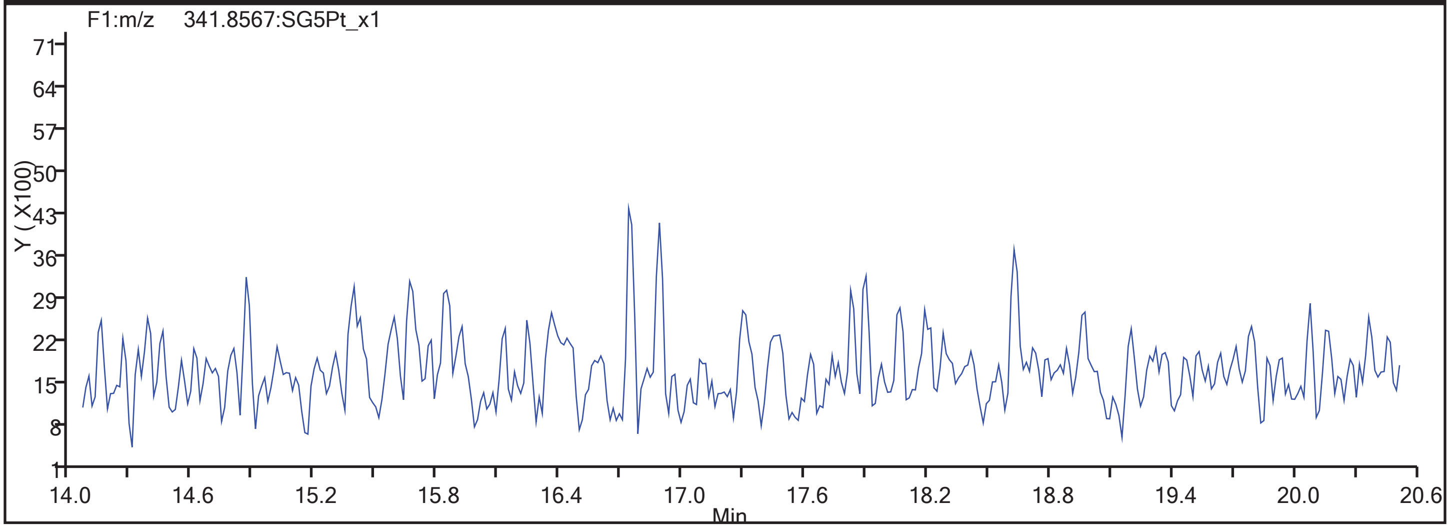
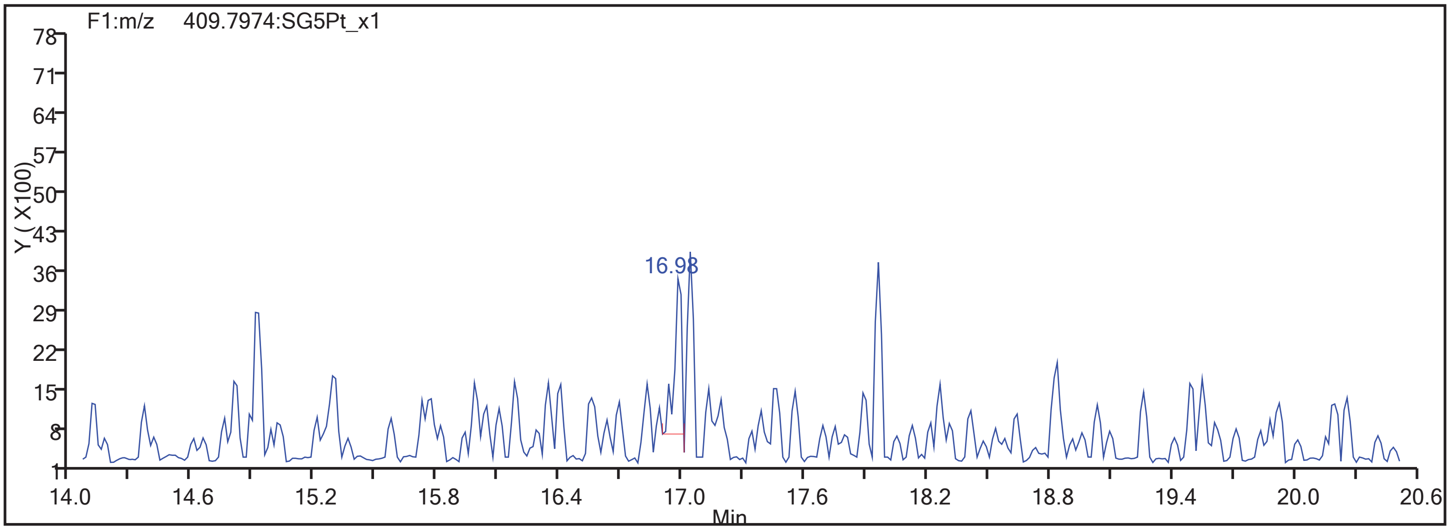
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	80
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

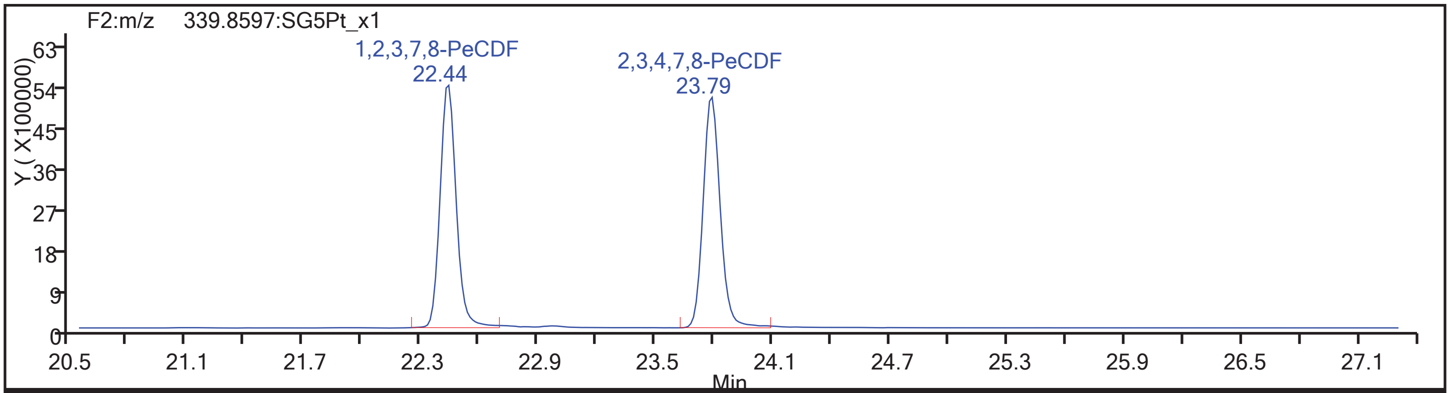


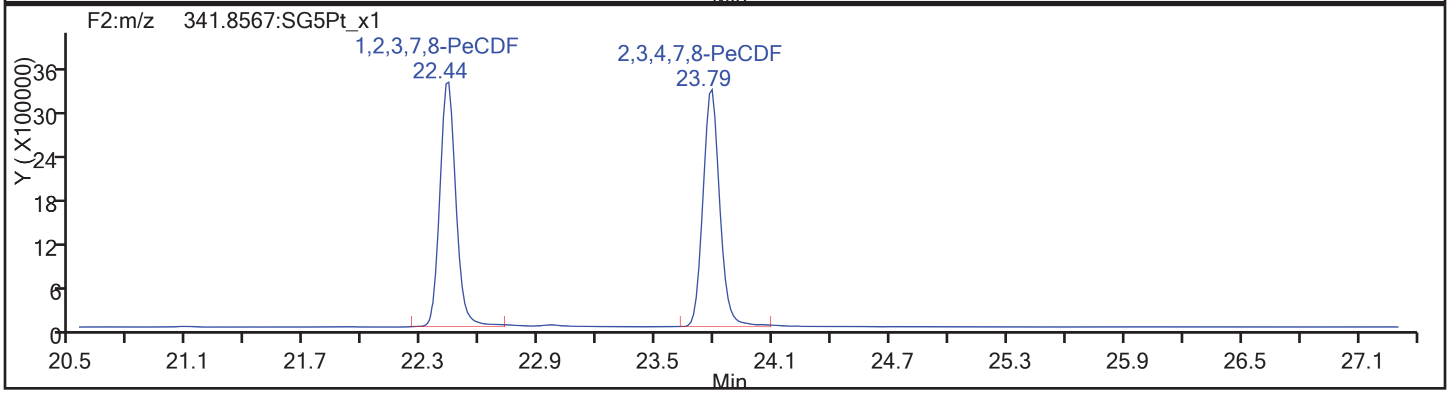
Report Date: 13-Nov-2017 13:31:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

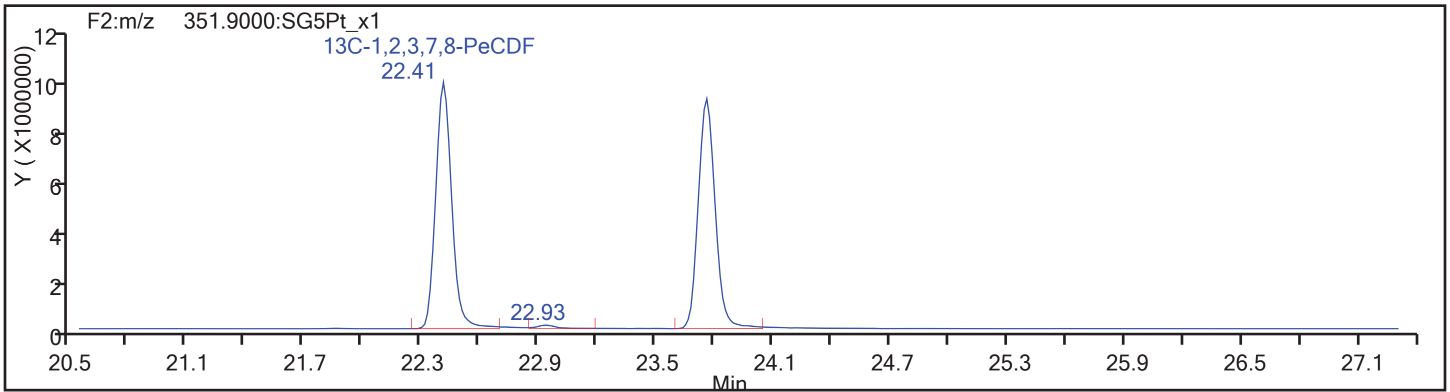
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d
Injection Date: 12-Nov-2017 00:00:55 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086 Sample Line#: 80
Column Type: DB-5 Column Dia: 0.32 mm

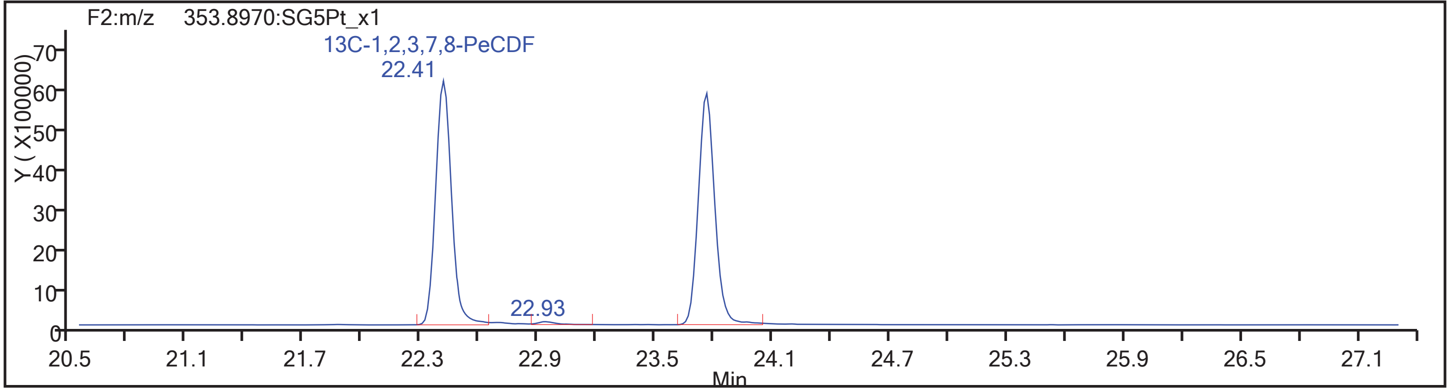
PeCDF





PeCDF Standards





Report Date: 13-Nov-2017 13:31:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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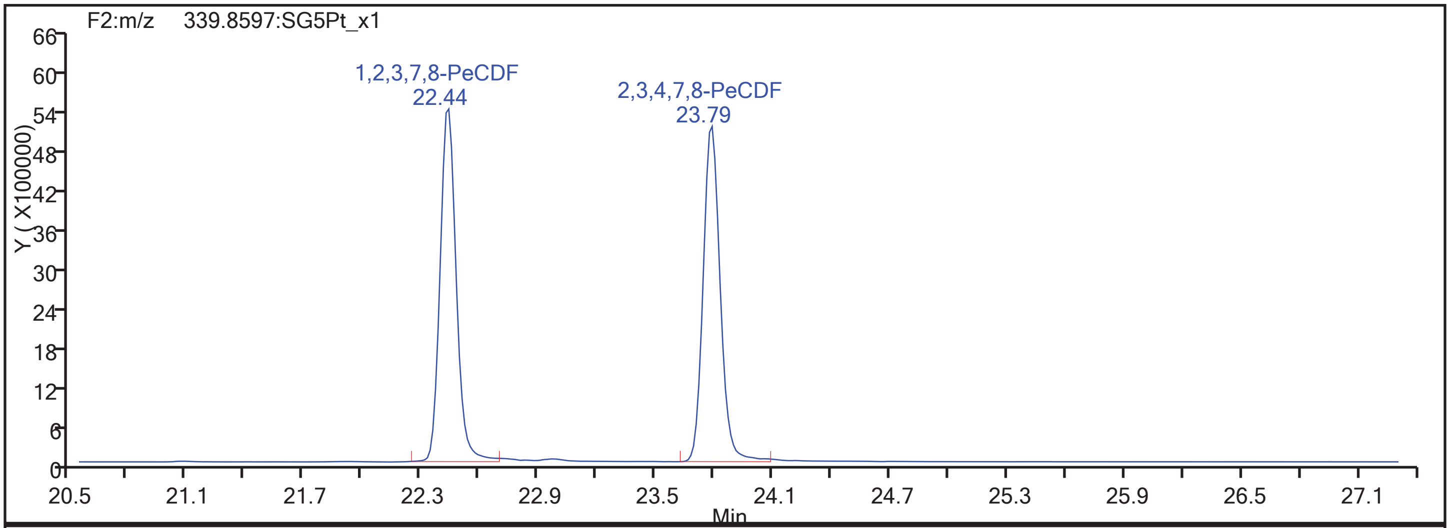
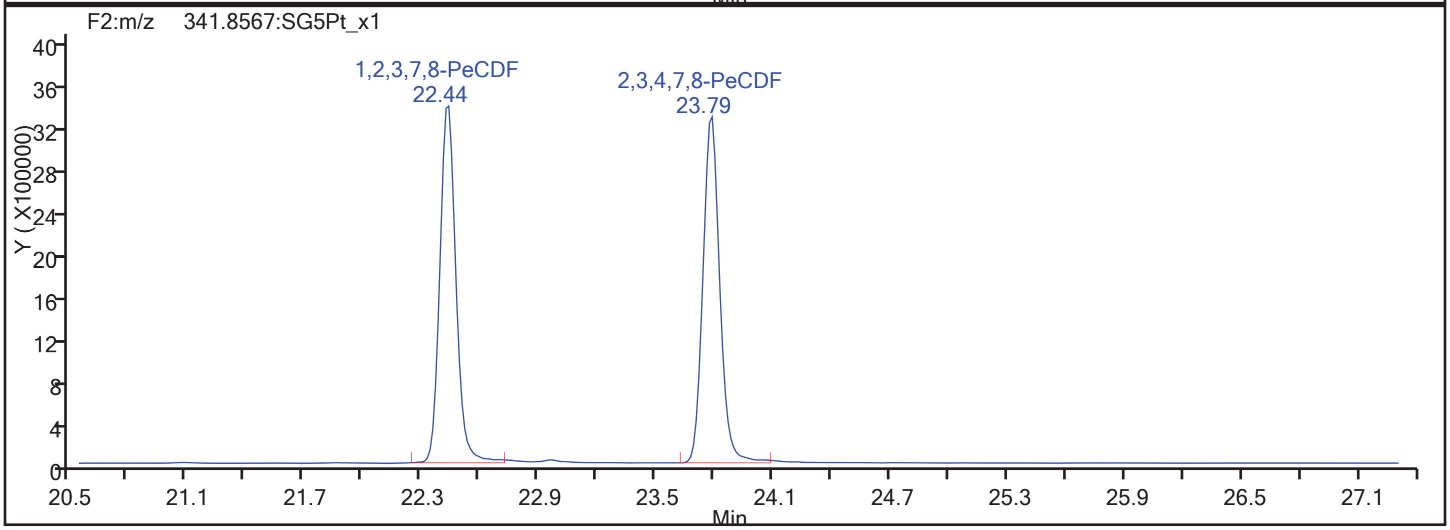
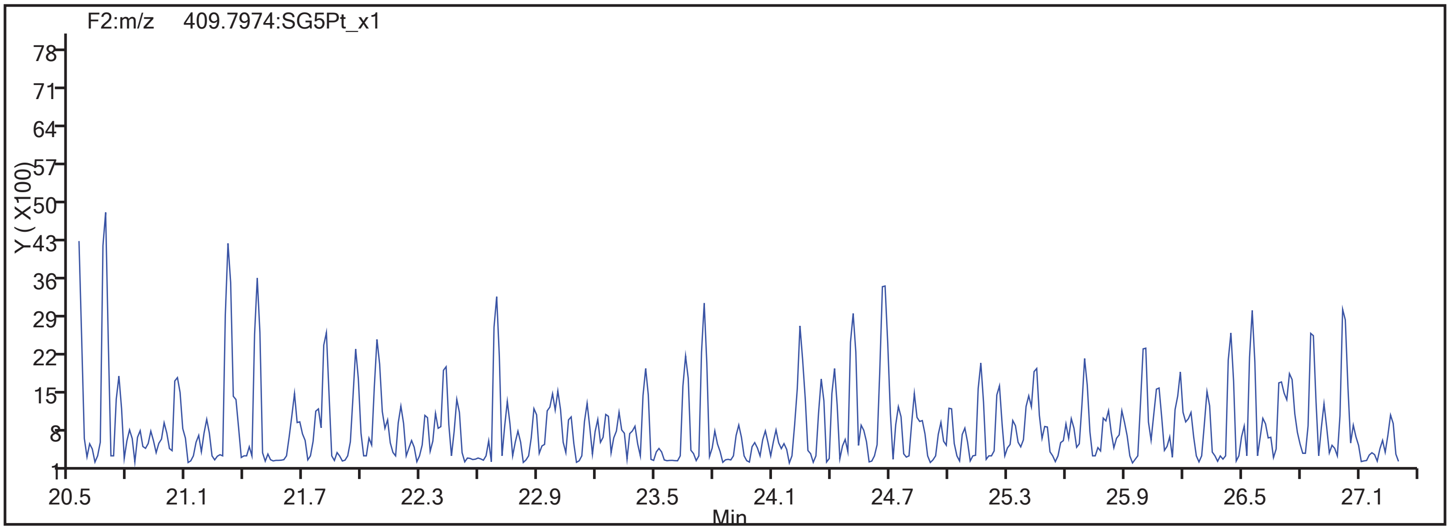
Injection Date:	12-Nov-2017 00:00:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	80
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Report Date: 13-Nov-2017 13:31:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d

Injection Date: 12-Nov-2017 00:00:55

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

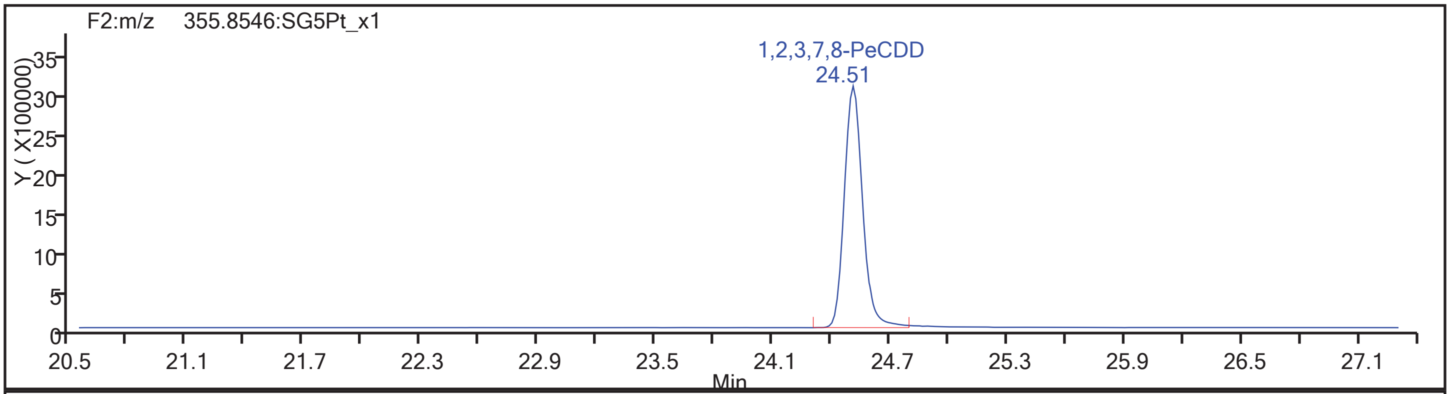
Worklist#: 194086

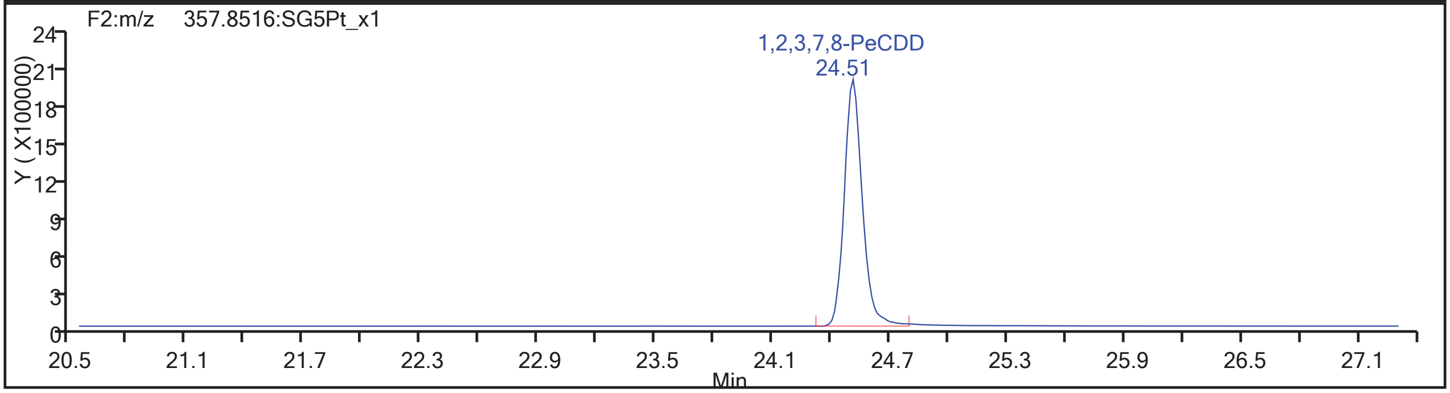
Sample Line#: 80

Column Type: DB-5

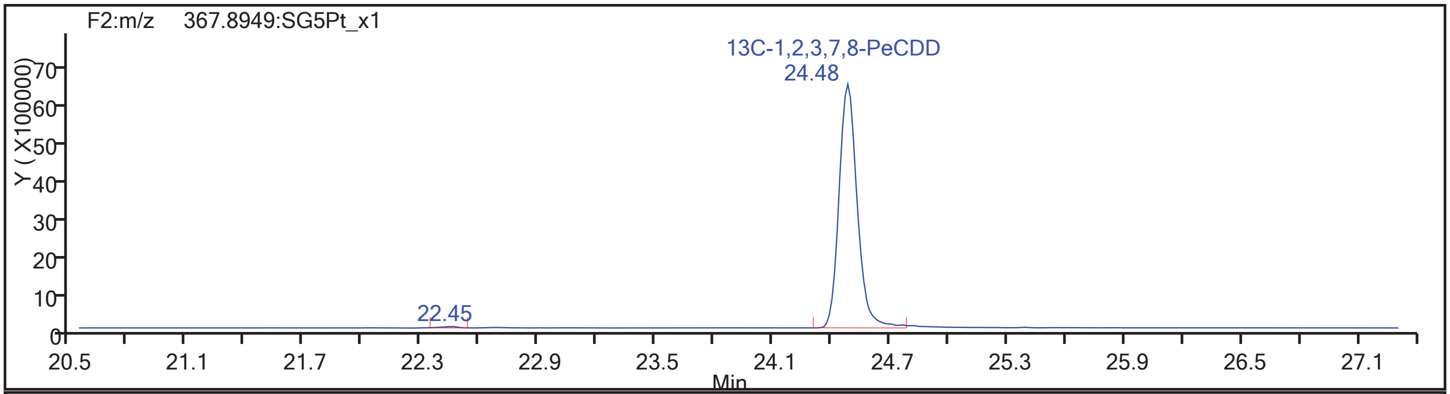
Column Dia: 0.32 mm

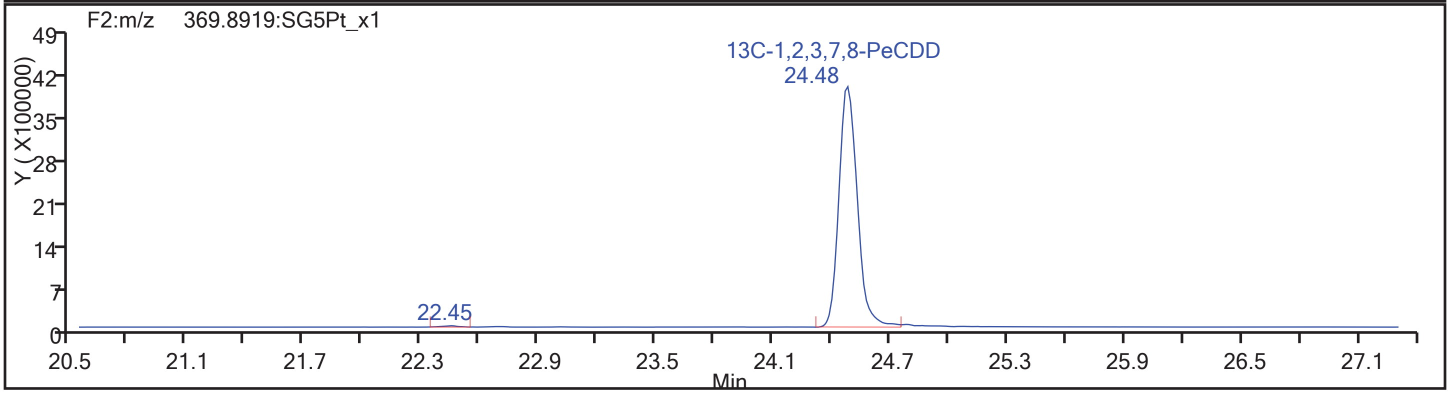
PeCDD





PeCDD Standards



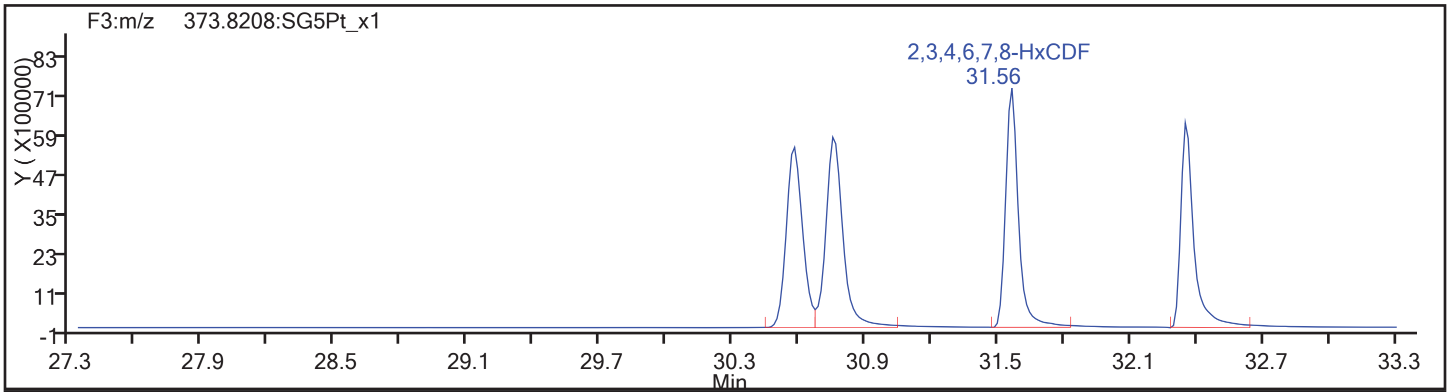


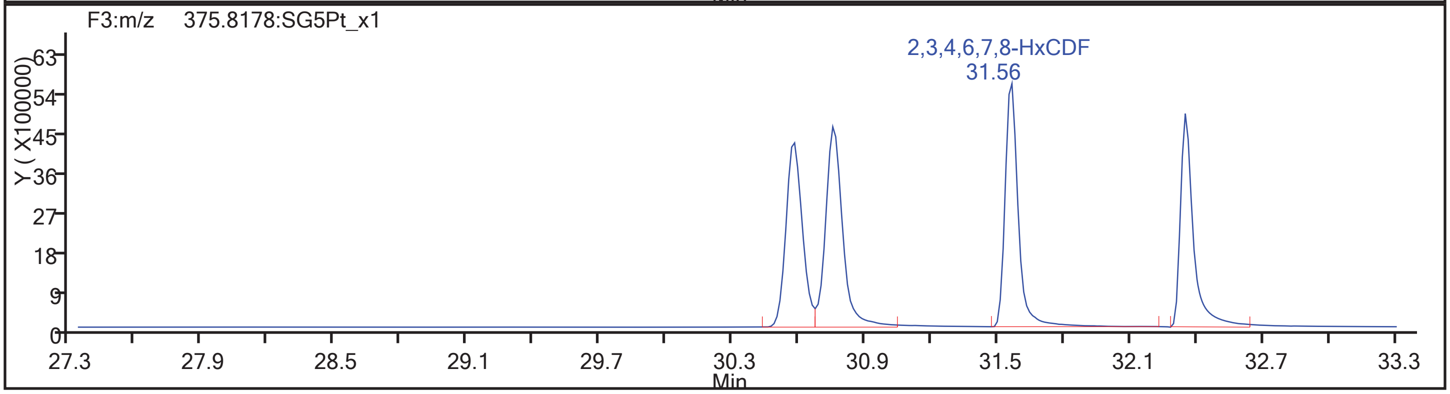
Report Date: 13-Nov-2017 13:31:23 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

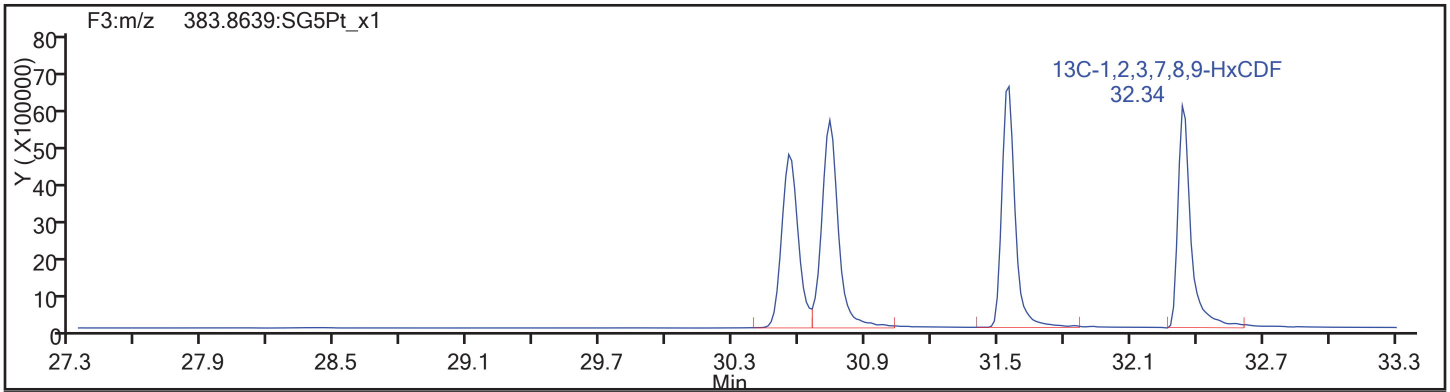
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d
Injection Date: 12-Nov-2017 00:00:55
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 80
Column Type: DB-5
Column Dia: 0.32 mm

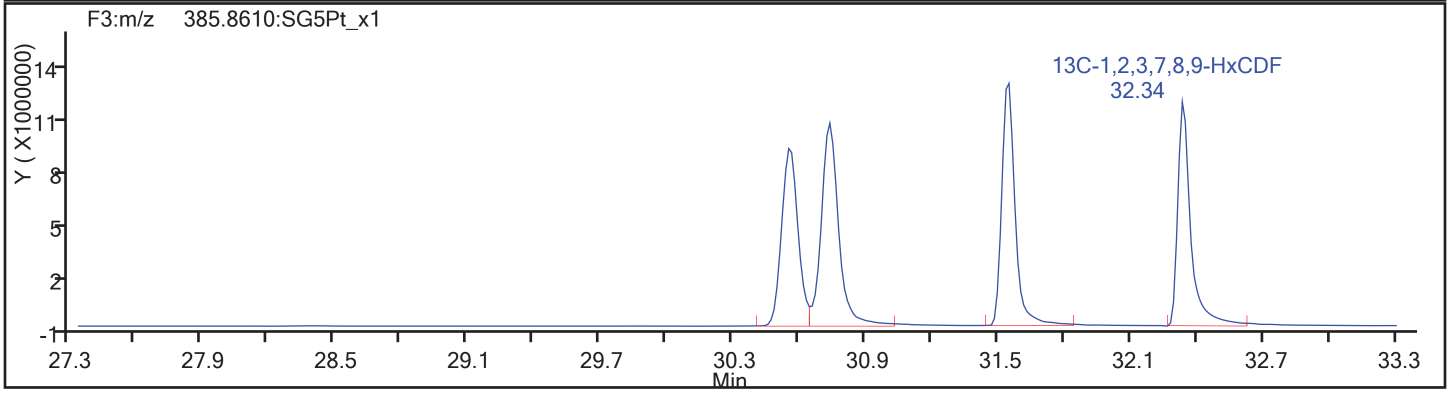
HxCDF





HxCDF Standards

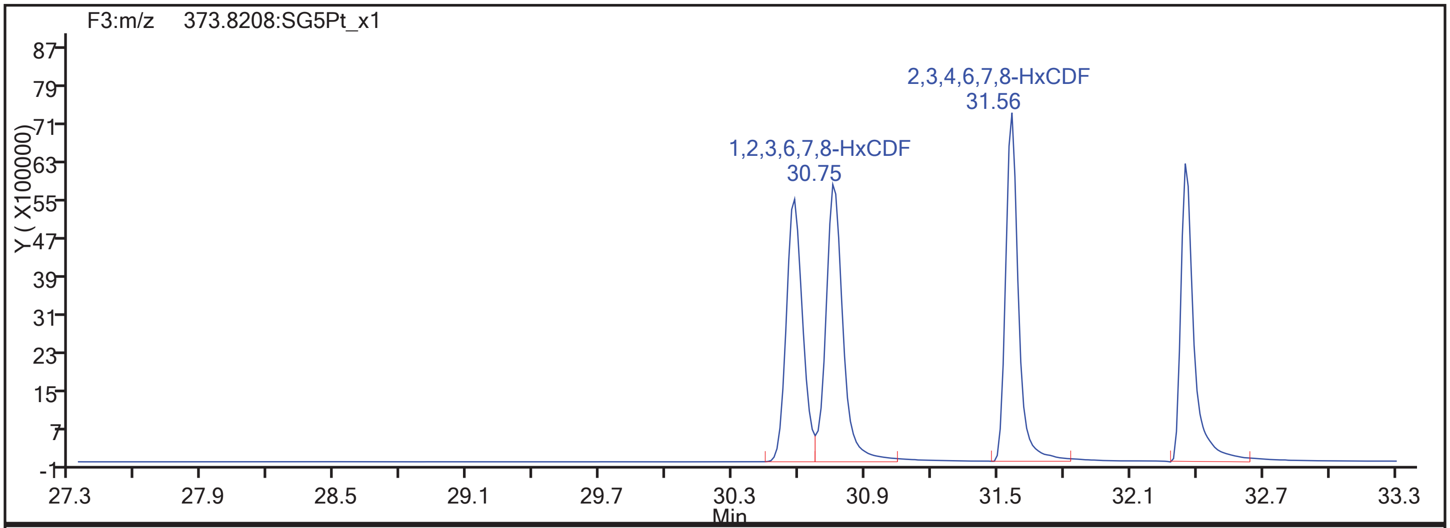


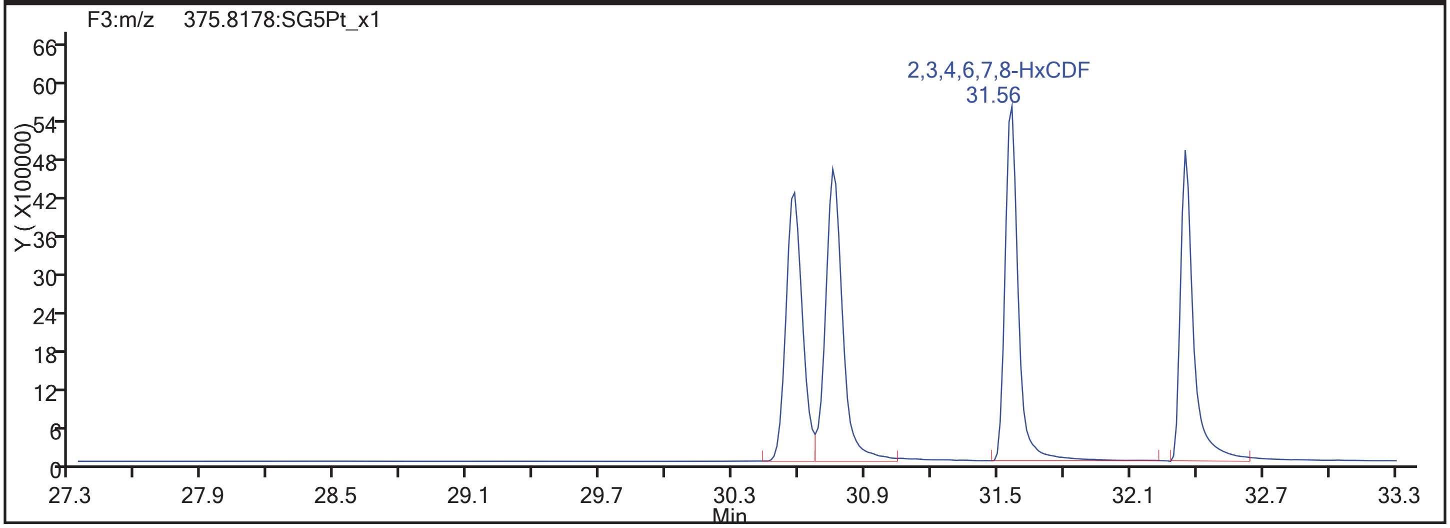


TestAmerica Sacramento

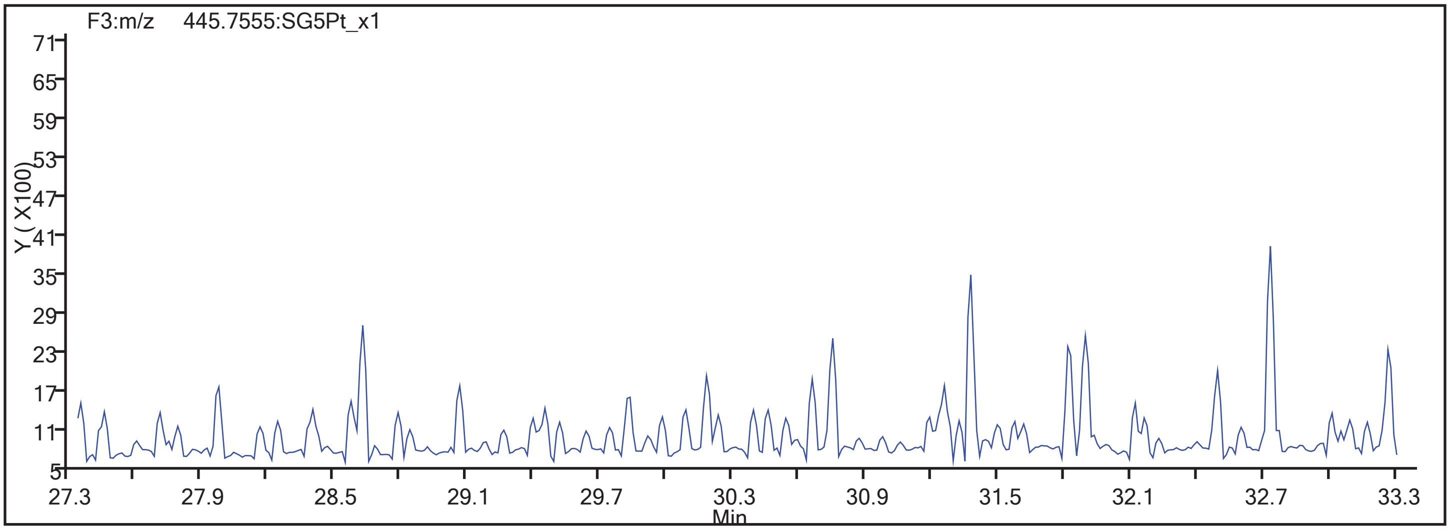
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d
Injection Date: 12-Nov-2017 00:00:55
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 80
Column Type: DB-5
Column Dia: 0.32 mm

HxCDF



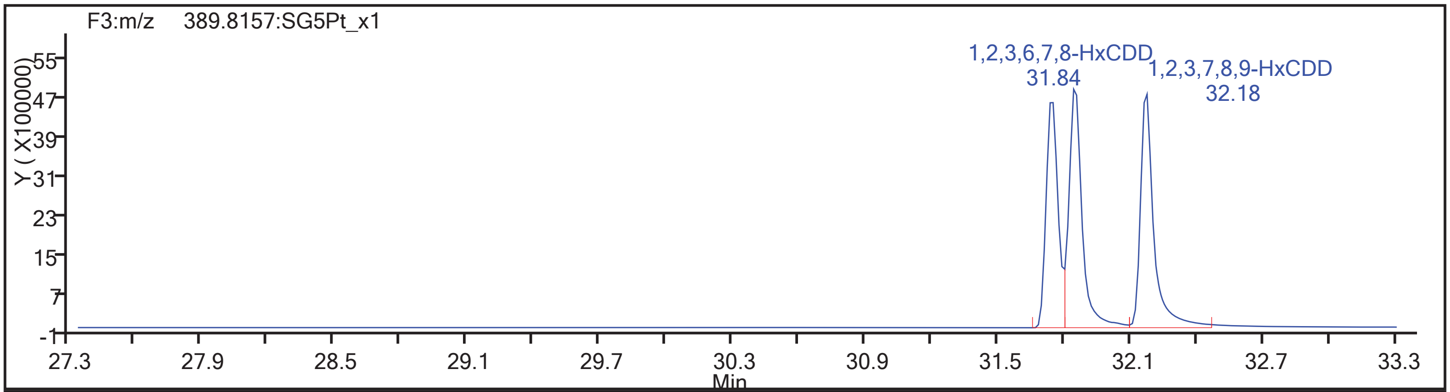


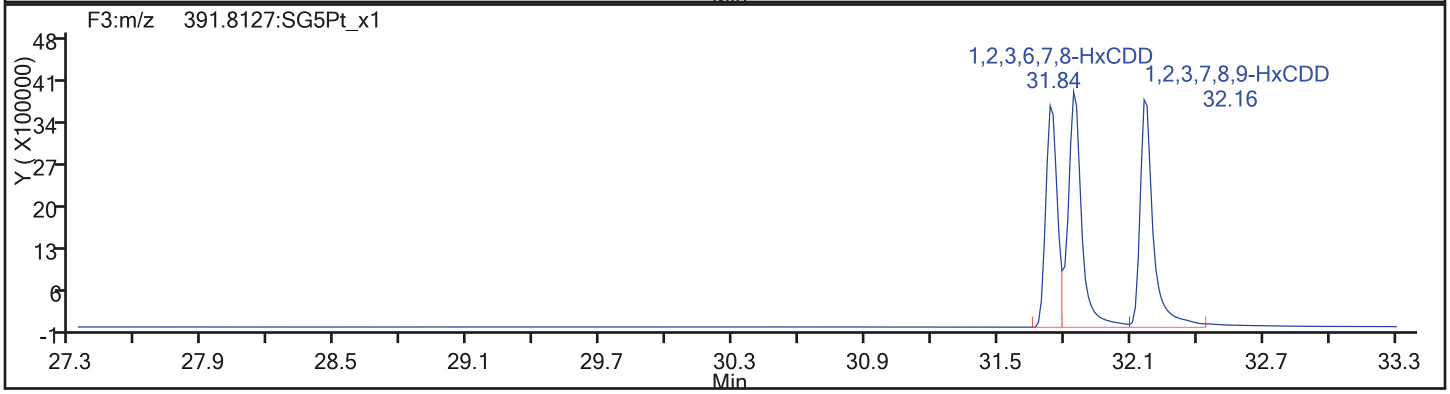
HxCDF Interference Mass



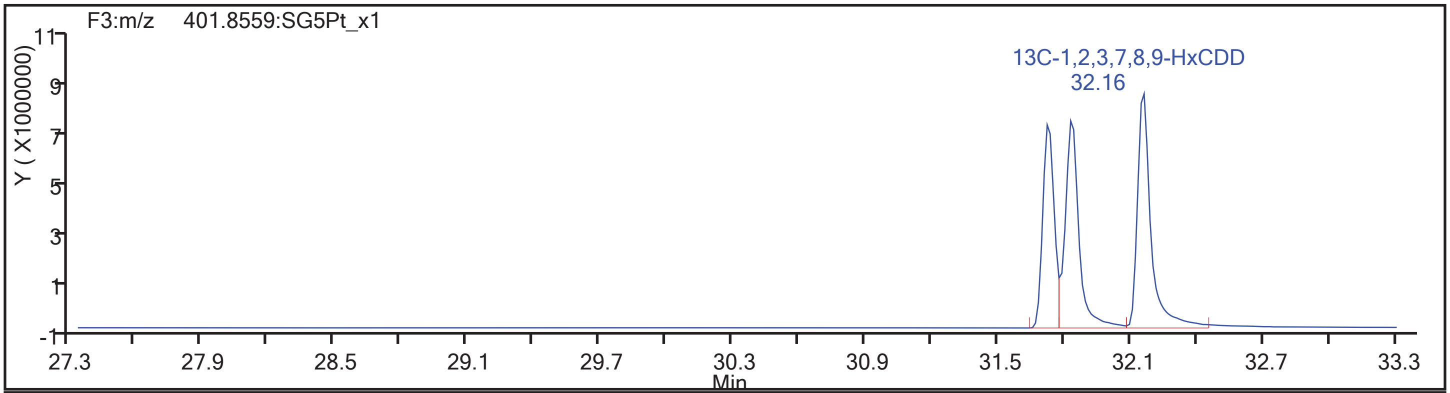
Report Date: 13-Nov-2017 13:31:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46
TestAmerica Sacramento
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d
Injection Date: 12-Nov-2017 00:00:55 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086 Sample Line#: 80
Column Type: DB-5 Column Dia: 0.32 mm

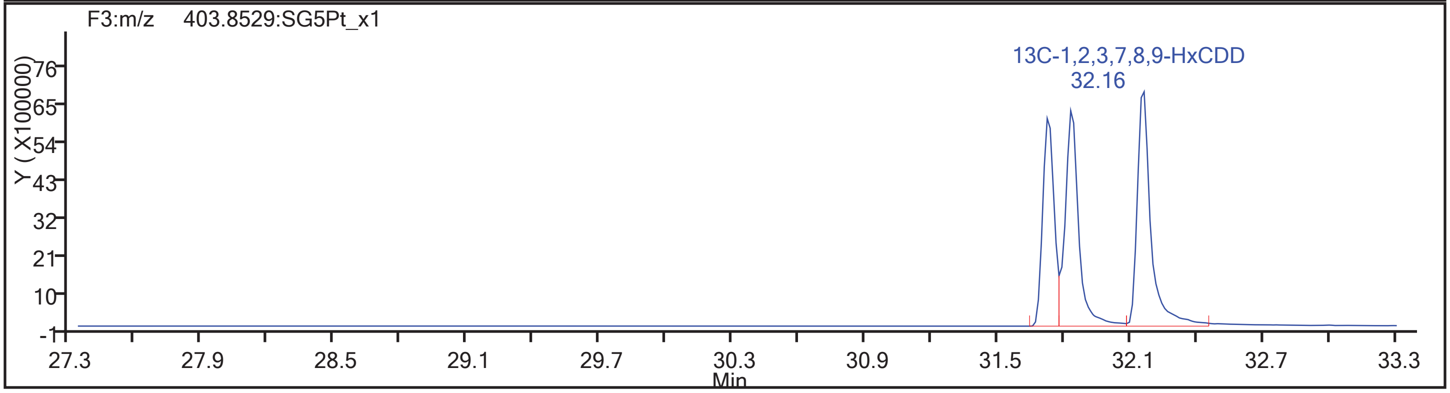
HxCDD





HxCDD Standards

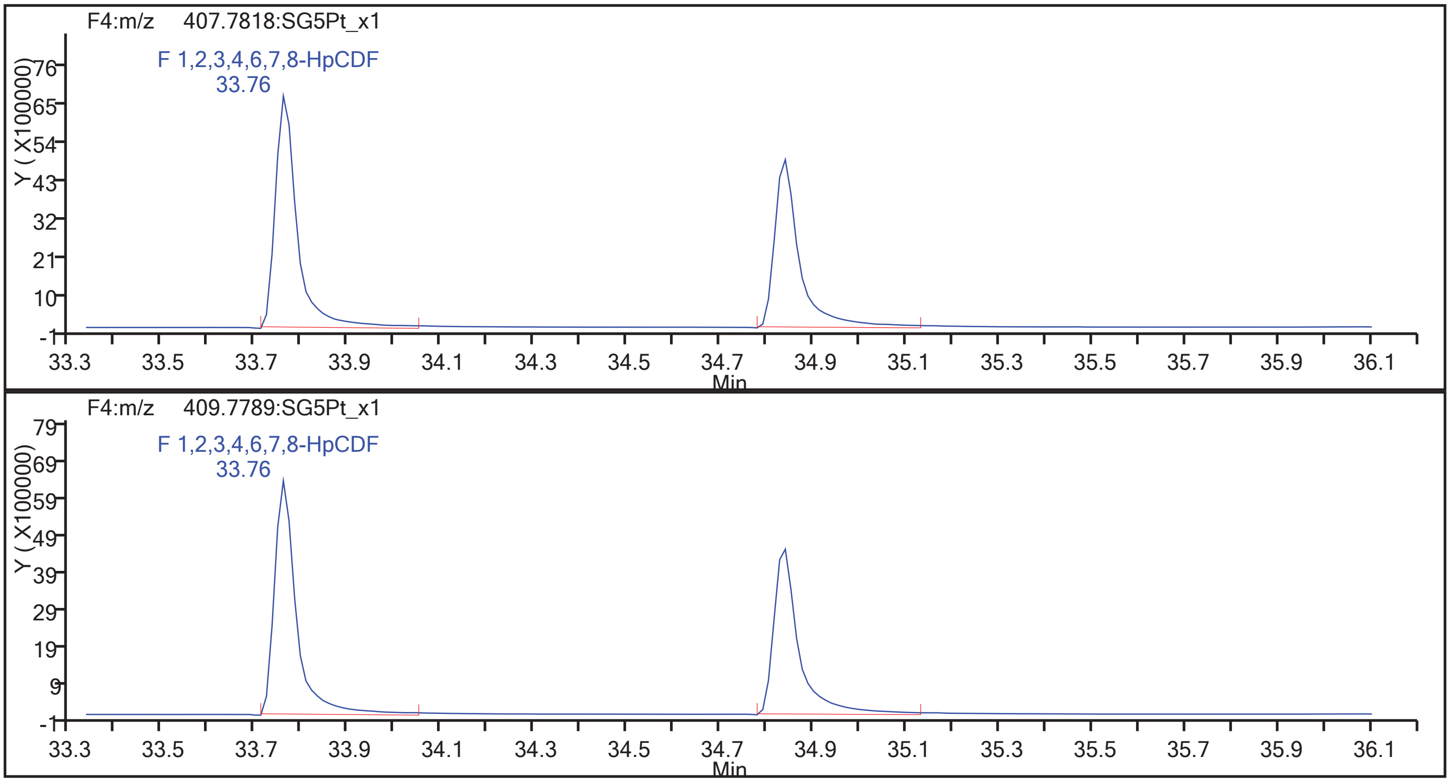




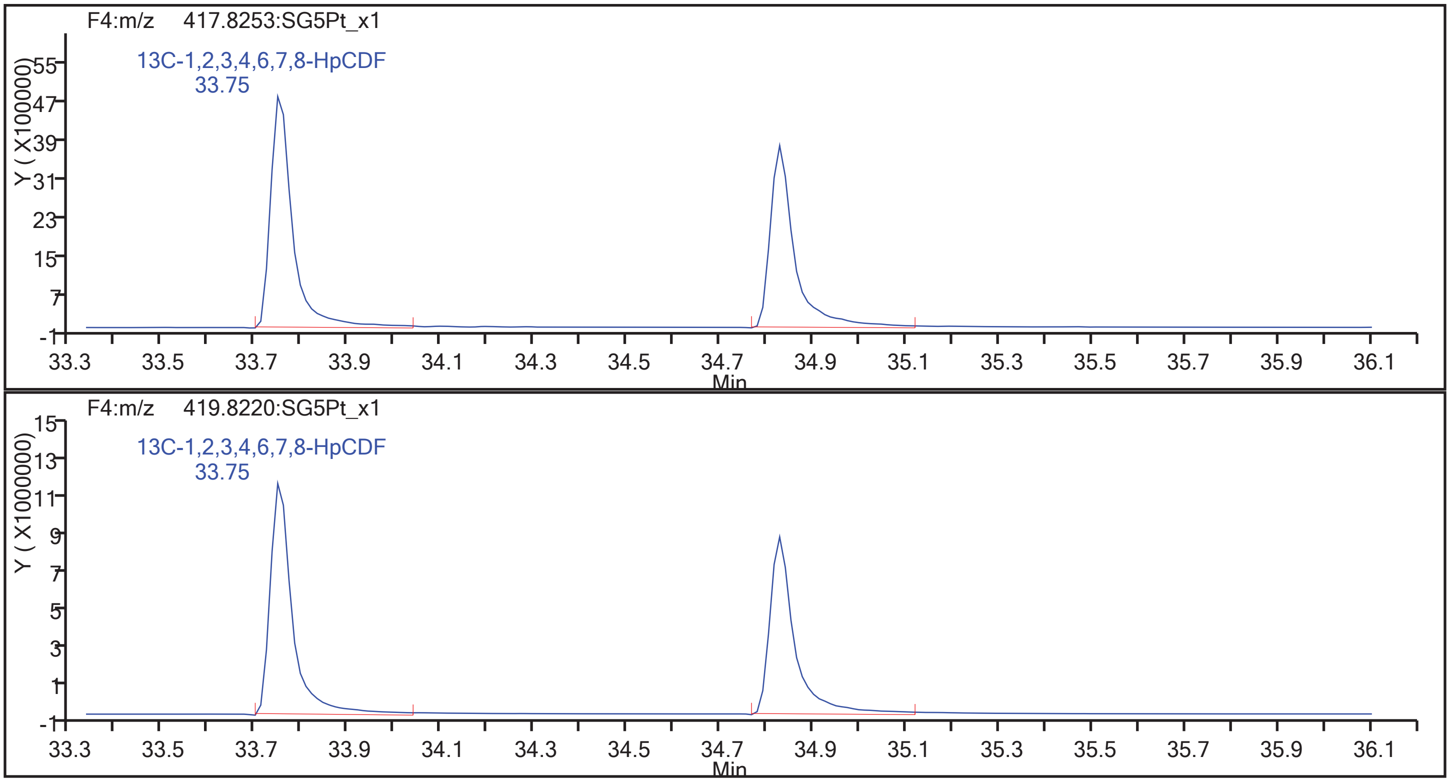
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d		
Injection Date:	12-Nov-2017 00:00:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	80
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF



HpCDF Standards

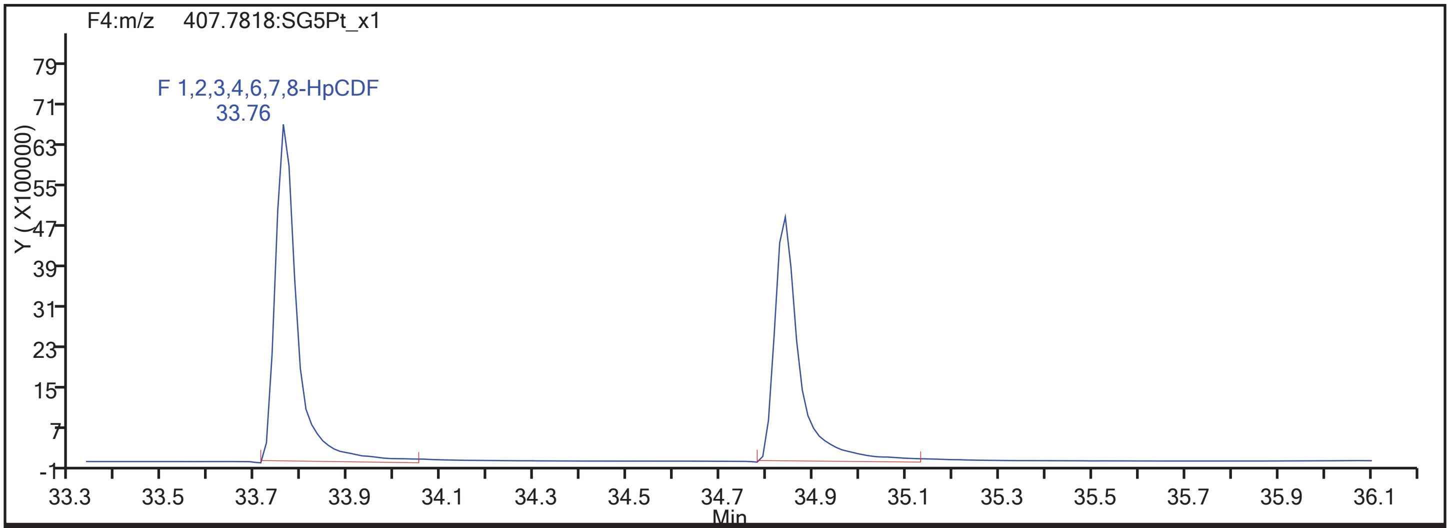


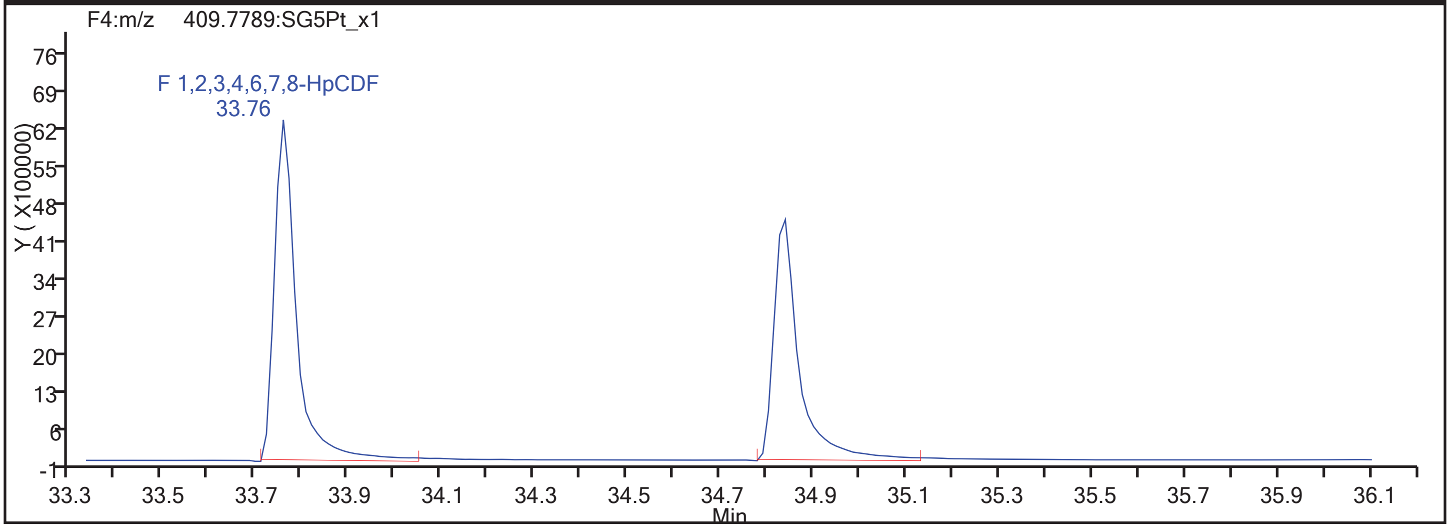
Report Date: 13-Nov-2017 13:31:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

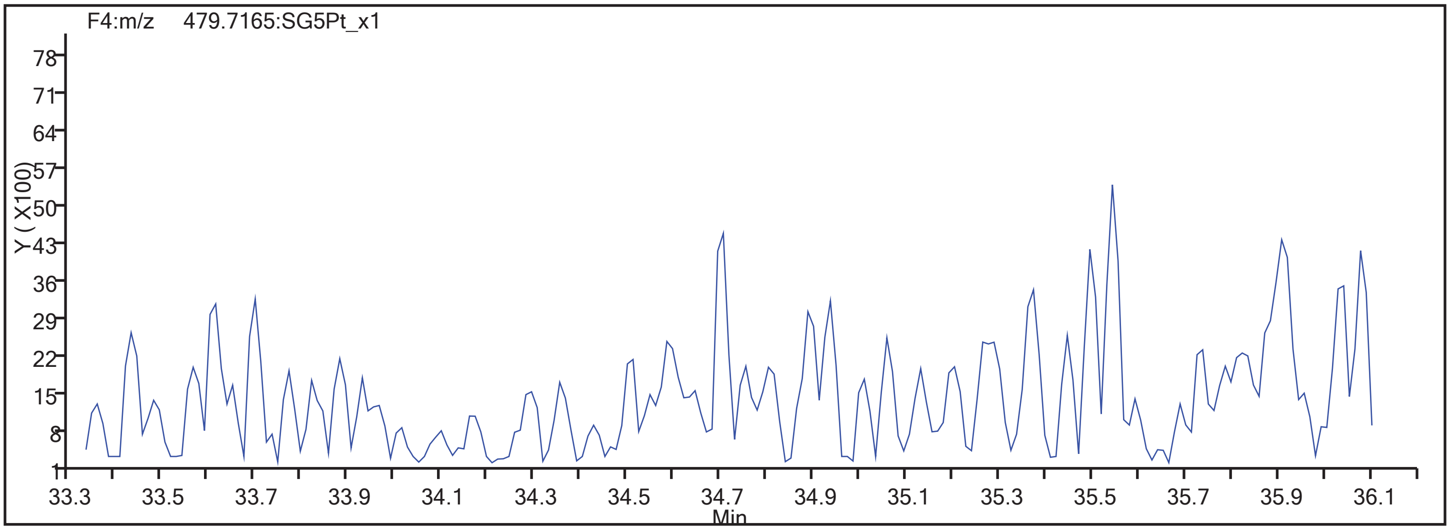
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d
Injection Date: 12-Nov-2017 00:00:55
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 80
Column Type: DB-5
Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass

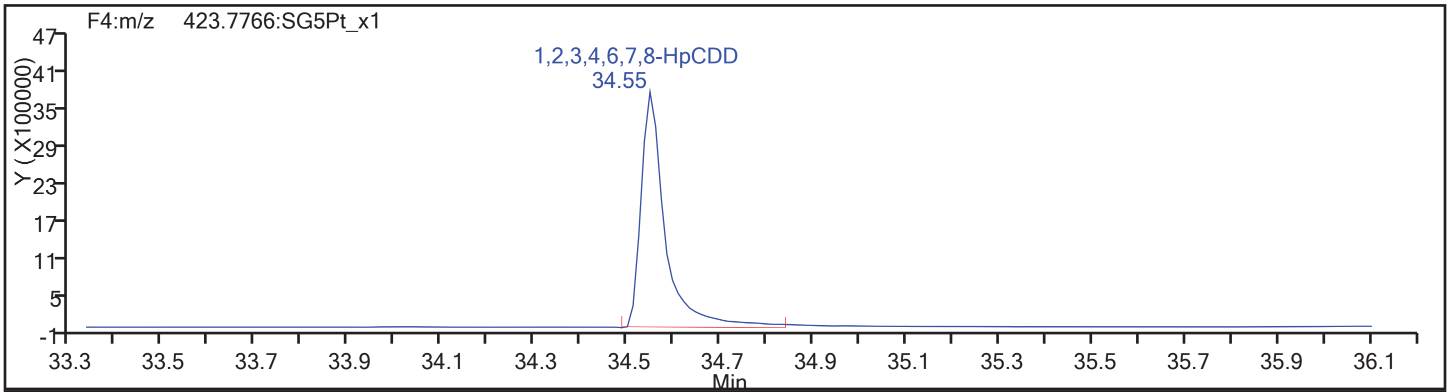


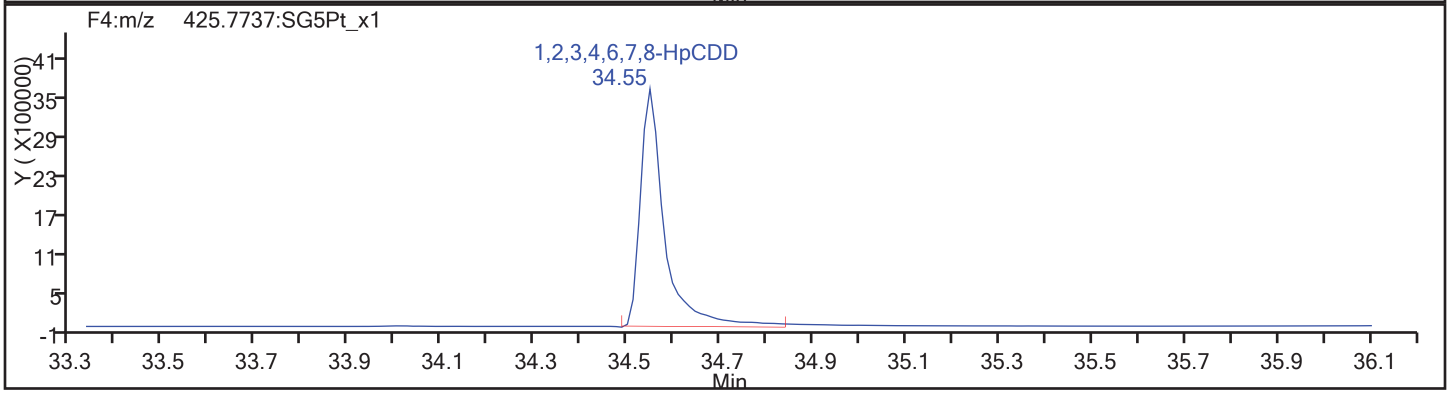
Report Date: 13-Nov-2017 13:31:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

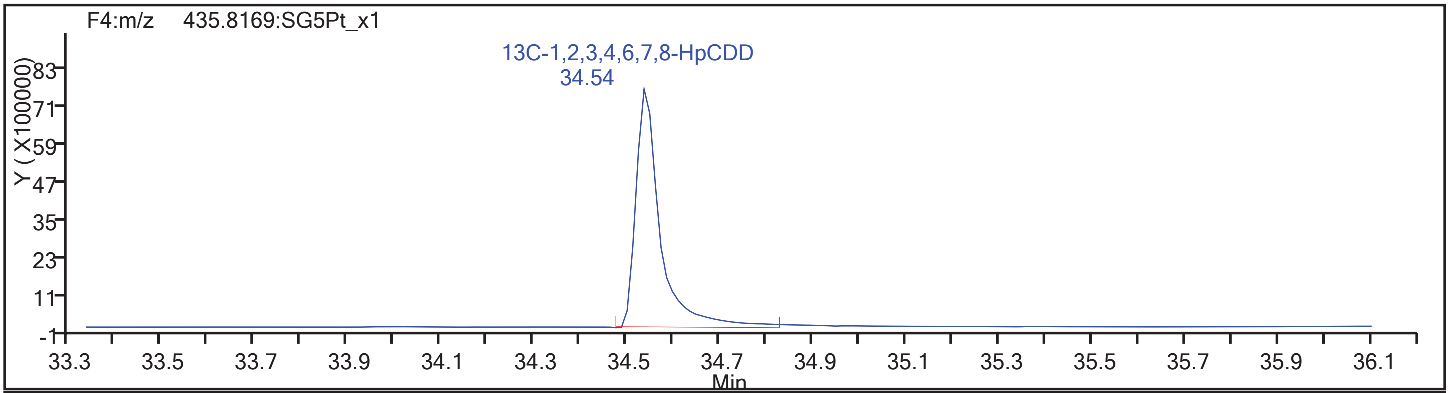
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d
Injection Date: 12-Nov-2017 00:00:55 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086 Sample Line#: 80
Column Type: DB-5 Column Dia: 0.32 mm

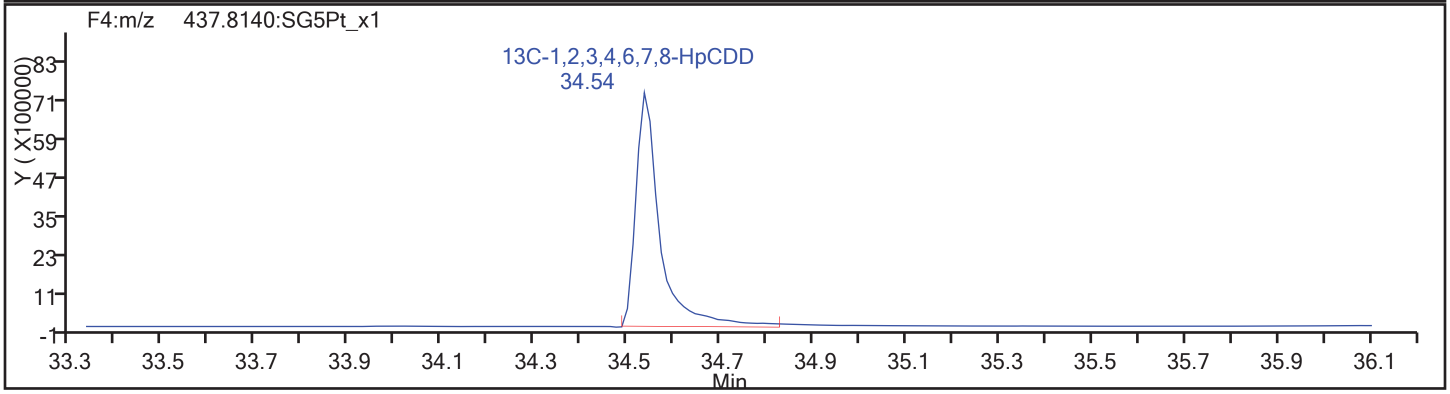
HpCDD





HpCDD Standards



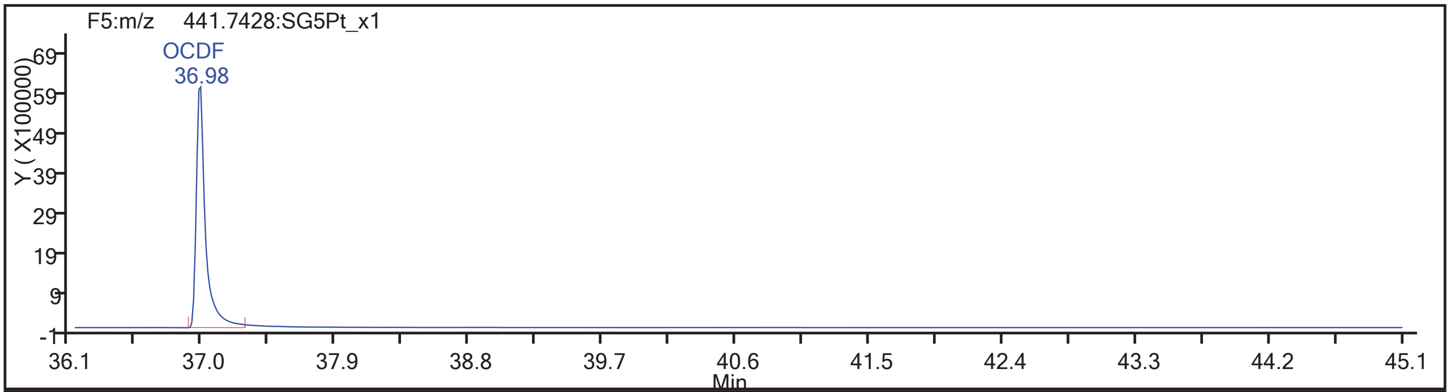


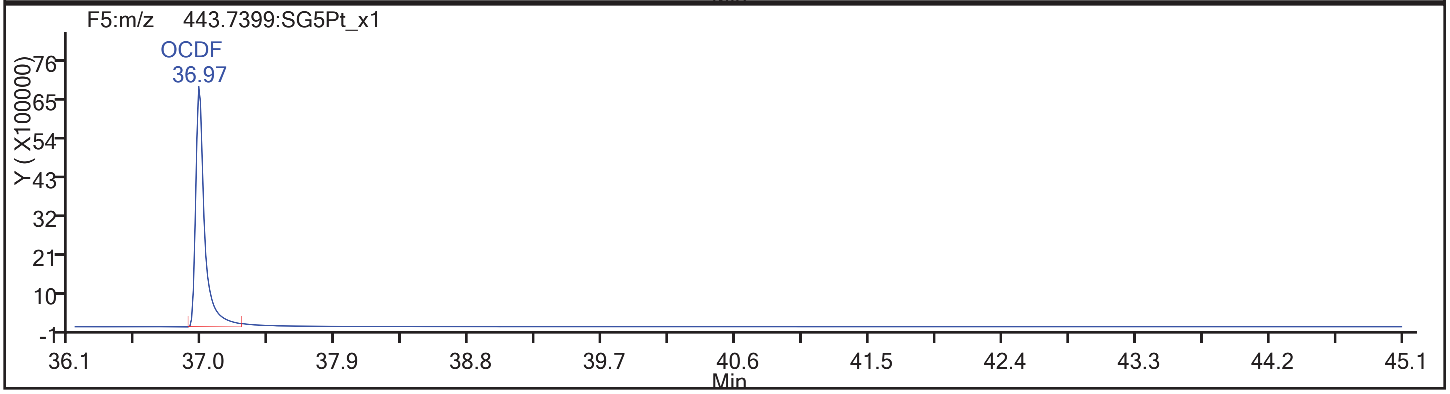
Report Date: 13-Nov-2017 13:31:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

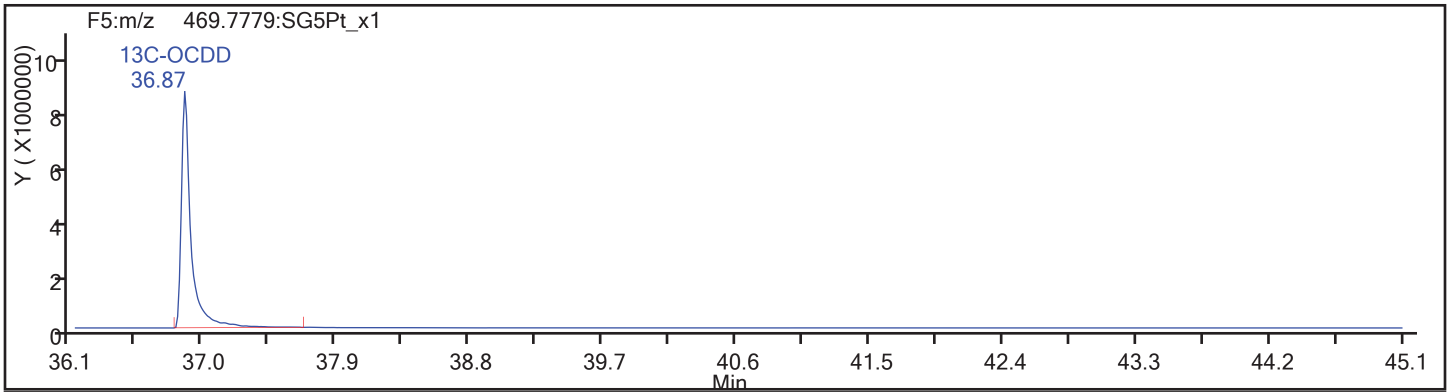
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d
Injection Date: 12-Nov-2017 00:00:55
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 80
Column Type: DB-5
Column Dia: 0.32 mm

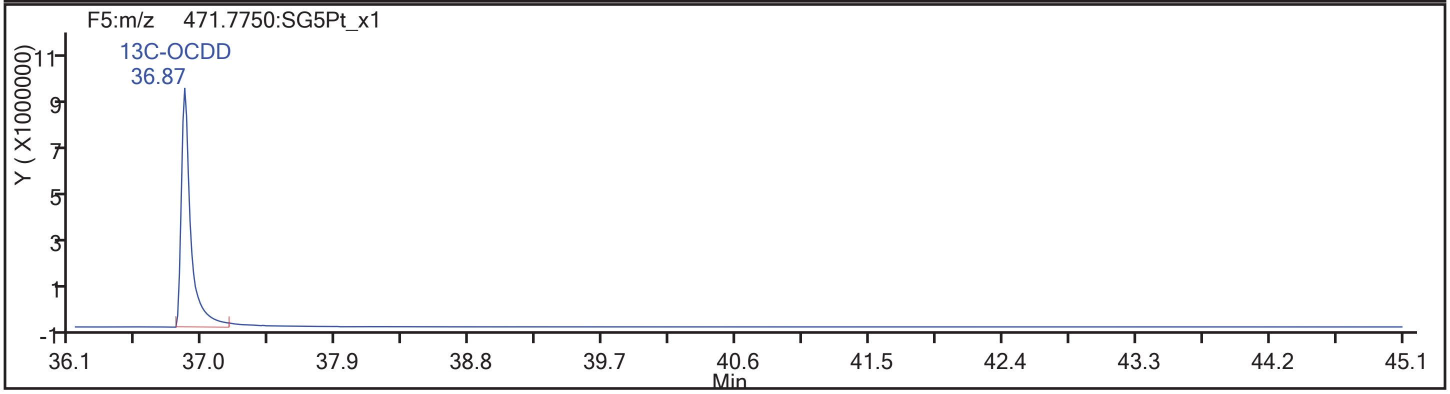
OCDF





OCDF Standards





Report Date: 13-Nov-2017 13:31:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d

Injection Date: 12-Nov-2017 00:00:55

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

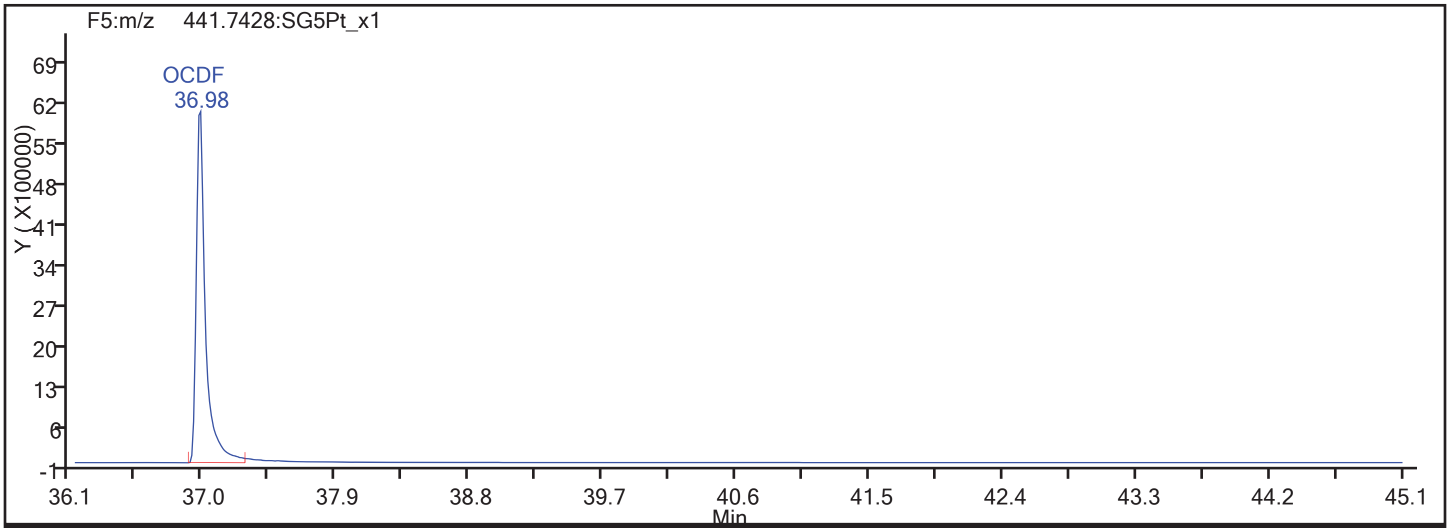
Worklist#: 194086

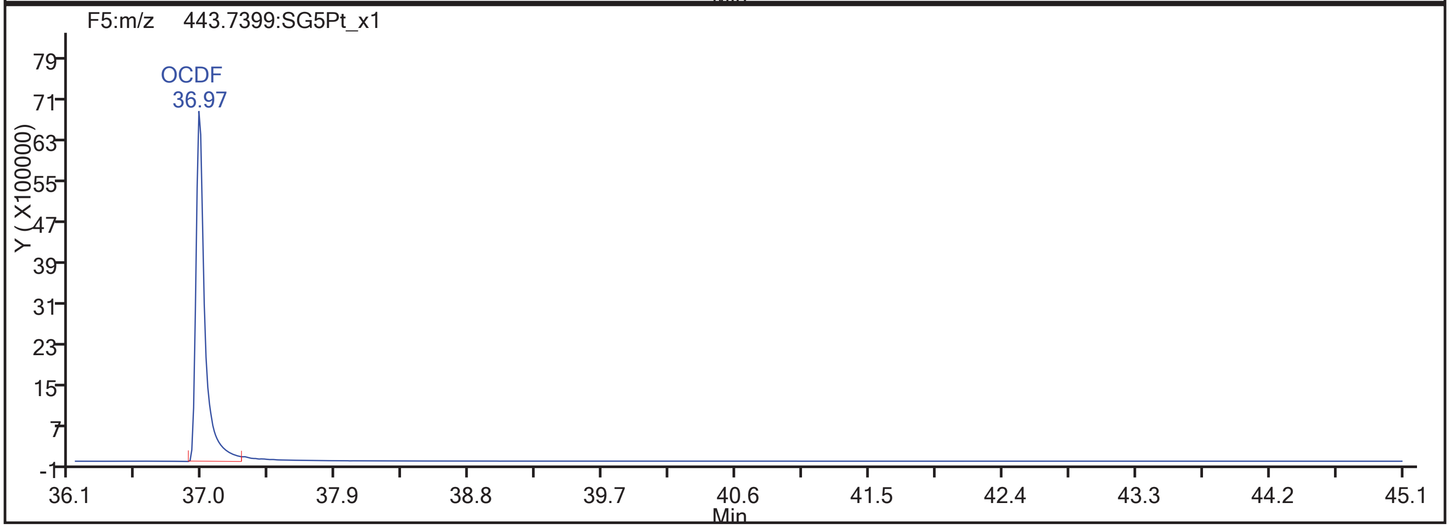
Sample Line#: 80

Column Type: DB-5

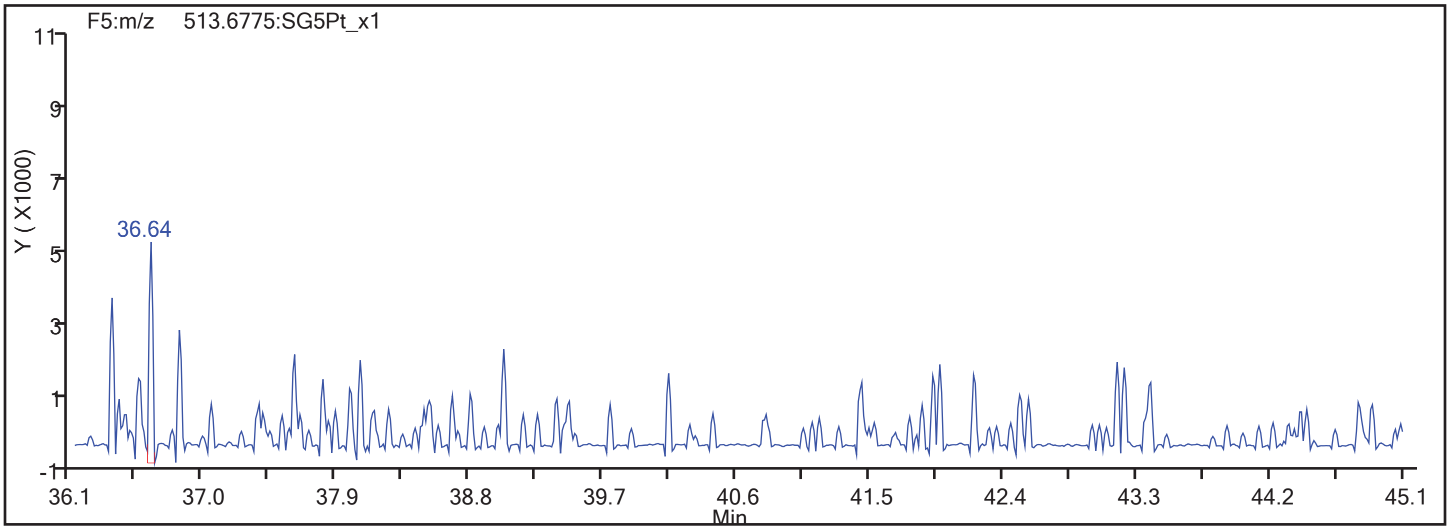
Column Dia: 0.32 mm

OCDF





OCDF Interference Mass

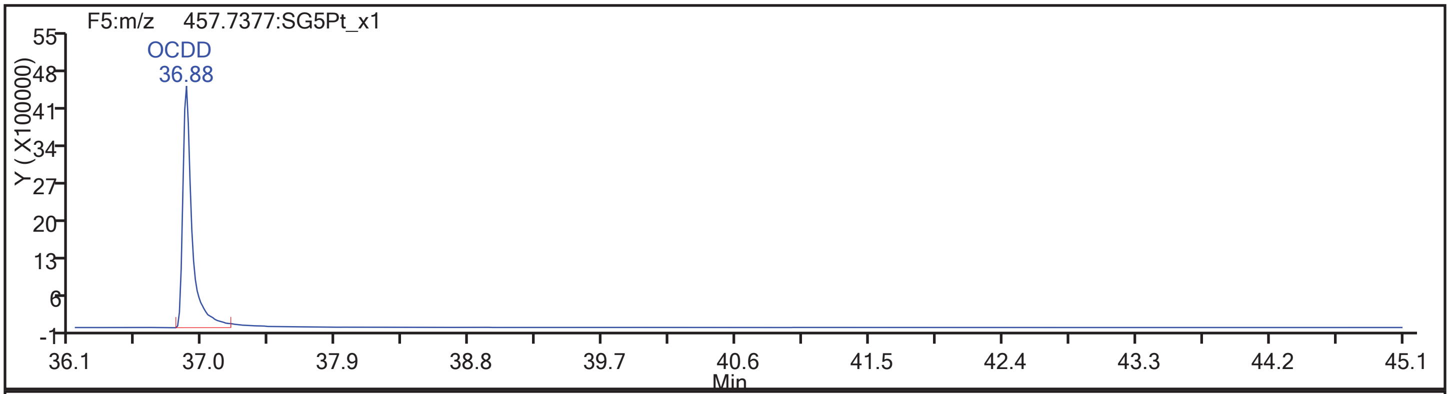


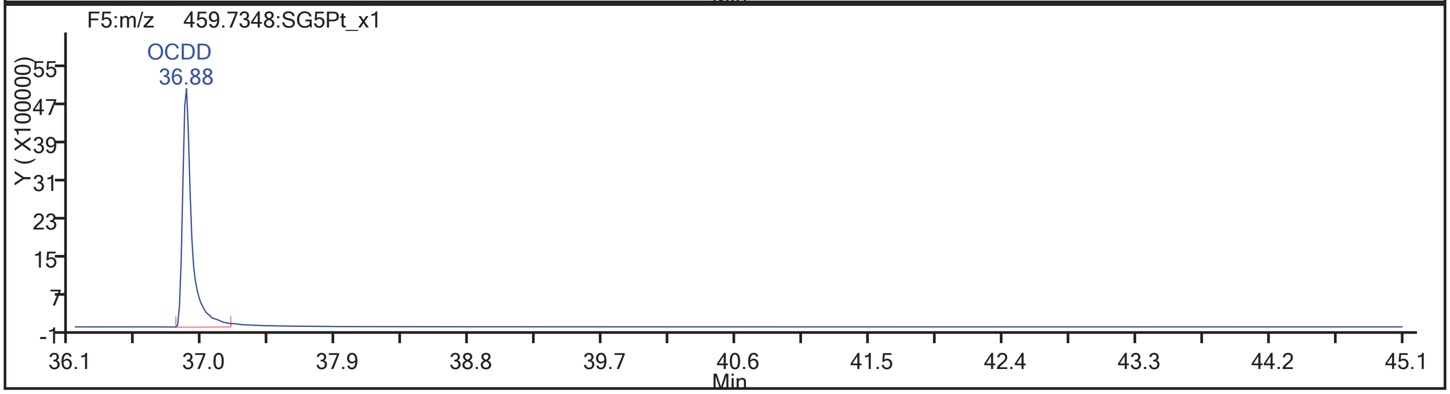
Report Date: 13-Nov-2017 13:31:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

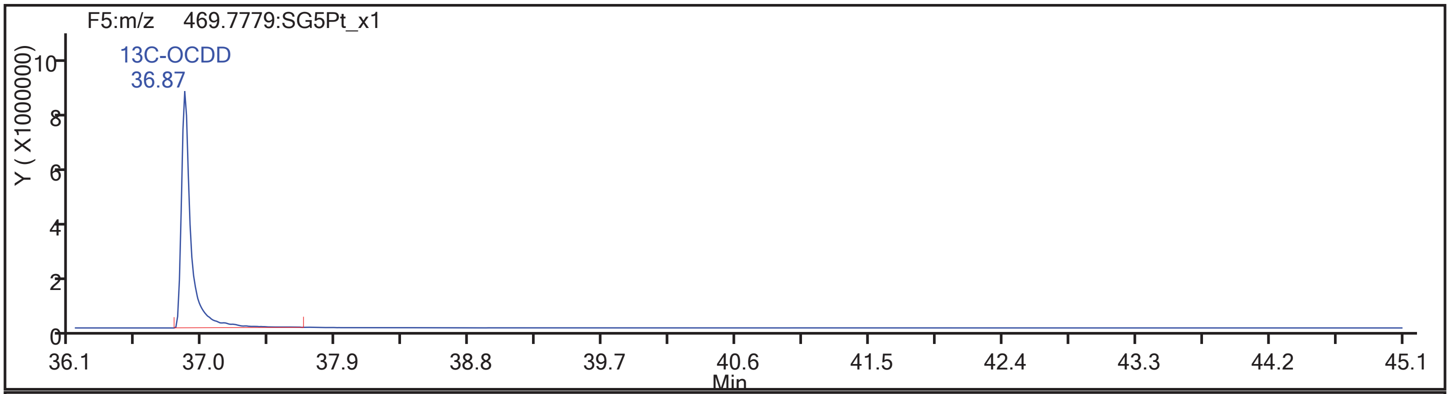
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d
Injection Date: 12-Nov-2017 00:00:55
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 80
Column Type: DB-5
Column Dia: 0.32 mm

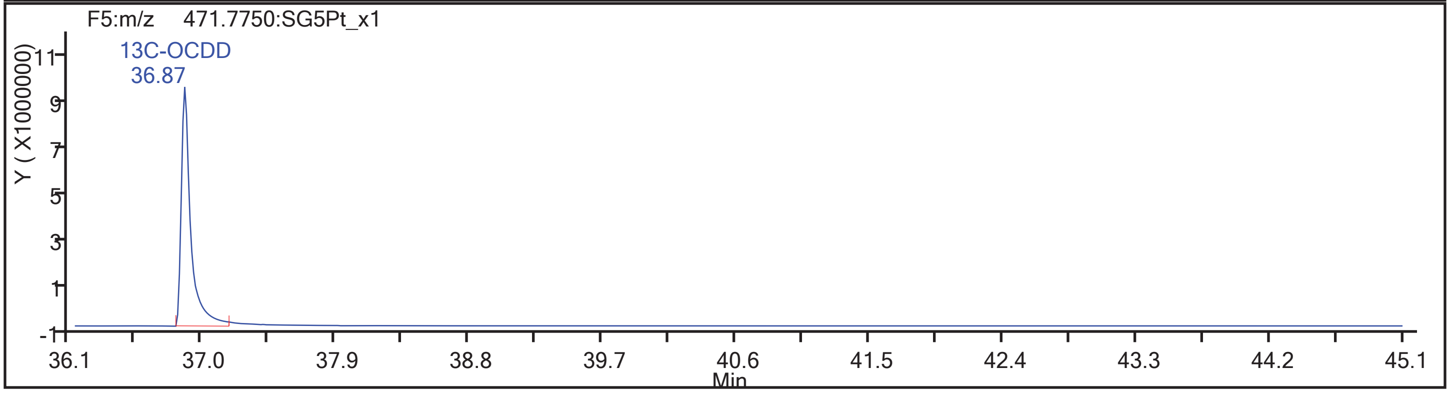
OCDD





OCDD Standards





Report Date: 13-Nov-2017 13:31:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d

Injection Date: 12-Nov-2017 00:00:55

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

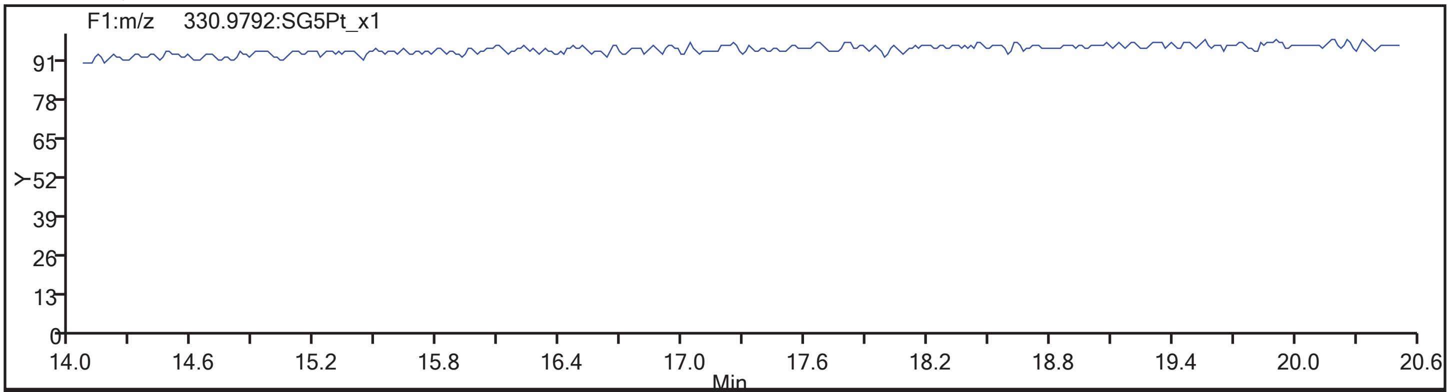
Client ID:

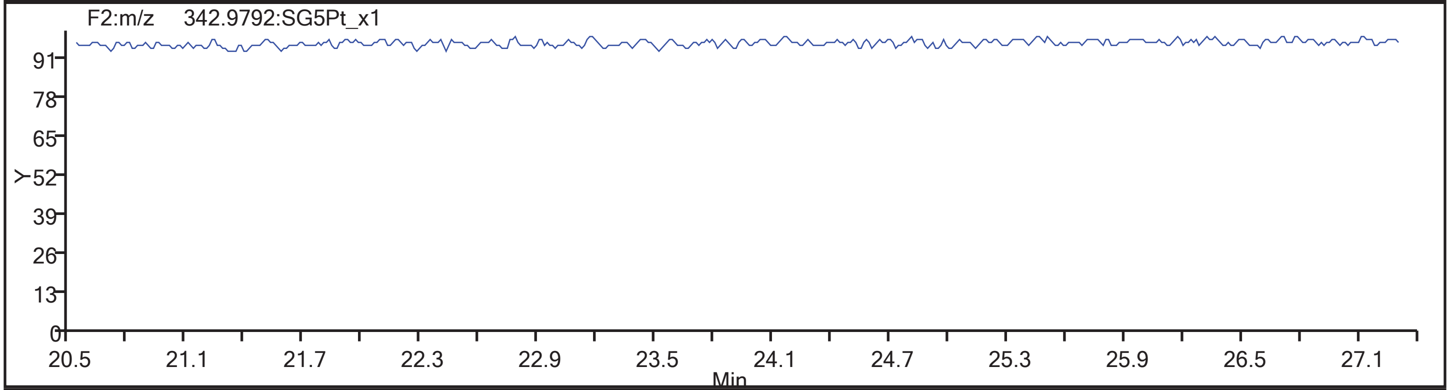
Worklist#: 194086

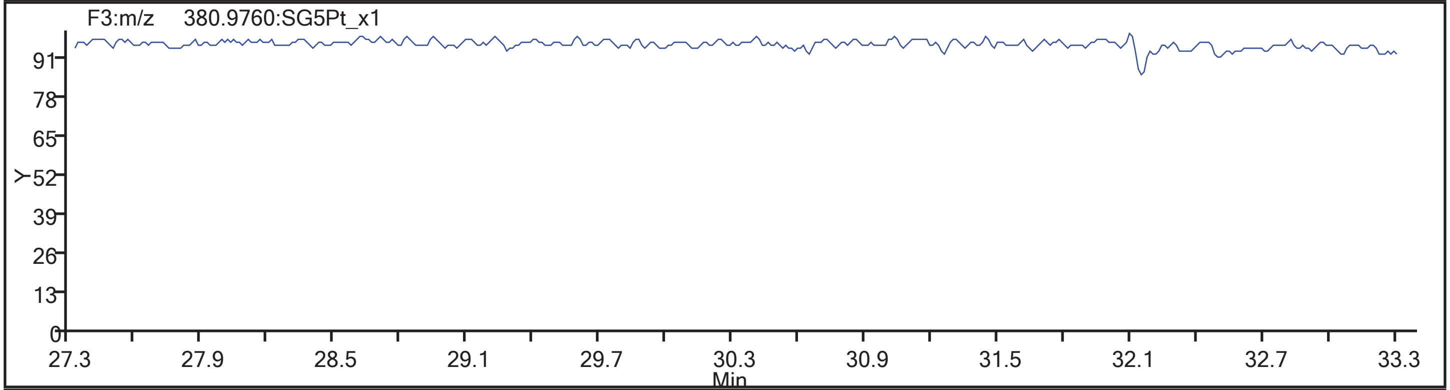
Sample Line#: 80

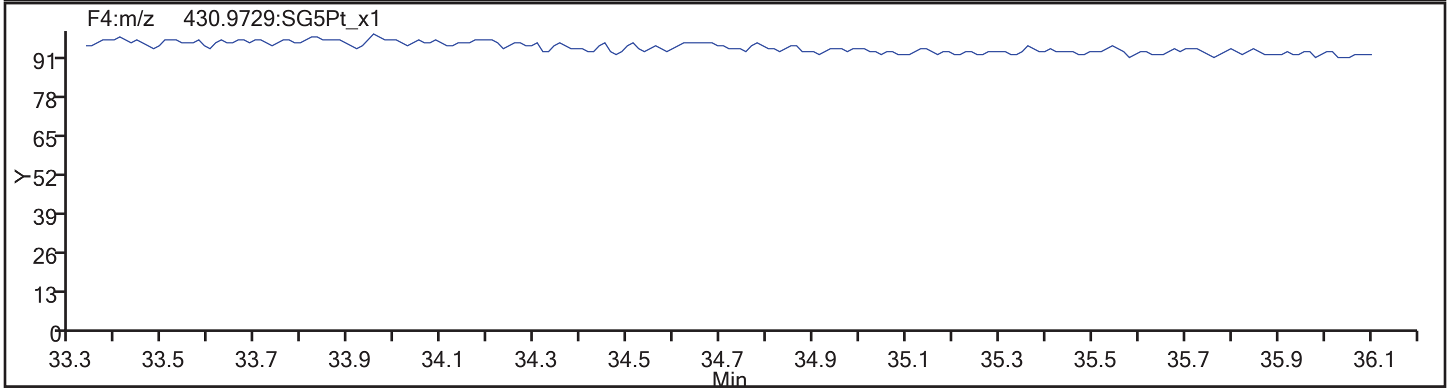
Column Type: DB-5

Column Dia: 0.32 mm









Report Date: 13-Nov-2017 13:31:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_80.d

Injection Date: 12-Nov-2017 00:00:55 Injection Vol: 2.0 ul

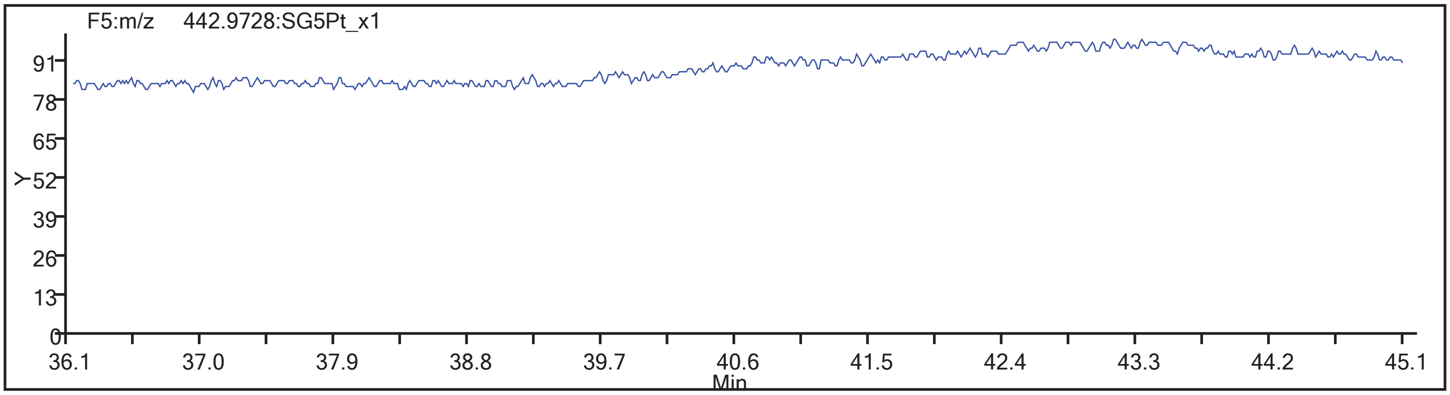
Instrument ID: 10D5 Operator ID: AJS

Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 194086 Sample Line#: 80

Column Type: DB-5 Column Dia: 0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-194086/91

Calibration Date: 11/12/2017 08:38

Instrument ID: 10D5

Calib Start Date: 10/13/2017 00:08

GC Column: DB-5 ID: 0.32(mm)

Calib End Date: 10/13/2017 03:12

Lab File ID: 09NO1710D5_91.d

Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.094		9.64	10.0	-3.6	20.0
2,3,7,8-TCDD	AveID	0.999	0.9721		9.73	10.0	-2.7	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.147		49.3	50.0	-1.3	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.149		50.4	50.0	0.9	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9614		50.7	50.0	1.3	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.396		49.8	50.0	-0.4	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.523		44.9	50.0	-10.1	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.445		47.5	50.0	-4.9	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	1.036		54.5	50.0	9.0	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.201		48.6	50.0	-2.7	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.199		48.1	50.0	-3.8	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.273		45.2	50.0	-9.7	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.676		51.1	50.0	2.2	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9649		48.6	50.0	-2.9	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.350		50.7	50.0	1.5	20.0
OCDD	AveID	1.060	1.035		97.6	100	-2.4	20.0
OCDF	AveID	1.346	1.393		103	100	3.5	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.367		107	100	7.3	30.0
13C-2,3,7,8-TCDD	Ave	0.9921	0.9922		100	100	0.0	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9696	1.099		113	100	13.3	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.8376		110	100	10.4	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	1.114		115	100	15.5	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.8926		102	100	1.5	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.7635		100	100	0.2	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.7953		102	100	2.5	30.0
13C-OCDD	Ave	0.6314	0.5709		181	200	-9.6	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.060		10.1	10.0	1.2	

FORM VII 8290A

Report Date: 13-Nov-2017 13:31:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_91.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 12-Nov-2017 08:38:23 ALS Bottle#: 2 Worklist Smp#: 91
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917M CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:31:00 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:31:00

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.884	102745143	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.370	140449133	0.79	1.2741	107.3	107.3	0.2683	0.2683	107	
2,3,7,8-TCDF	17.385	15361350	0.77	1.1341	9.644	9.644	0.0221	0.0221	96.44	
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF					9.644	9.644	0.0221	0.0221		
D 13C-2,3,7,8-TCDD	18.065	101942090	0.76	0.9921	100.0	100.0	0.1872	0.1872	100	
$ 37Cl4-2,3,7,8-TCDD	18.095	10887165		1.0466	10.1	10.1	0.0158	0.0158	101	
2,3,7,8-TCDD	18.095	9909703	0.81	0.9993	9.727	9.727	0.0249	0.0249	97.27	
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD					9.727	9.727	0.0249	0.0249		
D 13C-1,2,3,7,8-PeCDF	22.396	112876199	1.55	0.9696	113.3	113.3	0.2794	0.2794	113	
1,2,3,7,8-PeCDF	22.424	64751474	1.62	1.1627	49.3	49.3	0.1712	0.1712	98.68	
D 13C-2,3,4,7,8-PeCDF	23.746	111225510	1.56							
2,3,4,7,8-PeCDF	23.774	64874546	1.60	1.1395	50.4	50.4	0.1747	0.1747	101	
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161						0.0	0.0		n
S Total PeCDF					99.8	99.8	0.1730	0.1730		
D 13C-1,2,3,7,8-PeCDD	24.469	86055186	1.61	0.7588	110.4	110.4	0.1244	0.1244	110	
1,2,3,7,8-PeCDD	24.496	41366695	1.56	0.9490	50.7	50.7	0.0747	0.0747	101	
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD					50.7	50.7	0.0747	0.0747		
D 13C-1,2,3,4,7,8-HxCDF	30.553	92718839	0.52	0.9644	115.5	115.5	0.7481	0.7481	115	
1,2,3,4,7,8-HxCDF	30.566	64700927	1.26	1.4012	49.8	49.8	0.3654	0.3654	99.60	
D 13C-1,2,3,6,7,8-HxCDF	30.726	110253792	0.52							
1,2,3,6,7,8-HxCDF	30.753	70607555	1.27	1.6951	44.9	44.9	0.3020	0.3020	89.85	
D 13C-2,3,4,6,7,8-HxCDF	31.552	102523330	0.52							
2,3,4,6,7,8-HxCDF	31.565	67002775	1.27	1.5205	47.5	47.5	0.3367	0.3367	95.05	
D 13C-1,2,3,7,8,9-HxCDF	32.337	93254704	0.52							
1,2,3,7,8,9-HxCDF	32.350	59025773	1.27	1.4099	45.2	45.2	0.3631	0.3631	90.30	
A Non-2,3,7,8-sub-HxCDF	30.254						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					187.4	187.4	0.3418	0.3418		
* 13C-1,2,3,7,8,9-HxCDD	32.164	83267250	1.26	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.725	61541011	1.26							
1,2,3,4,7,8-HxCDD	31.738	38484407	1.32	0.9505	54.5	54.5	0.2525	0.2525	109	
D 13C-1,2,3,6,7,8-HxCDD	31.831	74325979	1.23	0.8791	101.5	101.5	0.5623	0.5623	102	
1,2,3,6,7,8-HxCDD	31.844	44620817	1.21	1.2343	48.6	48.6	0.1945	0.1945	97.27	
1,2,3,7,8,9-HxCDD	32.177	44547674	1.28	1.2467	48.1	48.1	0.1925	0.1925	96.15	
A Non-2,3,7,8-sub-HxCDD	30.893						0.0	0.0		
S Total HxCDD					151.2	151.2	0.2132	0.2132		
1,2,3,4,6,7,8-HpCDF	33.758	53265417	1.05	1.6399	51.1	51.1	0.6566	0.6566	102	
D 13C-1,2,3,4,6,7,8-HpCDF	33.758	63570252	0.45	0.7618	100.2	100.2	1.379	1.379	100	
D 13C-1,2,3,4,7,8,9-HpCDF	34.827	55519436	0.44							
1,2,3,4,7,8,9-HpCDF	34.839	42906273	1.06	1.3302	50.7	50.7	0.8095	0.8095	101	
A Non-2,3,7,8-sub-HpCDF	34.305						0.0	0.0		
S Total HpCDF					101.8	101.8	0.7330	0.7330		
D 13C-1,2,3,4,6,7,8-HpCDD	34.536	66224080	1.05	0.7762	102.5	102.5	1.120	1.120	102	
1,2,3,4,6,7,8-HpCDD	34.548	31948753	1.04	0.9932	48.6	48.6	0.3415	0.3415	97.15	
A Non-2,3,7,8-sub-HpCDD	34.286						0.0	0.0		
S Total HpCDD					48.6	48.6	0.3415	0.3415		
D 13C-OCDD	36.870	95068415	0.88	0.6314	180.8	180.8	0.2256	0.2256	90.41	
OCDF	36.978	66210014	0.91	1.3460	103.5	103.5	0.1373	0.1373	103	
OCDD	36.882	49178299	0.89	1.0604	97.6	97.6	0.1663	0.1663	97.56	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

Report Date: 13-Nov-2017 13:31:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_91.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 12-Nov-2017 08:38:23 ALS Bottle#: 2 Worklist Smp#: 91
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110917M CS-4 HRDXNL4_00059
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:31:00 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:31:00

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.884	17.884	0		44964327	10959901	10310	25775	1063		
333.9339	17.884	17.884	0		57780816	14021086	8246	20615	1700	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.370	17.370	0	0.971	61882888	15080966	18577	46442	812		
317.9389	17.370	17.370	0	0.971	78566245	19205417	15577	38942	1233	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.385	17.385	0	1.001	6701268	1672304	1214	3035	1378		
305.8987	17.385	17.385	0	1.001	8660082	2141667	2227	5567	962	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						1214	3035			
305.8987	17.105						2227	5567			
13C-2,3,7,8-TCDD											
331.9368	18.065	18.065	0	1.010	44175279	10152901	10310	25775	985		
333.9339	18.065	18.065	0	1.010	57766811	13216468	8246	20615	1603	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.095	18.095	0	1.012	10887165	2644342	1655	4137	1598		
2,3,7,8-TCDD											
319.8965	18.095	18.095	0	1.002	4431100	1034550	1337	3342	774		
321.8936	18.095	18.095	0	1.002	5478603	1282845	988	2470	1298	0.81(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						1337	3342			
321.8936	17.559						988	2470			

Report Date: 13-Nov-2017 13:31:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_91.d

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.396	22.396	0	1.252	68666893	11986304	16194	40485	740		
353.8970	22.396	22.396	0	1.252	44209306	7837679	10877	27192	721	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.424	22.424	0	1.001	39995599	7014556	9384	23460	748		
341.8567	22.424	22.424	0	1.001	24755875	4378831	6402	16005	684	1.62(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.746	23.746	0	1.328	67694233	11137818	16194	40485	688		
353.8970	23.746	23.746	0	1.328	43531277	7279586	10877	27192	669	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.774	23.774	0	1.061	39957647	6707505	9384	23460	715		
341.8567	23.774	23.774	0	1.061	24916899	4119706	6402	16005	644	1.60(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.001						294	735			
341.8567	20.001						1054	2635			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.942	23.161	-13	1.024	382652	54107	9384	23460	6		
341.8567	22.942	23.161	-13	1.024	272679	35924	6402	16005	6	1.40(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.469	24.469	0	1.368	53129241	8147933	5199	12997	1567		
369.8919	24.469	24.469	0	1.368	32925945	5121458	4231	10577	1210	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.496	24.496	0	1.001	25194445	3877285	2634	6585	1472		
357.8516	24.496	24.496	0	1.001	16172250	2479046	1128	2820	2198	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						2634	6585			
357.8516	23.419						1128	2820			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.553	30.553	0	0.950	31774542	6083466	19500	48750	312		
385.8610	30.553	30.553	0	0.950	60944297	11672510	37404	93510	312	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.566	30.566	0	1.000	36114909	6888763	20046	50115	344		
375.8178	30.566	30.566	0	1.000	28586018	5521487	16315	40787	338	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.726	30.726	0	0.955	37673095	7179645	19500	48750	368		
385.8610	30.726	30.726	0	0.955	72580697	13693967	37404	93510	366	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.753	30.753	0	1.007	39480599	7420383	20046	50115	370		
375.8178	30.753	30.753	0	1.007	31126956	5870282	16315	40787	360	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.552	31.552	0	0.981	35025069	8414807	19500	48750	432		
385.8610	31.538	31.552	-1	0.981	67498261	16057049	37404	93510	429	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.565	31.565	0	1.033	37479766	9190483	20046	50115	458		
375.8178	31.565	31.565	0	1.033	29523009	7191055	16315	40787	441	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.337	32.337	0	1.005	32094472	7760647	19500	48750	398		
385.8610	32.337	32.337	0	1.005	61160232	14518173	37404	93510	388	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.350	32.350	0	1.059	33021627	7913312	20046	50115	395		
375.8178	32.350	32.350	0	1.059	26004146	6287500	16315	40787	385	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.254						20046	50115			
375.8178	30.254						16315	40787			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.164	32.164	0		46493923	11018244	22105	55262	498		
403.8529	32.164	32.164	0		36773327	8700344	16880	42200	515	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.725	31.725	0	0.986	34346615	9651592	22105	55262	437		
403.8529	31.725	31.725	0	0.986	27194396	7569490	16880	42200	448	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.738	31.738	0	0.997	21902084	5788726	9669	24172	599		
391.8127	31.738	31.738	0	0.997	16582323	4664644	7606	19015	613	1.32(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.831	31.831	0	0.990	41060626	9927038	22105	55262	449		
403.8529	31.831	31.831	0	0.990	33265353	8065686	16880	42200	478	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.844	31.844	0	1.000	24413814	6175109	9669	24172	639		
391.8127	31.844	31.844	0	1.000	20207003	4956654	7606	19015	652	1.21(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.177	32.177	0	1.011	24986253	5985058	9669	24172	619		
391.8127	32.164	32.177	-1	1.010	19561421	4660569	7606	19015	613	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.893						9669	24172			
391.8127	30.893						7606	19015			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.758	33.758	0	1.000	27253170	8180679	40533	101332	202		
409.7789	33.758	33.758	0	1.000	26012247	7927571	43653	109132	182	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.758	33.758	0	1.050	19771202	5981708	24960	62400	240		
419.8220	33.758	33.758	0	1.050	43799050	13564150	57924	144810	234	0.45(0.37-0.51)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.827	34.827	0	1.083	16871856	4711340	24960	62400	189		
419.8220	34.827	34.827	0	1.083	38647580	10510676	57924	144810	181	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.839	34.839	0	1.032	22082561	6114718	40533	101332	151		
409.7789	34.839	34.839	0	1.032	20823712	5826622	43653	109132	133	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.305						40533	101332			
409.7789	34.305						43653	109132			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.536	34.536	0	1.074	33972137	9254691	36066	90165	257		
437.8140	34.536	34.536	0	1.074	32251943	8794593	32490	81225	271	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.548	34.548	0	1.000	16269076	4535179	14842	37105	306		
425.7737	34.548	34.548	0	1.000	15679677	4424685	9648	24120	459	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.286						14842	37105			
425.7737	34.286						9648	24120			
13C-OCDD											
469.7779	36.870	36.870	0	1.146	44462172	10570343	5571	13927	1897		
471.7750	36.870	36.870	0	1.146	50606243	11979126	5663	14157	2115	0.88(0.76-1.02)	
OCDF											
441.7428	36.978	36.978	0	1.003	31495494	7593474	4273	10682	1777		
443.7399	36.966	36.978	-1	1.003	34714520	8216901	4059	10147	2024	0.91(0.76-1.02)	
OCDD											
457.7377	36.882	36.882	0	1.000	23187496	5546510	3602	9005	1540		
459.7348	36.882	36.882	0	1.000	25990803	6137221	4350	10875	1411	0.89(0.76-1.02)	

Reagents:

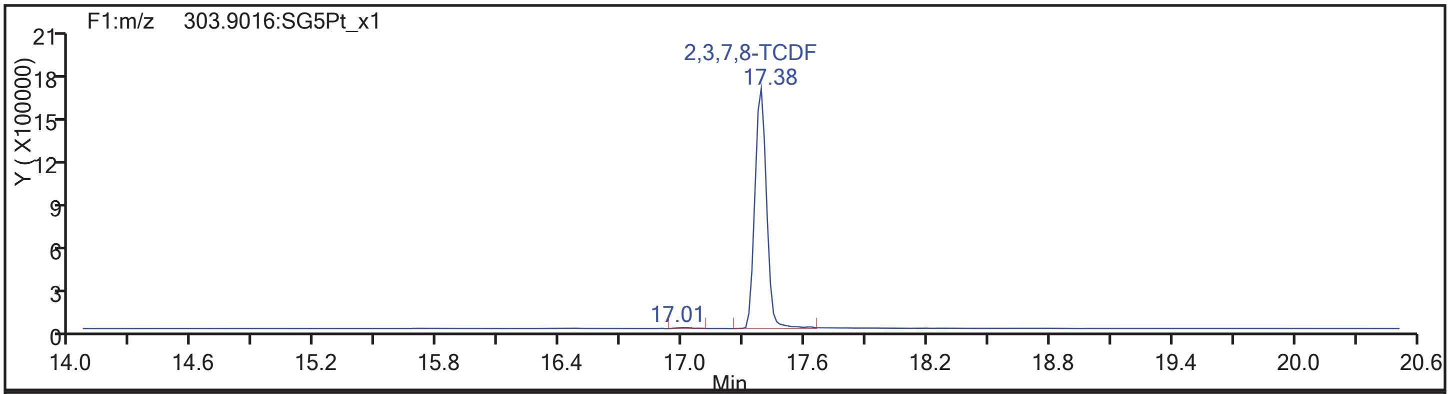
HRDXNL4_00060 Amount Added: 1.00 Units: mL

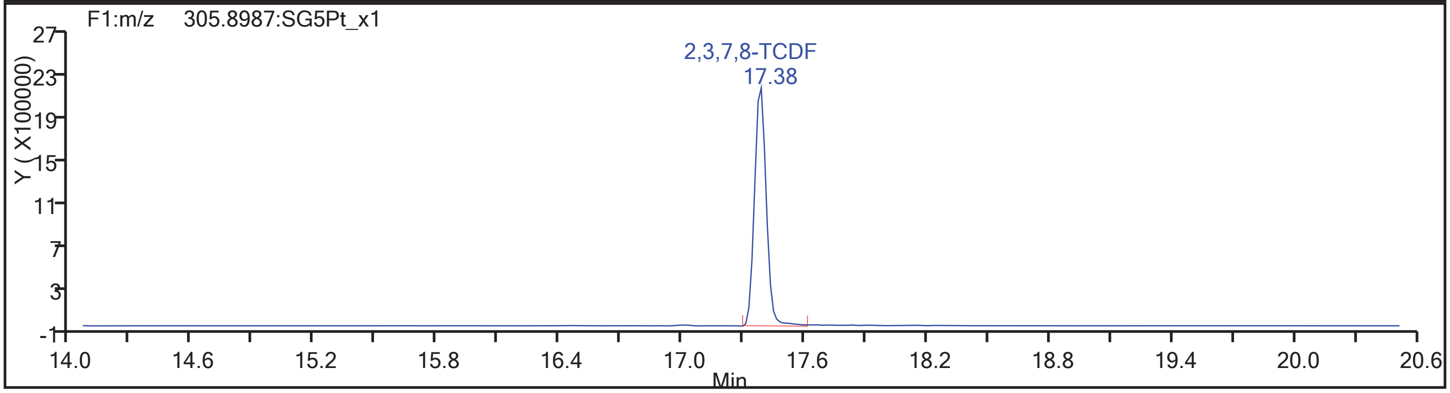
Report Date: 13-Nov-2017 13:31:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

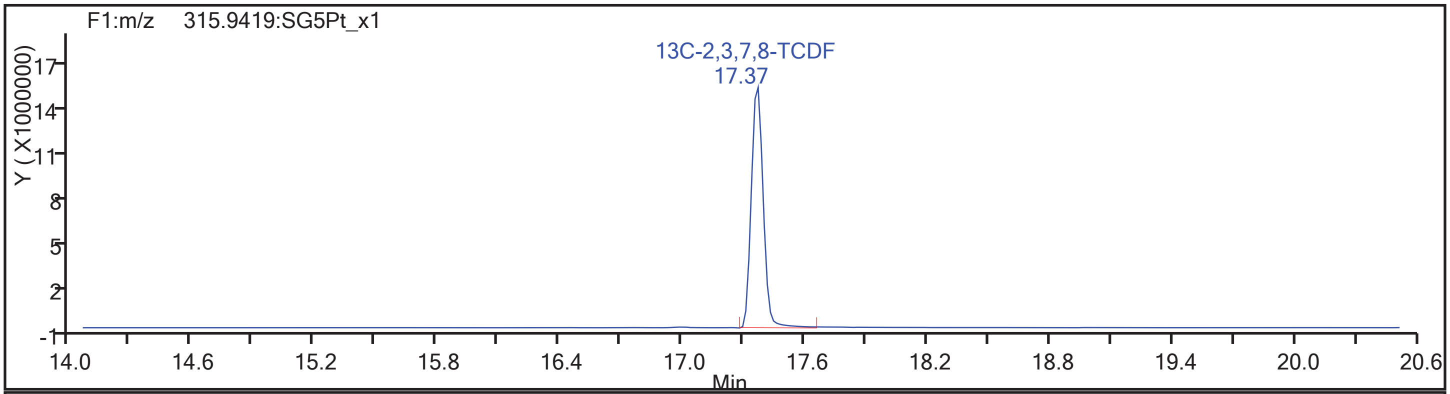
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_91.d		
Injection Date:	12-Nov-2017 08:38:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	91
Column Type:	DB-5	Column Dia:	0.32 mm

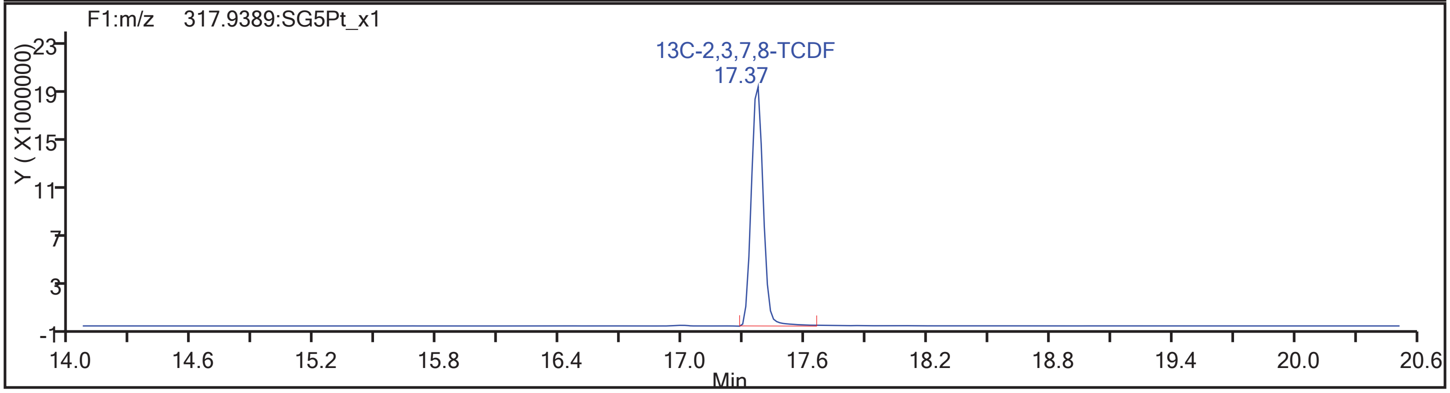
TCDF





TCDF Standards



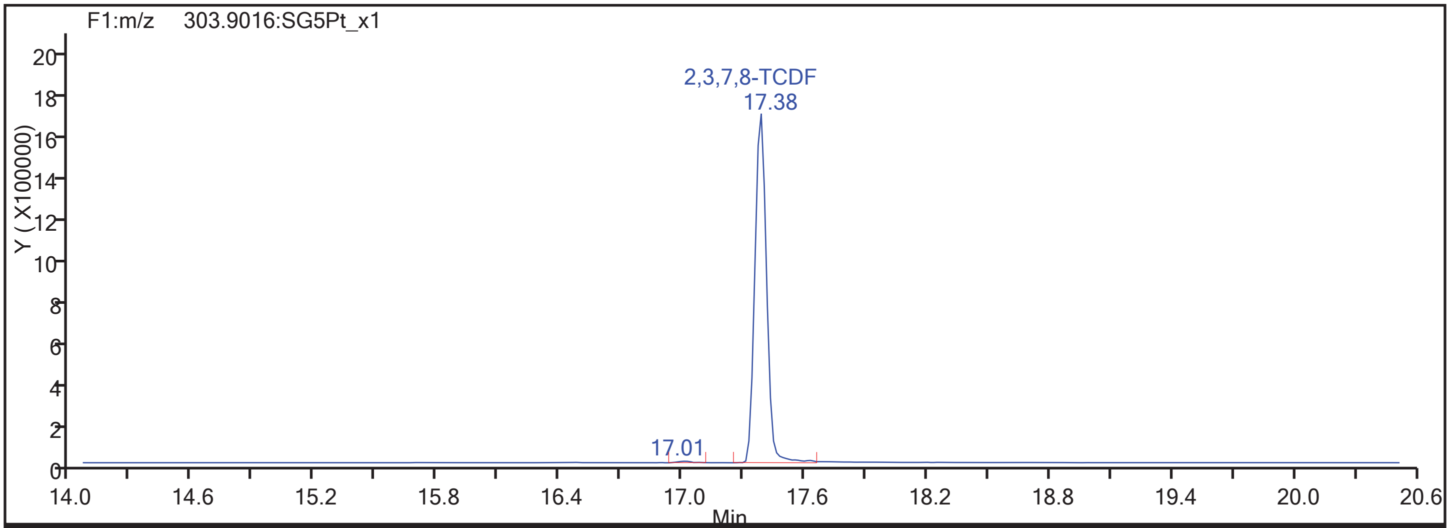


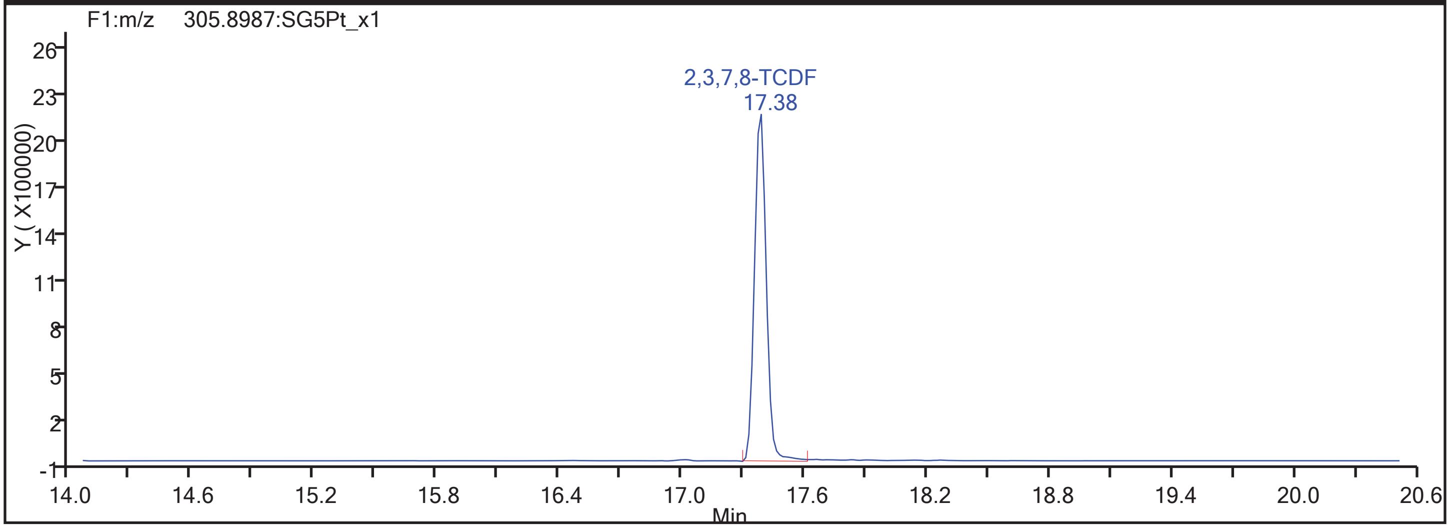
Report Date: 13-Nov-2017 13:31:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

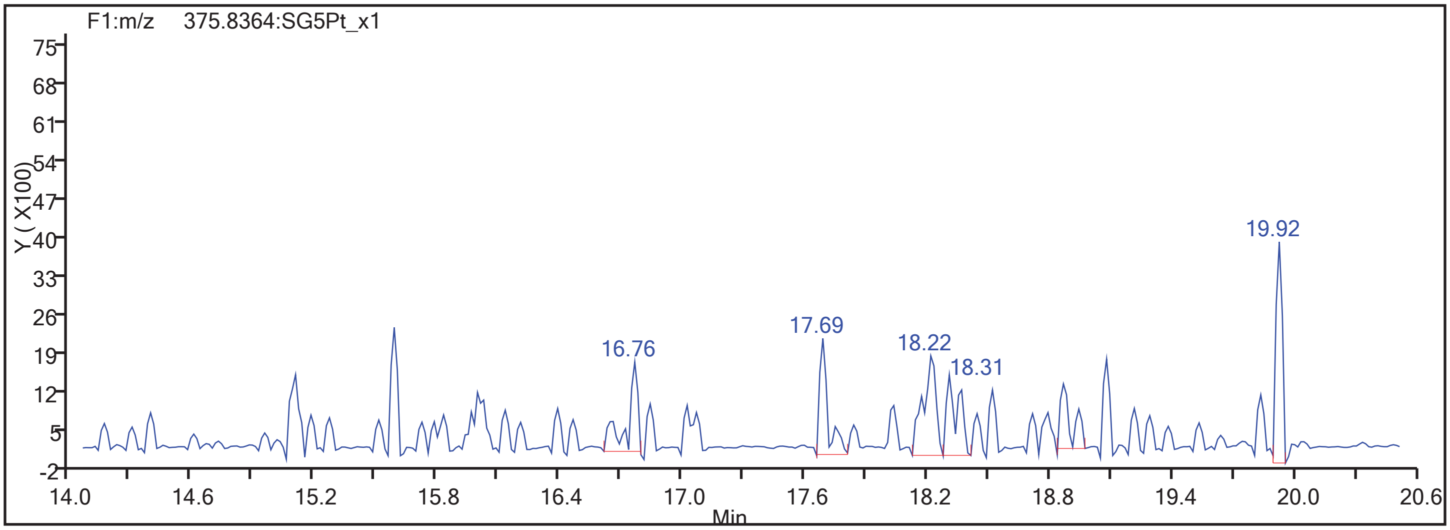
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_91.d
Injection Date: 12-Nov-2017 08:38:23
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 91
Column Type: DB-5
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass

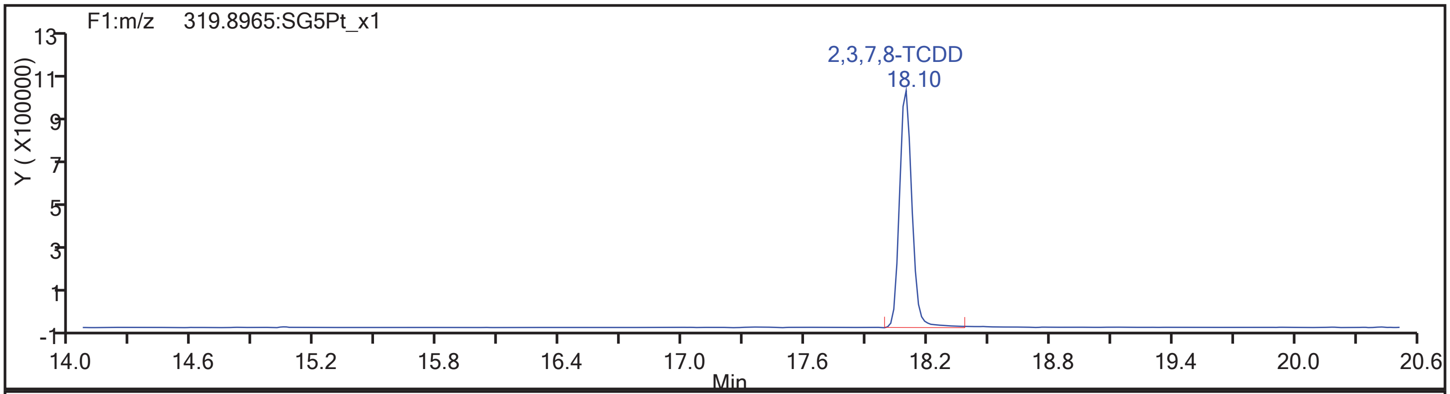


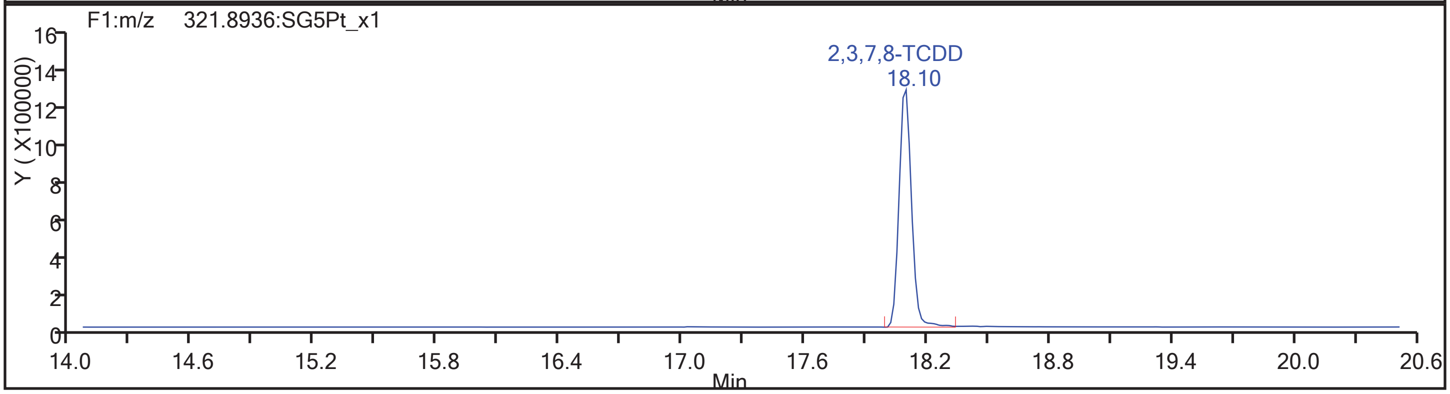
Report Date: 13-Nov-2017 13:31:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

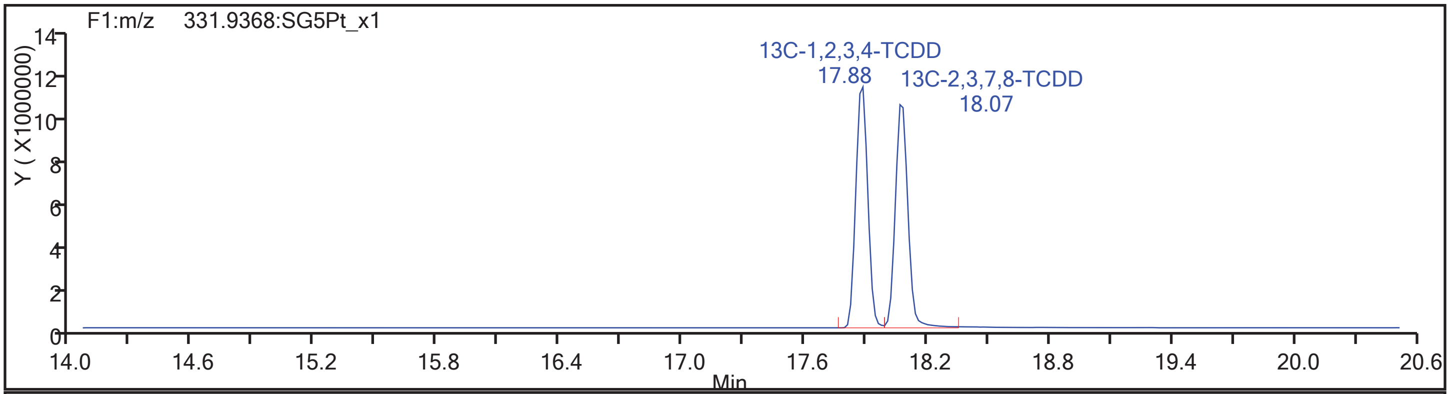
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_91.d
Injection Date: 12-Nov-2017 08:38:23
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 91
Column Type: DB-5
Column Dia: 0.32 mm

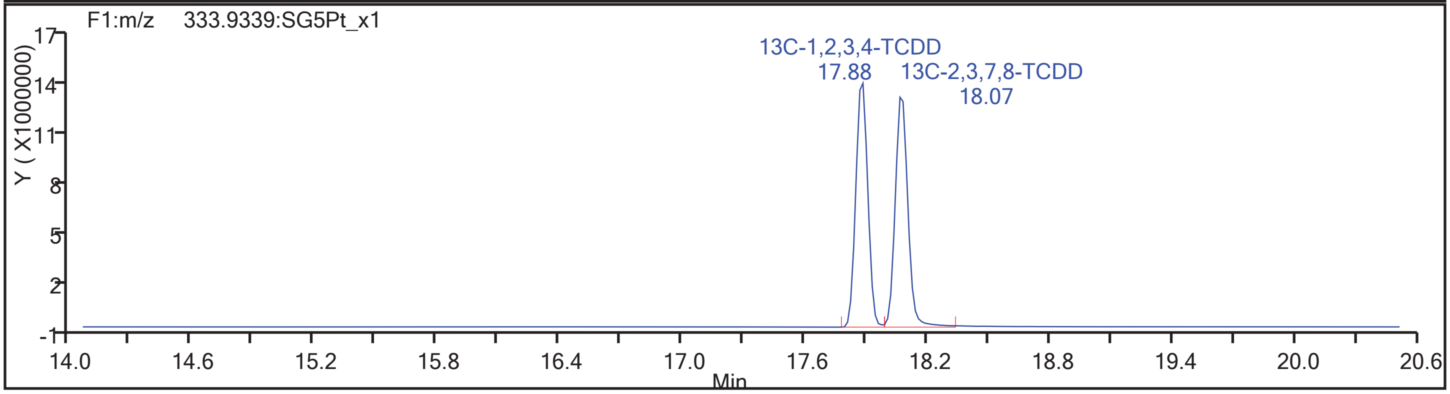
TCDD





TCDD Standards



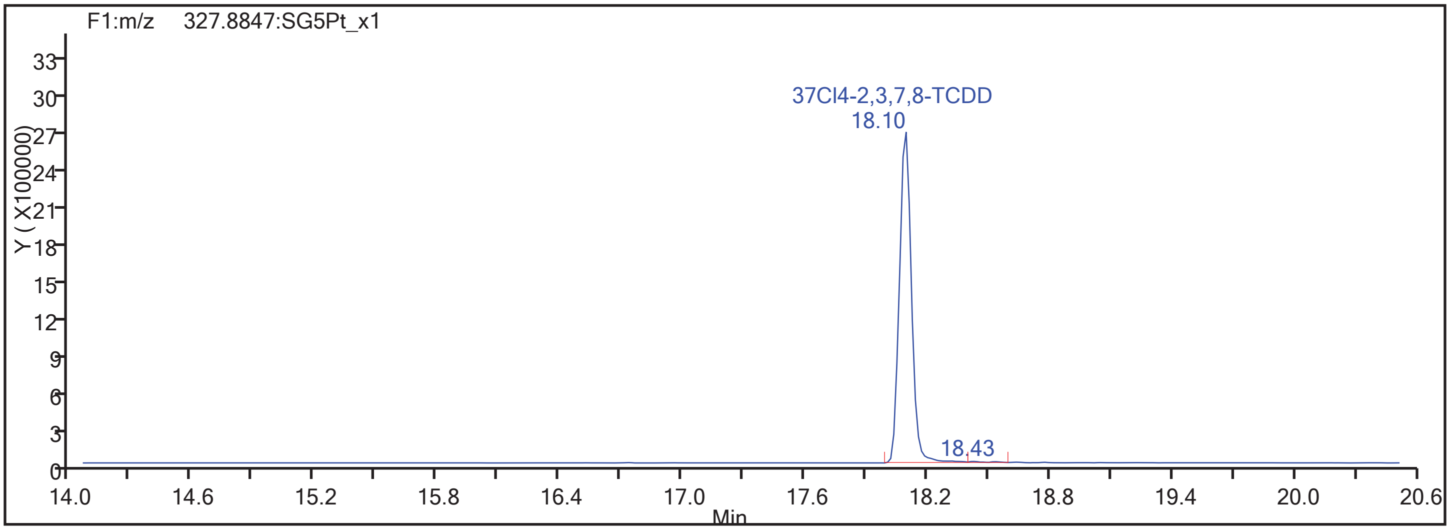


Report Date: 13-Nov-2017 13:31:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

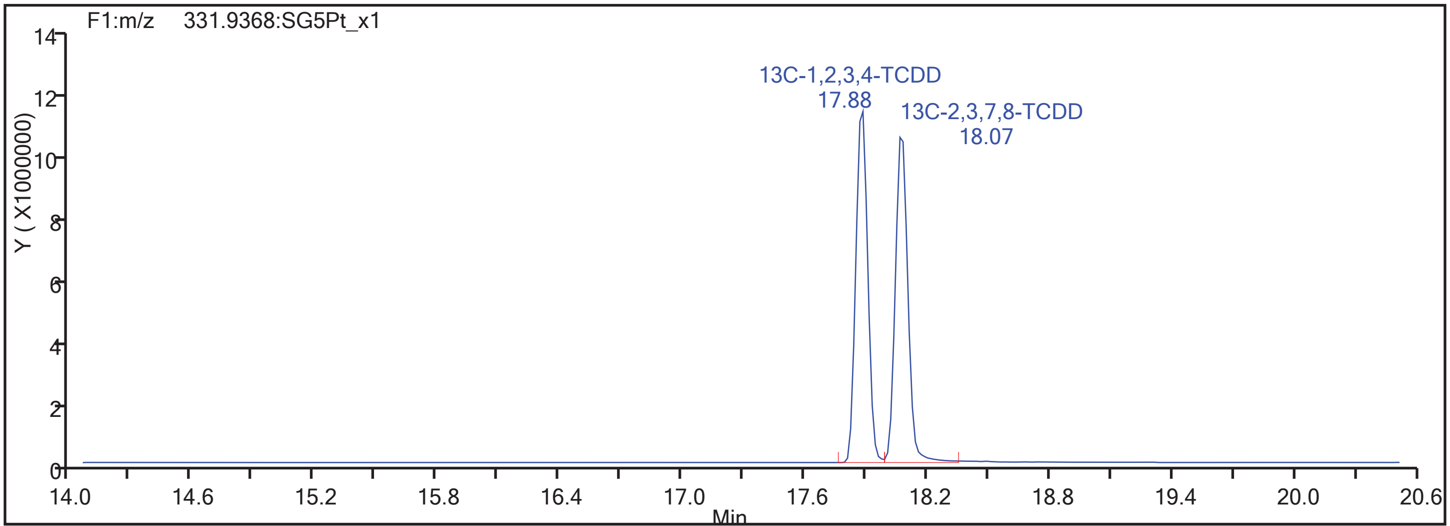
TestAmerica Sacramento

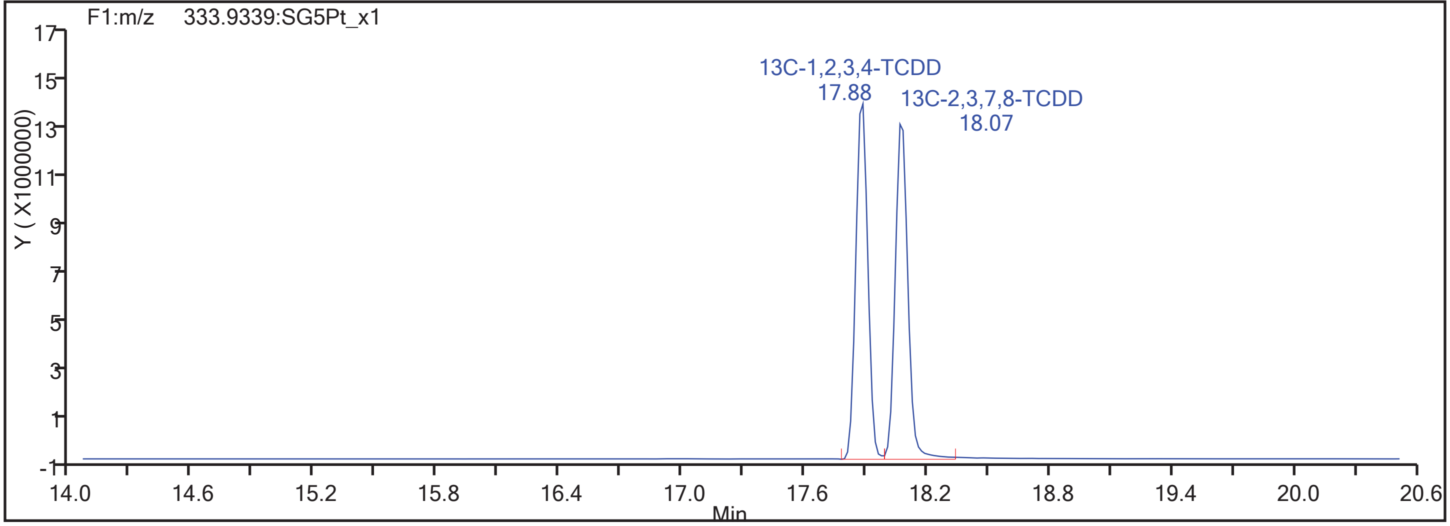
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_91.d		
Injection Date:	12-Nov-2017 08:38:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	91
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





TestAmerica Sacramento

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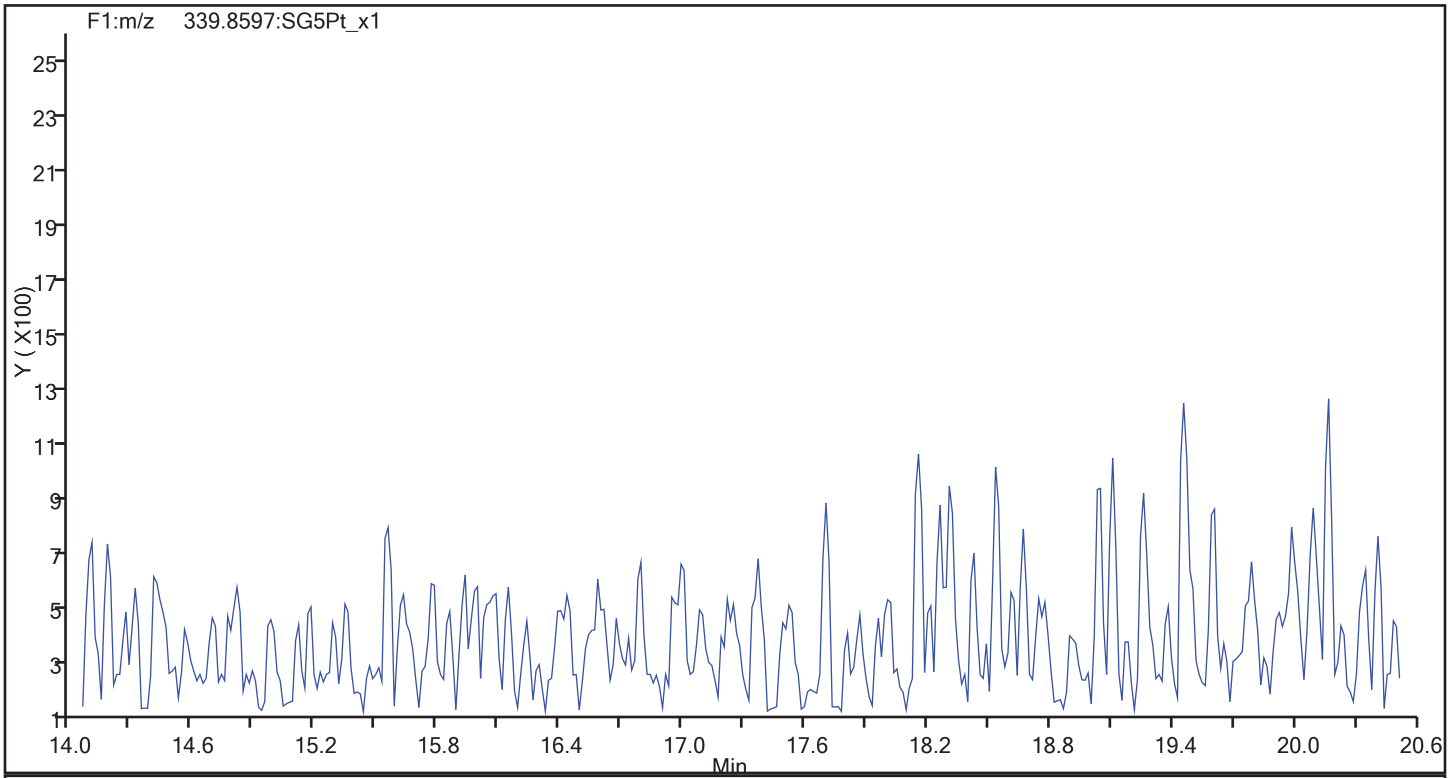
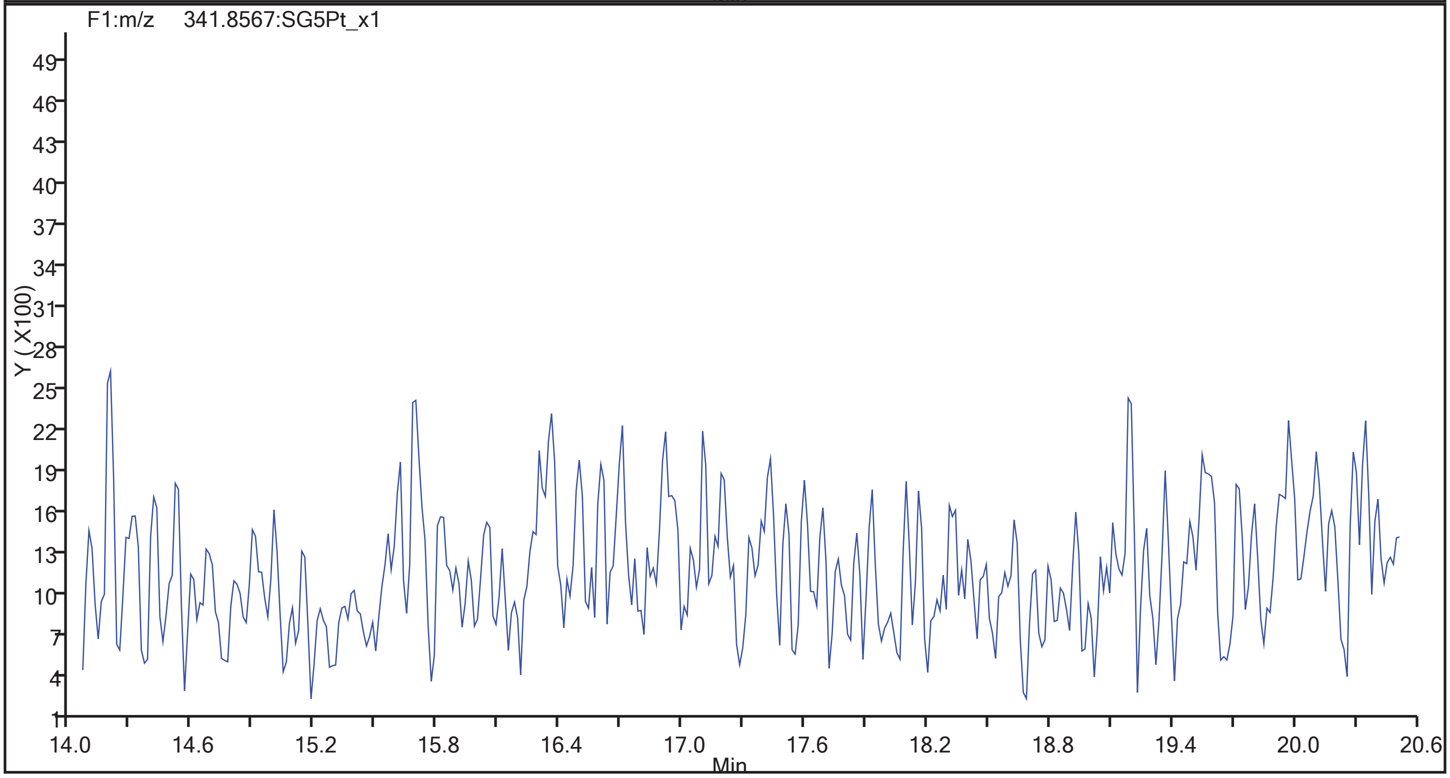
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Report Date: 13-Nov-2017 13:31:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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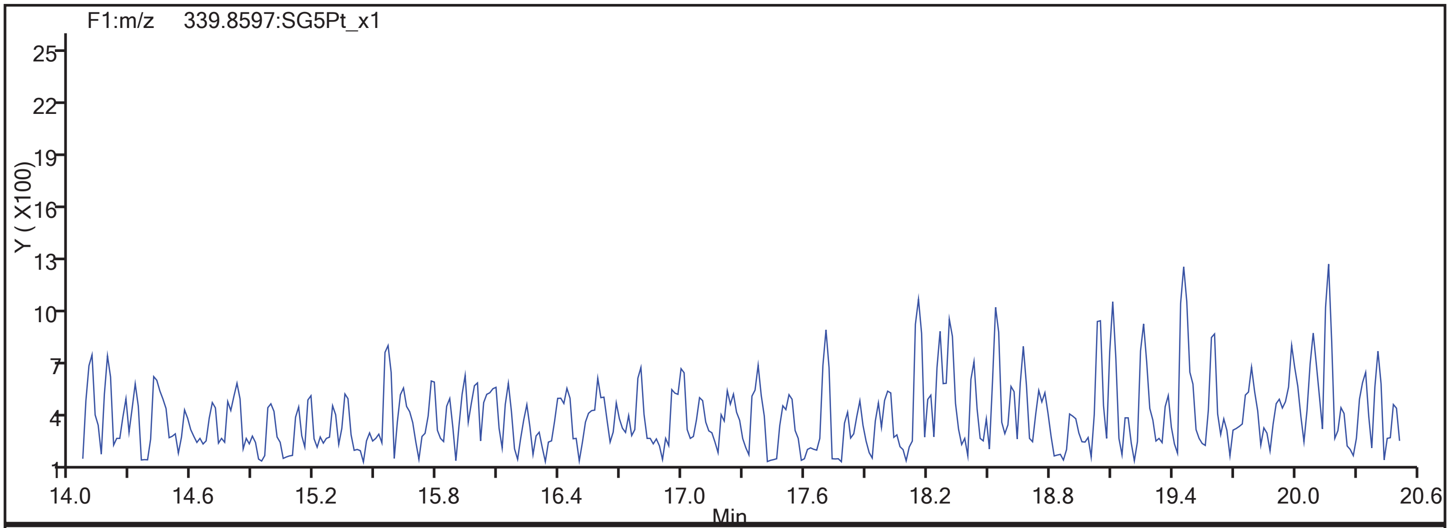
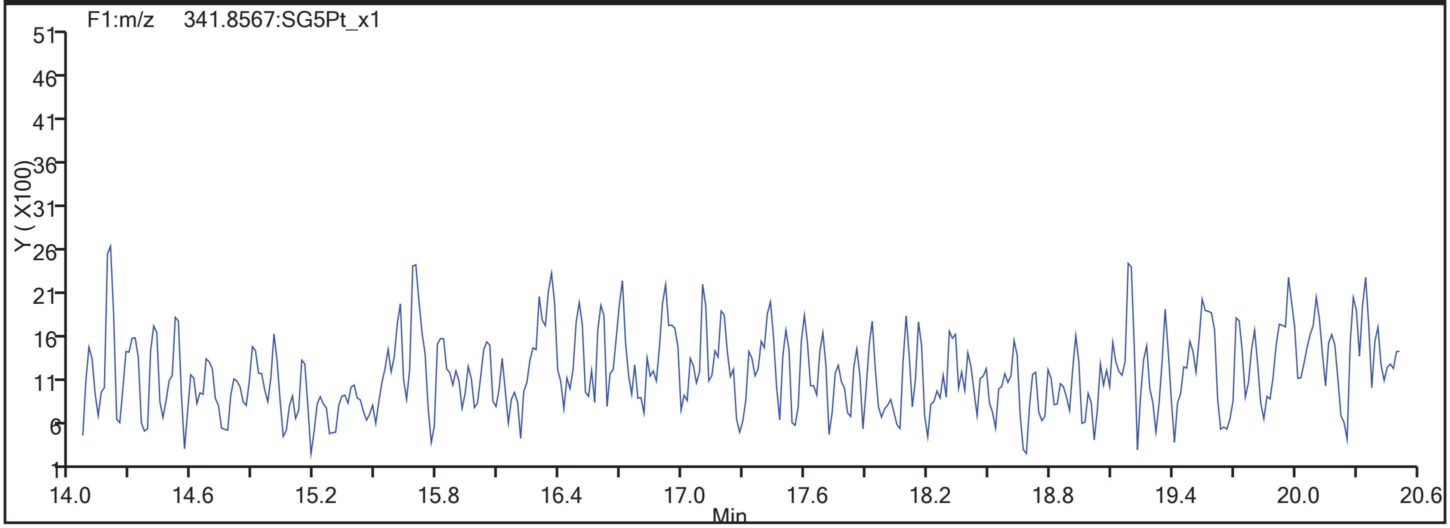
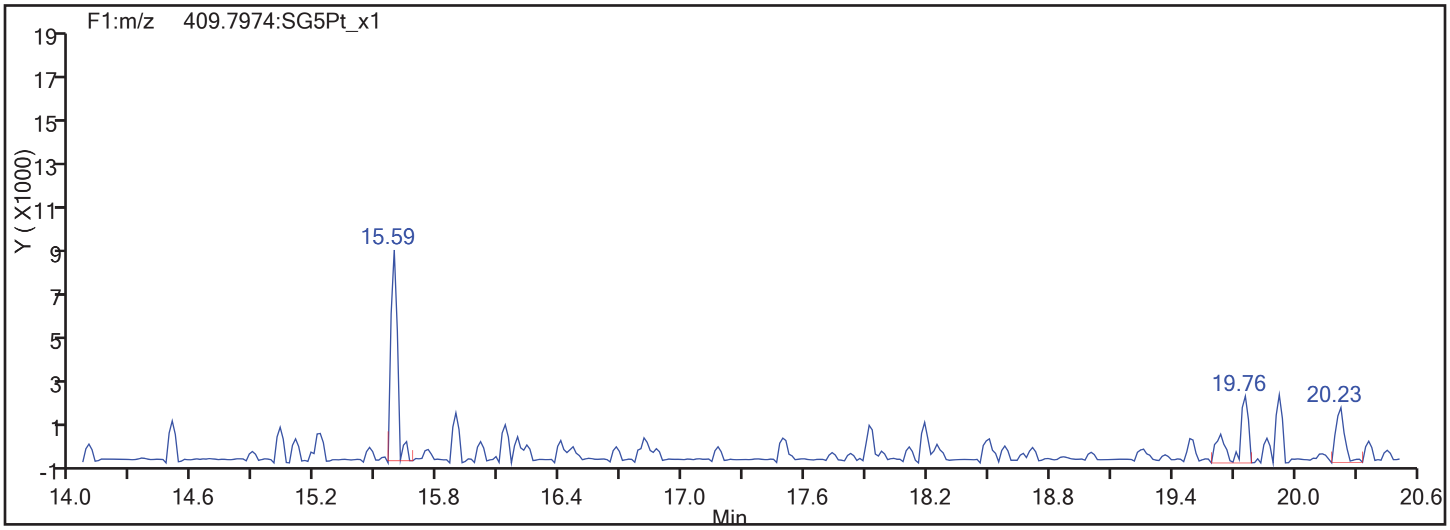
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



TestAmerica Sacramento

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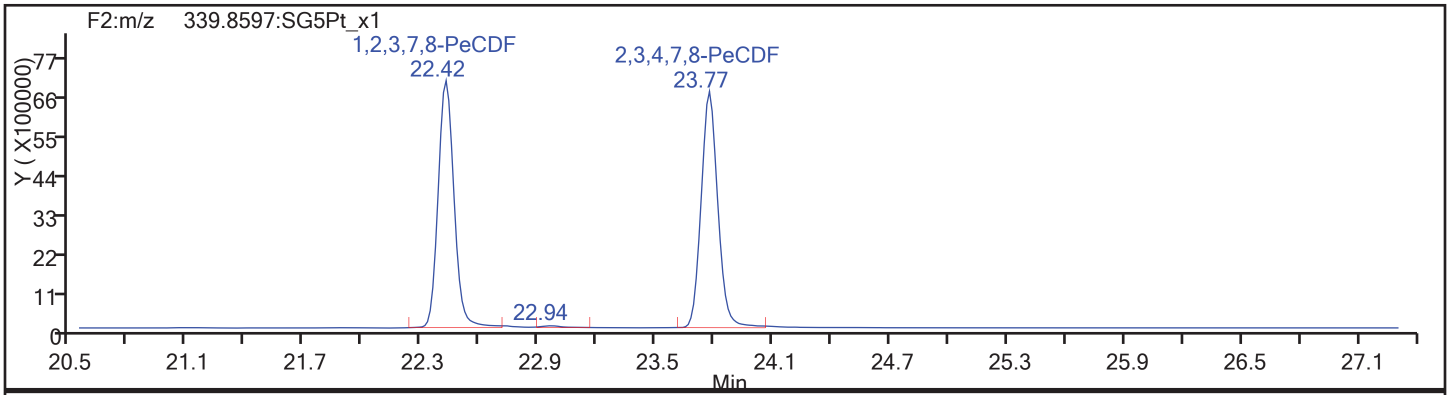
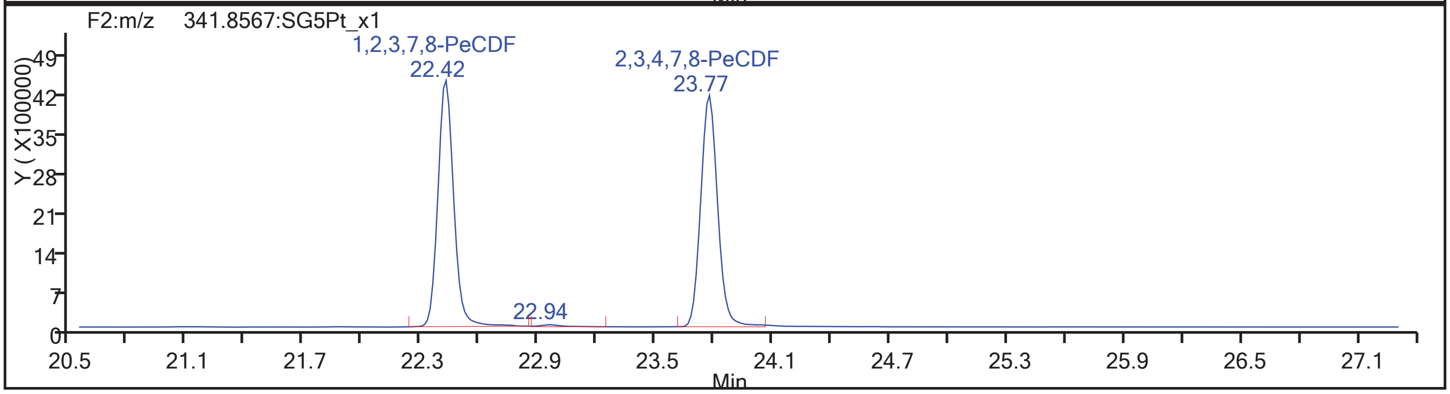
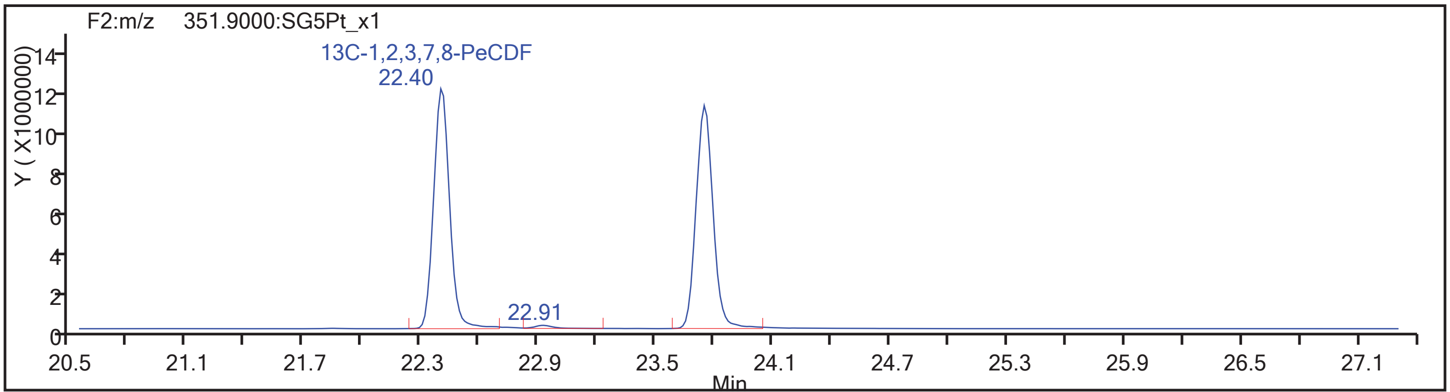
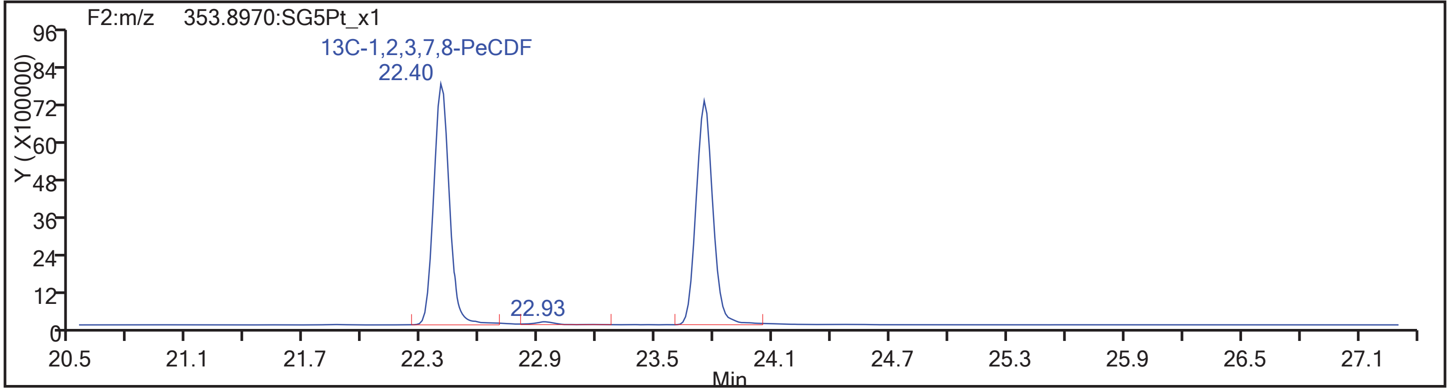




PeCDF Standards





TestAmerica Sacramento

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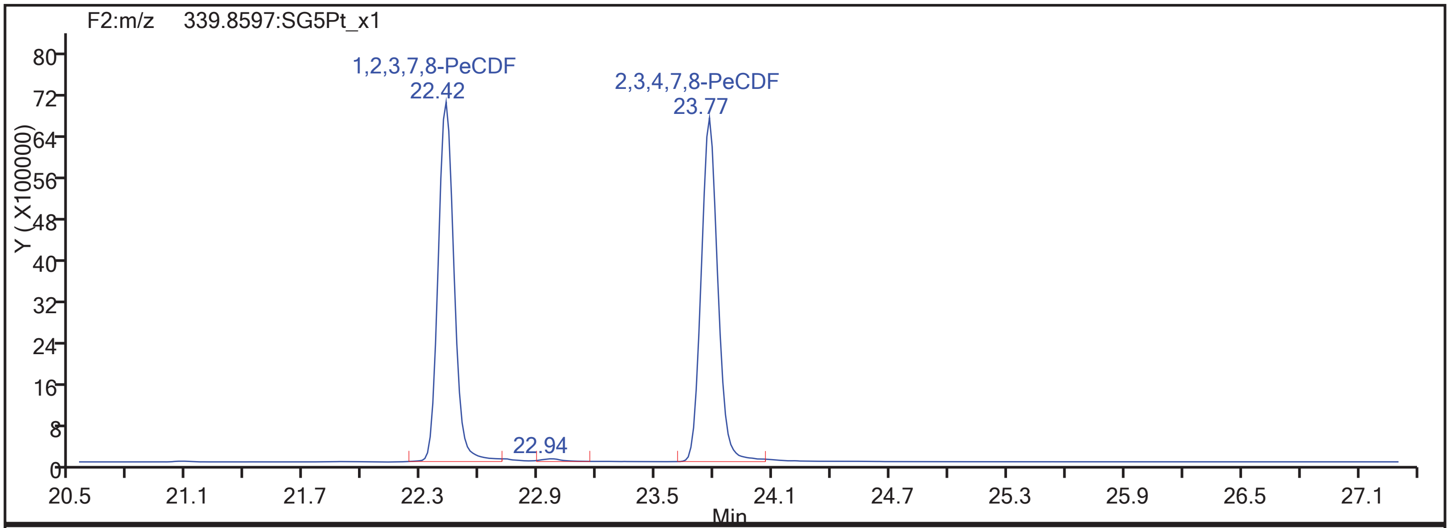
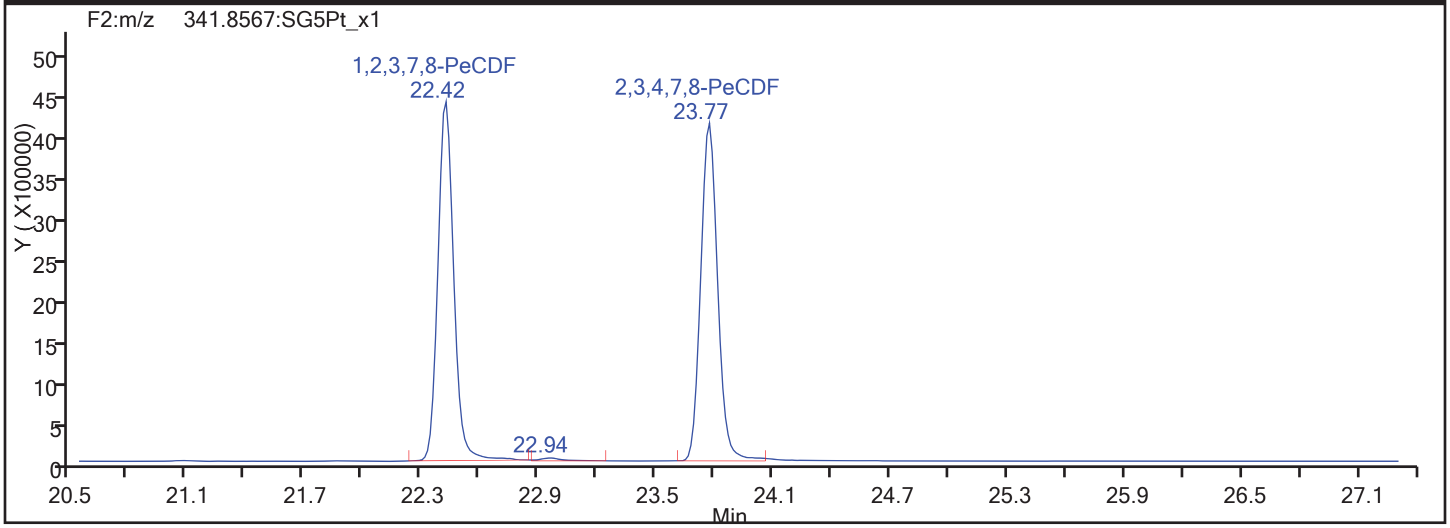
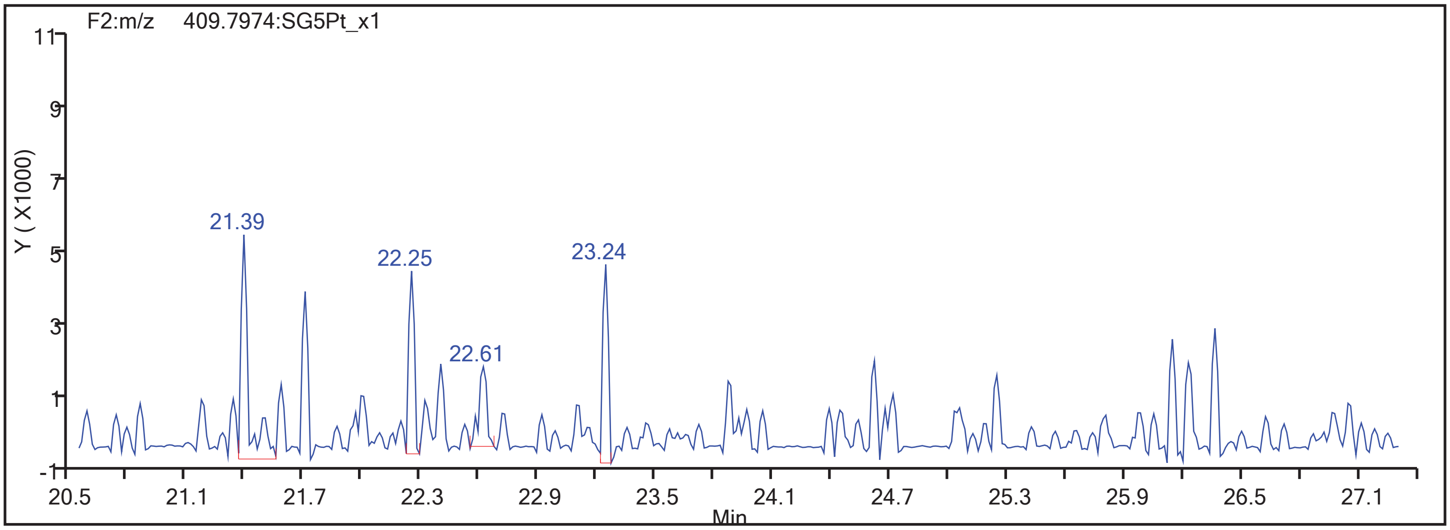
PeCDF





PeCDF Interference Mass



Report Date: 13-Nov-2017 13:31:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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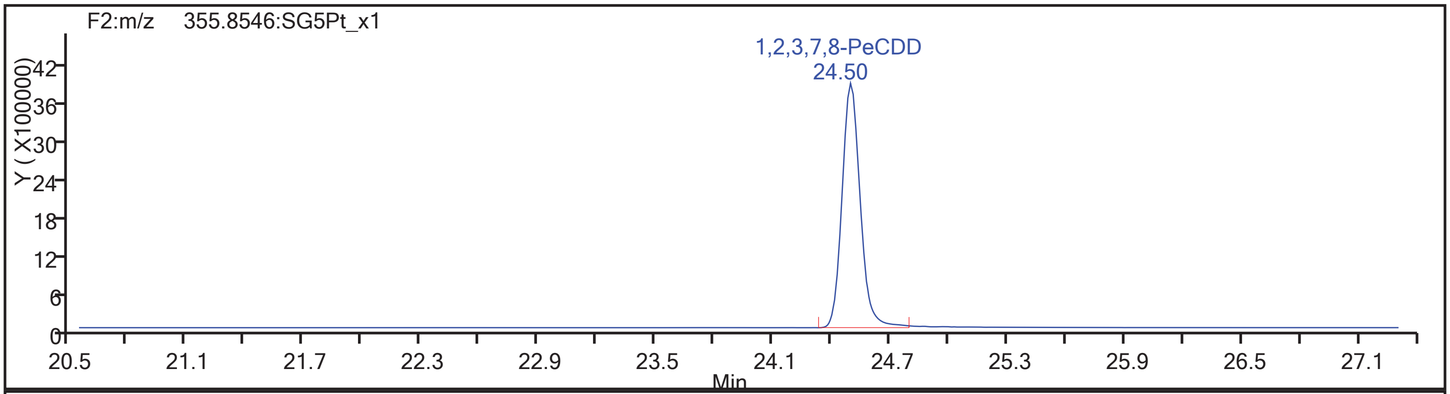
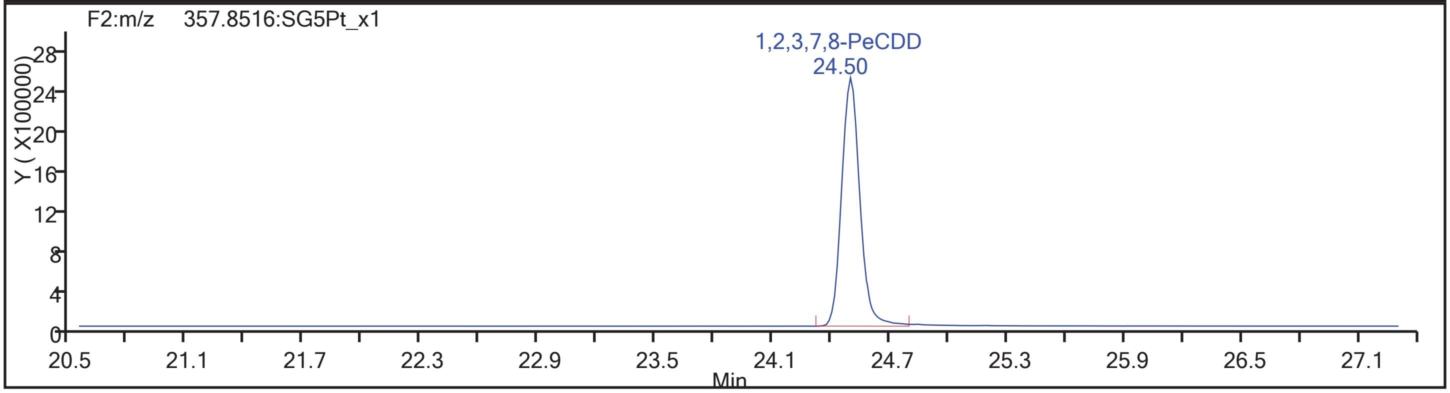
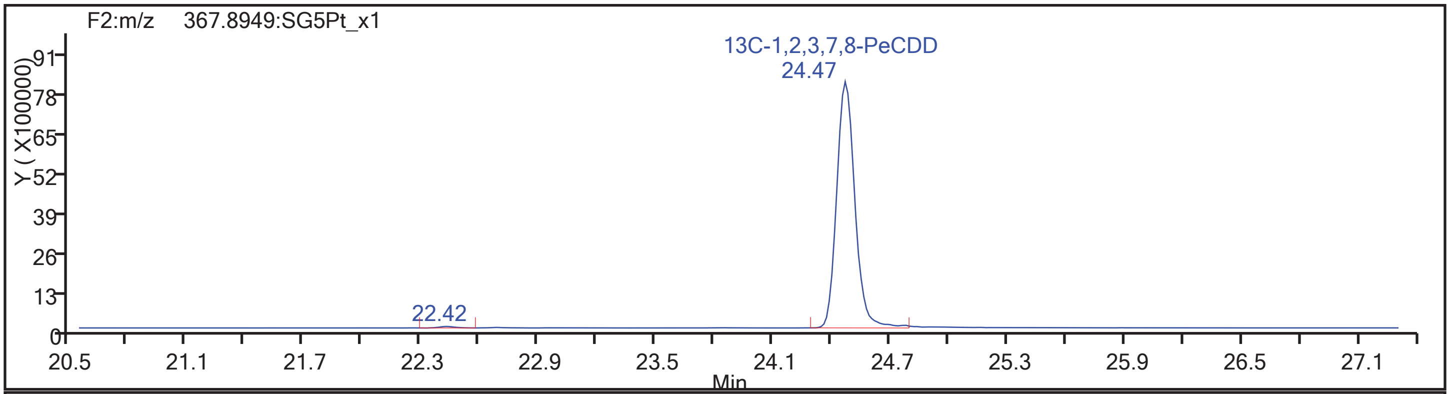
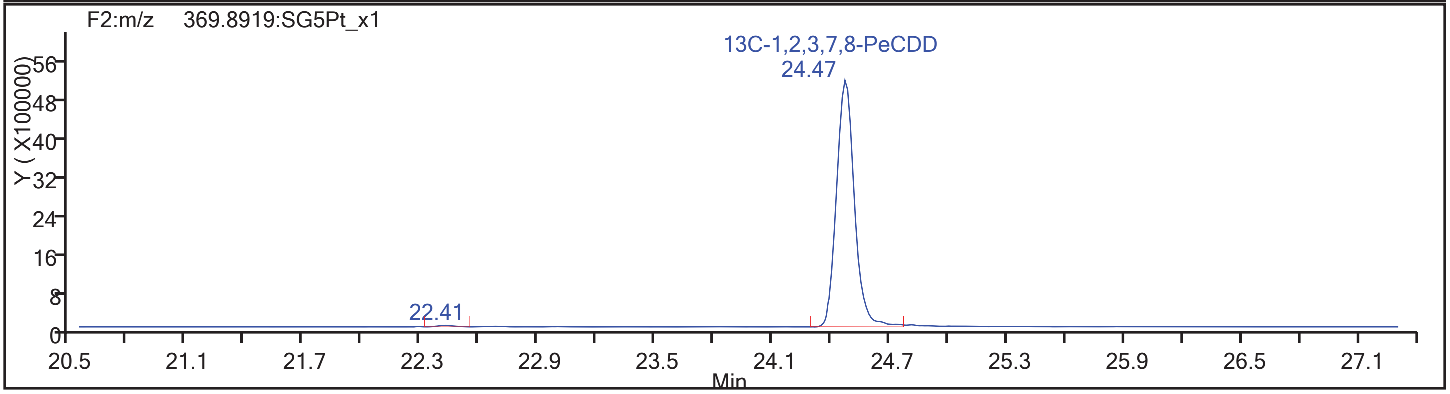
PeCDD





PeCDD Standards





Report Date: 13-Nov-2017 13:31:01 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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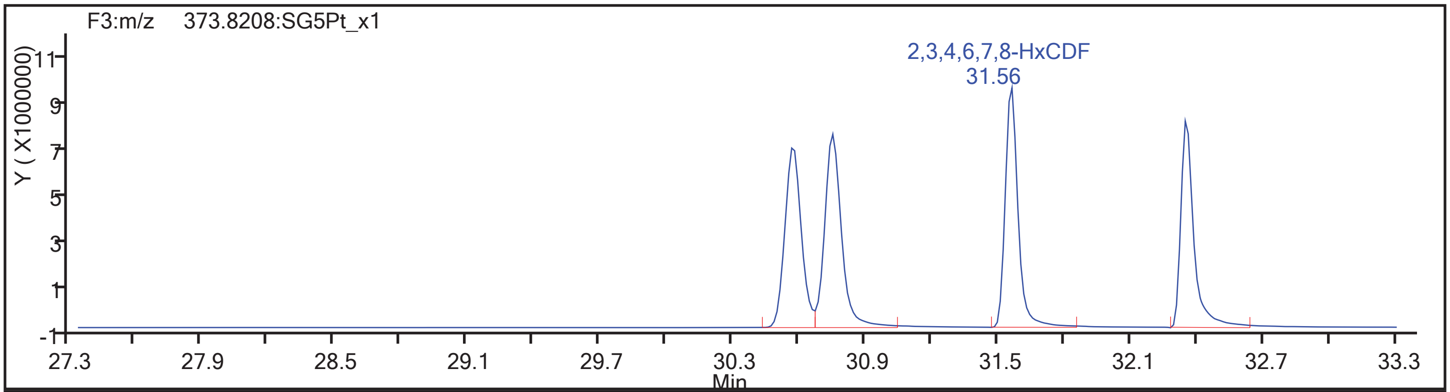
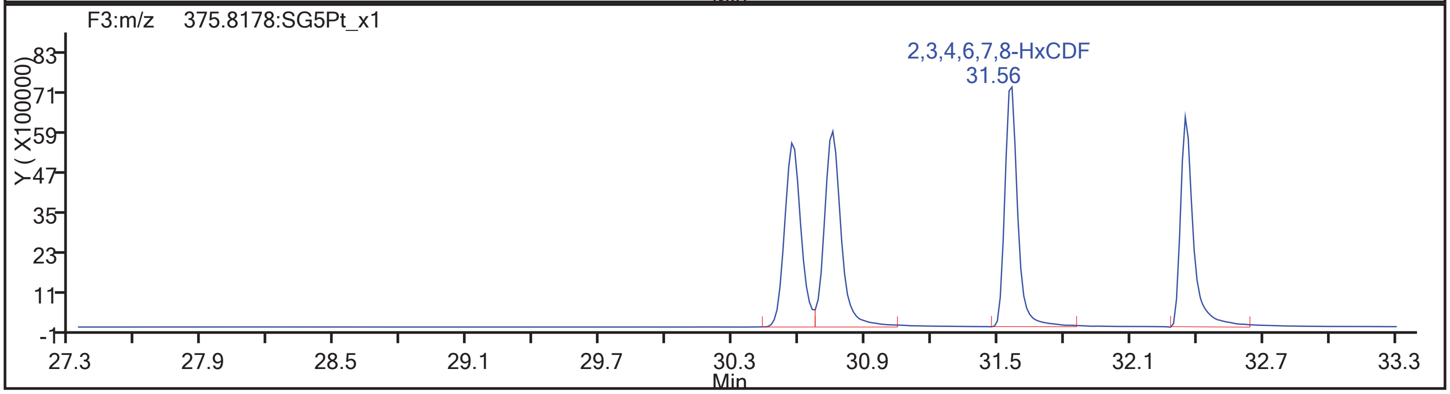
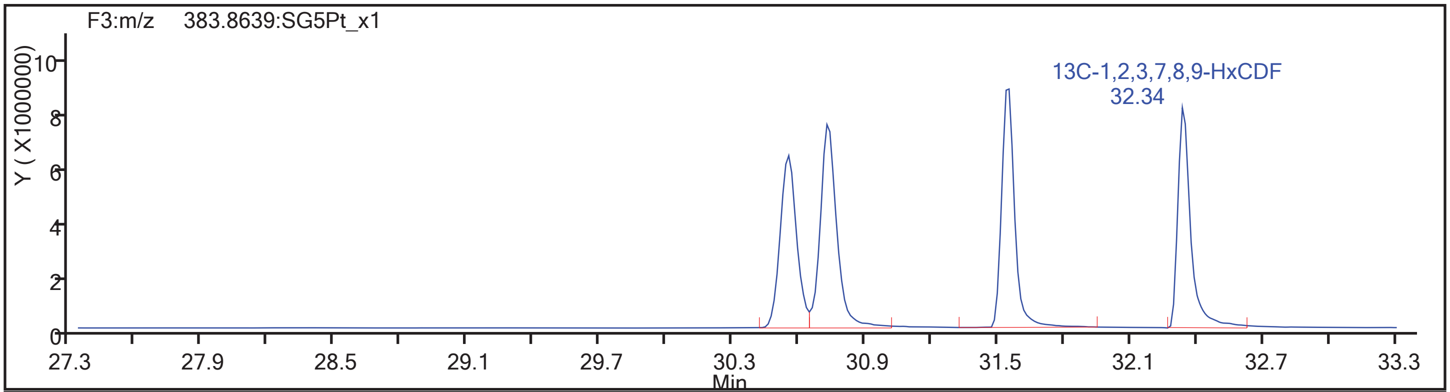
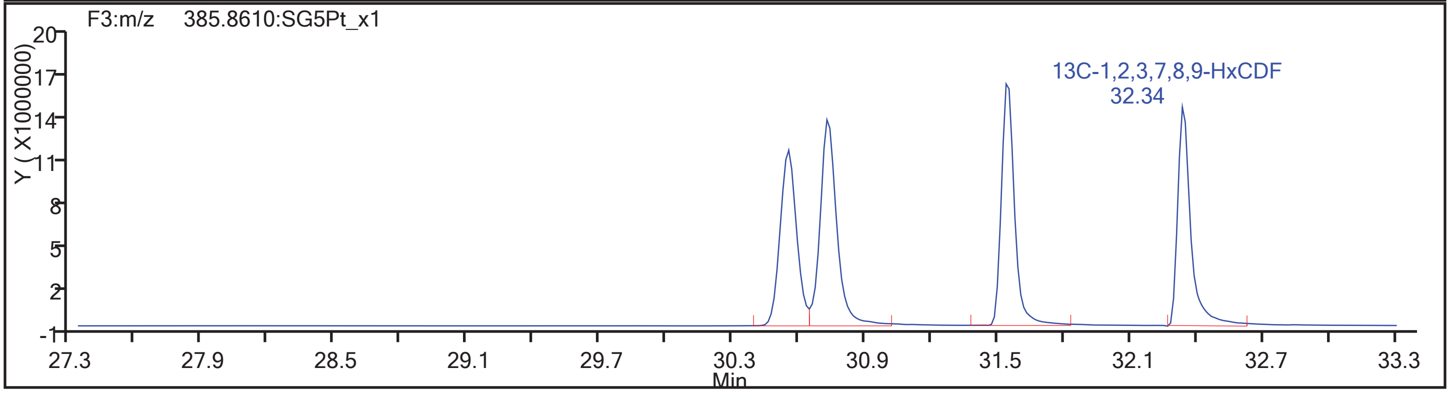
HxCDF





HxCDF Standards





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TestAmerica Sacramento

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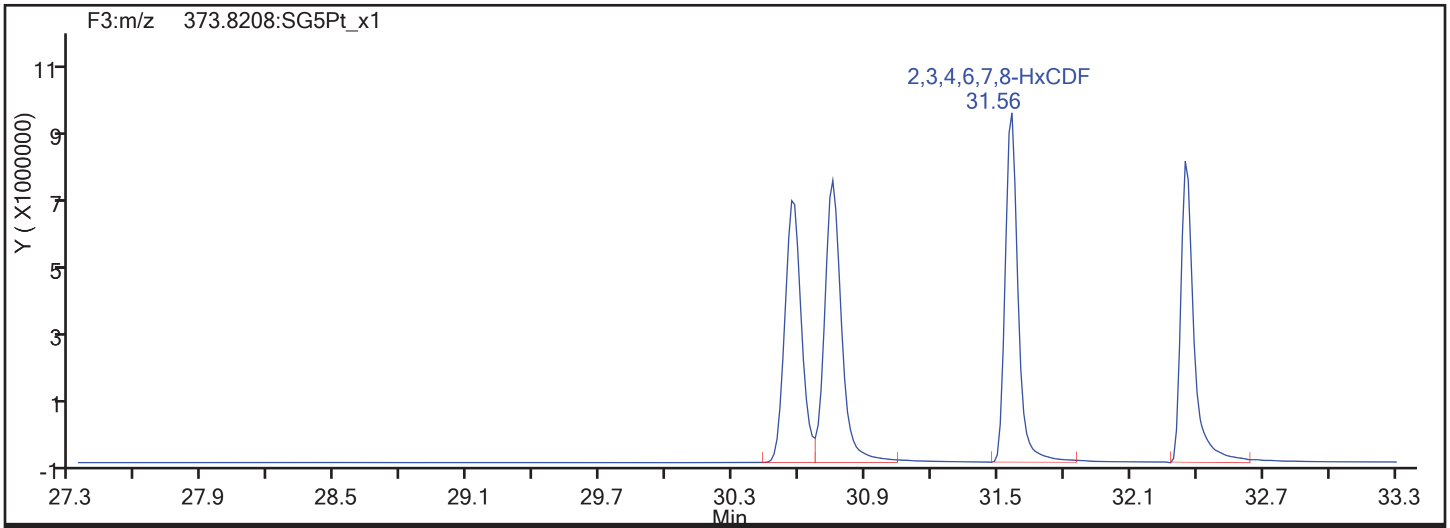
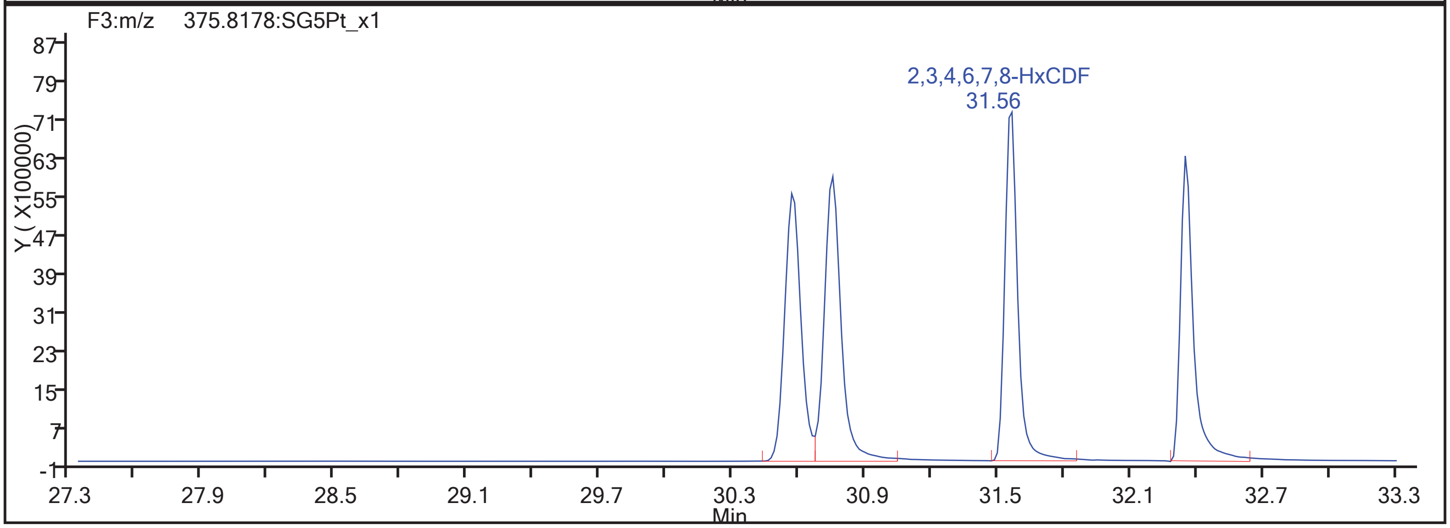
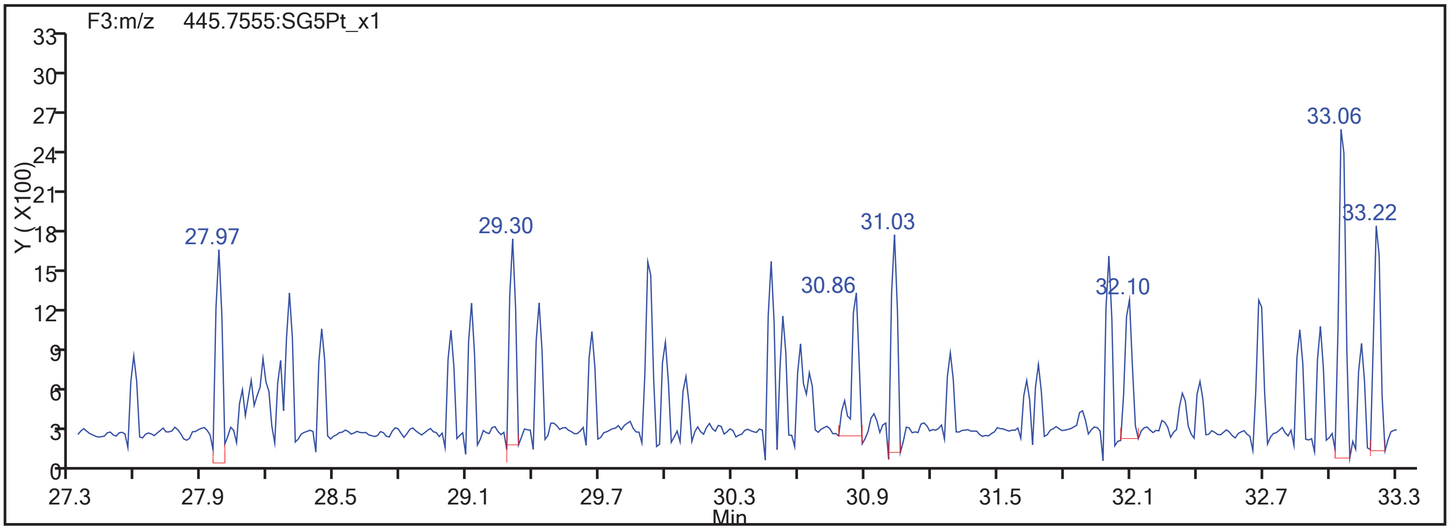




HxCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 12-Nov-2017 08:38:23 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
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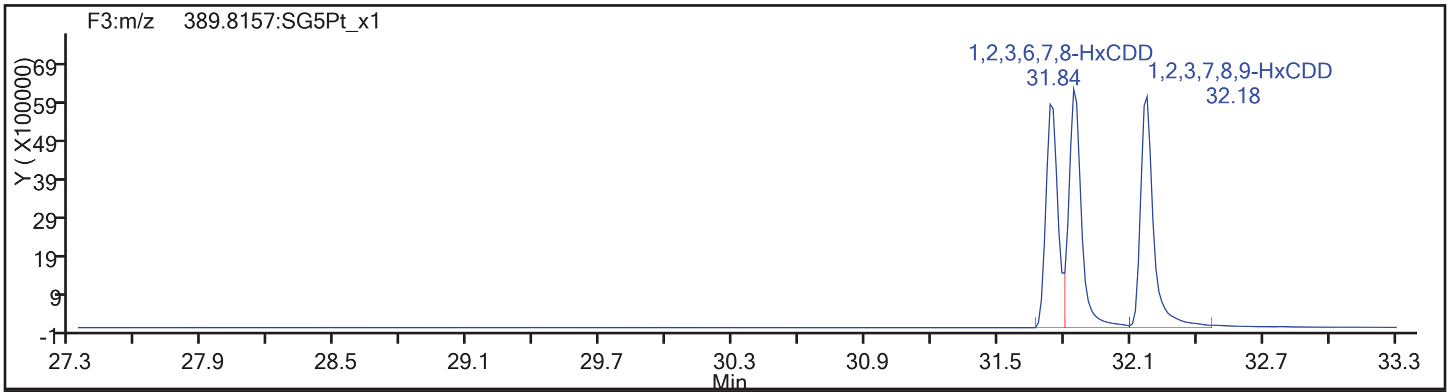
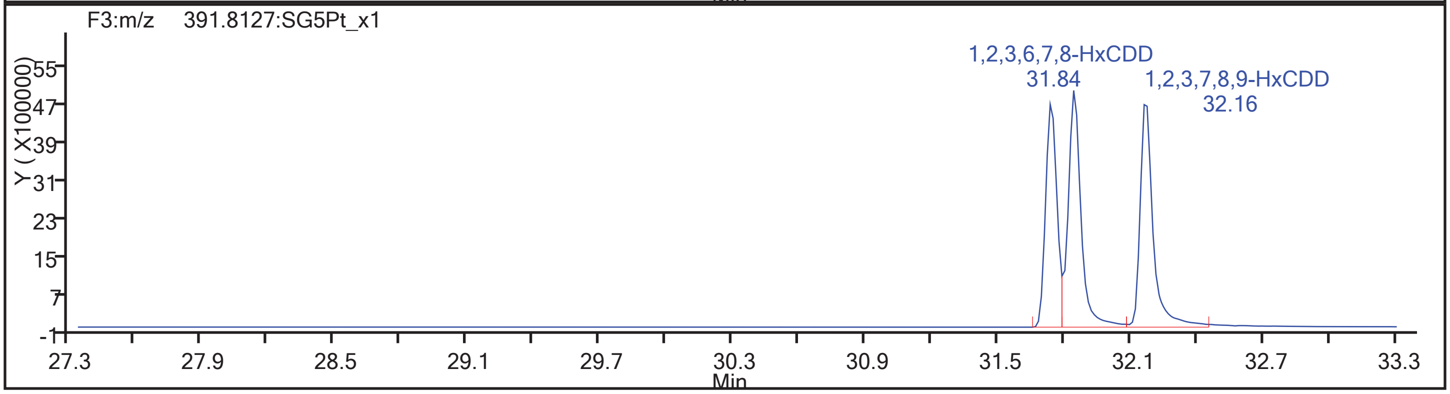
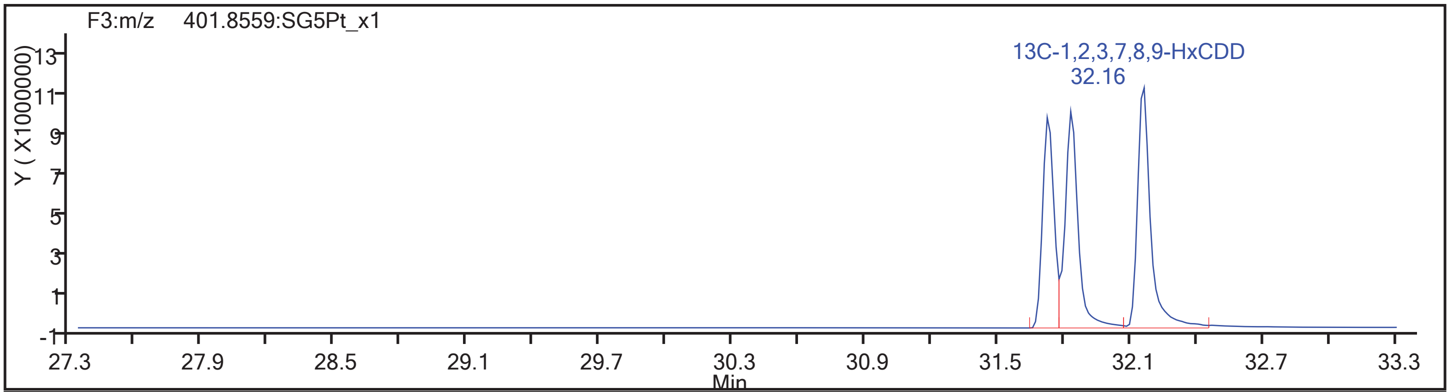
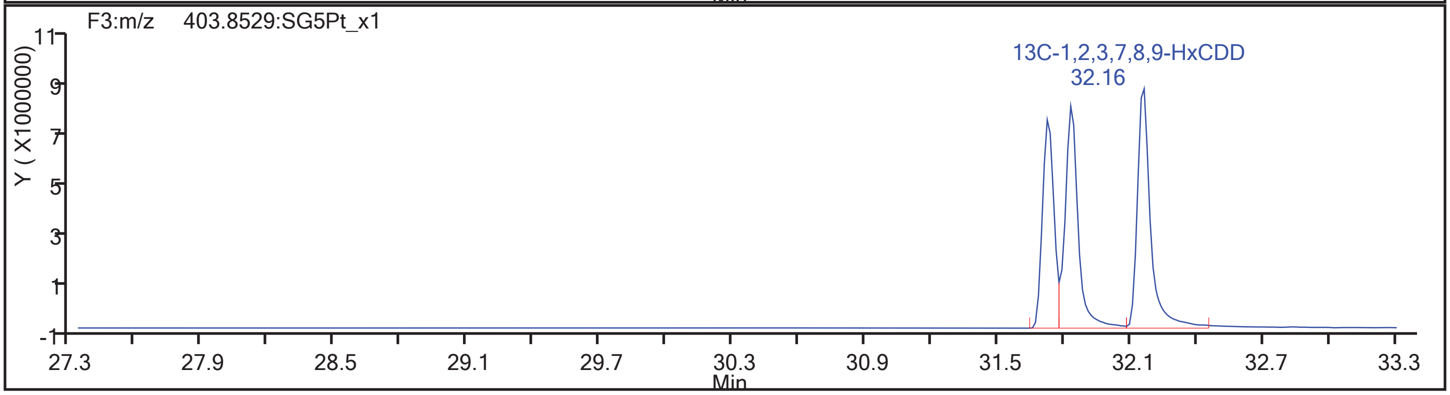
HxCDD





HxCDD Standards





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TestAmerica Sacramento

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Sample Line#: 91
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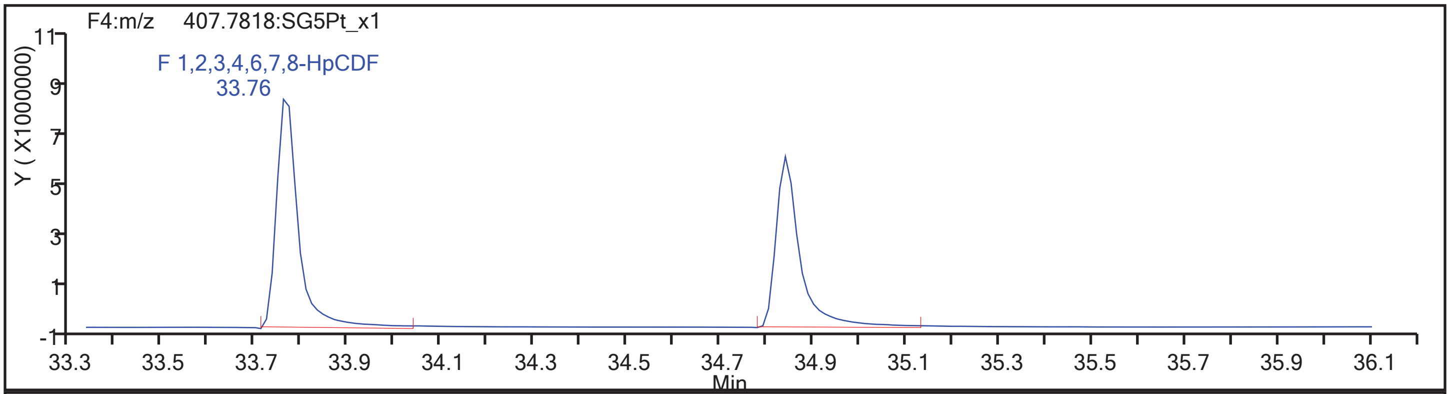
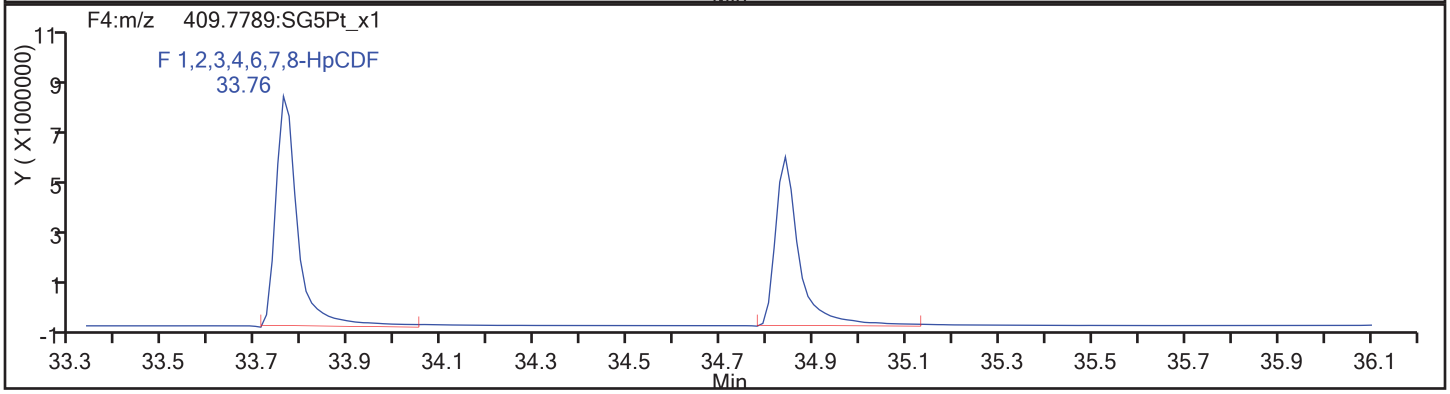
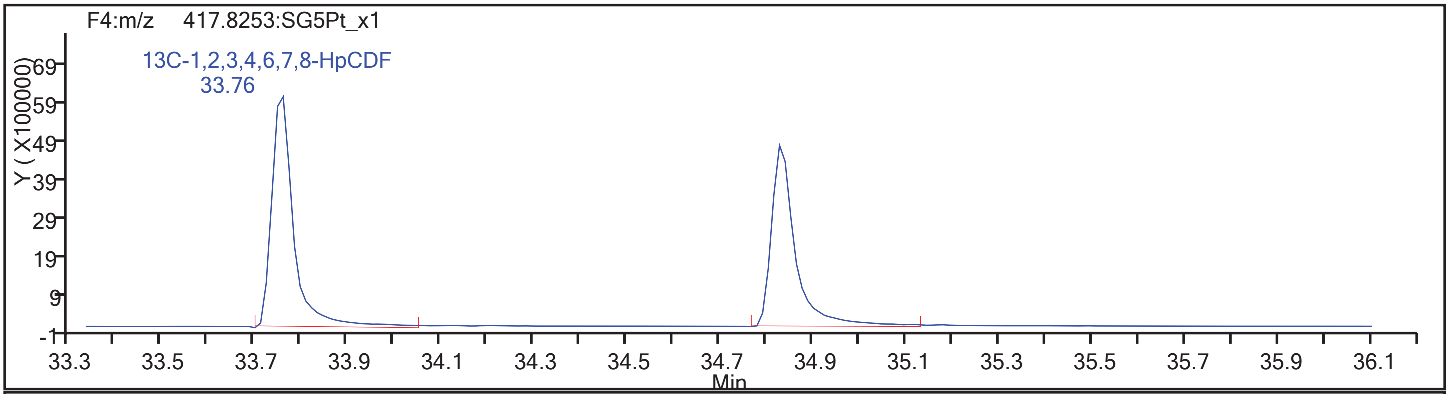
Column Dia: 0.32 mm

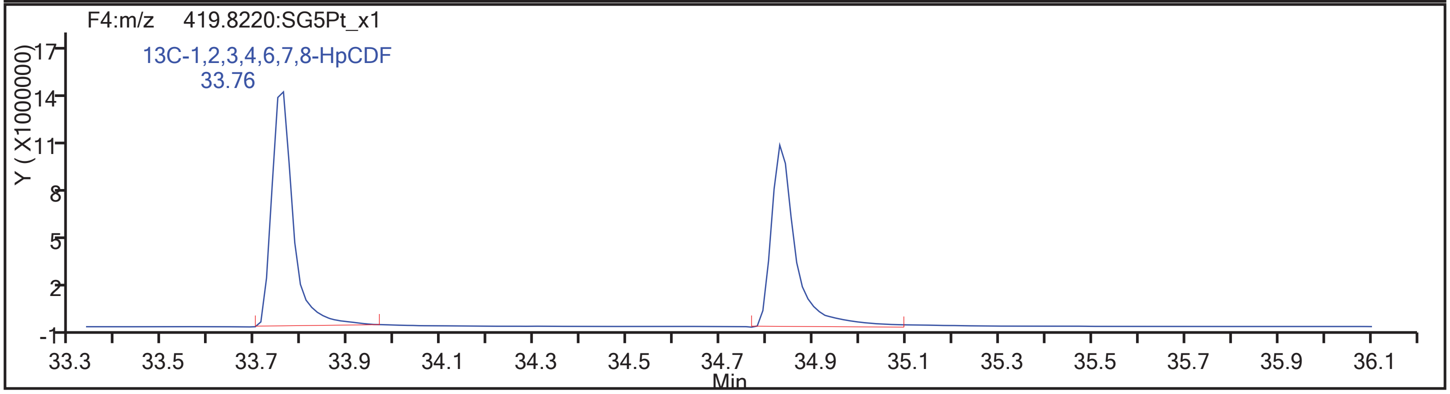
HpCDF





HpCDF Standards





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TestAmerica Sacramento

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Injection Date: 12-Nov-2017 08:38:23
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Sample Line#: 91
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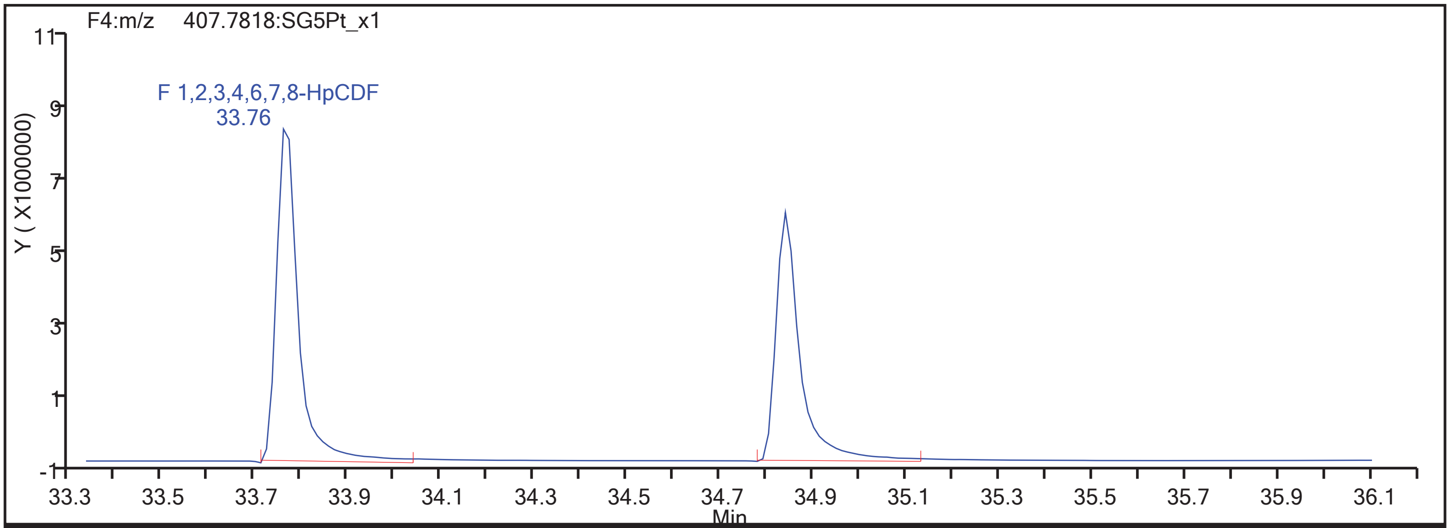
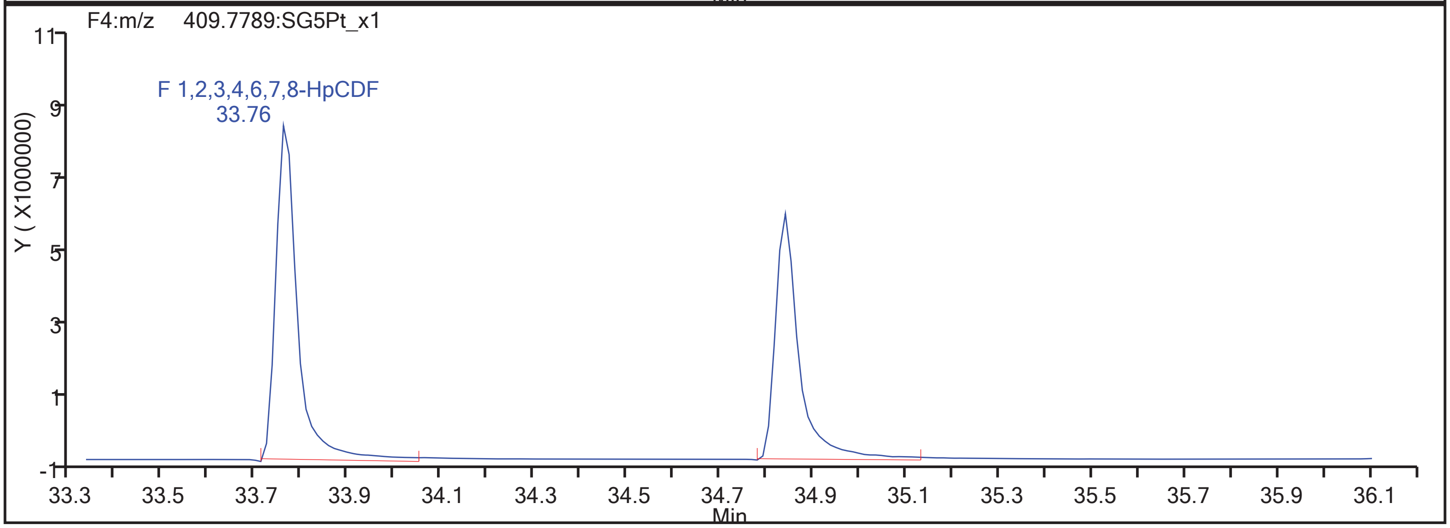
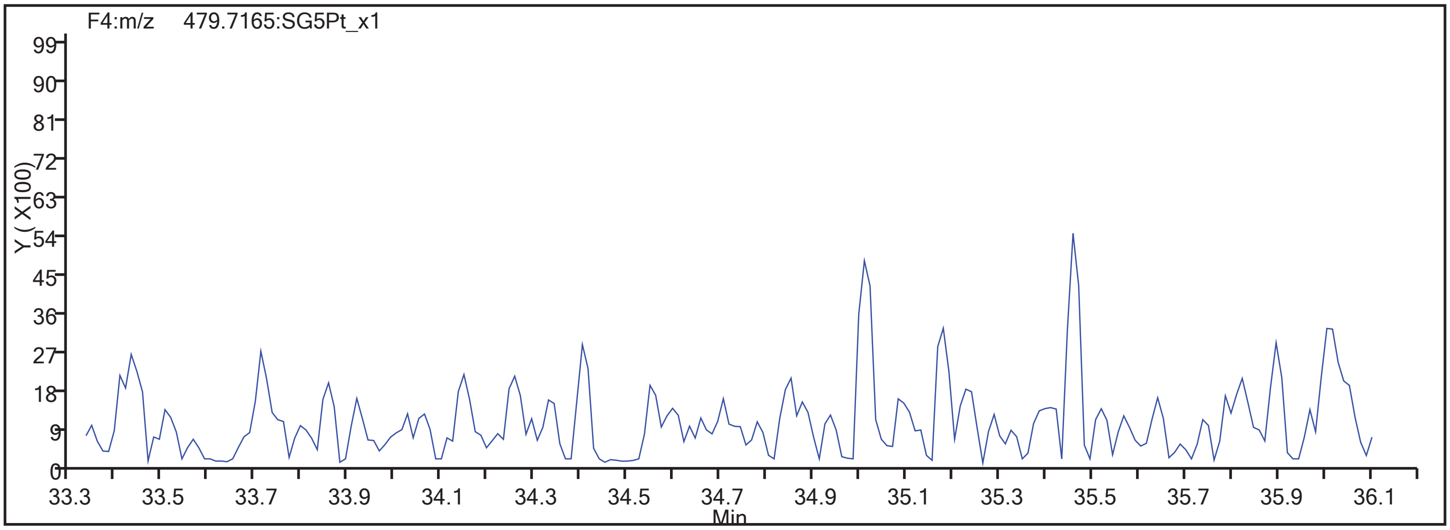
Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 12-Nov-2017 08:38:23 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

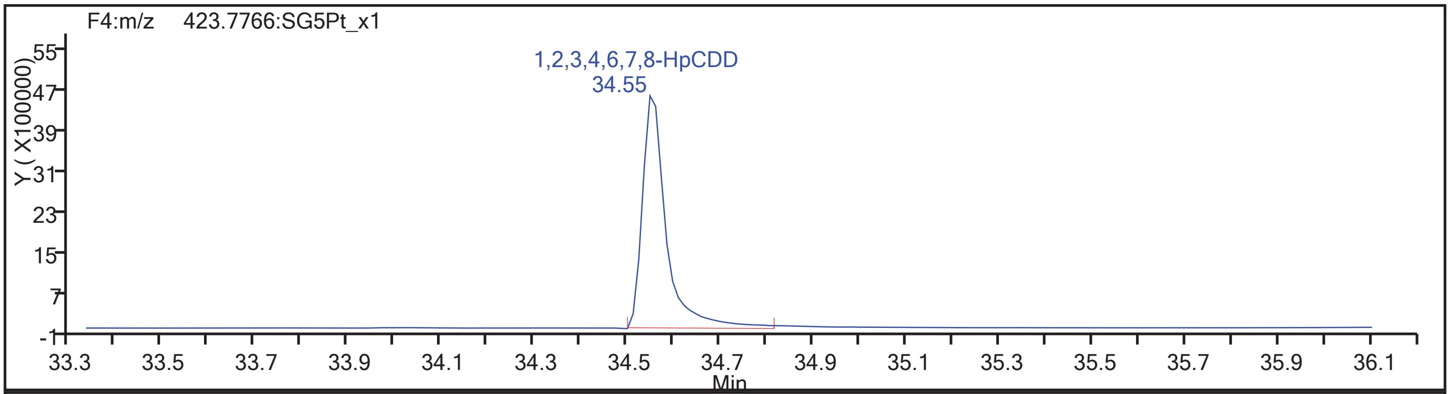
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

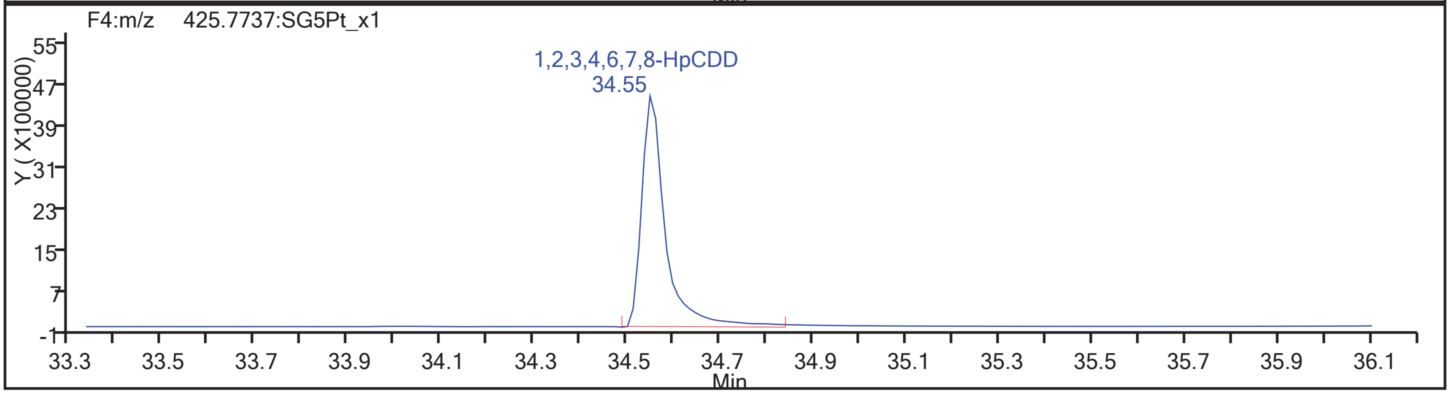
Client ID:

Worklist#: 194086 Sample Line#: 91

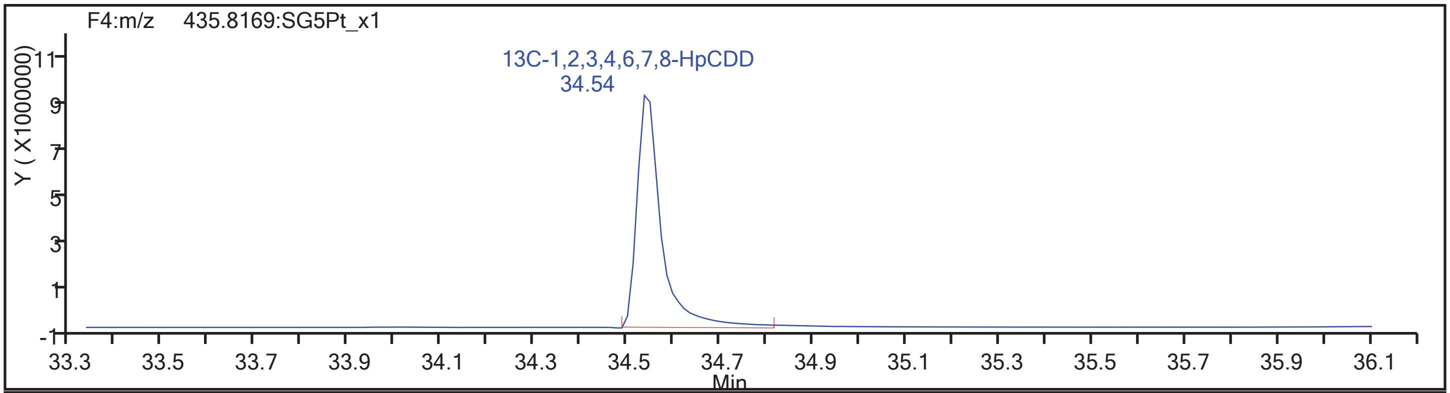
Column Type: DB-5 Column Dia: 0.32 mm

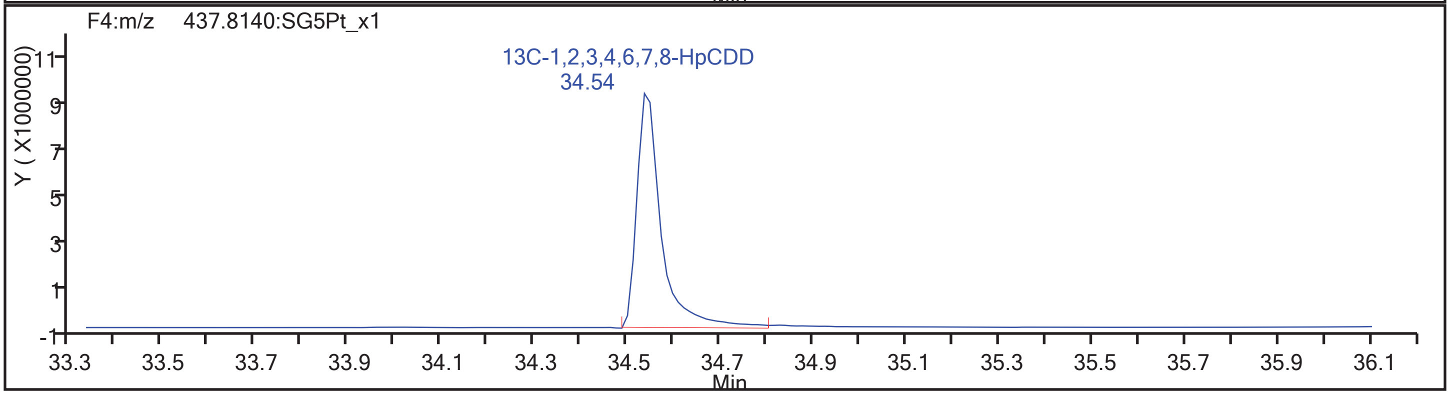
HpCDD





HpCDD Standards





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TestAmerica Sacramento

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Injection Vol: 2.0 ul
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Operator ID: AJS
Method: Dioxin_10D5
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Client ID:
Worklist#: 194086
Sample Line#: 91
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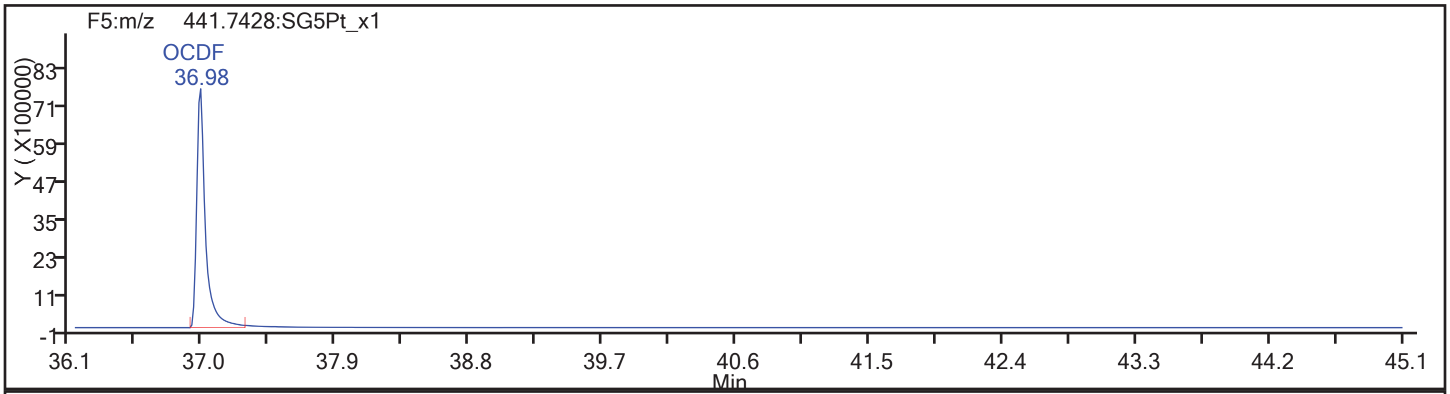
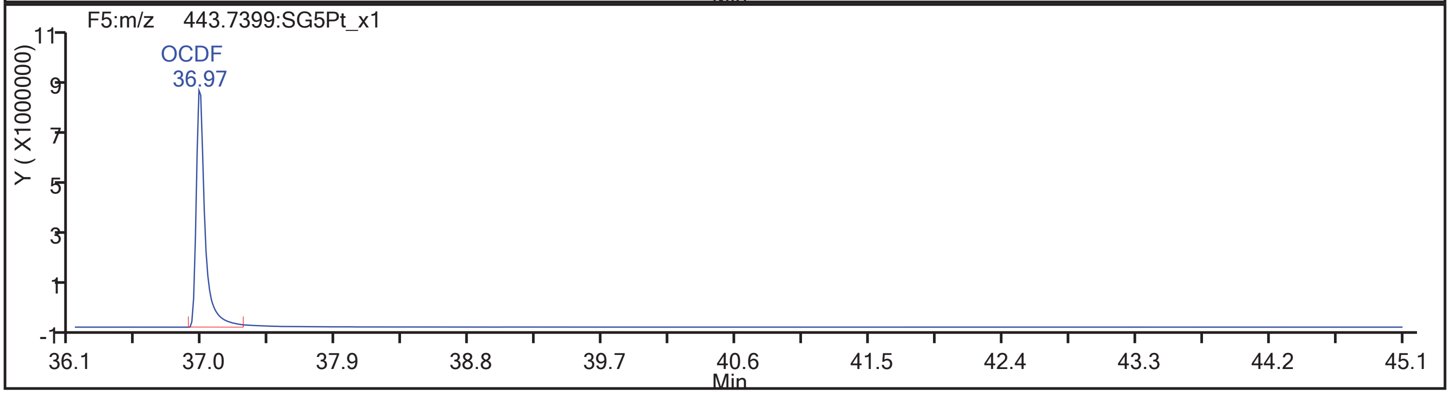
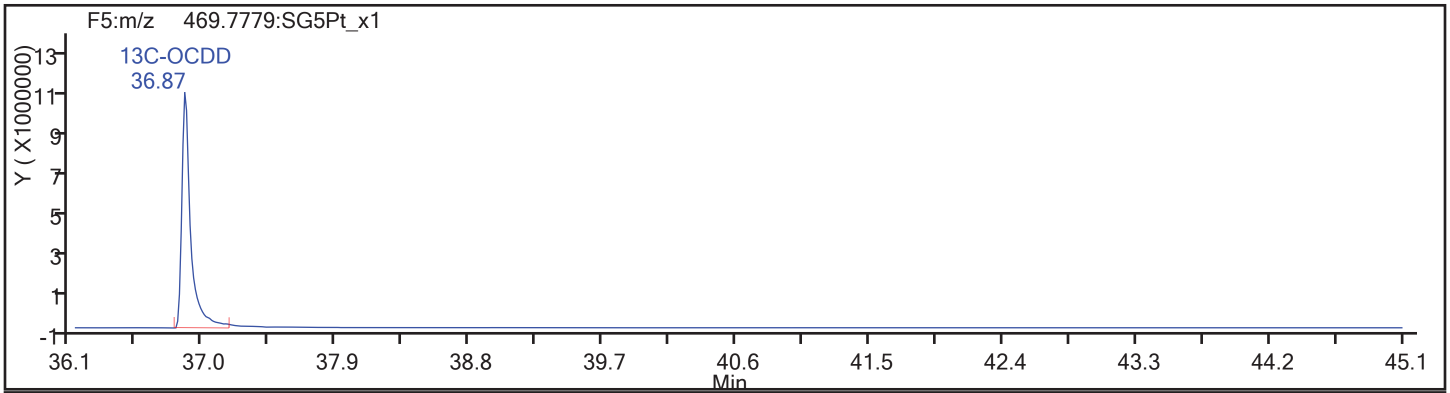
Column Dia: 0.32 mm

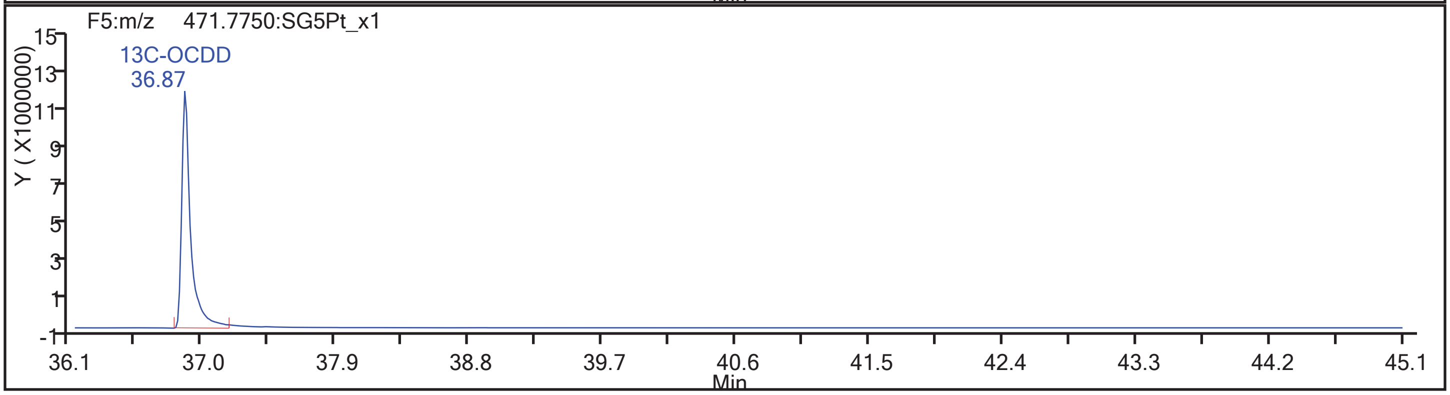
OCDF





OCDF Standards





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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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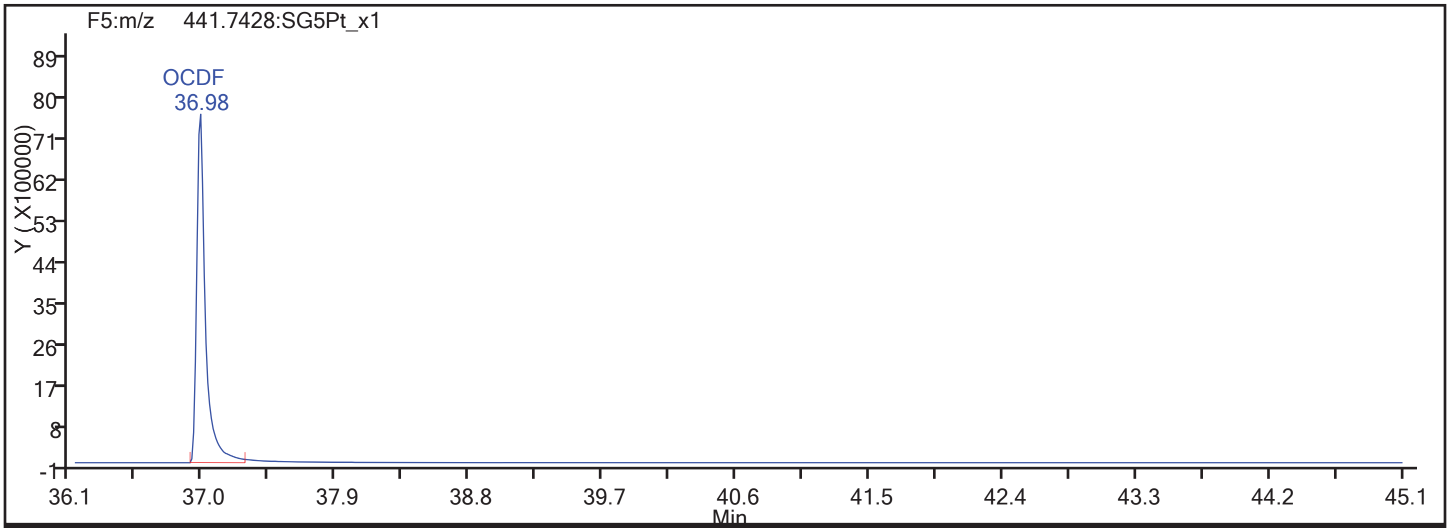
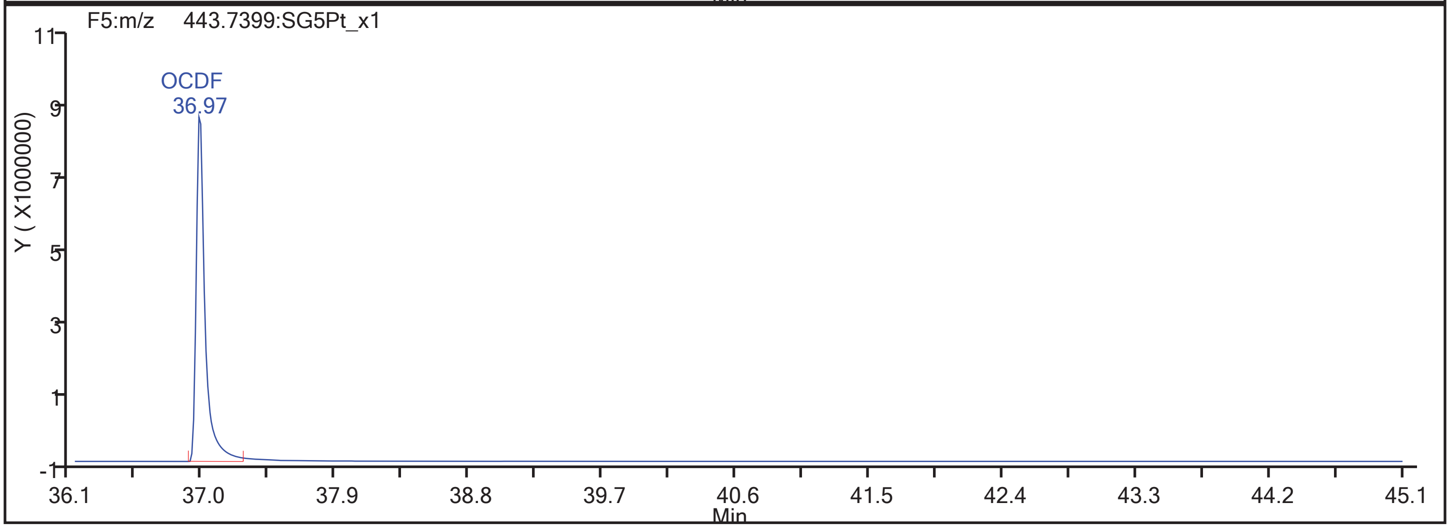
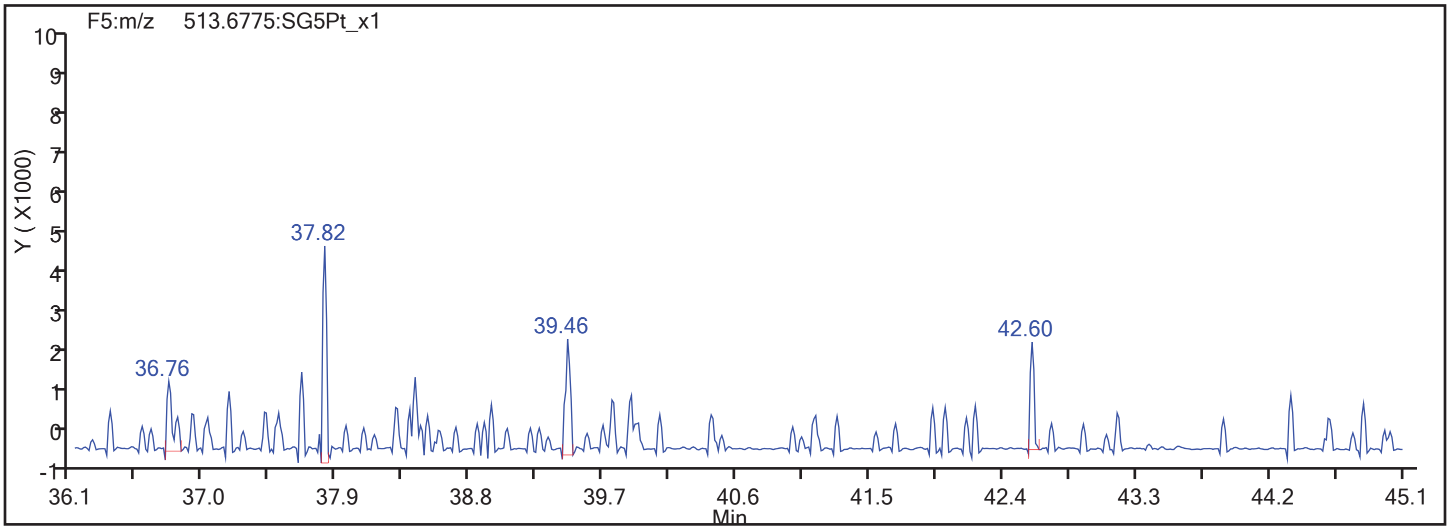
OCDF





OCDF Interference Mass

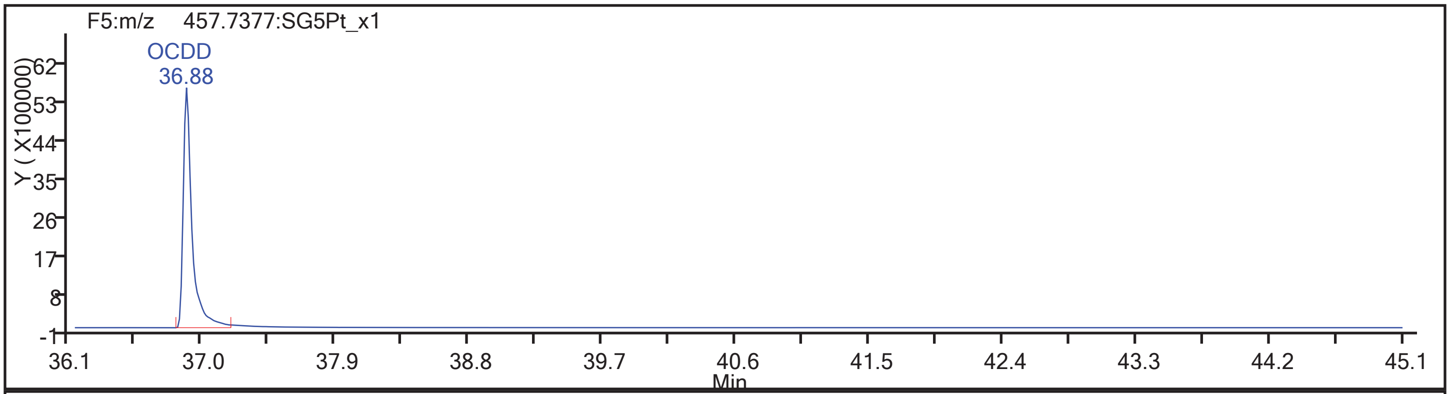


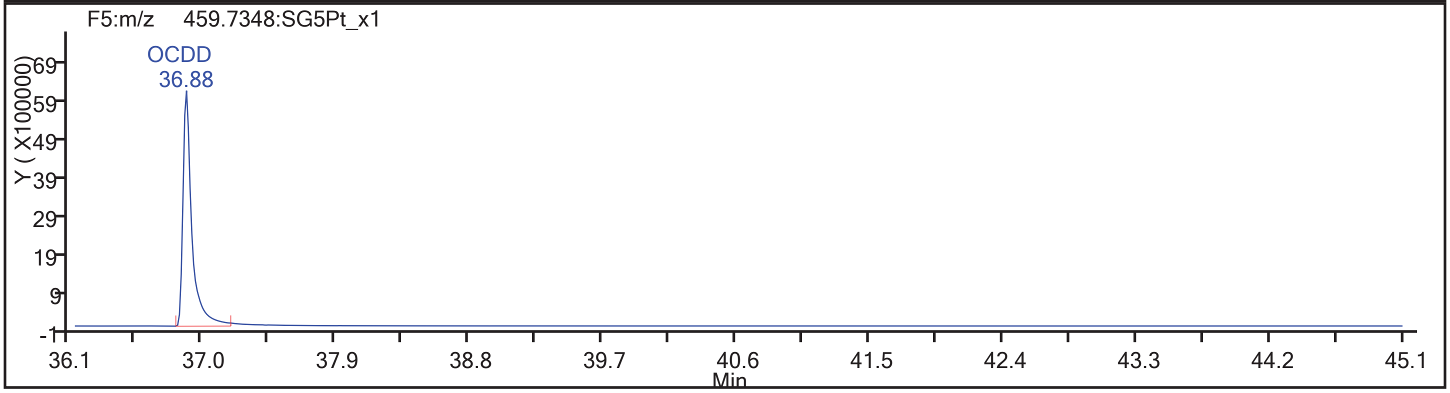
Report Date: 13-Nov-2017 13:31:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

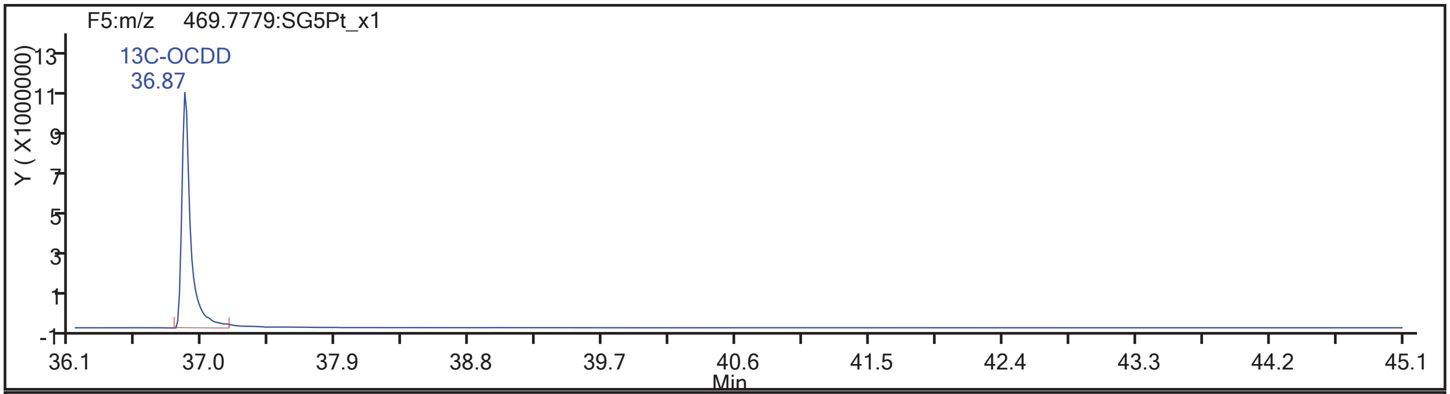
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_91.d
Injection Date: 12-Nov-2017 08:38:23 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086 Sample Line#: 91
Column Type: DB-5 Column Dia: 0.32 mm

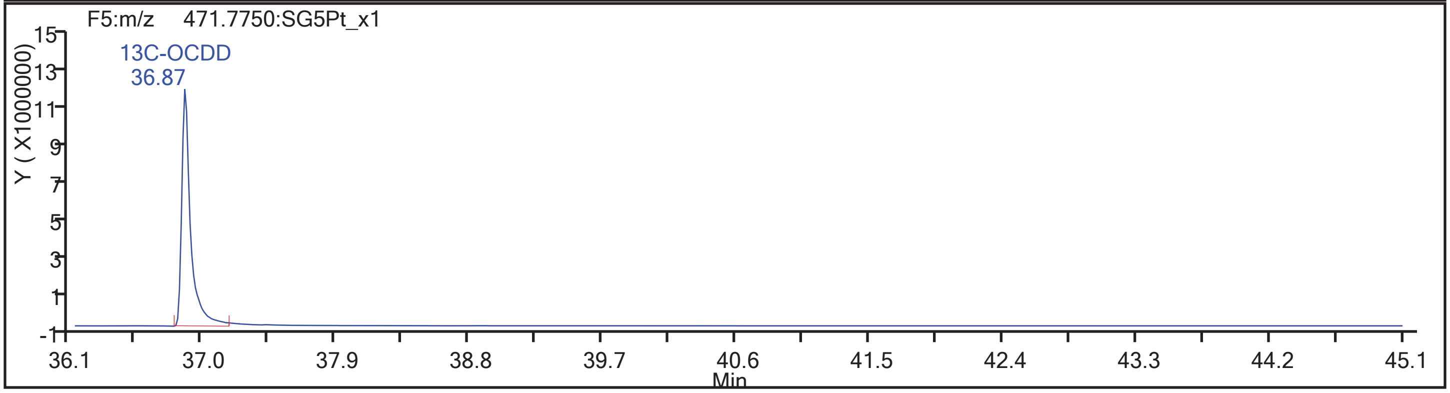
OCDD





OCDD Standards





Report Date: 13-Nov-2017 13:31:02 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_91.d

Injection Date: 12-Nov-2017 08:38:23 Injection Vol: 2.0 ul

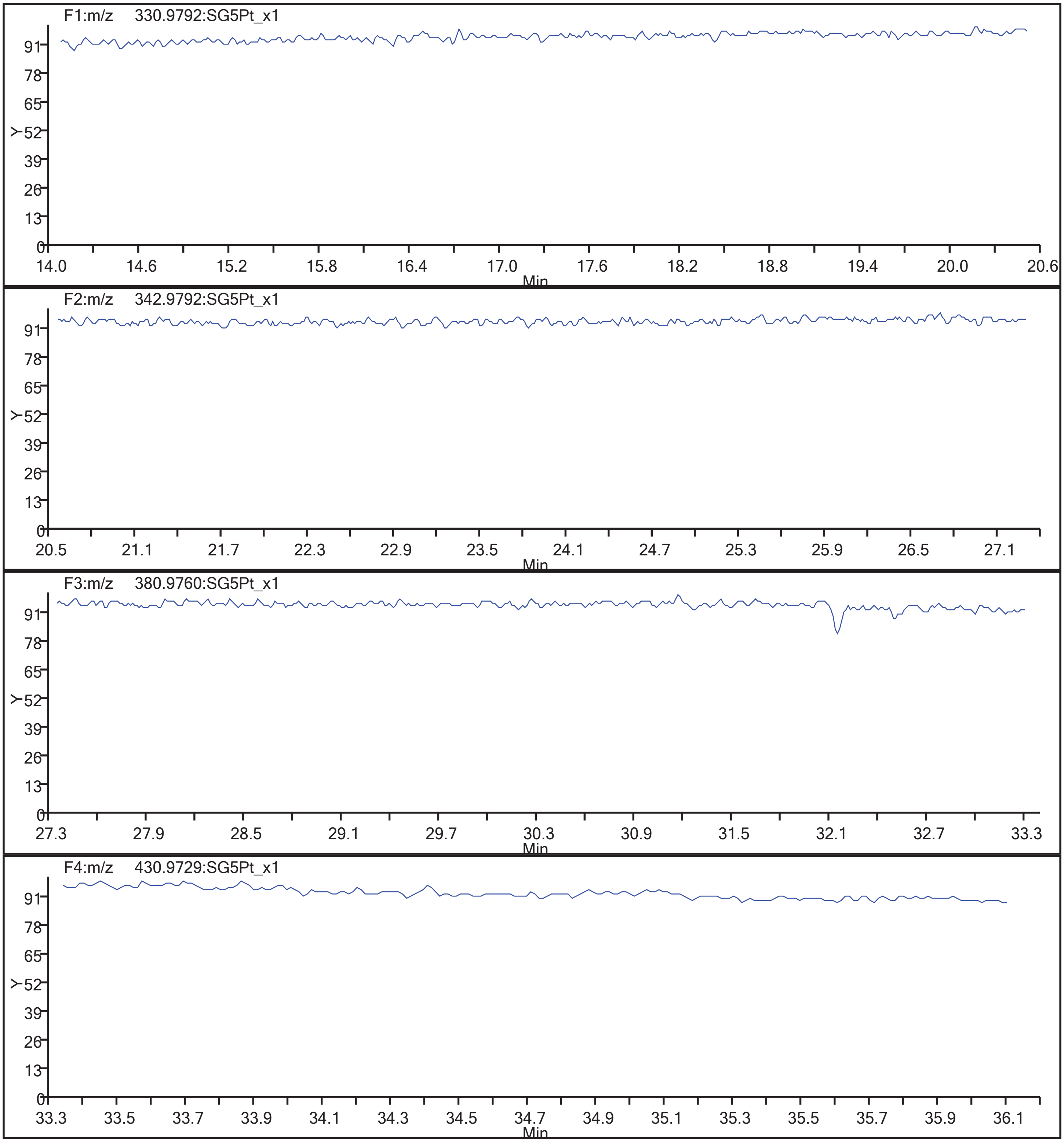
Instrument ID: 10D5 Operator ID: AJS

Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

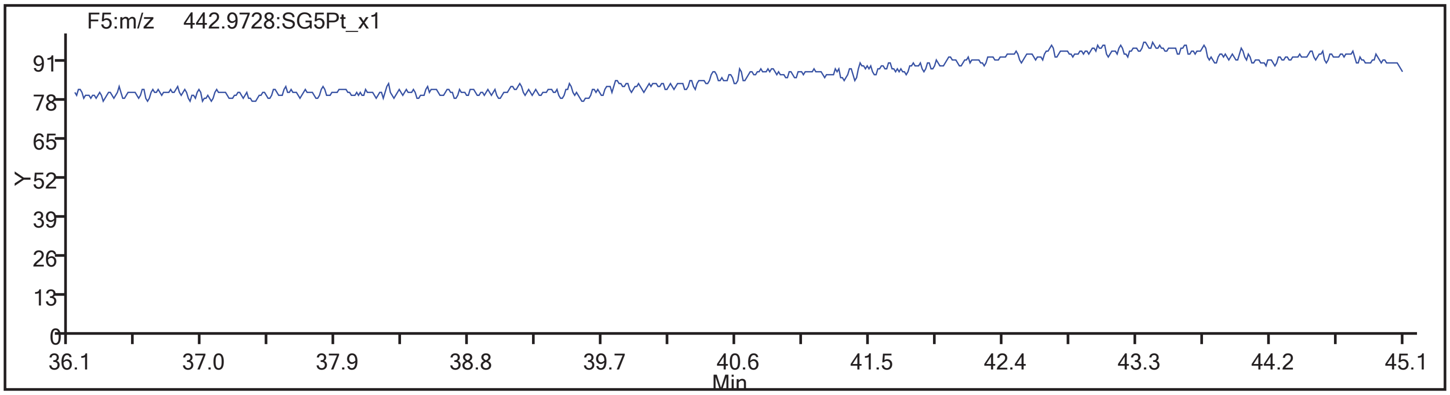
Worklist#: 194086 Sample Line#: 91

Column Type: DB-5 Column Dia: 0.32 mm



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_91.d		
Injection Date:	12-Nov-2017 08:38:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	91
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-194428/15 Calibration Date: 11/13/2017 23:30

Instrument ID: 10D5 Calib Start Date: 10/13/2017 00:08

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 10/13/2017 03:12

Lab File ID: 13NO1710D5_15.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.028		9.06	10.0	-9.4	20.0
2,3,7,8-TCDD	AveID	0.999	0.8626		8.63	10.0	-13.7	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.090		46.9	50.0	-6.3	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.074		47.1	50.0	-5.8	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9268		48.8	50.0	-2.3	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.319		47.1	50.0	-5.8	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.679		49.5	50.0	-0.9	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.478		48.6	50.0	-2.8	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	0.8753		46.0	50.0	-7.9	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.197		48.5	50.0	-3.0	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.173		47.0	50.0	-5.9	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.291		45.8	50.0	-8.5	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.563		47.7	50.0	-4.7	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9434		47.5	50.0	-5.0	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.190		44.7	50.0	-10.6	20.0
OCDD	AveID	1.060	1.016		95.8	100	-4.2	20.0
OCDF	AveID	1.346	1.321		98.1	100	-1.9	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.326		104	100	4.1	30.0
13C-2,3,7,8-TCDD	Ave	0.9921	1.106		111	100	11.5	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9696	1.007		104	100	3.8	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.7903		104	100	4.2	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	0.9243		95.8	100	-4.2	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.8793		100	100	0.0	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.7361		96.6	100	-3.4	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.7404		95.4	100	-4.6	30.0
13C-OCDD	Ave	0.6314	0.5510		175	200	-12.7	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.072		10.2	10.0	2.4	

Sample List Report **MassLynx 4.1** 10D5

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\13NO1710D5.SPL Page 1 of 3
Last Modified: Monday, November 13, 2017 16:45:44 Pacific Standard Time
Printed: Monday, November 13, 2017 16:45:56 Pacific Standard Time Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	13NO1710D5_1	WDM HRDXNCP_00034	WDM 111317	Tray01:1		---	AJS
2	13NO1710D5_2	CS-4 HRDXNL4_00060	CCV 111317	Tray01:2		---	AJS
3	13NO1710D5_3	Reagent Blank C-14	RB 111317	Tray01:3		---	AJS
4	13NO1710D5_4	mb 320-189688/1-a	mb 320-189688/1-a	Tray01:4	8290A_D5/Water	D979	AJS
5	13NO1710D5_5	lcs 320-189688/2-a	lcs 320-189688/2-a	Tray01:5	8290A_D5/Water		AJS
6	13NO1710D5_6	lcsd 320-189688/3-a	lcsd 320-189688/3-a	Tray01:6	8290A_D5/Water		AJS
7	13NO1710D5_7	160-24917-F-17-A 2X	160-24917-F-17-A 2X	Tray01:7	8290A_D5/Solid	D978	AJS
8	13NO1710D5_8	160-24917-F-20 B-MS RI	160-24917-F-20 B-MS RI	Tray01:8	8290A_D5/Solid		AJS
9	13NO1710D5_9	160-24922-G-27-A	160-24922-G-27-A	Tray01:9	8290A_D5/Solid	D979	AJS
10	13NO1710D5_10	160-24922-G-28-A	160-24922-G-28-A	Tray01:10	8290A_D5/Solid		AJS
11	13NO1710D5_11	160-24917-F-30-A 2X	160-24917-F-30-A 2X	Tray01:11	8290A_D5/Solid	D975	AJS
12	13NO1710D5_12	Reagent Blank C-14	RB 111317A	Tray01:3		---	AJS
13	13NO1710D5_13	CS-4 HRDXNL4_00060	CCV 111317A	Tray01:2		---	AJS
14	13NO1710D5_14	WDM HRDXNCP_00034	WDM 111317A	Tray01:1		---	AJS
15	13NO1710D5_15	CS-4 HRDXNL4_00060	CCV 111317B	Tray01:2		---	AJS
16	13NO1710D5_16	Reagent Blank C-14	RB 111317B	Tray01:3		---	AJS
17	13NO1710D5_17	mb 320-189721/1-a RI	mb 320-189721/1-a RI	Tray01:15	8290A_D5/Water	D981	AJS
18	13NO1710D5_18	160-24924-g-1-a RI	160-24924-g-1-a RI	Tray01:16	8290A_D5/Water		AJS
19	13NO1710D5_19	160-24924-g-2-a RI	160-24924-g-2-a RI	Tray01:17	8290A_D5/Water		AJS
20	13NO1710D5_20	160-24924-g-3-a RI	160-24924-g-3-a RI	Tray01:18	8290A_D5/Solid	---	AJS
21	13NO1710D5_21	160-24924-g-4-a RI	160-24924-g-4-a RI	Tray01:19	8290A_D5/Solid		AJS
22	13NO1710D5_22	160-24924-g-6-a RI	160-24924-g-6-a RI	Tray01:20	8290A_D5/Solid	---	AJS
23	13NO1710D5_23	160-24924-g-10-a RI	160-24924-g-10-a RI	Tray01:21	8290A_D5/Solid		AJS
24	13NO1710D5_24	160-24924-g-11-a RI	160-24924-g-11-a RI	Tray01:22	8290A_D5/Solid	---	AJS
25	13NO1710D5_25	Reagent Blank C-14	RB 111317C	Tray01:3		---	AJS
26	13NO1710D5_26	CS-4 HRDXNL4_00060	CCV 111317C	Tray01:2		---	AJS
27	13NO1710D5_27	WDM HRDXNCP_00034	WDM 111317B	Tray01:1		---	AJS
28	13NO1710D5_28	CS-4 HRDXNL4_00060	CCV 111317D	Tray01:2		---	AJS
29	13NO1710D5_29	Reagent Blank C-14	RB 111317D	Tray01:3		---	AJS
30	13NO1710D5_30	160-24924-g-9-a RI	160-24924-g-9-a RI	Tray01:29	8290A_D5/Water	D981	AJS
31	13NO1710D5_31	160-24924-g-9-b ms RI	160-24924-g-9-b ms RI	Tray01:30	8290A_D5/Water		AJS
32	13NO1710D5_32	160-24924-g-9-c msd RI	160-24924-g-9-c msd RI	Tray01:31	8290A_D5/Water		AJS
33	13NO1710D5_33	160-24924-g-12-a RI	160-24924-g-12-a RI	Tray01:32	8290A_D5/Solid	---	AJS
34	13NO1710D5_34	160-24924-g-14-a RI	160-24924-g-14-a RI	Tray01:33	8290A_D5/Solid		AJS
35	13NO1710D5_35	160-24924-g-15-a RI	160-24924-g-15-a RI	Tray01:34	8290A_D5/Solid	---	AJS
36	13NO1710D5_36	160-24924-g-18-a RI	160-24924-g-18-a RI	Tray01:35	8290A_D5/Solid		AJS
37	13NO1710D5_37	160-24924-g-19-a RI	160-24924-g-19-a RI	Tray01:36	8290A_D5/Solid	---	AJS
38	13NO1710D5_38	Reagent Blank C-14	RB 111317E	Tray01:3		---	AJS
39	13NO1710D5_39	CS-4 HRDXNL4_00060	CCV 111317E	Tray01:2		---	AJS
40	13NO1710D5_40	WDM HRDXNCP_00034	WDM 111317C	Tray01:1		---	AJS
41	13NO1710D5_41	CS-4 HRDXNL4_00060	CCV 111317F	Tray01:2		---	AJS
42	13NO1710D5_42	Reagent Blank C-14	RB 111317F	Tray01:3		---	AJS

logfile checked
11-14-17 ALM

Sample List Report **MassLynx 4.1**

10D5

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\13NO1710D5.SPL

Last Modified: Monday, November 13, 2017 16:45:44 Pacific Standard Time

Printed: Monday, November 13, 2017 16:45:56 Pacific Standard Time

Sample Size	Units	MS File	Inlet File	Inject Volume	Process
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1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
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1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
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1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
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Process Options	Action On Error
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C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
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10D5

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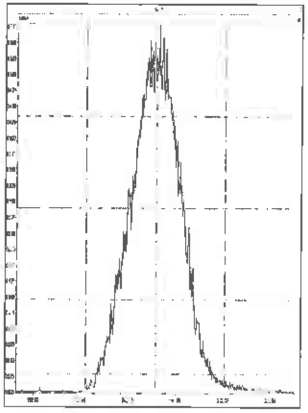

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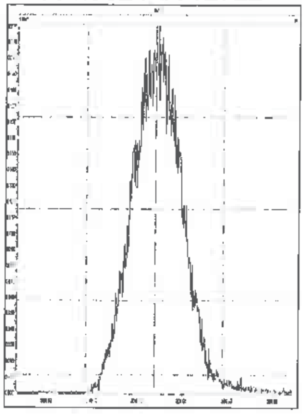

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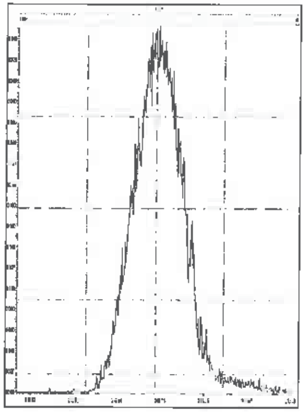

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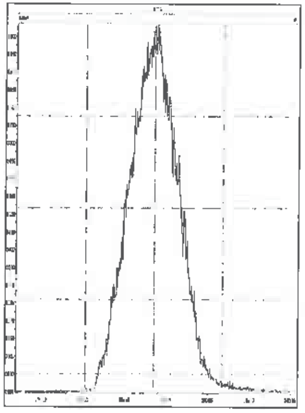

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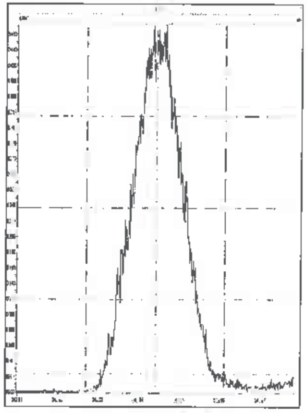

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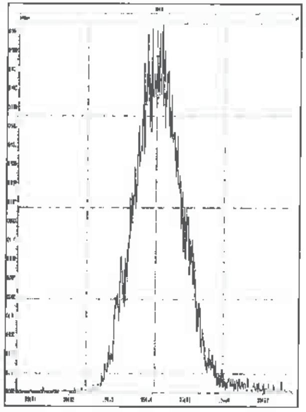

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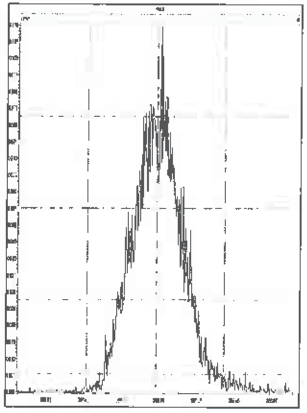

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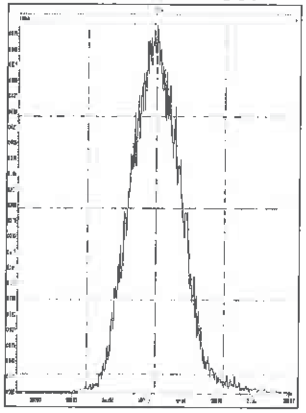

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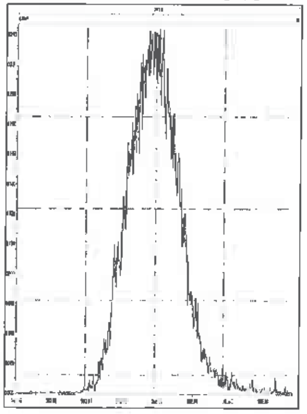

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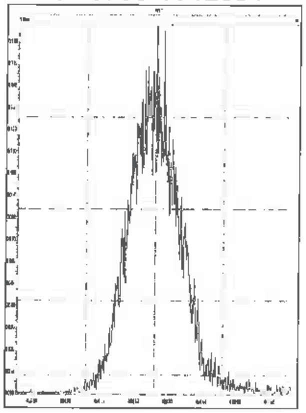

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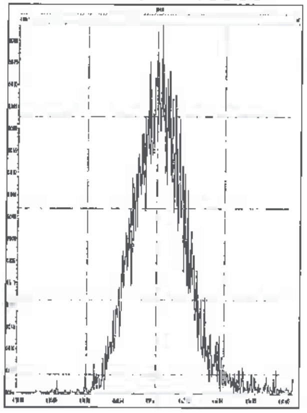

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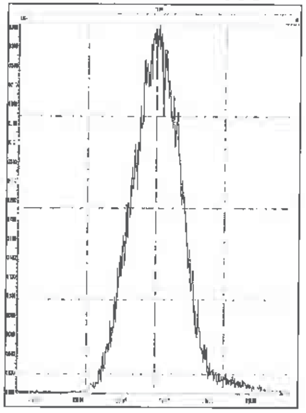

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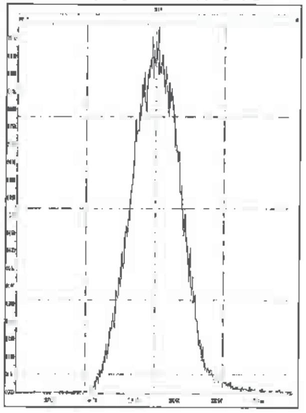

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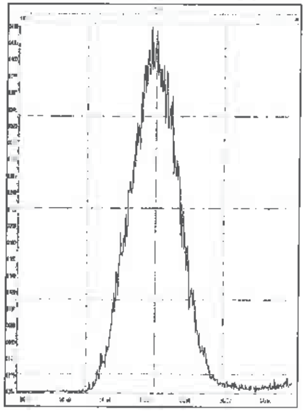

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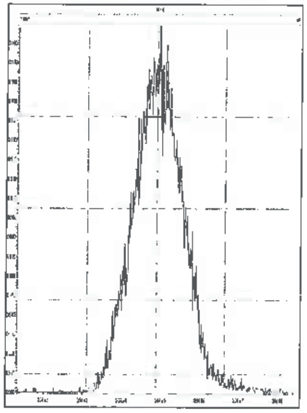

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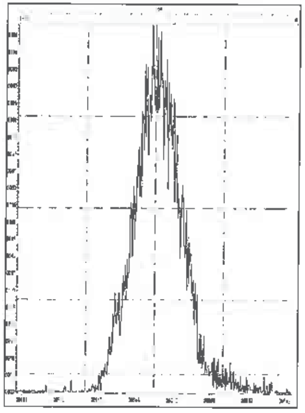

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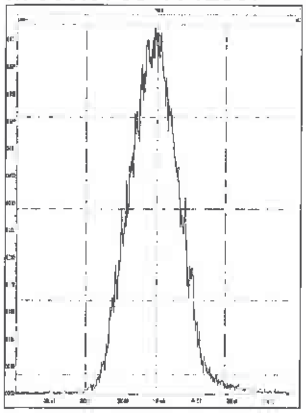

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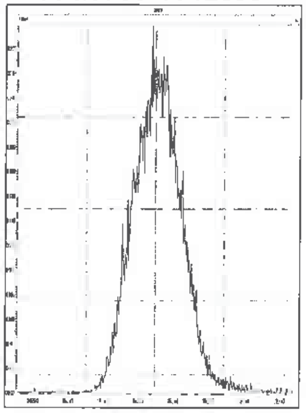

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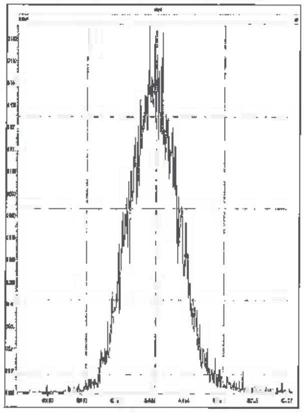

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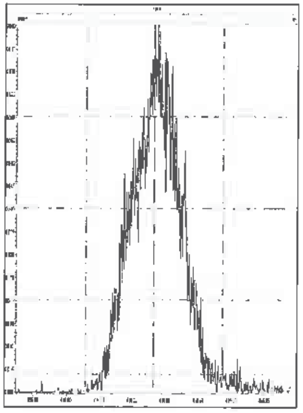

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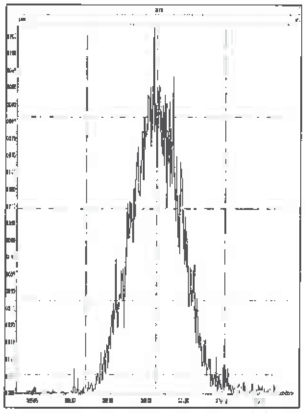

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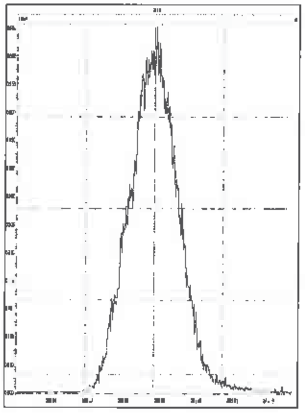

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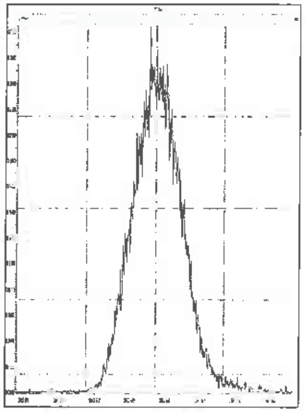

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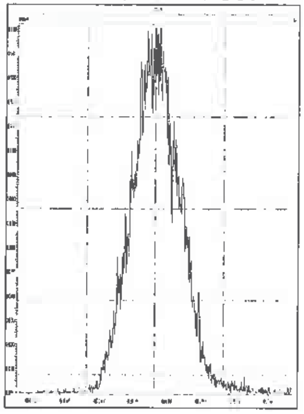

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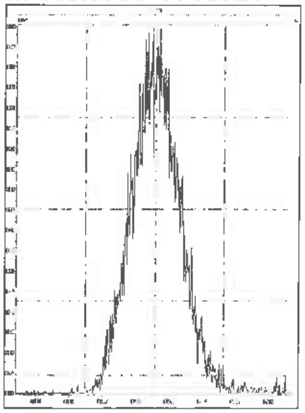

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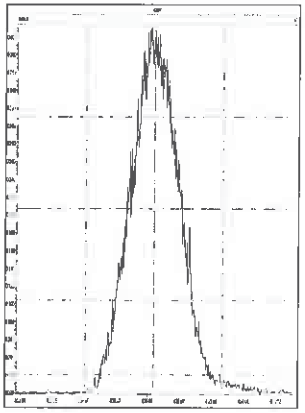

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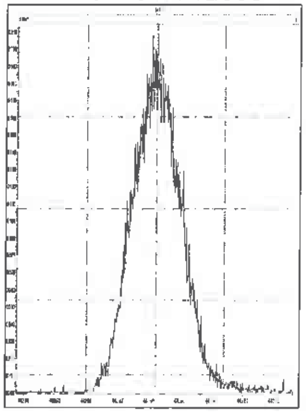

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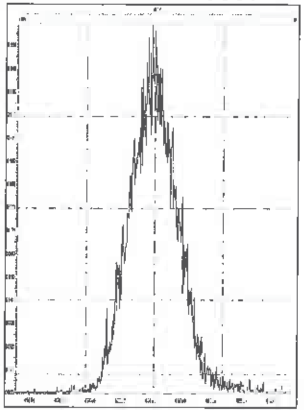

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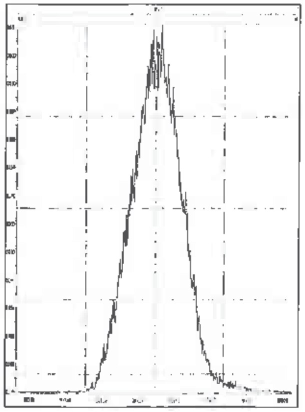

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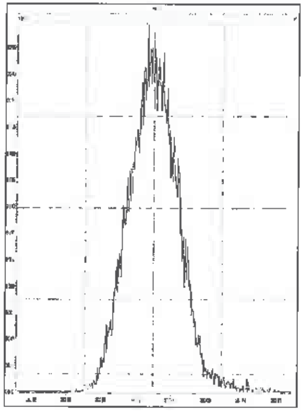

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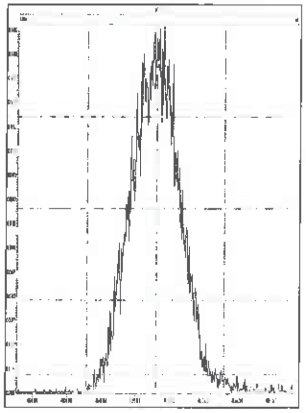

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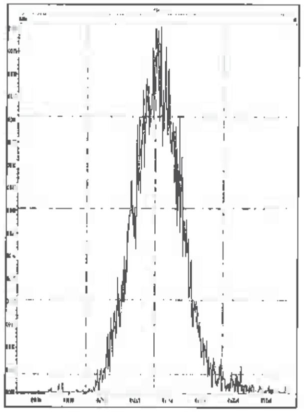

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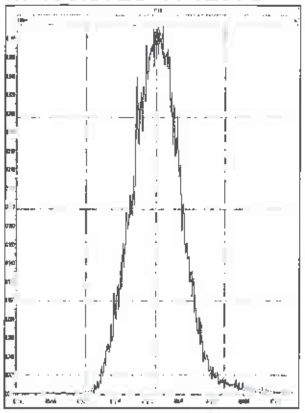

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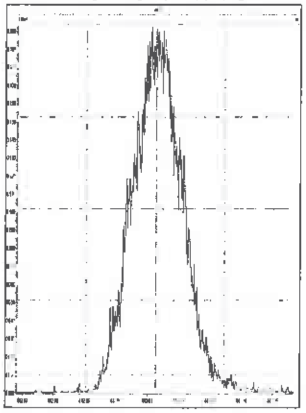

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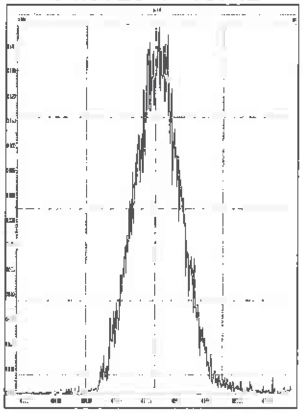

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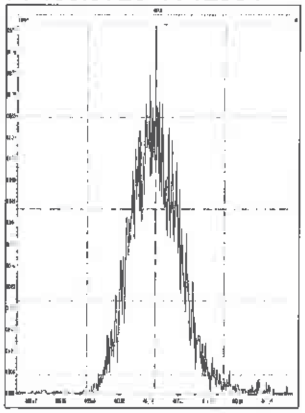

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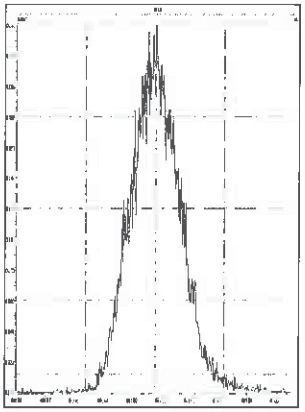

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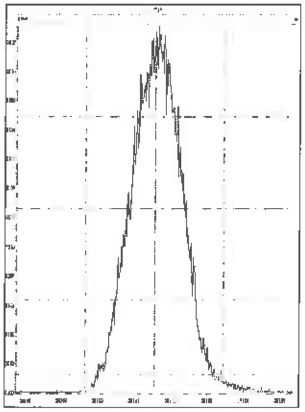

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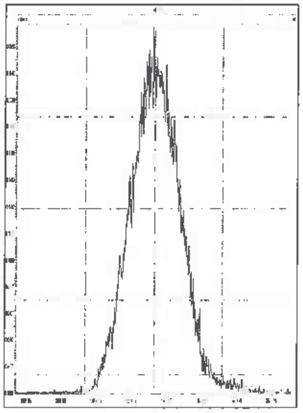

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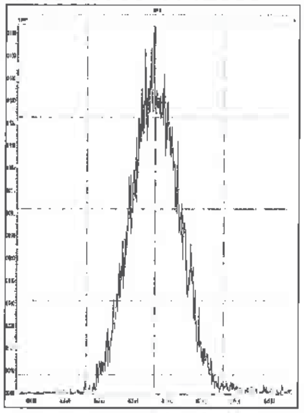

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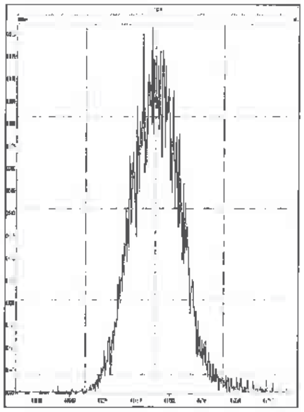

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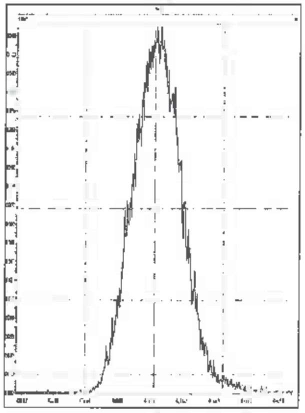

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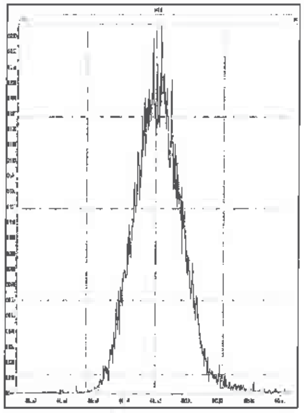

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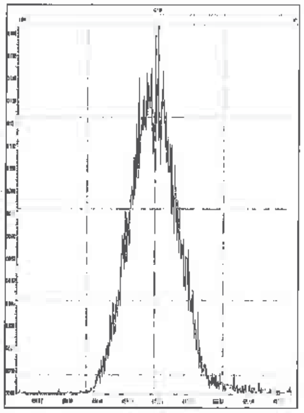

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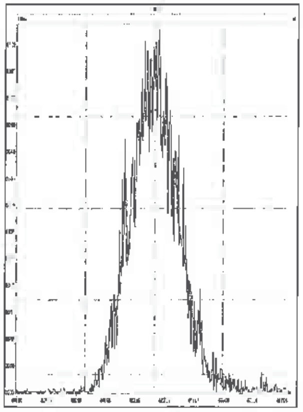

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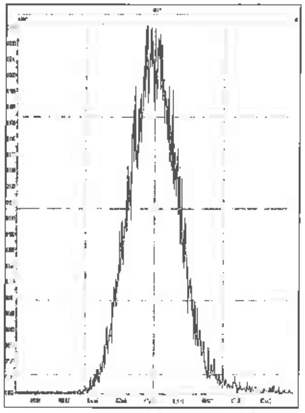

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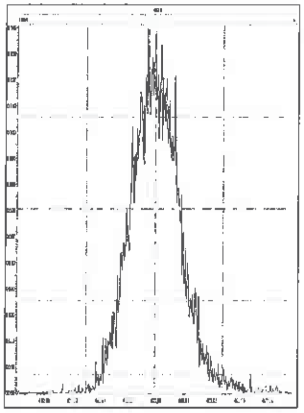

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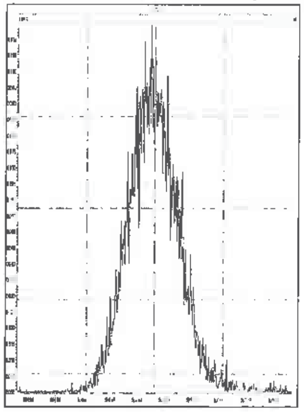

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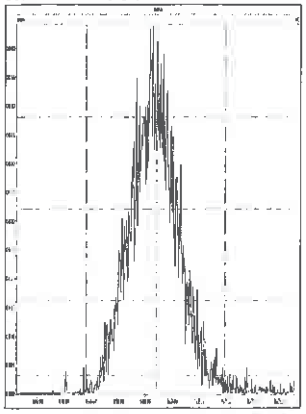

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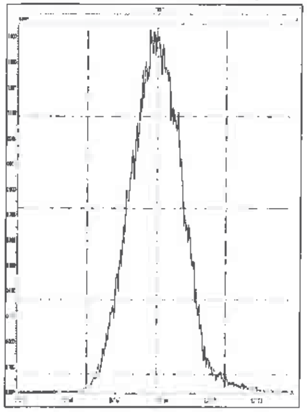

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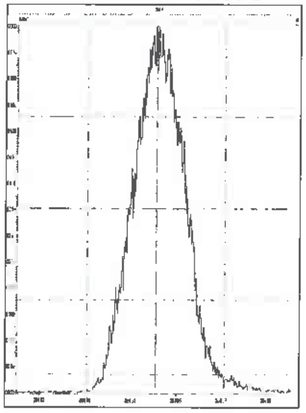

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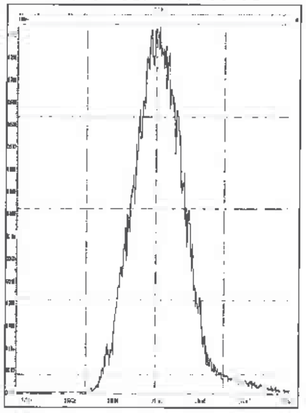

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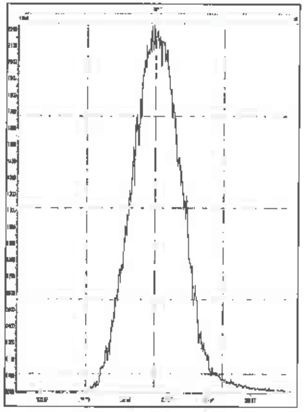

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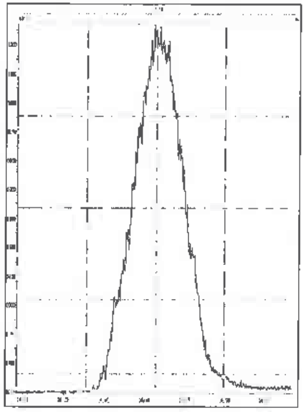

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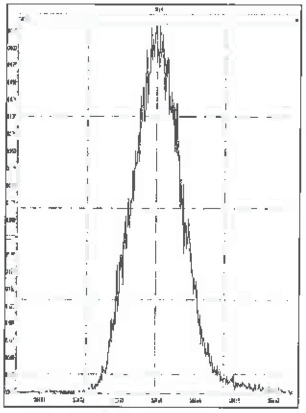

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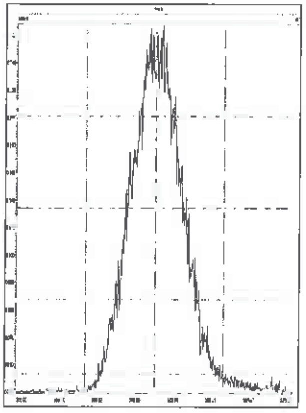

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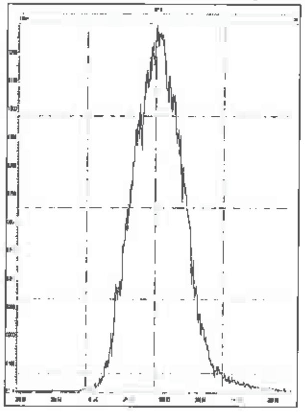

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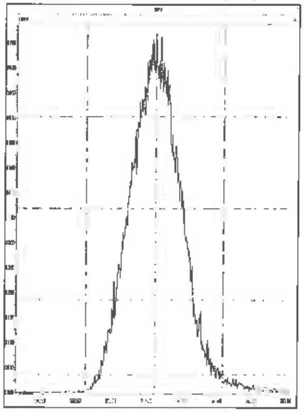

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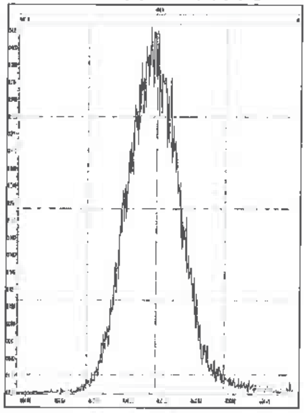

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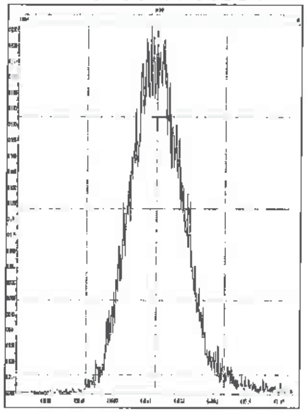

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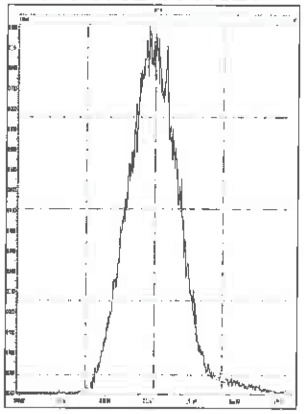

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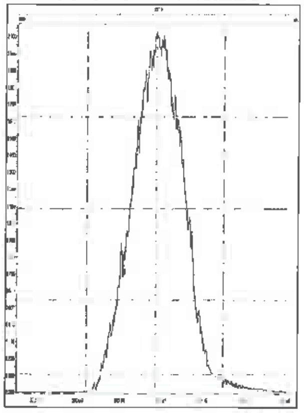

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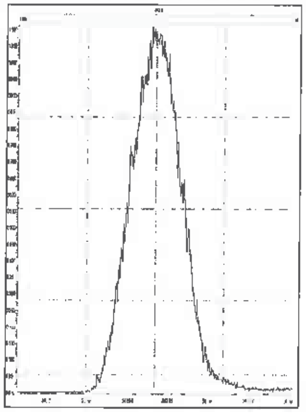

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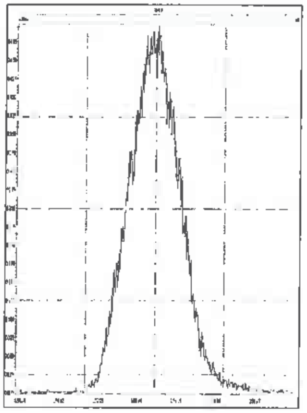

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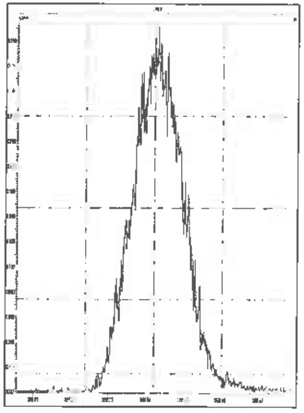

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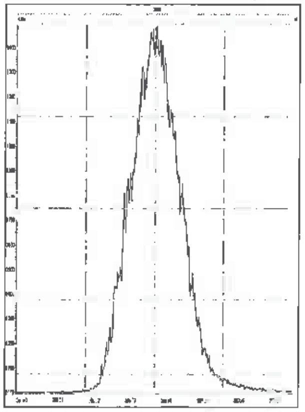

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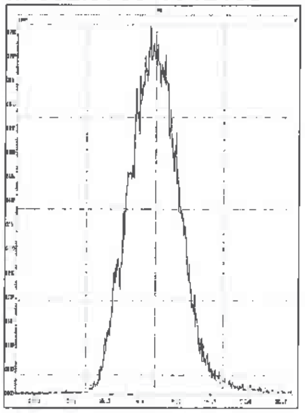

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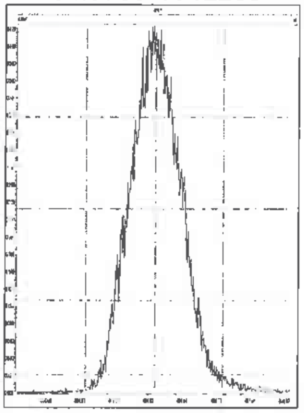

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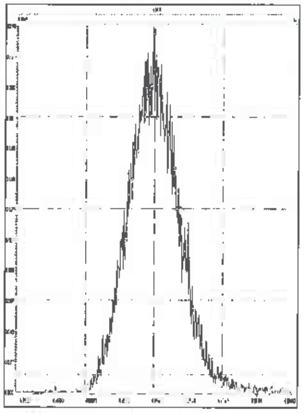

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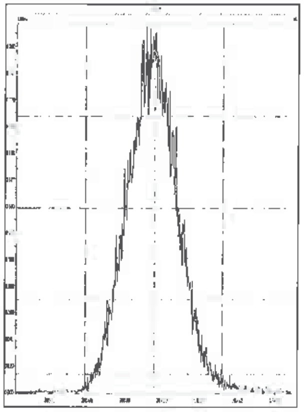

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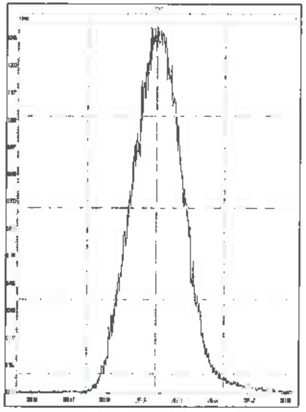

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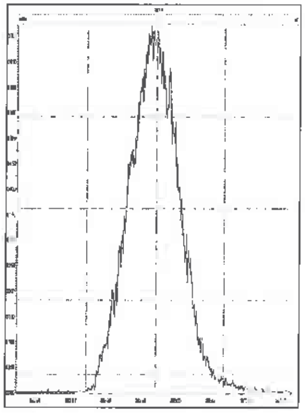

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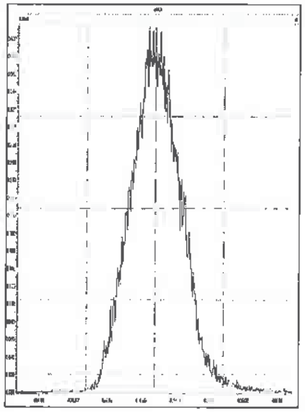

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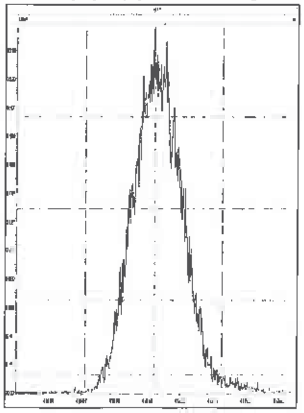

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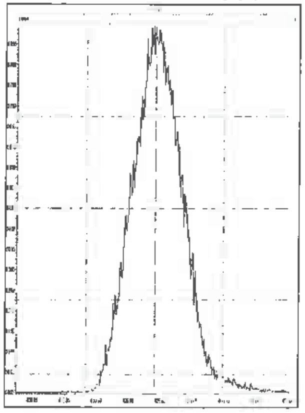

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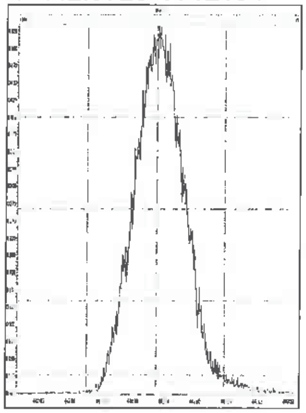

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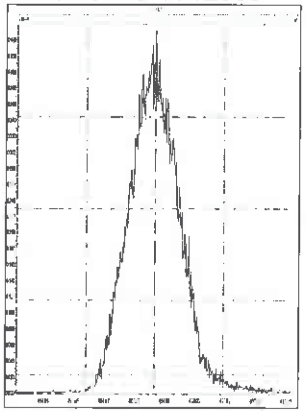

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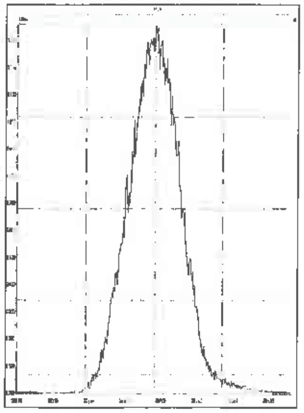

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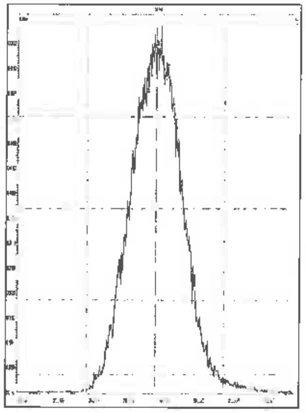

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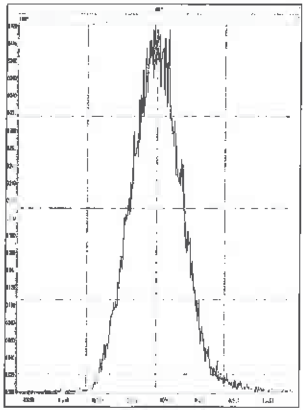

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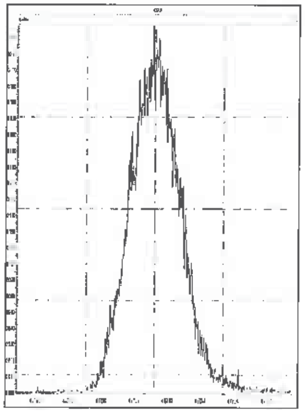

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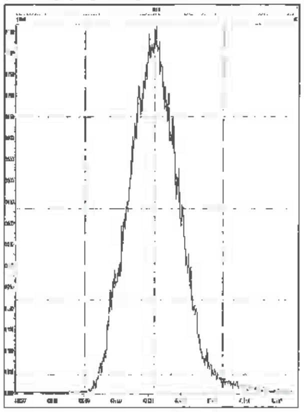

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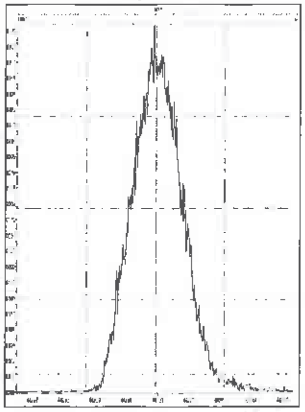

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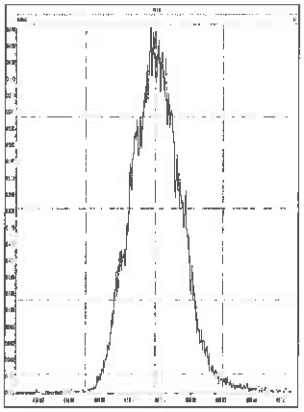

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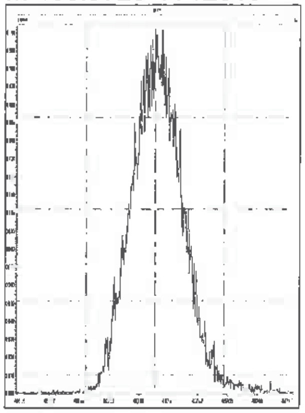

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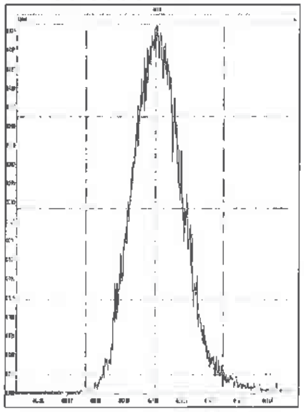

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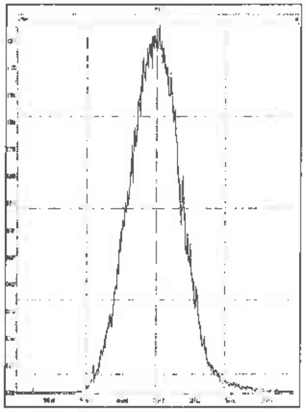

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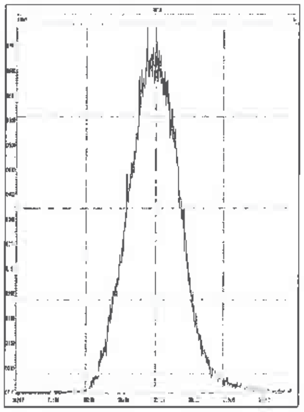

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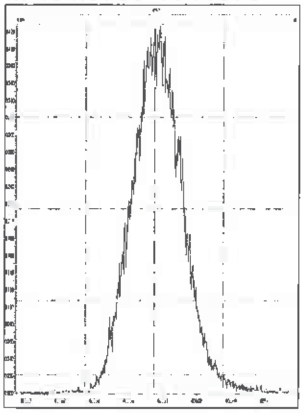

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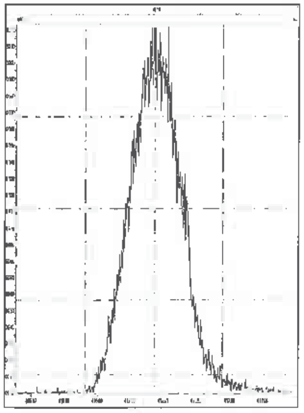

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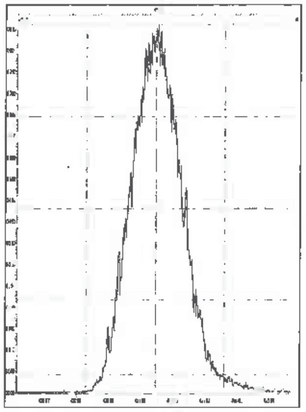

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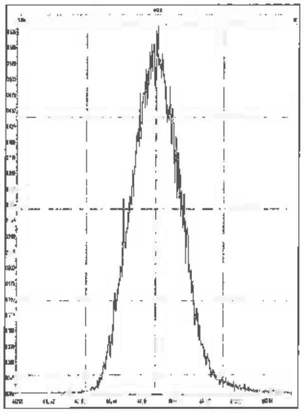

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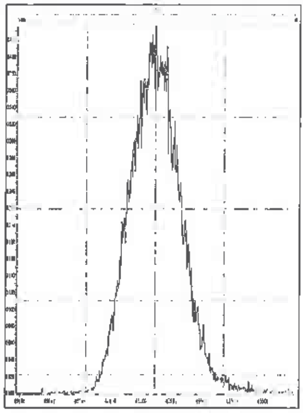

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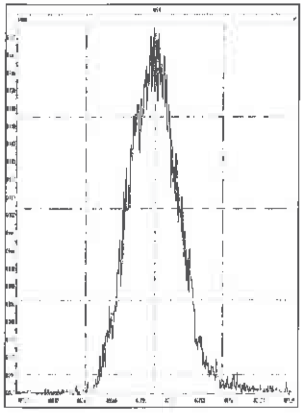

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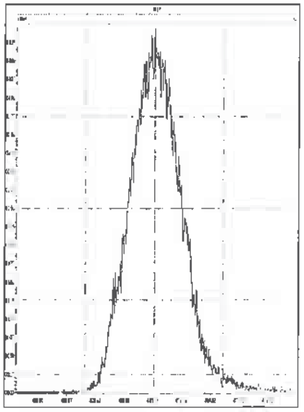

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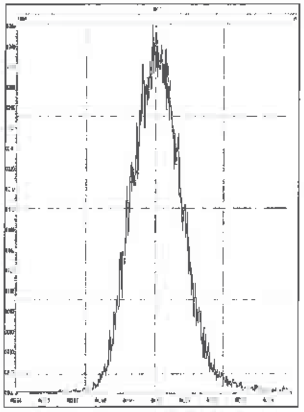

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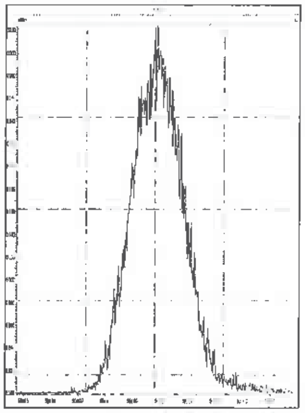

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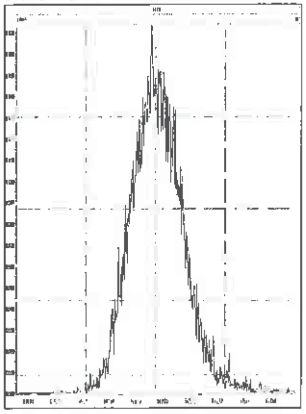

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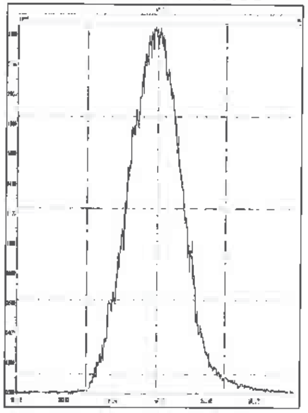
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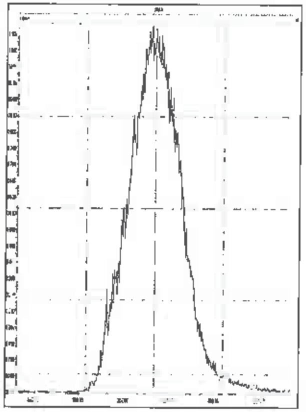
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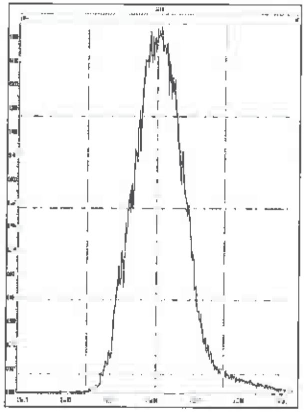
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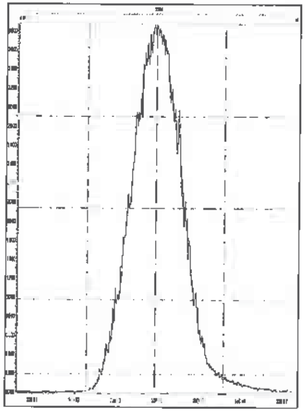
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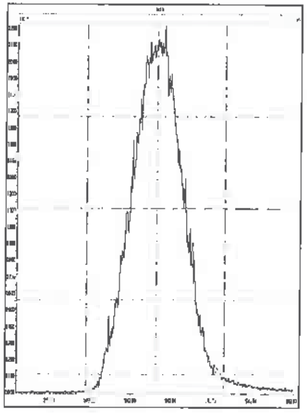
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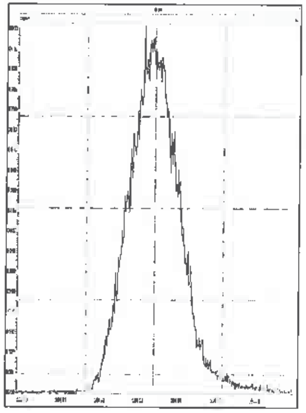
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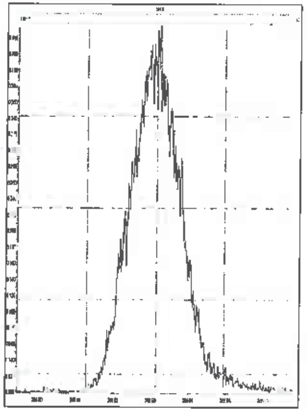
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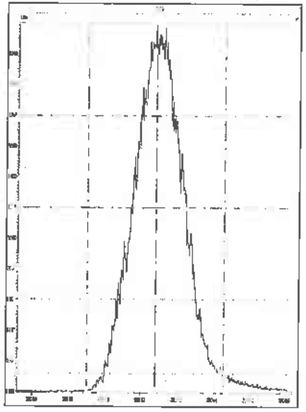
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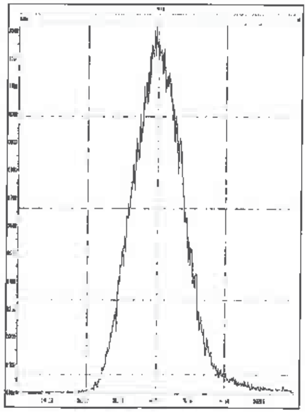
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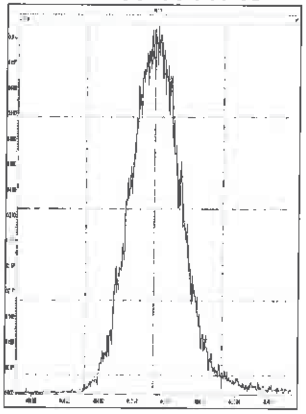
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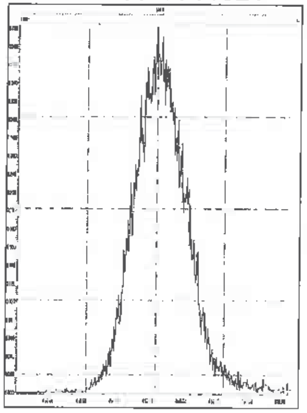
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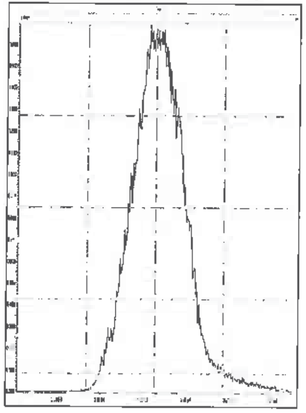
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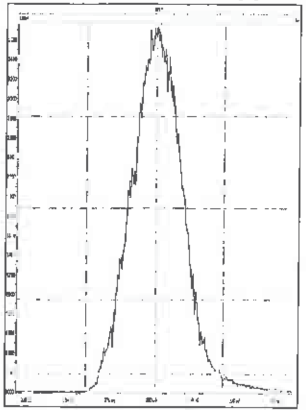
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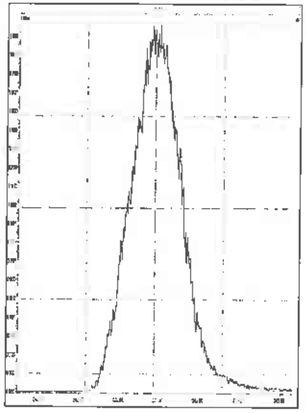
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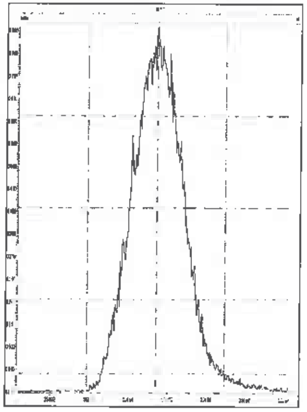
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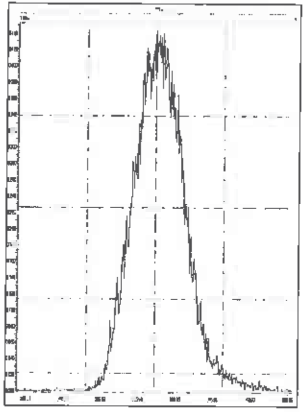
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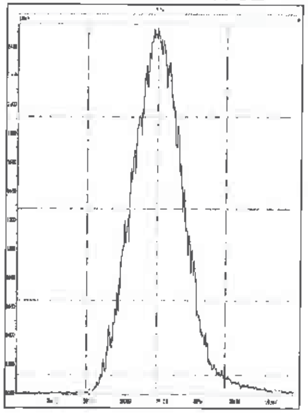

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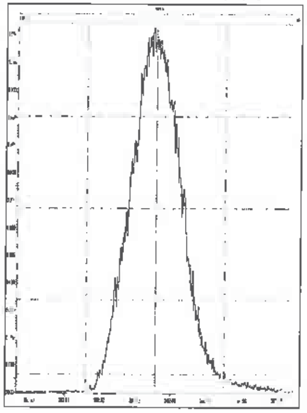

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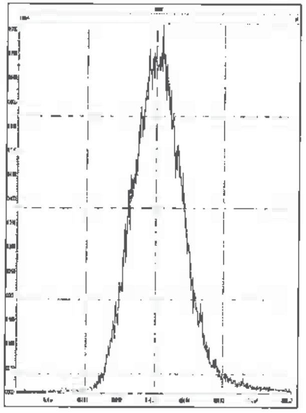

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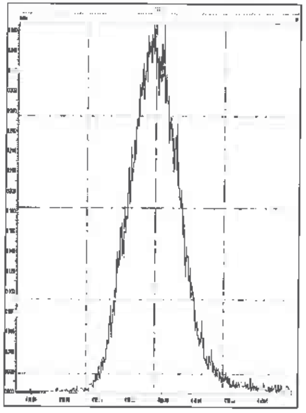

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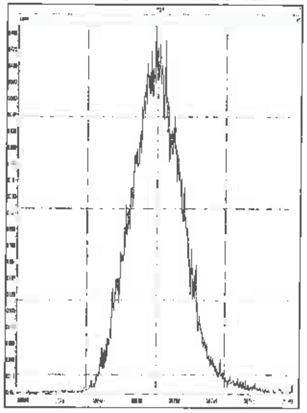

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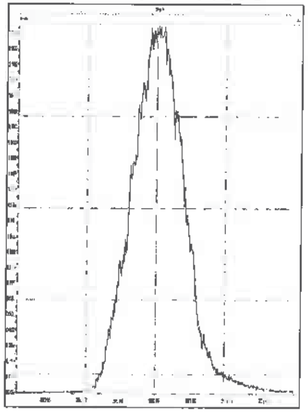

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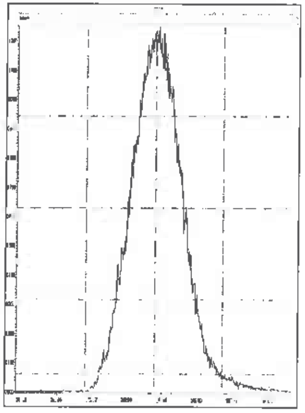

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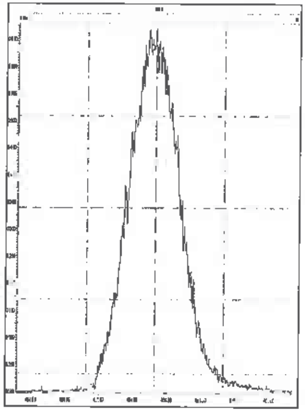

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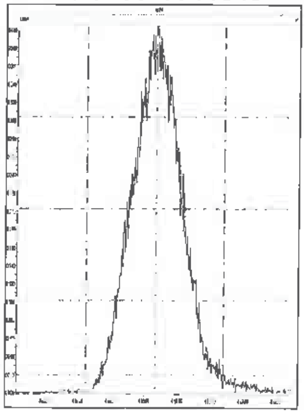

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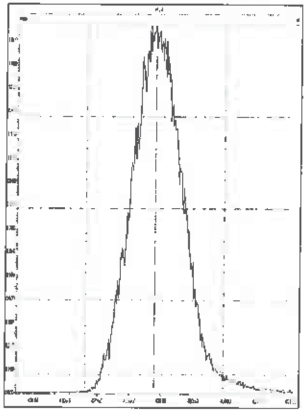

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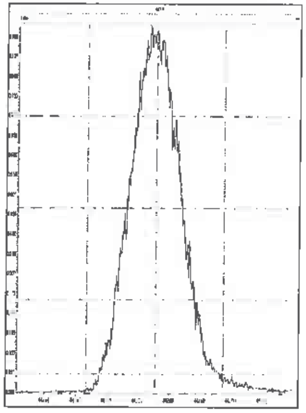

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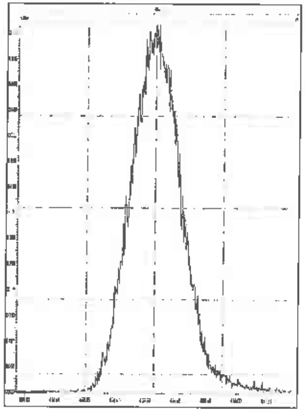

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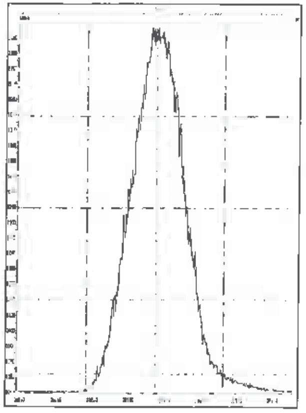

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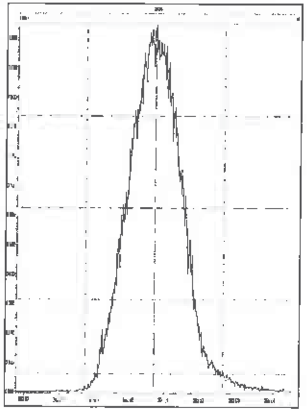

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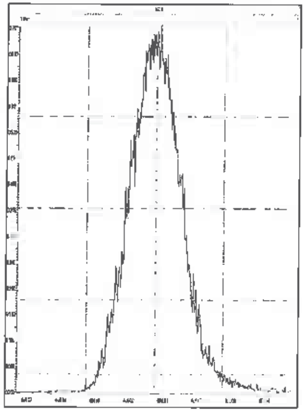

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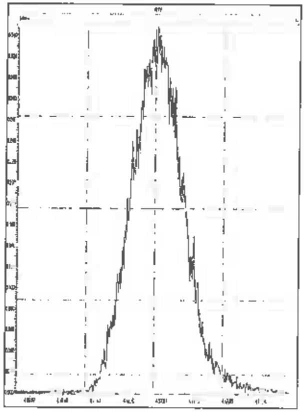

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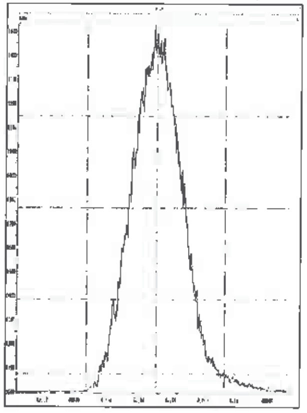

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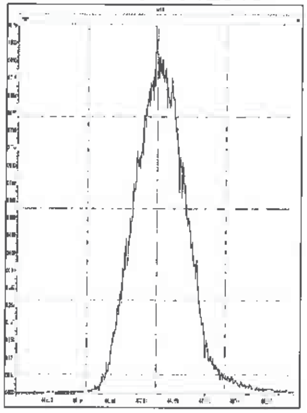

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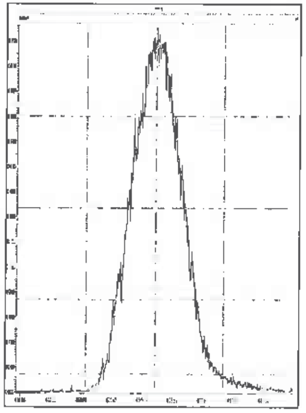

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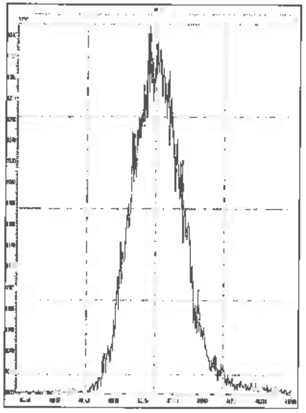

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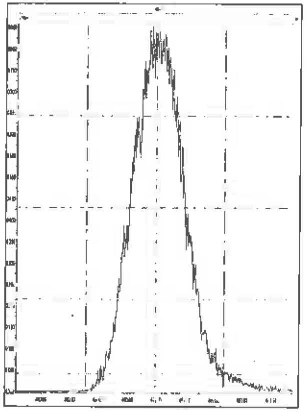

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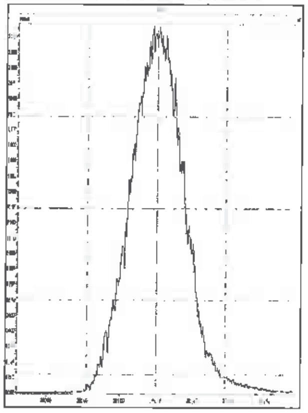

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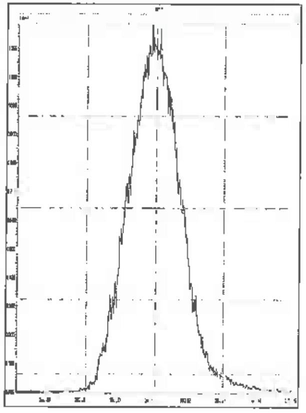

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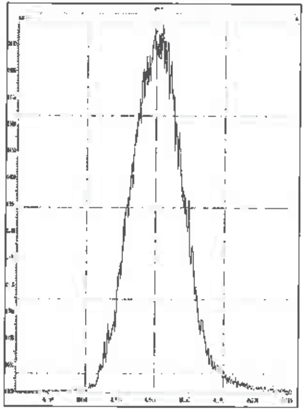

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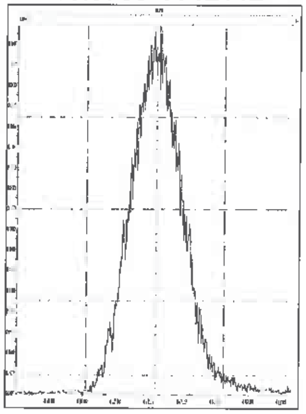

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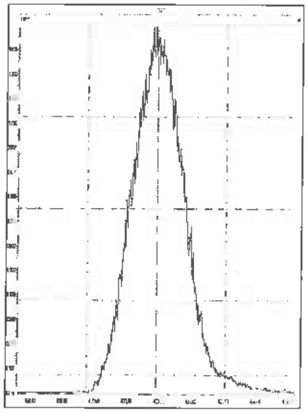

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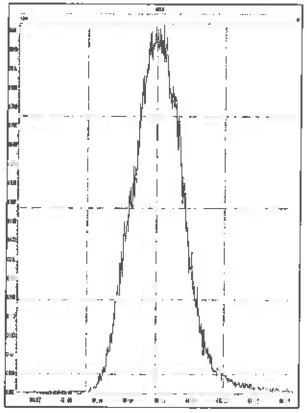

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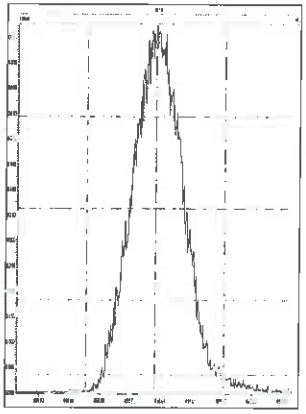

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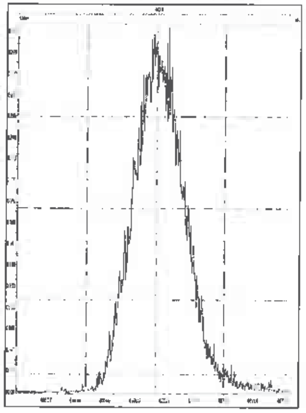

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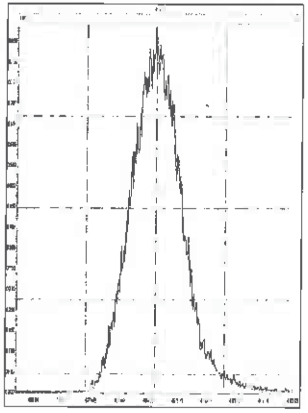

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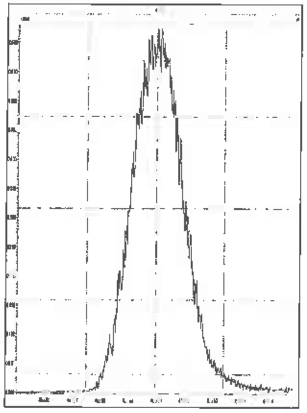

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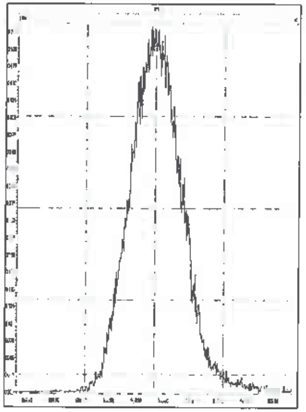

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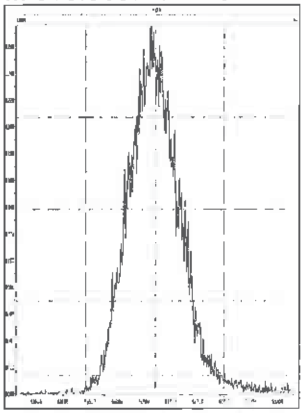

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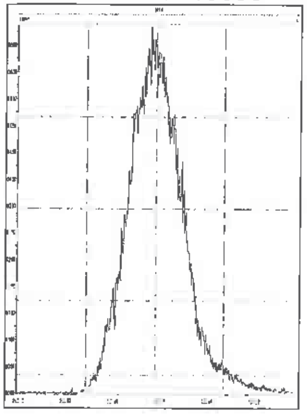

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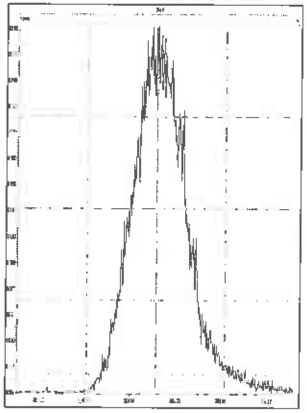

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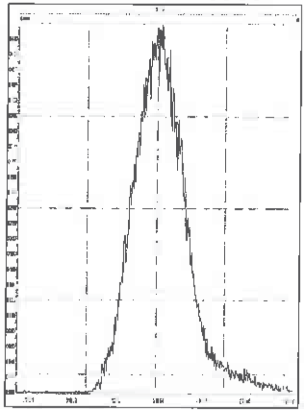

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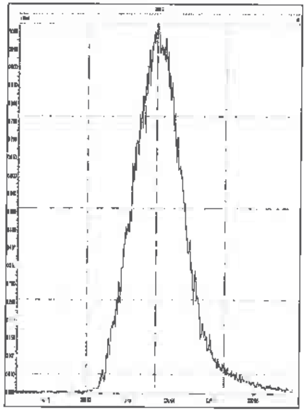

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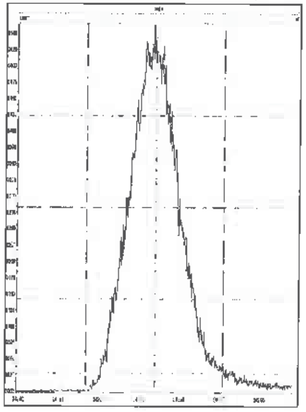

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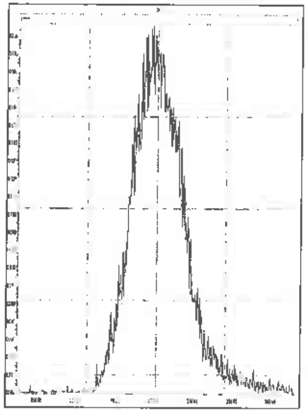

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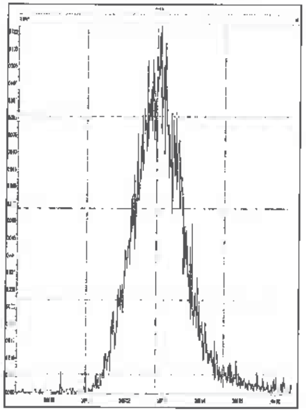

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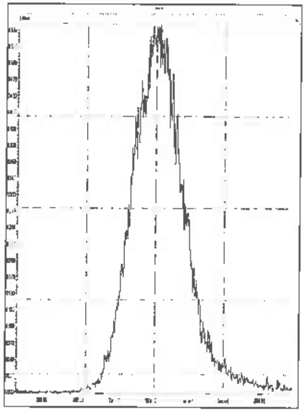

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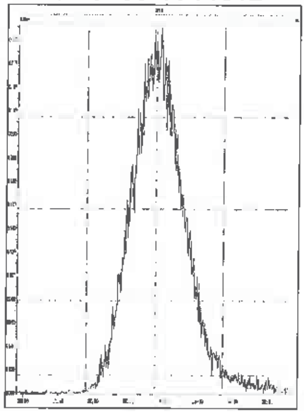

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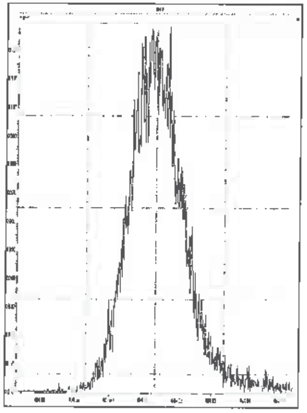

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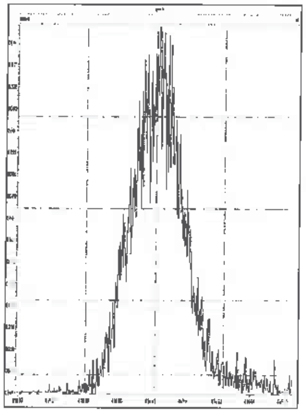

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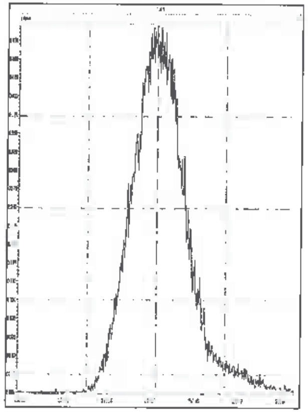

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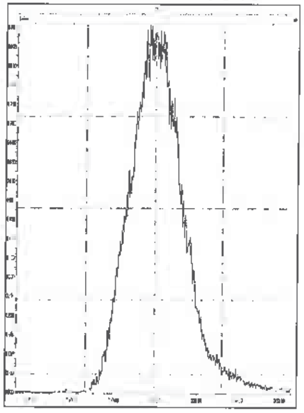

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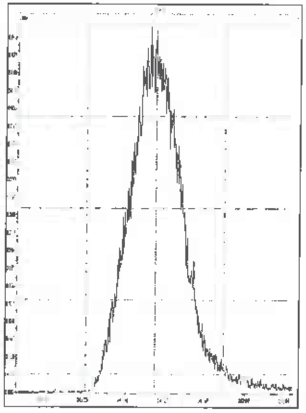

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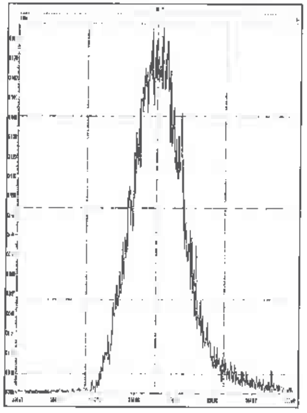

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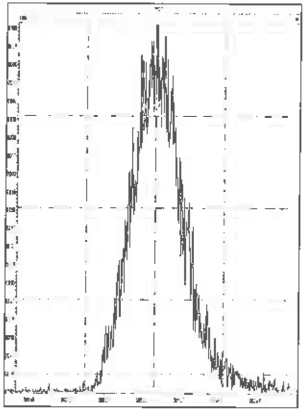

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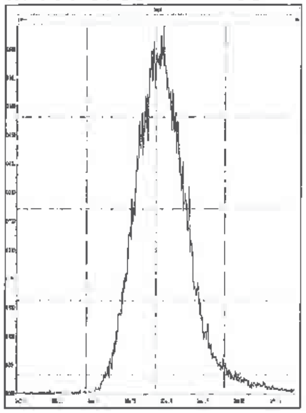

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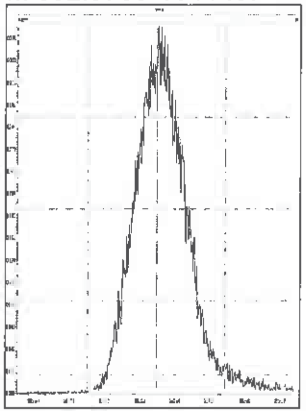

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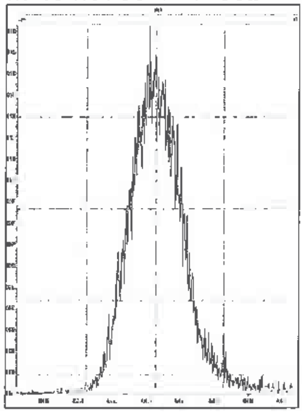

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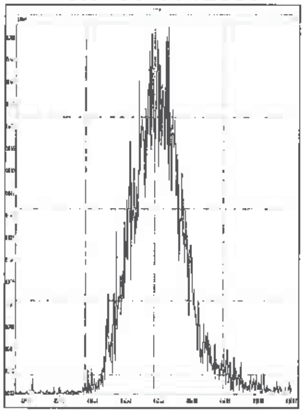

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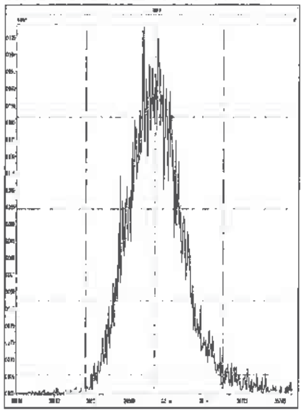

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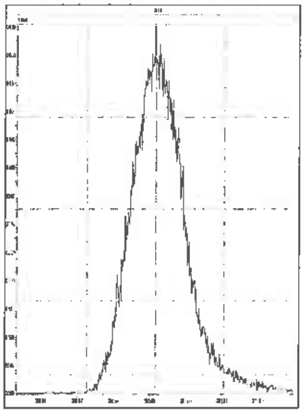

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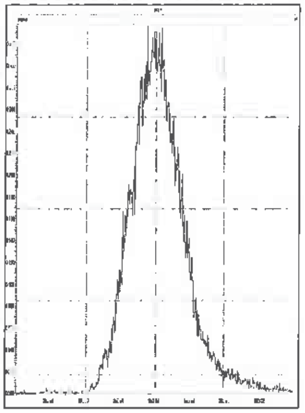

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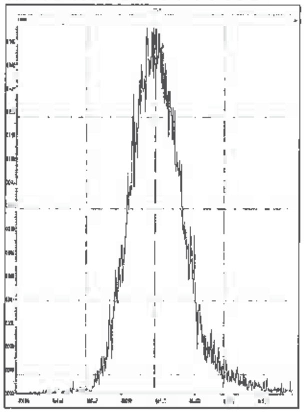

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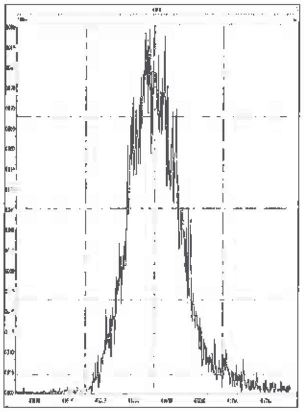

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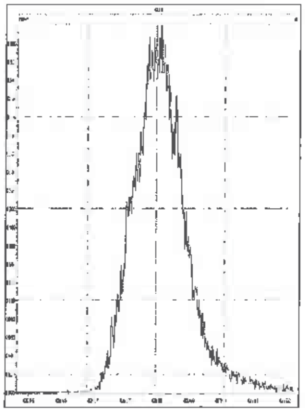

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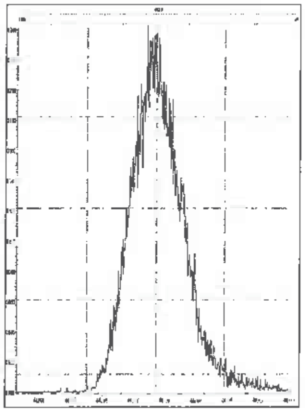

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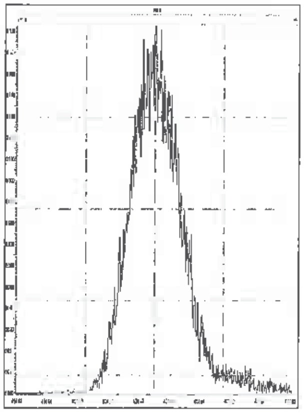

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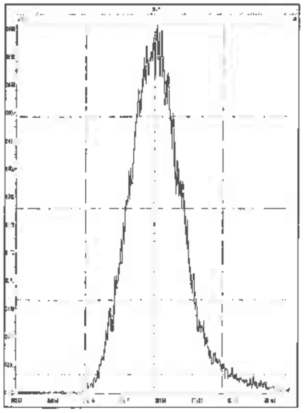

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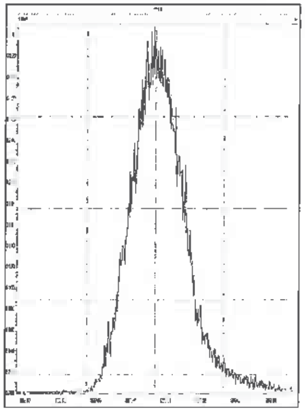

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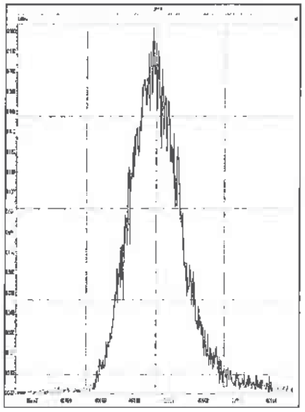

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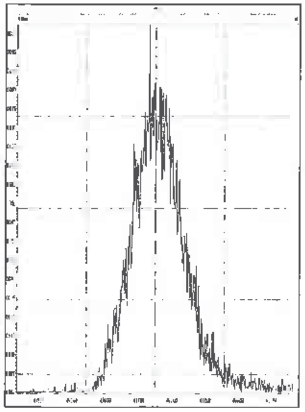

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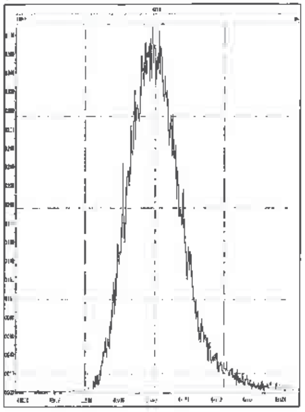

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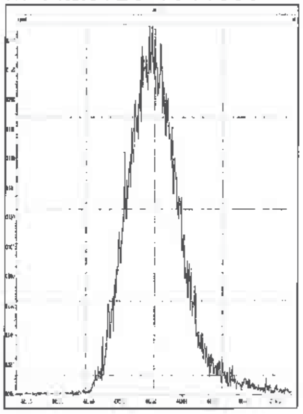

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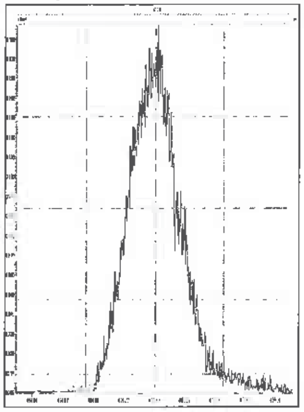

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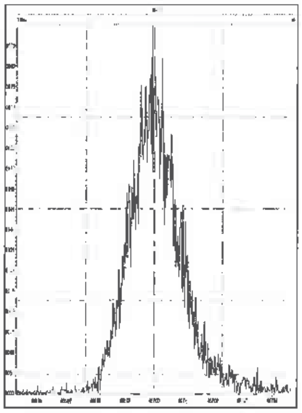

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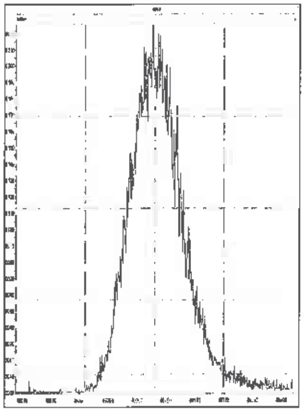

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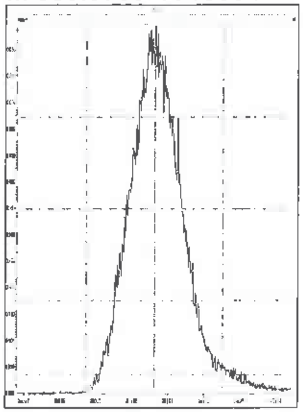

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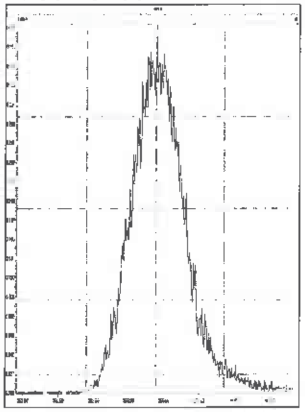

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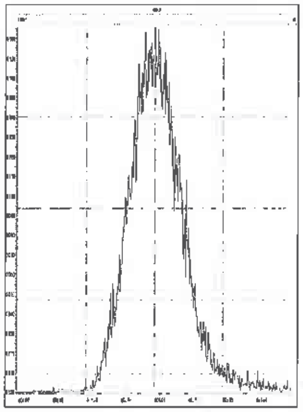

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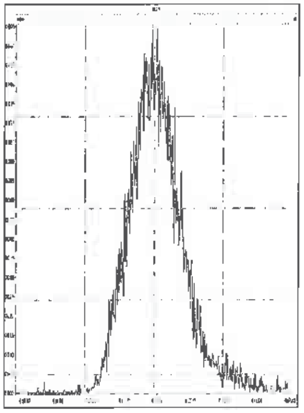

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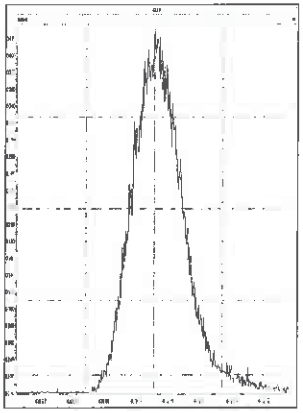

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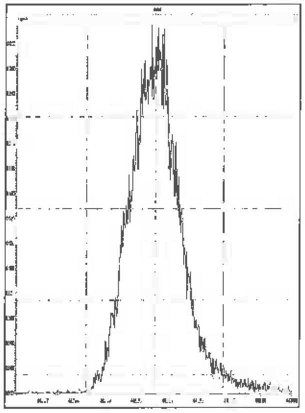

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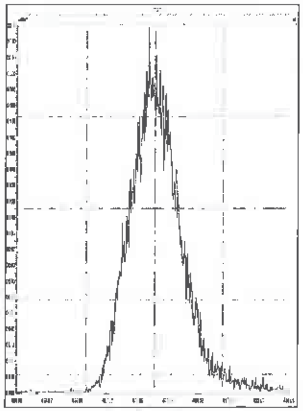

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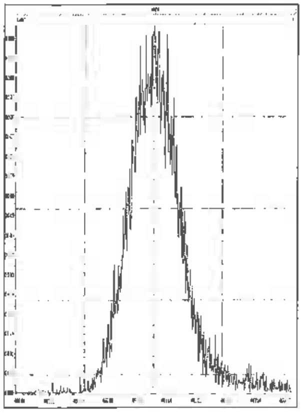

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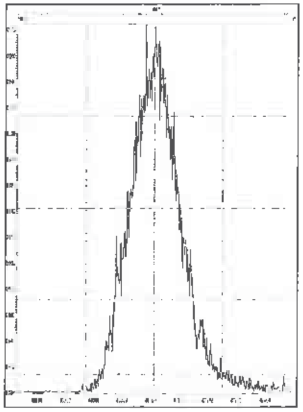

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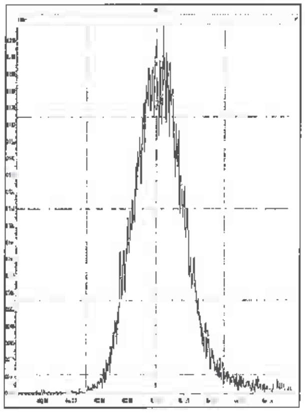

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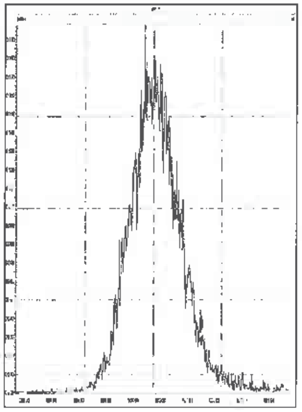

10D5

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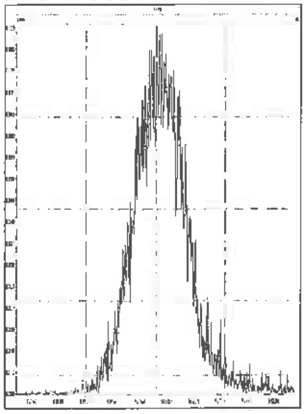


Report Date: 14-Nov-2017 11:59:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 13-Nov-2017 23:30:55 ALS Bottle#: 2 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111317B CS-4 HRDXNL4_00060
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 14-Nov-2017 11:59:07 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK018

First Level Reviewer: stephensk Date: 14-Nov-2017 08:28:43

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.823	122248982	0.77	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.309	162086142	0.77	1.2741	104.1	104.1	0.4376	0.4376	104	
2,3,7,8-TCDF	17.324	16660071	0.75	1.1341	9.063	9.063	0.0376	0.0376	90.63	
A Non-2,3,7,8-sub-TCDF	17.037						0.0	0.0		
S Total TCDF					9.063	9.063	0.0376	0.0376		
D 13C-2,3,7,8-TCDD	18.020	135187344	0.77	0.9921	111.5	111.5	0.4989	0.4989	111	
$ 37Cl4-2,3,7,8-TCDD	18.035	13101601		1.0466	10.2	10.2	0.0369	0.0369	102	
2,3,7,8-TCDD	18.035	11660865	0.77	0.9993	8.632	8.632	0.0446	0.0446	86.32	
A Non-2,3,7,8-sub-TCDD	17.491						0.0	0.0		
S Total TCDD					8.632	8.632	0.0446	0.0446		
D 13C-1,2,3,7,8-PeCDF	22.328	123090244	1.52	0.9696	103.8	103.8	0.7672	0.7672	104	
1,2,3,7,8-PeCDF	22.342	67078766	1.59	1.1627	46.9	46.9	0.5510	0.5510	93.74	
D 13C-2,3,4,7,8-PeCDF	23.664	119355568	1.55							
2,3,4,7,8-PeCDF	23.692	66091023	1.59	1.1395	47.1	47.1	0.5621	0.5621	94.24	
A F1 PeCDFs	19.955						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.100						0.0	0.0		
S Total PeCDF					94.0	94.0	0.5565	0.5565		
D 13C-1,2,3,7,8-PeCDD	24.387	96618788	1.59	0.7588	104.2	104.2	0.3930	0.3930	104	
1,2,3,7,8-PeCDD	24.415	44775029	1.58	0.9490	48.8	48.8	0.2692	0.2692	97.67	
A Non-2,3,7,8-sub-PeCDD	23.303						0.0	0.0		
S Total PeCDD					48.8	48.8	0.2692	0.2692		
D 13C-1,2,3,4,7,8-HxCDF	30.474	85676357	0.51	0.9644	95.8	95.8	1.603	1.603	95.85	
1,2,3,4,7,8-HxCDF	30.500	56515809	1.27	1.4012	47.1	47.1	0.8574	0.8574	94.15	
D 13C-1,2,3,6,7,8-HxCDF	30.660	114339785	0.52							
1,2,3,6,7,8-HxCDF	30.687	71939159	1.26	1.6951	49.5	49.5	0.7088	0.7088	99.07	
D 13C-2,3,4,6,7,8-HxCDF	31.499	99831910	0.52							
2,3,4,6,7,8-HxCDF	31.512	63300710	1.25	1.5205	48.6	48.6	0.7901	0.7901	97.18	
D 13C-1,2,3,7,8,9-HxCDF	32.297	90797669	0.52							
1,2,3,7,8,9-HxCDF	32.311	55294102	1.27	1.4099	45.8	45.8	0.8521	0.8521	91.55	
A Non-2,3,7,8-sub-HxCDF	30.167						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					191.0	191.0	0.8021	0.8021		
* 13C-1,2,3,7,8,9-HxCDD	32.111	92691785	1.25	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.685	60744006	1.24							
1,2,3,4,7,8-HxCDD	31.698	35671967	1.26	0.9505	46.0	46.0	0.4549	0.4549	92.10	
D 13C-1,2,3,6,7,8-HxCDD	31.791	81505334	1.25	0.8791	100.0	100.0	0.7261	0.7261	100	
1,2,3,6,7,8-HxCDD	31.805	48787709	1.28	1.2343	48.5	48.5	0.3503	0.3503	96.99	
1,2,3,7,8,9-HxCDD	32.124	47799470	1.26	1.2467	47.0	47.0	0.3468	0.3468	94.08	
A Non-2,3,7,8-sub-HxCDD	30.793						0.0	0.0		
S Total HxCDD					141.6	141.6	0.3840	0.3840		
1,2,3,4,6,7,8-HpCDF	33.722	53333989	1.05	1.6399	47.7	47.7	0.8285	0.8285	95.33	
D 13C-1,2,3,4,6,7,8-HpCDF	33.722	68230832	0.43	0.7618	96.6	96.6	1.984	1.984	96.63	
D 13C-1,2,3,4,7,8,9-HpCDF	34.791	54611082	0.43							
1,2,3,4,7,8,9-HpCDF	34.803	40588793	1.05	1.3302	44.7	44.7	1.021	1.021	89.44	
A Non-2,3,7,8-sub-HpCDF	34.268						0.0	0.0		
S Total HpCDF					92.4	92.4	0.9250	0.9250		
D 13C-1,2,3,4,6,7,8-HpCDD	34.500	68626077	1.04	0.7762	95.4	95.4	1.429	1.429	95.39	
1,2,3,4,6,7,8-HpCDD	34.512	32372305	1.03	0.9932	47.5	47.5	0.4331	0.4331	94.99	
A Non-2,3,7,8-sub-HpCDD	34.238						0.0	0.0		
S Total HpCDD					47.5	47.5	0.4331	0.4331		
D 13C-OCDD	36.834	102141520	0.89	0.6314	174.5	174.5	0.6784	0.6784	87.26	
OCDF	36.930	67448163	0.90	1.3460	98.1	98.1	0.1972	0.1972	98.12	
OCDD	36.834	51879131	0.90	1.0604	95.8	95.8	0.1884	0.1884	95.79	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 13-Nov-2017 23:30:55 ALS Bottle#: 2 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111317B CS-4 HRDXNL4_00060
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 14-Nov-2017 11:59:07 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK018

First Level Reviewer: stephensk Date: 14-Nov-2017 08:28:43

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.823	17.823	0		53315475	13039379	27195	67987	479		
333.9339	17.823	17.823	0		68933507	16908828	32095	80237	527	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.309	17.309	0	0.971	70612046	15736544	42586	106465	370		
317.9389	17.309	17.309	0	0.971	91474096	20567414	24199	60497	850	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.324	17.324	0	1.001	7150697	1570203	2519	6297	623		
305.8987	17.324	17.324	0	1.001	9509374	2212329	3675	9187	602	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.037						2519	6297			
305.8987	17.037						3675	9187			
13C-2,3,7,8-TCDD											
331.9368	18.020	18.020	0	1.011	58863194	11985625	27195	67987	441		
333.9339	18.020	18.020	0	1.011	76324150	15760480	32095	80237	491	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.035	18.035	0	1.012	13101601	2895917	4628	11570	626		
2,3,7,8-TCDD											
319.8965	18.035	18.035	0	1.001	5065681	1083027	2548	6370	425		
321.8936	18.035	18.035	0	1.001	6595184	1444252	2400	6000	602	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.491						2548	6370			
321.8936	17.491						2400	6000			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.328	22.328	0	1.253	74310172	11995643	54165	135412	221		
353.8970	22.328	22.328	0	1.253	48780072	7981736	34949	87372	228	1.52(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.342	22.342	0	1.001	41189533	6814106	30514	76285	223		
341.8567	22.342	22.342	0	1.001	25889233	4367209	20675	51687	211	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.664	23.664	0	1.328	72460185	11203905	54165	135412	207		
353.8970	23.664	23.664	0	1.328	46895383	7394911	34949	87372	212	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.692	23.692	0	1.061	40545784	6335468	30514	76285	208		
341.8567	23.692	23.692	0	1.061	25545239	3941361	20675	51687	191	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.955						517	1292			
341.8567	19.955						1596	3990			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.100						30514	76285			
341.8567	23.100						20675	51687			
13C-1,2,3,7,8-PeCDD											
367.8949	24.387	24.387	0	1.368	59309622	8678982	21775	54437	399		
369.8919	24.387	24.387	0	1.368	37309166	5395236	13946	34865	387	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.415	24.415	0	1.001	27388587	3945985	8668	21670	455		
357.8516	24.401	24.415	-1	1.001	17386442	2531670	5712	14280	443	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.303						8668	21670			
357.8516	23.303						5712	14280			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.474	30.474	0	0.949	28993701	5382874	40057	100142	134		
385.8610	30.474	30.474	0	0.949	56682656	10388191	76836	192090	135	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.500	30.500	0	1.001	31593925	5871669	42428	106070	138		
375.8178	30.500	30.500	0	1.001	24921884	4596567	33365	83412	138	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.660	30.660	0	0.955	39110091	6301406	40057	100142	157		
385.8610	30.660	30.660	0	0.955	75229694	12051643	76836	192090	157	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.687	30.687	0	1.007	40164497	6396440	42428	106070	151		
375.8178	30.687	30.687	0	1.007	31774662	5088550	33365	83412	153	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.499	31.499	0	0.981	34364691	7280981	40057	100142	182		
385.8610	31.485	31.499	-1	0.981	65467219	13893987	76836	192090	181	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.512	31.512	0	1.034	35138045	7641426	42428	106070	180		
375.8178	31.512	31.512	0	1.034	28162665	6031633	33365	83412	181	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.297	32.297	0	1.006	30986592	6693734	40057	100142	167		
385.8610	32.297	32.297	0	1.006	59811077	12652309	76836	192090	165	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.311	32.311	0	1.060	30938528	6635543	42428	106070	156		
375.8178	32.311	32.311	0	1.060	24355574	5261009	33365	83412	158	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.167						42428	106070			
375.8178	30.167						33365	83412			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.111	32.111	0		51418899	10458255	29395	73487	356		
403.8529	32.111	32.111	0		41272886	8448372	18879	47197	448	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.685	31.685	0	0.987	33627868	8597045	29395	73487	292		
403.8529	31.685	31.685	0	0.987	27116138	6940667	18879	47197	368	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.698	31.698	0	0.997	19887038	5238512	15695	39237	334		
391.8127	31.698	31.698	0	0.997	15784929	4117685	13389	33472	308	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.791	31.791	0	0.990	45233360	9301257	29395	73487	316		
403.8529	31.791	31.791	0	0.990	36271974	7516518	18879	47197	398	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.805	31.805	0	1.000	27381027	5670652	15695	39237	361		
391.8127	31.805	31.805	0	1.000	21406682	4426649	13389	33472	331	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.124	32.124	0	1.010	26639945	5560222	15695	39237	354		
391.8127	32.124	32.124	0	1.010	21159525	4444915	13389	33472	332	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.793						15695	39237			
391.8127	30.793						13389	33472			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.722	33.722	0	1.000	27375365	7233246	49128	122820	147		
409.7789	33.722	33.722	0	1.000	25958624	7079945	51039	127597	139	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.722	33.722	0	1.050	20534139	5642621	35482	88705	159		
419.8220	33.722	33.722	0	1.050	47696693	12787789	78845	197112	162	0.43(0.37-0.51)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.791	34.791	0	1.083	16387042	4096173	35482	88705	115		
419.8220	34.791	34.791	0	1.083	38224040	9318105	78845	197112	118	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.803	34.803	0	1.032	20801348	5168555	49128	122820	105		
409.7789	34.803	34.803	0	1.032	19787445	4847679	51039	127597	95	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.268						49128	122820			
409.7789	34.268						51039	127597			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.500	34.500	0	1.074	34921768	8444032	40619	101547	208		
437.8140	34.500	34.500	0	1.074	33704309	8318310	43238	108095	192	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.512	34.512	0	1.000	16418642	4120762	16454	41135	250		
425.7737	34.512	34.512	0	1.000	15953663	4027731	12385	30962	325	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.238						16454	41135			
425.7737	34.238						12385	30962			
13C-OCDD											
469.7779	36.834	36.834	0	1.147	48058341	10083251	18459	46147	546		
471.7750	36.834	36.834	0	1.147	54083179	11219913	13934	34835	805	0.89(0.76-1.02)	
OCDF											
441.7428	36.930	36.930	0	1.003	31964885	7004694	3920	9800	1787		
443.7399	36.930	36.930	0	1.003	35483278	7779439	7388	18470	1053	0.90(0.76-1.02)	
OCDD											
457.7377	36.834	36.834	0	1.000	24524595	5110355	4726	11815	1081		
459.7348	36.834	36.834	0	1.000	27354536	5849897	3785	9462	1546	0.90(0.76-1.02)	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

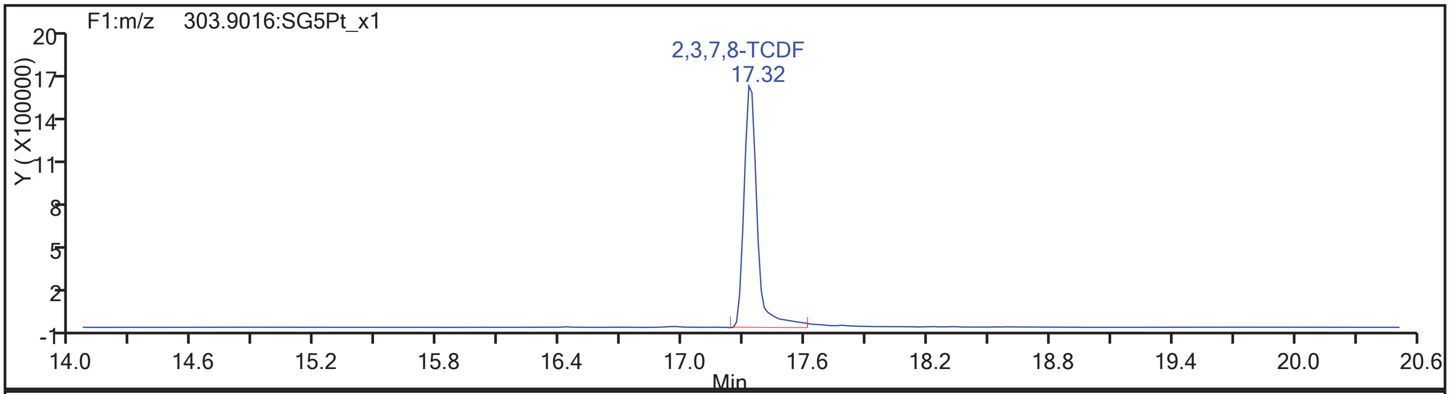
Report Date: 14-Nov-2017 11:59:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

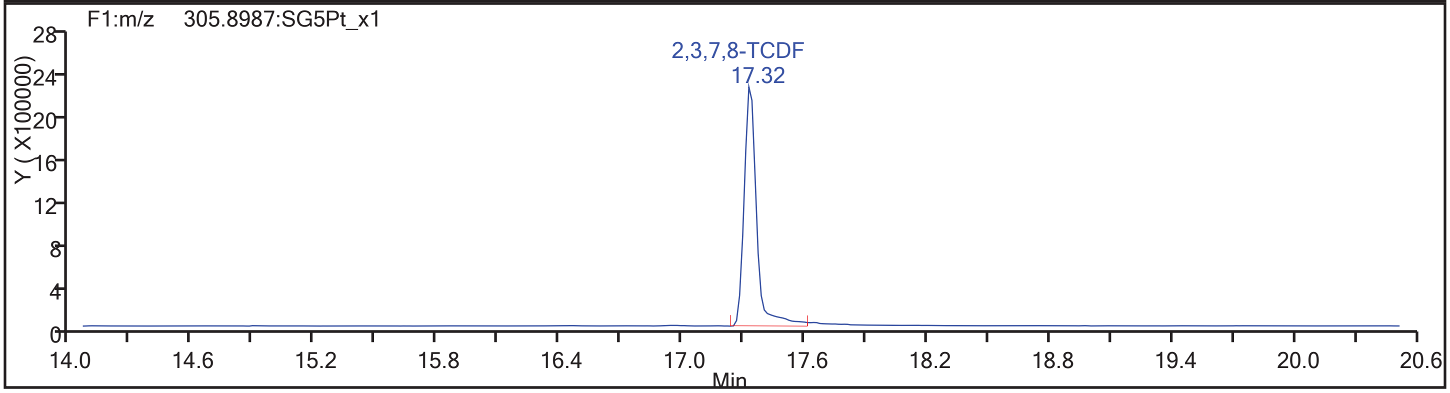
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d

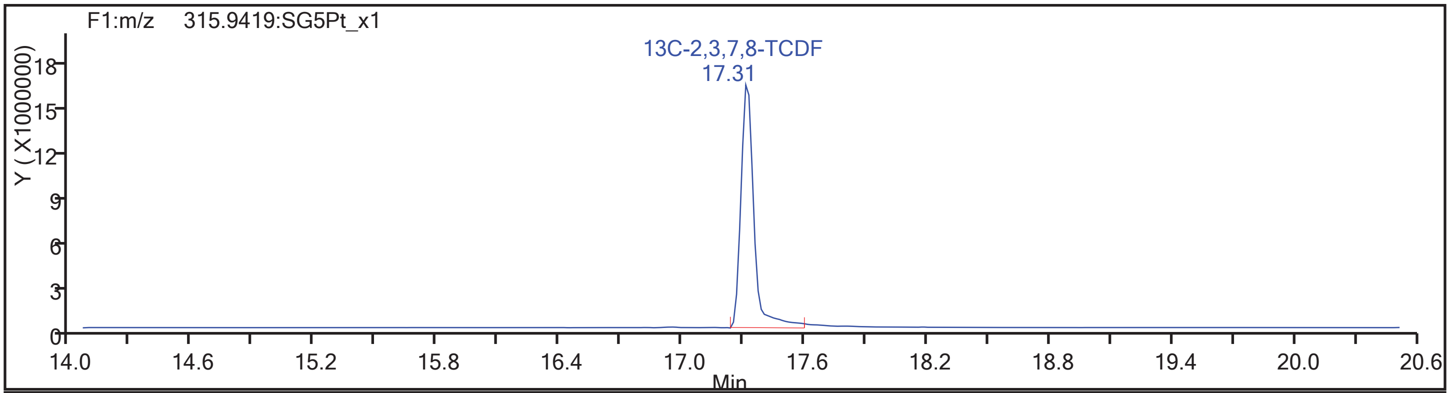
Injection Date:	13-Nov-2017 23:30:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

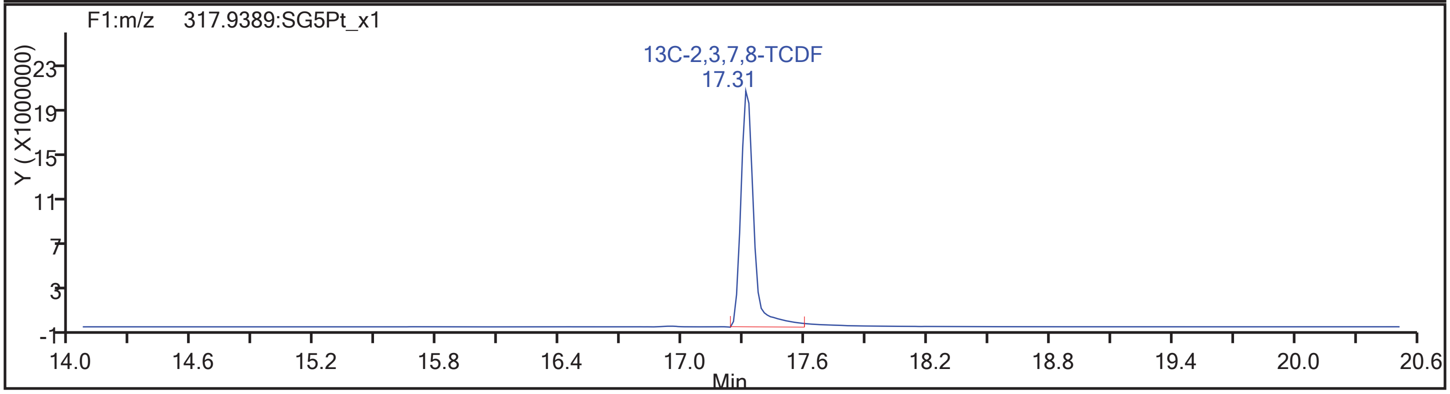
TCDF





TCDF Standards

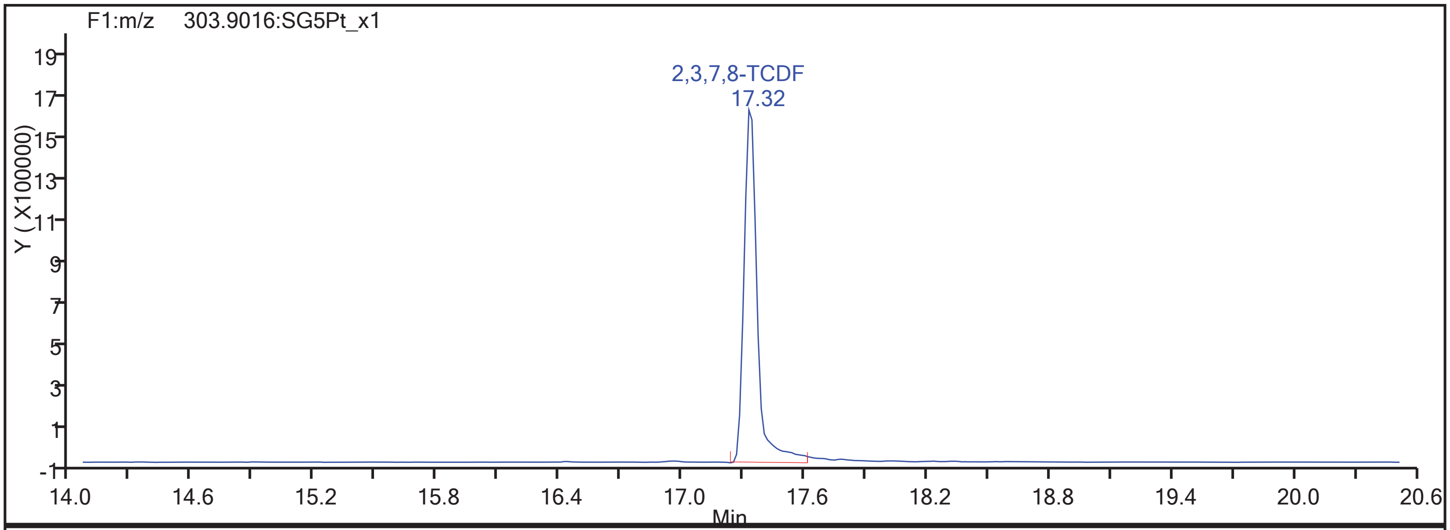


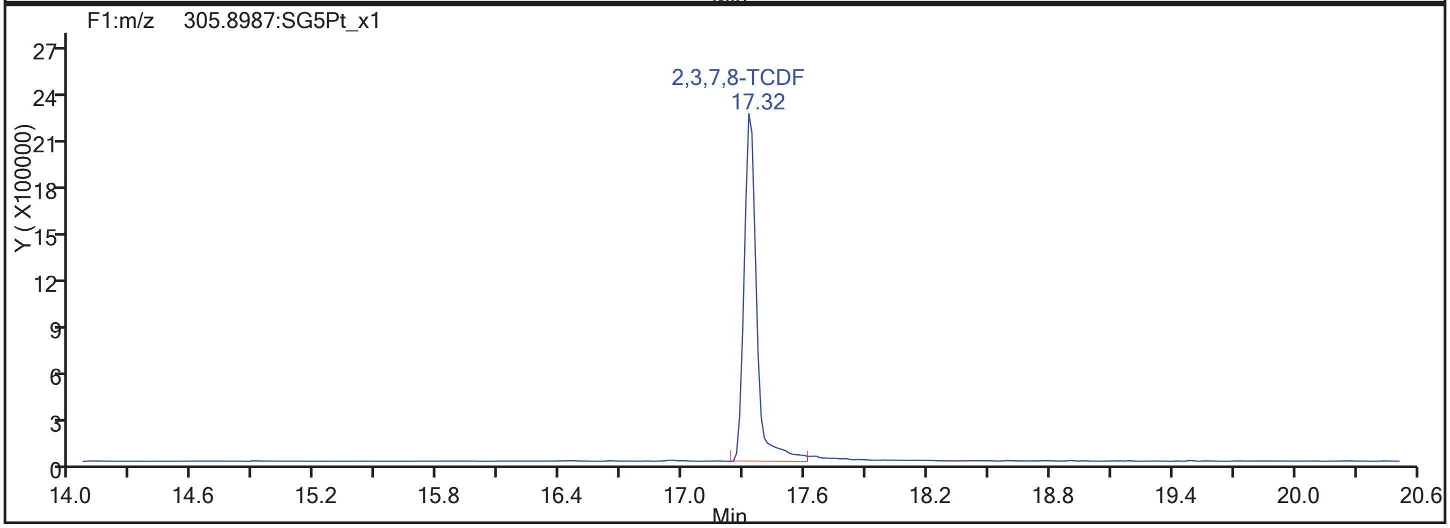


TestAmerica Sacramento

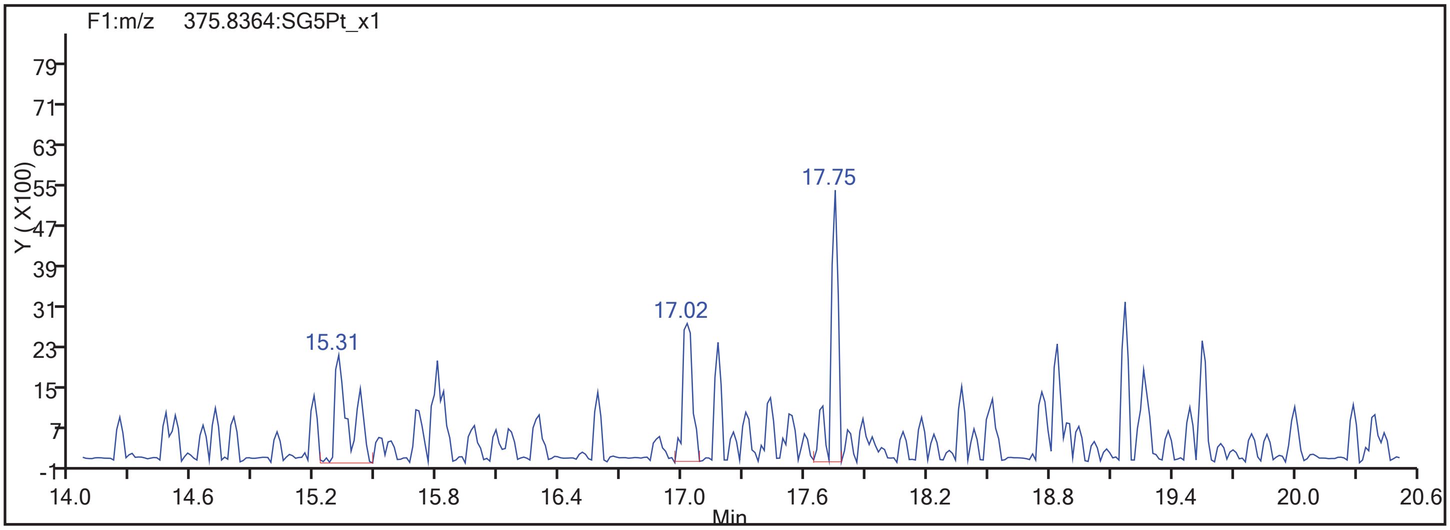
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d		
Injection Date:	13-Nov-2017 23:30:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

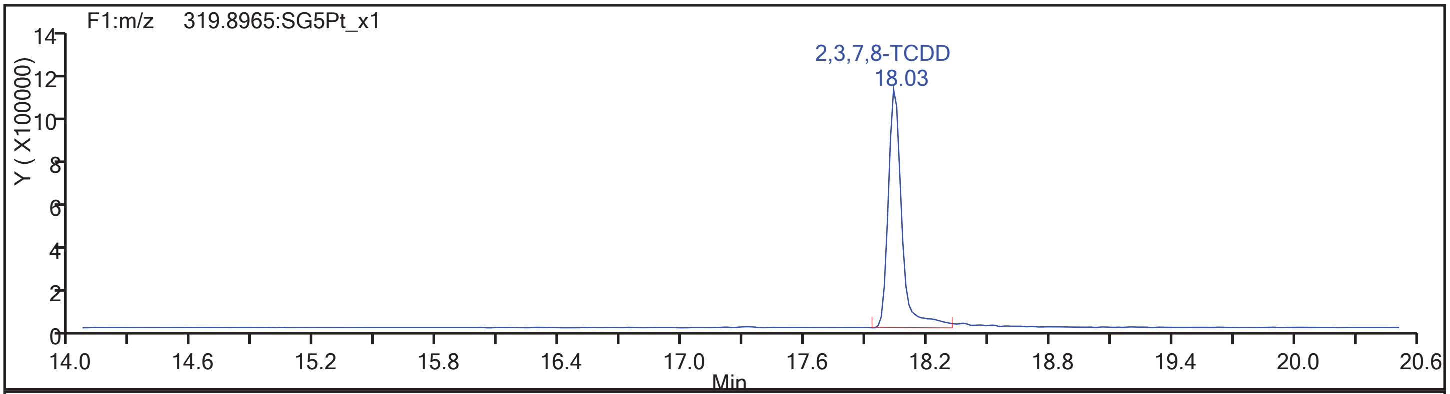


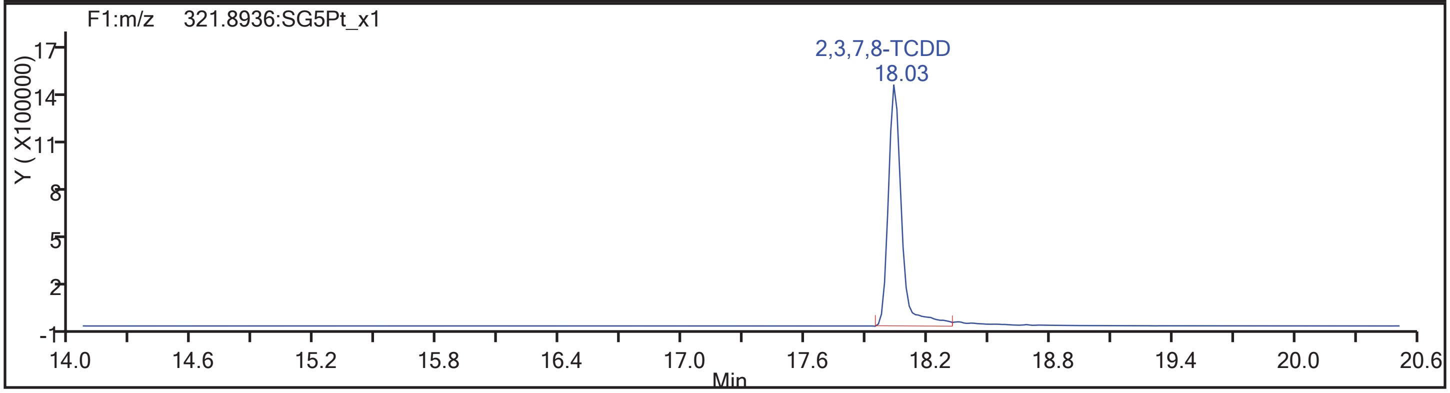
Report Date: 14-Nov-2017 11:59:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

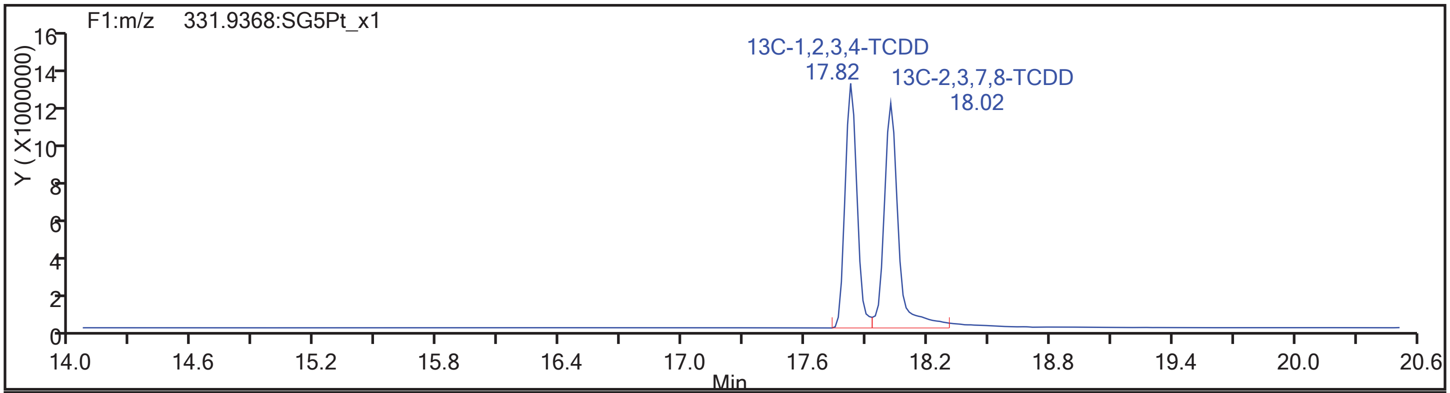
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d		
Injection Date:	13-Nov-2017 23:30:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

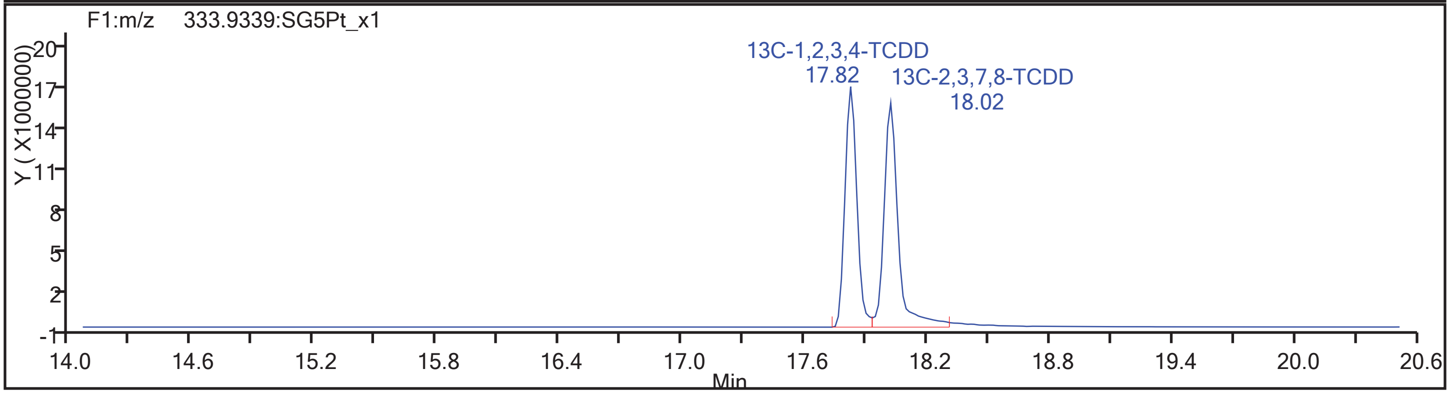
TCDD





TCDD Standards



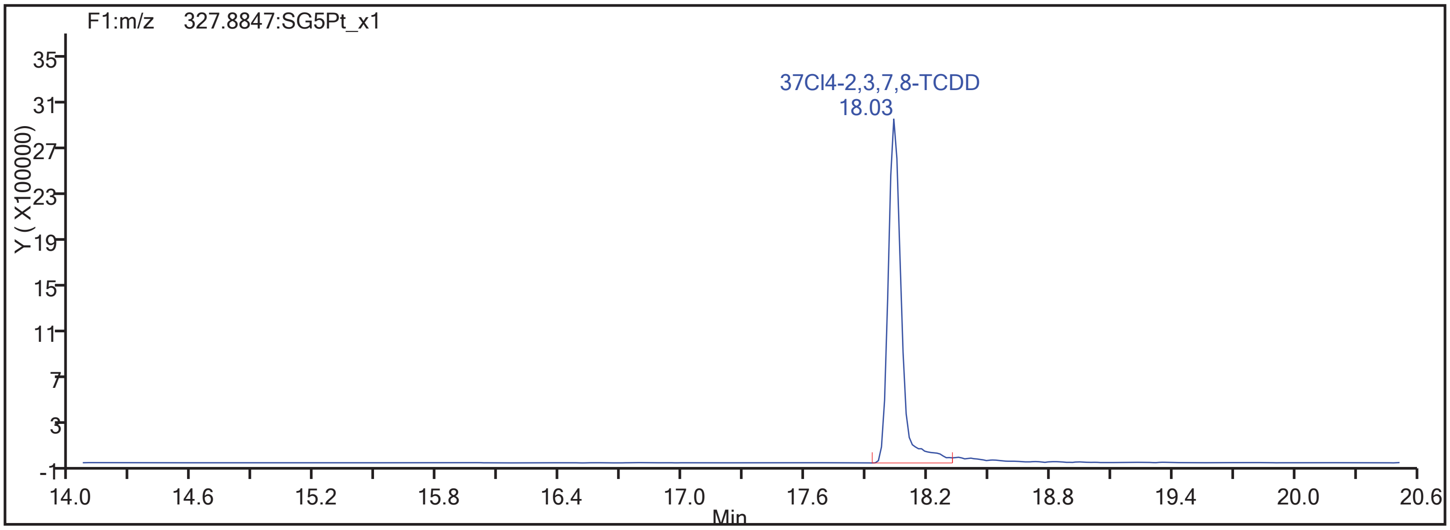


Report Date: 14-Nov-2017 11:59:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

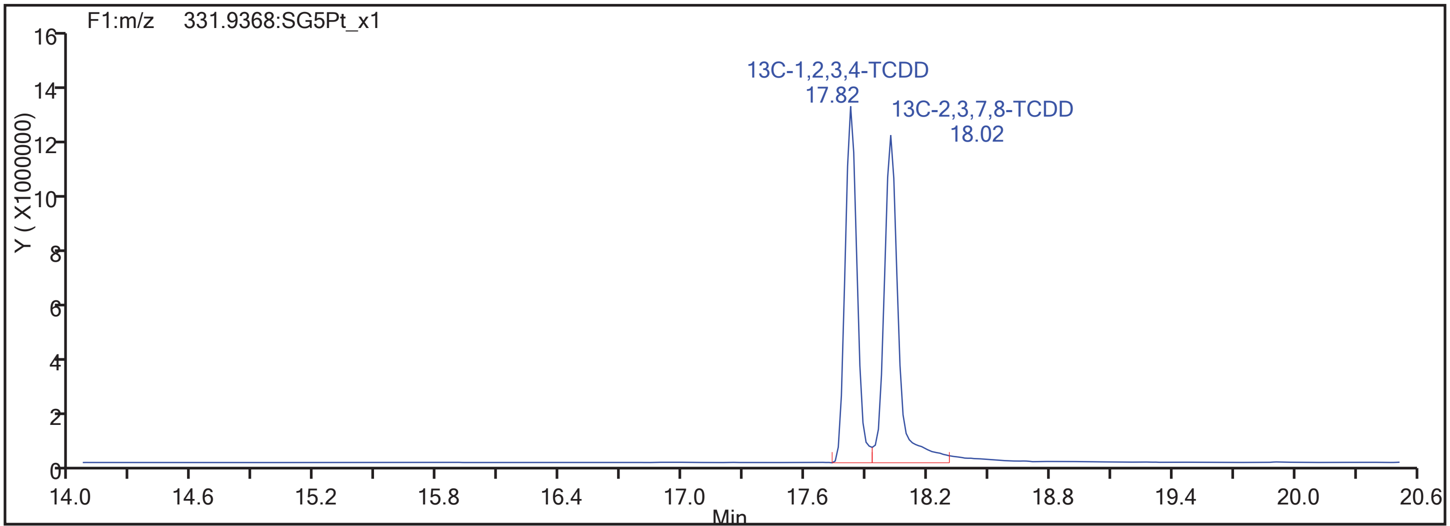
TestAmerica Sacramento

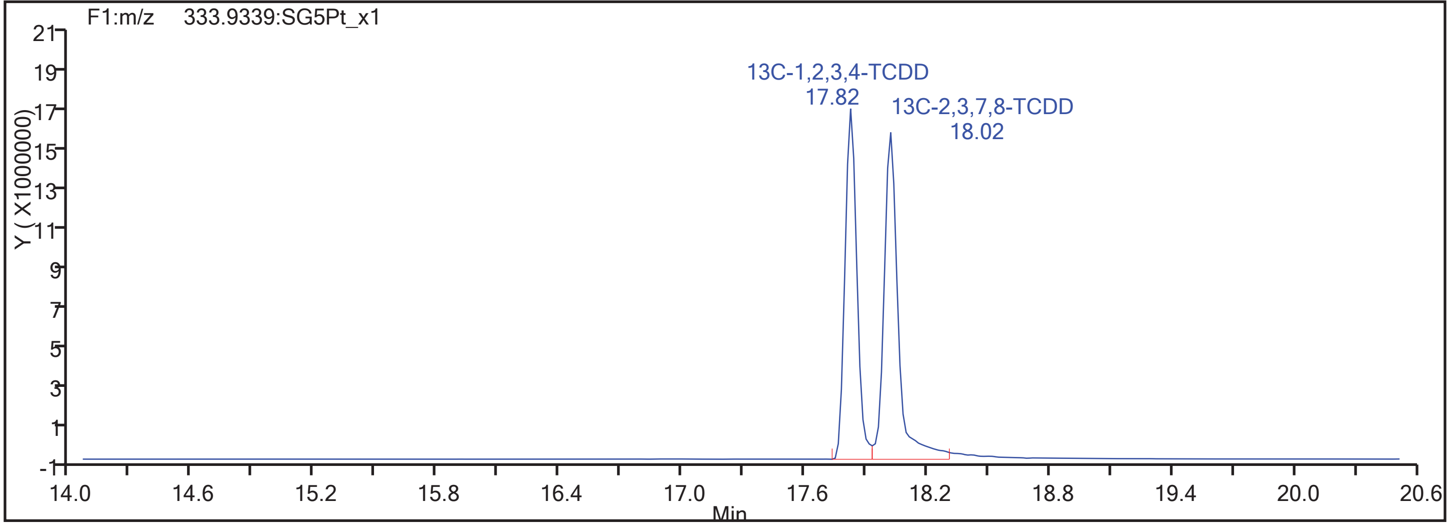
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d		
Injection Date:	13-Nov-2017 23:30:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards

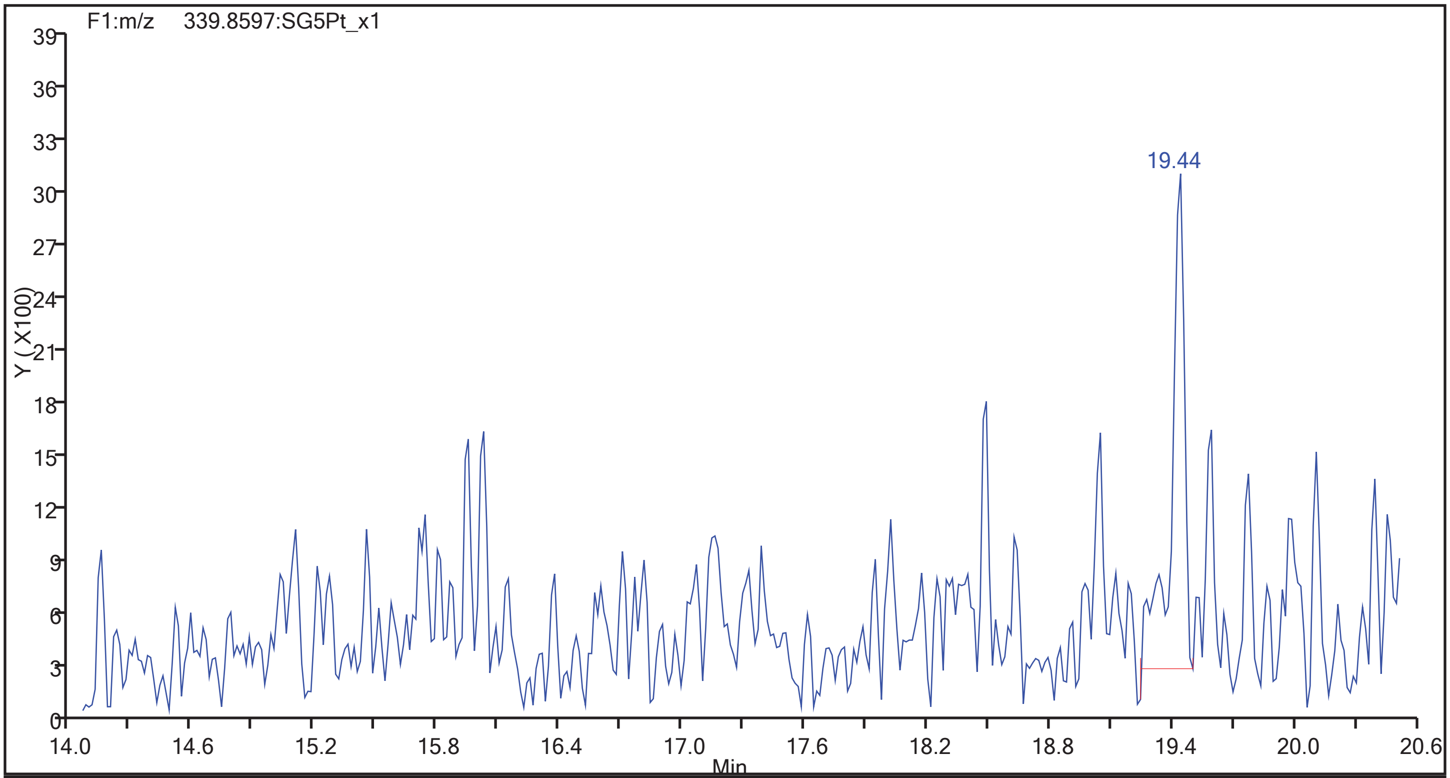


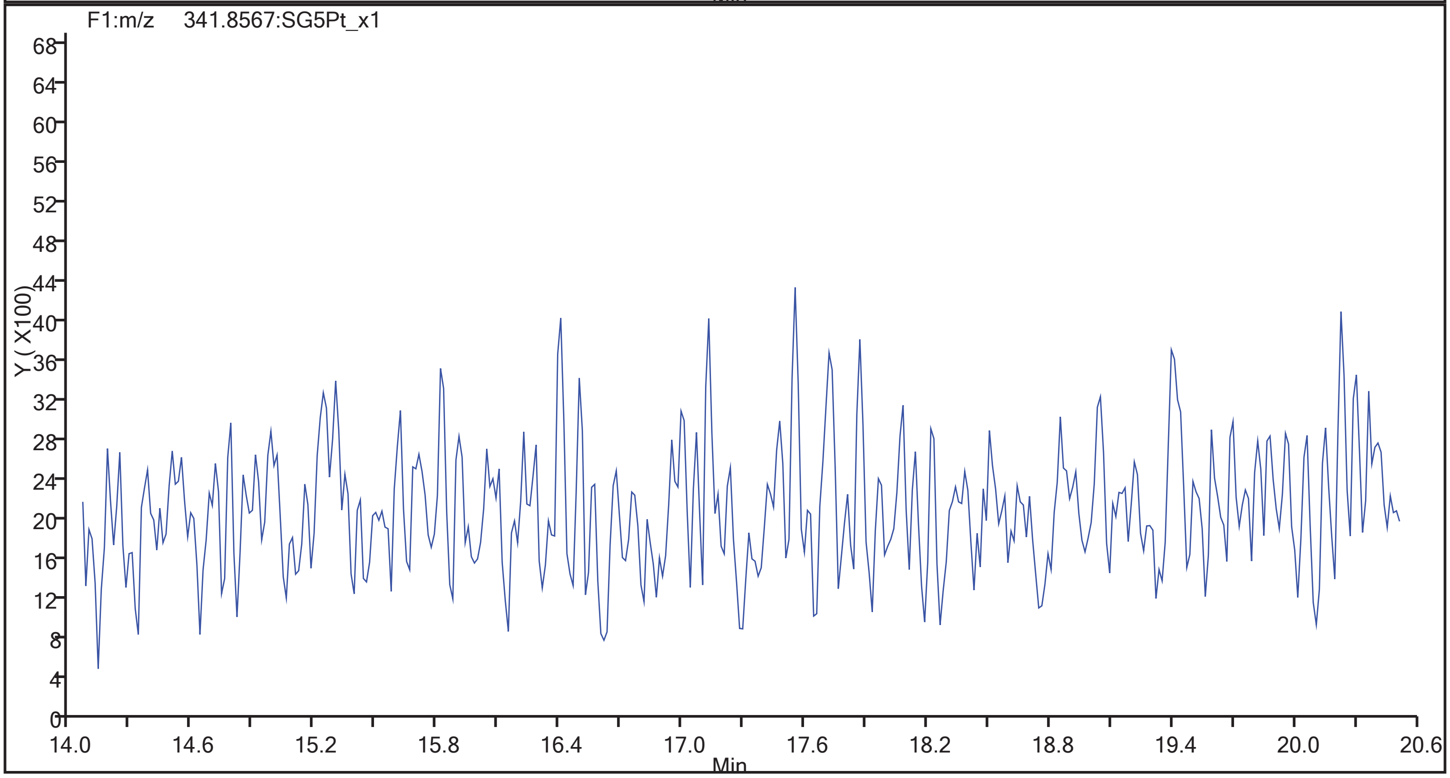


TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d		
Injection Date:	13-Nov-2017 23:30:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



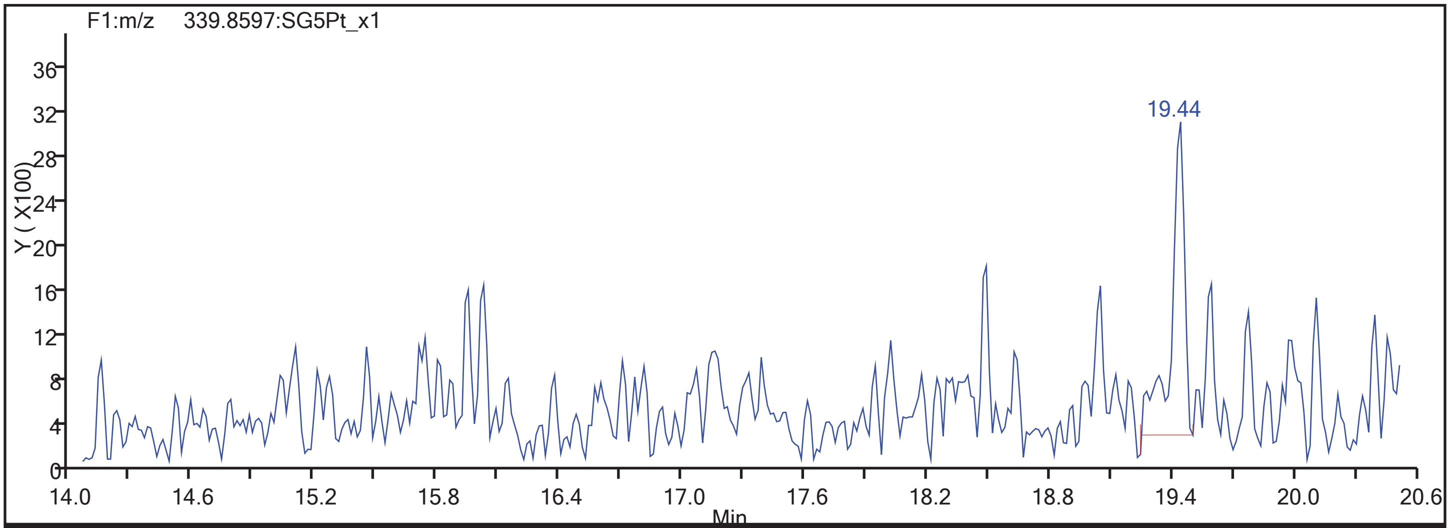


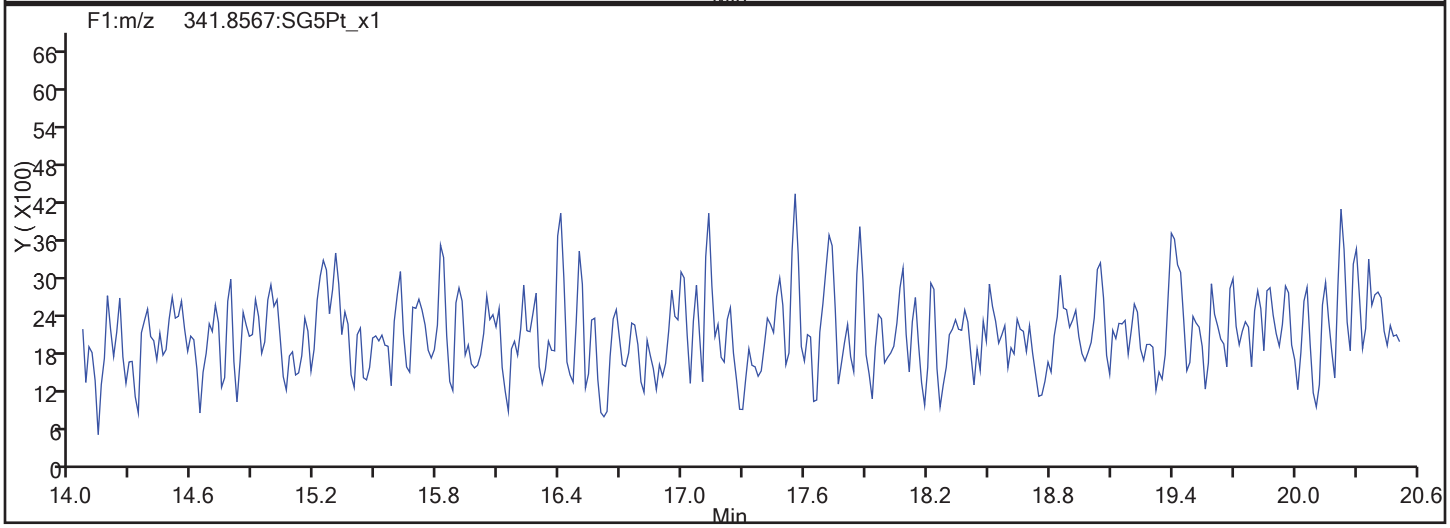
Report Date: 14-Nov-2017 11:59:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

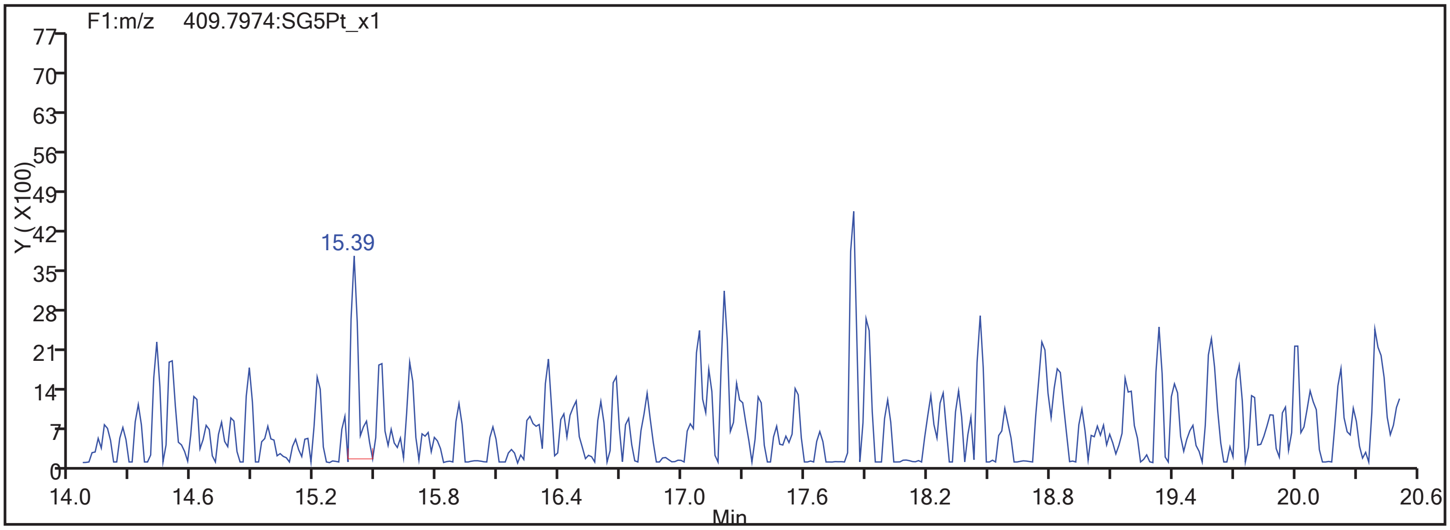
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d
Injection Date: 13-Nov-2017 23:30:55 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194428 Sample Line#: 15
Column Type: DB-5 Column Dia: 0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 14-Nov-2017 11:59:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d

Injection Date: 13-Nov-2017 23:30:55 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

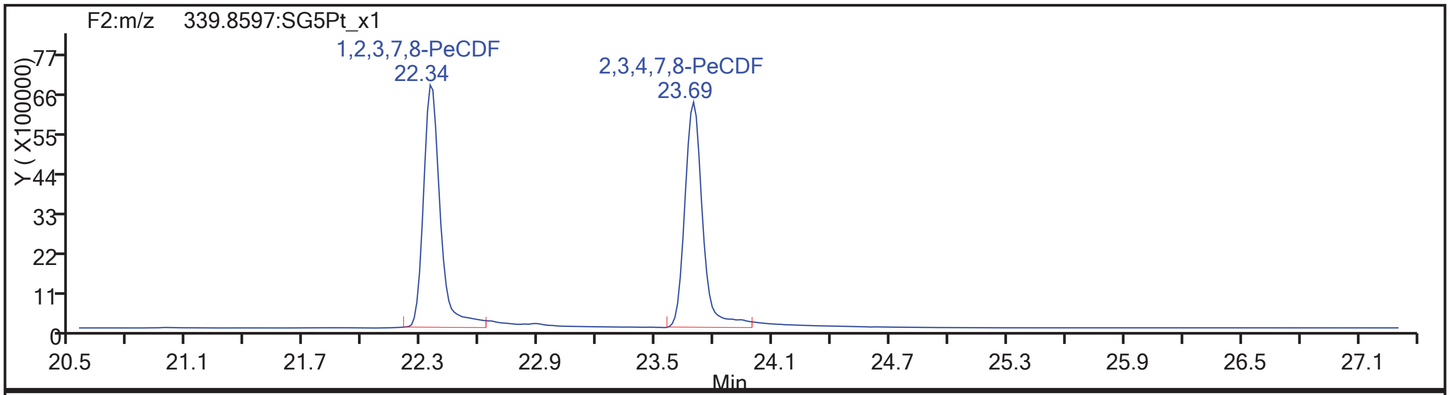
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

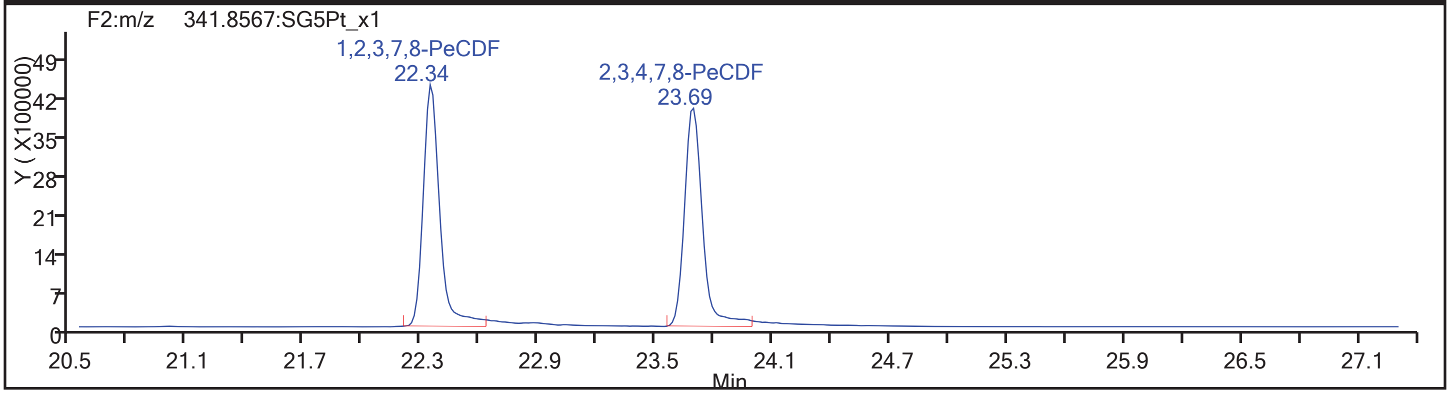
Client ID:

Worklist#: 194428 Sample Line#: 15

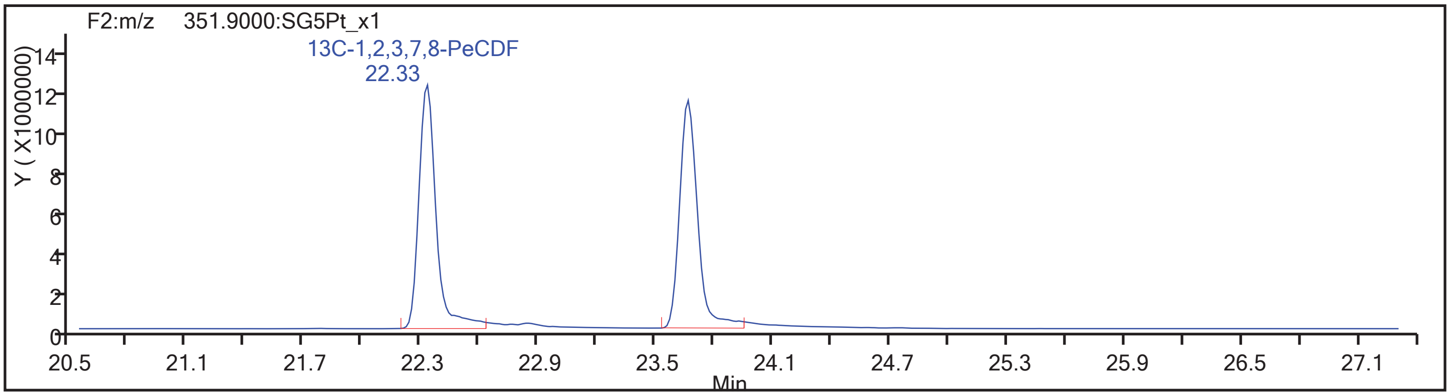
Column Type: DB-5 Column Dia: 0.32 mm

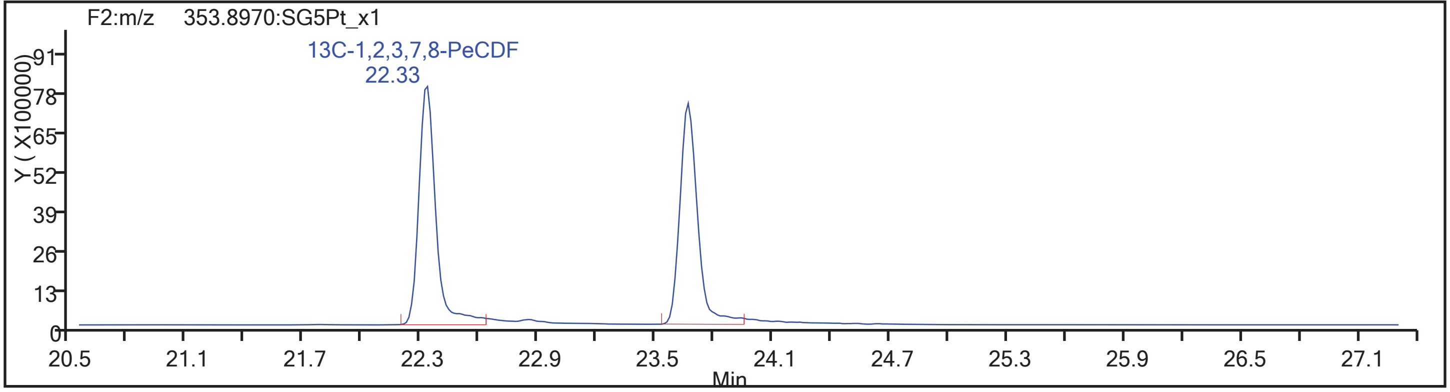
PeCDF





PeCDF Standards





Report Date: 14-Nov-2017 11:59:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d

Injection Date:	13-Nov-2017 23:30:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

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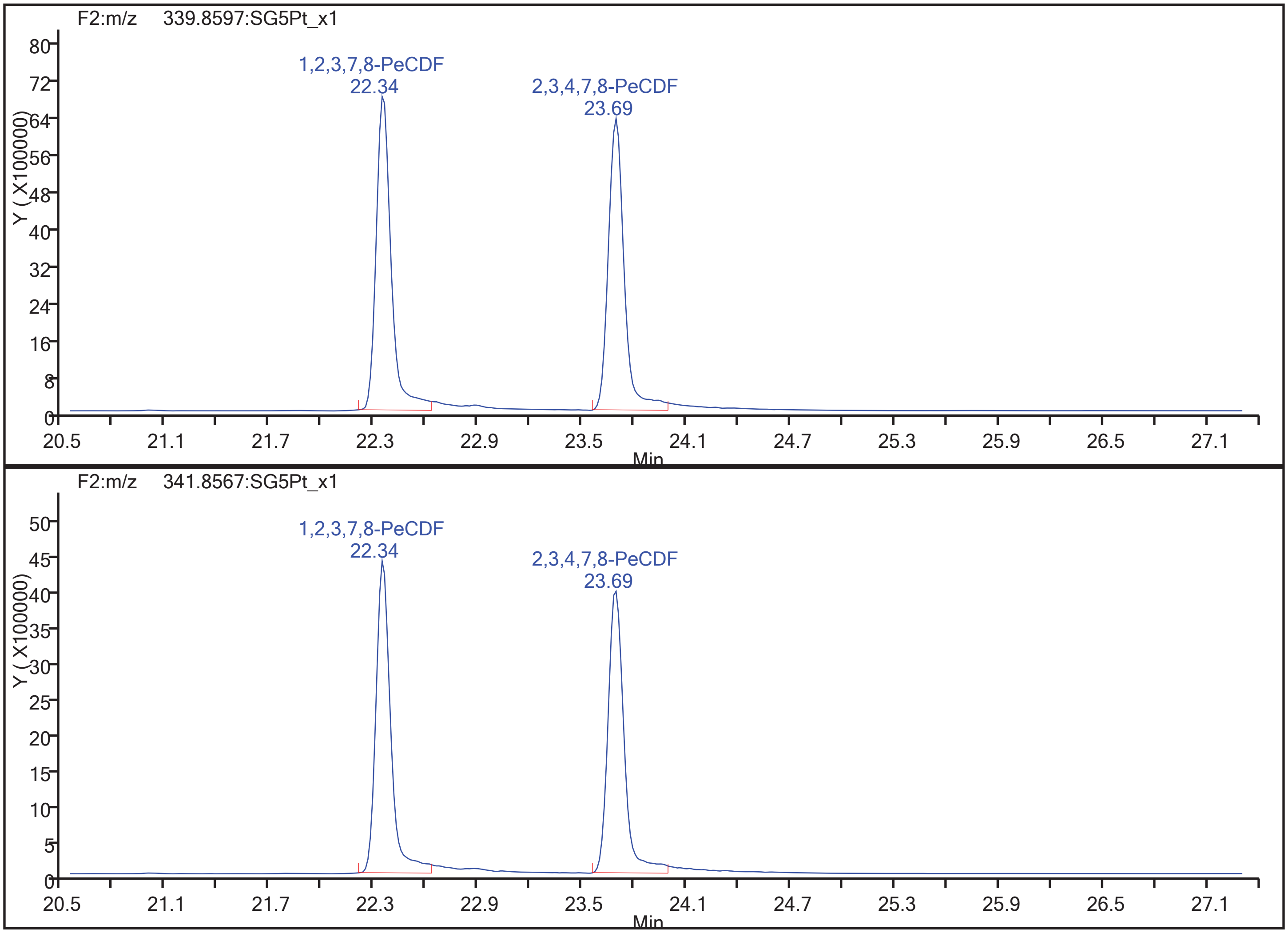

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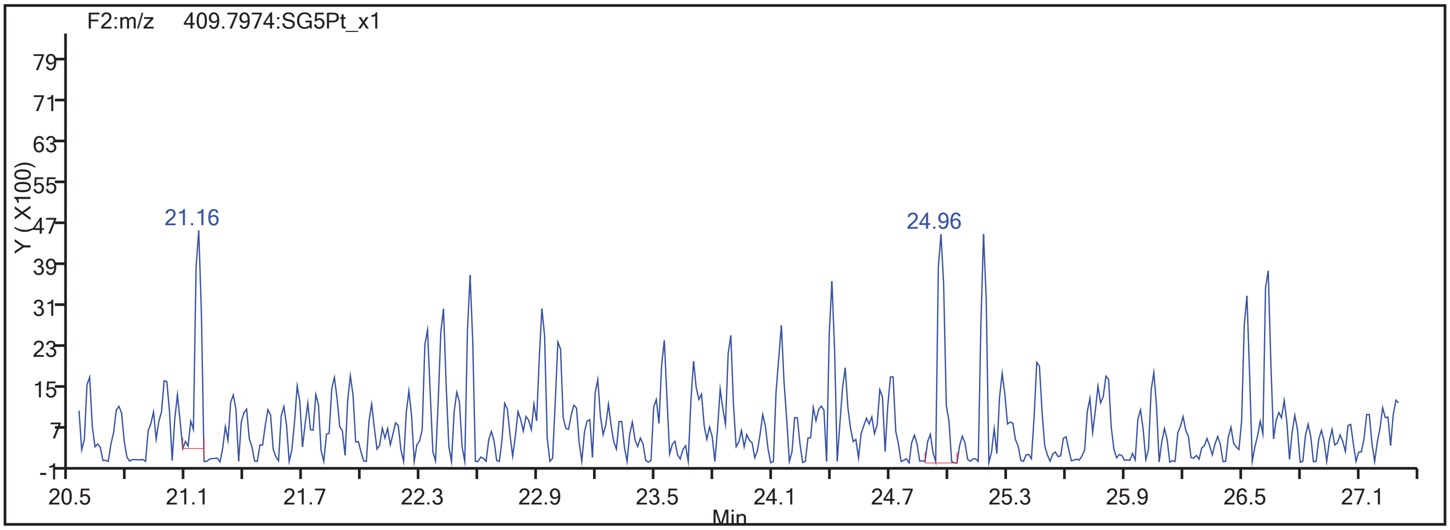

TestAmerica Sacramento

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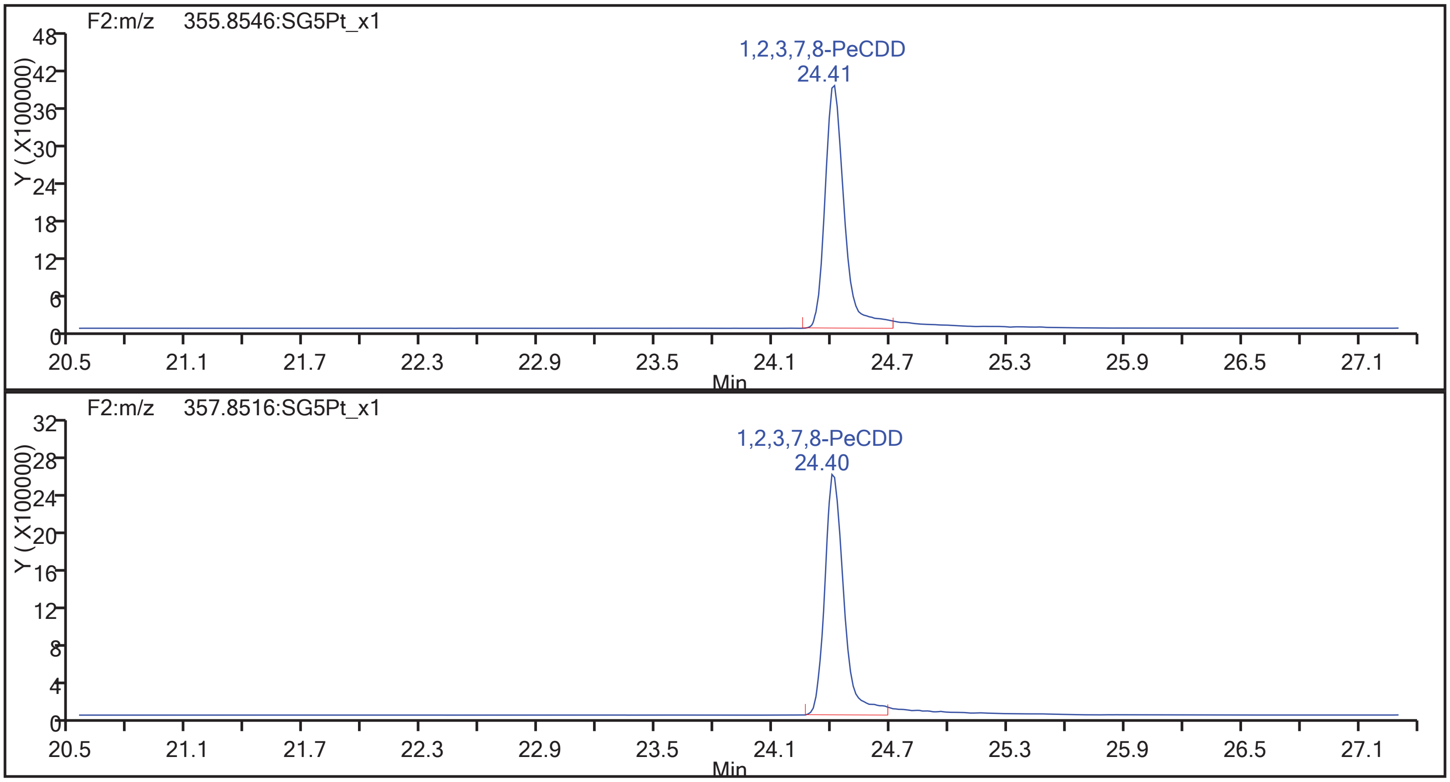

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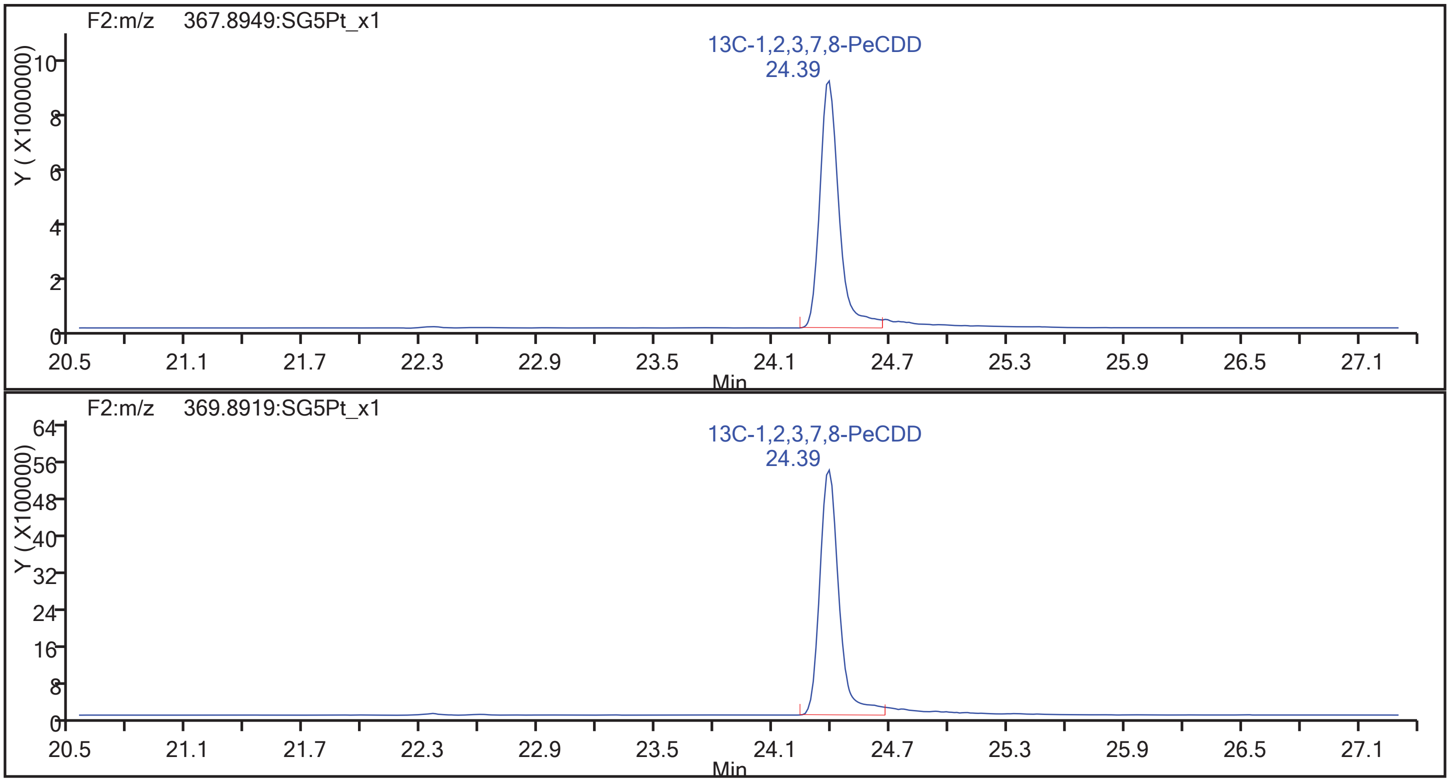

Report Date: 14-Nov-2017 11:59:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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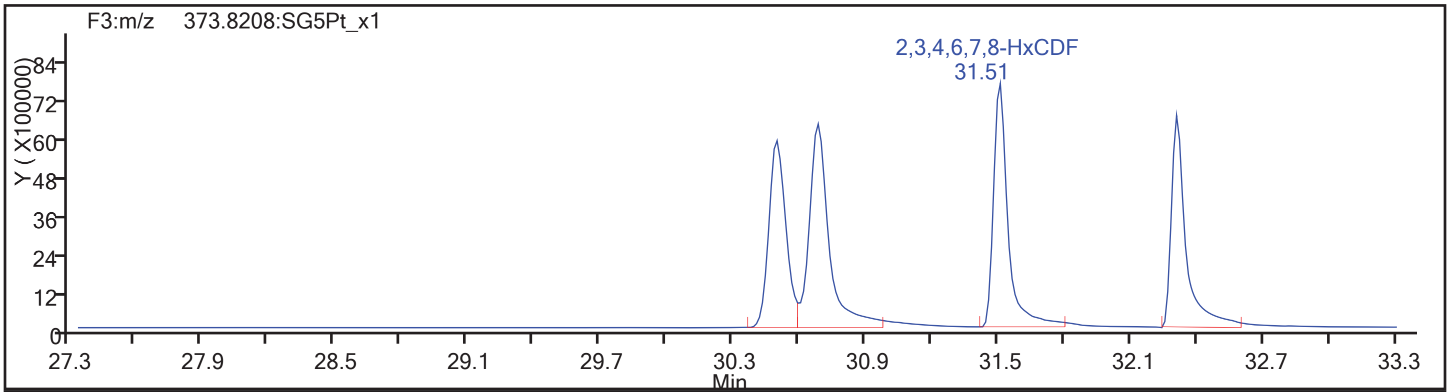
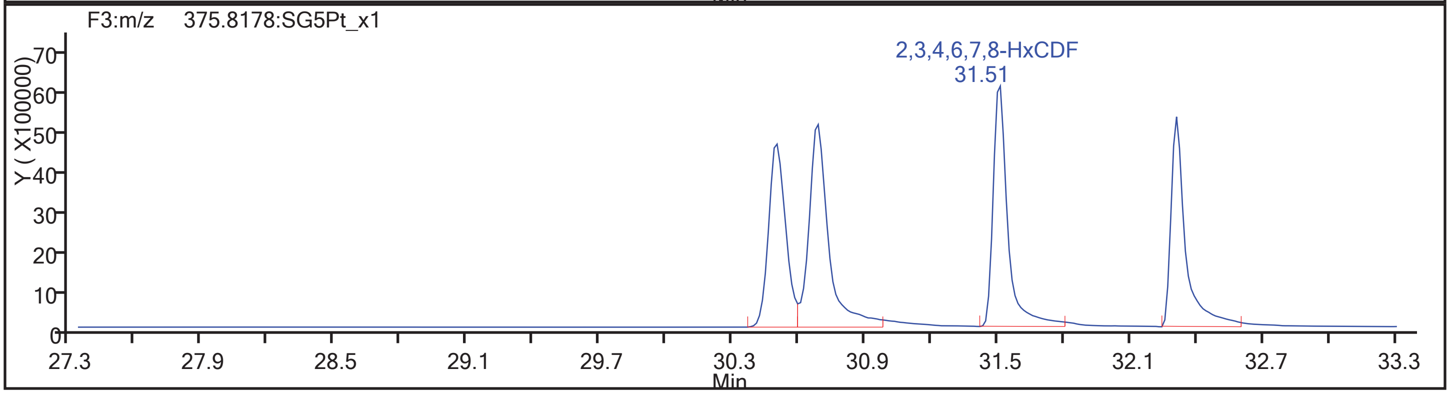
HxCDF





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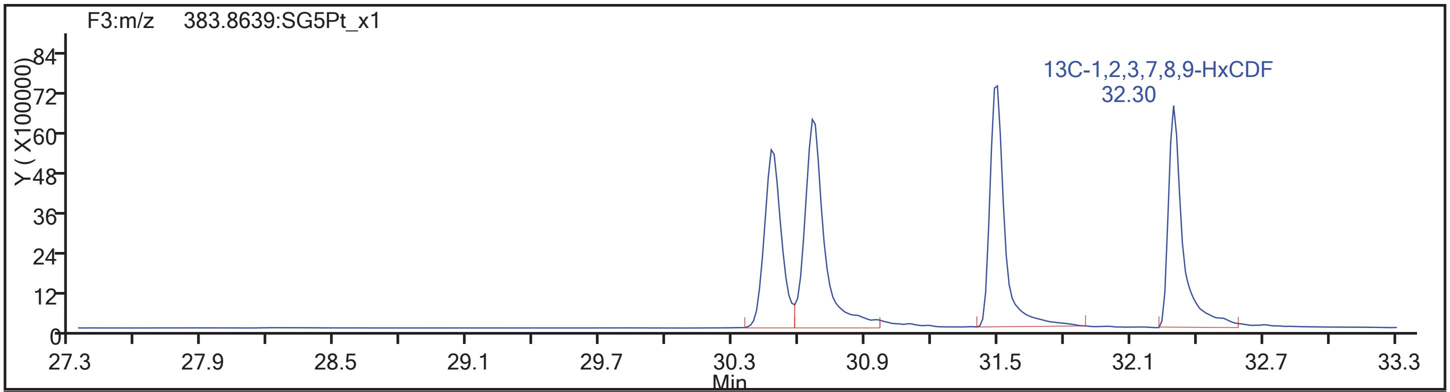

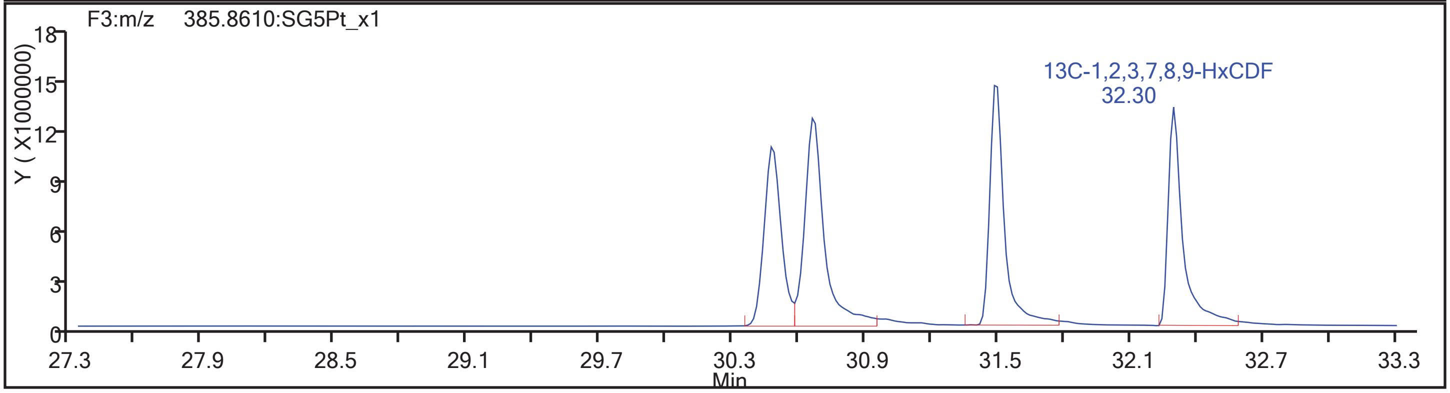

TestAmerica Sacramento

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Worklist#:	194428	Sample Line#:	15
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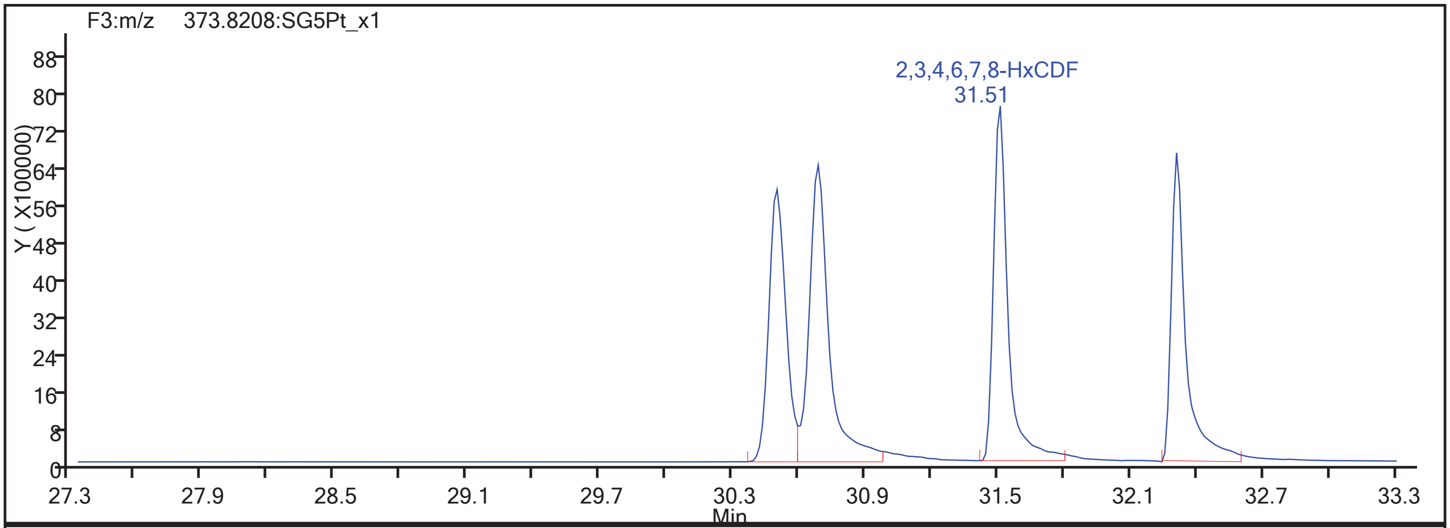
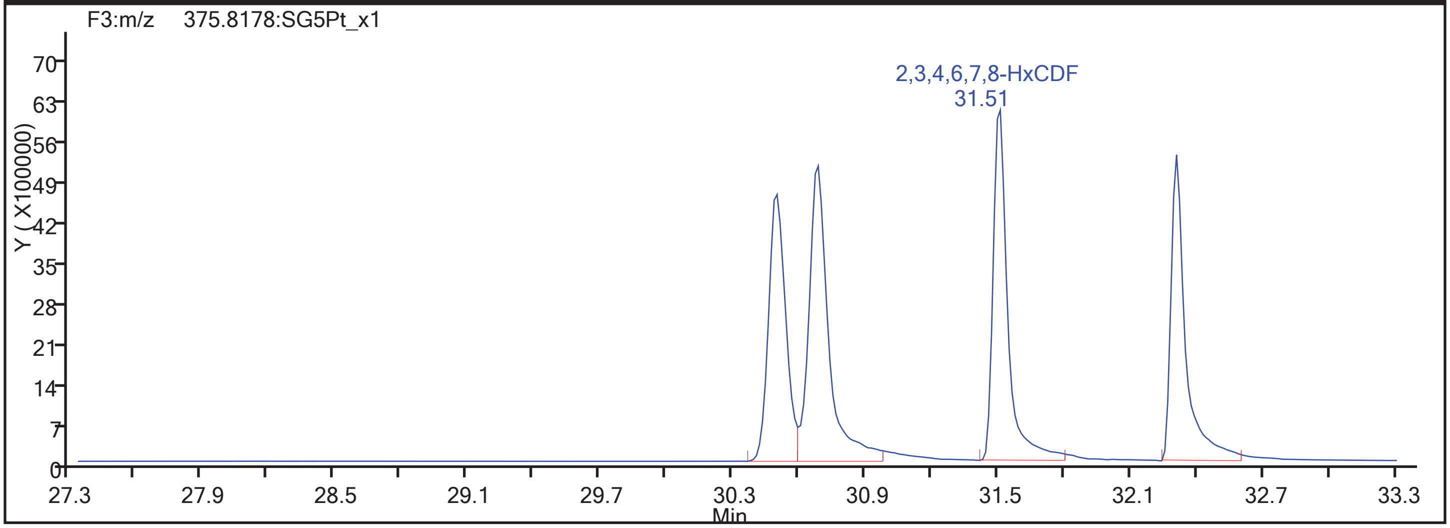
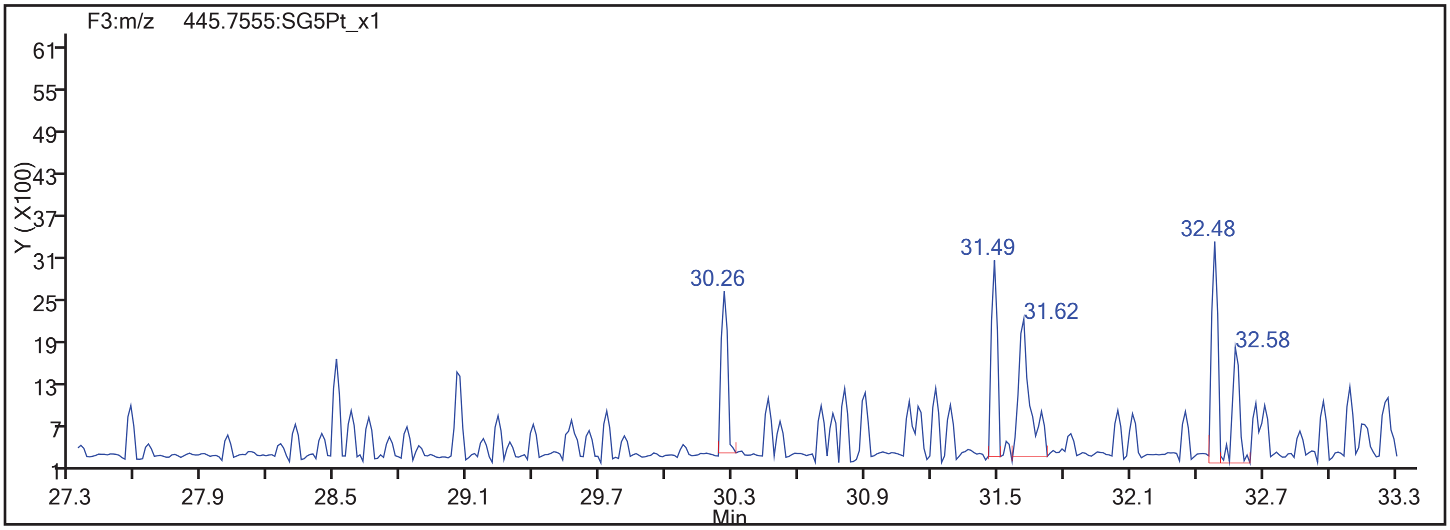




HxCDF Interference Mass



Report Date: 14-Nov-2017 11:59:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d		
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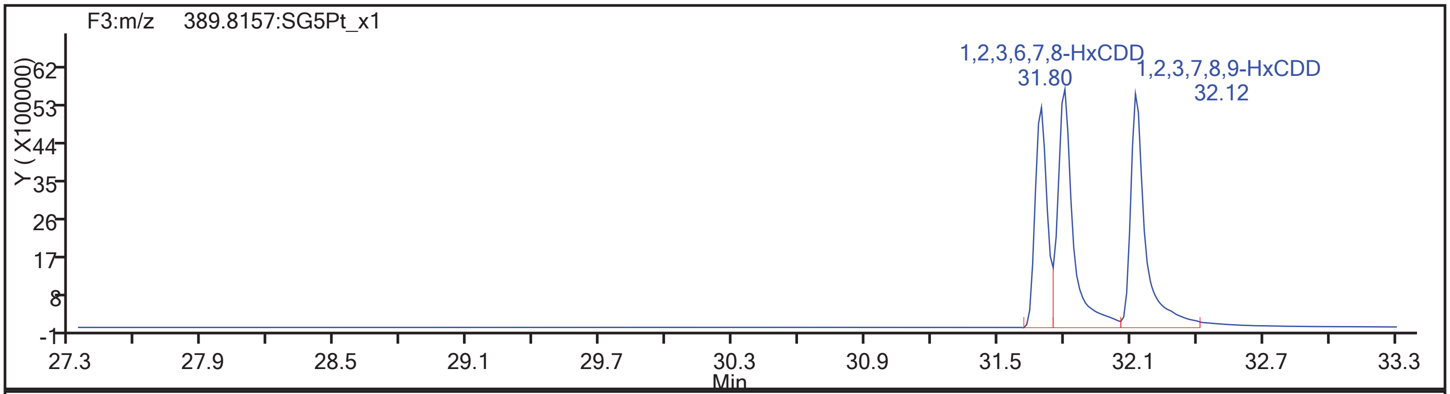
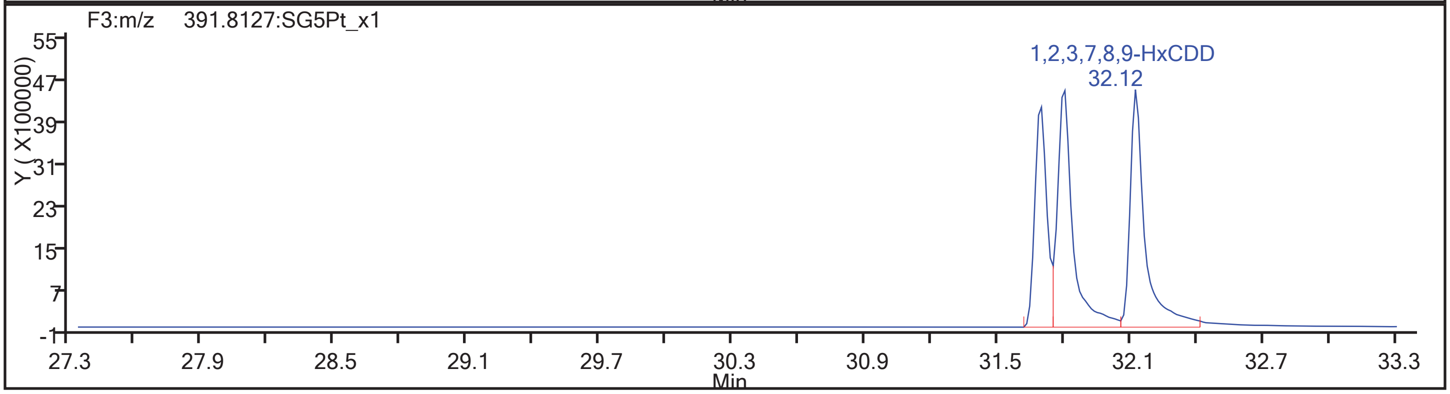
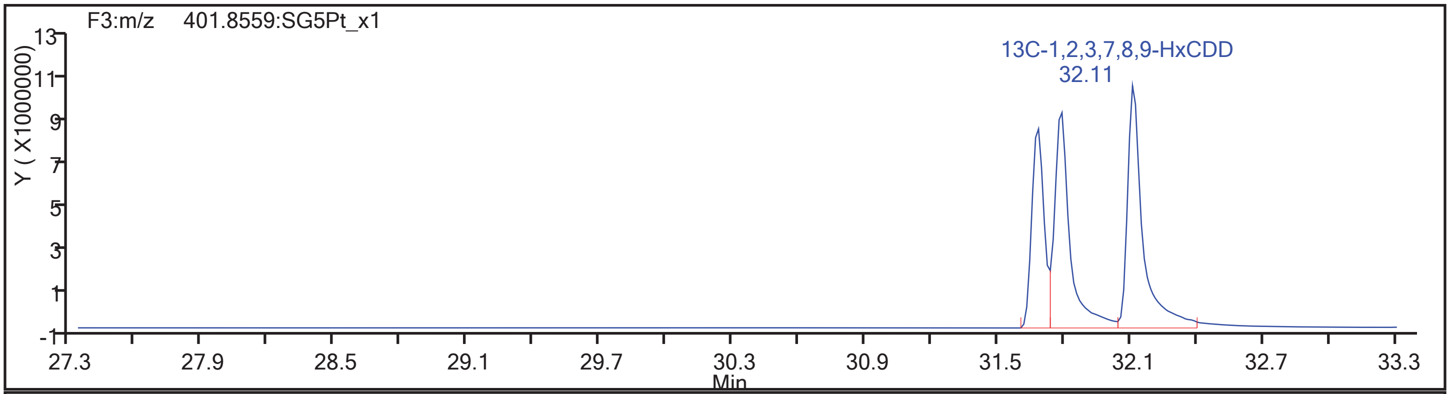
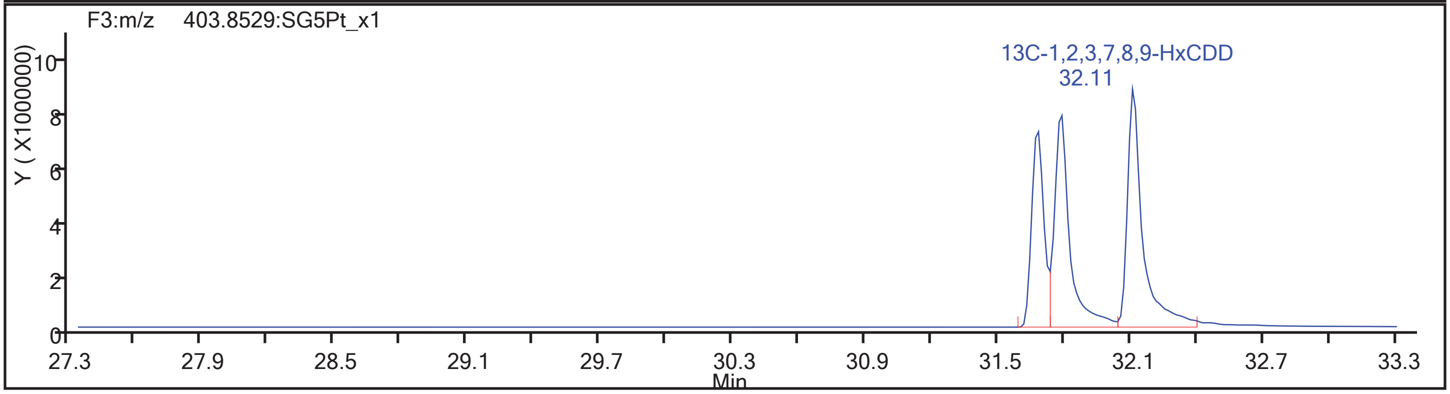




HxCDD Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_15.d		
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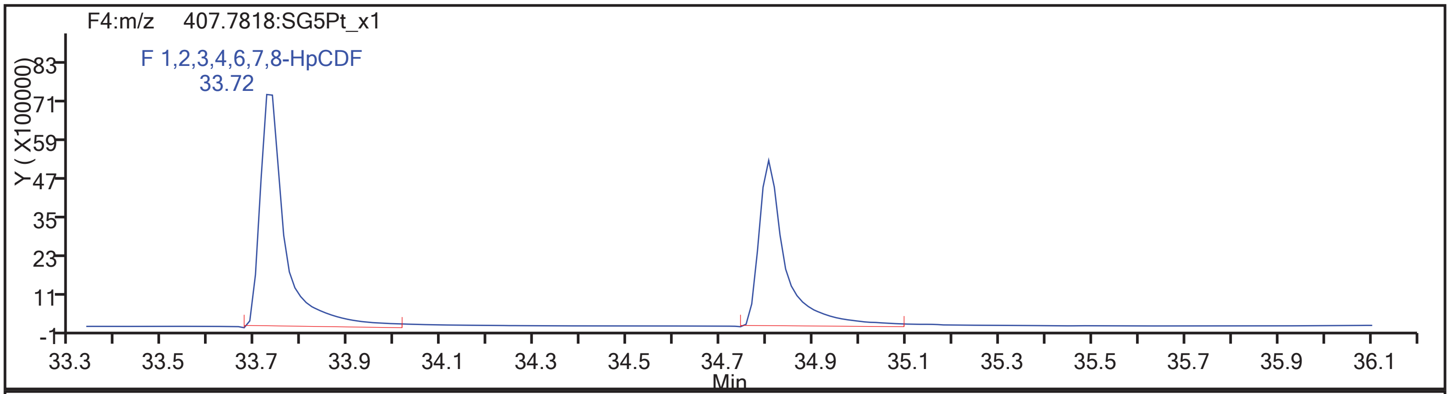
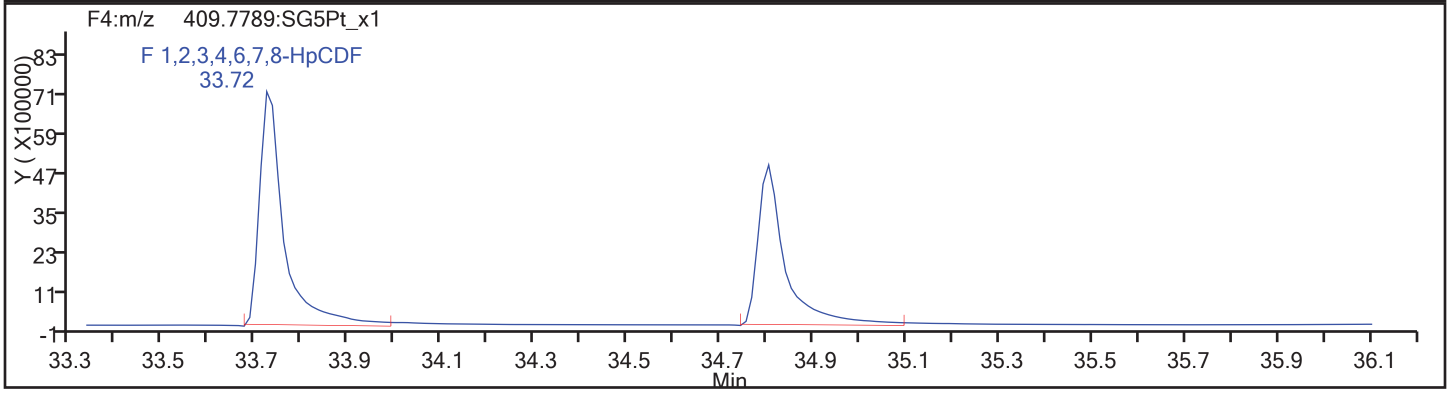
HpCDF





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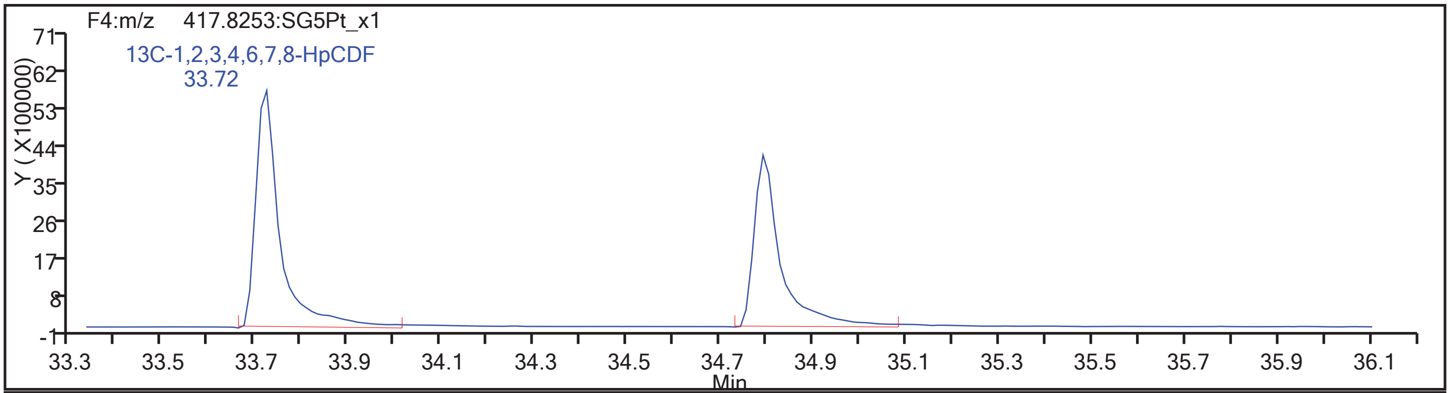

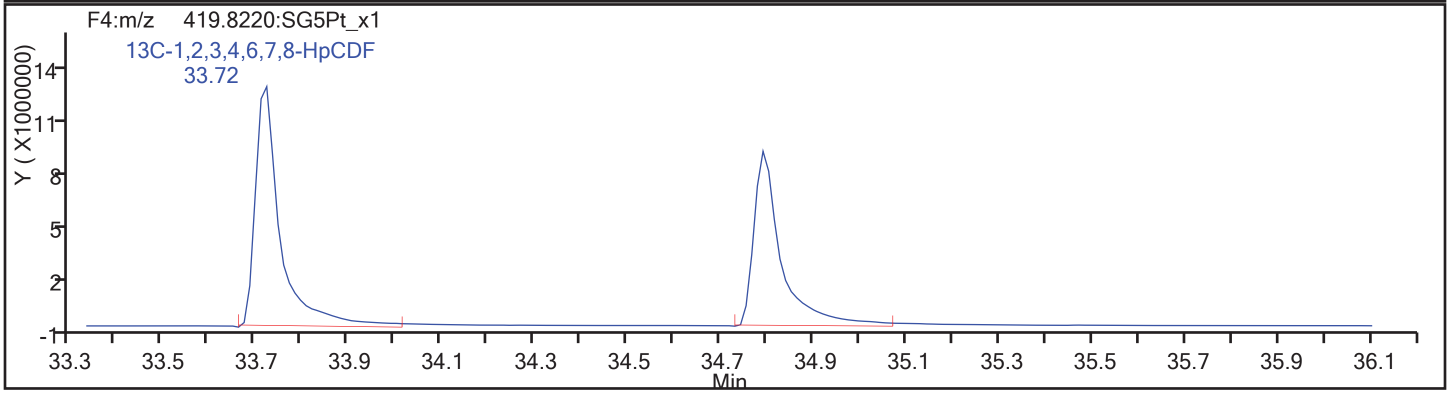

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TestAmerica Sacramento

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Injection Date: 13-Nov-2017 23:30:55 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
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Client ID:
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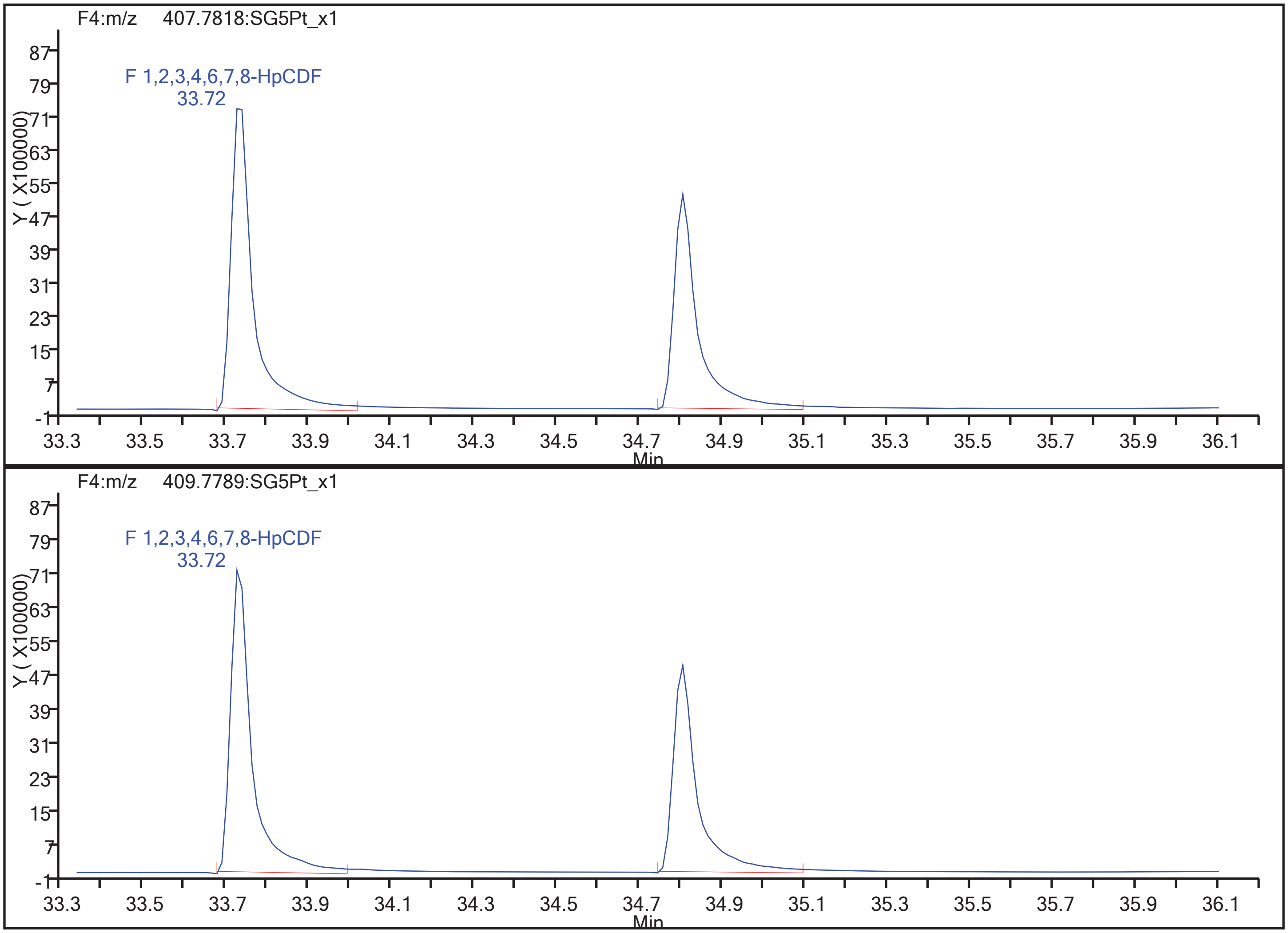
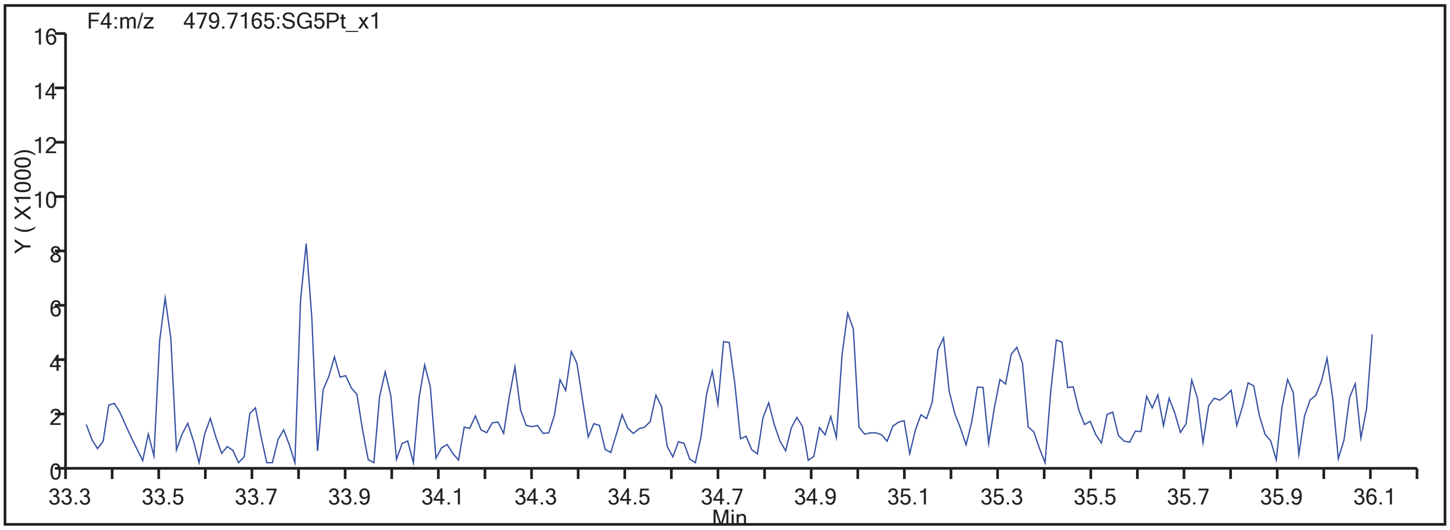


HpCDF Interference Mass



Report Date: 14-Nov-2017 11:59:08
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Vol: 2.0 ul
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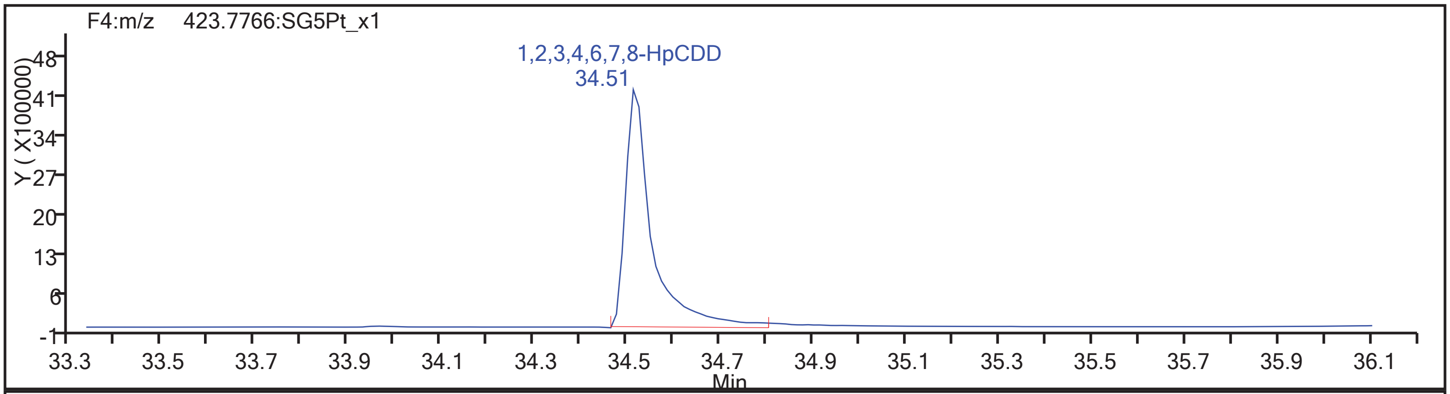

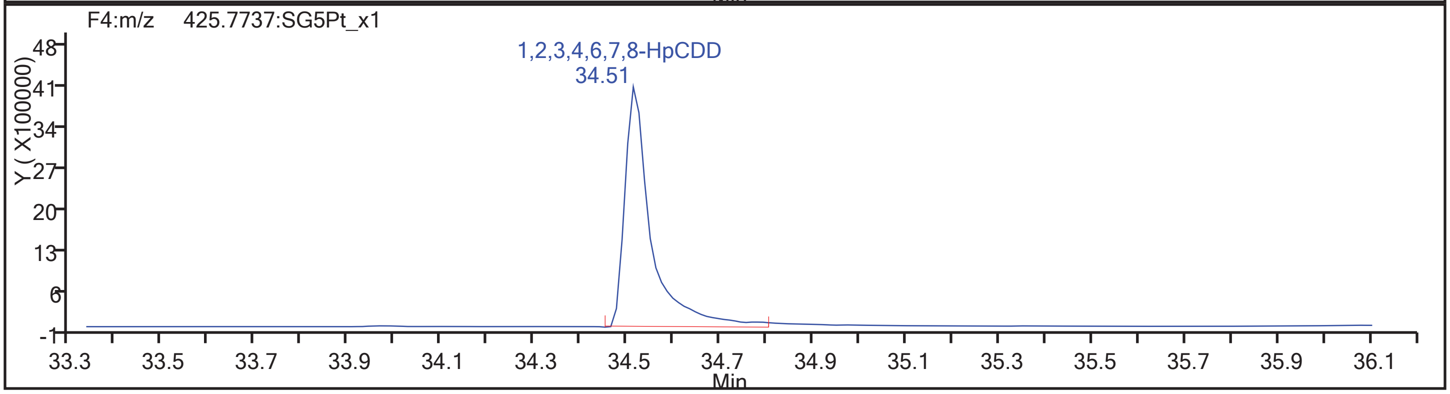

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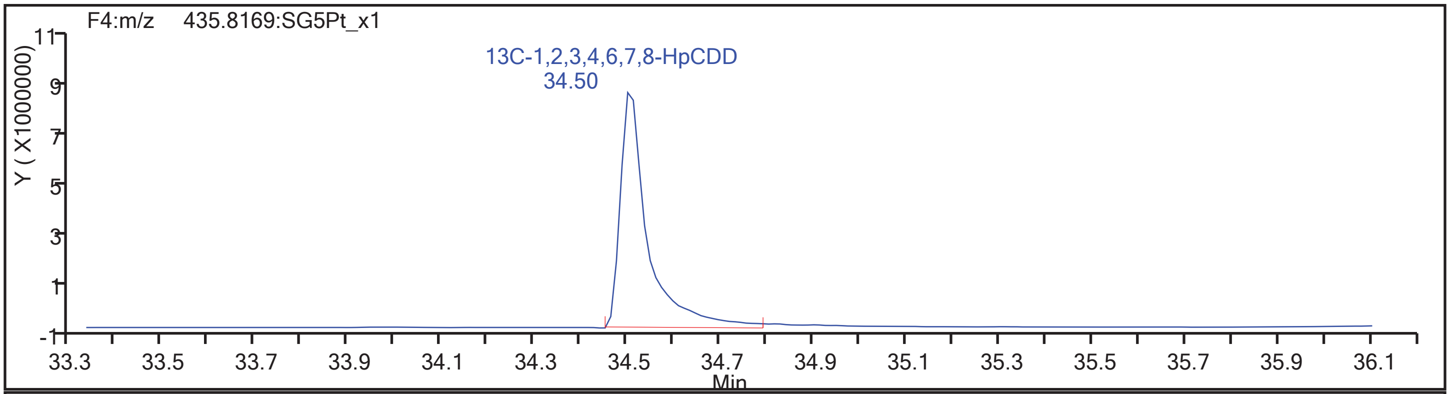

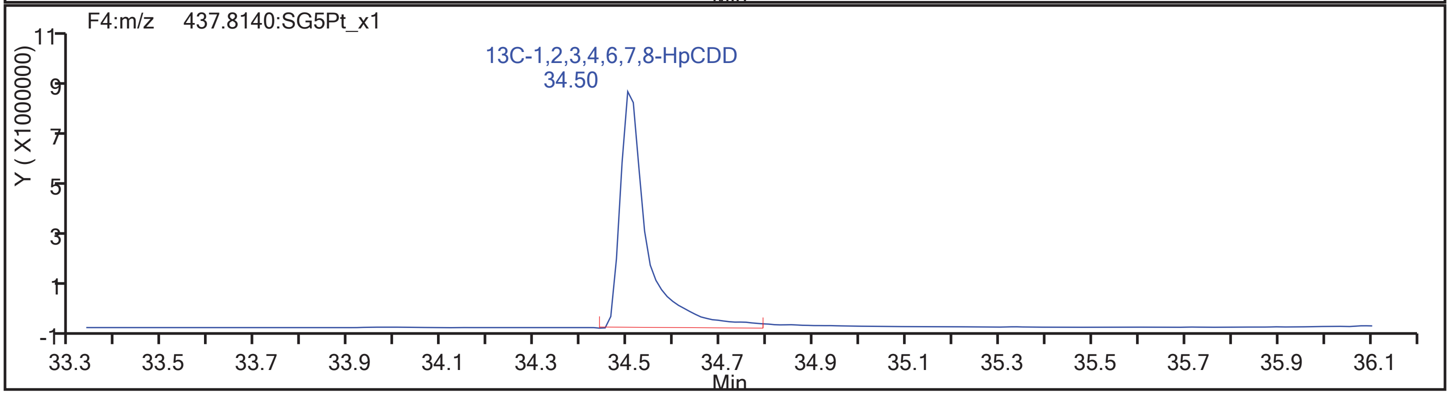

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TestAmerica Sacramento

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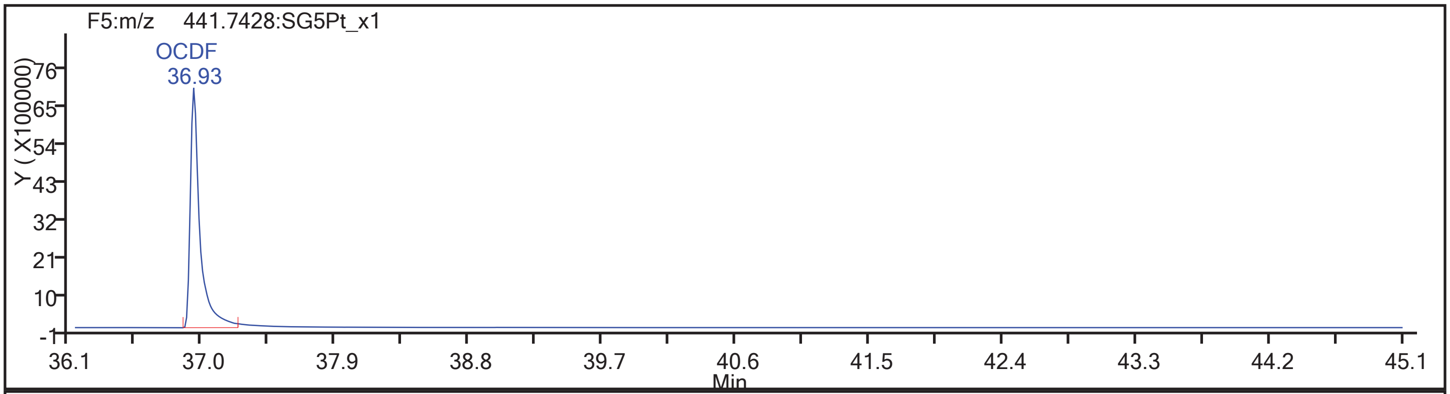
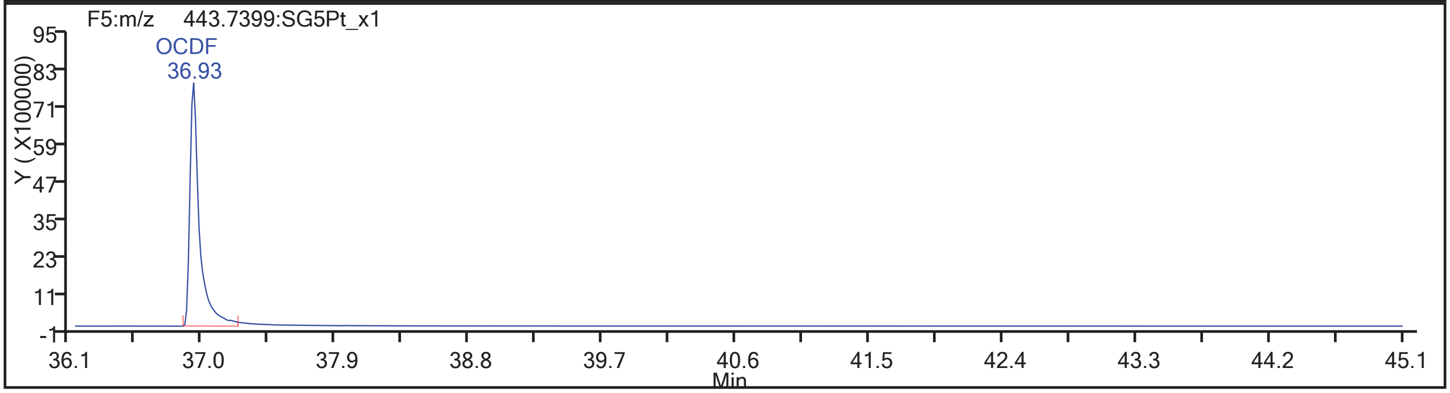
Worklist#:	194428	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





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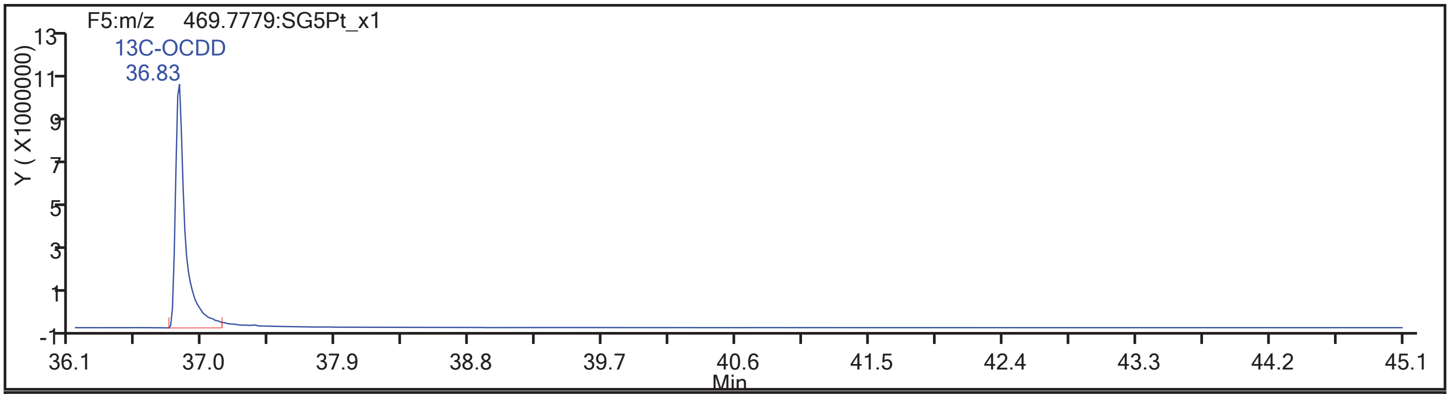

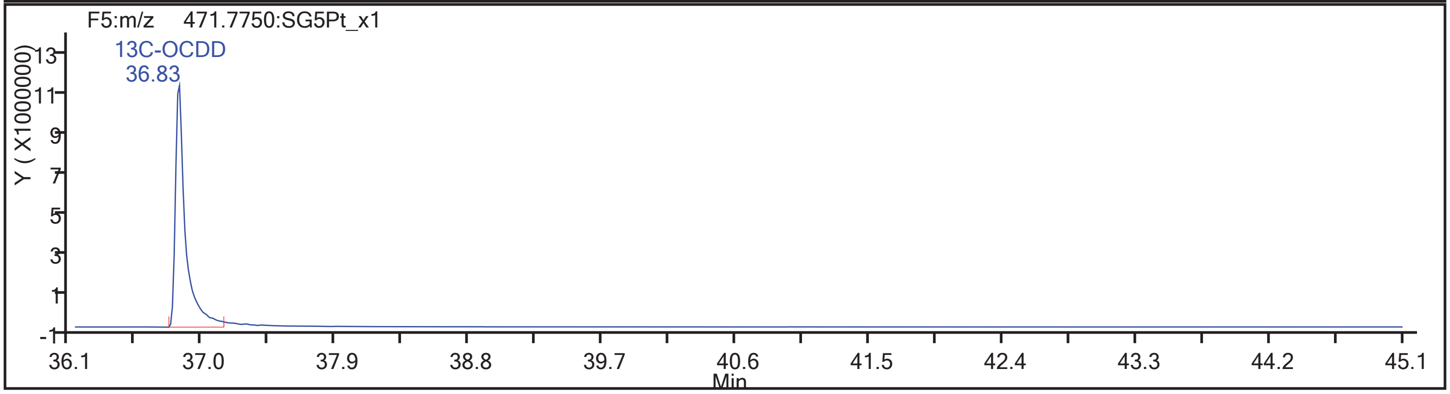

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TestAmerica Sacramento

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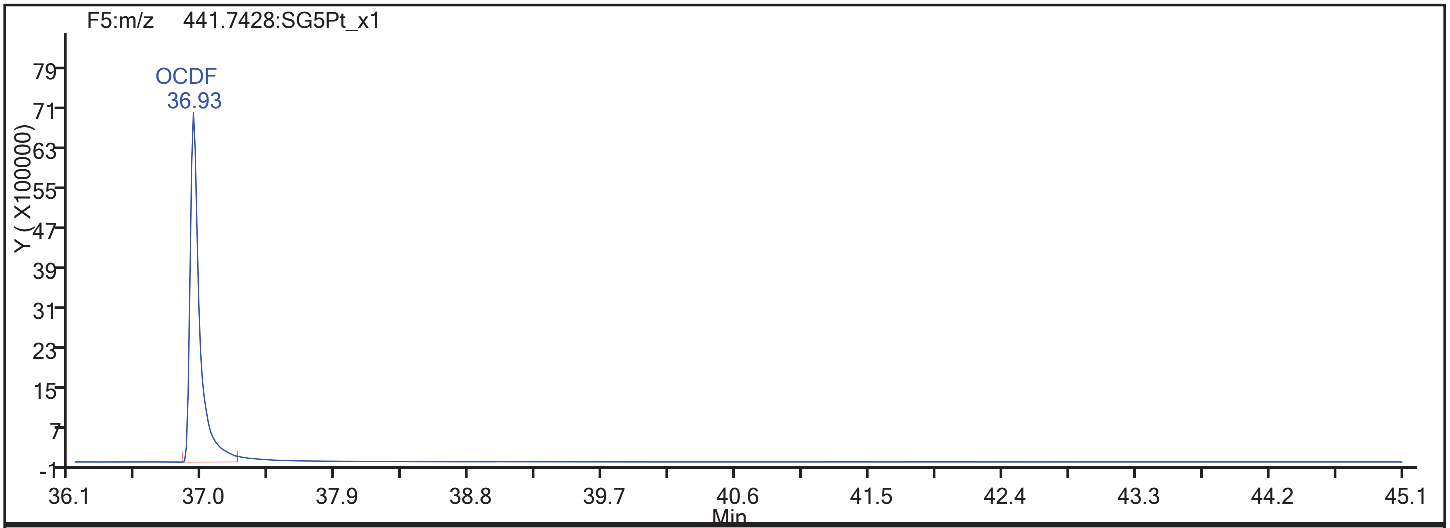
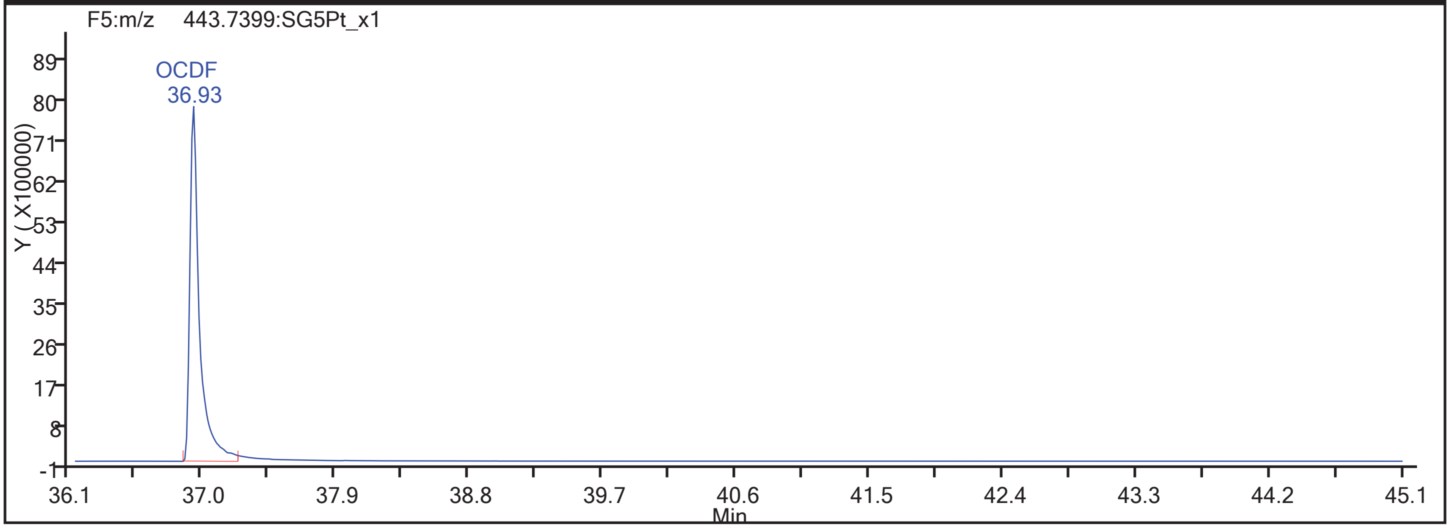
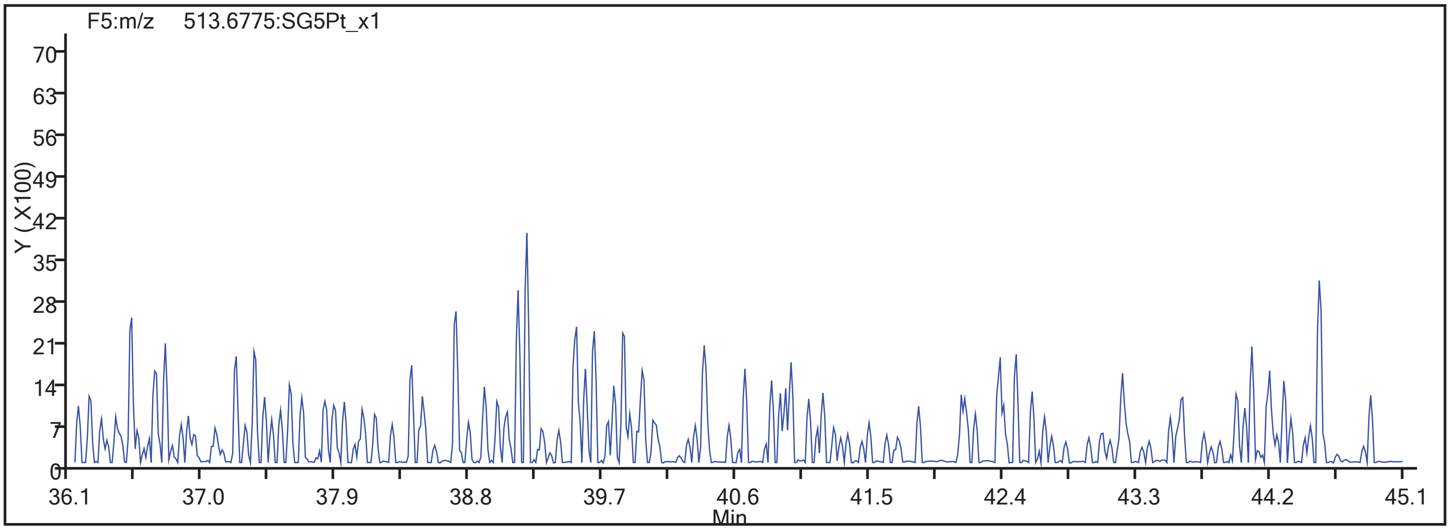




OCDF Interference Mass



Report Date: 14-Nov-2017 11:59:08　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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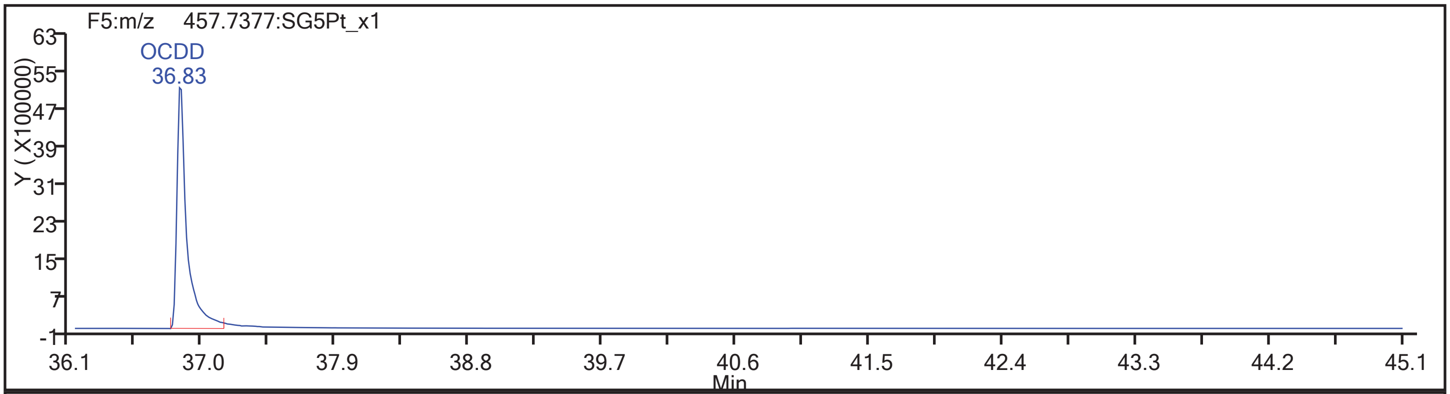

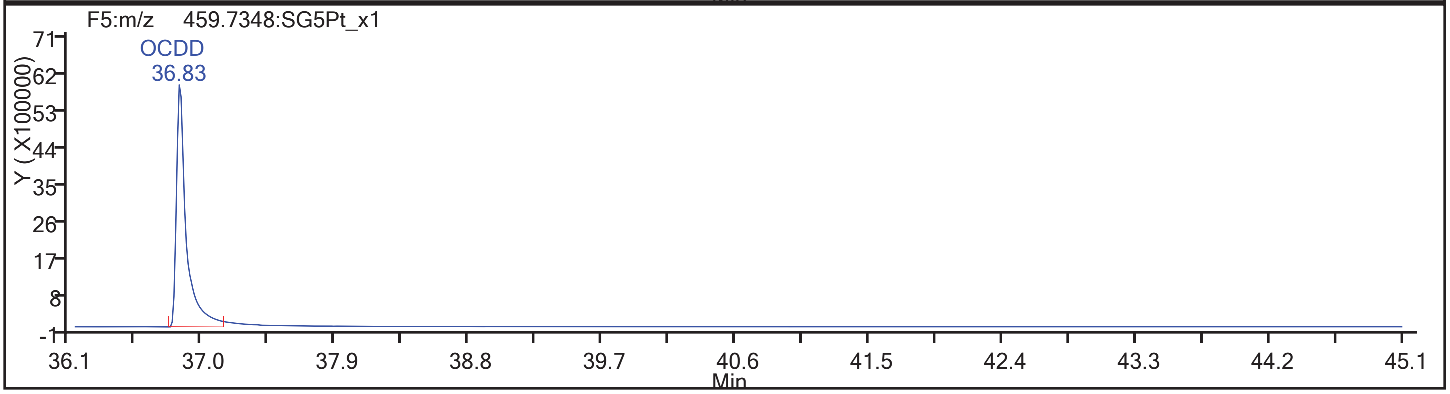

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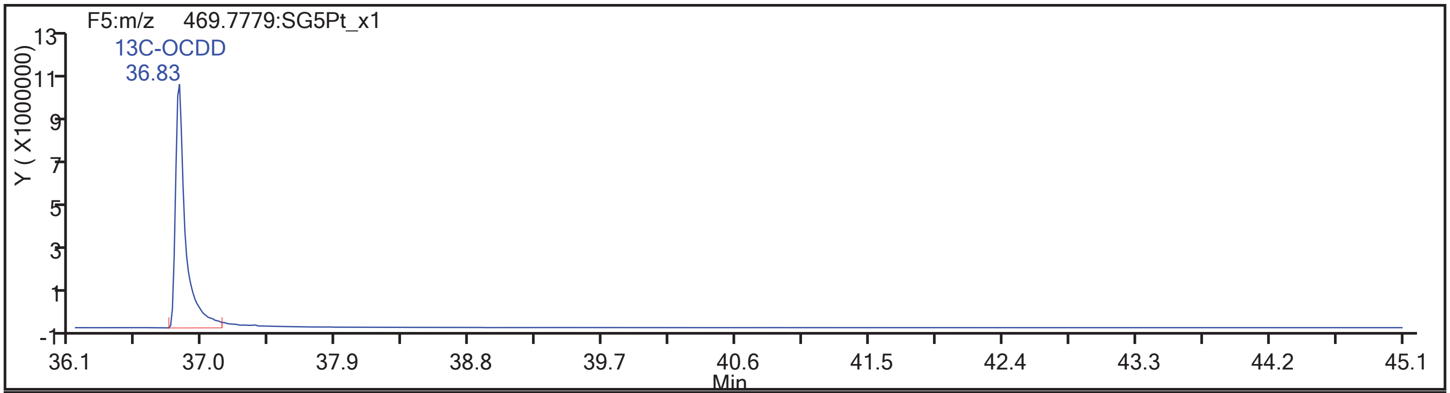

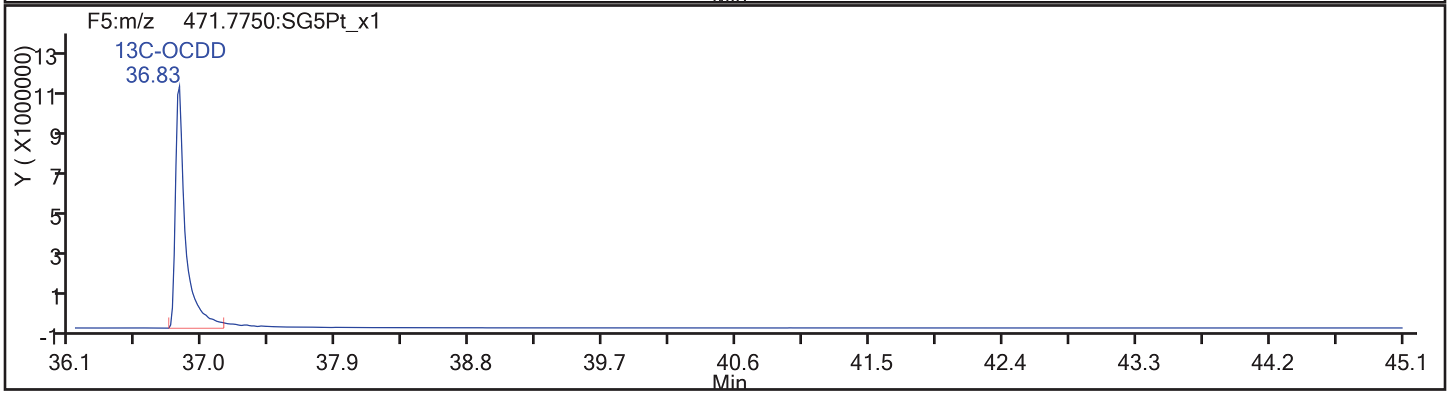

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TestAmerica Sacramento

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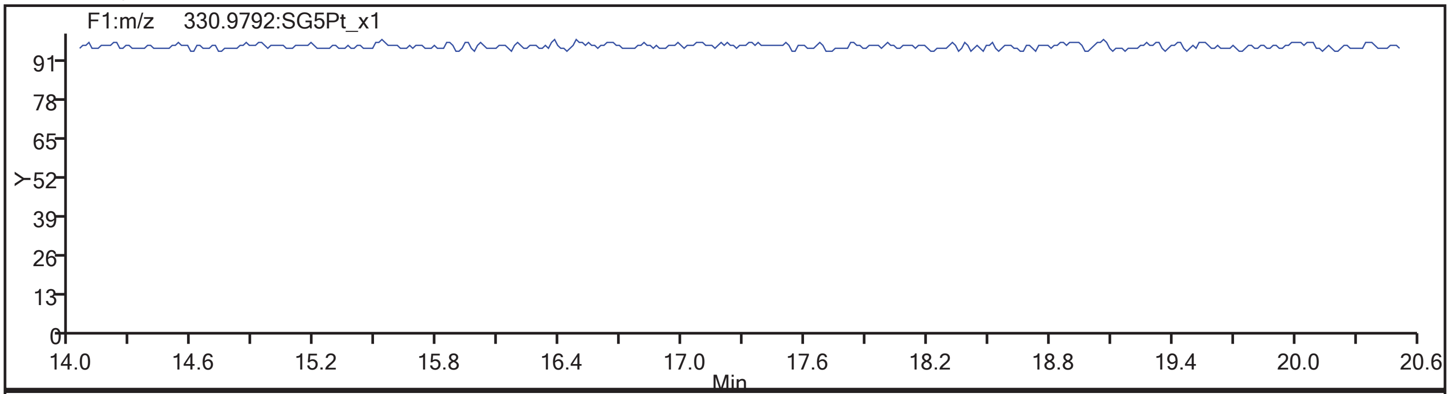

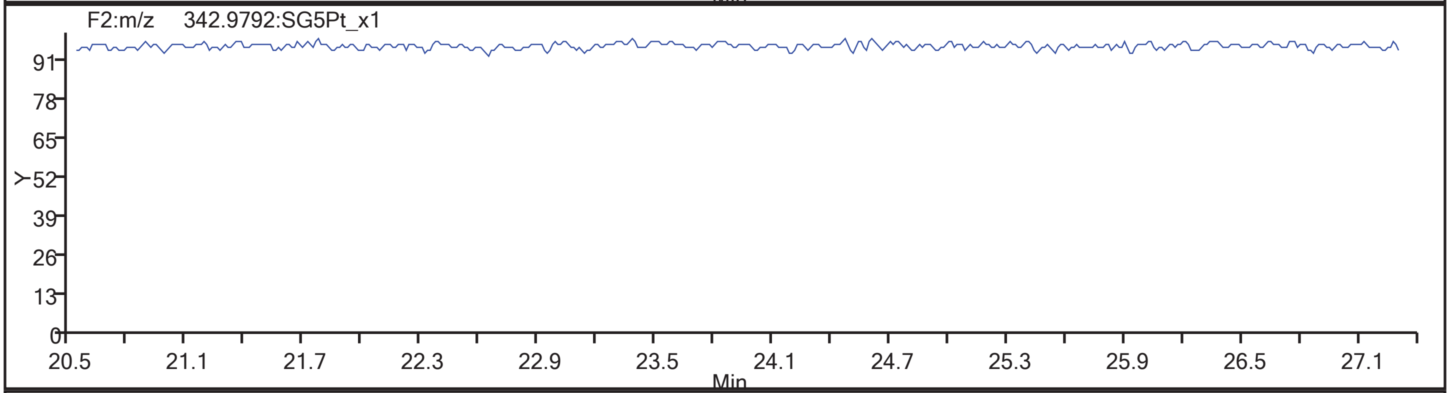

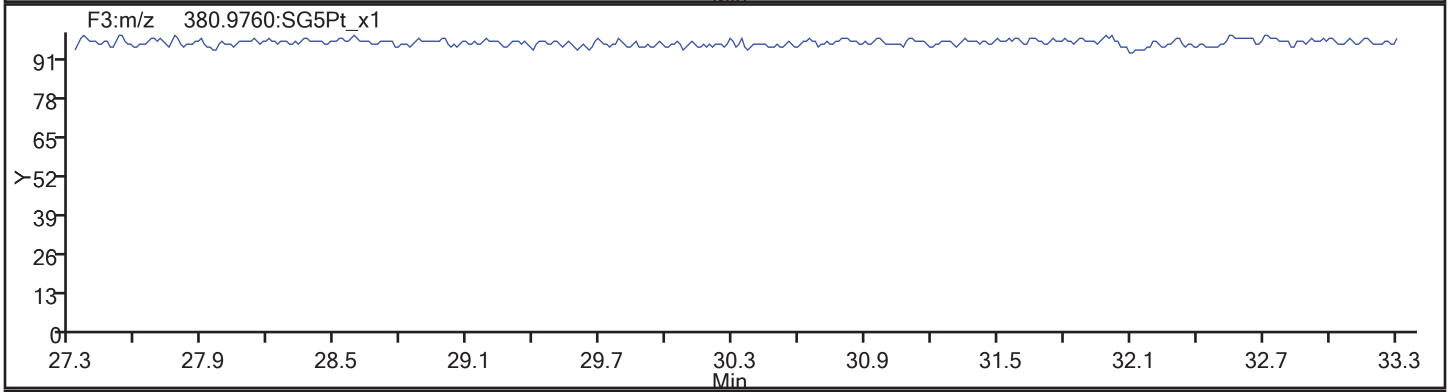

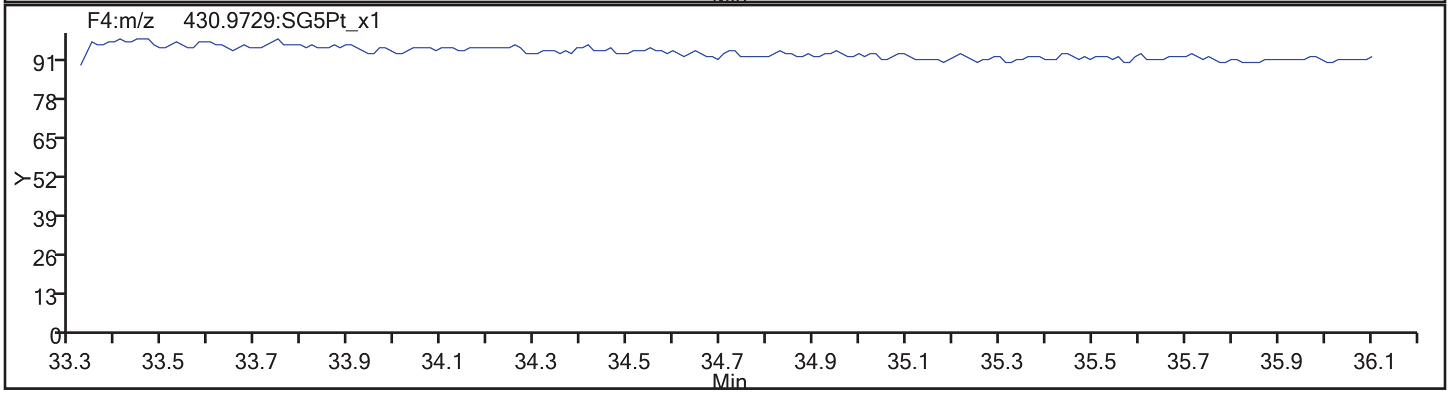

Report Date: 14-Nov-2017 11:59:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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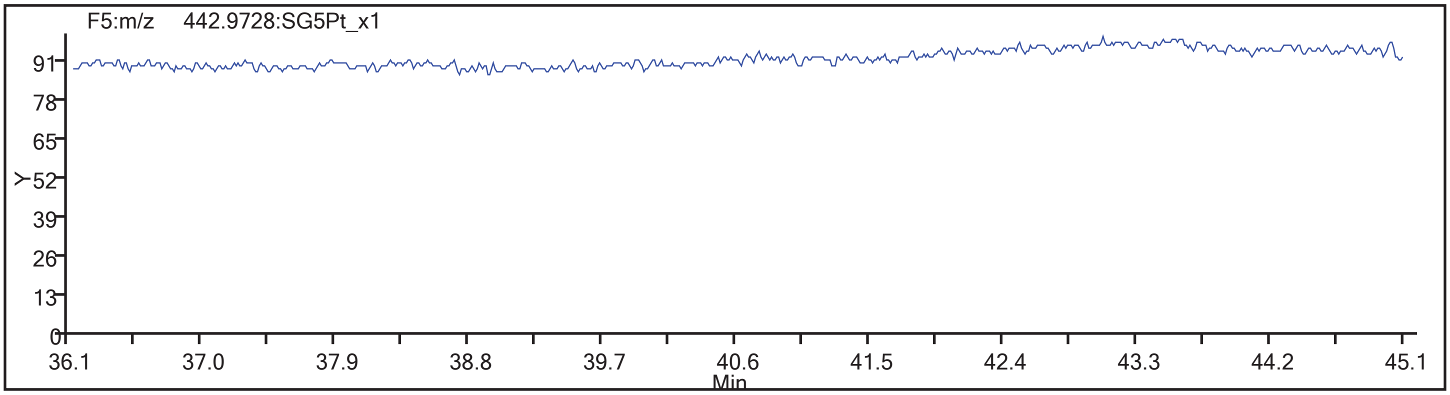


FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-194428/26 Calibration Date: 11/14/2017 08:10

Instrument ID: 10D5 Calib Start Date: 10/13/2017 00:08

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 10/13/2017 03:12

Lab File ID: 13NO1710D5_26.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.029		9.07	10.0	-9.3	20.0
2,3,7,8-TCDD	AveID	0.999	0.8577		8.58	10.0	-14.2	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.088		46.8	50.0	-6.4	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.059		46.5	50.0	-7.1	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9183		48.4	50.0	-3.2	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.348		48.1	50.0	-3.8	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.643		48.5	50.0	-3.1	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.474		48.5	50.0	-3.1	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	0.9034		47.5	50.0	-5.0	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.194		48.4	50.0	-3.3	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.169		46.9	50.0	-6.2	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.286		45.6	50.0	-8.8	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.584		48.3	50.0	-3.4	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9216		46.4	50.0	-7.2	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.239		46.6	50.0	-6.9	20.0
OCDD	AveID	1.060	1.006		94.9	100	-5.1	20.0
OCDF	AveID	1.346	1.294		96.1	100	-3.9	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.277		100	100	0.2	30.0
13C-2,3,7,8-TCDD	Ave	0.9921	1.069		108	100	7.8	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9696	1.011		104	100	4.2	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.7993		105	100	5.3	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	0.9422		97.7	100	-2.3	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.8809		100	100	0.2	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.7658		101	100	0.5	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.8143		105	100	4.9	30.0
13C-OCDD	Ave	0.6314	0.6340		201	200	0.4	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.052		10.0	10.0	0.5	

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_26.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 14-Nov-2017 08:10:36 ALS Bottle#: 2 Worklist Smp#: 26
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111317C CS-4 HRDXNL4_00060
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 14-Nov-2017 12:27:23 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK018

First Level Reviewer: shardaa Date: 14-Nov-2017 11:58:35

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.808	84316353	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.294	107642623	0.77	1.2741	100.2	100.2	0.8750	0.8750	100	
2,3,7,8-TCDF	17.324	11073499	0.75	1.1341	9.071	9.071	0.0630	0.0630	90.71	
A Non-2,3,7,8-sub-TCDF	17.022						0.0	0.0		
S Total TCDF					9.071	9.071	0.0630	0.0630		
D 13C-2,3,7,8-TCDD	18.005	90138620	0.78	0.9921	107.8	107.8	0.6850	0.6850	108	
$ 37Cl4-2,3,7,8-TCDD	18.020	8866285		1.0466	10.0	10.0	0.0459	0.0459	100	
2,3,7,8-TCDD	18.020	7731132	0.80	0.9993	8.583	8.583	0.0633	0.0633	85.83	
A Non-2,3,7,8-sub-TCDD	17.468						0.0	0.0		
S Total TCDD					8.583	8.583	0.0633	0.0633		
D 13C-1,2,3,7,8-PeCDF	22.301	85222614	1.55	0.9696	104.2	104.2	0.7556	0.7556	104	
1,2,3,7,8-PeCDF	22.328	46357351	1.59	1.1627	46.8	46.8	0.5147	0.5147	93.57	
D 13C-2,3,4,7,8-PeCDF	23.637	81668495	1.56							
2,3,4,7,8-PeCDF	23.664	45122518	1.60	1.1395	46.5	46.5	0.5251	0.5251	92.93	
A F1 PeCDFs	19.948						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.086						0.0	0.0		
S Total PeCDF					93.2	93.2	0.5199	0.5199		
D 13C-1,2,3,7,8-PeCDD	24.360	67397801	1.62	0.7588	105.3	105.3	0.3950	0.3950	105	
1,2,3,7,8-PeCDD	24.387	30943959	1.56	0.9490	48.4	48.4	0.2375	0.2375	96.76	
A Non-2,3,7,8-sub-PeCDD	23.290						0.0	0.0		
S Total PeCDD					48.4	48.4	0.2375	0.2375		
D 13C-1,2,3,4,7,8-HxCDF	30.460	60461792	0.51	0.9644	97.7	97.7	1.534	1.534	97.70	
1,2,3,4,7,8-HxCDF	30.487	40739972	1.28	1.4012	48.1	48.1	0.7961	0.7961	96.17	
D 13C-1,2,3,6,7,8-HxCDF	30.646	79690907	0.52							
1,2,3,6,7,8-HxCDF	30.673	49668130	1.27	1.6951	48.5	48.5	0.6581	0.6581	96.92	
D 13C-2,3,4,6,7,8-HxCDF	31.485	70238060	0.53							
2,3,4,6,7,8-HxCDF	31.498	44558937	1.27	1.5205	48.5	48.5	0.7336	0.7336	96.94	
D 13C-1,2,3,7,8,9-HxCDF	32.284	63652415	0.51							
1,2,3,7,8,9-HxCDF	32.297	38868695	1.28	1.4099	45.6	45.6	0.7912	0.7912	91.19	
A Non-2,3,7,8-sub-HxCDF	30.141						0.0	0.0		

Report Date: 14-Nov-2017 12:27:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_26.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					190.6	190.6	0.7447	0.7447		
* 13C-1,2,3,7,8,9-HxCDD	32.097	64173564	1.24	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.671	43580992	1.27							
1,2,3,4,7,8-HxCDD	31.685	25534897	1.25	0.9505	47.5	47.5	0.3810	0.3810	95.05	
D 13C-1,2,3,6,7,8-HxCDD	31.778	56530743	1.24	0.8791	100.2	100.2	0.7389	0.7389	100	
1,2,3,6,7,8-HxCDD	31.791	33742155	1.27	1.2343	48.4	48.4	0.2934	0.2934	96.71	
1,2,3,7,8,9-HxCDD	32.111	33053443	1.26	1.2467	46.9	46.9	0.2904	0.2904	93.80	
A Non-2,3,7,8-sub-HxCDD	30.779						0.0	0.0		
S Total HxCDD					142.8	142.8	0.3216	0.3216		
D 13C-1,2,3,4,6,7,8-HpCDF	33.709	49145176	0.44	0.7618	100.5	100.5	2.646	2.646	101	
1,2,3,4,6,7,8-HpCDF	33.722	38910735	1.06	1.6399	48.3	48.3	0.8836	0.8836	96.56	
1,2,3,4,7,8,9-HpCDF	34.791	30435273	1.06	1.3302	46.6	46.6	1.089	1.089	93.11	
D 13C-1,2,3,4,7,8,9-HpCDF	34.791	40818235	0.43							
A Non-2,3,7,8-sub-HpCDF	34.268						0.0	0.0		
S Total HpCDF					94.8	94.8	0.9864	0.9864		
D 13C-1,2,3,4,6,7,8-HpCDD	34.499	52257924	1.08	0.7762	104.9	104.9	1.035	1.035	105	
1,2,3,4,6,7,8-HpCDD	34.512	24081300	1.02	0.9932	46.4	46.4	0.4410	0.4410	92.80	
A Non-2,3,7,8-sub-HpCDD	34.238						0.0	0.0		
S Total HpCDD					46.4	46.4	0.4410	0.4410		
D 13C-OCDD	36.822	81367411	0.89	0.6314	200.8	200.8	0.5049	0.5049	100	
OCDF	36.918	52630646	0.91	1.3460	96.1	96.1	0.1552	0.1552	96.11	
OCDD	36.834	40924630	0.89	1.0604	94.9	94.9	0.1949	0.1949	94.86	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_26.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 14-Nov-2017 08:10:36 ALS Bottle#: 2 Worklist Smp#: 26
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111317C CS-4 HRDXNL4_00060
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 14-Nov-2017 12:27:23 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK018

First Level Reviewer: shardaa Date: 14-Nov-2017 11:58:35

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.808	17.808	0		36993571	8962085	28449	71122	315		
333.9339	17.808	17.808	0		47322782	11584316	27402	68505	423	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.294	17.294	0	0.971	46782984	10661089	65000	162500	164		
317.9389	17.294	17.294	0	0.971	60859639	13846689	26624	66560	520	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.324	17.324	0	1.002	4737933	1075056	2499	6247	430		
305.8987	17.309	17.324	-1	1.001	6335566	1449998	4503	11257	322	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.022						2499	6247			
305.8987	17.022						4503	11257			
13C-2,3,7,8-TCDD											
331.9368	18.005	18.005	0	1.011	39368158	8295155	28449	71122	292		
333.9339	18.005	18.005	0	1.011	50770462	10598513	27402	68505	387	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.020	18.020	0	1.012	8866285	2003606	3947	9867	508		
2,3,7,8-TCDD											
319.8965	18.020	18.020	0	1.001	3427380	757734	2858	7145	265		
321.8936	18.020	18.020	0	1.001	4303752	976907	1923	4807	508	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.468						2858	7145			
321.8936	17.468						1923	4807			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.301	22.301	0	1.252	51816693	8683807	35471	88677	245		
353.8970	22.301	22.301	0	1.252	33405921	5615645	24744	61860	227	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.328	22.328	0	1.001	28455468	4827878	20529	51322	235		
341.8567	22.328	22.328	0	1.001	17901883	2996790	13699	34247	219	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.637	23.637	0	1.327	49714620	8010295	35471	88677	226		
353.8970	23.637	23.637	0	1.327	31953875	5147088	24744	61860	208	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.664	23.664	0	1.061	27748044	4492720	20529	51322	219		
341.8567	23.664	23.664	0	1.061	17374474	2776986	13699	34247	203	1.60(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.948						508	1270			
341.8567	19.948						1349	3372			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.086						20529	51322			
341.8567	23.086						13699	34247			
13C-1,2,3,7,8-PeCDD											
367.8949	24.360	24.360	0	1.368	41664927	6343782	15139	37847	419		
369.8919	24.360	24.360	0	1.368	25732874	3933635	9494	23735	414	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.387	24.387	0	1.001	18868673	2816576	5569	13922	506		
357.8516	24.387	24.387	0	1.001	12075286	1832256	3695	9237	496	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.290						5569	13922			
357.8516	23.290						3695	9237			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.460	30.460	0	0.949	20545123	3740025	26746	66865	140		
385.8610	30.460	30.460	0	0.949	39916669	7325492	52456	131140	140	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.487	30.487	0	1.001	22832842	4164455	28842	72105	144		
375.8178	30.487	30.487	0	1.001	17907130	3242388	20531	51327	158	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.646	30.646	0	0.955	27378989	4452166	26746	66865	166		
385.8610	30.646	30.646	0	0.955	52311918	8480676	52456	131140	162	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.673	30.673	0	1.007	27819727	4592737	28842	72105	159		
375.8178	30.673	30.673	0	1.007	21848403	3556844	20531	51327	173	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.485	31.485	0	0.981	24182048	5353503	26746	66865	200		
385.8610	31.485	31.485	0	0.981	46056012	10014087	52456	131140	191	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.498	31.498	0	1.034	24890038	5597394	28842	72105	194		
375.8178	31.498	31.498	0	1.034	19668899	4319511	20531	51327	210	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.284	32.284	0	1.006	21574682	4770854	26746	66865	178		
385.8610	32.284	32.284	0	1.006	42077733	9273689	52456	131140	177	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.297	32.297	0	1.060	21802243	4753318	28842	72105	165		
375.8178	32.297	32.297	0	1.060	17066452	3730853	20531	51327	182	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.141						28842	72105			
375.8178	30.141						20531	51327			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.097	32.097	0		35543153	7444367	17740	44350	420		
403.8529	32.097	32.097	0		28630411	5941730	17041	42602	349	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.671	31.671	0	0.987	24347261	6477966	17740	44350	365		
403.8529	31.671	31.671	0	0.987	19233731	5091691	17041	42602	299	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.685	31.685	0	0.997	14200693	3790923	9954	24885	381		
391.8127	31.685	31.685	0	0.997	11334204	3006732	7931	19827	379	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.778	31.778	0	0.990	31273685	6820466	17740	44350	384		
403.8529	31.778	31.778	0	0.990	25257058	5527506	17041	42602	324	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.791	31.791	0	1.000	18854354	4095597	9954	24885	411		
391.8127	31.791	31.791	0	1.000	14887801	3246833	7931	19827	409	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.111	32.111	0	1.010	18412942	3781791	9954	24885	380		
391.8127	32.111	32.111	0	1.010	14640501	3077309	7931	19827	388	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.779						9954	24885			
391.8127	30.779						7931	19827			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.709	33.709	0	1.050	14993952	4209627	33511	83777	126		
419.8220	33.709	33.709	0	1.050	34151224	9631795	74414	186035	129	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.722	33.722	0	1.000	20032798	5703145	47084	117710	121		
409.7789	33.722	33.722	0	1.000	18877937	5326787	33141	82852	161	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.791	34.791	0	1.032	15634199	3911144	47084	117710	83		
409.7789	34.791	34.791	0	1.032	14801074	3734687	33141	82852	113	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.791	34.791	0	1.084	12275667	3005486	33511	83777	90		
419.8220	34.779	34.791	-1	1.084	28542568	6871700	74414	186035	92	0.43(0.37-0.51)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.268						47084	117710			
409.7789	34.268						33141	82852			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.499	34.499	0	1.075	27161370	6760779	19839	49597	341		
437.8140	34.499	34.499	0	1.075	25096554	6373452	23182	57955	275	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.512	34.512	0	1.000	12166123	3109447	10042	25105	310		
425.7737	34.512	34.512	0	1.000	11915177	3012789	12967	32417	232	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.238						10042	25105			
425.7737	34.238						12967	32417			
13C-OCDD											
469.7779	36.822	36.822	0	1.147	38285304	8196168	5351	13377	1532		
471.7750	36.822	36.822	0	1.147	43082107	9037738	11717	29292	771	0.89(0.76-1.02)	
OCDF											
441.7428	36.918	36.918	0	1.003	25005134	5445979	3080	7700	1768		
443.7399	36.918	36.918	0	1.003	27625512	6209316	4119	10297	1507	0.91(0.76-1.02)	
OCDD											
457.7377	36.834	36.834	0	1.000	19325691	4169130	3476	8690	1199		
459.7348	36.834	36.834	0	1.000	21598939	4654488	3647	9117	1276	0.89(0.76-1.02)	

Reagents:

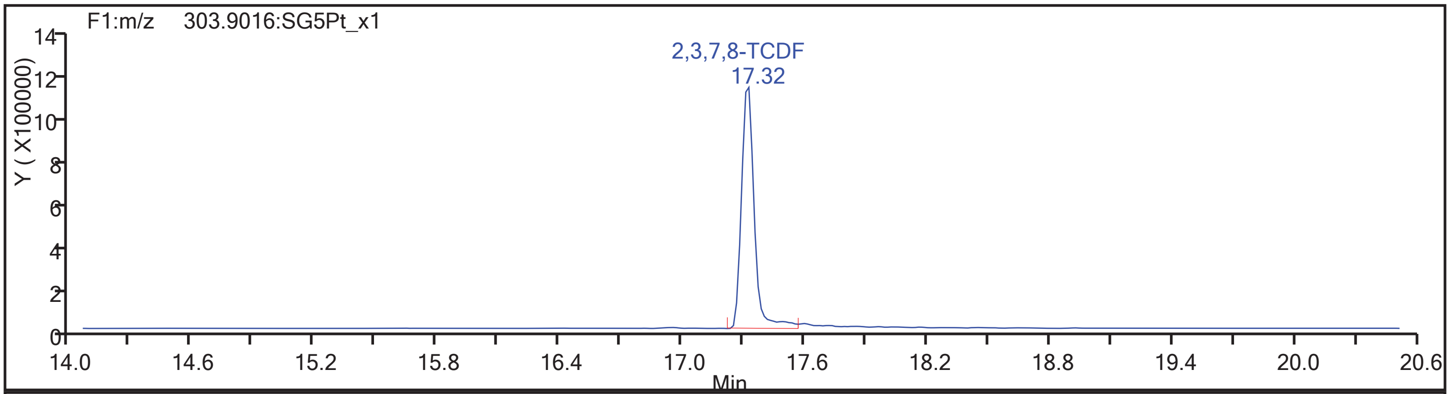
HRDXNL4_00060 Amount Added: 1.00 Units: mL

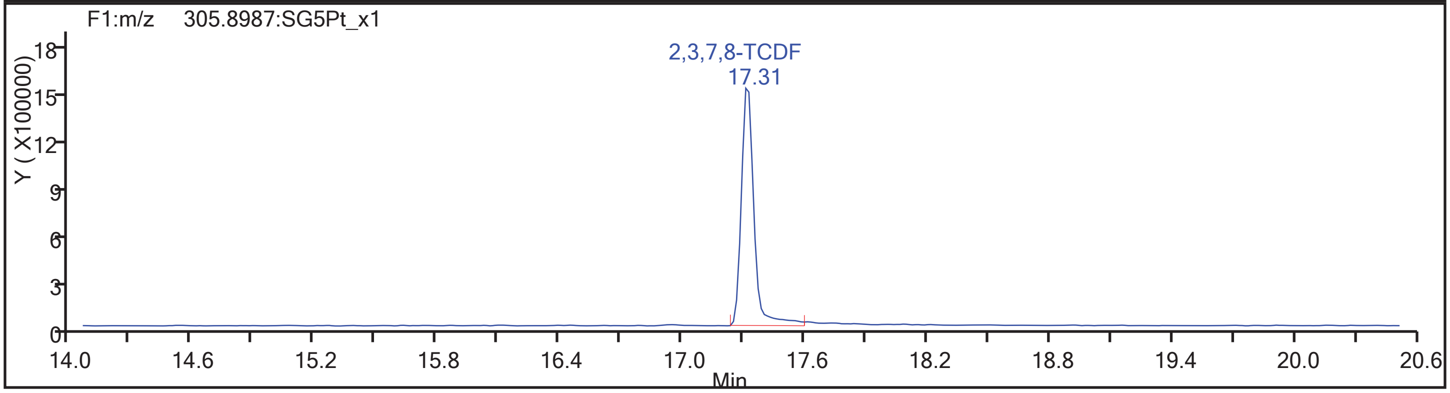
Report Date: 14-Nov-2017 12:27:24
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

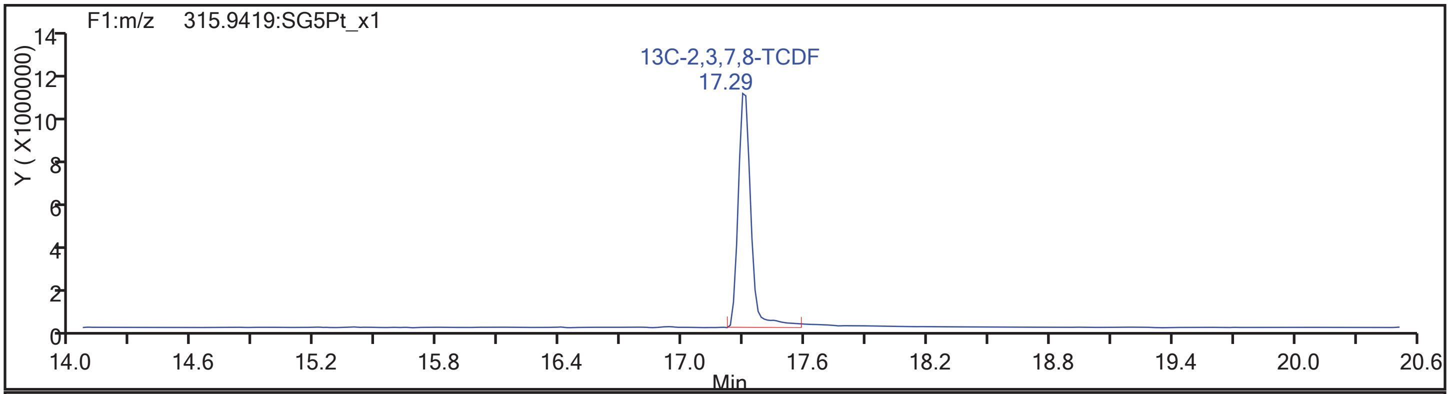
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_26.d
Injection Date: 14-Nov-2017 08:10:36
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194428
Sample Line#: 26
Column Type: DB-5
Column Dia: 0.32 mm

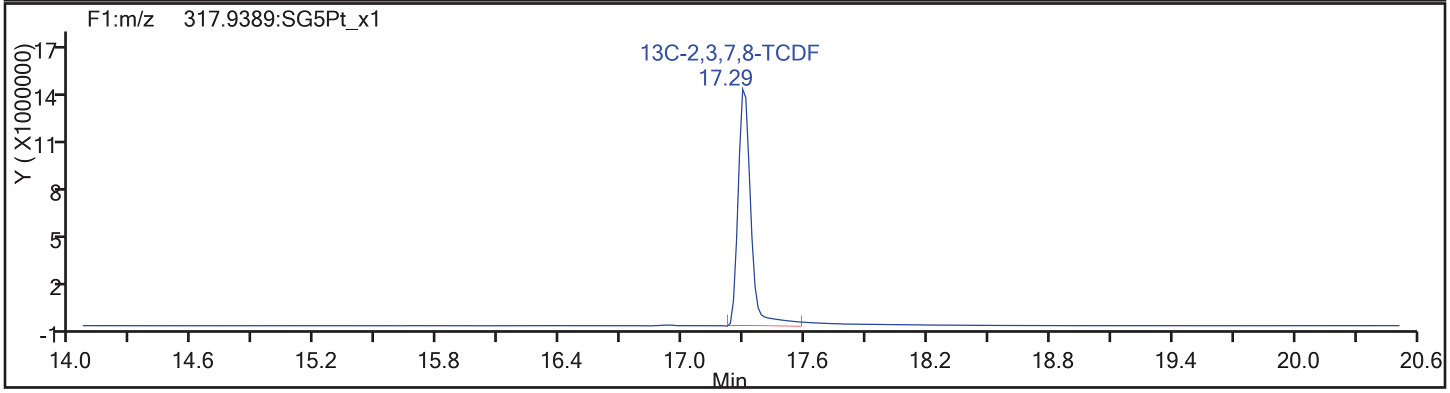
TCDF





TCDF Standards





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TestAmerica Sacramento

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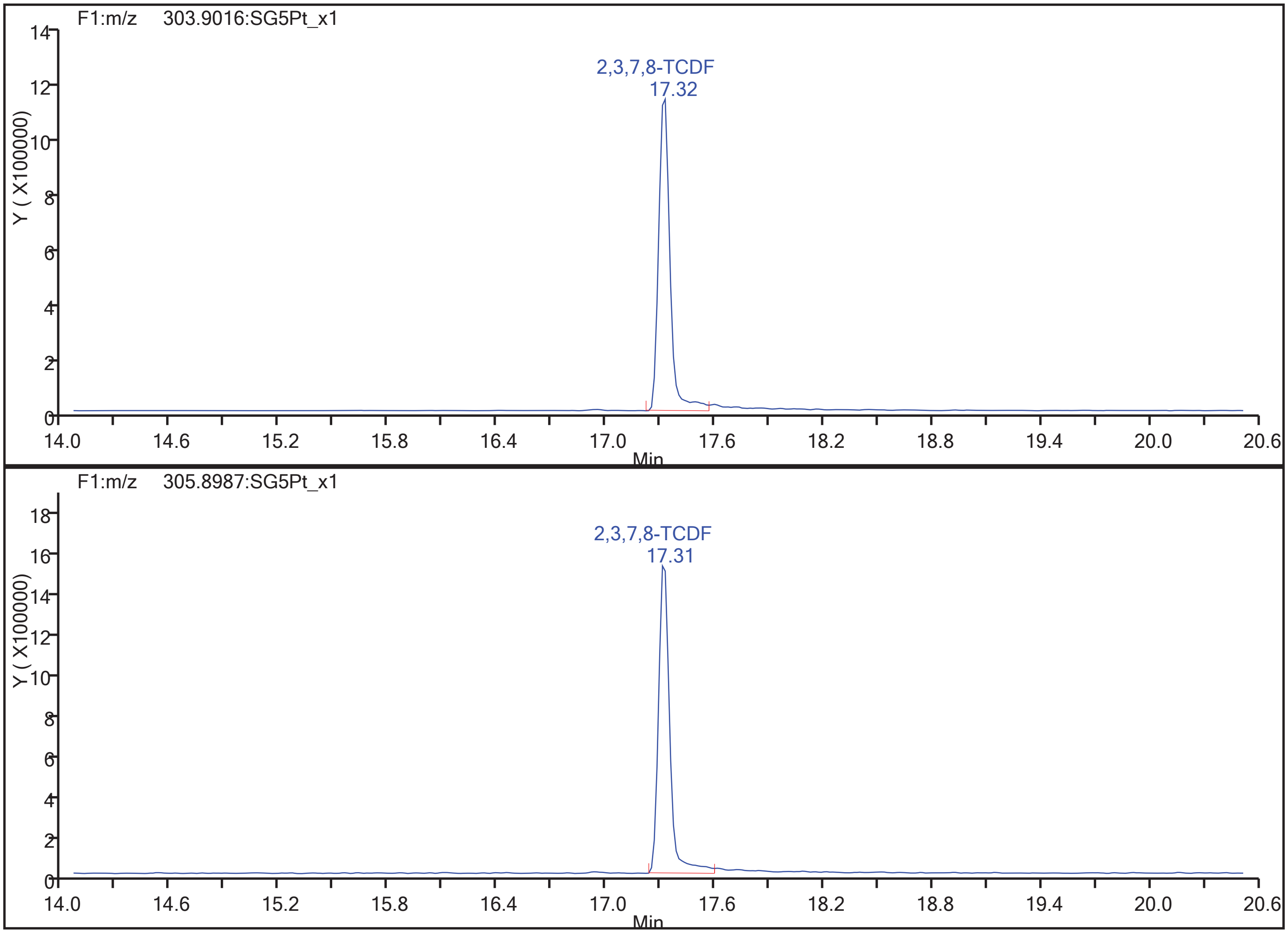
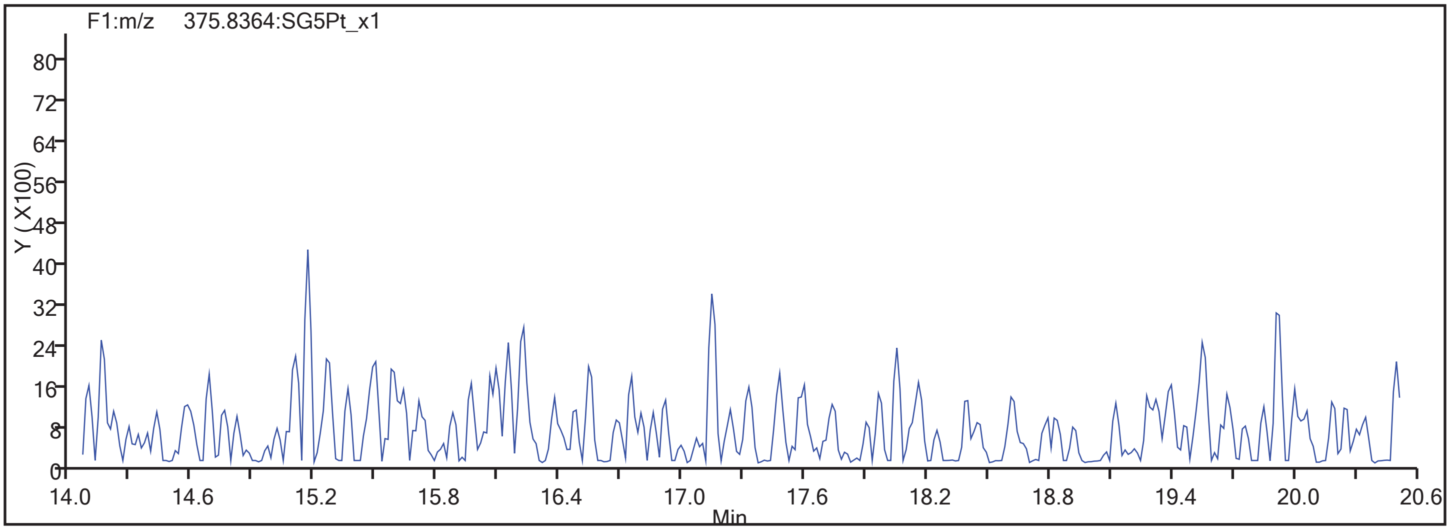
TCDF



TCDF Interference Mass



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TestAmerica Sacramento

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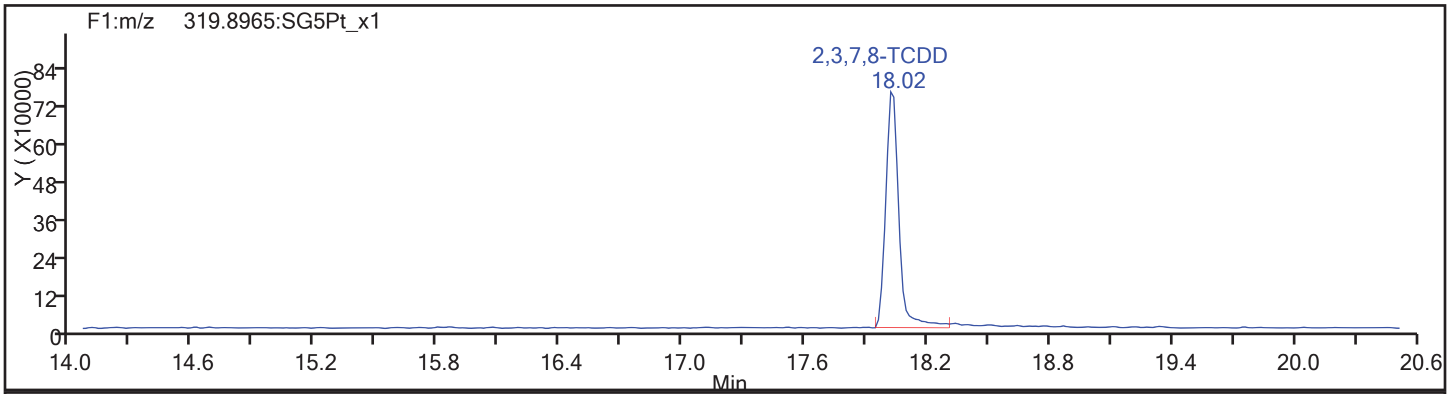
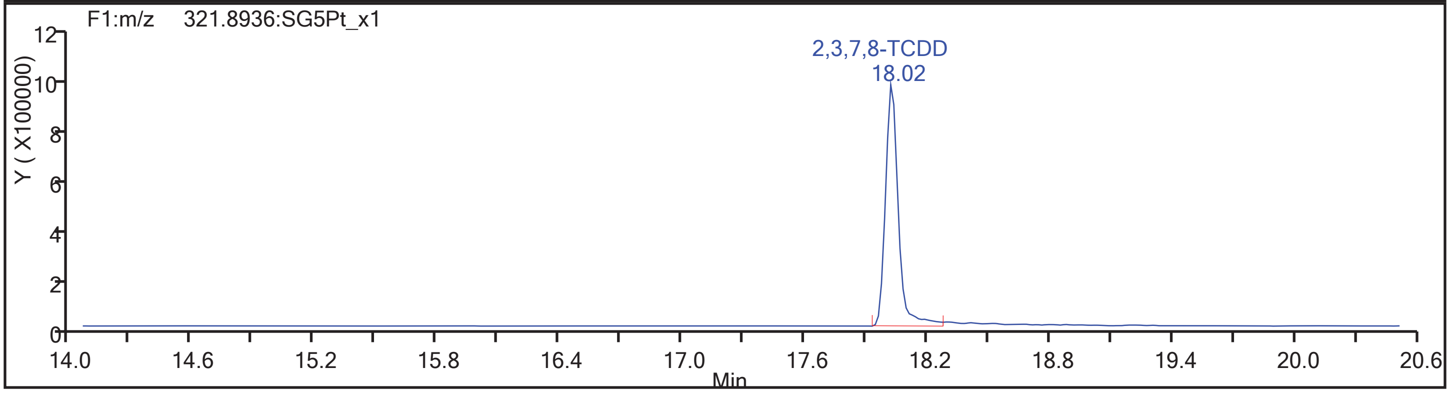
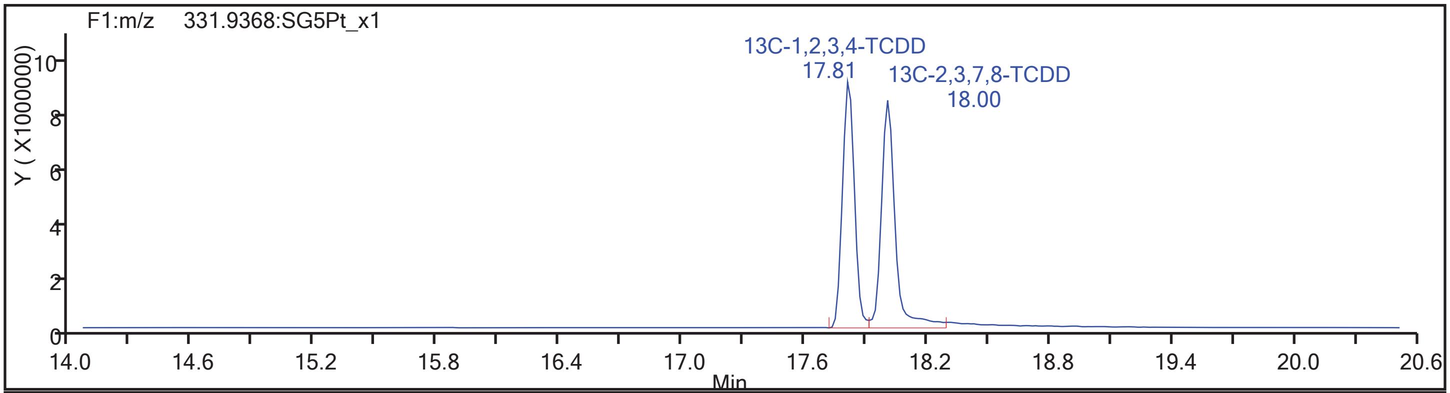
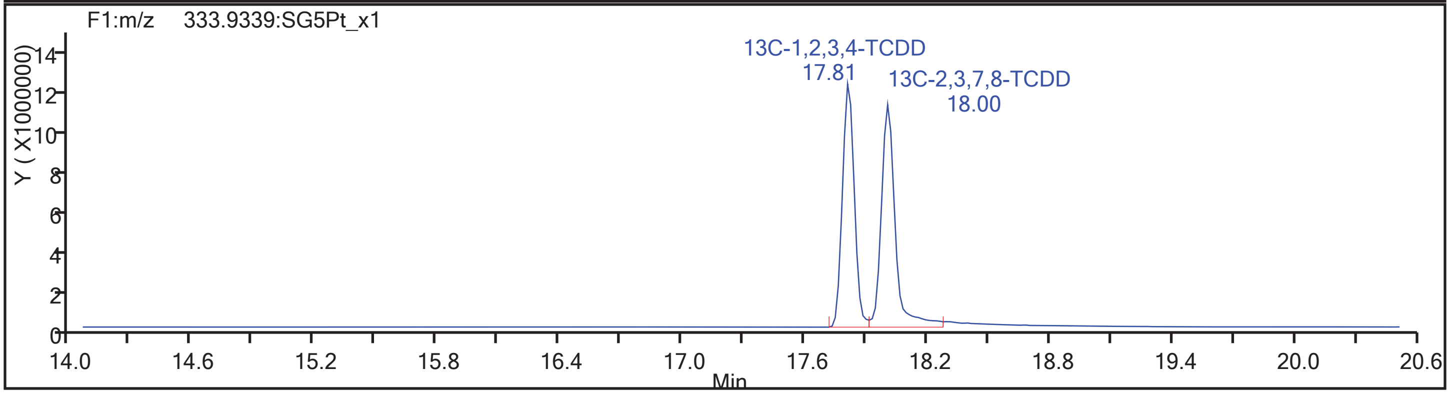
TCDD





TCDD Standards





TestAmerica Sacramento

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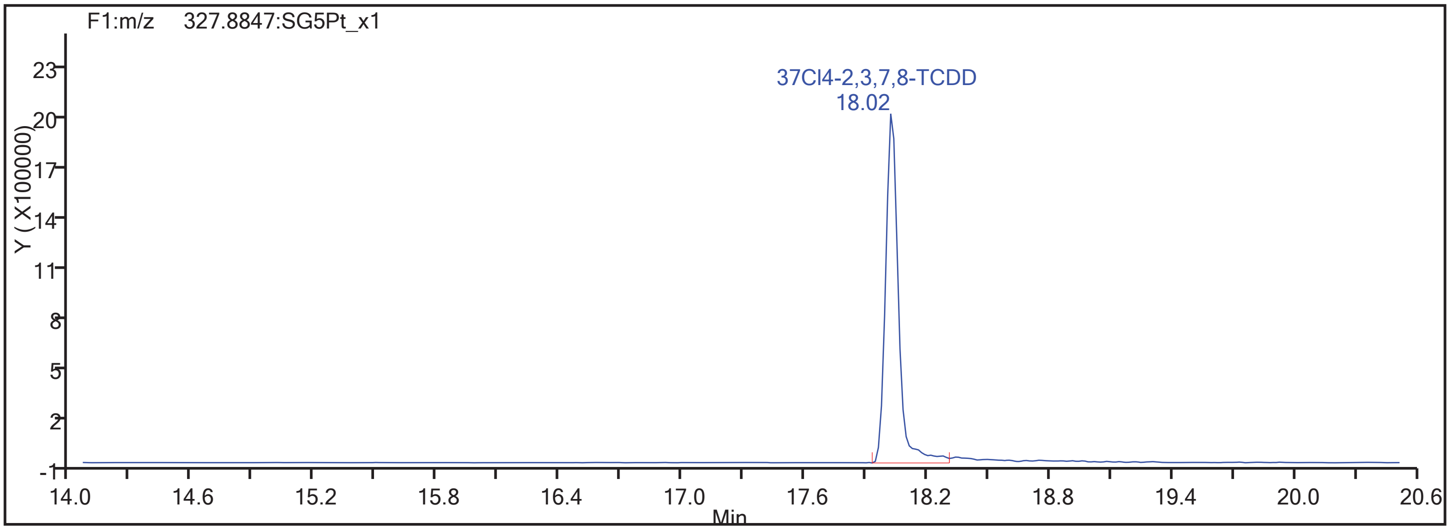
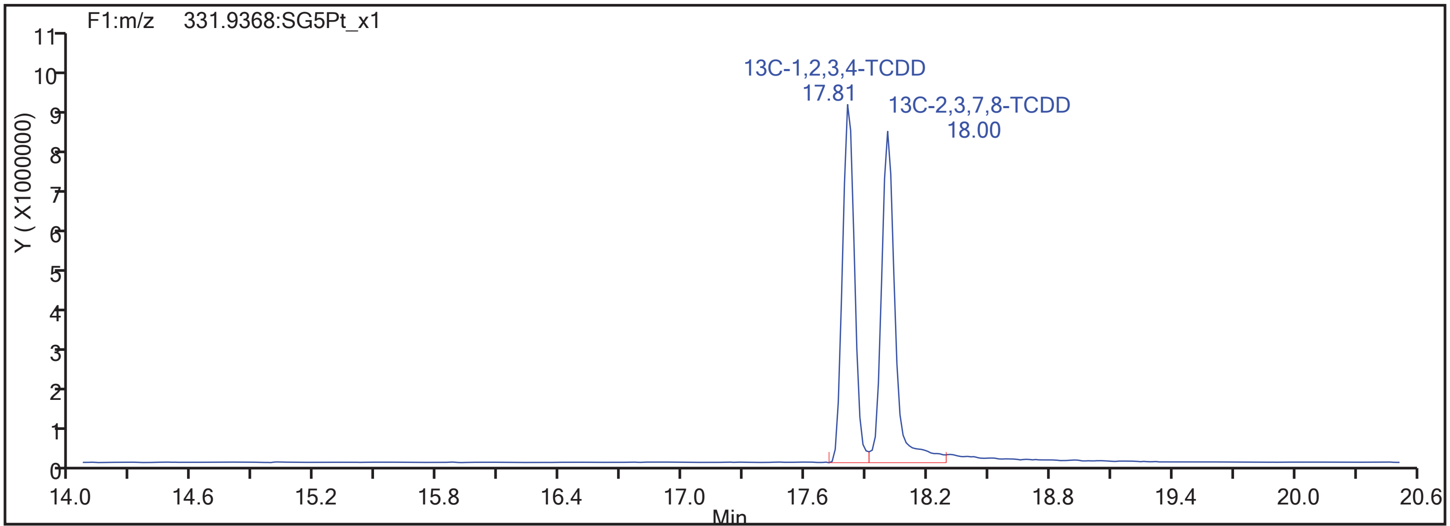
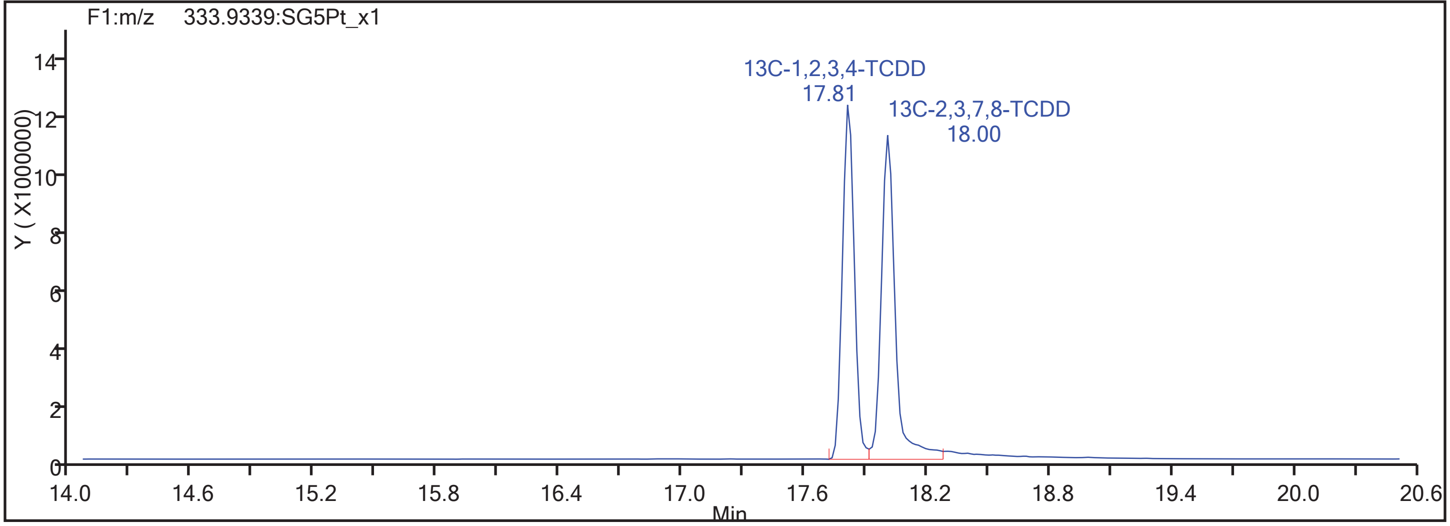
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





TestAmerica Sacramento

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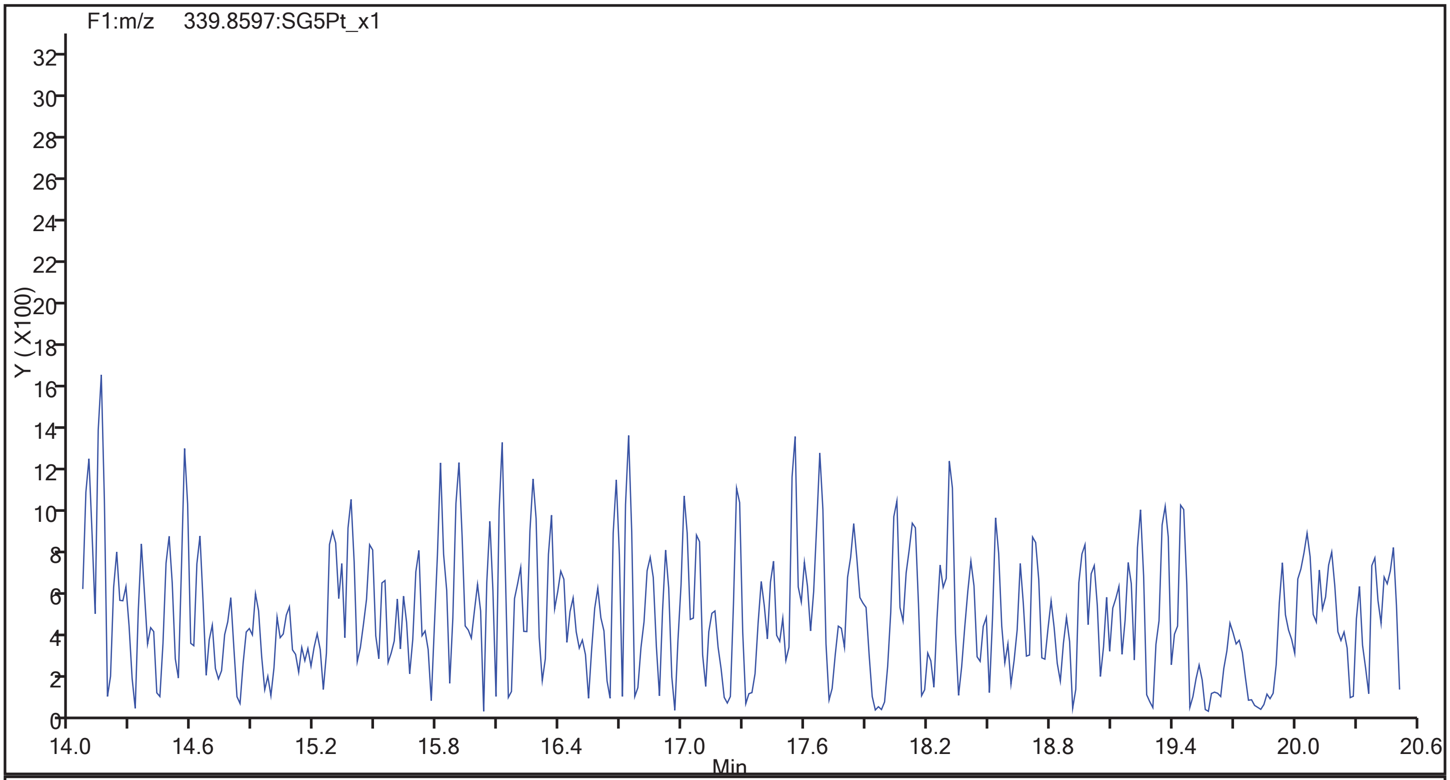
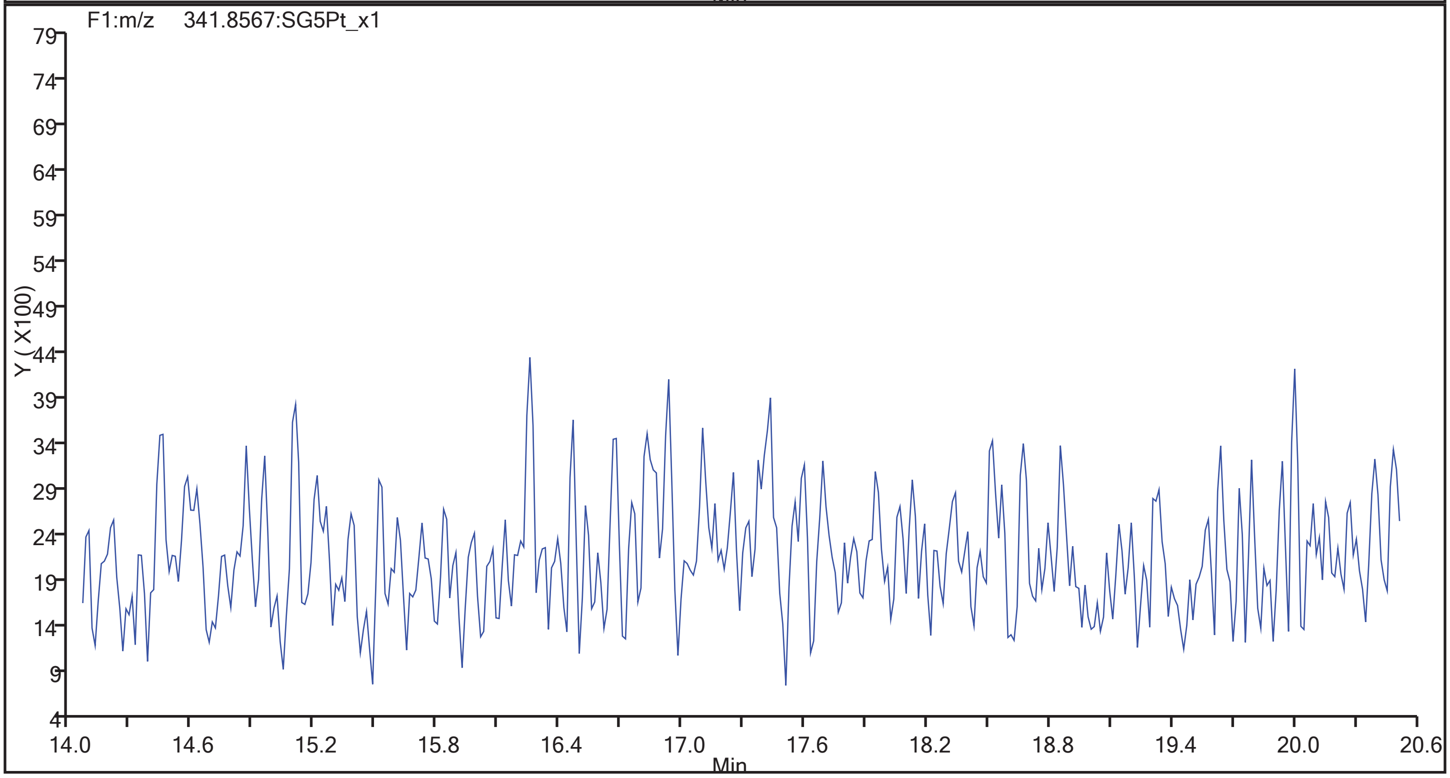
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Report Date: 14-Nov-2017 12:27:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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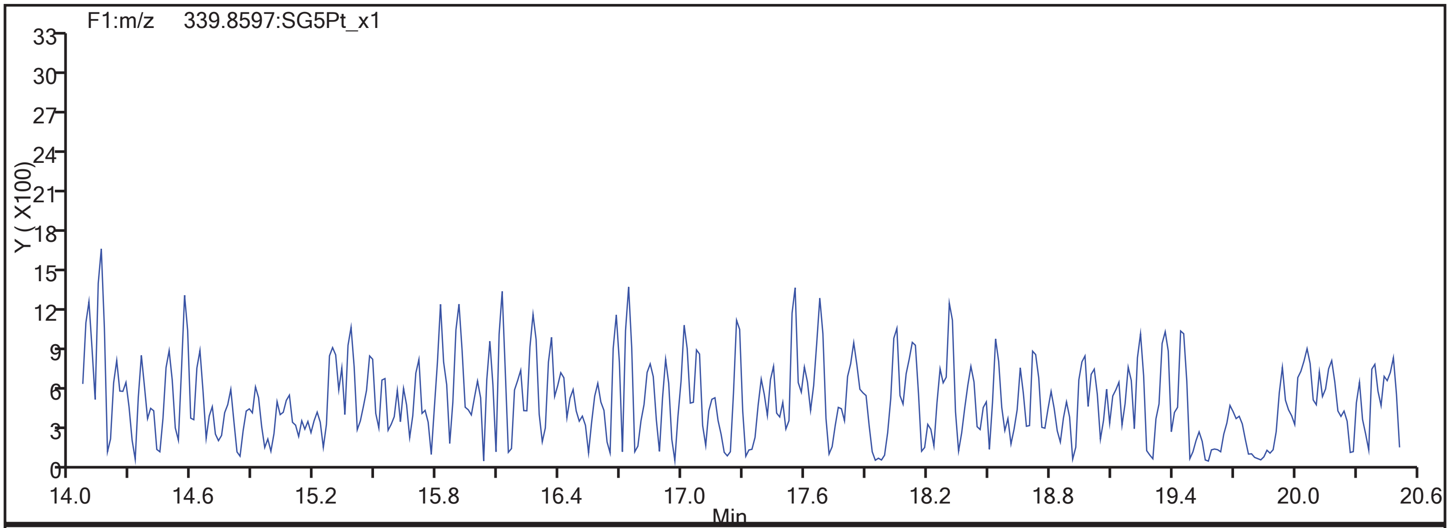
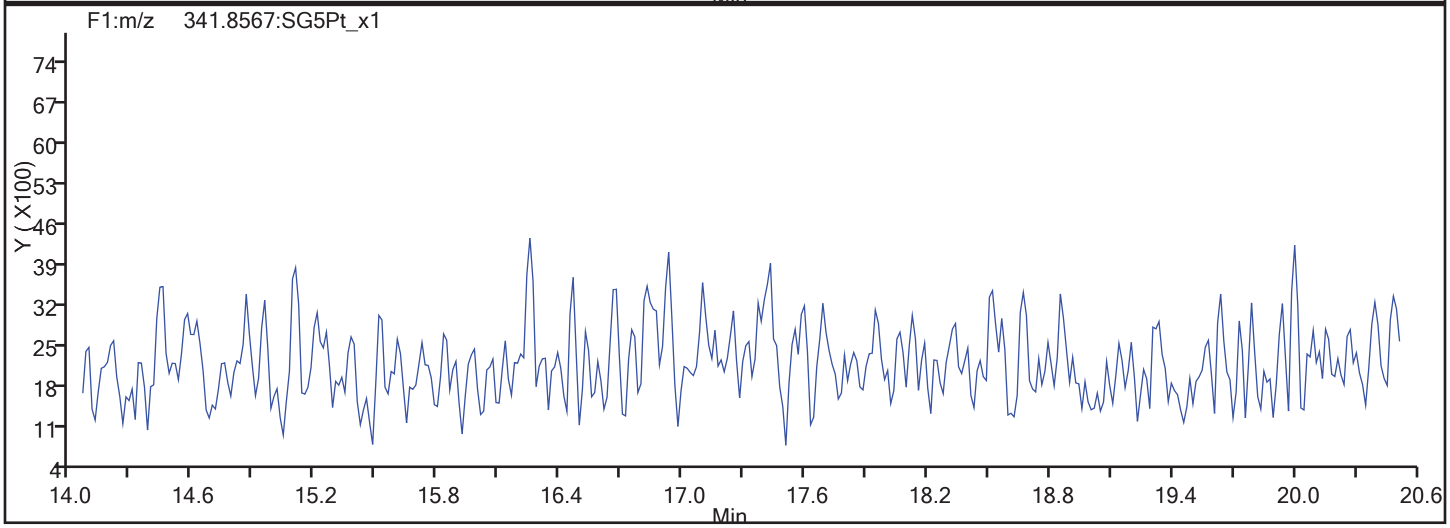
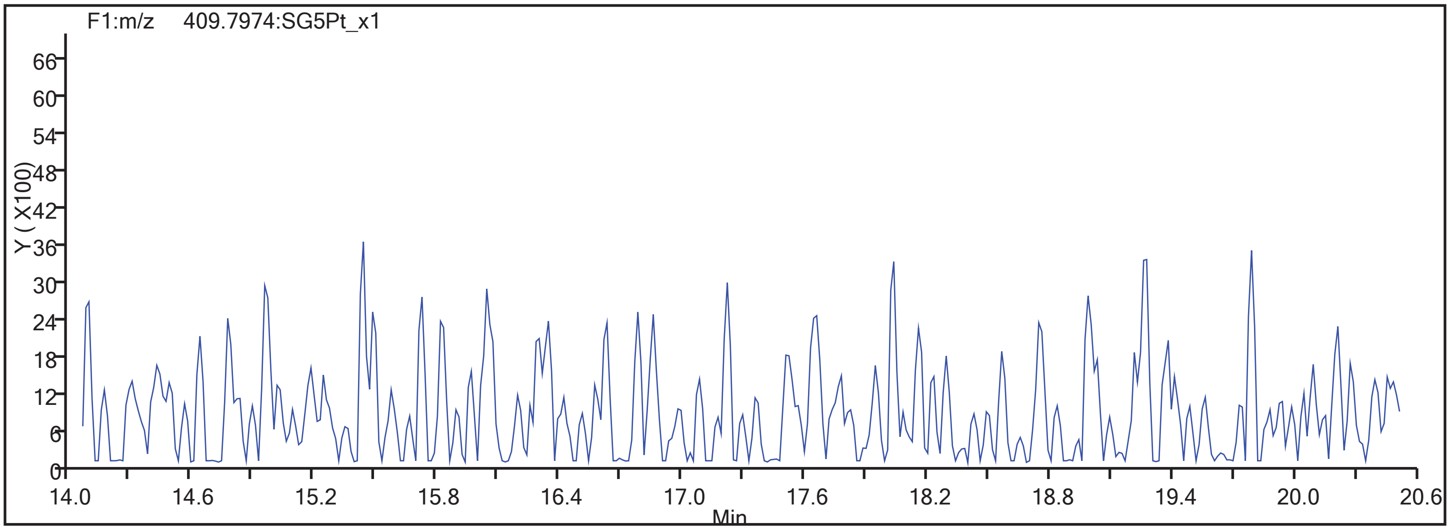
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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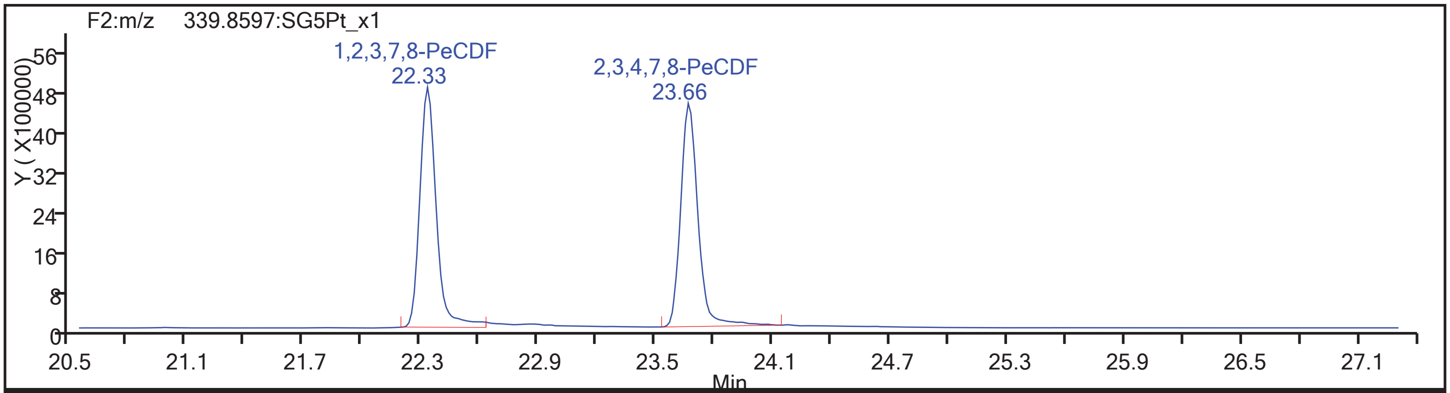
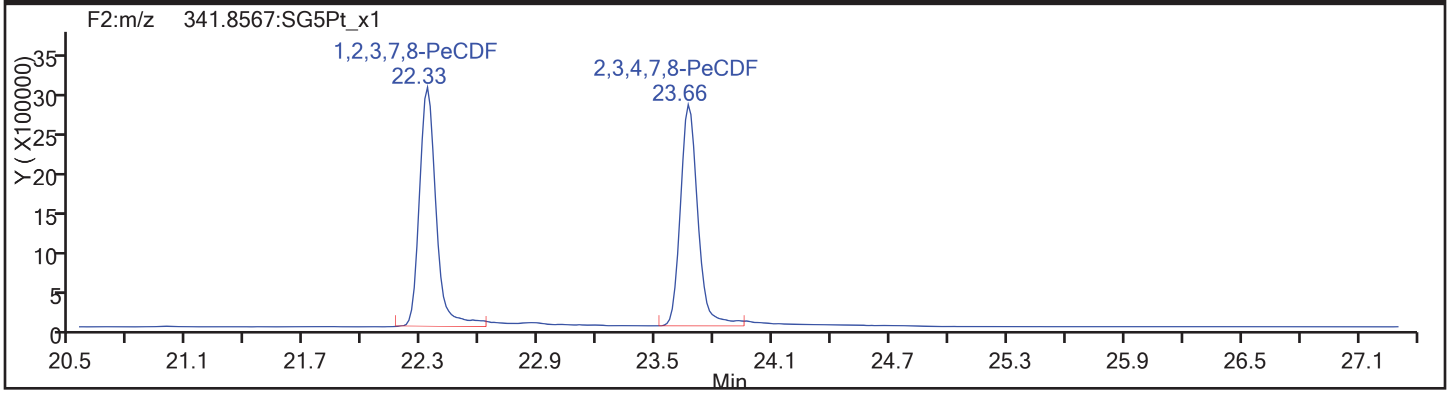
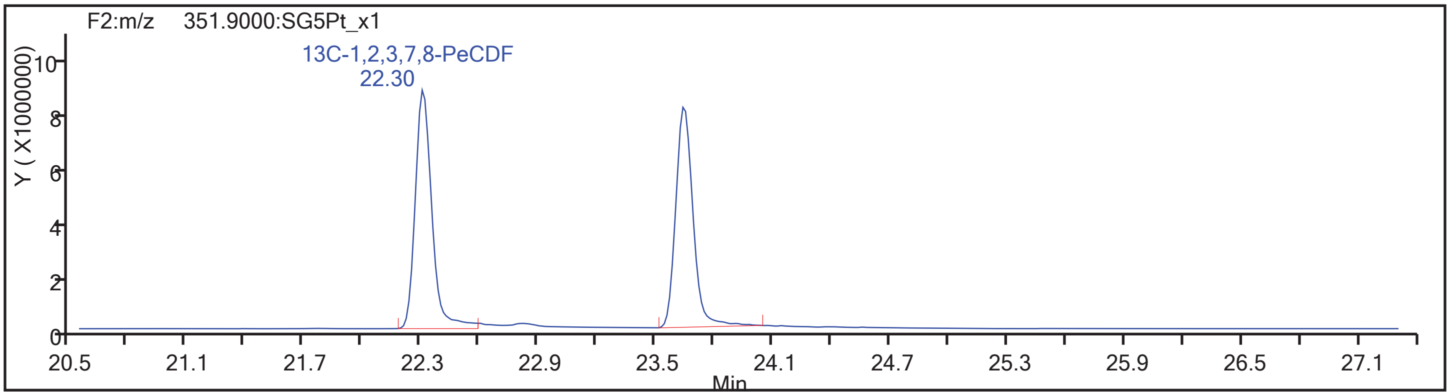
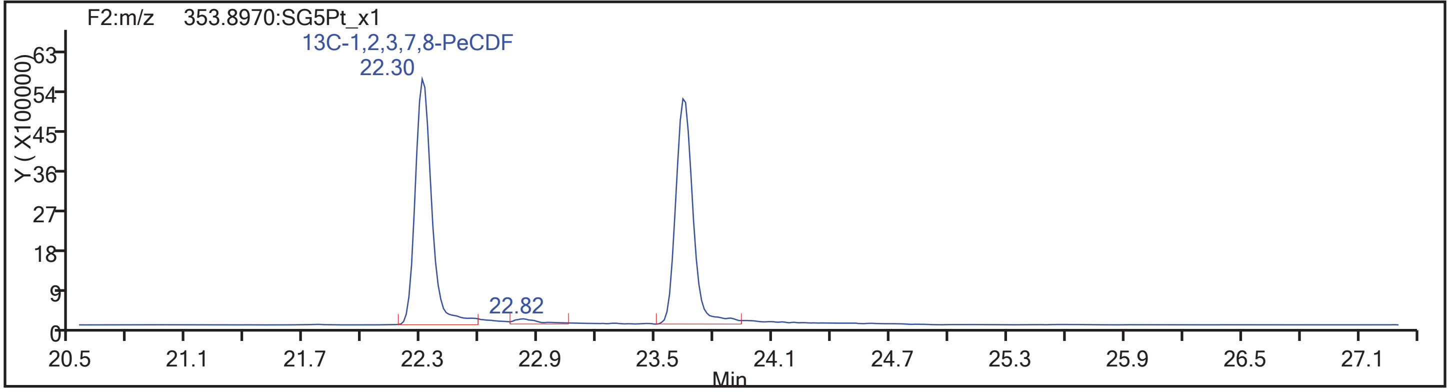
PeCDF





PeCDF Standards





TestAmerica Sacramento

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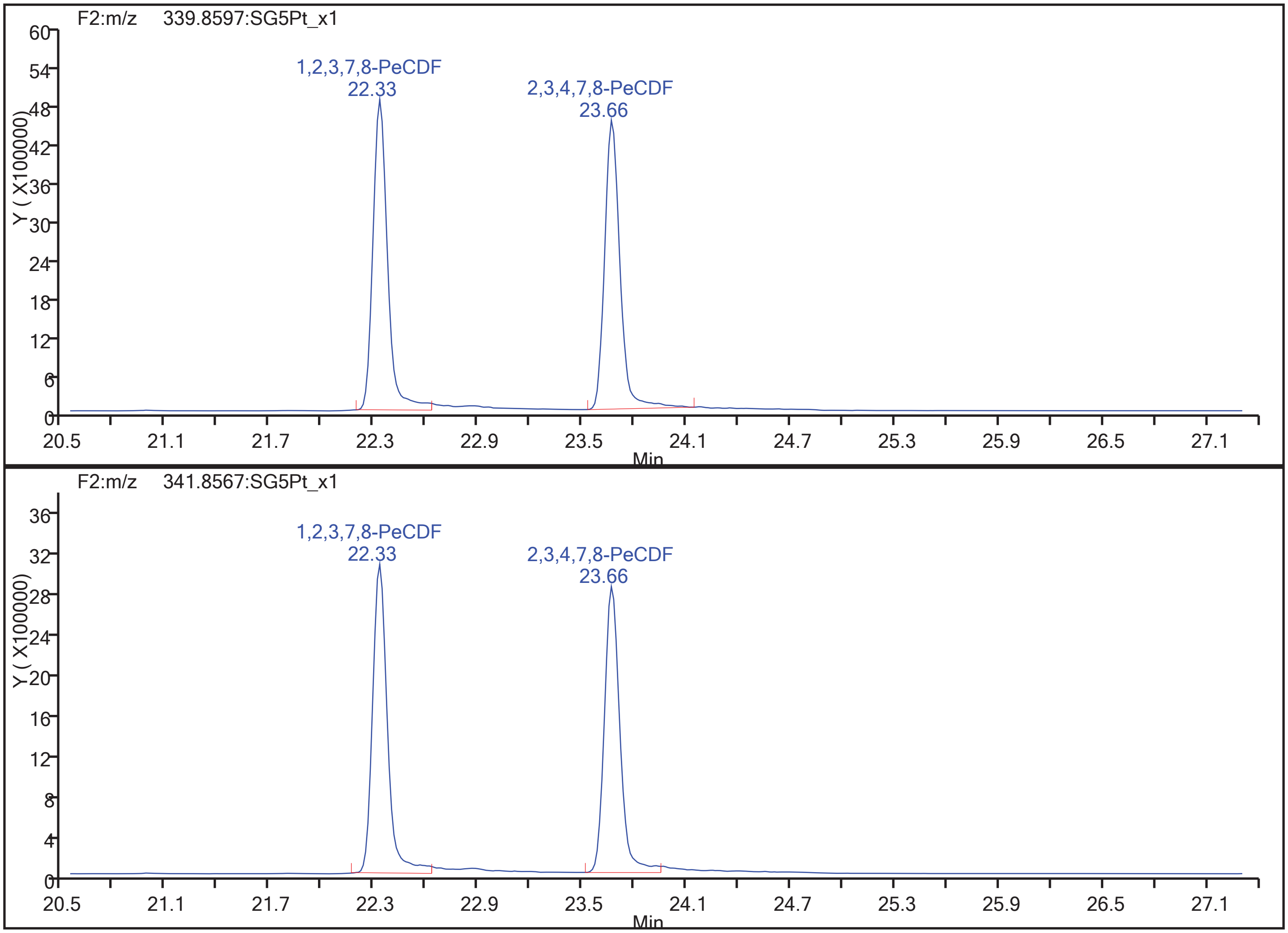
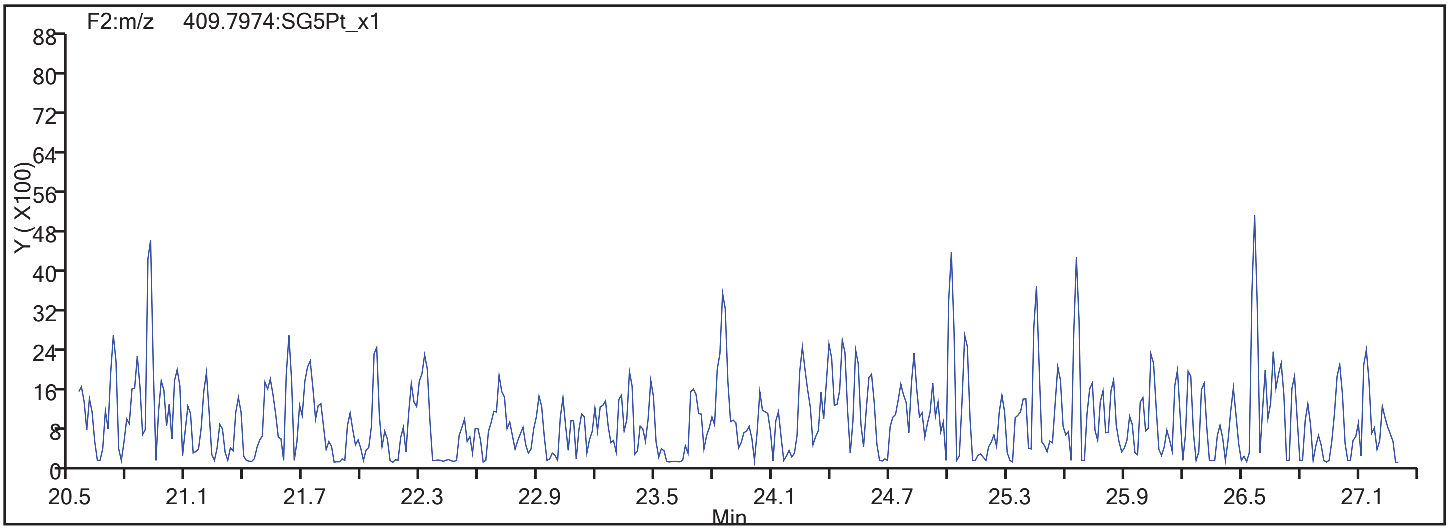
PeCDF



PeCDF Interference Mass



Report Date: 14-Nov-2017 12:27:24 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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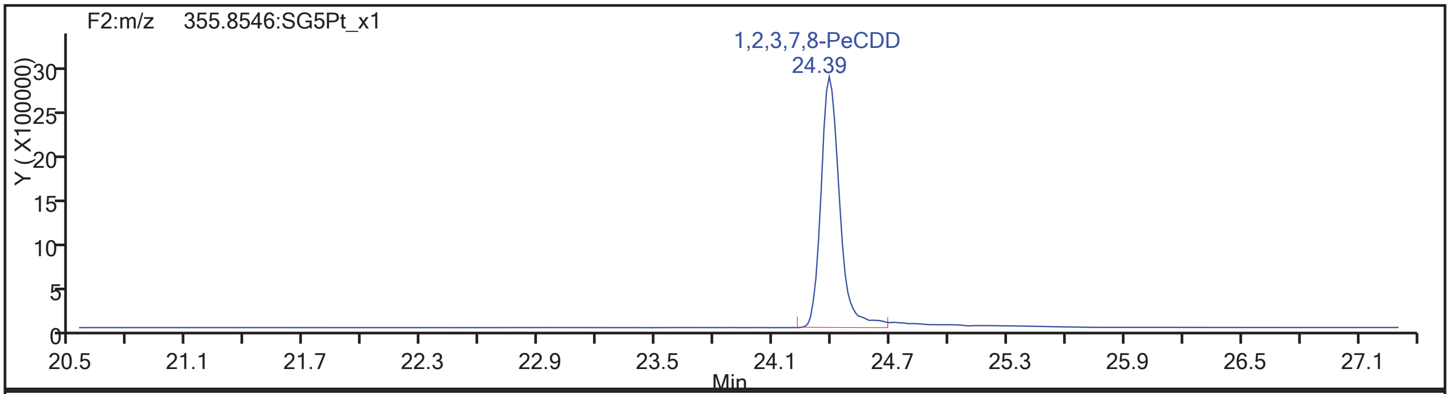
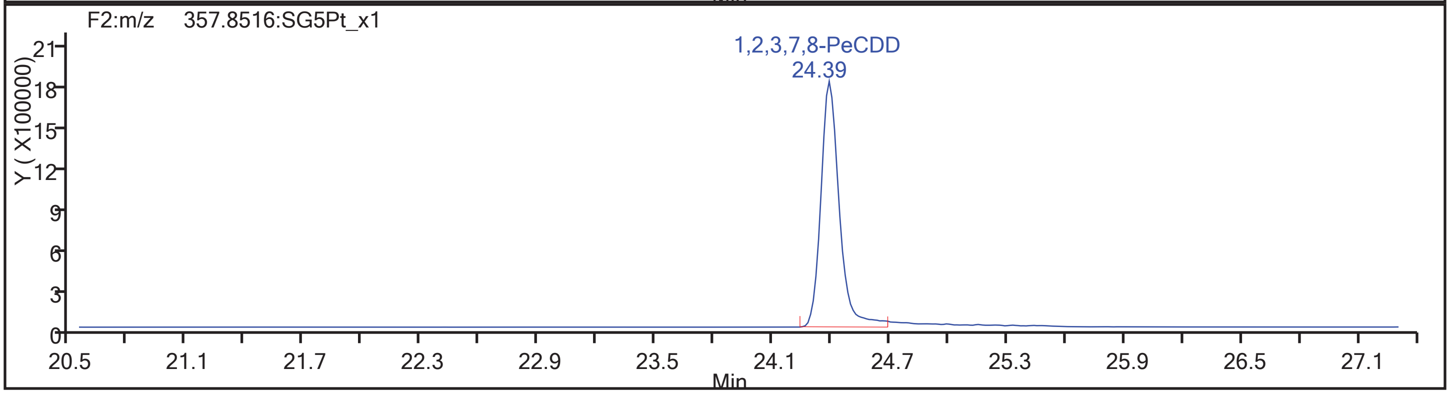
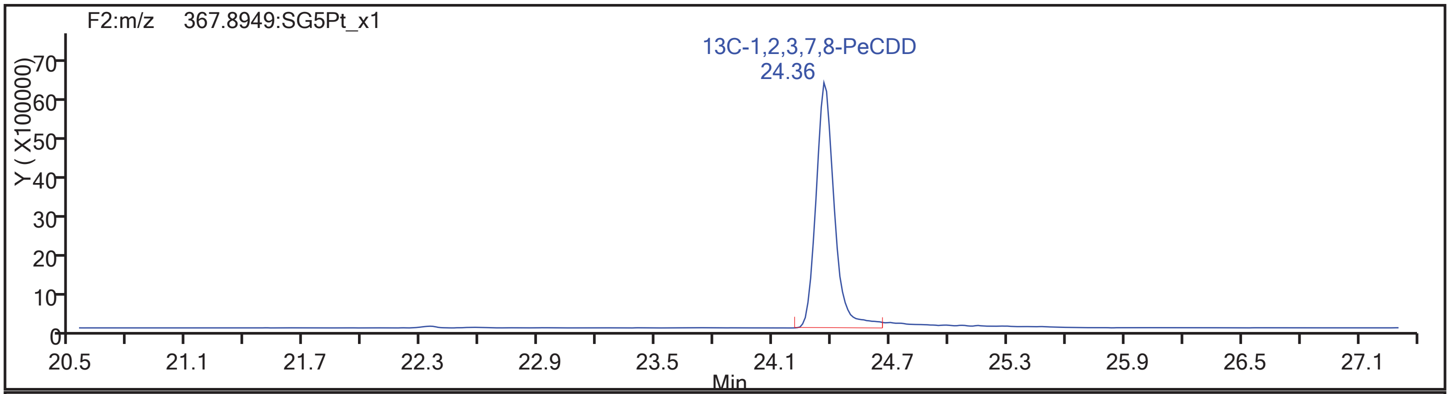
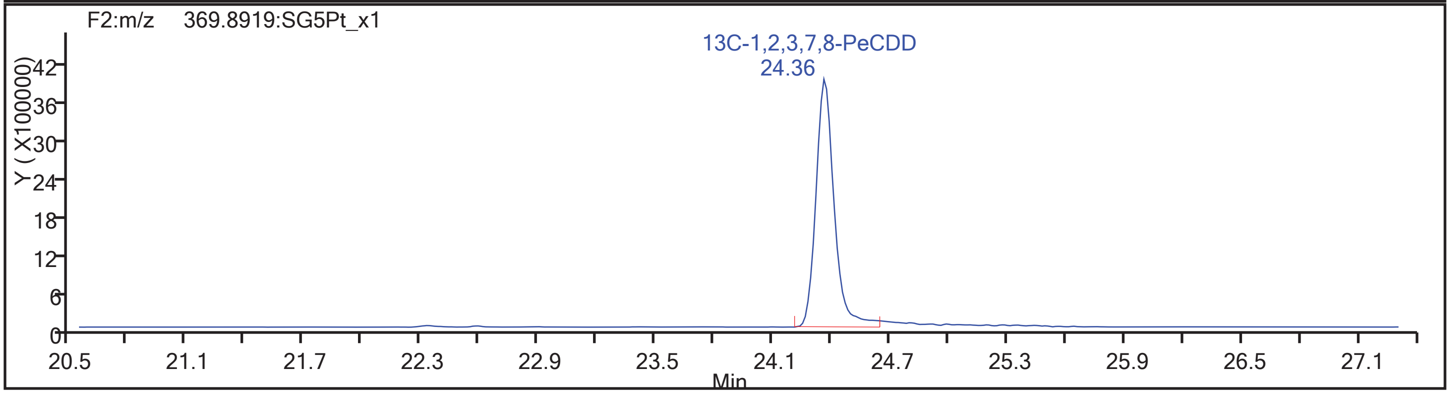




PeCDD Standards





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TestAmerica Sacramento

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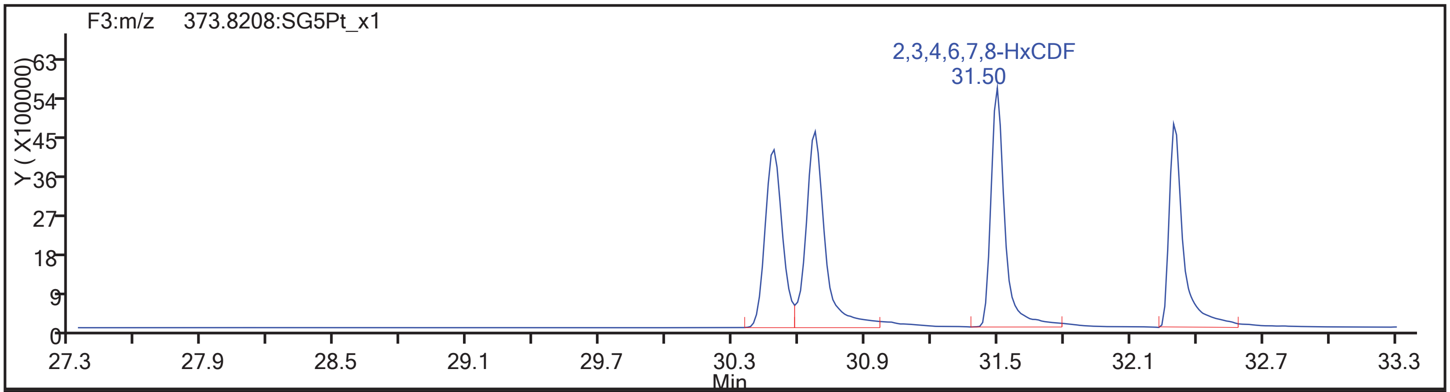
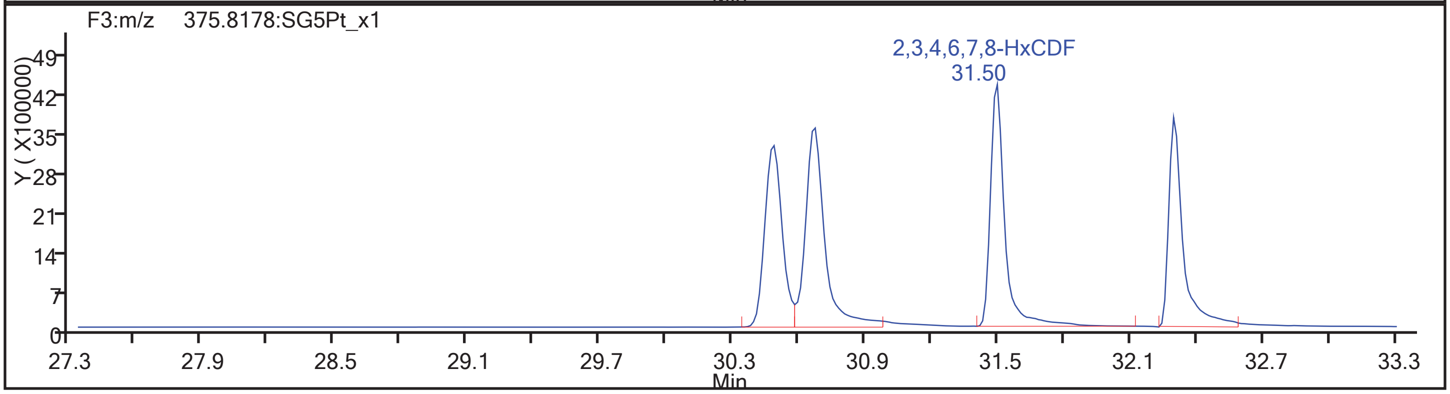
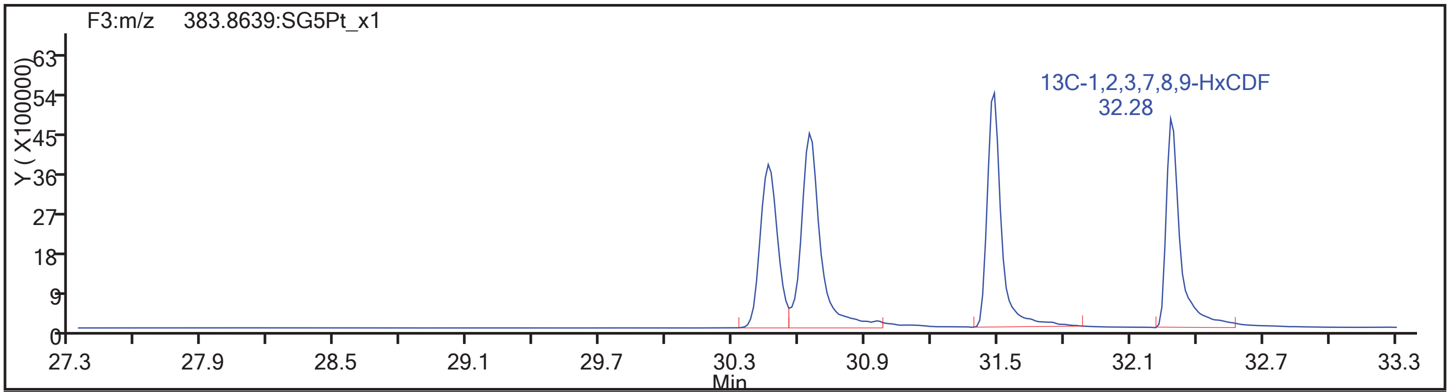
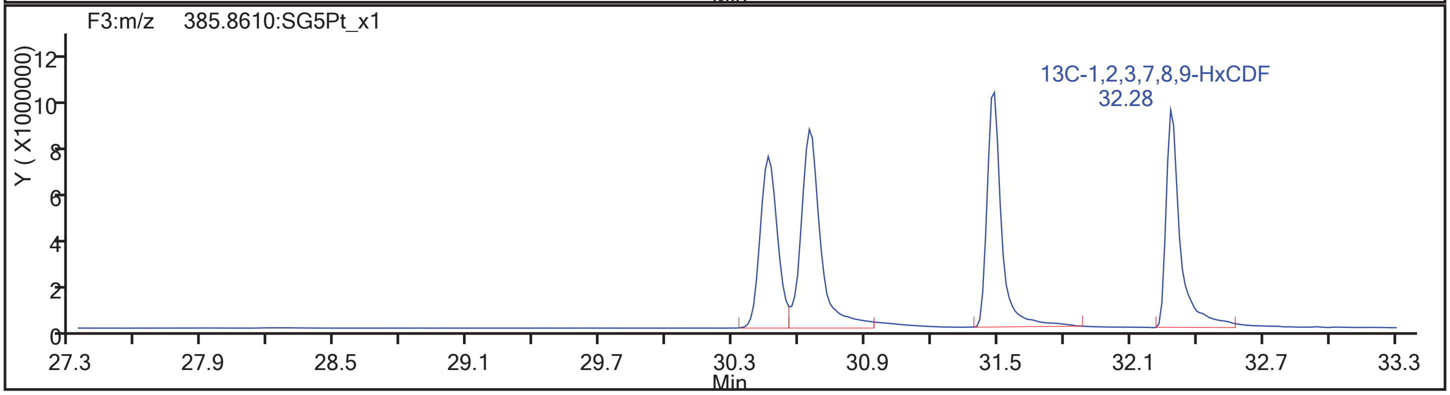
HxCDF





HxCDF Standards





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TestAmerica Sacramento

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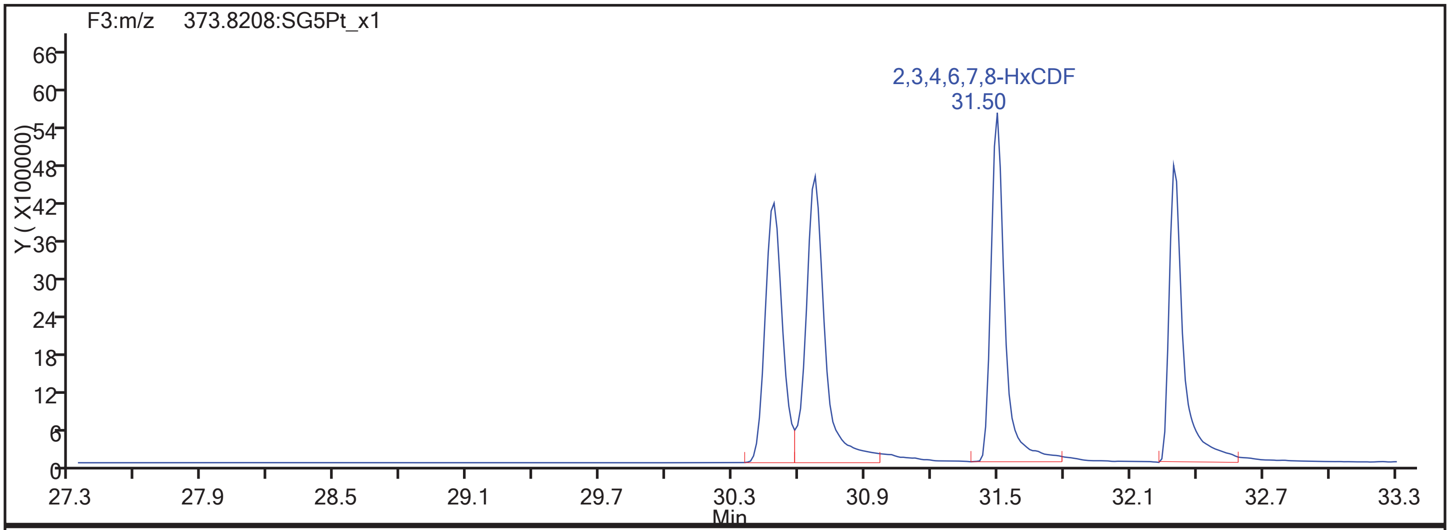
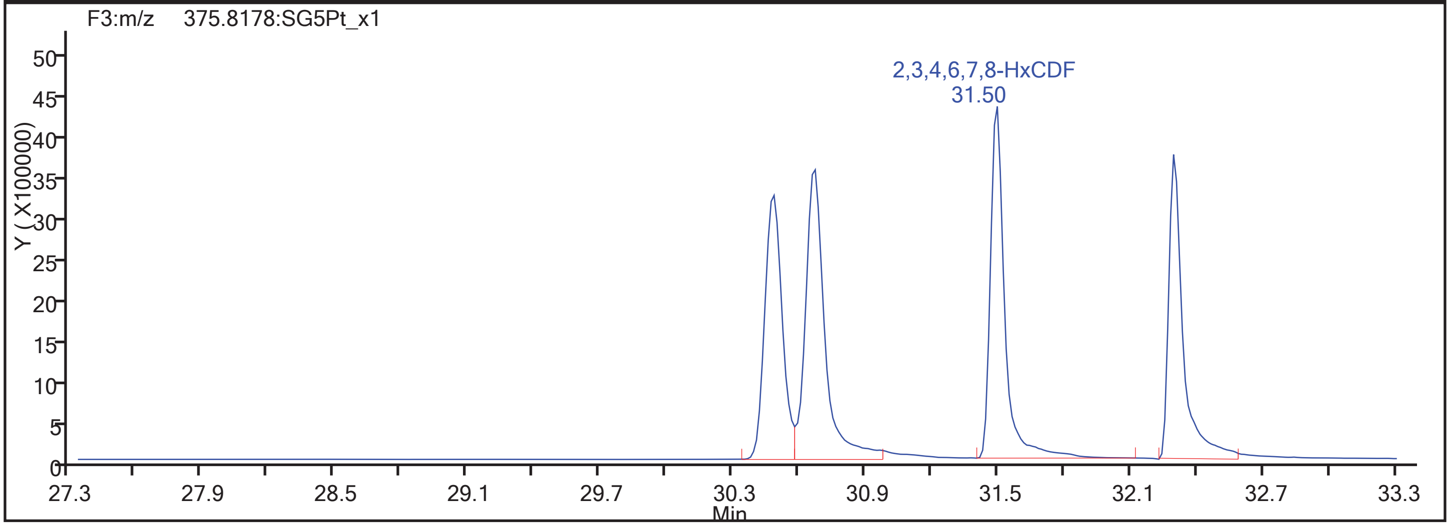
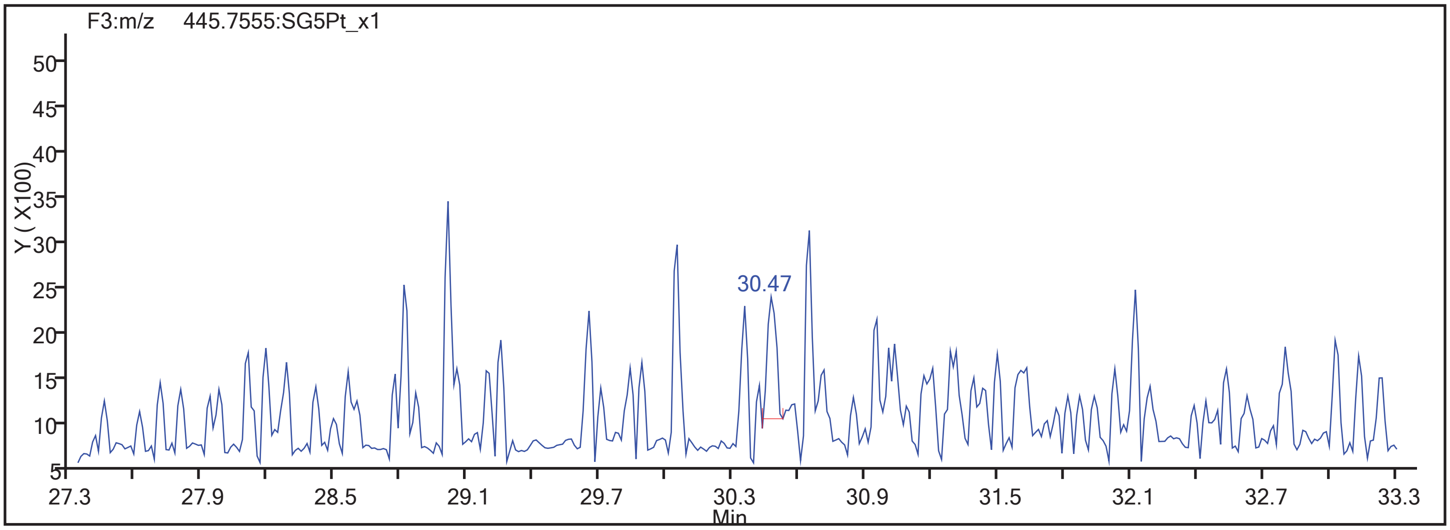




HxCDF Interference Mass



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TestAmerica Sacramento

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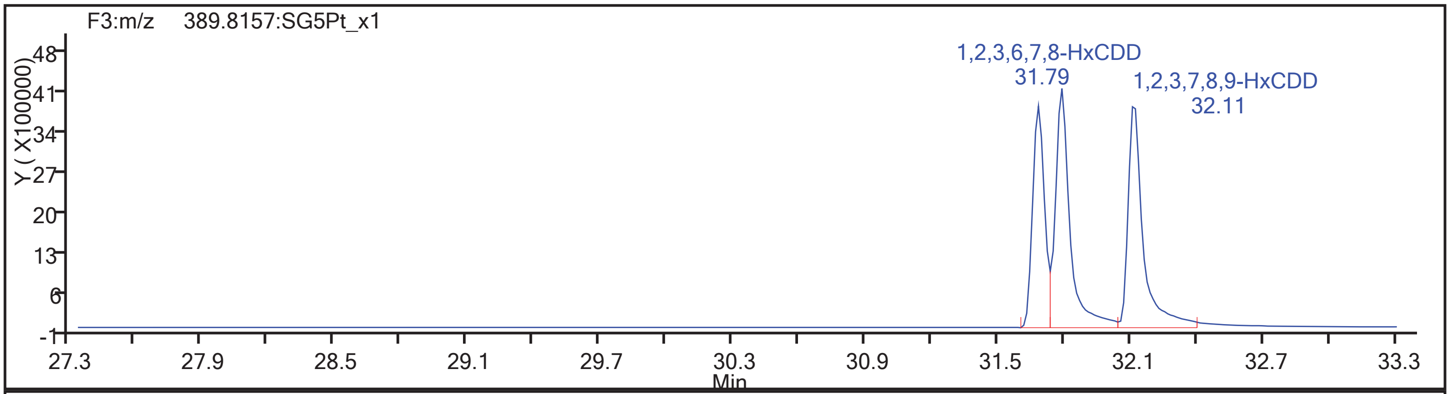
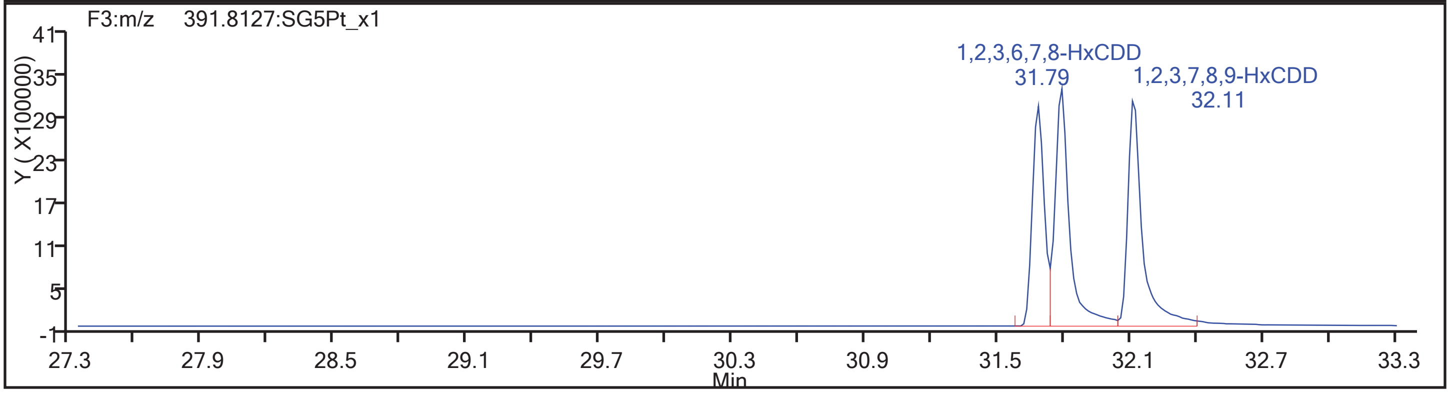
HxCDD





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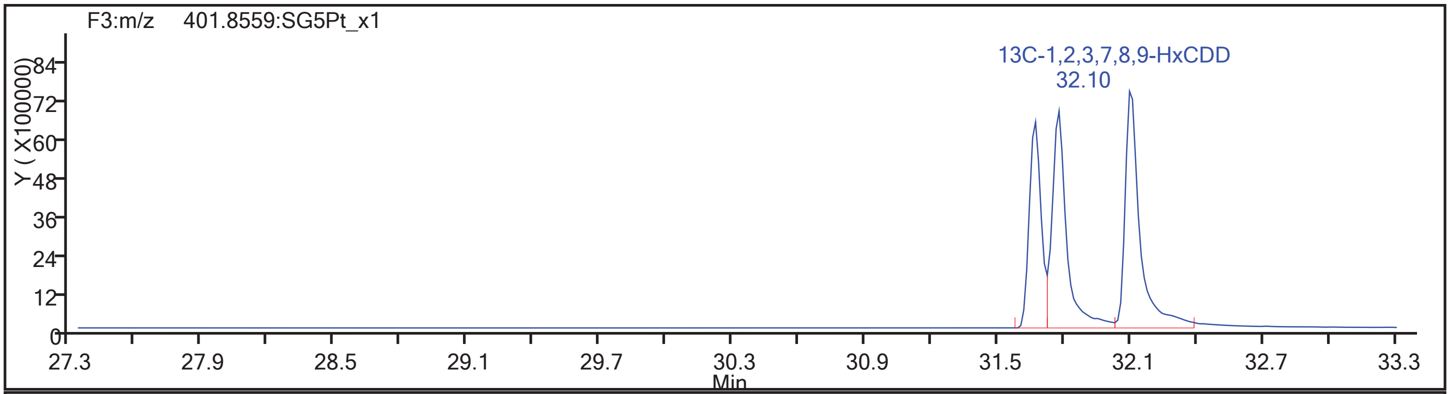

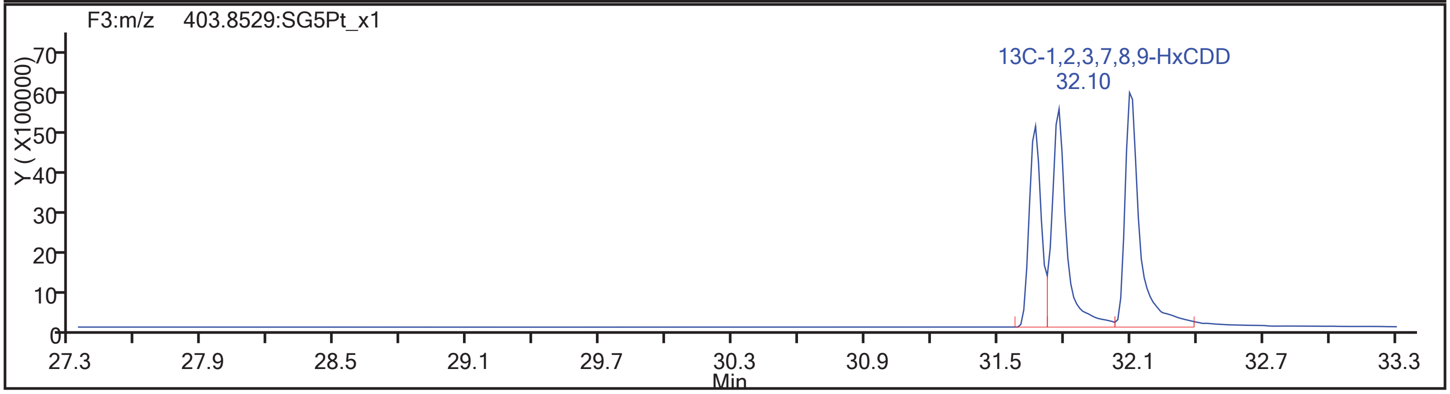

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TestAmerica Sacramento

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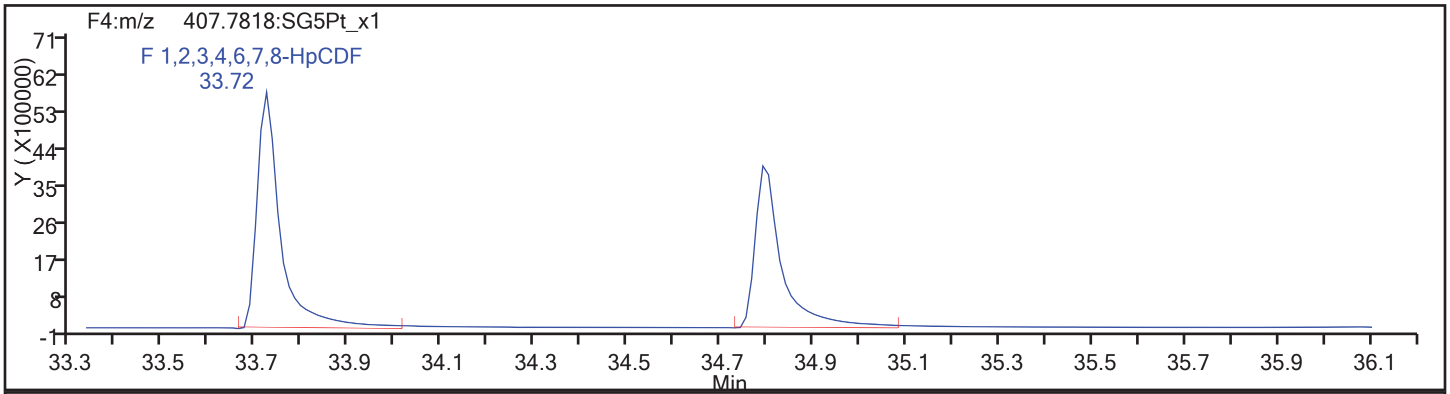
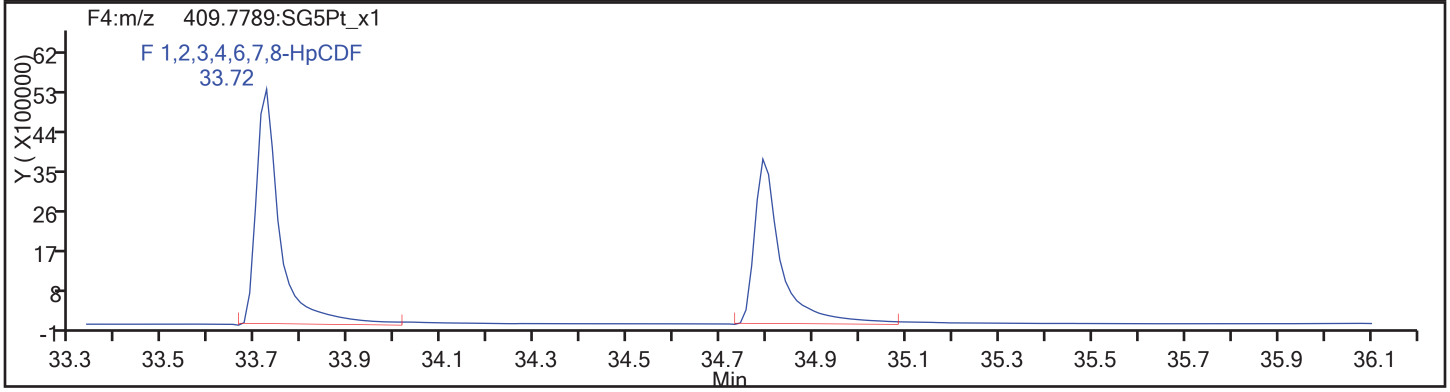
HpCDF





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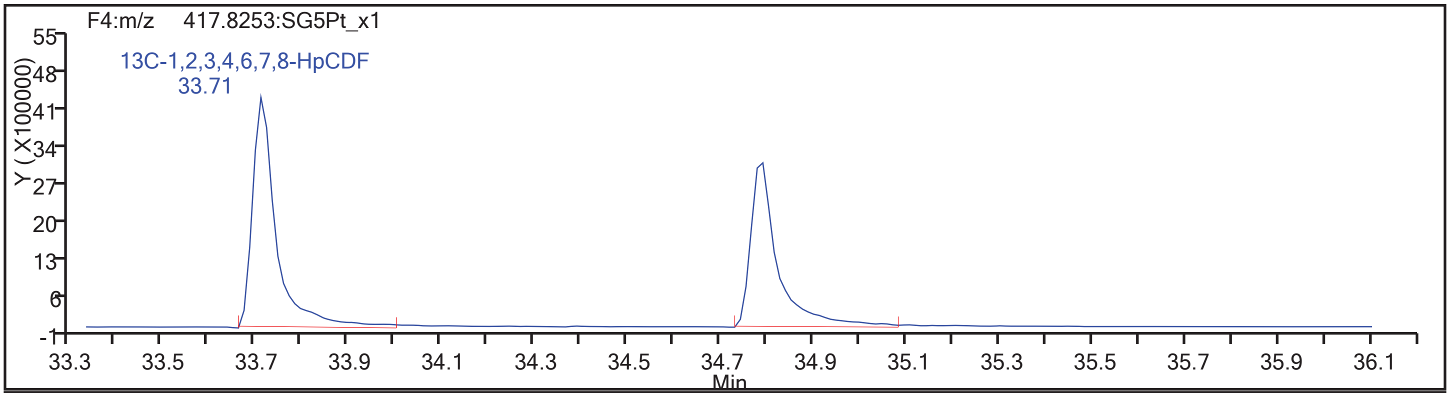

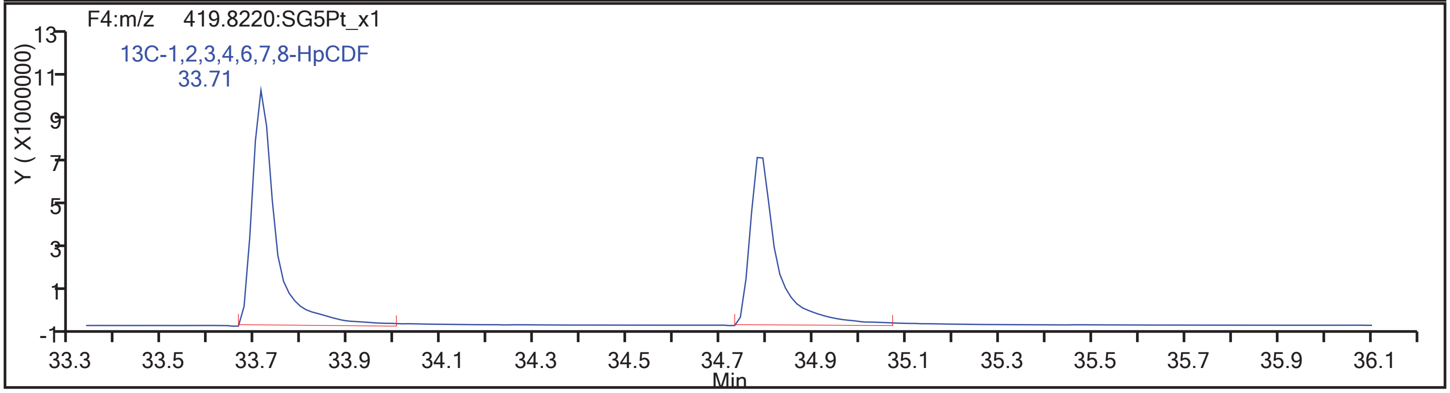

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TestAmerica Sacramento

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Injection Date: 14-Nov-2017 08:10:36 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

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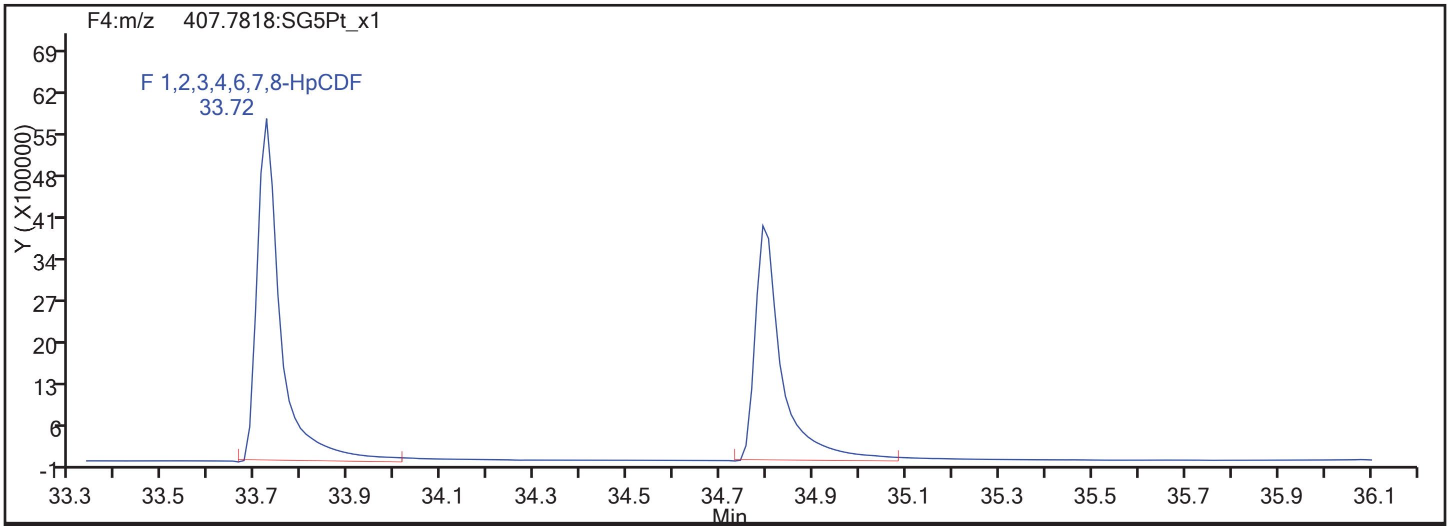
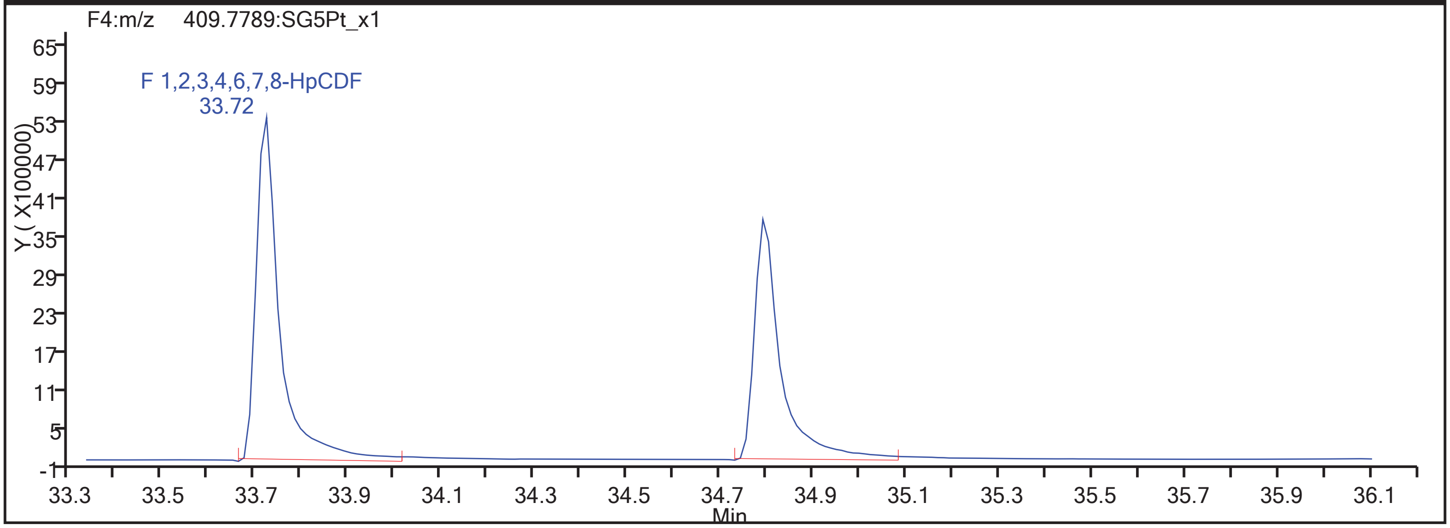
Client ID:

Worklist#: 194428 Sample Line#: 26

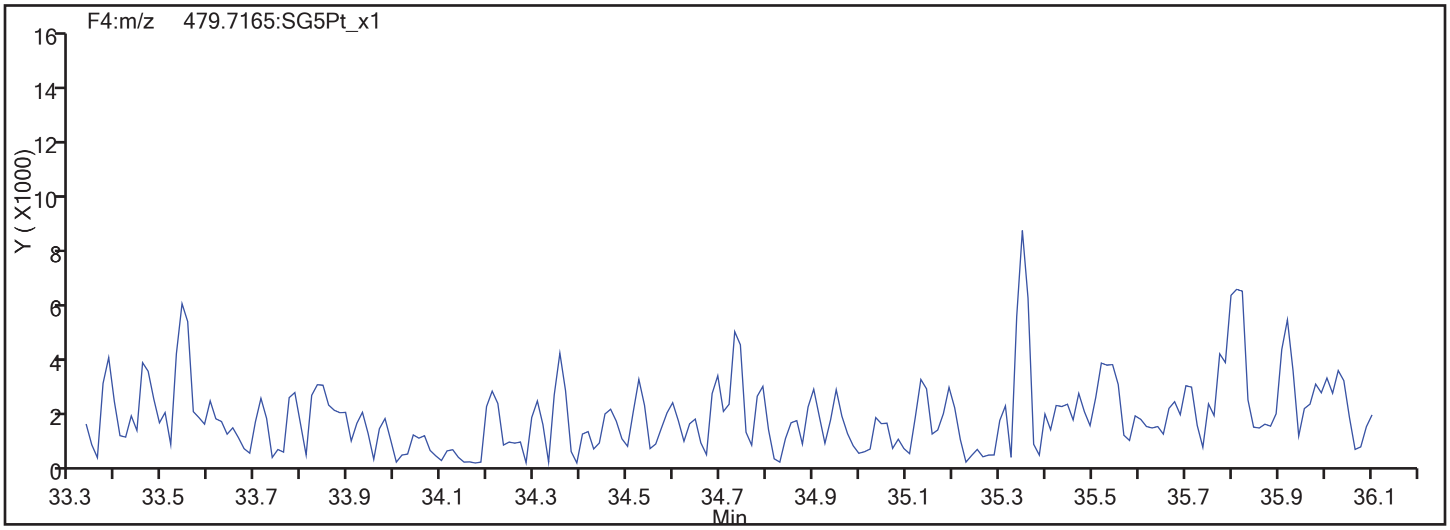
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass



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TestAmerica Sacramento

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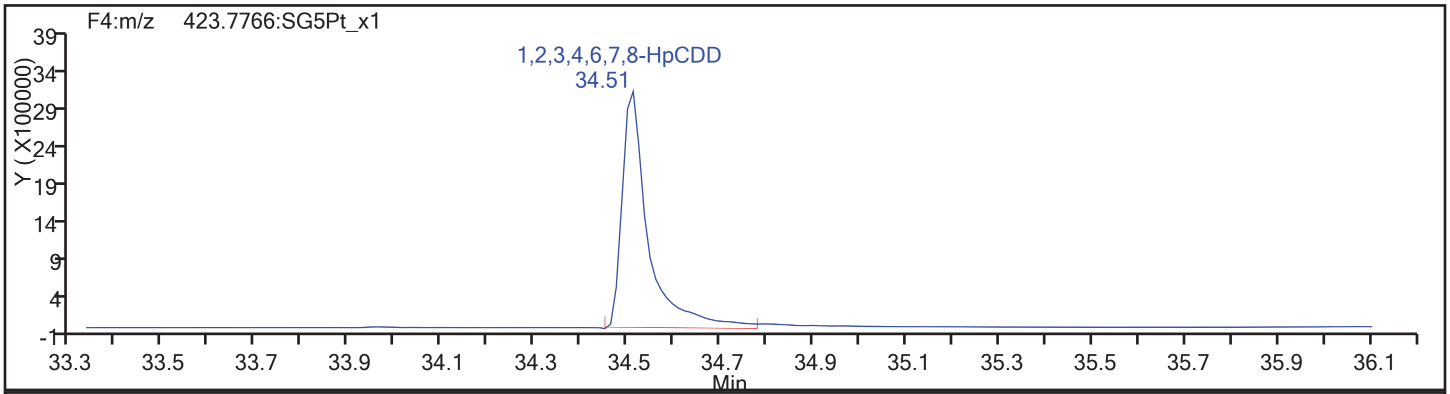
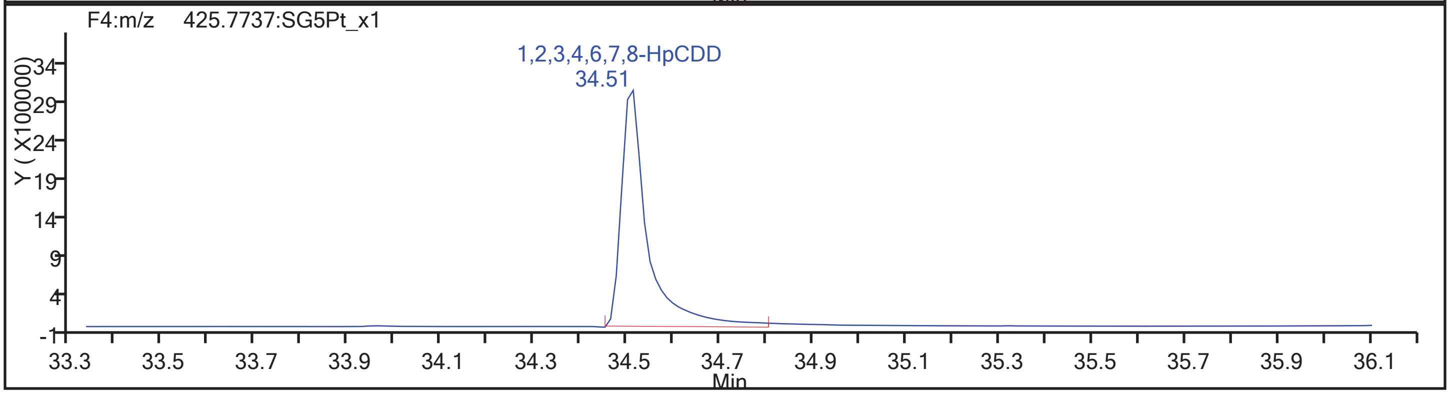
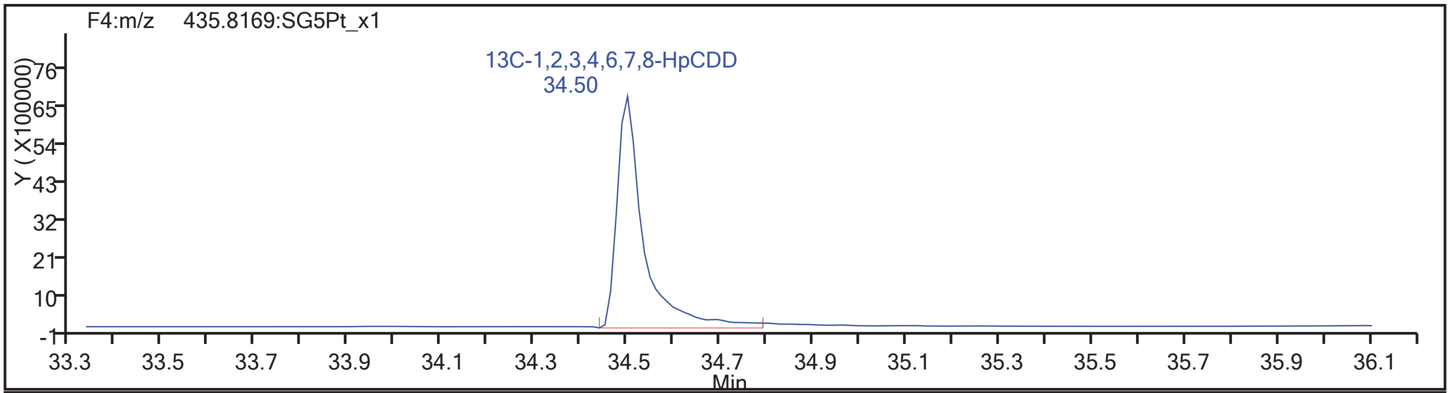
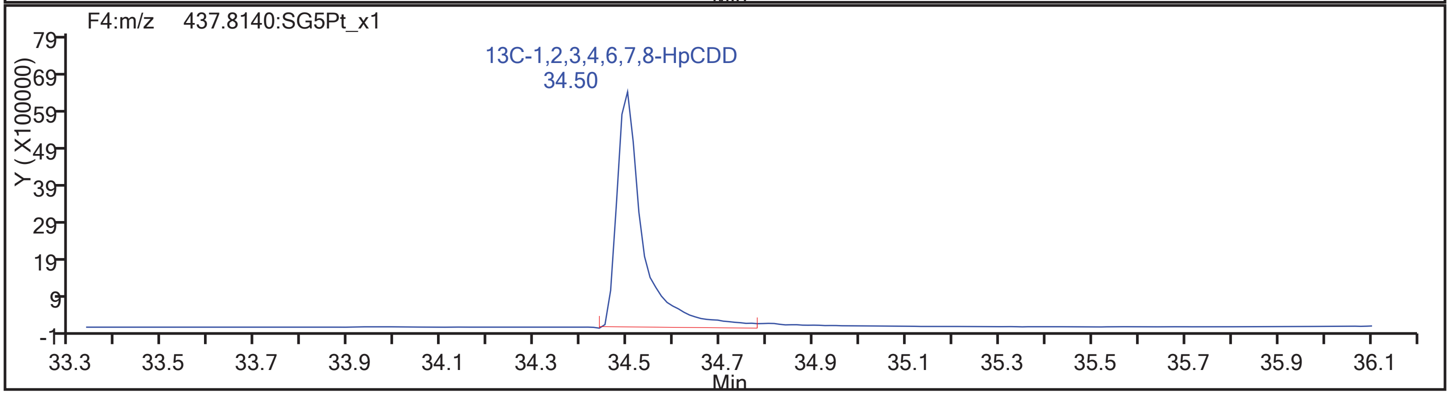
HpCDD





HpCDD Standards



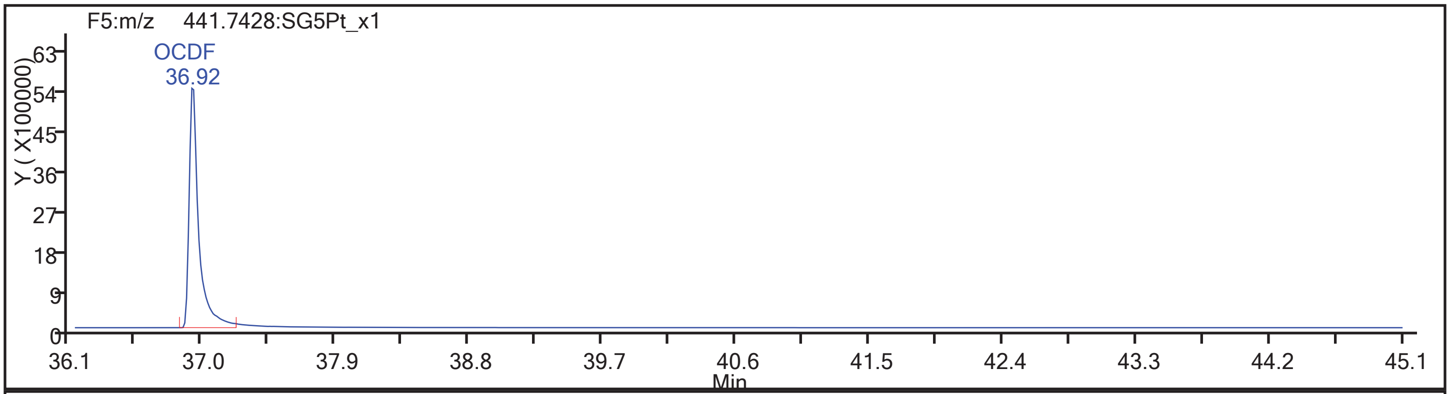


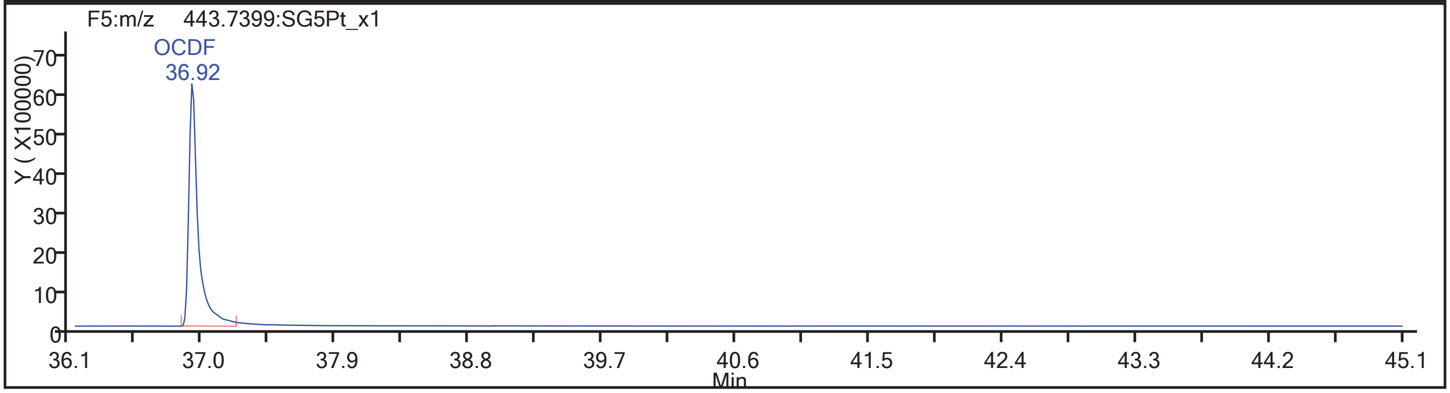
Report Date: 14-Nov-2017 12:27:25 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

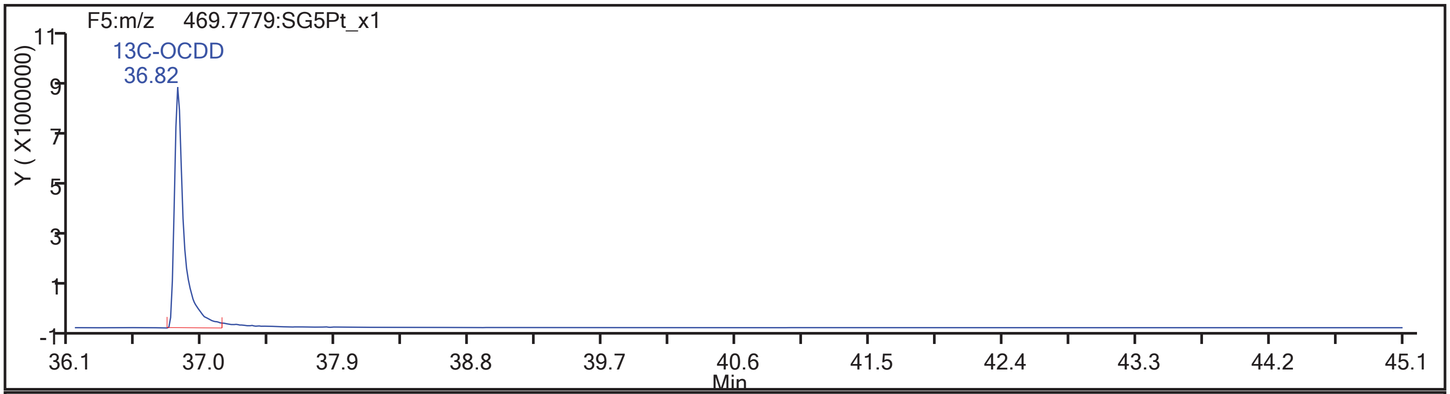
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_26.d		
Injection Date:	14-Nov-2017 08:10:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	26
Column Type:	DB-5	Column Dia:	0.32 mm

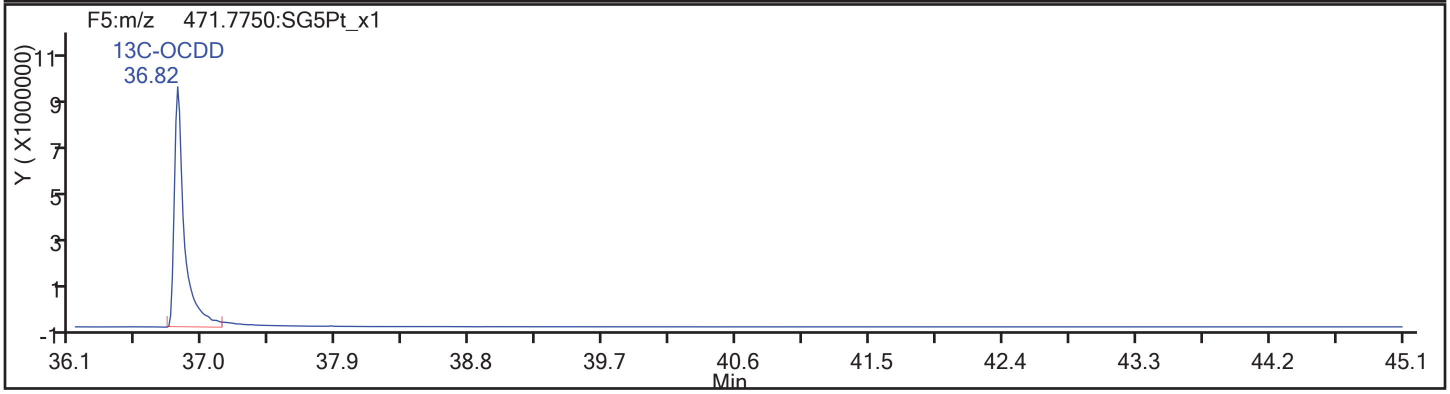
OCDF





OCDF Standards





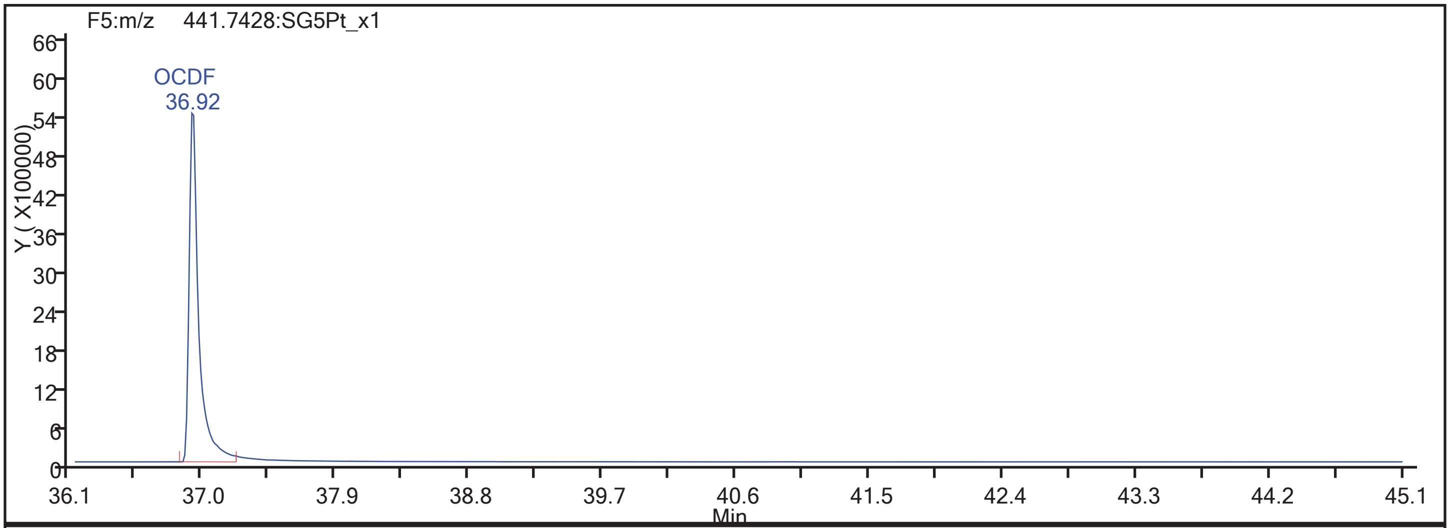
Report Date: 14-Nov-2017 12:27:25 Chrom Revision: 2.2 16-Aug-2017 16:24:46

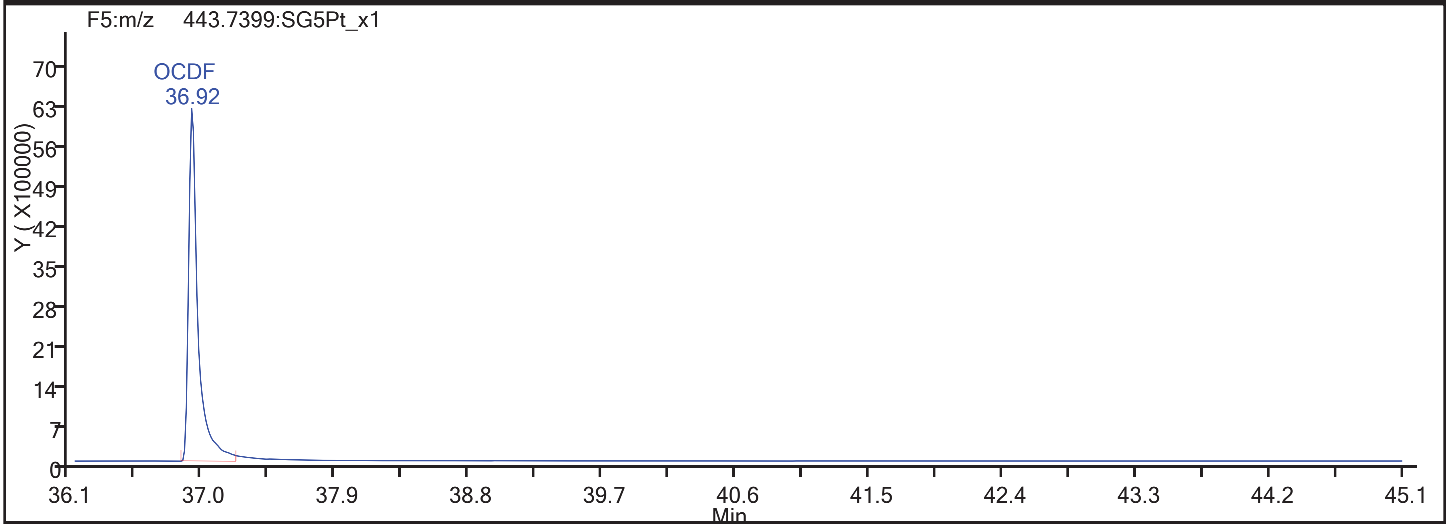
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_26.d

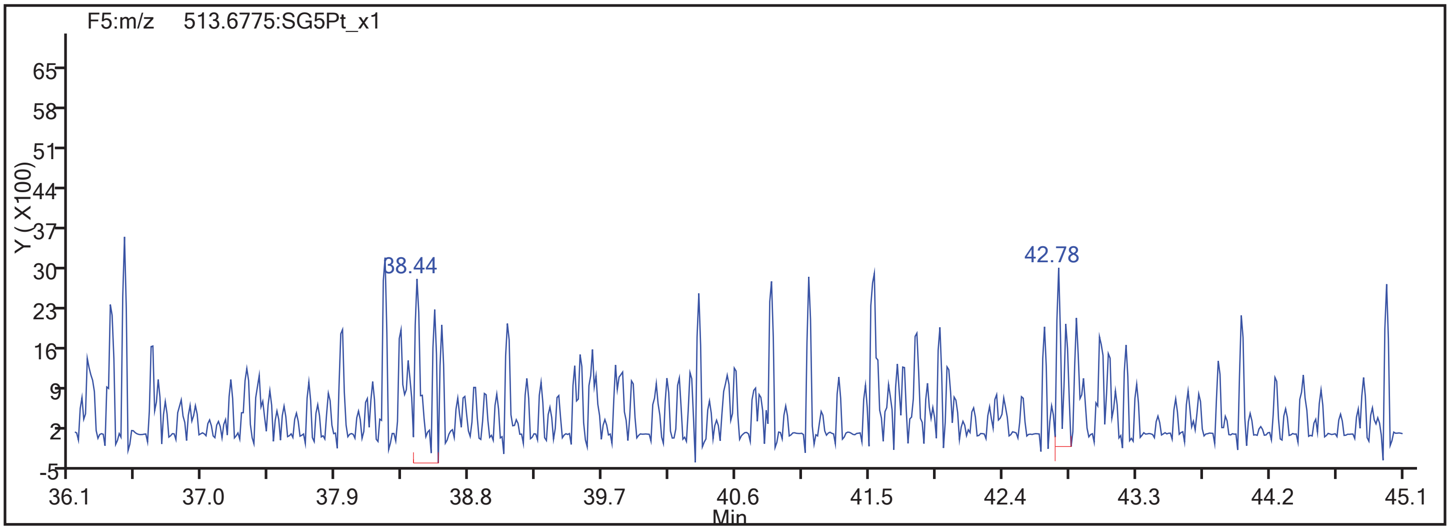
Injection Date:	14-Nov-2017 08:10:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	26
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





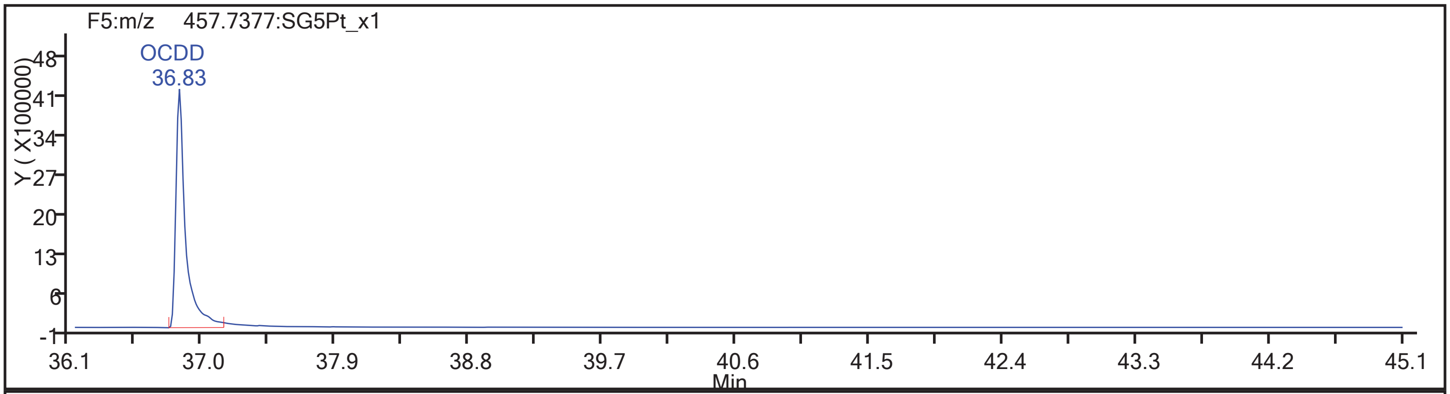
OCDF Interference Mass

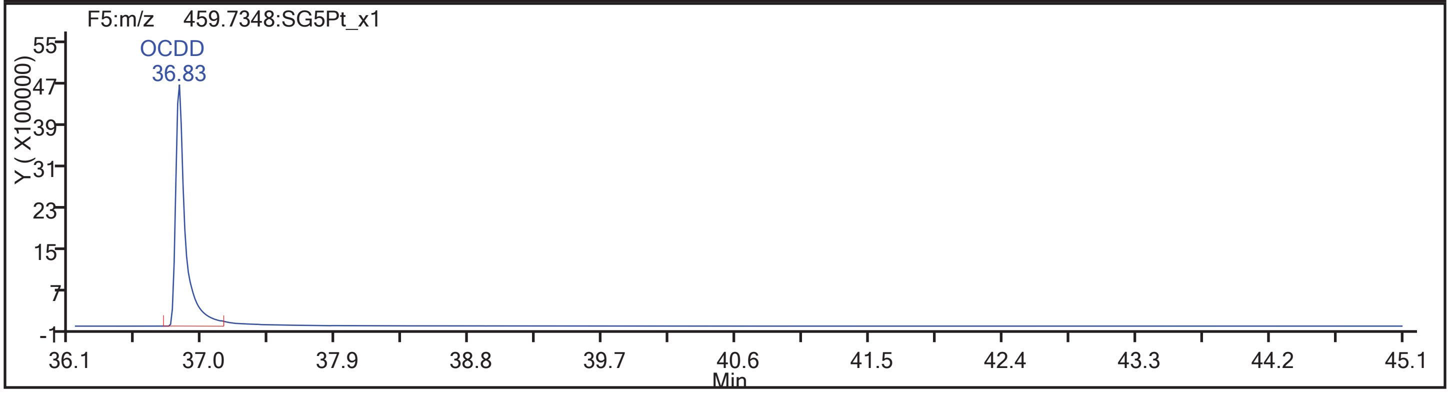


TestAmerica Sacramento

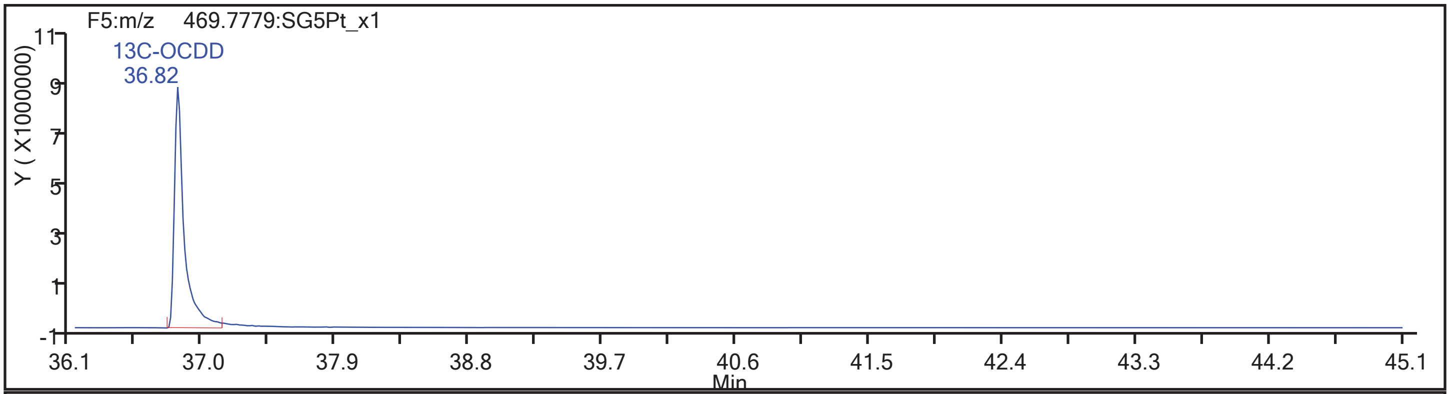
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_26.d		
Injection Date:	14-Nov-2017 08:10:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	26
Column Type:	DB-5	Column Dia:	0.32 mm

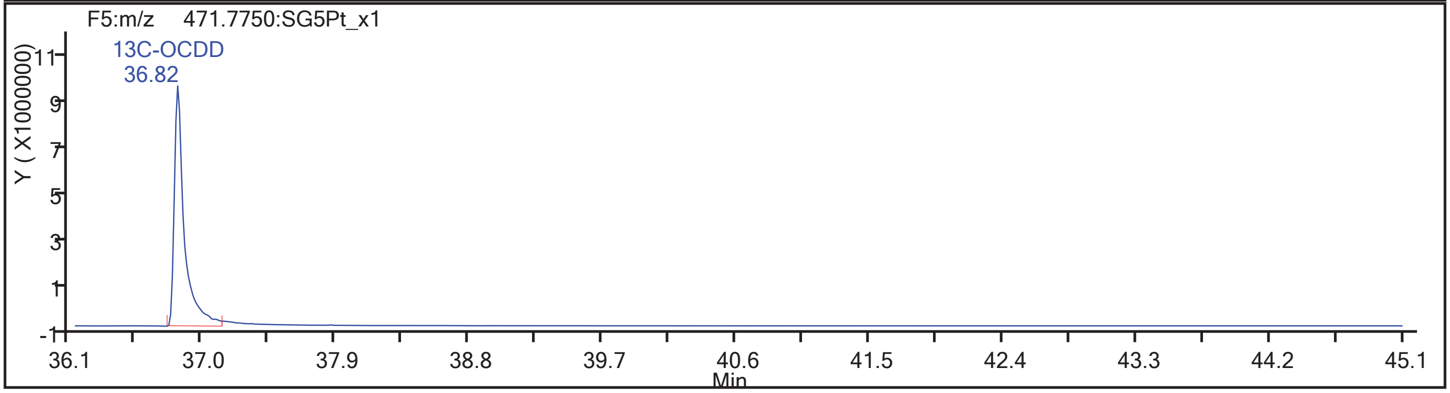
OCDD





OCDD Standards

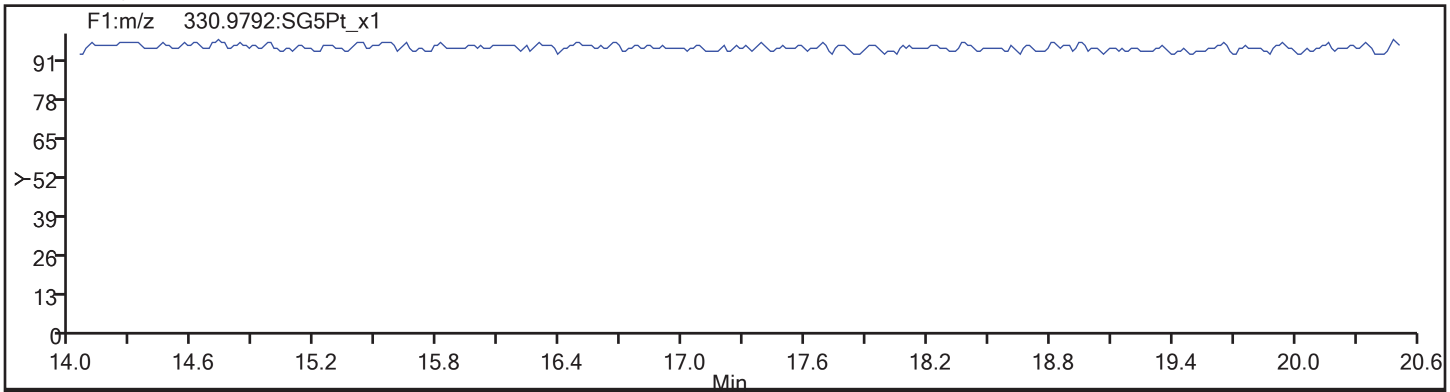


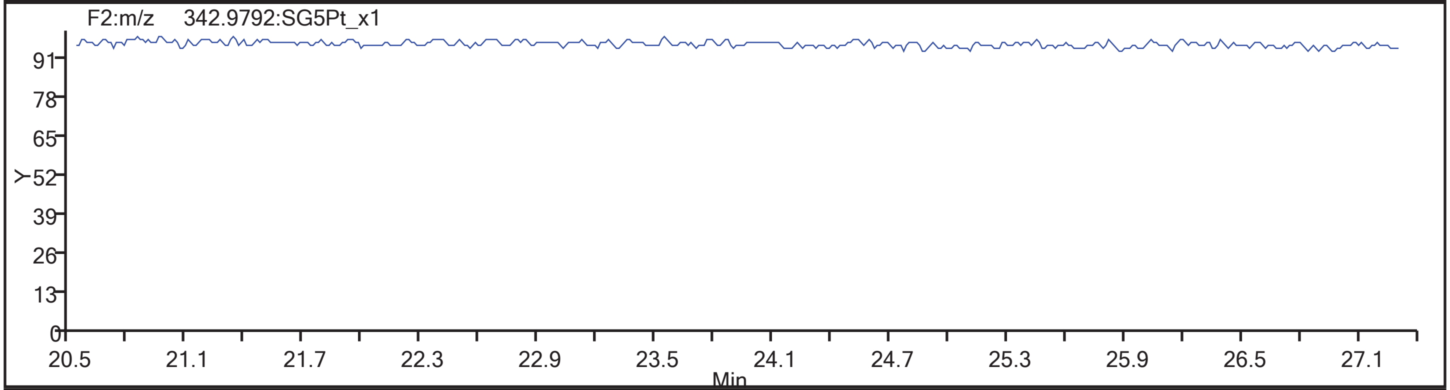


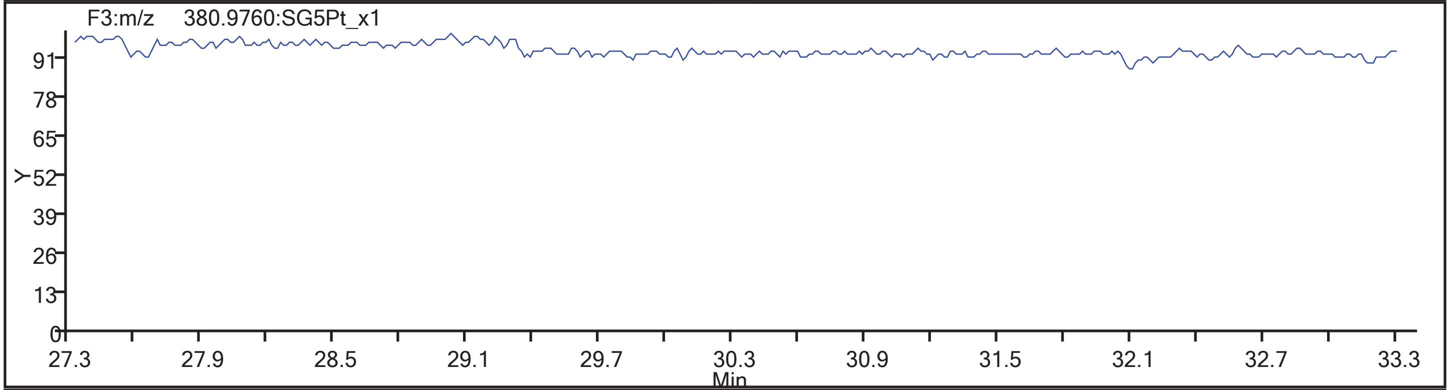
Report Date: 14-Nov-2017 12:27:25 Chrom Revision: 2.2 16-Aug-2017 16:24:46

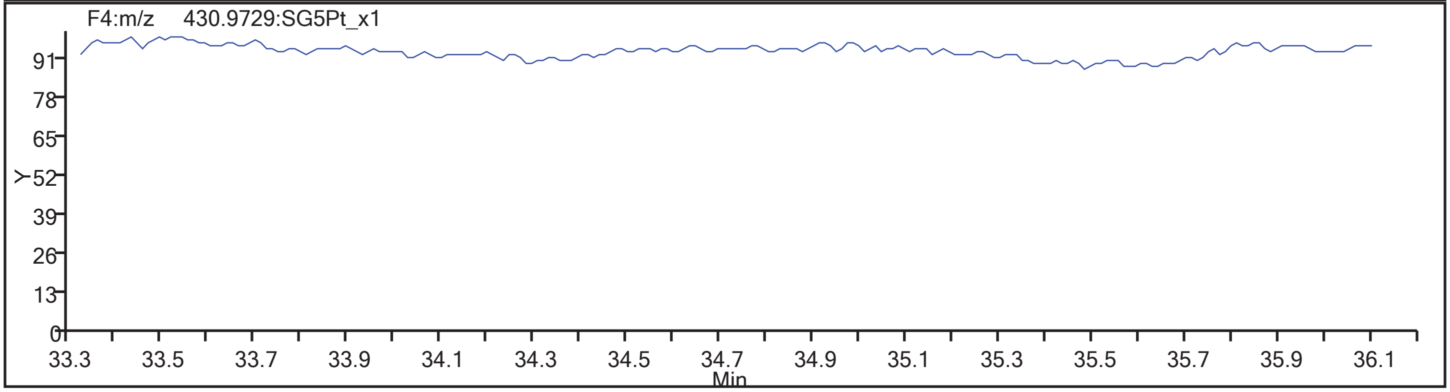
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_26.d		
Injection Date:	14-Nov-2017 08:10:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	26
Column Type:	DB-5	Column Dia:	0.32 mm





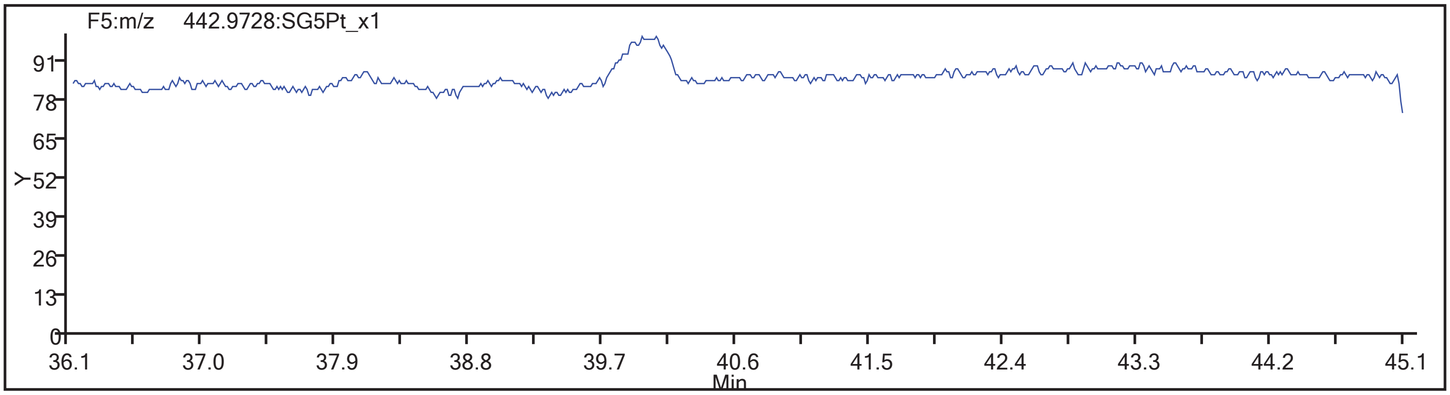




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_26.d

Injection Date:	14-Nov-2017 08:10:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	26
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-194429/28 Calibration Date: 11/14/2017 10:17

Instrument ID: 10D5 Calib Start Date: 10/13/2017 00:08

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 10/13/2017 03:12

Lab File ID: 13NO1710D5_28.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.040		9.17	10.0	-8.3	20.0
2,3,7,8-TCDD	AveID	0.999	0.9305		9.31	10.0	-6.9	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.098		47.2	50.0	-5.5	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.098		48.2	50.0	-3.7	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9269		48.8	50.0	-2.3	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.309		46.7	50.0	-6.6	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.536		45.3	50.0	-9.4	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.410		46.4	50.0	-7.3	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	0.9123		48.0	50.0	-4.0	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.200		48.6	50.0	-2.8	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.162		46.6	50.0	-6.8	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.240		44.0	50.0	-12.0	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.557		47.5	50.0	-5.1	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9436		47.5	50.0	-5.0	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.226		46.1	50.0	-7.9	20.0
OCDD	AveID	1.060	1.014		95.7	100	-4.3	20.0
OCDF	AveID	1.346	1.332		99.0	100	-1.0	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.261		99.0	100	-1.0	30.0
13C-2,3,7,8-TCDD	Ave	0.9921	0.9846		99.2	100	-0.8	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9696	0.9888		102	100	2.0	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.7902		104	100	4.1	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	0.9896		103	100	2.6	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.8783		99.9	100	-0.0	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.7766		102	100	1.9	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.7852		101	100	1.2	30.0
13C-OCDD	Ave	0.6314	0.6201		196	200	-1.8	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.051		10.0	10.0	0.5	

Sample List Report **MassLynx 4.1** 10D5

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\13NO1710D5.SPL Page 1 of 3
Last Modified: Monday, November 13, 2017 16:45:44 Pacific Standard Time
Printed: Monday, November 13, 2017 16:45:56 Pacific Standard Time Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	13NO1710D5_1	WDM HRDXNCP_00034	WDM 111317	Tray01:1		---	AJS
2	13NO1710D5_2	CS-4 HRDXNL4_00060	CCV 111317	Tray01:2		---	AJS
3	13NO1710D5_3	Reagent Blank C-14	RB 111317	Tray01:3		---	AJS
4	13NO1710D5_4	mb 320-189688/1-a	mb 320-189688/1-a	Tray01:4	8290A_D5/Water	D979	AJS
5	13NO1710D5_5	lcs 320-189688/2-a	lcs 320-189688/2-a	Tray01:5	8290A_D5/Water		AJS
6	13NO1710D5_6	lcsd 320-189688/3-a	lcsd 320-189688/3-a	Tray01:6	8290A_D5/Water		AJS
7	13NO1710D5_7	160-24917-F-17-A 2X	160-24917-F-17-A 2X	Tray01:7	8290A_D5/Solid	D978	AJS
8	13NO1710D5_8	160-24917-F-20 B-MS RI	160-24917-F-20 B-MS RI	Tray01:8	8290A_D5/Solid		AJS
9	13NO1710D5_9	160-24922-G-27-A	160-24922-G-27-A	Tray01:9	8290A_D5/Solid	D979	AJS
10	13NO1710D5_10	160-24922-G-28-A	160-24922-G-28-A	Tray01:10	8290A_D5/Solid		AJS
11	13NO1710D5_11	160-24917-F-30-A 2X	160-24917-F-30-A 2X	Tray01:11	8290A_D5/Solid	D975	AJS
12	13NO1710D5_12	Reagent Blank C-14	RB 111317A	Tray01:3		---	AJS
13	13NO1710D5_13	CS-4 HRDXNL4_00060	CCV 111317A	Tray01:2		---	AJS
14	13NO1710D5_14	WDM HRDXNCP_00034	WDM 111317A	Tray01:1		---	AJS
15	13NO1710D5_15	CS-4 HRDXNL4_00060	CCV 111317B	Tray01:2		---	AJS
16	13NO1710D5_16	Reagent Blank C-14	RB 111317B	Tray01:3		---	AJS
17	13NO1710D5_17	mb 320-189721/1-a RI	mb 320-189721/1-a RI	Tray01:15	8290A_D5/Water	D981	AJS
18	13NO1710D5_18	160-24924-g-1-a RI	160-24924-g-1-a RI	Tray01:16	8290A_D5/Water		AJS
19	13NO1710D5_19	160-24924-g-2-a RI	160-24924-g-2-a RI	Tray01:17	8290A_D5/Water		AJS
20	13NO1710D5_20	160-24924-g-3-a RI	160-24924-g-3-a RI	Tray01:18	8290A_D5/Solid	---	AJS
21	13NO1710D5_21	160-24924-g-4-a RI	160-24924-g-4-a RI	Tray01:19	8290A_D5/Solid		AJS
22	13NO1710D5_22	160-24924-g-6-a RI	160-24924-g-6-a RI	Tray01:20	8290A_D5/Solid	---	AJS
23	13NO1710D5_23	160-24924-g-10-a RI	160-24924-g-10-a RI	Tray01:21	8290A_D5/Solid		AJS
24	13NO1710D5_24	160-24924-g-11-a RI	160-24924-g-11-a RI	Tray01:22	8290A_D5/Solid	---	AJS
25	13NO1710D5_25	Reagent Blank C-14	RB 111317C	Tray01:3		---	AJS
26	13NO1710D5_26	CS-4 HRDXNL4_00060	CCV 111317C	Tray01:2		---	AJS
27	13NO1710D5_27	WDM HRDXNCP_00034	WDM 111317B	Tray01:1		---	AJS
28	13NO1710D5_28	CS-4 HRDXNL4_00060	CCV 111317D	Tray01:2		---	AJS
29	13NO1710D5_29	Reagent Blank C-14	RB 111317D	Tray01:3		---	AJS
30	13NO1710D5_30	160-24924-g-9-a RI	160-24924-g-9-a RI	Tray01:29	8290A_D5/Water	D981	AJS
31	13NO1710D5_31	160-24924-g-9-b ms RI	160-24924-g-9-b ms RI	Tray01:30	8290A_D5/Water		AJS
32	13NO1710D5_32	160-24924-g-9-c msd RI	160-24924-g-9-c msd RI	Tray01:31	8290A_D5/Water		AJS
33	13NO1710D5_33	160-24924-g-12-a RI	160-24924-g-12-a RI	Tray01:32	8290A_D5/Solid	---	AJS
34	13NO1710D5_34	160-24924-g-14-a RI	160-24924-g-14-a RI	Tray01:33	8290A_D5/Solid		AJS
35	13NO1710D5_35	160-24924-g-15-a RI	160-24924-g-15-a RI	Tray01:34	8290A_D5/Solid	---	AJS
36	13NO1710D5_36	160-24924-g-18-a RI	160-24924-g-18-a RI	Tray01:35	8290A_D5/Solid		AJS
37	13NO1710D5_37	160-24924-g-19-a RI	160-24924-g-19-a RI	Tray01:36	8290A_D5/Solid	---	AJS
38	13NO1710D5_38	Reagent Blank C-14	RB 111317E	Tray01:3		---	AJS
39	13NO1710D5_39	CS-4 HRDXNL4_00060	CCV 111317E	Tray01:2		---	AJS
40	13NO1710D5_40	WDM HRDXNCP_00034	WDM 111317C	Tray01:1		---	AJS
41	13NO1710D5_41	CS-4 HRDXNL4_00060	CCV 111317F	Tray01:2		---	AJS
42	13NO1710D5_42	Reagent Blank C-14	RB 111317F	Tray01:3		---	AJS

logfile checked
11-14-17 ALM

10D5

Sample Size	Units	MS File	Inlet File	Inject Volume	Process
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1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---
1.000000	---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	---

Process Options	**Action On Error**
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C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
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C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error
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Resolution Check Report

MassLynx 4.1

Printed: Tuesday, November 14, 2017 09:06:42 Pacific Standard Time

10D5

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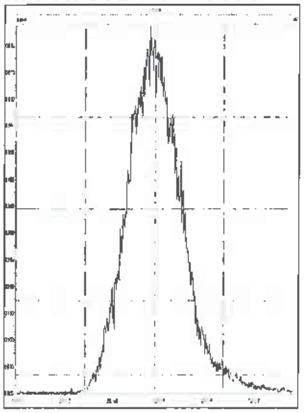

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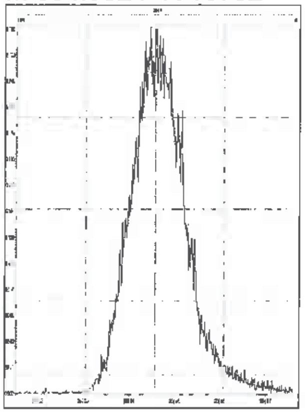

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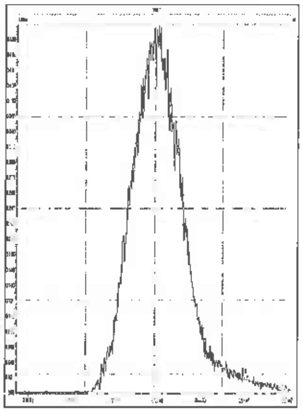

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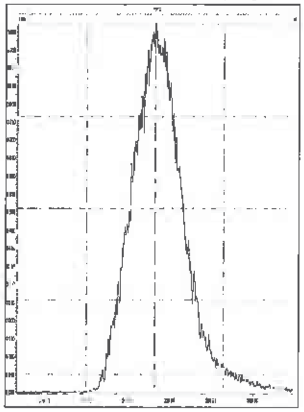

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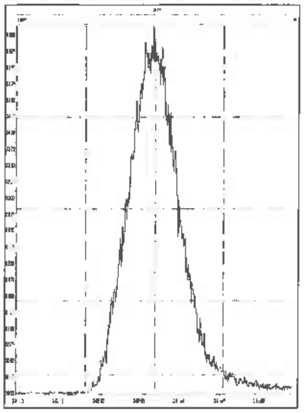

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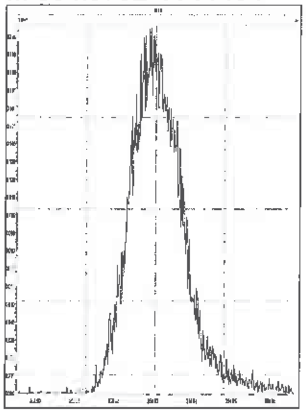

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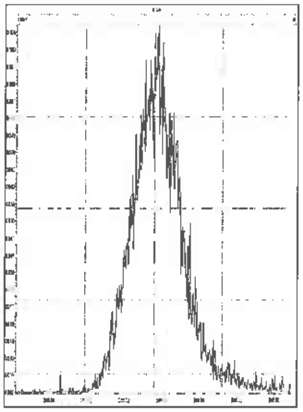

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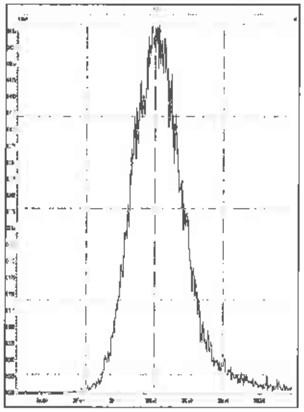

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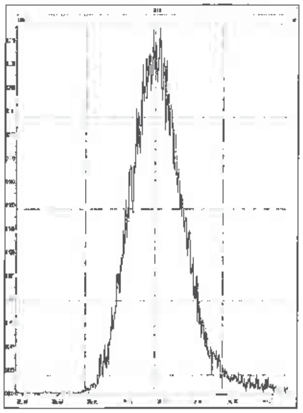

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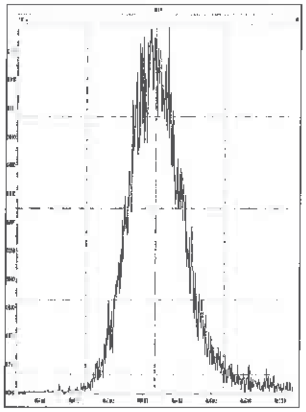

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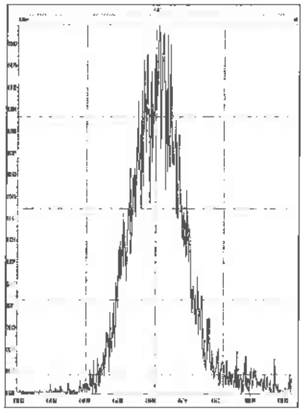

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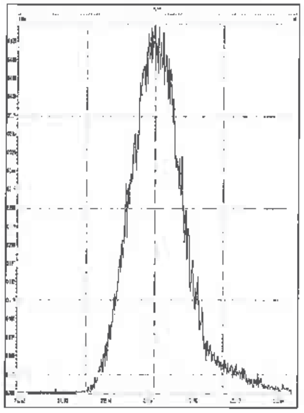

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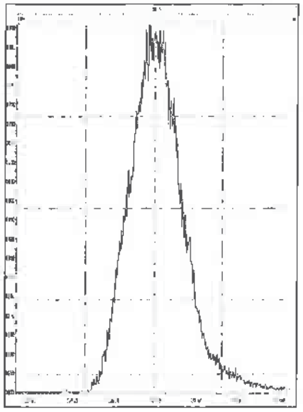

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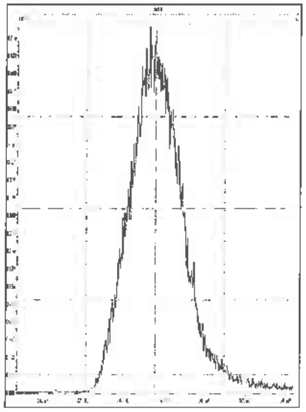

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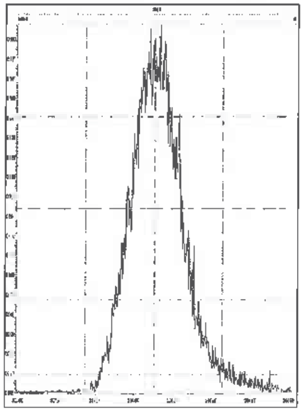

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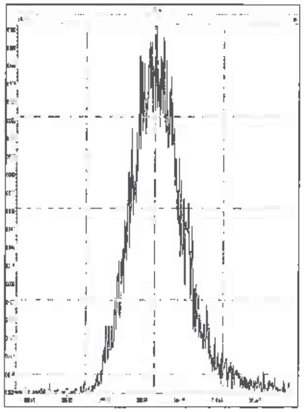

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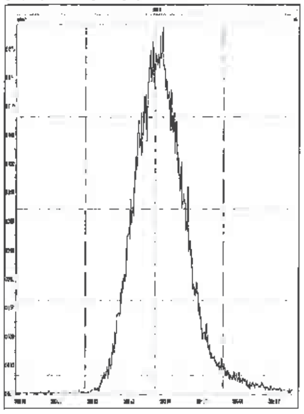

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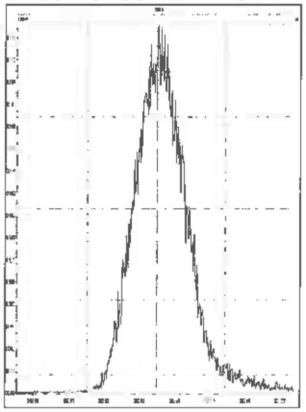

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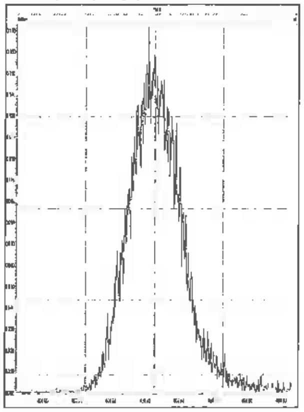

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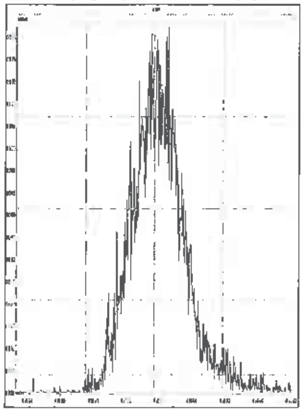

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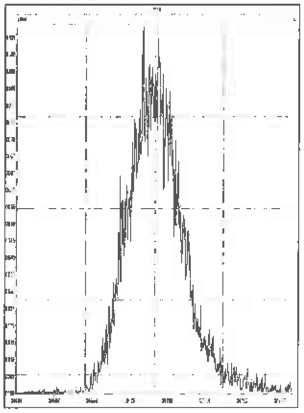

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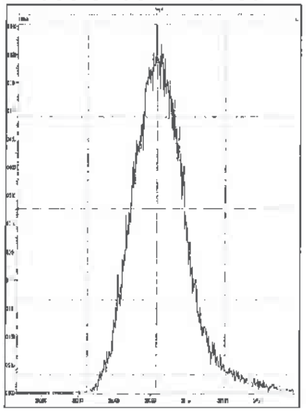

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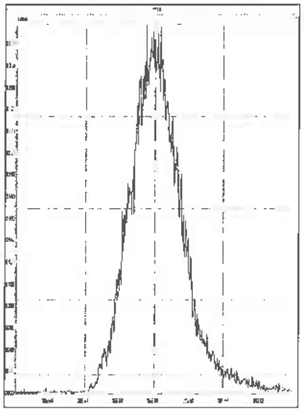

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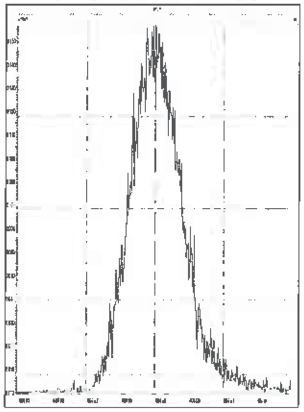

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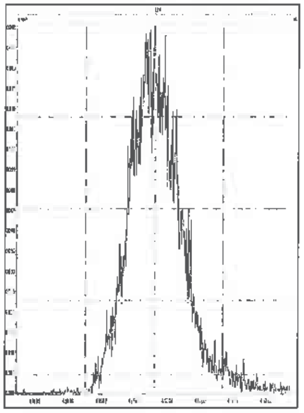

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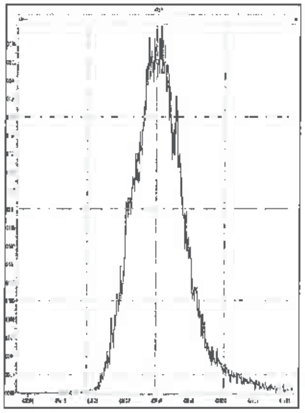

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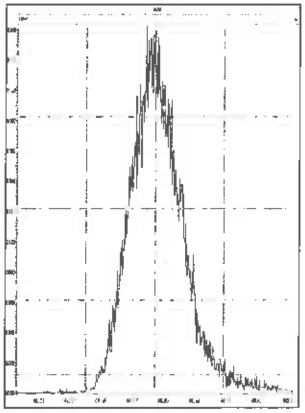

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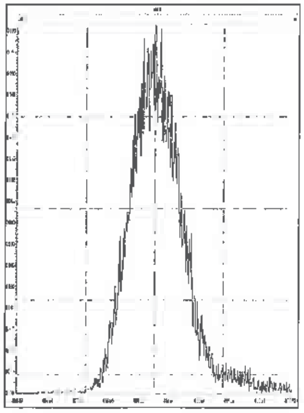

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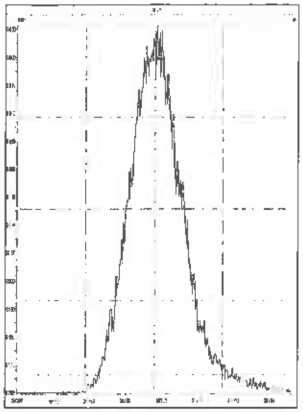

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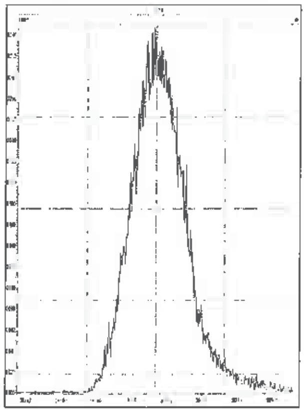

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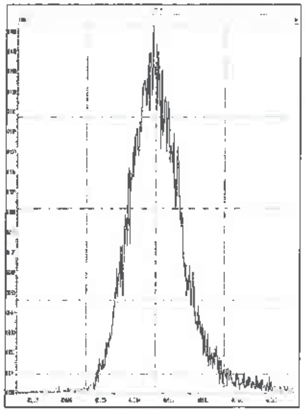

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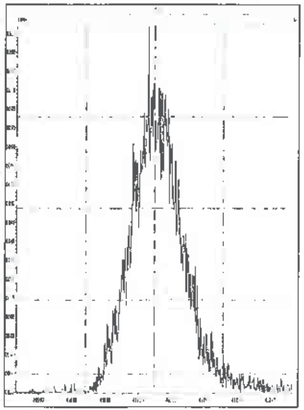

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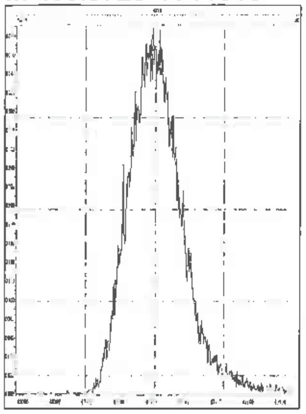

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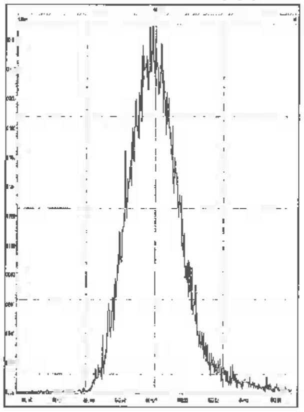

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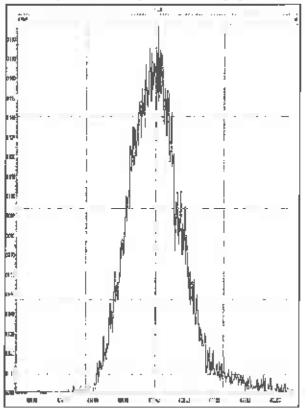

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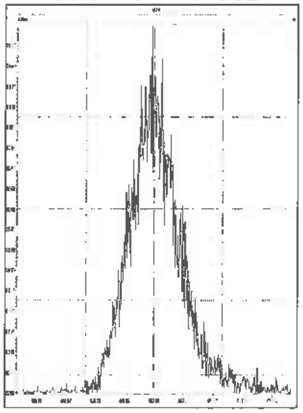

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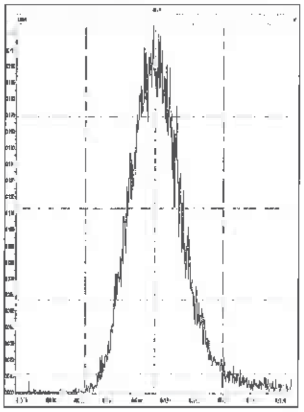

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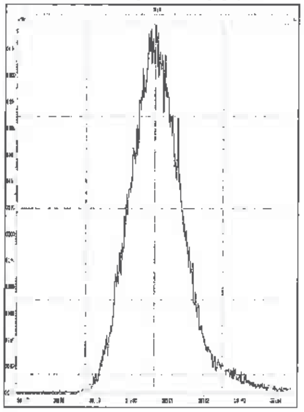

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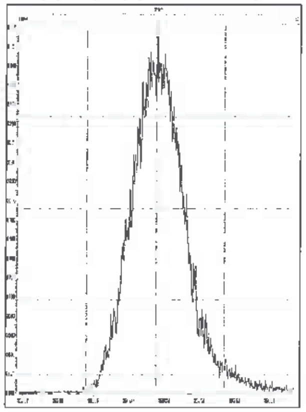

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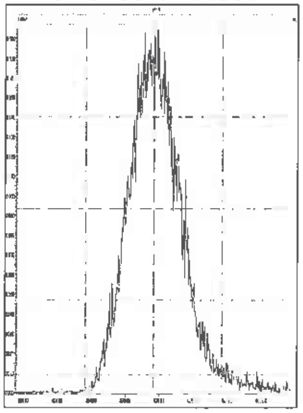

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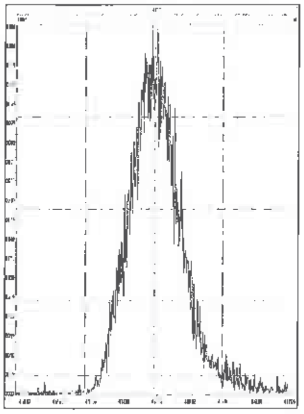

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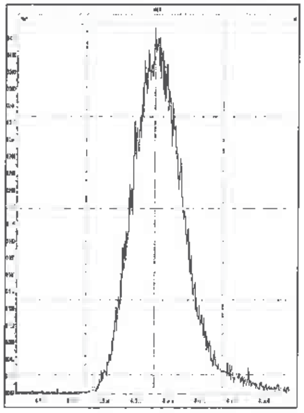

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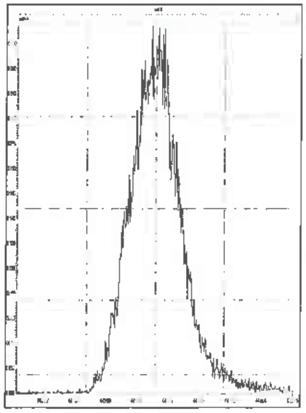

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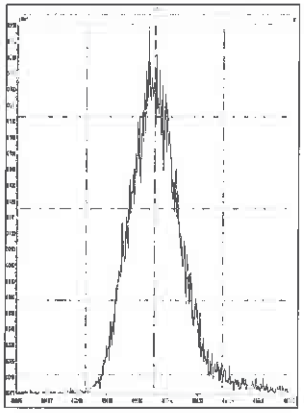

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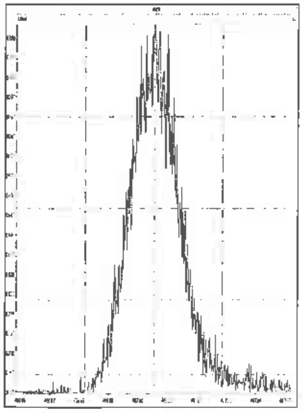

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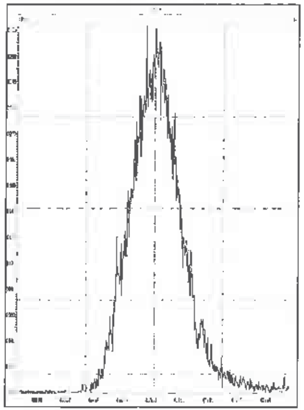

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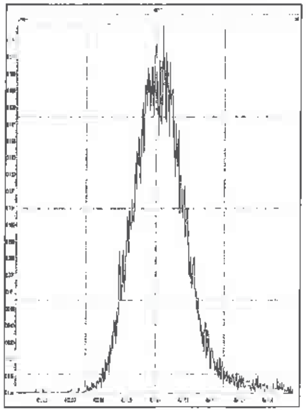

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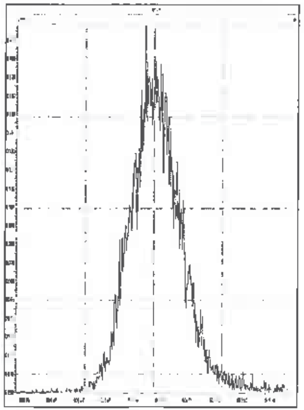

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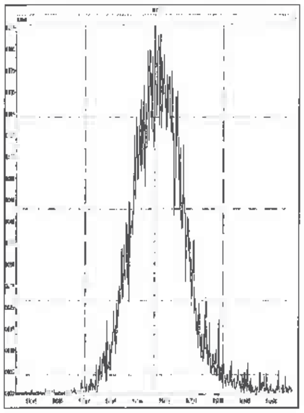

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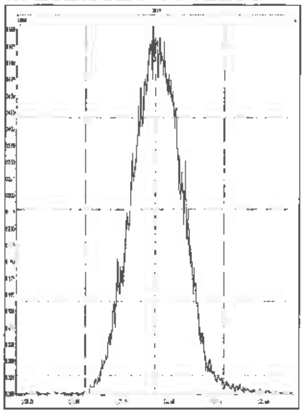

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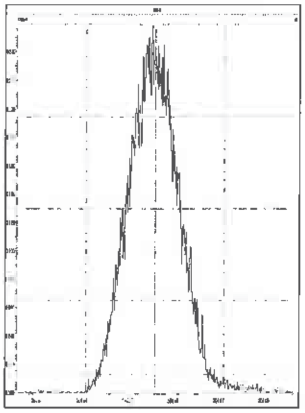

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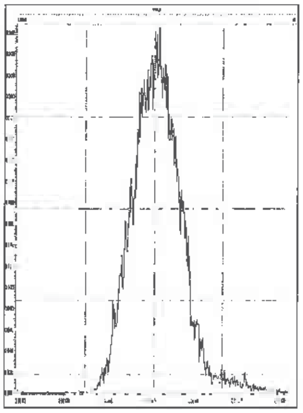

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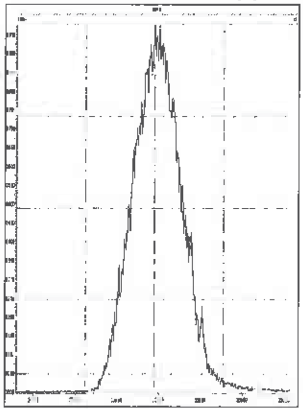

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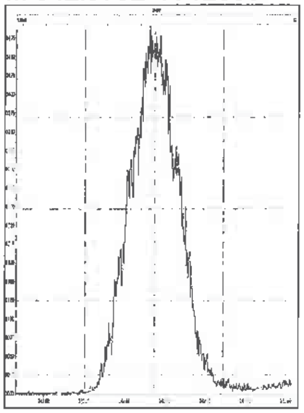

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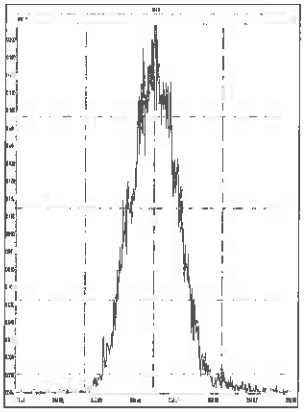

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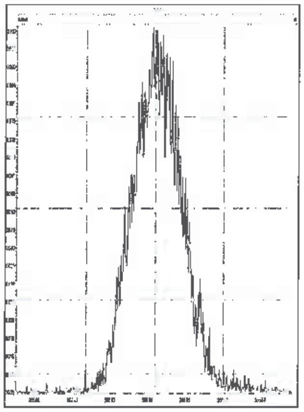

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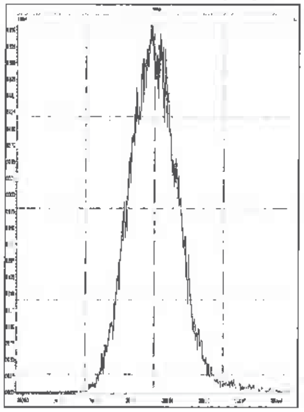

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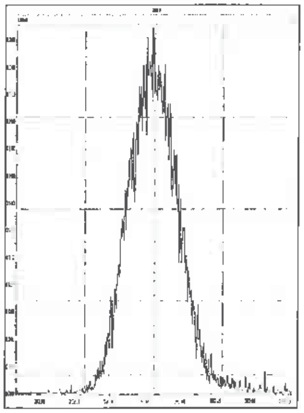

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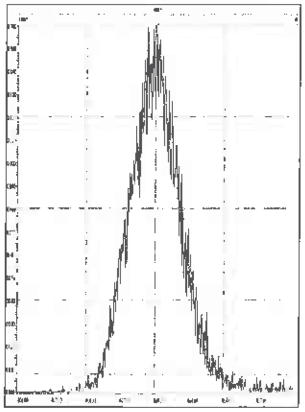

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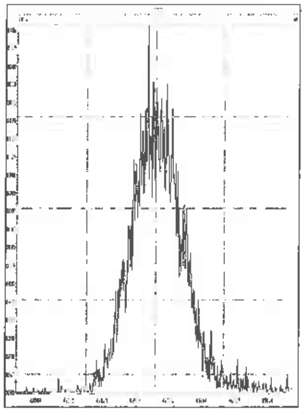

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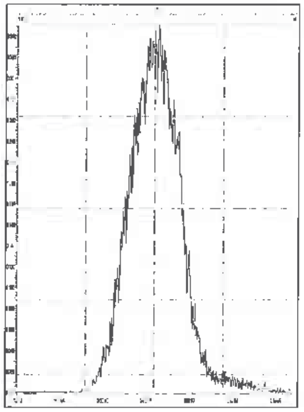

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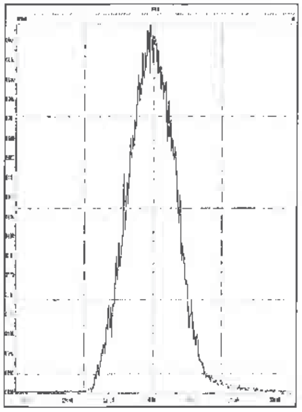

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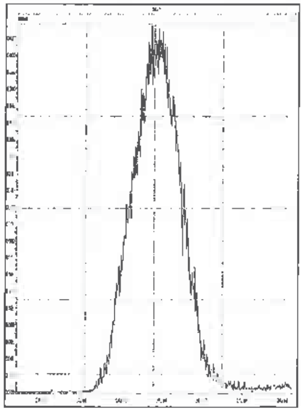

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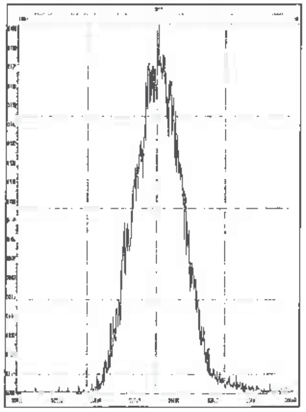

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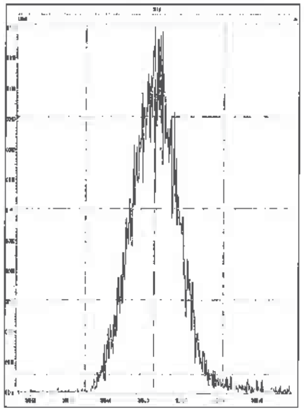

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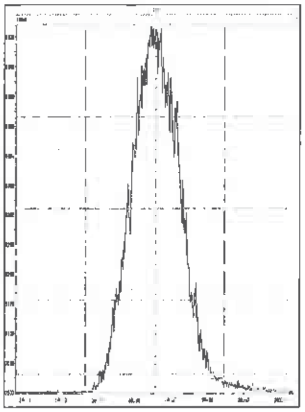

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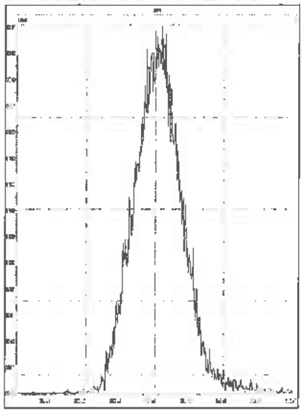

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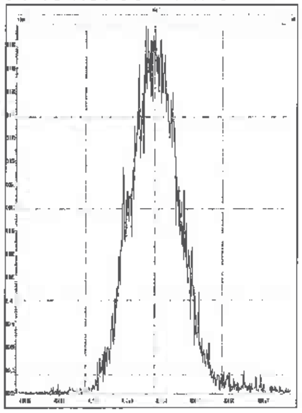

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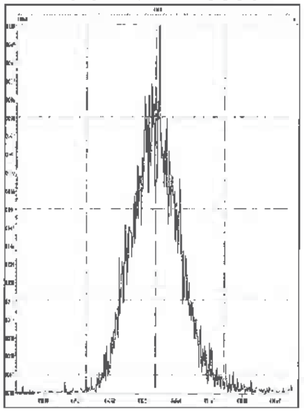

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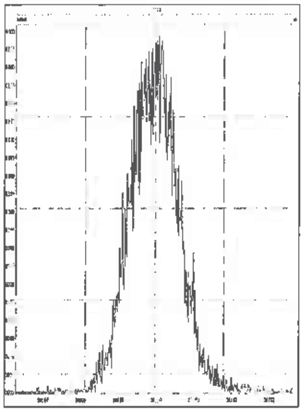

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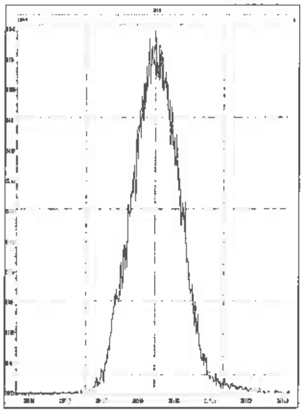

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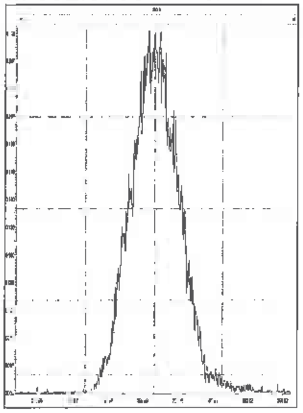

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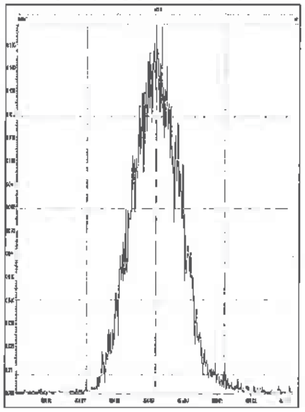

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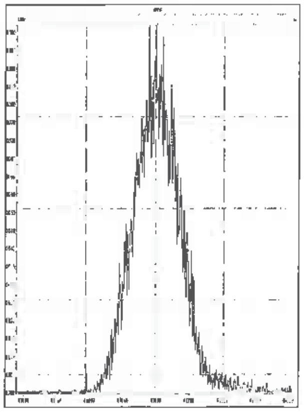

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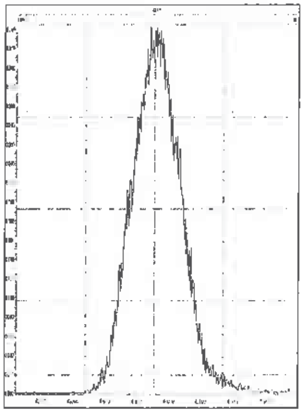

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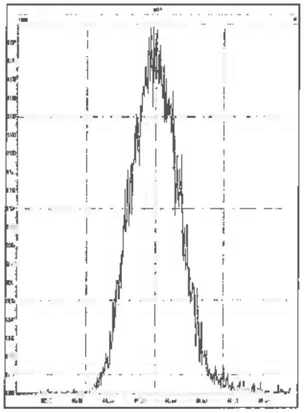

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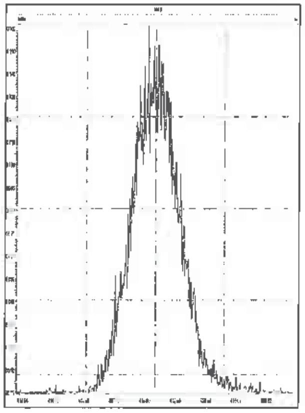

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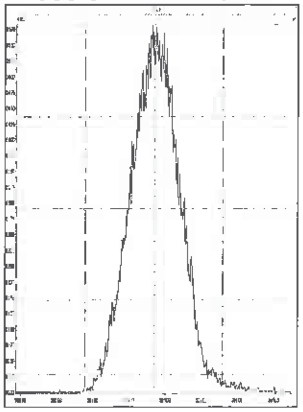

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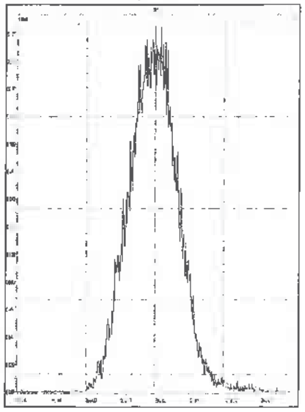

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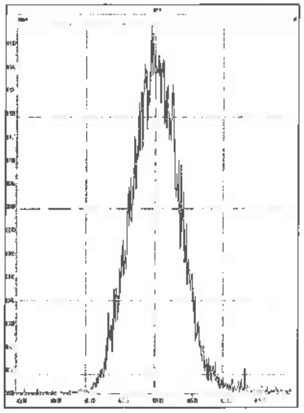

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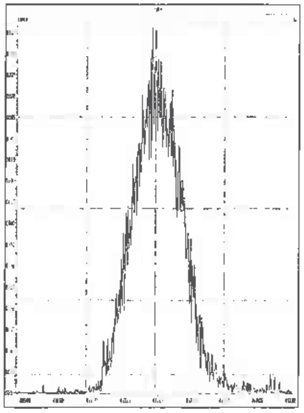

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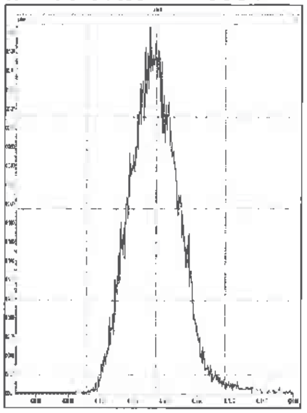

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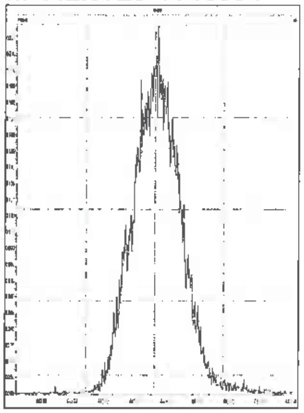

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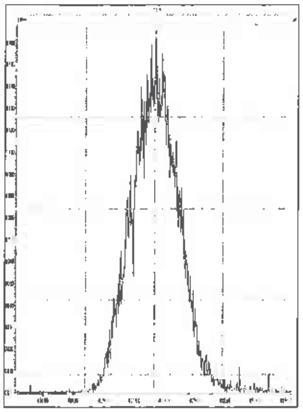

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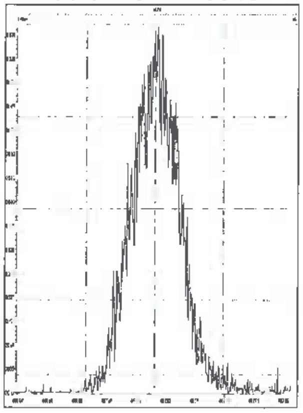

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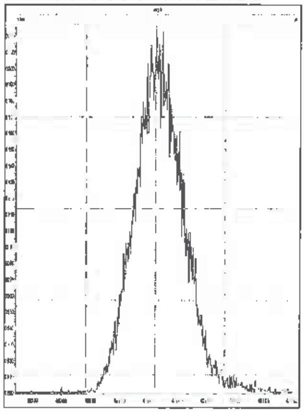

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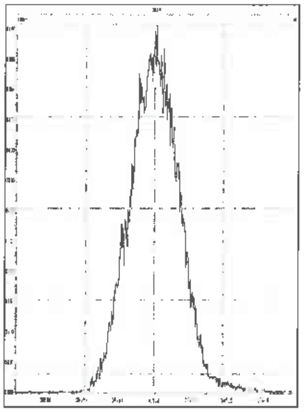

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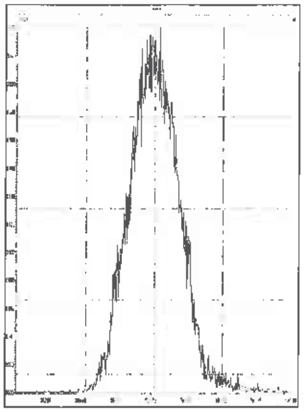

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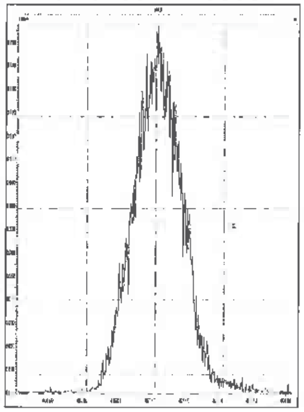

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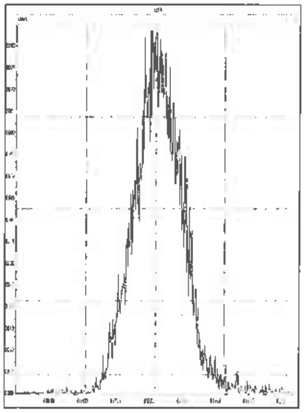

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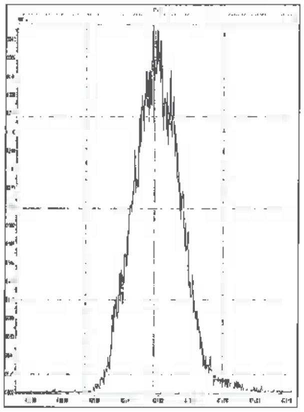

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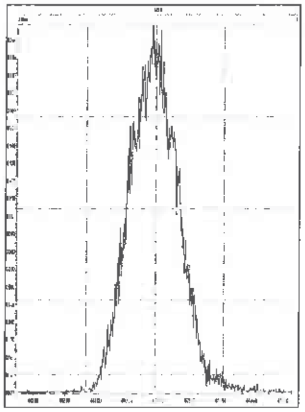

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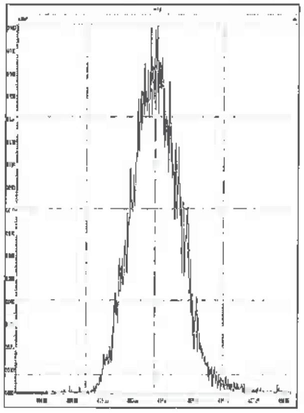

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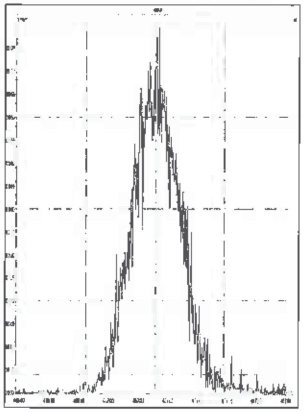

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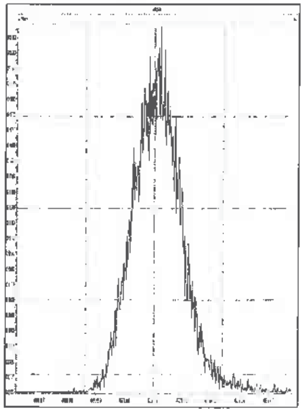

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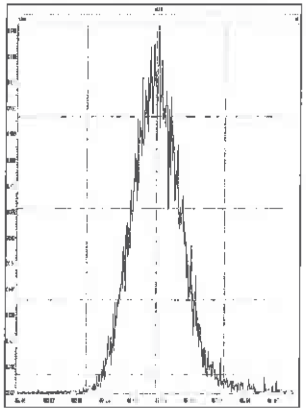

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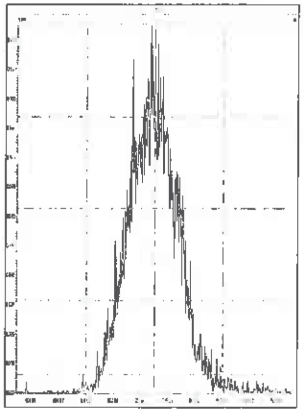

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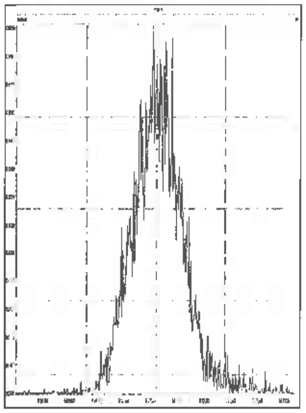

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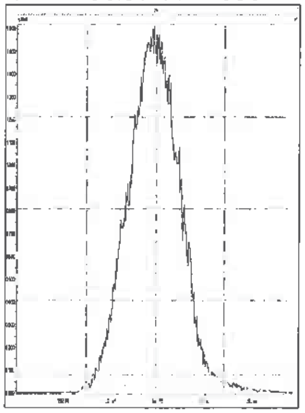
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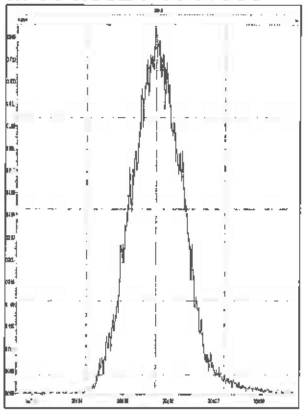
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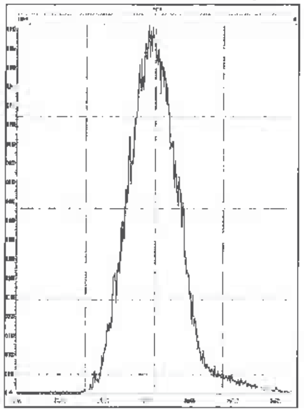
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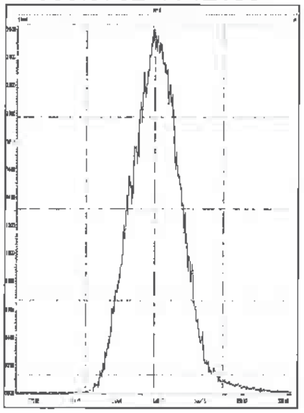
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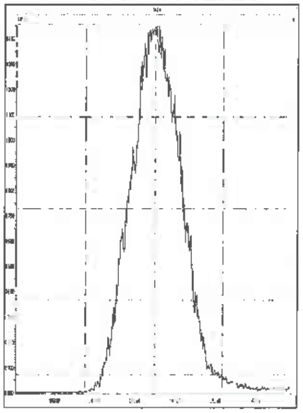
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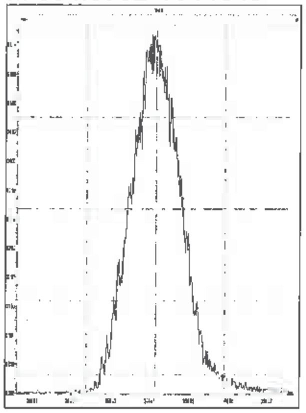
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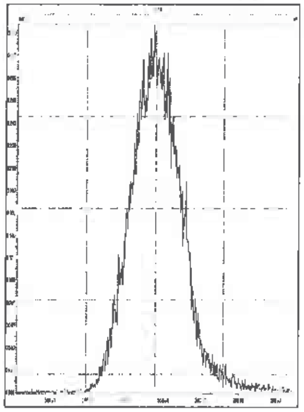
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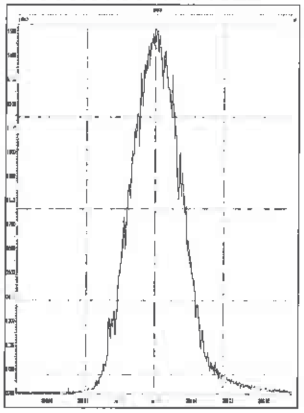
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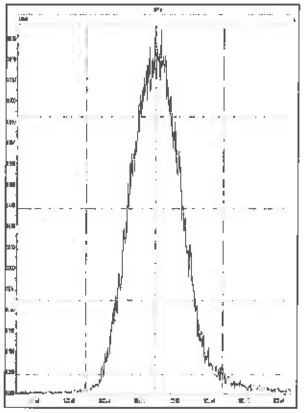
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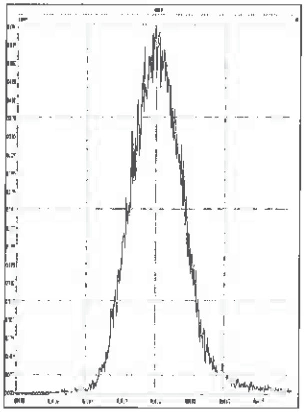
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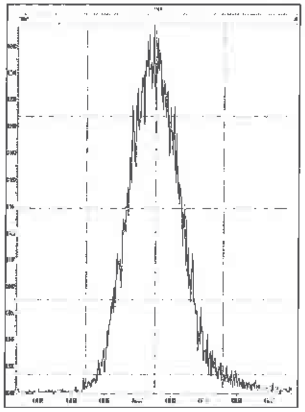
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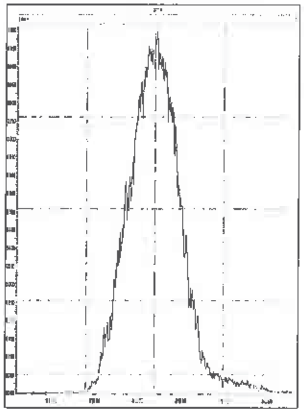
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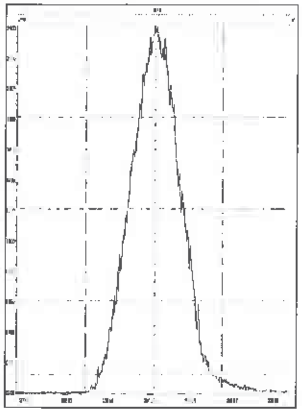
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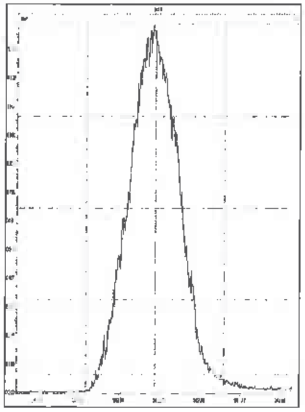
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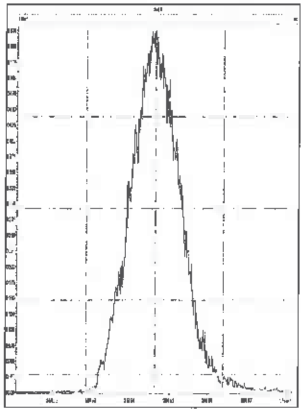
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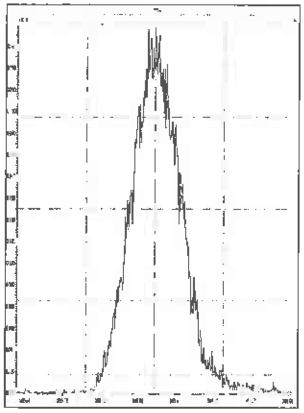
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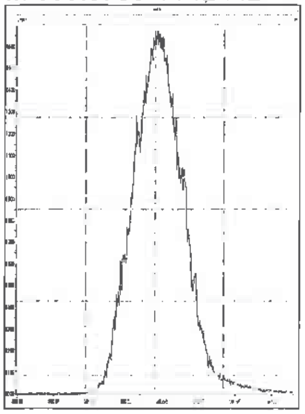

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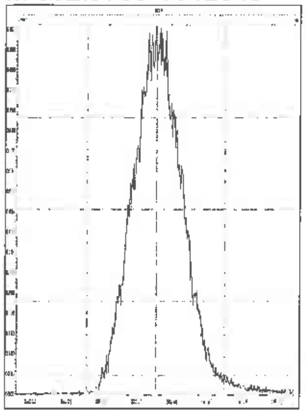

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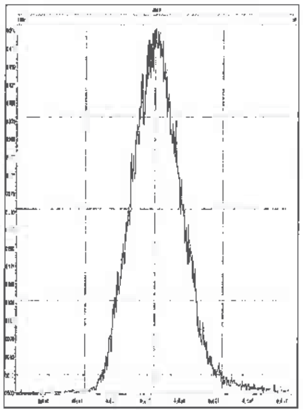

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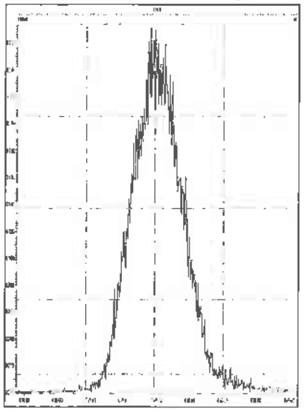

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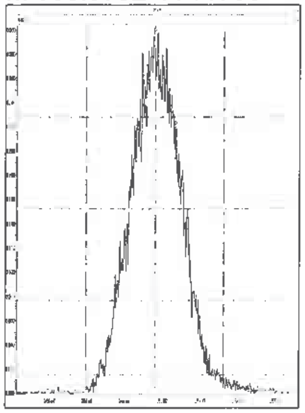

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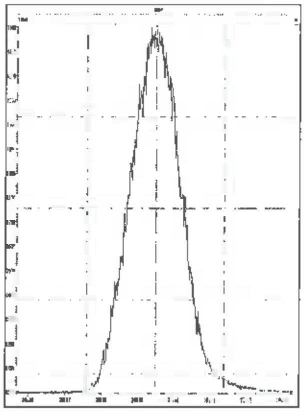

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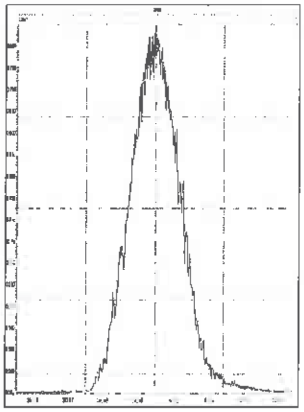

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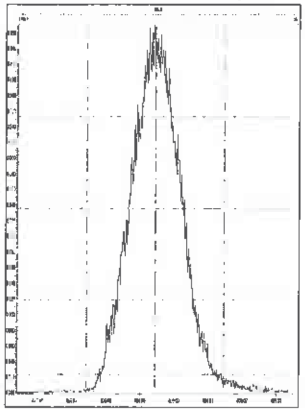

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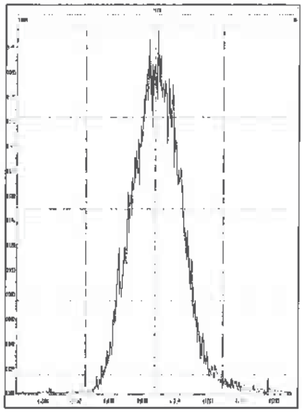

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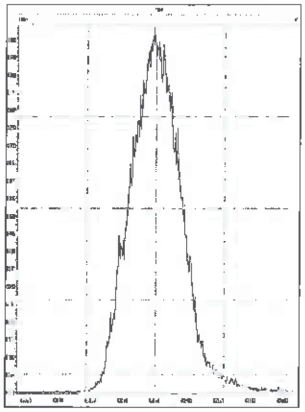

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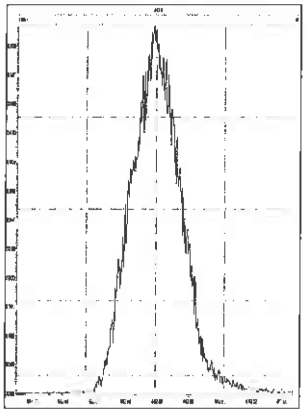

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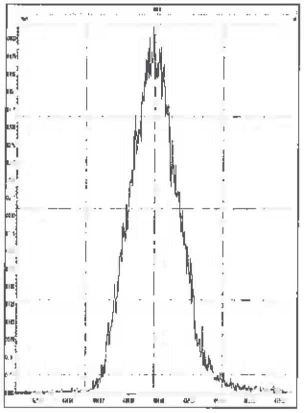

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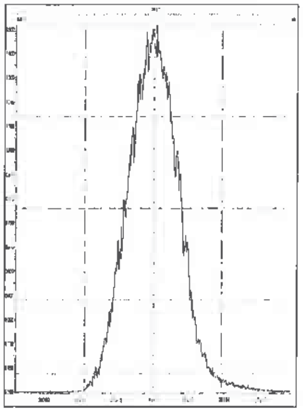

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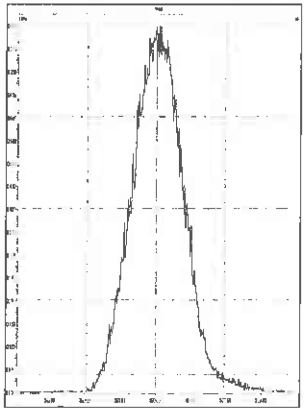

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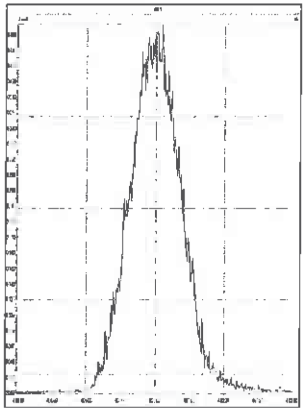

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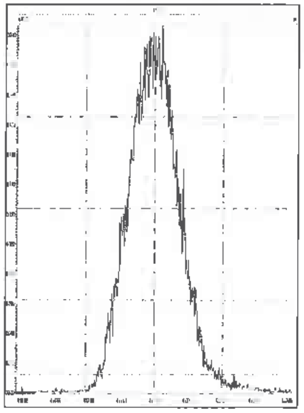

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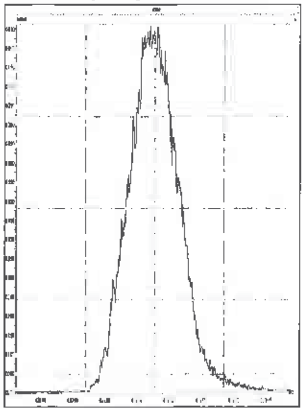

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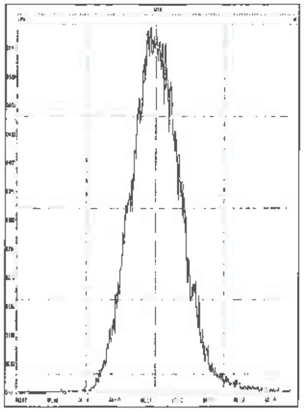

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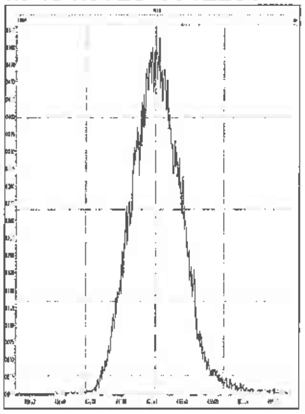

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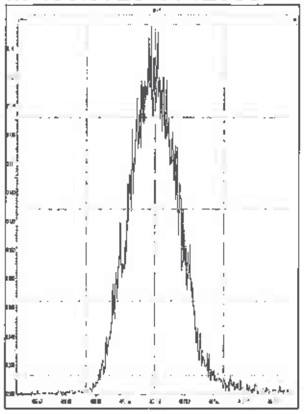

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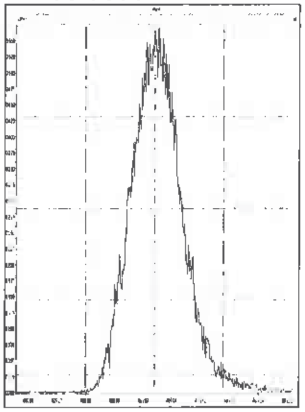

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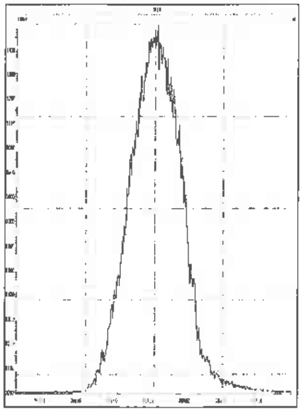

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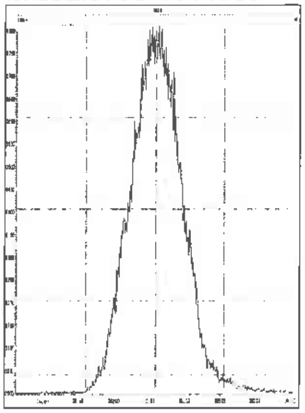

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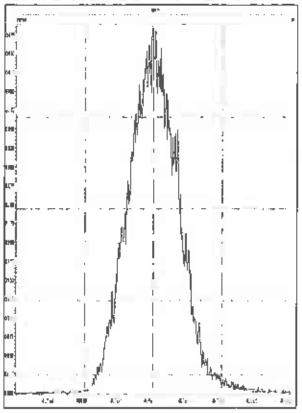
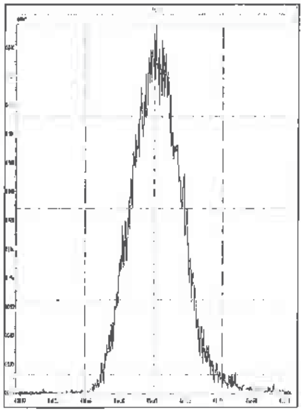
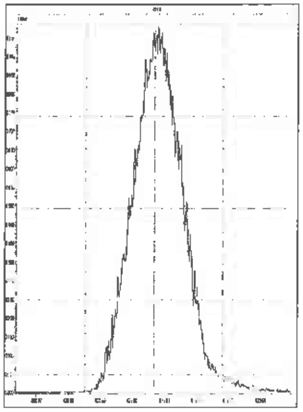


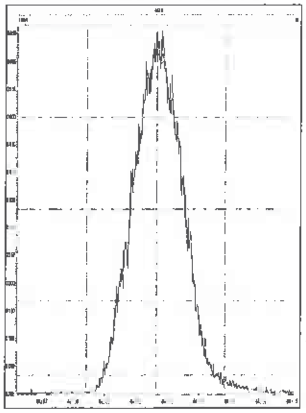
M 416.9760 R 12438



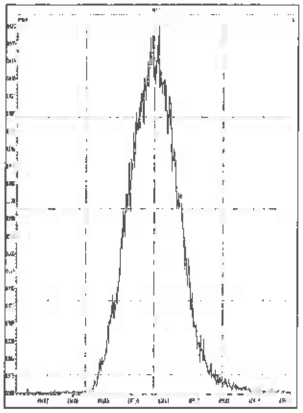
M 430.9728 R 12019



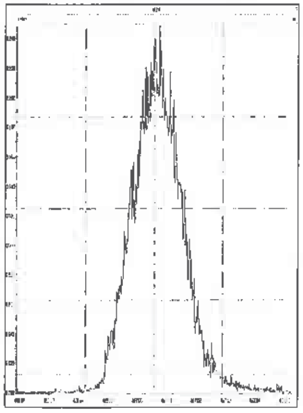
M 442.9728 R 12316



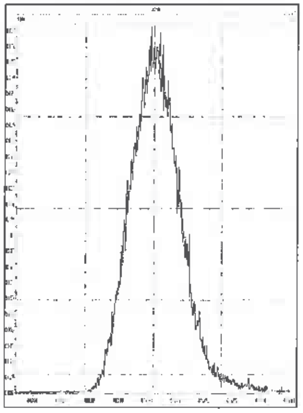
M 454.9728 R 12106



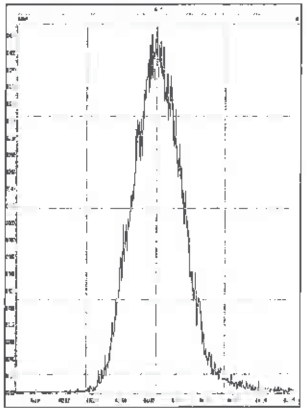
M 466.9728 R 12607



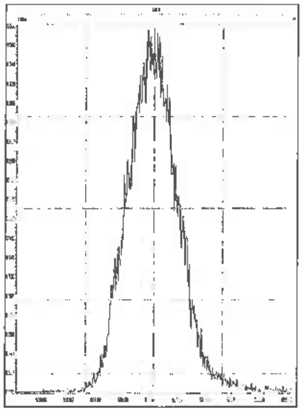
M 480.9696 R 12376



M 492.9696 R 12756

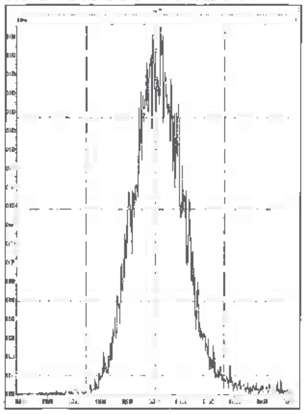


M 504.9696 R 12140



10D5

M 516.9697 R 12117



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 14-Nov-2017 10:17:44 ALS Bottle#: 2 Worklist Smp#: 28
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111317D CS-4 HRDXNL4_00060
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 15-Nov-2017 01:27:59 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK012

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.808	113295768	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.294	142913487	0.76	1.2741	99.0	99.0	0.3593	0.3593	99.00	
2,3,7,8-TCDF	17.309	14862806	0.75	1.1341	9.170	9.170	0.0270	0.0270	91.70	
A Non-2,3,7,8-sub-TCDF	17.022						0.0	0.0		
S Total TCDF					9.170	9.170	0.0270	0.0270		
D 13C-2,3,7,8-TCDD	18.005	111551455	0.77	0.9921	99.2	99.2	0.2510	0.2510	99.25	
$ 37Cl4-2,3,7,8-TCDD	18.020	11911423		1.0466	10.0	10.0	0.0248	0.0248	100	
2,3,7,8-TCDD	18.020	10379547	0.79	0.9993	9.311	9.311	0.0316	0.0316	93.11	
A Non-2,3,7,8-sub-TCDD	17.468						0.0	0.0		
S Total TCDD					9.311	9.311	0.0316	0.0316		
D 13C-1,2,3,7,8-PeCDF	22.301	112028734	1.54	0.9696	102.0	102.0	0.2890	0.2890	102	
1,2,3,7,8-PeCDF	22.328	61522406	1.60	1.1627	47.2	47.2	0.2033	0.2033	94.47	
D 13C-2,3,4,7,8-PeCDF	23.637	110290448	1.55							
2,3,4,7,8-PeCDF	23.664	61498925	1.60	1.1395	48.2	48.2	0.2074	0.2074	96.35	
A F1 PeCDFs	19.948						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.086						0.0	0.0		
S Total PeCDF					95.4	95.4	0.2054	0.2054		
D 13C-1,2,3,7,8-PeCDD	24.360	89523301	1.56	0.7588	104.1	104.1	0.1396	0.1396	104	
1,2,3,7,8-PeCDD	24.387	41490065	1.57	0.9490	48.8	48.8	0.1172	0.1172	97.67	
A Non-2,3,7,8-sub-PeCDD	23.290						0.0	0.0		
S Total PeCDD					48.8	48.8	0.1172	0.1172		
D 13C-1,2,3,4,7,8-HxCDF	30.460	83884279	0.51	0.9644	102.6	102.6	1.047	1.047	103	
1,2,3,4,7,8-HxCDF	30.487	54921305	1.26	1.4012	46.7	46.7	0.5496	0.5496	93.45	
D 13C-1,2,3,6,7,8-HxCDF	30.646	101425715	0.52							
1,2,3,6,7,8-HxCDF	30.673	64412850	1.28	1.6951	45.3	45.3	0.4543	0.4543	90.60	
D 13C-2,3,4,6,7,8-HxCDF	31.485	94594800	0.51							
2,3,4,6,7,8-HxCDF	31.498	59138648	1.26	1.5205	46.4	46.4	0.5065	0.5065	92.73	
D 13C-1,2,3,7,8,9-HxCDF	32.284	84534846	0.51							
1,2,3,7,8,9-HxCDF	32.297	52009412	1.29	1.4099	44.0	44.0	0.5462	0.5462	87.95	
A Non-2,3,7,8-sub-HxCDF	30.141						0.0	0.0		
S Total HxCDF					182.4	182.4	0.5142	0.5142		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.111	84770112	1.27	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.671	57411473	1.25							
1,2,3,4,7,8-HxCDD	31.685	33962842	1.25	0.9505	48.0	48.0	0.3363	0.3363	95.99	
D 13C-1,2,3,6,7,8-HxCDD	31.778	74454960	1.24	0.8791	99.9	99.9	0.6248	0.6248	99.91	
1,2,3,6,7,8-HxCDD	31.791	44680886	1.27	1.2343	48.6	48.6	0.2590	0.2590	97.24	
1,2,3,7,8,9-HxCDD	32.124	43266901	1.26	1.2467	46.6	46.6	0.2564	0.2564	93.23	
A Non-2,3,7,8-sub-HxCDD	30.779						0.0	0.0		
S Total HxCDD					143.2	143.2	0.2839	0.2839		
D 13C-1,2,3,4,6,7,8-HpCDF	33.709	65828140	0.43	0.7618	101.9	101.9	2.226	2.226	102	
1,2,3,4,6,7,8-HpCDF	33.722	51247153	1.06	1.6399	47.5	47.5	0.9063	0.9063	94.94	
D 13C-1,2,3,4,7,8,9-HpCDF	34.791	54627127	0.43							
1,2,3,4,7,8,9-HpCDF	34.803	40337151	1.06	1.3302	46.1	46.1	1.117	1.117	92.13	
A Non-2,3,7,8-sub-HpCDF	34.268						0.0	0.0		
S Total HpCDF					93.5	93.5	1.012	1.012		
D 13C-1,2,3,4,6,7,8-HpCDD	34.499	66557621	1.05	0.7762	101.2	101.2	1.110	1.110	101	
1,2,3,4,6,7,8-HpCDD	34.511	31402119	1.02	0.9932	47.5	47.5	0.4089	0.4089	95.01	
A Non-2,3,7,8-sub-HpCDD	34.238						0.0	0.0		
S Total HpCDD					47.5	47.5	0.4089	0.4089		
D 13C-OCDD	36.822	105125810	0.88	0.6314	196.4	196.4	0.3563	0.3563	98.20	
OCDF	36.930	70023891	0.90	1.3460	99.0	99.0	0.1486	0.1486	98.97	
OCDD	36.834	53319411	0.88	1.0604	95.7	95.7	0.1684	0.1684	95.66	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

Report Date: 15-Nov-2017 01:27:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 14-Nov-2017 10:17:44 ALS Bottle#: 2 Worklist Smp#: 28
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111317D CS-4 HRDXNL4_00060
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 15-Nov-2017 01:27:59 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK012

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.808	17.808	0		49777351	12519090	15939	39847	785		
333.9339	17.808	17.808	0		63518417	15996304	12467	31167	1283	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.294	17.294	0	0.971	61898783	15016269	36696	91740	409		
317.9389	17.294	17.294	0	0.971	81014704	19602110	15526	38815	1263	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.309	17.309	0	1.001	6390914	1527660	1445	3612	1057		
305.8987	17.309	17.309	0	1.001	8471892	2066950	2796	6990	739	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.022						1445	3612			
305.8987	17.022						2796	6990			
13C-2,3,7,8-TCDD											
331.9368	18.005	18.005	0	1.011	48404301	10830131	15939	39847	679		
333.9339	18.005	18.005	0	1.011	63147154	14234928	12467	31167	1142	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.020	18.020	0	1.012	11911423	2721777	2966	7415	918		
2,3,7,8-TCDD											
319.8965	18.020	18.020	0	1.001	4578386	1051395	1818	4545	578		
321.8936	18.020	18.020	0	1.001	5801161	1340920	1349	3372	994	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.468						1818	4545			
321.8936	17.468						1349	3372			
13C-1,2,3,7,8-PeCDF											
351.9000	22.301	22.301	0	1.252	67992423	11629737	18976	47440	613		
353.8970	22.301	22.301	0	1.252	44036311	7608212	12988	32470	586	1.54(1.32-1.78)	

Report Date: 15-Nov-2017 01:27:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.328	22.328	0	1.001	37864147	6478940	10391	25977	624		
341.8567	22.328	22.328	0	1.001	23658259	4006262	7799	19497	514	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.637	23.637	0	1.327	67089656	10790448	18976	47440	569		
353.8970	23.637	23.637	0	1.327	43200792	7000135	12988	32470	539	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.664	23.664	0	1.061	37881135	6000546	10391	25977	577		
341.8567	23.664	23.664	0	1.061	23617790	3768369	7799	19497	483	1.60(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.948						521	1302			
341.8567	19.948						1277	3192			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.086						10391	25977			
341.8567	23.086						7799	19497			
13C-1,2,3,7,8-PeCDD											
367.8949	24.360	24.360	0	1.368	54569932	8112216	6913	17282	1173		
369.8919	24.360	24.360	0	1.368	34953369	5237273	5172	12930	1013	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.387	24.387	0	1.001	25364644	3759110	3844	9610	978		
357.8516	24.387	24.387	0	1.001	16125421	2390336	2097	5242	1140	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.290						3844	9610			
357.8516	23.290						2097	5242			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.460	30.460	0	0.949	28493463	5072113	24043	60107	211		
385.8610	30.460	30.460	0	0.949	55390816	9819224	48220	120550	204	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.487	30.487	0	1.001	30641974	5492502	25780	64450	213		
375.8178	30.487	30.487	0	1.001	24279331	4411841	20094	50235	220	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.646	30.646	0	0.954	34606018	5977066	24043	60107	249		
385.8610	30.646	30.646	0	0.954	66819697	11542642	48220	120550	239	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.673	30.673	0	1.007	36187828	6190170	25780	64450	240		
375.8178	30.673	30.673	0	1.007	28225022	4830255	20094	50235	240	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.485	31.485	0	0.981	32011415	7330590	24043	60107	305		
385.8610	31.485	31.485	0	0.981	62583385	13961518	48220	120550	290	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.498	31.498	0	1.034	33000790	7529962	25780	64450	292		
375.8178	31.498	31.498	0	1.034	26137858	5927885	20094	50235	295	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.284	32.284	0	1.005	28703611	6186215	24043	60107	257		
385.8610	32.284	32.284	0	1.005	55831235	12039991	48220	120550	250	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.297	32.297	0	1.060	29329730	6317814	25780	64450	245		
375.8178	32.297	32.297	0	1.060	22679682	4984605	20094	50235	248	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.141						25780	64450			
375.8178	30.141						20094	50235			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.111	32.111	0		47388712	9981977	23499	58747	425		
403.8529	32.111	32.111	0		37381400	7903053	15792	39480	500	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.671	31.671	0	0.986	31908142	8599420	23499	58747	366		
403.8529	31.671	31.671	0	0.986	25503331	6808966	15792	39480	431	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.685	31.685	0	0.997	18860320	5169298	12175	30437	425		
391.8127	31.685	31.685	0	0.997	15102522	4106874	8685	21712	473	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.778	31.778	0	0.990	41198084	9042603	23499	58747	385		
403.8529	31.778	31.778	0	0.990	33256876	7270269	15792	39480	460	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.791	31.791	0	1.000	24954776	5539192	12175	30437	455		
391.8127	31.791	31.791	0	1.000	19726110	4404075	8685	21712	507	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.124	32.124	0	1.011	24088951	5100386	12175	30437	419		
391.8127	32.124	32.124	0	1.011	19177950	4084492	8685	21712	470	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.779						12175	30437			
391.8127	30.779						8685	21712			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.709	33.709	0	1.050	19767038	5549562	36937	92342	150		
419.8220	33.709	33.709	0	1.050	46061102	12510281	84386	210965	148	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.722	33.722	0	1.000	26357820	7319966	52274	130685	140		
409.7789	33.722	33.722	0	1.000	24889333	7014085	55086	137715	127	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.791	34.791	0	1.083	16419207	4051633	36937	92342	110		
419.8220	34.791	34.791	0	1.083	38207920	9199489	84386	210965	109	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.803	34.803	0	1.032	20739104	4990086	52274	130685	95		
409.7789	34.791	34.803	-1	1.032	19598047	4771122	55086	137715	87	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.268						52274	130685			
409.7789	34.268						55086	137715			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.499	34.499	0	1.074	34110761	8566917	31338	78345	273		
437.8140	34.499	34.499	0	1.074	32446860	8101619	30276	75690	268	1.05(0.88-1.20)	

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Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.511	34.511	0	1.000	15868669	4064205	12726	31815	319		
425.7737	34.511	34.511	0	1.000	15533450	3958012	14350	35875	276	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.238						12726	31815			
425.7737	34.238						14350	35875			
13C-OCDD											
469.7779	36.822	36.822	0	1.147	49330388	10010072	8177	20442	1224		
471.7750	36.822	36.822	0	1.147	55795422	11533562	7918	19795	1457	0.88(0.76-1.02)	
OCDF											
441.7428	36.930	36.930	0	1.003	33218988	7232480	3956	9890	1828		
443.7399	36.930	36.930	0	1.003	36804903	7911439	4664	11660	1696	0.90(0.76-1.02)	
OCDD											
457.7377	36.834	36.834	0	1.000	25032761	5345880	4237	10592	1262		
459.7348	36.834	36.834	0	1.000	28286650	6038143	3456	8640	1747	0.88(0.76-1.02)	

Reagents:

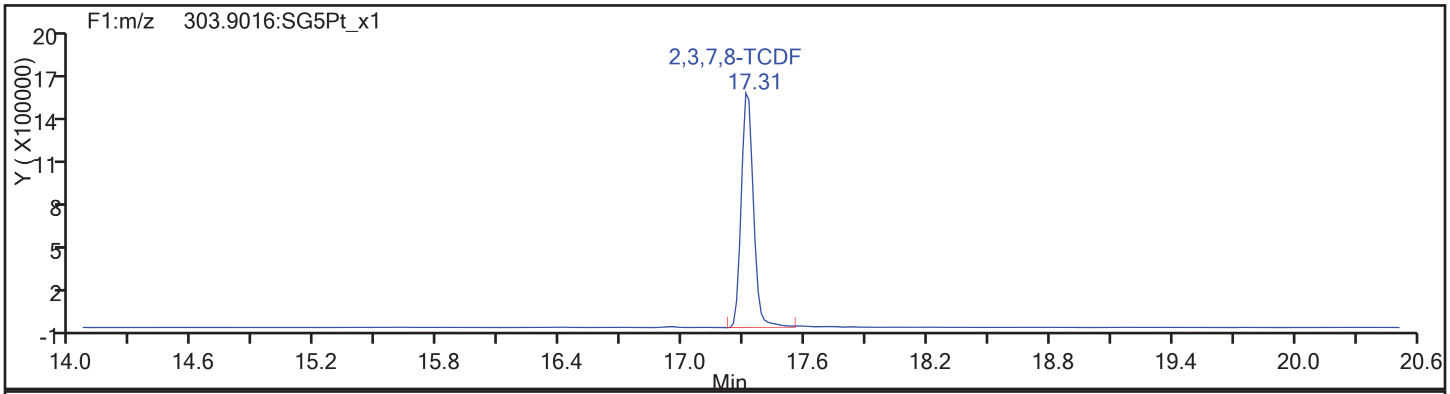
HRDXNL4_00060 Amount Added: 1.00 Units: mL

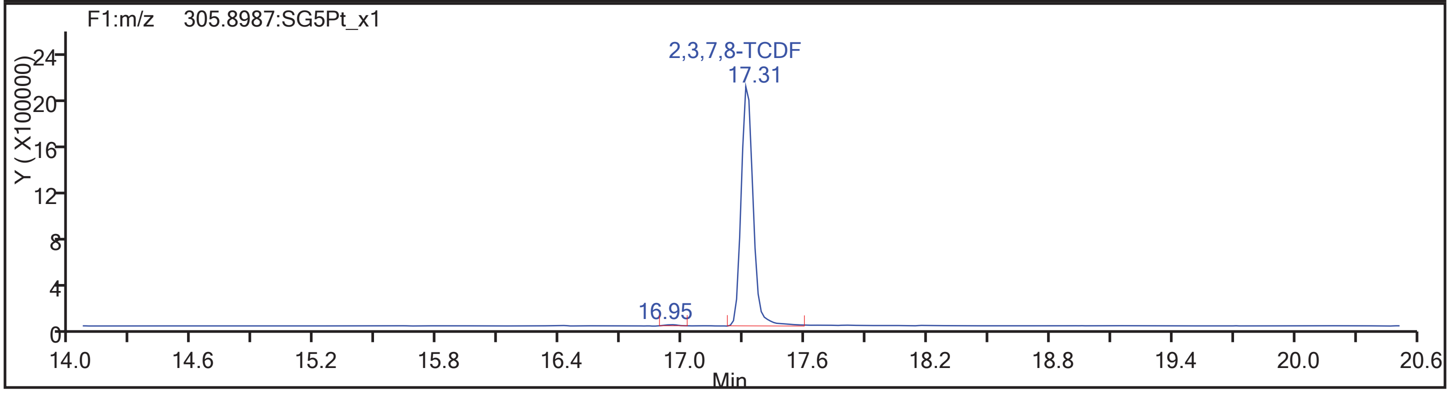
Report Date: 15-Nov-2017 01:27:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

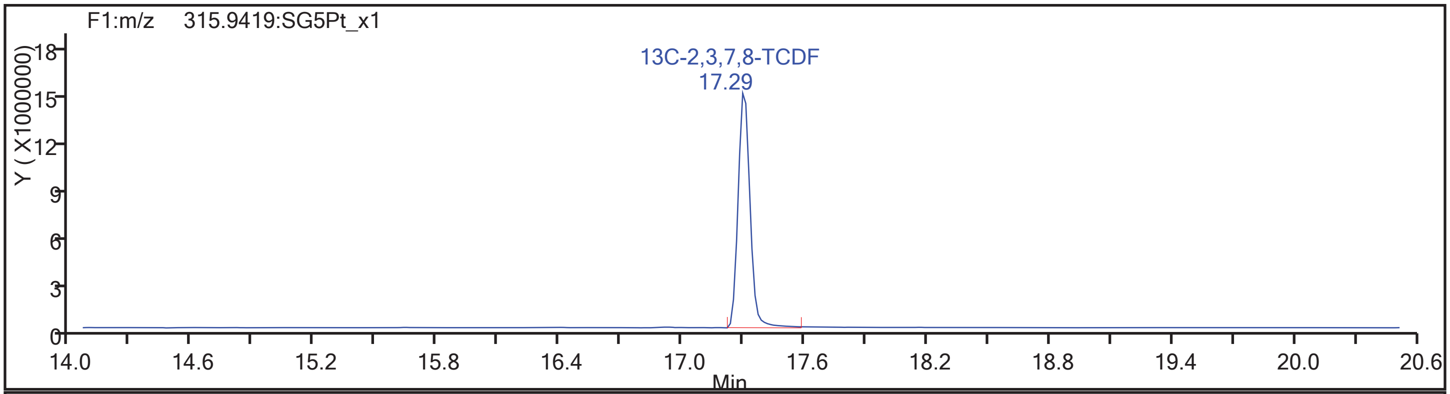
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d		
Injection Date:	14-Nov-2017 10:17:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	28
Column Type:	DB-5	Column Dia:	0.32 mm

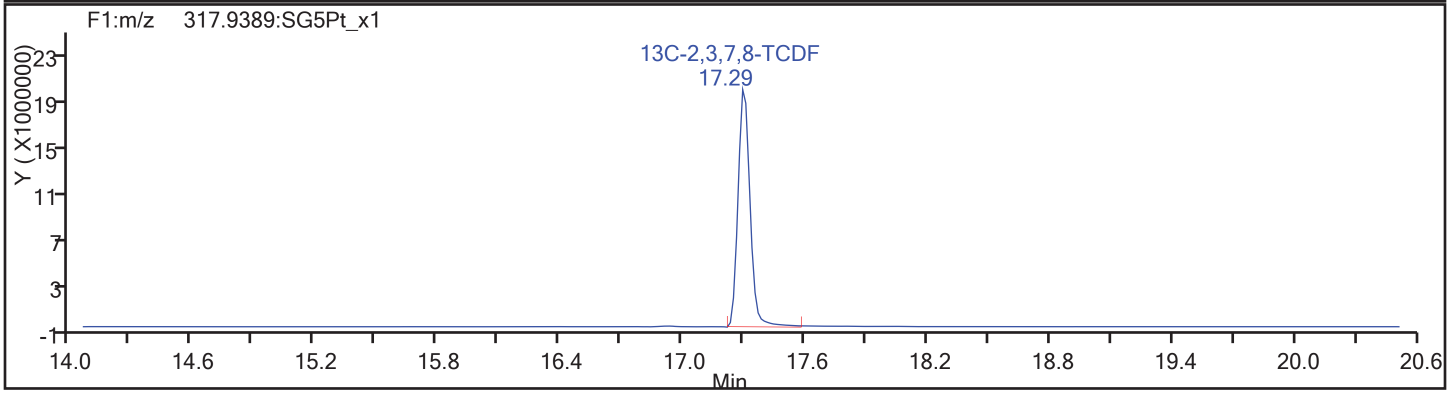
TCDF





TCDF Standards





Report Date: 15-Nov-2017 01:27:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d

Injection Date:	14-Nov-2017 10:17:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
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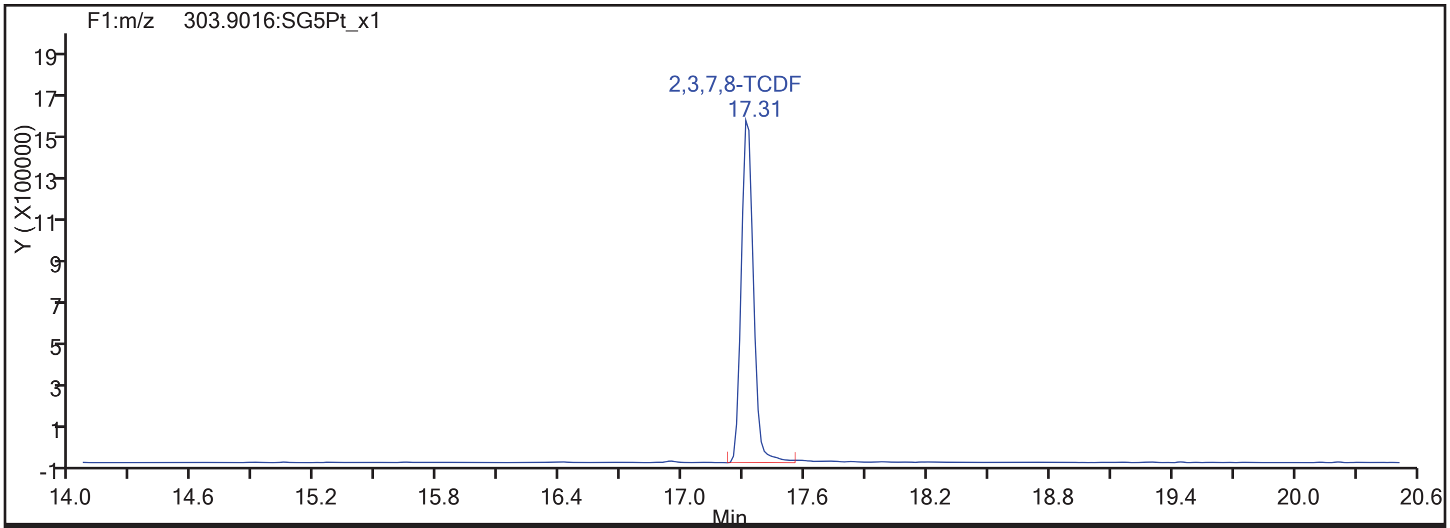
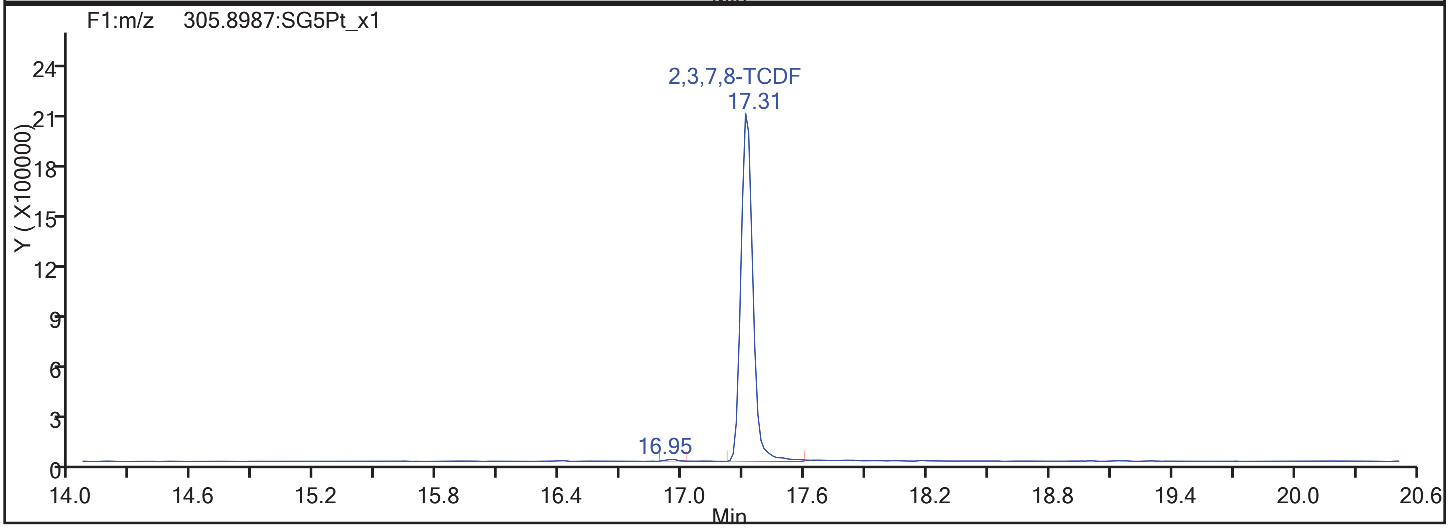
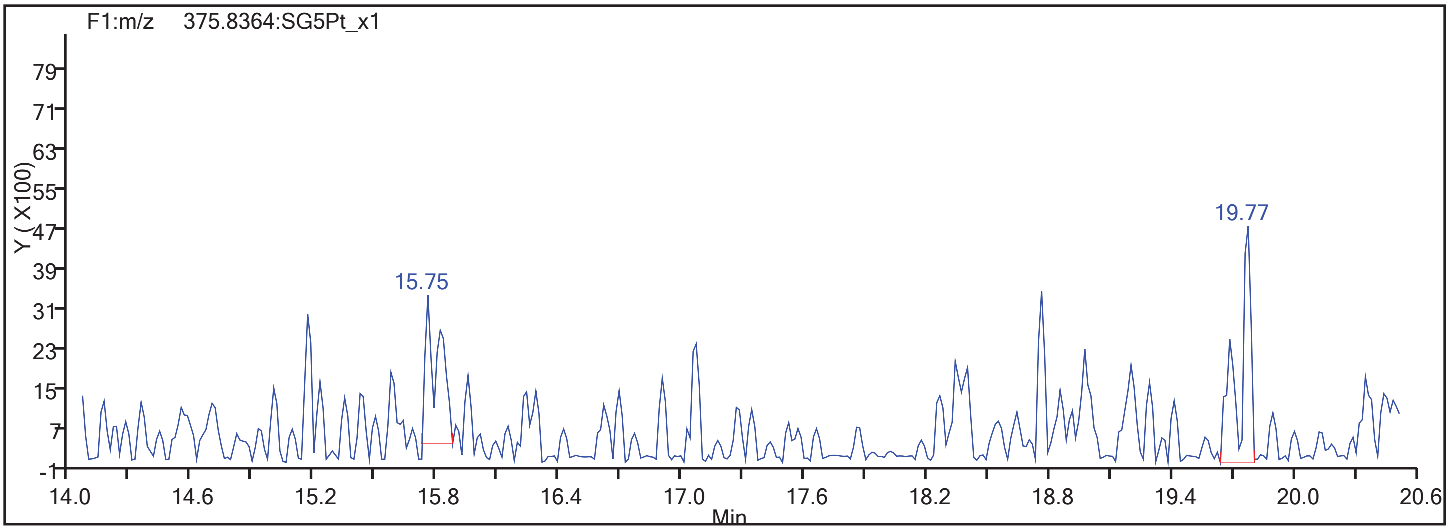
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Report Date: 15-Nov-2017 01:27:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d		
Injection Date:	14-Nov-2017 10:17:44	Injection Vol:	2.0 ul
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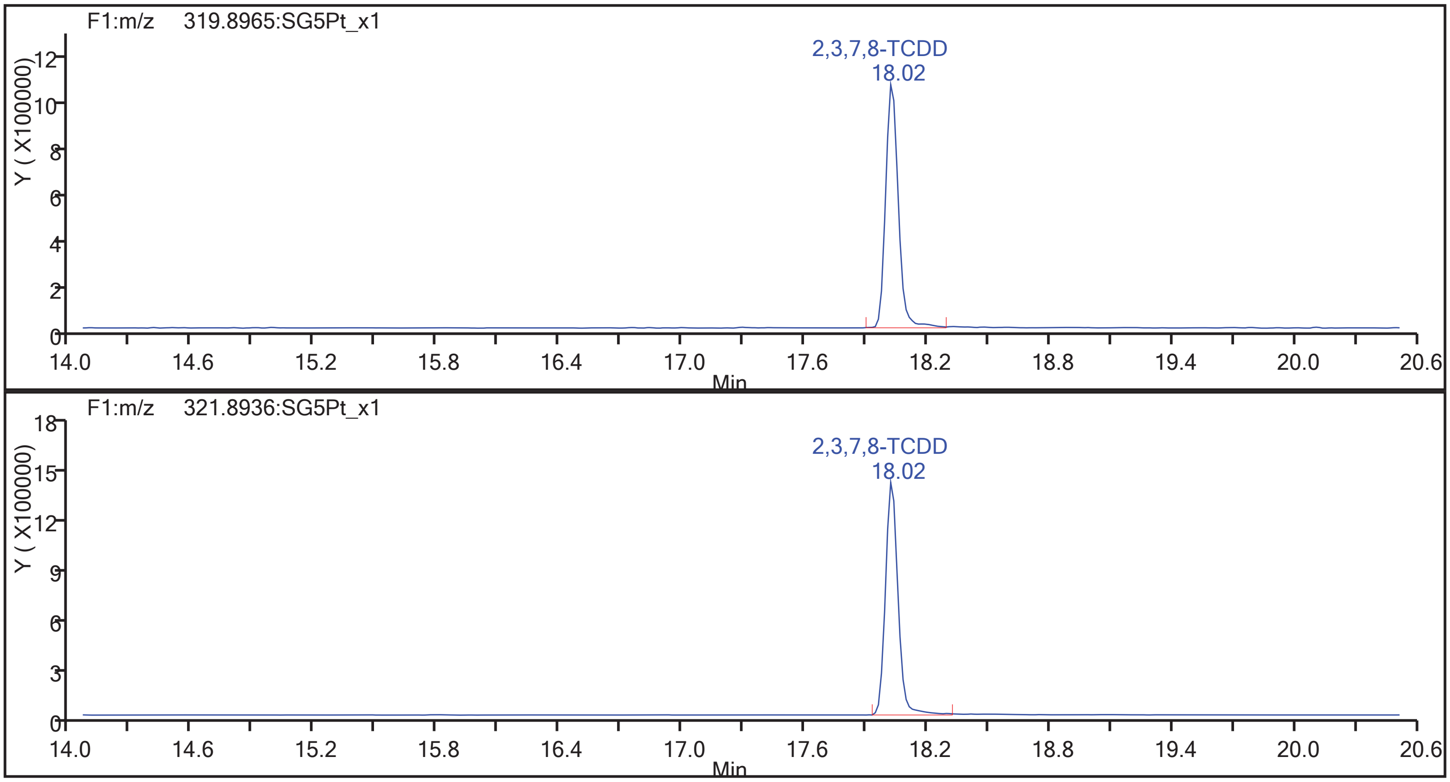
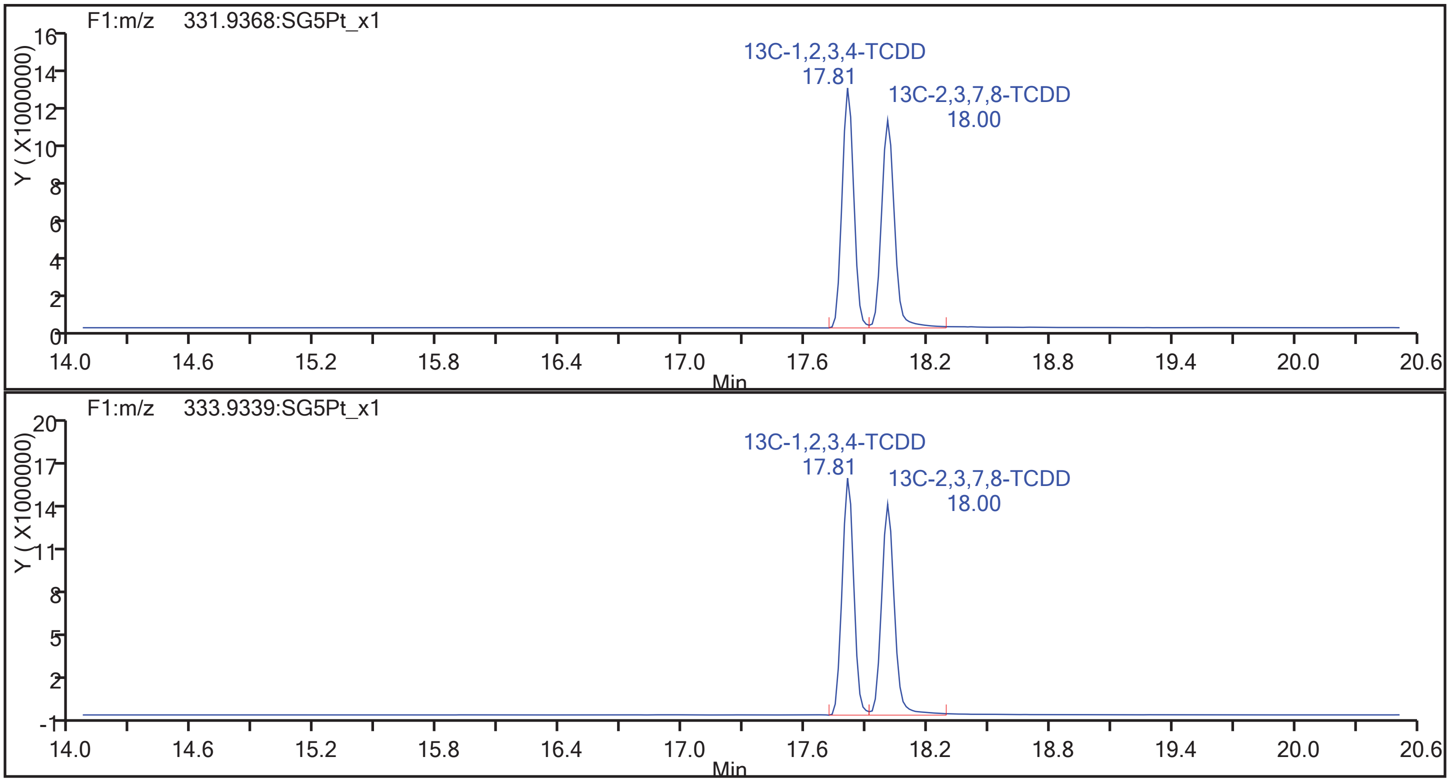
TCDD



TCDD Standards



Report Date: 15-Nov-2017 01:27:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
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Client ID:
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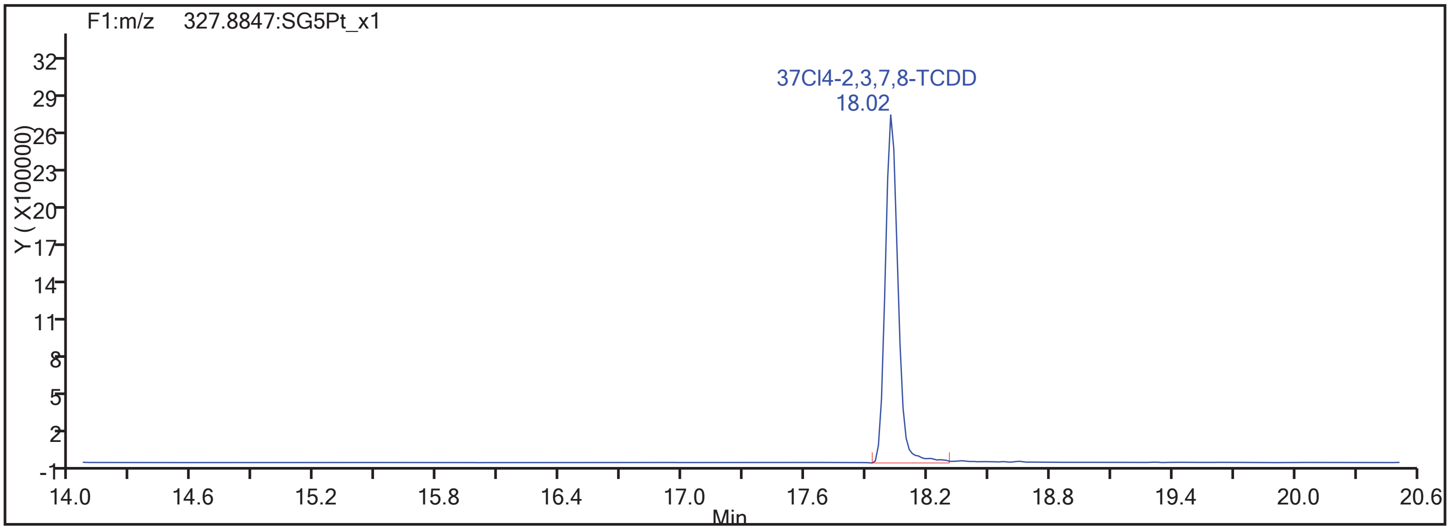
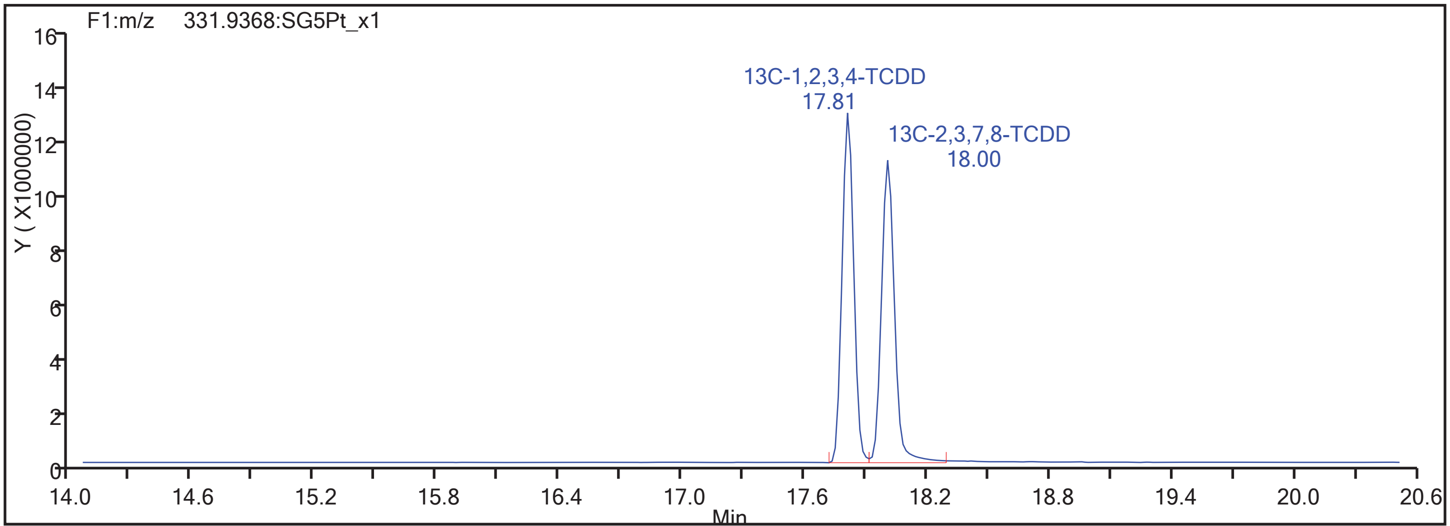
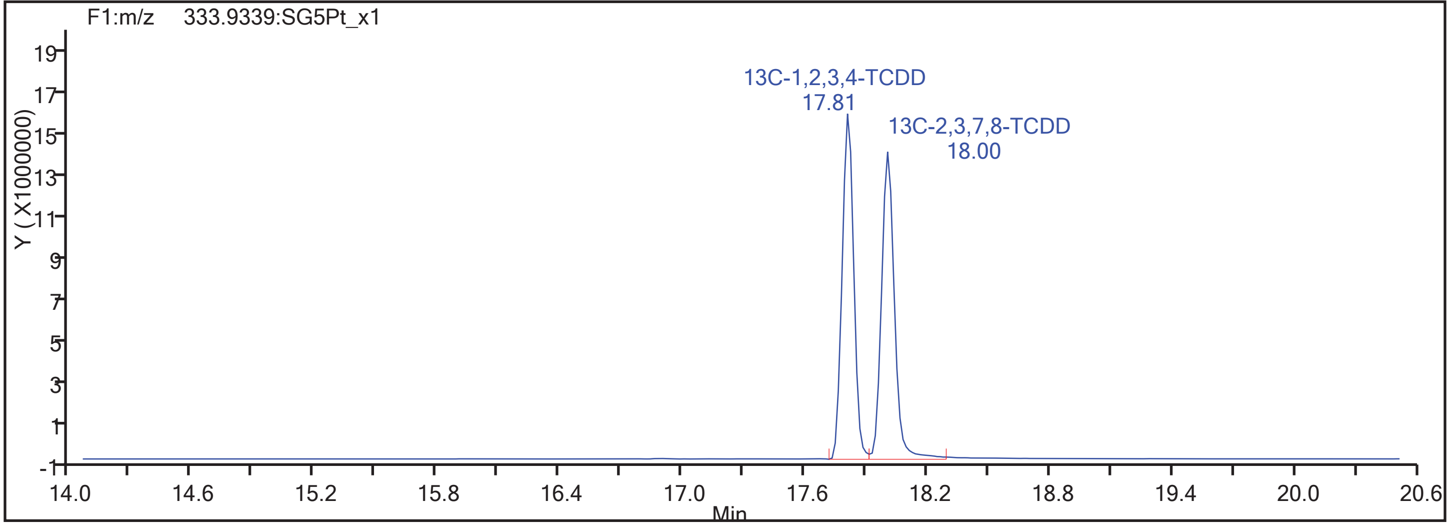
Sample Line#: 28
Column Type: DB-5
Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





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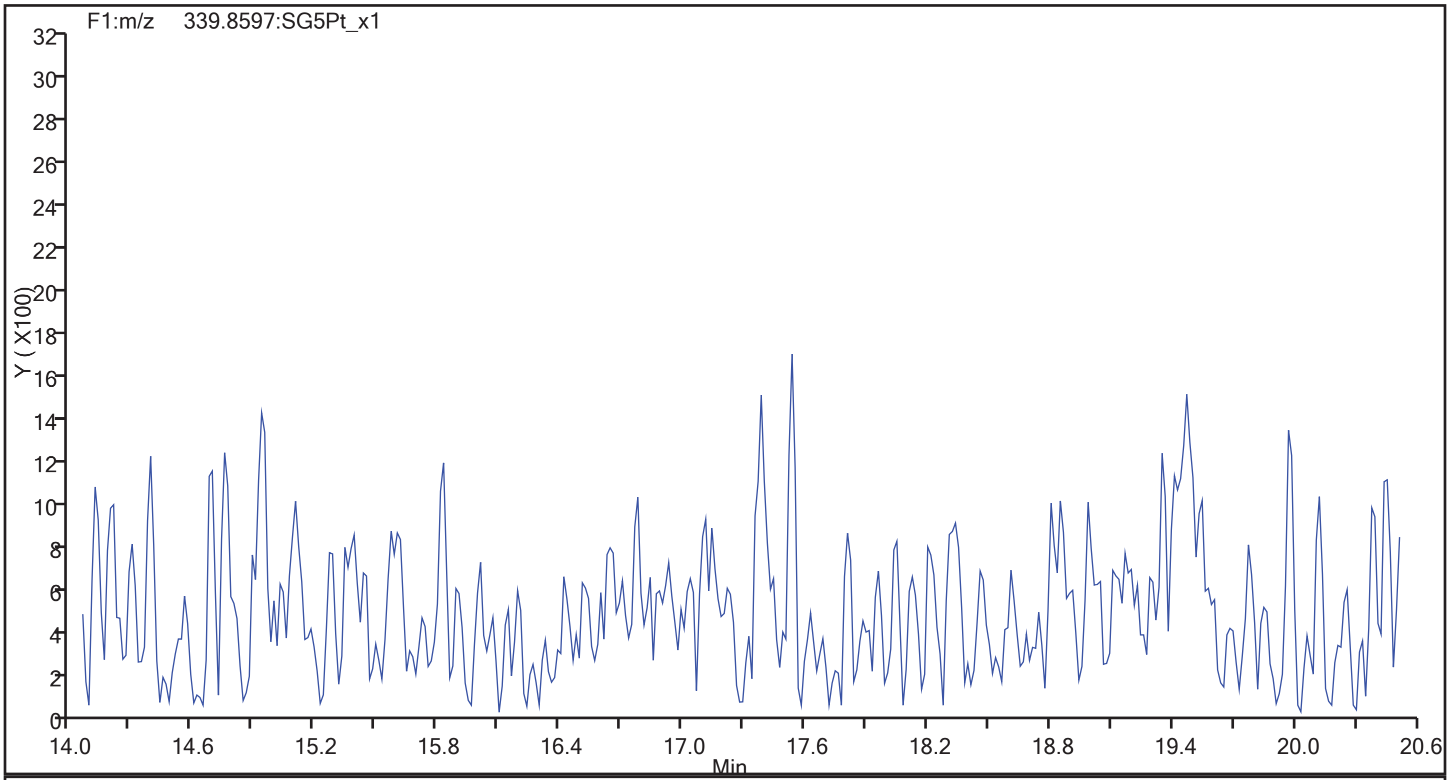
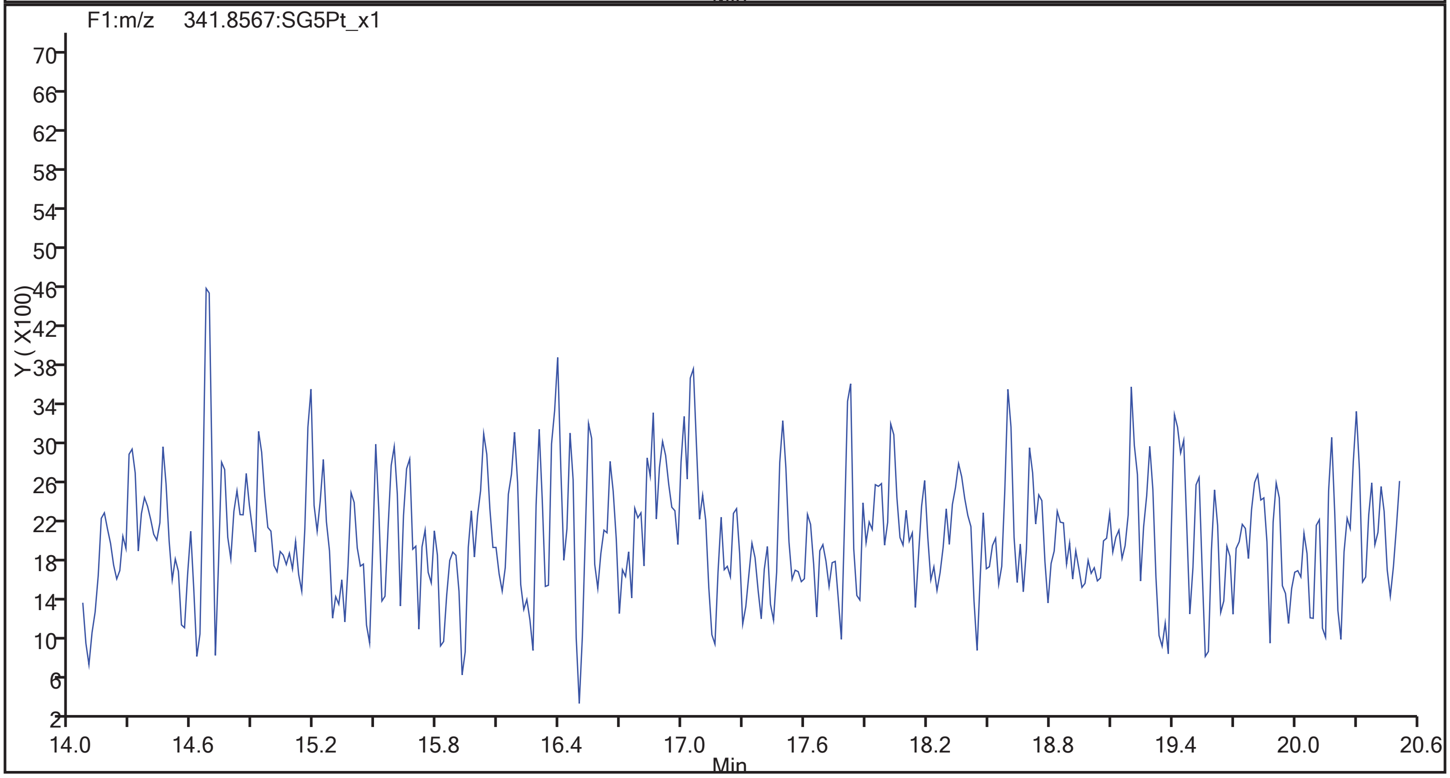
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





TestAmerica Sacramento

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Method: Dioxin_10D5
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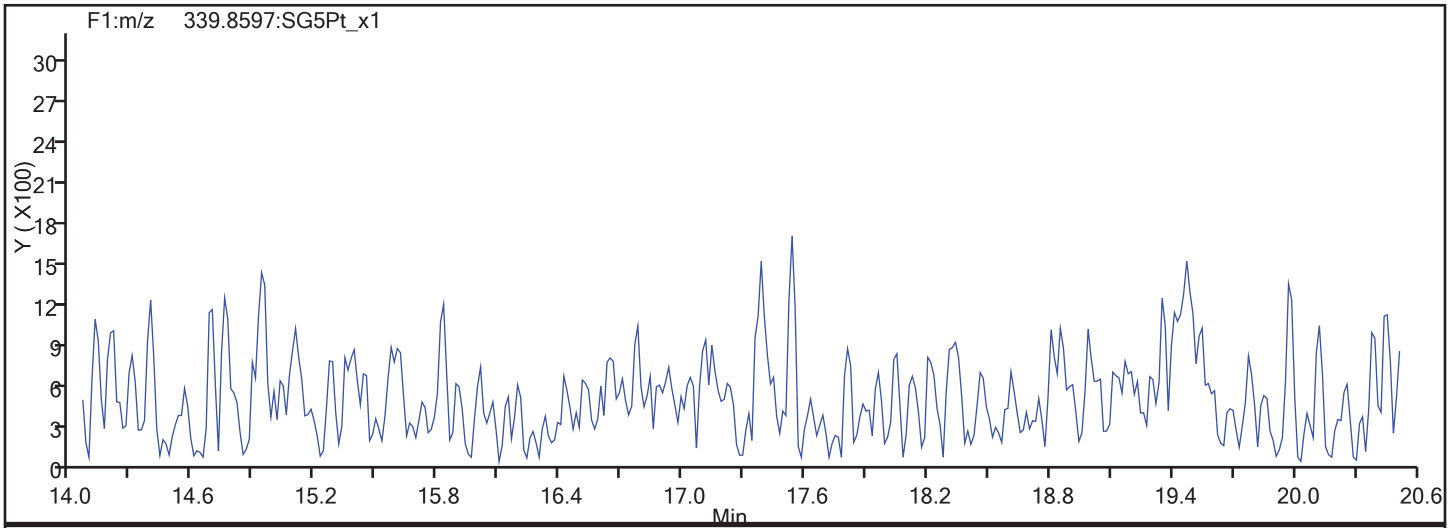
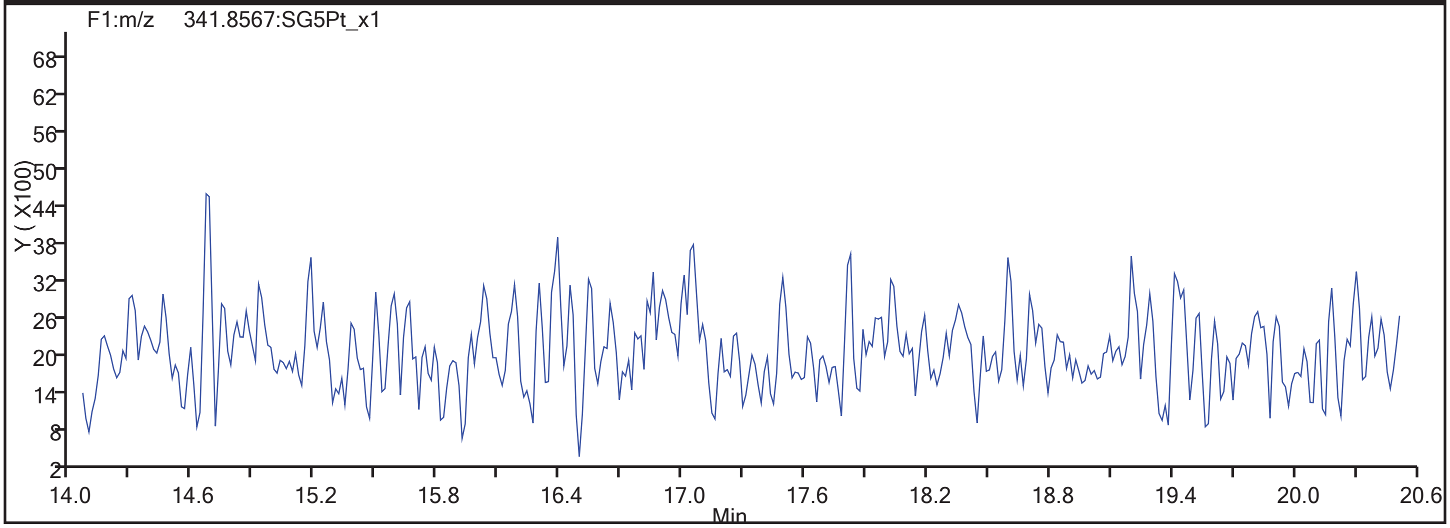
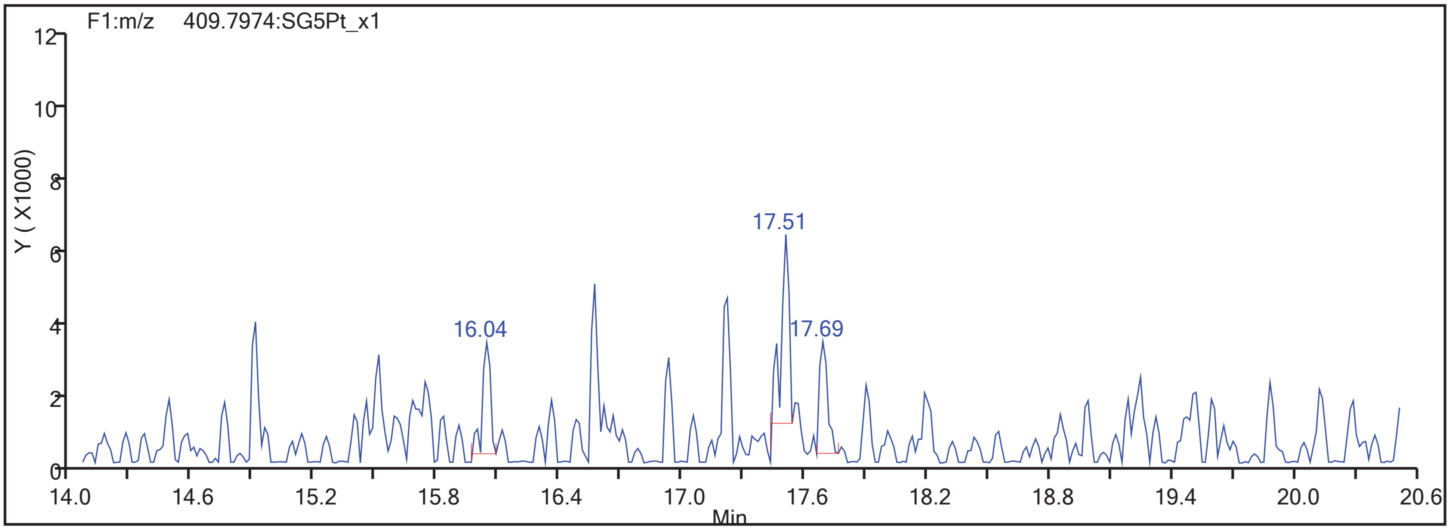
Worklist#: 194429
Sample Line#: 28
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 15-Nov-2017 01:27:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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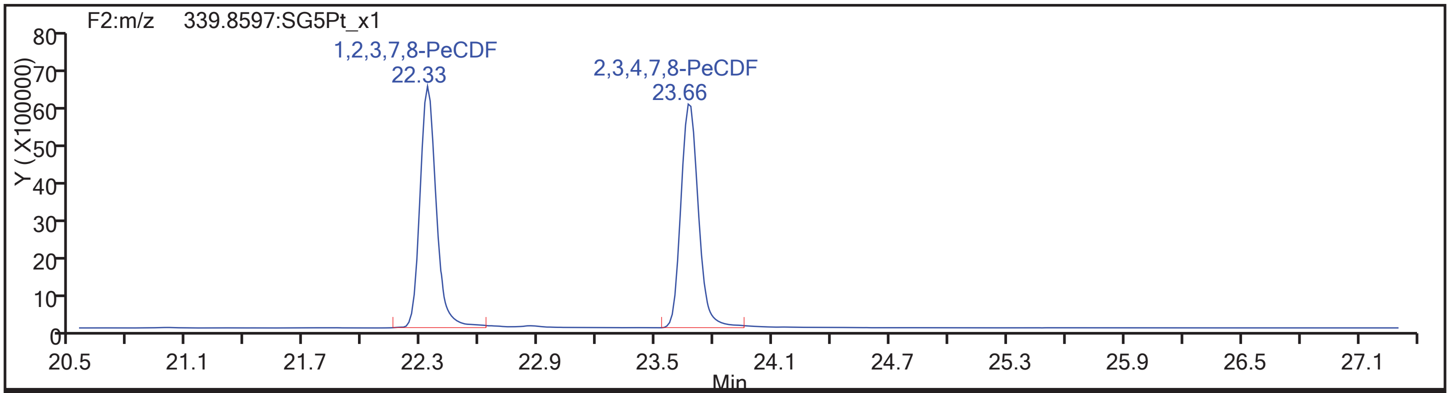
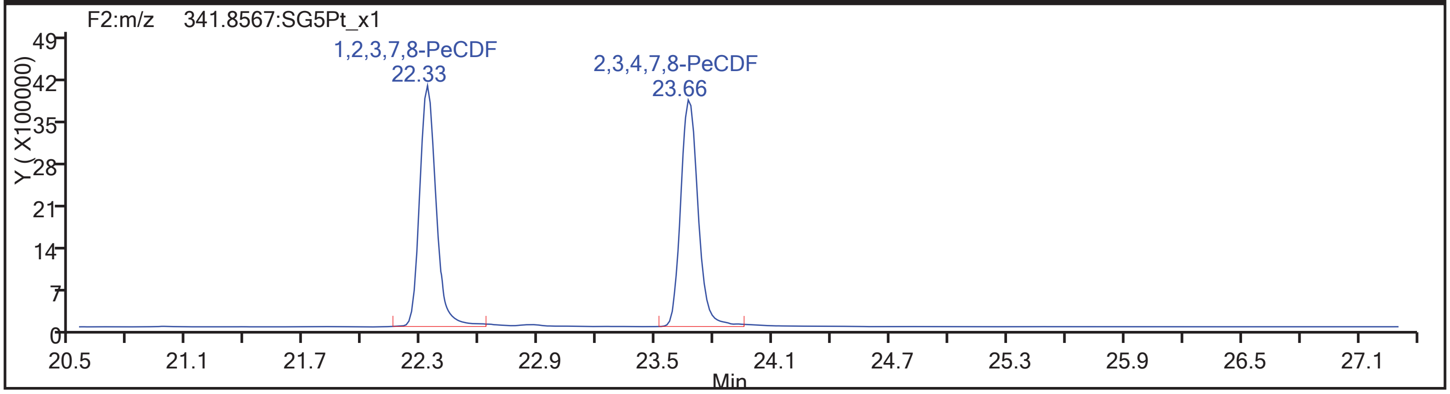
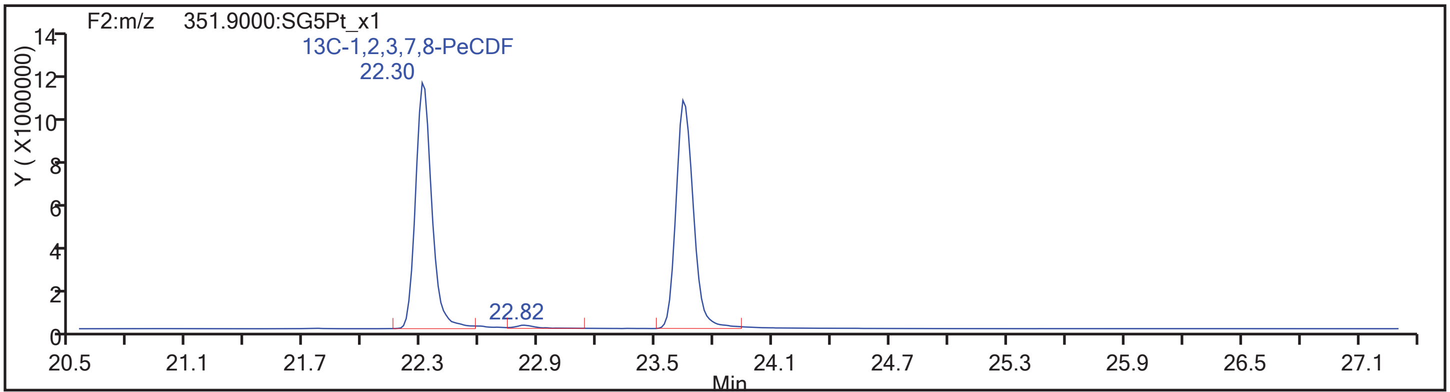
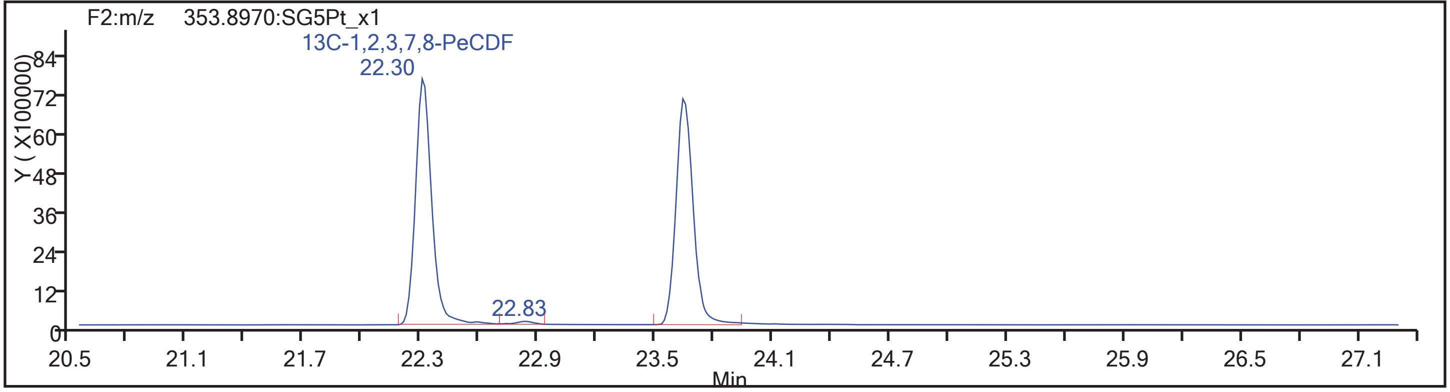
PeCDF





PeCDF Standards





Report Date: 15-Nov-2017 01:27:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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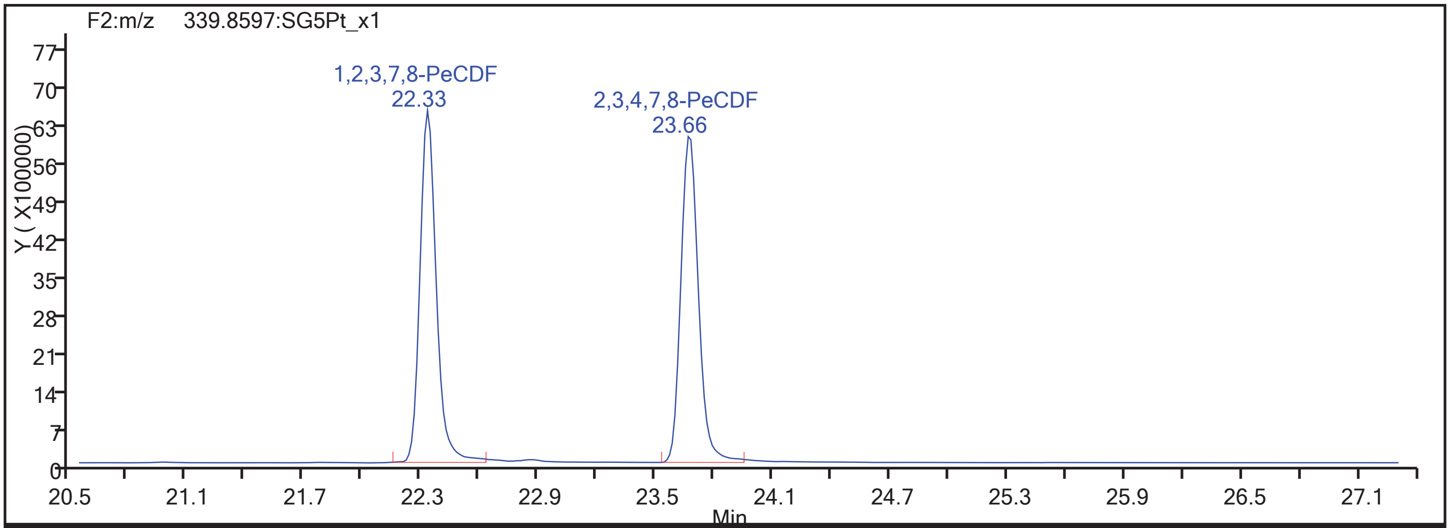
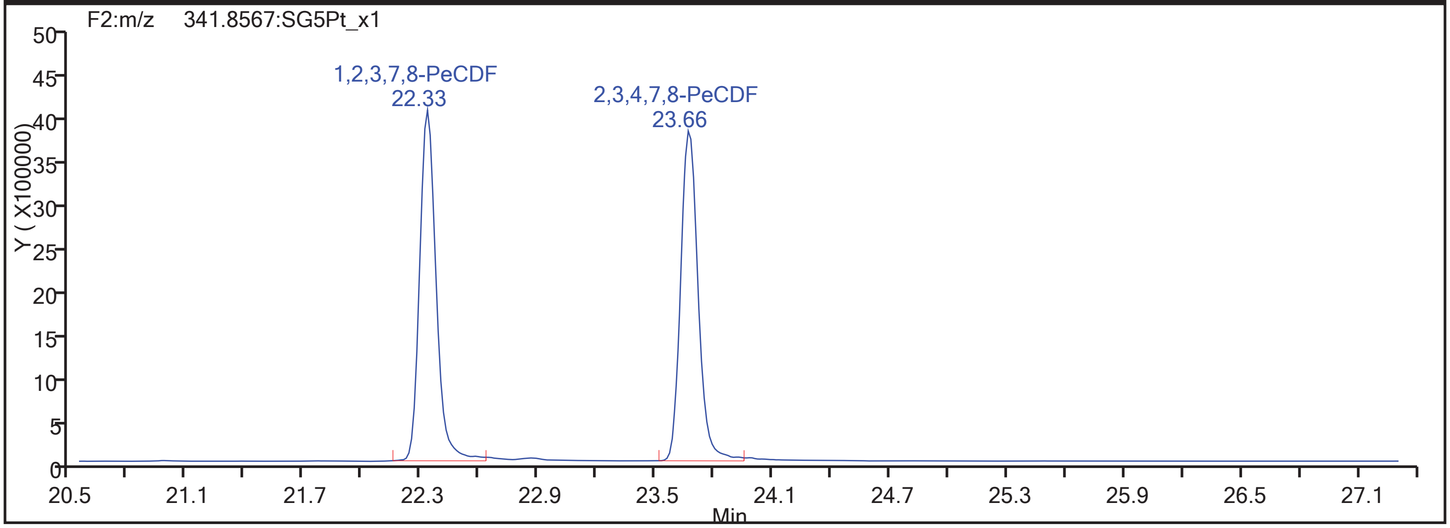
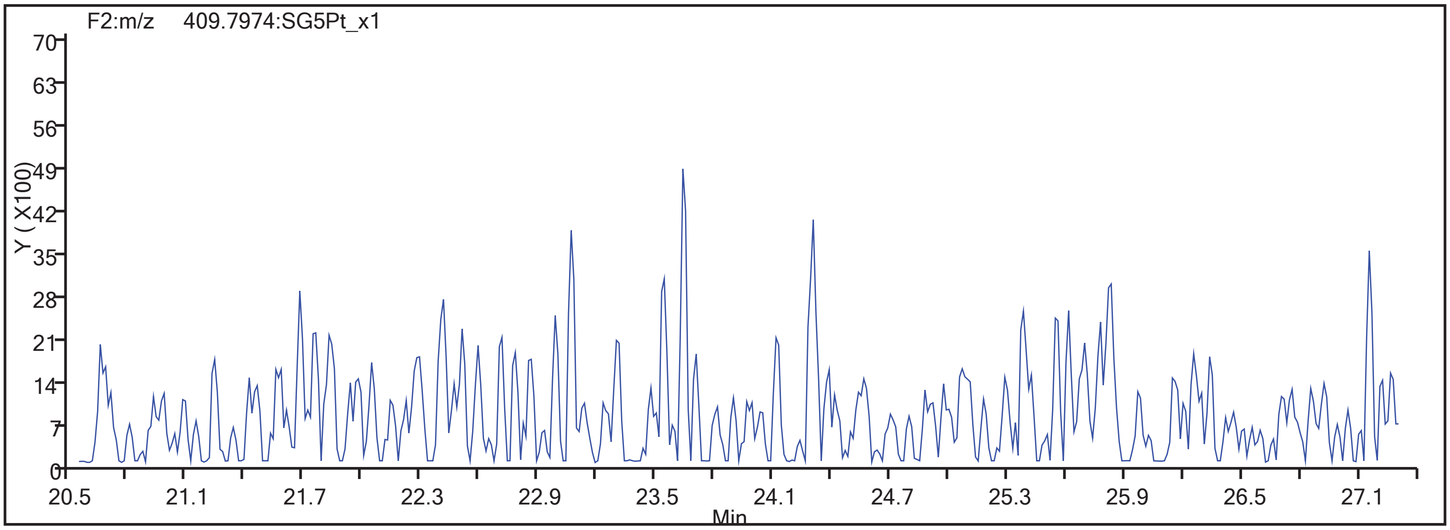
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



Report Date: 15-Nov-2017 01:27:59
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Vol: 2.0 ul
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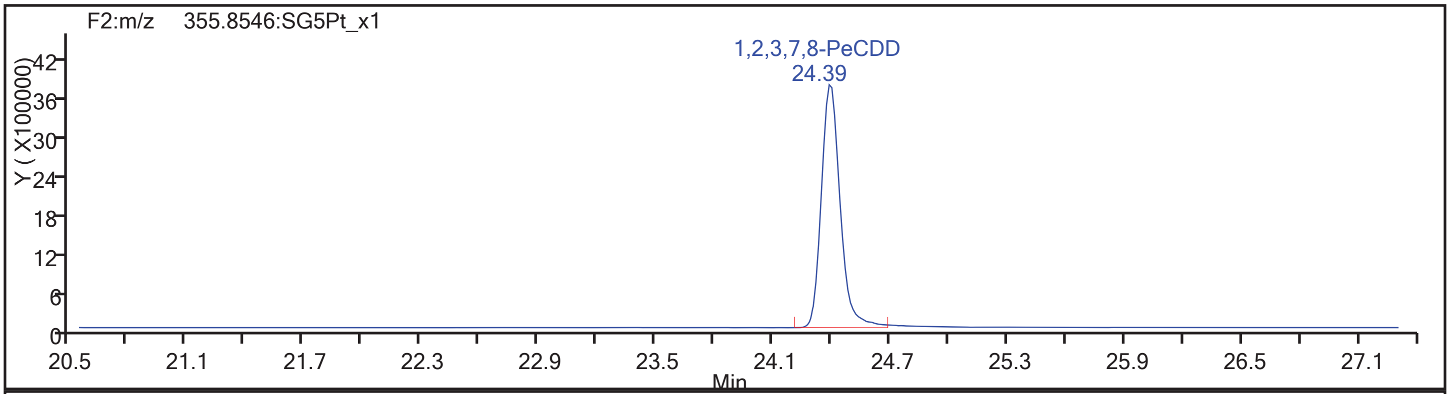
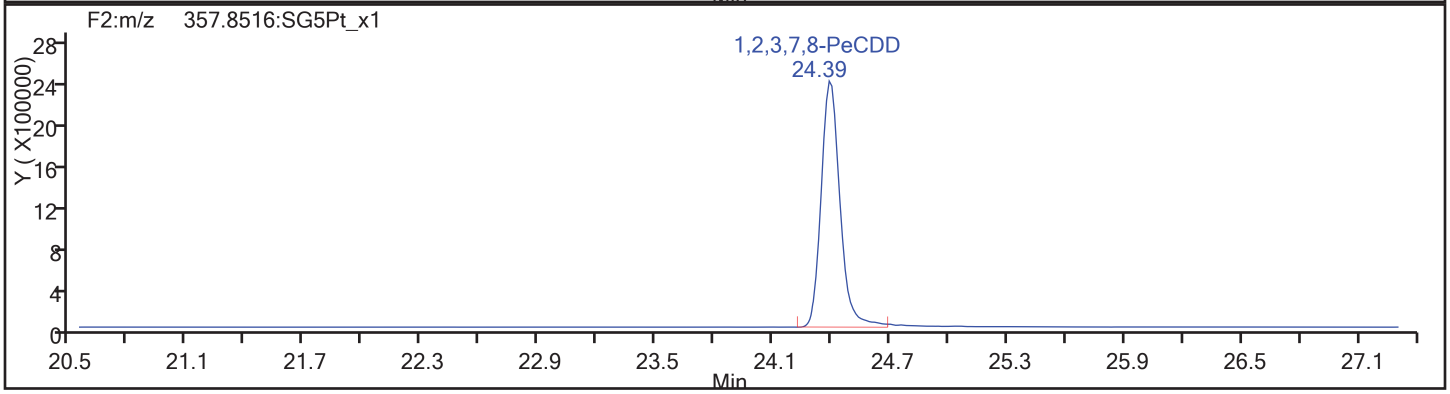
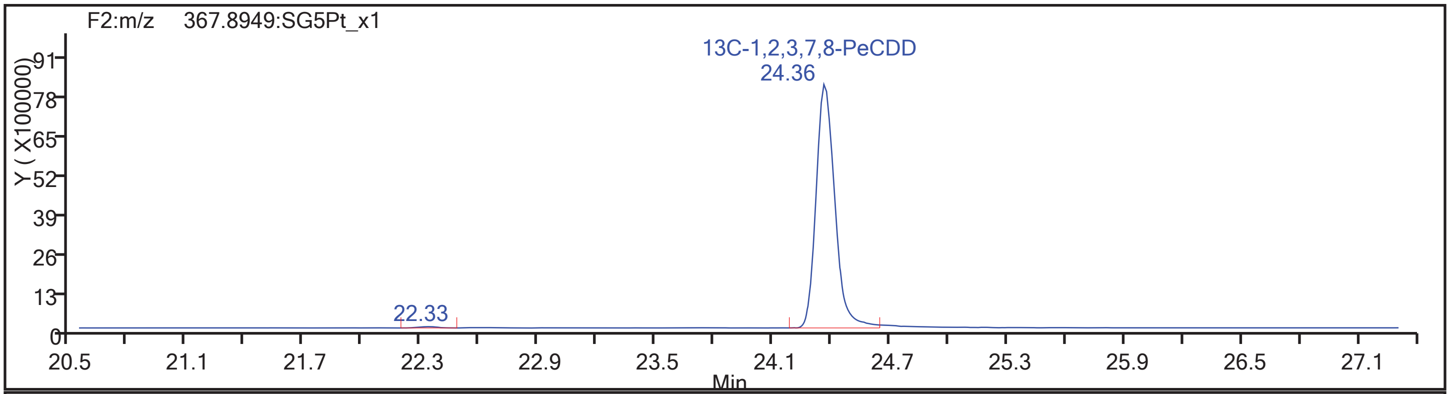
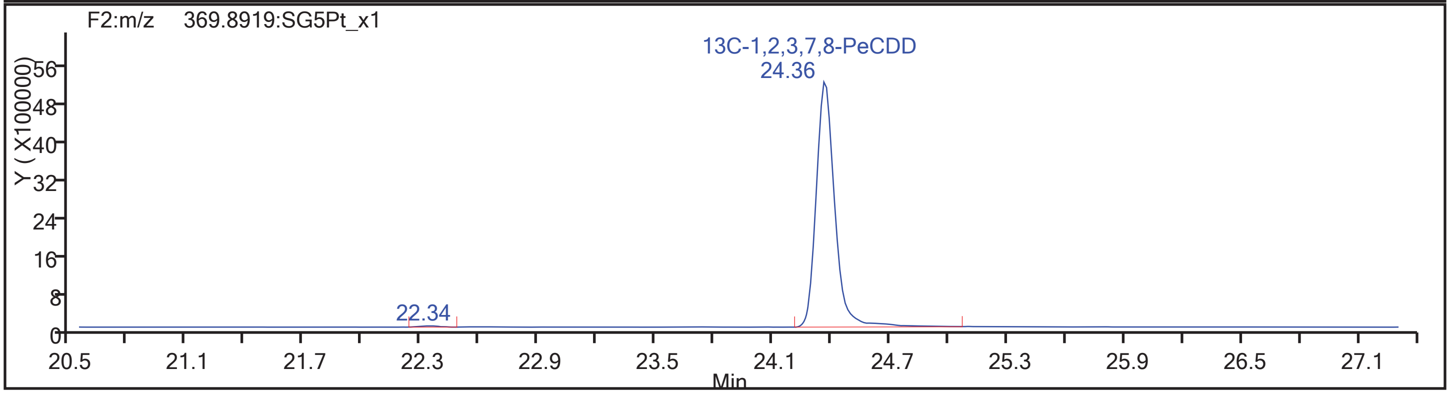
PeCDD





PeCDD Standards





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TestAmerica Sacramento

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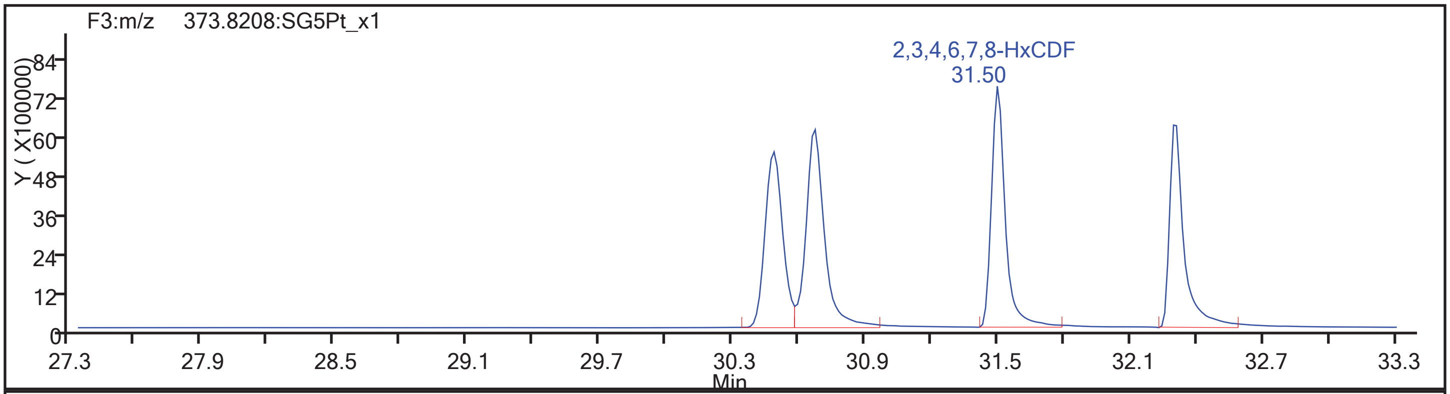
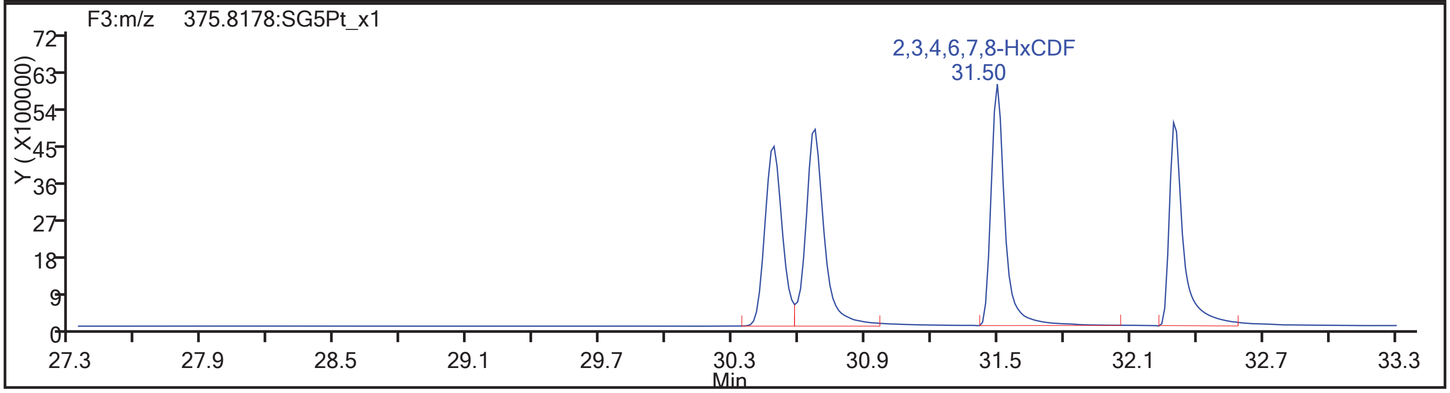
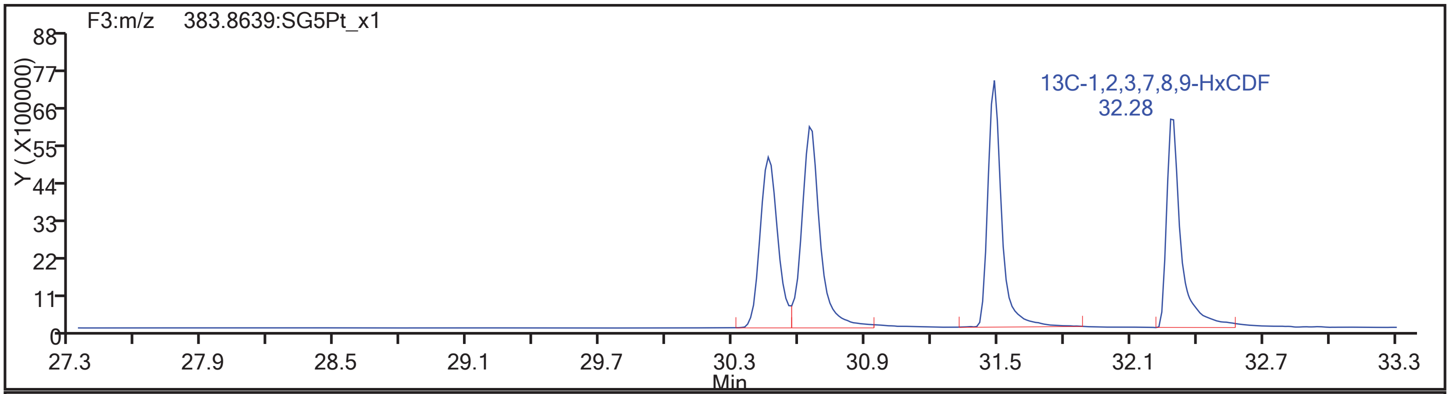
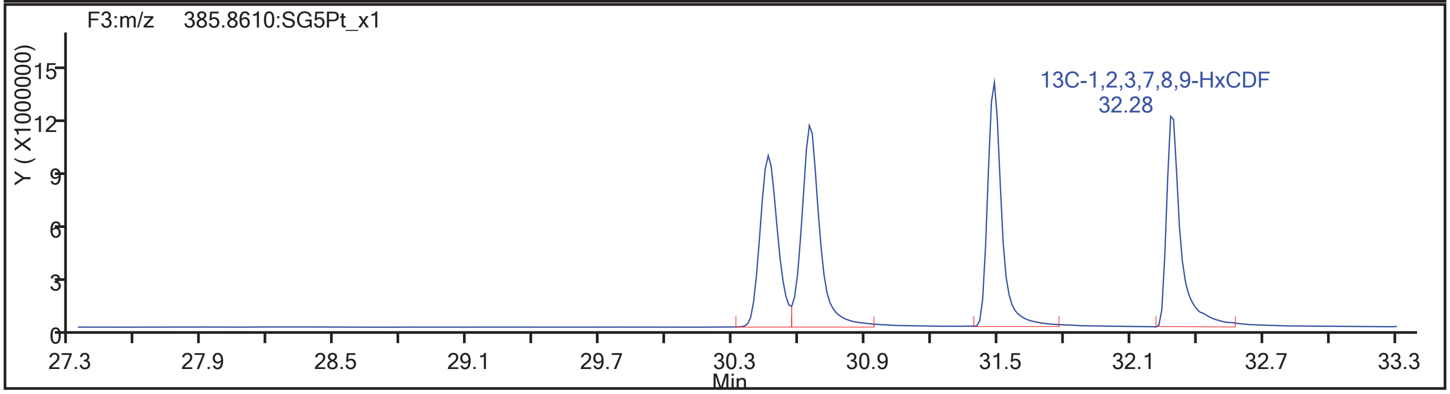
HxCDF





HxCDF Standards





Report Date: 15-Nov-2017 01:27:59 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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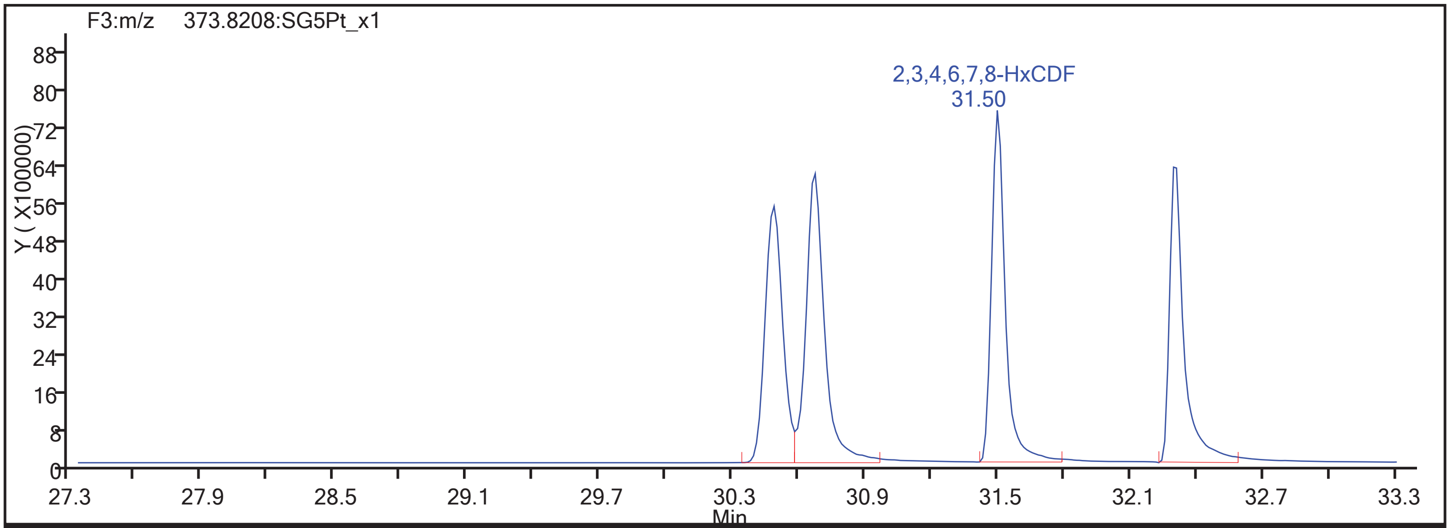
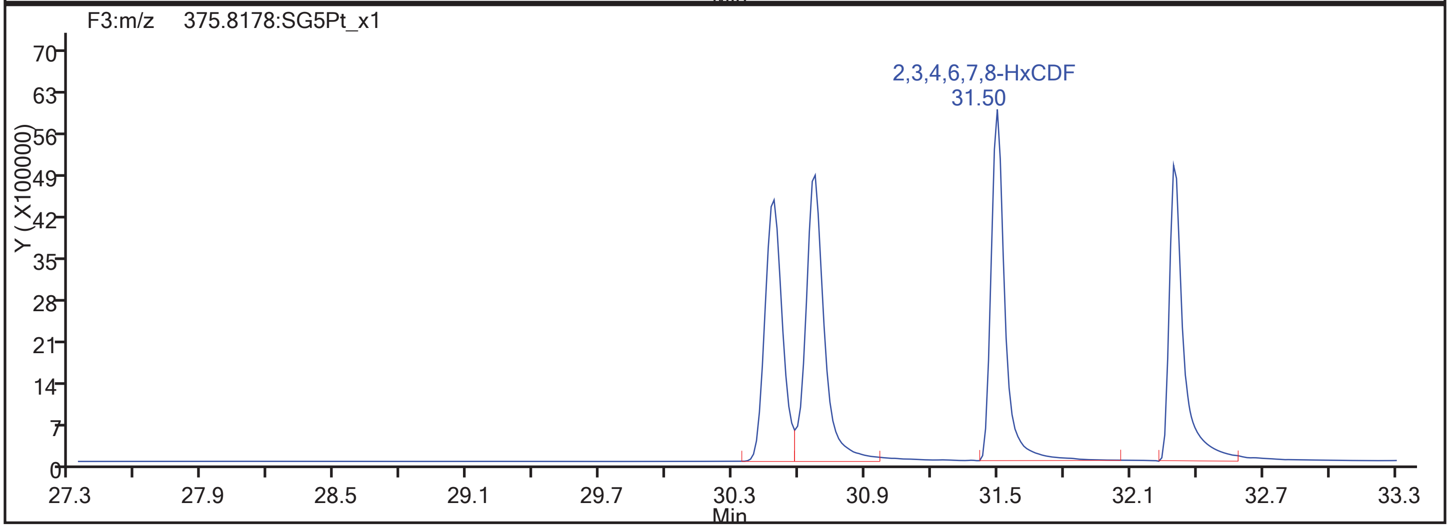
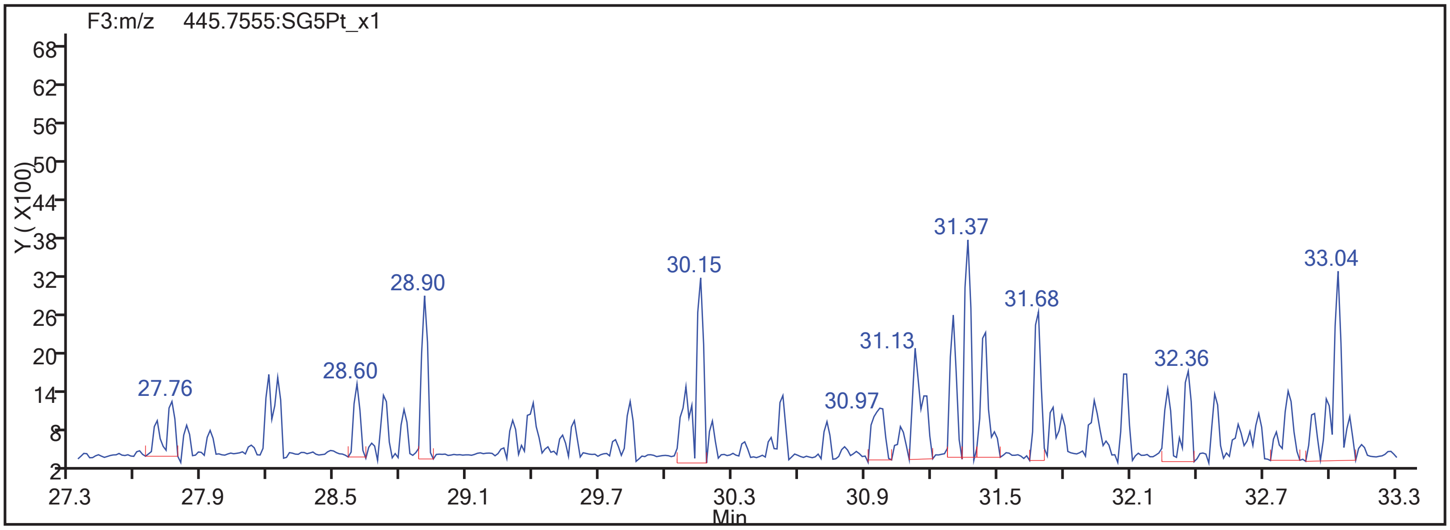
HxCDF





HxCDF Interference Mass



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TestAmerica Sacramento

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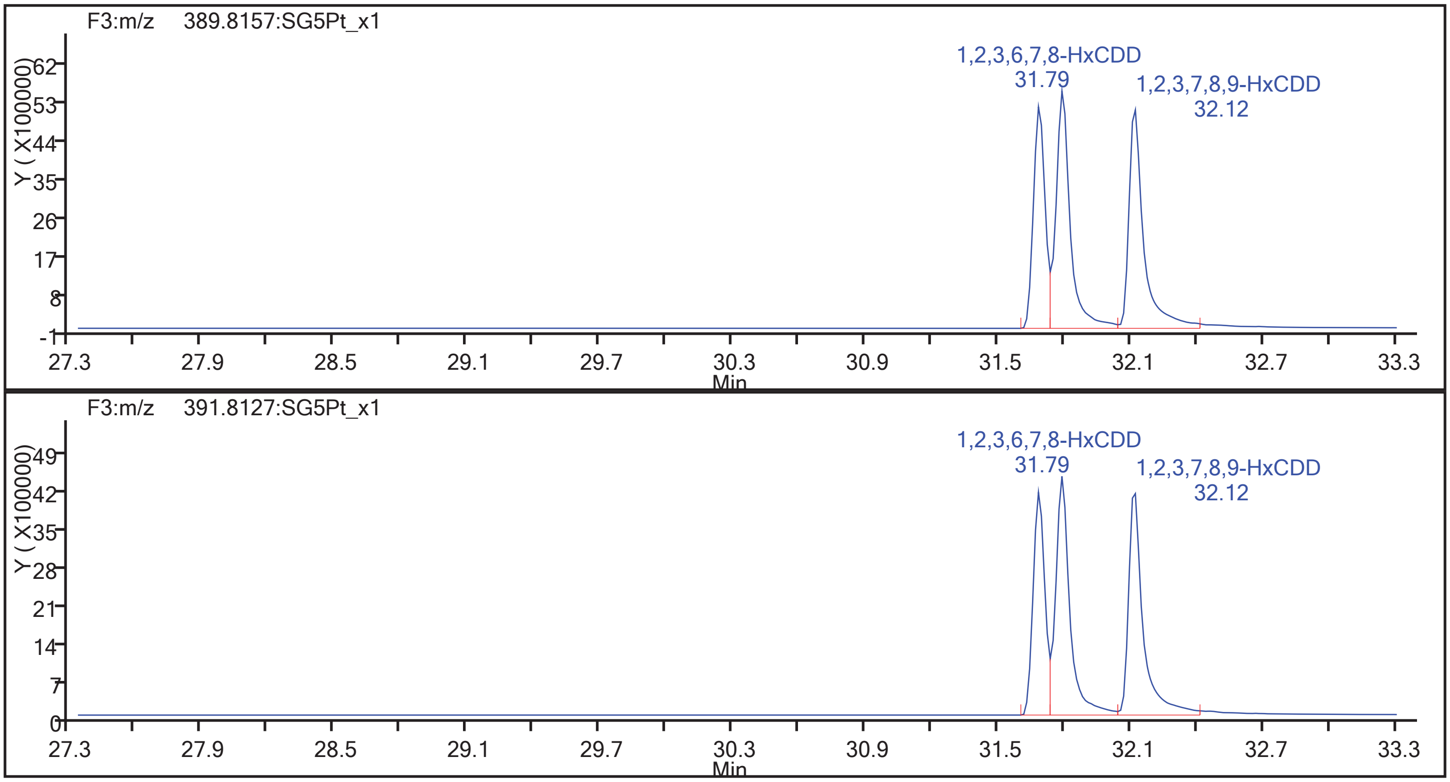
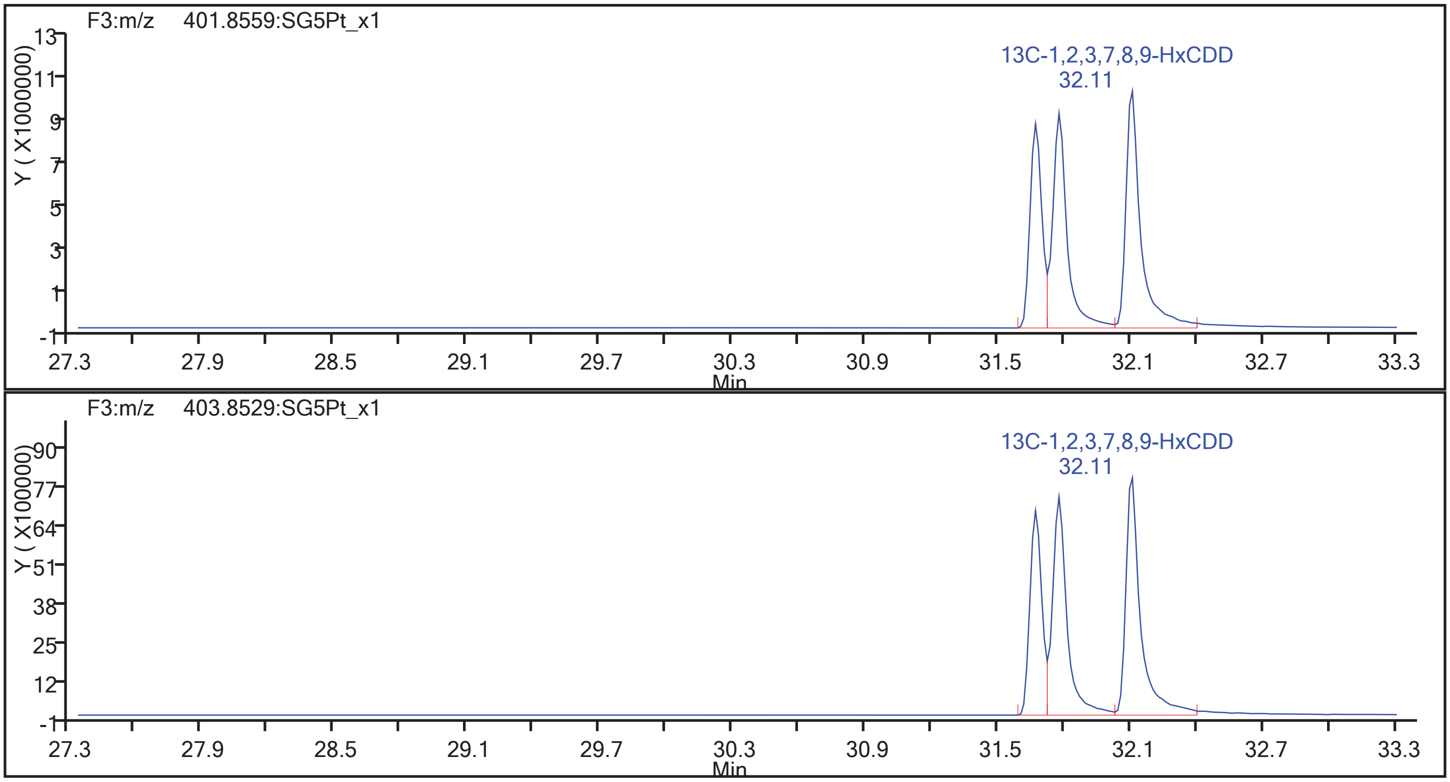
HxCDD



HxCDD Standards



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TestAmerica Sacramento

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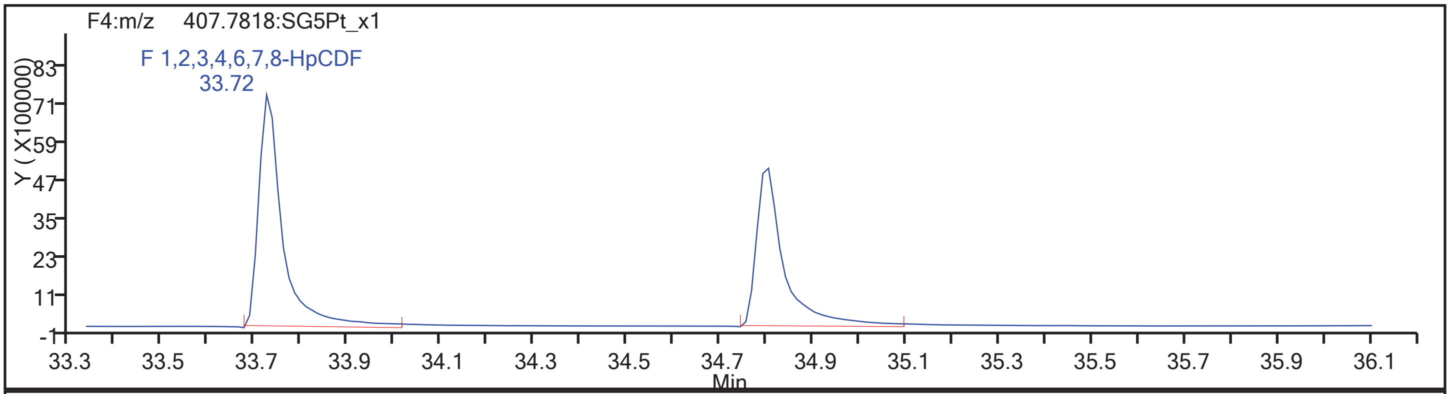
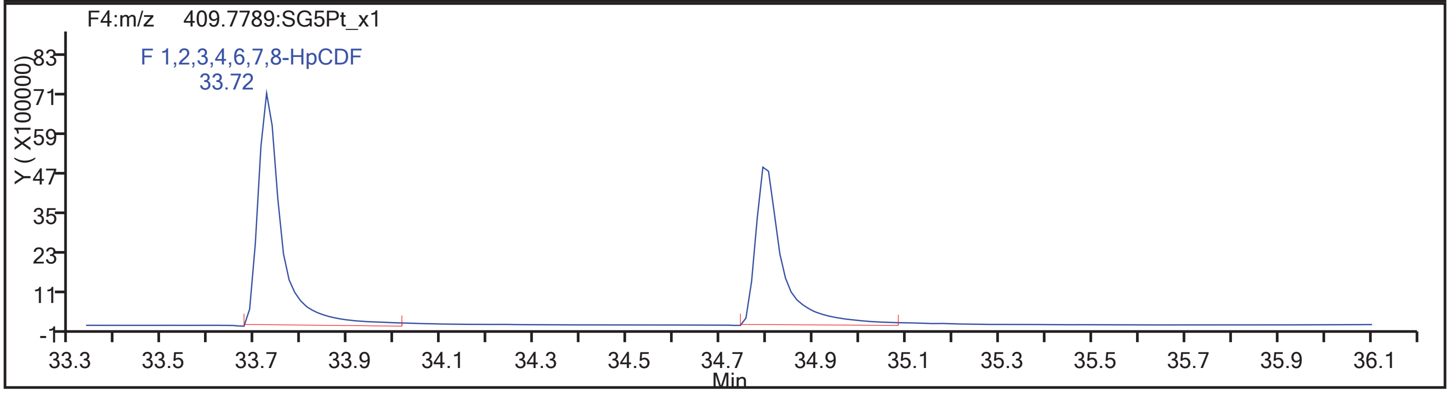
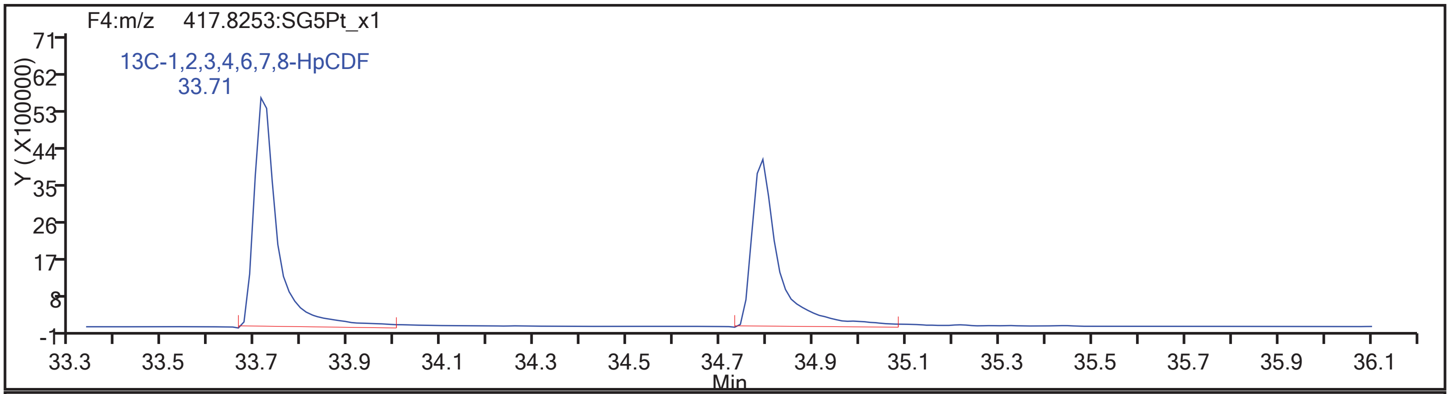
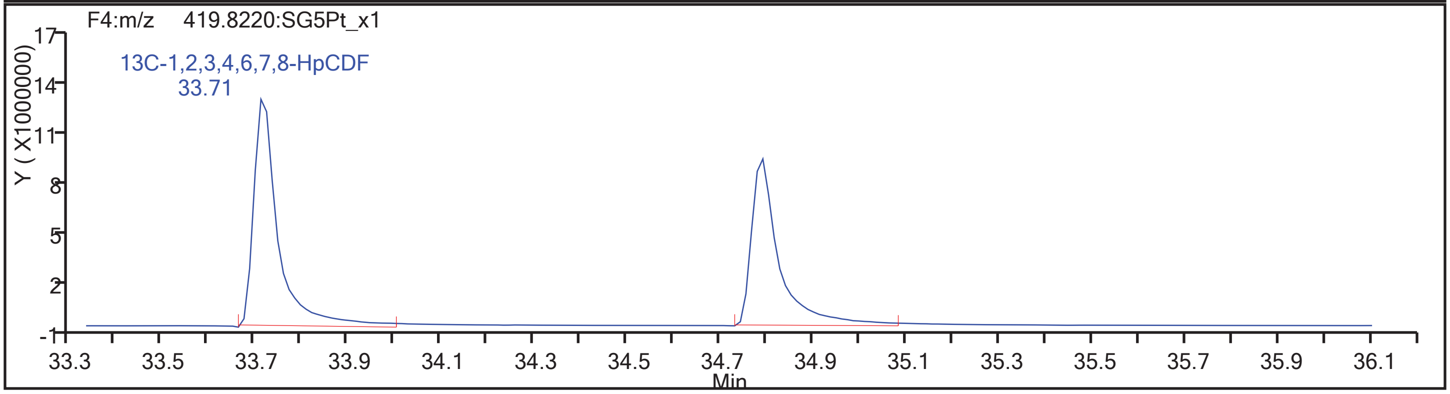
HpCDF





HpCDF Standards





TestAmerica Sacramento

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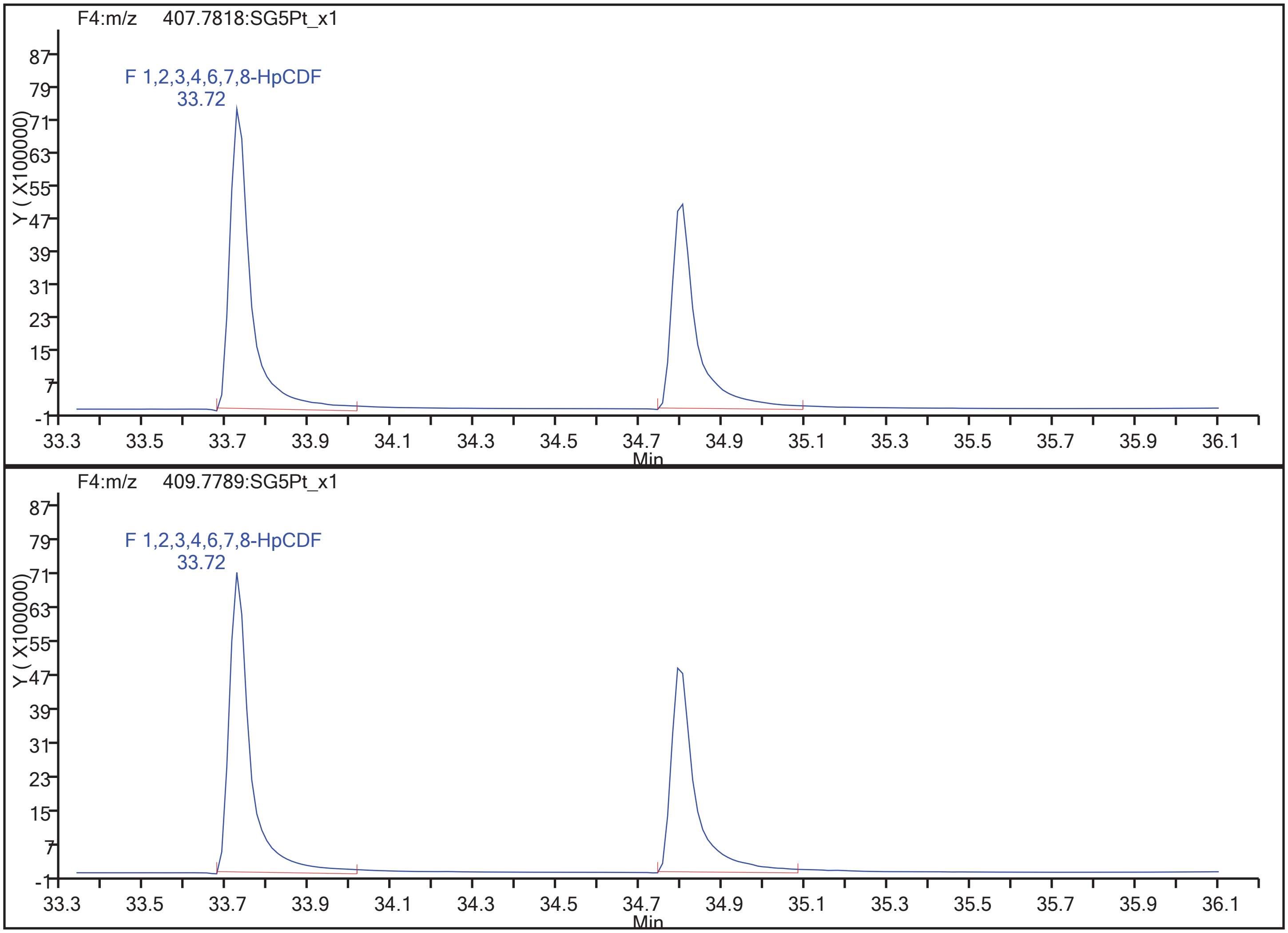
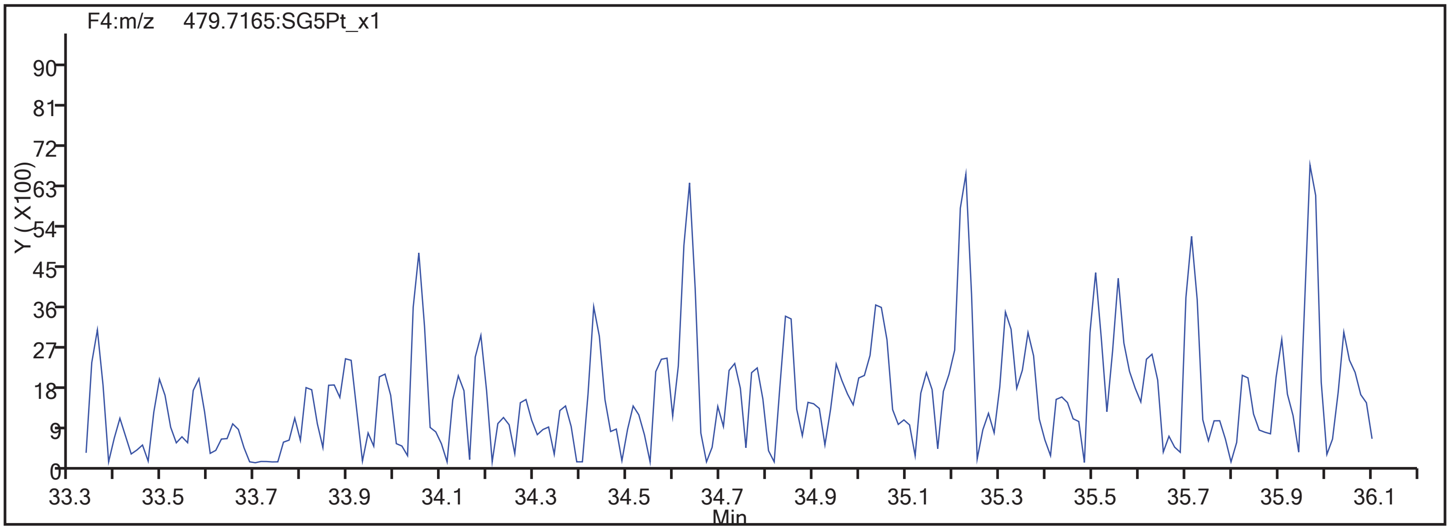
HpCDF



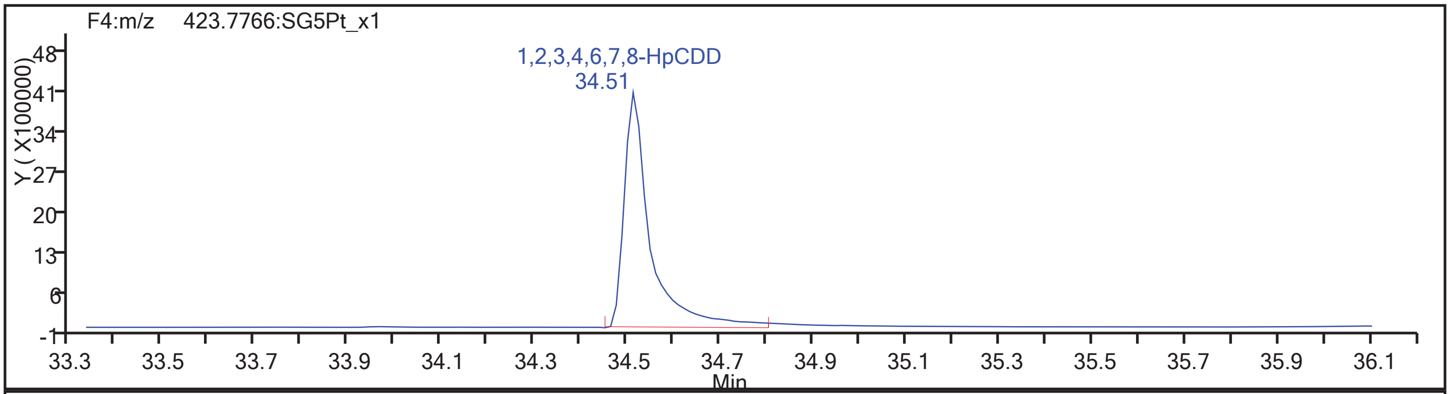
HpCDF Interference Mass

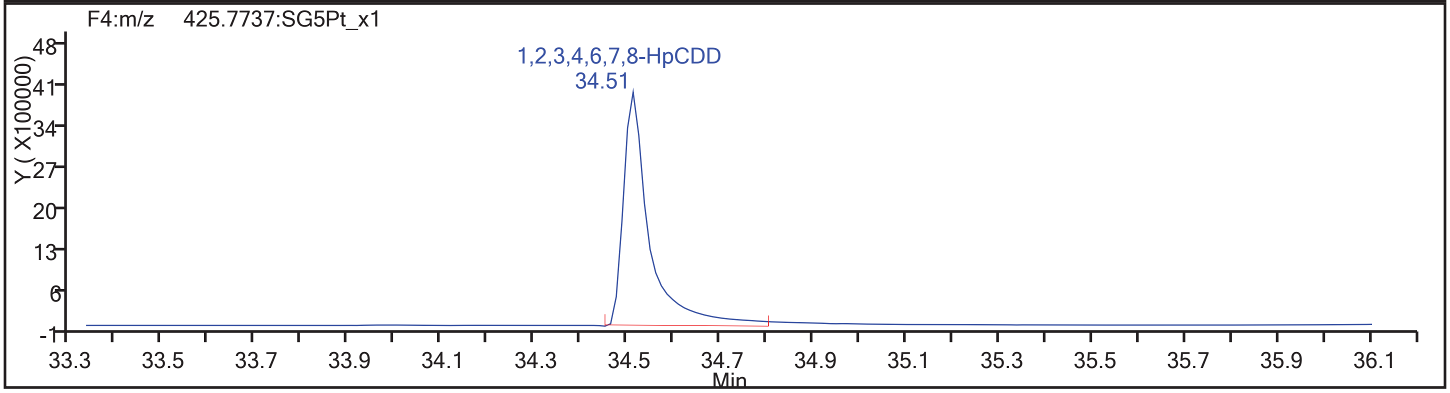


TestAmerica Sacramento

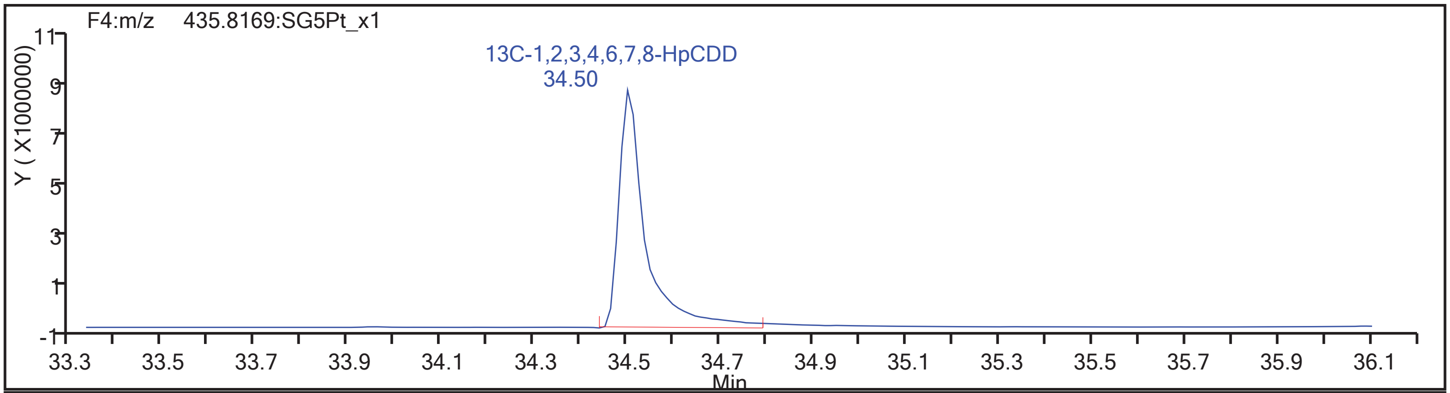
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d		
Injection Date:	14-Nov-2017 10:17:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	28
Column Type:	DB-5	Column Dia:	0.32 mm

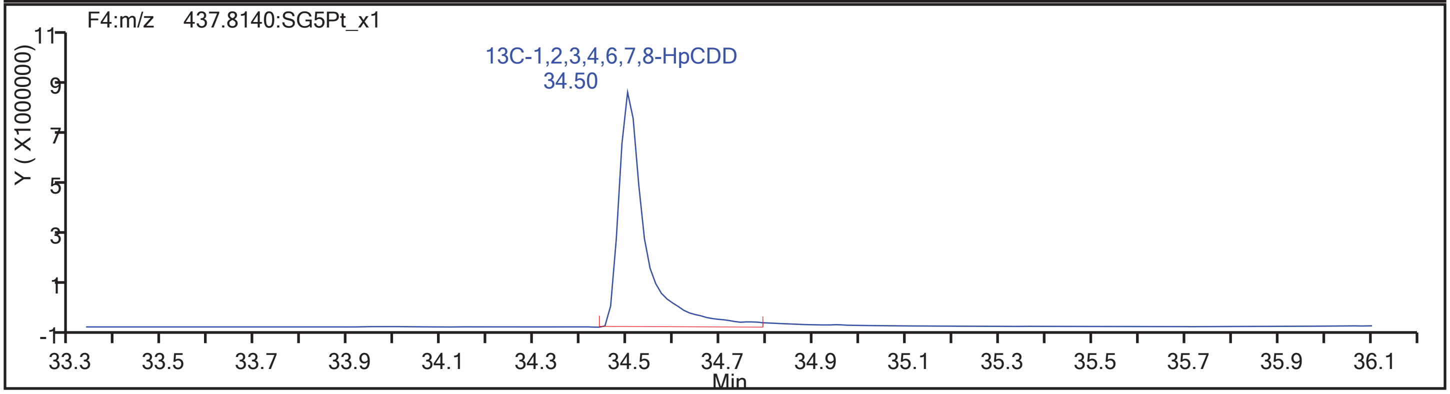
HpCDD





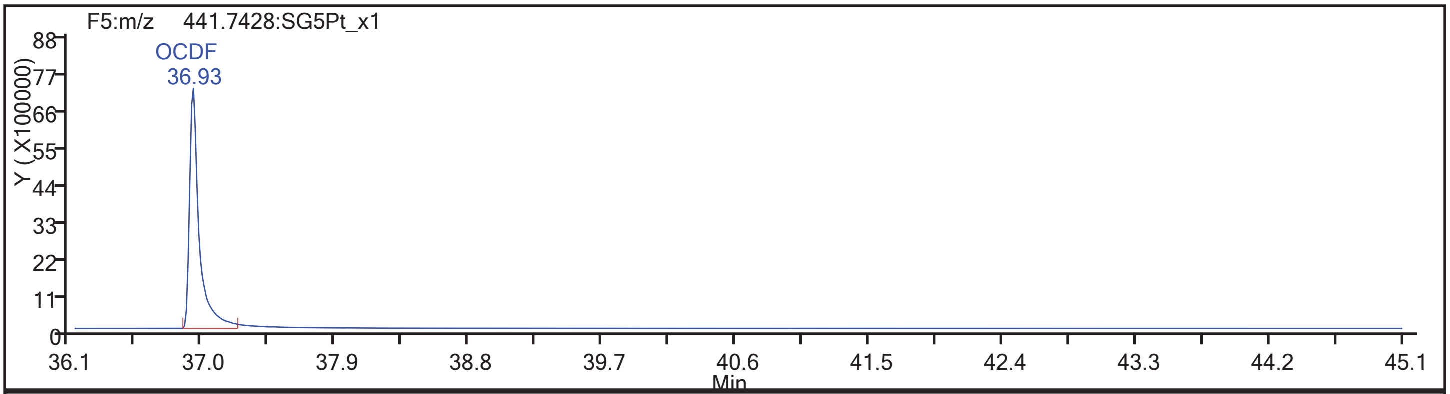
HpCDD Standards

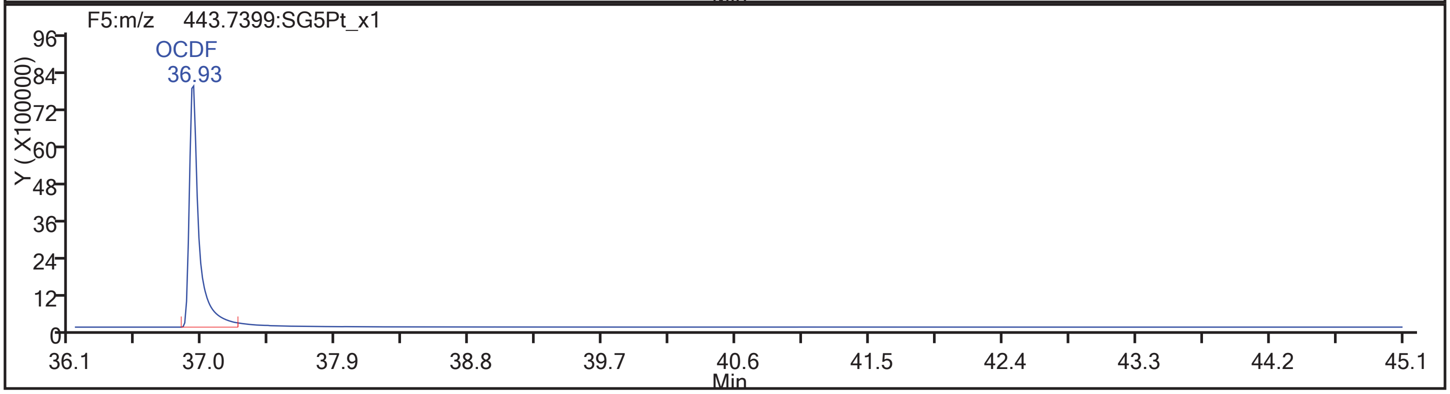




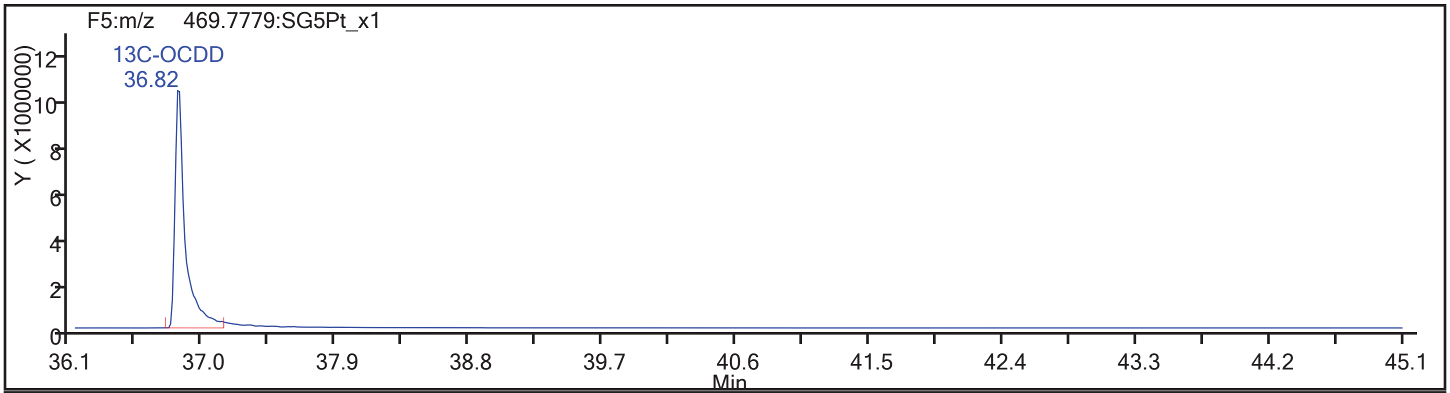
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d
Injection Date: 14-Nov-2017 10:17:44
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194429
Sample Line#: 28
Column Type: DB-5
Column Dia: 0.32 mm

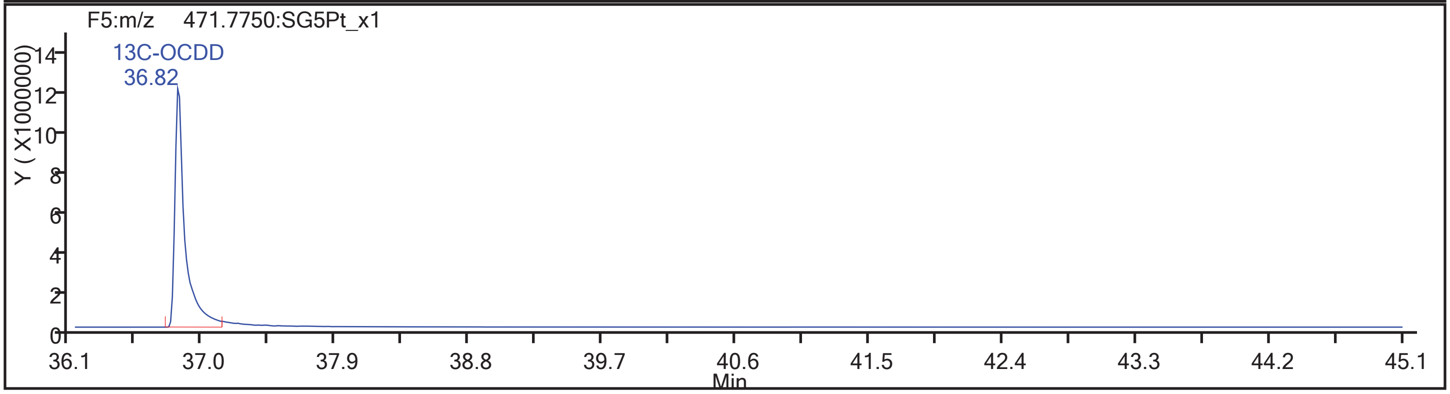
OCDF





OCDF Standards

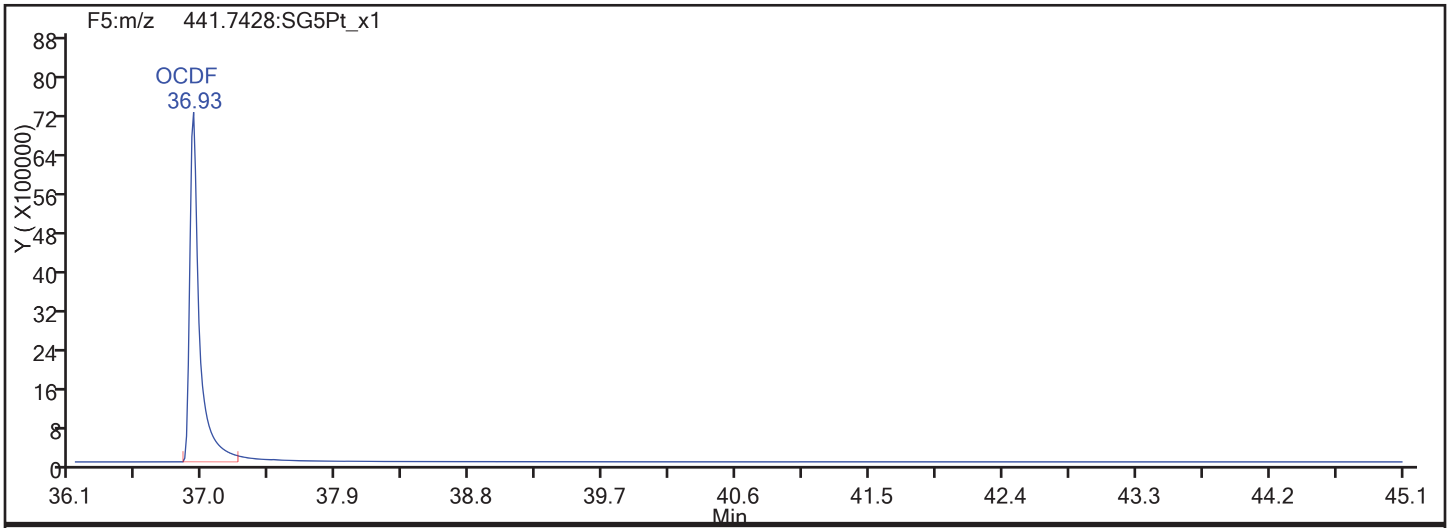


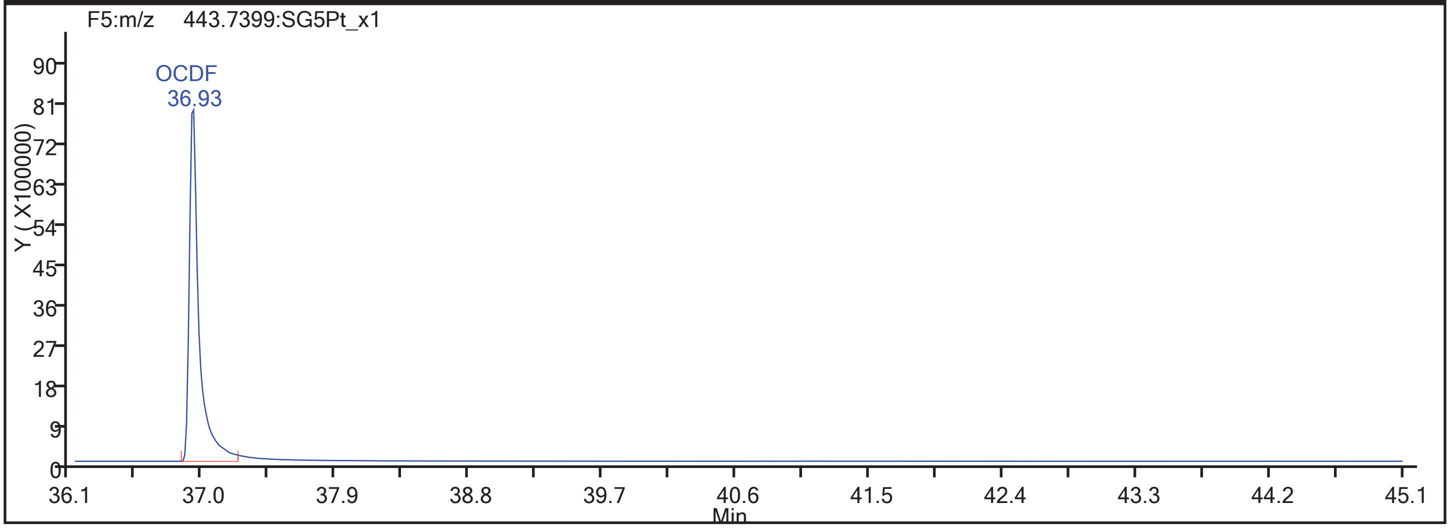


TestAmerica Sacramento

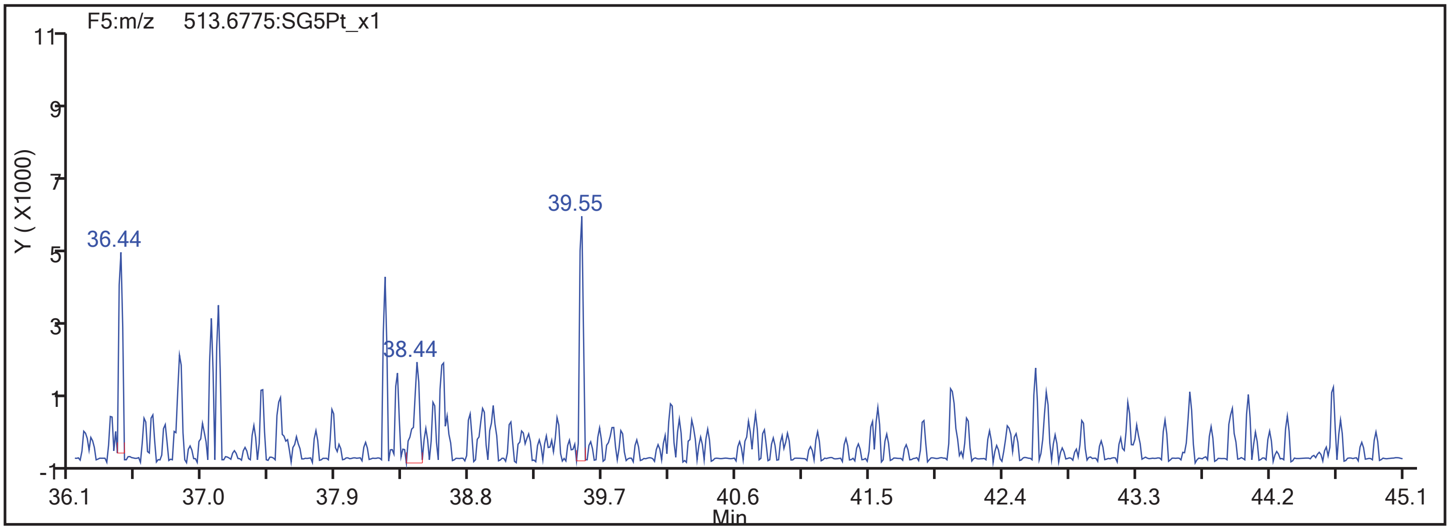
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d		
Injection Date:	14-Nov-2017 10:17:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	28
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF



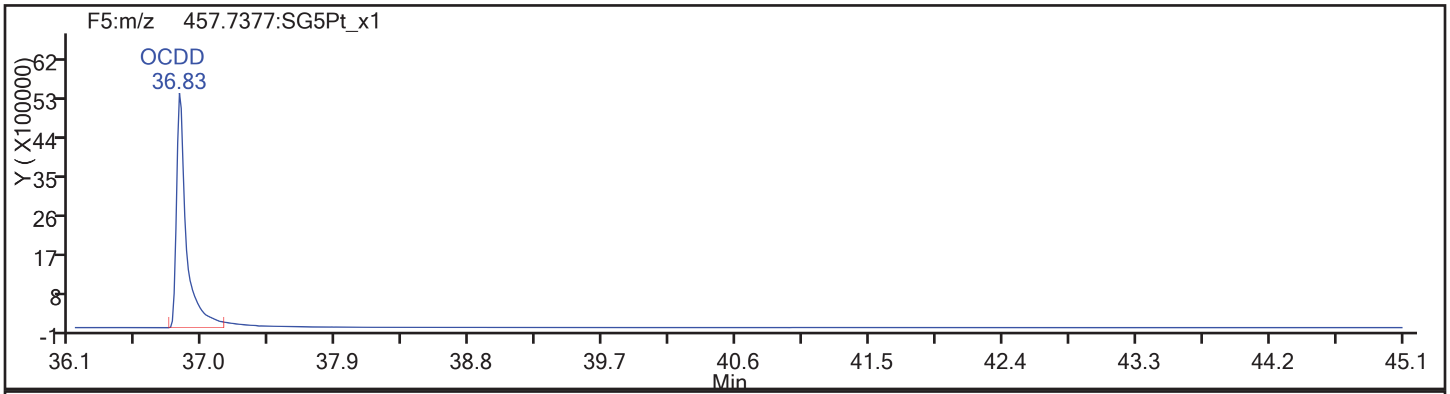


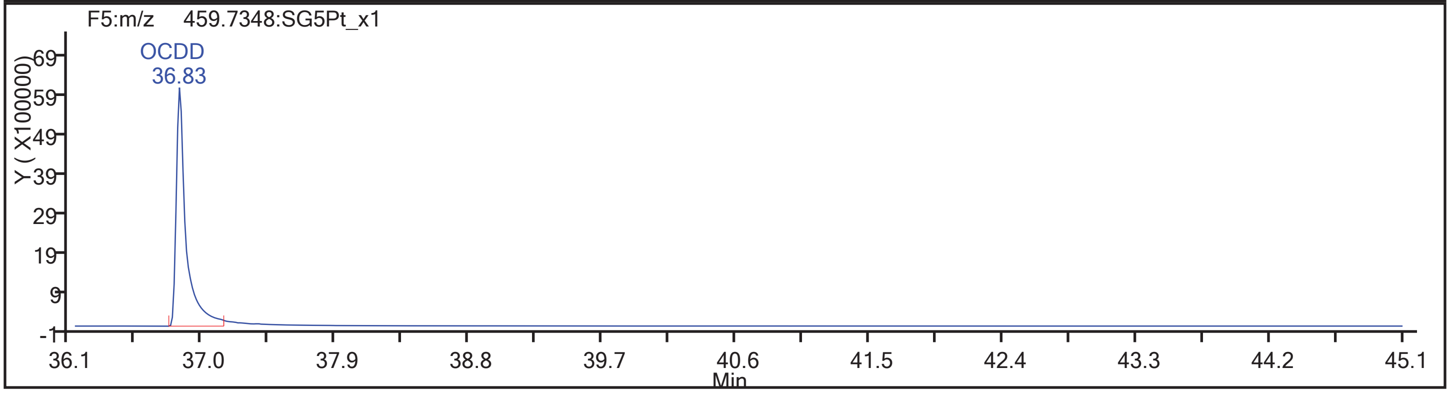
OCDF Interference Mass



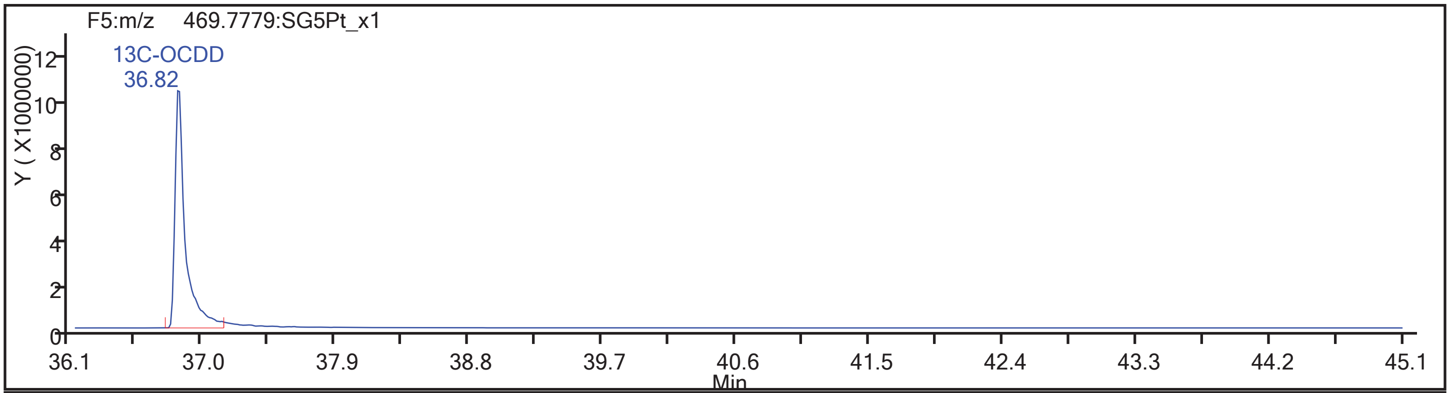
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d		
Injection Date:	14-Nov-2017 10:17:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	28
Column Type:	DB-5	Column Dia:	0.32 mm

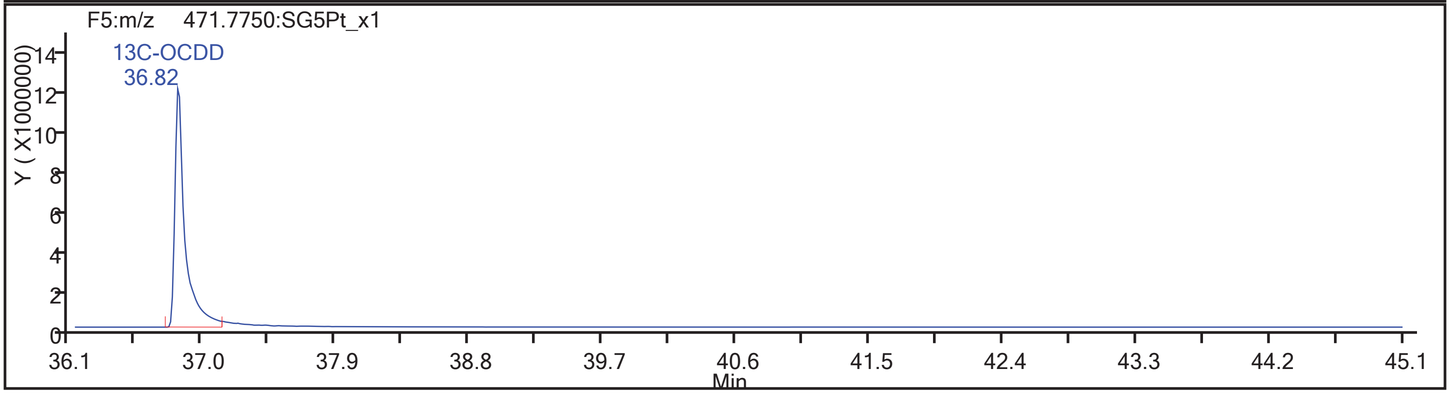
OCDD



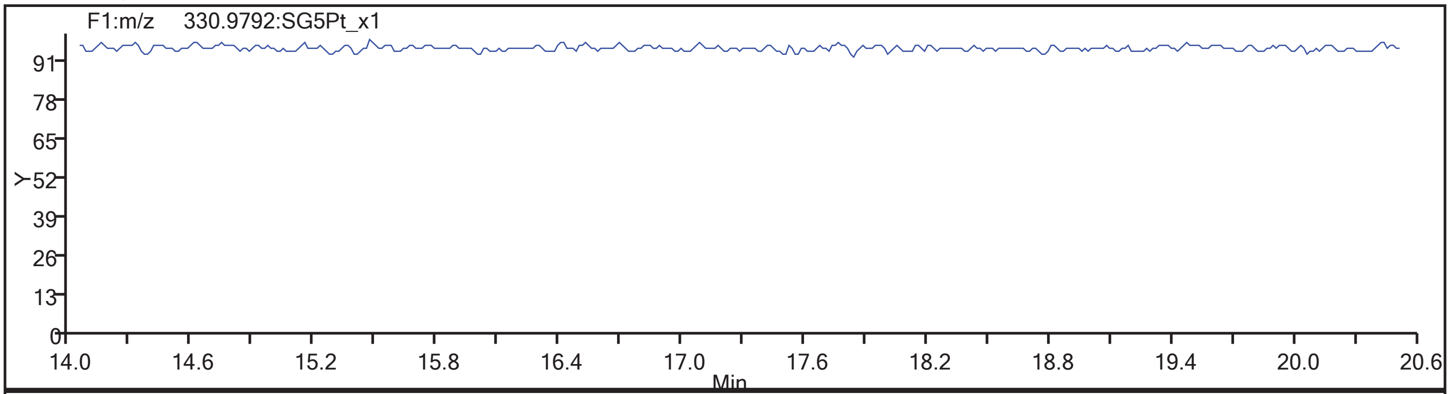


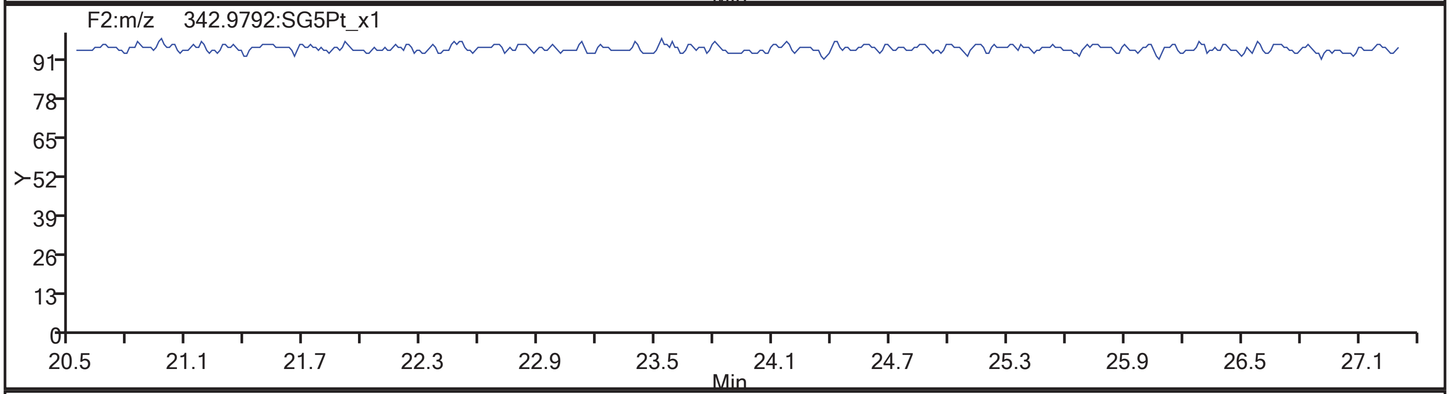
OCDD Standards

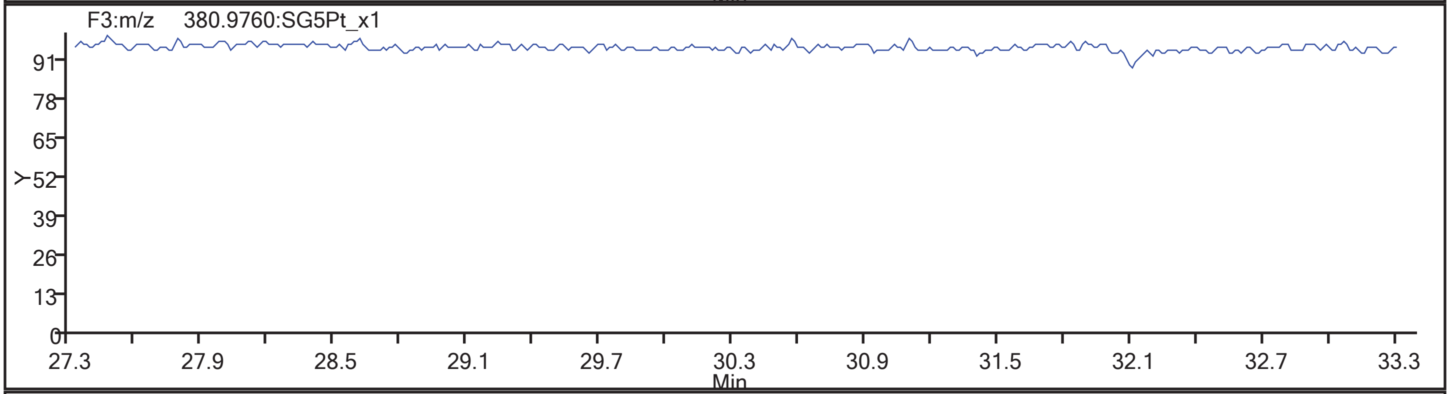


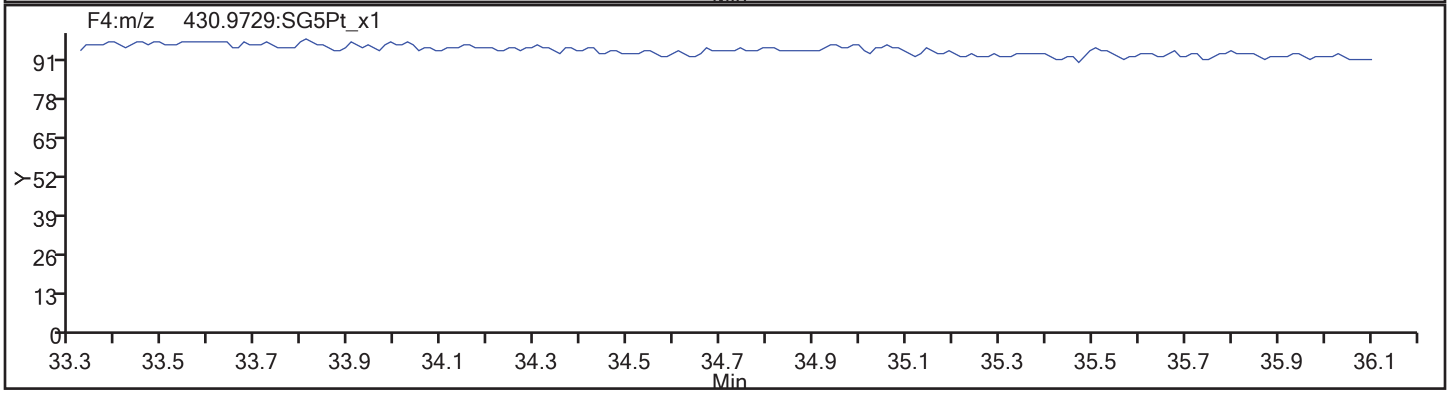


Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d
Injection Date: 14-Nov-2017 10:17:44
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194429
Sample Line#: 28
Column Type: DB-5
Column Dia: 0.32 mm



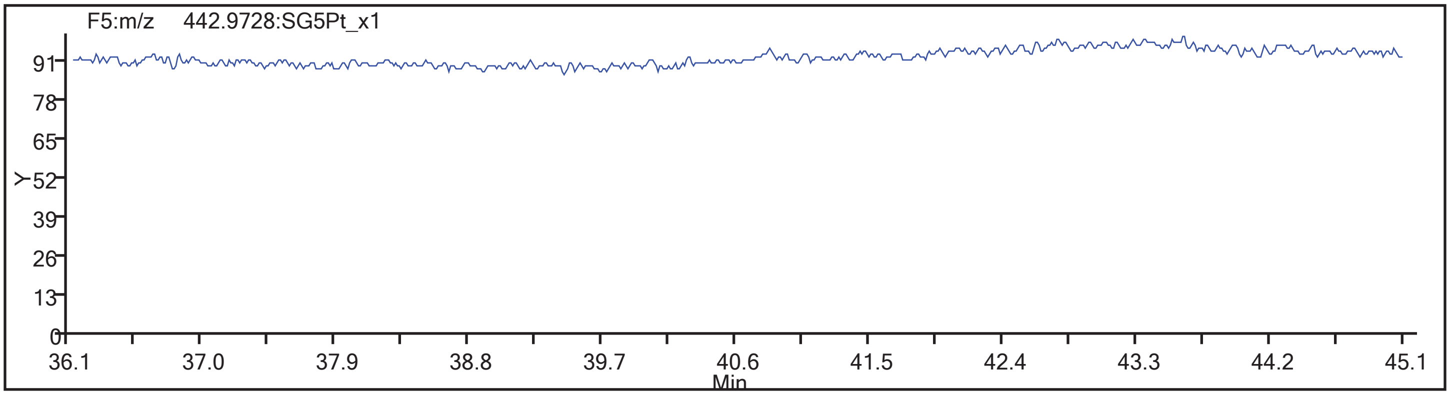






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_28.d		
Injection Date:	14-Nov-2017 10:17:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	28
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-194429/39

Calibration Date: 11/14/2017 18:55

Instrument ID: 10D5

Calib Start Date: 10/13/2017 00:08

GC Column: DB-5

ID: 0.32(mm)

Calib End Date: 10/13/2017 03:12

Lab File ID: 13NO1710D5_39.d

Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.134	1.044		9.21	10.0	-7.9	20.0
2,3,7,8-TCDD	AveID	0.999	0.9368		9.37	10.0	-6.3	20.0
1,2,3,7,8-PeCDF	AveID	1.163	1.087		46.7	50.0	-6.5	20.0
2,3,4,7,8-PeCDF	AveID	1.140	1.082		47.5	50.0	-5.0	20.0
1,2,3,7,8-PeCDD	AveID	0.9490	0.9371		49.4	50.0	-1.3	20.0
1,2,3,4,7,8-HxCDF	AveID	1.401	1.334		47.6	50.0	-4.8	20.0
1,2,3,6,7,8-HxCDF	AveID	1.695	1.469		43.3	50.0	-13.3	20.0
2,3,4,6,7,8-HxCDF	AveID	1.521	1.371		45.1	50.0	-9.8	20.0
1,2,3,4,7,8-HxCDD	AveID	0.9505	0.9795		51.5	50.0	3.1	20.0
1,2,3,6,7,8-HxCDD	AveID	1.234	1.191		48.2	50.0	-3.5	20.0
1,2,3,7,8,9-HxCDD	AveID	1.247	1.202		48.2	50.0	-3.6	20.0
1,2,3,7,8,9-HxCDF	AveID	1.410	1.249		44.3	50.0	-11.4	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.640	1.567		47.8	50.0	-4.4	20.0
1,2,3,4,6,7,8-HpCDD	AveID	0.9932	0.9419		47.4	50.0	-5.2	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.330	1.276		48.0	50.0	-4.1	20.0
OCDD	AveID	1.060	1.014		95.7	100	-4.3	20.0
OCDF	AveID	1.346	1.308		97.2	100	-2.8	20.0
13C-2,3,7,8-TCDF	Ave	1.274	1.261		98.9	100	-1.1	30.0
13C-2,3,7,8-TCDD	Ave	0.9921	0.998		101	100	0.6	30.0
13C-1,2,3,7,8-PeCDF	Ave	0.9696	1.024		106	100	5.6	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7588	0.8090		107	100	6.6	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	0.9644	1.000		104	100	3.7	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8791	0.8545		97.2	100	-2.8	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7618	0.7663		101	100	0.6	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7762	0.8215		106	100	5.8	30.0
13C-OCDD	Ave	0.6314	0.6433		204	200	1.9	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.047	1.087		10.4	10.0	3.9	

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	14-Nov-2017 18:55:14	ALS Bottle#:	2	Worklist Smp#:	39
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCV 111317E CS-4 HRDXNL4_00060				
Misc. Info.:	13NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Sublist:	chrom-Dioxin_10D5*sub1				
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	15-Nov-2017 01:28:19	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK012				

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.823	153849527	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.309	193926636	0.77	1.2741	98.9	98.9	0.1723	0.1723	98.93	
2,3,7,8-TCDF	17.324	20254283	0.76	1.1341	9.209	9.209	0.0181	0.0181	92.09	
A Non-2,3,7,8-sub-TCDF	17.022						0.0	0.0		
S Total TCDF					9.209	9.209	0.0181	0.0181		
D 13C-2,3,7,8-TCDD	18.005	153560155	0.77	0.9921	100.6	100.6	0.1916	0.1916	101	
$ 37Cl4-2,3,7,8-TCDD	18.035	16724618		1.0466	10.4	10.4	0.0178	0.0178	104	
2,3,7,8-TCDD	18.035	14385918	0.79	0.9993	9.375	9.375	0.0185	0.0185	93.75	
A Non-2,3,7,8-sub-TCDD	17.468						0.0	0.0		
S Total TCDD					9.375	9.375	0.0185	0.0185		
D 13C-1,2,3,7,8-PeCDF	22.315	157545865	1.54	0.9696	105.6	105.6	0.2719	0.2719	106	
1,2,3,7,8-PeCDF	22.342	85630074	1.58	1.1627	46.7	46.7	0.1738	0.1738	93.49	
D 13C-2,3,4,7,8-PeCDF	23.651	153459000	1.53							
2,3,4,7,8-PeCDF	23.678	85241066	1.58	1.1395	47.5	47.5	0.1773	0.1773	94.96	
A F1 PeCDFs	19.948						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.086						0.0	0.0		
S Total PeCDF					94.2	94.2	0.1756	0.1756		
D 13C-1,2,3,7,8-PeCDD	24.374	124461670	1.60	0.7588	106.6	106.6	0.1137	0.1137	107	
1,2,3,7,8-PeCDD	24.401	58316277	1.55	0.9490	49.4	49.4	0.0781	0.0781	98.75	
A Non-2,3,7,8-sub-PeCDD	23.290						0.0	0.0		
S Total PeCDD					49.4	49.4	0.0781	0.0781		
D 13C-1,2,3,4,7,8-HxCDF	30.473	116398471	0.52	0.9644	103.7	103.7	0.7164	0.7164	104	
1,2,3,4,7,8-HxCDF	30.487	77629765	1.27	1.4012	47.6	47.6	0.3735	0.3735	95.19	
D 13C-1,2,3,6,7,8-HxCDF	30.660	138297500	0.52							
1,2,3,6,7,8-HxCDF	30.673	85484166	1.27	1.6951	43.3	43.3	0.3088	0.3088	86.65	
D 13C-2,3,4,6,7,8-HxCDF	31.485	129204219	0.52							
2,3,4,6,7,8-HxCDF	31.498	79818544	1.26	1.5205	45.1	45.1	0.3442	0.3442	90.20	
D 13C-1,2,3,7,8,9-HxCDF	32.297	120215258	0.51							
1,2,3,7,8,9-HxCDF	32.310	72705027	1.27	1.4099	44.3	44.3	0.3712	0.3712	88.60	
A Non-2,3,7,8-sub-HxCDF	30.141						0.0	0.0		
S Total HxCDF					180.3	180.3	0.3494	0.3494		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.111	116390434	1.24	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.671	82140008	1.25							
1,2,3,4,7,8-HxCDD	31.684	48709211	1.25	0.9505	51.5	51.5	0.2353	0.2353	103	
D 13C-1,2,3,6,7,8-HxCDD	31.778	99459559	1.24	0.8791	97.2	97.2	0.4500	0.4500	97.21	
1,2,3,6,7,8-HxCDD	31.791	59212450	1.28	1.2343	48.2	48.2	0.1812	0.1812	96.46	
1,2,3,7,8,9-HxCDD	32.124	59767240	1.26	1.2467	48.2	48.2	0.1794	0.1794	96.40	
A Non-2,3,7,8-sub-HxCDD	30.779						0.0	0.0		
S Total HxCDD					148.0	148.0	0.1986	0.1986		
D 13C-1,2,3,4,6,7,8-HpCDF	33.709	89185684	0.44	0.7618	100.6	100.6	1.614	1.614	101	
1,2,3,4,6,7,8-HpCDF	33.722	69878965	1.05	1.6399	47.8	47.8	0.5593	0.5593	95.56	
D 13C-1,2,3,4,7,8,9-HpCDF	34.791	76122803	0.43							
1,2,3,4,7,8,9-HpCDF	34.803	56904943	1.05	1.3302	48.0	48.0	0.6895	0.6895	95.93	
A Non-2,3,7,8-sub-HpCDF	34.268						0.0	0.0		
S Total HpCDF					95.7	95.7	0.6244	0.6244		
D 13C-1,2,3,4,6,7,8-HpCDD	34.499	95615152	1.04	0.7762	105.8	105.8	0.6977	0.6977	106	
1,2,3,4,6,7,8-HpCDD	34.511	45029600	1.03	0.9932	47.4	47.4	0.3062	0.3062	94.84	
A Non-2,3,7,8-sub-HpCDD	34.238						0.0	0.0		
S Total HpCDD					47.4	47.4	0.3062	0.3062		
D 13C-OCDD	36.822	149735136	0.89	0.6314	203.8	203.8	0.2033	0.2033	102	
OCDF	36.930	97906890	0.91	1.3460	97.2	97.2	0.0904	0.0904	97.15	
OCDD	36.834	75941397	0.89	1.0604	95.7	95.7	0.1133	0.1133	95.65	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

Report Date: 15-Nov-2017 01:28:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 14-Nov-2017 18:55:14 ALS Bottle#: 2 Worklist Smp#: 39
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111317E CS-4 HRDXNL4_00060
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 15-Nov-2017 01:28:19 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK012

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.823	17.823	0		67527838	16645737	14068	35170	1183		
333.9339	17.823	17.823	0		86321689	21133471	14664	36660	1441	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.309	17.309	0	0.971	84629683	21181555	20928	52320	1012		
317.9389	17.309	17.309	0	0.971	109296953	26826150	12239	30597	2192	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.324	17.324	0	1.001	8752653	2174574	1697	4242	1281		
305.8987	17.324	17.324	0	1.001	11501630	2893782	2251	5627	1286	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.022						1697	4242			
305.8987	17.022						2251	5627			
13C-2,3,7,8-TCDD											
331.9368	18.005	18.005	0	1.010	66999516	15379724	14068	35170	1093		
333.9339	18.005	18.005	0	1.010	86560639	19595742	14664	36660	1336	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.035	18.035	0	1.012	16724618	3913311	2819	7047	1388		
2,3,7,8-TCDD											
319.8965	18.035	18.035	0	1.002	6341999	1519441	1345	3362	1130		
321.8936	18.035	18.035	0	1.002	8043919	1893292	1237	3092	1531	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.468						1345	3362			
321.8936	17.468						1237	3092			
13C-1,2,3,7,8-PeCDF											
351.9000	22.315	22.315	0	1.252	95555604	16589411	23737	59342	699		
353.8970	22.315	22.315	0	1.252	61990261	10748428	16105	40262	667	1.54(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.342	22.342	0	1.001	52448769	9121907	12888	32220	708		
341.8567	22.342	22.342	0	1.001	33181305	5816323	9209	23022	632	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.651	23.651	0	1.327	92718452	15133572	23737	59342	638		
353.8970	23.651	23.651	0	1.327	60740548	9963107	16105	40262	619	1.53(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.678	23.678	0	1.061	52233842	8591974	12888	32220	667		
341.8567	23.678	23.678	0	1.061	33007224	5441618	9209	23022	591	1.58(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.948						381	952			
341.8567	19.948						1018	2545			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.086						12888	32220			
341.8567	23.086						9209	23022			
13C-1,2,3,7,8-PeCDD											
367.8949	24.374	24.374	0	1.368	76647533	11926662	6992	17480	1706		
369.8919	24.374	24.374	0	1.368	47814137	7516765	6051	15127	1242	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.401	24.401	0	1.001	35465557	5458088	3567	8917	1530		
357.8516	24.401	24.401	0	1.001	22850720	3549348	2194	5485	1618	1.55(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.290						3567	8917			
357.8516	23.290						2194	5485			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.473	30.473	0	0.949	39737209	7471809	25444	63610	294		
385.8610	30.460	30.473	-1	0.949	76661262	14160801	50301	125752	282	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.487	30.487	0	1.000	43446981	8081328	25049	62622	323		
375.8178	30.487	30.487	0	1.000	34182784	6401101	20240	50600	316	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.660	30.660	0	0.955	47518196	8599964	25444	63610	338		
385.8610	30.660	30.660	0	0.955	90779304	16568985	50301	125752	329	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.673	30.673	0	1.007	47848783	8686025	25049	62622	347		
375.8178	30.673	30.673	0	1.007	37635383	6979635	20240	50600	345	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.485	31.485	0	0.981	44057428	10680877	25444	63610	420		
385.8610	31.485	31.485	0	0.981	85146791	20643555	50301	125752	410	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.498	31.498	0	1.034	44507974	10558678	25049	62622	422		
375.8178	31.498	31.498	0	1.034	35310570	8460719	20240	50600	418	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.297	32.297	0	1.006	40798378	9633595	25444	63610	379		
385.8610	32.297	32.297	0	1.006	79416880	18513284	50301	125752	368	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.310	32.310	0	1.060	40689027	9690640	25049	62622	387		
375.8178	32.297	32.310	-1	1.060	32016000	7528266	20240	50600	372	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.141						25049	62622			
375.8178	30.141						20240	50600			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.111	32.111	0		64471509	15177591	22276	55690	681		
403.8529	32.111	32.111	0		51918925	12231639	21092	52730	580	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.671	31.671	0	0.986	45634082	12795485	22276	55690	574		
403.8529	31.671	31.671	0	0.986	36505926	10075700	21092	52730	478	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.684	31.684	0	0.997	27091604	7472477	12022	30055	622		
391.8127	31.684	31.684	0	0.997	21617607	5990832	9167	22917	654	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.778	31.778	0	0.990	54960834	13082207	22276	55690	587		
403.8529	31.778	31.778	0	0.990	44498725	10603697	21092	52730	503	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.791	31.791	0	1.000	33186425	7773035	12022	30055	647		
391.8127	31.791	31.791	0	1.000	26026025	6197206	9167	22917	676	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.124	32.124	0	1.011	33372812	7982544	12022	30055	664		
391.8127	32.124	32.124	0	1.011	26394428	6290913	9167	22917	686	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.779						12022	30055			
391.8127	30.779						9167	22917			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.709	33.709	0	1.050	27074743	8118631	34578	86445	235		
419.8220	33.709	33.709	0	1.050	62110941	18582782	100216	250540	185	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.722	33.722	0	1.000	35807741	11083923	55800	139500	199		
409.7789	33.722	33.722	0	1.000	34071224	10648672	42170	105425	253	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.791	34.791	0	1.083	23005923	6191211	34578	86445	179		
419.8220	34.791	34.791	0	1.083	53116880	14063745	100216	250540	140	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.803	34.803	0	1.032	29139154	7721358	55800	139500	138		
409.7789	34.803	34.803	0	1.032	27765789	7246939	42170	105425	172	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.268						55800	139500			
409.7789	34.268						42170	105425			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.499	34.499	0	1.074	48746829	13450974	27866	69665	483		
437.8140	34.499	34.499	0	1.074	46868323	12978617	31503	78757	412	1.04(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.511	34.511	0	1.000	22851296	6488706	16292	40730	398		
425.7737	34.511	34.511	0	1.000	22178304	6331982	15855	39637	399	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.238						16292	40730			
425.7737	34.238						15855	39637			
13C-OCDD											
469.7779	36.822	36.822	0	1.147	70461039	15522215	7372	18430	2106		
471.7750	36.822	36.822	0	1.147	79274097	17537168	6701	16752	2617	0.89(0.76-1.02)	
OCDF											
441.7428	36.930	36.930	0	1.003	46574085	10997593	3815	9537	2883		
443.7399	36.930	36.930	0	1.003	51332805	11938097	4228	10570	2824	0.91(0.76-1.02)	
OCDD											
457.7377	36.834	36.834	0	1.000	35767992	8168478	3837	9592	2129		
459.7348	36.834	36.834	0	1.000	40173405	9294829	4107	10267	2263	0.89(0.76-1.02)	

Reagents:

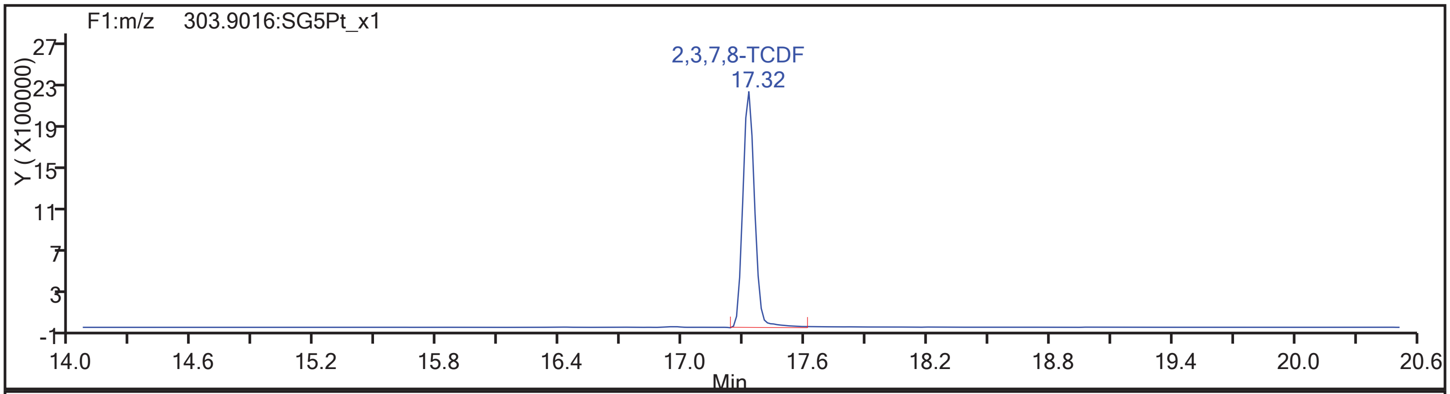
HRDXNL4_00060 Amount Added: 1.00 Units: mL

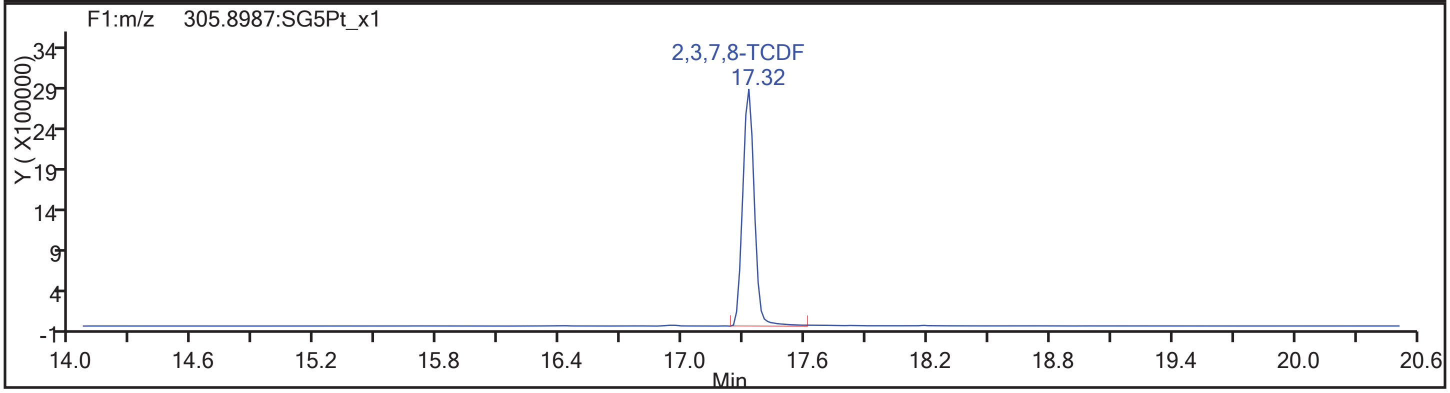
Report Date: 15-Nov-2017 01:28:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

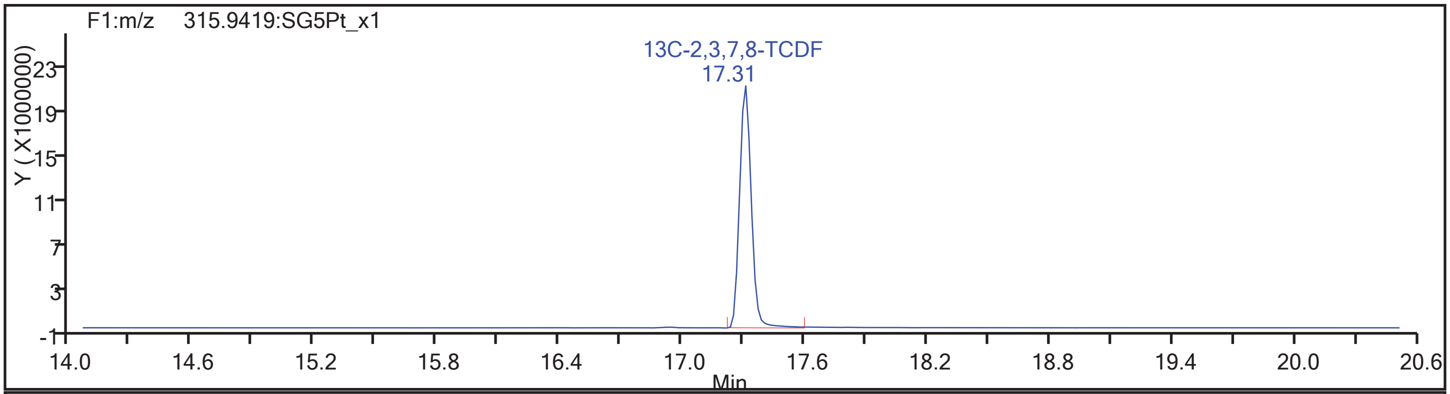
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d		
Injection Date:	14-Nov-2017 18:55:14	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

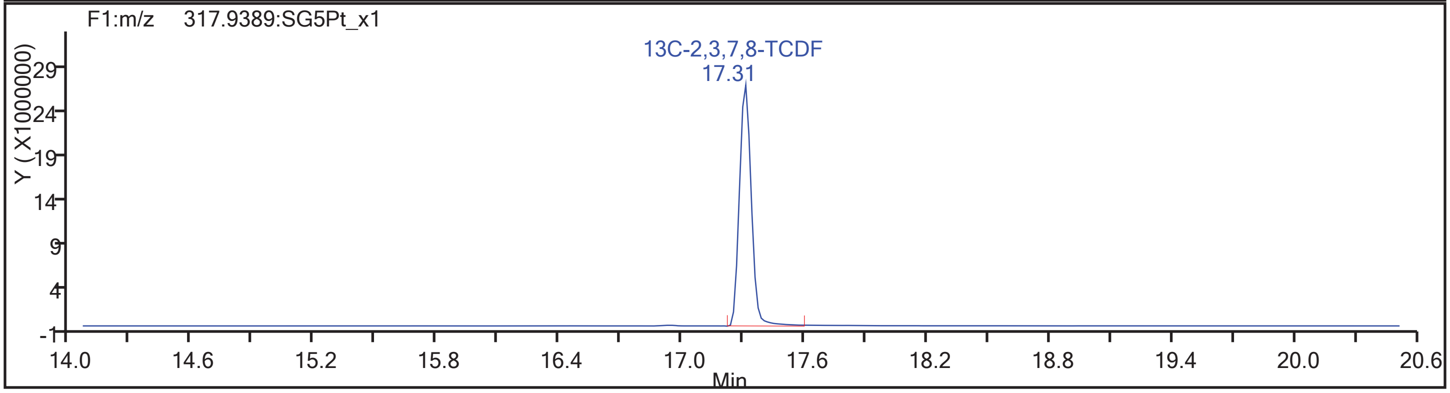
TCDF





TCDF Standards





Report Date: 15-Nov-2017 01:28:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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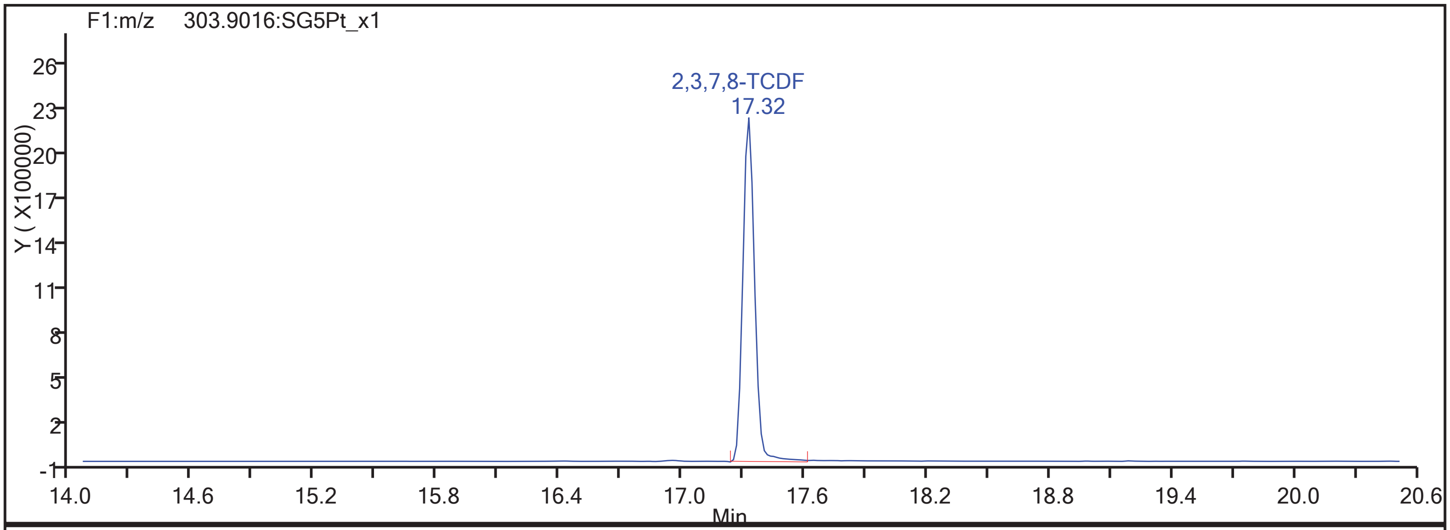
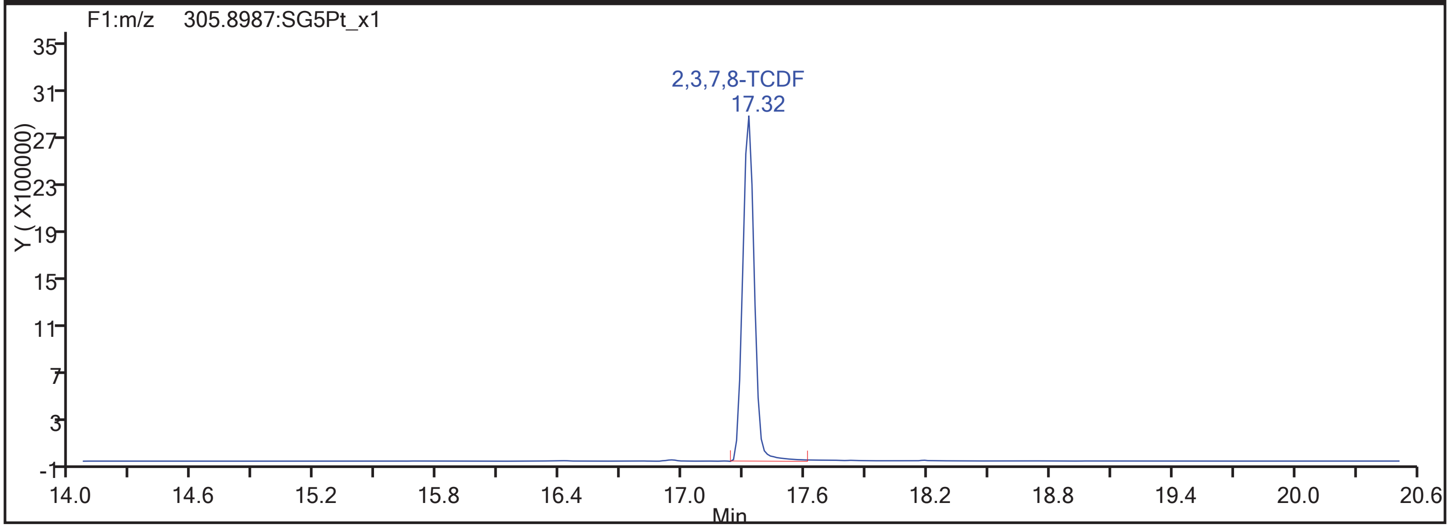
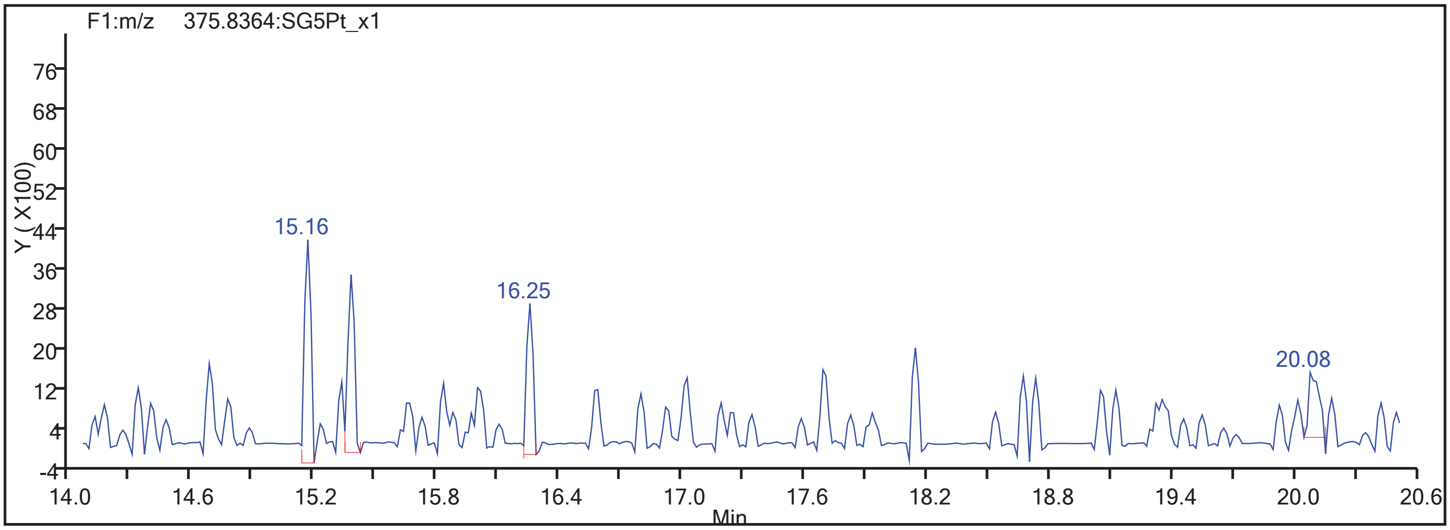
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Report Date: 15-Nov-2017 01:28:19
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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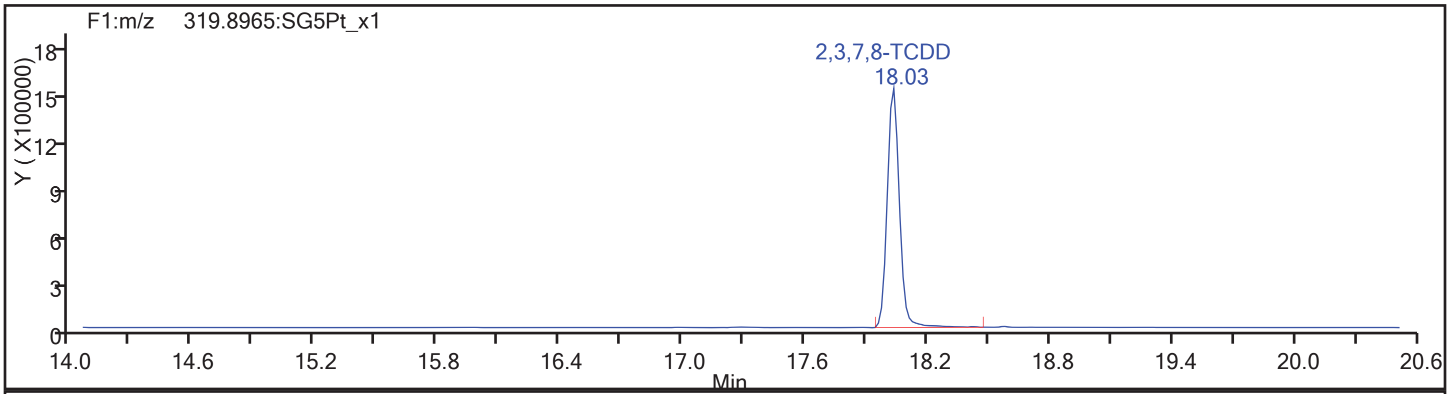
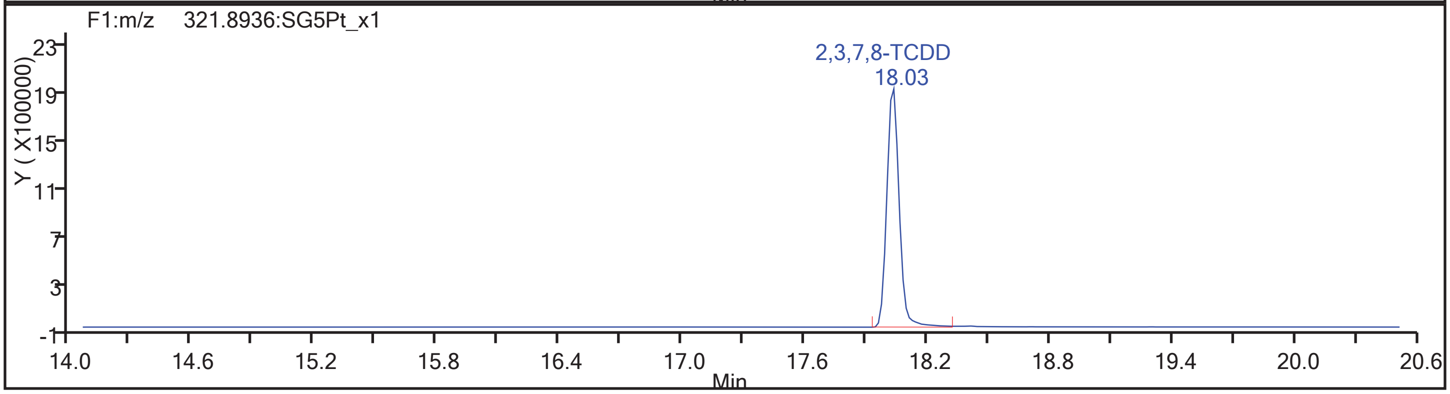
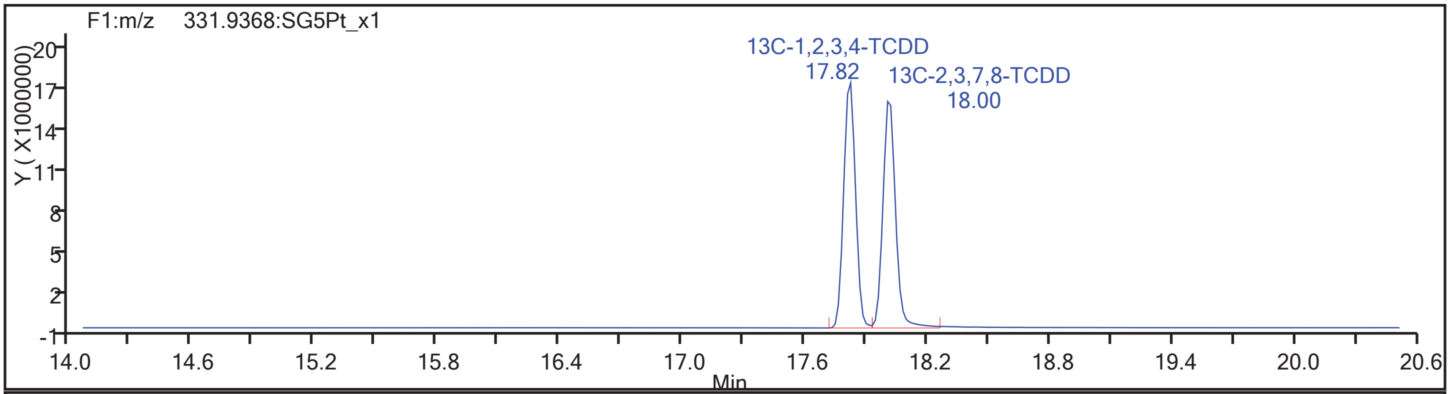
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

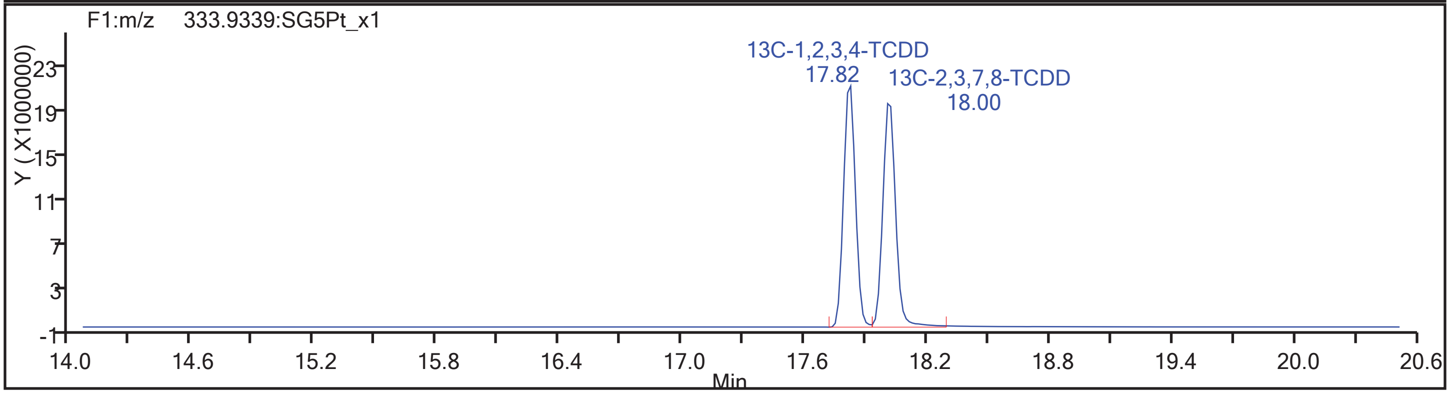
TCDD





TCDD Standards





Report Date: 15-Nov-2017 01:28:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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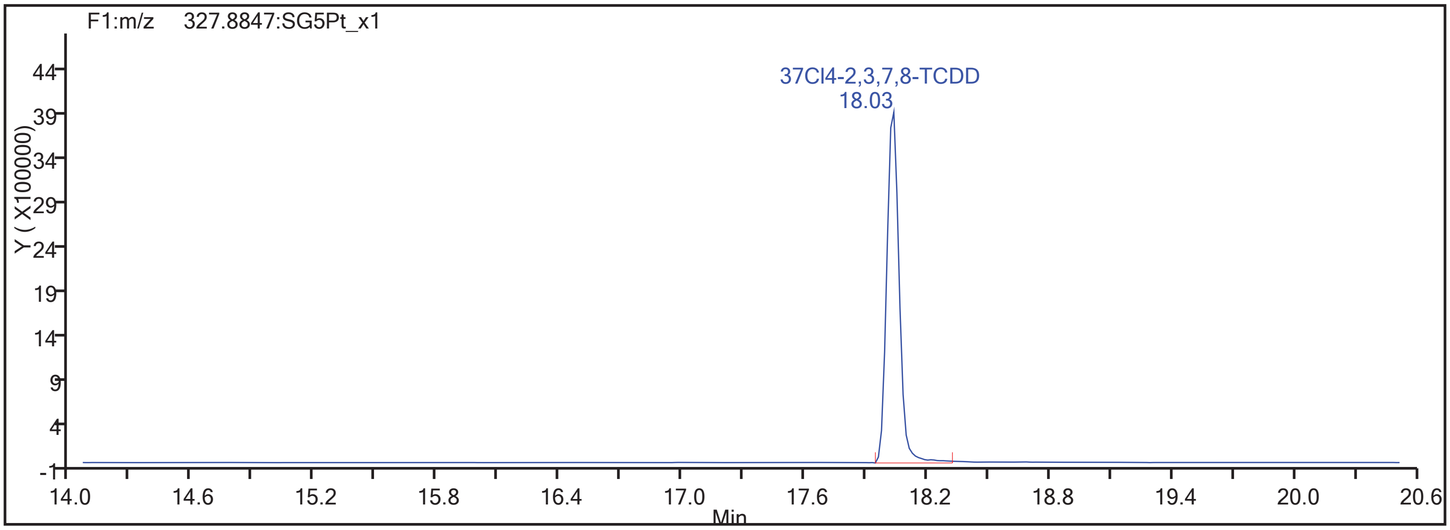
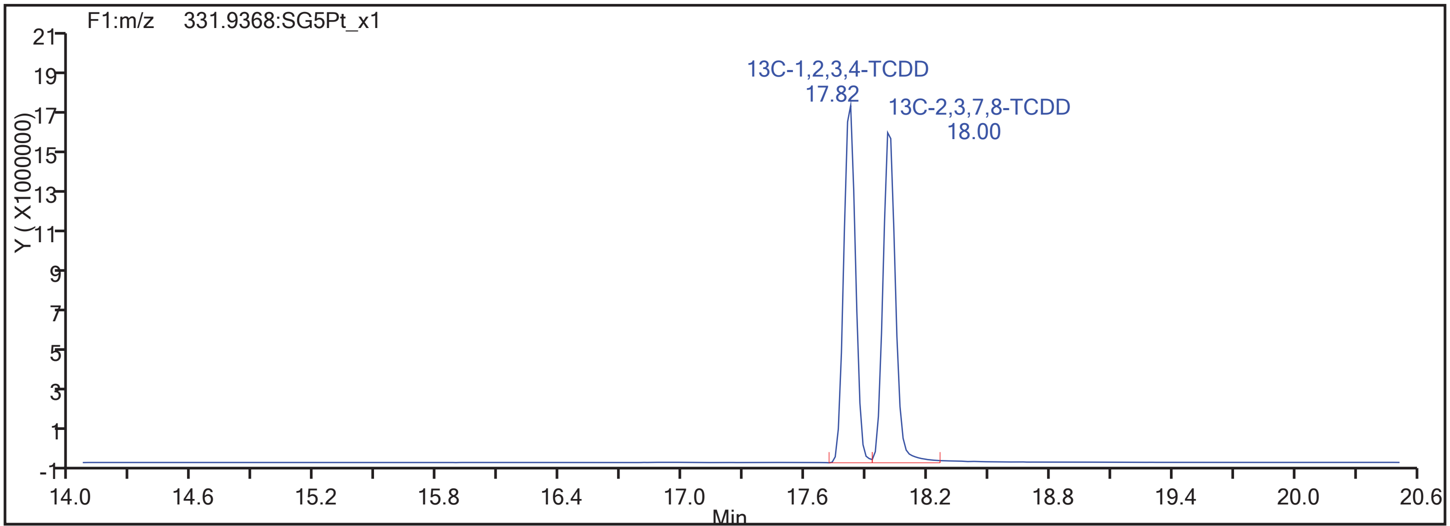
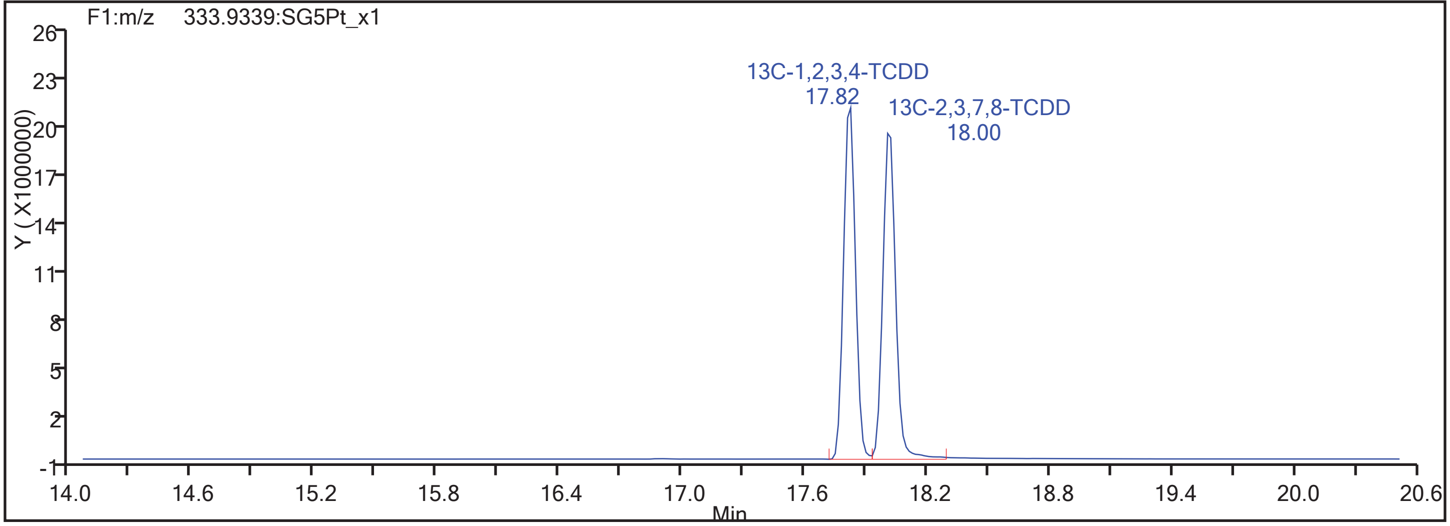
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





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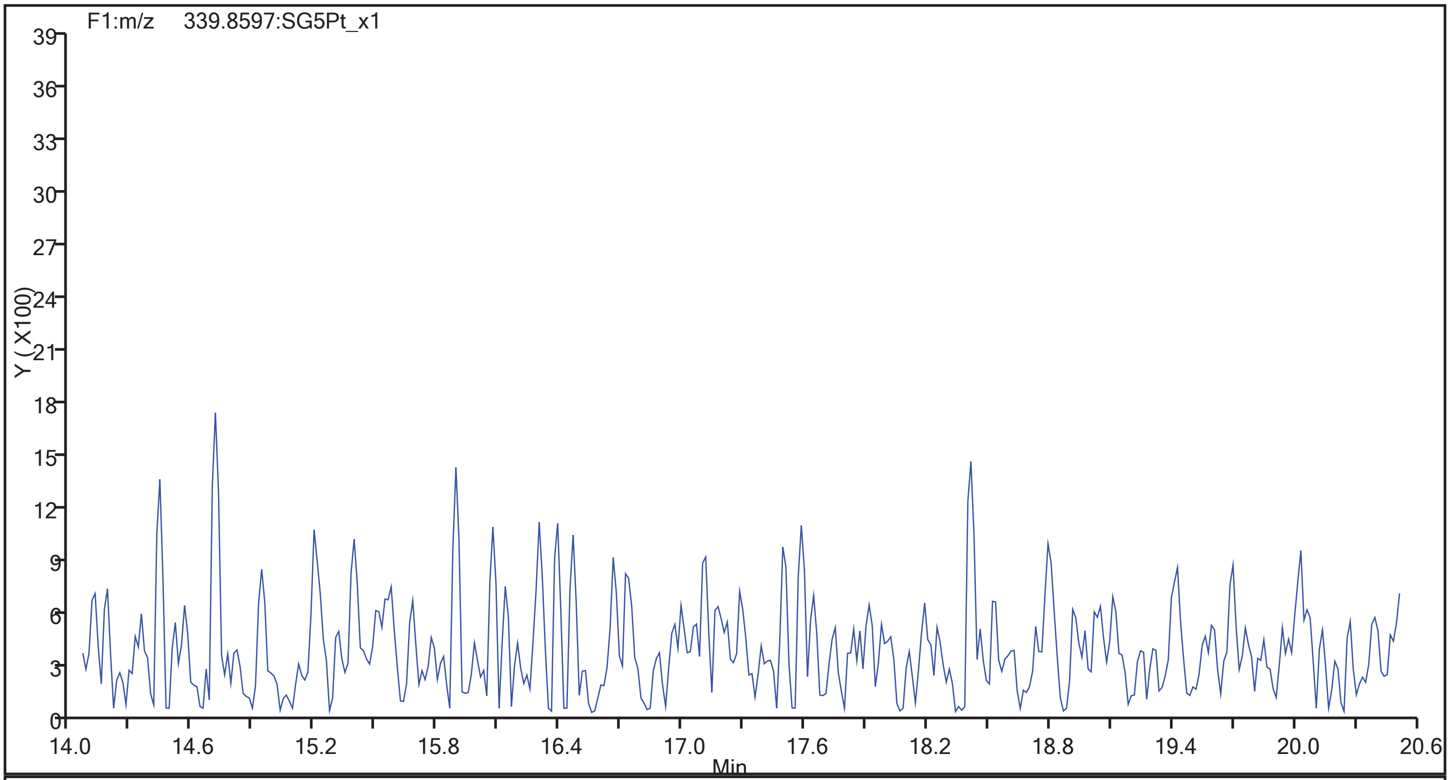
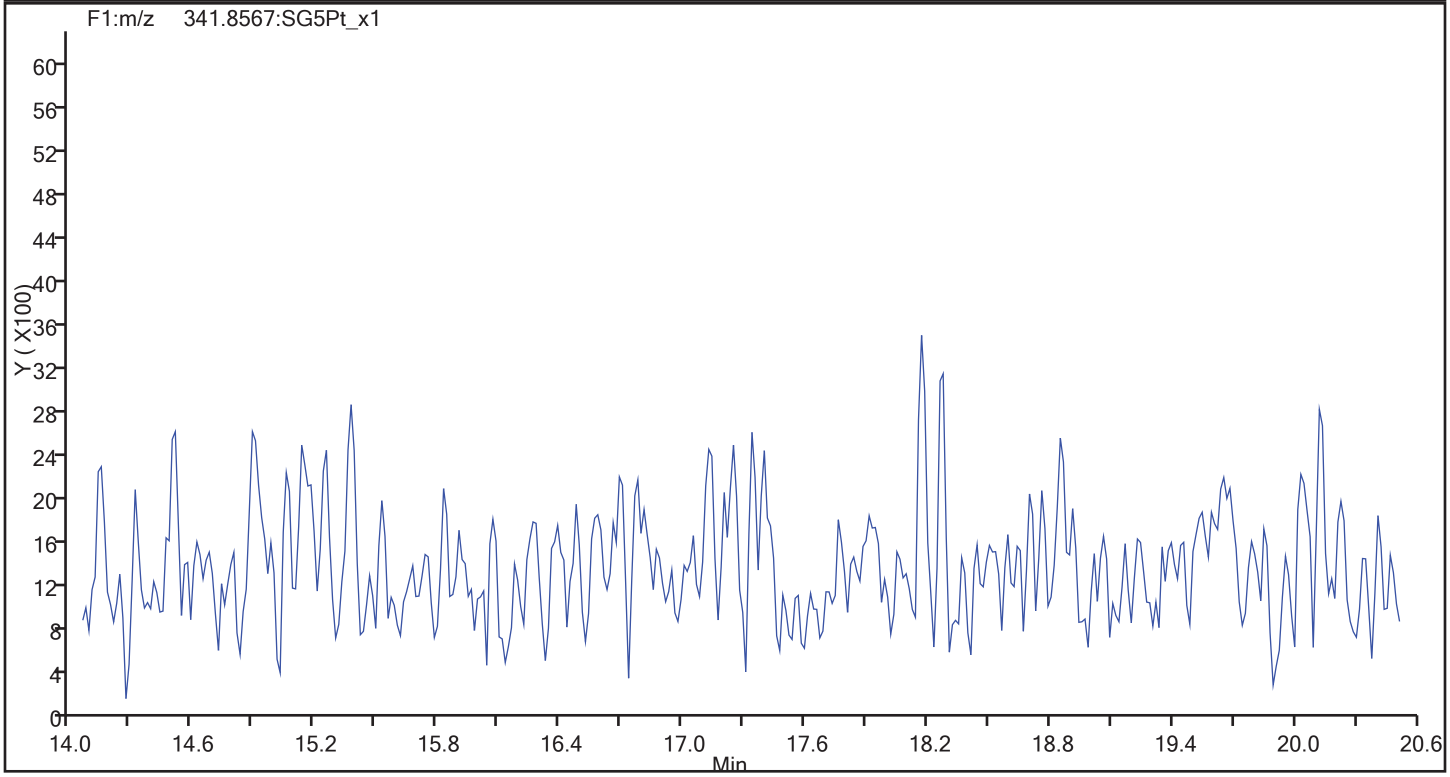
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d		
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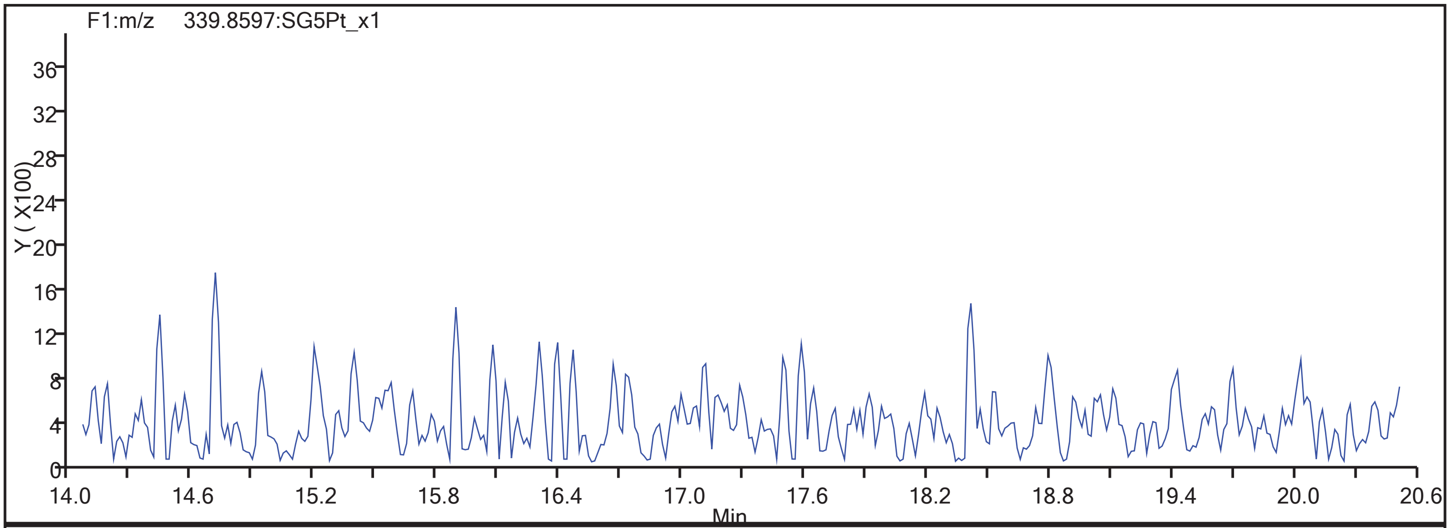
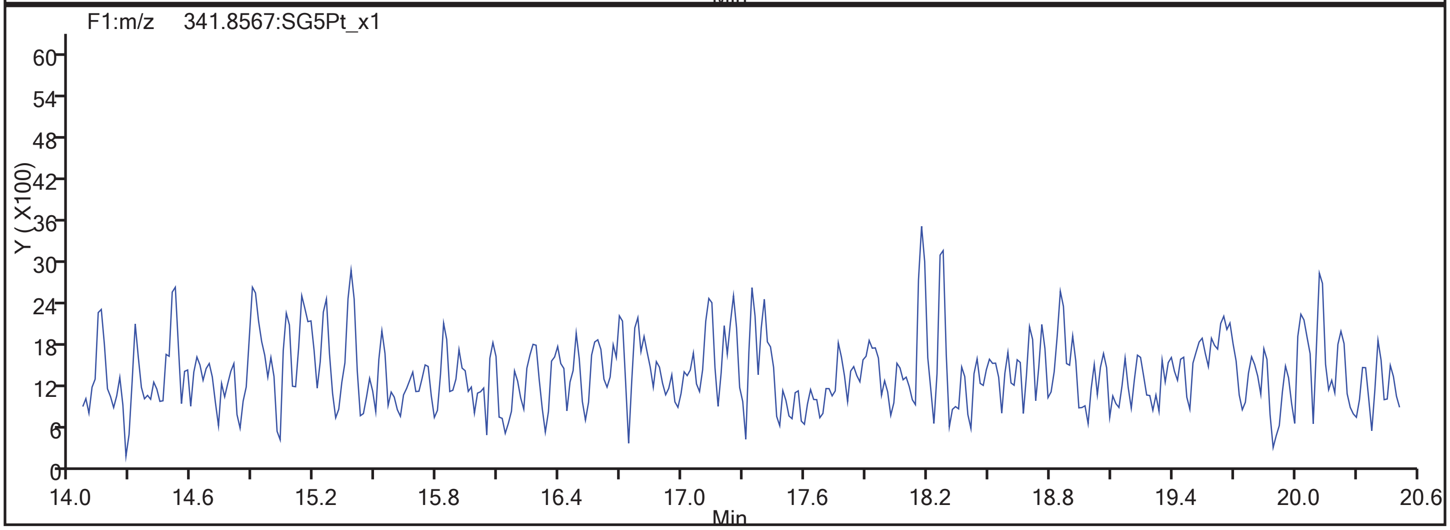
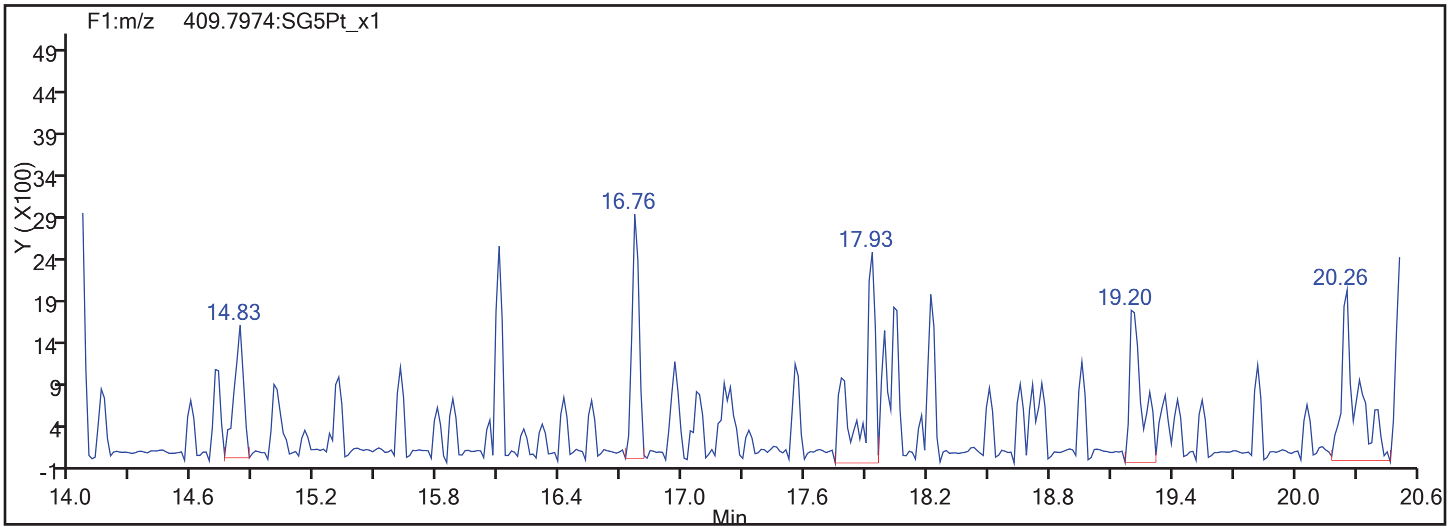
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 15-Nov-2017 01:28:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d
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Operator ID: AJS
Method: Dioxin_10D5
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Client ID:
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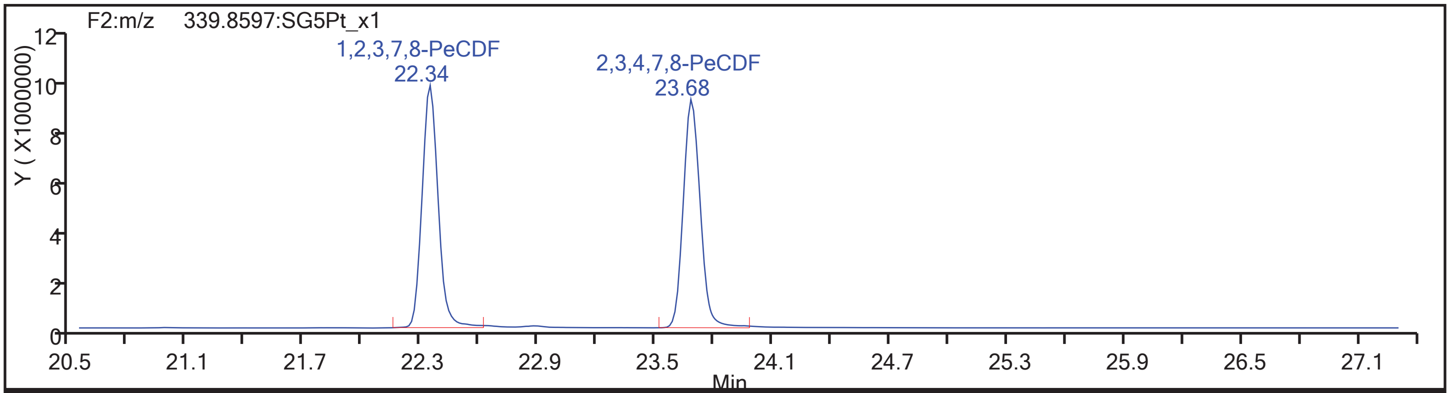
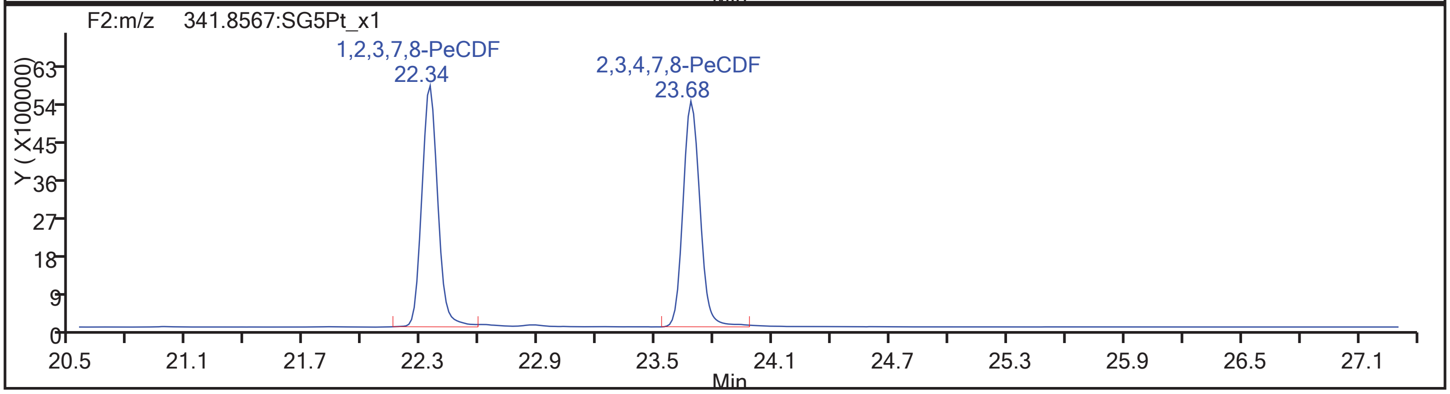
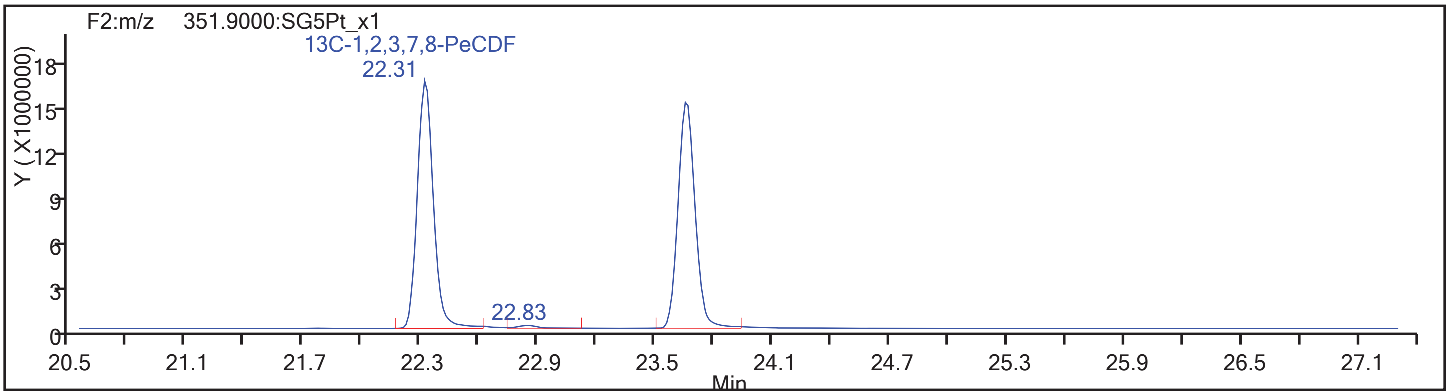
Sample Line#: 39
Column Type: DB-5
Column Dia: 0.32 mm

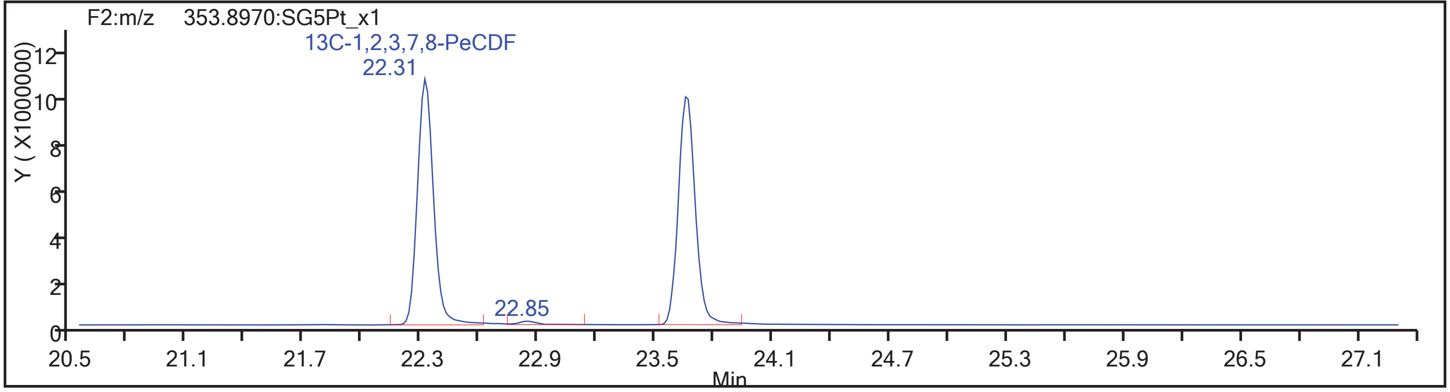
PeCDF





PeCDF Standards





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d
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Injection Vol: 2.0 ul
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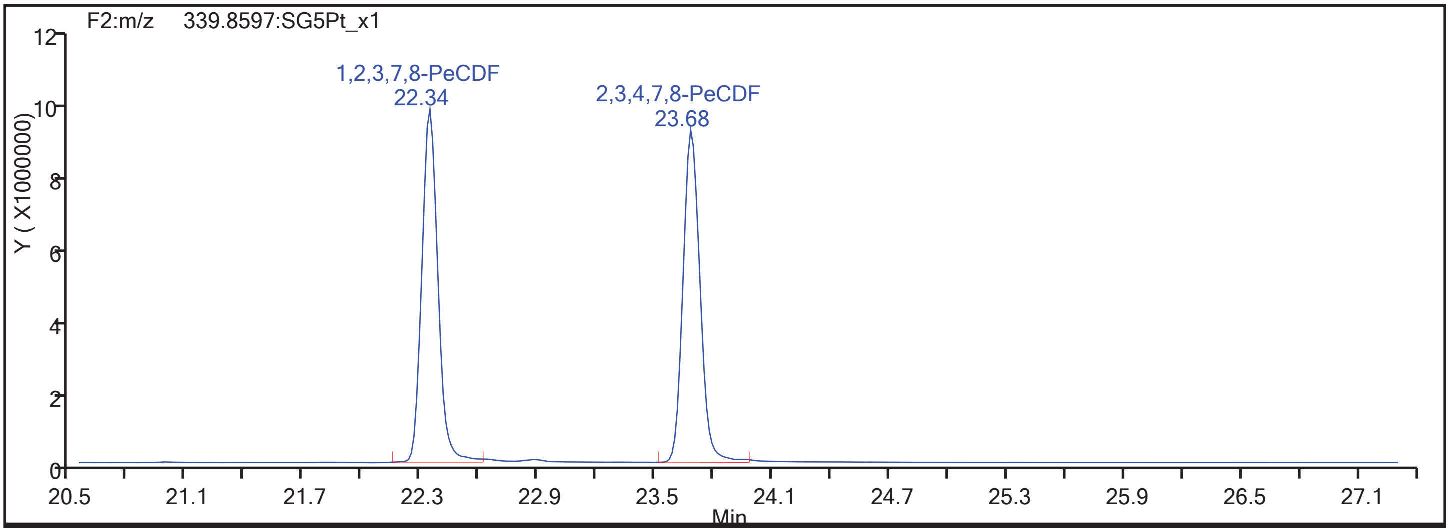
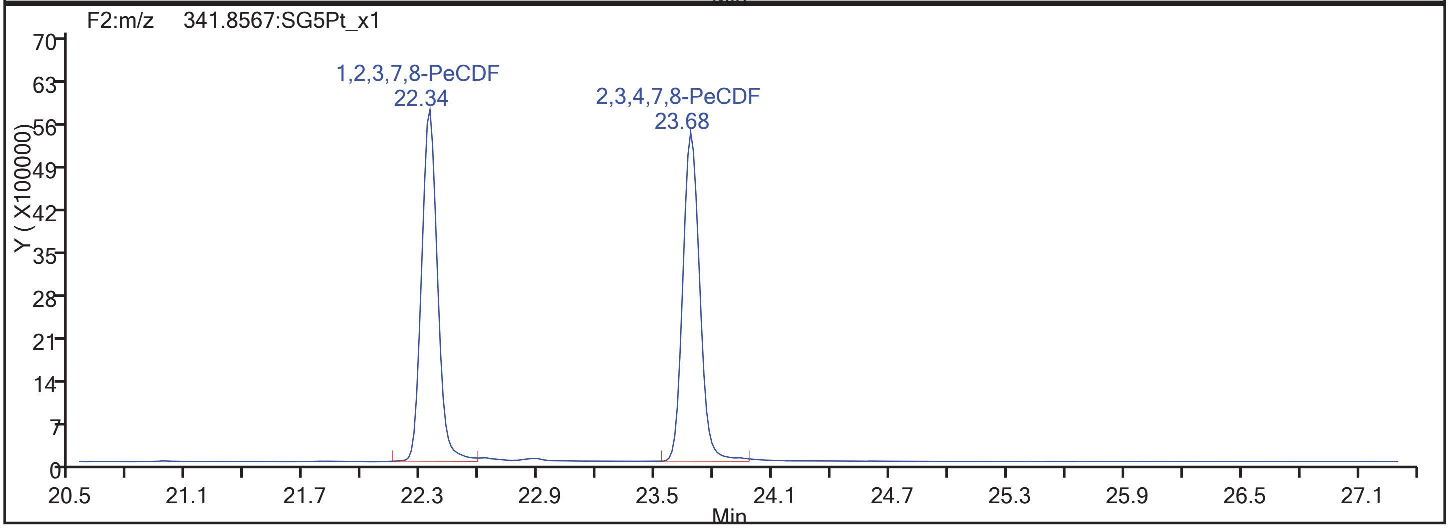
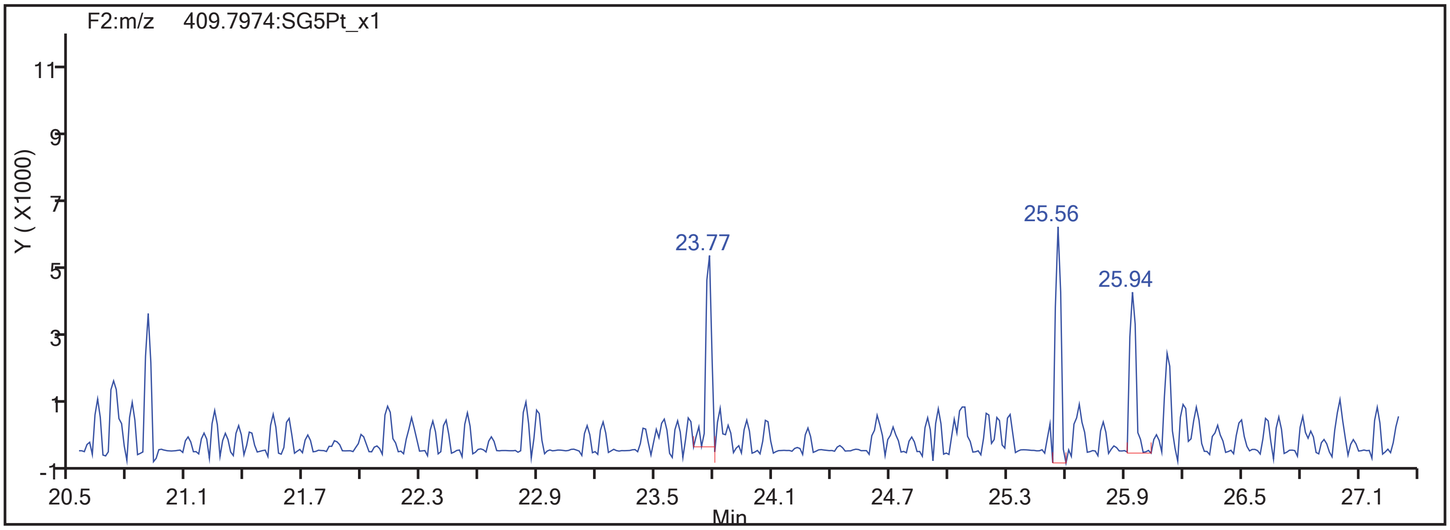
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194429
Sample Line#: 39
Column Type: DB-5
Column Dia: 0.32 mm

PeCDF





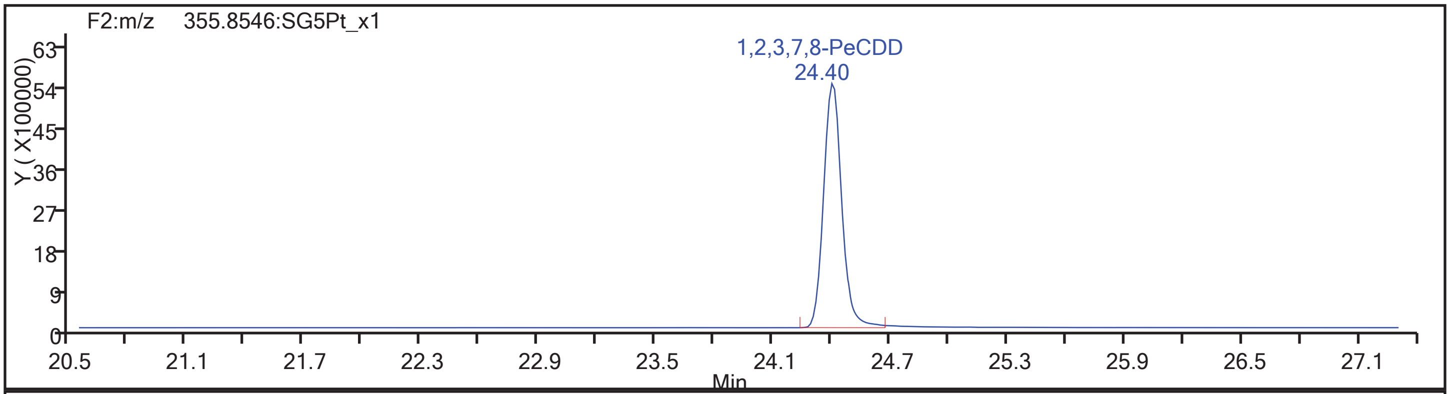
PeCDF Interference Mass

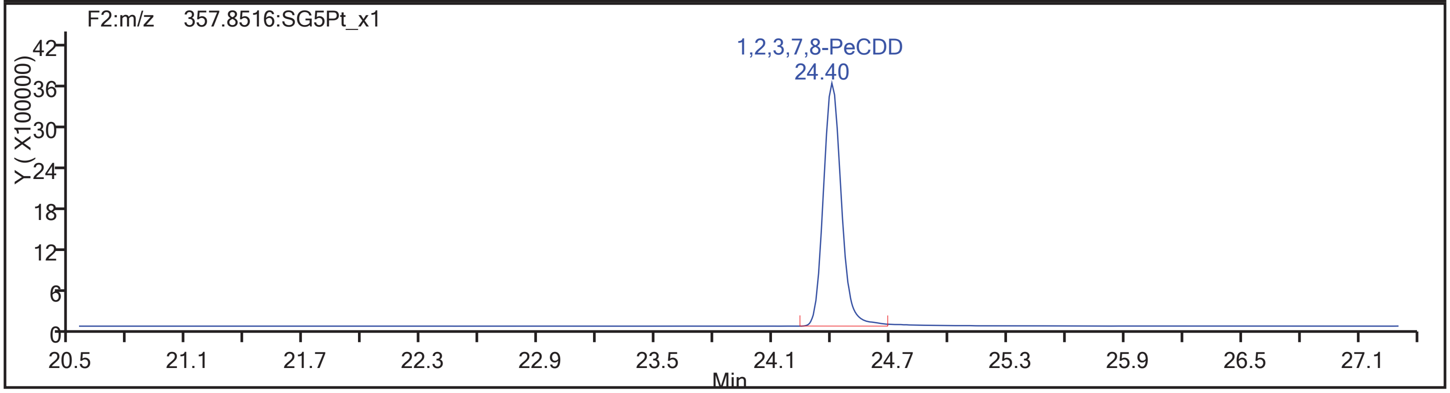


TestAmerica Sacramento

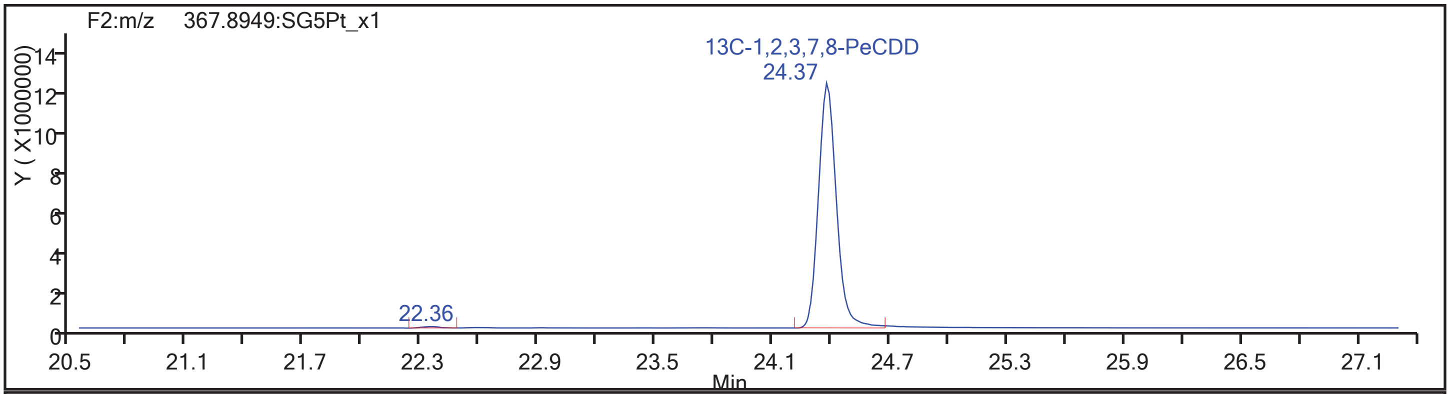
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d		
Injection Date:	14-Nov-2017 18:55:14	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

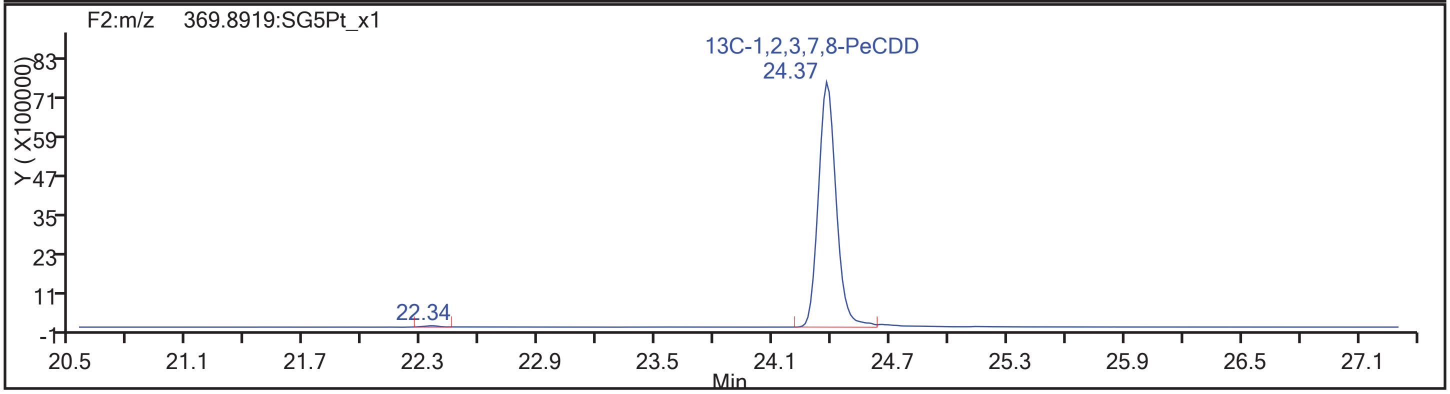
PeCDD





PeCDD Standards





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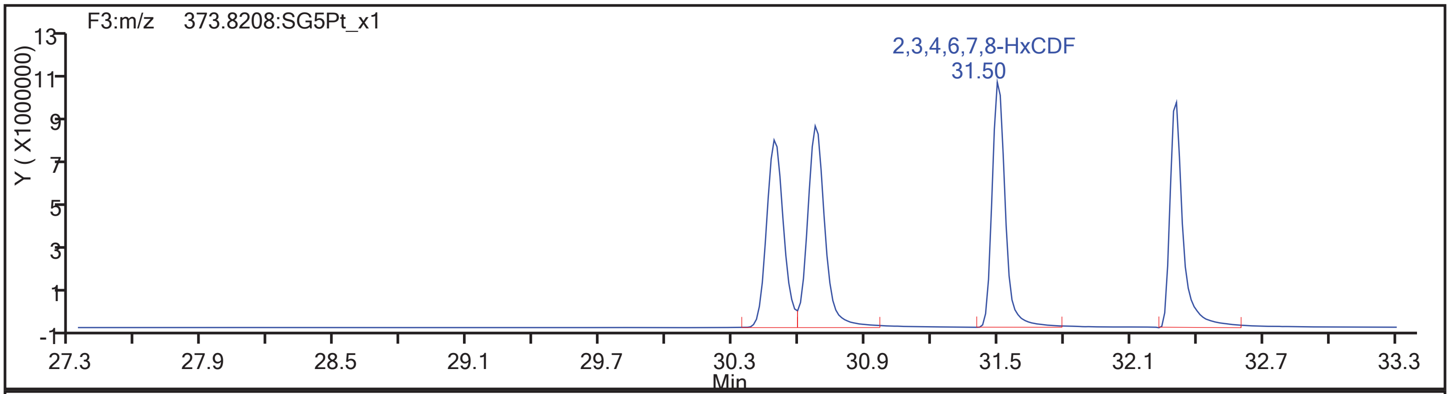
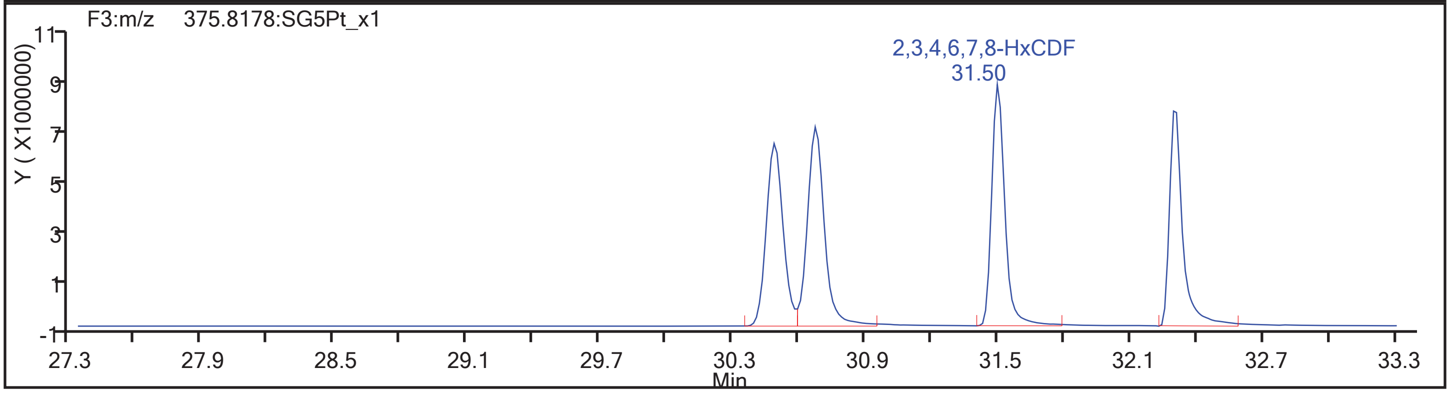
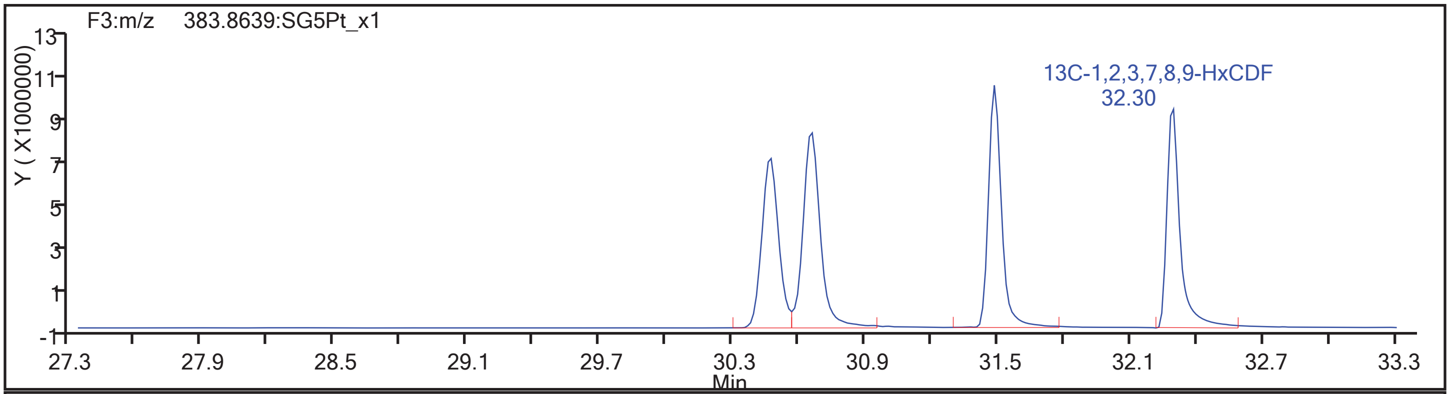
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

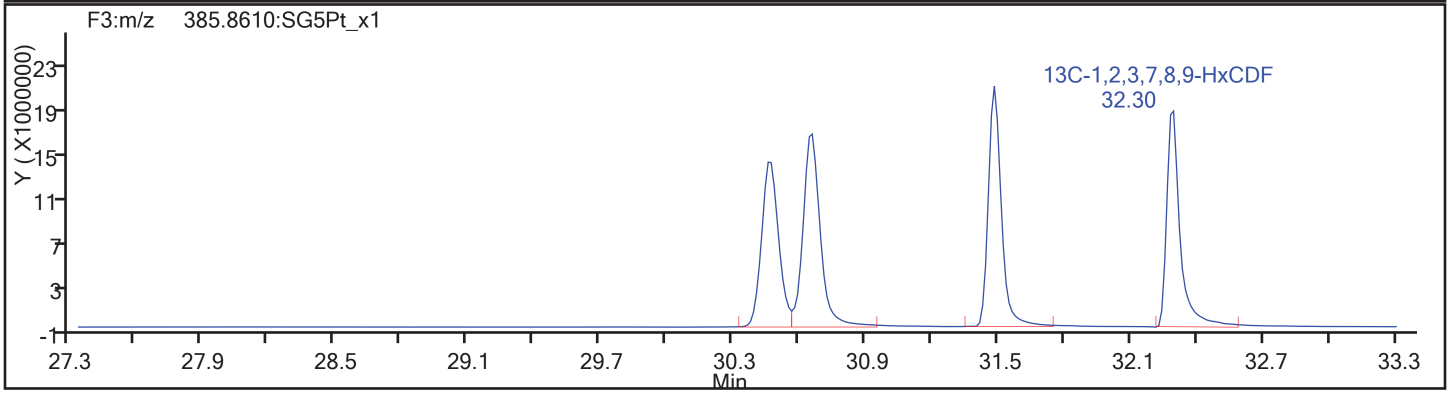
HxCDF





HxCDF Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d		
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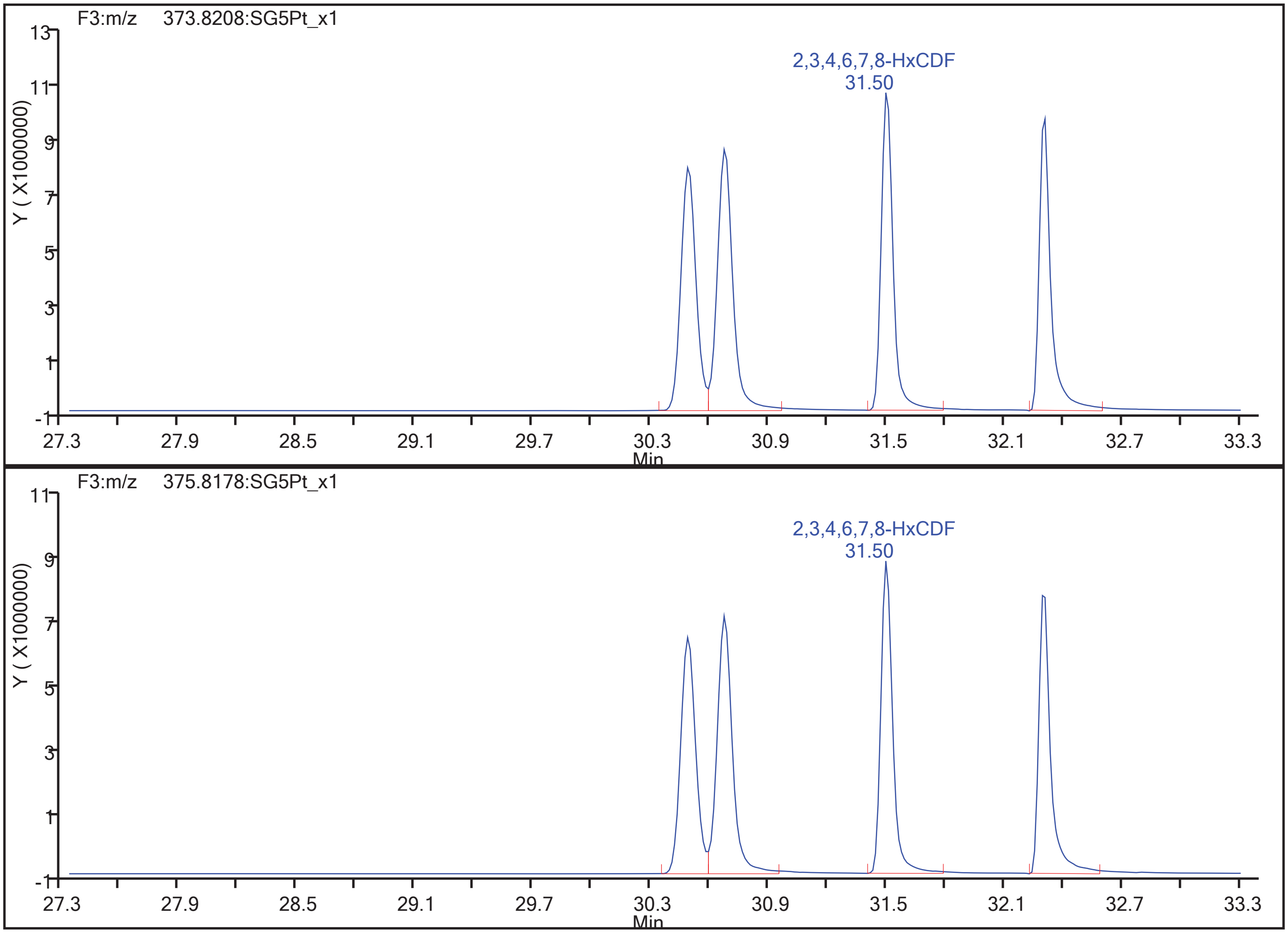
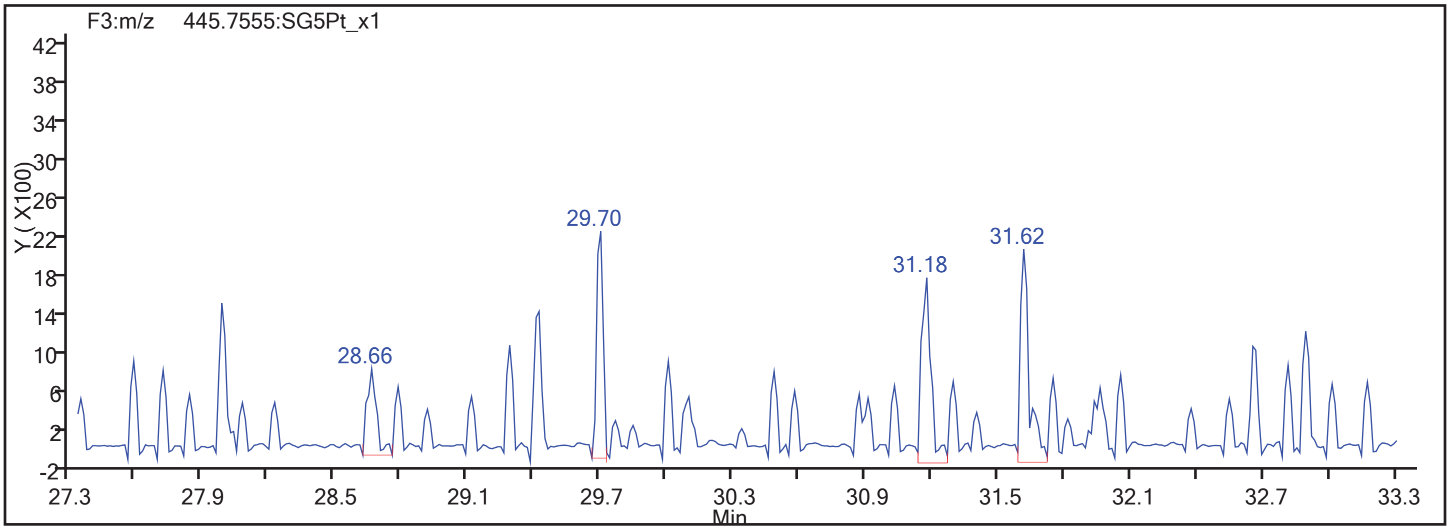
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



HxCDF Interference Mass



Report Date: 15-Nov-2017 01:28:19 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d

Injection Date: 14-Nov-2017 18:55:14

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

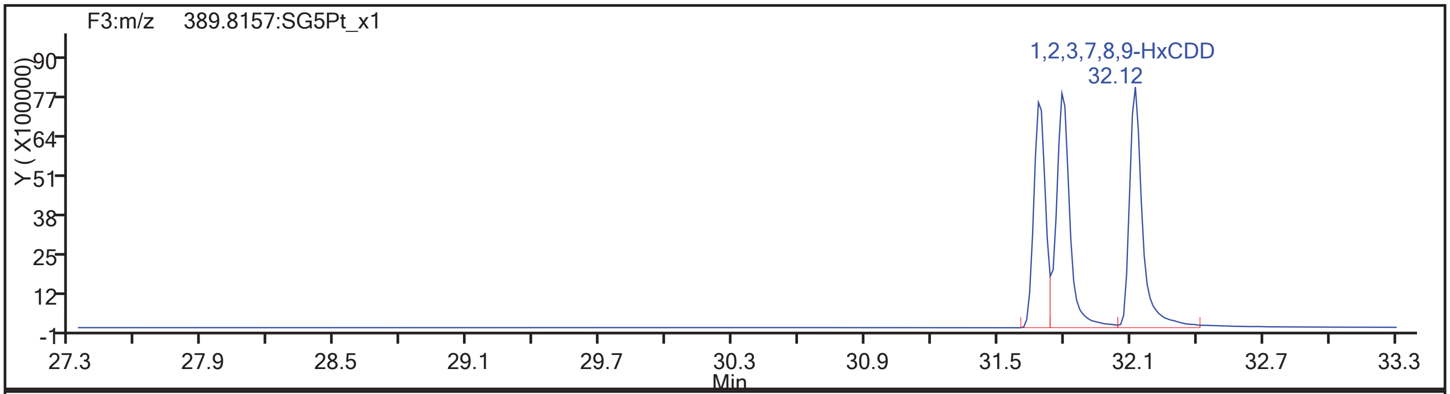
Worklist#: 194429

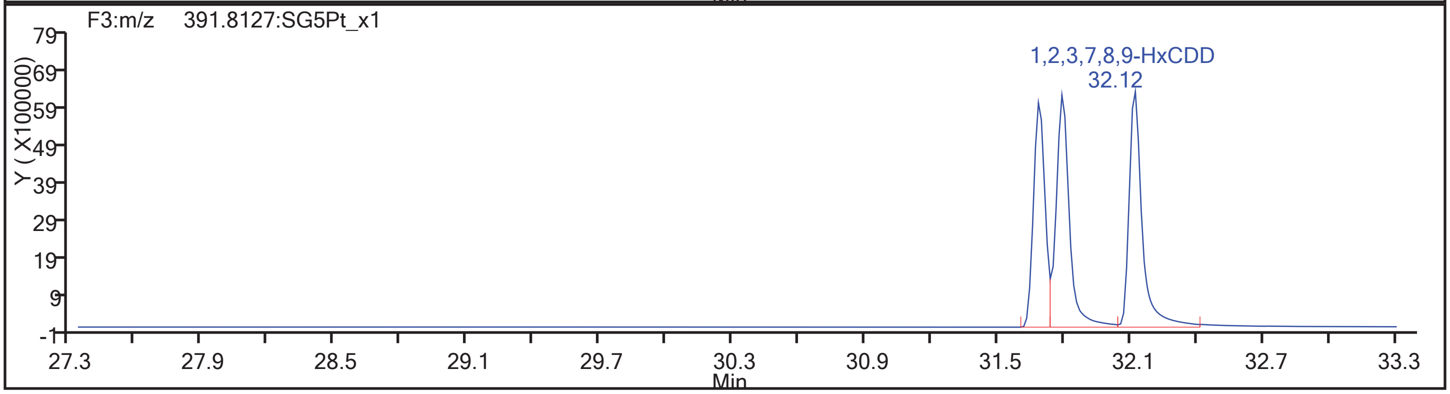
Sample Line#: 39

Column Type: DB-5

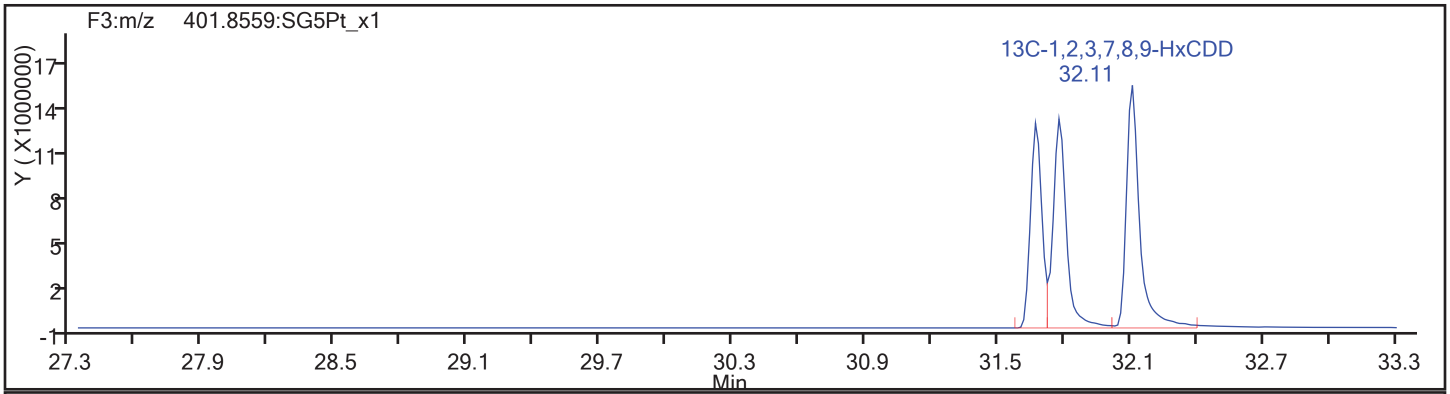
Column Dia: 0.32 mm

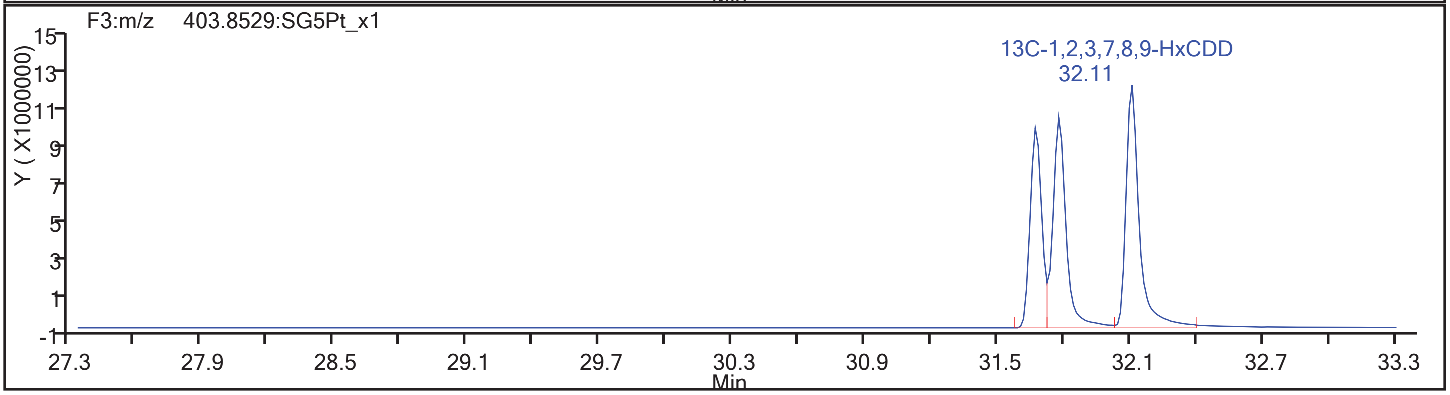
HxCDD





HxCDD Standards





Report Date: 15-Nov-2017 01:28:20
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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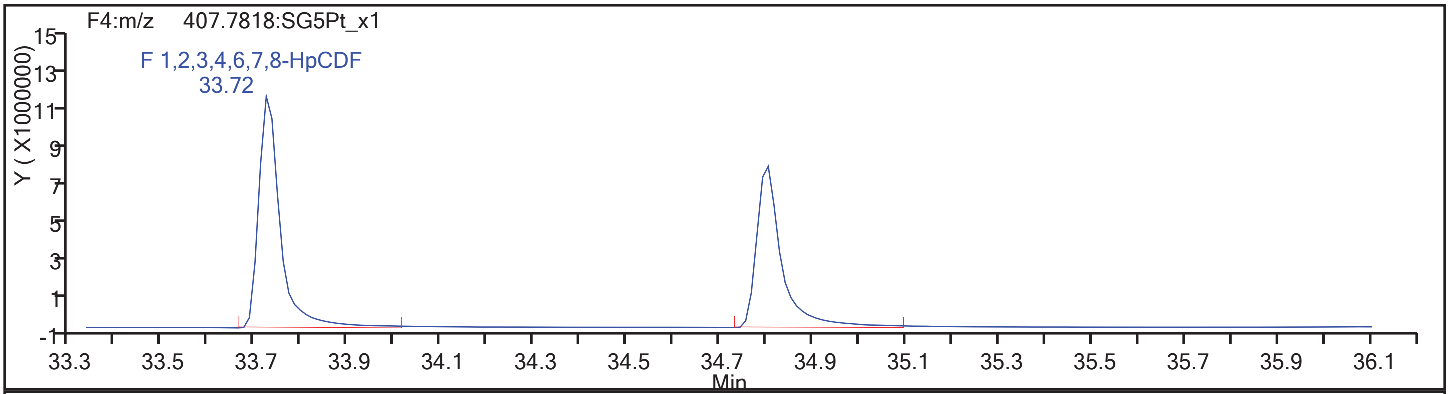
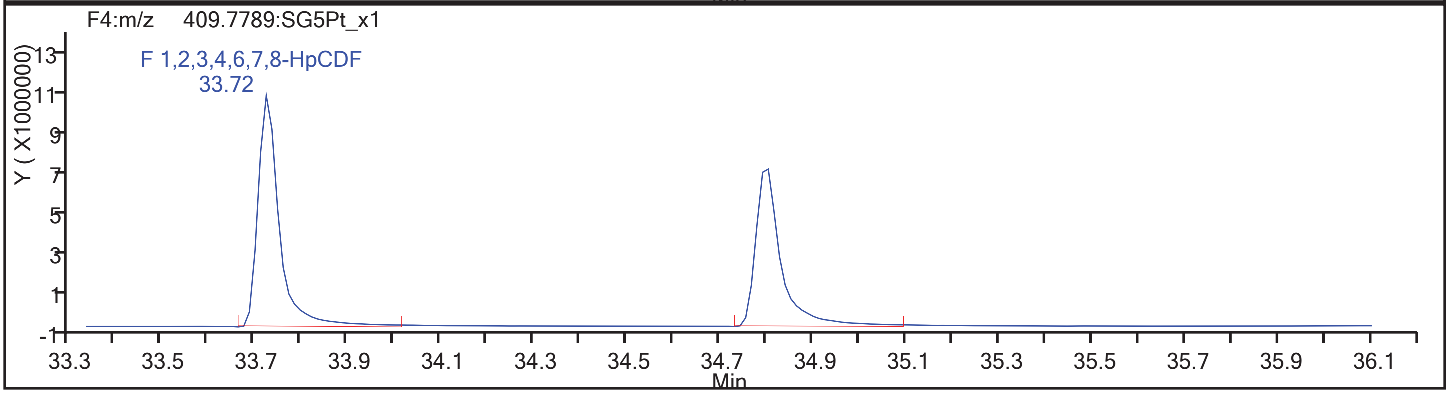
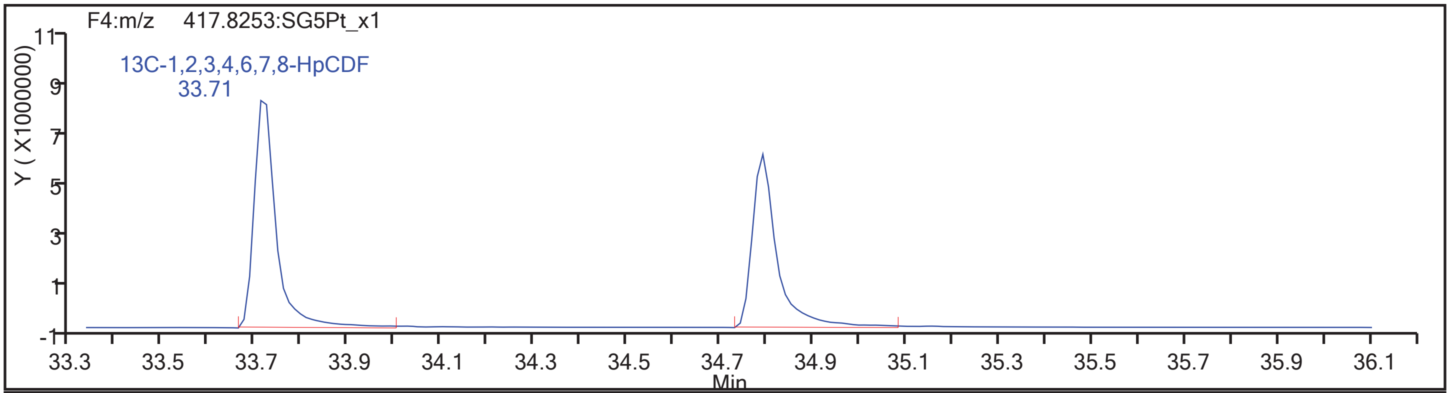
Injection Date: 14-Nov-2017 18:55:14
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194429
Sample Line#: 39
Column Type: DB-5
Column Dia: 0.32 mm

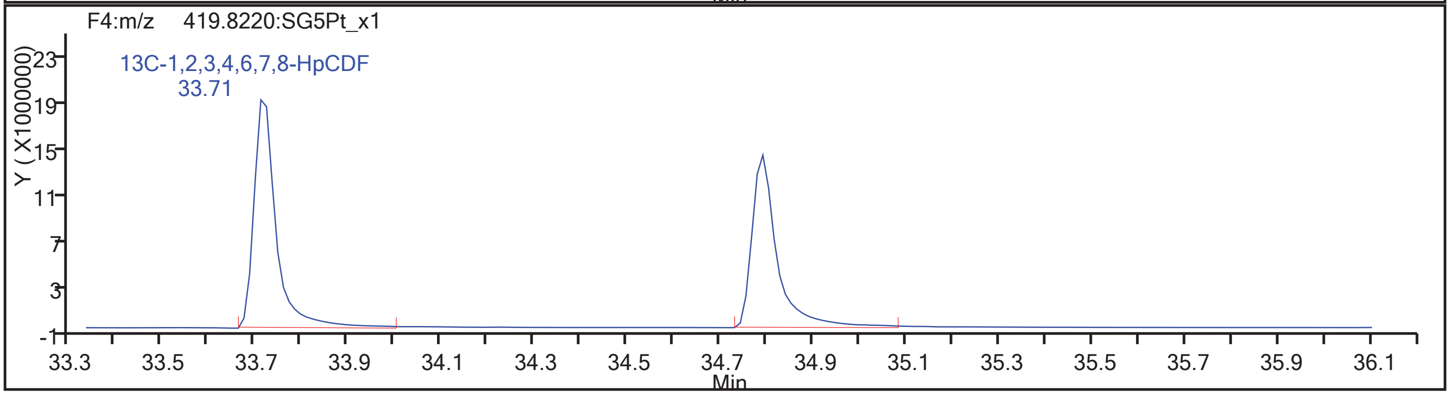
HpCDF





HpCDF Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d		
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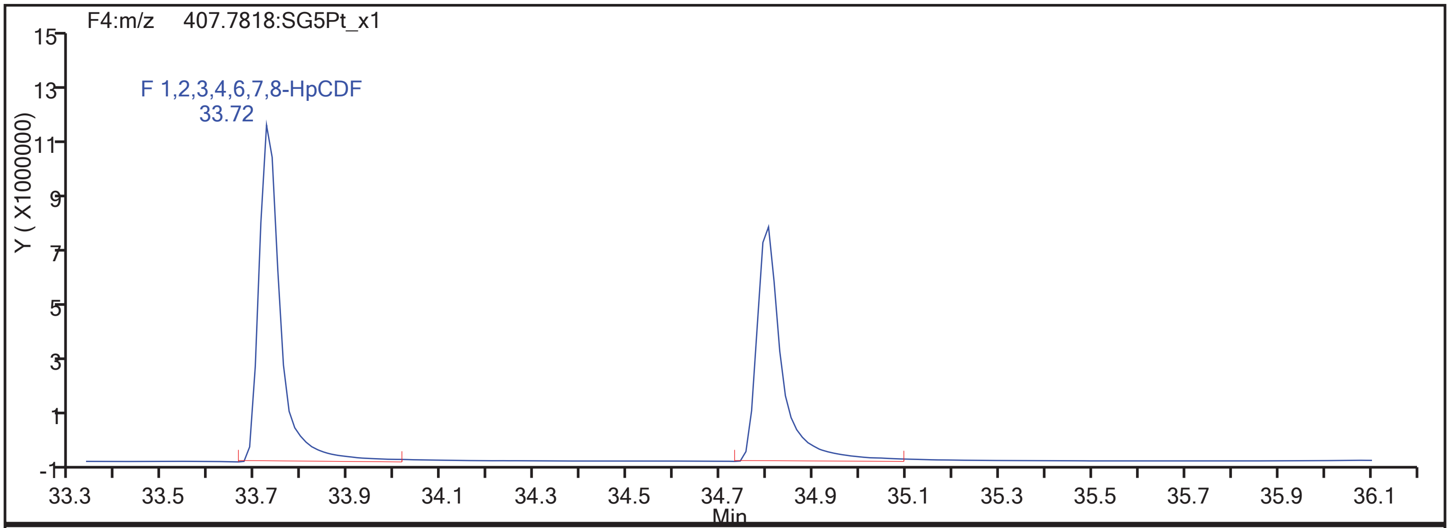
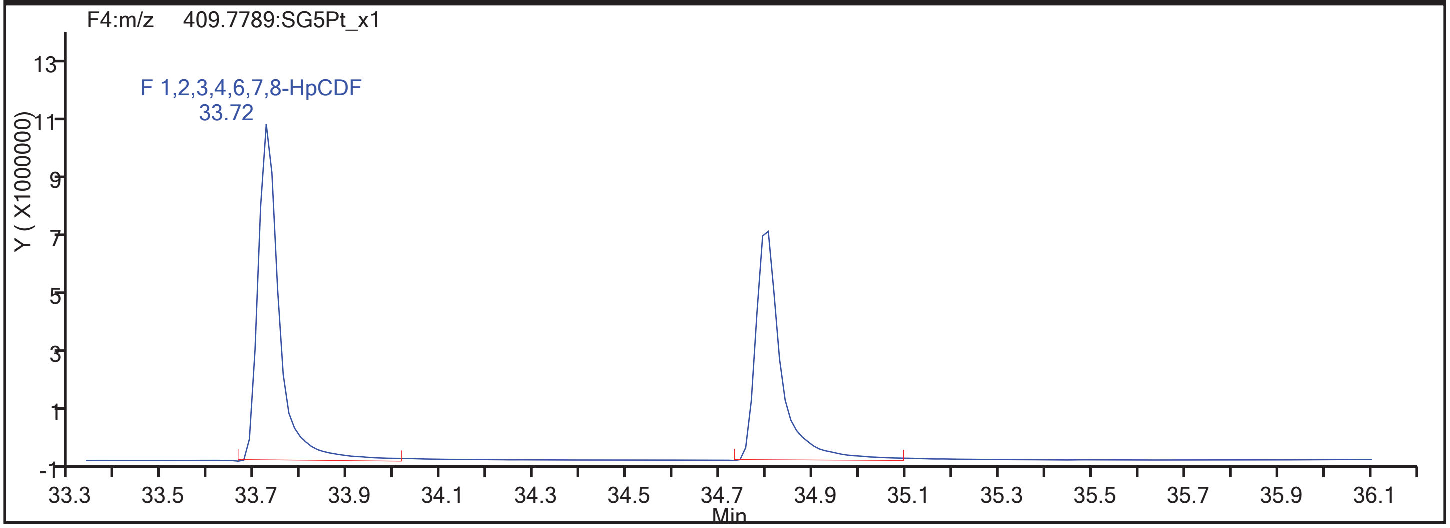
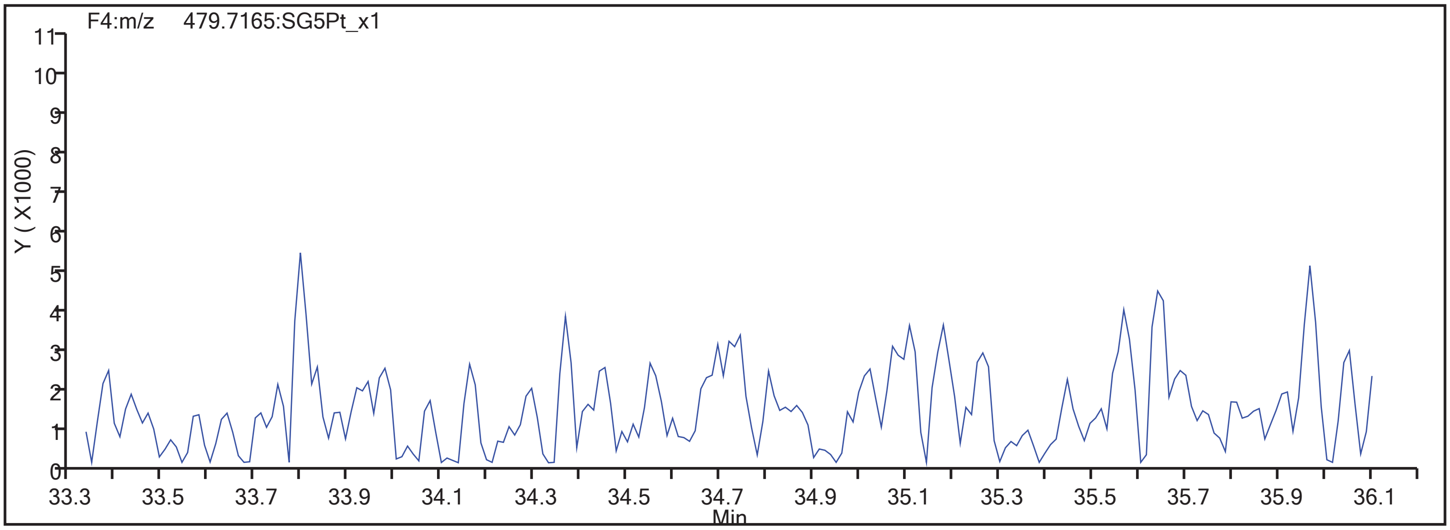
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass

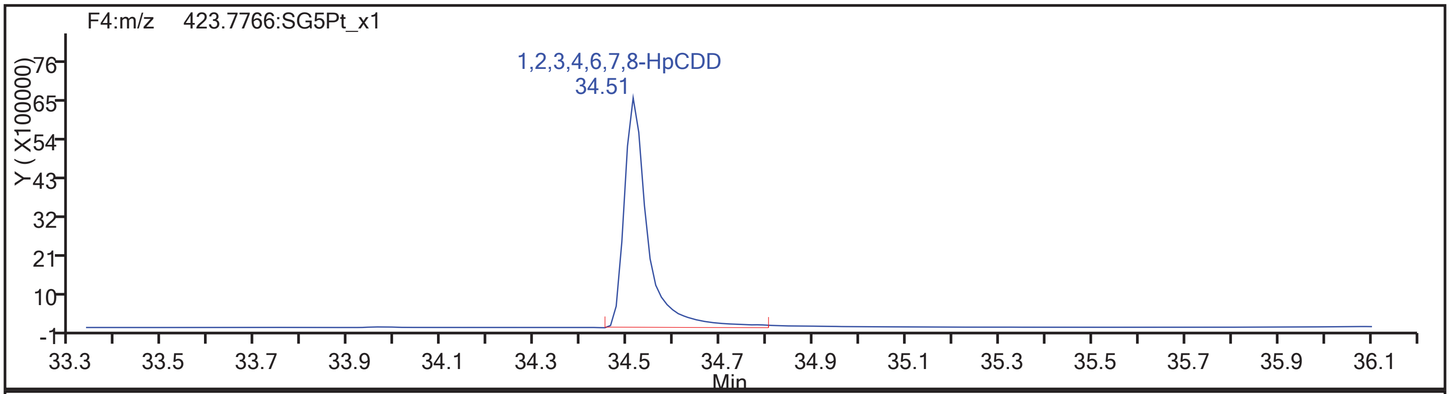


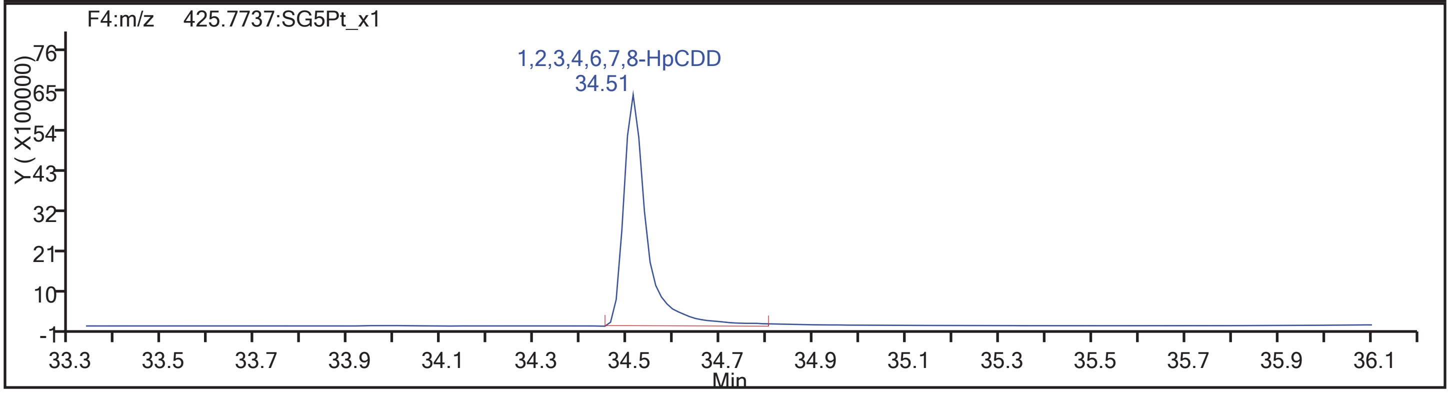
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d

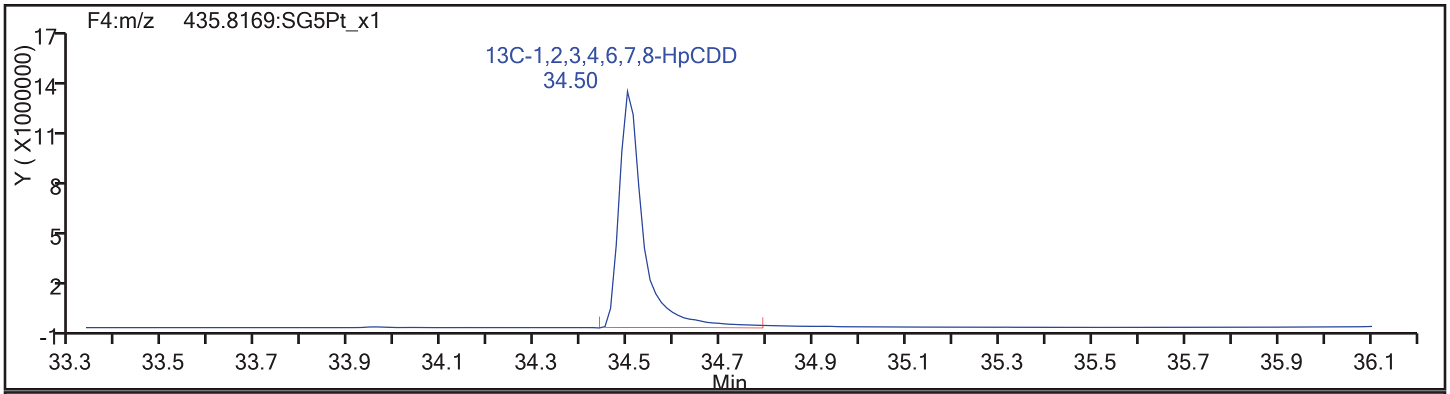
Injection Date:	14-Nov-2017 18:55:14	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

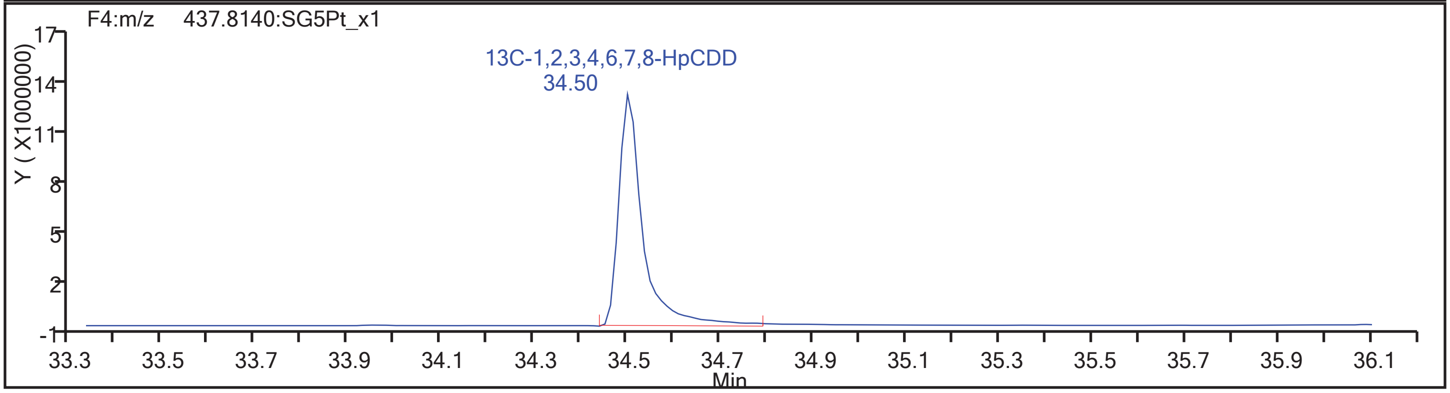
HpCDD





HpCDD Standards





Report Date: 15-Nov-2017 01:28:20 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d		
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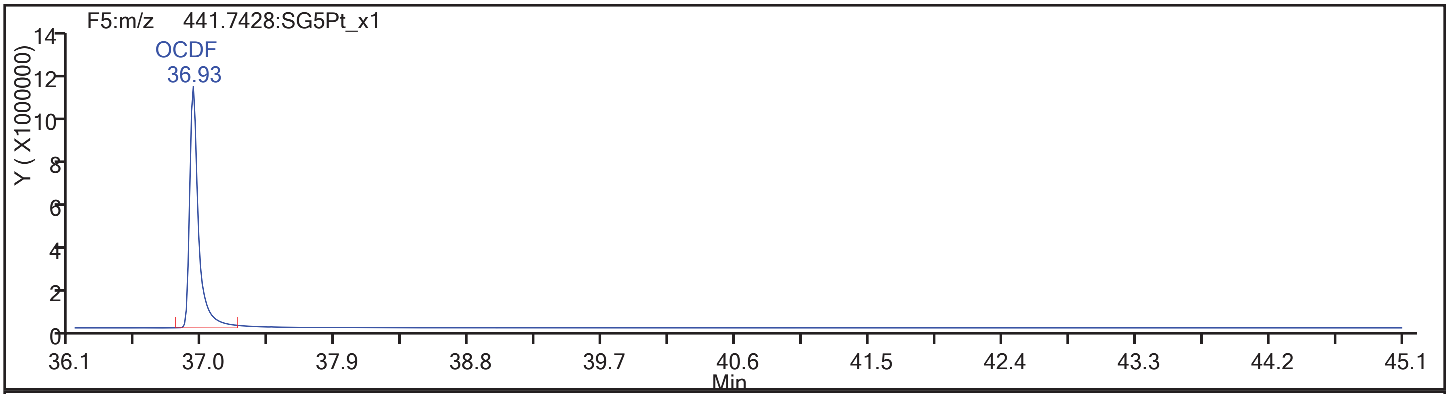
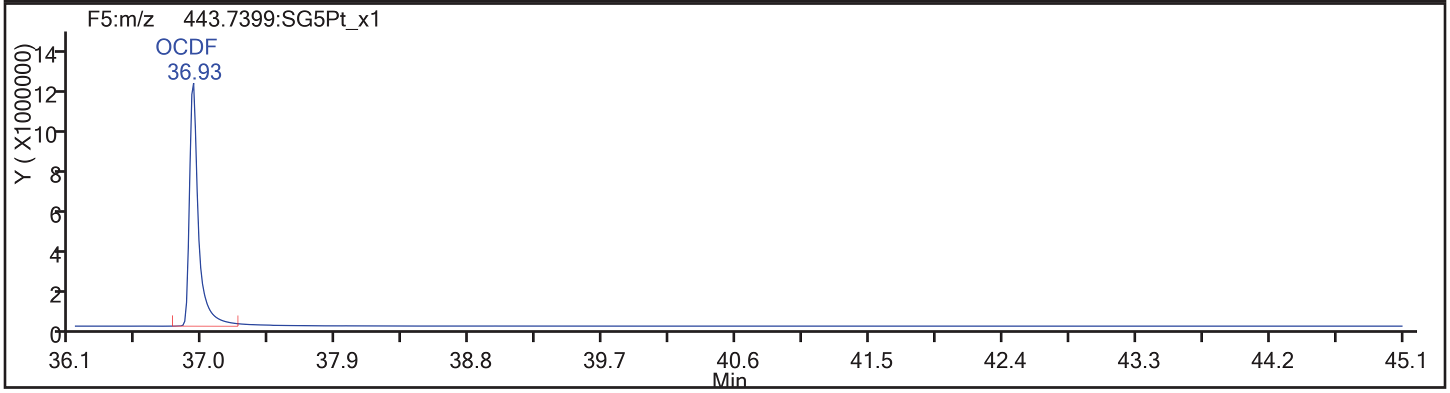
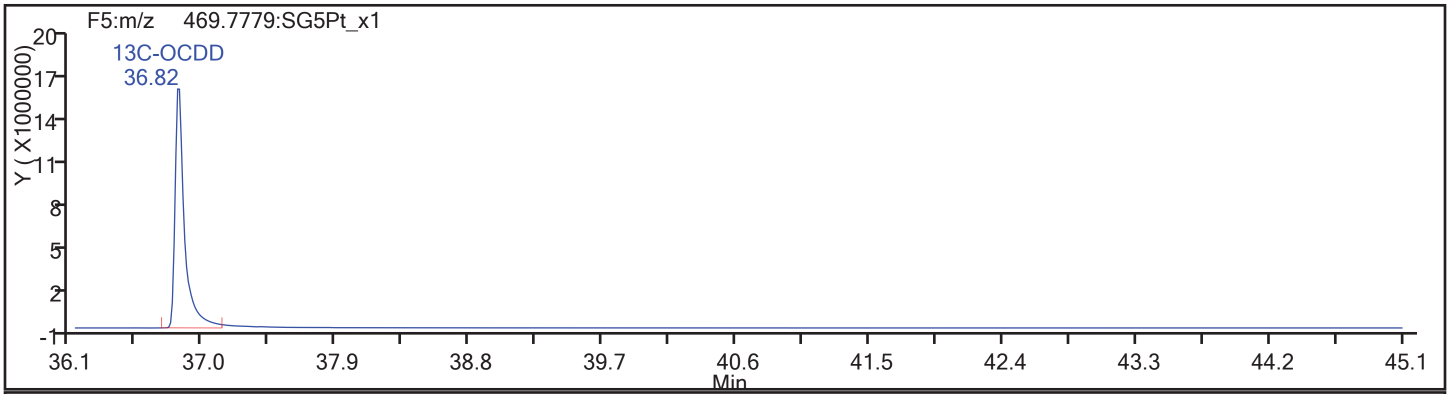
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

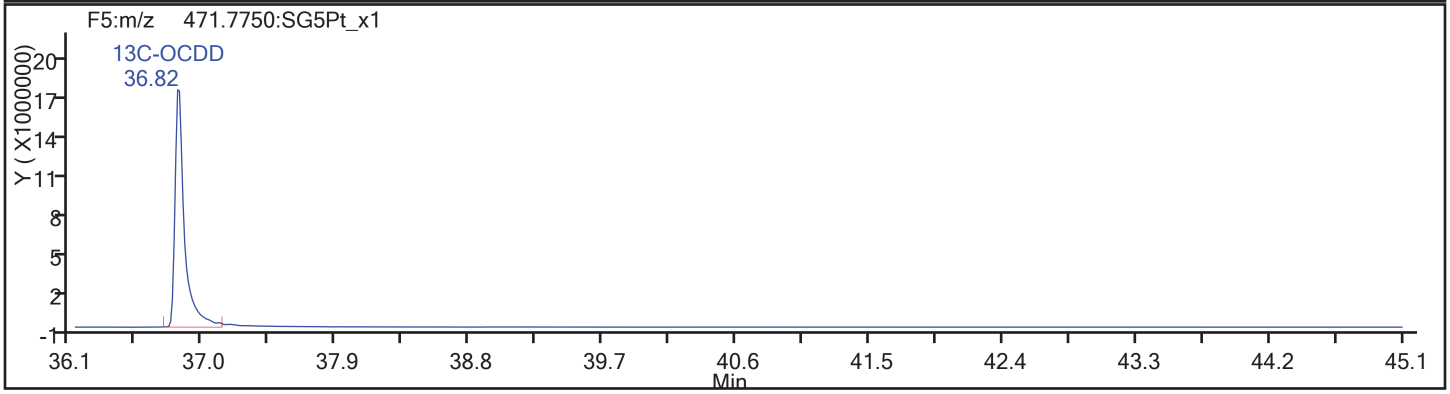
OCDF





OCDF Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d		
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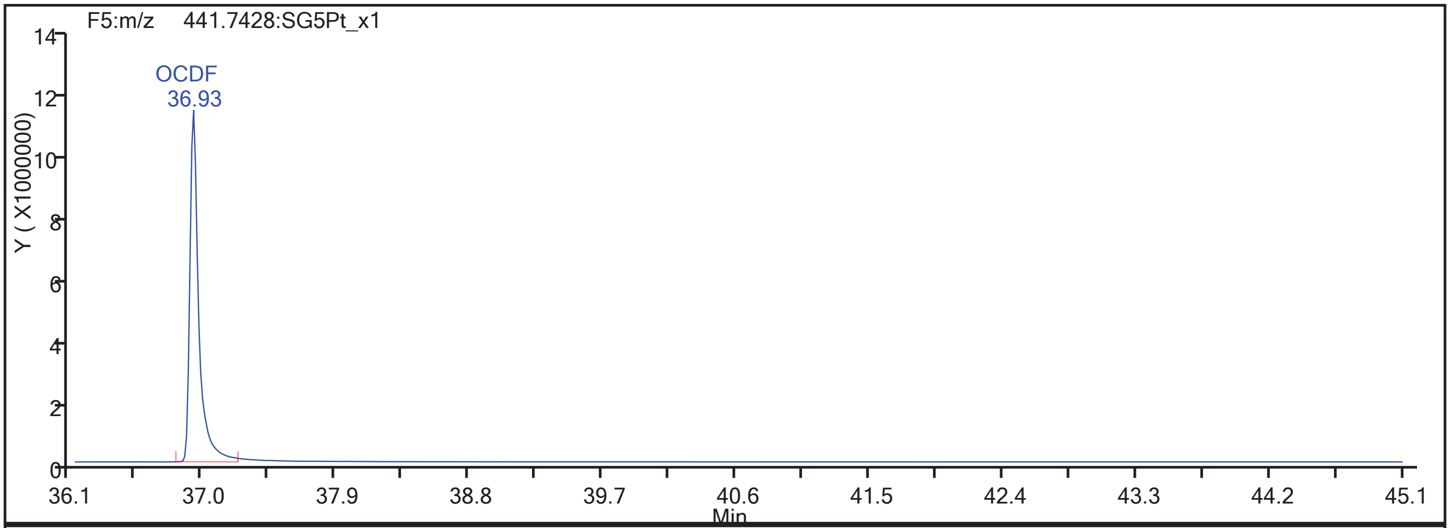
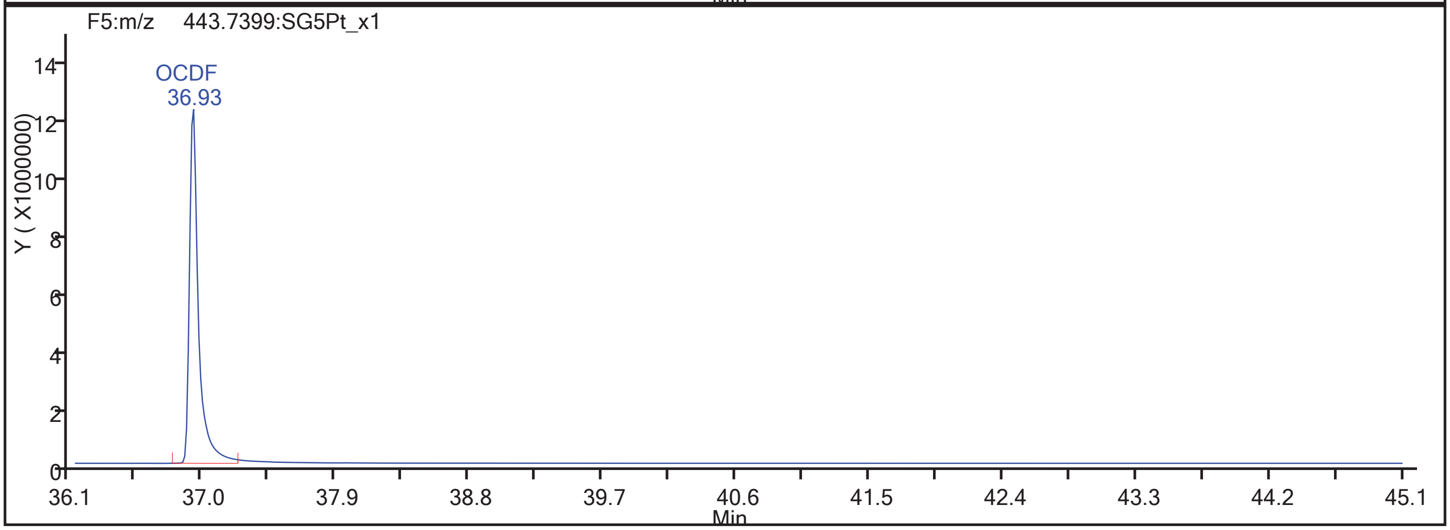
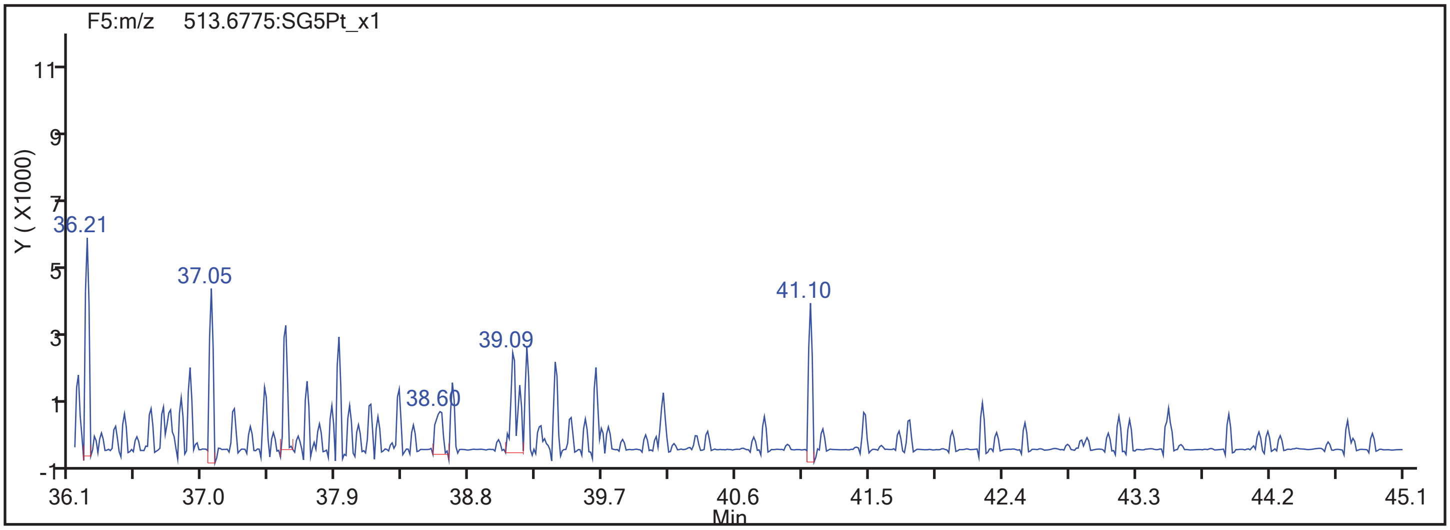
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass



Report Date: 15-Nov-2017 01:28:20 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d
Injection Date: 14-Nov-2017 18:55:14 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
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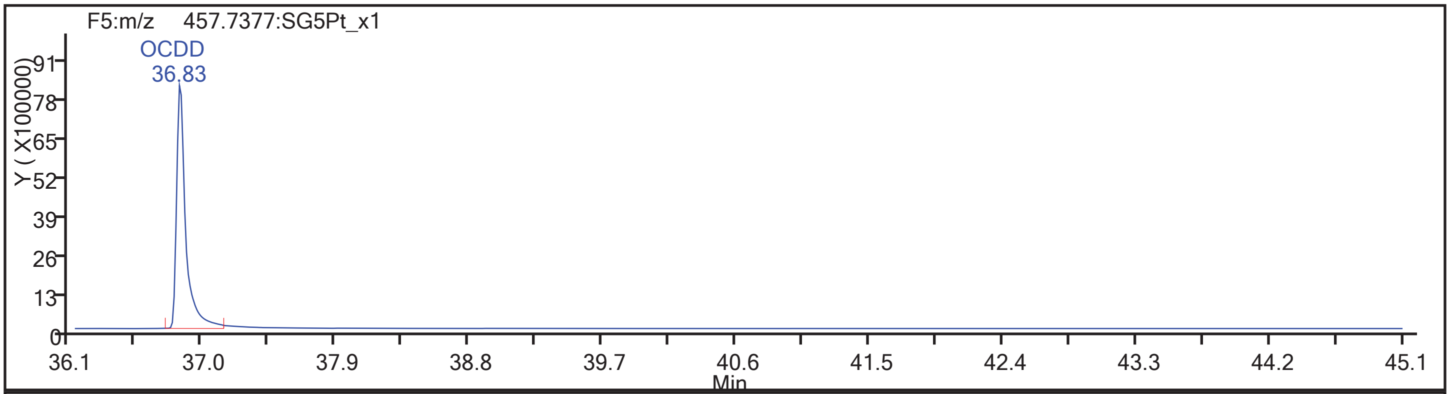
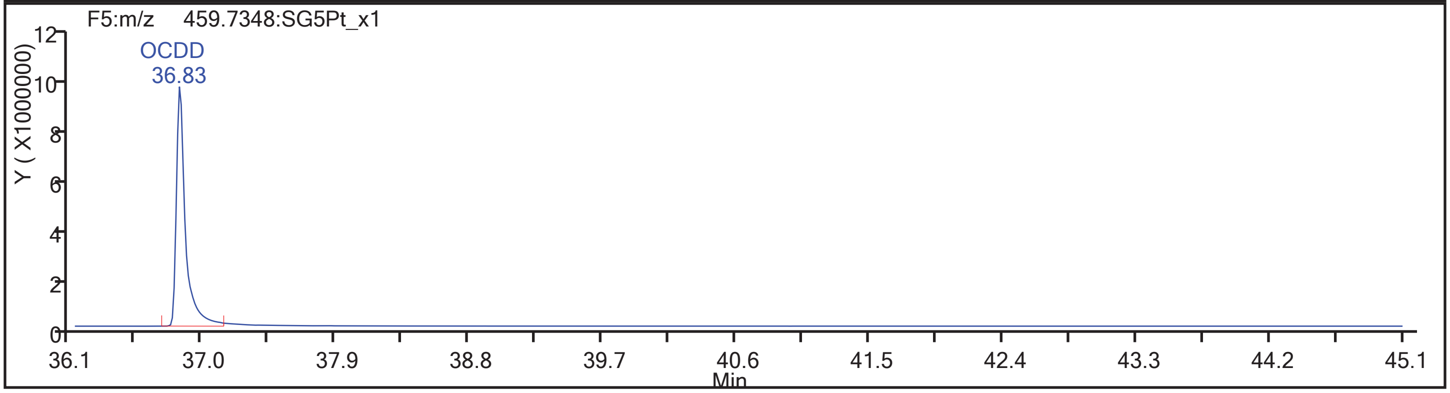
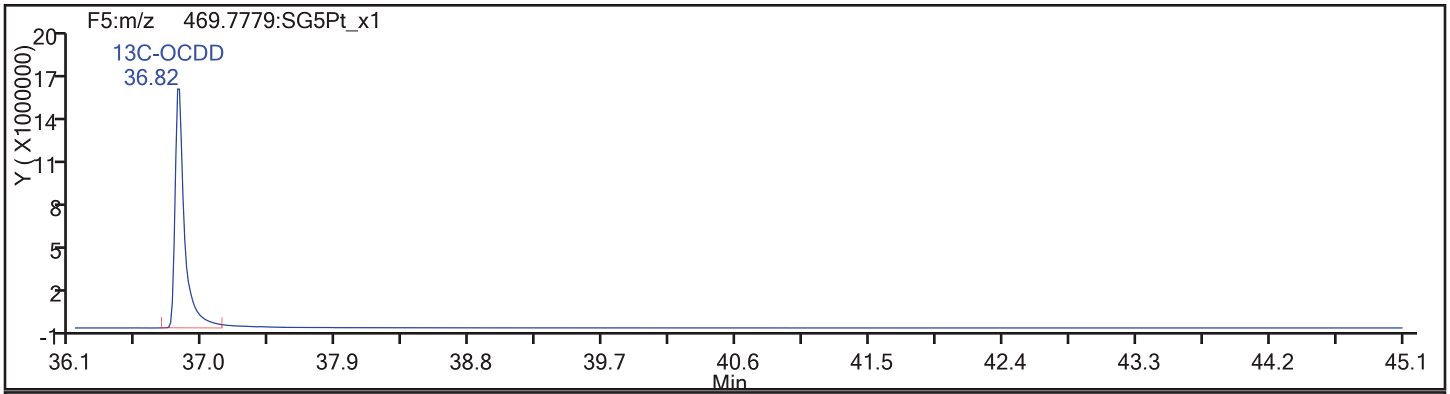
Client ID:
Worklist#: 194429 Sample Line#: 39
Column Type: DB-5 Column Dia: 0.32 mm

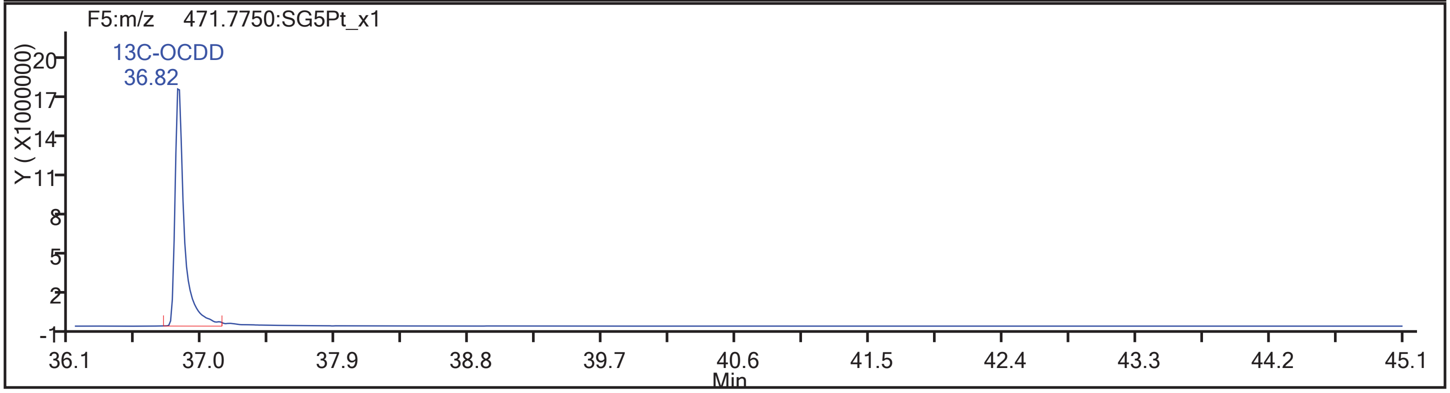
OCDD





OCDD Standards





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TestAmerica Sacramento

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Client ID:			
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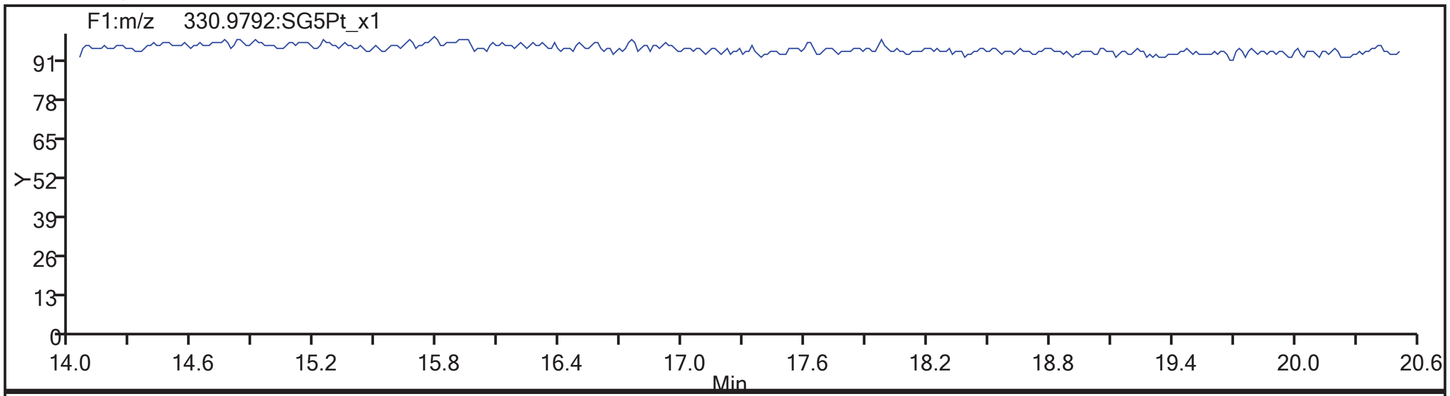
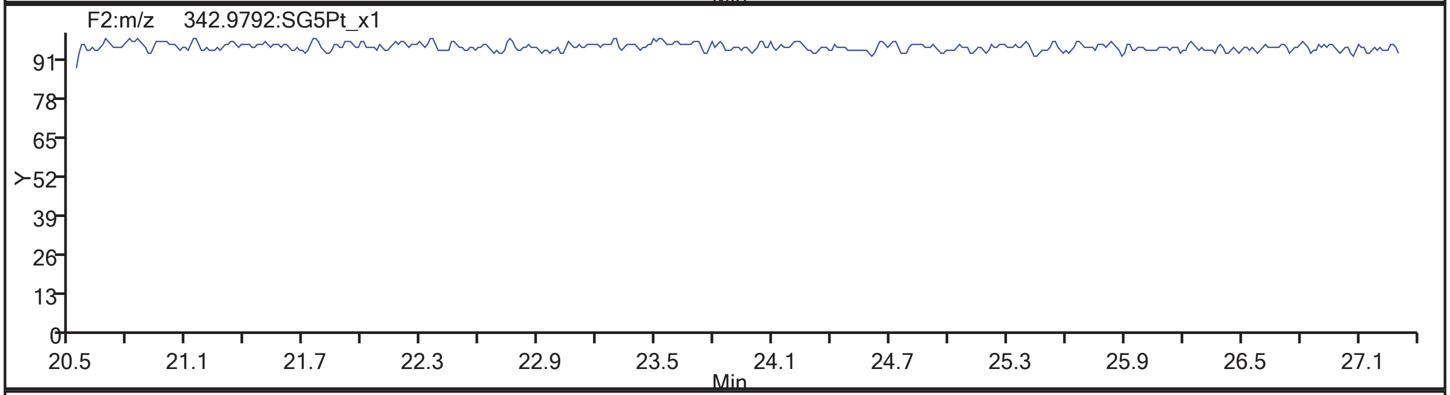
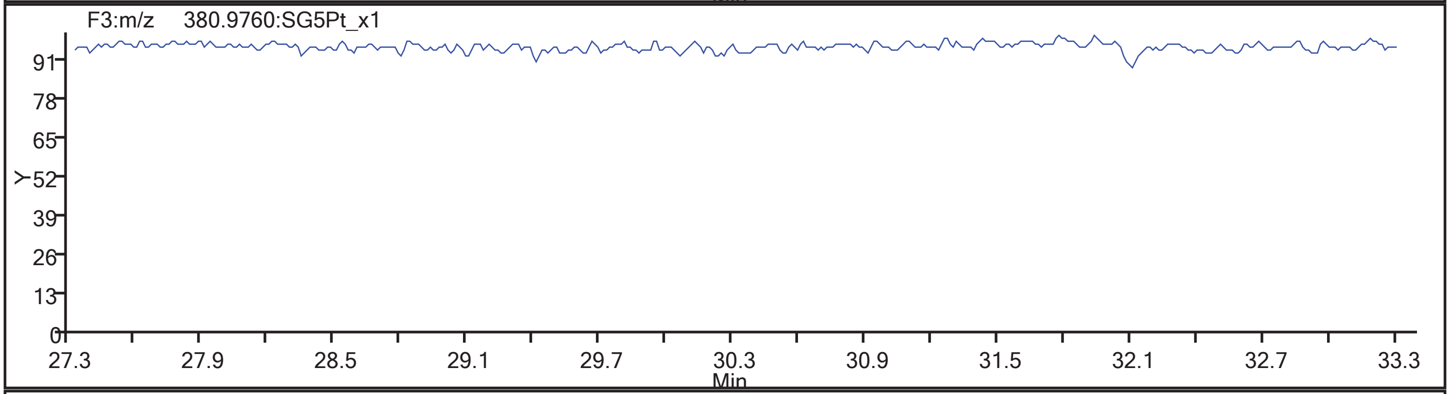
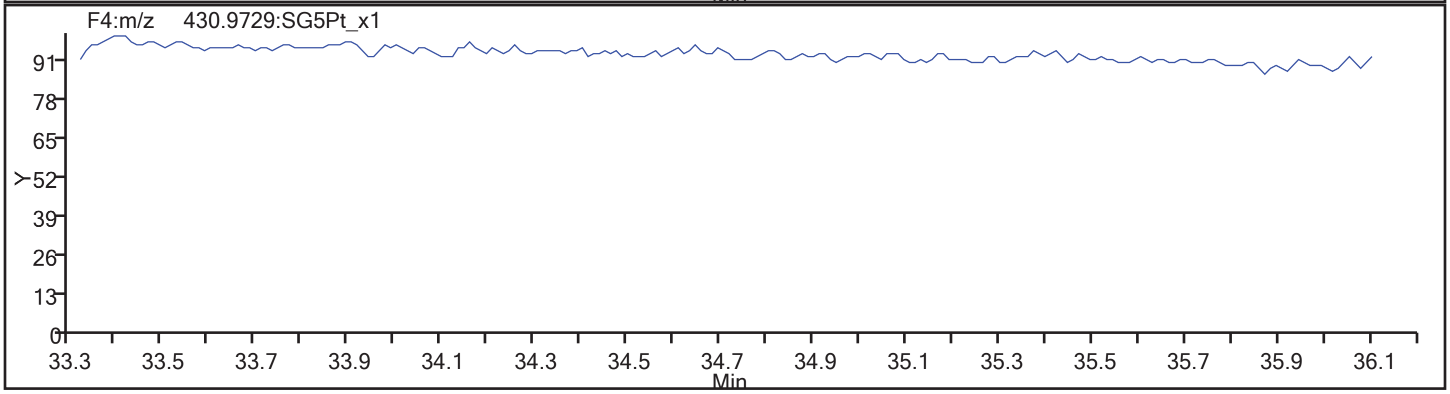
Column Type:	DB-5	Column Dia:	0.32 mm





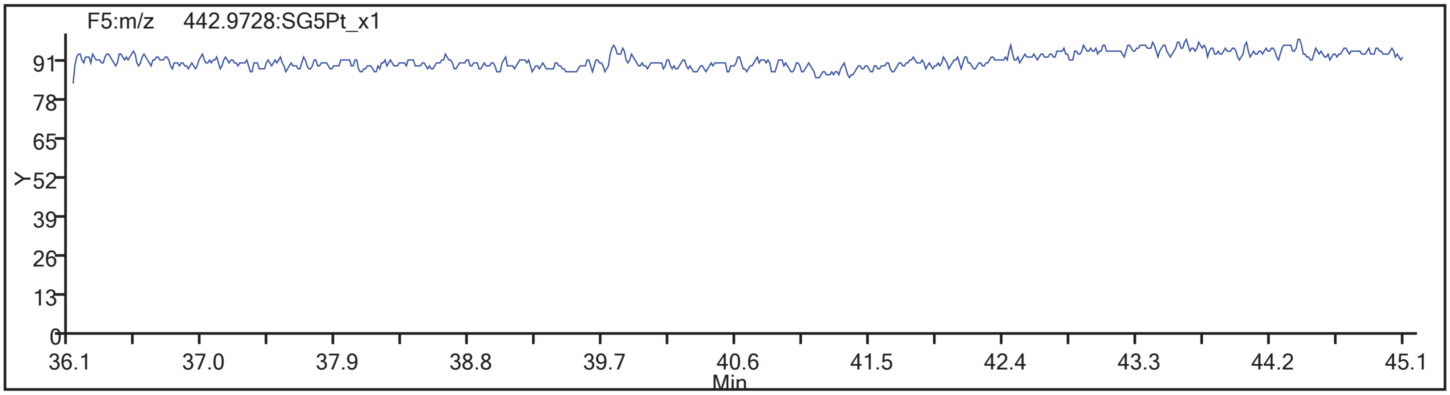




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_39.d

Injection Date:	14-Nov-2017 18:55:14	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: ICV 320-194923/7 Calibration Date: 11/15/2017 15:54

Instrument ID: 3D5 Calib Start Date: 11/15/2017 11:51

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 11/15/2017 15:05

Lab File ID: 15NO173D5_7.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.097	1.092		39.8	40.0	-0.5	20.0
2,3,7,8-TCDD	AveID	1.164	1.179		40.5	40.0	1.2	20.0
1,2,3,7,8-PeCDF	AveID	1.142	1.131		198	200	-1.0	20.0
2,3,4,7,8-PeCDF	AveID	1.110	1.105		199	200	-0.4	20.0
1,2,3,7,8-PeCDD	AveID	1.127	1.128		200	200	0.0	20.0
1,2,3,4,7,8-HxCDF	AveID	1.348	1.377		204	200	2.2	20.0
1,2,3,6,7,8-HxCDF	AveID	1.479	1.471		199	200	-0.6	20.0
2,3,4,6,7,8-HxCDF	AveID	1.383	1.391		201	200	0.6	20.0
1,2,3,4,7,8-HxCDD	AveID	1.065	1.062		199	200	-0.3	20.0
1,2,3,6,7,8-HxCDD	AveID	1.181	1.191		202	200	0.9	20.0
1,2,3,7,8,9-HxCDD	AveID	1.231	1.252		203	200	1.7	20.0
1,2,3,7,8,9-HxCDF	AveID	1.290	1.333		207	200	3.3	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.587	1.556		196	200	-1.9	20.0
1,2,3,4,6,7,8-HpCDD	AveID	1.163	1.147		197	200	-1.4	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.229	1.246		203	200	1.4	20.0
OCDD	AveID	1.039	1.022		394	400	-1.6	20.0
OCDF	AveID	1.265	1.302		412	400	2.9	20.0
13C-2,3,7,8-TCDF	Ave	1.509	1.503		99.6	100	-0.4	
13C-2,3,7,8-TCDD	Ave	0.9906	0.9616		97.1	100	-2.9	
13C-1,2,3,7,8-PeCDF	Ave	1.128	1.134		100	100	0.5	
13C-1,2,3,7,8-PeCDD	Ave	0.7269	0.7227		99.4	100	-0.6	
13C-1,2,3,4,7,8-HxCDF	Ave	1.028	0.9765		95.0	100	-5.0	
13C-1,2,3,6,7,8-HxCDD	Ave	0.8502	0.8176		96.2	100	-3.8	
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6490	0.6434		99.1	100	-0.9	
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.5387	0.5298		98.3	100	-1.7	
13C-OCDD	Ave	0.4009	0.3966		198	200	-1.1	
37Cl4-2,3,7,8-TCDD	Ave	1.173	1.144		39.0	40.0	-2.5	

FORM VII 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_7.d		
Lims ID:	ICV	Lab Sample ID:	
Client ID:			
Sample Type:	ICV		
Inject. Date:	15-Nov-2017 15:54:11	ALS Bottle#:	8 Worklist Smp#: 7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Sample Info:	ICV 111517 ICV HRDXNIC_00032		
Misc. Info.:	15NO173D5		
Operator ID:	SMA	Instrument ID:	3D5
Sublist:			
Method:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m		
Limit Group:	HR - 8290A_D5 - ICAL		
Last Update:	16-Nov-2017 09:38:13	Calib Date:	15-Nov-2017 15:05:45
Integrator:	Picker		
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d		
Column 1 :		Det: F1:HRSIR	
Process Host:	XAWRK015		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.355	170290482	0.843	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.826	255952624	0.785	1.5089	99.6	99.6	0.2262	0.2262	99.61	
2,3,7,8-TCDF	17.841	111780834	0.759	1.0971	39.8	39.8	0.0702	0.0702	99.52	
A Non-2,3,7,8-sub-TCDF	17.493						0.0	0.0		Rn
S Total TCDF					39.8	39.8	0.0702	0.0702		
D 13C-2,3,7,8-TCDD	18.551	163756022	0.779	0.9906	97.1	97.1	0.2141	0.2141	97.08	
$ 37Cl4-2,3,7,8-TCDD	18.566	77909660		1.1732	39.0	39.0	0.0502	0.0502	97.49	
2,3,7,8-TCDD	18.566	77226743	0.786	1.1645	40.5	40.5	0.0675	0.0675	101	
A Non-2,3,7,8-sub-TCDD	17.962						0.0	0.0		
S Total TCDD					40.5	40.5	0.0675	0.0675		
D 13C-1,2,3,7,8-PeCDF	23.046	193026307	1.616	1.1280	100.5	100.5	0.2648	0.2648	100	
1,2,3,7,8-PeCDF	23.060	436649311	1.592	1.1422	198.1	198.1	0.6587	0.6587	99.03	
D 13C-2,3,4,7,8-PeCDF	24.437	184125625	1.593							
2,3,4,7,8-PeCDF	24.465	426742413	1.602	1.1102	199.1	199.1	0.6777	0.6777	99.56	
A F1 PeCDFs	20.479						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.750						0.0	0.0		n
S Total PeCDF					397.2	397.2	0.6682	0.6682		
D 13C-1,2,3,7,8-PeCDD	25.187	123065029	1.631	0.7269	99.4	99.4	0.1439	0.1439	99.42	
1,2,3,7,8-PeCDD	25.215	277566550	1.620	1.1272	200.1	200.1	0.2017	0.2017	100	
A Non-2,3,7,8-sub-PeCDD	24.021						0.0	0.0		
S Total PeCDD					200.1	200.1	0.2017	0.2017		
D 13C-1,2,3,4,7,8-HxCDF	31.039	150118131	0.528	1.0279	95.0	95.0	0.3930	0.3930	95.00	
1,2,3,4,7,8-HxCDF	31.052	413413694	1.249	1.3475	204.4	204.4	0.8699	0.8699	102	
D 13C-1,2,3,6,7,8-HxCDF	31.185	170783483	0.526							
1,2,3,6,7,8-HxCDF	31.212	441645519	1.263	1.4794	198.9	198.9	0.7924	0.7924	99.43	
D 13C-2,3,4,6,7,8-HxCDF	31.917	162705350	0.528							
2,3,4,6,7,8-HxCDF	31.931	417716620	1.254	1.3833	201.2	201.2	0.8474	0.8474	101	
D 13C-1,2,3,7,8,9-HxCDF	32.663	158762736	0.525							
1,2,3,7,8,9-HxCDF	32.676	400301486	1.259	1.2903	206.7	206.7	0.9085	0.9085	103	
A Non-2,3,7,8-sub-HxCDF	30.786						0.0	0.0		
S Total HxCDF					811.1	811.1	0.8546	0.8546		

Report Date: 16-Nov-2017 09:38:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_7.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.490	153729018	1.255	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.077	110061050	1.296							
1,2,3,4,7,8-HxCDD	32.091	266948095	1.259	1.0646	199.5	199.5	0.5616	0.5616	99.74	
D 13C-1,2,3,6,7,8-HxCDD	32.184	125695381	1.244	0.8502	96.2	96.2	0.2911	0.2911	96.18	
1,2,3,6,7,8-HxCDD	32.197	299502190	1.274	1.1809	201.8	201.8	0.5063	0.5063	101	
1,2,3,7,8,9-HxCDD	32.503	314716581	1.255	1.2311	203.4	203.4	0.4857	0.4857	102	
A Non-2,3,7,8-sub-HxCDD	31.352						0.0	0.0		
S Total HxCDD					604.6	604.6	0.5178	0.5178		
D 13C-1,2,3,4,6,7,8-HpCDF	34.058	98902150	0.438	0.6490	99.1	99.1	0.8746	0.8746	99.13	
1,2,3,4,6,7,8-HpCDF	34.070	307868551	1.063	1.5871	196.1	196.1	1.614	1.614	98.07	
D 13C-1,2,3,4,7,8,9-HpCDF	35.188	81547862	0.457							
1,2,3,4,7,8,9-HpCDF	35.201	246420097	1.042	1.2290	202.7	202.7	2.084	2.084	101	
A Non-2,3,7,8-sub-HpCDF	34.617						0.0	0.0		
S Total HpCDF					398.9	398.9	1.849	1.849		
D 13C-1,2,3,4,6,7,8-HpCDD	34.884	81439661	1.095	0.5387	98.3	98.3	0.4760	0.4760	98.35	
1,2,3,4,6,7,8-HpCDD	34.897	186776675	1.076	1.1631	197.2	197.2	0.7632	0.7632	98.59	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					197.2	197.2	0.7632	0.7632		
D 13C-OCDD	37.317	121940709	0.888	0.4009	197.8	197.8	0.3512	0.3512	98.92	
OCDF	37.425	317560914	0.903	1.2649	411.8	411.8	0.3716	0.3716	103	
OCDD	37.329	249360080	0.902	1.0390	393.6	393.6	0.4136	0.4136	98.41	

Reagents:

HRDXNIC_00032 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_7.d				
Lims ID:	ICV	Lab Sample ID:			
Client ID:					
Sample Type:	ICV				
Inject. Date:	15-Nov-2017 15:54:11	ALS Bottle#:	8	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	ICV 111517 ICV HRDXNIC_00032				
Misc. Info.:	15NO173D5				
Operator ID:	SMA	Instrument ID:	3D5		
Sublist:					
Method:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	16-Nov-2017 09:38:13	Calib Date:	15-Nov-2017 15:05:45		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d				
Column 1 :		Det: F1:HRSIR			
Process Host:	XAWRK015				

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.355	18.346	1		77909454	18779945	17913	44782	1048		
333.9339	18.355	18.346	1		92381028	22060430	16733	41832	1318	0.843(0.650-0.890)	
13C-2,3,7,8-TCDF											
315.9419	17.826	17.813	1	0.971	112541664	26514478	33238	83095	798		
317.9389	17.810	17.813	0	0.970	143410960	33641328	22511	56277	1494	0.785(0.650-0.890)	
2,3,7,8-TCDF											
303.9016	17.841	17.832	1	1.001	48241939	11496019	7189	17972	1599		
305.8987	17.841	17.832	1	1.001	63538895	14844757	11342	28355	1309	0.759(0.650-0.890)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.463	17.493	-2	0.980	204587	46712	7189	17972	6		
305.8987	17.448	17.493	-3	0.979	224158	57595	11342	28355	5	0.913(0.650-0.890)	
13C-2,3,7,8-TCDD											
331.9368	18.551	18.545	0	1.011	71682219	16594423	17913	44782	926		
333.9339	18.551	18.545	0	1.011	92073803	21456760	16733	41832	1282	0.779(0.650-0.890)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.566	18.560	0	1.012	77909660	18034456	9623	24057	1874		
2,3,7,8-TCDD											
319.8965	18.566	18.563	0	1.001	33992347	7873078	6159	15397	1278		
321.8936	18.566	18.563	0	1.001	43234396	9955106	5811	14527	1713	0.786(0.650-0.890)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.962						6159	15397			
321.8936	17.962						5811	14527			
13C-1,2,3,7,8-PeCDF											
351.9000	23.046	23.027	1	1.256	119234798	20472295	29253	73132	700		
353.8970	23.046	23.027	1	1.256	73791509	12652138	19540	48850	647	1.616(1.320-1.780)	

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Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_7.d

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	23.060	23.054	0	1.001	268198012	45387892	60709	151772	748		
341.8567	23.060	23.054	0	1.001	168451299	28437548	38977	97442	730	1.592(1.320-1.780)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.437	24.432	0	1.331	113117665	18028190	29253	73132	616		
353.8970	24.437	24.432	0	1.331	71007960	11510181	19540	48850	589	1.593(1.320-1.780)	
2,3,4,7,8-PeCDF											
339.8597	24.465	24.456	0	1.001	262758485	41676905	60709	151772	687		
341.8567	24.465	24.456	0	1.001	163983928	26282671	38977	97442	674	1.602(1.320-1.780)	
A F1 PeCDFs											
339.8597	20.479						1776	4440			
341.8567	20.479						2623	6557			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.619	23.750	-8	1.025	2002567	292922	60709	151772	5		
341.8567	23.619	23.750	-8	1.025	1245009	163117	38977	97442	4	1.608(1.320-1.780)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.187	25.179	0	1.372	76283917	11576601	9324	23310	1242		
369.8919	25.187	25.179	0	1.372	46781112	7012388	7763	19407	903	1.631(1.320-1.780)	
1,2,3,7,8-PeCDD											
355.8546	25.215	25.209	0	1.001	171633729	25825397	10066	25165	2566		
357.8516	25.215	25.209	0	1.001	105932821	15859759	6839	17097	2319	1.620(1.320-1.780)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.021						10066	25165			
357.8516	24.021						6839	17097			
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.039	31.031	0	0.955	51876836	11859387	26075	65187	455		
385.8610	31.039	31.031	0	0.955	98241295	21924863	44587	111467	492	0.528(0.430-0.590)	
1,2,3,4,7,8-HxCDF											
373.8208	31.052	31.047	0	1.000	229608795	53178610	88240	220600	603		
375.8178	31.052	31.047	0	1.000	183804899	42370911	70174	175435	604	1.249(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.185	31.183	0	0.960	58847790	13270175	26075	65187	509		
385.8610	31.185	31.183	0	0.960	111935693	25218327	44587	111467	566	0.526(0.430-0.590)	
1,2,3,6,7,8-HxCDF											
373.8208	31.212	31.204	0	1.001	246473575	54032005	88240	220600	612		
375.8178	31.212	31.204	0	1.001	195171944	42407452	70174	175435	604	1.263(1.050-1.430)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.917	31.907	1	0.982	56234535	15128373	26075	65187	580		
385.8610	31.917	31.907	1	0.982	106470815	28217320	44587	111467	633	0.528(0.430-0.590)	
2,3,4,6,7,8-HxCDF											
373.8208	31.931	31.923	0	1.000	232402377	62226530	88240	220600	705		
375.8178	31.931	31.923	0	1.000	185314243	49569206	70174	175435	706	1.254(1.050-1.430)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.663	32.660	0	1.005	54628388	15801465	26075	65187	606		
385.8610	32.663	32.660	0	1.005	104134348	30311790	44587	111467	680	0.525(0.430-0.590)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.676	32.674	0	1.000	223061592	64471981	88240	220600	731		
375.8178	32.676	32.674	0	1.000	177239894	51381315	70174	175435	732	1.259(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.786						88240	220600			
375.8178	30.786						70174	175435			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.490	32.479	1		85564061	24378387	21451	53627	1136		
403.8529	32.490	32.479	1		68164957	19344981	21836	54590	886	1.255(1.050-1.430)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.077	32.075	0	0.987	62123589	18482654	21451	53627	862		
403.8529	32.077	32.075	0	0.987	47937461	14145716	21836	54590	648	1.296(1.050-1.430)	
1,2,3,4,7,8-HxCDD											
389.8157	32.091	32.088	0	1.000	148778319	43491737	38792	96980	1121		
391.8127	32.091	32.088	0	1.000	118169776	34920971	43886	109715	796	1.259(1.050-1.430)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.184	32.173	1	0.991	69670064	19231390	21451	53627	897		
403.8529	32.184	32.173	1	0.991	56025317	15339693	21836	54590	702	1.244(1.050-1.430)	
1,2,3,6,7,8-HxCDD											
389.8157	32.197	32.189	0	1.000	167784065	46262008	38792	96980	1193		
391.8127	32.197	32.189	0	1.000	131718125	36205688	43886	109715	825	1.274(1.050-1.430)	
1,2,3,7,8,9-HxCDD											
389.8157	32.503	32.493	1	1.013	175177059	50246715	38792	96980	1295		
391.8127	32.503	32.493	1	1.013	139539522	39529309	43886	109715	901	1.255(1.050-1.430)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.352						38792	96980			
391.8127	31.352						43886	109715			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.058	34.056	0	1.048	30129000	9593507	42080	105200	228		
419.8220	34.058	34.056	0	1.048	68773150	22218647	57189	142972	389	0.438(0.370-0.510)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.070	34.068	0	1.000	158662033	51914196	166882	417205	311		
409.7789	34.070	34.068	0	1.000	149206518	49266677	159020	397550	310	1.063(0.880-1.200)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.188	35.181	0	1.083	25568472	7880043	42080	105200	187		
419.8220	35.188	35.181	0	1.083	55979390	17332604	57189	142972	303	0.457(0.370-0.510)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.201	35.191	1	1.000	125722363	37510468	166882	417205	225		
409.7789	35.188	35.191	0	1.000	120697734	35851041	159020	397550	225	1.042(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.617						166882	417205			
409.7789	34.617						159020	397550			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.884	34.877	0	1.074	42570265	13243159	21342	53355	621		
437.8140	34.884	34.877	0	1.074	38869396	12442648	23503	58757	529	1.095(0.880-1.200)	

Signal	RT (min.)	Exp RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.897	34.889	0	1.000	96820967	30620676	44809	112022	683		
425.7737	34.897	34.889	0	1.000	89955708	27776346	46391	115977	599	1.076(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						44809	112022			
425.7737	35.261						46391	115977			
13C-OCDD											
469.7779	37.317	37.310	0	1.149	57343058	16169139	11474	28685	1409		
471.7750	37.317	37.310	0	1.149	64597651	17958200	13149	32872	1366	0.888(0.760-1.020)	
OCDF											
441.7428	37.425	37.417	0	1.003	150685597	41323734	15600	39000	2649		
443.7399	37.425	37.417	0	1.003	166875317	44653715	16482	41205	2709	0.903(0.760-1.020)	
OCDD											
457.7377	37.329	37.317	1	1.000	118222640	32247518	14017	35042	2301		
459.7348	37.329	37.317	1	1.000	131137440	35467570	15315	38287	2316	0.902(0.760-1.020)	

Reagents:

HRDXNIC_00032 Amount Added: 1.00 Units: mL

Report Date: 16-Nov-2017 09:38:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_7.d

Injection Date: 15-Nov-2017 15:54:11 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA

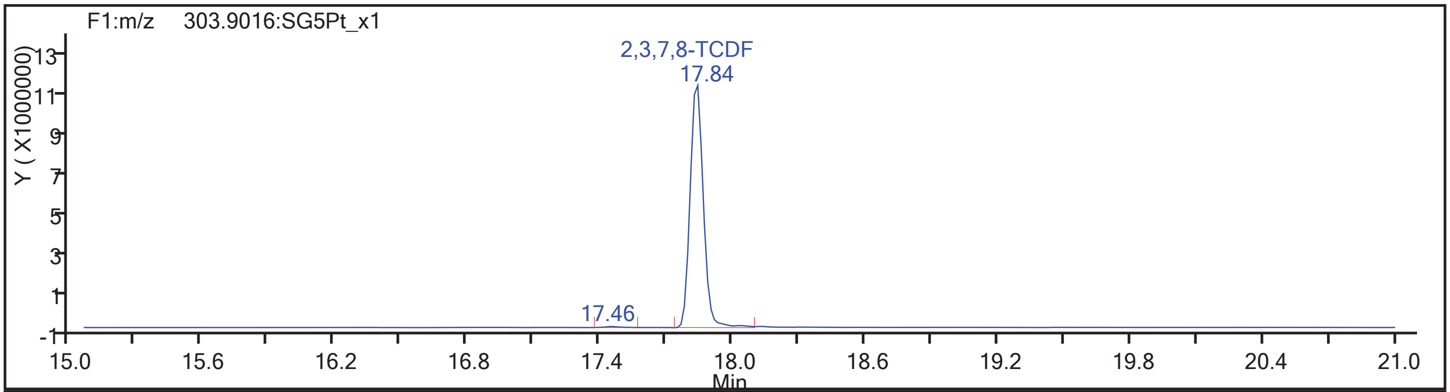
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

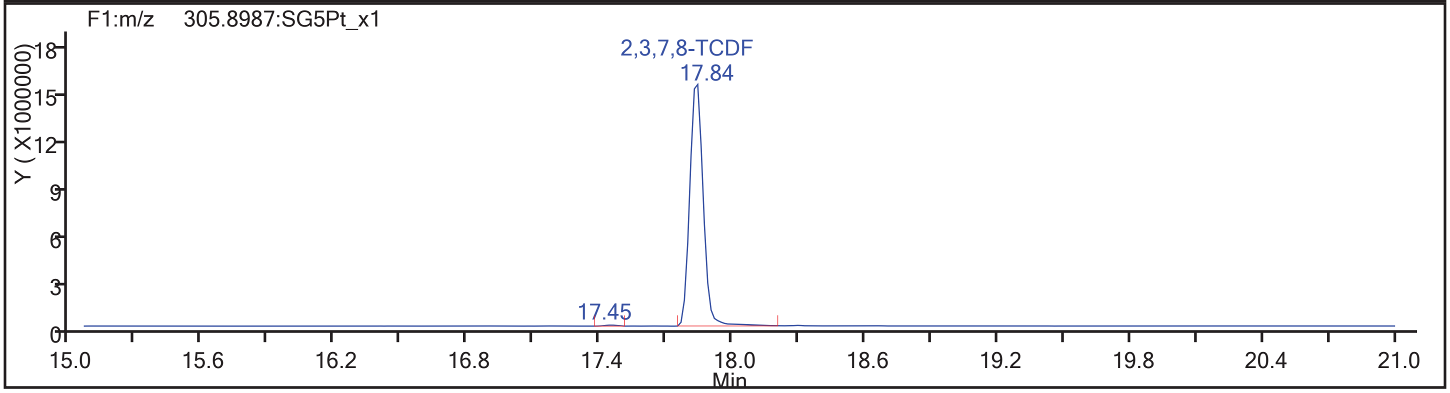
Client ID:

Worklist#: 194923 Sample Line#: 7

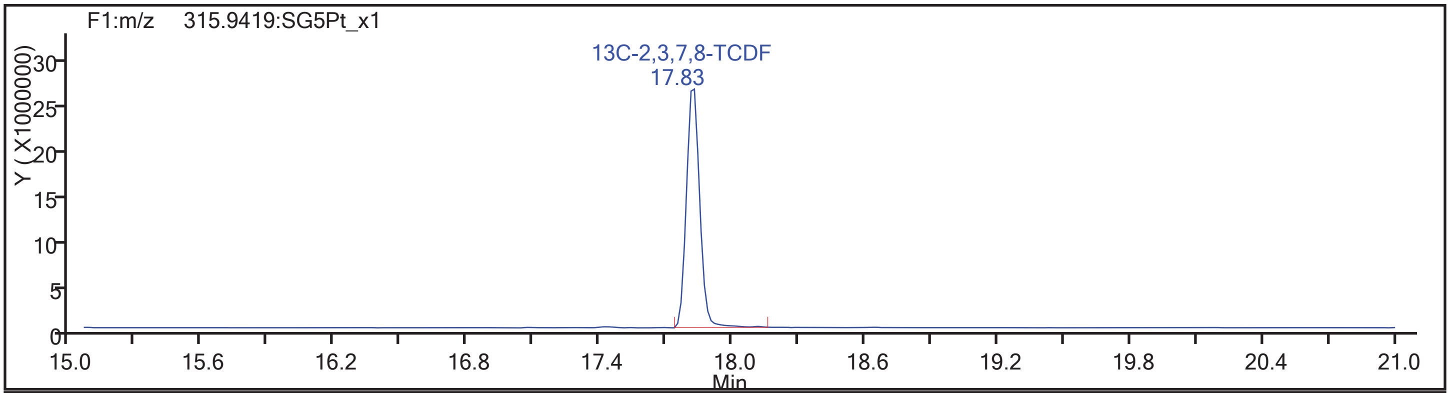
Column Type: Column Dia:

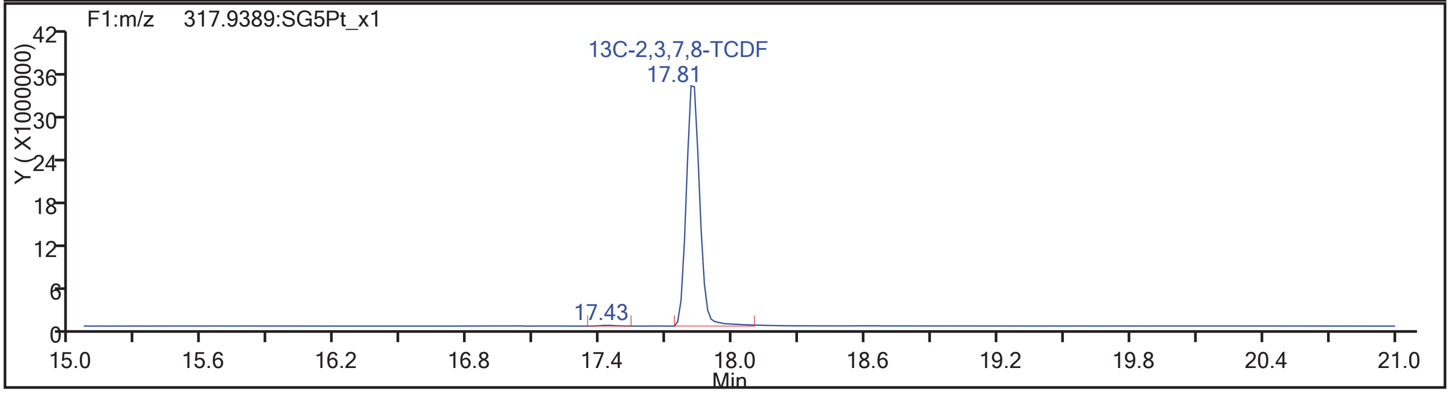
TCDF





TCDF Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_7.d		
Injection Date:	15-Nov-2017 15:54:11	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194923	Sample Line#:	7
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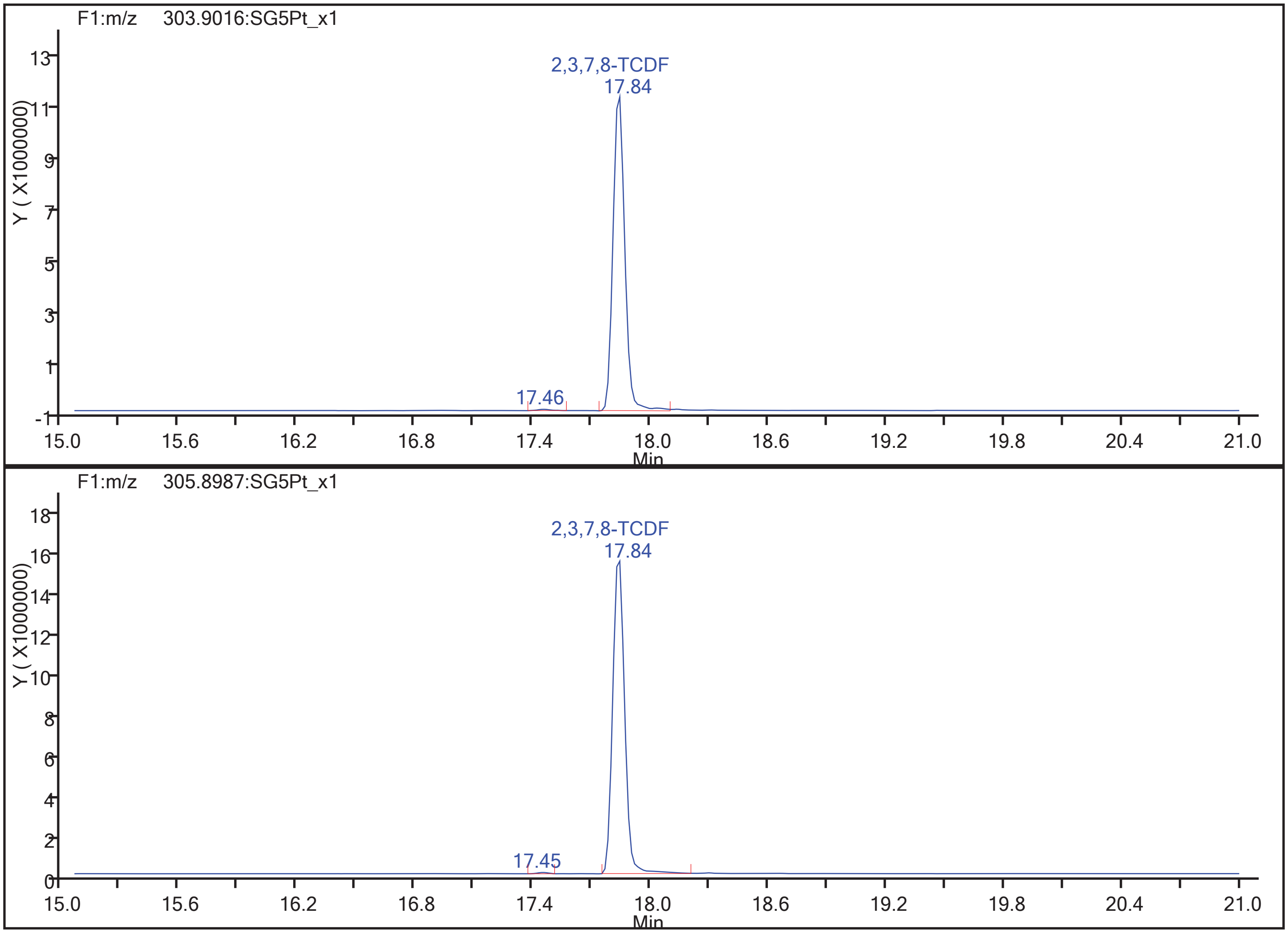
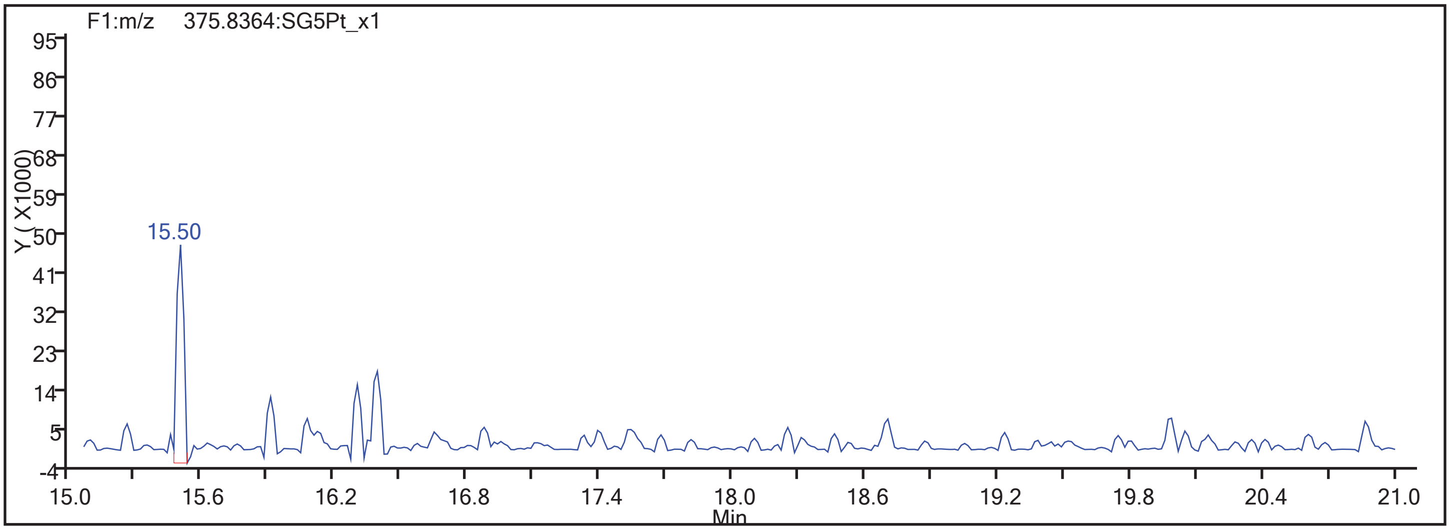


TCDF Interference Mass



Report Date: 16-Nov-2017 09:38:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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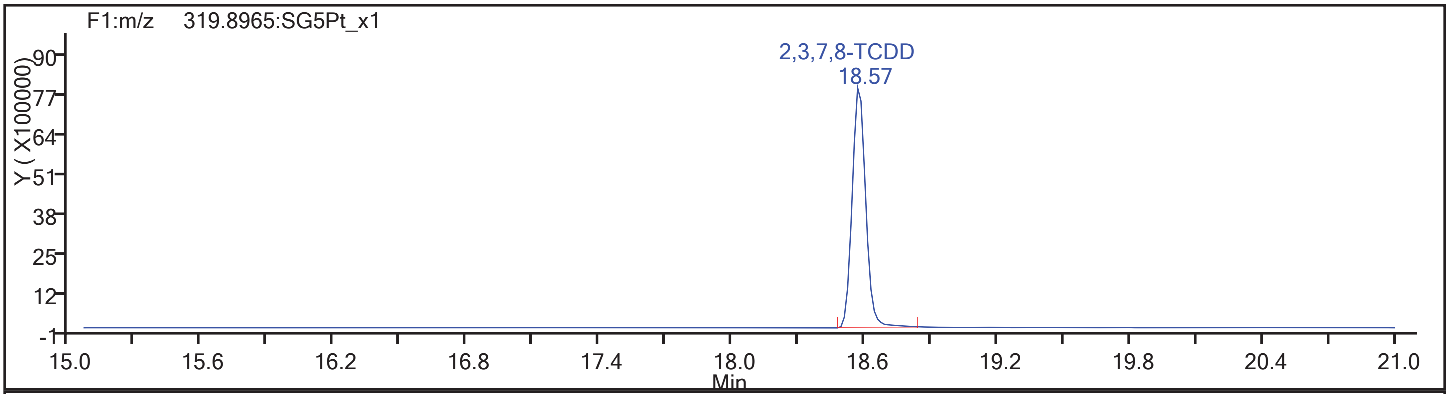
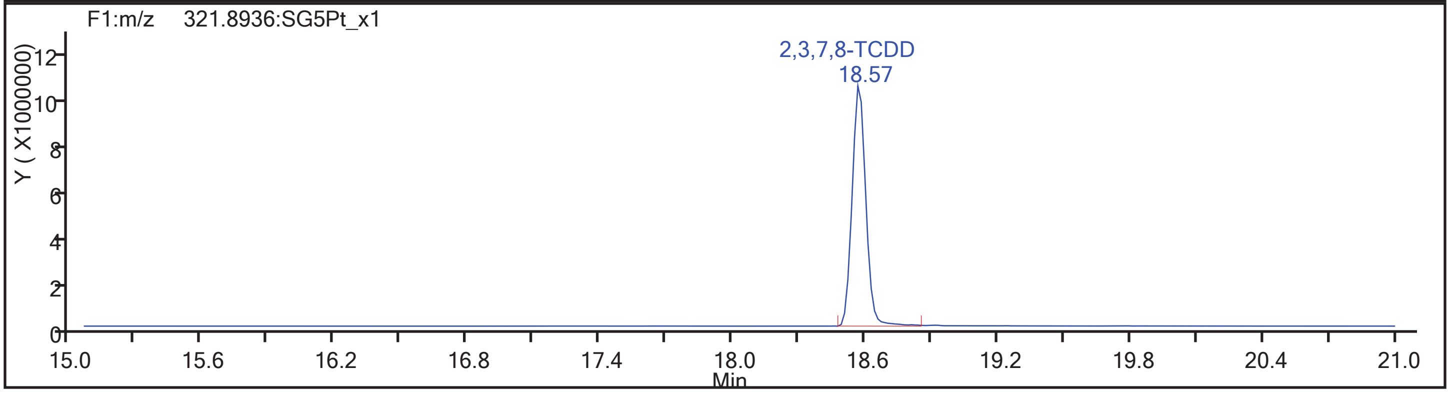
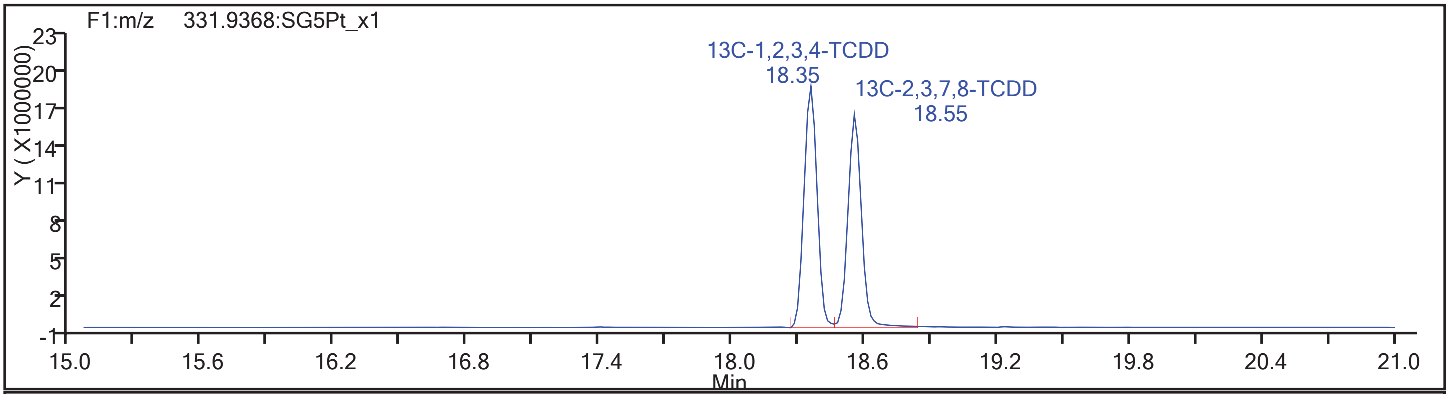
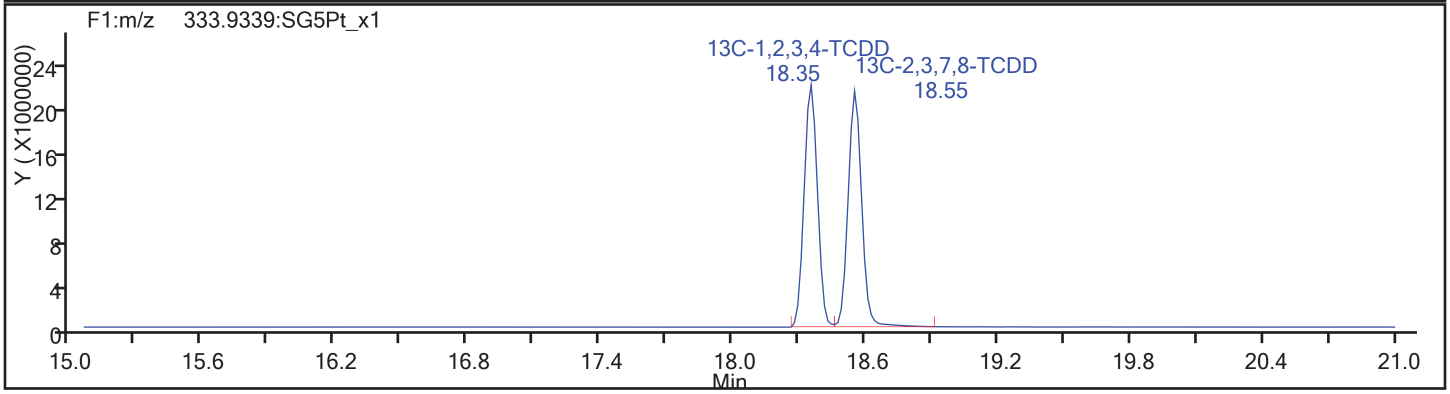
TCDD





TCDD Standards





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TestAmerica Sacramento

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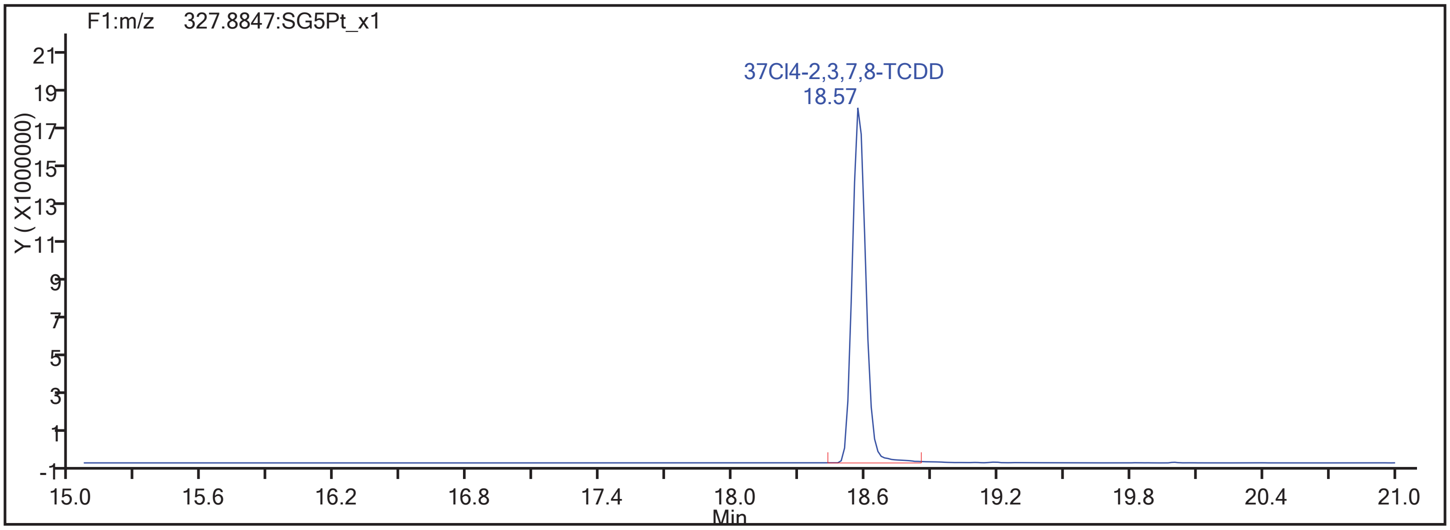
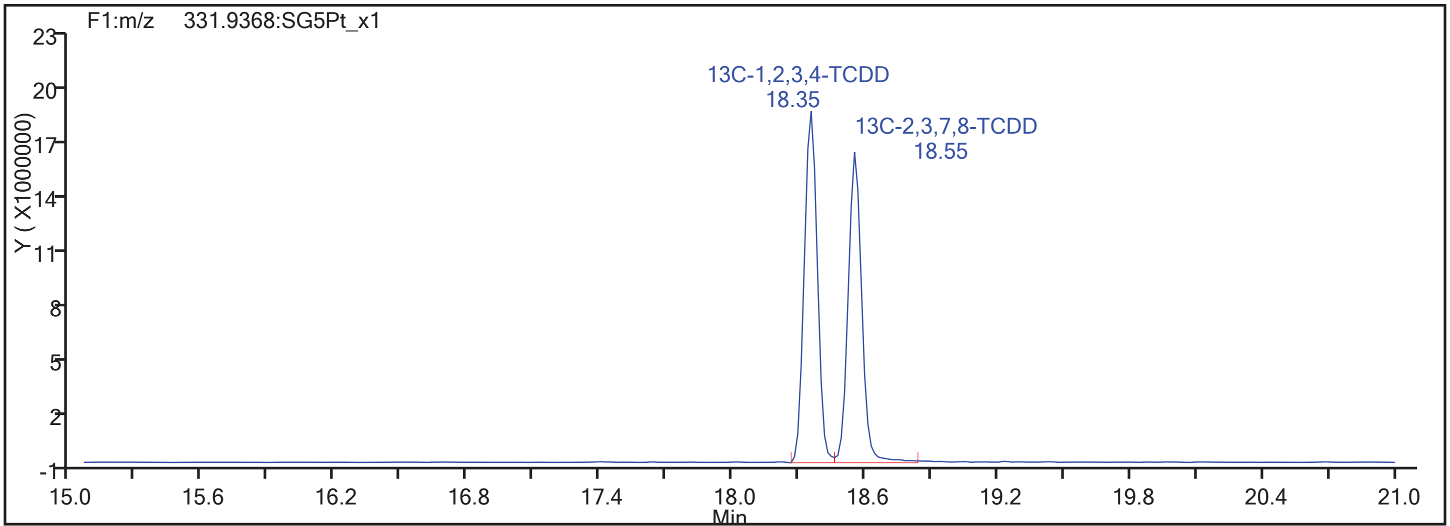
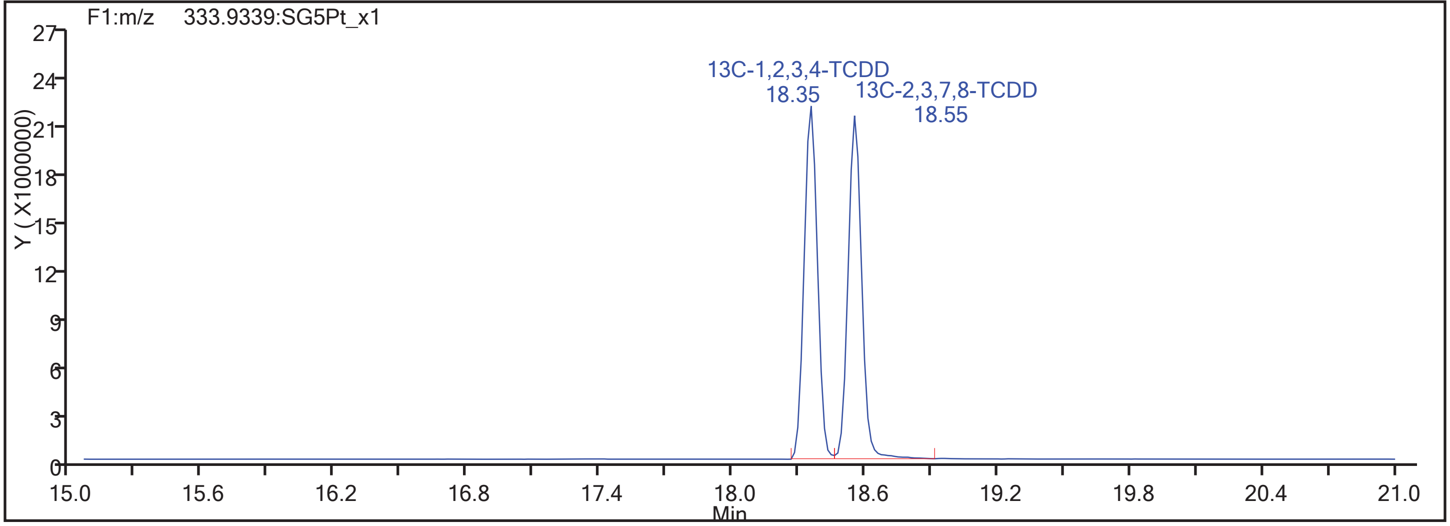
37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

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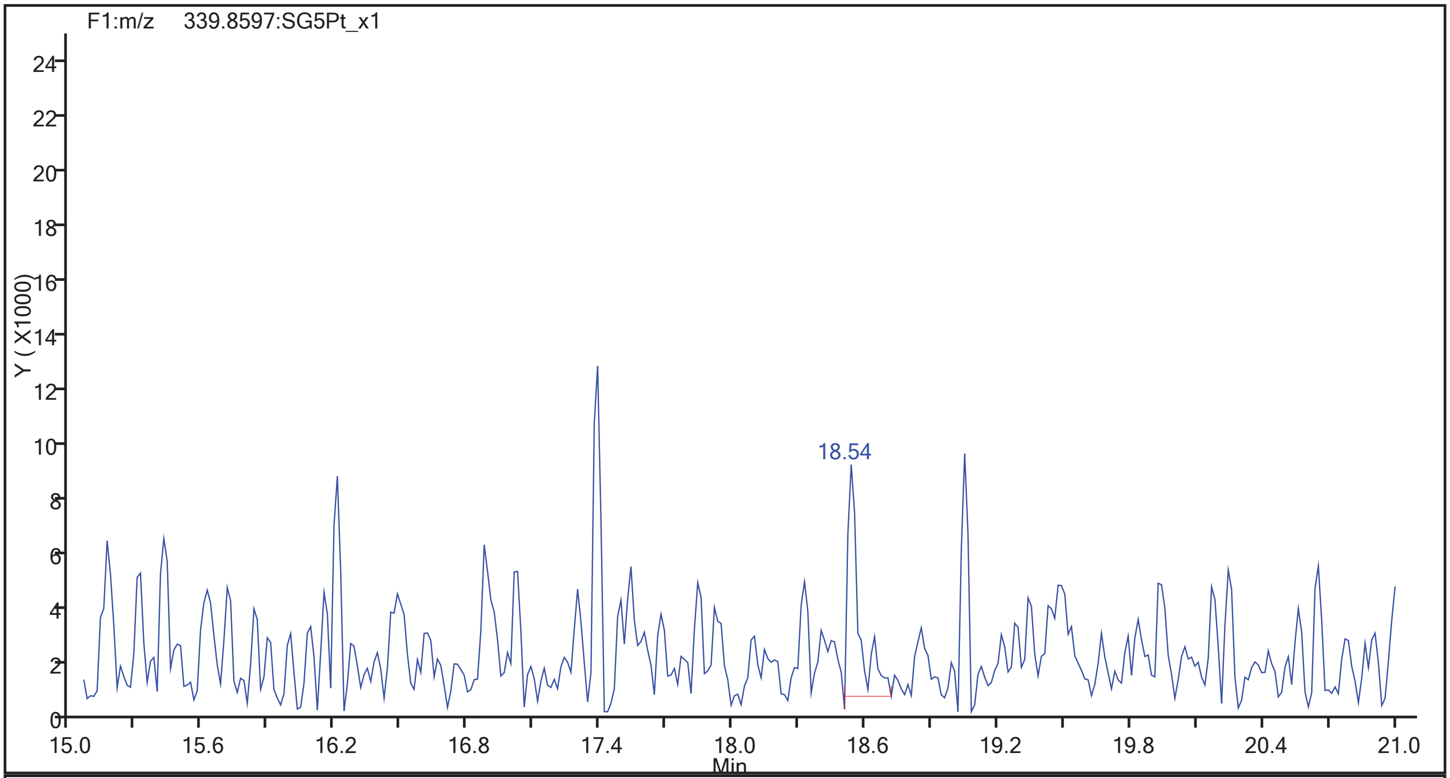
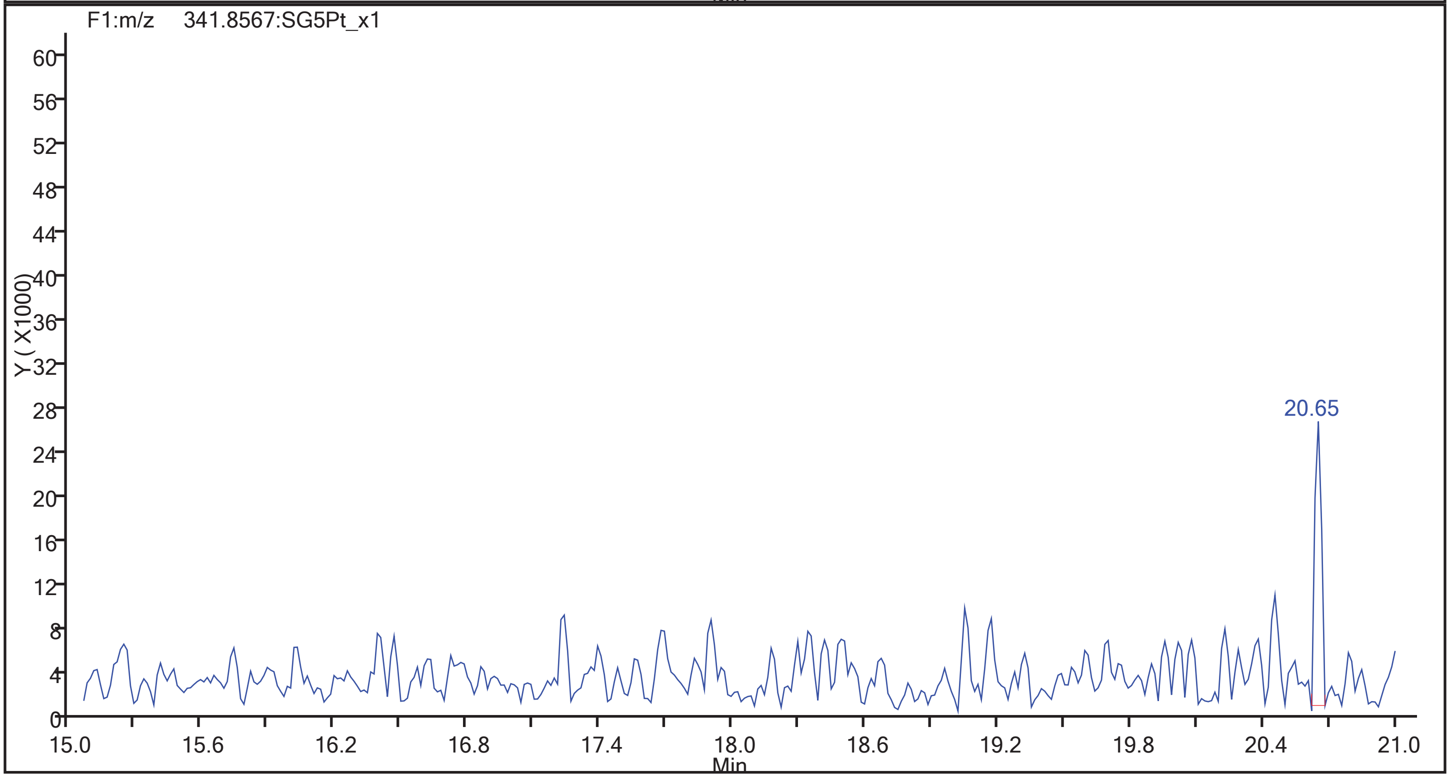
F1 PeCDFs





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TestAmerica Sacramento

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Client ID:			
Worklist#:	194923	Sample Line#:	7
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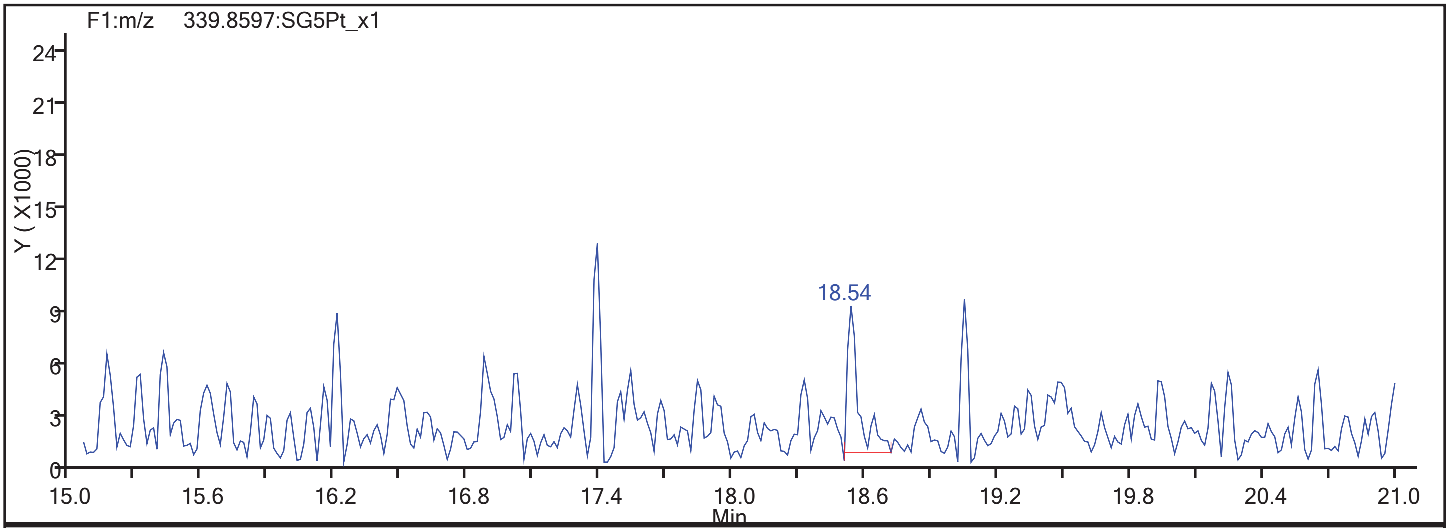
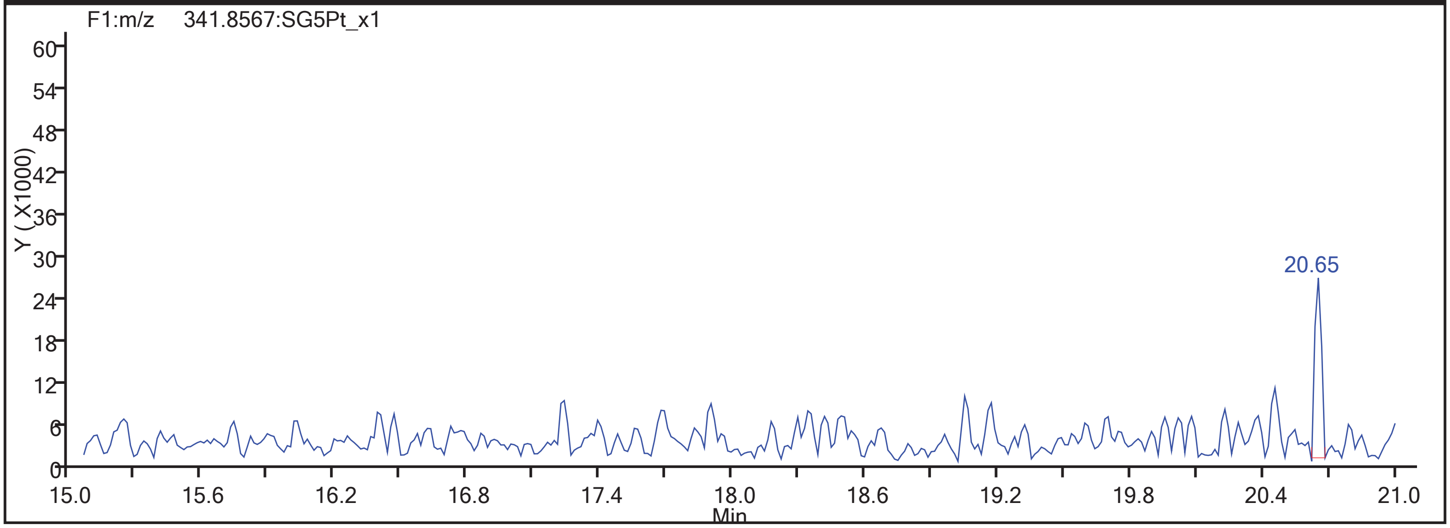
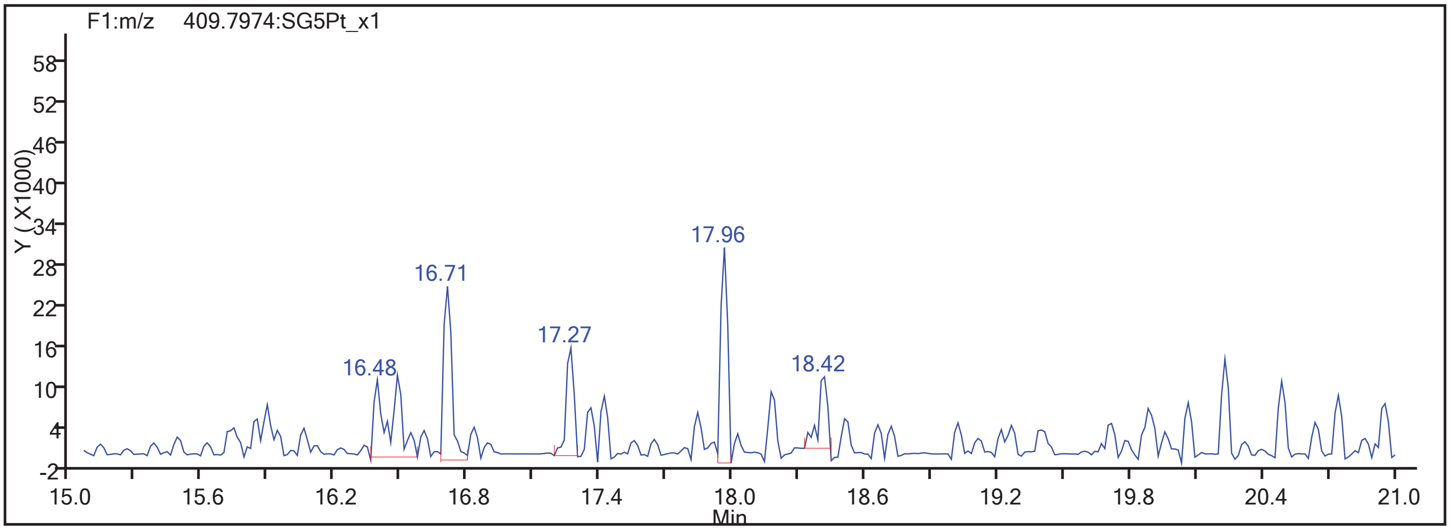
F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 16-Nov-2017 09:38:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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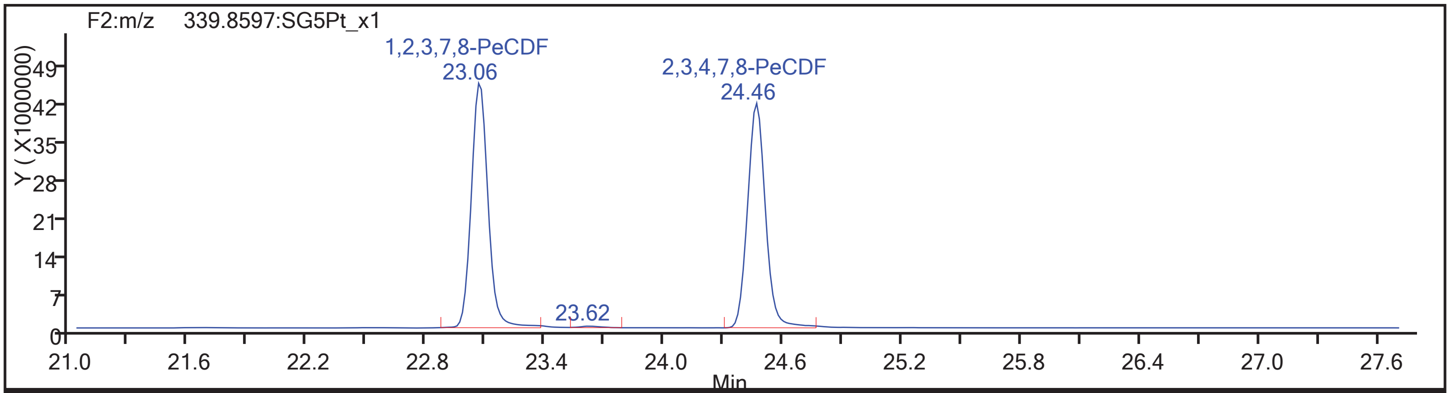
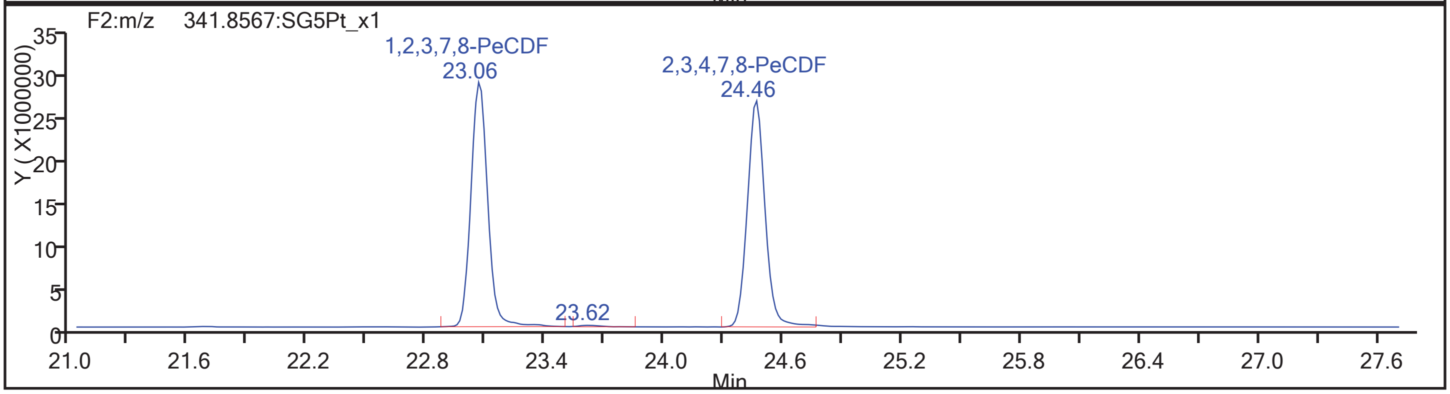
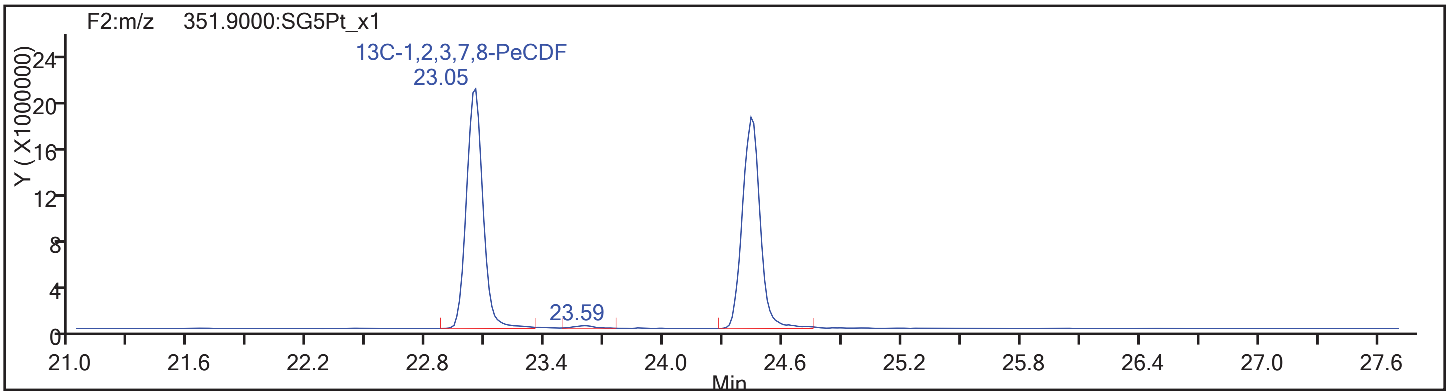
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194923	Sample Line#:	7
Column Type:		Column Dia:	

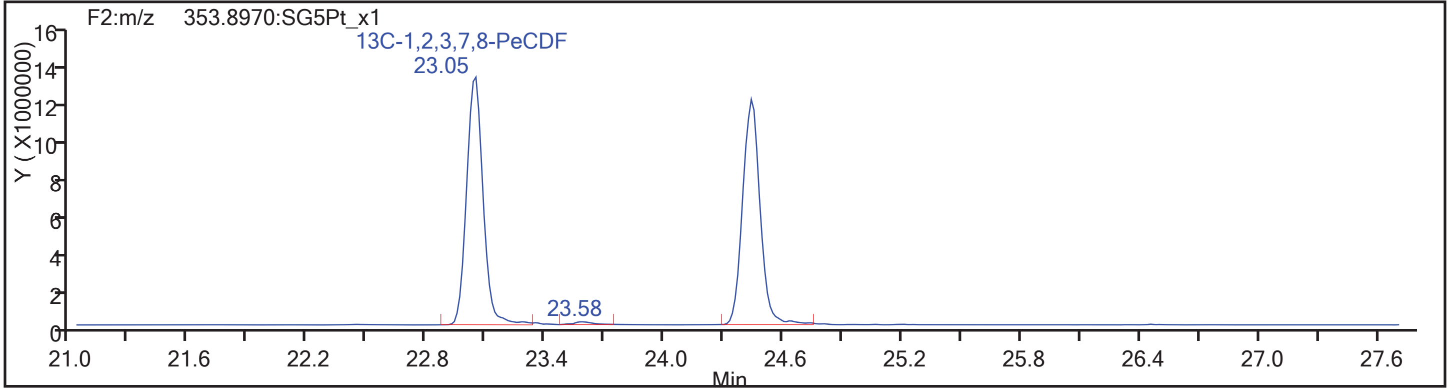
PeCDF





PeCDF Standards





TestAmerica Sacramento

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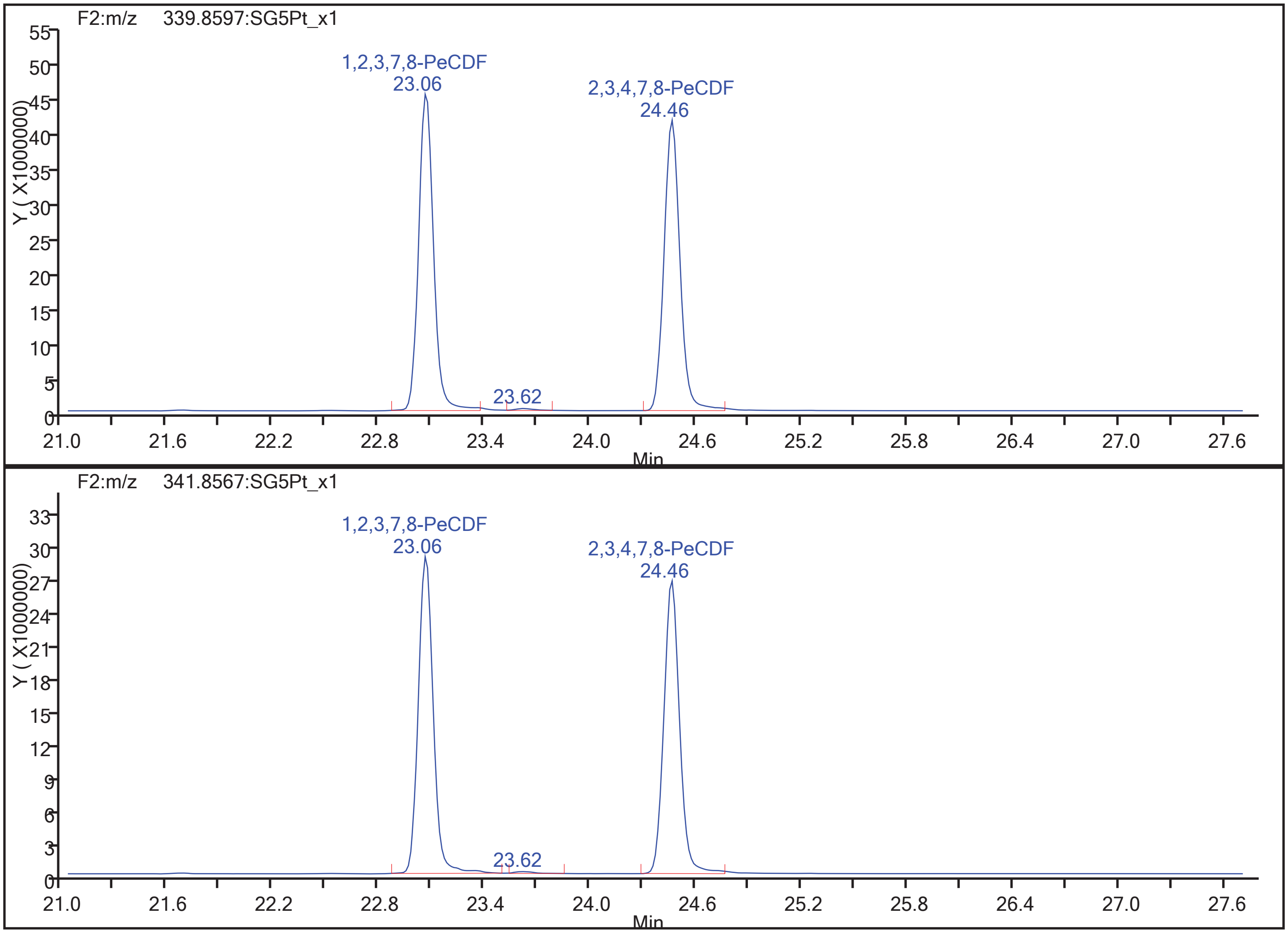
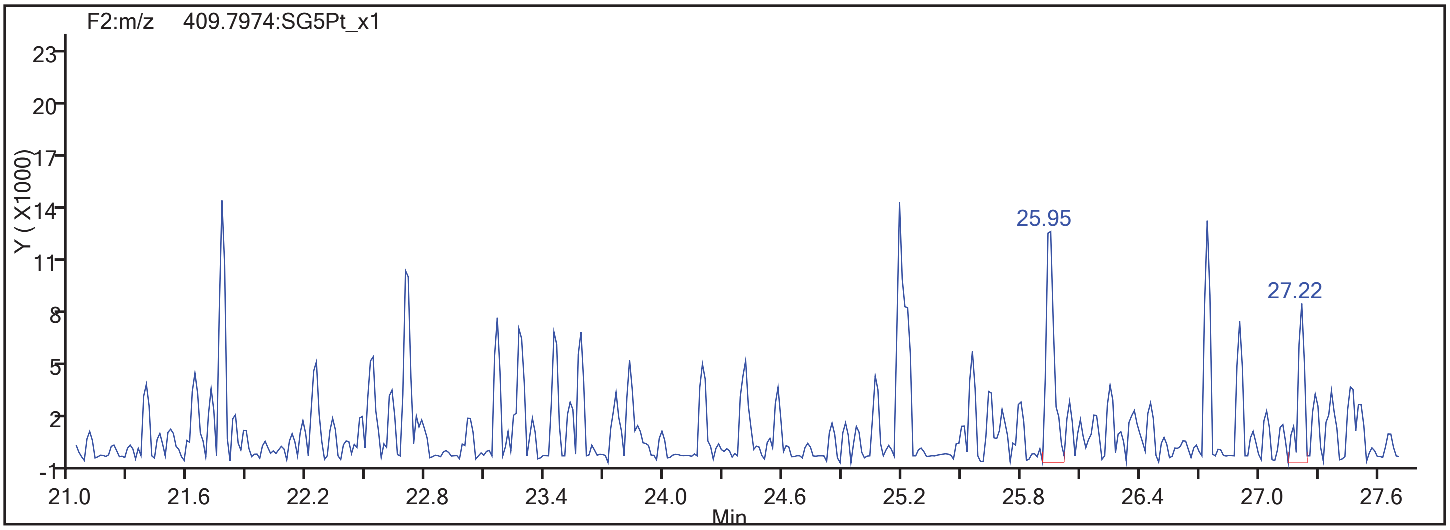
PeCDF



PeCDF Interference Mass



Report Date: 16-Nov-2017 09:38:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 15-Nov-2017 15:54:11
Injection Vol: 2.0 ul
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Column Dia:

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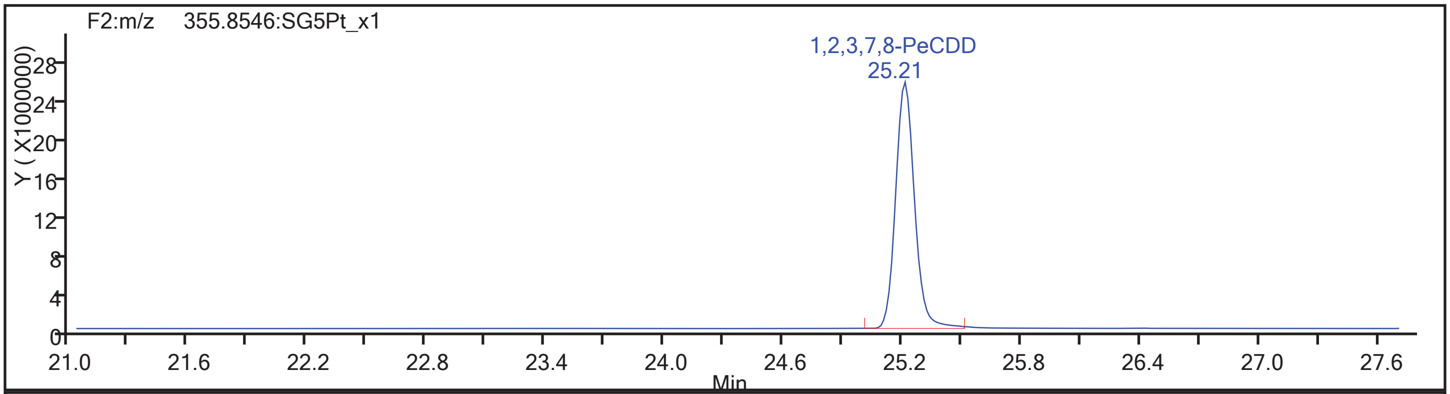
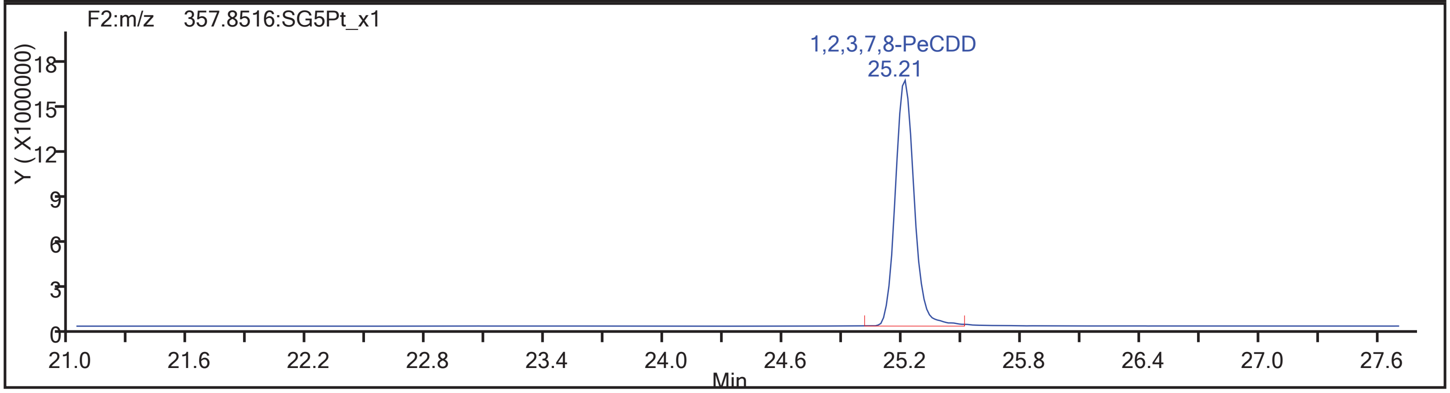
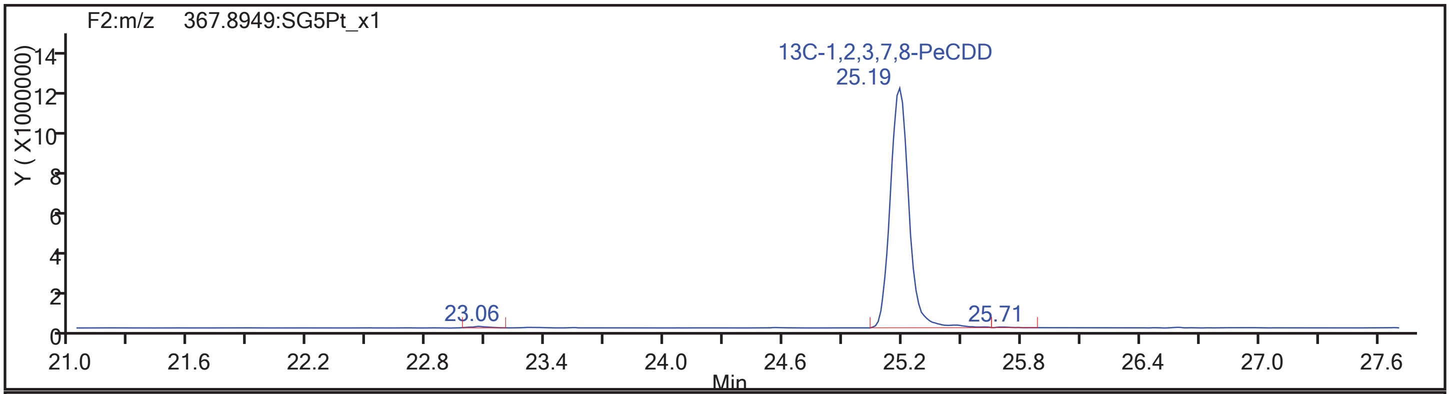
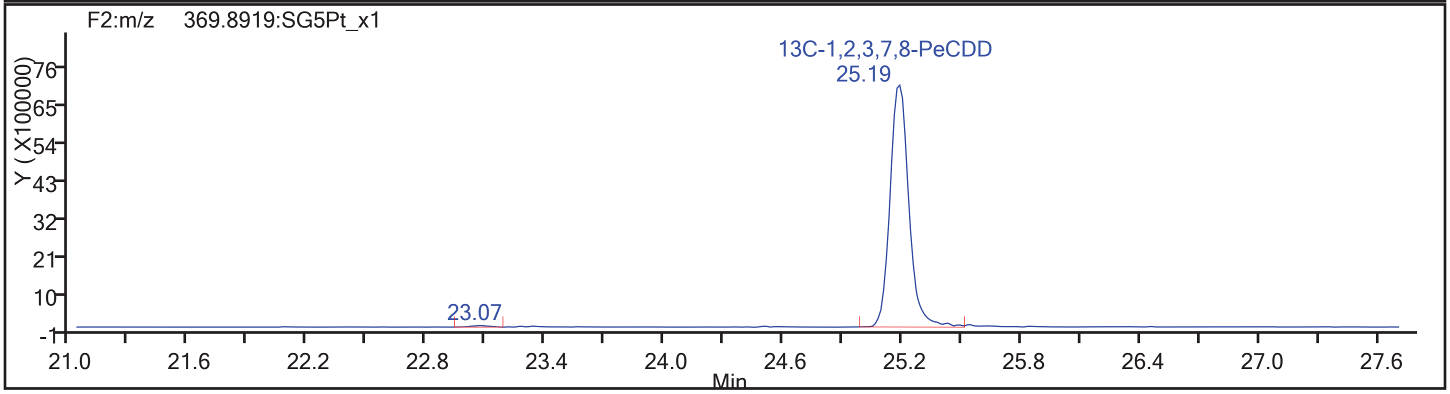




PeCDD Standards





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TestAmerica Sacramento

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Injection Date: 15-Nov-2017 15:54:11 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

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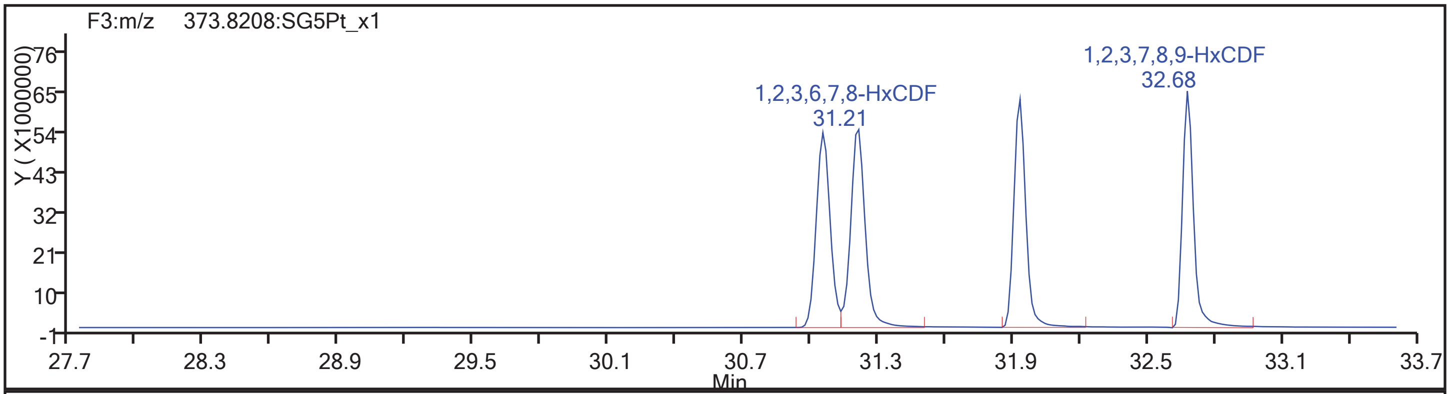
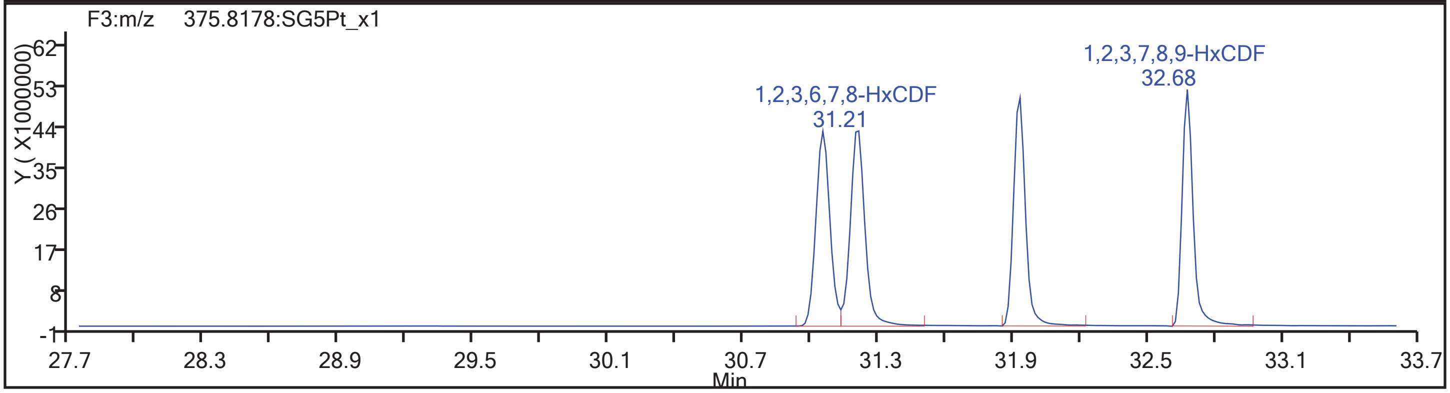
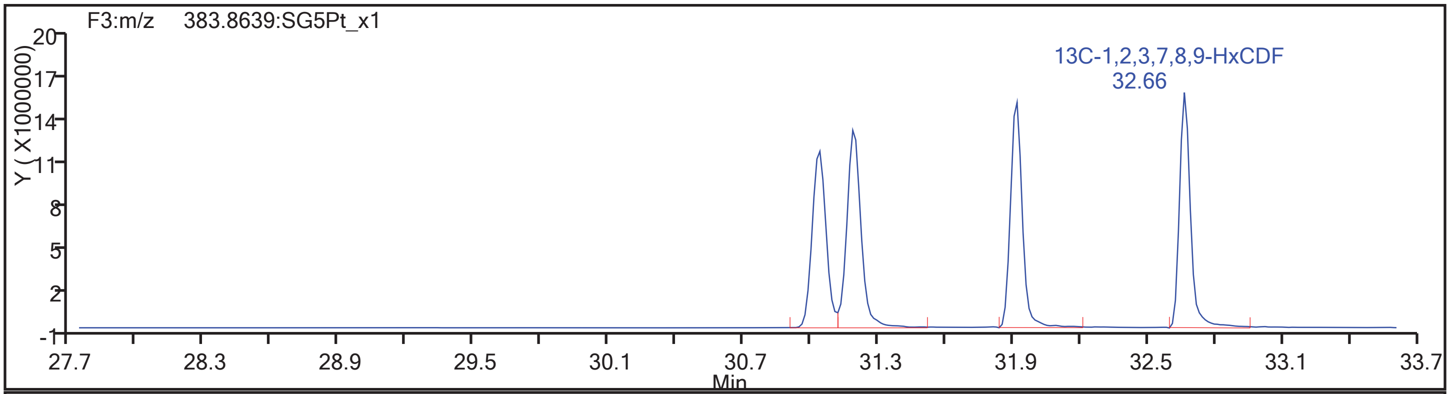
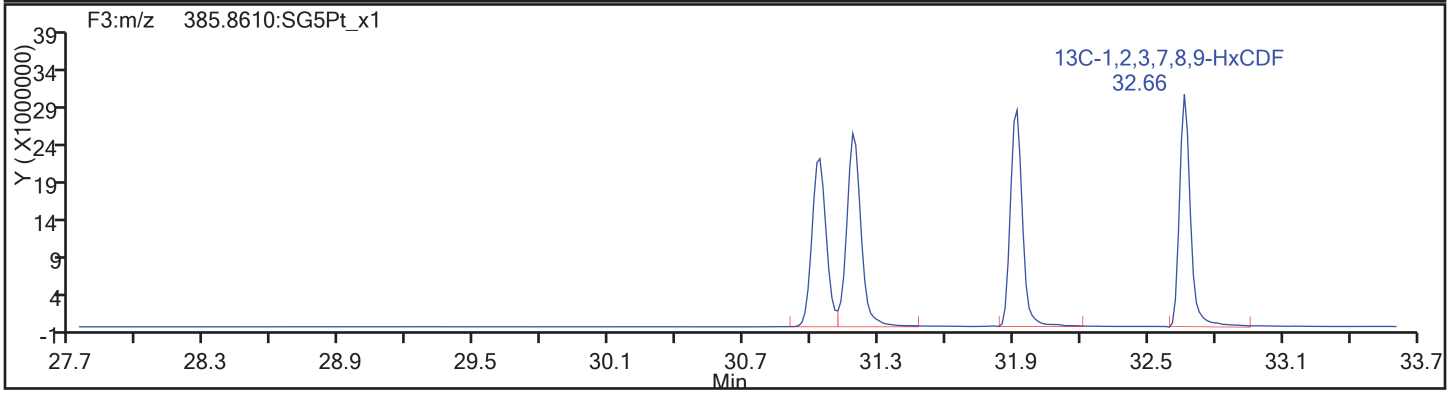




HxCDF Standards





TestAmerica Sacramento

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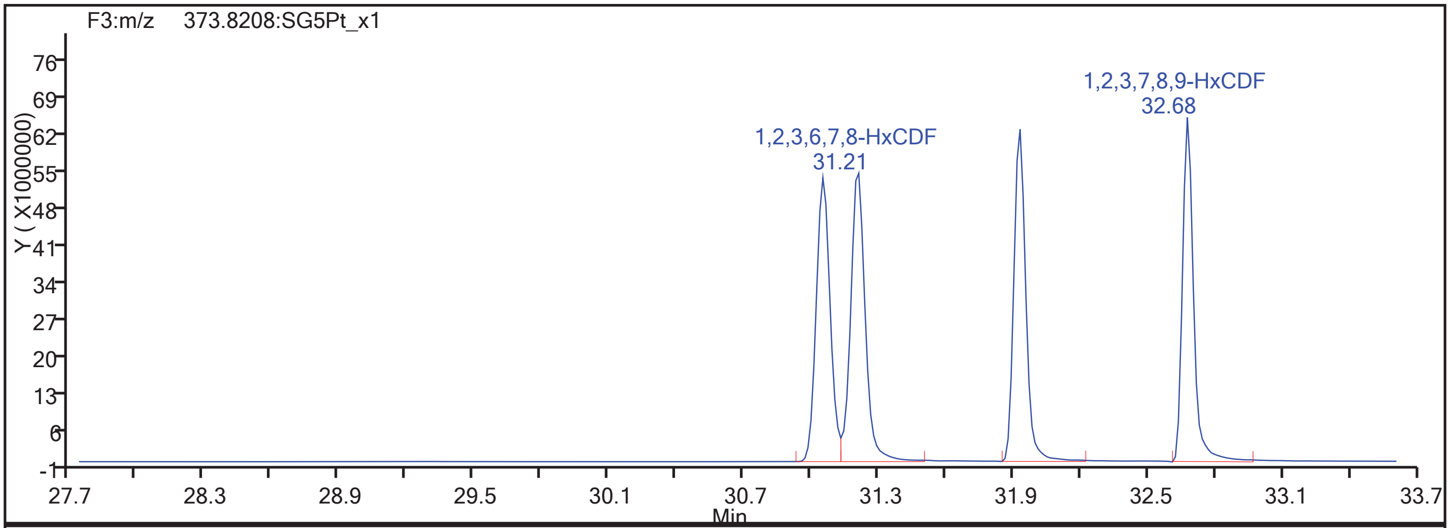
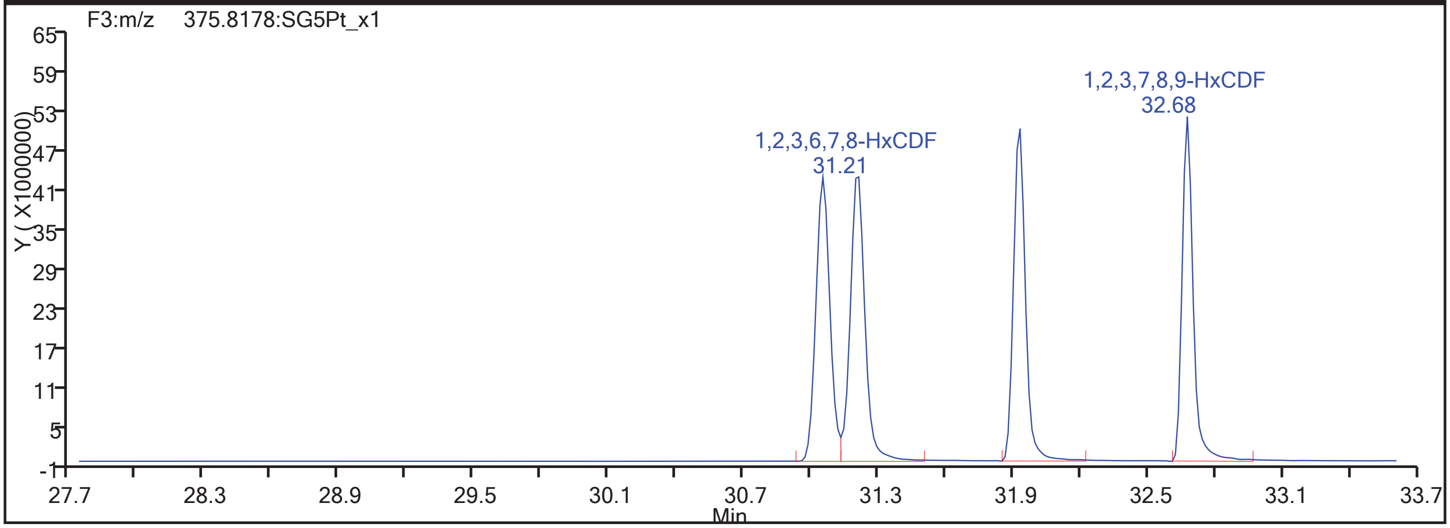
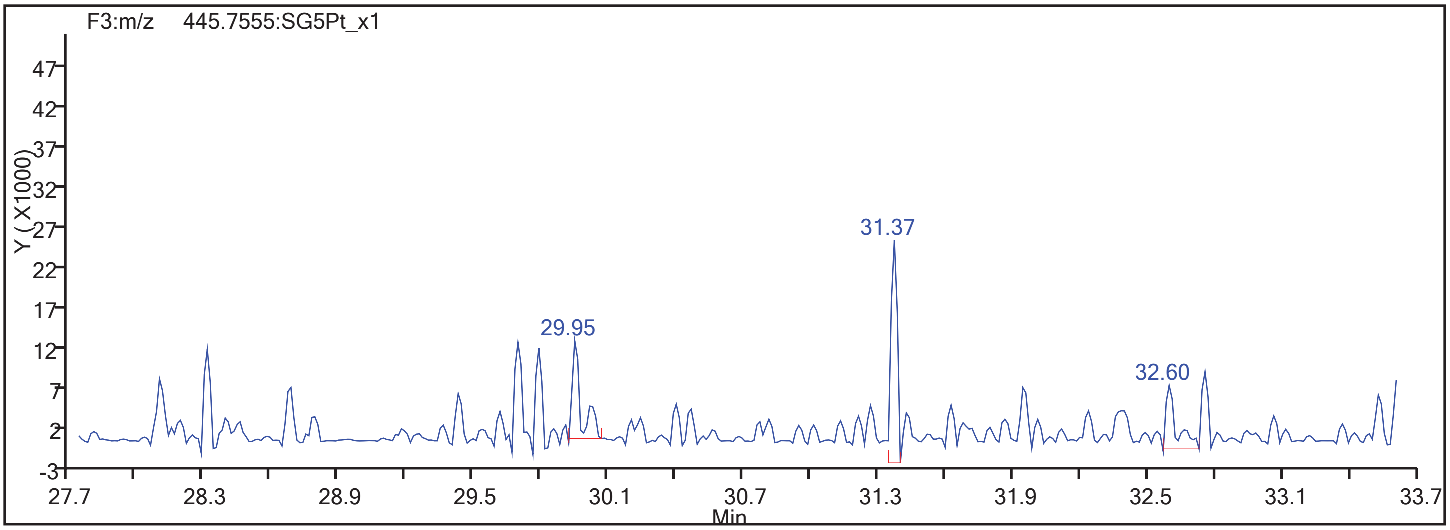




HxCDF Interference Mass



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TestAmerica Sacramento

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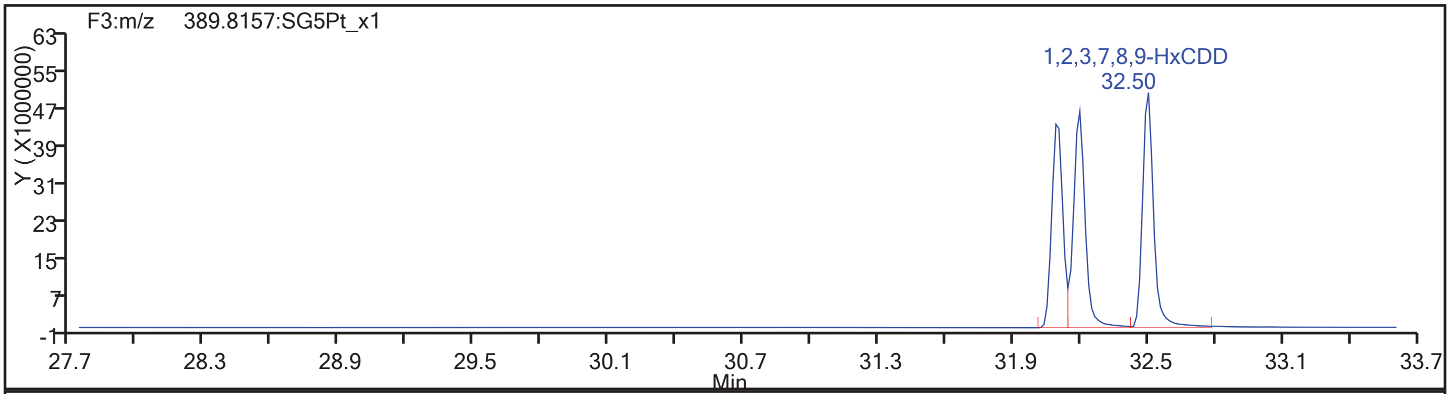
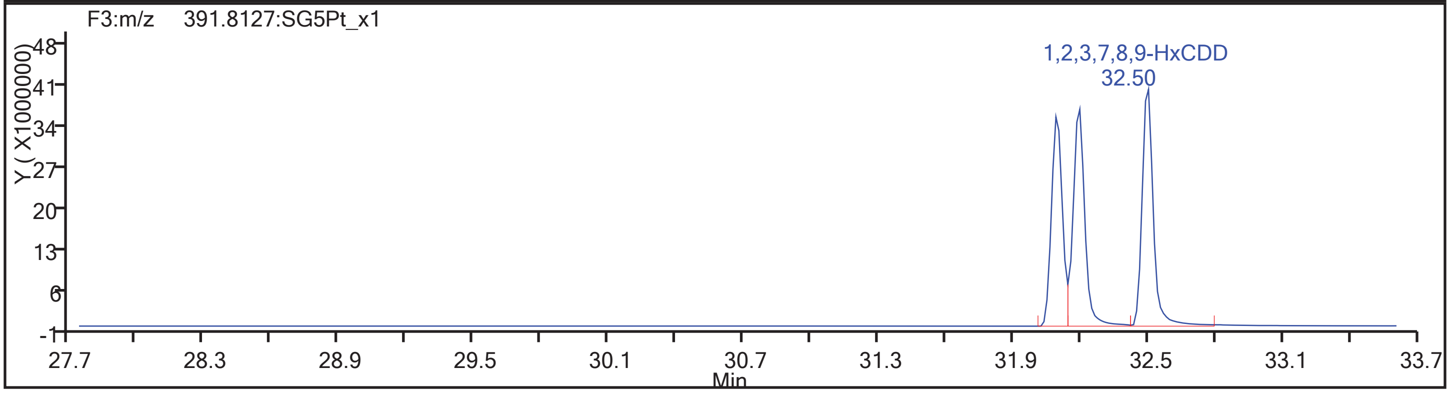
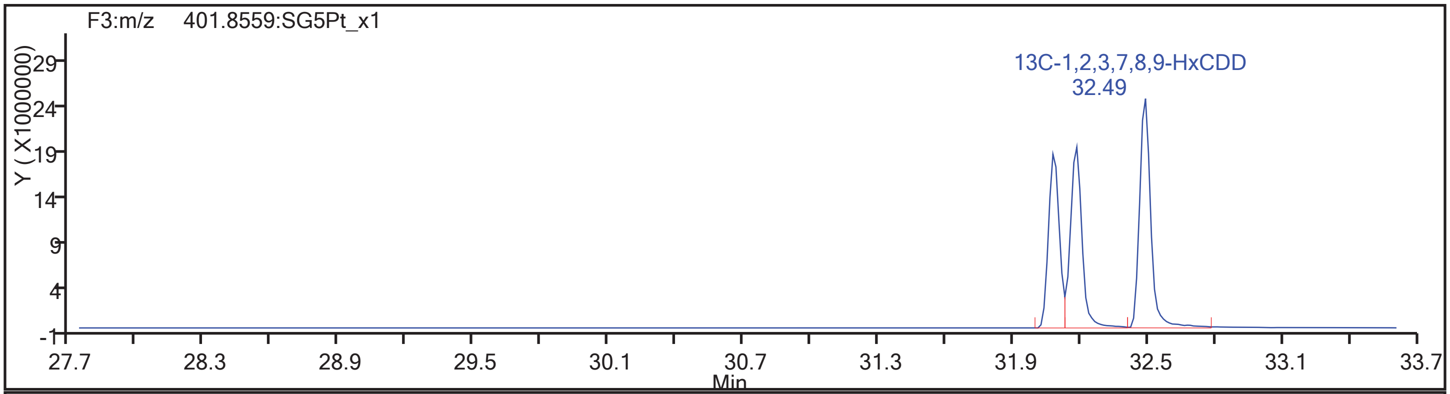
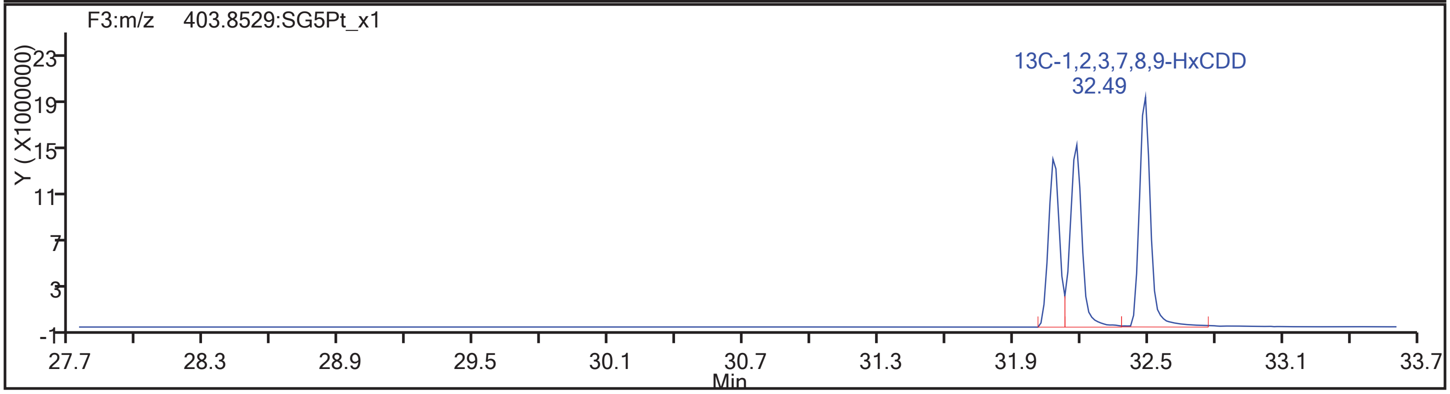




HxCDD Standards





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TestAmerica Sacramento

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Injection Date: 15-Nov-2017 15:54:11
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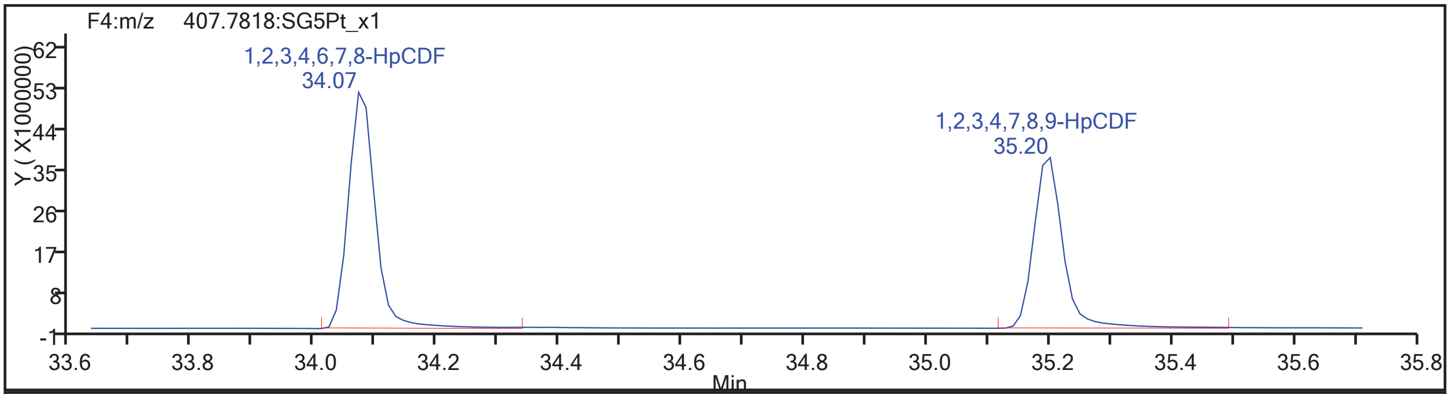

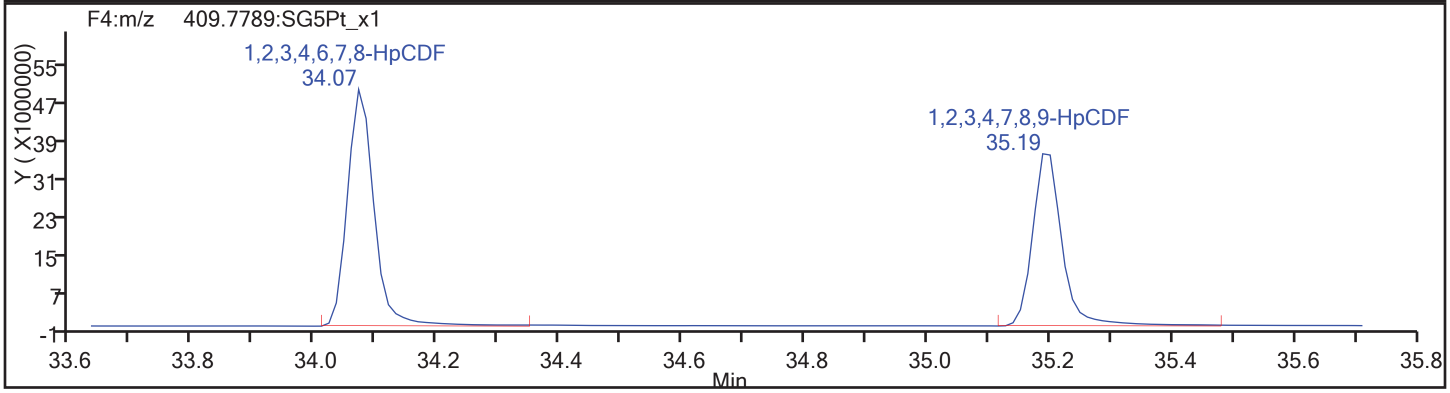

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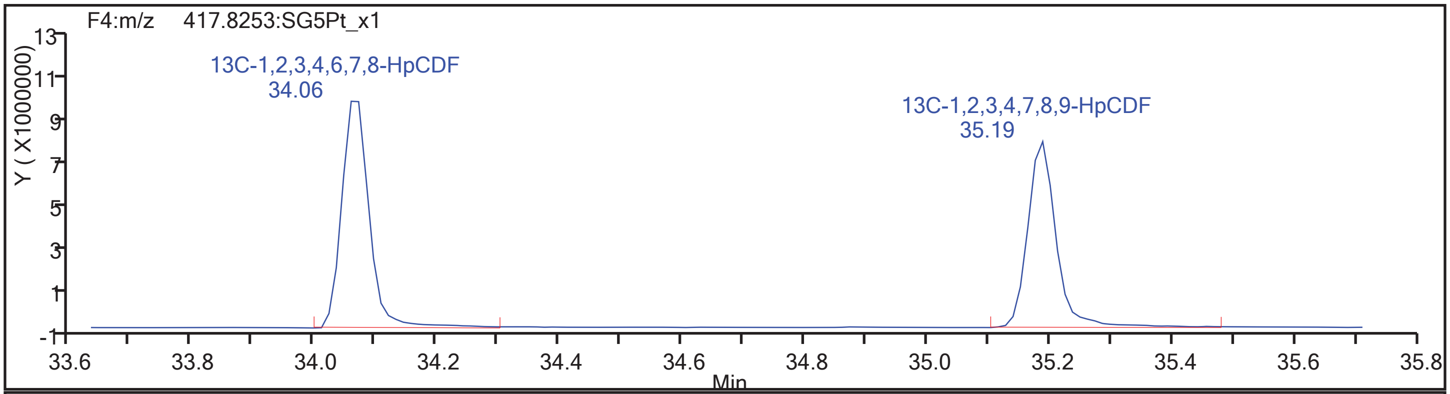

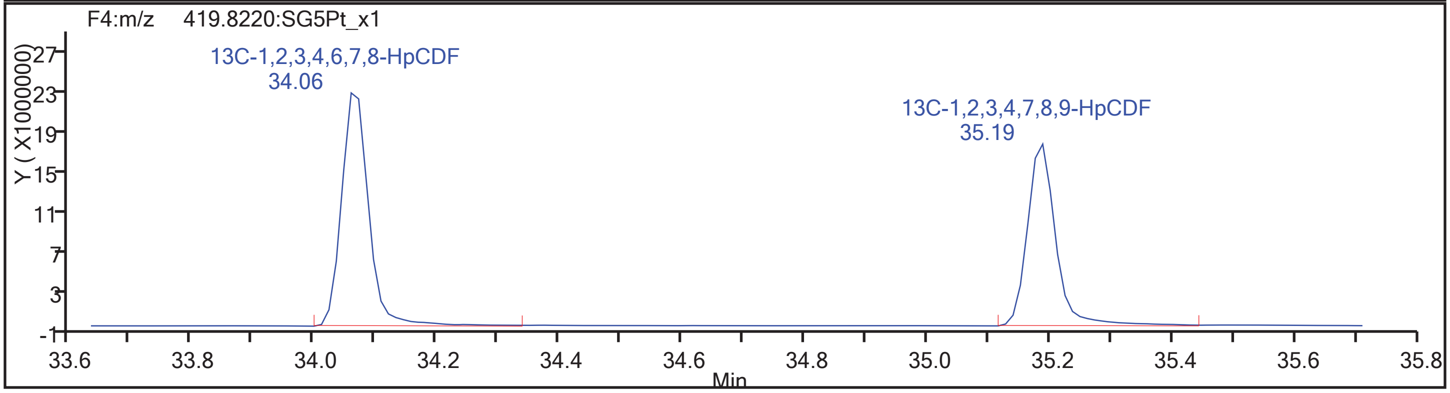

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TestAmerica Sacramento

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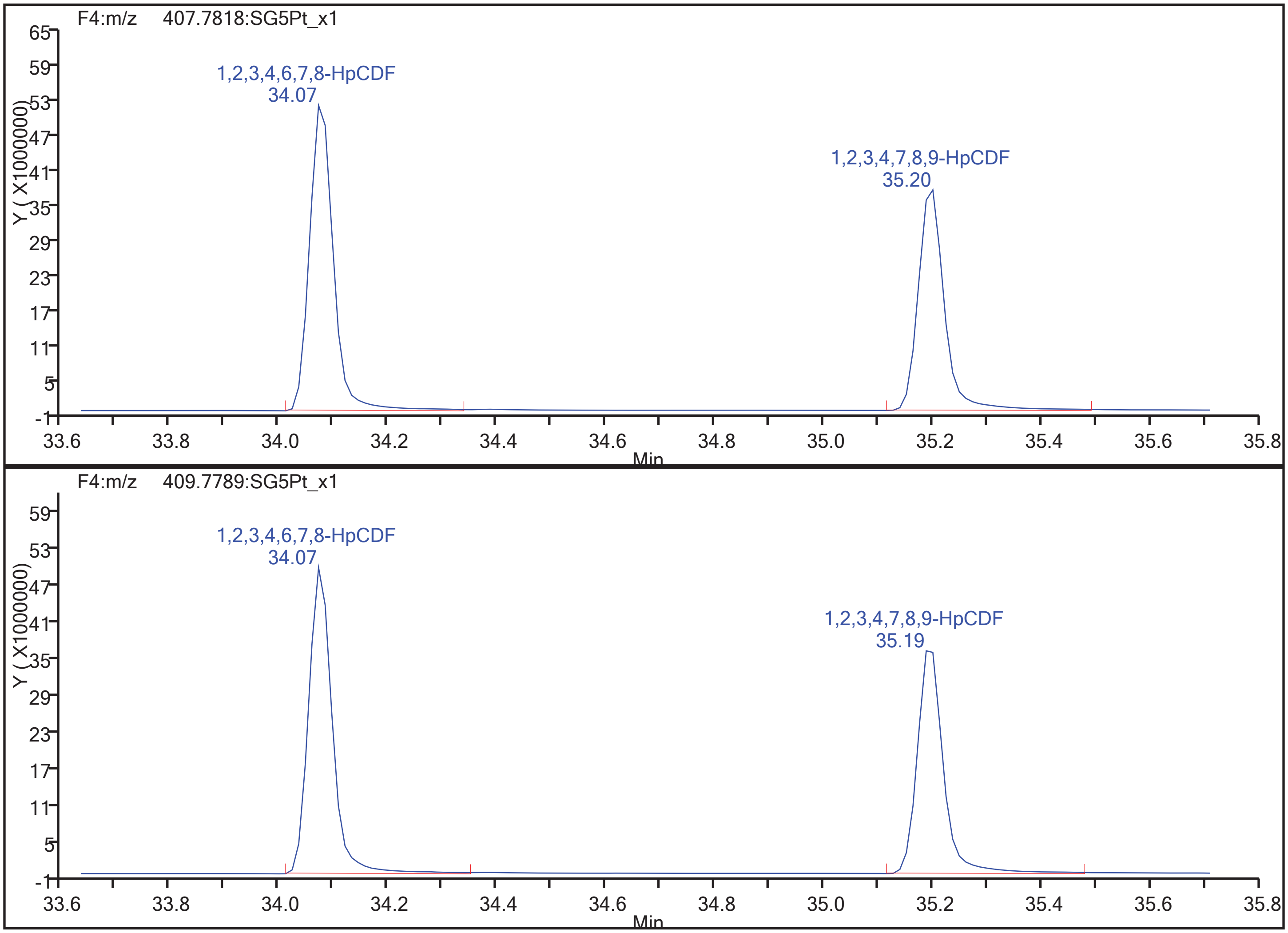
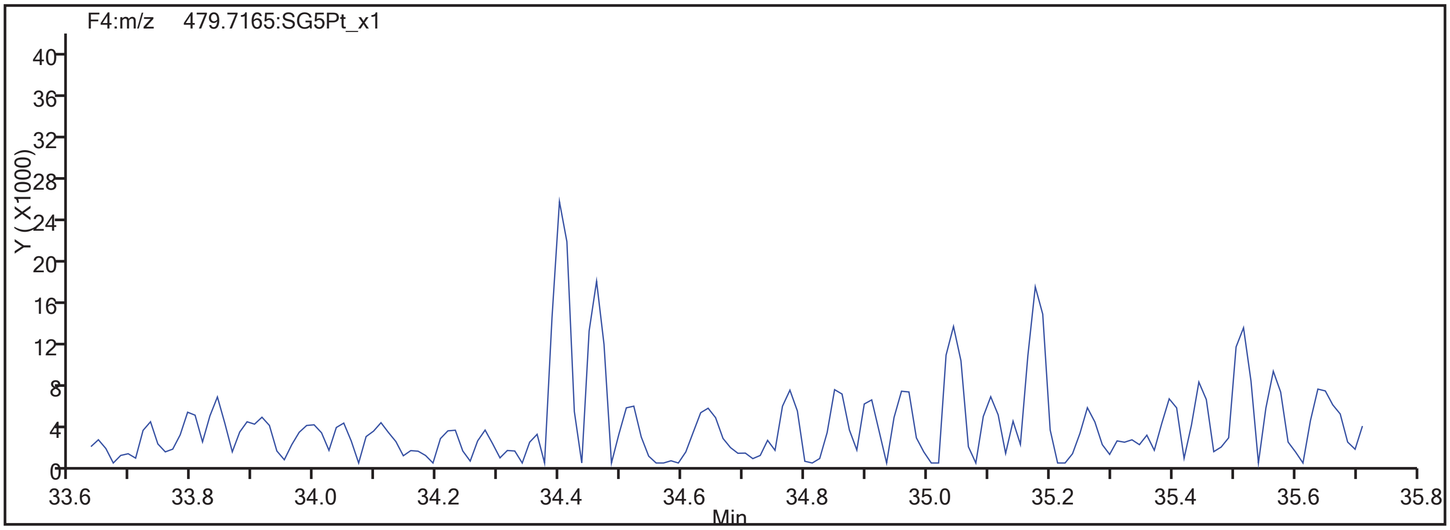


HpCDF Interference Mass



TestAmerica Sacramento

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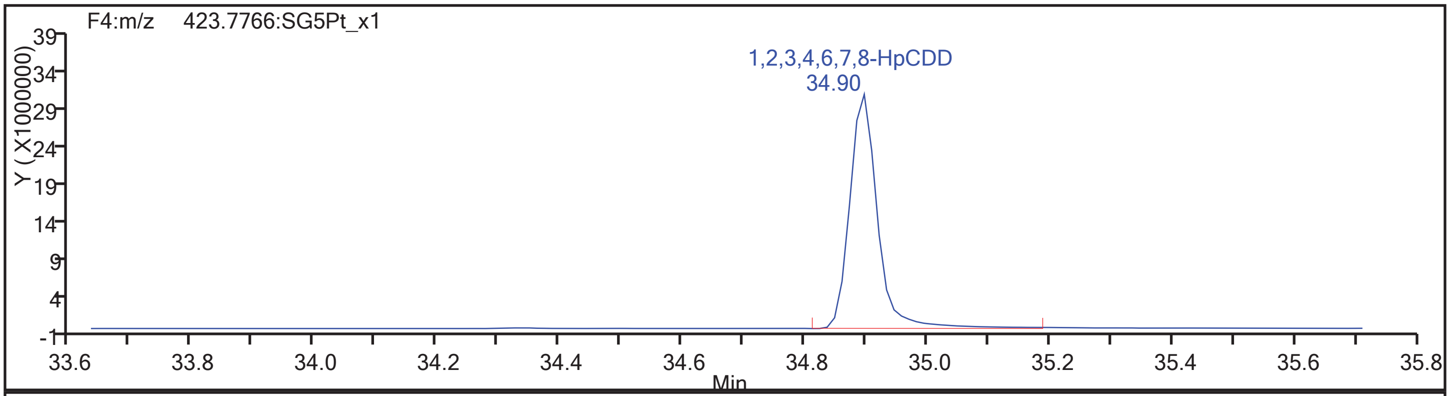

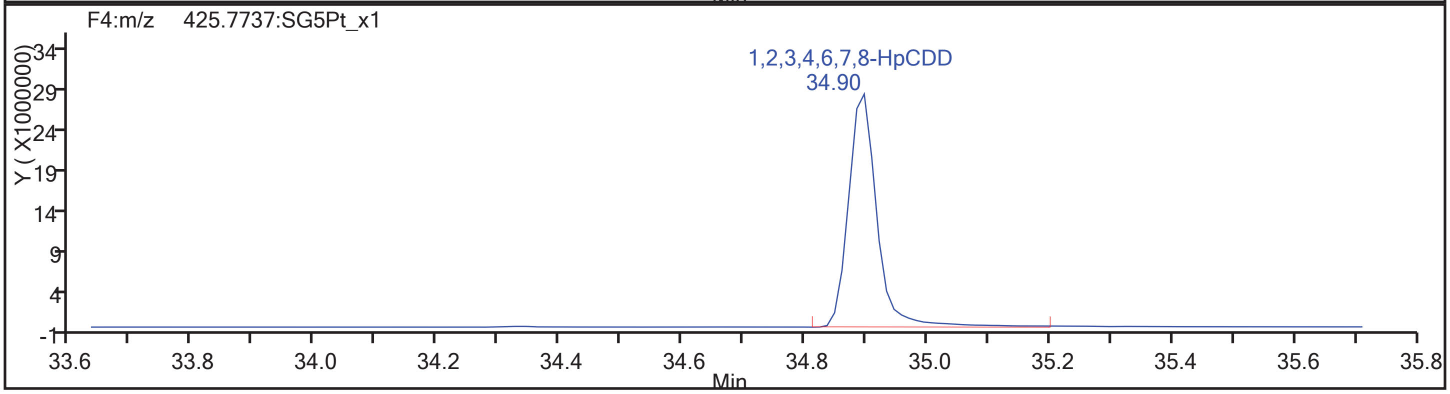

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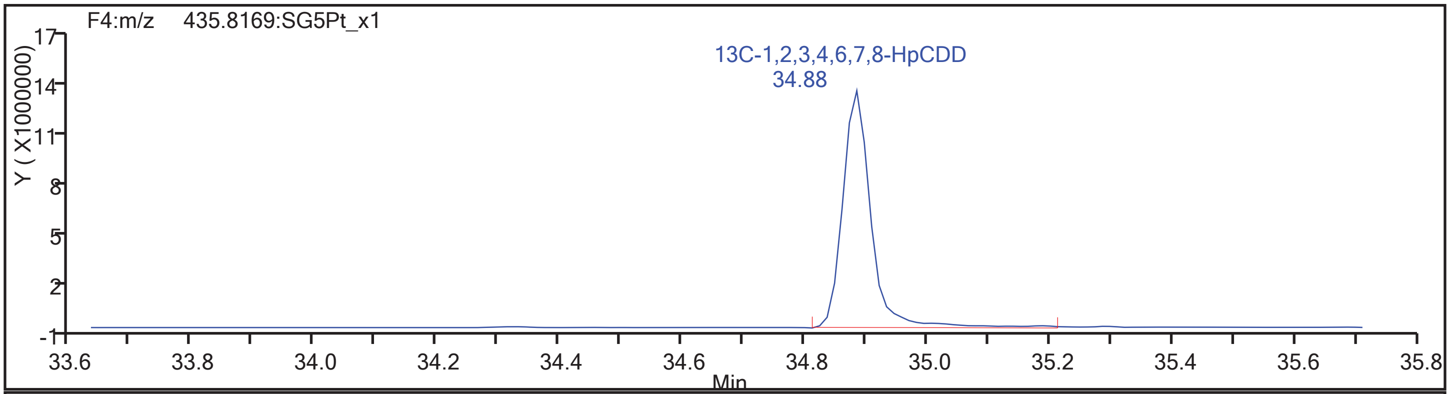

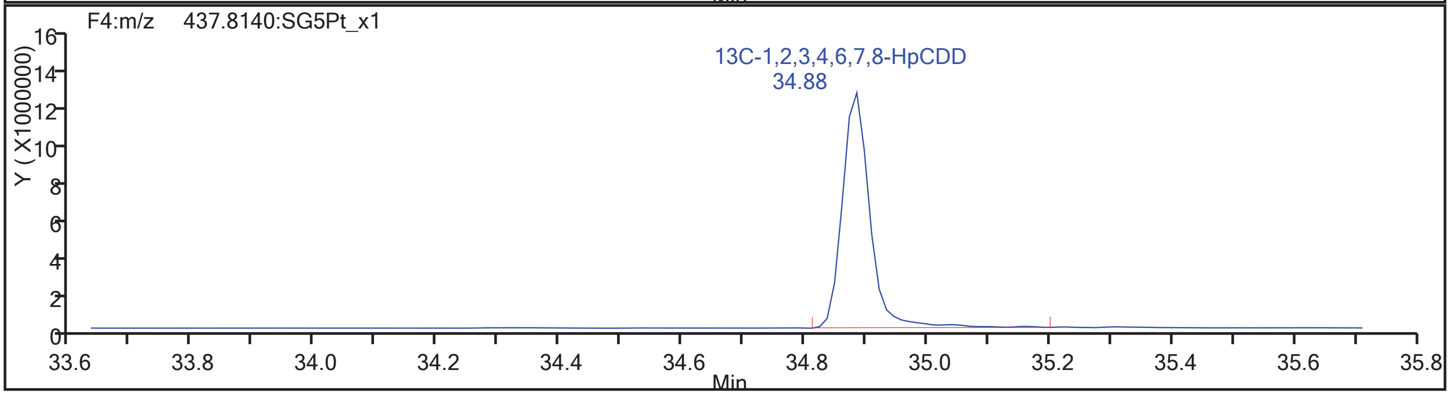

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TestAmerica Sacramento

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Injection Date: 15-Nov-2017 15:54:11 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

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Column Type: Column Dia:

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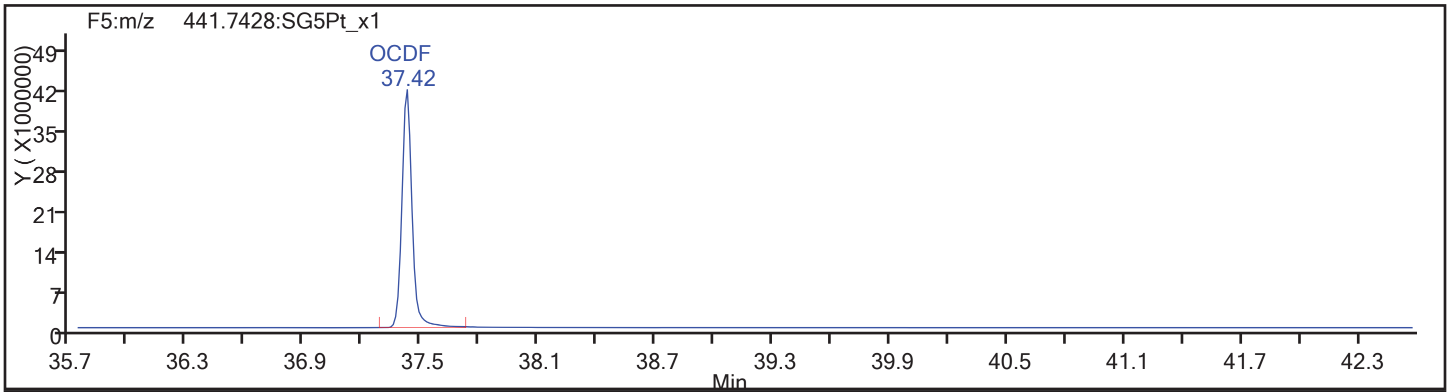
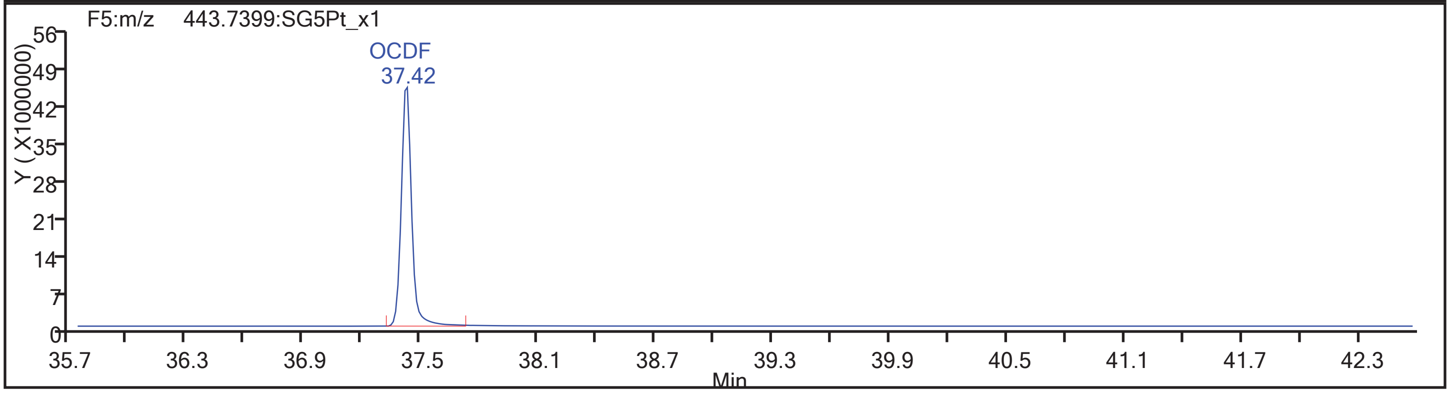
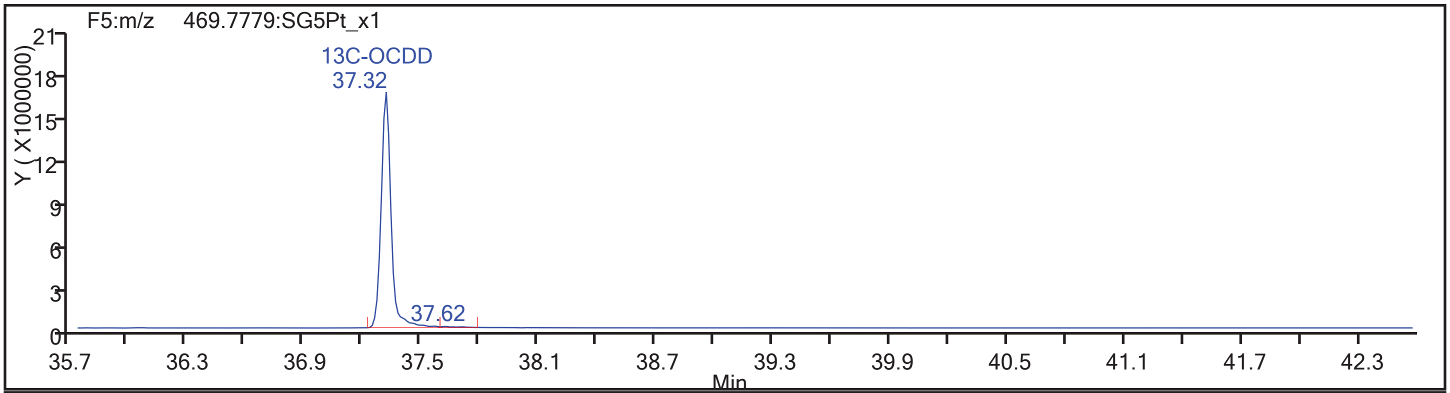
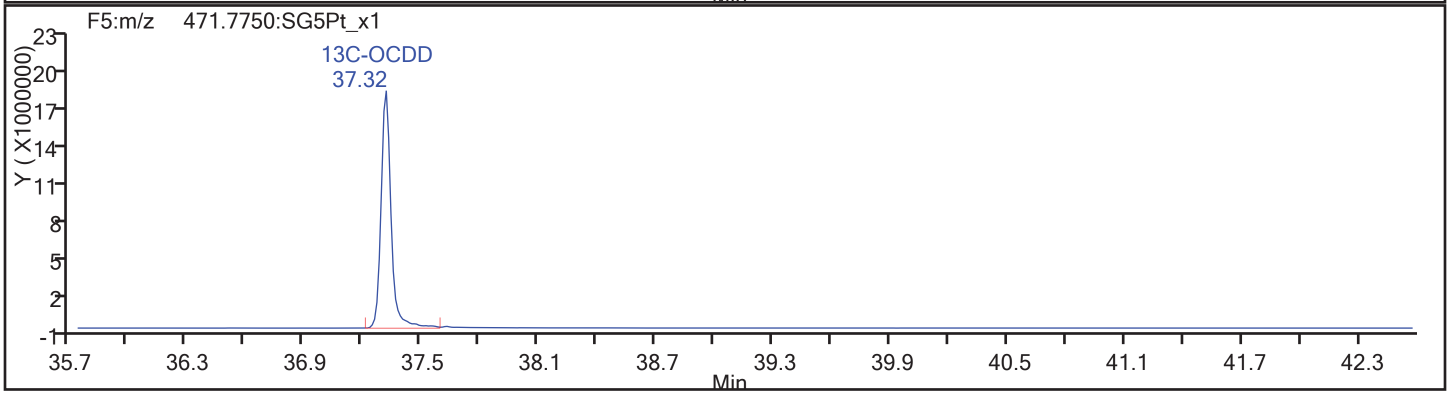




OCDF Standards



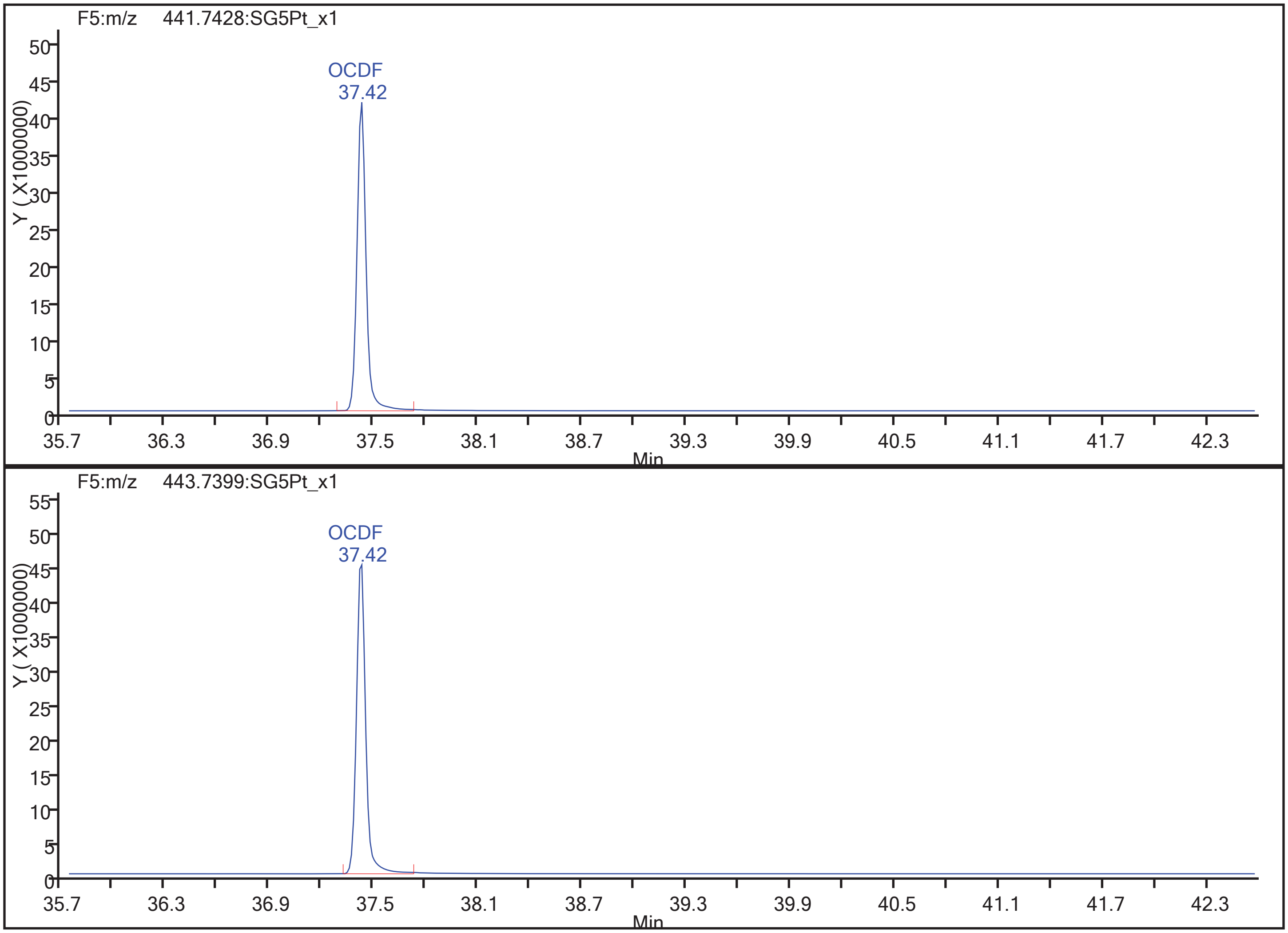


Report Date: 16-Nov-2017 09:38:17 Chrom Revision: 2.2 16-Aug-2017 16:24:46

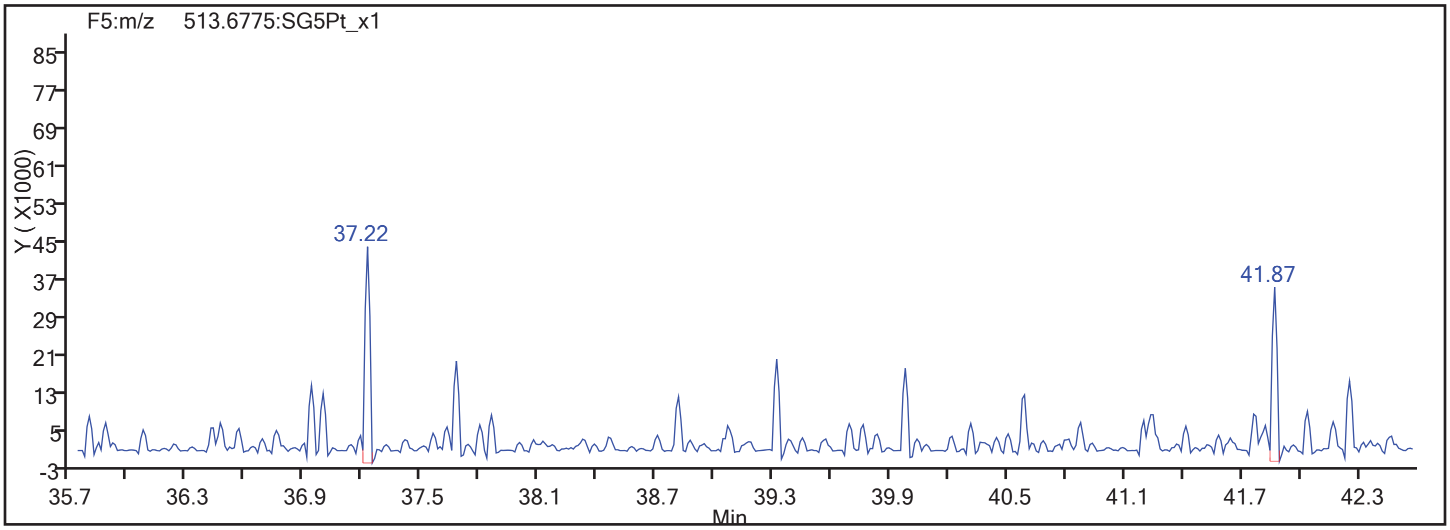
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_7.d		
Injection Date:	15-Nov-2017 15:54:11	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194923	Sample Line#:	7
Column Type:		Column Dia:	

OCDF



OCDF Interference Mass



Report Date: 16-Nov-2017 09:38:17 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_7.d

Injection Date: 15-Nov-2017 15:54:11

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

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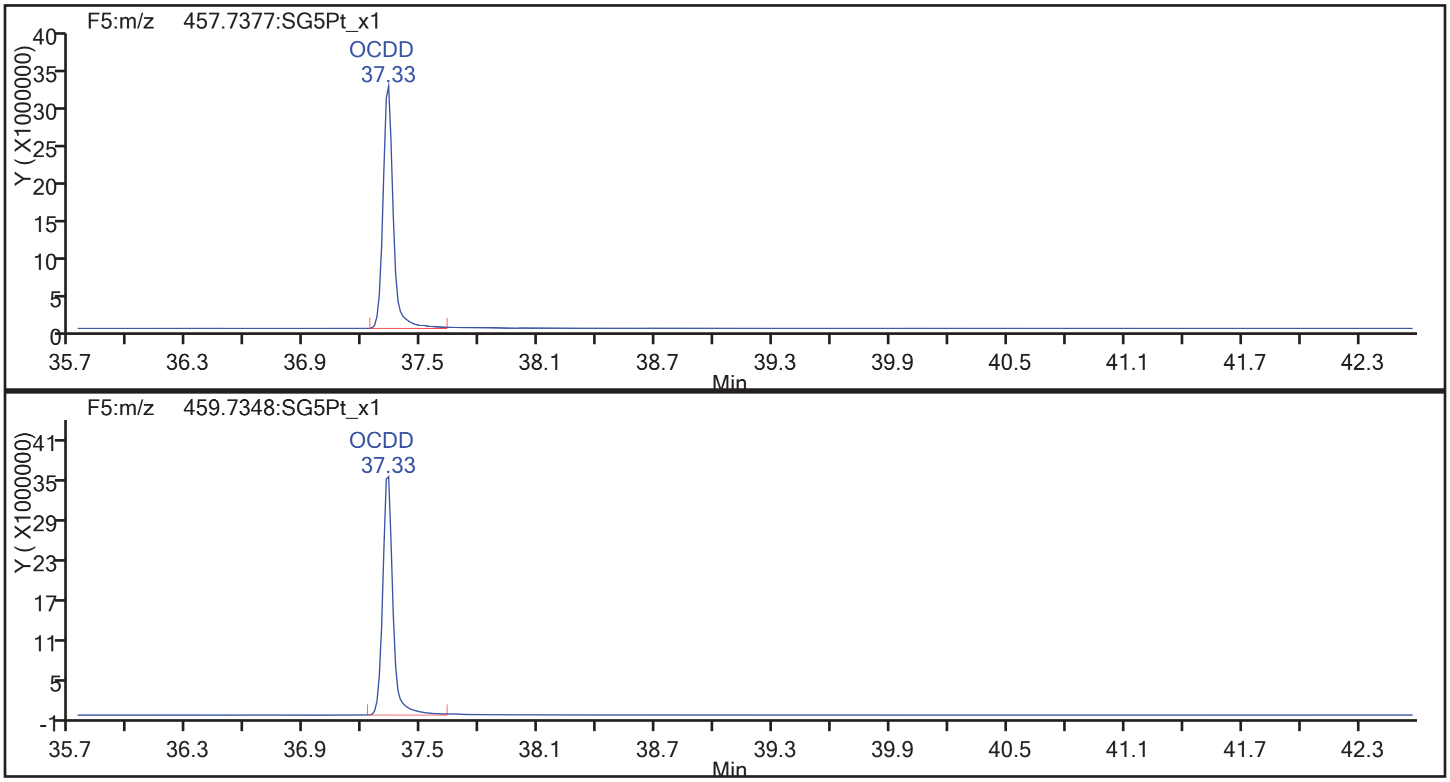
Sample Line#: 7

Column Type:

Column Dia:

OCDD



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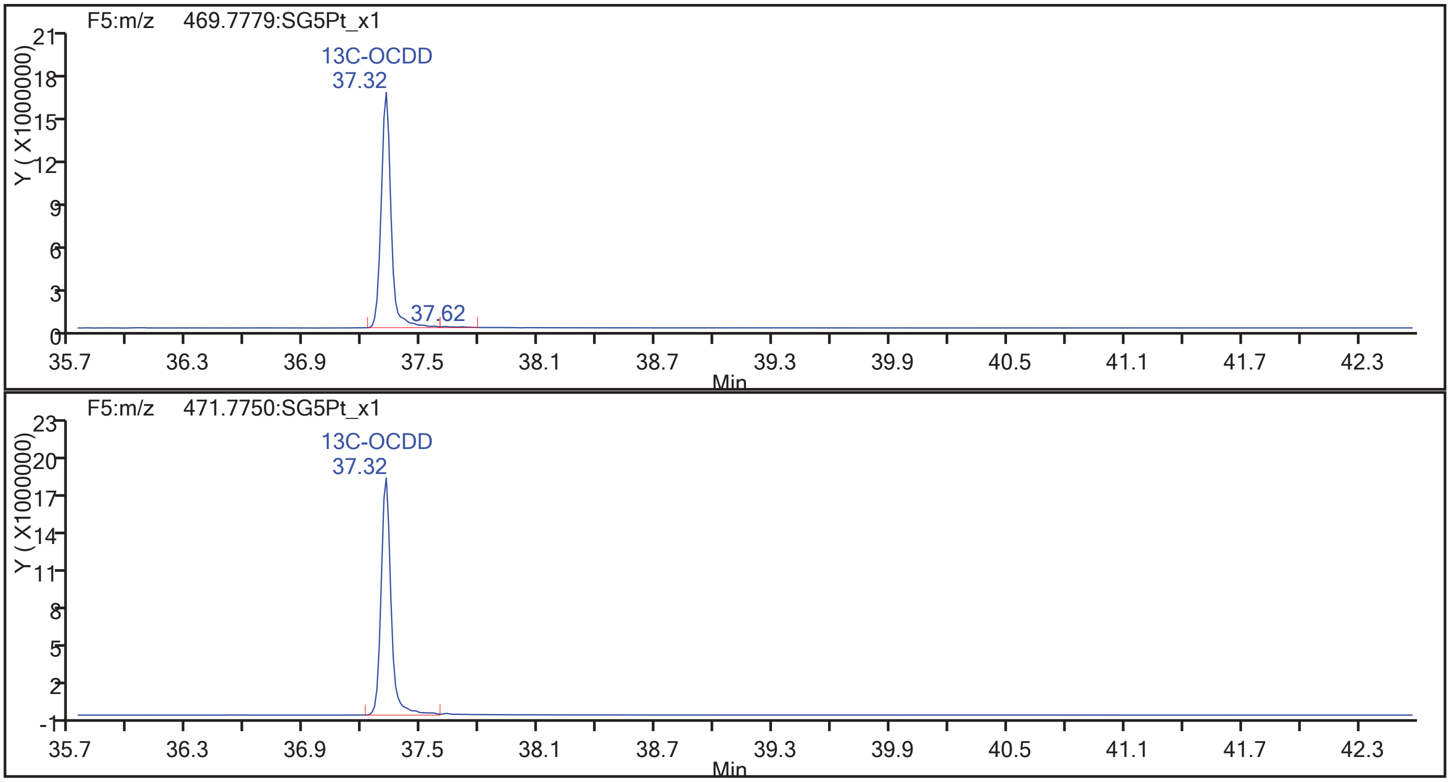

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TestAmerica Sacramento

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Injection Date: 15-Nov-2017 15:54:11 Injection Vol: 2.0 ul

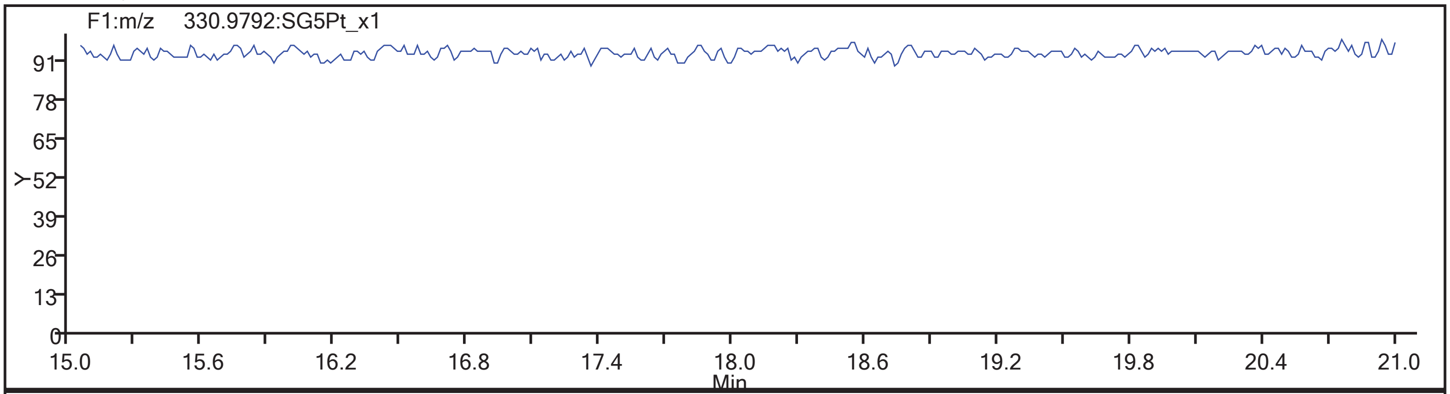
Instrument ID: 3D5 Operator ID: SMA

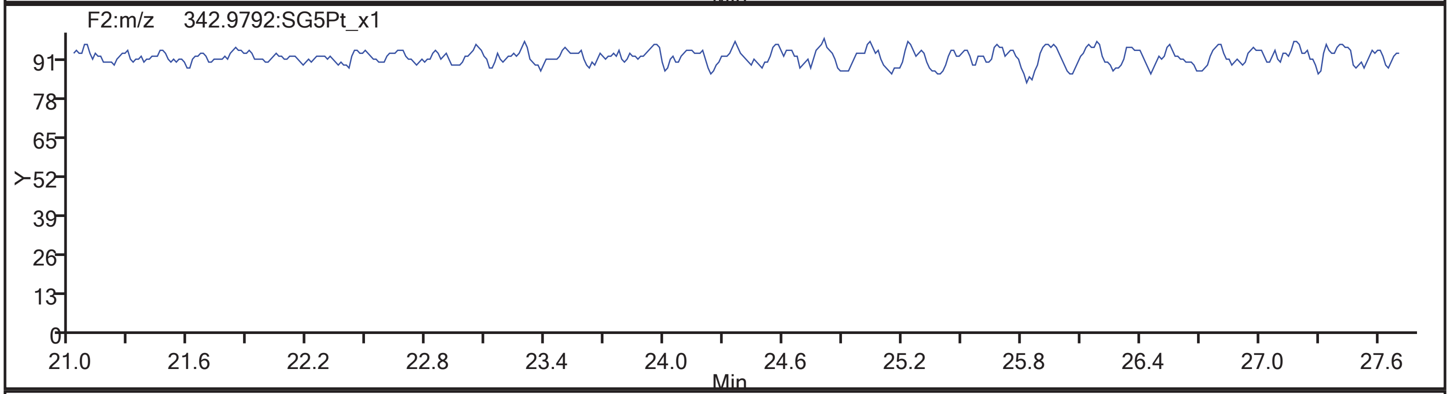
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

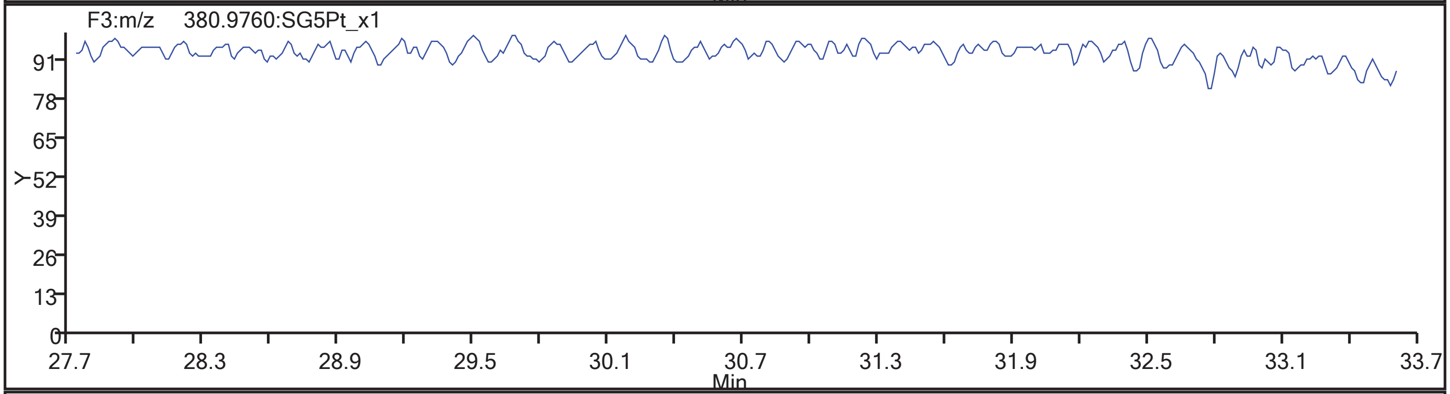
Client ID:

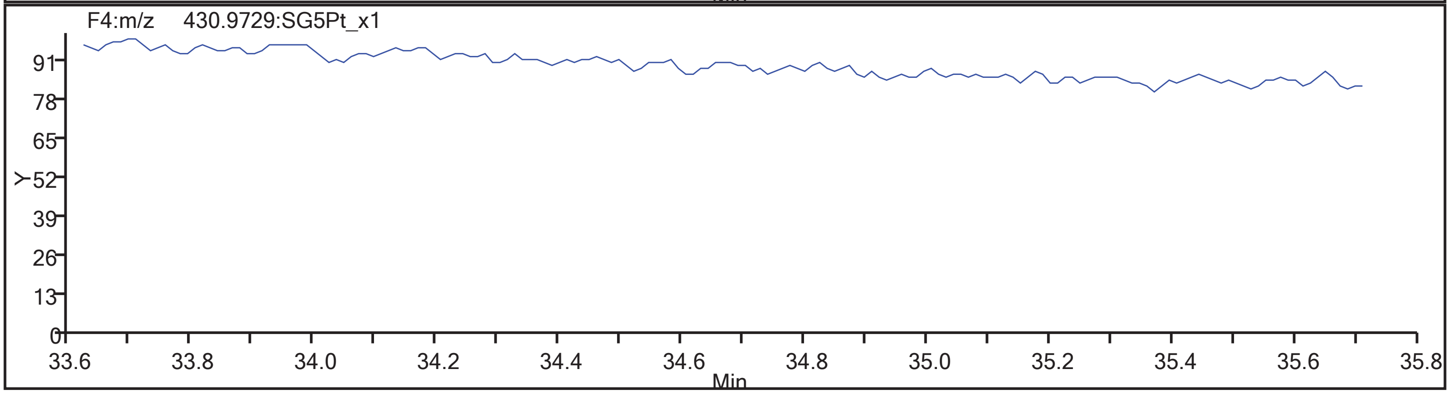
Worklist#: 194923 Sample Line#: 7

Column Type: Column Dia:









TestAmerica Sacramento

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Injection Date: 15-Nov-2017 15:54:11 Injection Vol: 2.0 ul

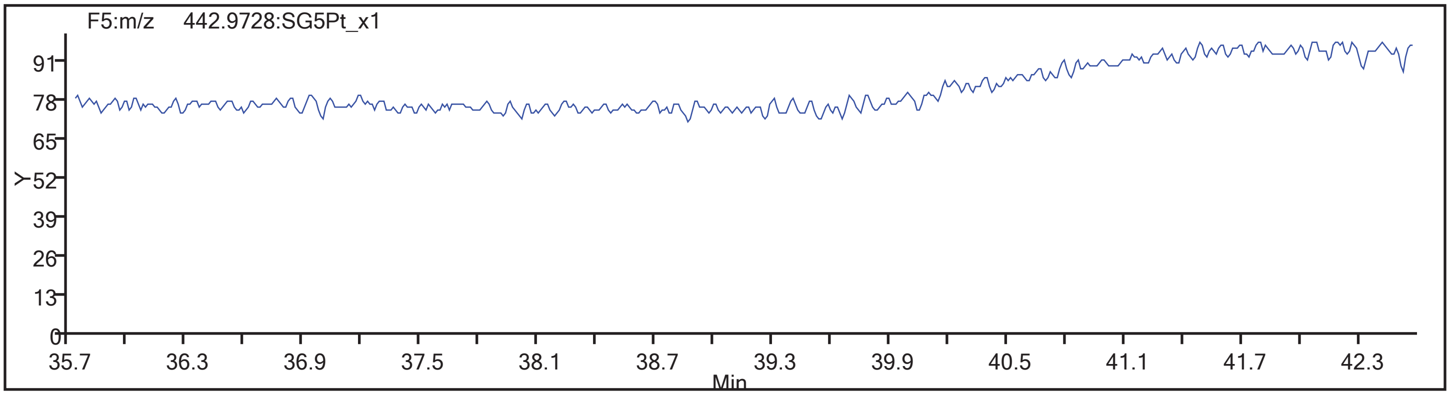
Instrument ID: 3D5 Operator ID: SMA

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 194923 Sample Line#: 7

Column Type: Column Dia:



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-195573/55

Calibration Date: 11/18/2017 13:48

Instrument ID: 3D5

Calib Start Date: 11/15/2017 11:51

GC Column: DB-5

ID: 0.32(mm)

Calib End Date: 11/15/2017 15:05

Lab File ID: 16NO173D5_55.d

Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.097	1.056		9.63	10.0	-3.7	20.0
2,3,7,8-TCDD	AveID	1.164	1.077		9.25	10.0	-7.5	20.0
1,2,3,7,8-PeCDF	AveID	1.142	1.081		47.3	50.0	-5.3	20.0
2,3,4,7,8-PeCDF	AveID	1.110	1.070		48.2	50.0	-3.6	20.0
1,2,3,7,8-PeCDD	AveID	1.127	1.067		47.3	50.0	-5.4	20.0
1,2,3,4,7,8-HxCDF	AveID	1.348	1.362		50.5	50.0	1.1	20.0
1,2,3,6,7,8-HxCDF	AveID	1.479	1.516		51.2	50.0	2.5	20.0
2,3,4,6,7,8-HxCDF	AveID	1.383	1.404		50.8	50.0	1.5	20.0
1,2,3,4,7,8-HxCDD	AveID	1.065	1.061		49.8	50.0	-0.4	20.0
1,2,3,6,7,8-HxCDD	AveID	1.181	1.169		49.5	50.0	-1.0	20.0
1,2,3,7,8,9-HxCDD	AveID	1.231	1.263		51.3	50.0	2.6	20.0
1,2,3,7,8,9-HxCDF	AveID	1.290	1.328		51.5	50.0	2.9	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.587	1.567		49.4	50.0	-1.3	20.0
1,2,3,4,6,7,8-HpCDD	AveID	1.163	1.132		48.7	50.0	-2.6	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.229	1.233		50.2	50.0	0.3	20.0
OCDD	AveID	1.039	1.016		97.8	100	-2.2	20.0
OCDF	AveID	1.265	1.254		99.2	100	-0.8	20.0
13C-2,3,7,8-TCDF	Ave	1.509	1.483		98.3	100	-1.7	30.0
13C-2,3,7,8-TCDD	Ave	0.9906	0.9714		98.1	100	-1.9	30.0
13C-1,2,3,7,8-PeCDF	Ave	1.128	1.172		104	100	3.9	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7269	0.7682		106	100	5.7	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.028	0.9603		93.4	100	-6.6	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8502	0.8123		95.5	100	-4.5	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6490	0.6560		101	100	1.1	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.5387	0.5642		105	100	4.7	30.0
13C-OCDD	Ave	0.4009	0.4071		203	200	1.5	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.173	1.148		9.78	10.0	-2.2	

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\Data2017.PRO\SampleDB\16NO173D5.SPL

3D5 Page 1 of 6

Last Modified: Saturday, November 18, 2017 00:16:47 Pacific Standard Time

Printed: Saturday, November 18, 2017 18:47:39 Pacific Standard Time

Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	16NO173D5_1	WDM HRDXNCP_00034	WDM111617	Tray01:1	---		SMA
2	16NO173D5_2	CS-4 HRDXNL4_00060	CCV 111617	Tray01:2	---		SMA
3	16NO173D5_3	Reagent Blank C-14	RB 111617	Tray01:3	---		SMA
4	16NO173D5_4	MB 320-194930/1-A	MB 320-194930/1-A	Tray01:4	1613B/Water	46	SMA
5	16NO173D5_5	LCS 320-194930/2-A	LCS 320-194930/2-A	Tray01:5	1613B/Water		SMA
6	16NO173D5_6	LCSD 320-194930/3-A	LCSD 320-194930/3-A	Tray01:6	1613B/Water		SMA
7	16NO173D5_7	320-32529-B-1-A	320-32529-B-1-A	Tray01:7	1613B/Water		SMA
8	16NO173D5_8	LCS 320-194748/2-A	LCS 320-194748/2-A	Tray01:8	8290A/Solid	D983	SMA
9	16NO173D5_9	LCSD 320-194748/3-A	LCSD 320-194748/3-A	Tray01:9	8290A/Solid		SMA
10	16NO173D5_10	MB 320-194748/1-A	MB 320-194748/1-A	Tray01:10	8290A/Solid		SMA
11	16NO173D5_11	600-155367-A-2-B	600-155367-A-2-B	Tray01:11	8290A/Solid		SMA
12	16NO173D5_12	Reagent Blank C-14	RB 111617A	Tray01:3	---		SMA
13	16NO173D5_13	CS-4 HRDXNL4_00060	CCV 111617A	Tray01:2	---		SMA
14	16NO173D5_14	WDM HRDXNCP_00034	WDM111617A	Tray01:1	---		SMA
15	16NO173D5_15	Reagent Blank C-14	RB 111617B	Tray01:3	---		SMA
16	16NO173D5_16	MB 320-190370/1-A	MB 320-190370/1-A	Tray01:12	8290A/Solid	D980	SMA, ALM
17	16NO173D5_17	LCS 320-190370/2-A	LCS 320-190370/2-A	Tray01:13	8290A/Solid		SMA, ALM
18	16NO173D5_18	LCSD 320-190370/3-A	LCSD 320-190370/3-A	Tray01:14	8290A/Solid		SMA, ALM
19	16NO173D5_19	310-116465-C-1-A	310-116465-C-1-A	Tray01:15	8290A/Solid		SMA, ALM
20	16NO173D5_20	LCS 320-192159/2-A	LCS 320-192159/2-A	Tray01:16	8290/Solid	43	SMA, ALM
21	16NO173D5_21	LCSD 320-192159/3-A	LCSD 320-192159/3-A	Tray01:17	8290/Solid		SMA, ALM
22	16NO173D5_22	MB 320-192159/1-A	MB 320-192159/1-A	Tray01:18	8290/Solid		SMA, ALM
23	16NO173D5_23	320-32775-A-1-A	320-32775-A-1-A	Tray01:19	8290/Solid		SMA, ALM
24	16NO173D5_24	680-144745-A-13-A (20x)	680-144745-A-13-A 20x	Tray01:20	8290A/Solid	D983	SMA, ALM
25	16NO173D5_25	Reagent Blank C-14	RB 111617C	Tray01:3	---		SMA, ALM
26	16NO173D5_26	CS-4 HRDXNL4_00060	CCV 111617B	Tray01:2	---		SMA, ALM
27	16NO173D5_27	WDM HRDXNCP_00034	WDM111617B	Tray01:1	---		SMA, ALM
28	16NO173D5_28	Reagent Blank C-14	RB 111617D	Tray01:3	---		SMA, ALM
29	16NO173D5_29	MB 320-193933/1-A	MB 320-193933/1-A	Tray01:21	8290/Solid	45	SMA
30	16NO173D5_30	LCS 320-193933/2-A	LCS 320-193933/2-A	Tray01:22	8290/Solid		SMA
31	16NO173D5_31	LCSD 320-193933/3-A	LCSD 320-193933/3-A	Tray01:23	8290/Solid		SMA
32	16NO173D5_32	320-33016-A-1-A	320-33016-A-1-A	Tray01:24	8290/Solid		SMA
33	16NO173D5_33	320-33016-A-2-A	320-33016-A-2-A	Tray01:25	8290/Solid		SMA
34	16NO173D5_34	320-33016-A-3-A	320-33016-A-3-A	Tray01:26	8290/Solid		SMA
35	16NO173D5_35	320-33016-A-4-A	320-33016-A-4-A	Tray01:27	8290/Solid		SMA
36	16NO173D5_36	320-33016-A-5-A	320-33016-A-5-A	Tray01:28	8290/Solid		SMA
37	16NO173D5_37	Reagent Blank C-14	RB 111617E	Tray01:3	---		SMA
38	16NO173D5_38	CS-4 HRDXNL4_00060	CCV 111617C	Tray01:2	---		SMA
39	16NO173D5_39	CS-4 HRDXNL4_00060	CCV 111617D	Tray01:2	---		SMA
40	16NO173D5_40	WDM HRDXNCP_00034	WDM111617C	Tray01:1	---		SMA
41	16NO173D5_41	Reagent Blank C-14	RB 111617F	Tray01:3	---		SMA
42	16NO173D5_42	MB 320-192108/1-A	MB 320-192108/1-A	Tray01:29	8290/Tissue	45	SMA
43	16NO173D5_43	LCS 320-192108/2-A	LCS 320-192108/2-A	Tray01:30	8290/Tissue		SMA
44	16NO173D5_44	LCSD 320-192108/3-A	LCSD 320-192108/3-A	Tray01:31	8290/Tissue		SMA
45	16NO173D5_45	320-32750-A-1-A	320-32750-A-1-A	Tray01:32	8290/Tissue		SMA
46	16NO173D5_46	320-33016-A-6-A	320-33016-A-6-A	Tray01:33	8290/Solid	45	SMA
47	16NO173D5_47	320-33016-A-7-A	320-33016-A-7-A	Tray01:34	8290/Solid		SMA
48	16NO173D5_48	320-33016-A-8-A	320-33016-A-8-A	Tray01:35	8290/Solid		SMA
49	16NO173D5_49	320-33016-A-9-A	320-33016-A-9-A	Tray01:36	8290/Solid		SMA
50	16NO173D5_50	Reagent Blank C-14	RB 111617G	Tray01:3	---		SMA
51	16NO173D5_51	Reagent Blank C-14	RB 111617H	Tray01:3	---		SMA
52	16NO173D5_52	CS-4 HRDXNL4_00060	CCV 111617E	Tray01:2	---		SMA
53	16NO173D5_53	Reagent Blank C-14	RB 111617I	Tray01:3	---		SMA
54	16NO173D5_54	WDM HRDXNCP_00034	WDM111617D	Tray01:1	---		SMA, ALM
55	16NO173D5_55	CS-4 HRDXNL4_00060	CCV 111617F	Tray01:2	---		SMA, ALM
56	16NO173D5_56	Reagent Blank C-14	RB 111617J	Tray01:3	---		SMA, ALM
57	16NO173D5_57	MB 320-195095/1-A	MB 320-195095/1-A	Tray01:37	8290A_D5/Solid	45	SMA, ALM
58	16NO173D5_58	LCS 320-195095/2-A	LCS 320-195095/2-A	Tray01:38	8290A_D5/Solid		SMA, ALM

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
59	16NO173D5_59	LCSD 320-195095/3-A	LCSD 320-195095/3-A	Tray01:39	8290A_D5/Solid		SMA, ALM
60	16NO173D5_60	160-24924-G-1-B	160-24924-G-1-B	Tray01:40	8290A_D5/Solid		SMA, ALM
61	16NO173D5_61	160-24924-G-2-B	160-24924-G-2-B	Tray01:41	8290A_D5/Solid		SMA, ALM
62	16NO173D5_62	160-24924-G-3-B	160-24924-G-3-B	Tray01:42	8290A_D5/Solid		SMA, ALM
63	16NO173D5_63	160-24924-G-4-B	160-24924-G-4-B	Tray01:43	8290A_D5/Solid		SMA, ALM
64	16NO173D5_64	160-24924-G-5-B	160-24924-G-5-B	Tray01:44	8290A_D5/Solid		SMA, ALM
65	16NO173D5_65	Reagent Blank C-14	RB 111617K	Tray01:3	---		SMA, ALM
66	16NO173D5_66	CS-4 HRDXNL4_00060	CCV 111617G	Tray01:2	---		SMA, ALM
67	16NO173D5_67	WDM HRDXNCP_00034	WDM111617E	Tray01:1	---		SMA, ALM
68	16NO173D5_68	CS-4 HRDXNL4_00060	CCV 111617H	Tray01:2	---		SMA, ALM
69	16NO173D5_69	Reagent Blank C-14	RB 111617L	Tray01:3	---		SMA, ALM
70	16NO173D5_70	160-24924-G-6-B	160-24924-G-6-B	Tray01:45	8290A_D5/Solid	45	SMA, ALM
71	16NO173D5_71	160-24924-G-7-B	160-24924-G-7-B	Tray01:46	8290A_D5/Solid		SMA, ALM
72	16NO173D5_72	160-24924-G-8-B	160-24924-G-8-B	Tray01:47	8290A_D5/Solid		SMA, ALM
73	16NO173D5_73	160-24924-G-9-D	160-24924-G-9-D	Tray01:48	8290A_D5/Solid		SMA, ALM
74	16NO173D5_74	160-24924-G-9-E MS	160-24924-G-9-E MS	Tray01:49	8290A_D5/Solid		SMA, ALM
75	16NO173D5_75	160-24924-G-9-F MSD	160-24924-G-9-F MSD	Tray01:50	8290A_D5/Solid		SMA, ALM
76	16NO173D5_76	160-24924-G-10-B	160-24924-G-10-B	Tray01:51	8290A_D5/Solid		SMA, ALM
77	16NO173D5_77	160-24924-G-11-B	160-24924-G-11-B	Tray01:52	8290A_D5/Solid		SMA, ALM
78	16NO173D5_78	Reagent Blank C-14	RB 111617M	Tray01:3	---		SMA, ALM
79	16NO173D5_79	CS-4 HRDXNL4_00060	CCV 111617I	Tray01:2	---		SMA, ALM
80	16NO173D5_80	WDM HRDXNCP_00034	WDM111617F	Tray01:1	---		SMA, ALM
81	16NO173D5_81	CS-4 HRDXNL4_00060	CCV 111617J	Tray01:2	---		SMA, ALM
82	16NO173D5_82	Reagent Blank C-14	RB 111617N	Tray01:3	---		SMA, ALM
83	16NO173D5_83	160-24924-G-12-B	160-24924-G-12-B	Tray01:53	8290A_D5/Solid	45	SMA, ALM
84	16NO173D5_84	160-24924-G-13-B	160-24924-G-13-B	Tray01:54	8290A_D5/Solid		SMA, ALM
85	16NO173D5_85	160-24924-G-14-B	160-24924-G-14-B	Tray01:55	8290A_D5/Solid		SMA, ALM
86	16NO173D5_86	160-24924-G-15-B	160-24924-G-15-B	Tray01:56	8290A_D5/Solid		SMA, ALM
87	16NO173D5_87	160-24924-G-16-B	160-24924-G-16-B	Tray01:57	8290A_D5/Solid		SMA, ALM
88	16NO173D5_88	160-24924-G-17-B	160-24924-G-17-B	Tray01:58	8290A_D5/Solid		SMA, ALM
89	16NO173D5_89	160-24924-G-18-B	160-24924-G-18-B	Tray01:59	8290A_D5/Solid		SMA, ALM
90	16NO173D5_90	160-24924-G-19-B	160-24924-G-19-B	Tray01:60	8290A_D5/Solid		SMA, ALM
91	16NO173D5_91	Reagent Blank C-14	RB 111617O	Tray01:3	---		SMA, ALM
92	16NO173D5_92	CS-4 HRDXNL4_00060	CCV 111617K	Tray01:2	---		SMA, ALM
93	16NO173D5_93	WDM HRDXNCP_00034	WDM111617G	Tray01:1	---		SMA, ALM
94	16NO173D5_94	Reagent Blank C-14	RB 111617P	Tray01:3	---		SMA, ALM

logfile checked
11-18-17 ALM

Sample Size	Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C	Conc D
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.980000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---

Sample Size	Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C	Conc D
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---

Conc E	Conc F	Conc G	Process	Process Options	Action On Error
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200	5	100	---	---	---
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---	---	---	---	---	---
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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200	5	100	---	---	---
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Conc E	Conc F	Conc G	Process	Process Options	Action On Error
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---	---	---	---	---	---
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	---	---	---
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---	---	---	---	---	---
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	---	---	---
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---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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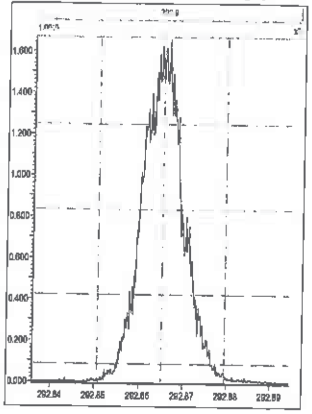
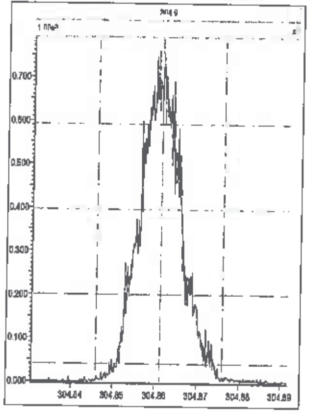
3D5

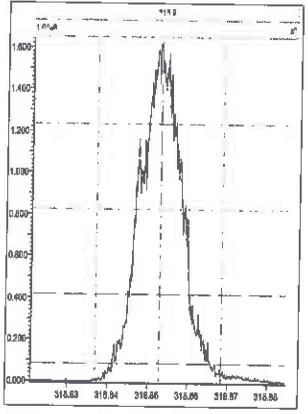
M 292.9824 R 13161



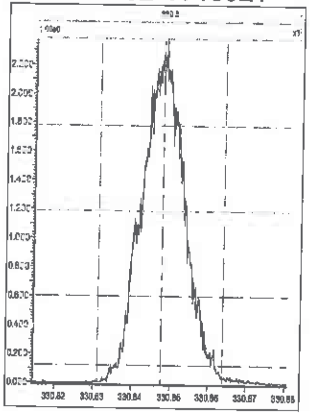
M 304.9824 R 13230



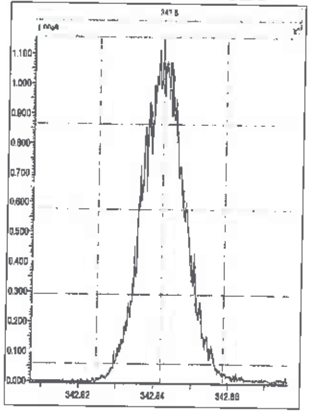
M 318.9792 R 13158



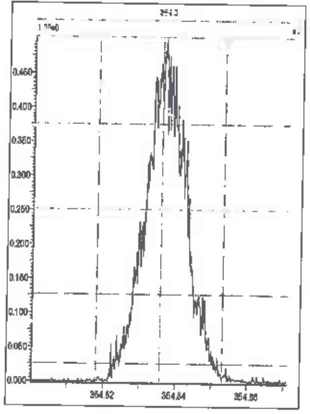
M 330.9792 R 13021



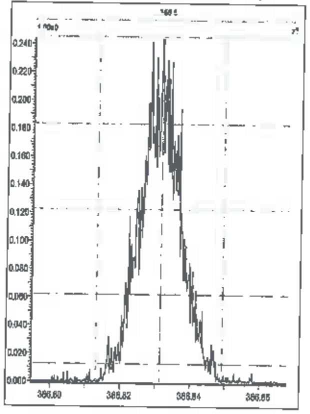
M 342.9792 R 12626



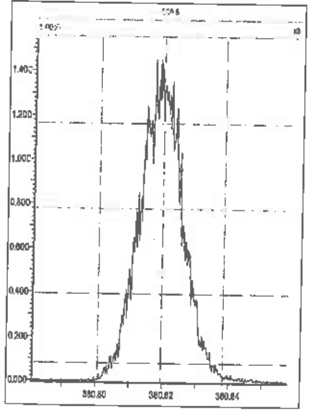
M 354.9792 R 13624



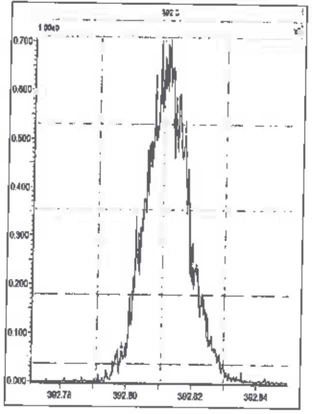
M 366.9792 R 13776



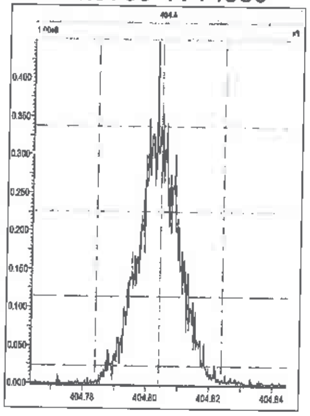
M 380.9760 R 12956



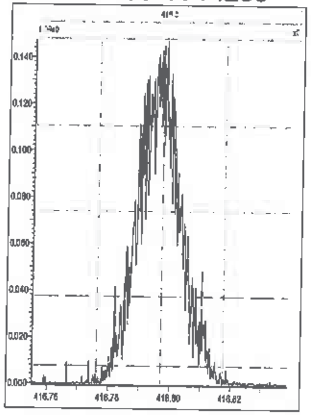
M 392.9760 R 12626



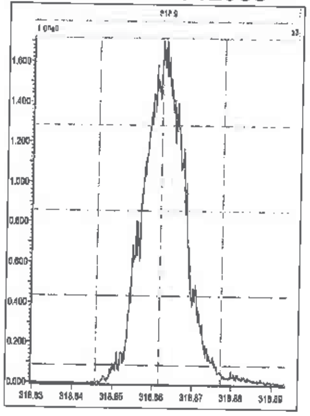
M 404.9760 R 14060



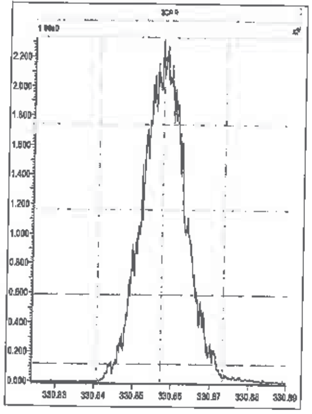
M 416.9760 R 14250



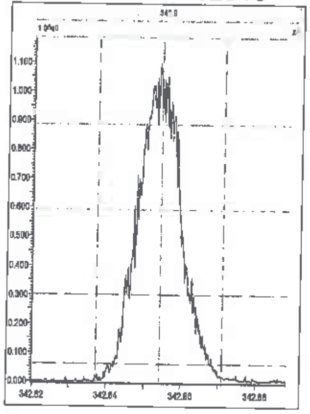
M 318.9792 R 12986



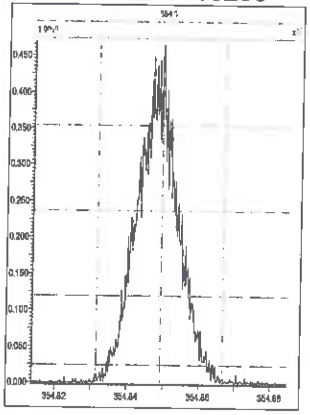
M 330.9792 R 12567



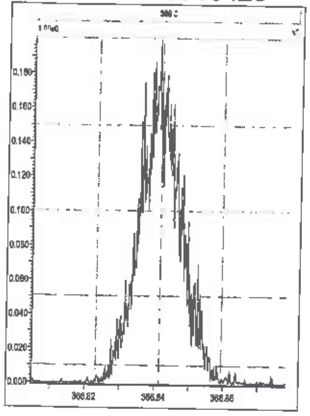
M 342.9792 R 12919



M 354.9792 R 13203

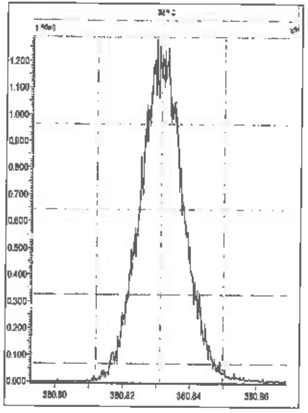


M 366.9792 R 13426

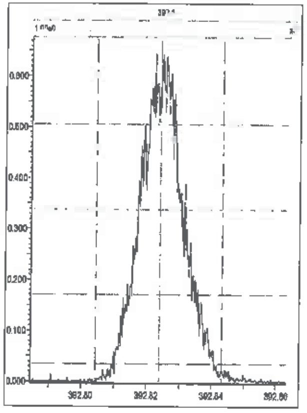


3D5

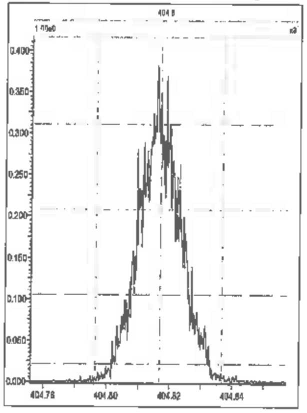
M 380.9760 R 12406



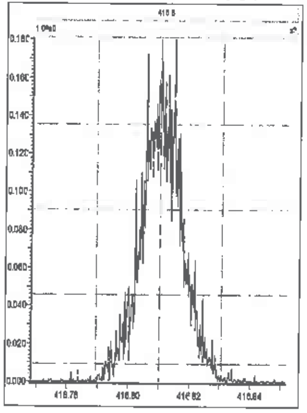
M 392.9760 R 12787



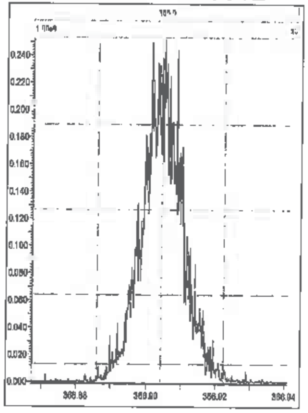
M 404.9760 R 13023



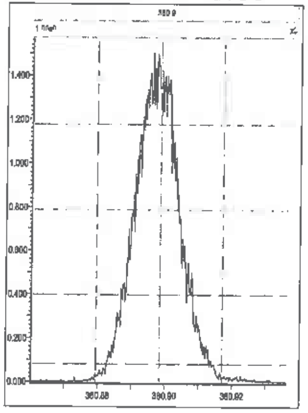
M 416.9760 R 13687



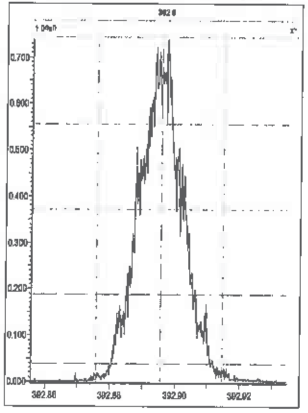
M 366.9792 R 13812



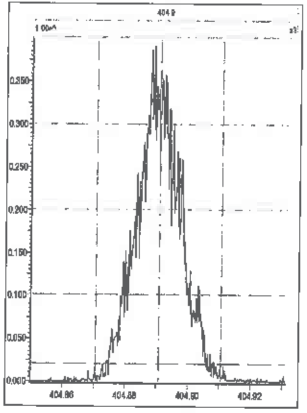
M 380.9760 R 12196



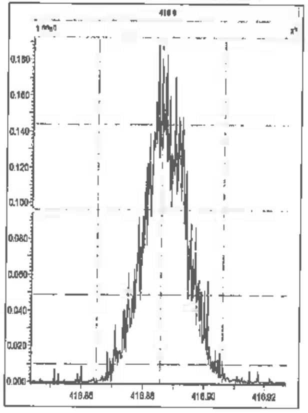
M 392.9760 R 12254



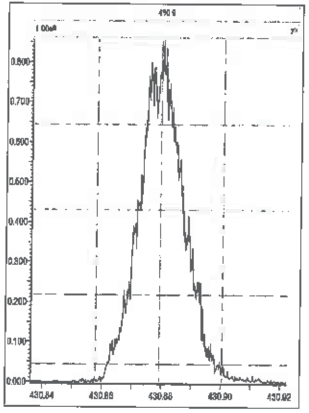
M 404.9760 R 12570



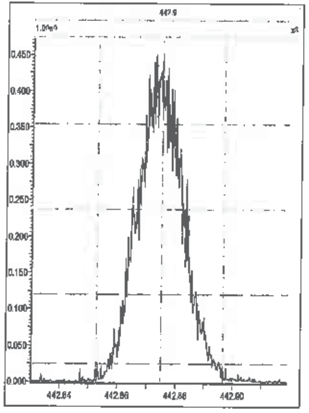
M 416.9760 R 13721



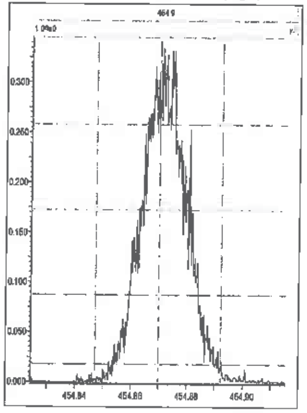
M 430.9728 R 12059



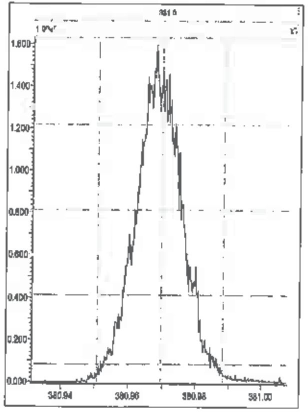
M 442.9728 R 12306



M 454.9728 R 12791



M 380.9760 R 11524



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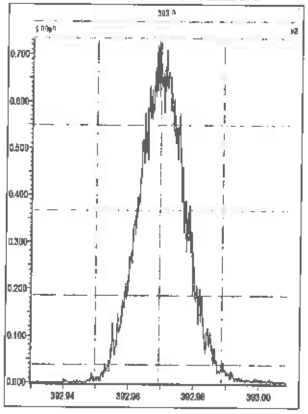

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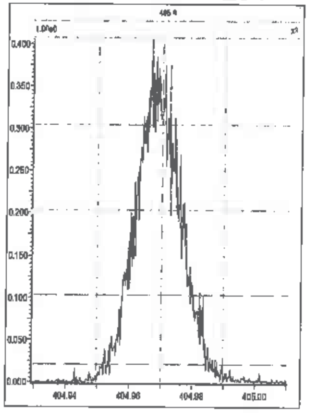

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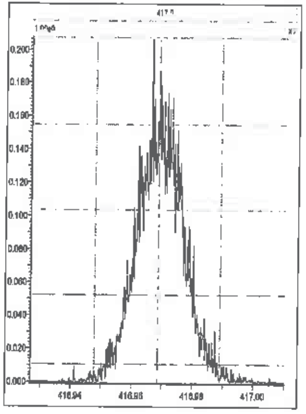

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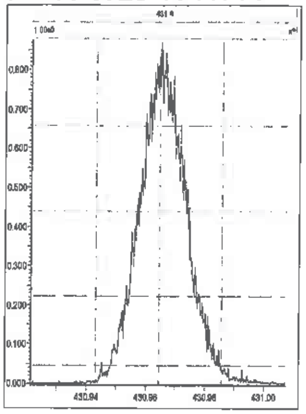

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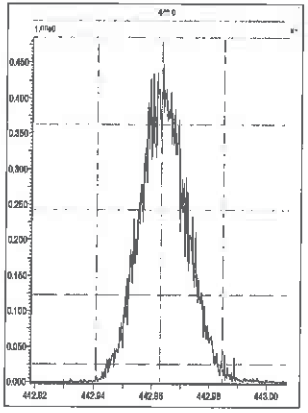

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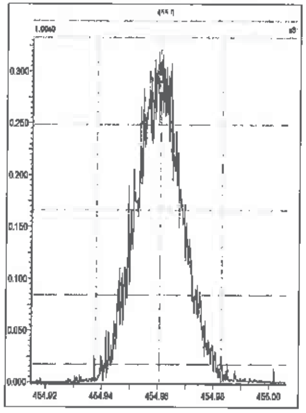

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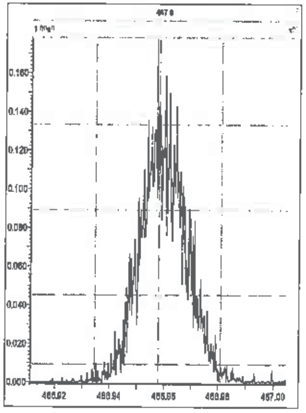

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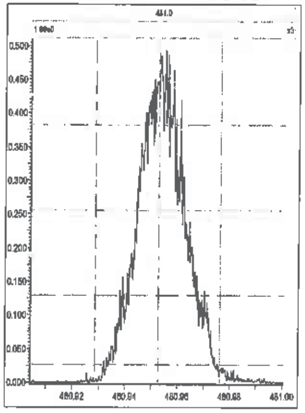

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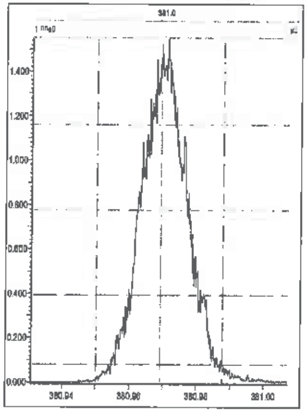

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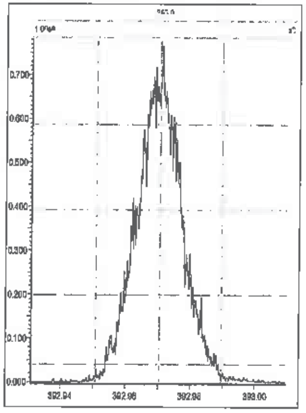

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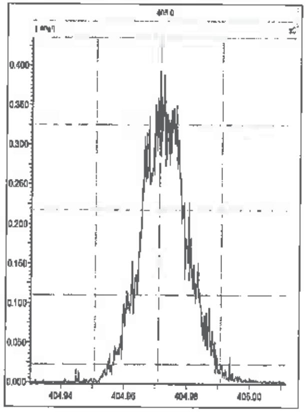

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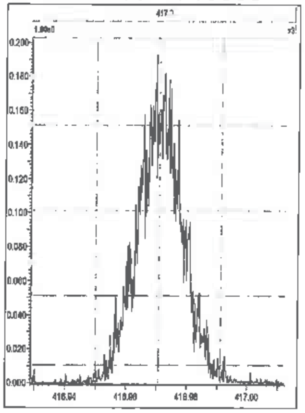

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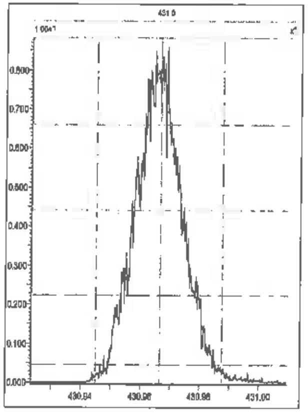

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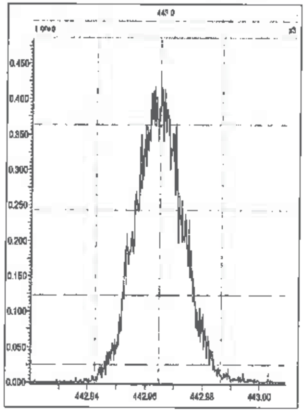

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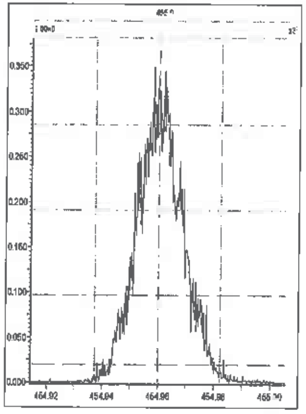

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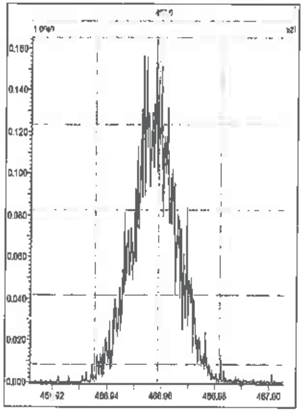

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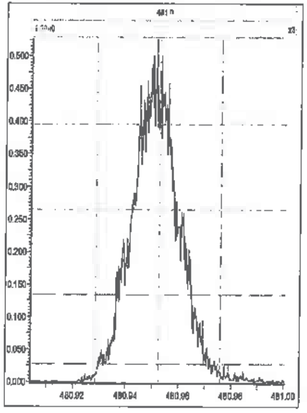

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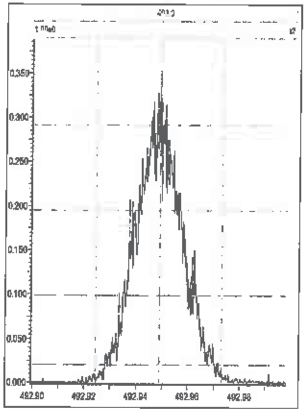

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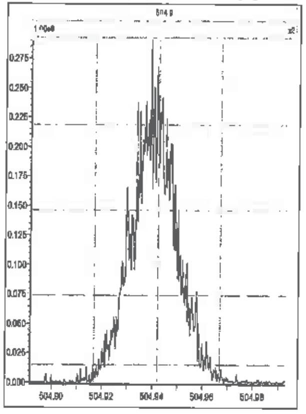

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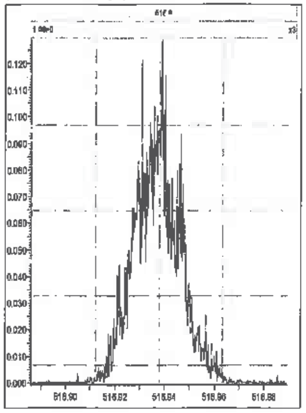

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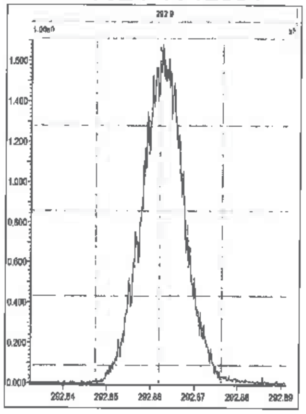

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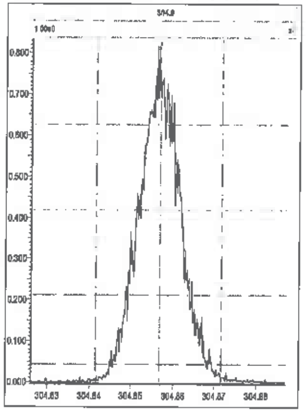

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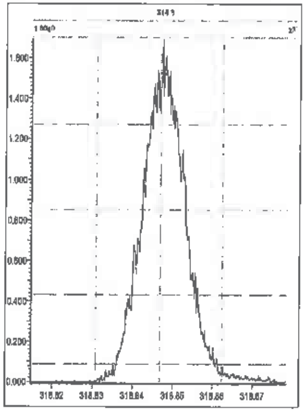

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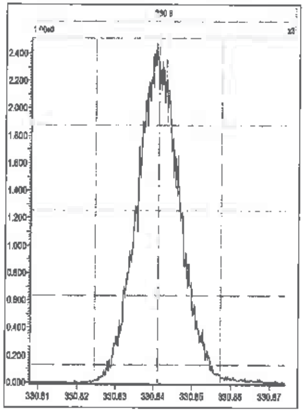

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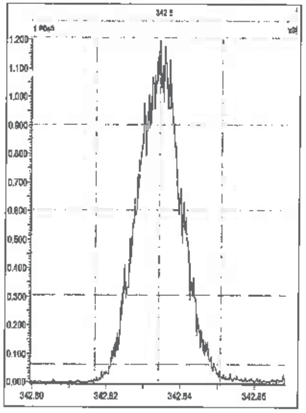

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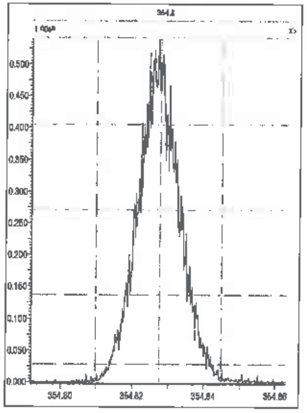

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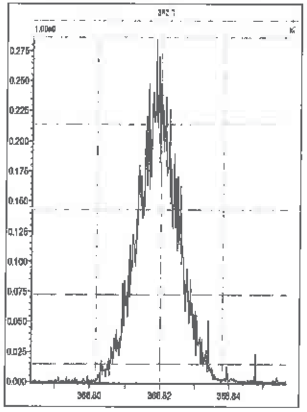

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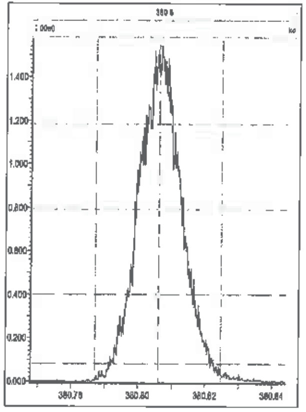

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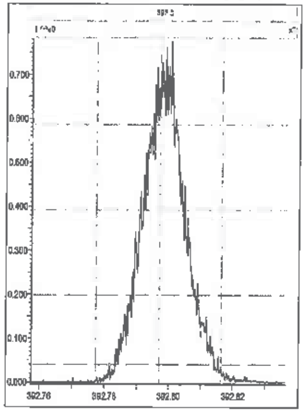

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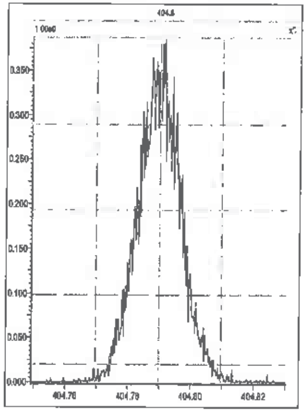

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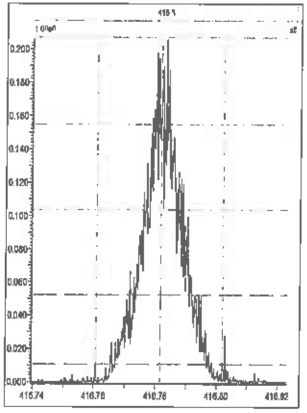

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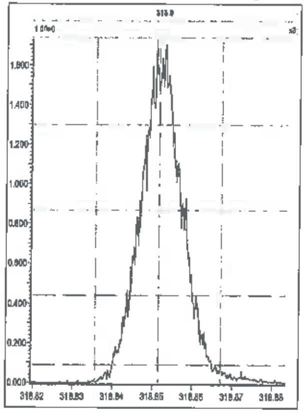

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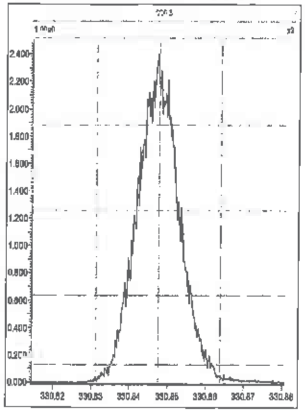

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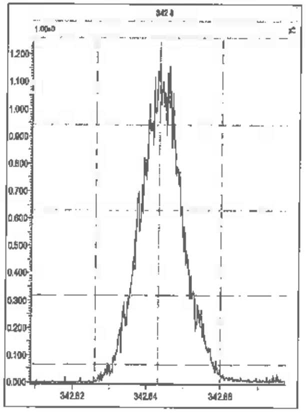

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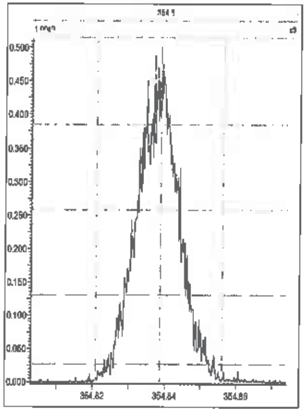

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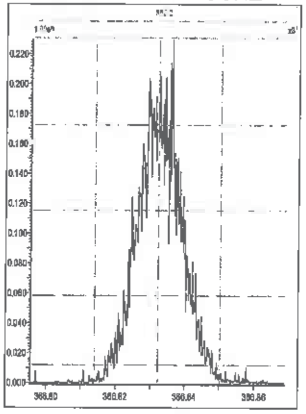

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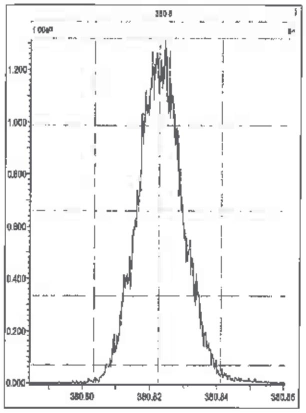

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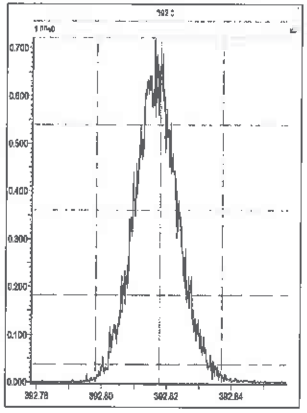

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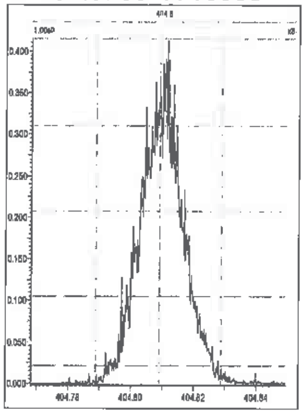

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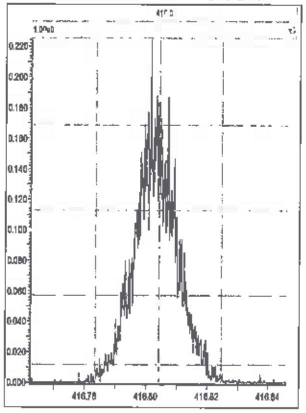

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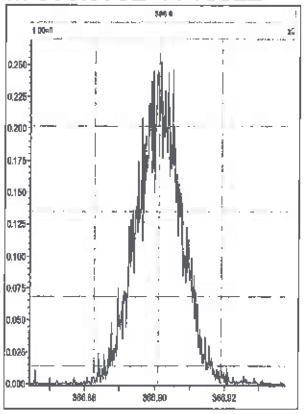

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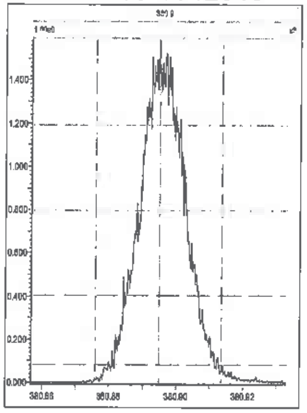

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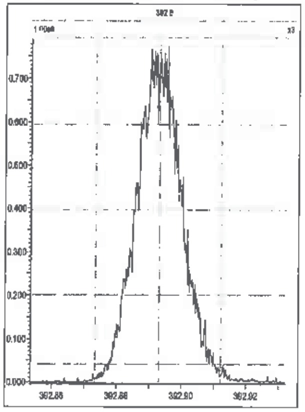

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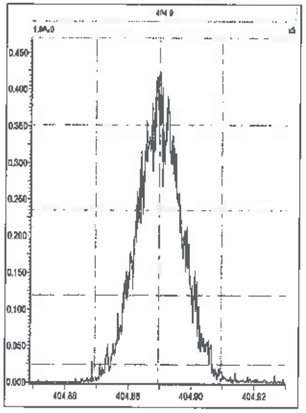

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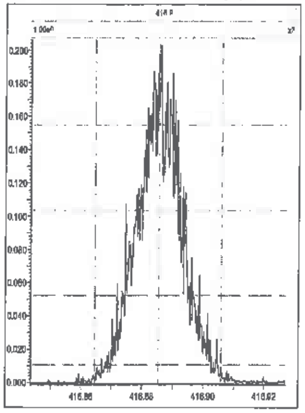

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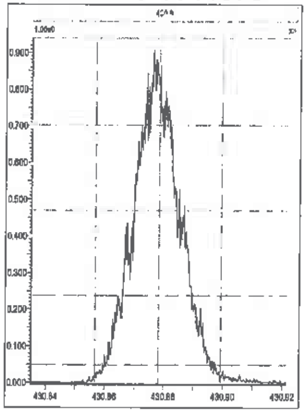

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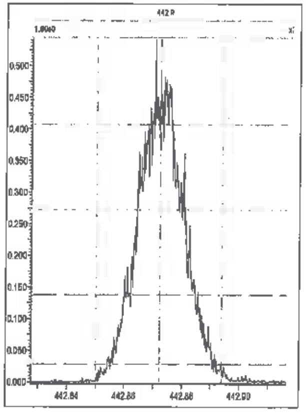

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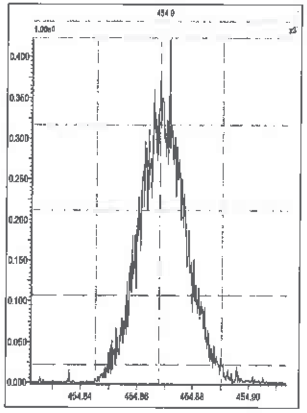

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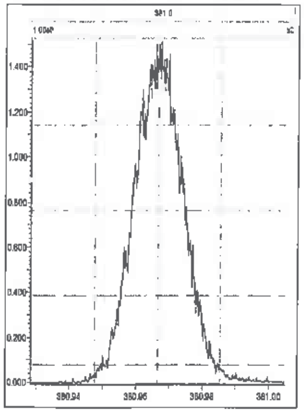

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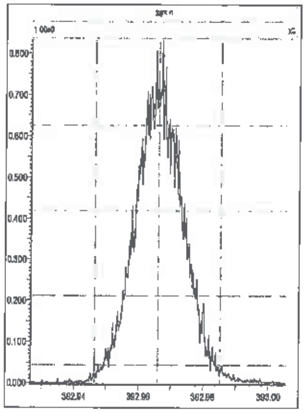

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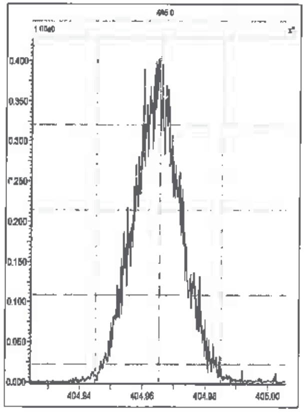

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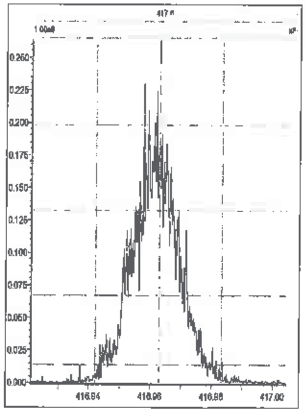

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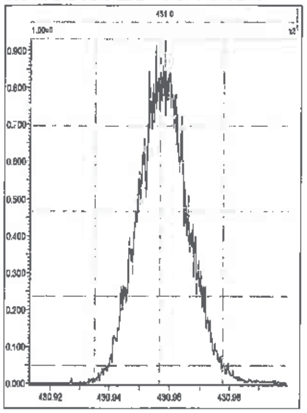

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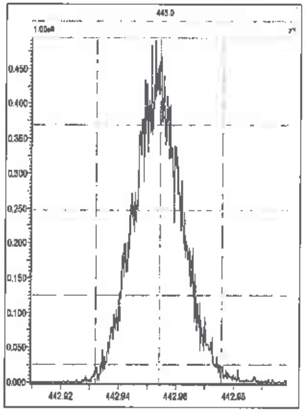

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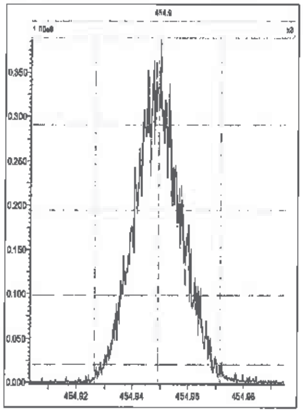

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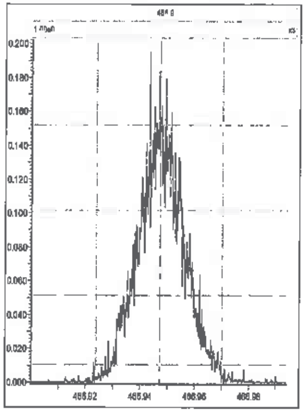
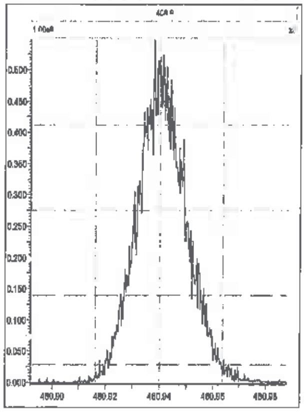


M 480.9696 R 11189



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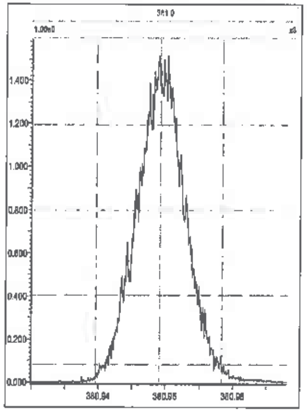

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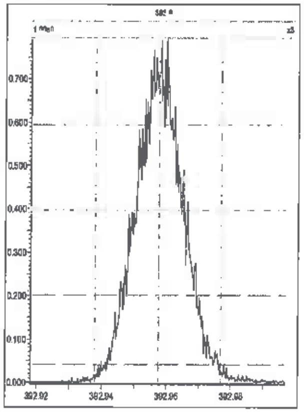

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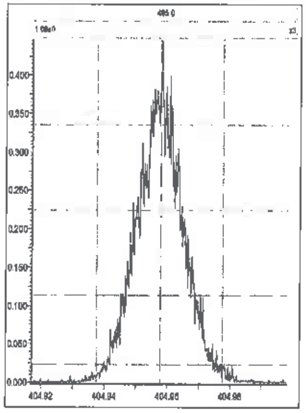

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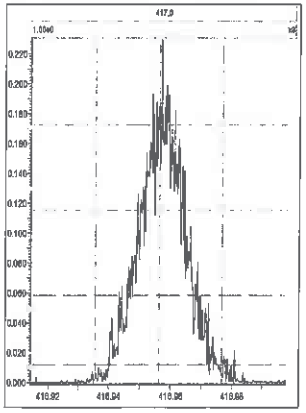

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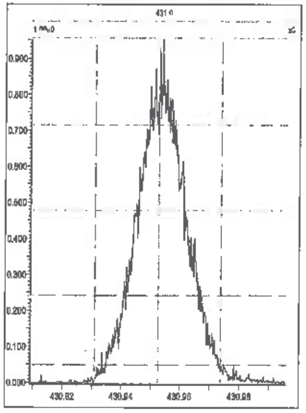

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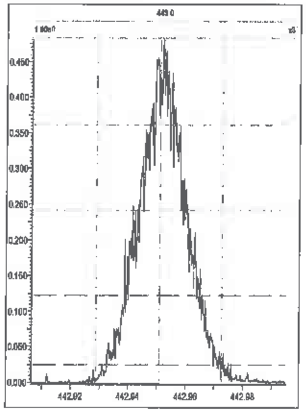

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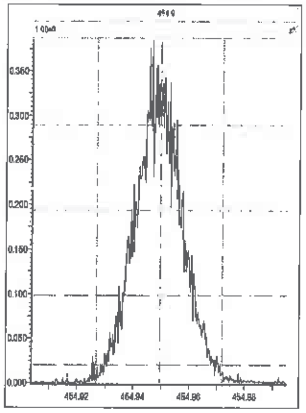

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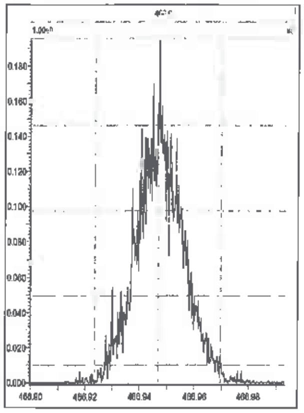

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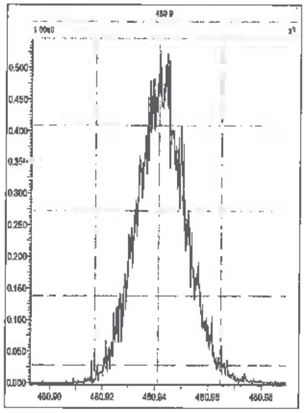

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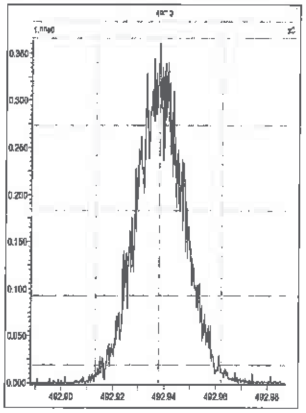

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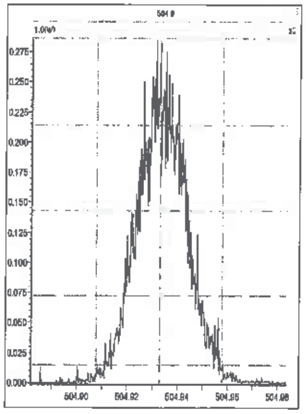

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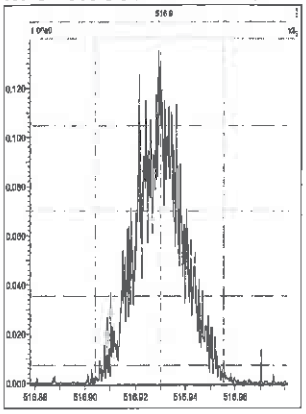

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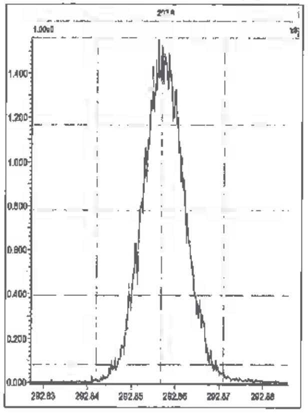

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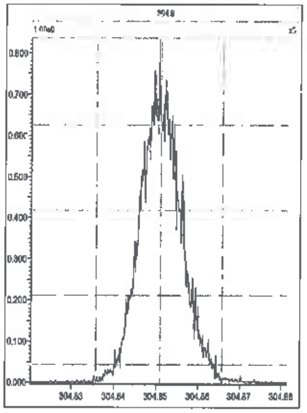

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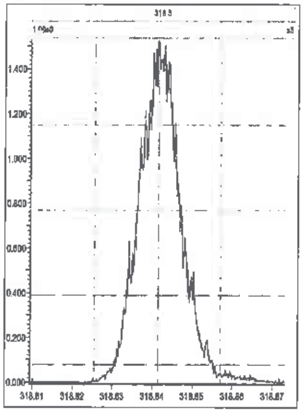

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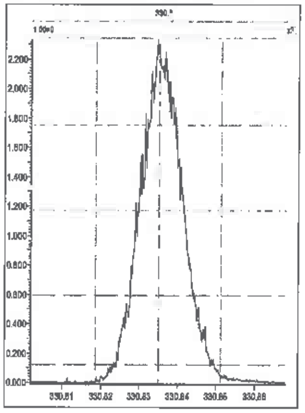

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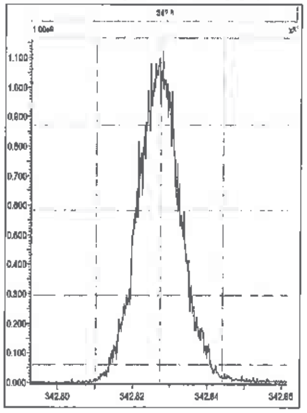

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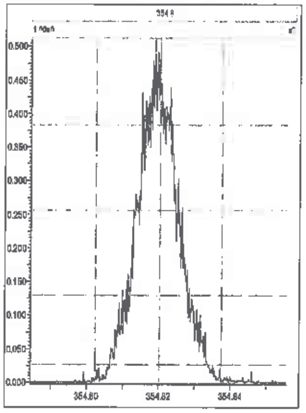

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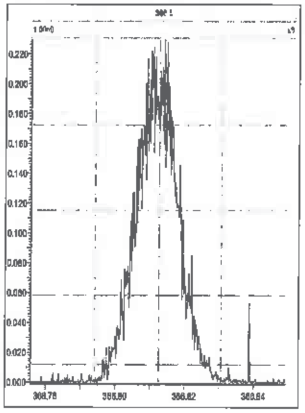

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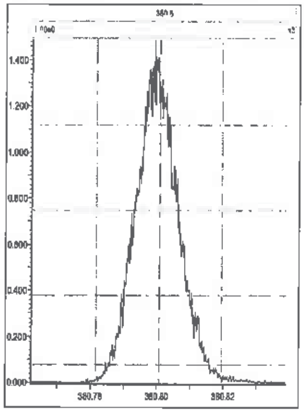

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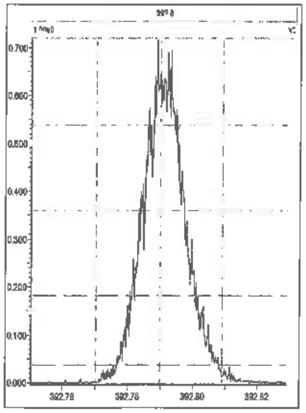

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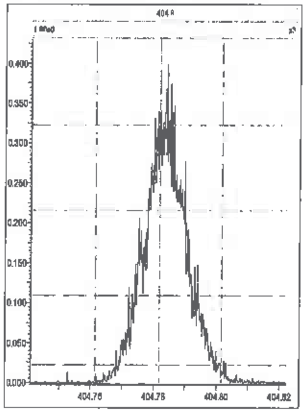

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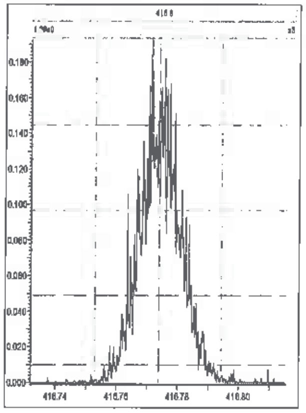

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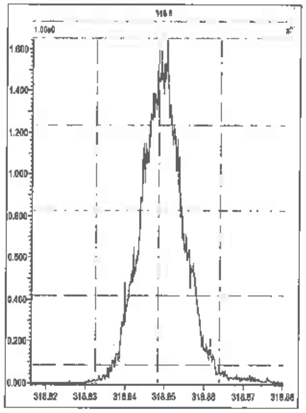

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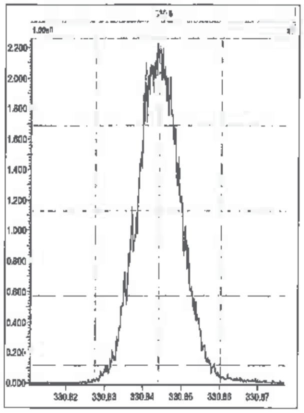

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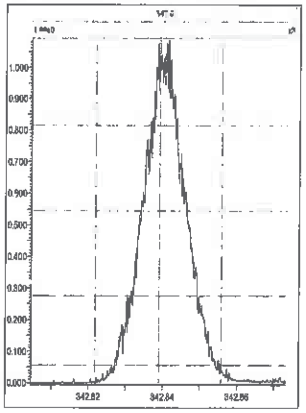

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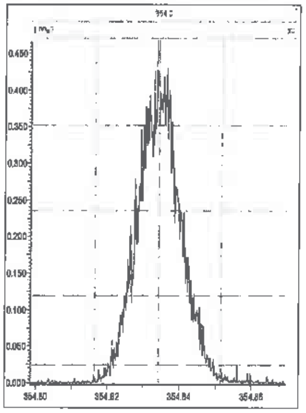

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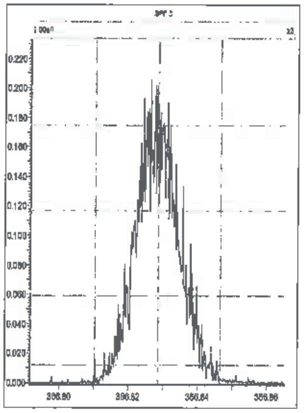

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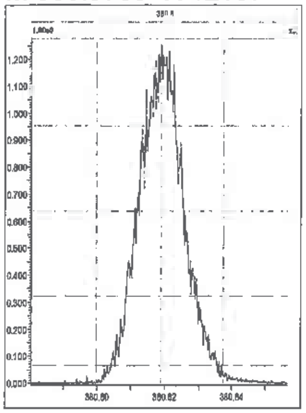

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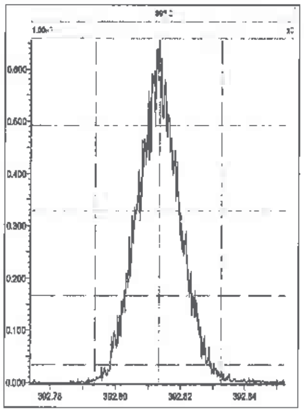

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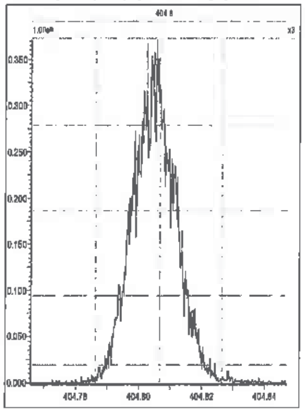

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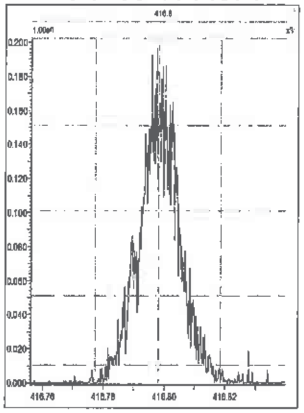

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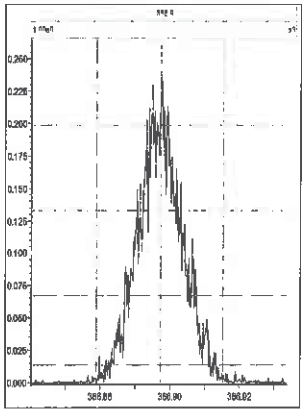

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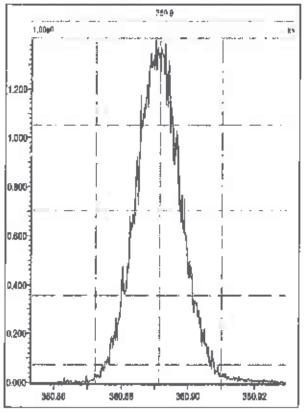

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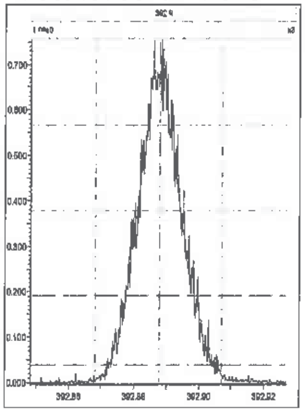

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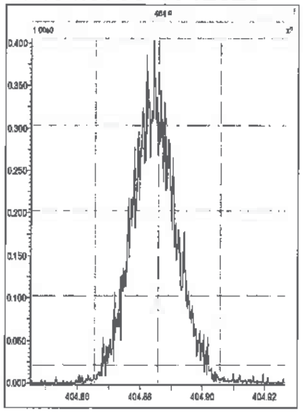

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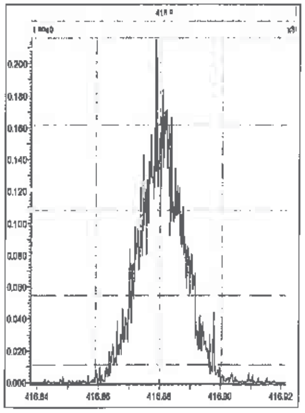

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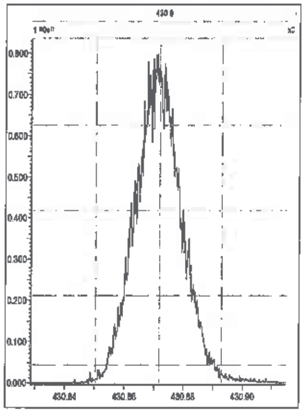

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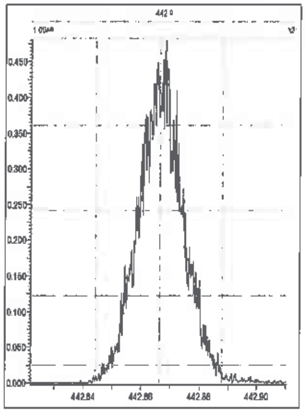

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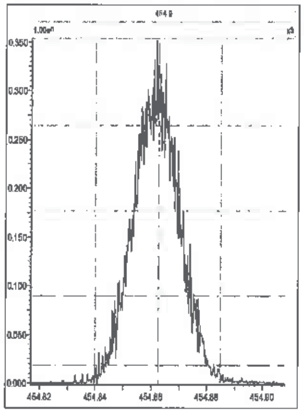

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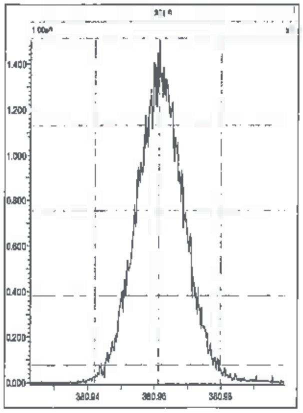

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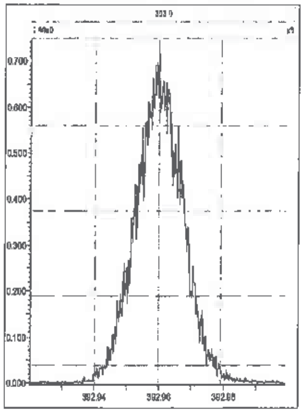

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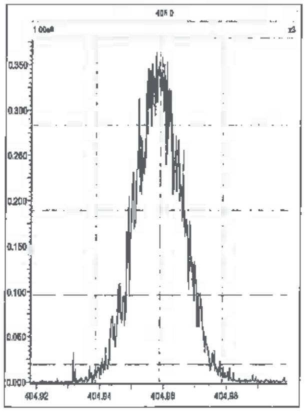

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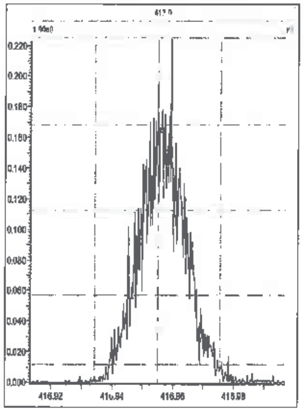

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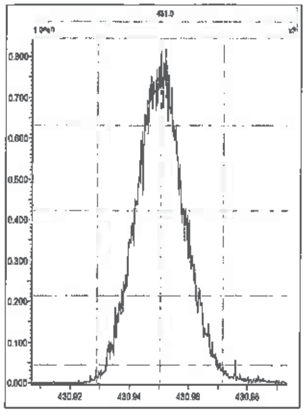

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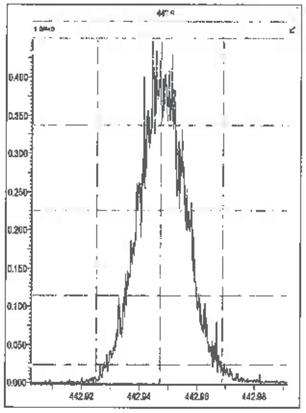

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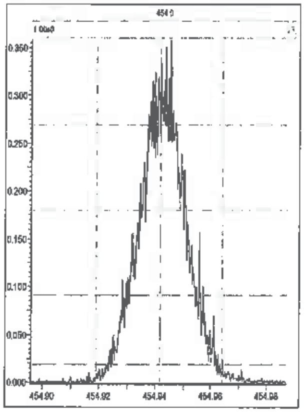

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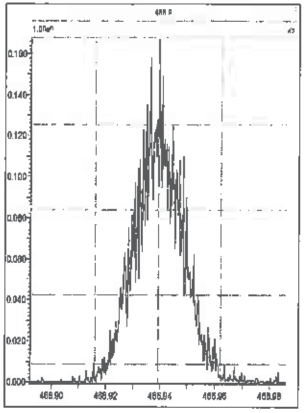

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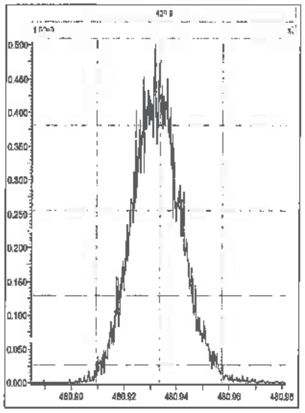

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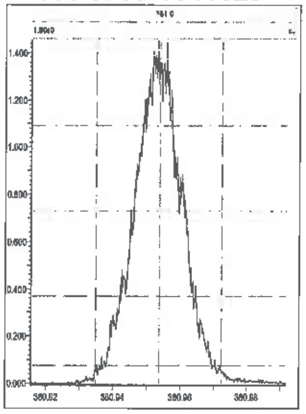

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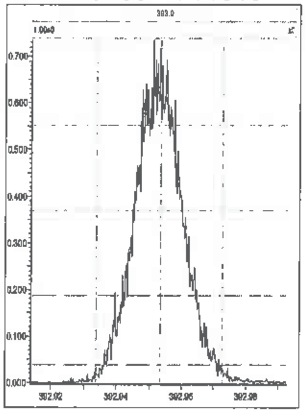

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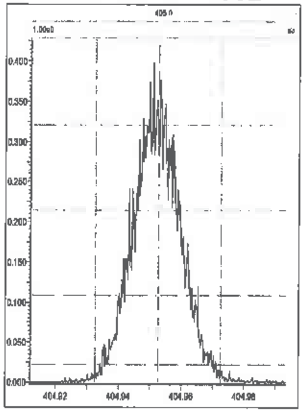

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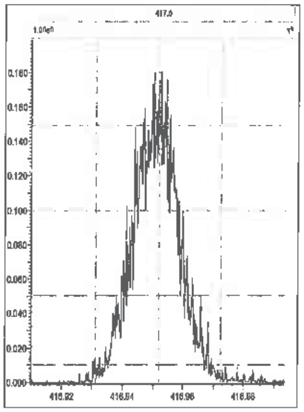

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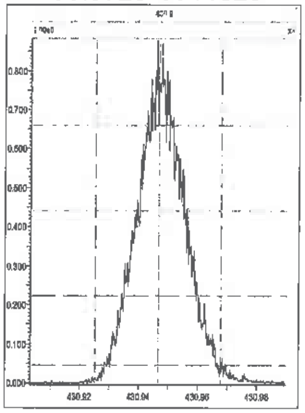
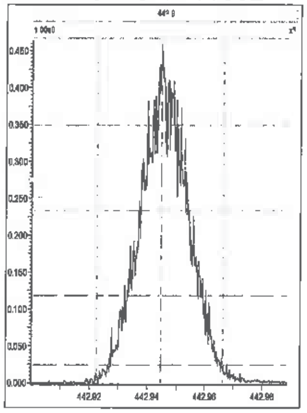


M 442.9728 R 11602



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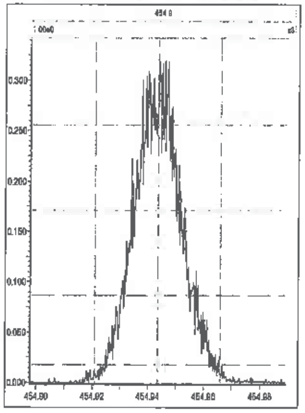

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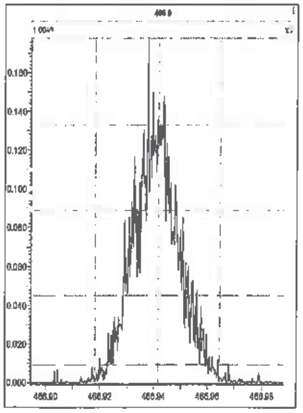

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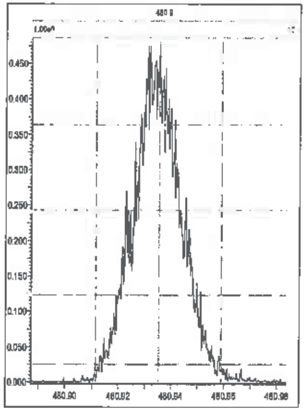

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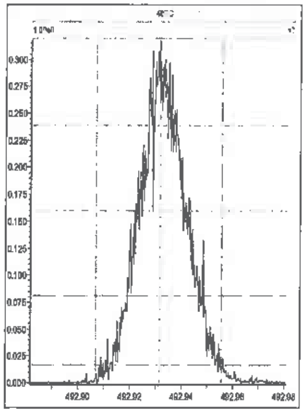

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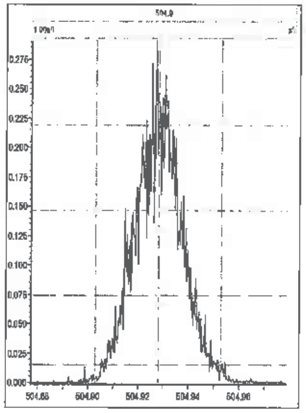

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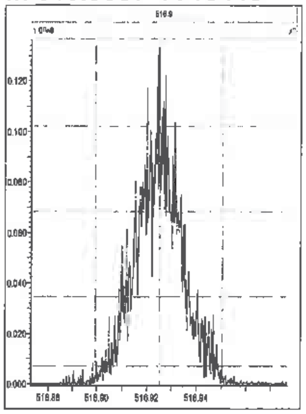

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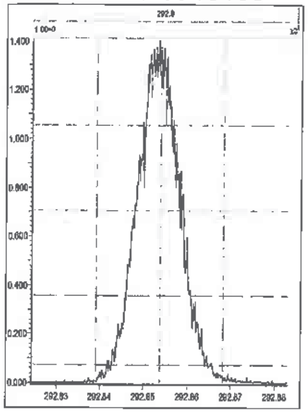
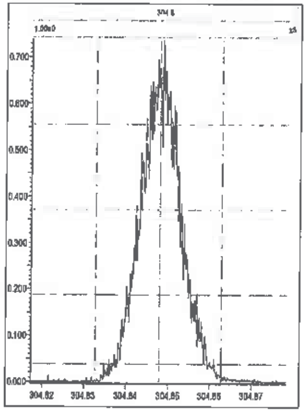
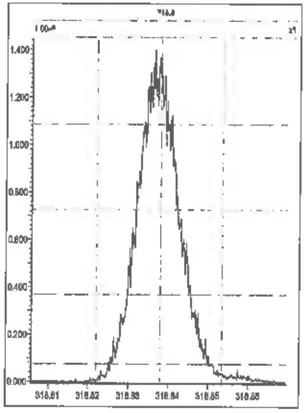


M 304.9824 R 13399



M 318.9792 R 12988



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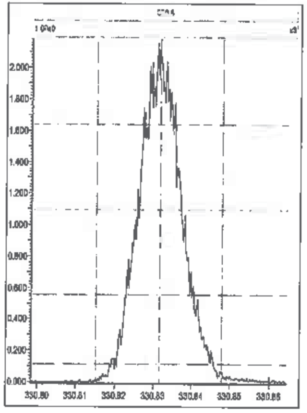

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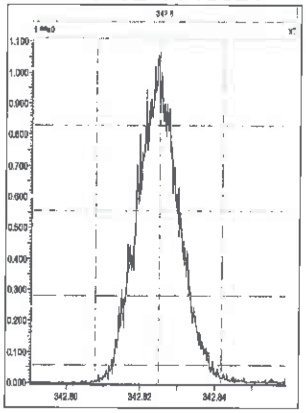

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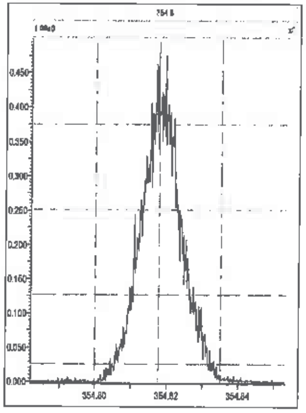

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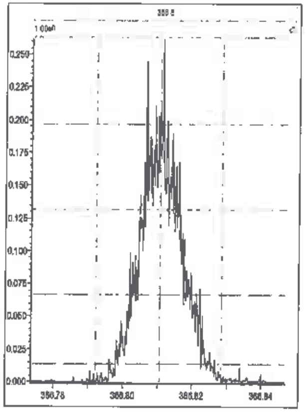
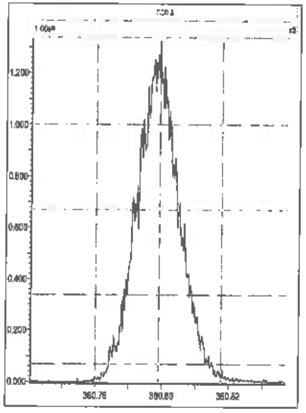


M 380.9760 R 12499



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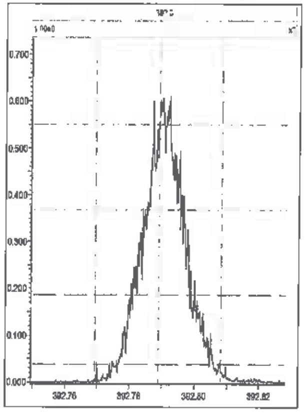
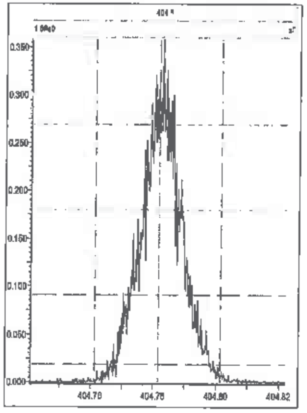
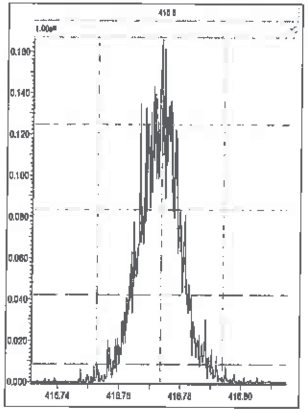


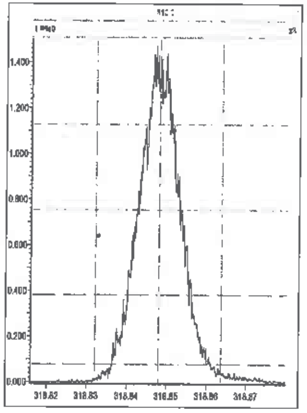
M 404.9760 R 13476



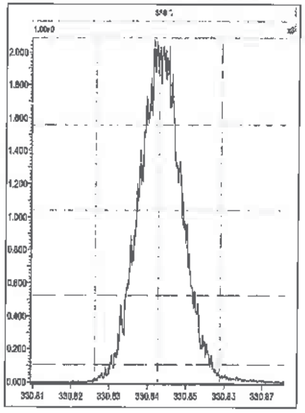
M 416.9760 R 14044



M 318.9792 R 12329



M 330.9792 R 13055



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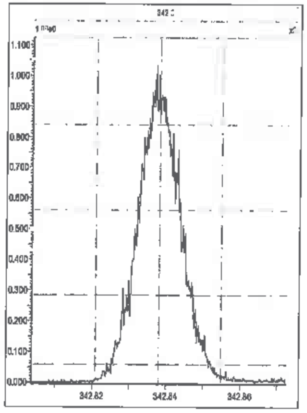
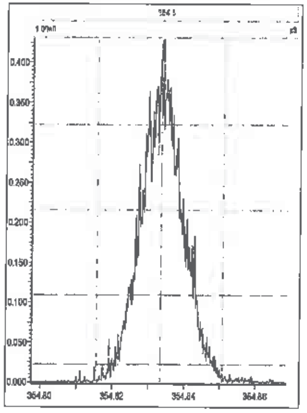
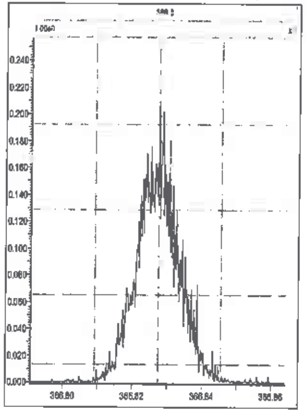


M 354.9792 R 13332



M 366.9792 R 14048



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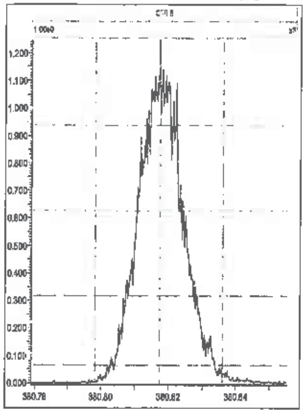
M 380.9760 R 12438



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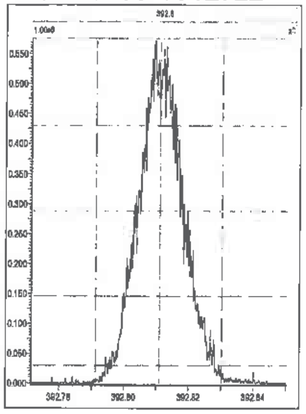

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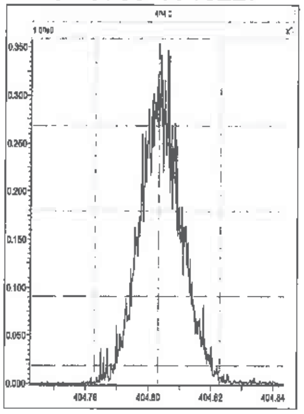

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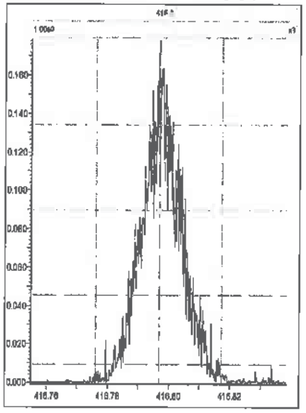

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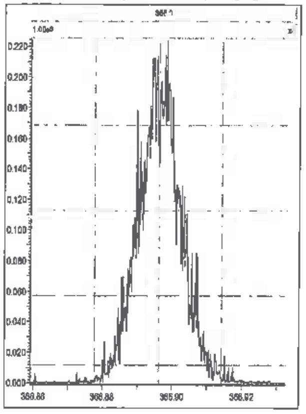

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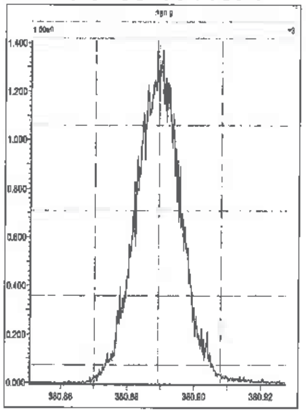

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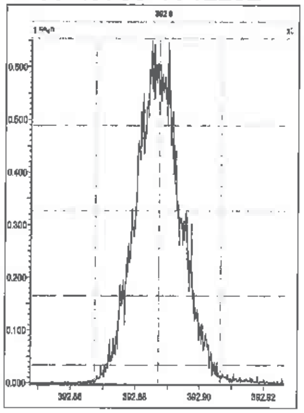

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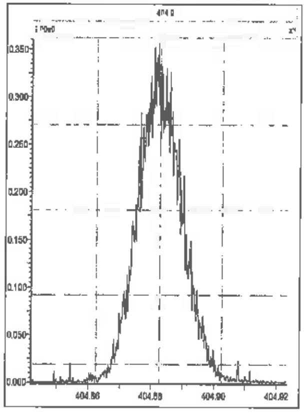

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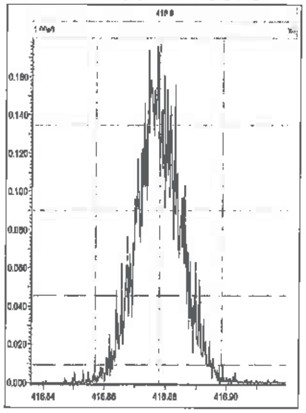

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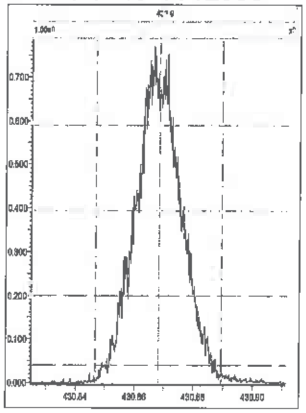

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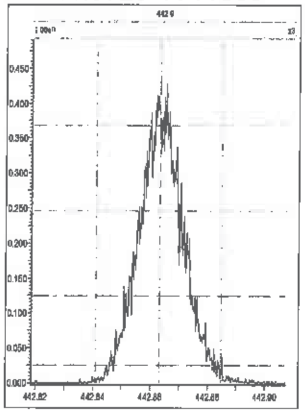

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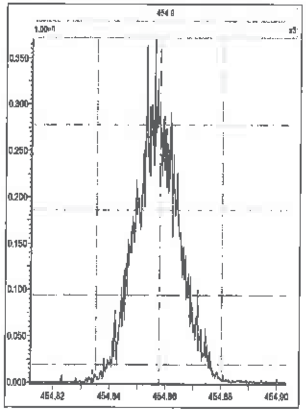

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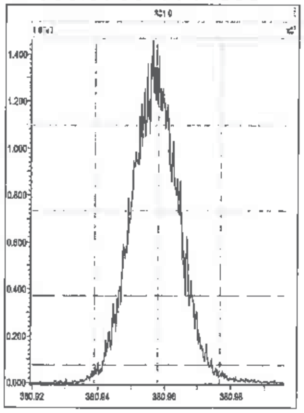

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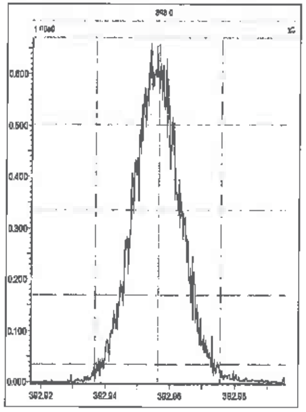

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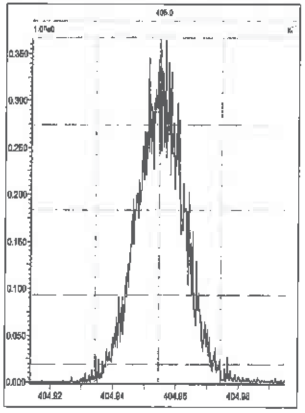

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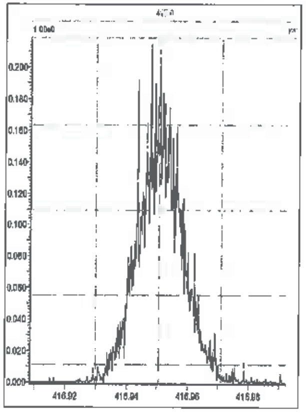

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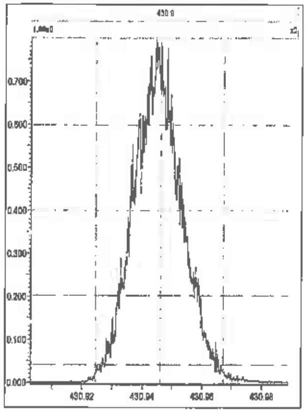

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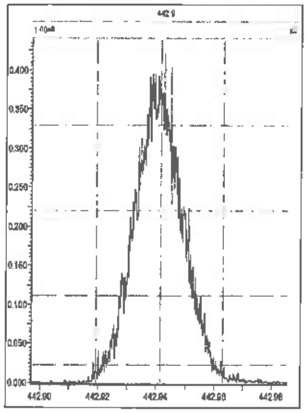

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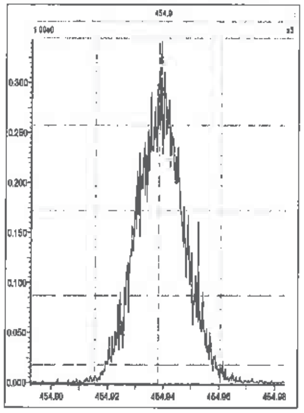

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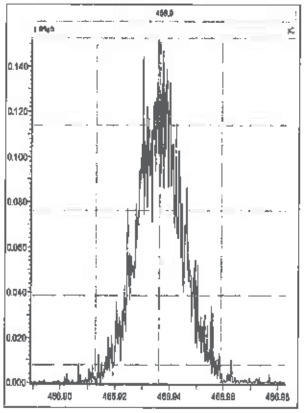

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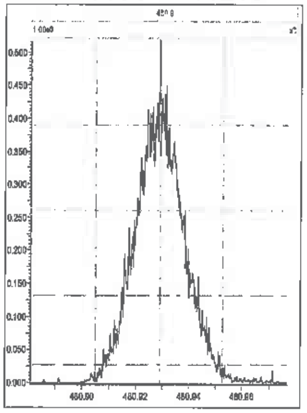

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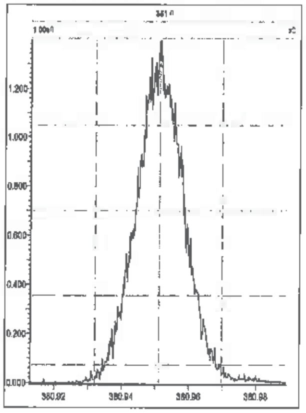

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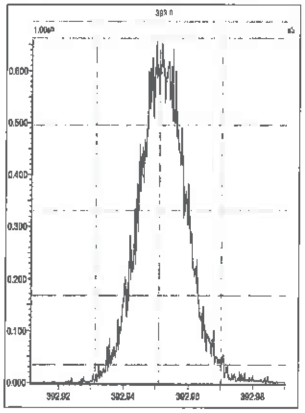

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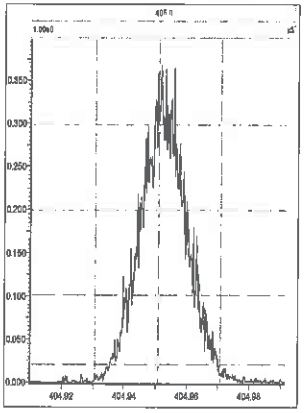

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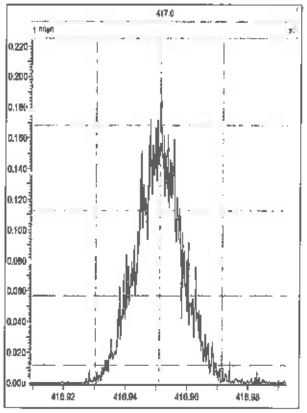

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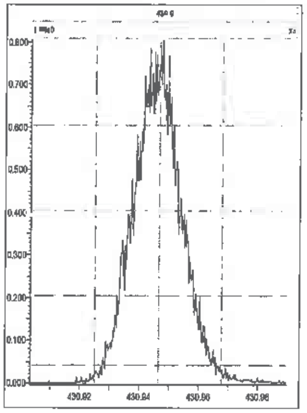

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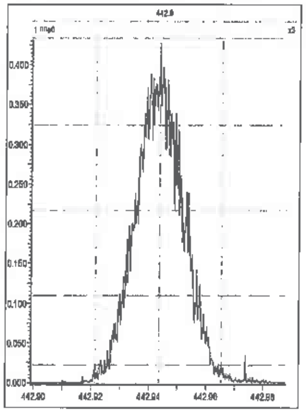

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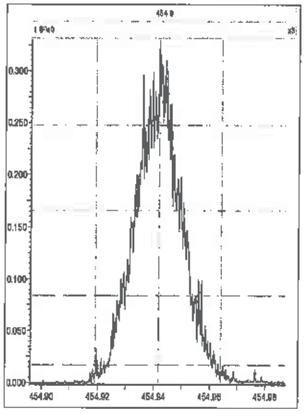

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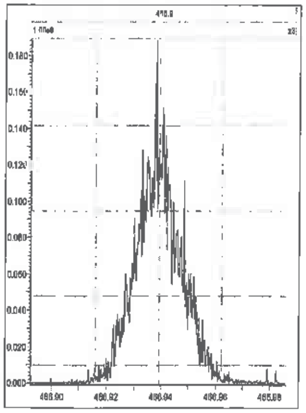

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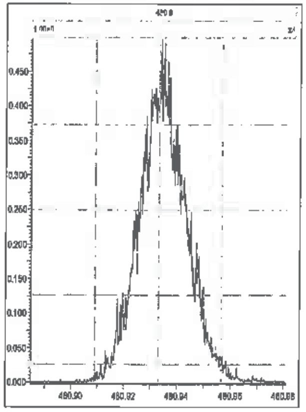

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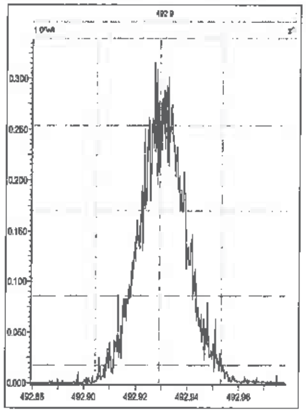

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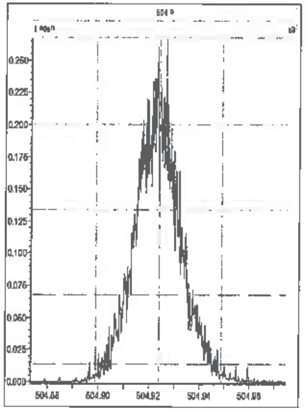

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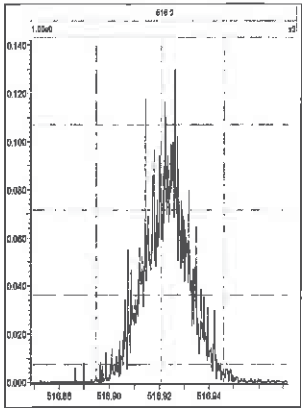

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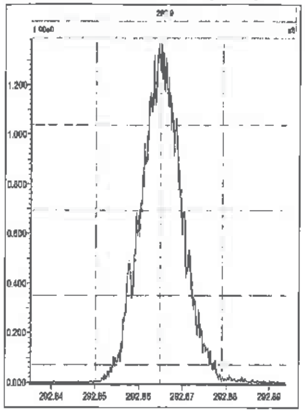

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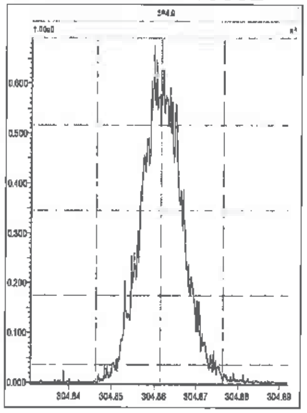

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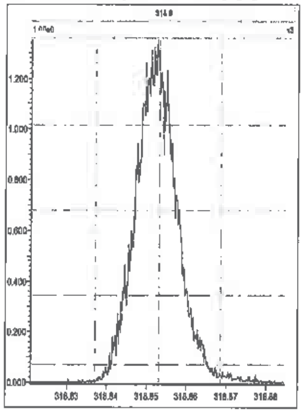

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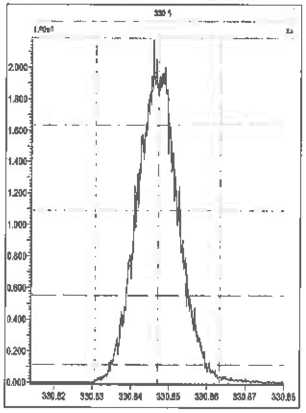

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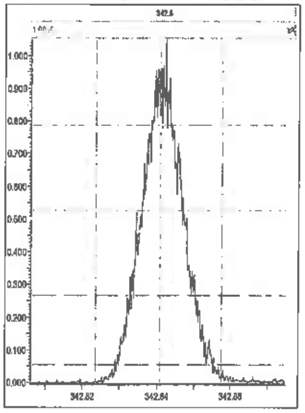

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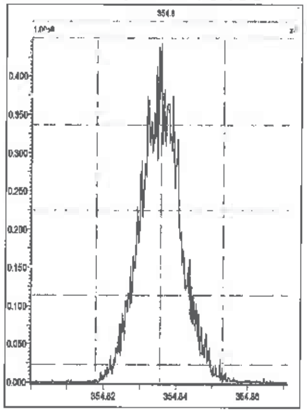

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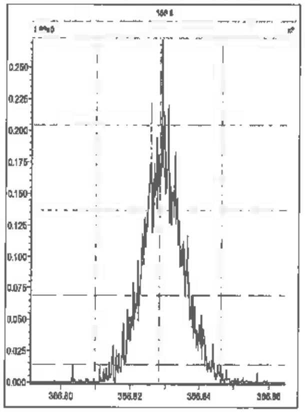

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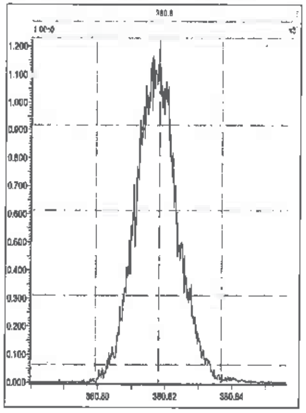

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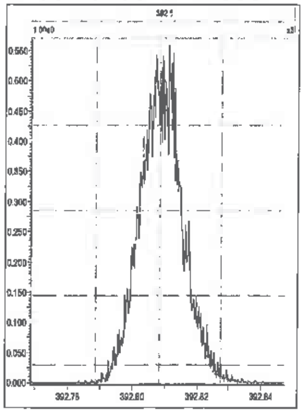

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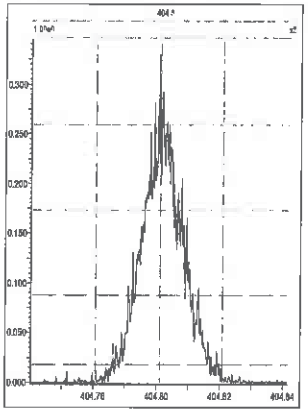

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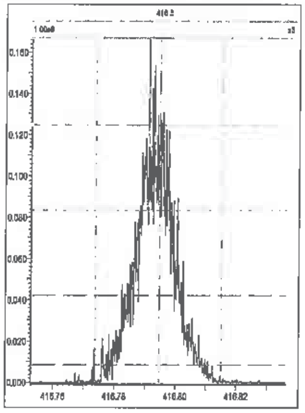

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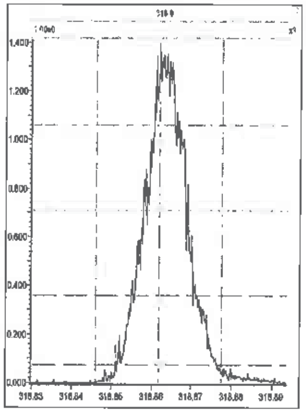

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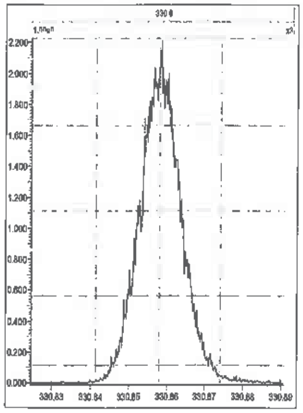

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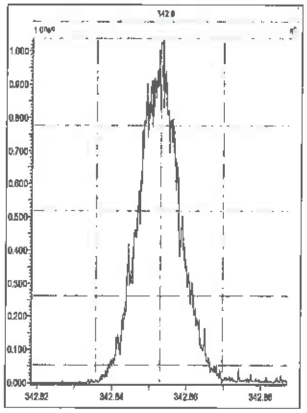

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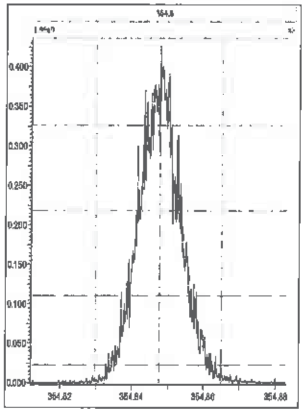

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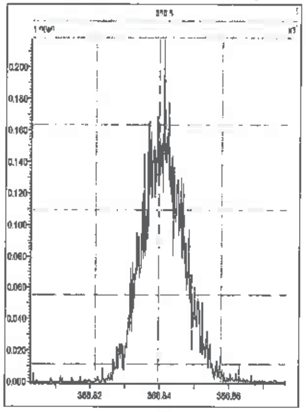

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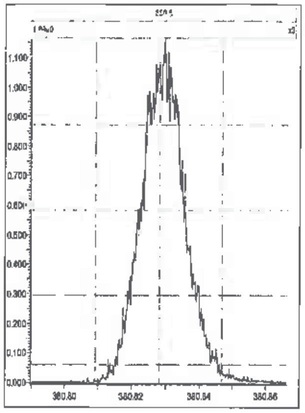

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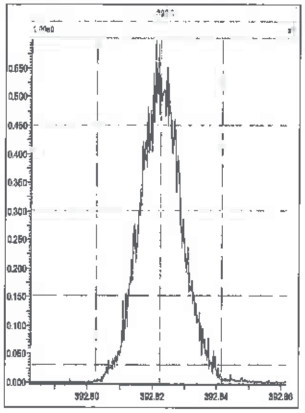

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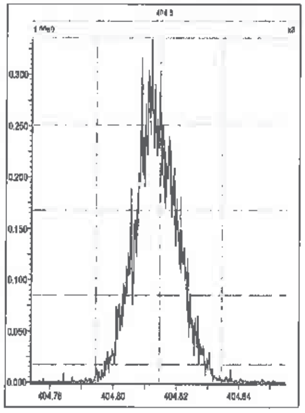

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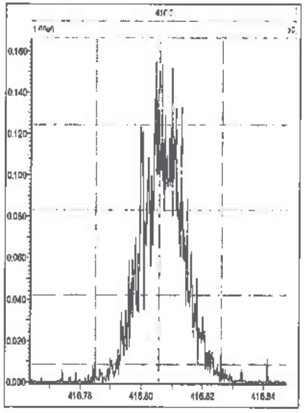

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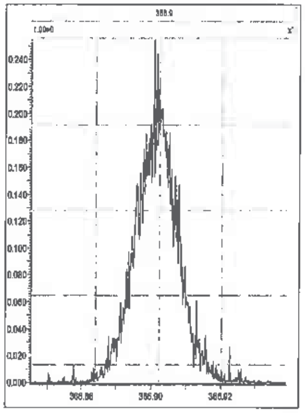

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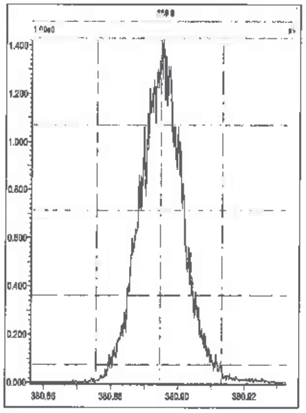

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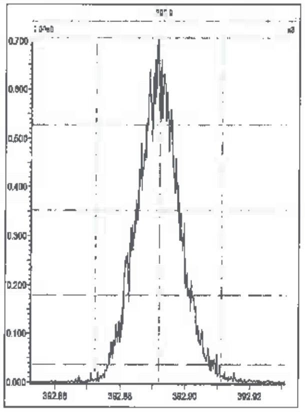

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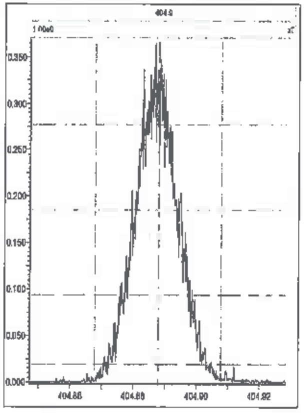

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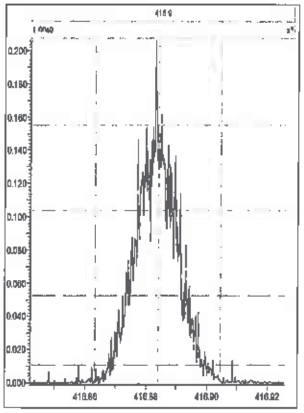

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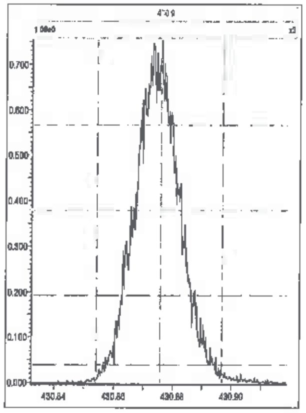

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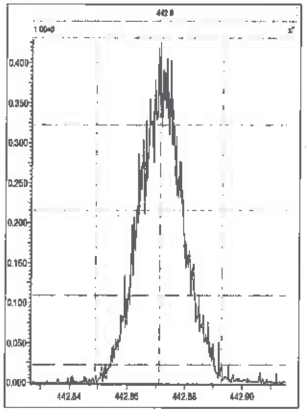

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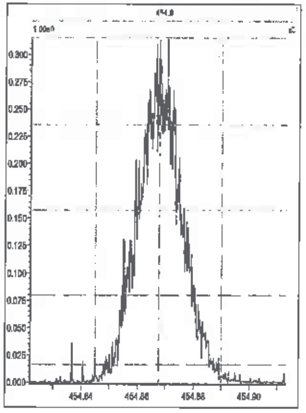

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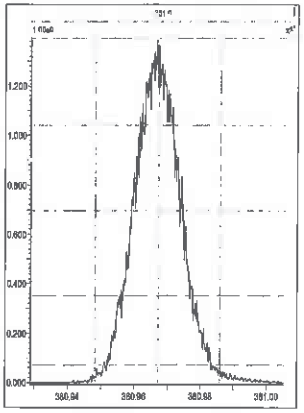

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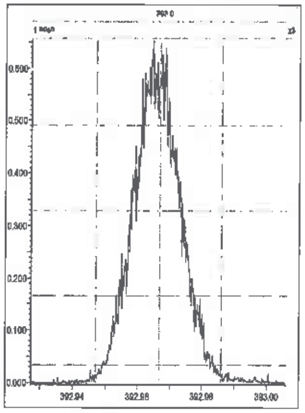

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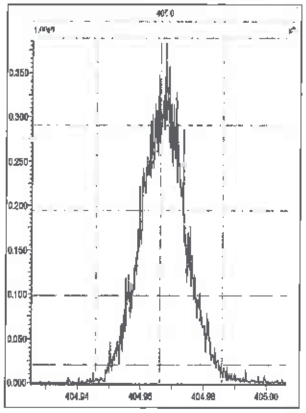

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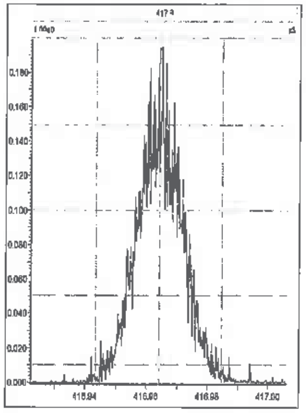

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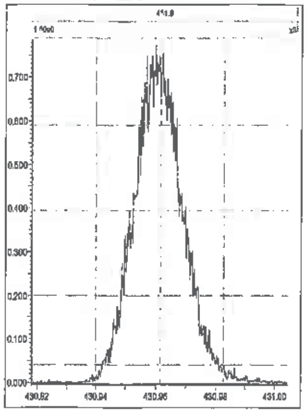

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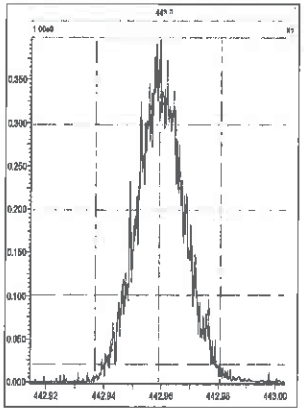

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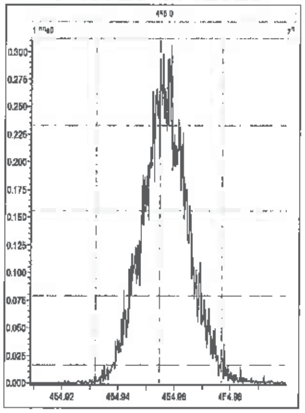

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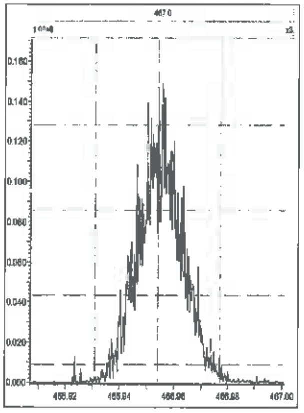

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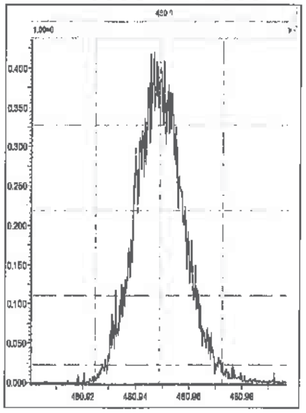

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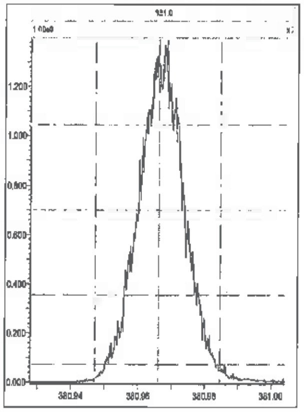

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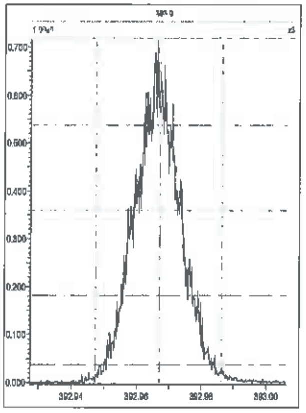

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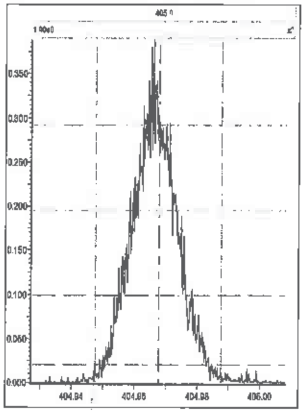

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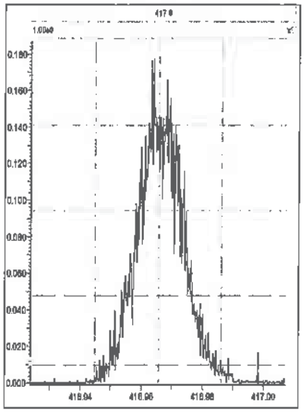

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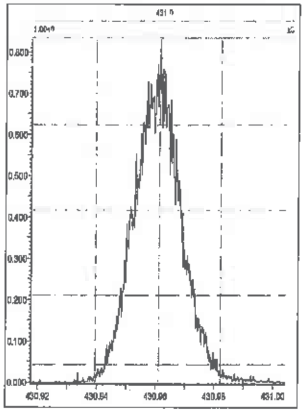

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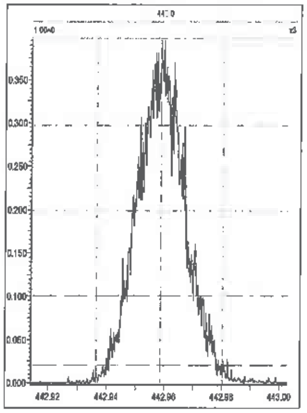

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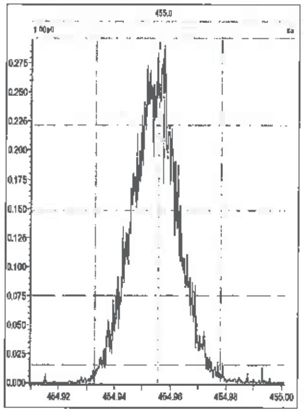

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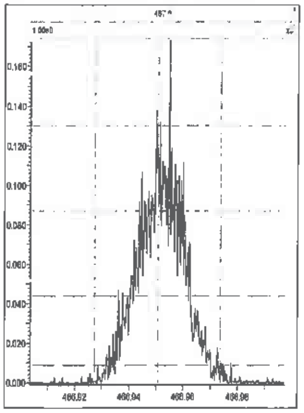

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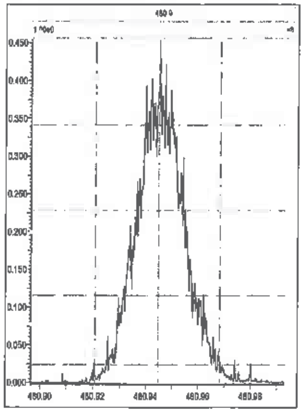

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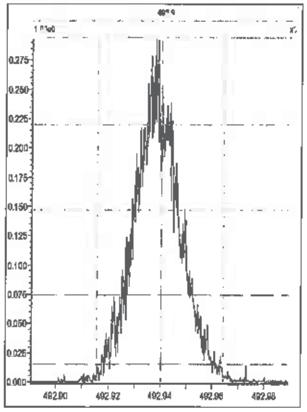

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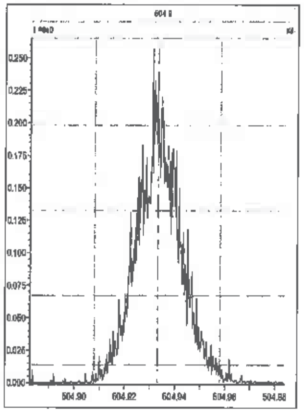

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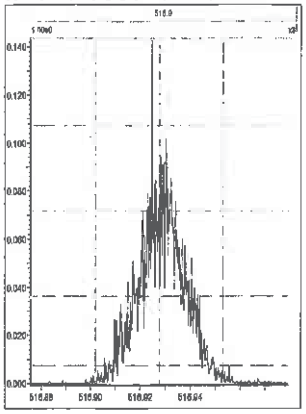

Resolution Check Report **MassLynx 4.1** Page 1 of 4

Printed: Sunday, November 19, 2017 10:51:13 Pacific Standard Time

3D5

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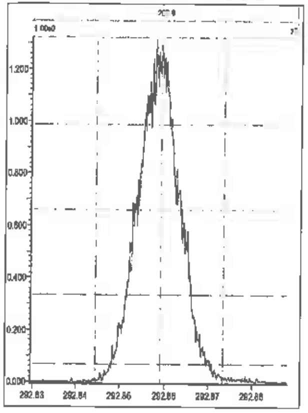

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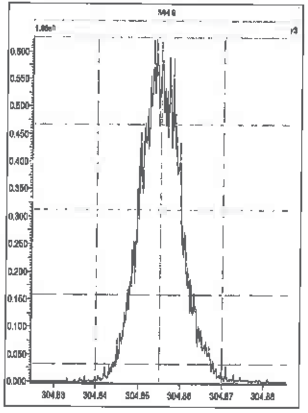

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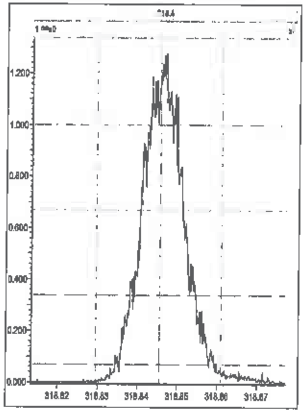

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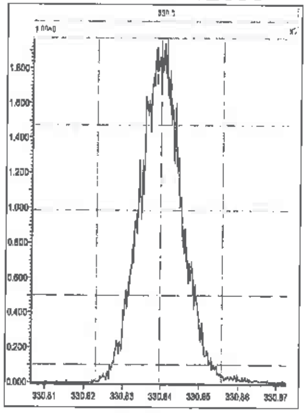

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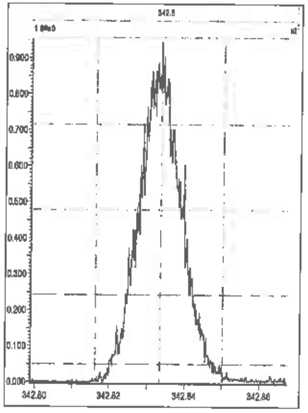

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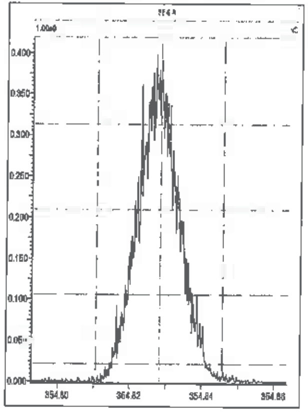

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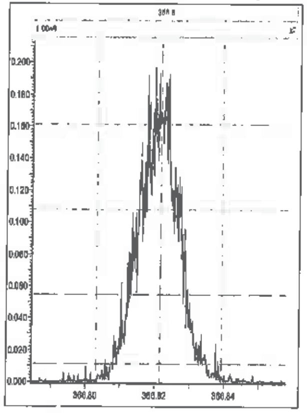

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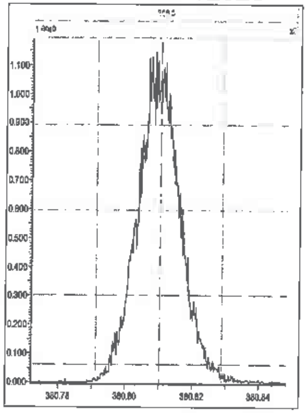

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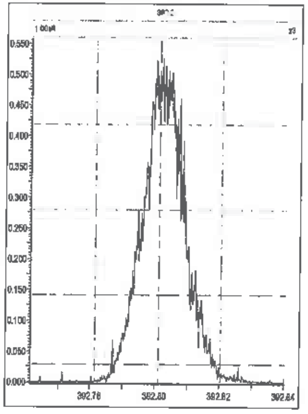

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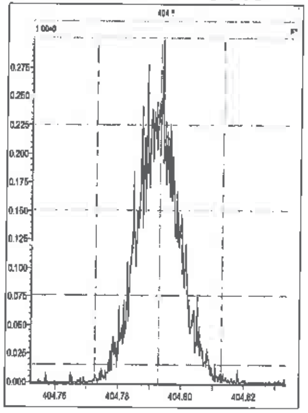

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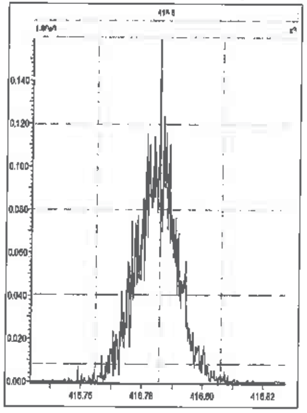

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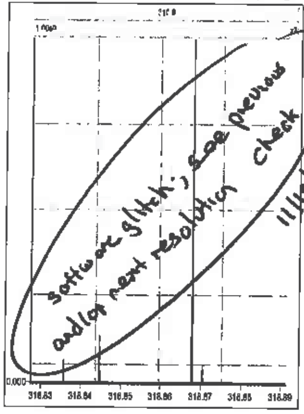

software glitch; see previous and/or next resolution check

11/19/17 pss

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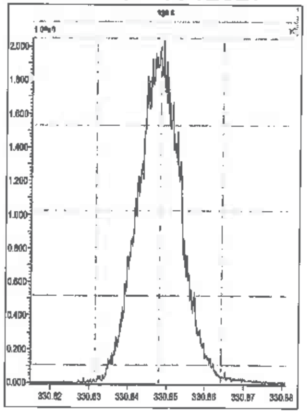

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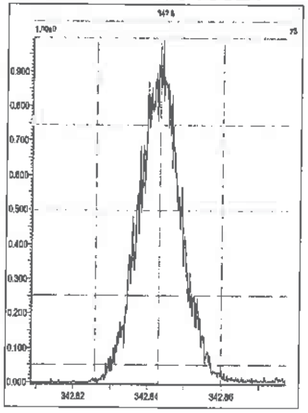

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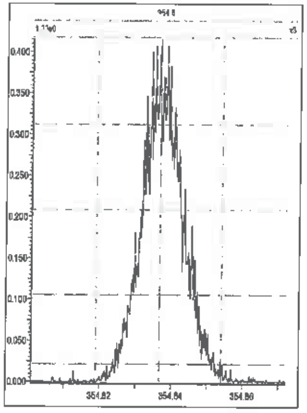

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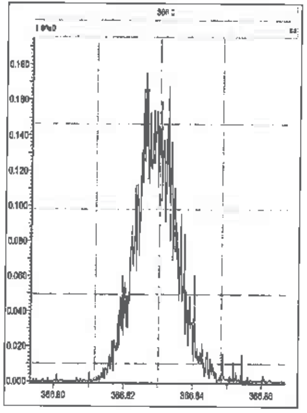

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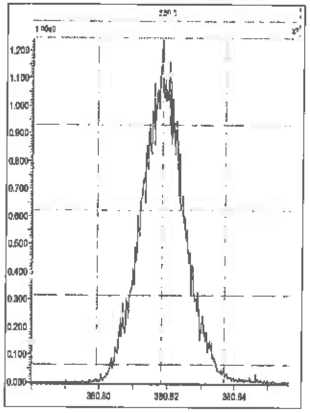

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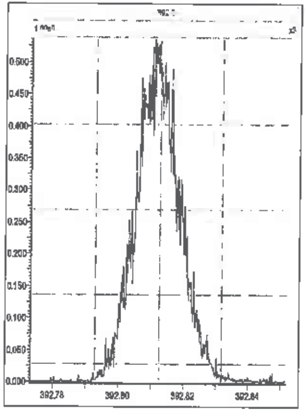

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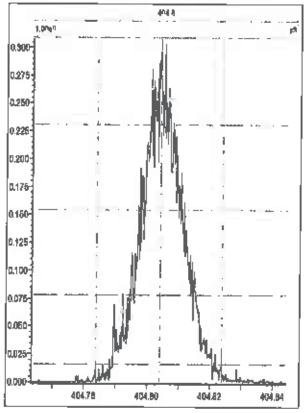

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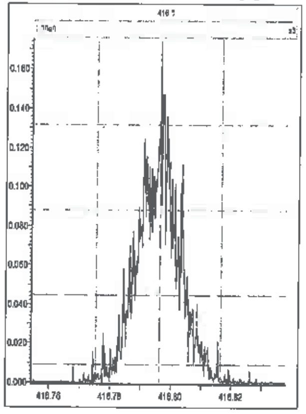

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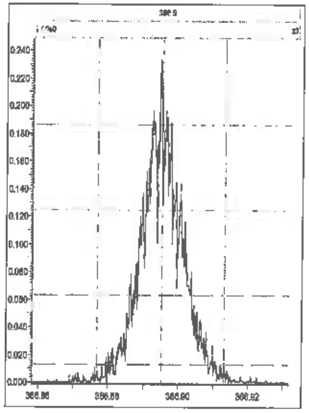

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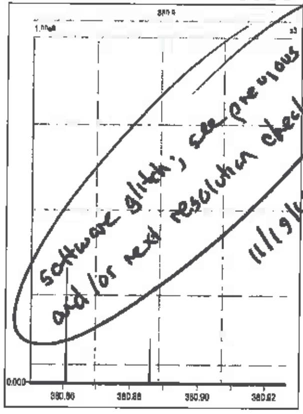

software glitch; see previous and/or next resolution check

11/19/17

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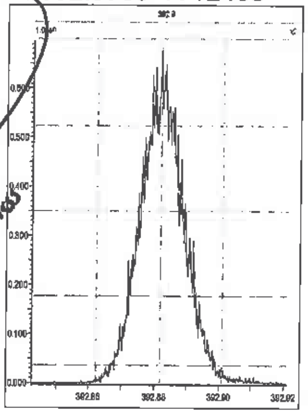

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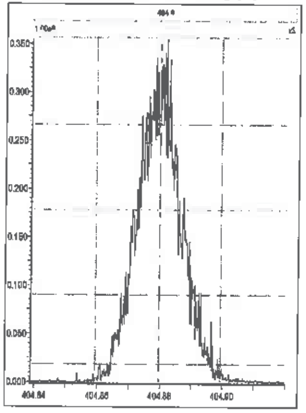

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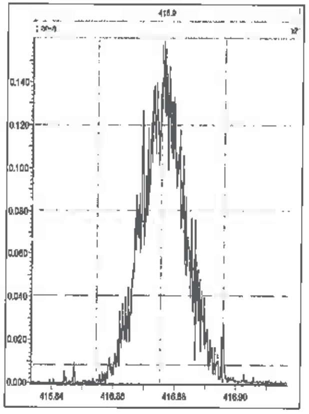

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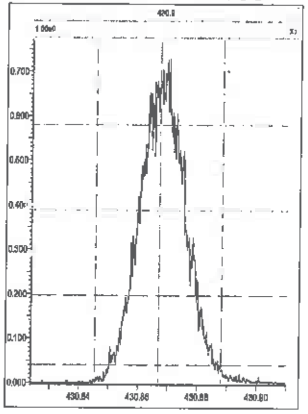

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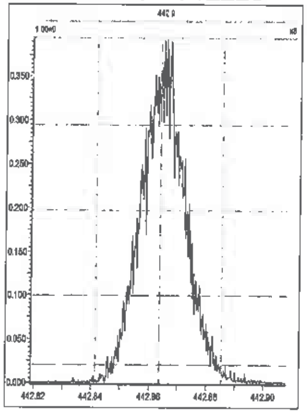

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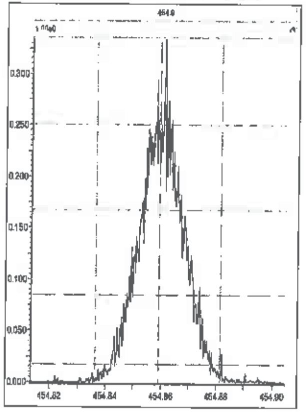

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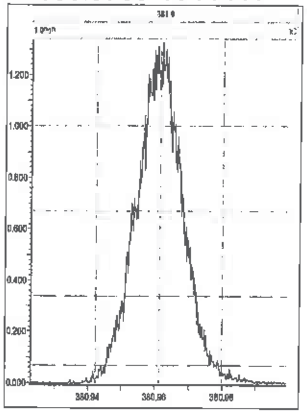

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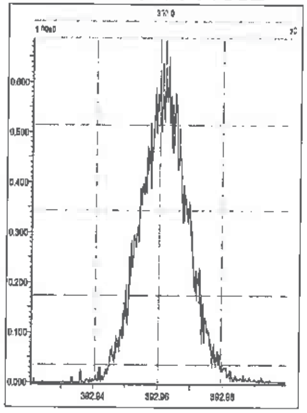

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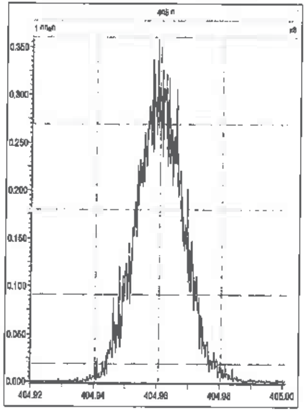

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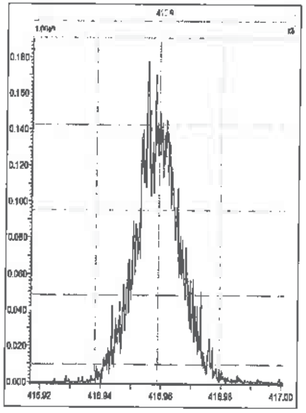

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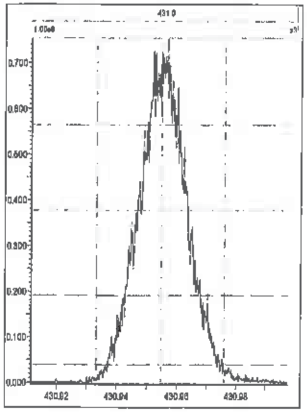

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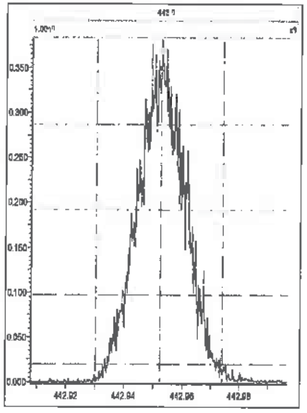

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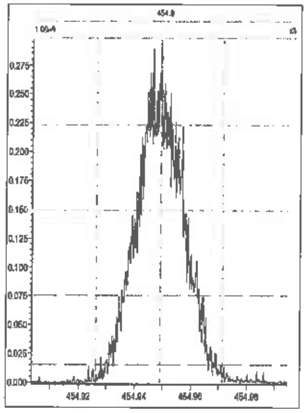

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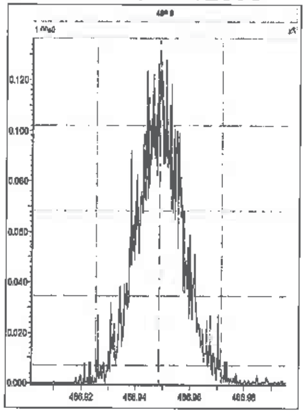

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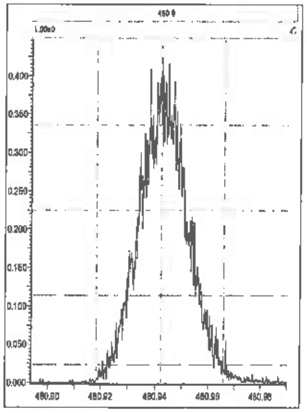

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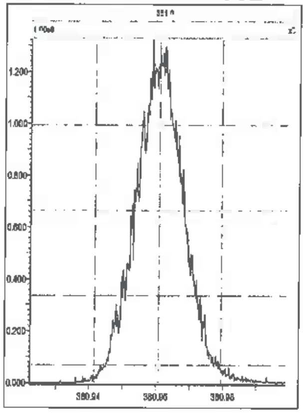

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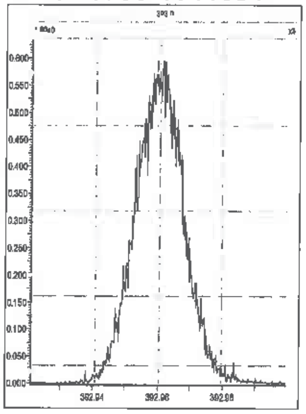

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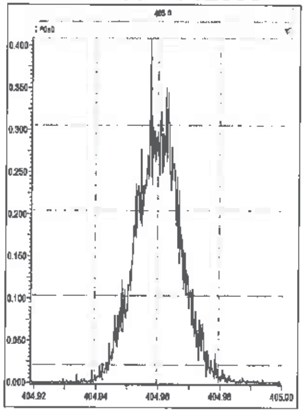

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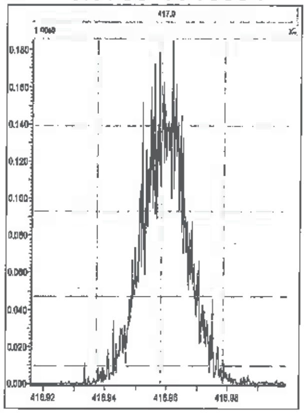

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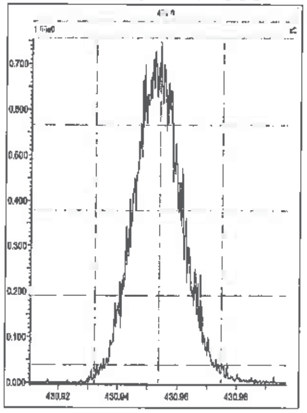

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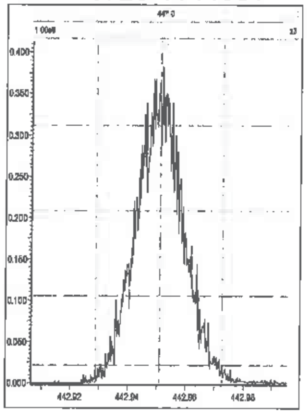

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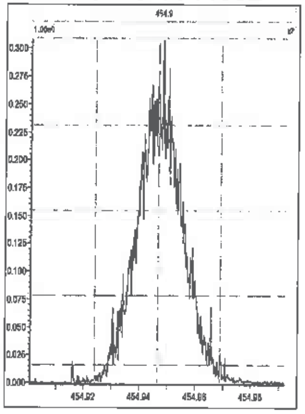

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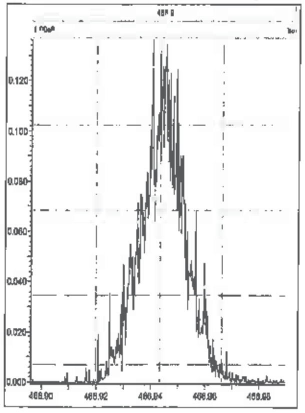

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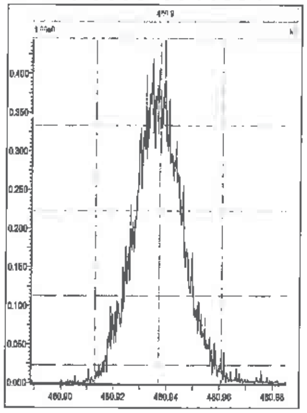

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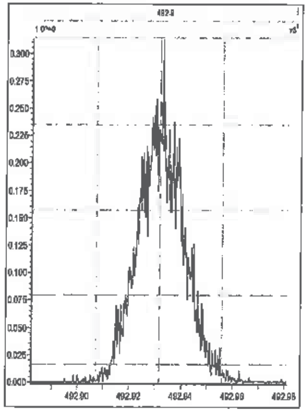

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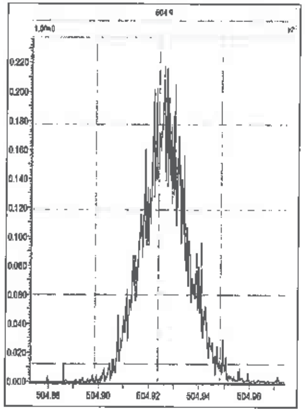

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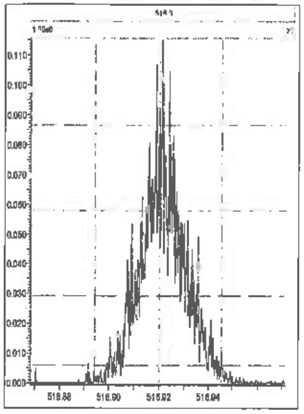


Report Date: 20-Nov-2017 11:46:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_55.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 18-Nov-2017 13:48:13 ALS Bottle#: 2 Worklist Smp#: 55
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111617F CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:46:53 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 19-Nov-2017 08:09:27

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	132859359	0.87	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.705	197081658	0.80	1.5089	98.3	98.3	0.3075	0.3075	98.31	
2,3,7,8-TCDF	17.720	20816485	0.75	1.0971	9.627	9.627	0.0349	0.0349	96.27	
A Non-2,3,7,8-sub-TCDF	17.425						0.0	0.0		
S Total TCDF					9.627	9.627	0.0349	0.0349		
D 13C-2,3,7,8-TCDD	18.430	129061794	0.80	0.9906	98.1	98.1	0.2169	0.2169	98.06	
$ 37Cl4-2,3,7,8-TCDD	18.461	15246926		1.1732	9.782	9.782	0.0415	0.0415	97.82	
2,3,7,8-TCDD	18.461	13897583	0.82	1.1645	9.247	9.247	0.0369	0.0369	92.47	
A Non-2,3,7,8-sub-TCDD	17.894						0.0	0.0		
S Total TCDD					9.247	9.247	0.0369	0.0369		
D 13C-1,2,3,7,8-PeCDF	22.883	155662572	1.64	1.1280	103.9	103.9	0.3102	0.3102	104	
1,2,3,7,8-PeCDF	22.910	84162666	1.63	1.1422	47.3	47.3	0.2047	0.2047	94.67	
D 13C-2,3,4,7,8-PeCDF	24.274	149563763	1.62							
2,3,4,7,8-PeCDF	24.301	83295240	1.61	1.1102	48.2	48.2	0.2105	0.2105	96.39	
A F1 PeCDFs	20.434						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.682						0.0	0.0		
S Total PeCDF					95.5	95.5	0.2076	0.2076		
D 13C-1,2,3,7,8-PeCDD	25.010	102058708	1.60	0.7269	105.7	105.7	0.1423	0.1423	106	
1,2,3,7,8-PeCDD	25.037	54439774	1.68	1.1272	47.3	47.3	0.0911	0.0911	94.64	
A Non-2,3,7,8-sub-PeCDD	23.905						0.0	0.0		
S Total PeCDD					47.3	47.3	0.0911	0.0911		
D 13C-1,2,3,4,7,8-HxCDF	30.919	116546703	0.51	1.0279	93.4	93.4	0.4577	0.4577	93.42	
1,2,3,4,7,8-HxCDF	30.932	79382828	1.31	1.3475	50.5	50.5	0.2817	0.2817	101	
D 13C-1,2,3,6,7,8-HxCDF	31.079	139588575	0.52							
1,2,3,6,7,8-HxCDF	31.092	88323174	1.24	1.4794	51.2	51.2	0.2566	0.2566	102	
D 13C-2,3,4,6,7,8-HxCDF	31.824	127228969	0.52							
2,3,4,6,7,8-HxCDF	31.838	81820820	1.27	1.3833	50.8	50.8	0.2744	0.2744	102	
D 13C-1,2,3,7,8,9-HxCDF	32.583	124228746	0.51							
1,2,3,7,8,9-HxCDF	32.597	77387234	1.26	1.2903	51.5	51.5	0.2942	0.2942	103	
A Non-2,3,7,8-sub-HxCDF	30.679						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					204.0	204.0	0.2767	0.2767		
* 13C-1,2,3,7,8,9-HxCDD	32.410	121369642	1.22	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.997	89651951	1.23							
1,2,3,4,7,8-HxCDD	32.011	52290053	1.29	1.0646	49.8	49.8	0.1859	0.1859	99.64	
D 13C-1,2,3,6,7,8-HxCDD	32.091	98582359	1.28	0.8502	95.5	95.5	0.3085	0.3085	95.54	
1,2,3,6,7,8-HxCDD	32.117	57641352	1.29	1.1809	49.5	49.5	0.1676	0.1676	99.03	
1,2,3,7,8,9-HxCDD	32.424	62265430	1.26	1.2311	51.3	51.3	0.1608	0.1608	103	
A Non-2,3,7,8-sub-HxCDD	31.278						0.0	0.0		
S Total HxCDD					150.6	150.6	0.1715	0.1715		
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	79622420	0.43	0.6490	101.1	101.1	1.070	1.070	101	
1,2,3,4,6,7,8-HpCDF	34.010	62382439	1.05	1.5871	49.4	49.4	0.5011	0.5011	98.73	
D 13C-1,2,3,4,7,8,9-HpCDF	35.116	65737944	0.45							
1,2,3,4,7,8,9-HpCDF	35.128	49081761	1.06	1.2290	50.2	50.2	0.6471	0.6471	100	
A Non-2,3,7,8-sub-HpCDF	34.581						0.0	0.0		
S Total HpCDF					99.5	99.5	0.5741	0.5741		
D 13C-1,2,3,4,6,7,8-HpCDD	34.812	68475832	1.06	0.5387	104.7	104.7	0.5737	0.5737	105	
1,2,3,4,6,7,8-HpCDD	34.824	38770621	1.06	1.1631	48.7	48.7	0.2729	0.2729	97.36	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					48.7	48.7	0.2729	0.2729		
D 13C-OCDD	37.245	98827263	0.90	0.4009	203.1	203.1	0.2905	0.2905	102	
OCDF	37.353	61986780	0.92	1.2649	99.2	99.2	0.0910	0.0910	99.17	
OCDD	37.257	50199897	0.90	1.0390	97.8	97.8	0.1152	0.1152	97.78	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_55.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 18-Nov-2017 13:48:13 ALS Bottle#: 2 Worklist Smp#: 55
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111617F CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:46:53 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 19-Nov-2017 08:09:27

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		61675788	14831980	15372	38430	965		
333.9339	18.234	18.234	0		71183571	16714199	11736	29340	1424	0.87(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	0.971	87730912	20267274	39286	98215	516		
317.9389	17.705	17.705	0	0.971	109350746	25206665	19258	48145	1309	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720	17.720	0	1.001	8888318	2057852	2341	5852	879		
305.8987	17.720	17.720	0	1.001	11928167	2733755	4624	11560	591	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.425						2341	5852			
305.8987	17.425						4624	11560			
13C-2,3,7,8-TCDD											
331.9368	18.430	18.430	0	1.011	57198989	12506113	15372	38430	814		
333.9339	18.445	18.430	1	1.012	71862805	15573623	11736	29340	1327	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.461	18.461	0	1.012	15246926	3390604	6149	15372	551		
2,3,7,8-TCDD											
319.8965	18.461	18.461	0	1.002	6263600	1378071	2423	6057	569		
321.8936	18.461	18.461	0	1.002	7633983	1754246	2408	6020	729	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.894						2423	6057			
321.8936	17.894						2408	6020			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.883	0	1.255	96637296	16379964	25579	63947	640		
353.8970	22.883	22.883	0	1.255	59025276	9831221	18579	46447	529	1.64(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910	22.910	0	1.001	52132092	8654945	14040	35100	616		
341.8567	22.910	22.910	0	1.001	32030574	5381732	10468	26170	514	1.63(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.274	24.274	0	1.331	92463868	14835131	25579	63947	580		
353.8970	24.274	24.274	0	1.331	57099895	9078818	18579	46447	489	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.301	24.301	0	1.062	51390469	7999411	14040	35100	570		
341.8567	24.301	24.301	0	1.062	31904771	5029598	10468	26170	480	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.434						549	1372			
341.8567	20.434						1354	3385			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.682						14040	35100			
341.8567	23.682						10468	26170			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.372	62796801	9362097	7444	18610	1258		
369.8919	25.010	25.010	0	1.372	39261907	5929353	5610	14025	1057	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037	25.037	0	1.001	34154628	5014033	4281	10702	1171		
357.8516	25.037	25.037	0	1.001	20285146	2970525	2003	5007	1483	1.68(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.905						4281	10702			
357.8516	23.905						2003	5007			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.919	0	0.954	39368445	8800588	20319	50797	433		
385.8610	30.919	30.919	0	0.954	77178258	17390952	42251	105627	412	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932	30.932	0	1.000	45053191	10000068	21920	54800	456		
375.8178	30.932	30.932	0	1.000	34329637	7760824	17849	44622	435	1.31(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.079	31.079	0	0.959	47627588	9840736	20319	50797	484		
385.8610	31.079	31.079	0	0.959	91960987	19033405	42251	105627	450	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.092	31.092	0	1.006	48889304	10015784	21920	54800	457		
375.8178	31.092	31.092	0	1.006	39433870	8147006	17849	44622	456	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.824	31.824	0	0.982	43655578	11118536	20319	50797	547		
385.8610	31.824	31.824	0	0.982	83573391	21828541	42251	105627	517	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.838	31.838	0	1.030	45751889	11754294	21920	54800	536		
375.8178	31.838	31.838	0	1.030	36068931	9289192	17849	44622	520	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.005	42058599	11241678	20319	50797	553		
385.8610	32.583	32.583	0	1.005	82170147	22103172	42251	105627	523	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597	32.597	0	1.054	43131094	11398156	21920	54800	520		
375.8178	32.597	32.597	0	1.054	34256140	9185897	17849	44622	515	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.679						21920	54800			
375.8178	30.679						17849	44622			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.410	0		66587478	18334887	18782	46955	976		
403.8529	32.410	32.410	0		54782164	14910885	16091	40227	927	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.997	31.997	0	0.987	49443286	14091960	18782	46955	750		
403.8529	31.997	31.997	0	0.987	40208665	11522790	16091	40227	716	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.011	32.011	0	0.998	29419490	8502319	10378	25945	819		
391.8127	32.011	32.011	0	0.998	22870563	6602104	9775	24437	675	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.990	55399771	14308432	18782	46955	762		
403.8529	32.091	32.091	0	0.990	43182588	11141876	16091	40227	692	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.117	32.117	0	1.001	32482449	8253833	10378	25945	795		
391.8127	32.104	32.117	-1	1.000	25158903	6637515	9775	24437	679	1.29(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.424	32.424	0	1.010	34713099	9461895	10378	25945	912		
391.8127	32.424	32.424	0	1.010	27552331	7513628	9775	24437	769	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.278						10378	25945			
391.8127	31.278						9775	24437			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	23931458	7775503	30584	76460	254		
419.8220	33.998	33.998	0	1.049	55690962	17924967	61775	154437	290	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.010	34.010	0	1.000	31922040	10386172	40075	100187	259		
409.7789	34.010	34.010	0	1.000	30460399	9912572	41675	104187	238	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.116	35.116	0	1.083	20416839	5900284	30584	76460	193		
419.8220	35.116	35.116	0	1.083	45321105	12969496	61775	154437	210	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128	35.128	0	1.033	25236167	7545902	40075	100187	188		
409.7789	35.128	35.128	0	1.033	23845594	7164516	41675	104187	172	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.581						40075	100187			
409.7789	34.581						41675	104187			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.812	34.812	0	1.074	35242602	10473087	22242	55605	471		
437.8140	34.812	34.812	0	1.074	33233230	9987182	18854	47135	530	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.824	34.824	0	1.000	19912570	5935665	13414	33535	442		
425.7737	34.824	34.824	0	1.000	18858051	5626407	12562	31405	448	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						13414	33535			
425.7737	35.261						12562	31405			
13C-OCDD											
469.7779	37.245	37.245	0	1.149	46823904	12018762	7171	17927	1676		
471.7750	37.245	37.245	0	1.149	52003359	13488461	8319	20797	1621	0.90(0.76-1.02)	
OCDF											
441.7428	37.353	37.353	0	1.003	29710971	7645620	2200	5500	3475		
443.7399	37.341	37.353	-1	1.003	32275809	8283865	3671	9177	2257	0.92(0.76-1.02)	
OCDD											
457.7377	37.257	37.257	0	1.000	23725790	6189571	2791	6977	2218		
459.7348	37.245	37.257	-1	1.000	26474107	6885476	3313	8282	2078	0.90(0.76-1.02)	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

Report Date: 20-Nov-2017 11:46:54　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_55.d

Injection Date: 18-Nov-2017 13:48:13　　Injection Vol: 2.0 ul

Instrument ID: 3D5　　Operator ID: SMA, ALM

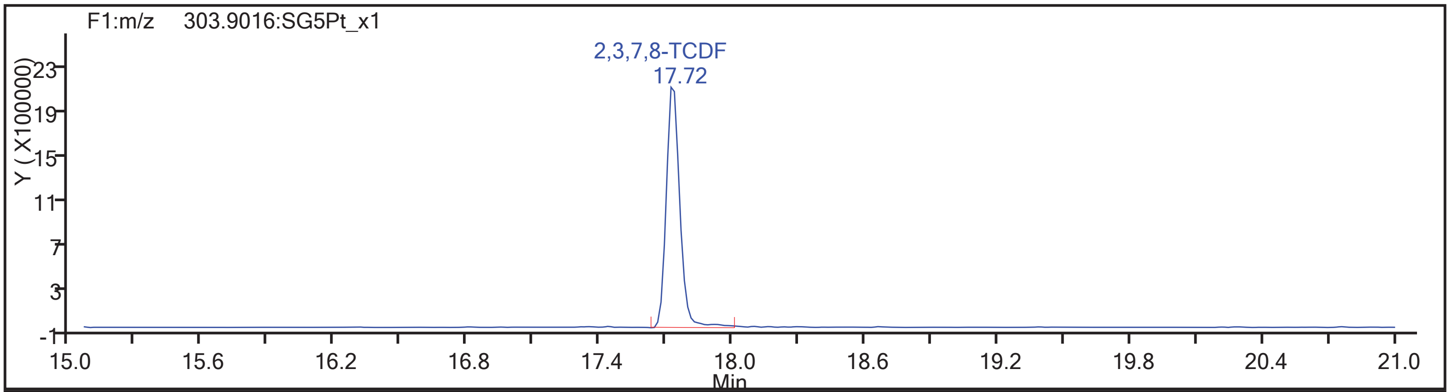
Method: Dioxin_3D5　　Limit Group: HR - 8290A_D5 - ICAL

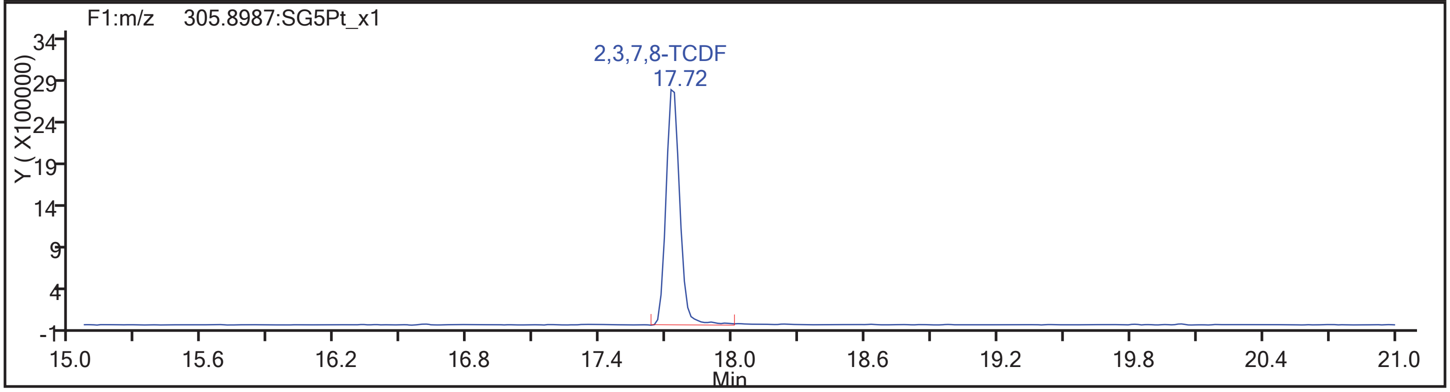
Client ID:

Worklist#: 195573　　Sample Line#: 55

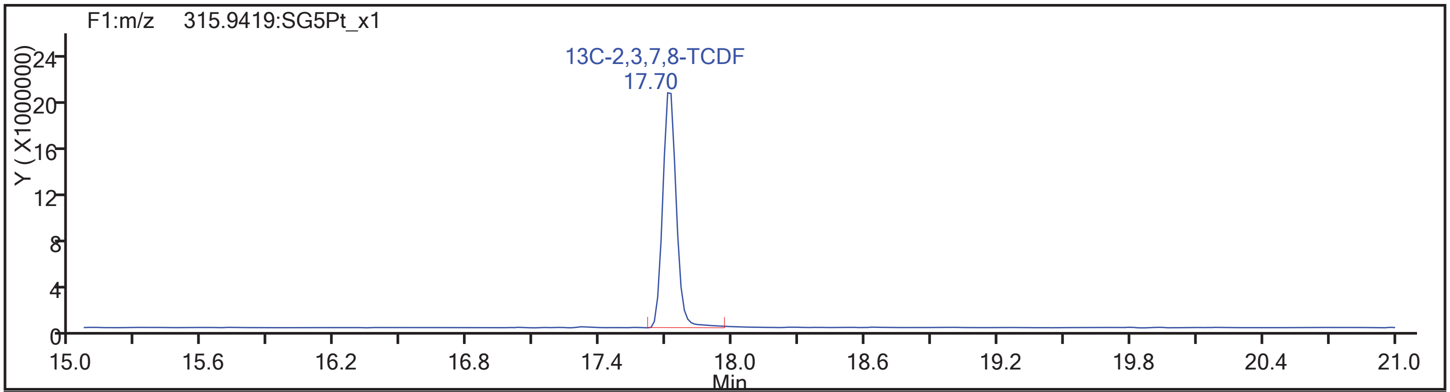
Column Type:　　Column Dia:

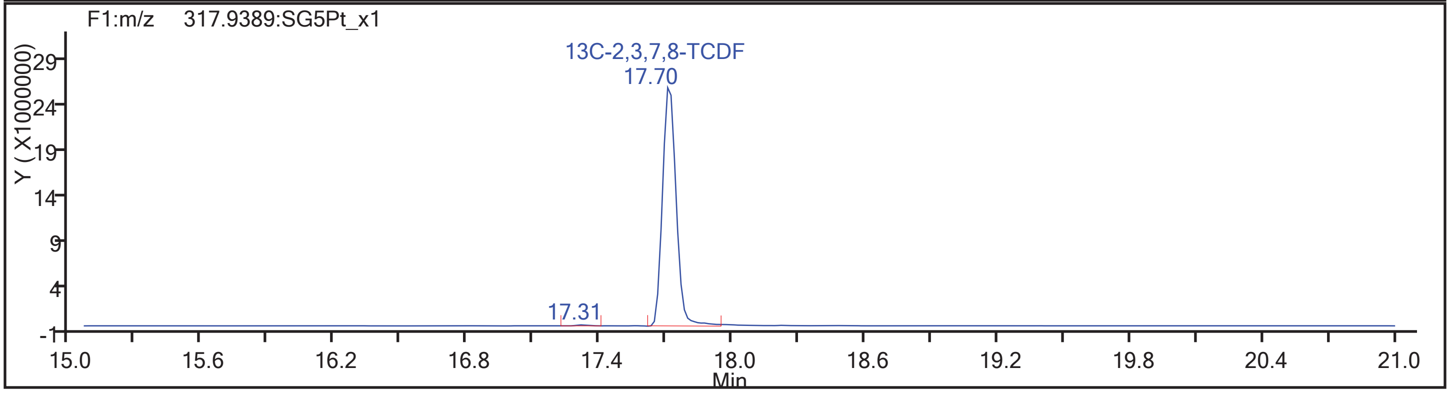
TCDF





TCDF Standards



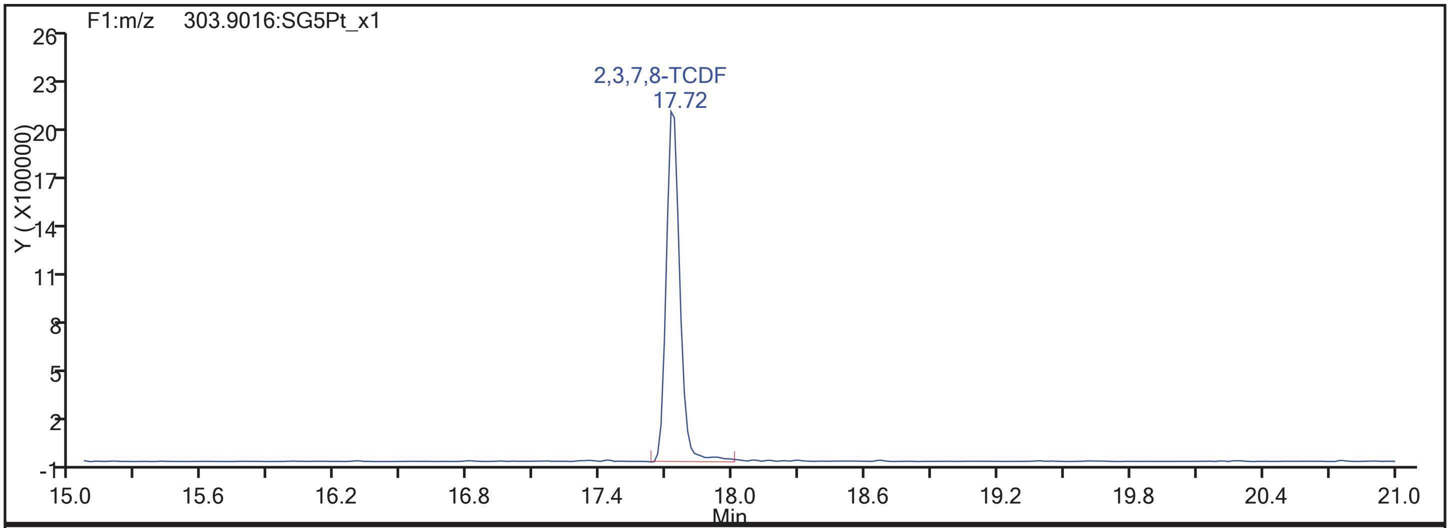


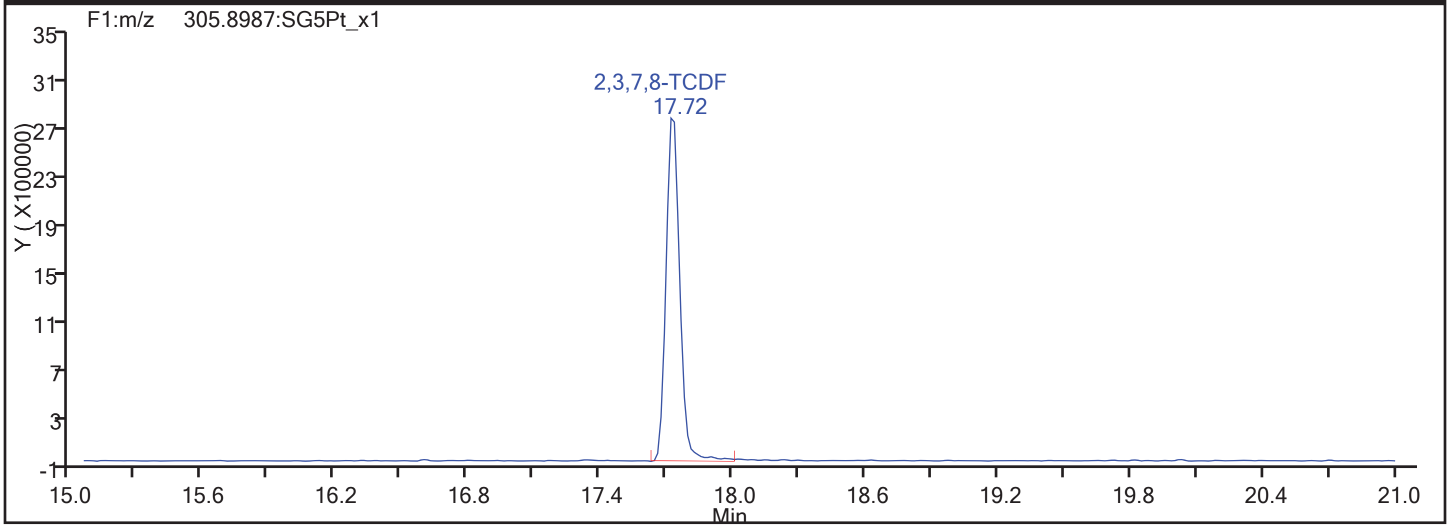
Report Date: 20-Nov-2017 11:46:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

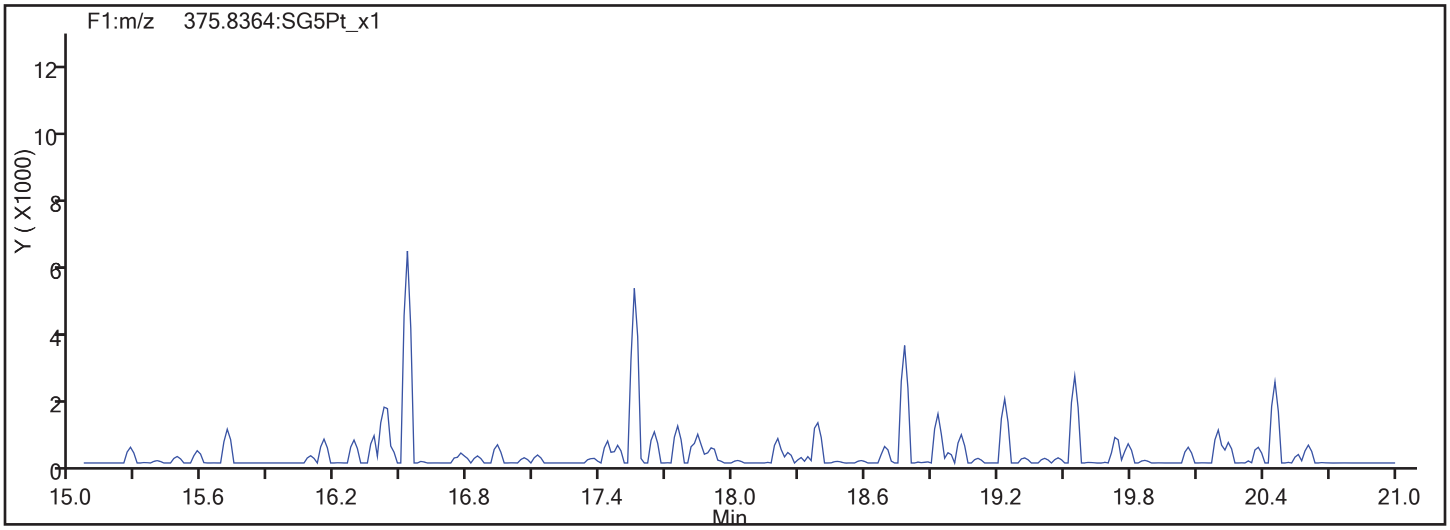
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_55.d		
Injection Date:	18-Nov-2017 13:48:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	55
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass



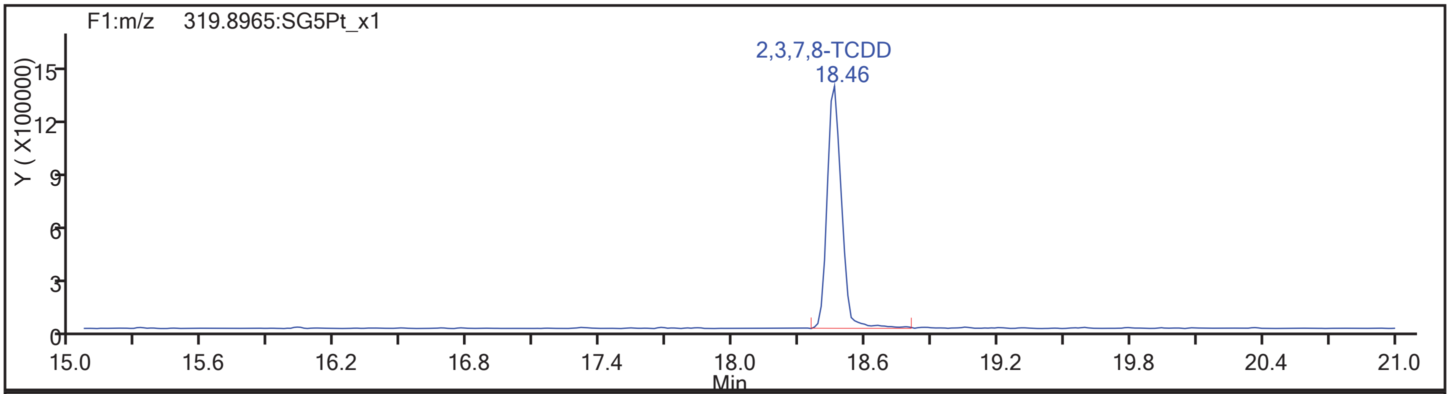
Report Date: 20-Nov-2017 11:46:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

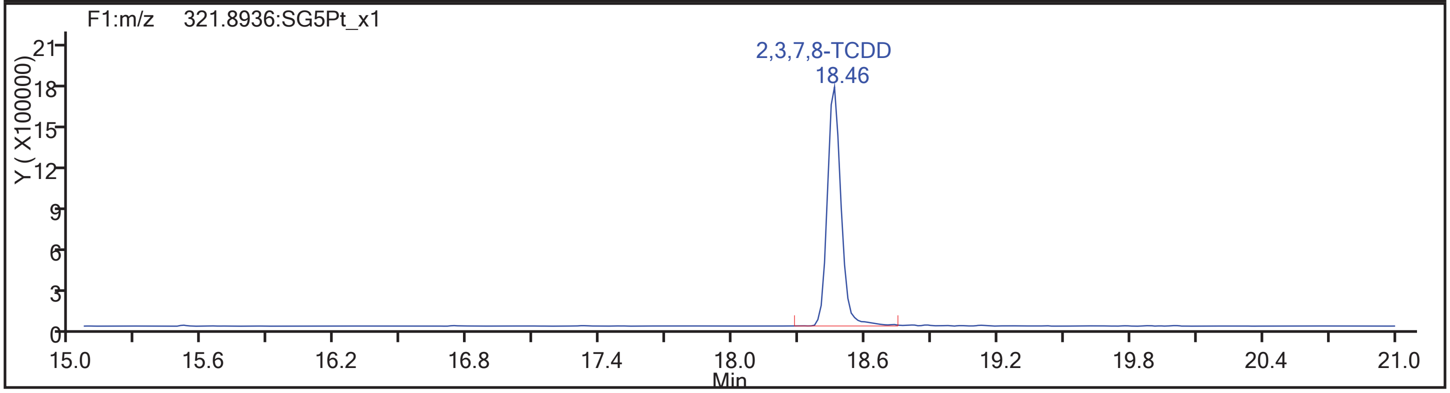
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_55.d

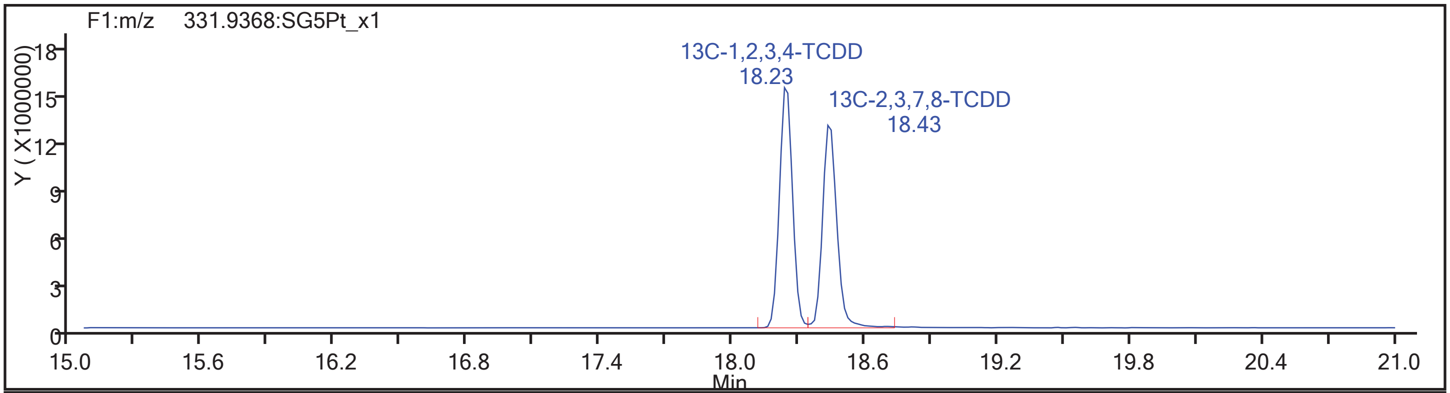
Injection Date: 18-Nov-2017 13:48:13
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573
Sample Line#: 55
Column Type:
Column Dia:

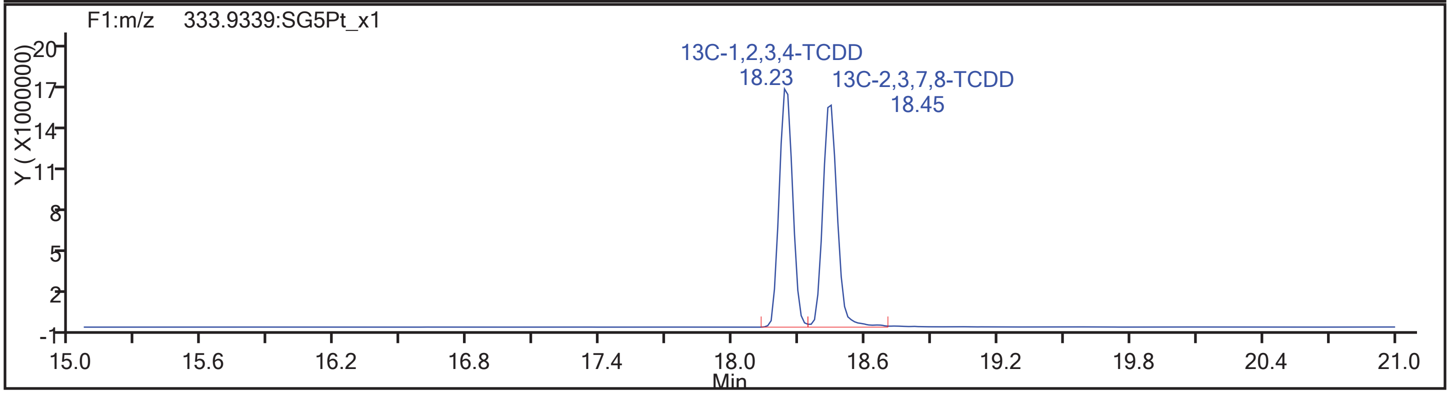
TCDD





TCDD Standards





Report Date: 20-Nov-2017 11:46:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 18-Nov-2017 13:48:13
Injection Vol: 2.0 ul
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Operator ID: SMA, ALM
Method: Dioxin_3D5
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Sample Line#: 55
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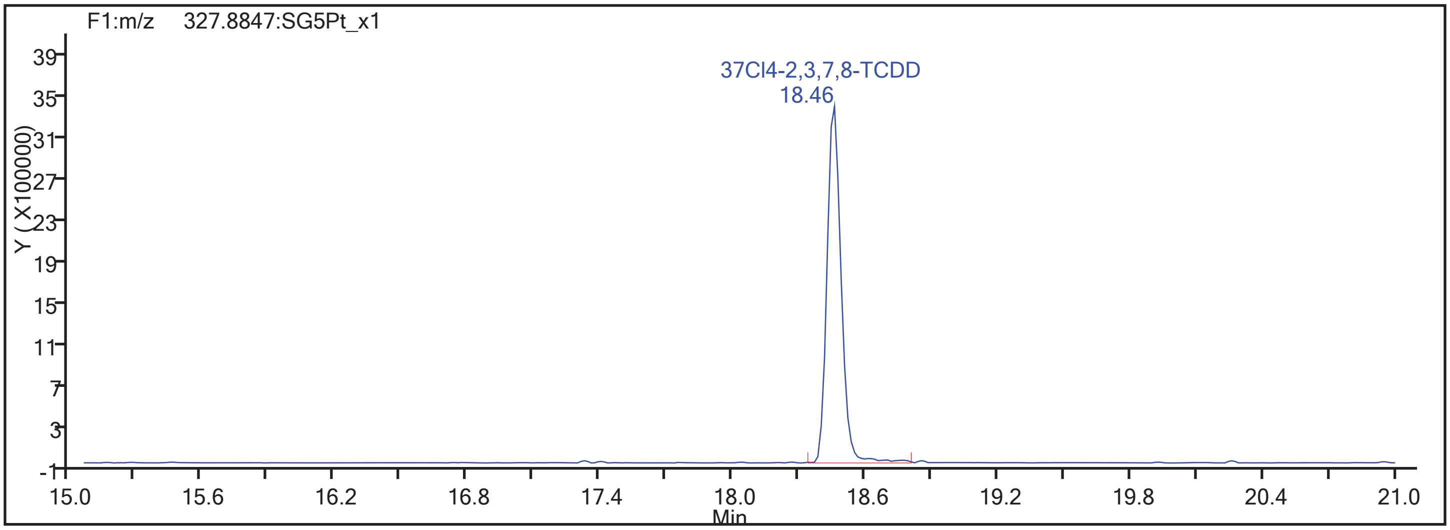
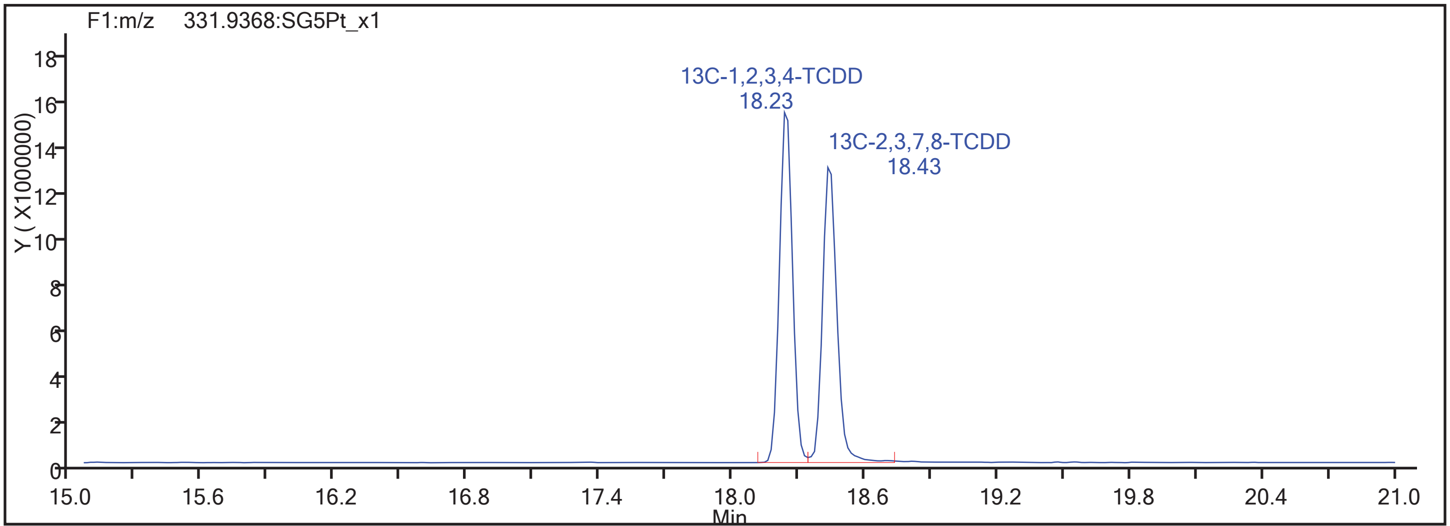
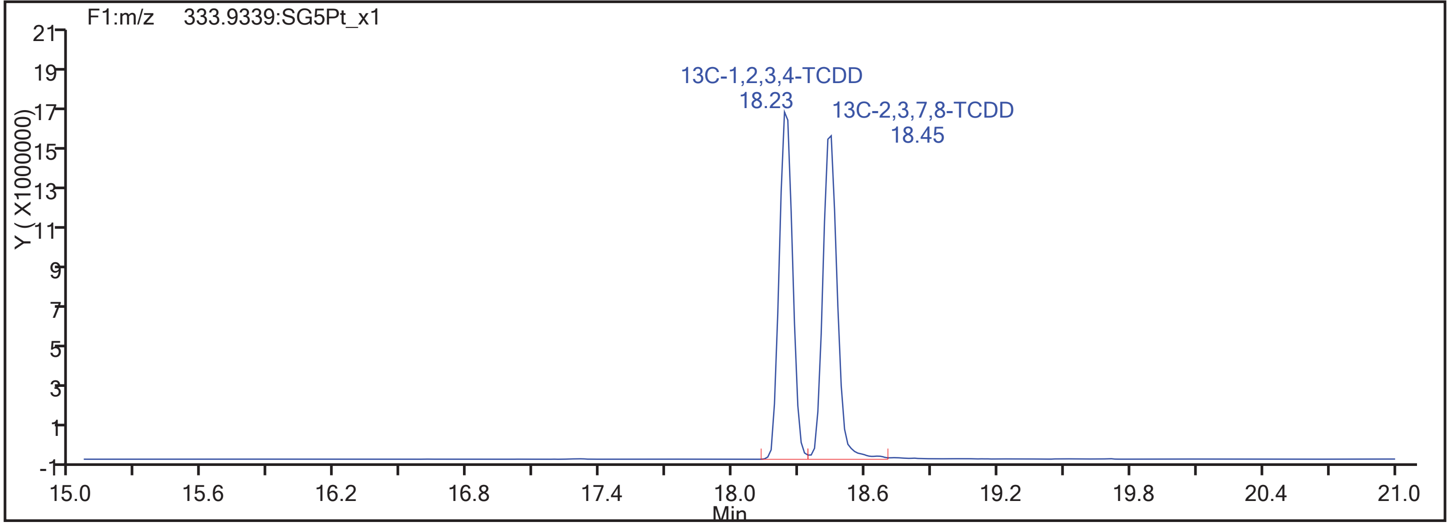
37Cl4-TCDD



37Cl4-TCDD Standards





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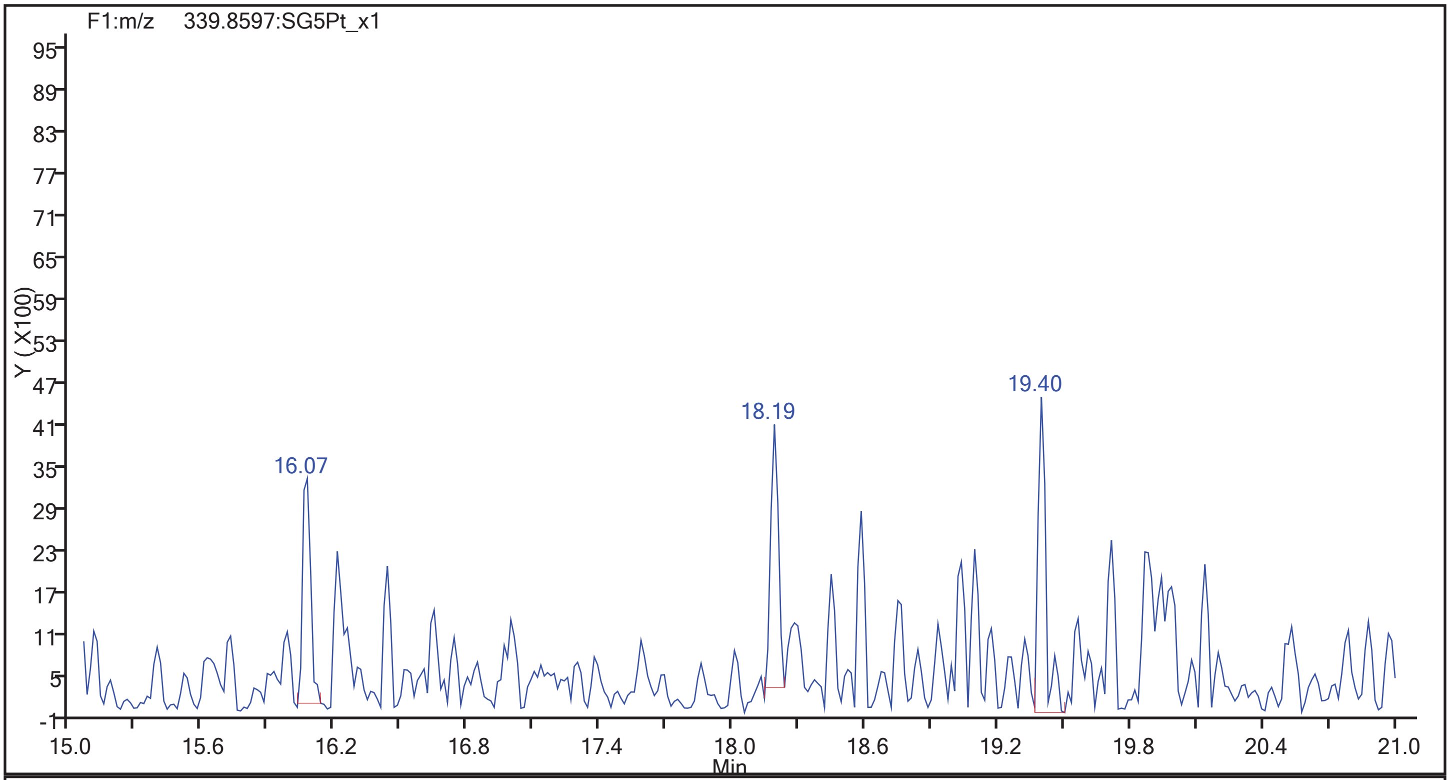
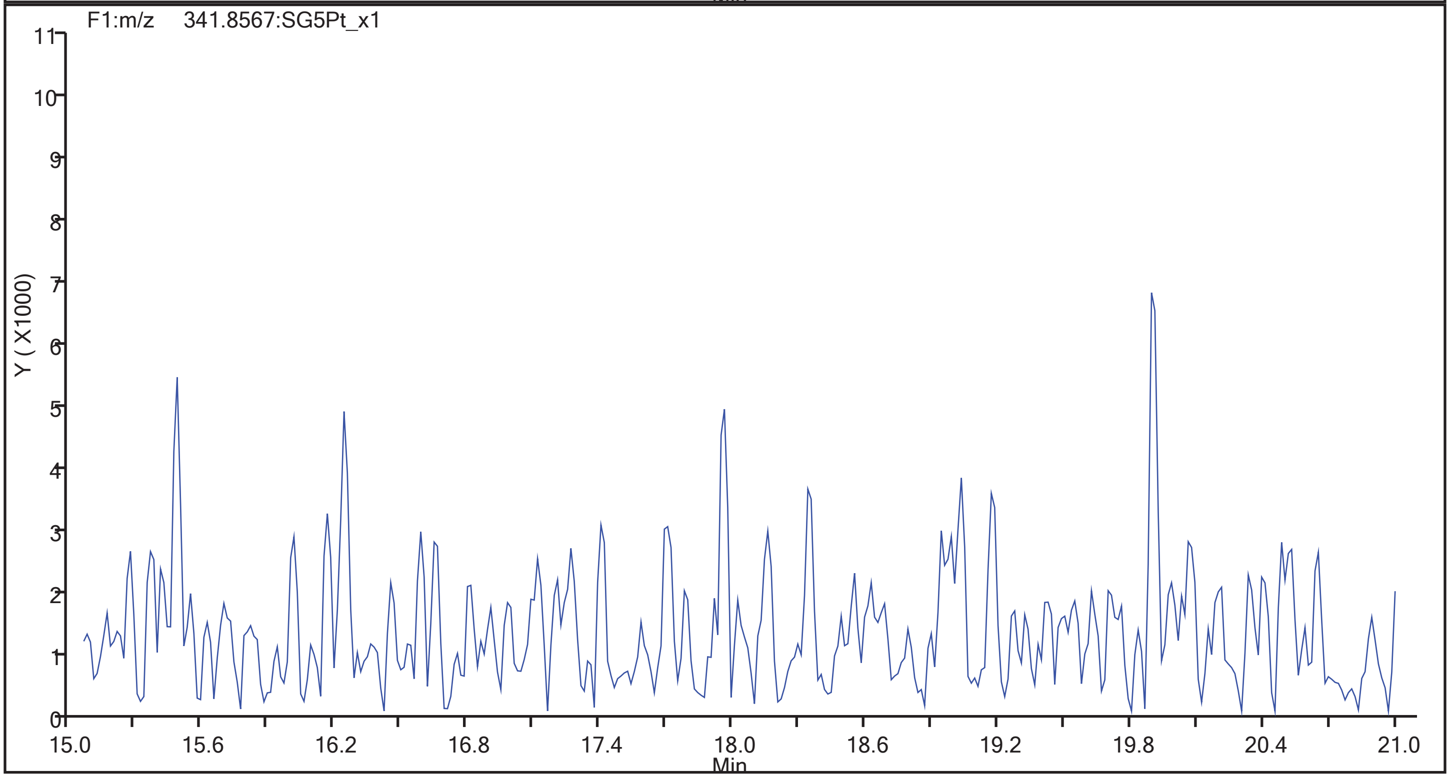
F1 PeCDFs





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TestAmerica Sacramento

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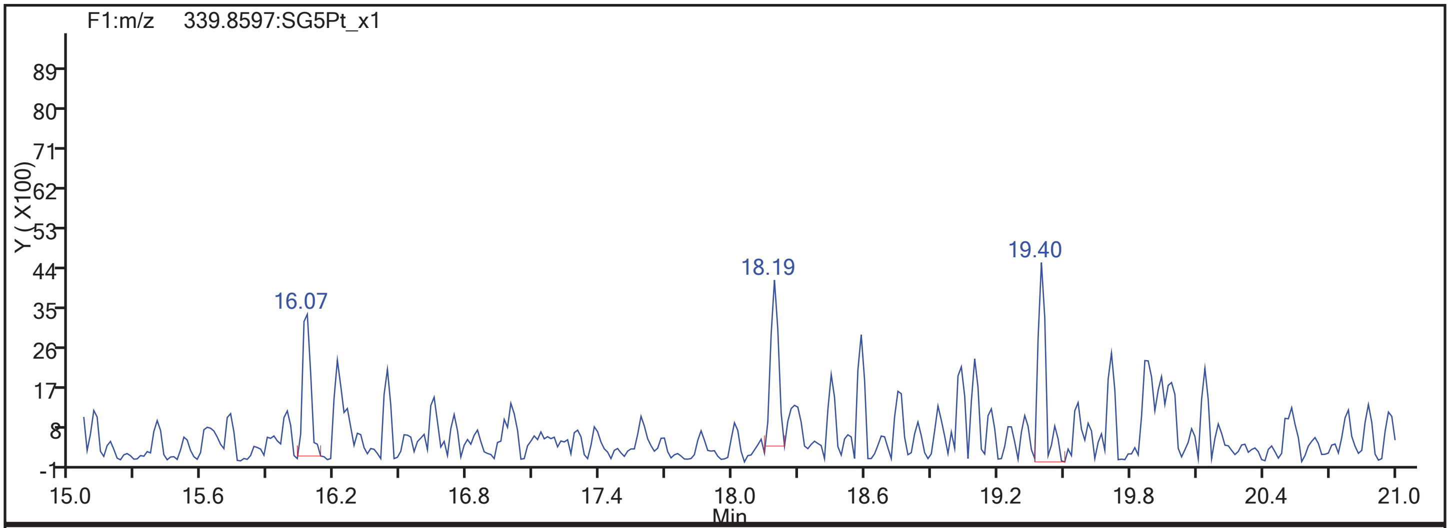

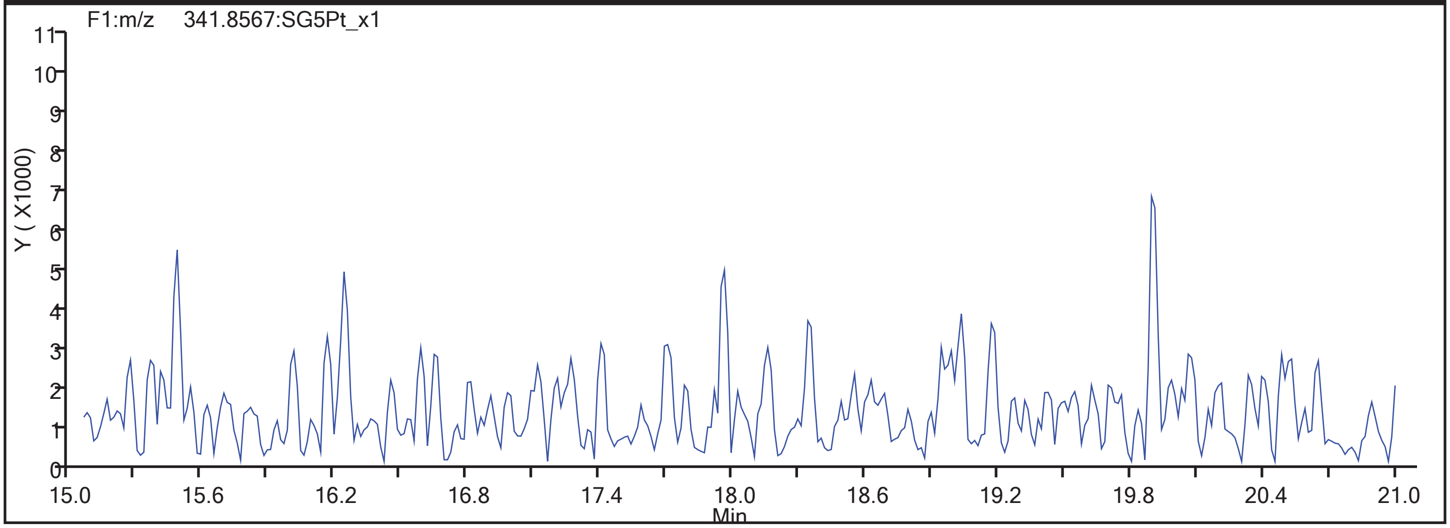

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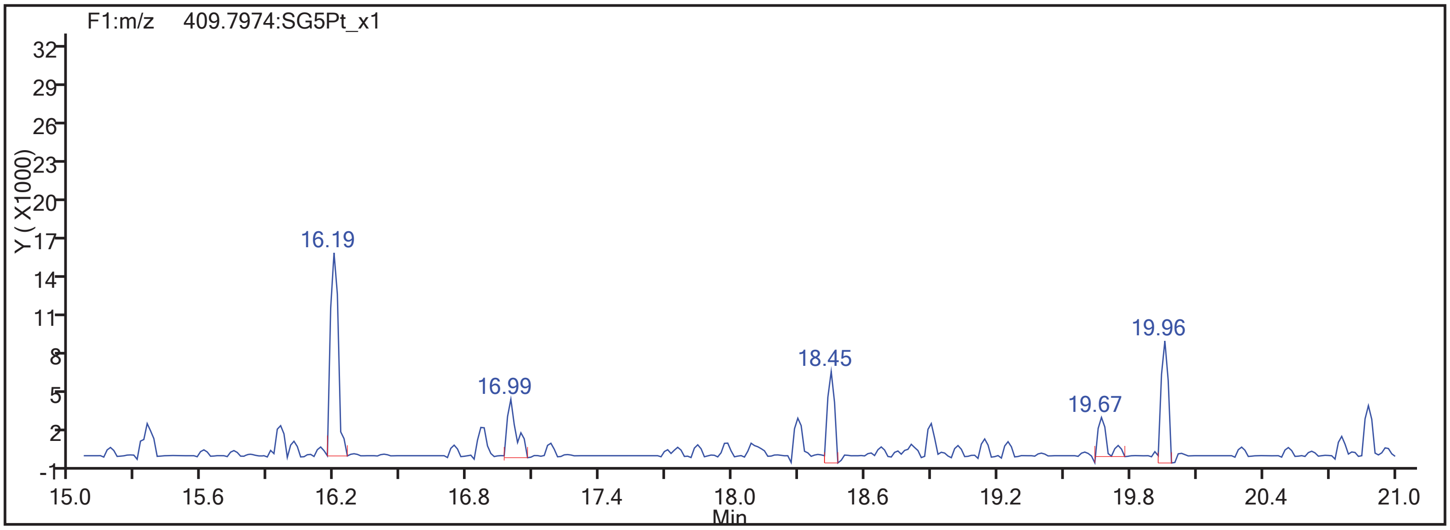

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TestAmerica Sacramento

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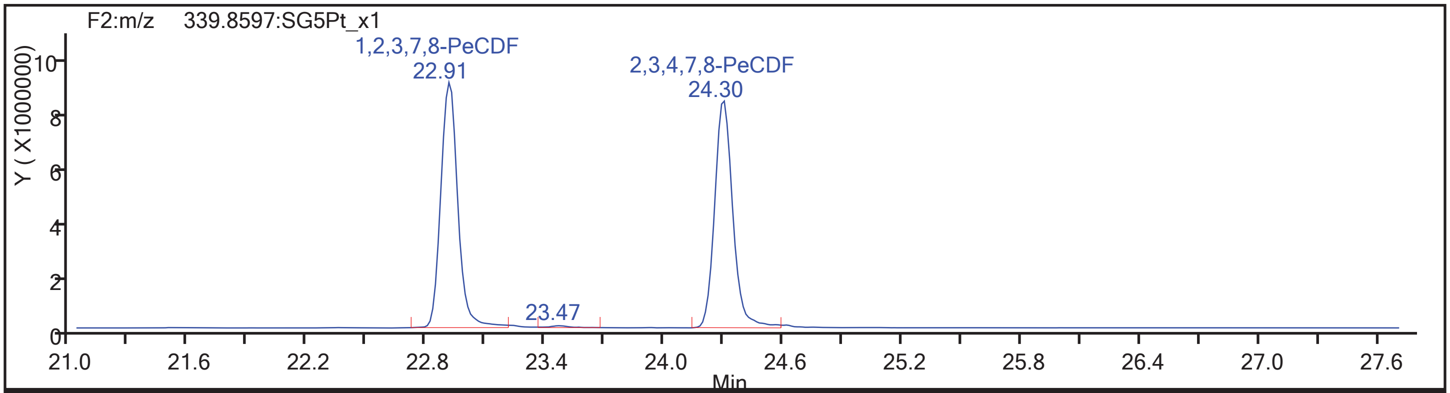
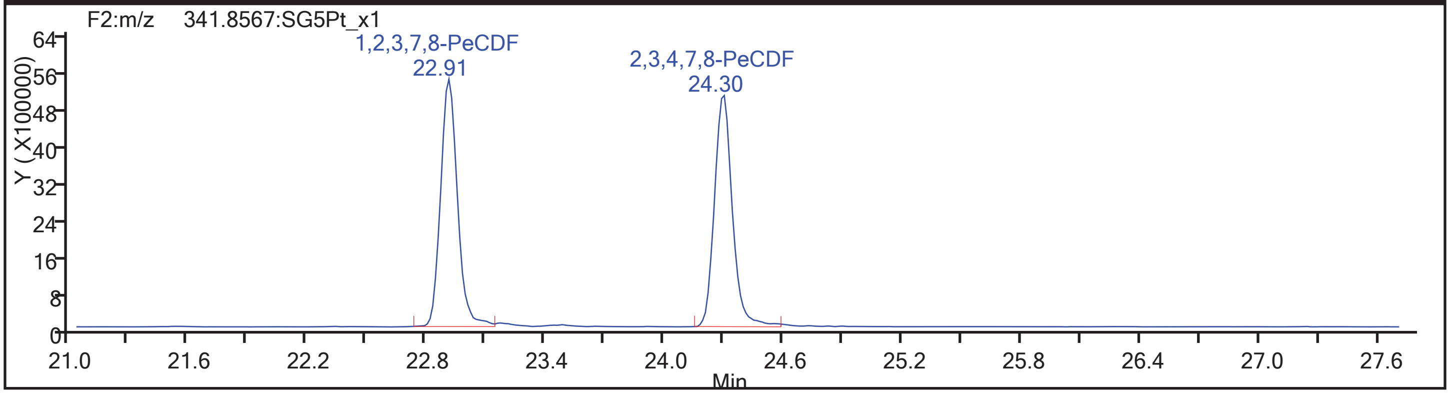
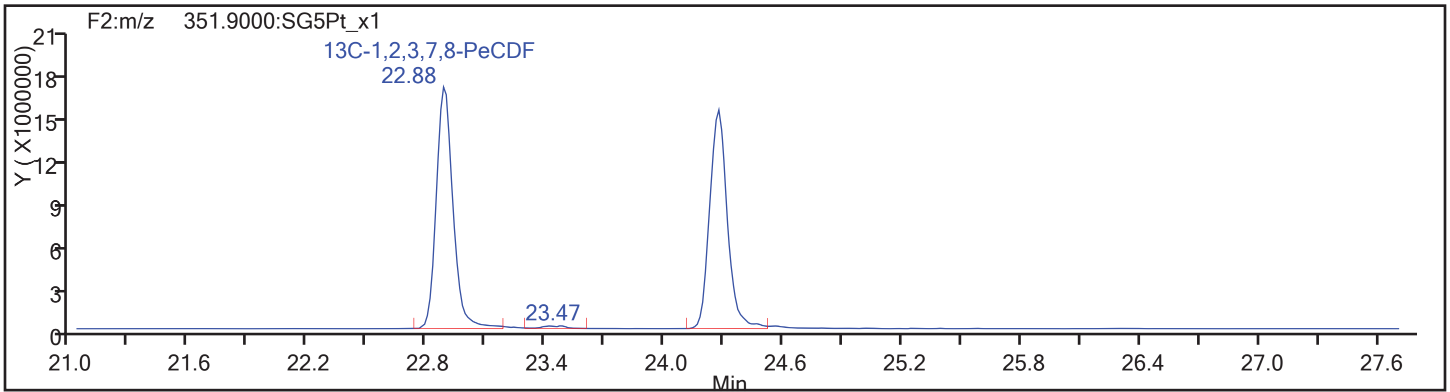
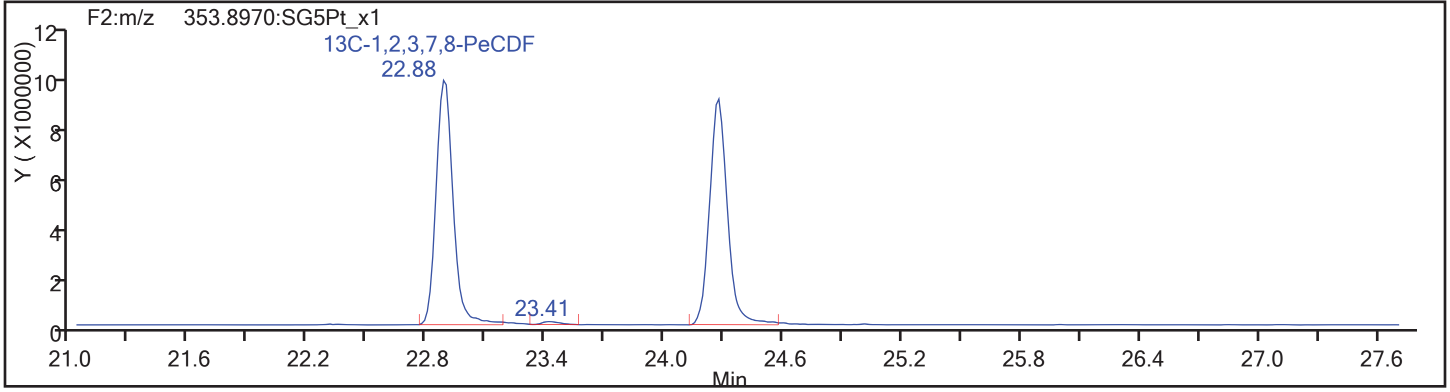




PeCDF Standards





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TestAmerica Sacramento

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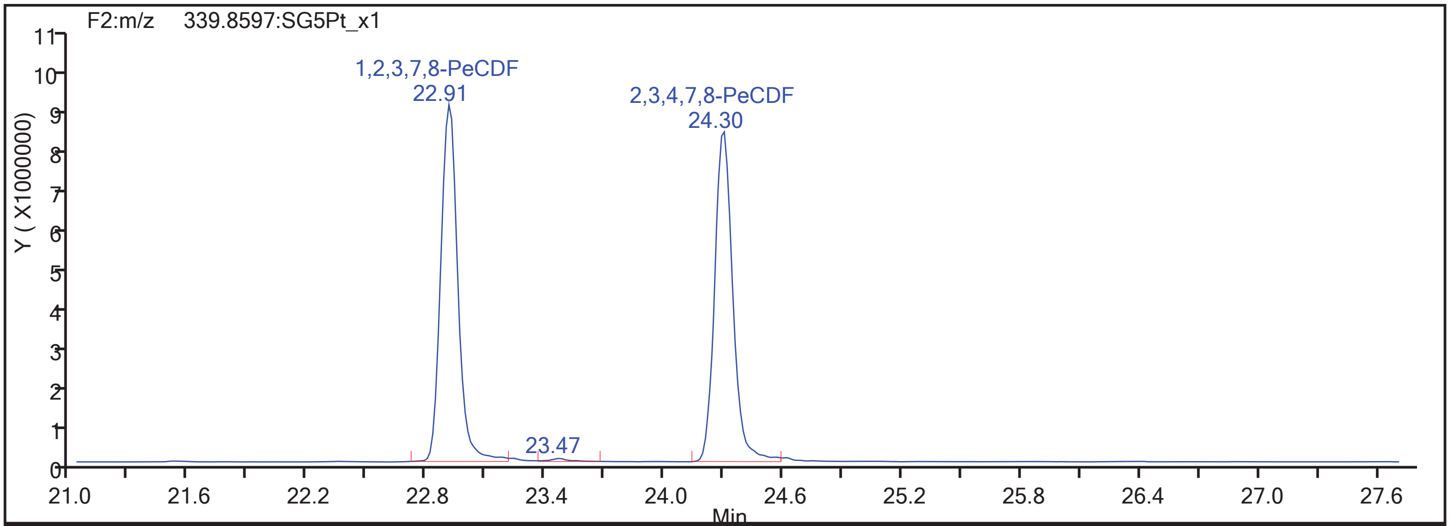

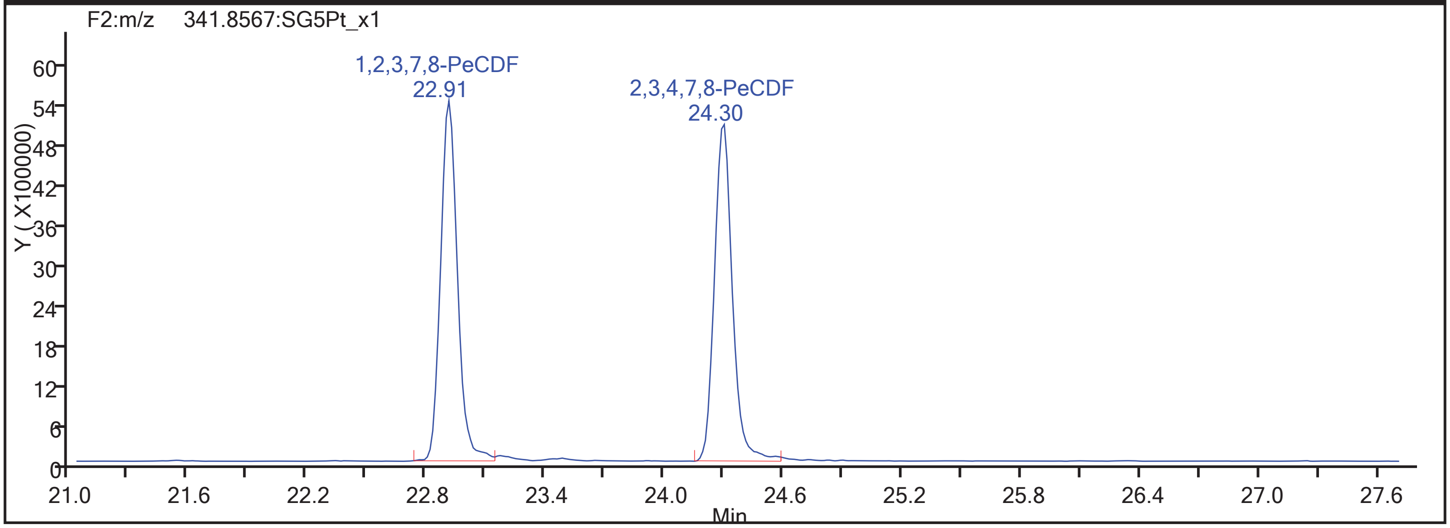

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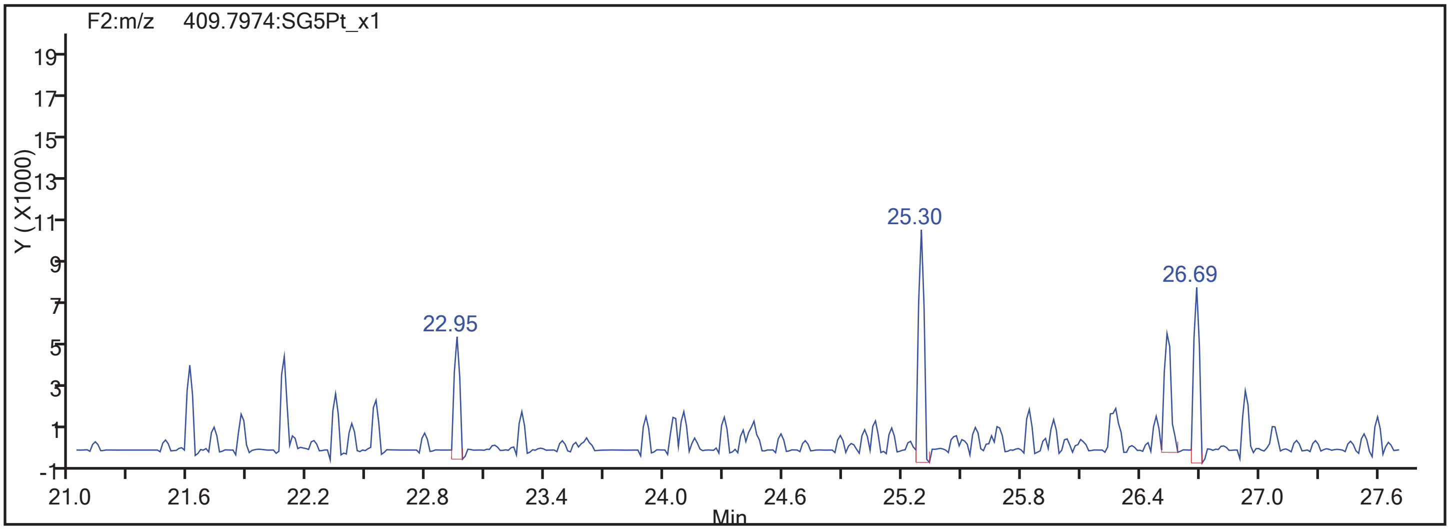

TestAmerica Sacramento

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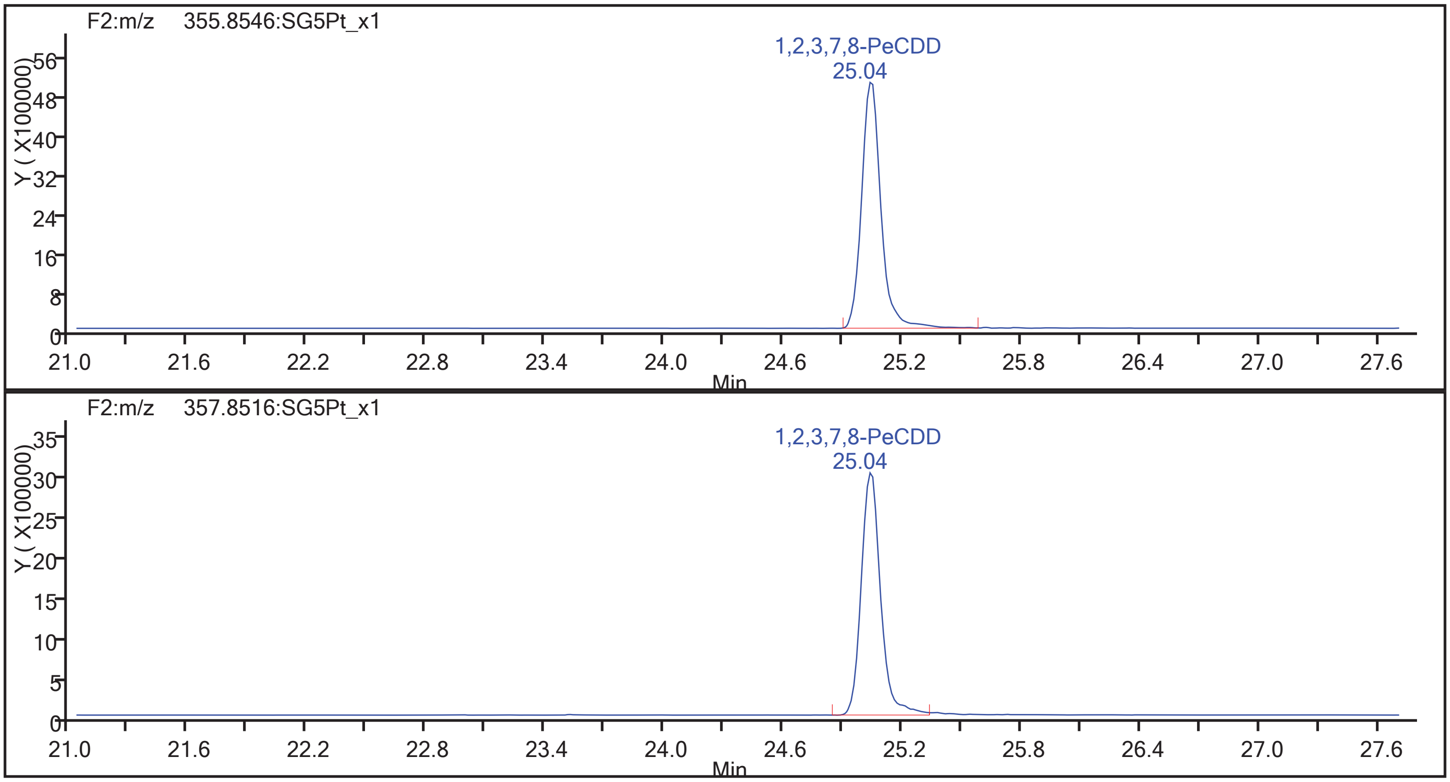

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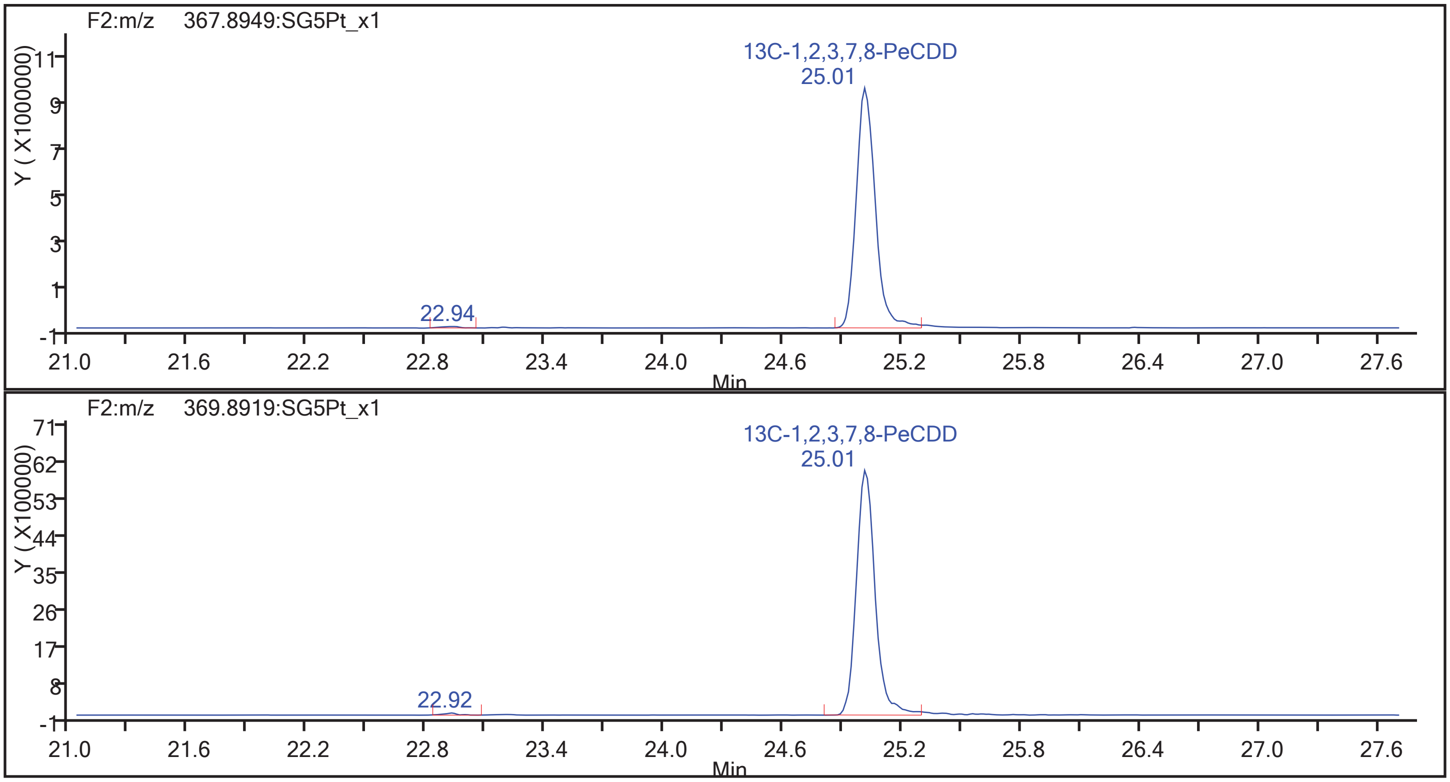

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TestAmerica Sacramento

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Instrument ID: 3D5 Operator ID: SMA, ALM

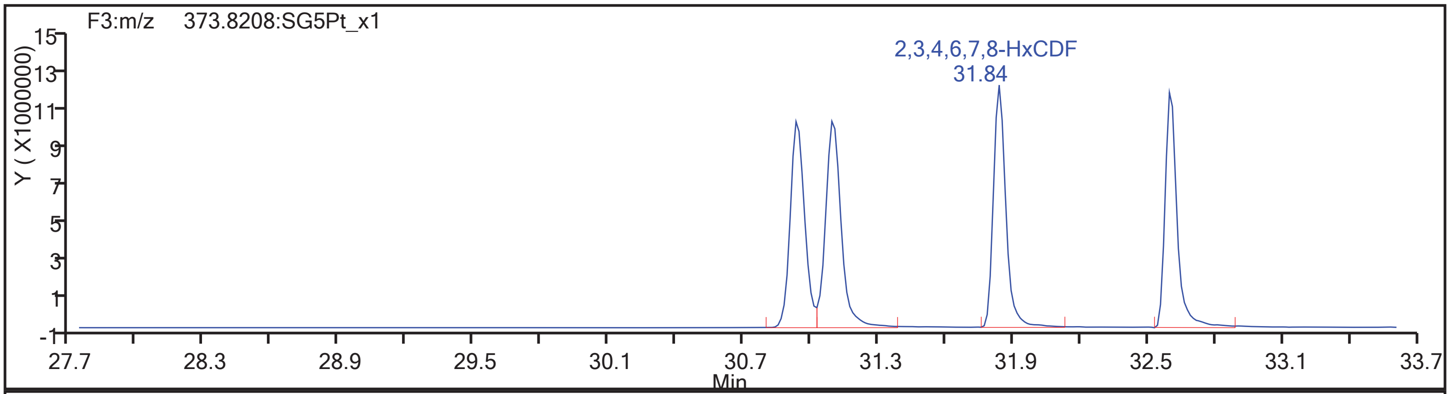
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

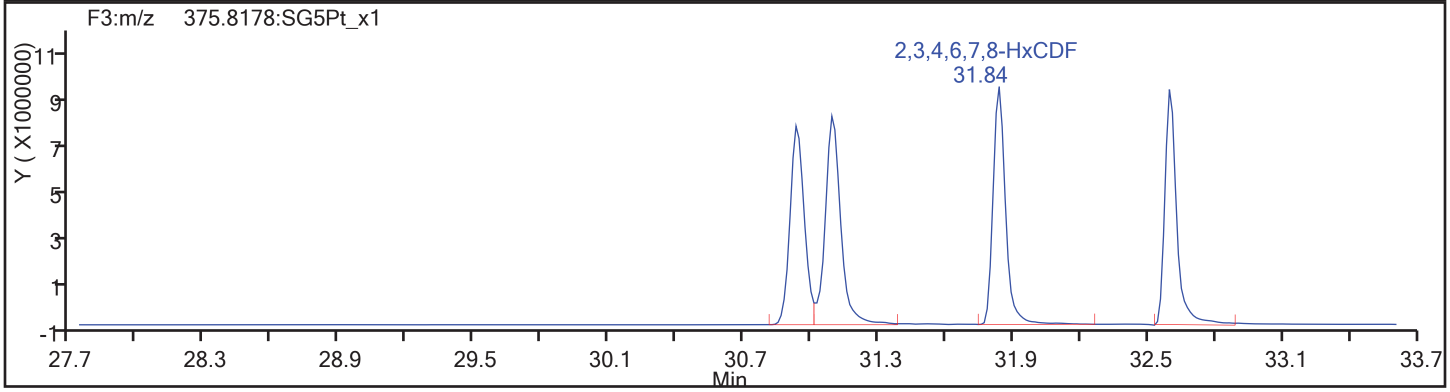
Client ID:

Worklist#: 195573 Sample Line#: 55

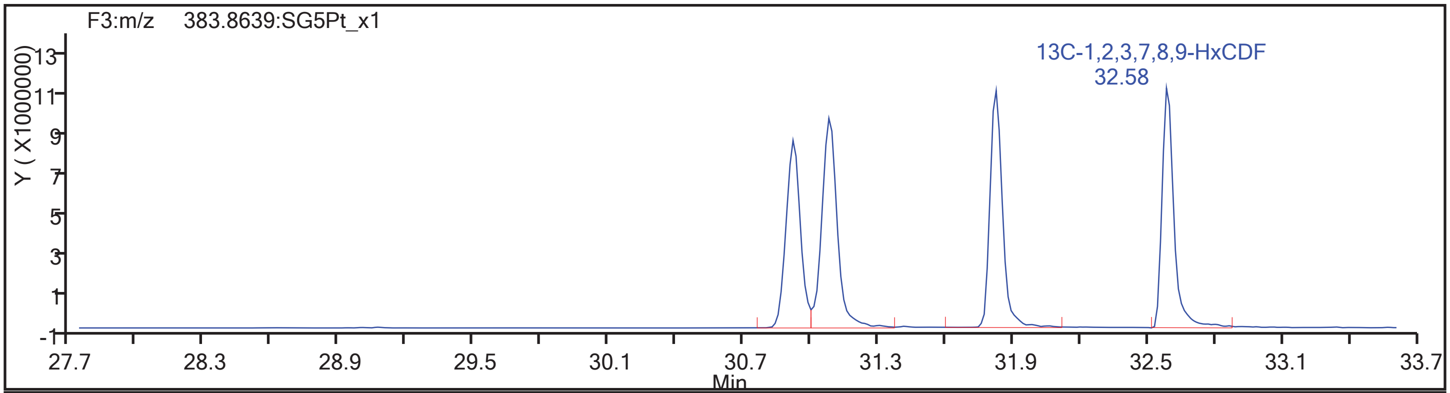
Column Type: Column Dia:

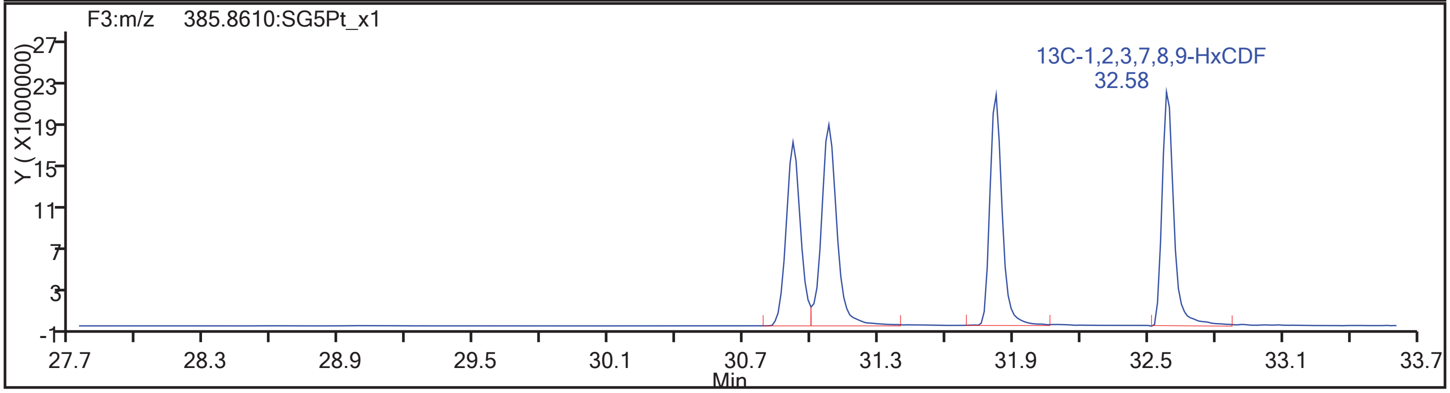
HxCDF





HxCDF Standards





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TestAmerica Sacramento

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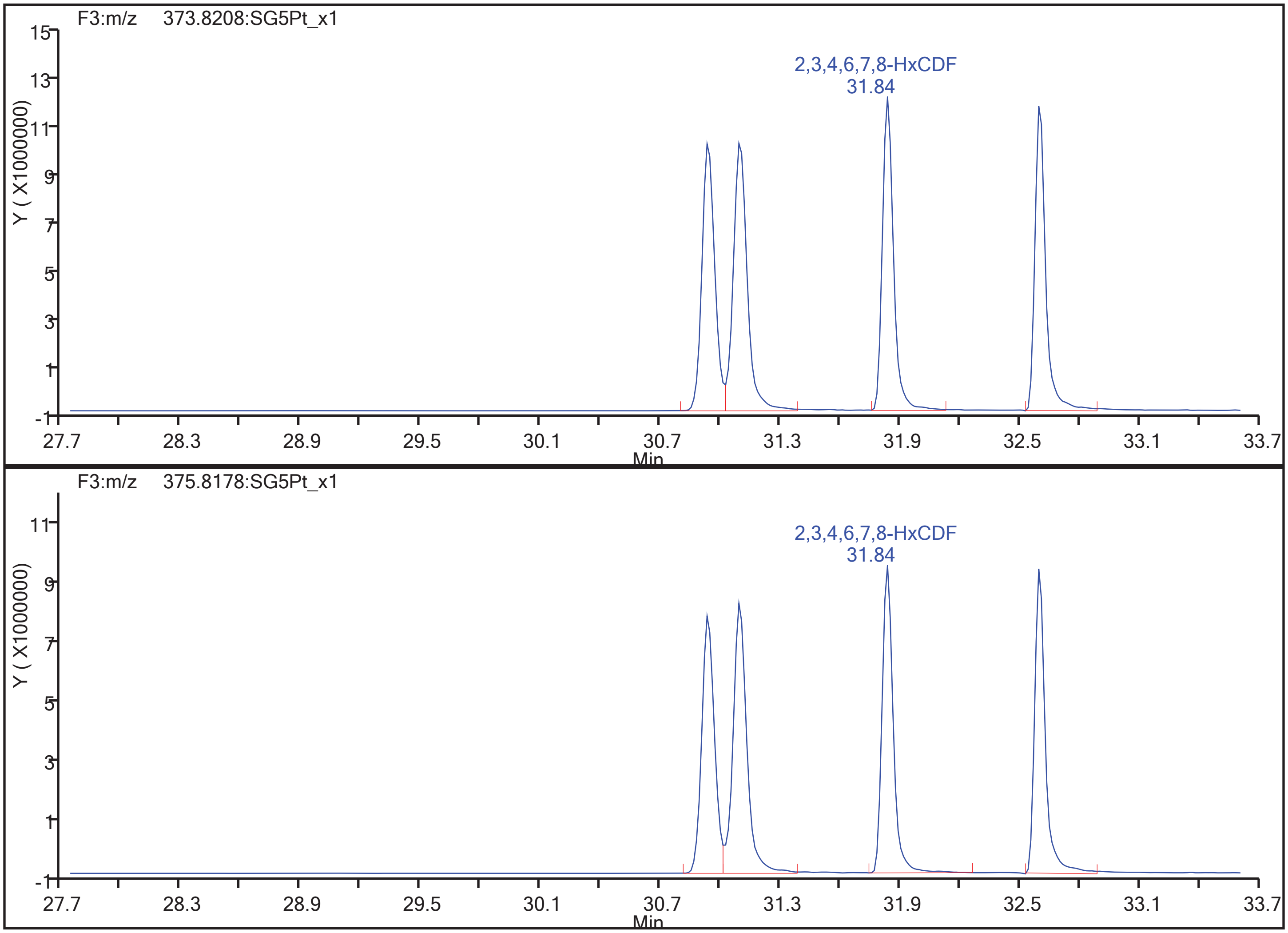
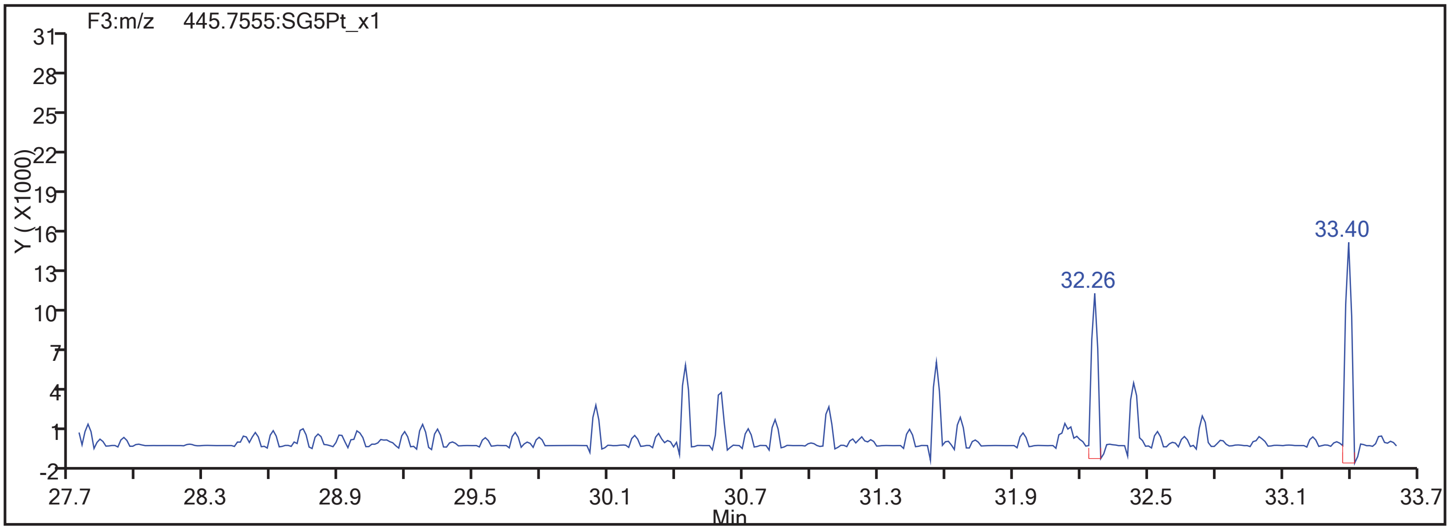


HxCDF Interference Mass



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TestAmerica Sacramento

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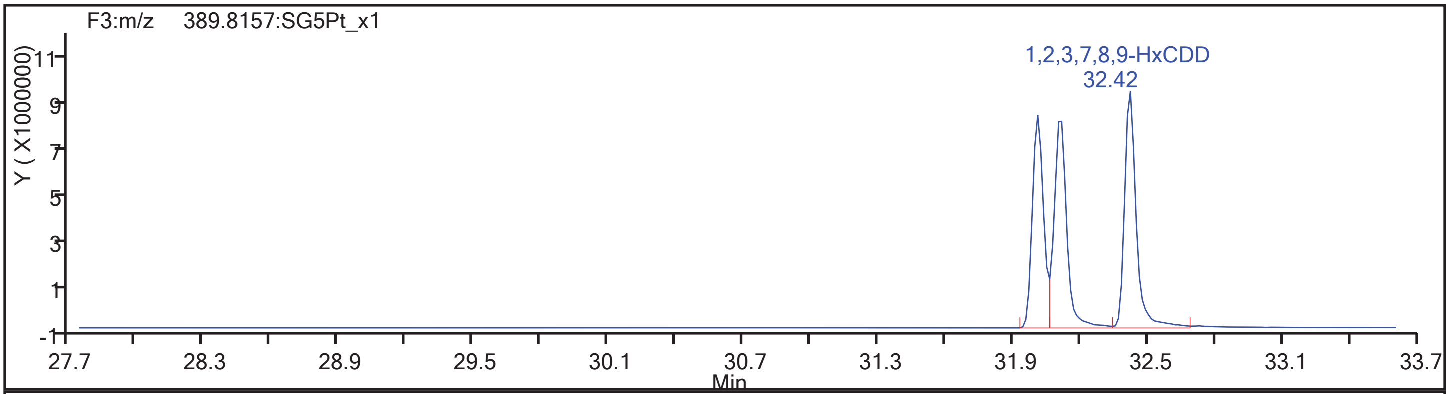
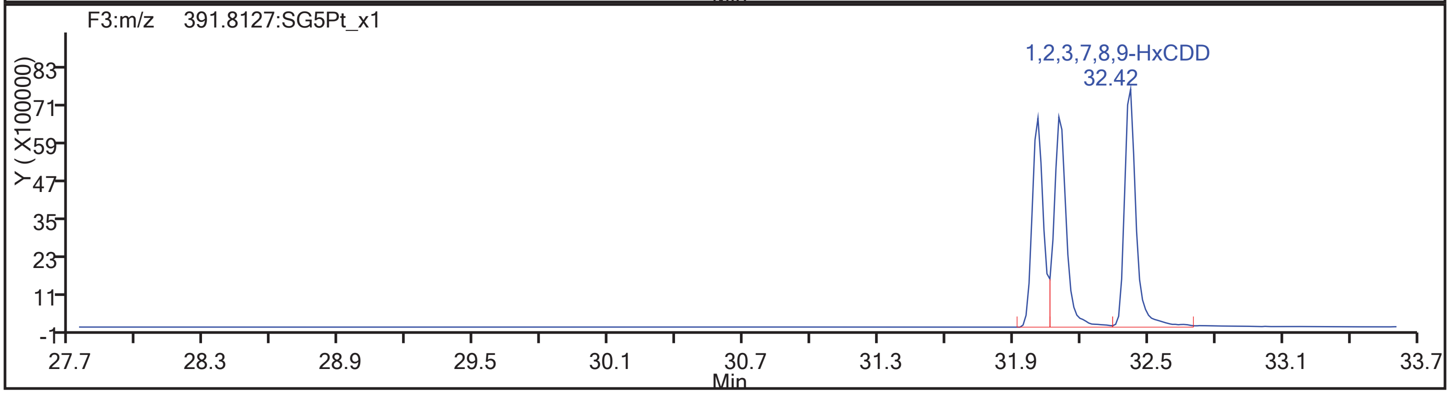
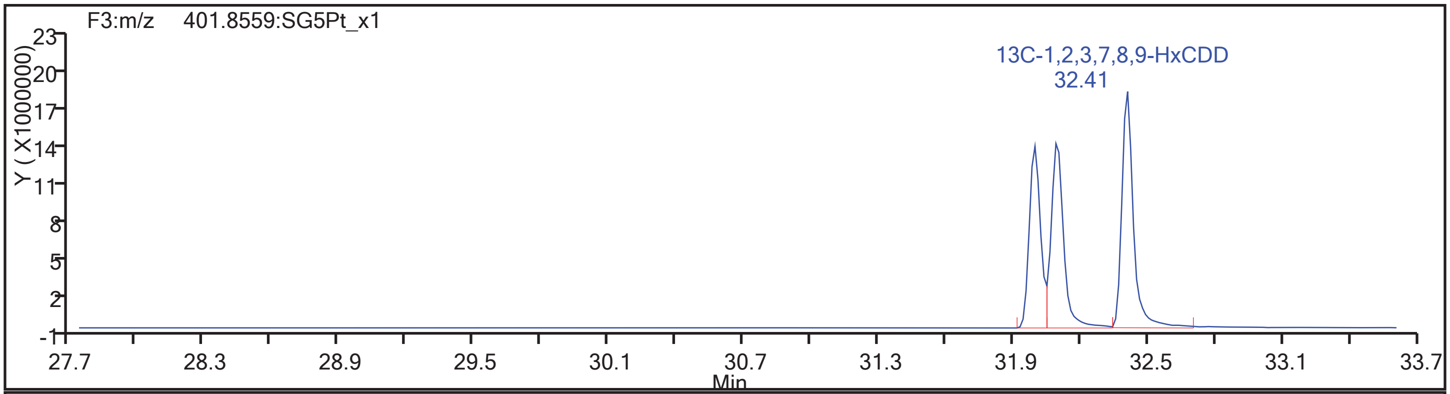
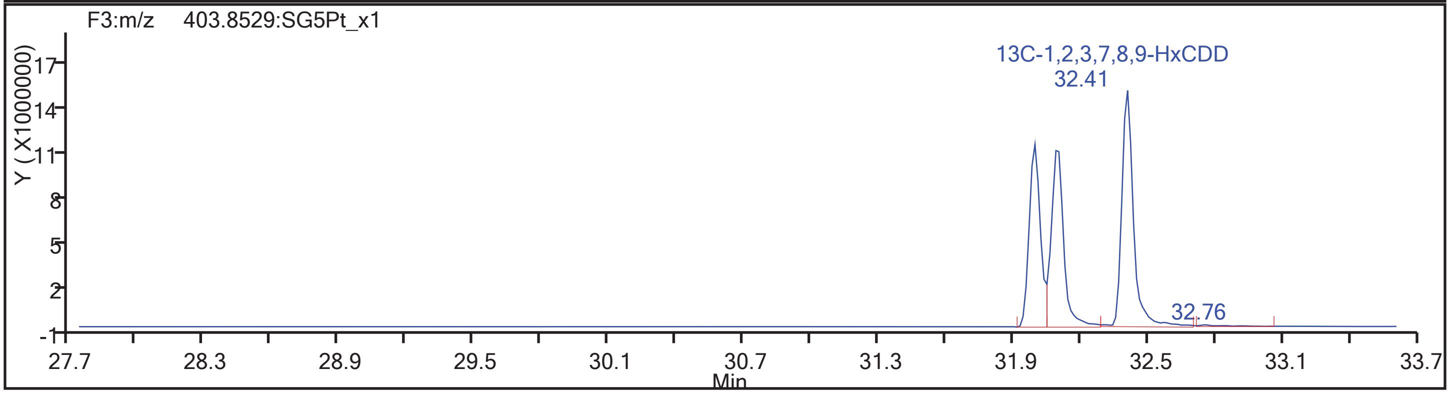




HxCDD Standards





TestAmerica Sacramento

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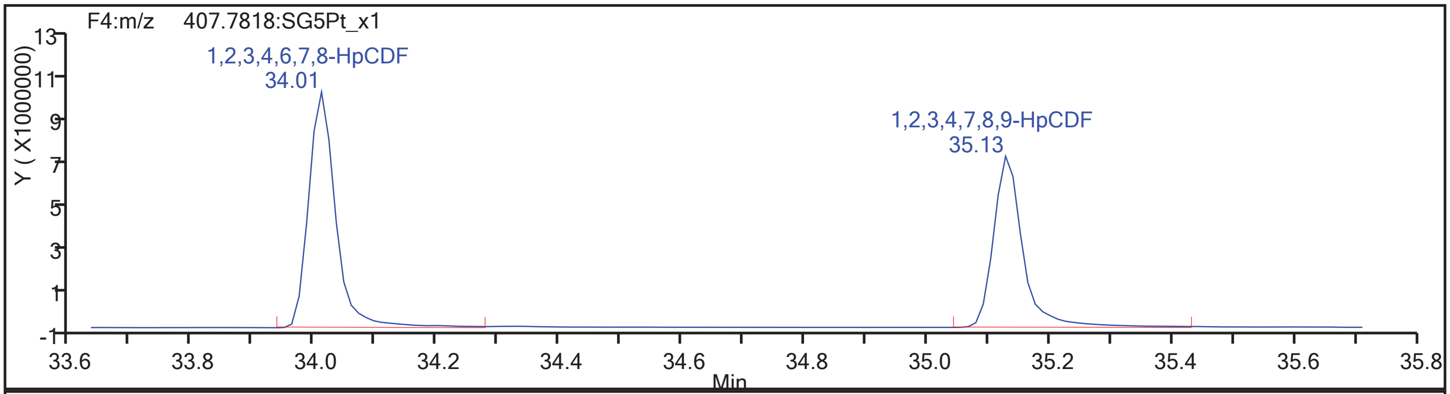

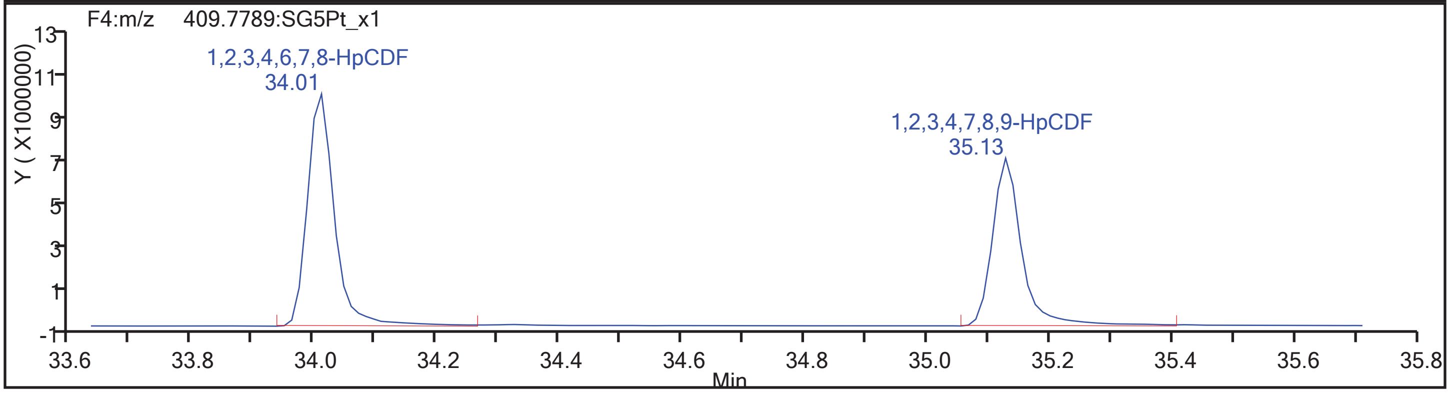

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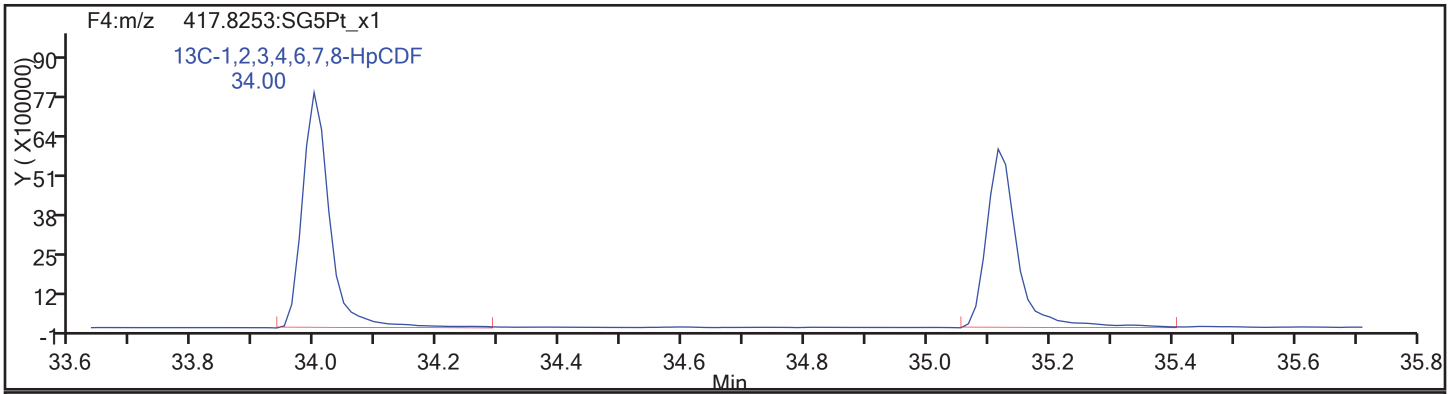

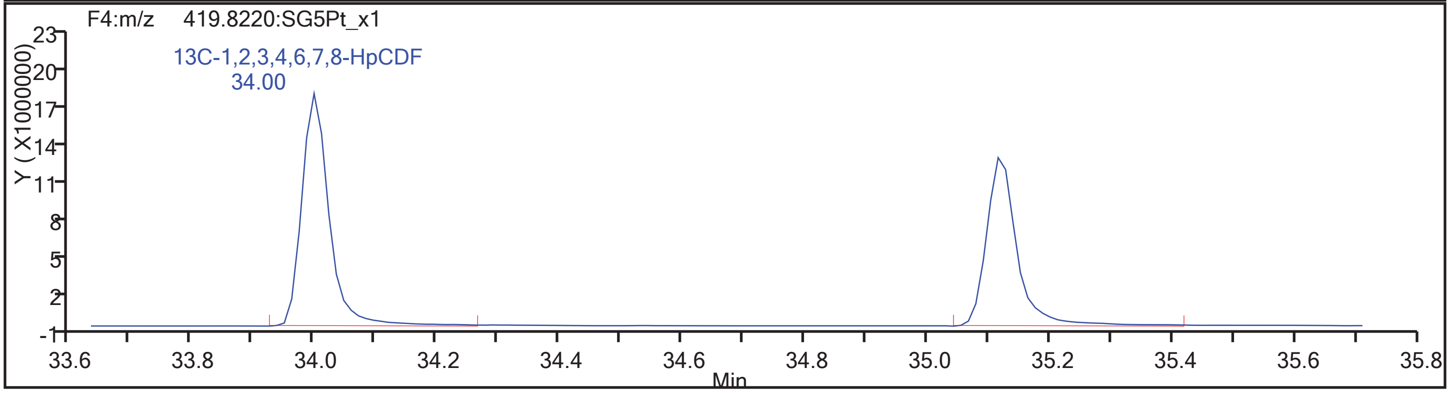

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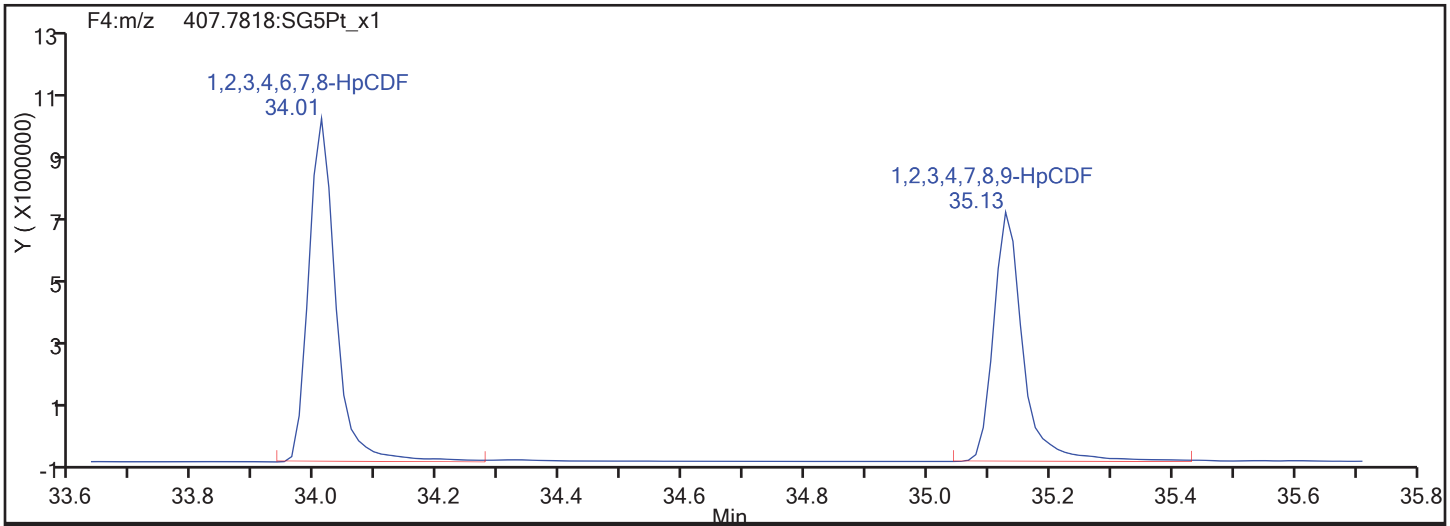
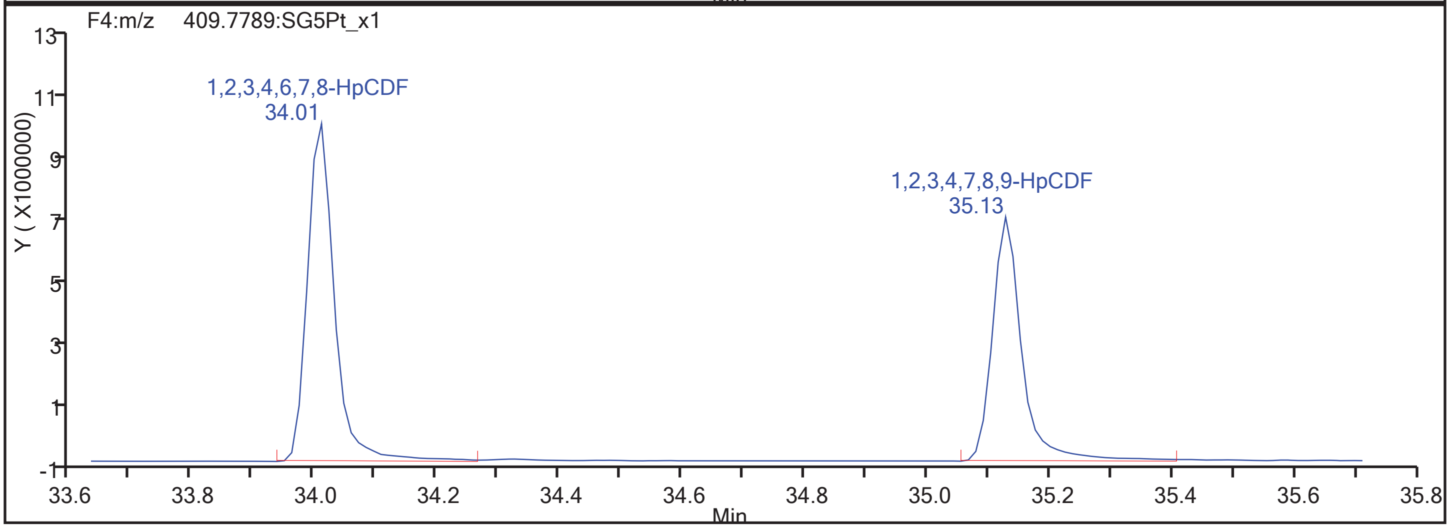
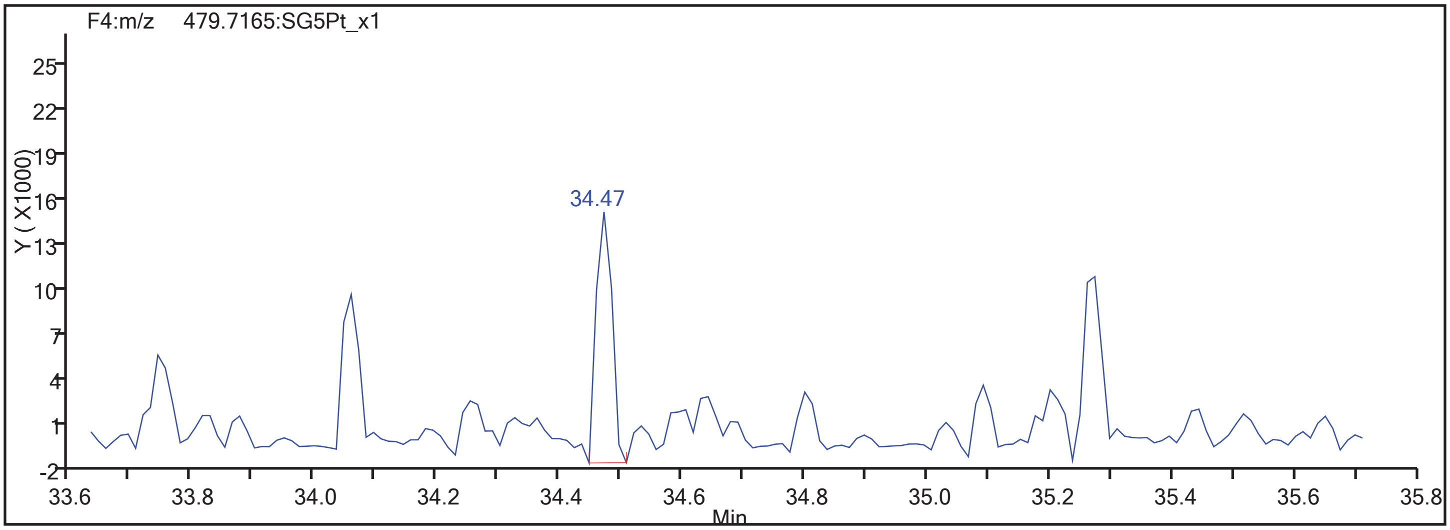




HpCDF Interference Mass



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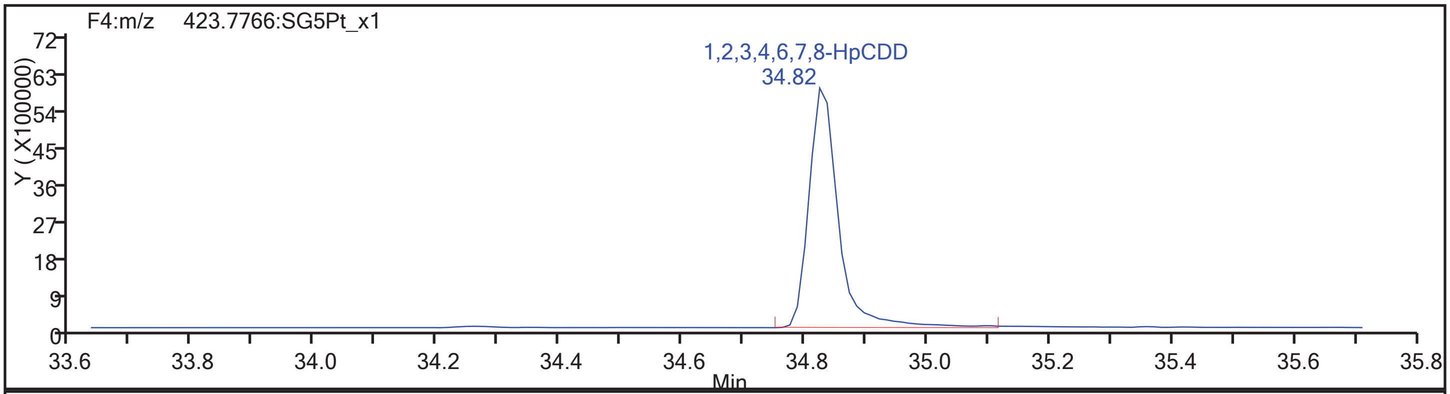

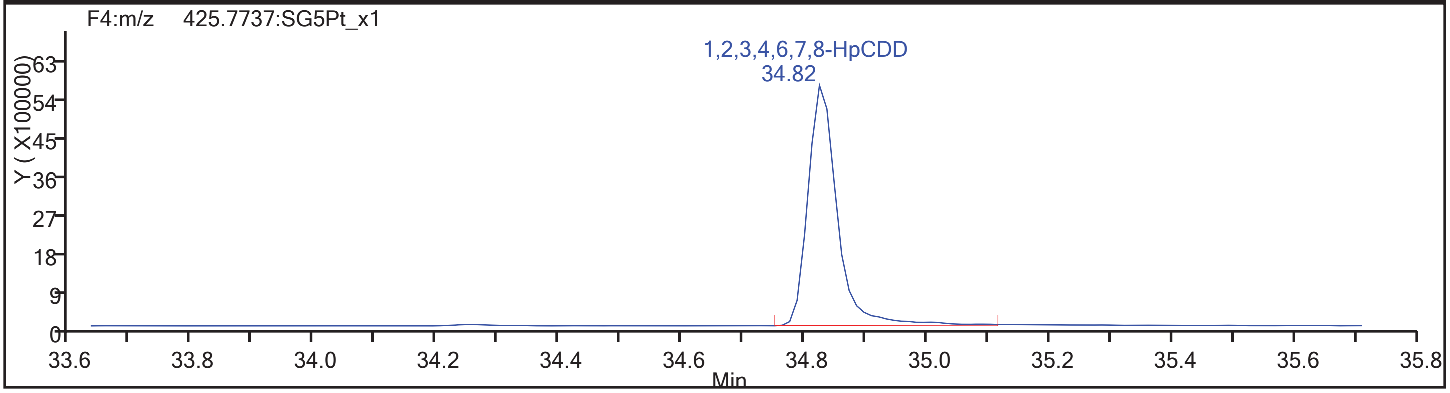

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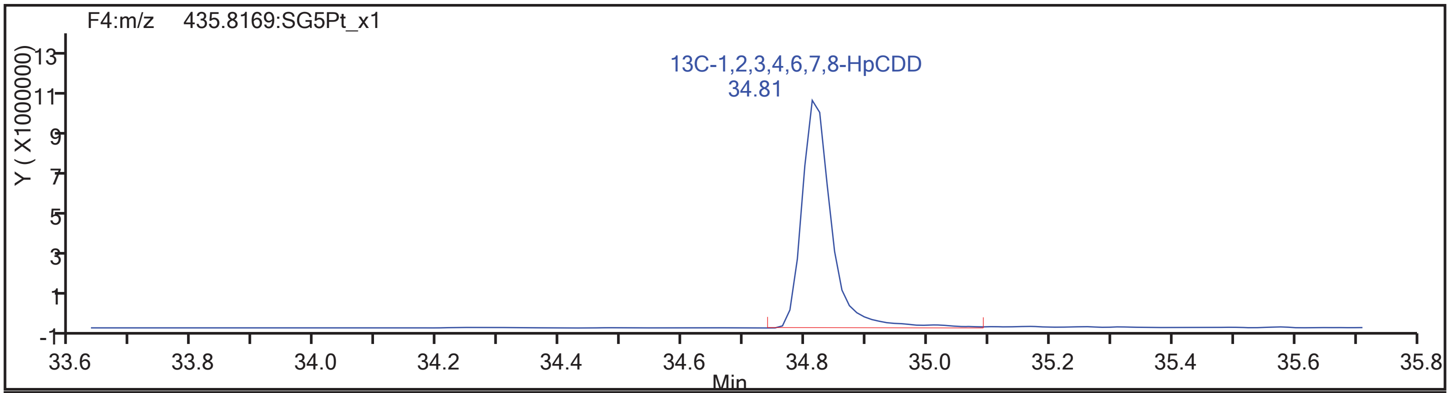

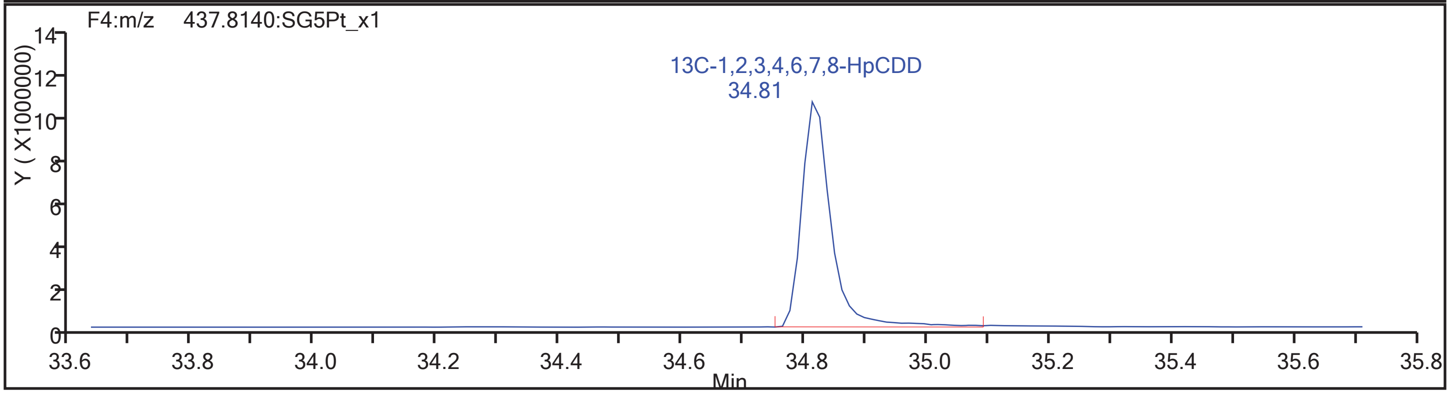

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TestAmerica Sacramento

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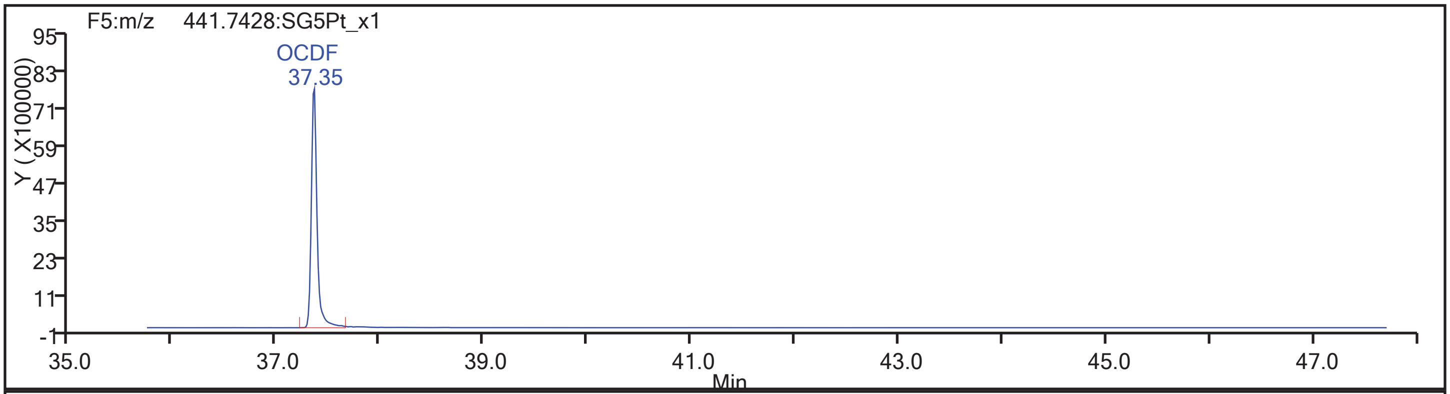
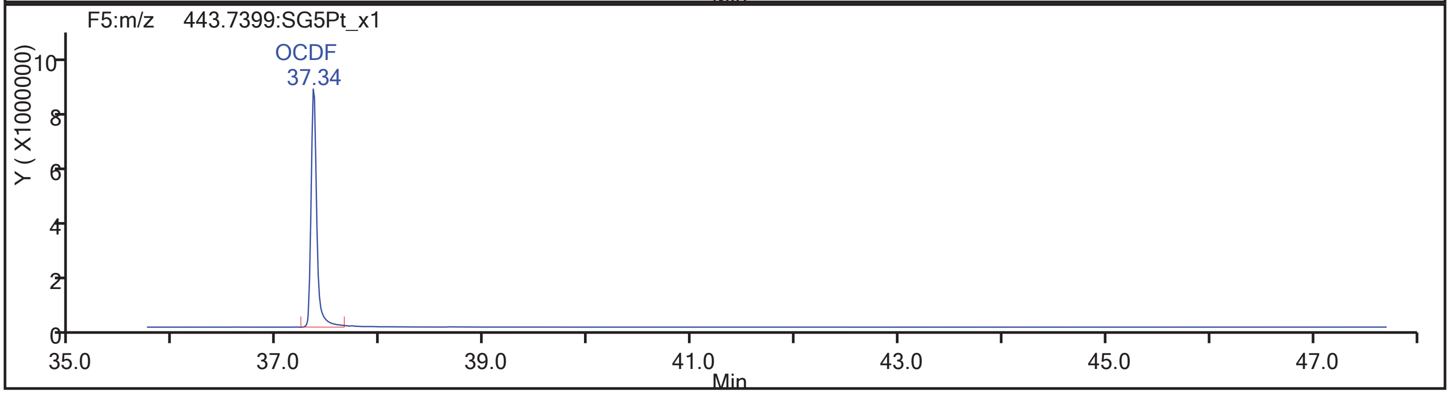
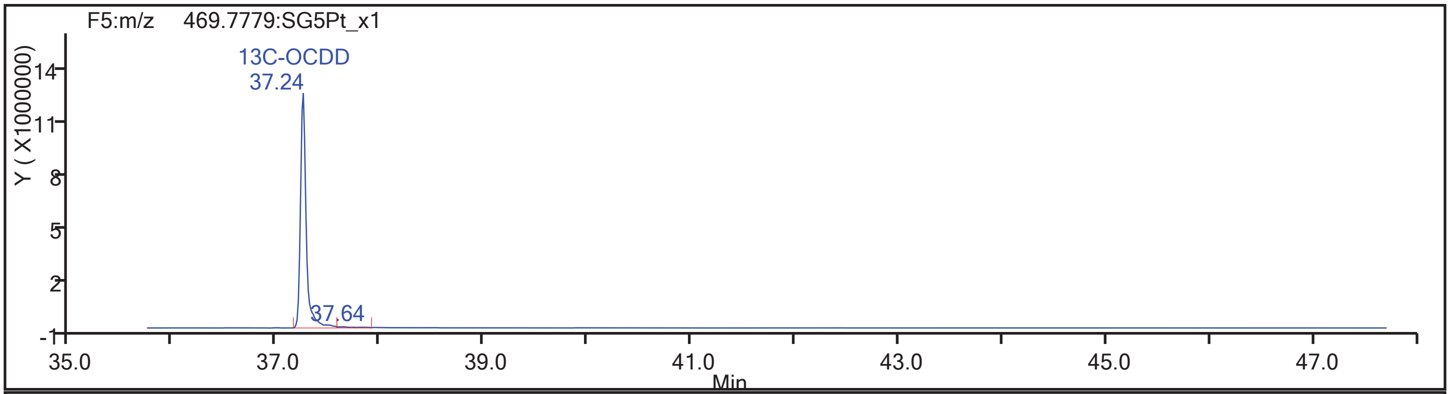
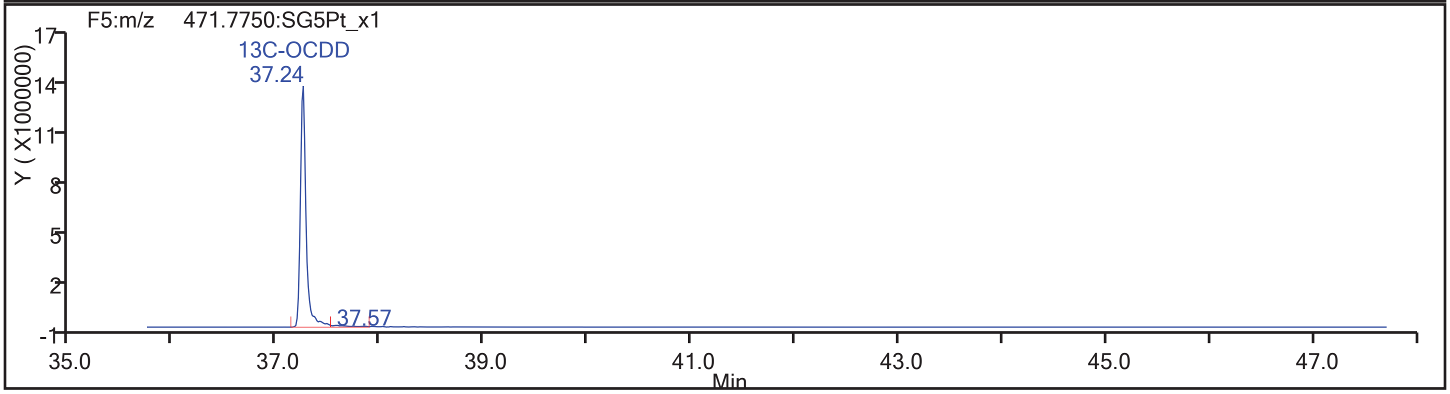




OCDF Standards





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TestAmerica Sacramento

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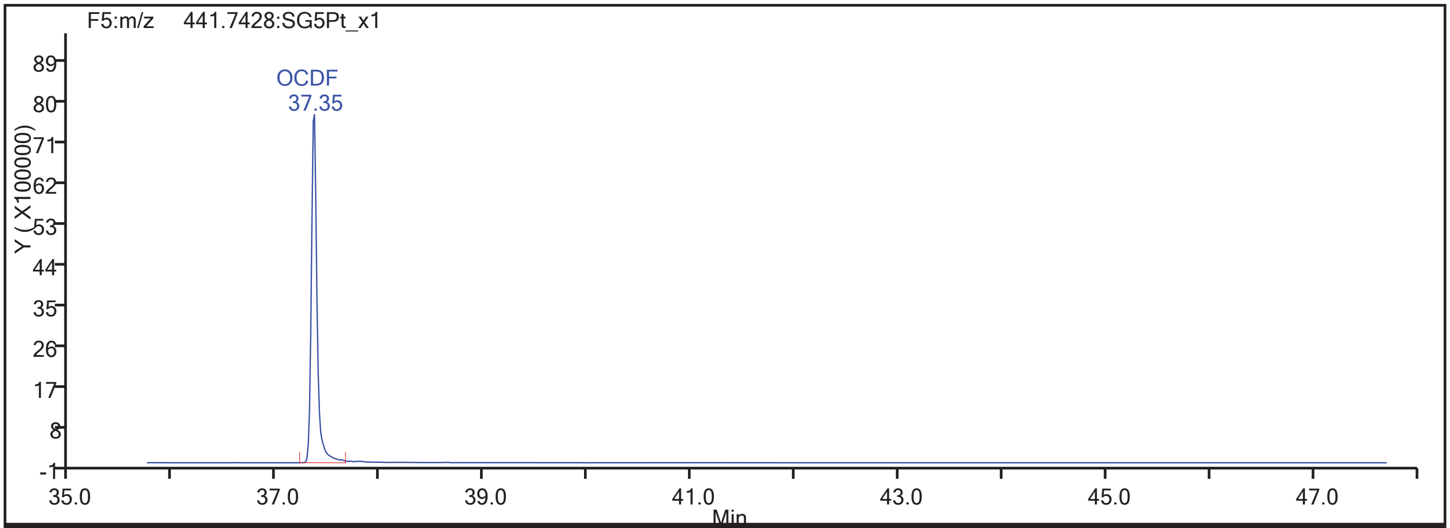
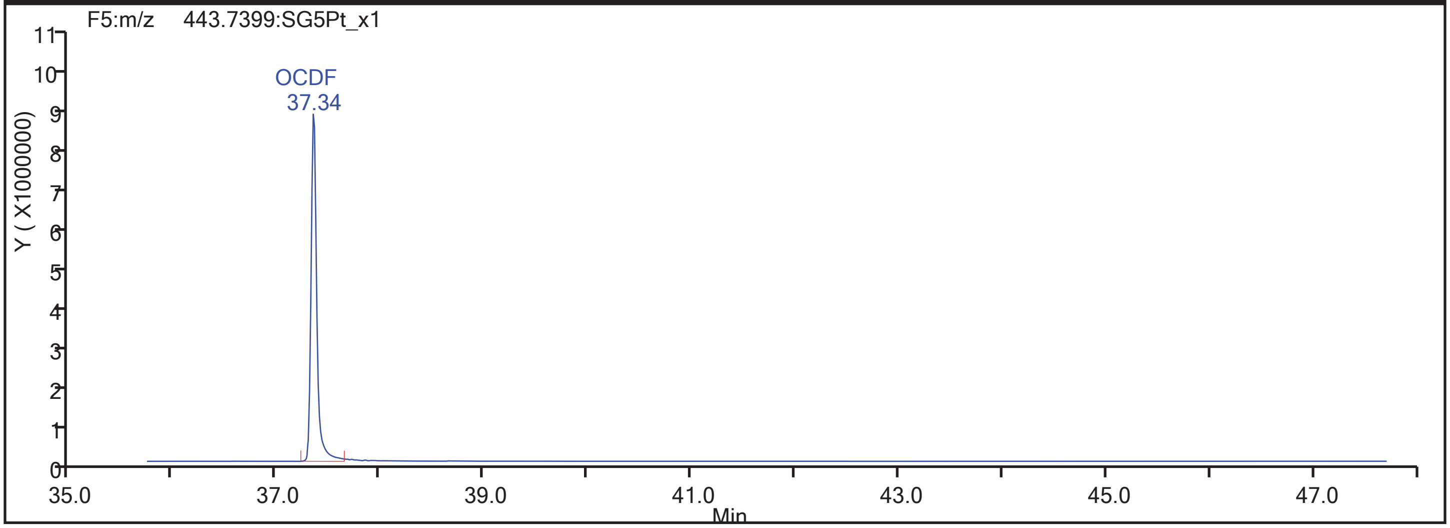
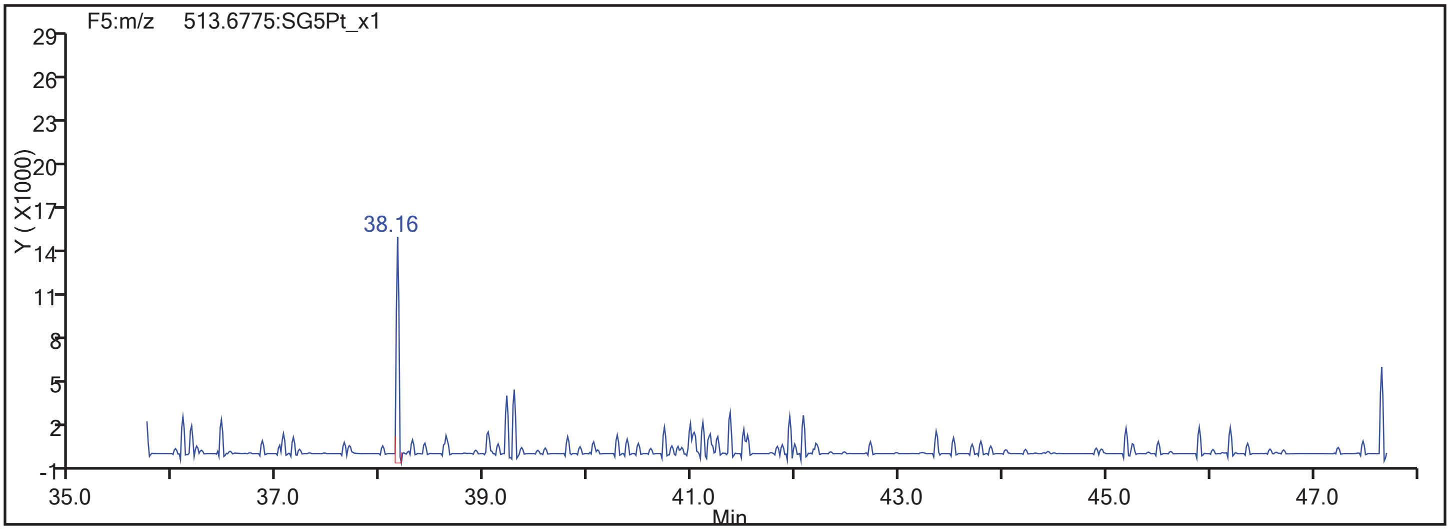




OCDF Interference Mass



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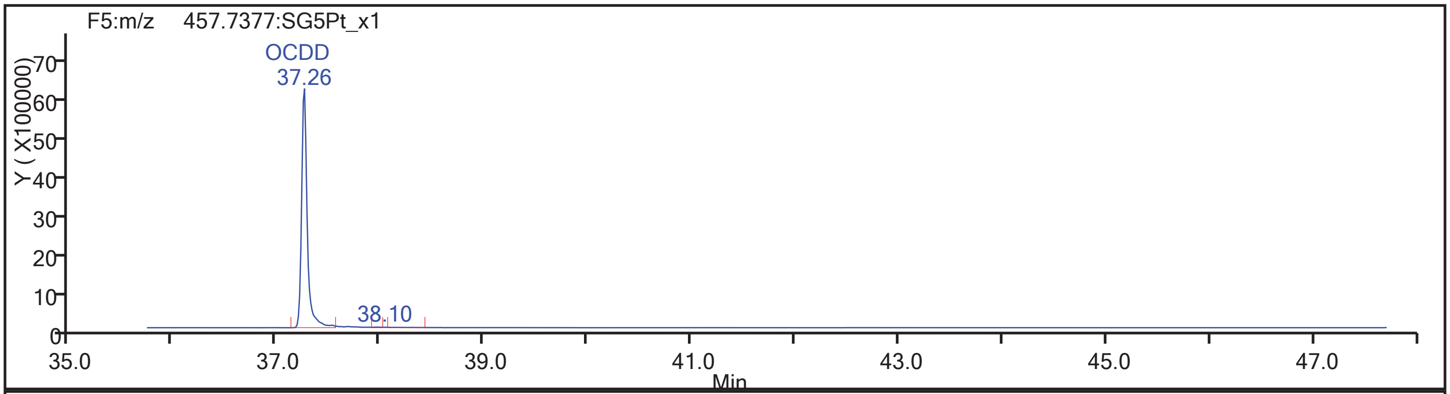
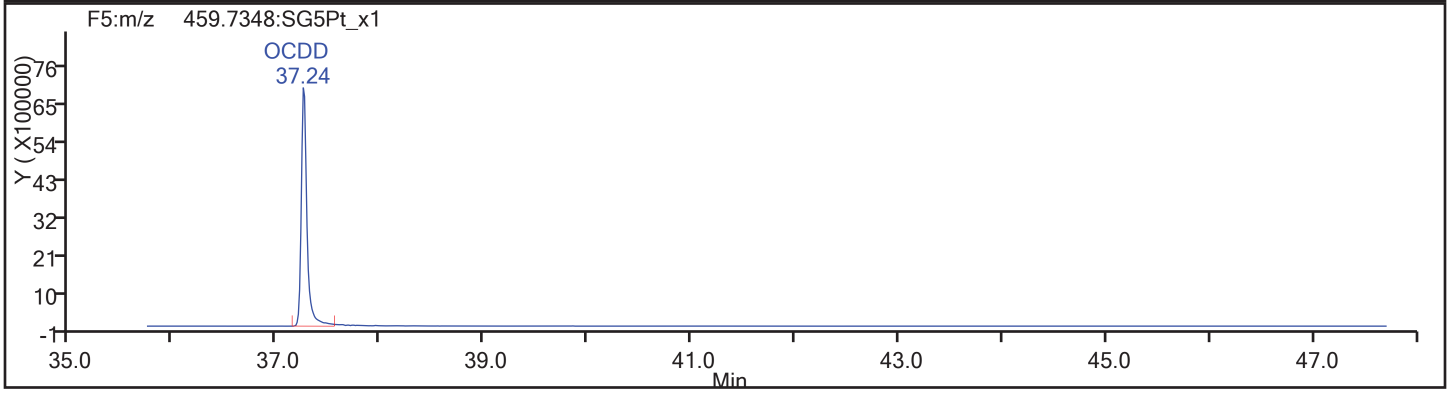
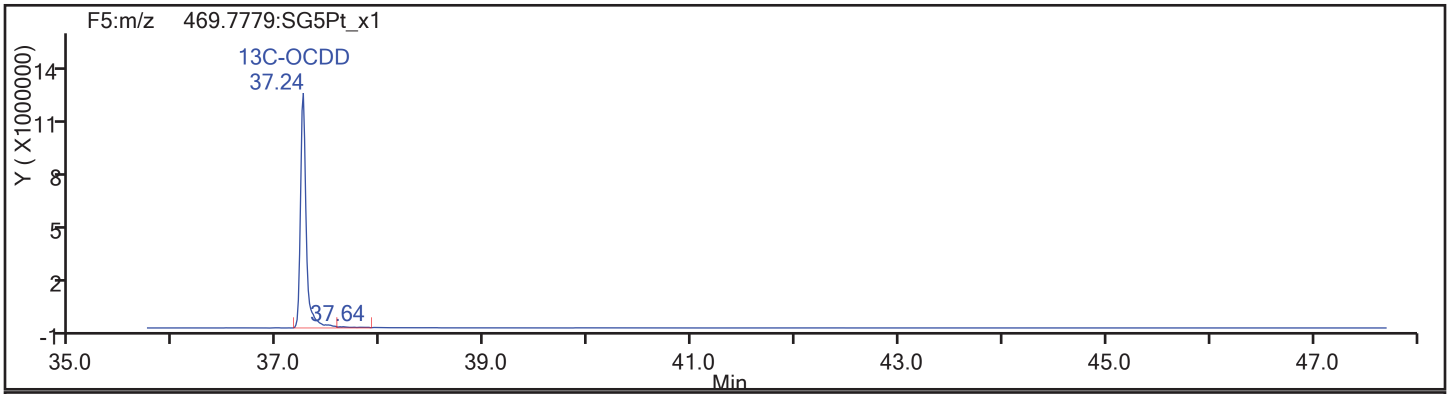
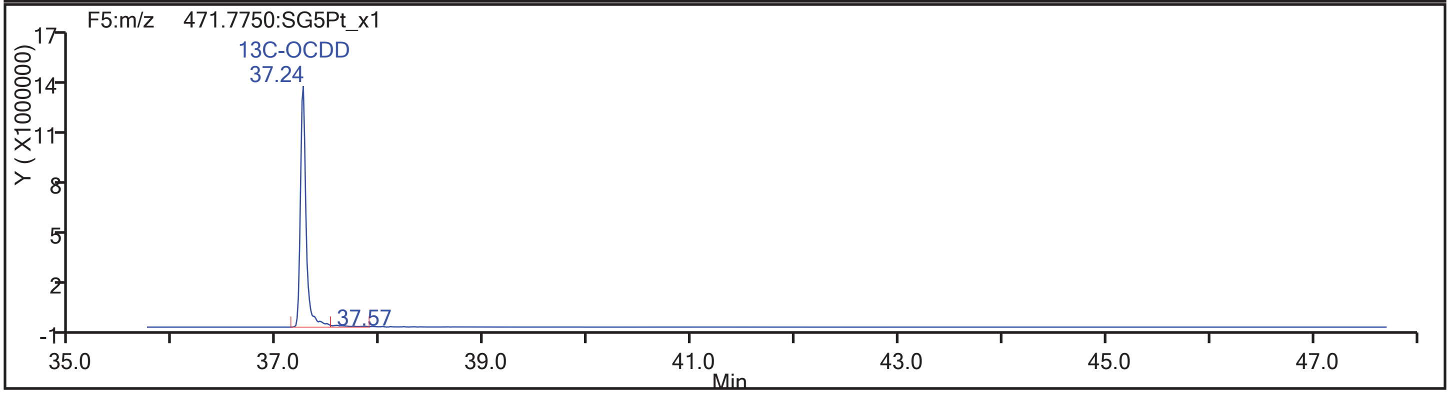




OCDD Standards

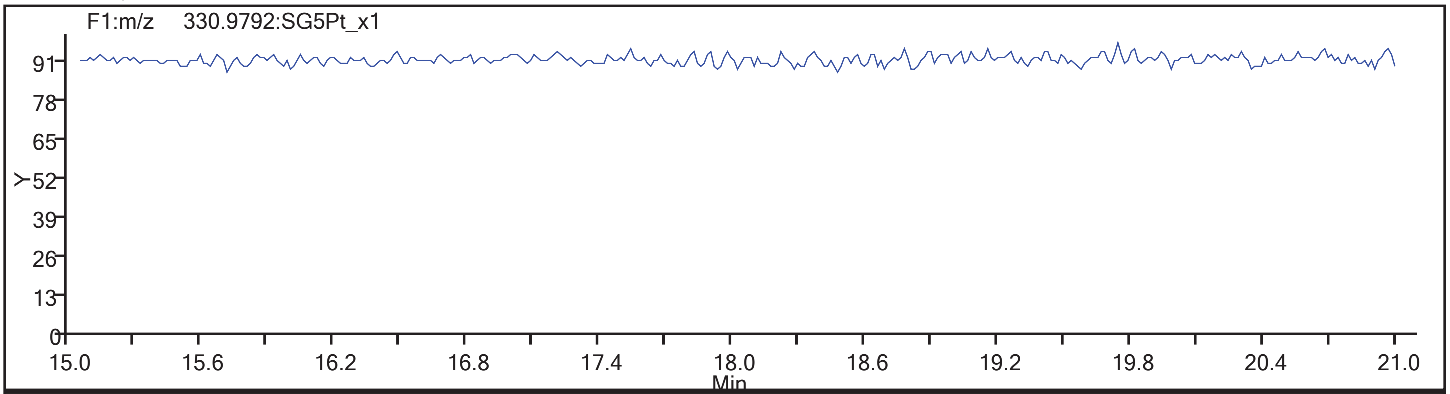


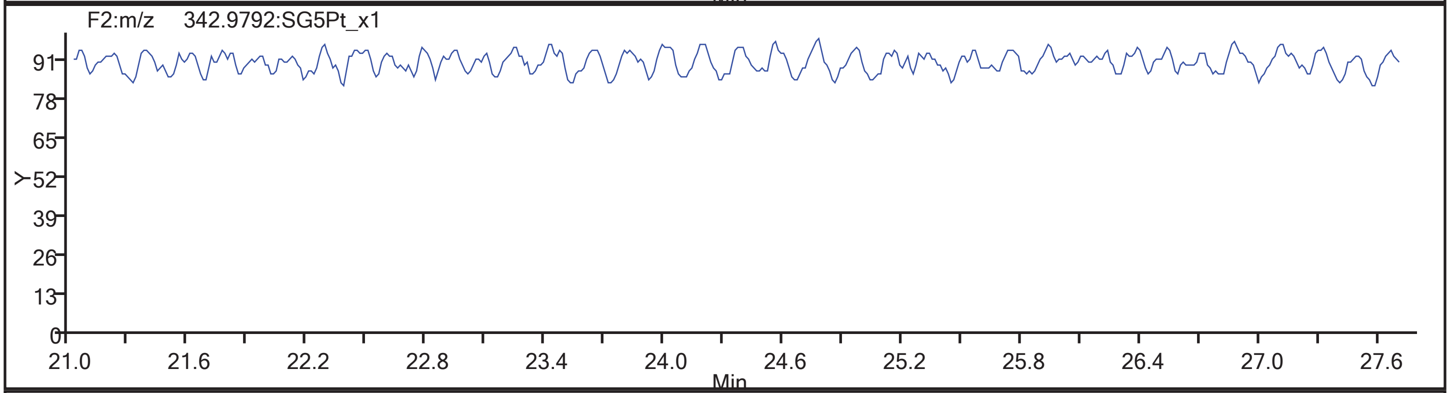


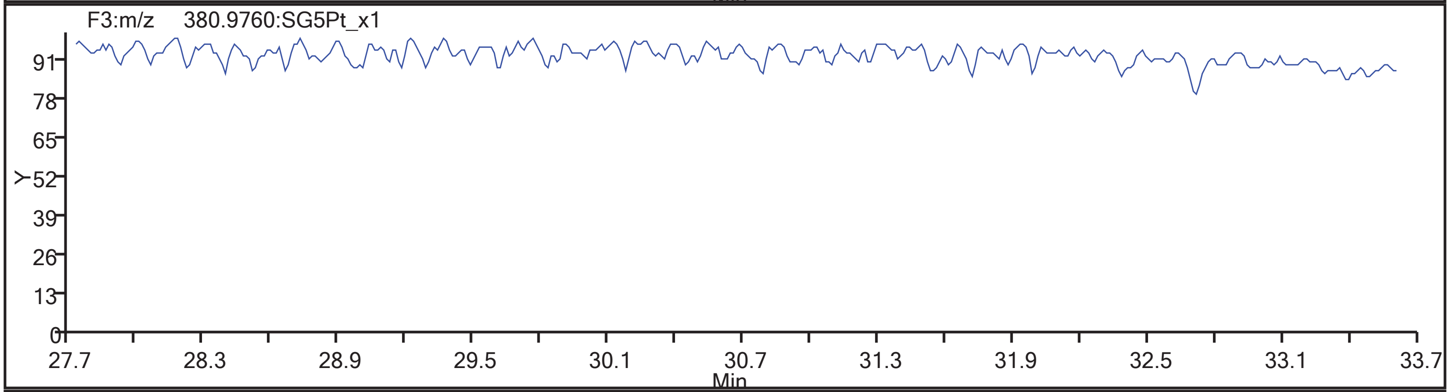
Report Date: 20-Nov-2017 11:46:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

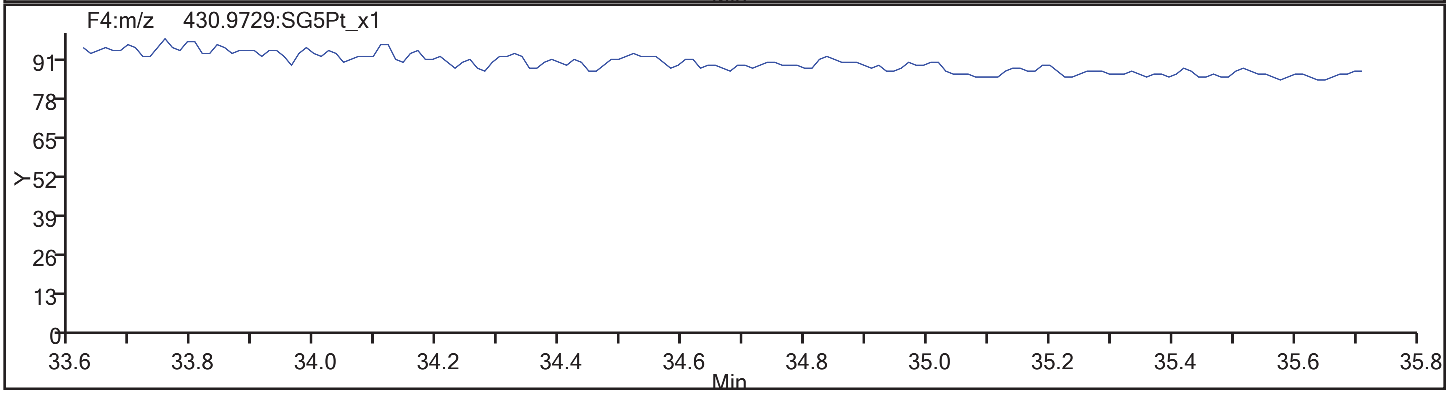
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_55.d
Injection Date: 18-Nov-2017 13:48:13
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573
Sample Line#: 55
Column Type:
Column Dia:





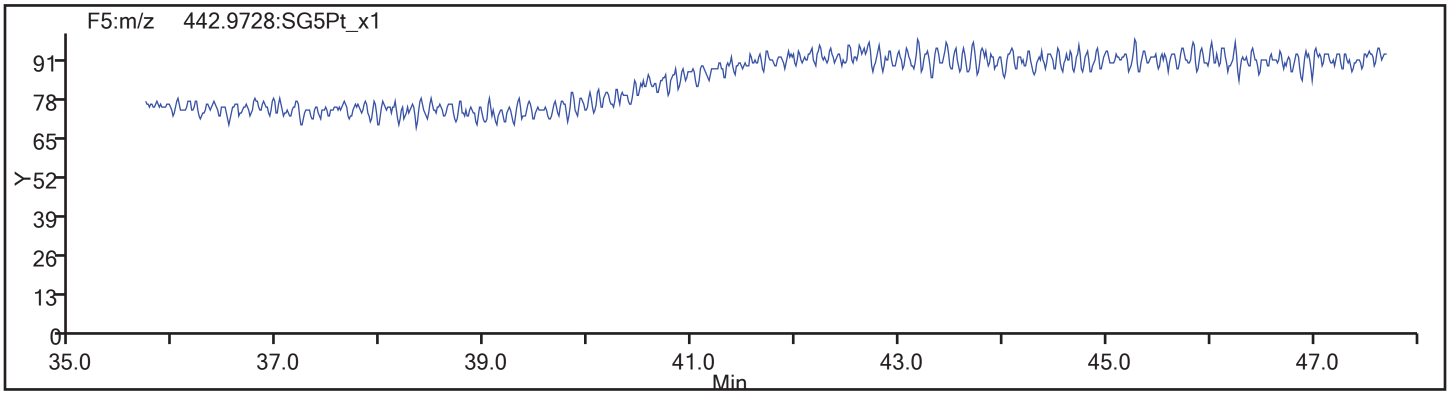




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_55.d

Injection Date:	18-Nov-2017 13:48:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	55
Column Type:		Column Dia:	



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-195573/66 Calibration Date: 11/18/2017 22:51

Instrument ID: 3D5 Calib Start Date: 11/15/2017 11:51

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 11/15/2017 15:05

Lab File ID: 16NO173D5_66.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.097	1.049		9.56	10.0	-4.4	20.0
2,3,7,8-TCDD	AveID	1.164	1.074		9.22	10.0	-7.8	20.0
1,2,3,7,8-PeCDF	AveID	1.142	1.101		48.2	50.0	-3.6	20.0
2,3,4,7,8-PeCDF	AveID	1.110	1.089		49.1	50.0	-1.9	20.0
1,2,3,7,8-PeCDD	AveID	1.127	1.092		48.5	50.0	-3.1	20.0
1,2,3,4,7,8-HxCDF	AveID	1.348	1.387		51.5	50.0	2.9	20.0
1,2,3,6,7,8-HxCDF	AveID	1.479	1.500		50.7	50.0	1.4	20.0
2,3,4,6,7,8-HxCDF	AveID	1.383	1.426		51.5	50.0	3.1	20.0
1,2,3,4,7,8-HxCDD	AveID	1.065	1.035		48.6	50.0	-2.8	20.0
1,2,3,6,7,8-HxCDD	AveID	1.181	1.180		50.0	50.0	-0.0	20.0
1,2,3,7,8,9-HxCDD	AveID	1.231	1.246		50.6	50.0	1.2	20.0
1,2,3,7,8,9-HxCDF	AveID	1.290	1.334		51.7	50.0	3.4	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.587	1.516		47.8	50.0	-4.5	20.0
1,2,3,4,6,7,8-HpCDD	AveID	1.163	1.161		49.9	50.0	-0.2	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.229	1.198		48.8	50.0	-2.5	20.0
OCDD	AveID	1.039	1.023		98.5	100	-1.5	20.0
OCDF	AveID	1.265	1.250		98.9	100	-1.1	20.0
13C-2,3,7,8-TCDF	Ave	1.509	1.486		98.5	100	-1.5	30.0
13C-2,3,7,8-TCDD	Ave	0.9906	0.995		100	100	0.5	30.0
13C-1,2,3,7,8-PeCDF	Ave	1.128	1.143		101	100	1.4	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7269	0.7536		104	100	3.7	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.028	1.005		97.7	100	-2.3	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8502	0.8477		99.7	100	-0.3	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6490	0.7049		109	100	8.6	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.5387	0.5748		107	100	6.7	30.0
13C-OCDD	Ave	0.4009	0.4172		208	200	4.1	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.173	1.157		9.86	10.0	-1.4	

Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 18-Nov-2017 22:51:56 ALS Bottle#: 2 Worklist Smp#: 66
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111617G CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:47:41 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 19-Nov-2017 08:10:29

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	143591076	0.79	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	213362185	0.77	1.5089	98.5	98.5	0.2955	0.2955	98.48	
2,3,7,8-TCDF	17.735	22384675	0.78	1.0971	9.563	9.563	0.0336	0.0336	95.63	
A Non-2,3,7,8-sub-TCDF	17.425						0.0	0.0		
S Total TCDF					9.563	9.563	0.0336	0.0336		
D 13C-2,3,7,8-TCDD	18.445	142885914	0.81	0.9906	100.5	100.5	0.2097	0.2097	100	
$ 37Cl4-2,3,7,8-TCDD	18.461	16613309		1.1732	9.862	9.862	0.0318	0.0318	98.62	
2,3,7,8-TCDD	18.461	15341386	0.76	1.1645	9.220	9.220	0.0393	0.0393	92.20	
A Non-2,3,7,8-sub-TCDD	17.894						0.0	0.0		
S Total TCDD					9.220	9.220	0.0393	0.0393		
D 13C-1,2,3,7,8-PeCDF	22.883	164164368	1.61	1.1280	101.4	101.4	0.2794	0.2794	101	
1,2,3,7,8-PeCDF	22.910	90378010	1.58	1.1422	48.2	48.2	0.1940	0.1940	96.40	
D 13C-2,3,4,7,8-PeCDF	24.274	164506164	1.61							
2,3,4,7,8-PeCDF	24.287	89409023	1.64	1.1102	49.1	49.1	0.1996	0.1996	98.11	
A F1 PeCDFs	20.434						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.682						0.0	0.0		
S Total PeCDF					97.3	97.3	0.1968	0.1968		
D 13C-1,2,3,7,8-PeCDD	25.010	108203351	1.65	0.7269	103.7	103.7	0.1613	0.1613	104	
1,2,3,7,8-PeCDD	25.037	59104733	1.59	1.1272	48.5	48.5	0.0726	0.0726	96.92	
A Non-2,3,7,8-sub-PeCDD	23.905						0.0	0.0		
S Total PeCDD					48.5	48.5	0.0726	0.0726		
D 13C-1,2,3,4,7,8-HxCDF	30.919	125169367	0.53	1.0279	97.7	97.7	0.4602	0.4602	97.73	
1,2,3,4,7,8-HxCDF	30.945	86798049	1.27	1.3475	51.5	51.5	0.2739	0.2739	103	
D 13C-1,2,3,6,7,8-HxCDF	31.079	149487995	0.51							
1,2,3,6,7,8-HxCDF	31.105	93876132	1.26	1.4794	50.7	50.7	0.2495	0.2495	101	
D 13C-2,3,4,6,7,8-HxCDF	31.824	137945431	0.51							
2,3,4,6,7,8-HxCDF	31.838	89241400	1.26	1.3833	51.5	51.5	0.2669	0.2669	103	
D 13C-1,2,3,7,8,9-HxCDF	32.597	133119366	0.51							
1,2,3,7,8,9-HxCDF	32.610	83515765	1.24	1.2903	51.7	51.7	0.2861	0.2861	103	
A Non-2,3,7,8-sub-HxCDF	30.679						0.0	0.0		

Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					205.4	205.4	0.2691	0.2691		
* 13C-1,2,3,7,8,9-HxCDD	32.410	124594581	1.26	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.997	96482169	1.29							
1,2,3,4,7,8-HxCDD	32.011	54673278	1.24	1.0646	48.6	48.6	0.1736	0.1736	97.25	
D 13C-1,2,3,6,7,8-HxCDD	32.104	105615744	1.28	0.8502	99.7	99.7	0.2990	0.2990	99.71	
1,2,3,6,7,8-HxCDD	32.117	62324256	1.30	1.1809	50.0	50.0	0.1565	0.1565	99.94	
1,2,3,7,8,9-HxCDD	32.424	65803158	1.33	1.2311	50.6	50.6	0.1501	0.1501	101	
A Non-2,3,7,8-sub-HxCDD	31.278						0.0	0.0		
S Total HxCDD					149.2	149.2	0.1601	0.1601		
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	87823986	0.45	0.6490	108.6	108.6	0.991	0.991	109	
1,2,3,4,6,7,8-HpCDF	34.010	66585043	1.03	1.5871	47.8	47.8	0.4894	0.4894	95.54	
1,2,3,4,7,8,9-HpCDF	35.128	52619264	1.01	1.2290	48.8	48.8	0.6320	0.6320	97.50	
D 13C-1,2,3,4,7,8,9-HpCDF	35.128	72138837	0.45							
A Non-2,3,7,8-sub-HpCDF	34.581						0.0	0.0		
S Total HpCDF					96.5	96.5	0.5607	0.5607		
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	71616144	1.10	0.5387	106.7	106.7	0.5689	0.5689	107	
1,2,3,4,6,7,8-HpCDD	34.836	41580700	1.04	1.1631	49.9	49.9	0.2527	0.2527	99.84	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					49.9	49.9	0.2527	0.2527		
D 13C-OCDD	37.245	103957429	0.91	0.4009	208.1	208.1	0.1993	0.1993	104	
OCDF	37.353	64994532	0.89	1.2649	98.9	98.9	0.0969	0.0969	98.86	
OCDD	37.257	53182524	0.90	1.0390	98.5	98.5	0.1083	0.1083	98.47	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 18-Nov-2017 22:51:56 ALS Bottle#: 2 Worklist Smp#: 66
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111617G CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:47:41 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 19-Nov-2017 08:10:29

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		63537753	14501278	15771	39427	919		
333.9339	18.249	18.234	1		80053323	18821538	11919	29797	1579	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.720	0	0.972	93075189	22220384	33808	84520	657		
317.9389	17.720	17.720	0	0.972	120286996	28585154	25615	64037	1116	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.735	17.735	0	1.001	9790999	2207547	3875	9687	570		
305.8987	17.735	17.735	0	1.001	12593676	2844544	3619	9047	786	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.425						3875	9687			
305.8987	17.425						3619	9047			
13C-2,3,7,8-TCDD											
331.9368	18.445	18.445	0	1.012	63841575	13984139	15771	39427	887		
333.9339	18.445	18.445	0	1.012	79044339	17743266	11919	29797	1489	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.461	18.461	0	1.012	16613309	3934668	4979	12447	790		
2,3,7,8-TCDD											
319.8965	18.461	18.461	0	1.001	6614875	1496690	3743	9357	400		
321.8936	18.461	18.461	0	1.001	8726511	1982519	2067	5167	959	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.894						3743	9357			
321.8936	17.894						2067	5167			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.883	0	1.255	101252652	17073520	25801	64502	662		
353.8970	22.883	22.883	0	1.255	62911716	10645812	16213	40532	657	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910	22.910	0	1.001	55368961	9393277	14636	36590	642		
341.8567	22.910	22.910	0	1.001	35009049	5941662	9930	24825	598	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.274	24.274	0	1.331	101407687	15661914	25801	64502	607		
353.8970	24.260	24.274	-1	1.330	63098477	10064121	16213	40532	621	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.287	24.287	0	1.061	55560865	8589477	14636	36590	587		
341.8567	24.287	24.287	0	1.061	33848158	5269206	9930	24825	531	1.64(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.434						532	1330			
341.8567	20.434						1131	2827			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.682						14636	36590			
341.8567	23.682						9930	24825			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.372	67334582	10050698	9423	23557	1067		
369.8919	25.010	25.010	0	1.372	40868769	6134838	6201	15502	989	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037	25.037	0	1.001	36327260	5409324	3211	8027	1685		
357.8516	25.037	25.037	0	1.001	22777473	3452928	2084	5210	1657	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.905						3211	8027			
357.8516	23.905						2084	5210			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.919	0	0.954	43113925	9441081	23264	58160	406		
385.8610	30.919	30.919	0	0.954	82055442	17788524	42212	105530	421	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.945	30.945	0	1.001	48488390	10182141	21928	54820	464		
375.8178	30.932	30.945	-1	1.000	38309659	8314502	18280	45700	455	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.079	31.079	0	0.959	50680438	10307556	23264	58160	443		
385.8610	31.079	31.079	0	0.959	98807557	20268415	42212	105530	480	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.105	31.105	0	1.006	52331119	10783925	21928	54820	492		
375.8178	31.092	31.105	-1	1.006	41545013	8699230	18280	45700	476	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.824	31.824	0	0.982	46817255	12136338	23264	58160	522		
385.8610	31.824	31.824	0	0.982	91128176	23563889	42212	105530	558	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.838	31.838	0	1.030	49770098	12959166	21928	54820	591		
375.8178	31.838	31.838	0	1.030	39471302	10269282	18280	45700	562	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.597	0	1.006	44752785	11839355	23264	58160	509		
385.8610	32.597	32.597	0	1.006	88366581	23768346	42212	105530	563	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.610	32.610	0	1.055	46260790	12350099	21928	54820	563		
375.8178	32.610	32.610	0	1.055	37254975	9797860	18280	45700	536	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.679						21928	54820			
375.8178	30.679						18280	45700			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.410	0		69387037	19165118	19518	48795	982		
403.8529	32.410	32.410	0		55207544	15440874	15671	39177	985	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.997	31.997	0	0.987	54439114	15887097	19518	48795	814		
403.8529	31.997	31.997	0	0.987	42043055	12275439	15671	39177	783	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.011	32.011	0	0.997	30317297	8857624	10256	25640	864		
391.8127	32.011	32.011	0	0.997	24355981	7246110	9818	24545	738	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.104	0	0.991	59250322	15159150	19518	48795	777		
403.8529	32.091	32.104	-1	0.990	46365422	11991522	15671	39177	765	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.117	32.117	0	1.000	35181263	9081252	10256	25640	885		
391.8127	32.117	32.117	0	1.000	27142993	7003670	9818	24545	713	1.30(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.424	32.424	0	1.010	37587615	10320274	10256	25640	1006		
391.8127	32.424	32.424	0	1.010	28215543	7852716	9818	24545	800	1.33(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.278						10256	25640			
391.8127	31.278						9818	24545			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	27295743	8552245	30315	75787	282		
419.8220	33.998	33.998	0	1.049	60528243	18798532	58704	146760	320	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.010	34.010	0	1.000	33805000	10639836	45579	113947	233		
409.7789	34.010	34.010	0	1.000	32780043	10551306	39399	98497	268	1.03(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128	35.128	0	1.033	26446351	7586234	45579	113947	166		
409.7789	35.128	35.128	0	1.033	26172913	7828829	39399	98497	199	1.01(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.128	35.128	0	1.084	22335391	6482273	30315	75787	214		
419.8220	35.116	35.128	-1	1.083	49803446	14205413	58704	146760	242	0.45(0.37-0.51)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.581						45579	113947			
409.7789	34.581						39399	98497			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.824	0	1.074	37565884	11138895	19855	49637	561		
437.8140	34.824	34.824	0	1.074	34050260	10196561	22563	56407	452	1.10(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.836	0	1.000	21154568	6329862	13269	33172	477		
425.7737	34.836	34.836	0	1.000	20426132	6017069	11812	29530	509	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						13269	33172			
425.7737	35.261						11812	29530			
13C-OCDD											
469.7779	37.245	37.245	0	1.149	49656158	12669547	4551	11377	2784		
471.7750	37.245	37.245	0	1.149	54301271	13862162	6512	16280	2129	0.91(0.76-1.02)	
OCDF											
441.7428	37.353	37.353	0	1.003	30630219	7805606	2732	6830	2857		
443.7399	37.353	37.353	0	1.003	34364313	8778944	3773	9432	2327	0.89(0.76-1.02)	
OCDD											
457.7377	37.257	37.257	0	1.000	25257986	6600555	3243	8107	2035		
459.7348	37.257	37.257	0	1.000	27924538	7208848	2729	6822	2642	0.90(0.76-1.02)	

Reagents:

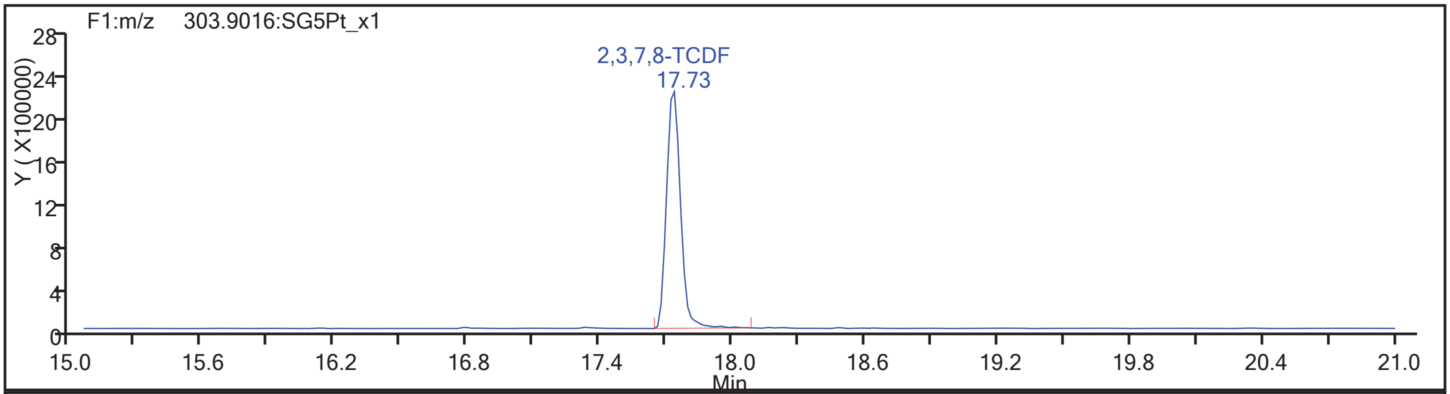
HRDXNL4_00060 Amount Added: 1.00 Units: mL

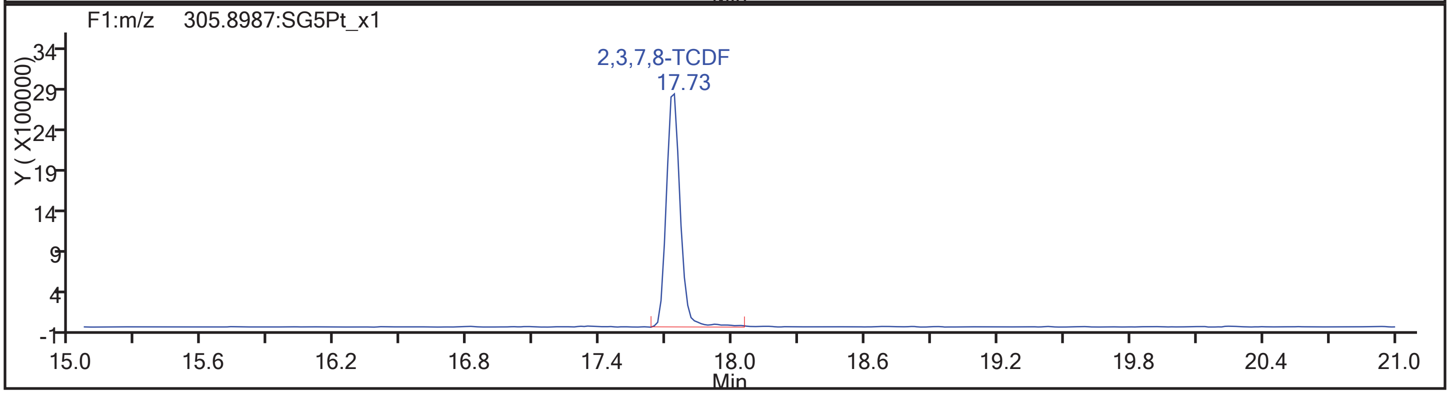
Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

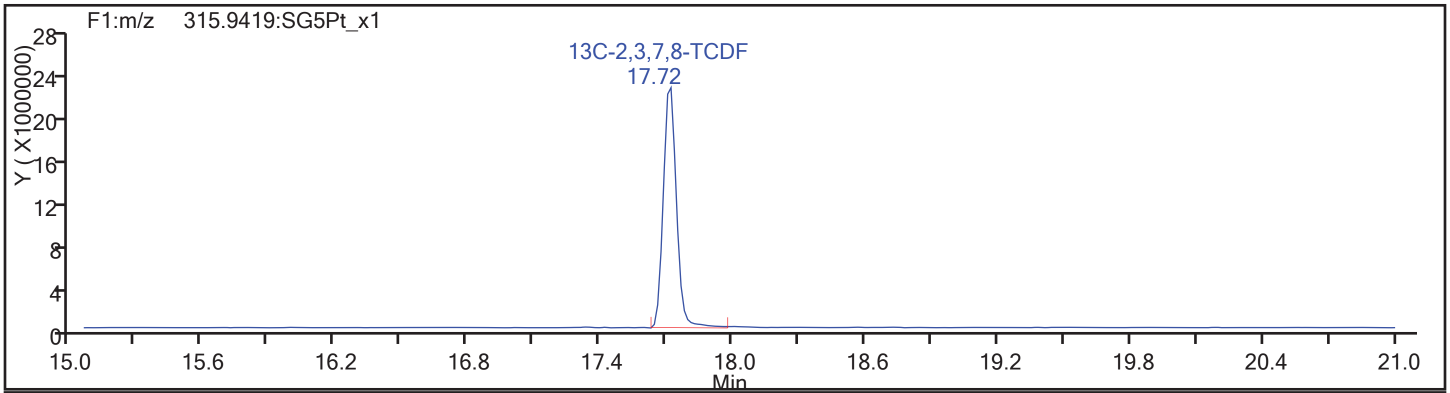
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d
Injection Date: 18-Nov-2017 22:51:56 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573 Sample Line#: 66
Column Type: Column Dia:

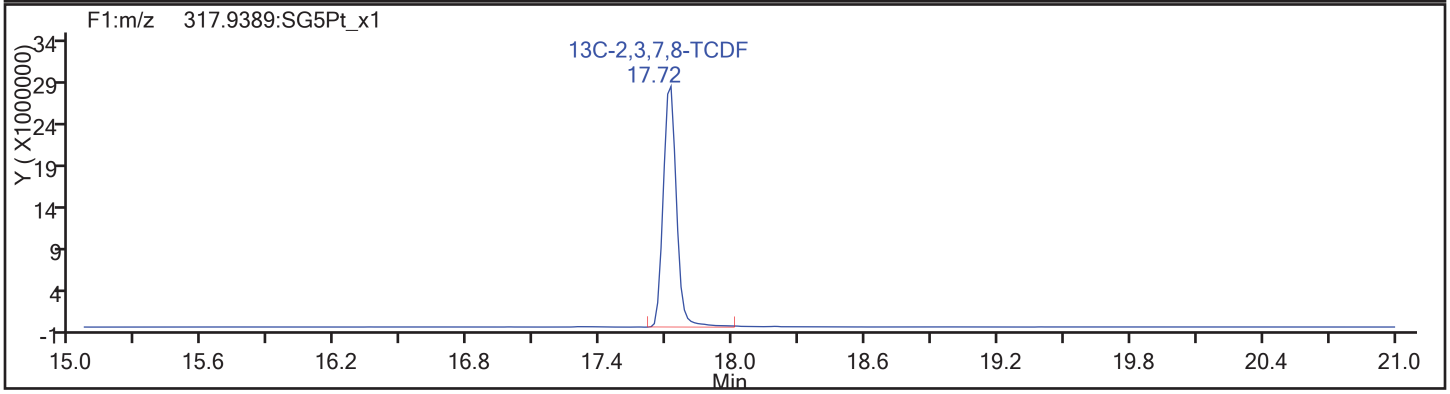
TCDF





TCDF Standards





Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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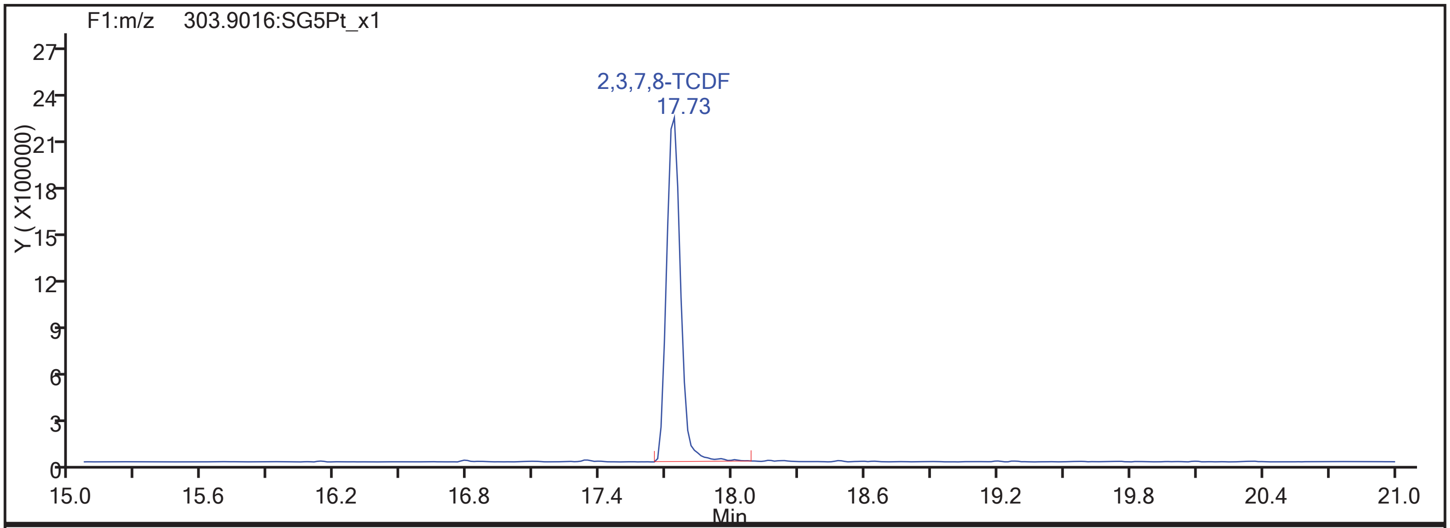
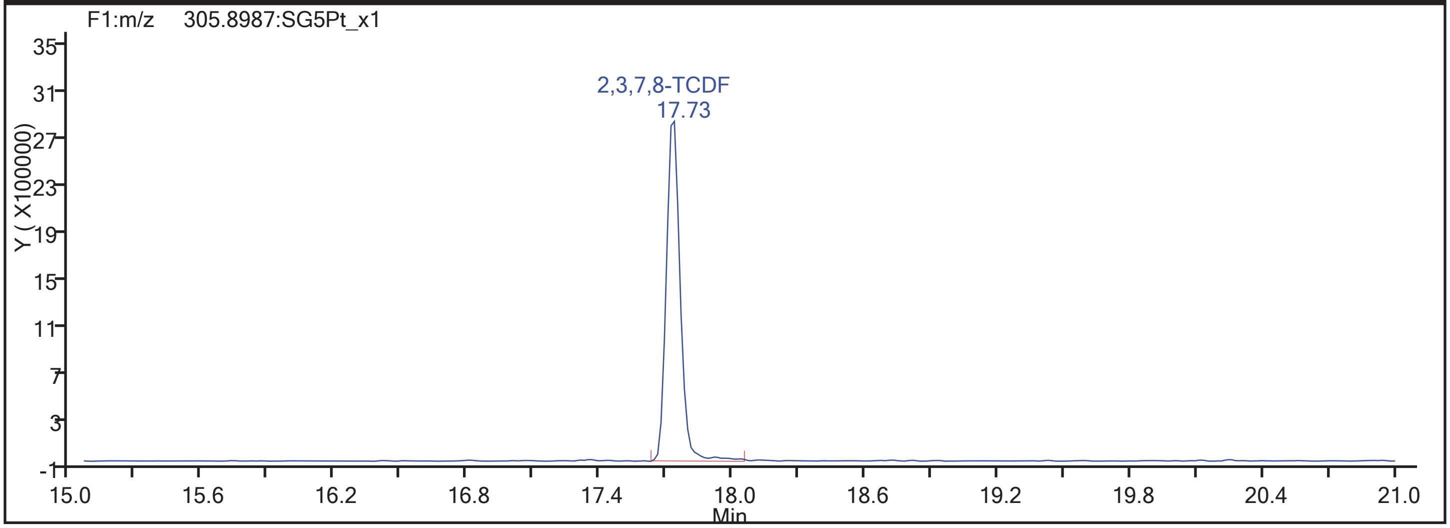
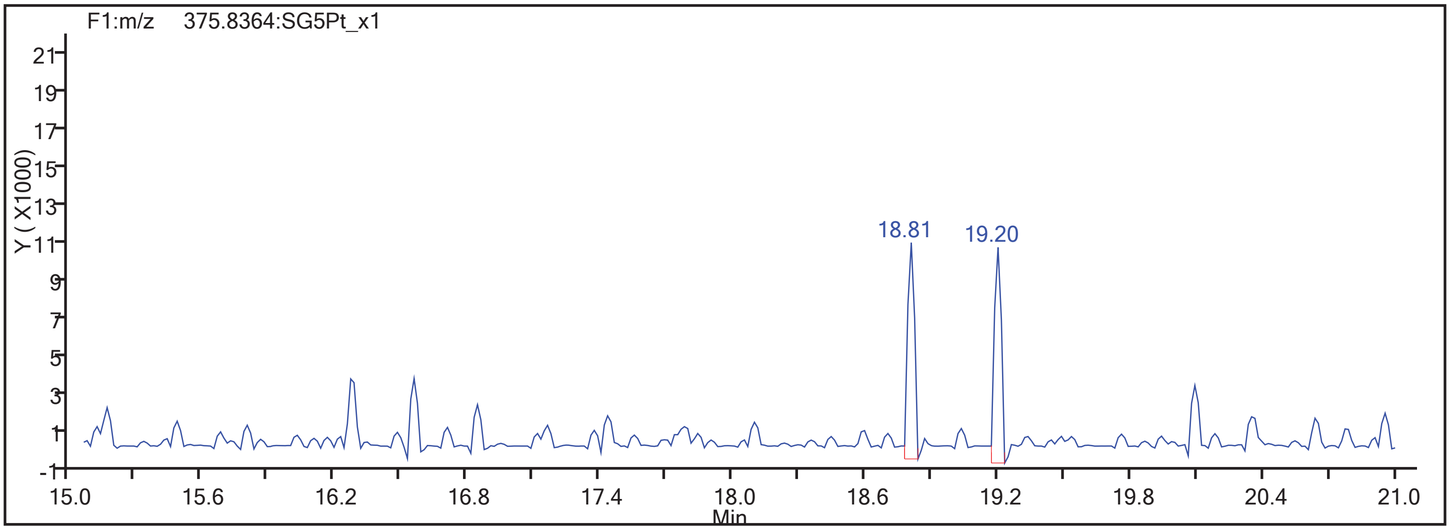
Injection Date: 18-Nov-2017 22:51:56 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573 Sample Line#: 66
Column Type: Column Dia:

TCDF





TCDF Interference Mass

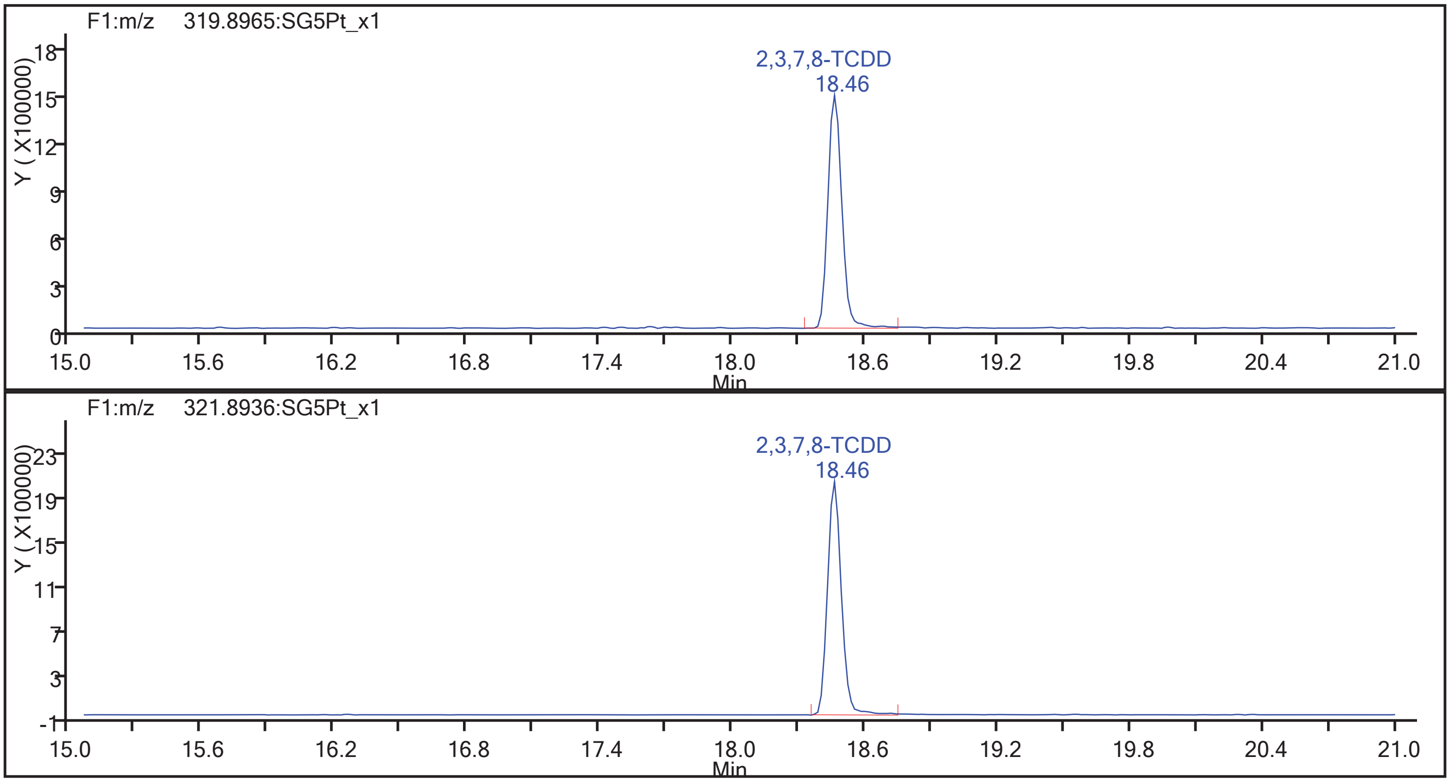


Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

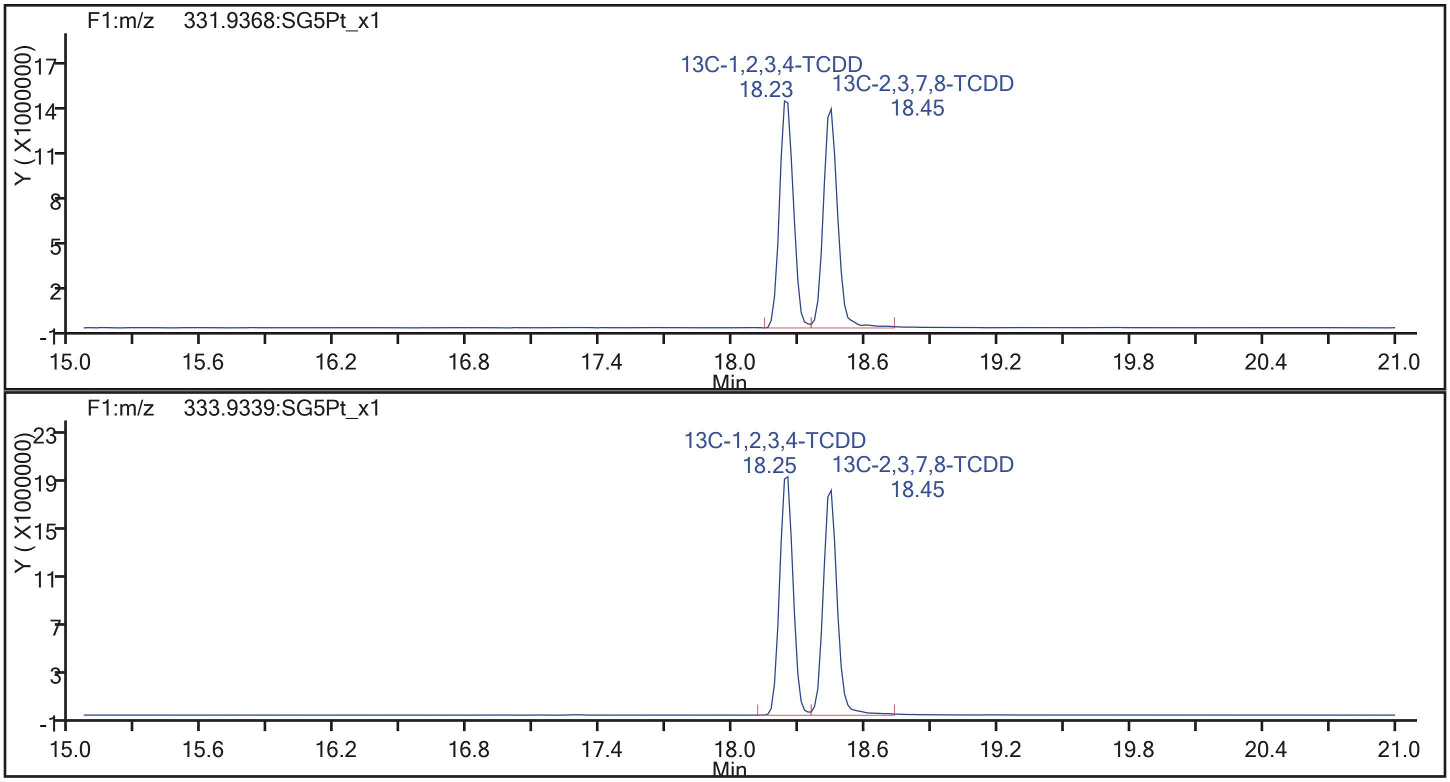
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d		
Injection Date:	18-Nov-2017 22:51:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	66
Column Type:		Column Dia:	

TCDD



TCDD Standards



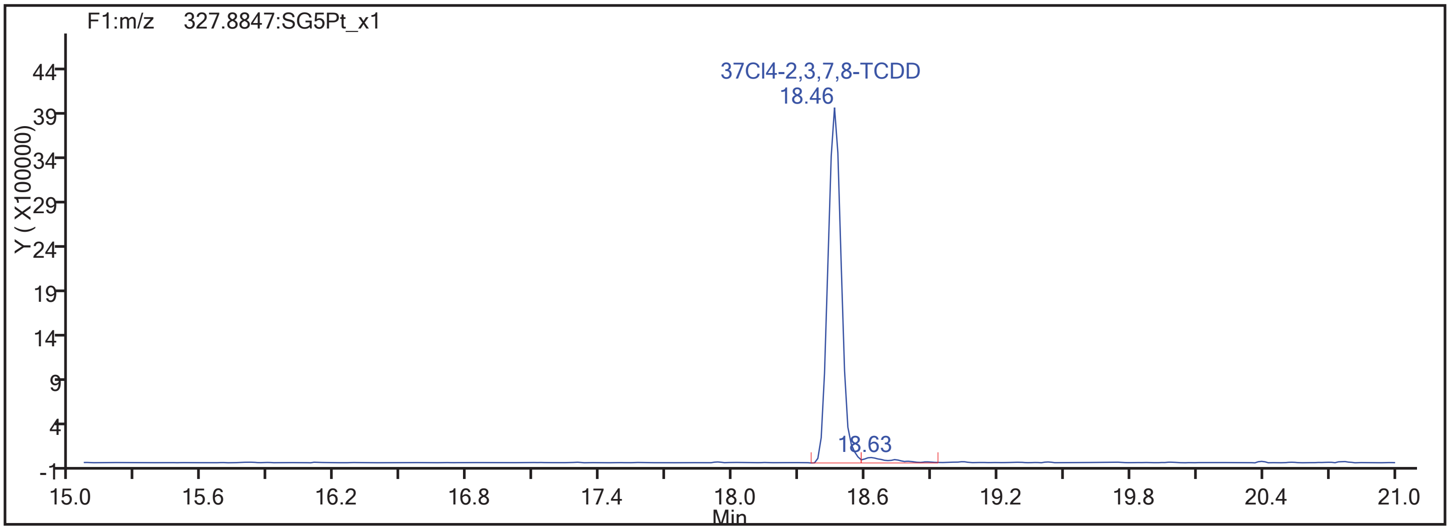
Report Date: 20-Nov-2017 11:47:42　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

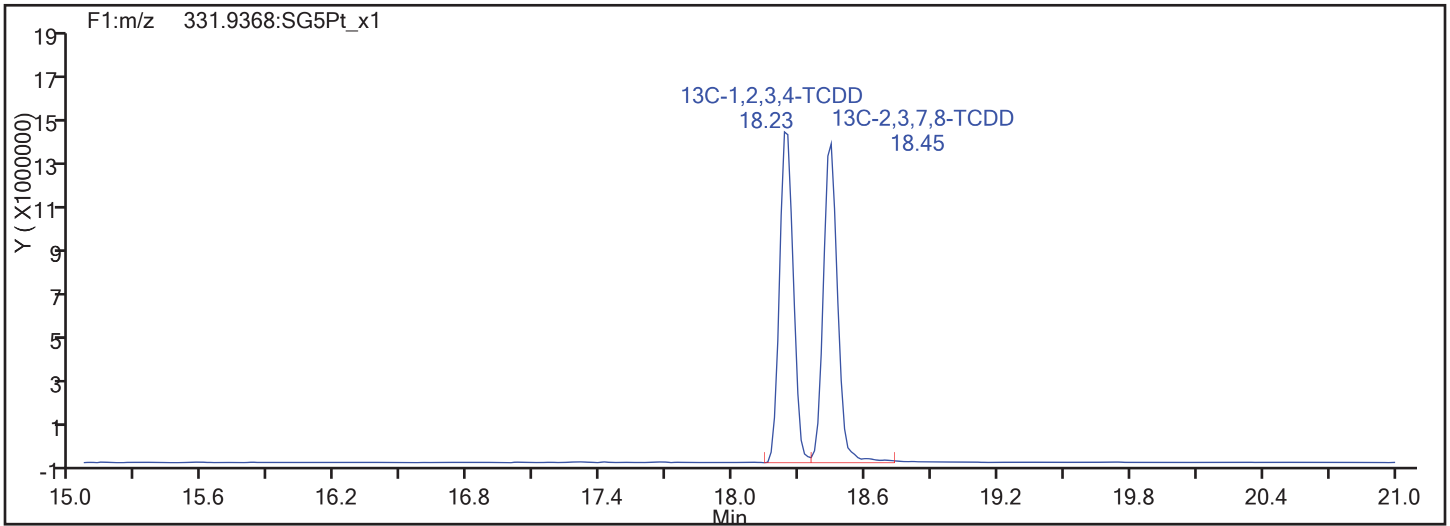
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d

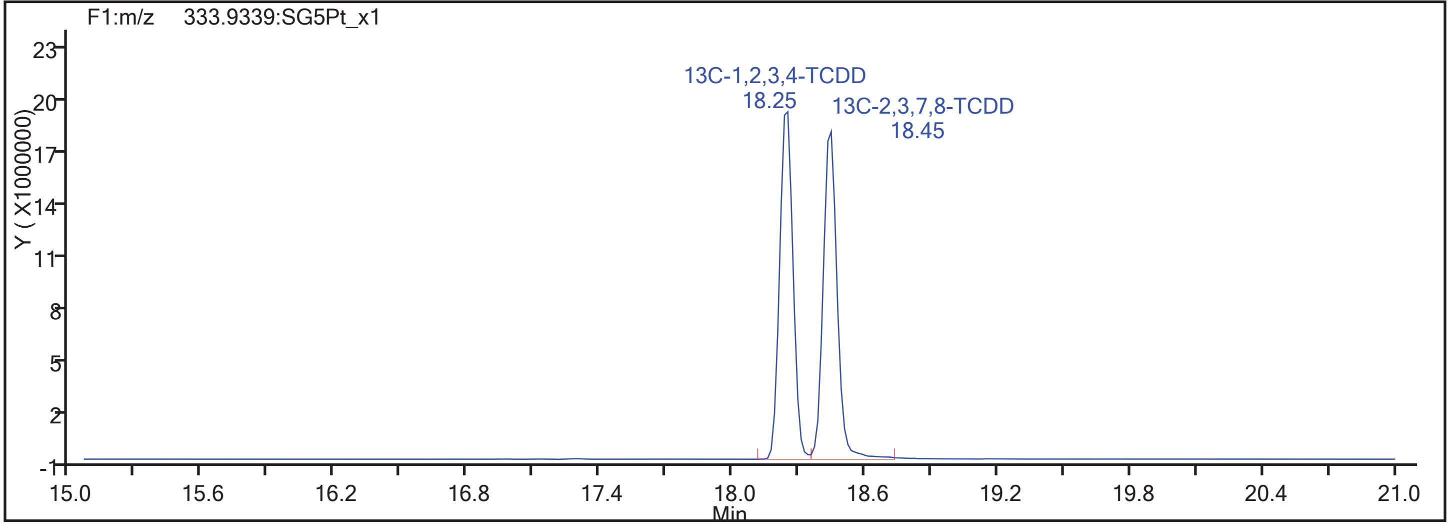
Injection Date: 18-Nov-2017 22:51:56
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573
Sample Line#: 66
Column Type:
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d
Injection Date: 18-Nov-2017 22:51:56
Injection Vol: 2.0 ul
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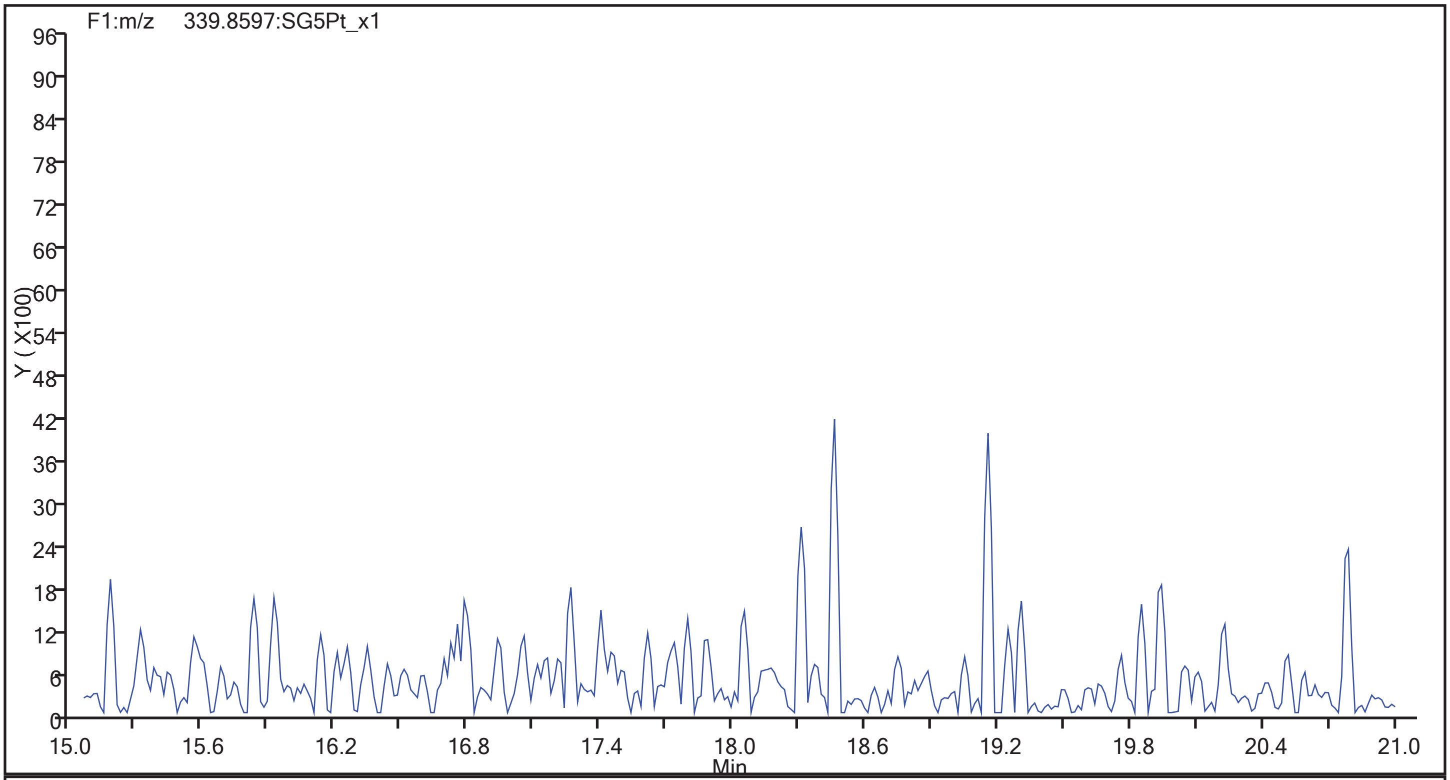
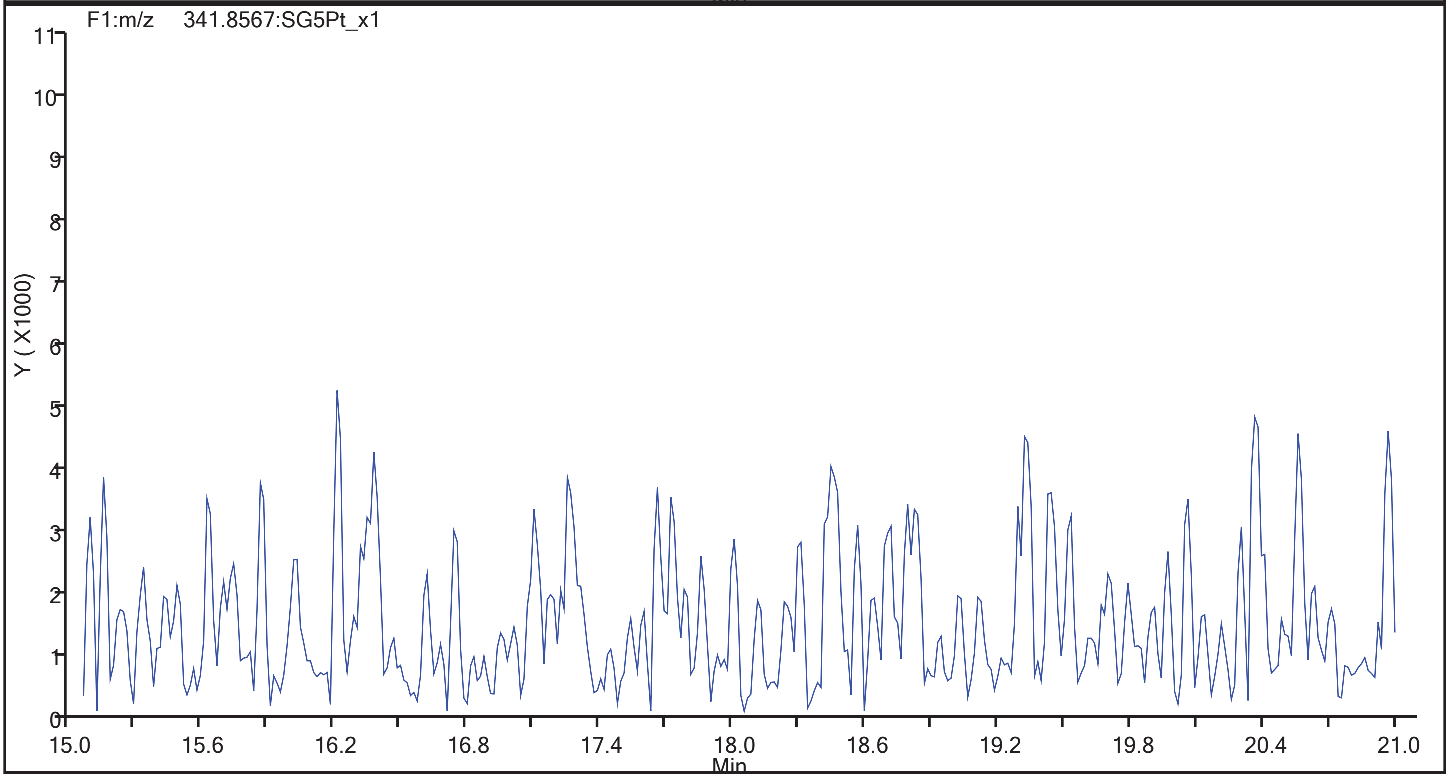
Sample Line#: 66
Column Type:
Column Dia:

F1 PeCDFs





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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d
Injection Date: 18-Nov-2017 22:51:56
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
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Sample Line#: 66
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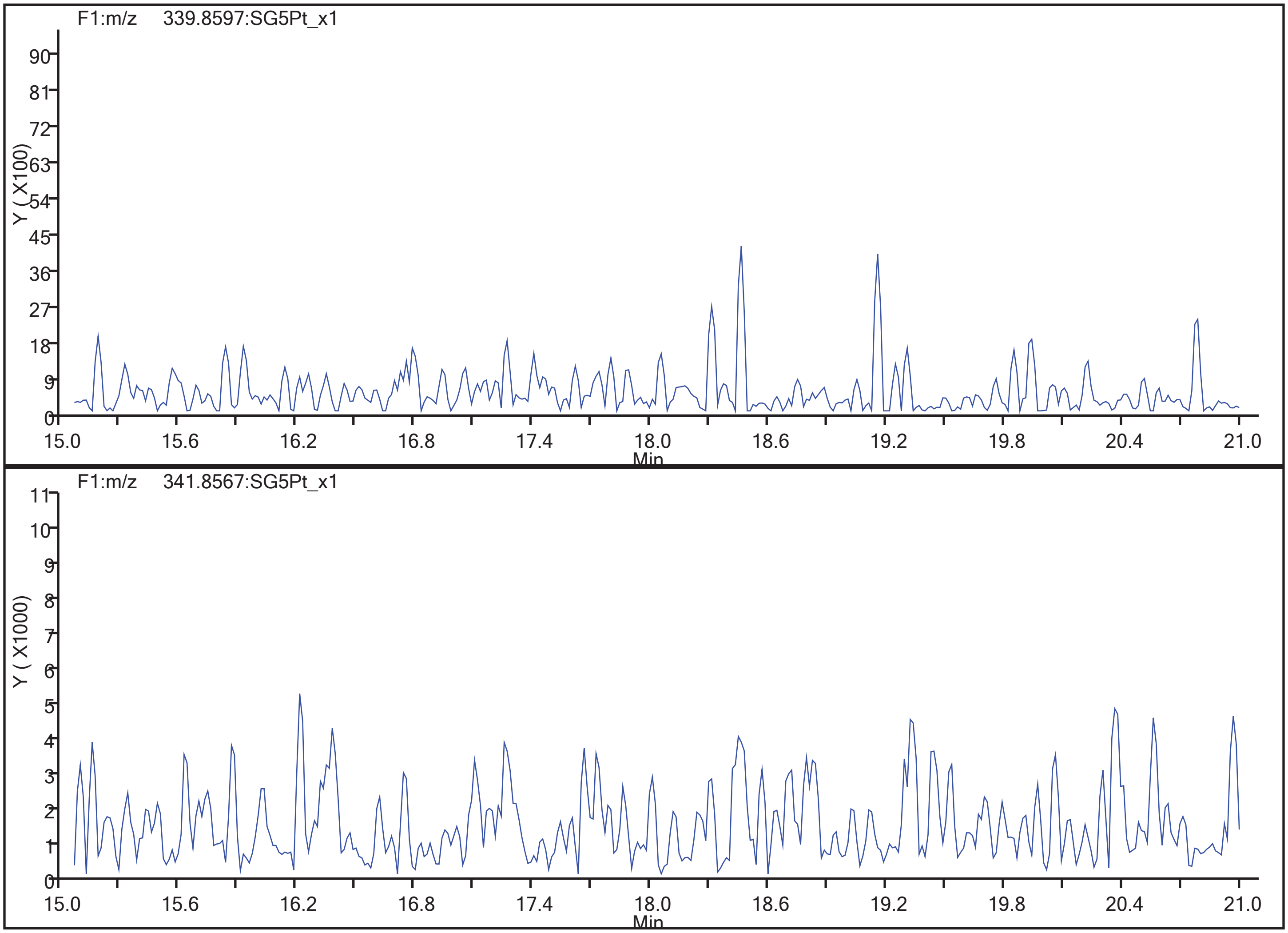
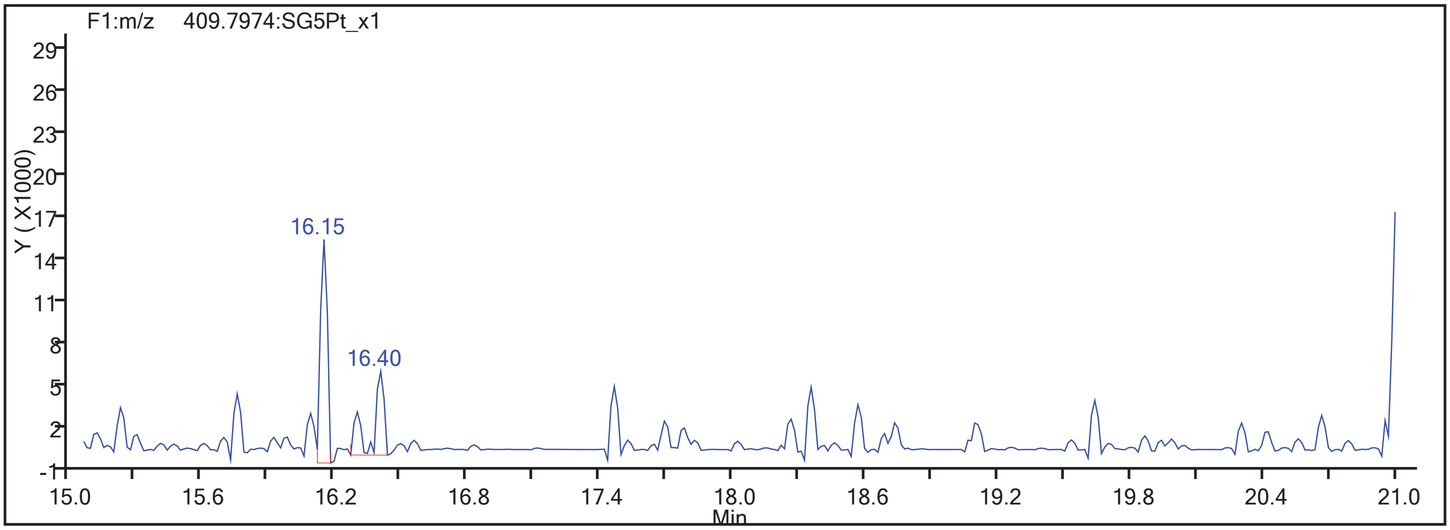
Column Dia:

F1 PeCDFs



F1 PeCDFs Interference Mass



Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Sample Line#: 66
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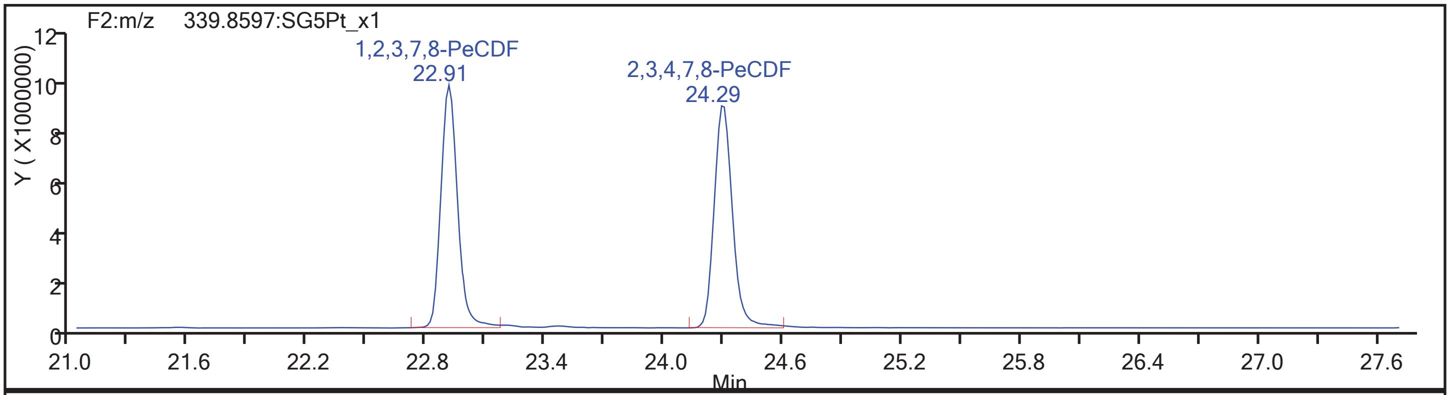
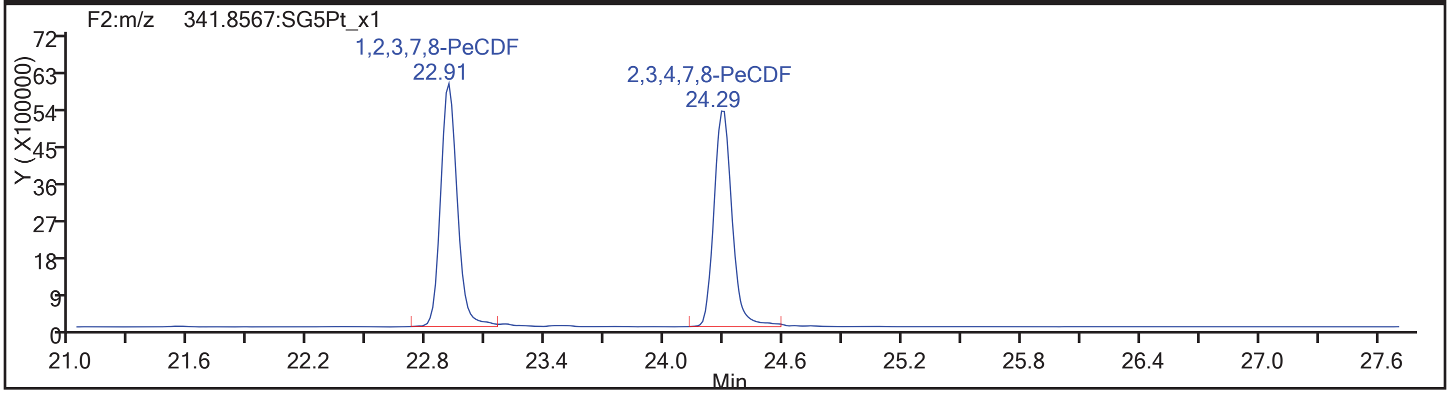
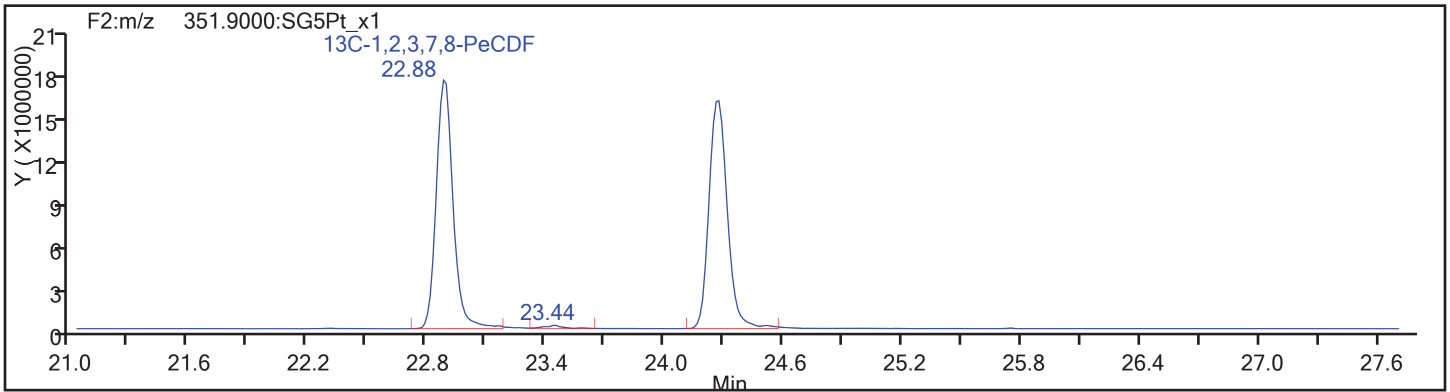
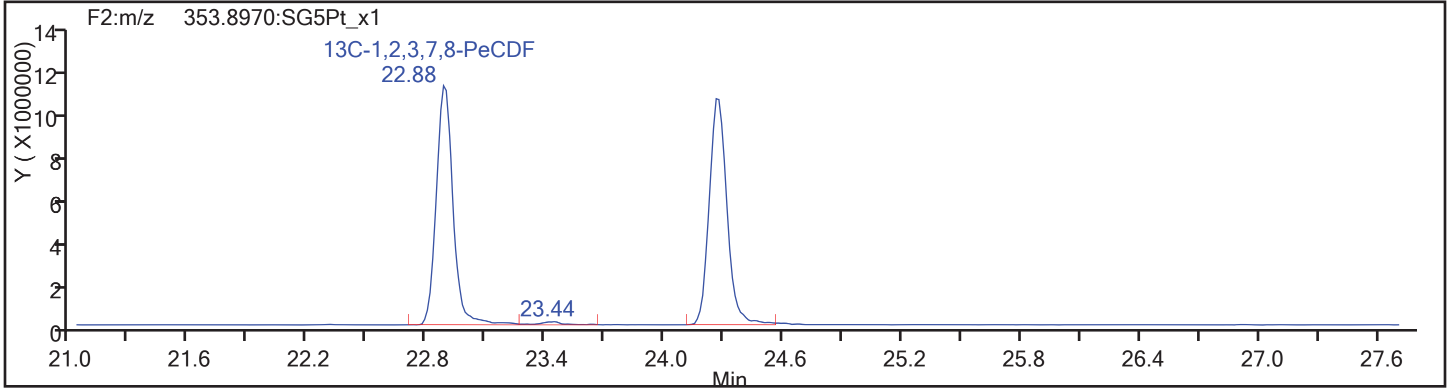
PeCDF





PeCDF Standards





Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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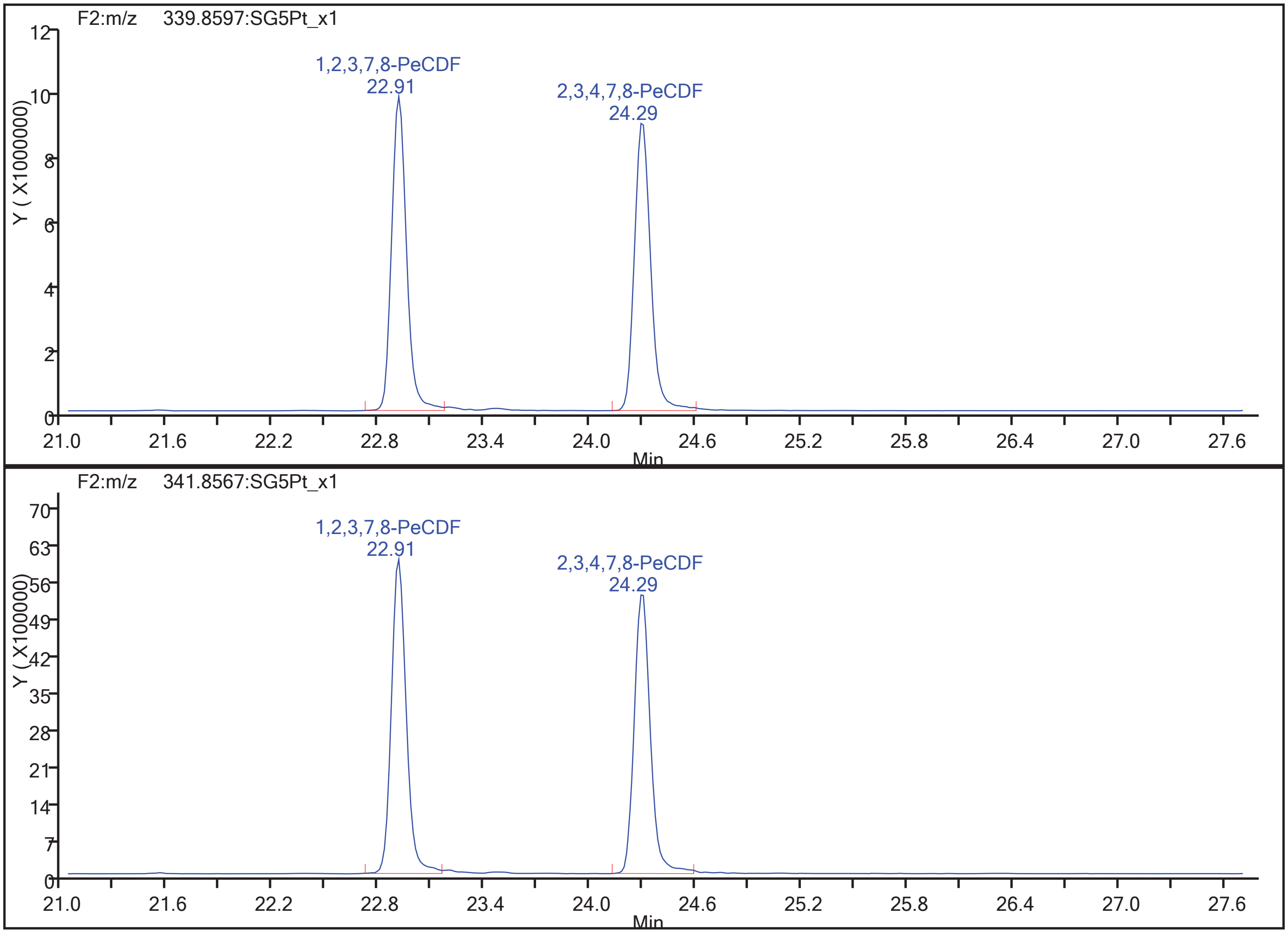
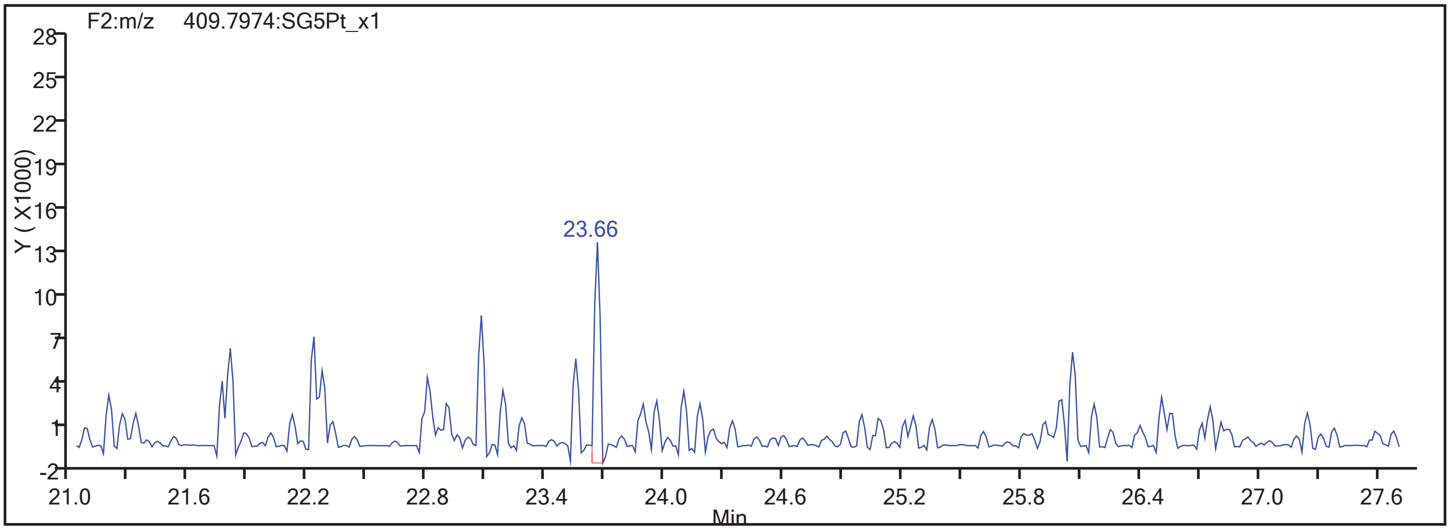
Injection Date:	18-Nov-2017 22:51:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	66
Column Type:		Column Dia:	

PeCDF



PeCDF Interference Mass



Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d

Injection Date: 18-Nov-2017 22:51:56 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

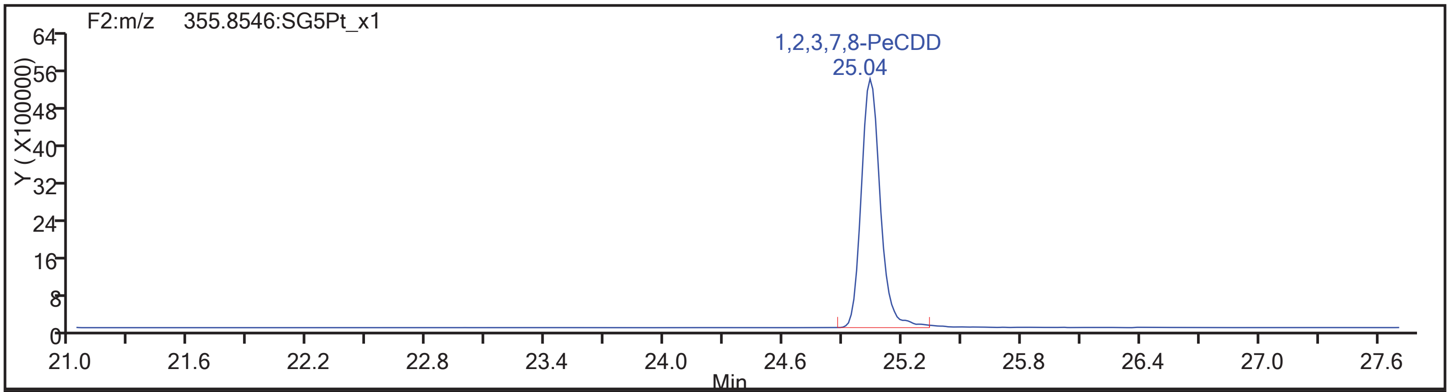
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

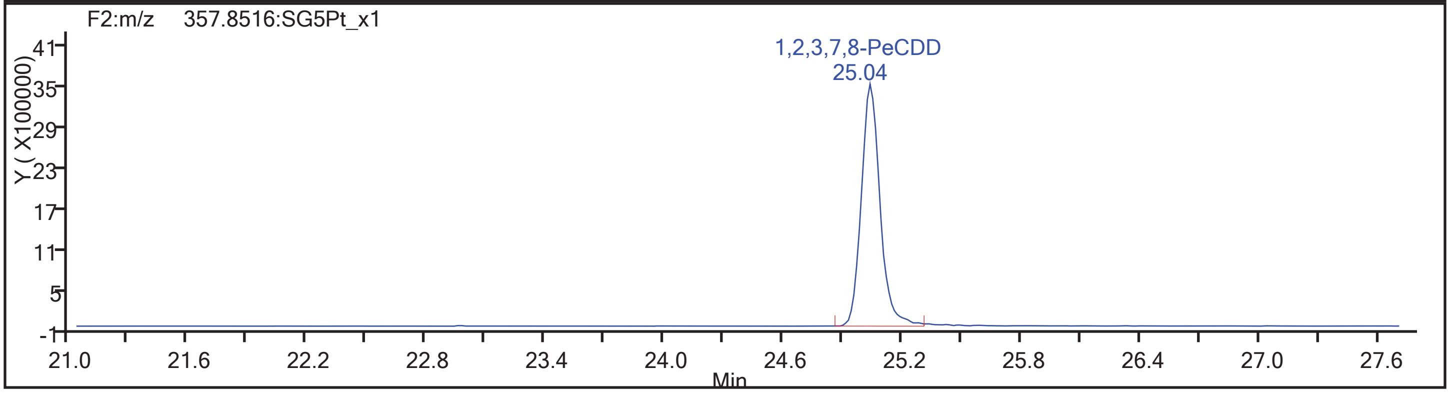
Client ID:

Worklist#: 195573 Sample Line#: 66

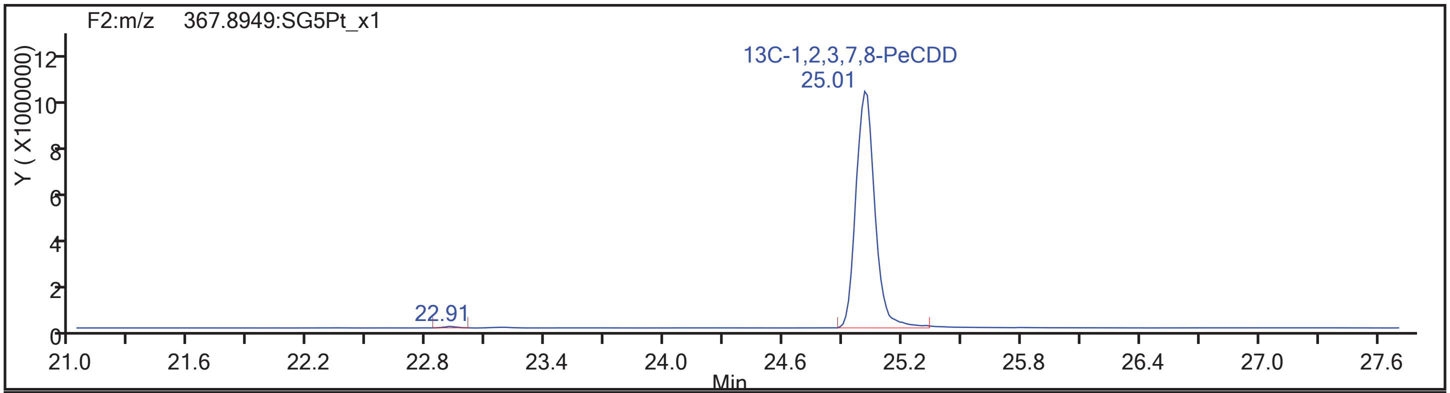
Column Type: Column Dia:

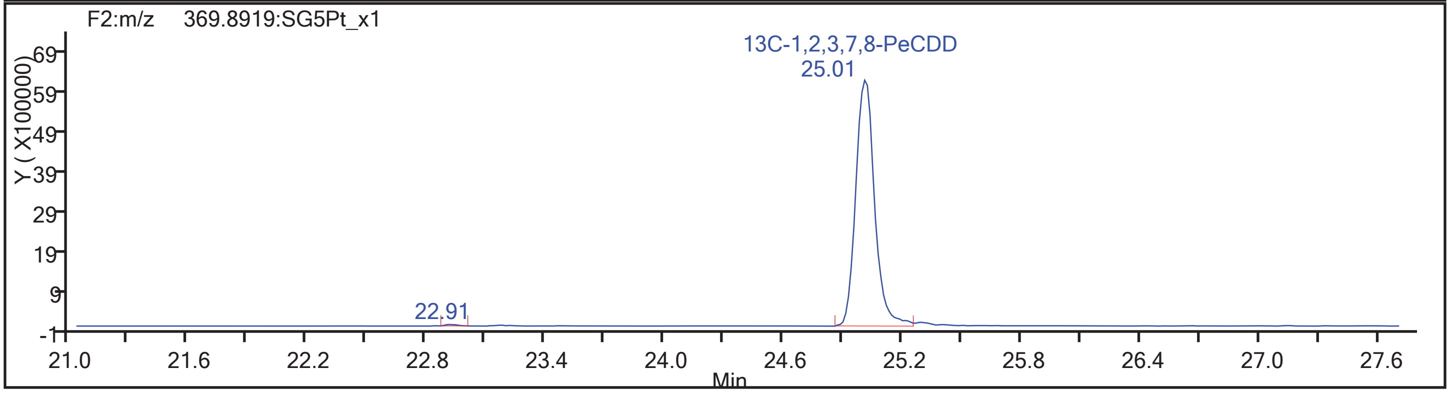
PeCDD





PeCDD Standards





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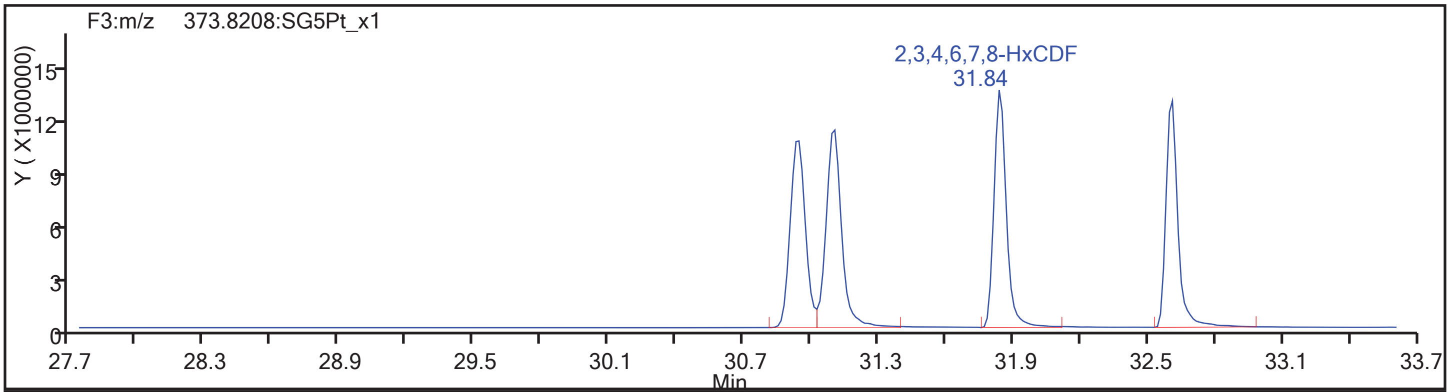
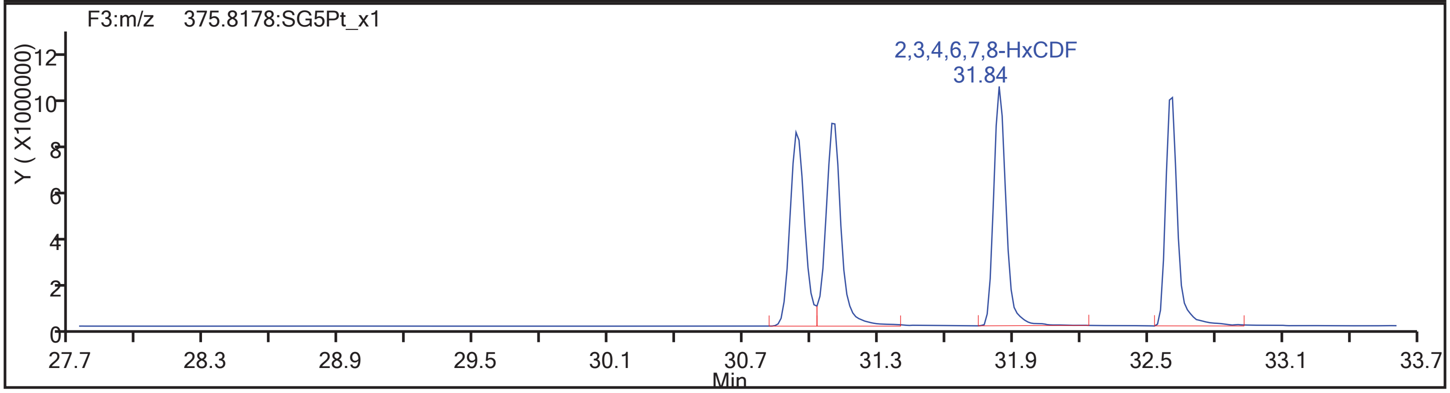
TestAmerica Sacramento

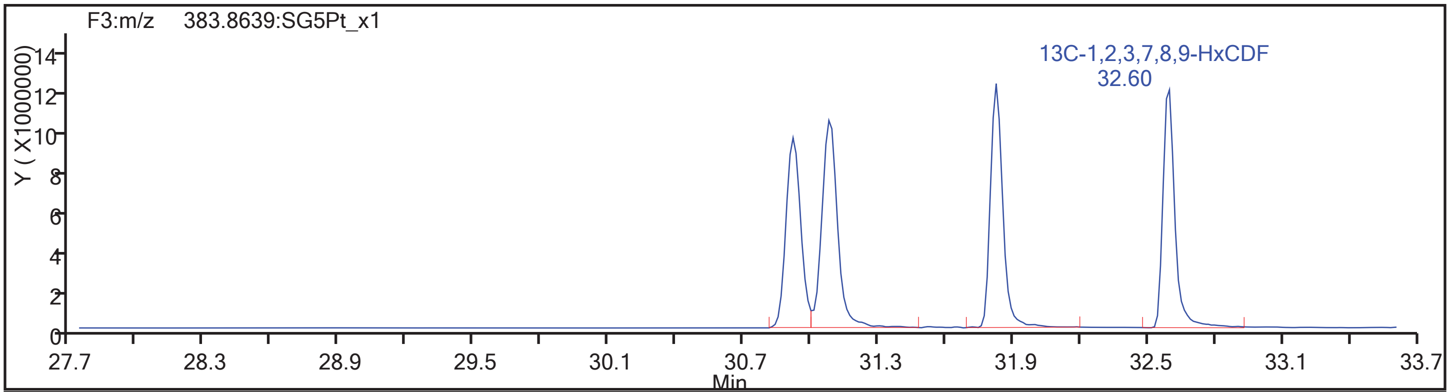
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d		
Injection Date:	18-Nov-2017 22:51:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	66
Column Type:		Column Dia:	

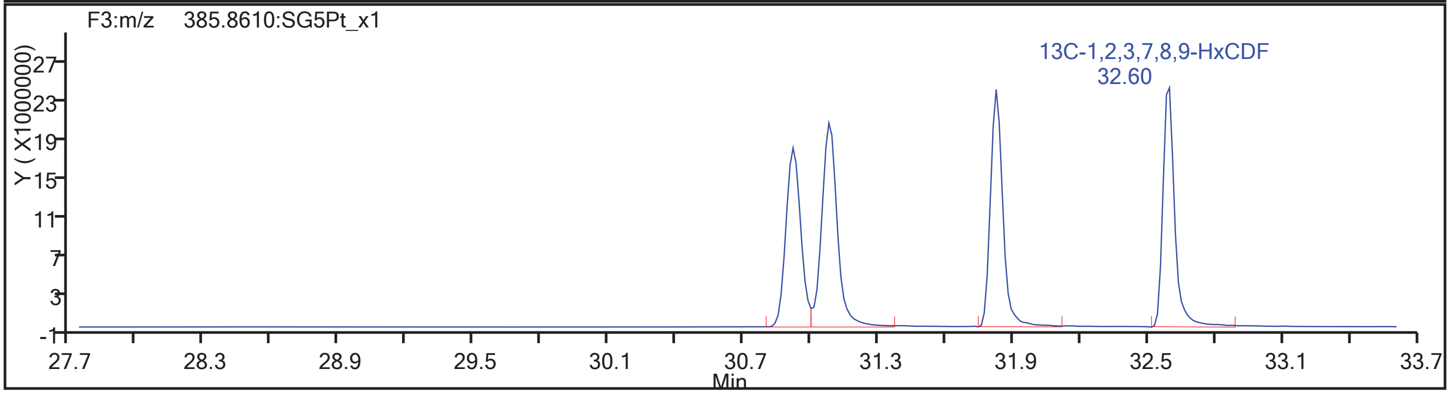
HxCDF





HxCDF Standards





Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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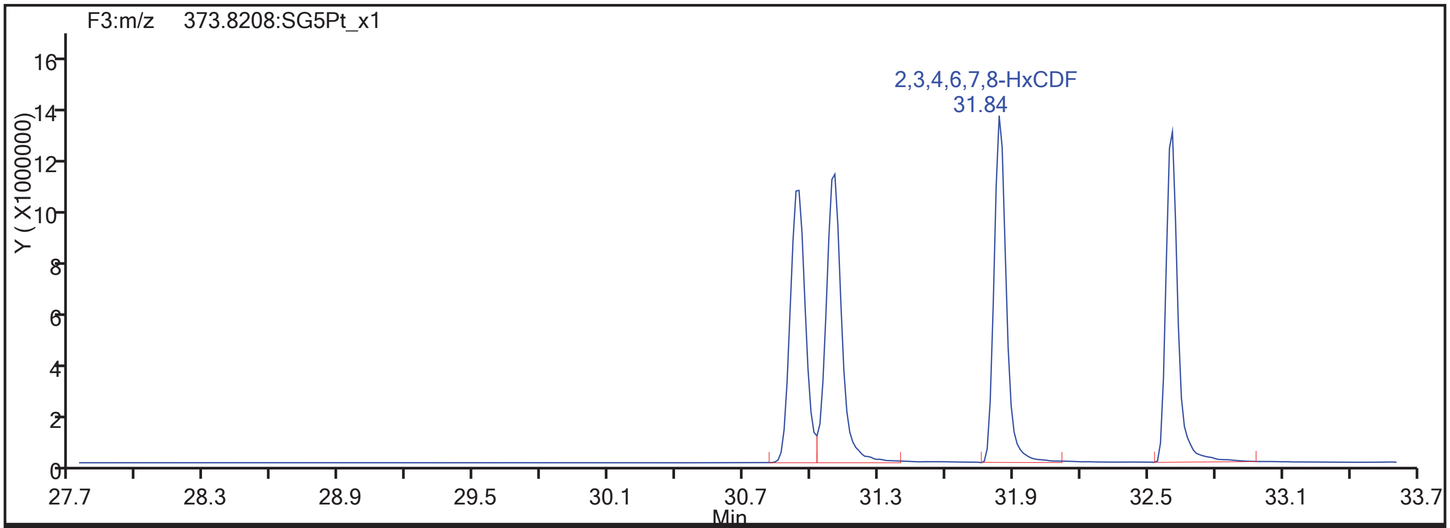
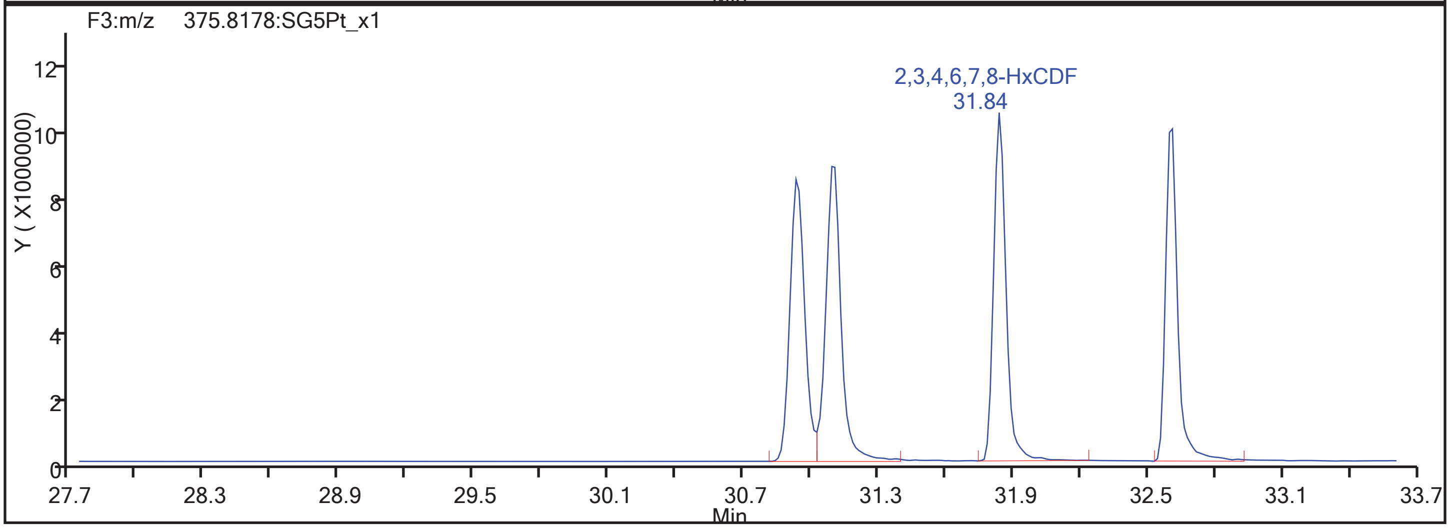
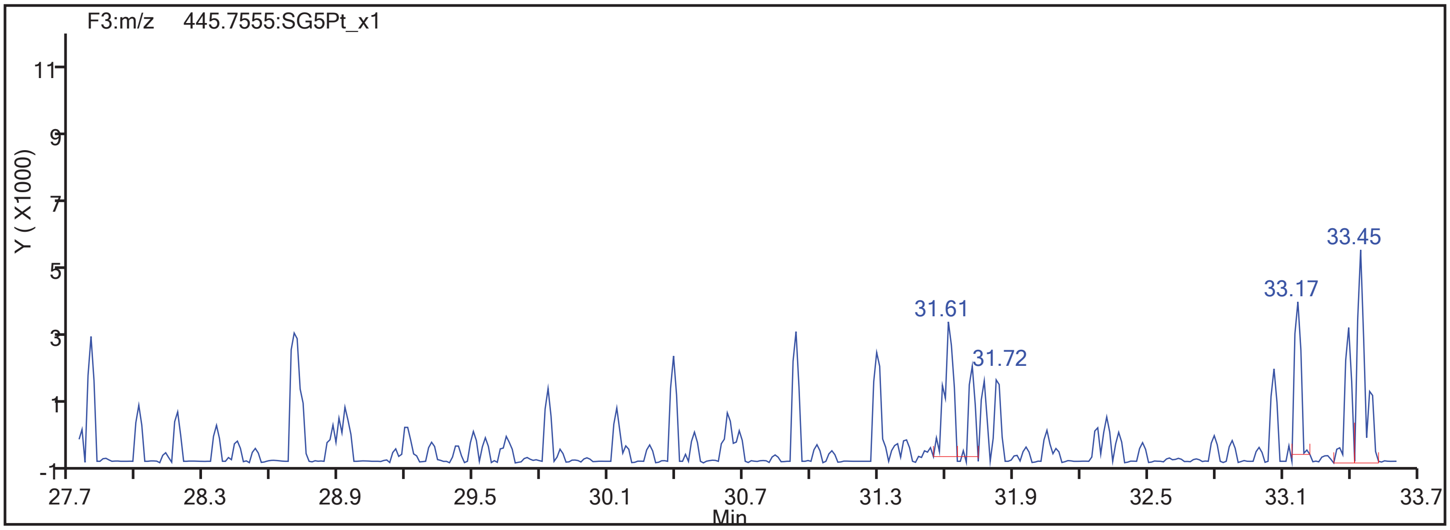
Injection Date: 18-Nov-2017 22:51:56 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573 Sample Line#: 66
Column Type: Column Dia:

HxCDF





HxCDF Interference Mass



Report Date: 20-Nov-2017 11:47:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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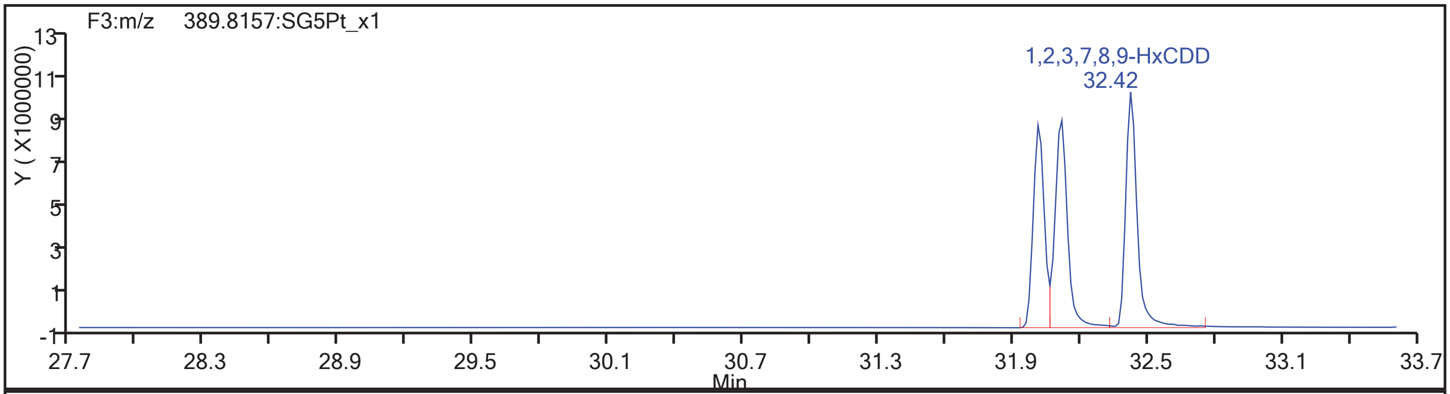
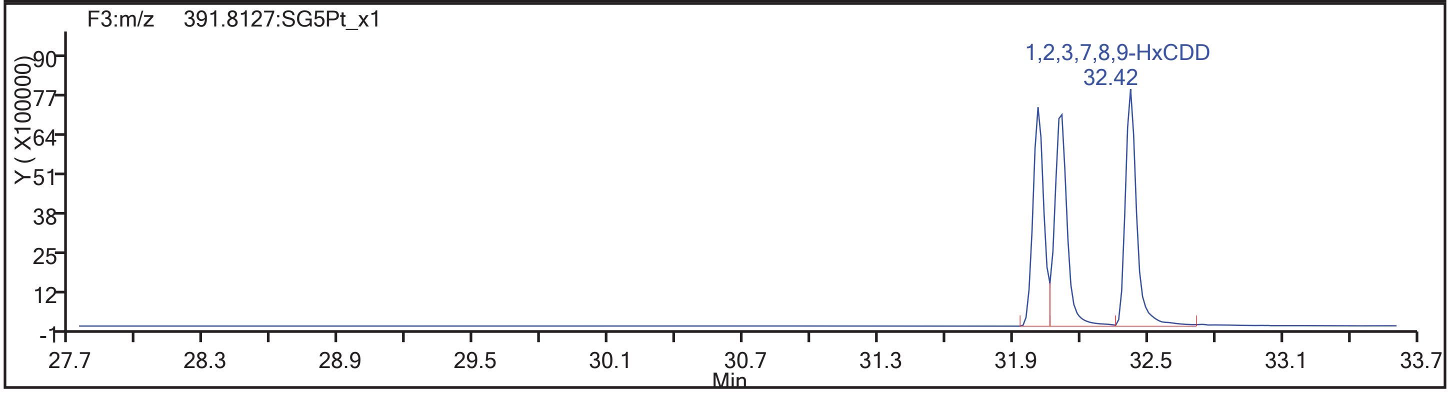
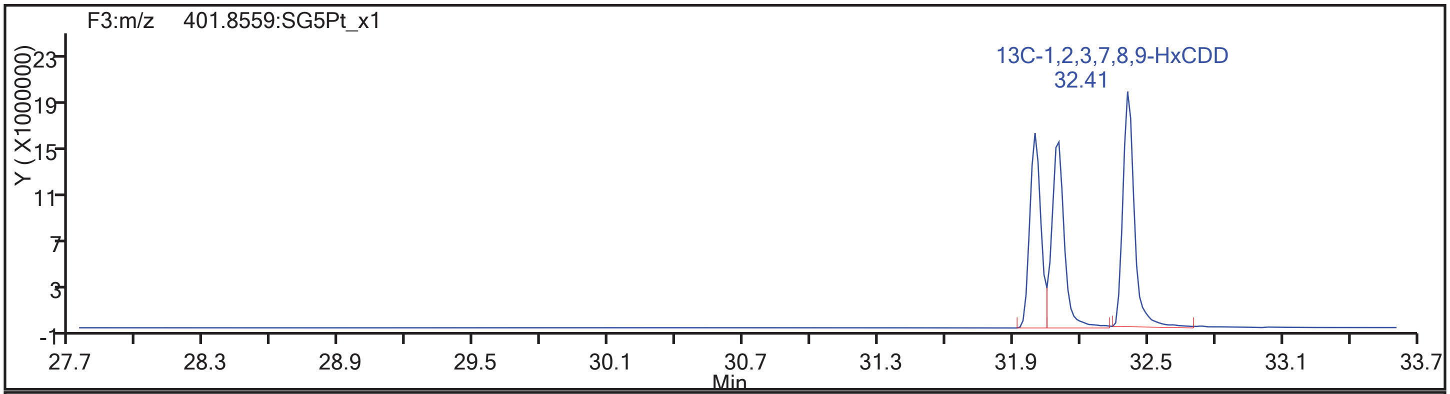
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	66
Column Type:		Column Dia:	

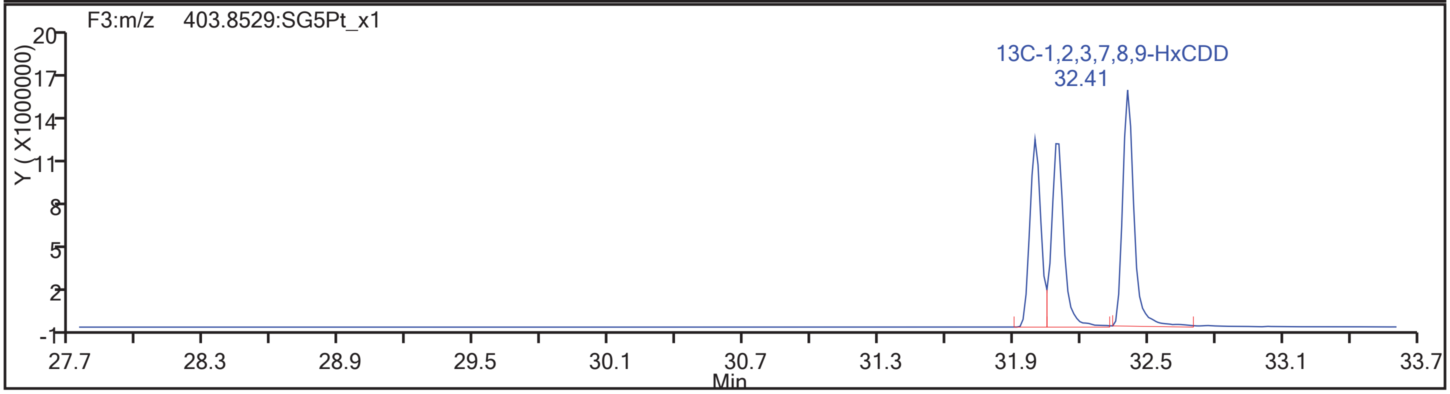
HxCDD





HxCDD Standards





Report Date: 20-Nov-2017 11:47:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d

Injection Date: 18-Nov-2017 22:51:56 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

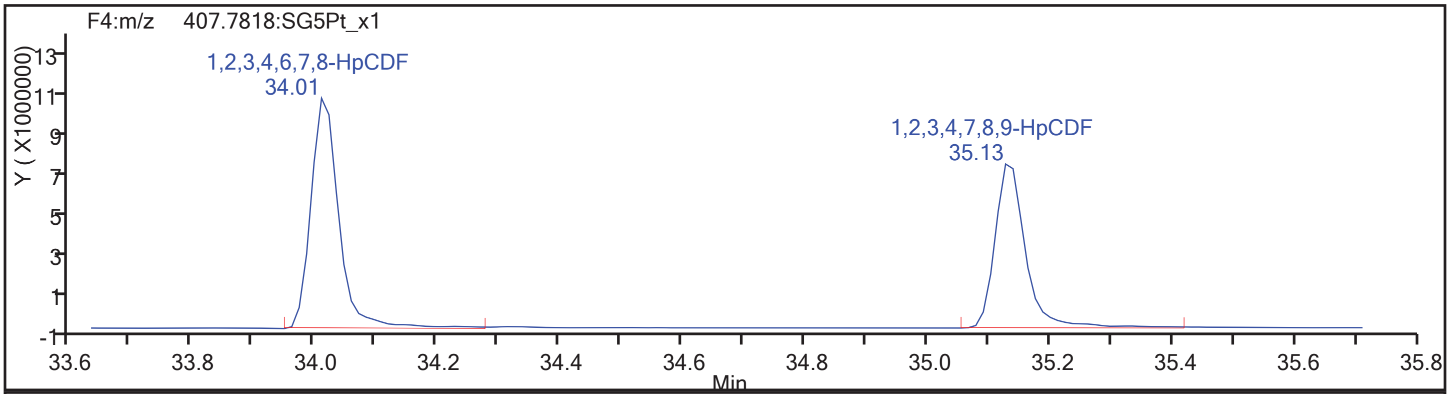
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

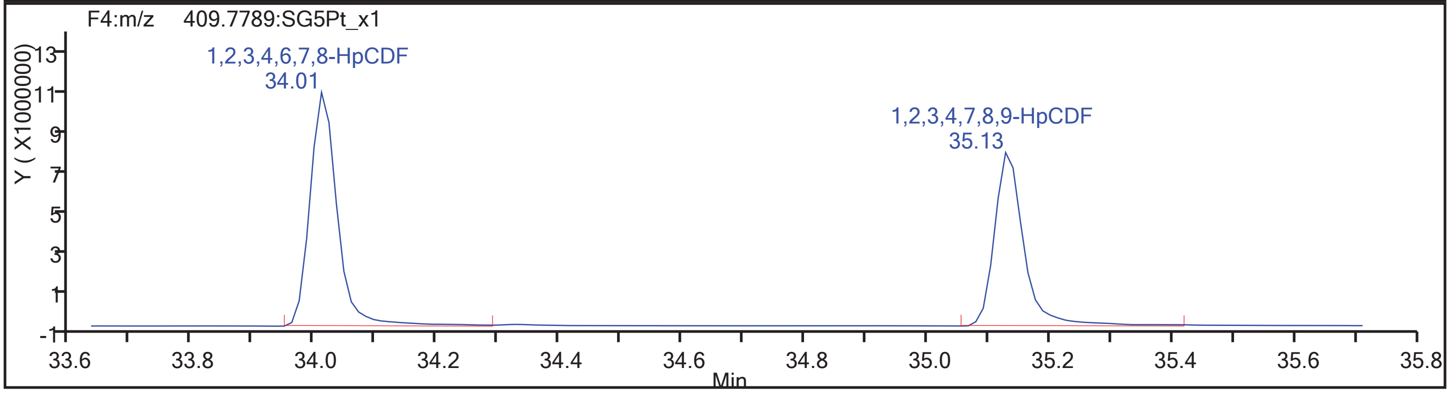
Client ID:

Worklist#: 195573 Sample Line#: 66

Column Type: Column Dia:

HpCDF





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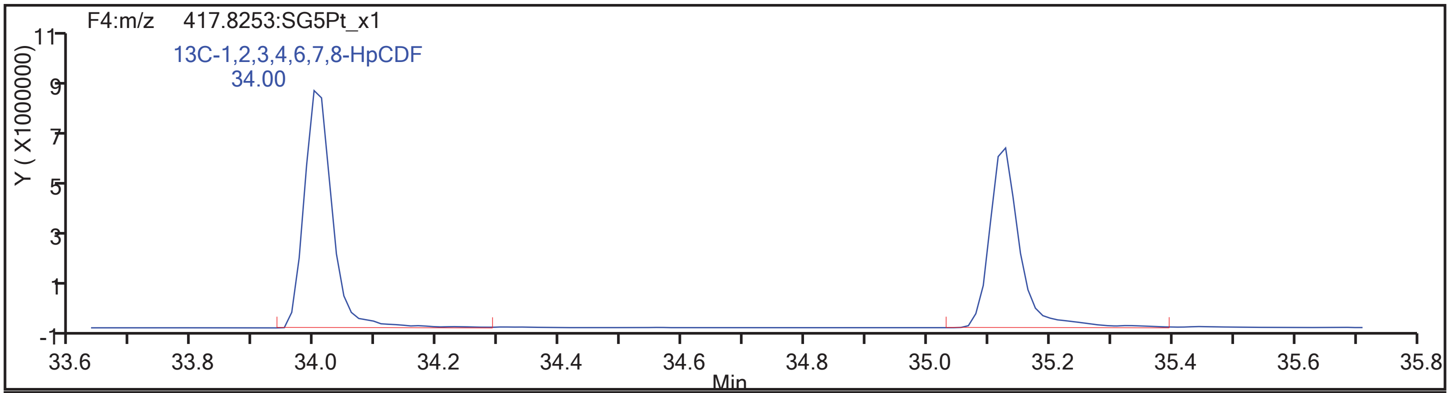
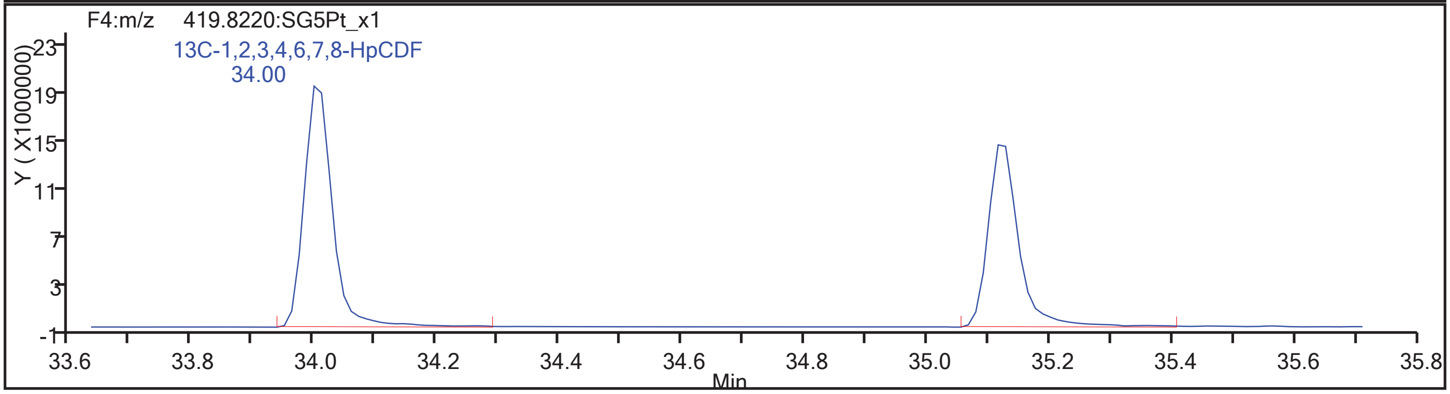


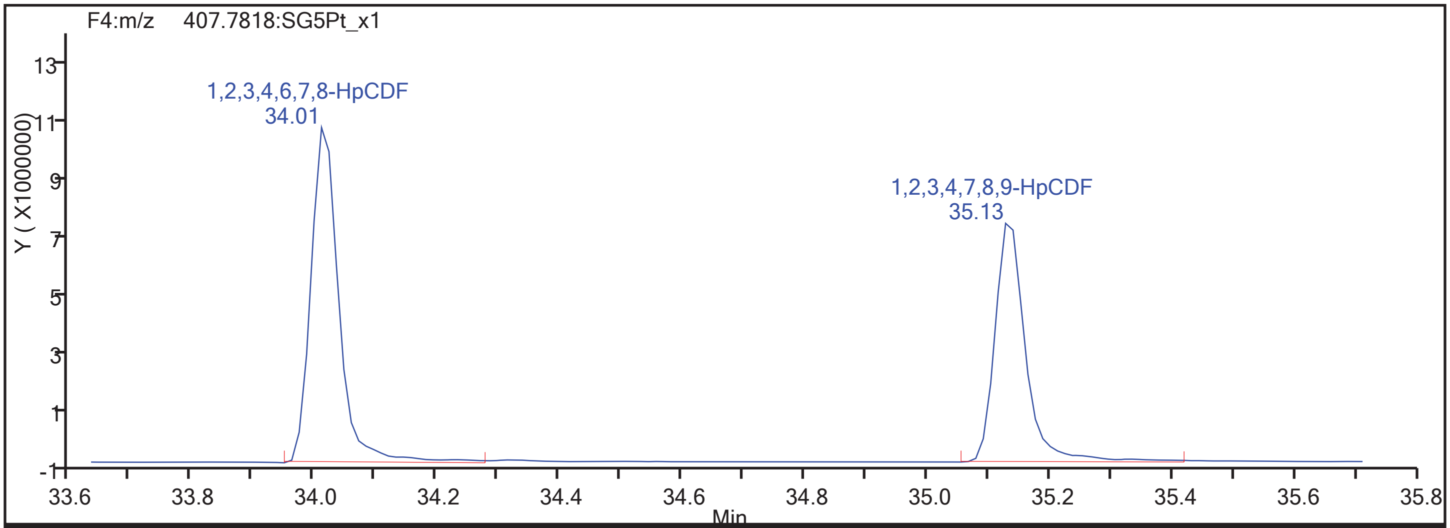


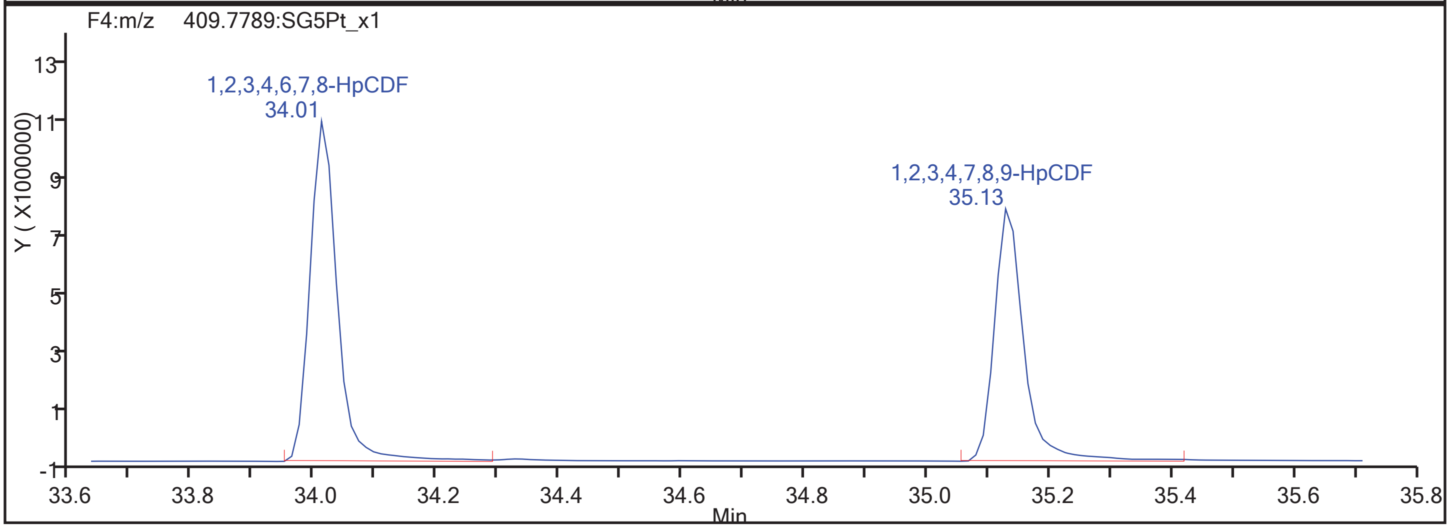
Report Date: 20-Nov-2017 11:47:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

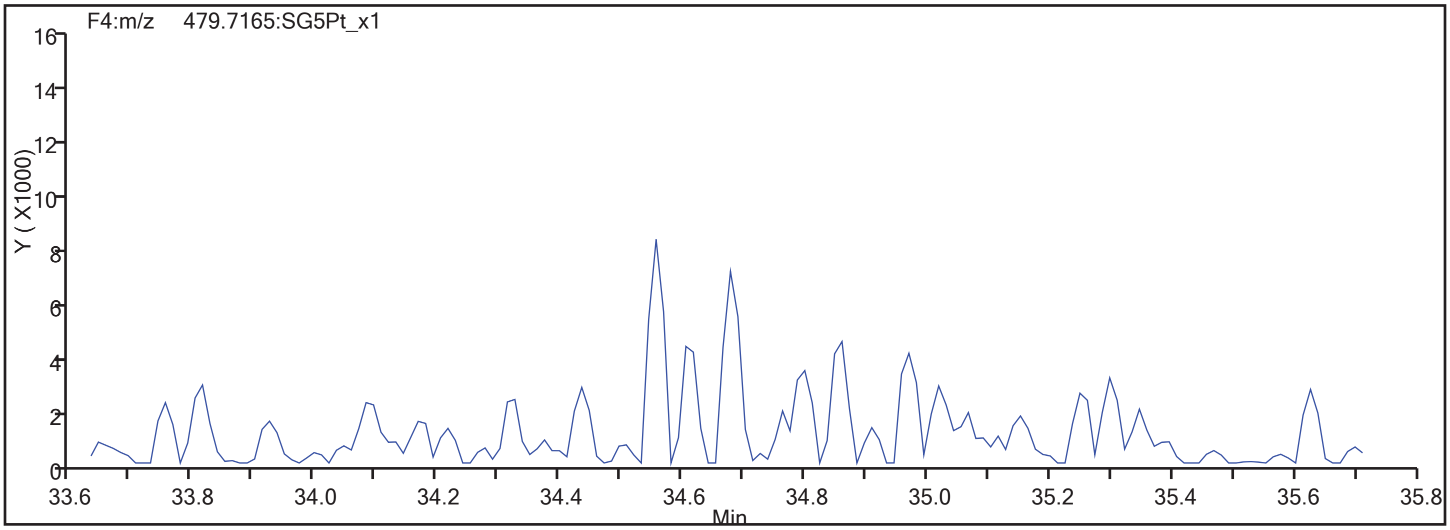
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d		
Injection Date:	18-Nov-2017 22:51:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	66
Column Type:		Column Dia:	

HpCDF





HpCDF Interference Mass



Report Date: 20-Nov-2017 11:47:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d		
Injection Date:	18-Nov-2017 22:51:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	66
Column Type:		Column Dia:	

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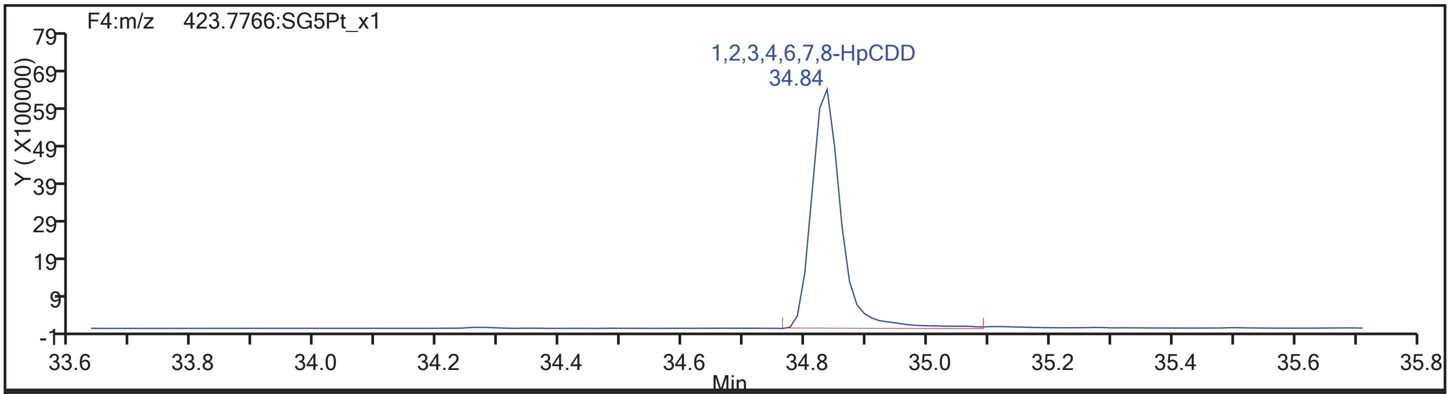

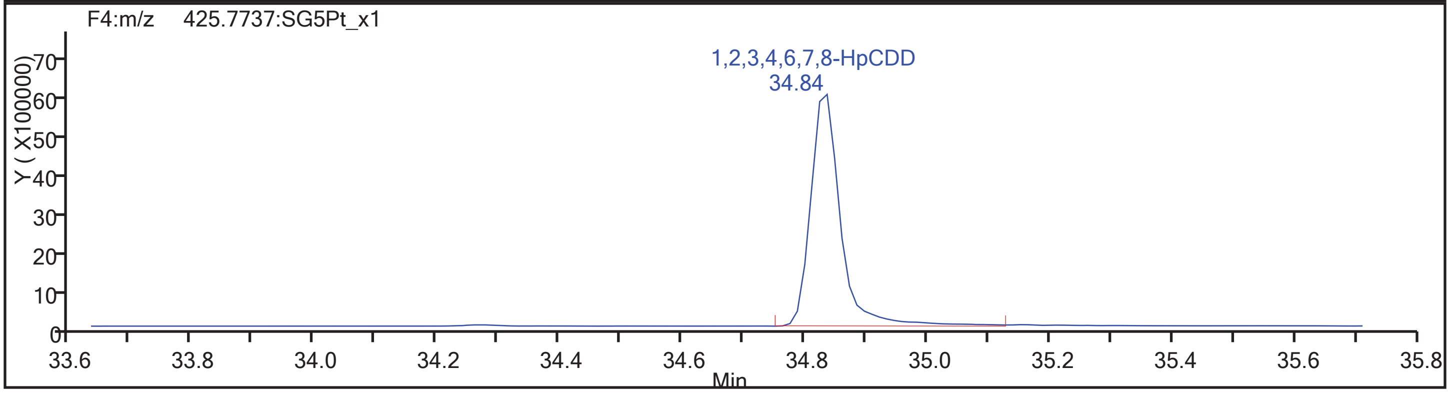

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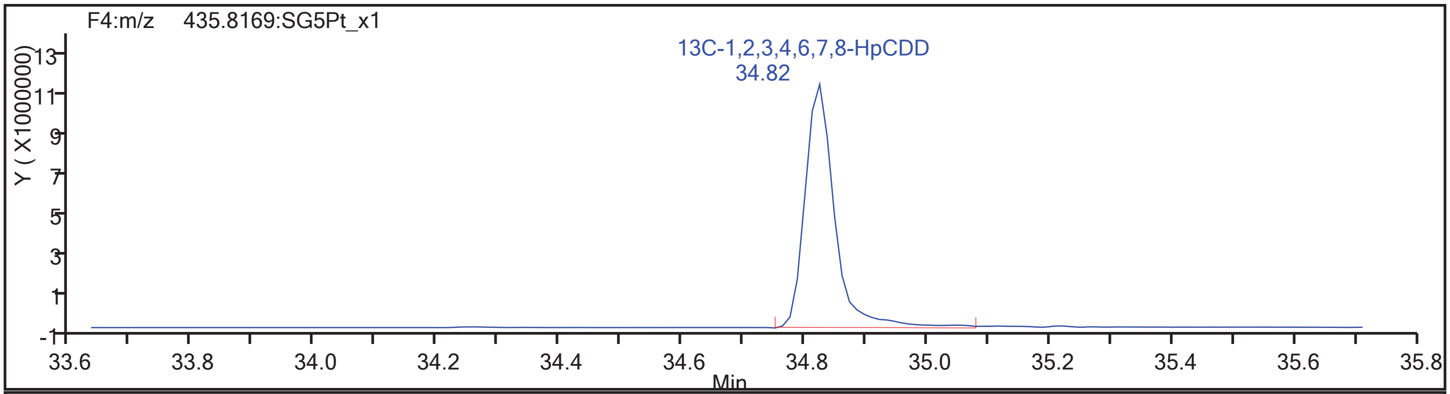
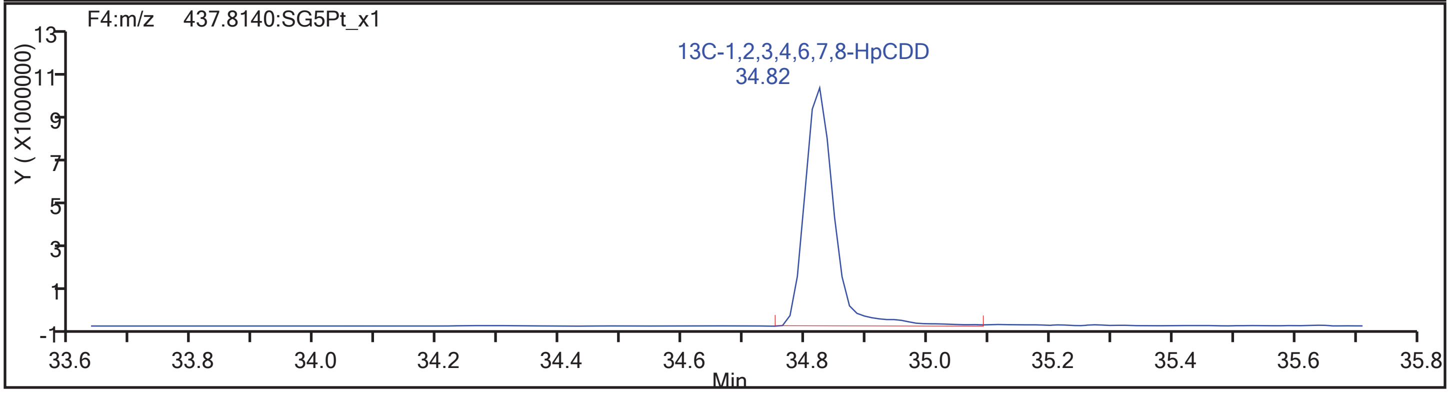


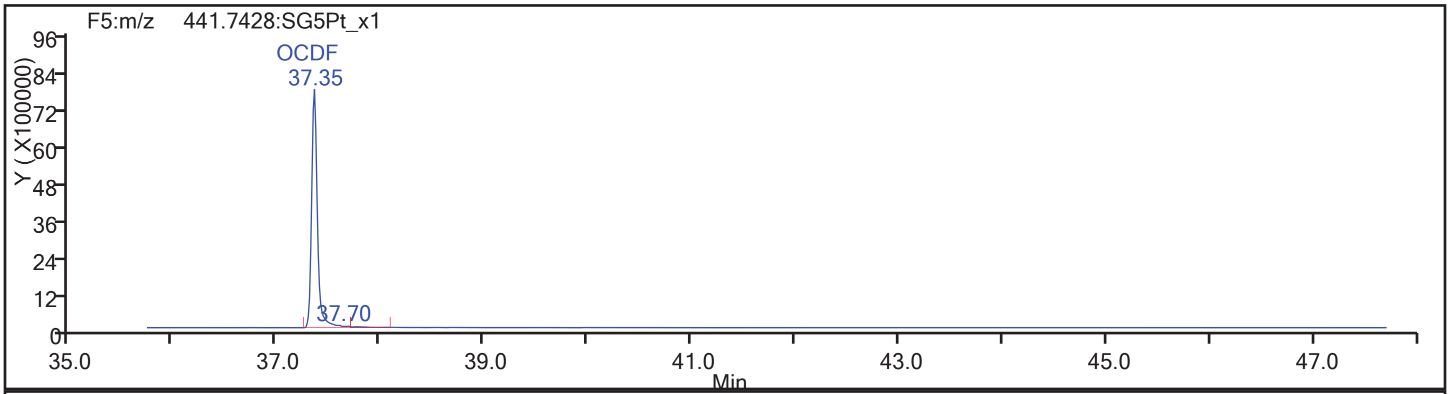


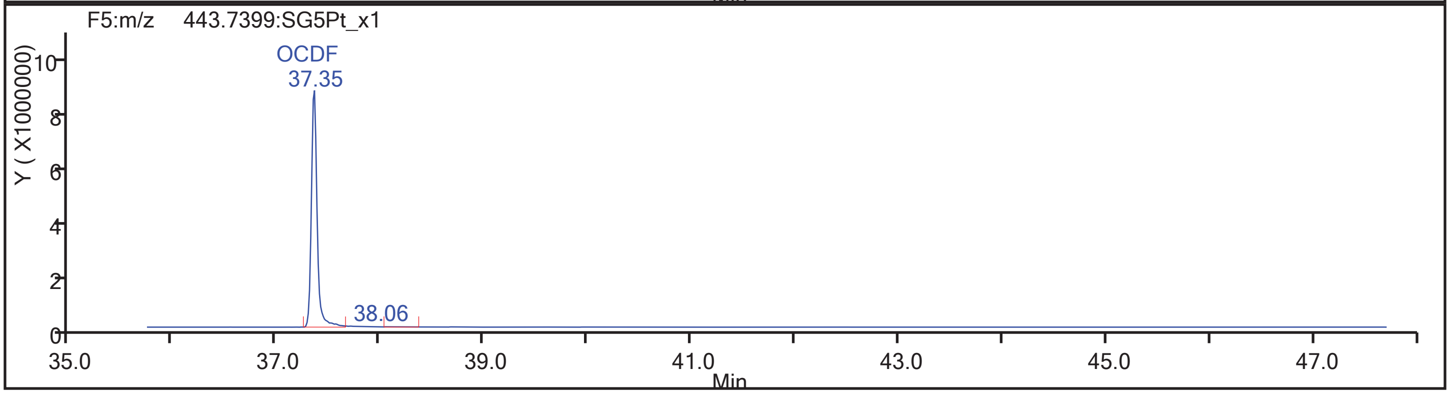
Report Date: 20-Nov-2017 11:47:43
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

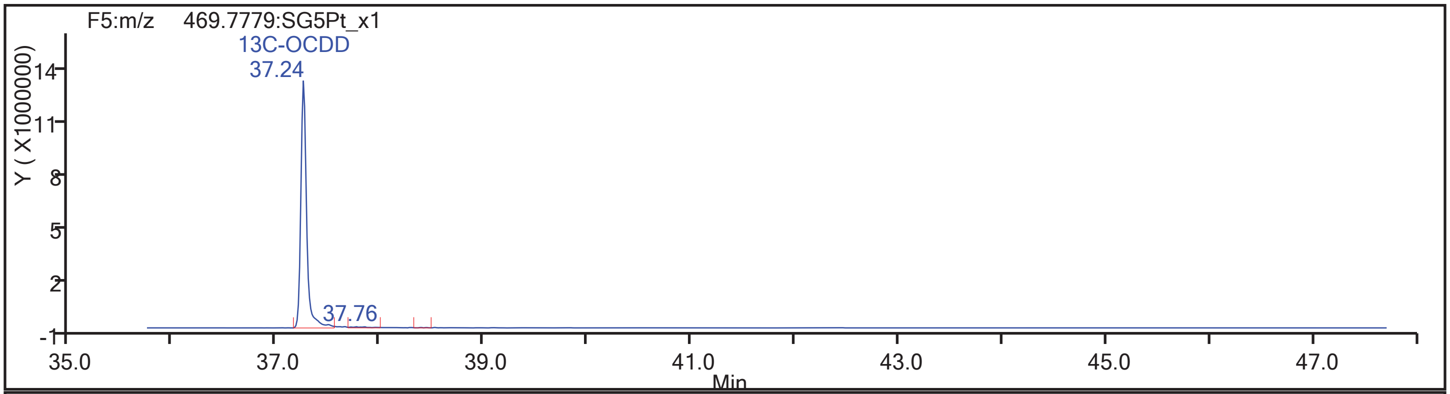
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d
Injection Date: 18-Nov-2017 22:51:56
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573
Sample Line#: 66
Column Type:
Column Dia:

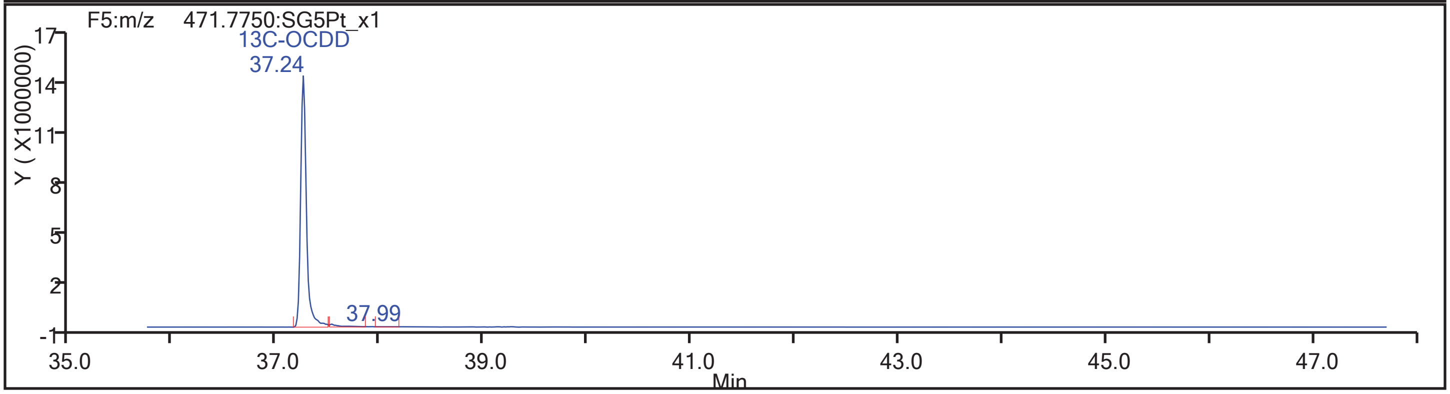
OCDF





OCDF Standards



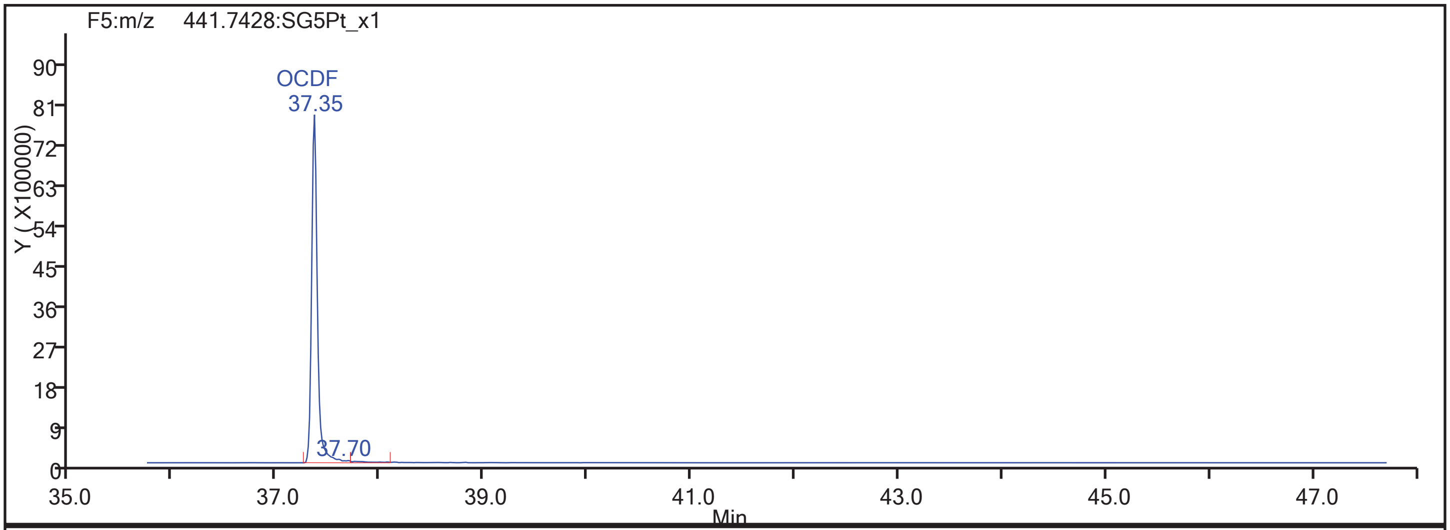


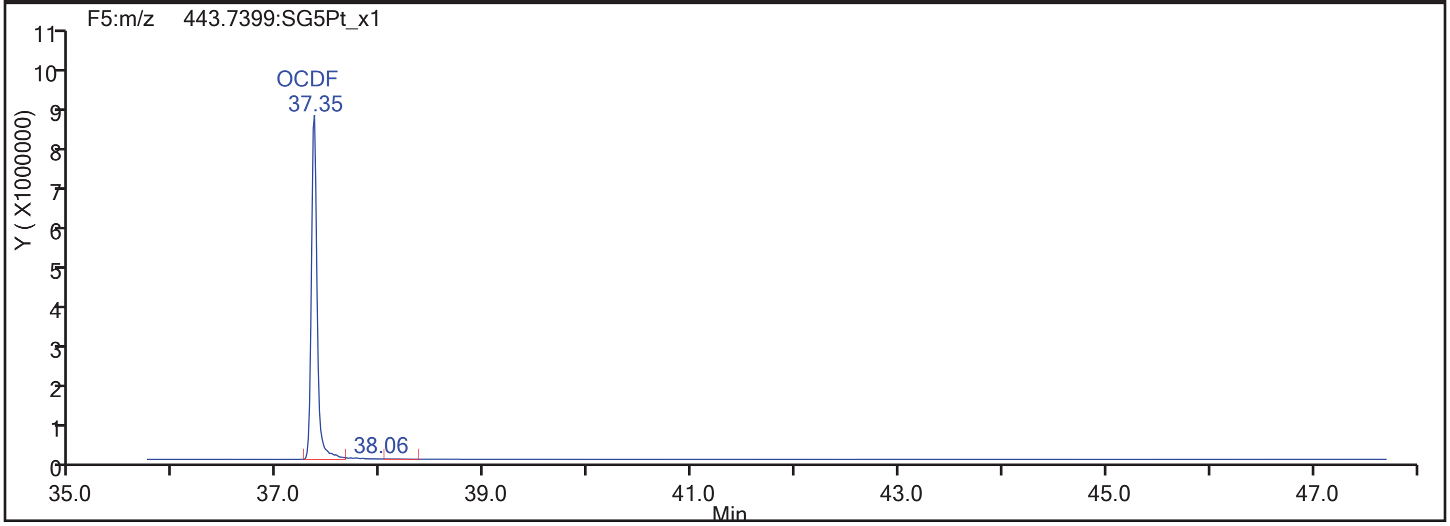
Report Date: 20-Nov-2017 11:47:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

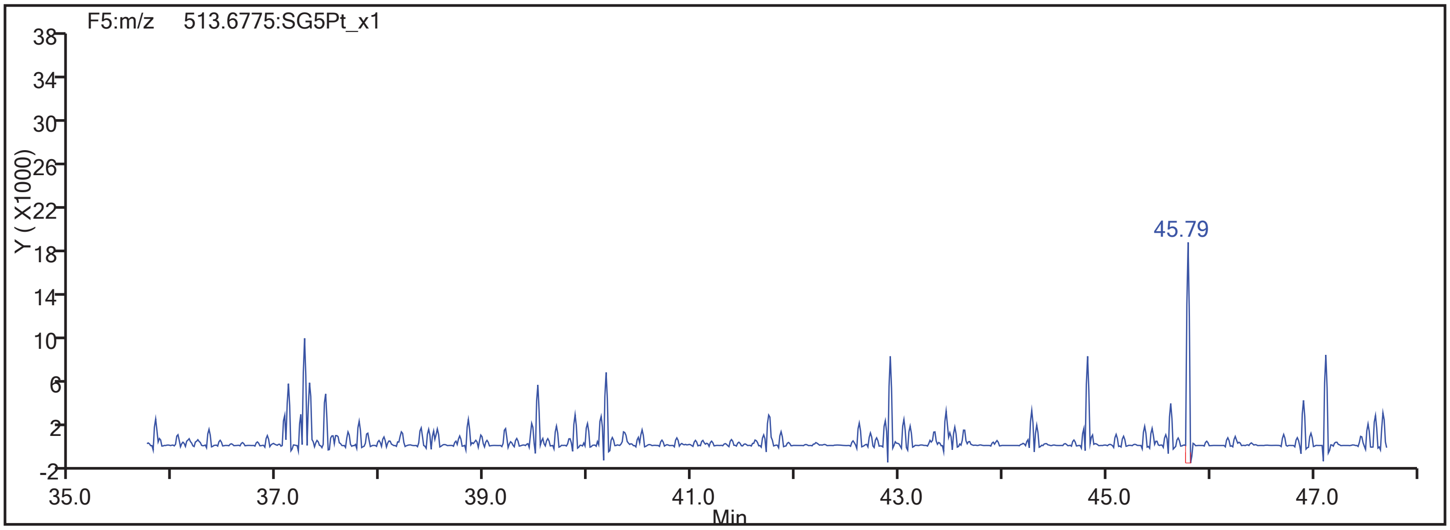
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d
Injection Date: 18-Nov-2017 22:51:56
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573
Sample Line#: 66
Column Type:
Column Dia:

OCDF





OCDF Interference Mass



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TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d		
Injection Date:	18-Nov-2017 22:51:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	66
Column Type:		Column Dia:	

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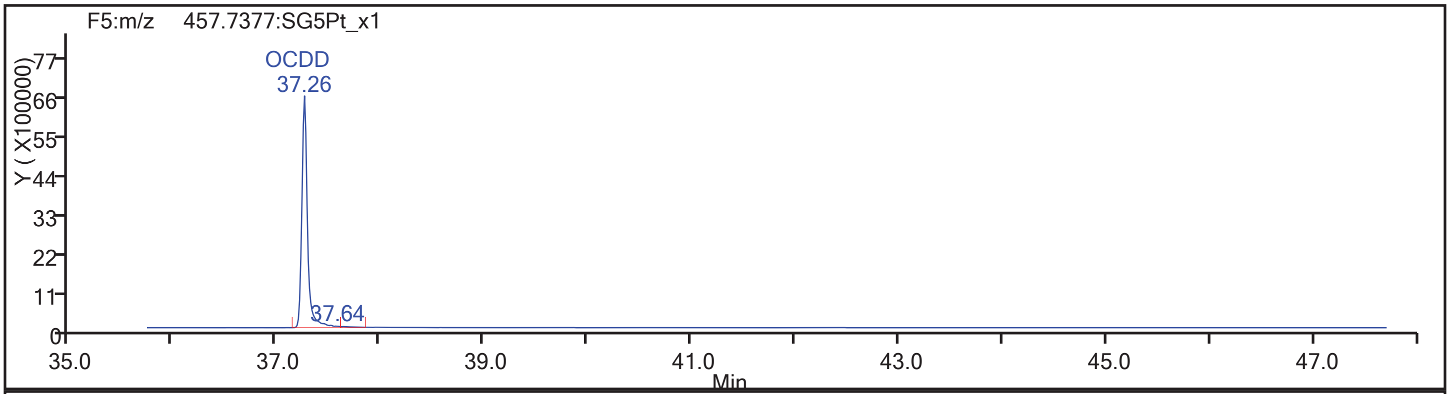
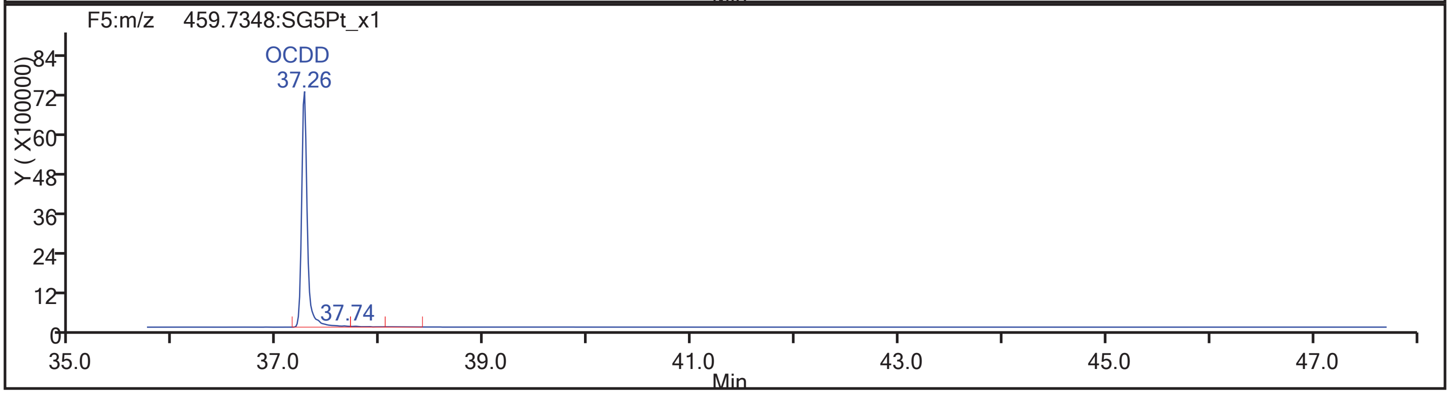
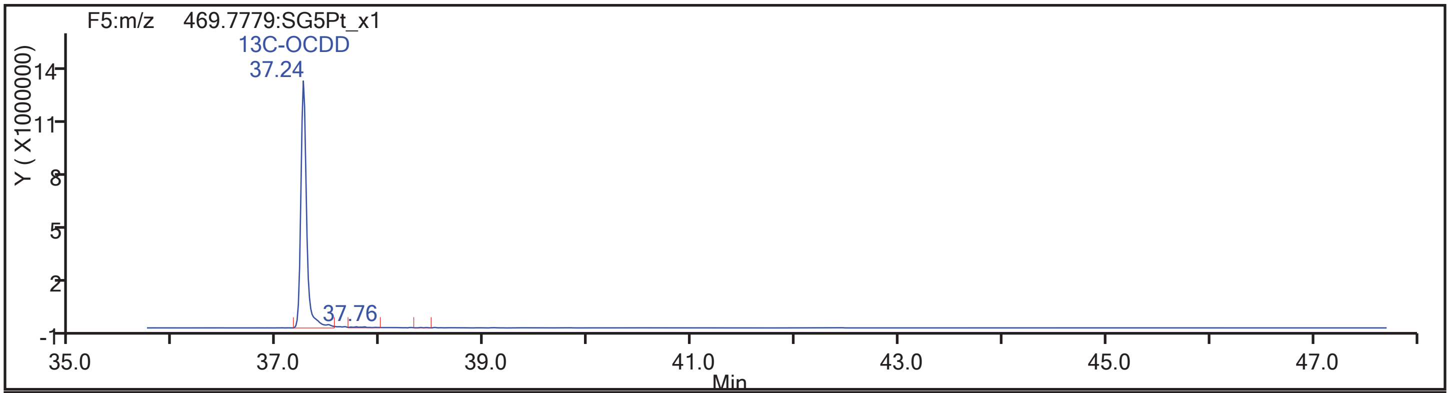
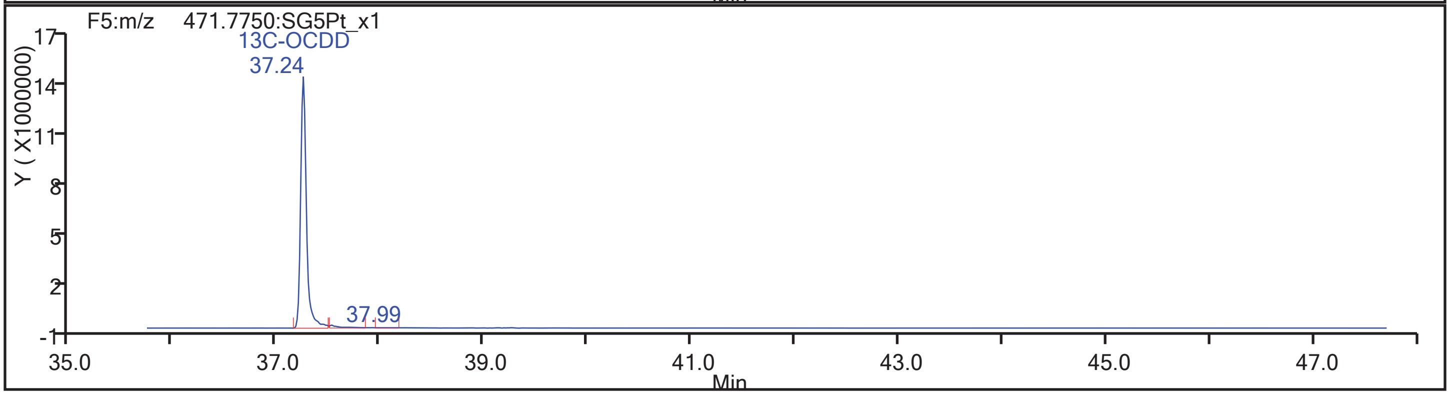




OCDD Standards





Report Date: 20-Nov-2017 11:47:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d

Injection Date: 18-Nov-2017 22:51:56 Injection Vol: 2.0 ul

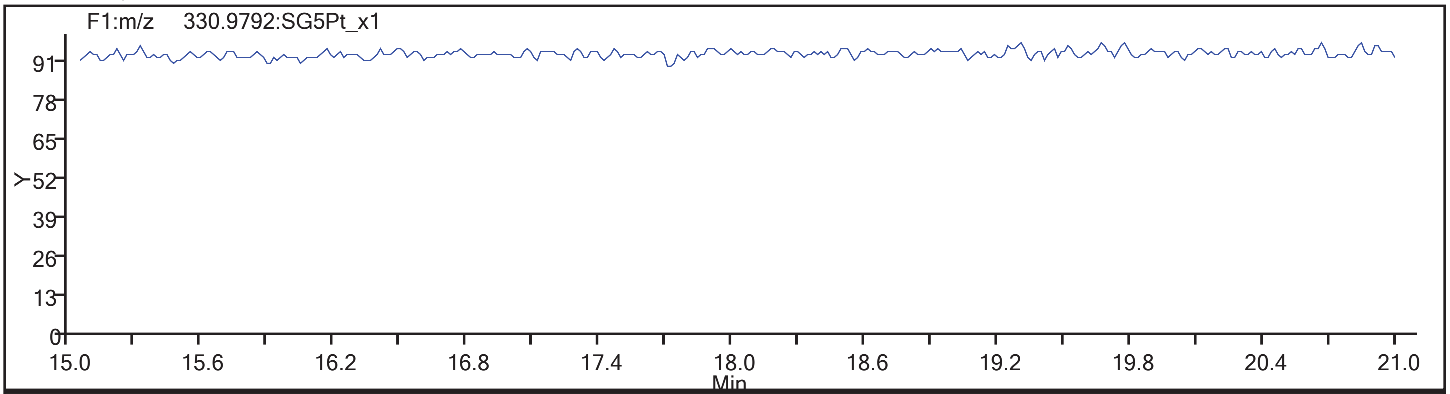
Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 195573 Sample Line#: 66

Column Type: Column Dia: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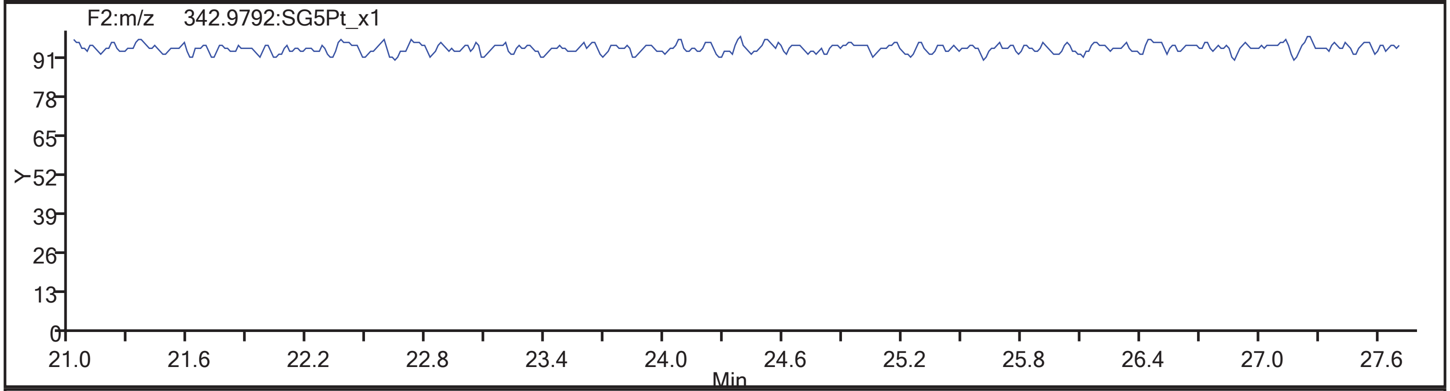
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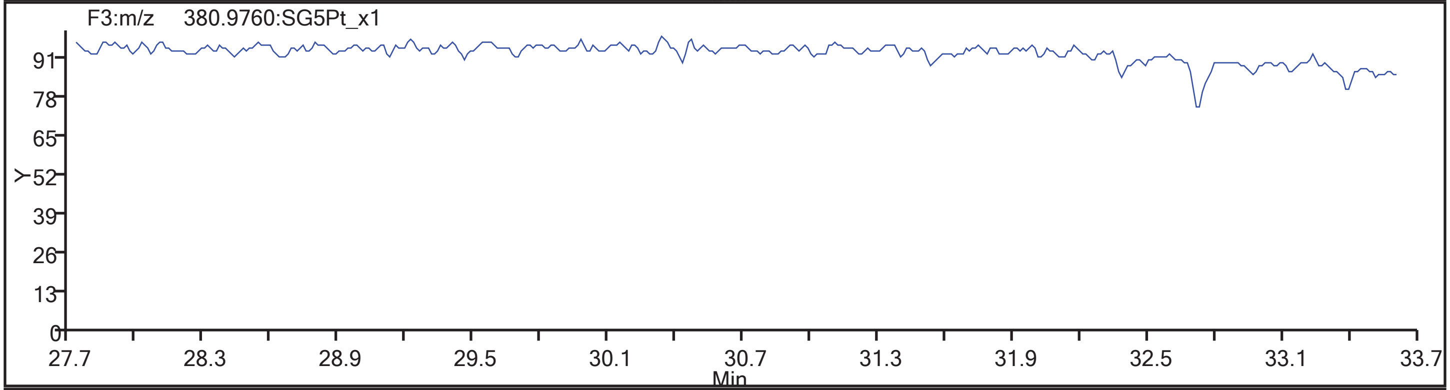
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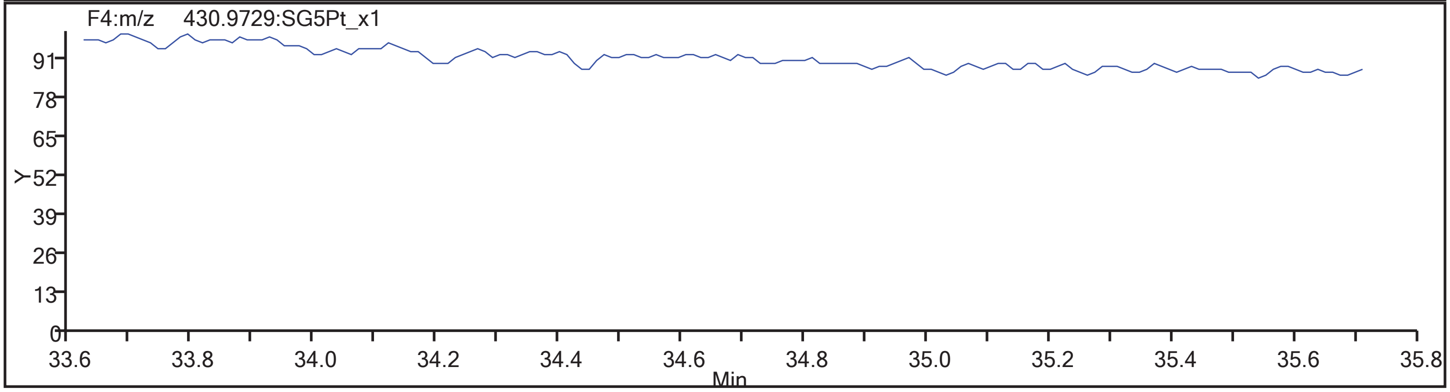
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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_66.d

Injection Date:	18-Nov-2017 22:51:56	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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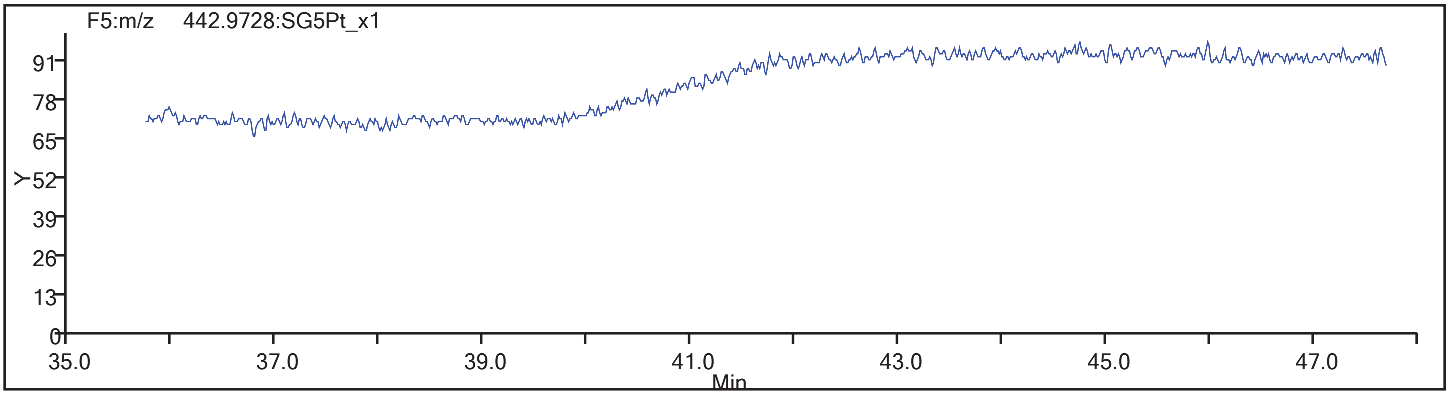
Column Type:		Column Dia:	



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-195574/68 Calibration Date: 11/19/2017 00:49

Instrument ID: 3D5 Calib Start Date: 11/15/2017 11:51

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 11/15/2017 15:05

Lab File ID: 16NO173D5_68.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.097	1.039		9.47	10.0	-5.3	20.0
2,3,7,8-TCDD	AveID	1.164	1.094		9.39	10.0	-6.1	20.0
1,2,3,7,8-PeCDF	AveID	1.142	1.076		47.1	50.0	-5.8	20.0
2,3,4,7,8-PeCDF	AveID	1.110	1.047		47.2	50.0	-5.7	20.0
1,2,3,7,8-PeCDD	AveID	1.127	1.090		48.3	50.0	-3.3	20.0
1,2,3,4,7,8-HxCDF	AveID	1.348	1.389		51.5	50.0	3.1	20.0
1,2,3,6,7,8-HxCDF	AveID	1.479	1.518		51.3	50.0	2.6	20.0
2,3,4,6,7,8-HxCDF	AveID	1.383	1.424		51.5	50.0	2.9	20.0
1,2,3,4,7,8-HxCDD	AveID	1.065	1.019		47.9	50.0	-4.3	20.0
1,2,3,6,7,8-HxCDD	AveID	1.181	1.199		50.8	50.0	1.5	20.0
1,2,3,7,8,9-HxCDD	AveID	1.231	1.244		50.5	50.0	1.0	20.0
1,2,3,7,8,9-HxCDF	AveID	1.290	1.341		52.0	50.0	4.0	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.587	1.566		49.4	50.0	-1.3	20.0
1,2,3,4,6,7,8-HpCDD	AveID	1.163	1.125		48.4	50.0	-3.2	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.229	1.212		49.3	50.0	-1.4	20.0
OCDD	AveID	1.039	0.998		96.0	100	-4.0	20.0
OCDF	AveID	1.265	1.224		96.8	100	-3.2	20.0
13C-2,3,7,8-TCDF	Ave	1.509	1.494		99.0	100	-1.0	30.0
13C-2,3,7,8-TCDD	Ave	0.9906	0.9869		99.6	100	-0.4	30.0
13C-1,2,3,7,8-PeCDF	Ave	1.128	1.189		105	100	5.4	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7269	0.7603		105	100	4.6	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.028	0.9590		93.3	100	-6.7	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8502	0.8340		98.1	100	-1.9	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6490	0.6627		102	100	2.1	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.5387	0.5503		102	100	2.2	30.0
13C-OCDD	Ave	0.4009	0.4091		204	200	2.0	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.173	1.161		9.89	10.0	-1.1	

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
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2	16NO173D5_2	CS-4 HRDXNL4_00060	CCV 111617	Tray01:2	---		SMA
3	16NO173D5_3	Reagent Blank C-14	RB 111617	Tray01:3	---		SMA
4	16NO173D5_4	MB 320-194930/1-A	MB 320-194930/1-A	Tray01:4	1613B/Water	46	SMA
5	16NO173D5_5	LCS 320-194930/2-A	LCS 320-194930/2-A	Tray01:5	1613B/Water		SMA
6	16NO173D5_6	LCSD 320-194930/3-A	LCSD 320-194930/3-A	Tray01:6	1613B/Water		SMA
7	16NO173D5_7	320-32529-B-1-A	320-32529-B-1-A	Tray01:7	1613B/Water		SMA
8	16NO173D5_8	LCS 320-194748/2-A	LCS 320-194748/2-A	Tray01:8	8290A/Solid	D983	SMA
9	16NO173D5_9	LCSD 320-194748/3-A	LCSD 320-194748/3-A	Tray01:9	8290A/Solid		SMA
10	16NO173D5_10	MB 320-194748/1-A	MB 320-194748/1-A	Tray01:10	8290A/Solid		SMA
11	16NO173D5_11	600-155367-A-2-B	600-155367-A-2-B	Tray01:11	8290A/Solid		SMA
12	16NO173D5_12	Reagent Blank C-14	RB 111617A	Tray01:3	---		SMA
13	16NO173D5_13	CS-4 HRDXNL4_00060	CCV 111617A	Tray01:2	---		SMA
14	16NO173D5_14	WDM HRDXNCP_00034	WDM111617A	Tray01:1	---		SMA
15	16NO173D5_15	Reagent Blank C-14	RB 111617B	Tray01:3	---		SMA
16	16NO173D5_16	MB 320-190370/1-A	MB 320-190370/1-A	Tray01:12	8290A/Solid	D980	SMA, ALM
17	16NO173D5_17	LCS 320-190370/2-A	LCS 320-190370/2-A	Tray01:13	8290A/Solid		SMA, ALM
18	16NO173D5_18	LCSD 320-190370/3-A	LCSD 320-190370/3-A	Tray01:14	8290A/Solid		SMA, ALM
19	16NO173D5_19	310-116465-C-1-A	310-116465-C-1-A	Tray01:15	8290A/Solid		SMA, ALM
20	16NO173D5_20	LCS 320-192159/2-A	LCS 320-192159/2-A	Tray01:16	8290/Solid	43	SMA, ALM
21	16NO173D5_21	LCSD 320-192159/3-A	LCSD 320-192159/3-A	Tray01:17	8290/Solid		SMA, ALM
22	16NO173D5_22	MB 320-192159/1-A	MB 320-192159/1-A	Tray01:18	8290/Solid		SMA, ALM
23	16NO173D5_23	320-32775-A-1-A	320-32775-A-1-A	Tray01:19	8290/Solid		SMA, ALM
24	16NO173D5_24	680-144745-A-13-A (20x)	680-144745-A-13-A 20x	Tray01:20	8290A/Solid	D983	SMA, ALM
25	16NO173D5_25	Reagent Blank C-14	RB 111617C	Tray01:3	---		SMA, ALM
26	16NO173D5_26	CS-4 HRDXNL4_00060	CCV 111617B	Tray01:2	---		SMA, ALM
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28	16NO173D5_28	Reagent Blank C-14	RB 111617D	Tray01:3	---		SMA, ALM
29	16NO173D5_29	MB 320-193933/1-A	MB 320-193933/1-A	Tray01:21	8290/Solid	45	SMA
30	16NO173D5_30	LCS 320-193933/2-A	LCS 320-193933/2-A	Tray01:22	8290/Solid		SMA
31	16NO173D5_31	LCSD 320-193933/3-A	LCSD 320-193933/3-A	Tray01:23	8290/Solid		SMA
32	16NO173D5_32	320-33016-A-1-A	320-33016-A-1-A	Tray01:24	8290/Solid		SMA
33	16NO173D5_33	320-33016-A-2-A	320-33016-A-2-A	Tray01:25	8290/Solid		SMA
34	16NO173D5_34	320-33016-A-3-A	320-33016-A-3-A	Tray01:26	8290/Solid		SMA
35	16NO173D5_35	320-33016-A-4-A	320-33016-A-4-A	Tray01:27	8290/Solid		SMA
36	16NO173D5_36	320-33016-A-5-A	320-33016-A-5-A	Tray01:28	8290/Solid		SMA
37	16NO173D5_37	Reagent Blank C-14	RB 111617E	Tray01:3	---		SMA
38	16NO173D5_38	CS-4 HRDXNL4_00060	CCV 111617C	Tray01:2	---		SMA
39	16NO173D5_39	CS-4 HRDXNL4_00060	CCV 111617D	Tray01:2	---		SMA
40	16NO173D5_40	WDM HRDXNCP_00034	WDM111617C	Tray01:1	---		SMA
41	16NO173D5_41	Reagent Blank C-14	RB 111617F	Tray01:3	---		SMA
42	16NO173D5_42	MB 320-192108/1-A	MB 320-192108/1-A	Tray01:29	8290/Tissue	45	SMA
43	16NO173D5_43	LCS 320-192108/2-A	LCS 320-192108/2-A	Tray01:30	8290/Tissue		SMA
44	16NO173D5_44	LCSD 320-192108/3-A	LCSD 320-192108/3-A	Tray01:31	8290/Tissue		SMA
45	16NO173D5_45	320-32750-A-1-A	320-32750-A-1-A	Tray01:32	8290/Tissue		SMA
46	16NO173D5_46	320-33016-A-6-A	320-33016-A-6-A	Tray01:33	8290/Solid	45	SMA
47	16NO173D5_47	320-33016-A-7-A	320-33016-A-7-A	Tray01:34	8290/Solid		SMA
48	16NO173D5_48	320-33016-A-8-A	320-33016-A-8-A	Tray01:35	8290/Solid		SMA
49	16NO173D5_49	320-33016-A-9-A	320-33016-A-9-A	Tray01:36	8290/Solid		SMA
50	16NO173D5_50	Reagent Blank C-14	RB 111617G	Tray01:3	---		SMA
51	16NO173D5_51	Reagent Blank C-14	RB 111617H	Tray01:3	---		SMA
52	16NO173D5_52	CS-4 HRDXNL4_00060	CCV 111617E	Tray01:2	---		SMA
53	16NO173D5_53	Reagent Blank C-14	RB 111617I	Tray01:3	---		SMA
54	16NO173D5_54	WDM HRDXNCP_00034	WDM111617D	Tray01:1	---		SMA, ALM
55	16NO173D5_55	CS-4 HRDXNL4_00060	CCV 111617F	Tray01:2	---		SMA, ALM
56	16NO173D5_56	Reagent Blank C-14	RB 111617J	Tray01:3	---		SMA, ALM
57	16NO173D5_57	MB 320-195095/1-A	MB 320-195095/1-A	Tray01:37	8290A_D5/Solid	45	SMA, ALM
58	16NO173D5_58	LCS 320-195095/2-A	LCS 320-195095/2-A	Tray01:38	8290A_D5/Solid		SMA, ALM

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
59	16NO173D5_59	LCSD 320-195095/3-A	LCSD 320-195095/3-A	Tray01:39	8290A_D5/Solid		SMA, ALM
60	16NO173D5_60	160-24924-G-1-B	160-24924-G-1-B	Tray01:40	8290A_D5/Solid		SMA, ALM
61	16NO173D5_61	160-24924-G-2-B	160-24924-G-2-B	Tray01:41	8290A_D5/Solid		SMA, ALM
62	16NO173D5_62	160-24924-G-3-B	160-24924-G-3-B	Tray01:42	8290A_D5/Solid		SMA, ALM
63	16NO173D5_63	160-24924-G-4-B	160-24924-G-4-B	Tray01:43	8290A_D5/Solid		SMA, ALM
64	16NO173D5_64	160-24924-G-5-B	160-24924-G-5-B	Tray01:44	8290A_D5/Solid		SMA, ALM
65	16NO173D5_65	Reagent Blank C-14	RB 111617K	Tray01:3	---		SMA, ALM
66	16NO173D5_66	CS-4 HRDXNL4_00060	CCV 111617G	Tray01:2	---		SMA, ALM
67	16NO173D5_67	WDM HRDXNCP_00034	WDM111617E	Tray01:1	---		SMA, ALM
68	16NO173D5_68	CS-4 HRDXNL4_00060	CCV 111617H	Tray01:2	---		SMA, ALM
69	16NO173D5_69	Reagent Blank C-14	RB 111617L	Tray01:3	---		SMA, ALM
70	16NO173D5_70	160-24924-G-6-B	160-24924-G-6-B	Tray01:45	8290A_D5/Solid	45	SMA, ALM
71	16NO173D5_71	160-24924-G-7-B	160-24924-G-7-B	Tray01:46	8290A_D5/Solid		SMA, ALM
72	16NO173D5_72	160-24924-G-8-B	160-24924-G-8-B	Tray01:47	8290A_D5/Solid		SMA, ALM
73	16NO173D5_73	160-24924-G-9-D	160-24924-G-9-D	Tray01:48	8290A_D5/Solid		SMA, ALM
74	16NO173D5_74	160-24924-G-9-E MS	160-24924-G-9-E MS	Tray01:49	8290A_D5/Solid		SMA, ALM
75	16NO173D5_75	160-24924-G-9-F MSD	160-24924-G-9-F MSD	Tray01:50	8290A_D5/Solid		SMA, ALM
76	16NO173D5_76	160-24924-G-10-B	160-24924-G-10-B	Tray01:51	8290A_D5/Solid		SMA, ALM
77	16NO173D5_77	160-24924-G-11-B	160-24924-G-11-B	Tray01:52	8290A_D5/Solid		SMA, ALM
78	16NO173D5_78	Reagent Blank C-14	RB 111617M	Tray01:3	---		SMA, ALM
79	16NO173D5_79	CS-4 HRDXNL4_00060	CCV 111617I	Tray01:2	---		SMA, ALM
80	16NO173D5_80	WDM HRDXNCP_00034	WDM111617F	Tray01:1	---		SMA, ALM
81	16NO173D5_81	CS-4 HRDXNL4_00060	CCV 111617J	Tray01:2	---		SMA, ALM
82	16NO173D5_82	Reagent Blank C-14	RB 111617N	Tray01:3	---		SMA, ALM
83	16NO173D5_83	160-24924-G-12-B	160-24924-G-12-B	Tray01:53	8290A_D5/Solid	45	SMA, ALM
84	16NO173D5_84	160-24924-G-13-B	160-24924-G-13-B	Tray01:54	8290A_D5/Solid		SMA, ALM
85	16NO173D5_85	160-24924-G-14-B	160-24924-G-14-B	Tray01:55	8290A_D5/Solid		SMA, ALM
86	16NO173D5_86	160-24924-G-15-B	160-24924-G-15-B	Tray01:56	8290A_D5/Solid		SMA, ALM
87	16NO173D5_87	160-24924-G-16-B	160-24924-G-16-B	Tray01:57	8290A_D5/Solid		SMA, ALM
88	16NO173D5_88	160-24924-G-17-B	160-24924-G-17-B	Tray01:58	8290A_D5/Solid		SMA, ALM
89	16NO173D5_89	160-24924-G-18-B	160-24924-G-18-B	Tray01:59	8290A_D5/Solid		SMA, ALM
90	16NO173D5_90	160-24924-G-19-B	160-24924-G-19-B	Tray01:60	8290A_D5/Solid		SMA, ALM
91	16NO173D5_91	Reagent Blank C-14	RB 111617O	Tray01:3	---		SMA, ALM
92	16NO173D5_92	CS-4 HRDXNL4_00060	CCV 111617K	Tray01:2	---		SMA, ALM
93	16NO173D5_93	WDM HRDXNCP_00034	WDM111617G	Tray01:1	---		SMA, ALM
94	16NO173D5_94	Reagent Blank C-14	RB 111617P	Tray01:3	---		SMA, ALM

logfile checked
11-18-17 ALM

Sample Size	Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C	Conc D
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1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.980000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---

Sample Size	Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C	Conc D
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
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10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
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1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---

Conc E	Conc F	Conc G	Process	Process Options	Action On Error
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200	5	100	---	---	---
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200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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200	5	100	---	---	---
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Conc E	Conc F	Conc G	Process	Process Options	Action On Error
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---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	---	---	---
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---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	---	---	---
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200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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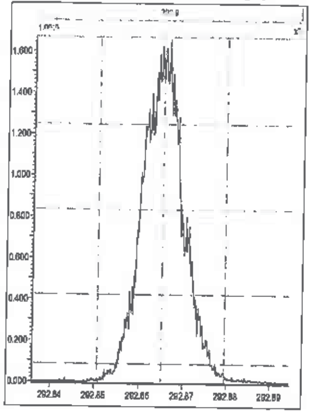
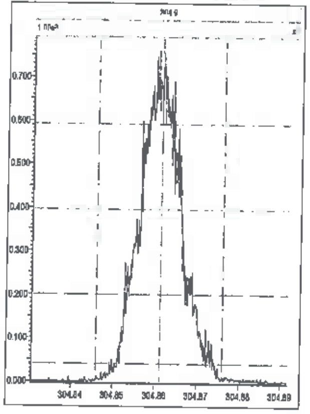
Printed: Saturday, November 18, 2017 12:59:39 Pacific Standard Time

3D5

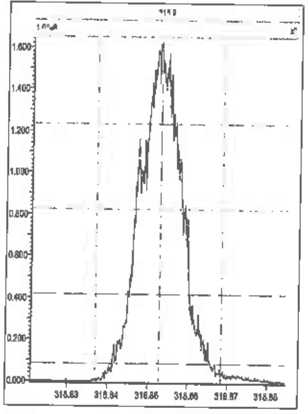
M 292.9824 R 13161



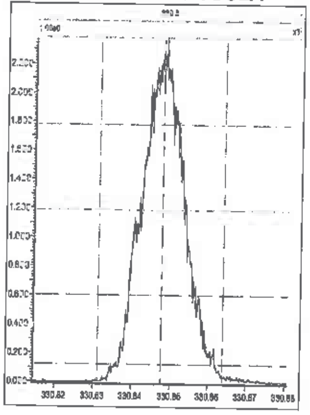
M 304.9824 R 13230



M 318.9792 R 13158



M 330.9792 R 13021



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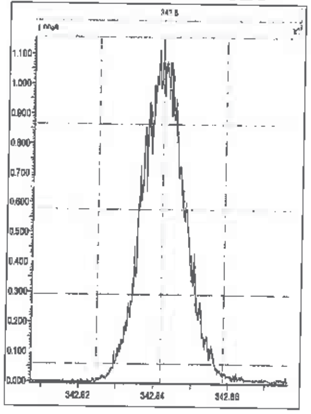

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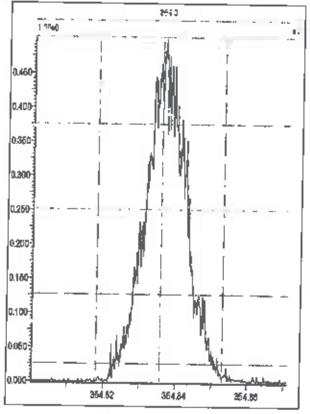

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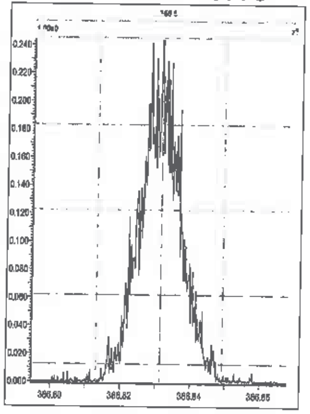

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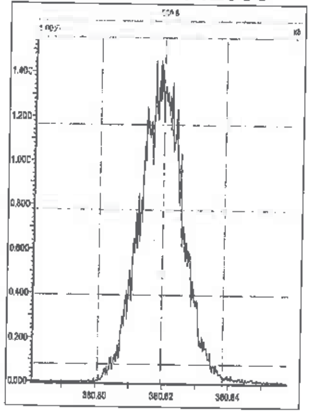

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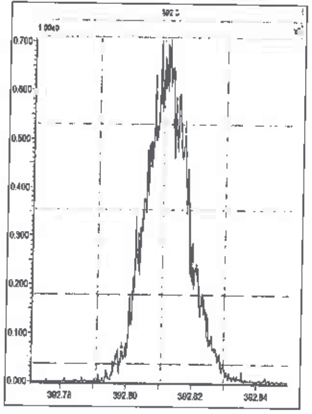

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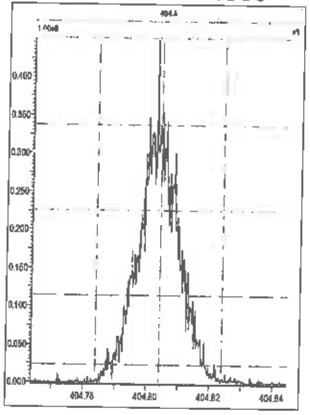

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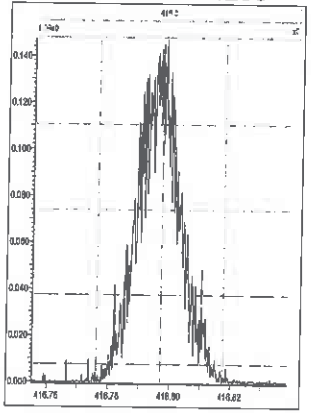

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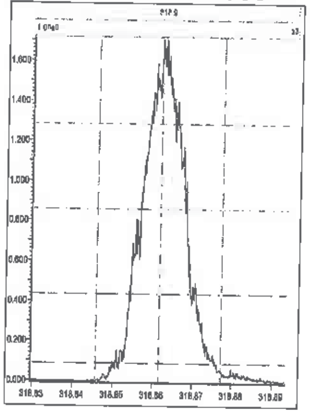

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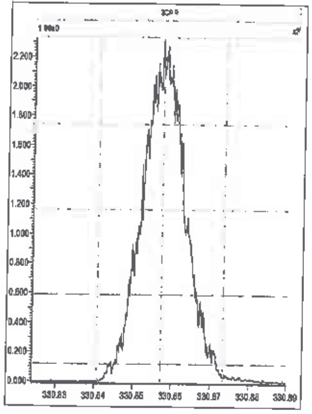

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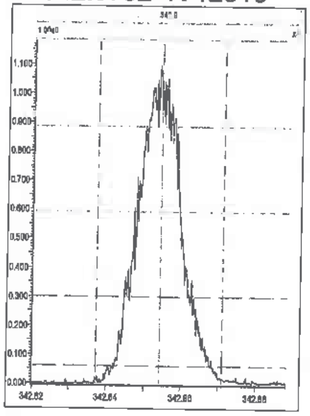

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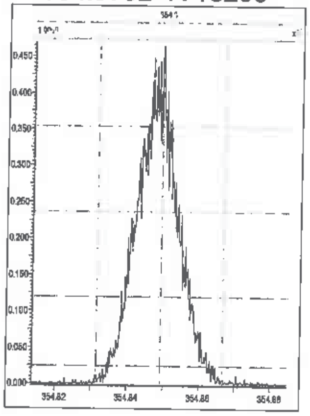

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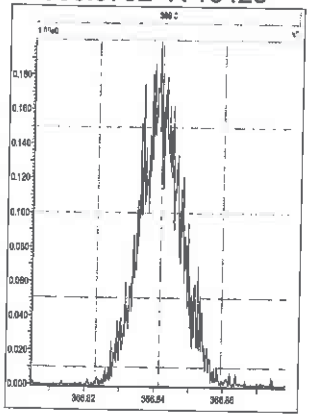

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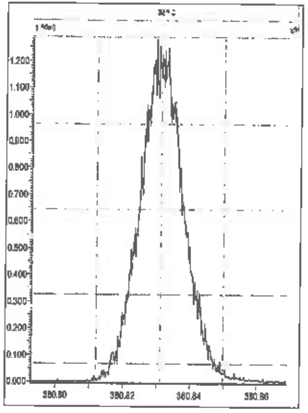

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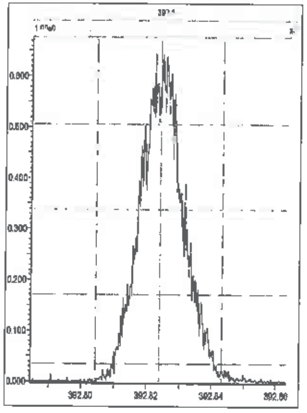

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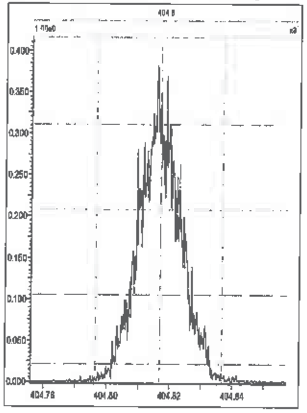

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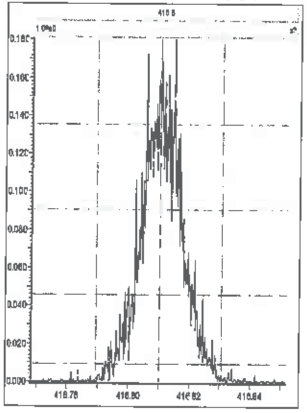

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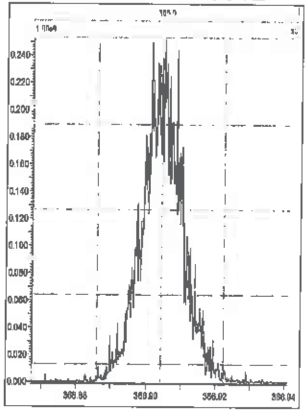

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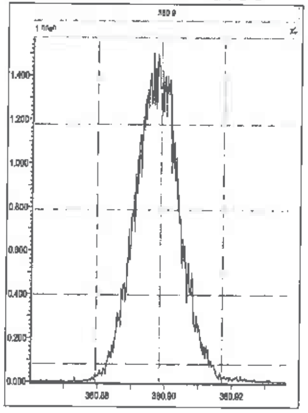

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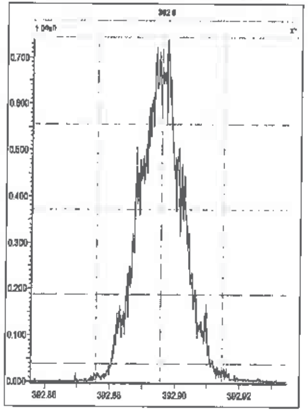

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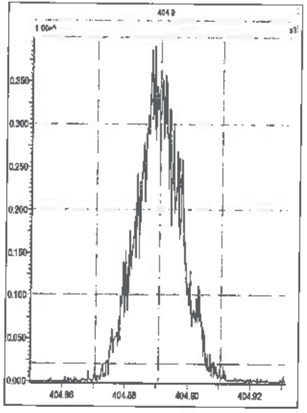

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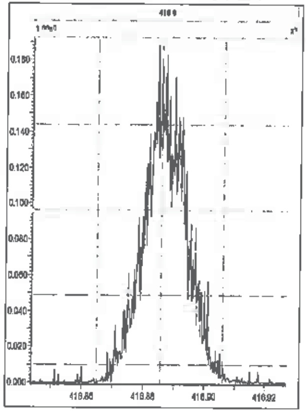

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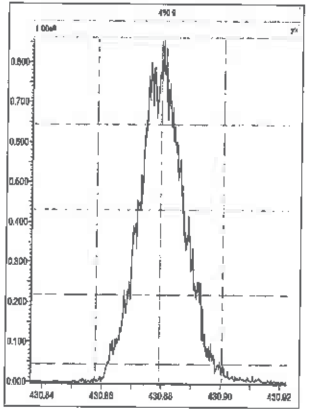

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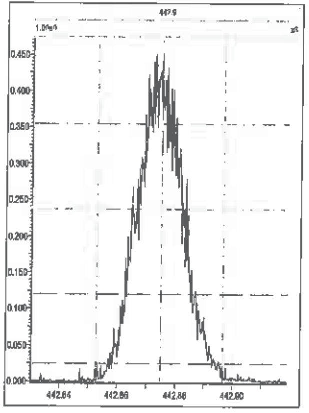

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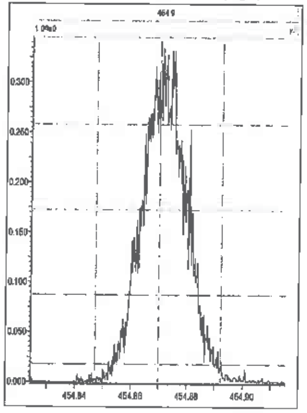

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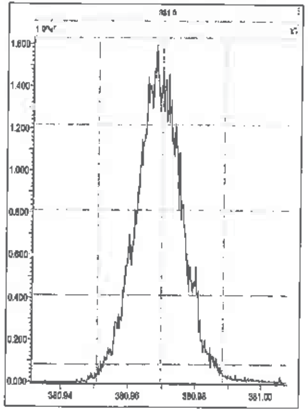

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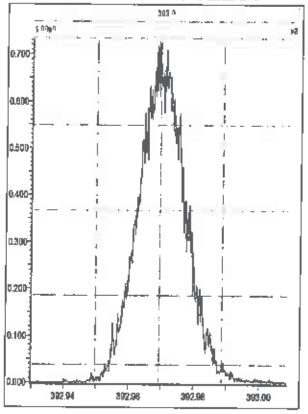

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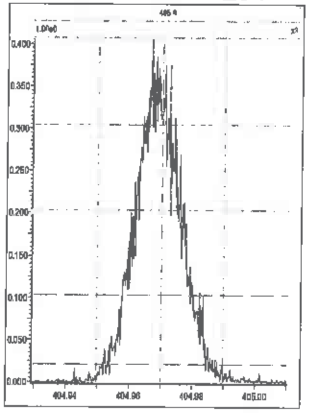

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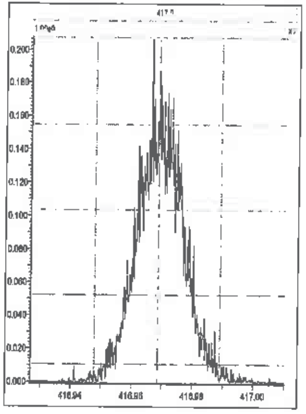

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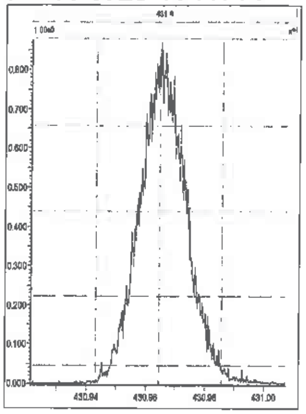

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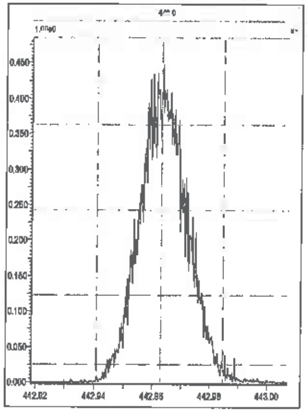

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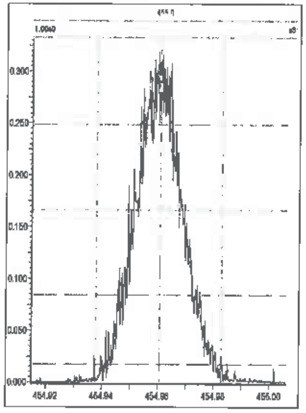

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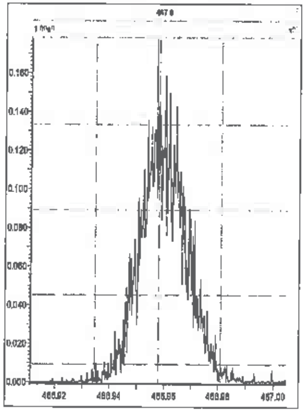

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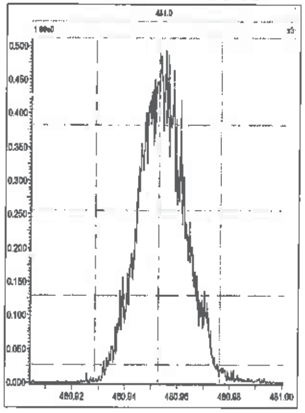

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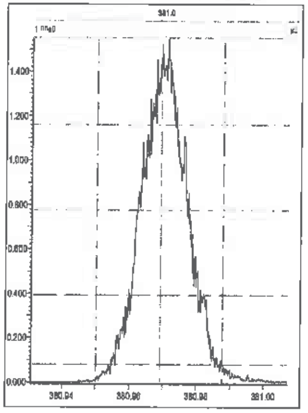

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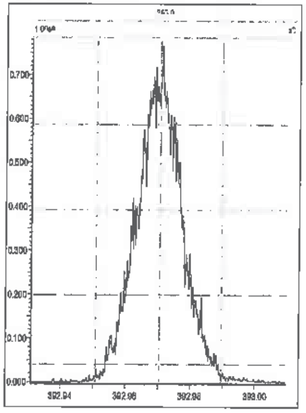

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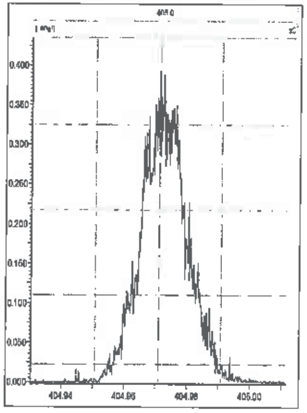

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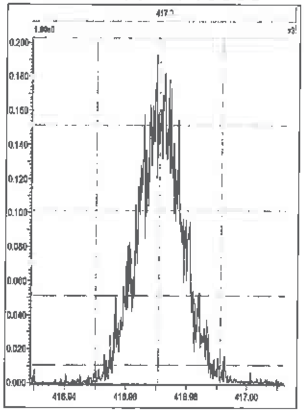

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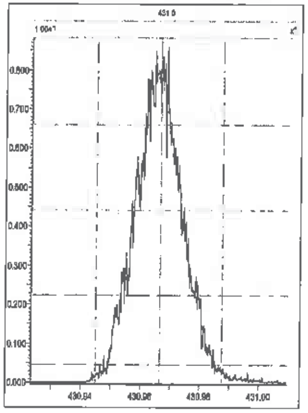

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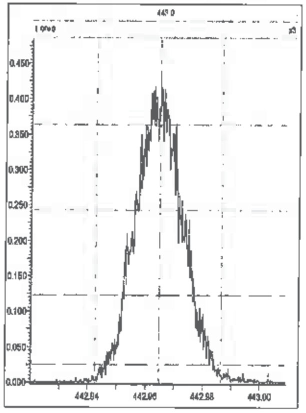

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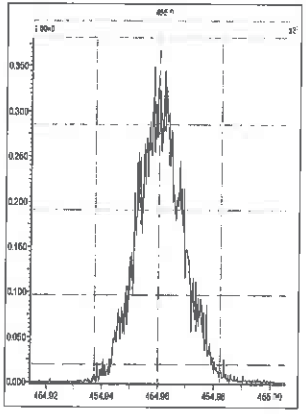

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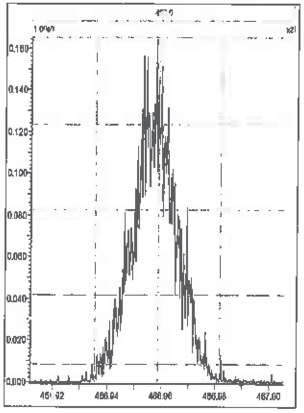

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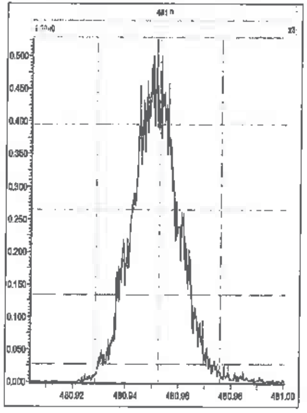

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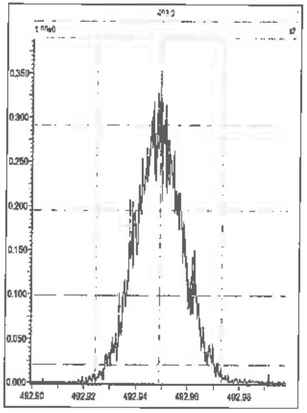

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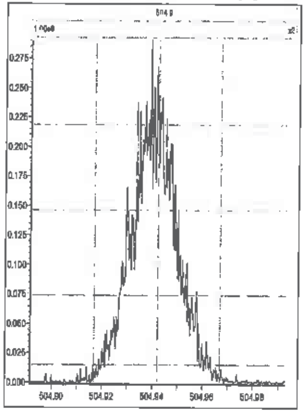

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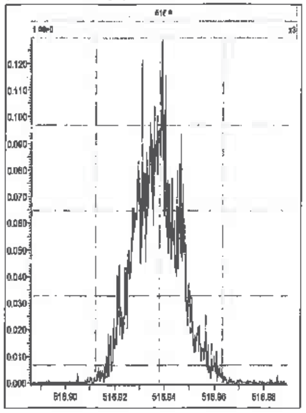

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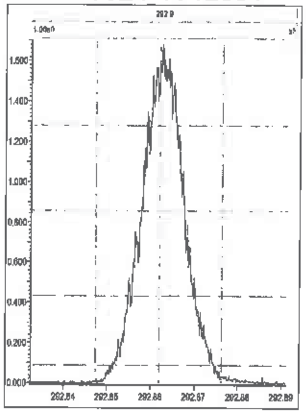

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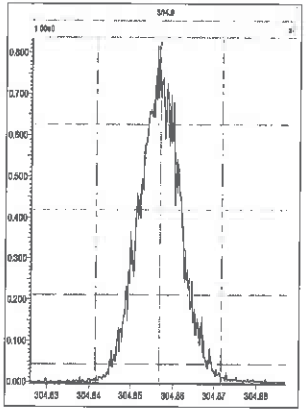

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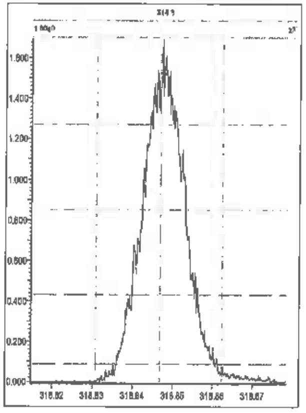

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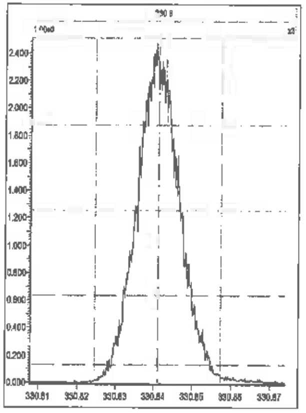

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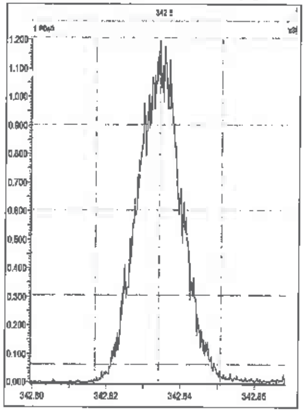

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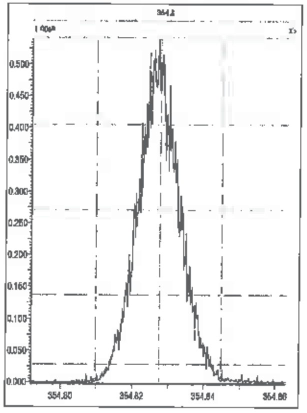

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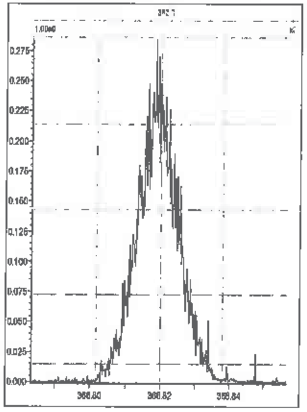

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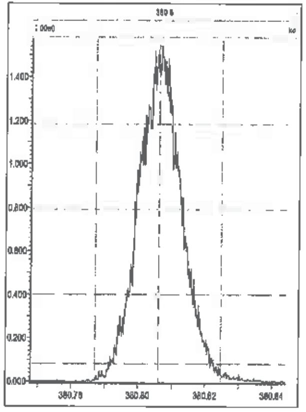

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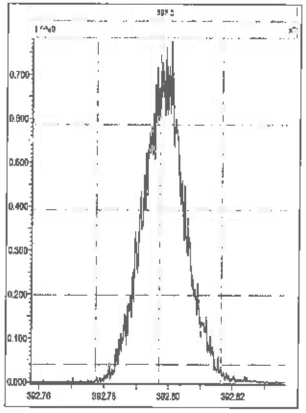

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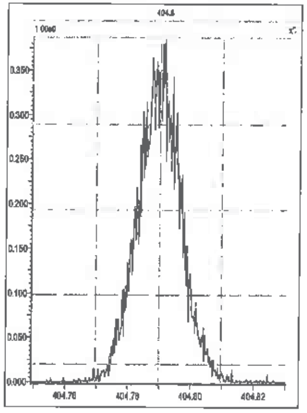

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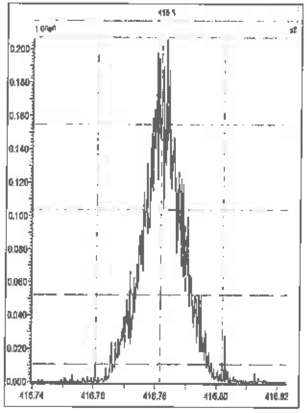

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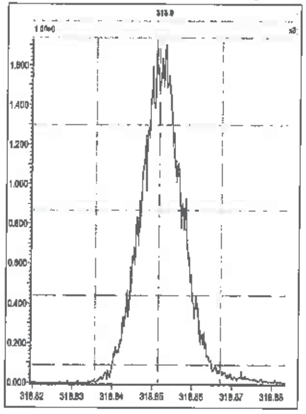

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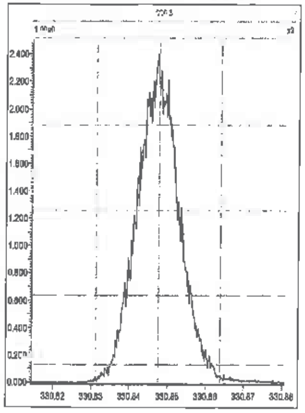

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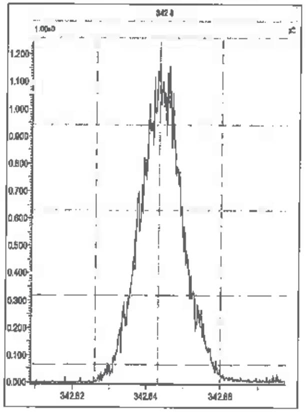

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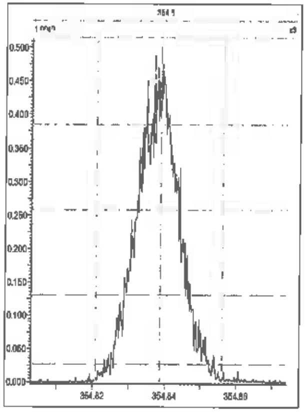

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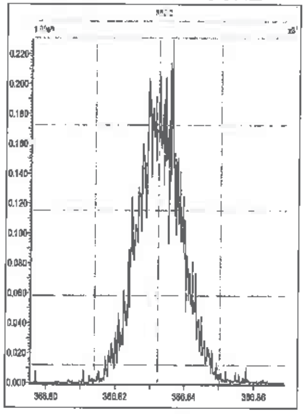

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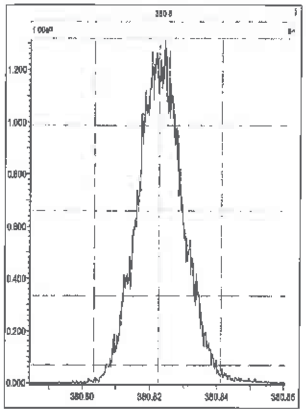

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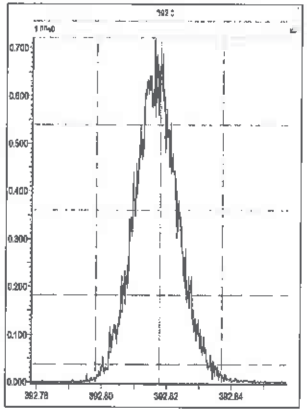

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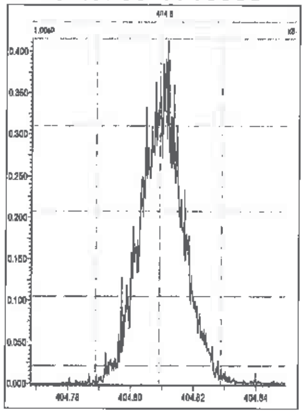

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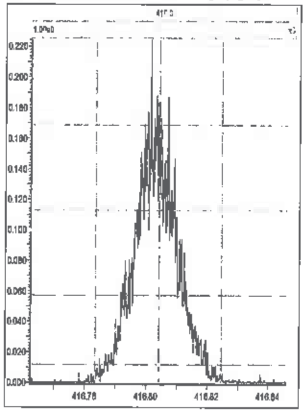

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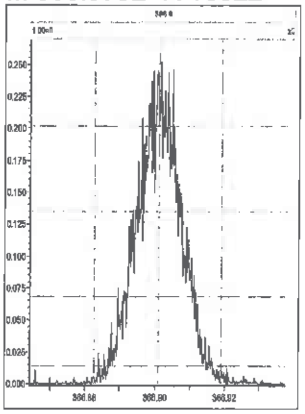

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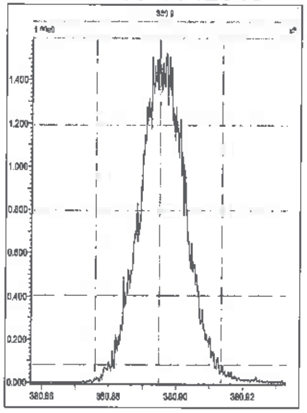

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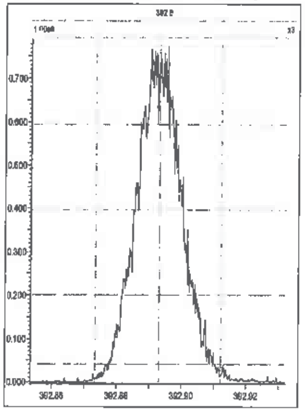

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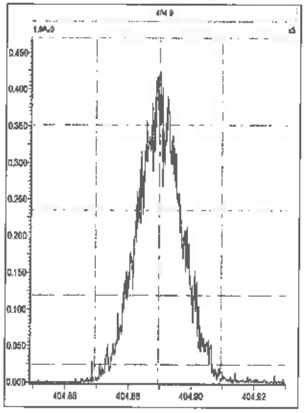

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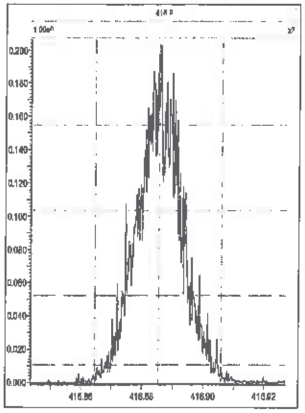

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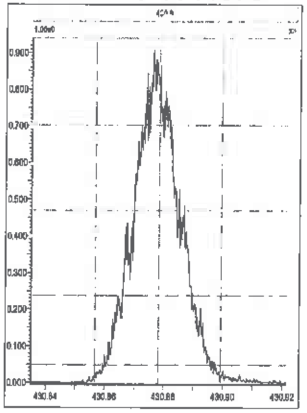

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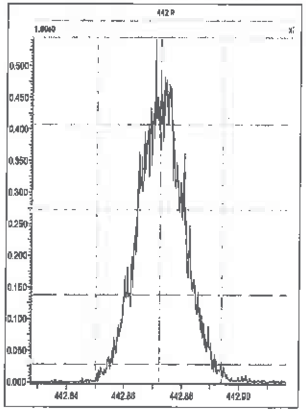

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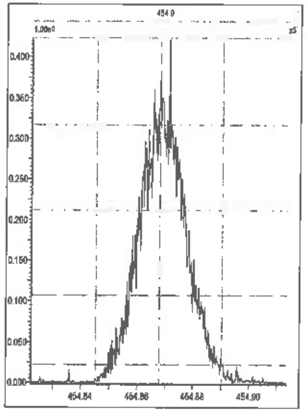

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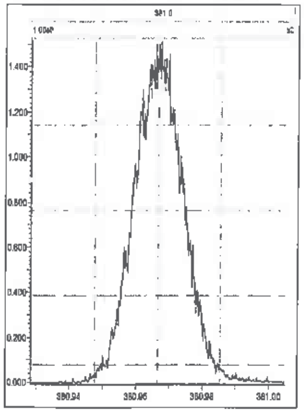

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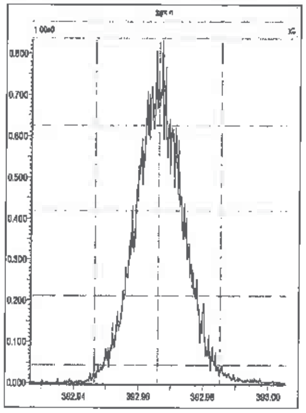

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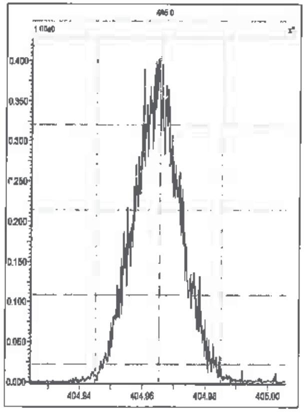

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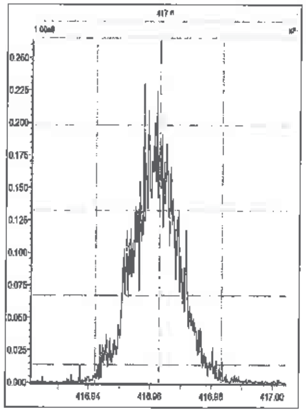

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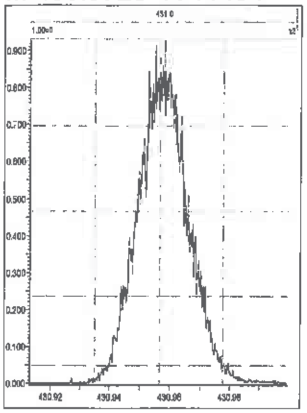

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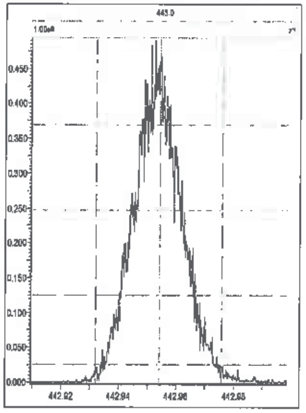

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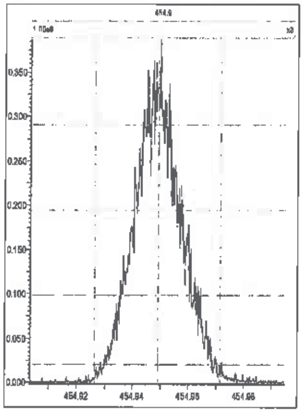

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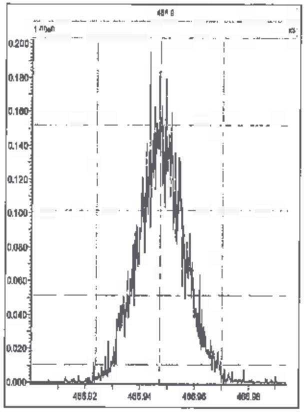

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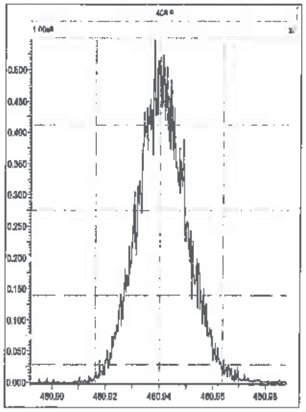

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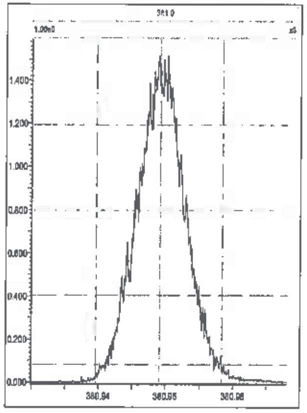

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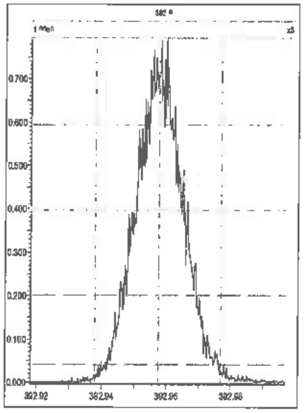

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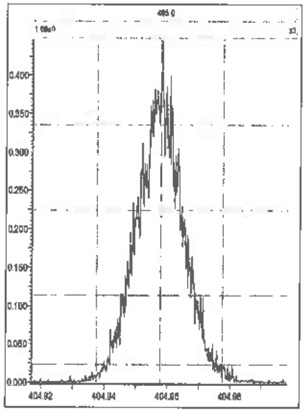

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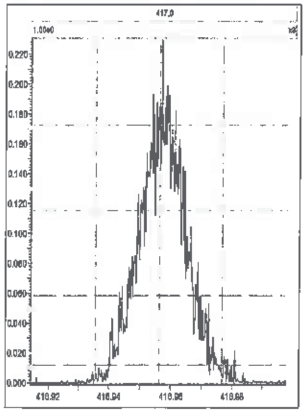

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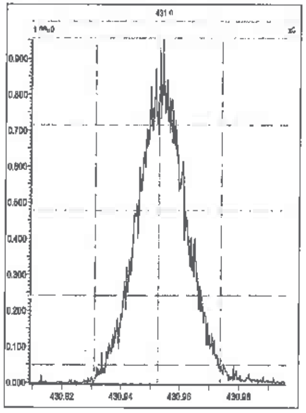

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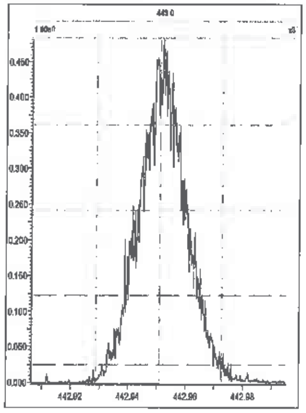

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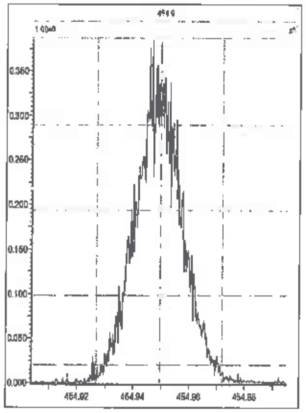

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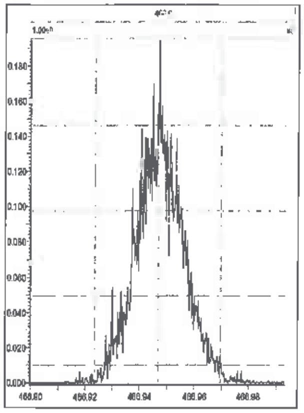

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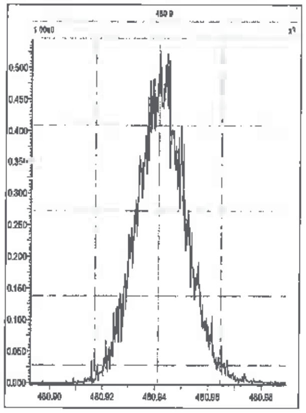

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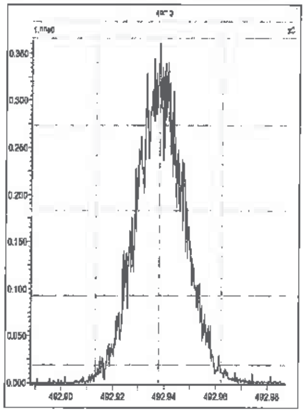

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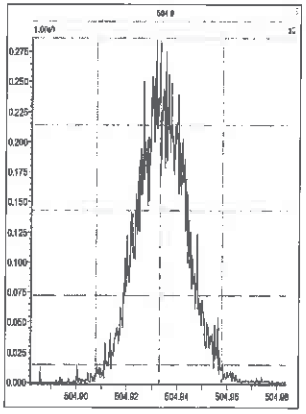

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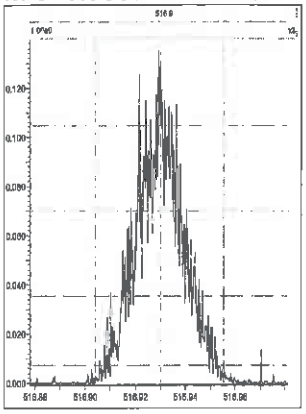

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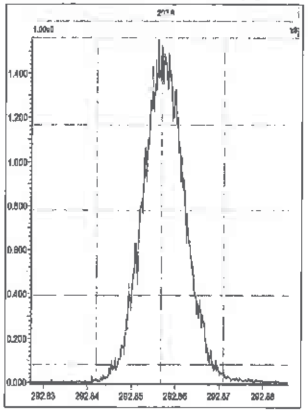

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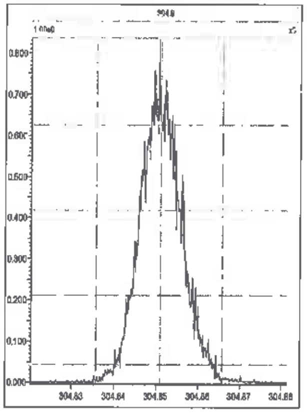

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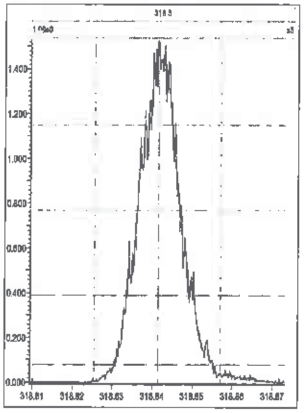

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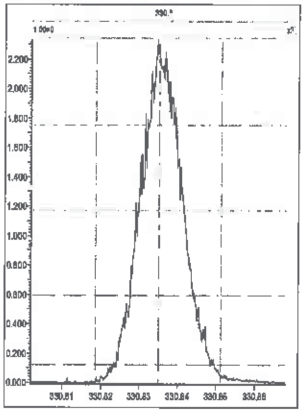

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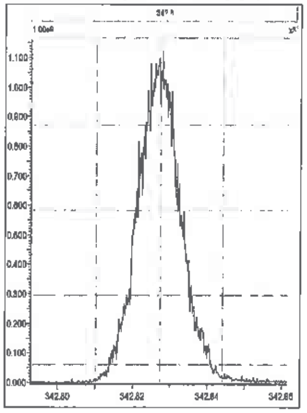

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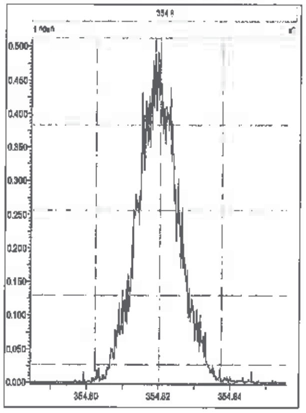

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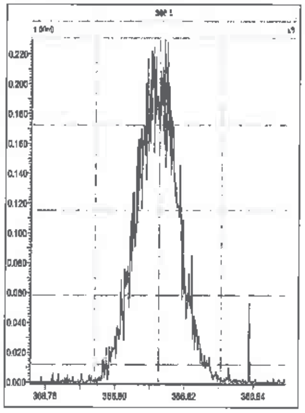

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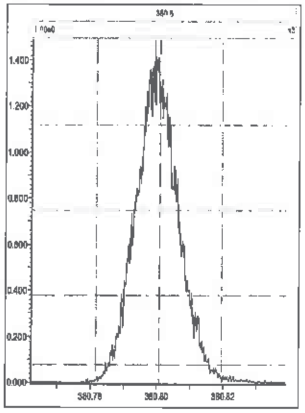

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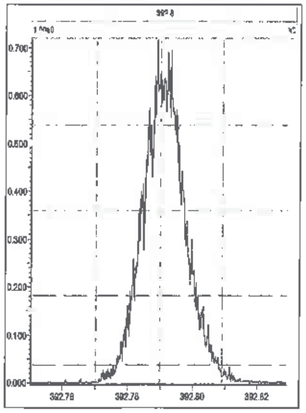

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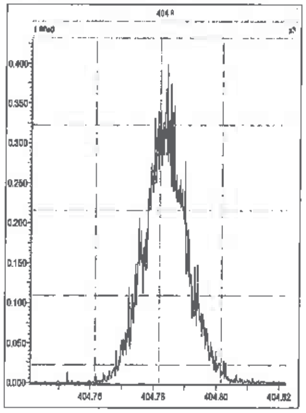

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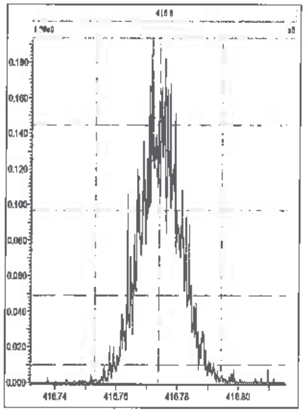

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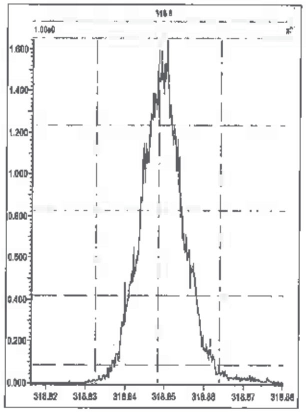

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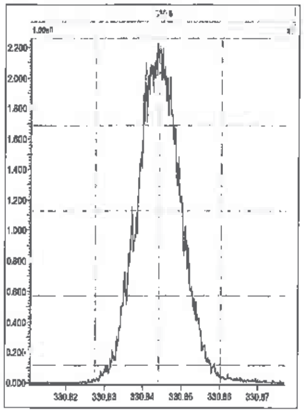

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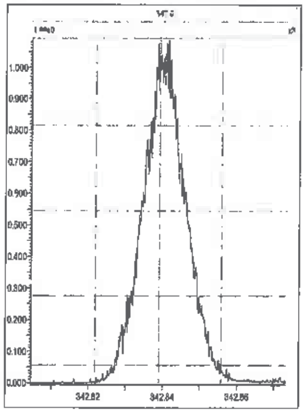

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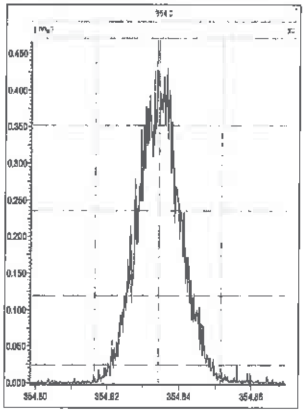

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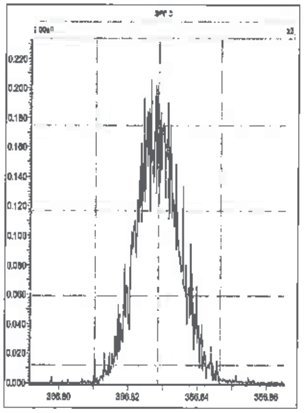

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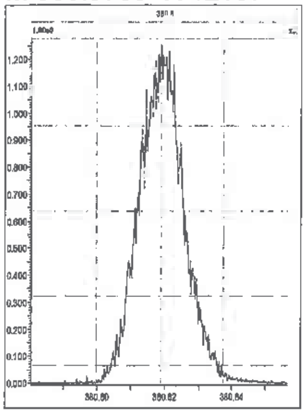

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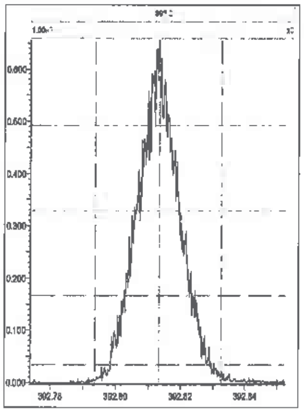

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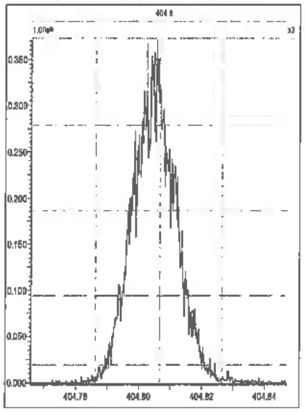

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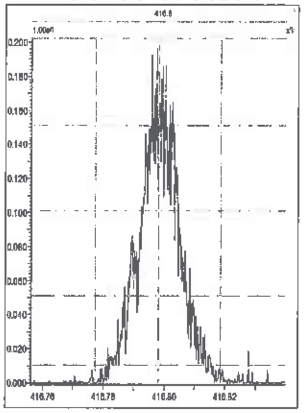

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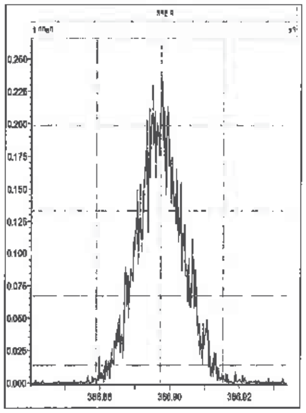

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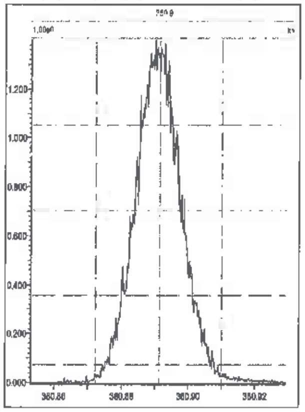

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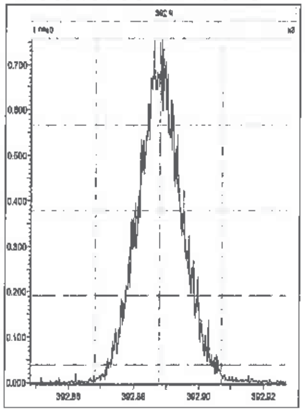

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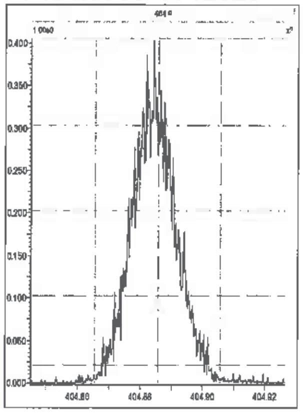

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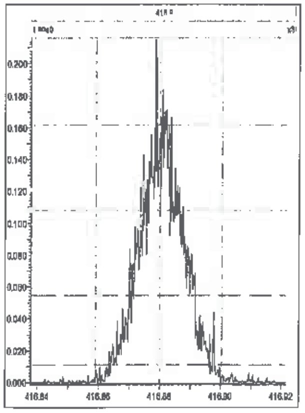

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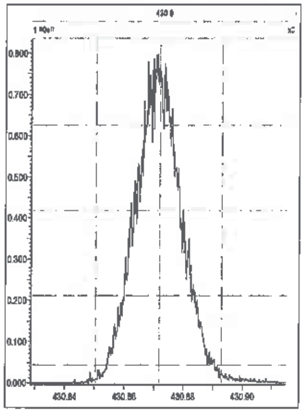

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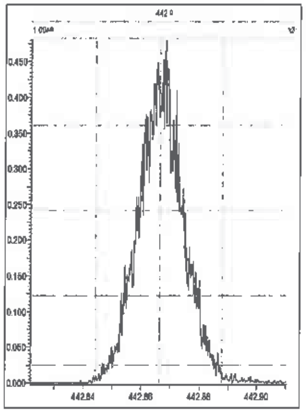

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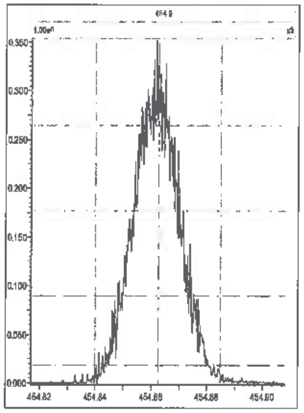

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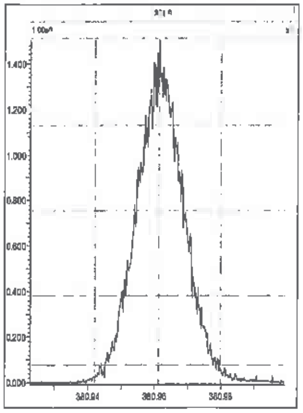

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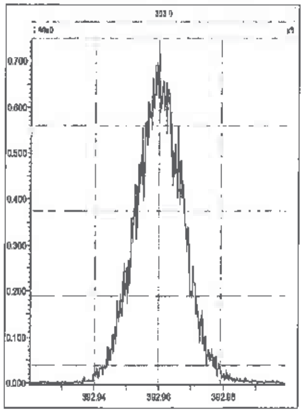

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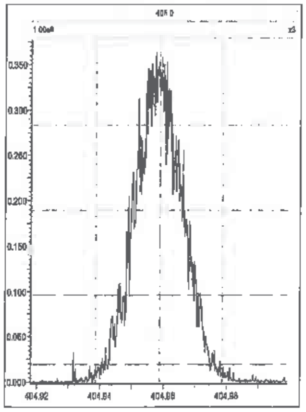

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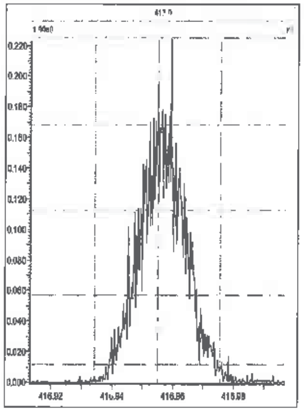

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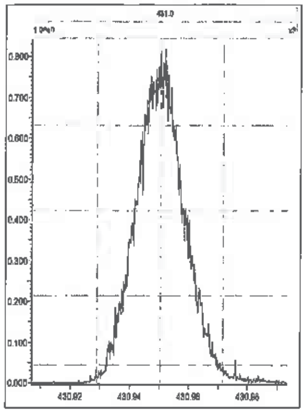

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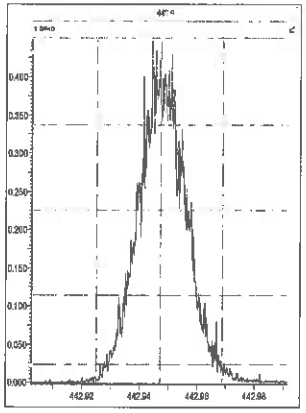

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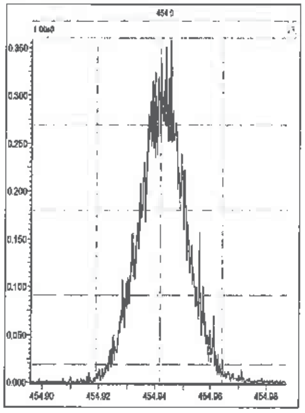

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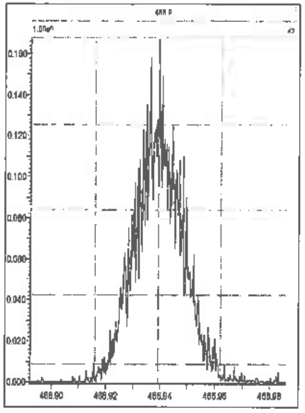

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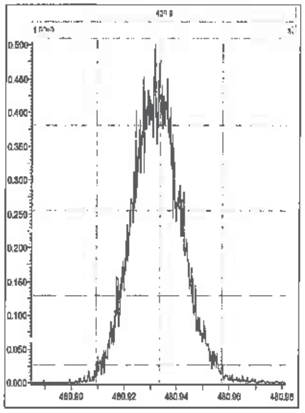

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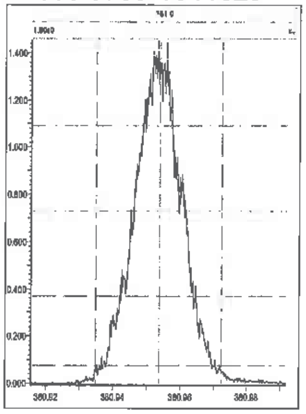

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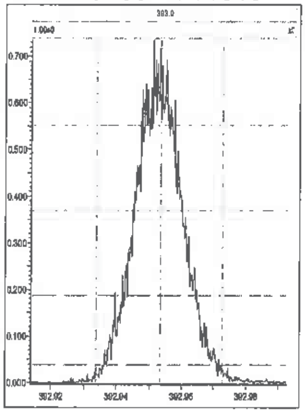

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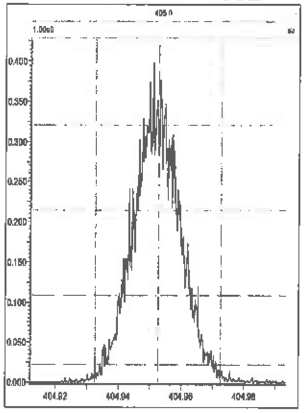

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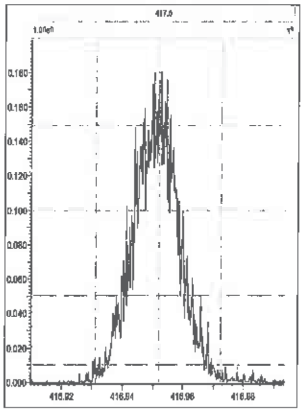

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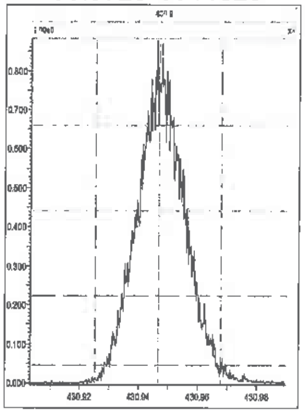

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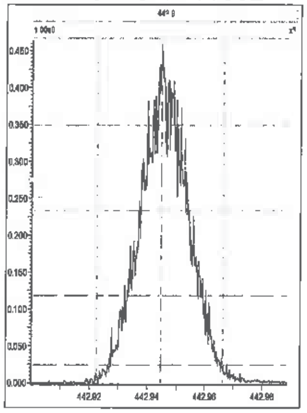

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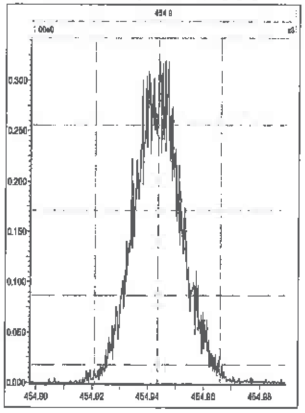

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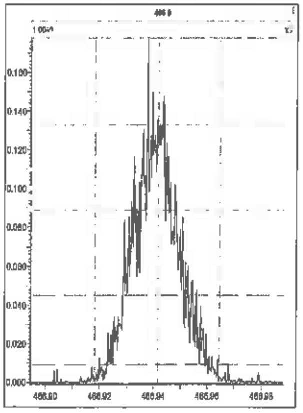

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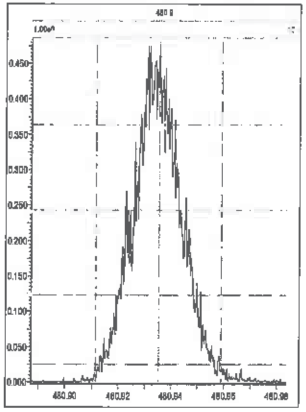

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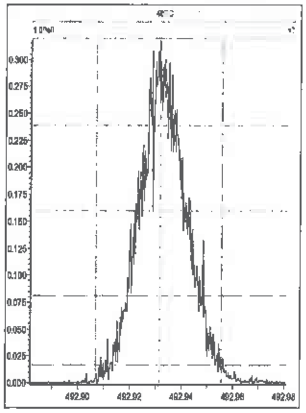

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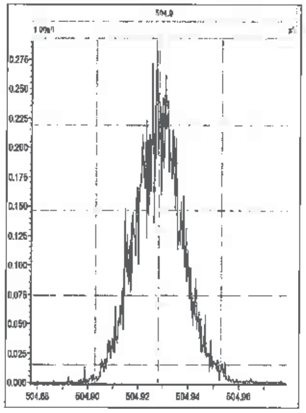

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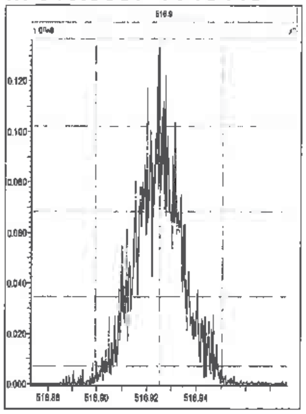

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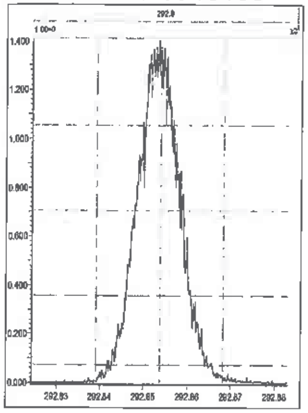

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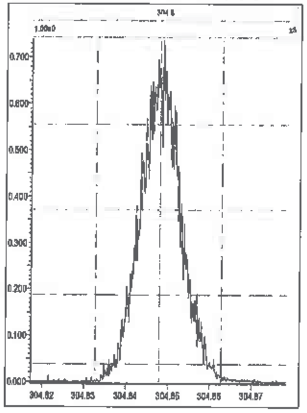

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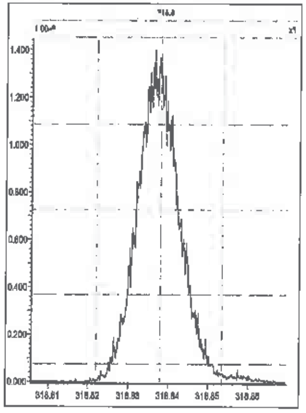

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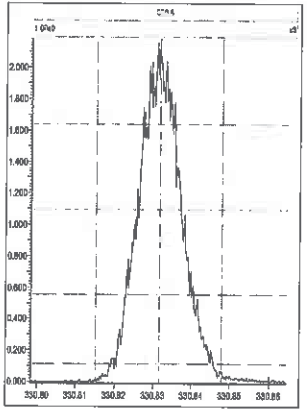

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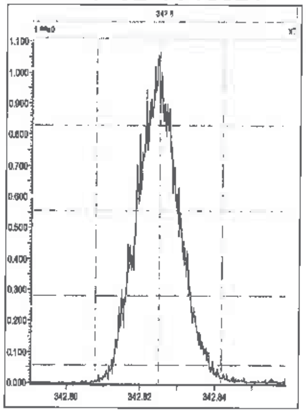

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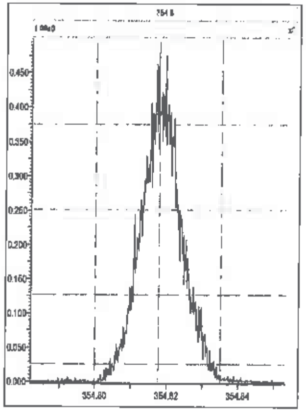

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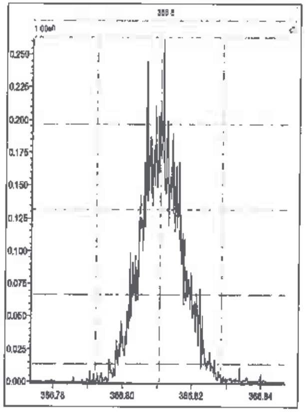

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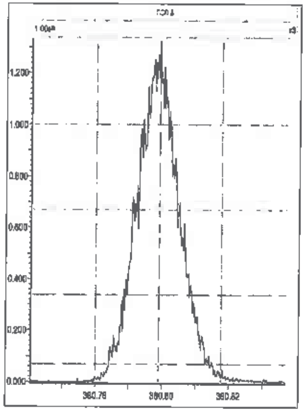

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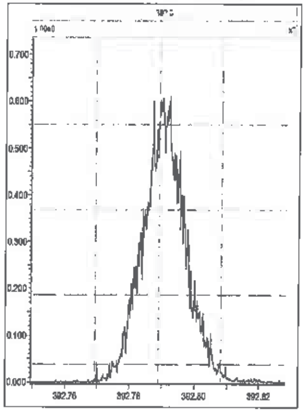

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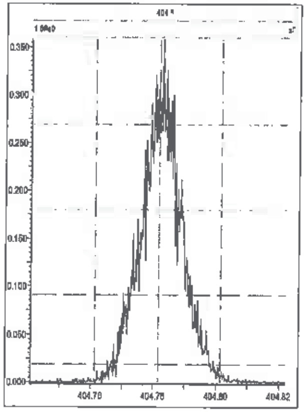

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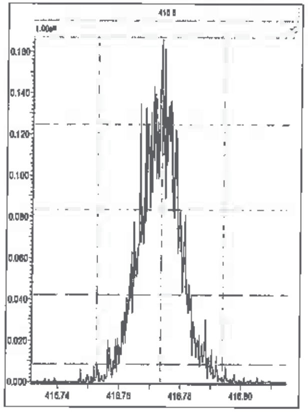

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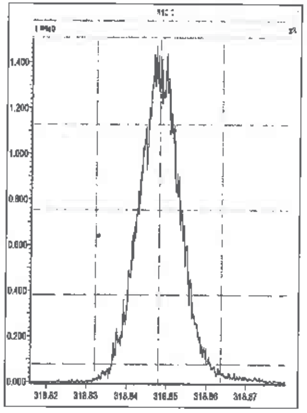

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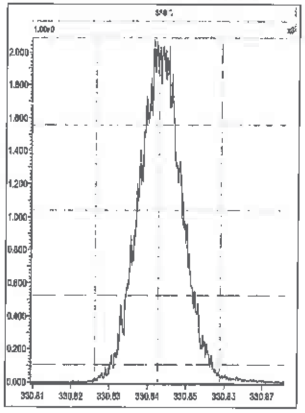

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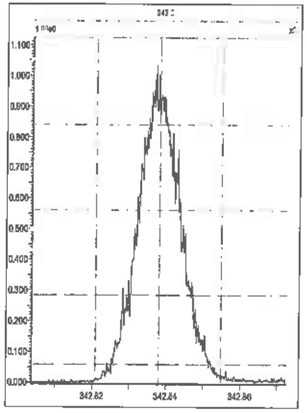

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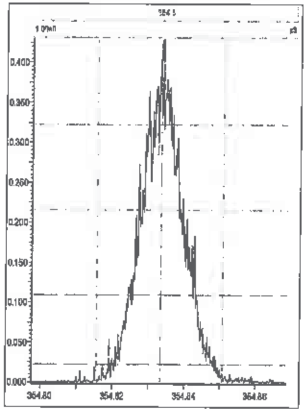

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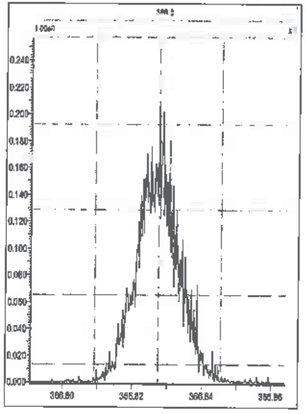

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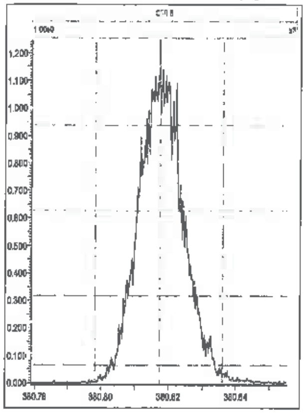

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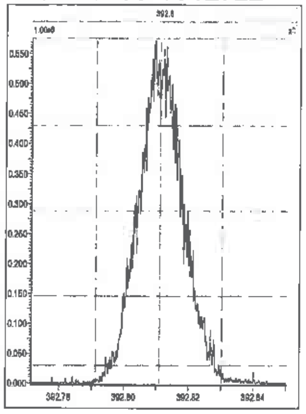

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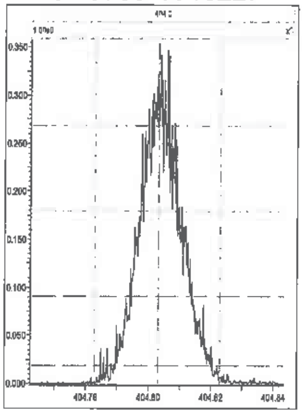

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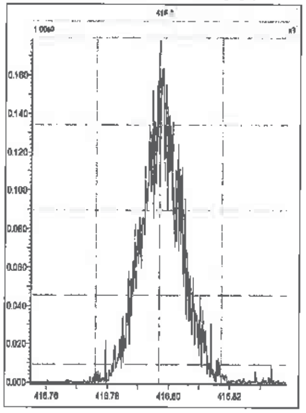

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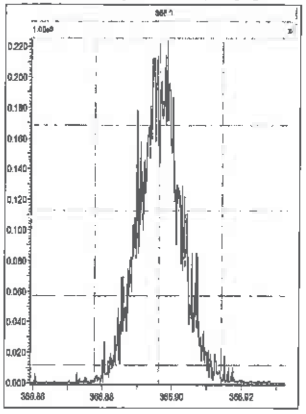

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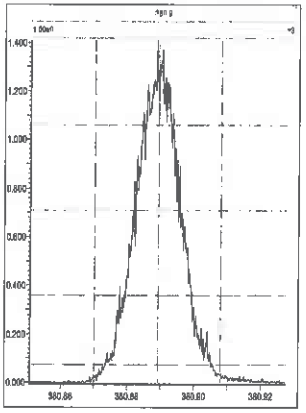

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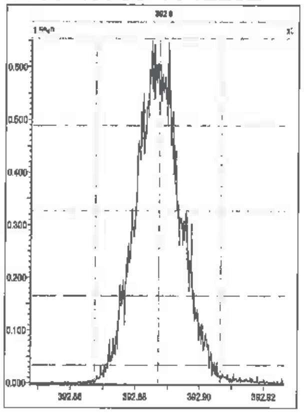

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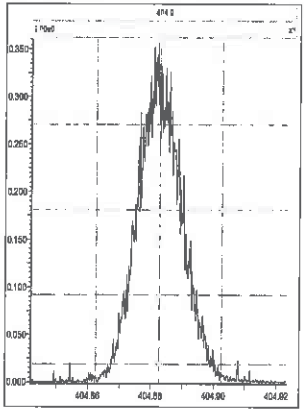

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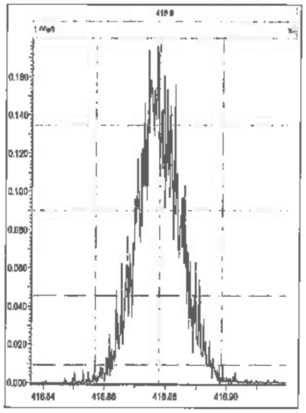

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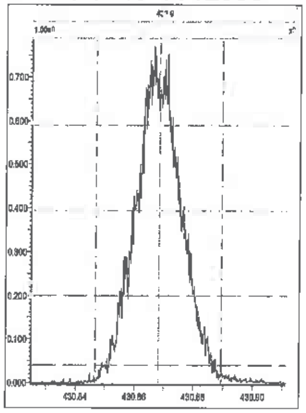

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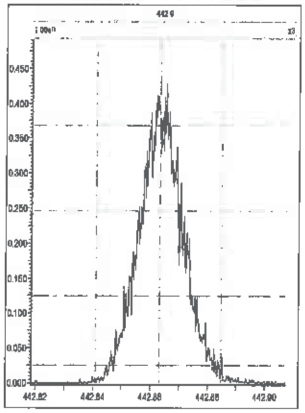

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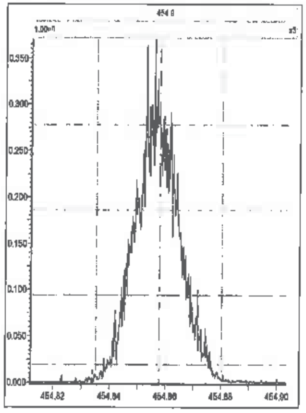

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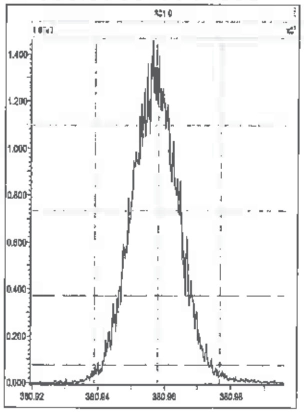

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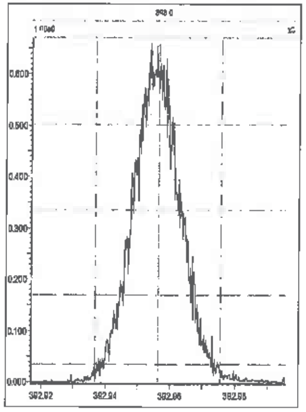

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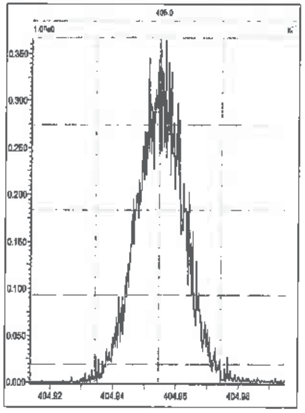

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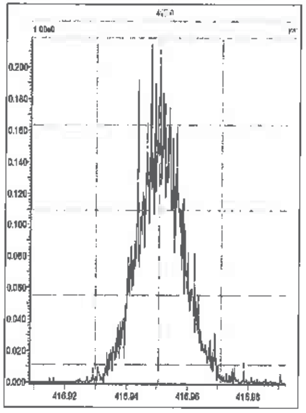

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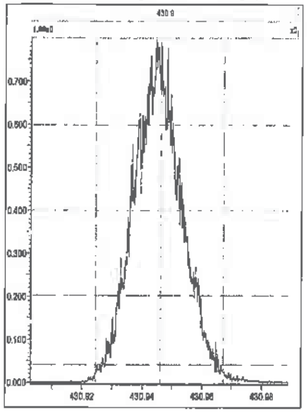

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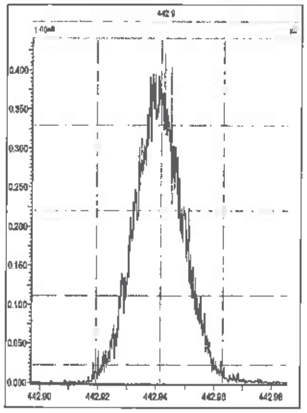

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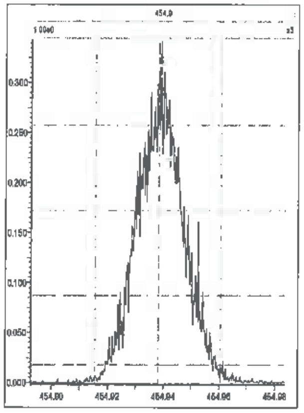
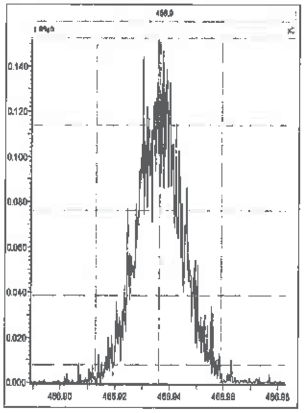


M 466.9728 R 13465



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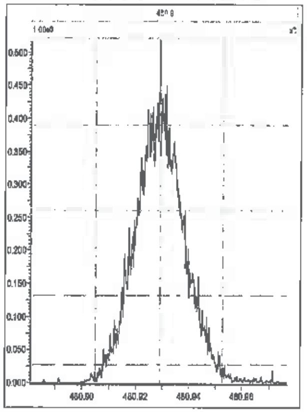

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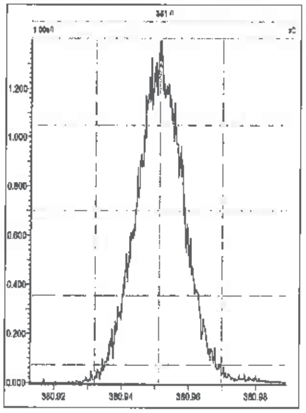

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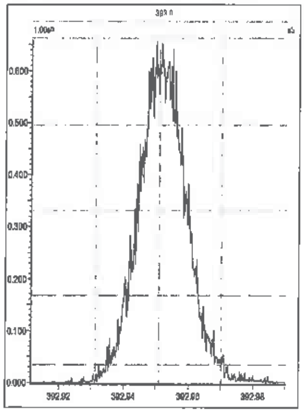

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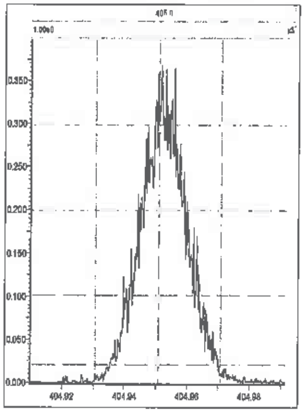

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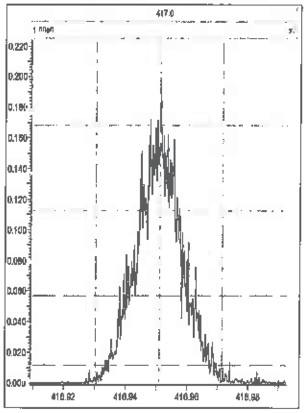

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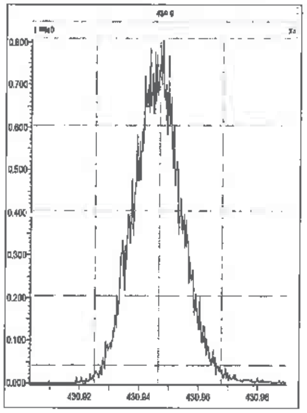

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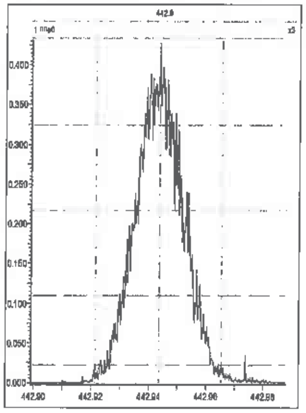

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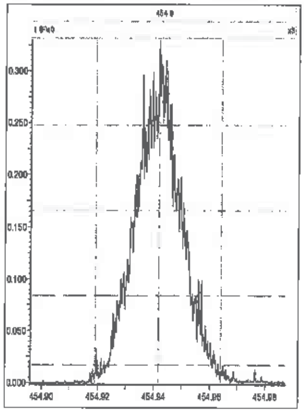
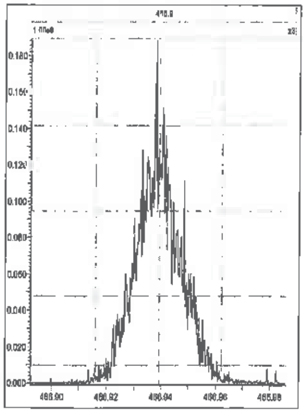


M 466.9728 R 13055



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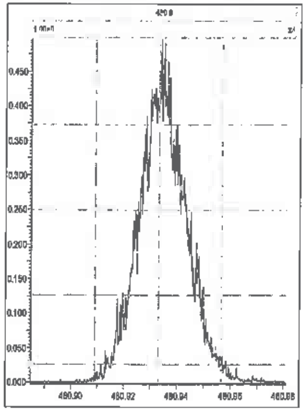

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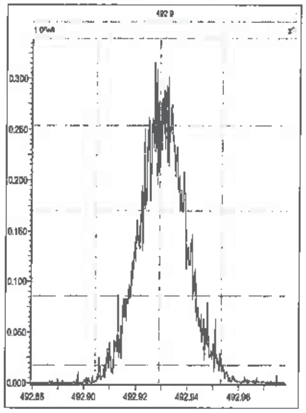

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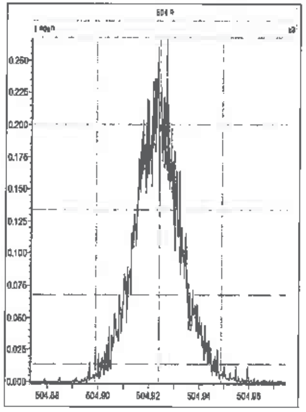

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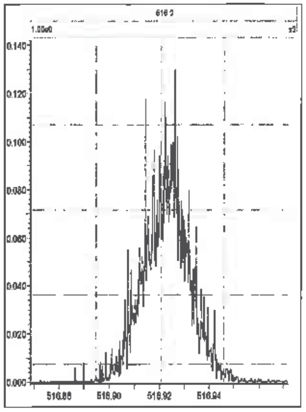

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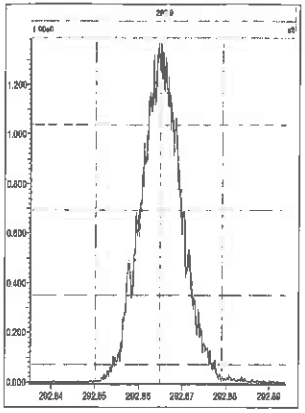

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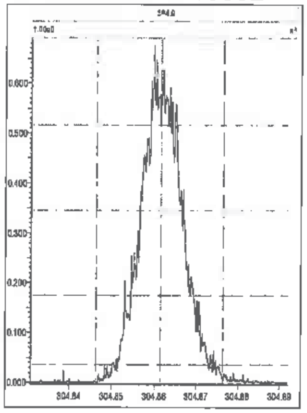

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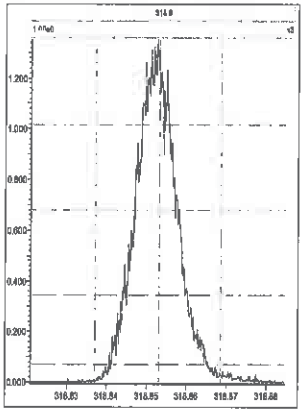

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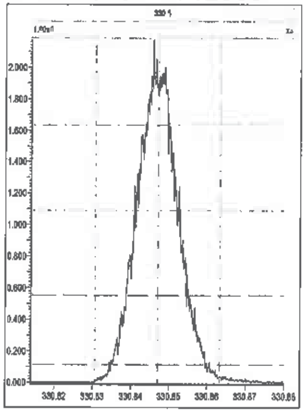

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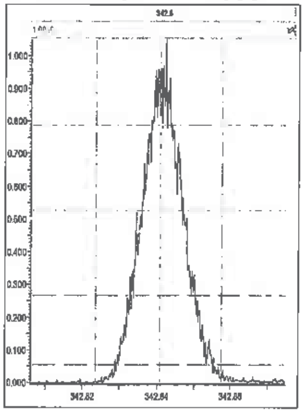

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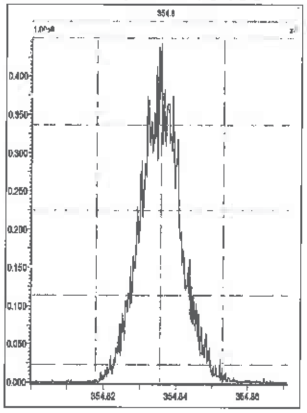

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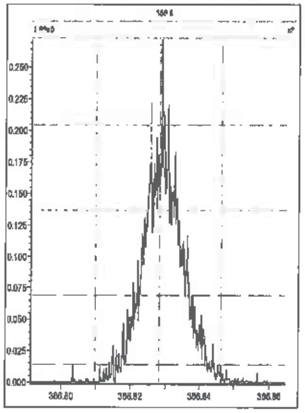

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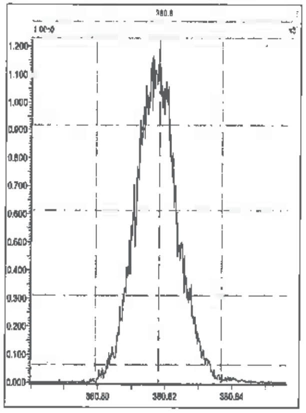

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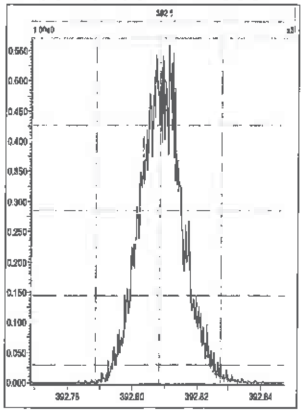

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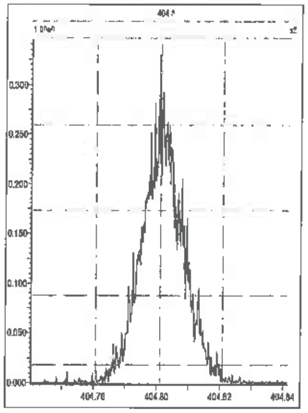
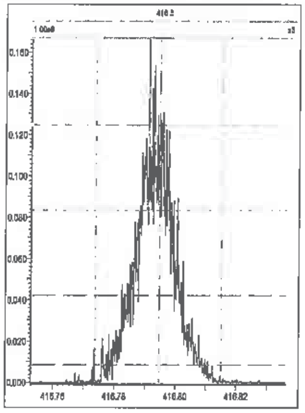
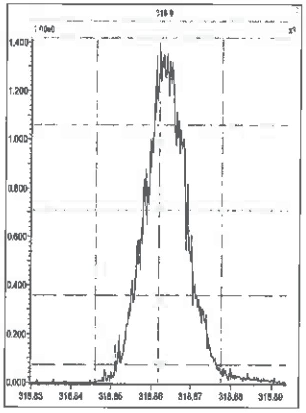


M 416.9760 R 14086



M 318.9792 R 12723



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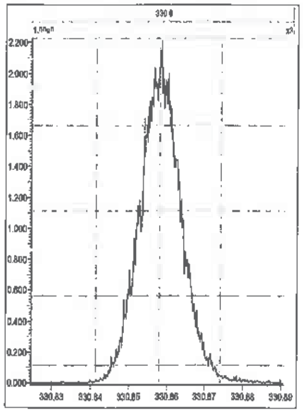

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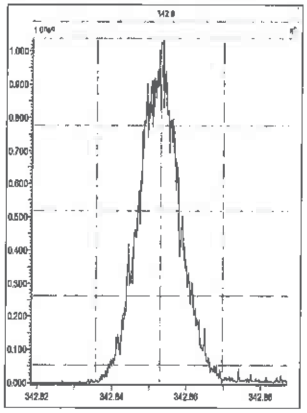

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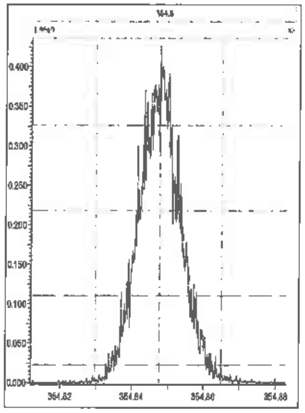

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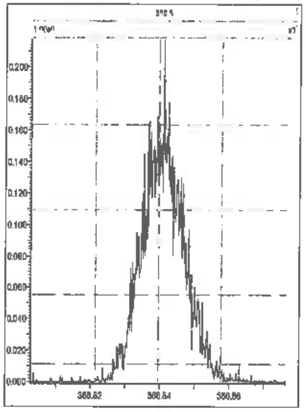

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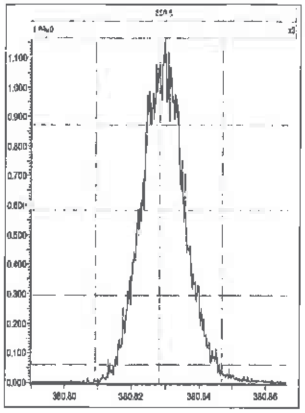

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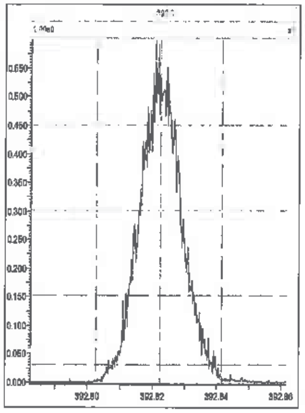

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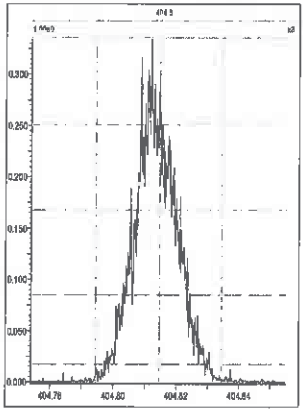

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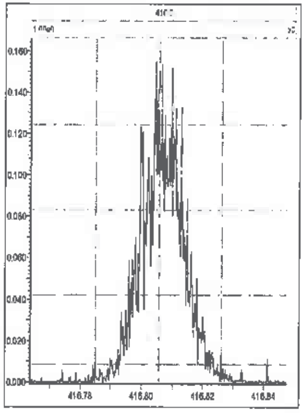

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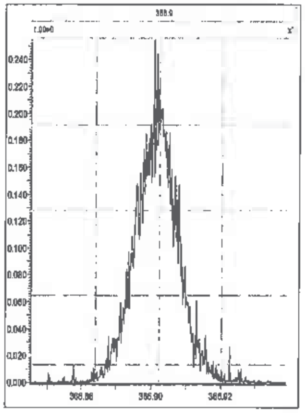

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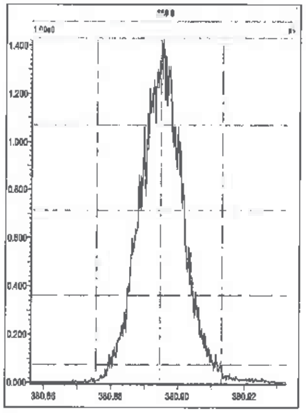

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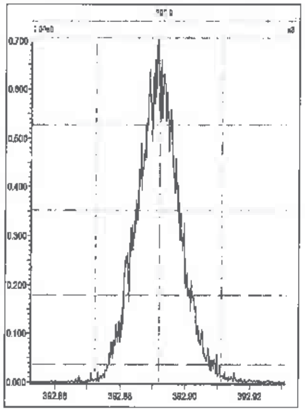

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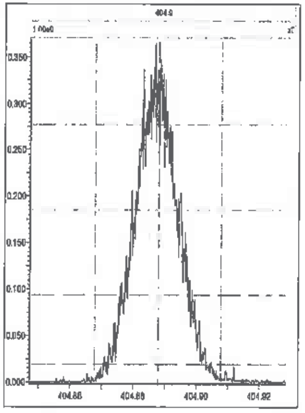

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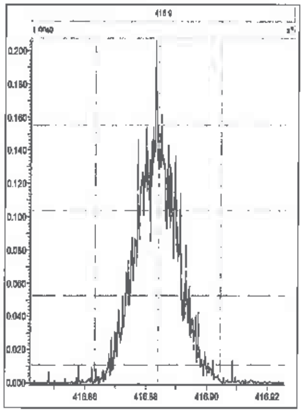

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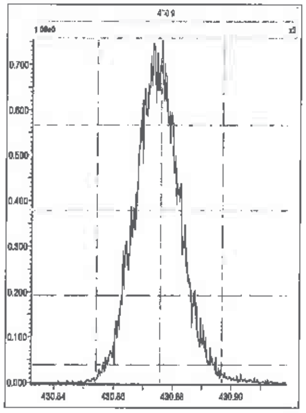

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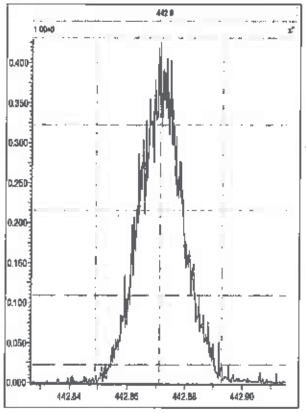

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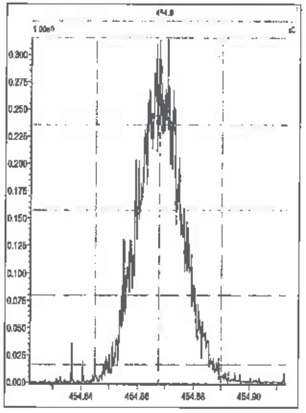

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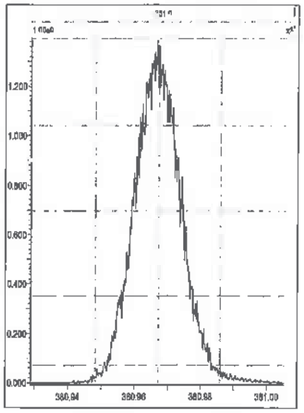

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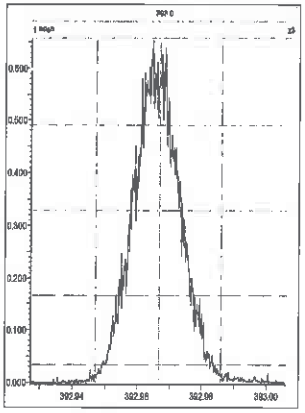

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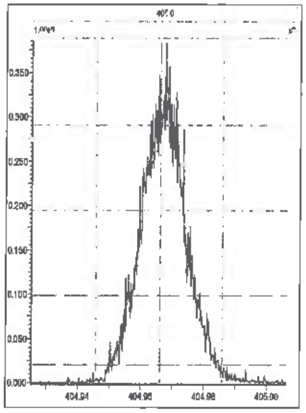

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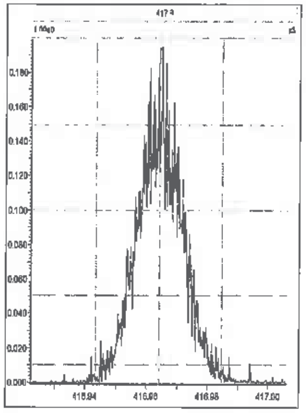

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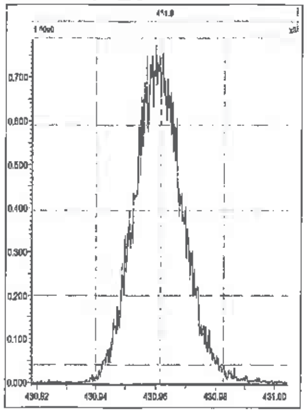

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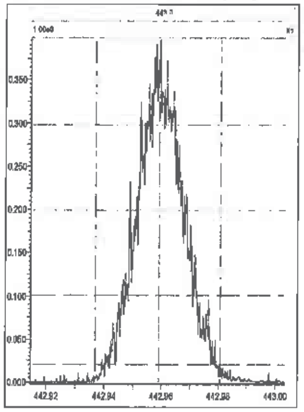

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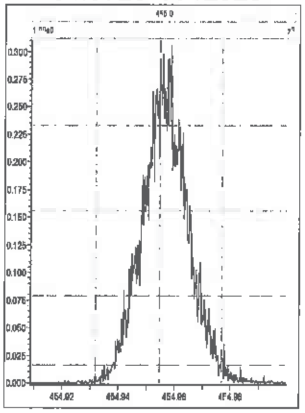

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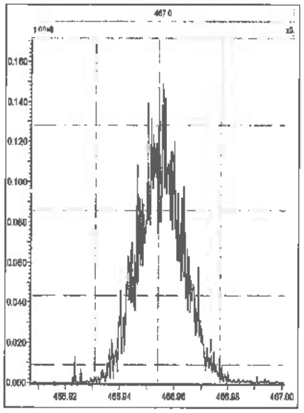

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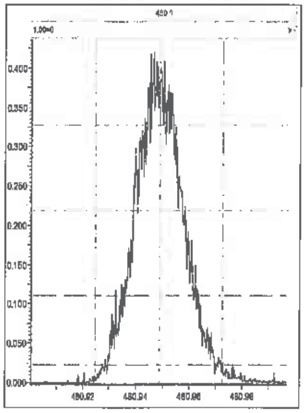

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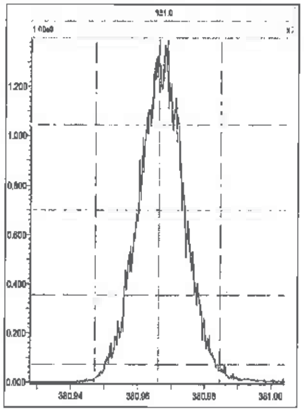

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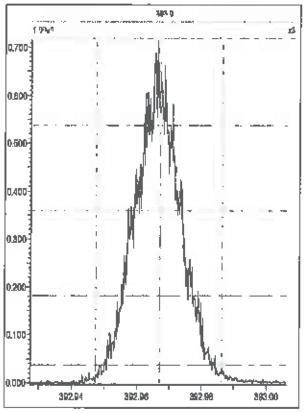

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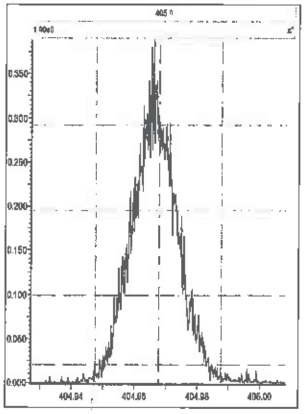

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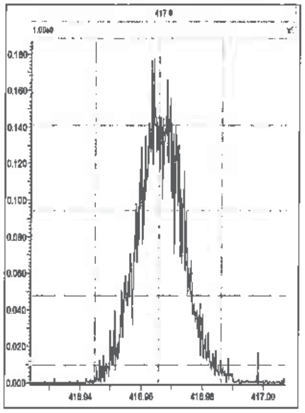

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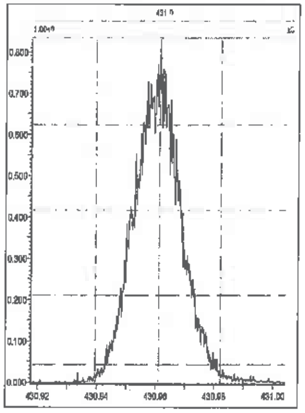

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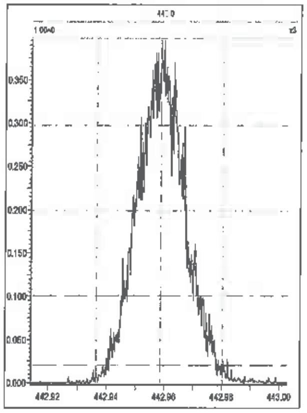

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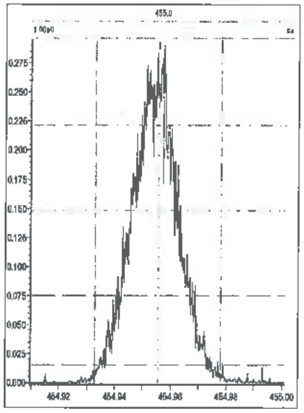

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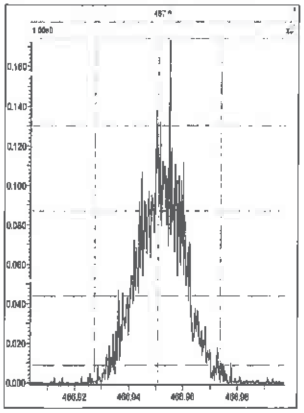

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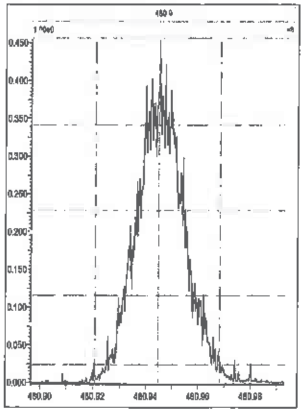

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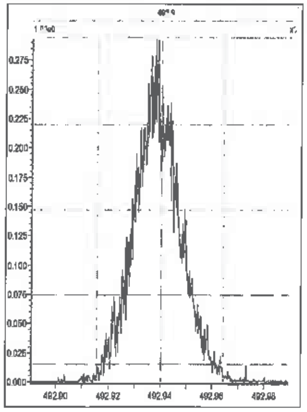

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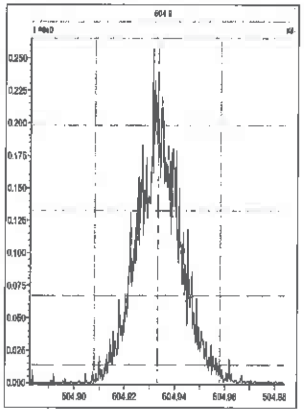

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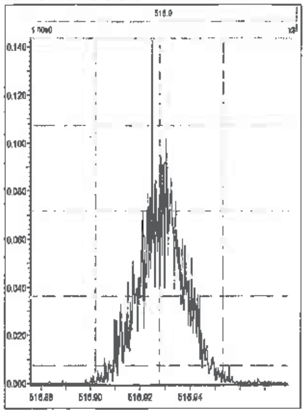

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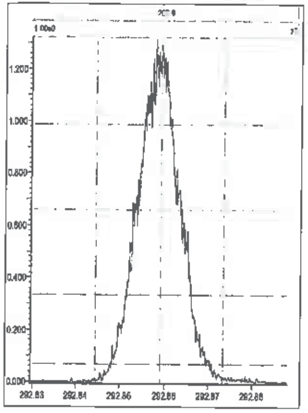

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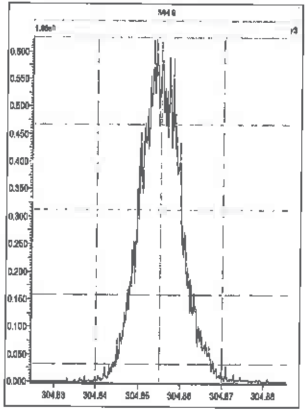

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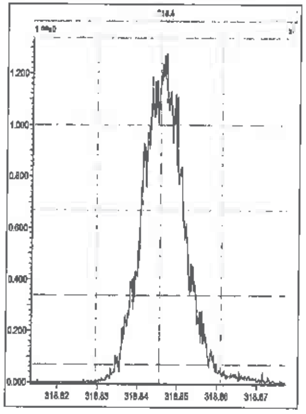

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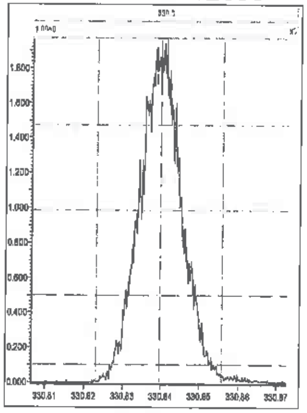

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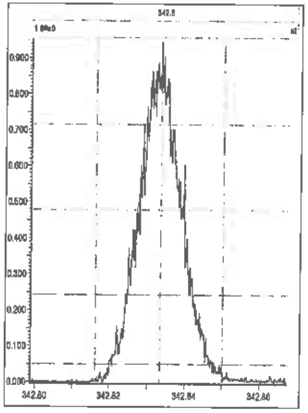

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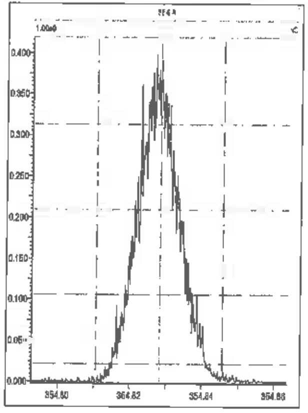

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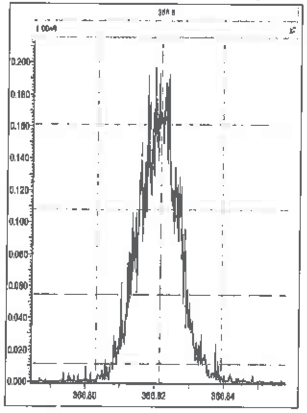

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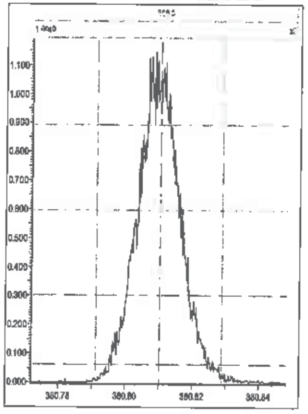

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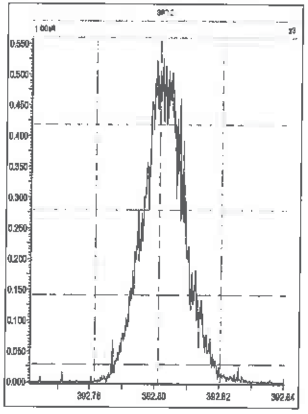

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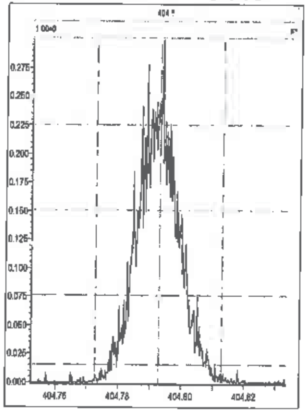

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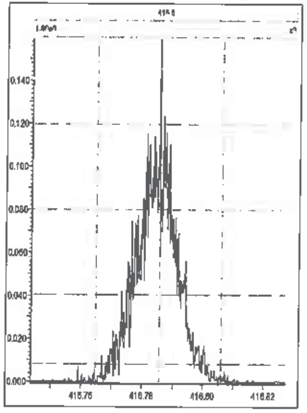

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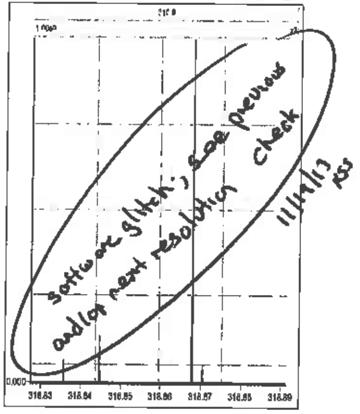

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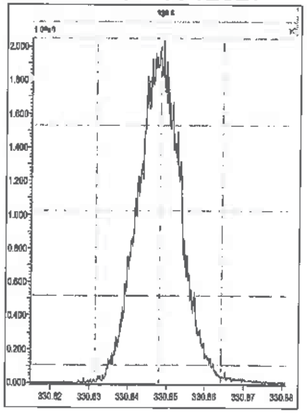

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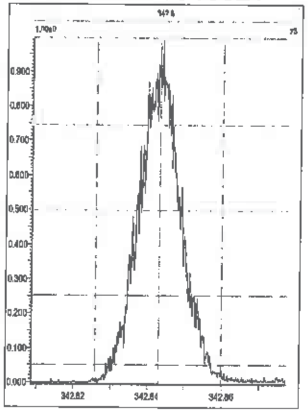

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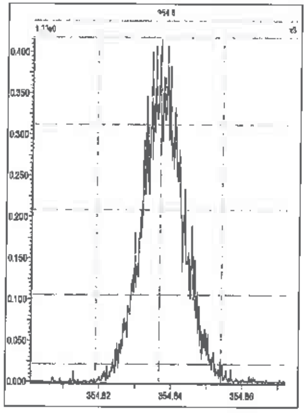

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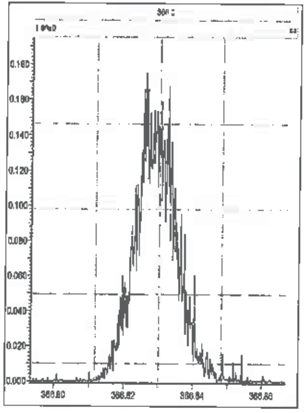

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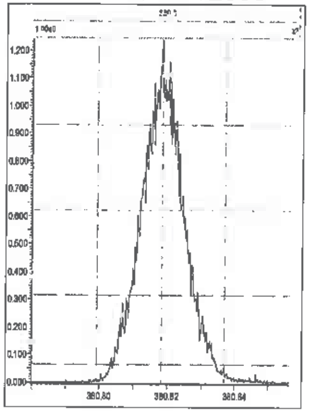

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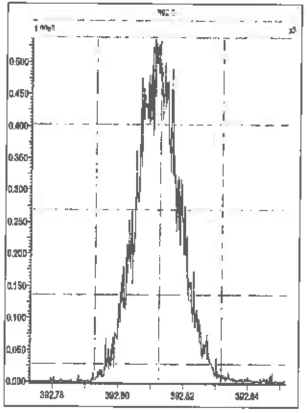

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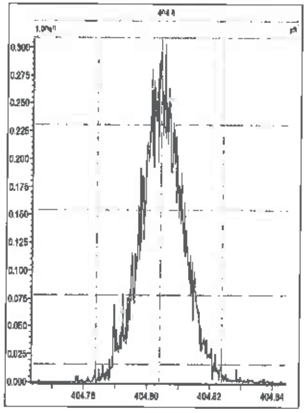

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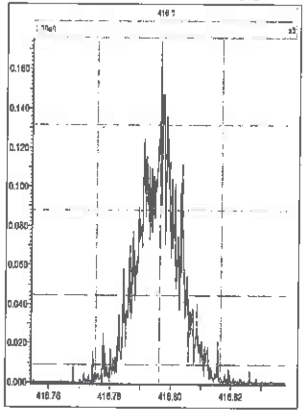

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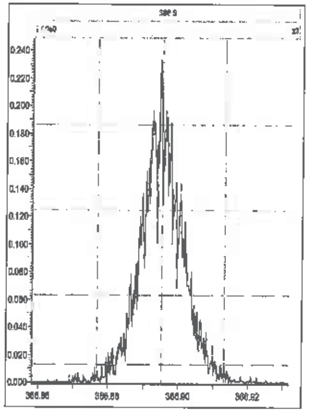

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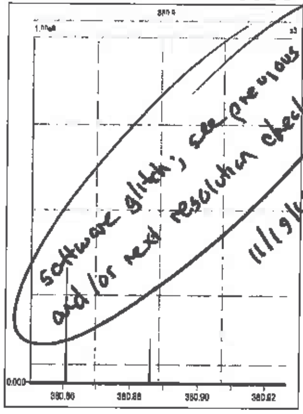

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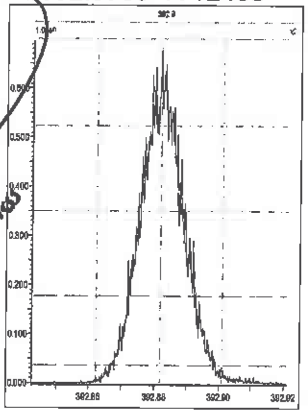

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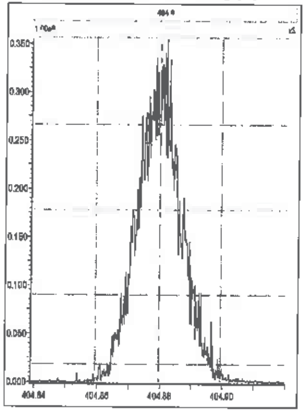

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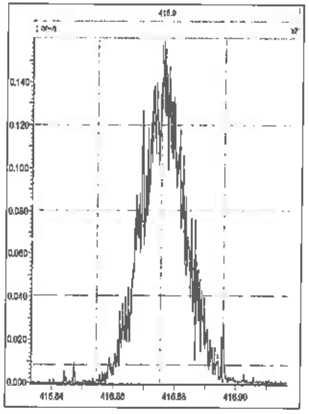

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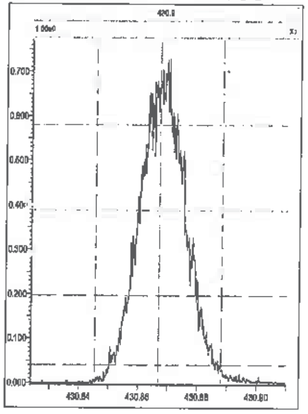

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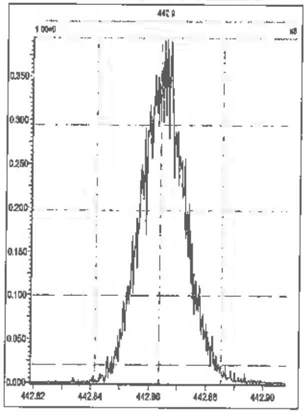

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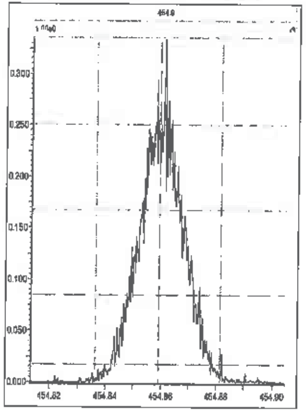

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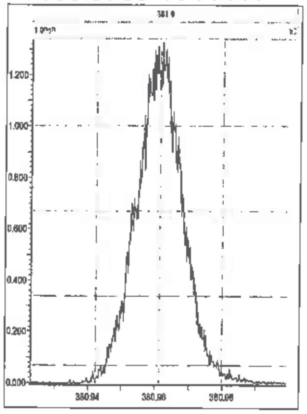

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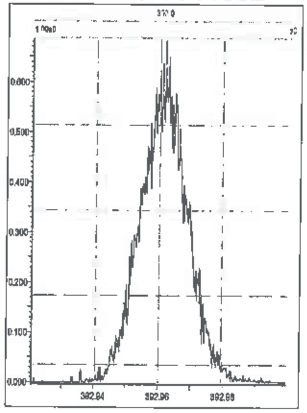

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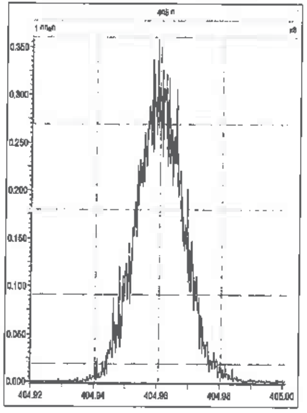

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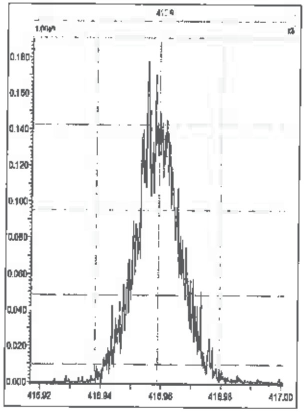

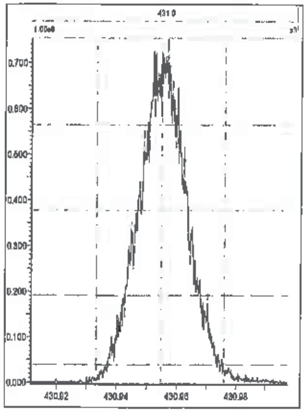
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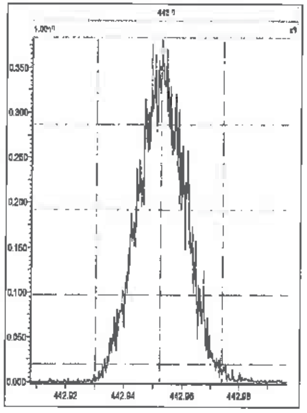
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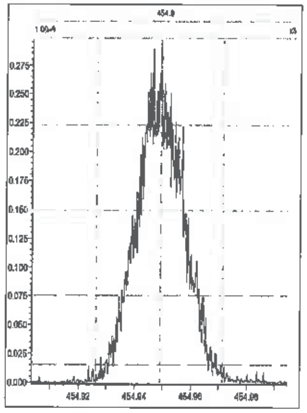
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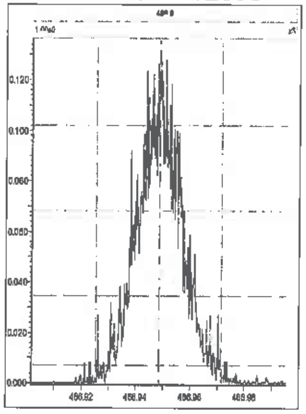
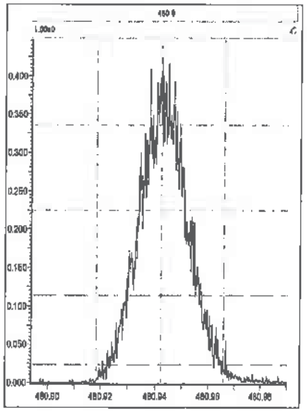
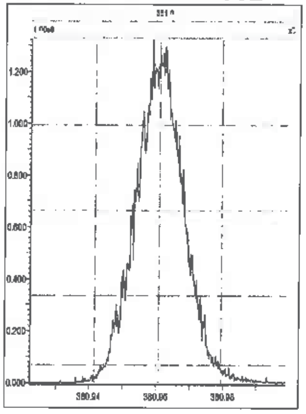
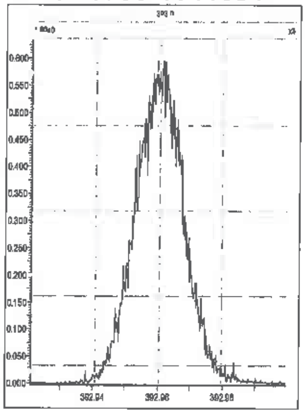
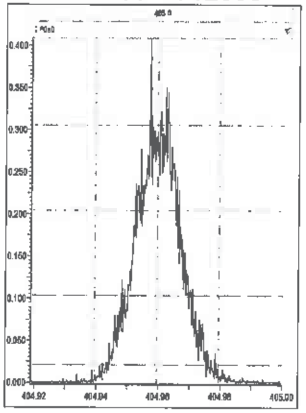
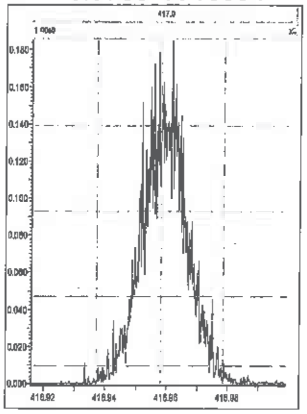

M 466.9728 R 12690

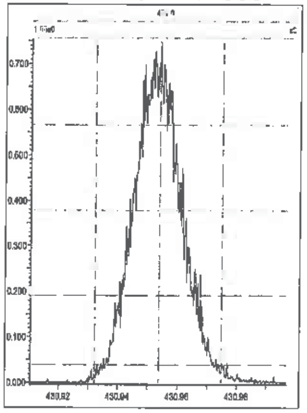

M 480.9696 R 11424

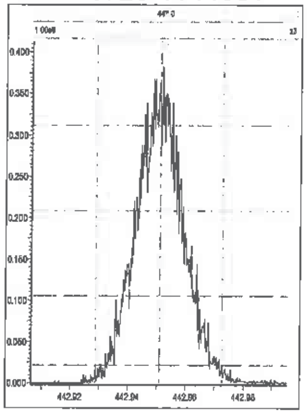

M 380.9760 R 11662

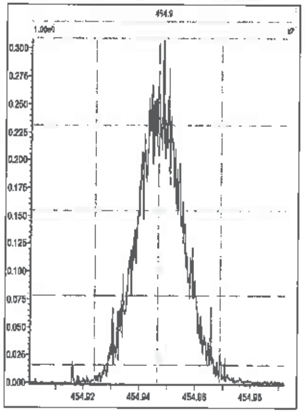

M 392.9760 R 11684

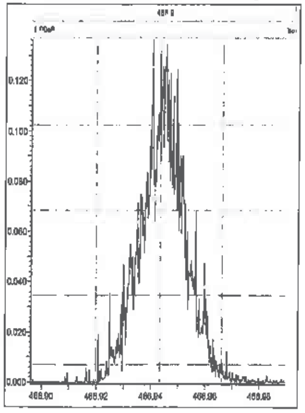

M 404.9760 R 12658

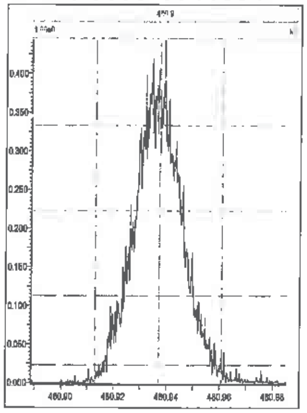

M 416.9760 R 13094

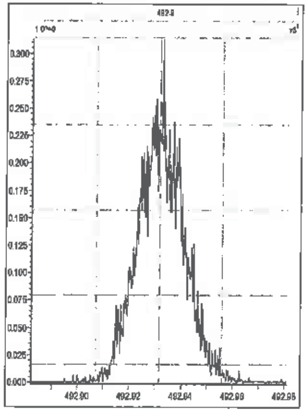

M 430.9728 R 11389

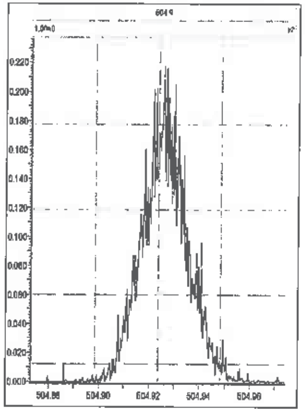

M 442.9728 R 11961


M 454.9728 R 11962

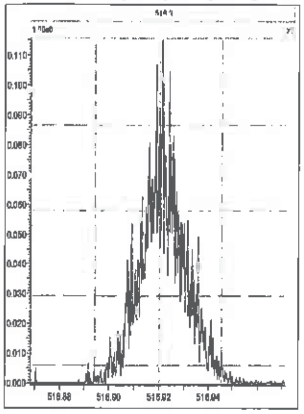

M 466.9728 R 13123


M 480.9696 R 11604


M 492.9696 R 12329


M 504.9696 R 12269

M 516.9697 R 13273



Report Date: 20-Nov-2017 11:47:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_68.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2017 00:49:01 ALS Bottle#: 2 Worklist Smp#: 68
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111617H CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:47:50 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 19-Nov-2017 08:17:09

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	138791461	0.84	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.705	207303200	0.77	1.5089	99.0	99.0	0.3248	0.3248	98.99	
2,3,7,8-TCDF	17.720	21536963	0.80	1.0971	9.470	9.470	0.0303	0.0303	94.70	
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF					9.470	9.470	0.0303	0.0303		
D 13C-2,3,7,8-TCDD	18.430	136973544	0.79	0.9906	99.6	99.6	0.2147	0.2147	99.63	
$ 37Cl4-2,3,7,8-TCDD	18.445	16108178		1.1732	9.893	9.893	0.0464	0.0464	98.93	
2,3,7,8-TCDD	18.445	14980698	0.77	1.1645	9.392	9.392	0.0459	0.0459	93.92	
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD					9.392	9.392	0.0459	0.0459		
D 13C-1,2,3,7,8-PeCDF	22.869	164972280	1.55	1.1280	105.4	105.4	0.3018	0.3018	105	
1,2,3,7,8-PeCDF	22.896	88754072	1.64	1.1422	47.1	47.1	0.1876	0.1876	94.21	
D 13C-2,3,4,7,8-PeCDF	24.260	156403232	1.61							
2,3,4,7,8-PeCDF	24.274	86366798	1.59	1.1102	47.2	47.2	0.1930	0.1930	94.31	
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF					94.3	94.3	0.1903	0.1903		
D 13C-1,2,3,7,8-PeCDD	24.996	105522874	1.60	0.7269	104.6	104.6	0.1615	0.1615	105	
1,2,3,7,8-PeCDD	25.024	57506759	1.65	1.1272	48.3	48.3	0.0858	0.0858	96.69	
A Non-2,3,7,8-sub-PeCDD	23.885						0.0	0.0		
S Total PeCDD					48.3	48.3	0.0858	0.0858		
D 13C-1,2,3,4,7,8-HxCDF	30.906	119393594	0.53	1.0279	93.3	93.3	0.4692	0.4692	93.30	
1,2,3,4,7,8-HxCDF	30.932	82902804	1.28	1.3475	51.5	51.5	0.3156	0.3156	103	
D 13C-1,2,3,6,7,8-HxCDF	31.065	146060431	0.53							
1,2,3,6,7,8-HxCDF	31.092	90606186	1.26	1.4794	51.3	51.3	0.2874	0.2874	103	
D 13C-2,3,4,6,7,8-HxCDF	31.811	133341697	0.52							
2,3,4,6,7,8-HxCDF	31.824	84984533	1.31	1.3833	51.5	51.5	0.3074	0.3074	103	
D 13C-1,2,3,7,8,9-HxCDF	32.583	129630880	0.53							
1,2,3,7,8,9-HxCDF	32.597	80080682	1.28	1.2903	52.0	52.0	0.3296	0.3296	104	
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					206.3	206.3	0.3100	0.3100		
* 13C-1,2,3,7,8,9-HxCDD	32.397	124494159	1.32	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.984	89168876	1.24							
1,2,3,4,7,8-HxCDD	31.997	52913888	1.27	1.0646	47.9	47.9	0.1787	0.1787	95.74	
D 13C-1,2,3,6,7,8-HxCDD	32.091	103822150	1.22	0.8502	98.1	98.1	0.3524	0.3524	98.09	
1,2,3,6,7,8-HxCDD	32.104	62236558	1.29	1.1809	50.8	50.8	0.1611	0.1611	102	
1,2,3,7,8,9-HxCDD	32.410	64566218	1.24	1.2311	50.5	50.5	0.1546	0.1546	101	
A Non-2,3,7,8-sub-HxCDD	31.252						0.0	0.0		
S Total HxCDD					149.1	149.1	0.1648	0.1648		
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	82504354	0.43	0.6490	102.1	102.1	1.187	1.187	102	
1,2,3,4,6,7,8-HpCDF	34.010	64619870	1.03	1.5871	49.4	49.4	0.4757	0.4757	98.70	
D 13C-1,2,3,4,7,8,9-HpCDF	35.116	68187213	0.46							
1,2,3,4,7,8,9-HpCDF	35.128	49977211	1.07	1.2290	49.3	49.3	0.6143	0.6143	98.58	
A Non-2,3,7,8-sub-HpCDF	34.563						0.0	0.0		
S Total HpCDF					98.6	98.6	0.5450	0.5450		
D 13C-1,2,3,4,6,7,8-HpCDD	34.812	68507157	1.06	0.5387	102.2	102.2	0.5902	0.5902	102	
1,2,3,4,6,7,8-HpCDD	34.824	38550073	1.03	1.1631	48.4	48.4	0.2762	0.2762	96.76	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					48.4	48.4	0.2762	0.2762		
D 13C-OCDD	37.233	101851117	0.90	0.4009	204.1	204.1	0.2288	0.2288	102	
OCDF	37.341	62353392	0.90	1.2649	96.8	96.8	0.0800	0.0800	96.80	
OCDD	37.245	50820207	0.93	1.0390	96.0	96.0	0.1032	0.1032	96.05	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

Report Date: 20-Nov-2017 11:47:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_68.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2017 00:49:01 ALS Bottle#: 2 Worklist Smp#: 68
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111617H CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:47:50 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 19-Nov-2017 08:17:09

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		63317358	15138351	16271	40677	930		
333.9339	18.234	18.234	0		75474103	17653201	11630	29075	1518	0.84(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	0.971	89996401	21055661	25332	63330	831		
317.9389	17.705	17.705	0	0.971	117306799	28214425	38946	97365	724	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720	17.720	0	1.001	9552356	2331914	2416	6040	965		
305.8987	17.720	17.720	0	1.001	11984607	2861181	4127	10317	693	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						2416	6040			
305.8987	17.402						4127	10317			
13C-2,3,7,8-TCDD											
331.9368	18.430	18.430	0	1.011	60641516	13854808	16271	40677	852		
333.9339	18.430	18.430	0	1.011	76332028	17151903	11630	29075	1475	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.445	18.445	0	1.012	16108178	3639914	7133	17832	510		
2,3,7,8-TCDD											
319.8965	18.445	18.445	0	1.001	6515534	1455073	4166	10415	349		
321.8936	18.445	18.445	0	1.001	8465164	1914595	2457	6142	779	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						4166	10415			
321.8936	17.871						2457	6142			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.869	22.869	0	1.254	100263371	17222200	27842	69605	619		
353.8970	22.869	22.869	0	1.254	64708909	11003503	16816	42040	654	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.896	22.896	0	1.001	55101178	9394165	14152	35380	664		
341.8567	22.896	22.896	0	1.001	33652894	5739710	10040	25100	572	1.64(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.260	24.260	0	1.330	96364736	14851289	27842	69605	533		
353.8970	24.260	24.260	0	1.330	60038496	9414020	16816	42040	560	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.274	24.274	0	1.061	53027605	8088937	14152	35380	572		
341.8567	24.274	24.274	0	1.061	33339193	5205364	10040	25100	518	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.426						585	1462			
341.8567	20.426						1227	3067			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						14152	35380			
341.8567	23.668						10040	25100			
13C-1,2,3,7,8-PeCDD											
367.8949	24.996	24.996	0	1.371	64872527	9633916	10031	25077	960		
369.8919	24.996	24.996	0	1.371	40650347	5923003	5369	13422	1103	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.024	25.024	0	1.001	35811528	5313290	3104	7760	1712		
357.8516	25.024	25.024	0	1.001	21695231	3178782	2912	7280	1092	1.65(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.885						3104	7760			
357.8516	23.885						2912	7280			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.906	30.906	0	0.954	41294413	9000330	21794	54485	413		
385.8610	30.906	30.906	0	0.954	78099181	16594050	41993	104982	395	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932	30.932	0	1.001	46529737	9862333	24348	60870	405		
375.8178	30.919	30.932	-1	1.000	36373067	7880774	19186	47965	411	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.065	31.065	0	0.959	50304770	10002854	21794	54485	459		
385.8610	31.065	31.065	0	0.959	95755661	19599045	41993	104982	467	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.092	31.092	0	1.006	50566817	10101286	24348	60870	415		
375.8178	31.079	31.092	-1	1.006	40039369	8179220	19186	47965	426	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.811	31.811	0	0.982	45567558	11776129	21794	54485	540		
385.8610	31.811	31.811	0	0.982	87774139	22910699	41993	104982	546	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.824	31.824	0	1.030	48172200	12317386	24348	60870	506		
375.8178	31.824	31.824	0	1.030	36812333	9510504	19186	47965	496	1.31(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.006	44791423	12147407	21794	54485	557		
385.8610	32.583	32.583	0	1.006	84839457	22377566	41993	104982	533	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597	32.597	0	1.055	44954476	12013683	24348	60870	493		
375.8178	32.597	32.597	0	1.055	35126206	9297604	19186	47965	485	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						24348	60870			
375.8178	30.653						19186	47965			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.397	32.397	0		70729848	18553093	19802	49505	937		
403.8529	32.397	32.397	0		53764311	14512467	19820	49550	732	1.32(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.984	31.984	0	0.987	49315510	13970121	19802	49505	705		
403.8529	31.984	31.984	0	0.987	39853366	11464938	19820	49550	578	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.997	31.997	0	0.997	29651435	8466070	11936	29840	709		
391.8127	31.997	31.997	0	0.997	23262453	6615347	8450	21125	783	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.991	57135742	14707027	19802	49505	743		
403.8529	32.091	32.091	0	0.991	46686408	12074326	19820	49550	609	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.104	32.104	0	1.000	35002050	9012196	11936	29840	755		
391.8127	32.104	32.104	0	1.000	27234508	6998016	8450	21125	828	1.29(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.410	32.410	0	1.010	35790486	9313404	11936	29840	780		
391.8127	32.410	32.410	0	1.010	28775732	7592680	8450	21125	899	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.252						11936	29840			
391.8127	31.252						8450	21125			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	24627541	7932554	30243	75607	262		
419.8220	33.998	33.998	0	1.049	57876813	18353092	71675	179187	256	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.010	34.010	0	1.000	32774372	10151266	42340	105850	240		
409.7789	33.998	34.010	-1	1.000	31845498	9549629	37038	92595	258	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.116	35.116	0	1.084	21573635	6333247	30243	75607	209		
419.8220	35.116	35.116	0	1.084	46613578	13517179	71675	179187	189	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128	35.128	0	1.033	25812671	7468064	42340	105850	176		
409.7789	35.128	35.128	0	1.033	24164540	6752637	37038	92595	182	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.563						42340	105850			
409.7789	34.563						37038	92595			

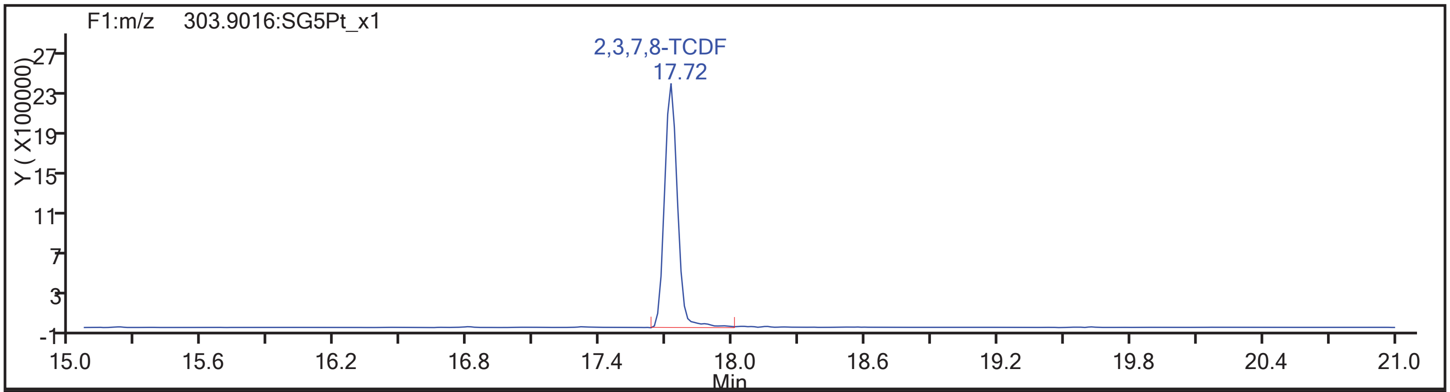
Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.812	34.812	0	1.075	35225164	10506346	24040	60100	437		
437.8140	34.812	34.812	0	1.075	33281993	9839997	18007	45017	546	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.824	34.824	0	1.000	19585767	5847858	13834	34585	423		
425.7737	34.824	34.824	0	1.000	18964306	5676812	12315	30787	461	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						13834	34585			
425.7737	35.261						12315	30787			
13C-OCDD											
469.7779	37.233	37.233	0	1.149	48251524	12197863	4897	12242	2491		
471.7750	37.233	37.233	0	1.149	53599593	13678197	7238	18095	1890	0.90(0.76-1.02)	
OCDF											
441.7428	37.341	37.341	0	1.003	29458866	7557648	2717	6792	2782		
443.7399	37.341	37.341	0	1.003	32894526	8281475	2520	6300	3286	0.90(0.76-1.02)	
OCDD											
457.7377	37.245	37.245	0	1.000	24548428	6283367	2355	5887	2668		
459.7348	37.245	37.245	0	1.000	26271779	6814213	3196	7990	2132	0.93(0.76-1.02)	

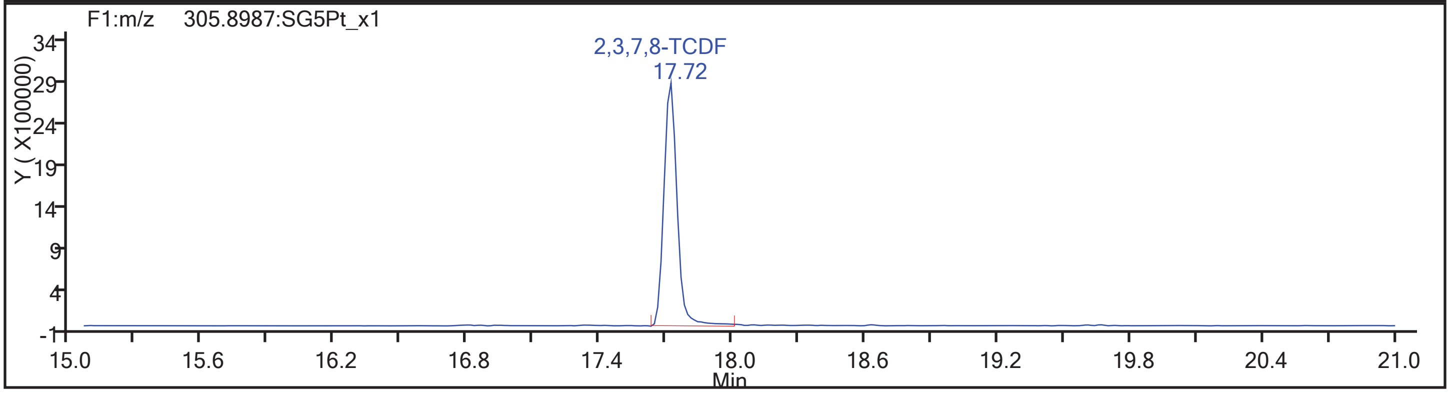
Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

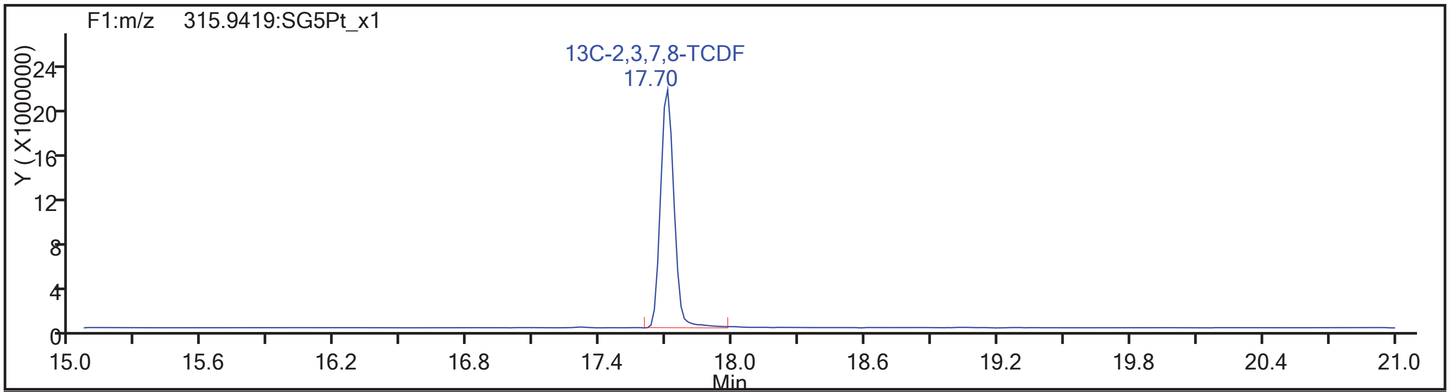
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_68.d		
Injection Date:	19-Nov-2017 00:49:01	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195574	Sample Line#:	68
Column Type:		Column Dia:	

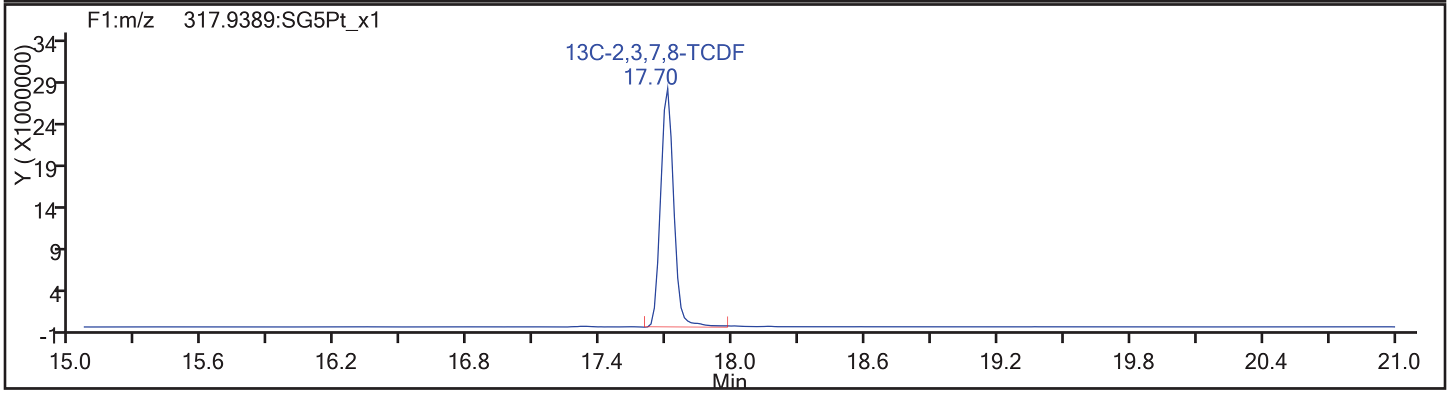
TCDF





TCDF Standards





Report Date: 20-Nov-2017 11:47:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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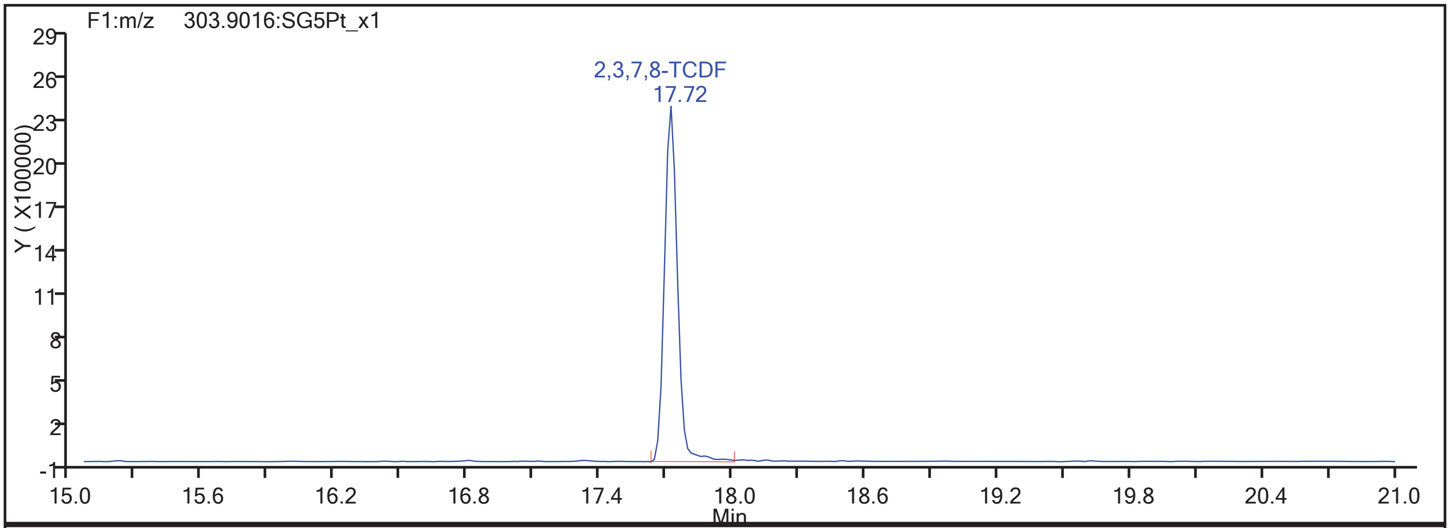
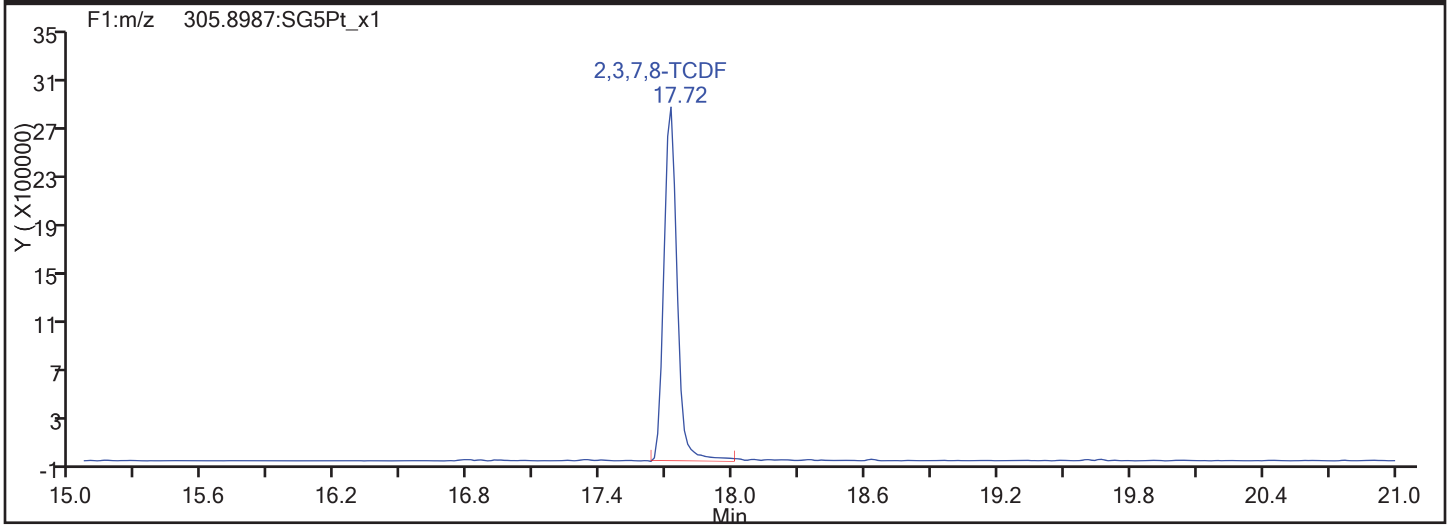
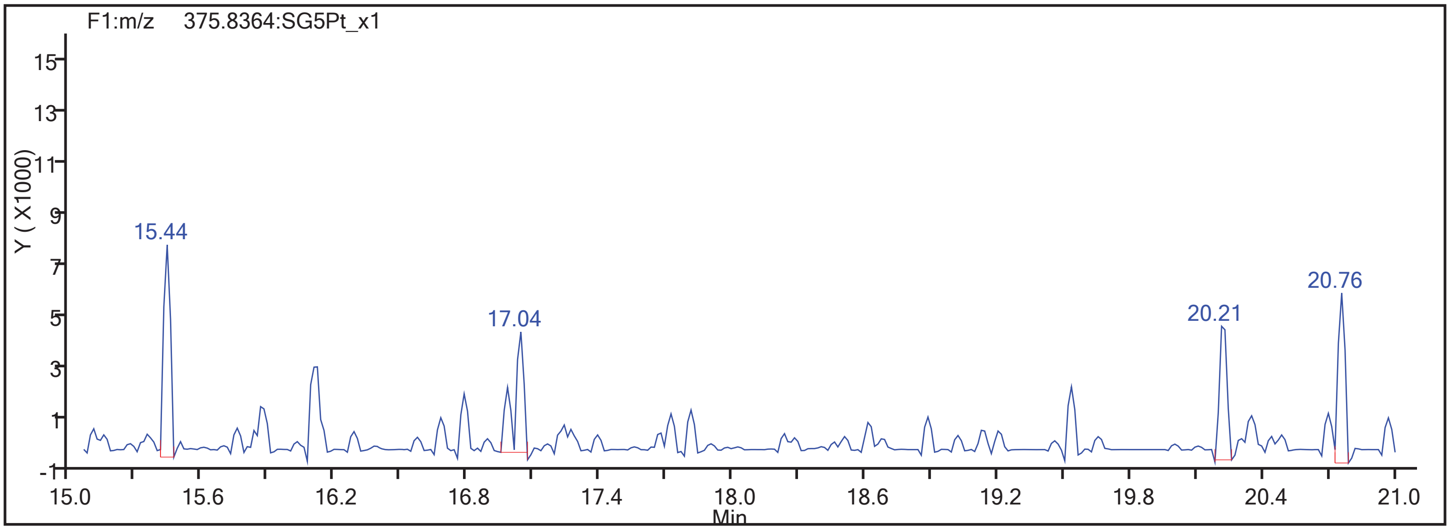




TCDF Interference Mass



Report Date: 20-Nov-2017 11:47:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 19-Nov-2017 00:49:01 Injection Vol: 2.0 ul
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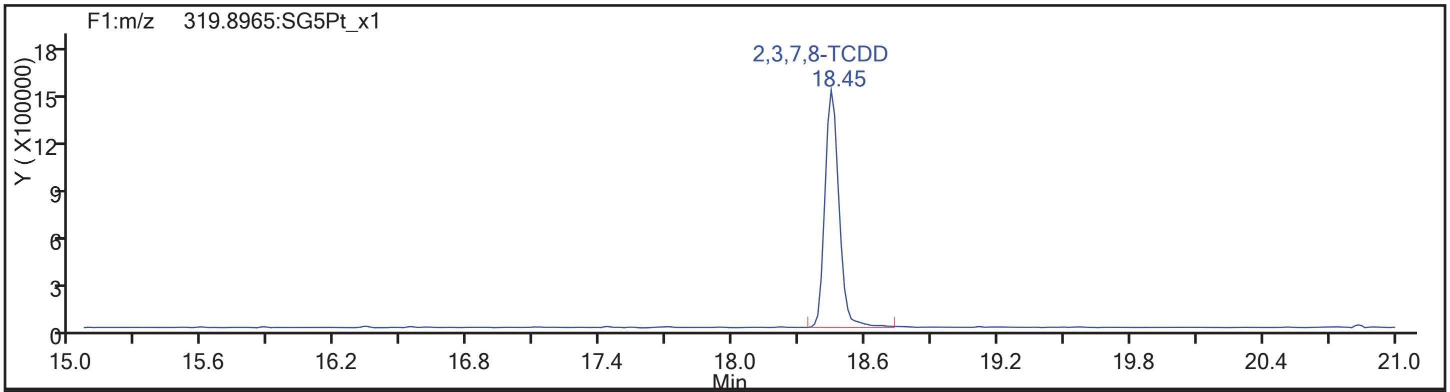
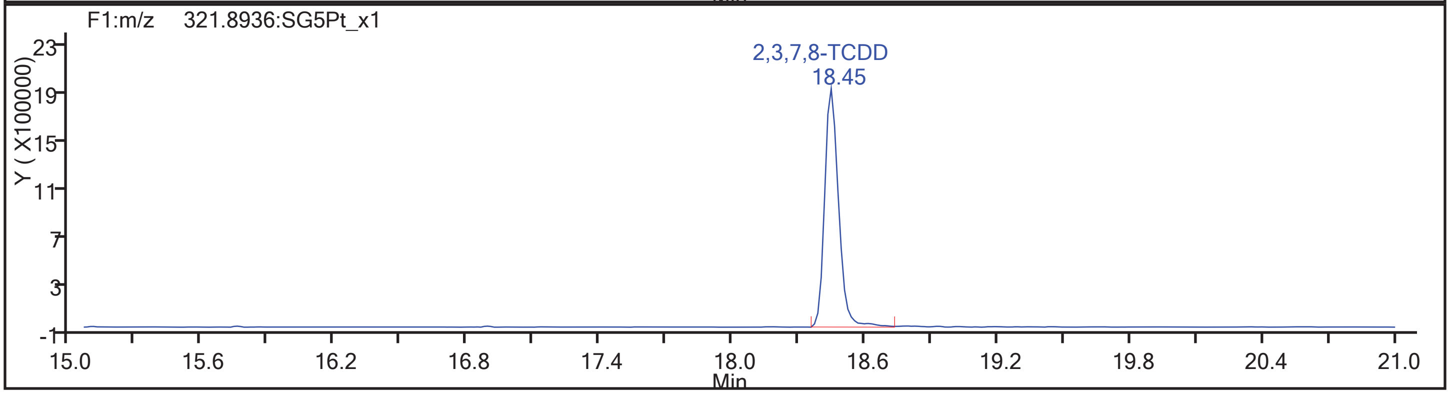
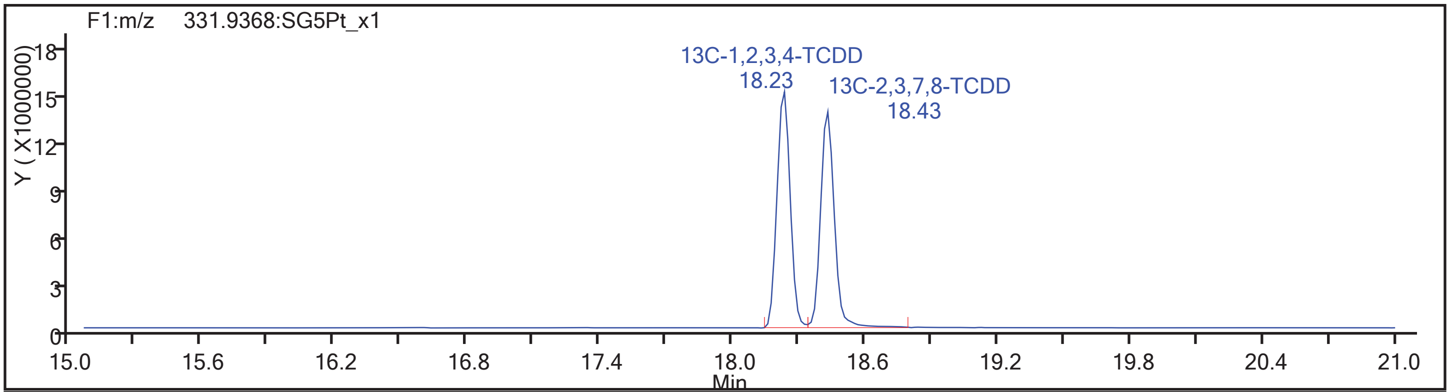
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195574 Sample Line#: 68
Column Type: Column Dia:

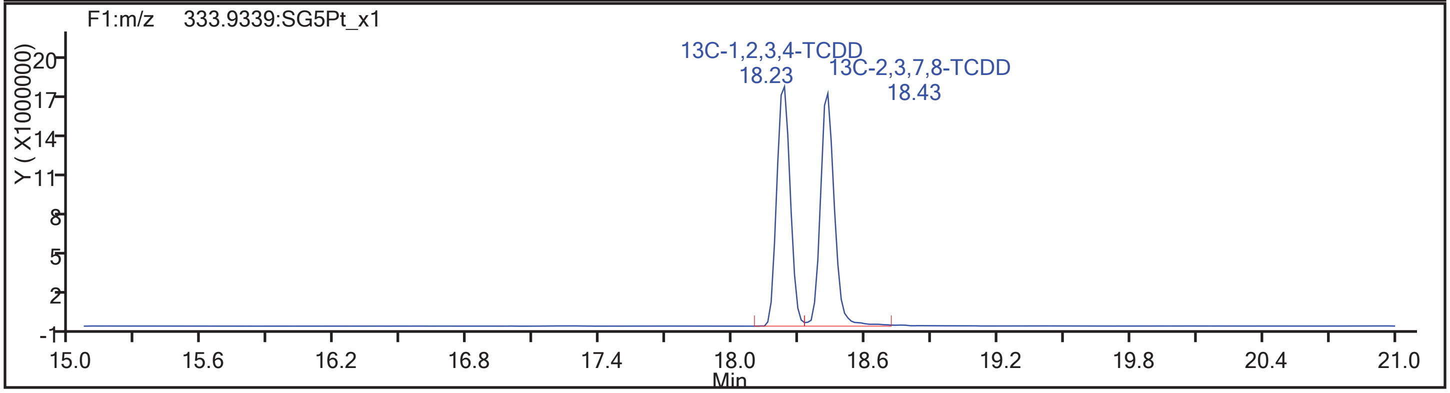
TCDD





TCDD Standards





TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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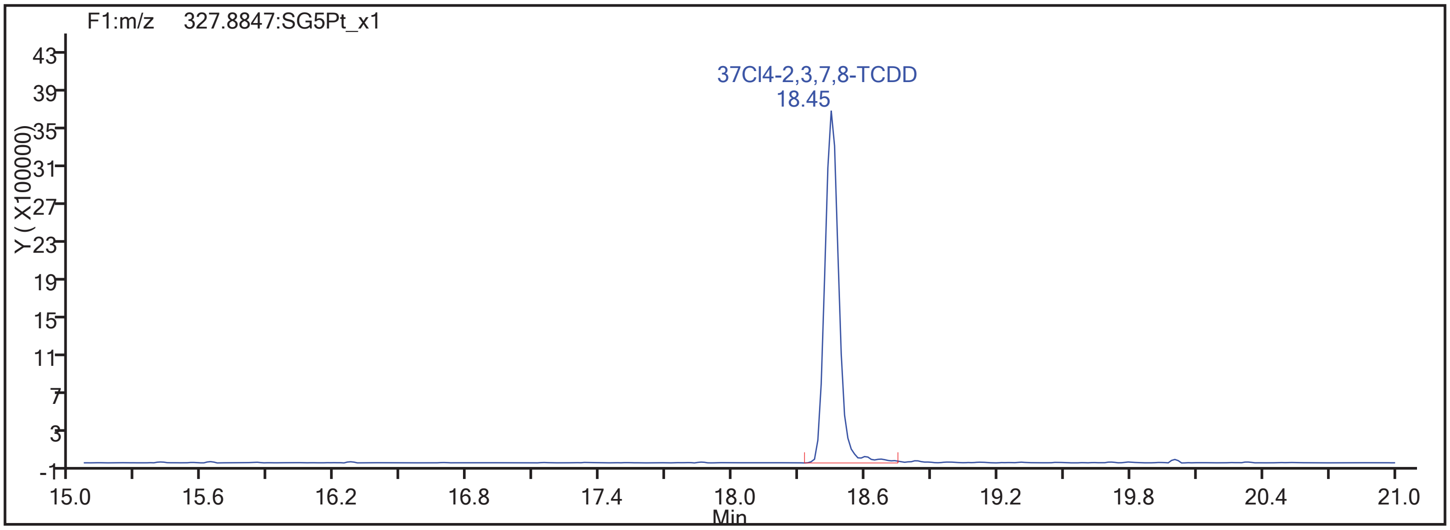
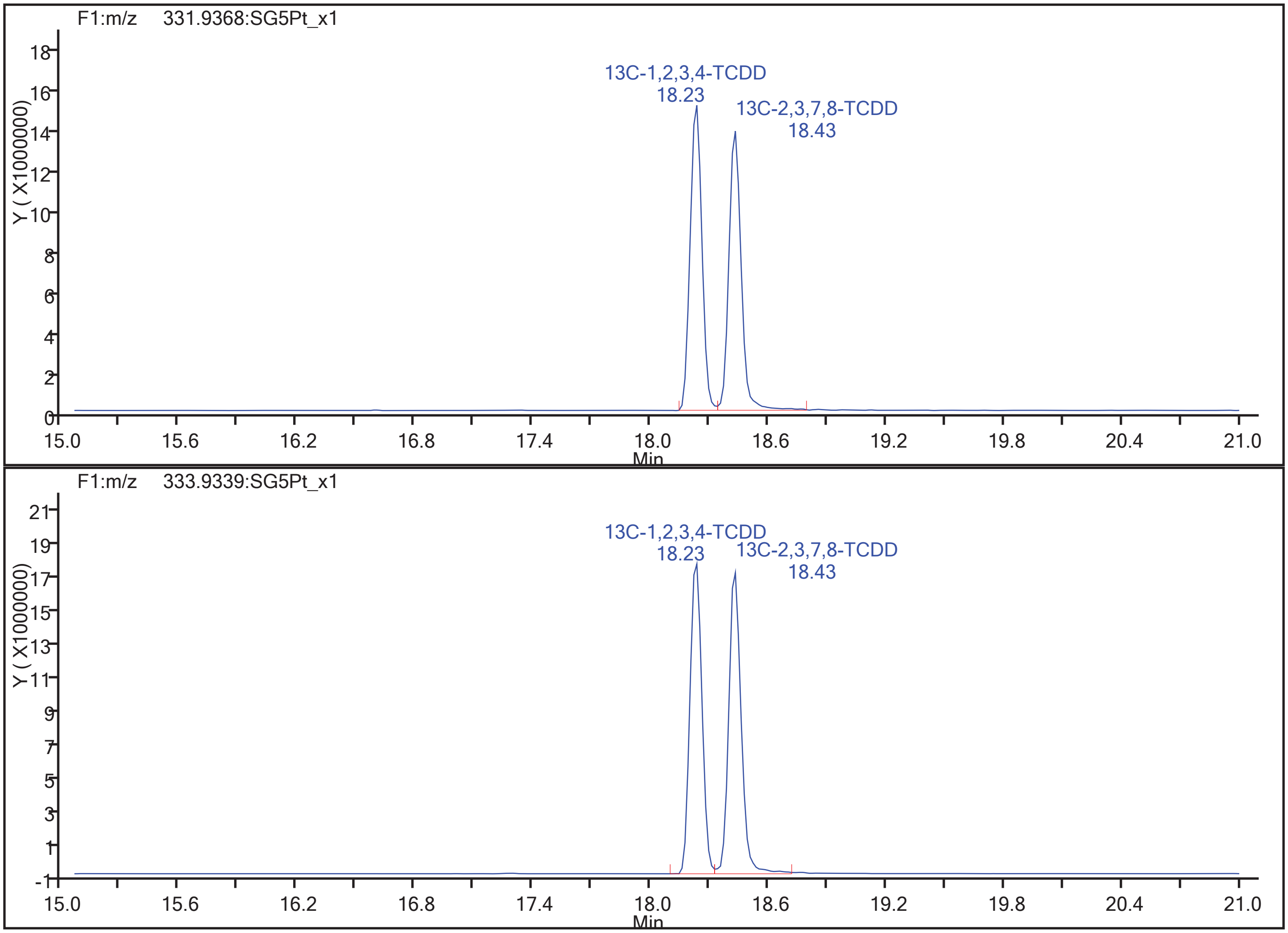
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



Report Date: 20-Nov-2017 11:47:51 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 19-Nov-2017 00:49:01
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Sample Line#: 68
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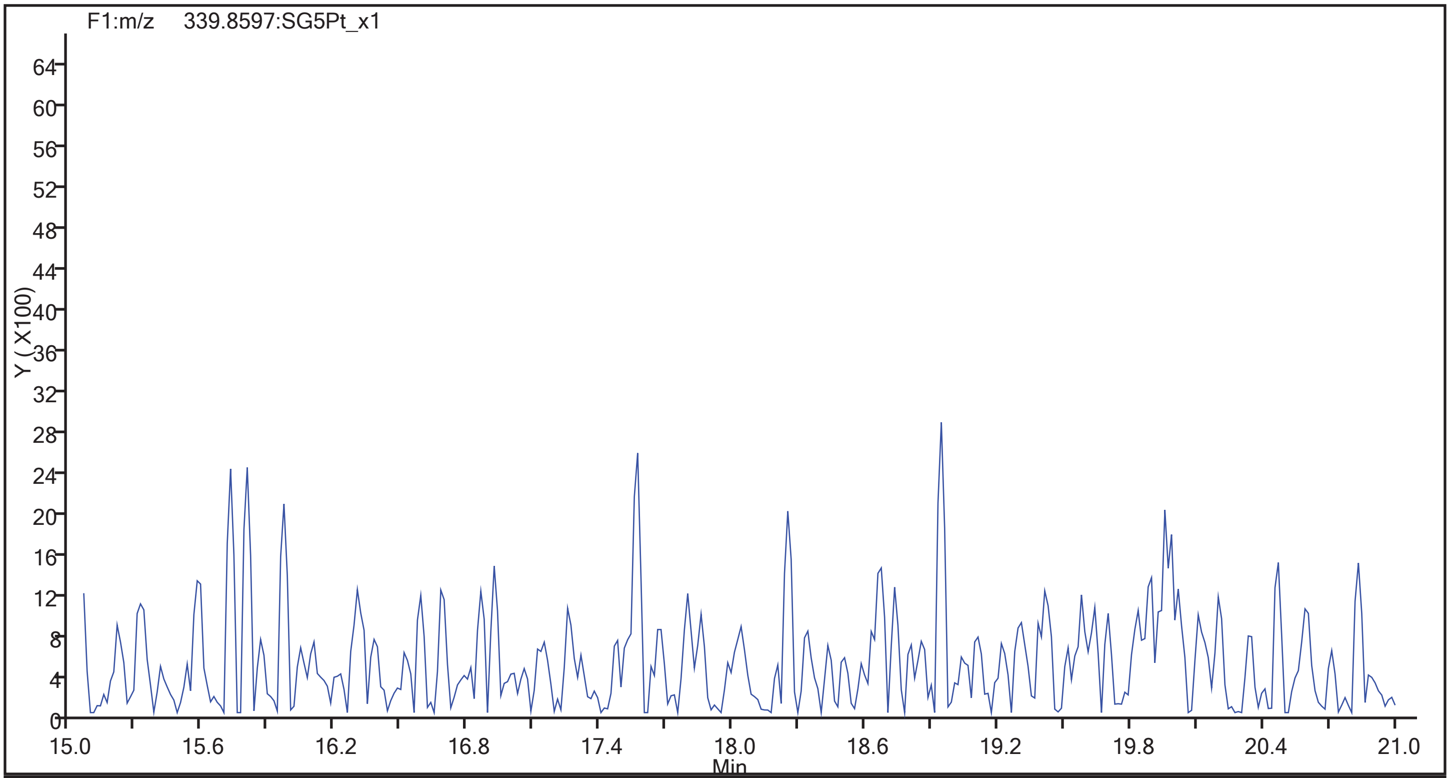
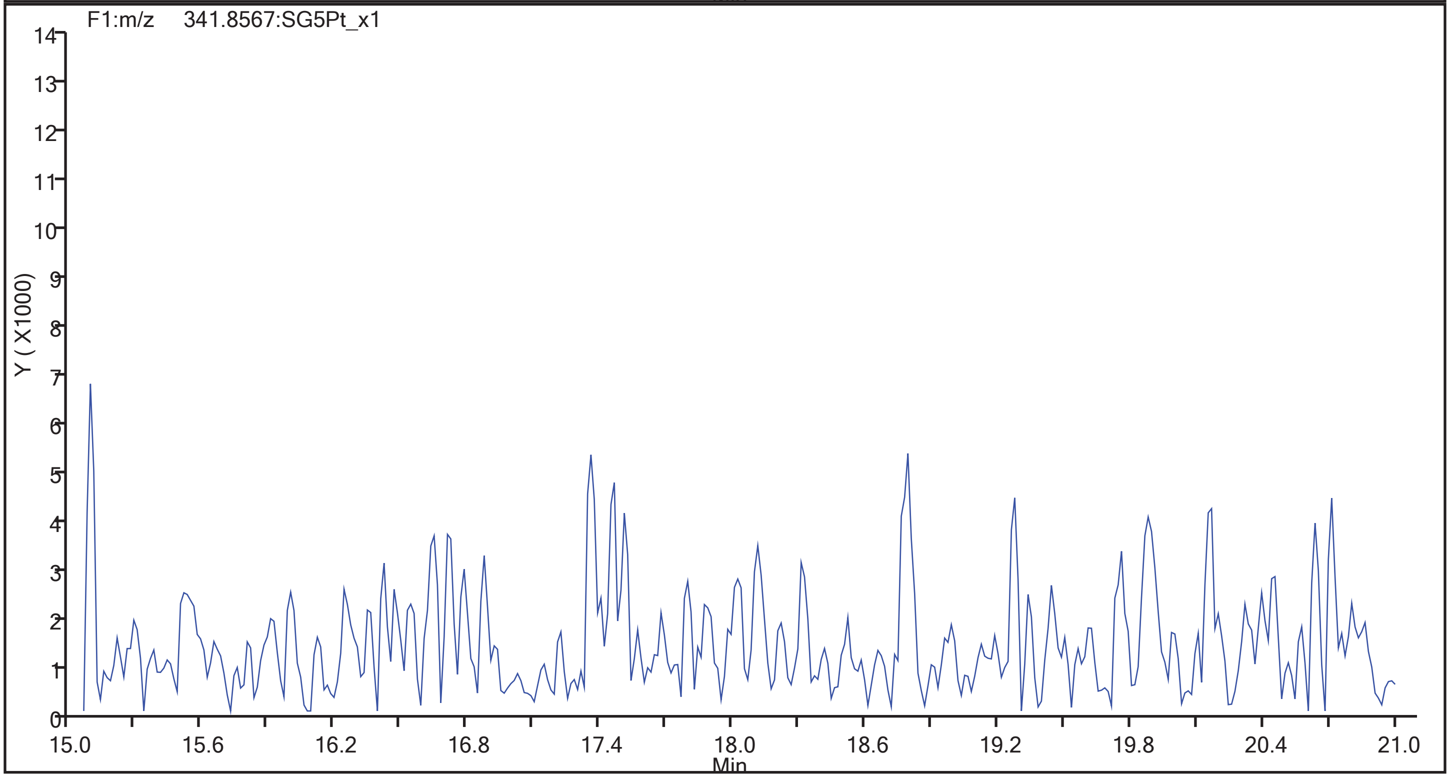
Column Dia:

F1 PeCDFs





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TestAmerica Sacramento

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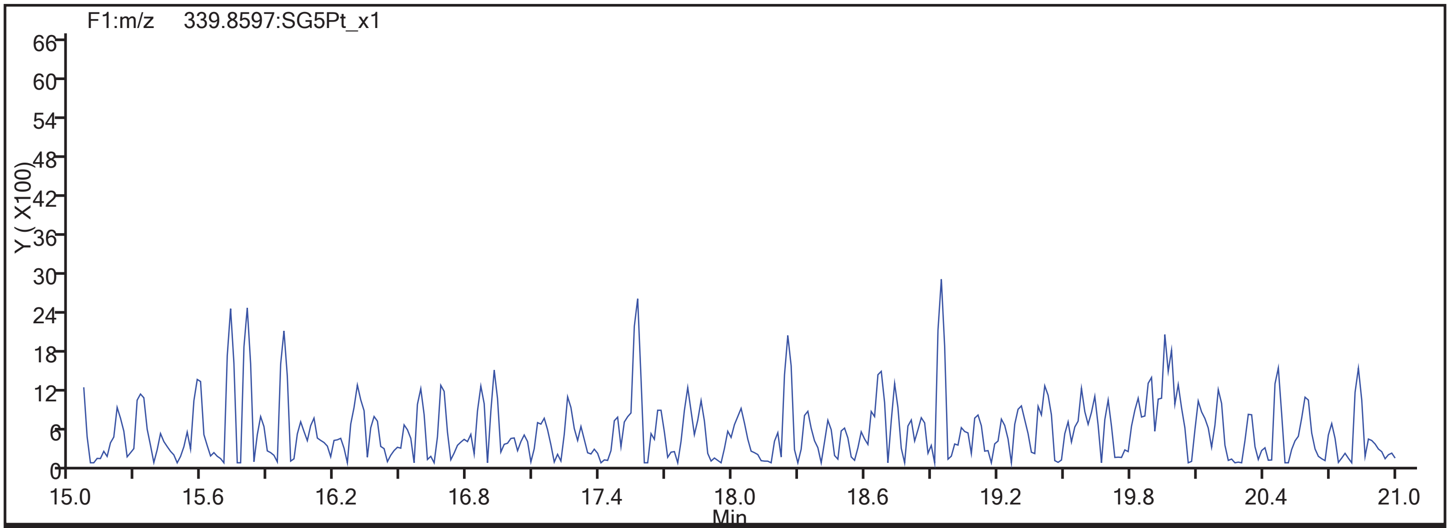
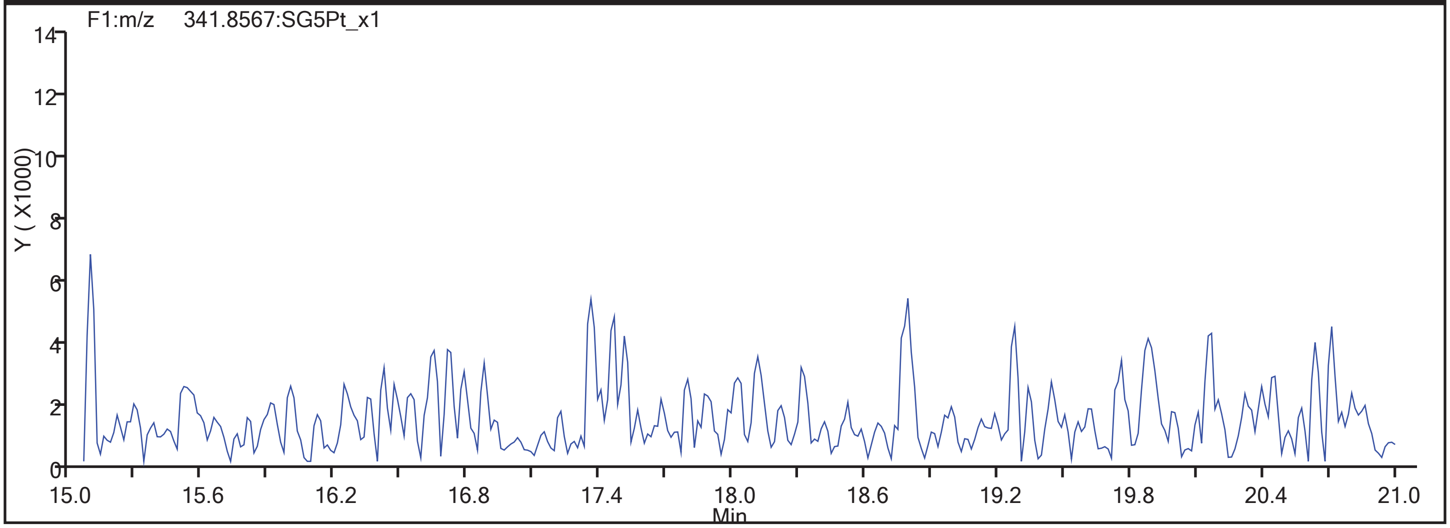
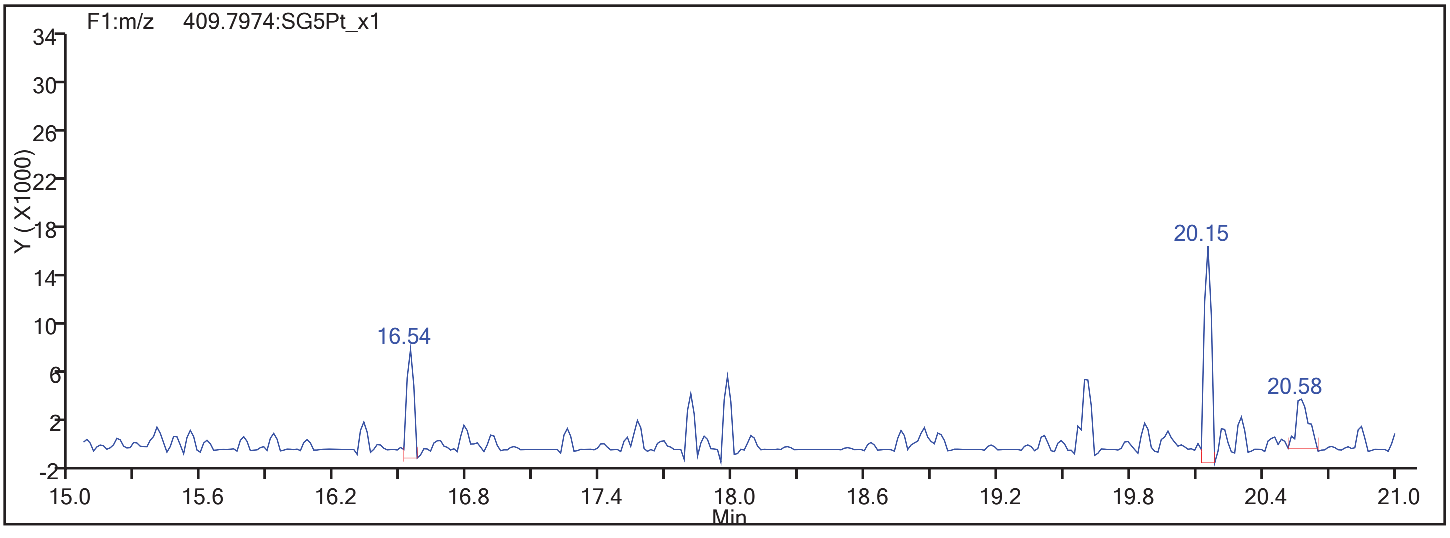
F1 PeCDFs





F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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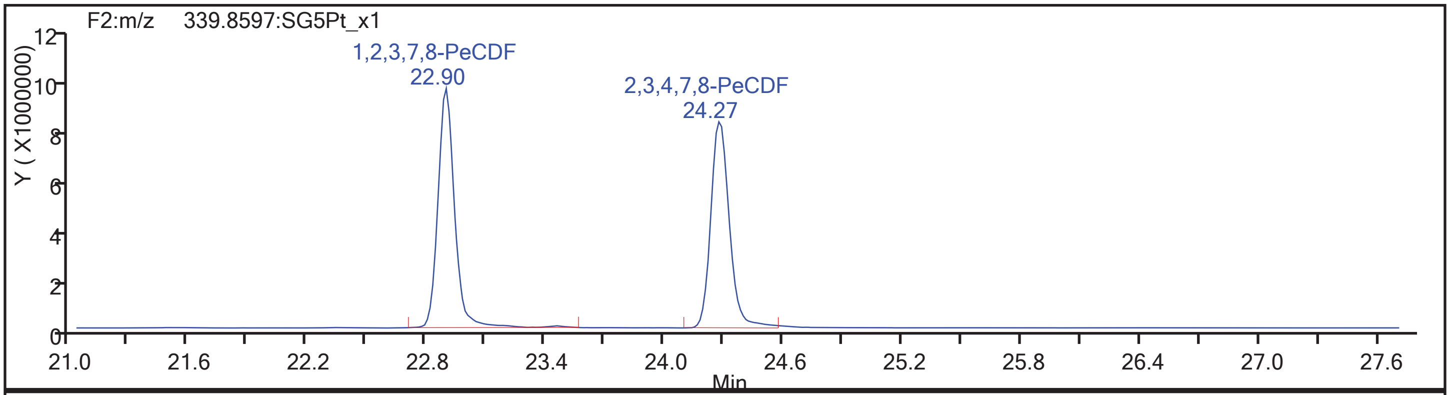
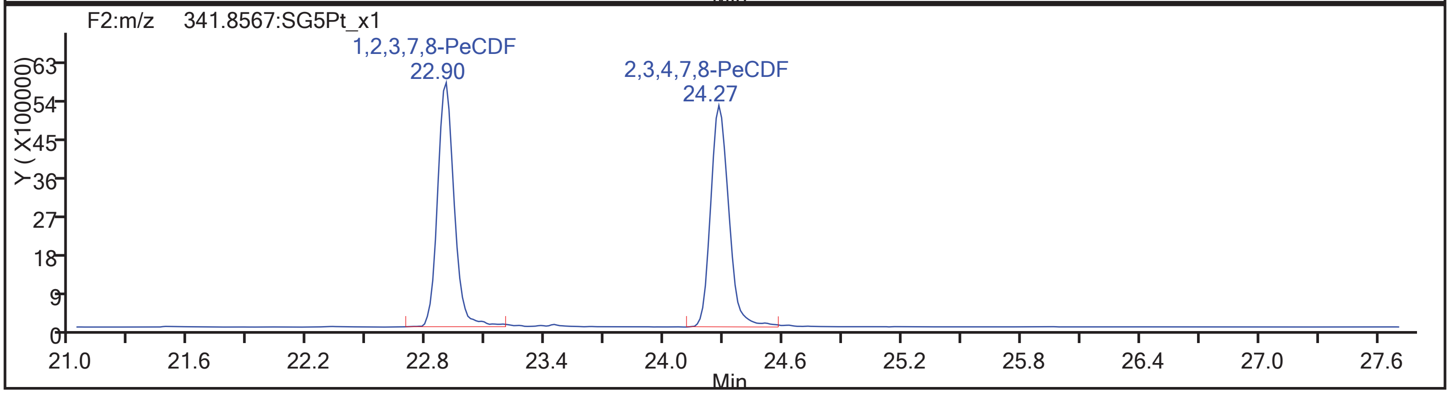
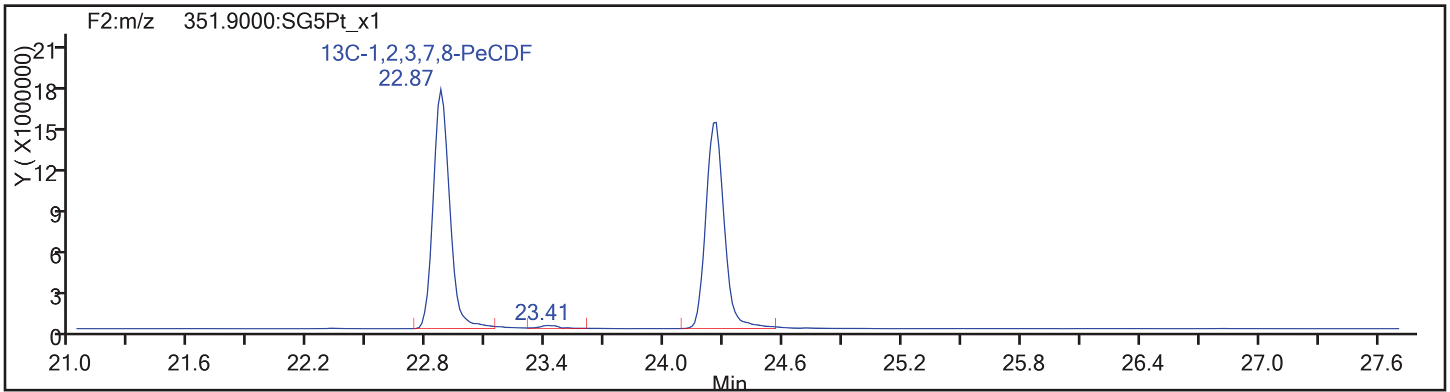
Column Type:		Column Dia:	

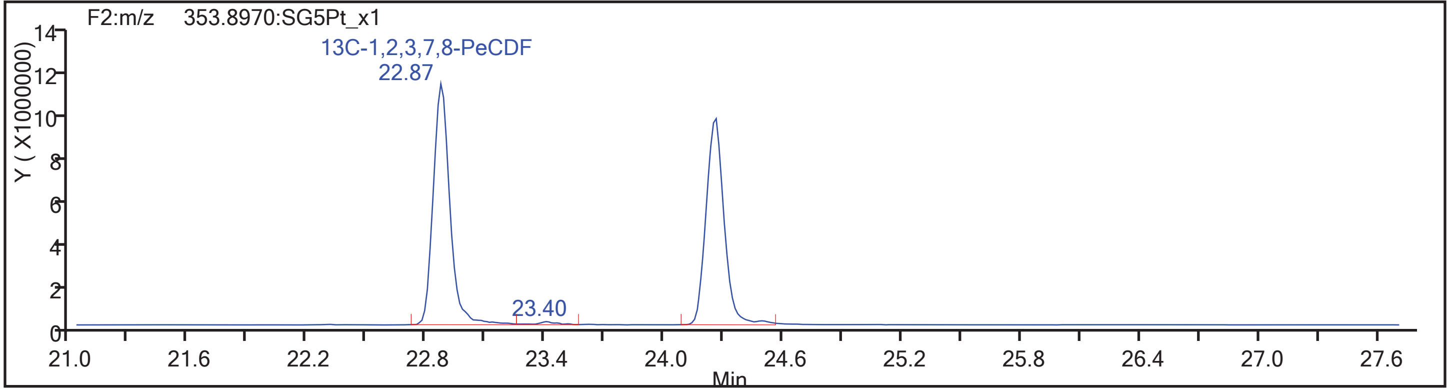
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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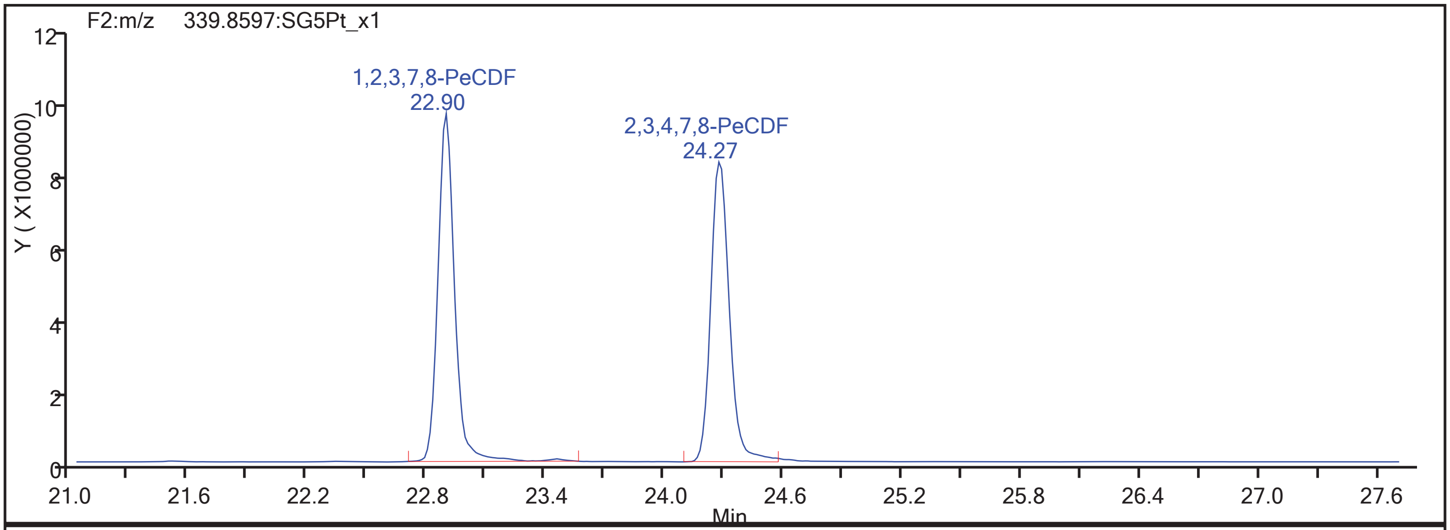
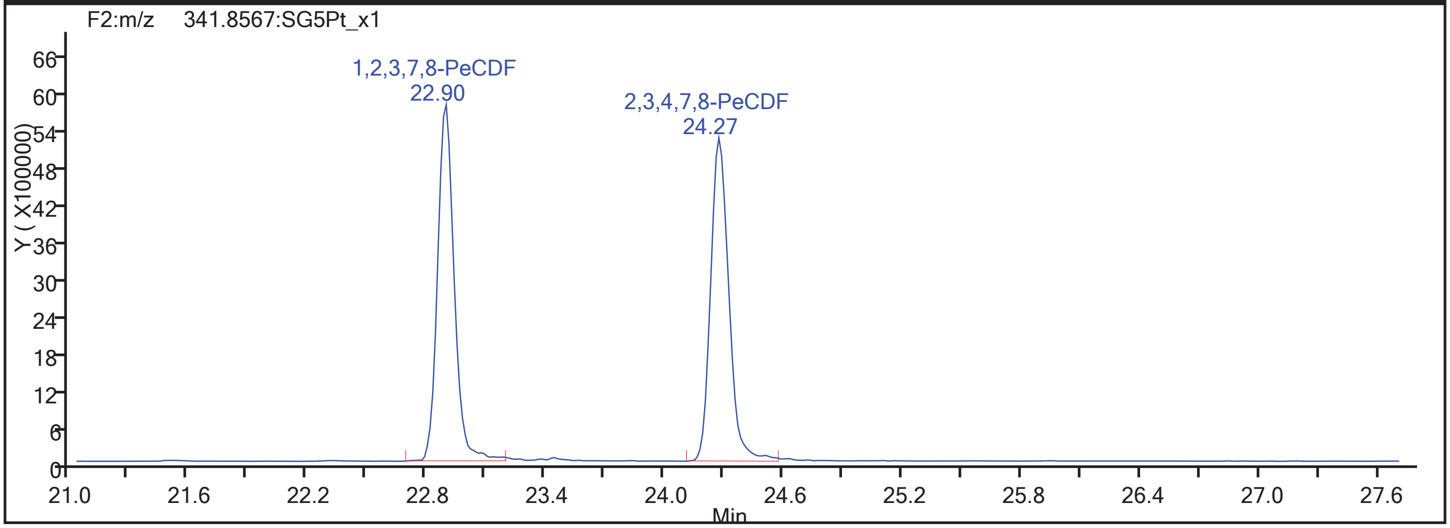
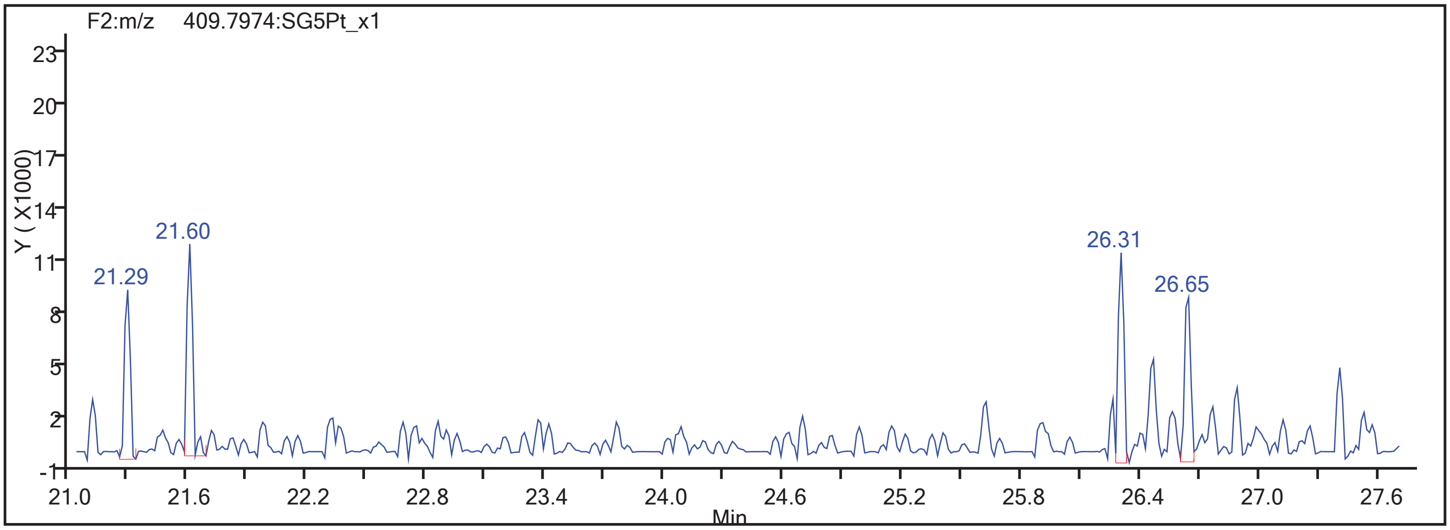




PeCDF Interference Mass



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TestAmerica Sacramento

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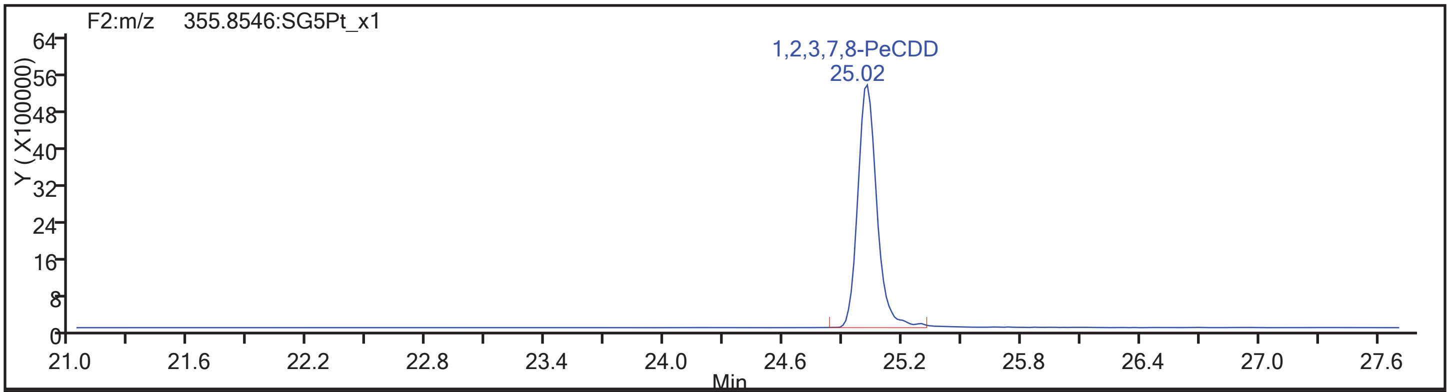
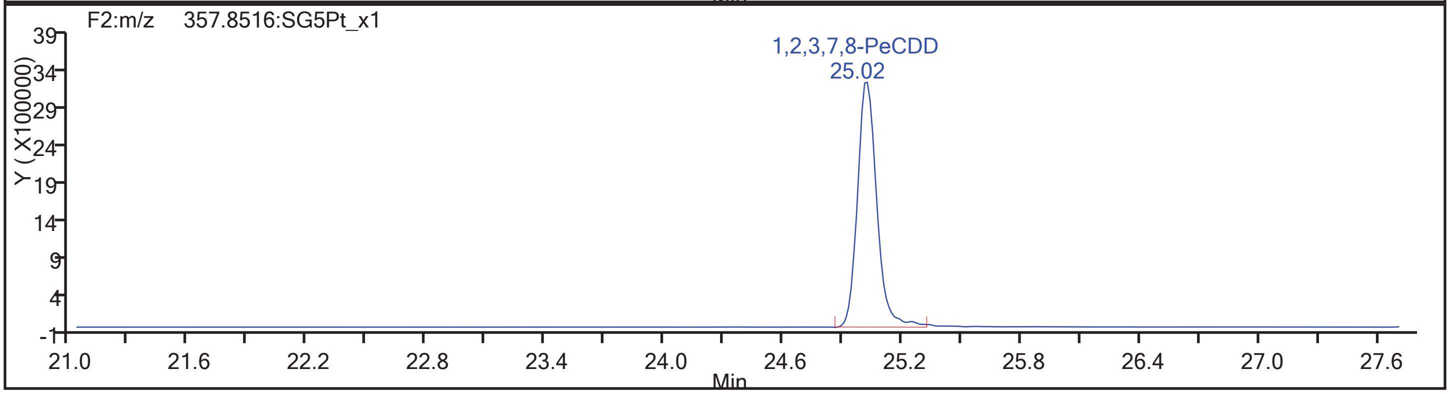
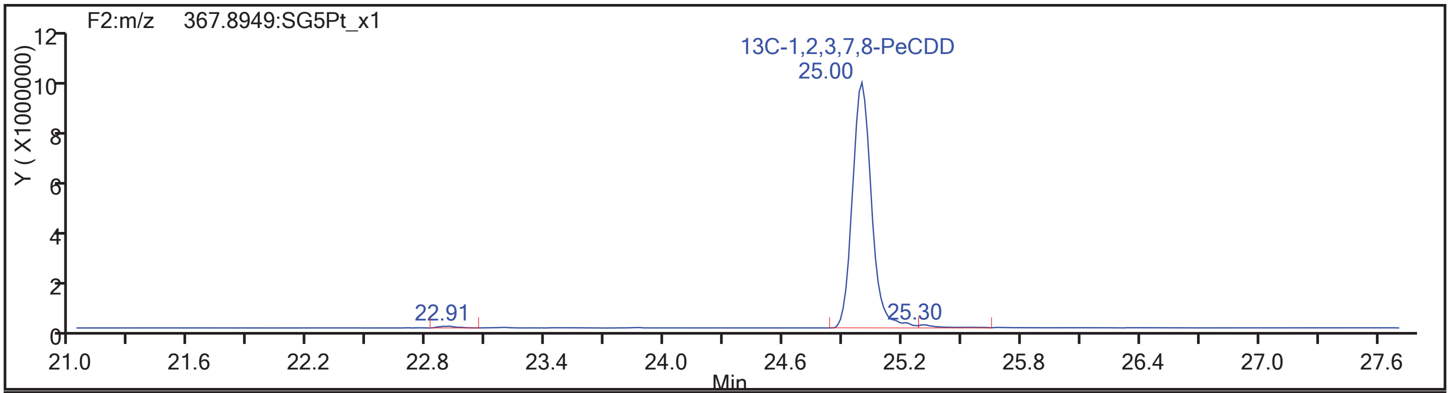
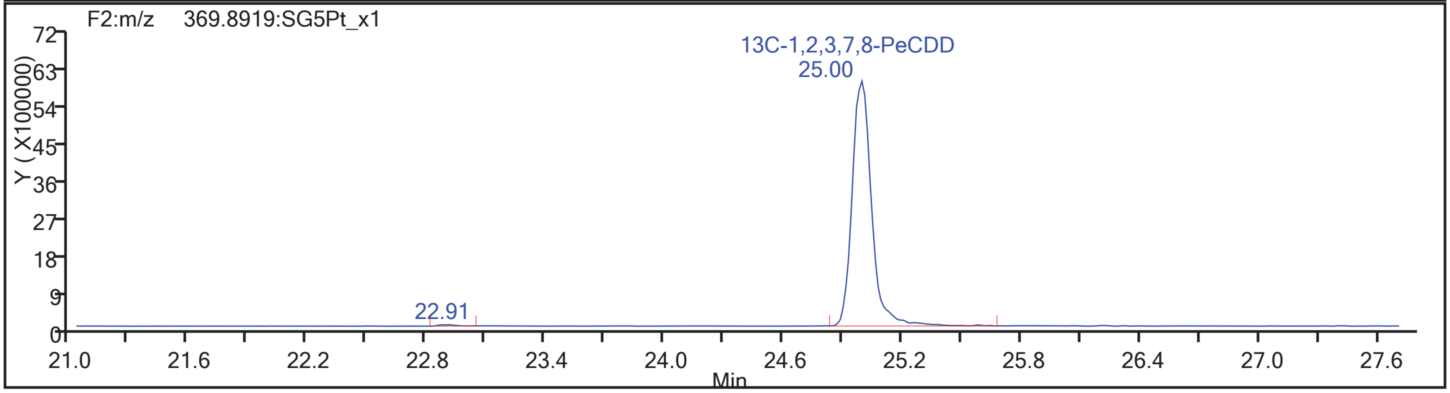




PeCDD Standards





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TestAmerica Sacramento

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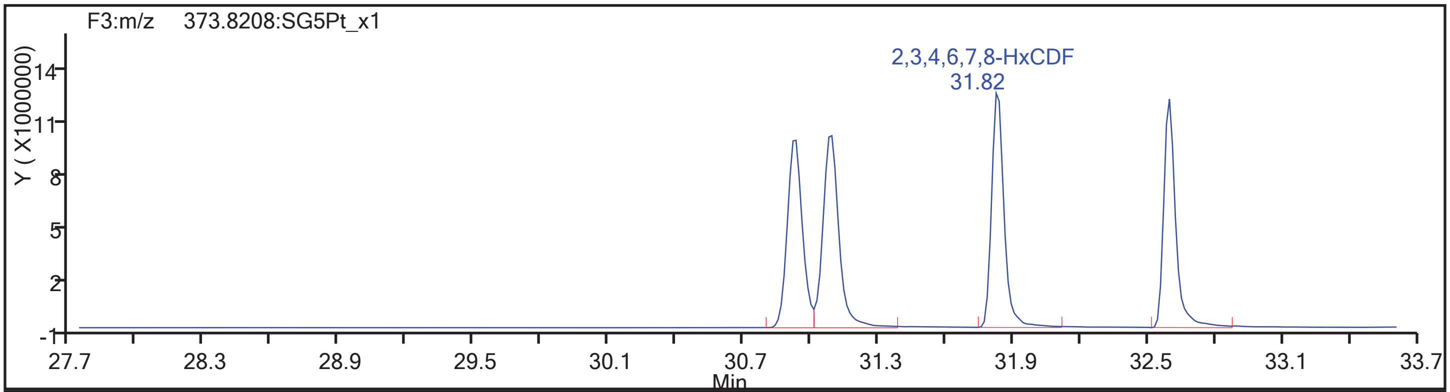
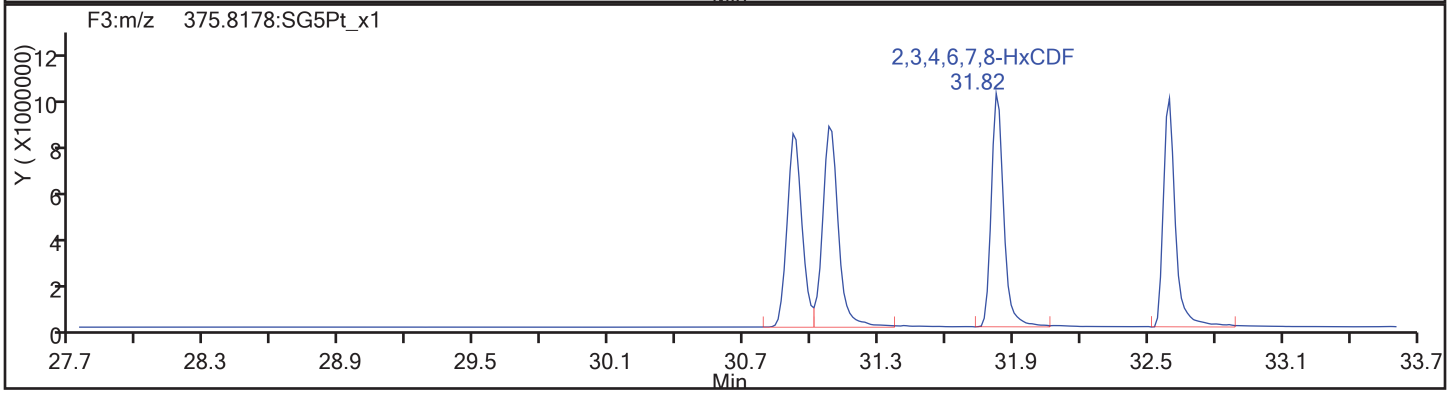
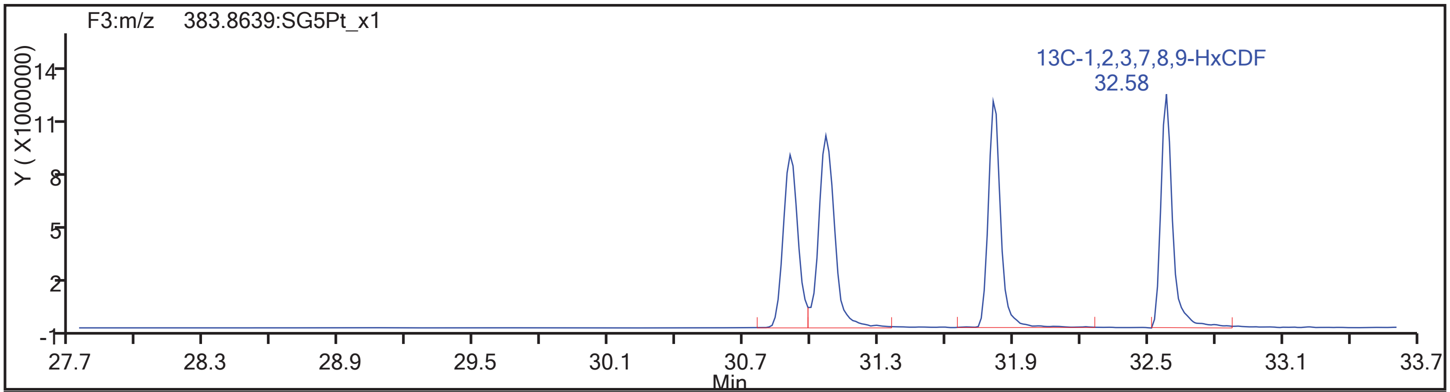
Injection Date: 19-Nov-2017 00:49:01 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195574 Sample Line#: 68
Column Type: Column Dia:

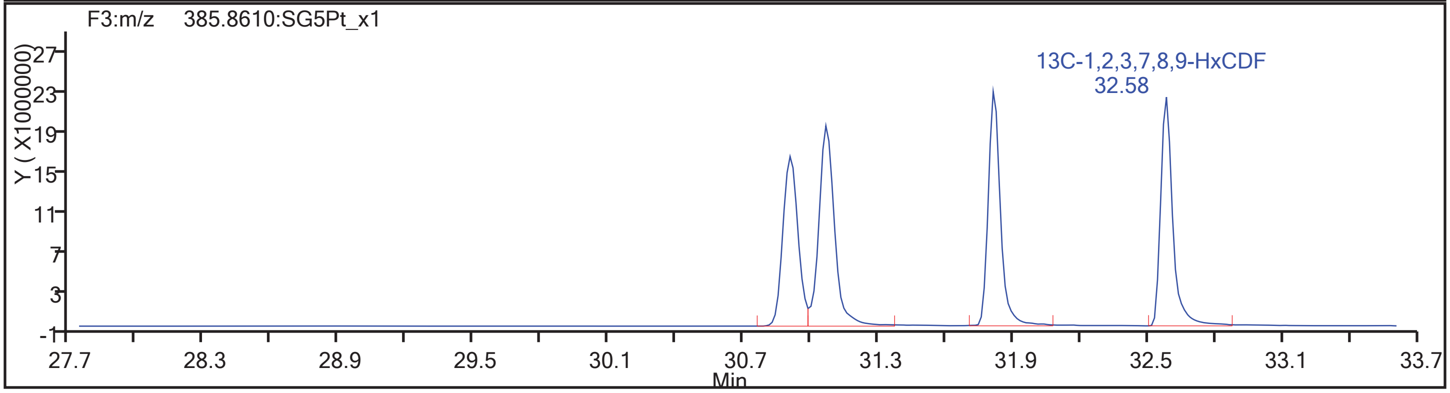
HxCDF





HxCDF Standards





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TestAmerica Sacramento

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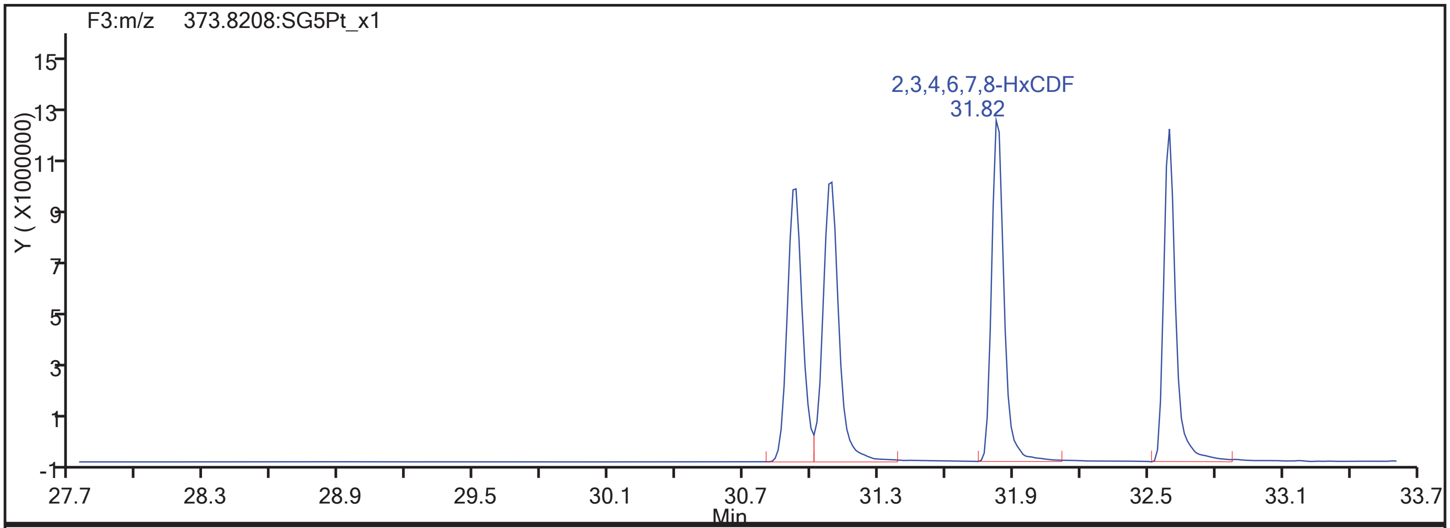
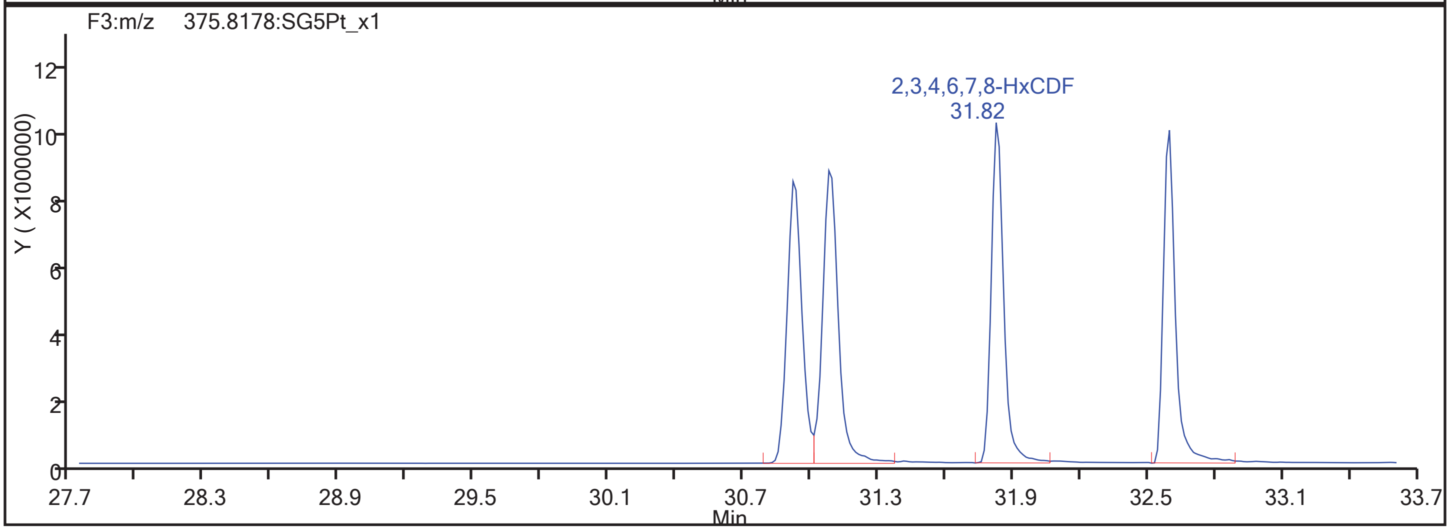
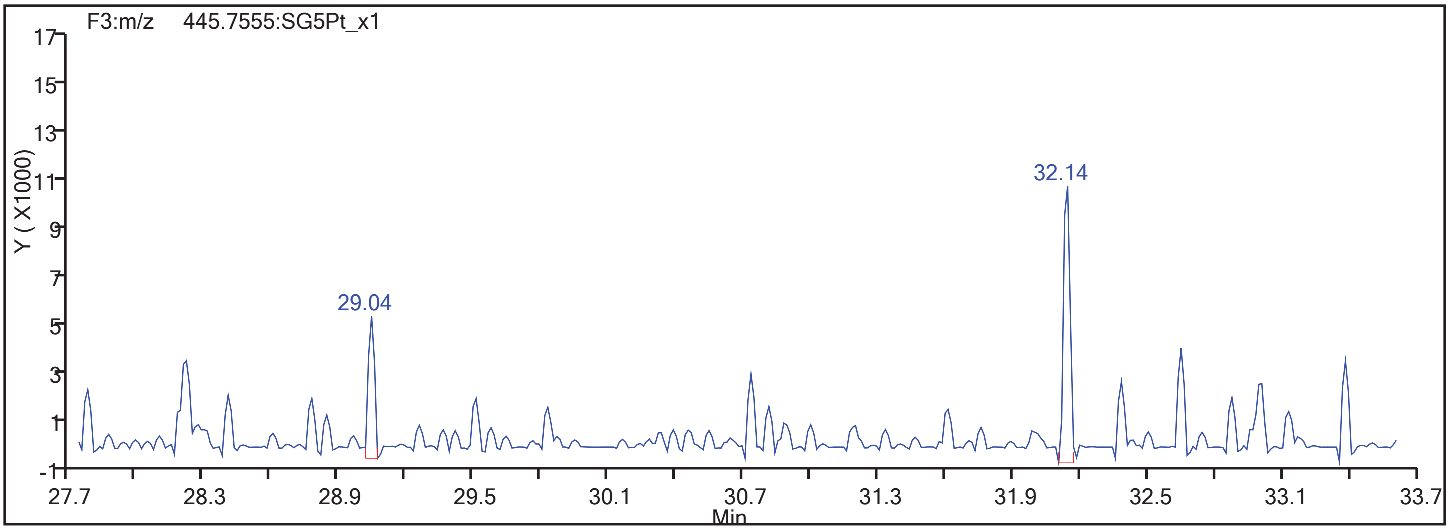




HxCDF Interference Mass



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TestAmerica Sacramento

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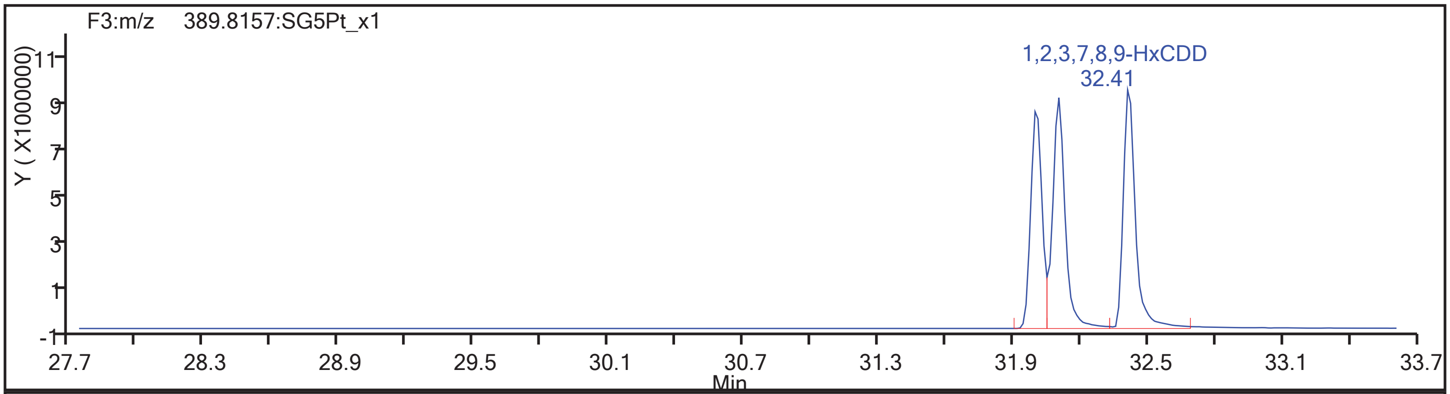
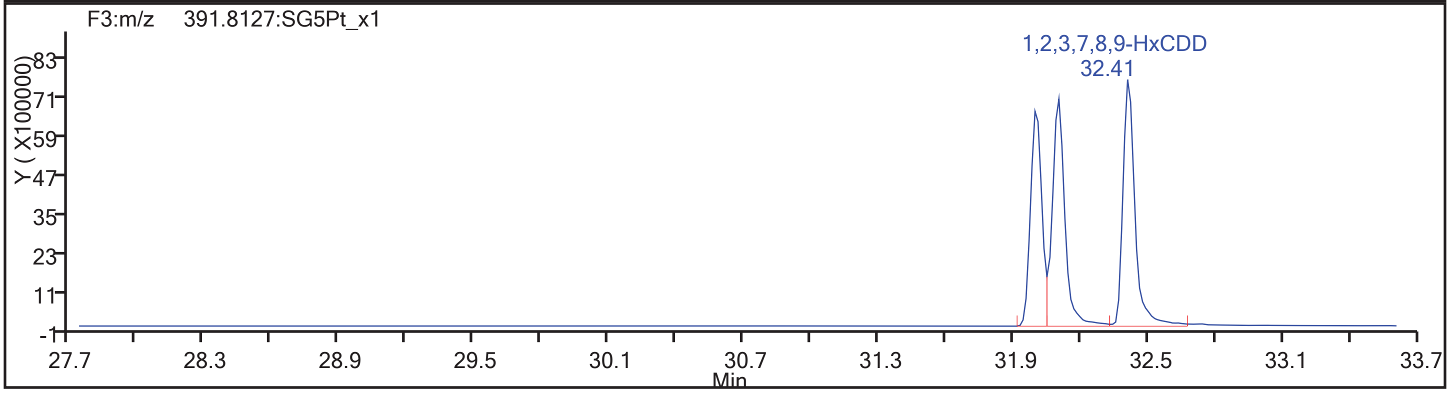
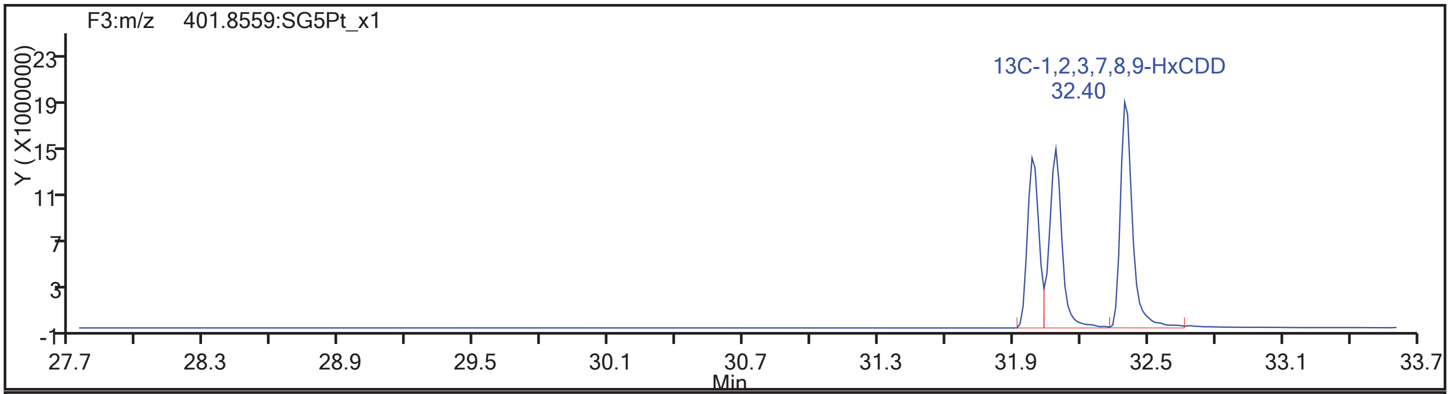
Column Dia:

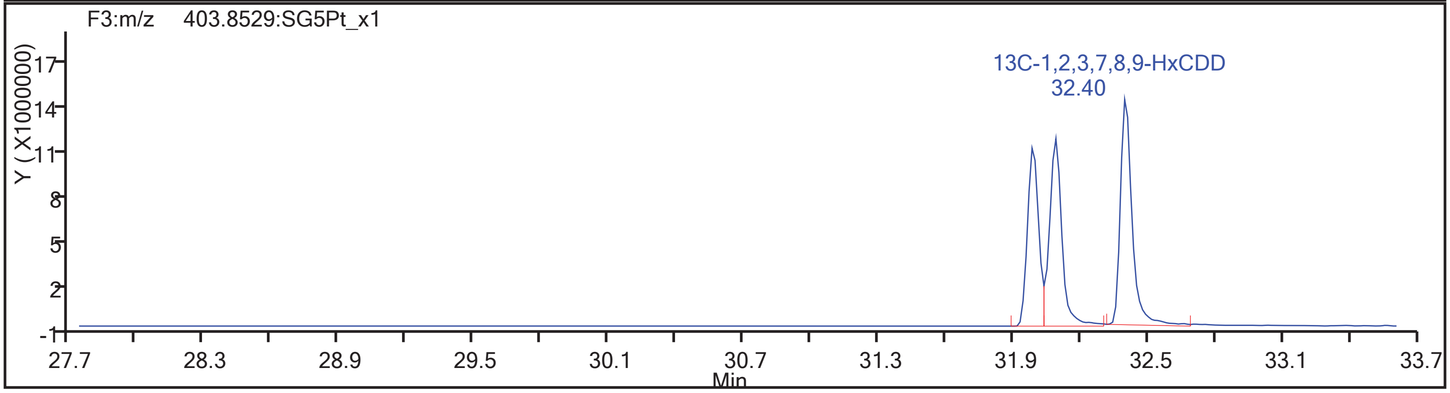
HxCDD





HxCDD Standards





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TestAmerica Sacramento
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Instrument ID: 3D5 Operator ID: SMA, ALM
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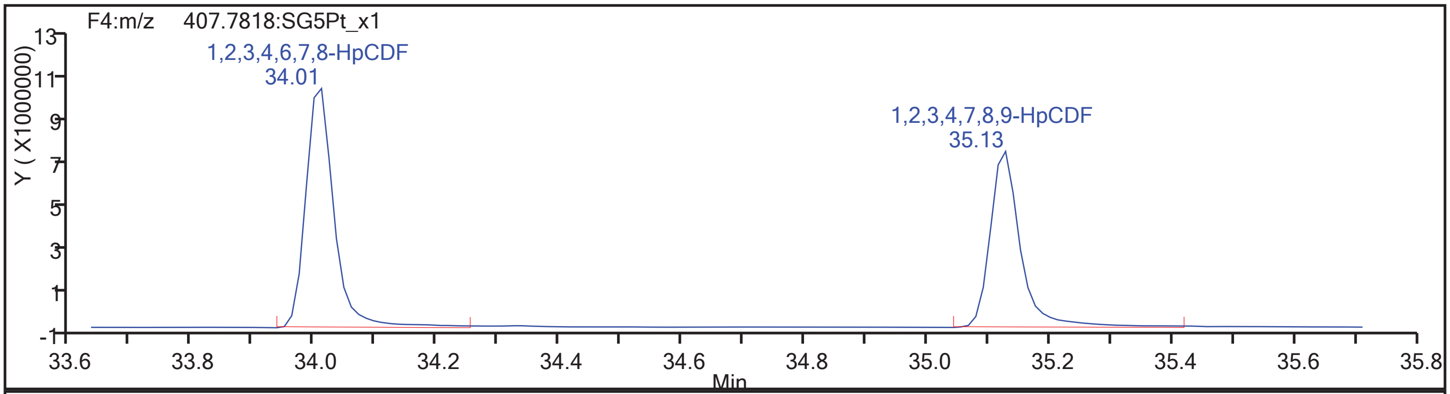
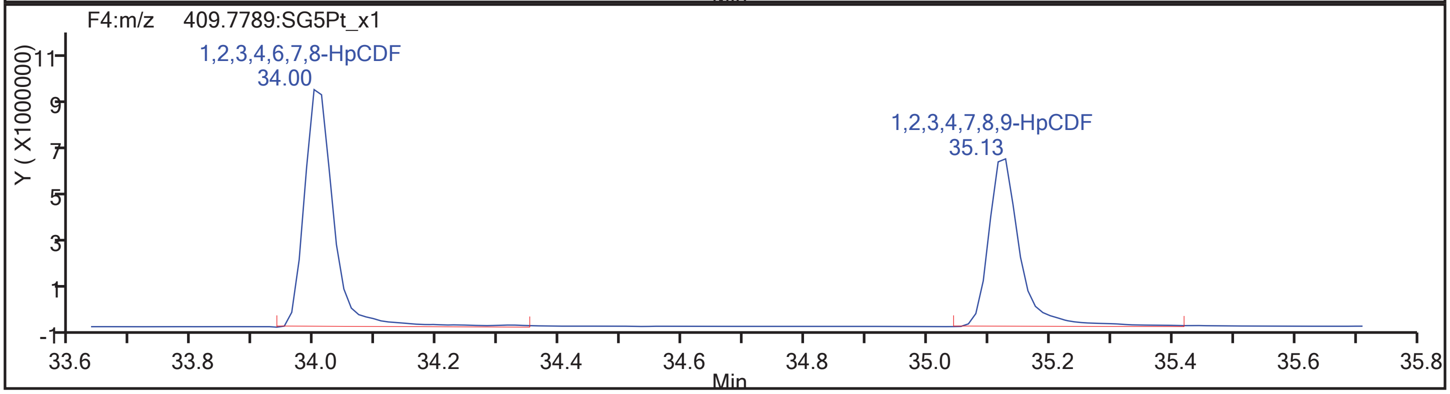
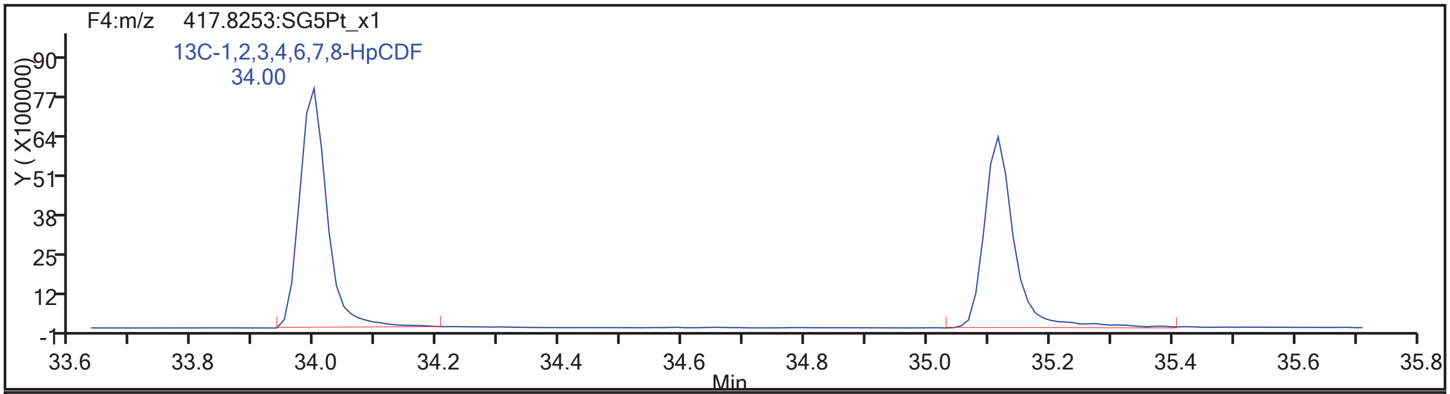
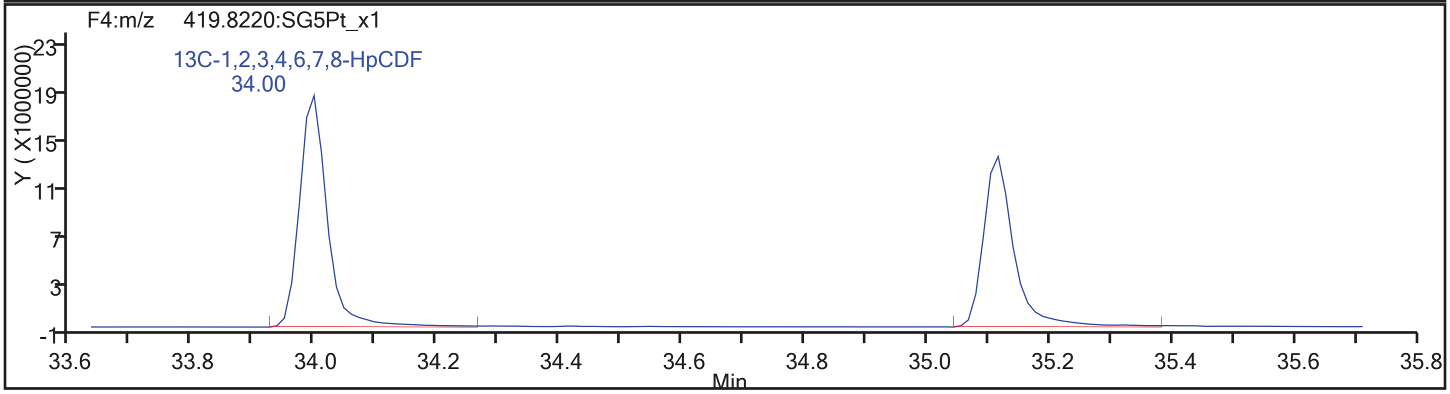
HpCDF





HpCDF Standards



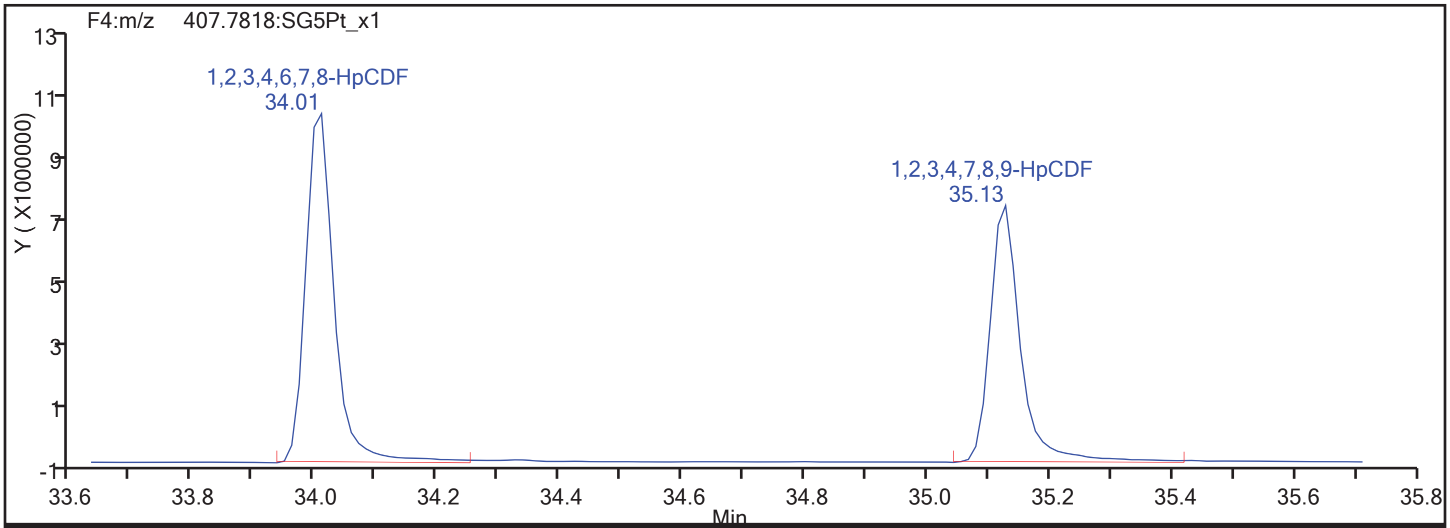


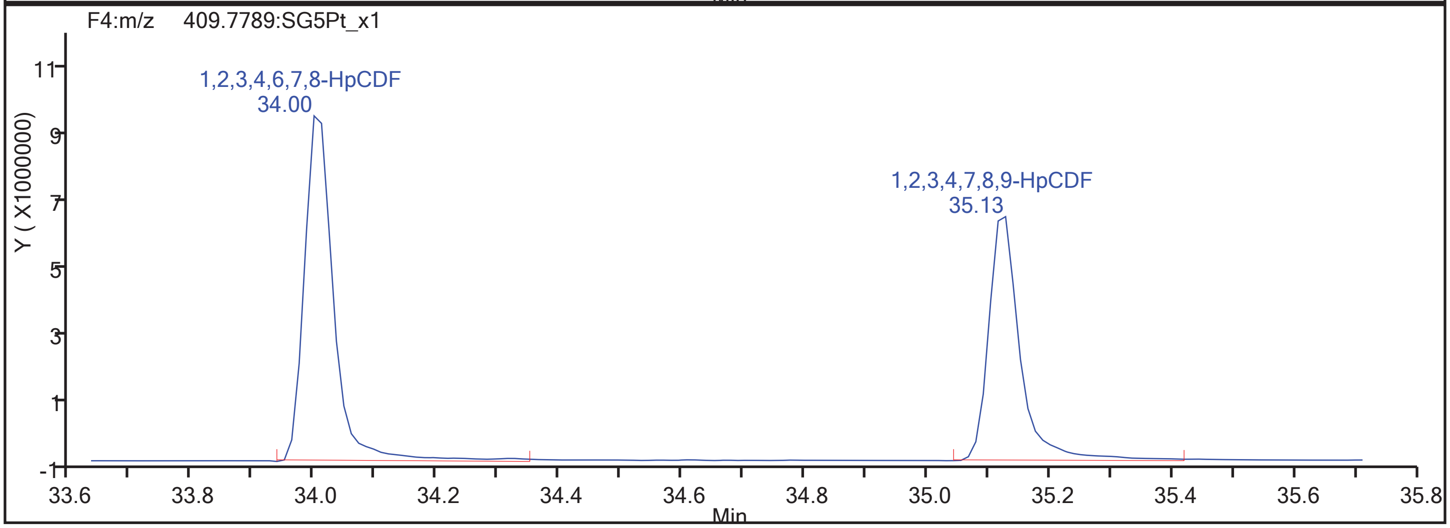
Report Date: 20-Nov-2017 11:47:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

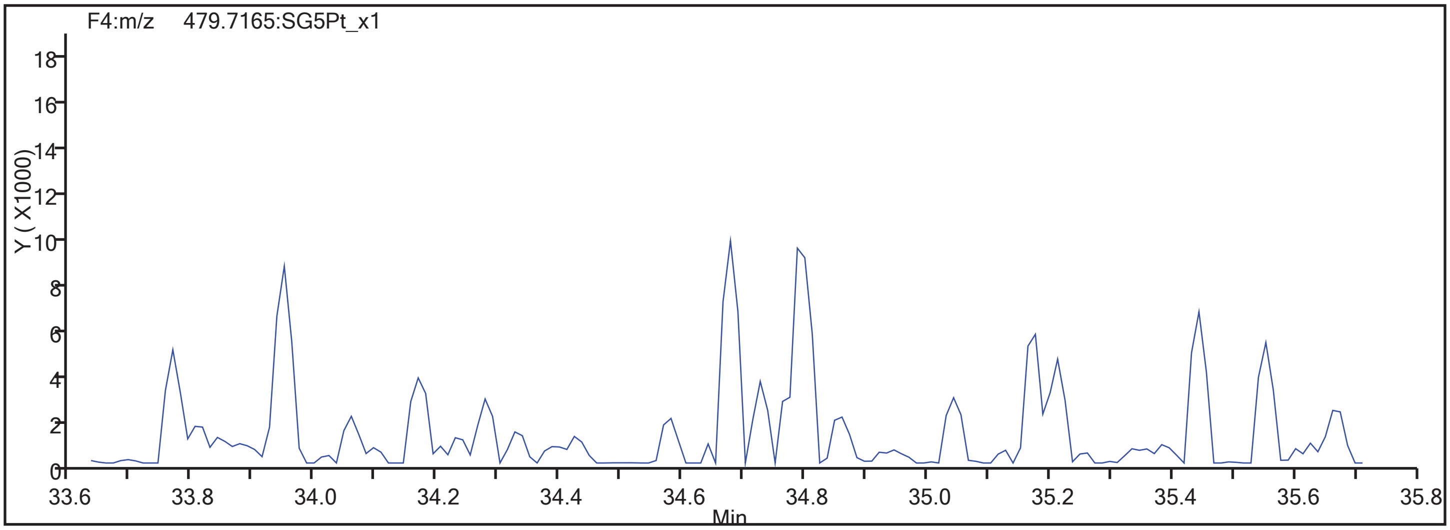
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_68.d		
Injection Date:	19-Nov-2017 00:49:01	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195574	Sample Line#:	68
Column Type:		Column Dia:	

HpCDF





HpCDF Interference Mass

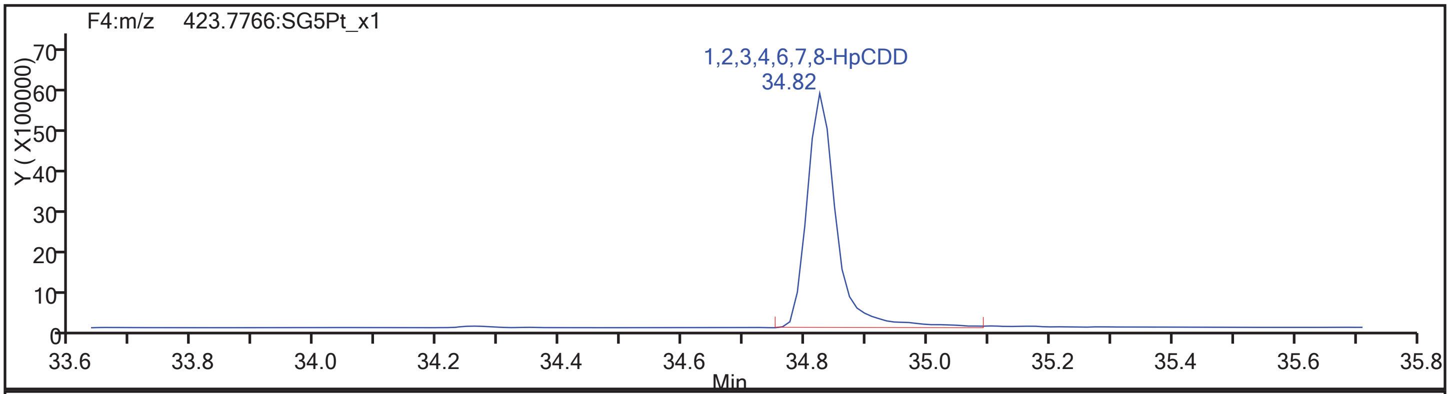


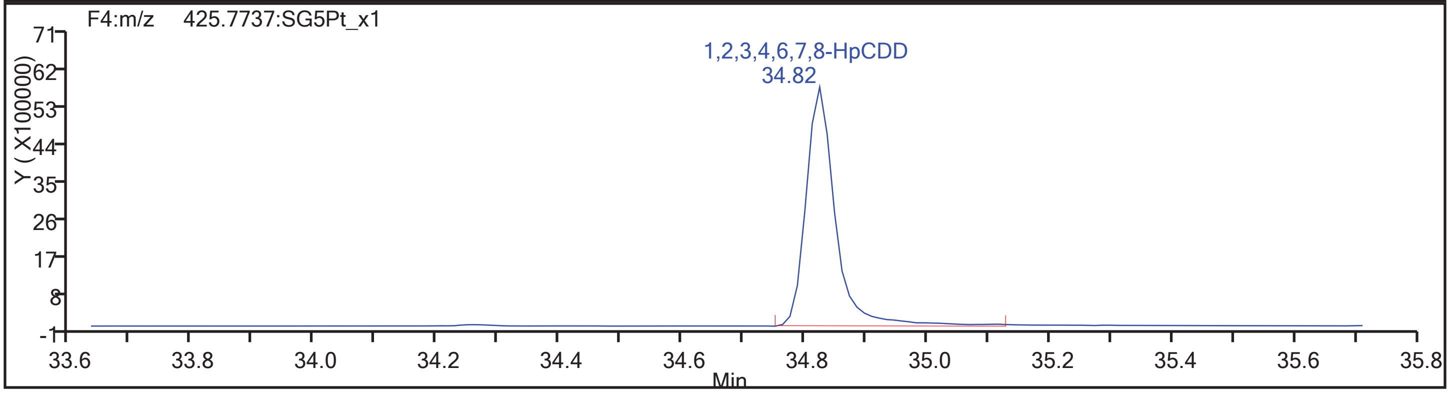
Report Date: 20-Nov-2017 11:47:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

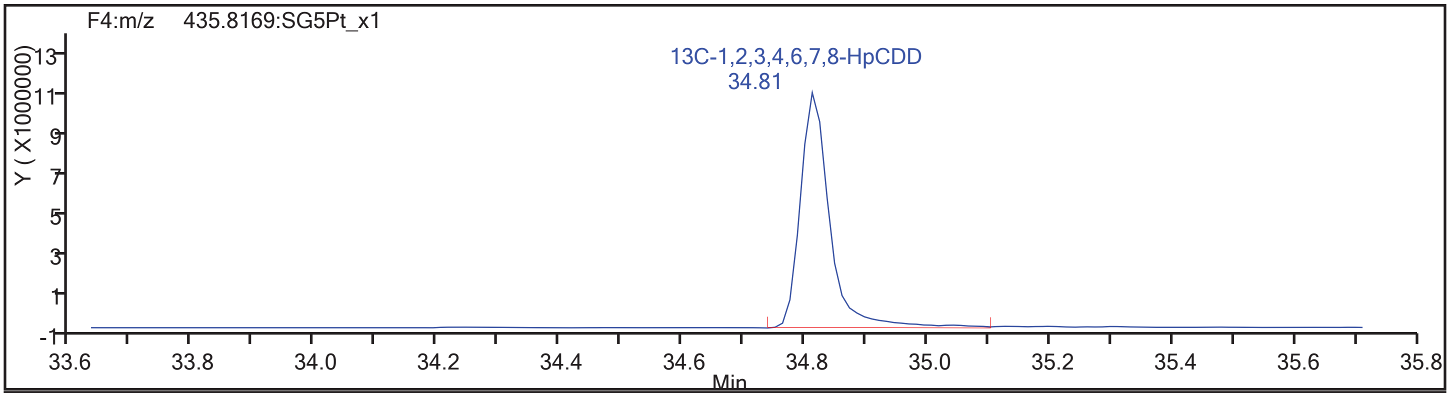
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_68.d
Injection Date: 19-Nov-2017 00:49:01
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195574
Sample Line#: 68
Column Type:
Column Dia:

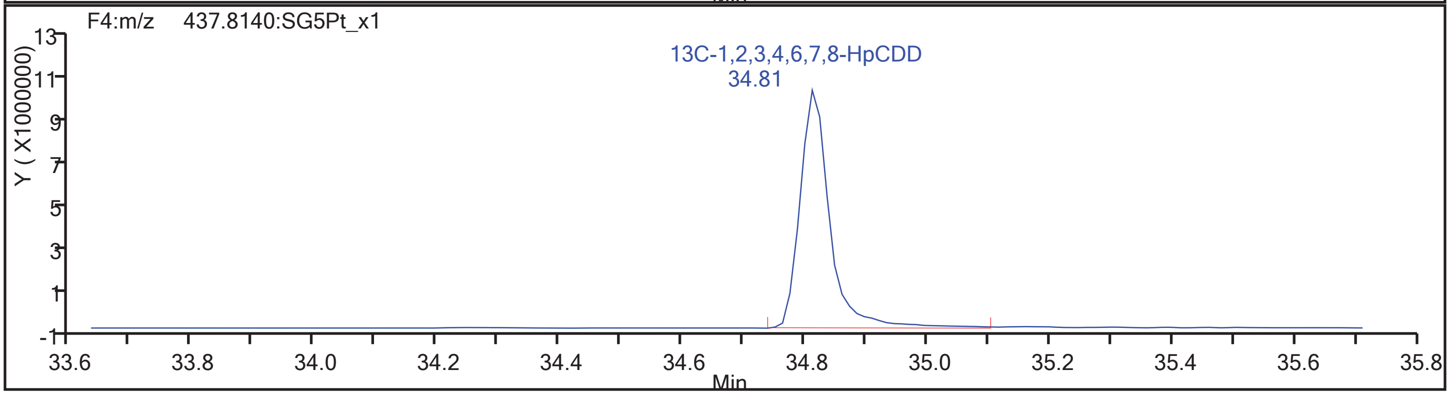
HpCDD





HpCDD Standards



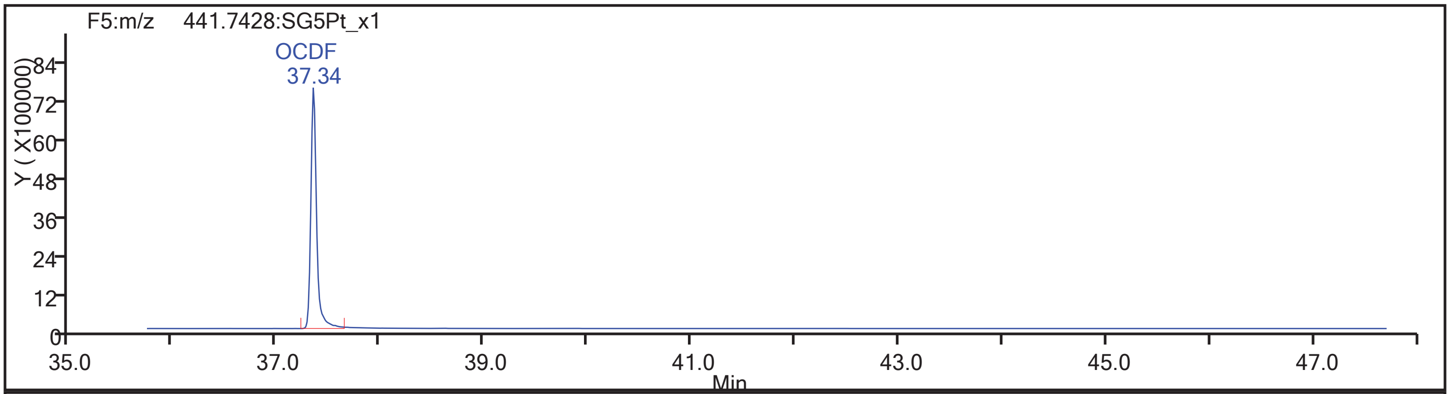


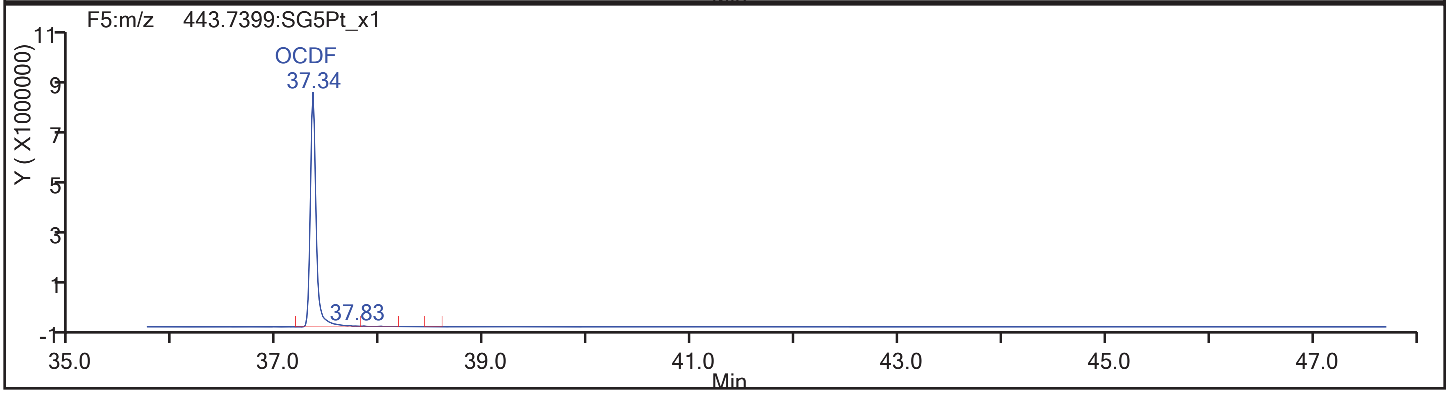
Report Date: 20-Nov-2017 11:47:52　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

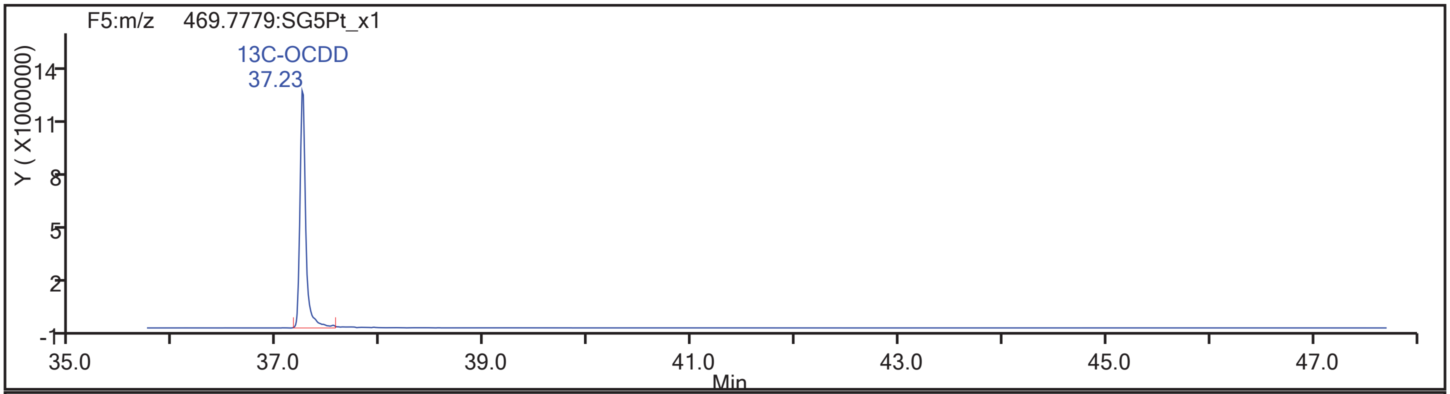
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_68.d
Injection Date: 19-Nov-2017 00:49:01　　Injection Vol: 2.0 ul
Instrument ID: 3D5　　Operator ID: SMA, ALM
Method: Dioxin_3D5　　Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195574　　Sample Line#: 68
Column Type:　　Column Dia:

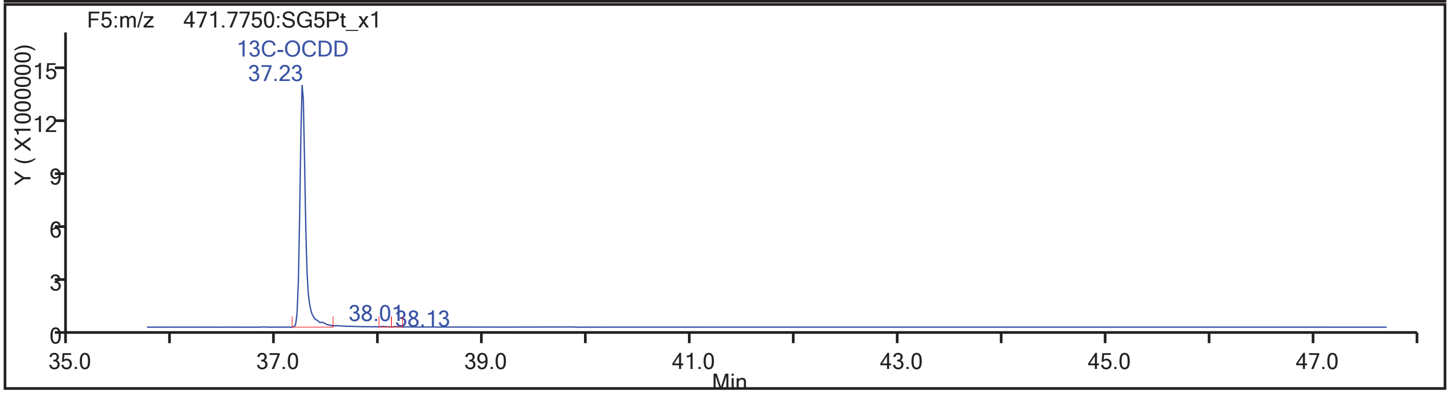
OCDF





OCDF Standards



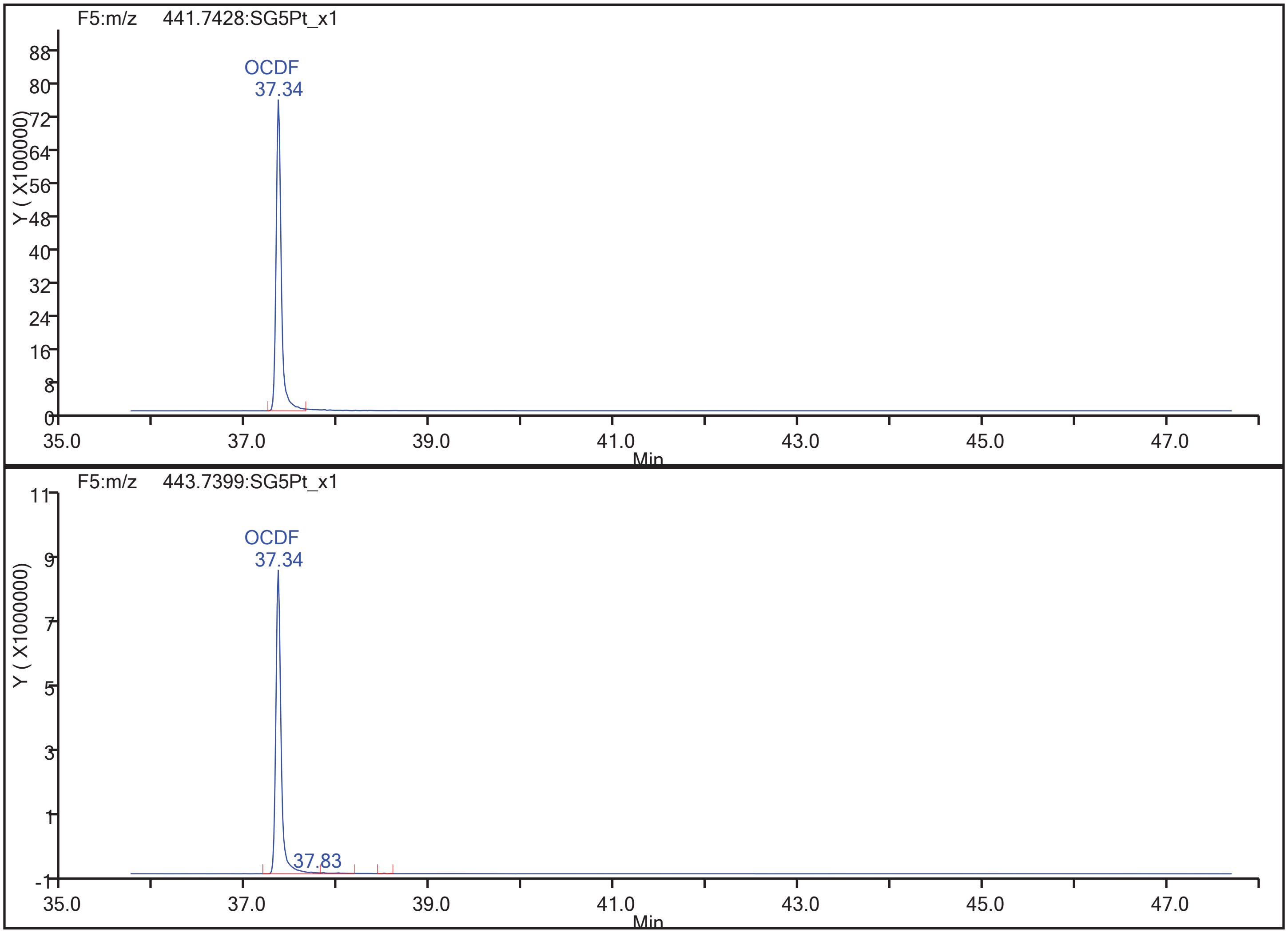


TestAmerica Sacramento

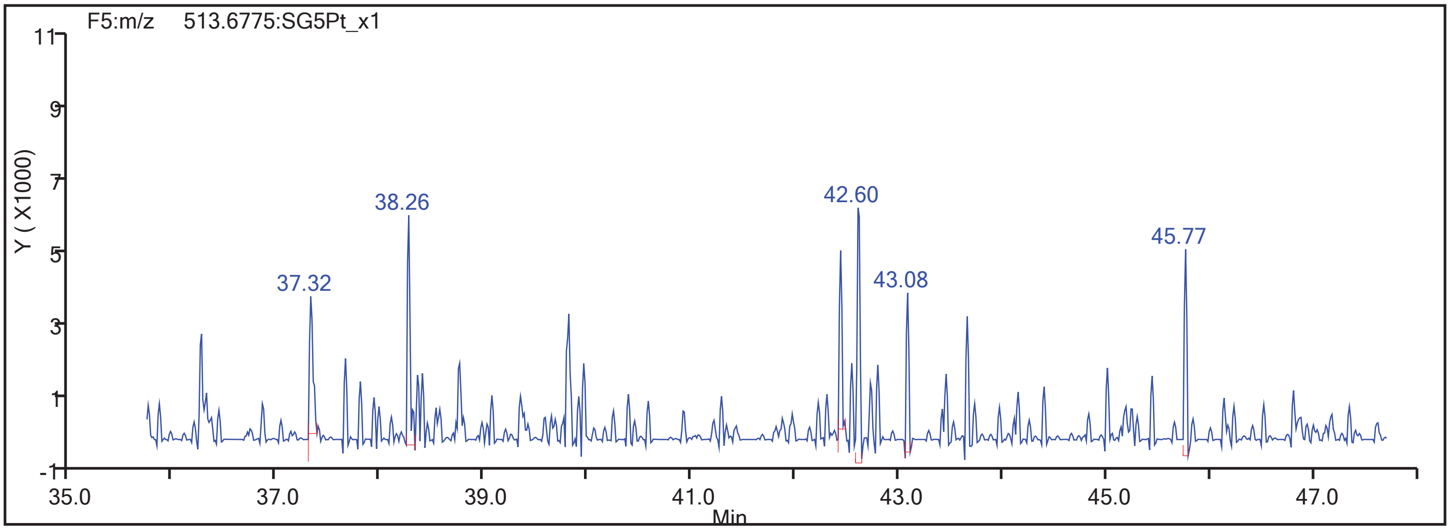
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_68.d

Injection Date:	19-Nov-2017 00:49:01	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195574	Sample Line#:	68
Column Type:		Column Dia:	

OCDF



OCDF Interference Mass



Report Date: 20-Nov-2017 11:47:52 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_68.d

Injection Date: 19-Nov-2017 00:49:01 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

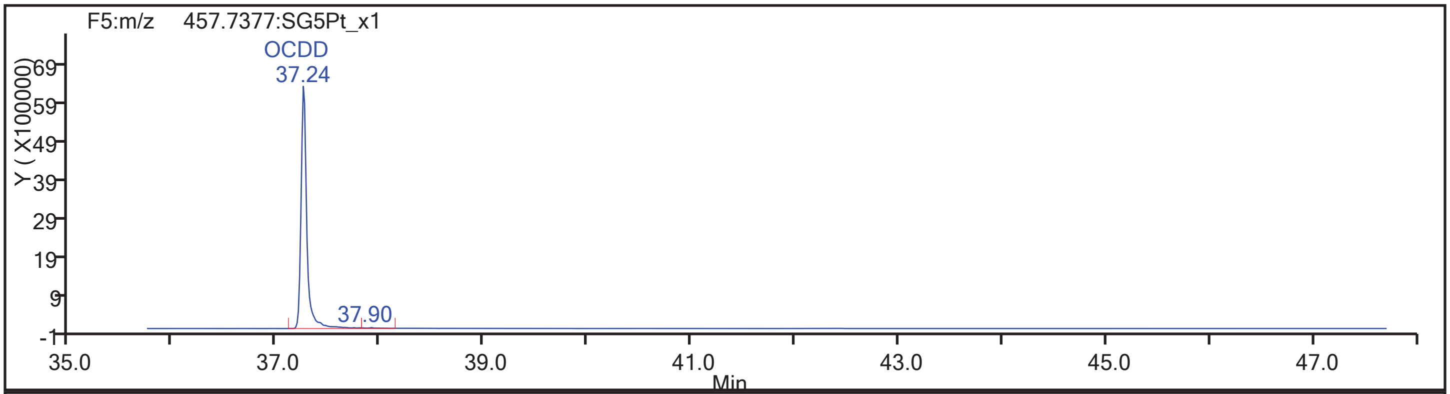
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

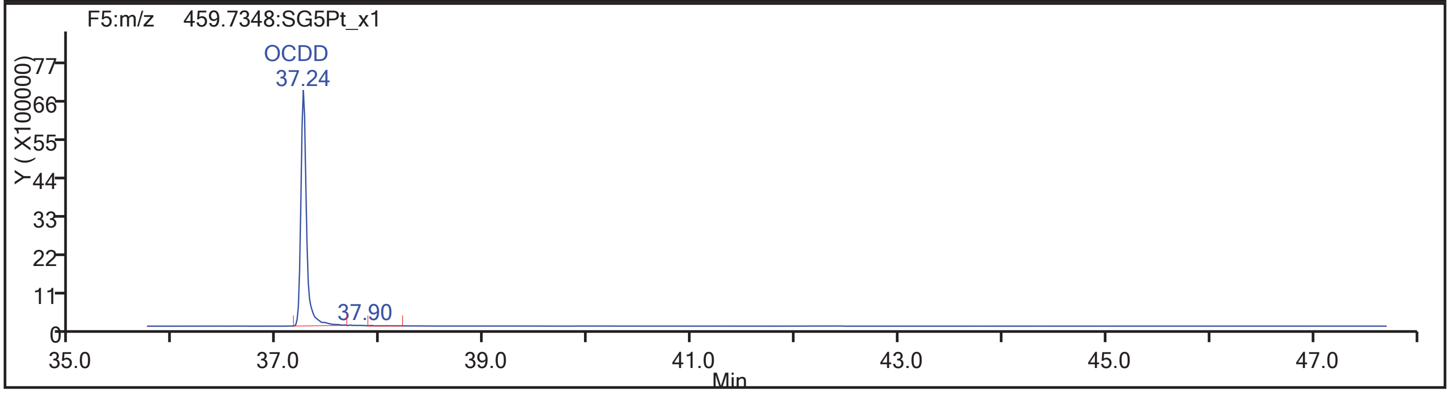
Client ID:

Worklist#: 195574 Sample Line#: 68

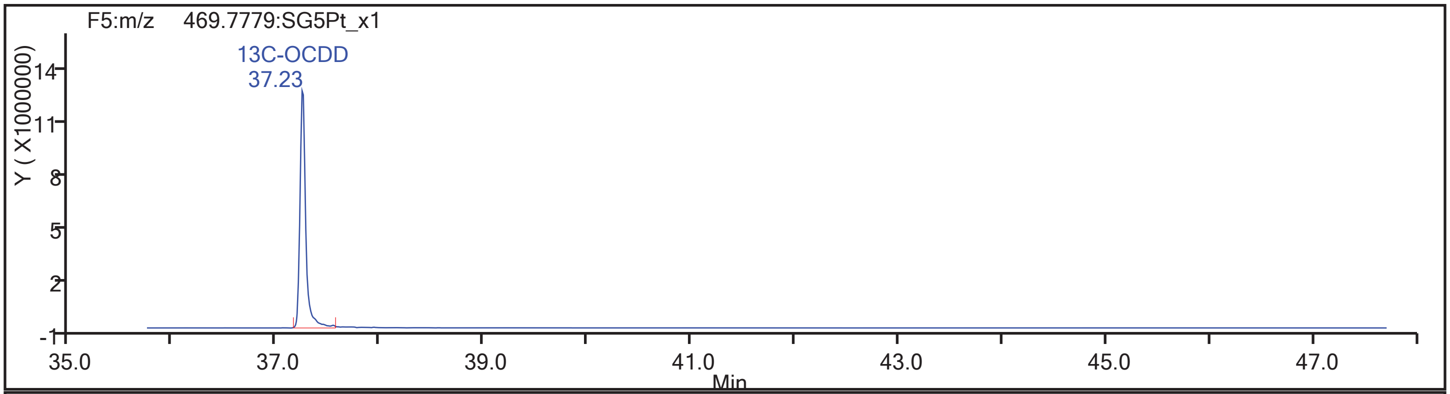
Column Type: Column Dia:

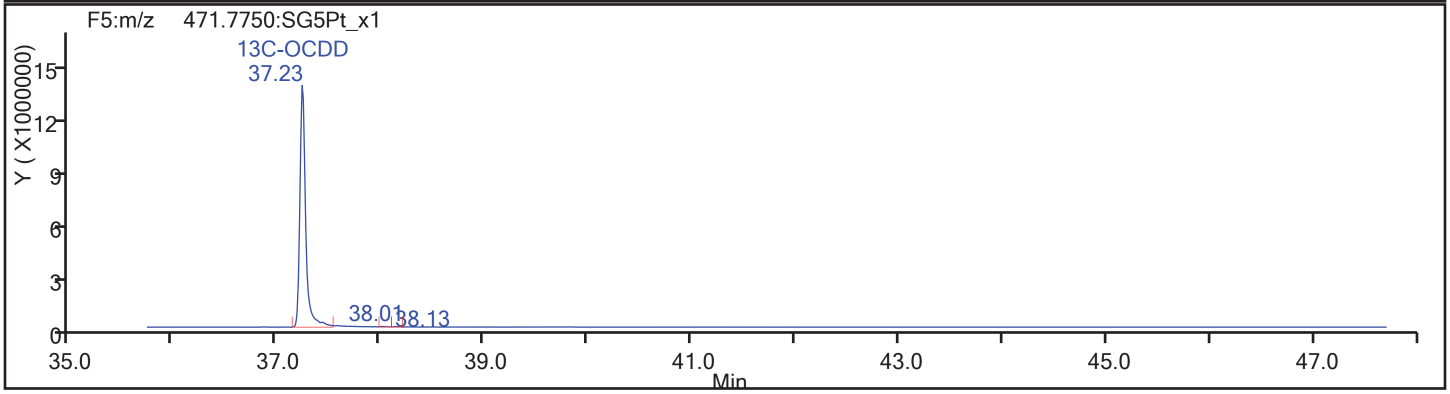
OCDD





OCDD Standards

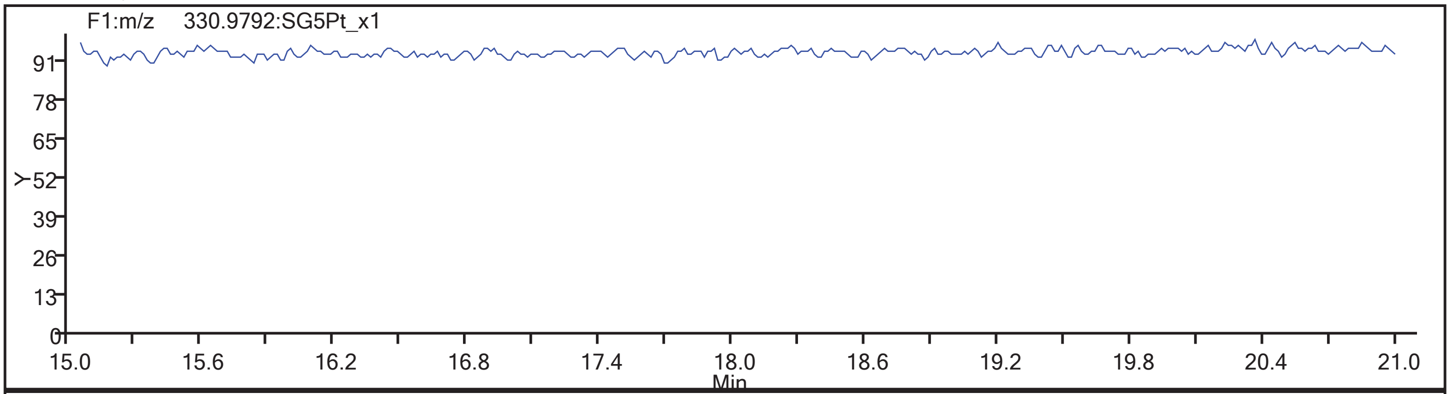


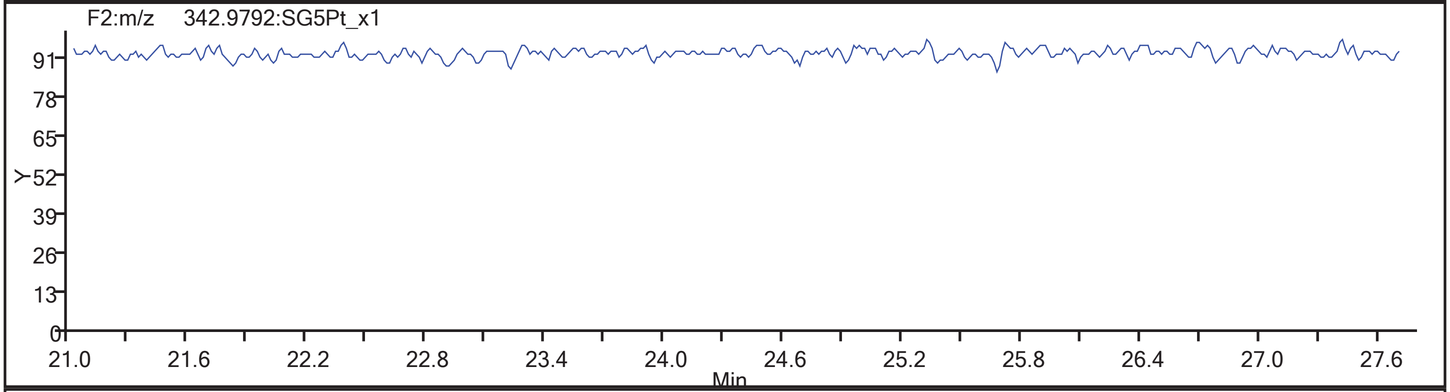


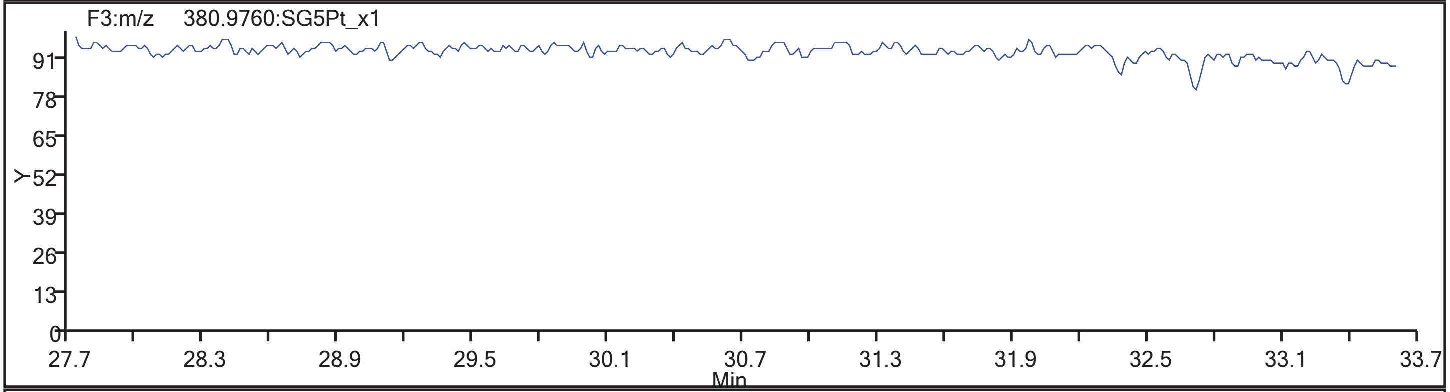
Report Date: 20-Nov-2017 11:47:53 Chrom Revision: 2.2 16-Aug-2017 16:24:46

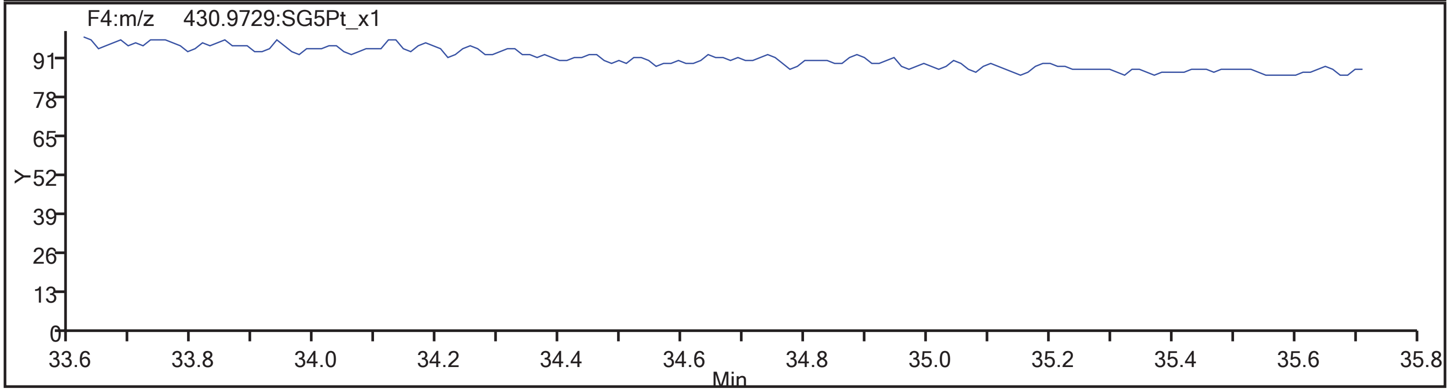
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_68.d		
Injection Date:	19-Nov-2017 00:49:01	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195574	Sample Line#:	68
Column Type:		Column Dia:	









TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_68.d

Injection Date: 19-Nov-2017 00:49:01 Injection Vol: 2.0 ul

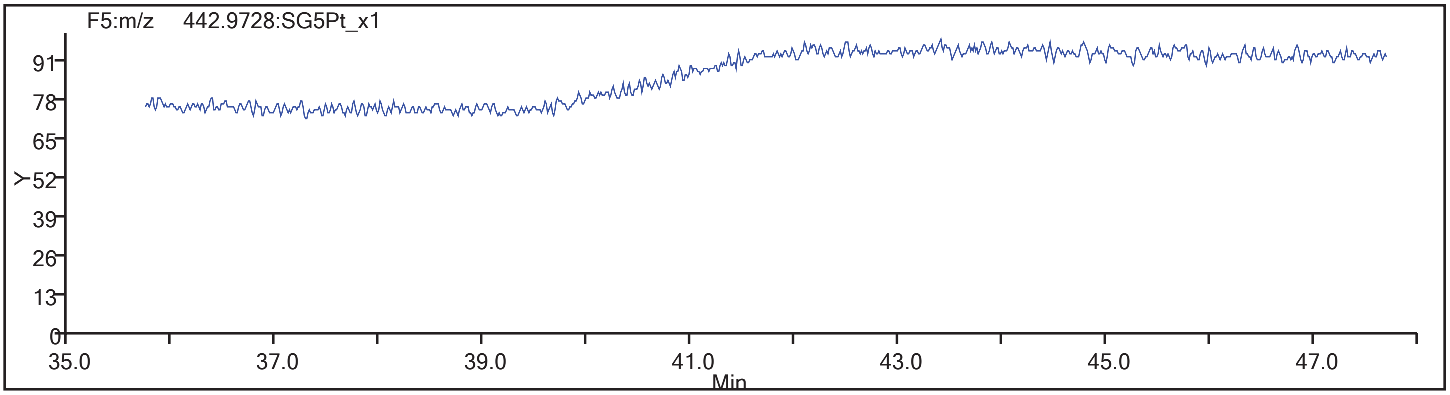
Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 195574 Sample Line#: 68

Column Type: Column Dia:



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-195574/79 Calibration Date: 11/19/2017 09:52

Instrument ID: 3D5 Calib Start Date: 11/15/2017 11:51

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 11/15/2017 15:05

Lab File ID: 16NO173D5_79.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.097	1.061		9.67	10.0	-3.3	20.0
2,3,7,8-TCDD	AveID	1.164	1.091		9.37	10.0	-6.3	20.0
1,2,3,7,8-PeCDF	AveID	1.142	1.100		48.2	50.0	-3.7	20.0
2,3,4,7,8-PeCDF	AveID	1.110	1.063		47.9	50.0	-4.2	20.0
1,2,3,7,8-PeCDD	AveID	1.127	1.064		47.2	50.0	-5.6	20.0
1,2,3,4,7,8-HxCDF	AveID	1.348	1.363		50.6	50.0	1.2	20.0
1,2,3,6,7,8-HxCDF	AveID	1.479	1.500		50.7	50.0	1.4	20.0
2,3,4,6,7,8-HxCDF	AveID	1.383	1.414		51.1	50.0	2.2	20.0
1,2,3,4,7,8-HxCDD	AveID	1.065	1.051		49.3	50.0	-1.3	20.0
1,2,3,6,7,8-HxCDD	AveID	1.181	1.154		48.9	50.0	-2.3	20.0
1,2,3,7,8,9-HxCDD	AveID	1.231	1.232		50.0	50.0	0.0	20.0
1,2,3,7,8,9-HxCDF	AveID	1.290	1.350		52.3	50.0	4.6	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.587	1.616		50.9	50.0	1.8	20.0
1,2,3,4,6,7,8-HpCDD	AveID	1.163	1.126		48.4	50.0	-3.2	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.229	1.281		52.1	50.0	4.2	20.0
OCDD	AveID	1.039	1.021		98.3	100	-1.7	20.0
OCDF	AveID	1.265	1.252		99.0	100	-1.0	20.0
13C-2,3,7,8-TCDF	Ave	1.509	1.464		97.0	100	-3.0	30.0
13C-2,3,7,8-TCDD	Ave	0.9906	0.9702		97.9	100	-2.1	30.0
13C-1,2,3,7,8-PeCDF	Ave	1.128	1.148		102	100	1.8	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7269	0.7578		104	100	4.3	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.028	0.9549		92.9	100	-7.1	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8502	0.8151		95.9	100	-4.1	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6490	0.6428		99.1	100	-0.9	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.5387	0.5665		105	100	5.2	30.0
13C-OCDD	Ave	0.4009	0.4105		205	200	2.4	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.173	1.162		9.90	10.0	-1.0	

Report Date: 20-Nov-2017 11:48:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_79.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2017 09:52:43 ALS Bottle#: 2 Worklist Smp#: 79
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111617I CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:48:57 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 19-Nov-2017 10:40:31

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.219	142691354	0.79	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.690	208926327	0.80	1.5089	97.0	97.0	0.2202	0.2202	97.04	
2,3,7,8-TCDF	17.705	22174550	0.79	1.0971	9.674	9.674	0.0296	0.0296	96.74	
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF					9.674	9.674	0.0296	0.0296		
D 13C-2,3,7,8-TCDD	18.415	138442012	0.82	0.9906	97.9	97.9	0.2073	0.2073	97.94	
$ 37Cl4-2,3,7,8-TCDD	18.445	16581115		1.1732	9.905	9.905	0.0381	0.0381	99.05	
2,3,7,8-TCDD	18.445	15110559	0.77	1.1645	9.373	9.373	0.0359	0.0359	93.73	
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD					9.373	9.373	0.0359	0.0359		
D 13C-1,2,3,7,8-PeCDF	22.855	163786094	1.60	1.1280	101.8	101.8	0.2804	0.2804	102	
1,2,3,7,8-PeCDF	22.883	90109826	1.62	1.1422	48.2	48.2	0.1944	0.1944	96.34	
D 13C-2,3,4,7,8-PeCDF	24.246	155150382	1.61							
2,3,4,7,8-PeCDF	24.274	87089322	1.54	1.1102	47.9	47.9	0.2000	0.2000	95.79	
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF					96.1	96.1	0.1972	0.1972		
D 13C-1,2,3,7,8-PeCDD	24.983	108130843	1.65	0.7269	104.3	104.3	0.1258	0.1258	104	
1,2,3,7,8-PeCDD	25.024	57532182	1.64	1.1272	47.2	47.2	0.0808	0.0808	94.40	
A Non-2,3,7,8-sub-PeCDD	23.885						0.0	0.0		
S Total PeCDD					47.2	47.2	0.0808	0.0808		
D 13C-1,2,3,4,7,8-HxCDF	30.906	125254072	0.54	1.0279	92.9	92.9	0.4274	0.4274	92.90	
1,2,3,4,7,8-HxCDF	30.919	85366057	1.30	1.3475	50.6	50.6	0.2715	0.2715	101	
D 13C-1,2,3,6,7,8-HxCDF	31.065	146736840	0.53							
1,2,3,6,7,8-HxCDF	31.079	93949405	1.28	1.4794	50.7	50.7	0.2473	0.2473	101	
D 13C-2,3,4,6,7,8-HxCDF	31.811	135914642	0.53							
2,3,4,6,7,8-HxCDF	31.824	88528007	1.29	1.3833	51.1	51.1	0.2645	0.2645	102	
D 13C-1,2,3,7,8,9-HxCDF	32.570	135406427	0.53							
1,2,3,7,8,9-HxCDF	32.583	84522144	1.27	1.2903	52.3	52.3	0.2835	0.2835	105	
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					204.7	204.7	0.2667	0.2667		
* 13C-1,2,3,7,8,9-HxCDD	32.397	131165458	1.32	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.984	94535208	1.32							
1,2,3,4,7,8-HxCDD	31.997	56160164	1.27	1.0646	49.3	49.3	0.1468	0.1468	98.68	
D 13C-1,2,3,6,7,8-HxCDD	32.077	106916598	1.15	0.8502	95.9	95.9	0.2949	0.2949	95.88	
1,2,3,6,7,8-HxCDD	32.091	61688421	1.31	1.1809	48.9	48.9	0.1323	0.1323	97.72	
1,2,3,7,8,9-HxCDD	32.410	65861030	1.27	1.2311	50.0	50.0	0.1269	0.1269	100	
A Non-2,3,7,8-sub-HxCDD	31.252						0.0	0.0		
S Total HxCDD					148.2	148.2	0.1353	0.1353		
D 13C-1,2,3,4,6,7,8-HpCDF	33.985	84318353	0.44	0.6490	99.1	99.1	0.9200	0.9200	99.06	
1,2,3,4,6,7,8-HpCDF	33.998	68122915	1.02	1.5871	50.9	50.9	0.4723	0.4723	102	
D 13C-1,2,3,4,7,8,9-HpCDF	35.103	73093079	0.43							
1,2,3,4,7,8,9-HpCDF	35.116	54002064	1.05	1.2290	52.1	52.1	0.6099	0.6099	104	
A Non-2,3,7,8-sub-HpCDF	34.563						0.0	0.0		
S Total HpCDF					103.0	103.0	0.5411	0.5411		
D 13C-1,2,3,4,6,7,8-HpCDD	34.799	74310667	1.07	0.5387	105.2	105.2	0.6036	0.6036	105	
1,2,3,4,6,7,8-HpCDD	34.812	41852436	1.08	1.1631	48.4	48.4	0.2211	0.2211	96.84	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					48.4	48.4	0.2211	0.2211		
D 13C-OCDD	37.233	107683153	0.90	0.4009	204.8	204.8	0.2513	0.2513	102	
OCDF	37.329	67435162	0.95	1.2649	99.0	99.0	0.1360	0.1360	99.02	
OCDD	37.233	54996123	0.88	1.0390	98.3	98.3	0.1420	0.1420	98.31	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

Report Date: 20-Nov-2017 11:48:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_79.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2017 09:52:43 ALS Bottle#: 2 Worklist Smp#: 79
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111617I CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:48:57 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 19-Nov-2017 10:40:31

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.219	18.219	0		62765982	14983666	16304	40760	919		
333.9339	18.219	18.219	0		79925372	19481068	11999	29997	1624	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.690	17.690	0	0.971	92972808	22348662	26726	66815	836		
317.9389	17.690	17.690	0	0.971	115953519	27835017	19080	47700	1459	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.705	17.705	0	1.001	9783612	2342474	2948	7370	795		
305.8987	17.705	17.705	0	1.001	12390938	2938939	3578	8945	821	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						2948	7370			
305.8987	17.402						3578	8945			
13C-2,3,7,8-TCDD											
331.9368	18.415	18.415	0	1.011	62345454	13836722	16304	40760	849		
333.9339	18.415	18.415	0	1.011	76096558	17052294	11999	29997	1421	0.82(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.445	18.445	0	1.012	16581115	3767717	6168	15420	611		
2,3,7,8-TCDD											
319.8965	18.445	18.445	0	1.002	6572137	1449037	2844	7110	510		
321.8936	18.445	18.445	0	1.002	8538422	1898857	2323	5807	817	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						2844	7110			
321.8936	17.871						2323	5807			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.855	22.855	0	1.255	100680190	17028883	27379	68447	622		
353.8970	22.855	22.855	0	1.255	63105904	10800186	16225	40562	666	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.883	22.883	0	1.001	55696150	9480070	14465	36162	655		
341.8567	22.896	22.883	1	1.002	34413676	5706107	10256	25640	556	1.62(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.246	24.246	0	1.331	95790761	14976986	27379	68447	547		
353.8970	24.246	24.246	0	1.331	59359621	9522858	16225	40562	587	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.274	24.274	0	1.062	52829789	8397359	14465	36162	581		
341.8567	24.274	24.274	0	1.062	34259533	5470686	10256	25640	533	1.54(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.426						669	1672			
341.8567	20.426						1164	2910			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						14465	36162			
341.8567	23.668						10256	25640			
13C-1,2,3,7,8-PeCDD											
367.8949	24.983	24.983	0	1.371	67327885	10213373	6750	16875	1513		
369.8919	24.983	24.983	0	1.371	40802958	6399678	5857	14642	1093	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.024	25.024	0	1.002	35763968	5319022	4142	10355	1284		
357.8516	25.010	25.024	-1	1.001	21768214	3295409	1912	4780	1724	1.64(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.885						4142	10355			
357.8516	23.885						1912	4780			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.906	30.906	0	0.954	43876100	9601895	21373	53432	449		
385.8610	30.906	30.906	0	0.954	81377972	17211423	41450	103625	415	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.919	30.919	0	1.000	48177713	10731261	21220	53050	506		
375.8178	30.919	30.919	0	1.000	37188344	8359964	18019	45047	464	1.30(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.065	31.065	0	0.959	50677672	10891597	21373	53432	510		
385.8610	31.065	31.065	0	0.959	96059168	19914169	41450	103625	480	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.079	31.079	0	1.006	52686474	11292656	21220	53050	532		
375.8178	31.079	31.079	0	1.006	41262931	8907031	18019	45047	494	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.811	31.811	0	0.982	47278145	12166302	21373	53432	569		
385.8610	31.811	31.811	0	0.982	88636497	22936795	41450	103625	553	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.824	31.824	0	1.030	49844561	13092707	21220	53050	617		
375.8178	31.824	31.824	0	1.030	38683446	10213457	18019	45047	567	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.570	32.570	0	1.005	46666638	12497726	21373	53432	585		
385.8610	32.570	32.570	0	1.005	88739789	24102934	41450	103625	581	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.583	32.583	0	1.054	47215437	12702741	21220	53050	599		
375.8178	32.583	32.583	0	1.054	37306707	10358572	18019	45047	575	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						21220	53050			
375.8178	30.653						18019	45047			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.397	32.397	0		74538392	20494090	17821	44552	1150		
403.8529	32.397	32.397	0		56627066	15250357	18027	45067	846	1.32(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.984	31.984	0	0.987	53812806	15097676	17821	44552	847		
403.8529	31.984	31.984	0	0.987	40722402	12032697	18027	45067	667	1.32(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.997	31.997	0	0.998	31369676	8865322	9913	24782	894		
391.8127	31.997	31.997	0	0.998	24790488	6991182	7856	19640	890	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.077	32.077	0	0.990	57138120	15465521	17821	44552	868		
403.8529	32.077	32.077	0	0.990	49778478	12966762	18027	45067	719	1.15(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.091	32.091	0	1.000	34953932	9432568	9913	24782	952		
391.8127	32.091	32.091	0	1.000	26734489	7332101	7856	19640	933	1.31(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.410	32.410	0	1.010	36869228	10409954	9913	24782	1050		
391.8127	32.410	32.410	0	1.010	28991802	7992495	7856	19640	1017	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.252						9913	24782			
391.8127	31.252						7856	19640			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.985	33.985	0	1.049	25809795	8704773	28996	72490	300		
419.8220	33.985	33.985	0	1.049	58508558	19800652	56367	140917	351	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.998	33.998	0	1.000	34434526	11355984	43628	109070	260		
409.7789	33.998	33.998	0	1.000	33688389	11014129	41834	104585	263	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.103	35.103	0	1.084	21834917	6797922	28996	72490	234		
419.8220	35.103	35.103	0	1.084	51258162	15524703	56367	140917	275	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.116	35.116	0	1.033	27597049	8367288	43628	109070	192		
409.7789	35.116	35.116	0	1.033	26405015	8043600	41834	104585	192	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.563						43628	109070			
409.7789	34.563						41834	104585			

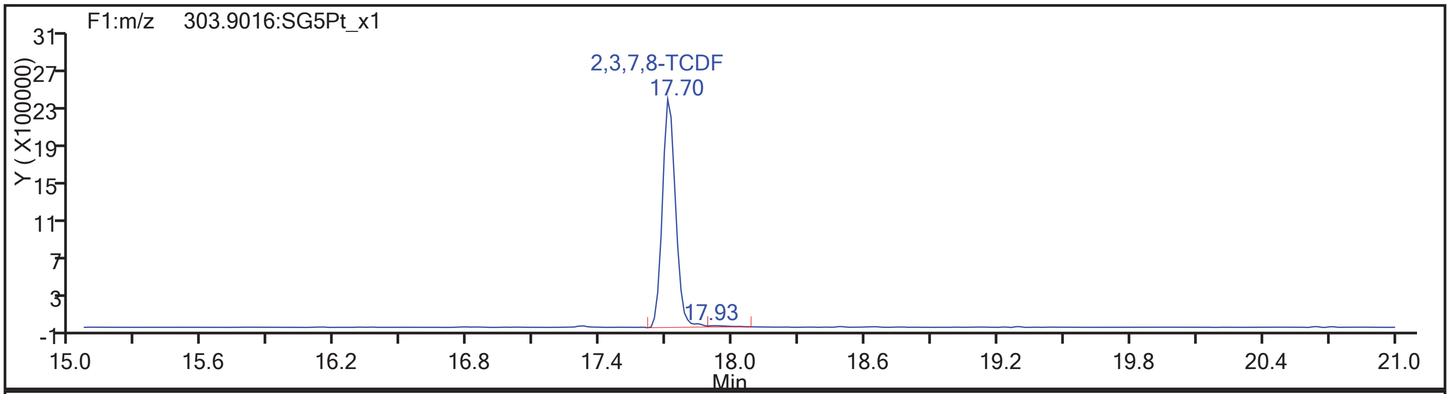
Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.799	34.799	0	1.074	38455030	11743364	28173	70432	417		
437.8140	34.799	34.799	0	1.074	35855637	10992013	18317	45792	600	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.812	34.812	0	1.000	21725944	6679301	11395	28487	586		
425.7737	34.812	34.812	0	1.000	20126492	6222744	11990	29975	519	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						11395	28487			
425.7737	35.261						11990	29975			
13C-OCDD											
469.7779	37.233	37.233	0	1.149	50881882	13409747	6432	16080	2085		
471.7750	37.233	37.233	0	1.149	56801271	14736598	7971	19927	1849	0.90(0.76-1.02)	
OCDF											
441.7428	37.329	37.329	0	1.003	32808228	8809950	5036	12590	1749		
443.7399	37.329	37.329	0	1.003	34626934	9321210	4650	11625	2005	0.95(0.76-1.02)	
OCDD											
457.7377	37.233	37.233	0	1.000	25799719	6783645	3911	9777	1735		
459.7348	37.233	37.233	0	1.000	29196404	7740210	4394	10985	1762	0.88(0.76-1.02)	

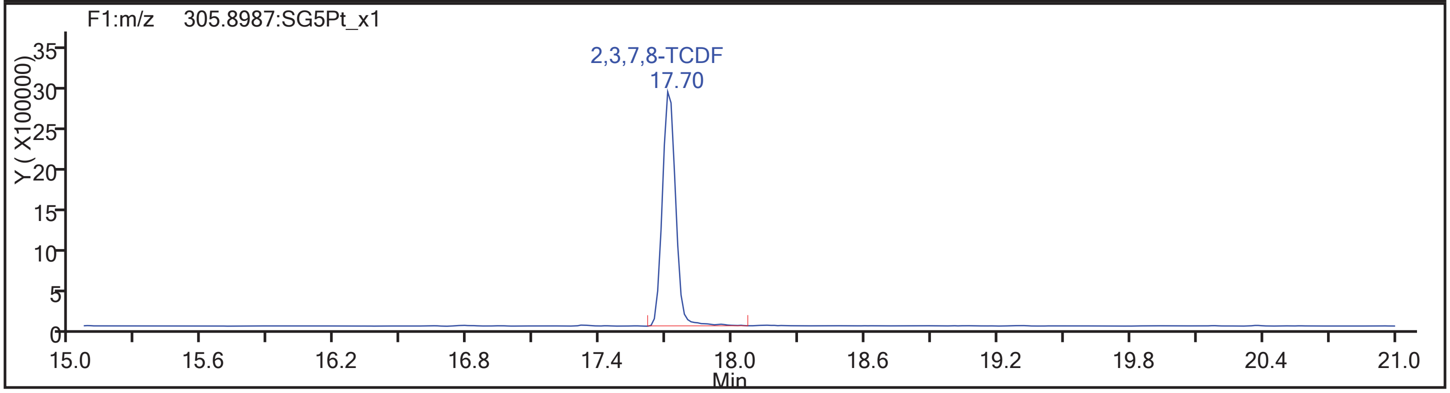
Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

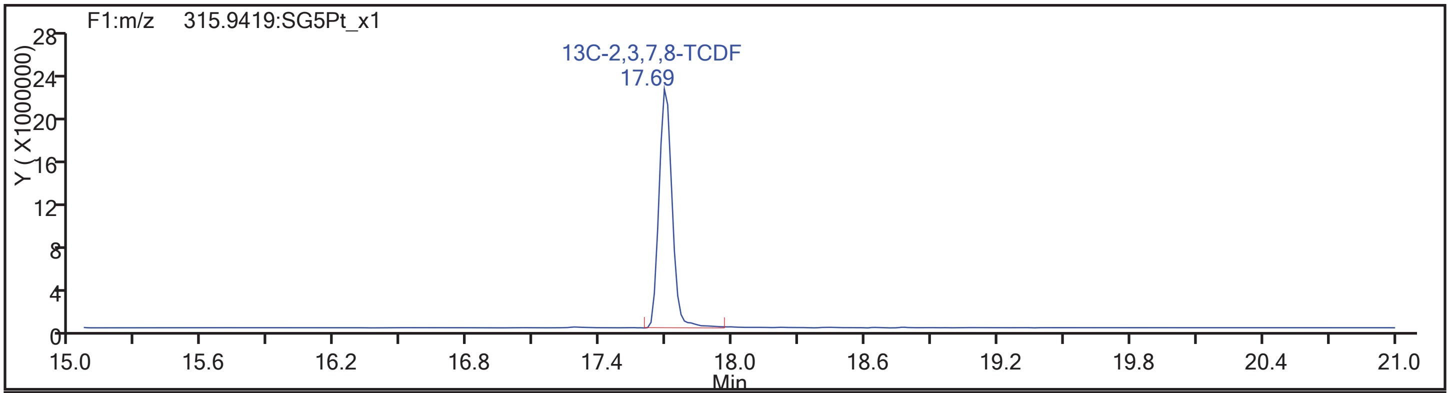
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_79.d		
Injection Date:	19-Nov-2017 09:52:43	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195574	Sample Line#:	79
Column Type:		Column Dia:	

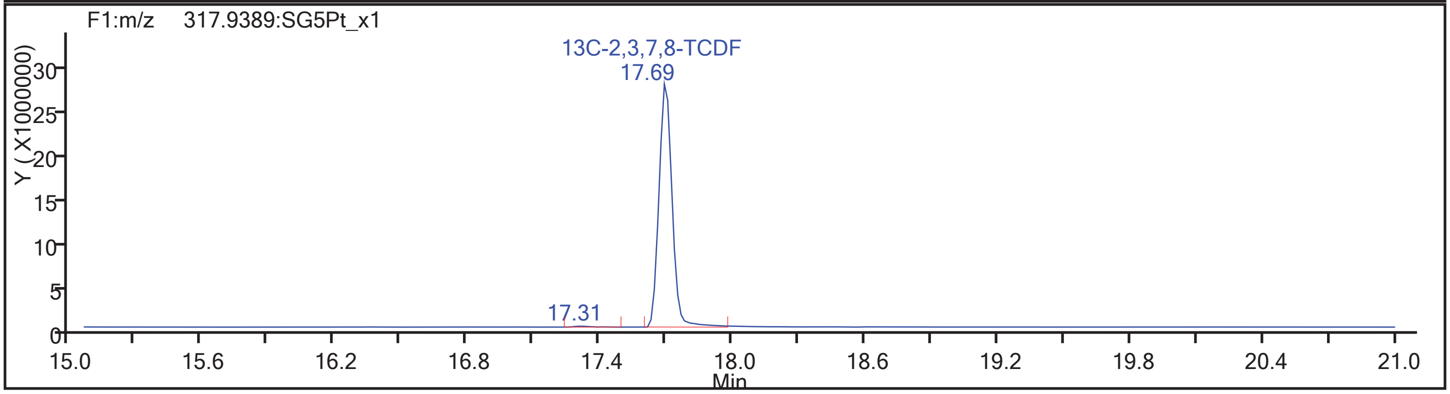
TCDF





TCDF Standards



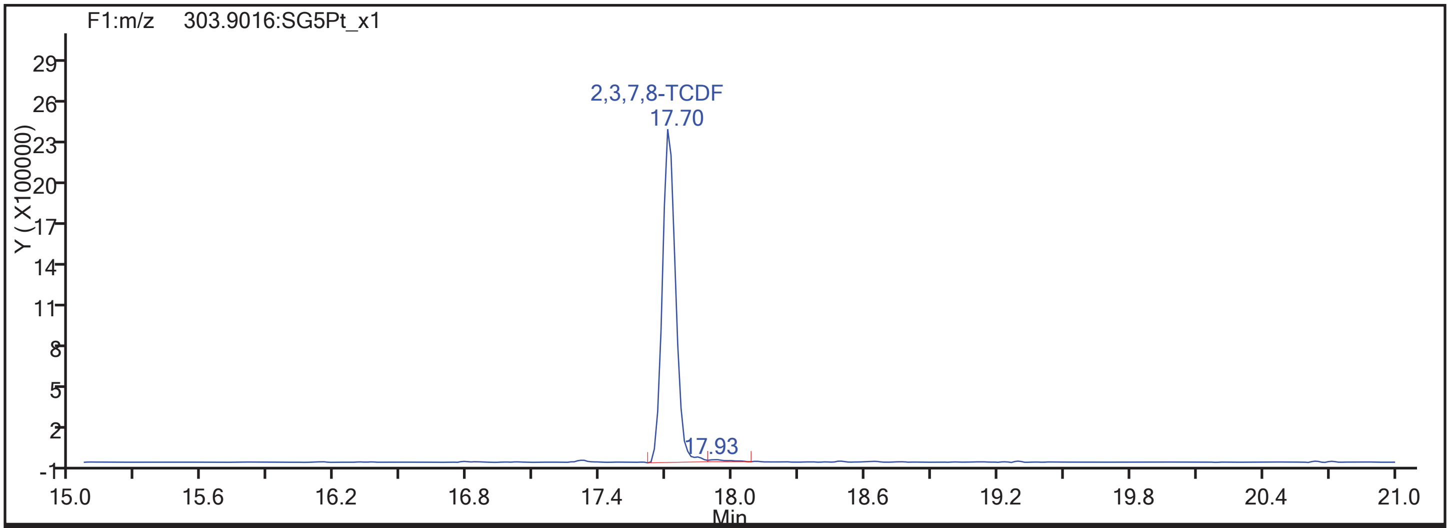


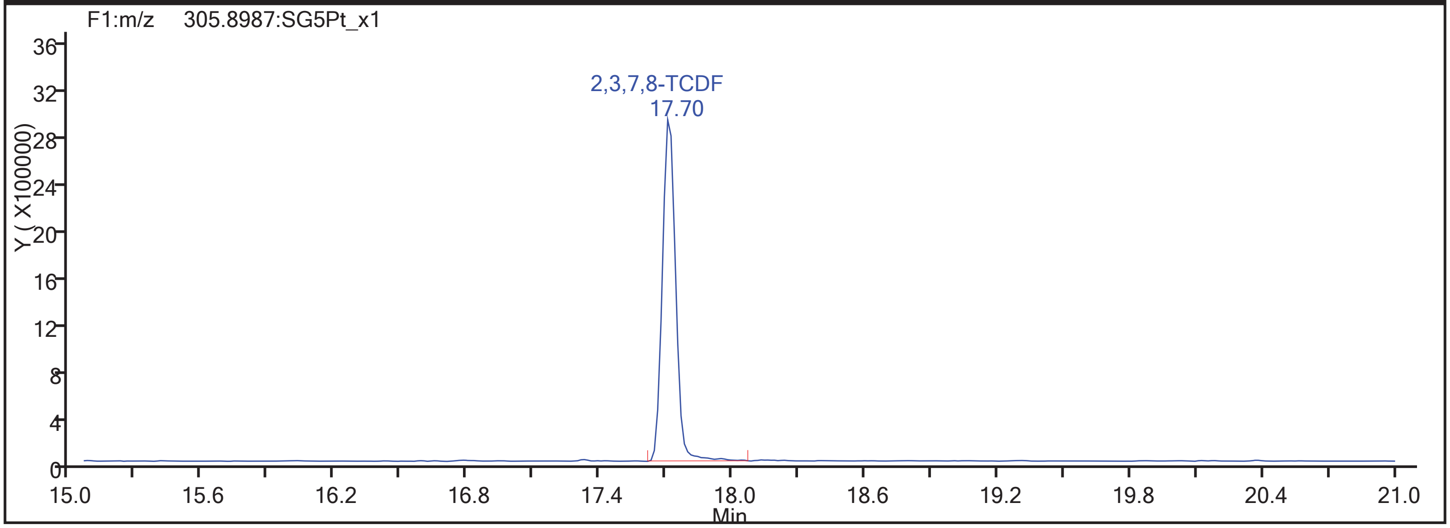
Report Date: 20-Nov-2017 11:48:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

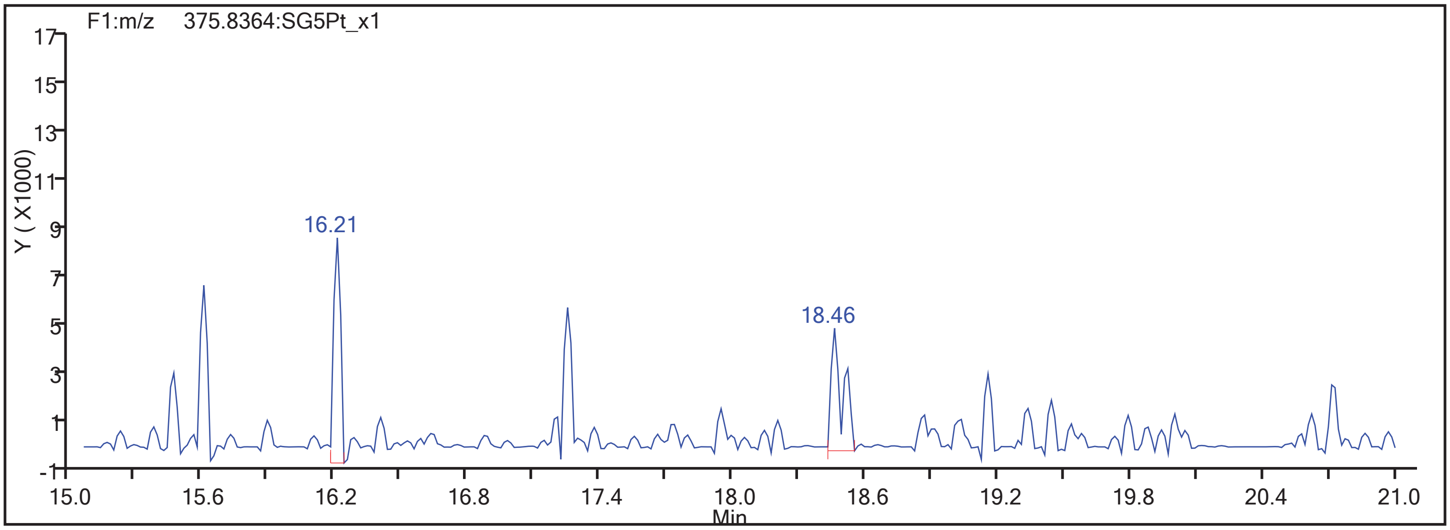
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_79.d		
Injection Date:	19-Nov-2017 09:52:43	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195574	Sample Line#:	79
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass



Report Date: 20-Nov-2017 11:48:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_79.d

Injection Date: 19-Nov-2017 09:52:43 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

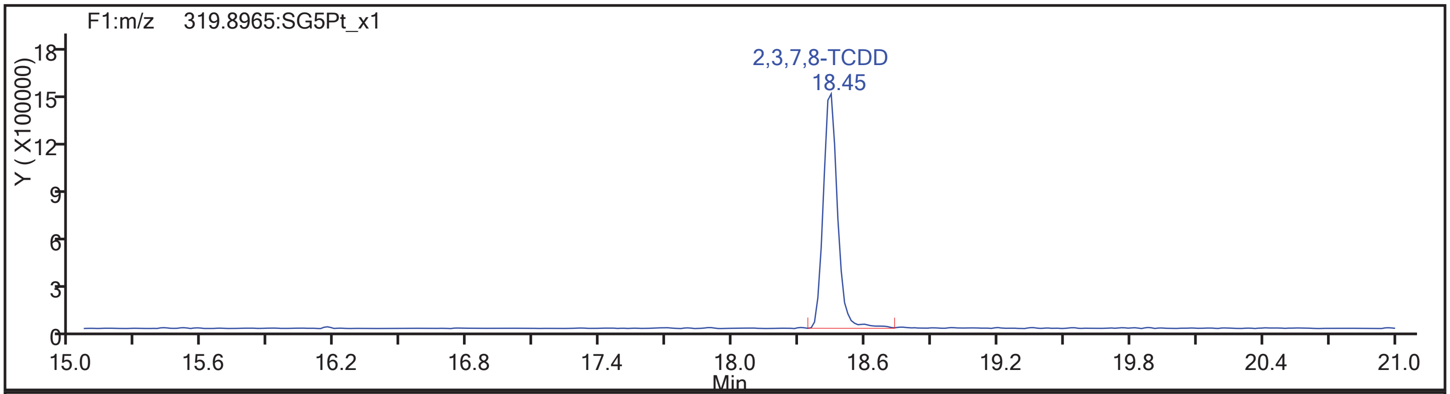
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

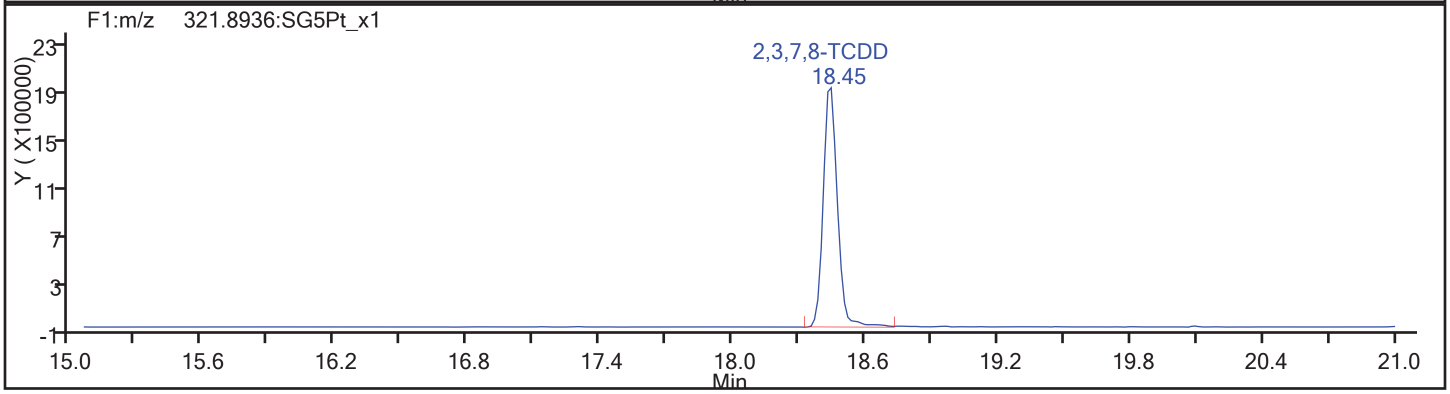
Client ID:

Worklist#: 195574 Sample Line#: 79

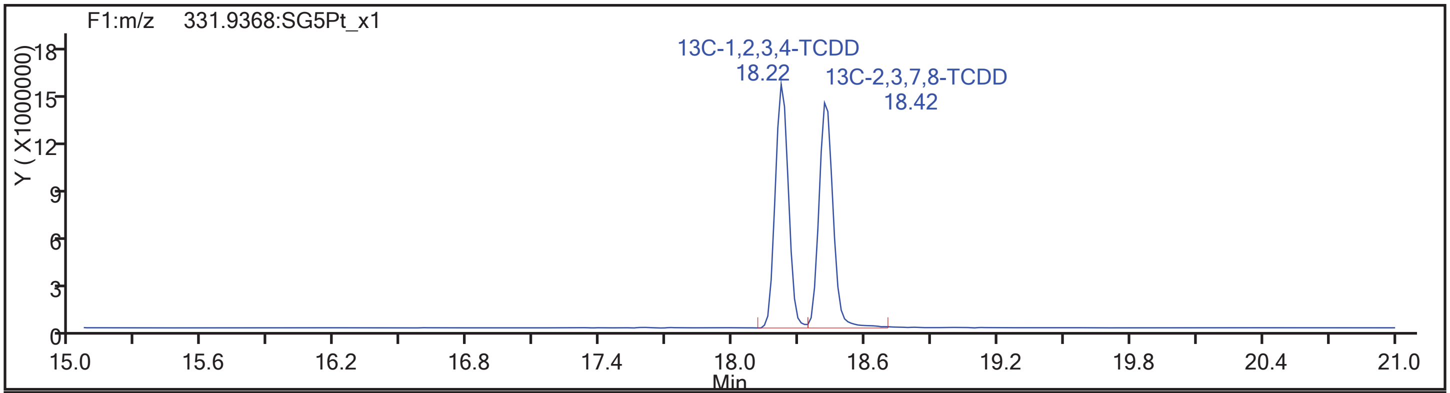
Column Type: Column Dia:

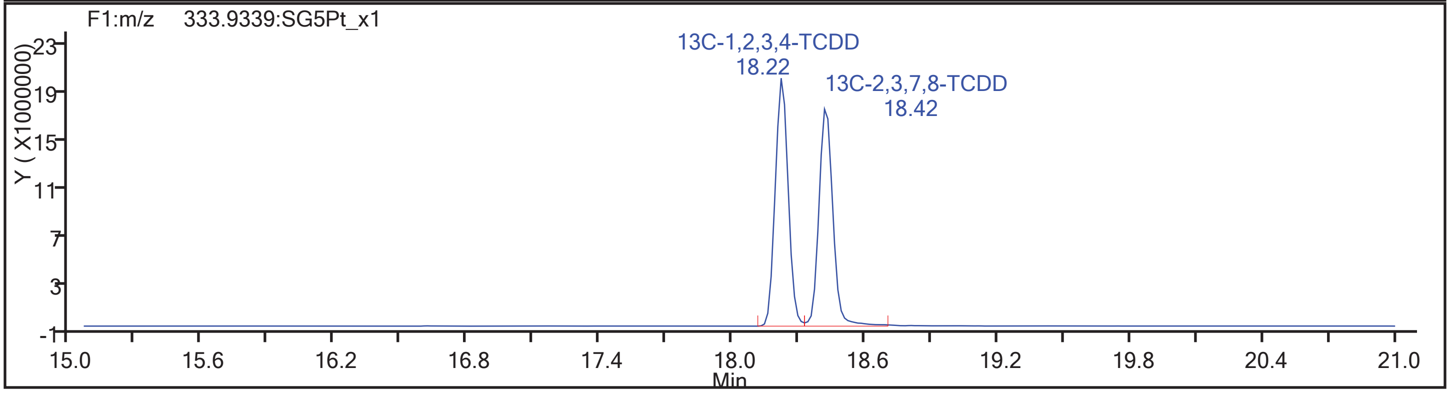
TCDD





TCDD Standards



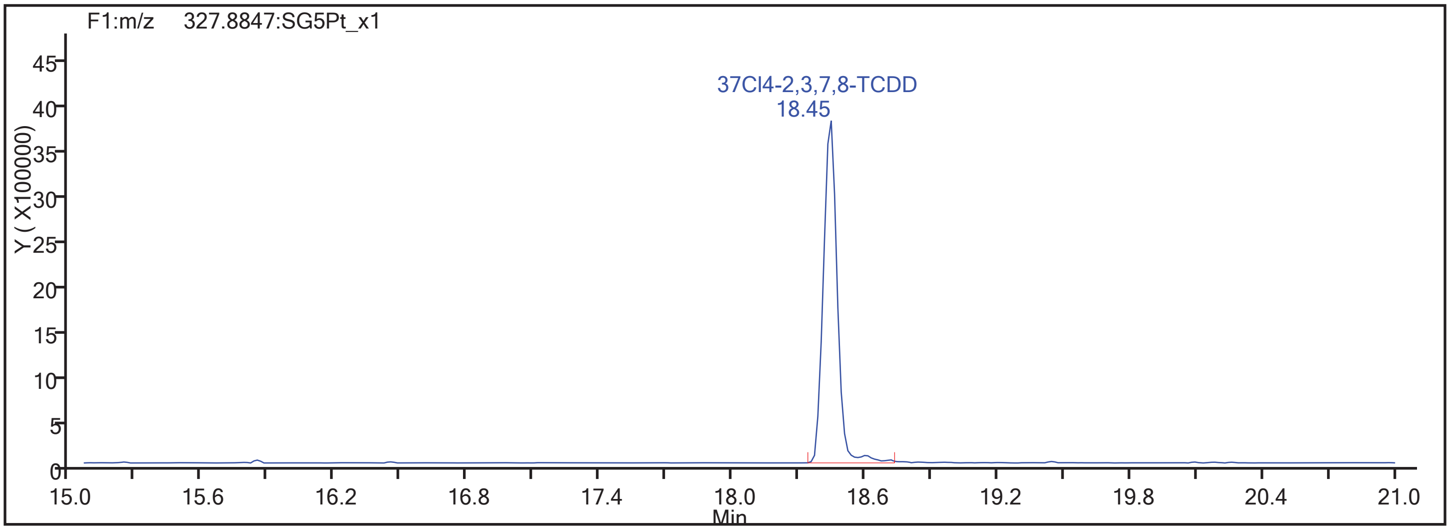


Report Date: 20-Nov-2017 11:48:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

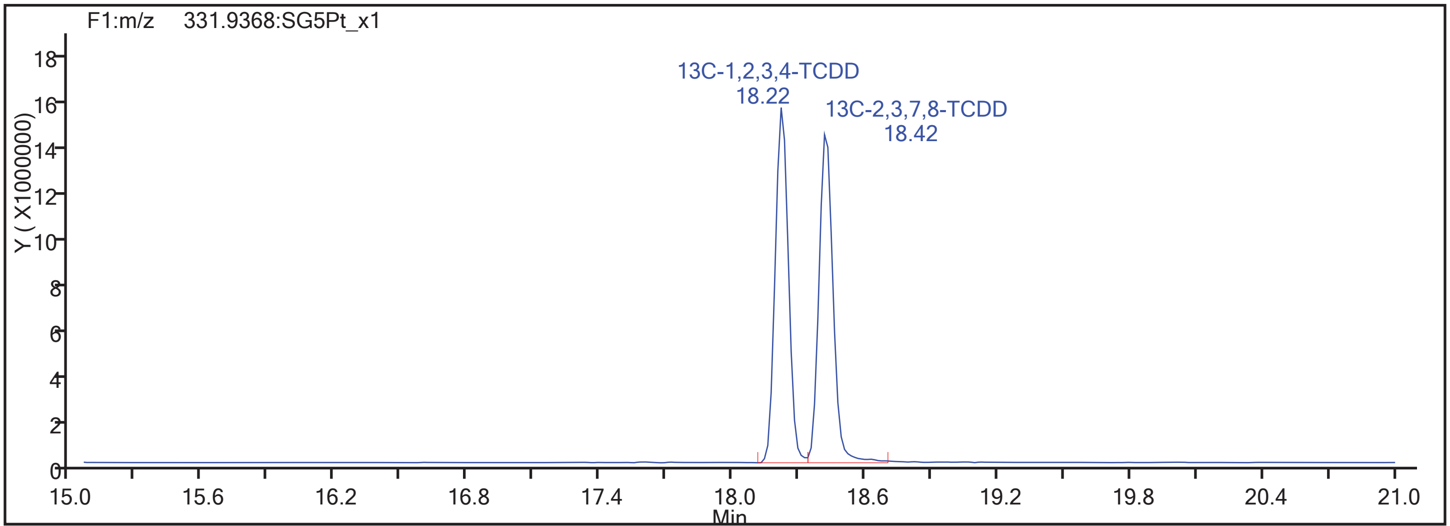
TestAmerica Sacramento

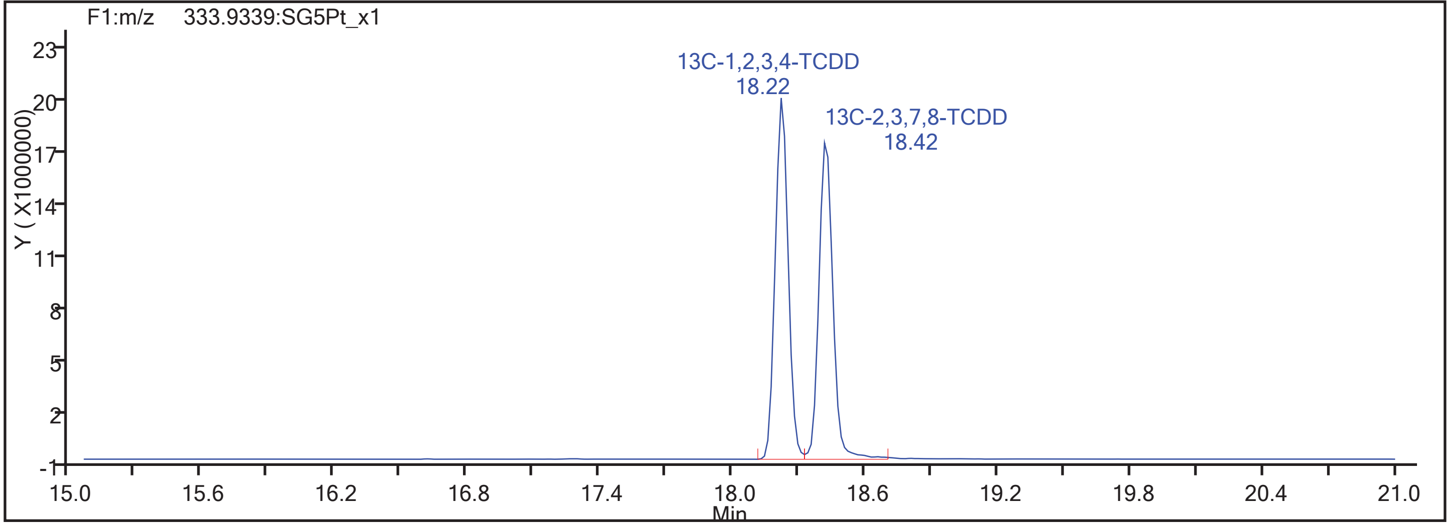
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_79.d		
Injection Date:	19-Nov-2017 09:52:43	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195574	Sample Line#:	79
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



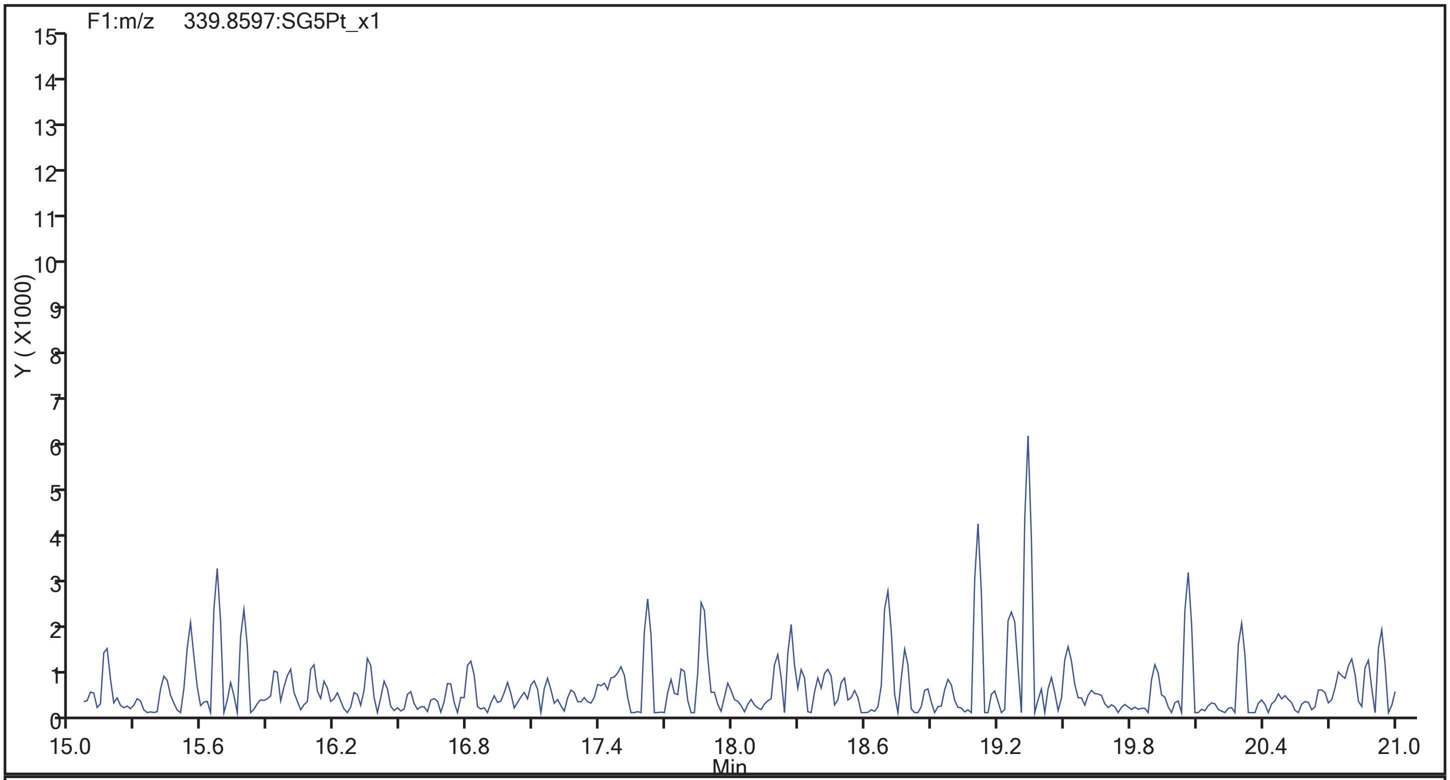


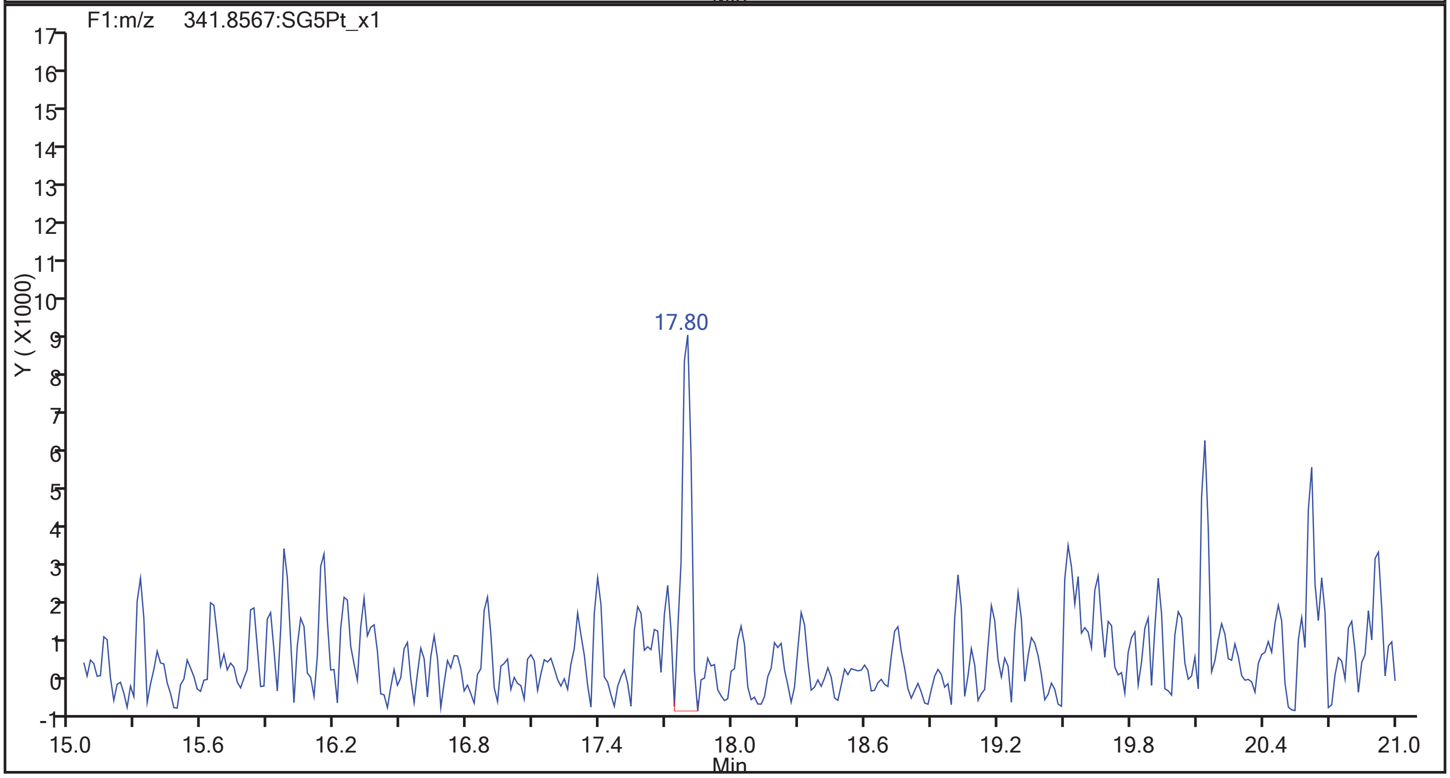
Report Date: 20-Nov-2017 11:48:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_79.d		
Injection Date:	19-Nov-2017 09:52:43	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195574	Sample Line#:	79
Column Type:		Column Dia:	

F1 PeCDFs



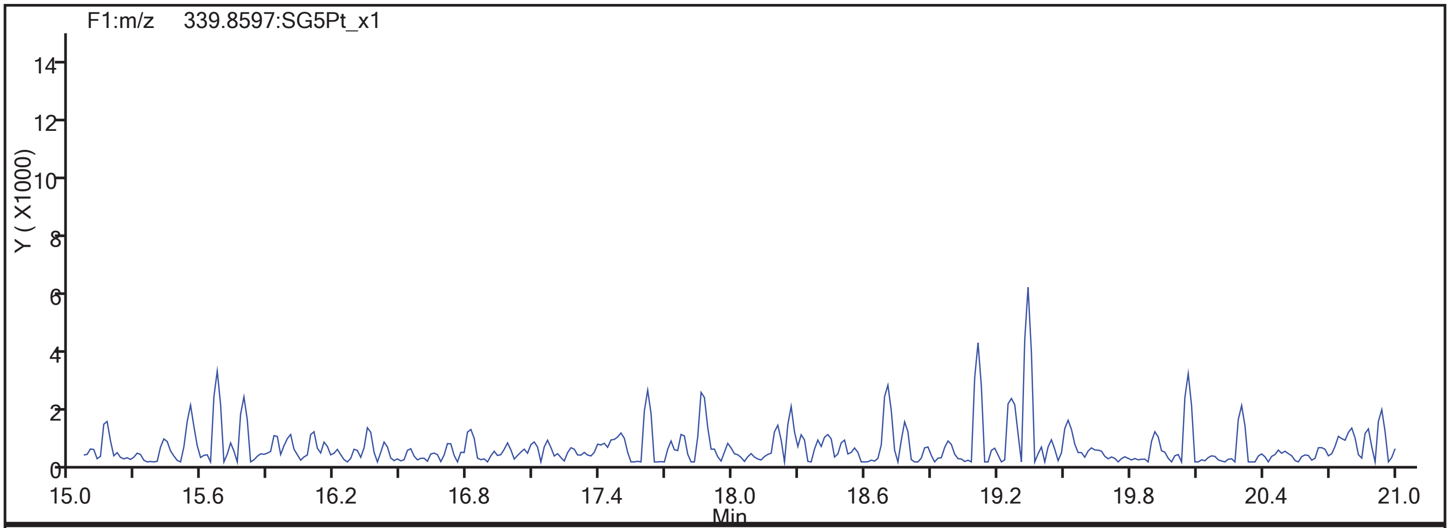


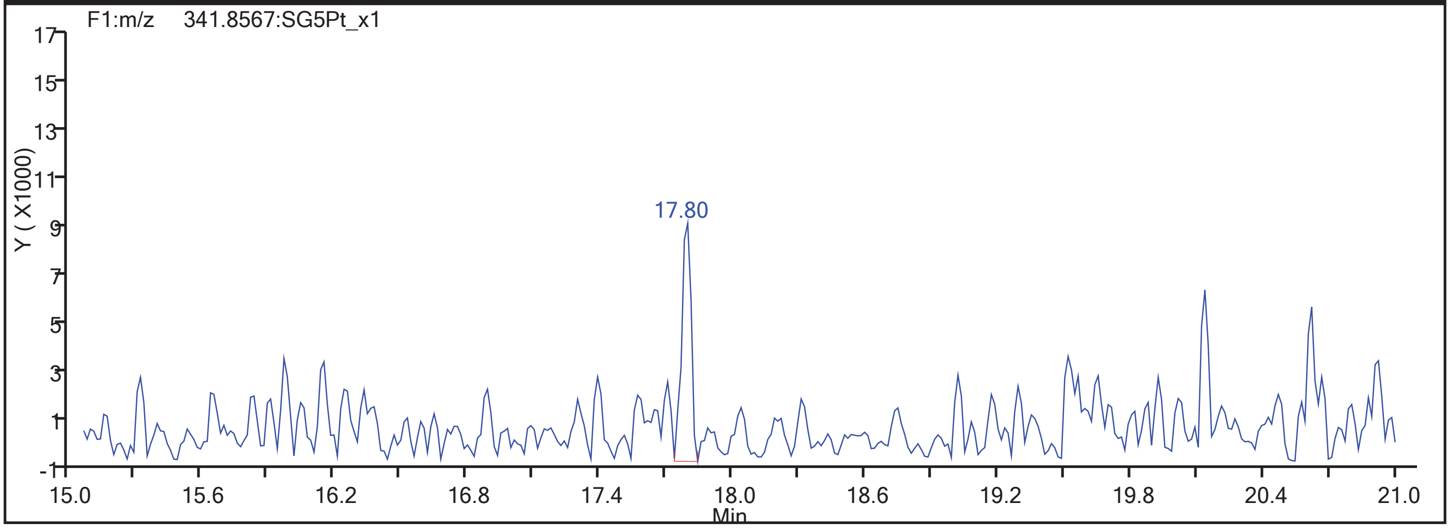
Report Date: 20-Nov-2017 11:48:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

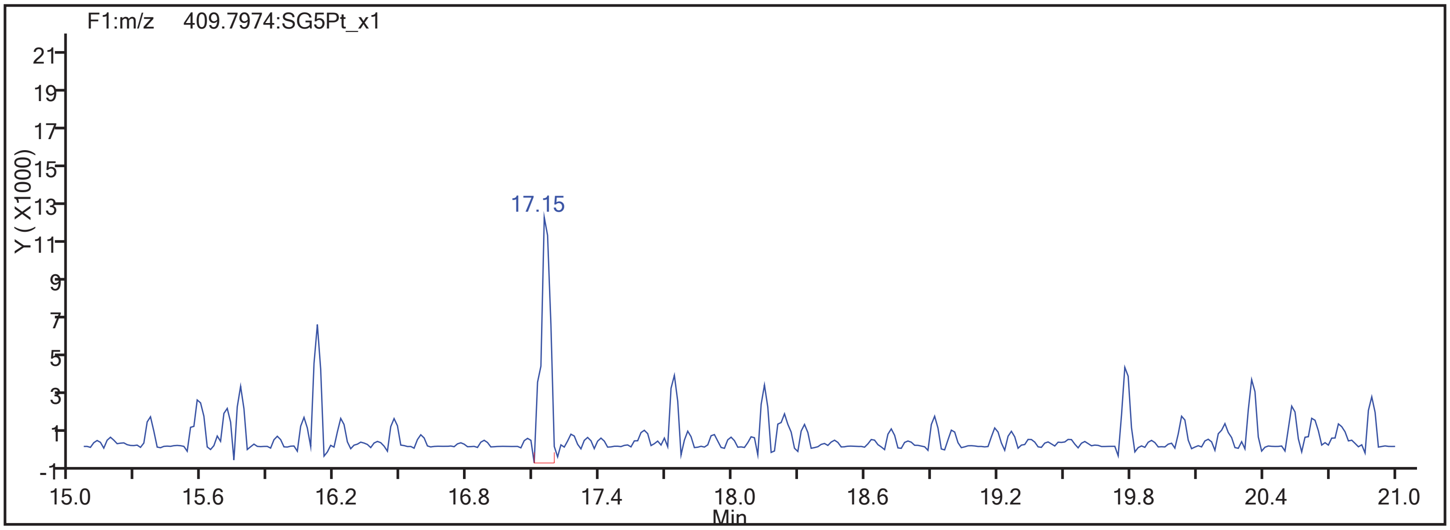
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_79.d		
Injection Date:	19-Nov-2017 09:52:43	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195574	Sample Line#:	79
Column Type:		Column Dia:	

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 20-Nov-2017 11:48:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_79.d
Injection Date: 19-Nov-2017 09:52:43 Injection Vol: 2.0 ul
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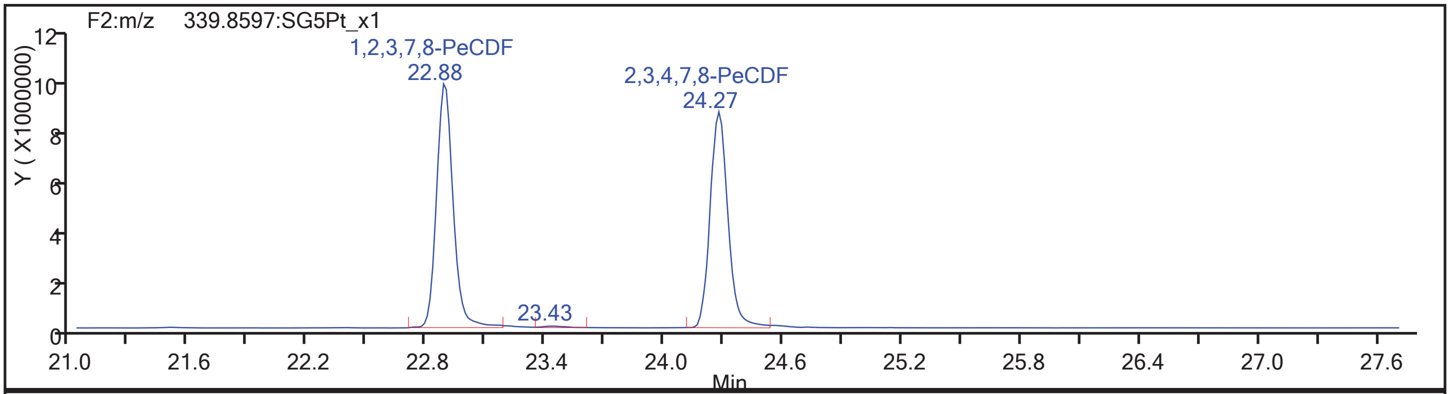
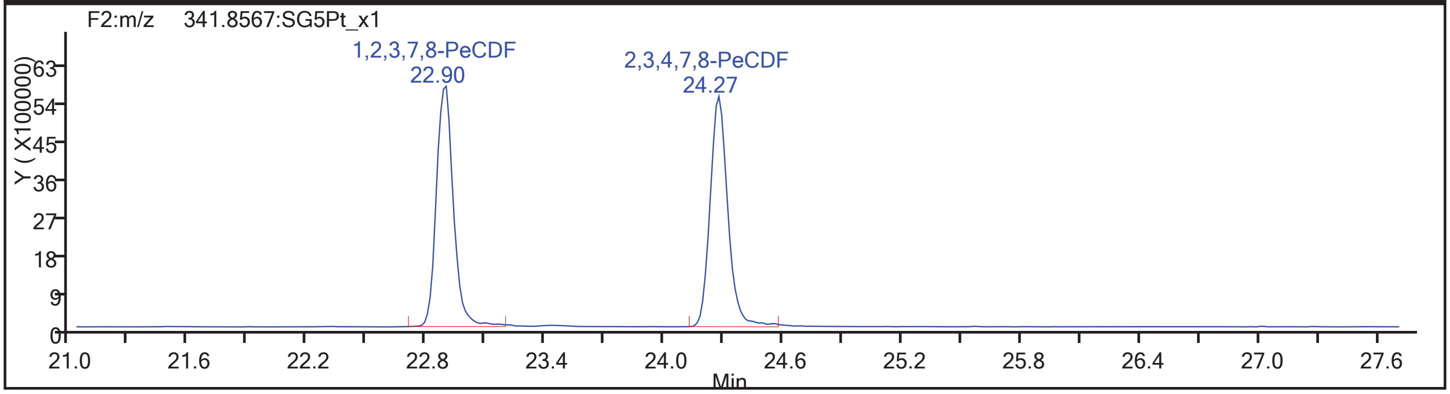
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195574 Sample Line#: 79
Column Type: Column Dia:

PeCDF





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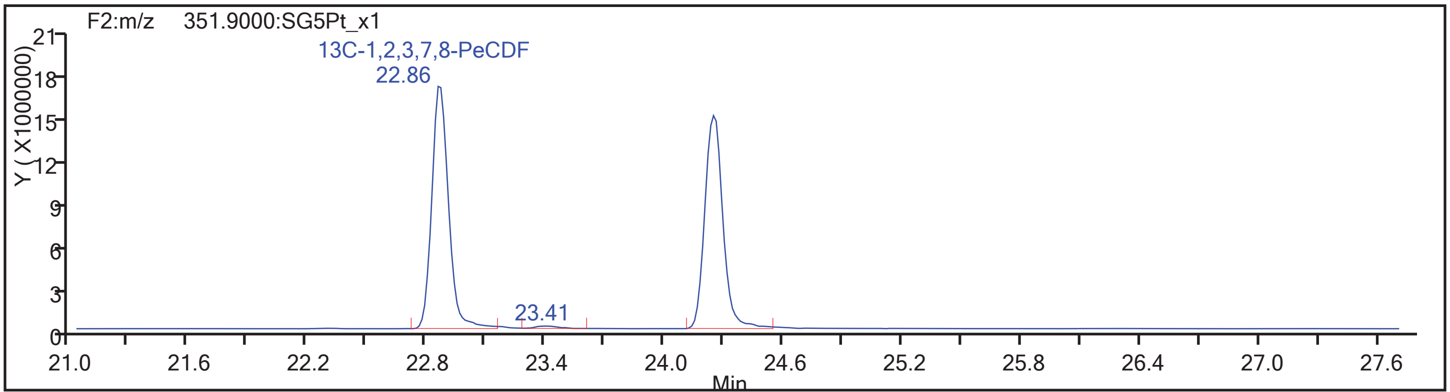

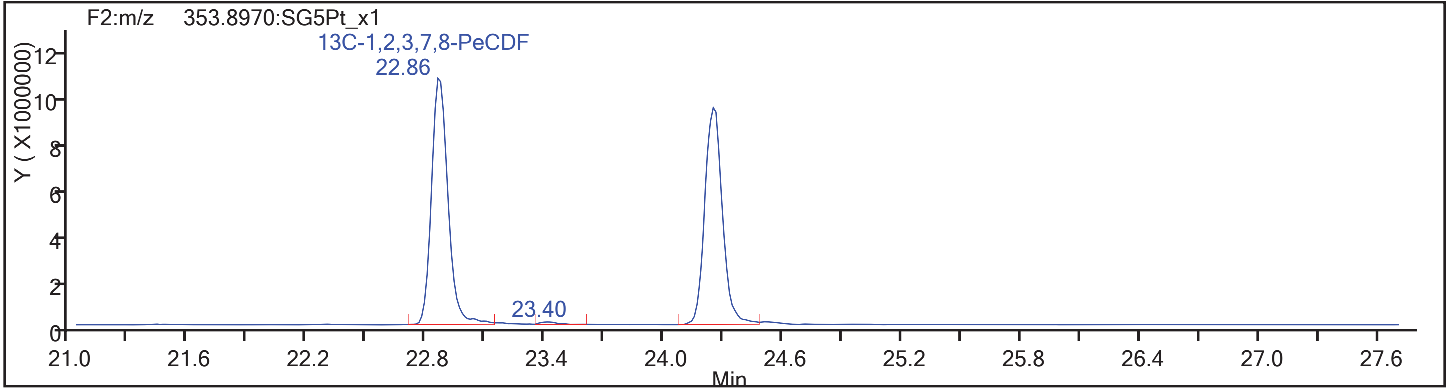

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TestAmerica Sacramento

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Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 195574 Sample Line#: 79

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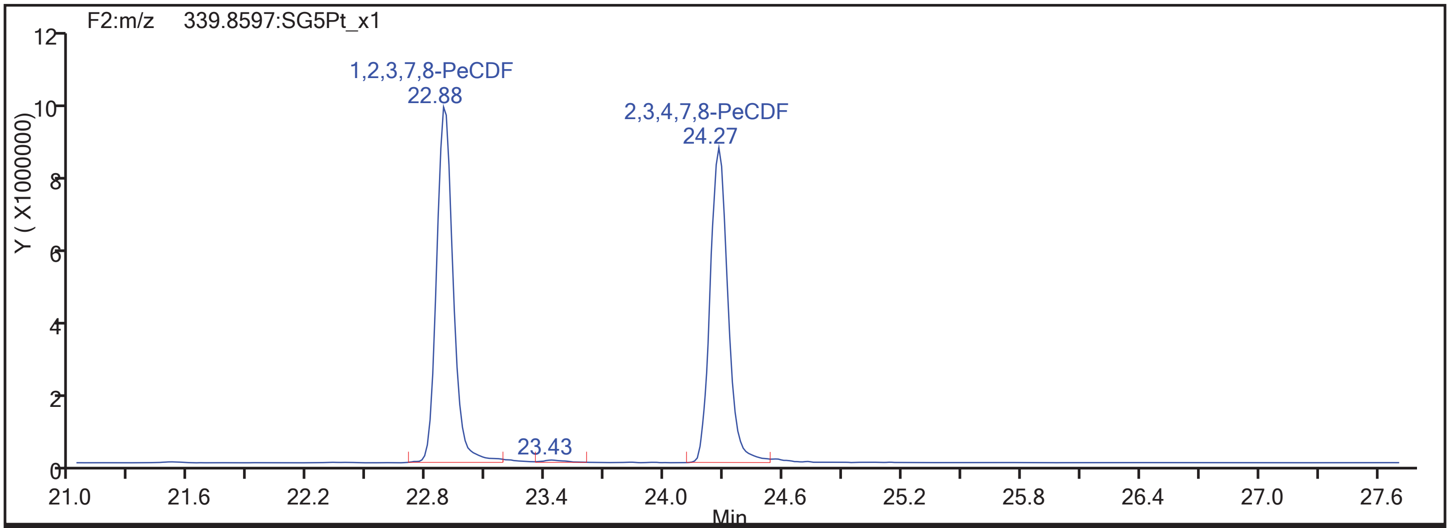

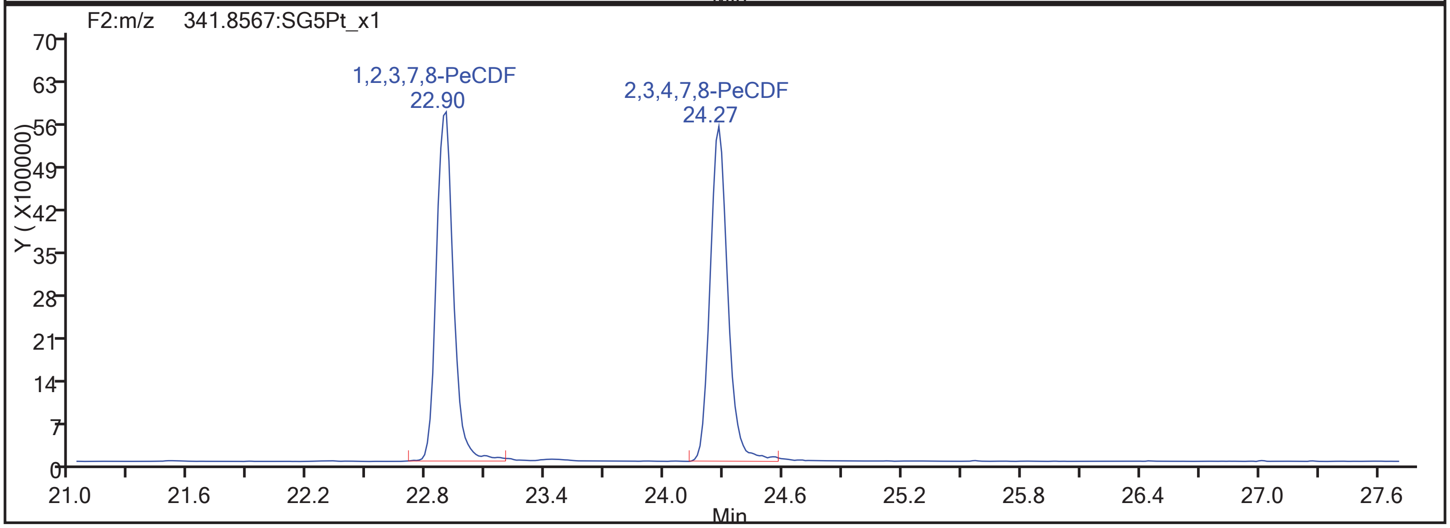

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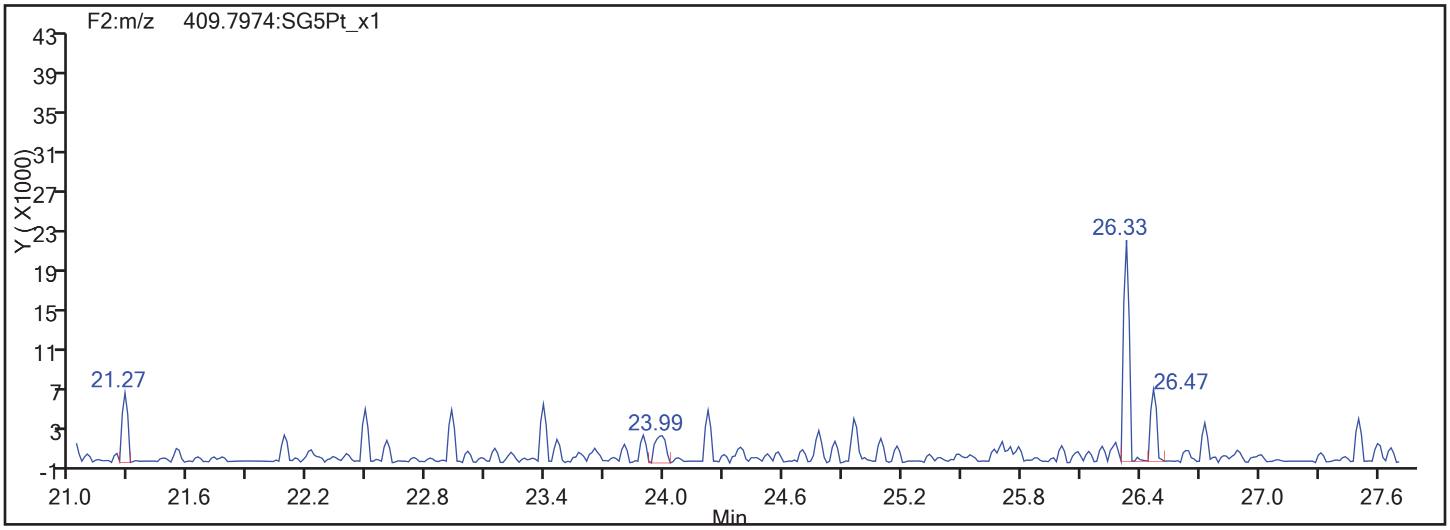

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TestAmerica Sacramento

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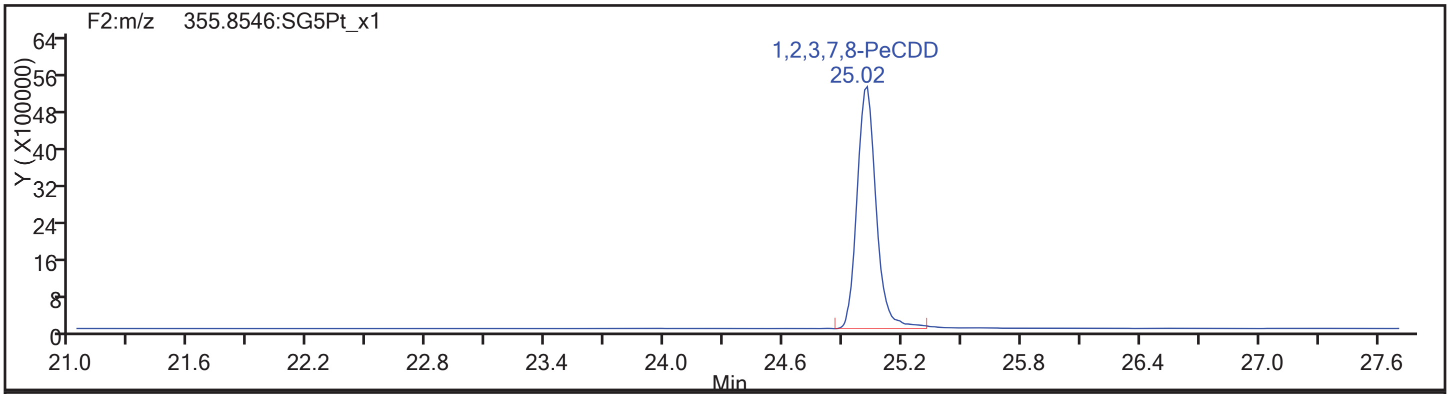

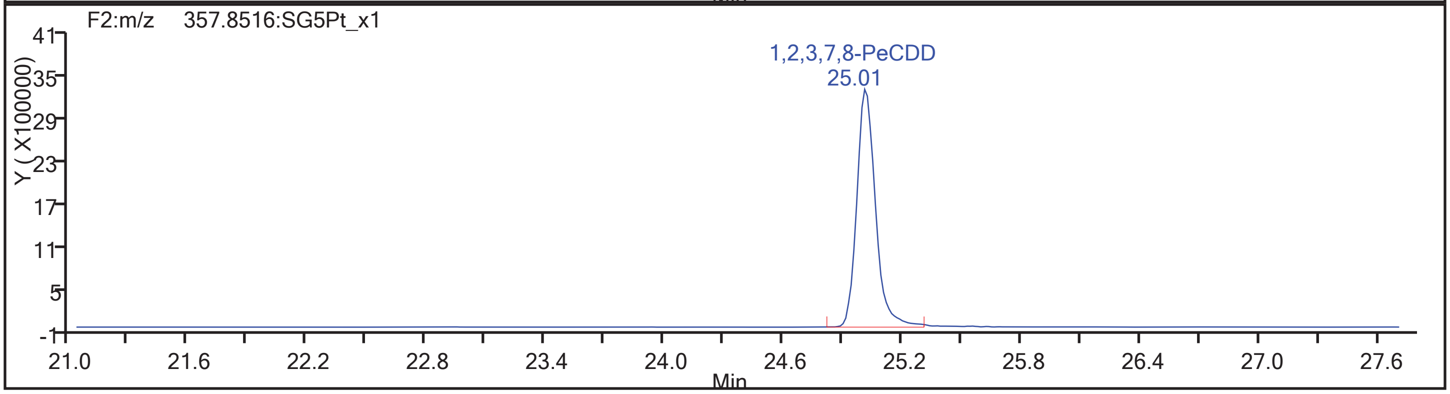

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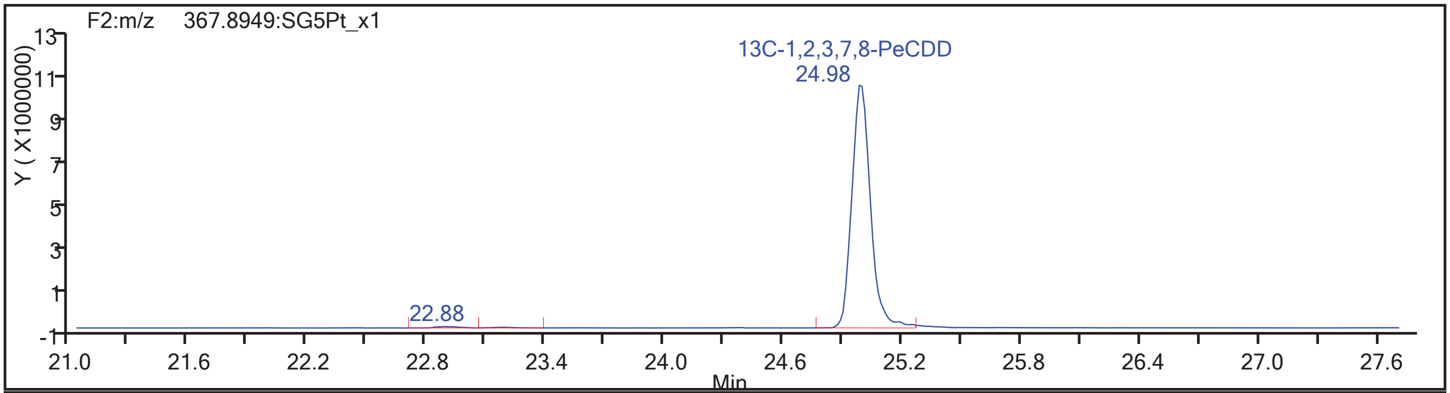

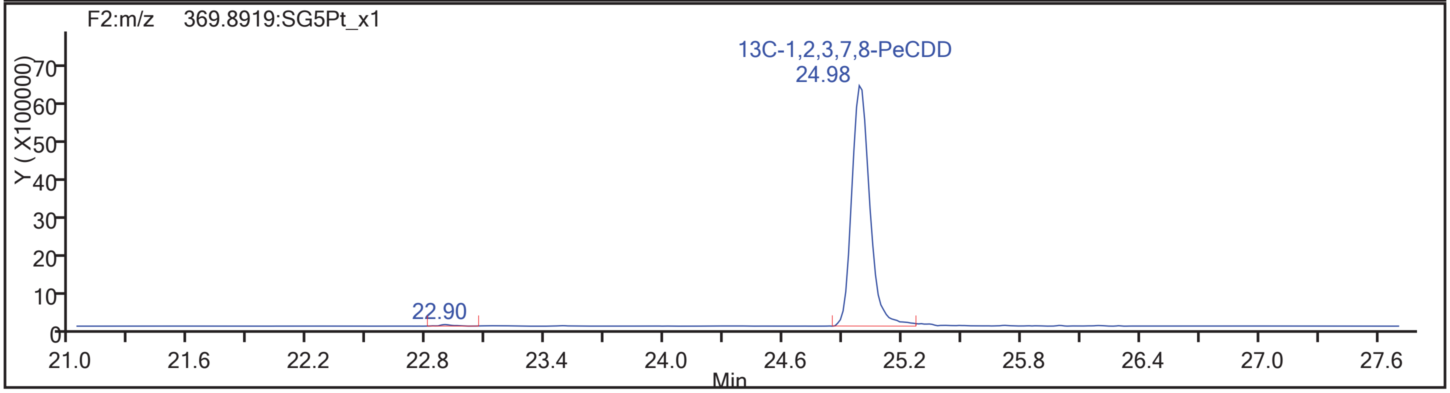

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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195574	Sample Line#:	79
Column Type:		Column Dia:	

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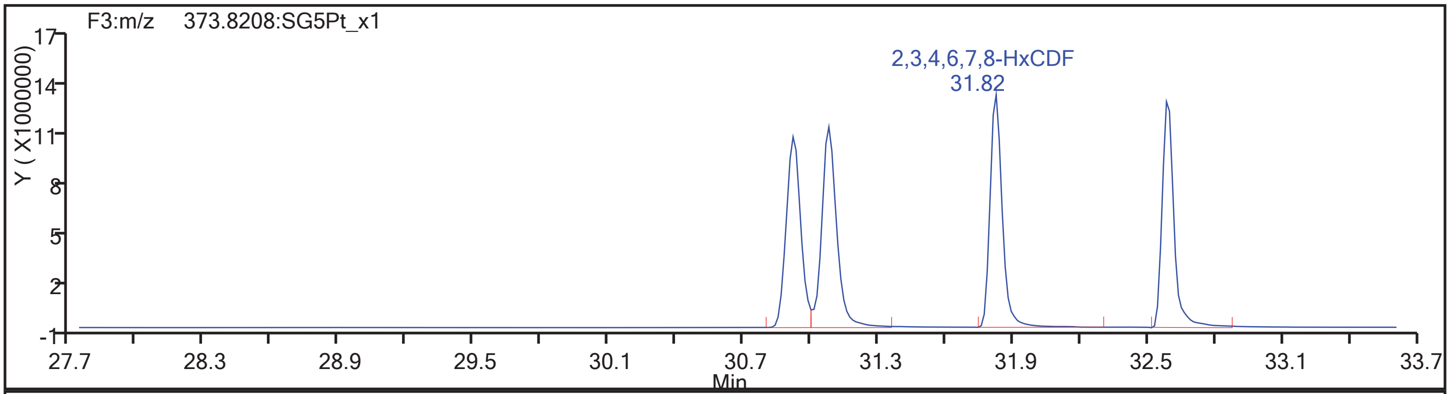

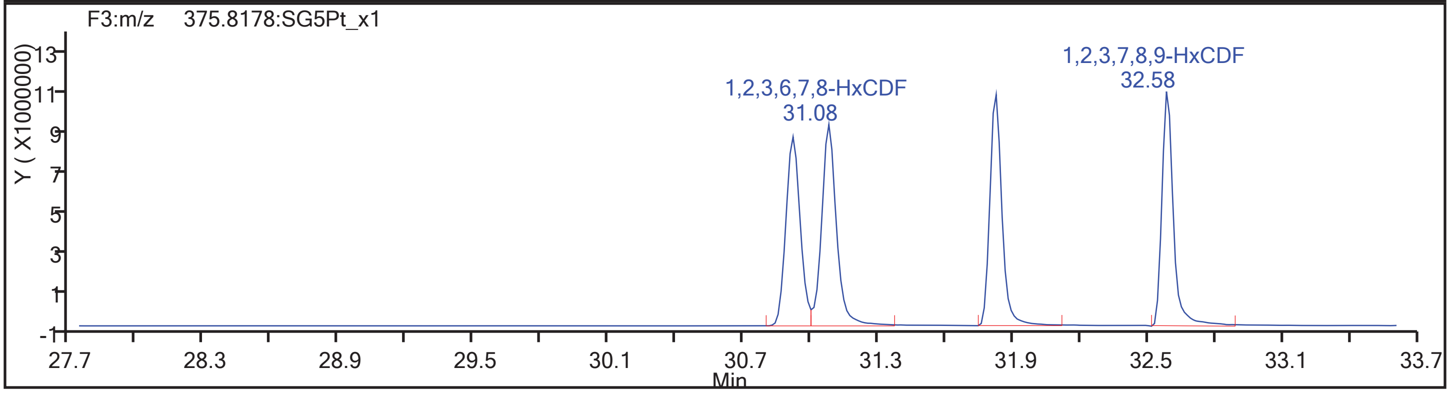

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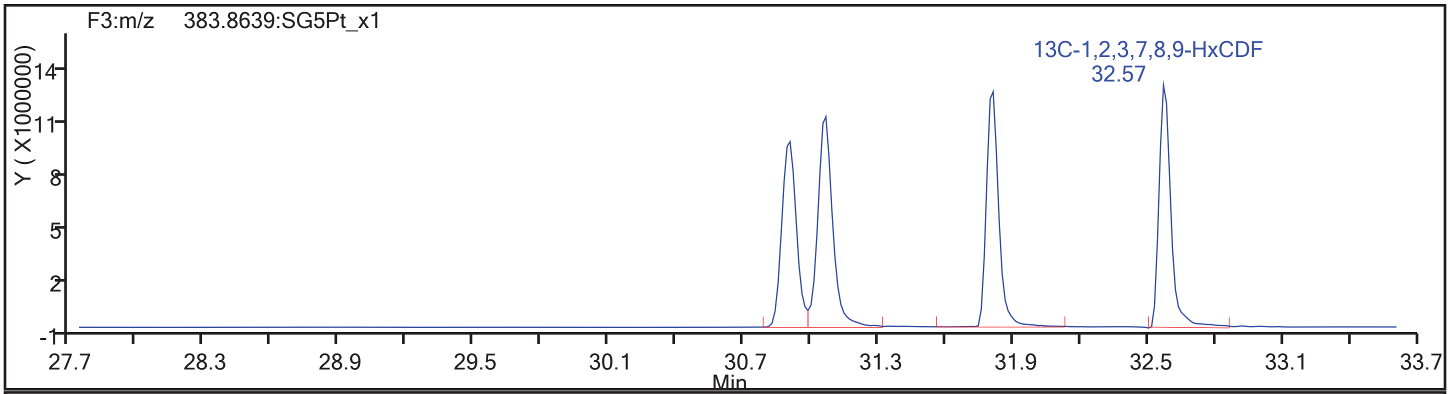

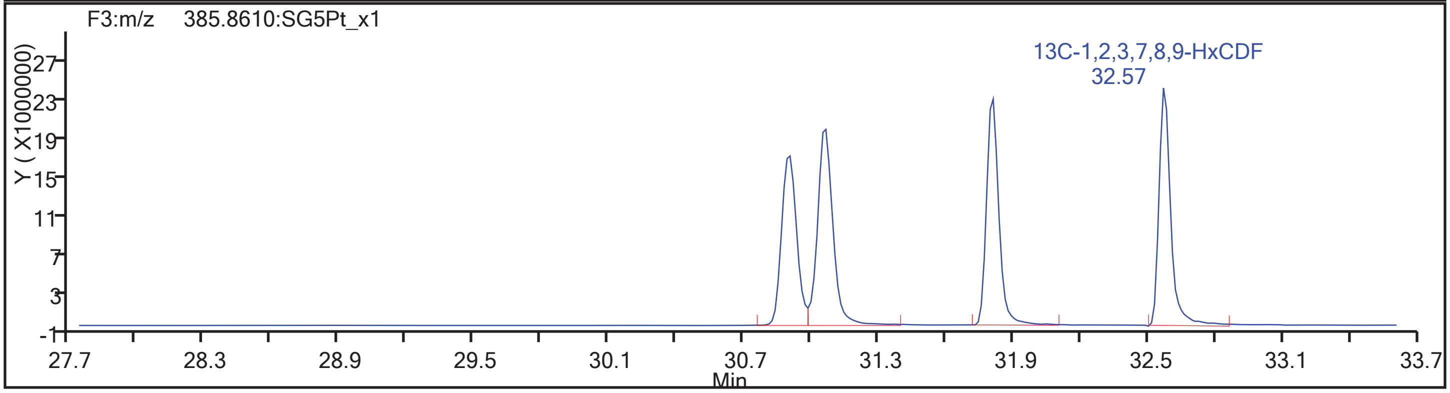

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Injection Vol: 2.0 ul

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Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 195574

Sample Line#: 79

Column Type:

Column Dia:

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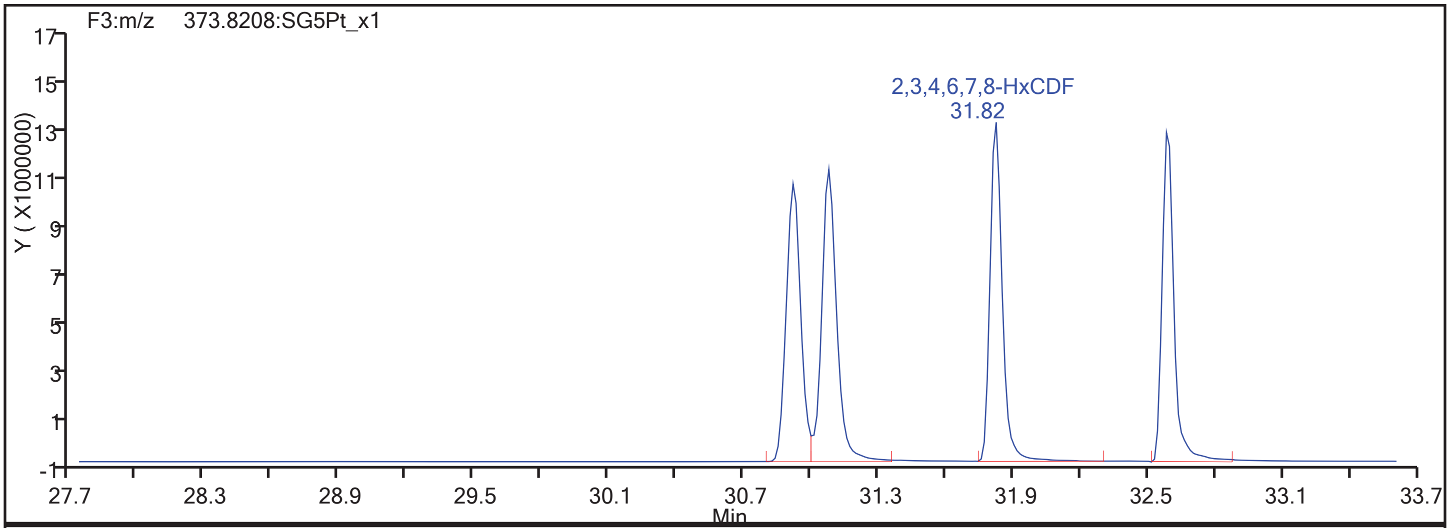
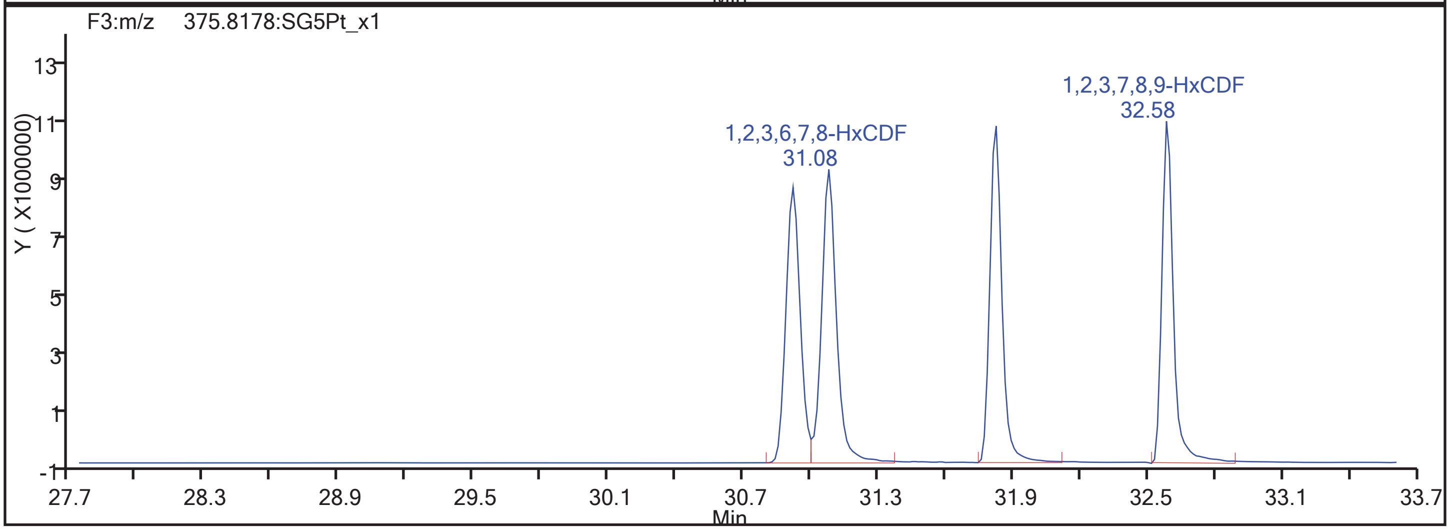
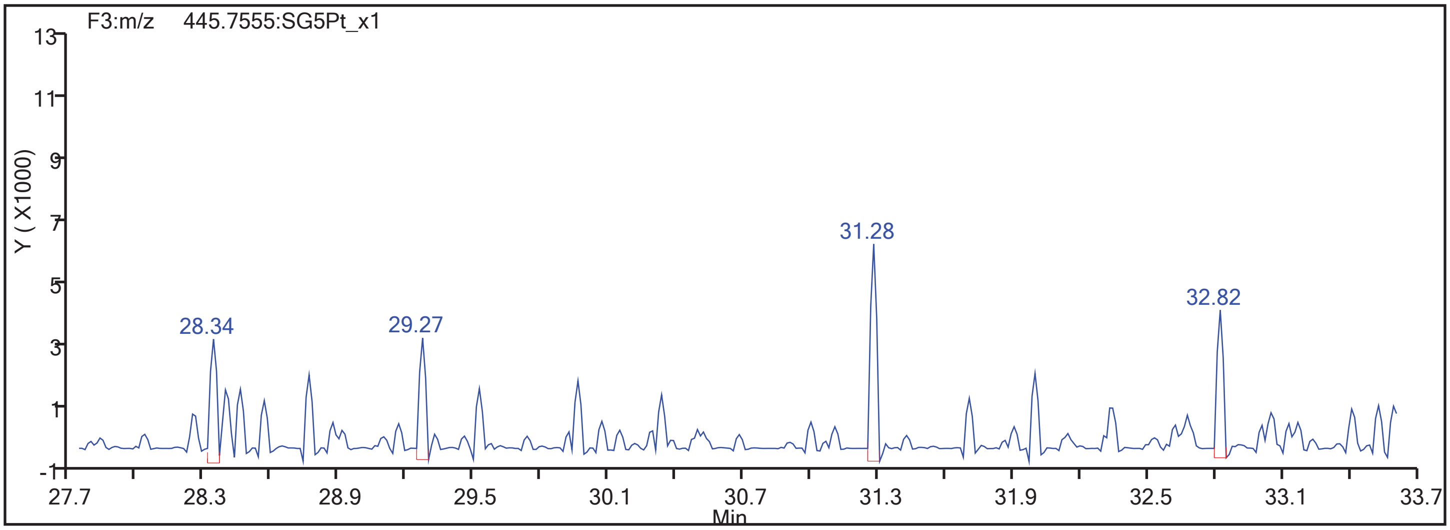




HxCDF Interference Mass



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TestAmerica Sacramento

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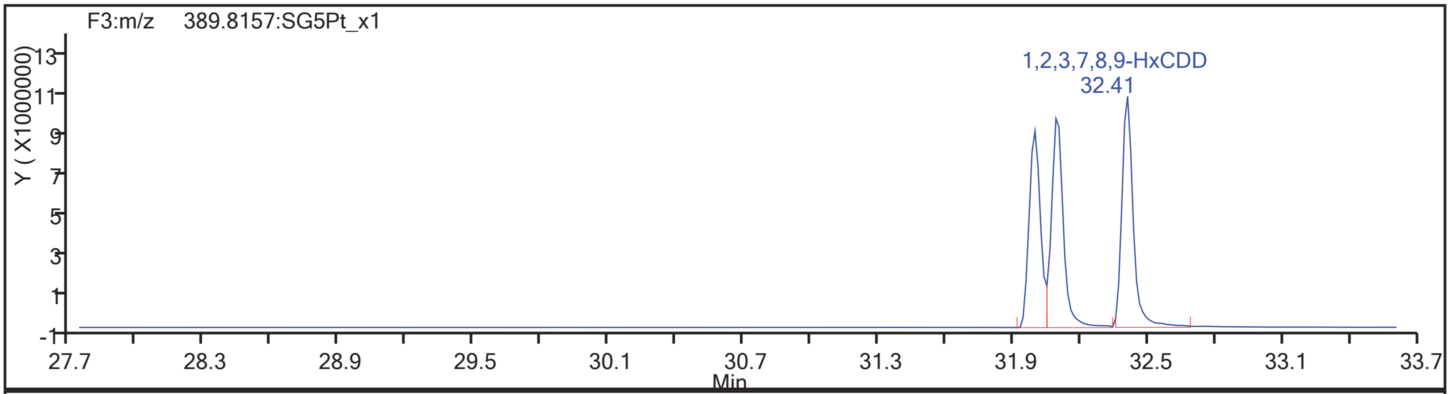

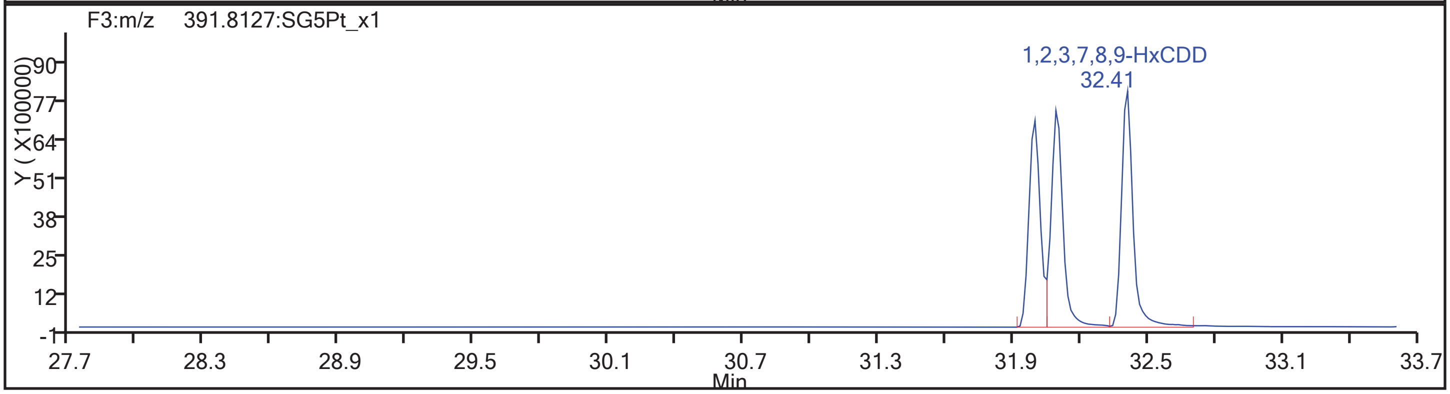

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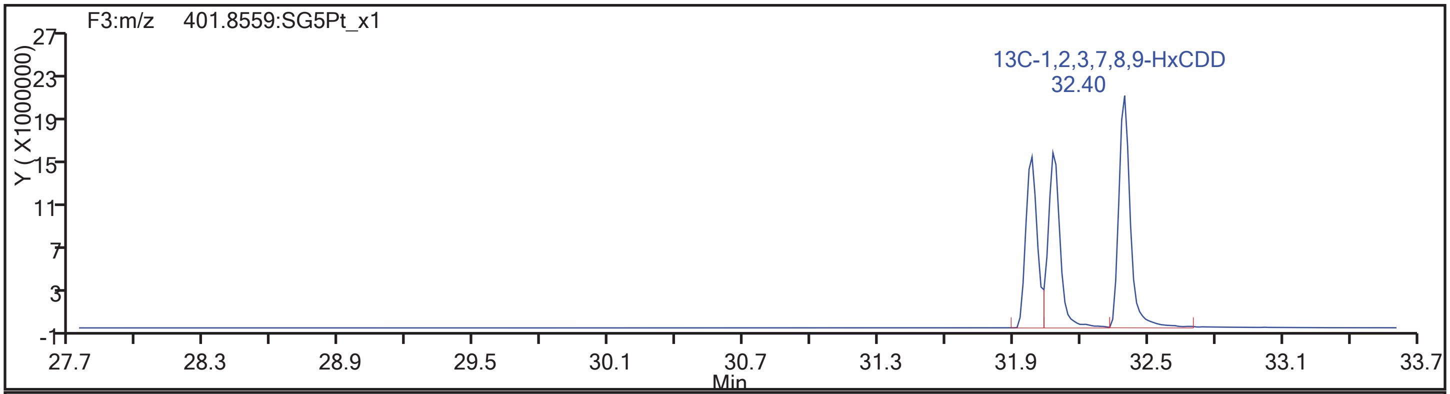

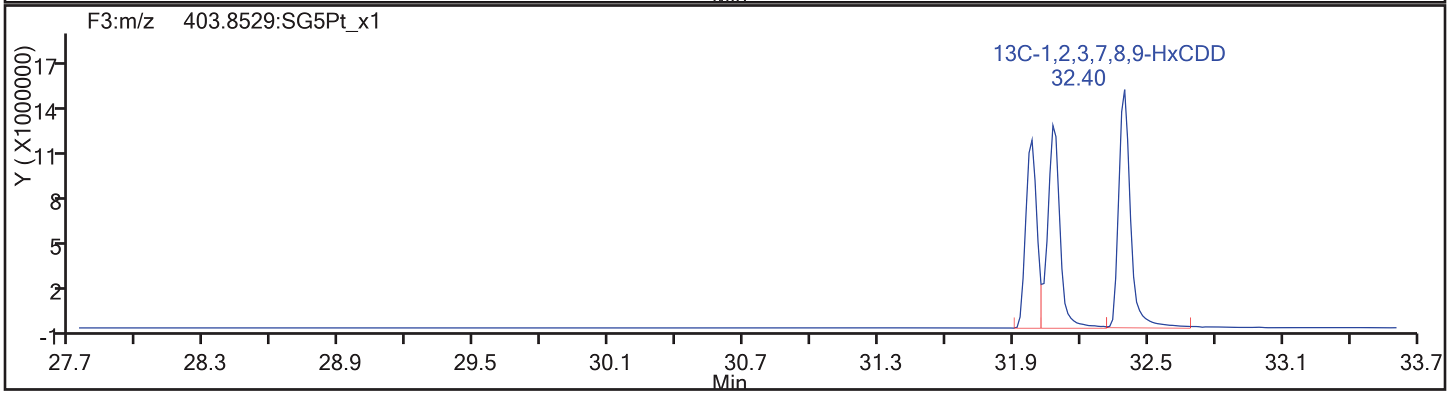

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TestAmerica Sacramento

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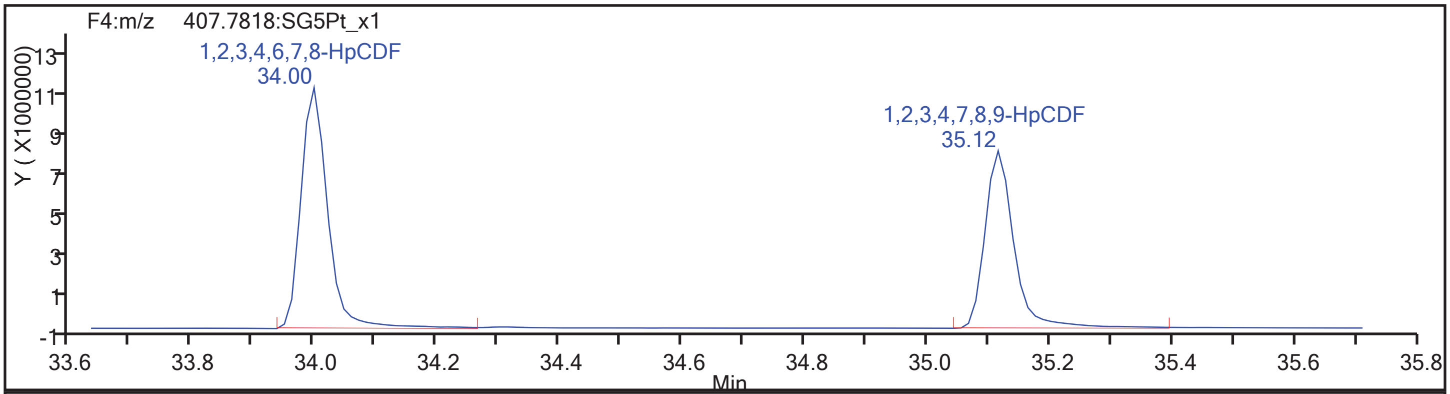

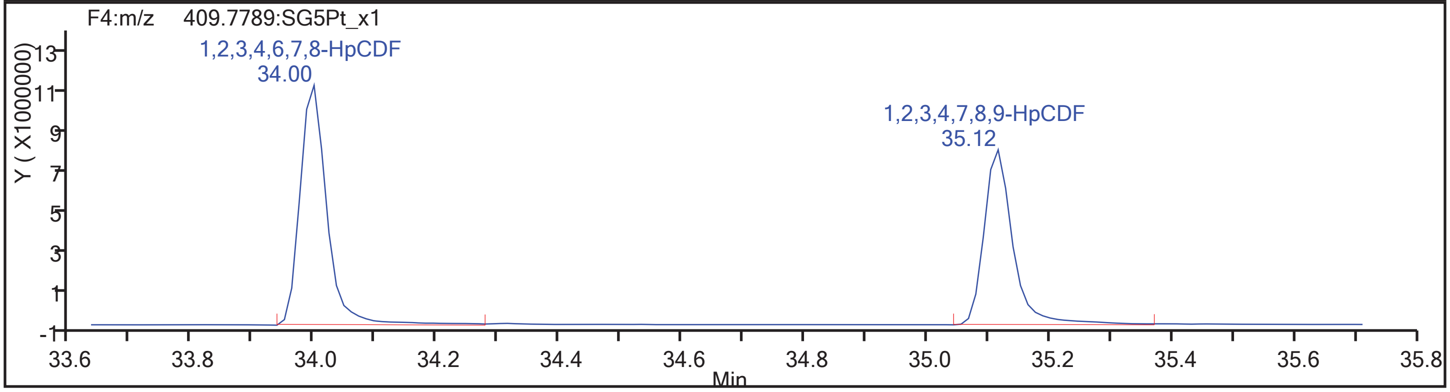

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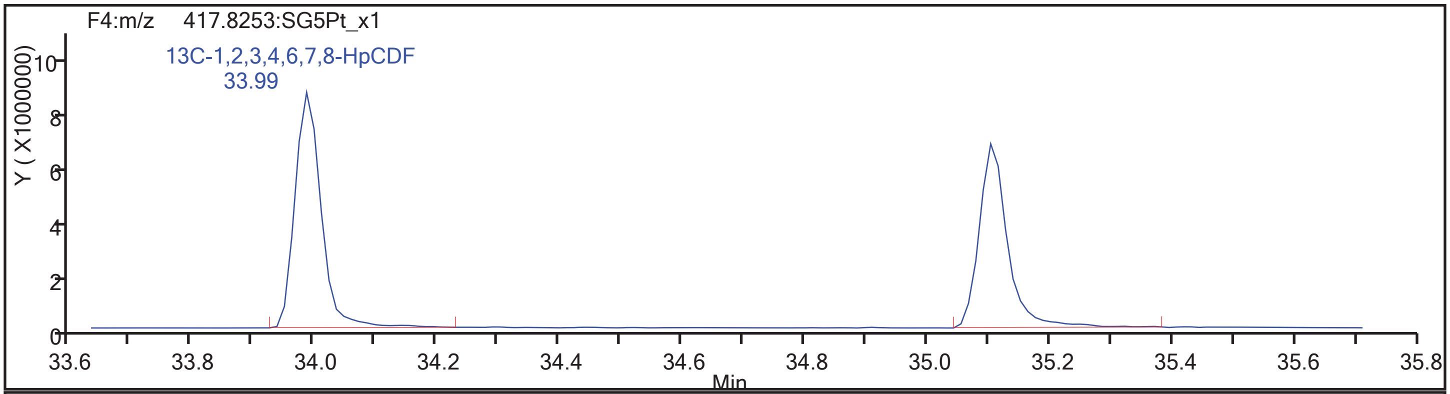

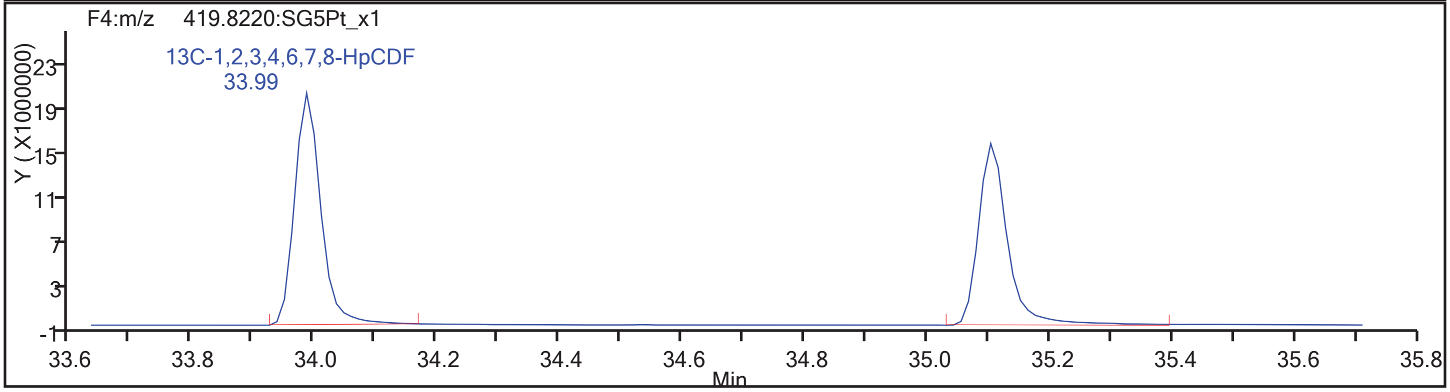

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TestAmerica Sacramento

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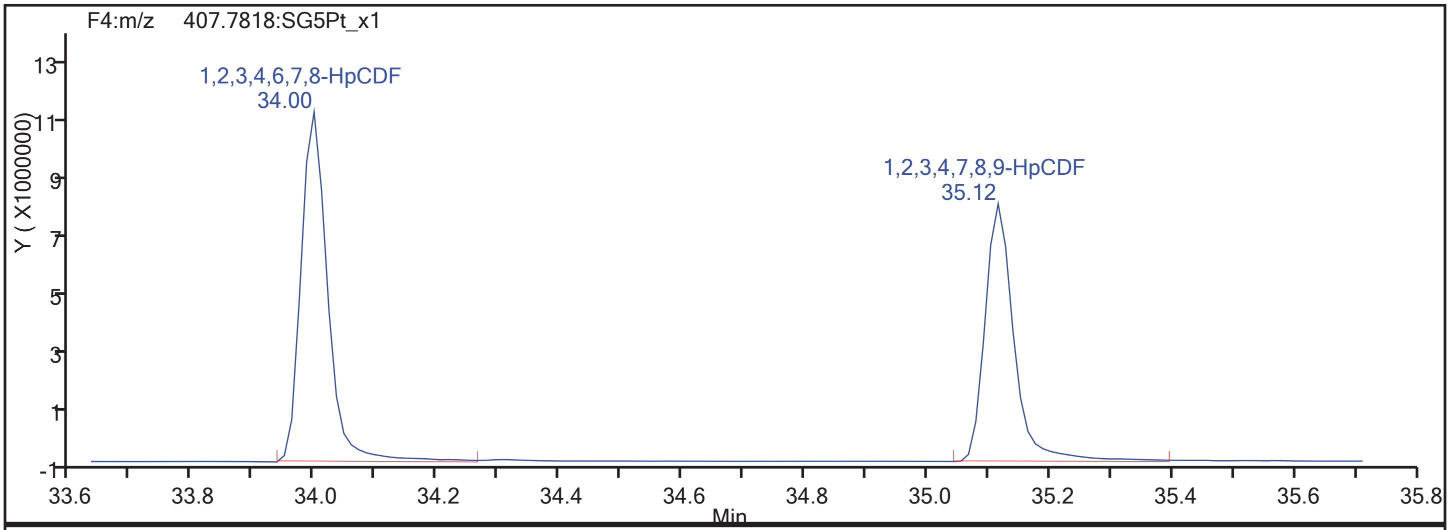

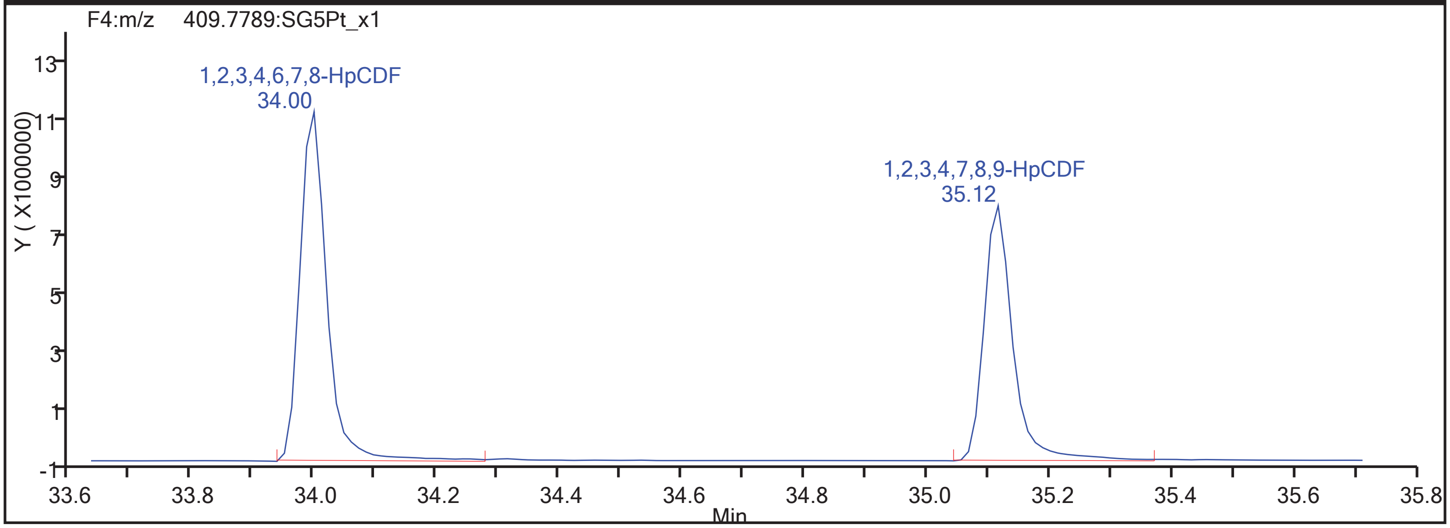

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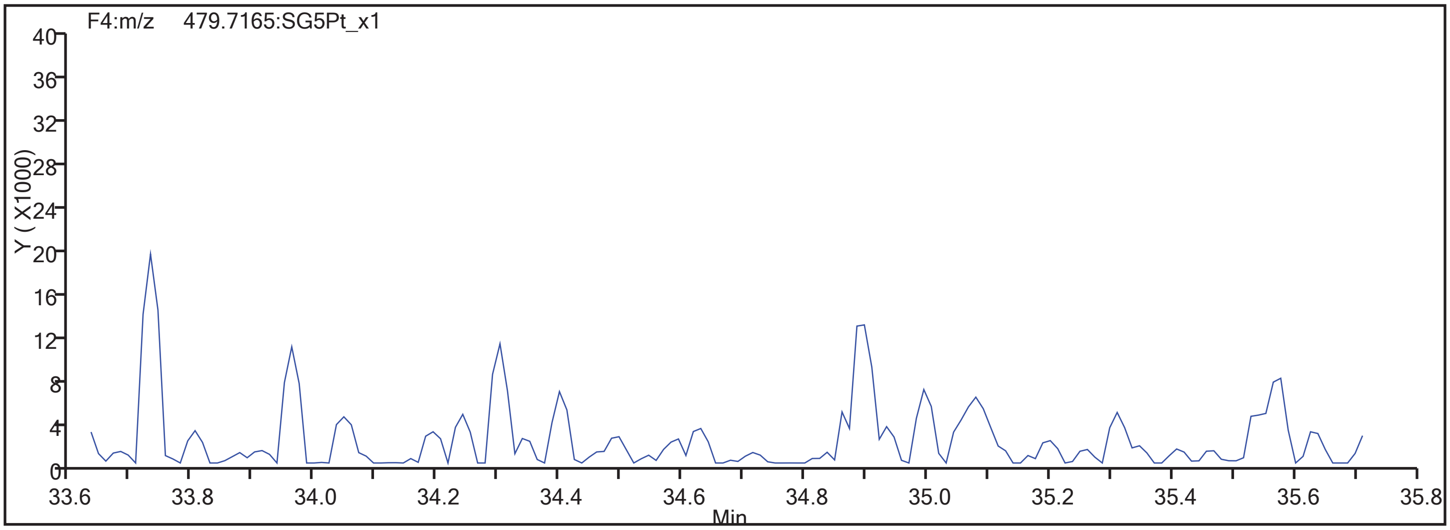

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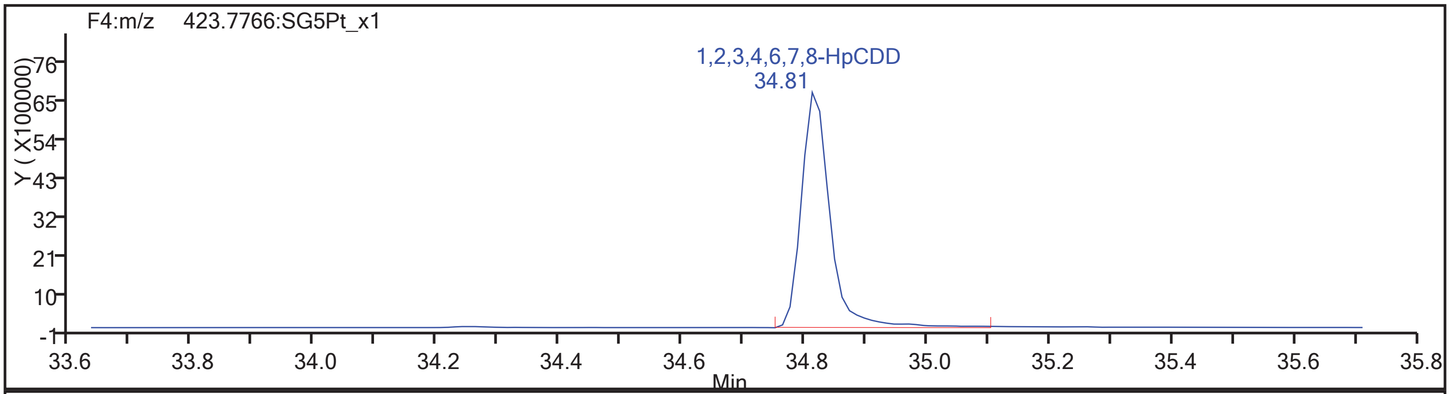

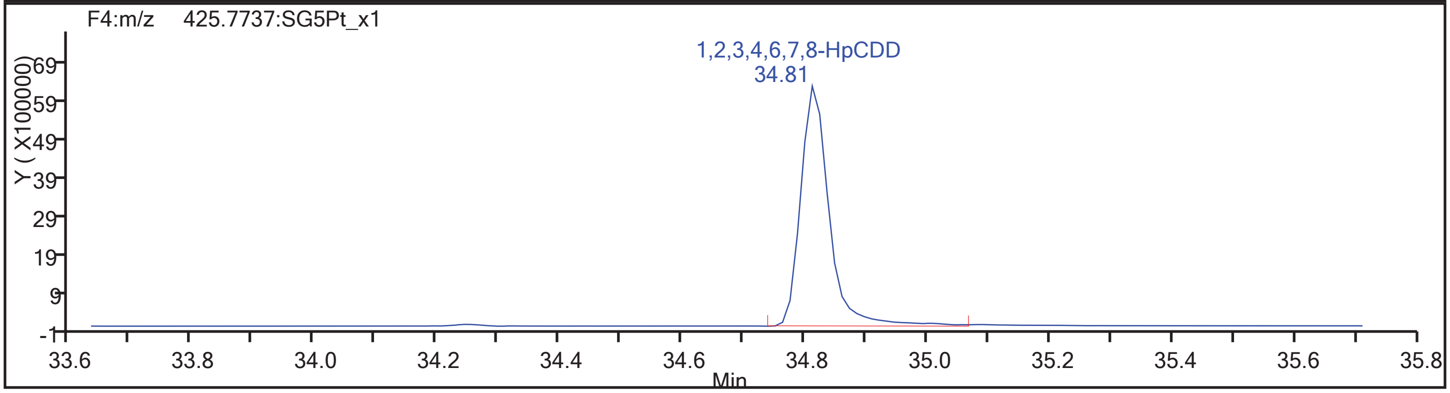

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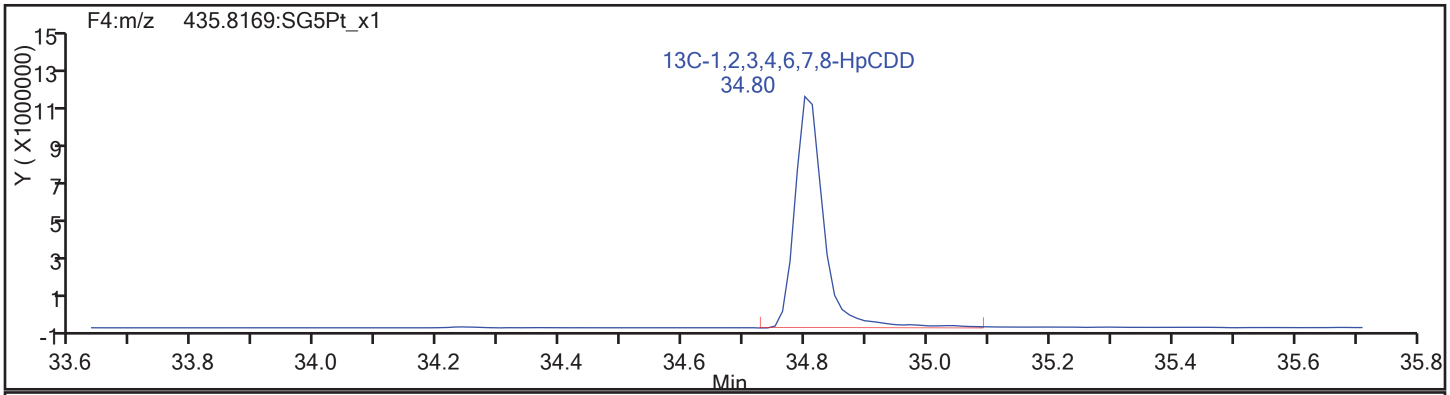

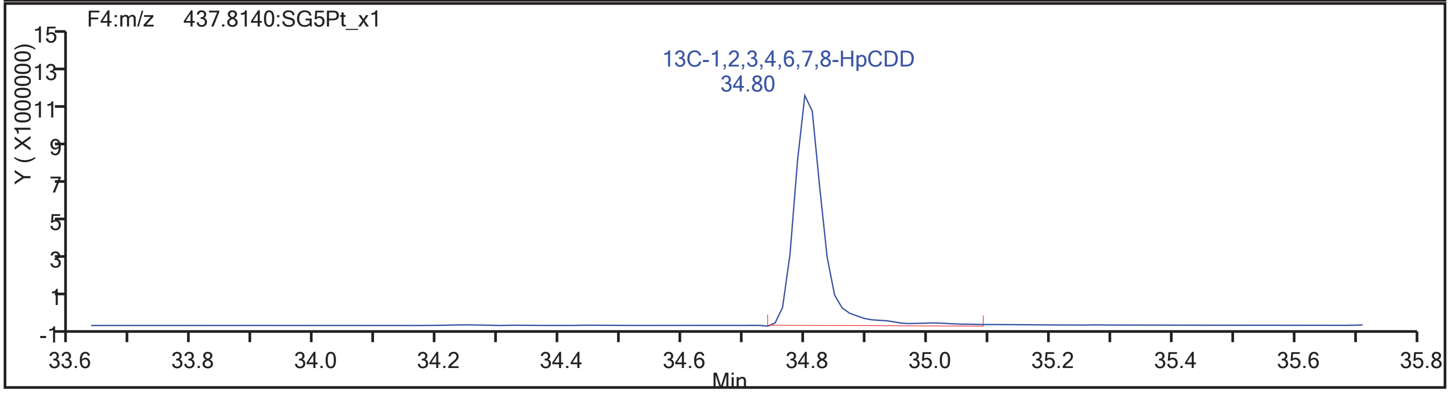

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TestAmerica Sacramento

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Sample Line#: 79
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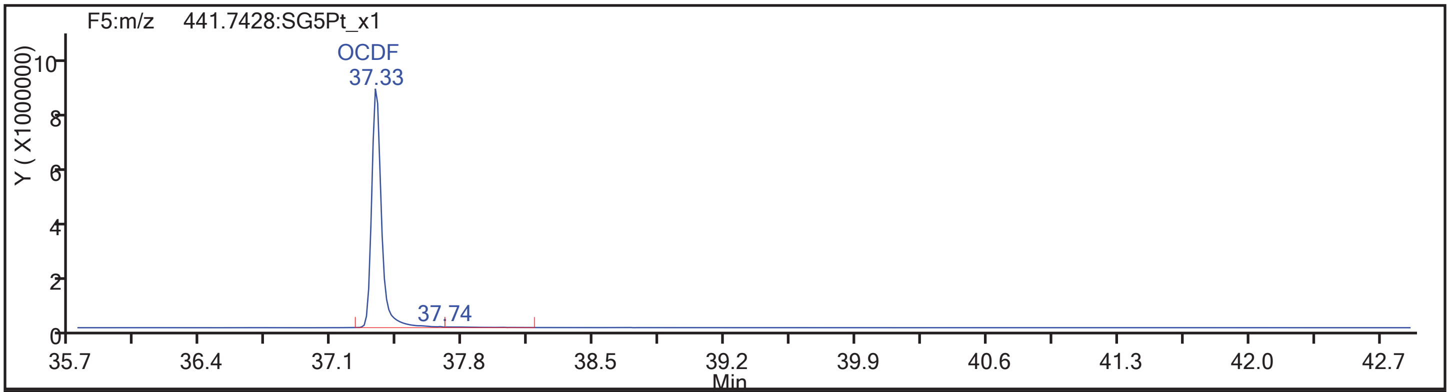

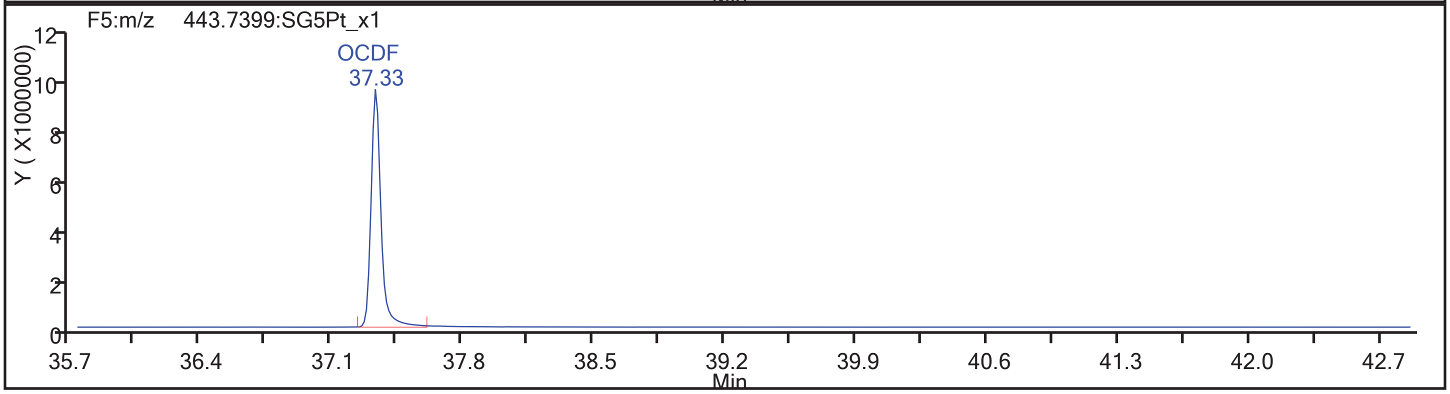

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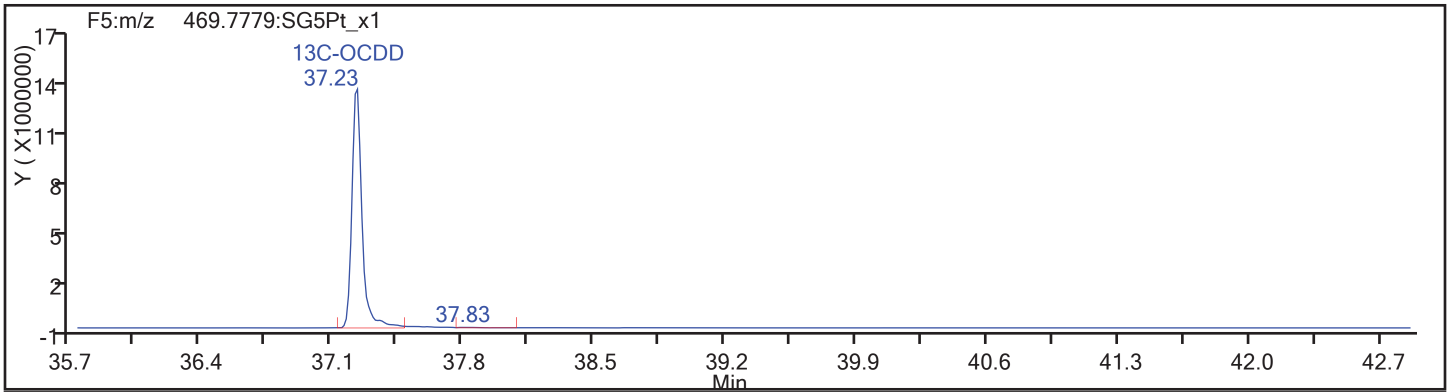

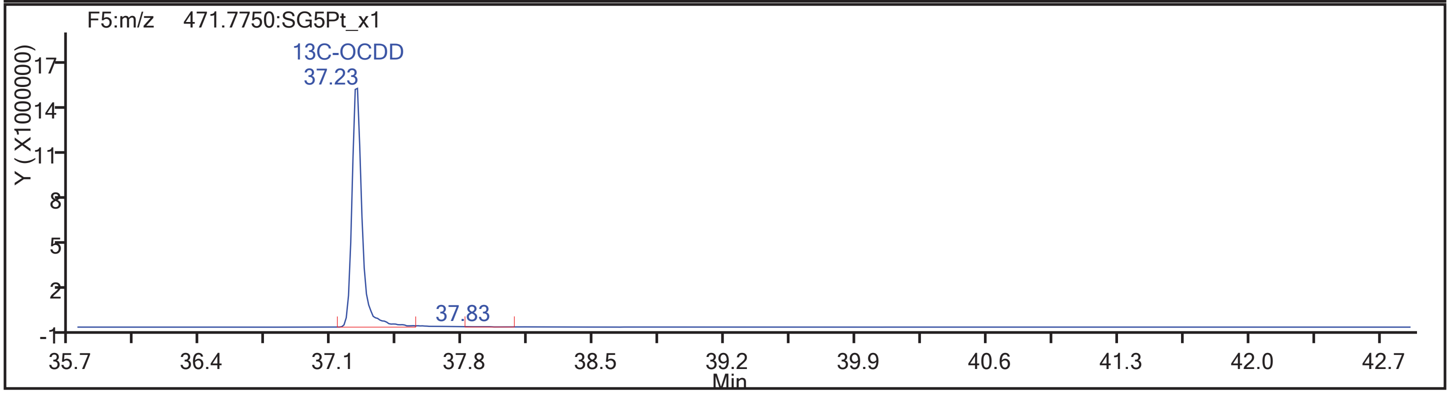

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TestAmerica Sacramento

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Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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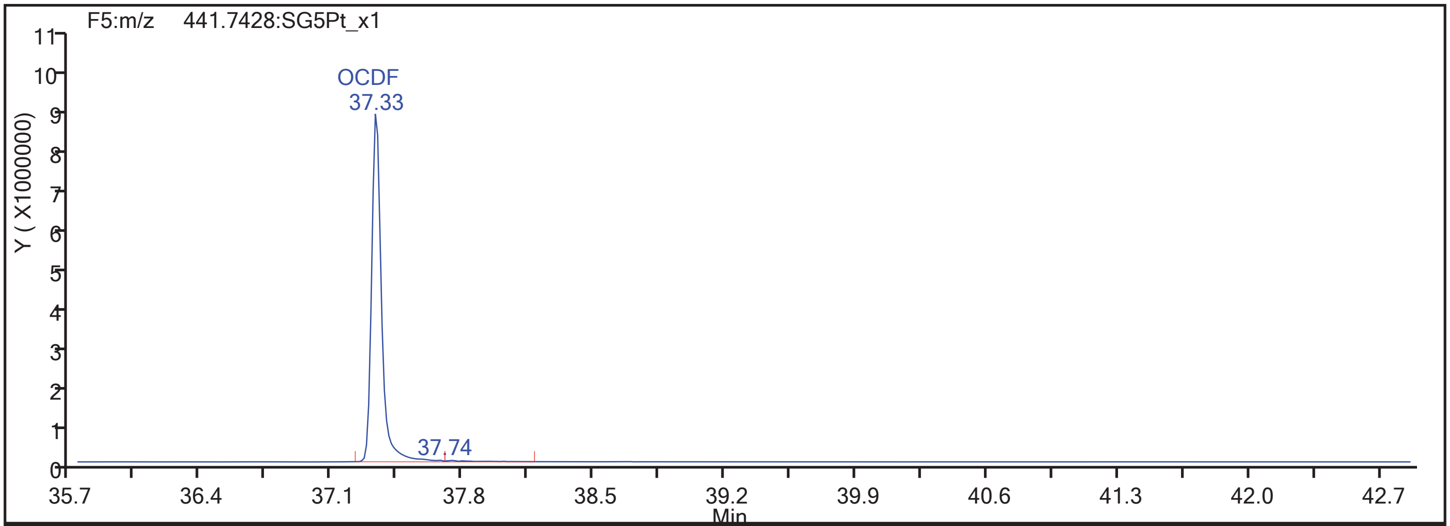
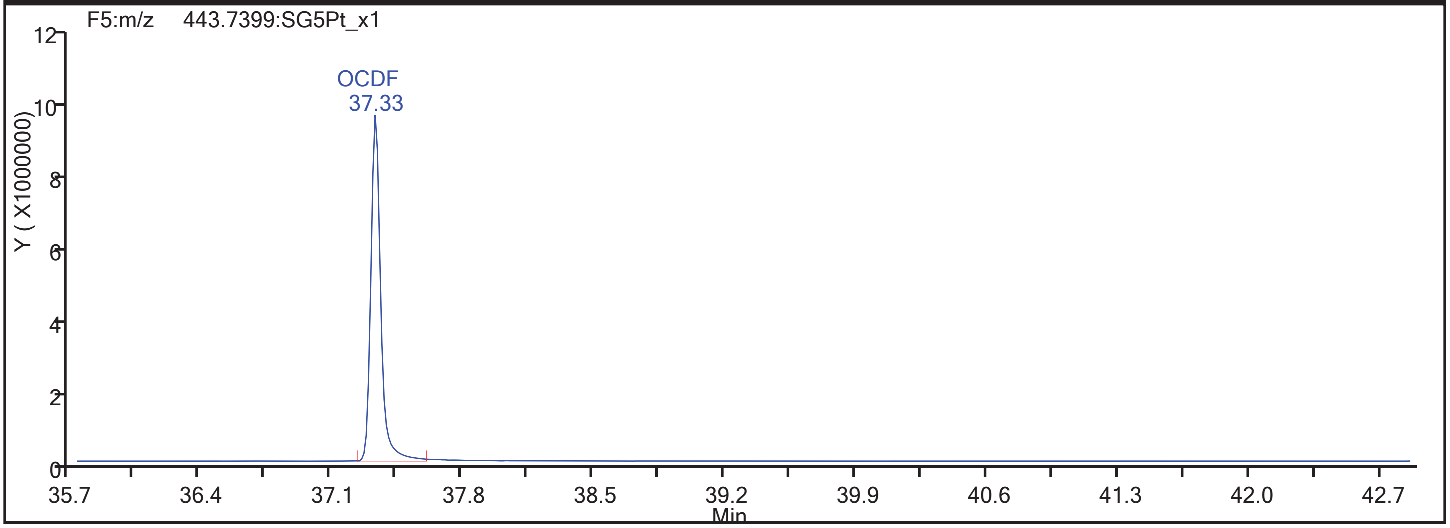
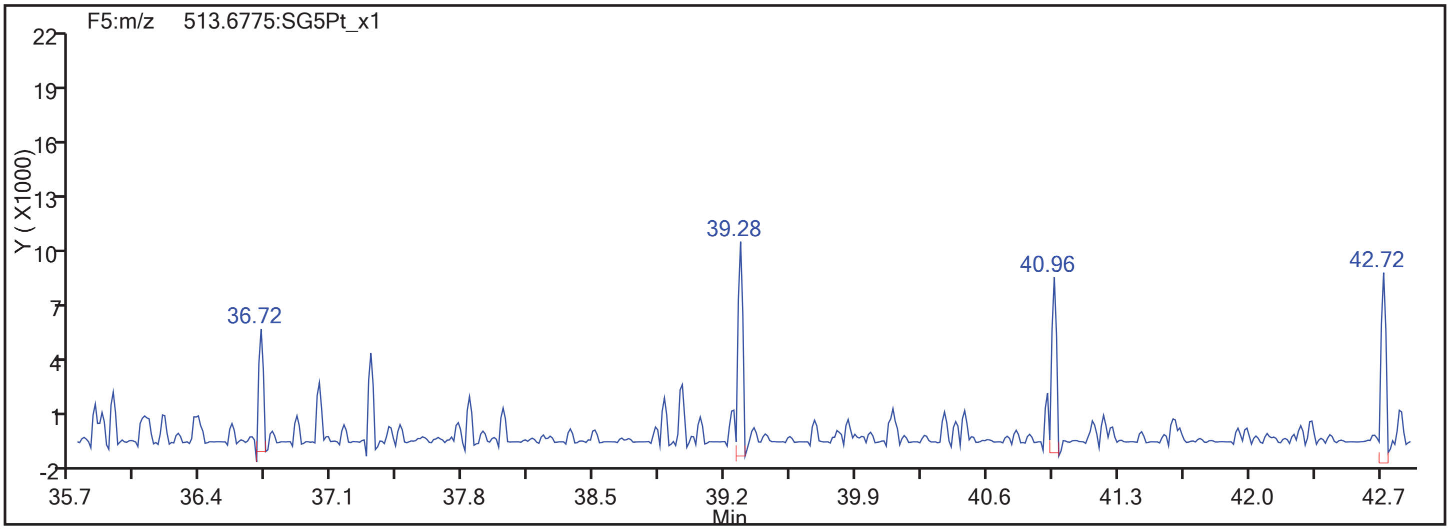




OCDF Interference Mass



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TestAmerica Sacramento

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Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 195574 Sample Line#: 79

Column Type: Column Dia:

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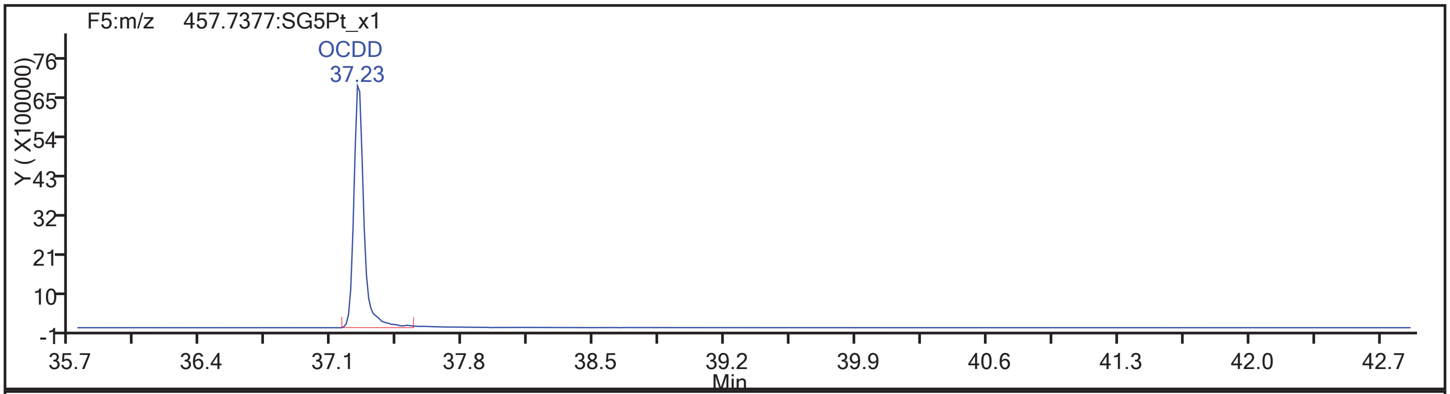

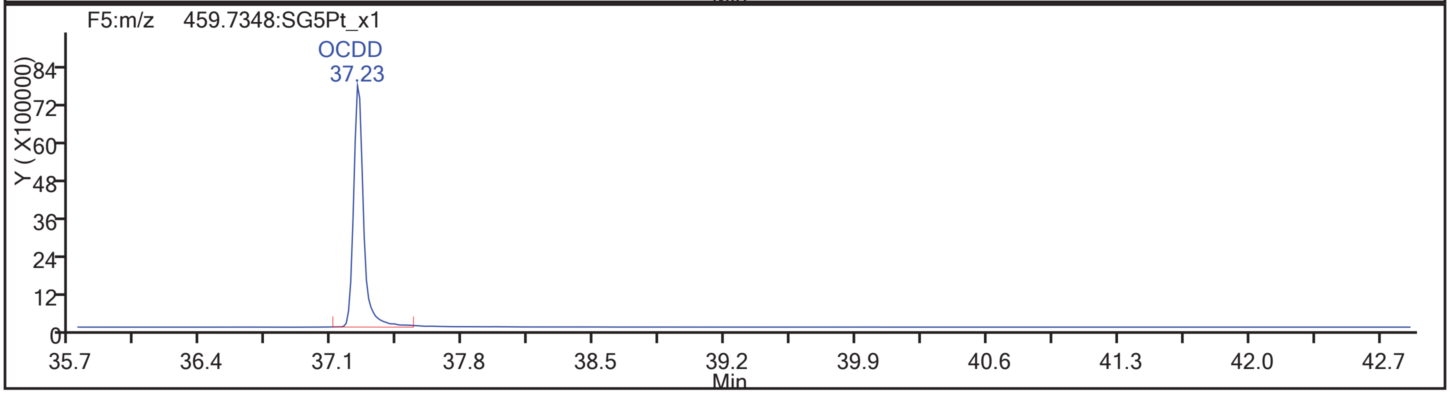

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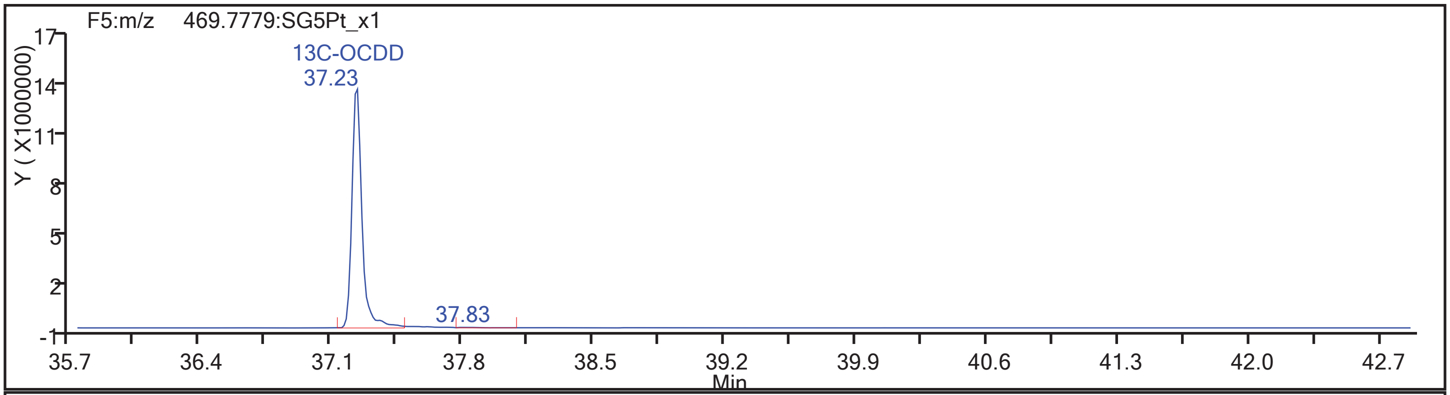

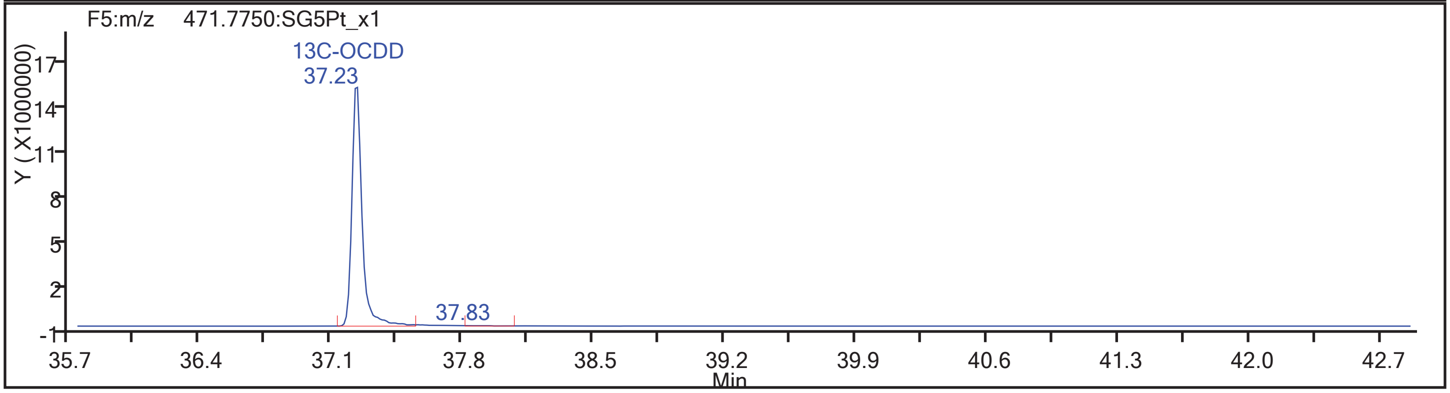

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TestAmerica Sacramento

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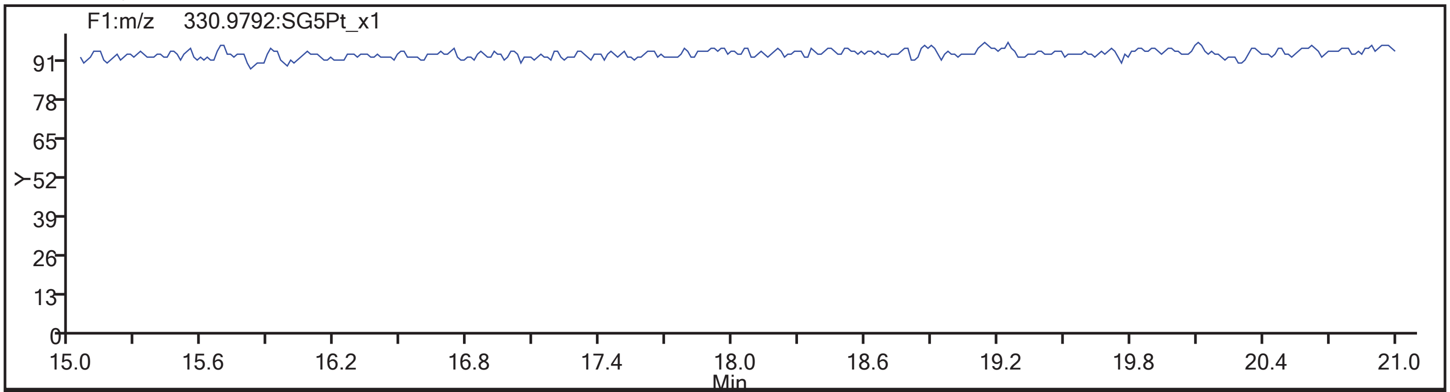

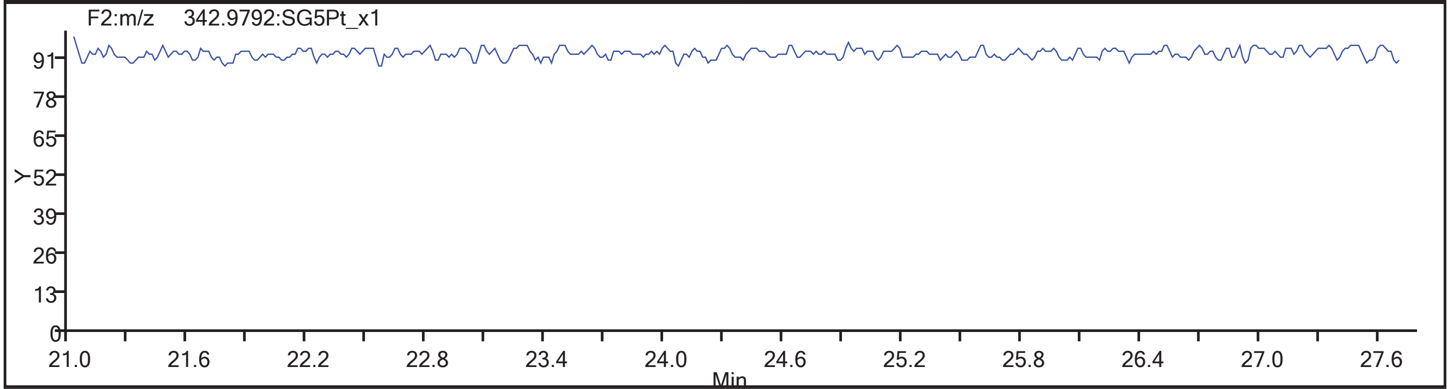

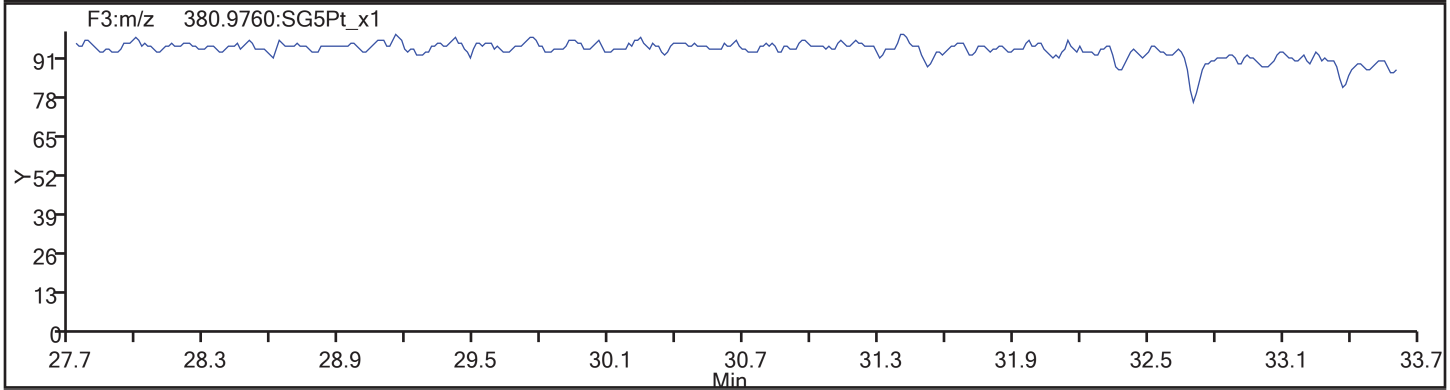

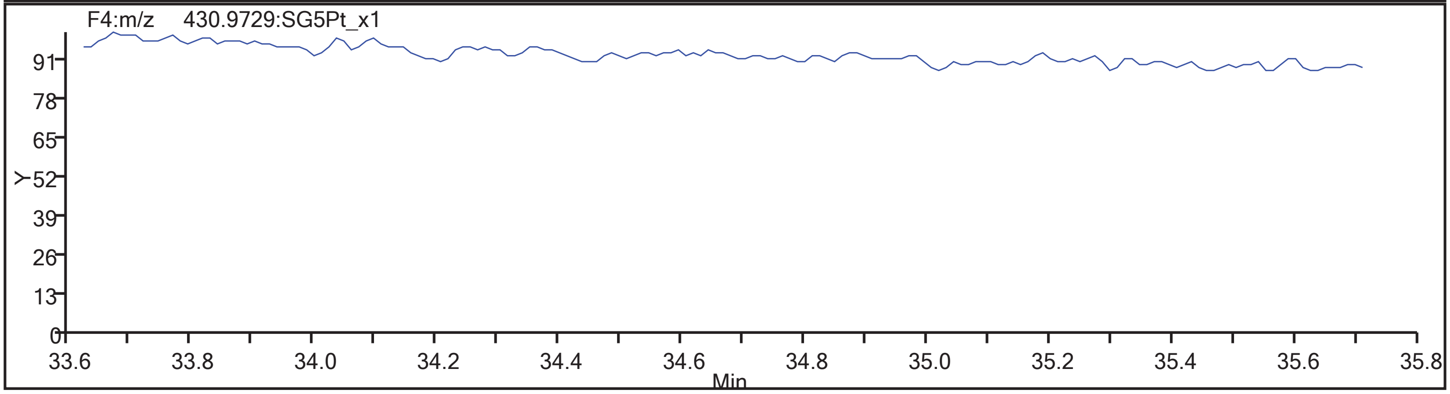

TestAmerica Sacramento

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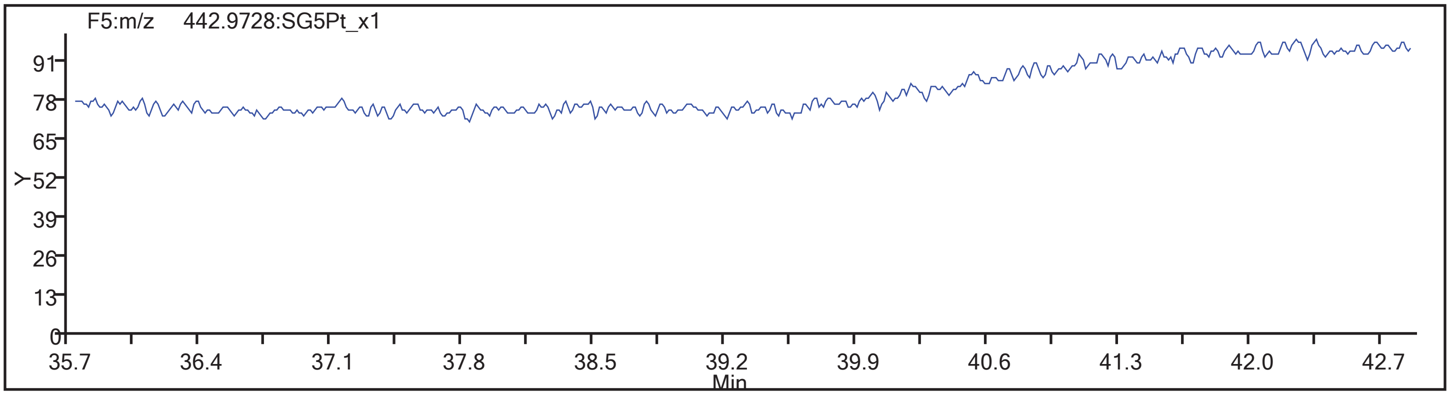

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

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SDG No.:	
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Instrument ID: 3D5	Calib Start Date: 11/15/2017 11:51
GC Column: DB-5 ID: 0.32(mm)	Calib End Date: 11/15/2017 15:05
Lab File ID: 16NO173D5_81.d	Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.097	1.068		9.74	10.0	-2.6	20.0
2,3,7,8-TCDD	AveID	1.164	1.123		9.64	10.0	-3.6	20.0
1,2,3,7,8-PeCDF	AveID	1.142	1.104		48.3	50.0	-3.4	20.0
2,3,4,7,8-PeCDF	AveID	1.110	1.090		49.1	50.0	-1.8	20.0
1,2,3,7,8-PeCDD	AveID	1.127	1.112		49.3	50.0	-1.4	20.0
1,2,3,4,7,8-HxCDF	AveID	1.348	1.368		50.8	50.0	1.5	20.0
1,2,3,6,7,8-HxCDF	AveID	1.479	1.526		51.6	50.0	3.1	20.0
2,3,4,6,7,8-HxCDF	AveID	1.383	1.381		49.9	50.0	-0.1	20.0
1,2,3,4,7,8-HxCDD	AveID	1.065	1.017		47.8	50.0	-4.5	20.0
1,2,3,6,7,8-HxCDD	AveID	1.181	1.150		48.7	50.0	-2.6	20.0
1,2,3,7,8,9-HxCDD	AveID	1.231	1.236		50.2	50.0	0.4	20.0
1,2,3,7,8,9-HxCDF	AveID	1.290	1.312		50.9	50.0	1.7	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.587	1.573		49.6	50.0	-0.9	20.0
1,2,3,4,6,7,8-HpCDD	AveID	1.163	1.154		49.6	50.0	-0.8	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.229	1.223		49.8	50.0	-0.5	20.0
OCDD	AveID	1.039	1.036		99.7	100	-0.3	20.0
OCDF	AveID	1.265	1.305		103	100	3.2	20.0
13C-2,3,7,8-TCDF	Ave	1.509	1.497		99.2	100	-0.8	30.0
13C-2,3,7,8-TCDD	Ave	0.9906	0.9791		98.8	100	-1.2	30.0
13C-1,2,3,7,8-PeCDF	Ave	1.128	1.195		106	100	6.0	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7269	0.7685		106	100	5.7	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.028	0.997		97.0	100	-3.0	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8502	0.8487		99.8	100	-0.2	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6490	0.6655		103	100	2.6	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.5387	0.5513		102	100	2.3	30.0
13C-OCDD	Ave	0.4009	0.3969		198	200	-1.0	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.173	1.170		9.97	10.0	-0.3	

FORM VII 8290A

Sample List Report **MassLynx 4.1**

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Sample List: C:\MassLynx\Data2017.PRO\SampleDB\16NO173D5.SPL
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	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	16NO173D5_1	WDM HRDXNCP_00034	WDM111617	Tray01:1	---	
2	16NO173D5_2	CS-4 HRDXNL4_00060	CCV 111617	Tray01:2	---	
3	16NO173D5_3	Reagent Blank C-14	RB 111617	Tray01:3	---	
4	16NO173D5_4	MB 320-194930/1-A	MB 320-194930/1-A	Tray01:4	1613B/Water	46
5	16NO173D5_5	LCS 320-194930/2-A	LCS 320-194930/2-A	Tray01:5	1613B/Water	
6	16NO173D5_6	LCSD 320-194930/3-A	LCSD 320-194930/3-A	Tray01:6	1613B/Water	
7	16NO173D5_7	320-32529-B-1-A	320-32529-B-1-A	Tray01:7	1613B/Water	
8	16NO173D5_8	LCS 320-194748/2-A	LCS 320-194748/2-A	Tray01:8	8290A/Solid	D983
9	16NO173D5_9	LCSD 320-194748/3-A	LCSD 320-194748/3-A	Tray01:9	8290A/Solid	
10	16NO173D5_10	MB 320-194748/1-A	MB 320-194748/1-A	Tray01:10	8290A/Solid	
11	16NO173D5_11	600-155367-A-2-B	600-155367-A-2-B	Tray01:11	8290A/Solid	
12	16NO173D5_12	Reagent Blank C-14	RB 111617A	Tray01:3	---	
13	16NO173D5_13	CS-4 HRDXNL4_00060	CCV 111617A	Tray01:2	---	
14	16NO173D5_14	WDM HRDXNCP_00034	WDM111617A	Tray01:1	---	
15	16NO173D5_15	Reagent Blank C-14	RB 111617B	Tray01:3	---	
16	16NO173D5_16	MB 320-190370/1-A	MB 320-190370/1-A	Tray01:12	8290A/Solid	D980
17	16NO173D5_17	LCS 320-190370/2-A	LCS 320-190370/2-A	Tray01:13	8290A/Solid	
18	16NO173D5_18	LCSD 320-190370/3-A	LCSD 320-190370/3-A	Tray01:14	8290A/Solid	
19	16NO173D5_19	310-116465-C-1-A	310-116465-C-1-A	Tray01:15	8290A/Solid	
20	16NO173D5_20	LCS 320-192159/2-A	LCS 320-192159/2-A	Tray01:16	8290/Solid	43
21	16NO173D5_21	LCSD 320-192159/3-A	LCSD 320-192159/3-A	Tray01:17	8290/Solid	
22	16NO173D5_22	MB 320-192159/1-A	MB 320-192159/1-A	Tray01:18	8290/Solid	
23	16NO173D5_23	320-32775-A-1-A	320-32775-A-1-A	Tray01:19	8290/Solid	
24	16NO173D5_24	680-144745-A-13-A (20x)	680-144745-A-13-A 20x	Tray01:20	8290A/Solid	D983
25	16NO173D5_25	Reagent Blank C-14	RB 111617C	Tray01:3	---	
26	16NO173D5_26	CS-4 HRDXNL4_00060	CCV 111617B	Tray01:2	---	
27	16NO173D5_27	WDM HRDXNCP_00034	WDM111617B	Tray01:1	---	
28	16NO173D5_28	Reagent Blank C-14	RB 111617D	Tray01:3	---	
29	16NO173D5_29	MB 320-193933/1-A	MB 320-193933/1-A	Tray01:21	8290/Solid	45
30	16NO173D5_30	LCS 320-193933/2-A	LCS 320-193933/2-A	Tray01:22	8290/Solid	
31	16NO173D5_31	LCSD 320-193933/3-A	LCSD 320-193933/3-A	Tray01:23	8290/Solid	
32	16NO173D5_32	320-33016-A-1-A	320-33016-A-1-A	Tray01:24	8290/Solid	
33	16NO173D5_33	320-33016-A-2-A	320-33016-A-2-A	Tray01:25	8290/Solid	
34	16NO173D5_34	320-33016-A-3-A	320-33016-A-3-A	Tray01:26	8290/Solid	
35	16NO173D5_35	320-33016-A-4-A	320-33016-A-4-A	Tray01:27	8290/Solid	
36	16NO173D5_36	320-33016-A-5-A	320-33016-A-5-A	Tray01:28	8290/Solid	
37	16NO173D5_37	Reagent Blank C-14	RB 111617E	Tray01:3	---	
38	16NO173D5_38	CS-4 HRDXNL4_00060	CCV 111617C	Tray01:2	---	
39	16NO173D5_39	CS-4 HRDXNL4_00060	CCV 111617D	Tray01:2	---	
40	16NO173D5_40	WDM HRDXNCP_00034	WDM111617C	Tray01:1	---	
41	16NO173D5_41	Reagent Blank C-14	RB 111617F	Tray01:3	---	
42	16NO173D5_42	MB 320-192108/1-A	MB 320-192108/1-A	Tray01:29	8290/Tissue	45
43	16NO173D5_43	LCS 320-192108/2-A	LCS 320-192108/2-A	Tray01:30	8290/Tissue	
44	16NO173D5_44	LCSD 320-192108/3-A	LCSD 320-192108/3-A	Tray01:31	8290/Tissue	
45	16NO173D5_45	320-32750-A-1-A	320-32750-A-1-A	Tray01:32	8290/Tissue	
46	16NO173D5_46	320-33016-A-6-A	320-33016-A-6-A	Tray01:33	8290/Solid	45
47	16NO173D5_47	320-33016-A-7-A	320-33016-A-7-A	Tray01:34	8290/Solid	
48	16NO173D5_48	320-33016-A-8-A	320-33016-A-8-A	Tray01:35	8290/Solid	
49	16NO173D5_49	320-33016-A-9-A	320-33016-A-9-A	Tray01:36	8290/Solid	
50	16NO173D5_50	Reagent Blank C-14	RB 111617G	Tray01:3	---	
51	16NO173D5_51	Reagent Blank C-14	RB 111617H	Tray01:3	---	
52	16NO173D5_52	CS-4 HRDXNL4_00060	CCV 111617E	Tray01:2	---	
53	16NO173D5_53	Reagent Blank C-14	RB 111617I	Tray01:3	---	
54	16NO173D5_54	WDM HRDXNCP_00034	WDM111617D	Tray01:1	---	
55	16NO173D5_55	CS-4 HRDXNL4_00060	CCV 111617F	Tray01:2	---	
56	16NO173D5_56	Reagent Blank C-14	RB 111617J	Tray01:3	---	
57	16NO173D5_57	MB 320-195095/1-A	MB 320-195095/1-A	Tray01:37	8290A_D5/Solid	45
58	16NO173D5_58	LCS 320-195095/2-A	LCS 320-195095/2-A	Tray01:38	8290A_D5/Solid	

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	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
59	16NO173D5_59	LCSD 320-195095/3-A	LCSD 320-195095/3-A	Tray01:39	8290A_D5/Solid	
60	16NO173D5_60	160-24924-G-1-B	160-24924-G-1-B	Tray01:40	8290A_D5/Solid	
61	16NO173D5_61	160-24924-G-2-B	160-24924-G-2-B	Tray01:41	8290A_D5/Solid	
62	16NO173D5_62	160-24924-G-3-B	160-24924-G-3-B	Tray01:42	8290A_D5/Solid	
63	16NO173D5_63	160-24924-G-4-B	160-24924-G-4-B	Tray01:43	8290A_D5/Solid	
64	16NO173D5_64	160-24924-G-5-B	160-24924-G-5-B	Tray01:44	8290A_D5/Solid	
65	16NO173D5_65	Reagent Blank C-14	RB 111617K	Tray01:3	---	
66	16NO173D5_66	CS-4 HRDXNL4_00060	CCV 111617G	Tray01:2	---	
67	16NO173D5_67	WDM HRDXNCP_00034	WDM111617E	Tray01:1	---	
68	16NO173D5_68	CS-4 HRDXNL4_00060	CCV 111617H	Tray01:2	---	
69	16NO173D5_69	Reagent Blank C-14	RB 111617L	Tray01:3	---	
70	16NO173D5_70	160-24924-G-6-B	160-24924-G-6-B	Tray01:45	8290A_D5/Solid	45
71	16NO173D5_71	160-24924-G-7-B	160-24924-G-7-B	Tray01:46	8290A_D5/Solid	
72	16NO173D5_72	160-24924-G-8-B	160-24924-G-8-B	Tray01:47	8290A_D5/Solid	
73	16NO173D5_73	160-24924-G-9-D	160-24924-G-9-D	Tray01:48	8290A_D5/Solid	
74	16NO173D5_74	160-24924-G-9-E MS	160-24924-G-9-E MS	Tray01:49	8290A_D5/Solid	
75	16NO173D5_75	160-24924-G-9-F MSD	160-24924-G-9-F MSD	Tray01:50	8290A_D5/Solid	
76	16NO173D5_76	160-24924-G-10-B	160-24924-G-10-B	Tray01:51	8290A_D5/Solid	
77	16NO173D5_77	160-24924-G-11-B	160-24924-G-11-B	Tray01:52	8290A_D5/Solid	
78	16NO173D5_78	Reagent Blank C-14	RB 111617M	Tray01:3	---	
79	16NO173D5_79	CS-4 HRDXNL4_00060	CCV 111617I	Tray01:2	---	
80	16NO173D5_80	WDM HRDXNCP_00034	WDM111617F	Tray01:1	---	
81	16NO173D5_81	CS-4 HRDXNL4_00060	CCV 111617J	Tray01:2	---	
82	16NO173D5_82	Reagent Blank C-14	RB 111617N	Tray01:3	---	
83	16NO173D5_83	160-24924-G-12-B	160-24924-G-12-B	Tray01:53	8290A_D5/Solid	45
84	16NO173D5_84	160-24924-G-13-B	160-24924-G-13-B	Tray01:54	8290A_D5/Solid	
85	16NO173D5_85	160-24924-G-14-B	160-24924-G-14-B	Tray01:55	8290A_D5/Solid	
86	16NO173D5_86	160-24924-G-15-B	160-24924-G-15-B	Tray01:56	8290A_D5/Solid	
87	16NO173D5_87	160-24924-G-16-B	160-24924-G-16-B	Tray01:57	8290A_D5/Solid	
88	16NO173D5_88	160-24924-G-17-B	160-24924-G-17-B	Tray01:58	8290A_D5/Solid	
89	16NO173D5_89	160-24924-G-18-B	160-24924-G-18-B	Tray01:59	8290A_D5/Solid	
90	16NO173D5_90	160-24924-G-19-B	160-24924-G-19-B	Tray01:60	8290A_D5/Solid	
91	16NO173D5_91	Reagent Blank C-14	RB 111617O	Tray01:3	---	
92	16NO173D5_92	CS-4 HRDXNL4_00060	CCV 111617K	Tray01:2	---	
93	16NO173D5_93	WDM HRDXNCP_00034	WDM111617G	Tray01:1	---	
94	16NO173D5_94	Reagent Blank C-14	RB 111617P	Tray01:3	---	
95	16NO173D5_95	MB 320-195095/1-A RA	MB 320-195095/1-A RA	Tray01:61	8290A_D5/Solid	D896
96	16NO173D5_96	320-33016-A-2-A 10x	320-33016-A-2-A 10x	Tray01:62	8290/Solid	45
97	16NO173D5_97	320-33016-A-3-A 10x	320-33016-A-3-A 10x	Tray01:63	8290/Solid	
98	16NO173D5_98	320-33016-A-1-A 20x	320-33016-A-1-A 20x	Tray01:64	8290/Solid	
99	16NO173D5_99	320-33016-A-4-A 20x	320-33016-A-4-A 20x	Tray01:65	8290/Solid	
100	16NO173D5_100	320-33016-A-5-A 20x	320-33016-A-5-A 20x	Tray01:66	8290/Solid	
101	16NO173D5_101	Reagent Blank C-14	RB 111617Q	Tray01:3	---	
102	16NO173D5_102	Reagent Blank C-14	RB 111617R	Tray01:3	---	
103	16NO173D5_103	Reagent Blank C-14	RB 111617S	Tray01:3	---	
104	16NO173D5_104	CS-4 HRDXNL4_00060	CCV 111617L	Tray01:2	---	
105	16NO173D5_105	WDM HRDXNCP_00034	WDM111617H	Tray01:1	---	
106	16NO173D5_106	Reagent Blank C-14	RB 111617T	Tray01:3	---	

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Sample List Report **MassLynx 4.1**

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User	Sample Size	Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.980000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	0.250000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---

Conc D	Conc E	Conc F	Conc G	Process	Process Options	Action On Error
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100	200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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100	200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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100	200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\Data2017.PRO\SampleDB\16NO173D5.SPL
Last Modified: Sunday, November 19, 2017 10:20:03 Pacific Standard Time
Printed: Sunday, November 19, 2017 10:22:59 Pacific Standard Time

User	Sample Size	Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
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SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---
SMA, ALM	1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---

Conc D	Conc E	Conc F	Conc G	Process	Process Options	Action On Error
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---	---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
100	200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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100	200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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100	200	5	100	---	---	---
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---	---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
100	200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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---	---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
100	200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
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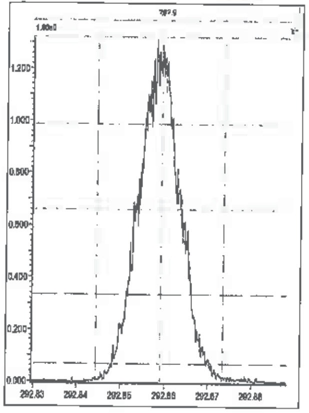
Resolution Check Report **MassLynx 4.1**

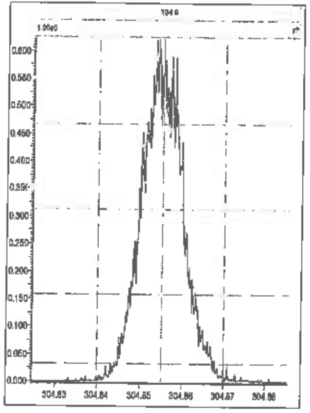
Printed: Sunday, November 19, 2017 10:51:13 Pacific Standard Time

3D5

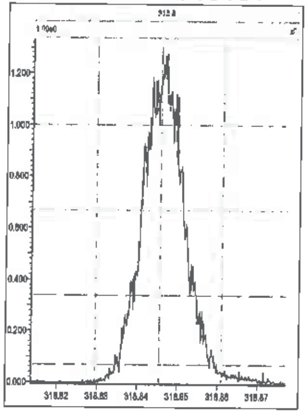
M 292.9824 R 12988



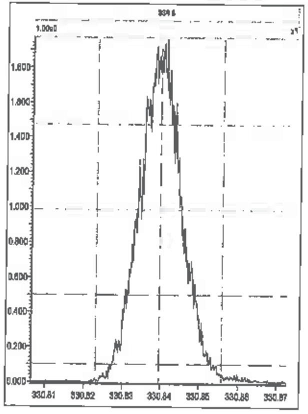
M 304.9824 R 13058



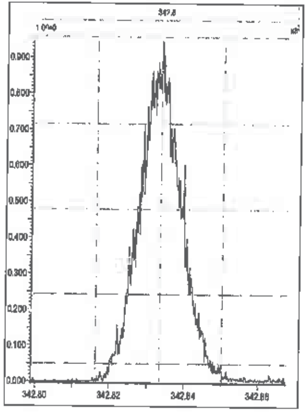
M 318.9792 R 13161



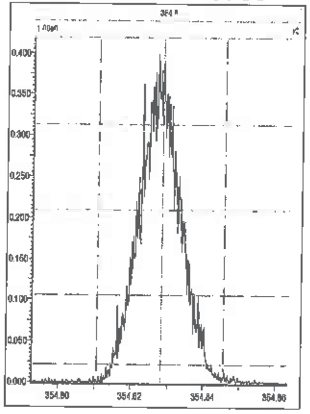
M 330.9792 R 12690



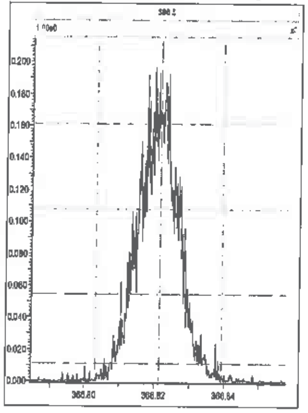
M 342.9792 R 12499



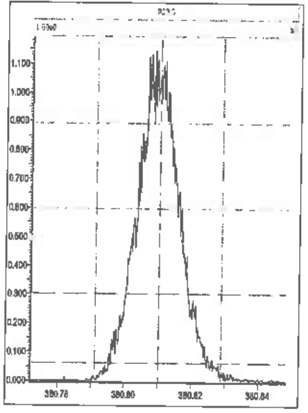
M 354.9792 R 13706



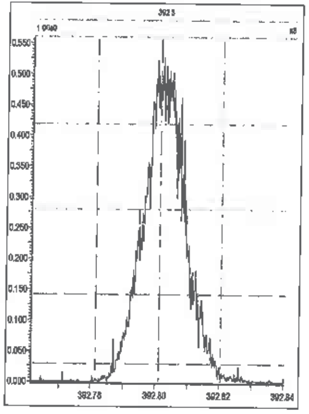
M 366.9792 R 14145



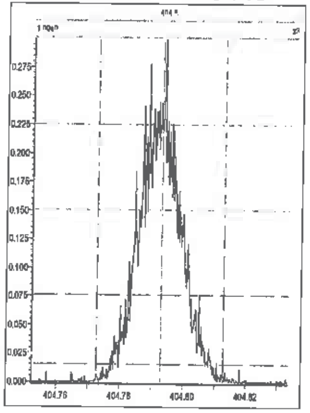
M 380.9760 R 12628



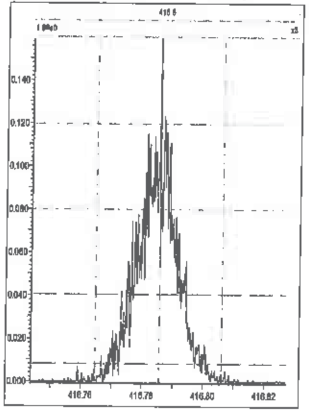
M 392.9760 R 12797



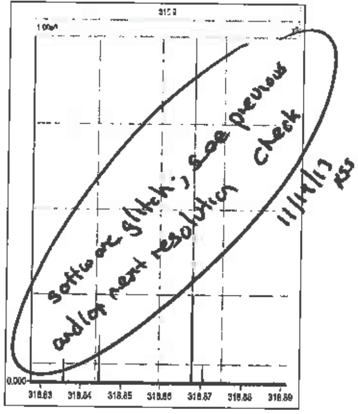
M 404.9760 R 13440



M 416.9760 R 15481

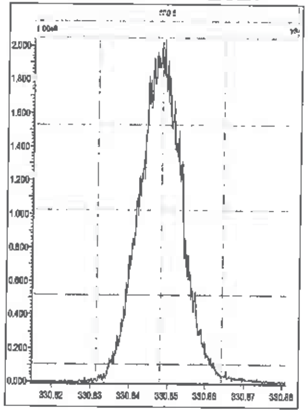


M 318.9792 R 1250049

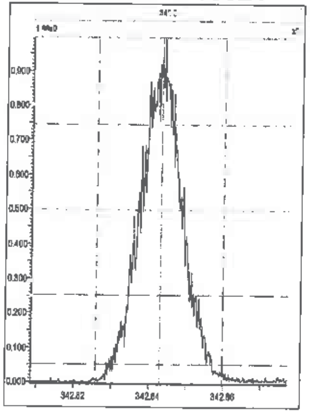


software glitch; see previous and/or next resolution check 11/19/17 KSS

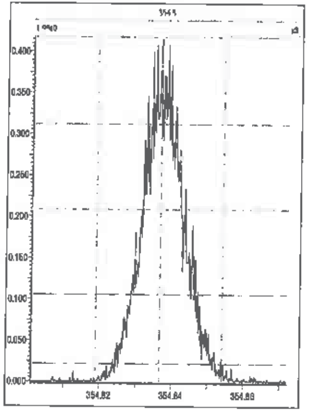
M 330.9792 R 12627



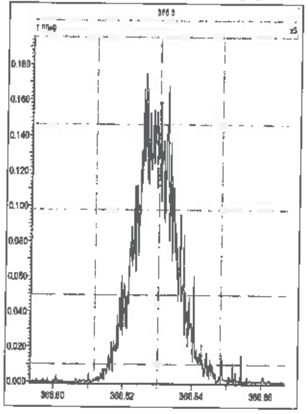
M 342.9792 R 13021



M 354.9792 R 13855



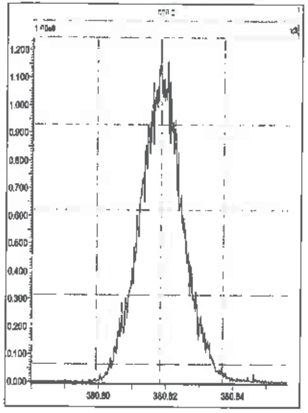
M 366.9792 R 14558



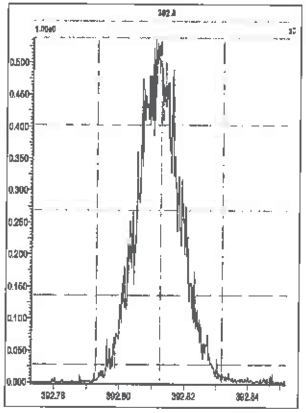
Printed: Sunday, November 19, 2017 10:51:13 Pacific Standard Time

3D5

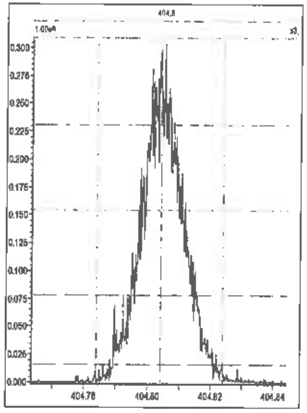
M 380.9760 R 12596



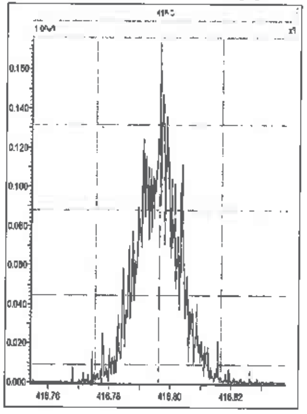
M 392.9760 R 12920



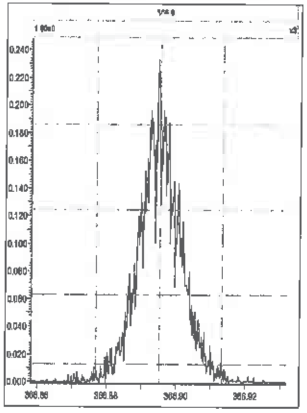
M 404.9760 R 12956



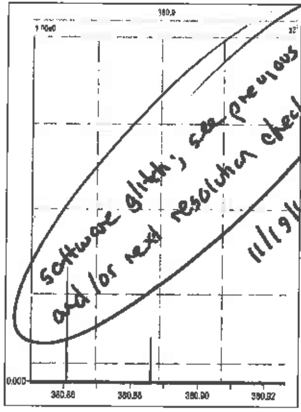
M 416.9760 R 14208



M 366.9792 R 14604

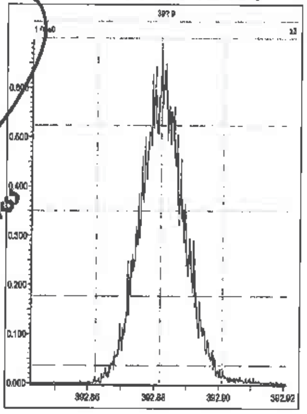


M 380.9760 R 1249909

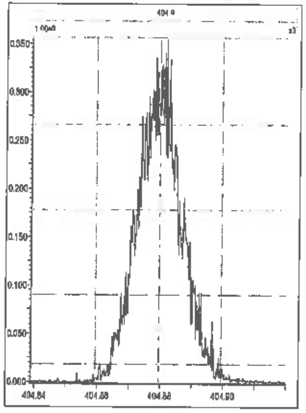


software glitch; see previous and/or next resolution check 11/19/17

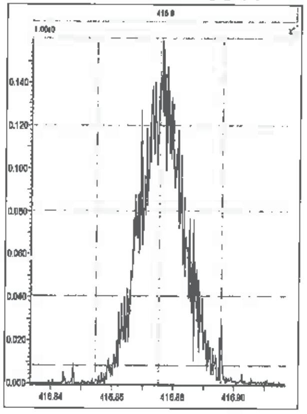
M 392.9760 R 12408



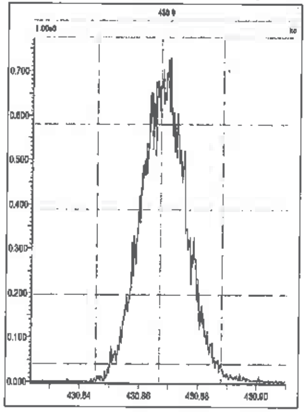
M 404.9760 R 12377



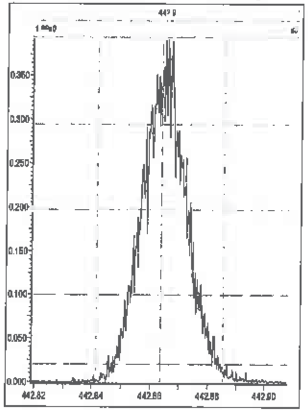
M 416.9760 R 13041



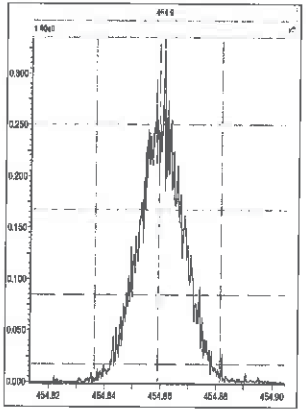
M 430.9728 R 12165



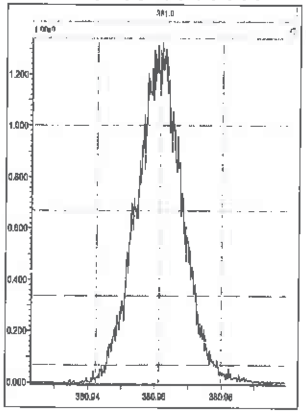
M 442.9728 R 12228



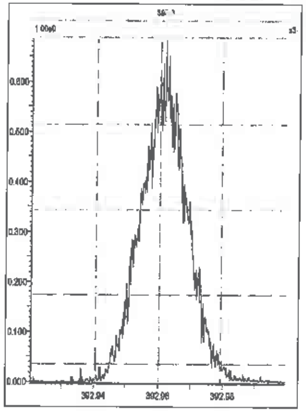
M 454.9728 R 12531



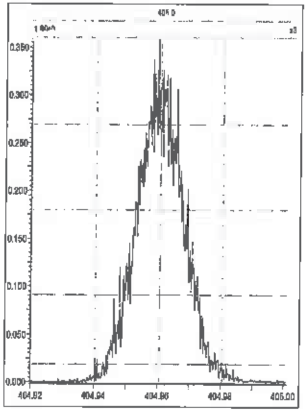
M 380.9760 R 11441



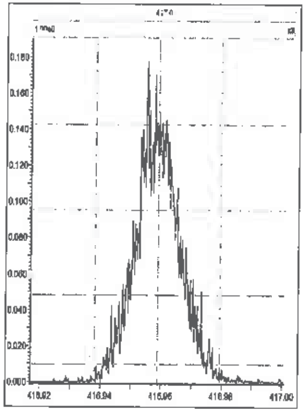
M 392.9760 R 11582



M 404.9760 R 13049



M 416.9760 R 13416



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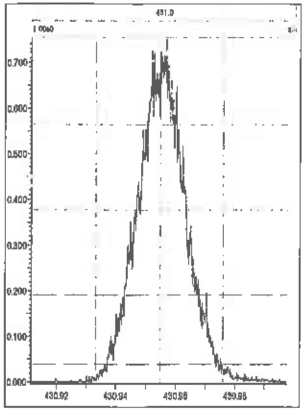

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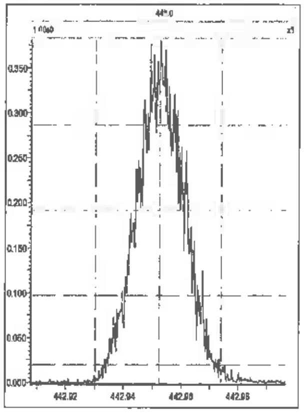

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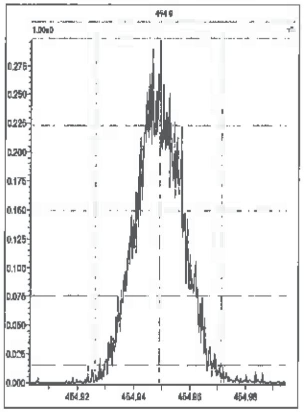

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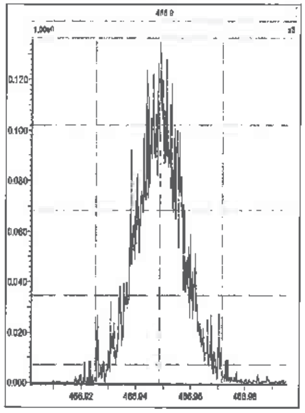

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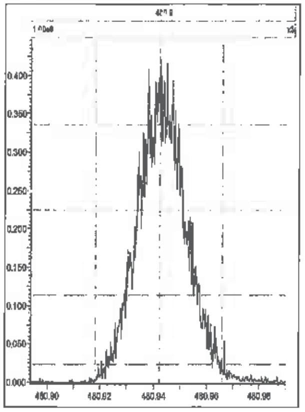

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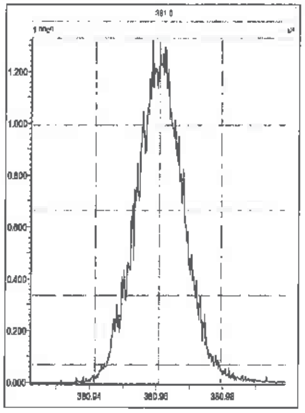

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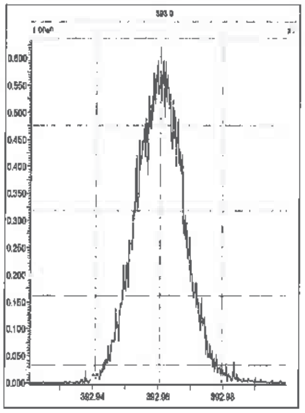

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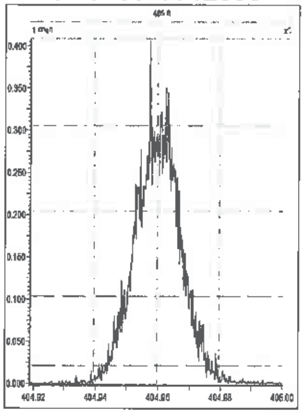

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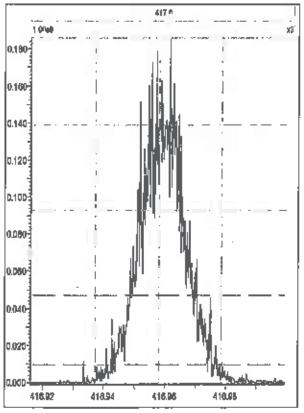

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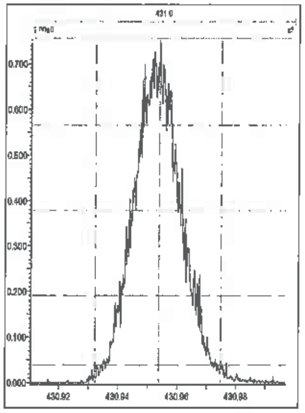

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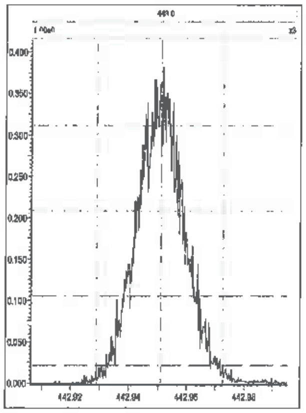

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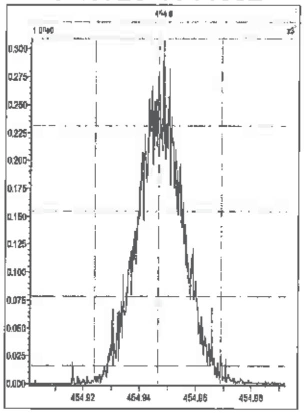

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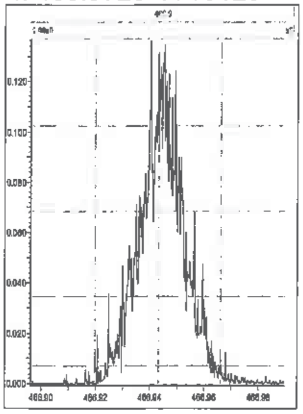

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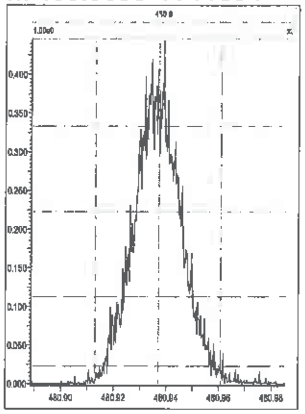

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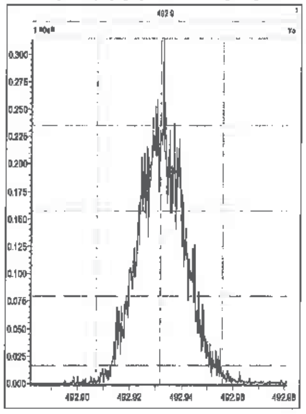

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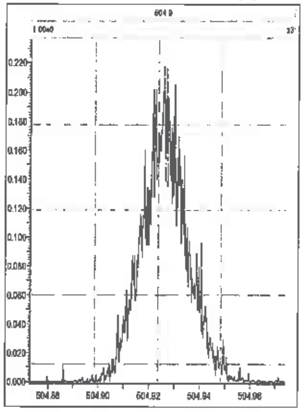

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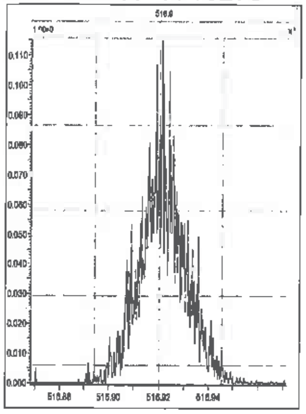

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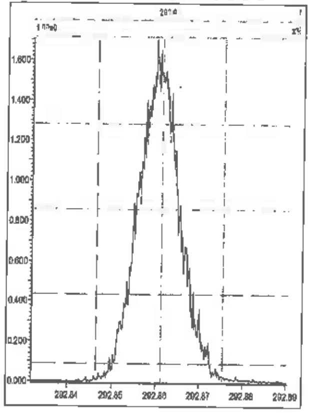

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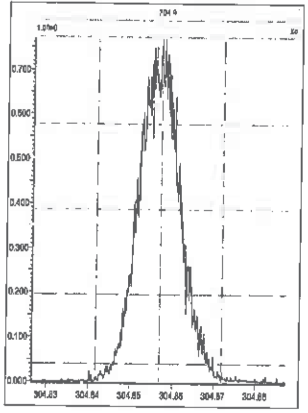

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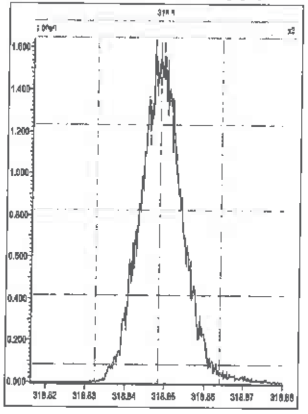

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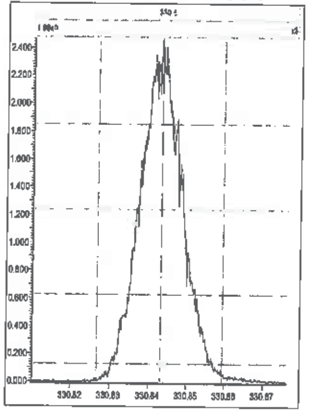

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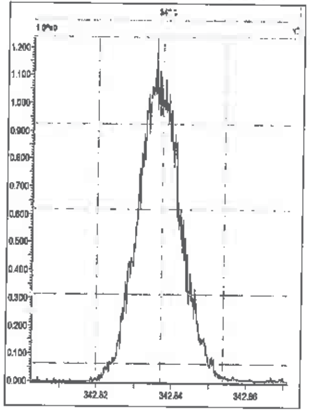

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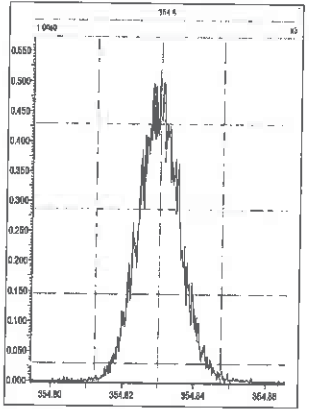

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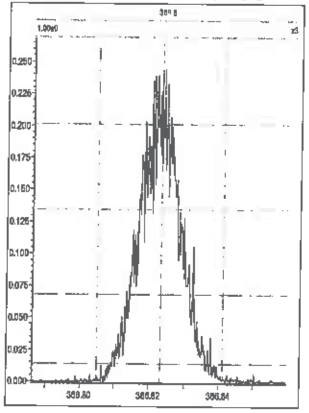

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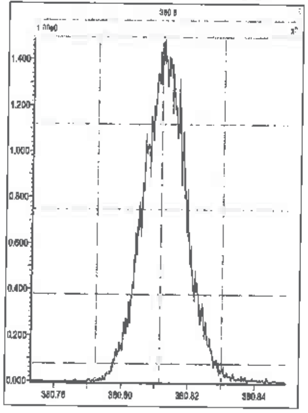

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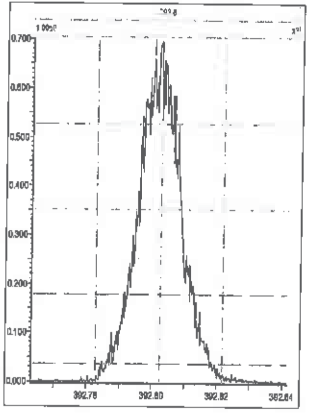

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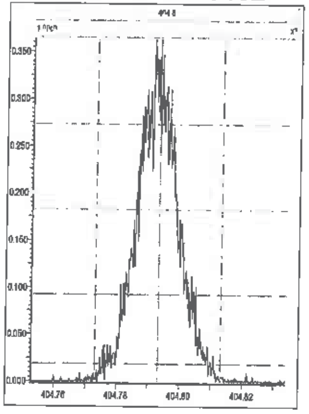

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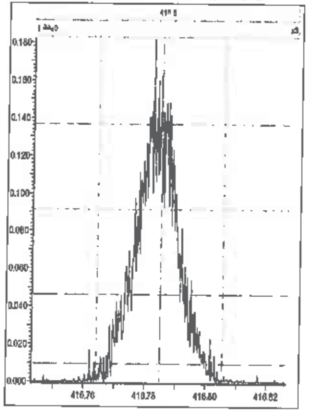

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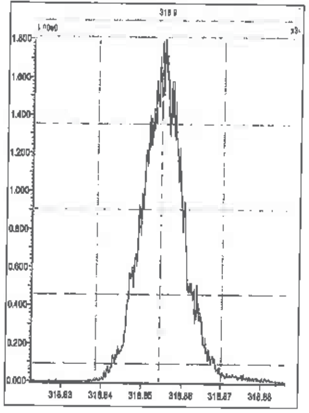

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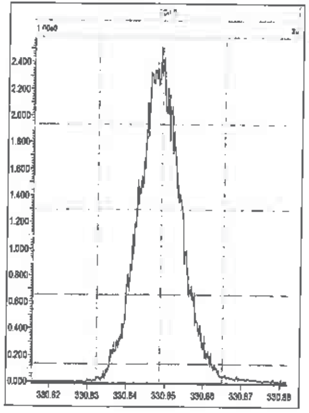

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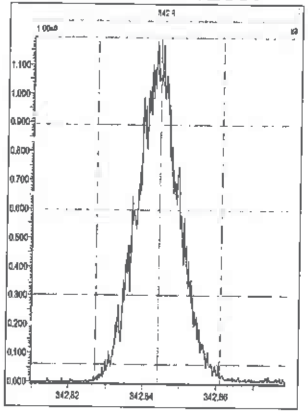

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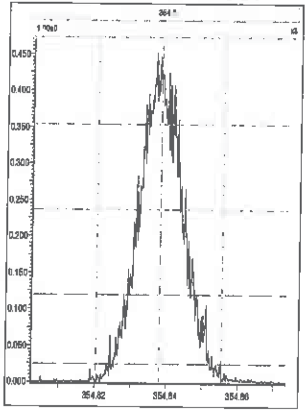

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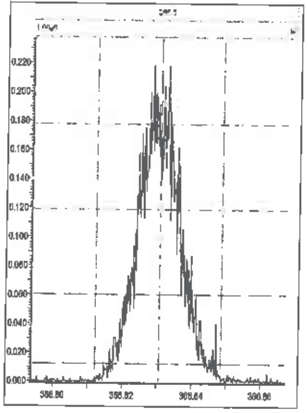

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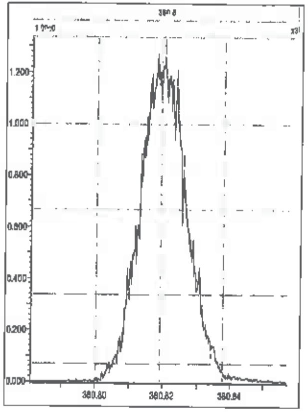

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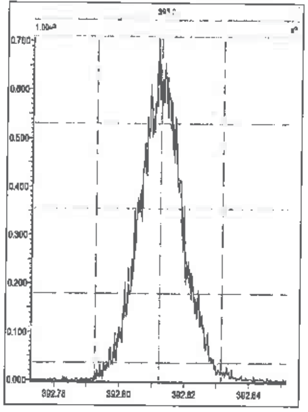

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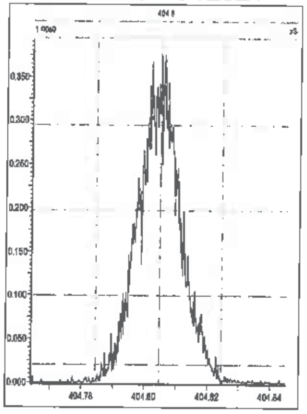

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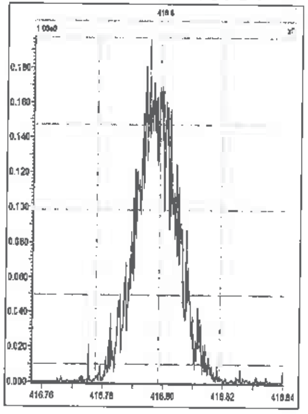

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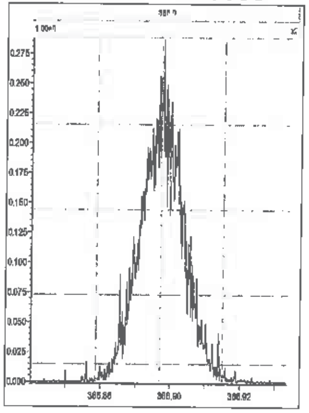

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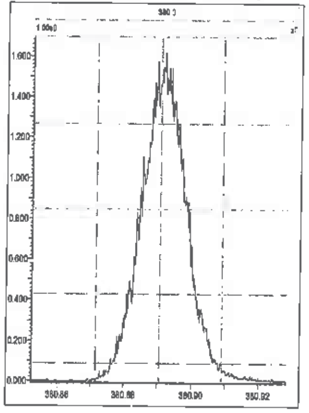

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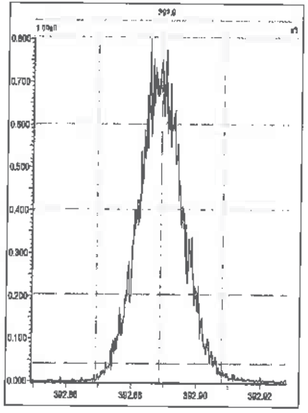

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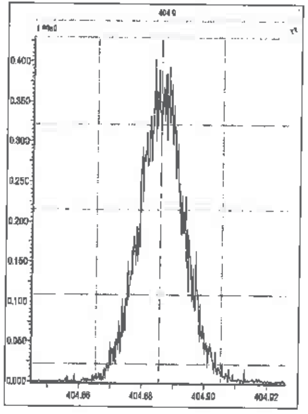

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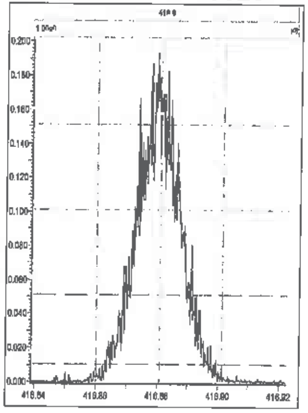

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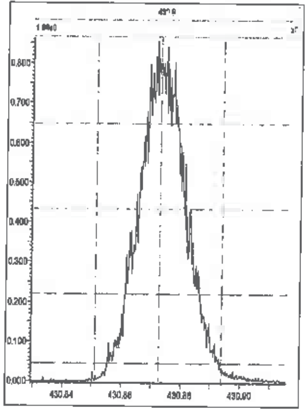

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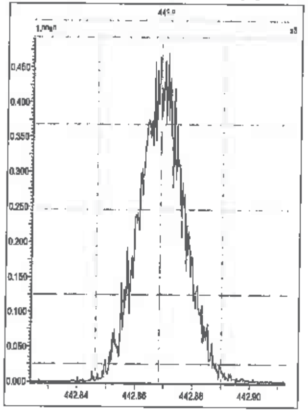

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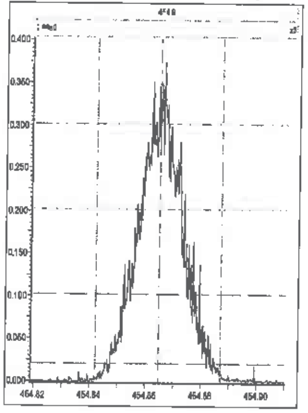

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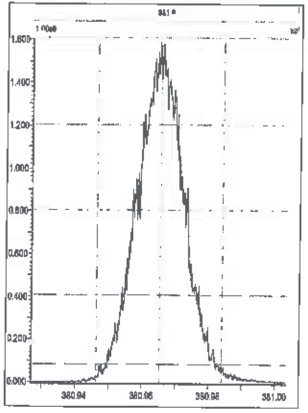

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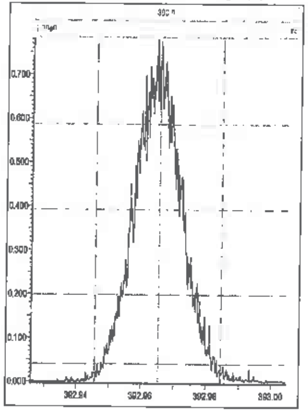

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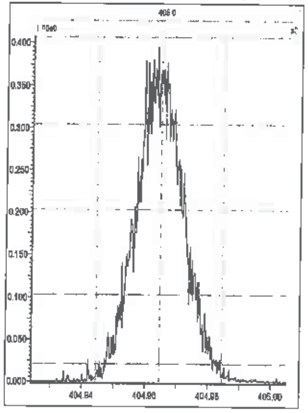

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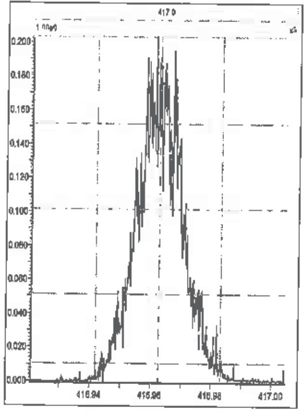

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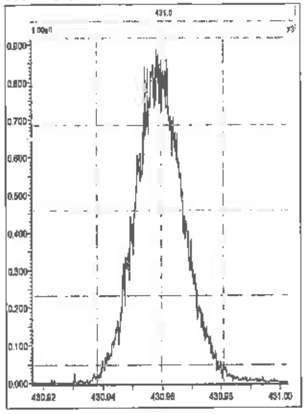

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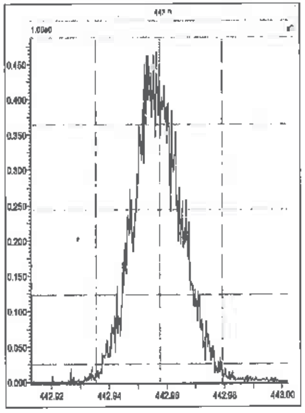

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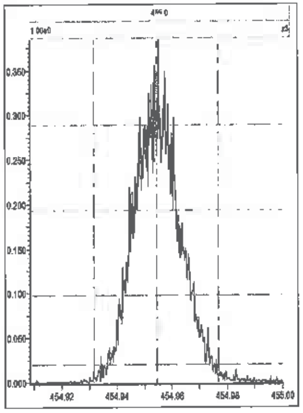

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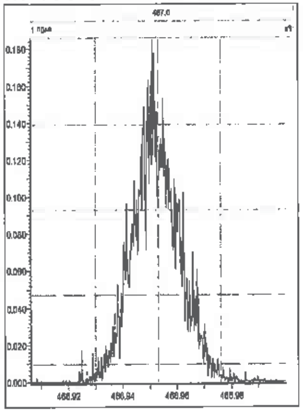

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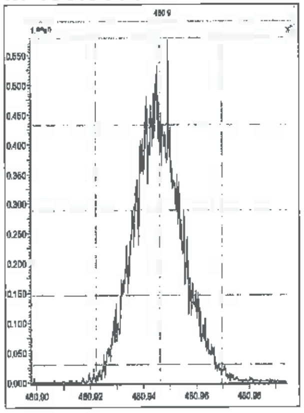

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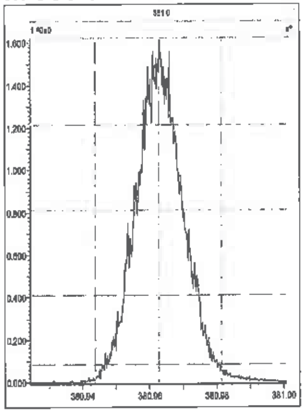

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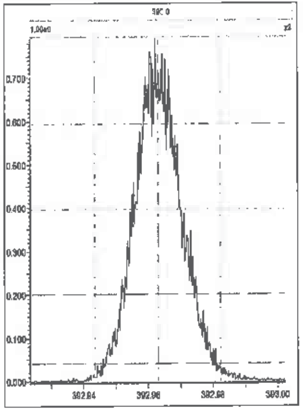

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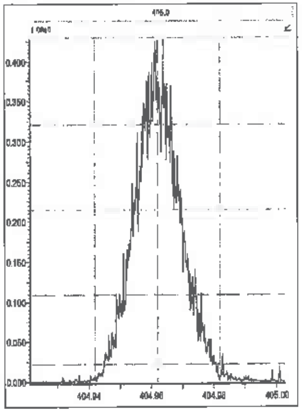

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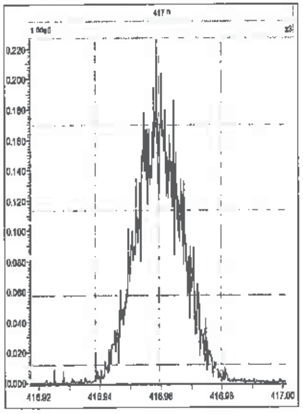

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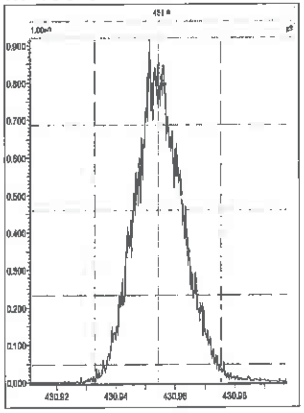

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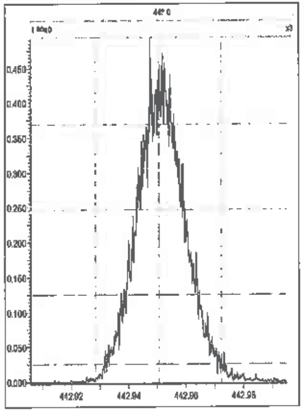

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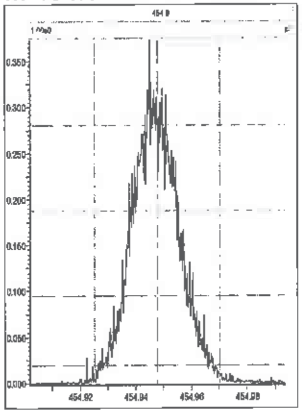

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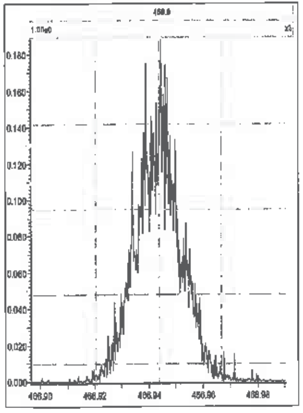

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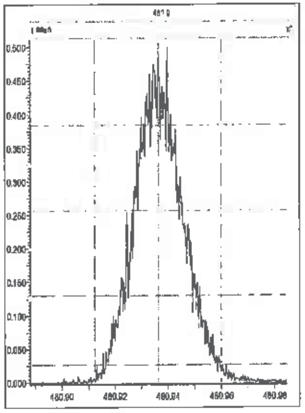

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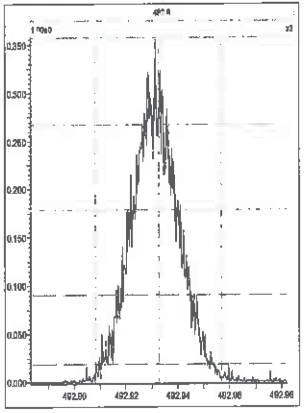

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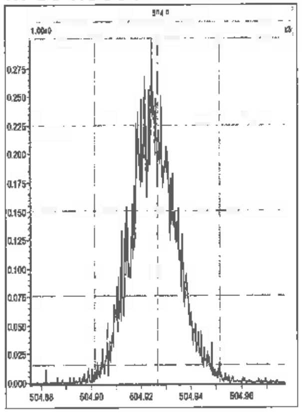

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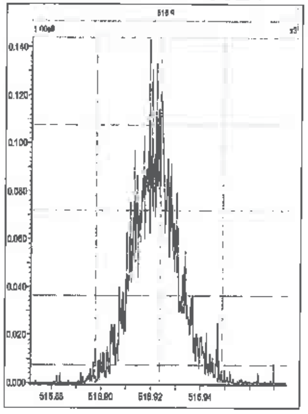

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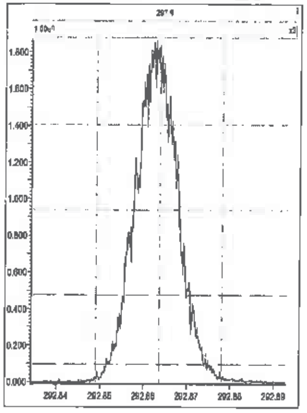

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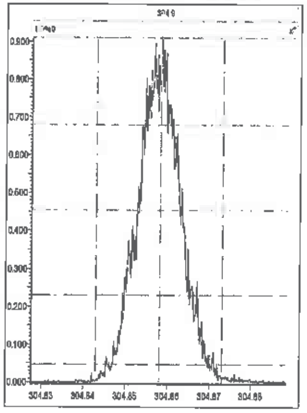

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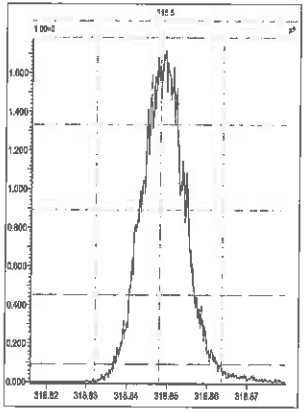

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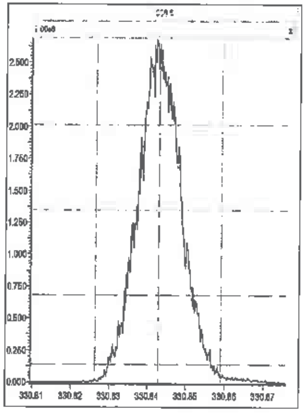

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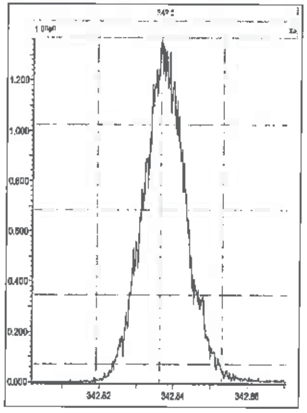

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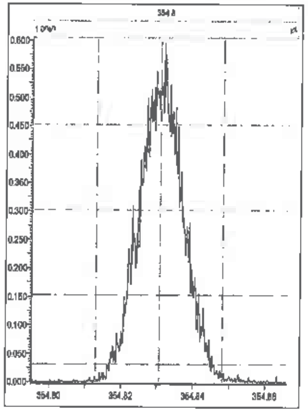

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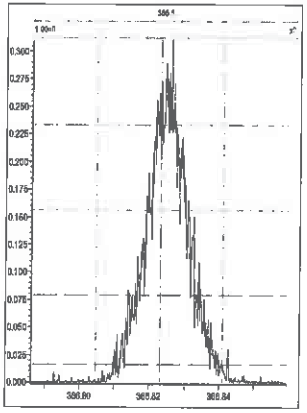

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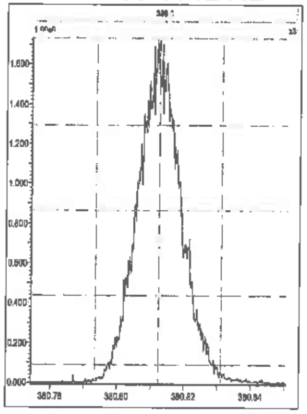

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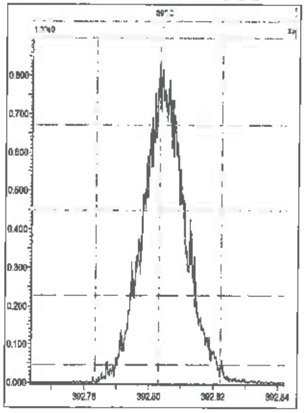

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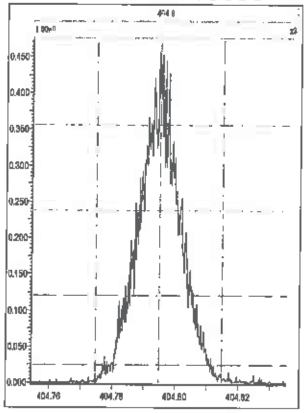

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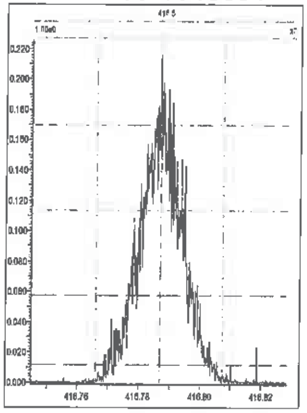

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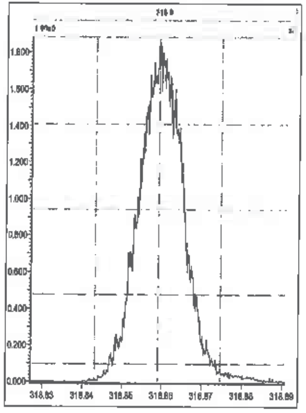

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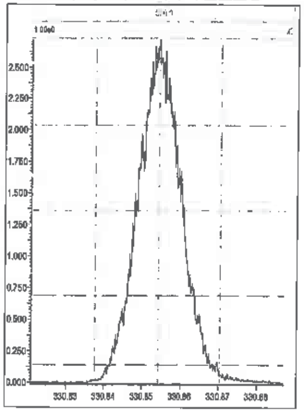

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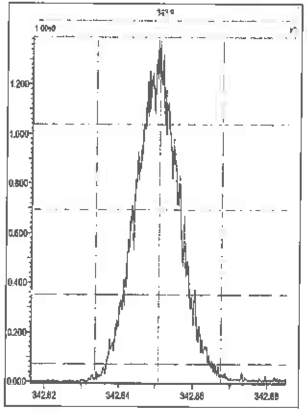

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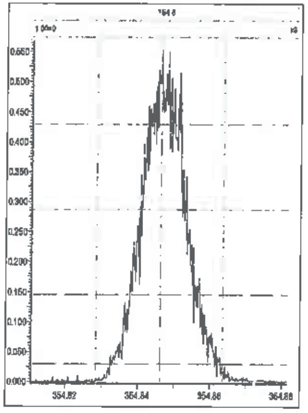

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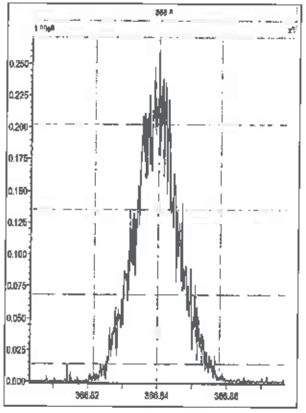

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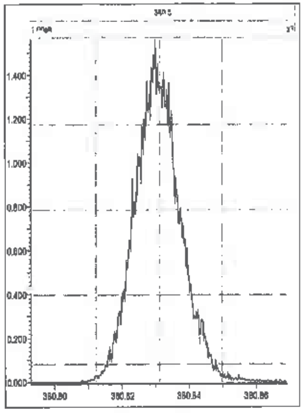

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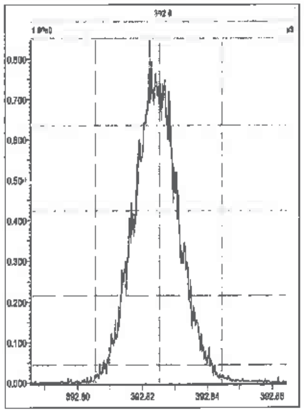

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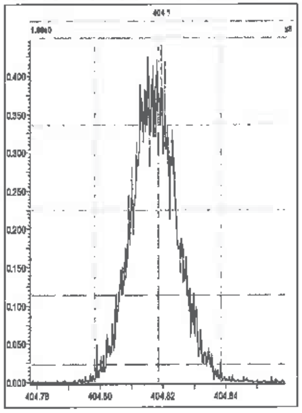

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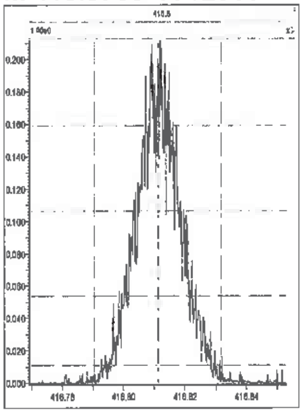

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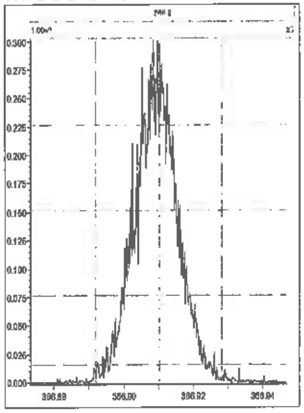

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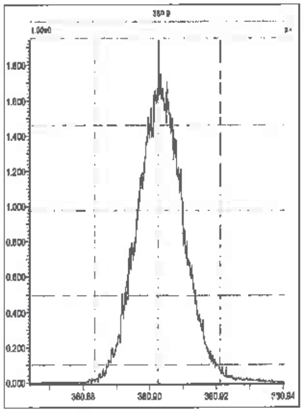

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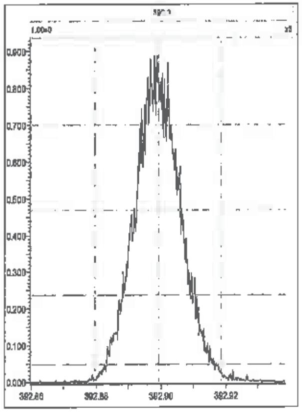

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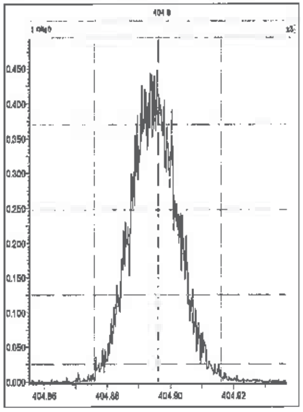

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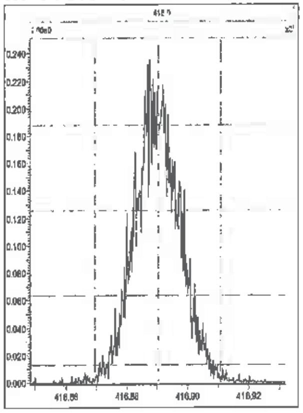

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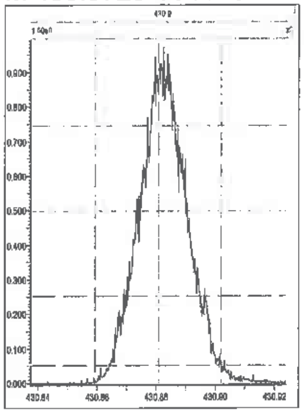

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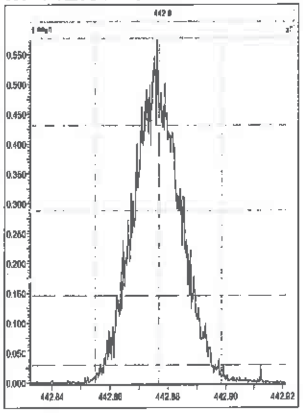

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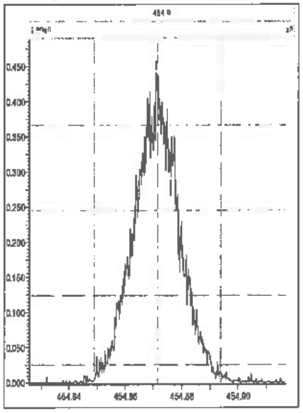

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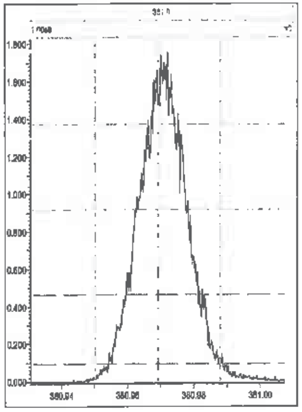

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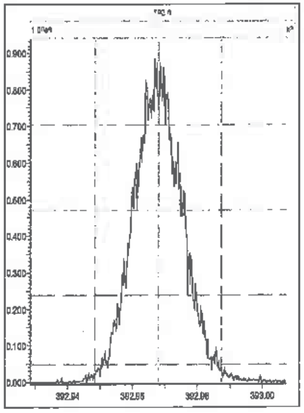

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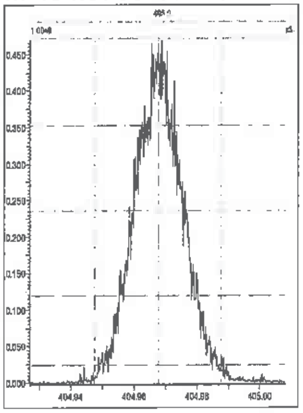

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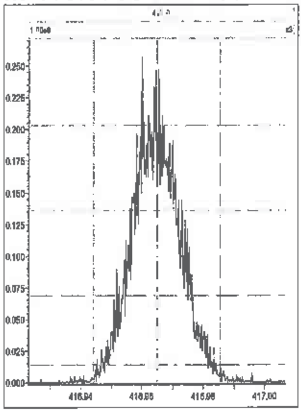

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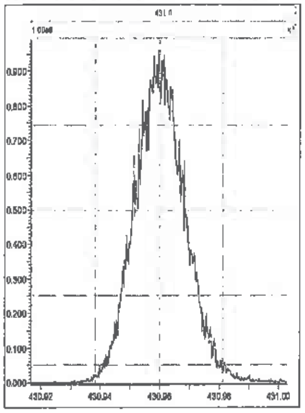

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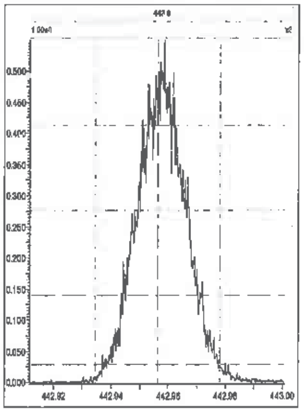

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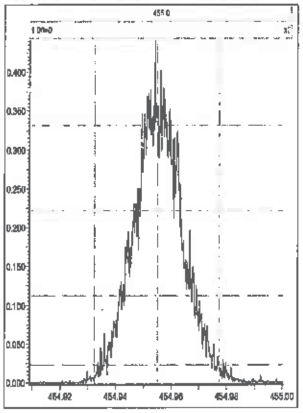

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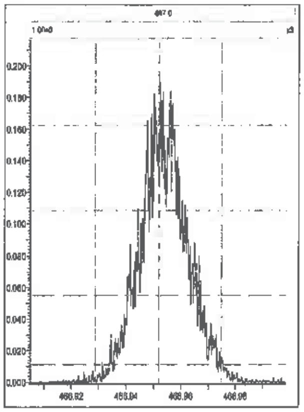

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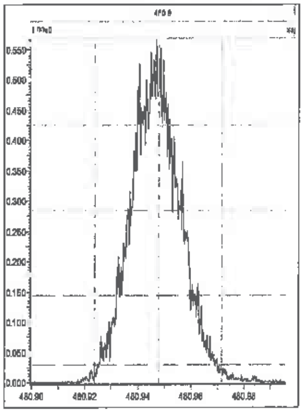

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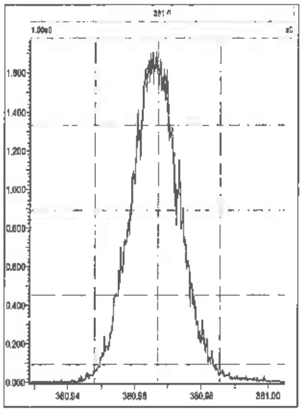

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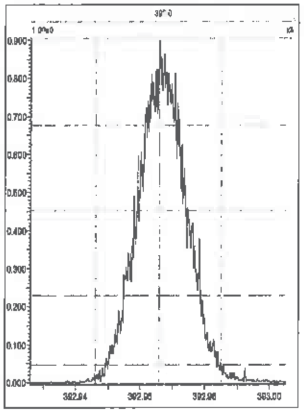

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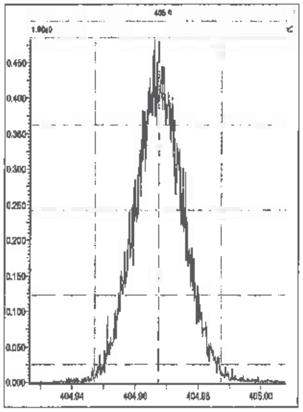

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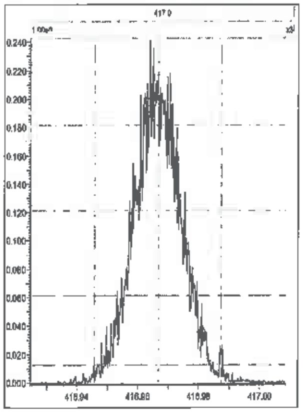

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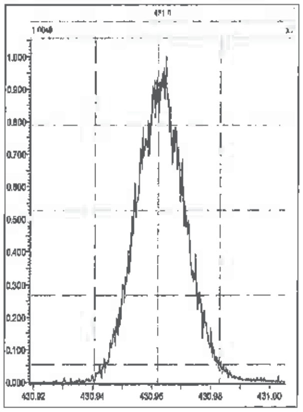

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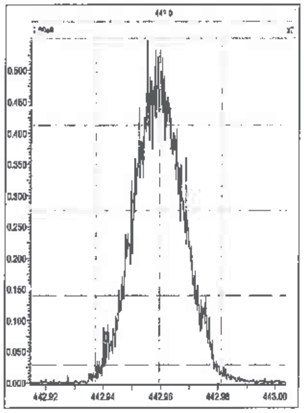

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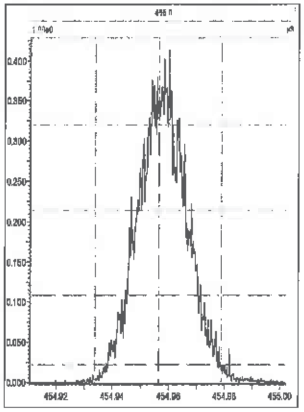

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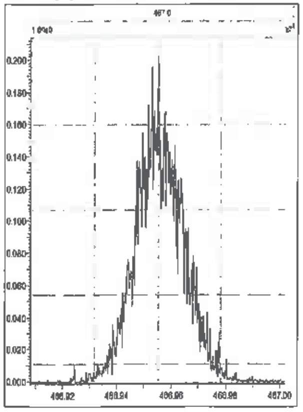

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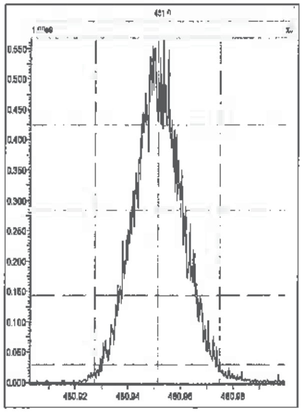

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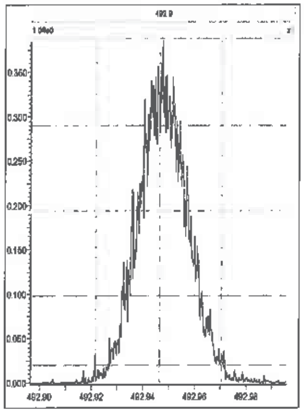

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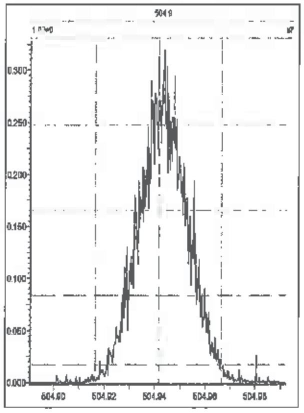

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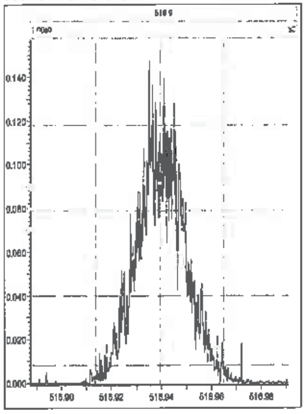

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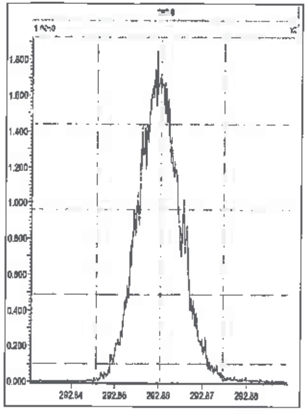

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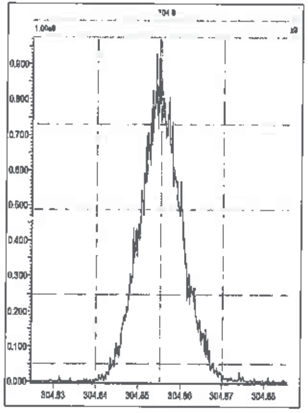

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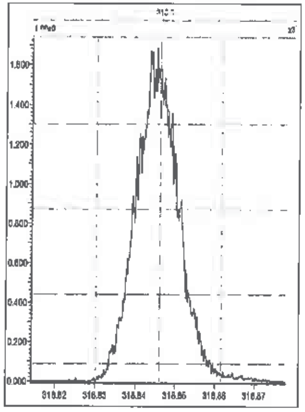

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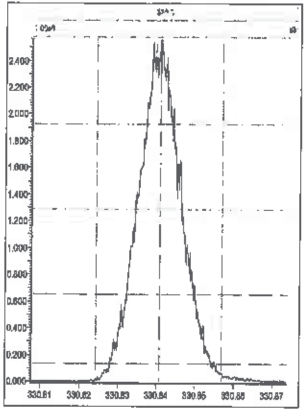

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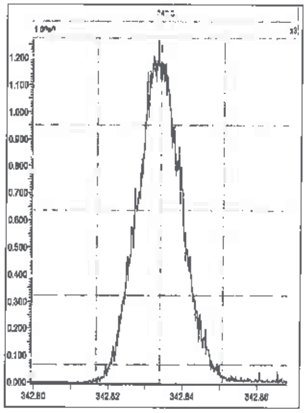

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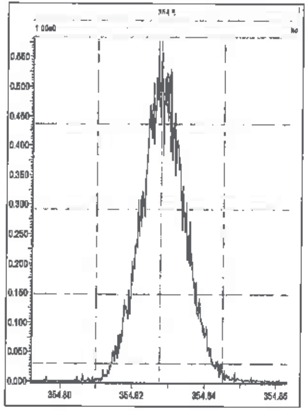

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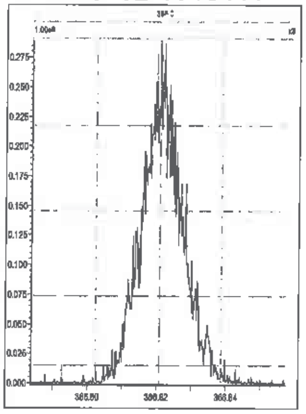

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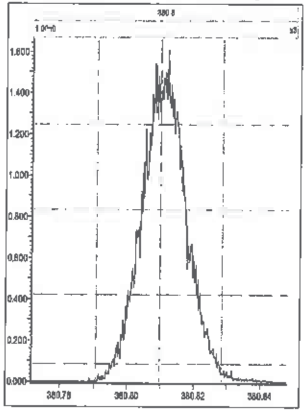

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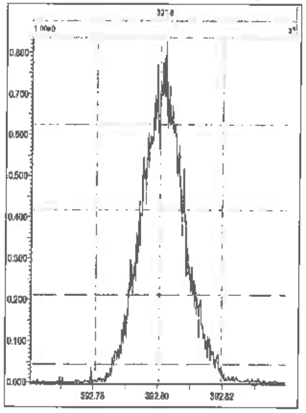

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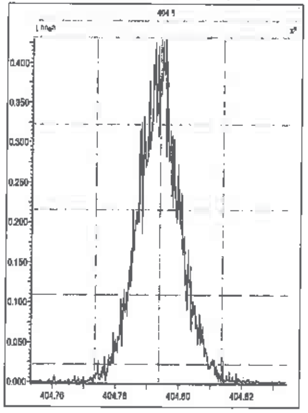

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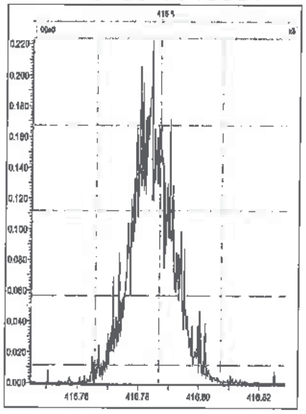

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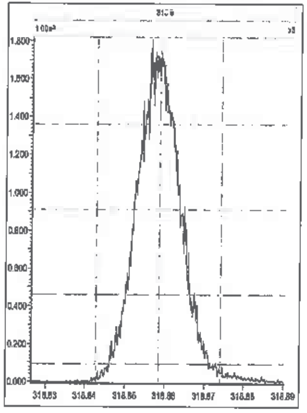

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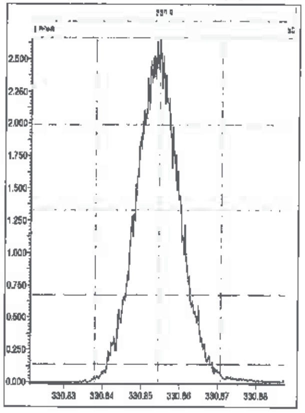

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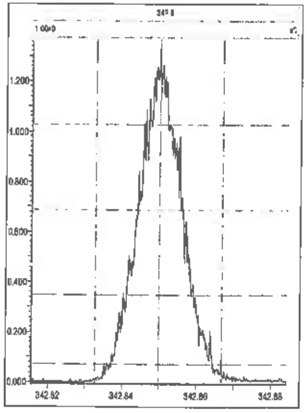

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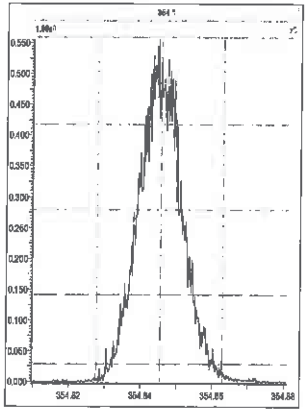

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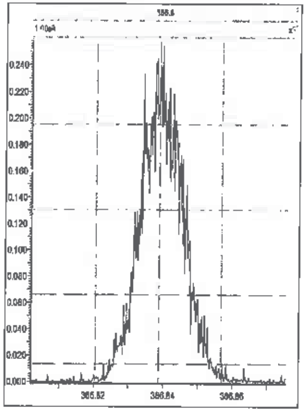

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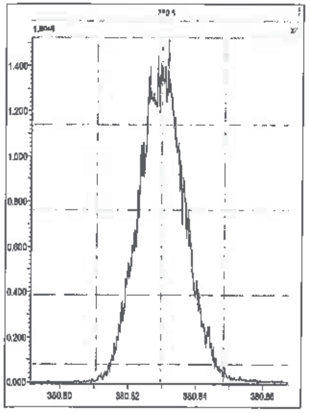

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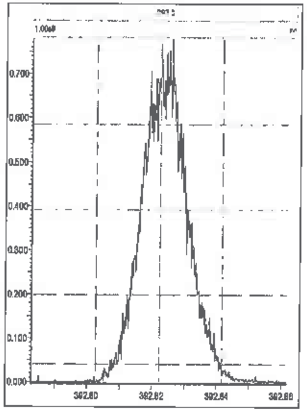

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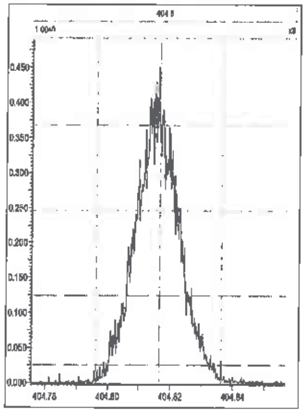

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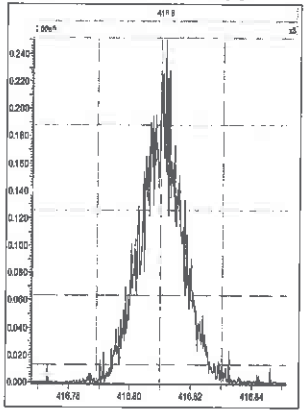

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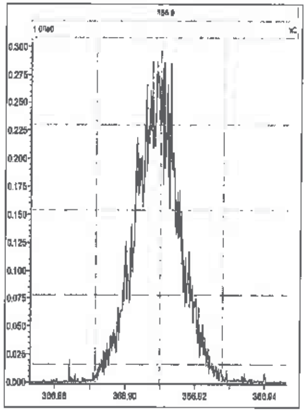

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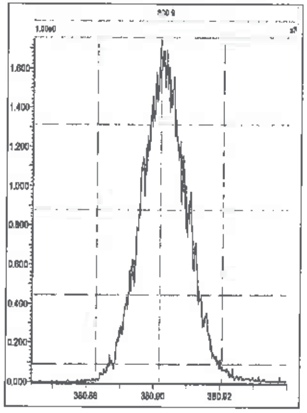

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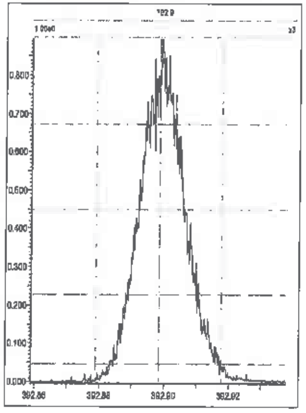
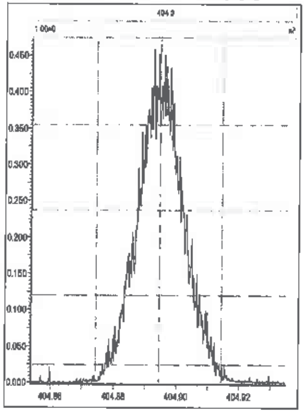
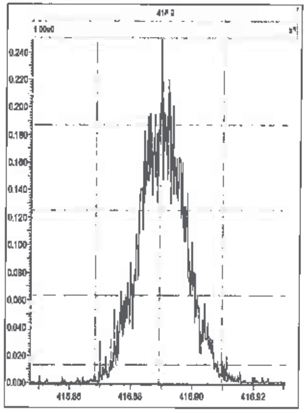


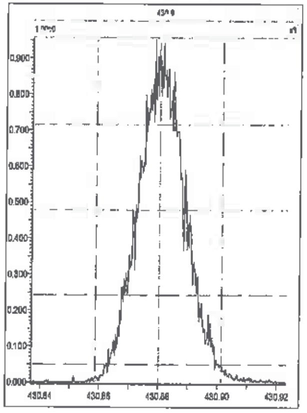
M 404.9760 R 11688



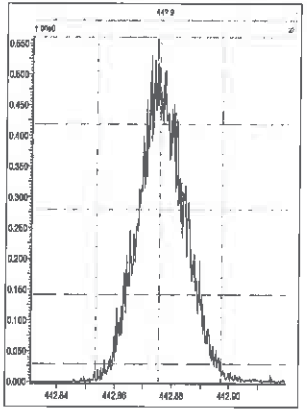
M 416.9760 R 12691



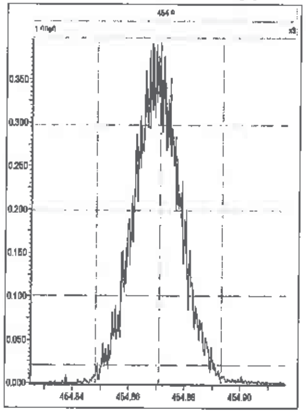
M 430.9728 R 11263



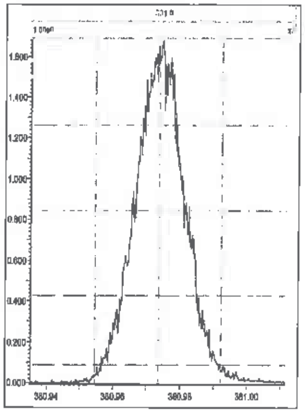
M 442.9728 R 11602



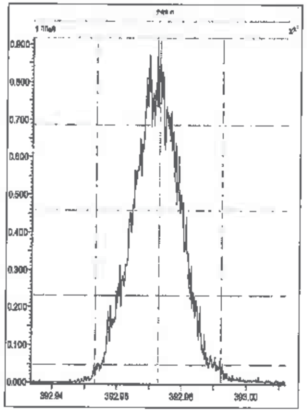
M 454.9728 R 12257



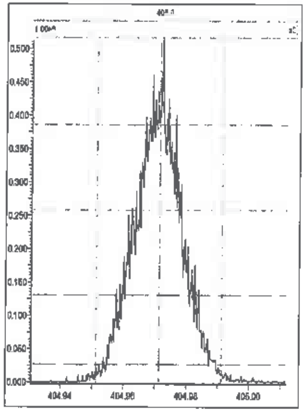
M 380.9760 R 11212



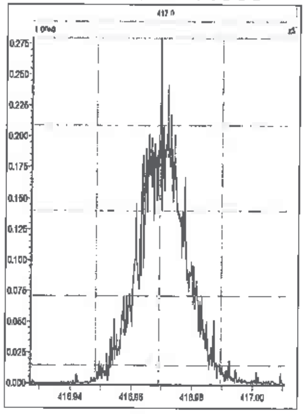
M 392.9760 R 11682



M 404.9760 R 11801

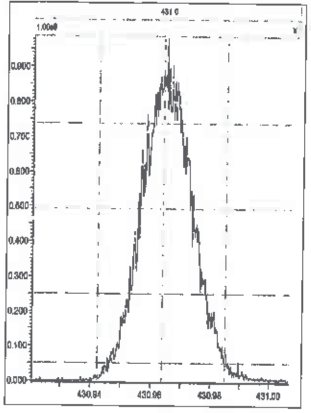


M 416.9760 R 11968

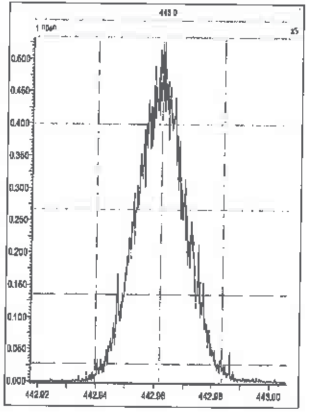


3D5

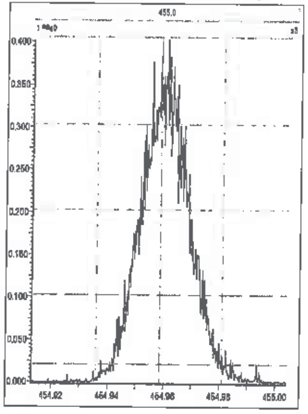
M 430.9728 R 11075



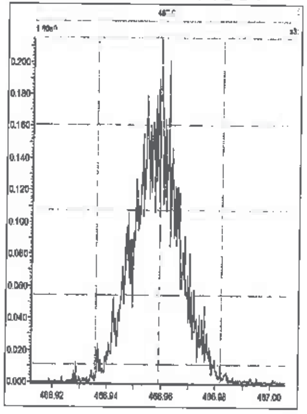
M 442.9728 R 11576



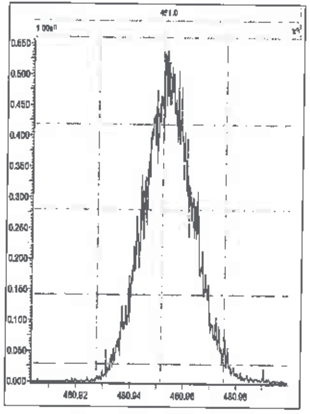
M 454.9728 R 11775



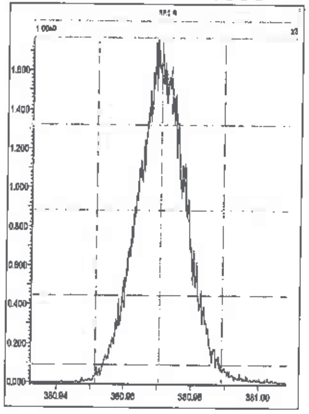
M 466.9728 R 11961



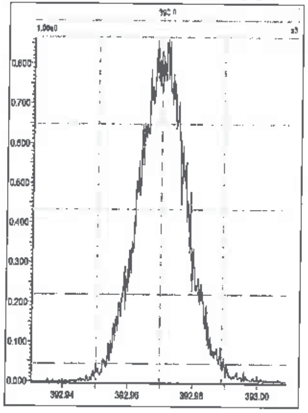
M 480.9696 R 11215



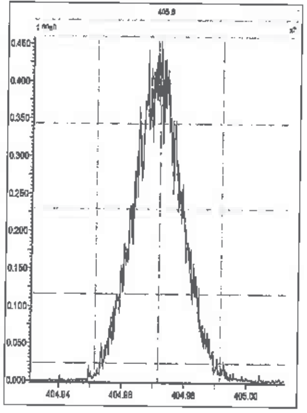
M 380.9760 R 11090



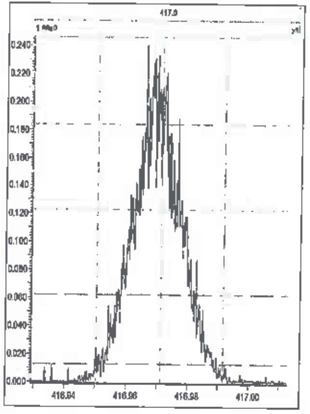
M 392.9760 R 11293



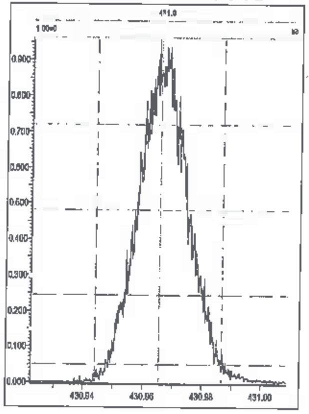
M 404.9760 R 11315



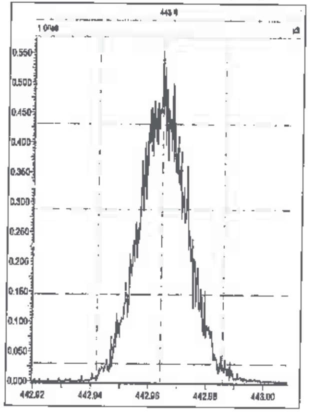
M 416.9760 R 12377



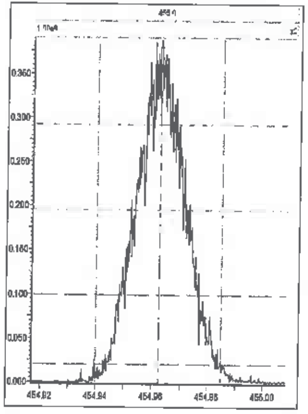
M 430.9728 R 11118



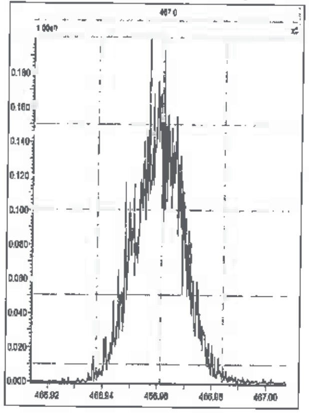
M 442.9728 R 11526



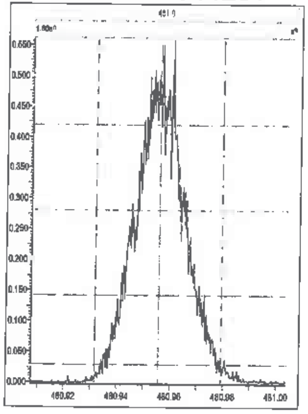
M 454.9728 R 11342



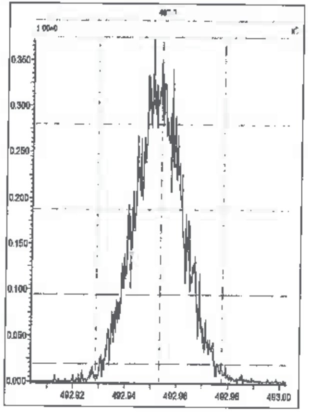
M 466.9728 R 12567



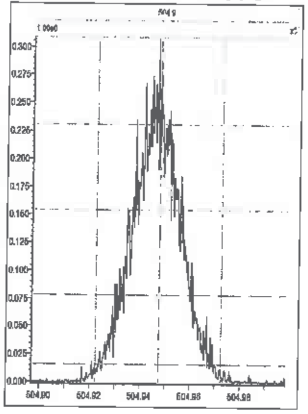
M 480.9696 R 11261



M 492.9696 R 11603

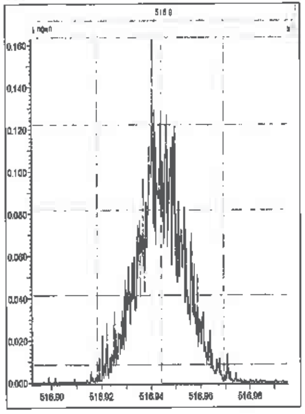


M 504.9696 R 11576



3D5

M 516.9697 R 12416



Report Date: 20-Nov-2017 11:49:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2017 11:49:50 ALS Bottle#: 2 Worklist Smp#: 81
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111617J CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:49:07 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: stephensk Date: 19-Nov-2017 19:44:10

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	124635030	0.82	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.705	186614216	0.81	1.5089	99.2	99.2	0.2831	0.2831	99.23	
2,3,7,8-TCDF	17.720	19939071	0.76	1.0971	9.739	9.739	0.0313	0.0313	97.39	
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF					9.739	9.739	0.0313	0.0313		
D 13C-2,3,7,8-TCDD	18.430	122034576	0.79	0.9906	98.8	98.8	0.2261	0.2261	98.84	
$ 37Cl4-2,3,7,8-TCDD	18.461	14583524		1.1732	9.974	9.974	0.0336	0.0336	99.74	
2,3,7,8-TCDD	18.461	13699724	0.76	1.1645	9.641	9.641	0.0448	0.0448	96.41	
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD					9.641	9.641	0.0448	0.0448		
D 13C-1,2,3,7,8-PeCDF	22.883	148988734	1.60	1.1280	106.0	106.0	0.3295	0.3295	106	
1,2,3,7,8-PeCDF	22.910	82216952	1.64	1.1422	48.3	48.3	0.1913	0.1913	96.63	
D 13C-2,3,4,7,8-PeCDF	24.260	144329341	1.64							
2,3,4,7,8-PeCDF	24.287	81205739	1.62	1.1102	49.1	49.1	0.1968	0.1968	98.19	
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF					97.4	97.4	0.1940	0.1940		
D 13C-1,2,3,7,8-PeCDD	25.010	95782337	1.59	0.7269	105.7	105.7	0.2071	0.2071	106	
1,2,3,7,8-PeCDD	25.037	53236727	1.59	1.1272	49.3	49.3	0.0895	0.0895	98.62	
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD					49.3	49.3	0.0895	0.0895		
D 13C-1,2,3,4,7,8-HxCDF	30.919	116252364	0.52	1.0279	97.0	97.0	0.4682	0.4682	96.95	
1,2,3,4,7,8-HxCDF	30.932	79522486	1.26	1.3475	50.8	50.8	0.2910	0.2910	102	
D 13C-1,2,3,6,7,8-HxCDF	31.079	136720876	0.52							
1,2,3,6,7,8-HxCDF	31.092	88693839	1.29	1.4794	51.6	51.6	0.2651	0.2651	103	
D 13C-2,3,4,6,7,8-HxCDF	31.824	125989113	0.54							
2,3,4,6,7,8-HxCDF	31.838	80297575	1.27	1.3833	49.9	49.9	0.2835	0.2835	99.86	
D 13C-1,2,3,7,8,9-HxCDF	32.583	120413027	0.51							
1,2,3,7,8,9-HxCDF	32.597	76286099	1.26	1.2903	50.9	50.9	0.3039	0.3039	102	
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					203.1	203.1	0.2859	0.2859		
* 13C-1,2,3,7,8,9-HxCDD	32.410	116644665	1.25	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.997	80652700	1.24							
1,2,3,4,7,8-HxCDD	32.011	50329271	1.37	1.0646	47.8	47.8	0.1706	0.1706	95.50	
D 13C-1,2,3,6,7,8-HxCDD	32.091	98999034	1.31	0.8502	99.8	99.8	0.3052	0.3052	99.83	
1,2,3,6,7,8-HxCDD	32.104	56922019	1.26	1.1809	48.7	48.7	0.1538	0.1538	97.38	
1,2,3,7,8,9-HxCDD	32.424	61194504	1.27	1.2311	50.2	50.2	0.1475	0.1475	100	
A Non-2,3,7,8-sub-HxCDD	31.252						0.0	0.0		
S Total HxCDD					146.7	146.7	0.1573	0.1573		
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	77630961	0.44	0.6490	102.6	102.6	1.323	1.323	103	
1,2,3,4,6,7,8-HpCDF	34.010	61067341	1.02	1.5871	49.6	49.6	0.5507	0.5507	99.13	
D 13C-1,2,3,4,7,8,9-HpCDF	35.116	64938680	0.43							
1,2,3,4,7,8,9-HpCDF	35.128	47474241	1.05	1.2290	49.8	49.8	0.7112	0.7112	99.52	
A Non-2,3,7,8-sub-HpCDF	34.569						0.0	0.0		
S Total HpCDF					99.3	99.3	0.6309	0.6309		
1,2,3,4,6,7,8-HpCDD	34.824	37105299	1.08	1.1631	49.6	49.6	0.3186	0.3186	99.21	
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	64308351	1.08	0.5387	102.3	102.3	0.5347	0.5347	102	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					49.6	49.6	0.3186	0.3186		
D 13C-OCDD	37.245	92602737	0.92	0.4009	198.0	198.0	0.1814	0.1814	99.01	
OCDF	37.353	60436025	0.91	1.2649	103.2	103.2	0.1057	0.1057	103	
OCDD	37.257	47945586	0.91	1.0390	99.7	99.7	0.1005	0.1005	99.66	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2017 11:49:50   ALS Bottle#: 2   Worklist Smp#: 81
Injection Vol: 2.0 ul   Dil. Factor: 1.0000
Sample Info: CCV 111617J CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM   Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:49:07   Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution   Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 :   Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: stephensk   Date: 19-Nov-2017 19:44:10

Signal	RT (min.)	Exp RT (min.)	R Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		56002714	13172329	15912	39780	828		
333.9339	18.234	18.234	0		68632316	16419239	10599	26497	1549	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	0.971	83437039	20391127	30838	77095	661		
317.9389	17.705	17.705	0	0.971	103177177	24651821	19720	49300	1250	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720	17.720	0	1.001	8587436	2000486	2356	5890	849		
305.8987	17.720	17.720	0	1.001	11351635	2715784	3822	9555	711	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						2356	5890			
305.8987	17.402						3822	9555			
13C-2,3,7,8-TCDD											
331.9368	18.430	18.430	0	1.011	53727409	11619756	15912	39780	730		
333.9339	18.430	18.430	0	1.011	68307167	15124903	10599	26497	1427	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.461	18.461	0	1.012	14583524	3200006	4673	11682	685		
2,3,7,8-TCDD											
319.8965	18.461	18.461	0	1.002	5899807	1344374	3182	7955	422		
321.8936	18.461	18.461	0	1.002	7799917	1767711	2394	5985	738	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						3182	7955			
321.8936	17.871						2394	5985			

Signal	RT (min.)	Exp RT (min.)	R Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.883	0	1.255	91700600	15581226	25760	64400	605		
353.8970	22.883	22.883	0	1.255	57288134	9755730	18237	45592	535	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.910	22.910	0	1.001	51021778	8609859	12962	32405	664		
341.8567	22.896	22.910	-1	1.001	31195174	5179332	9178	22945	564	1.64(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.260	24.260	0	1.330	89610459	14644595	25760	64400	569		
353.8970	24.260	24.260	0	1.330	54718882	8879873	18237	45592	487	1.64(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.287	24.287	0	1.061	50200597	8153714	12962	32405	629		
341.8567	24.287	24.287	0	1.061	31005142	4945101	9178	22945	539	1.62(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.426						493	1232			
341.8567	20.426						1294	3235			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						12962	32405			
341.8567	23.668						9178	22945			
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.372	58761438	9251671	9943	24857	930		
369.8919	25.010	25.010	0	1.372	37020899	5531840	7874	19685	703	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037	25.037	0	1.001	32718232	4977631	3443	8607	1446		
357.8516	25.037	25.037	0	1.001	20518495	2997447	2521	6302	1189	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						3443	8607			
357.8516	23.878						2521	6302			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.919	0	0.954	39714087	8666504	19903	49757	435		
385.8610	30.906	30.919	-1	0.954	76538277	16489168	39821	99552	414	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932	30.932	0	1.000	44280557	9804662	22663	56657	433		
375.8178	30.932	30.932	0	1.000	35241929	7791994	16794	41985	464	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.079	31.079	0	0.959	46621653	9499378	19903	49757	477		
385.8610	31.079	31.079	0	0.959	90099223	18517958	39821	99552	465	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.092	31.092	0	1.006	49885737	10396103	22663	56657	459		
375.8178	31.092	31.092	0	1.006	38808102	8252174	16794	41985	491	1.29(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.824	31.824	0	0.982	43927304	11448075	19903	49757	575		
385.8610	31.824	31.824	0	0.982	82061809	20783332	39821	99552	522	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.838	31.838	0	1.030	44996543	11703301	22663	56657	516		
375.8178	31.838	31.838	0	1.030	35301032	8894352	16794	41985	530	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	R Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.005	40522052	10978640	19903	49757	552		
385.8610	32.583	32.583	0	1.005	79890975	21681908	39821	99552	544	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597	32.597	0	1.054	42578032	11730281	22663	56657	518		
375.8178	32.597	32.597	0	1.054	33708067	9238547	16794	41985	550	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						22663	56657			
375.8178	30.653						16794	41985			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.410	0		64739405	17098199	17492	43730	977		
403.8529	32.410	32.410	0		51905260	13922940	14706	36765	947	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.997	31.997	0	0.987	44644106	13218069	17492	43730	756		
403.8529	31.997	31.997	0	0.987	36008594	10635079	14706	36765	723	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.011	32.011	0	0.998	29079479	8253672	10929	27322	755		
391.8127	32.011	32.011	0	0.998	21249792	6208829	7257	18142	856	1.37(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.990	56089308	14296490	17492	43730	817		
403.8529	32.091	32.091	0	0.990	42909726	10735762	14706	36765	730	1.31(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.104	32.104	0	1.000	31695290	8485290	10929	27322	776		
391.8127	32.104	32.104	0	1.000	25226729	6556767	7257	18142	904	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.424	32.424	0	1.010	34193796	9303603	10929	27322	851		
391.8127	32.424	32.424	0	1.010	27000708	7175319	7257	18142	989	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.252						10929	27322			
391.8127	31.252						7257	18142			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	23769387	7453411	35453	88632	210		
419.8220	33.998	33.998	0	1.049	53861574	17152697	71089	177722	241	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.010	34.010	0	1.000	30875894	10109430	42871	107177	236		
409.7789	34.010	34.010	0	1.000	30191447	9517533	43150	107875	221	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.116	35.116	0	1.083	19556769	5689943	35453	88632	160		
419.8220	35.116	35.116	0	1.083	45381911	13444187	71089	177722	189	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128	35.128	0	1.033	24260396	7128944	42871	107177	166		
409.7789	35.128	35.128	0	1.033	23213845	6689752	43150	107875	155	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.569						42871	107177			
409.7789	34.569						43150	107875			

Signal	RT (min.)	Exp RT (min.)	R Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.824	34.824	0	1.000	19226409	5676751	15245	38112	372		
425.7737	34.824	34.824	0	1.000	17878890	5322243	13209	33022	403	1.08(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.824	0	1.074	33425634	9986986	18713	46782	534		
437.8140	34.824	34.824	0	1.074	30882717	9209495	17027	42567	541	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						15245	38112			
425.7737	35.261						13209	33022			
13C-OCDD											
469.7779	37.245	37.245	0	1.149	44277652	11104154	4256	10640	2609		
471.7750	37.245	37.245	0	1.149	48325085	12265066	4770	11925	2571	0.92(0.76-1.02)	
OCDF											
441.7428	37.353	37.353	0	1.003	28827465	7451367	2436	6090	3059		
443.7399	37.341	37.353	-1	1.003	31608560	8053753	3811	9527	2113	0.91(0.76-1.02)	
OCDD											
457.7377	37.257	37.257	0	1.000	22806135	5717581	1991	4977	2872		
459.7348	37.245	37.257	-1	1.000	25139451	6377030	2890	7225	2207	0.91(0.76-1.02)	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

Report Date: 20-Nov-2017 11:49:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d

Injection Date: 19-Nov-2017 11:49:50 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

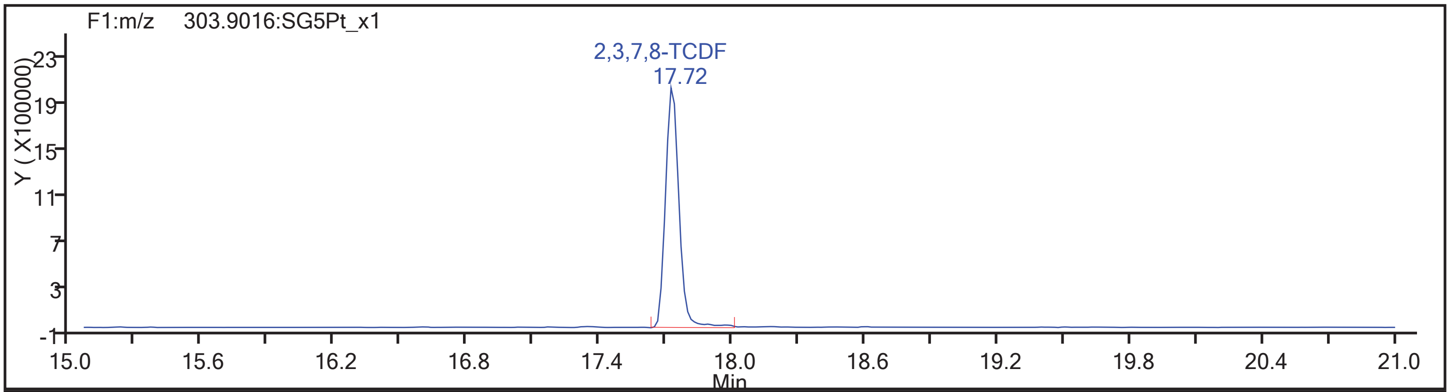
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

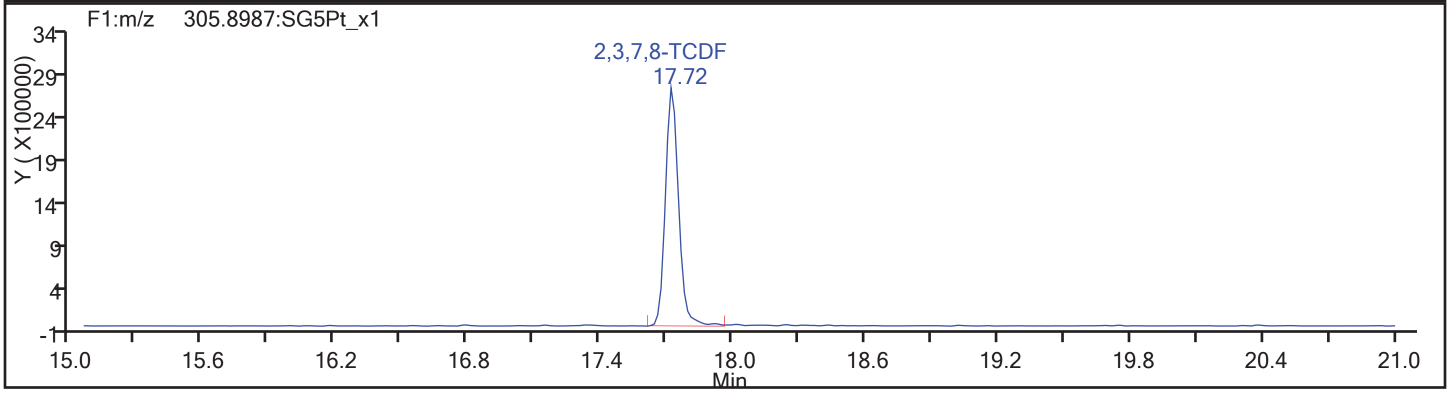
Client ID:

Worklist#: 195575 Sample Line#: 81

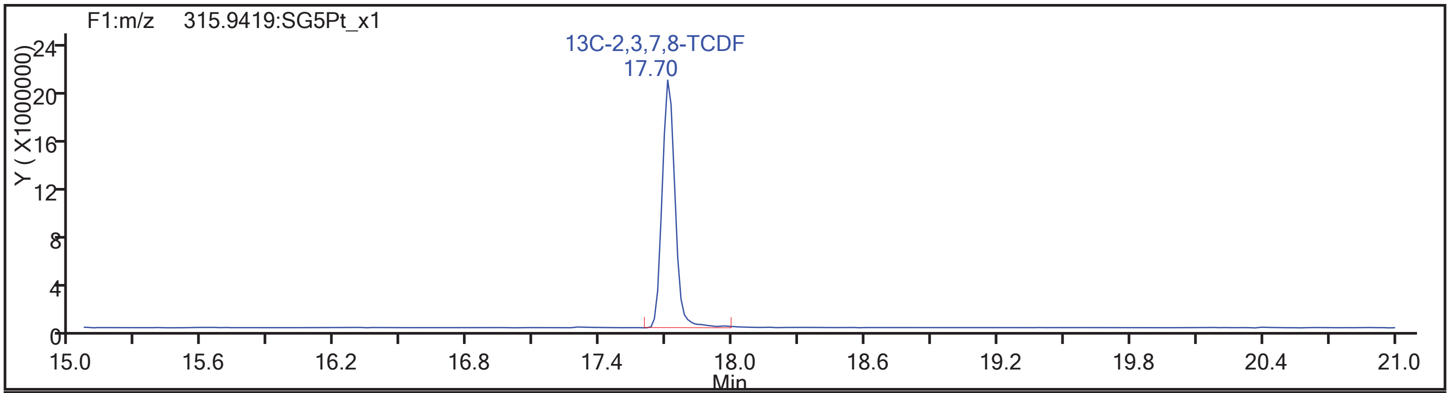
Column Type: Column Dia:

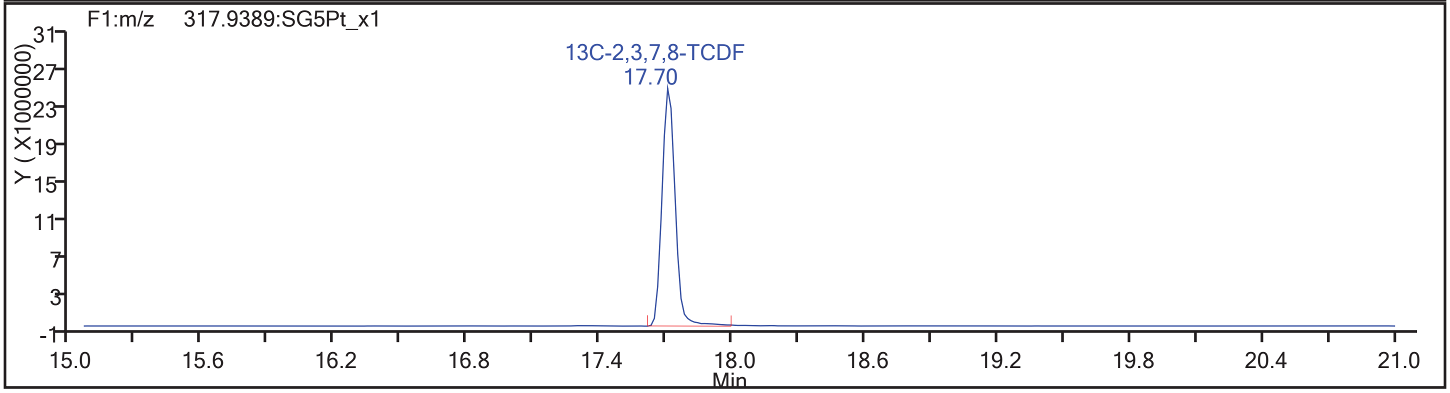
TCDF





TCDF Standards



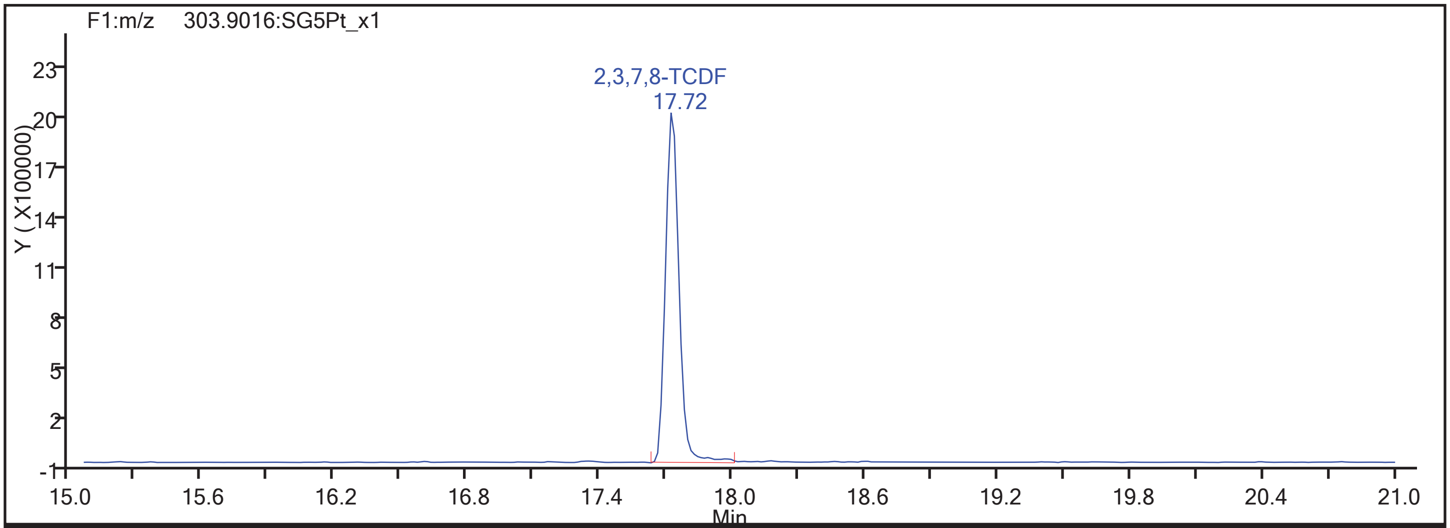


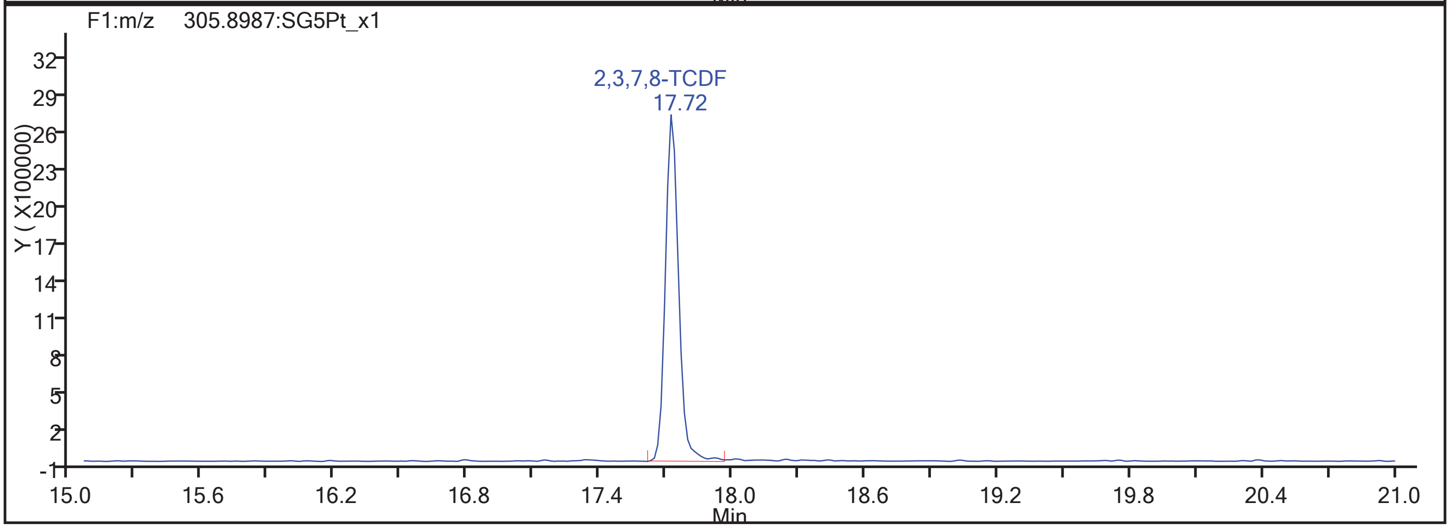
Report Date: 20-Nov-2017 11:49:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

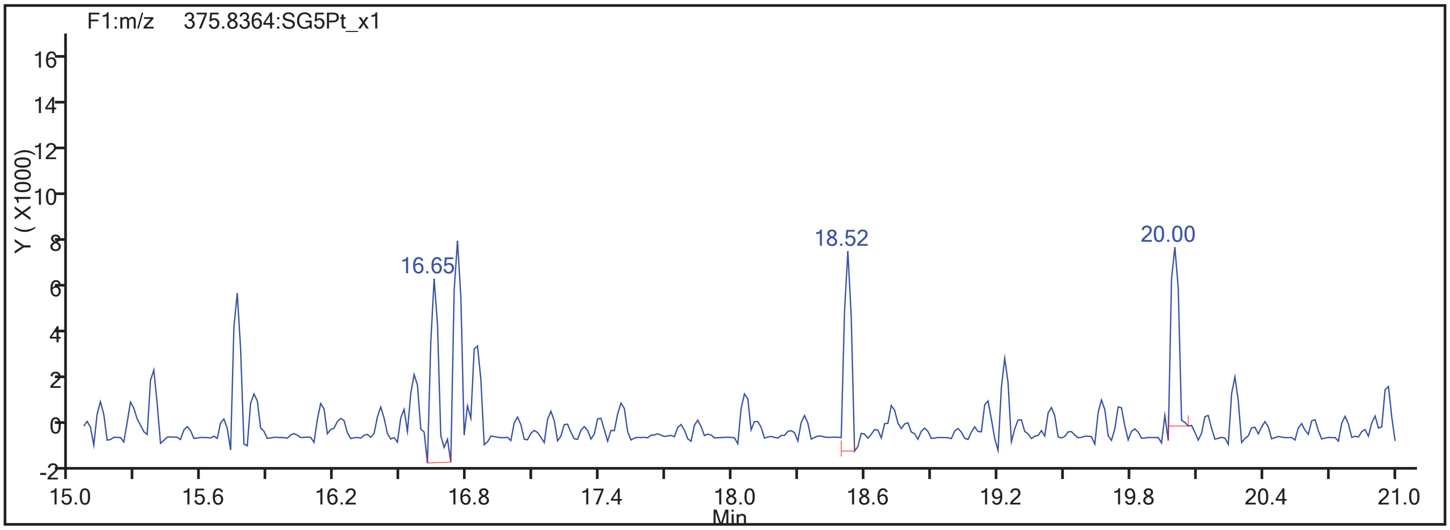
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d		
Injection Date:	19-Nov-2017 11:49:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195575	Sample Line#:	81
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass

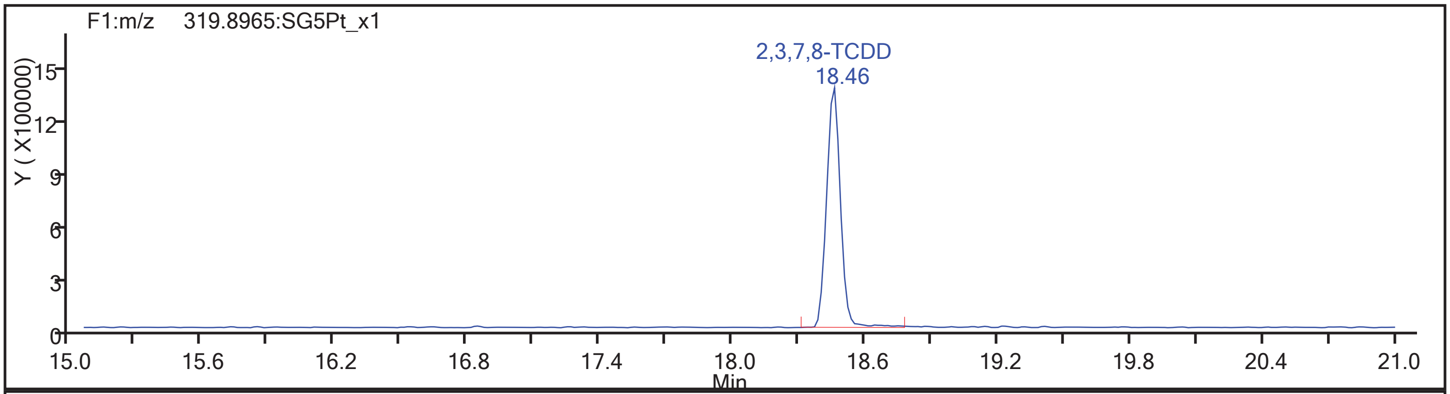


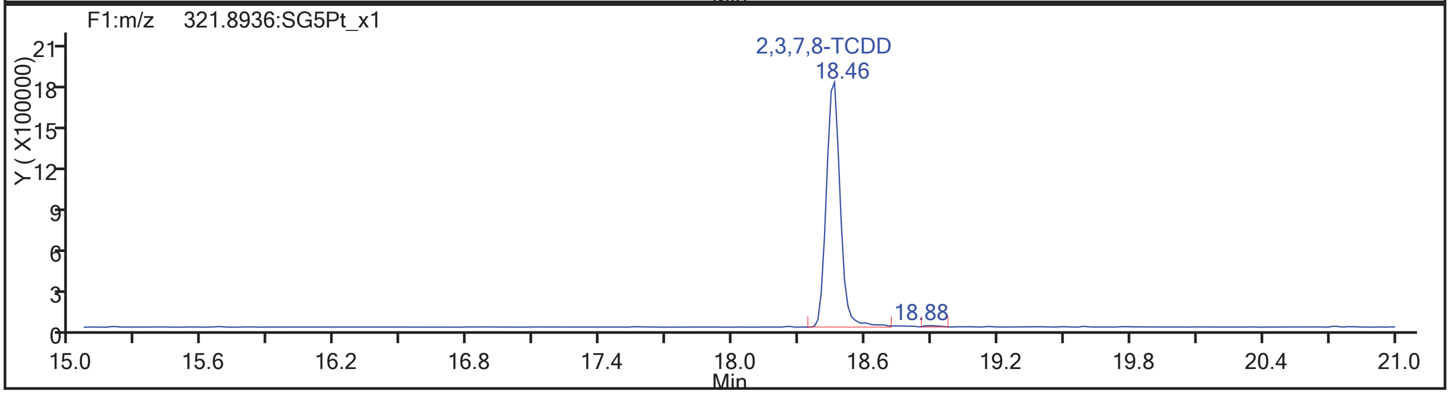
Report Date: 20-Nov-2017 11:49:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

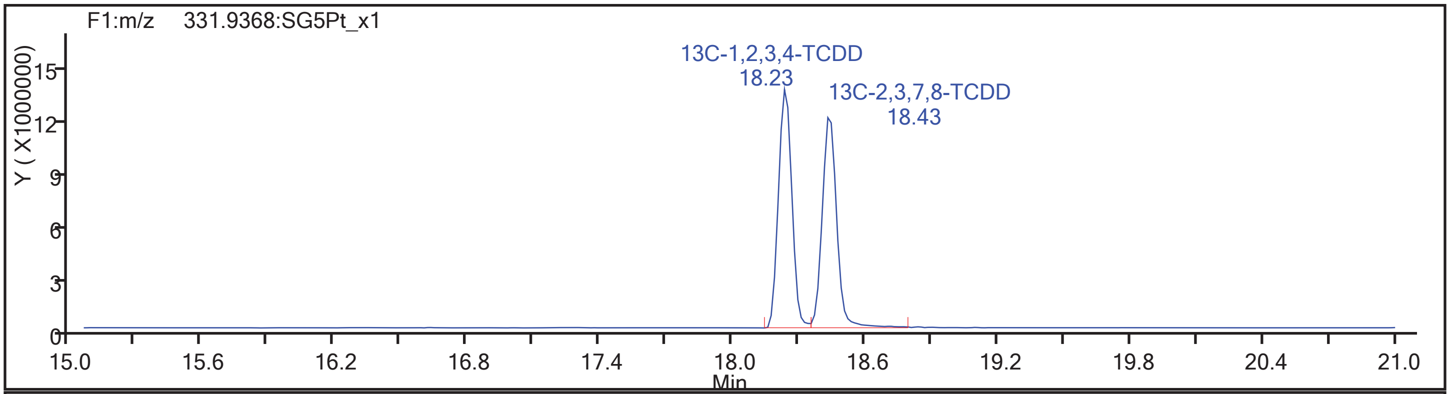
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d
Injection Date: 19-Nov-2017 11:49:50 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195575 Sample Line#: 81
Column Type: Column Dia:

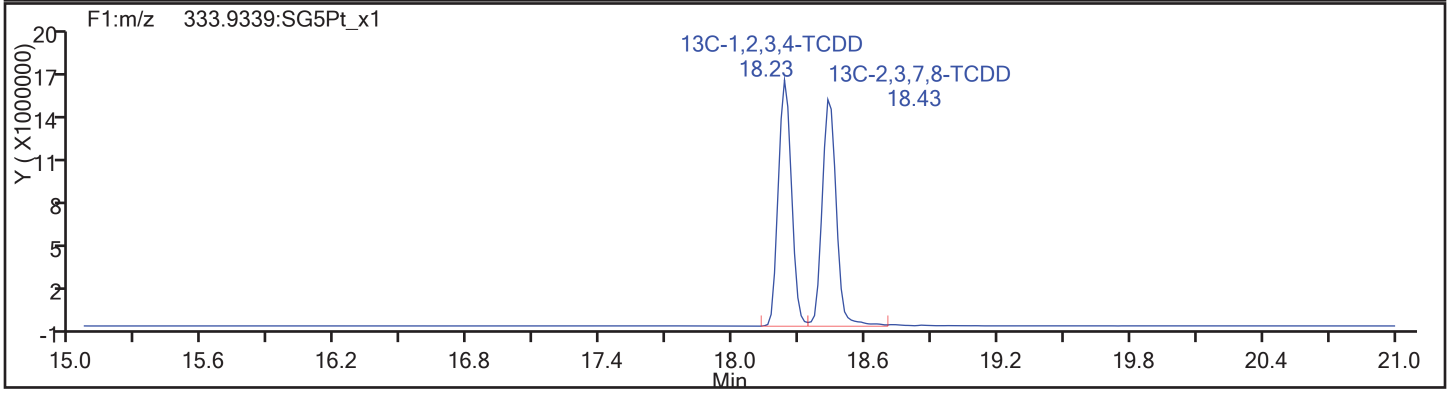
TCDD





TCDD Standards



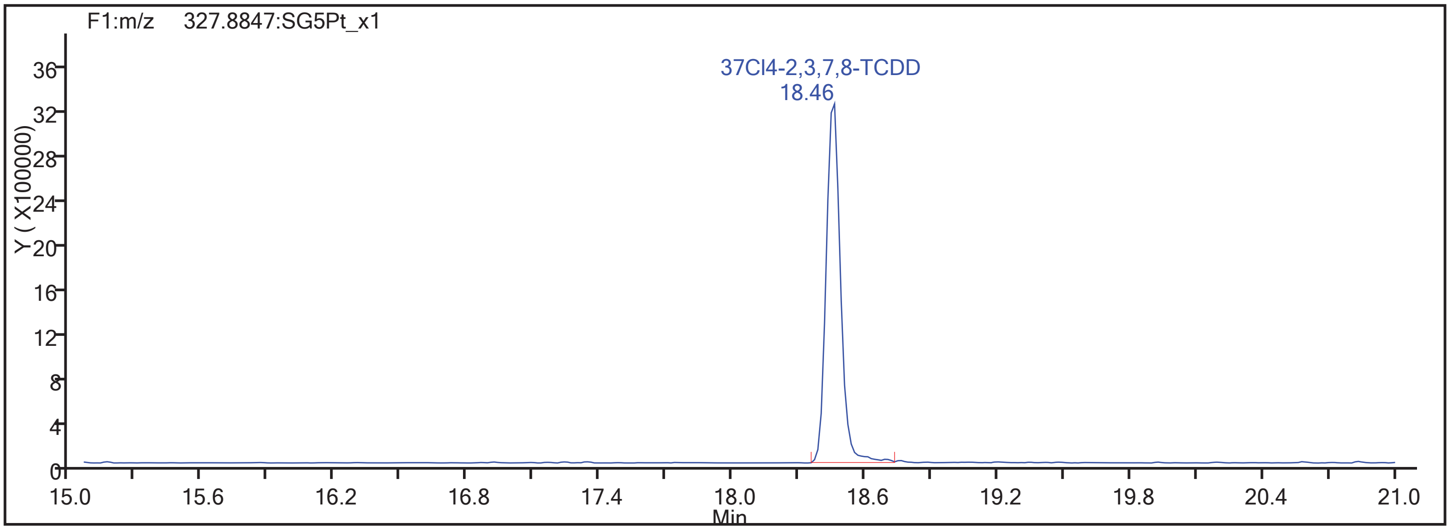


Report Date: 20-Nov-2017 11:49:08 Chrom Revision: 2.2 16-Aug-2017 16:24:46

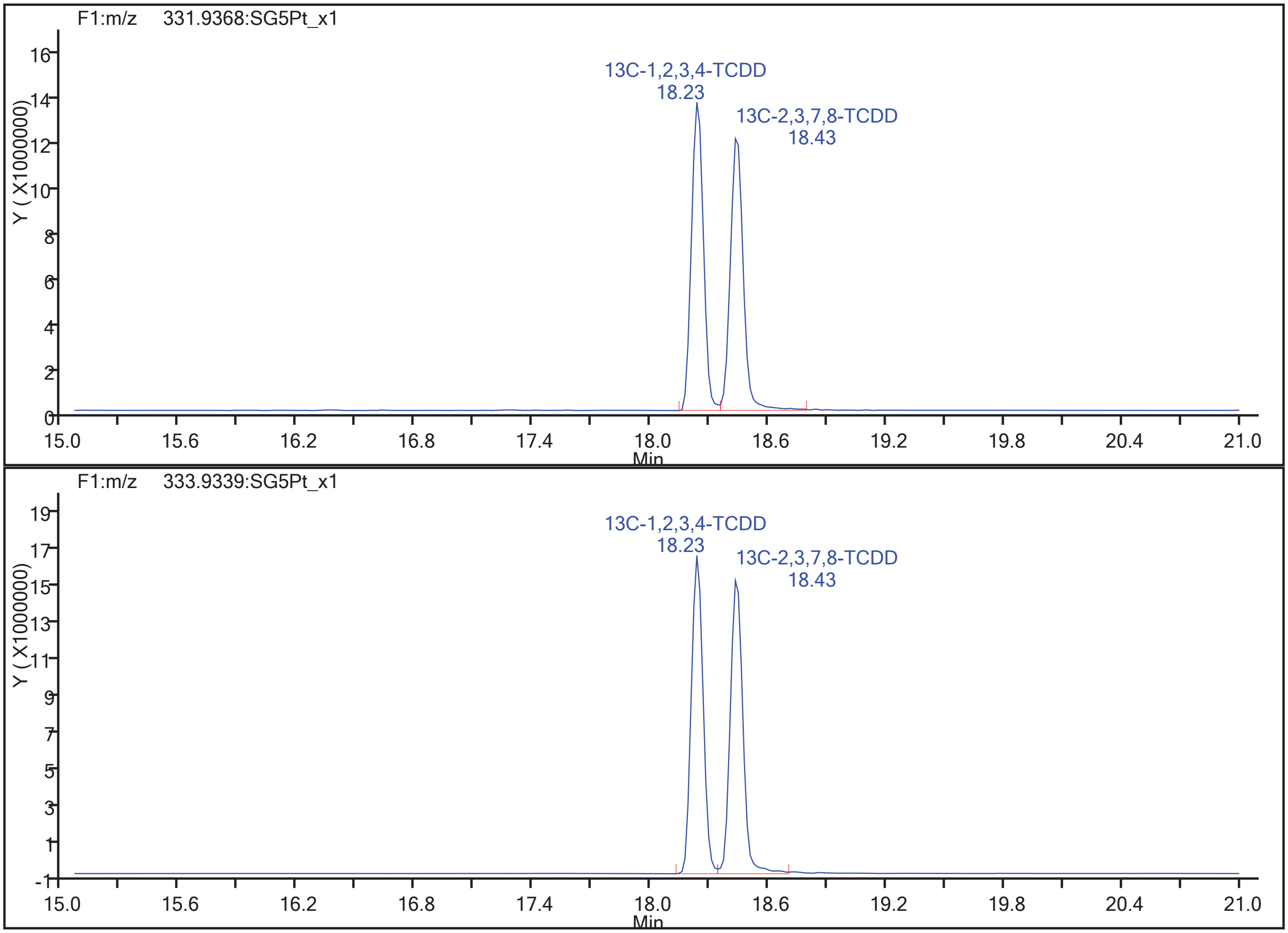
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d
Injection Date: 19-Nov-2017 11:49:50
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195575
Sample Line#: 81
Column Type:
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d

Injection Date: 19-Nov-2017 11:49:50 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

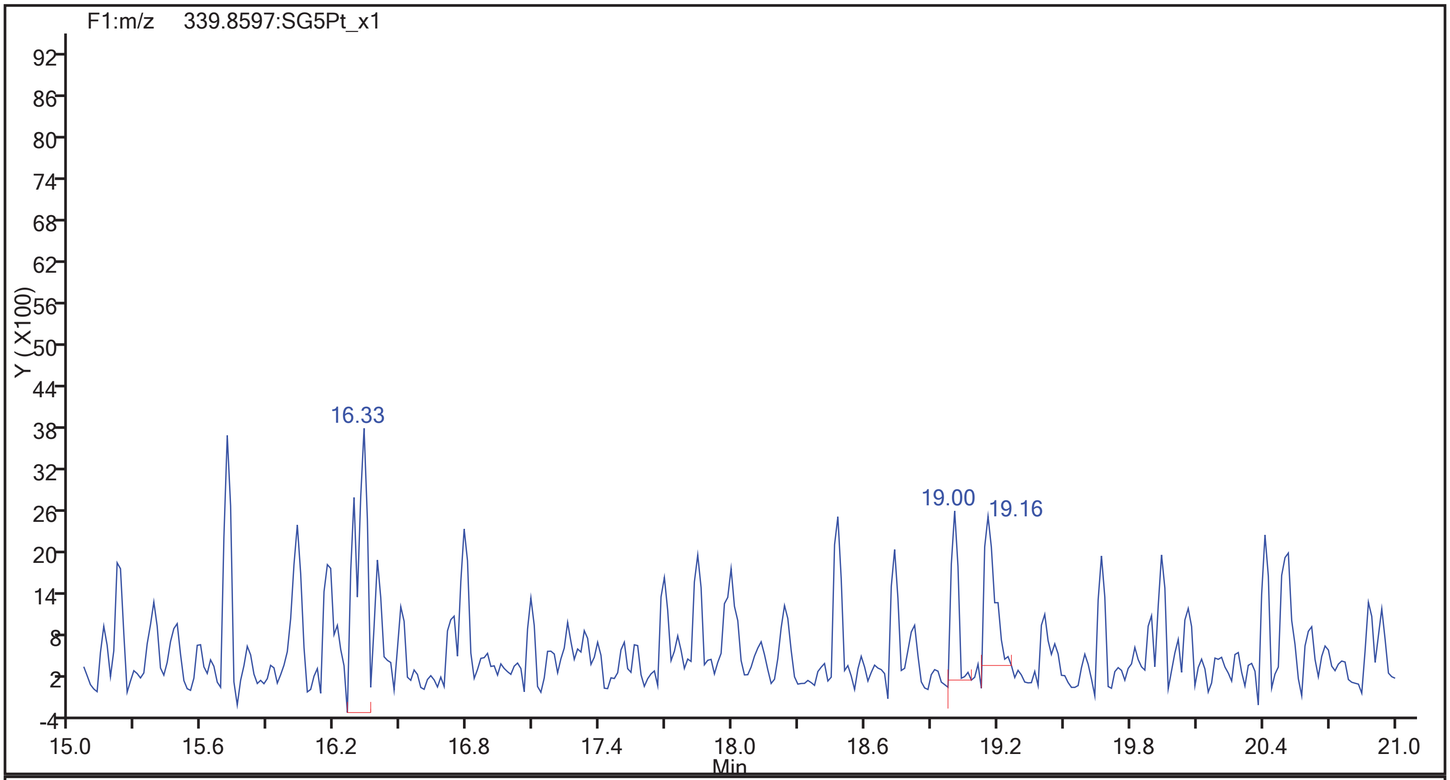
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

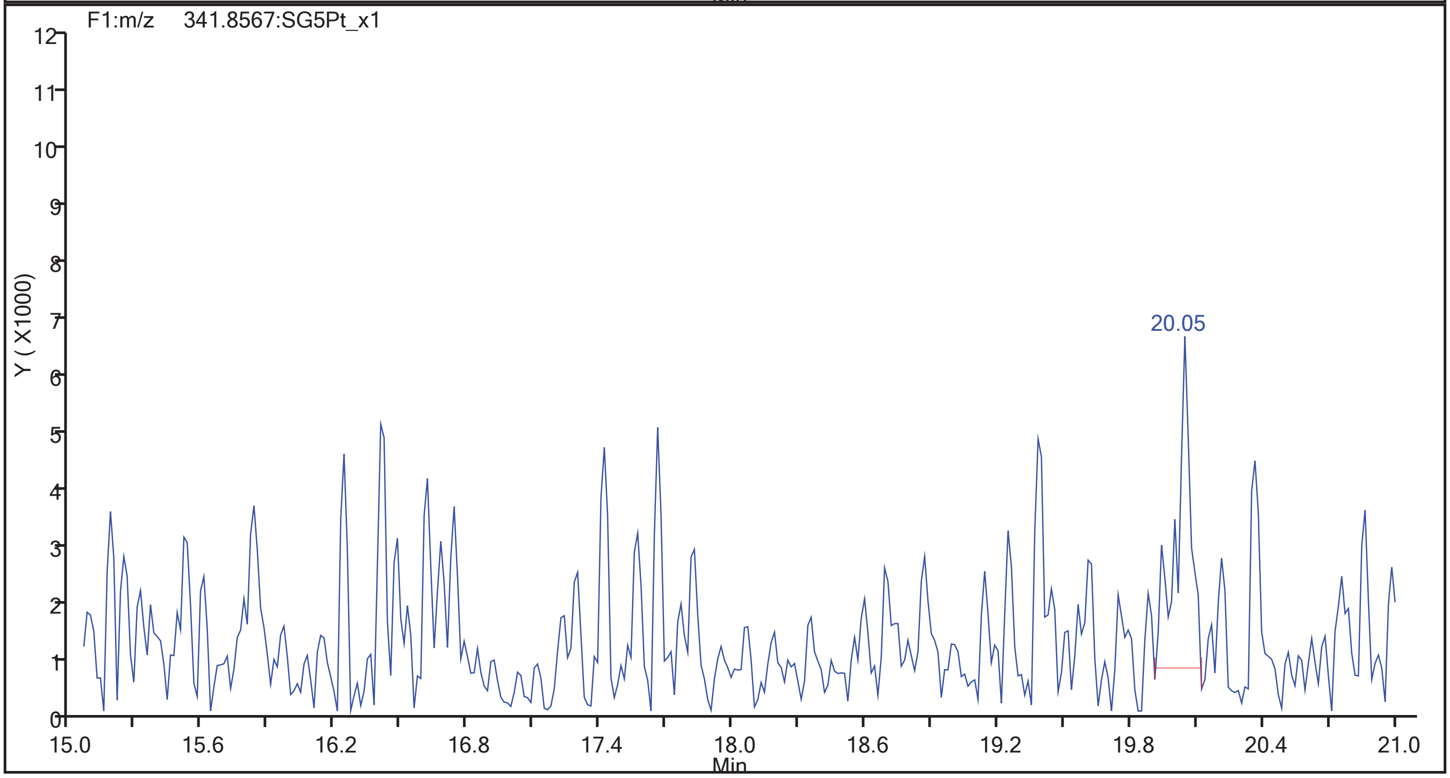
Client ID:

Worklist#: 195575 Sample Line#: 81

Column Type: Column Dia:

F1 PeCDFs



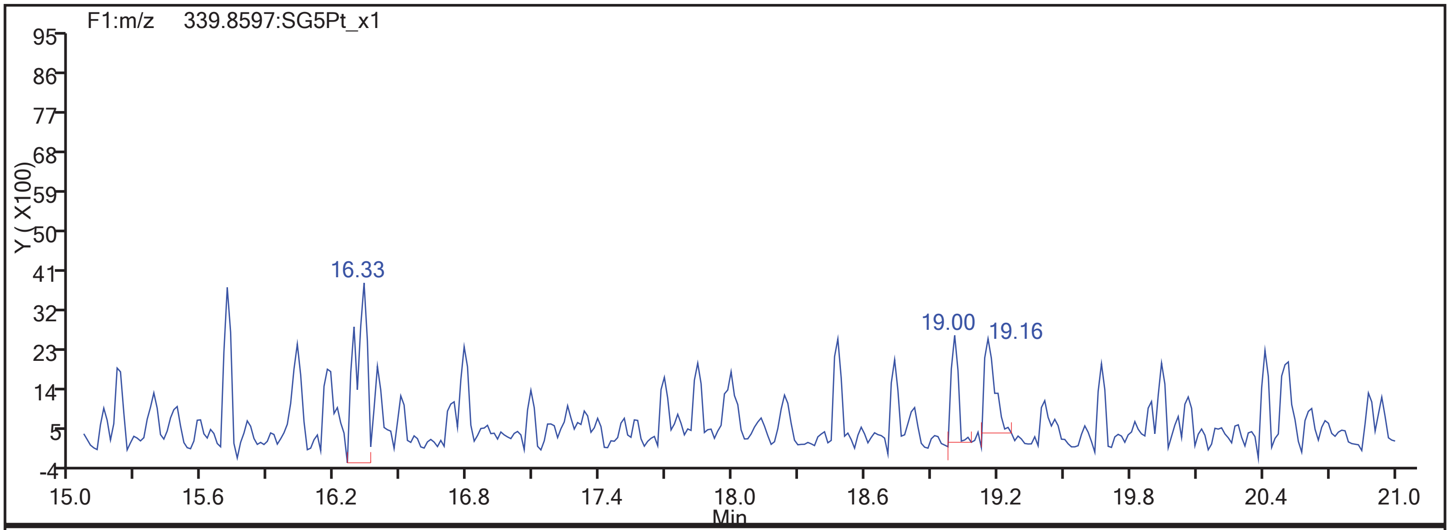


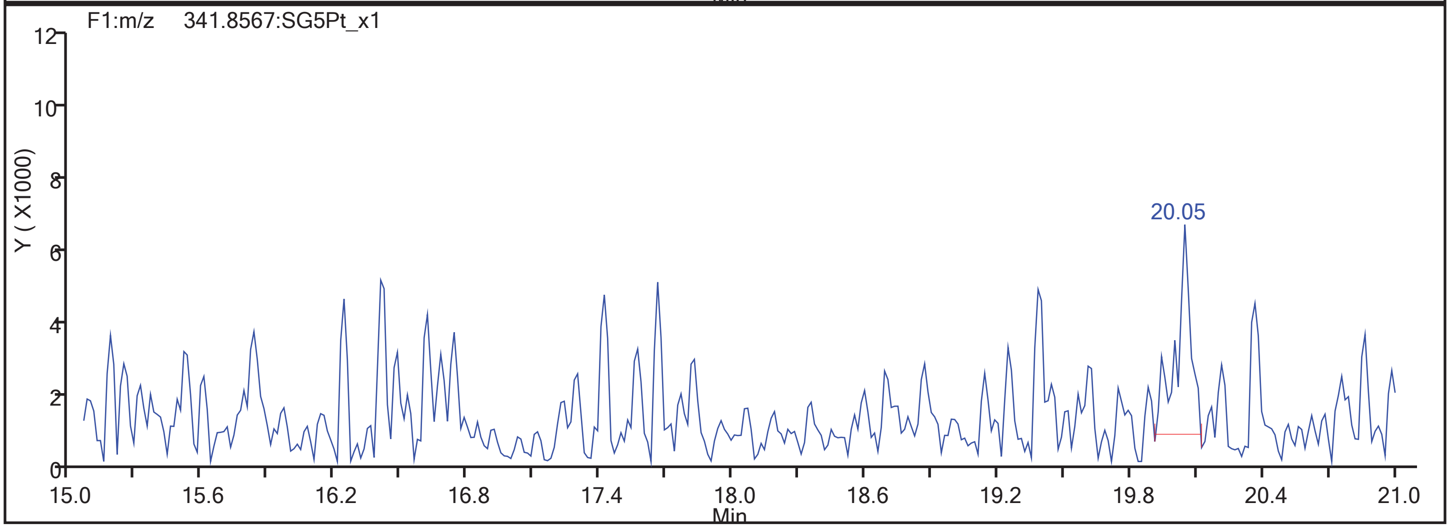
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d

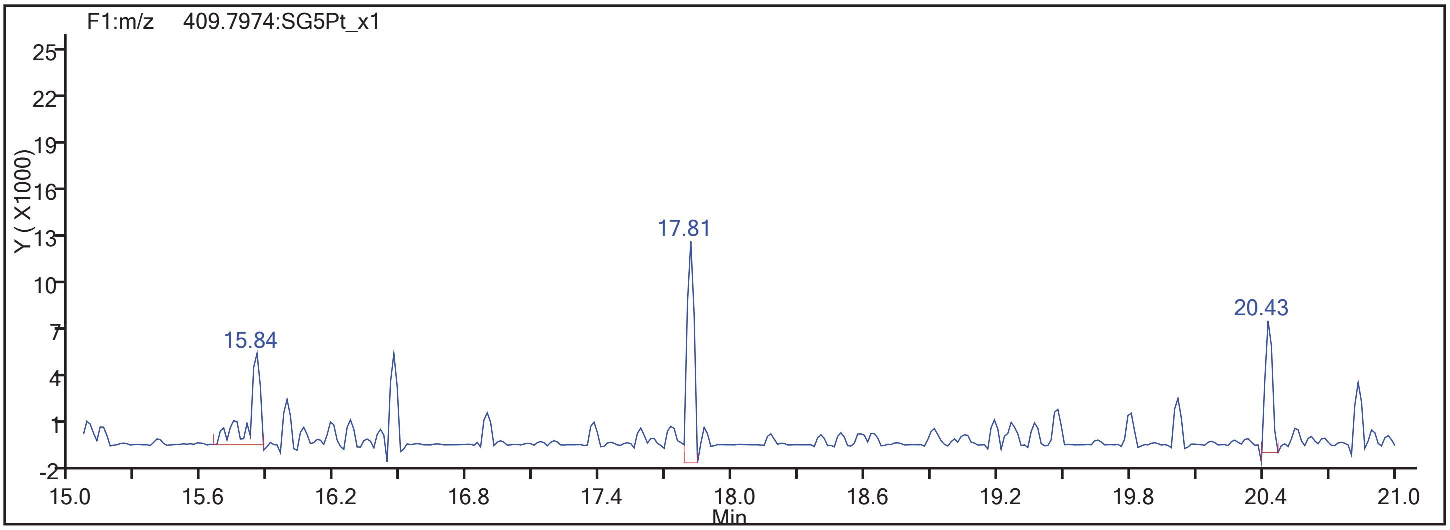
Injection Date:	19-Nov-2017 11:49:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195575	Sample Line#:	81
Column Type:		Column Dia:	

F1 PeCDFs





F1 PeCDFs Interference Mass

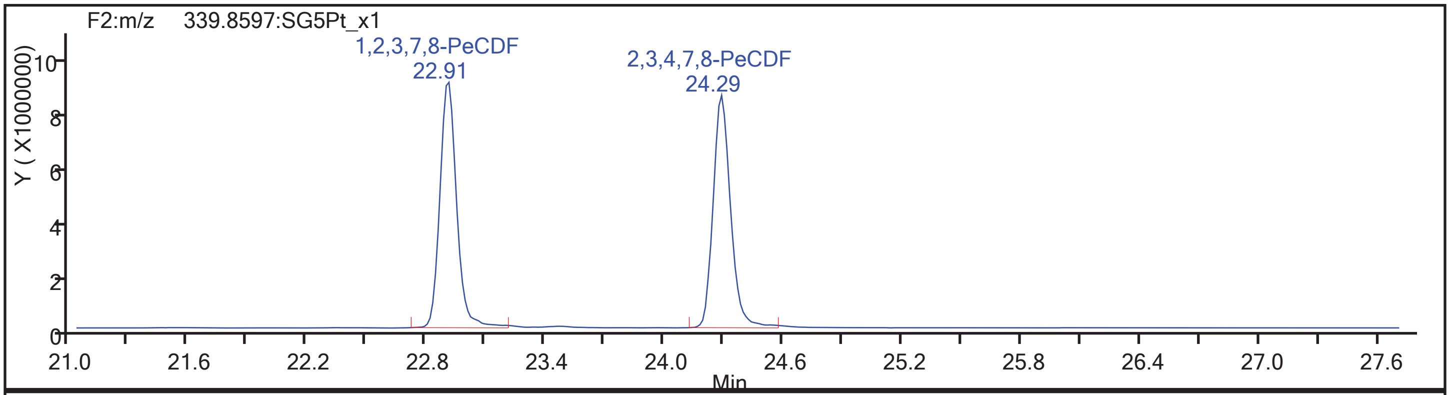


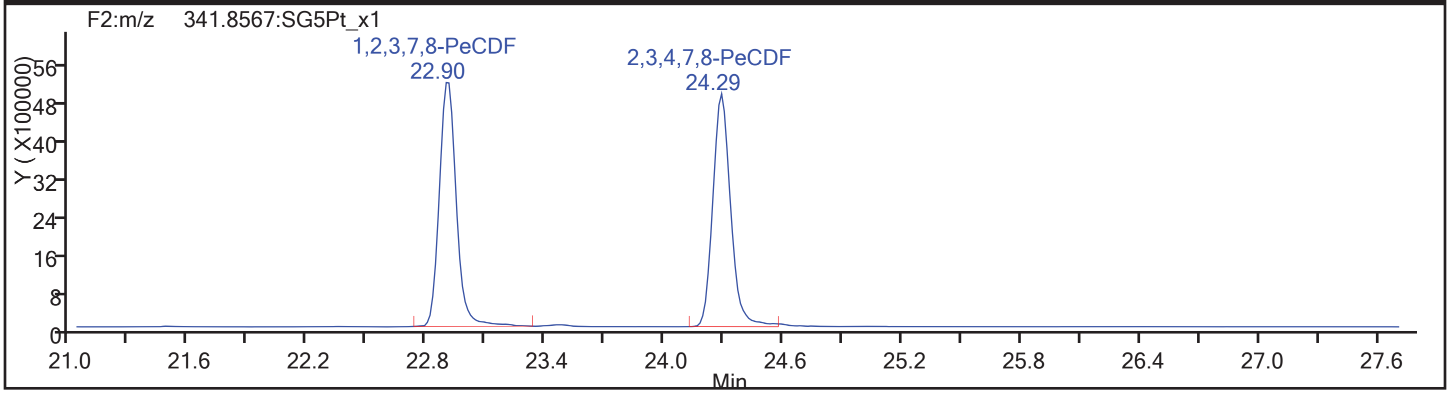
Report Date: 20-Nov-2017 11:49:08
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

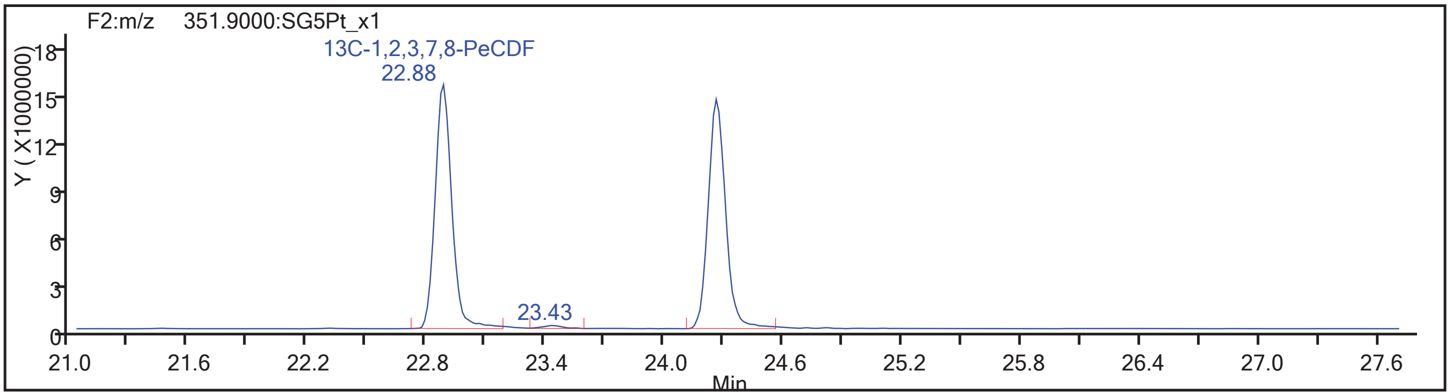
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d
Injection Date: 19-Nov-2017 11:49:50
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195575
Sample Line#: 81
Column Type:
Column Dia:

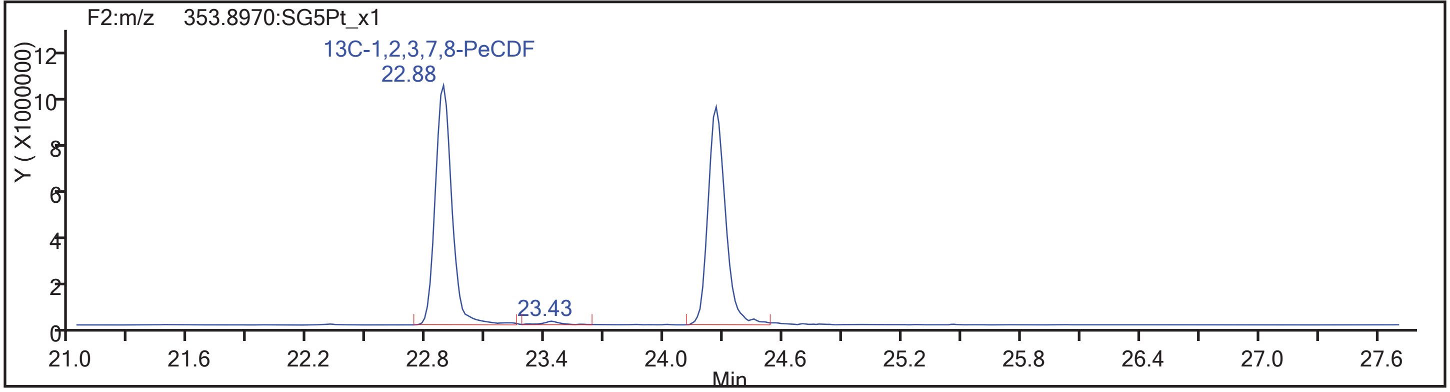
PeCDF





PeCDF Standards





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d

Injection Date: 19-Nov-2017 11:49:50 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

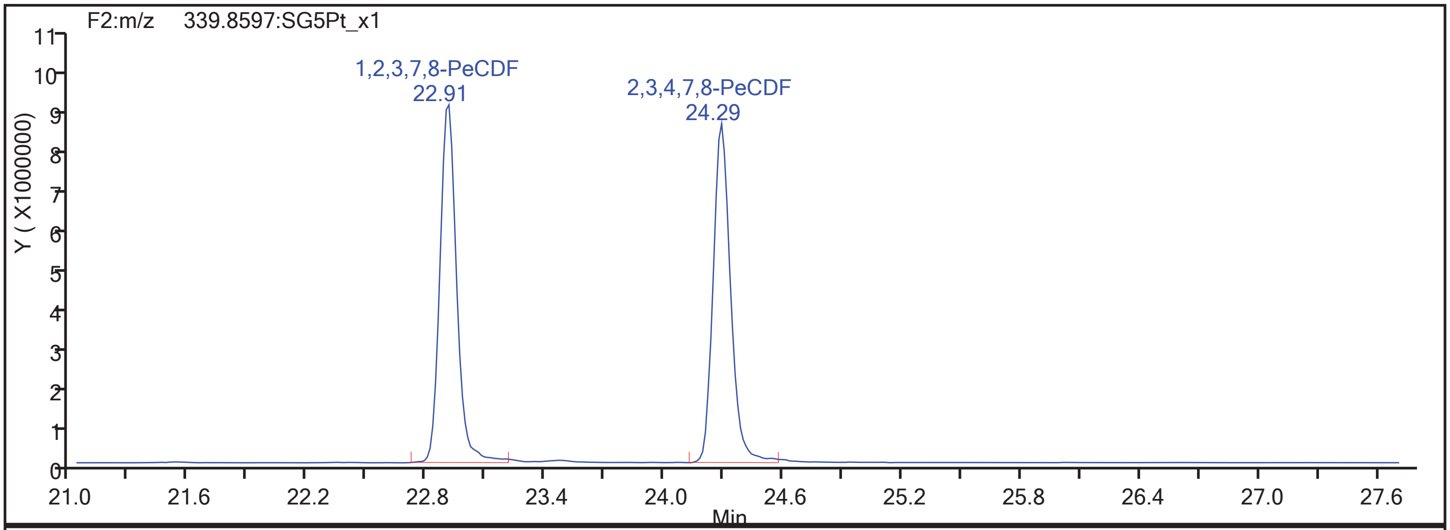
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

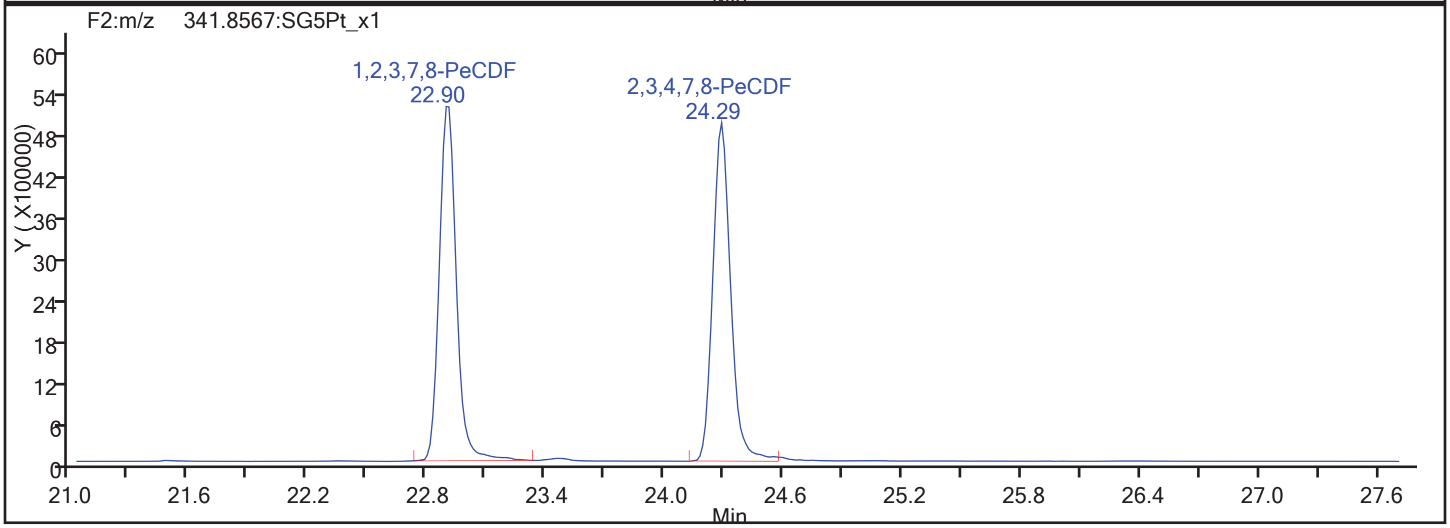
Client ID:

Worklist#: 195575 Sample Line#: 81

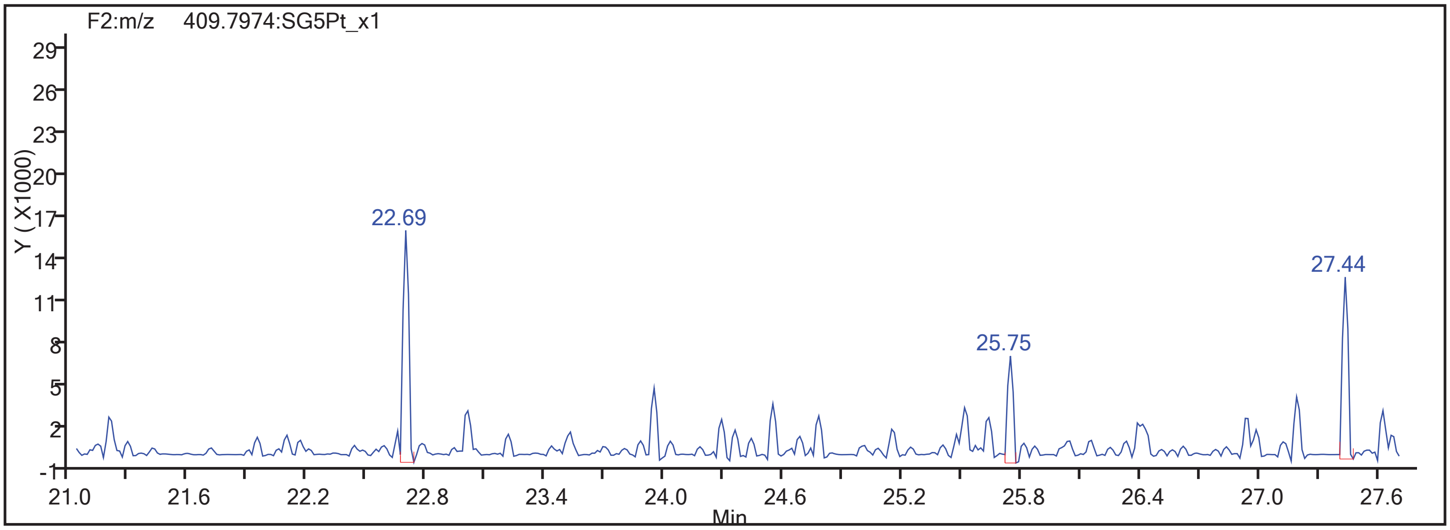
Column Type: Column Dia:

PeCDF





PeCDF Interference Mass

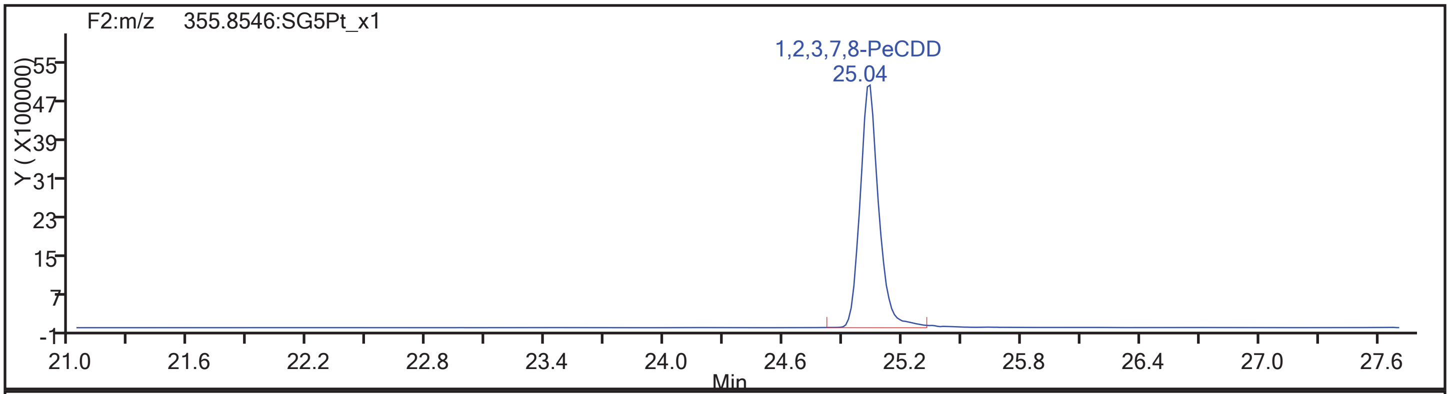


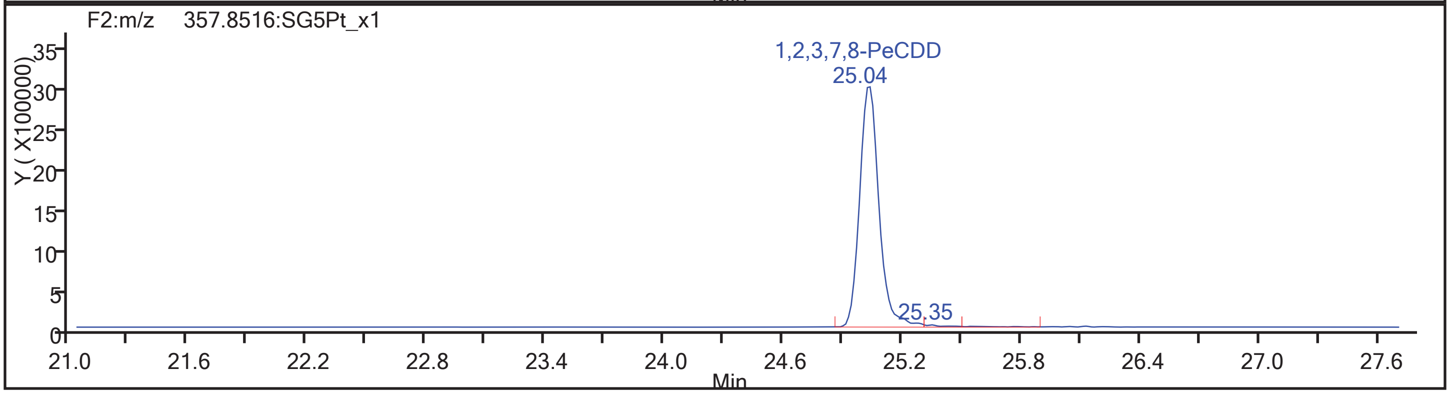
Report Date: 20-Nov-2017 11:49:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

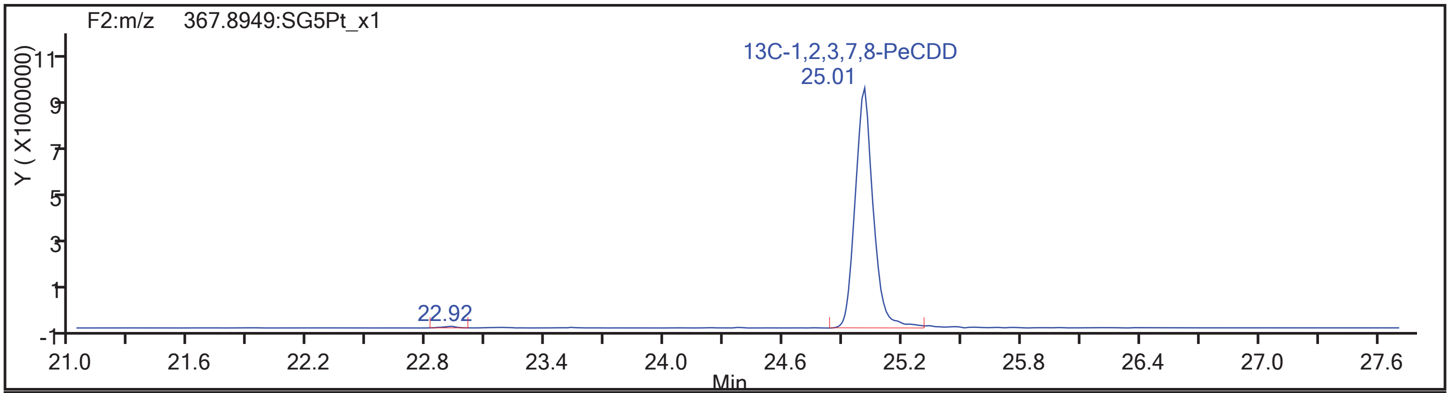
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d		
Injection Date:	19-Nov-2017 11:49:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195575	Sample Line#:	81
Column Type:		Column Dia:	

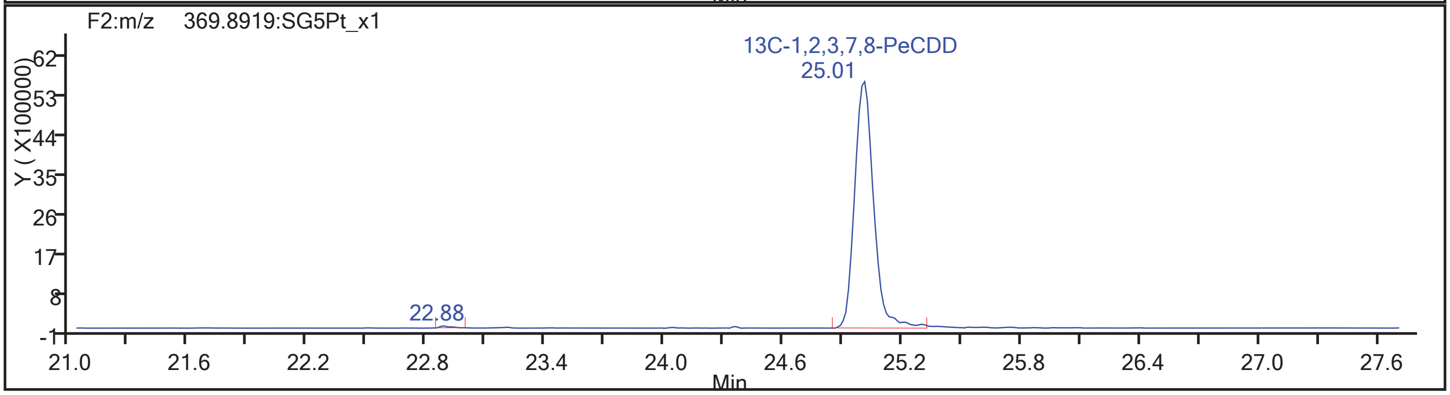
PeCDD





PeCDD Standards





Report Date: 20-Nov-2017 11:49:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d

Injection Date: 19-Nov-2017 11:49:50 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

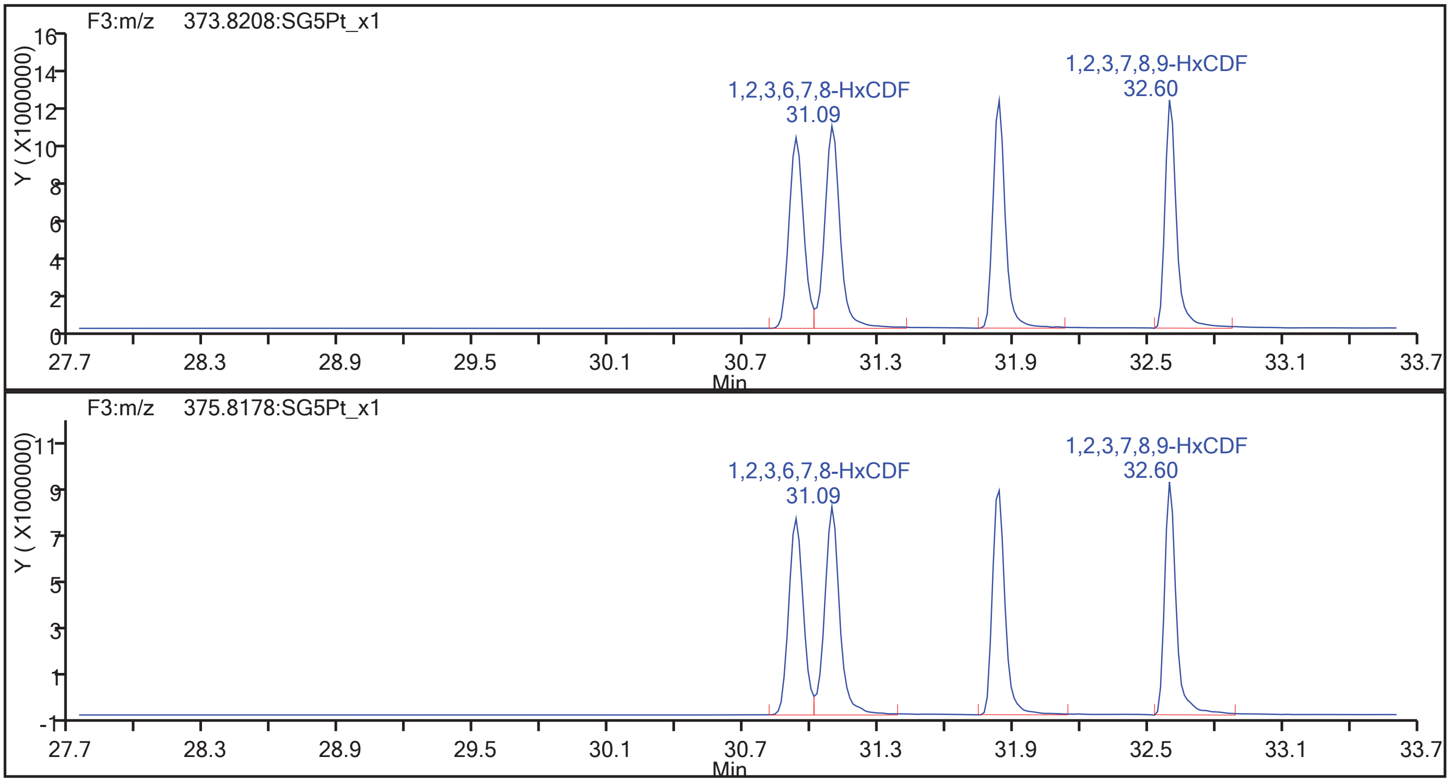
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

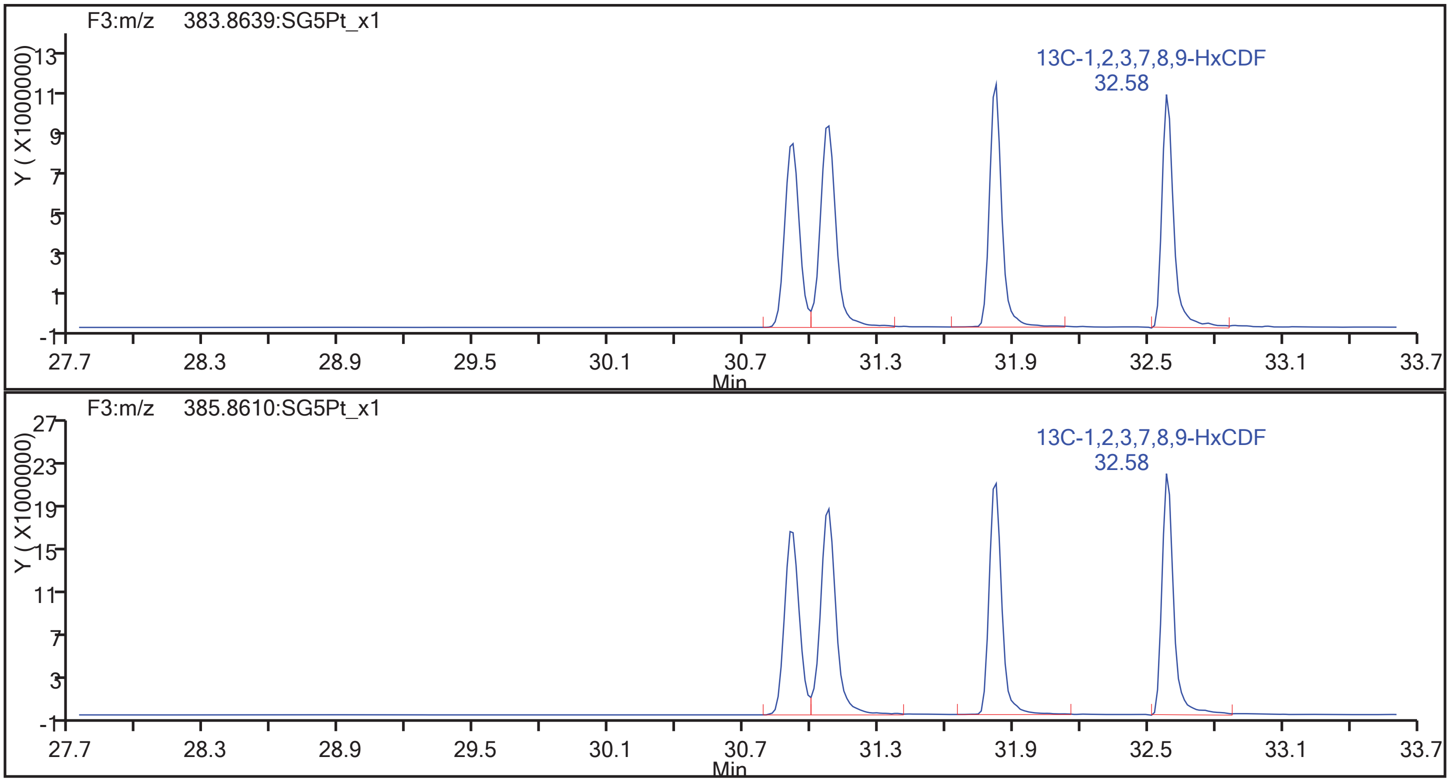
Worklist#: 195575 Sample Line#: 81

Column Type: Column Dia:

HxCDF



HxCDF Standards



Report Date: 20-Nov-2017 11:49:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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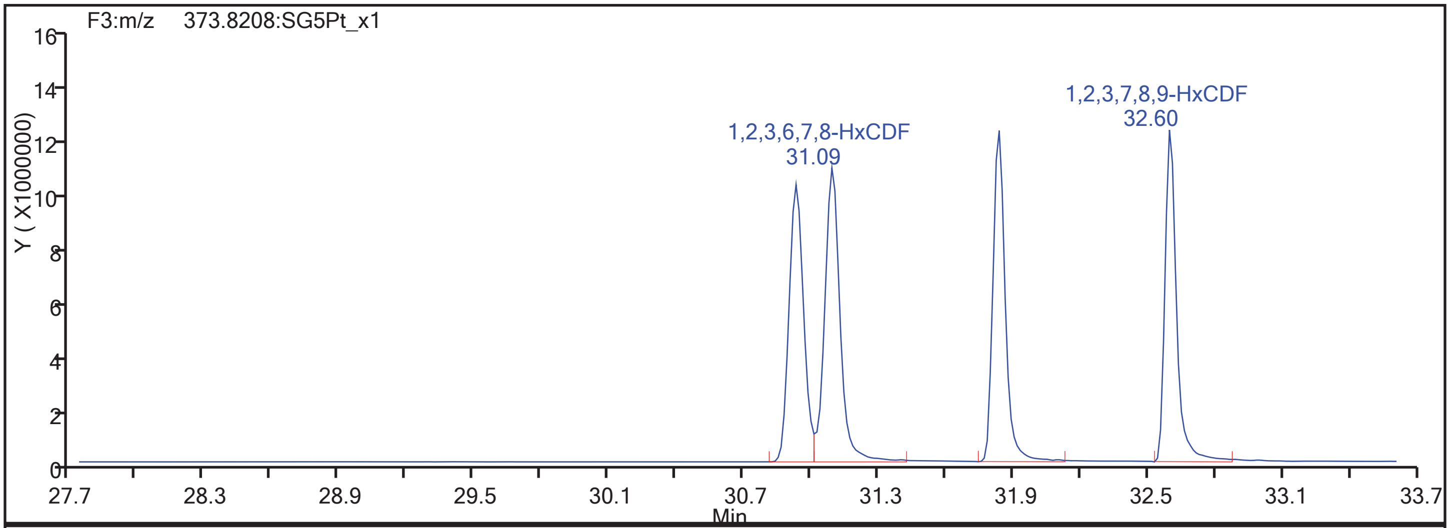
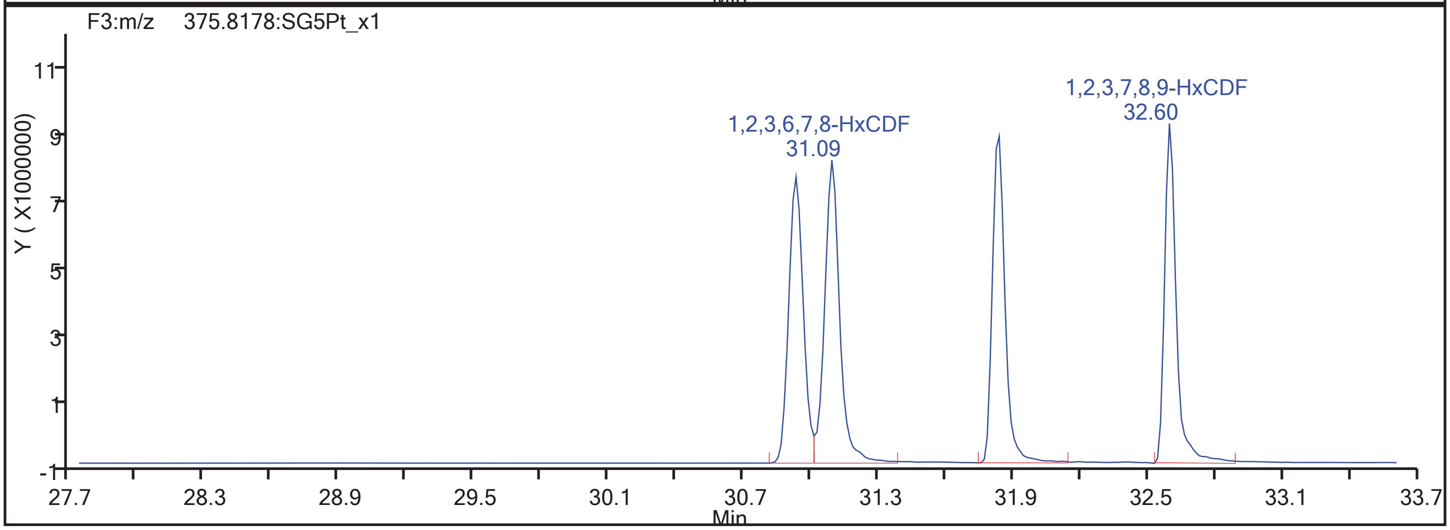
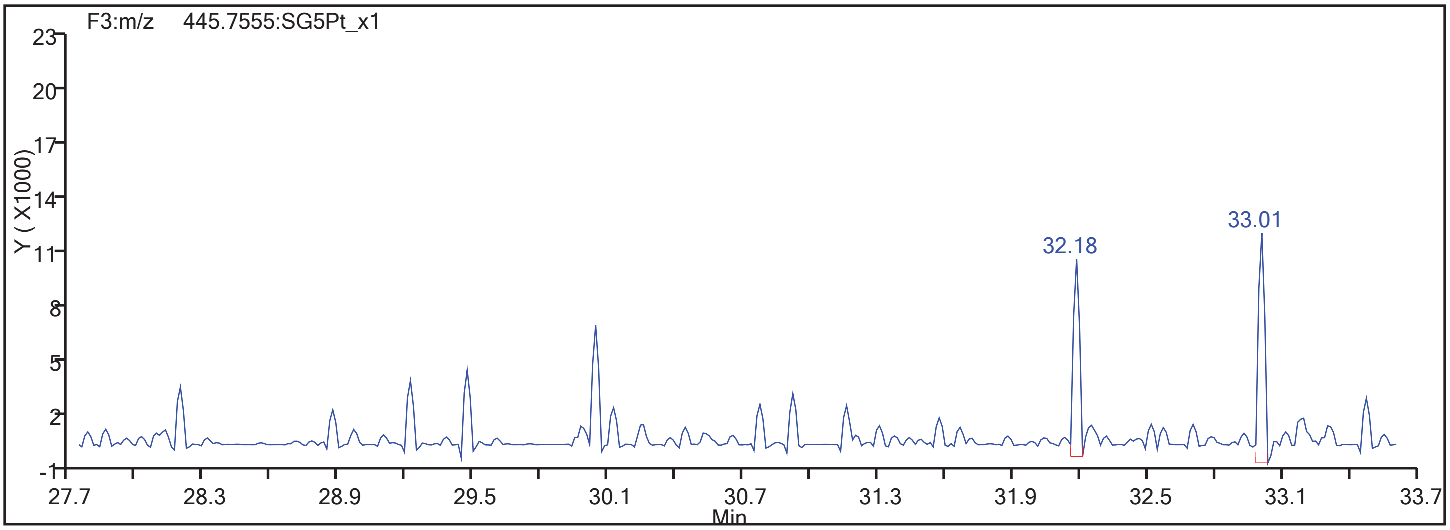
Injection Date:	19-Nov-2017 11:49:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195575	Sample Line#:	81
Column Type:		Column Dia:	

HxCDF





HxCDF Interference Mass



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d

Injection Date: 19-Nov-2017 11:49:50

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

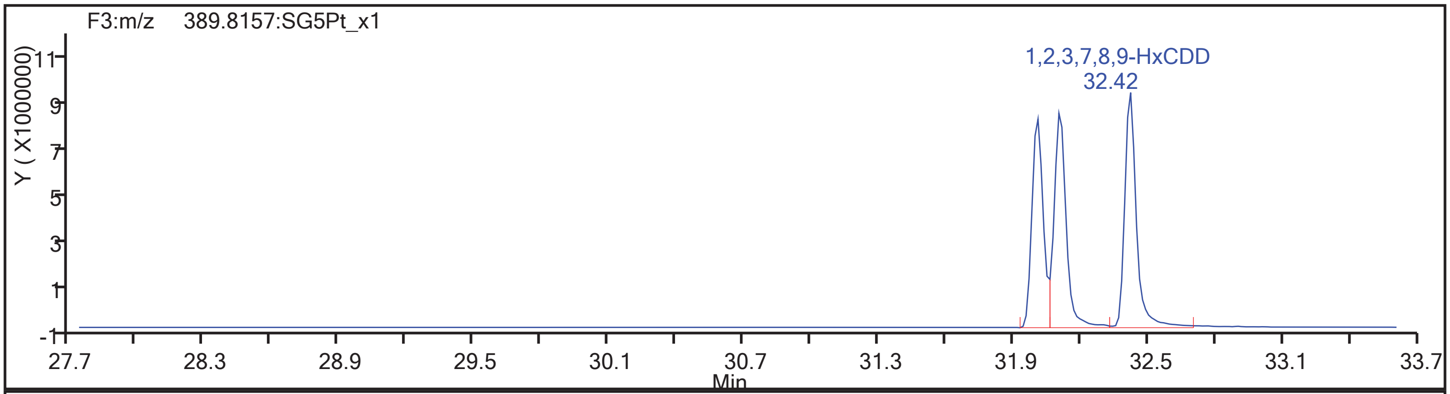
Worklist#: 195575

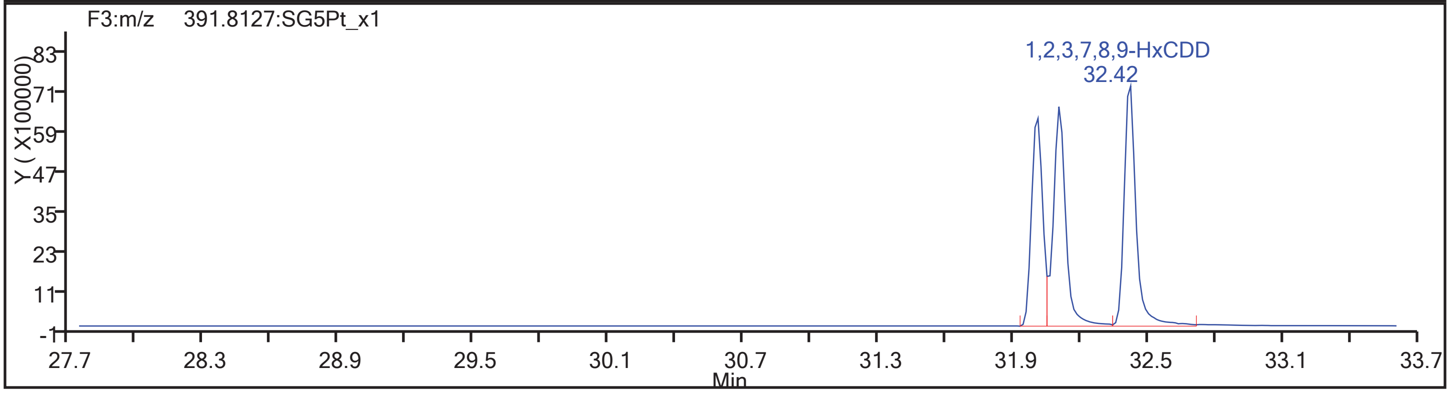
Sample Line#: 81

Column Type:

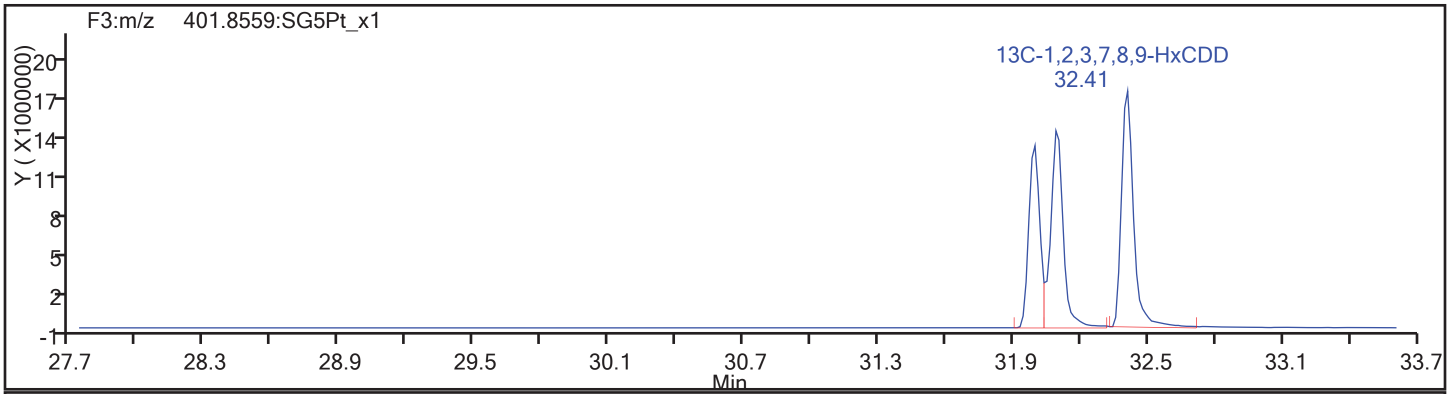
Column Dia:

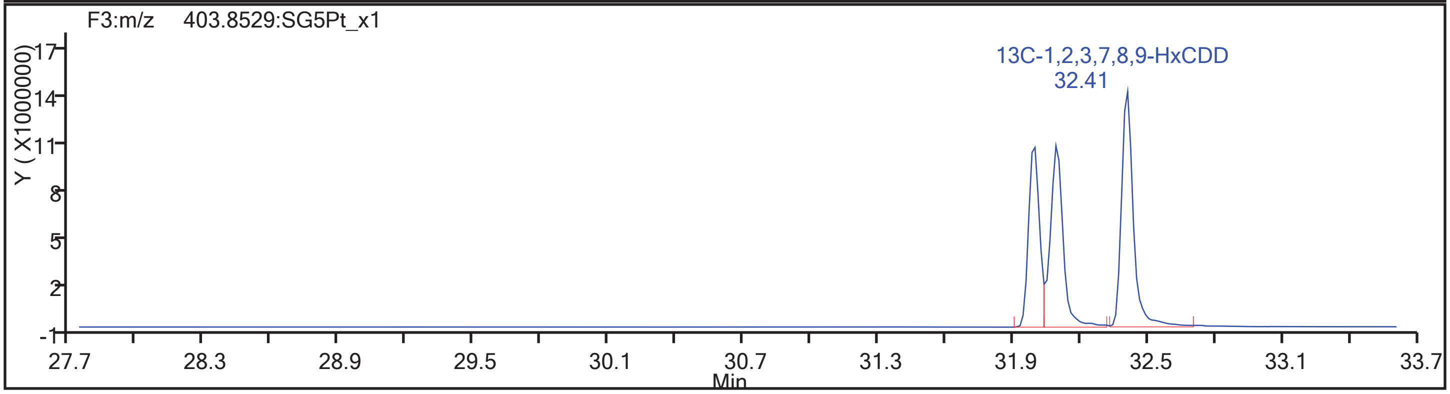
HxCDD





HxCDD Standards



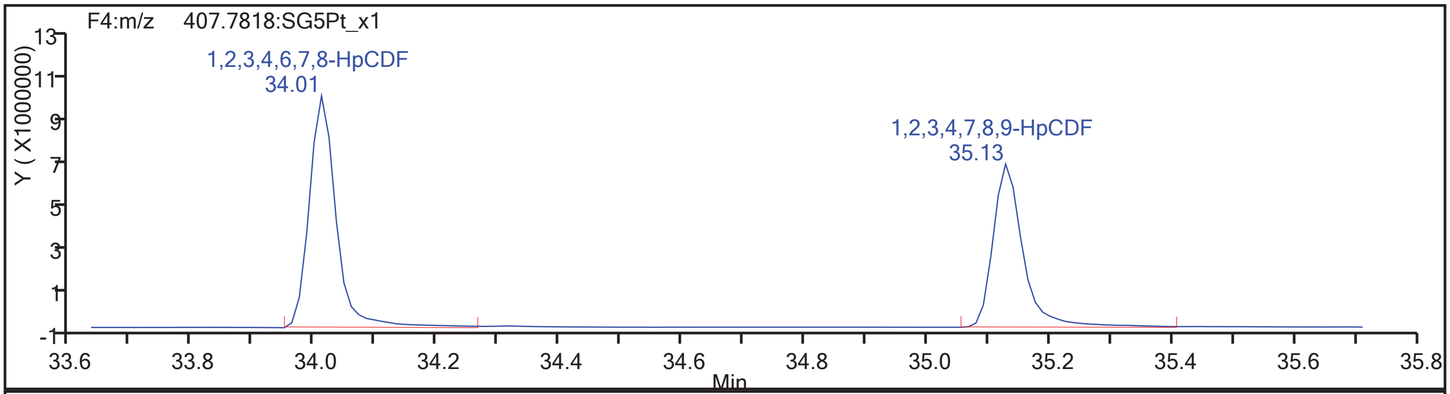


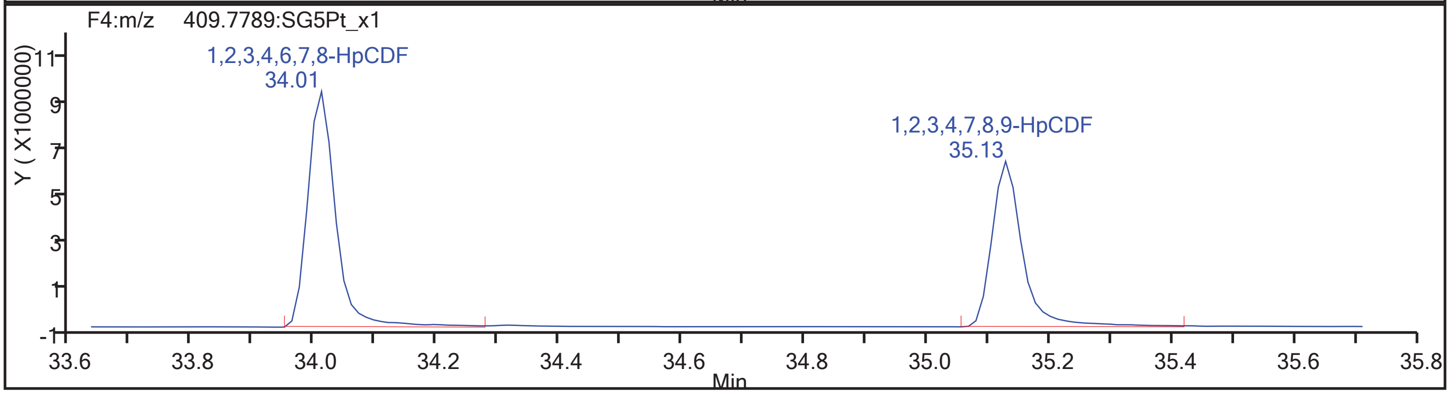
Report Date: 20-Nov-2017 11:49:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

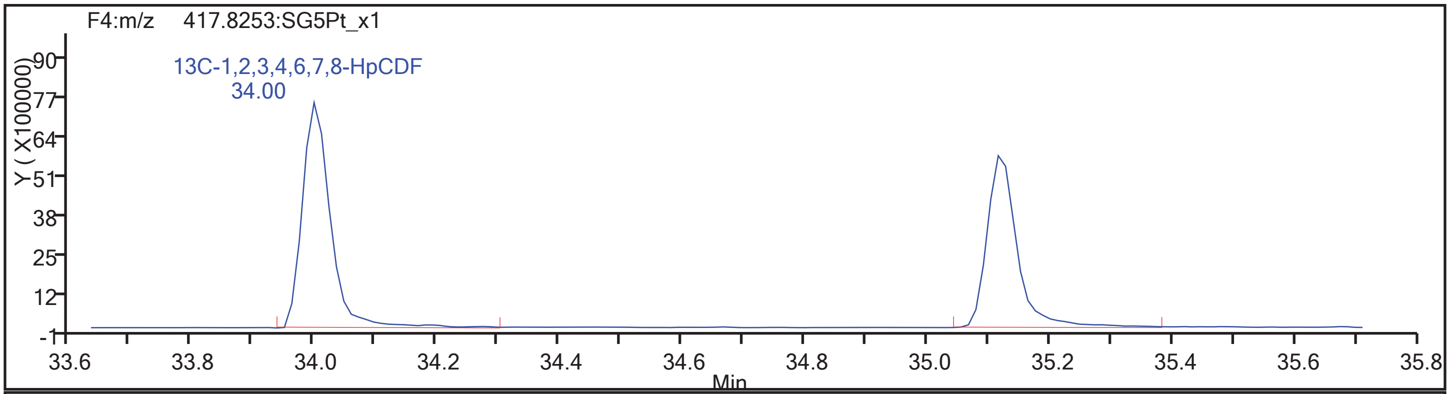
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d
Injection Date: 19-Nov-2017 11:49:50
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195575
Sample Line#: 81
Column Type:
Column Dia:

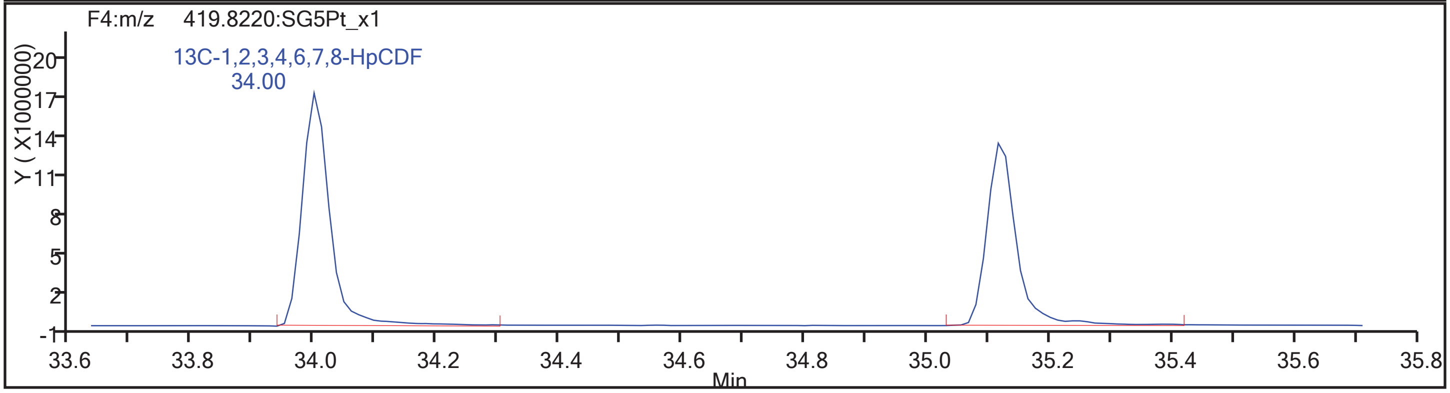
HpCDF





HpCDF Standards





Report Date: 20-Nov-2017 11:49:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d

Injection Date: 19-Nov-2017 11:49:50 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

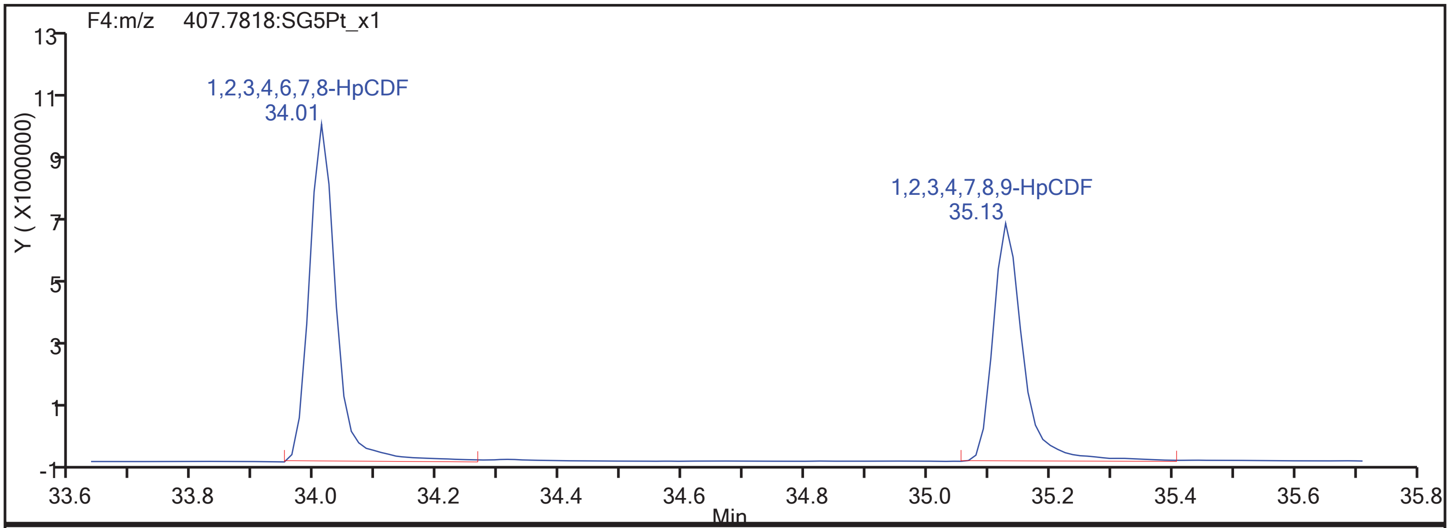
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

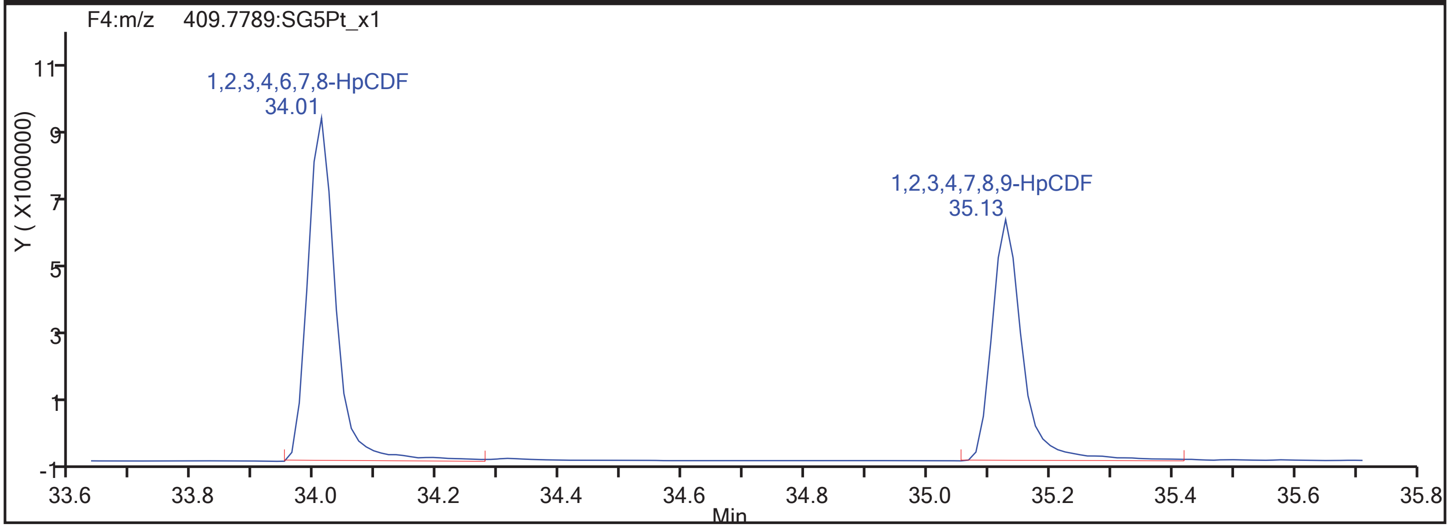
Client ID:

Worklist#: 195575 Sample Line#: 81

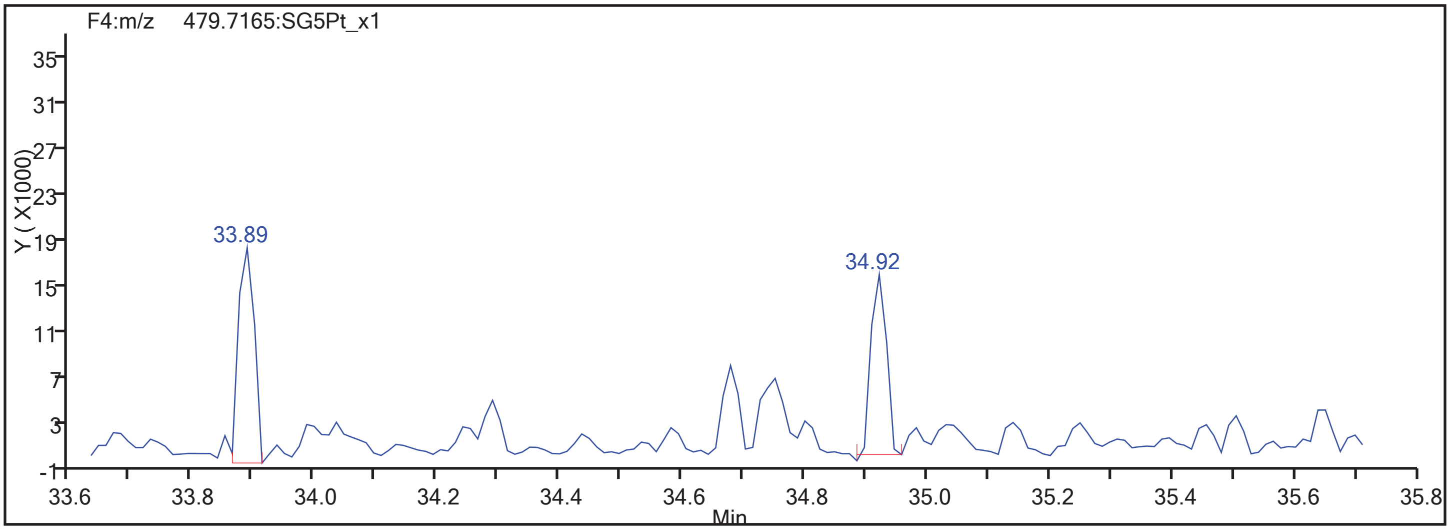
Column Type: Column Dia:

HpCDF





HpCDF Interference Mass

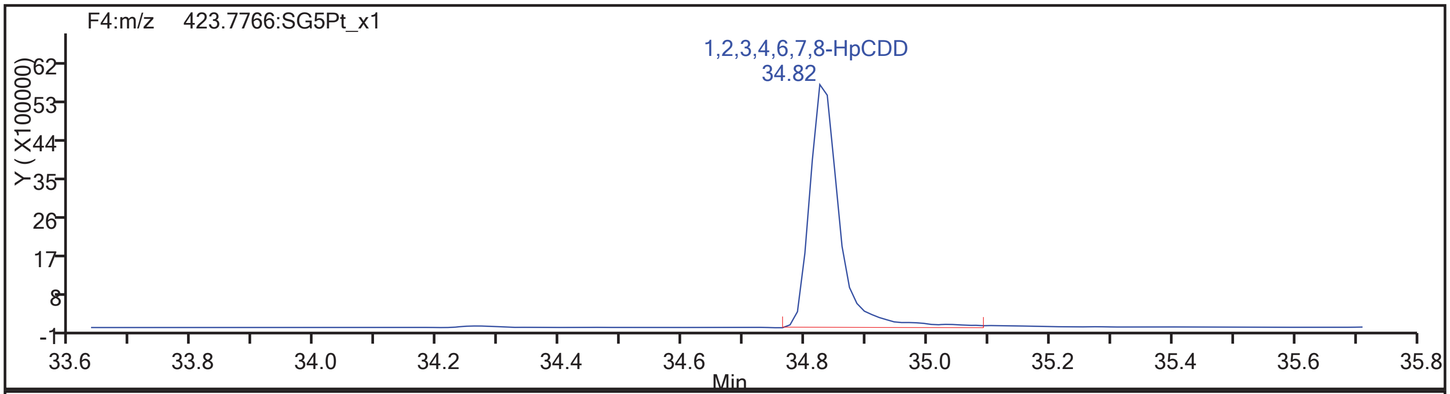


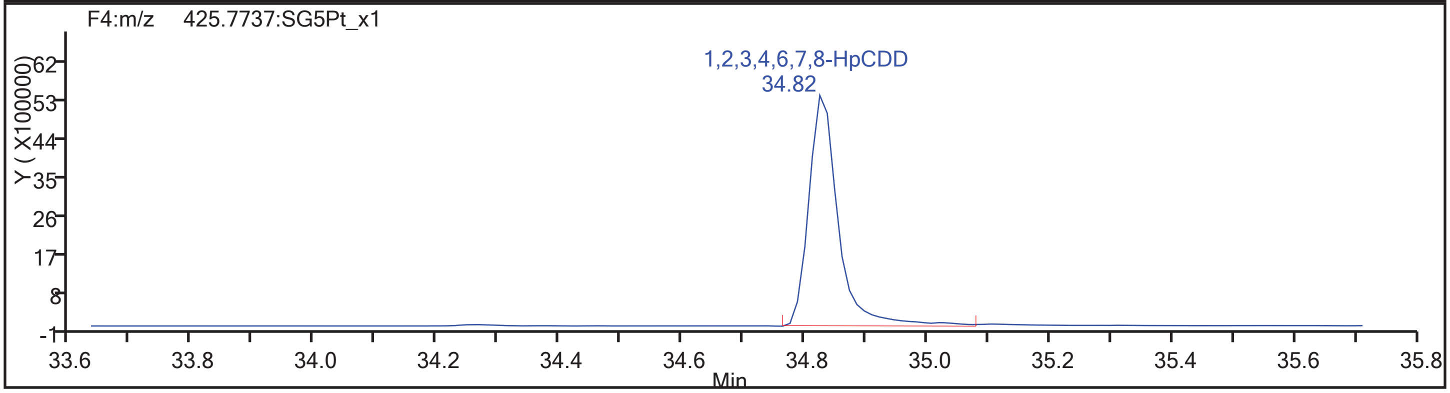
Report Date: 20-Nov-2017 11:49:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

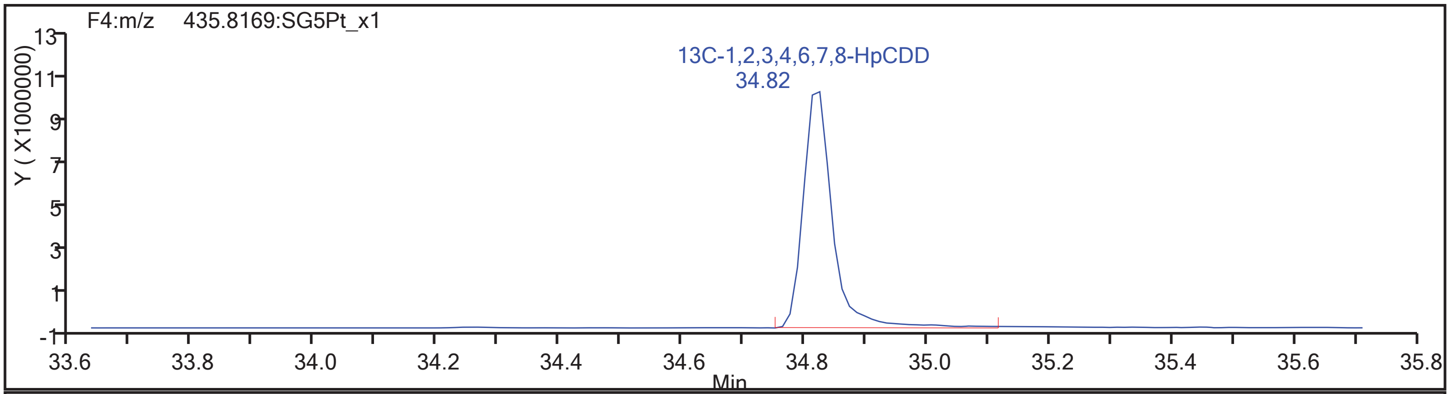
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d		
Injection Date:	19-Nov-2017 11:49:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195575	Sample Line#:	81
Column Type:		Column Dia:	

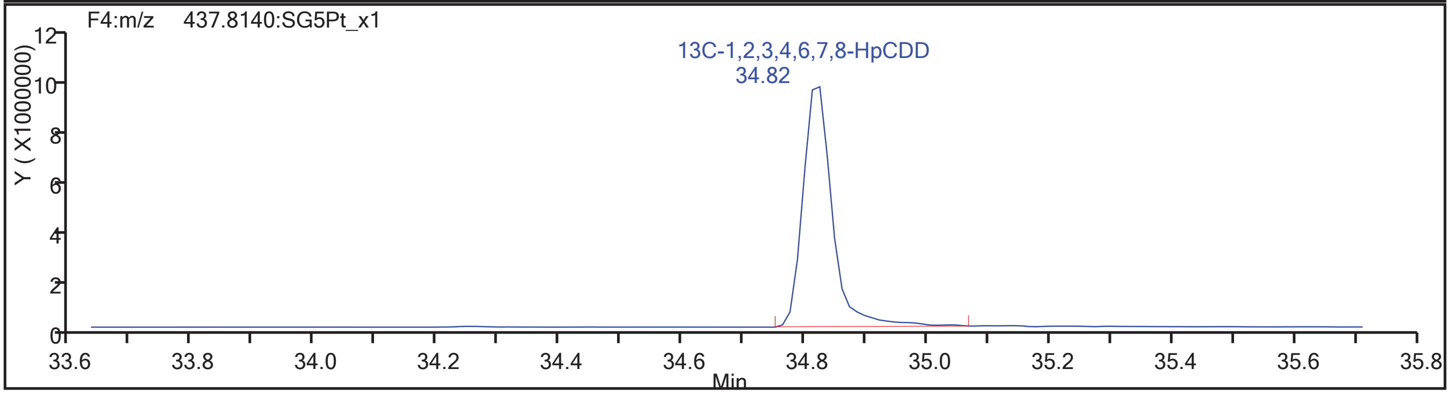
HpCDD





HpCDD Standards





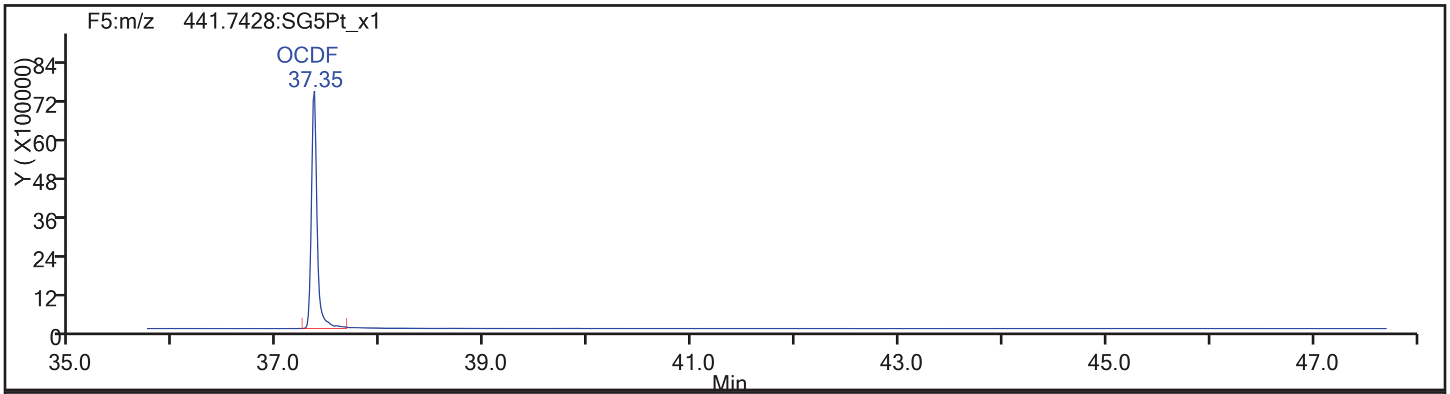
Report Date: 20-Nov-2017 11:49:09 Chrom Revision: 2.2 16-Aug-2017 16:24:46

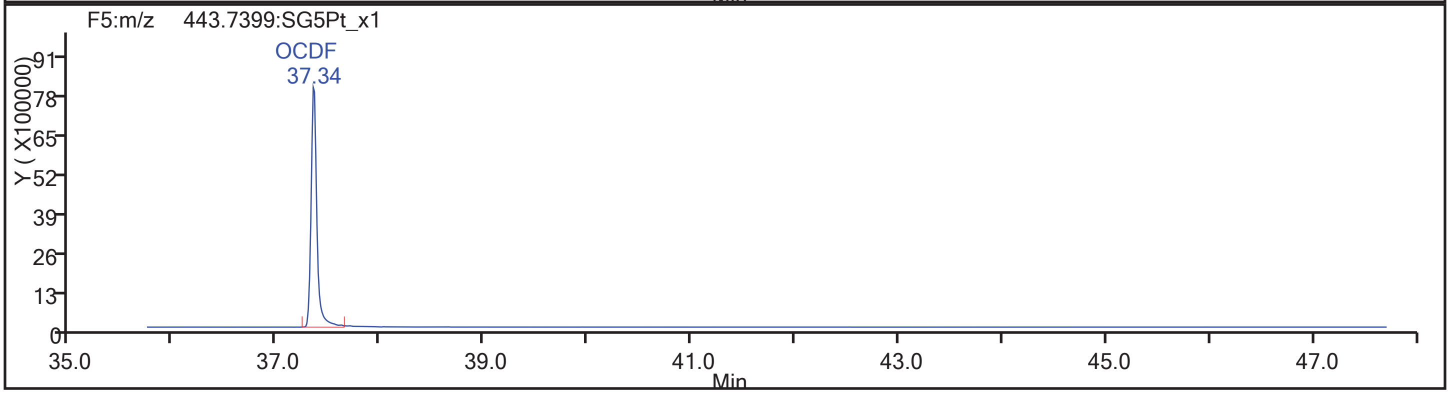
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d

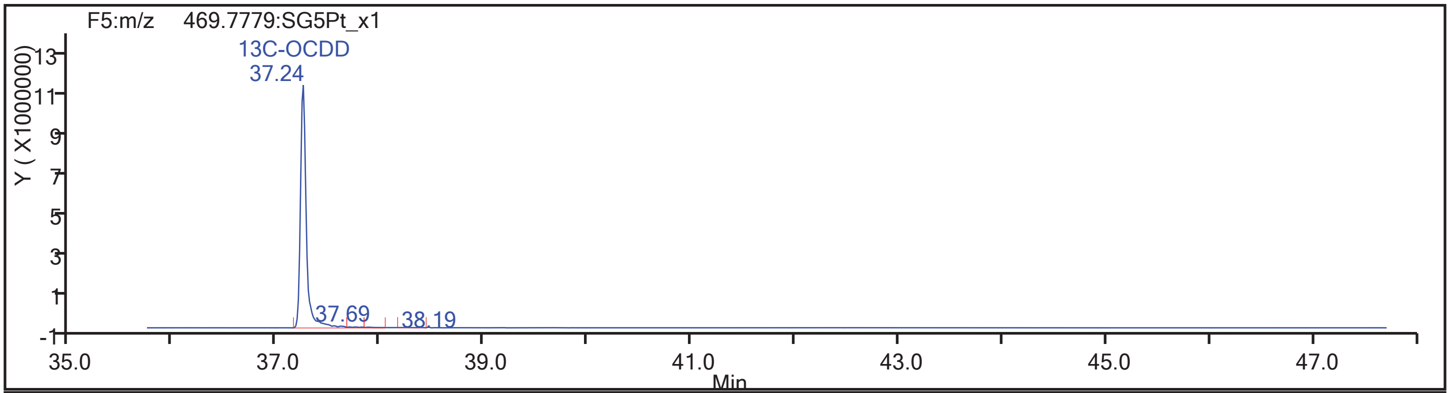
Injection Date: 19-Nov-2017 11:49:50
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195575
Sample Line#: 81
Column Type:
Column Dia:

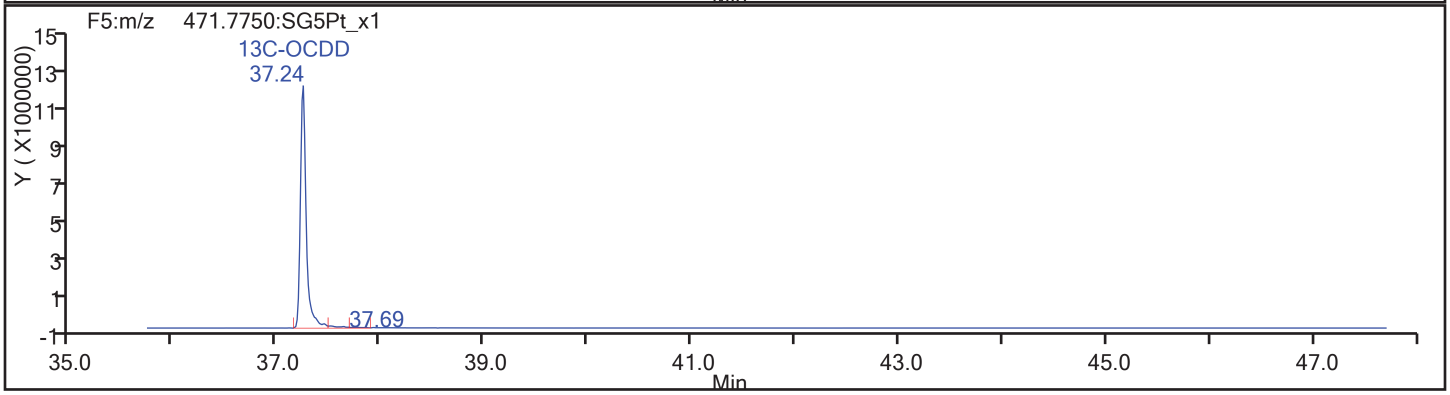
OCDF





OCDF Standards

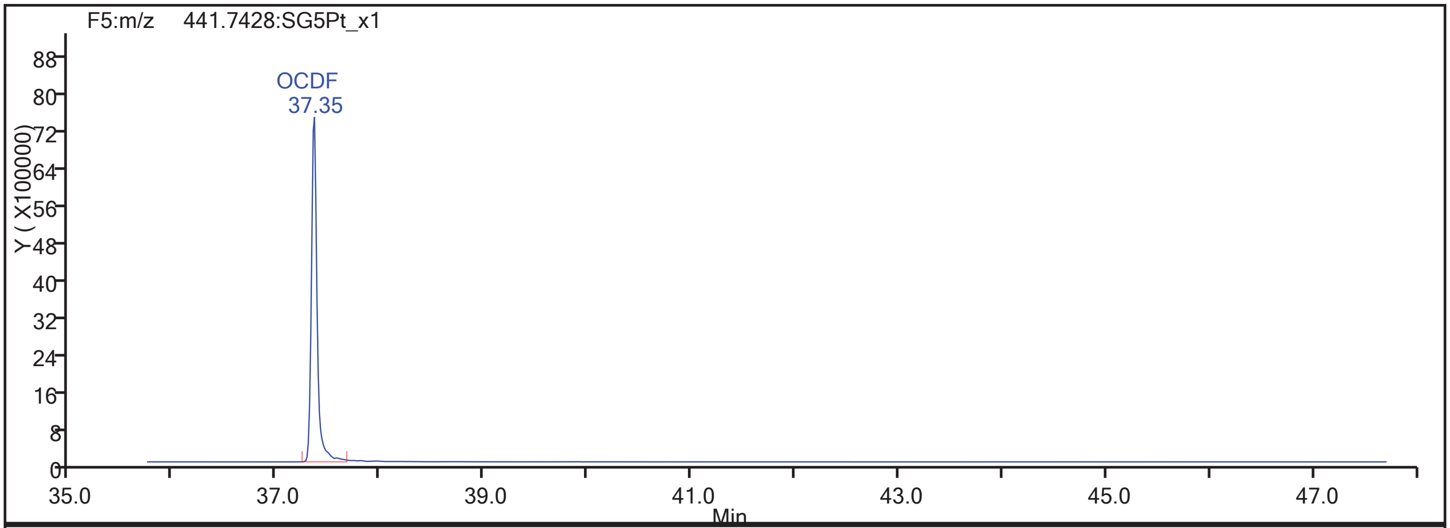


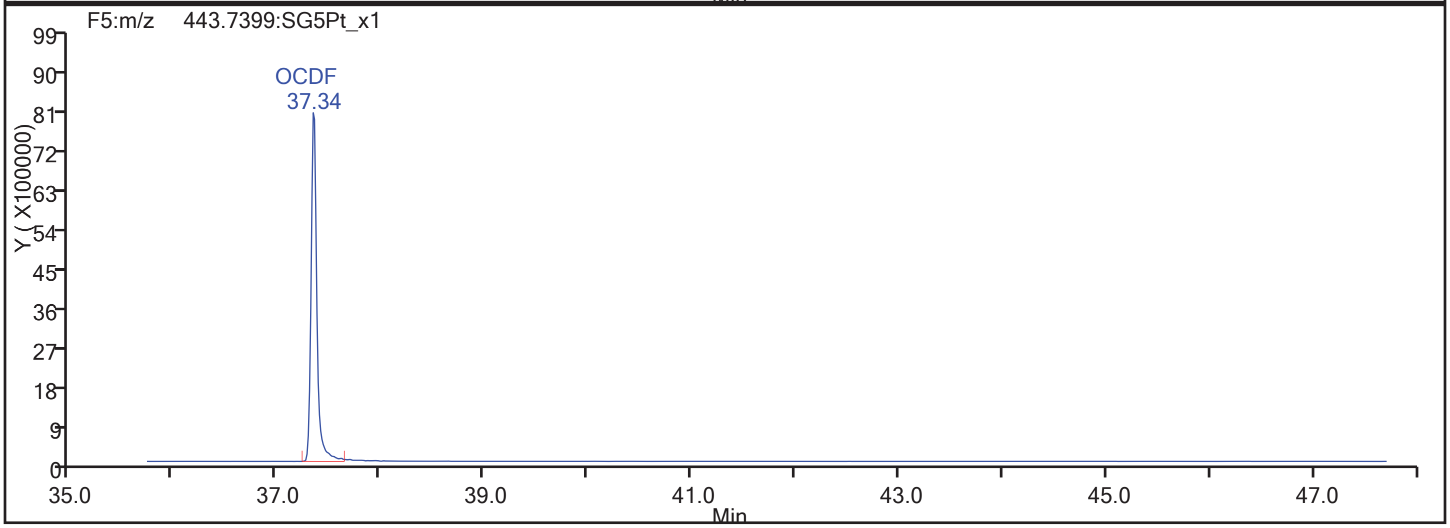


TestAmerica Sacramento

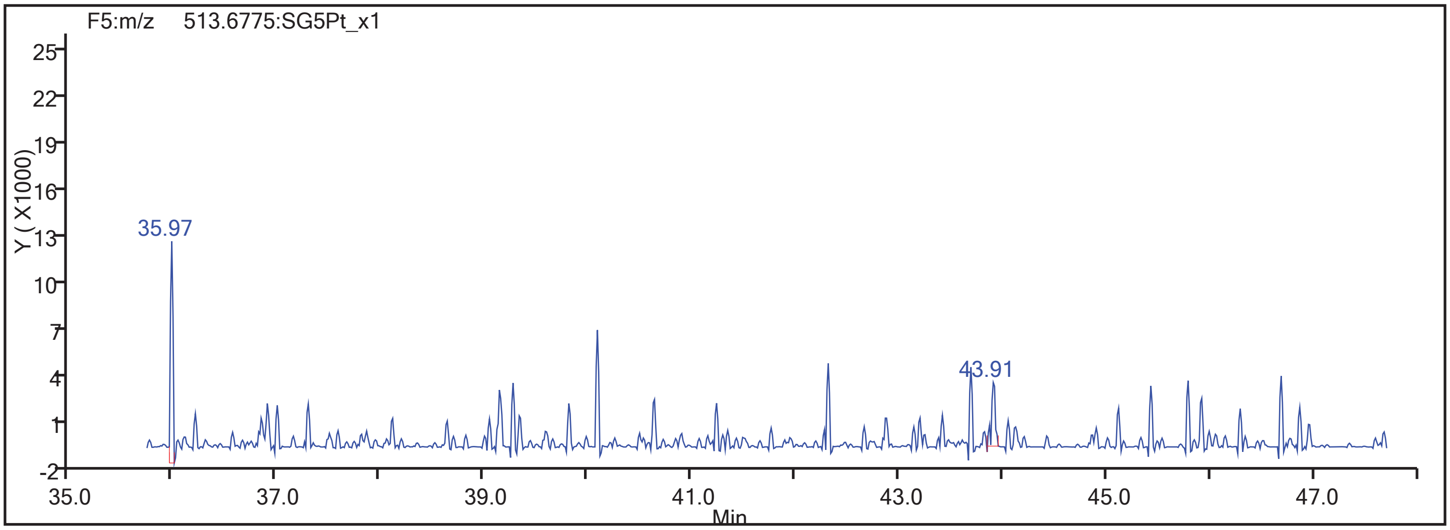
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d
Injection Date: 19-Nov-2017 11:49:50
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195575
Sample Line#: 81
Column Type:
Column Dia:

OCDF



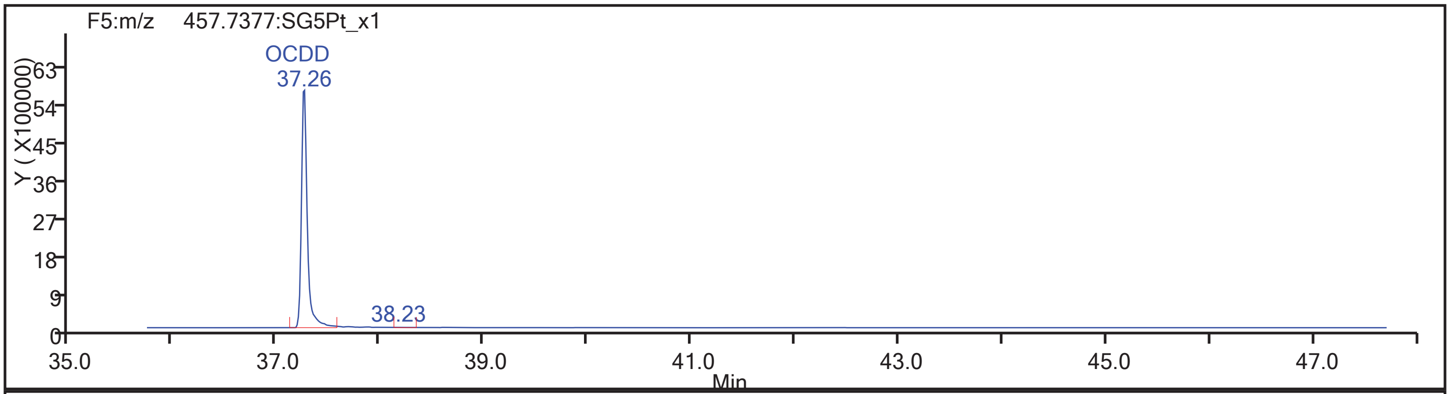


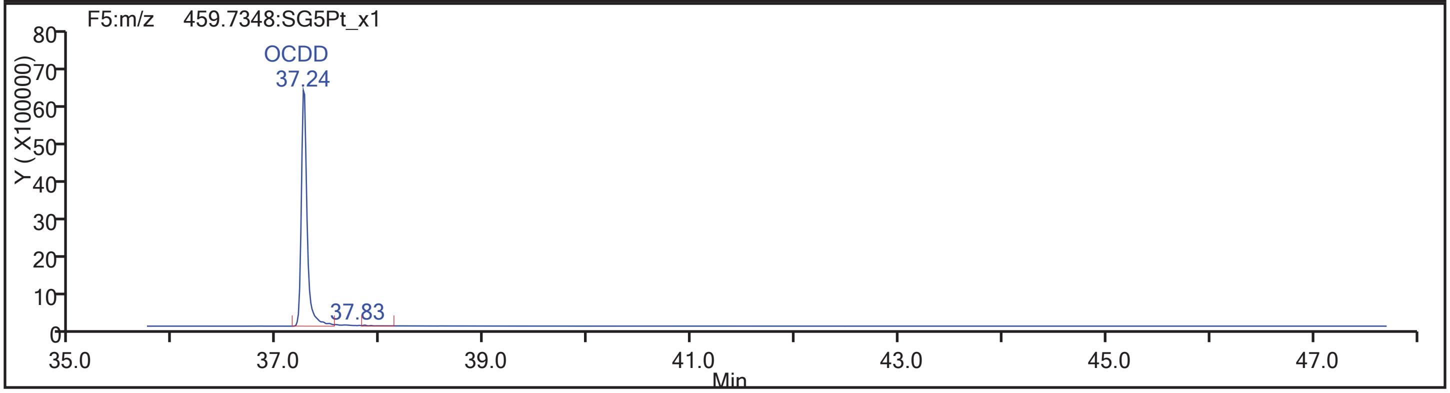
OCDF Interference Mass



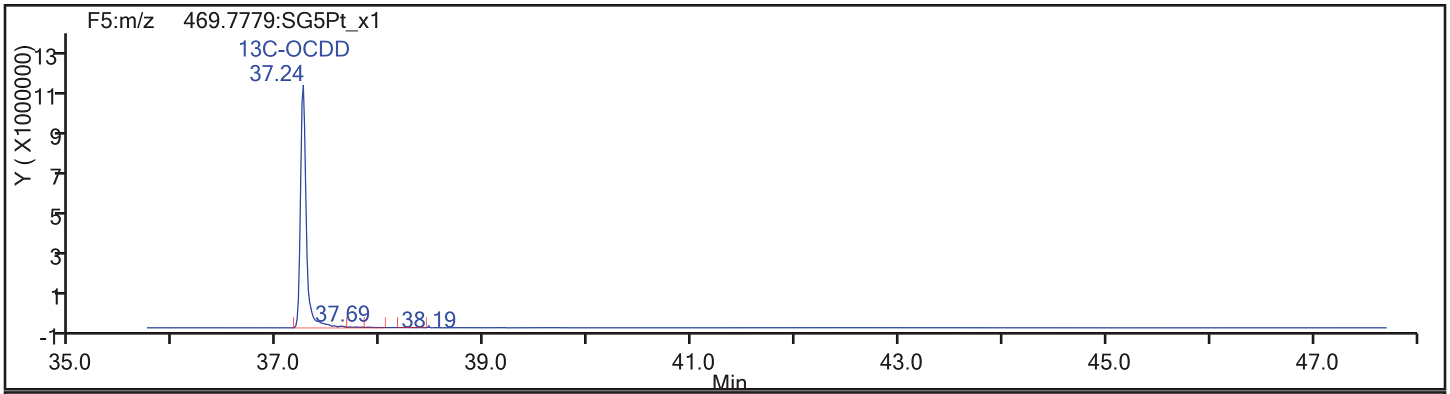
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d		
Injection Date:	19-Nov-2017 11:49:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195575	Sample Line#:	81
Column Type:		Column Dia:	

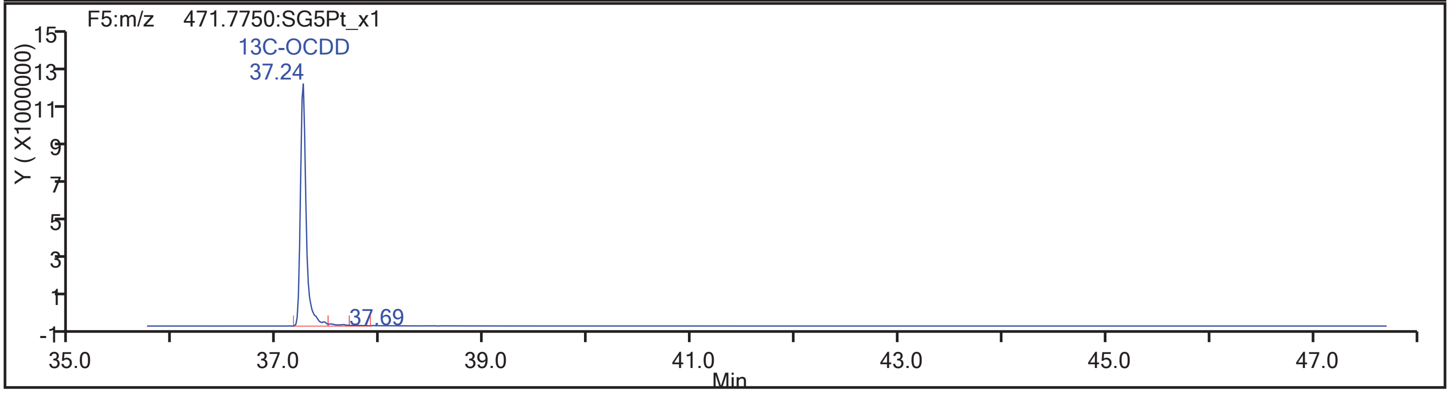
OCDD





OCDD Standards





Report Date: 20-Nov-2017 11:49:10 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d

Injection Date: 19-Nov-2017 11:49:50

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

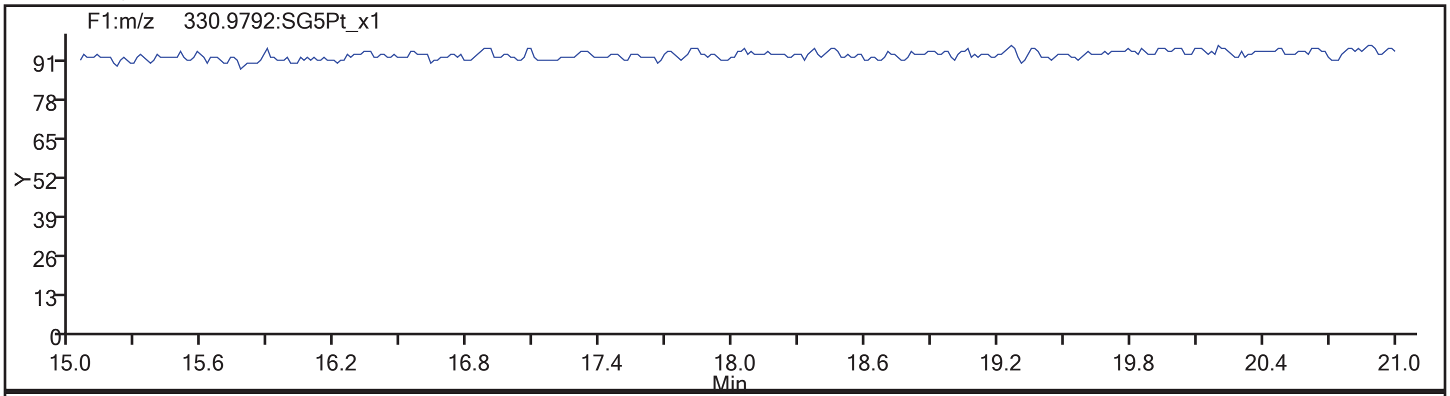
Client ID:

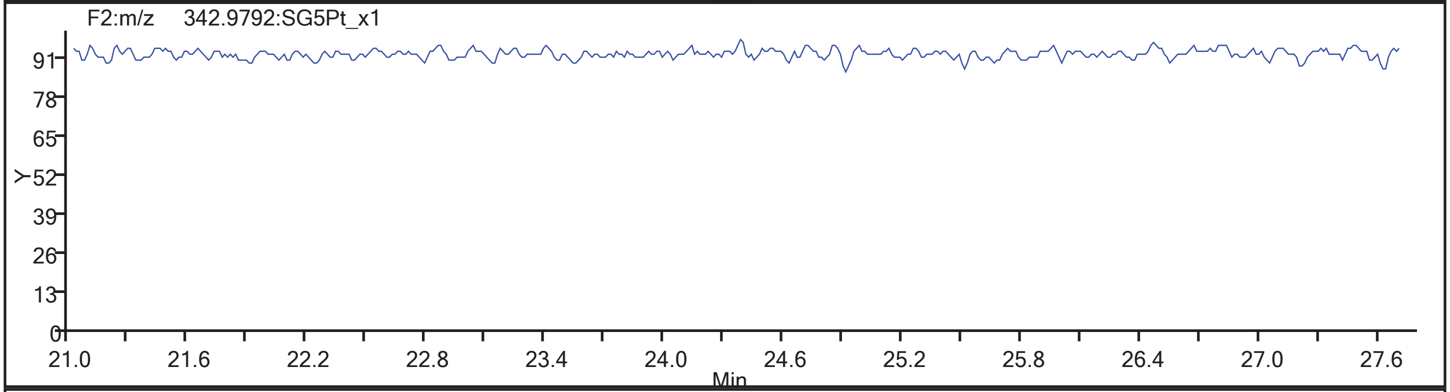
Worklist#: 195575

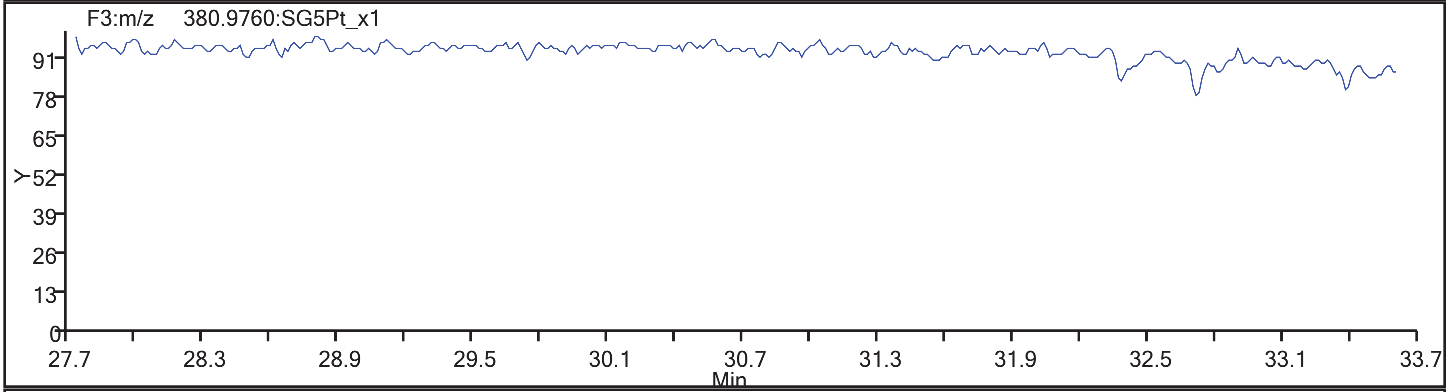
Sample Line#: 81

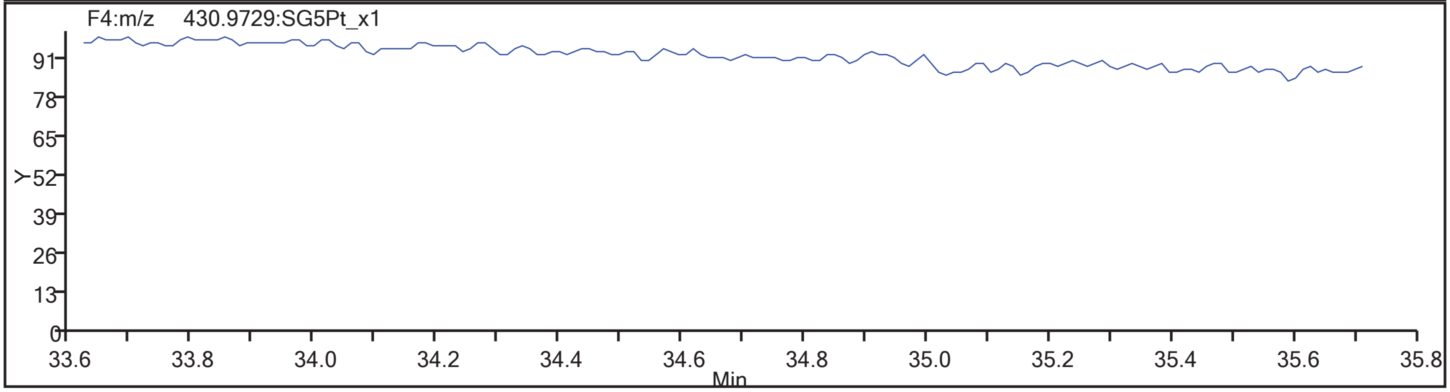
Column Type:

Column Dia:



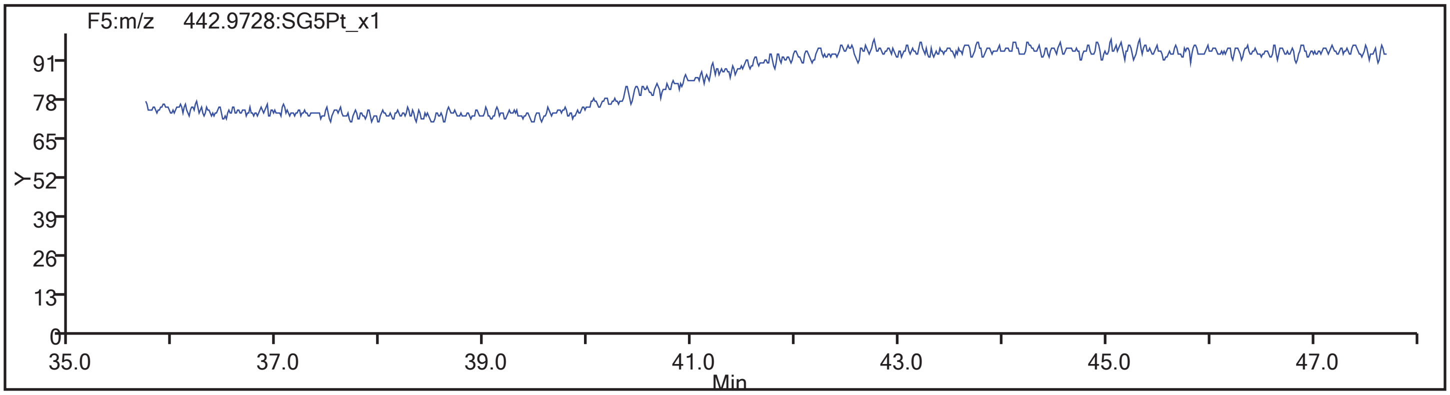






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_81.d		
Injection Date:	19-Nov-2017 11:49:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195575	Sample Line#:	81
Column Type:		Column Dia:	



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-195575/92 Calibration Date: 11/19/2017 20:53

Instrument ID: 3D5 Calib Start Date: 11/15/2017 11:51

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 11/15/2017 15:05

Lab File ID: 16NO173D5_92.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDF	AveID	1.097	1.069		9.75	10.0	-2.5	20.0
2,3,7,8-TCDD	AveID	1.164	1.122		9.64	10.0	-3.6	20.0
1,2,3,7,8-PeCDF	AveID	1.142	1.124		49.2	50.0	-1.6	20.0
2,3,4,7,8-PeCDF	AveID	1.110	1.104		49.7	50.0	-0.5	20.0
1,2,3,7,8-PeCDD	AveID	1.127	1.099		48.7	50.0	-2.5	20.0
1,2,3,4,7,8-HxCDF	AveID	1.348	1.374		51.0	50.0	2.0	20.0
1,2,3,6,7,8-HxCDF	AveID	1.479	1.499		50.7	50.0	1.3	20.0
2,3,4,6,7,8-HxCDF	AveID	1.383	1.428		51.6	50.0	3.2	20.0
1,2,3,4,7,8-HxCDD	AveID	1.065	1.022		48.0	50.0	-4.0	20.0
1,2,3,6,7,8-HxCDD	AveID	1.181	1.152		48.8	50.0	-2.5	20.0
1,2,3,7,8,9-HxCDD	AveID	1.231	1.222		49.6	50.0	-0.7	20.0
1,2,3,7,8,9-HxCDF	AveID	1.290	1.333		51.6	50.0	3.3	20.0
1,2,3,4,6,7,8-HpCDF	AveID	1.587	1.562		49.2	50.0	-1.6	20.0
1,2,3,4,6,7,8-HpCDD	AveID	1.163	1.134		48.8	50.0	-2.5	20.0
1,2,3,4,7,8,9-HpCDF	AveID	1.229	1.237		50.3	50.0	0.7	20.0
OCDD	AveID	1.039	1.002		96.4	100	-3.6	20.0
OCDF	AveID	1.265	1.258		99.5	100	-0.5	20.0
13C-2,3,7,8-TCDF	Ave	1.509	1.486		98.5	100	-1.5	30.0
13C-2,3,7,8-TCDD	Ave	0.9906	0.9699		97.9	100	-2.1	30.0
13C-1,2,3,7,8-PeCDF	Ave	1.128	1.164		103	100	3.2	30.0
13C-1,2,3,7,8-PeCDD	Ave	0.7269	0.7543		104	100	3.8	30.0
13C-1,2,3,4,7,8-HxCDF	Ave	1.028	1.003		97.6	100	-2.4	30.0
13C-1,2,3,6,7,8-HxCDD	Ave	0.8502	0.8531		100	100	0.3	30.0
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.6490	0.6741		104	100	3.9	30.0
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.5387	0.5733		106	100	6.4	30.0
13C-OCDD	Ave	0.4009	0.4140		207	200	3.3	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.173	1.190		10.1	10.0	1.4	

Report Date: 20-Nov-2017 11:49:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_92.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Nov-2017 20:53:37 ALS Bottle#: 2 Worklist Smp#: 92
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111617K CS-4 HRDXNL4_00060
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:49:41 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 20-Nov-2017 08:25:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	139691607	0.82	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.705	207612310	0.81	1.5089	98.5	98.5	0.2766	0.2766	98.50	
2,3,7,8-TCDF	17.720	22197022	0.81	1.0971	9.745	9.745	0.0324	0.0324	97.45	
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF					9.745	9.745	0.0324	0.0324		
D 13C-2,3,7,8-TCDD	18.430	135492177	0.76	0.9906	97.9	97.9	0.2577	0.2577	97.92	
$ 37Cl4-2,3,7,8-TCDD	18.445	16625956		1.1732	10.1	10.1	0.0333	0.0333	101	
2,3,7,8-TCDD	18.445	15208608	0.77	1.1645	9.639	9.639	0.0306	0.0306	96.39	
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD					9.639	9.639	0.0306	0.0306		
D 13C-1,2,3,7,8-PeCDF	22.869	162647061	1.59	1.1280	103.2	103.2	0.2836	0.2836	103	
1,2,3,7,8-PeCDF	22.896	91368269	1.60	1.1422	49.2	49.2	0.1943	0.1943	98.37	
D 13C-2,3,4,7,8-PeCDF	24.246	160147232	1.64							
2,3,4,7,8-PeCDF	24.274	89798058	1.60	1.1102	49.7	49.7	0.1999	0.1999	99.46	
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF					98.9	98.9	0.1971	0.1971		
D 13C-1,2,3,7,8-PeCDD	24.996	105362516	1.65	0.7269	103.8	103.8	0.1653	0.1653	104	
1,2,3,7,8-PeCDD	25.024	57871772	1.64	1.1272	48.7	48.7	0.0909	0.0909	97.46	
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD					48.7	48.7	0.0909	0.0909		
D 13C-1,2,3,4,7,8-HxCDF	30.906	127476235	0.52	1.0279	97.6	97.6	0.5444	0.5444	97.58	
1,2,3,4,7,8-HxCDF	30.919	87570575	1.29	1.3475	51.0	51.0	0.2783	0.2783	102	
D 13C-1,2,3,6,7,8-HxCDF	31.065	148619978	0.52							
1,2,3,6,7,8-HxCDF	31.079	95543638	1.25	1.4794	50.7	50.7	0.2535	0.2535	101	
D 13C-2,3,4,6,7,8-HxCDF	31.811	137245558	0.53							
2,3,4,6,7,8-HxCDF	31.824	90997670	1.29	1.3833	51.6	51.6	0.2711	0.2711	103	
D 13C-1,2,3,7,8,9-HxCDF	32.583	134822353	0.54							
1,2,3,7,8,9-HxCDF	32.597	84943133	1.30	1.2903	51.6	51.6	0.2906	0.2906	103	
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					204.9	204.9	0.2734	0.2734		
* 13C-1,2,3,7,8,9-HxCDD	32.397	127091946	1.21	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.984	96260583	1.32							
1,2,3,4,7,8-HxCDD	31.997	55418792	1.29	1.0646	48.0	48.0	0.1784	0.1784	96.02	
D 13C-1,2,3,6,7,8-HxCDD	32.091	108424295	1.30	0.8502	100.3	100.3	0.3009	0.3009	100	
1,2,3,6,7,8-HxCDD	32.104	62428988	1.29	1.1809	48.8	48.8	0.1609	0.1609	97.52	
1,2,3,7,8,9-HxCDD	32.410	66250355	1.26	1.2311	49.6	49.6	0.1543	0.1543	99.27	
A Non-2,3,7,8-sub-HxCDD	31.252						0.0	0.0		
S Total HxCDD					146.4	146.4	0.1645	0.1645		
1,2,3,4,6,7,8-HpCDF	33.998	66922555	1.07	1.5871	49.2	49.2	0.4895	0.4895	98.44	
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	85670495	0.42	0.6490	103.9	103.9	1.021	1.021	104	
D 13C-1,2,3,4,7,8,9-HpCDF	35.116	71902406	0.44							
1,2,3,4,7,8,9-HpCDF	35.128	52996722	1.03	1.2290	50.3	50.3	0.6321	0.6321	101	
A Non-2,3,7,8-sub-HpCDF	34.569						0.0	0.0		
S Total HpCDF					99.6	99.6	0.5608	0.5608		
D 13C-1,2,3,4,6,7,8-HpCDD	34.812	72867408	1.07	0.5387	106.4	106.4	0.6129	0.6129	106	
1,2,3,4,6,7,8-HpCDD	34.824	41330315	1.06	1.1631	48.8	48.8	0.2533	0.2533	97.53	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					48.8	48.8	0.2533	0.2533		
D 13C-OCDD	37.233	105226750	0.89	0.4009	206.5	206.5	0.2168	0.2168	103	
OCDF	37.341	66196648	0.93	1.2649	99.5	99.5	0.0856	0.0856	99.47	
OCDD	37.245	52695698	0.88	1.0390	96.4	96.4	0.1131	0.1131	96.40	

Reagents:

HRDXNL4_00060 Amount Added: 1.00 Units: mL

Report Date: 20-Nov-2017 11:49:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_92.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	19-Nov-2017 20:53:37	ALS Bottle#:	2	Worklist Smp#:	92
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCV 111617K CS-4 HRDXNL4_00060				
Misc. Info.:	16NO173D5				
Operator ID:	SMA, ALM	Instrument ID:	3D5		
Sublist:	chrom-Dioxin_3D5*sub1				
Method:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	20-Nov-2017 11:49:41	Calib Date:	15-Nov-2017 15:05:45		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d				
Column 1 :		Det: F1:HRSIR			
Process Host:	XAWRK015				
First Level Reviewer: arghestanis		Date:	20-Nov-2017 08:25:45		

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		62942706	14903520	17735	44337	840		
333.9339	18.234	18.234	0		76748901	18676760	16552	41380	1128	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	0.971	92701860	22086270	36576	91440	604		
317.9389	17.705	17.705	0	0.971	114910450	27282116	19479	48697	1401	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720	17.720	0	1.001	9933202	2335651	2308	5770	1012		
305.8987	17.720	17.720	0	1.001	12263820	3001505	4714	11785	637	0.81(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						2308	5770			
305.8987	17.402						4714	11785			
13C-2,3,7,8-TCDD											
331.9368	18.430	18.430	0	1.011	58677843	13144681	17735	44337	741		
333.9339	18.430	18.430	0	1.011	76814334	17499160	16552	41380	1057	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.445	18.445	0	1.012	16625956	3827042	5244	13110	730		
2,3,7,8-TCDD											
319.8965	18.445	18.445	0	1.001	6638901	1476612	2732	6830	540		
321.8936	18.445	18.445	0	1.001	8569707	2009005	1629	4072	1233	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						2732	6830			
321.8936	17.871						1629	4072			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.869	22.869	0	1.254	99837527	17278999	25115	62787	688		
353.8970	22.869	22.869	0	1.254	62809534	11206103	17857	44642	628	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.896	22.896	0	1.001	56289173	9586539	14921	37302	642		
341.8567	22.883	22.896	-1	1.001	35079096	5937525	10371	25927	573	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.246	24.246	0	1.330	99395390	16350353	25115	62787	651		
353.8970	24.246	24.246	0	1.330	60751842	9715662	17857	44642	544	1.64(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.274	24.274	0	1.061	55280086	8588591	14921	37302	576		
341.8567	24.274	24.274	0	1.061	34517972	5384233	10371	25927	519	1.60(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.426						497	1242			
341.8567	20.426						1369	3422			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						14921	37302			
341.8567	23.668						10371	25927			
13C-1,2,3,7,8-PeCDD											
367.8949	24.996	24.996	0	1.371	65640743	10013647	9590	23975	1044		
369.8919	24.996	24.996	0	1.371	39721773	5954641	6547	16367	910	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.024	25.024	0	1.001	35965741	5453870	3947	9867	1382		
357.8516	25.024	25.024	0	1.001	21906031	3260699	2595	6487	1257	1.64(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						3947	9867			
357.8516	23.878						2595	6487			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.906	30.906	0	0.954	43788437	9691001	35767	89417	271		
385.8610	30.906	30.906	0	0.954	83687798	18271008	41414	103535	441	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.919	30.919	0	1.000	49333451	10736701	23306	58265	461		
375.8178	30.919	30.919	0	1.000	38237124	8367692	18634	46585	449	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.065	31.065	0	0.959	51013545	10849306	35767	89417	303		
385.8610	31.065	31.065	0	0.959	97606433	20318122	41414	103535	491	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.079	31.079	0	1.006	53062212	11027040	23306	58265	473		
375.8178	31.079	31.079	0	1.006	42481426	8999685	18634	46585	483	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.811	31.811	0	0.982	47684081	12577476	35767	89417	352		
385.8610	31.811	31.811	0	0.982	89561477	23149830	41414	103535	559	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.824	31.824	0	1.030	51332891	13535361	23306	58265	581		
375.8178	31.824	31.824	0	1.030	39664779	10528188	18634	46585	565	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.006	47165969	12282156	35767	89417	343		
385.8610	32.583	32.583	0	1.006	87656384	22736402	41414	103535	549	0.54(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597	32.597	0	1.055	48003285	12993460	23306	58265	558		
375.8178	32.597	32.597	0	1.055	36939848	9726908	18634	46585	522	1.30(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						23306	58265			
375.8178	30.653						18634	46585			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.397	32.397	0		69688219	18983808	19998	49995	949		
403.8529	32.397	32.397	0		57403727	15496473	15285	38212	1014	1.21(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.984	31.984	0	0.987	54790433	15890742	19998	49995	795		
403.8529	31.984	31.984	0	0.987	41470150	11993953	15285	38212	785	1.32(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.997	31.997	0	0.997	31229238	9056087	12340	30850	734		
391.8127	31.997	31.997	0	0.997	24189554	6895574	8657	21642	797	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.991	61323305	15609574	19998	49995	781		
403.8529	32.091	32.091	0	0.991	47100990	12023650	15285	38212	787	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.104	32.104	0	1.000	35129975	9136334	12340	30850	740		
391.8127	32.104	32.104	0	1.000	27299013	7040520	8657	21642	813	1.29(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.410	32.410	0	1.010	36911242	9845419	12340	30850	798		
391.8127	32.410	32.410	0	1.010	29339113	7892439	8657	21642	912	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.252						12340	30850			
391.8127	31.252						8657	21642			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.998	33.998	0	1.000	34637471	10797328	42758	106895	253		
409.7789	33.998	33.998	0	1.000	32285084	9970693	39694	99235	251	1.07(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	25347762	8017977	26480	66200	303		
419.8220	33.985	33.998	-1	1.049	60322733	18516206	64944	162360	285	0.42(0.37-0.51)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.116	35.116	0	1.084	22040597	6408481	26480	66200	242		
419.8220	35.116	35.116	0	1.084	49861809	14097971	64944	162360	217	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128	35.128	0	1.033	26840874	7569114	42758	106895	177		
409.7789	35.116	35.128	-1	1.033	26155848	7394618	39694	99235	186	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.569						42758	106895			
409.7789	34.569						39694	99235			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.812	34.812	0	1.075	37639441	11241953	28089	70222	400		
437.8140	34.812	34.812	0	1.075	35227967	10612388	17443	43607	608	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.824	34.824	0	1.000	21225538	6225308	12855	32137	484		
425.7737	34.824	34.824	0	1.000	20104777	5984490	12899	32247	464	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						12855	32137			
425.7737	35.261						12899	32247			
13C-OCDD											
469.7779	37.233	37.233	0	1.149	49599980	12535265	5027	12567	2494		
471.7750	37.233	37.233	0	1.149	55626770	14178140	6964	17410	2036	0.89(0.76-1.02)	
OCDF											
441.7428	37.341	37.341	0	1.003	31880530	8305024	3056	7640	2718		
443.7399	37.341	37.341	0	1.003	34316118	8811327	2730	6825	3228	0.93(0.76-1.02)	
OCDD											
457.7377	37.245	37.245	0	1.000	24667932	6463462	2485	6212	2601		
459.7348	37.245	37.245	0	1.000	28027766	7275883	3794	9485	1918	0.88(0.76-1.02)	

Reagents:

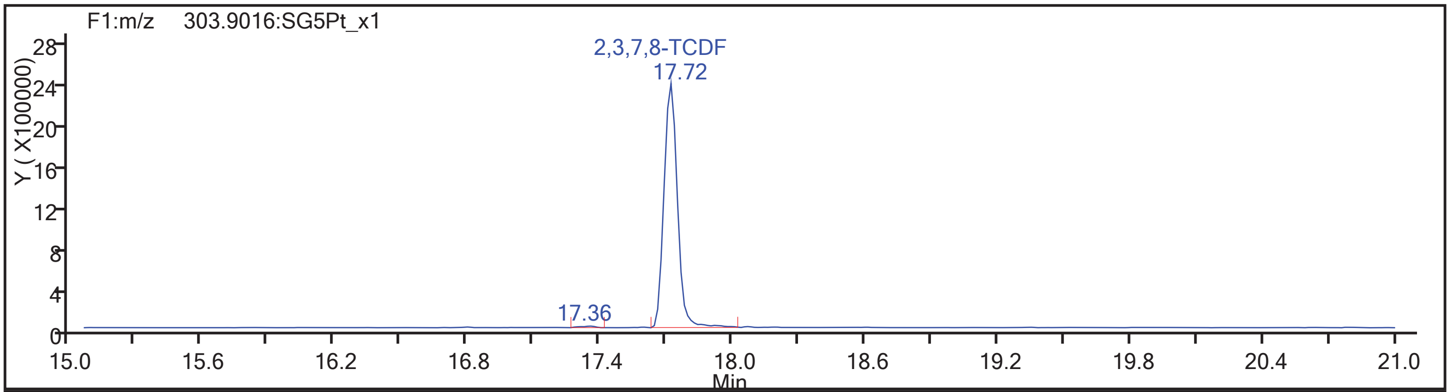
HRDXNL4_00060 Amount Added: 1.00 Units: mL

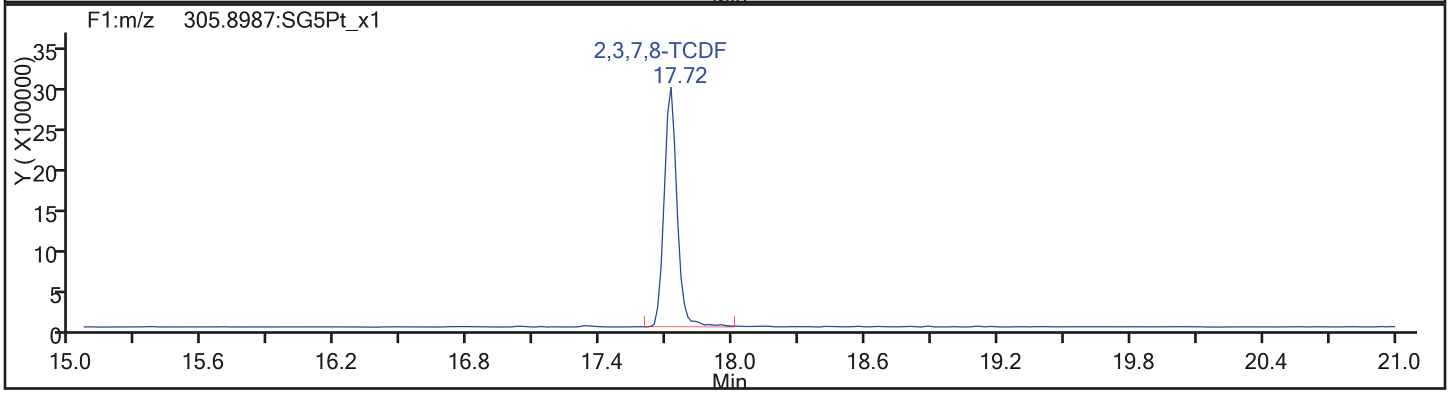
Report Date: 20-Nov-2017 11:49:41 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

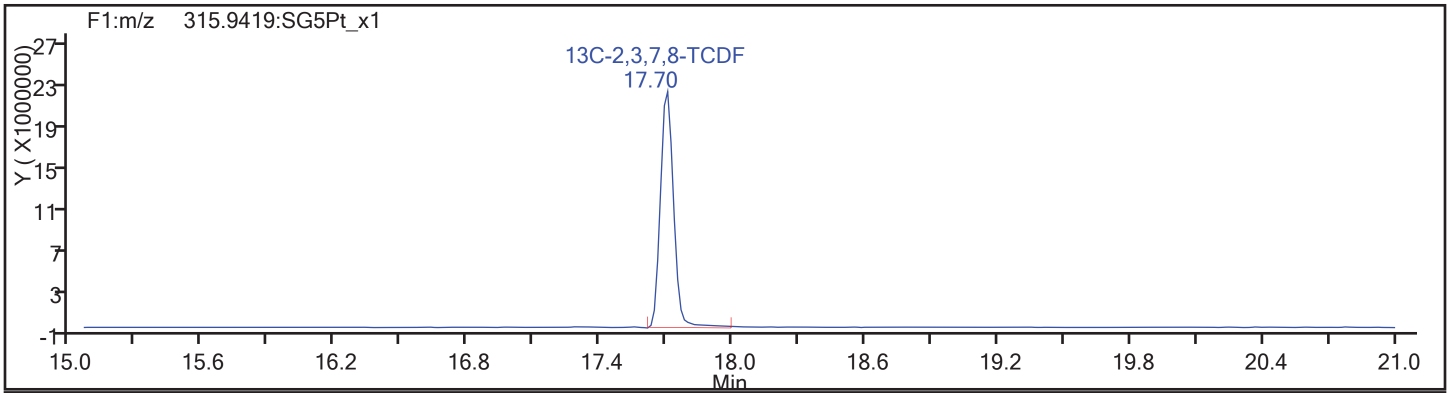
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_92.d
Injection Date: 19-Nov-2017 20:53:37
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195575
Sample Line#: 92
Column Type:
Column Dia:

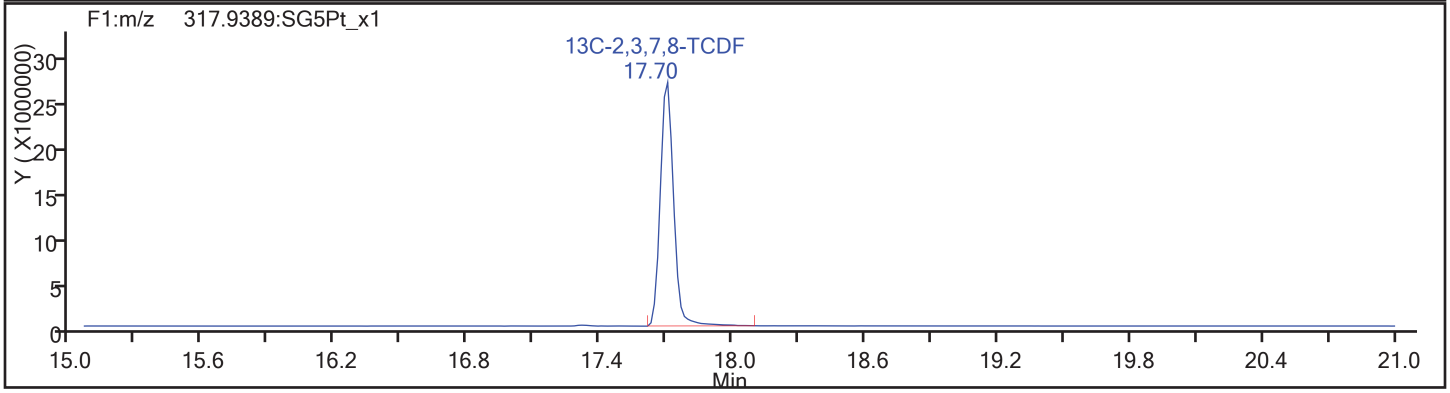
TCDF





TCDF Standards



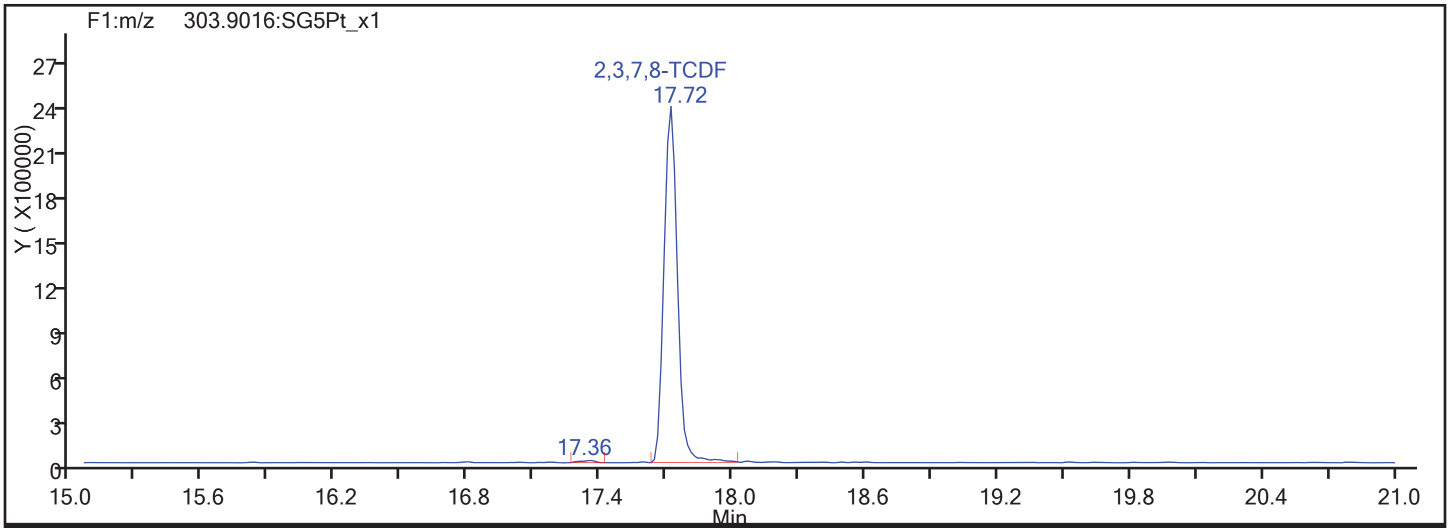


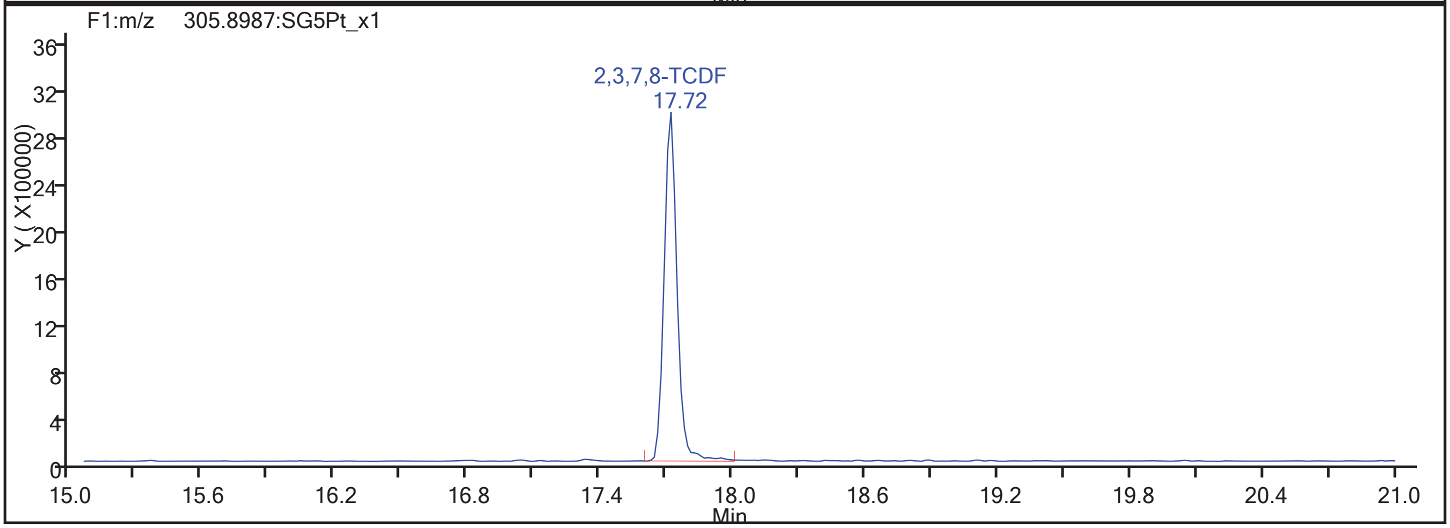
Report Date: 20-Nov-2017 11:49:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

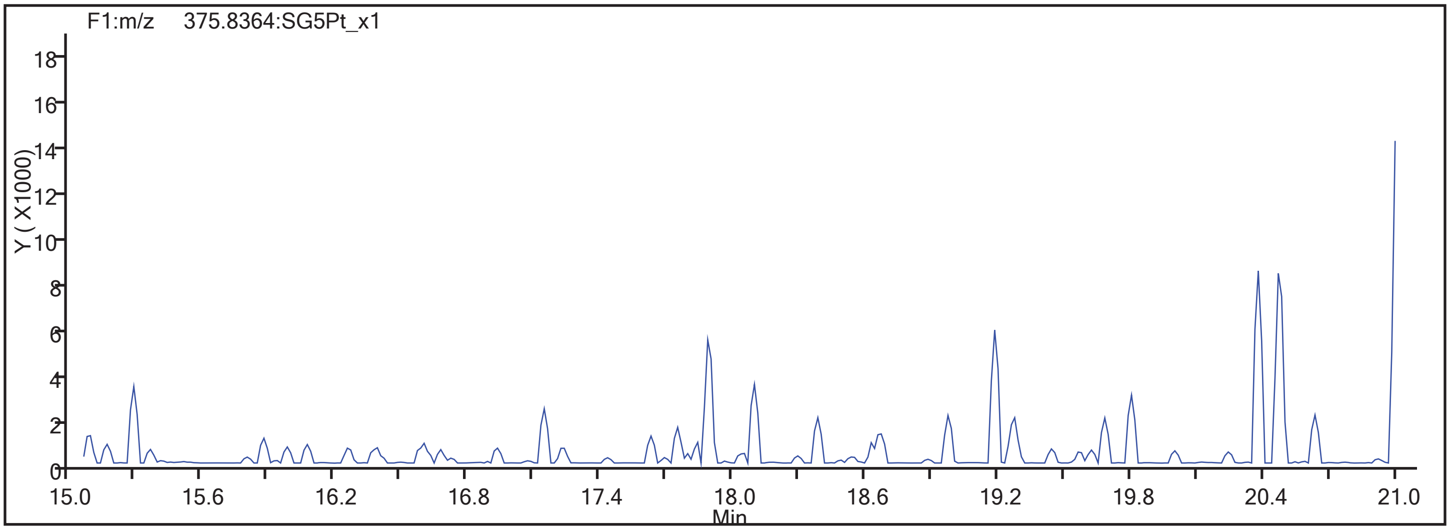
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_92.d
Injection Date: 19-Nov-2017 20:53:37
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195575
Sample Line#: 92
Column Type:
Column Dia:

TCDF





TCDF Interference Mass



Report Date: 20-Nov-2017 11:49:42 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_92.d

Injection Date: 19-Nov-2017 20:53:37 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

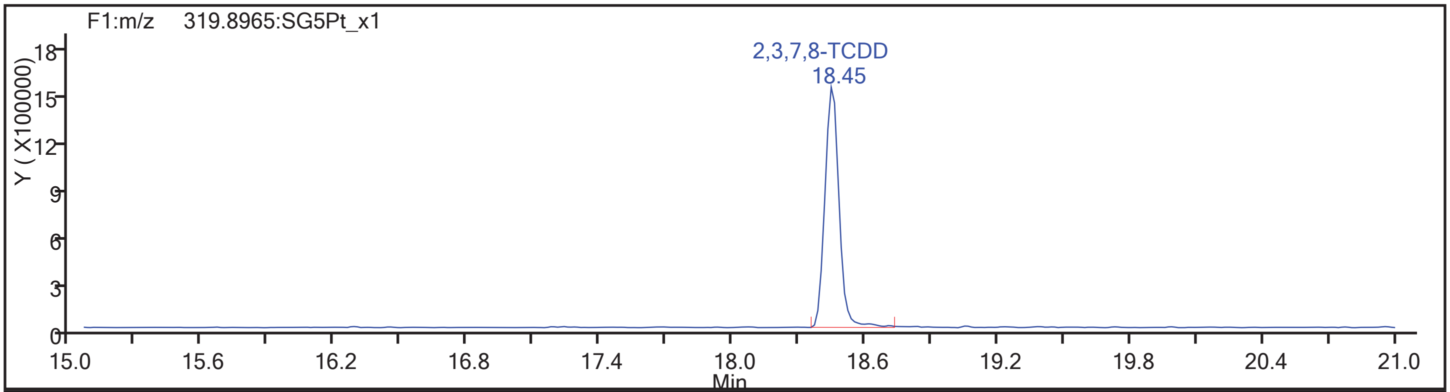
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

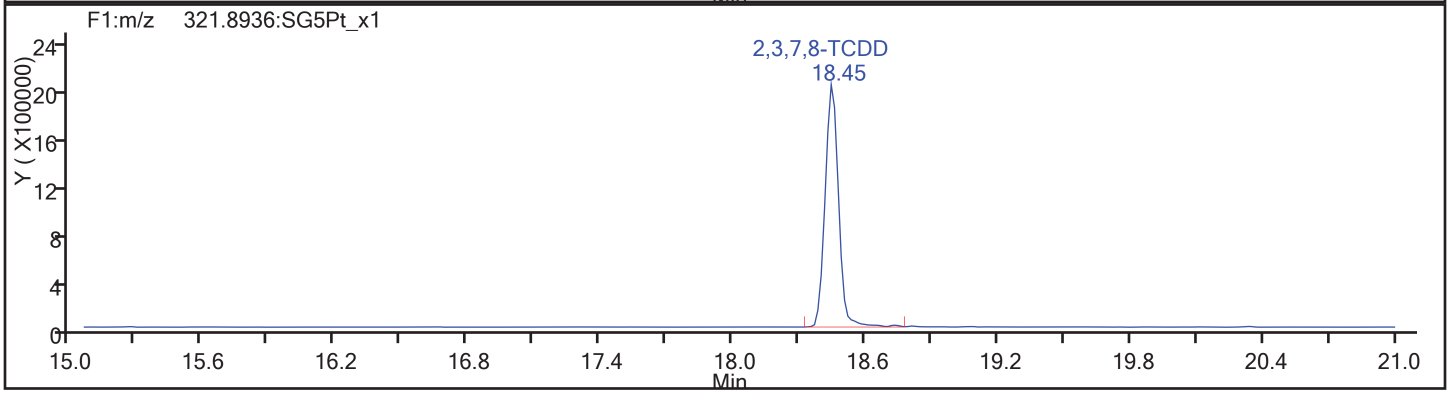
Client ID:

Worklist#: 195575 Sample Line#: 92

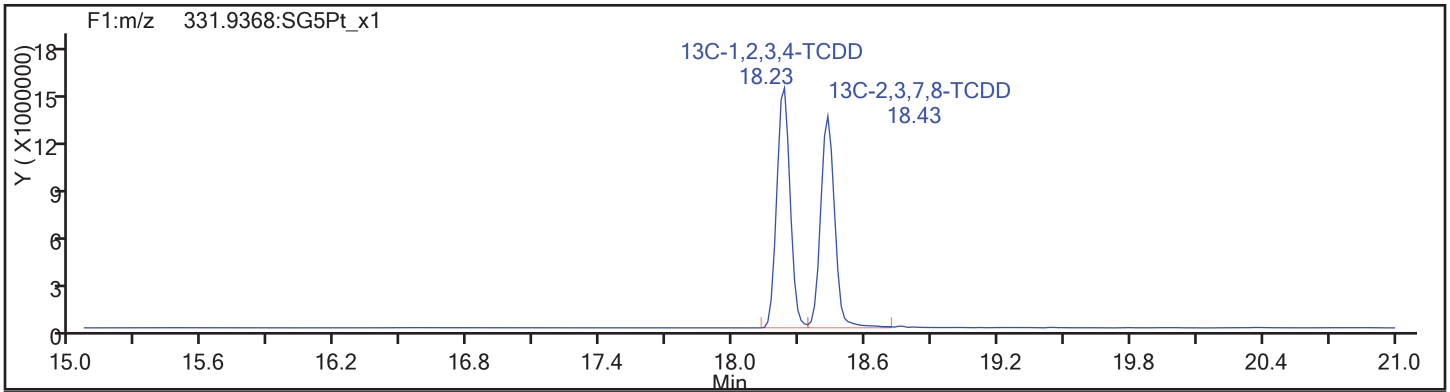
Column Type: Column Dia:

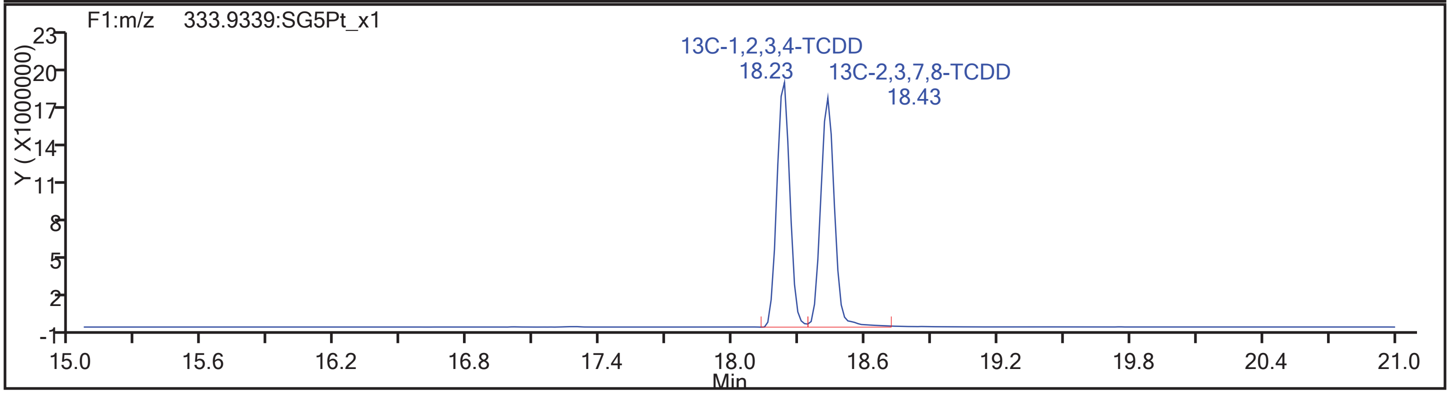
TCDD





TCDD Standards





Report Date: 20-Nov-2017 11:49:42
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_92.d
Injection Date: 19-Nov-2017 20:53:37
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195575
Sample Line#: 92
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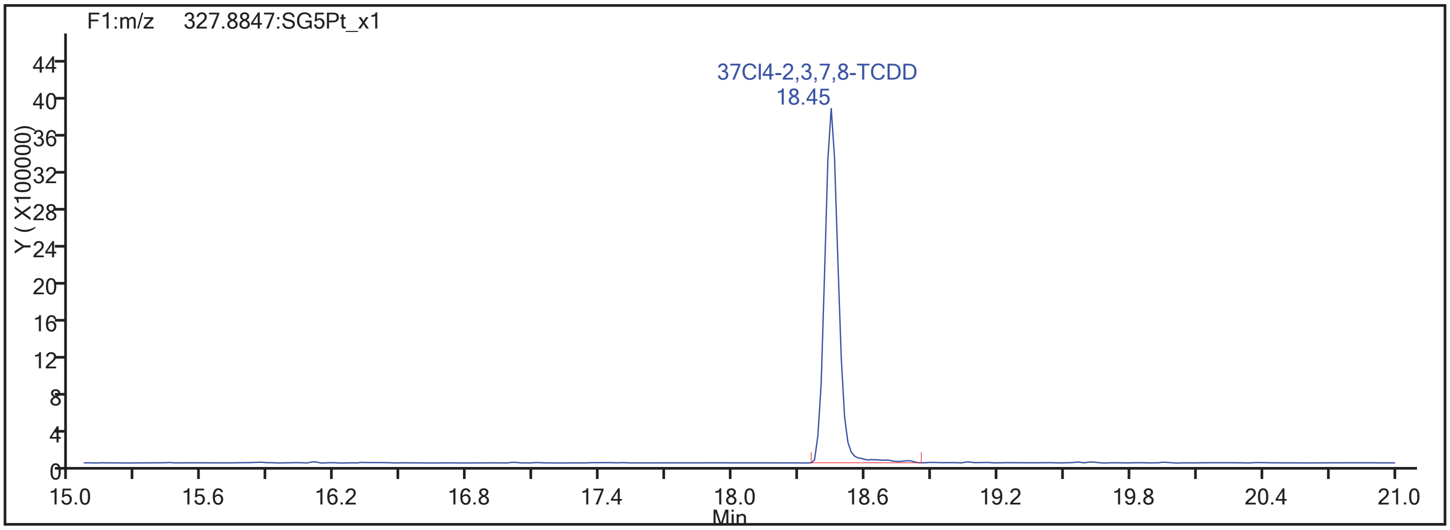
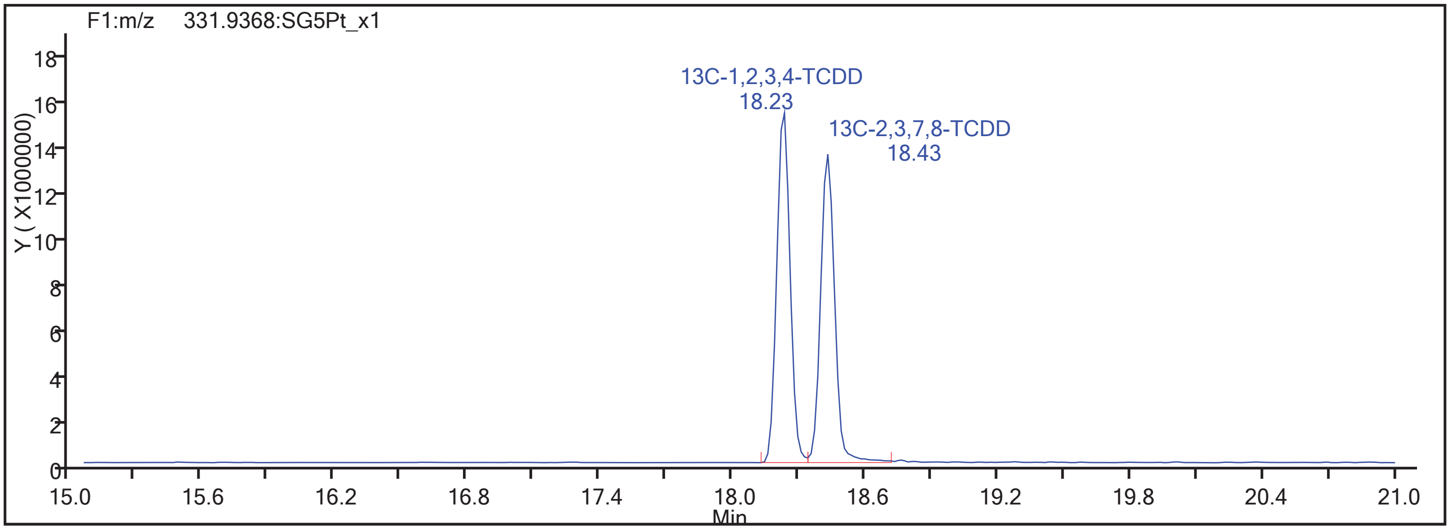
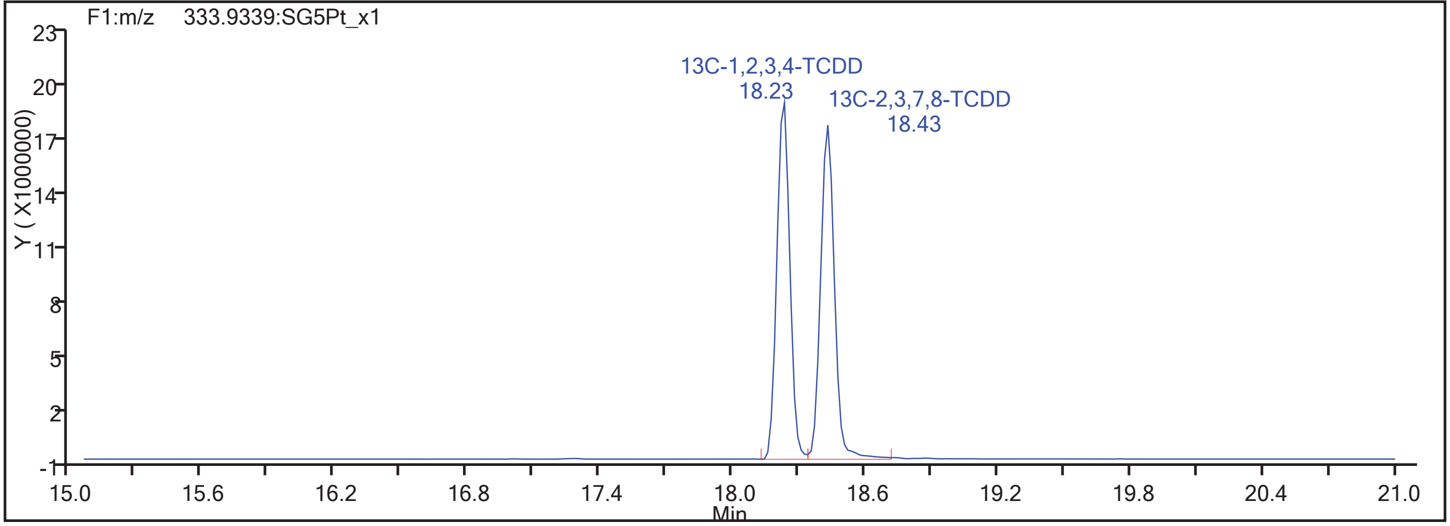
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards





TestAmerica Sacramento

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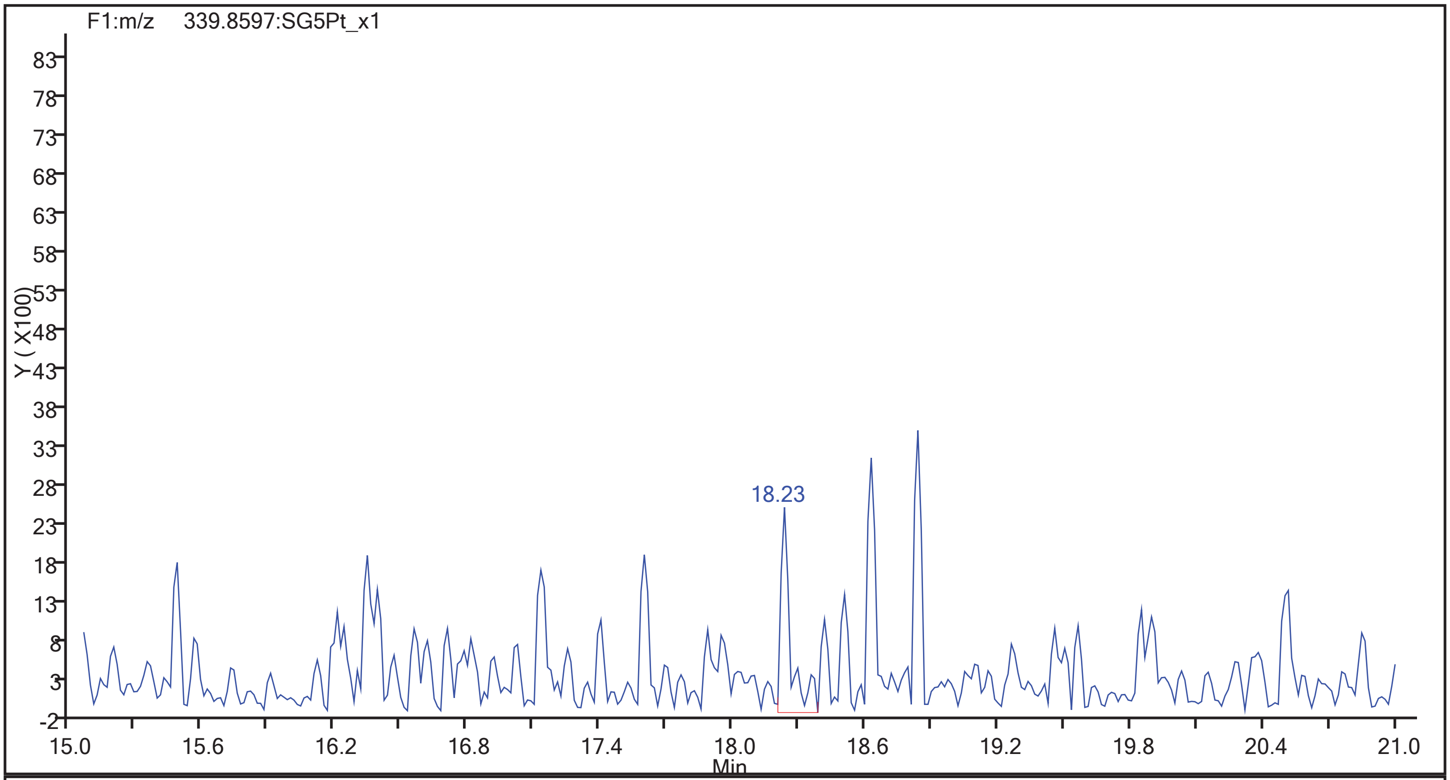
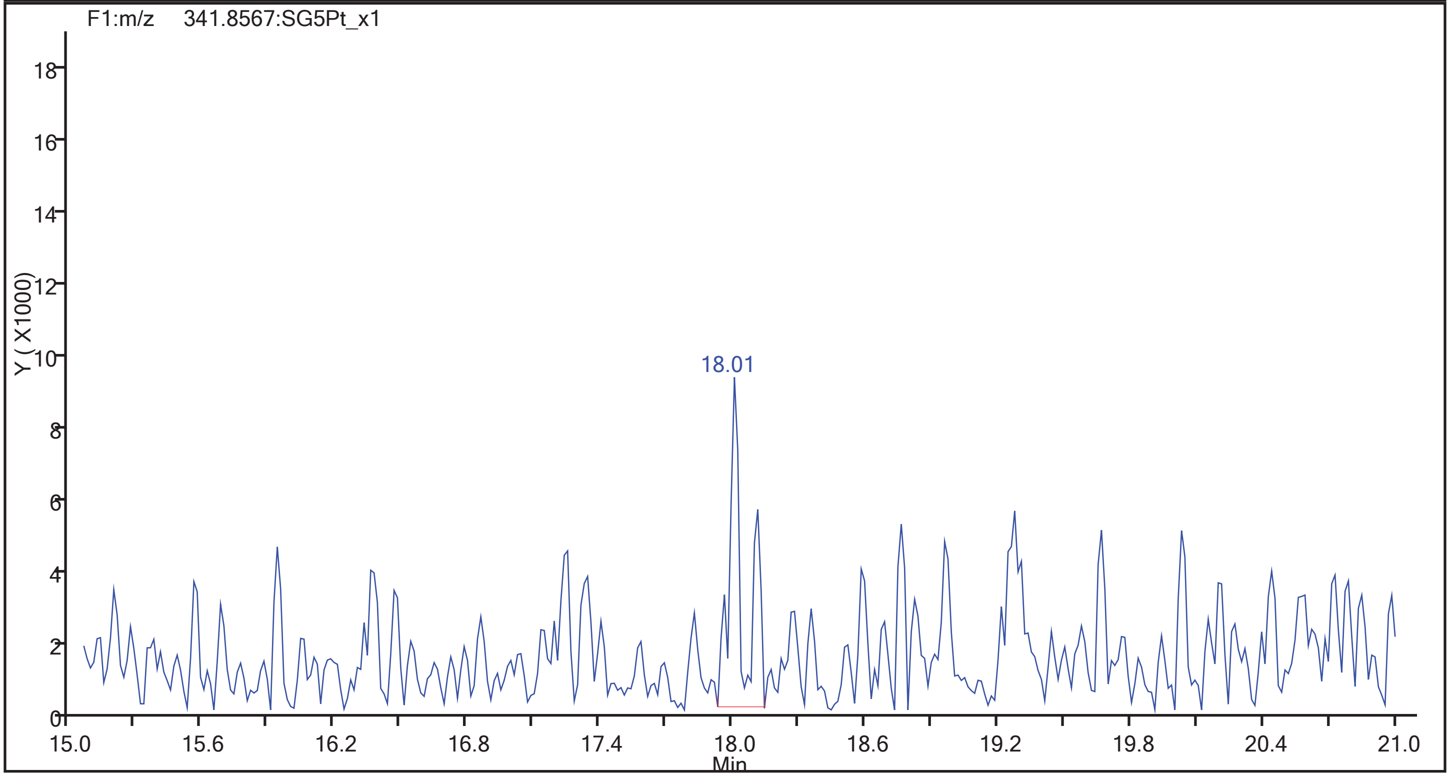
F1 PeCDFs





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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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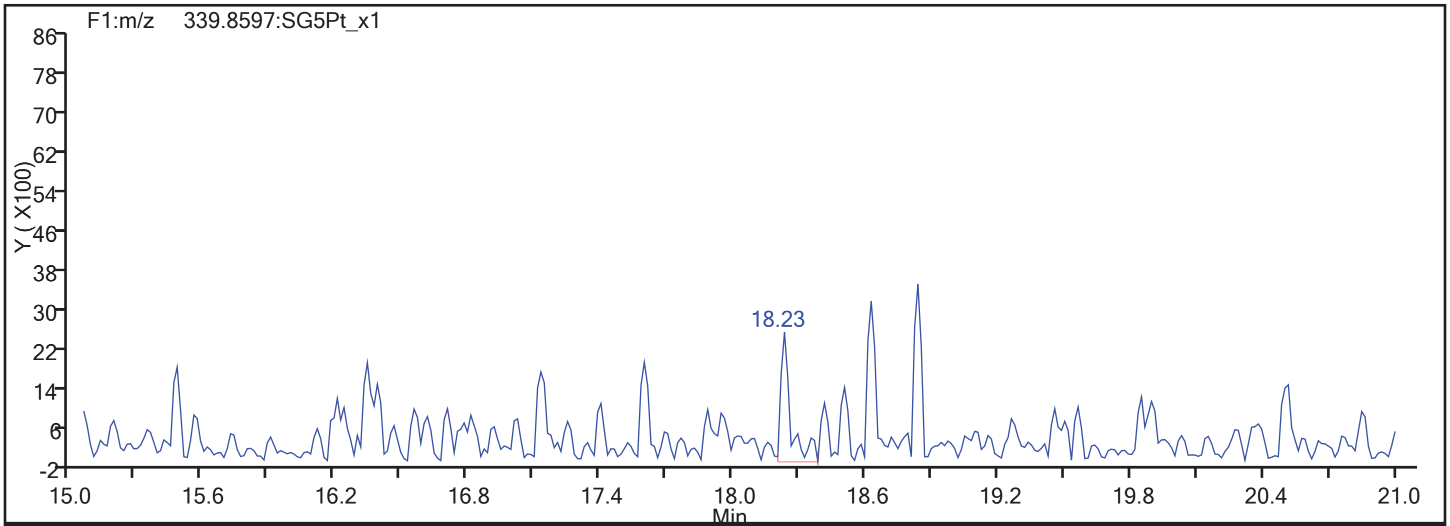

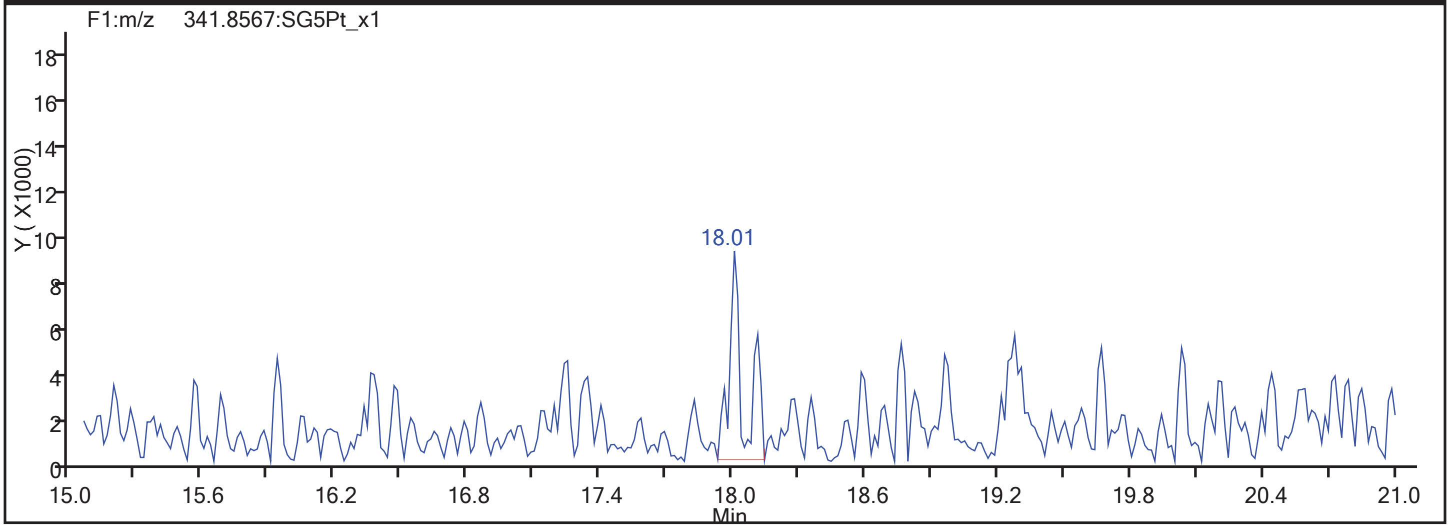

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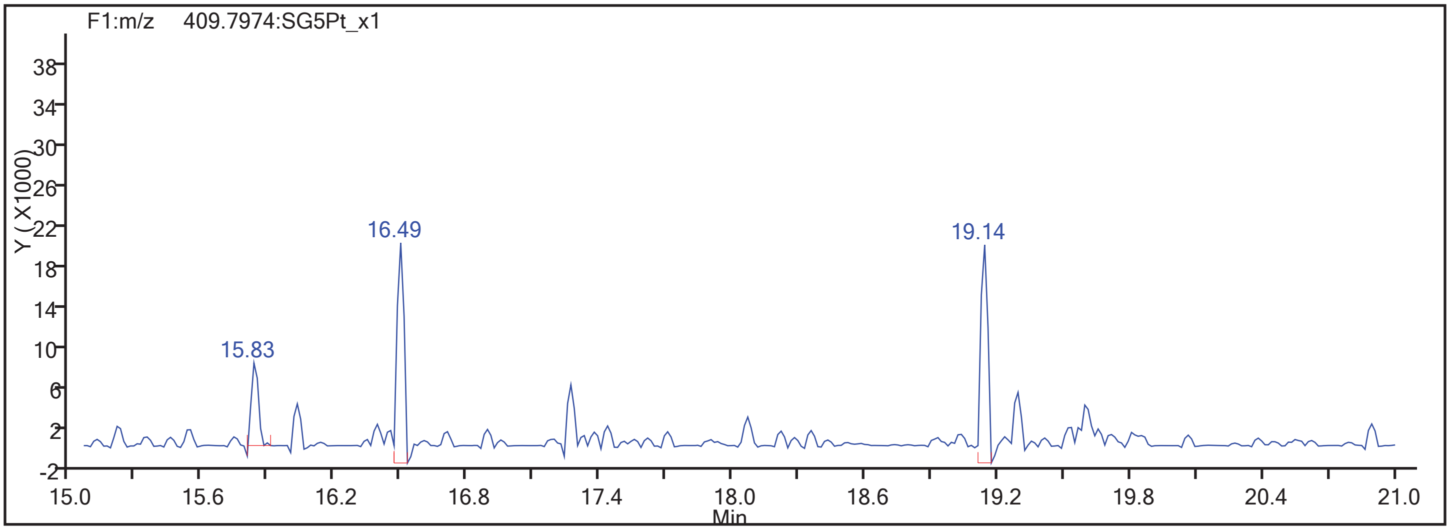

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TestAmerica Sacramento

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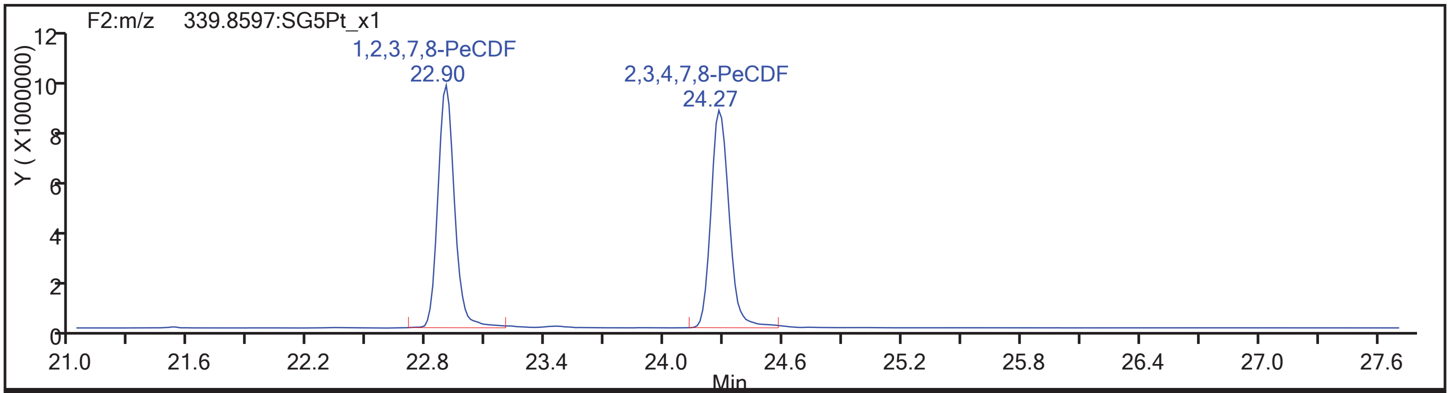

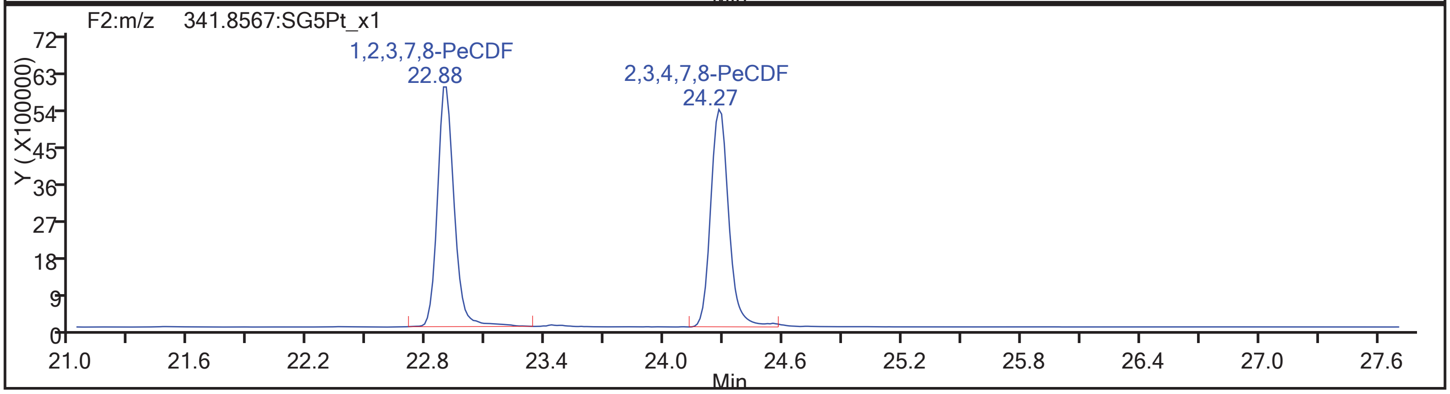

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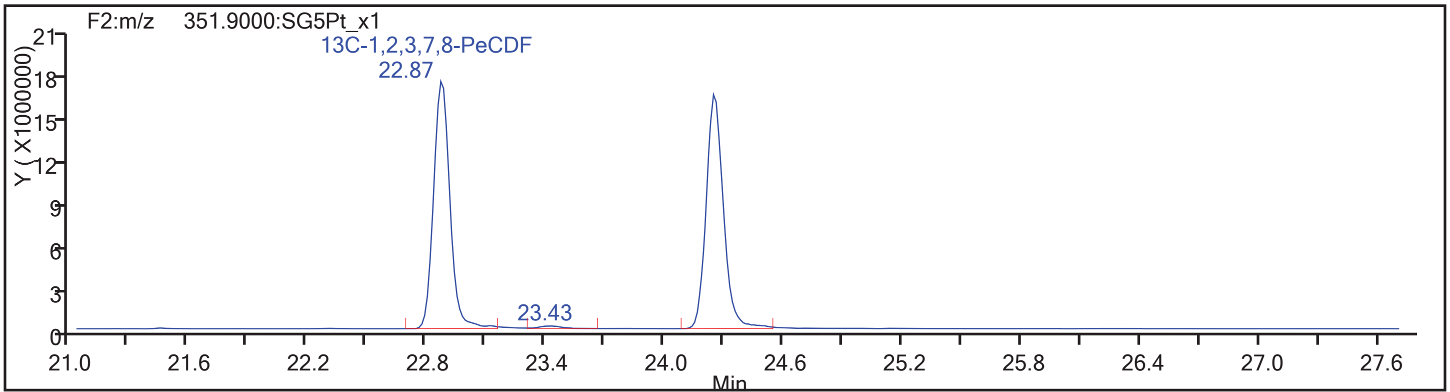

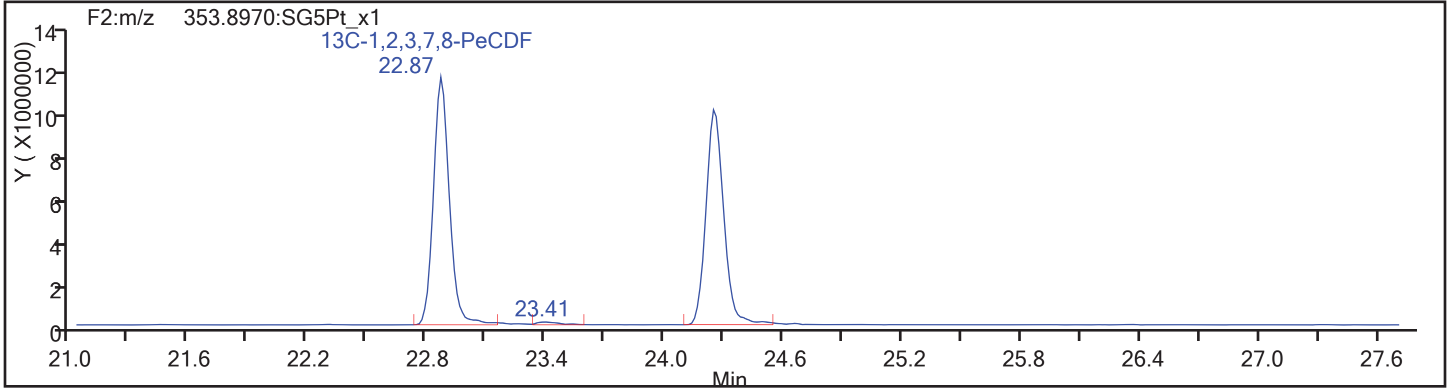

TestAmerica Sacramento

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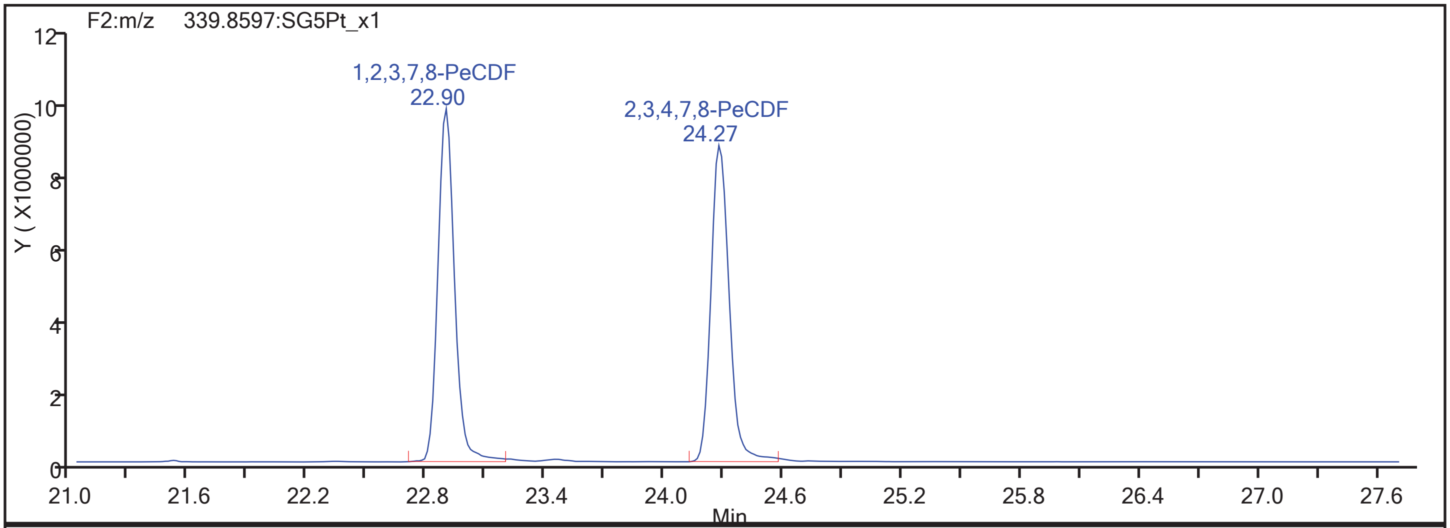

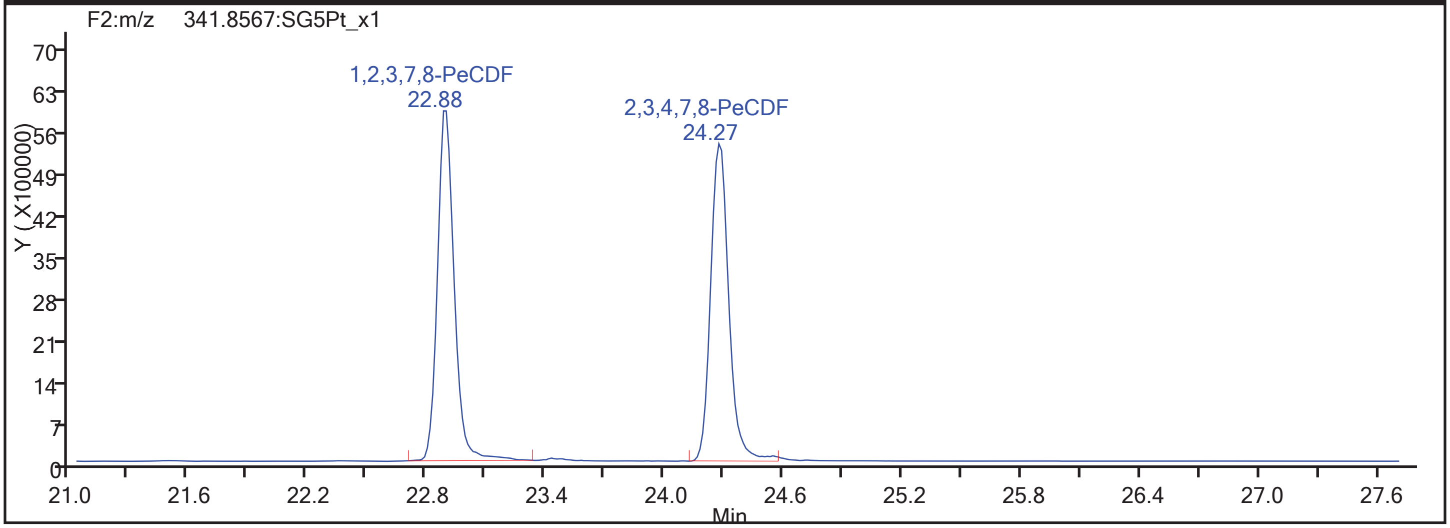

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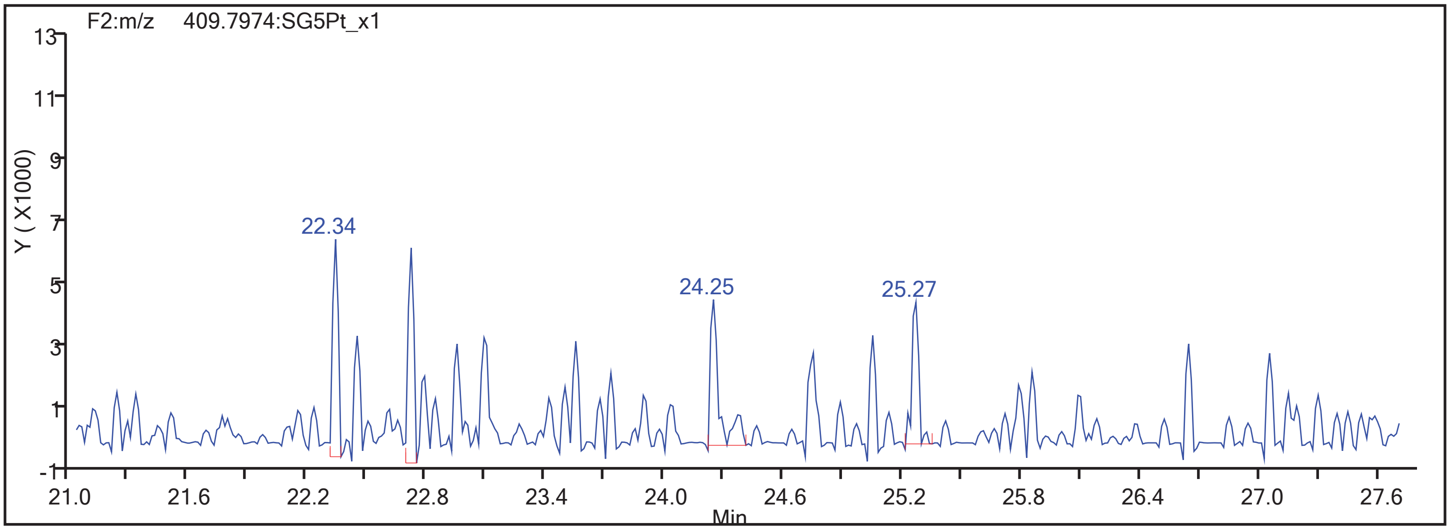

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TestAmerica Sacramento

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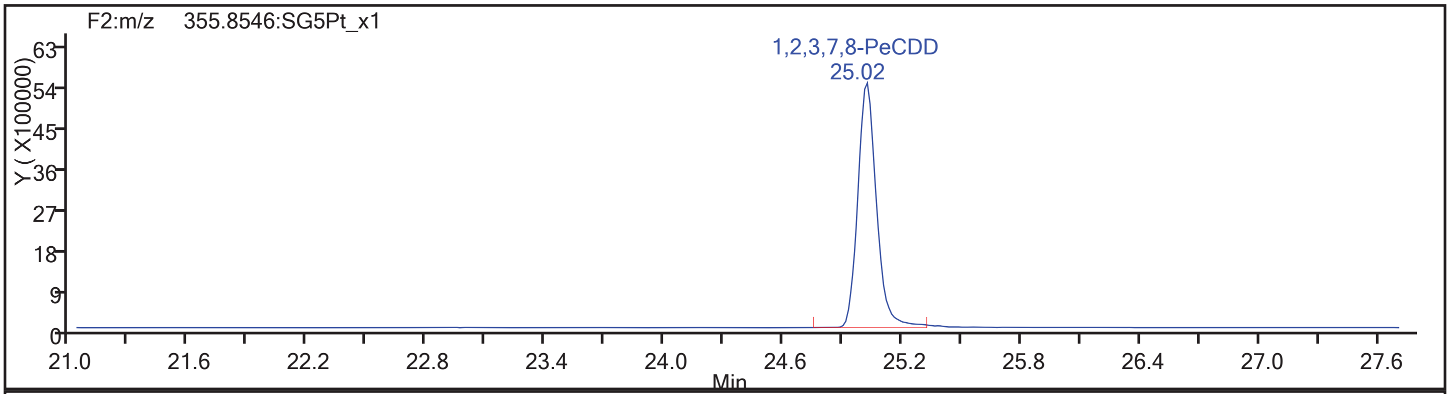

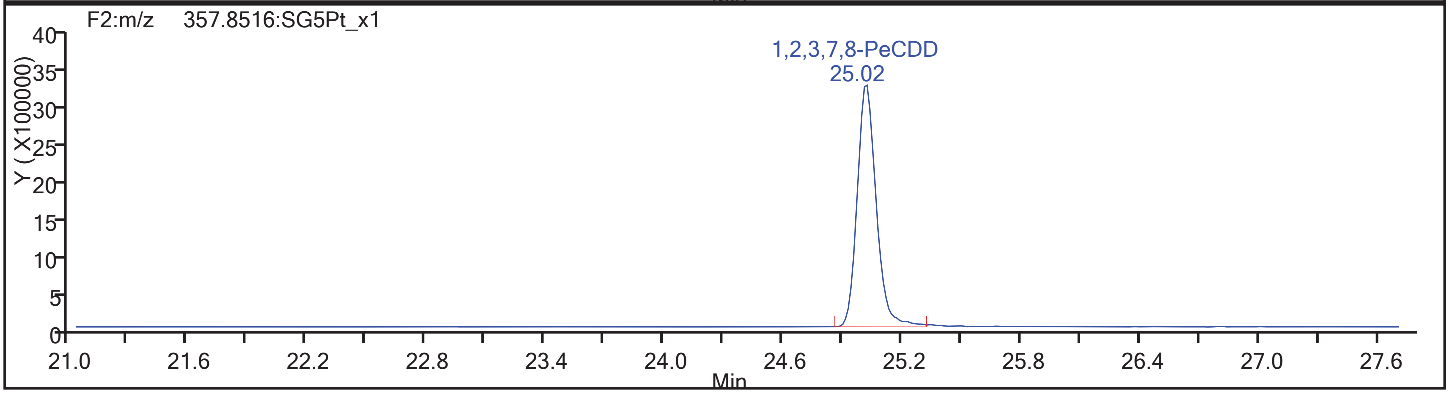

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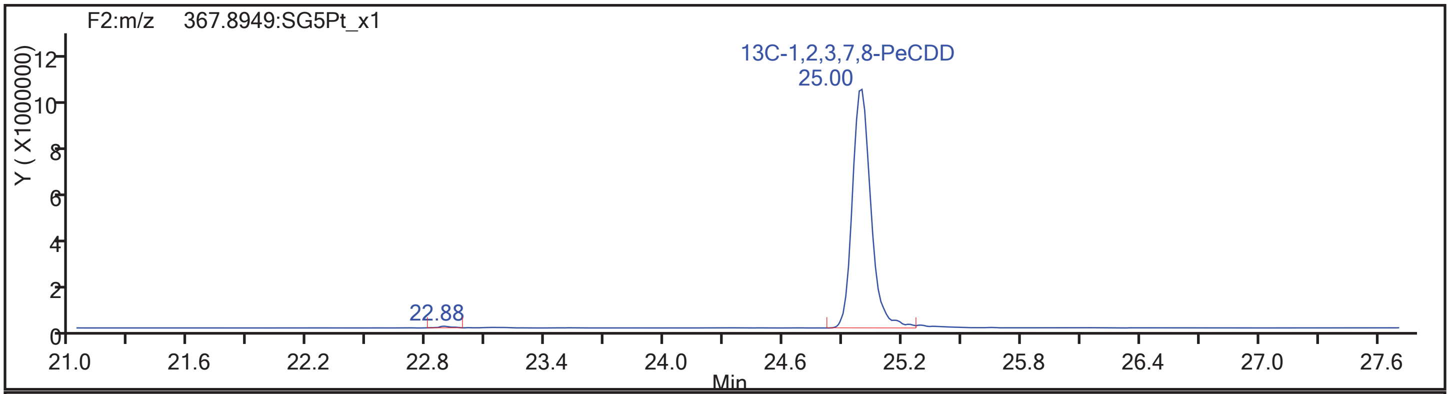

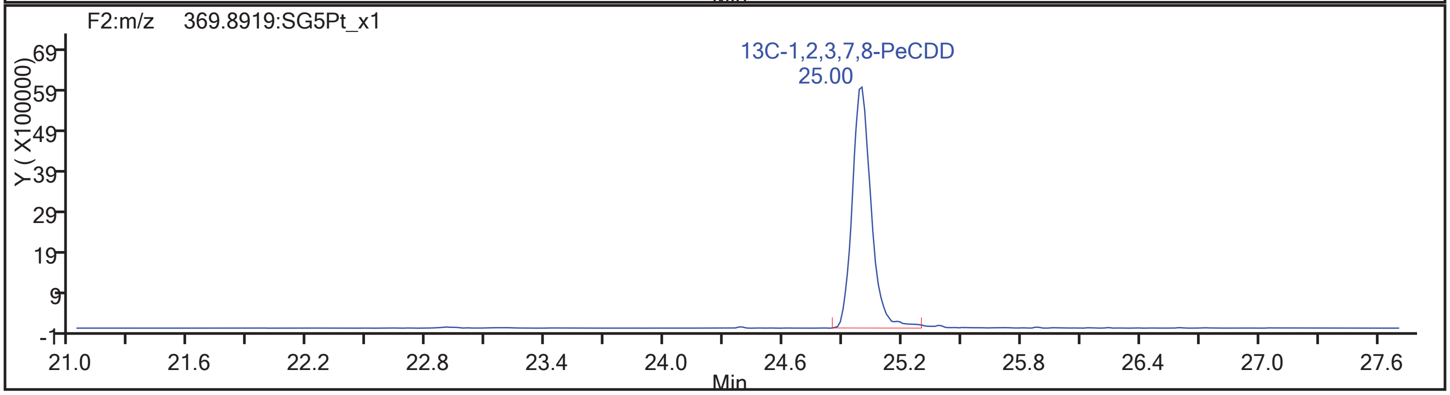

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TestAmerica Sacramento

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Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 195575 Sample Line#: 92

Column Type: Column Dia:

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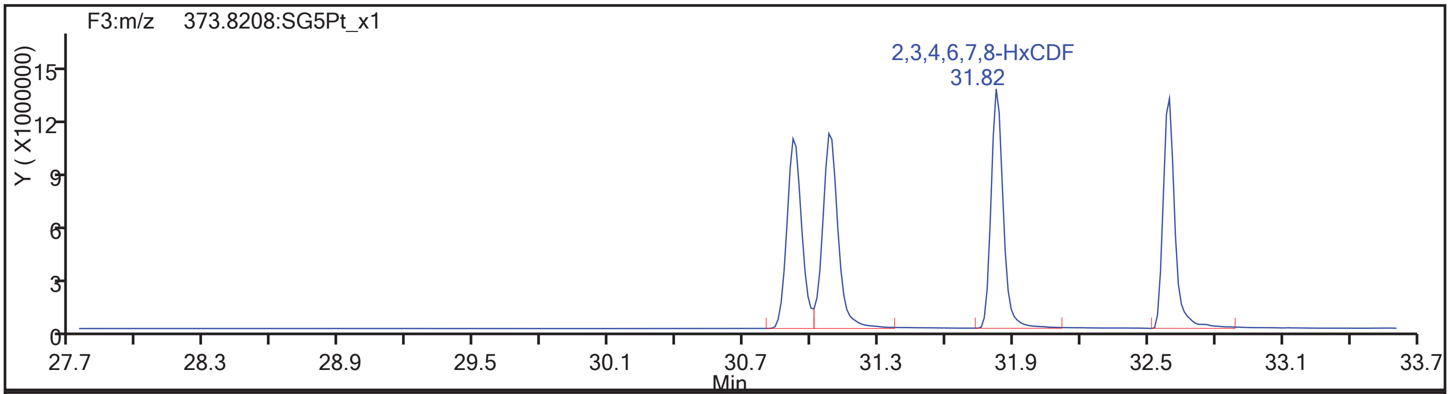

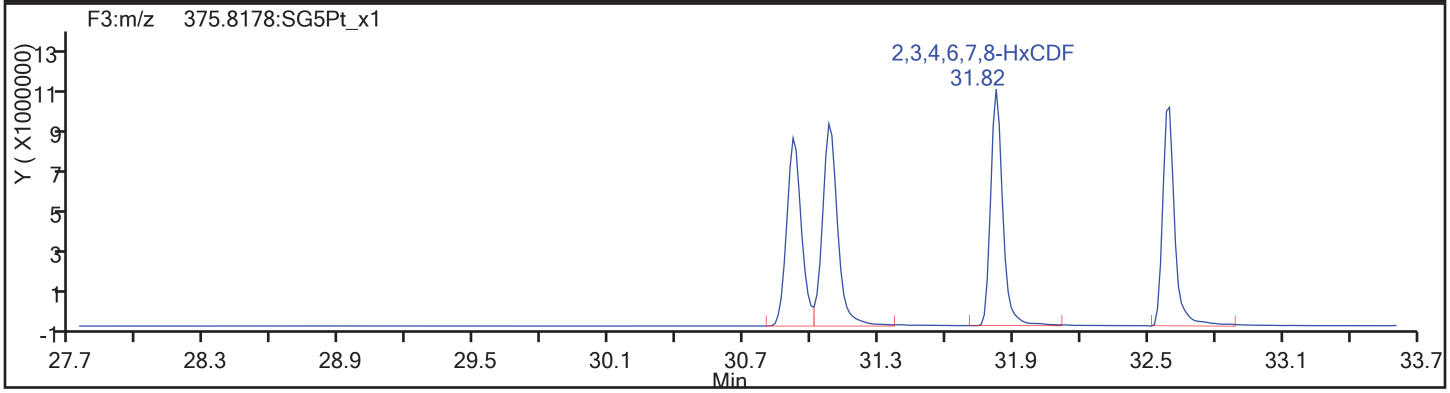

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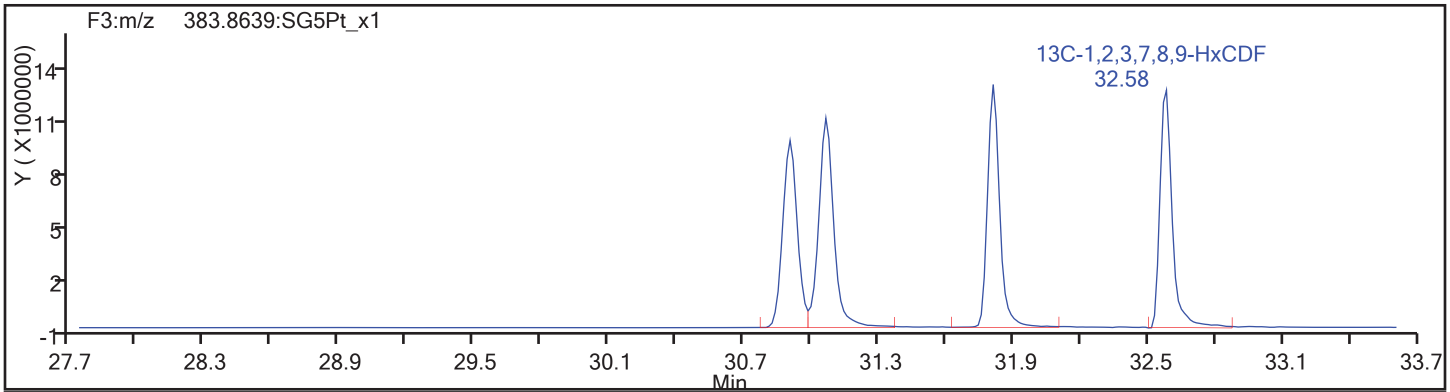

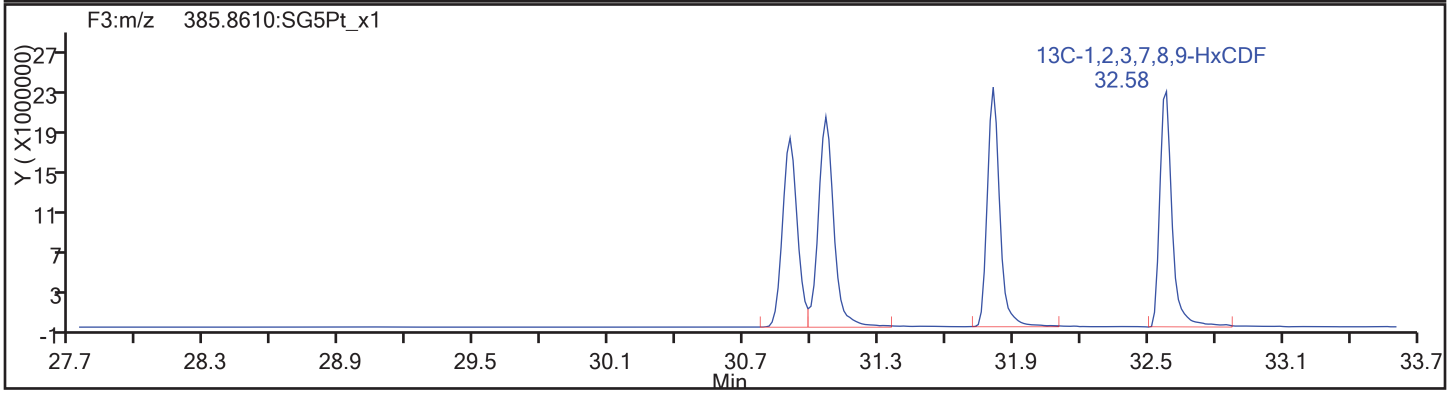

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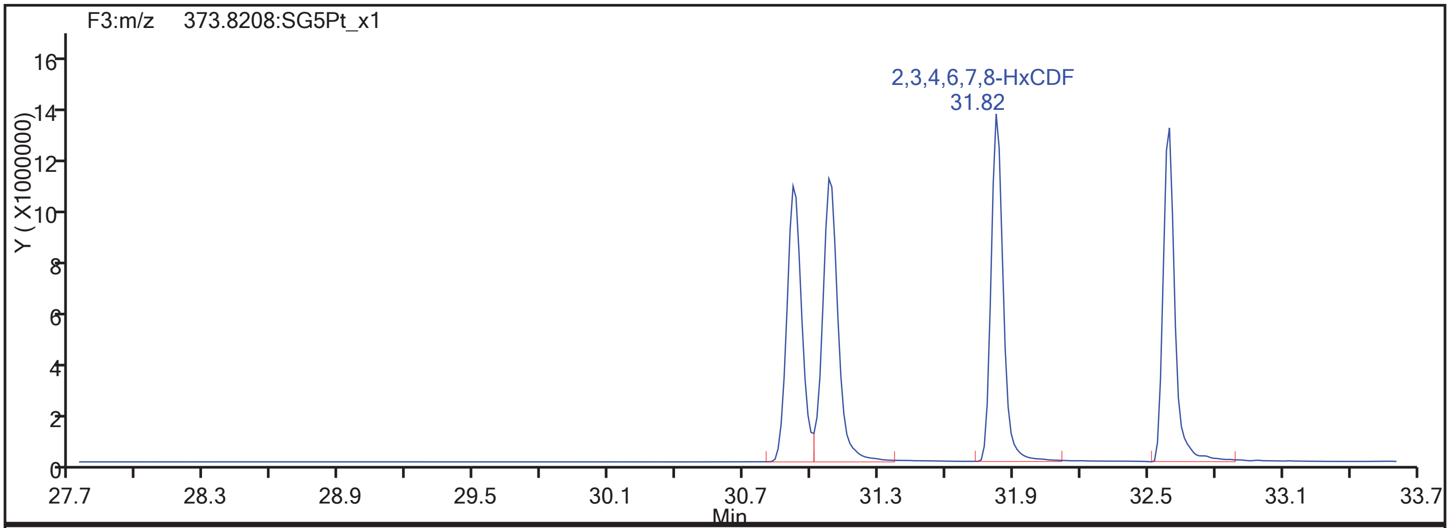
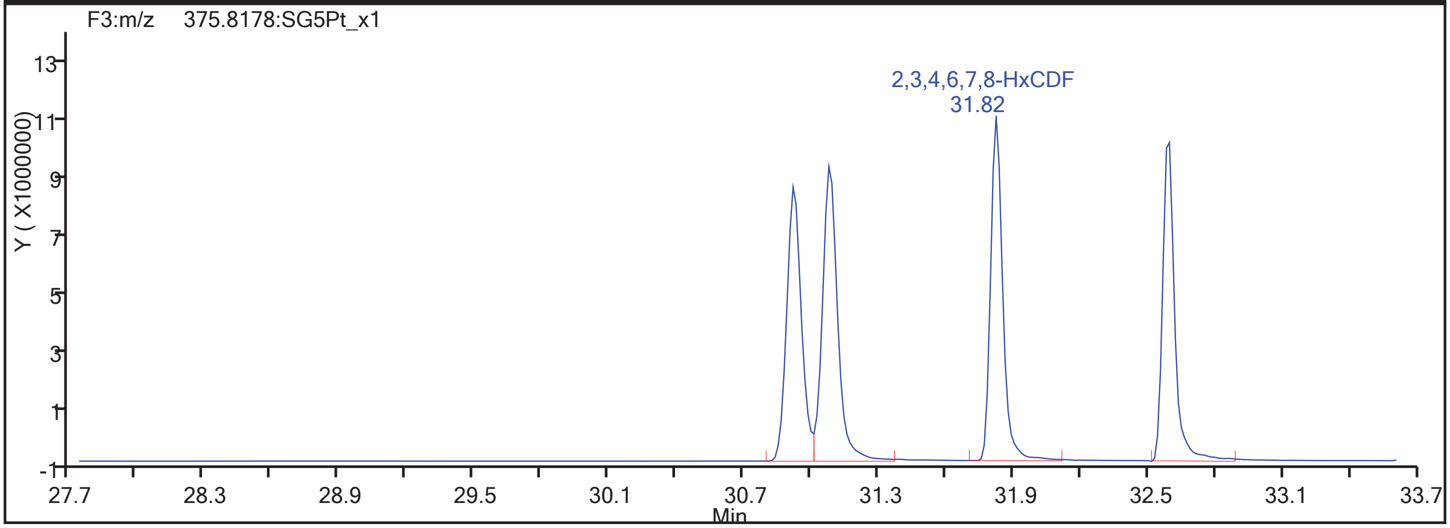
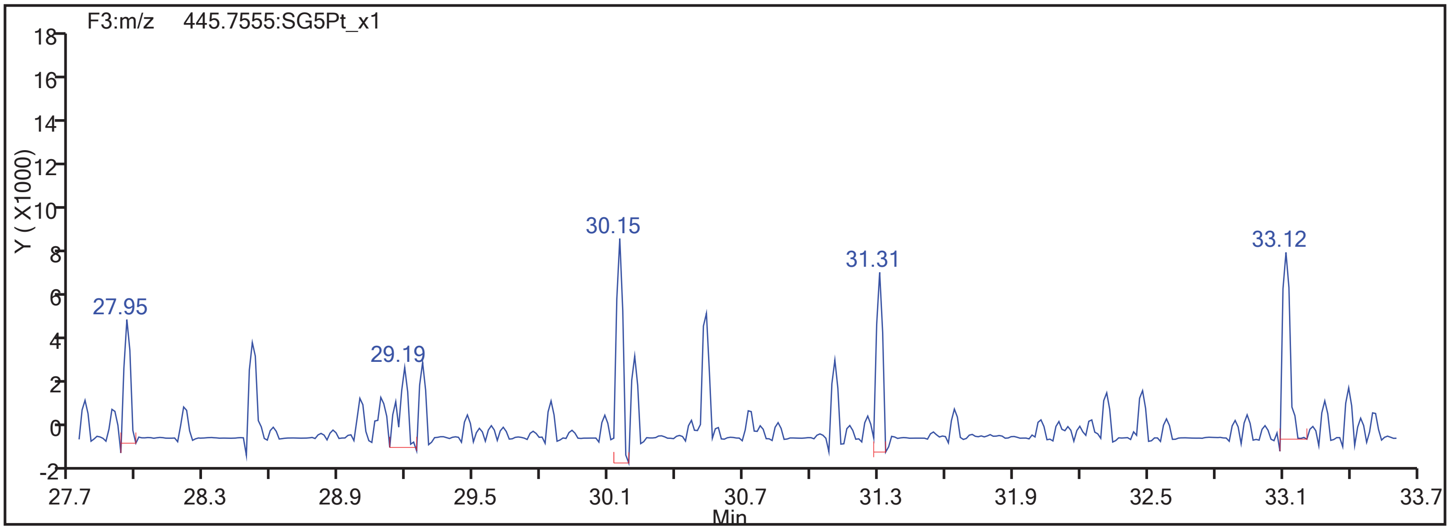




HxCDF Interference Mass



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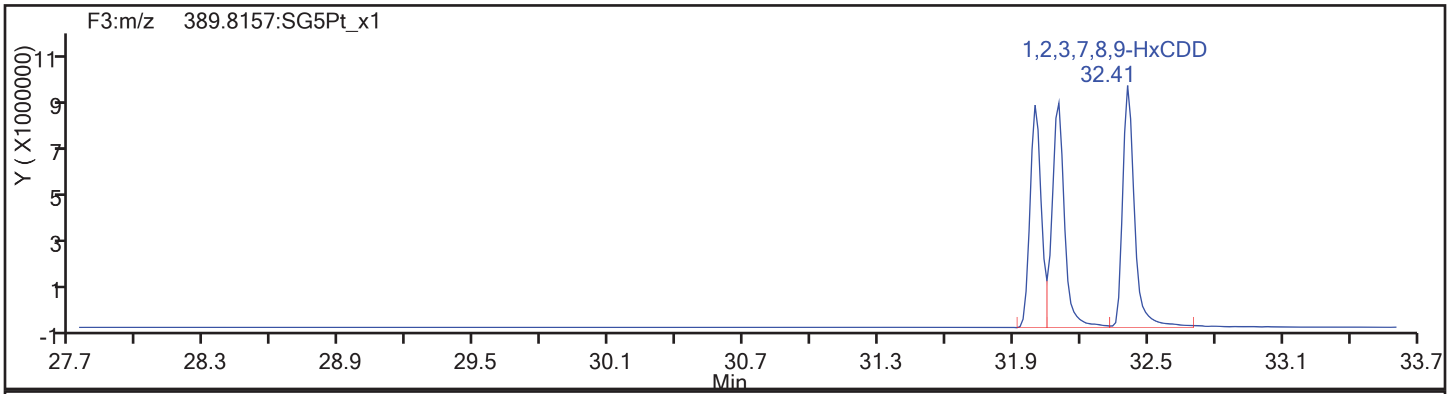

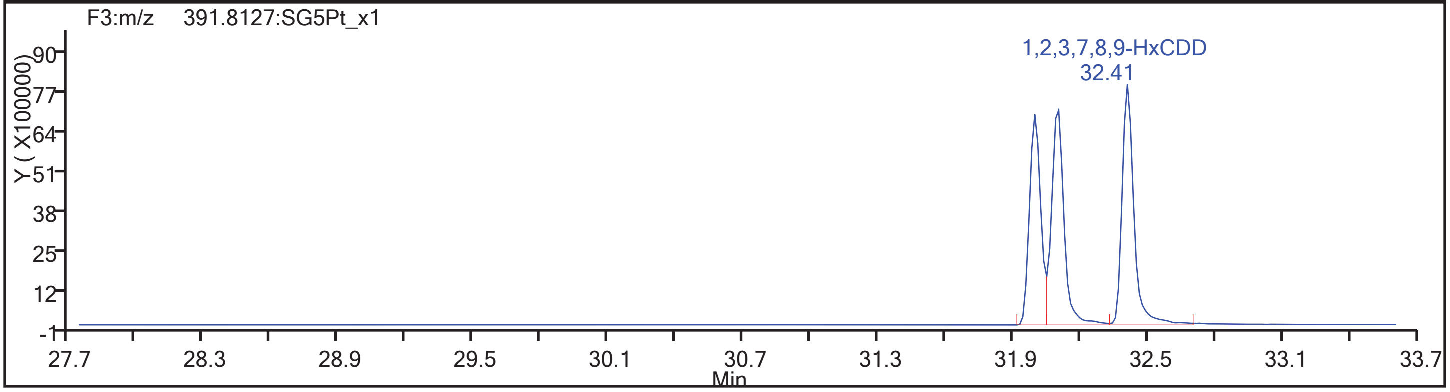

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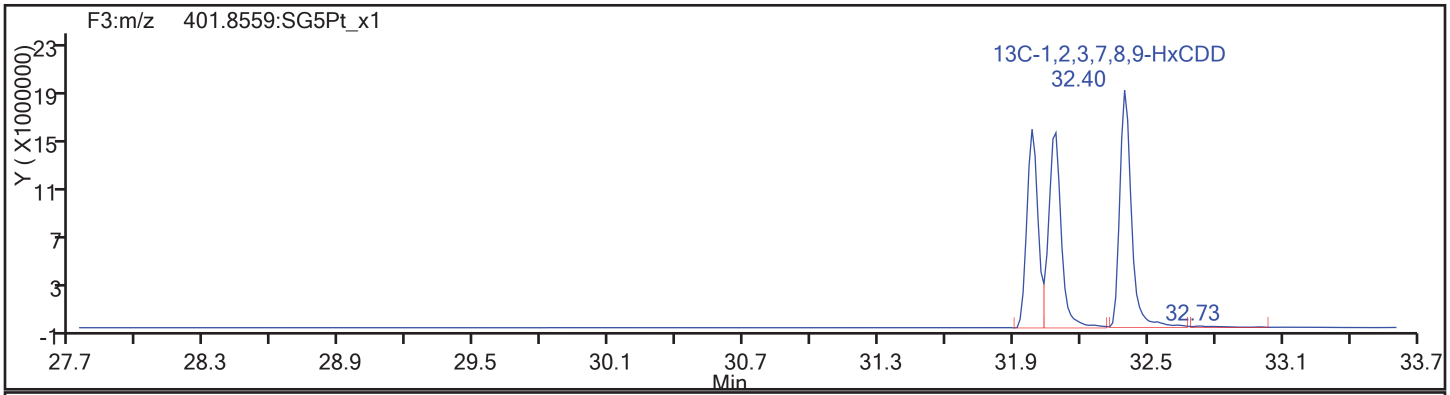

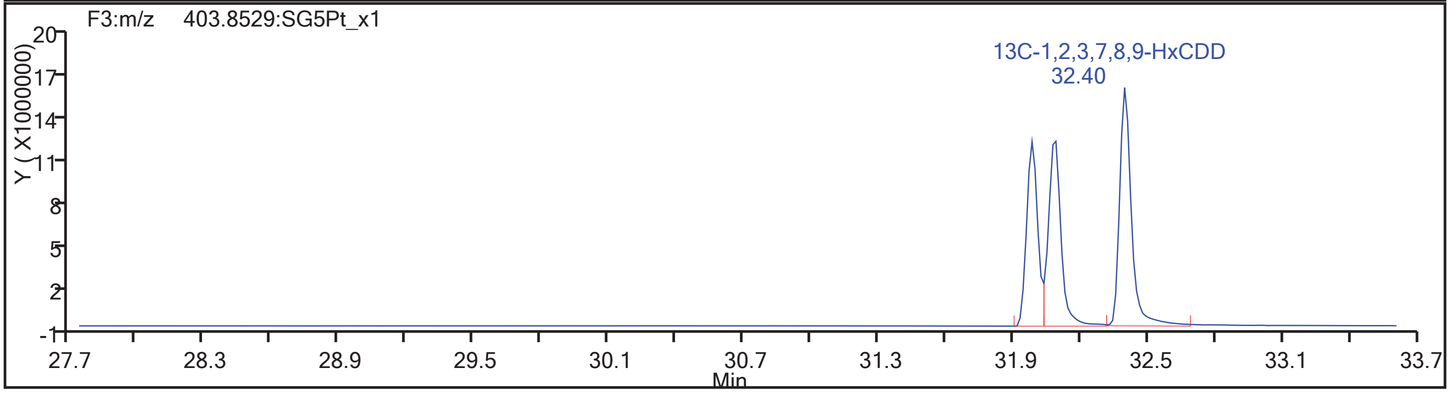

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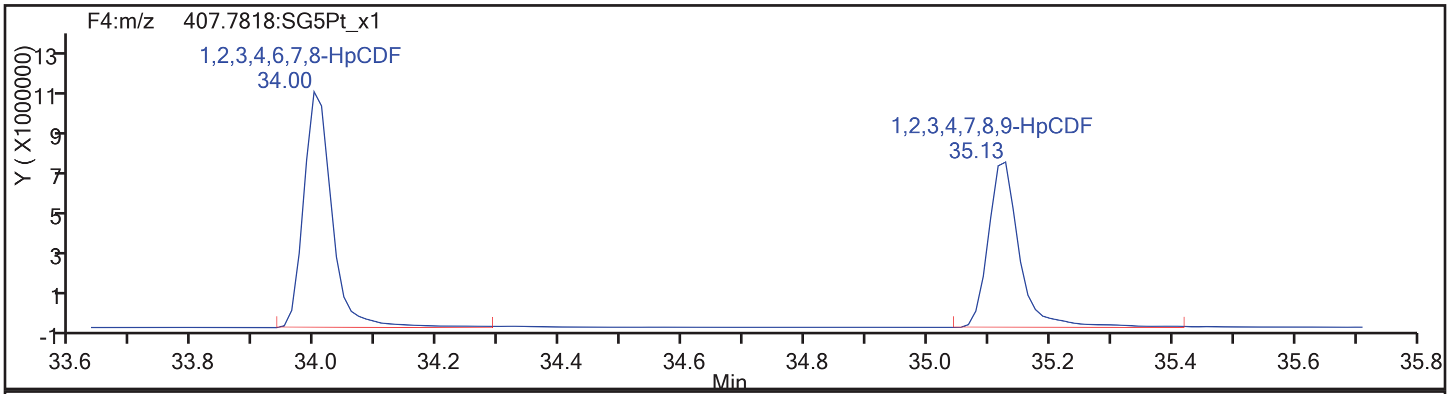

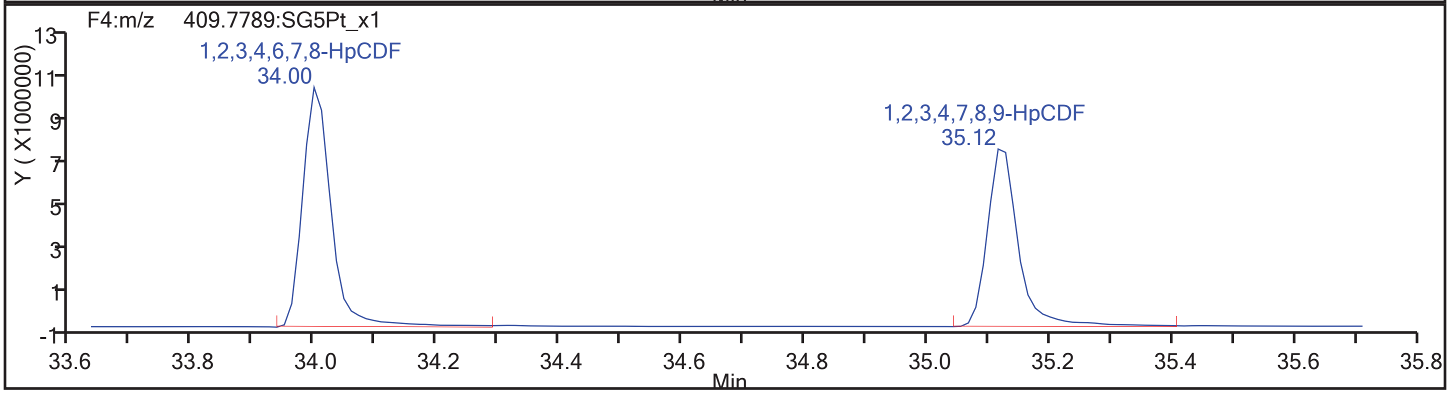

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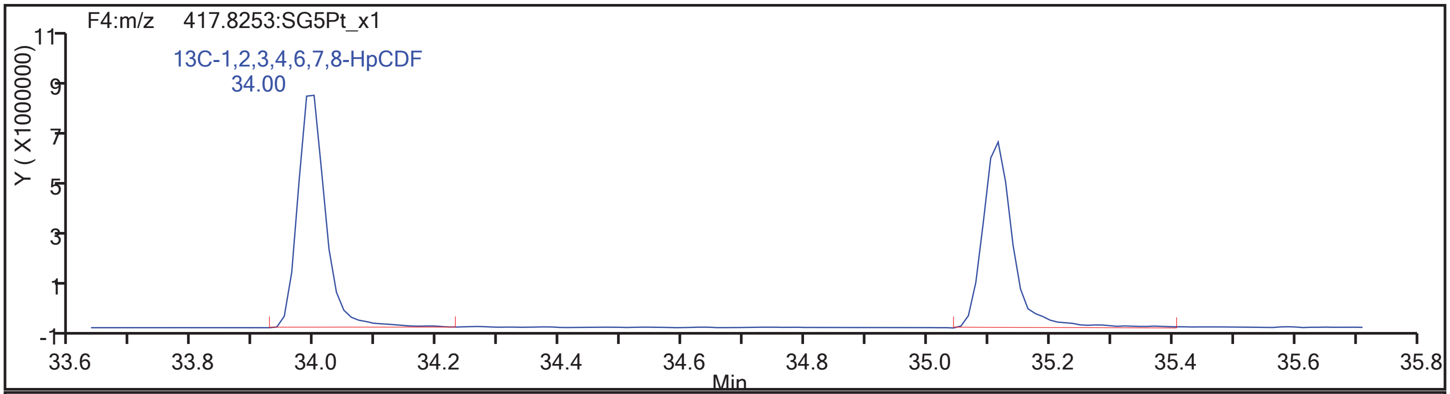

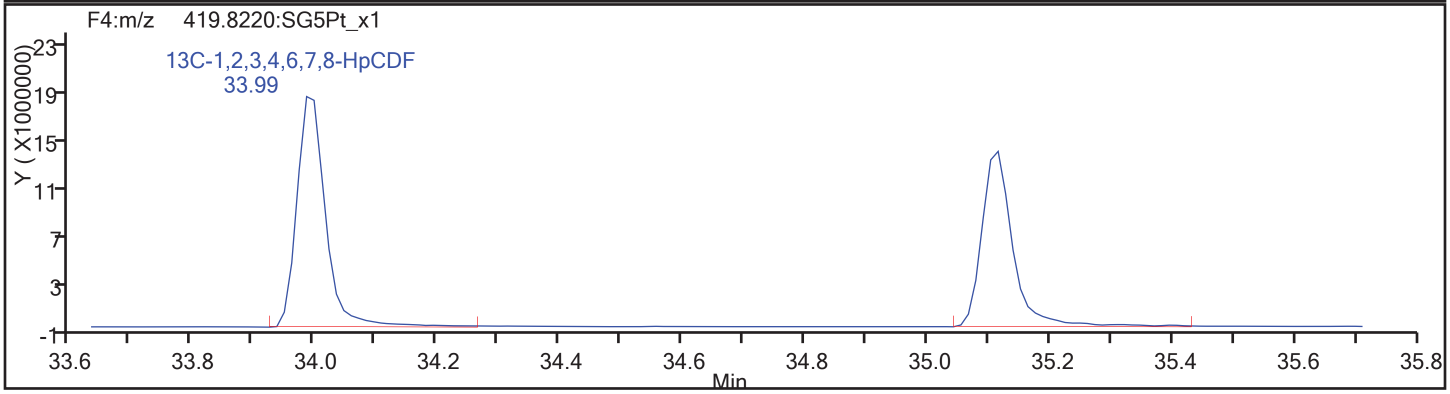

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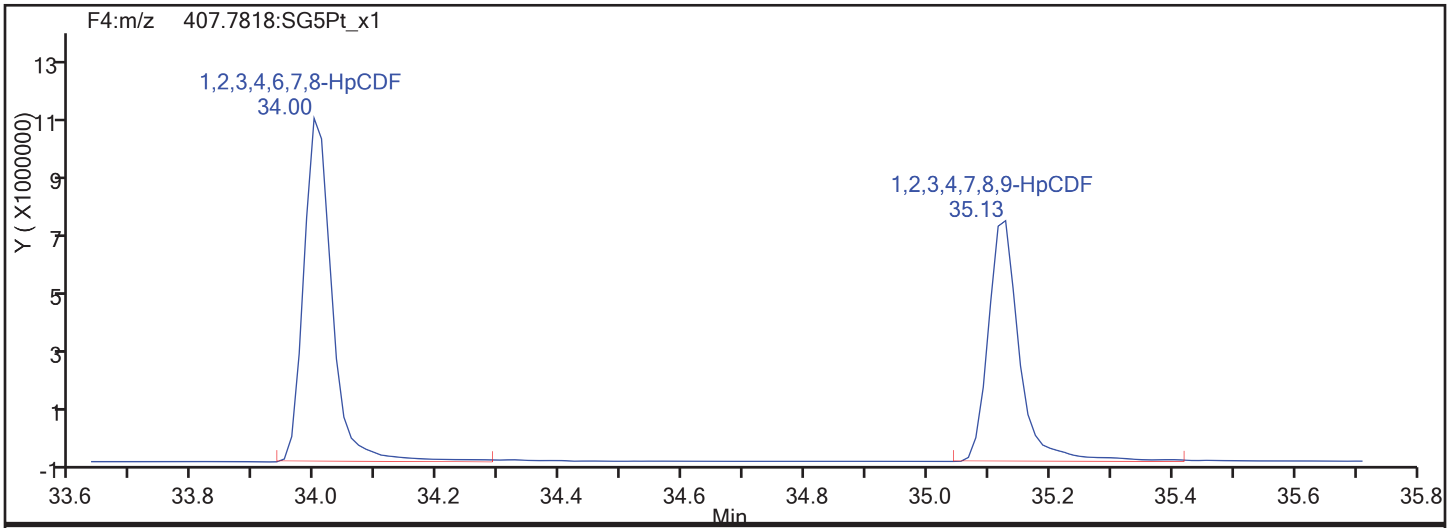

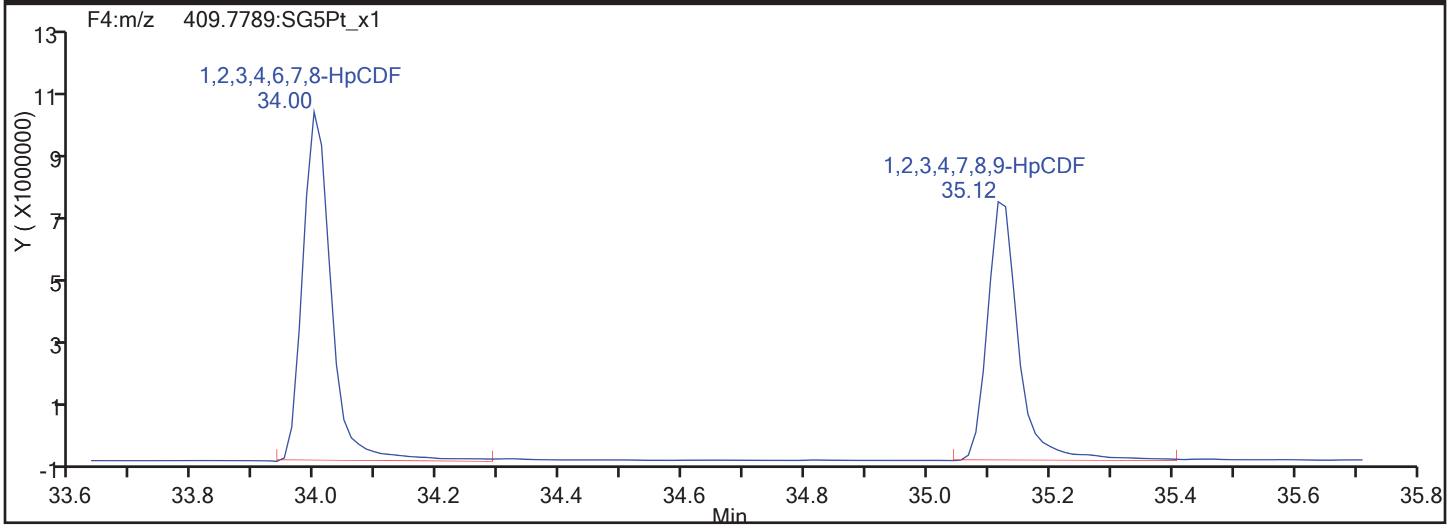

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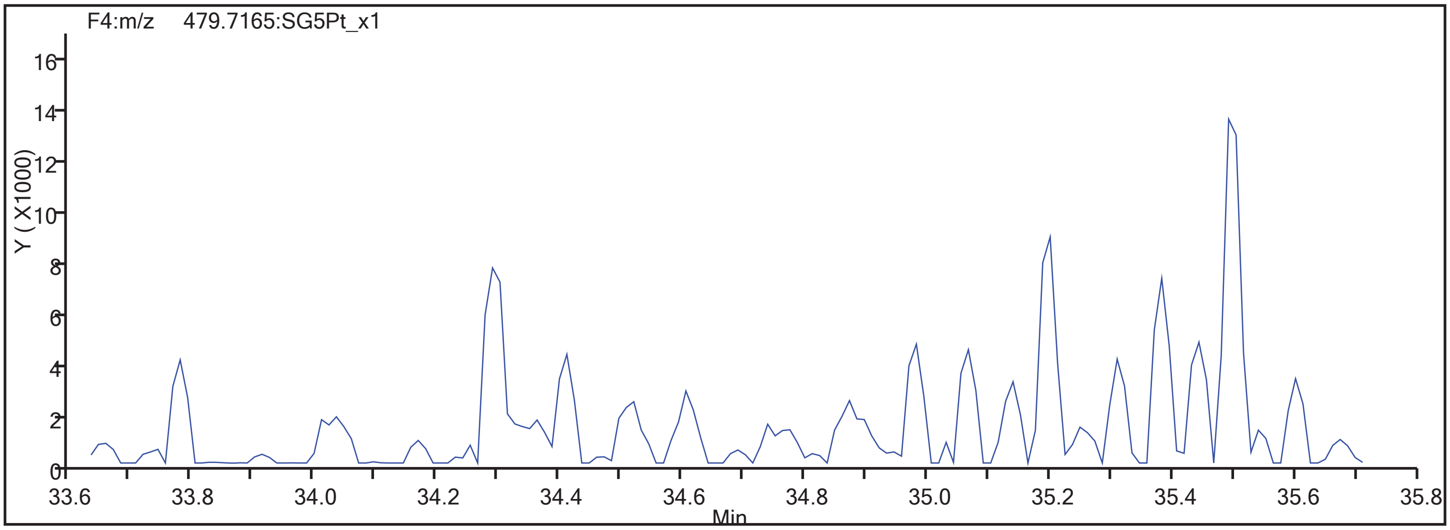

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TestAmerica Sacramento

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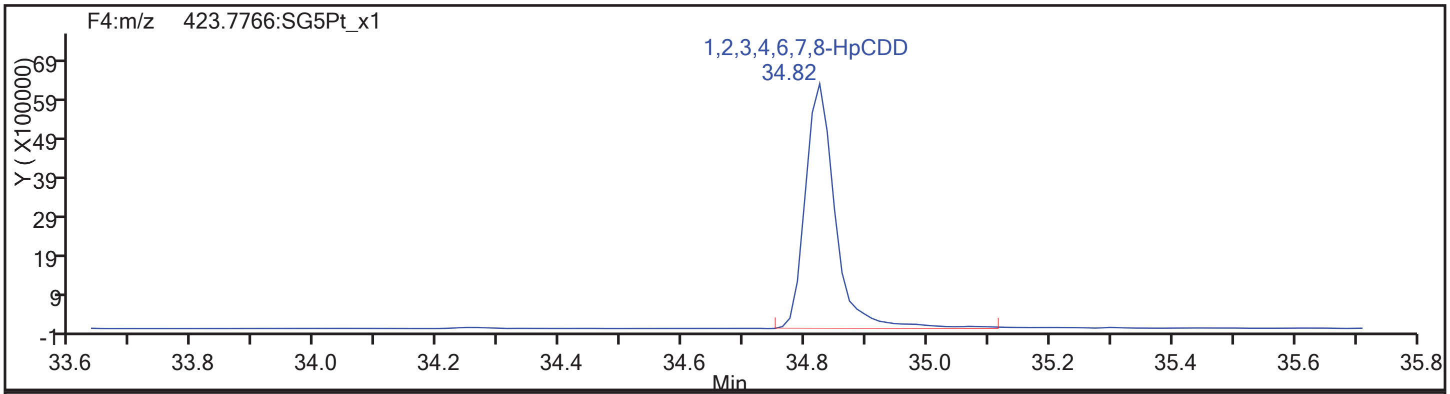

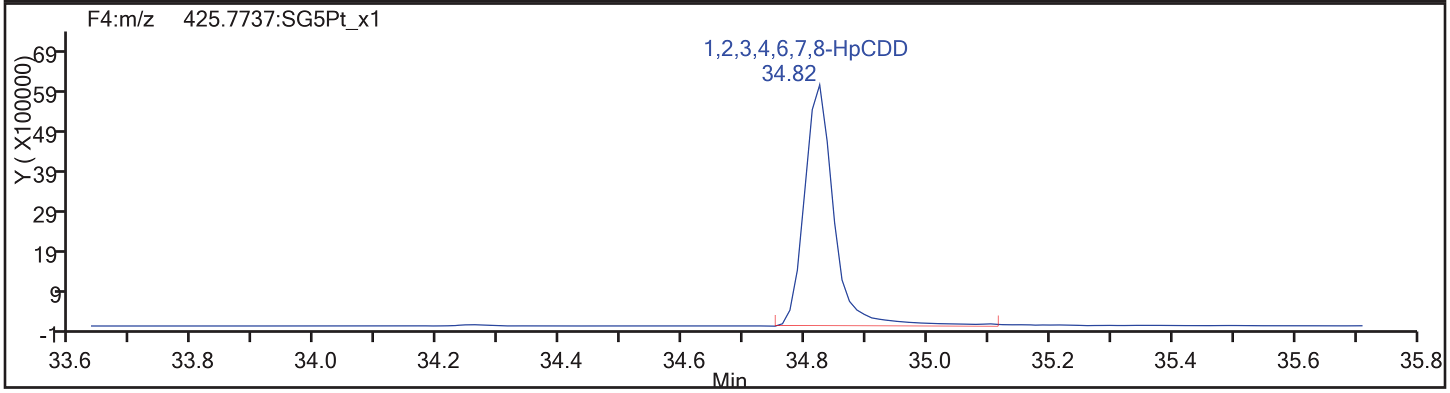

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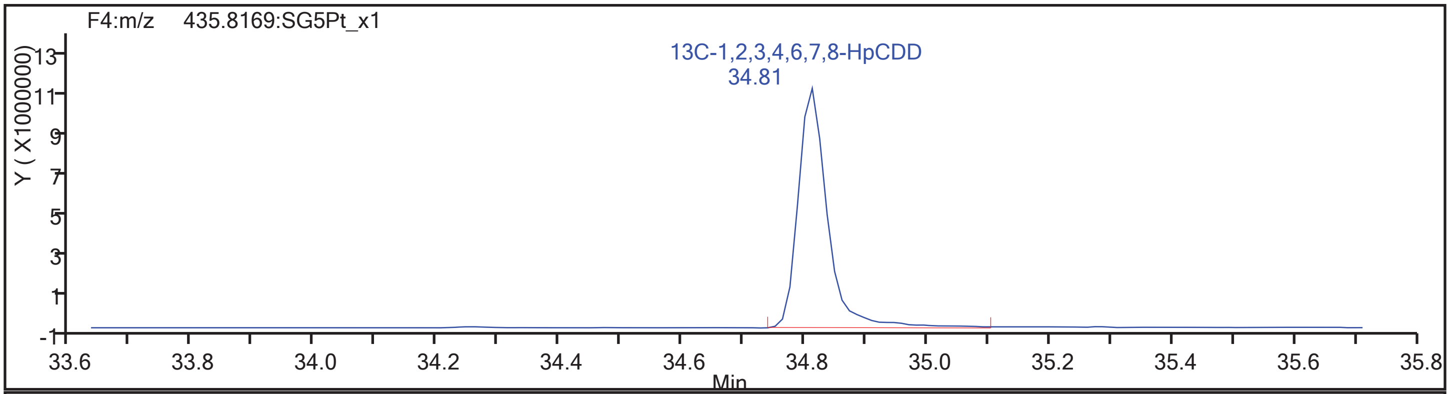

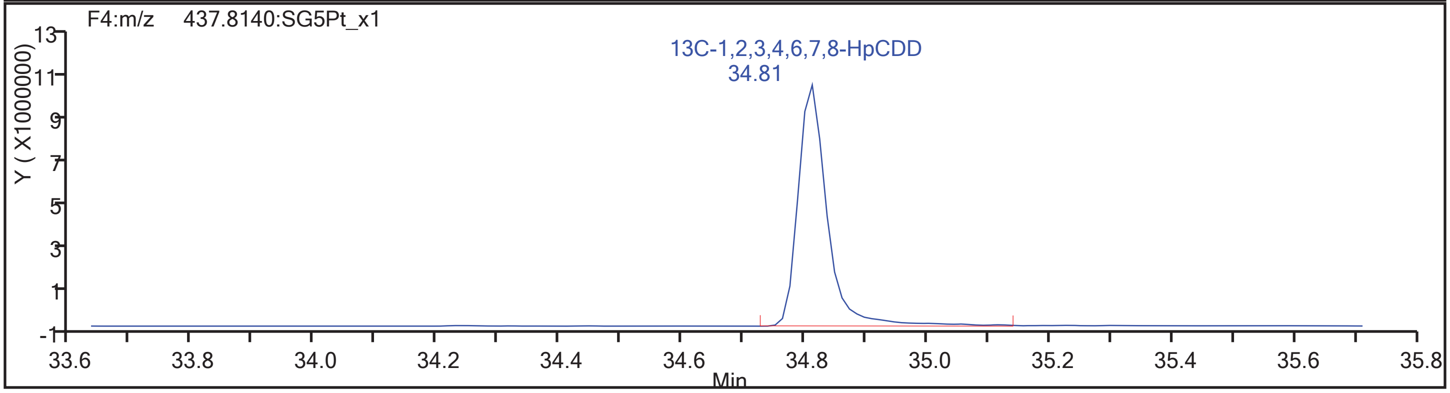

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Client ID:

Worklist#: 195575 Sample Line#: 92

Column Type: Column Dia:

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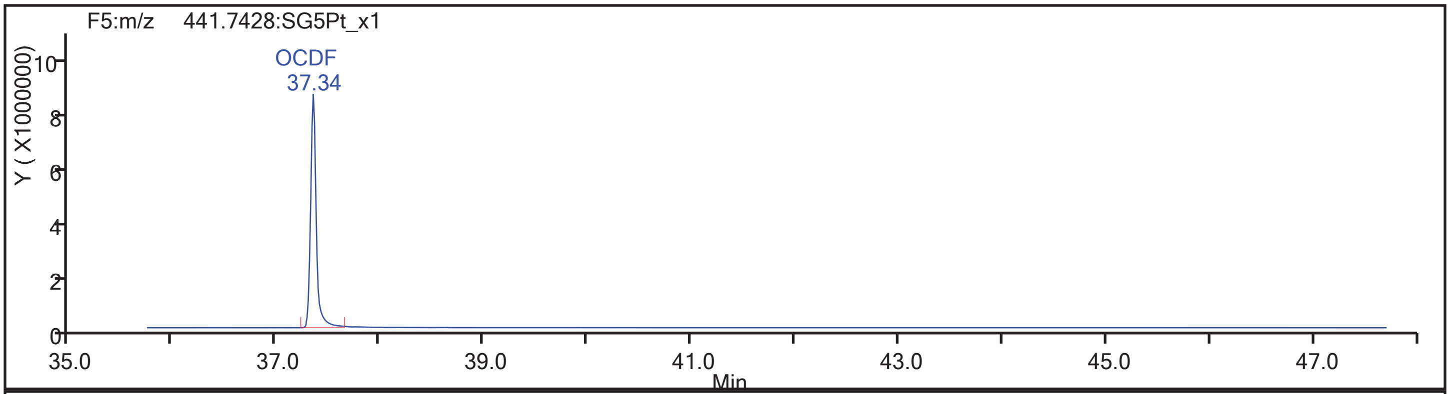

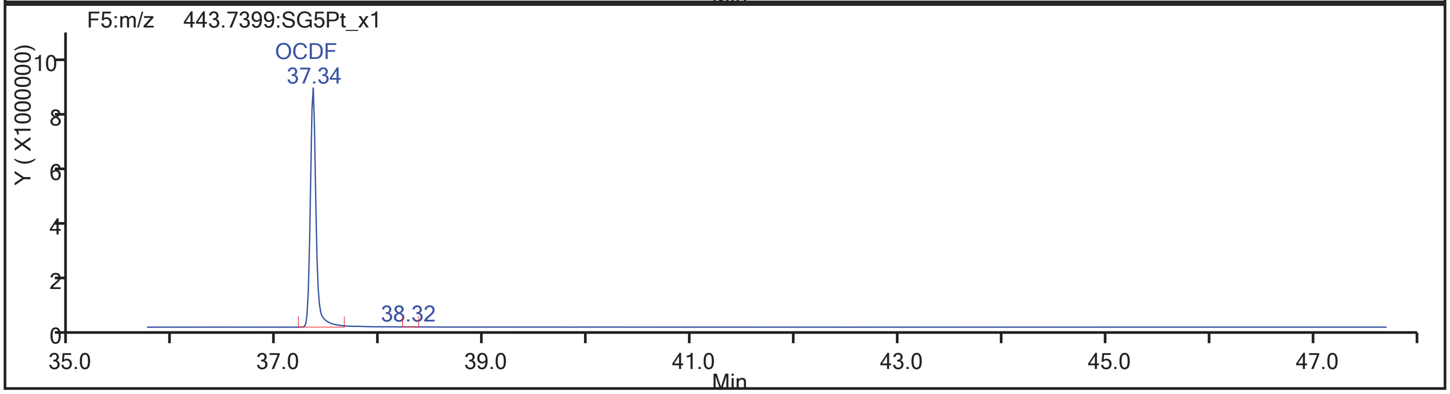

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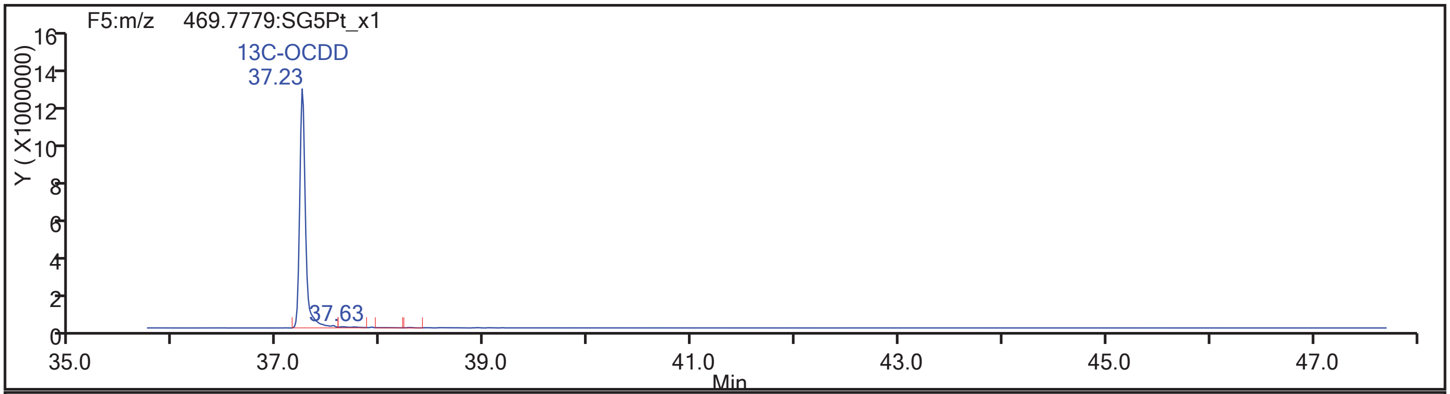

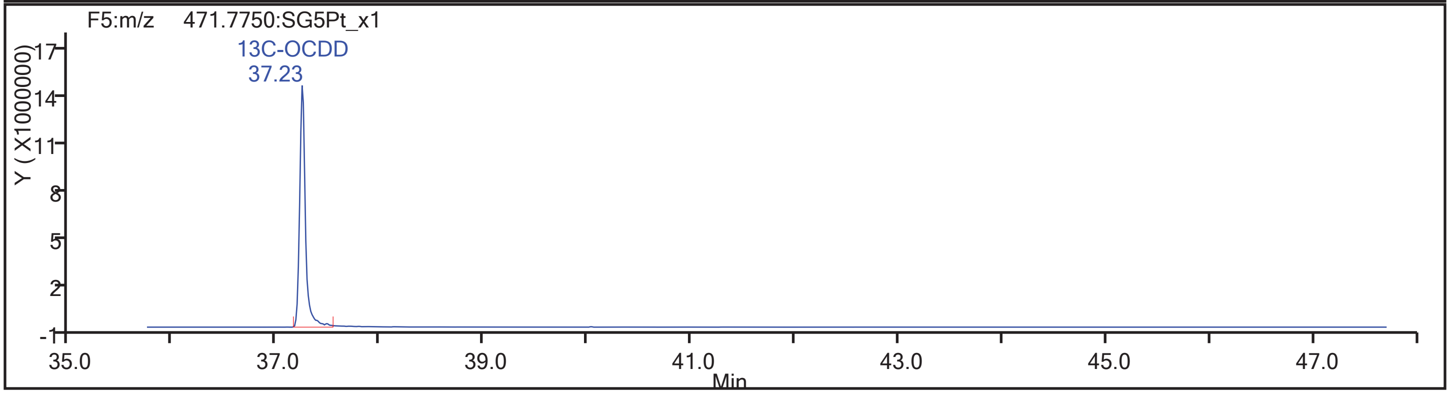

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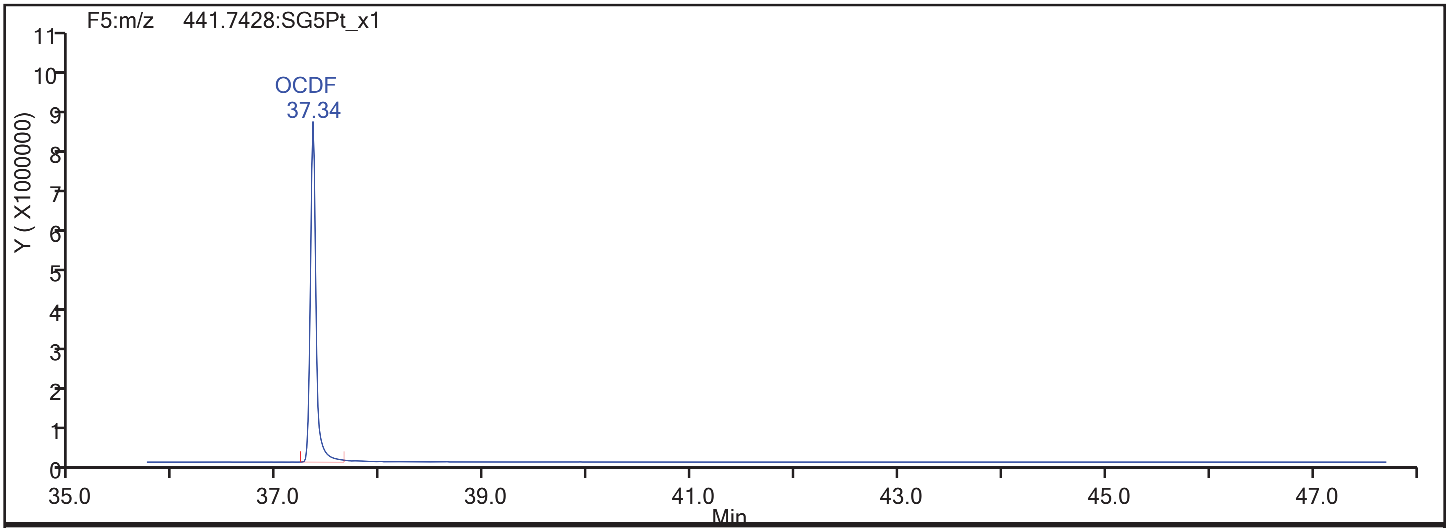
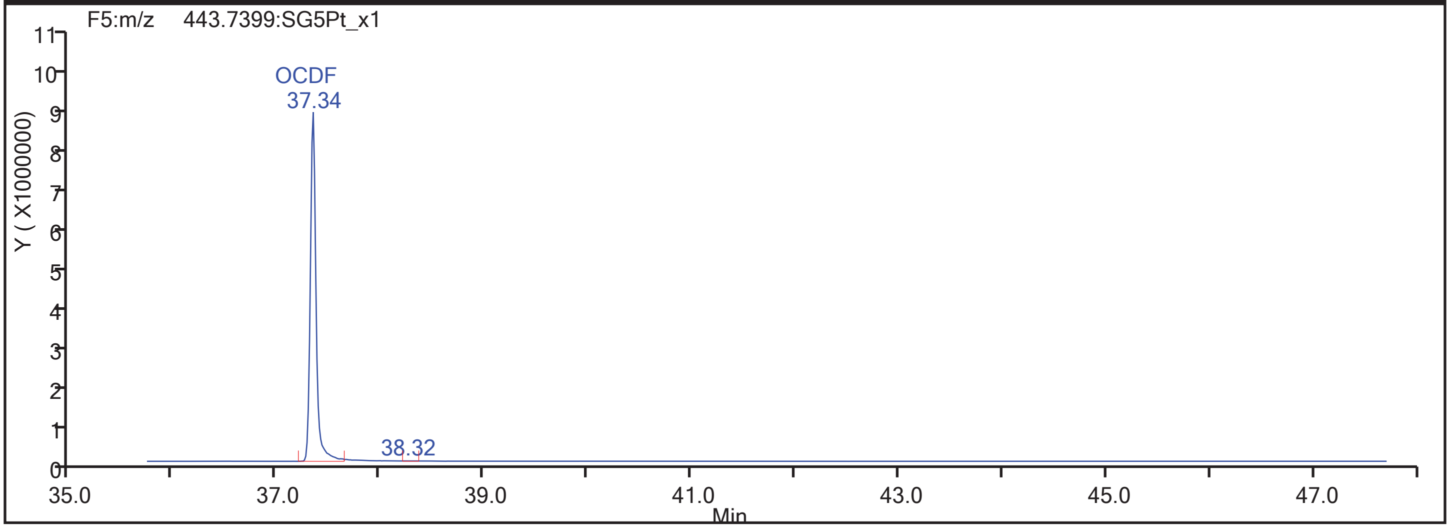
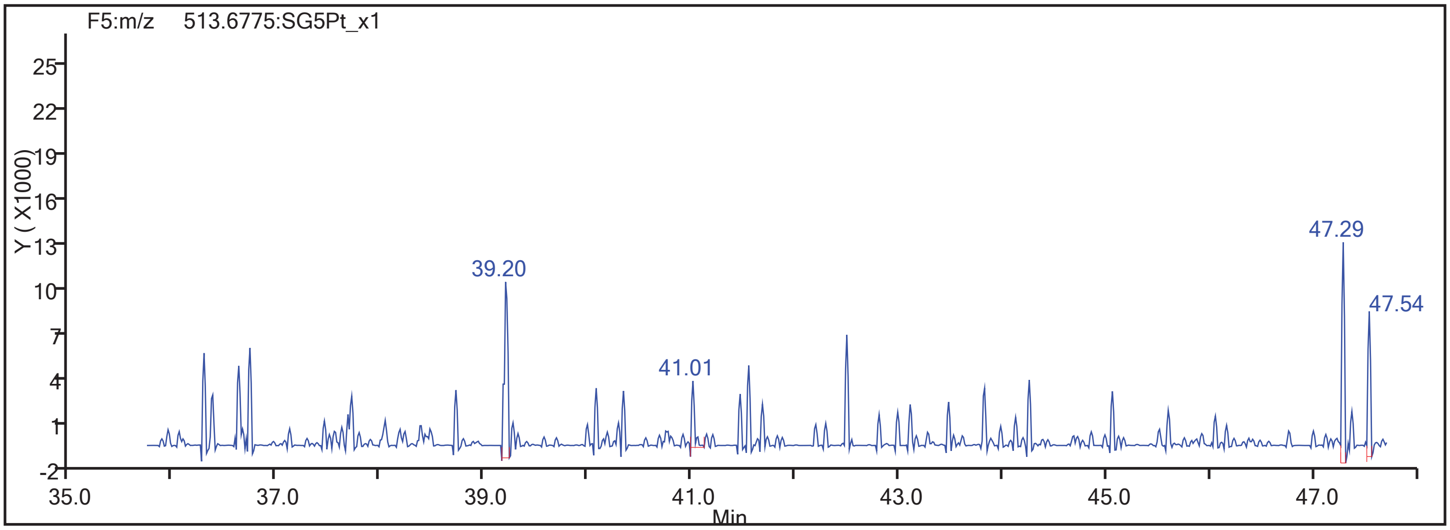




OCDF Interference Mass



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TestAmerica Sacramento

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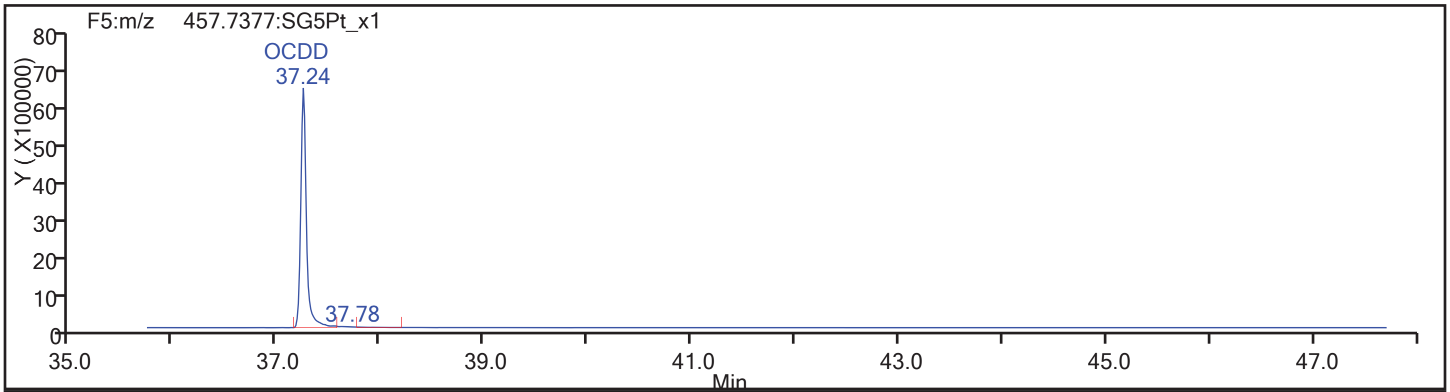
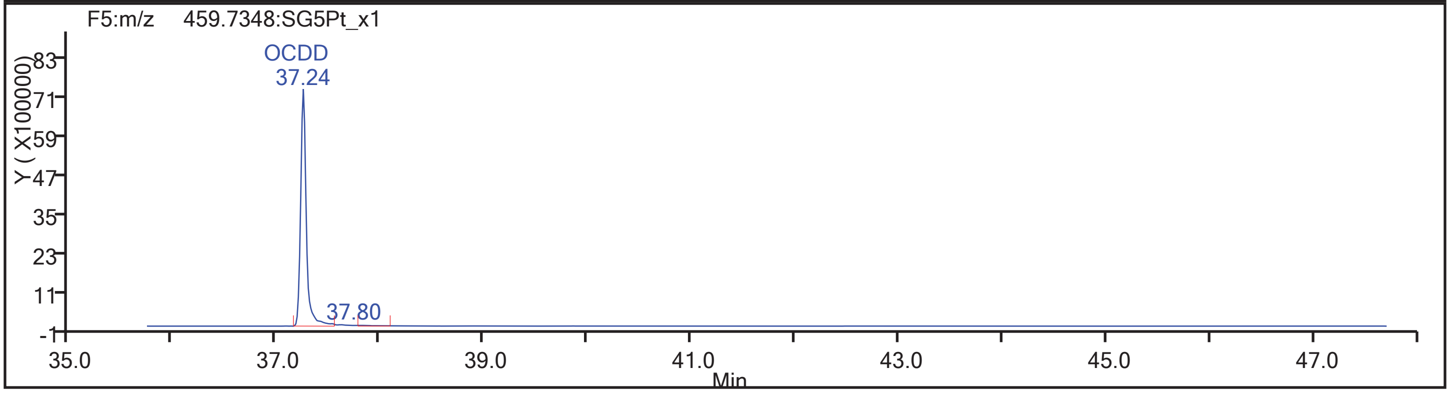
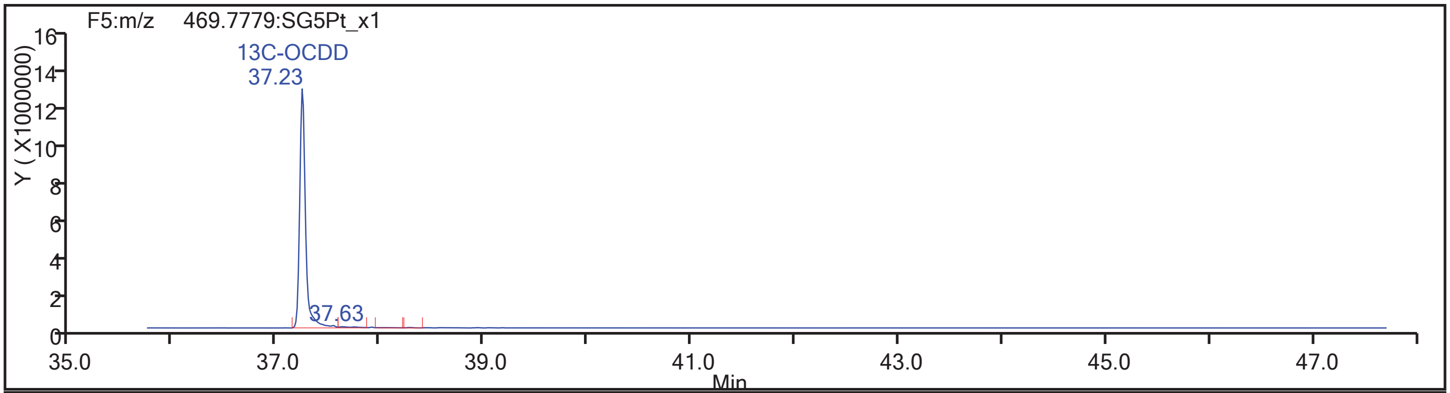
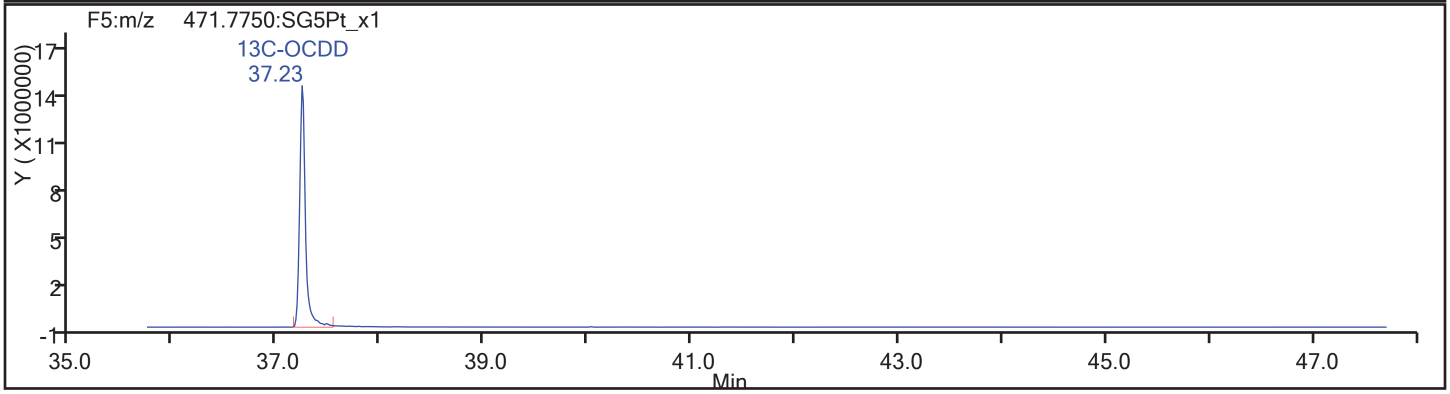




OCDD Standards





Report Date: 20-Nov-2017 11:49:42   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_92.d

Injection Date: 19-Nov-2017 20:53:37   Injection Vol: 2.0 ul

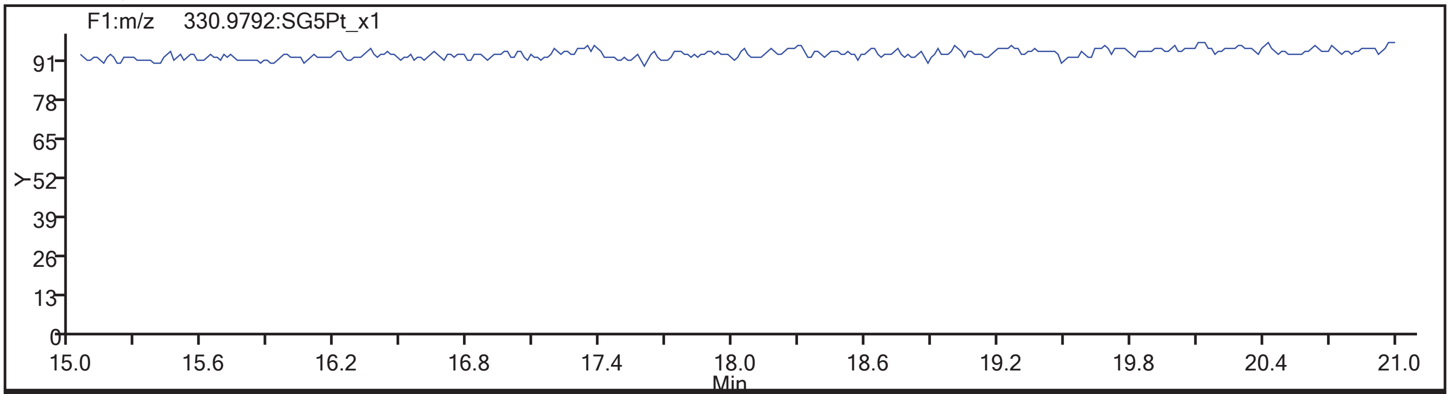
Instrument ID: 3D5   Operator ID: SMA, ALM

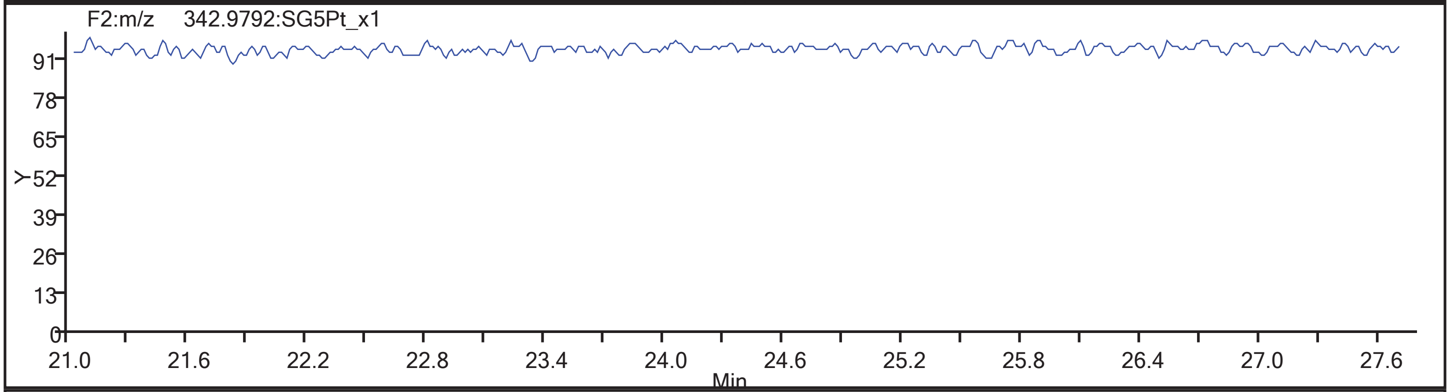
Method: Dioxin_3D5   Limit Group: HR - 8290A_D5 - ICAL

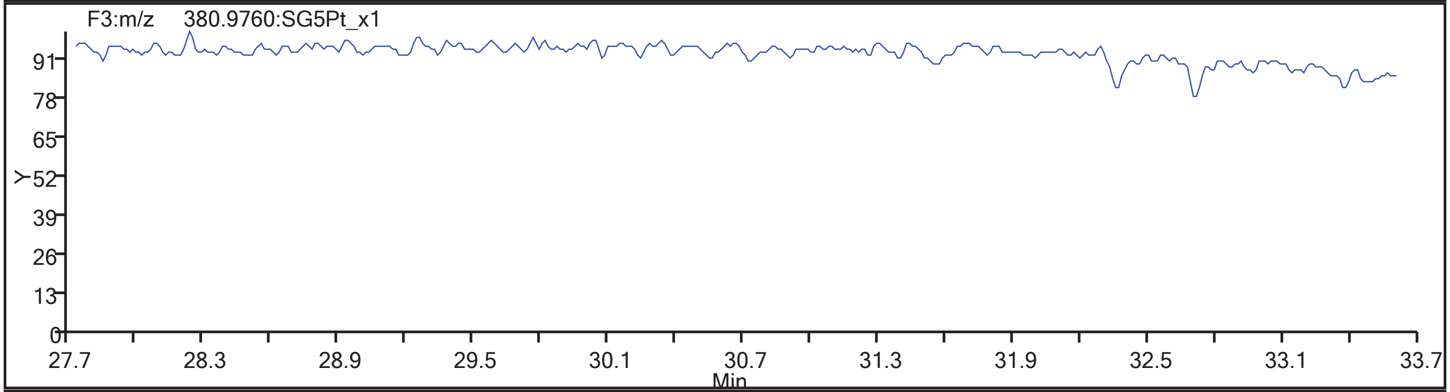
Client ID:

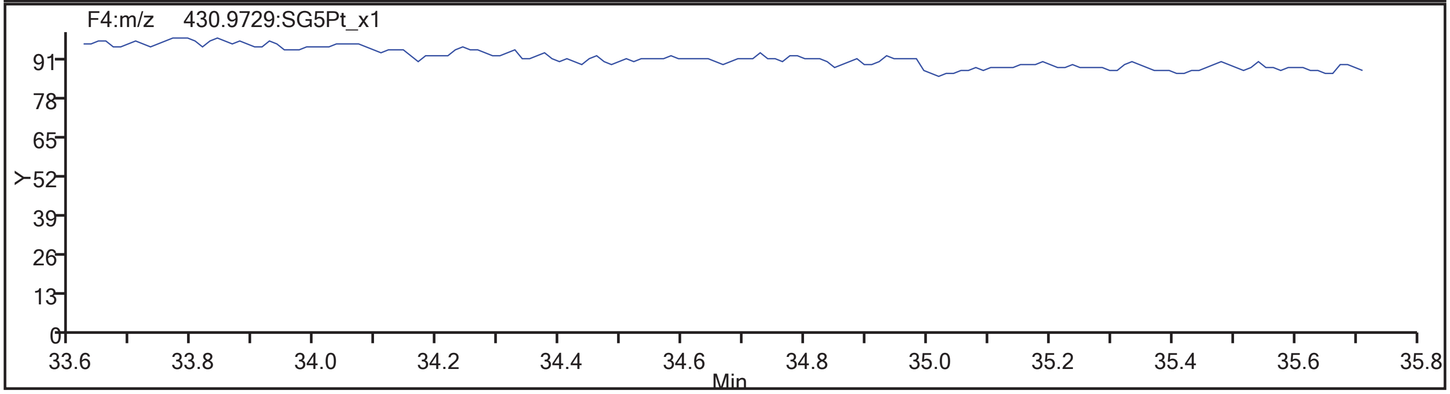
Worklist#: 195575   Sample Line#: 92

Column Type: Column Dia:



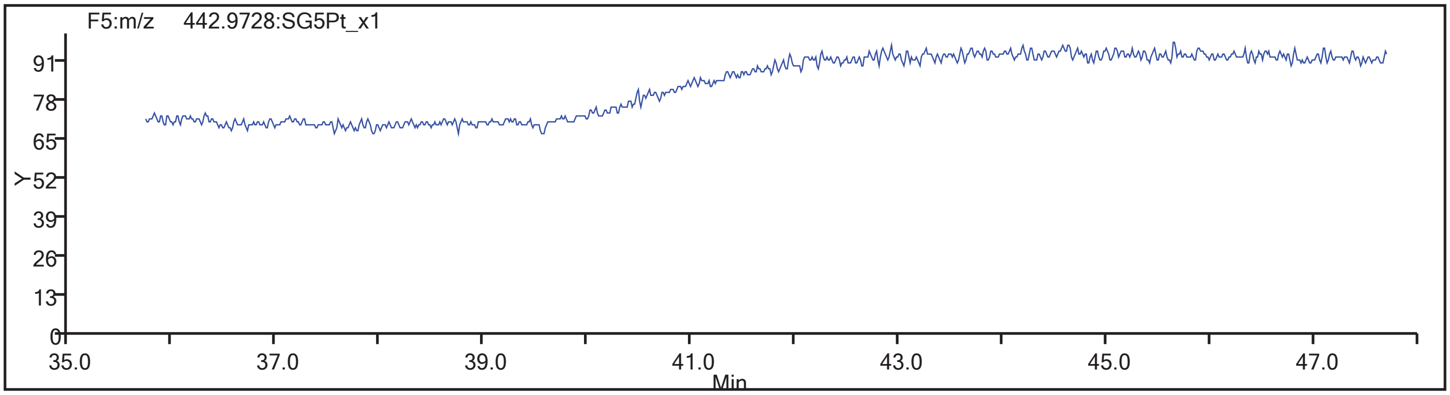






TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_92.d
Injection Date: 19-Nov-2017 20:53:37
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195575
Sample Line#: 92
Column Type:
Column Dia:



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: ICV 320-153001/7 Calibration Date: 03/02/2017 17:14

Instrument ID: 9D2 Calib Start Date: 03/02/2017 14:04

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 03/02/2017 16:36

Lab File ID: 02MR179D2_007.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDD	AveID	1.112	1.079		38.8	40.0	-3.0	20.0
2,3,7,8-TCDF	AveID	1.078	1.067		39.6	40.0	-1.0	20.0
13C-2,3,7,8-TCDD	Ave	0.9567	0.9632		101	100	0.7	
13C-2,3,7,8-TCDF	Ave	1.260	1.248		99.0	100	-1.0	
37Cl4-2,3,7,8-TCDD	Ave	1.121	1.166		20.8	20.0	4.0	

FORM VII 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_007.d				
Lims ID:	ICV				
Client ID:					
Sample Type:	ICV				
Inject. Date:	02-Mar-2017 17:14:07	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	2nd Source HRDXNIC_00031				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:					
Method:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	03-Mar-2017 09:14:49	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK026				

First Level Reviewer: stephensk Date: 03-Mar-2017 09:06:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.186	331086860	0.75	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.339	413032199	0.81	1.2599	99.0	99.0	0.1877	0.1877	99.02	
2,3,7,8-TCDF	16.352	176309808	0.72	1.0784	39.6	39.6	0.0564	0.0564	98.95	
D 13C-2,3,7,8-TCDD	14.926	318890217	0.77	0.9567	100.7	100.7	0.1262	0.1262	101	
$ 37Cl4-2,3,7,8-TCDD	14.939	77184629		1.1208	20.8	20.8	0.0207	0.0207	104	
2,3,7,8-TCDD	14.939	137665317	0.81	1.1123	38.8	38.8	0.0519	0.0519	97.03	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNIC_00031 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_007.d				
Lims ID:	ICV				
Client ID:					
Sample Type:	ICV				
Inject. Date:	02-Mar-2017 17:14:07	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	2nd Source HRDXNIC_00031				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:					

Method:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m		
Limit Group:	HR - 8290A_D5 - ICAL		
Last Update:	03-Mar-2017 09:14:49	Calib Date:	02-Mar-2017 16:36:13
Integrator:	Picker		
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d		

Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR
Process Host:	XAWRK026		

First Level Reviewer: stephensk Date: 03-Mar-2017 09:06:28

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.186	15.198	-1		142286560	30190362	18739	46847	1611		
333.9339	15.186	15.198	-1		188800300	40356119	15340	38350	2631	0.75(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.339	16.342	0	1.076	184462222	35196981	33819	84547	1041		
317.9389	16.339	16.342	0	1.076	228569977	44188008	32896	82240	1343	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.352	16.366	-1	1.001	73633434	14379416	6913	17282	2080		
305.8987	16.352	16.366	-1	1.001	102676374	20075381	12394	30985	1620	0.72(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.926	14.932	0	0.983	138368684	30900098	18739	46847	1649		
333.9339	14.926	14.932	0	0.983	180521533	39950989	15340	38350	2604	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.939	14.951	-1	0.984	77184629	16702858	6557	16392	2547		
2,3,7,8-TCDD											
319.8965	14.939	14.951	-1	1.001	61740035	13440754	7063	17657	1903		
321.8936	14.939	14.951	-1	1.001	75925282	16735906	9313	23282	1797	0.81(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				6913	17282			
Total Dioxins & Furans											
303.9016		0.0	0				6913	17282			

Reagents:

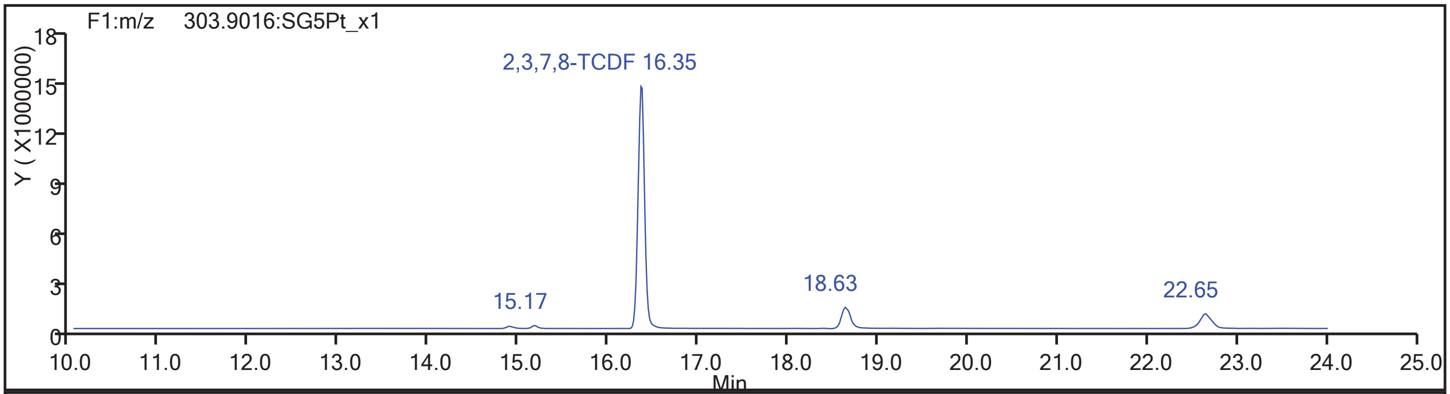
HRDXNIC_00031 Amount Added: 1.00 Units: mL

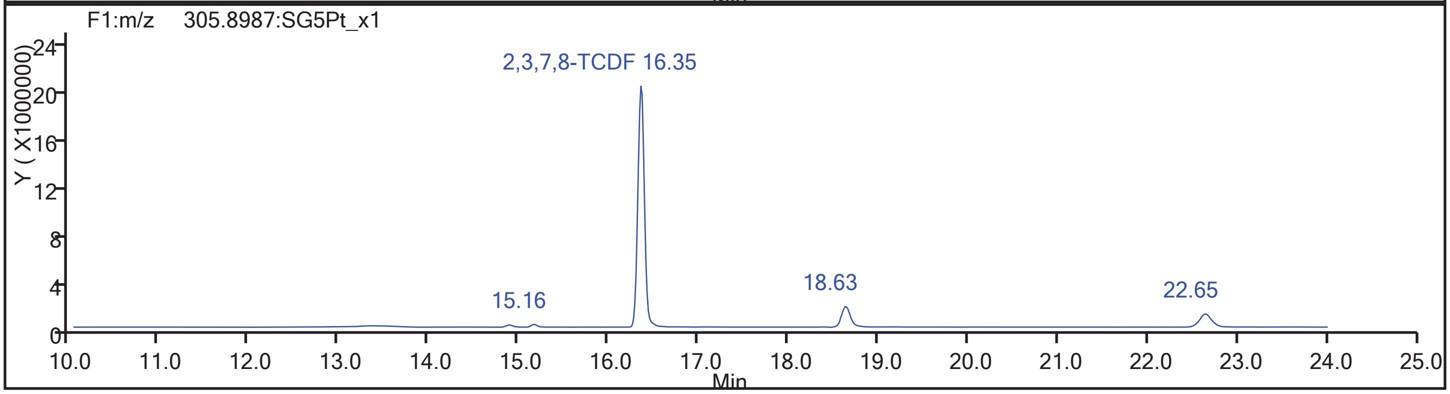
Report Date: 03-Mar-2017 09:14:51 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

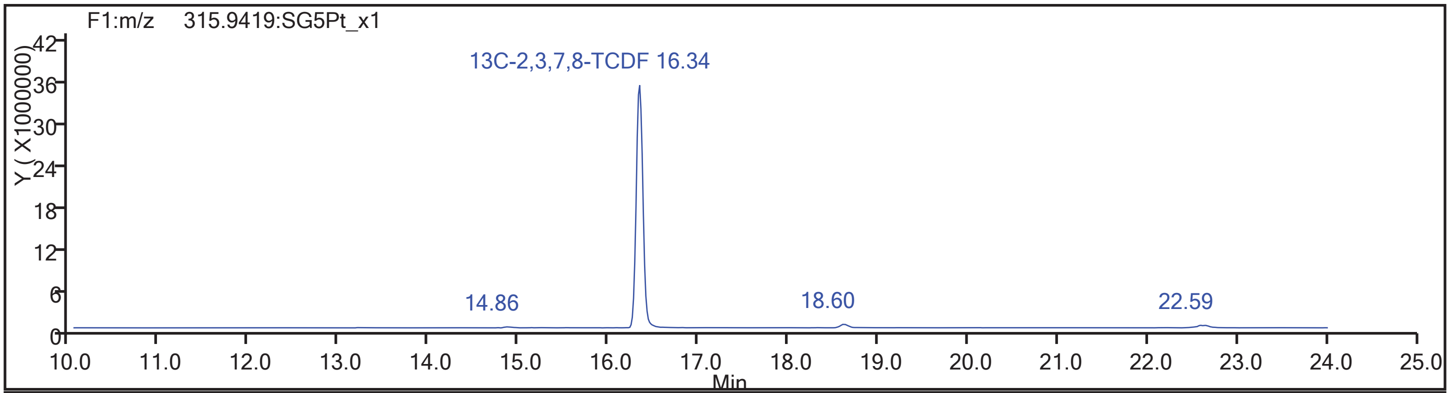
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_007.d		
Injection Date:	02-Mar-2017 17:14:07	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

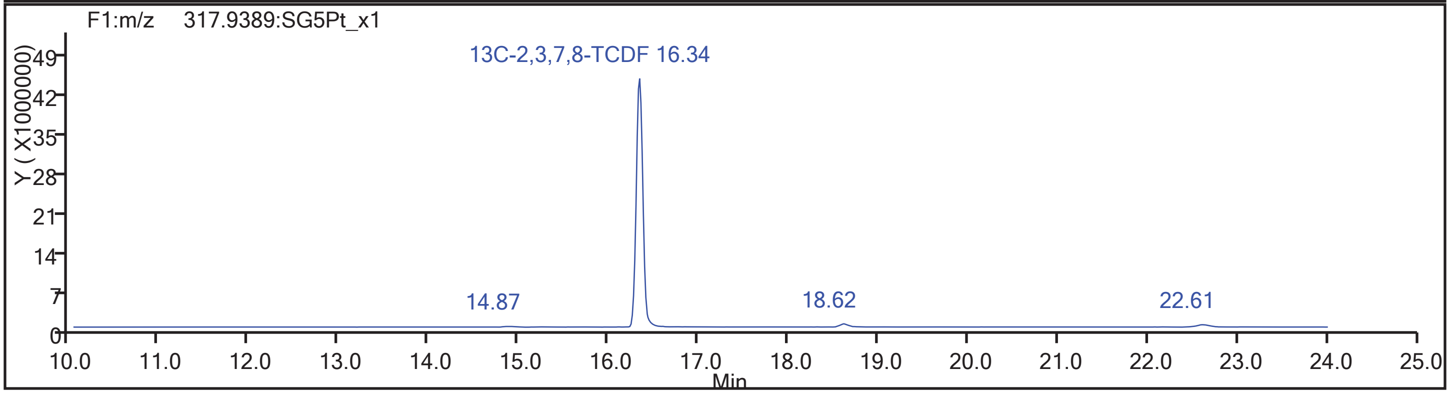
TCDF





TCDF Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_007.d		
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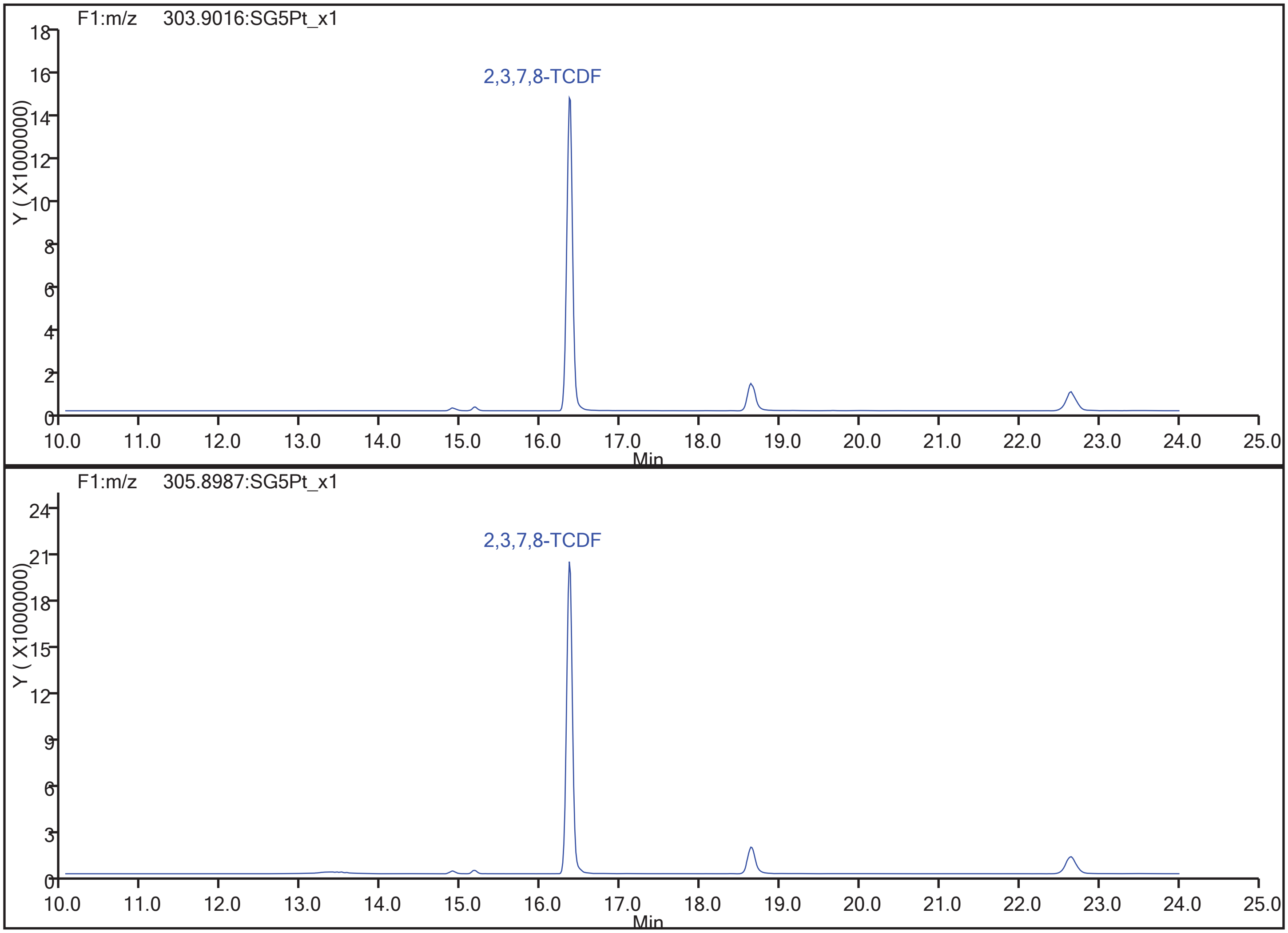
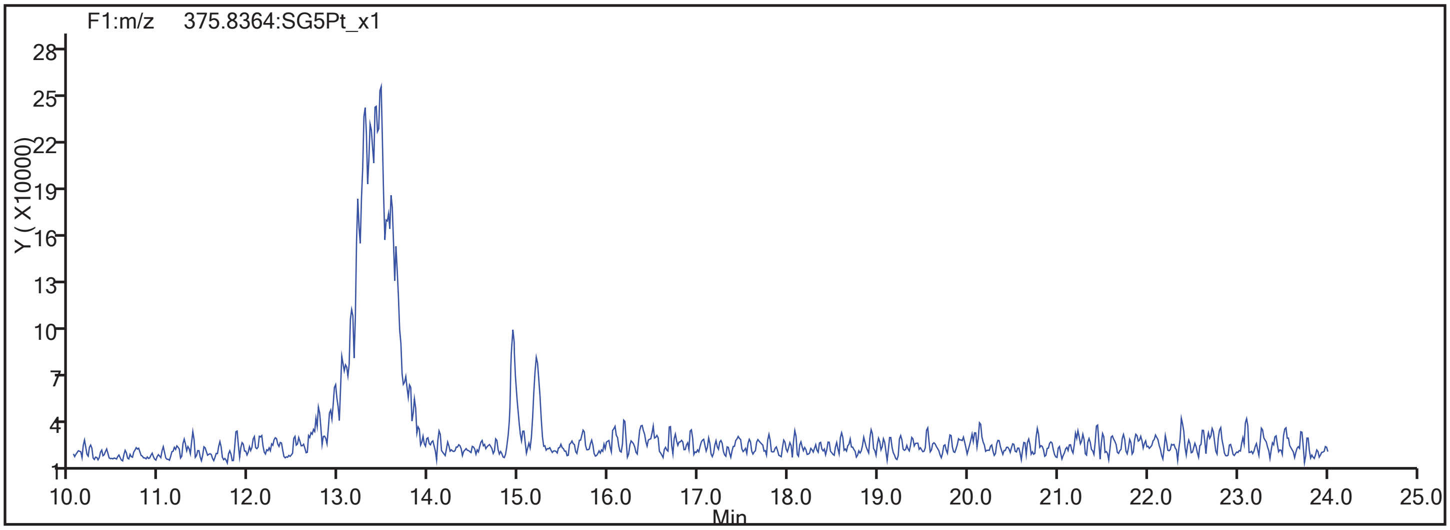
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF



TCDF Interference Mass

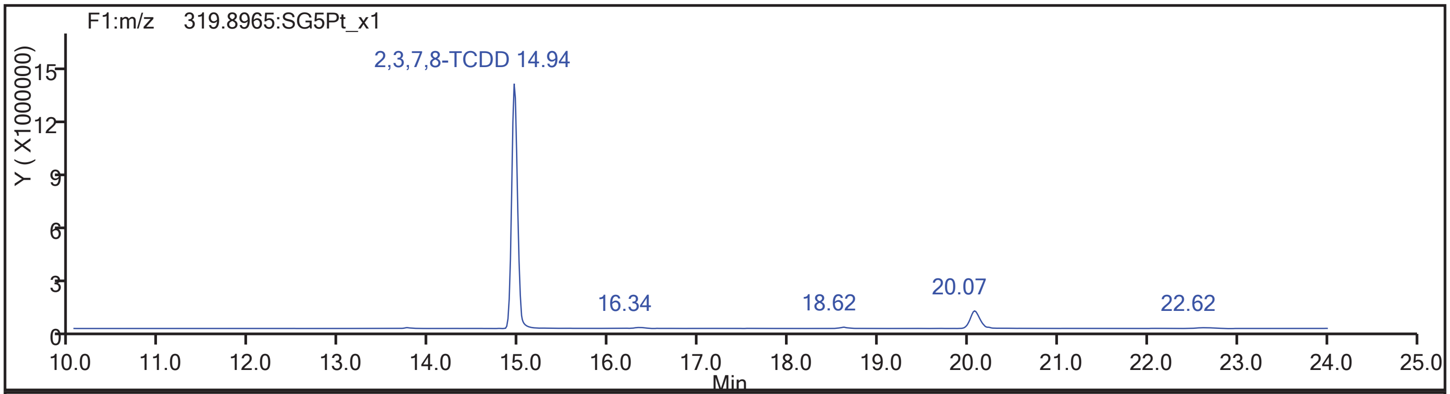


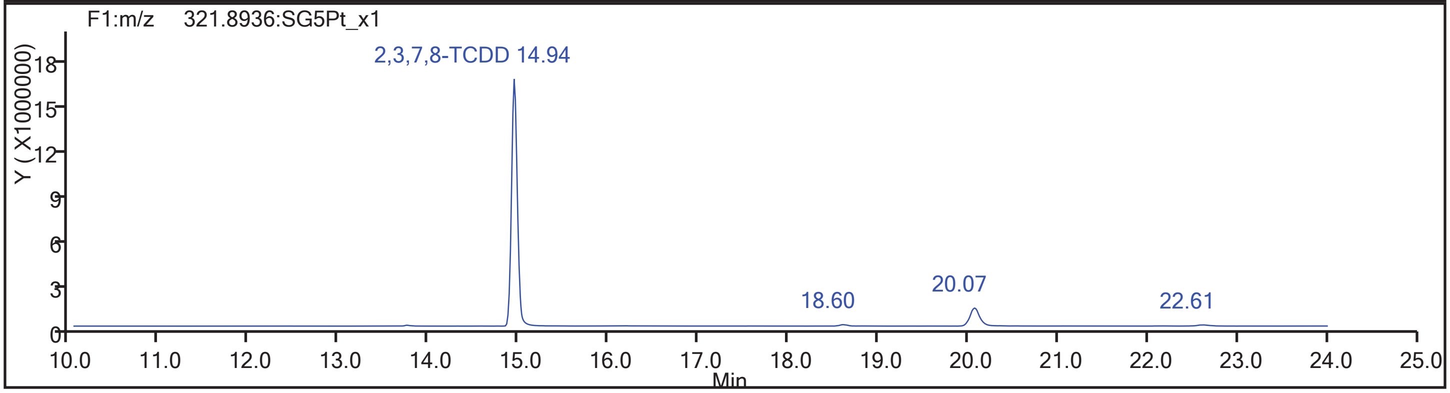
Report Date: 03-Mar-2017 09:14:51　Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

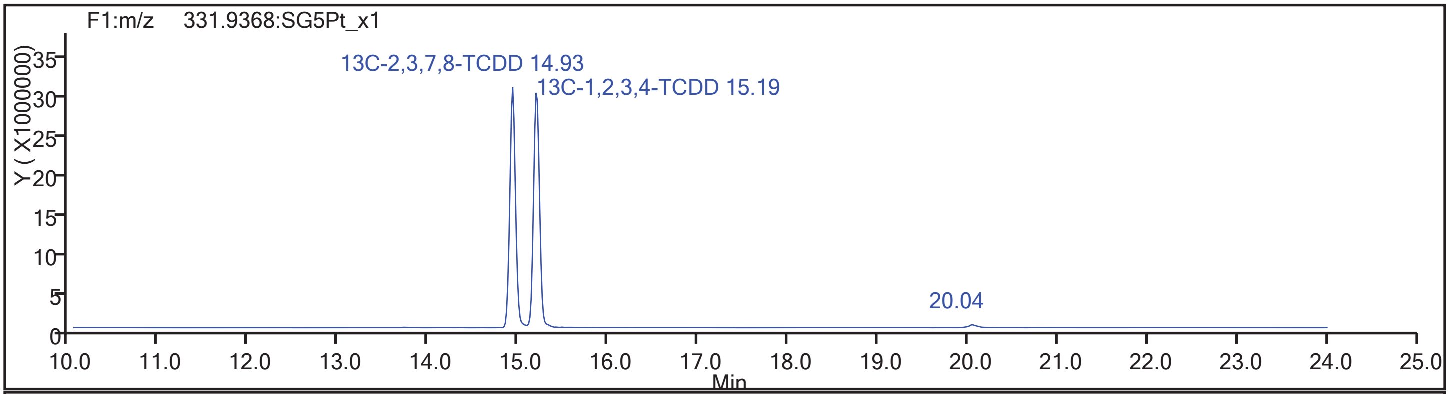
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_007.d		
Injection Date:	02-Mar-2017 17:14:07	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

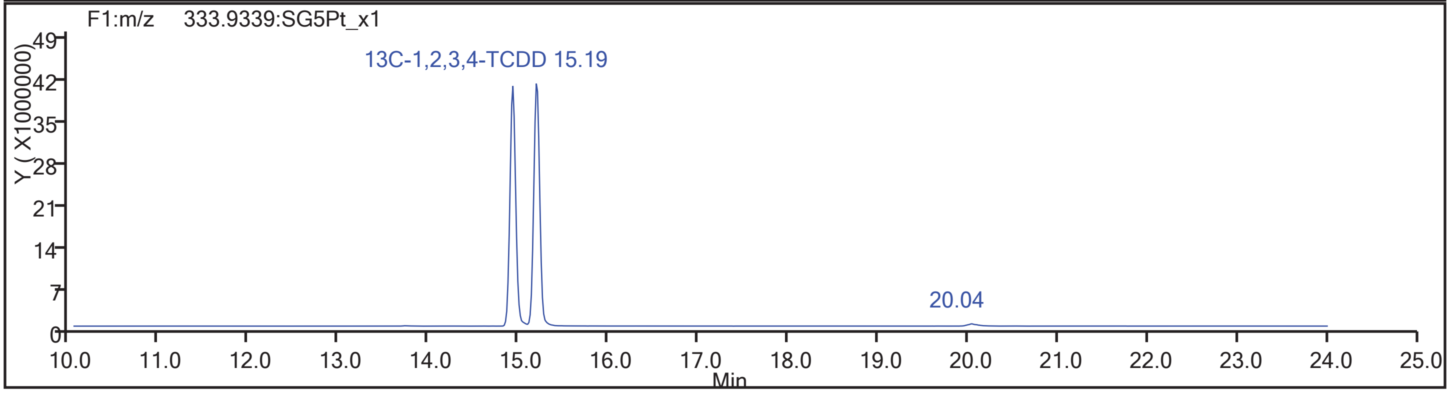
TCDD





TCDD Standards





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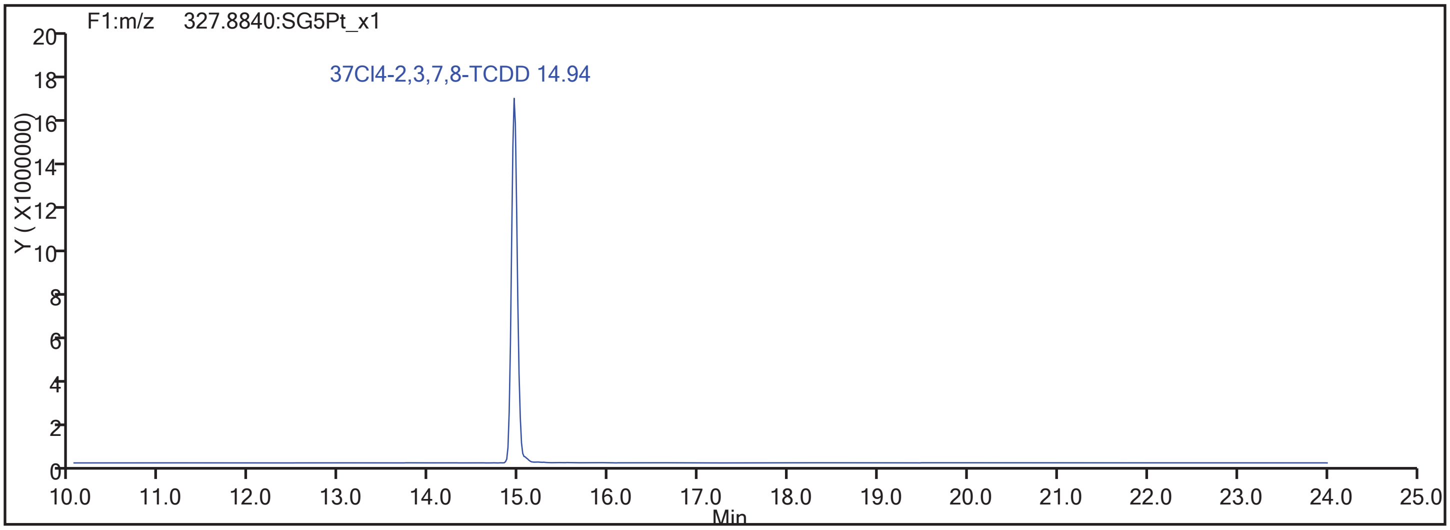
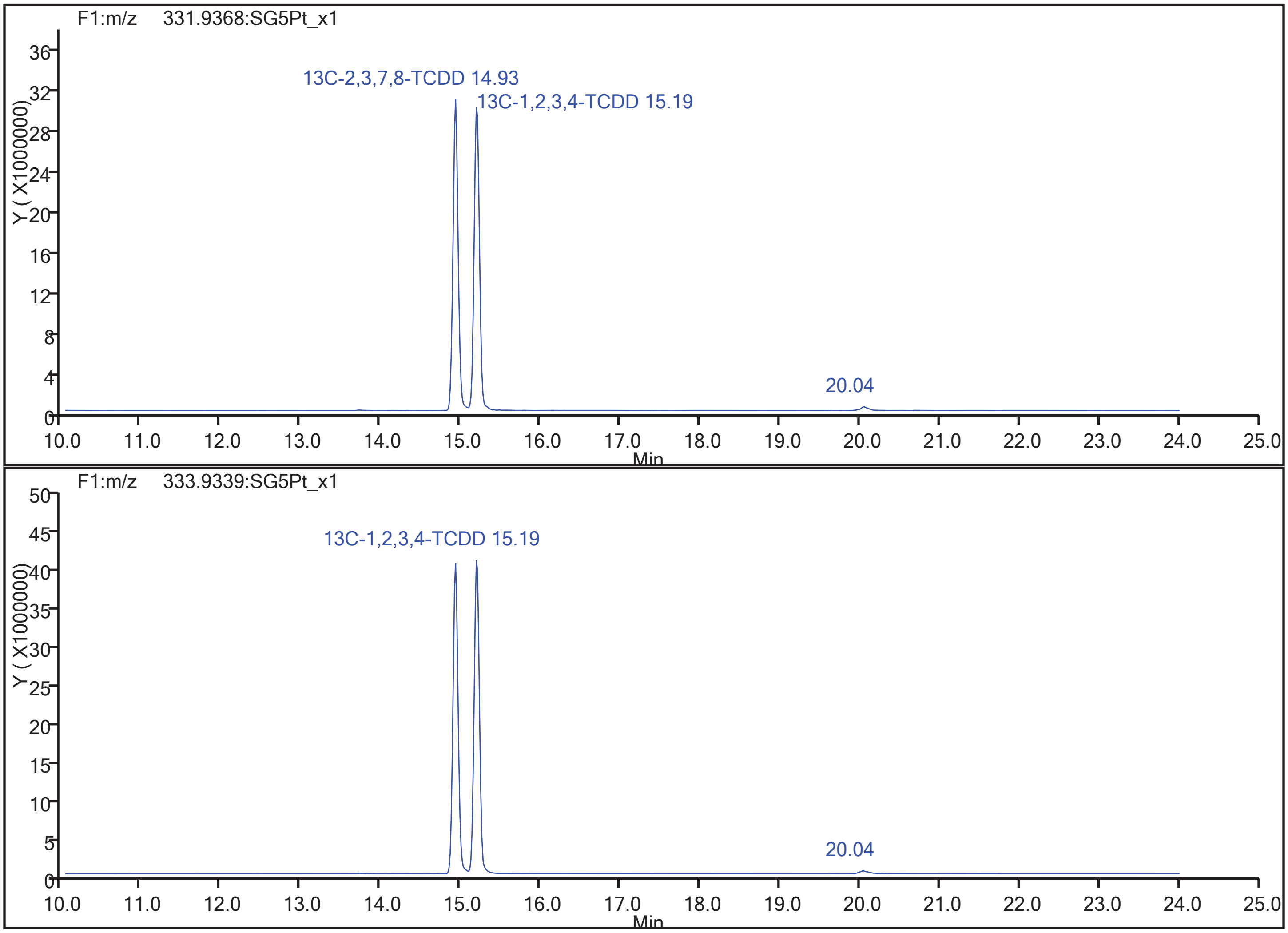
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



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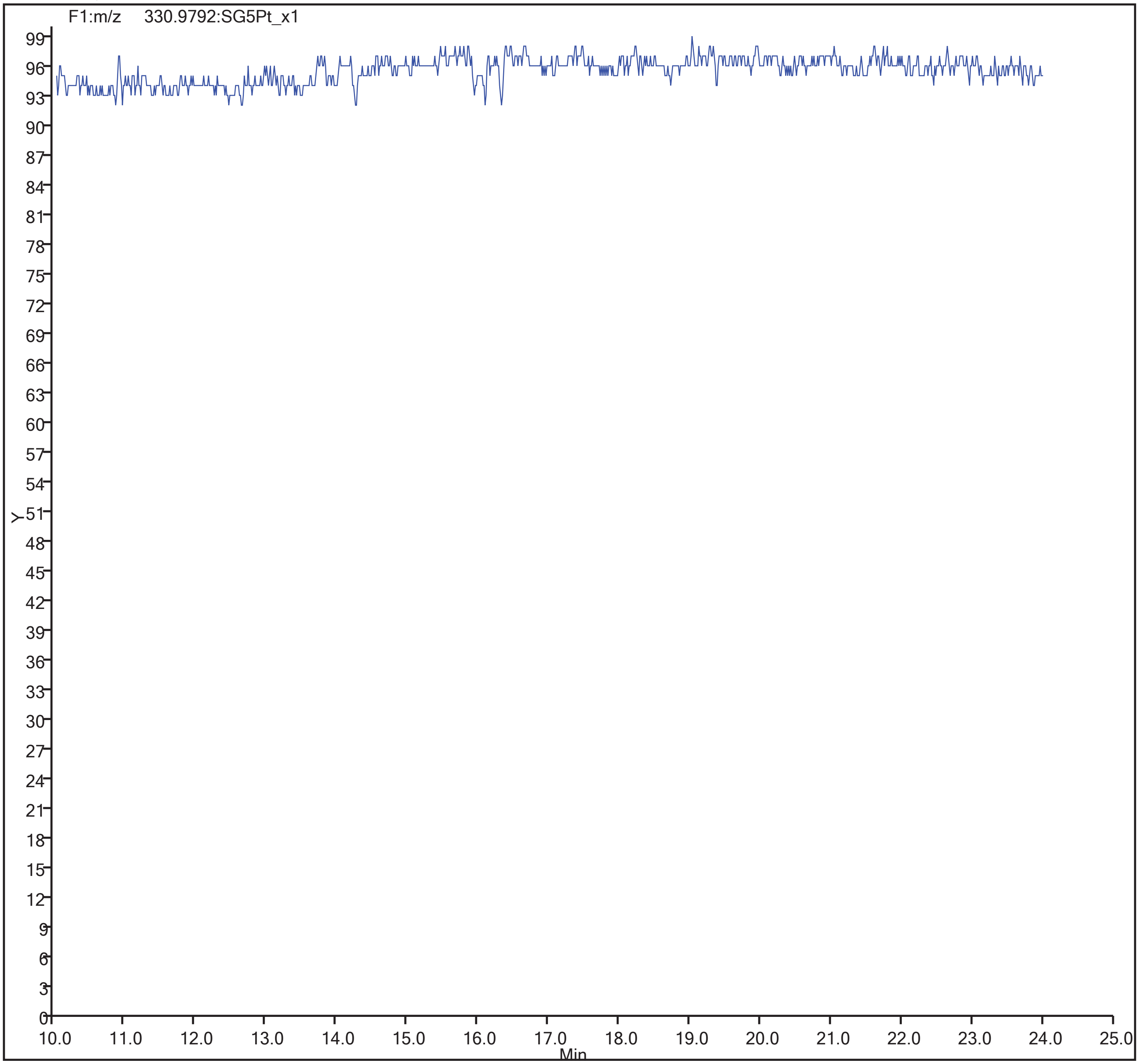
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	153001	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-193317/2 Calibration Date: 11/07/2017 10:47

Instrument ID: 9D2 Calib Start Date: 03/02/2017 14:04

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 03/02/2017 16:36

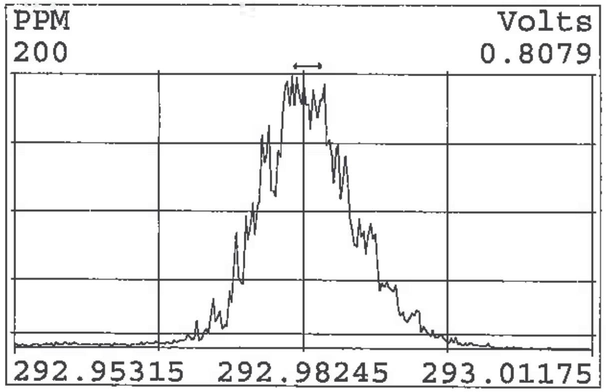
Lab File ID: 07NO179D2_002.d Conc. Units: pg/uL

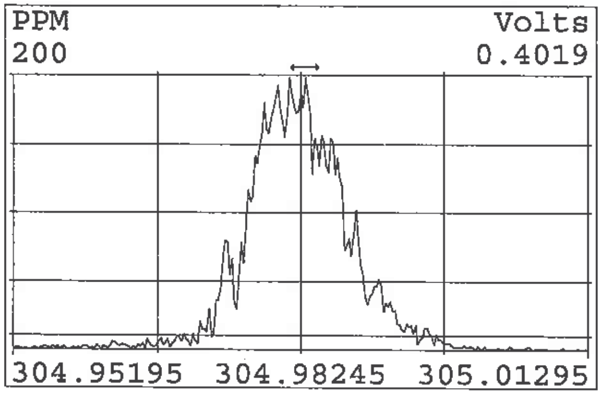
ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDD	AveID	1.112	1.035		9.30	10.0	-7.0	20.0
2,3,7,8-TCDF	AveID	1.078	1.071		9.93	10.0	-0.7	20.0
13C-2,3,7,8-TCDD	Ave	0.9567	0.9456		98.8	100	-1.2	30.0
13C-2,3,7,8-TCDF	Ave	1.260	1.221		96.9	100	-3.1	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.121	1.108		9.89	10.0	-1.1	

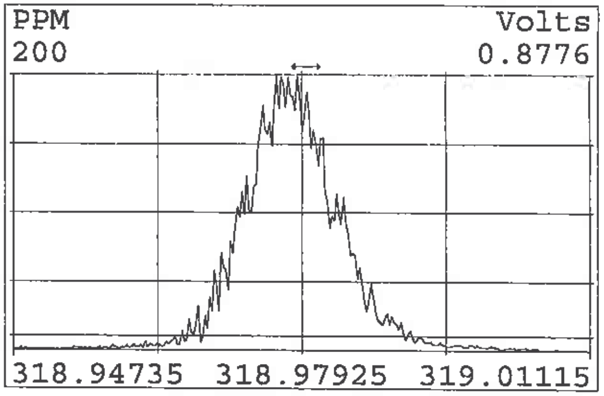
Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
07NO179D2	1	CPS 110717	CPS HRDXNCP_00034				1.00000	
07NO179D2	2	CCV 110717	CCV CS-4 HRDXNL4_00059				1.00000	
07NO179D2	3	RB 110717	RB Reagent Blank C-14				1.00000	
07NO179D2	4	320-189721	MB 320-189721/1-A	20	8290A_D5/Solid	D975	10.00000	g
07NO179D2	5	320-189721	160-24924-G-1-A	20	8290A_D5/Solid	D975	10.00000	g
07NO179D2	6	320-189721	160-24924-G-2-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	7	320-189721	160-24924-G-3-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	8	320-189721	160-24924-G-4-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	9	320-189721	160-24924-G-5-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	10	320-189721	160-24924-G-6-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	11	320-189721	160-24924-G-7-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	12	320-189721	160-24924-G-8-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	13	320-189721	160-24924-G-9-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	14	320-189721	160-24924-G-9-B MS	20	8290A_D5/Solid		10.00000	g
07NO179D2	15	320-189721	160-24924-G-9-C-MSD	20	8290A_D5/Solid		10.00000	g
07NO179D2	16	320-189721	160-24924-G-10-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	17	RB 110717	RB Reagent Blank C-14				1.00000	
07NO179D2	18	CCV 110717A	CCV CS-4 HRDXNL4_00059				1.00000	
07NO179D2	19						1.00000	
07NO179D2	20						1.00000	
07NO179D2	21						1.00000	
07NO179D2	22						1.00000	
07NO179D2	23						1.00000	
07NO179D2	24						1.00000	
07NO179D2	25						1.00000	
07NO179D2	26						1.00000	
07NO179D2	27						1.00000	
07NO179D2	28		AJS 11-07-17				1.00000	
07NO179D2	29						1.00000	

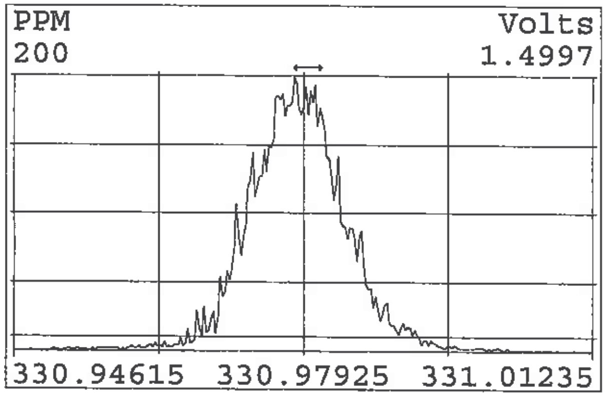
logfile checked
11-07-17 ALM

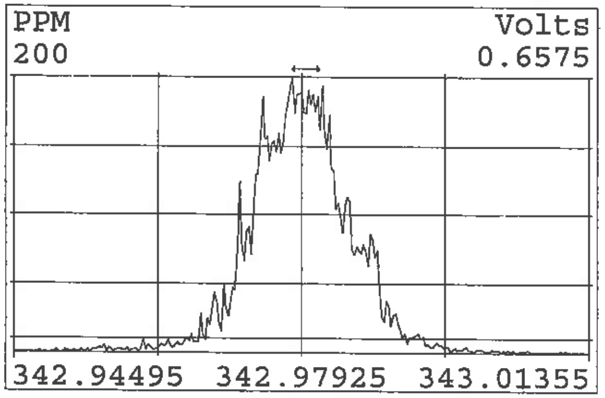
Peak Locate Examination: 7-NOV-2017:10:08 File:07NO179D2
Experiment:DB225RES Function:1 Reference:PFK

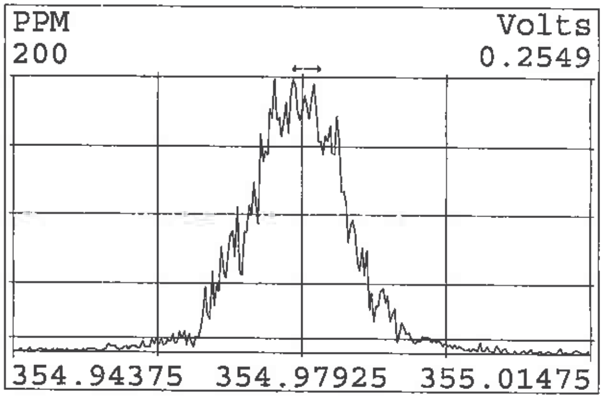


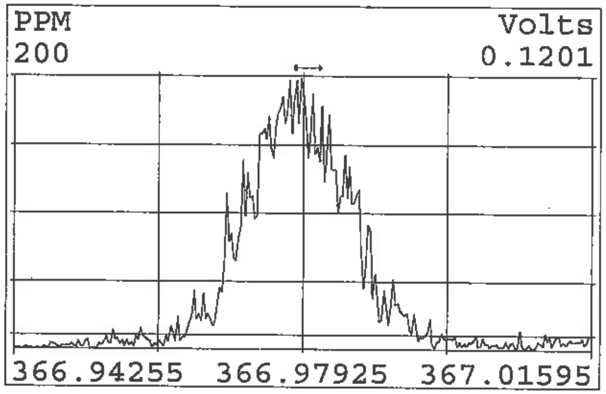


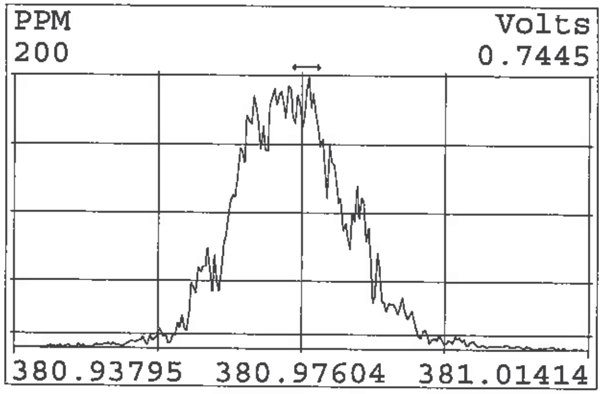




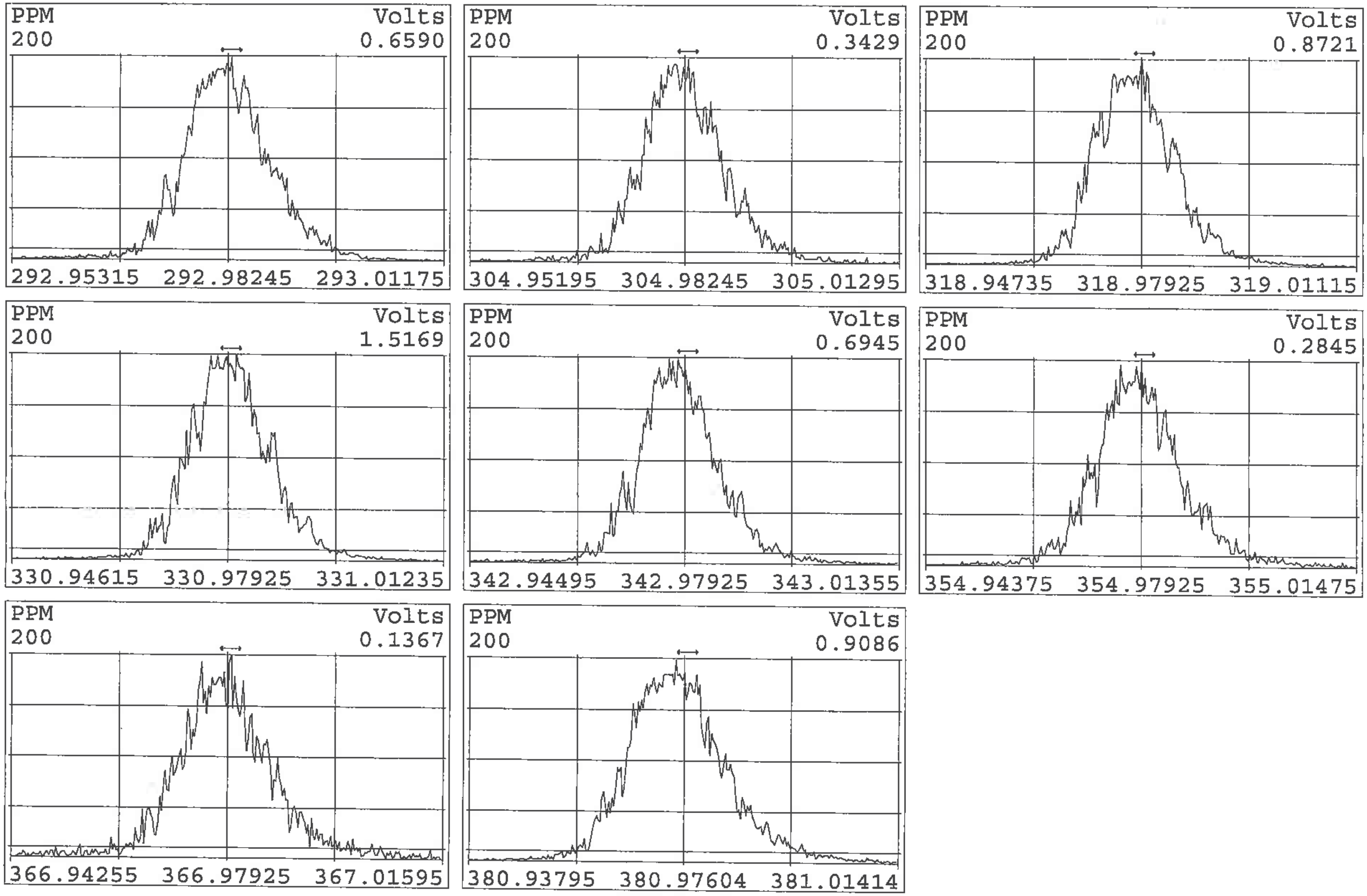








Peak Locate Examination: 7-NOV-2017:21:35 File:RESCHK07NO179D2
Experiment:DB225RES Function:1 Reference:PFK



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_002.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	07-Nov-2017 10:47:36	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCV CS-4 HRDXNL4_00059				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 16:51:34	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				

First Level Reviewer: shardaa Date: 09-Nov-2017 16:40:04

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.991	426612212	0.79	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.130	521057656	0.79	1.2599	96.9	96.9	0.1430	0.1430	96.95	
2,3,7,8-TCDF	16.144	55824448	0.76	1.0784	9.934	9.934	0.0456	0.0456	99.34	
D 13C-2,3,7,8-TCDD	14.731	403400684	0.77	0.9567	98.8	98.8	0.2704	0.2704	98.84	
$ 37Cl4-2,3,7,8-TCDD	14.744	47268171		1.1208	9.886	9.886	0.0139	0.0139	98.86	
2,3,7,8-TCDD	14.744	41750464	0.78	1.1123	9.305	9.305	0.0297	0.0297	93.05	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNL4_00059 Amount Added: 1.00 Units: mL

Report Date: 09-Nov-2017 16:51:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Nov-2017 10:47:36 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00059
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2
Sublist: chrom-DXN_DB225_9D2*sub1

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:34 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:40:04

Signal	RT (min.)	Adj RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.991	14.991	0		188230691	41577627	59556	148890	698		
333.9339	14.991	14.991	0		238381521	53260582	38594	96485	1380	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.130	16.130	0	1.076	229408321	45523484	33693	84232	1351		
317.9389	16.130	16.130	0	1.076	291649335	58207718	34666	86665	1679	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.144	16.144	0	1.001	24109294	4931300	12146	30365	406		
305.8987	16.144	16.144	0	1.001	31715154	6381637	8262	20655	772	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.731	14.731	0	0.983	175131412	38612098	59556	148890	648		
333.9339	14.731	14.731	0	0.983	228269272	49715002	38594	96485	1288	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.744	14.744	0	0.984	47268171	10529717	5890	14725	1788		
2,3,7,8-TCDD											
319.8965	14.744	14.744	0	1.001	18312749	4115676	5620	14050	732		
321.8936	14.744	14.744	0	1.001	23437715	5262234	6038	15095	872	0.78(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				12146	30365			
Total Dioxins & Furans											
303.9016		0.0	0				12146	30365			

Reagents:

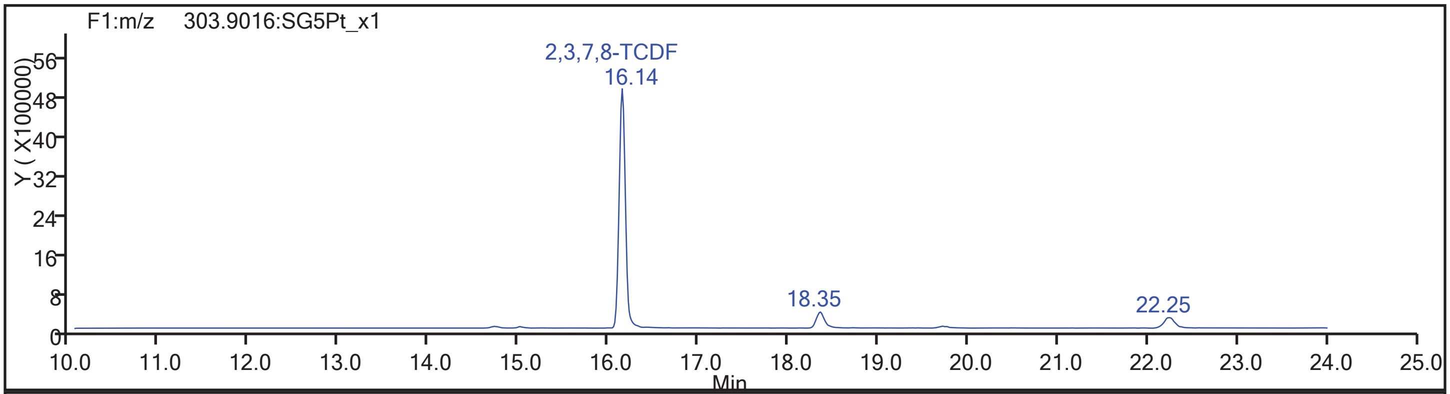
HRDXNL4_00059 Amount Added: 1.00 Units: mL

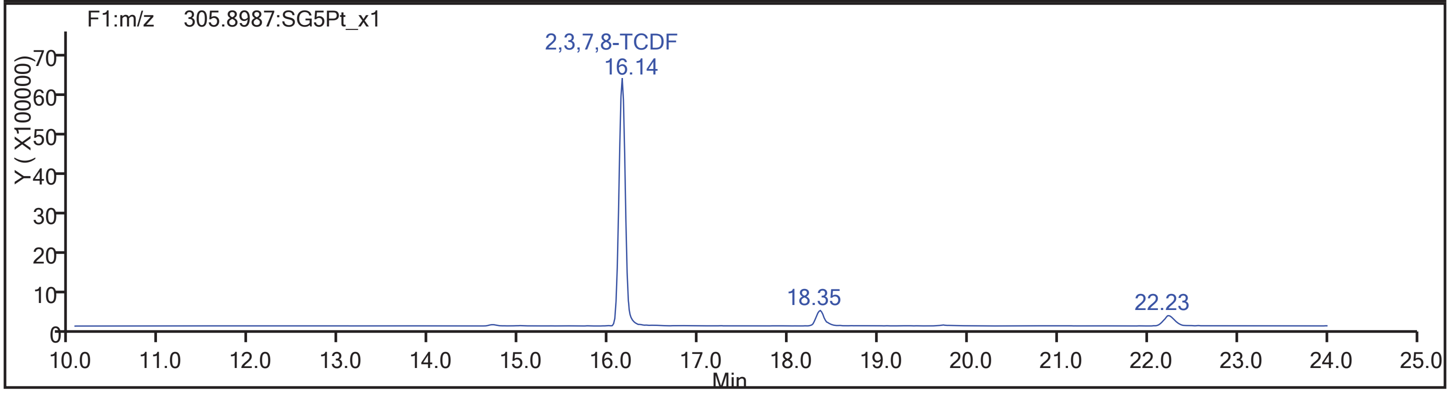
Report Date: 09-Nov-2017 16:51:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

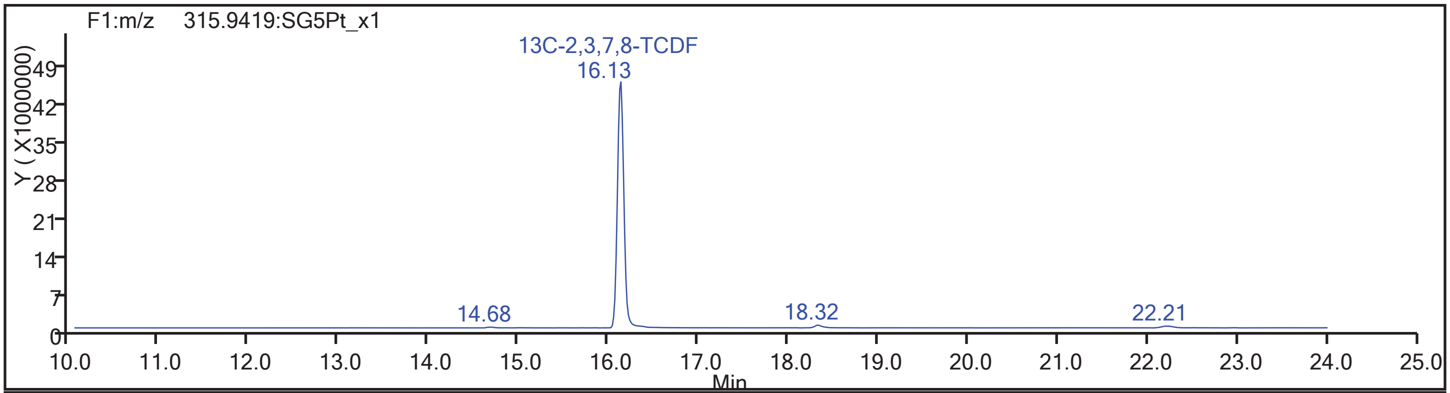
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_002.d
Injection Date: 07-Nov-2017 10:47:36
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 193317
Sample Line#: 2
Column Type: DB-225
Column Dia: 0.32 mm

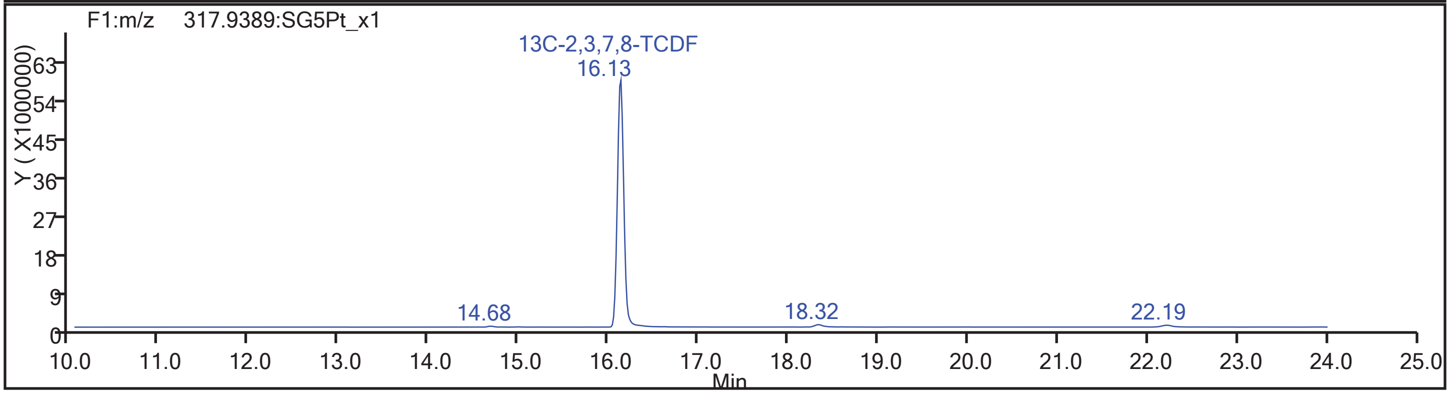
TCDF





TCDF Standards



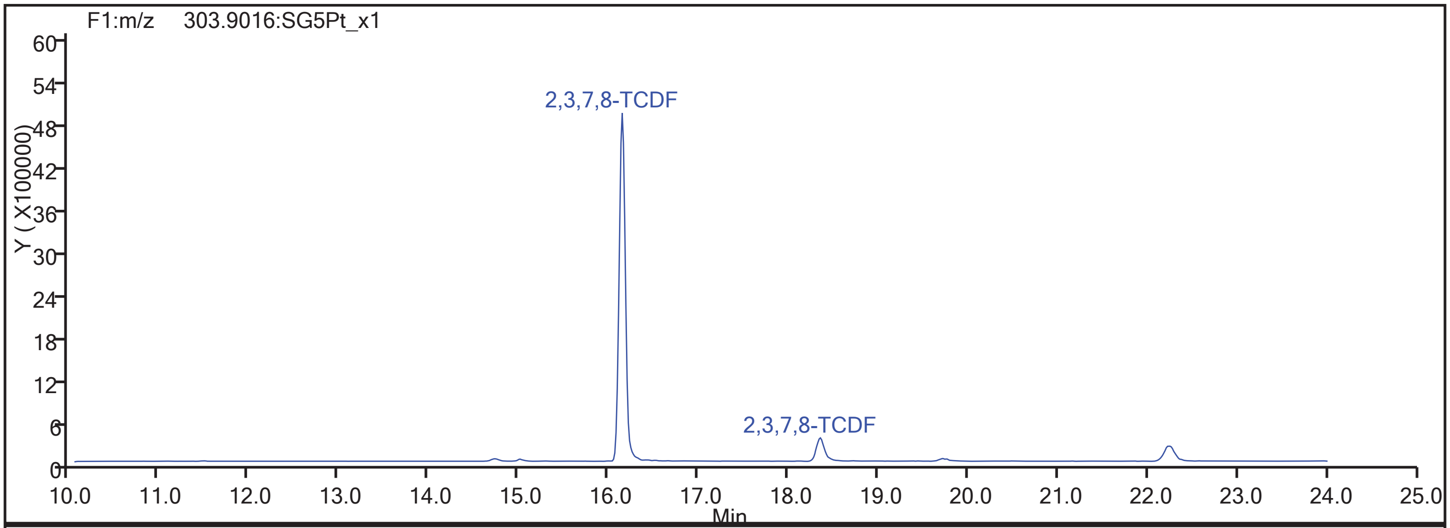


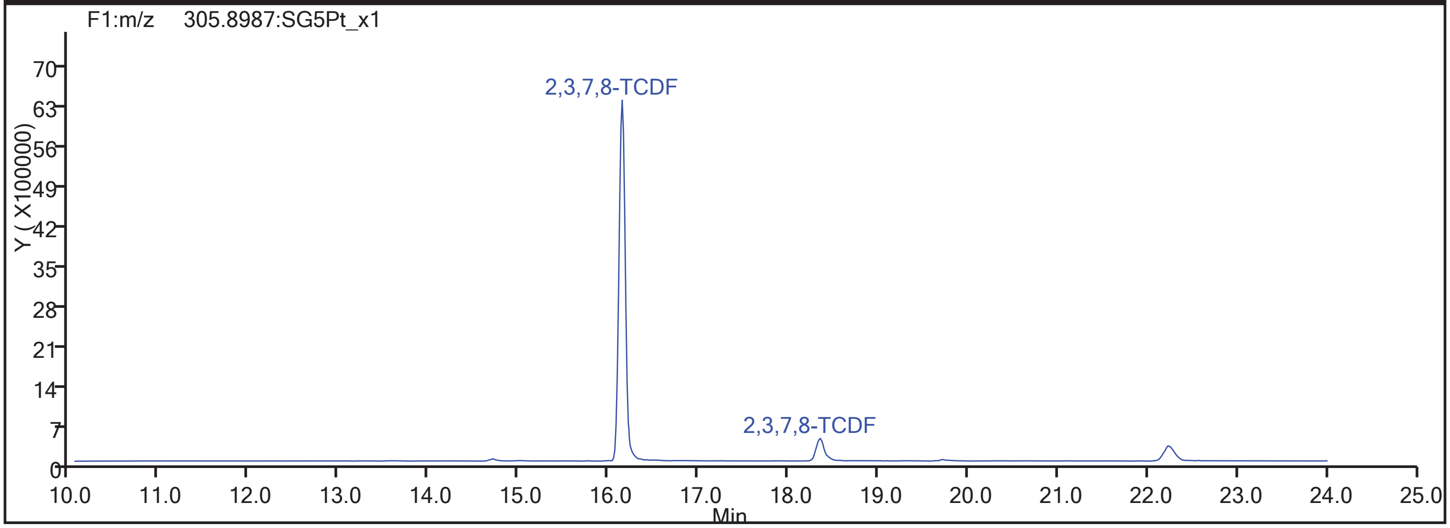
Report Date: 09-Nov-2017 16:51:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

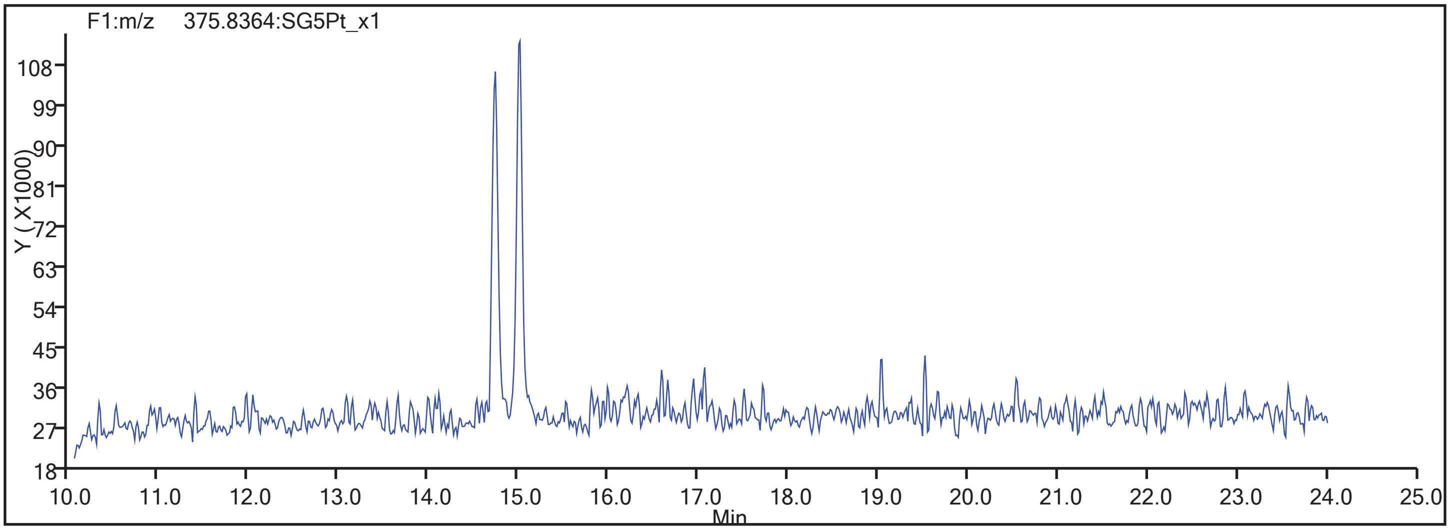
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_002.d		
Injection Date:	07-Nov-2017 10:47:36	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

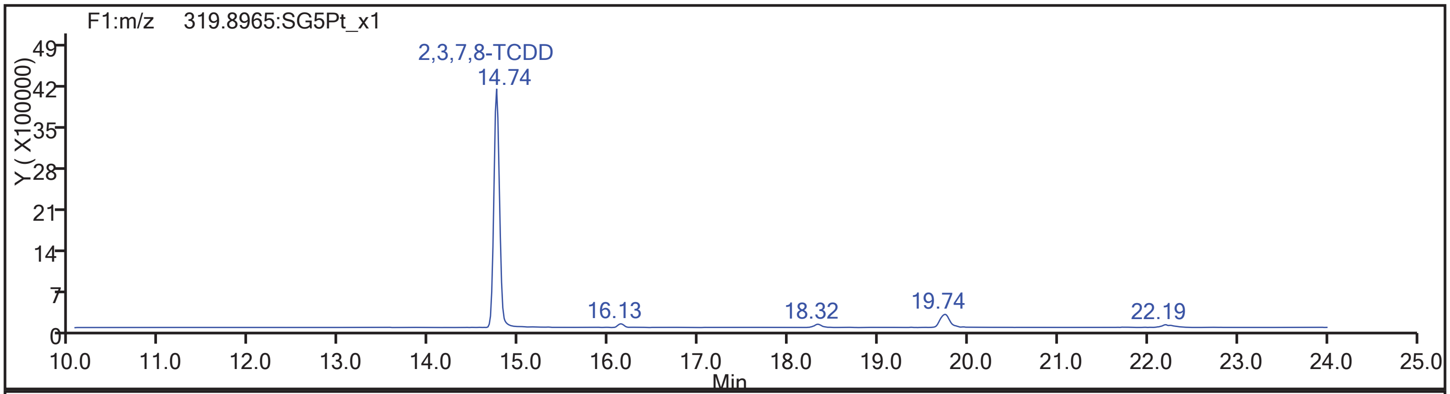


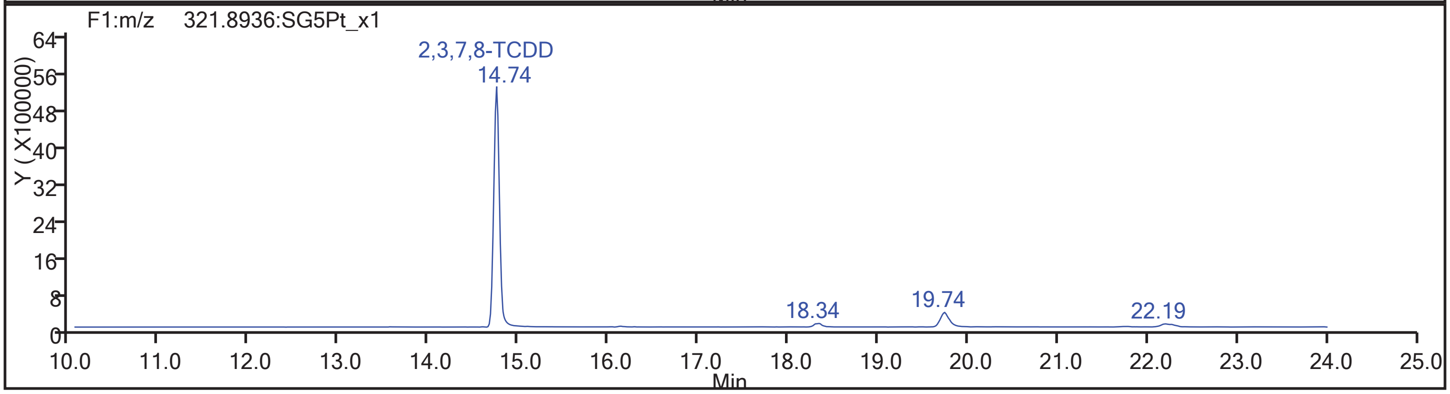
Report Date: 09-Nov-2017 16:51:34		Chrom Revision: 2.2 16-Aug-2017 16:24:46	

TestAmerica Sacramento

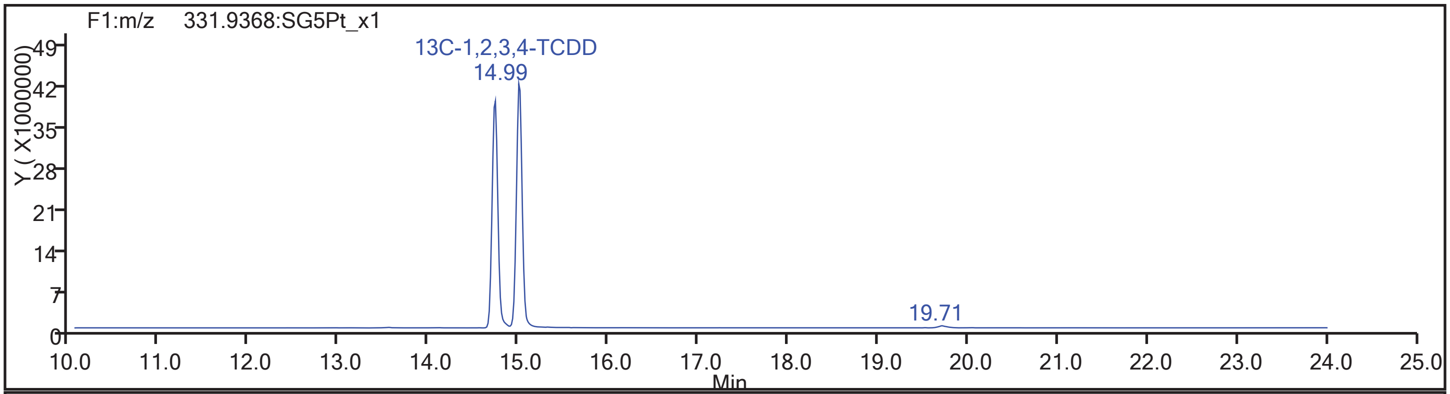
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_002.d		
Injection Date:	07-Nov-2017 10:47:36	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

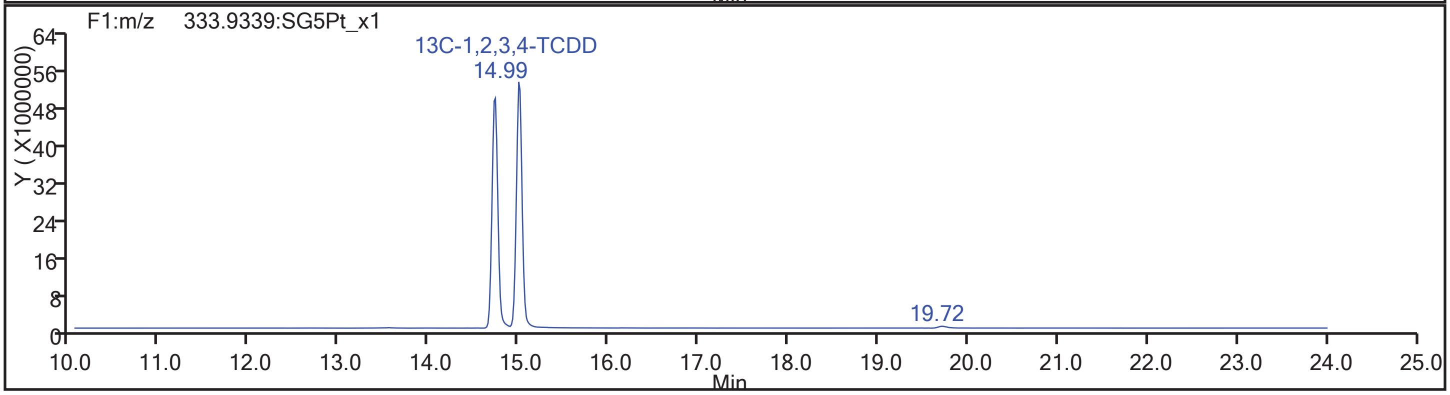
TCDD





TCDD Standards

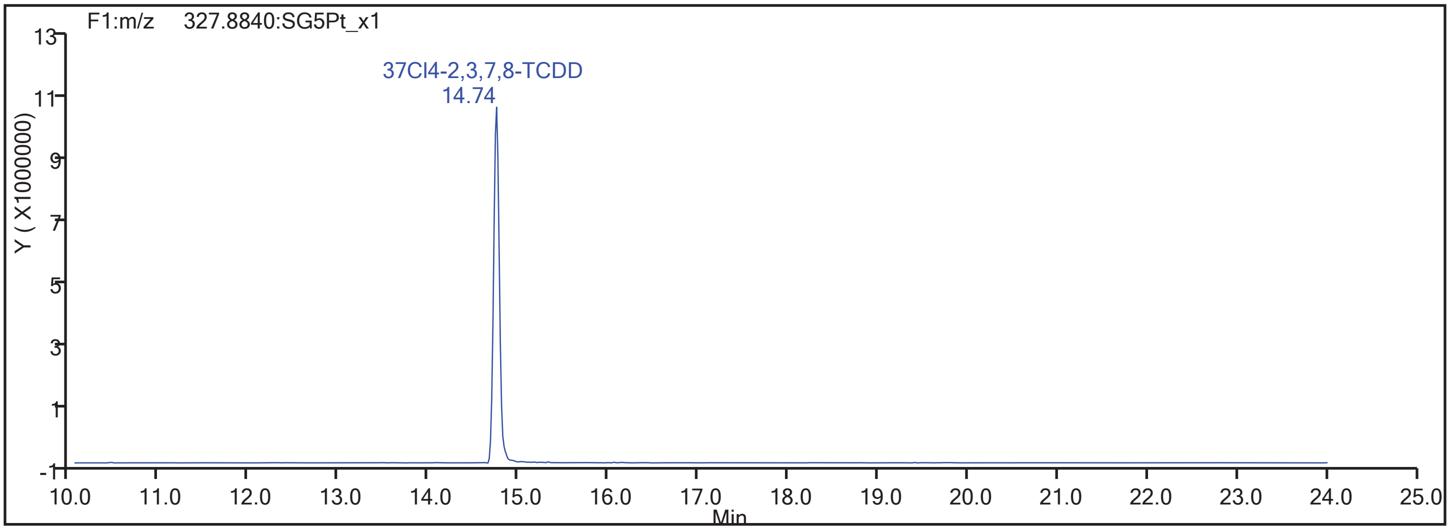




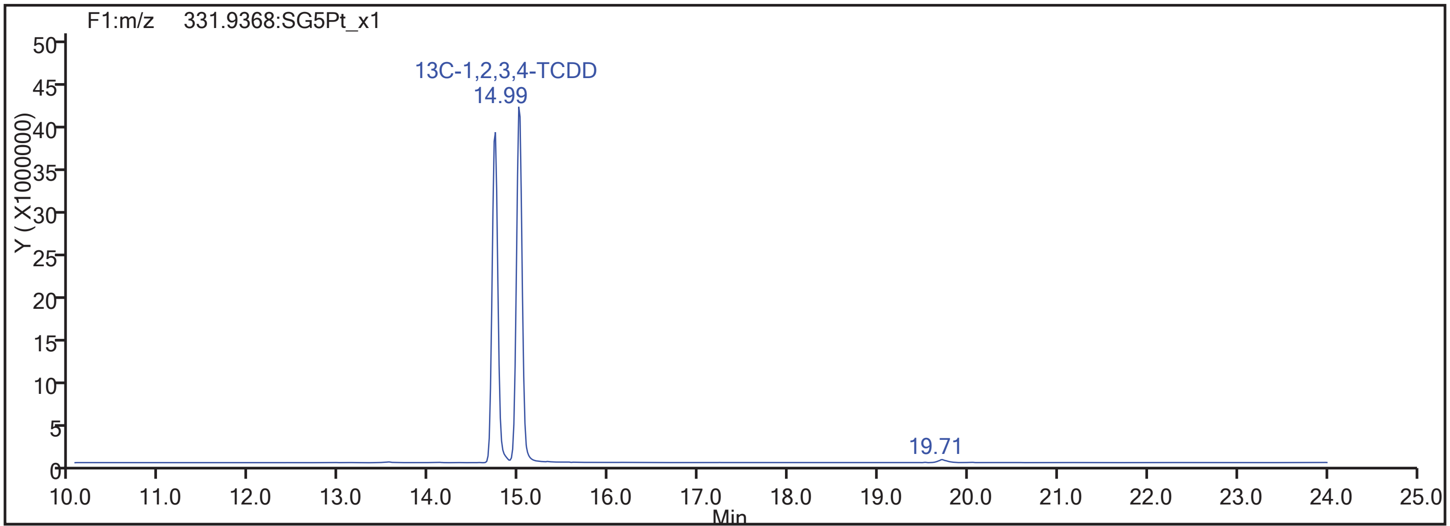
TestAmerica Sacramento

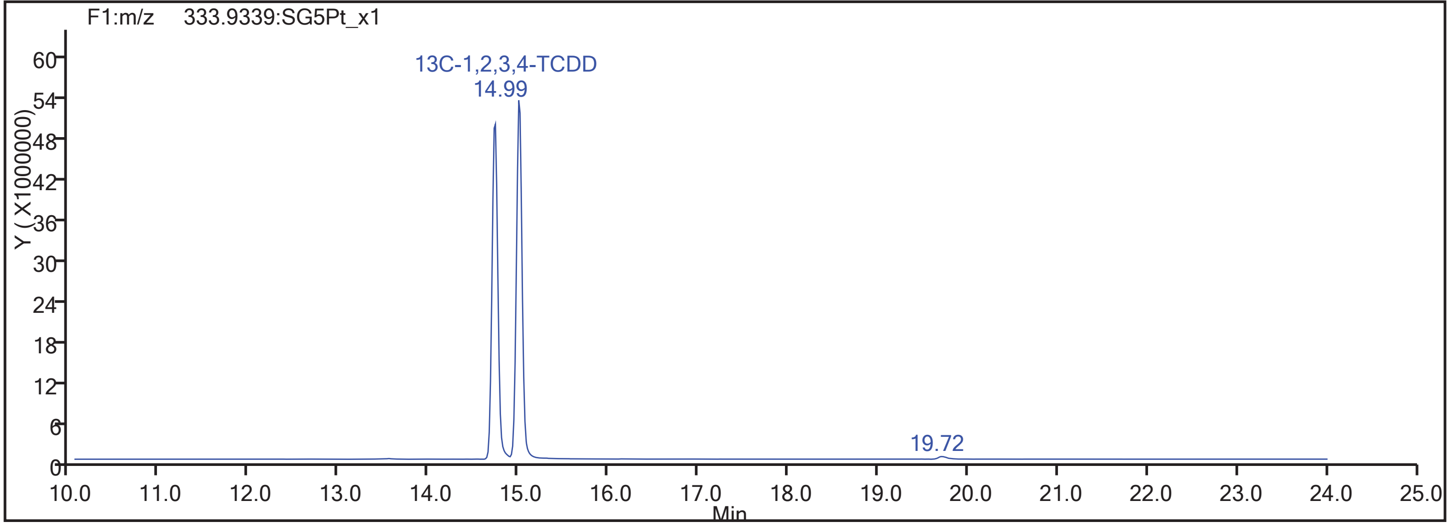
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_002.d		
Injection Date:	07-Nov-2017 10:47:36	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD



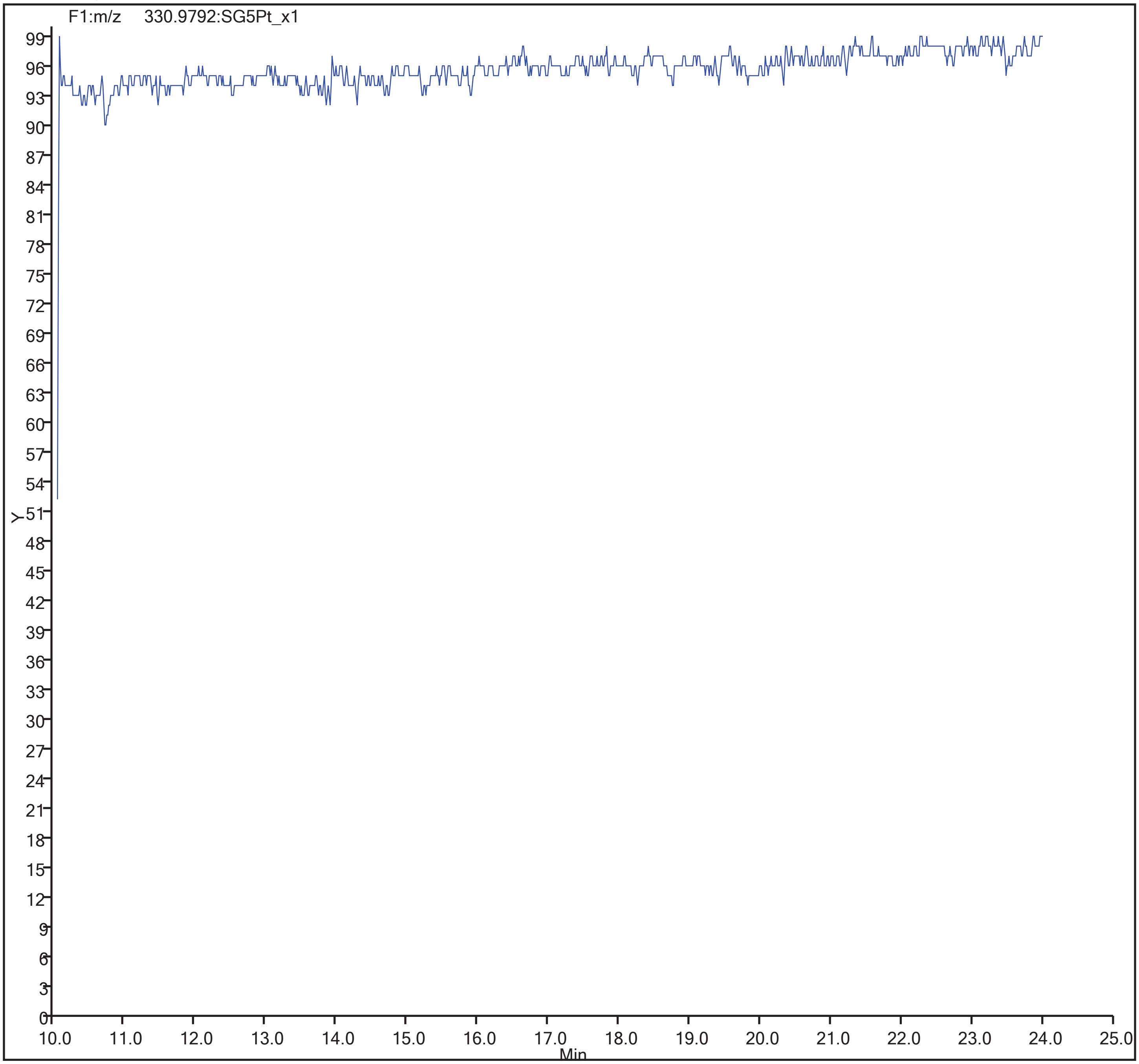
37Cl4-TCDD Standards





Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_002.d

Injection Date:	07-Nov-2017 10:47:36	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-193317/18 Calibration Date: 11/07/2017 20:52

Instrument ID: 9D2 Calib Start Date: 03/02/2017 14:04

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 03/02/2017 16:36

Lab File ID: 07NO179D2_018.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDD	AveID	1.112	1.047		9.41	10.0	-5.9	20.0
2,3,7,8-TCDF	AveID	1.078	1.108		10.3	10.0	2.7	20.0
13C-2,3,7,8-TCDD	Ave	0.9567	0.9571		100	100	0.0	30.0
13C-2,3,7,8-TCDF	Ave	1.260	1.305		104	100	3.6	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.121	1.122		10.0	10.0	0.1	

FORM VII 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_018.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Nov-2017 20:52:49 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00059
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2
Sublist: chrom-DXN_DB225_9D2*sub1

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:51:06

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.993	380324319	0.80	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.104	496495207	0.81	1.2599	103.6	103.6	0.1876	0.1876	104	
2,3,7,8-TCDF	16.131	55008389	0.78	1.0784	10.3	10.3	0.0323	0.0323	103	
D 13C-2,3,7,8-TCDD	14.718	364019207	0.79	0.9567	100.0	100.0	0.1897	0.1897	100	
$ 37Cl4-2,3,7,8-TCDD	14.746	42677318		1.1208	10.0	10.0	0.0155	0.0155	100	
2,3,7,8-TCDD	14.746	38117494	0.77	1.1123	9.414	9.414	0.0287	0.0287	94.14	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNL4_00059 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_018.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Nov-2017 20:52:49 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00059
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2
Sublist: chrom-DXN_DB225_9D2*sub1

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:51:06

Signal	RT (min.)	Adj RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.993	14.993	0		168706296	36846722	37054	92635	994		
333.9339	14.993	14.993	0		211618023	45822997	22950	57375	1997	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.104	16.104	0	1.074	222052913	44693364	40419	101047	1106		
317.9389	16.104	16.104	0	1.074	274442294	55219201	37734	94335	1463	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.131	16.131	0	1.002	24084130	5017885	8372	20930	599		
305.8987	16.131	16.131	0	1.002	30924259	6352362	5548	13870	1145	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.718	14.718	0	0.982	161140071	35470834	37054	92635	957		
333.9339	14.718	14.718	0	0.982	202879136	45050501	22950	57375	1963	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.746	14.746	0	0.984	42677318	9358472	5757	14392	1626		
2,3,7,8-TCDD											
319.8965	14.746	14.746	0	1.002	16546649	3615218	5012	12530	721		
321.8936	14.746	14.746	0	1.002	21570845	4741690	5255	13137	902	0.77(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				8372	20930			
Total Dioxins & Furans											
303.9016		0.0	0				8372	20930			

Reagents:

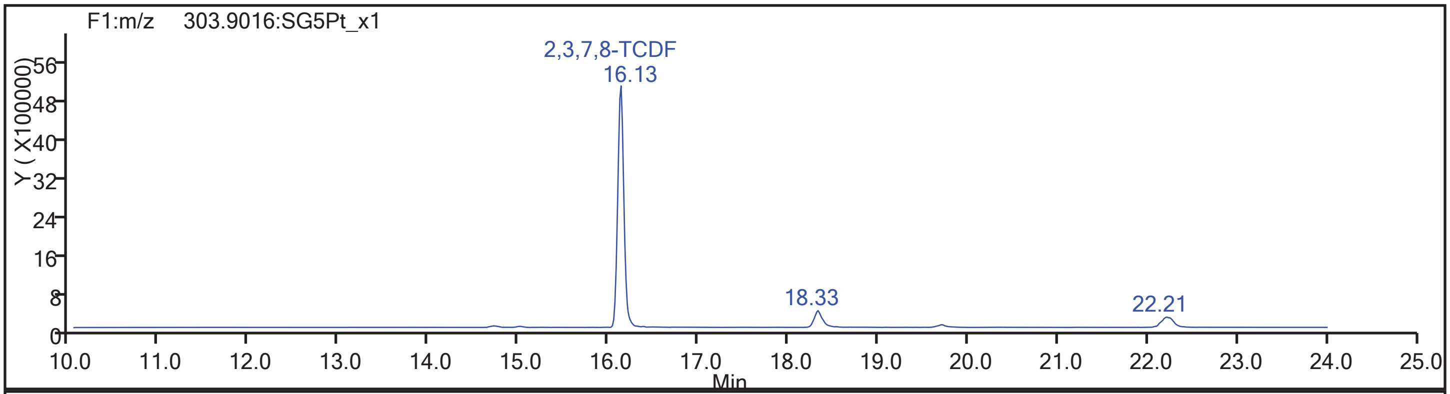
HRDXNL4_00059 Amount Added: 1.00 Units: mL

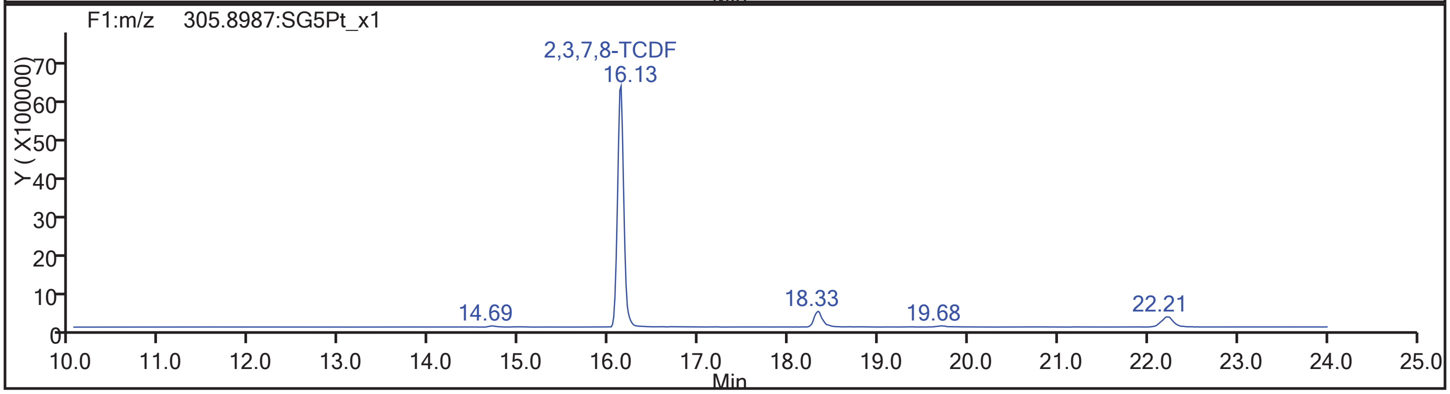
Report Date: 09-Nov-2017 16:51:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

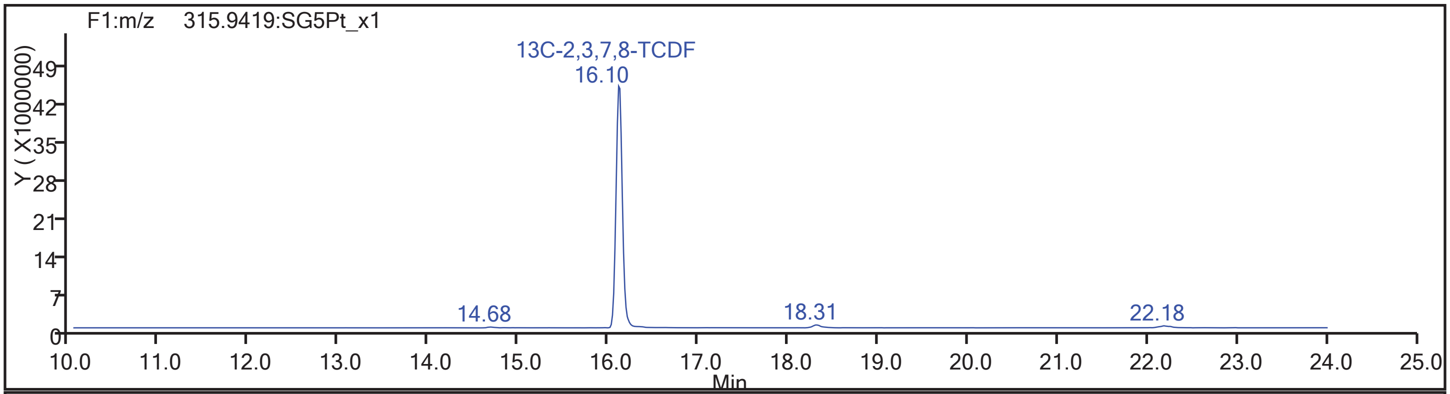
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_018.d		
Injection Date:	07-Nov-2017 20:52:49	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	18
Column Type:	DB-225	Column Dia:	0.32 mm

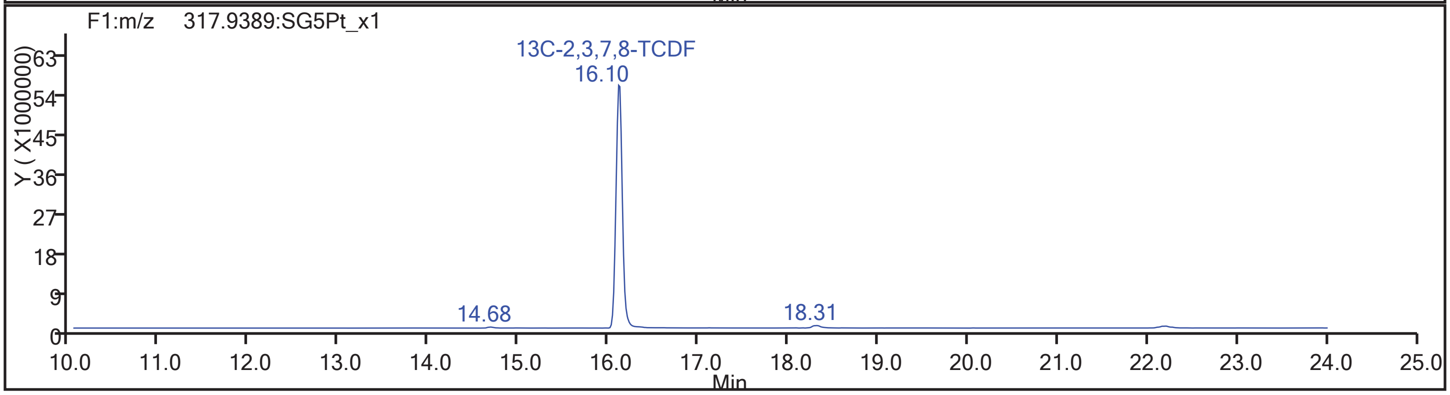
TCDF





TCDF Standards



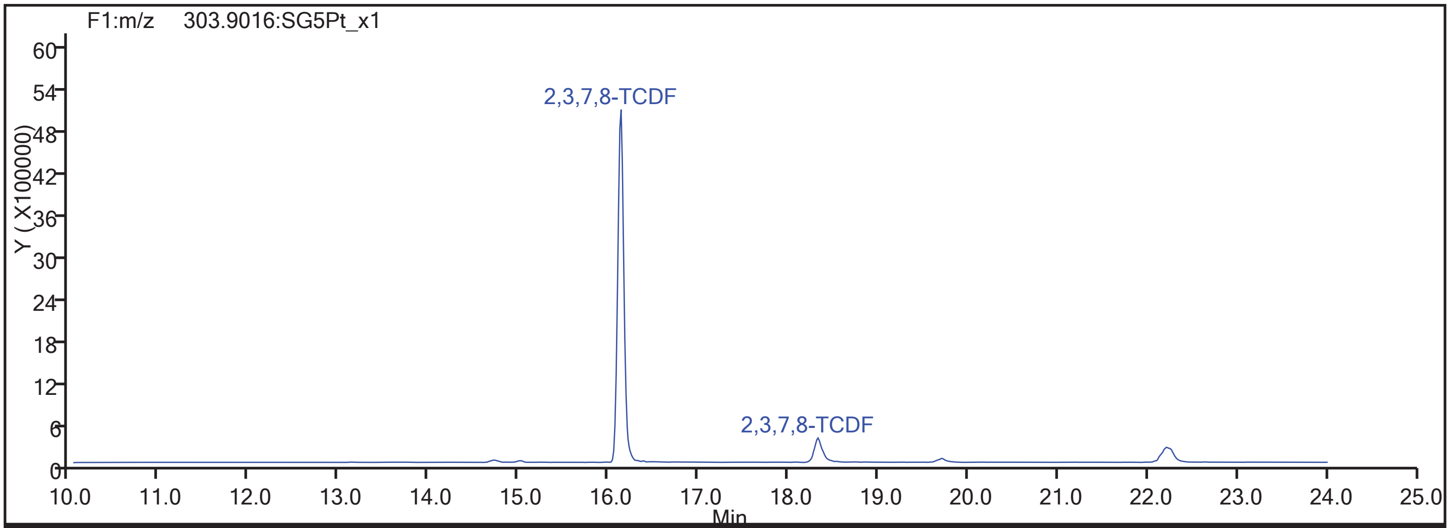


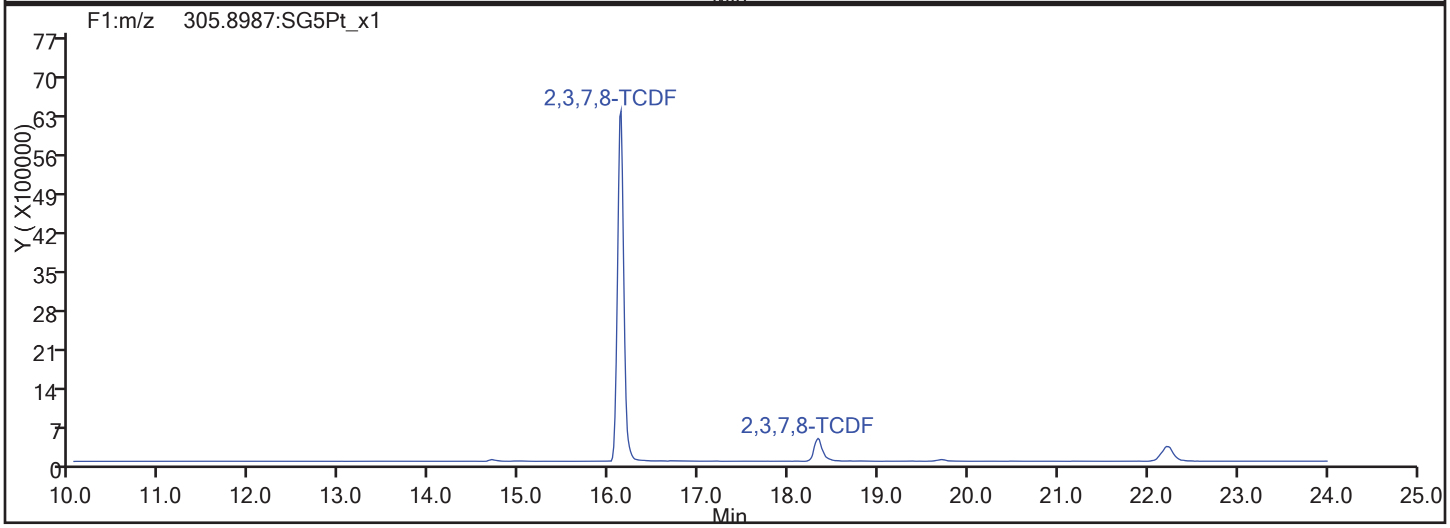
Report Date: 09-Nov-2017 16:51:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

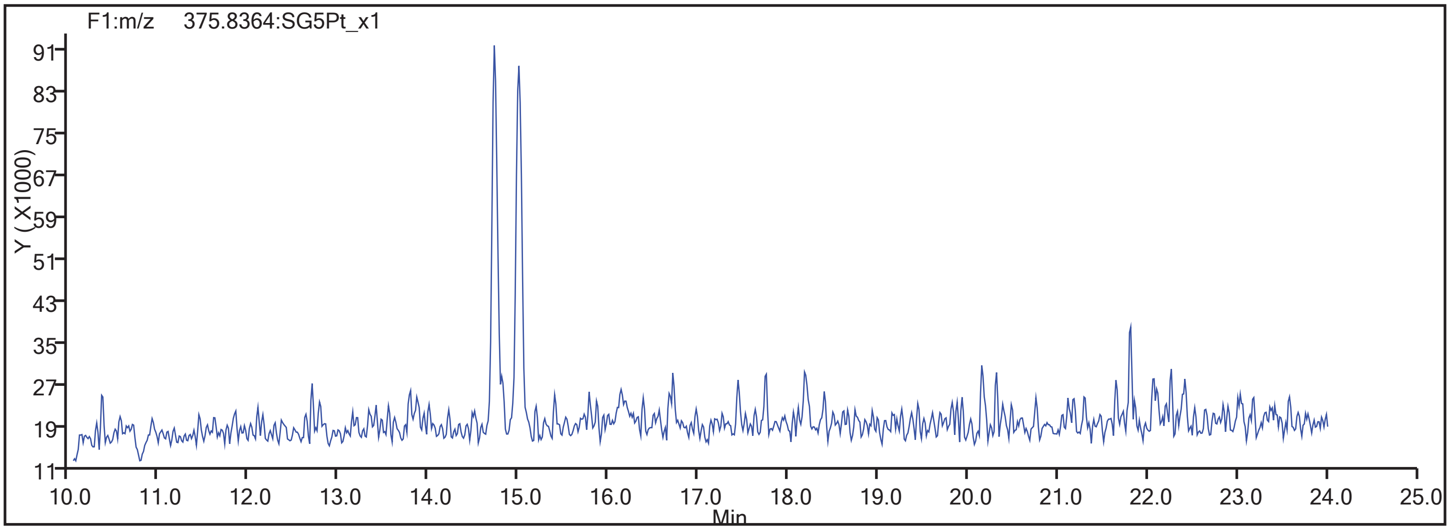
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_018.d		
Injection Date:	07-Nov-2017 20:52:49	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	18
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

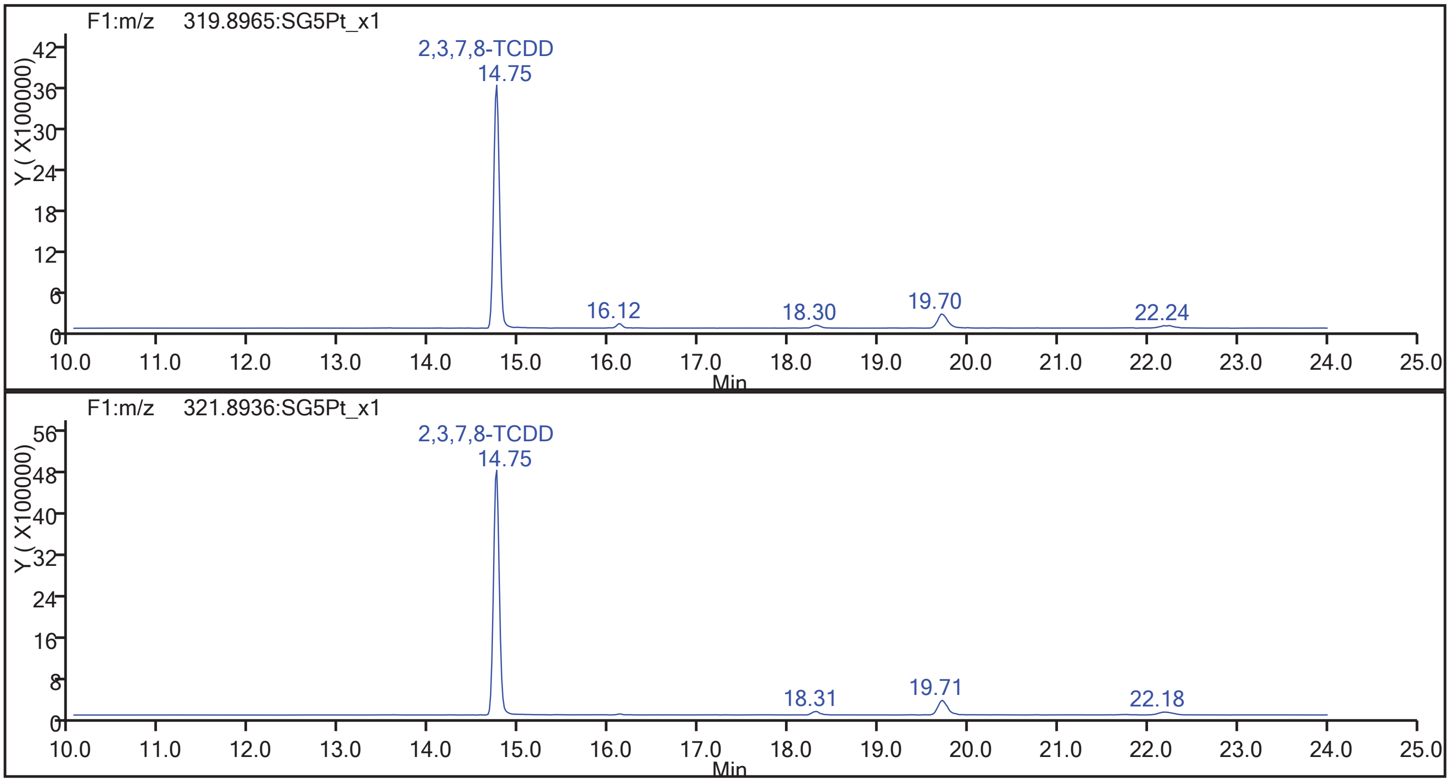


Report Date: 09-Nov-2017 16:51:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

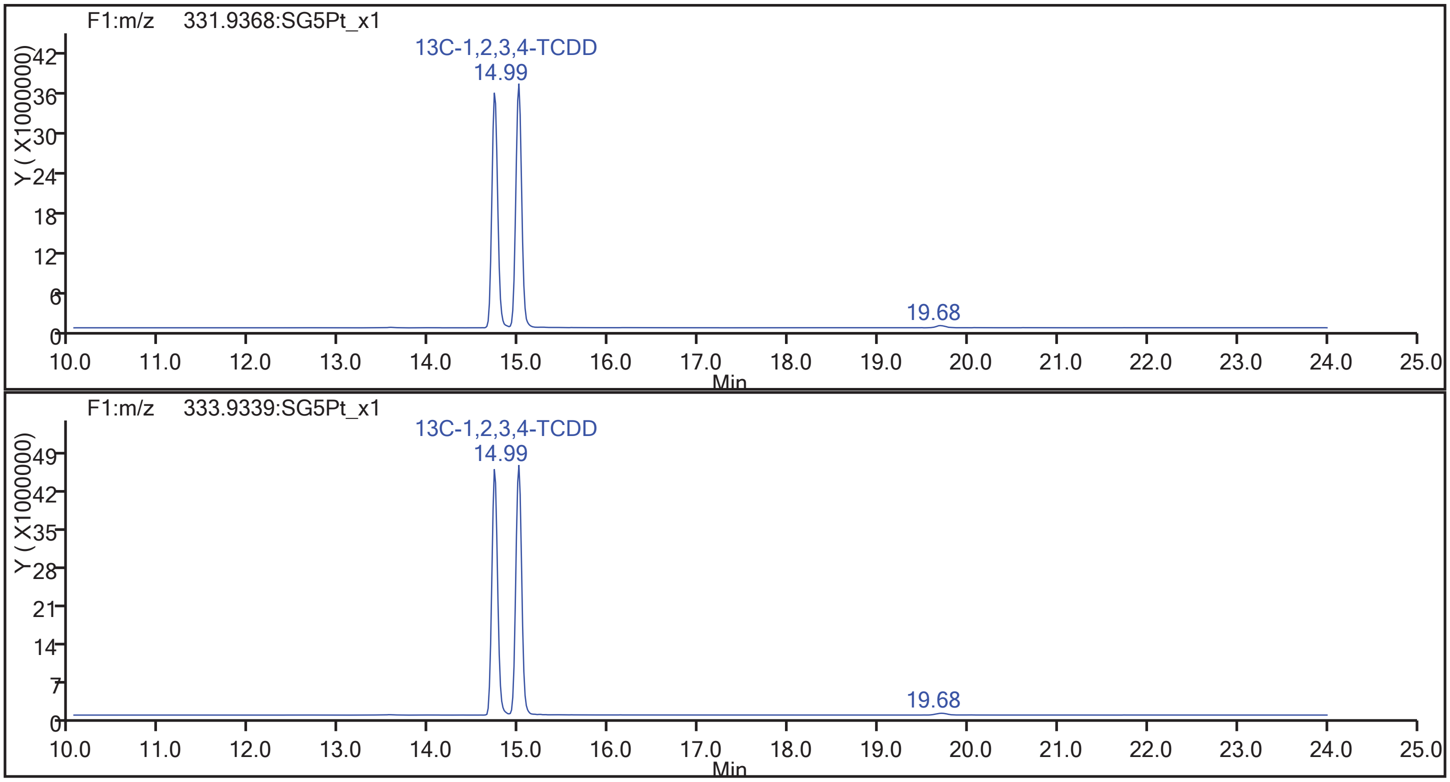
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_018.d		
Injection Date:	07-Nov-2017 20:52:49	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	18
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD



TCDD Standards

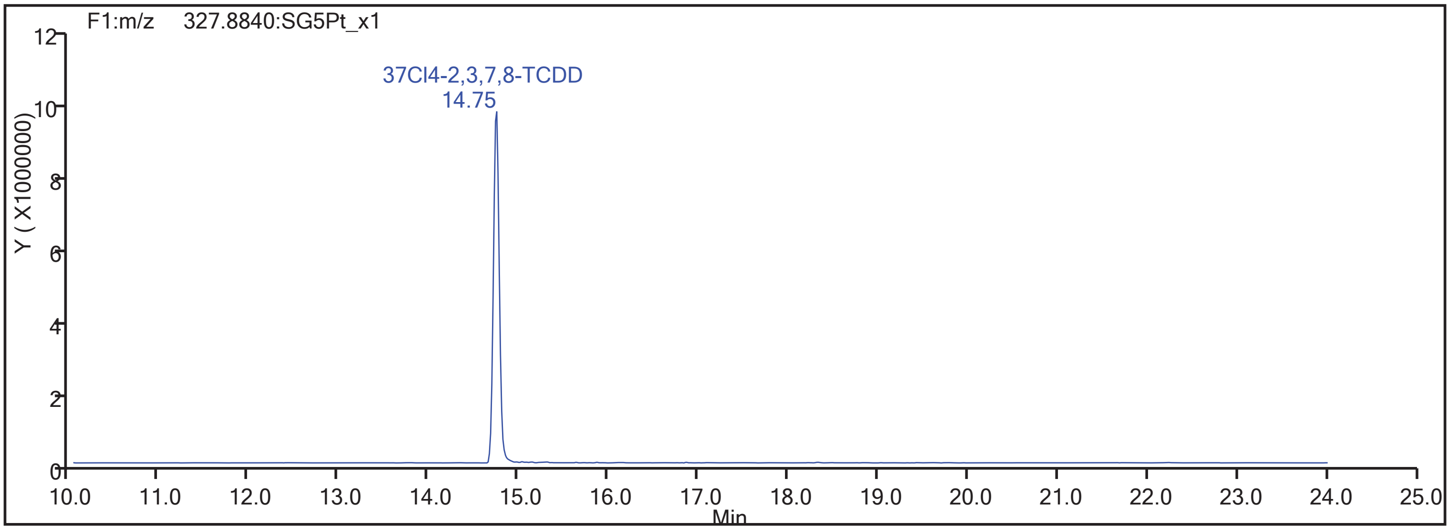


Report Date: 09-Nov-2017 16:51:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

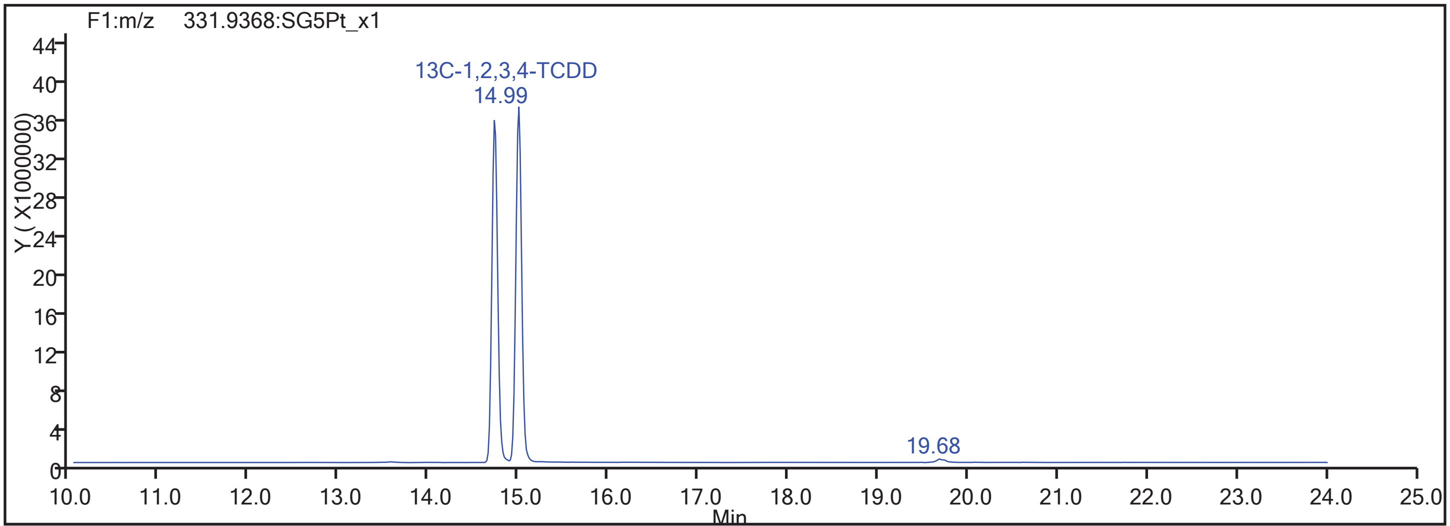
TestAmerica Sacramento

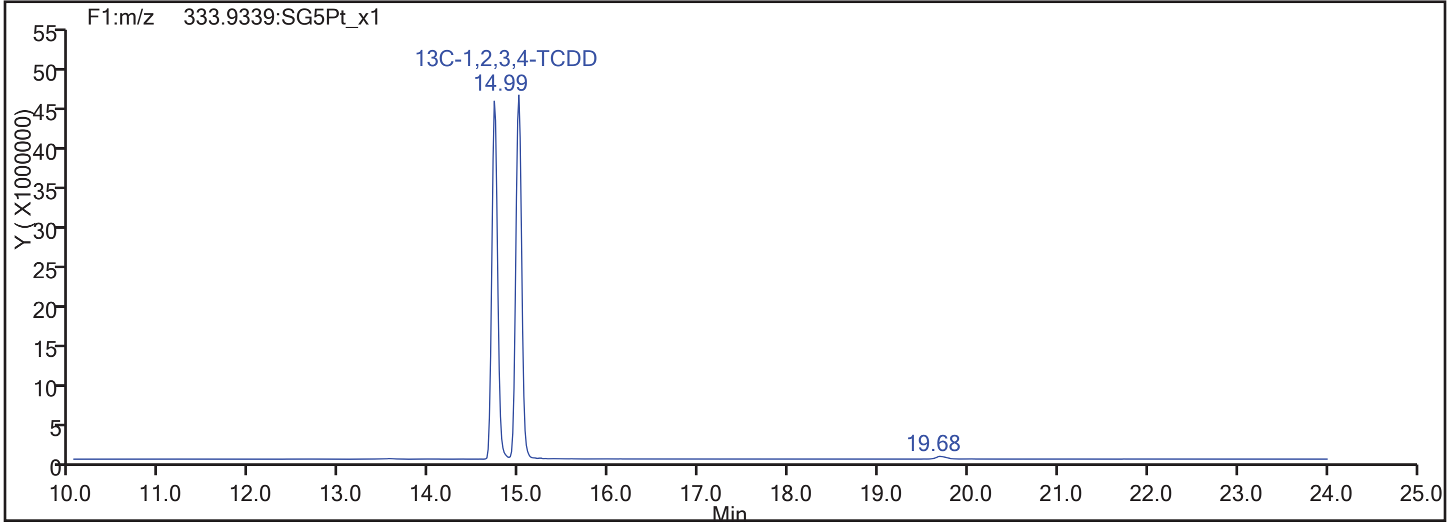
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_018.d		
Injection Date:	07-Nov-2017 20:52:49	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	18
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_018.d		
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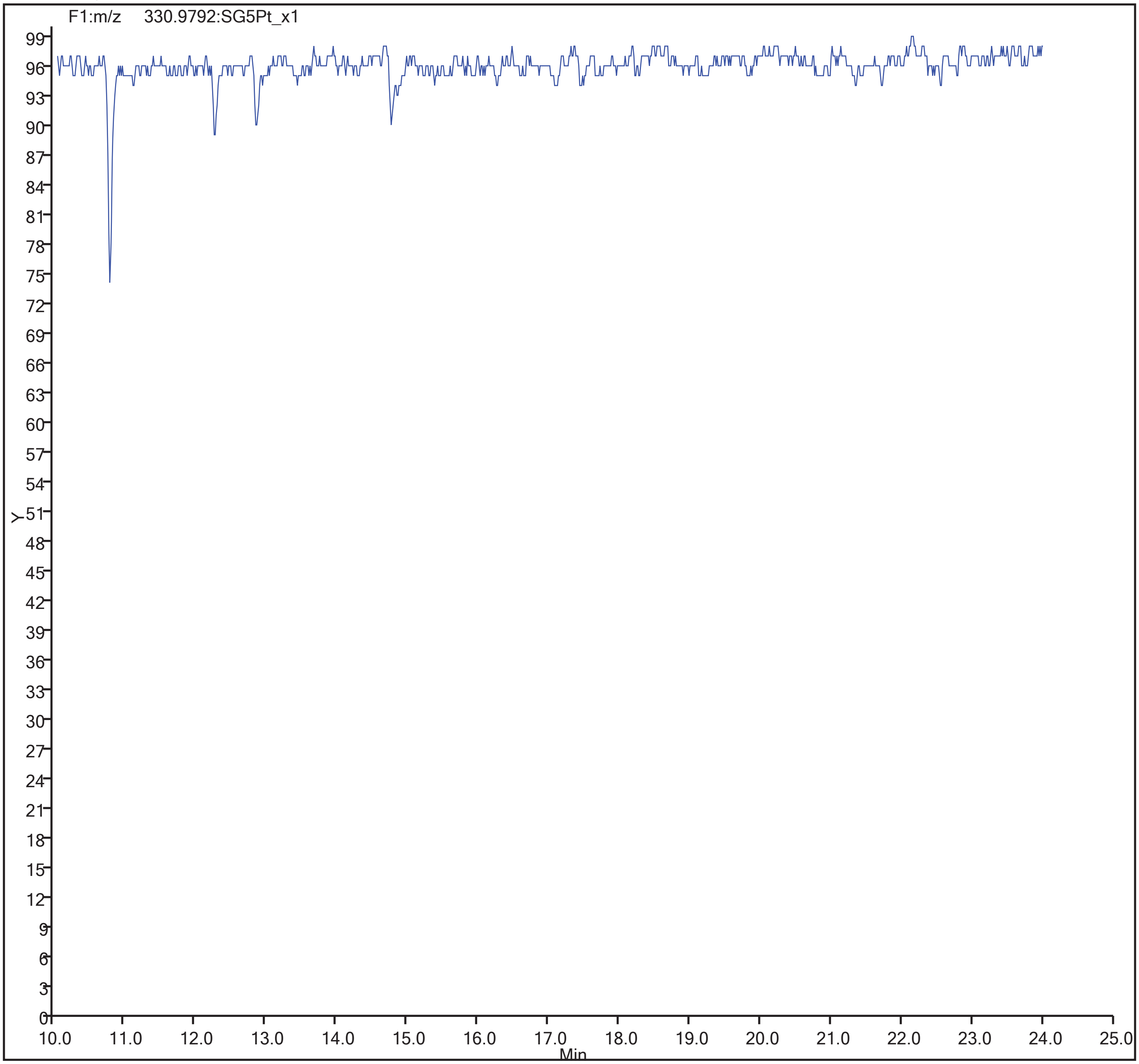
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	18
Column Type:	DB-225	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-193641/2 Calibration Date: 11/07/2017 23:26

Instrument ID: 9D2 Calib Start Date: 03/02/2017 14:04

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 03/02/2017 16:36

Lab File ID: 07NO17A9D2_002.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDD	AveID	1.112	1.125		10.1	10.0	1.1	20.0
2,3,7,8-TCDF	AveID	1.078	1.137		10.5	10.0	5.4	20.0
13C-2,3,7,8-TCDD	Ave	0.9567	0.9392		98.2	100	-1.8	30.0
13C-2,3,7,8-TCDF	Ave	1.260	1.389		110	100	10.3	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.121	1.135		10.1	10.0	1.3	

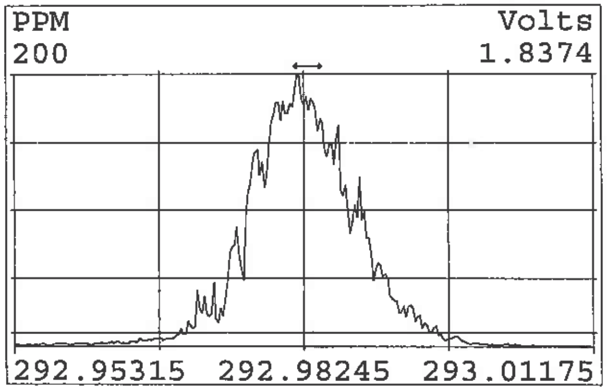
FORM VII 8290A

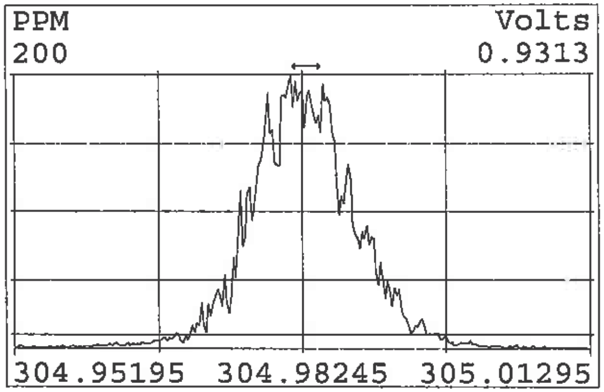
Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
07NO17A9D2	1	CPS 110717A	CPS HRDXNCP_00034				1.00000	
07NO17A9D2	2	CCV 110717B	CCV CS-4 HRDXNL4_00059				1.00000	
07NO17A9D2	3	RB 110717B	RB Reagent Blank C-14				1.00000	
07NO17A9D2	4	320-189721	160-24924-G-11-A	20	8290A_D5/Solid	D981	10.00000	g
07NO17A9D2	5	320-189721	160-24924-G-12-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	6	320-189721	160-24924-G-13-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	7	320-189721	160-24924-G-14-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	8	320-189721	160-24924-G-15-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	9	320-189721	160-24924-G-16-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	10	320-189721	160-24924-G-17-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	11	320-189721	160-24924-G-18-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	12	320-189721	160-24924-G-19-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	13	RB 110717C	RB Reagent Blank C-14				1.00000	
07NO17A9D2	14	CCV 110717C	CCV CS-4 HRDXNL4_00059				1.00000	
07NO17A9D2	15						1.00000	
07NO17A9D2	16						1.00000	
07NO17A9D2	17						1.00000	
07NO17A9D2	18						1.00000	
07NO17A9D2	19						1.00000	
07NO17A9D2	20						1.00000	
07NO17A9D2	21						1.00000	
07NO17A9D2	22						1.00000	
07NO17A9D2	23		ALM 11-07-17				1.00000	
07NO17A9D2	24						1.00000	

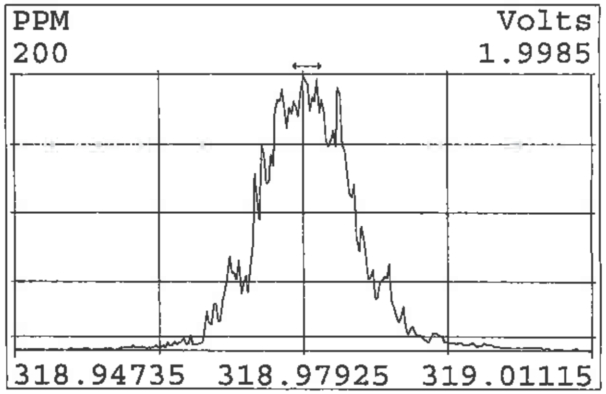
Log file checked

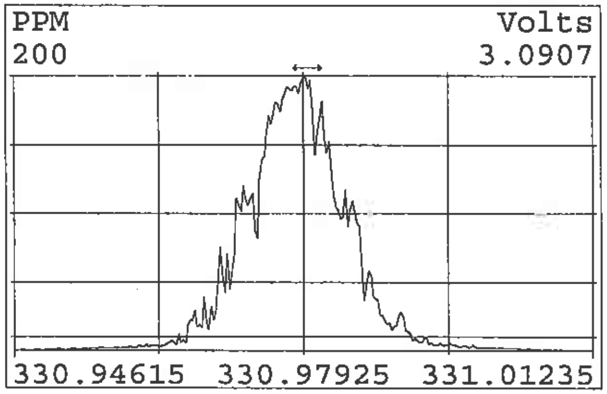
AJS.
11-8-17

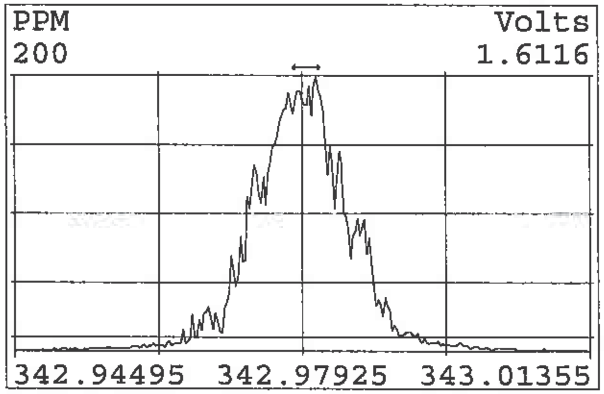
Peak Locate Examination: 7-NOV-2017:22:46 File:07NO17A9D2
Experiment:DB225RES Function:1 Reference:PFK

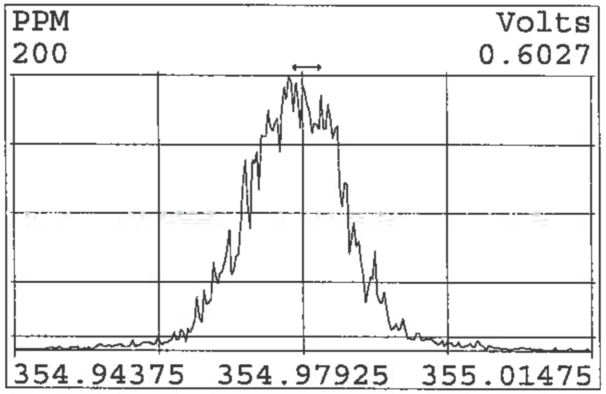


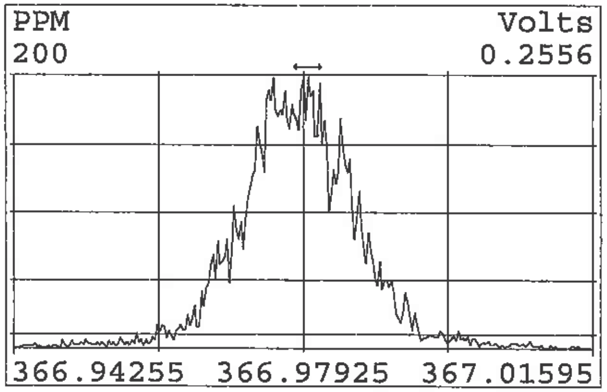


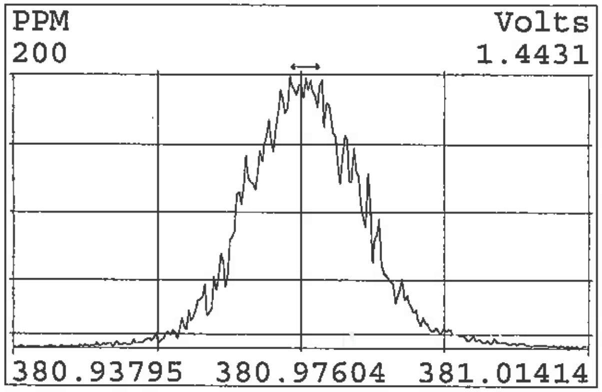




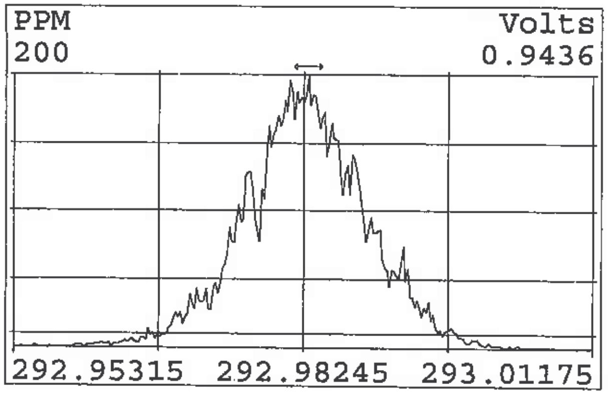


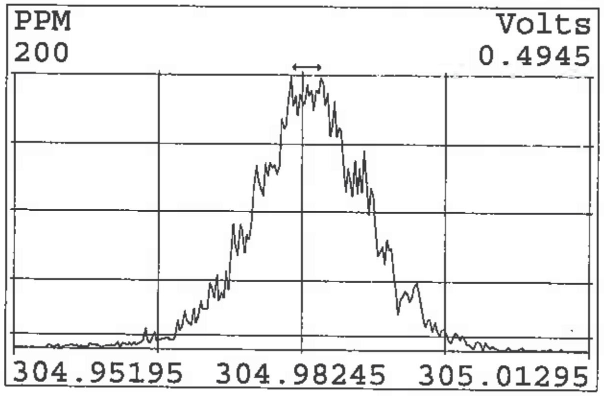


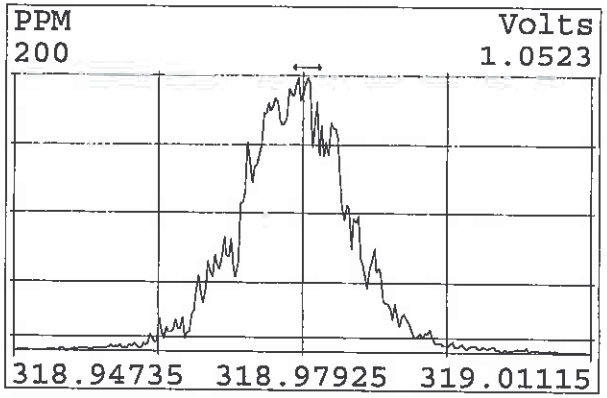


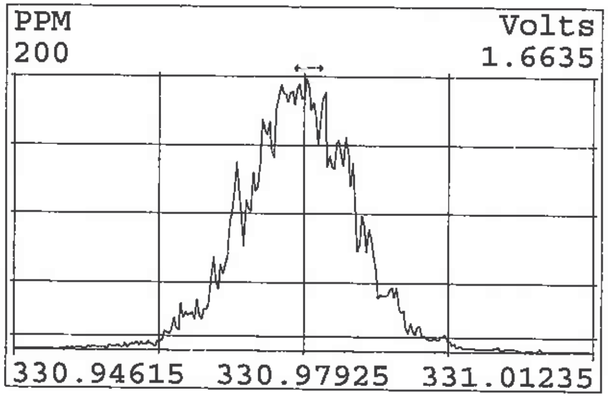


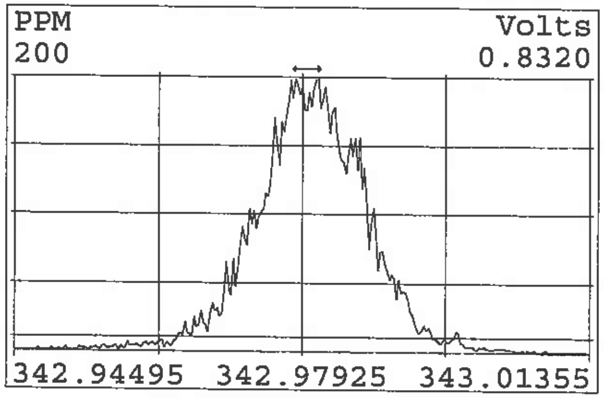
Peak Locate Examination: 8-NOV-2017:10:35 File:07NO17A9D2ENDRES
Experiment:DB225RES Function:1 Reference:PFK

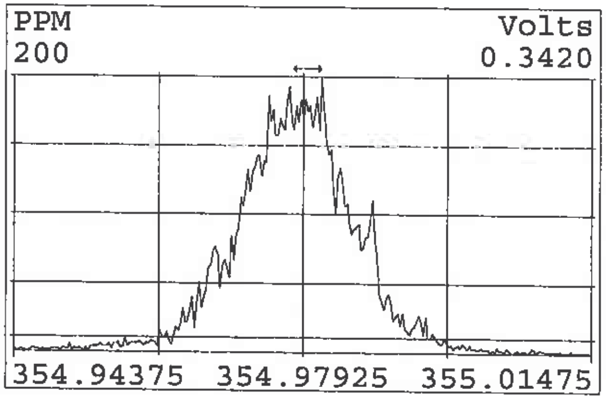


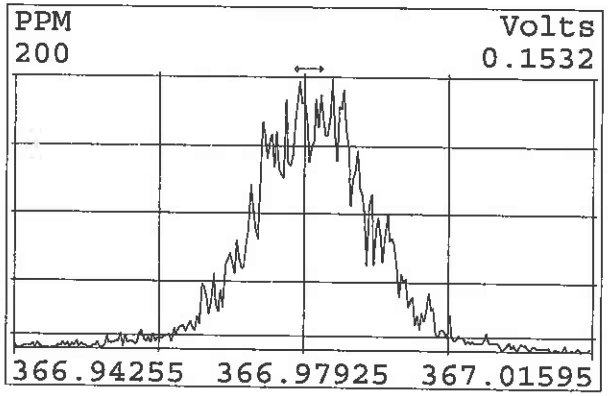


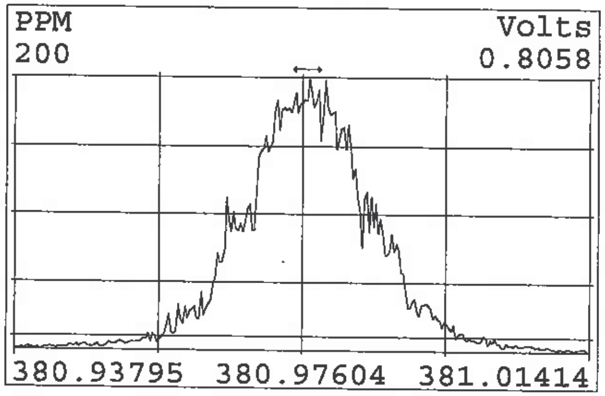












TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_002.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	07-Nov-2017 23:26:08	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCV CS-4 HRDXNL4_00059				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 17:09:27	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				

First Level Reviewer: shardaa Date: 09-Nov-2017 17:06:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.978	360362815	0.78	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.103	500636810	0.80	1.2599	110.3	110.3	0.1641	0.1641	110	
2,3,7,8-TCDF	16.117	56924409	0.78	1.0784	10.5	10.5	0.0880	0.0880	105	
D 13C-2,3,7,8-TCDD	14.717	338450424	0.77	0.9567	98.2	98.2	0.5428	0.5428	98.17	
$ 37Cl4-2,3,7,8-TCDD	14.731	40911341		1.1208	10.1	10.1	0.0156	0.0156	101	
2,3,7,8-TCDD	14.731	38065029	0.80	1.1123	10.1	10.1	0.0566	0.0566	101	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNL4_00059	Amount Added: 1.00	Units: mL

TestAmerica Sacramento

Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Nov-2017 23:26:08 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00059
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2
Sublist: chrom-DXN_DB225_9D2*sub1

Method: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 17:09:27 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 17:06:45

Signal	RT (min.)	Adj RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.978	14.978	0		157606744	34779775	97078	242695	358		
333.9339	14.978	14.978	0		202756071	44583641	67787	169467	658	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.103	16.103	0	1.075	223115836	45253760	31687	79217	1428		
317.9389	16.103	16.103	0	1.075	277520974	56006408	33936	84840	1650	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.117	16.117	0	1.001	24900613	5062017	24742	61855	205		
305.8987	16.117	16.117	0	1.001	32023796	6579250	13699	34247	480	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.717	14.717	0	0.983	147236913	33042170	97078	242695	340		
333.9339	14.717	14.717	0	0.983	191213511	42703112	67787	169467	630	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.731	14.731	0	0.984	40911341	9194732	5565	13912	1652		
2,3,7,8-TCDD											
319.8965	14.731	14.731	0	1.001	16930326	3794150	9815	24537	387		
321.8936	14.731	14.731	0	1.001	21134703	4728063	9270	23175	510	0.80(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				24742	61855			
Total Dioxins & Furans											
303.9016		0.0	0				24742	61855			

Reagents:

HRDXNL4_00059 Amount Added: 1.00 Units: mL

Report Date: 09-Nov-2017 17:09:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_002.d

Injection Date: 07-Nov-2017 23:26:08

Injection Vol: 2.0 ul

Instrument ID: 9D2

Operator ID:

Method: DXN_DB225_9D2

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

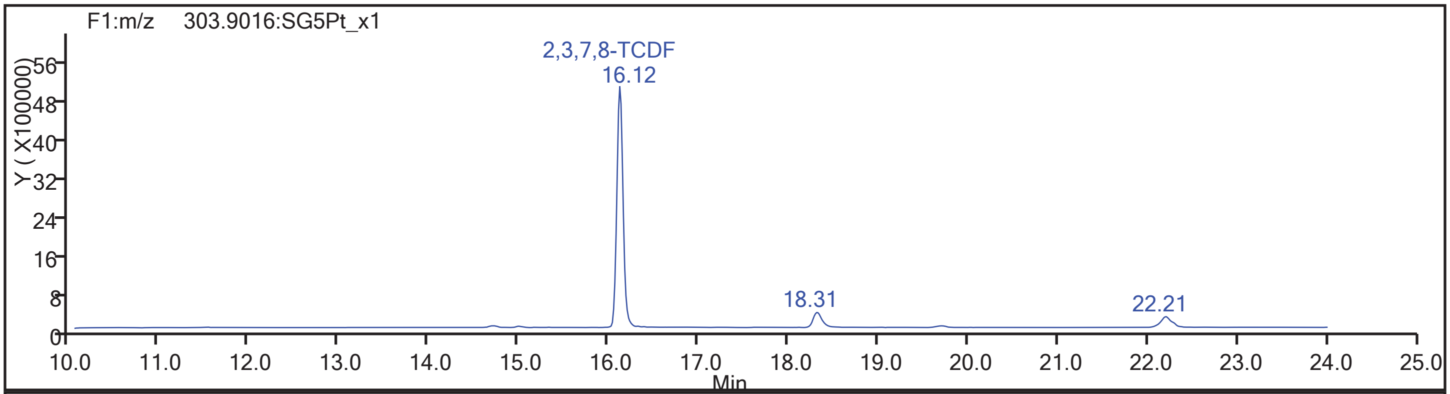
Worklist#: 193641

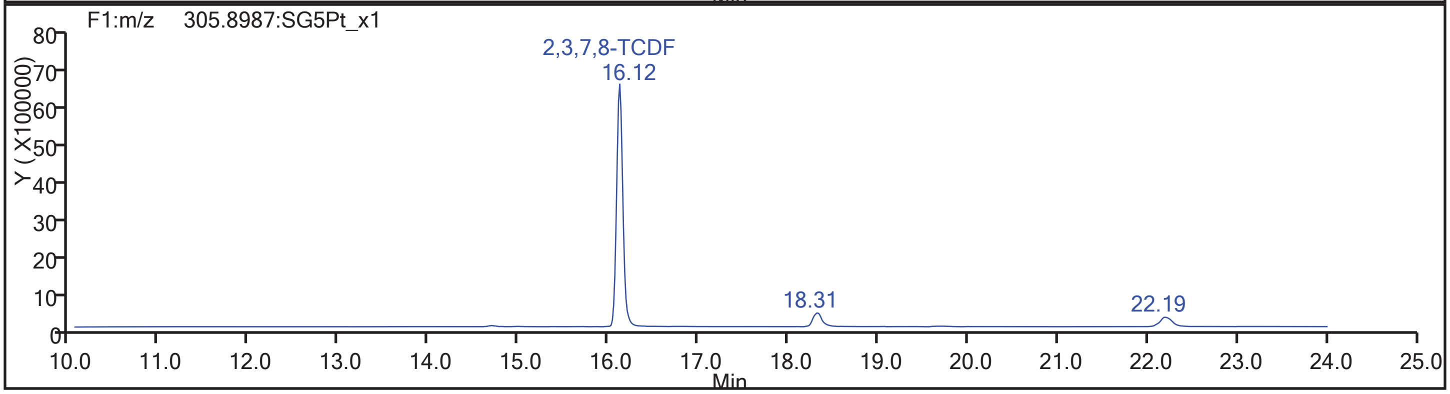
Sample Line#: 2

Column Type: DB-225

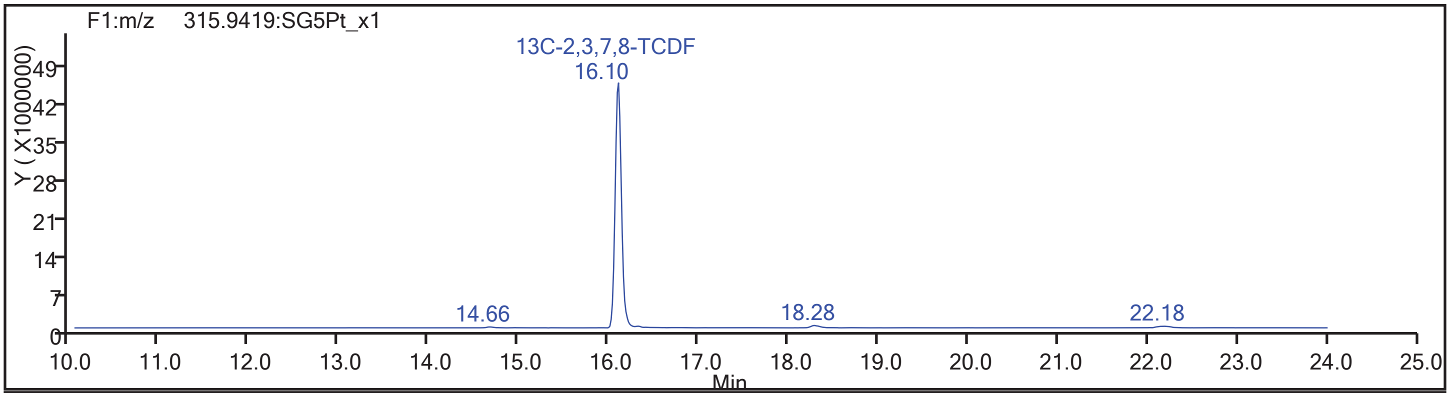
Column Dia: 0.32 mm

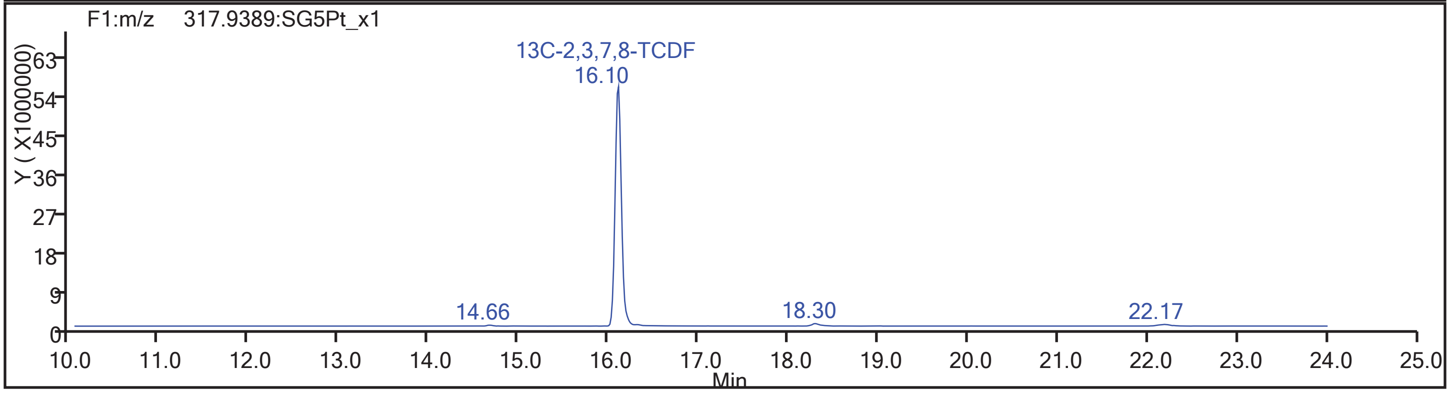
TCDF





TCDF Standards





Report Date: 09-Nov-2017 17:09:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_002.d		
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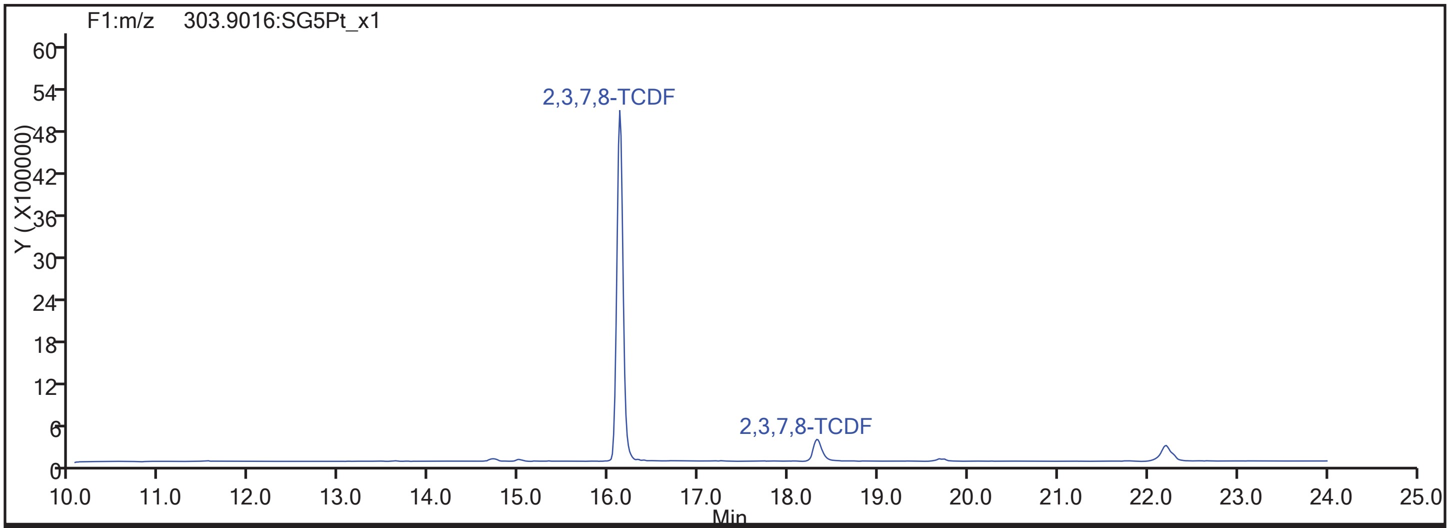
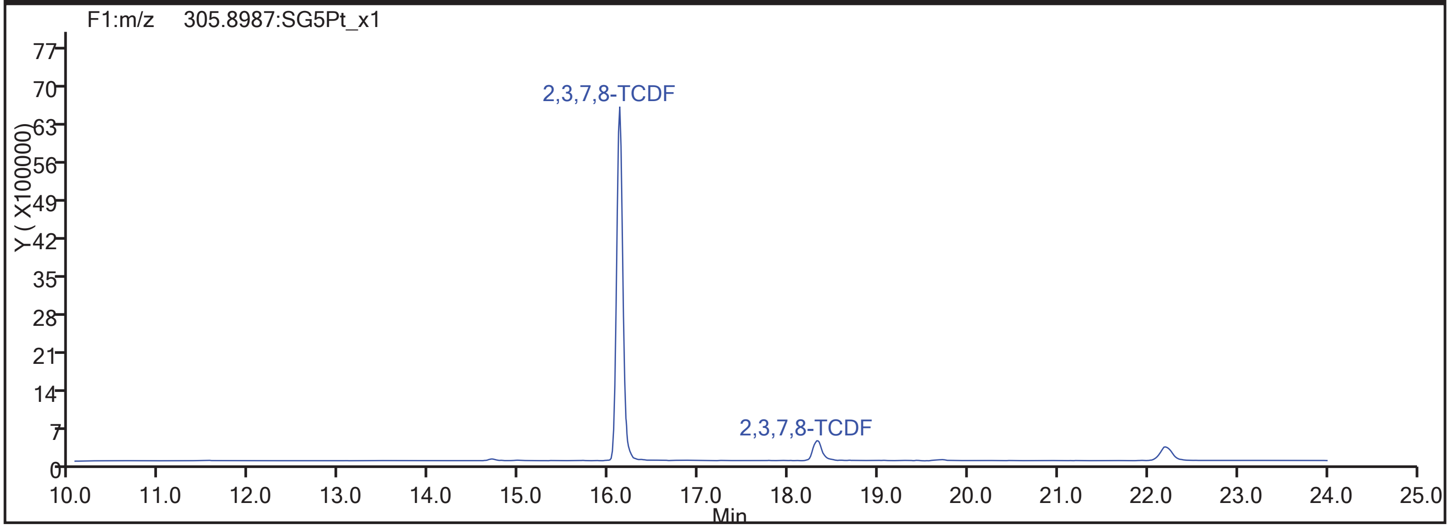
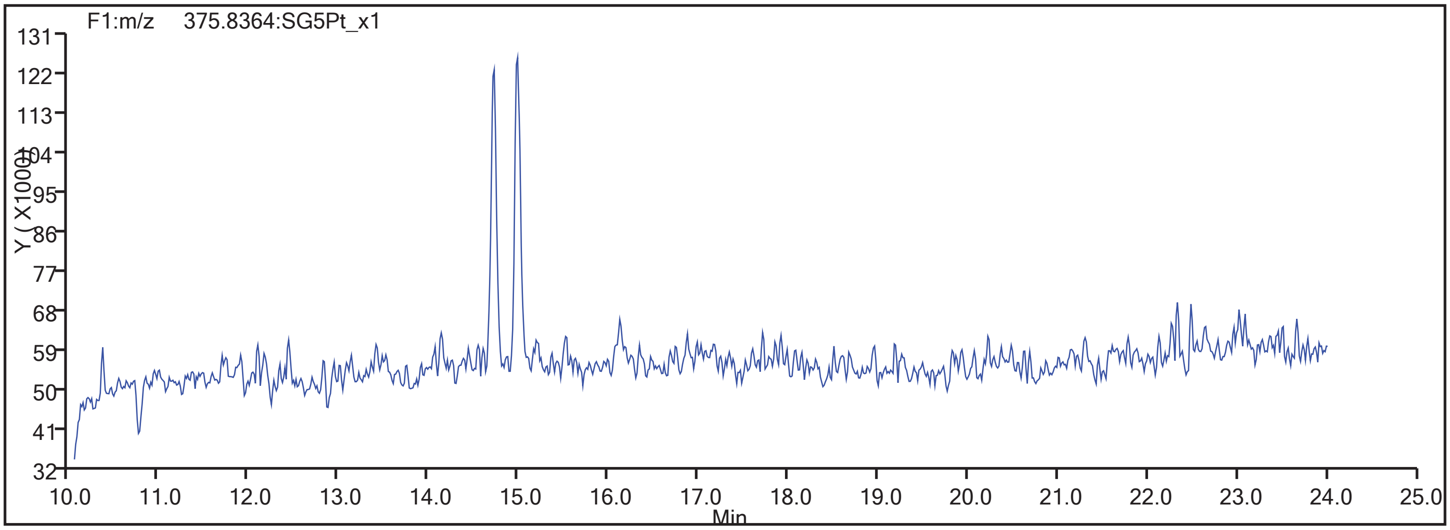
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



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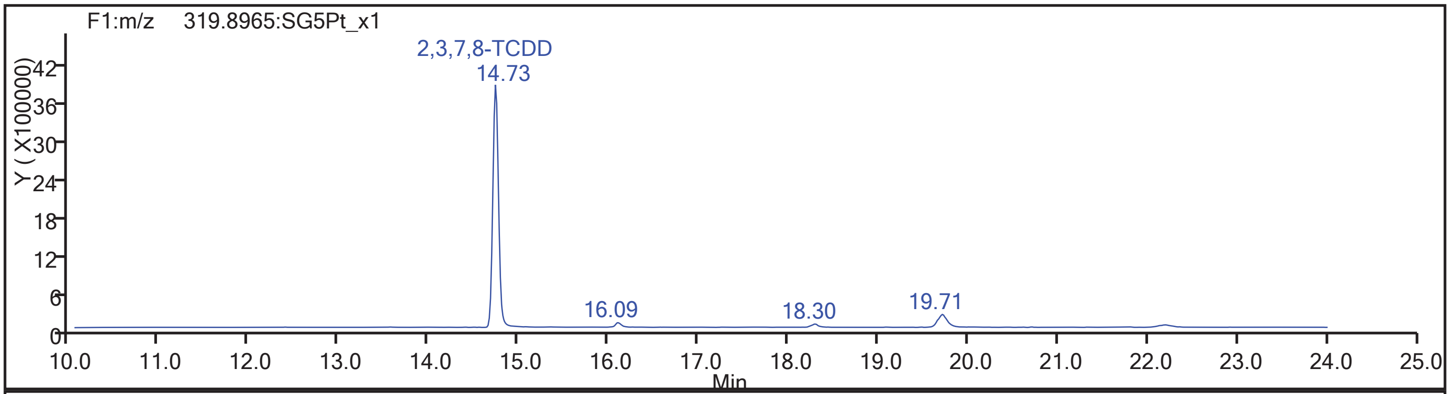
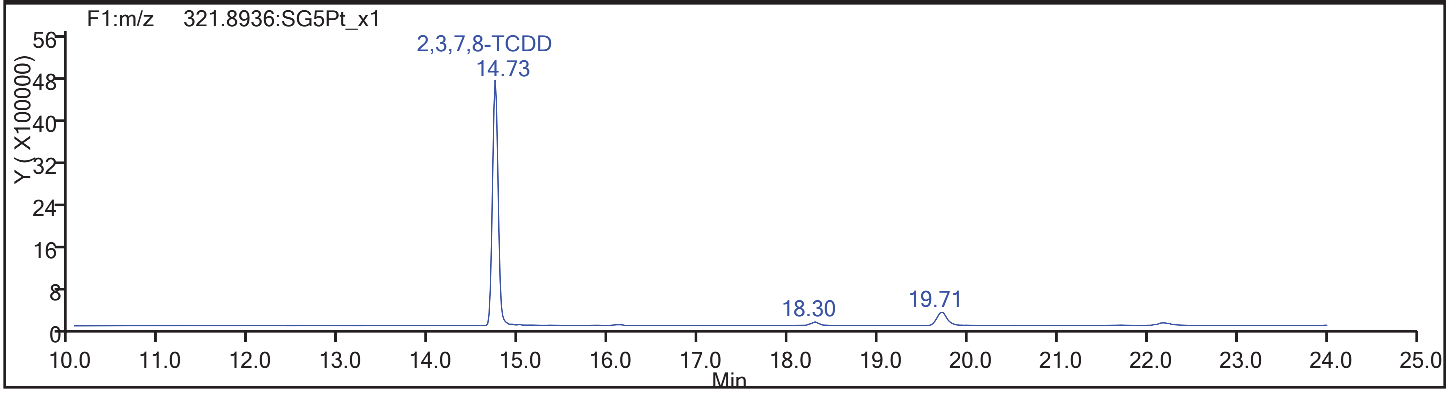
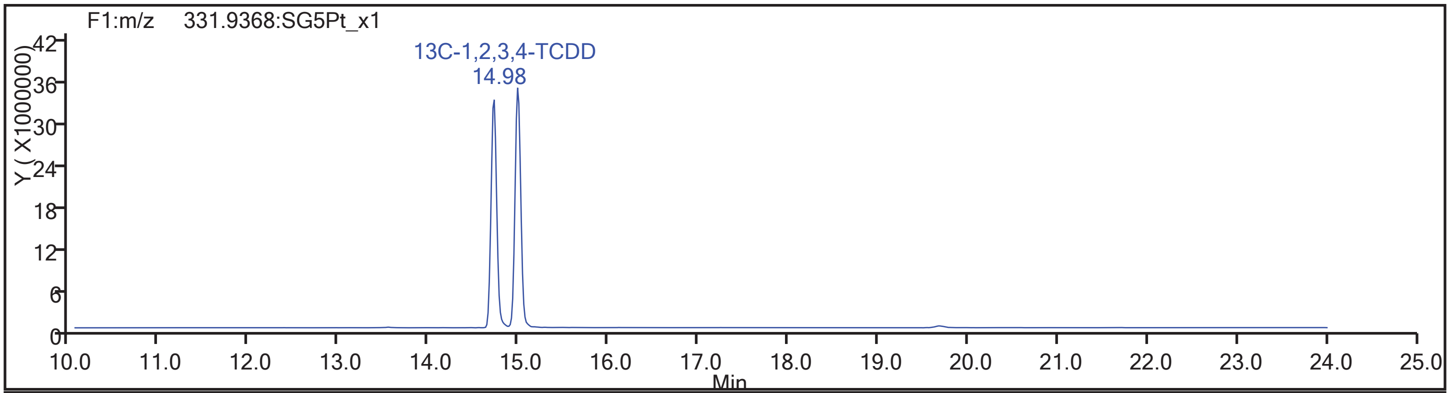
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

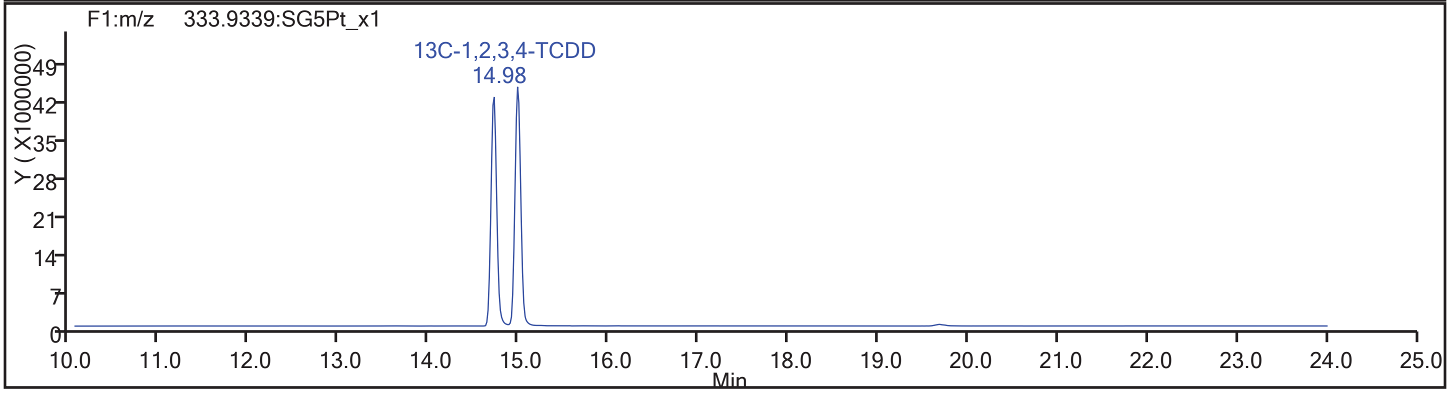
TCDD





TCDD Standards





Report Date: 09-Nov-2017 17:09:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_002.d

Injection Date: 07-Nov-2017 23:26:08 Injection Vol: 2.0 ul

Instrument ID: 9D2 Operator ID:

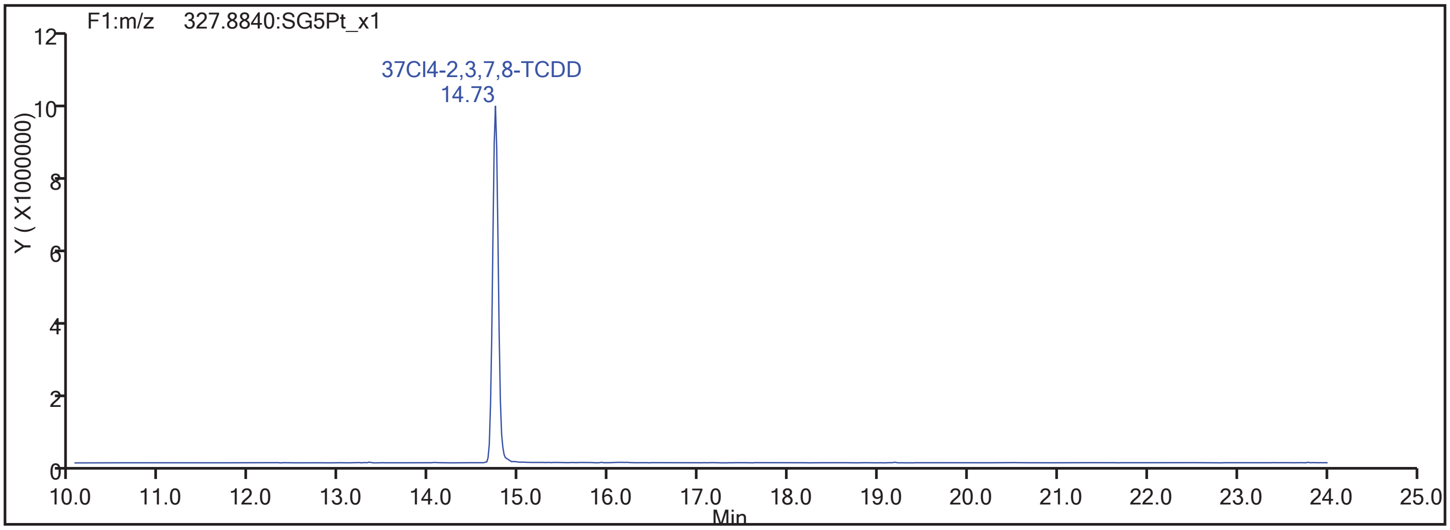
Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

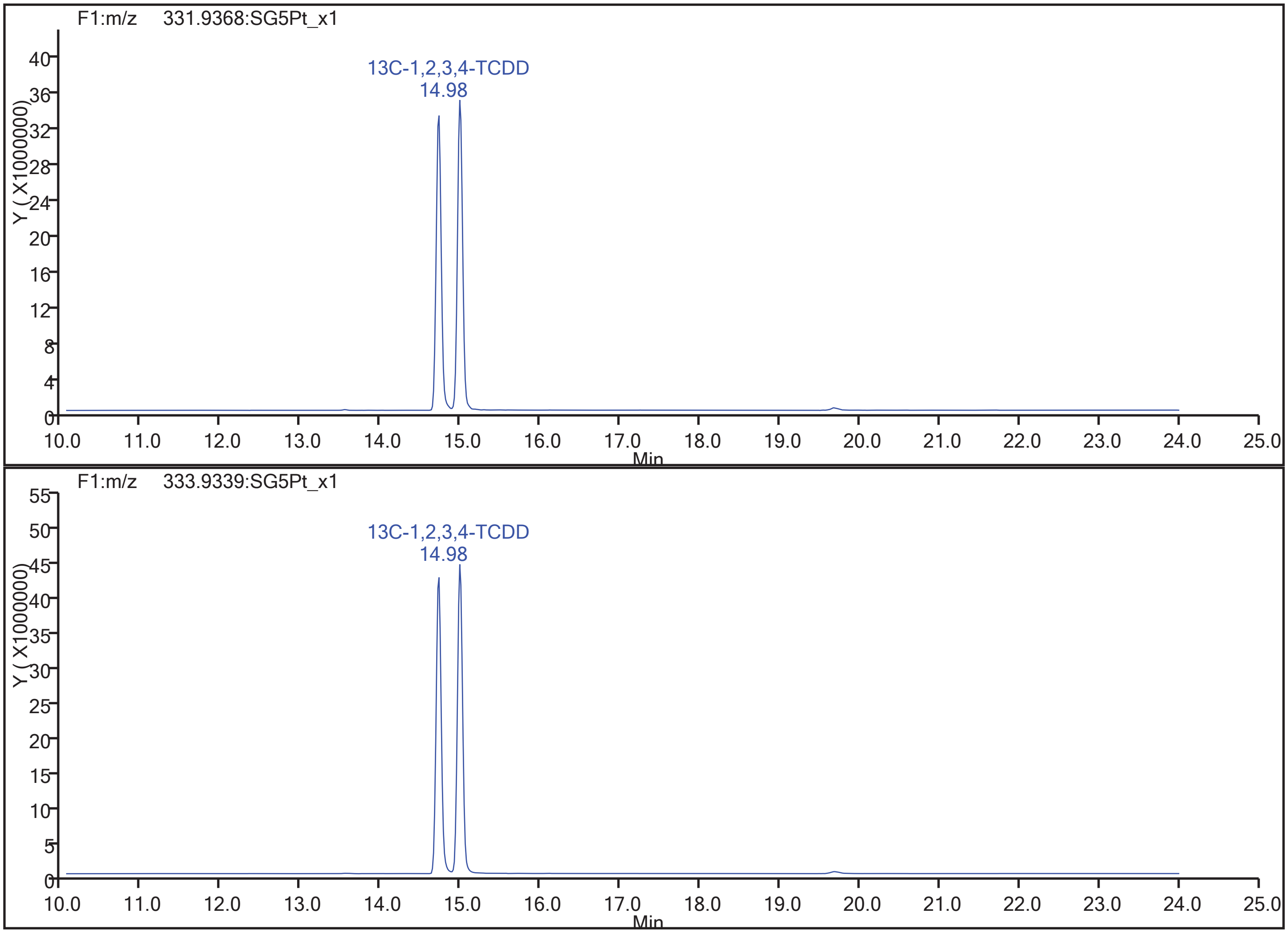
Worklist#: 193641 Sample Line#: 2

Column Type: DB-225 Column Dia: 0.32 mm

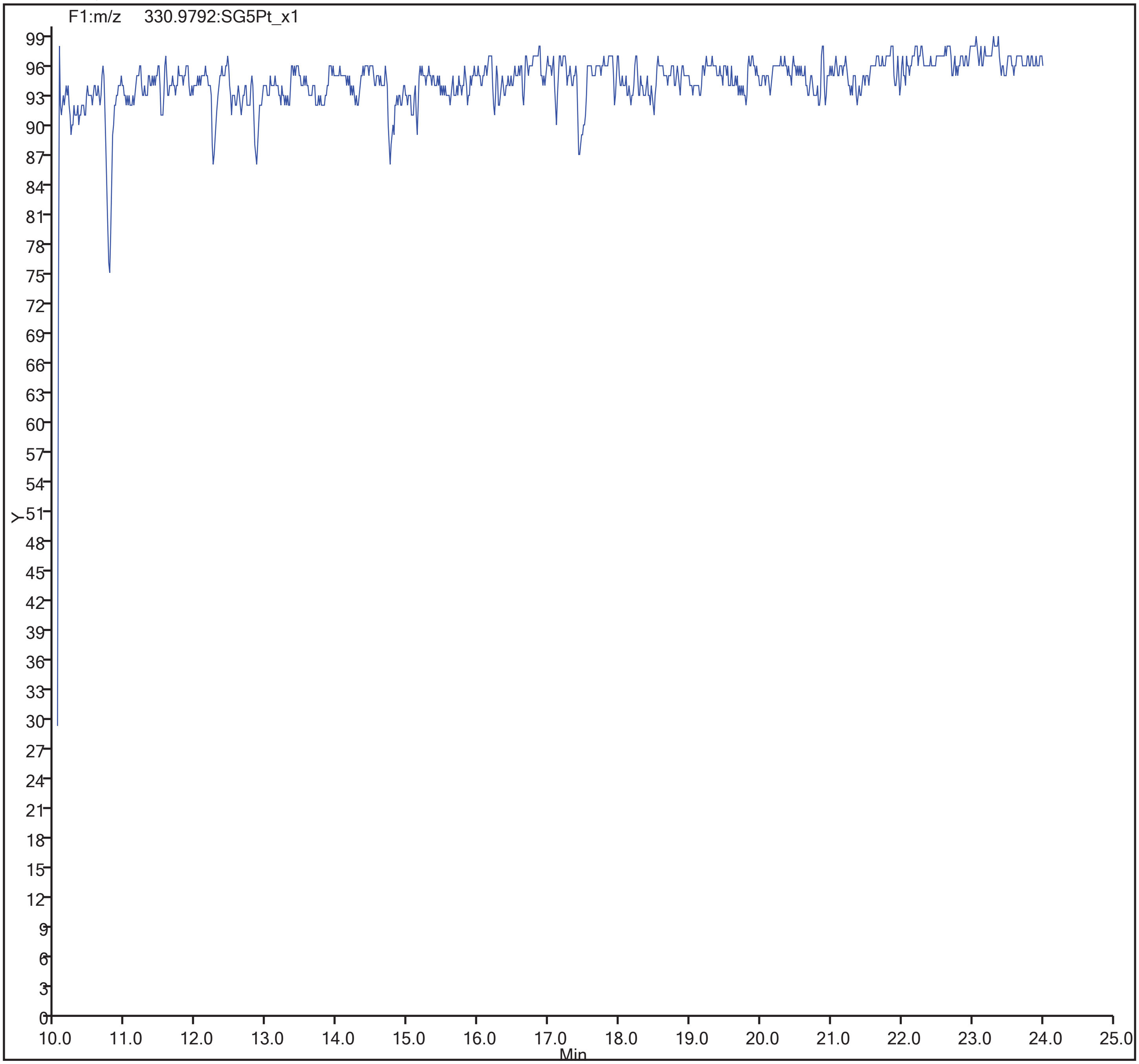
37Cl4-TCDD



37Cl4-TCDD Standards



Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_002.d		
Injection Date:	07-Nov-2017 23:26:08	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-193641/14

Calibration Date: 11/08/2017 07:00

Instrument ID: 9D2

Calib Start Date: 03/02/2017 14:04

GC Column: DB-225

ID: 0.32(mm)

Calib End Date: 03/02/2017 16:36

Lab File ID: 07NO17A9D2_014.d

Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,8-TCDD	AveID	1.112	1.178		10.6	10.0	5.9	20.0
2,3,7,8-TCDF	AveID	1.078	1.198		11.1	10.0	11.1	20.0
13C-2,3,7,8-TCDD	Ave	0.9567	0.9162		95.8	100	-4.2	30.0
13C-2,3,7,8-TCDF	Ave	1.260	1.478		117	100	17.3	30.0
37Cl4-2,3,7,8-TCDD	Ave	1.121	1.133		10.1	10.0	1.1	

FORM VII 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_014.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	08-Nov-2017 07:00:01	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCV CS-4 HRDXNL4_00059				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 17:09:06	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				
First Level Reviewer: shardaa		Date:	09-Nov-2017 17:09:06		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.991	230209532	0.80	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.102	340197358	0.81	1.2599	117.3	117.3	0.1841	0.1841	117	
2,3,7,8-TCDF	16.129	40756116	0.78	1.0784	11.1	11.1	0.0301	0.0301	111	
D 13C-2,3,7,8-TCDD	14.716	210915047	0.79	0.9567	95.8	95.8	0.2539	0.2539	95.76	
$ 37Cl4-2,3,7,8-TCDD	14.744	26081288		1.1208	10.1	10.1	0.0160	0.0160	101	
2,3,7,8-TCDD	14.744	24850752	0.80	1.1123	10.6	10.6	0.0344	0.0344	106	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNL4_00059	Amount Added: 1.00	Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_014.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	08-Nov-2017 07:00:01	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCV CS-4 HRDXNL4_00059				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 17:09:06	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				
First Level Reviewer: shardaa		Date:	09-Nov-2017 17:09:06		

Signal	RT (min.)	Adj RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.991	14.991	0		102578992	23212012	31842	79605	729		
333.9339	14.991	14.991	0		127630540	28747629	18649	46622	1542	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.102	16.102	0	1.074	152181029	30459001	26072	65180	1168		
317.9389	16.102	16.102	0	1.074	188016329	37420323	22122	55305	1692	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.129	16.129	0	1.002	17918790	3614195	5002	12505	723		
305.8987	16.129	16.129	0	1.002	22837326	4588206	3805	9512	1206	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.716	14.716	0	0.982	92847171	20153304	31842	79605	633		
333.9339	14.716	14.716	0	0.982	118067876	25678915	18649	46622	1377	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.744	14.744	0	0.984	26081288	5561137	3729	9322	1491		
2,3,7,8-TCDD											
319.8965	14.744	14.744	0	1.002	11032438	2423418	3328	8320	728		
321.8936	14.744	14.744	0	1.002	13818314	2962815	3694	9235	802	0.80(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				5002	12505			
Total Dioxins & Furans											
303.9016		0.0	0				5002	12505			

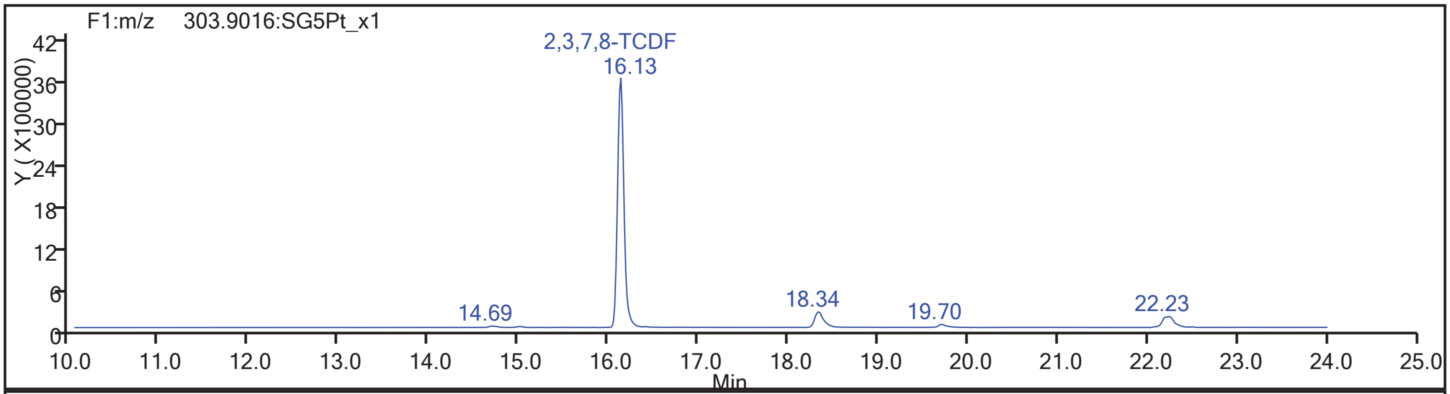
Reagents:

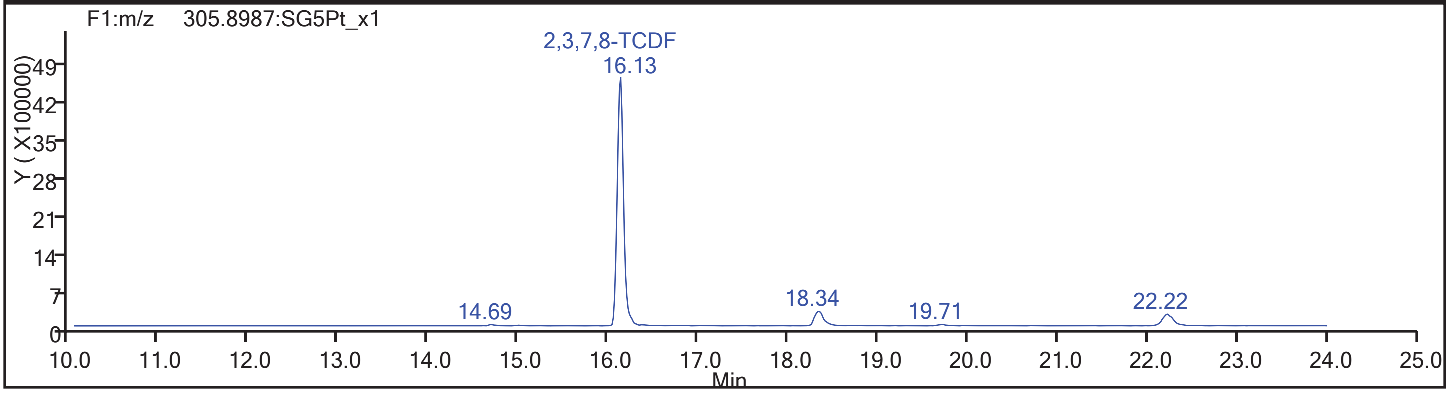
HRDXNL4_00059 Amount Added: 1.00 Units: mL

TestAmerica Sacramento

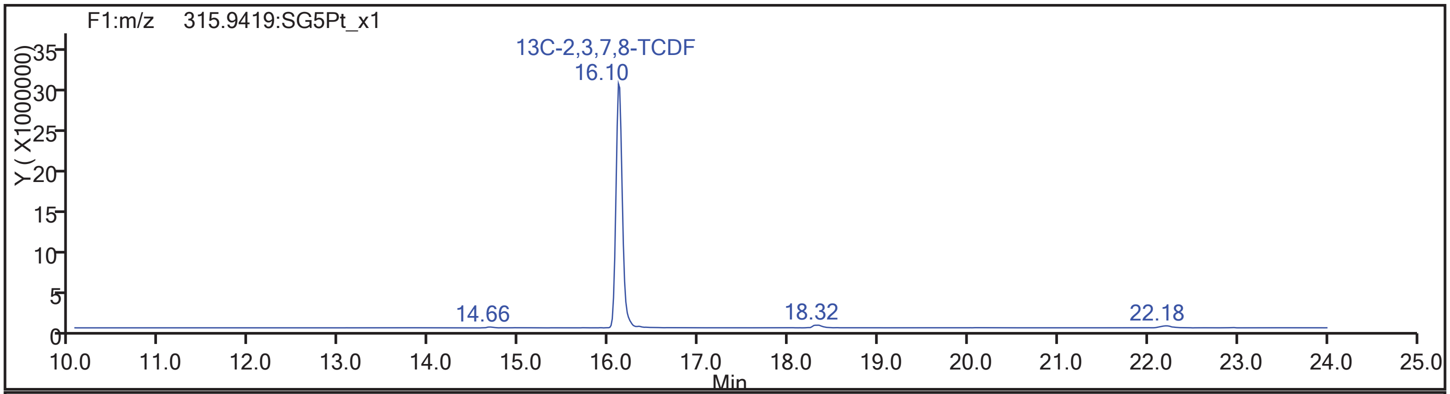
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_014.d		
Injection Date:	08-Nov-2017 07:00:01	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	14
Column Type:	DB-225	Column Dia:	0.32 mm

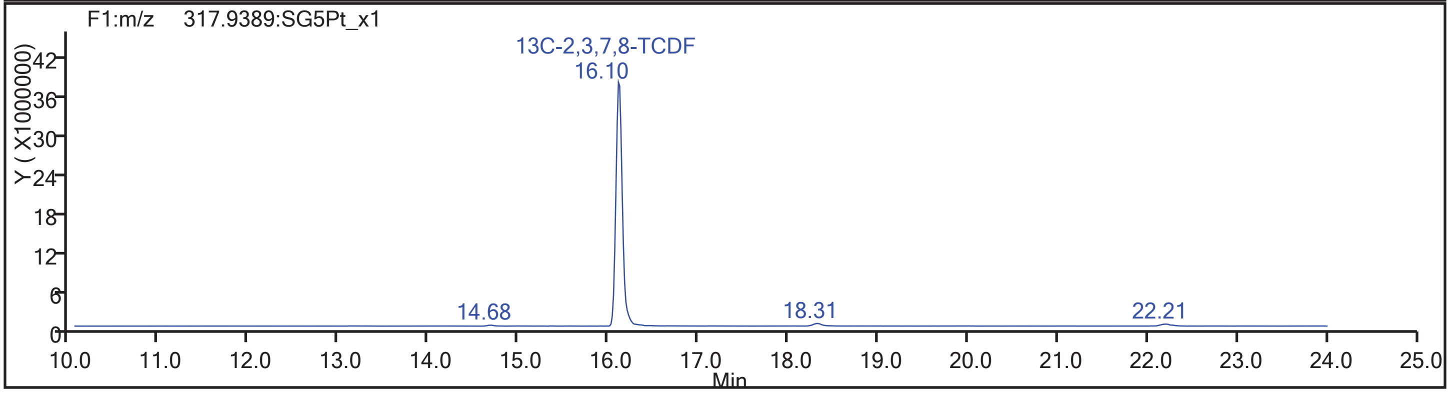
TCDF





TCDF Standards

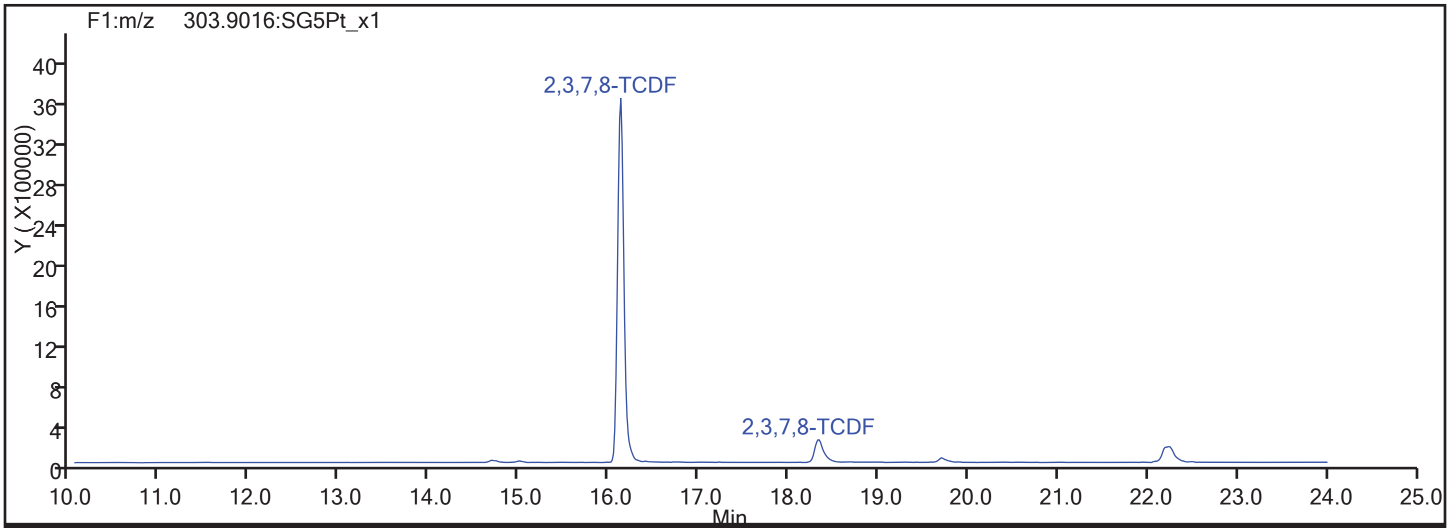


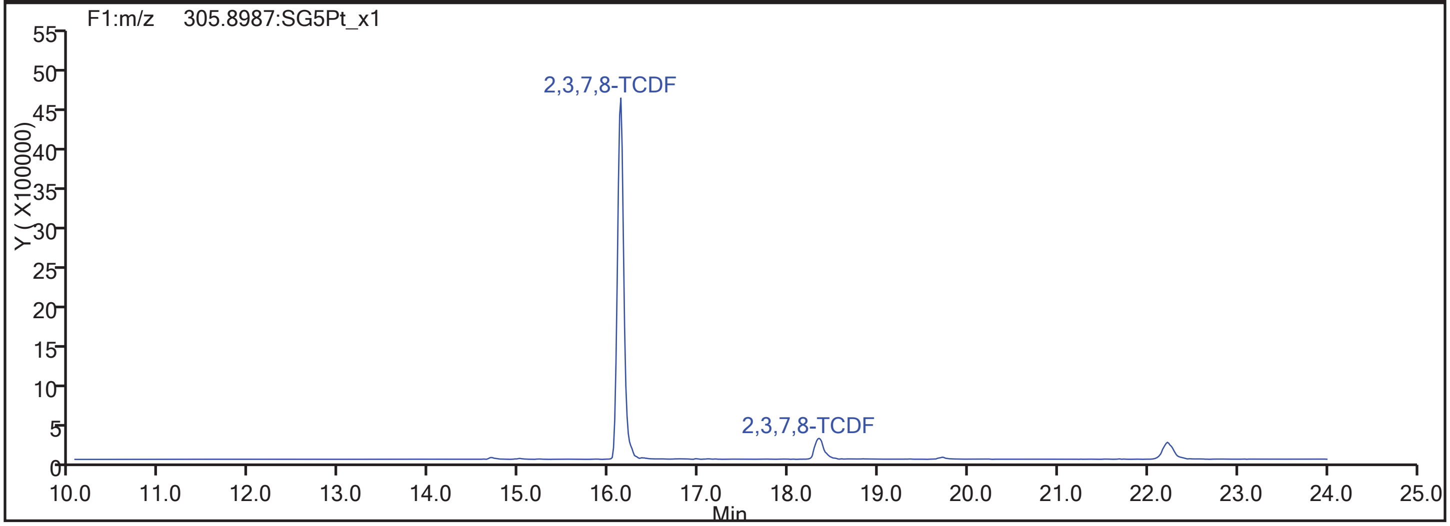


TestAmerica Sacramento

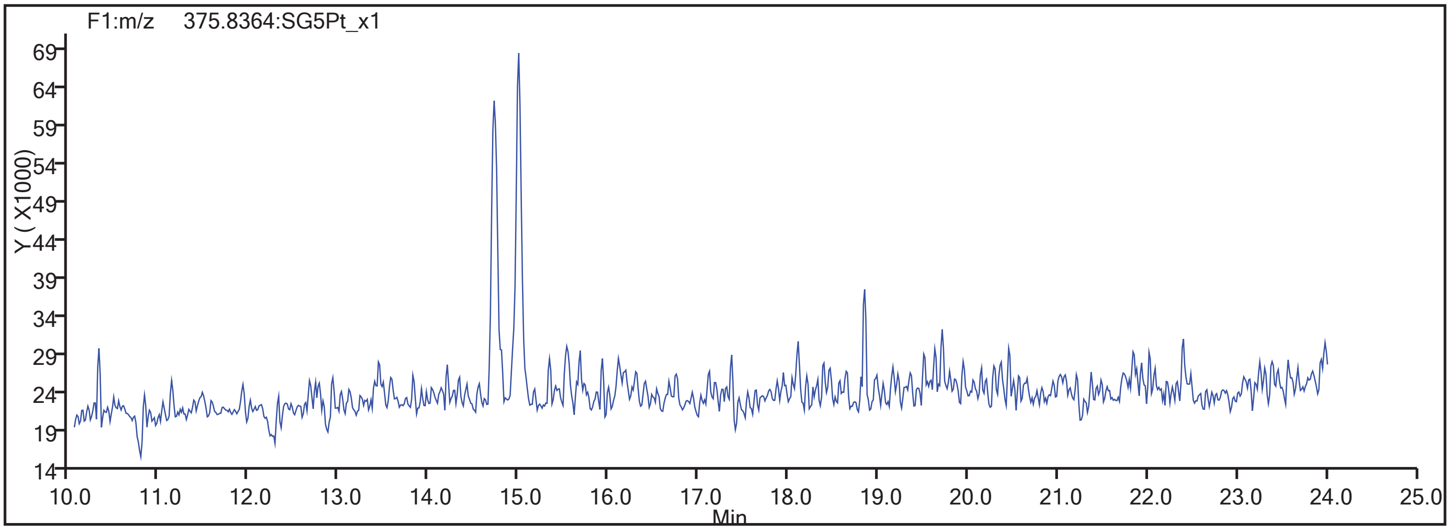
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_014.d		
Injection Date:	08-Nov-2017 07:00:01	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	14
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

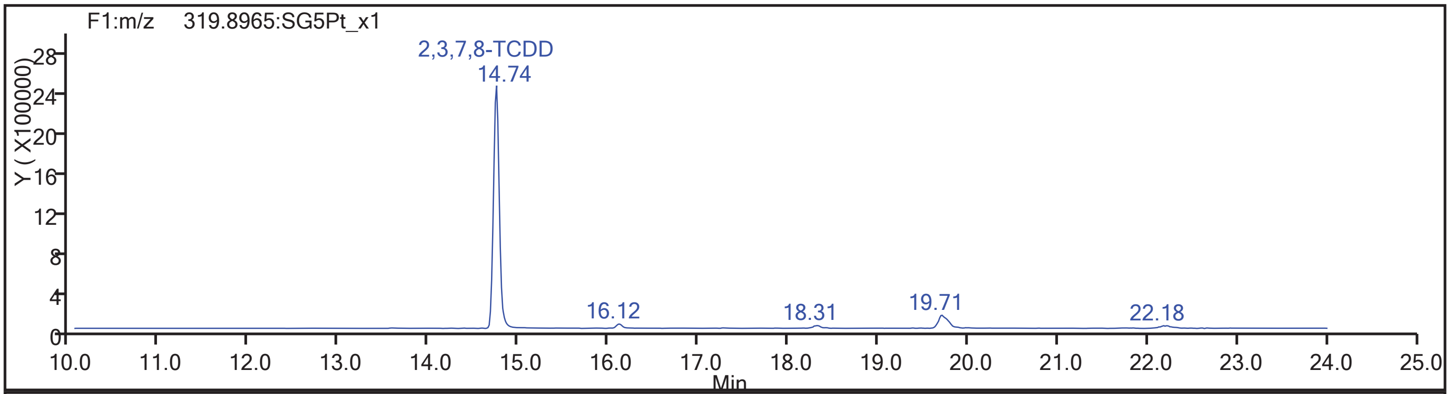


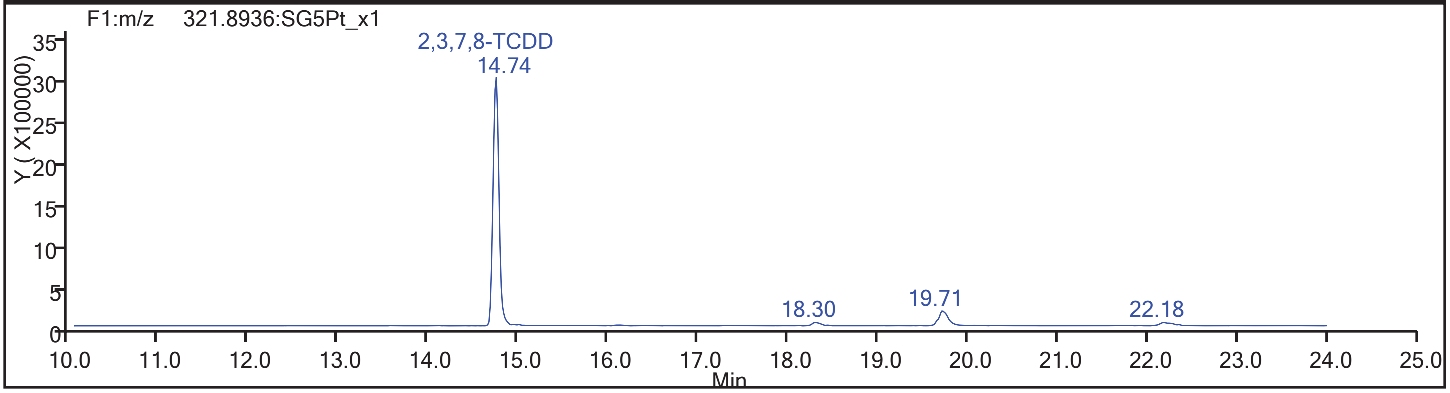
Report Date: 09-Nov-2017 17:09:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

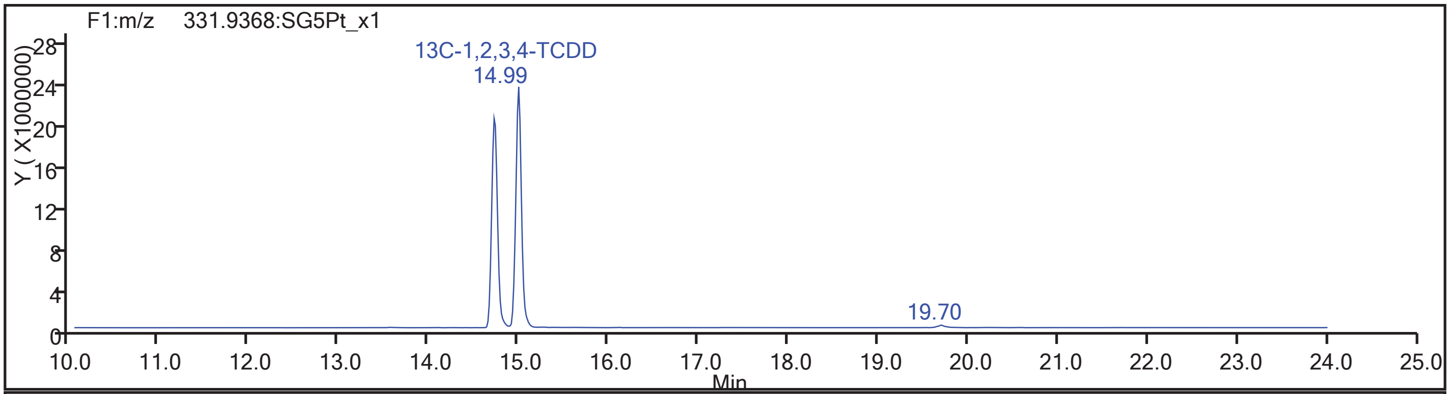
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_014.d
Injection Date: 08-Nov-2017 07:00:01
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 193641
Sample Line#: 14
Column Type: DB-225
Column Dia: 0.32 mm

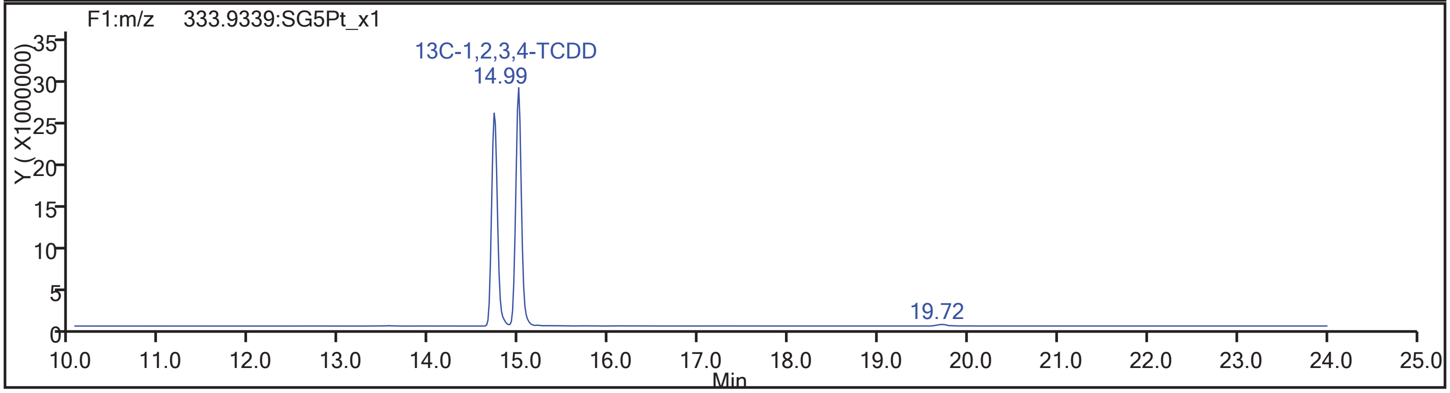
TCDD





TCDD Standards



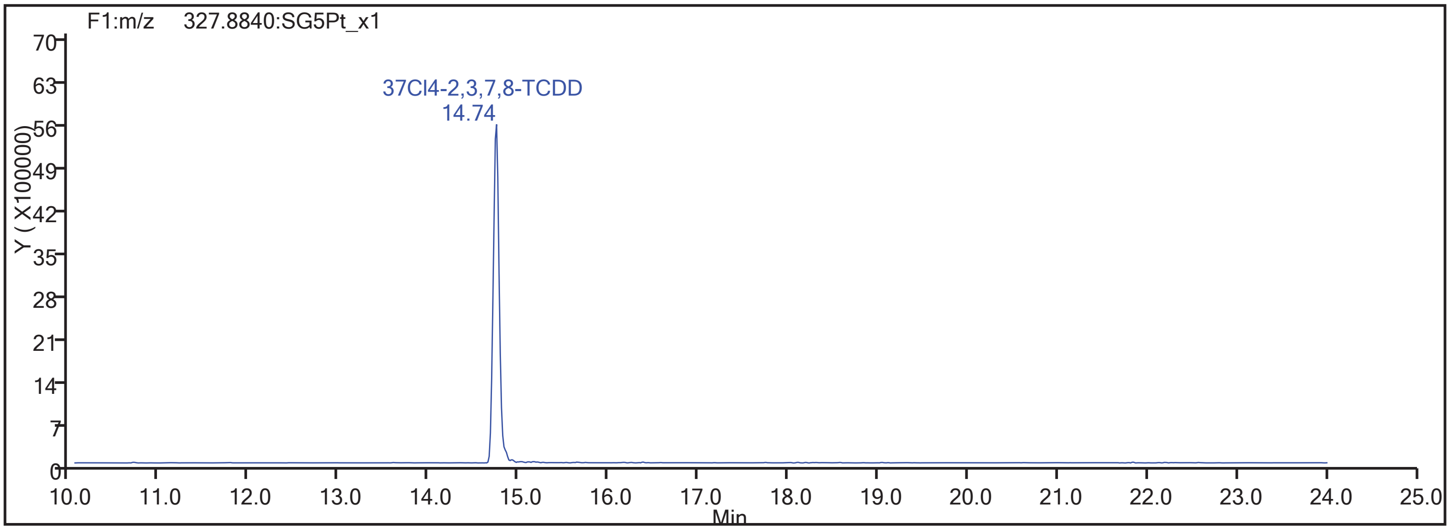


Report Date: 09-Nov-2017 17:09:07 Chrom Revision: 2.2 16-Aug-2017 16:24:46

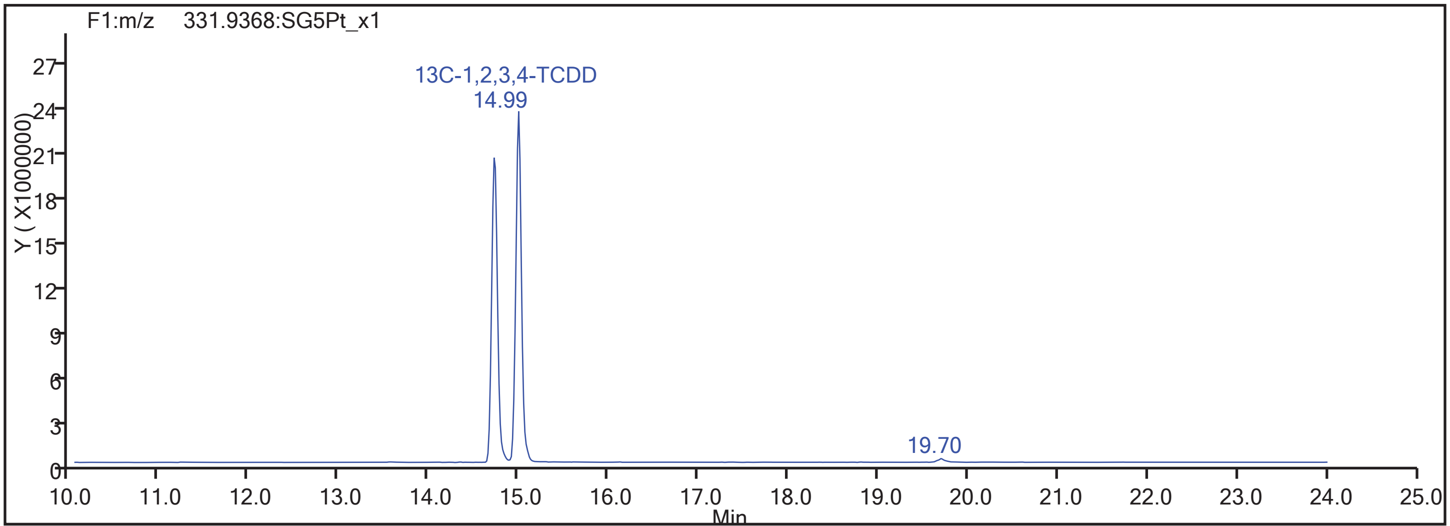
TestAmerica Sacramento

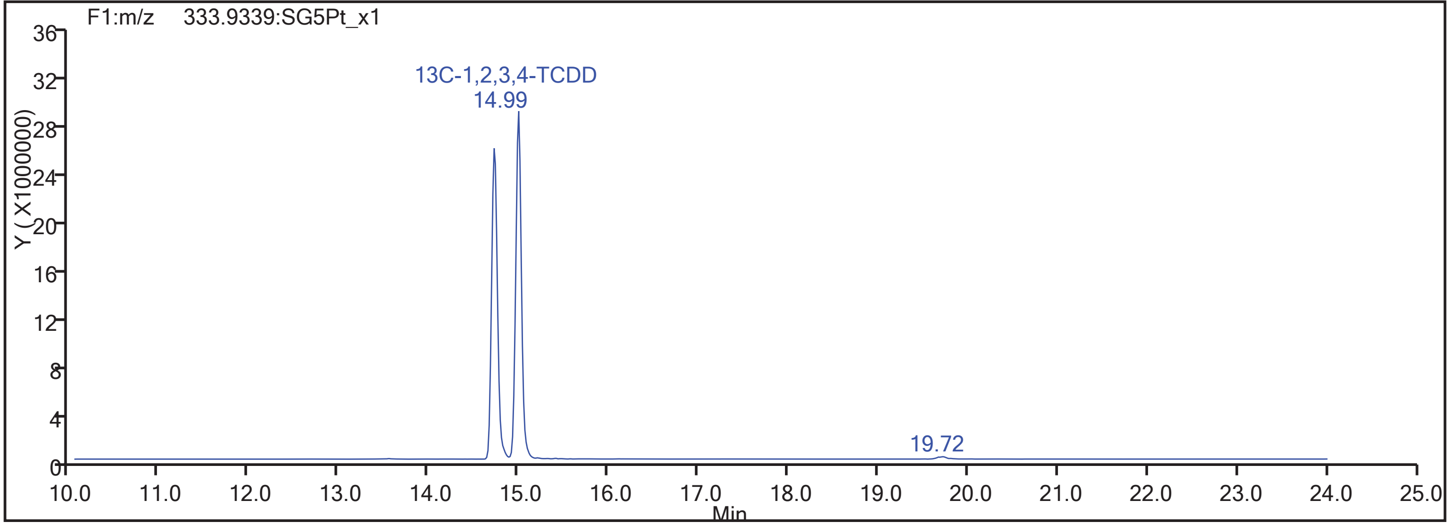
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_014.d		
Injection Date:	08-Nov-2017 07:00:01	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	14
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





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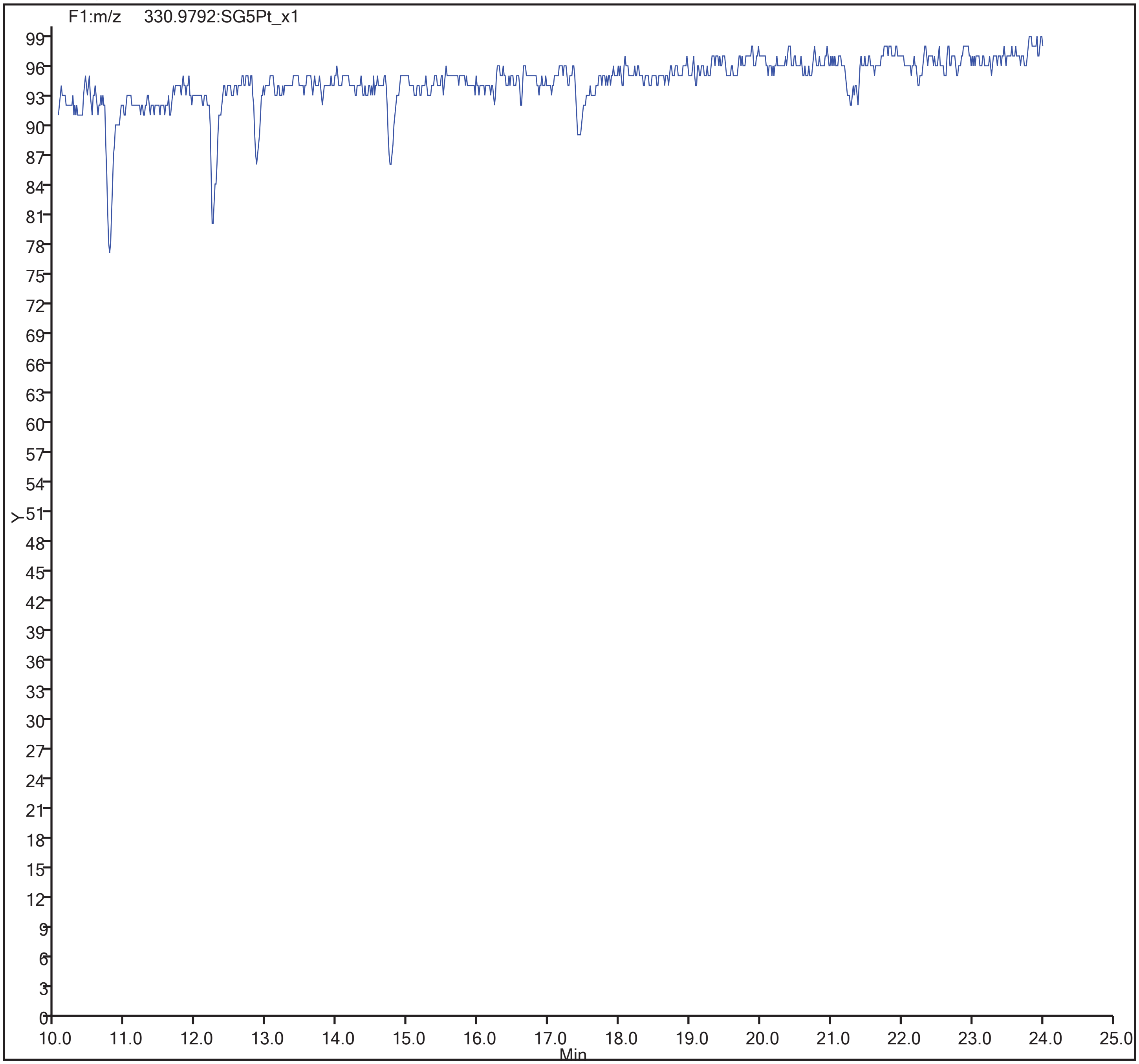
Injection Date:	08-Nov-2017 07:00:01	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	14
Column Type:	DB-225	Column Dia:	0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-195469/2 Calibration Date: 12/08/2017 12:11

Instrument ID: 9D2 Calib Start Date: 03/02/2017 14:04

GC Column: DB-228 ID: 0.32(mm) Calib End Date: 03/02/2017 16:36

Lab File ID: 08DE179D2_002.d Conc. Units: pg/uL

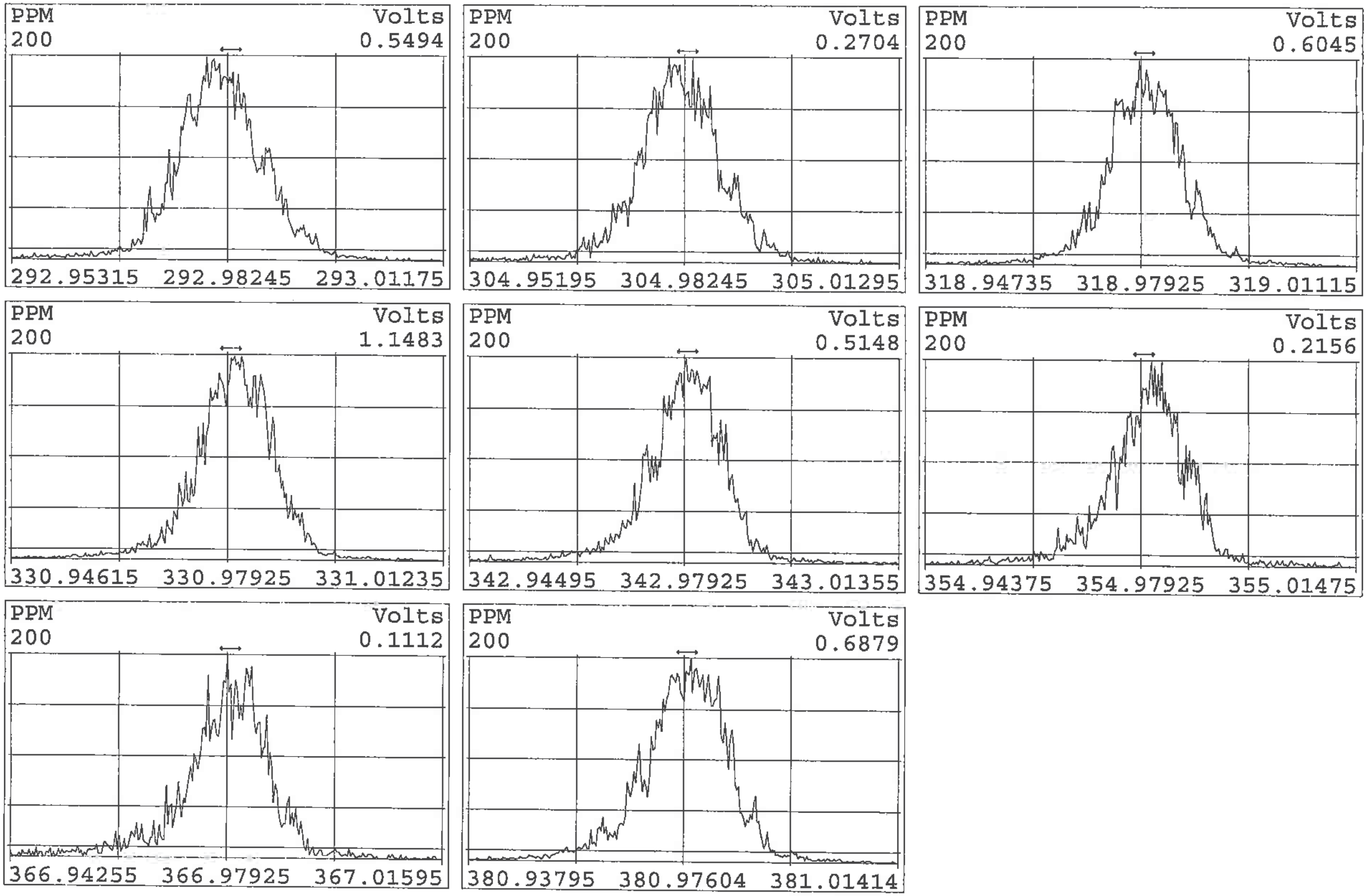
ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,5-TCDD	AveID	1.112	1.100		9.59	10.0	-1.1	20.0
2,3,7,5-TCDF	AveID	1.075	1.099		10.2	10.0	1.9	20.0
13C-2,3,7,5-TCDD	Ave	0.9867	0.9266		96.9	100	-3.1	30.0
13C-2,3,7,5-TCDF	Ave	1.260	1.262		100	100	0.2	30.0
37Cl4-2,3,7,5-TCDD	Ave	1.121	1.030		9.19	10.0	-5.1	

FORM VII 5290A

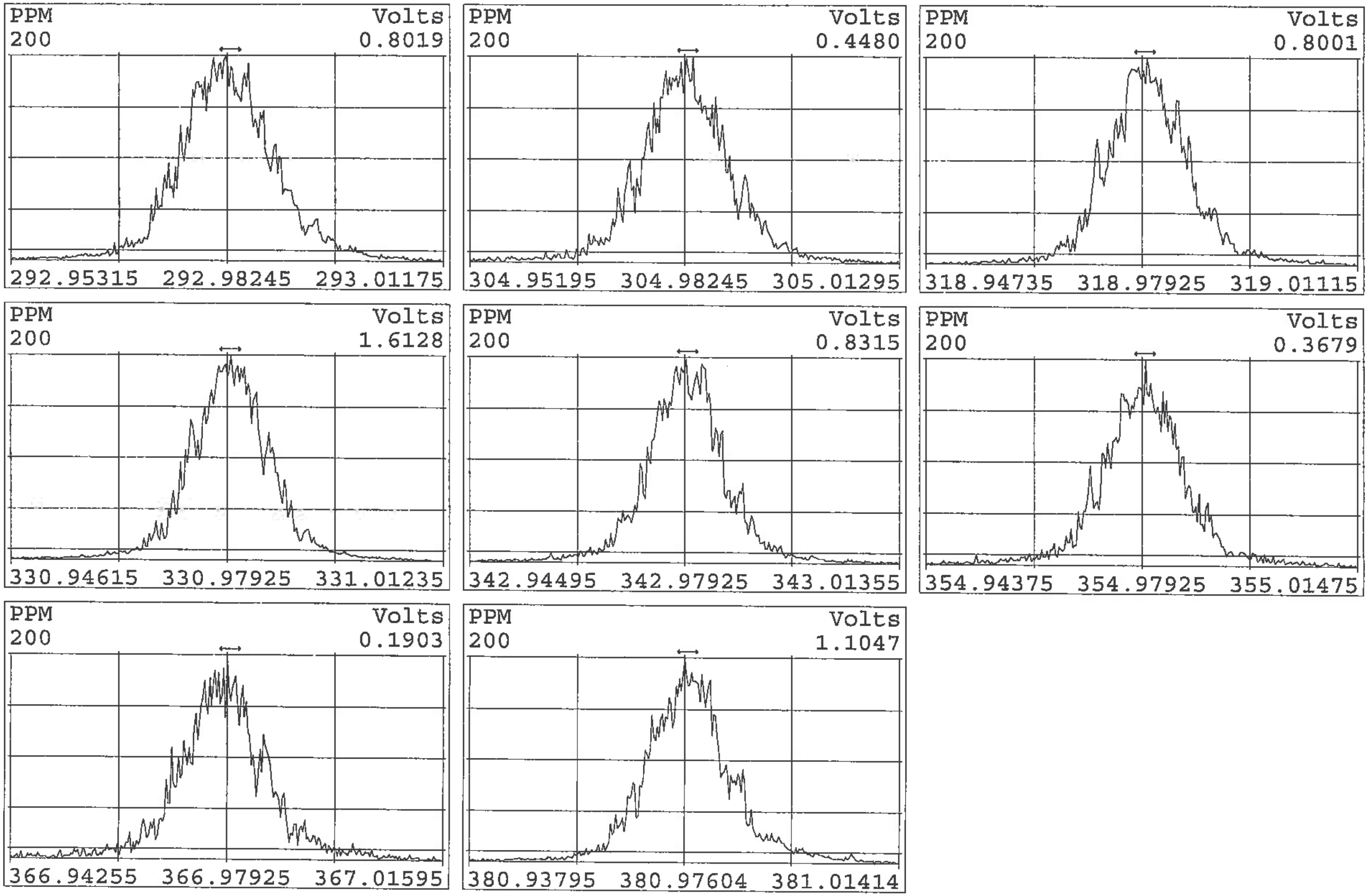
Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
05DE179D2	1	CPS 120517	CPS HRDXNCP_00034				1.00000	
05DE179D2	2	CCV 120517	CCV CS-4 HRDXNL4_00061				1.00000	
05DE179D2	3	320-195095	MB 320-195095/1-A				1.00000	
05DE179D2	4	320-195095	160-24924-G-1-B	20	8290A_D5/Solid	D986	10.00000	g
05DE179D2	5	320-195095	160-24924-G-2-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	6	320-195095	160-24924-G-7-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	7	320-195095	160-24924-G-8-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	8	320-195095	160-24924-G-9-D	20	8290A_D5/Solid		10.00000	g
05DE179D2	9	320-195095	160-24924-G-9-E MS	20	8290A_D5/Solid		10.00000	g
05DE179D2	10	320-195095	160-24924-G-9-F MSD	20	8290A_D5/Solid		10.00000	g
05DE179D2	11	320-195095	160-24924-G-11-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	12	320-195095	160-24924-G-13-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	13	320-195095	160-24924-G-14-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	14	RB 120517	RB Reagent Blank C-14				1.00000	
05DE179D2	15	CCV 120517A	CCV CS-4 HRDXNL4_00061				1.00000	
05DE179D2	16						1.00000	
05DE179D2	17						1.00000	
05DE179D2	18						1.00000	
05DE179D2	19						1.00000	
05DE179D2	20						1.00000	
05DE179D2	21		SMA 12-05-17				1.00000	
05DE179D2	22						1.00000	
05DE179D2	23						1.00000	

logfile checked
12-05-17 ALM

Peak Locate Examination: 5-DEC-2017:11:33 File:05DE179D2
Experiment:DB225RES Function:1 Reference:PFK



Peak Locate Examination: 5-DEC-2017:21:08 File:RESCHK05DE179D2
Experiment:DB225RES Function:1 Reference:PFK



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_002.d				
Lims ID:	CCV				
Client ID:					
Sample Type:	CCV				
Inject. Date:	05-Dec-2017 12:11:47	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCV CS-4 HRDXNL4_00061				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Sublist:	chrom-DXN_DB225_9D2*sub1				
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	05-Dec-2017 23:47:44	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK005				

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.967	110897890	0.79	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.106	139973783	0.78	1.2599	100.2	100.2	0.3543	0.3543	100	
2,3,7,8-TCDF	16.119	15381807	0.77	1.0784	10.2	10.2	0.2200	0.2200	102	
D 13C-2,3,7,8-TCDD	14.706	102761790	0.75	0.9567	96.9	96.9	1.111	1.111	96.86	
$ 37Cl4-2,3,7,8-TCDD	14.734	11423375		1.1208	9.191	9.191	0.0443	0.0443	91.91	
2,3,7,8-TCDD	14.734	11307541	0.80	1.1123	9.893	9.893	0.1147	0.1147	98.93	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNL4_00061 Amount Added: 1.00 Units: mL

Report Date: 05-Dec-2017 23:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 05-Dec-2017 12:11:47 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00061
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2
Sublist: chrom-DXN_DB225_9D2*sub1

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:44 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.967	14.967	0		49020975	10485898	64045	160112	164		
333.9339	14.967	14.967	0		61876915	13521534	38015	95037	356	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.106	16.106	0	1.076	61388110	12653792	24360	60900	519		
317.9389	16.106	16.106	0	1.076	78585673	16199217	18511	46277	875	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.119	16.119	0	1.001	6711899	1316589	17927	44817	73		
305.8987	16.119	16.119	0	1.001	8669908	1813488	9451	23627	192	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.706	14.706	0	0.983	44002579	9652505	64045	160112	151		
333.9339	14.706	14.706	0	0.983	58759211	12914298	38015	95037	340	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.734	14.734	0	0.984	11423375	2538039	4768	11920	532		
2,3,7,8-TCDD											
319.8965	14.734	14.734	0	1.002	5011999	1102673	5817	14542	190		
321.8936	14.734	14.734	0	1.002	6295542	1339270	5695	14237	235	0.80(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				17927	44817			
Total Dioxins & Furans											
303.9016		0.0	0				17927	44817			

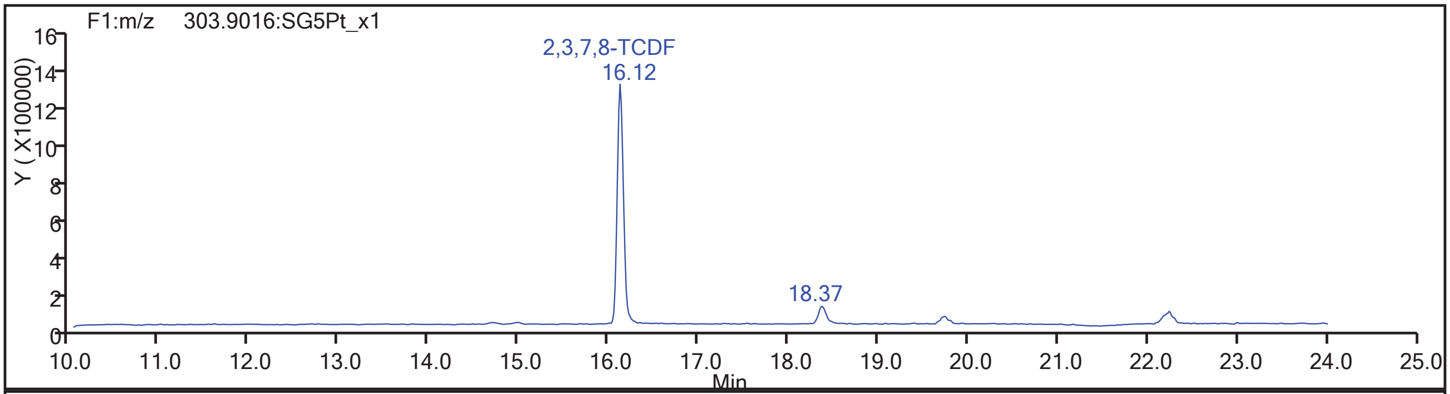
Reagents:

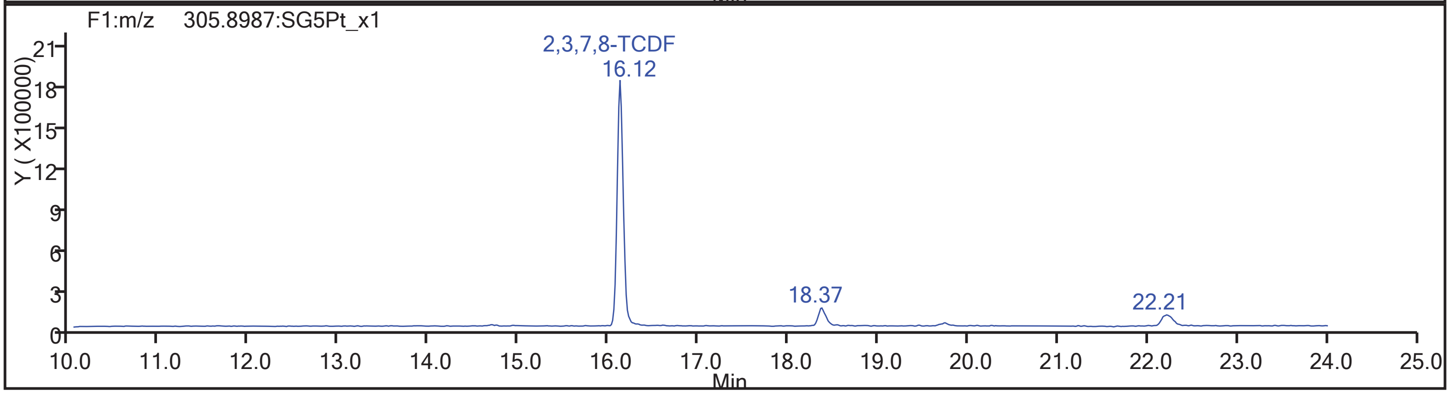
HRDXNL4_00061 Amount Added: 1.00 Units: mL

TestAmerica Sacramento

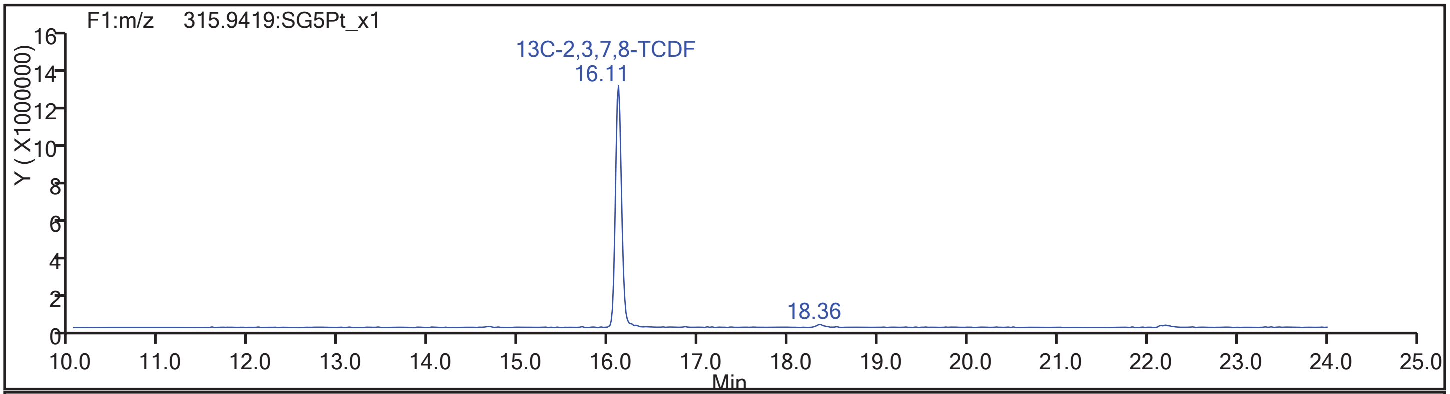
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_002.d		
Injection Date:	05-Dec-2017 12:11:47	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	198469	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

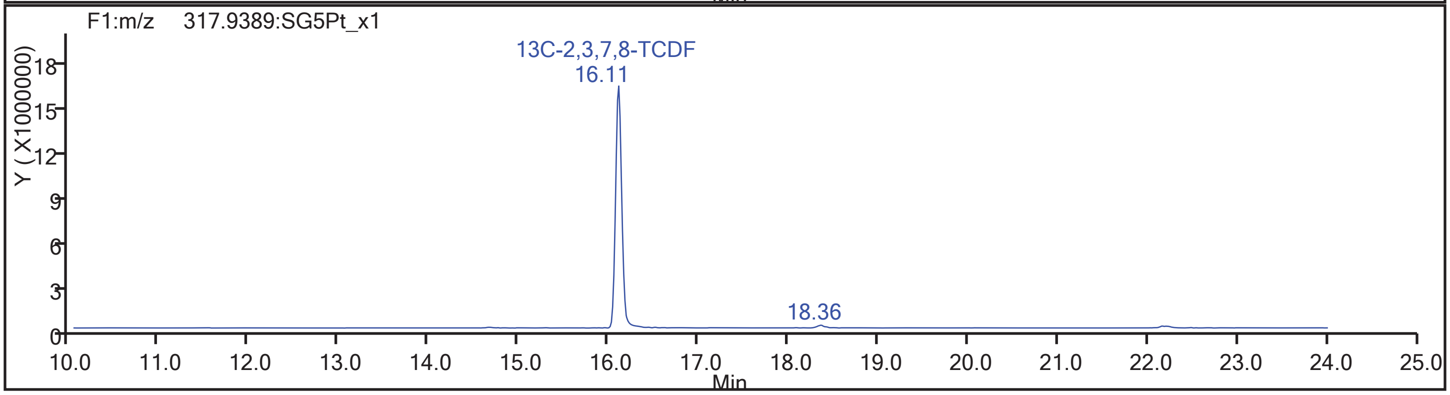
TCDF





TCDF Standards



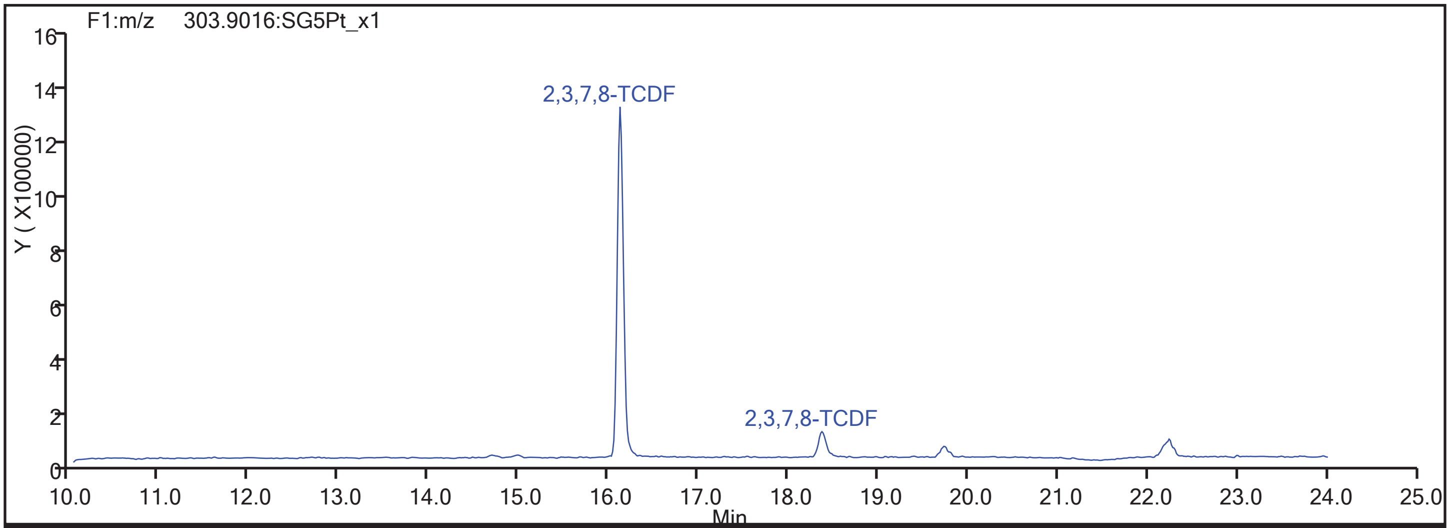


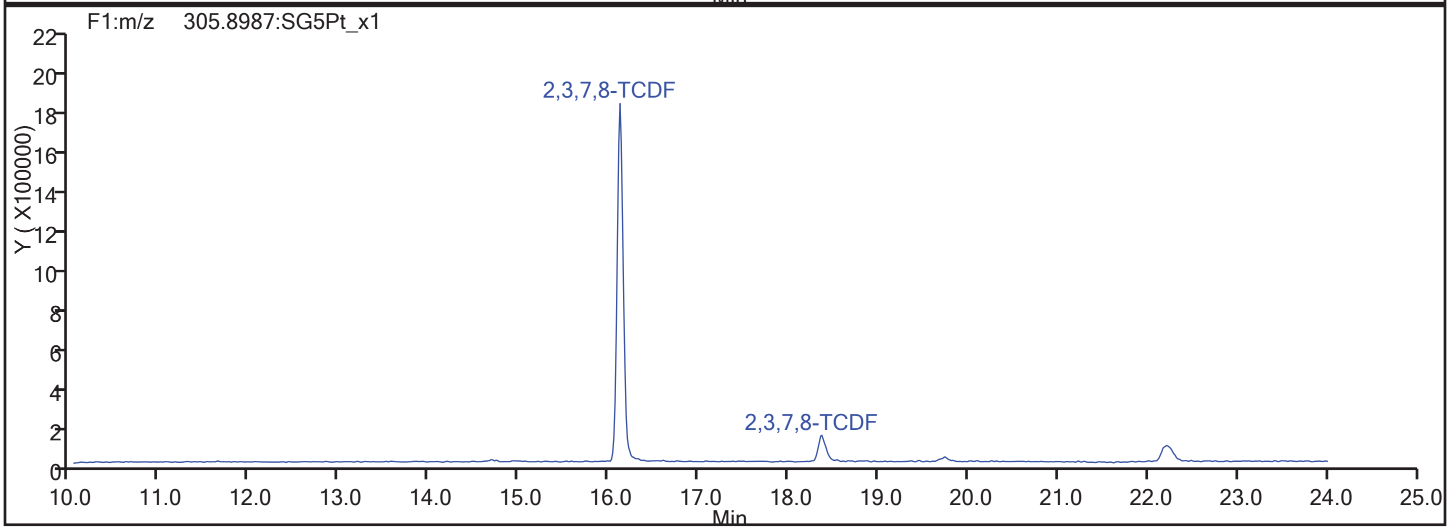
Report Date: 05-Dec-2017 23:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

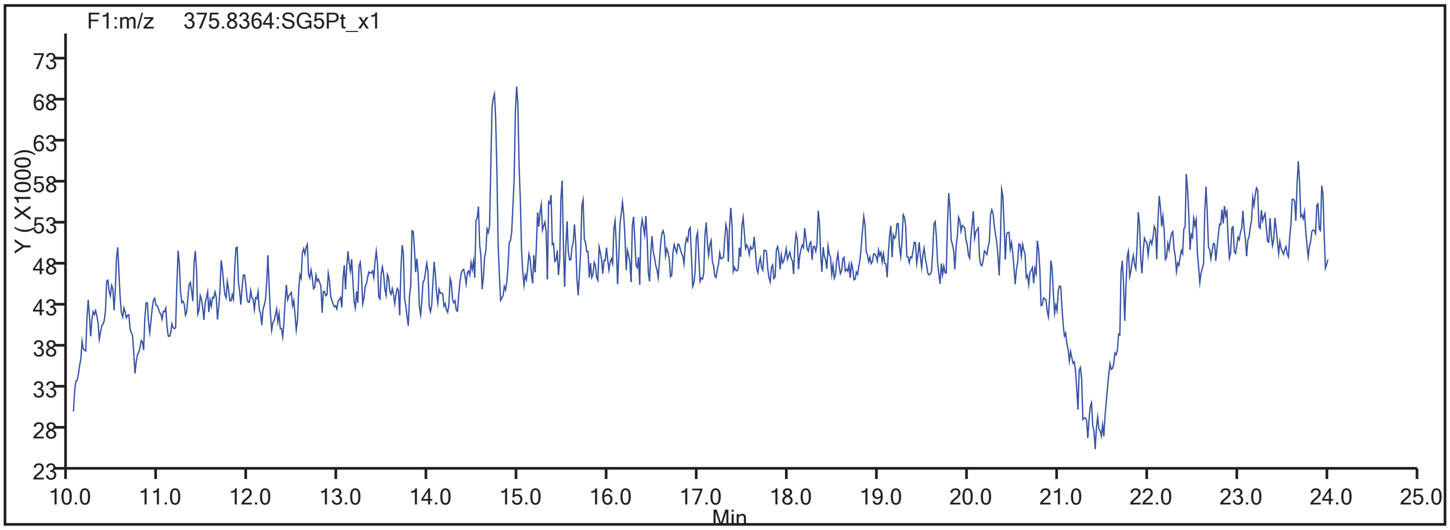
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_002.d
Injection Date: 05-Dec-2017 12:11:47 Injection Vol: 2.0 ul
Instrument ID: 9D2 Operator ID:
Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 198469 Sample Line#: 2
Column Type: DB-225 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass

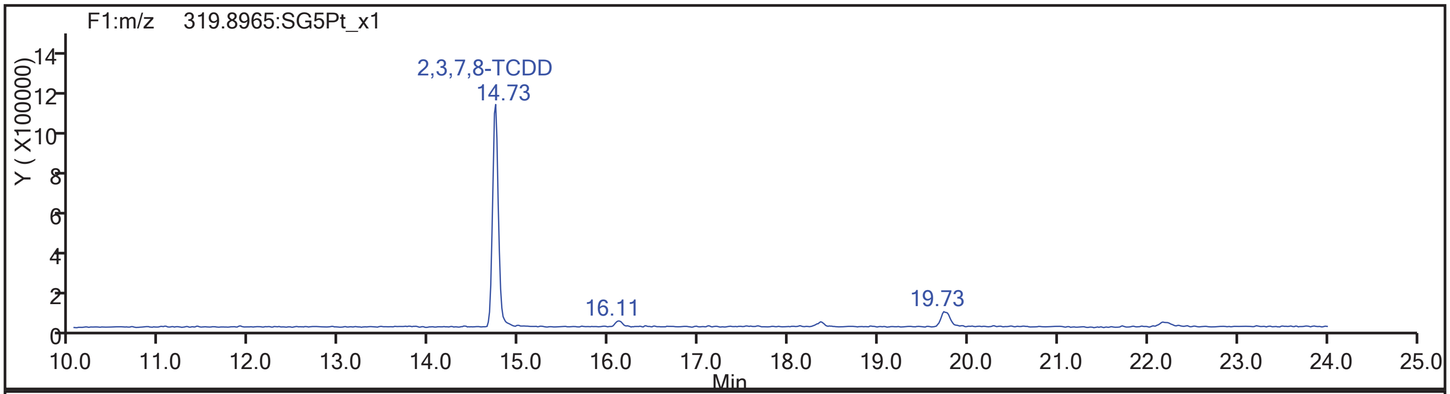


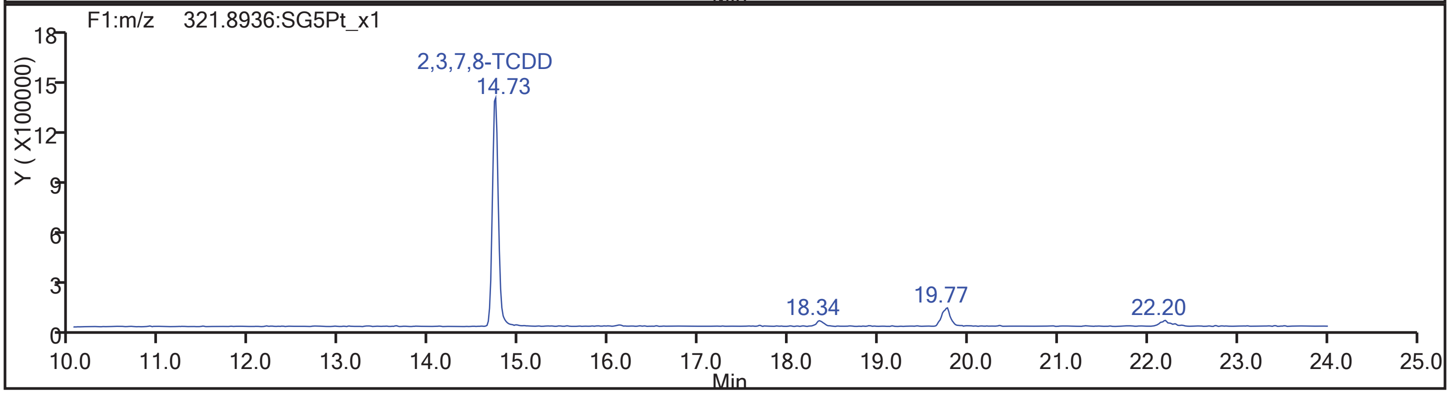
Report Date: 05-Dec-2017 23:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

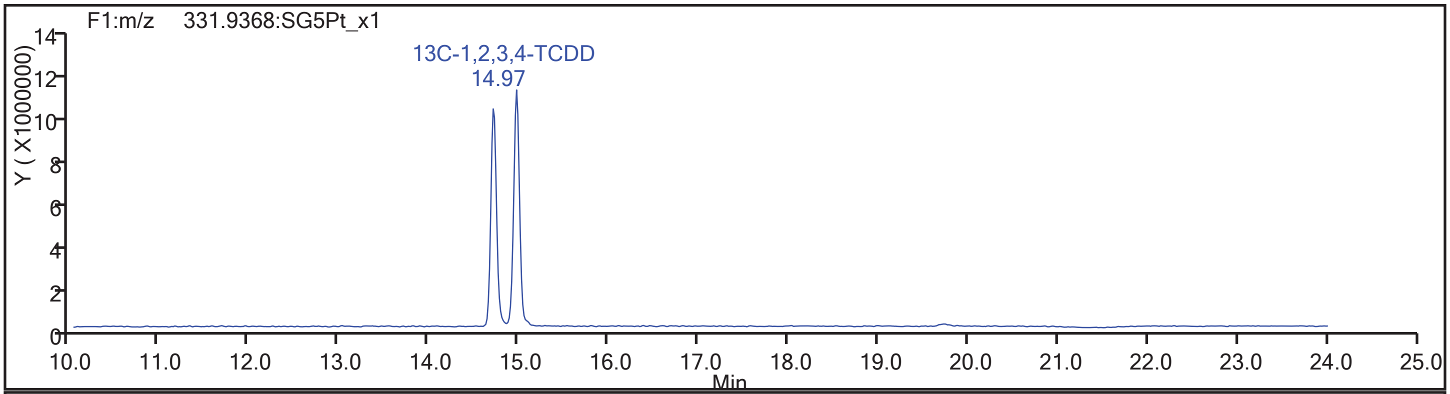
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_002.d
Injection Date: 05-Dec-2017 12:11:47
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 198469
Sample Line#: 2
Column Type: DB-225
Column Dia: 0.32 mm

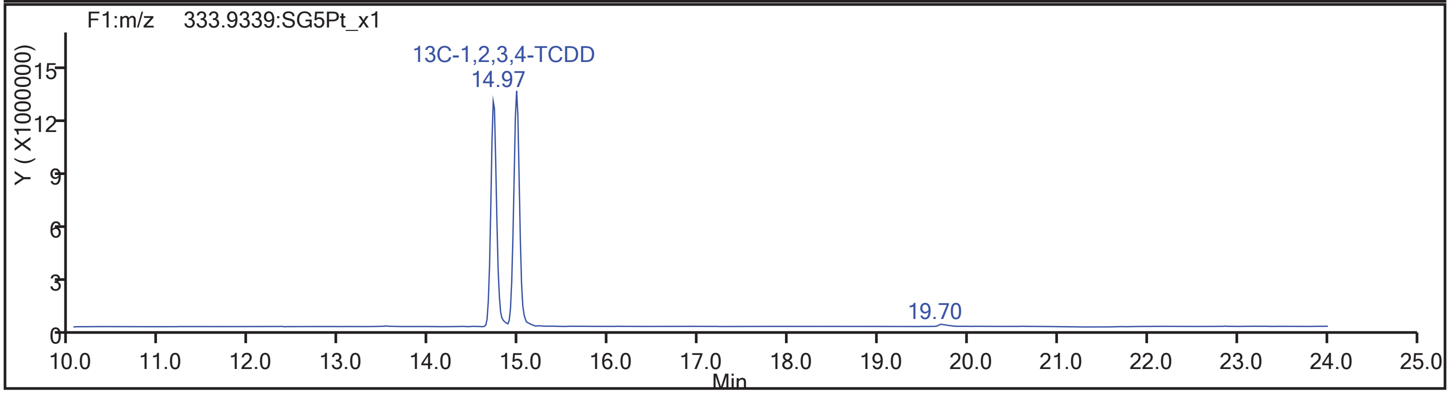
TCDD





TCDD Standards



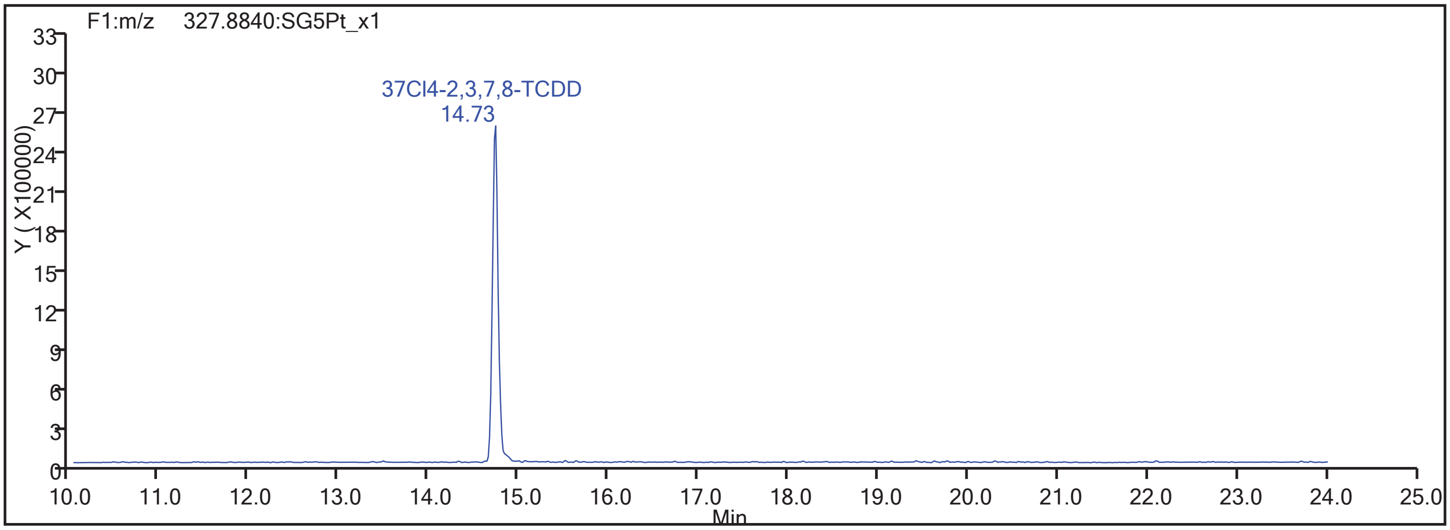


Report Date: 05-Dec-2017 23:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

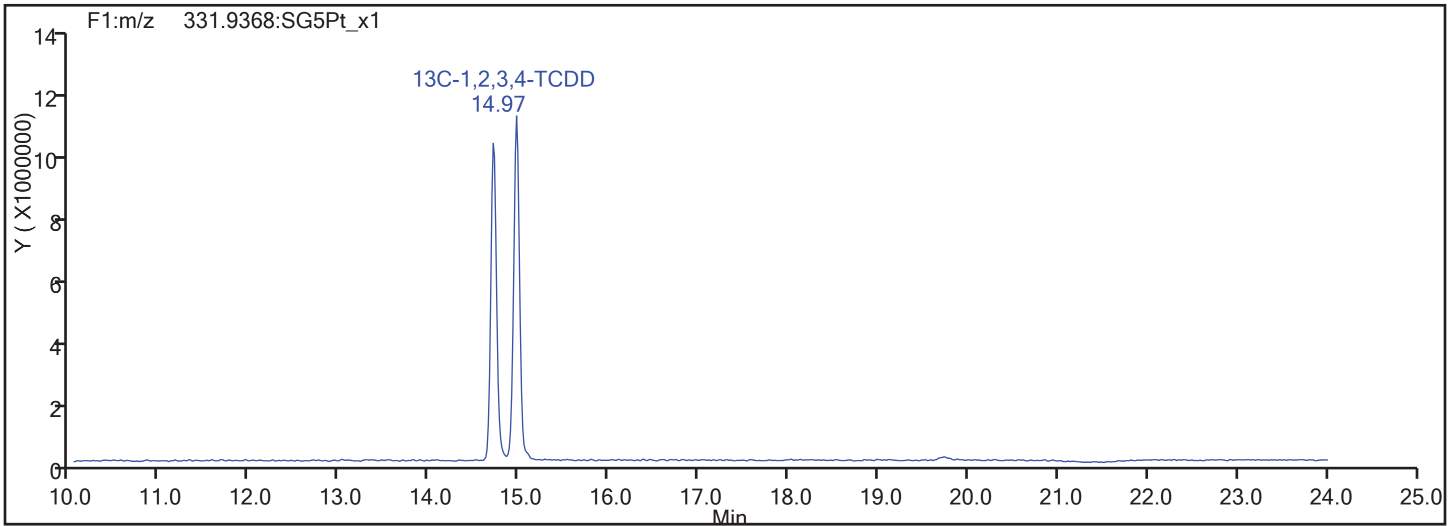
TestAmerica Sacramento

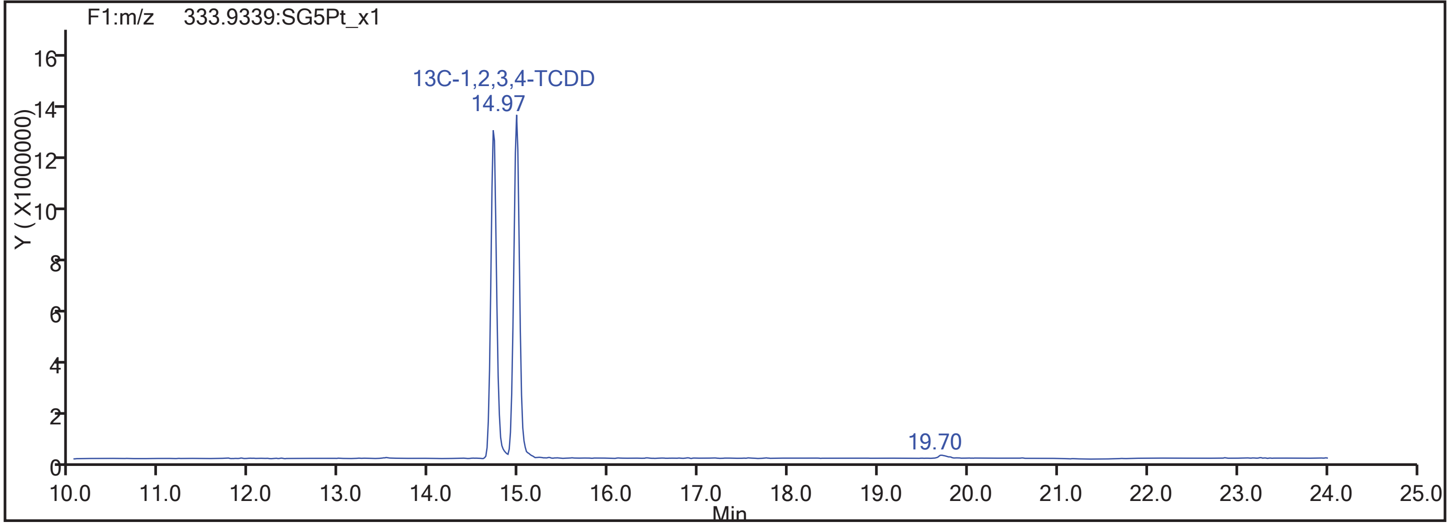
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_002.d
Injection Date: 05-Dec-2017 12:11:47 Injection Vol: 2.0 ul
Instrument ID: 9D2 Operator ID:
Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 198469 Sample Line#: 2
Column Type: DB-225 Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 05-Dec-2017 23:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_002.d

Injection Date: 05-Dec-2017 12:11:47 Injection Vol: 2.0 ul

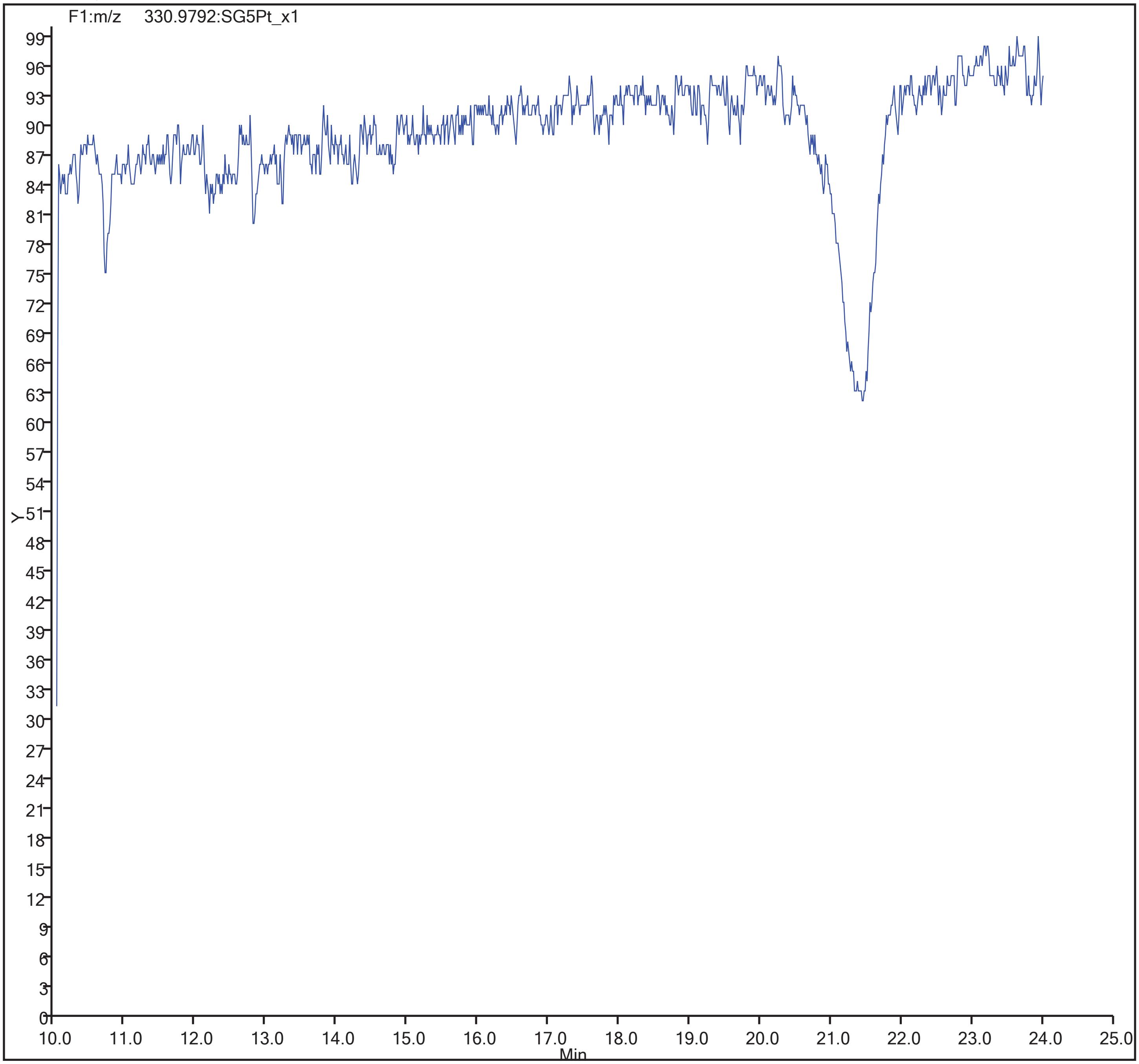
Instrument ID: 9D2 Operator ID:

Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 198469 Sample Line#: 2

Column Type: DB-225 Column Dia: 0.32 mm



FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Lab Sample ID: CCV 320-195469/18 Calibration Date: 12/08/2017 20:24

Instrument ID: 9D2 Calib Start Date: 03/02/2017 14:04

GC Column: DB-228 ID: 0.32(mm) Calib End Date: 03/02/2017 16:36

Lab File ID: 08DE179D2_018.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,3,7,5-TCDD	AveID	1.112	1.106		9.94	10.0	-0.6	20.0
2,3,7,5-TCDF	AveID	1.075	0.9734		9.03	10.0	-9.7	20.0
13C-2,3,7,5-TCDD	Ave	0.9867	0.9397		95.2	100	-1.5	30.0
13C-2,3,7,5-TCDF	Ave	1.260	1.197		98.0	100	-8.0	30.0
37Cl4-2,3,7,5-TCDD	Ave	1.121	1.102		9.53	10.0	-1.7	

FORM VII 5290A

Report Date: 05-Dec-2017 23:47:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_015.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 05-Dec-2017 20:24:09 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00061
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2
Sublist: chrom-DXN_DB225_9D2*sub1

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:57 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.967	106115540	0.75	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.105	127053997	0.78	1.2599	95.0	95.0	0.2350	0.2350	95.04	
2,3,7,8-TCDF	16.119	12367910	0.68	1.0784	9.026	9.026	0.0455	0.0455	90.26	
D 13C-2,3,7,8-TCDD	14.706	99711782	0.77	0.9567	98.2	98.2	0.3895	0.3895	98.22	
$ 37Cl4-2,3,7,8-TCDD	14.734	11691329		1.1208	9.830	9.830	0.0305	0.0305	98.30	
2,3,7,8-TCDD	14.734	11025184	0.81	1.1123	9.941	9.941	0.0490	0.0490	99.41	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNL4_00061 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_015.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 05-Dec-2017 20:24:09 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00061
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2
Sublist: chrom-DXN_DB225_9D2*sub1

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:57 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.967	14.967	0		45370866	9811097	23349	58372	420		
333.9339	14.967	14.967	0		60744674	13178663	10915	27287	1207	0.75(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.105	16.105	0	1.076	55604077	11085760	13977	34942	793		
317.9389	16.105	16.105	0	1.076	71449920	14403430	13254	33135	1087	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.119	16.119	0	1.001	5010554	1072122	2550	6375	420		
305.8987	16.119	16.119	0	1.001	7357356	1530317	2458	6145	623	0.68(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.706	14.706	0	0.983	43444855	9484485	23349	58372	406		
333.9339	14.706	14.706	0	0.983	56266927	12066957	10915	27287	1106	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.734	14.734	0	0.984	11691329	2490882	3148	7870	791		
2,3,7,8-TCDD											
319.8965	14.734	14.734	0	1.002	4929768	1068065	2833	7082	377		
321.8936	14.720	14.734	-1	1.001	6095416	1292373	1866	4665	693	0.81(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				2550	6375			
Total Dioxins & Furans											
303.9016		0.0	0				2550	6375			

Reagents:

HRDXNL4_00061 Amount Added: 1.00 Units: mL

Report Date: 05-Dec-2017 23:47:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_015.d

Injection Date: 05-Dec-2017 20:24:09 Injection Vol: 2.0 ul

Instrument ID: 9D2 Operator ID:

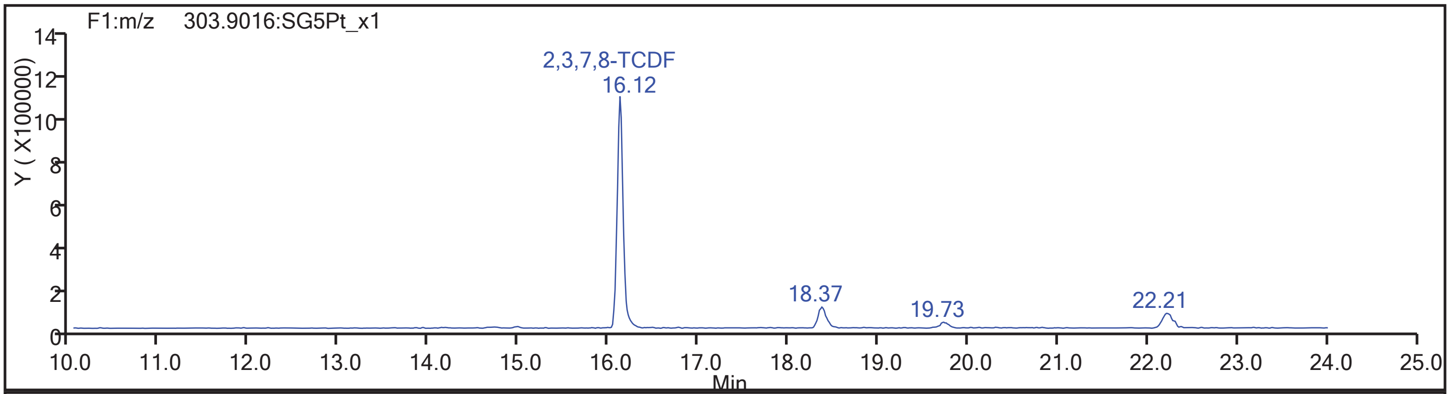
Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL

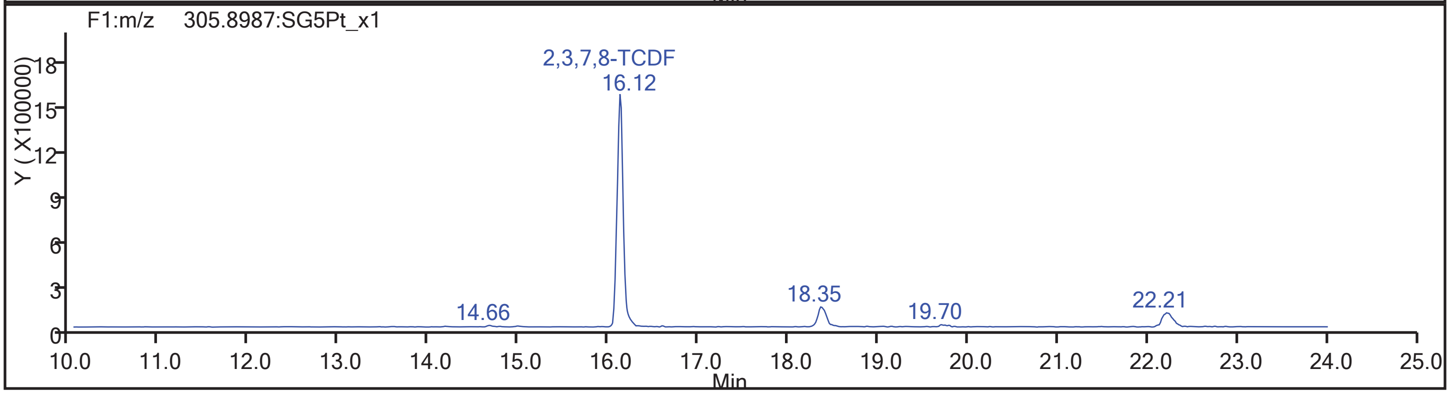
Client ID:

Worklist#: 198469 Sample Line#: 15

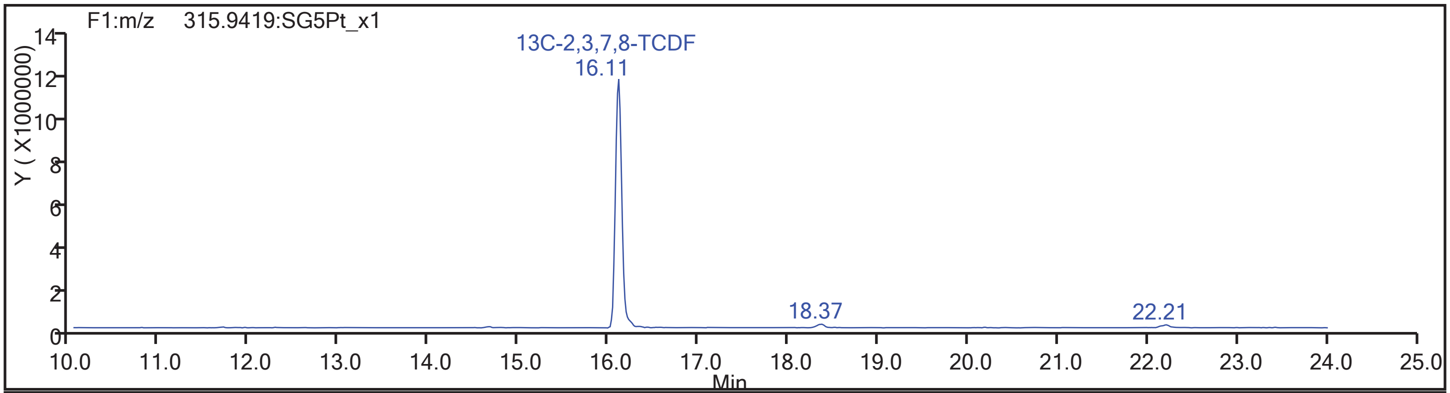
Column Type: DB-225 Column Dia: 0.32 mm

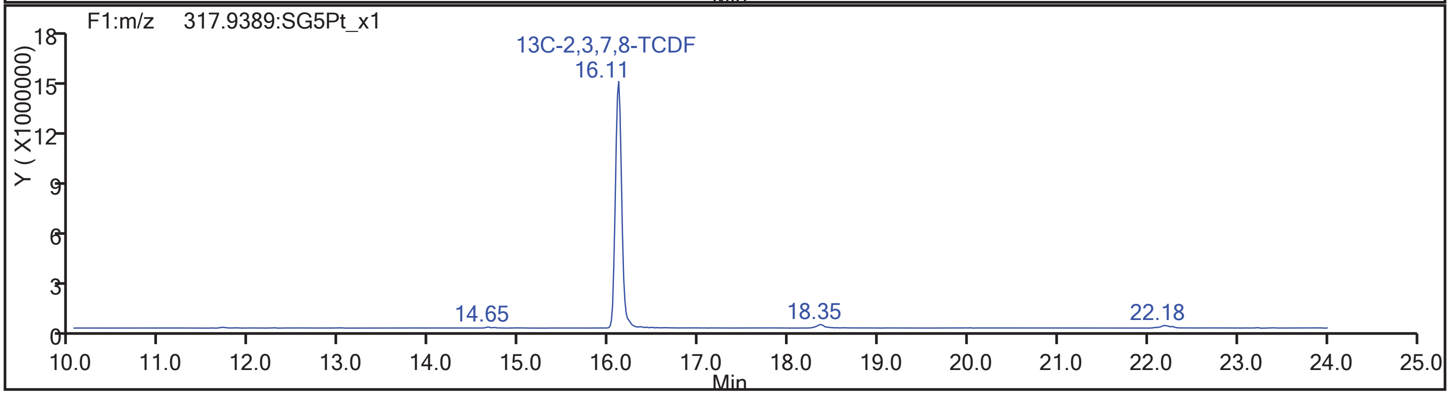
TCDF





TCDF Standards



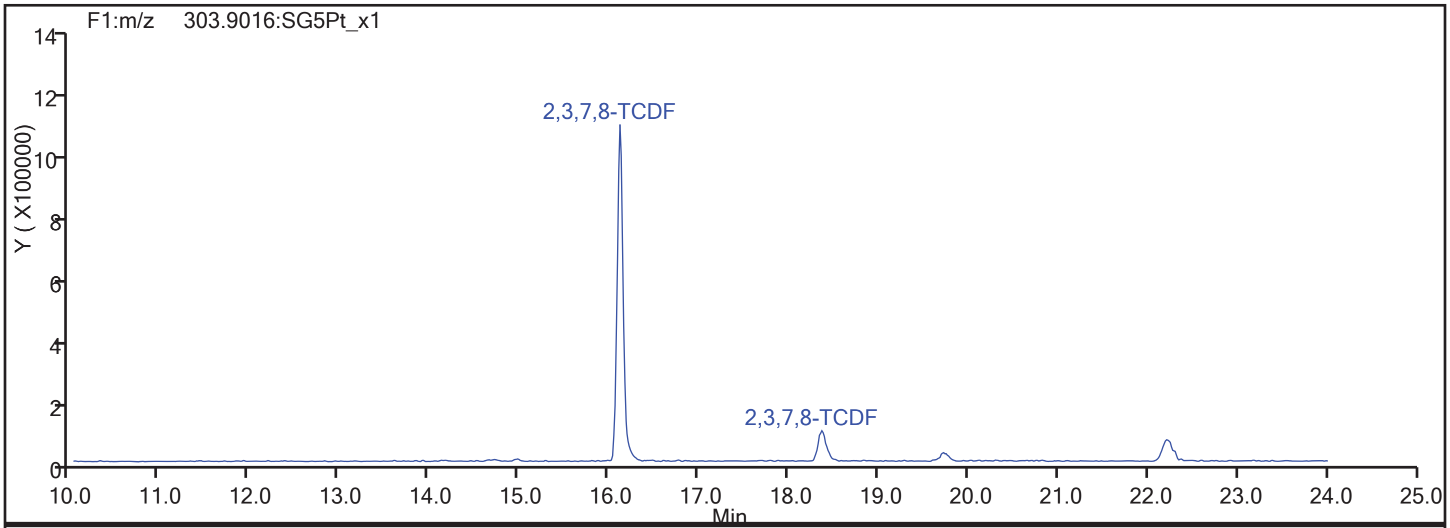


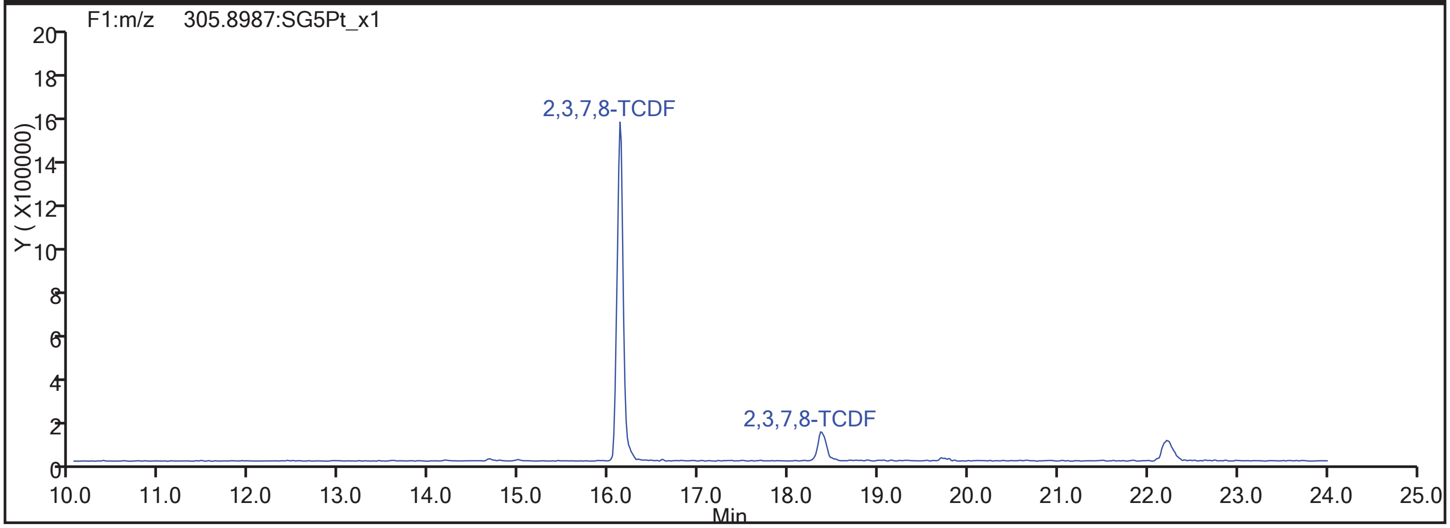
Report Date: 05-Dec-2017 23:47:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

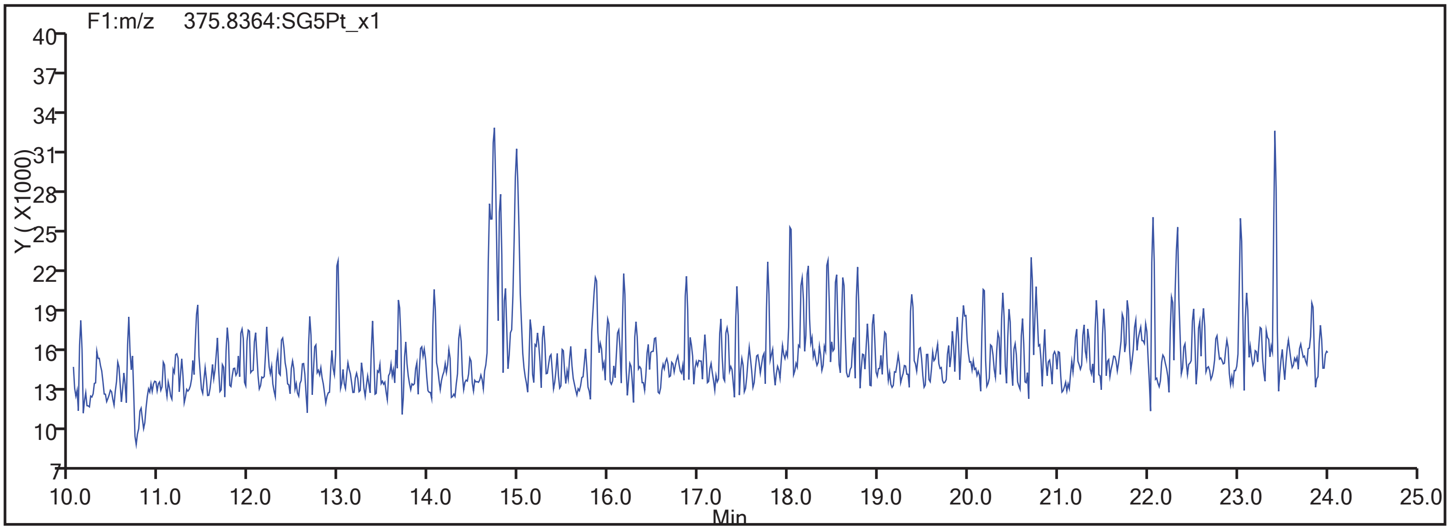
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_015.d		
Injection Date:	05-Dec-2017 20:24:09	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	198469	Sample Line#:	15
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

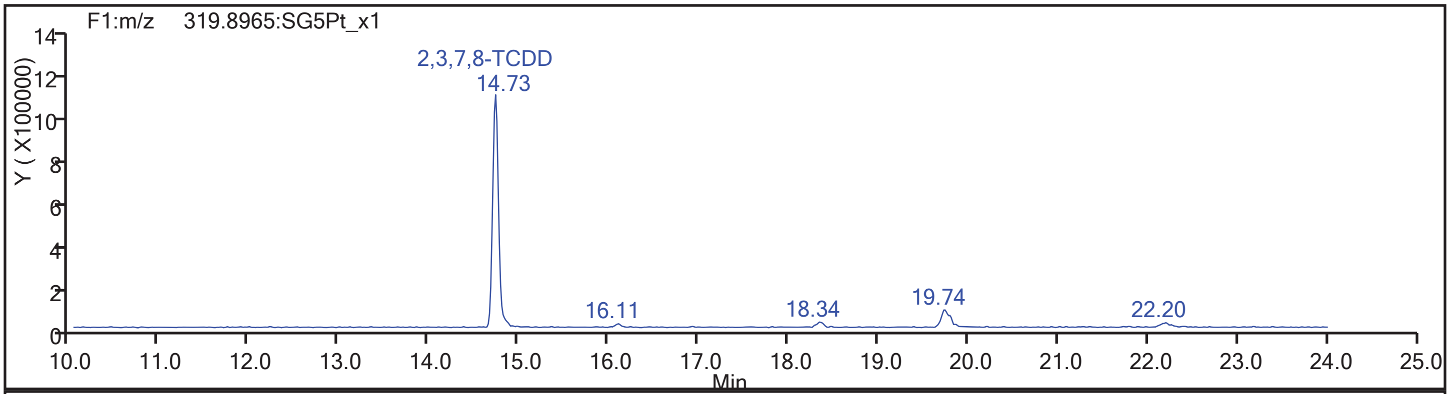


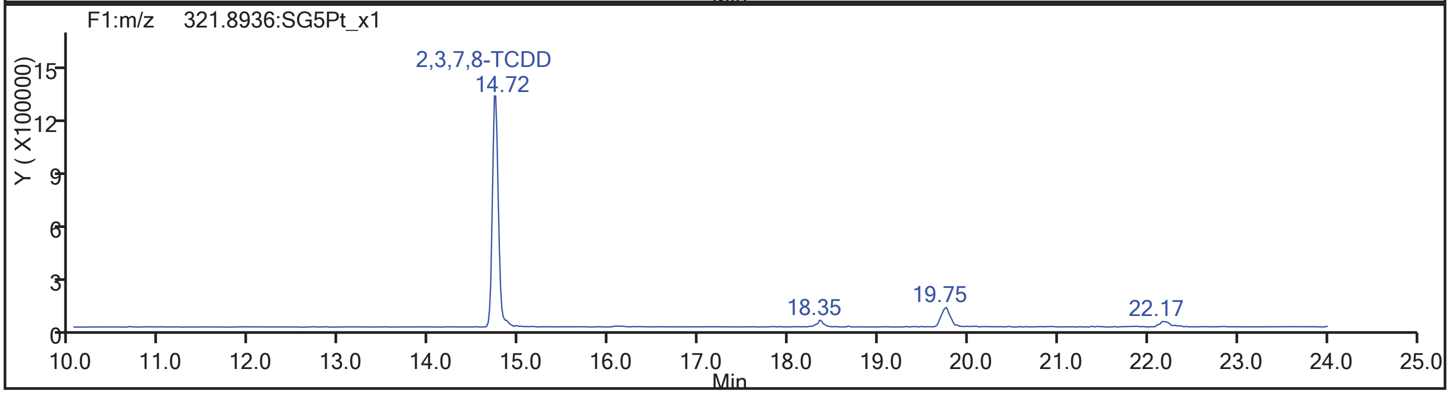
Report Date: 05-Dec-2017 23:47:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

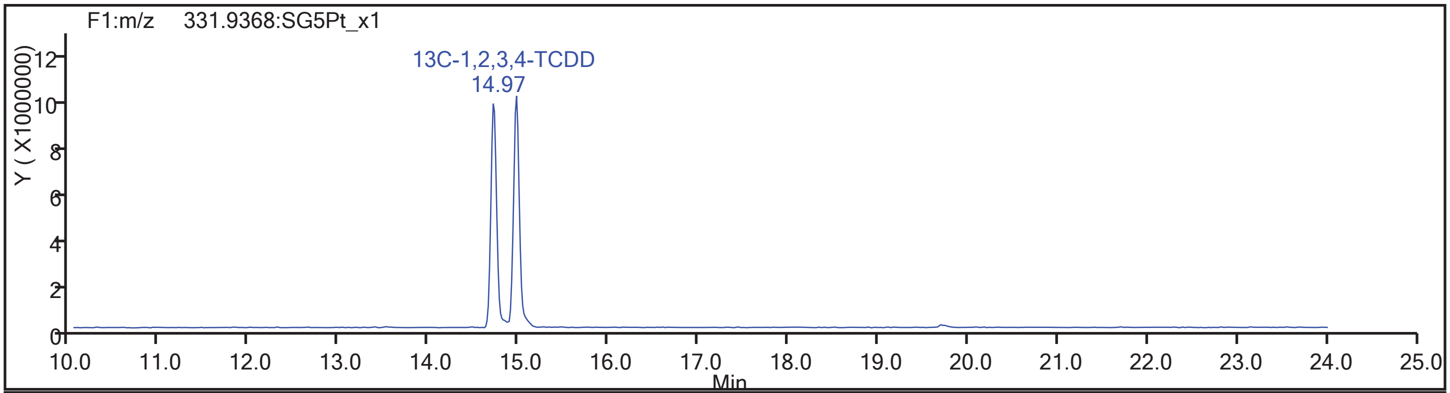
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_015.d
Injection Date: 05-Dec-2017 20:24:09
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 198469
Sample Line#: 15
Column Type: DB-225
Column Dia: 0.32 mm

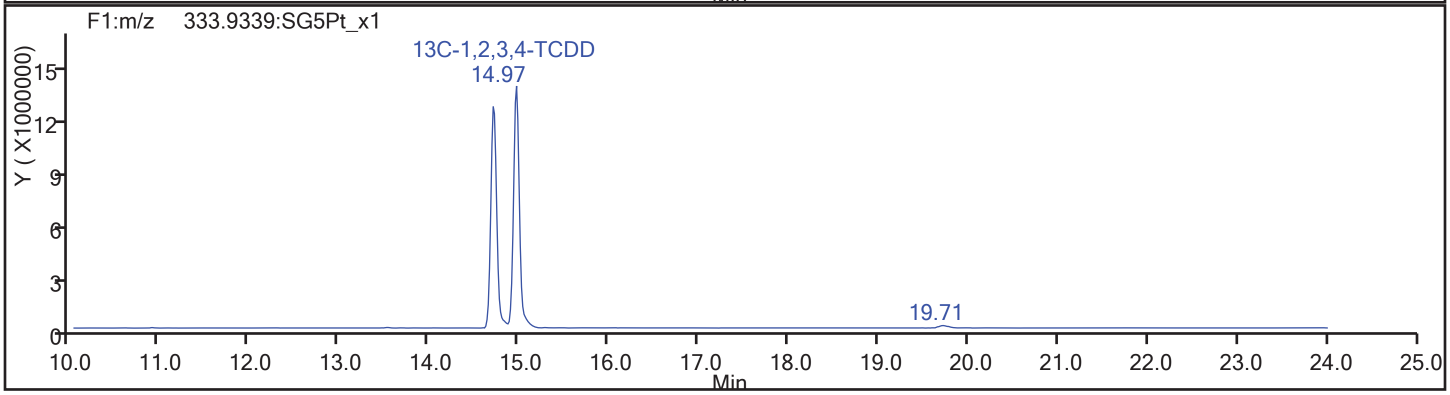
TCDD





TCDD Standards



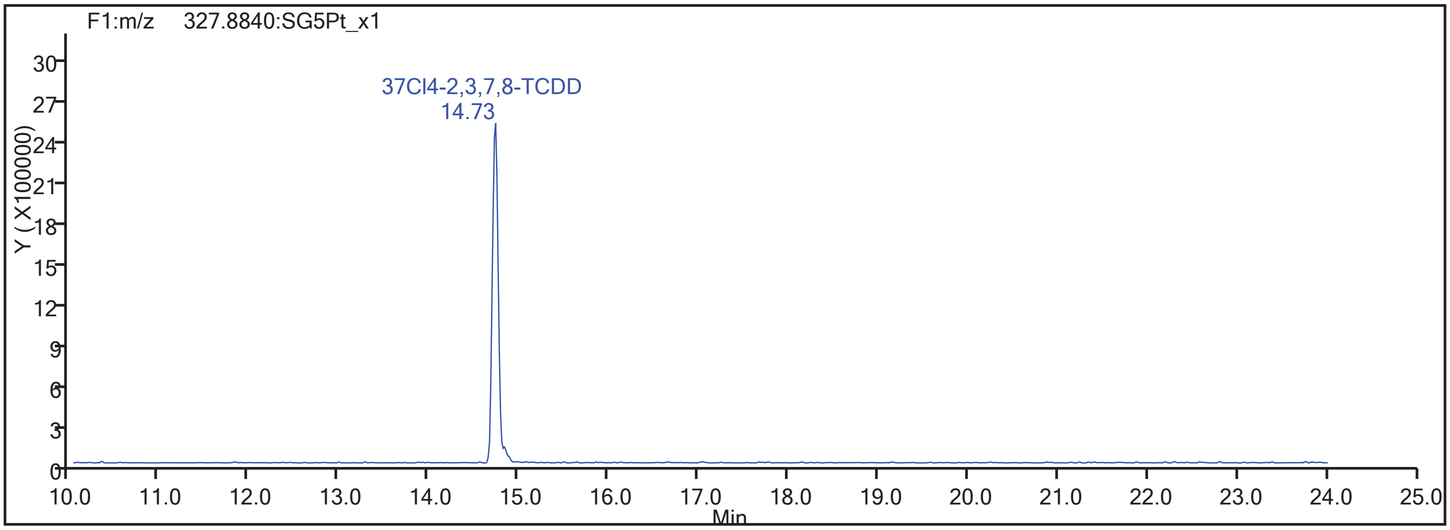


Report Date: 05-Dec-2017 23:47:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

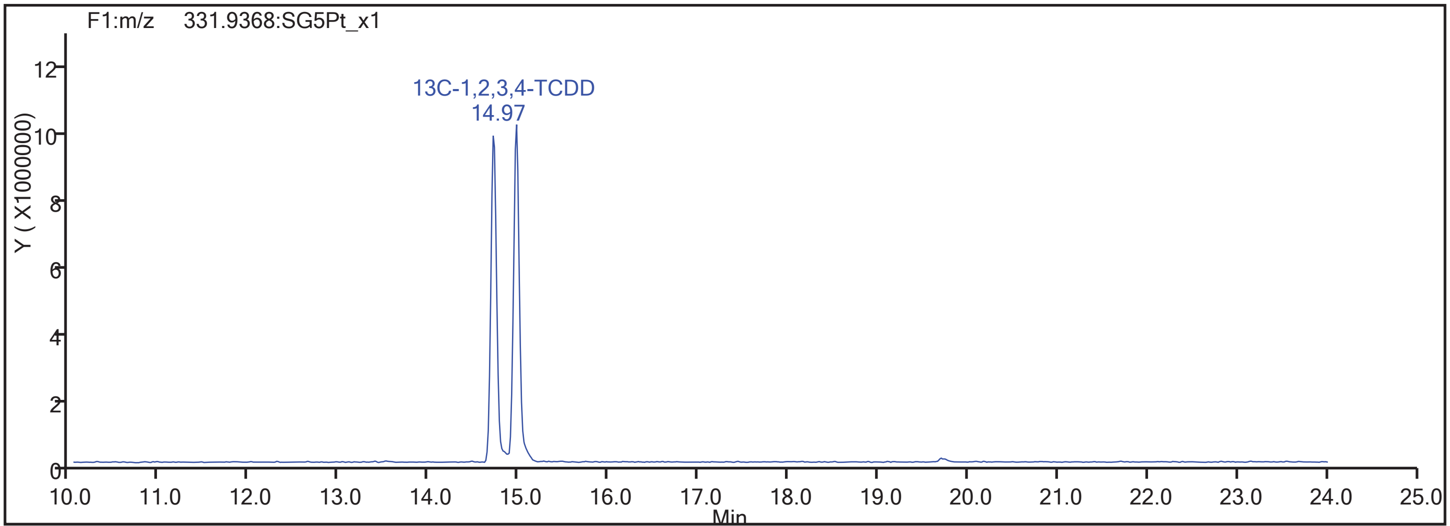
TestAmerica Sacramento

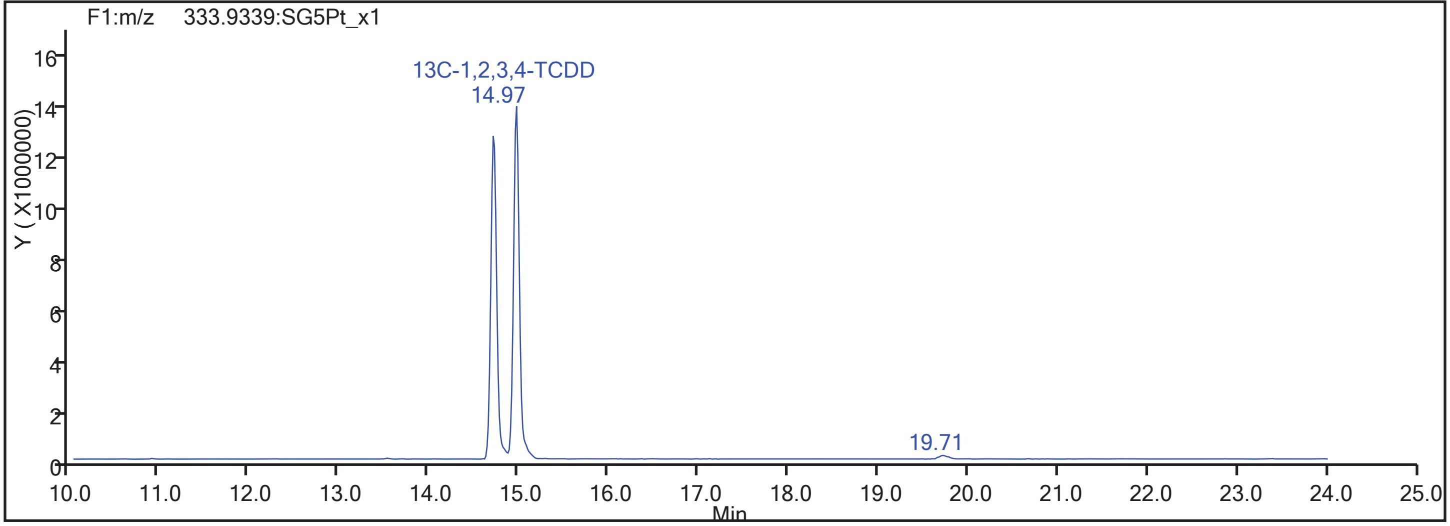
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_015.d		
Injection Date:	05-Dec-2017 20:24:09	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	198469	Sample Line#:	15
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





Report Date: 05-Dec-2017 23:47:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_015.d

Injection Date: 05-Dec-2017 20:24:09 Injection Vol: 2.0 ul

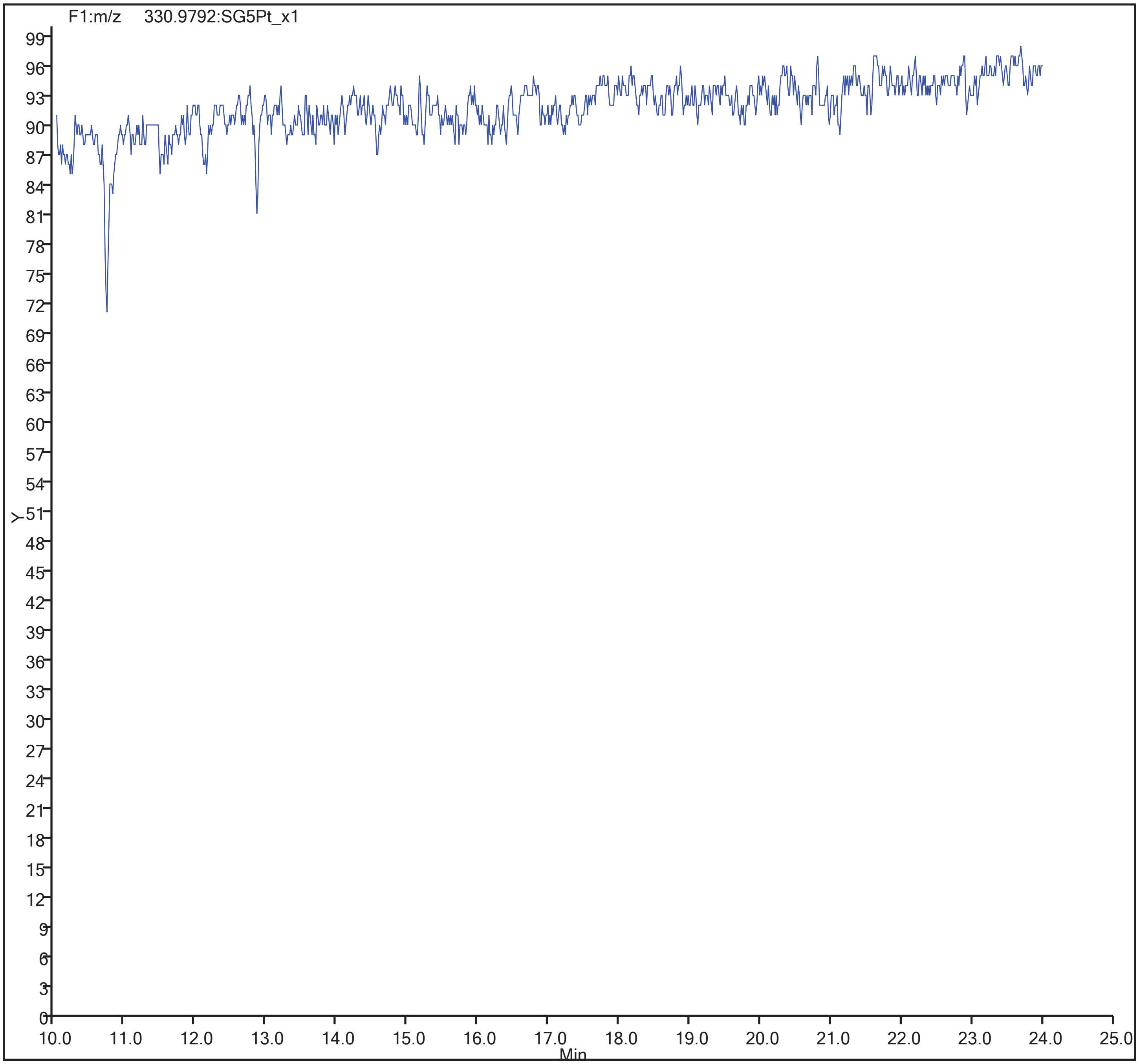
Instrument ID: 9D2 Operator ID:

Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 198469 Sample Line#: 15

Column Type: DB-225 Column Dia: 0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d				
Lims ID:	WDM				
Client ID:					
Sample Type:	WDM				
Inject. Date:	12-Oct-2017 23:19:44	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	WDM 101217C WDM HRDXNCP_00034				
Misc. Info.:	12OC17B10D5				
Operator ID:	ALM, SMA	Instrument ID:	10D5		

Method:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m		
Limit Group:	HR - 8290A_D5 - ICAL		
Last Update:	13-Oct-2017 10:55:08	Calib Date:	13-Oct-2017 03:12:53
Integrator:	Picker		
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d		

Column 1 :	DB-5 (0.32 mm)	Det: F1:HRSIR
Process Host:	XAWRK006	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.415	37366154	0.76	1.2722					0.00	
2,3,7,8-TCDF	17.445	83851279	0.77	1.0688	84.0	84.0	0.5948	0.5948		
A Non-2,3,7,8-sub-TCDF	17.128						0.5605	0.5605		
S Total TCDF					84.0	84.0	0.5948	0.5948		
D 13C-2,3,7,8-TCDD	18.125	26760240	0.76	0.9800					0.00	
2,3,7,8-TCDD	18.141	27968156	0.80	0.9375	44.6	44.6	0.4374	0.4374		
A Non-2,3,7,8-sub-TCDD	17.581						0.0	0.0		
S Total TCDD					44.6	44.6	0.4374	0.4374		
A F1 PeCDFs	20.023						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.229	181217	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.521						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.360						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.999						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.819	26417848	1.06	1.5507						
1,2,3,4,7,8,9-HpCDF	34.900	20039335	1.07	1.2064						
A Non-2,3,7,8-sub-HpCDF	34.359						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.609	15860793	1.04	0.9479						
A Non-2,3,7,8-sub-HpCDD	35.319						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.966	47712112	0.73							
1,3,6,8-TCDD	15.888	29075590	0.79							
1,2,3,7-TCDD	18.035	22689612	0.78							
2,3,4,7-TCDF	18.307	35838907	0.76							
1,2,3,9-TCDD	18.322	30878400	0.79							
1,2,3,9-TCDF	18.473						0.0	0.0		
1,2,8,9-TCDD	19.275	11828708								
1,2,8,9-TCDF	19.290	37156993	0.77							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,3,4,6,8-PeCDF	19.562	41169919	1.57							
1,2,4,7,9-PeCDD	21.360	23945705	1.57							
1,2,3,8,9-PeCDD	25.683	21109305	1.60							
1,2,3,8,9-PeCDF	25.901	27552756	1.60							
1,2,3,4,6,8-HxCDF	28.211	33605667	1.27							
1,2,4,6,7,9-HxCDD	29.795	23717135	1.25							
1,2,3,4,6,7-HxCDD	32.204	21751208	1.25							
1,2,3,4,8,9-HxCDF	32.510	28938981	1.28							
1,2,3,4,6,7,9-HpCDD	34.062	19323008	1.01							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

Report Date: 13-Oct-2017 10:55:13 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 12-Oct-2017 23:19:44 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 101217C WDM HRDXNCP_00034
Misc. Info.: 12OC17B10D5
Operator ID: ALM, SMA Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Oct-2017 10:55:08 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK006

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.415	17.403	1	1.000	16127709	3727092	9322	23305	400		
317.9389	17.415	17.403	1	1.000	21238445	4862229	6496	16240	748	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.445	17.421	1	1.002	36579309	7701625	23208	58020	332		
305.8987	17.430	17.421	1	1.001	47271970	9947587	31396	78490	317	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.128						23208	58020			
305.8987	17.128						31396	78490			
13C-2,3,7,8-TCDD											
331.9368	18.125	18.117	1	1.000	11580437	2580194	6747	16867	382		
333.9339	18.125	18.117	1	1.000	15179803	3367058	4074	10185	826	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.141	18.132	1	1.001	12389645	2695010	9940	24850	271		
321.8936	18.141	18.132	1	1.001	15578511	3459583	14447	36117	239	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.581						9940	24850			
321.8936	17.581						14447	36117			
A F1 PeCDFs											
339.8597	20.023						2588	6470			
341.8567	20.023						2051	5127			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.546	23.229	-41	1.000	110152	19617	3684	9210	5		
341.8567	22.533	23.229	-42	1.000	85447	12850	2819	7047	5	1.29(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.521						5558	13895			
357.8516	23.521						3495	8737			

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.360						9410	23525			
375.8178	30.360						7186	17965			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.999						7311	18277			
391.8127	30.999						5190	12975			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.819	33.814	0	1.000	13576131	3656006	28918	72295	126		
409.7789	33.819	33.814	0	1.000	12841717	3433896	26841	67102	128	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.900	34.893	0	1.000	10338697	2464936	28918	72295	85		
409.7789	34.900	34.893	0	1.000	9700638	2261069	26841	67102	84	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.359						28918	72295			
409.7789	34.359						26841	67102			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.609	34.601	0	1.000	8099796	2000381	22486	56215	89		
425.7737	34.609	34.601	0	1.000	7760997	1922284	22521	56302	85	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.319						22486	56215			
425.7737	35.319						22521	56302			
1,3,6,8-TCDF											
303.9016	14.966	14.966	0		20091892	6049066	23208	58020	261		
305.8987	14.966	14.966	0		27620220	7775294	31396	78490	248	0.73(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.888	15.888	0		12812018	3554207	9940	24850	358		
321.8936	15.888	15.888	0		16263572	4545300	14447	36117	315	0.79(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.035	18.035	0		9958313	2412925	9940	24850	243		
321.8936	18.035	18.035	0		12731299	3041344	14447	36117	211	0.78(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	18.307	18.307	0		15533333	3379624	23208	58020	146		
305.8987	18.307	18.307	0		20305574	4443693	31396	78490	142	0.76(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.322	18.322	0		13668539	2795656	9940	24850	281		
321.8936	18.322	18.322	0		17209861	3551865	14447	36117	246	0.79(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.473						23208	58020			
305.8987	18.473						31396	78490			
1,2,8,9-TCDD											
319.8965	19.275	19.275	0		11828708	2449145	9940	24850	246		
1,2,8,9-TCDF											
303.9016	19.290	19.290	0		16146764	3383812	23208	58020	146		
305.8987	19.290	19.290	0		21010229	4356014	31396	78490	139	0.77(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	19.562	19.562	0		25125793	5265895	2588	6470	2035		
341.8567	19.562	19.562	0		16044126	3350440	2051	5127	1634	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	21.360	21.360	0		14624713	2437319	5558	13895	439		
357.8516	21.360	21.360	0		9320992	1535194	3495	8737	439	1.57(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.683	25.683	0		12988903	1681491	5558	13895	303		
357.8516	25.669	25.683	-1		8120402	1056021	3495	8737	302	1.60(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.901	25.901	0		16948065	2202353	3684	9210	598		
341.8567	25.901	25.901	0		10604691	1377364	2819	7047	489	1.60(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	28.211	28.211	0		18832045	2259805	9410	23525	240		
375.8178	28.211	28.211	0		14773622	1774802	7186	17965	247	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.795	29.795	0		13166871	1741323	7311	18277	238		
391.8127	29.795	29.795	0		10550264	1386758	5190	12975	267	1.25(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.204	32.204	0		12102193	2798076	7311	18277	383		
391.8127	32.204	32.204	0		9649015	2237449	5190	12975	431	1.25(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.510	32.510	0		16232423	3941677	9410	23525	419		
375.8178	32.510	32.510	0		12706558	3098635	7186	17965	431	1.28(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.062	34.062	0		9723353	2520397	22486	56215	112		
425.7737	34.062	34.062	0		9599655	2431117	22521	56302	108	1.01(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 12-Oct-2017 23:19:44 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: ALM, SMA
Lims Batch ID: 189155 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 23.229

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.119				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.546	110152	19617	85447	12850		1.29	R
Signal Totals:							
	110152	19617	85447	12850			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	195599	32467				1.29	RQ
	181217	32273					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (195599 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (181217 * 0.0) / (0 * 0.000)

QC Flag Legend

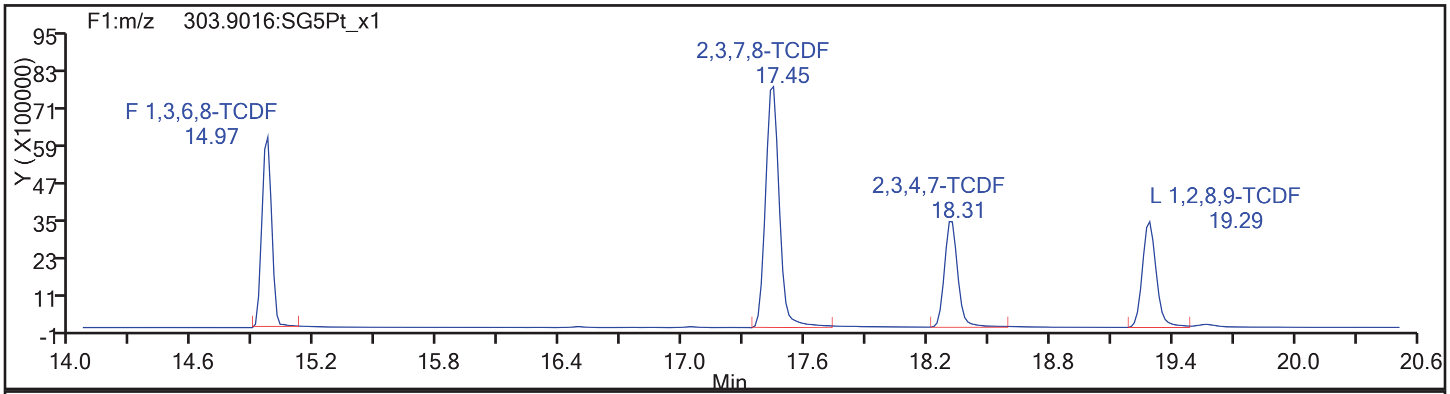
Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

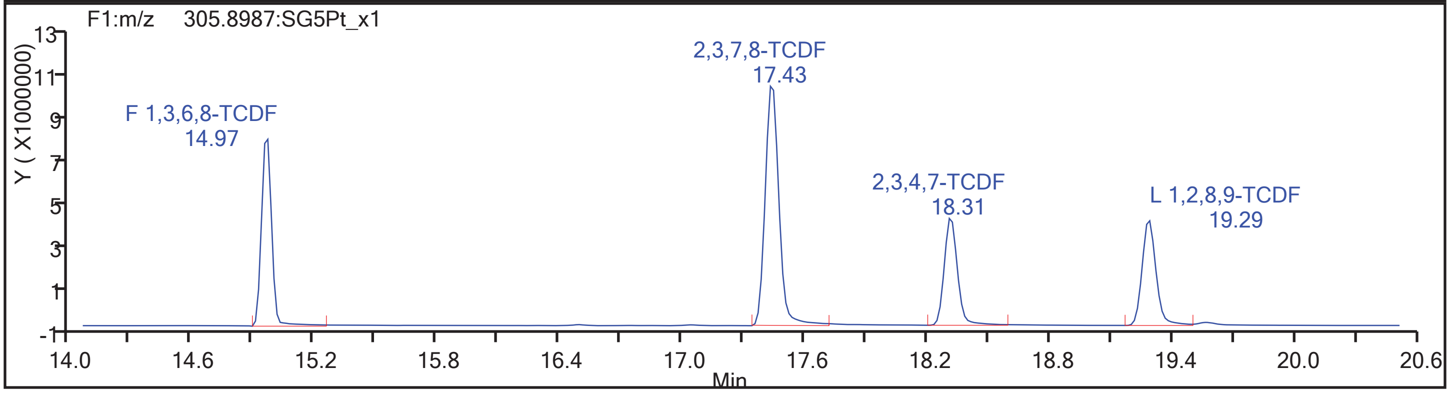
Report Date: 13-Oct-2017 10:55:13 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

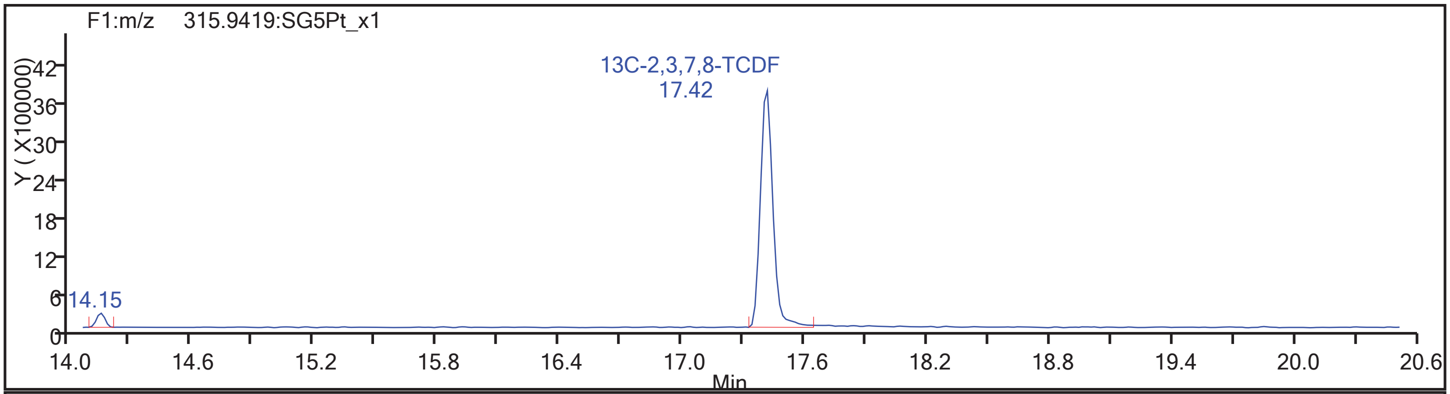
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d		
Injection Date:	12-Oct-2017 23:19:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

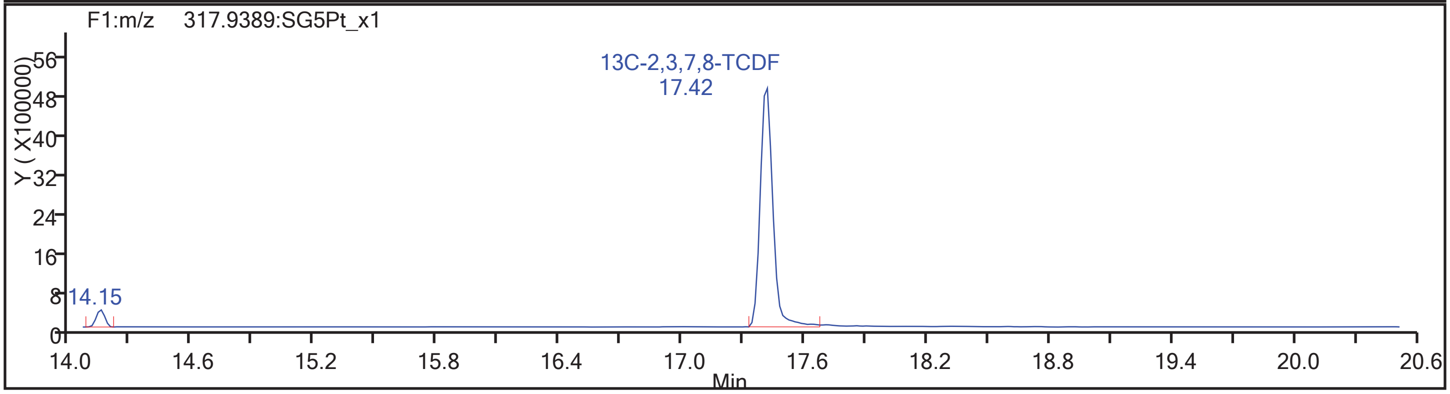
TCDF





TCDF Standards





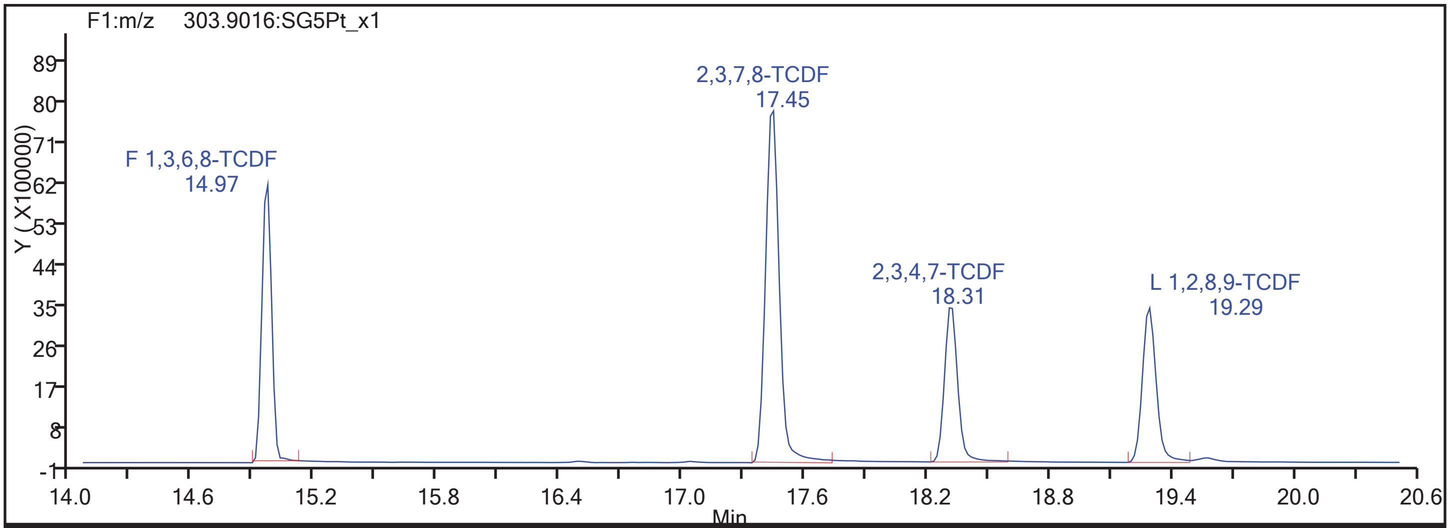
Report Date: 13-Oct-2017 10:55:13 Chrom Revision: 2.2 10-Oct-2017 10:31:20

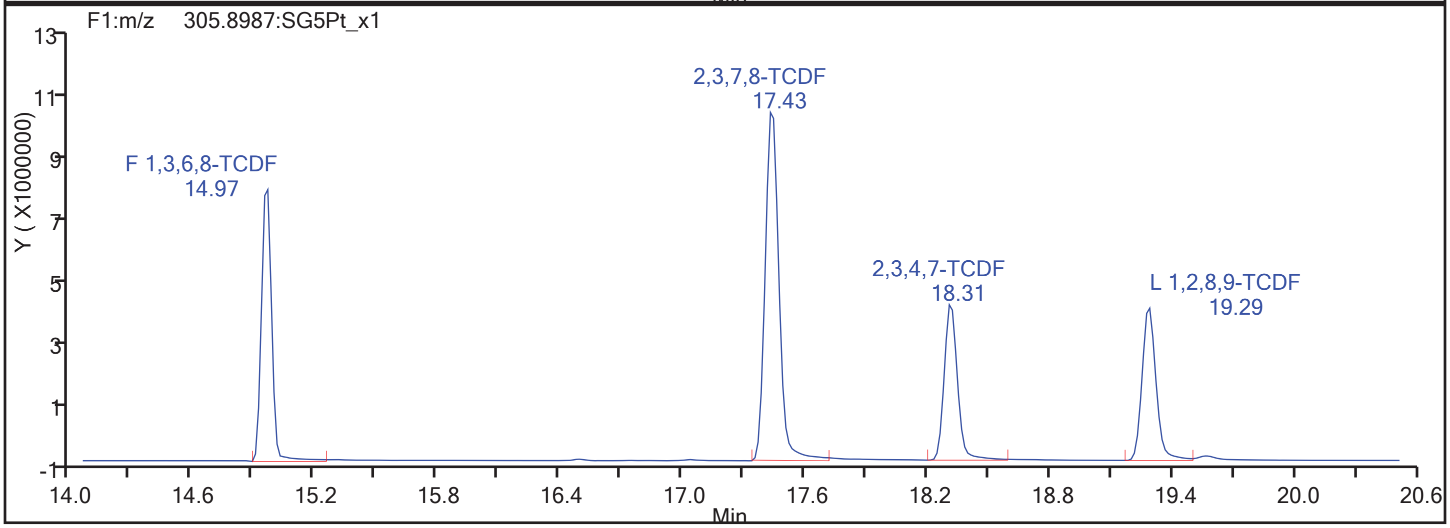
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d

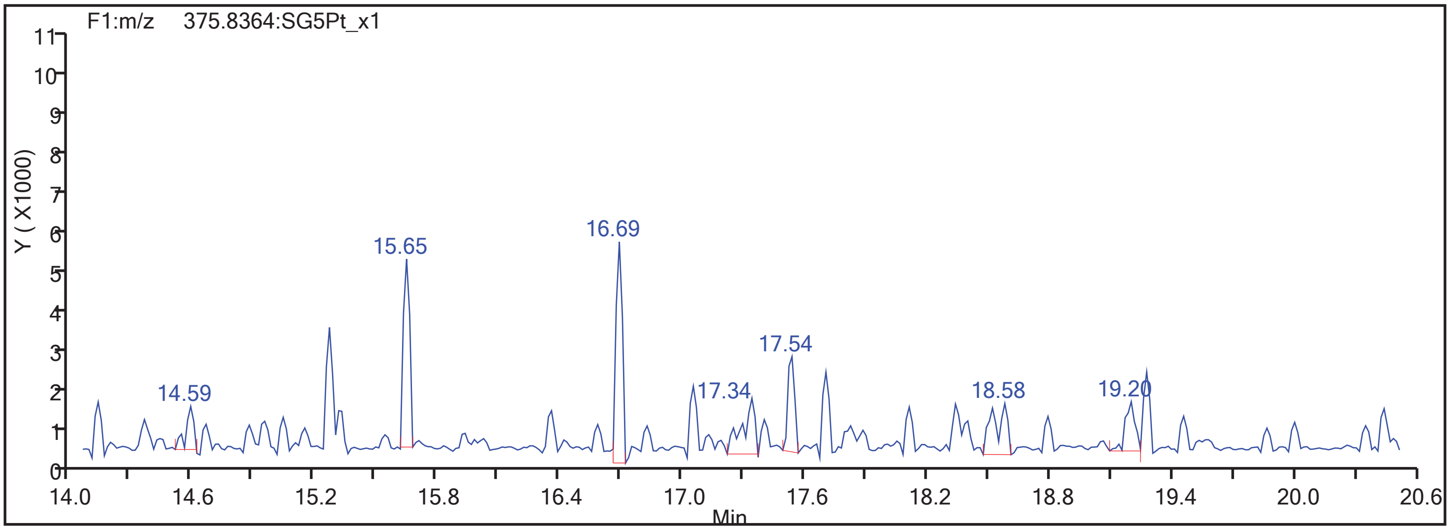
Injection Date:	12-Oct-2017 23:19:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

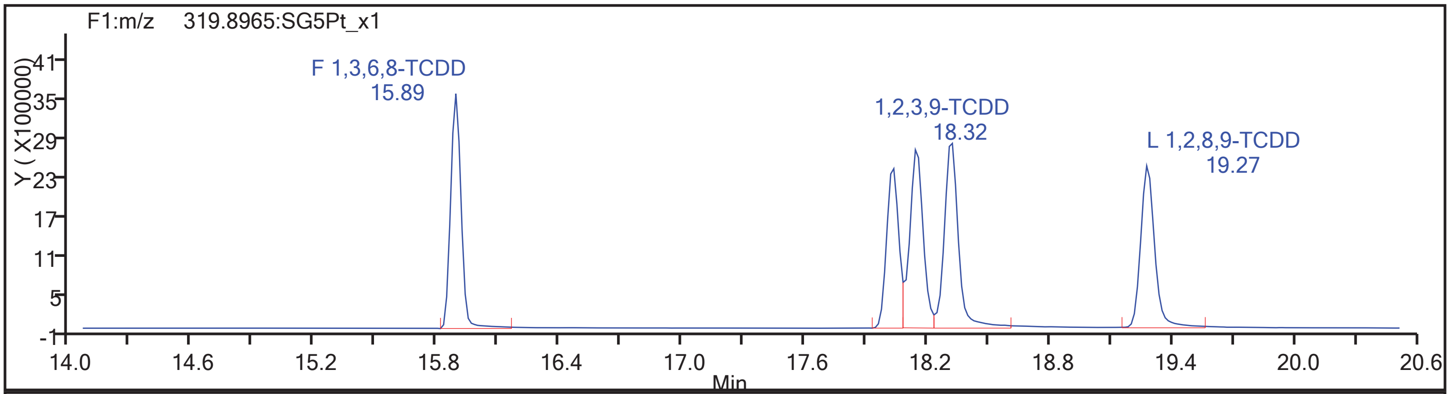


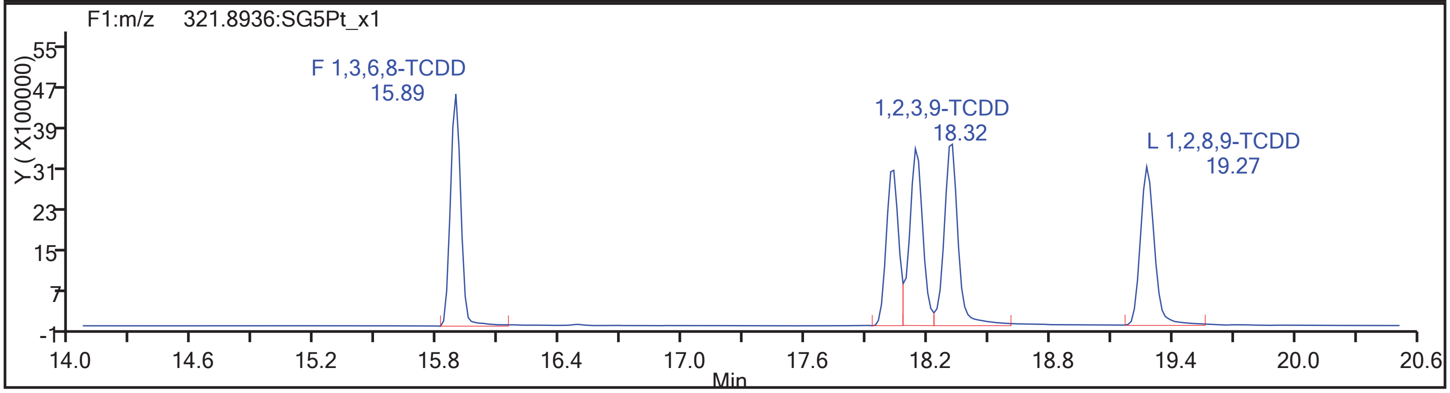
Report Date: 13-Oct-2017 10:55:13 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

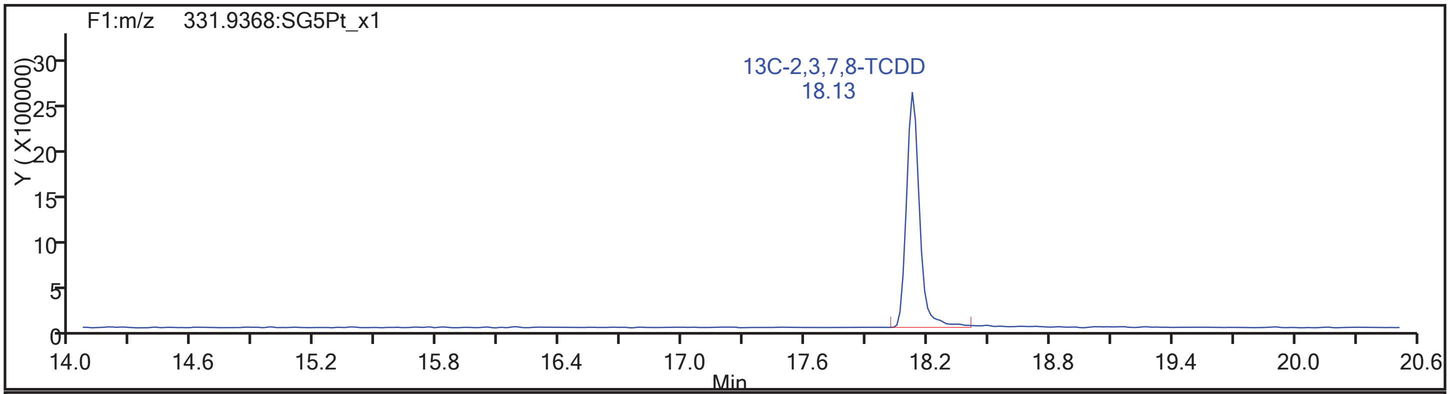
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d
Injection Date: 12-Oct-2017 23:19:44 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: ALM, SMA
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

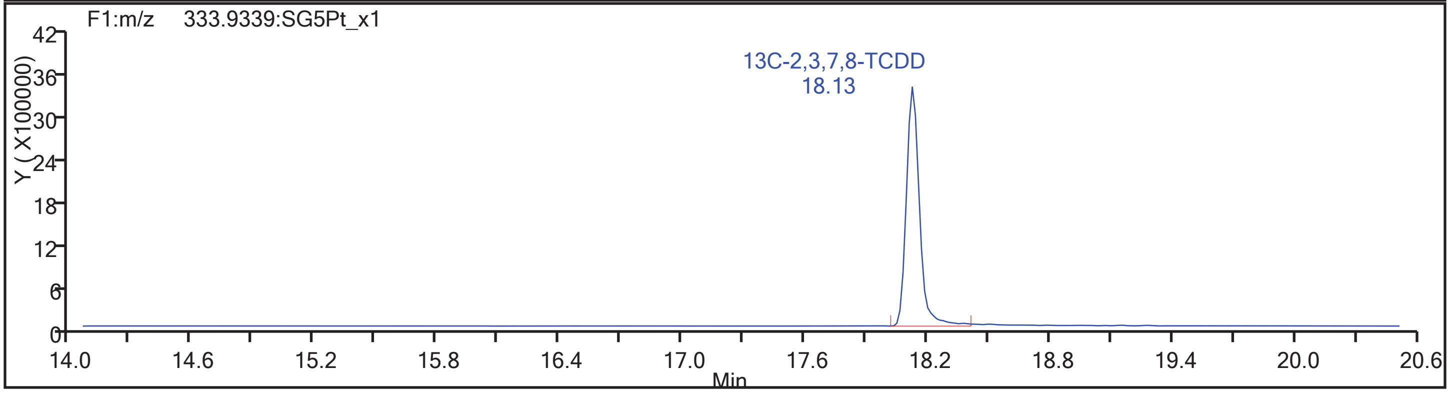
TCDD





TCDD Standards



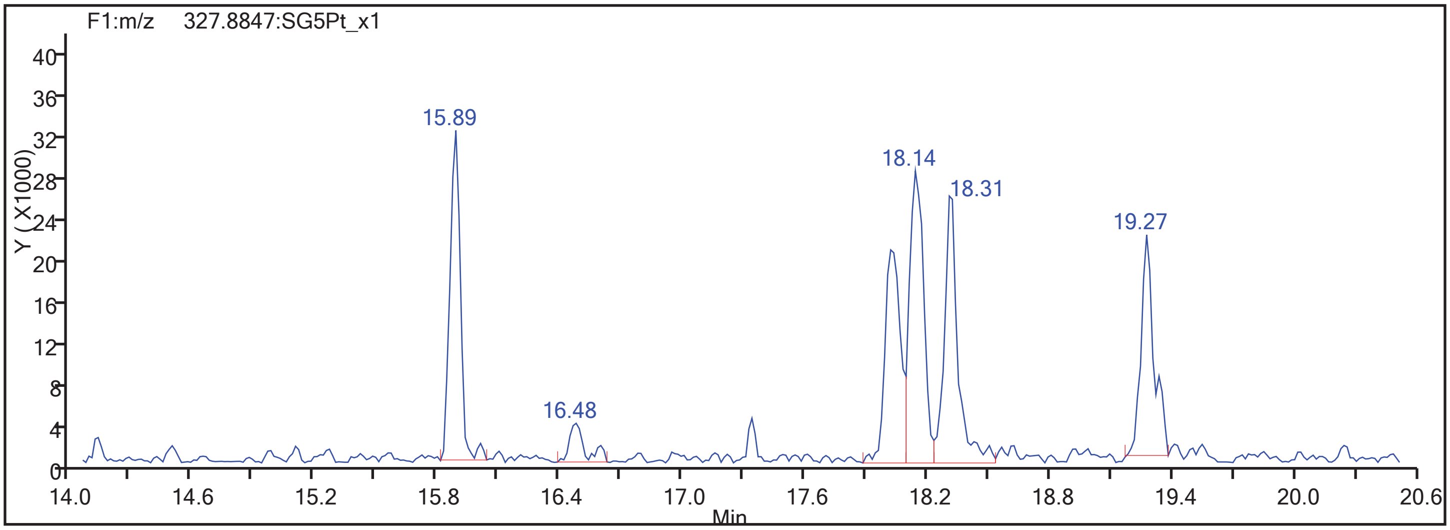


Report Date: 13-Oct-2017 10:55:13 Chrom Revision: 2.2 10-Oct-2017 10:31:20

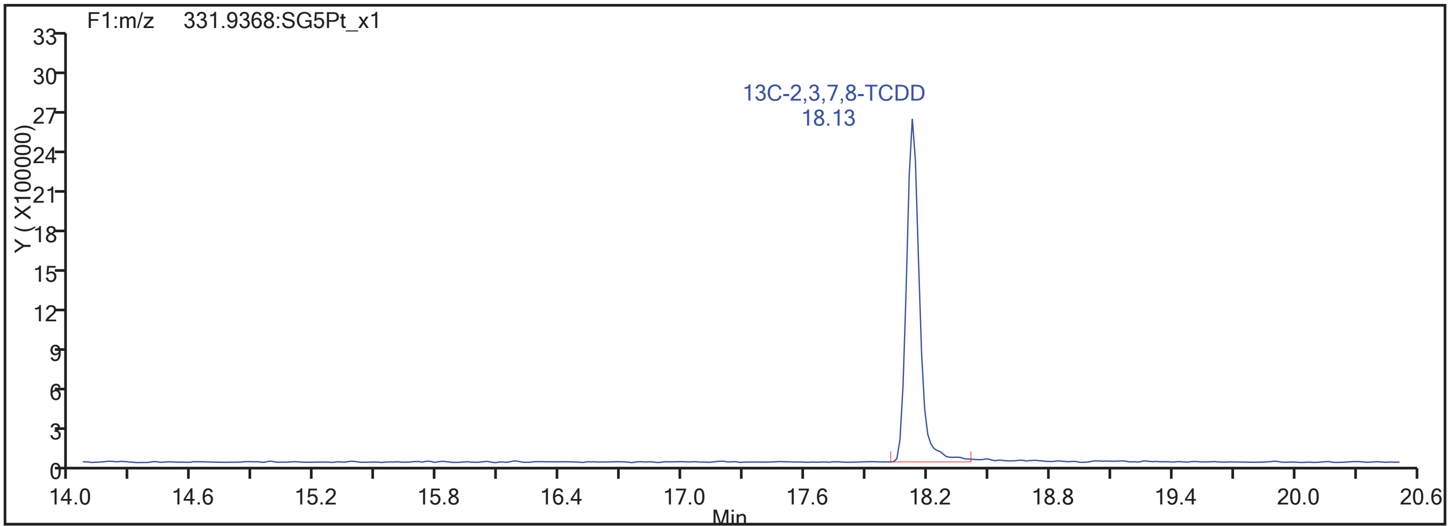
TestAmerica Sacramento

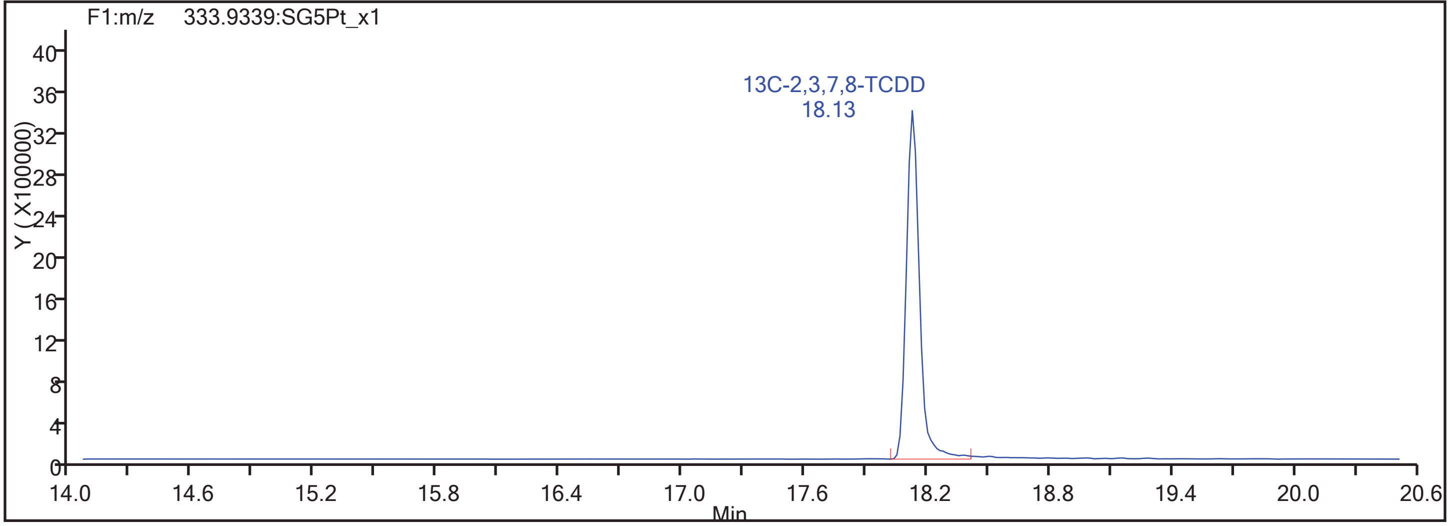
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d		
Injection Date:	12-Oct-2017 23:19:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





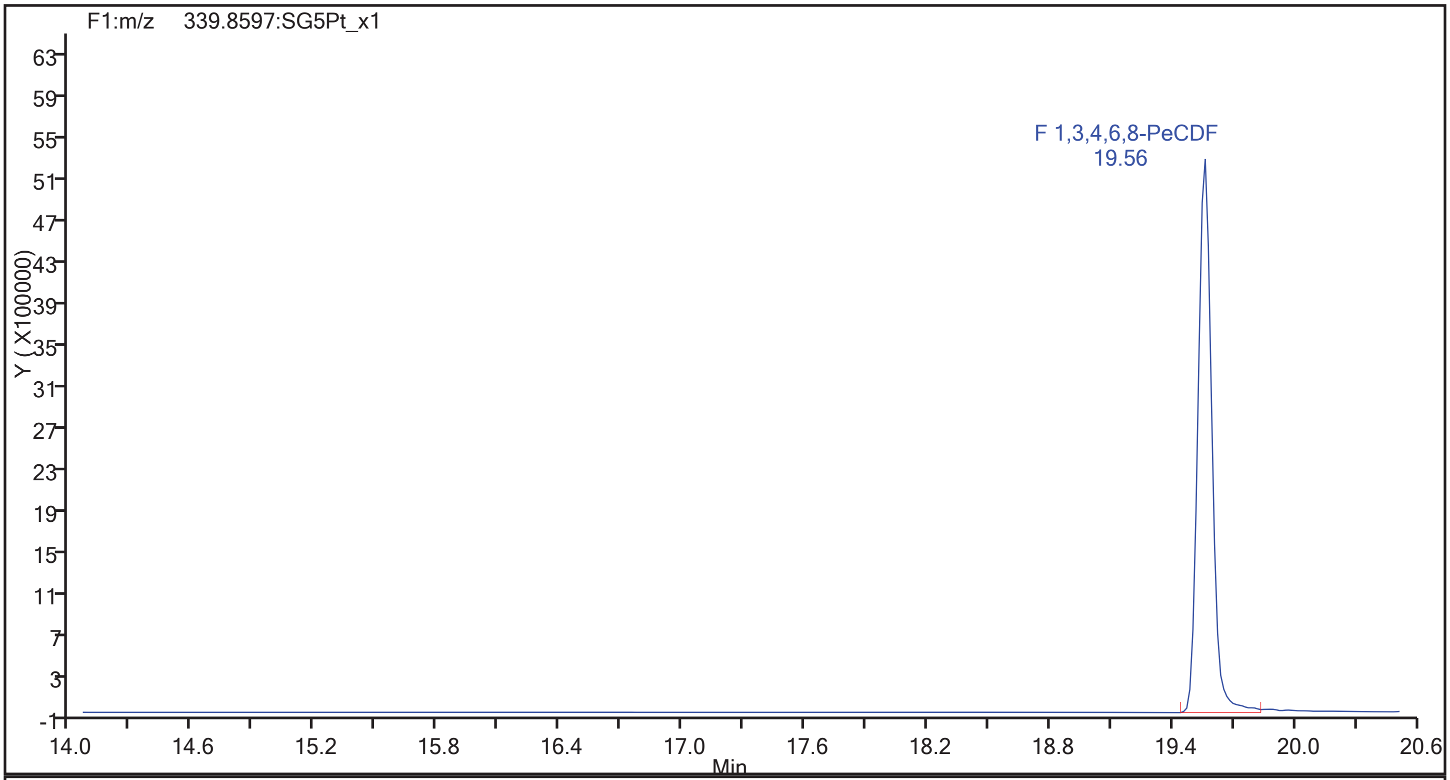
Report Date: 13-Oct-2017 10:55:14 Chrom Revision: 2.2 10-Oct-2017 10:31:20

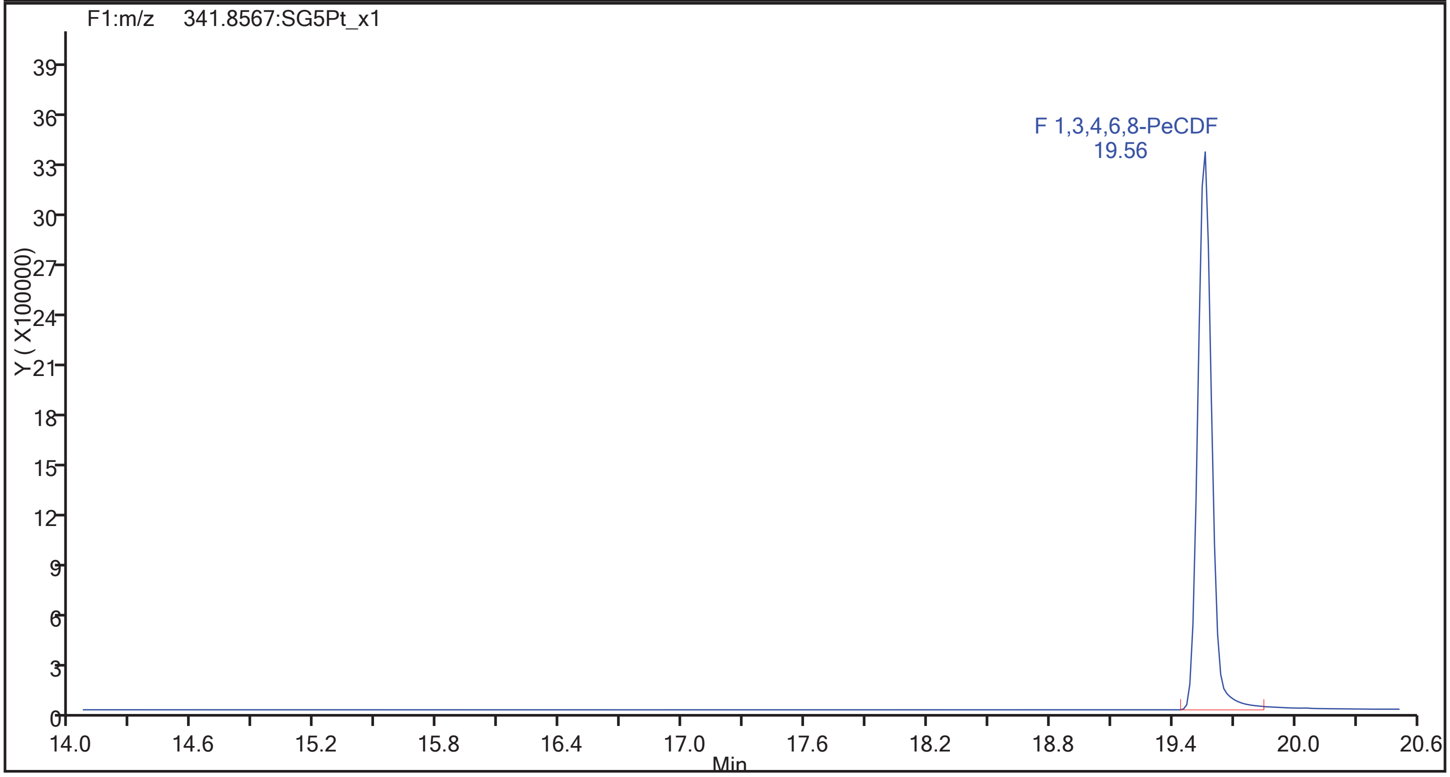
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d

Injection Date:	12-Oct-2017 23:19:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



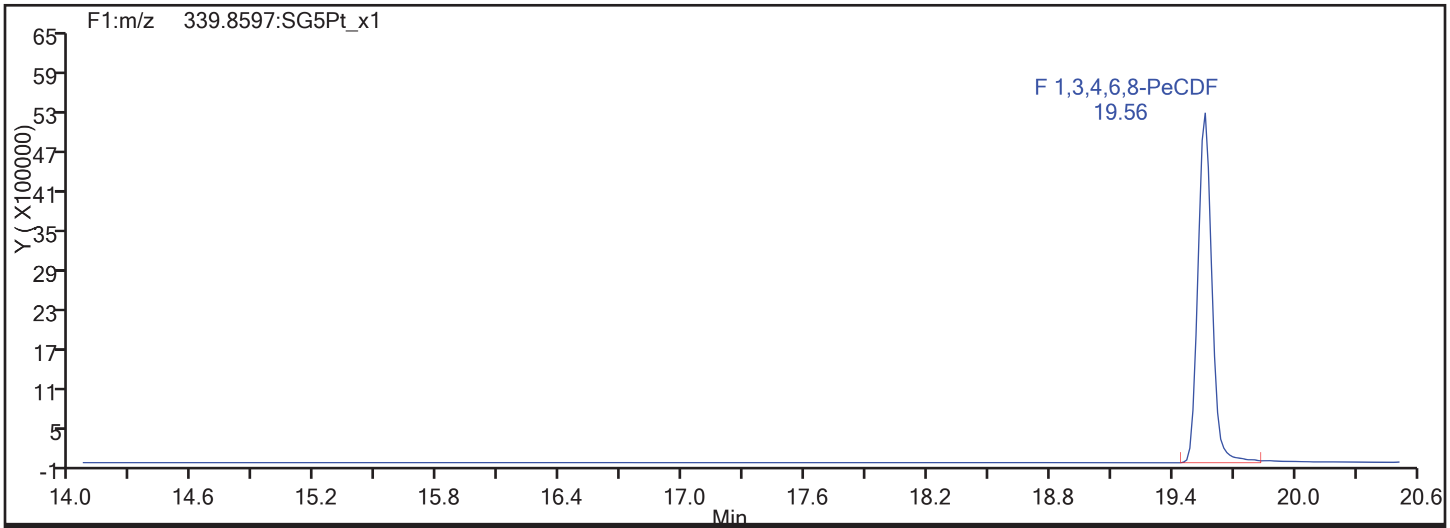


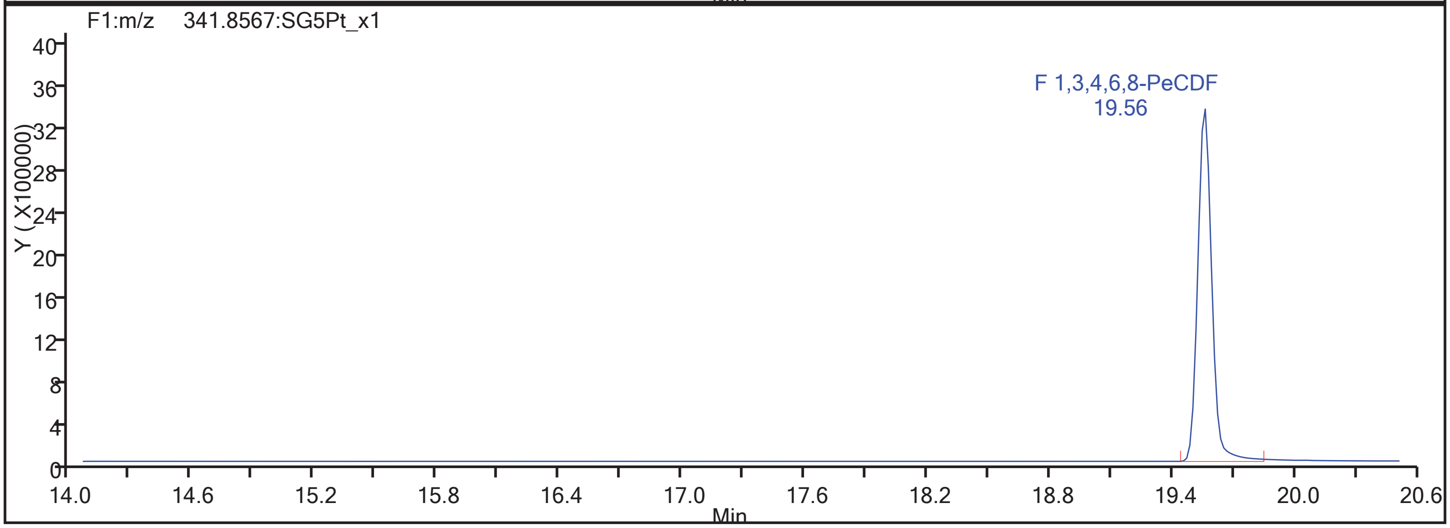
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d

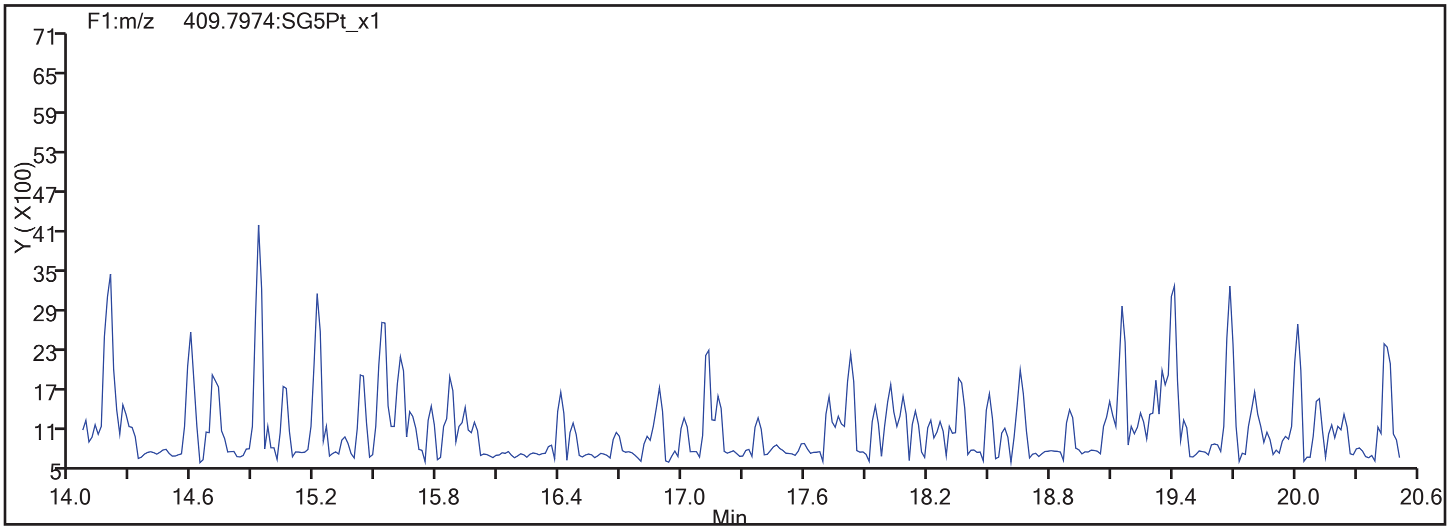
Injection Date:	12-Oct-2017 23:19:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

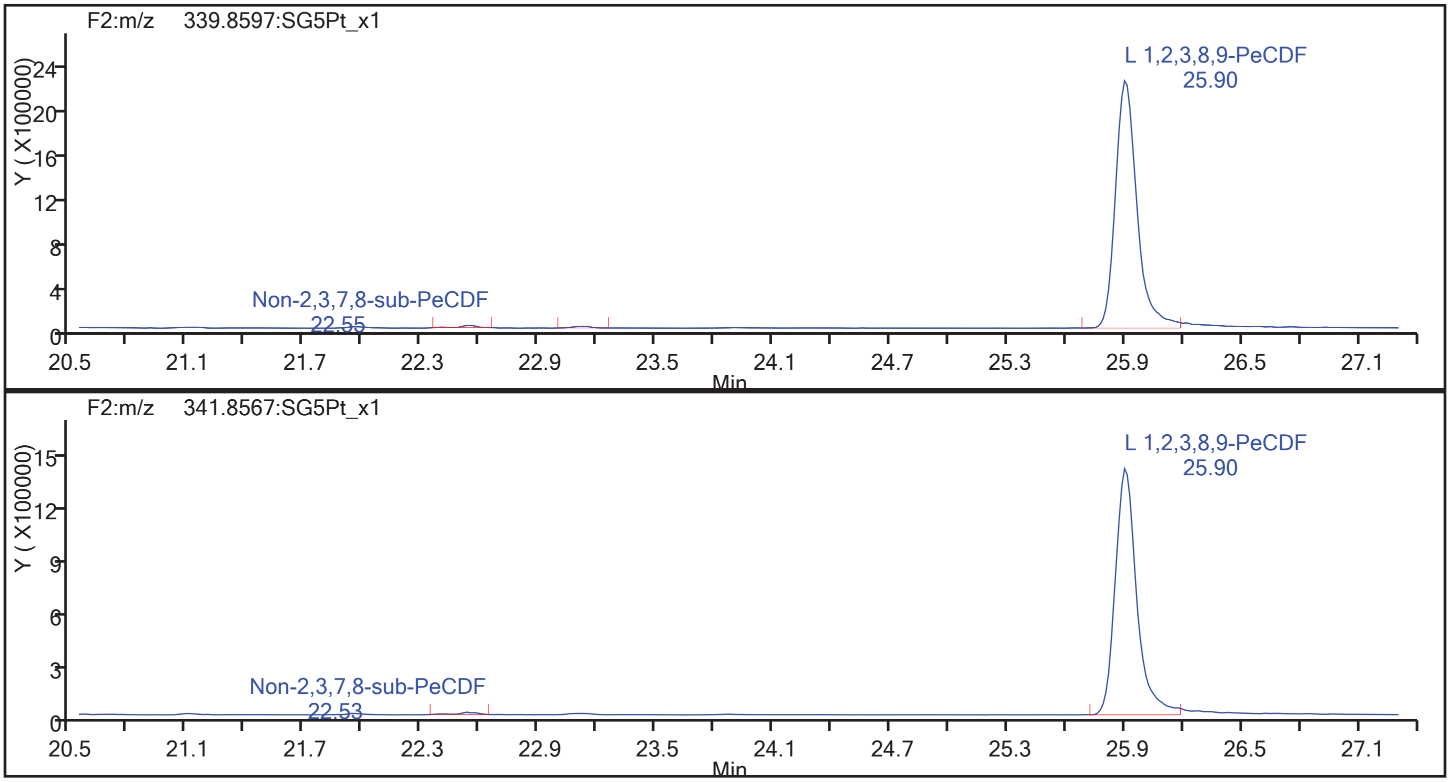


TestAmerica Sacramento

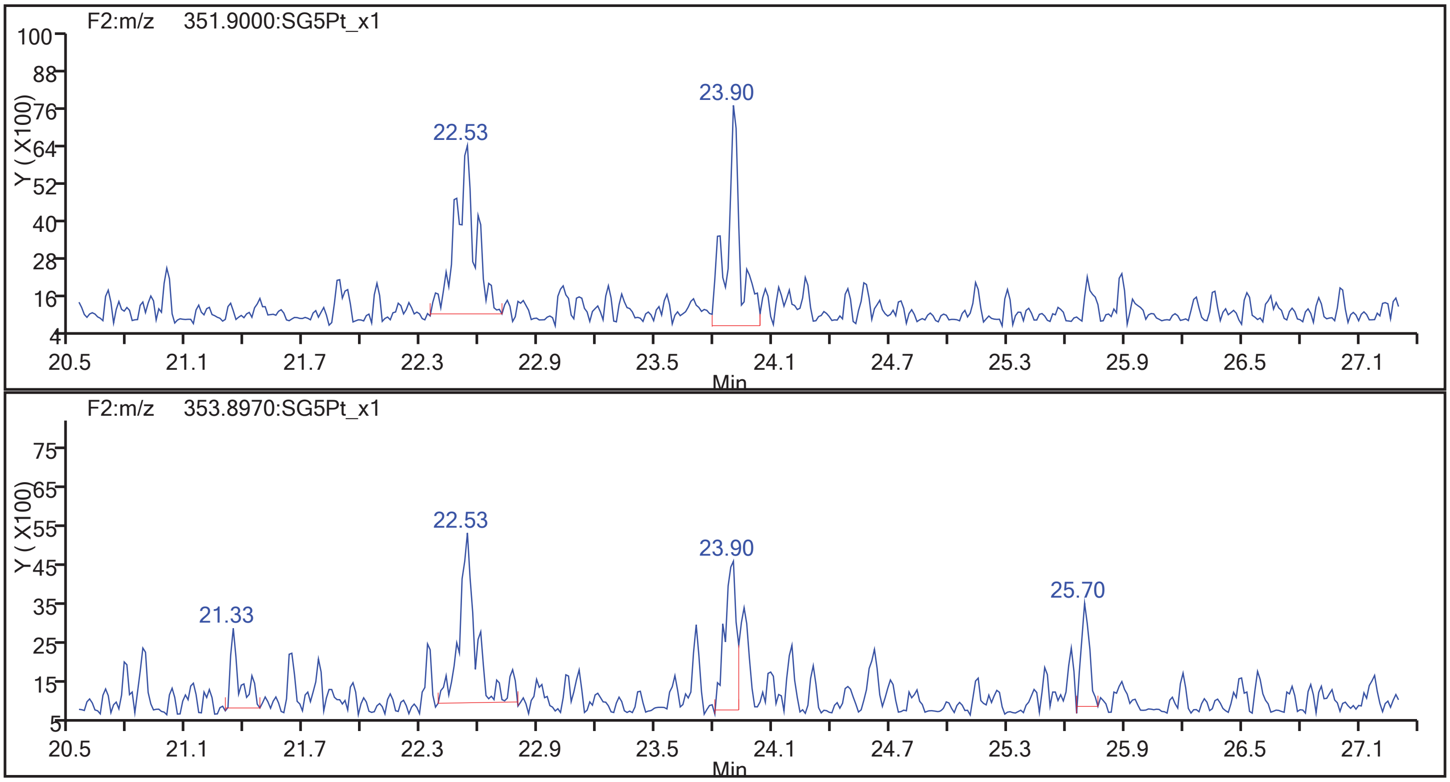
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d

Injection Date:	12-Oct-2017 23:19:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d

Injection Date: 12-Oct-2017 23:19:44 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: ALM, SMA

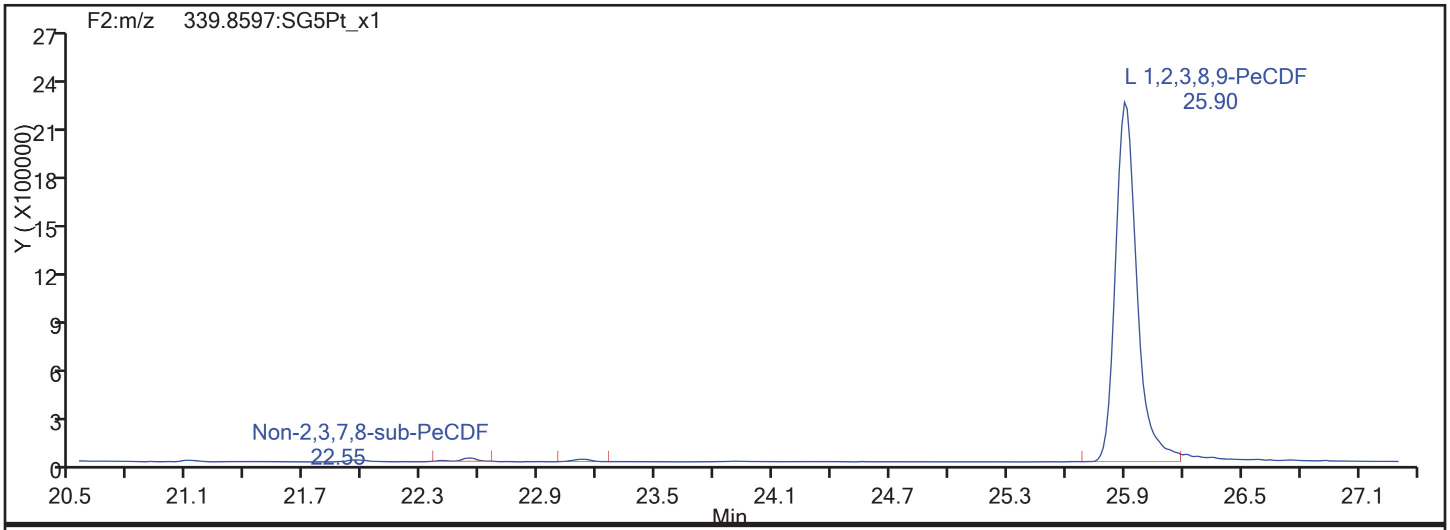
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

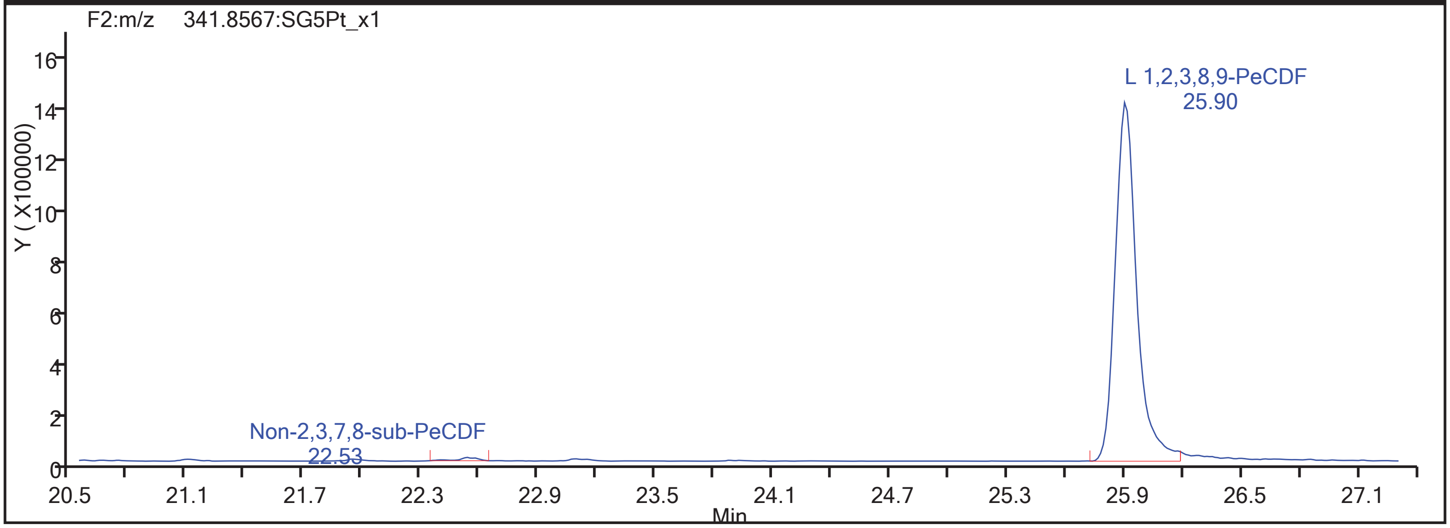
Client ID:

Worklist#: 189155 Sample Line#: 1

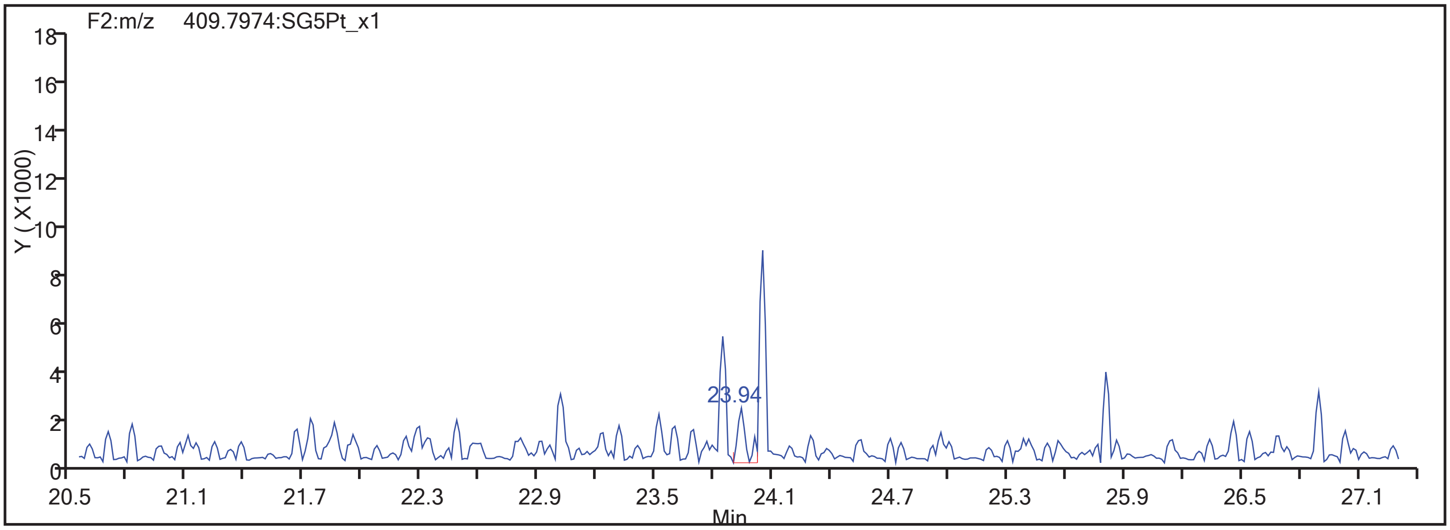
Column Type: DB-5 Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass

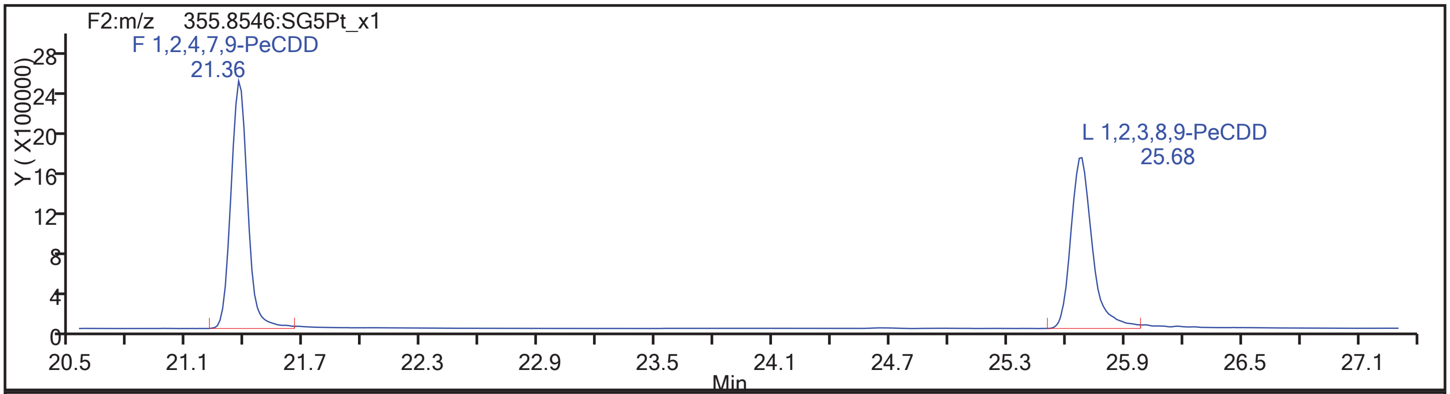


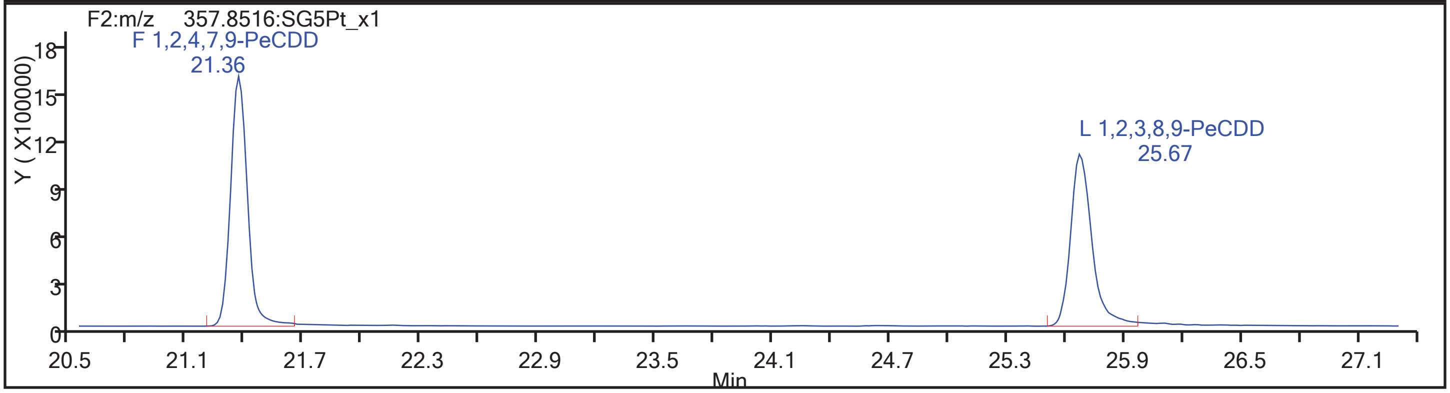
Report Date: 13-Oct-2017 10:55:14 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

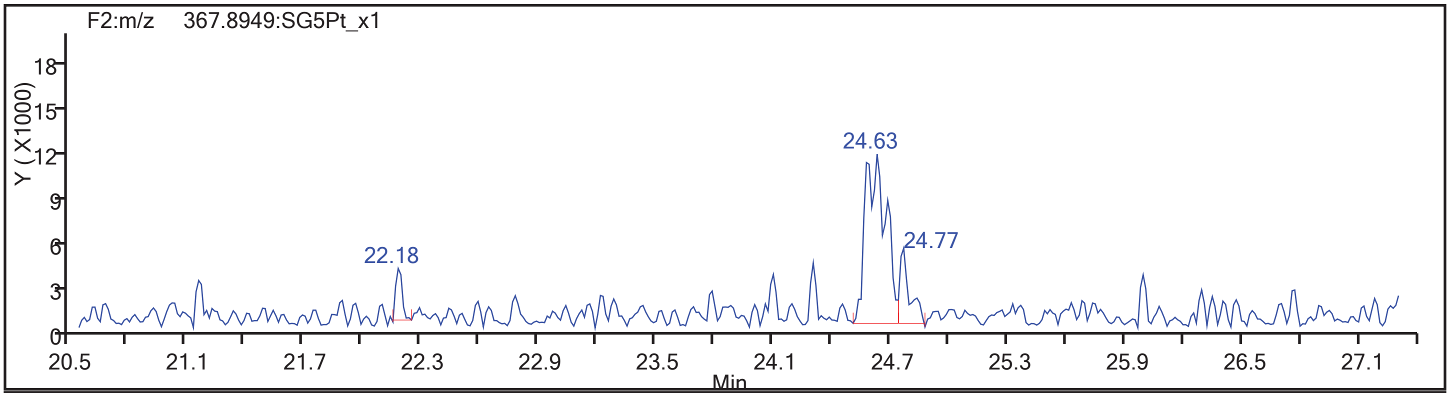
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d
Injection Date: 12-Oct-2017 23:19:44
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 1
Column Type: DB-5
Column Dia: 0.32 mm

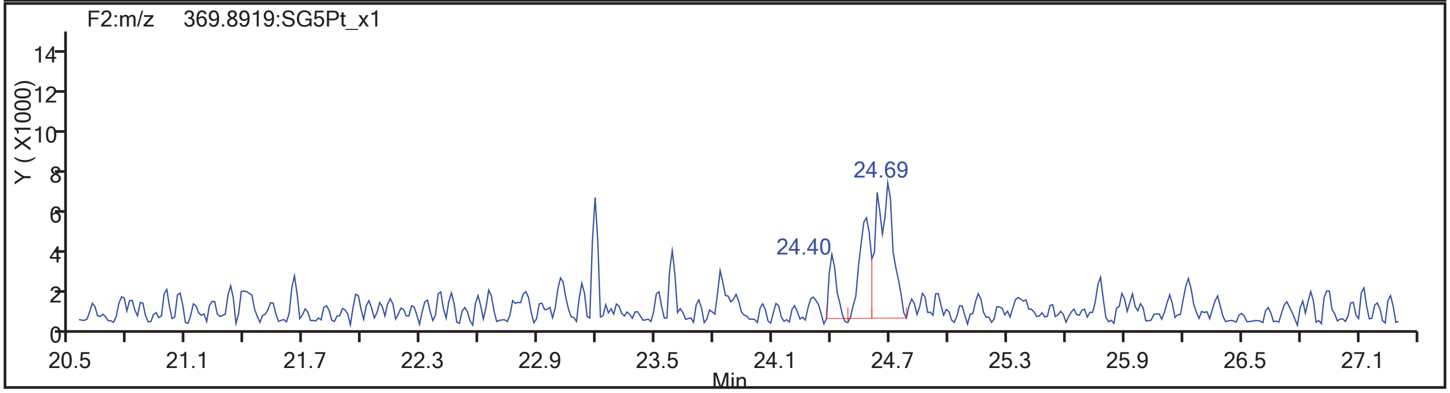
PeCDD





PeCDD Standards





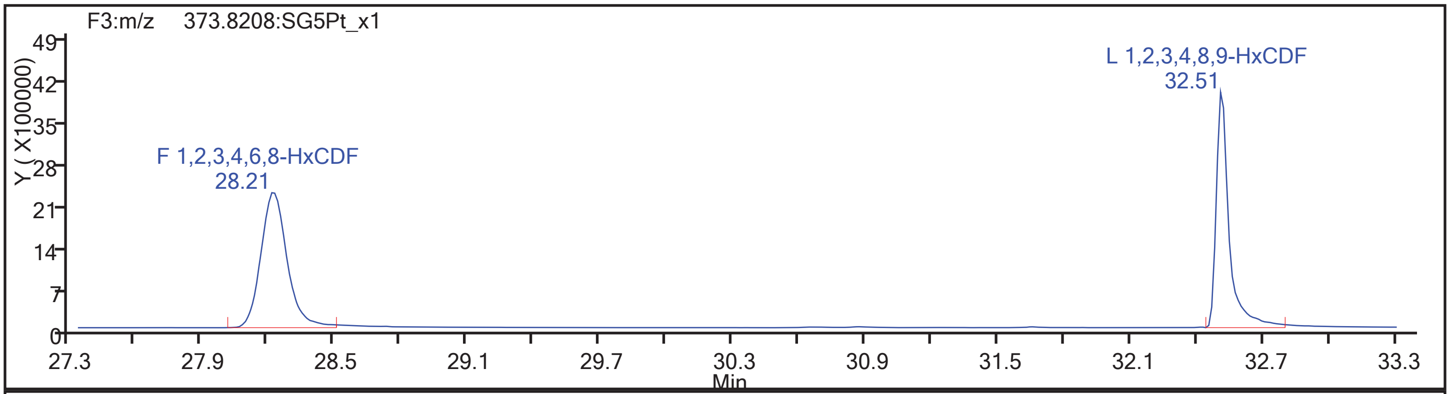
Report Date: 13-Oct-2017 10:55:14

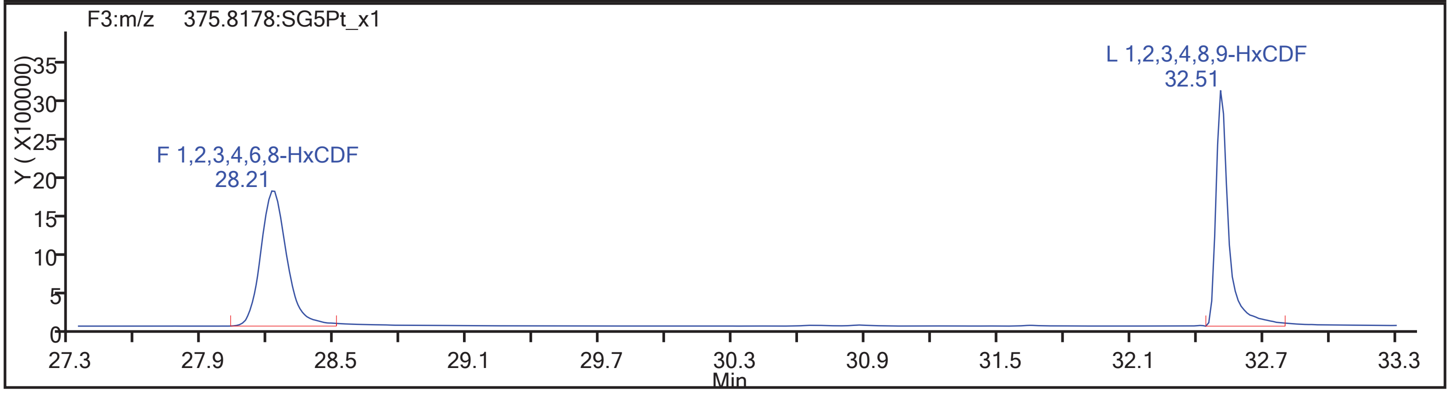
Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

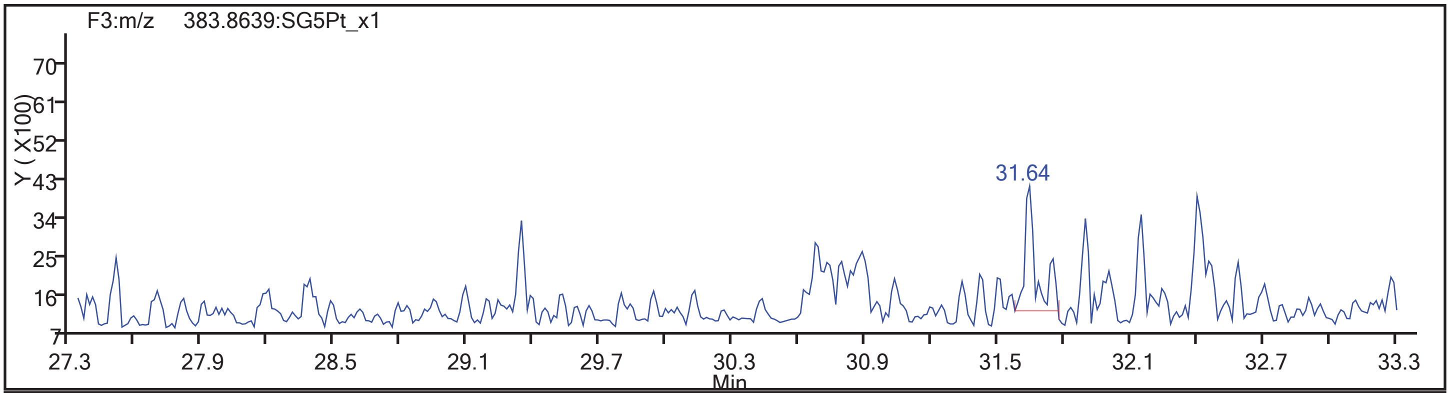
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d		
Injection Date:	12-Oct-2017 23:19:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

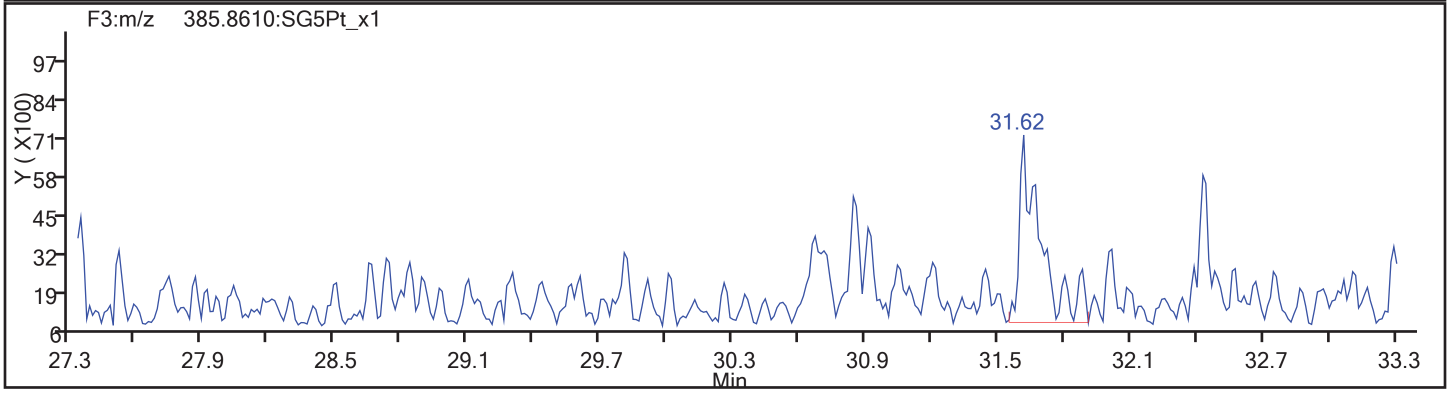
HxCDF





HxCDF Standards



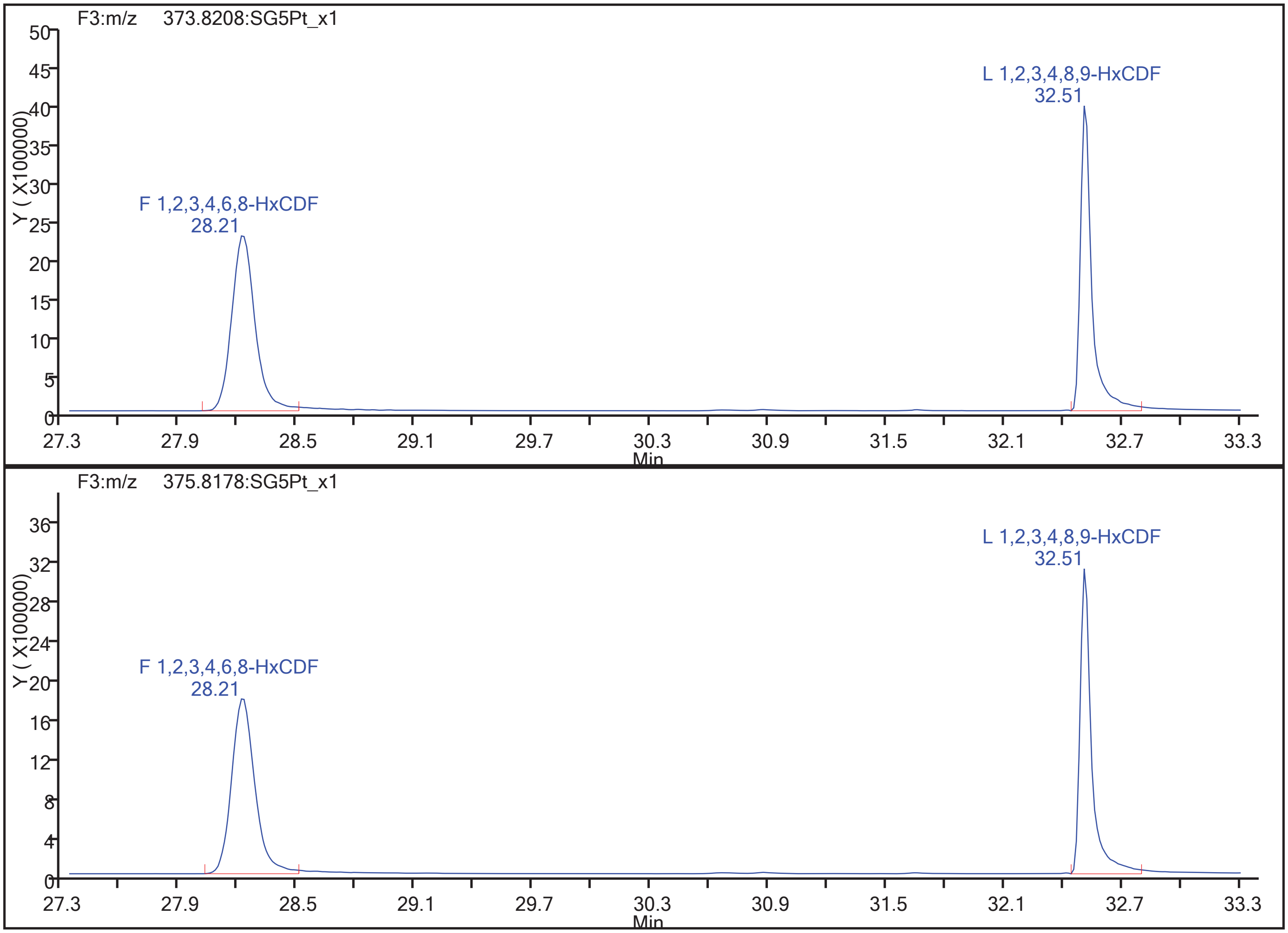


Report Date: 13-Oct-2017 10:55:14 Chrom Revision: 2.2 10-Oct-2017 10:31:20

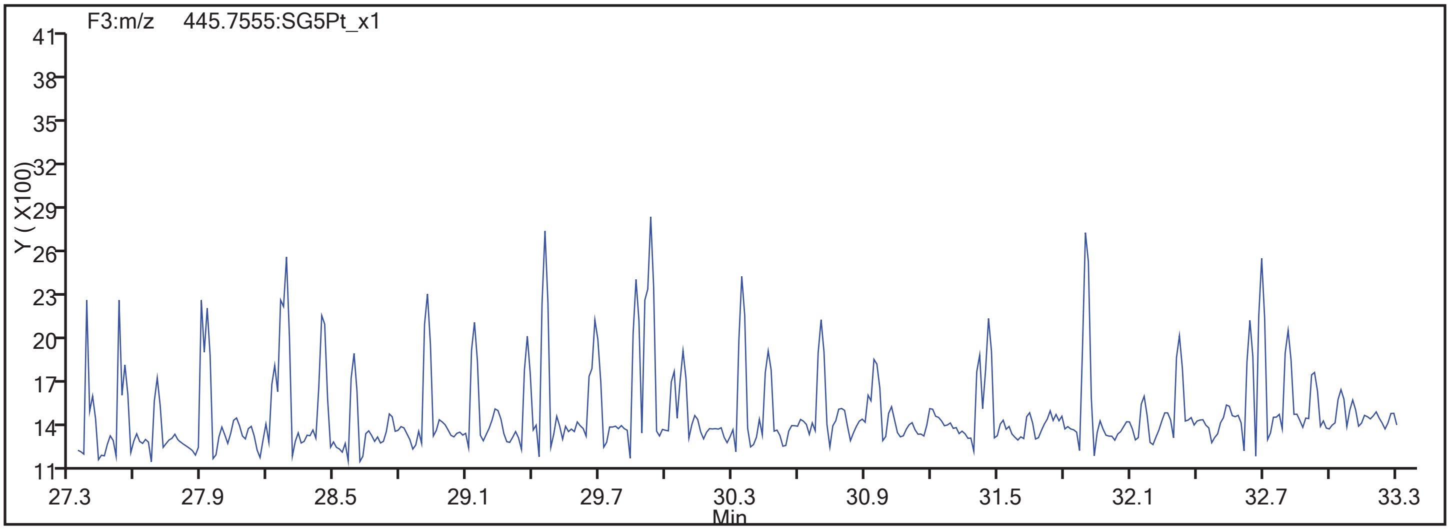
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d
Injection Date: 12-Oct-2017 23:19:44
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 1
Column Type: DB-5
Column Dia: 0.32 mm

HxCDF



HxCDF Interference Mass



Report Date: 13-Oct-2017 10:55:14 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d

Injection Date: 12-Oct-2017 23:19:44

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: ALM, SMA

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

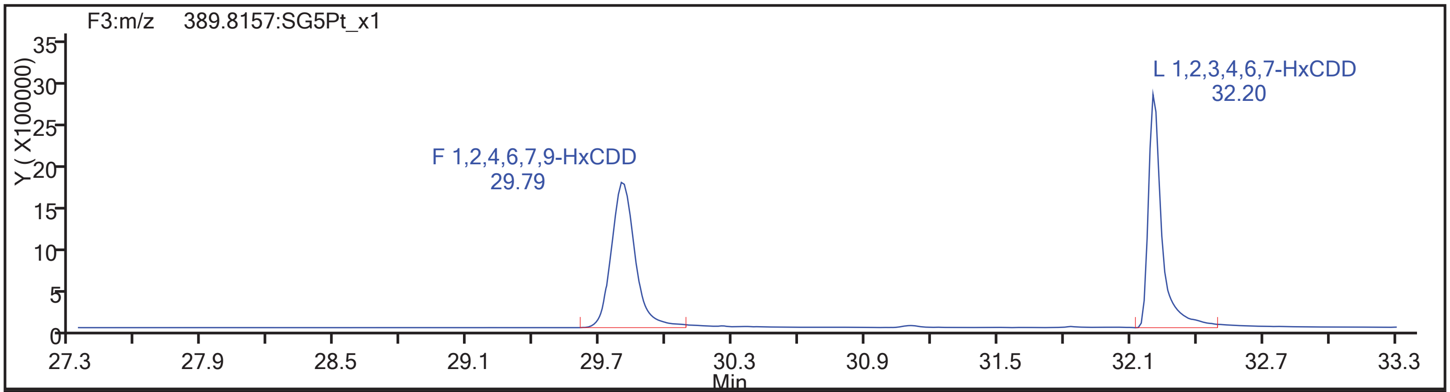
Worklist#: 189155

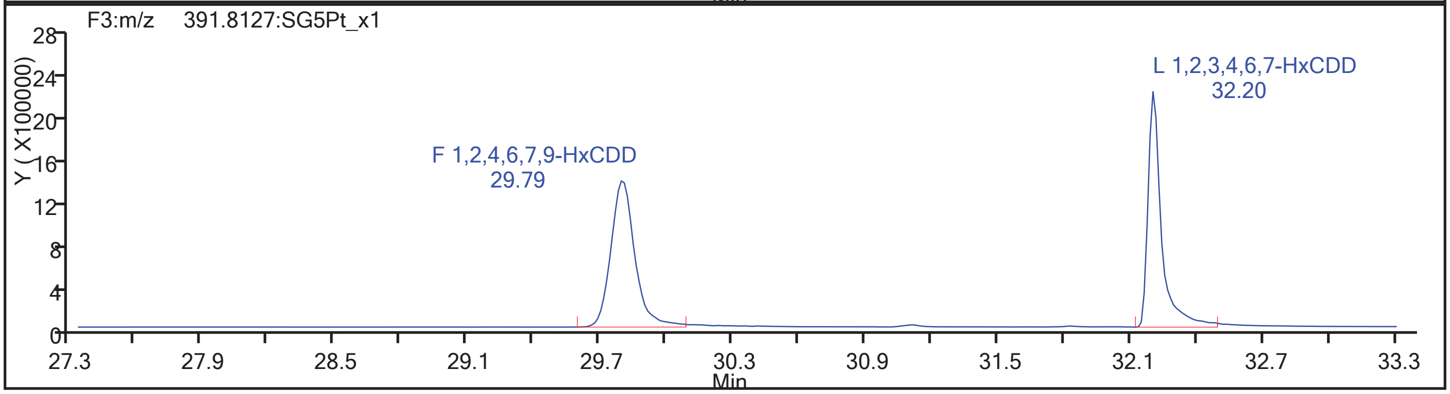
Sample Line#: 1

Column Type: DB-5

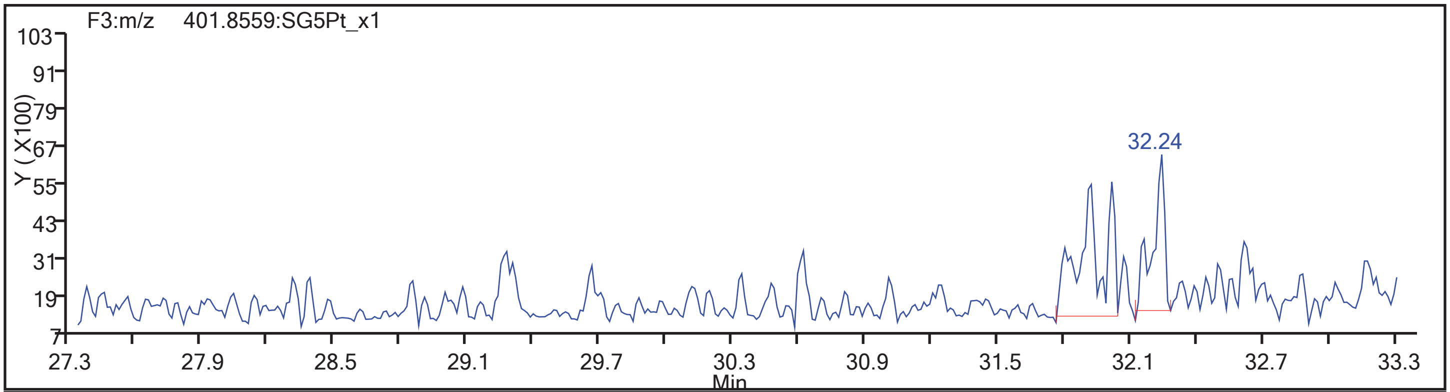
Column Dia: 0.32 mm

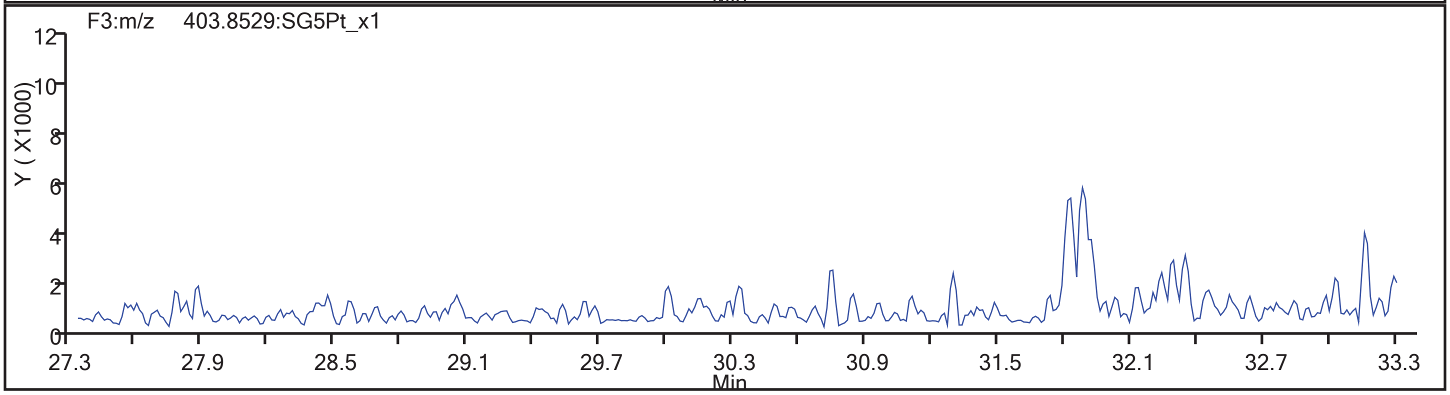
HxCDD





HxCDD Standards





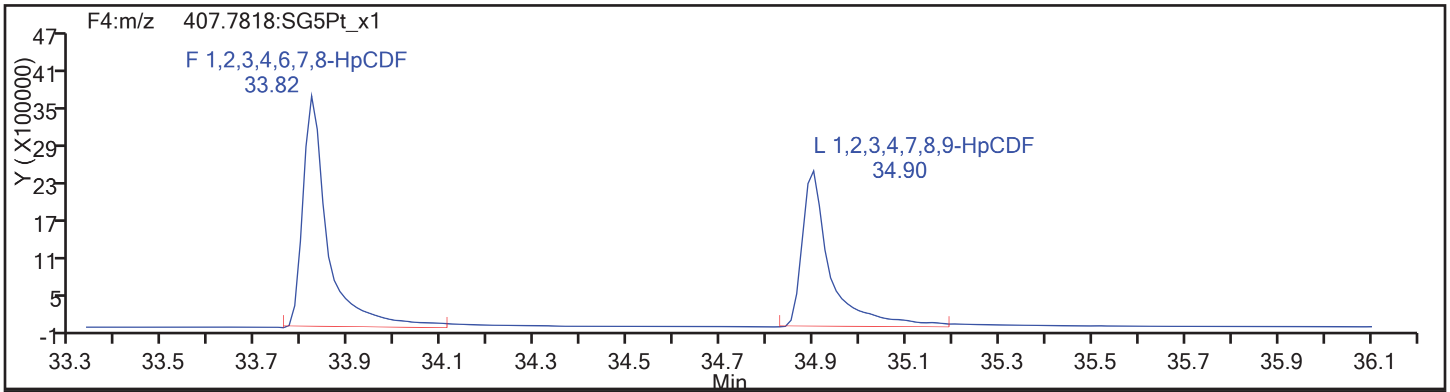
Report Date: 13-Oct-2017 10:55:14 Chrom Revision: 2.2 10-Oct-2017 10:31:20

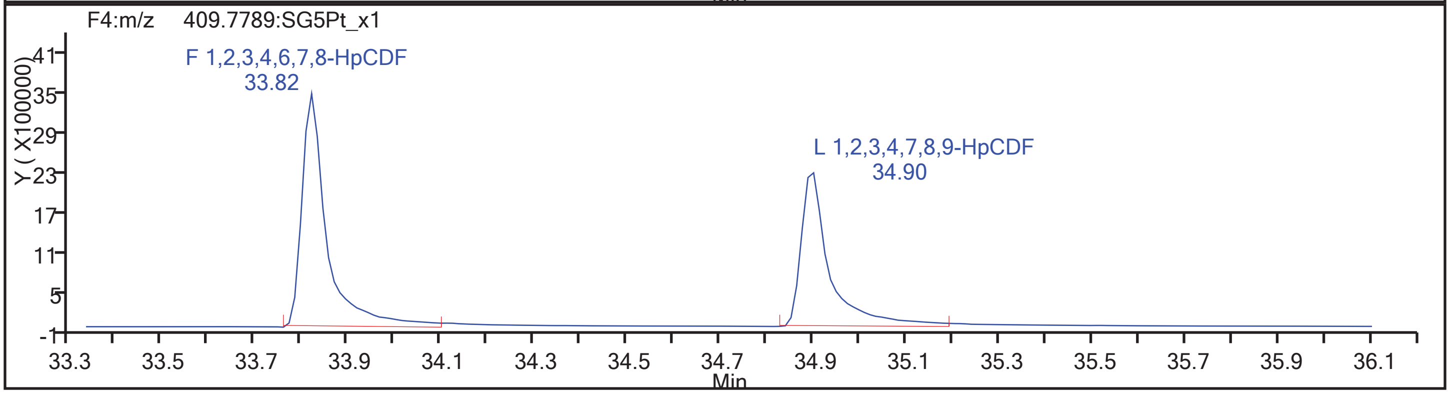
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d

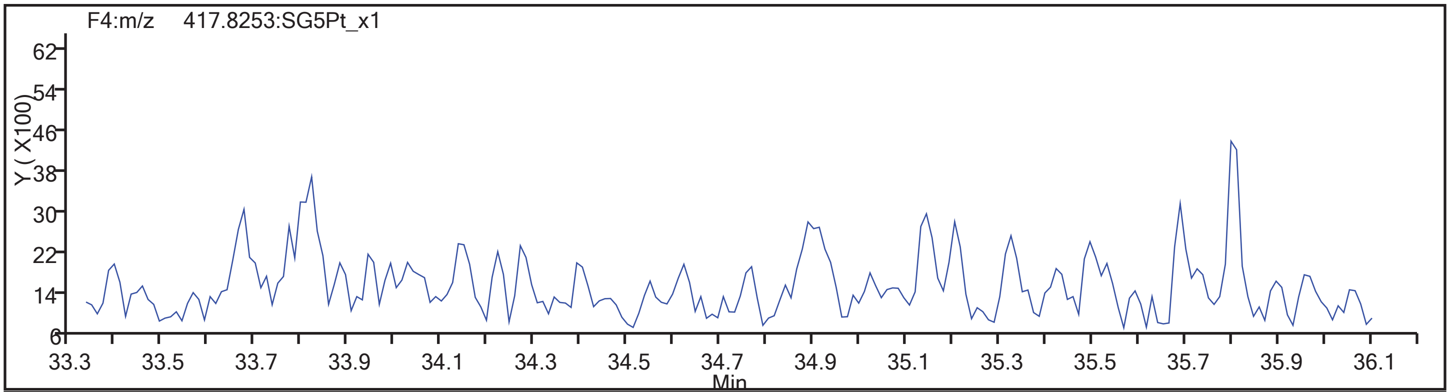
Injection Date:	12-Oct-2017 23:19:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	189155	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

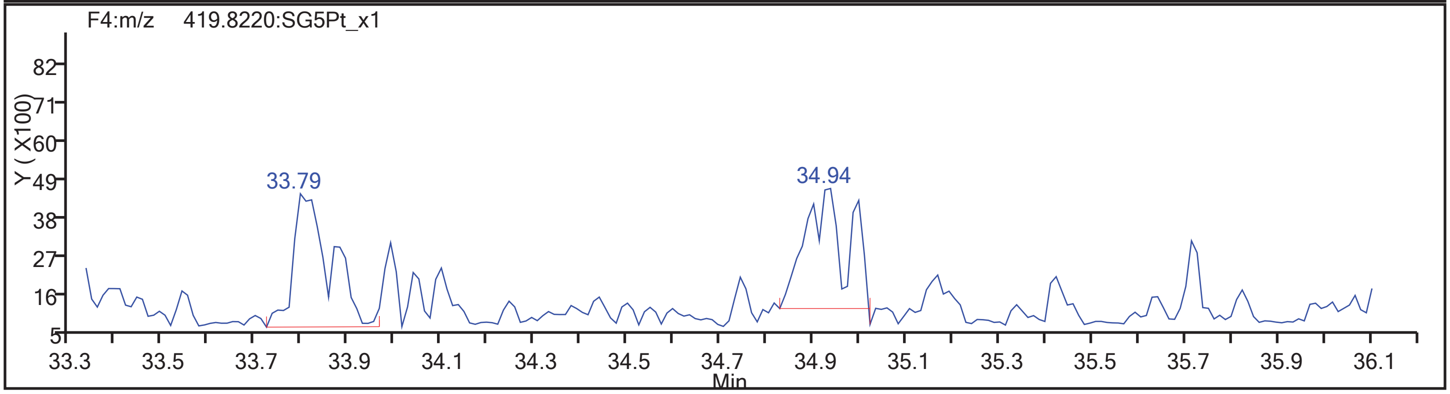
HpCDF





HpCDF Standards



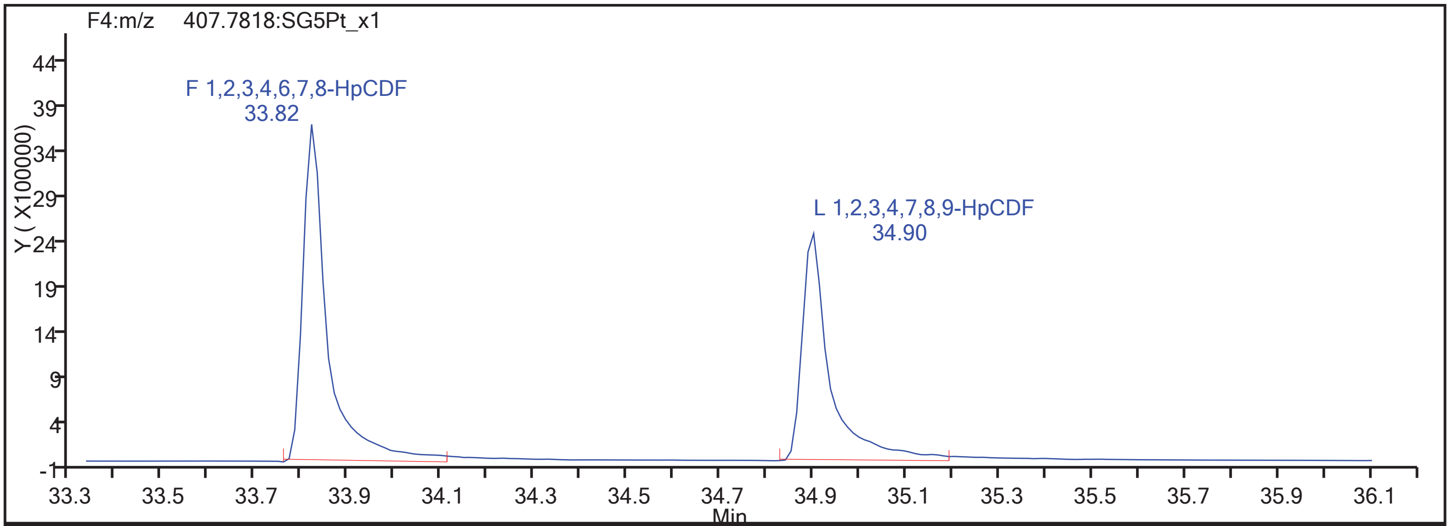


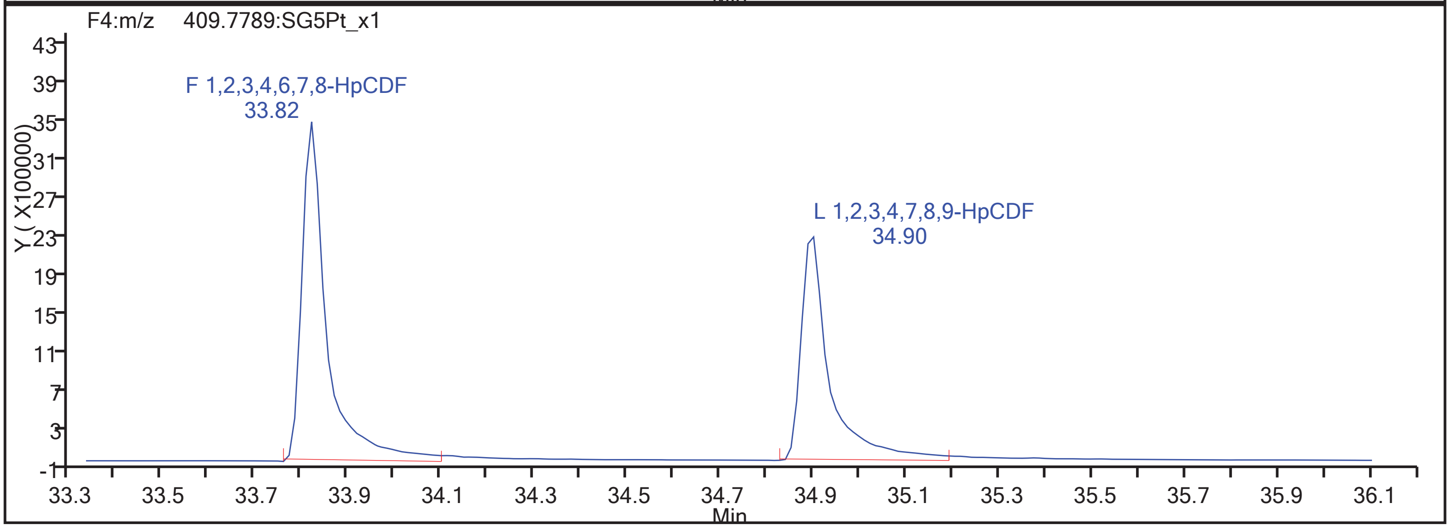
Report Date: 13-Oct-2017 10:55:14 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

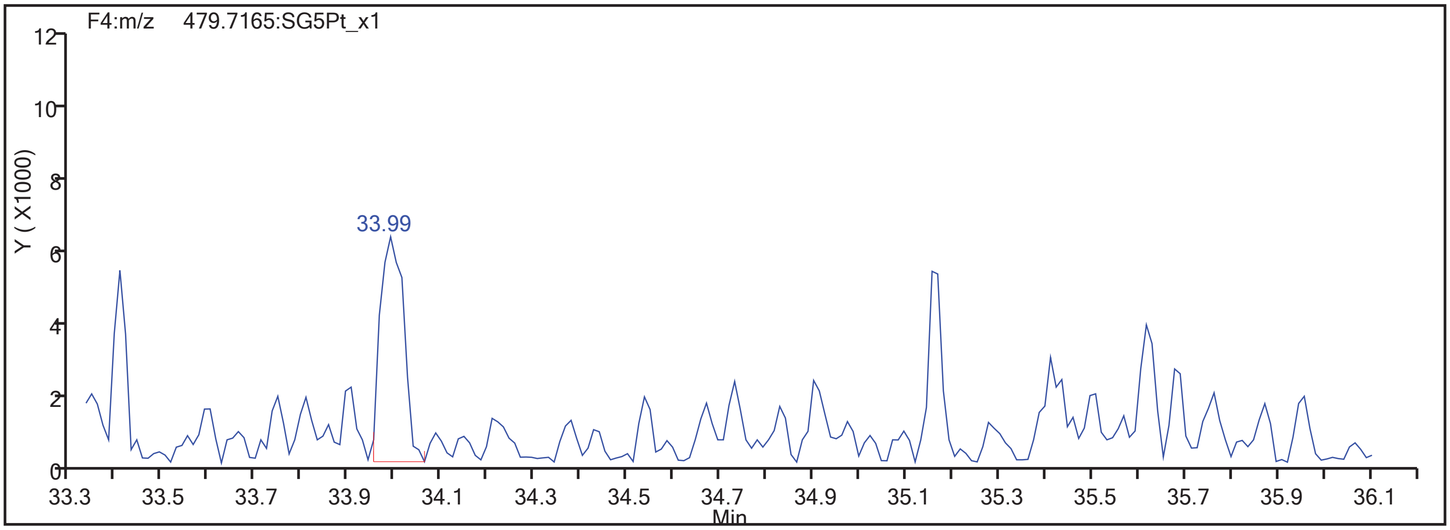
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d
Injection Date: 12-Oct-2017 23:19:44 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: ALM, SMA
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155 Sample Line#: 1
Column Type: DB-5 Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass

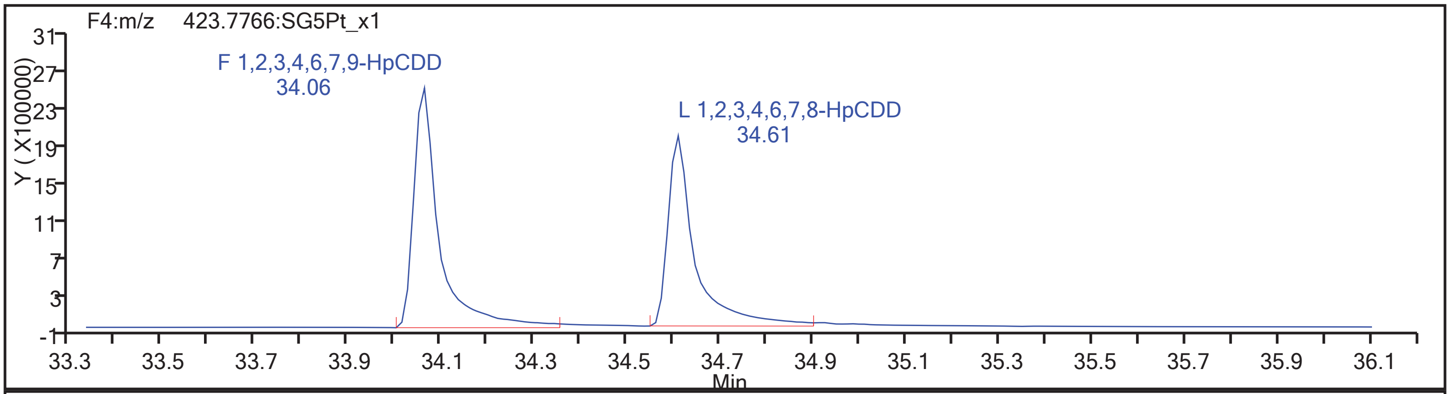


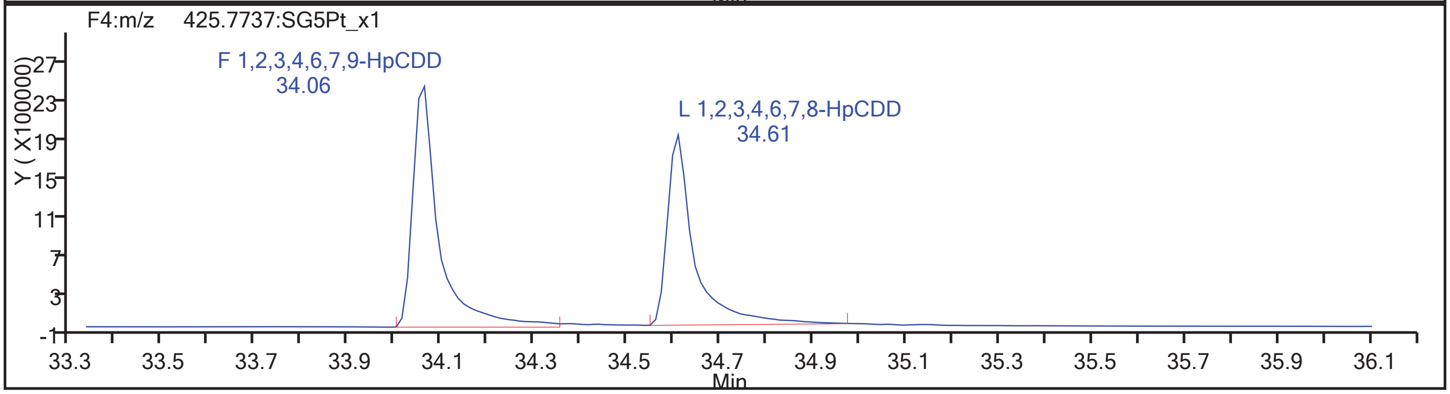
Report Date: 13-Oct-2017 10:55:14
Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

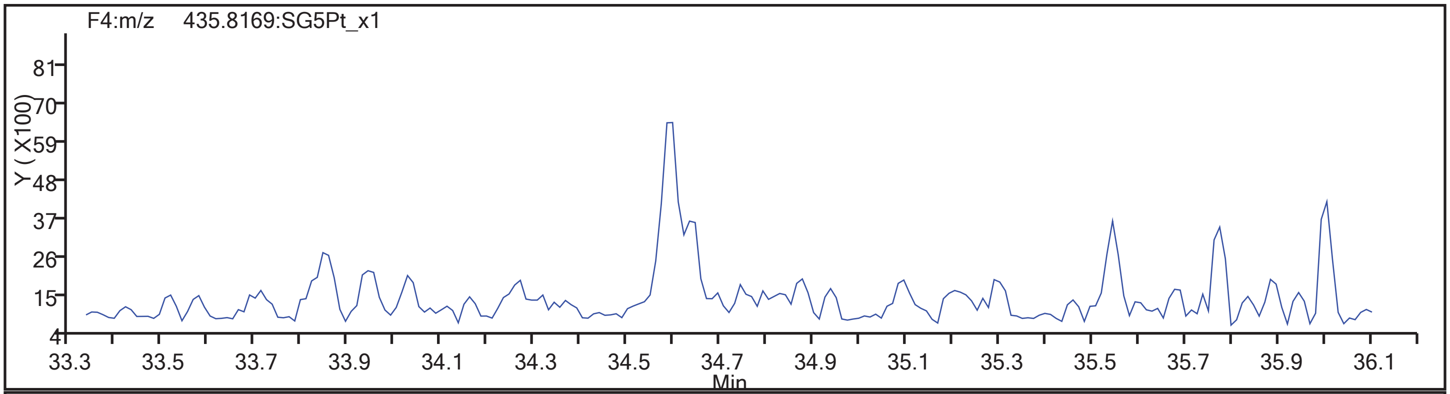
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d
Injection Date: 12-Oct-2017 23:19:44
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 1
Column Type: DB-5
Column Dia: 0.32 mm

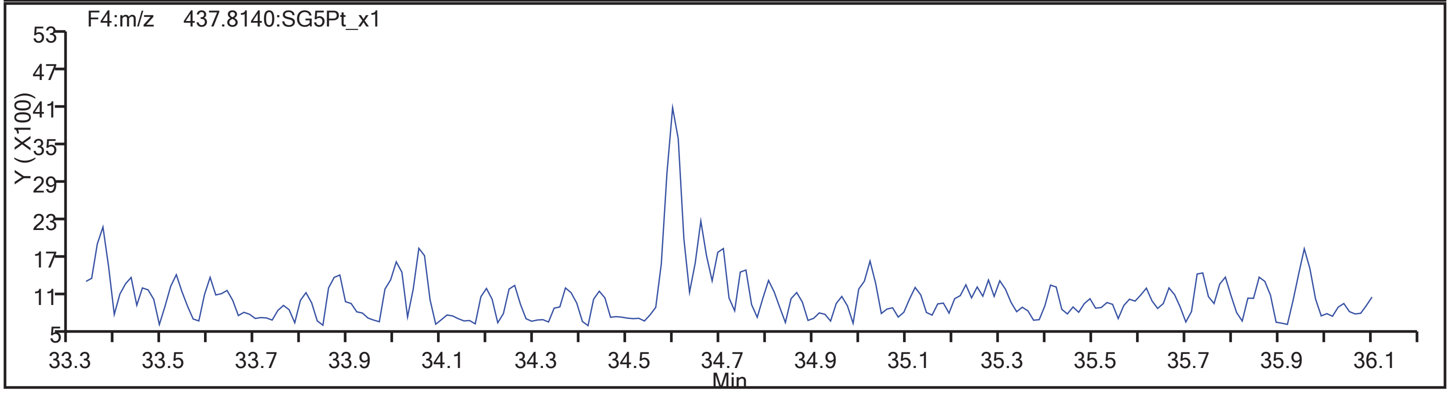
HpCDD





HpCDD Standards





Report Date: 13-Oct-2017 10:55:14 Chrom Revision: 2.2 10-Oct-2017 10:31:20

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d

Injection Date: 12-Oct-2017 23:19:44

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: ALM, SMA

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

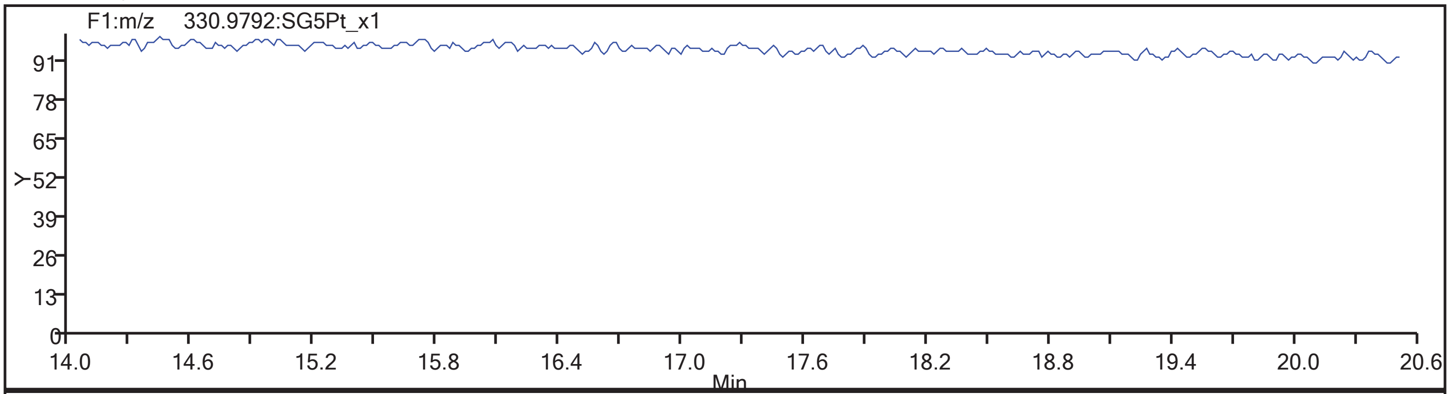
Client ID:

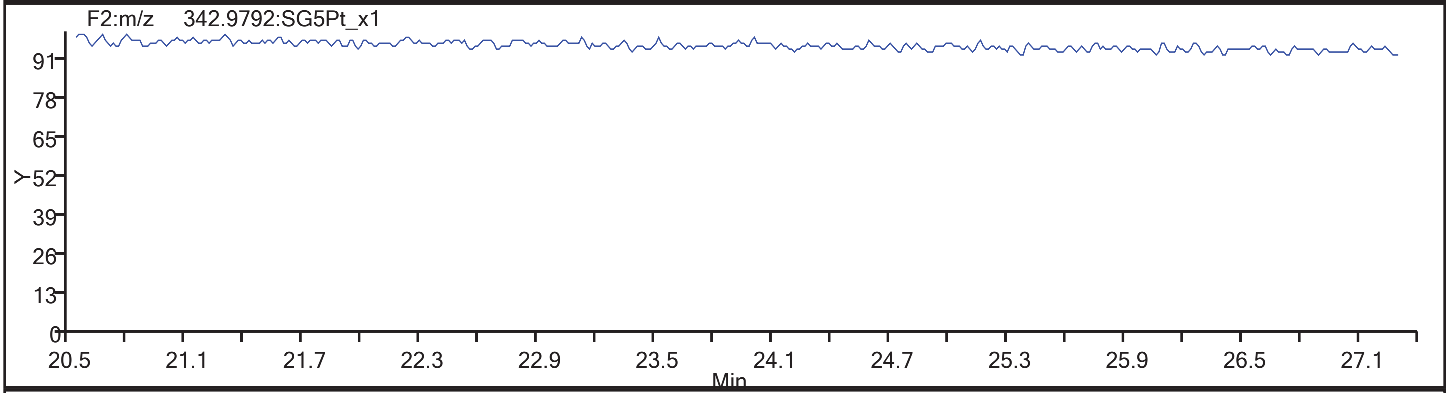
Worklist#: 189155

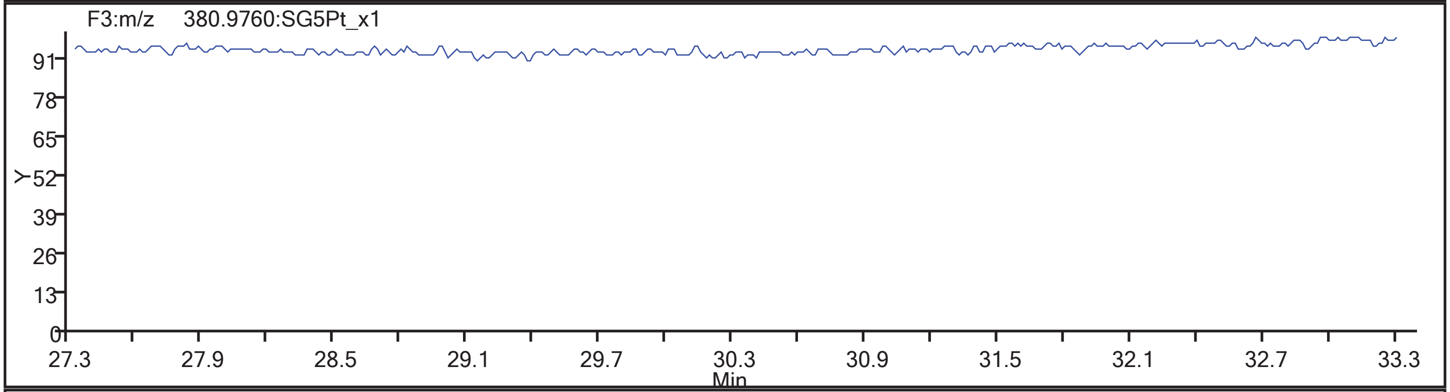
Sample Line#: 1

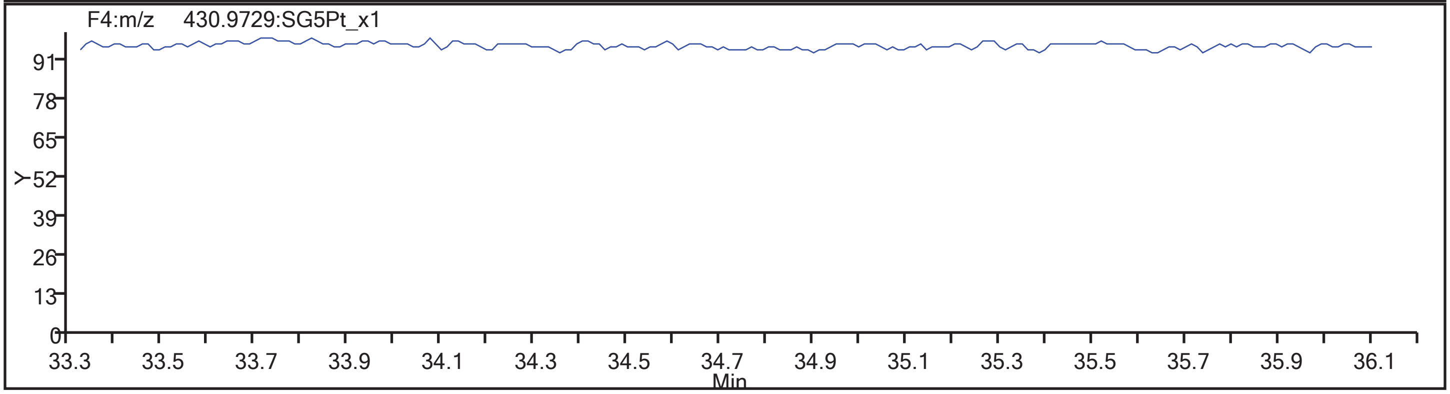
Column Type: DB-5

Column Dia: 0.32 mm





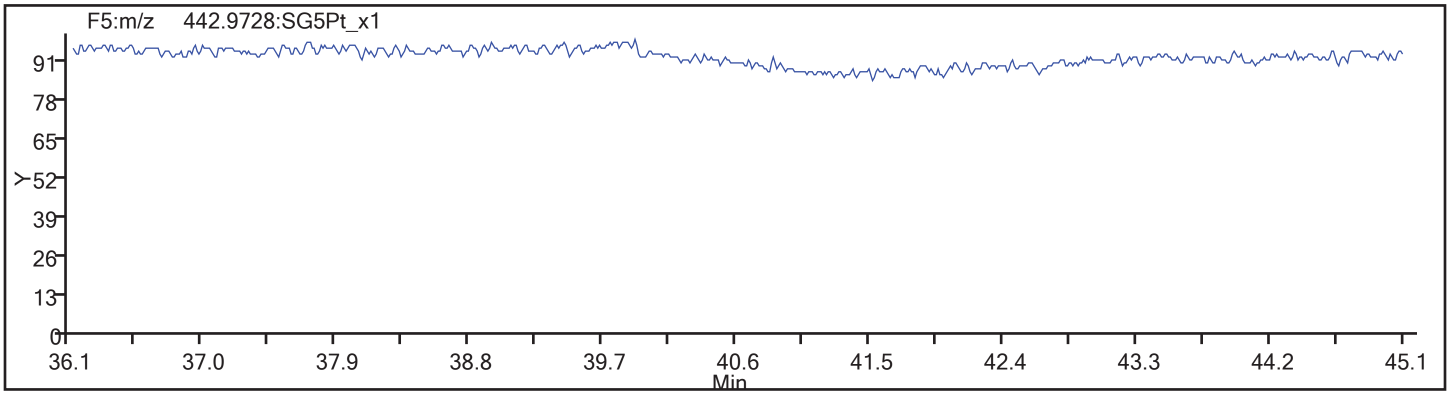




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_1.d

Injection Date: 12-Oct-2017 23:19:44
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: ALM, SMA
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 189155
Sample Line#: 1
Column Type: DB-5
Column Dia: 0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 11-Nov-2017 02:05:30 ALS Bottle#: 1 Worklist Smp#: 53
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 110917D WDM HRDXNCP_00034
Misc. Info.: 09NO1710D5
Operator ID: SMA, AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:33:32 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:33:32

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.400	56301126	0.78	1.2741					0.00	
2,3,7,8-TCDF	17.430	124209533	0.77	1.1341	77.8	77.8	0.3628	0.3628		
A Non-2,3,7,8-sub-TCDF	17.113						0.0	0.0		
S Total TCDF					77.8	77.8	0.3628	0.3628		
D 13C-2,3,7,8-TCDD	18.111	39602247	0.77	0.9921					0.00	
2,3,7,8-TCDD	18.125	41330730	0.80	0.9993	41.8	41.8	0.2373	0.2373		
A Non-2,3,7,8-sub-TCDD	17.566						0.0	0.0		
S Total TCDD					41.8	41.8	0.2373	0.2373		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.175	396041	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.433						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.267						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.913						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.770	40803519	1.06	1.6399						
1,2,3,4,7,8,9-HpCDF	34.852	31945349	1.06	1.3302						
A Non-2,3,7,8-sub-HpCDF	34.311						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.560	24814631	1.04	0.9932						
A Non-2,3,7,8-sub-HpCDD	34.287						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.981	65389919	0.76							
1,3,6,8-TCDD	15.888	38343492	0.79							
2,3,4,7-TCDF	17.430	124209533	0.77							
1,2,3,7-TCDD	18.005	34733092	0.78							
1,2,3,9-TCDD	18.292	43227378	0.80							
1,2,3,9-TCDF	18.292	53861007	0.78							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.244	17454101								
1,2,8,9-TCDF	19.244	56908451	0.77							
1,3,4,6,8-PeCDF	19.517	56893153	1.58							
1,2,4,7,9-PeCDD	21.305	34743967	1.54							
1,2,3,8,9-PeCDD	25.560	33180036	1.55							
1,2,3,8,9-PeCDF	25.792	44073790	1.60							
1,2,3,4,6,8-HxCDF	28.078	50411019	1.28							
1,2,4,6,7,9-HxCDD	29.675	35626416	1.27							
1,2,3,4,6,7-HxCDD	32.151	33275995	1.26							
1,2,3,4,8,9-HxCDF	32.457	45028685	1.28							
1,2,3,4,6,7,9-HpCDD	34.013	29668438	1.03							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 11-Nov-2017 02:05:30 ALS Bottle#: 1 Worklist Smp#: 53
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 110917D WDM HRDXNCP_00034
Misc. Info.: 09NO1710D5
Operator ID: SMA, AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:33:32 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:33:32

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	1.000	24650055	6042040	32920	82300	184		
317.9389	17.400	17.400	0	1.000	31651071	7691080	10259	25647	750	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.430	17.430	0	1.002	54207747	11875147	24006	60015	495		
305.8987	17.430	17.430	0	1.002	70001786	15358188	32508	81270	472	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.113						24006	60015			
305.8987	17.113						32508	81270			
13C-2,3,7,8-TCDD											
331.9368	18.111	18.111	0	1.000	17227442	3925802	8690	21725	452		
333.9339	18.111	18.111	0	1.000	22374805	5063962	6917	17292	732	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.125	18.125	0	1.001	18336969	4167473	8953	22382	465		
321.8936	18.125	18.125	0	1.001	22993761	5288617	12367	30917	428	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.566						8953	22382			
321.8936	17.566						12367	30917			
A F1 PeCDFs											
339.8597	20.001						1904	4760			
341.8567	20.001						2108	5270			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.478	23.175	-42	1.000	160926	24342	4550	11375	5		
341.8567	22.451	23.175	-43	1.000	81898	11300	3439	8597	3	1.96(1.32-1.78)	
339.8597	23.051	23.175	-7	1.000	113790	18896	4550	11375	4		
341.8567	23.037	23.175	-8	1.000	92978	16839	3439	8597	5	1.22(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.433						7051	17627			
357.8516	23.433						4082	10205			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.267						10775	26937			
375.8178	30.267						8851	22127			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.913						8154	20385			
391.8127	30.913						6982	17455			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.770	33.770	0	1.000	21011633	5891796	37926	94815	155		
409.7789	33.770	33.770	0	1.000	19791886	5671176	37579	93947	151	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.852	34.852	0	1.000	16443465	4043529	37926	94815	107		
409.7789	34.852	34.852	0	1.000	15501884	3814991	37579	93947	102	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.311						37926	94815			
409.7789	34.311						37579	93947			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.560	34.560	0	1.000	12656448	3267801	31780	79450	103		
425.7737	34.560	34.560	0	1.000	12158183	3139424	22697	56742	138	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.287						31780	79450			
425.7737	34.287						22697	56742			
1,3,6,8-TCDF											
303.9016	14.981	14.981	0		28291856	8718443	24006	60015	363		
305.8987	14.981	14.981	0		37098063	11230286	32508	81270	345	0.76(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.888	15.888	0		16946010	4935124	8953	22382	551		
321.8936	15.888	15.888	0		21397482	6182760	12367	30917	500	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.430	17.430	0		54207747	11875147	24006	60015	495		
305.8987	17.430	17.430	0		70001786	15358188	32508	81270	472	0.77(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.005	18.005	0		15182771	3683802	8953	22382	411		
321.8936	18.005	18.005	0		19550321	4770633	12367	30917	386	0.78(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.292	18.292	0		19232694	4341469	8953	22382	485		
321.8936	18.292	18.292	0		23994684	5449428	12367	30917	441	0.80(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.292	18.292	0		23517045	5438638	24006	60015	227		
305.8987	18.292	18.292	0		30343962	7028148	32508	81270	216	0.78(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.244	19.244	0		17454101	3684153	8953	22382	411		
1,2,8,9-TCDF											
303.9016	19.244	19.244	0		24737758	5392934	24006	60015	225		
305.8987	19.244	19.244	0		32170693	6907185	32508	81270	212	0.77(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,3,4,6,8-PeCDF											
339.8597	19.517	19.517	0		34853160	7425043	1904	4760	3900		
341.8567	19.517	19.517	0		22039993	4720704	2108	5270	2239	1.58(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	21.305	21.305	0		21076814	3591585	7051	17627	509		
357.8516	21.305	21.305	0		13667153	2303230	4082	10205	564	1.54(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.560	25.560	0		20150793	2783626	7051	17627	395		
357.8516	25.560	25.560	0		13029243	1778990	4082	10205	436	1.55(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.792	25.792	0		27136046	3643929	4550	11375	801		
341.8567	25.778	25.792	-1		16937744	2276949	3439	8597	662	1.60(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	28.078	28.078	0		28303587	3529880	10775	26937	328		
375.8178	28.078	28.078	0		22107432	2749328	8851	22127	311	1.28(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.675	29.675	0		19933052	2563409	8154	20385	314		
391.8127	29.675	29.675	0		15693364	1979618	6982	17455	284	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.151	32.151	0		18571062	4554748	8154	20385	559		
391.8127	32.137	32.151	-1		14704933	3477043	6982	17455	498	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.457	32.457	0		25257884	6447472	10775	26937	598		
375.8178	32.457	32.457	0		19770801	4991282	8851	22127	564	1.28(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.013	34.013	0		15036092	4223663	31780	79450	133		
425.7737	34.013	34.013	0		14632346	4074471	22697	56742	180	1.03(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d		
Lims ID:	WDM		
Client ID:			
Inject. Date:	11-Nov-2017 02:05:30	Dil. Factor:	1.0000
Sample Type:	WDM, Window Defining Mix		
Instrument ID:	10D5	Operator:	SMA, AJS
Lims Batch ID:	194084	Lims Sample ID:	53

Non-2,3,7,8-sub-PeCDF, RT: 23.175

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163				
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.478	160926	24342	81898	11300		1.96	R
23.051	113790	18896	92978	16839		1.22	R
Signal Totals:							
	274716	43238	174876	28139			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	449592	71377				1.57	RQ
	396041	59900					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (449592 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (396041 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 13-Nov-2017 13:33:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d

Injection Date: 11-Nov-2017 02:05:30

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: SMA, AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

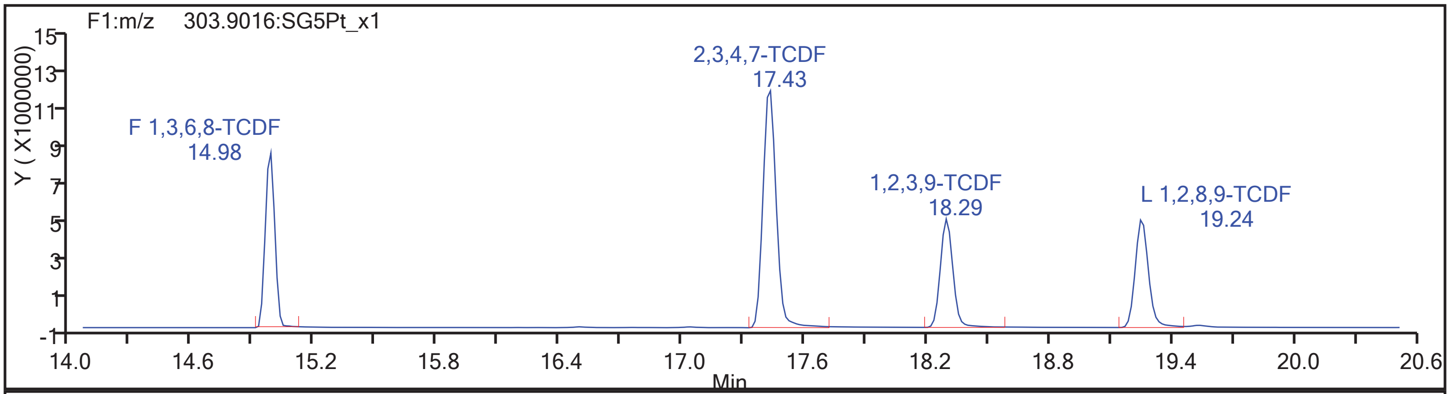
Worklist#: 194084

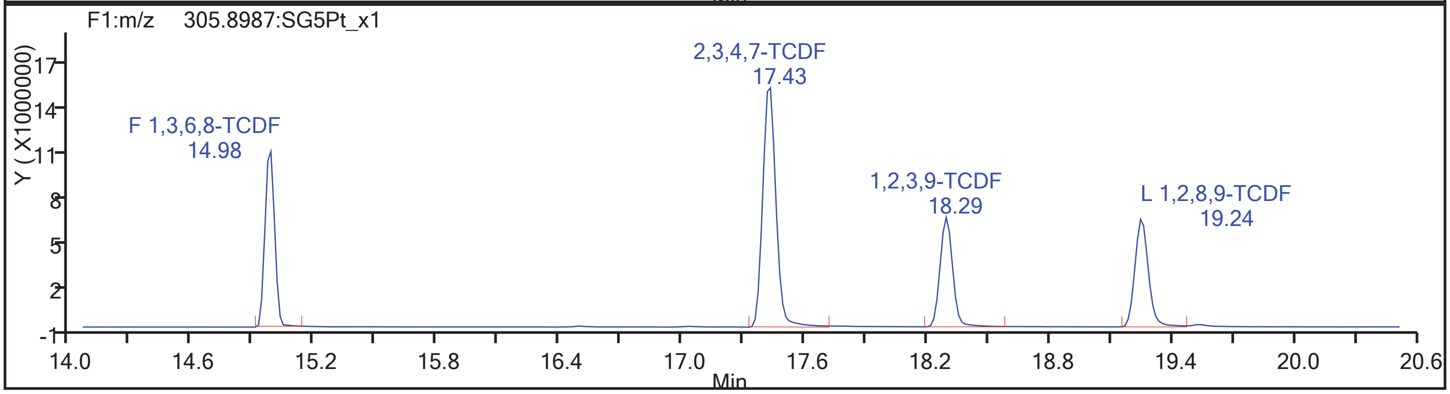
Sample Line#: 53

Column Type: DB-5

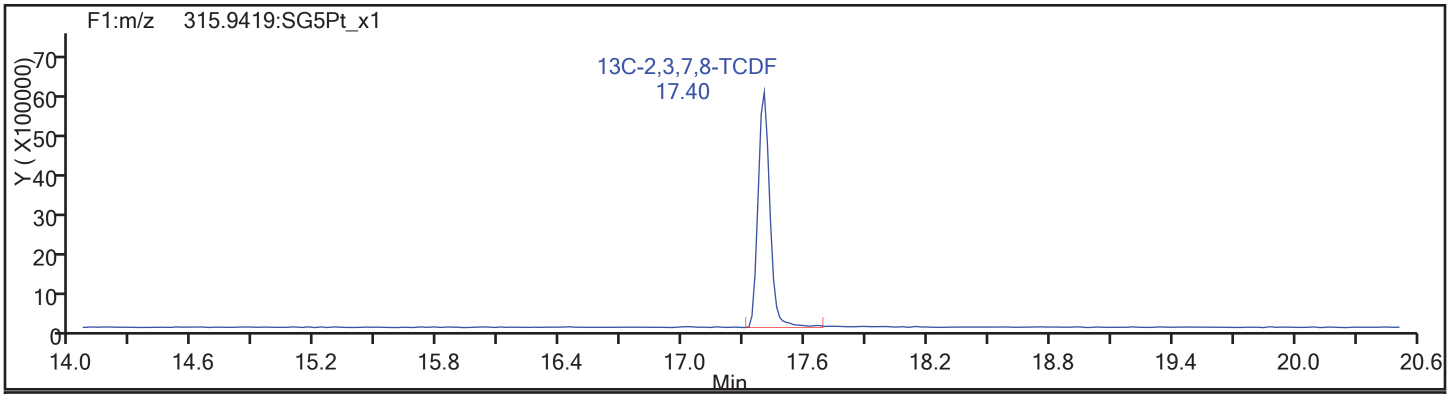
Column Dia: 0.32 mm

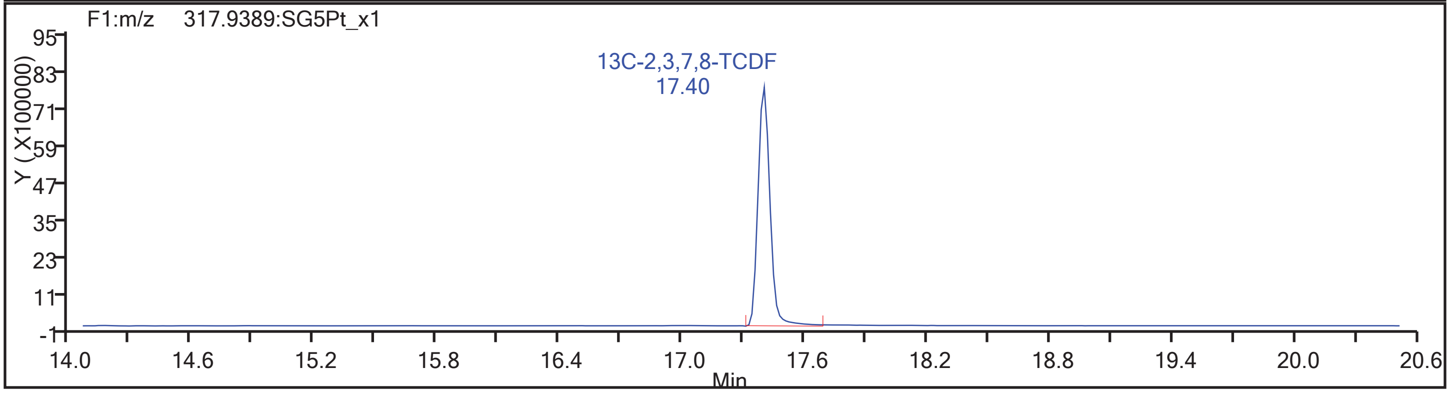
TCDF





TCDF Standards



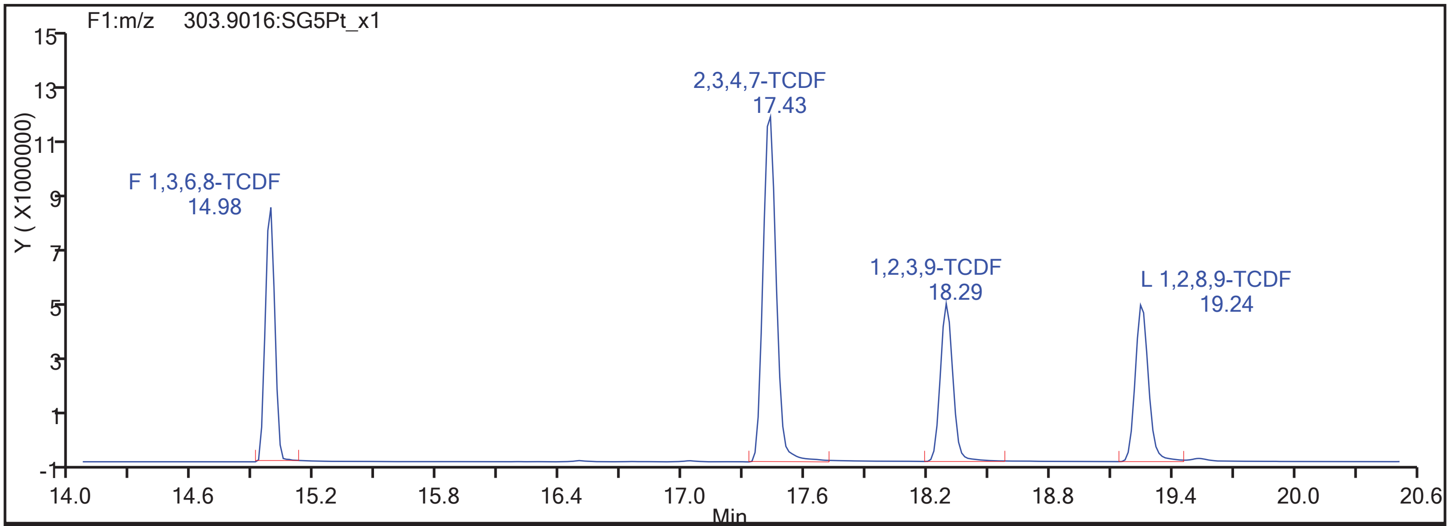


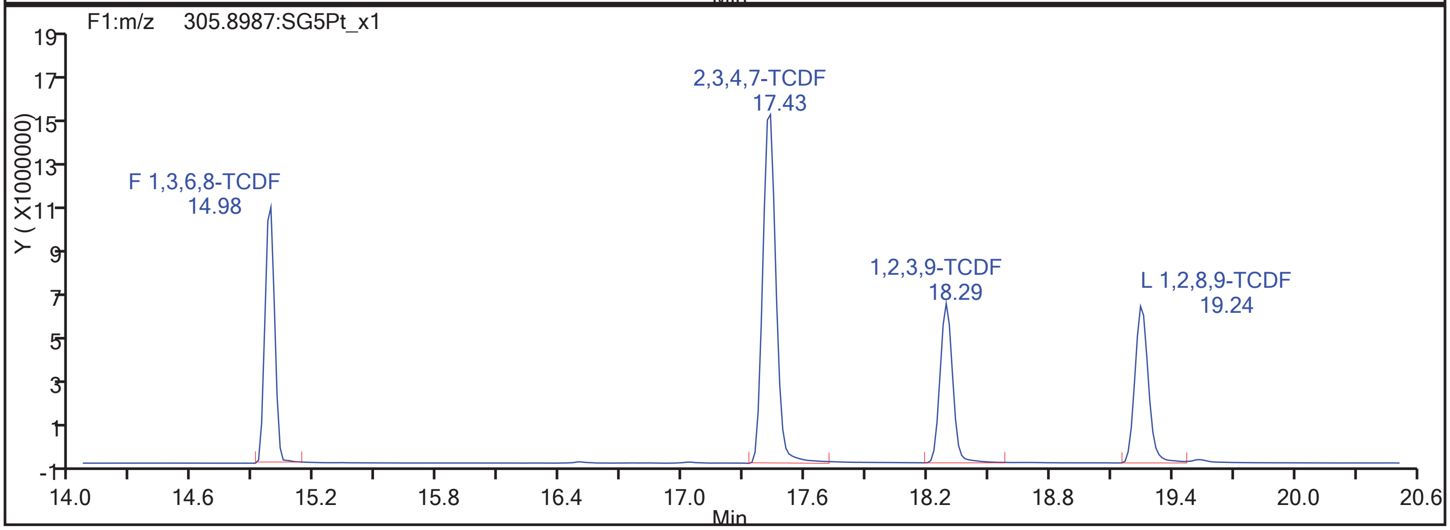
Report Date: 13-Nov-2017 13:33:33
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

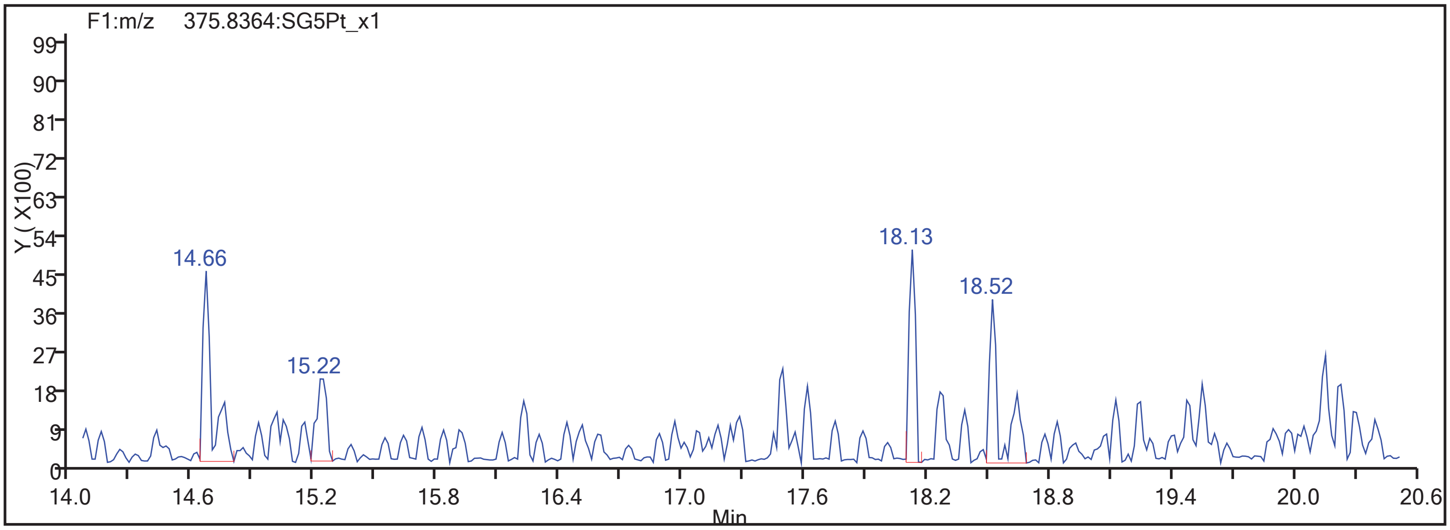
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d
Injection Date: 11-Nov-2017 02:05:30
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: SMA, AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 53
Column Type: DB-5
Column Dia: 0.32 mm

TCDF





TCDF Interference Mass

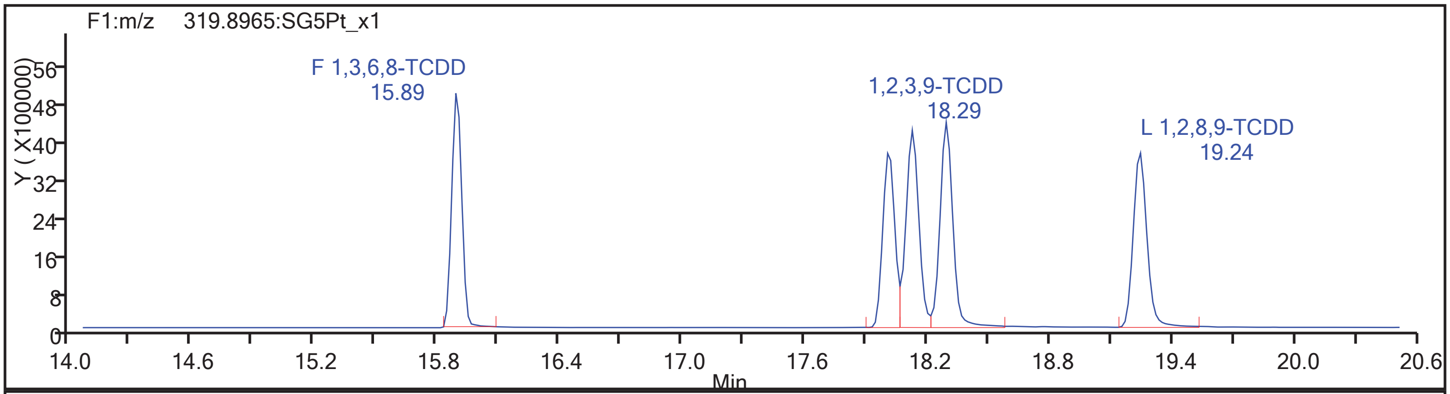


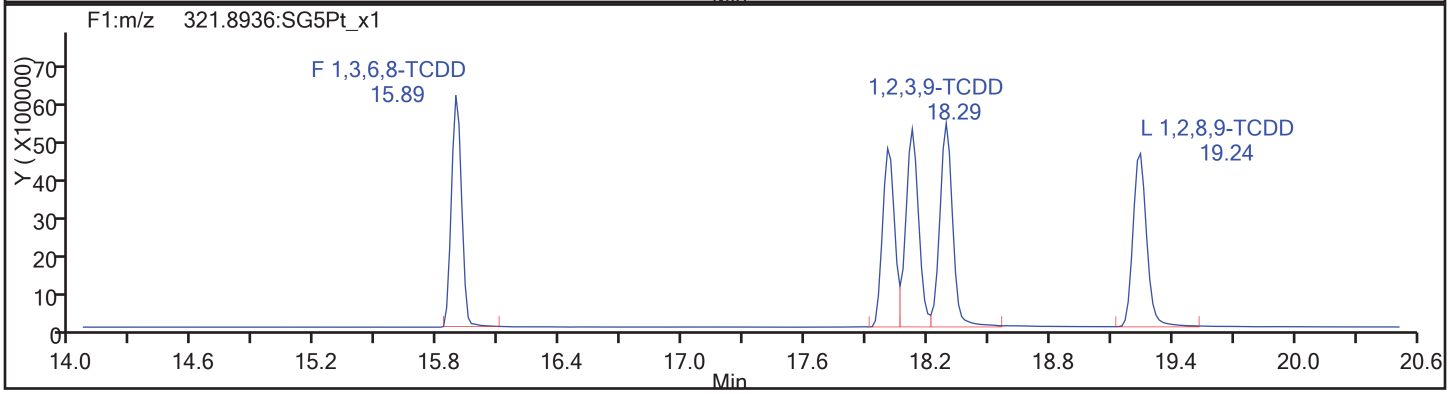
Report Date: 13-Nov-2017 13:33:33 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

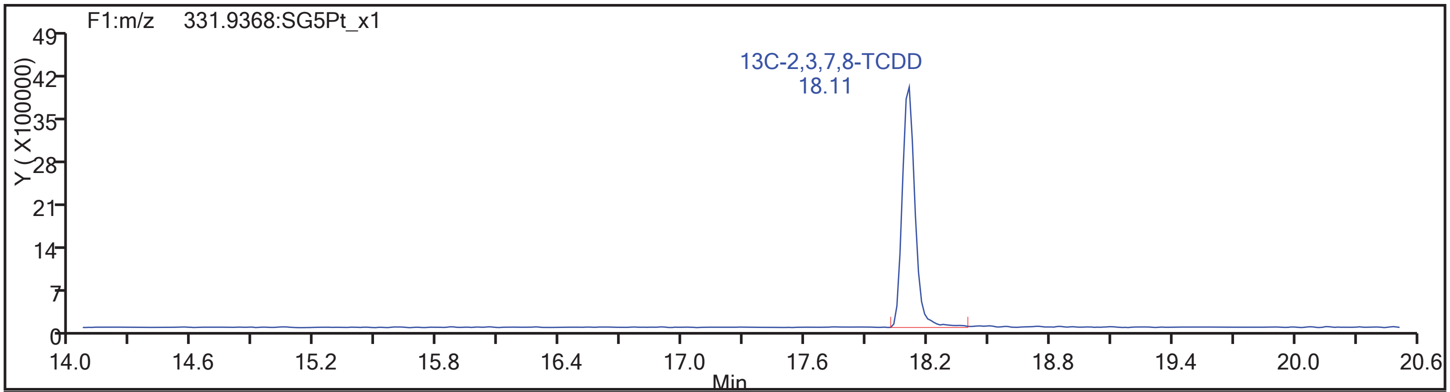
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d		
Injection Date:	11-Nov-2017 02:05:30	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

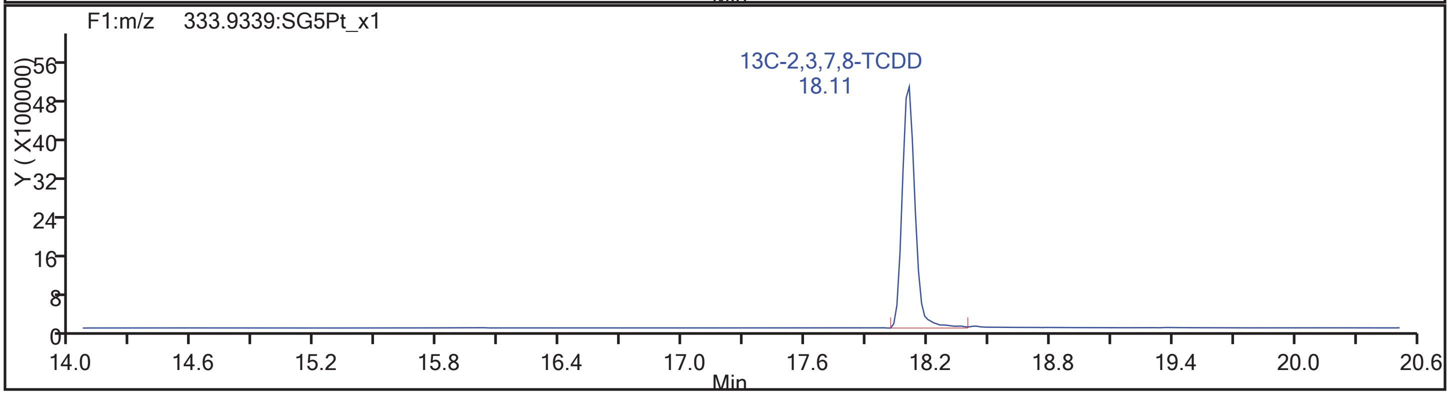
TCDD





TCDD Standards



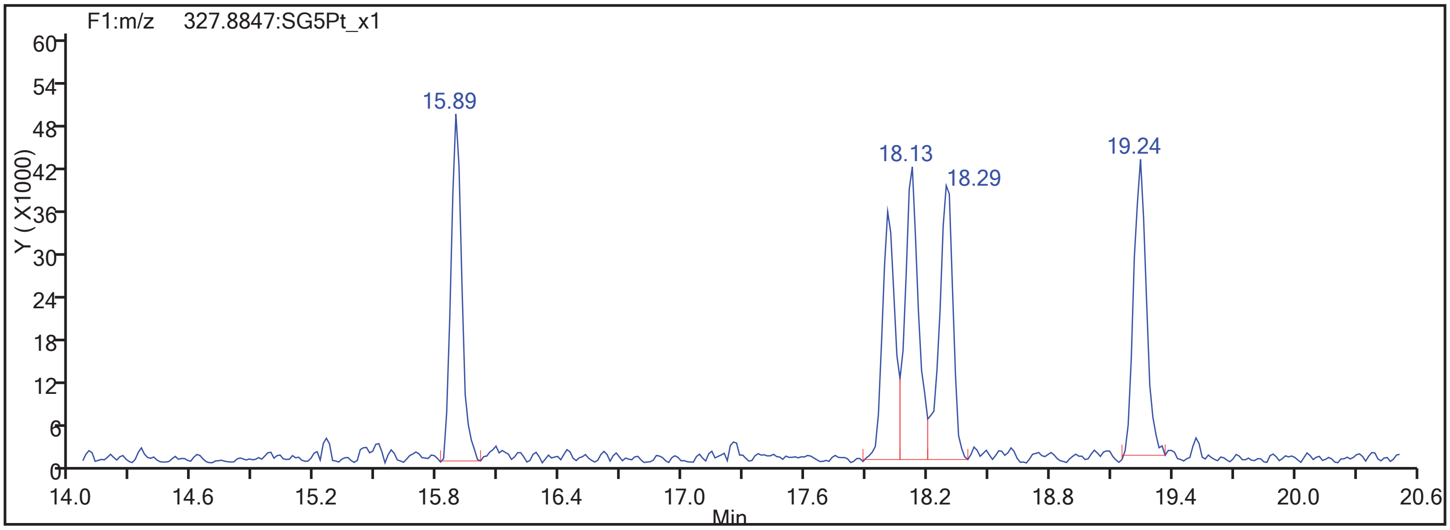


Report Date: 13-Nov-2017 13:33:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

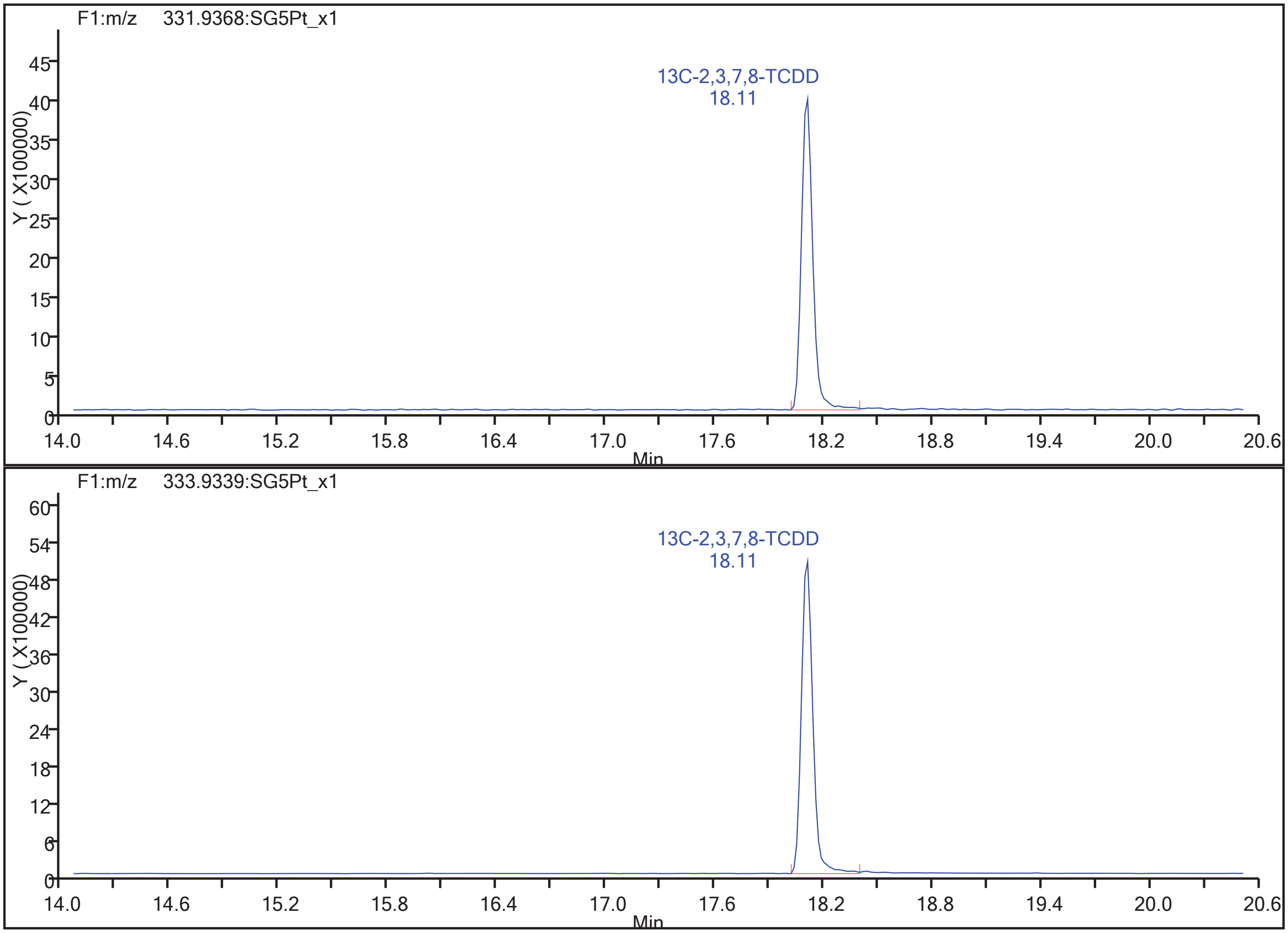
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d
Injection Date: 11-Nov-2017 02:05:30
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: SMA, AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 53
Column Type: DB-5
Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards

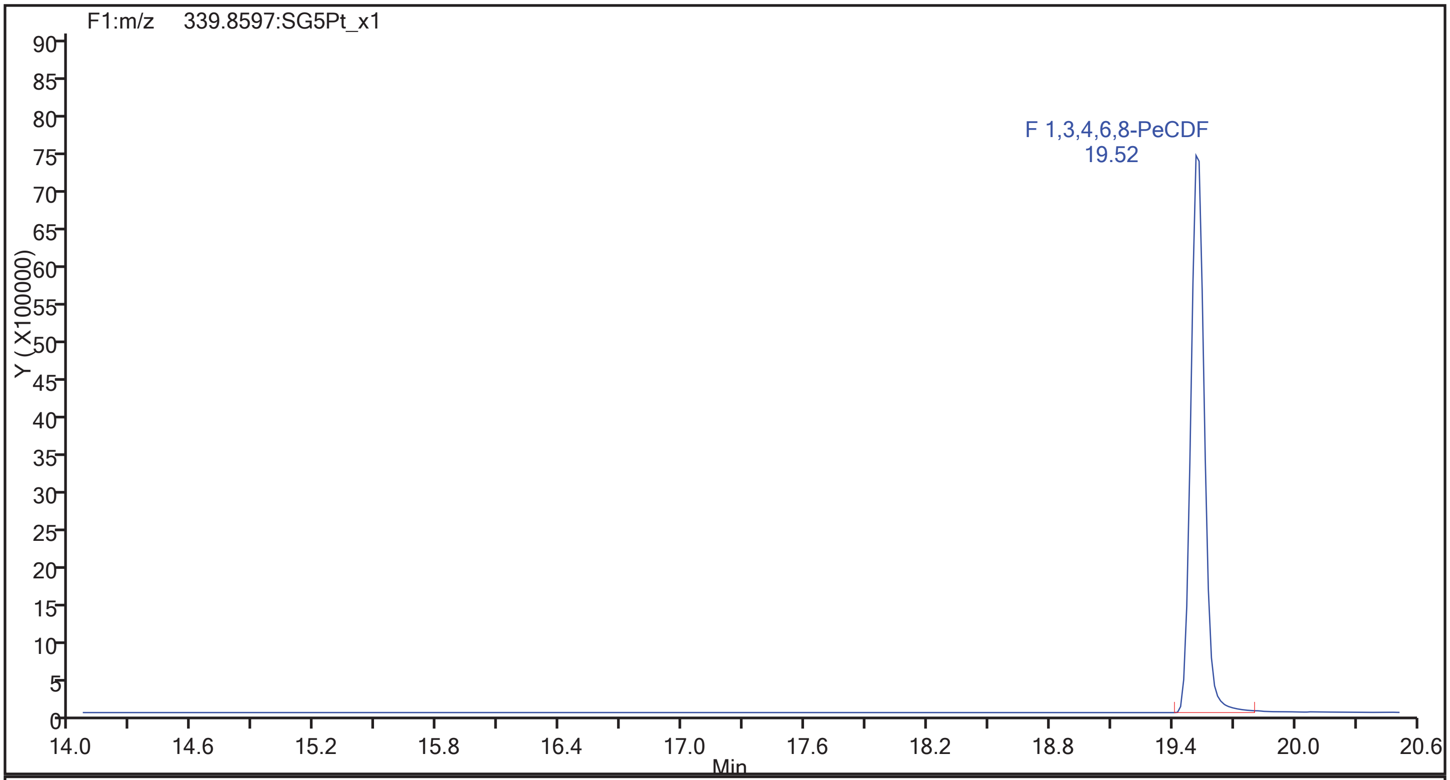


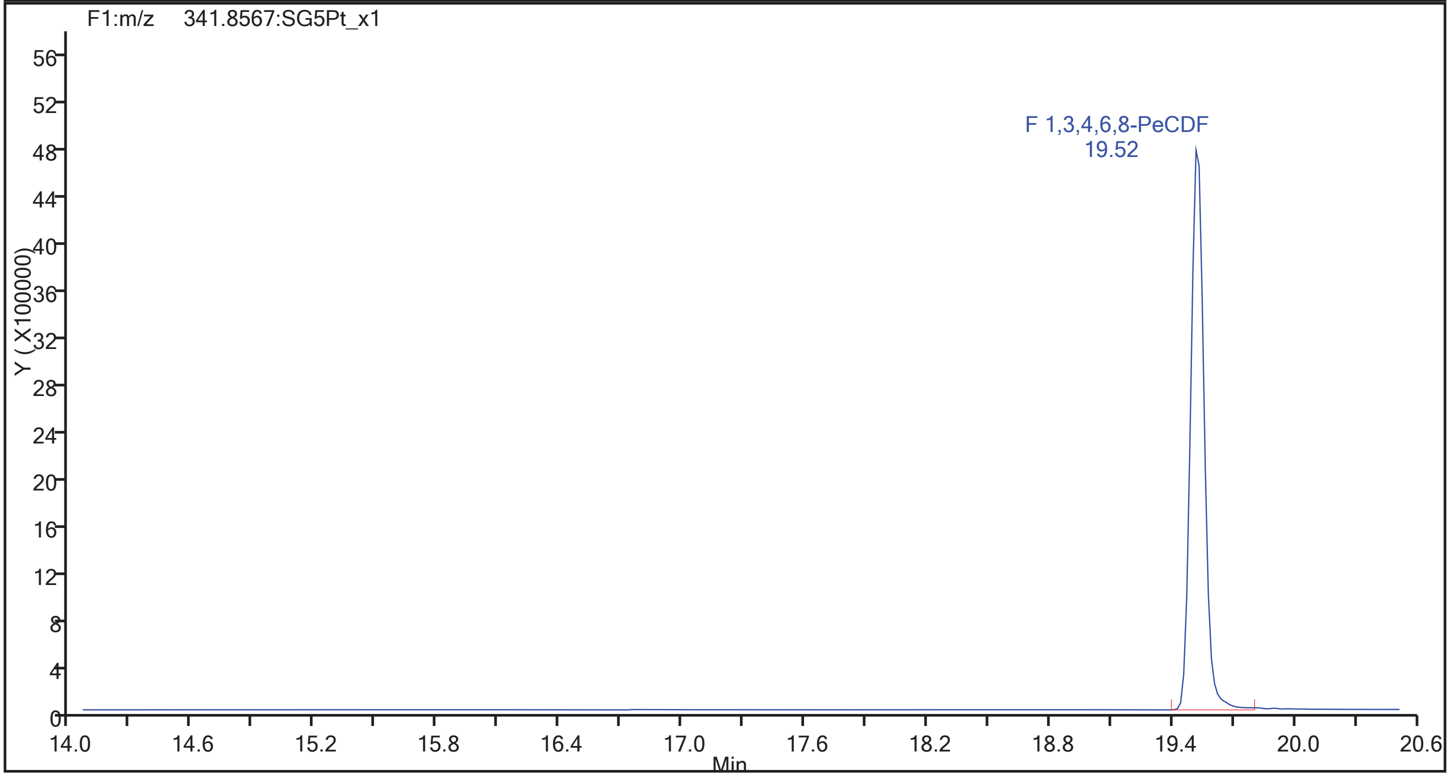
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d

Injection Date:	11-Nov-2017 02:05:30	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

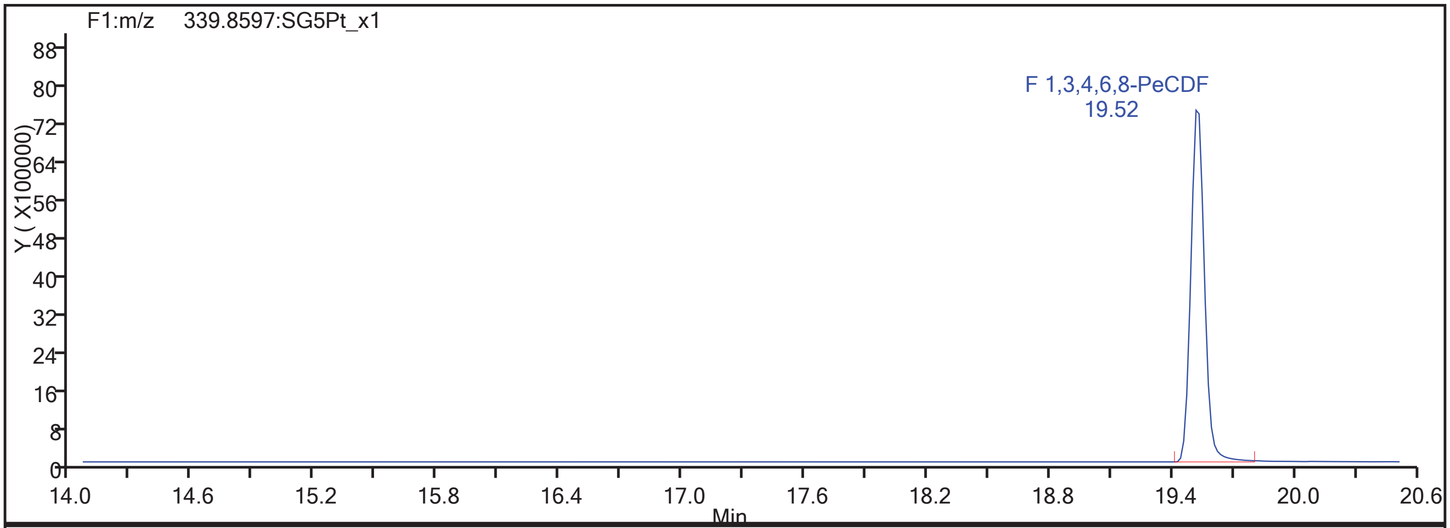


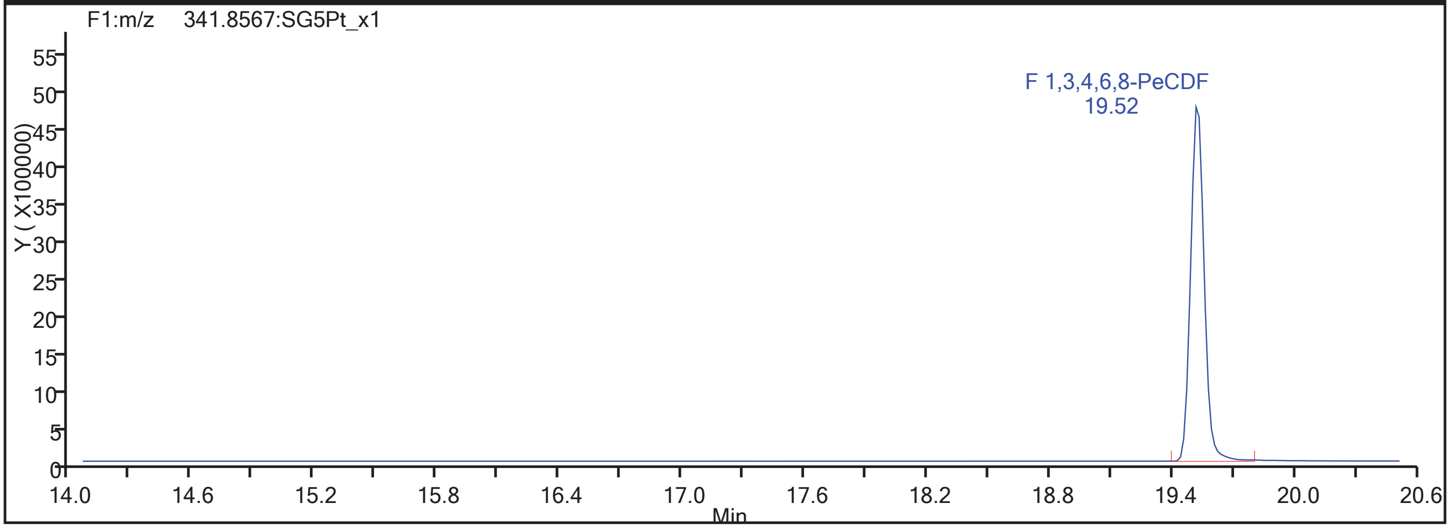


TestAmerica Sacramento

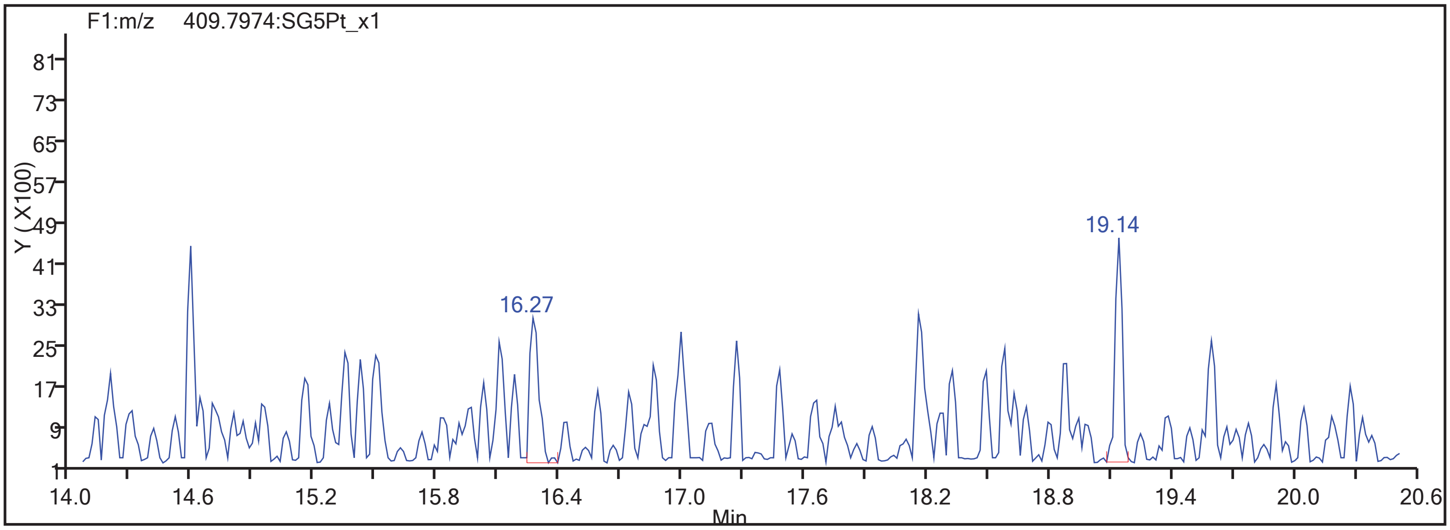
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d		
Injection Date:	11-Nov-2017 02:05:30	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





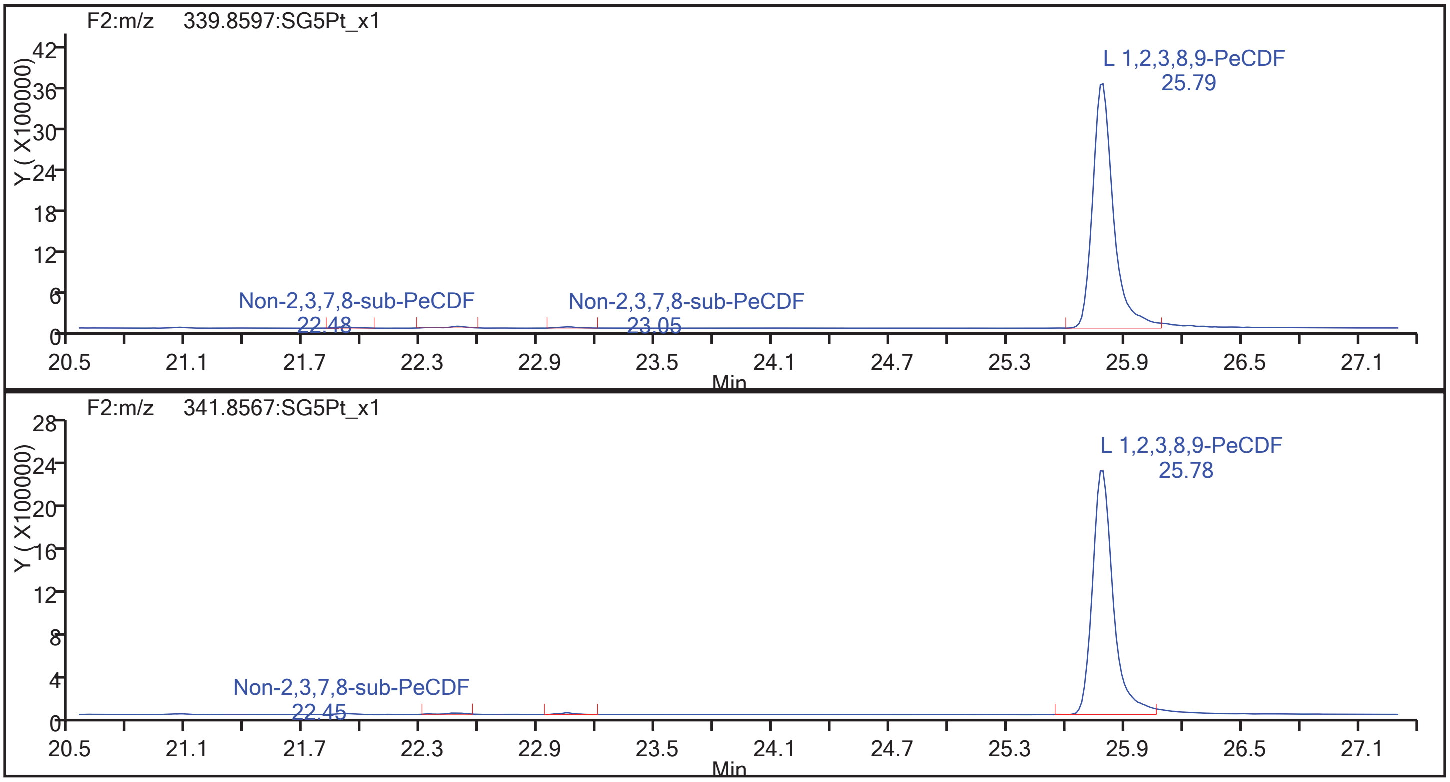
F1 PeCDFs Interference Mass



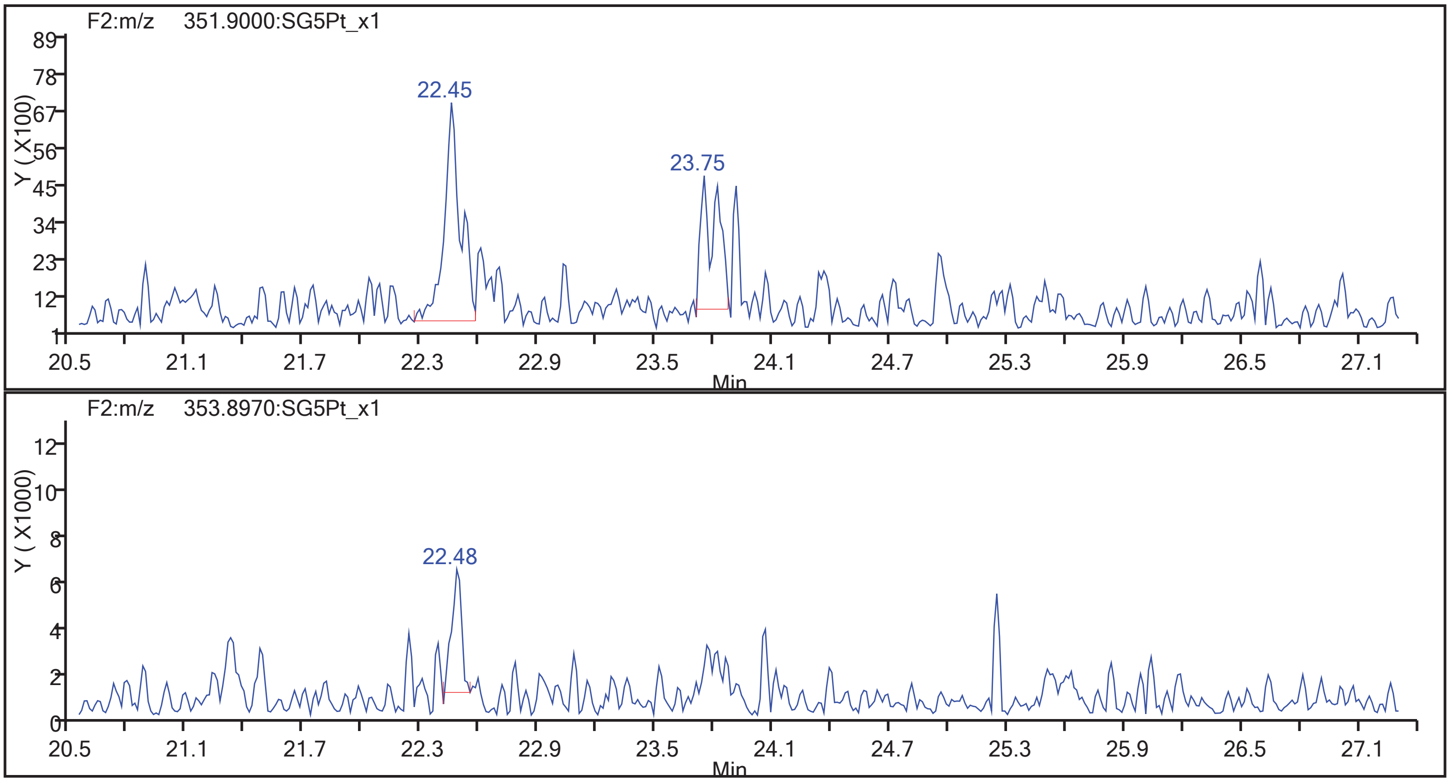
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d		
Injection Date:	11-Nov-2017 02:05:30	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



PeCDF Standards

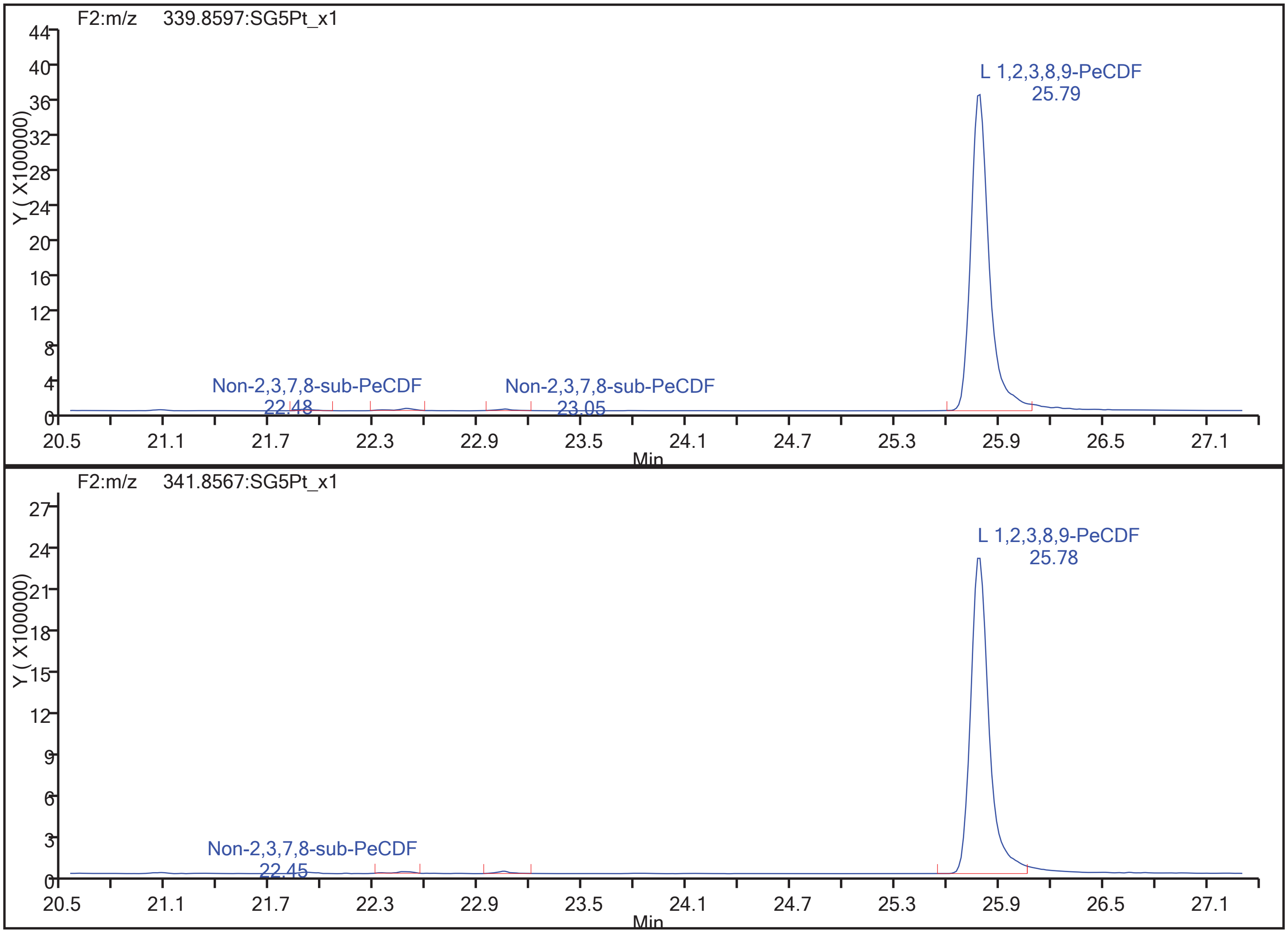


Report Date: 13-Nov-2017 13:33:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

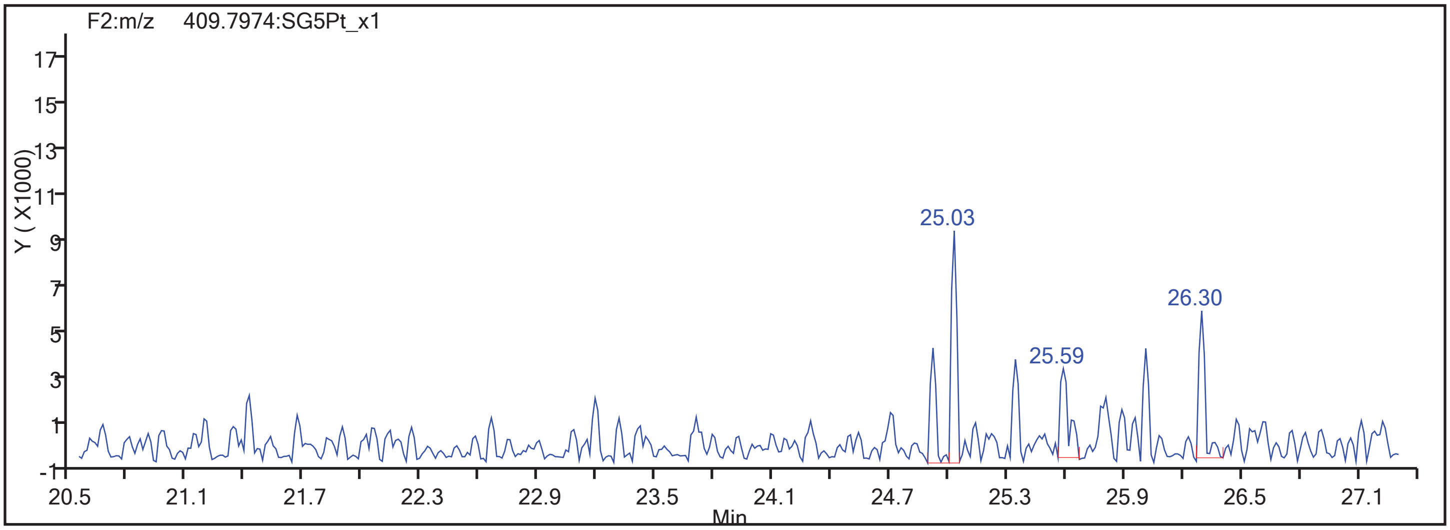
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d		
Injection Date:	11-Nov-2017 02:05:30	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



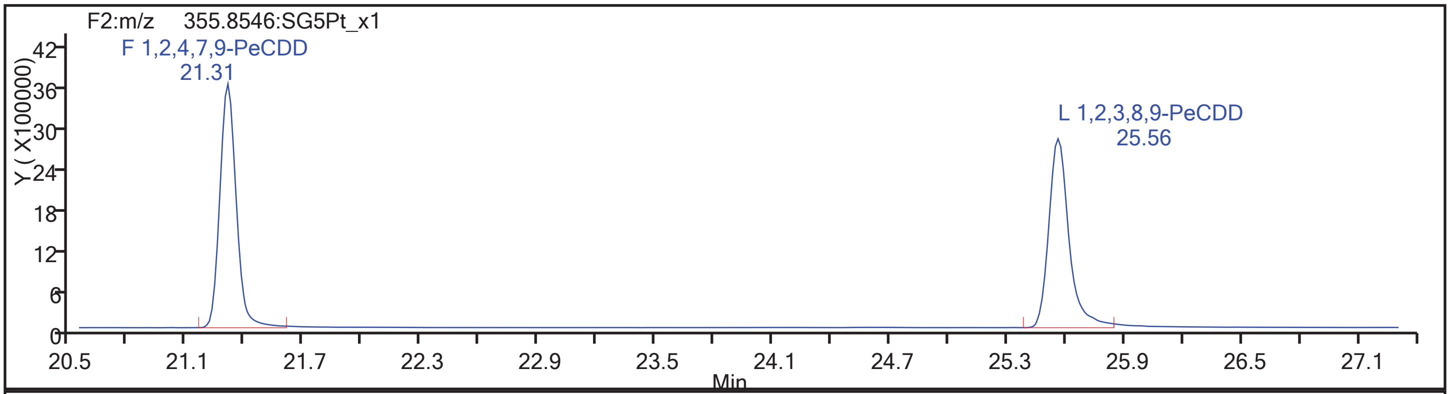
PeCDF Interference Mass

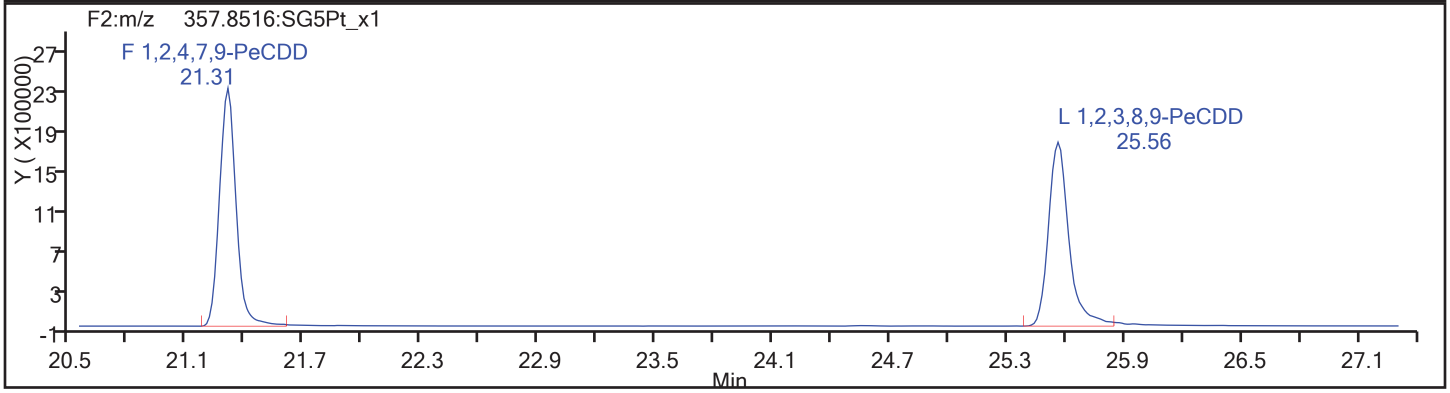


TestAmerica Sacramento

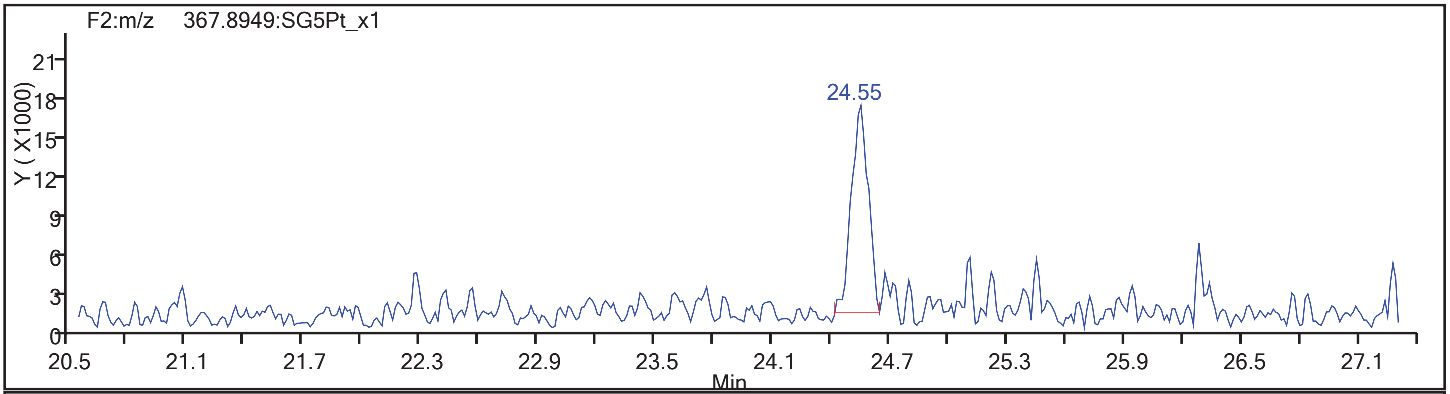
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d
Injection Date: 11-Nov-2017 02:05:30
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: SMA, AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 53
Column Type: DB-5
Column Dia: 0.32 mm

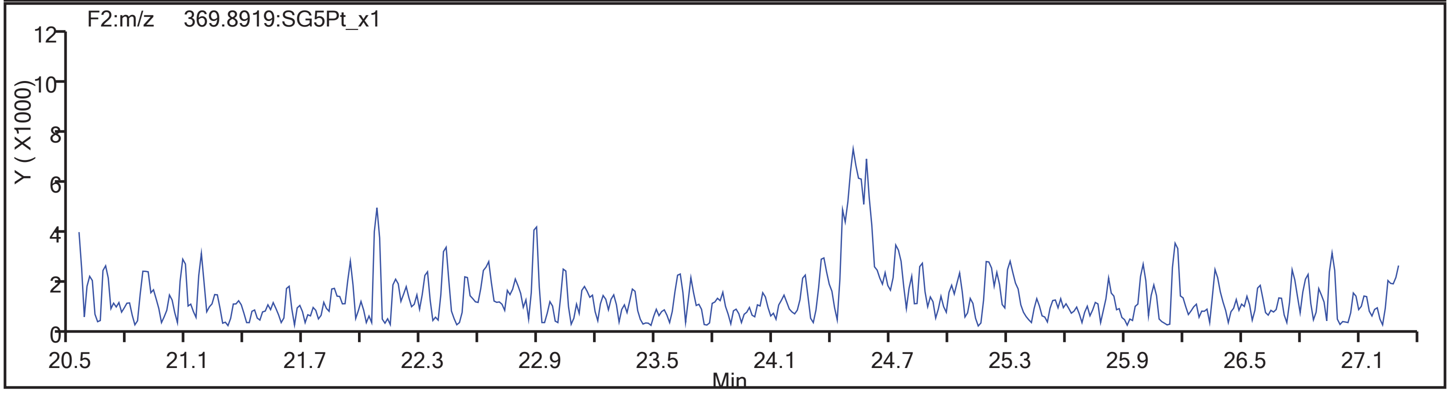
PeCDD





PeCDD Standards



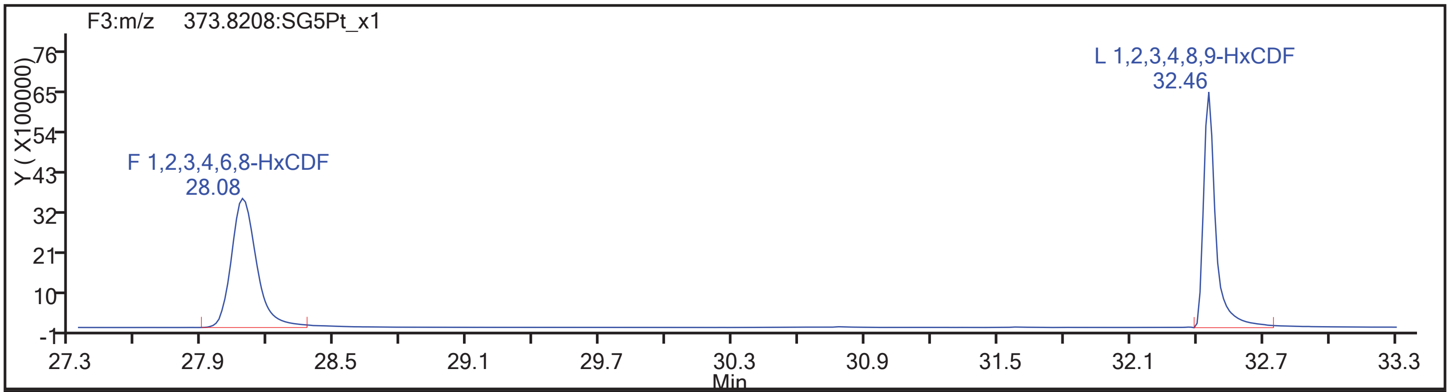


Report Date: 13-Nov-2017 13:33:34　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d
Injection Date: 11-Nov-2017 02:05:30
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: SMA, AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 53
Column Type: DB-5
Column Dia: 0.32 mm

HxCDF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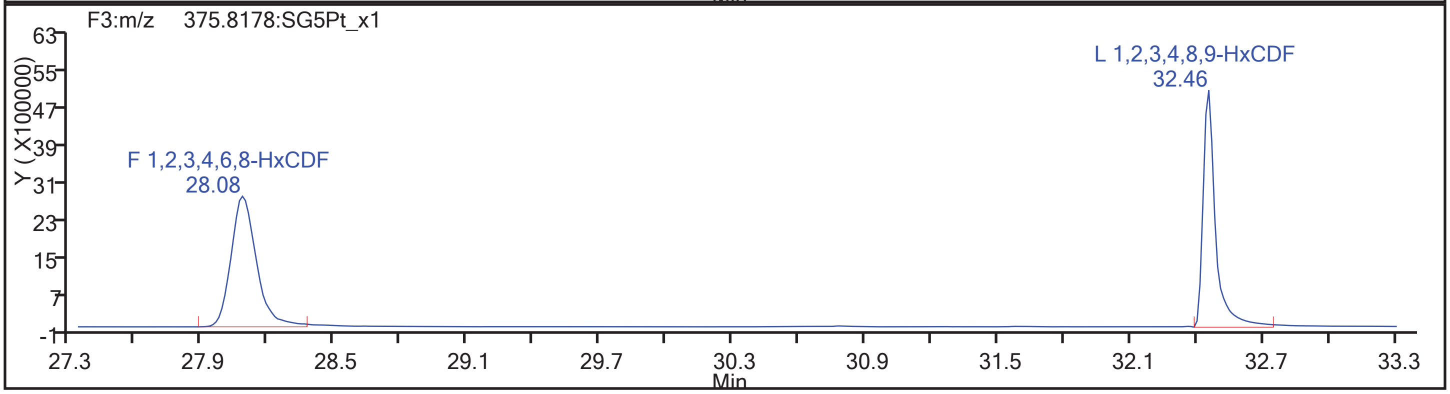
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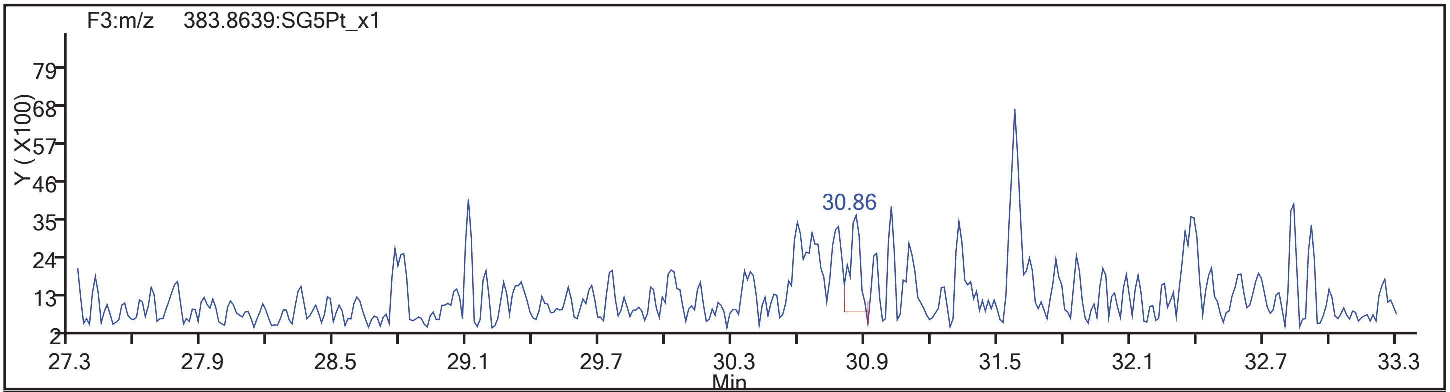
HxCDF Standards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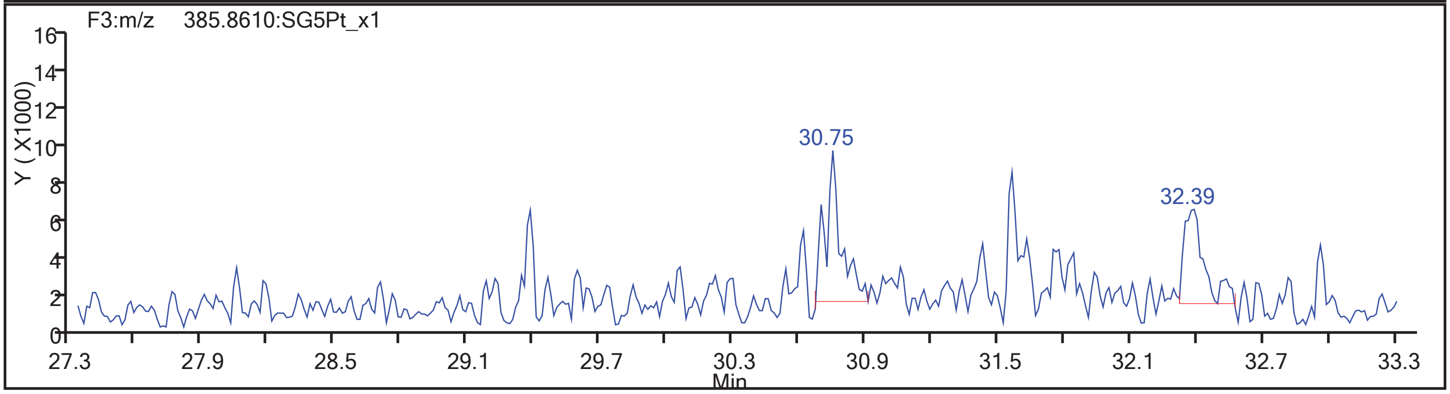
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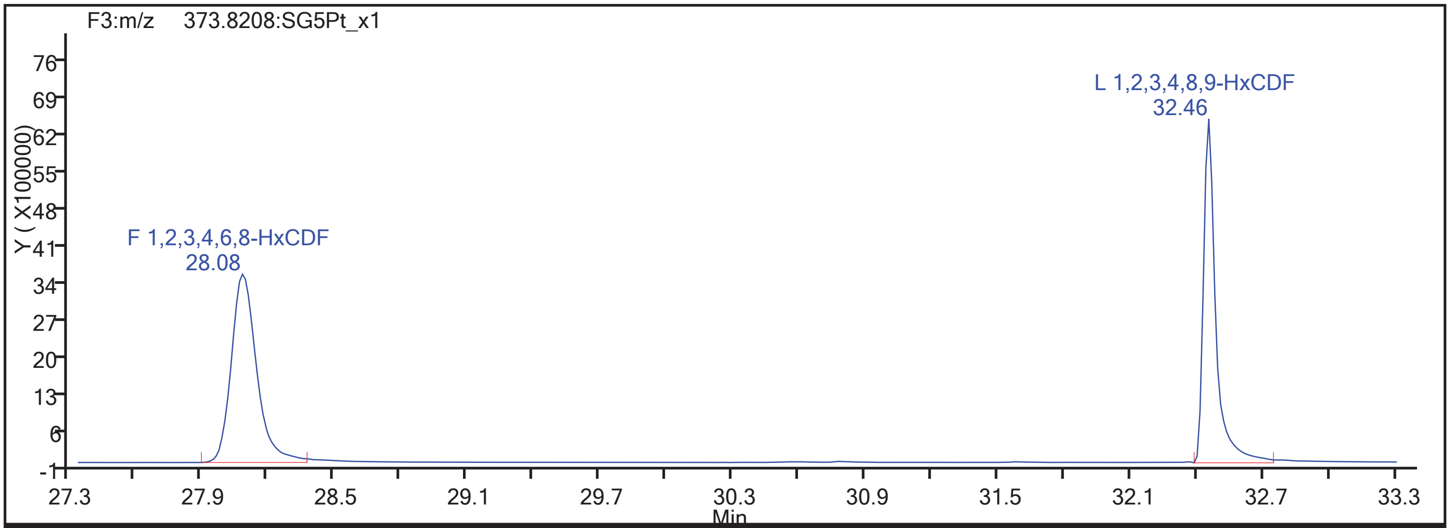
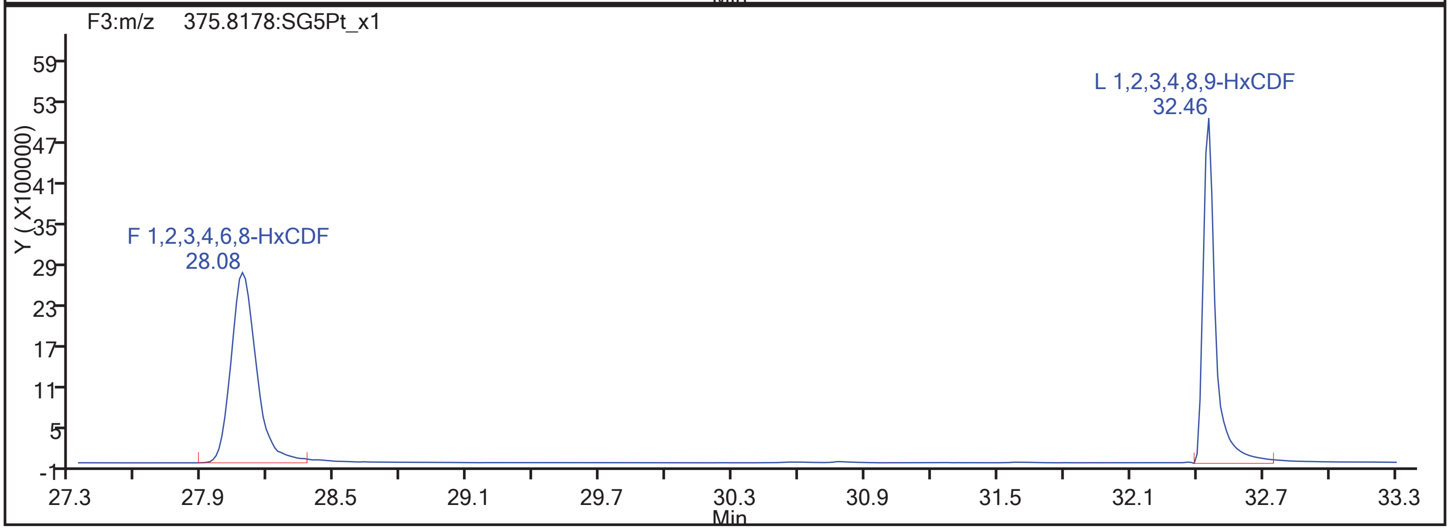
Report Date: 13-Nov-2017 13:33:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

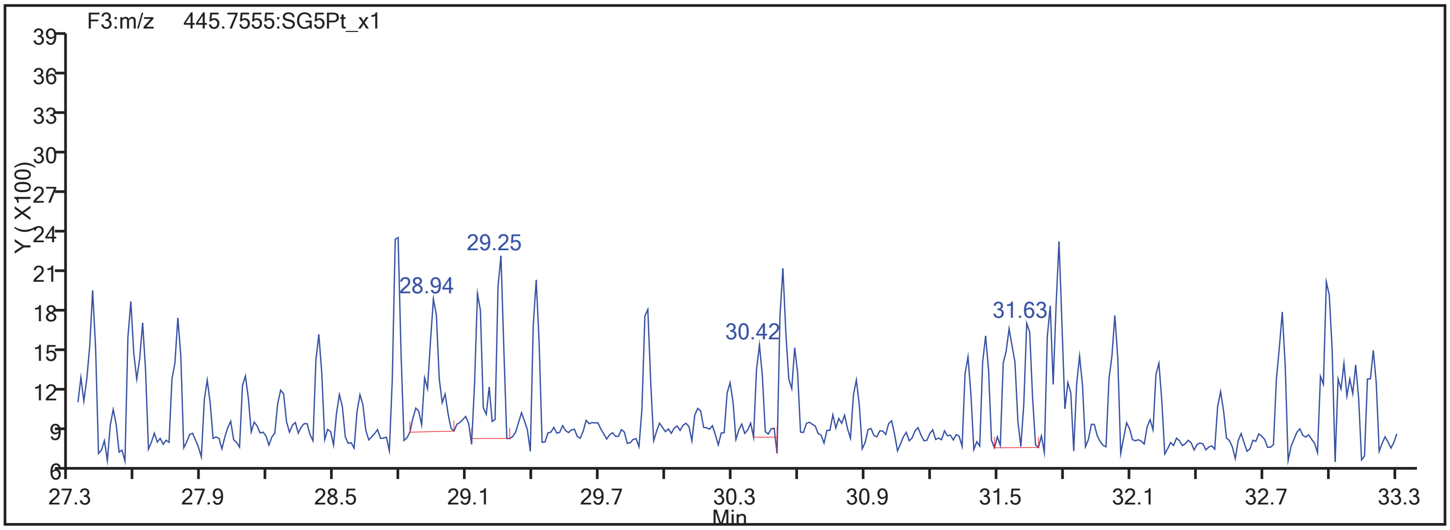
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d		
Injection Date:	11-Nov-2017 02:05:30	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass

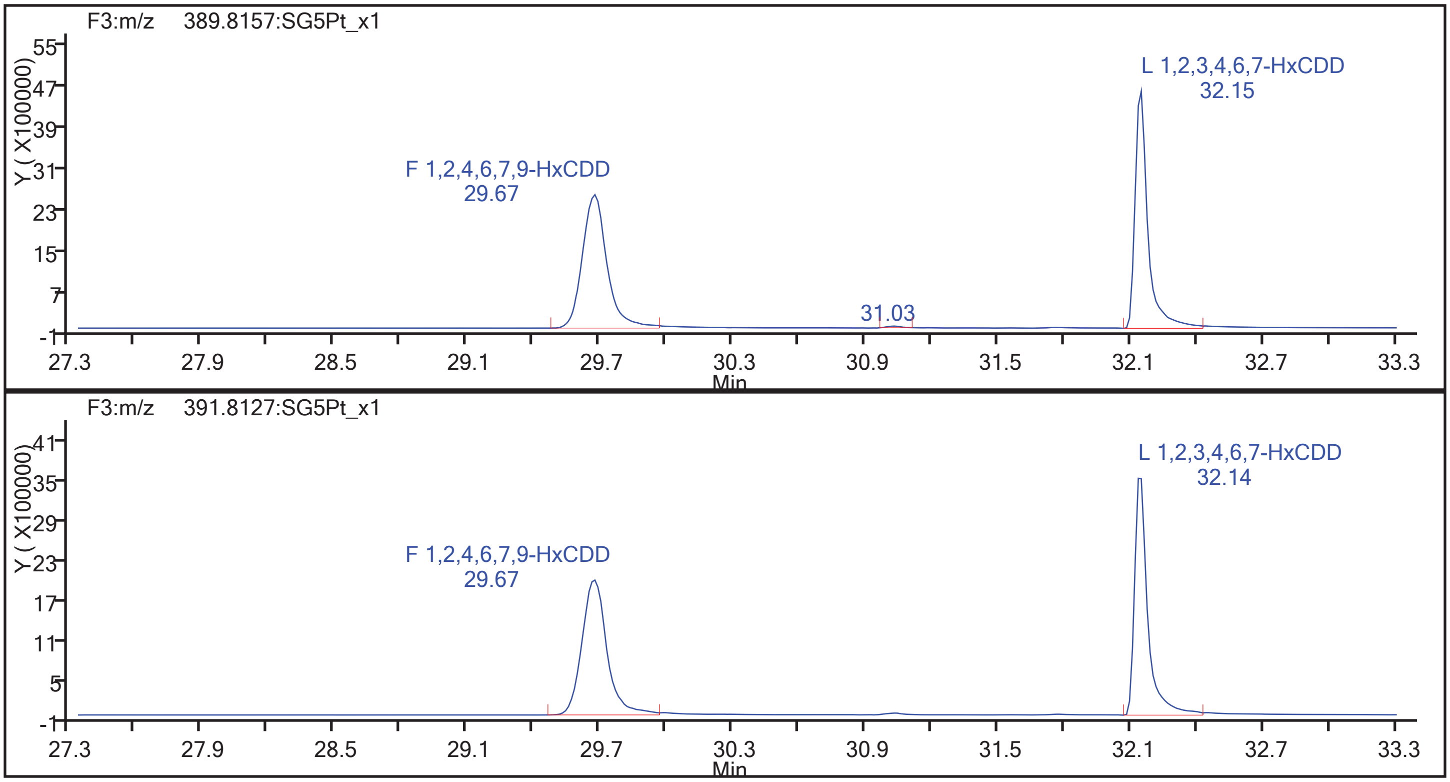


Report Date: 13-Nov-2017 13:33:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

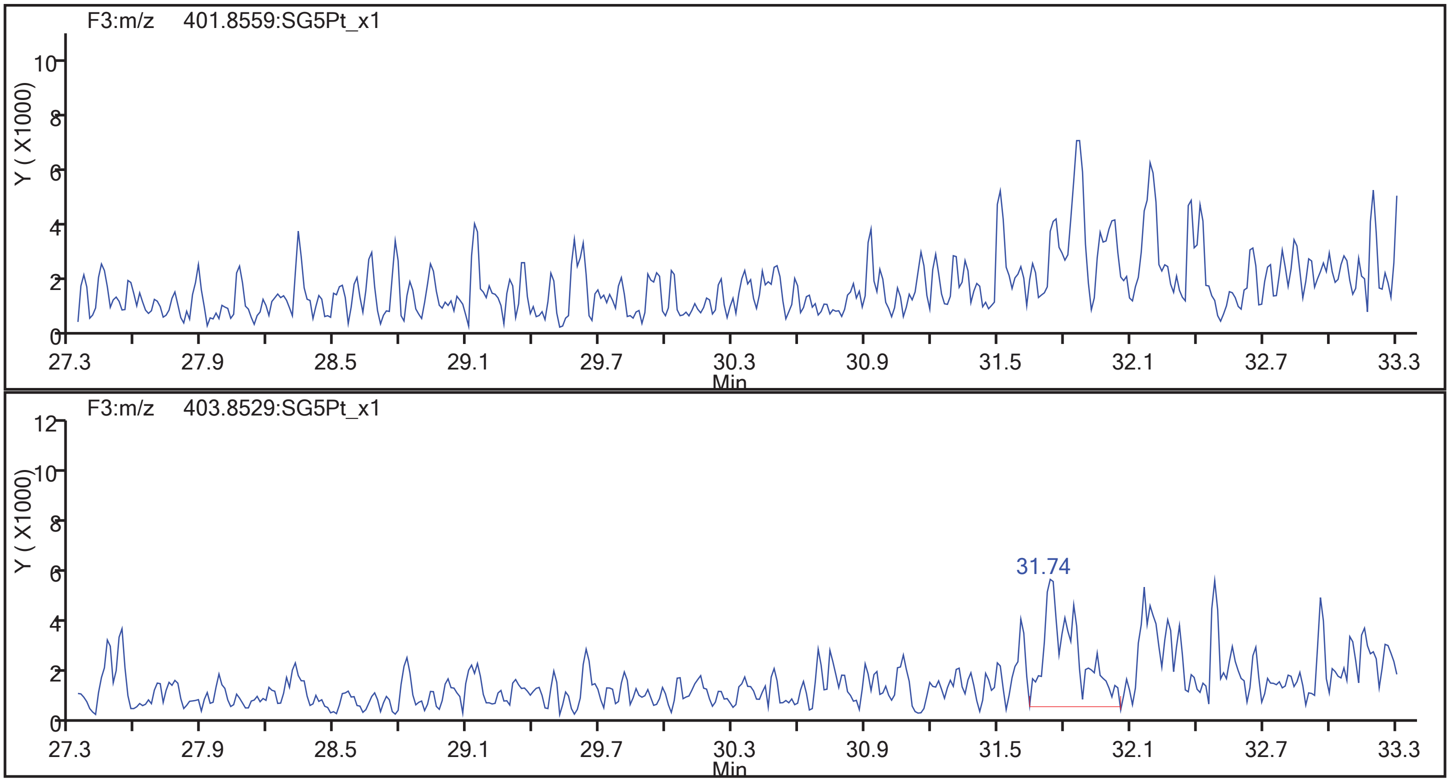
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d		
Injection Date:	11-Nov-2017 02:05:30	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD



HxCDD Standards



Report Date: 13-Nov-2017 13:33:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d

Injection Date: 11-Nov-2017 02:05:30

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: SMA, AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

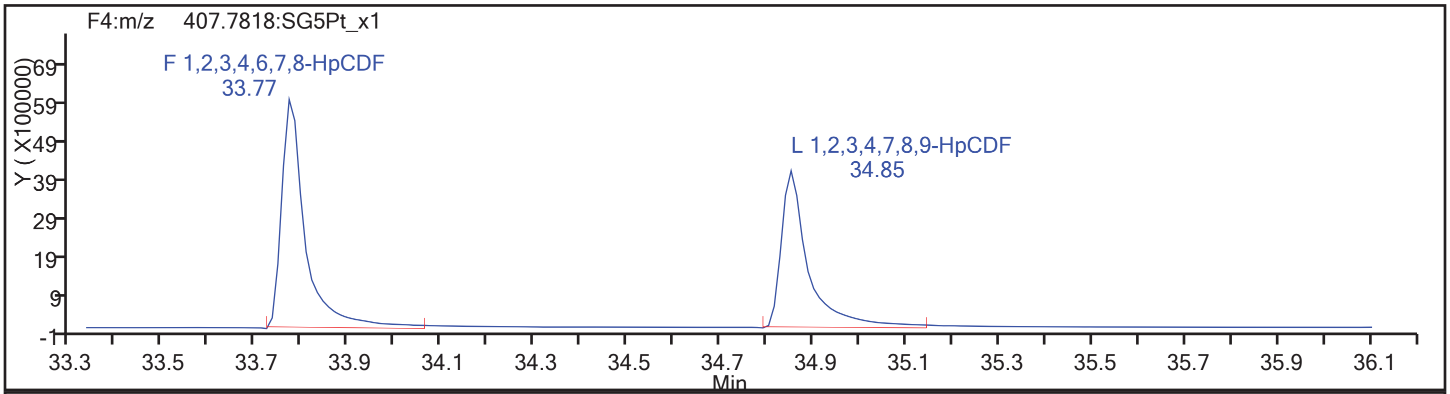
Worklist#: 194084

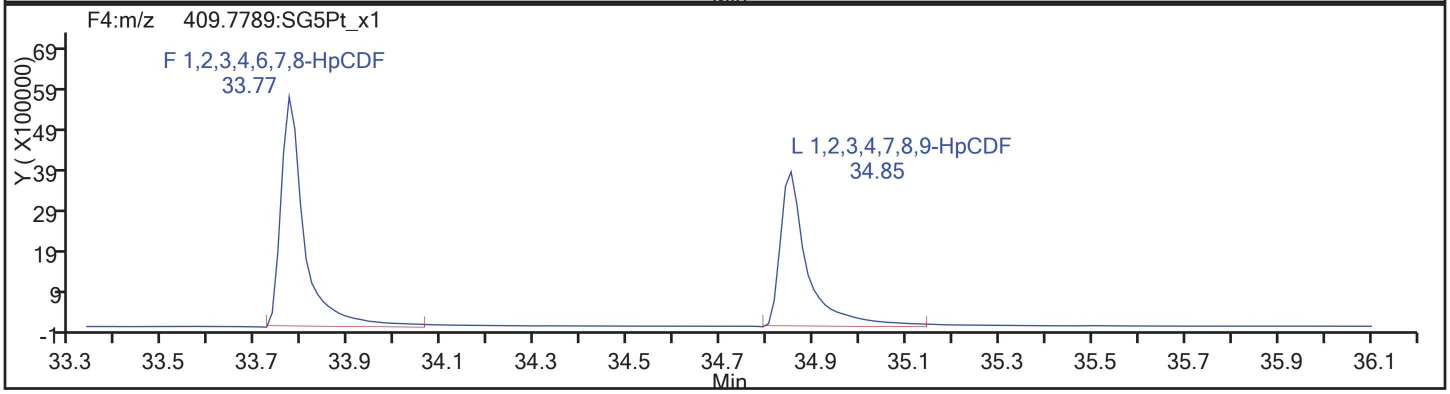
Sample Line#: 53

Column Type: DB-5

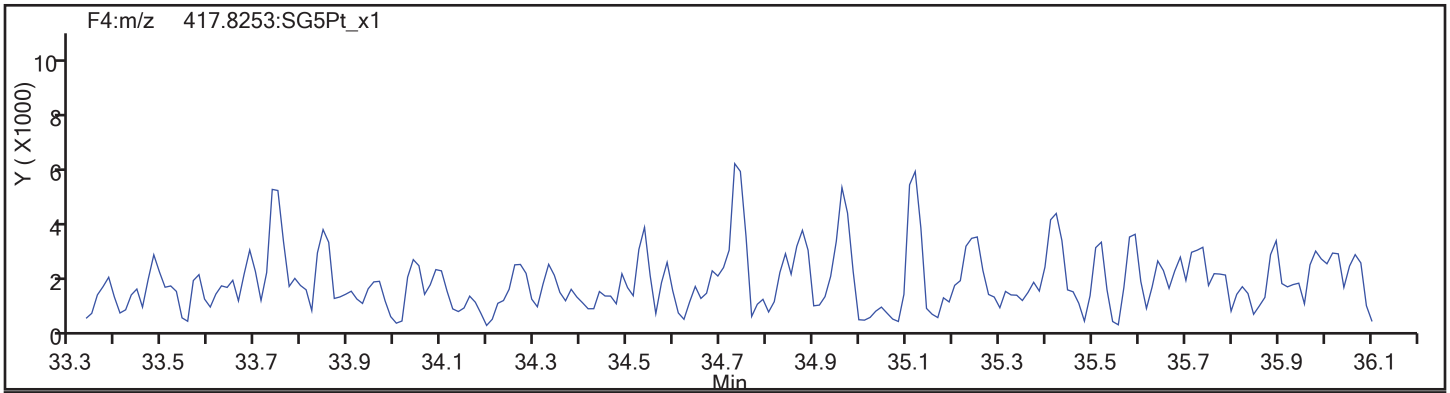
Column Dia: 0.32 mm

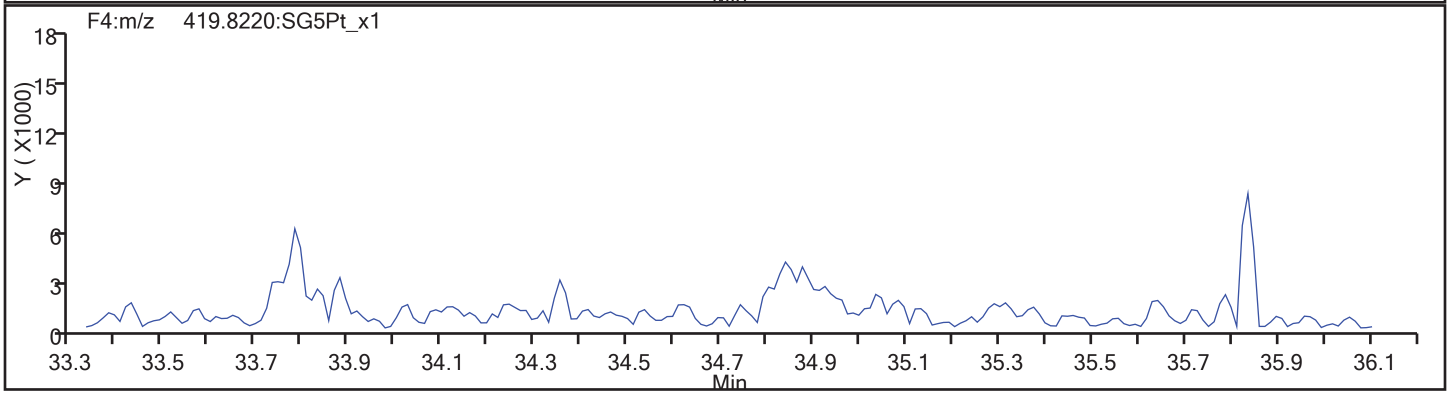
HpCDF





HpCDF Standards

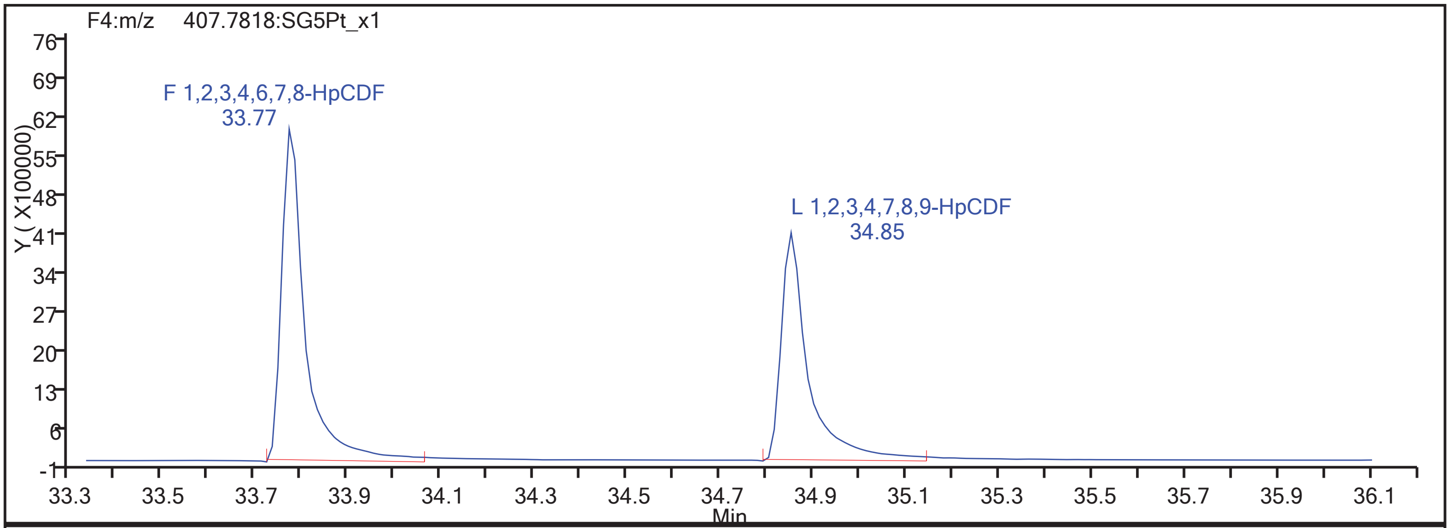


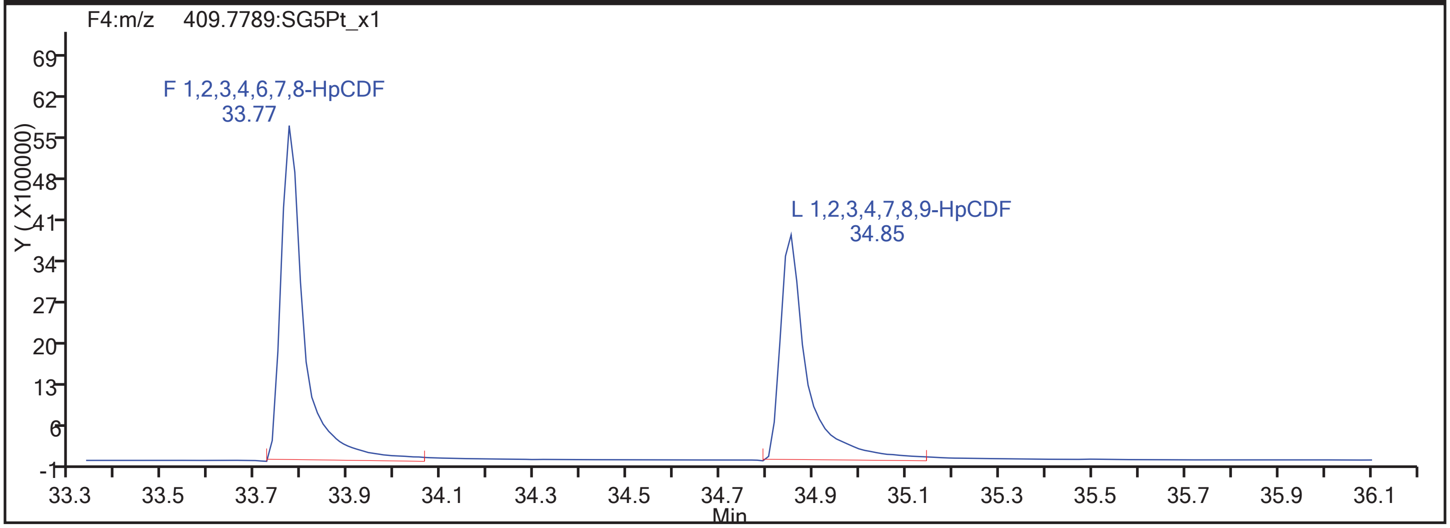


TestAmerica Sacramento

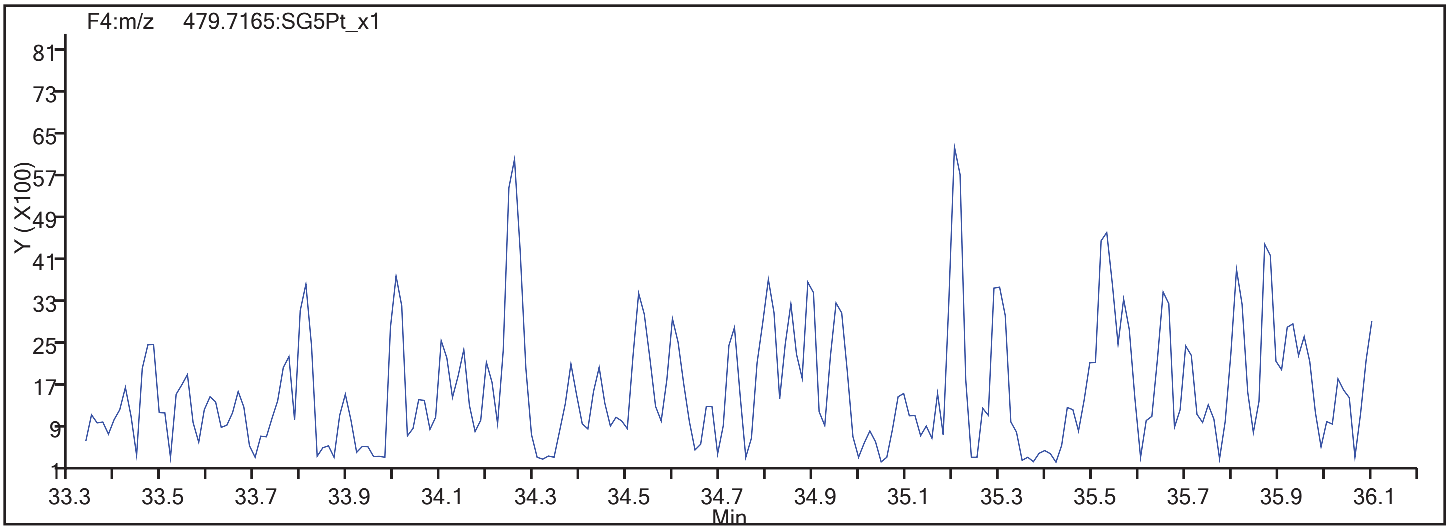
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d		
Injection Date:	11-Nov-2017 02:05:30	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass

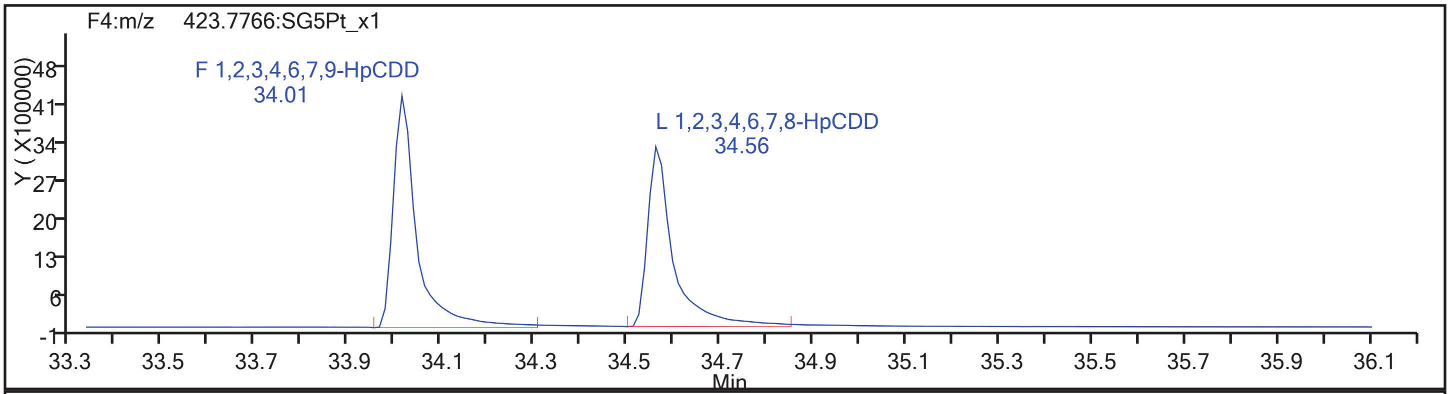


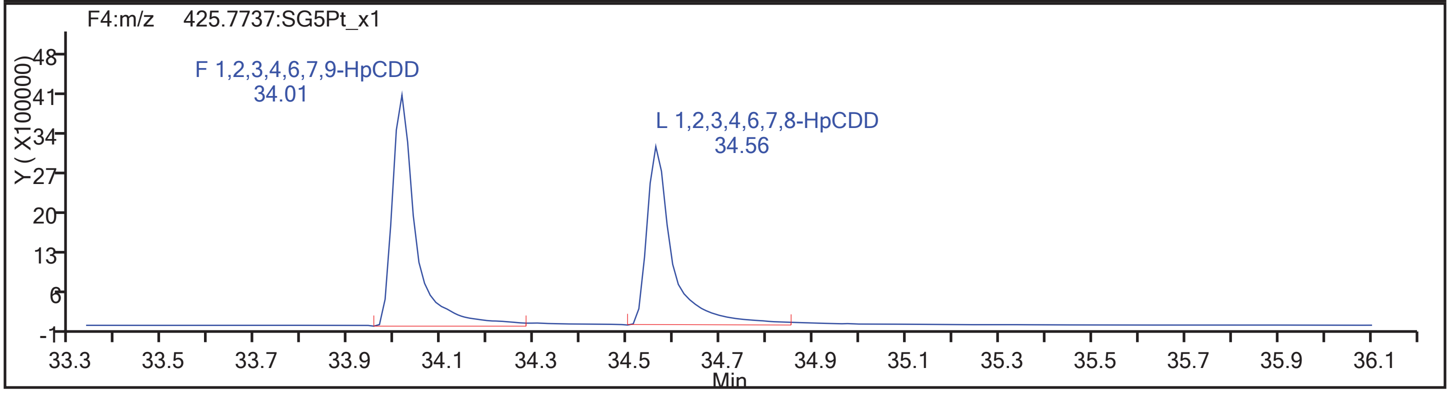
Report Date: 13-Nov-2017 13:33:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

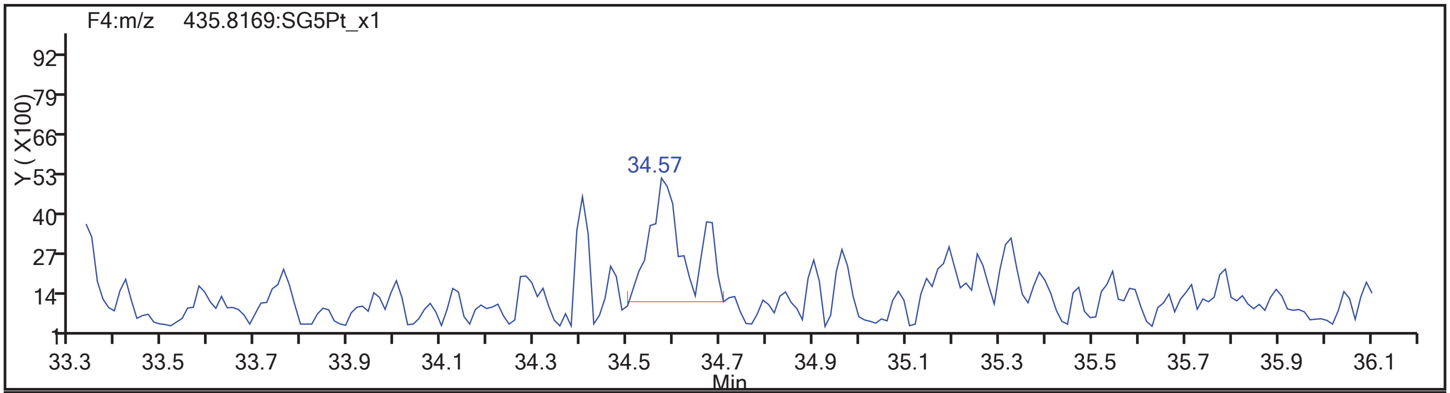
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d		
Injection Date:	11-Nov-2017 02:05:30	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

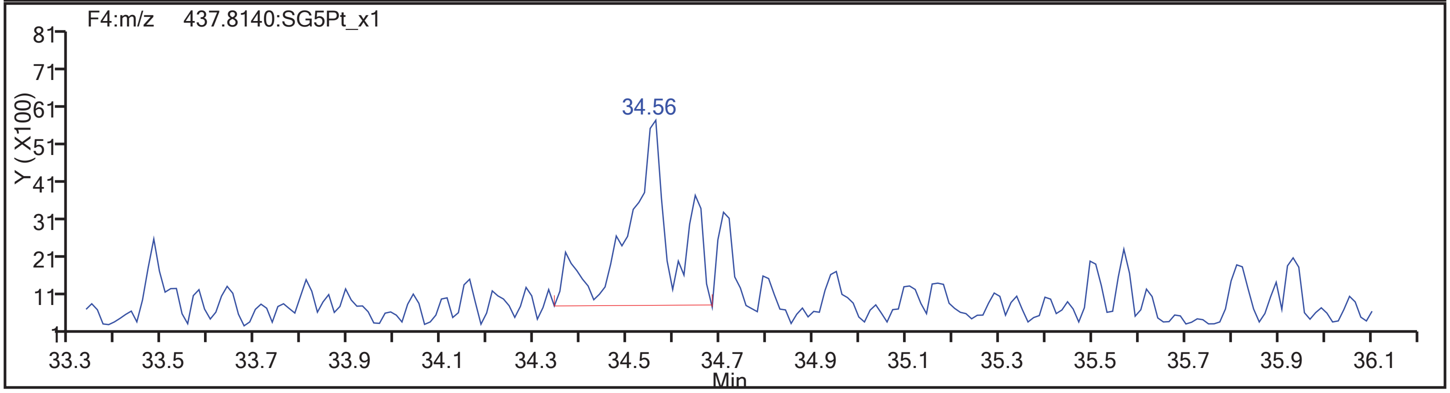
HpCDD





HpCDD Standards

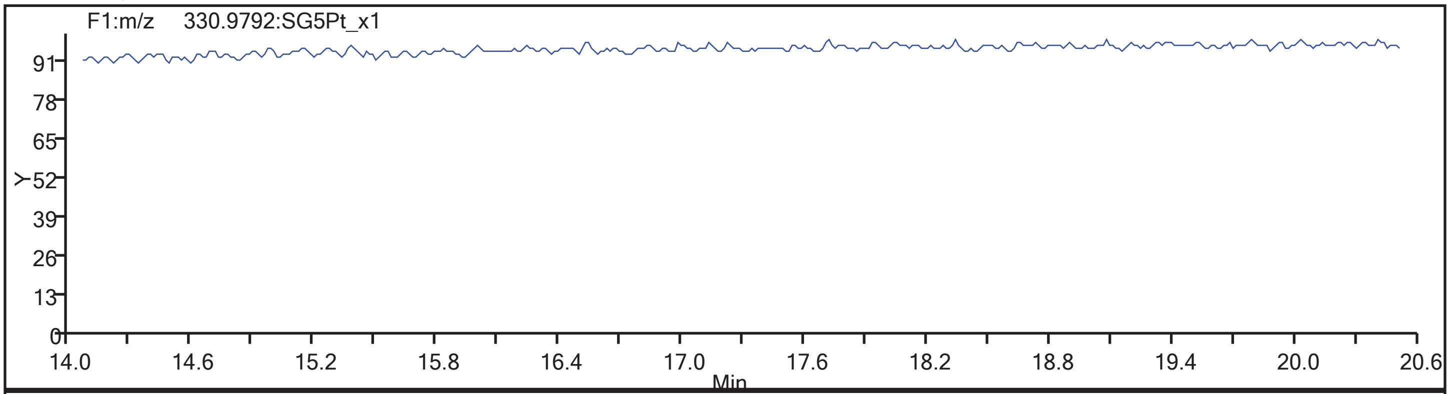


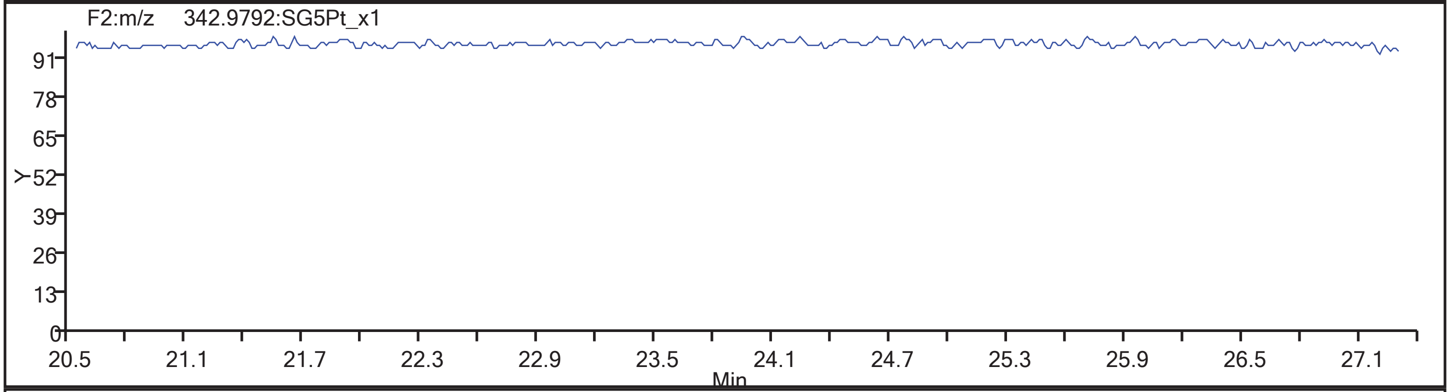


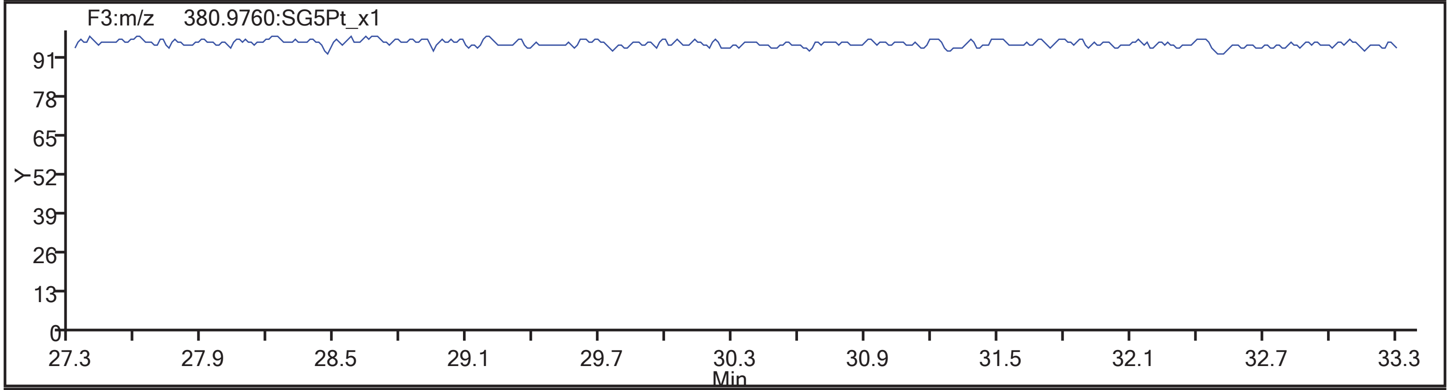
Report Date: 13-Nov-2017 13:33:34 Chrom Revision: 2.2 16-Aug-2017 16:24:46

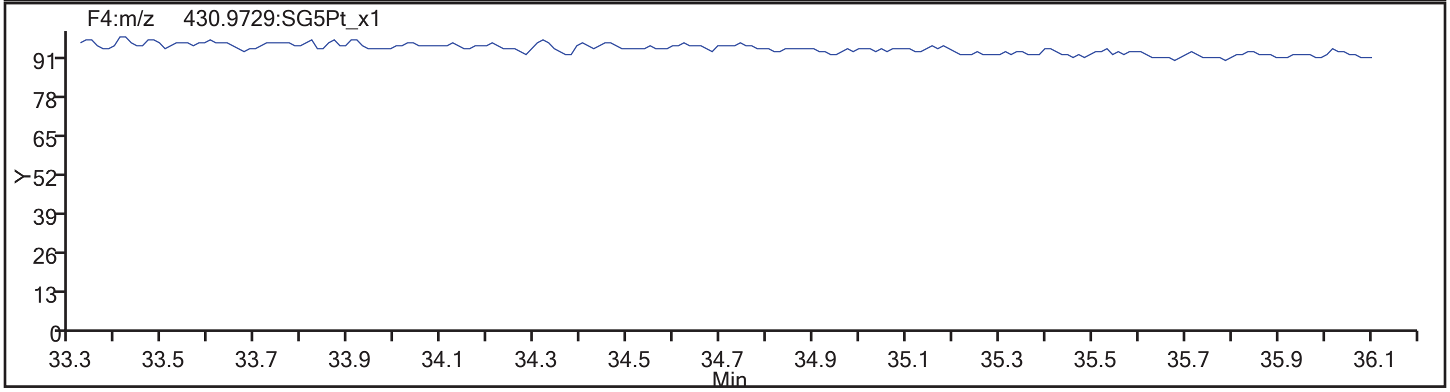
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d
Injection Date: 11-Nov-2017 02:05:30
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: SMA, AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 53
Column Type: DB-5
Column Dia: 0.32 mm



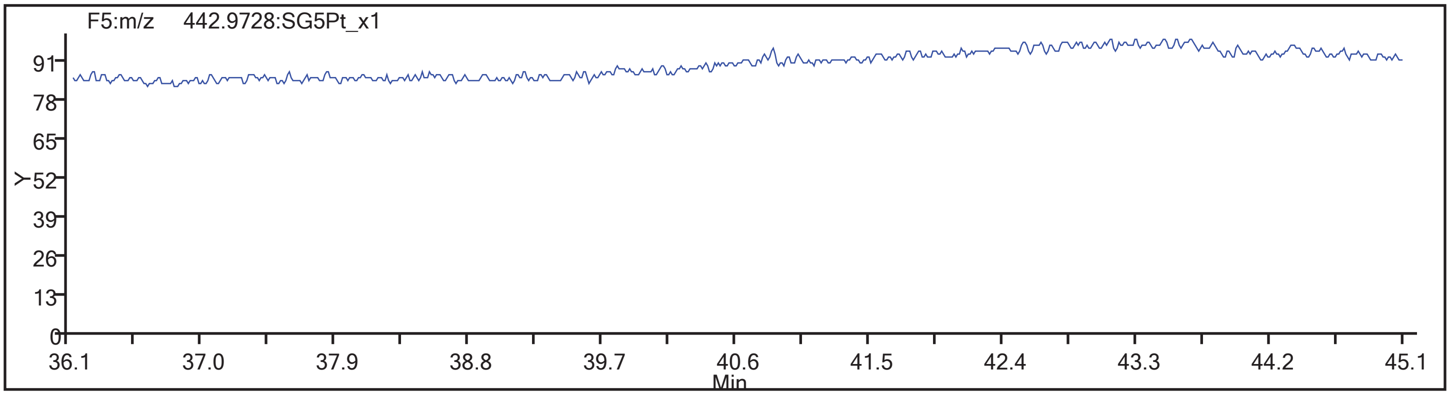






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_53.d		
Injection Date:	11-Nov-2017 02:05:30	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 13-Nov-2017 13:33:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d				
Lims ID:	WDM				
Client ID:					
Sample Type:	WDM				
Inject. Date:	11-Nov-2017 12:35:08	ALS Bottle#:	1	Worklist Smp#:	66
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	WDM 110917E WDM HRDXNCP_00034				
Misc. Info.:	09NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	13-Nov-2017 13:33:10	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK002				
First Level Reviewer: dadunj		Date:	13-Nov-2017 13:33:10		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.385	58400758	0.78	1.2741					0.00	
2,3,7,8-TCDF	17.415	130523376	0.77	1.1341	78.8	78.8	0.4546	0.4546		
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF					78.8	78.8	0.4546	0.4546		
D 13C-2,3,7,8-TCDD	18.095	40800201	0.78	0.9921					0.00	
2,3,7,8-TCDD	18.111	42559275	0.76	0.9993	41.8	41.8	0.2611	0.2611		
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD					41.8	41.8	0.2611	0.2611		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161	476993	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.254						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.893	301937	1.08	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.770	43653552	1.06	1.6399						
1,2,3,4,7,8,9-HpCDF	34.839	34178294	1.05	1.3302						
A Non-2,3,7,8-sub-HpCDF	34.305						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.560	26483272	1.05	0.9932						
A Non-2,3,7,8-sub-HpCDD	34.286						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.966	67805068	0.78							
1,3,6,8-TCDD	15.888	40293344	0.79							
2,3,4,7-TCDF	17.415	130523376	0.77							
1,2,3,7-TCDD	18.005	36499504	0.83							
1,2,3,9-TCDD	18.277	44106637	0.80							
1,2,3,9-TCDF	18.277	56929671	0.76							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.229	18104093								
1,2,8,9-TCDF	19.244	60043967	0.78							
1,3,4,6,8-PeCDF	19.517	56823001	1.57							
1,2,4,7,9-PeCDD	21.292	36423400	1.54							
1,2,3,8,9-PeCDD	25.546	35755105	1.57							
1,2,3,8,9-PeCDF	25.764	47639638	1.61							
1,2,3,4,6,8-HxCDF	28.064	55407411	1.28							
1,2,4,6,7,9-HxCDD	29.648	38376177	1.27							
1,2,3,4,6,7-HxCDD	32.137	36295459	1.26							
1,2,3,4,8,9-HxCDF	32.443	49154388	1.26							
1,2,3,4,6,7,9-HpCDD	34.013	31770059	1.03							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 11-Nov-2017 12:35:08 ALS Bottle#: 1 Worklist Smp#: 66
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 110917E WDM HRDXNCP_00034
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:33:10 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 13:33:10

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.385	17.385	0	1.000	25557849	6416376	13573	33932	473		
317.9389	17.385	17.385	0	1.000	32842909	8210555	5824	14560	1410	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415	17.415	0	1.002	56907172	13016427	29449	73622	442		
305.8987	17.415	17.415	0	1.002	73616204	16997676	45971	114927	370	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						29449	73622			
305.8987	17.105						45971	114927			
13C-2,3,7,8-TCDD											
331.9368	18.095	18.095	0	1.000	17939457	4315224	7513	18782	574		
333.9339	18.095	18.095	0	1.000	22860744	5508536	4616	11540	1193	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.111	18.111	0	1.001	18375000	4409760	10327	25817	427		
321.8936	18.111	18.111	0	1.001	24184275	5572596	15305	38262	364	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						10327	25817			
321.8936	17.559						15305	38262			
A F1 PeCDFs											
339.8597	20.001						1575	3937			
341.8567	20.001						2350	5875			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.878	23.161	-77	1.000	107221	18193	4096	10240	4		
341.8567	21.878	23.161	-77	1.000	70907	13522	3202	8005	4	1.51(1.32-1.78)	
339.8597	22.465	23.161	-42	1.000	218482	30699	4096	10240	7		
341.8567	22.465	23.161	-42	1.000	117202	19083	3202	8005	6	1.86(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						4971	12427			
357.8516	23.419						3134	7835			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.254						8630	21575			
375.8178	30.254						6992	17480			
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.032	30.893	8	1.000	156640	34668	9948	24870	3		
391.8127	31.032	30.893	8	1.000	145297	28969	7281	18202	4	1.08(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.770	33.770	0	1.000	22504774	6946491	29131	72827	238		
409.7789	33.770	33.770	0	1.000	21148778	6446744	28332	70830	228	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.839	34.839	0	1.000	17543390	4520915	29131	72827	155		
409.7789	34.839	34.839	0	1.000	16634904	4387476	28332	70830	155	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.305						29131	72827			
409.7789	34.305						28332	70830			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.560	34.560	0	1.000	13595261	3784778	22586	56465	168		
425.7737	34.560	34.560	0	1.000	12888011	3503289	21304	53260	164	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.286						22586	56465			
425.7737	34.286						21304	53260			
1,3,6,8-TCDF											
303.9016	14.966	14.966	0		29638551	9264704	29449	73622	315		
305.8987	14.966	14.966	0		38166517	11960802	45971	114927	260	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.888	15.888	0		17782116	5249031	10327	25817	508		
321.8936	15.888	15.888	0		22511228	6490854	15305	38262	424	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.415	17.415	0		56907172	13016427	29449	73622	442		
305.8987	17.415	17.415	0		73616204	16997676	45971	114927	370	0.77(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.005	18.005	0		16520977	4007981	10327	25817	388		
321.8936	18.005	18.005	0		19978527	4976770	15305	38262	325	0.83(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.277	18.277	0		19596040	4475880	10327	25817	433		
321.8936	18.277	18.277	0		24510597	5636527	15305	38262	368	0.80(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.277	18.277	0		24624132	5790564	29449	73622	197		
305.8987	18.277	18.277	0		32305539	7695607	45971	114927	167	0.76(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.229	19.229	0		18104093	4009396	10327	25817	388		
1,2,8,9-TCDF											
303.9016	19.244	19.244	0		26285361	5747866	29449	73622	195		
305.8987	19.244	19.244	0		33758606	7201688	45971	114927	157	0.78(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,3,4,6,8-PeCDF											
339.8597	19.517	19.517	0		34711383	7676992	1575	3937	4874		
341.8567	19.517	19.517	0		22111618	4894669	2350	5875	2083	1.57(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	21.292	21.292	0		22079152	3912648	4971	12427	787		
357.8516	21.292	21.292	0		14344248	2571358	3134	7835	820	1.54(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.546	25.546	0		21828039	3147952	4971	12427	633		
357.8516	25.532	25.546	-1		13927066	1998637	3134	7835	638	1.57(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.764	25.764	0		29381071	4093882	4096	10240	999		
341.8567	25.764	25.764	0		18258567	2551307	3202	8005	797	1.61(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	28.064	28.064	0		31092609	4144095	8630	21575	480		
375.8178	28.064	28.064	0		24314802	3213730	6992	17480	460	1.28(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.648	29.648	0		21453116	2861811	9948	24870	288		
391.8127	29.648	29.648	0		16923061	2268398	7281	18202	312	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.137	32.137	0		20232092	5482768	9948	24870	551		
391.8127	32.137	32.137	0		16063367	4319124	7281	18202	593	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.443	32.443	0		27441017	7487377	8630	21575	868		
375.8178	32.443	32.443	0		21713371	5999877	6992	17480	858	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.013	34.013	0		16090458	4711796	22586	56465	209		
425.7737	34.001	34.013	-1		15679601	4518435	21304	53260	212	1.03(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d
Lims ID: WDM
Client ID:
Inject. Date: 11-Nov-2017 12:35:08
Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194085
Lims Sample ID: 66

Non-2,3,7,8-sub-PeCDF, RT: 23.161

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163				
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.878	107221	18193	70907	13522		1.51	
22.465	218482	30699	117202	19083		1.86	R
Signal Totals:							
	325703	48892	188109	32605			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	513812	81497				1.73	RQ
	476993	80376					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (513812 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (476993 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Lims ID:	WDM		
Client ID:			
Inject. Date:	11-Nov-2017 12:35:08	Dil. Factor:	1.0000
Sample Type:	WDM, Window Defining Mix		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	66

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950				
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.032	156640	34668	145297	28969		1.08	
Signal Totals:							
	156640	34668	145297	28969			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	301937	63637				1.08	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

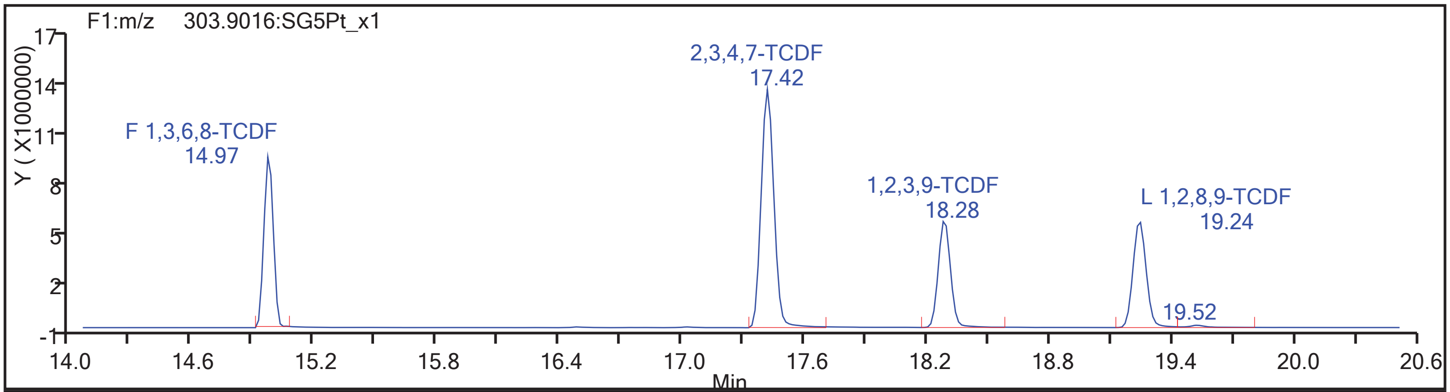
Amount: 0.0 = (301937 * 0.0) / (0 * 0.000)

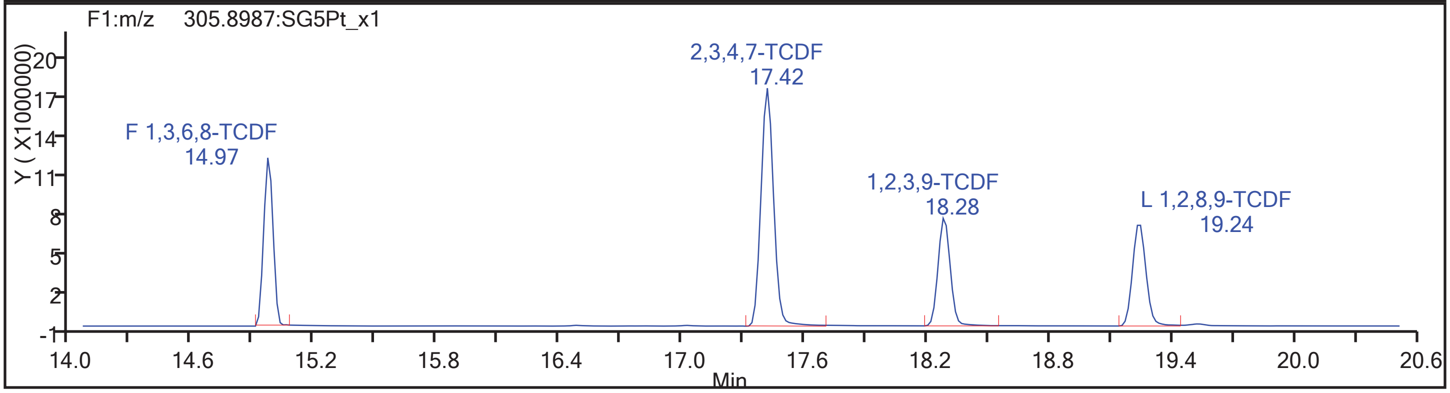
Report Date: 13-Nov-2017 13:33:11   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

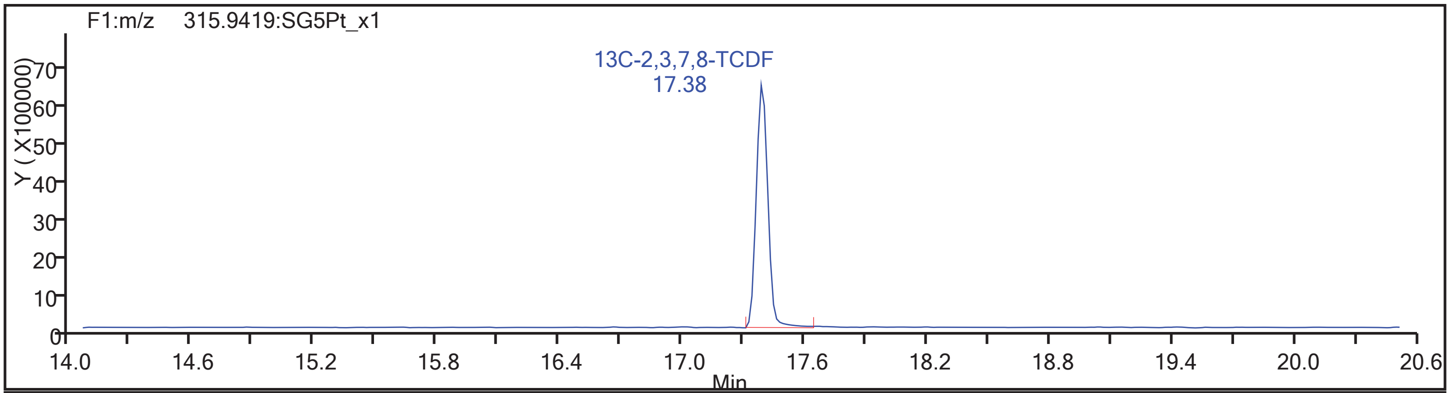
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d
Injection Date: 11-Nov-2017 12:35:08   Injection Vol: 2.0 ul
Instrument ID: 10D5   Operator ID: AJS
Method: Dioxin_10D5   Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194085   Sample Line#: 66
Column Type: DB-5   Column Dia: 0.32 mm

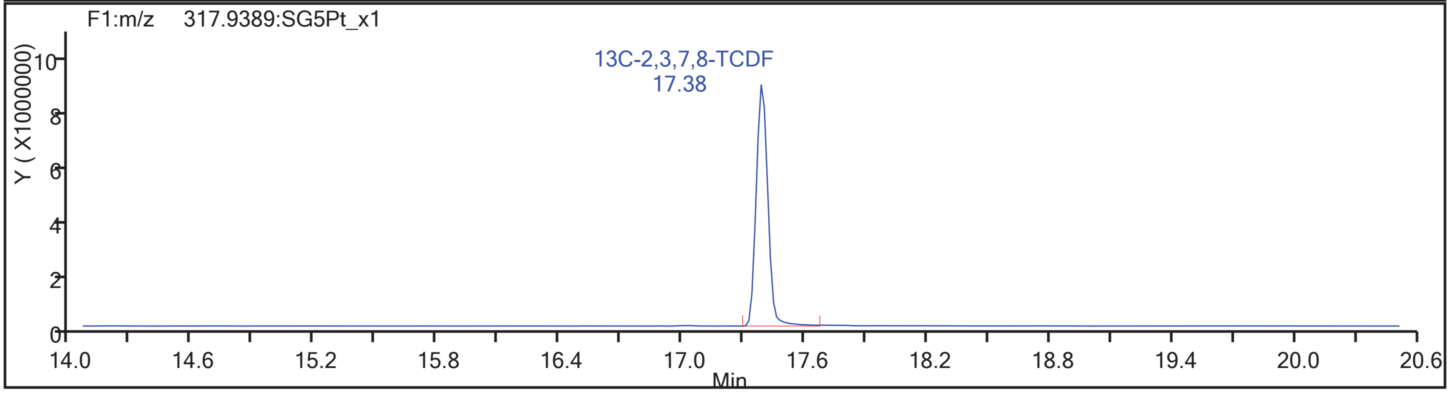
TCDF





TCDF Standards



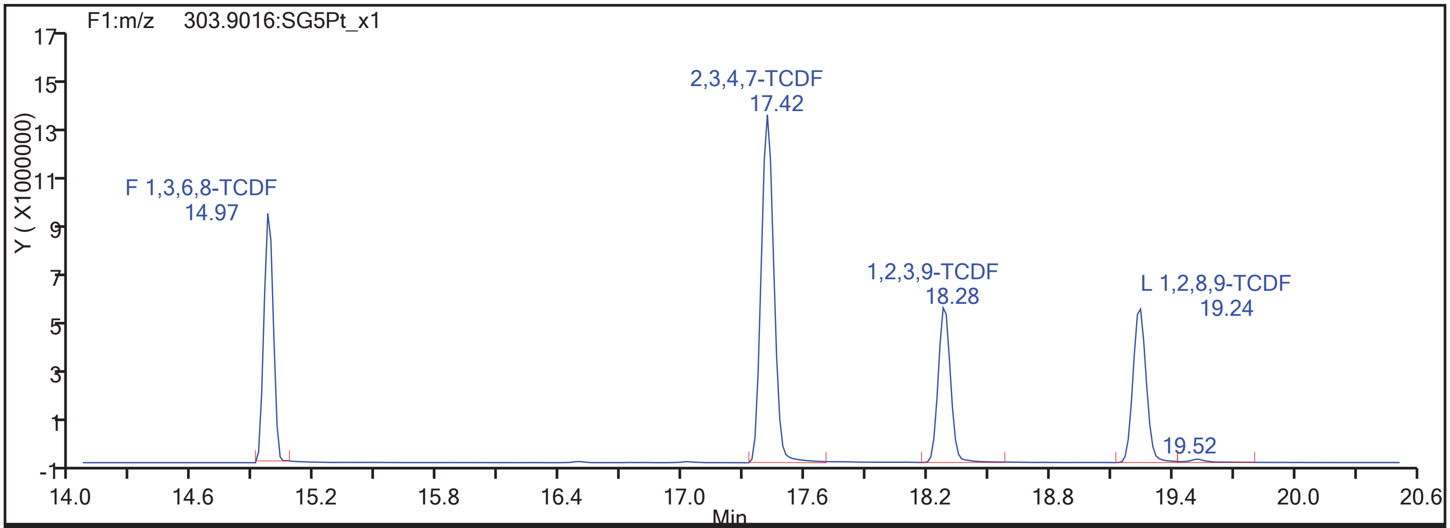


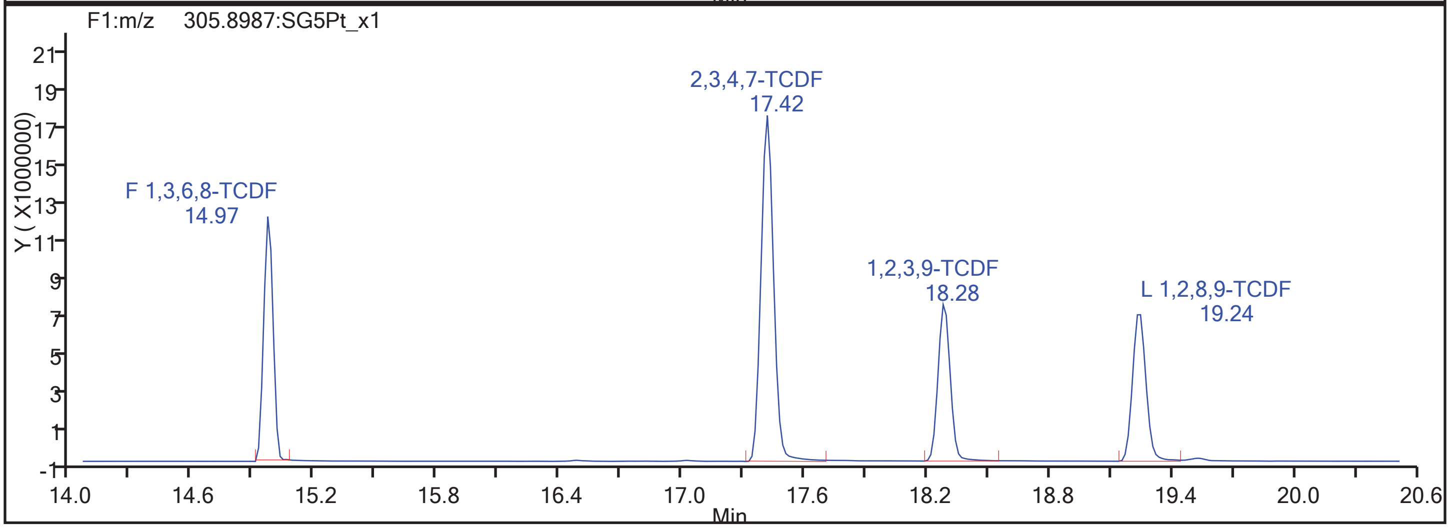
Report Date: 13-Nov-2017 13:33:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

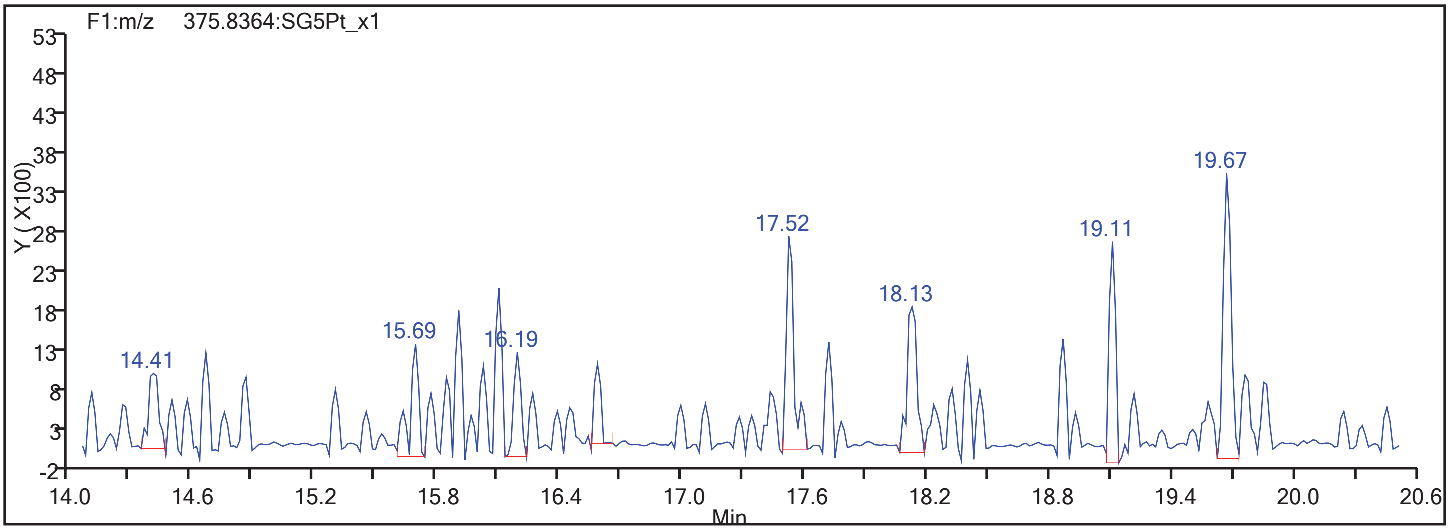
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





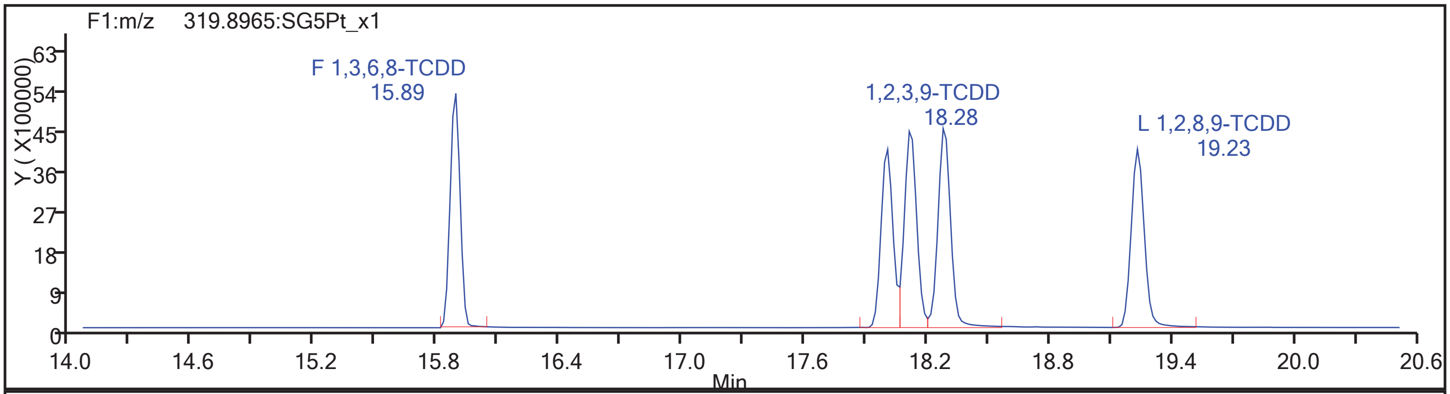
TCDF Interference Mass

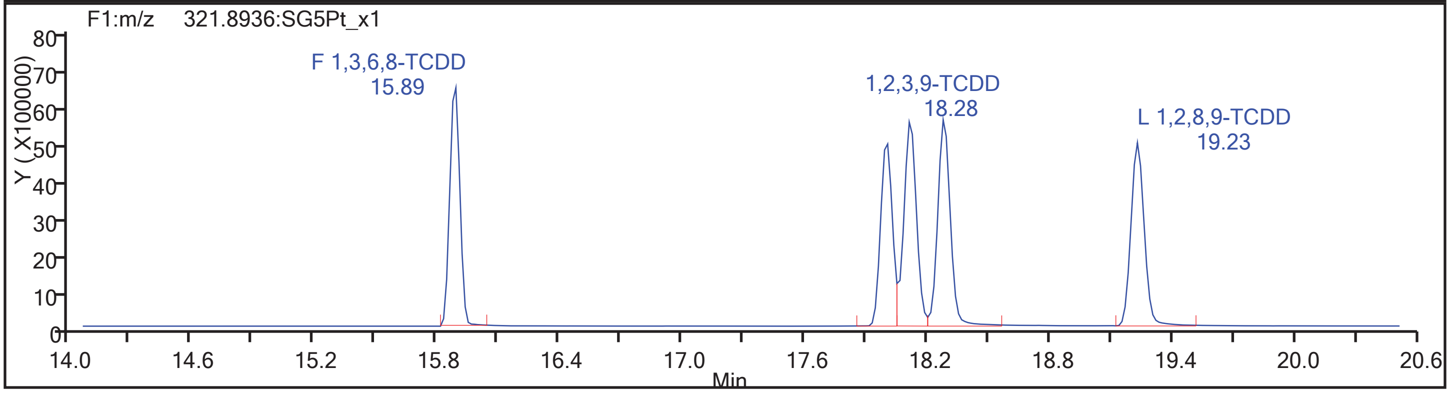


TestAmerica Sacramento

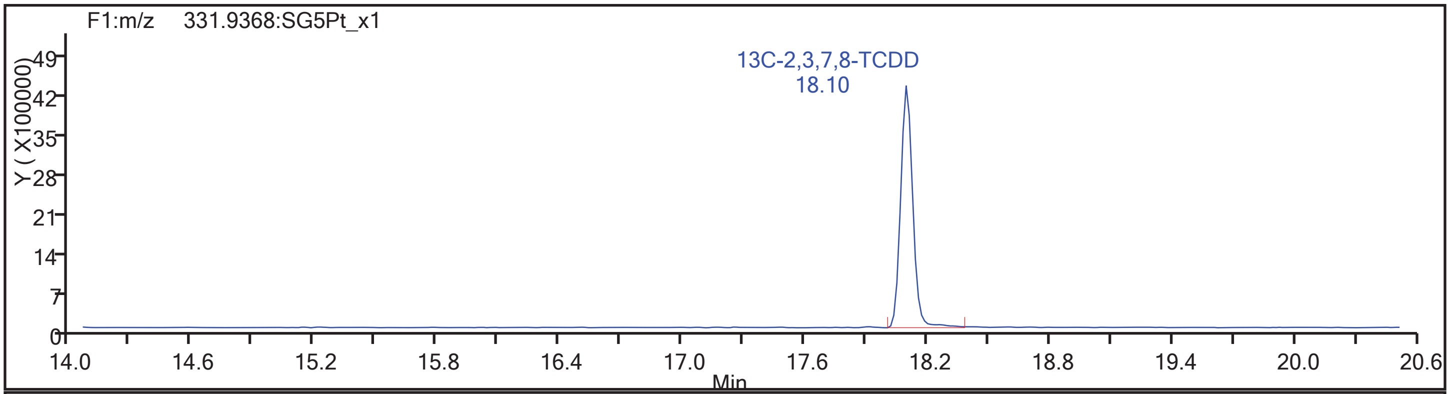
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm

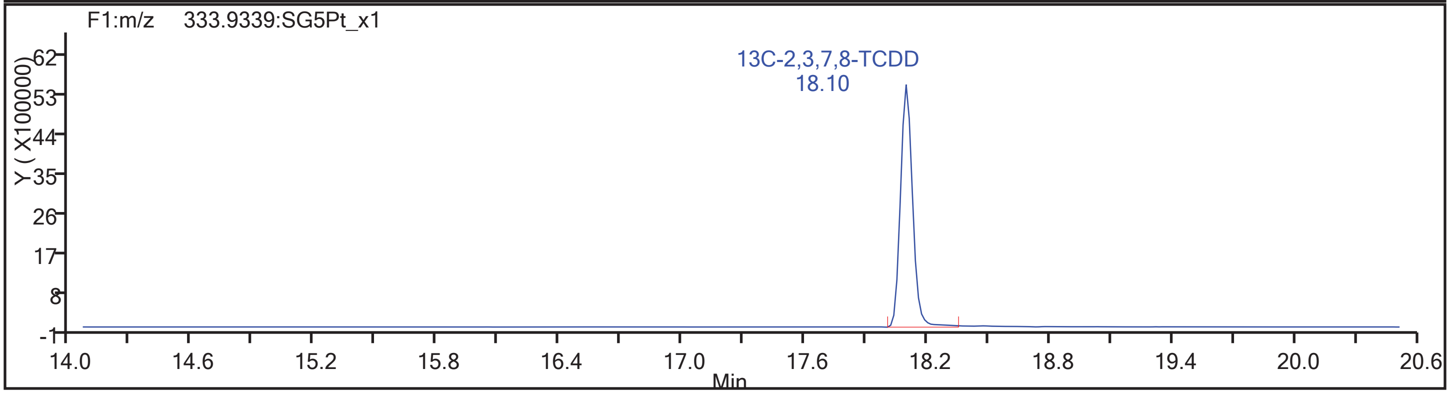
TCDD





TCDD Standards



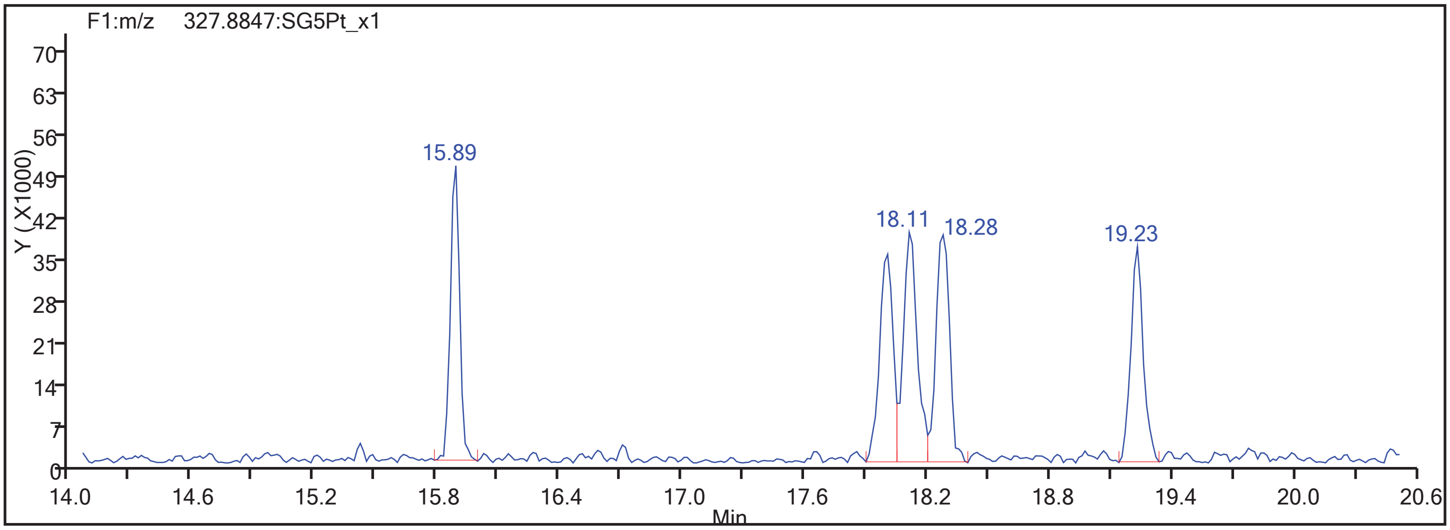


Report Date: 13-Nov-2017 13:33:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

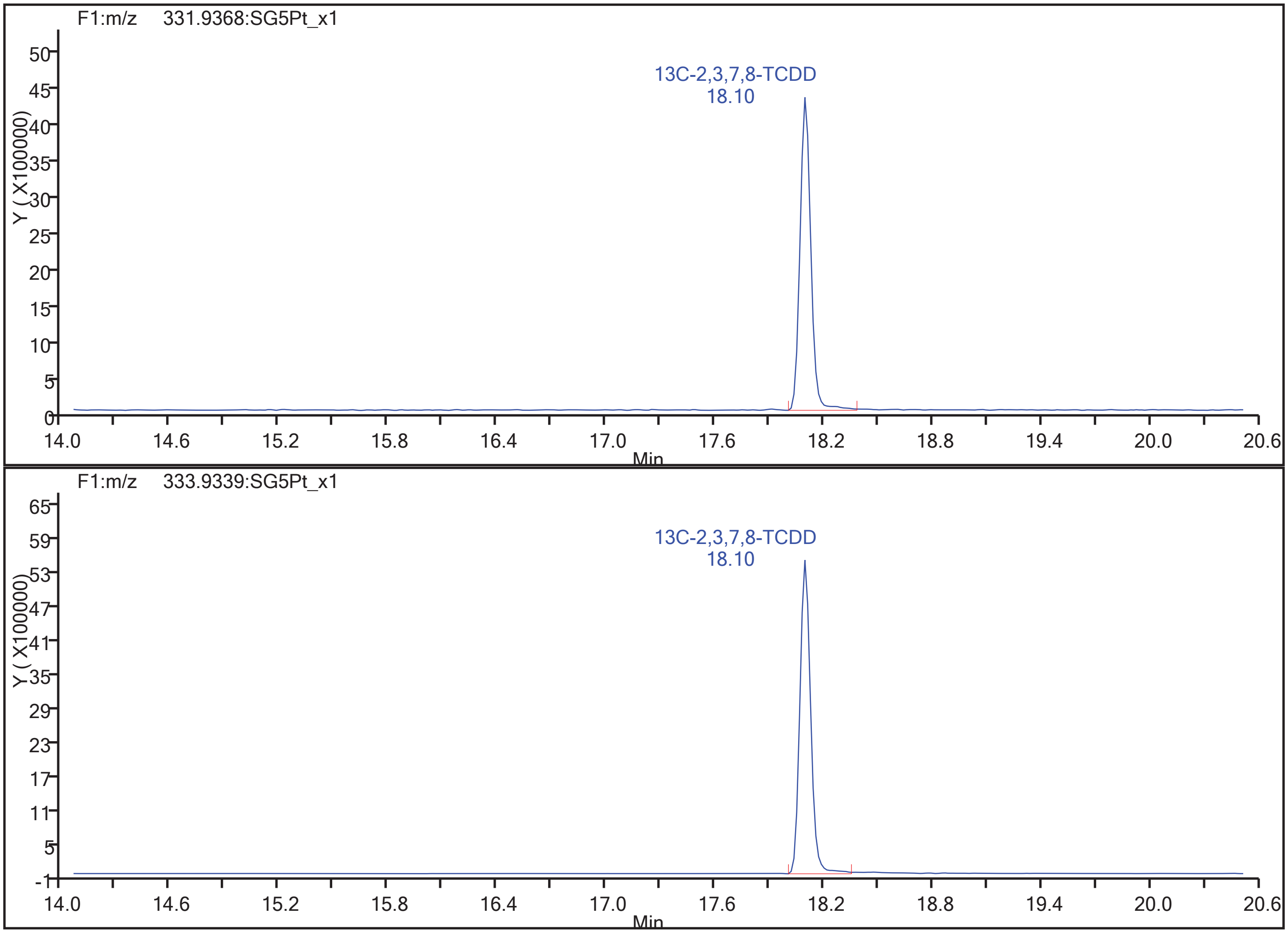
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d
Injection Date: 11-Nov-2017 12:35:08 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194085 Sample Line#: 66
Column Type: DB-5 Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



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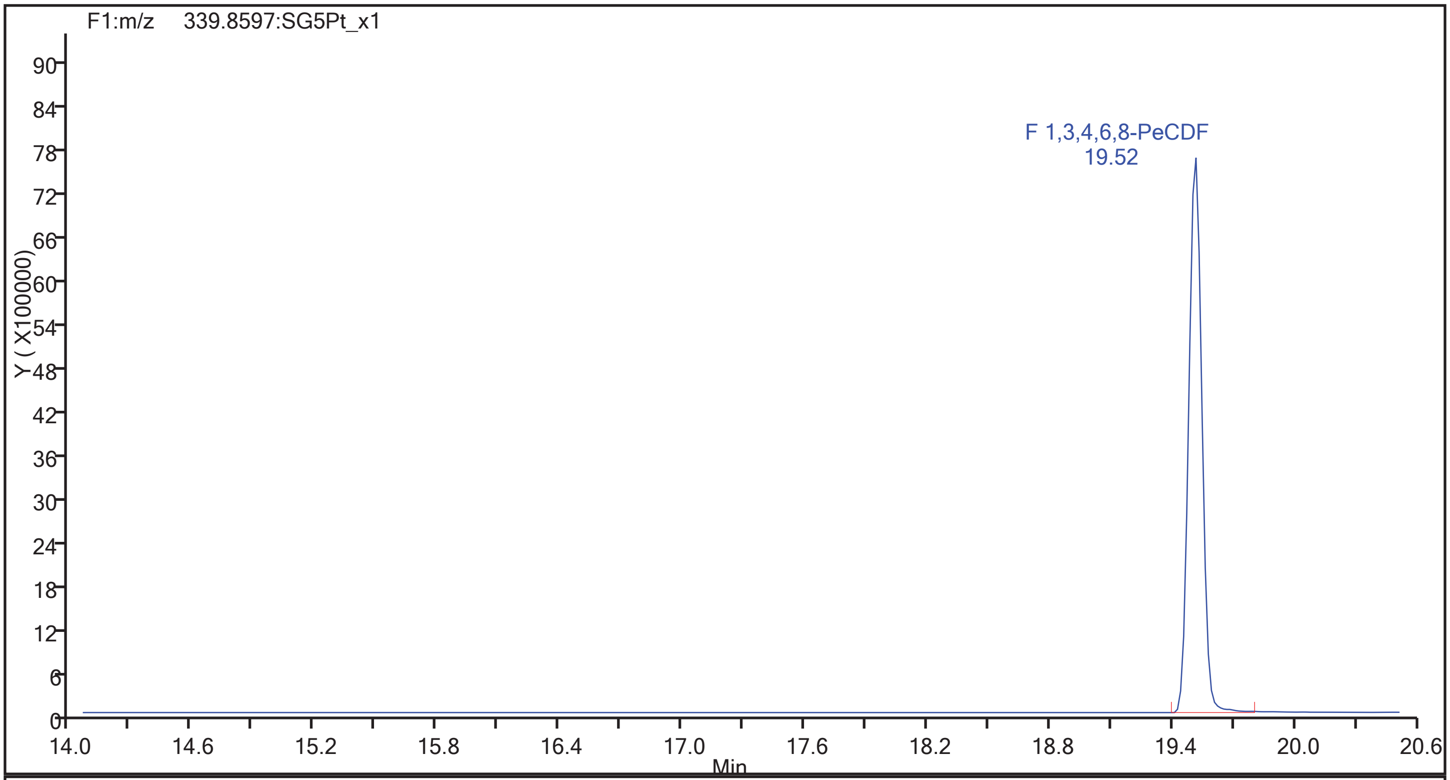
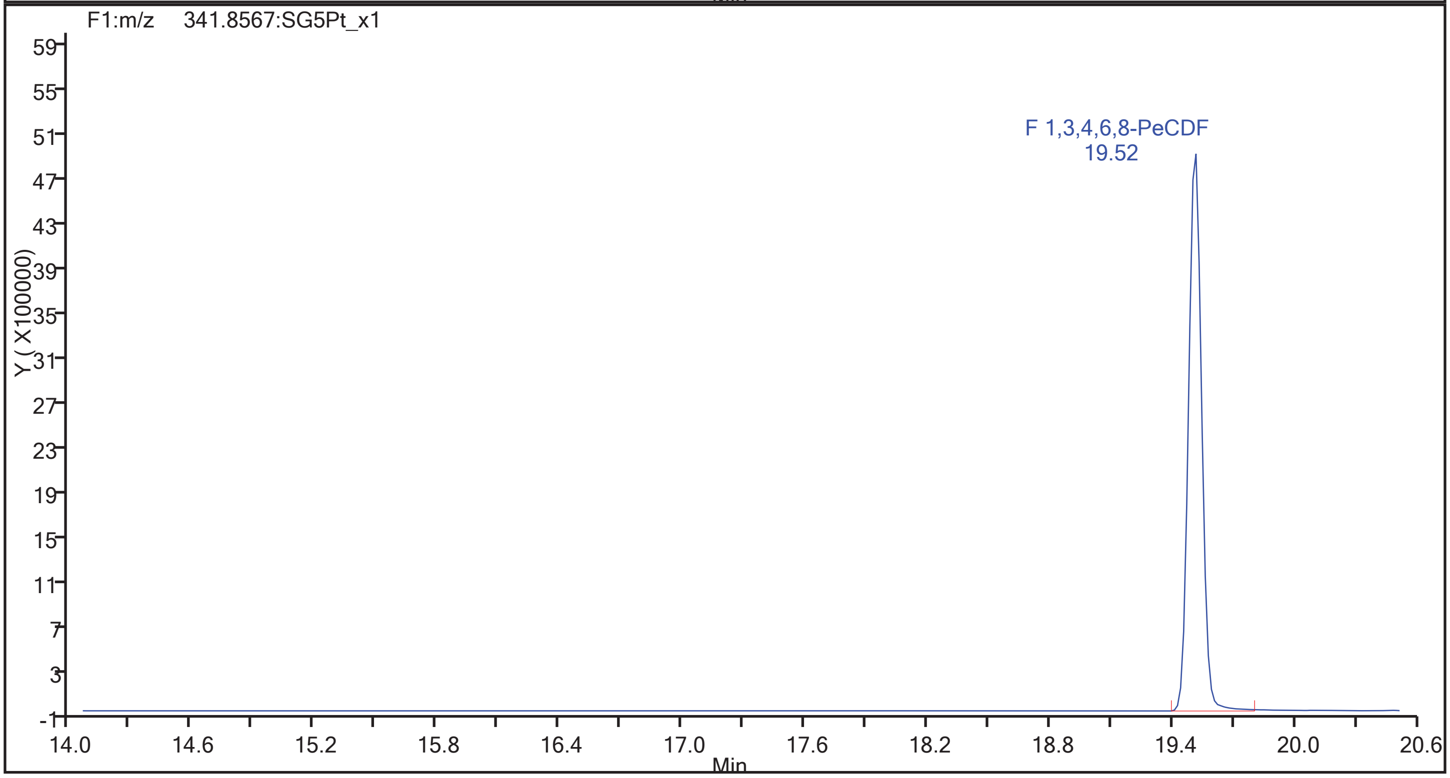
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



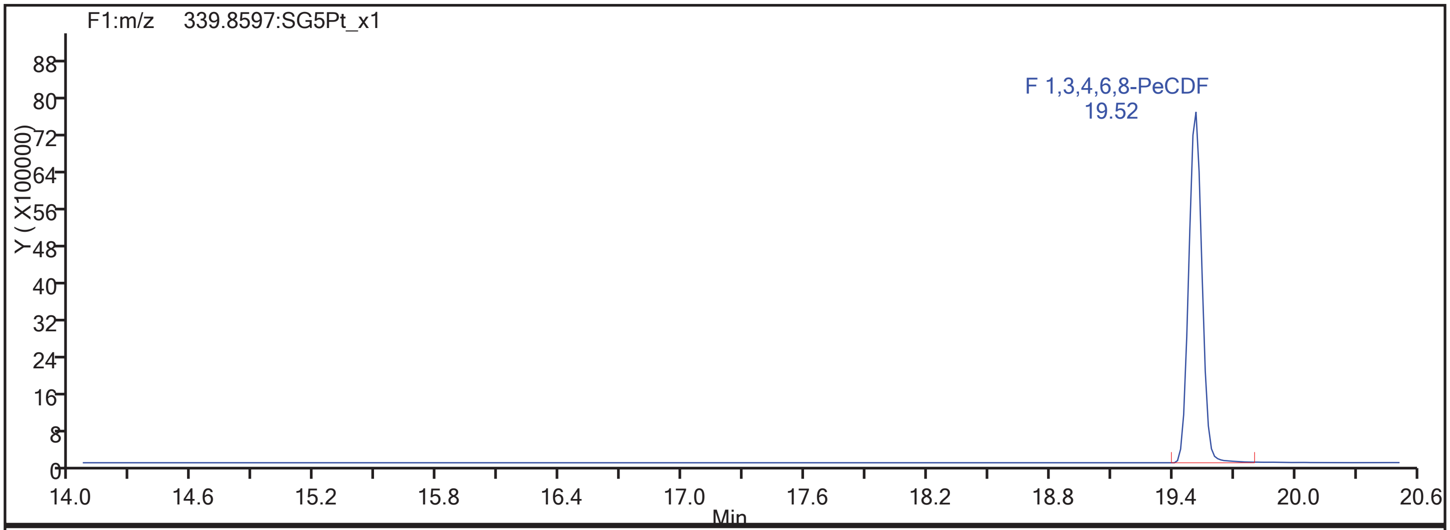


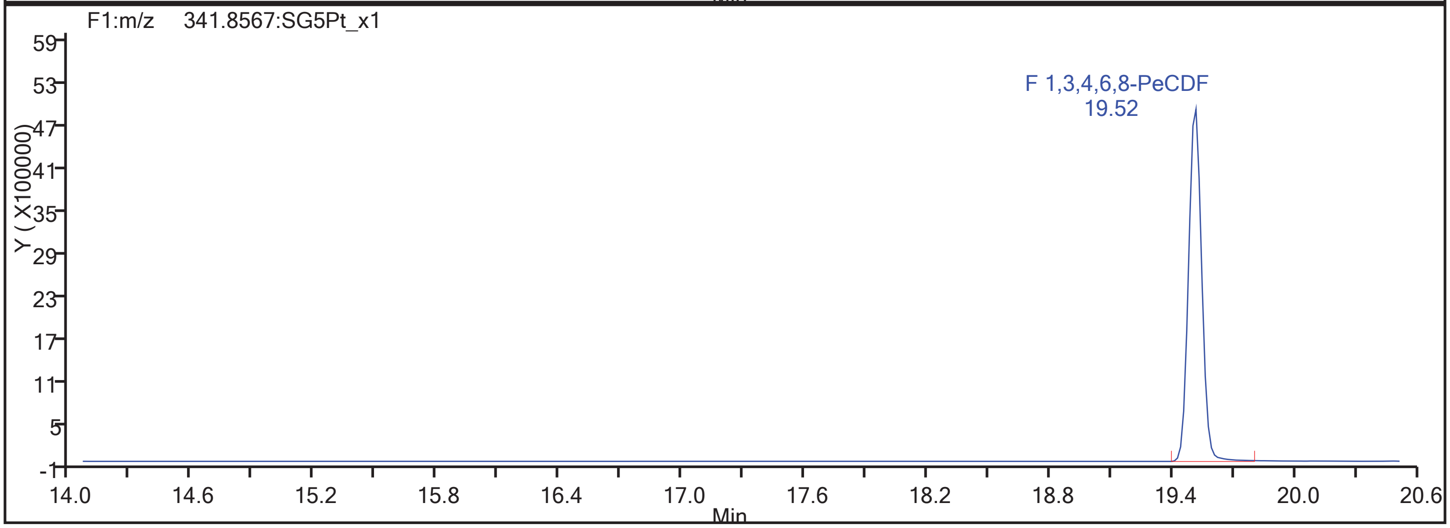
Report Date: 13-Nov-2017 13:33:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

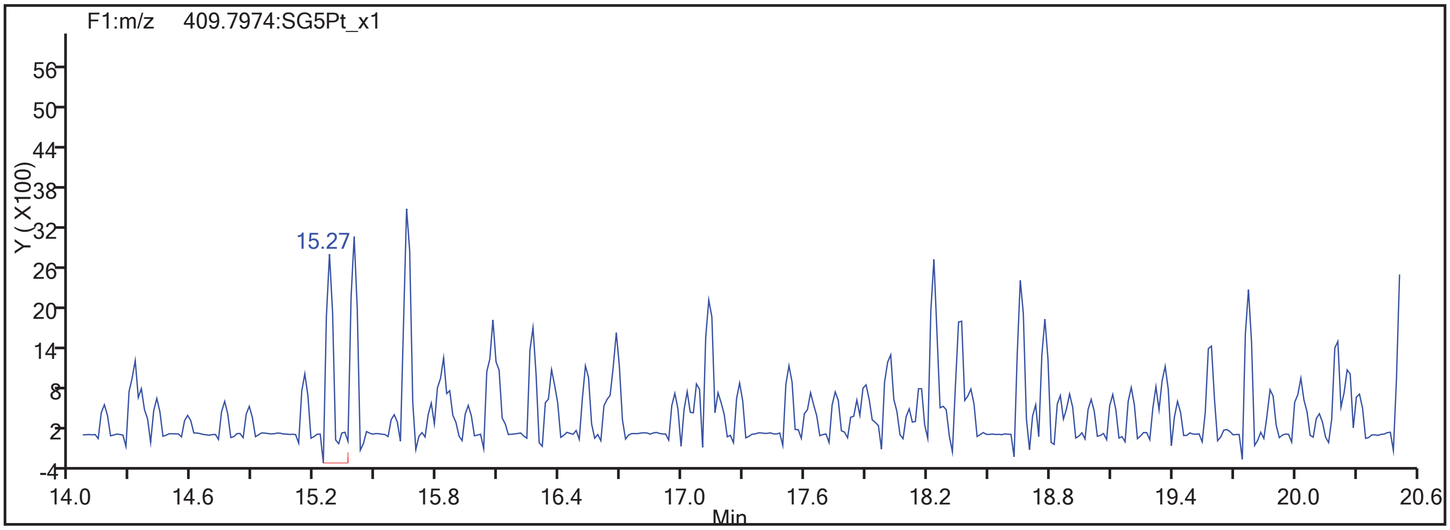
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

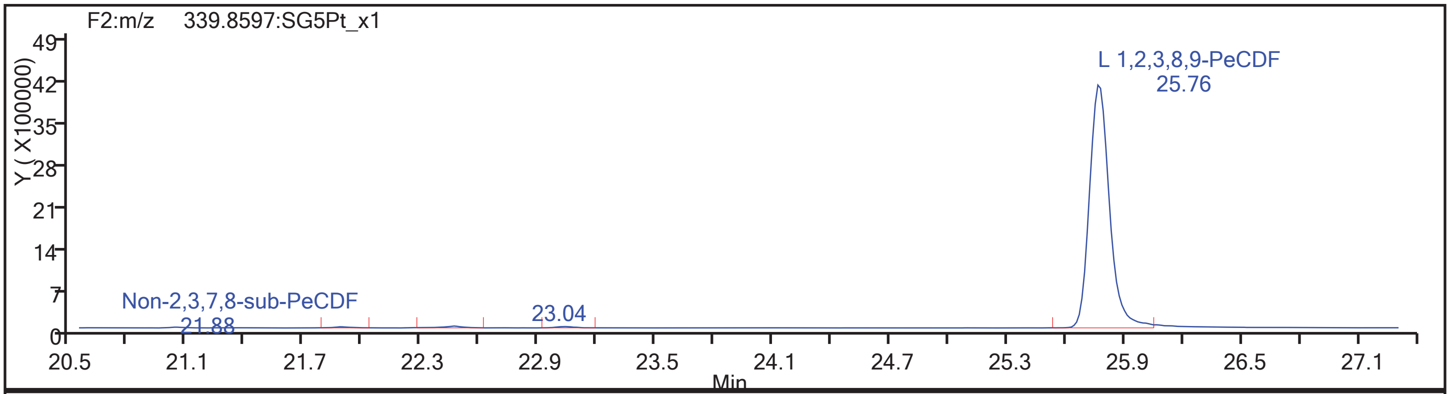


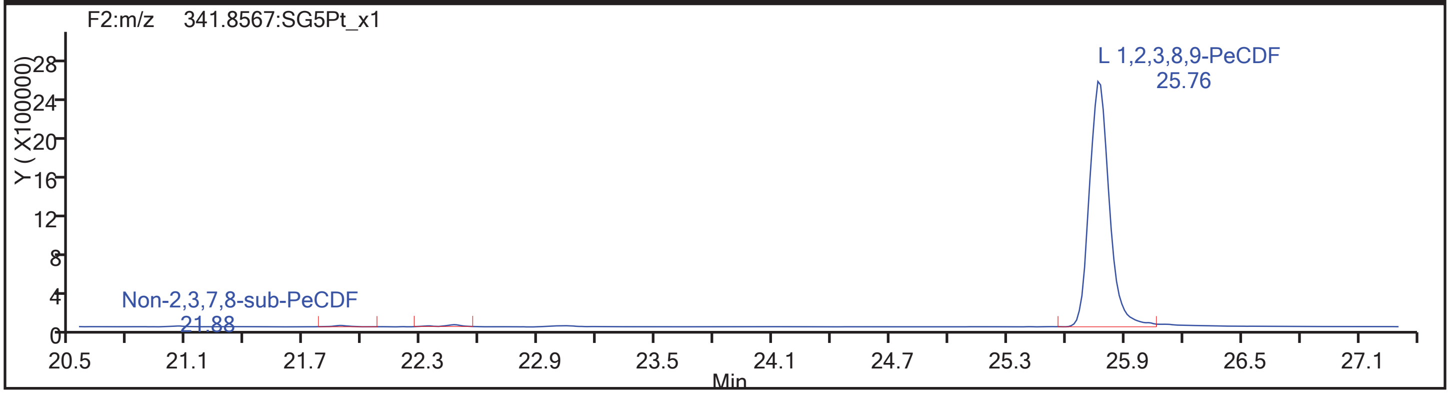
Report Date: 13-Nov-2017 13:33:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

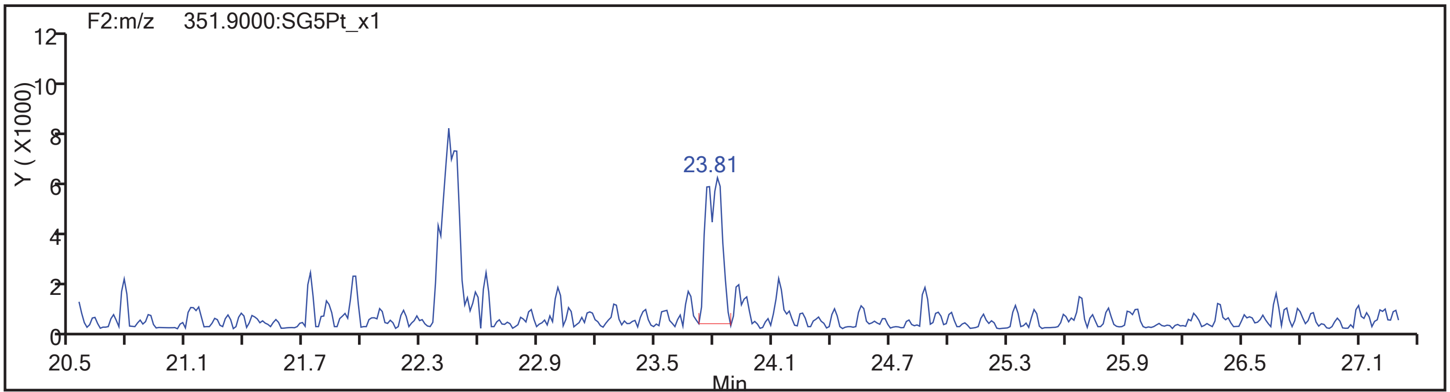
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm

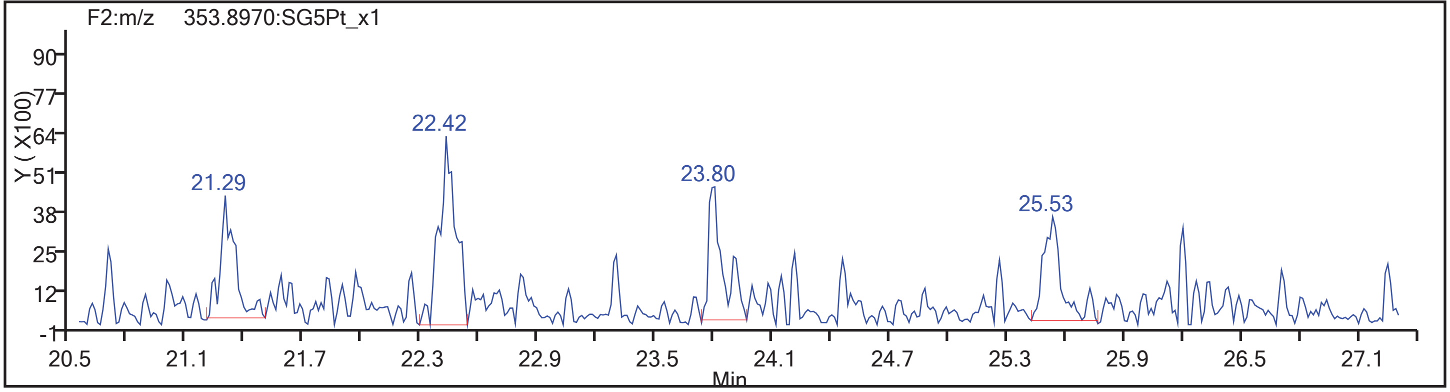
PeCDF





PeCDF Standards



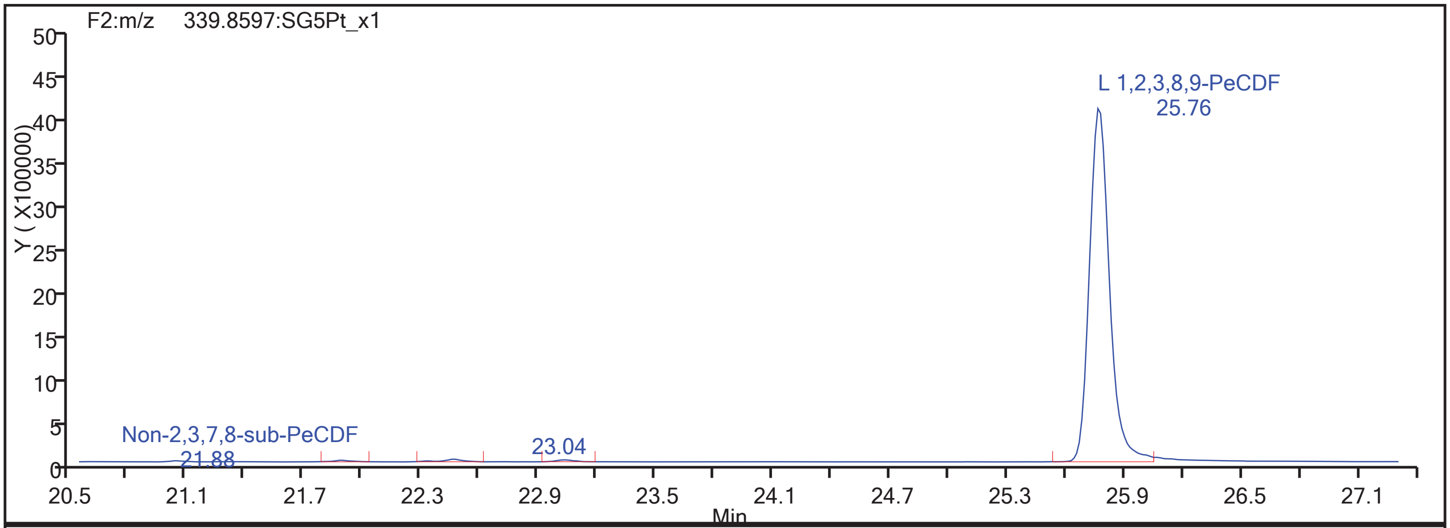


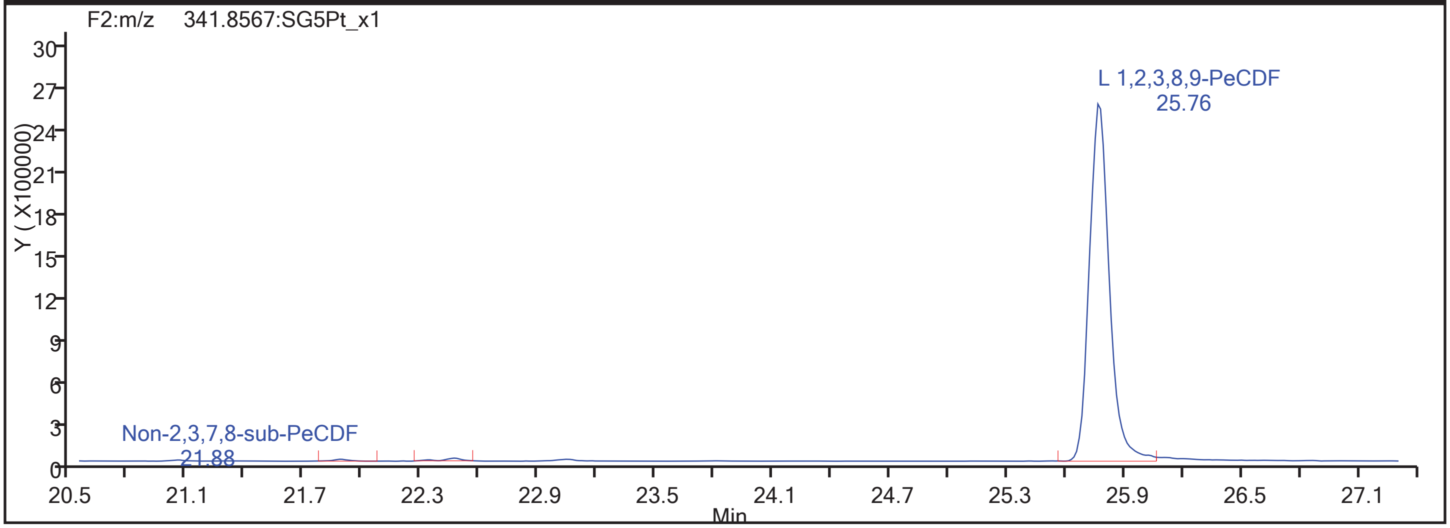
Report Date: 13-Nov-2017 13:33:11 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

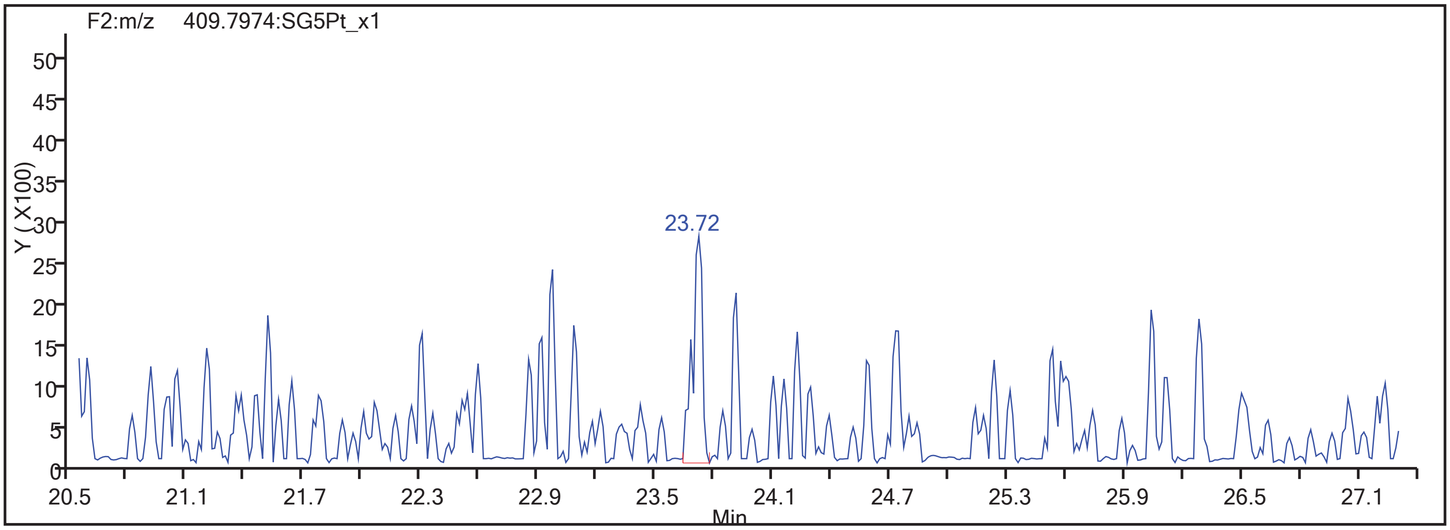
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF



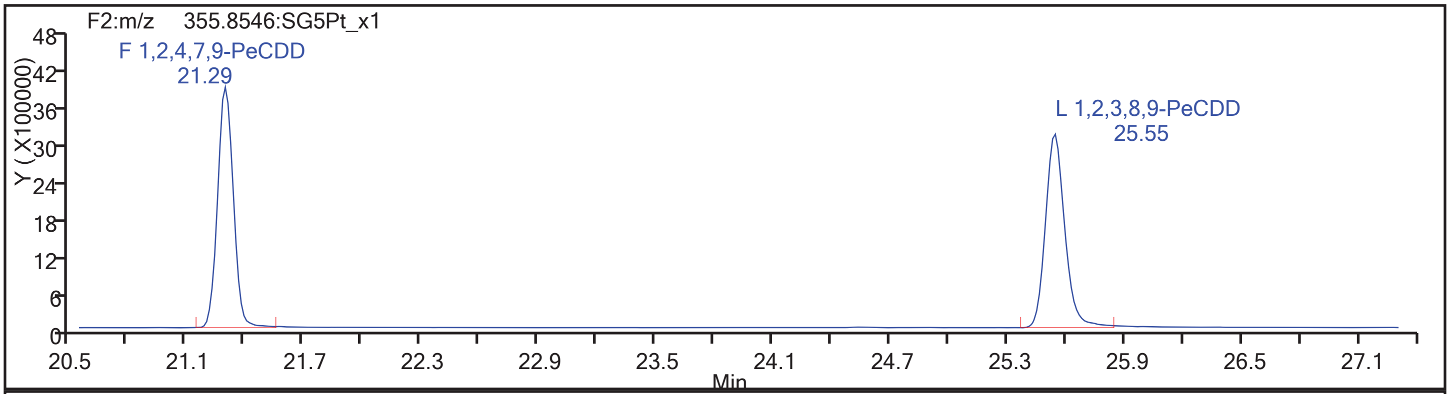


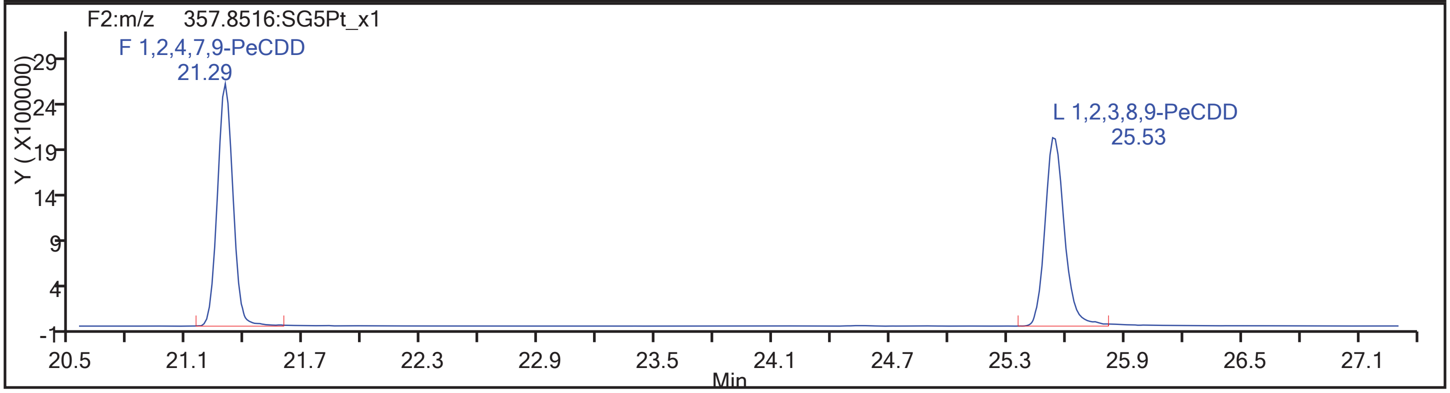
PeCDF Interference Mass



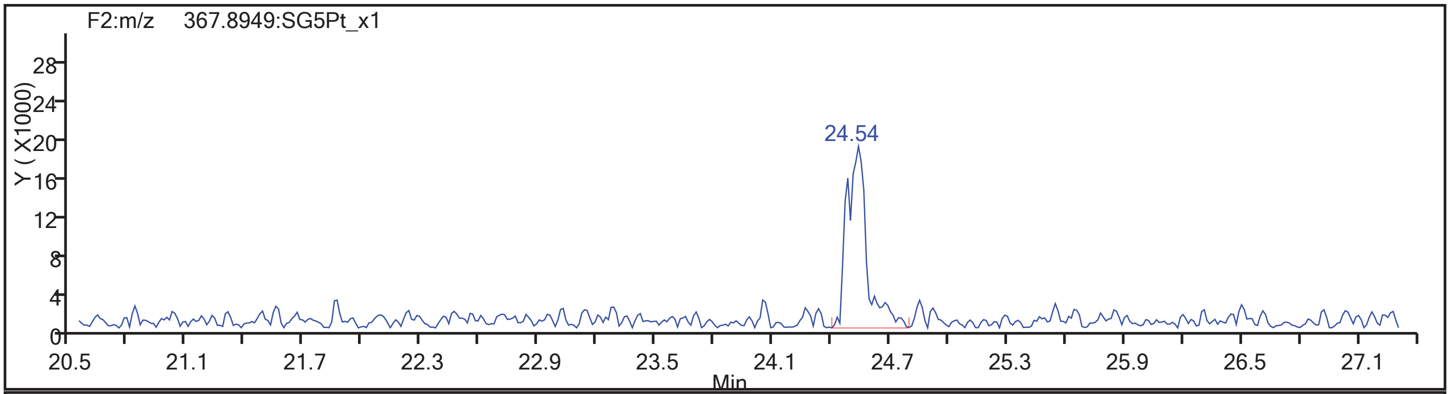
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d
Injection Date: 11-Nov-2017 12:35:08
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194085
Sample Line#: 66
Column Type: DB-5
Column Dia: 0.32 mm

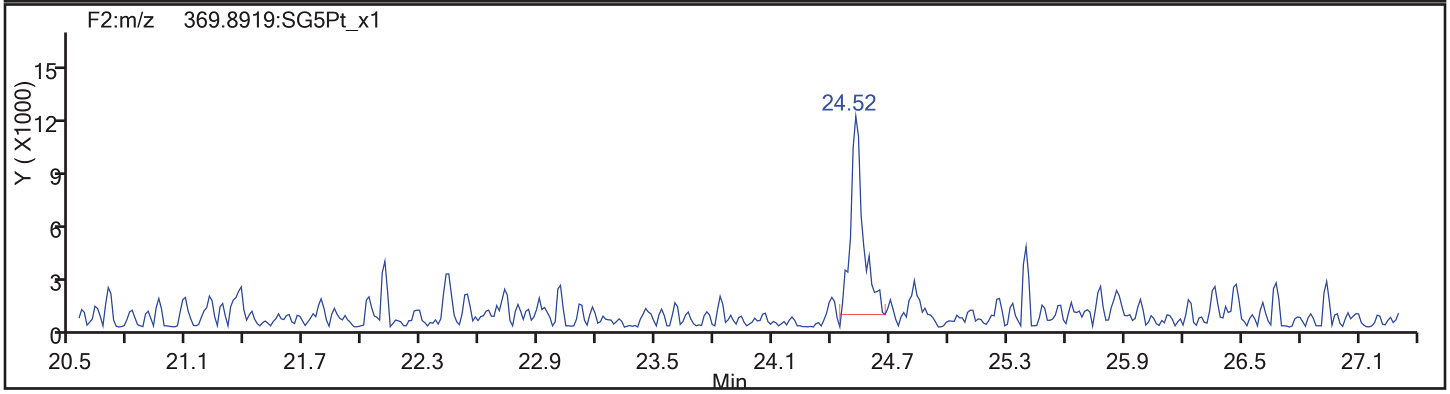
PeCDD





PeCDD Standards

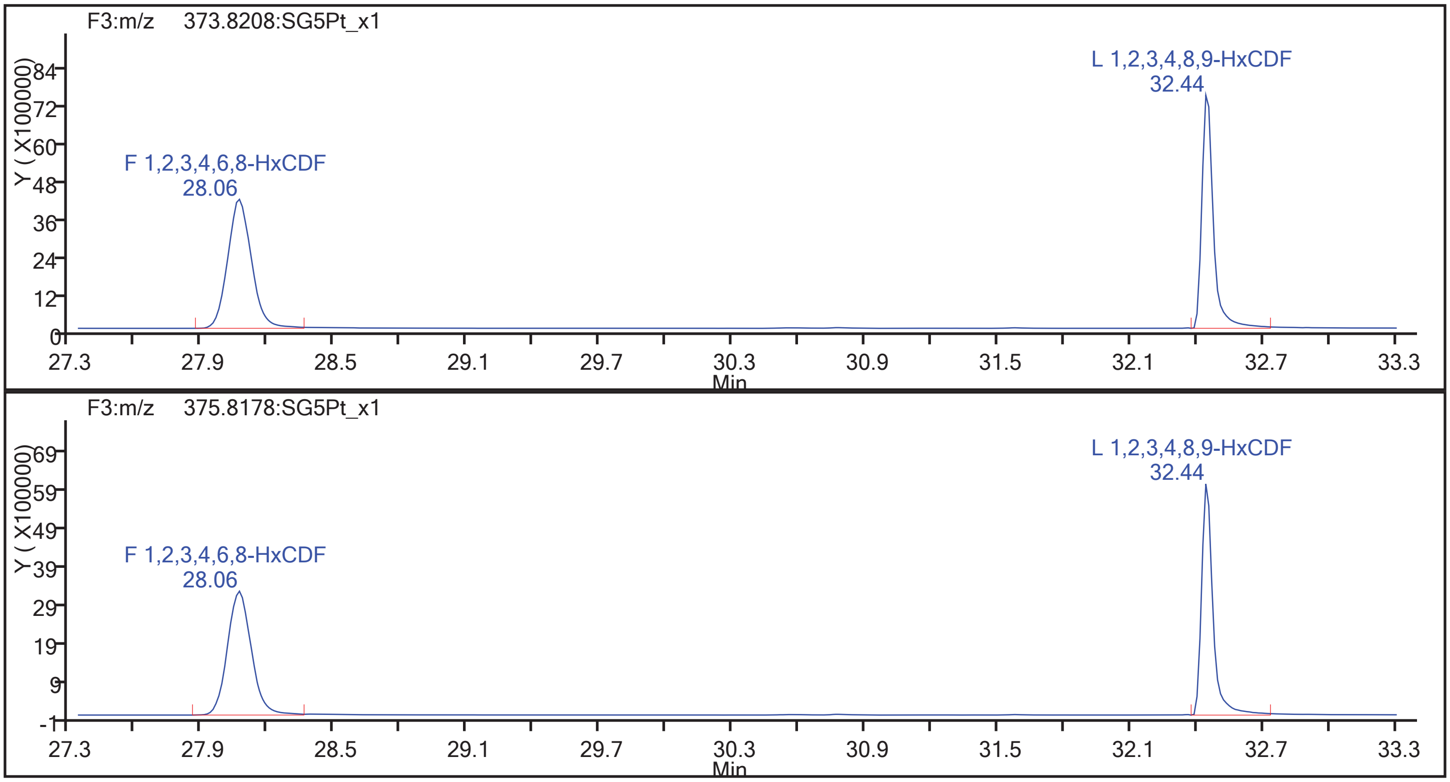




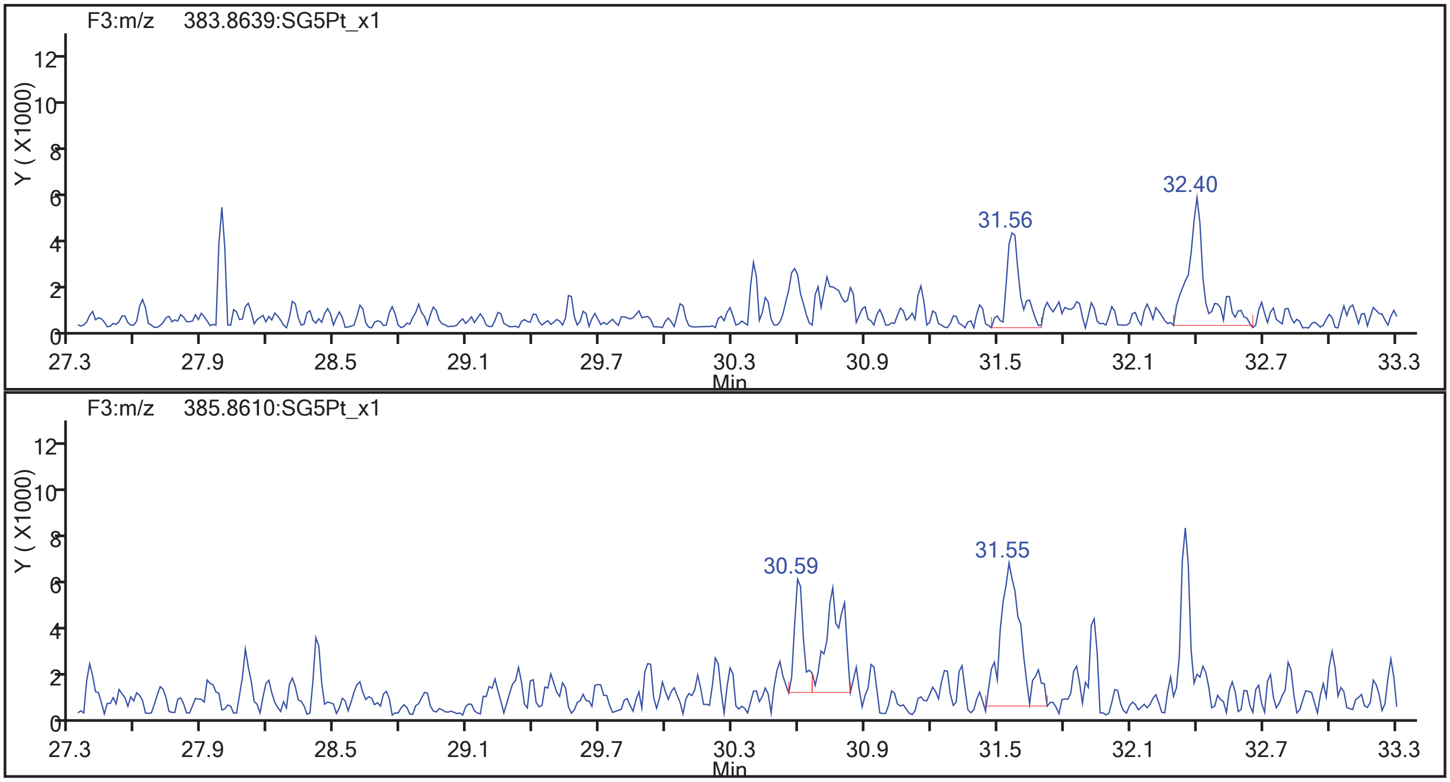
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



HxCDF Standards

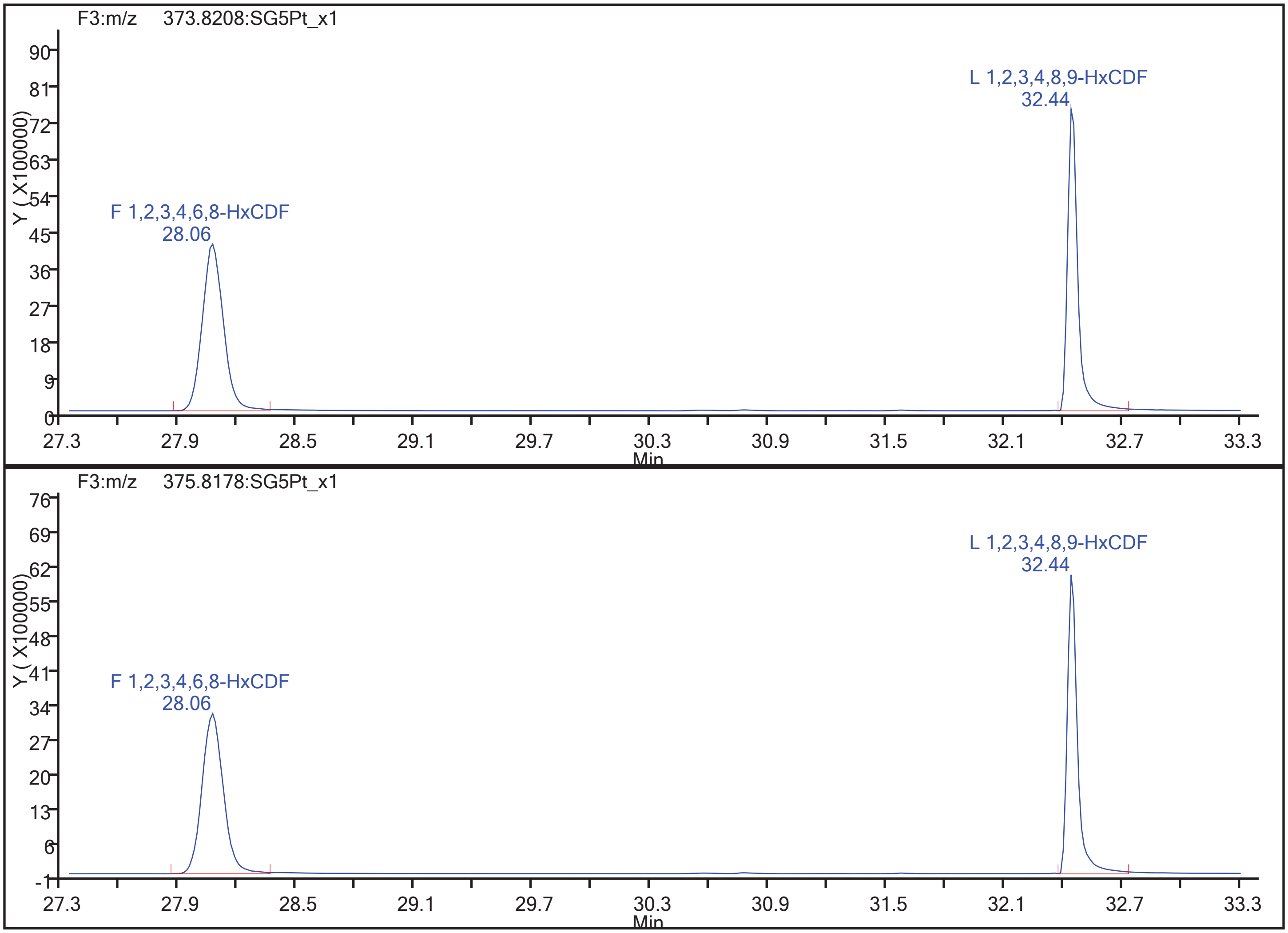


Report Date: 13-Nov-2017 13:33:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

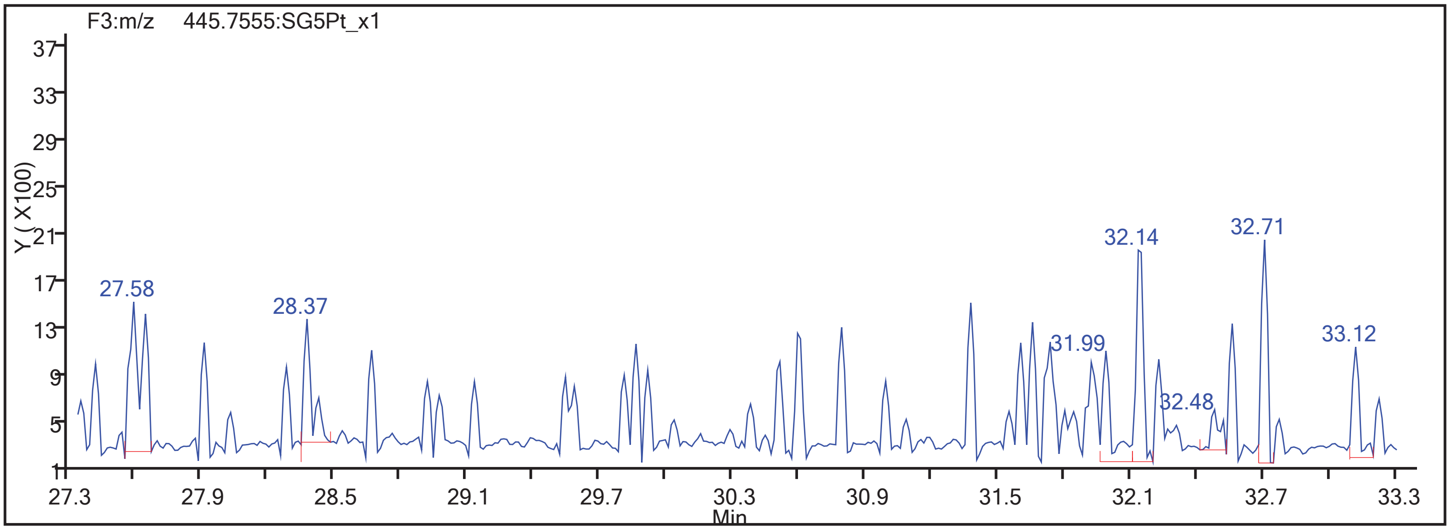
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



HxCDF Interference Mass

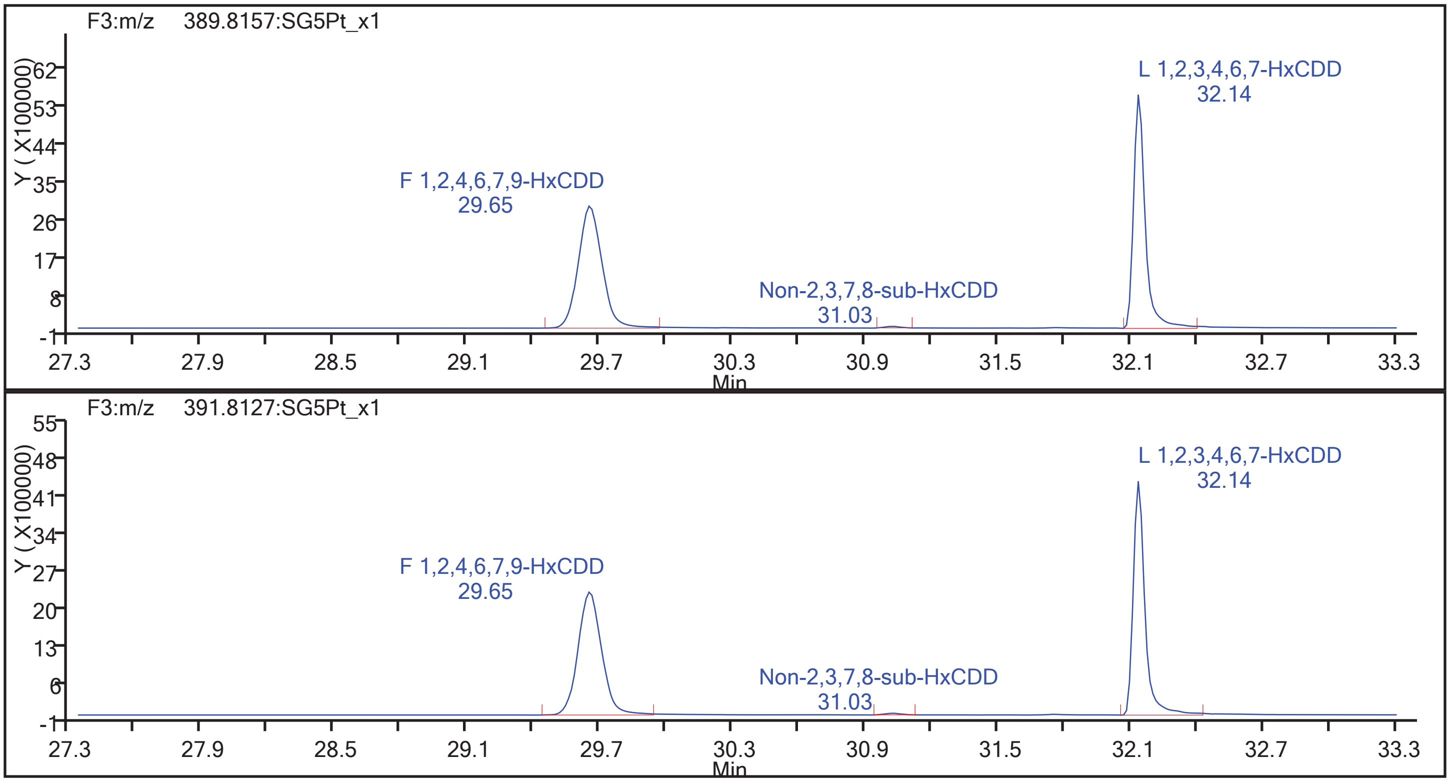


Report Date: 13-Nov-2017 13:33:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

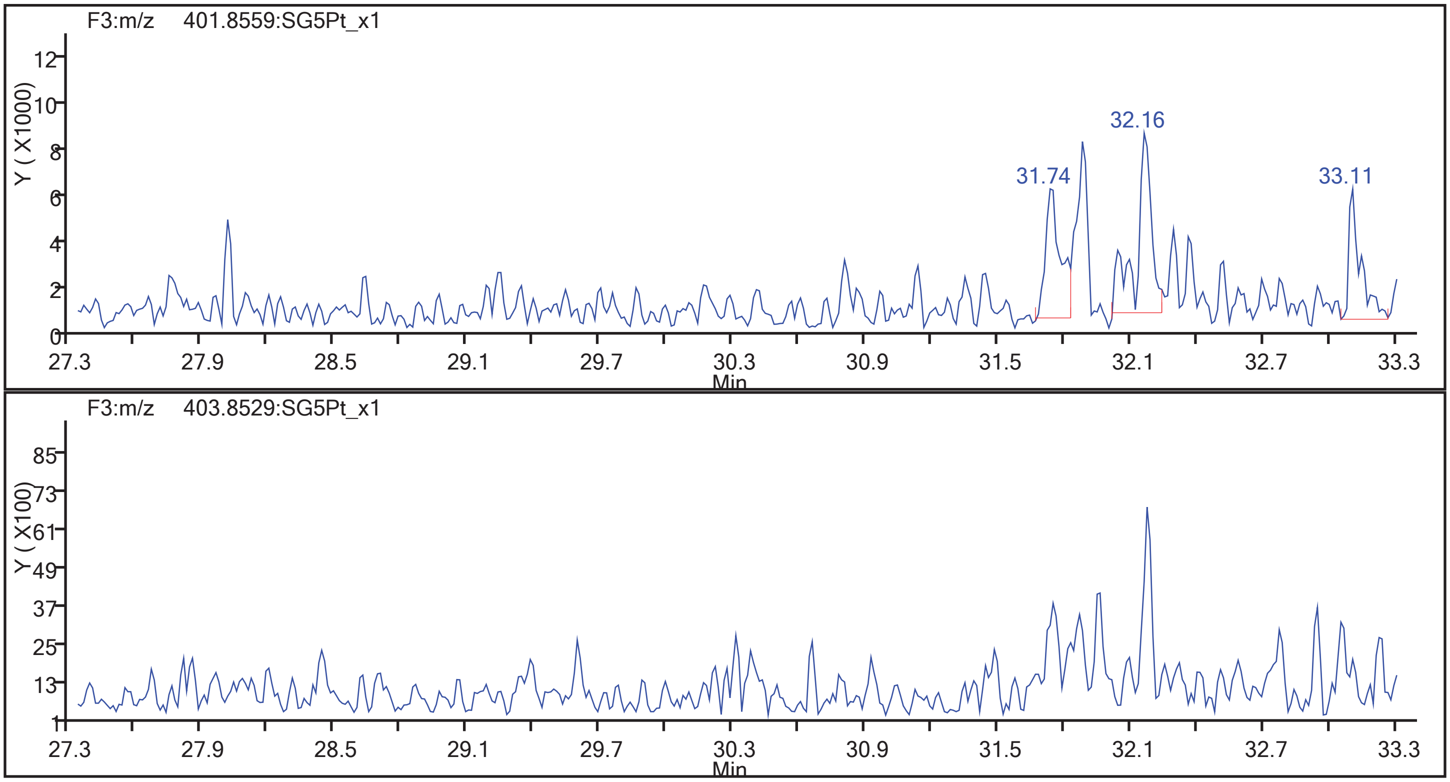
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD



HxCDD Standards



Report Date: 13-Nov-2017 13:33:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d

Injection Date: 11-Nov-2017 12:35:08 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

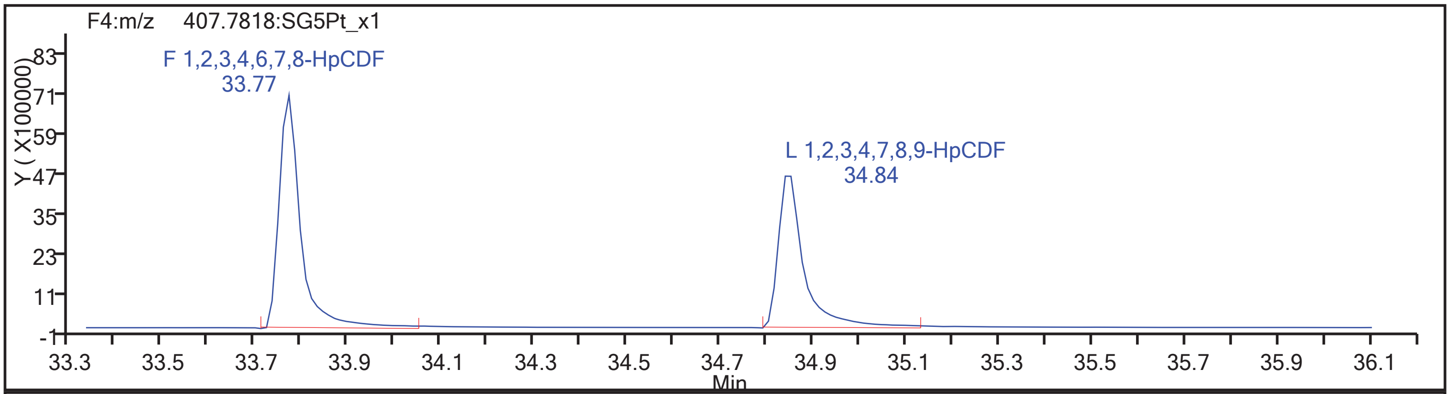
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

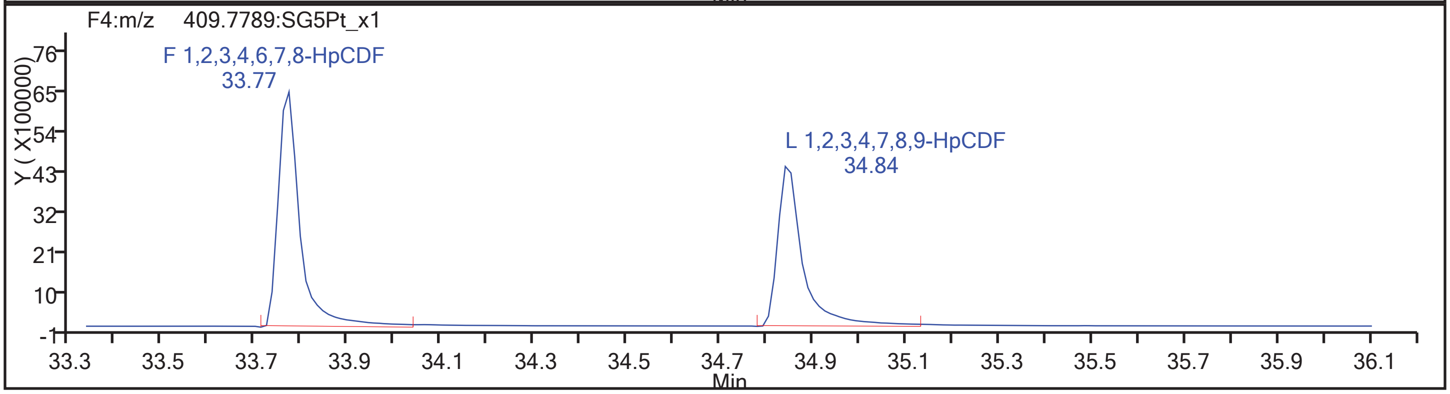
Client ID:

Worklist#: 194085 Sample Line#: 66

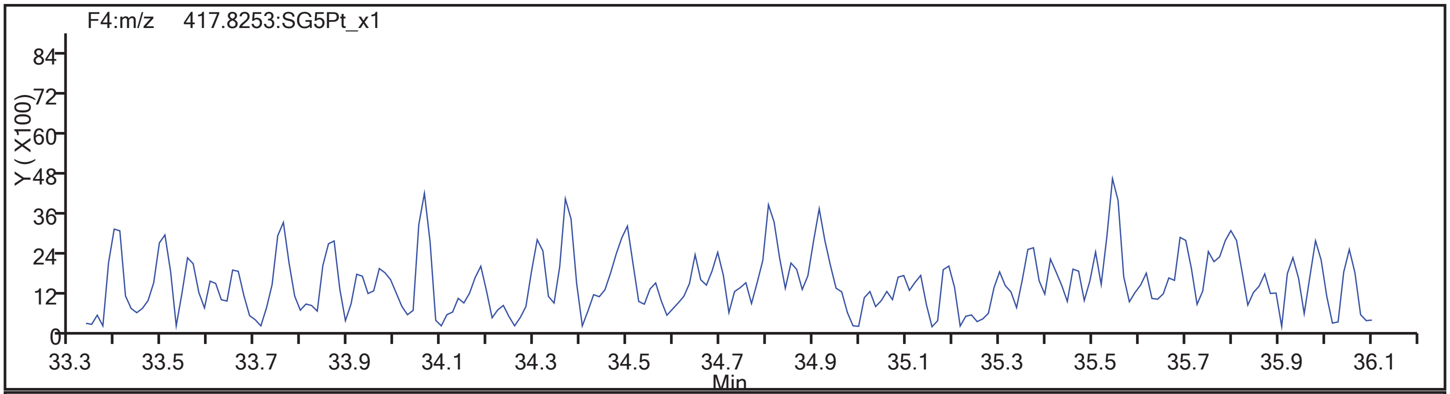
Column Type: DB-5 Column Dia: 0.32 mm

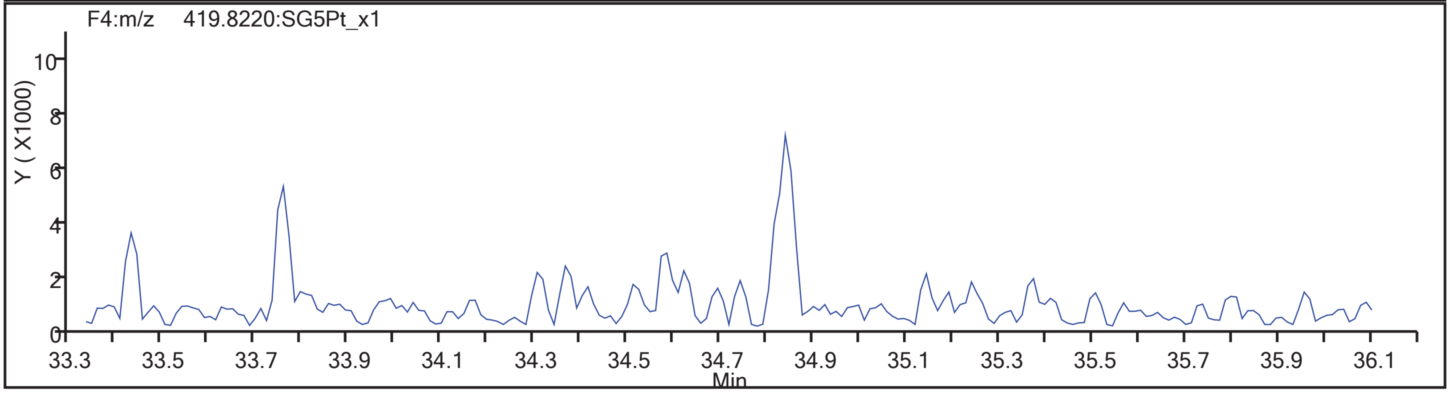
HpCDF





HpCDF Standards



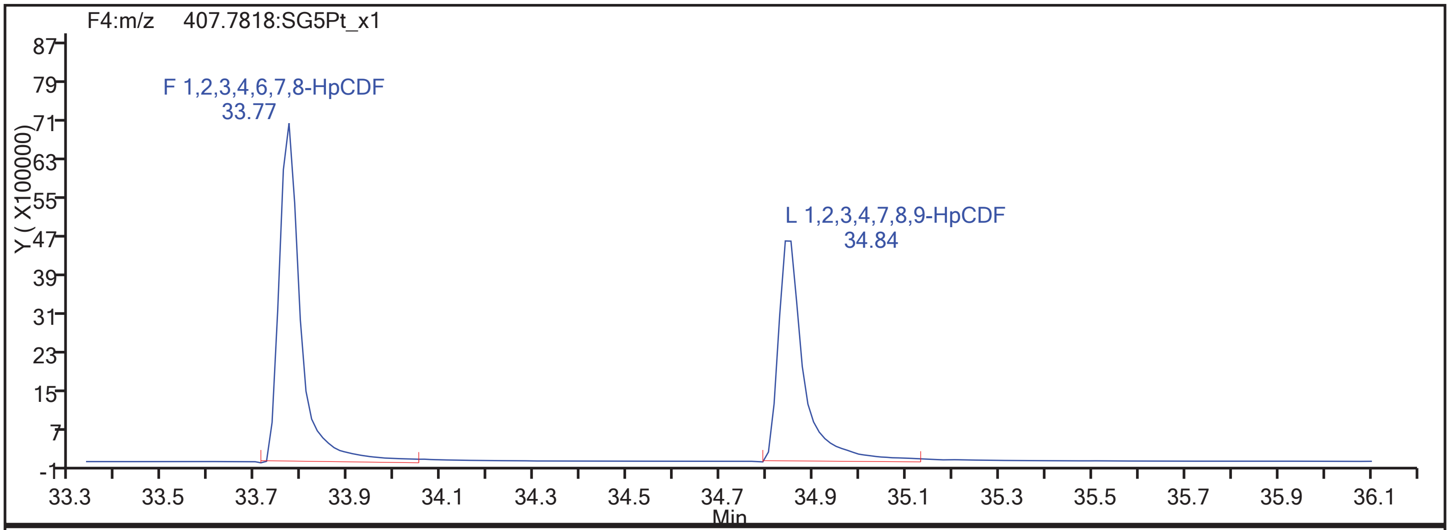


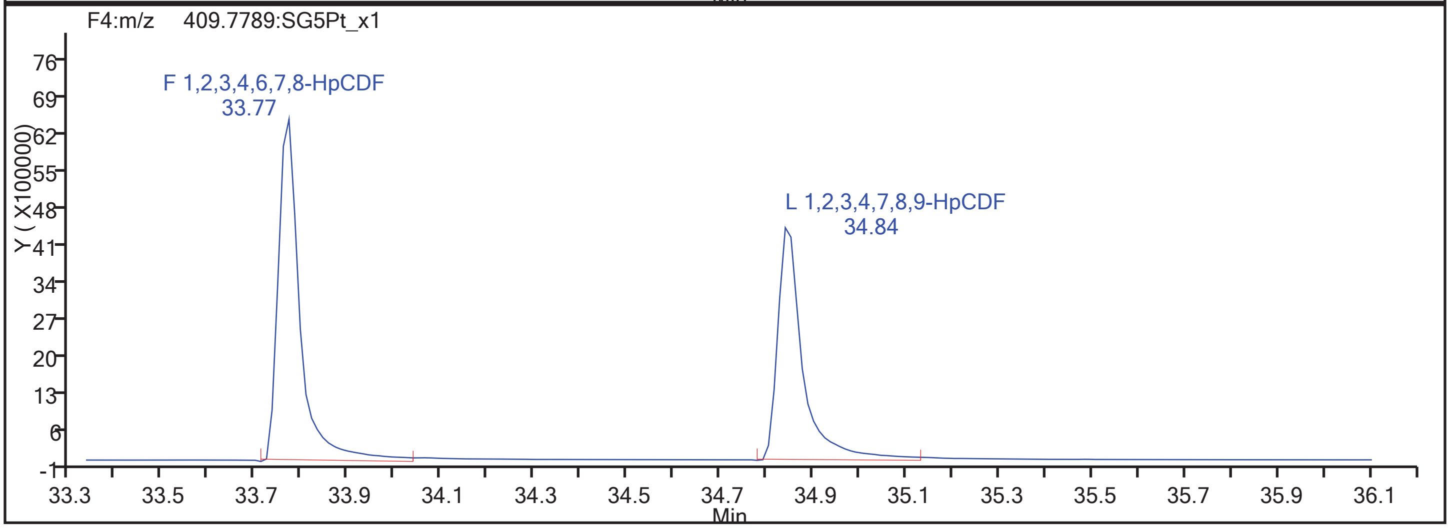
Report Date: 13-Nov-2017 13:33:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

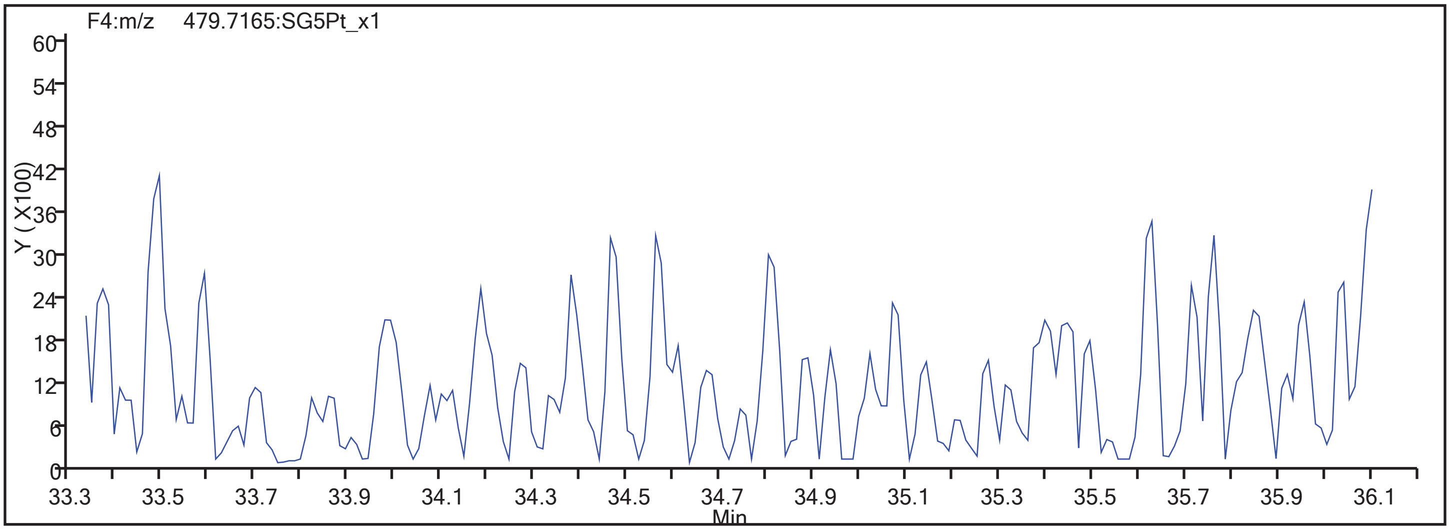
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass



Report Date: 13-Nov-2017 13:33:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d

Injection Date: 11-Nov-2017 12:35:08 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

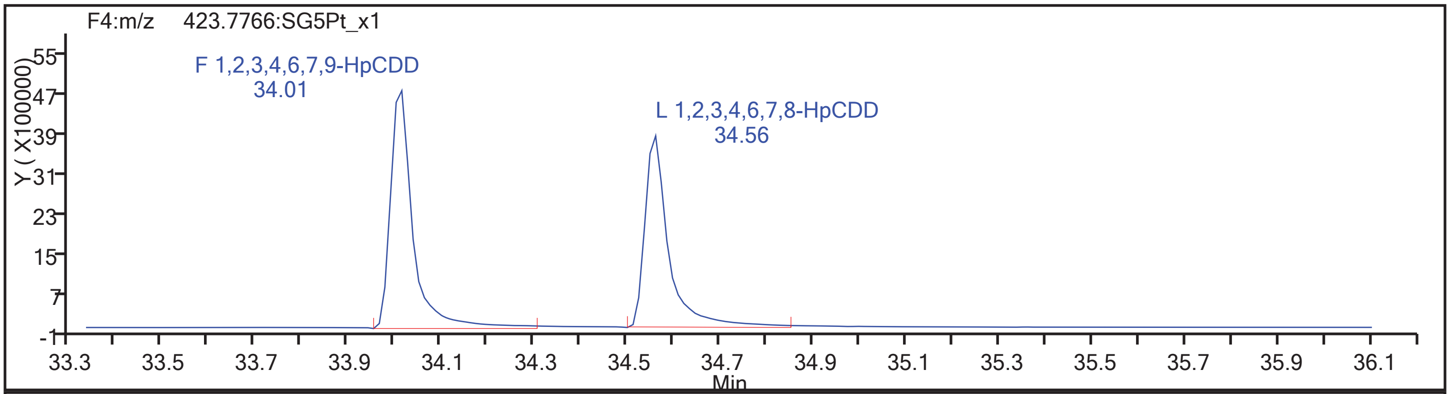
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

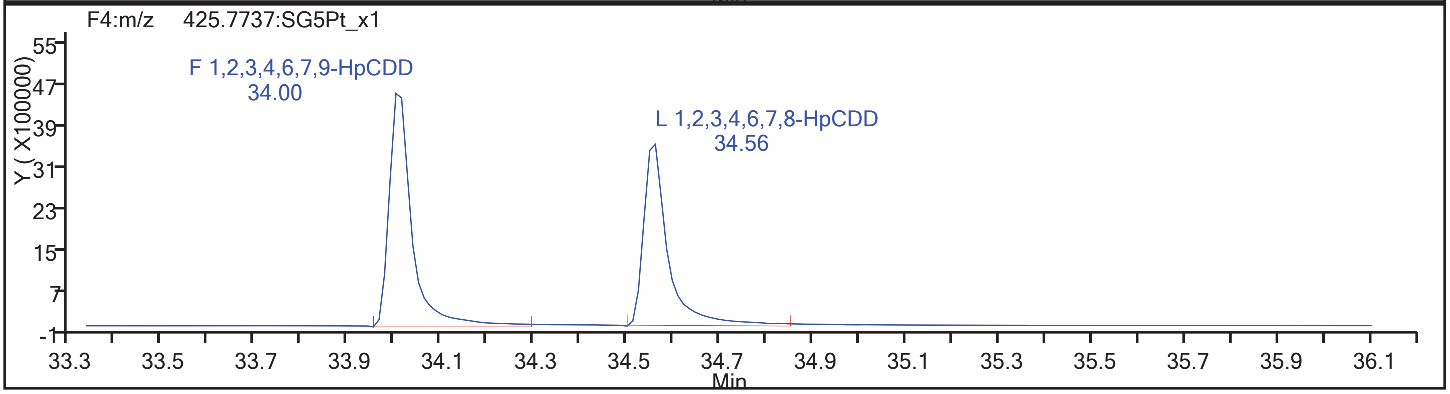
Client ID:

Worklist#: 194085 Sample Line#: 66

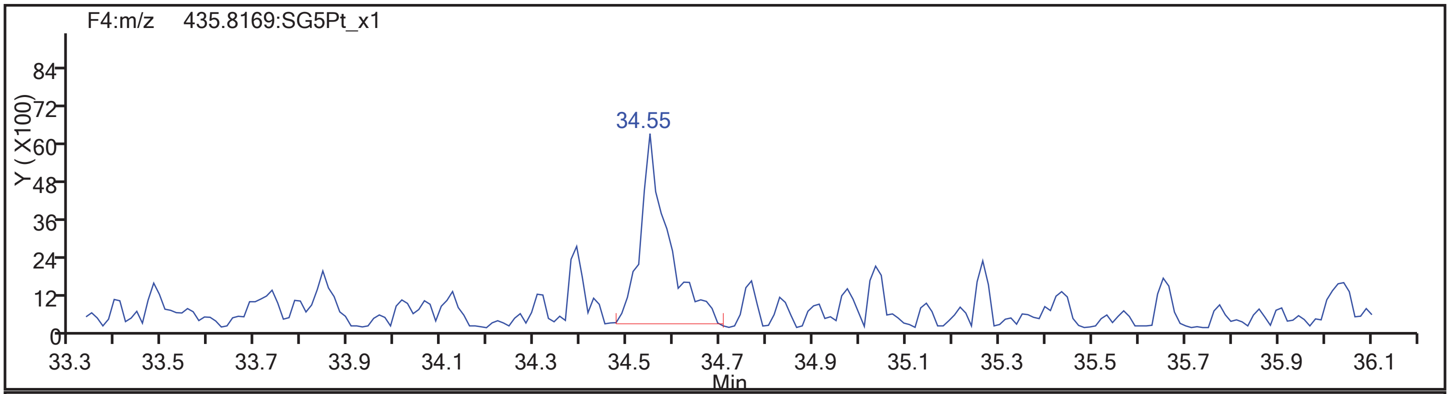
Column Type: DB-5 Column Dia: 0.32 mm

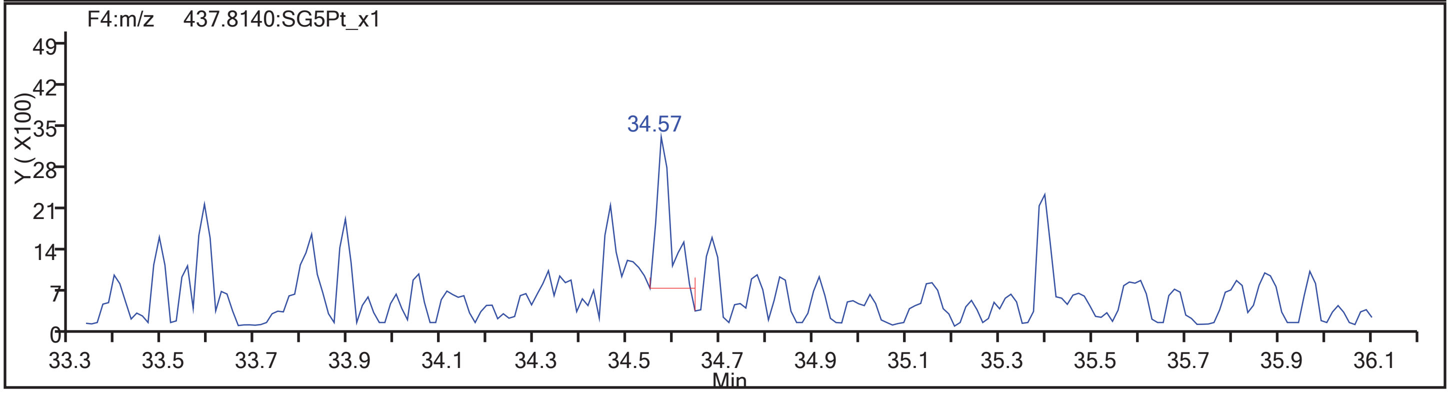
HpCDD





HpCDD Standards

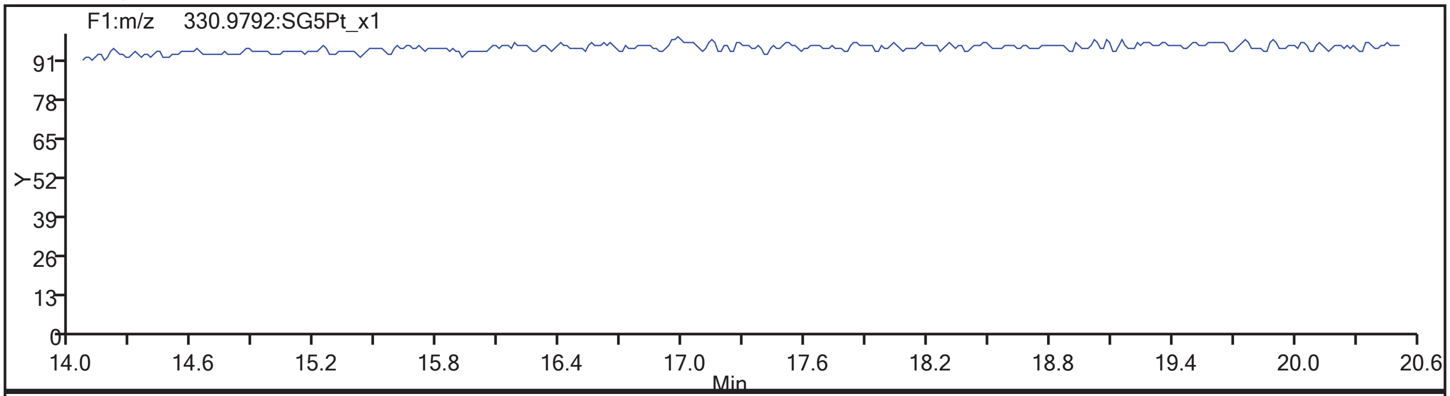


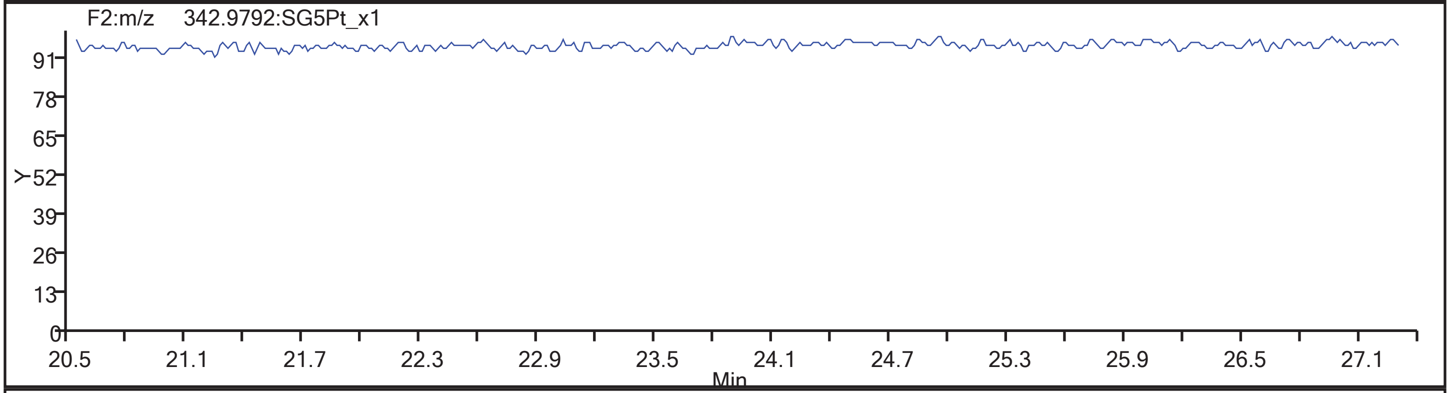


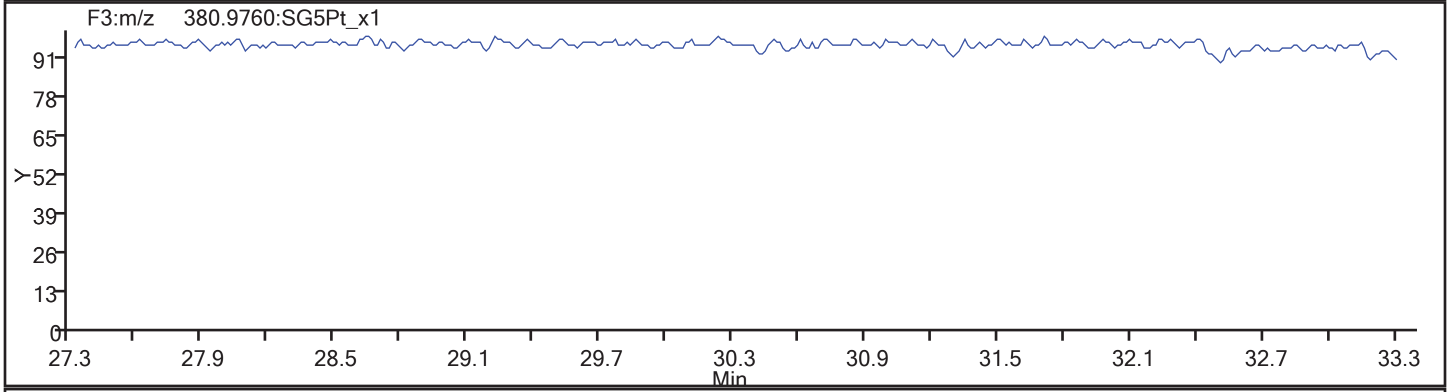
Report Date: 13-Nov-2017 13:33:12 Chrom Revision: 2.2 16-Aug-2017 16:24:46

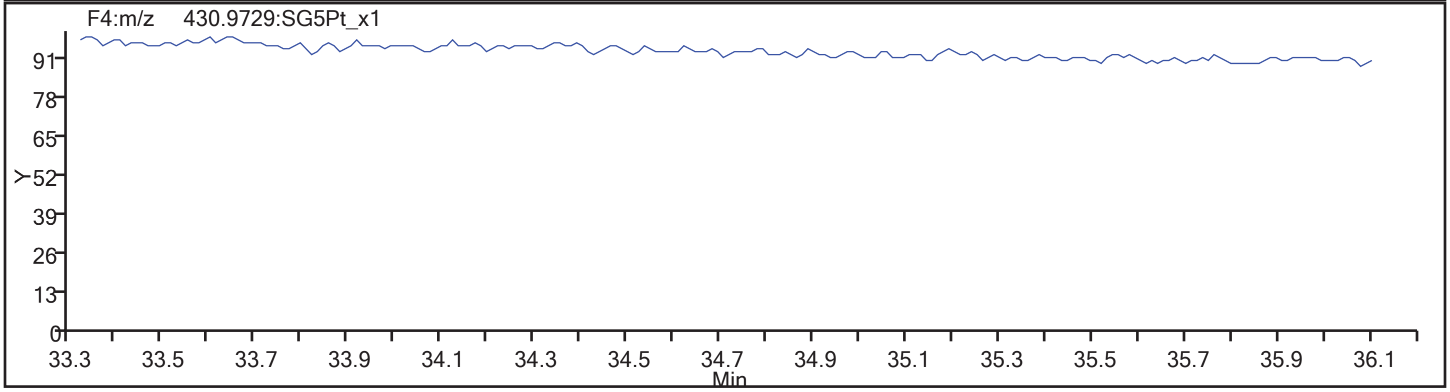
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm



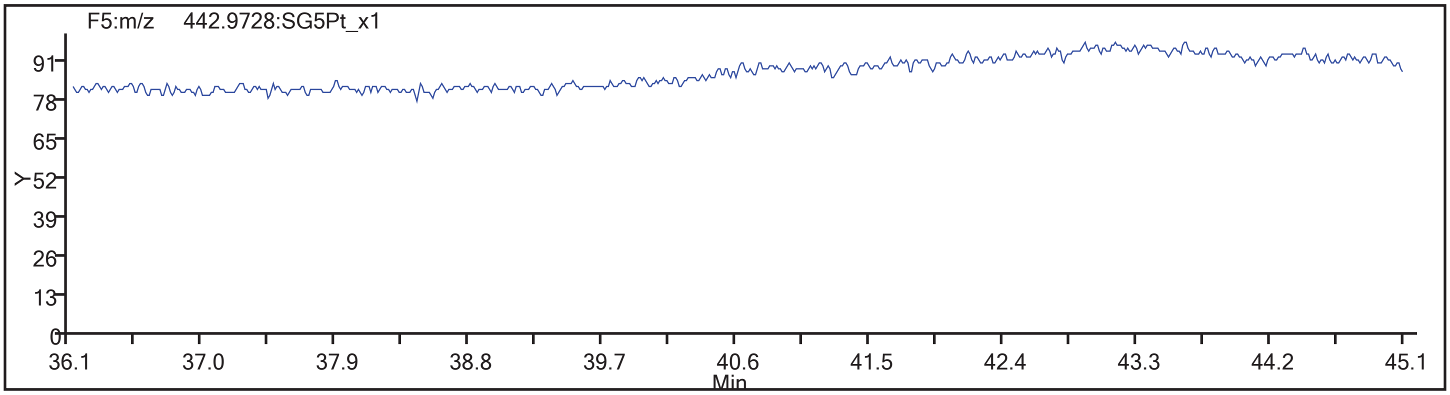






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_66.d		
Injection Date:	11-Nov-2017 12:35:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194085	Sample Line#:	66
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 13-Nov-2017 13:31:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 11-Nov-2017 23:04:47 ALS Bottle#: 1 Worklist Smp#: 79
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 110917F WDM HRDXNCP_00034
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:31:48 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: shardaa Date: 12-Nov-2017 10:01:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.385	48267152	0.77	1.2741					0.00	
2,3,7,8-TCDF	17.415	108384368	0.77	1.1341	79.2	79.2	0.3953	0.3953		
A Non-2,3,7,8-sub-TCDF	17.105						0.0	0.0		
S Total TCDF					79.2	79.2	0.3953	0.3953		
D 13C-2,3,7,8-TCDD	18.095	33473900	0.79	0.9921					0.00	
2,3,7,8-TCDD	18.126	34423837	0.81	0.9993	41.2	41.2	0.2152	0.2152		
A Non-2,3,7,8-sub-TCDD	17.559						0.0	0.0		
S Total TCDD					41.2	41.2	0.2152	0.2152		
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.161	431804	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.419						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.261						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.899	226632	1.24	0.0000						RQ
S Total HxCDD										RQ
1,2,3,4,6,7,8-HpCDF	33.770	35418704	1.06	1.6399						
1,2,3,4,7,8,9-HpCDF	34.852	27074052	1.06	1.3302						
A Non-2,3,7,8-sub-HpCDF	34.311						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.560	21270936	1.01	0.9932						
A Non-2,3,7,8-sub-HpCDD	34.287						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.966	56969323	0.82							
1,3,6,8-TCDD	15.888	33135347	0.80							
2,3,4,7-TCDF	17.415	108384368	0.77							
1,2,3,7-TCDD	18.005	31054521	0.79							
1,2,3,9-TCDD	18.277	36374758	0.80							
1,2,3,9-TCDF	18.277	47360320	0.78							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.229	15006230								
1,2,8,9-TCDF	19.244	49970084	0.76							
1,3,4,6,8-PeCDF	19.517	47180707	1.61							
1,2,4,7,9-PeCDD	21.292	29440839	1.58							
1,2,3,8,9-PeCDD	25.546	28625112	1.57							
1,2,3,8,9-PeCDF	25.765	38222506	1.61							
1,2,3,4,6,8-HxCDF	28.064	44777991	1.27							
1,2,4,6,7,9-HxCDD	29.648	31174879	1.27							
1,2,3,4,6,7-HxCDD	32.151	29202607	1.28							
1,2,3,4,8,9-HxCDF	32.457	39380527	1.26							
1,2,3,4,6,7,9-HpCDD	34.013	25600168	1.05							

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 11-Nov-2017 23:04:47 ALS Bottle#: 1 Worklist Smp#: 79
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 110917F WDM HRDXNCP_00034
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 13:31:48 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: shardaa Date: 12-Nov-2017 10:01:11

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.385	17.385	0	1.000	21022189	5115500	40914	102285	125		
317.9389	17.385	17.385	0	1.000	27244963	6781782	7660	19150	885	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415	17.415	0	1.002	47079971	10904549	22475	56187	485		
305.8987	17.415	17.415	0	1.002	61304397	14269114	30858	77145	462	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.105						22475	56187			
305.8987	17.105						30858	77145			
13C-2,3,7,8-TCDD											
331.9368	18.095	18.095	0	1.000	14807218	3453416	10725	26812	322		
333.9339	18.095	18.095	0	1.000	18666682	4487562	5299	13247	847	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.126	18.126	0	1.002	15448297	3671637	7352	18380	499		
321.8936	18.111	18.126	-1	1.001	18975540	4551461	9728	24320	468	0.81(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.559						7352	18380			
321.8936	17.559						9728	24320			
A F1 PeCDFs											
339.8597	20.001						1403	3507			
341.8567	20.001						2124	5310			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.465	23.161	-42	1.000	146678	21579	3601	9002	6		
341.8567	22.492	23.161	-40	1.000	122424	13285	3051	7627	4	1.20(1.32-1.78)	
339.8597	22.997	23.161	-10	1.000	115792	15294	3601	9002	4		
341.8567	23.024	23.161	-8	1.000	88918	11522	3051	7627	4	1.30(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.419						4411	11027			
357.8516	23.419						2565	6412			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.261						8290	20725			
375.8178	30.261						5920	14800			
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	31.019	30.899	7	1.000	150301	31687	5675	14187	6		
391.8127	31.019	30.899	7	1.000	101175	22460	4756	11890	5	1.49(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.770	33.770	0	1.000	18246153	5188217	29723	74307	175		
409.7789	33.770	33.770	0	1.000	17172551	5065548	29655	74137	171	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.852	34.852	0	1.000	13960697	3648071	29723	74307	123		
409.7789	34.852	34.852	0	1.000	13113355	3453639	29655	74137	116	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.311						29723	74307			
409.7789	34.311						29655	74137			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.560	34.560	0	1.000	10696432	2829626	21419	53547	132		
425.7737	34.560	34.560	0	1.000	10574504	2856368	22746	56865	126	1.01(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.287						21419	53547			
425.7737	34.287						22746	56865			
1,3,6,8-TCDF											
303.9016	14.966	14.966	0		25644708	7438762	22475	56187	331		
305.8987	14.966	14.966	0		31324615	9643110	30858	77145	312	0.82(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.888	15.888	0		14722198	4393578	7352	18380	598		
321.8936	15.888	15.888	0		18413149	5493706	9728	24320	565	0.80(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.415	17.415	0		47079971	10904549	22475	56187	485		
305.8987	17.415	17.415	0		61304397	14269114	30858	77145	462	0.77(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.005	18.005	0		13726610	3327839	7352	18380	453		
321.8936	18.005	18.005	0		17327911	4122850	9728	24320	424	0.79(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.277	18.277	0		16129707	3605995	7352	18380	490		
321.8936	18.277	18.277	0		20245051	4587963	9728	24320	472	0.80(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.277	18.277	0		20770336	4876717	22475	56187	217		
305.8987	18.277	18.277	0		26589984	6316805	30858	77145	205	0.78(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.229	19.229	0		15006230	3258663	7352	18380	443		
1,2,8,9-TCDF											
303.9016	19.244	19.244	0		21636749	4739994	22475	56187	211		
305.8987	19.229	19.244	-1		28333335	6168323	30858	77145	200	0.76(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,3,4,6,8-PeCDF											
339.8597	19.517	19.517	0		29110406	6545597	1403	3507	4665		
341.8567	19.517	19.517	0		18070301	4033667	2124	5310	1899	1.61(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	21.292	21.292	0		18022115	3182156	4411	11027	721		
357.8516	21.292	21.292	0		11418724	2042576	2565	6412	796	1.58(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.546	25.546	0		17473765	2461649	4411	11027	558		
357.8516	25.533	25.546	-1		11151347	1574913	2565	6412	614	1.57(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.765	25.765	0		23570587	3236061	3601	9002	899		
341.8567	25.765	25.765	0		14651919	2034042	3051	7627	667	1.61(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	28.064	28.064	0		25032261	3194547	8290	20725	385		
375.8178	28.064	28.064	0		19745730	2513497	5920	14800	425	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.648	29.648	0		17443144	2297634	5675	14187	405		
391.8127	29.648	29.648	0		13731735	1827024	4756	11890	384	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.151	32.151	0		16375904	4115362	5675	14187	725		
391.8127	32.137	32.151	-1		12826703	3175605	4756	11890	668	1.28(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.457	32.457	0		21953731	5918141	8290	20725	714		
375.8178	32.457	32.457	0		17426796	4646469	5920	14800	785	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.013	34.013	0		13129686	3755547	21419	53547	175		
425.7737	34.013	34.013	0		12470482	3632589	22746	56865	160	1.05(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Lims ID:	WDM		
Client ID:			
Inject. Date:	11-Nov-2017 23:04:47	Dil. Factor:	1.0000
Sample Type:	WDM, Window Defining Mix		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	79

Non-2,3,7,8-sub-PeCDF, RT: 23.161

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163				
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.465	146678	21579	122424	13285		1.20	R
22.997	115792	15294	88918	11522		1.30	R
Signal Totals:							
	262470	36873	211342	24807			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	473812	61680				1.24	RQ
	431804	60661					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (473812 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (431804 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Lims ID:	WDM		
Client ID:			
Inject. Date:	11-Nov-2017 23:04:47	Dil. Factor:	1.0000
Sample Type:	WDM, Window Defining Mix		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194086	Lims Sample ID:	79

Non-2,3,7,8-sub-HxCDD, RT: 30.899

Initial Calibration RRF | IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950				
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.019	150301	31687	101175	22460		1.49	R
Signal Totals:							
	150301	31687	101175	22460			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	251476	54147				1.49	RQ
	226632	50310					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (251476 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (226632 * 0.0) / (0 * 0.000)

QC Flag Legend

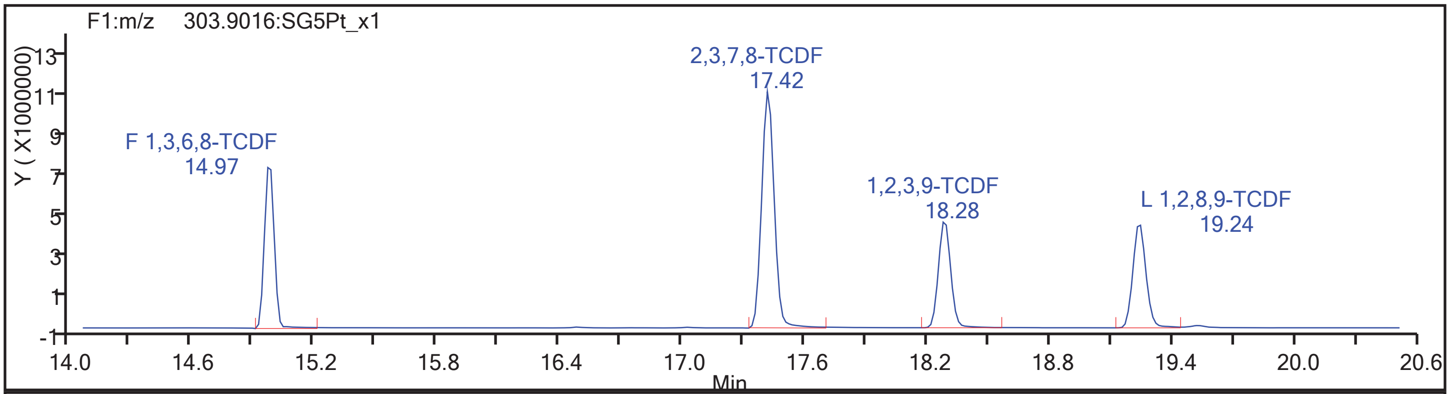
Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

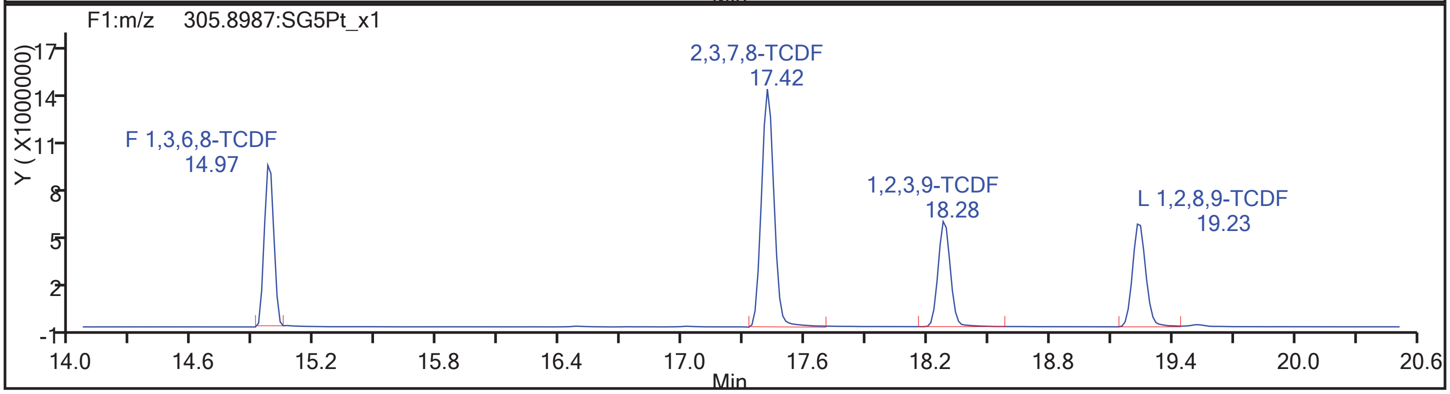
Report Date: 13-Nov-2017 13:31:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

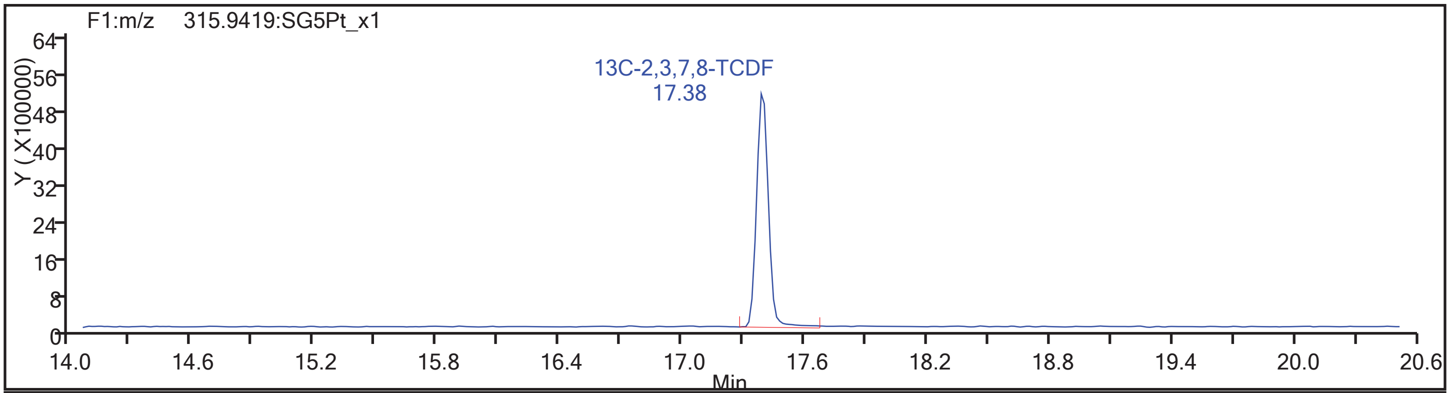
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d
Injection Date: 11-Nov-2017 23:04:47 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086 Sample Line#: 79
Column Type: DB-5 Column Dia: 0.32 mm

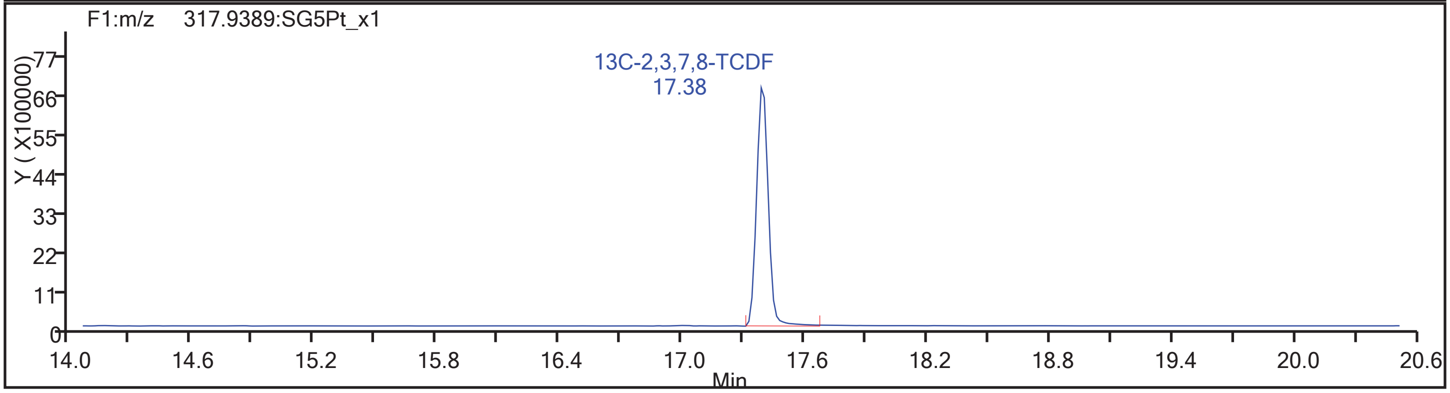
TCDF





TCDF Standards



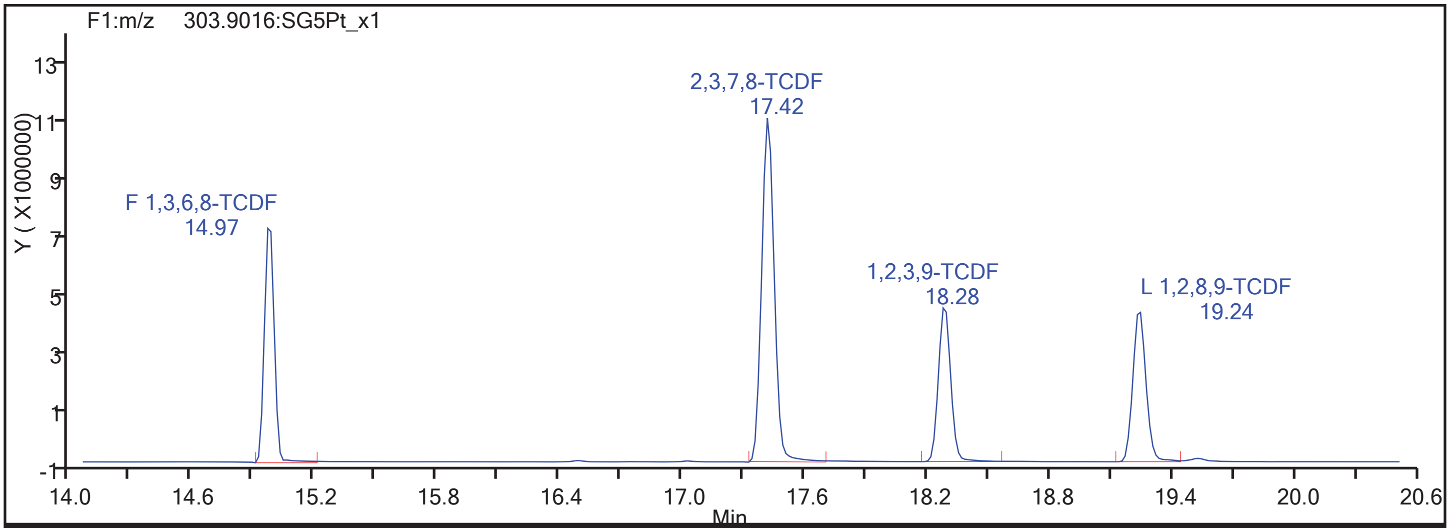


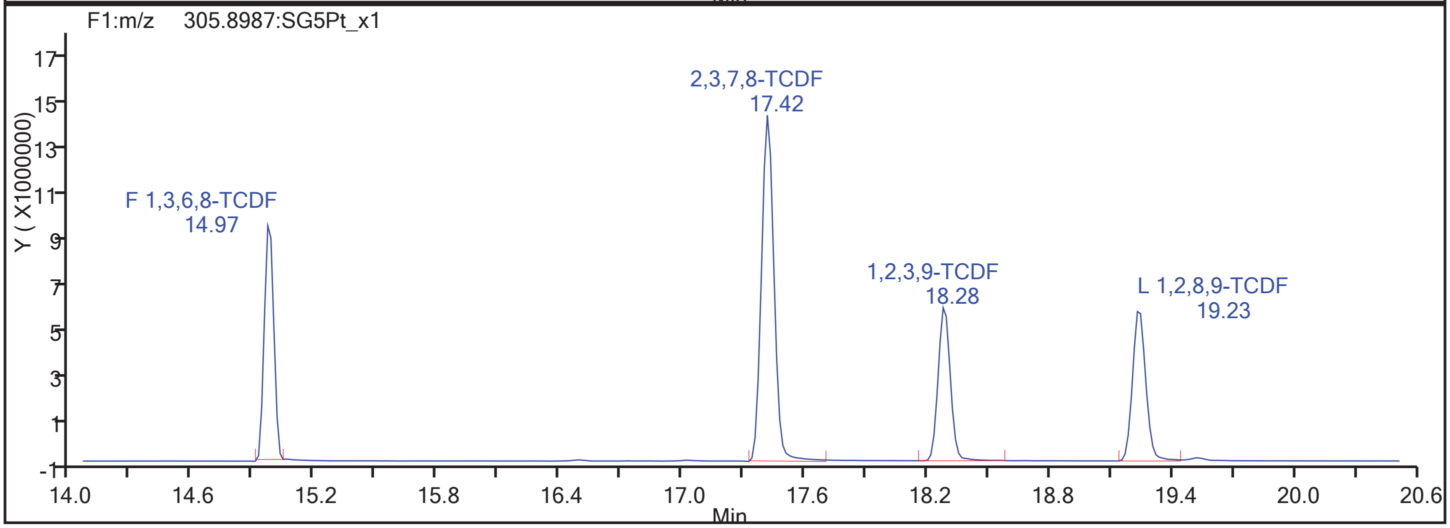
Report Date: 13-Nov-2017 13:31:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

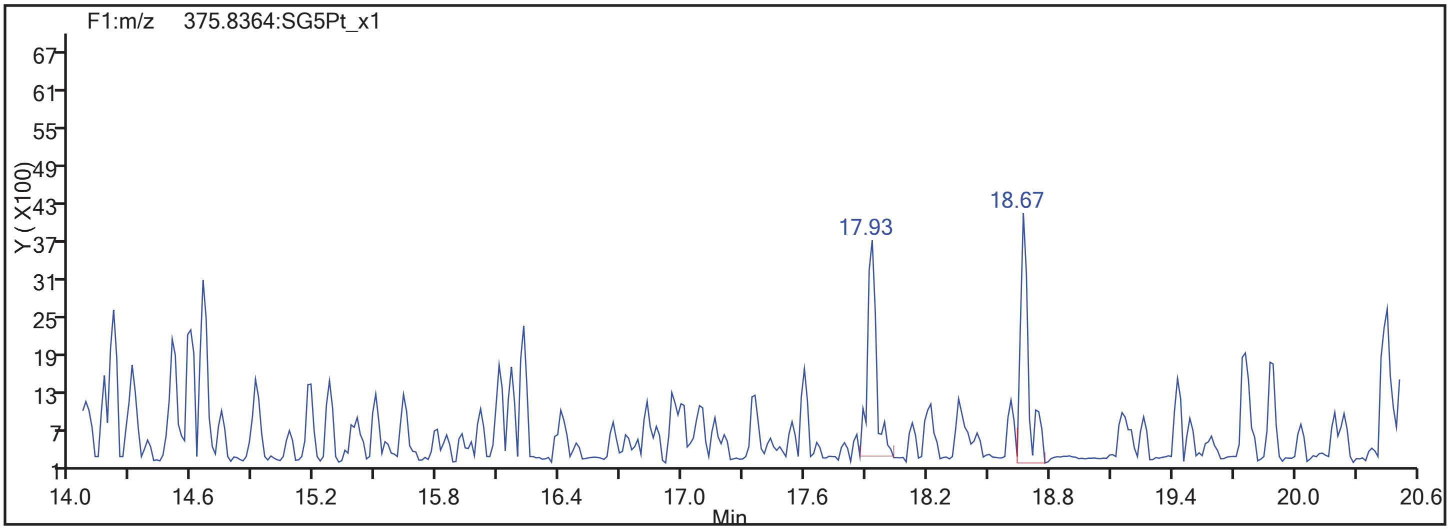
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Injection Date:	11-Nov-2017 23:04:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	79
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

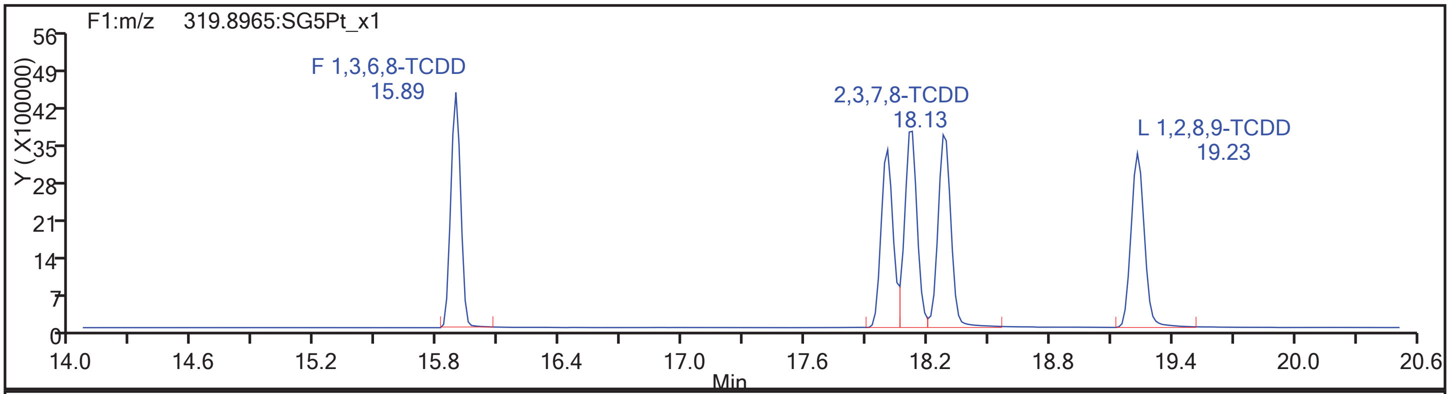


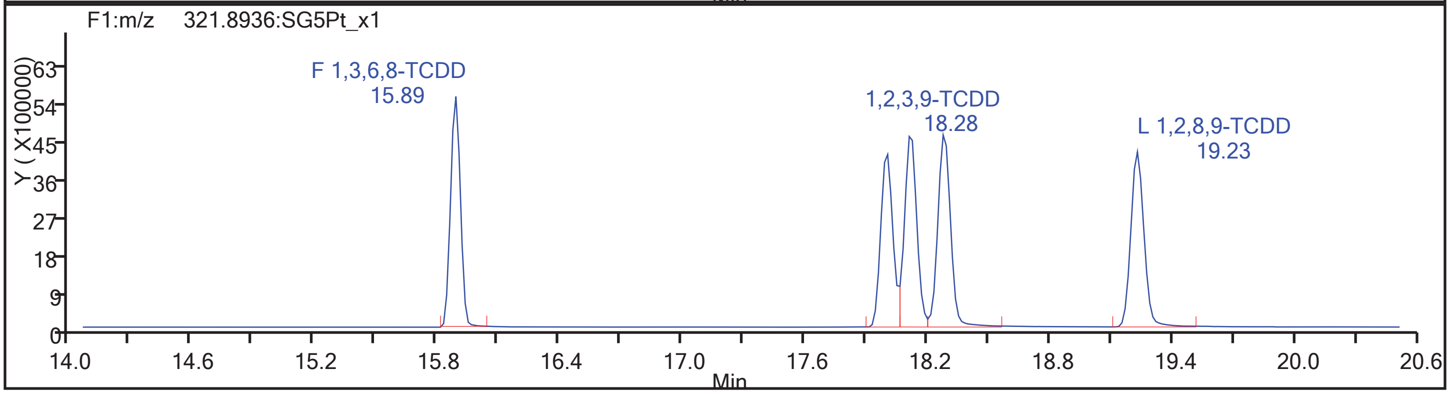
Report Date: 13-Nov-2017 13:31:49		Chrom Revision: 2.2 16-Aug-2017 16:24:46	

TestAmerica Sacramento

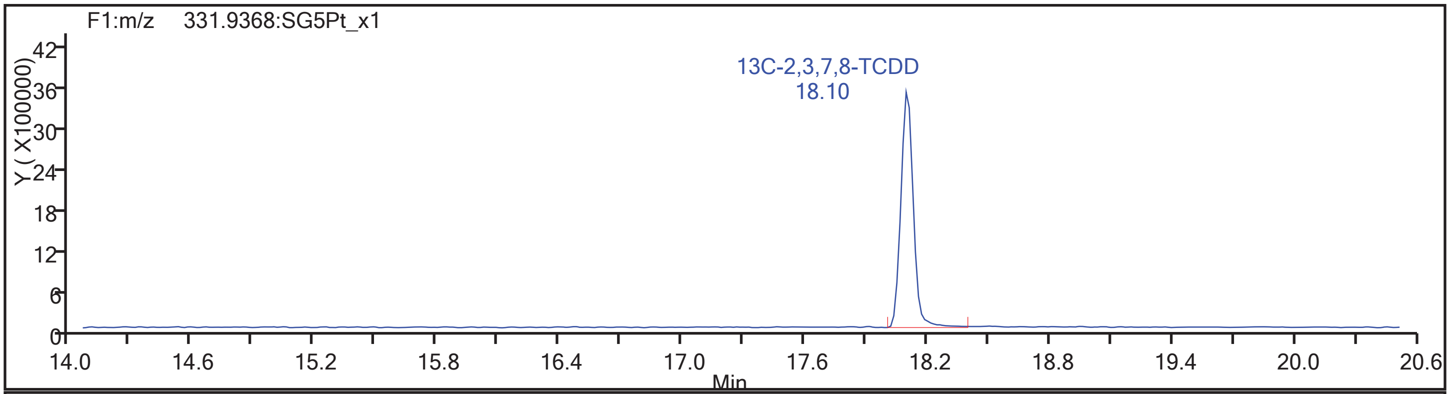
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Injection Date:	11-Nov-2017 23:04:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	79
Column Type:	DB-5	Column Dia:	0.32 mm

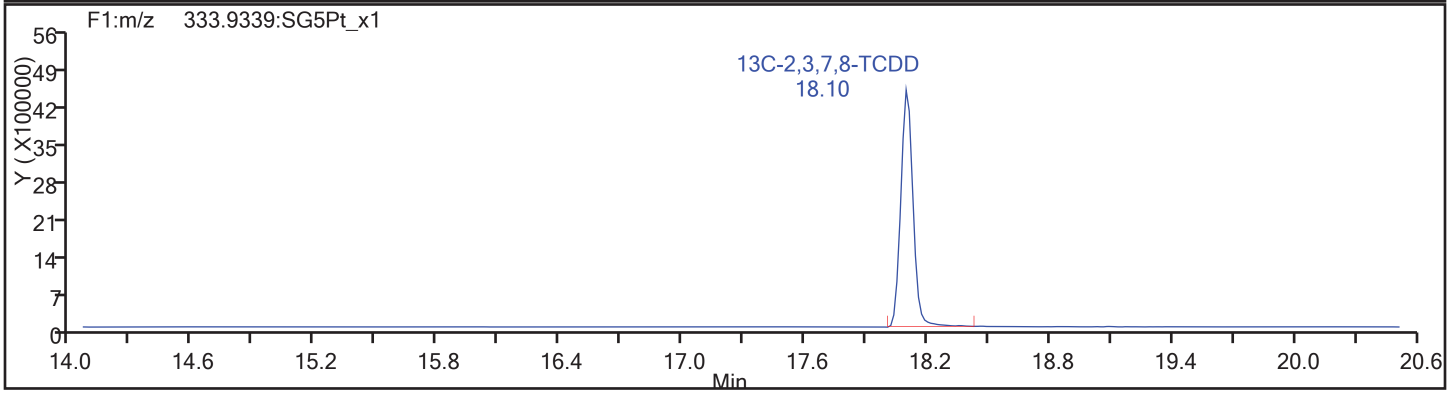
TCDD





TCDD Standards

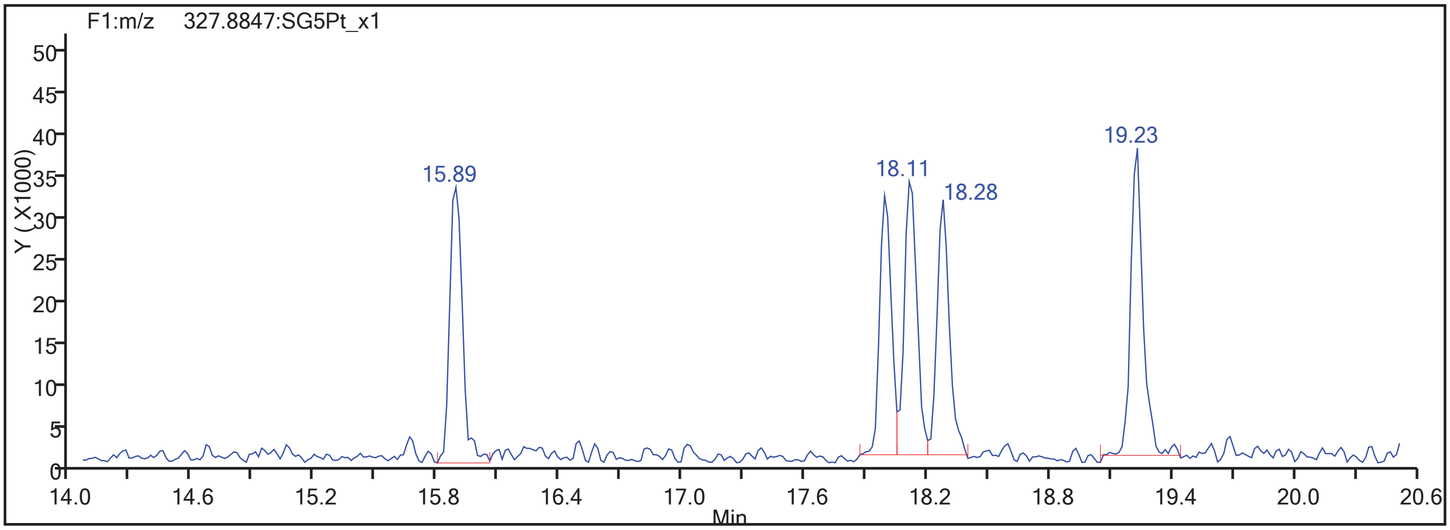




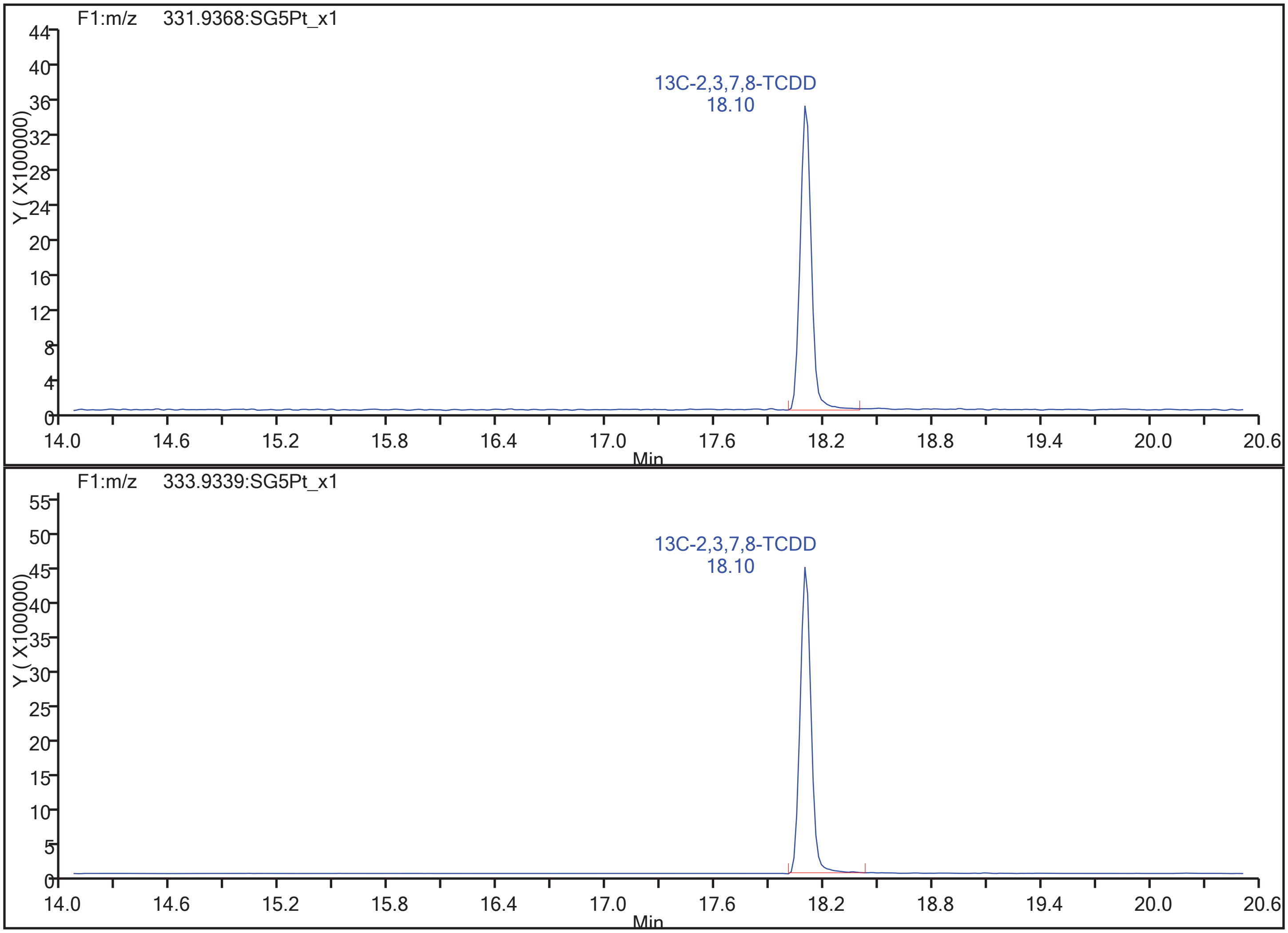
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Injection Date:	11-Nov-2017 23:04:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	79
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards

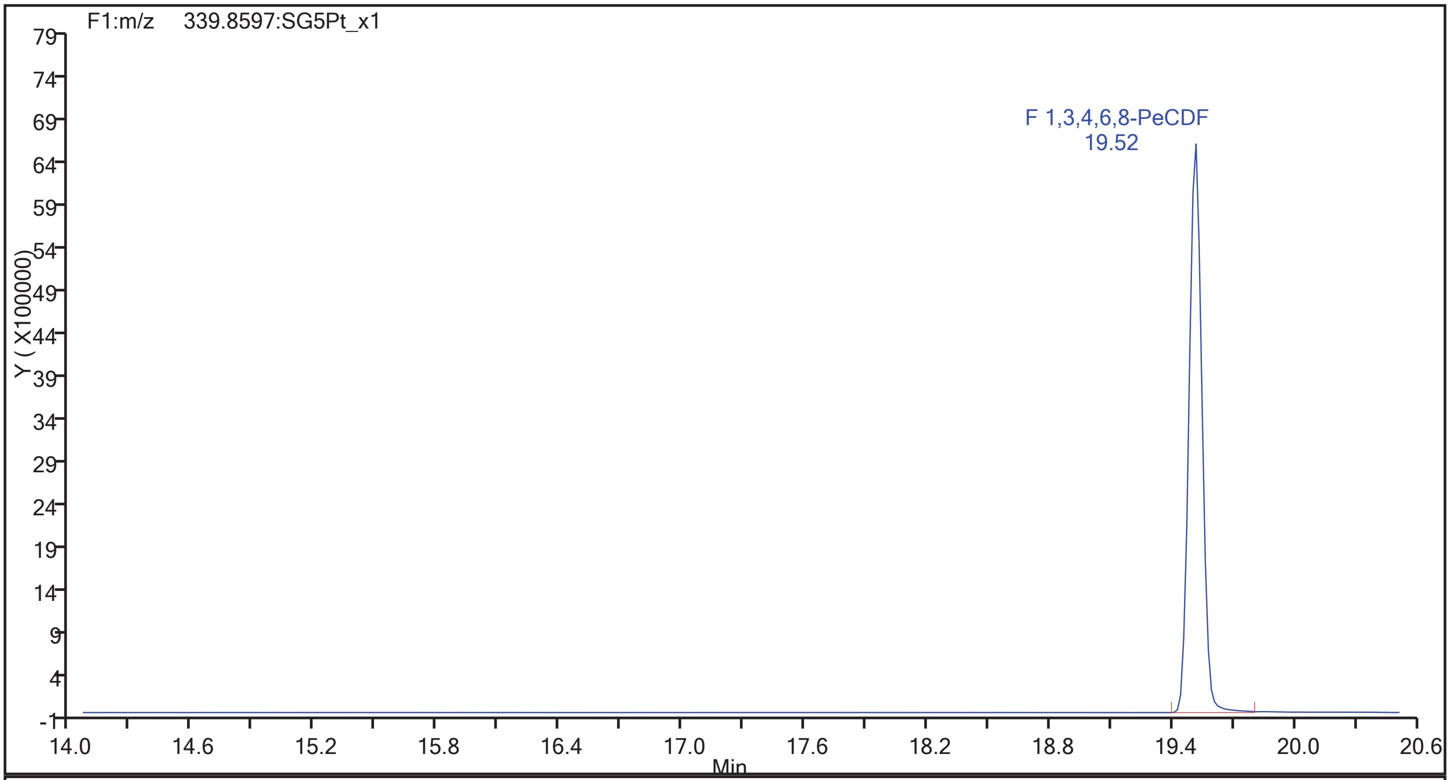


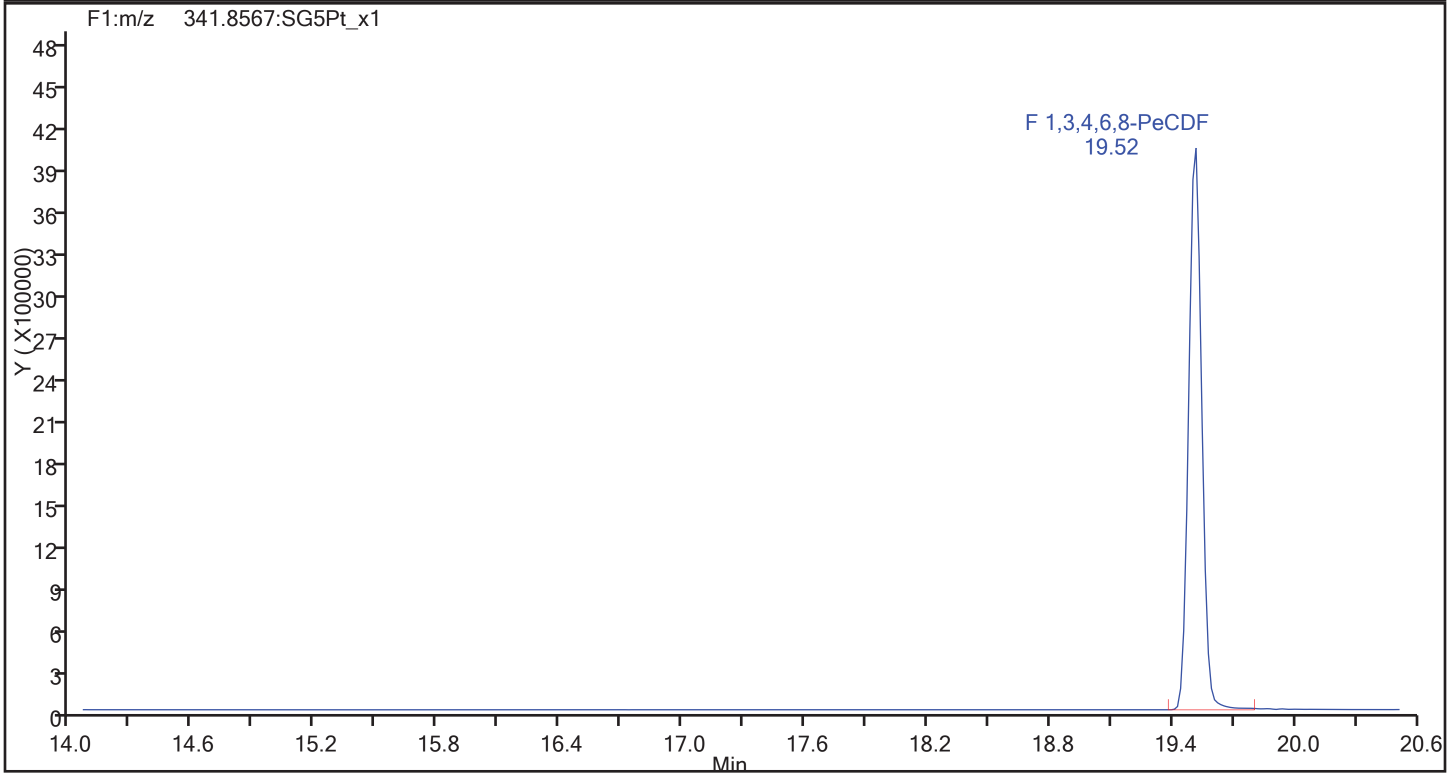
Report Date: 13-Nov-2017 13:31:49   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Injection Date:	11-Nov-2017 23:04:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	79
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



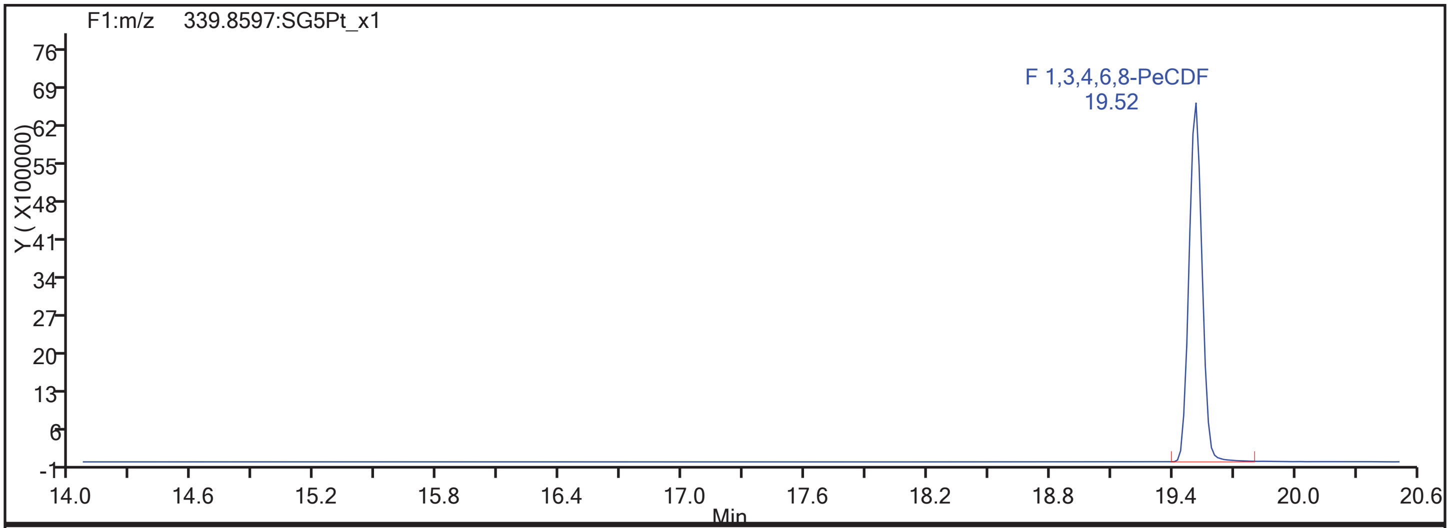


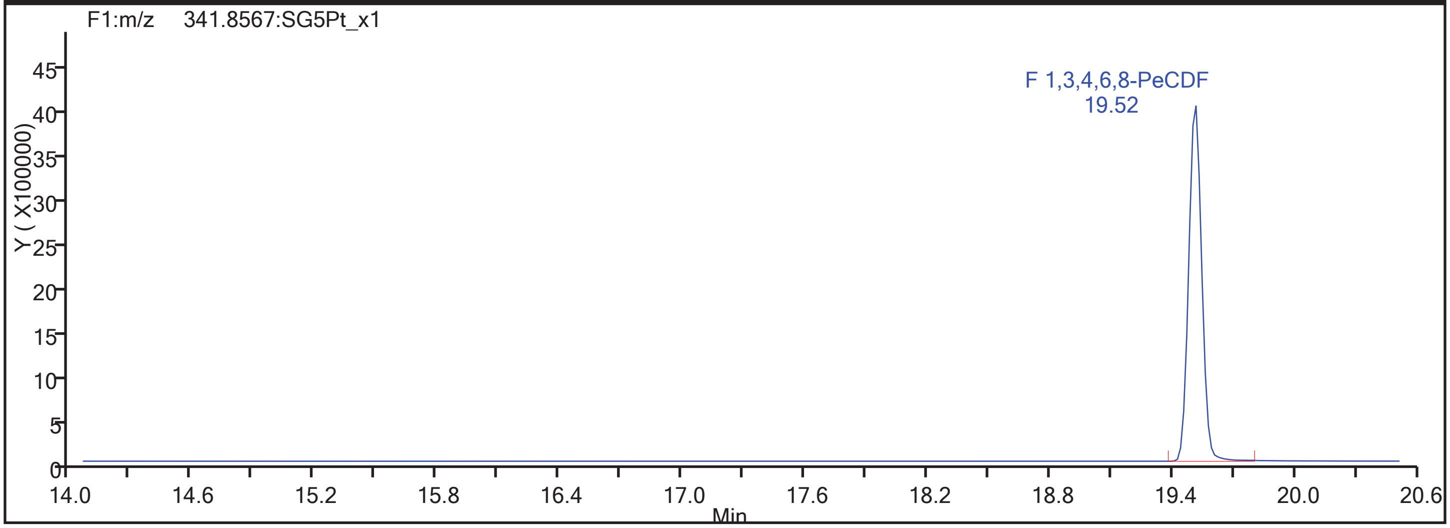
Report Date: 13-Nov-2017 13:31:49   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

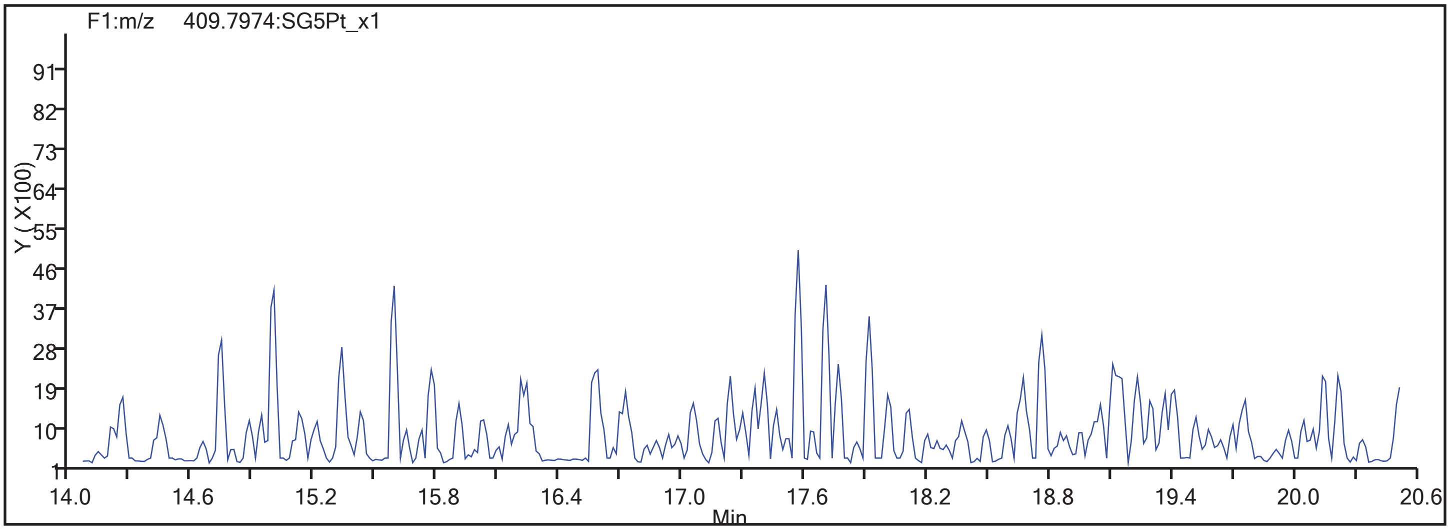
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Injection Date:	11-Nov-2017 23:04:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	79
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

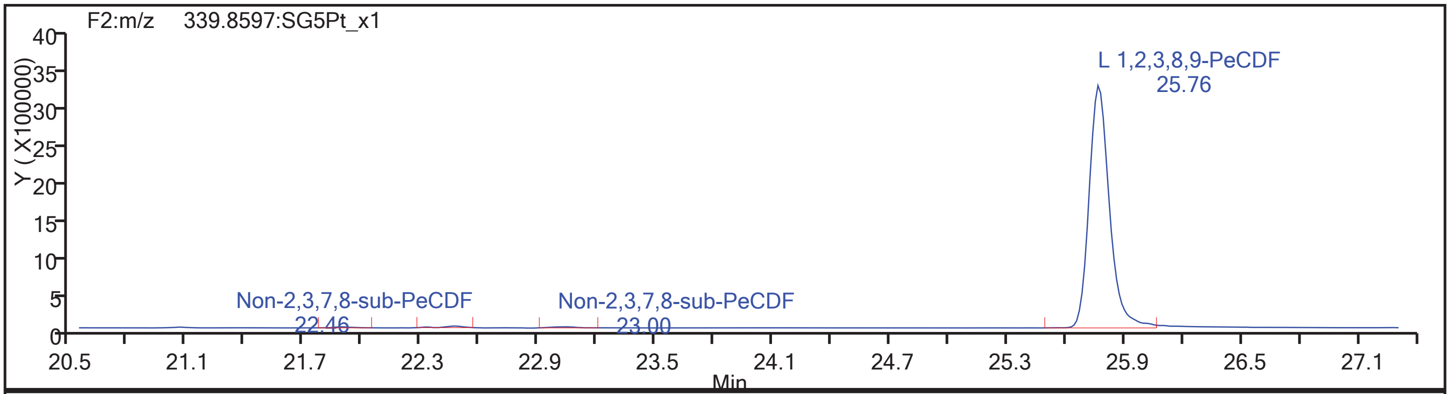


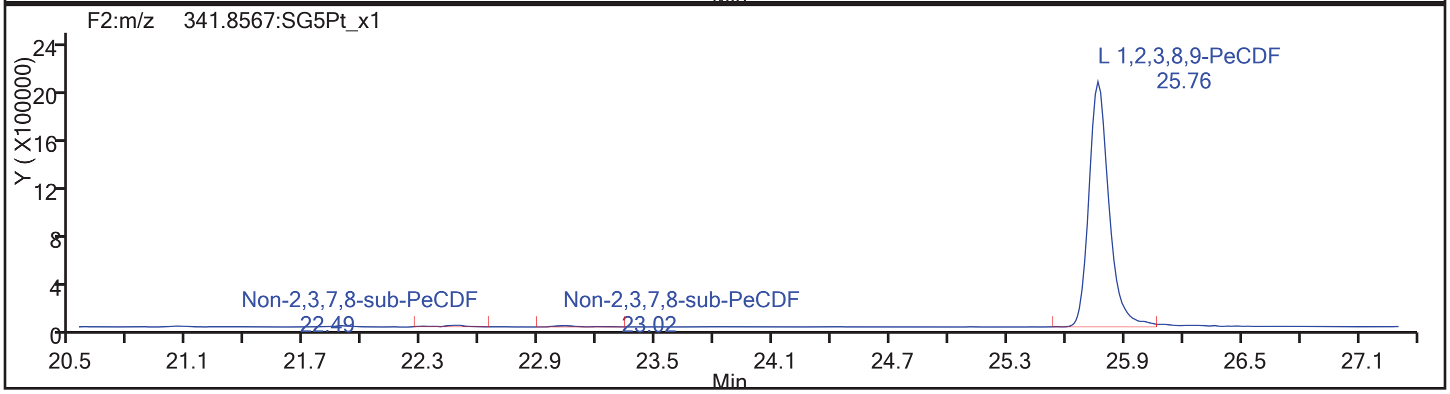
Report Date: 13-Nov-2017 13:31:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

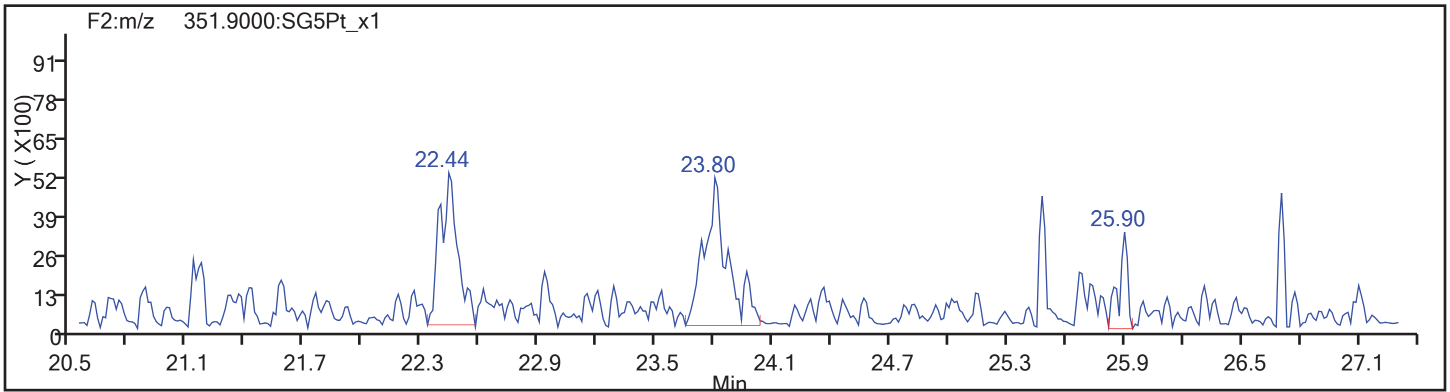
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d
Injection Date: 11-Nov-2017 23:04:47 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086 Sample Line#: 79
Column Type: DB-5 Column Dia: 0.32 mm

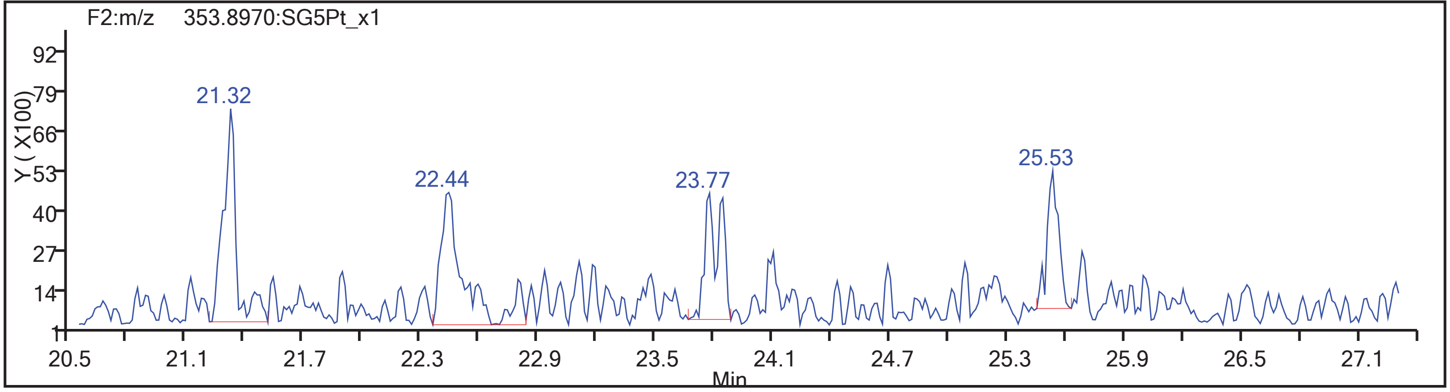
PeCDF





PeCDF Standards



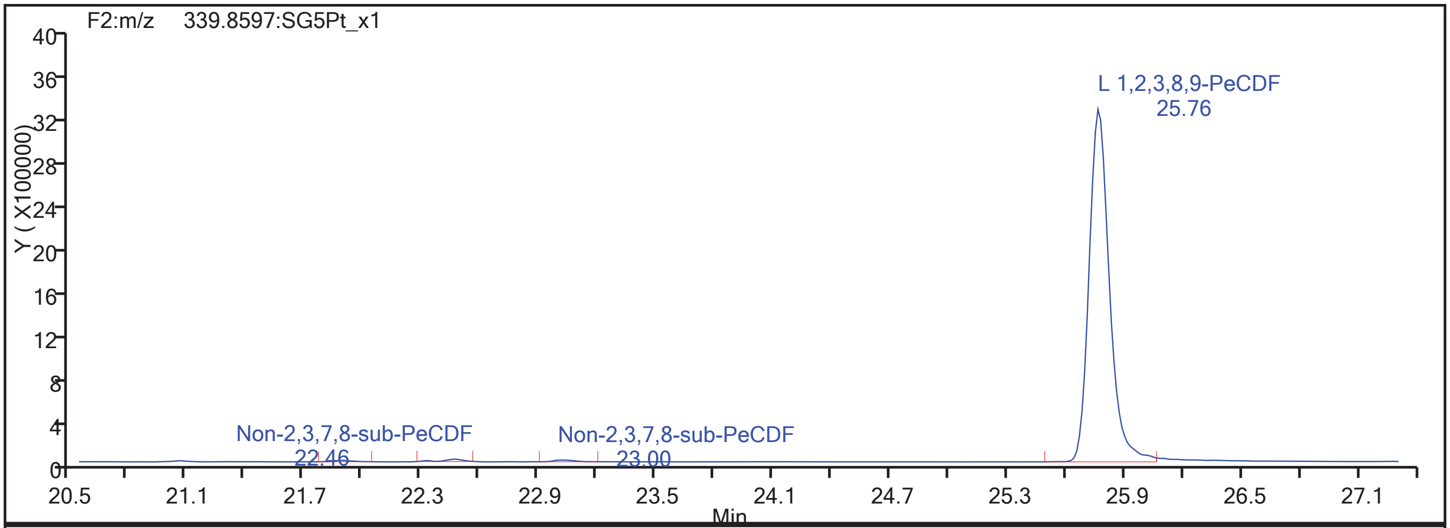


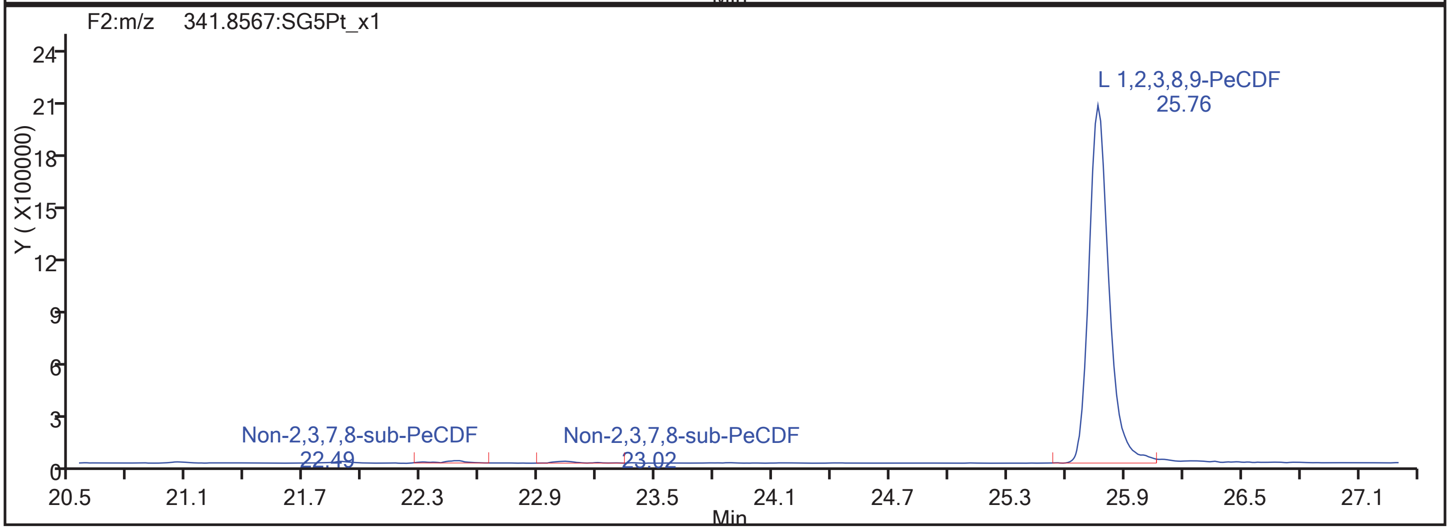
Report Date: 13-Nov-2017 13:31:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

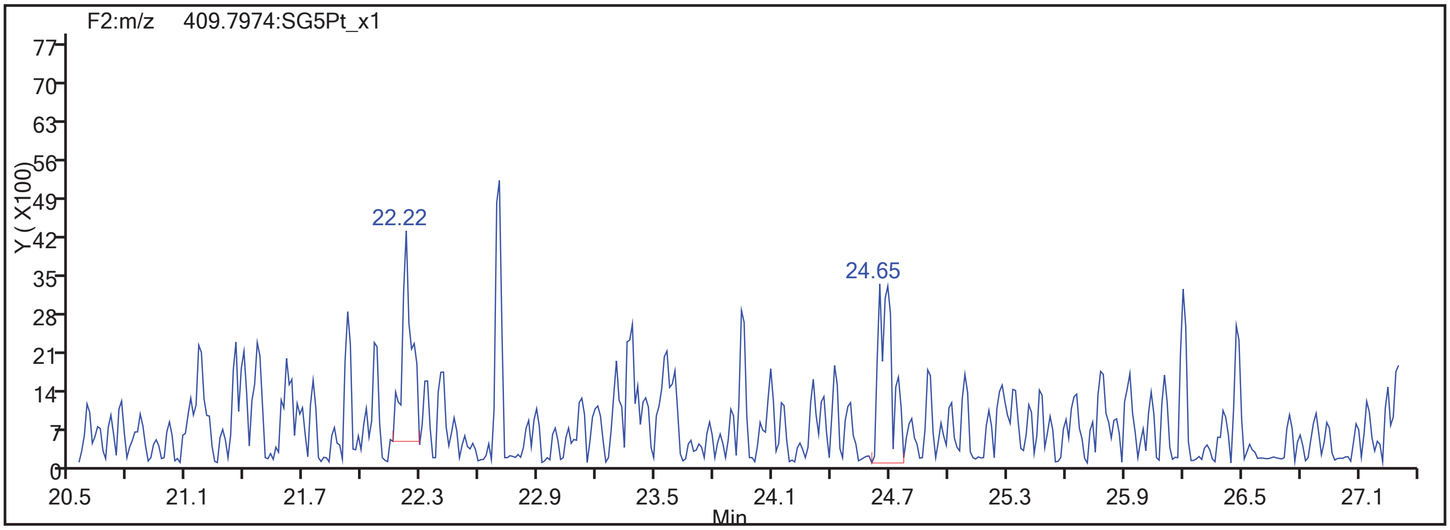
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Injection Date:	11-Nov-2017 23:04:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	79
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass

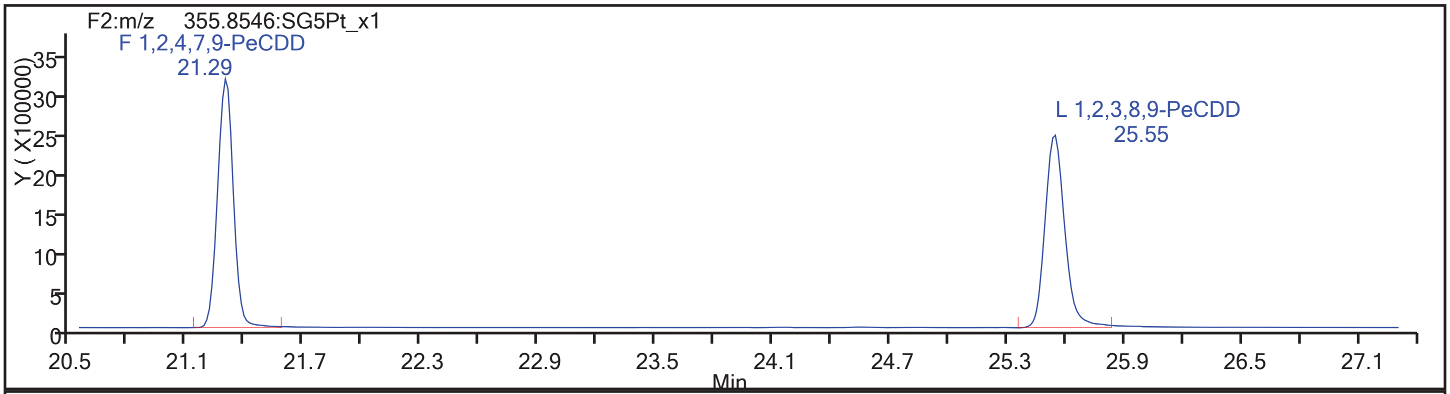


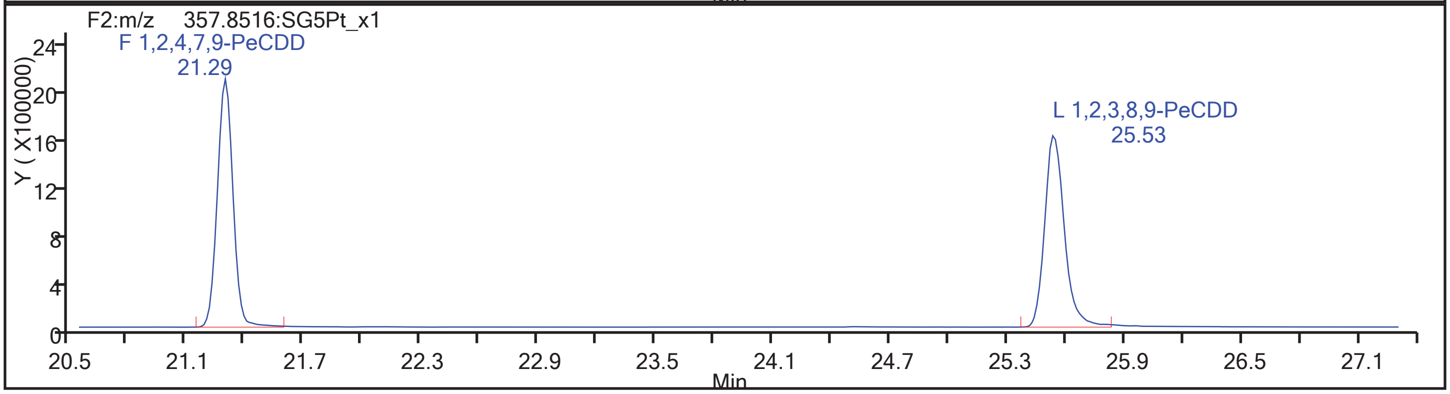
Report Date: 13-Nov-2017 13:31:49
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

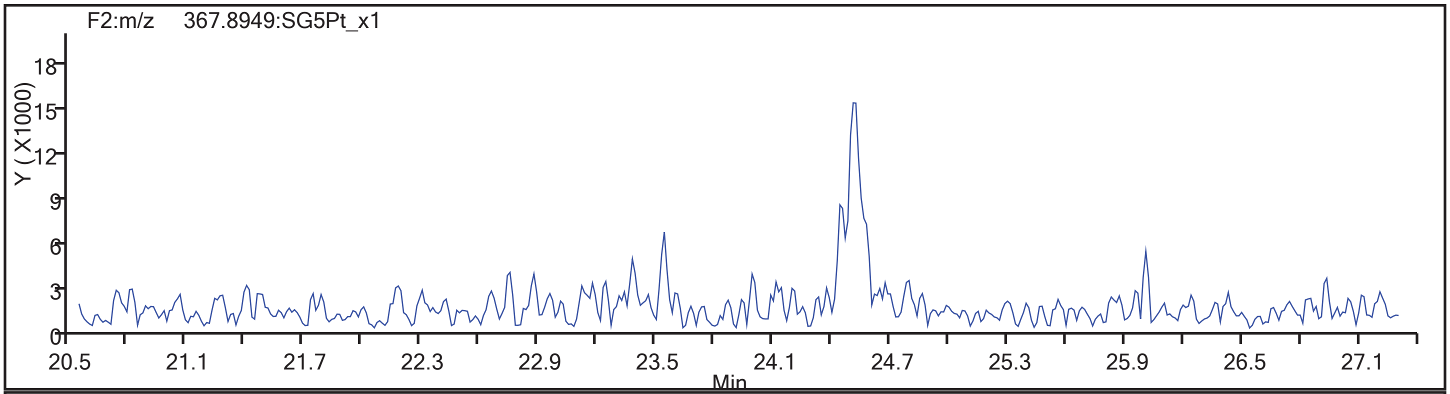
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d
Injection Date: 11-Nov-2017 23:04:47
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 79
Column Type: DB-5
Column Dia: 0.32 mm

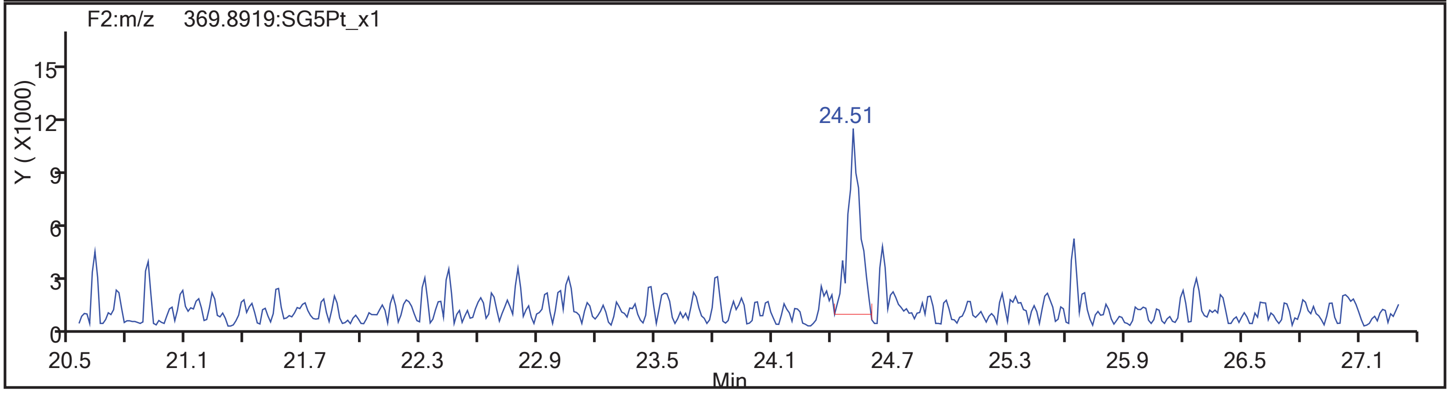
PeCDD





PeCDD Standards



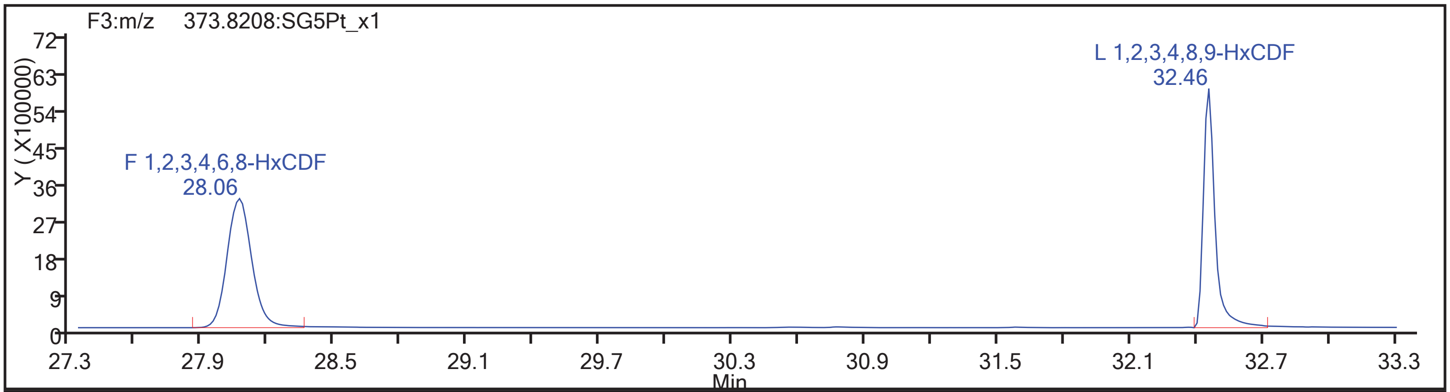


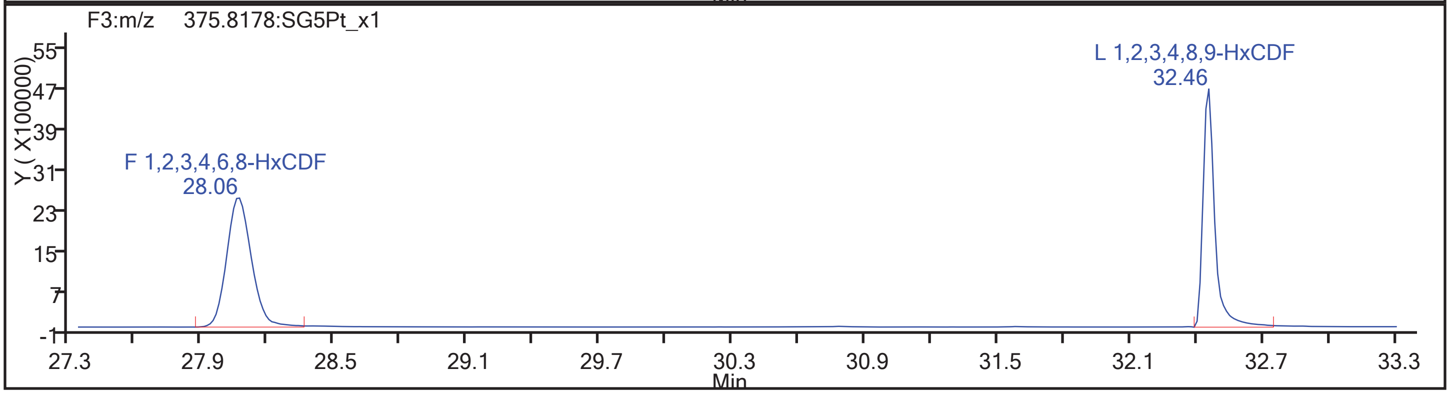
Report Date: 13-Nov-2017 13:31:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

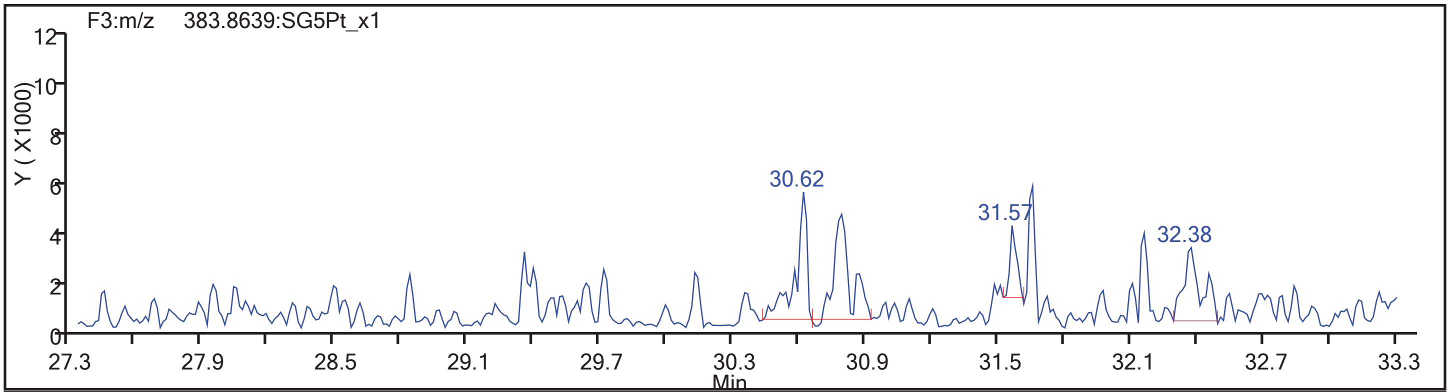
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d
Injection Date: 11-Nov-2017 23:04:47
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 79
Column Type: DB-5
Column Dia: 0.32 mm

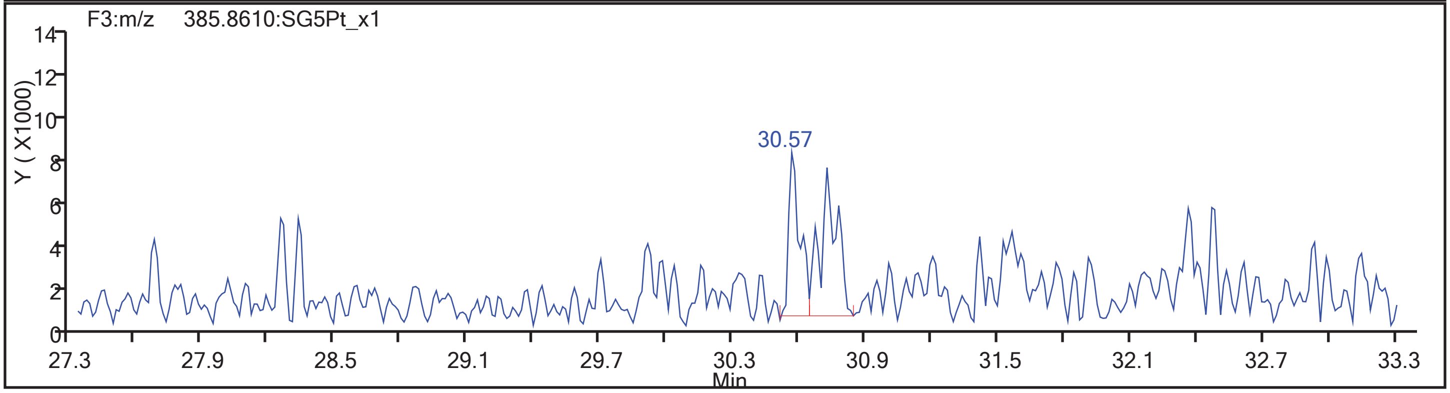
HxCDF





HxCDF Standards



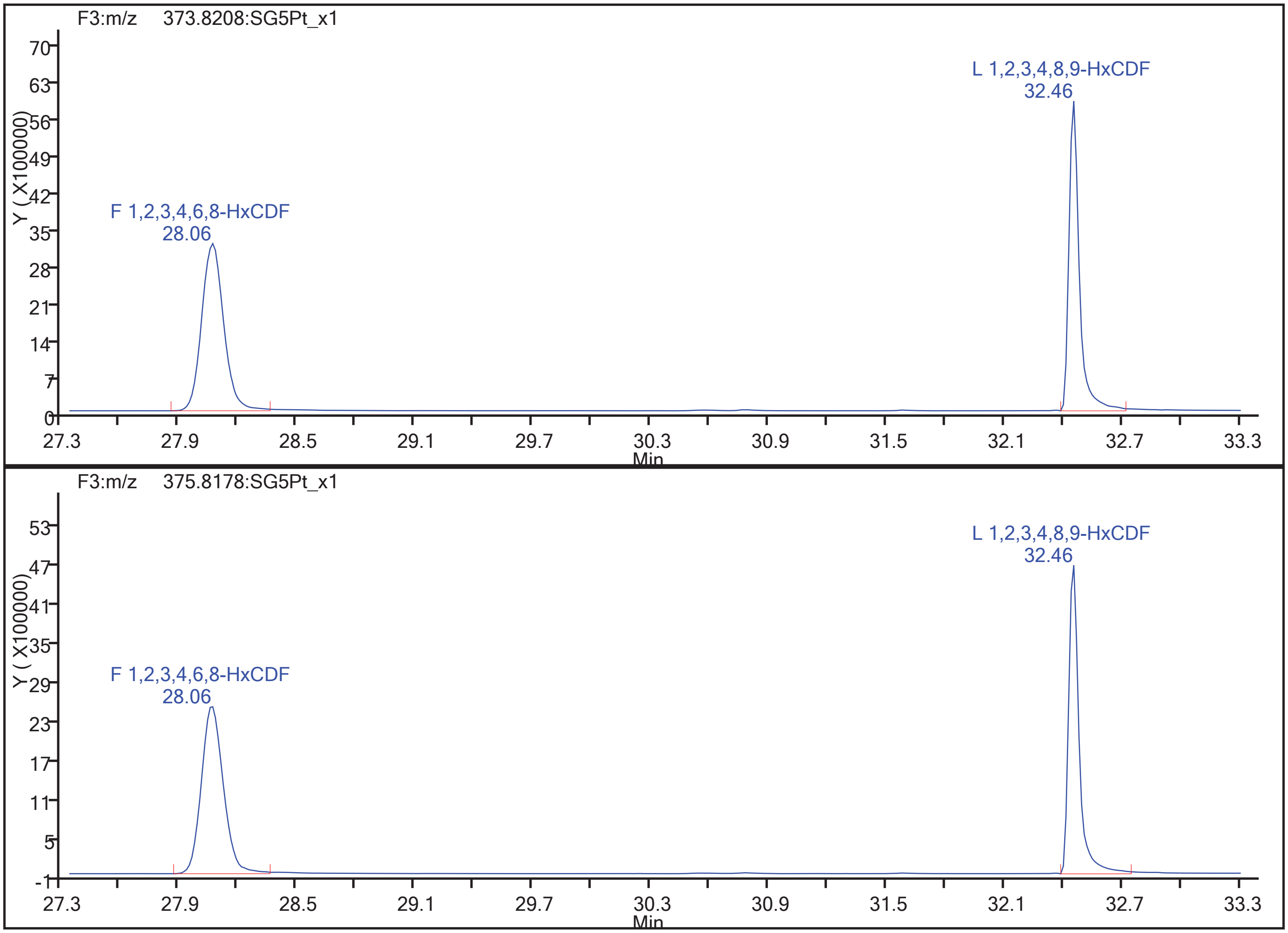


Report Date: 13-Nov-2017 13:31:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

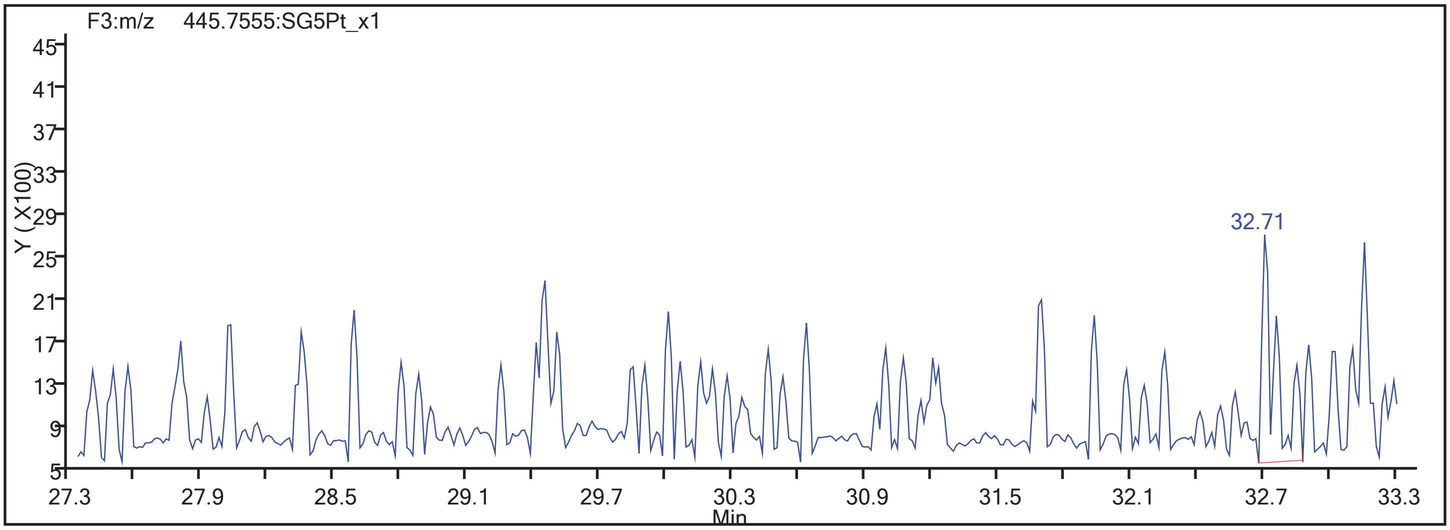
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Injection Date:	11-Nov-2017 23:04:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	79
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF



HxCDF Interference Mass

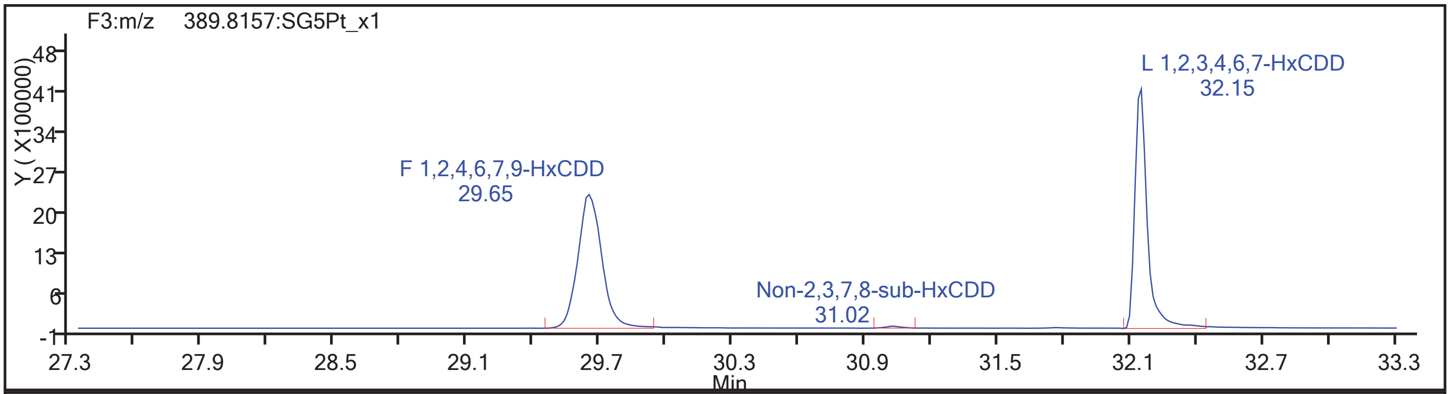


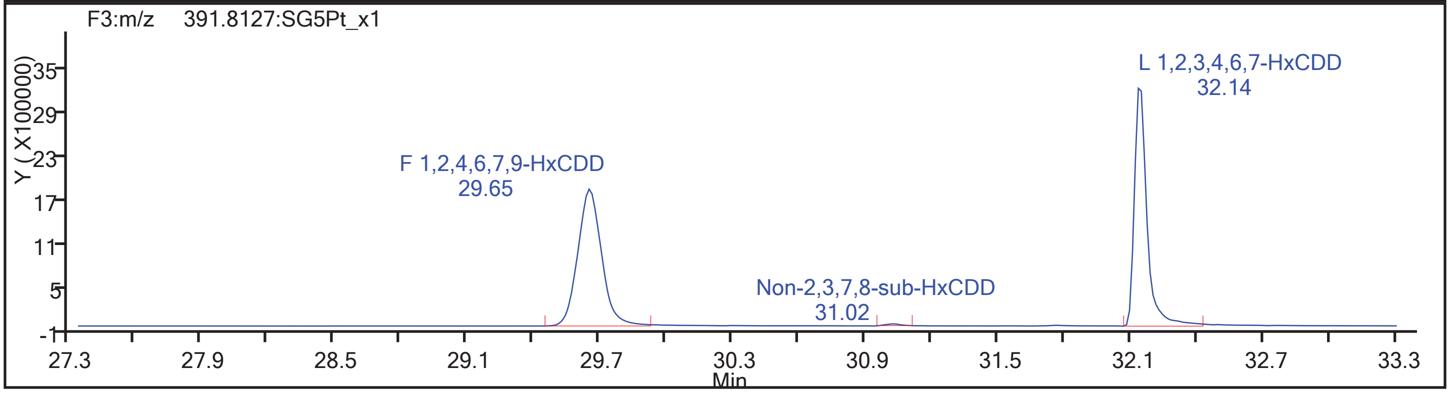
Report Date: 13-Nov-2017 13:31:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

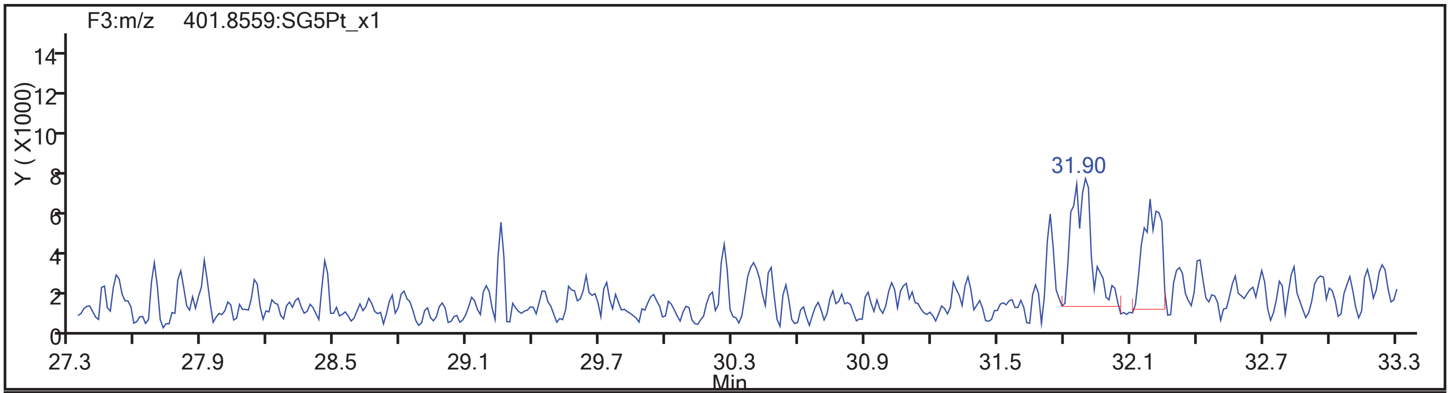
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d
Injection Date: 11-Nov-2017 23:04:47
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 79
Column Type: DB-5
Column Dia: 0.32 mm

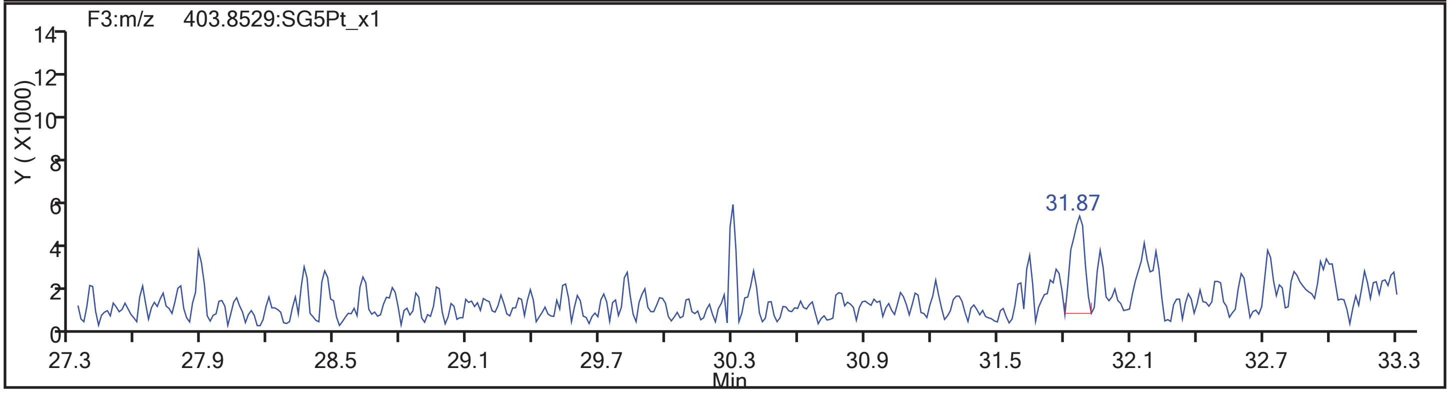
HxCDD





HxCDD Standards

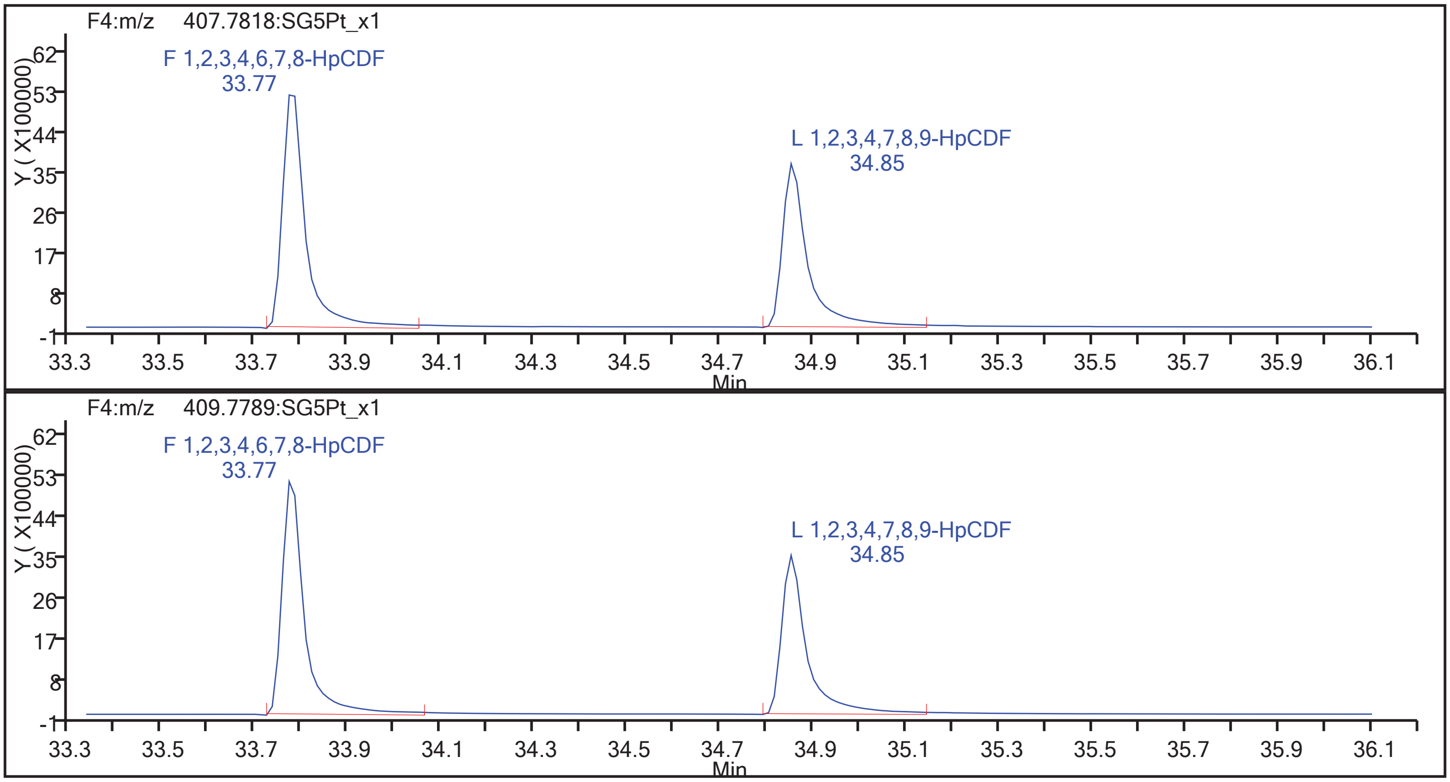




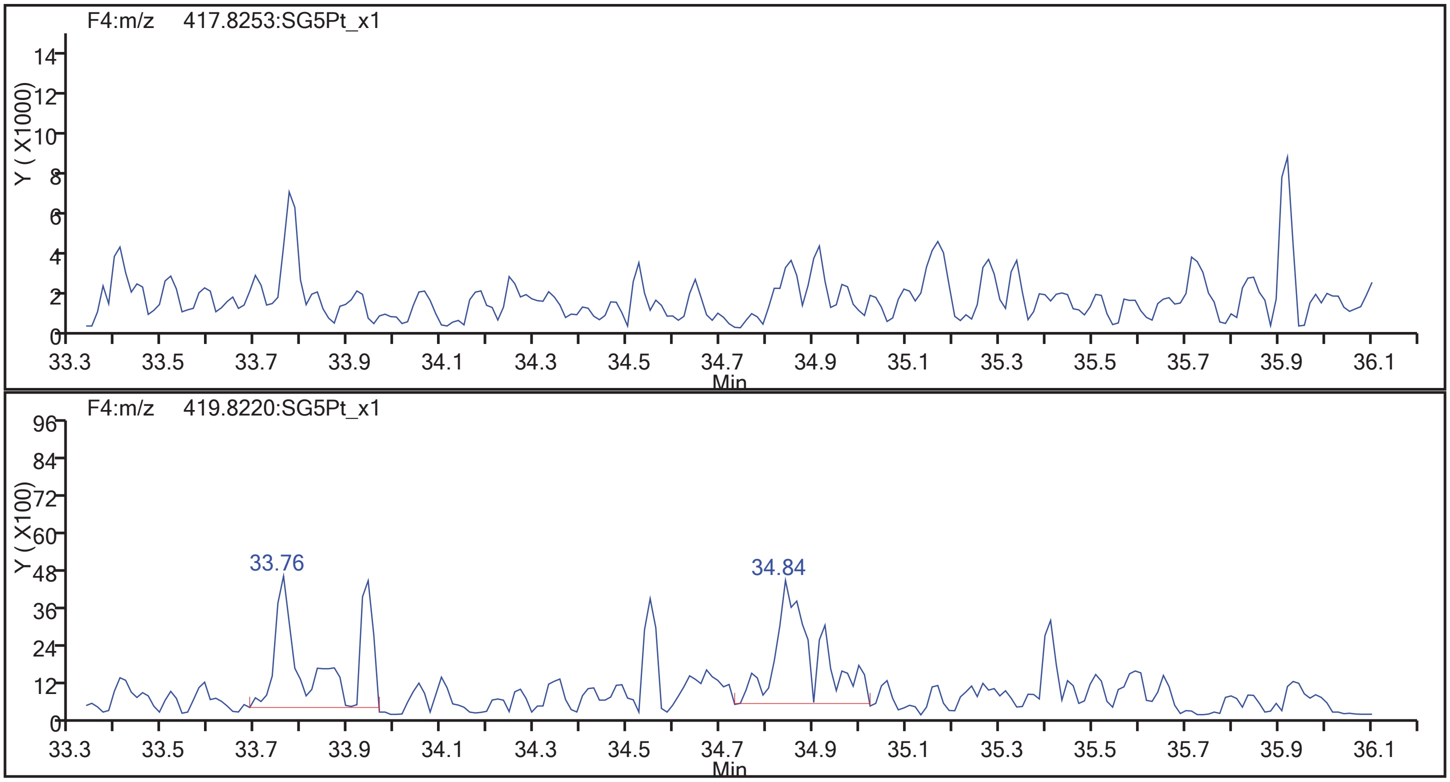
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Injection Date:	11-Nov-2017 23:04:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	79
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF



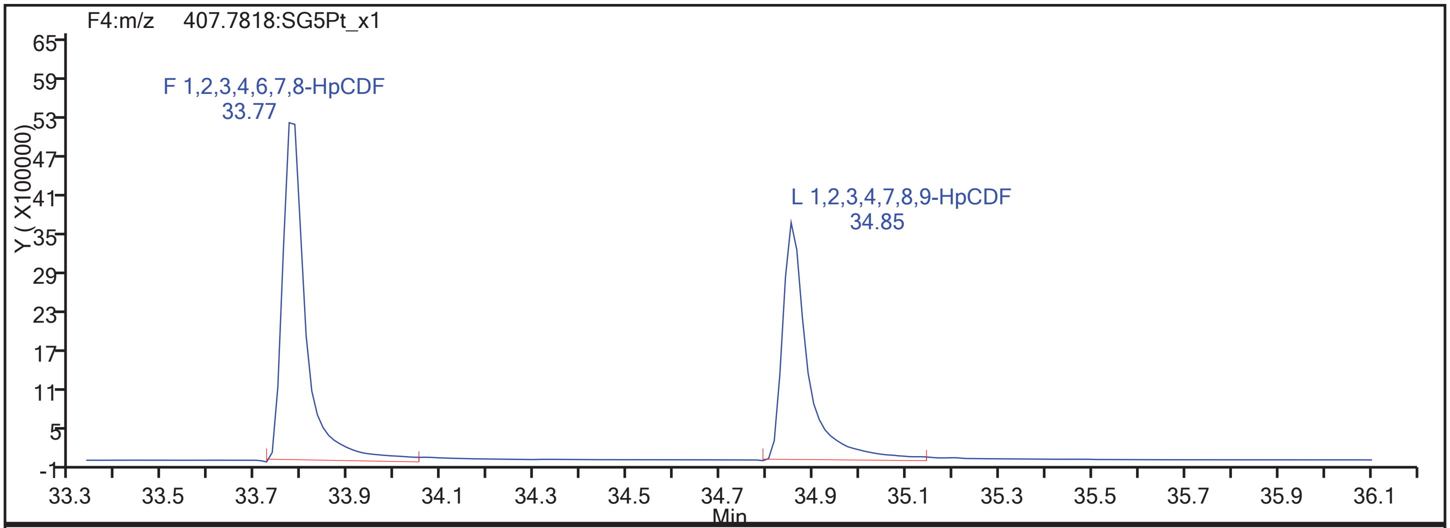
HpCDF Standards

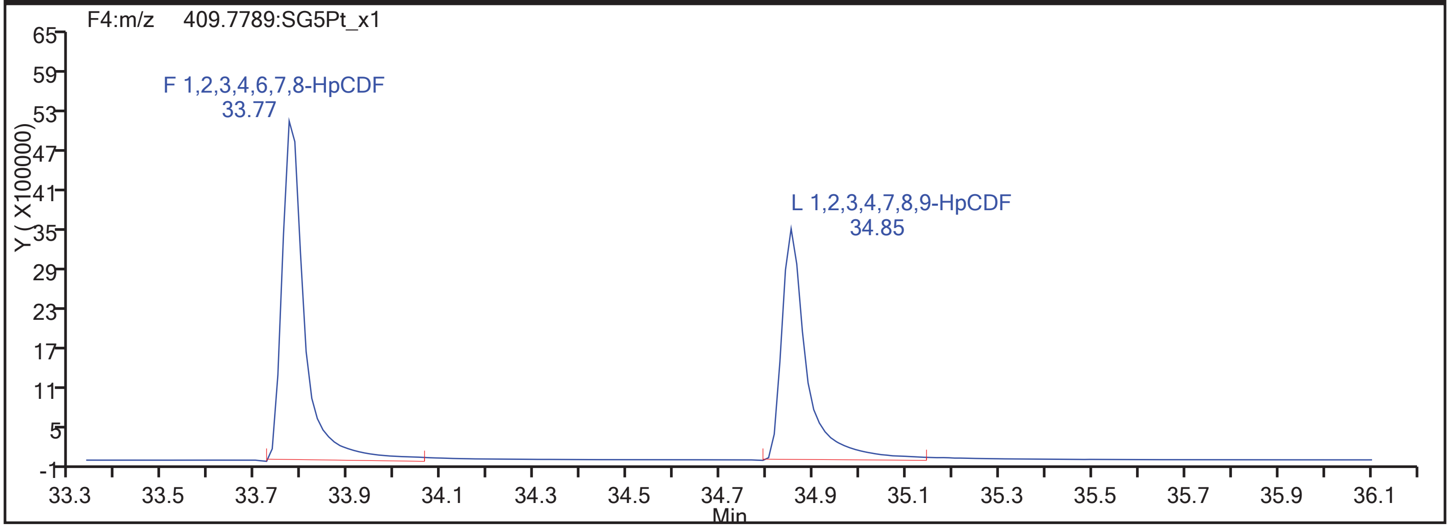


TestAmerica Sacramento

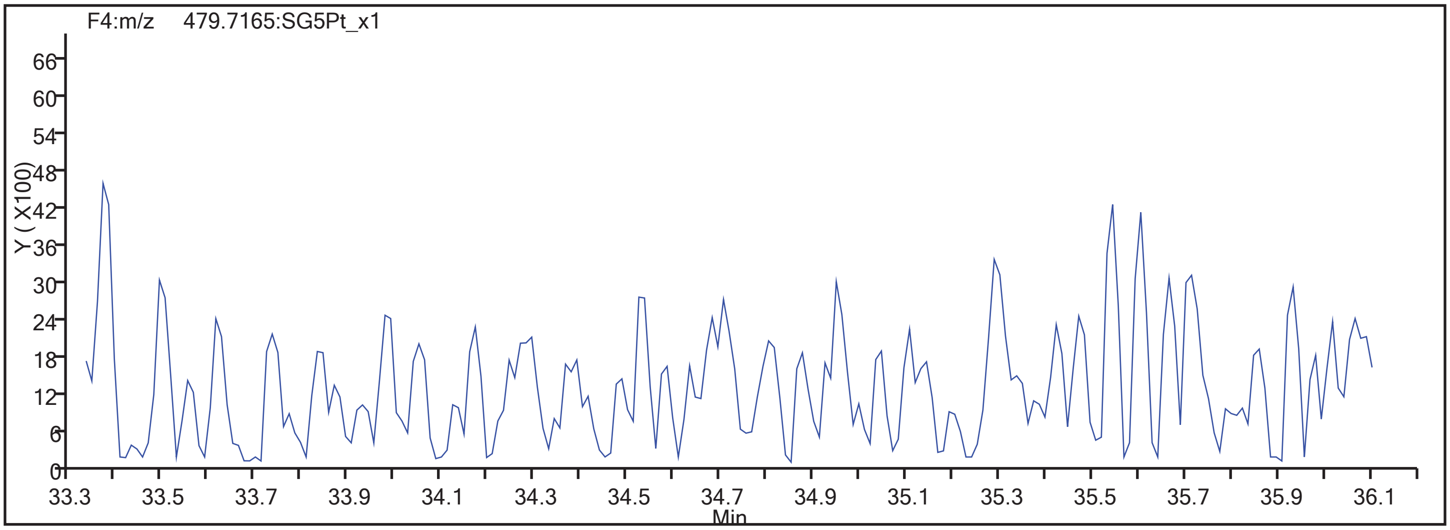
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Injection Date:	11-Nov-2017 23:04:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	79
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass

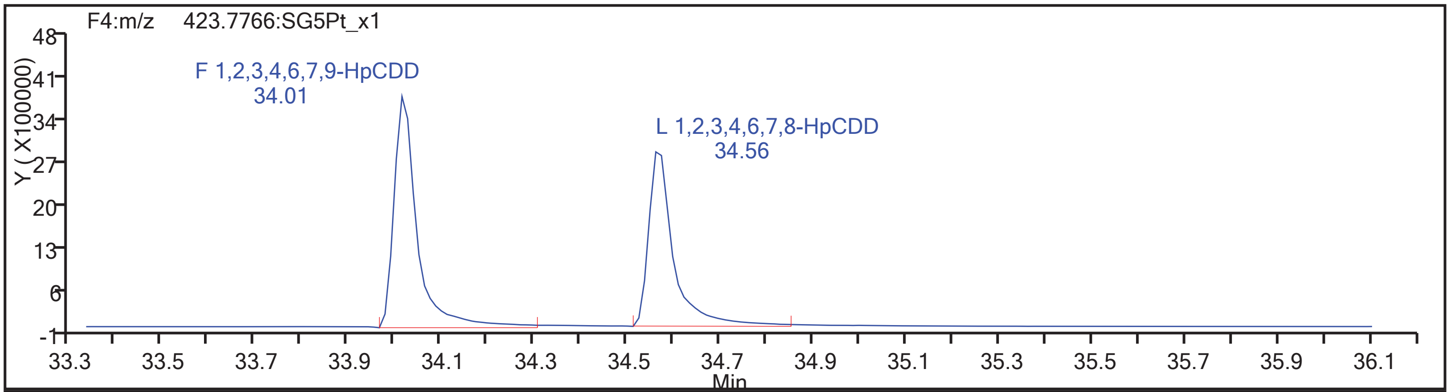


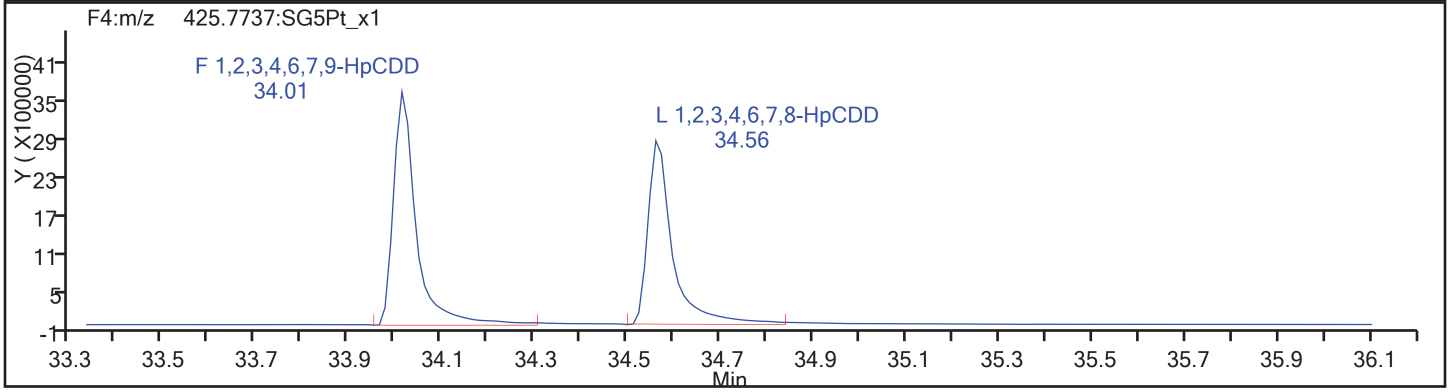
Report Date: 13-Nov-2017 13:31:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

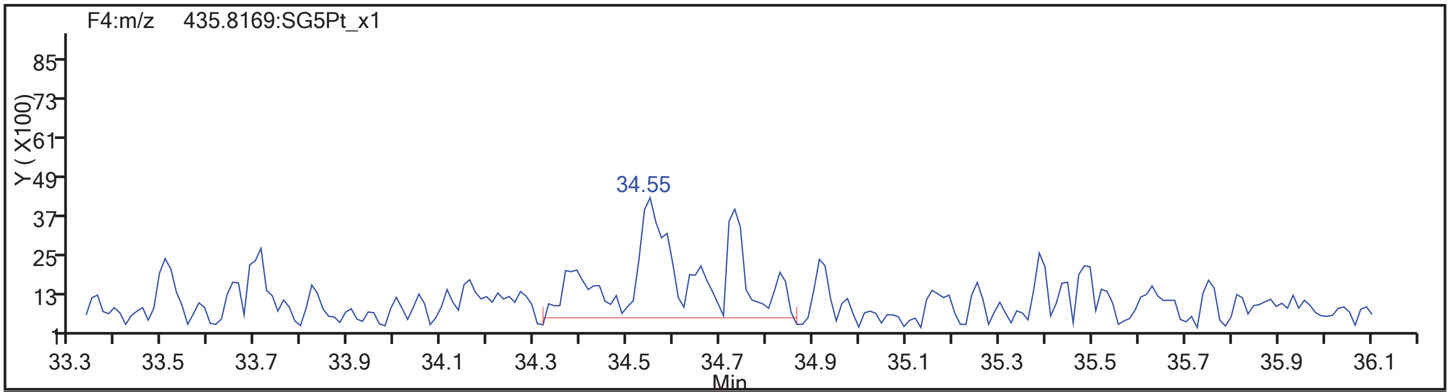
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d
Injection Date: 11-Nov-2017 23:04:47
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 79
Column Type: DB-5
Column Dia: 0.32 mm

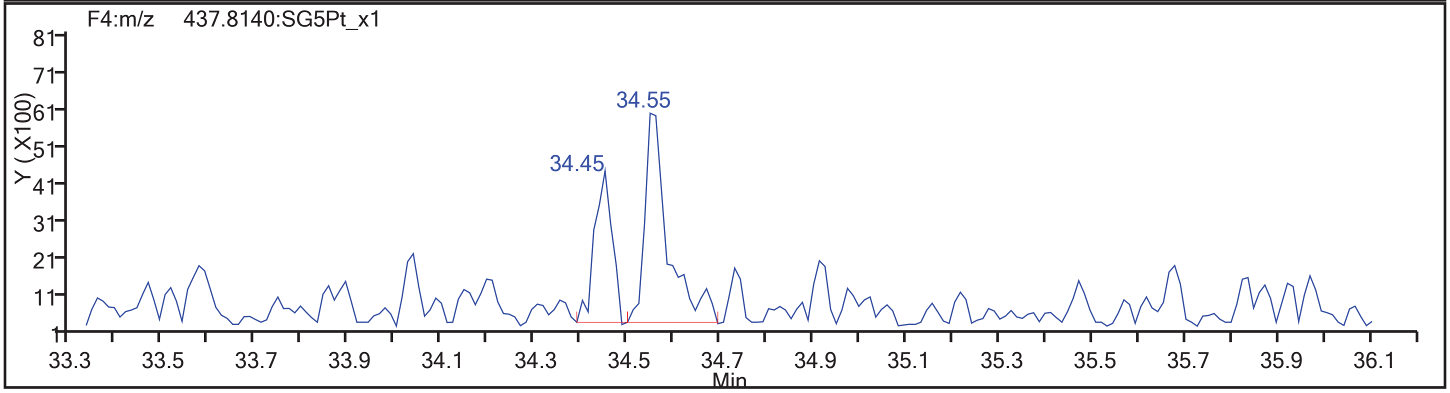
HpCDD





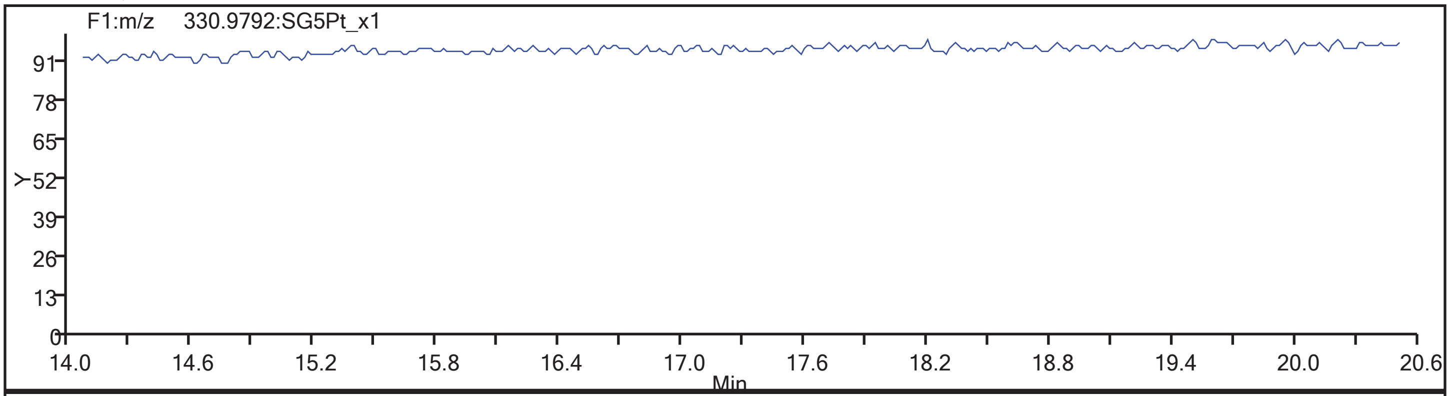
HpCDD Standards

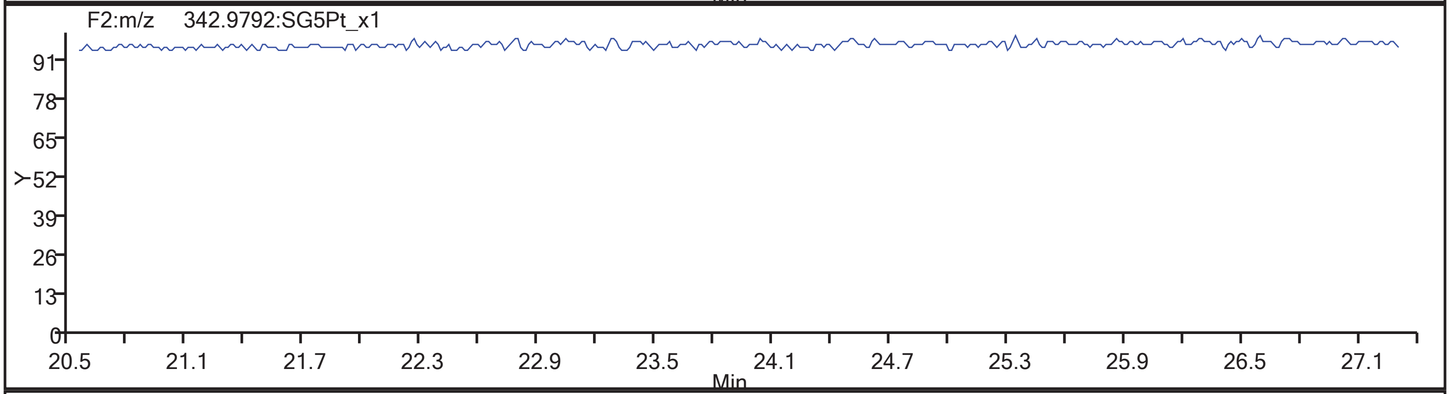


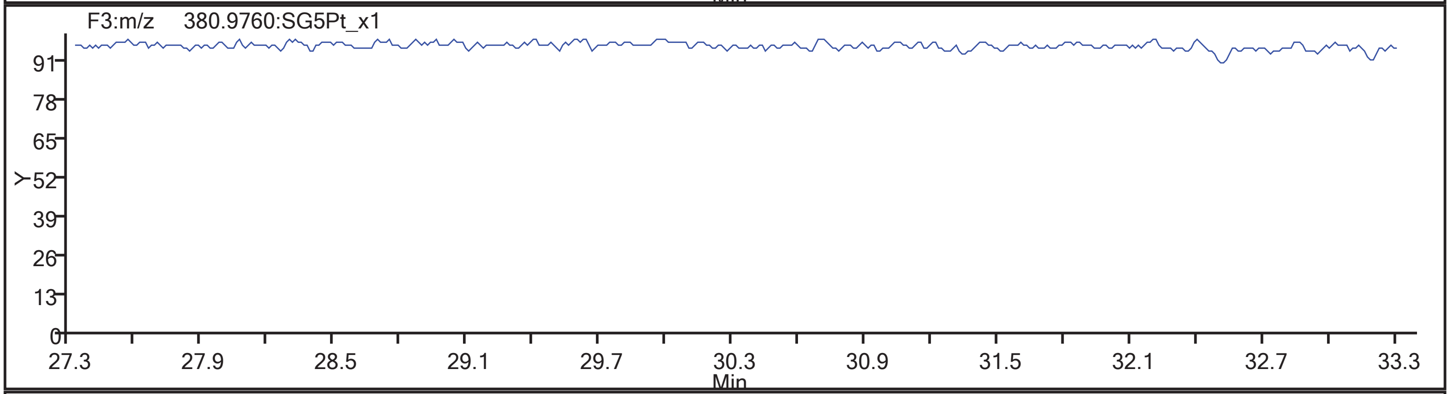


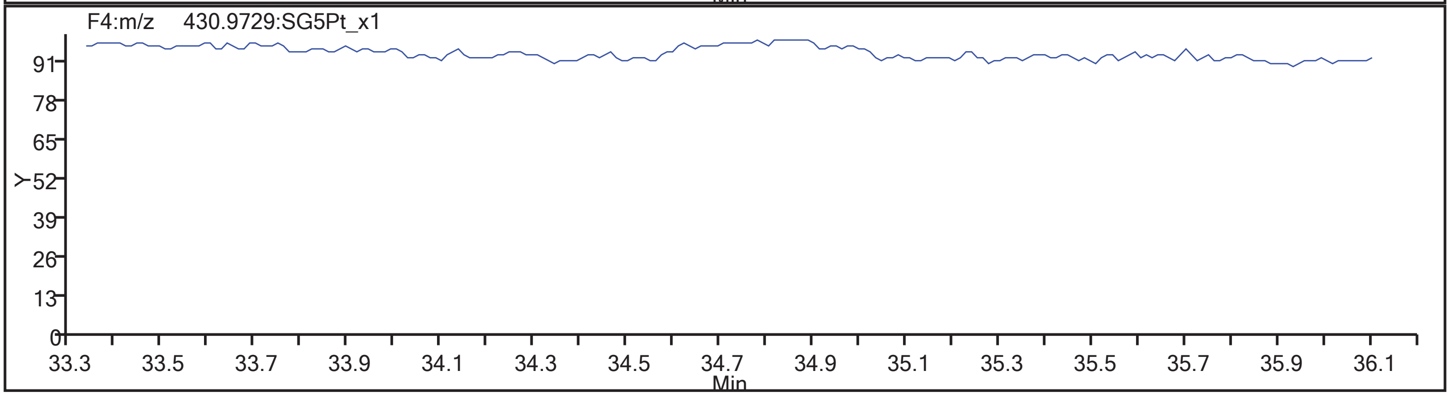
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d
Injection Date: 11-Nov-2017 23:04:47
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194086
Sample Line#: 79
Column Type: DB-5
Column Dia: 0.32 mm



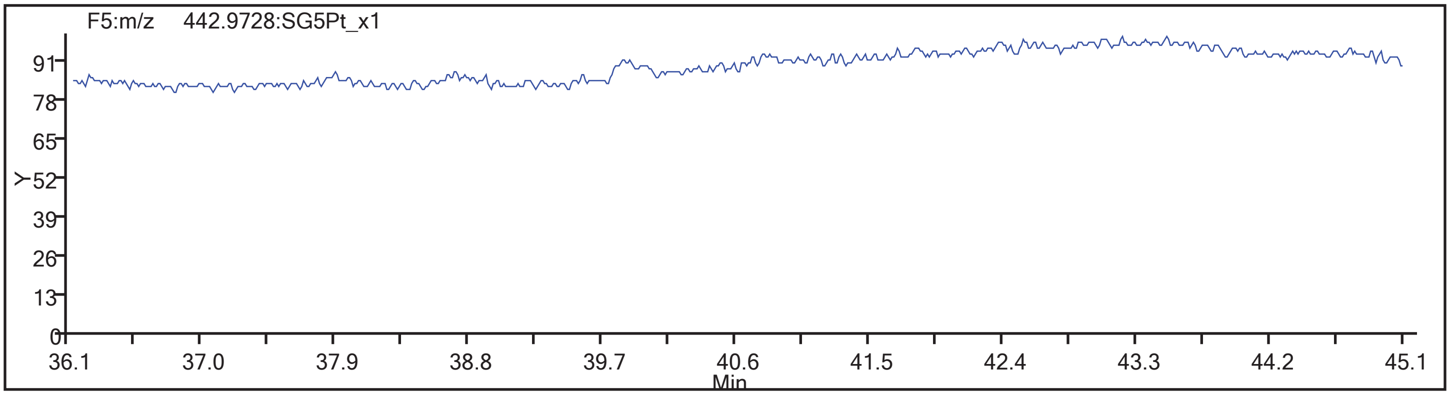






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_79.d		
Injection Date:	11-Nov-2017 23:04:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194086	Sample Line#:	79
Column Type:	DB-5	Column Dia:	0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_14.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 13-Nov-2017 22:28:15 ALS Bottle#: 1 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 111317A WDM HRDXNCP_00034
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 14-Nov-2017 11:59:05 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK018

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.324	64773798	0.77	1.2741					0.00	
2,3,7,8-TCDF	17.339	141645696	0.76	1.1341	77.1	77.1	0.9331	0.9331		
A Non-2,3,7,8-sub-TCDF	17.037						0.0	0.0		
S Total TCDF					77.1	77.1	0.9331	0.9331		
D 13C-2,3,7,8-TCDD	18.020	47175047	0.76	0.9921					0.00	
2,3,7,8-TCDD	18.050	47661090	0.76	0.9993	40.4	40.4	0.5270	0.5270		
A Non-2,3,7,8-sub-TCDD	17.491						0.0	0.0		
S Total TCDD					40.4	40.4	0.5270	0.5270		
A F1 PeCDFs	19.955						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.100						0.0	0.0		
S Total PeCDF										
A Non-2,3,7,8-sub-PeCDD	23.303						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.167						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.793						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.734	41544916	1.06	1.6399						
1,2,3,4,7,8,9-HpCDF	34.803	30576218	1.05	1.3302						
A Non-2,3,7,8-sub-HpCDF	34.268						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.512	24390154	1.02	0.9932						
A Non-2,3,7,8-sub-HpCDD	34.238						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.920	82300905	0.77							
1,3,6,8-TCDD	15.828	49187678	0.78							
2,3,4,7-TCDF	17.339	141645696	0.76							
1,2,3,7-TCDD	17.929	38522506	0.83							
1,2,3,9-TCDD	18.201	54460236	0.79							
1,2,3,9-TCDF	18.201	61693195	0.76							
1,2,8,9-TCDD	19.154	20177384								
1,2,8,9-TCDF	19.154	63749697	0.77							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,3,4,6,8-PeCDF	19.426	67839234	1.58							
1,2,4,7,9-PeCDD	21.196	40350873	1.56							
1,2,3,8,9-PeCDD	25.410	36394665	1.54							
1,2,3,8,9-PeCDF	25.642	46355216	1.60							
1,2,3,4,6,8-HxCDF	27.931	51286836	1.27							
1,2,4,6,7,9-HxCDD	29.502	37083376	1.27							
1,2,3,4,6,7-HxCDD	32.084	34945263	1.27							
1,2,3,4,8,9-HxCDF	32.403	45528958	1.25							
1,2,3,4,6,7,9-HpCDD	33.965	30223215	1.03							

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

Report Date: 14-Nov-2017 11:59:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_14.d				
Lims ID:	WDM				
Client ID:					
Sample Type:	WDM				
Inject. Date:	13-Nov-2017 22:28:15	ALS Bottle#:	1	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	WDM 111317A WDM HRDXNCP_00034				
Misc. Info.:	13NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	14-Nov-2017 11:59:05	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK018				

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.324	17.324	0	1.000	28207745	6468334	37505	93762	172		
317.9389	17.324	17.324	0	1.000	36566053	8424598	11568	28920	728	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.339	17.339	0	1.001	61391584	13081344	45969	114922	285		
305.8987	17.339	17.339	0	1.001	80254112	17403045	111630	279075	156	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.037						45969	114922			
305.8987	17.037						111630	279075			
13C-2,3,7,8-TCDD											
331.9368	18.020	18.020	0	1.000	20405791	4551760	10563	26407	431		
333.9339	18.020	18.020	0	1.000	26769256	5851656	7776	19440	753	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.050	18.050	0	1.002	20511034	4648429	24258	60645	192		
321.8936	18.035	18.050	-1	1.001	27150056	5925443	30535	76337	194	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.491						24258	60645			
321.8936	17.491						30535	76337			
A F1 PeCDFs											
339.8597	19.955						7373	18432			
341.8567	19.955						4606	11515			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.100						6715	16787			
341.8567	23.100						5880	14700			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.303						14553	36382			
357.8516	23.303						9503	23757			

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.167						17240	43100			
375.8178	30.167						12775	31937			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.793						13987	34967			
391.8127	30.793						10129	25322			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.734	33.734	0	1.000	21333772	5824390	35998	89995	162		
409.7789	33.722	33.734	-1	1.000	20211144	5557189	36731	91827	151	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.803	34.803	0	1.000	15666492	3795217	35998	89995	105		
409.7789	34.803	34.803	0	1.000	14909726	3599282	36731	91827	98	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.268						35998	89995			
409.7789	34.268						36731	91827			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.512	34.512	0	1.000	12300021	3040521	27302	68255	111		
425.7737	34.512	34.512	0	1.000	12090133	3049725	29144	72860	105	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.238						27302	68255			
425.7737	34.238						29144	72860			
1,3,6,8-TCDF											
303.9016	14.920	14.920	0		35882957	10077488	45969	114922	219		
305.8987	14.920	14.920	0		46417948	12773275	111630	279075	114	0.77(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.828	15.828	0		21563463	5773456	24258	60645	238		
321.8936	15.828	15.828	0		27624215	7334664	30535	76337	240	0.78(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.339	17.339	0		61391584	13081344	45969	114922	285		
305.8987	17.339	17.339	0		80254112	17403045	111630	279075	156	0.76(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.929	17.929	0		17450714	4258054	24258	60645	176		
321.8936	17.929	17.929	0		21071792	5376551	30535	76337	176	0.83(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.201	18.201	0		24109200	4885441	24258	60645	201		
321.8936	18.201	18.201	0		30351036	6248119	30535	76337	205	0.79(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.201	18.201	0		26623277	5956689	45969	114922	130		
305.8987	18.201	18.201	0		35069918	7869523	111630	279075	70	0.76(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.154	19.154	0		20177384	4096154	24258	60645	169		
1,2,8,9-TCDF											
303.9016	19.154	19.154	0		27702441	5921174	45969	114922	129		
305.8987	19.154	19.154	0		36047256	7702252	111630	279075	69	0.77(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	19.426	19.426	0		41552038	8572374	7373	18432	1163		
341.8567	19.426	19.426	0		26287196	5463378	4606	11515	1186	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	21.196	21.196	0		24606132	4147300	14553	36382	285		
357.8516	21.196	21.196	0		15744741	2640813	9503	23757	278	1.56(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.410	25.410	0		22082194	2999910	14553	36382	206		
357.8516	25.410	25.410	0		14312471	1976103	9503	23757	208	1.54(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.642	25.642	0		28496253	3850459	6715	16787	573		
341.8567	25.642	25.642	0		17858963	2390747	5880	14700	407	1.60(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	27.931	27.931	0		28730577	3476624	17240	43100	202		
375.8178	27.931	27.931	0		22556259	2790219	12775	31937	218	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.502	29.502	0		20781644	2466466	13987	34967	176		
391.8127	29.502	29.502	0		16301732	1908003	10129	25322	188	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.084	32.084	0		19523139	4613515	13987	34967	330		
391.8127	32.084	32.084	0		15422124	3651328	10129	25322	360	1.27(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.403	32.403	0		25327960	5973521	17240	43100	346		
375.8178	32.390	32.403	-1		20200998	4792117	12775	31937	375	1.25(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.965	33.965	0		15343941	4098721	27302	68255	150		
425.7737	33.965	33.965	0		14879274	4077397	29144	72860	140	1.03(0.88-1.20)	

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

Report Date: 14-Nov-2017 11:59:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_14.d

Injection Date: 13-Nov-2017 22:28:15

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

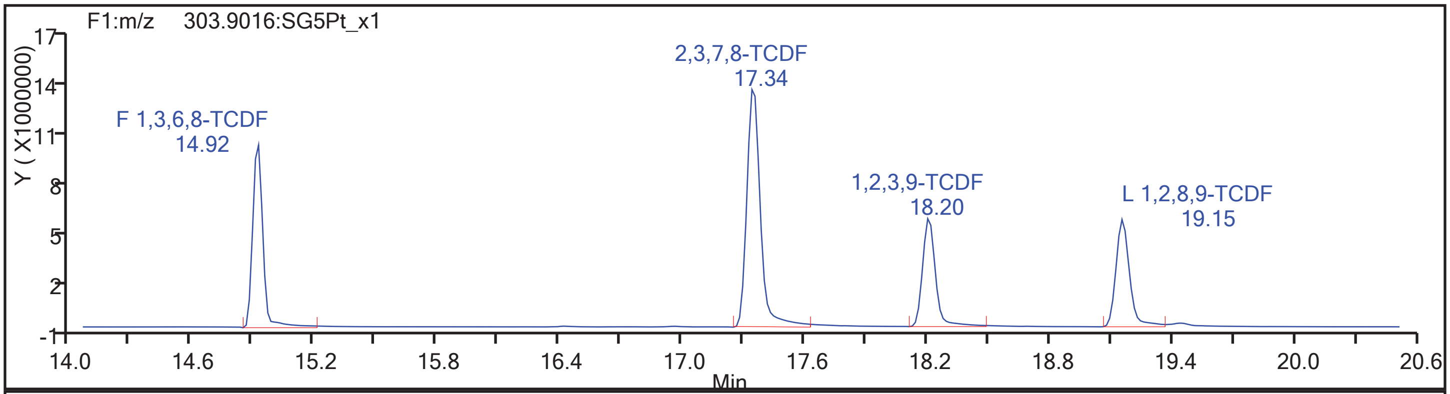
Worklist#: 194428

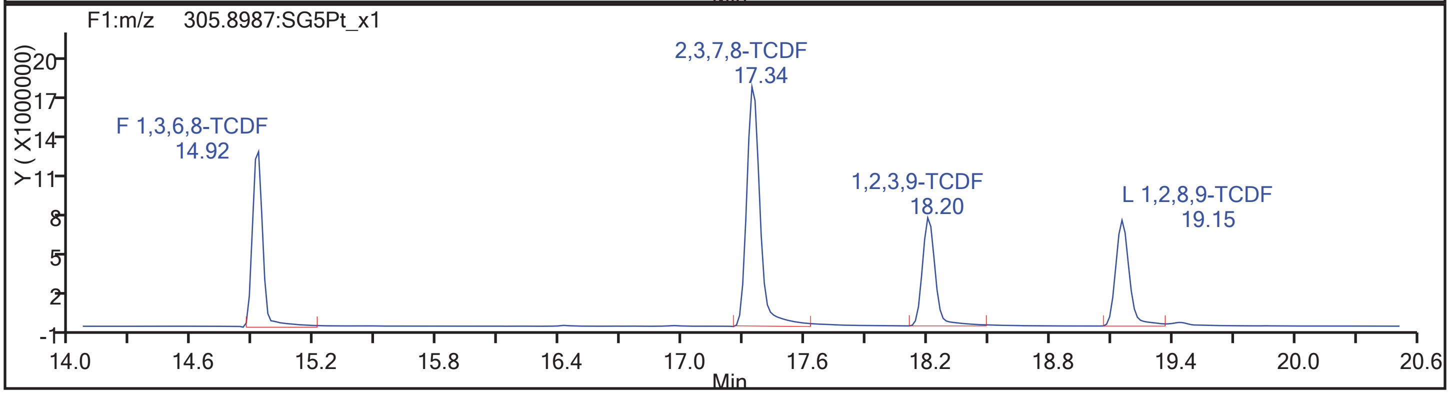
Sample Line#: 14

Column Type: DB-5

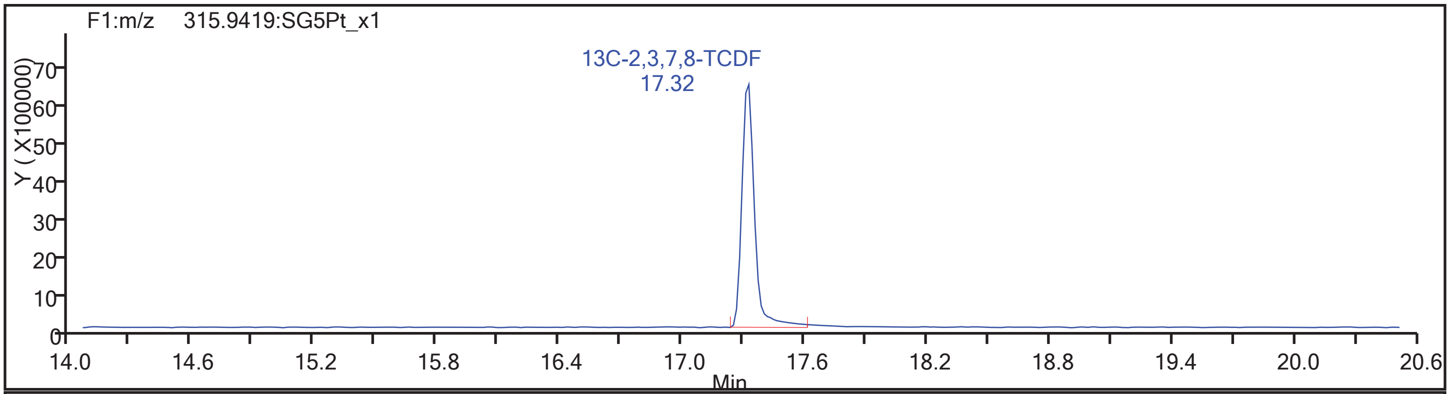
Column Dia: 0.32 mm

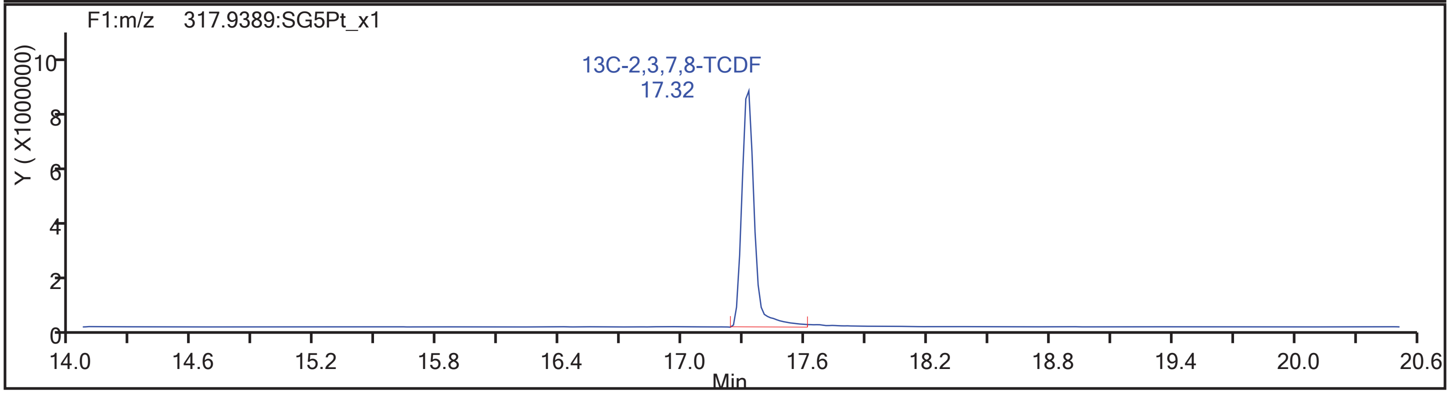
TCDF





TCDF Standards





Report Date: 14-Nov-2017 11:59:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_14.d

Injection Date: 13-Nov-2017 22:28:15

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

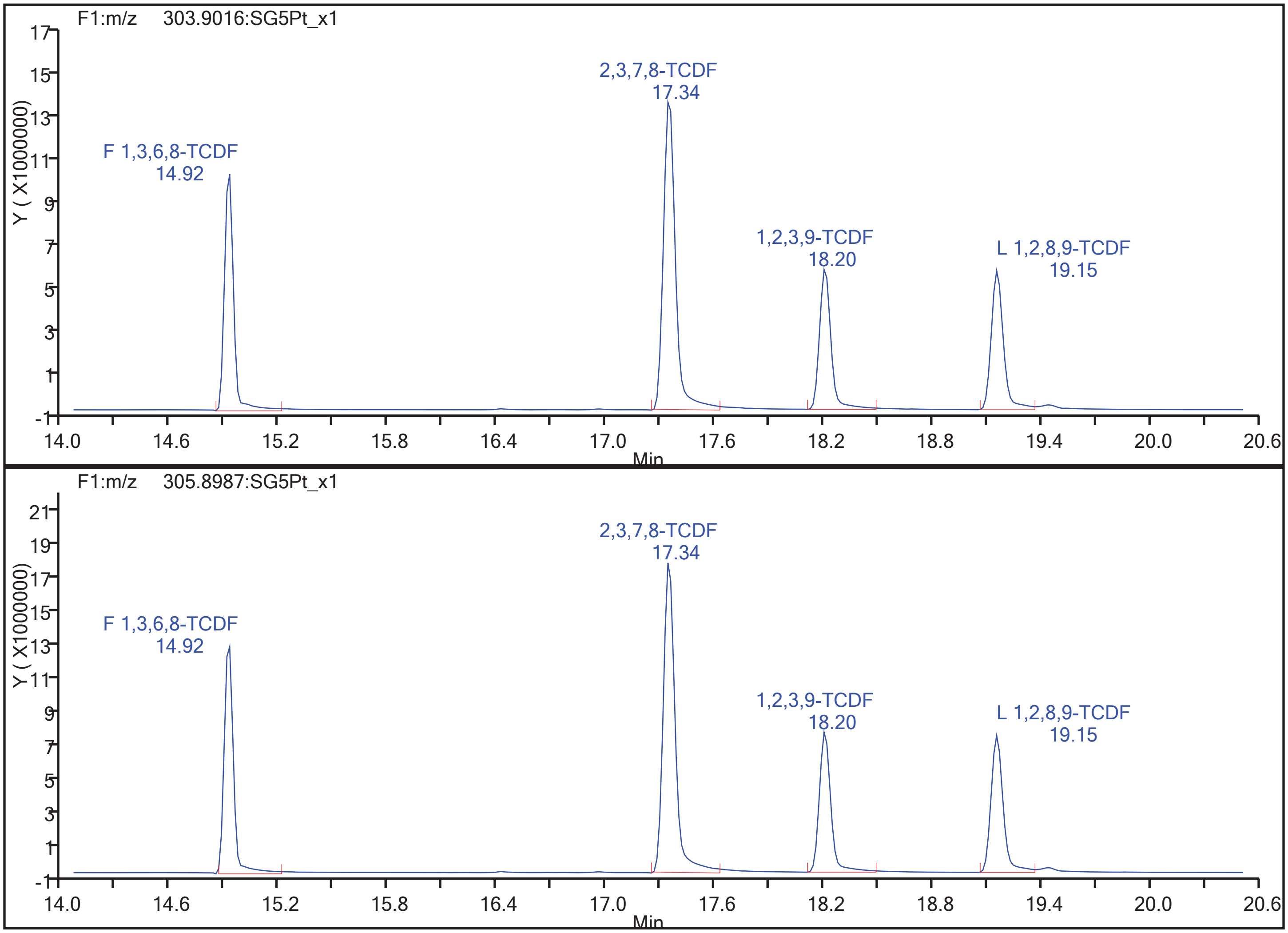
Worklist#: 194428

Sample Line#: 14

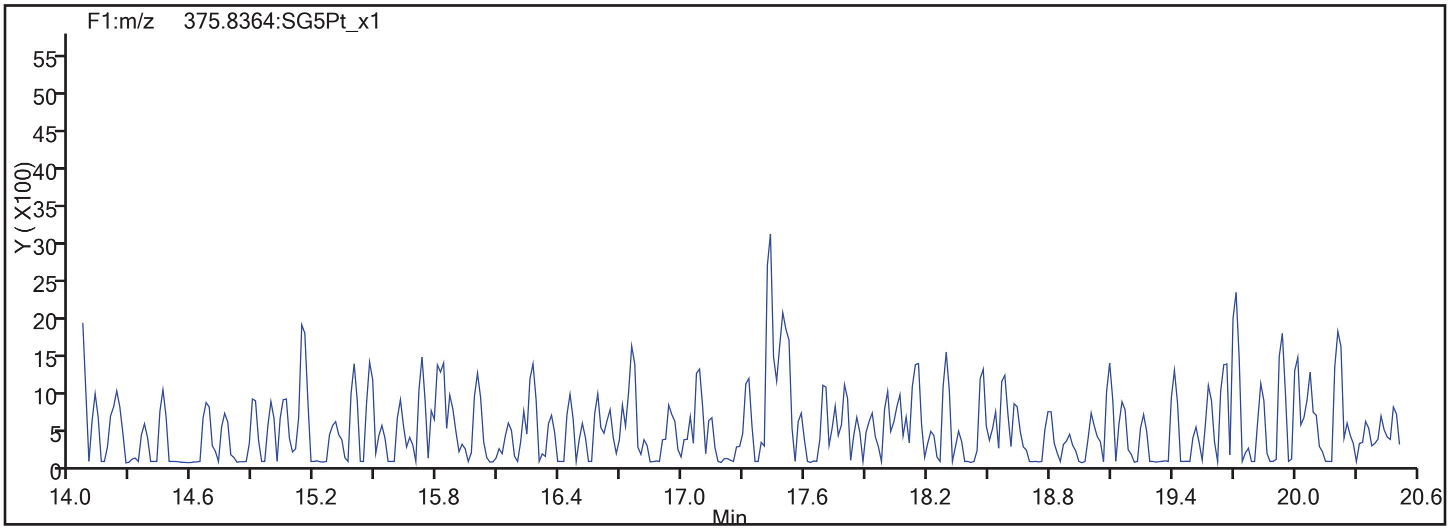
Column Type: DB-5

Column Dia: 0.32 mm

TCDF



TCDF Interference Mass



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TestAmerica Sacramento

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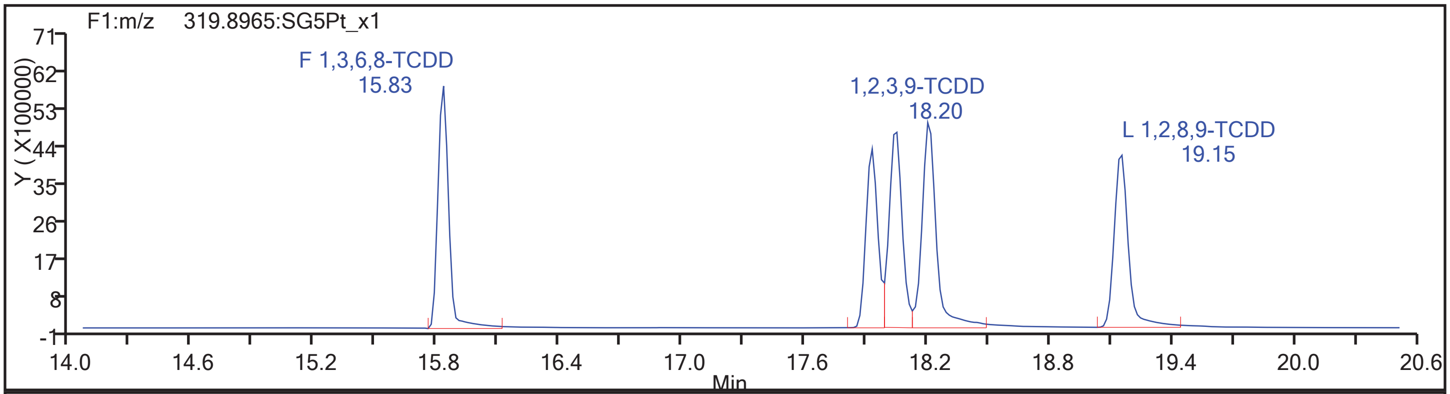
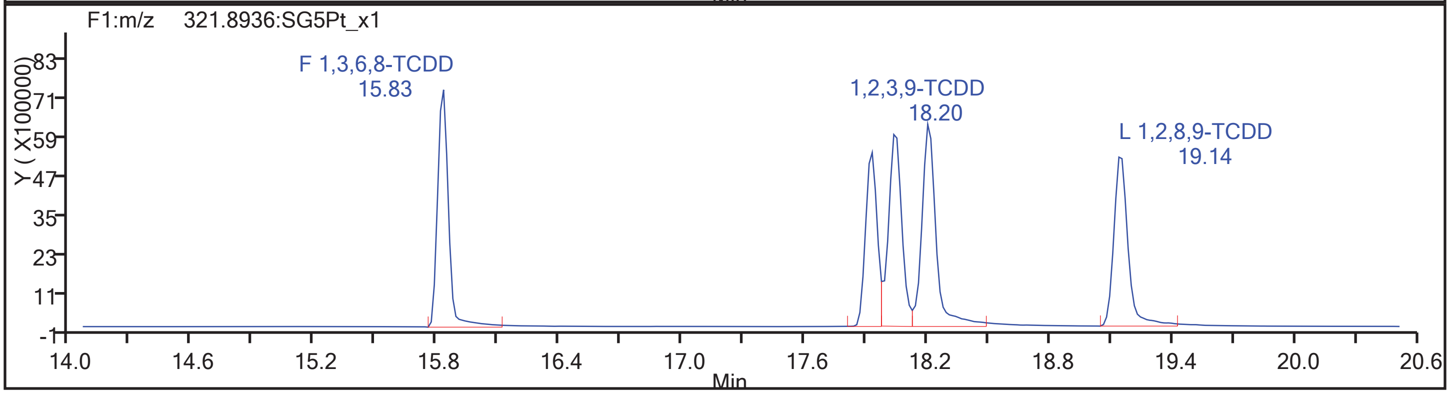
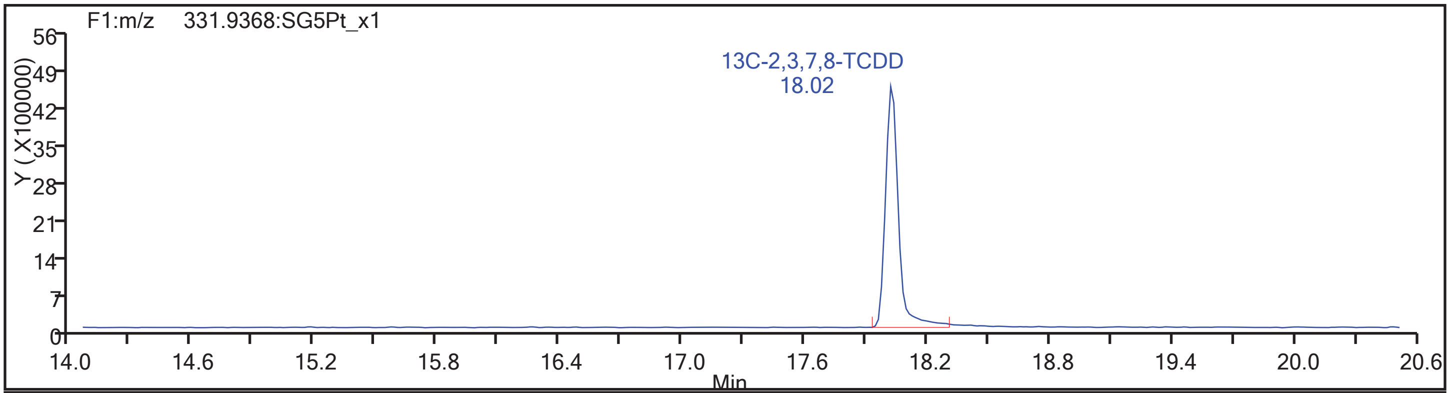
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194428 Sample Line#: 14
Column Type: DB-5 Column Dia: 0.32 mm

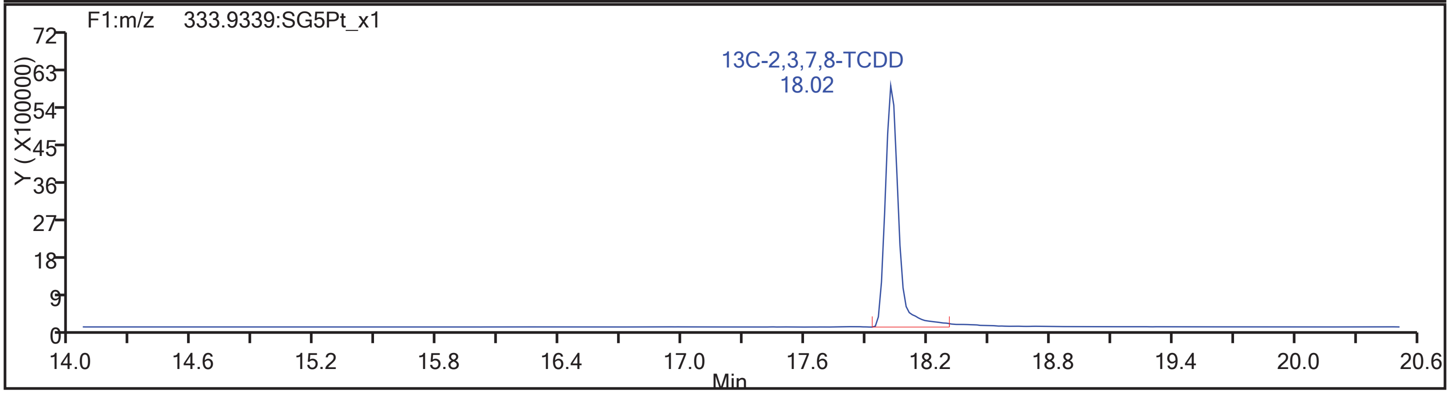
TCDD





TCDD Standards





Report Date: 14-Nov-2017 11:59:06
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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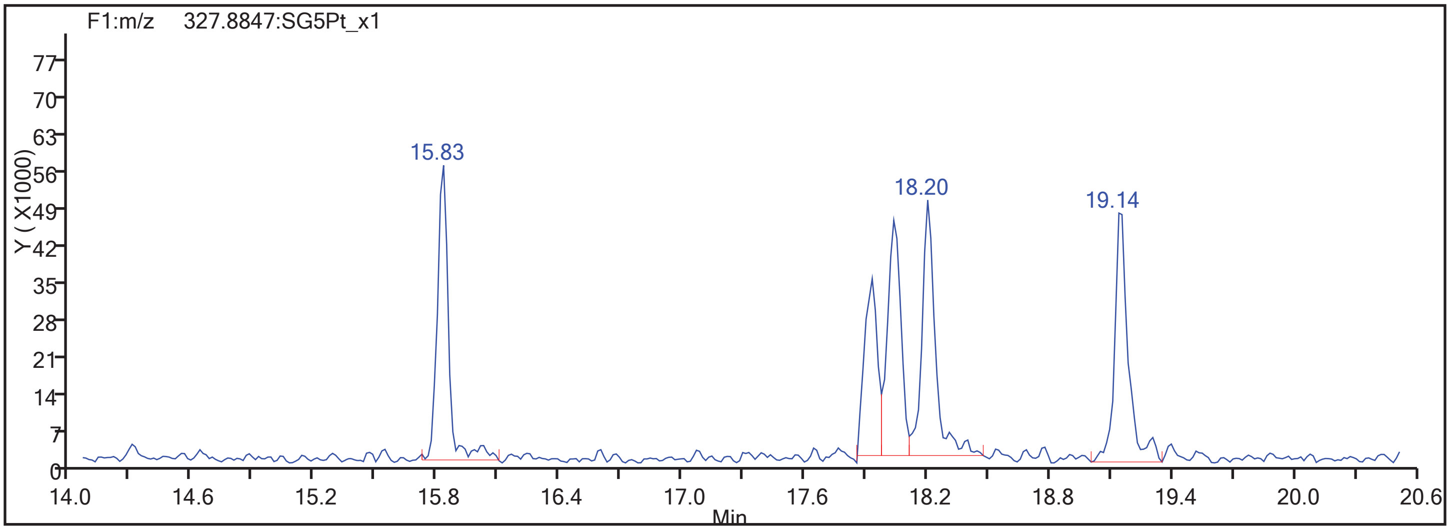
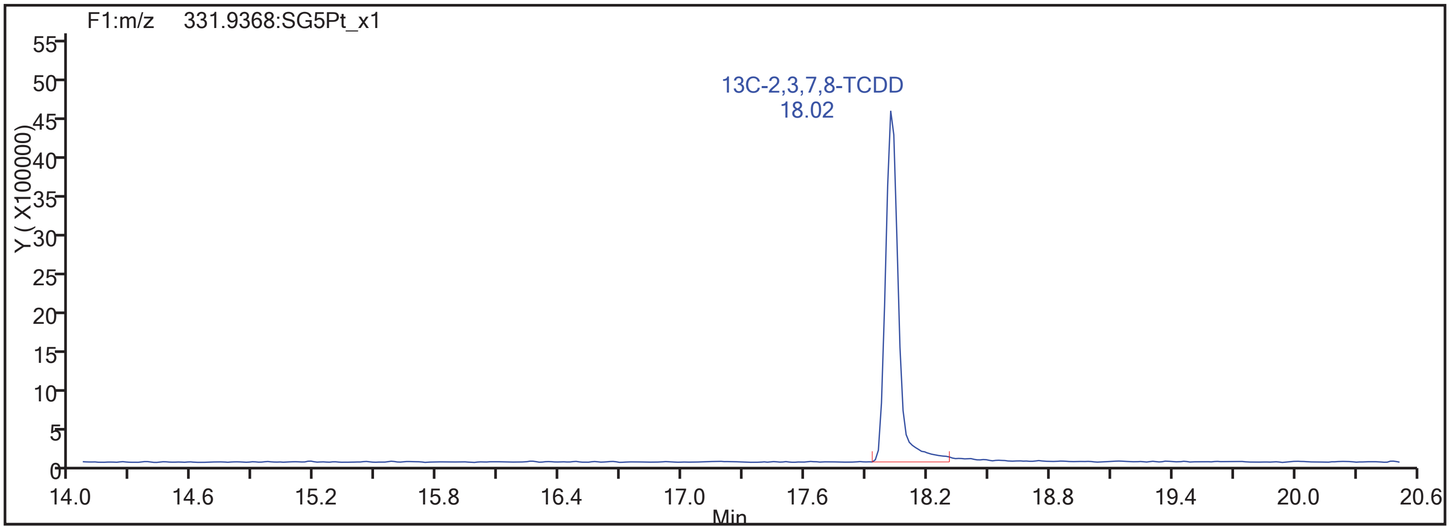
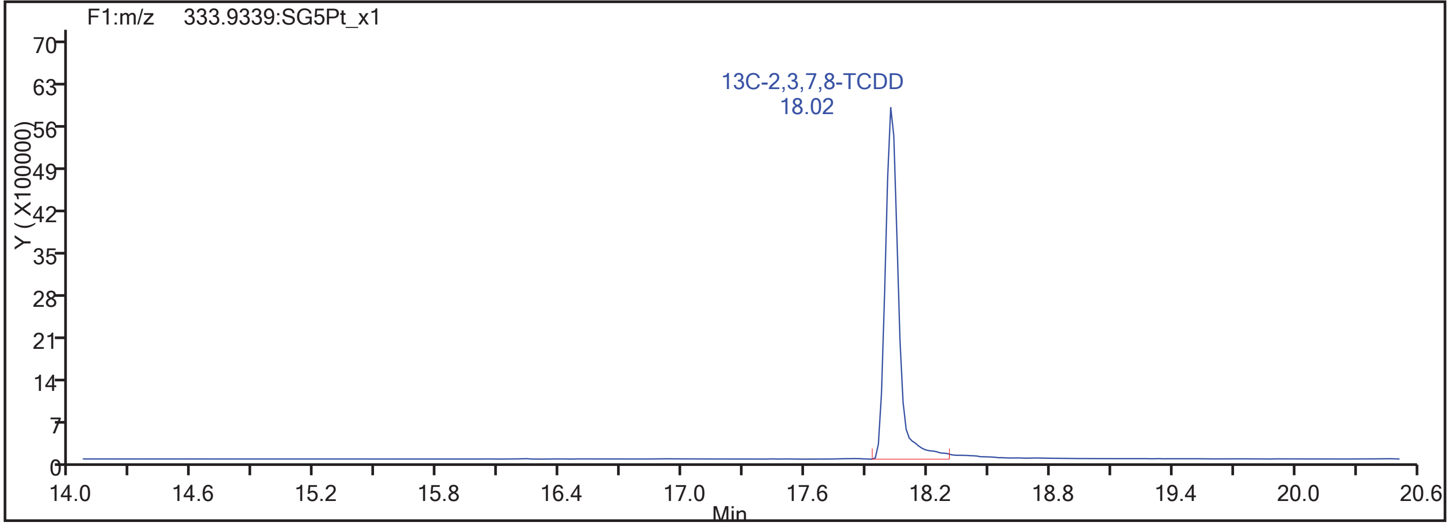
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





TestAmerica Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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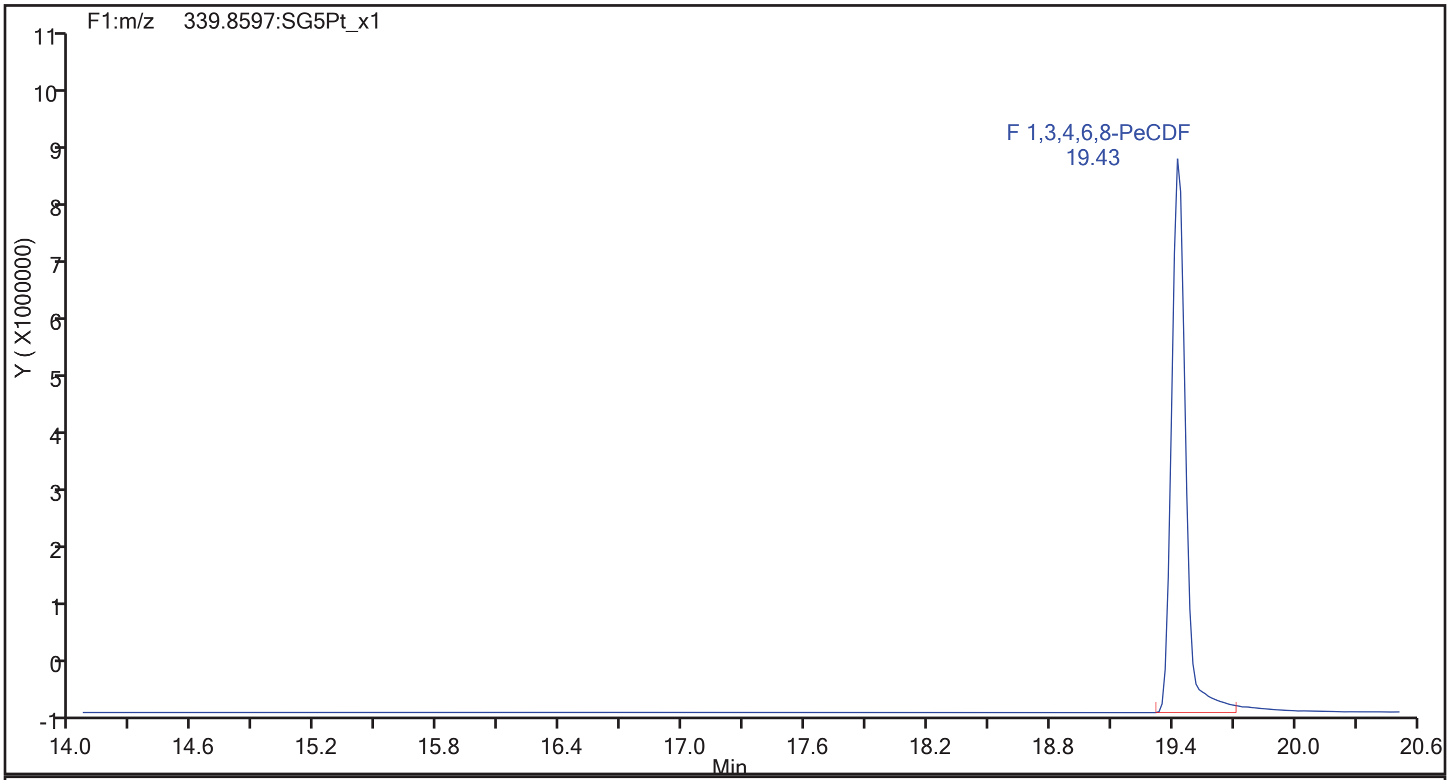
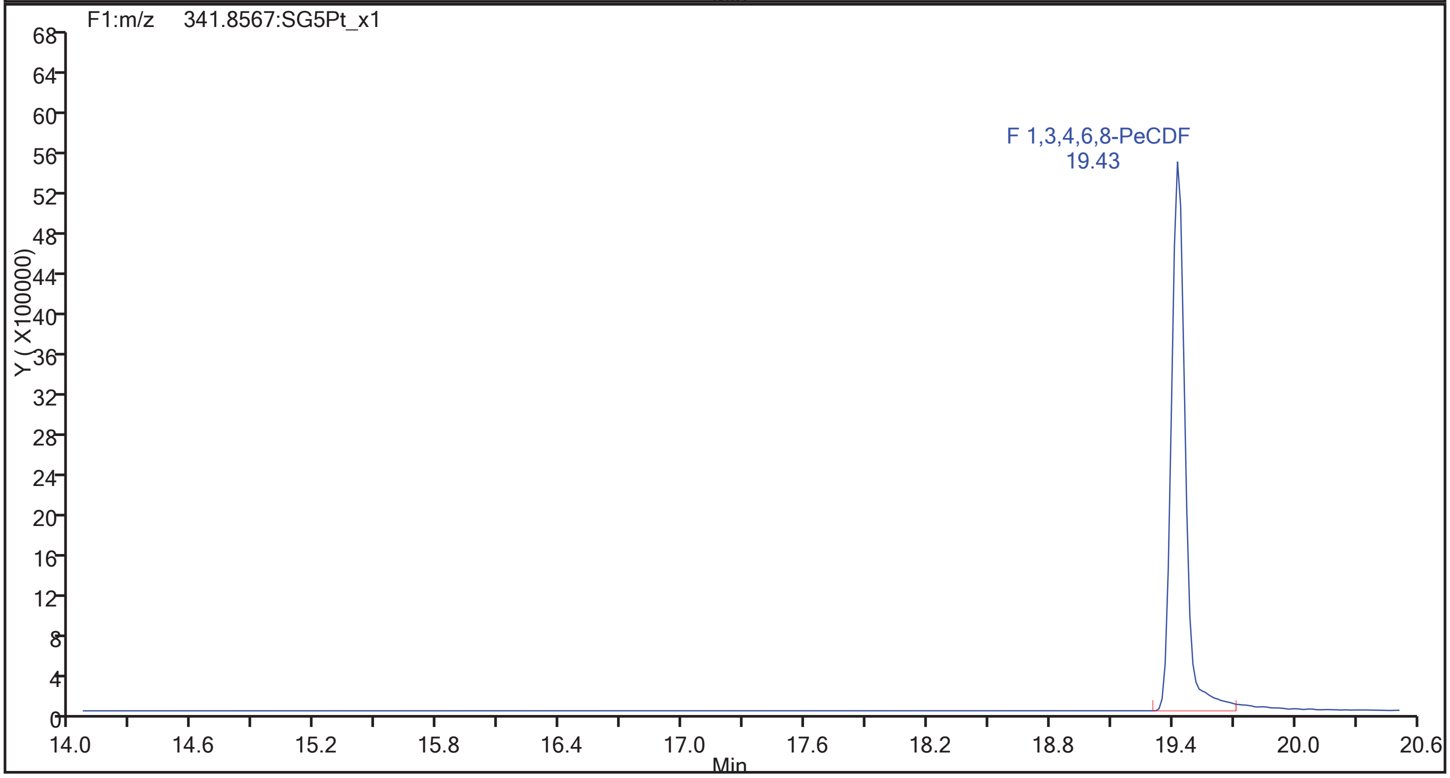
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Report Date: 14-Nov-2017 11:59:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_14.d		
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Client ID:			
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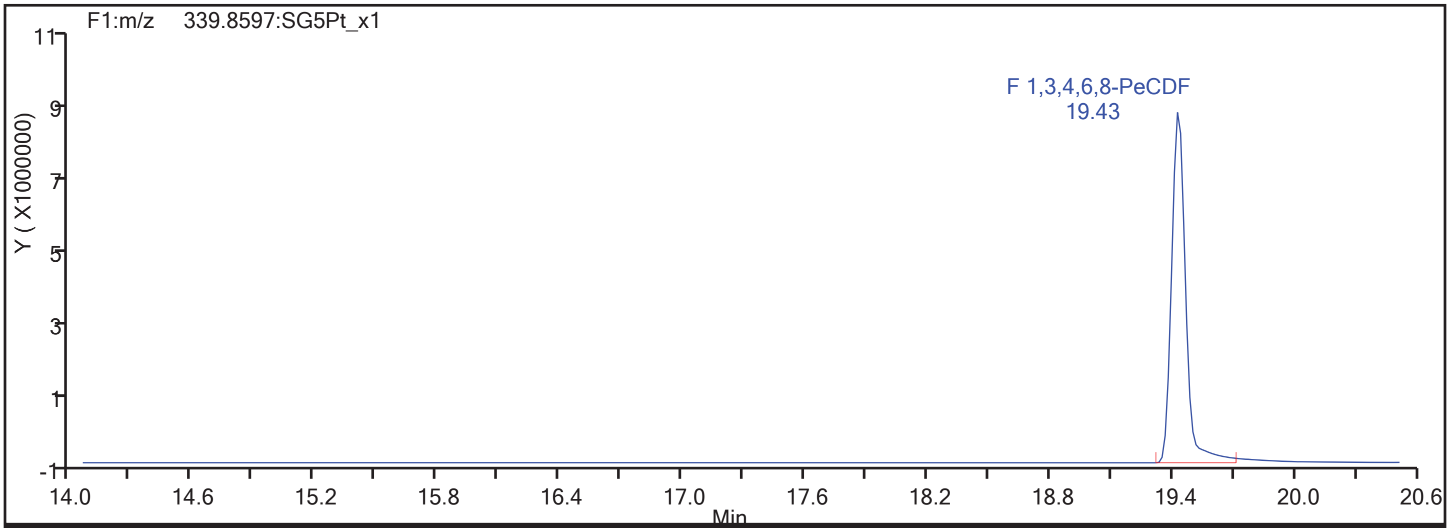
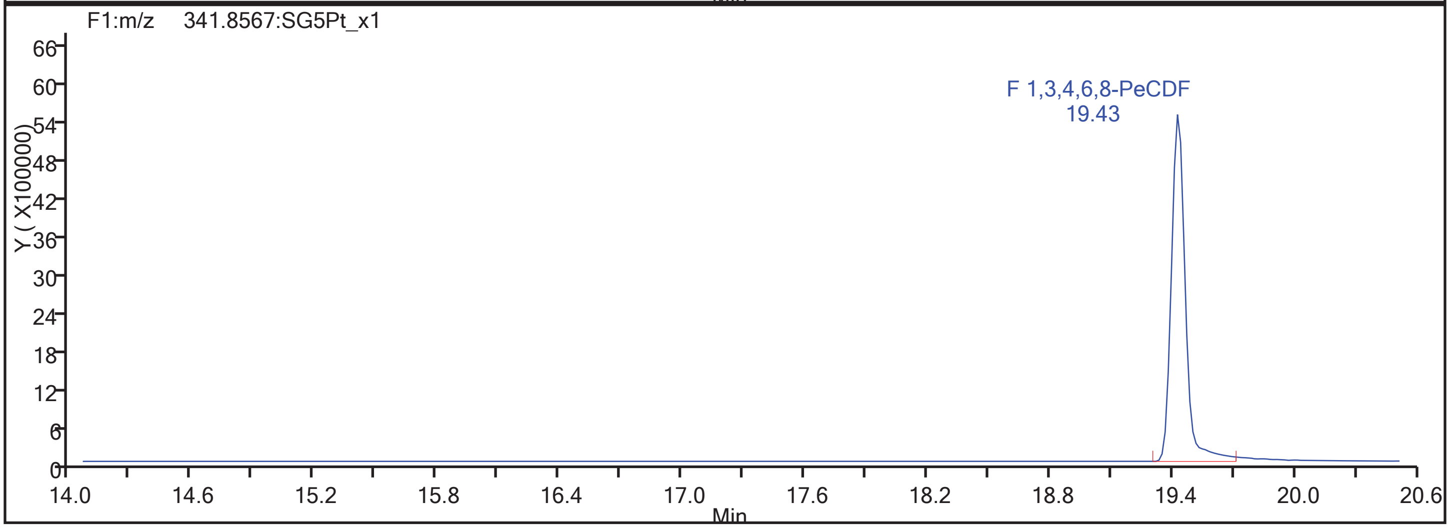
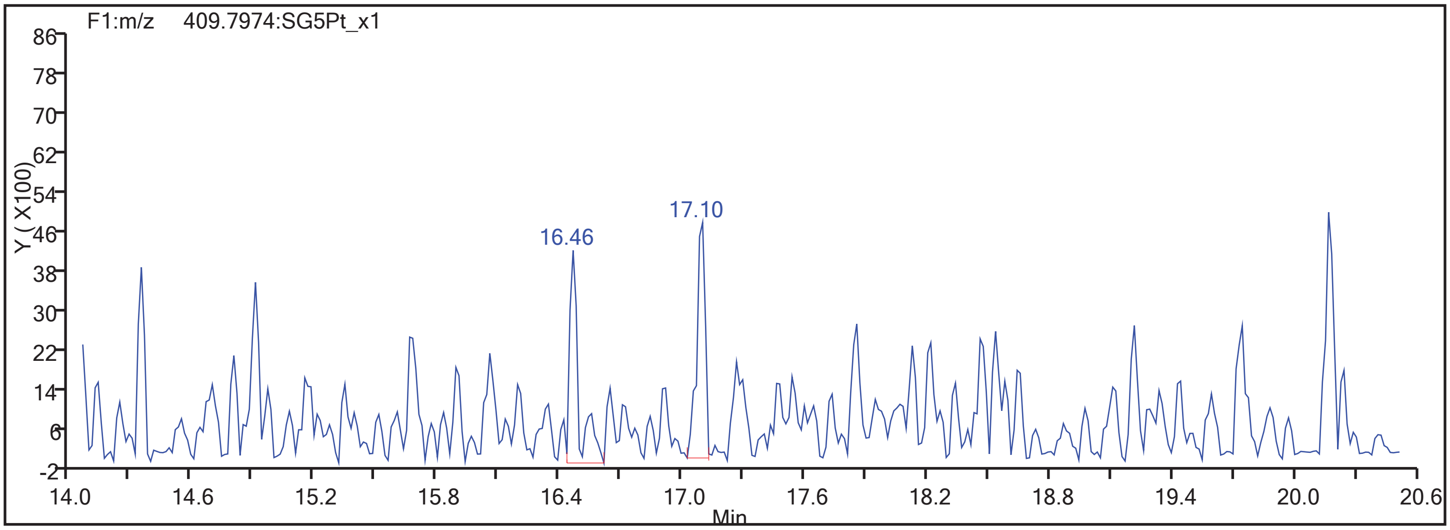
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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Injection Date: 13-Nov-2017 22:28:15 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

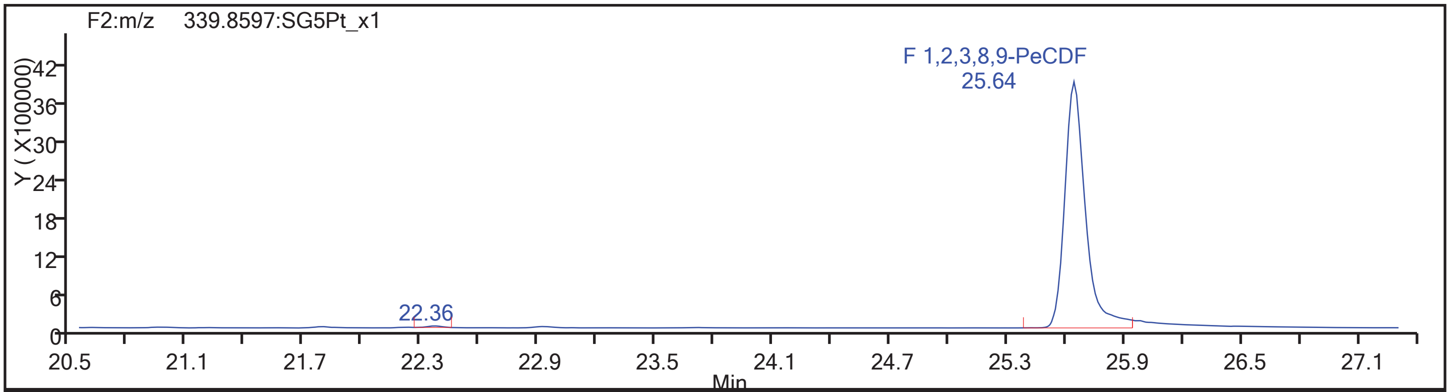
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

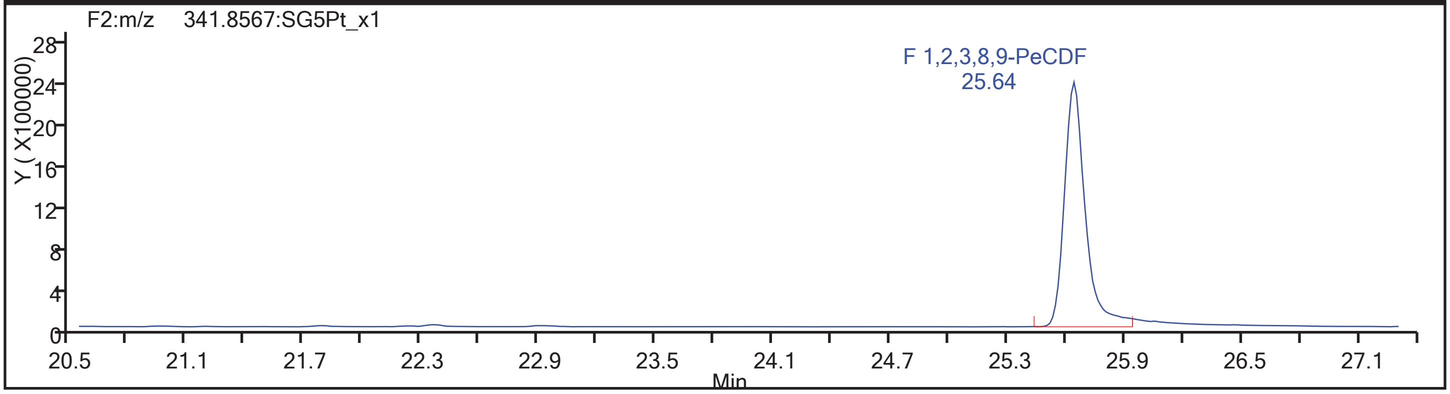
Client ID:

Worklist#: 194428 Sample Line#: 14

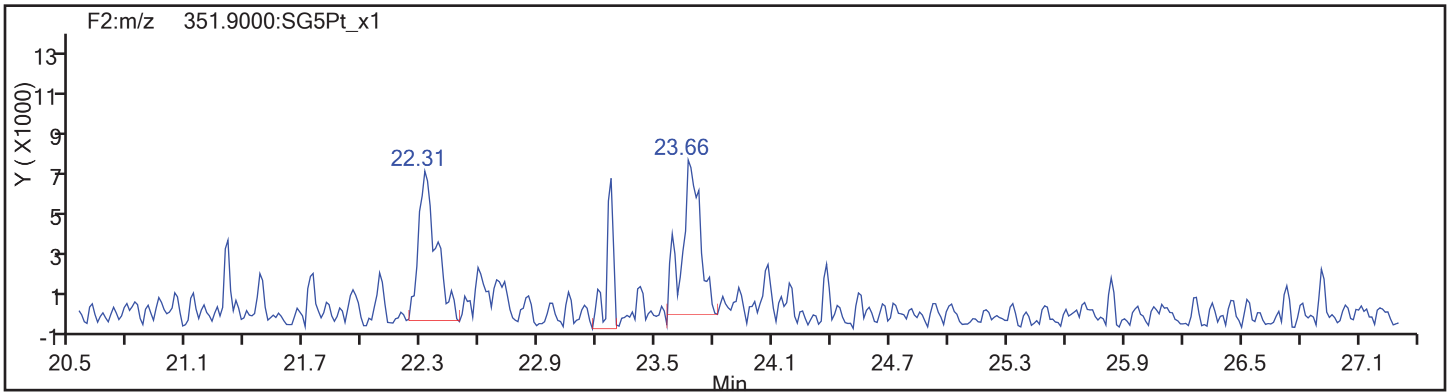
Column Type: DB-5 Column Dia: 0.32 mm

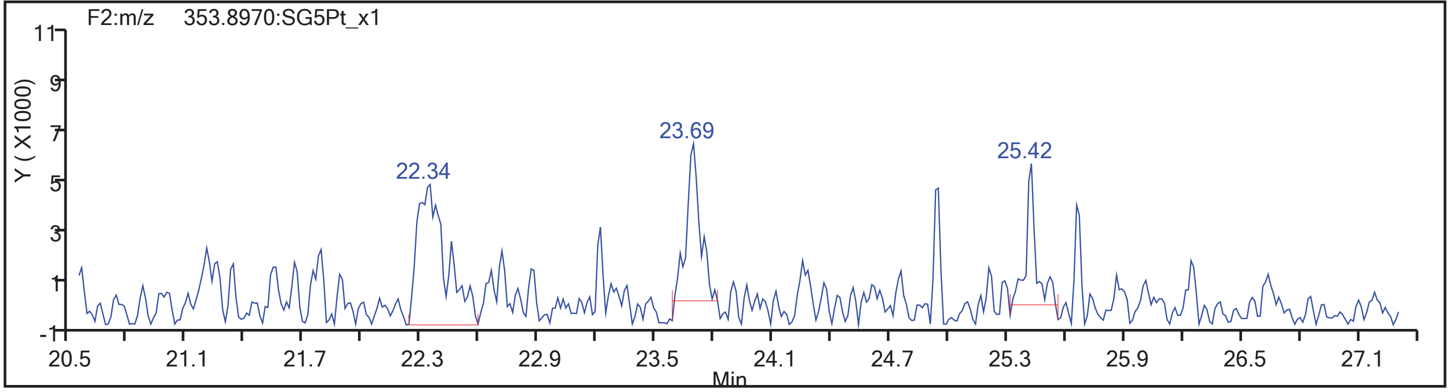
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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Injection Date: 13-Nov-2017 22:28:15 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

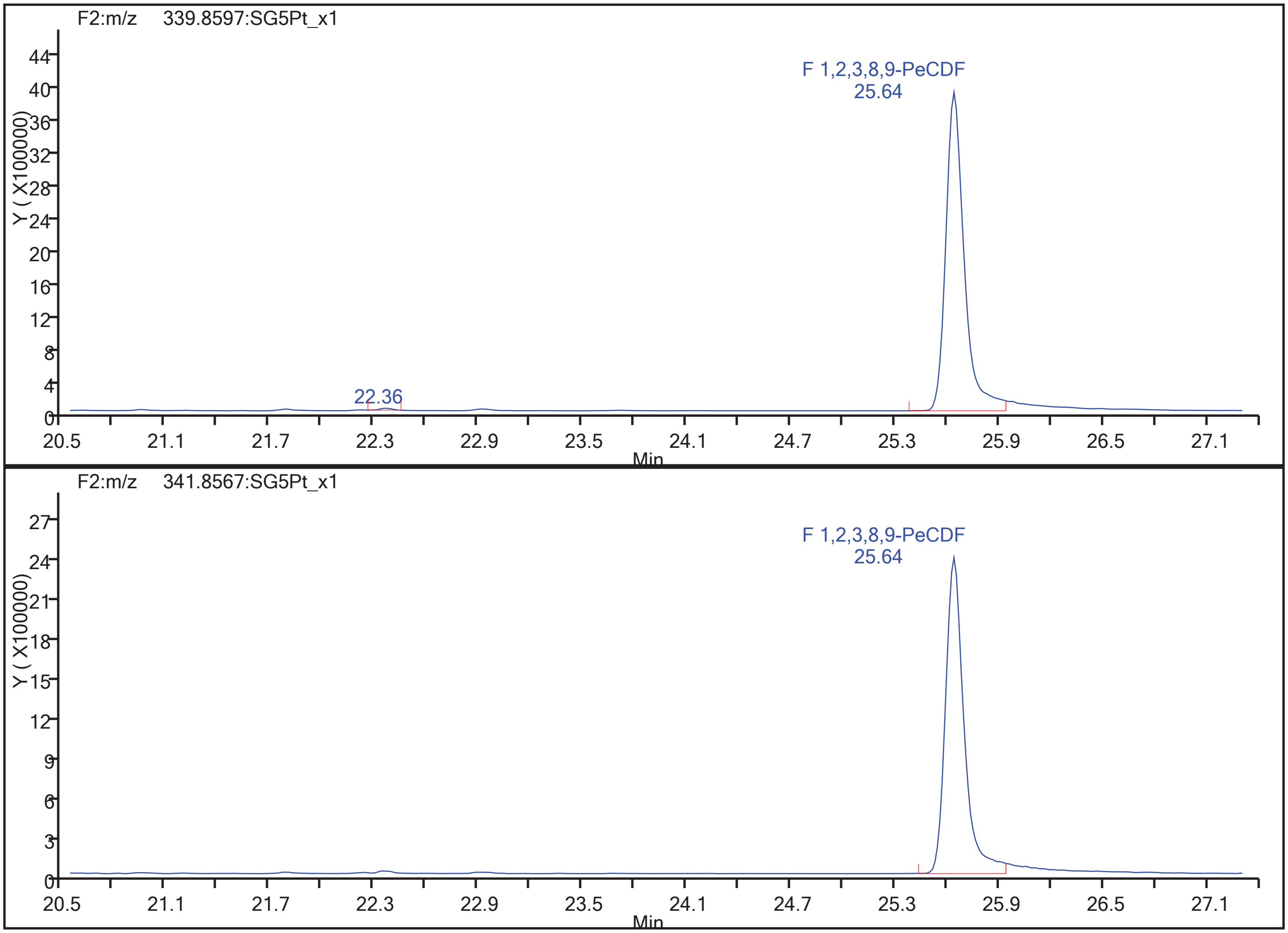
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

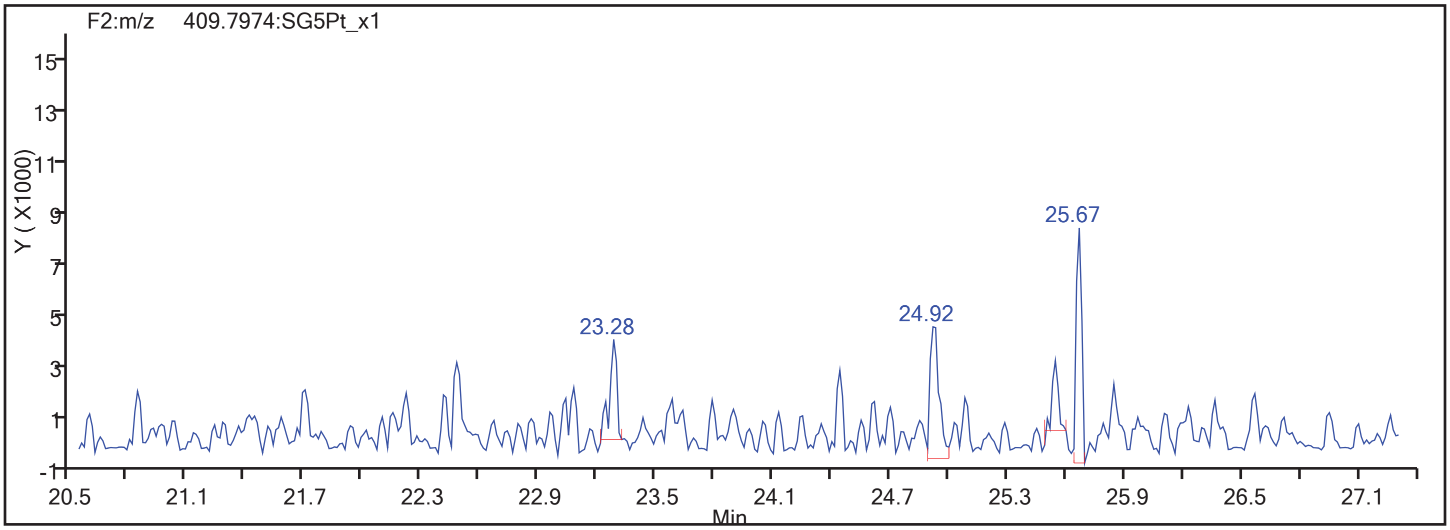
Worklist#: 194428 Sample Line#: 14

Column Type: DB-5 Column Dia: 0.32 mm

PeCDF



PeCDF Interference Mass



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TestAmerica Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
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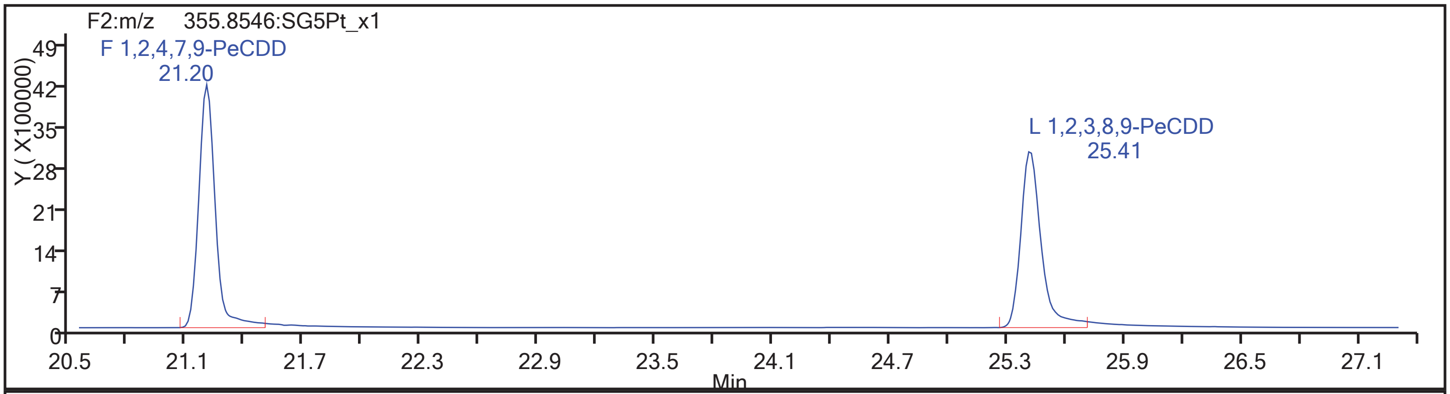
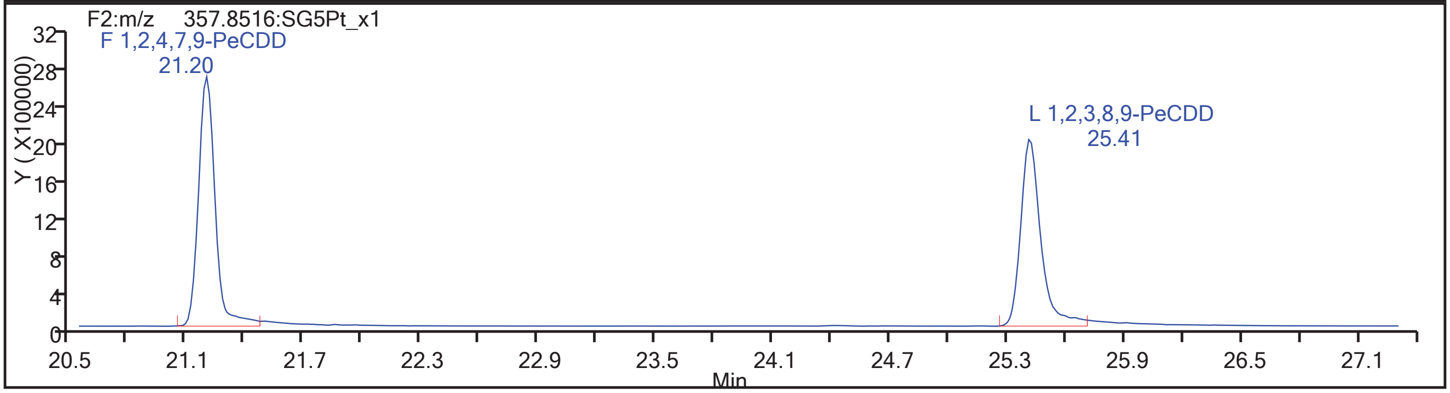
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD





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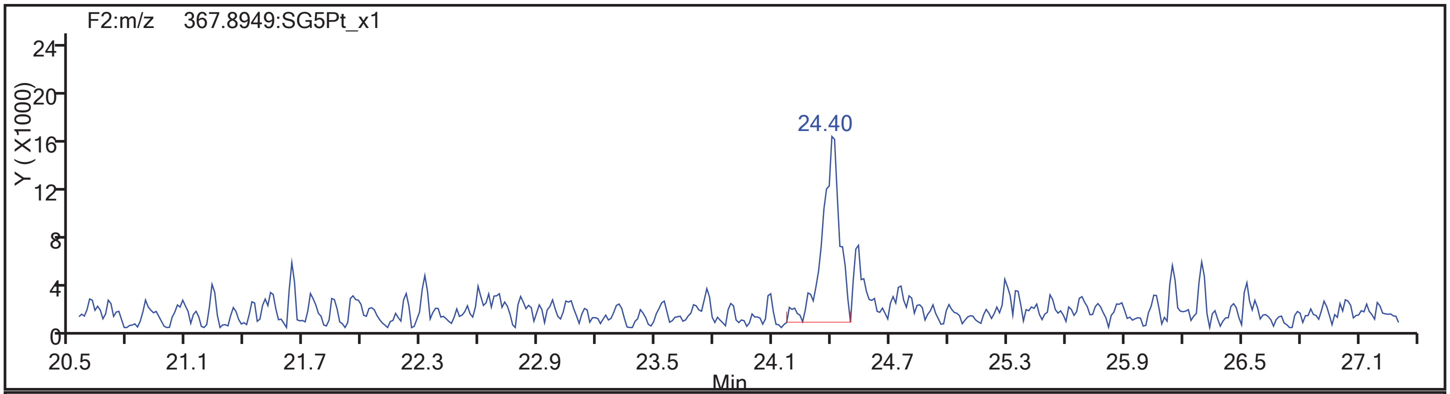

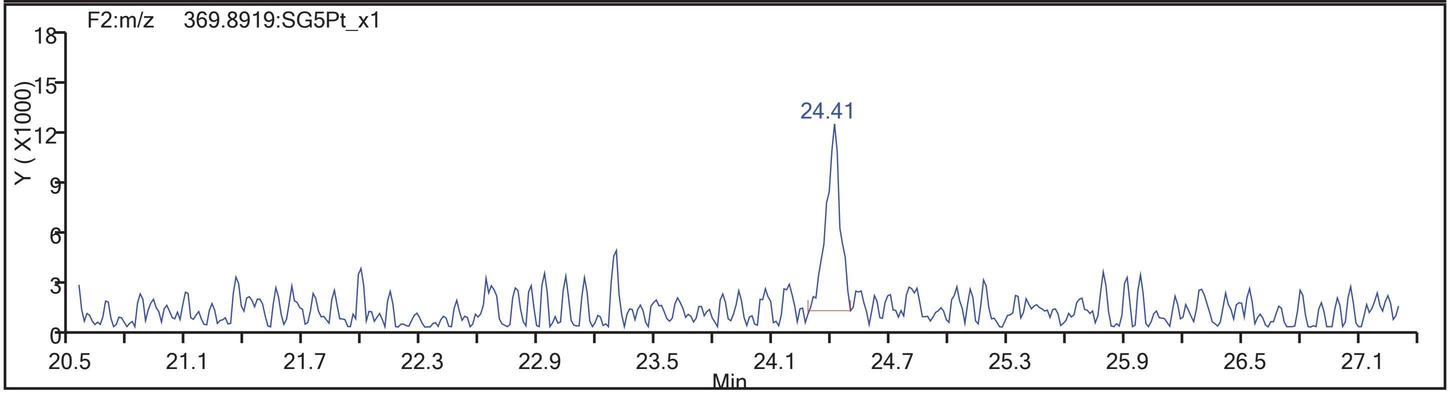

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TestAmerica Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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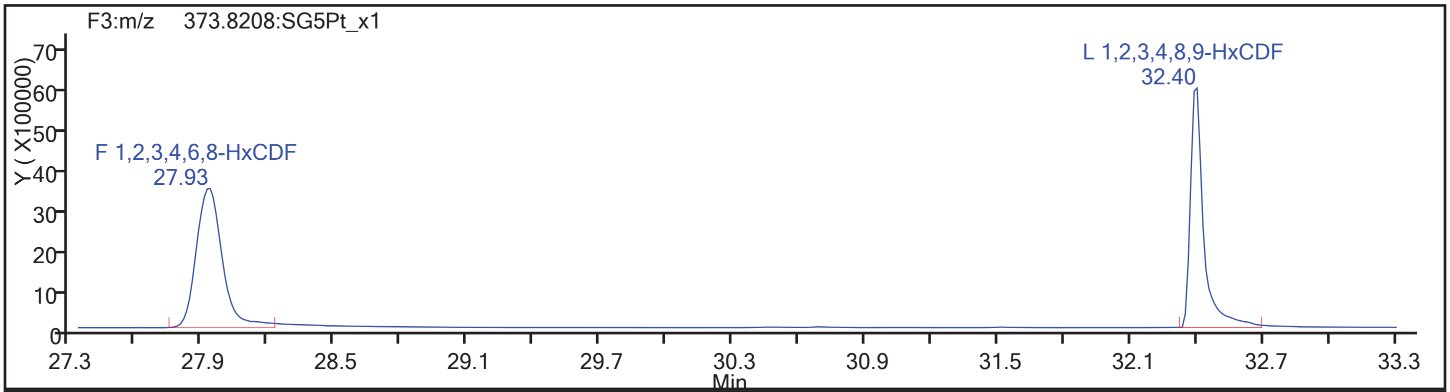
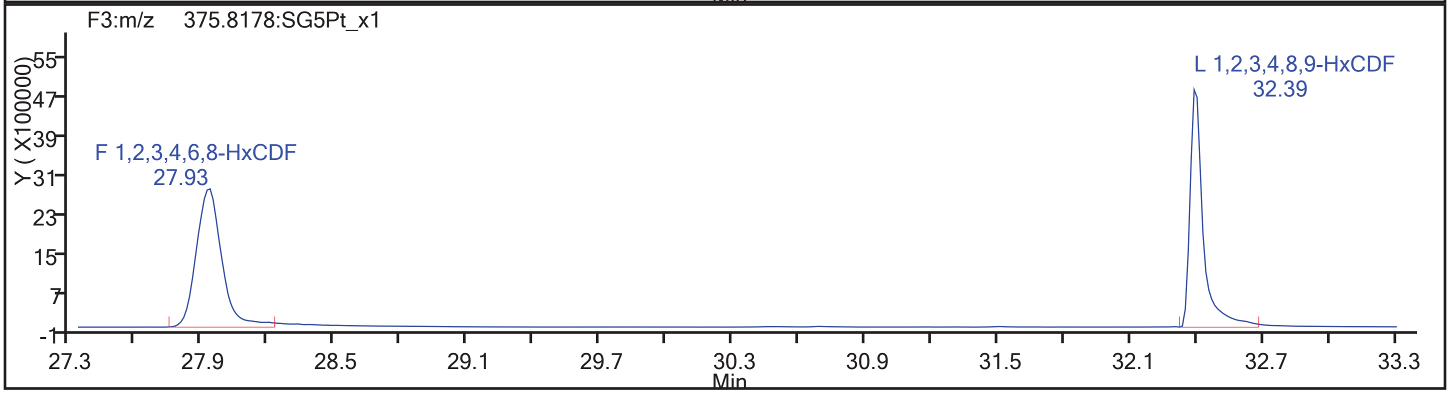
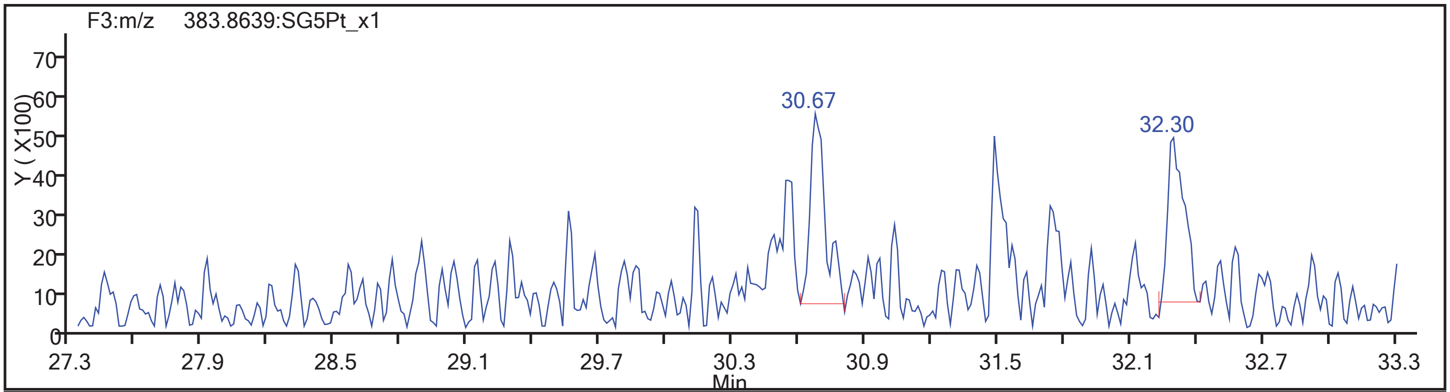
Column Type:	DB-5	Column Dia:	0.32 mm

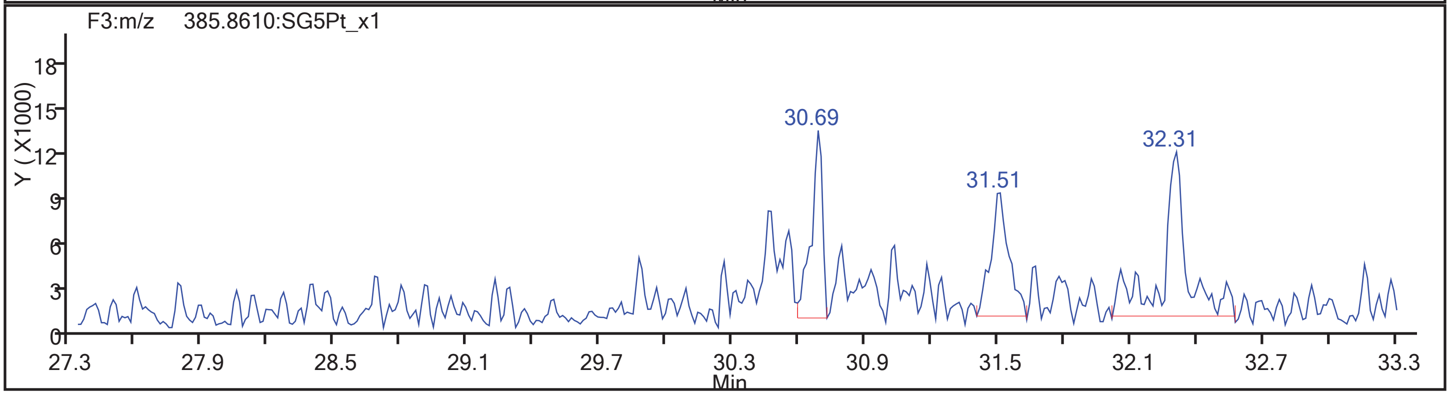
HxCDF





HxCDF Standards





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TestAmerica Sacramento

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Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

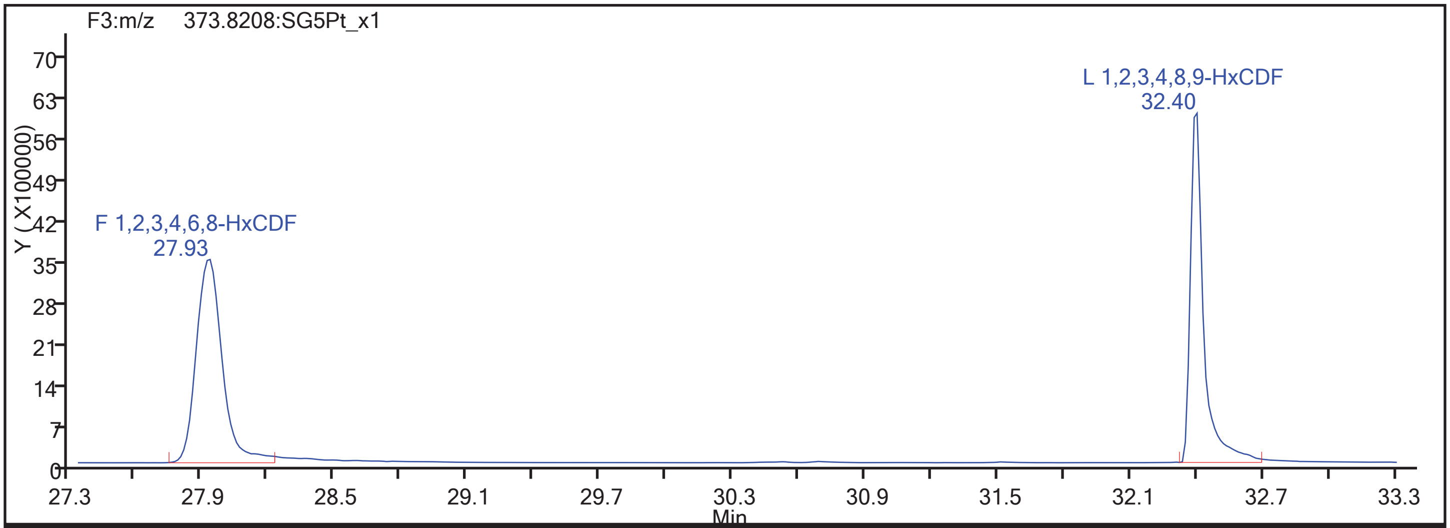
Worklist#: 194428

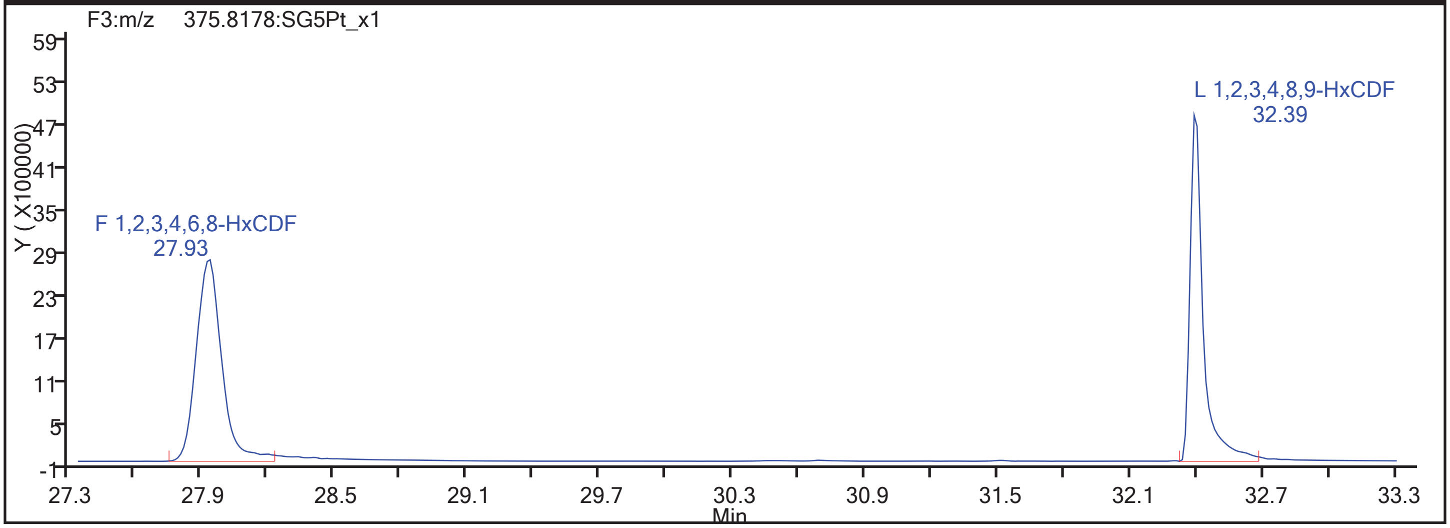
Sample Line#: 14

Column Type: DB-5

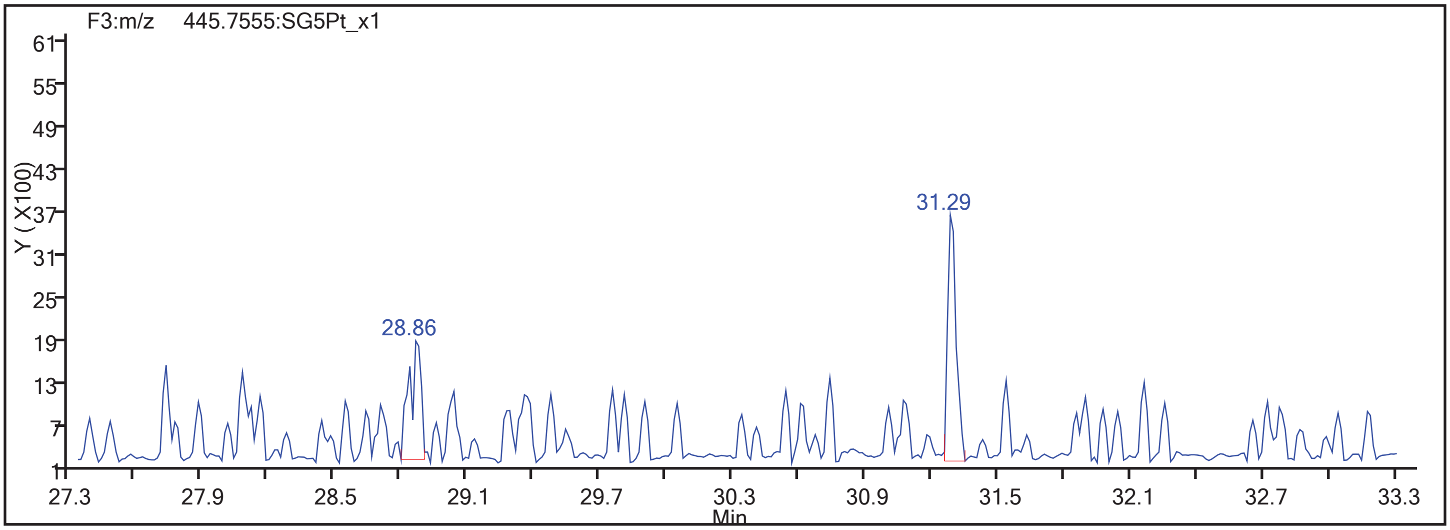
Column Dia: 0.32 mm

HxCDF





HxCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 13-Nov-2017 22:28:15

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

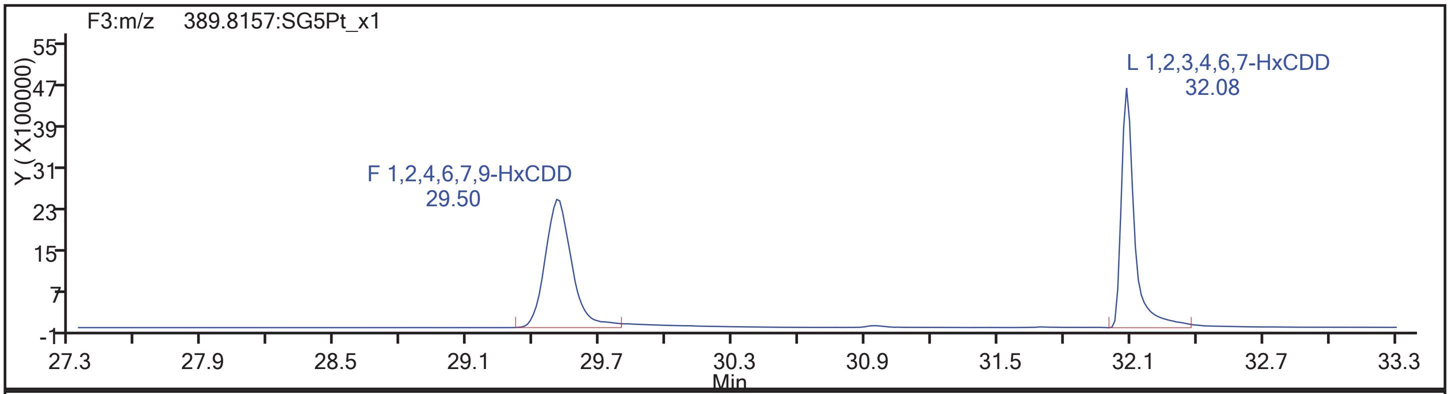
Worklist#: 194428

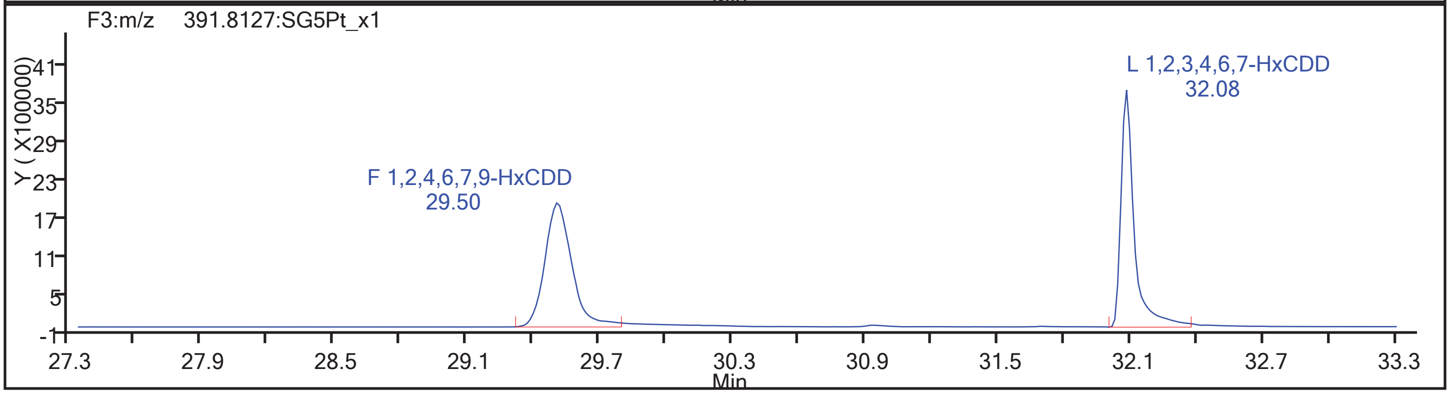
Sample Line#: 14

Column Type: DB-5

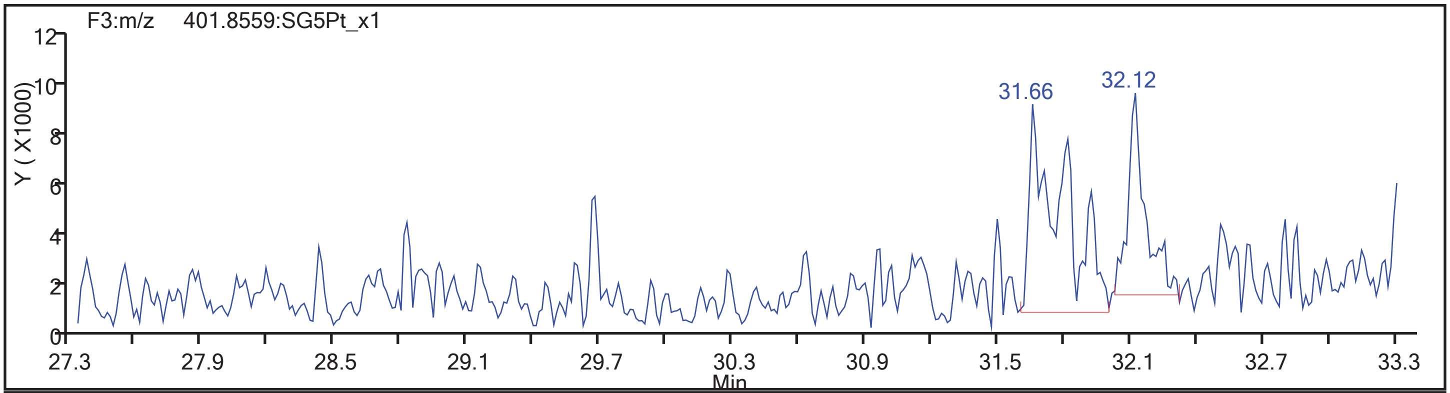
Column Dia: 0.32 mm

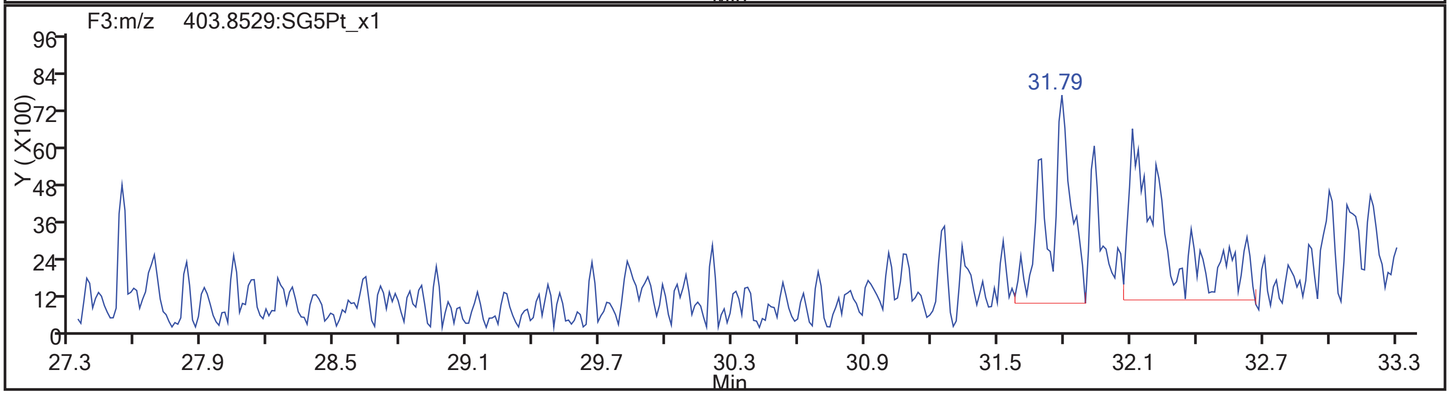
HxCDD





HxCDD Standards





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TestAmerica Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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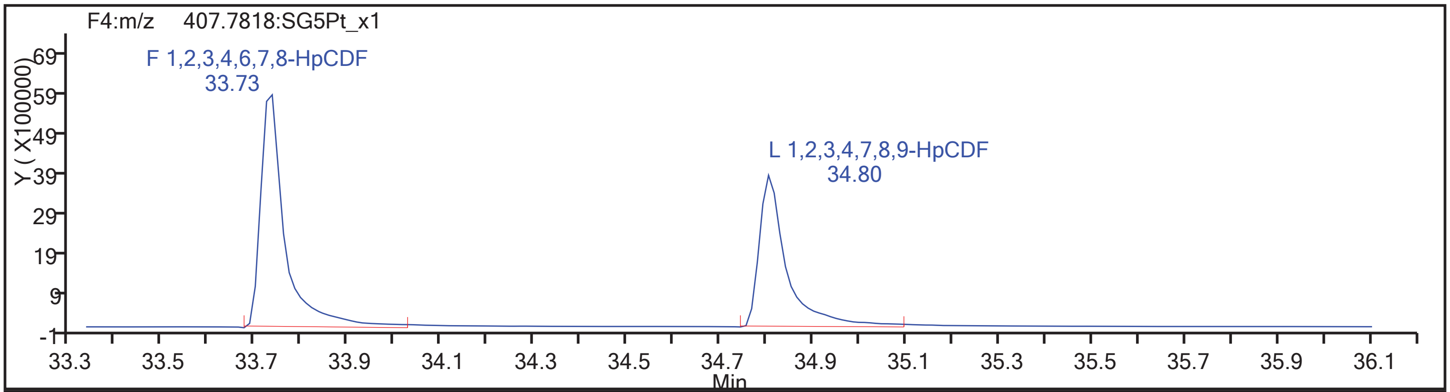
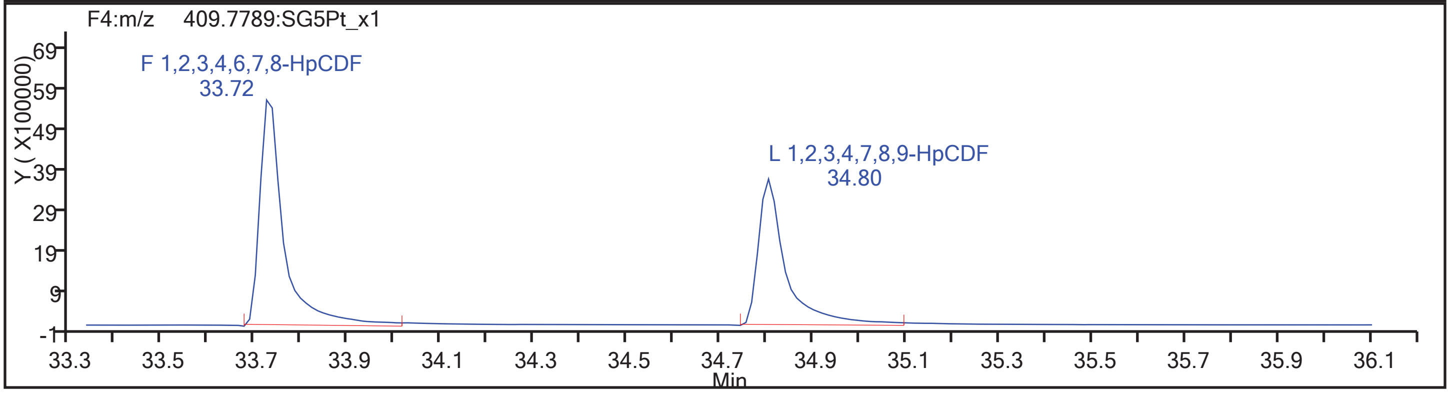
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





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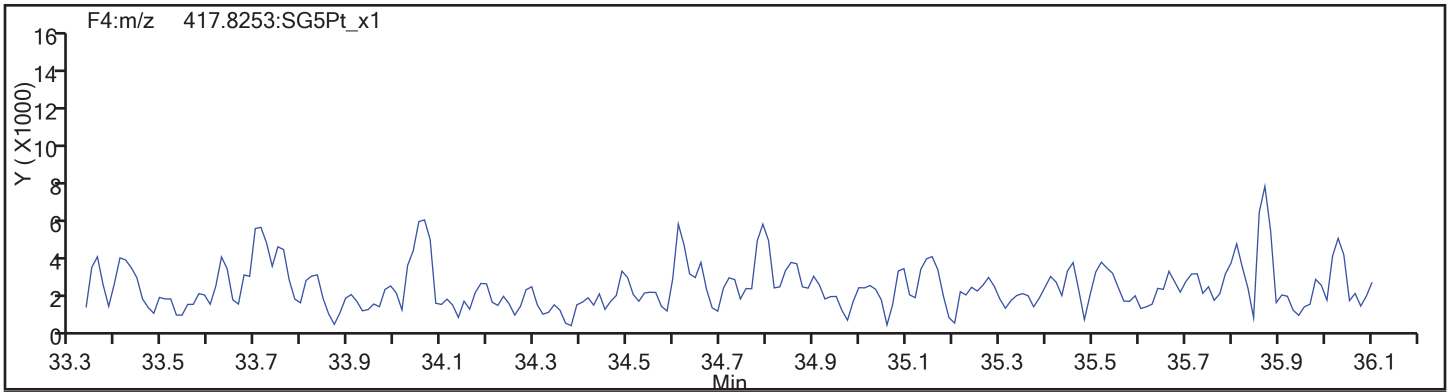

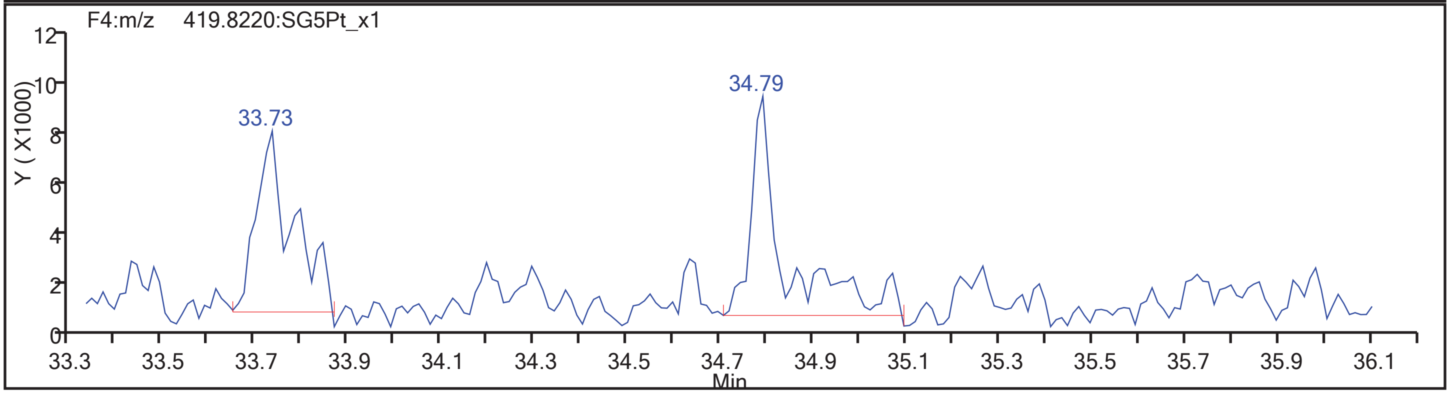

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TestAmerica Sacramento

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Injection Vol: 2.0 ul
Instrument ID: 10D5
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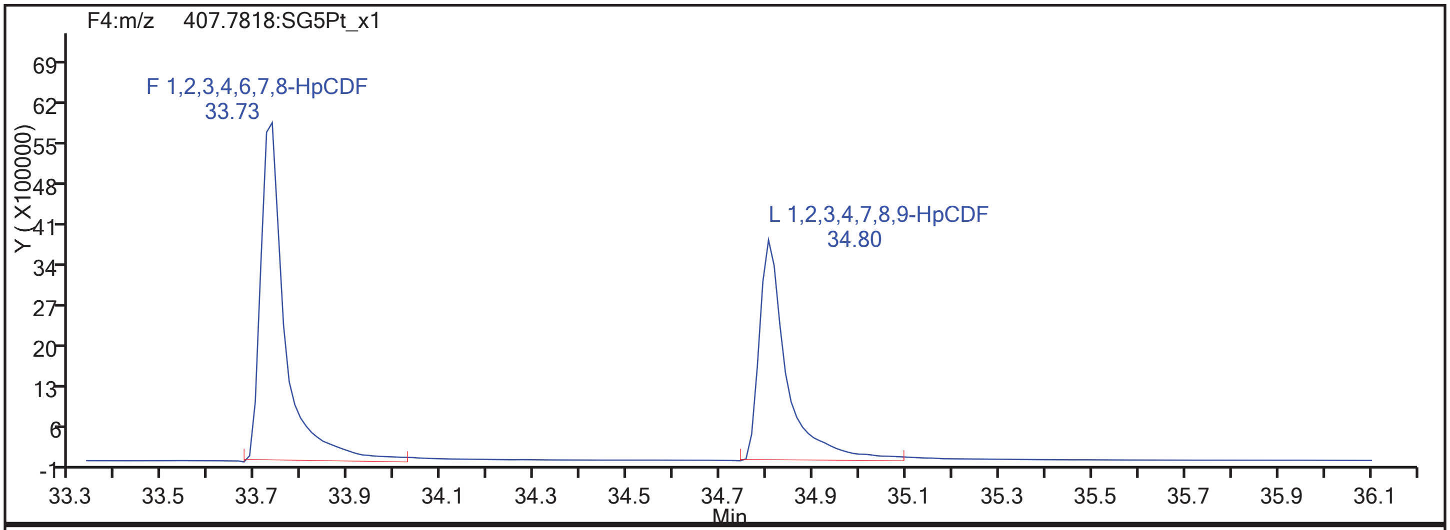
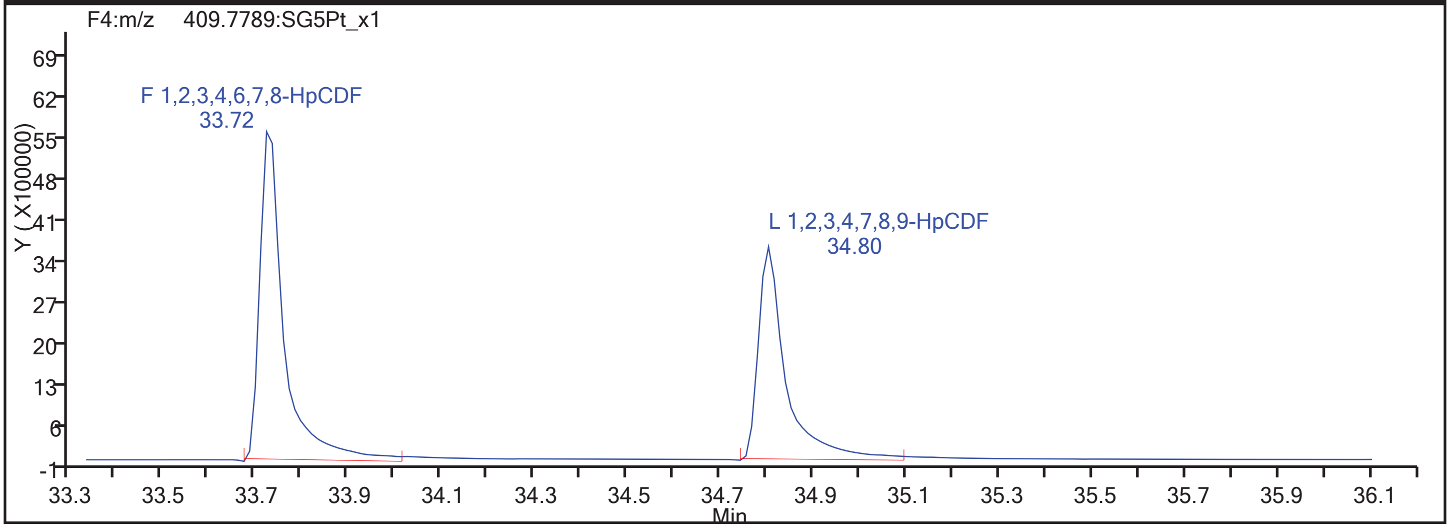
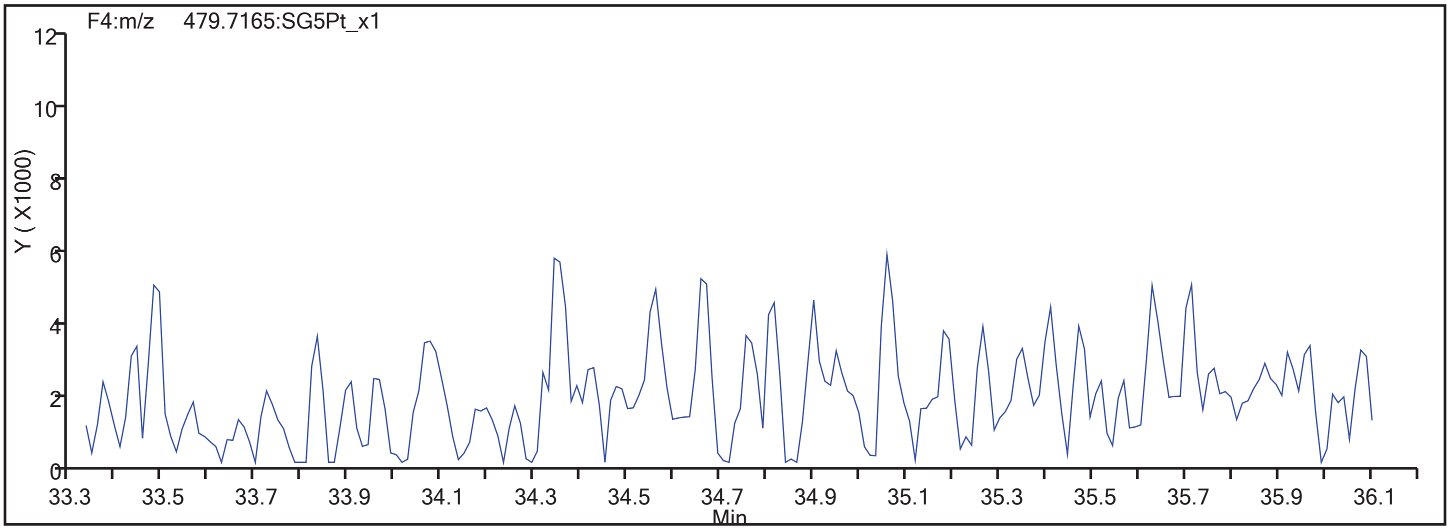




HpCDF Interference Mass



Report Date: 14-Nov-2017 11:59:06 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Client ID:			
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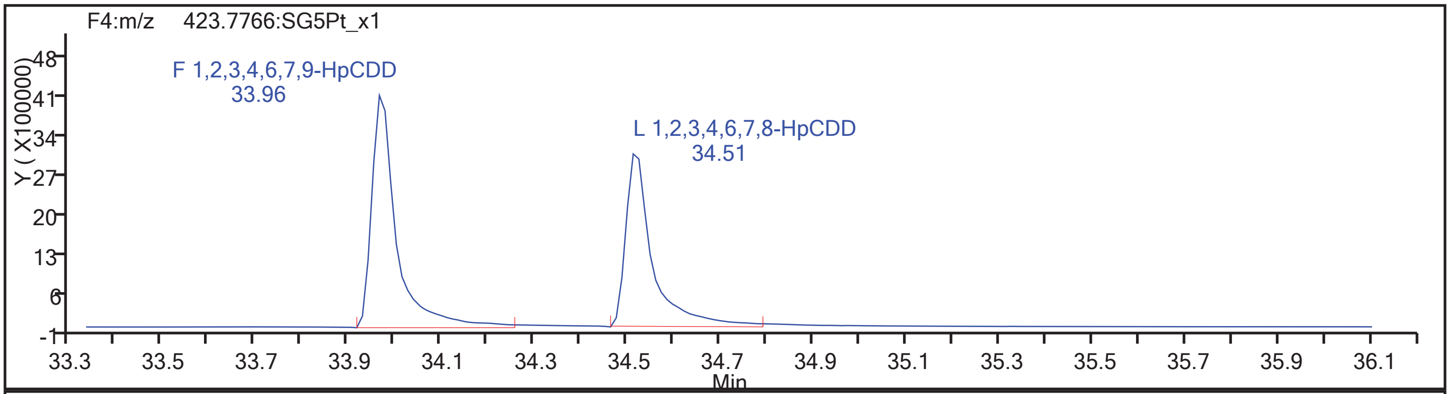
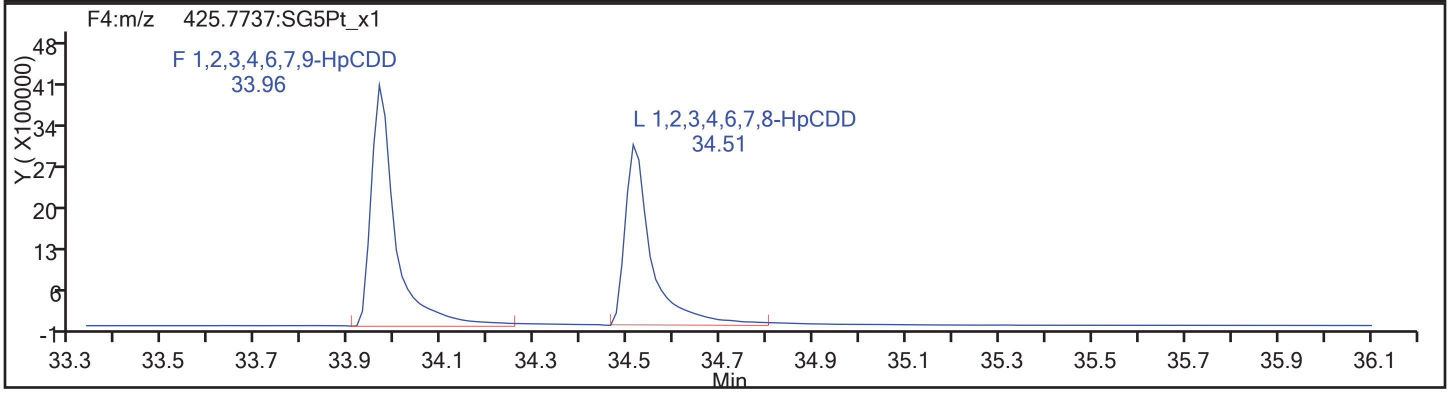
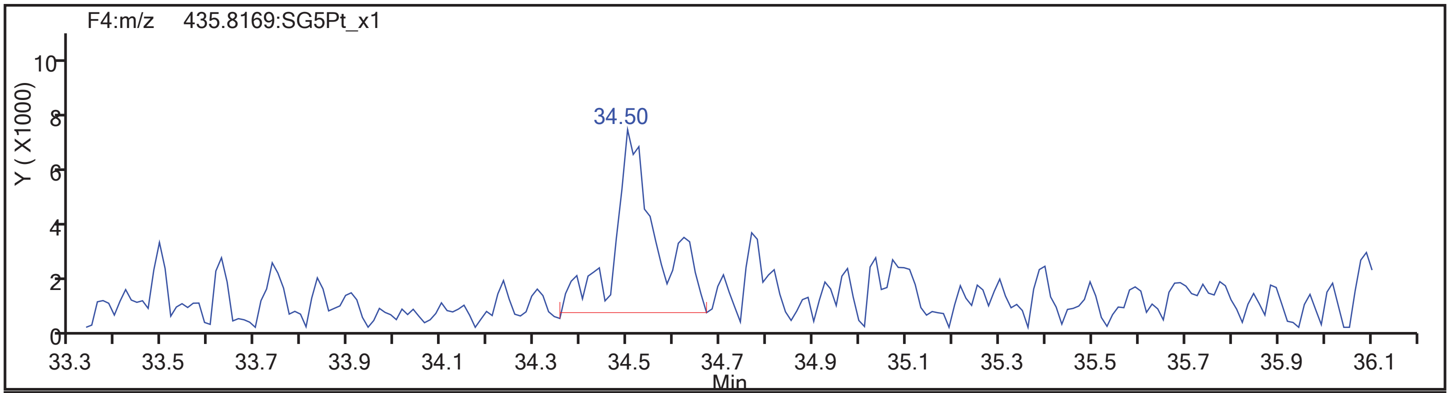
Column Type:	DB-5	Column Dia:	0.32 mm

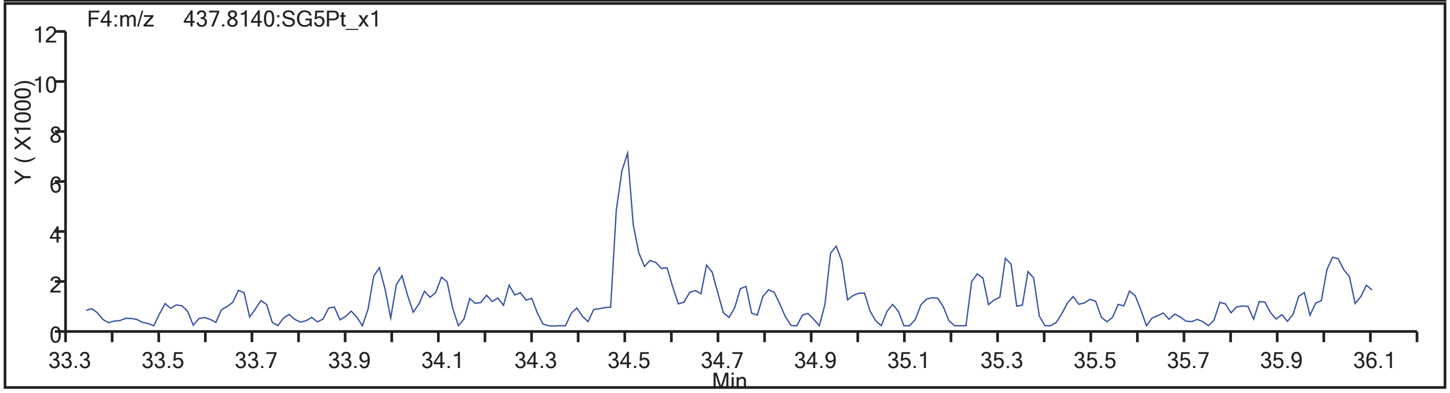
HpCDD





HpCDD Standards





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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_14.d

Injection Date: 13-Nov-2017 22:28:15

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

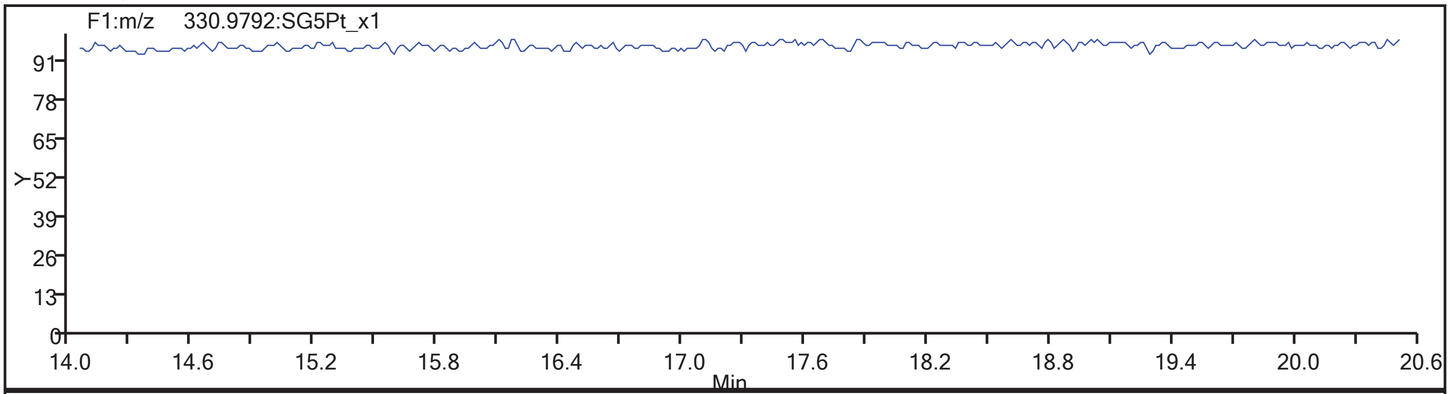
Client ID:

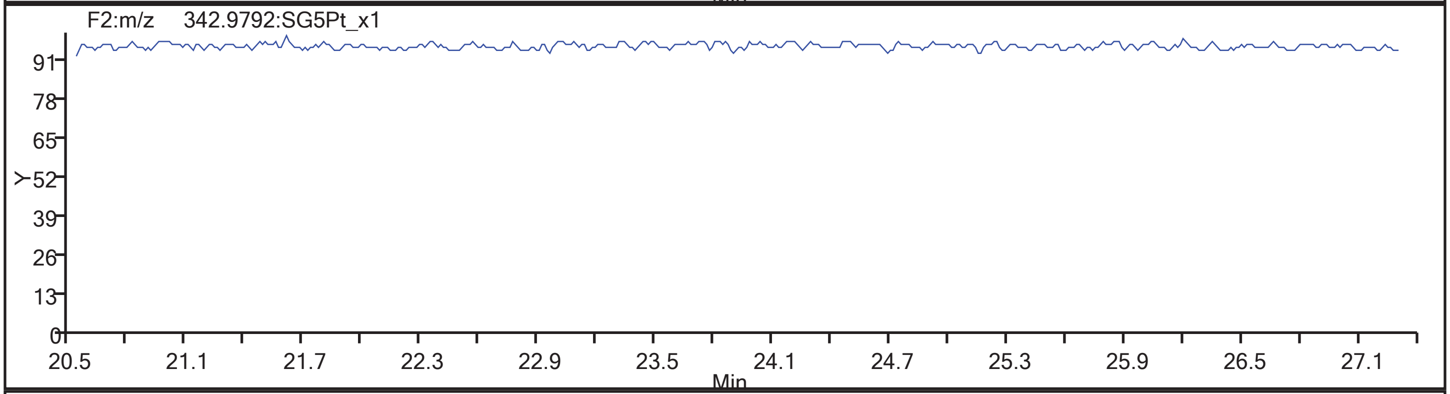
Worklist#: 194428

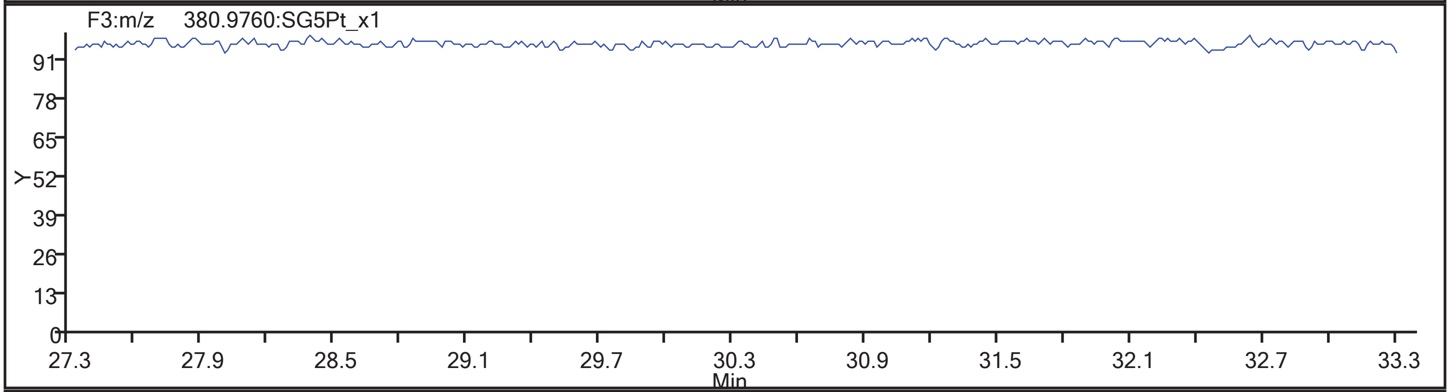
Sample Line#: 14

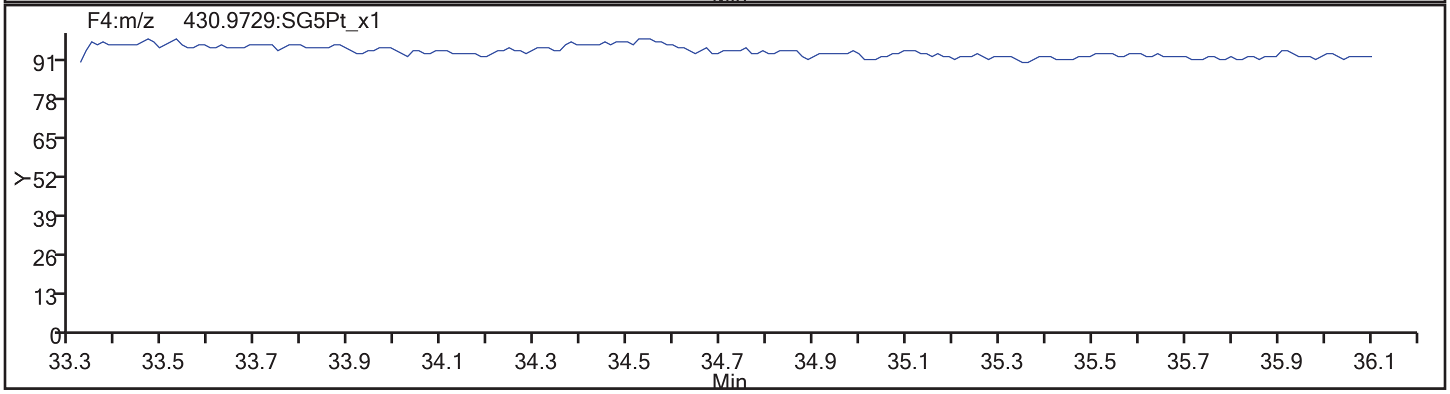
Column Type: DB-5

Column Dia: 0.32 mm



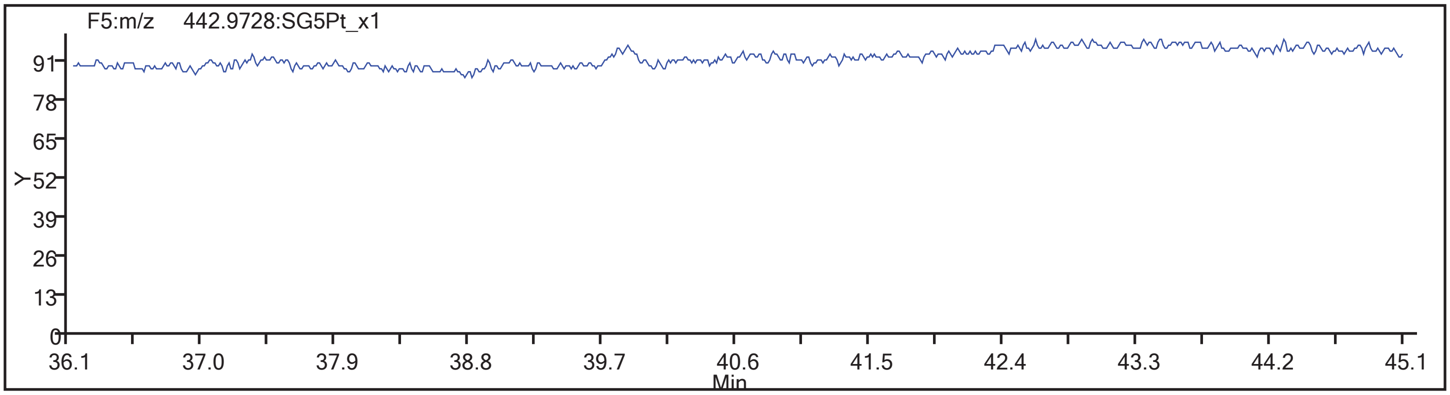






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_14.d		
Injection Date:	13-Nov-2017 22:28:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_27.d				
Lims ID:	WDM				
Client ID:					
Sample Type:	WDM				
Inject. Date:	14-Nov-2017 09:06:45	ALS Bottle#:	1	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	WDM 111317B WDM HRDXNCP_00034				
Misc. Info.:	13NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	15-Nov-2017 01:27:57	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK012				

First Level Reviewer: shardaa Date: 14-Nov-2017 11:45:17

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.294	47701052	0.77	1.2741					0.00	
2,3,7,8-TCDF	17.324	104250100	0.77	1.1341	77.1	77.1	0.3476	0.3476		
A Non-2,3,7,8-sub-TCDF	17.022	1695483	0.88	1.1341	1.254	1.254	0.3476	1.254		
S Total TCDF					78.3	78.3	0.3476	0.3476		
D 13C-2,3,7,8-TCDD	18.005	34366344	0.77	0.9921					0.00	
2,3,7,8-TCDD	18.020	35493419	0.79	0.9993	41.3	41.3	0.3038	0.3038		
A Non-2,3,7,8-sub-TCDD	17.468						0.0	0.0		
S Total TCDD					41.3	41.3	0.3038	0.3038		
A F1 PeCDFs	19.948						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.086	326536	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.290						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.141						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.779						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.734	34230657	1.06	1.6399						
1,2,3,4,7,8,9-HpCDF	34.803	26174087	1.05	1.3302						
A Non-2,3,7,8-sub-HpCDF	34.268						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.511	20742938	1.04	0.9932						
A Non-2,3,7,8-sub-HpCDD	34.238						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.905	55146868	0.76							
1,3,6,8-TCDD	15.812	34037051	0.80							
2,3,4,7-TCDF	17.324	104250100	0.77							
1,2,3,7-TCDD	17.914	29651069	0.78							
1,2,3,9-TCDD	18.186	36993833	0.80							
1,2,3,9-TCDF	18.186	45778616	0.76							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.124	14840226								
1,2,8,9-TCDF	19.139	47978535	0.78							
1,3,4,6,8-PeCDF	19.411	49263247	1.58							
1,2,4,7,9-PeCDD	21.183	30791218	1.54							
1,2,3,8,9-PeCDD	25.396	28831158	1.57							
1,2,3,8,9-PeCDF	25.615	37409009	1.63							
1,2,3,4,6,8-HxCDF	27.891	42481481	1.27							
1,2,4,6,7,9-HxCDD	29.475	30469992	1.27							
1,2,3,4,6,7-HxCDD	32.084	28117507	1.24							
1,2,3,4,8,9-HxCDF	32.390	37159457	1.29							
1,2,3,4,6,7,9-HpCDD	33.965	25365605	1.04							

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

Report Date: 15-Nov-2017 01:27:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_27.d				
Lims ID:	WDM				
Client ID:					
Sample Type:	WDM				
Inject. Date:	14-Nov-2017 09:06:45	ALS Bottle#:	1	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	WDM 111317B WDM HRDXNCP_00034				
Misc. Info.:	13NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	15-Nov-2017 01:27:57	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK012				
First Level Reviewer: shardaa		Date:	14-Nov-2017 11:45:17		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.294	17.294	0	1.000	20785794	5070746	26473	66182	192		
317.9389	17.294	17.294	0	1.000	26915258	6500553	9680	24200	672	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.324	17.324	0	1.002	45226112	10202981	21544	53860	474		
305.8987	17.324	17.324	0	1.002	59023988	13521080	24072	60180	562	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	19.426	17.022	144	1.123	794300	94641	21544	53860	4		
305.8987	19.426	17.022	144	1.123	901183	126300	24072	60180	5	0.88(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.005	18.005	0	1.000	14907120	3508822	10914	27285	321		
333.9339	18.005	18.005	0	1.000	19459224	4648320	4041	10102	1150	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.020	18.020	0	1.001	15711704	3673435	10747	26867	342		
321.8936	18.020	18.020	0	1.001	19781715	4579408	14021	35052	327	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.468						10747	26867			
321.8936	17.468						14021	35052			
A F1 PeCDFs											
339.8597	19.948						1950	4875			
341.8567	19.948						2111	5277			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.328	23.086	-45	1.000	167583	24647	3714	9285	7		
341.8567	22.342	23.086	-45	1.000	60516	15517	2980	7450	5	2.77(1.32-1.78)	
339.8597	22.901	23.086	-11	1.000	105076	15706	3714	9285	4		
341.8567	22.887	23.086	-12	1.000	67145	10791	2980	7450	4	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.290						4973	12432			
357.8516	23.290						3206	8015			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.141						9253	23132			
375.8178	30.141						6122	15305			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.779						6573	16432			
391.8127	30.779						5503	13757			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.734	33.734	0	1.000	17583840	4759637	31061	77652	153		
409.7789	33.722	33.734	-1	1.000	16646817	4599219	31312	78280	147	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.803	34.803	0	1.000	13401264	3223229	31061	77652	104		
409.7789	34.803	34.803	0	1.000	12772823	3095849	31312	78280	99	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.268						31061	77652			
409.7789	34.268						31312	78280			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.511	34.511	0	1.000	10572414	2584088	23565	58912	110		
425.7737	34.511	34.511	0	1.000	10170524	2563068	25585	63962	100	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.238						23565	58912			
425.7737	34.238						25585	63962			
1,3,6,8-TCDF											
303.9016	14.905	14.905	0		23884132	7245382	21544	53860	336		
305.8987	14.890	14.905	-1		31262736	9311394	24072	60180	387	0.76(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.812	15.812	0		15148537	4423087	10747	26867	412		
321.8936	15.812	15.812	0		18888514	5462414	14021	35052	390	0.80(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.324	17.324	0		45226112	10202981	21544	53860	474		
305.8987	17.324	17.324	0		59023988	13521080	24072	60180	562	0.77(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.914	17.914	0		12955831	3299380	10747	26867	307		
321.8936	17.914	17.914	0		16695238	4180585	14021	35052	298	0.78(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.186	18.186	0		16403408	3762926	10747	26867	350		
321.8936	18.186	18.186	0		20590425	4734101	14021	35052	338	0.80(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.186	18.186	0		19741682	4752696	21544	53860	221		
305.8987	18.186	18.186	0		26036934	6170738	24072	60180	256	0.76(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.124	19.124	0		14840226	3173967	10747	26867	295		
1,2,8,9-TCDF											
303.9016	19.139	19.139	0		21068761	4602236	21544	53860	214		
305.8987	19.139	19.139	0		26909774	5806246	24072	60180	241	0.78(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,3,4,6,8-PeCDF											
339.8597	19.411	19.411	0		30203271	6727136	1950	4875	3450		
341.8567	19.411	19.411	0		19059976	4194132	2111	5277	1987	1.58(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	21.183	21.183	0		18647347	3305979	4973	12432	665		
357.8516	21.169	21.183	-1		12143871	2106037	3206	8015	657	1.54(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.396	25.396	0		17606715	2430689	4973	12432	489		
357.8516	25.396	25.396	0		11224443	1533745	3206	8015	478	1.57(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.615	25.615	0		23180195	3067593	3714	9285	826		
341.8567	25.615	25.615	0		14228814	1908327	2980	7450	640	1.63(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	27.891	27.891	0		23741761	2958309	9253	23132	320		
375.8178	27.891	27.891	0		18739720	2376203	6122	15305	388	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.475	29.475	0		17052230	1969385	6573	16432	300		
391.8127	29.475	29.475	0		13417762	1582296	5503	13757	288	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.084	32.084	0		15560843	3748589	6573	16432	570		
391.8127	32.084	32.084	0		12556664	2993193	5503	13757	544	1.24(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.390	32.390	0		20899499	5097528	9253	23132	551		
375.8178	32.390	32.390	0		16259958	4054382	6122	15305	662	1.29(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.965	33.965	0		12932642	3426741	23565	58912	145		
425.7737	33.965	33.965	0		12432963	3416653	25585	63962	134	1.04(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_27.d		
Lims ID:	WDM		
Client ID:			
Inject. Date:	14-Nov-2017 09:06:45	Dil. Factor:	1.0000
Sample Type:	WDM, Window Defining Mix		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194429	Lims Sample ID:	27

Non-2,3,7,8-sub-TCDF, RT: 17.022

Initial Calibration RRF | IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	40.000	47701052	11571299

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		40.000	47701052	11571299

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
19.426	794300	94641	901183	126300	1.25	0.88	
Signal Totals:							
	794300	94641	901183	126300			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1695483	220941				0.88	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.254 = (1695483 * 40.000) / (47701052 * 1.134)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_27.d
Lims ID: WDM
Client ID:
Inject. Date: 14-Nov-2017 09:06:45
Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194429
Lims Sample ID: 27

Non-2,3,7,8-sub-PeCDF, RT: 23.086

Initial Calibration RRF | IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163				
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.328	167583	24647	60516	15517		2.77	R
22.901	105076	15706	67145	10791		1.56	
Signal Totals:							
	272659	40353	127661	26308			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	400320	66661				2.14	RQ
	326536	66065					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (400320 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (326536 * 0.0) / (0 * 0.000)

QC Flag Legend

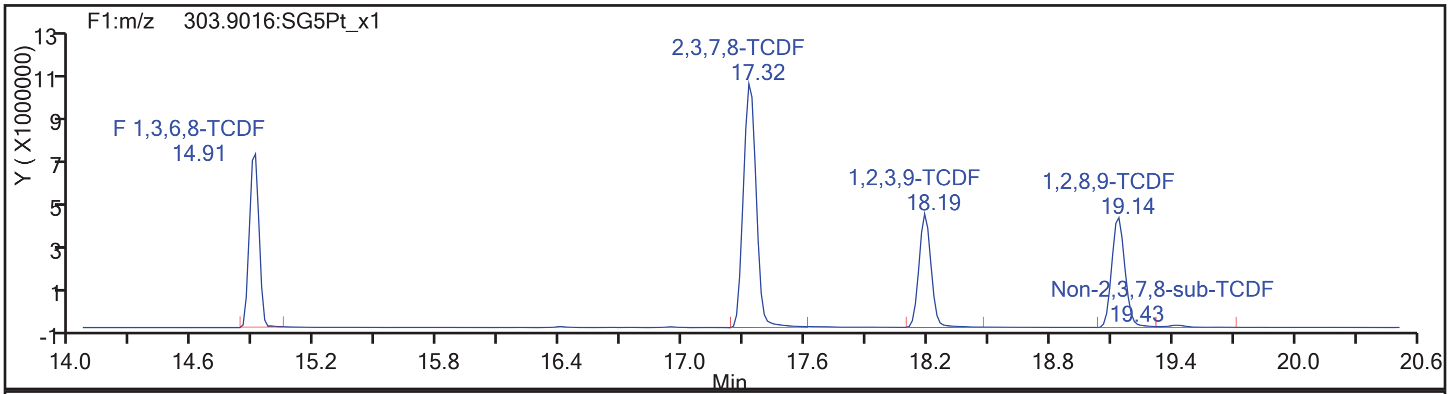
Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

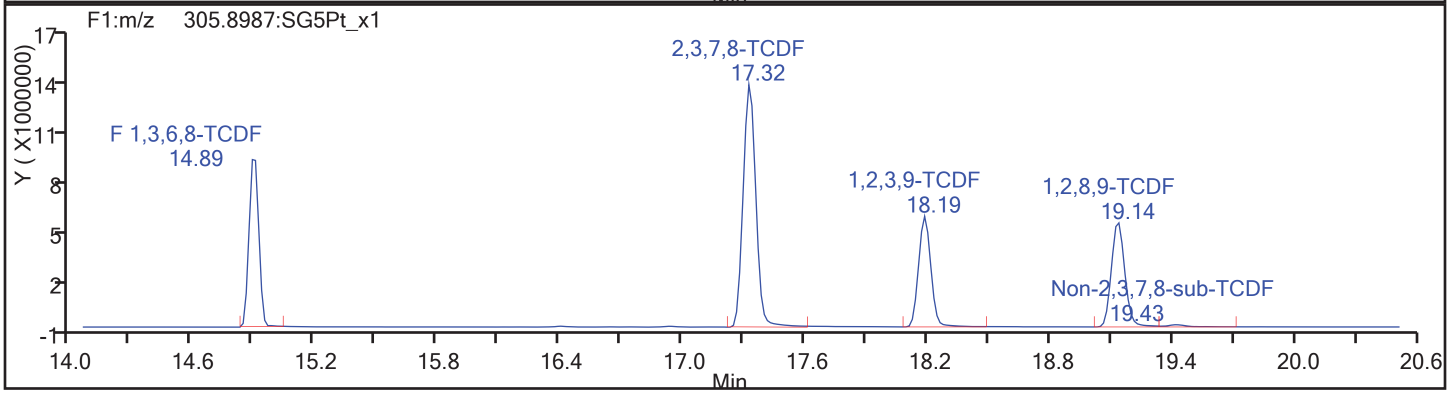
Report Date: 15-Nov-2017 01:27:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

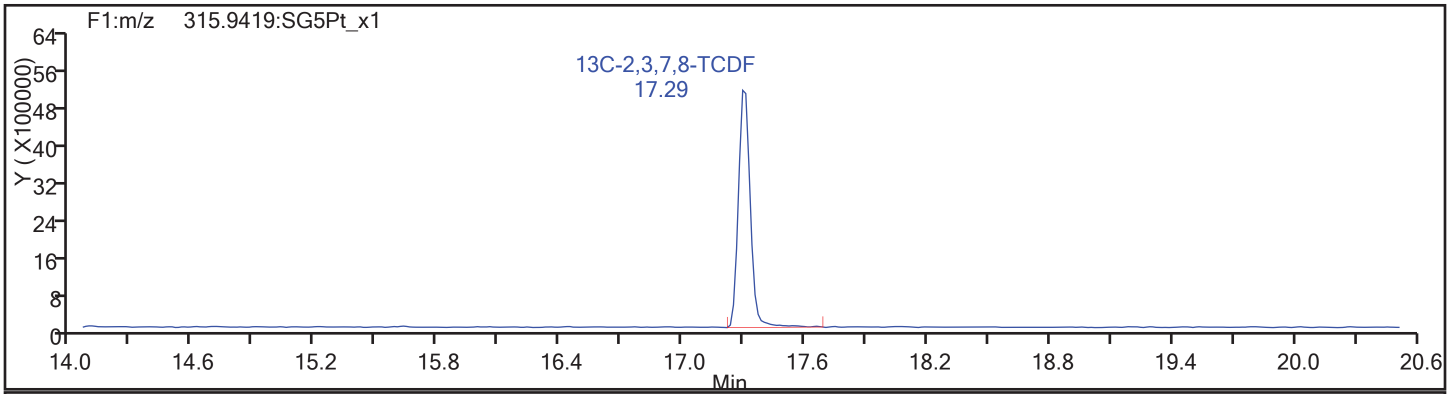
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_27.d		
Injection Date:	14-Nov-2017 09:06:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	27
Column Type:	DB-5	Column Dia:	0.32 mm

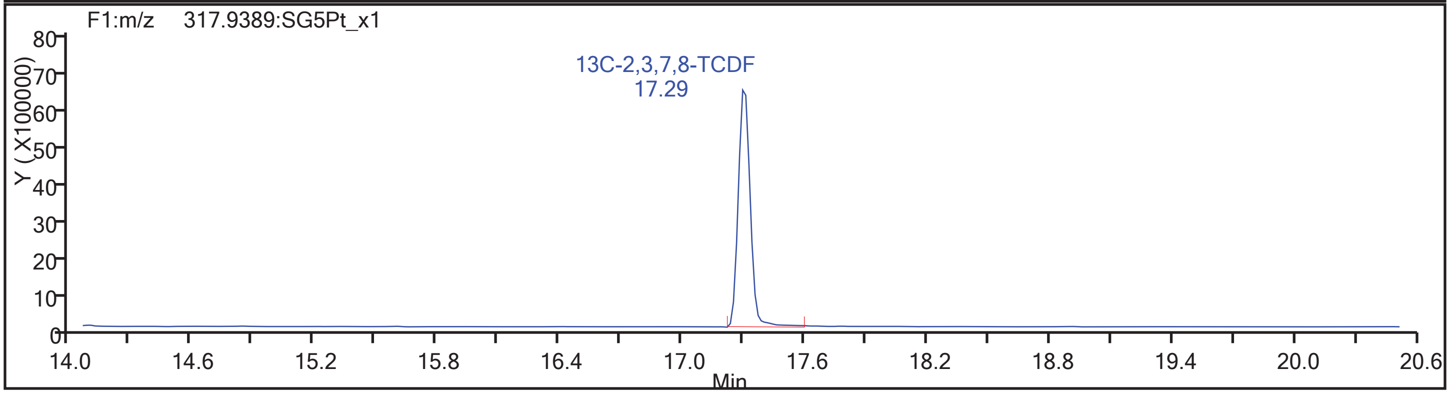
TCDF





TCDF Standards





Report Date: 15-Nov-2017 01:27:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_27.d

Injection Date: 14-Nov-2017 09:06:45 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

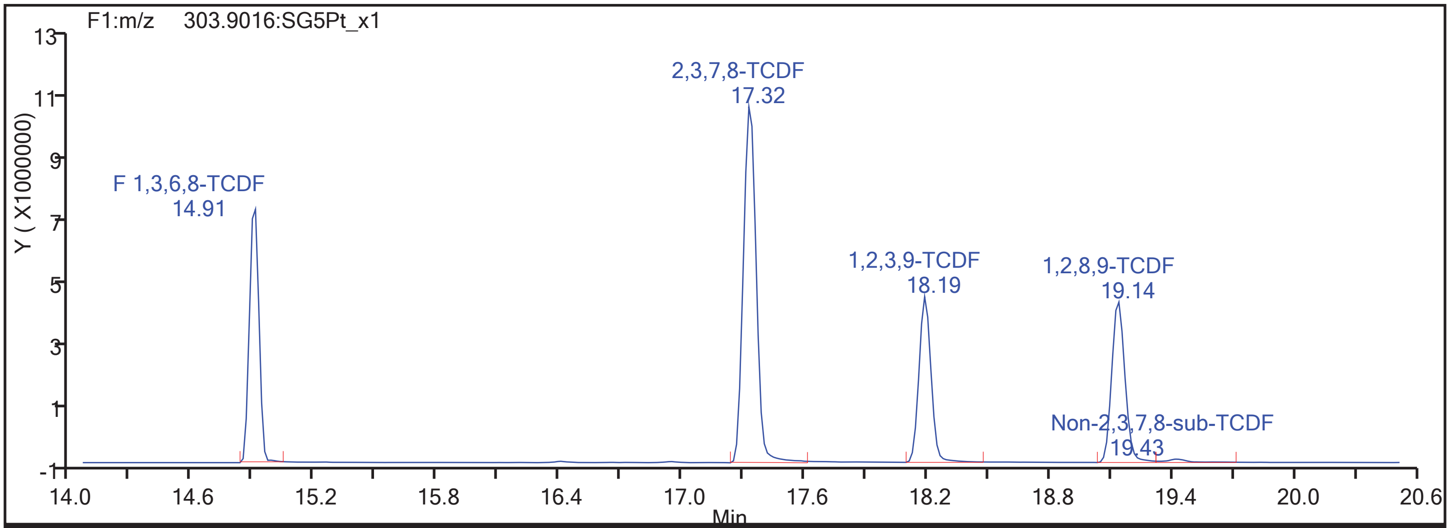
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

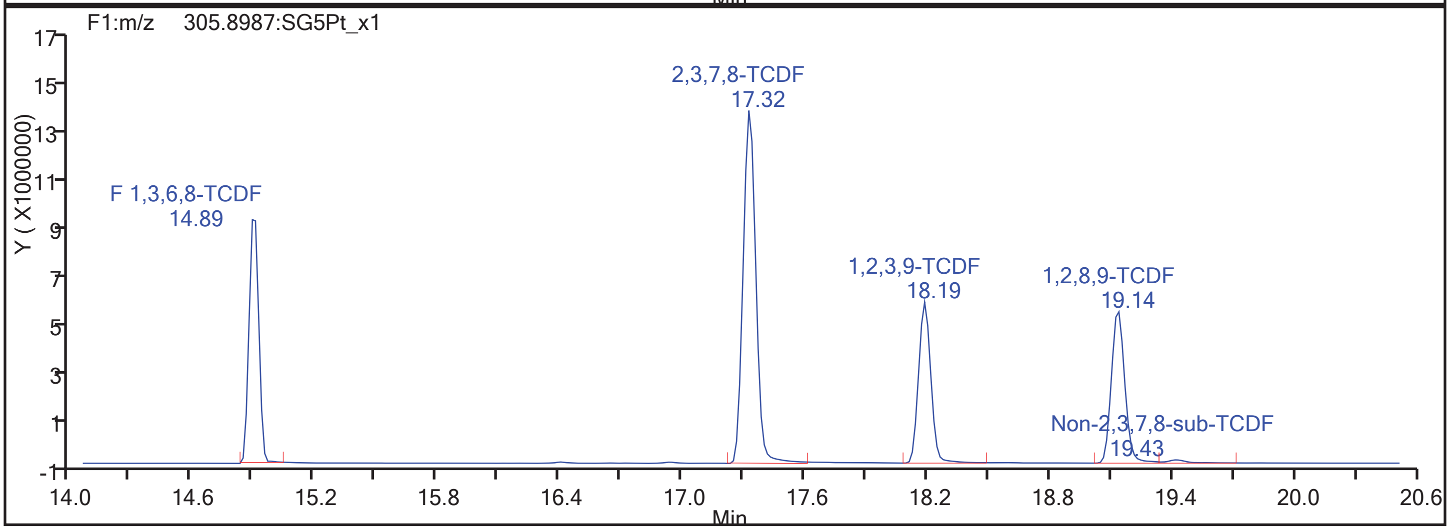
Client ID:

Worklist#: 194429 Sample Line#: 27

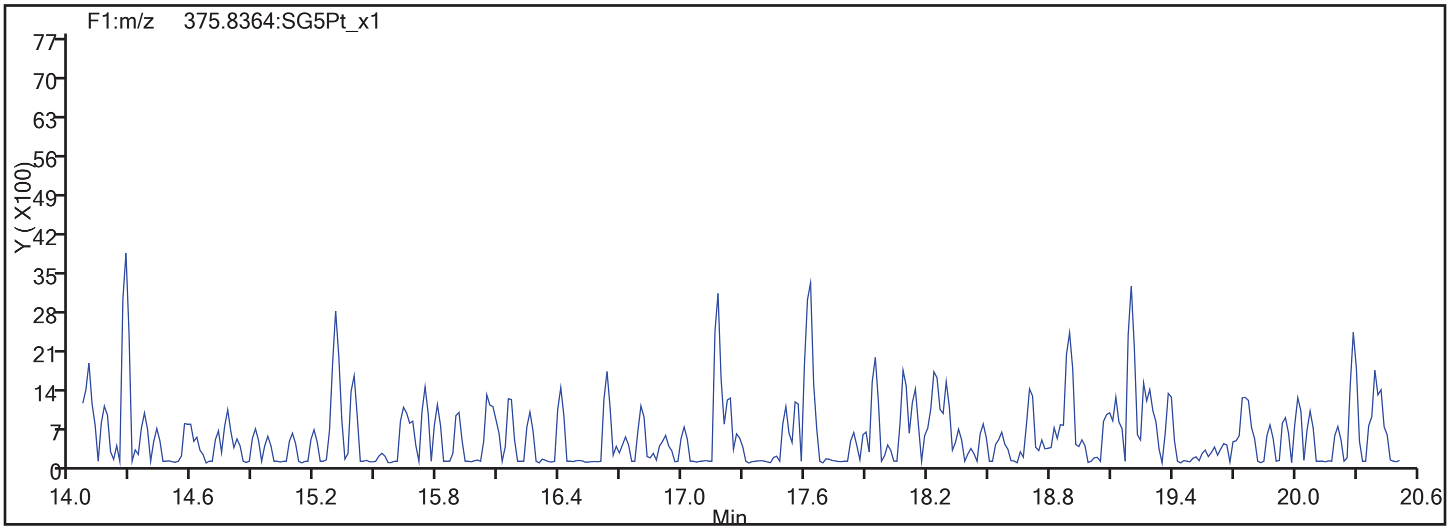
Column Type: DB-5 Column Dia: 0.32 mm

TCDF





TCDF Interference Mass



Report Date: 15-Nov-2017 01:27:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_27.d
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Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
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Sample Line#: 27
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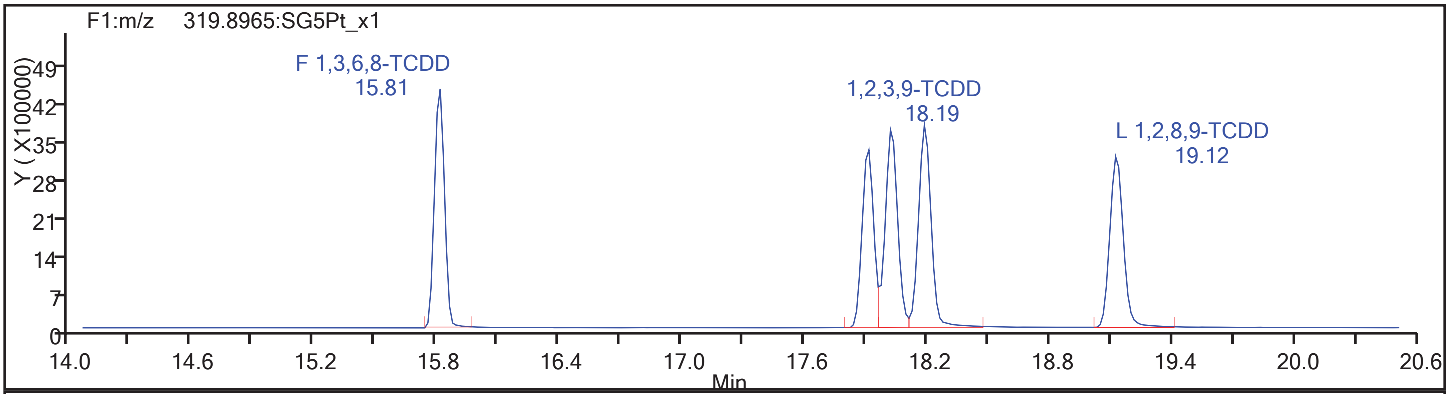
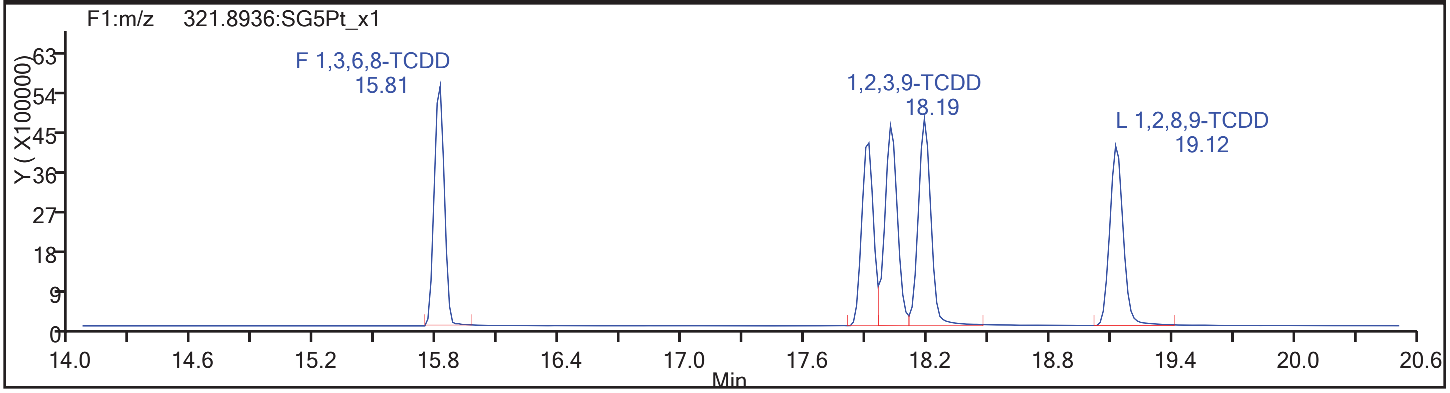
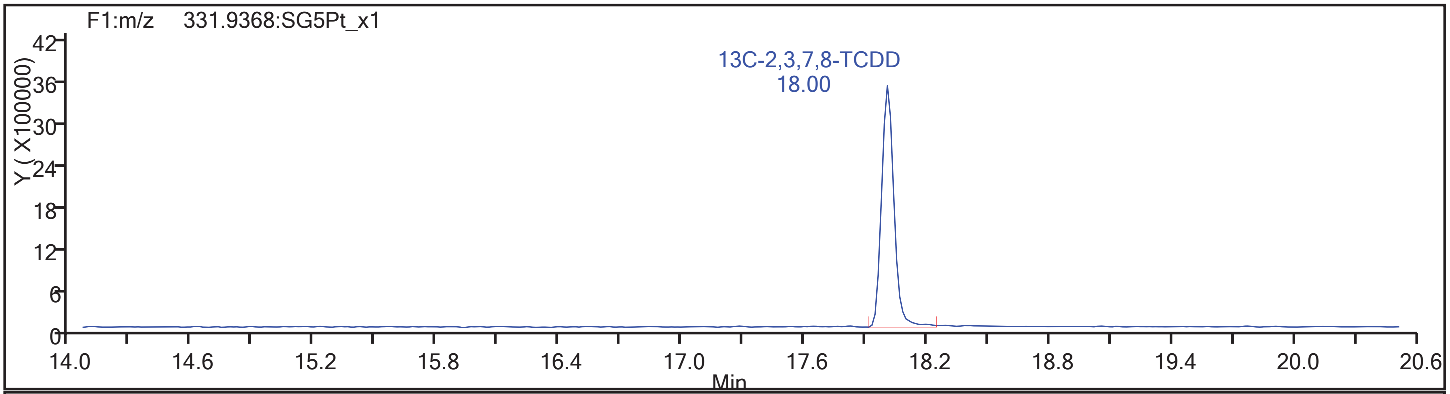
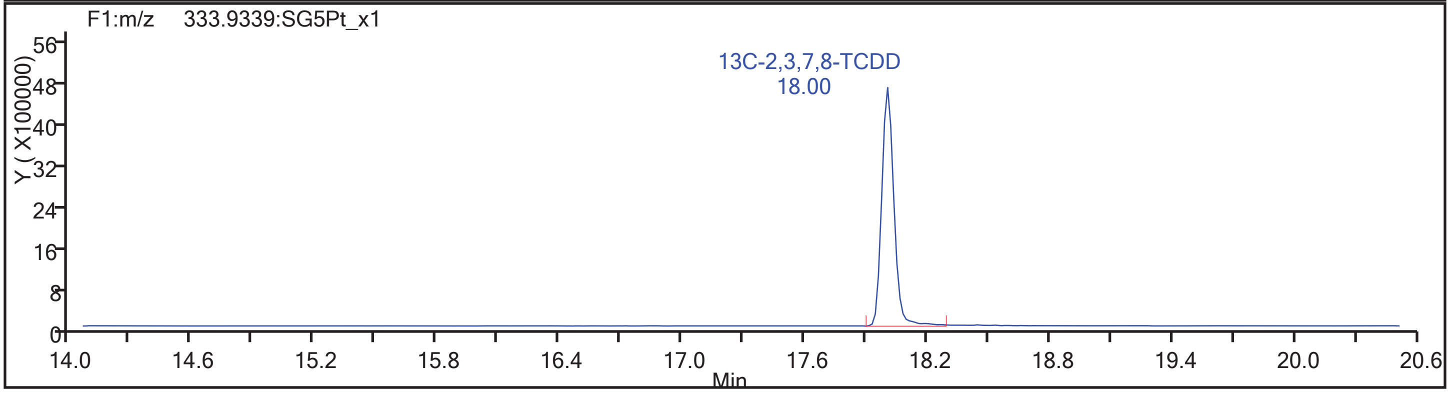
TCDD





TCDD Standards





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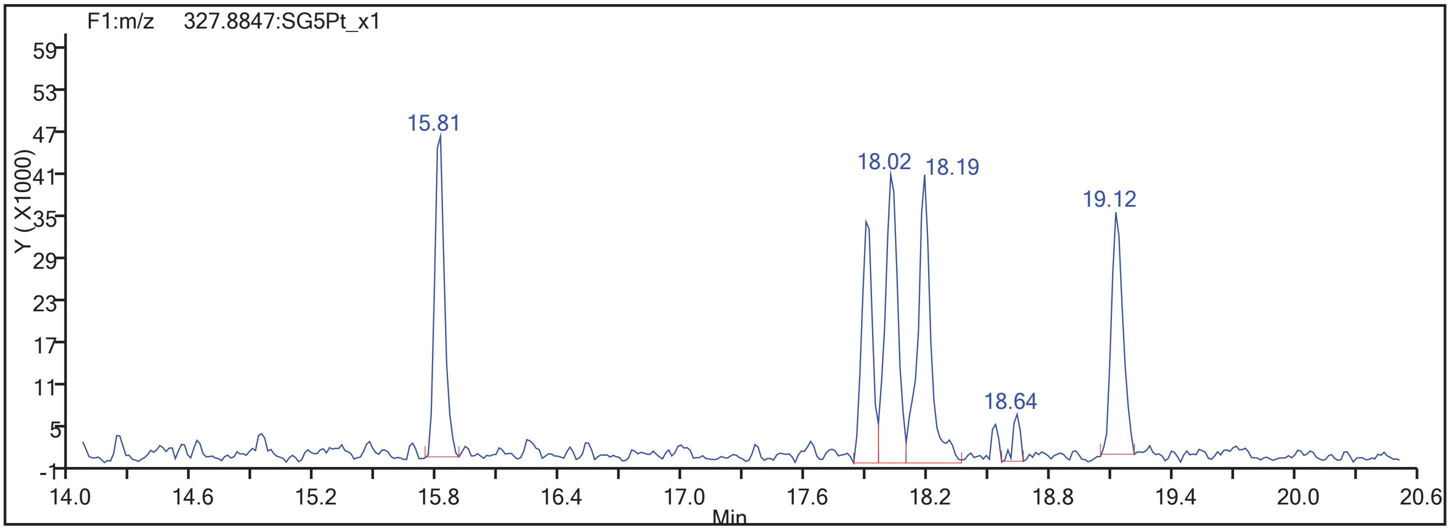
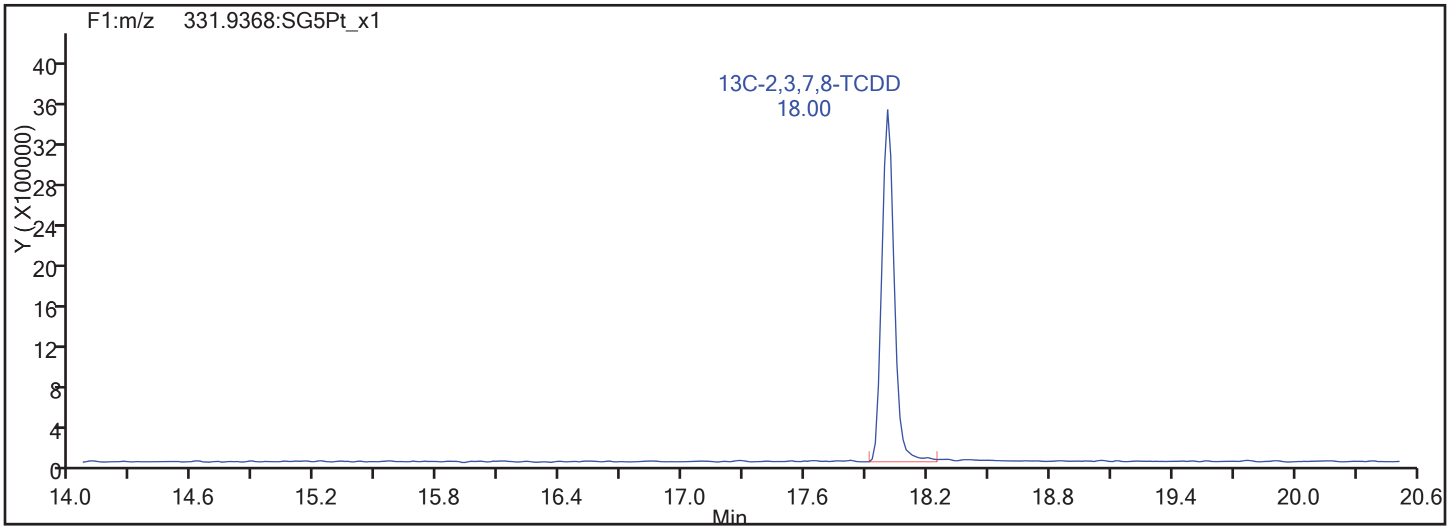
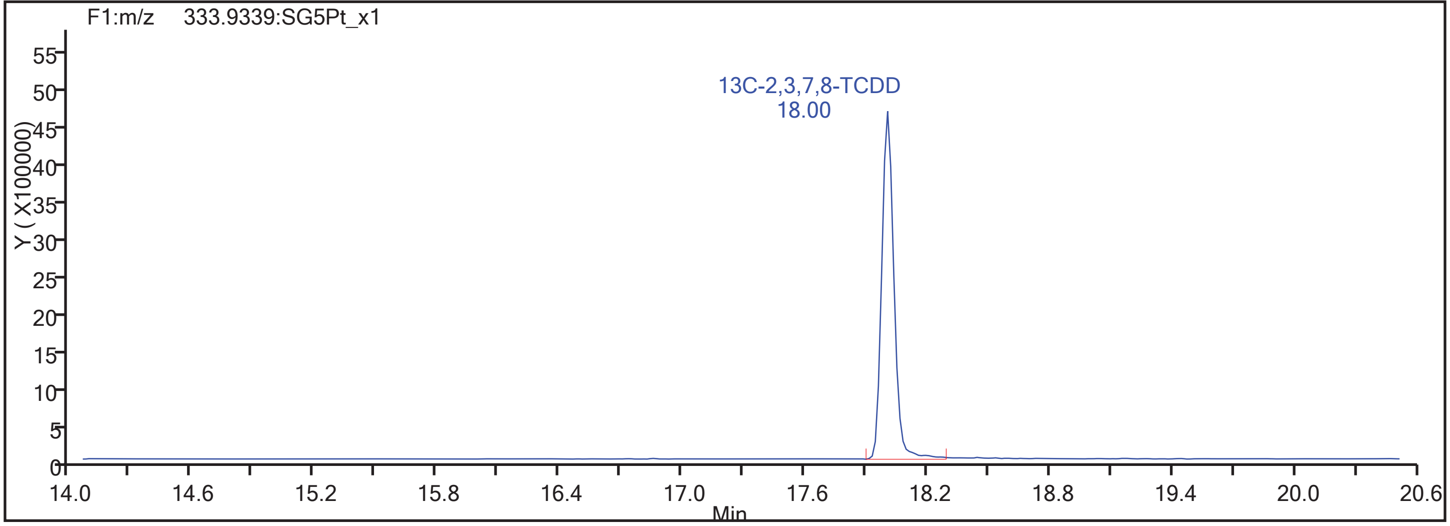
37Cl4-TCDD



37Cl4-TCDD Standards





TestAmerica Sacramento

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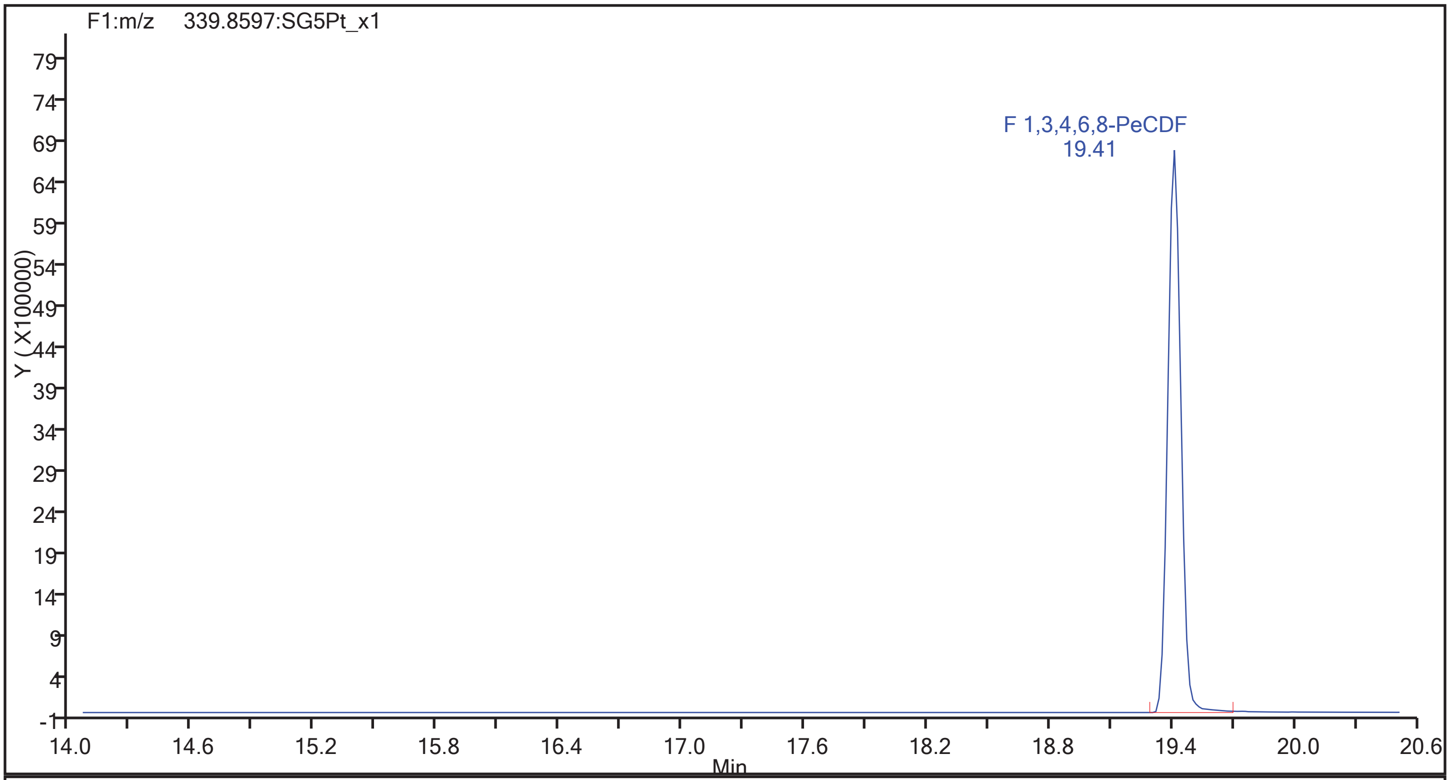
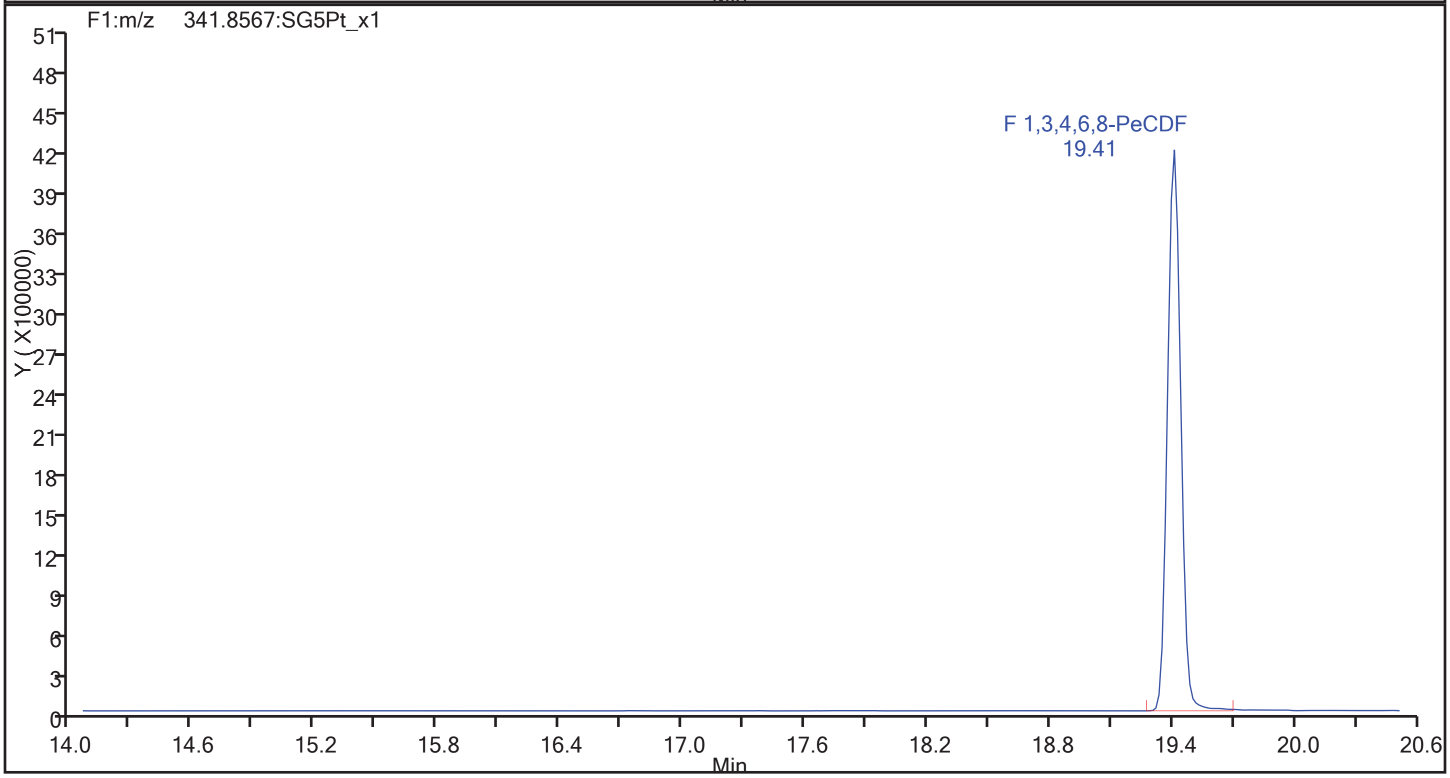
F1 PeCDFs





TestAmerica Sacramento

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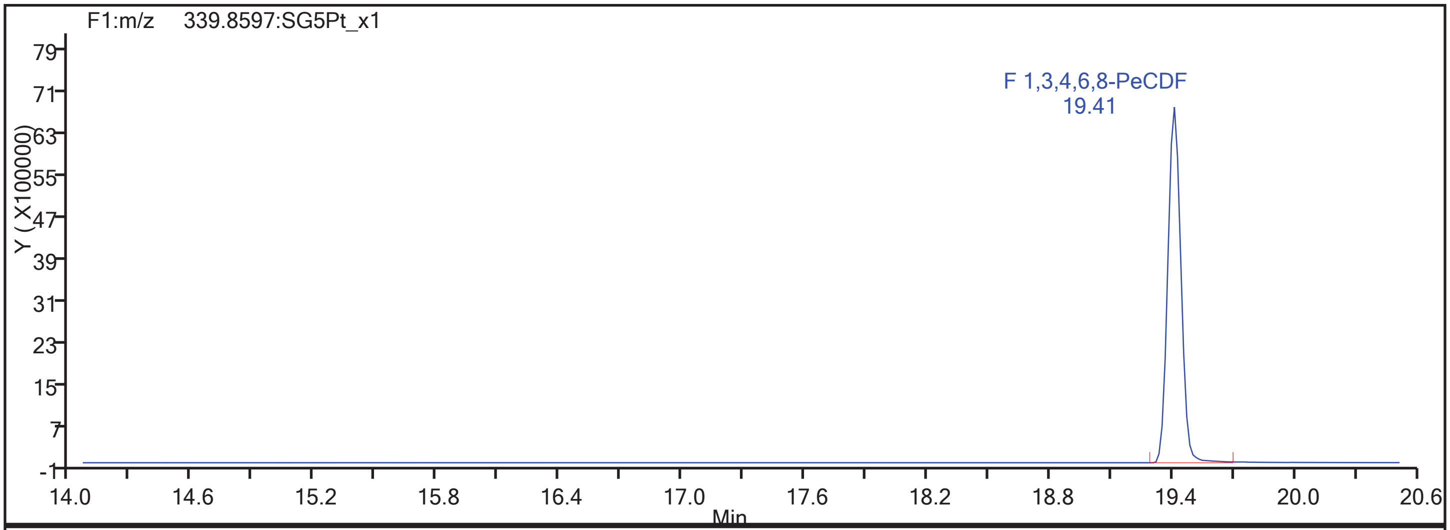
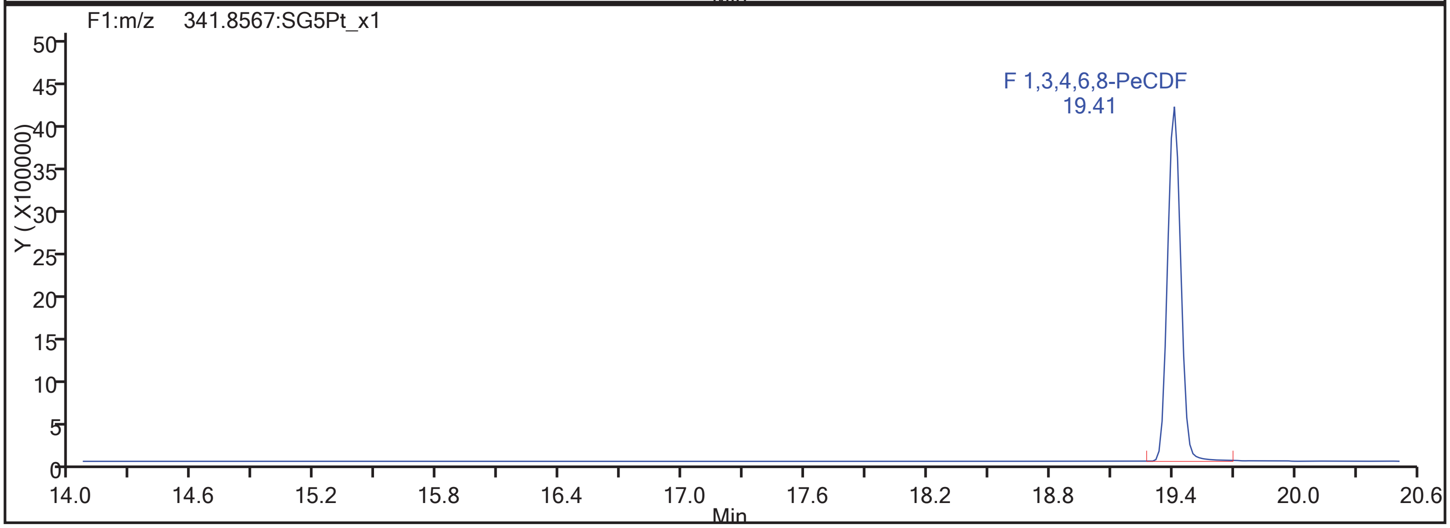
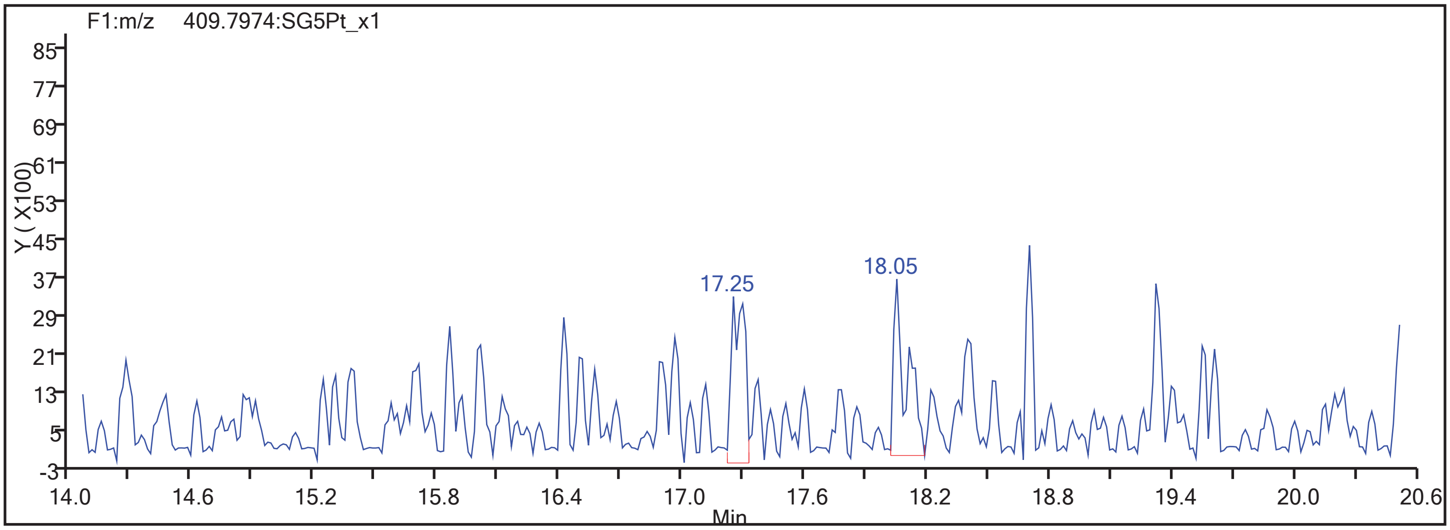
F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 15-Nov-2017 01:27:58 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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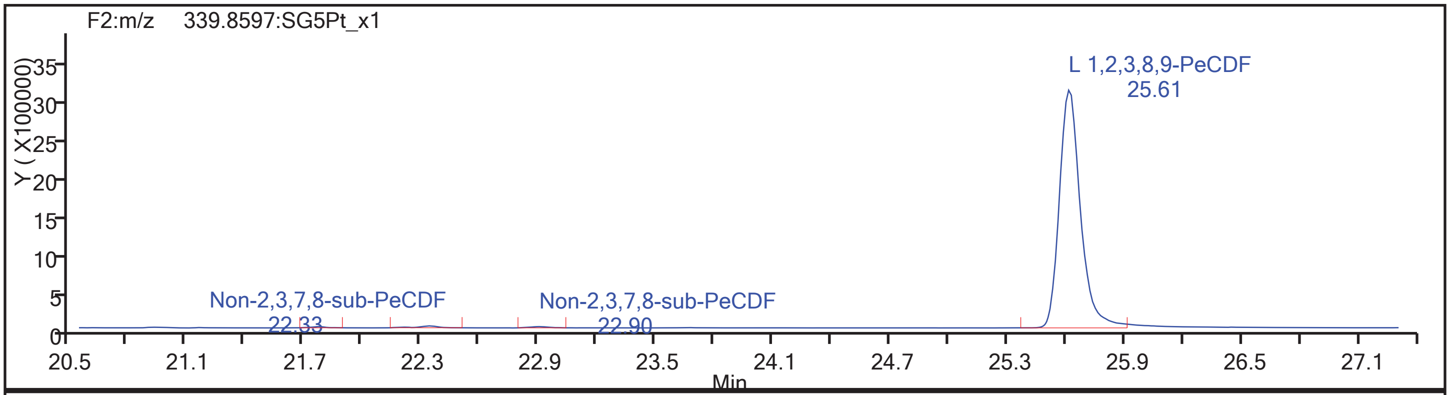
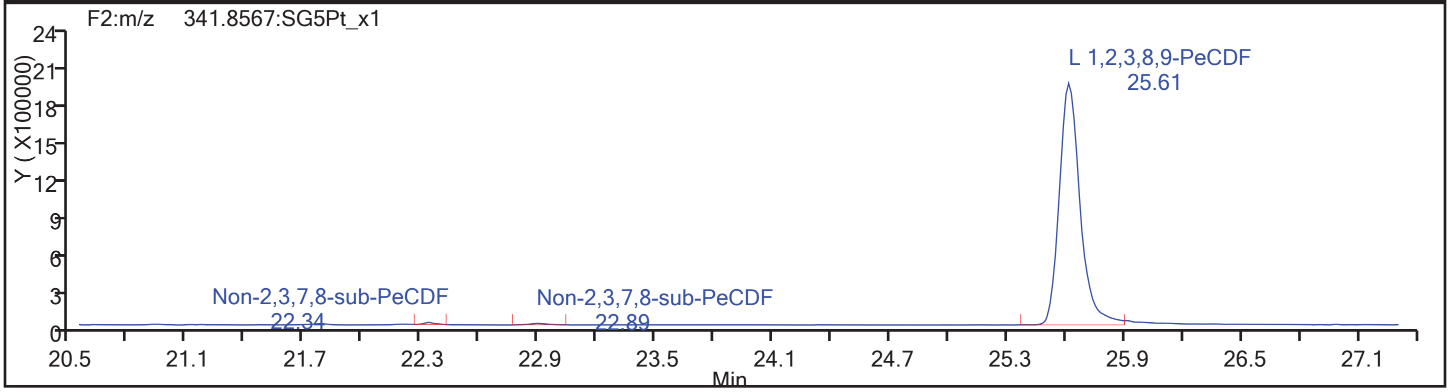
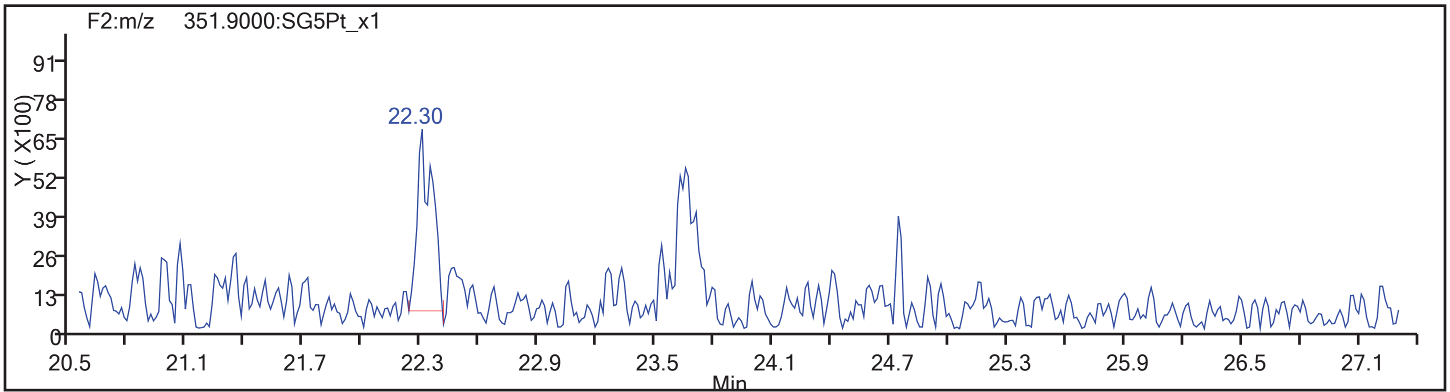
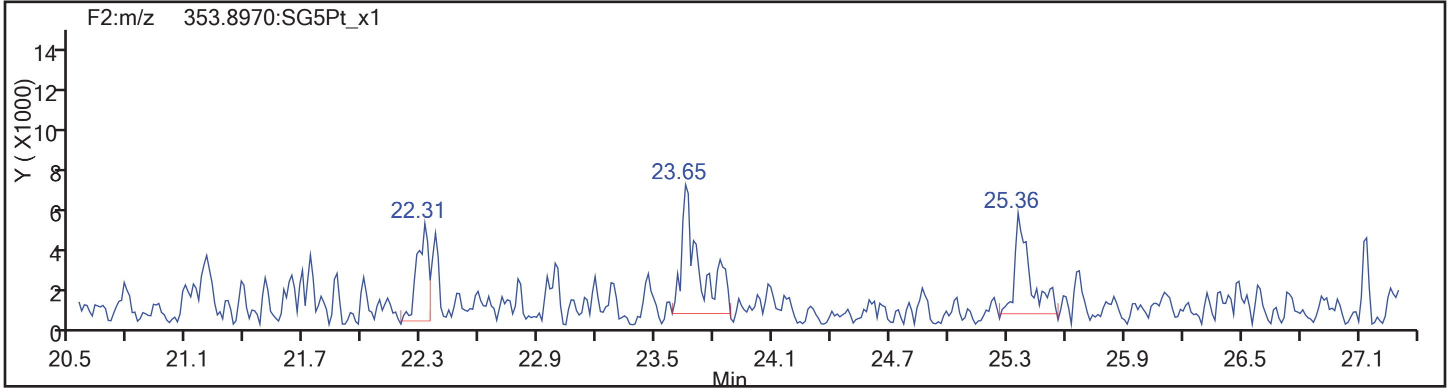
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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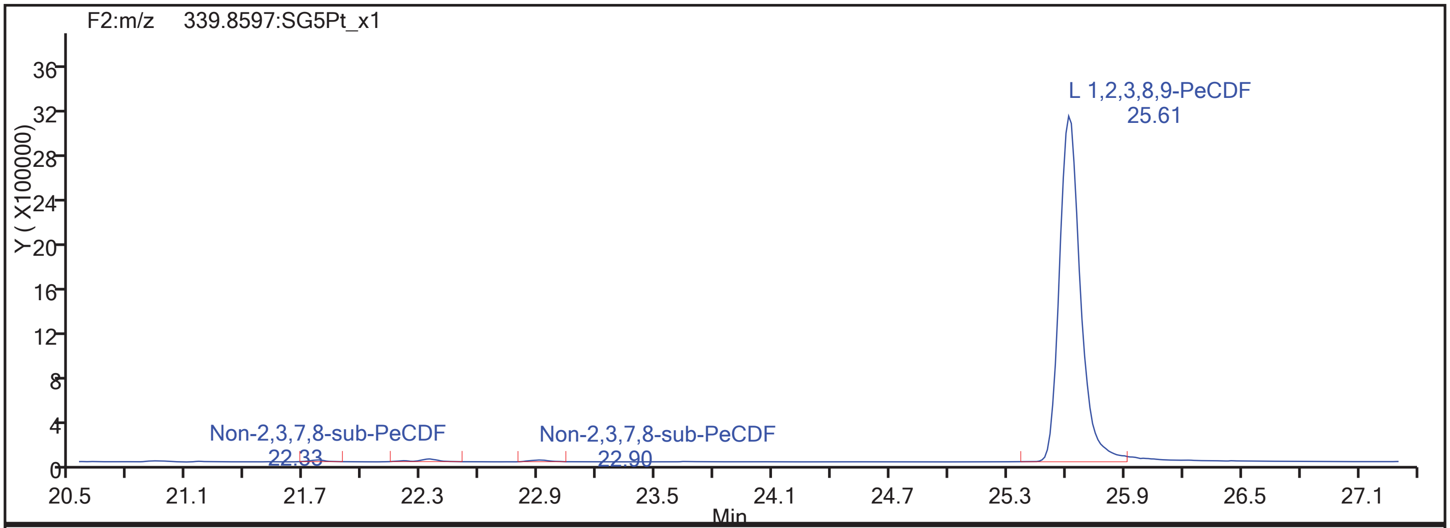
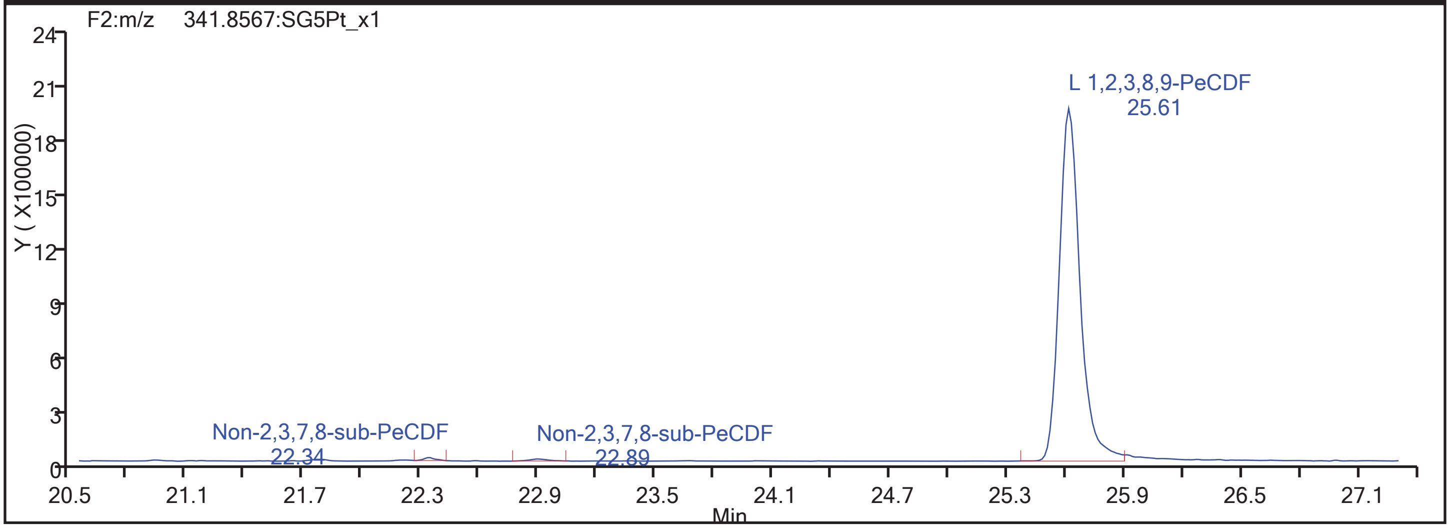
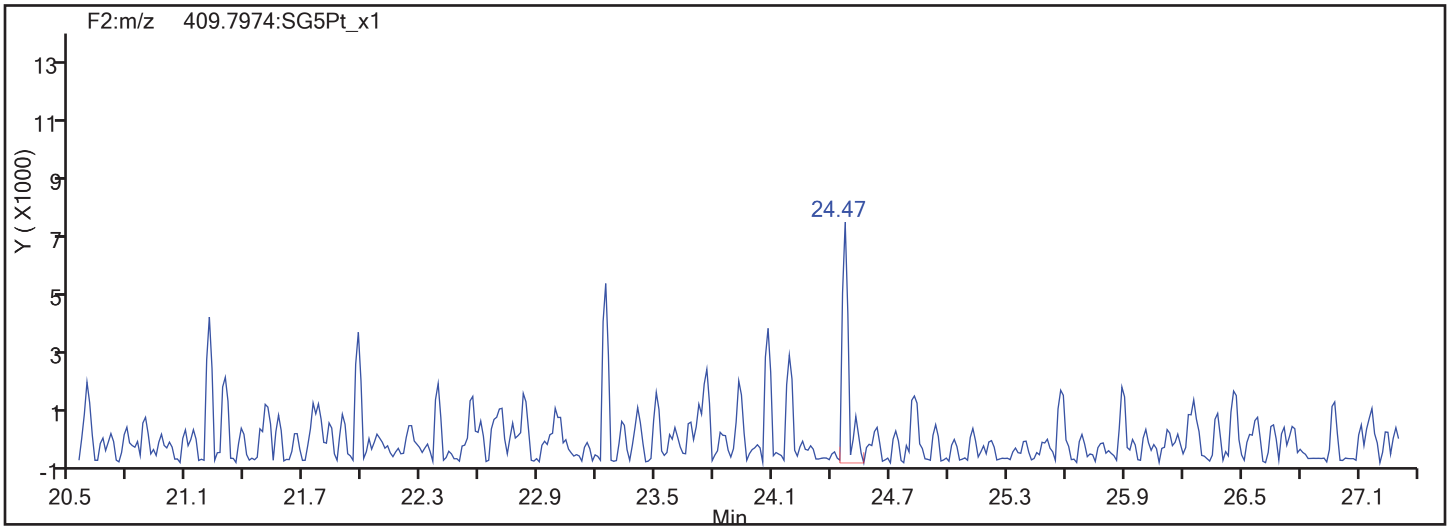




PeCDF Interference Mass



TestAmerica Sacramento

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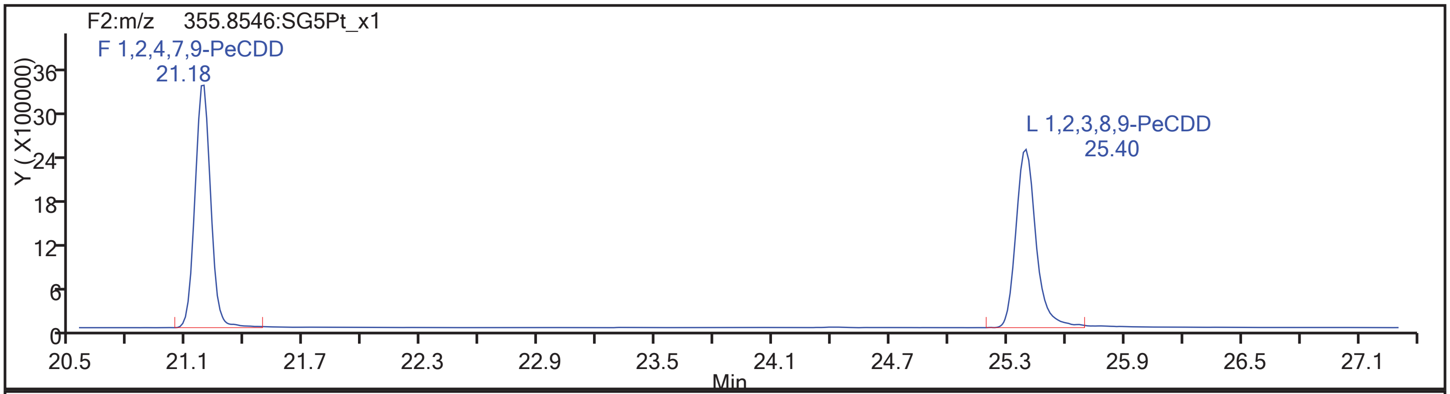
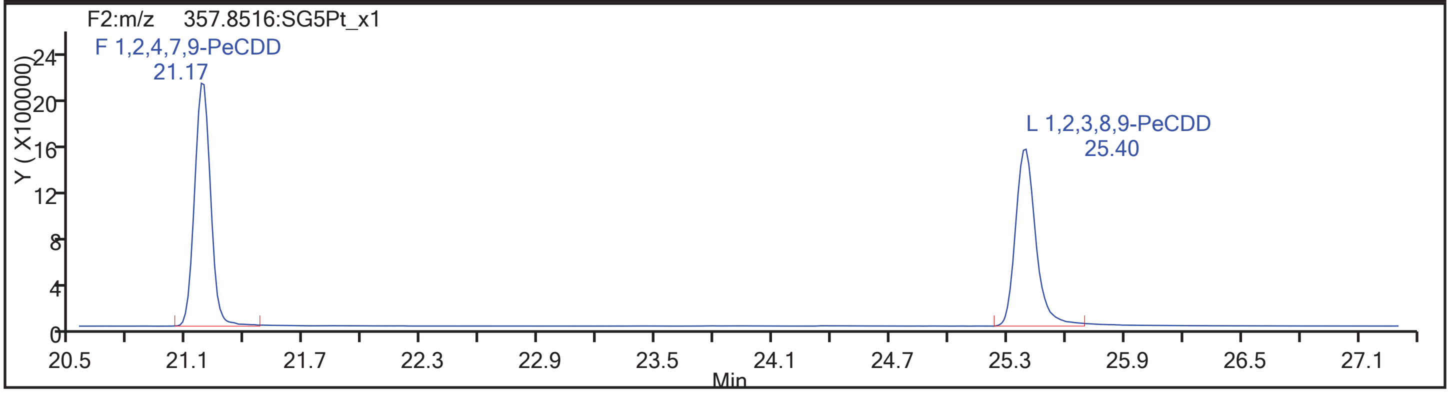
PeCDD





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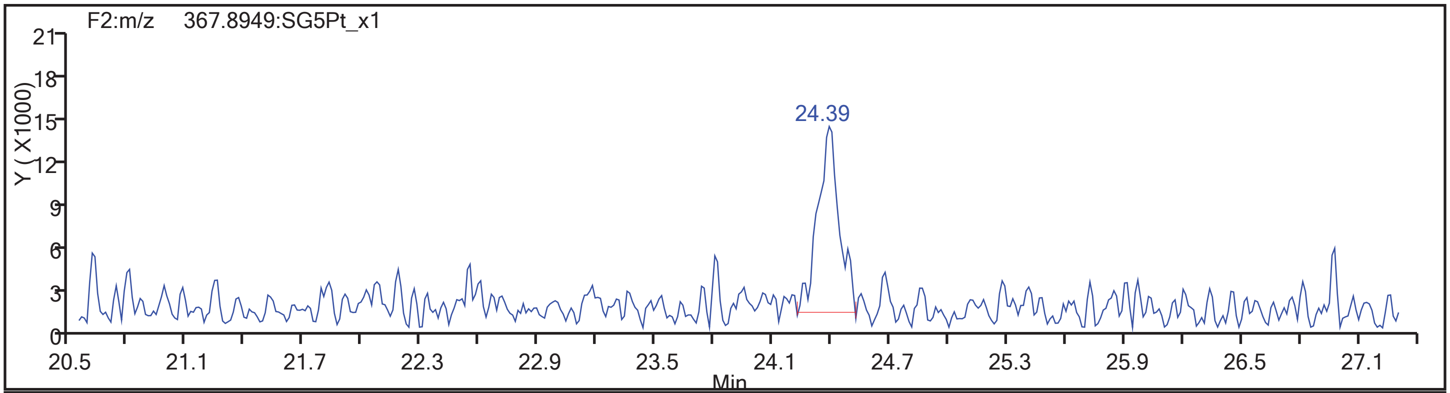

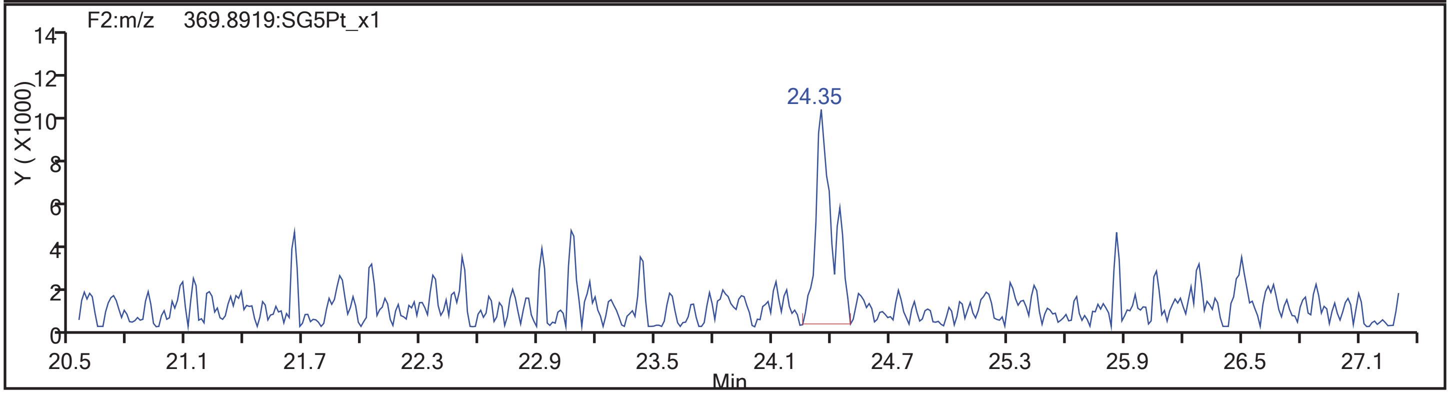

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TestAmerica Sacramento

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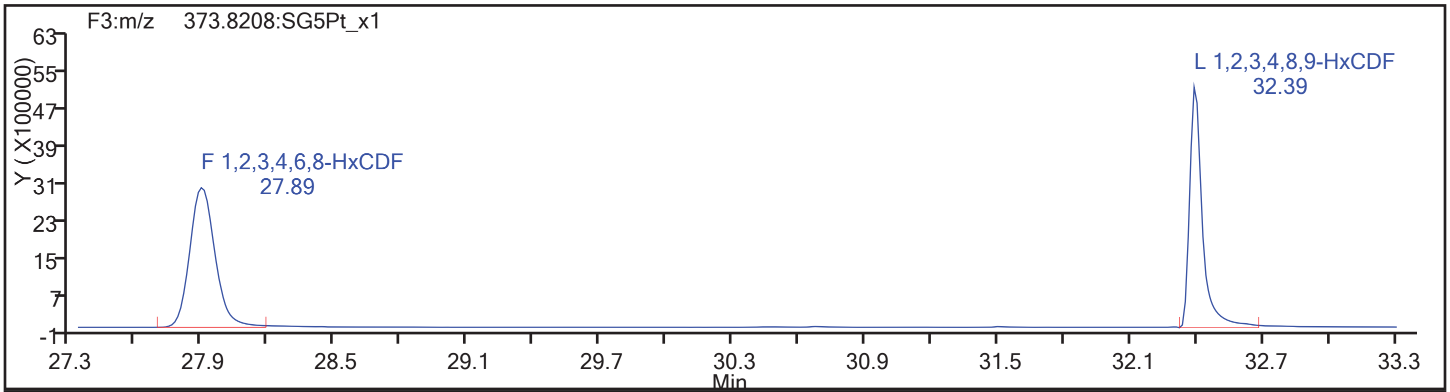
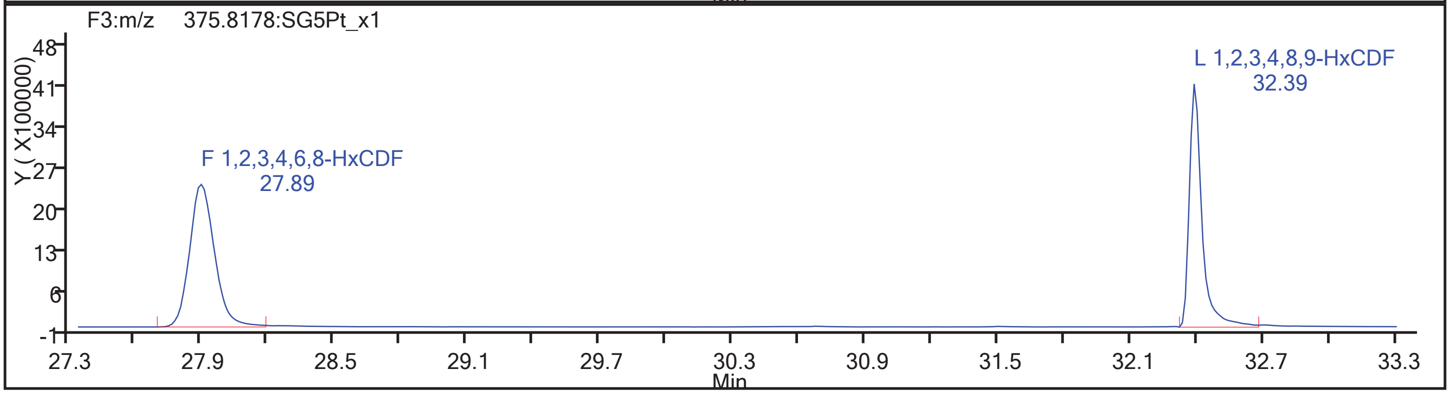
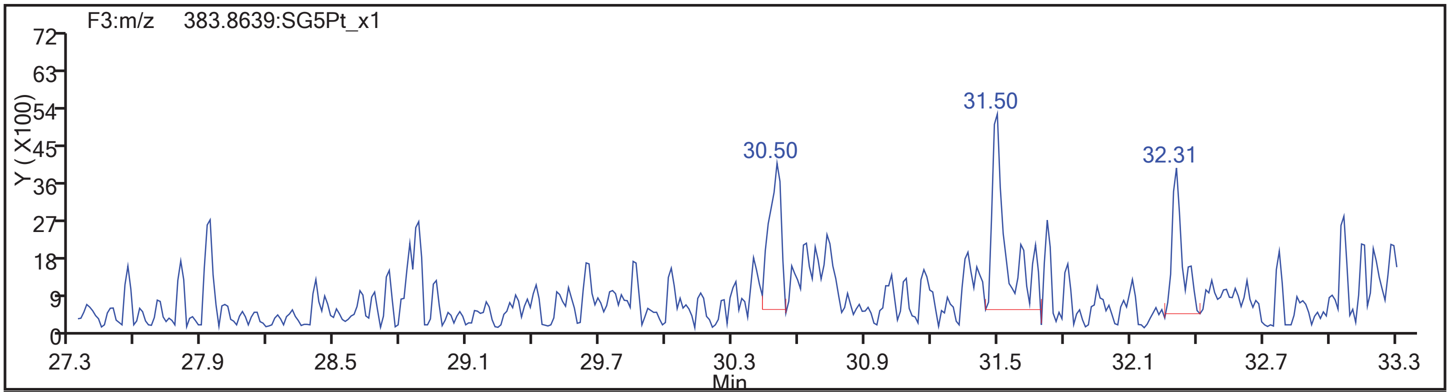
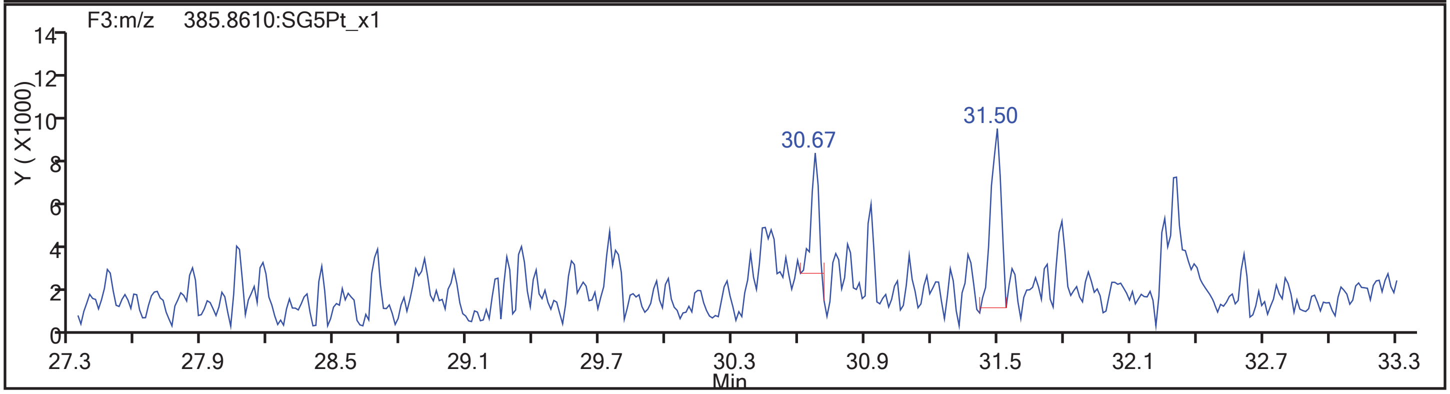
HxCDF





HxCDF Standards





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TestAmerica Sacramento

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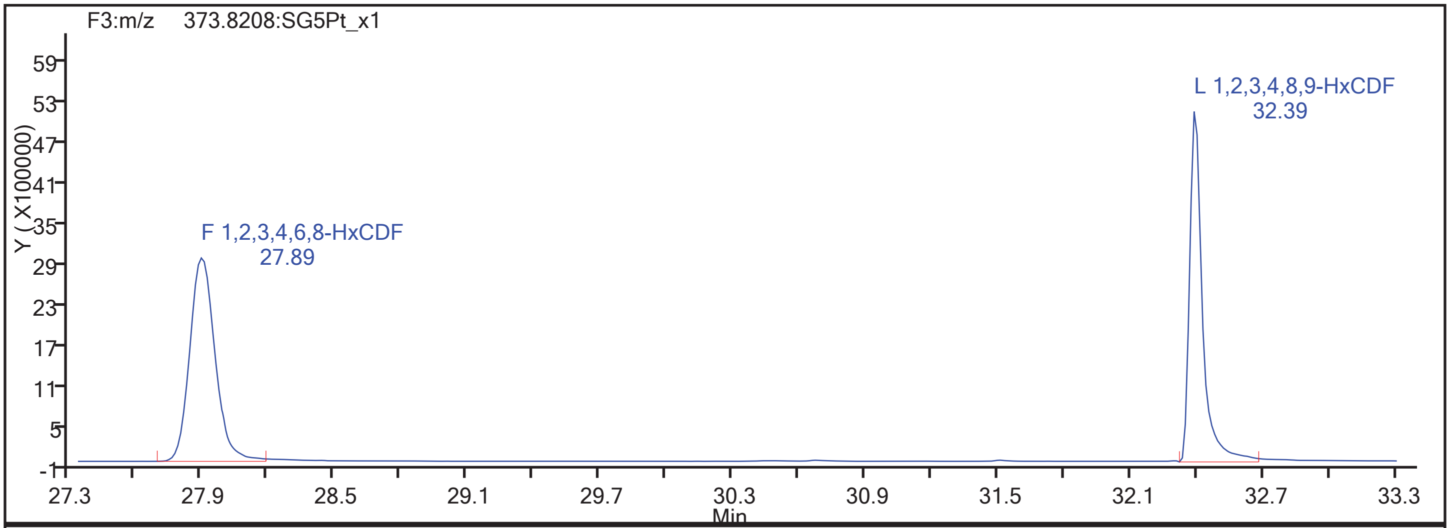
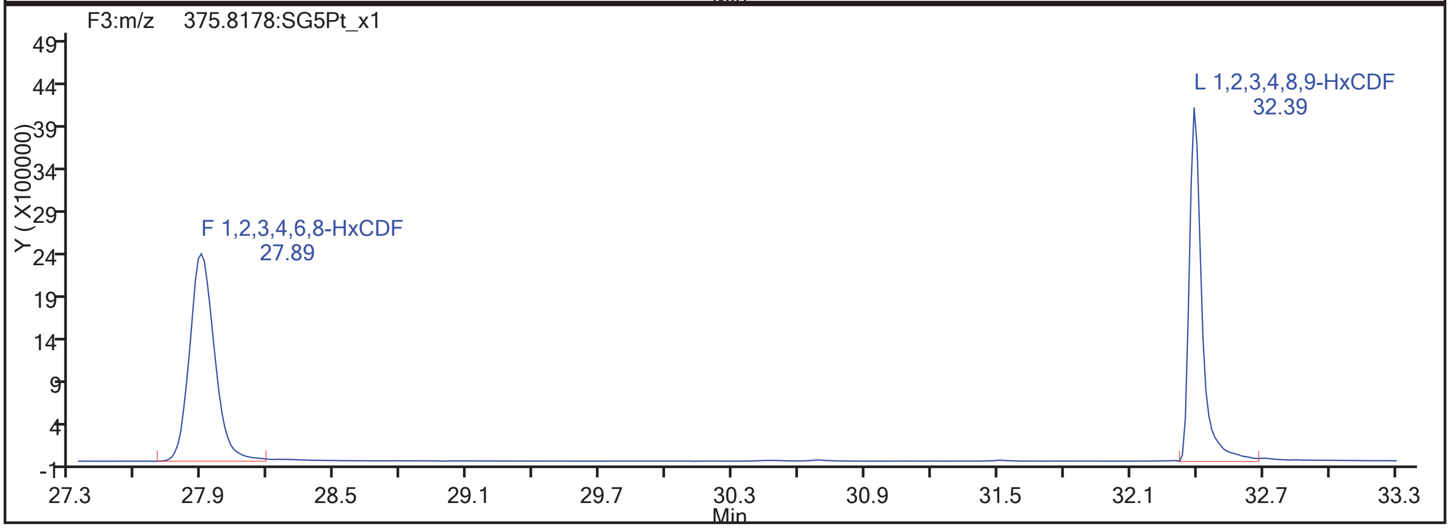
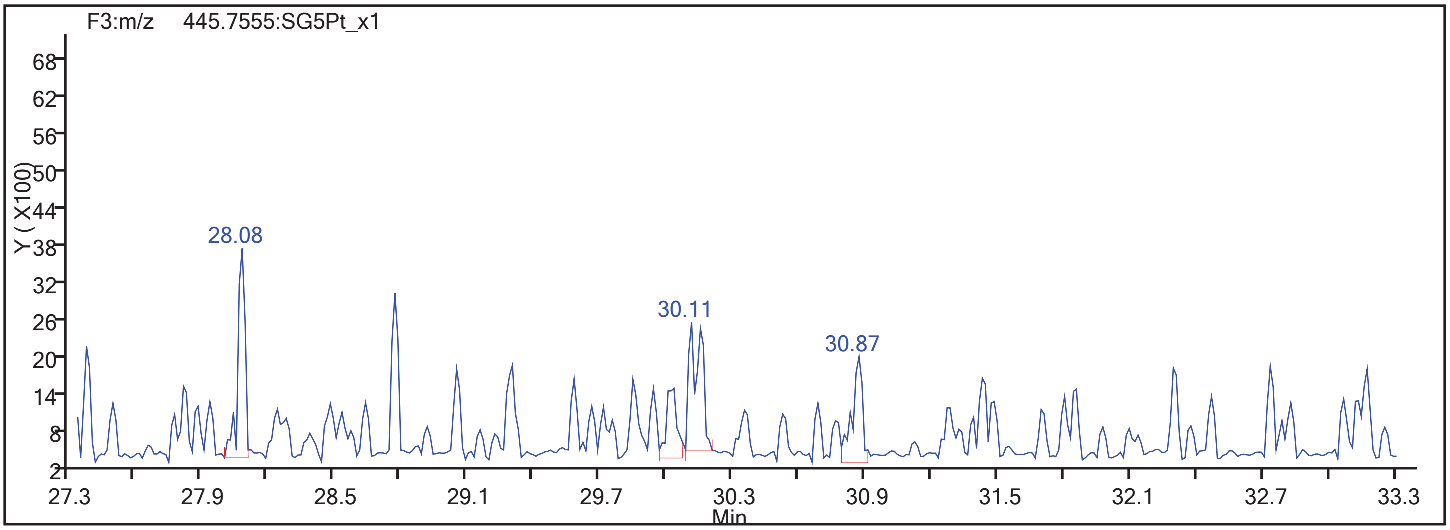




HxCDF Interference Mass



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TestAmerica Sacramento

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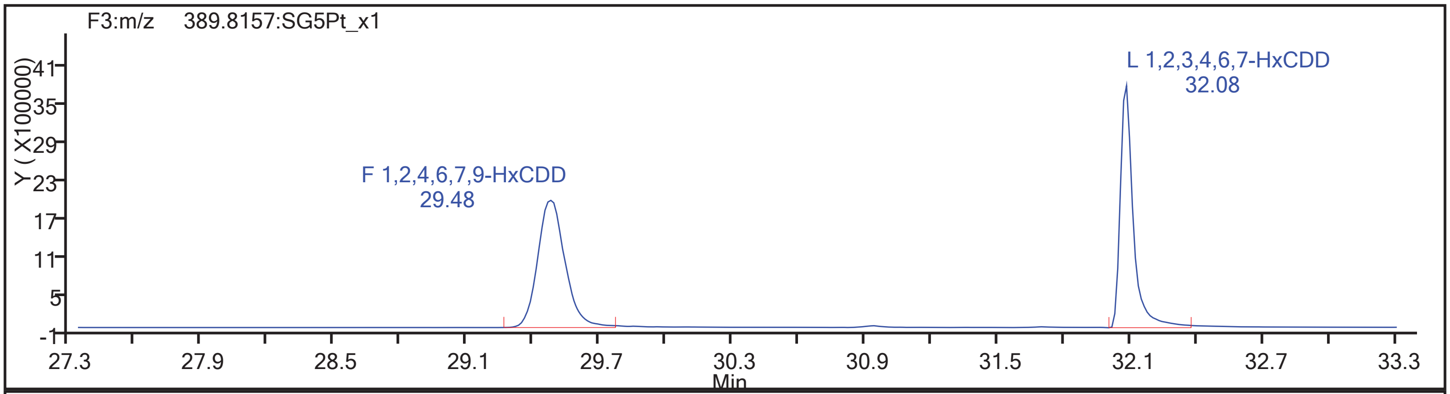
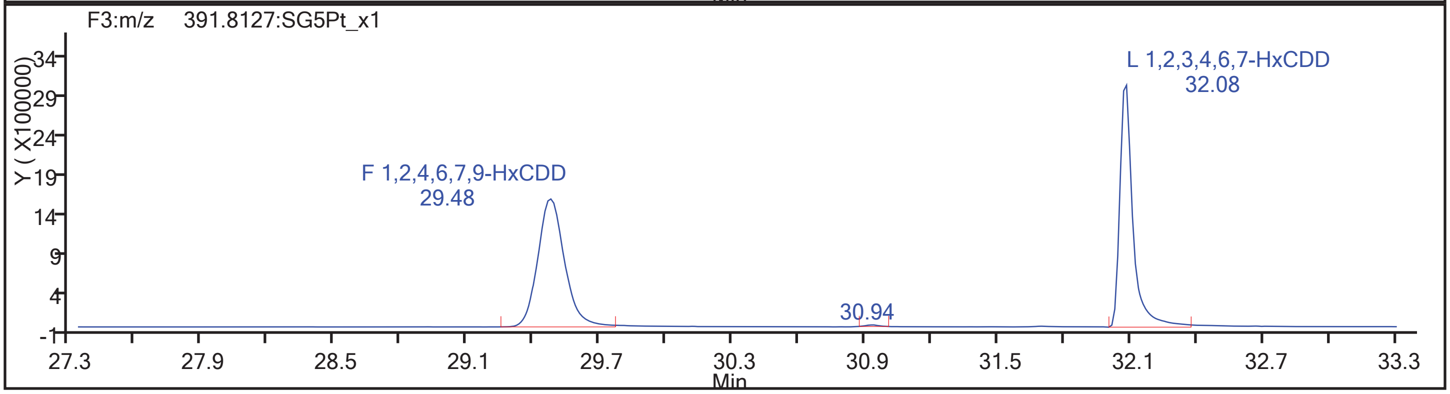
HxCDD





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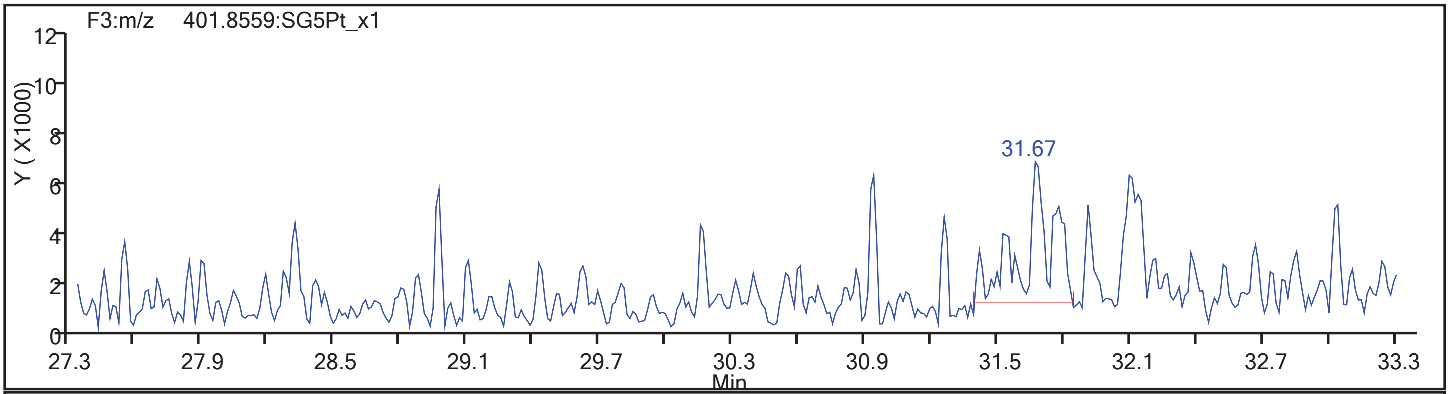

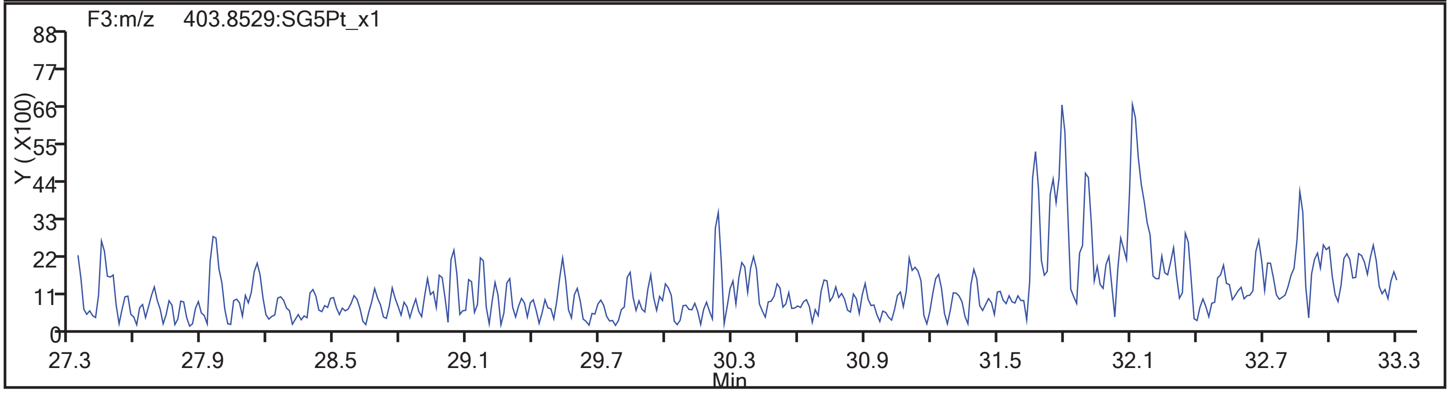

TestAmerica Sacramento

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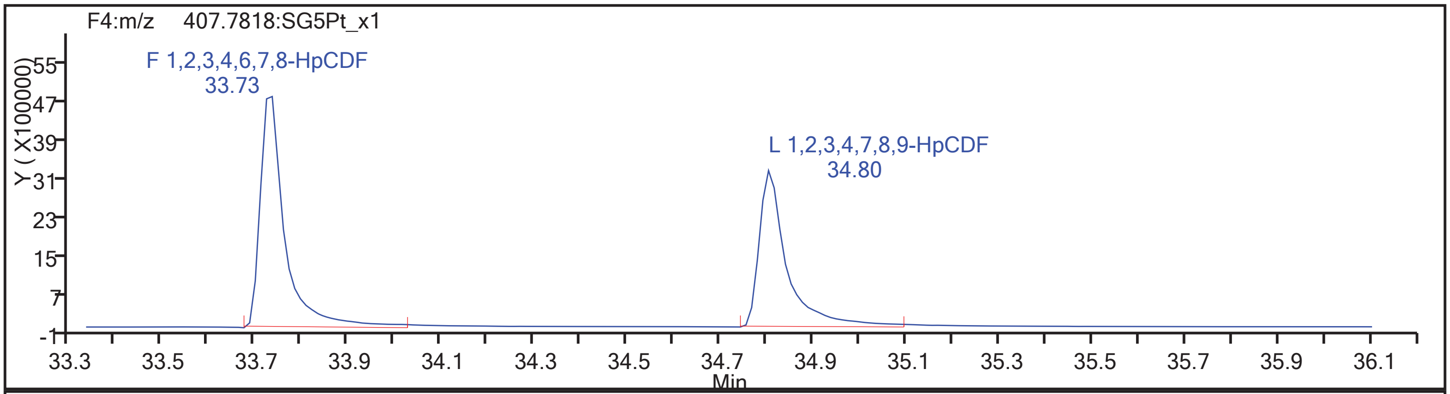

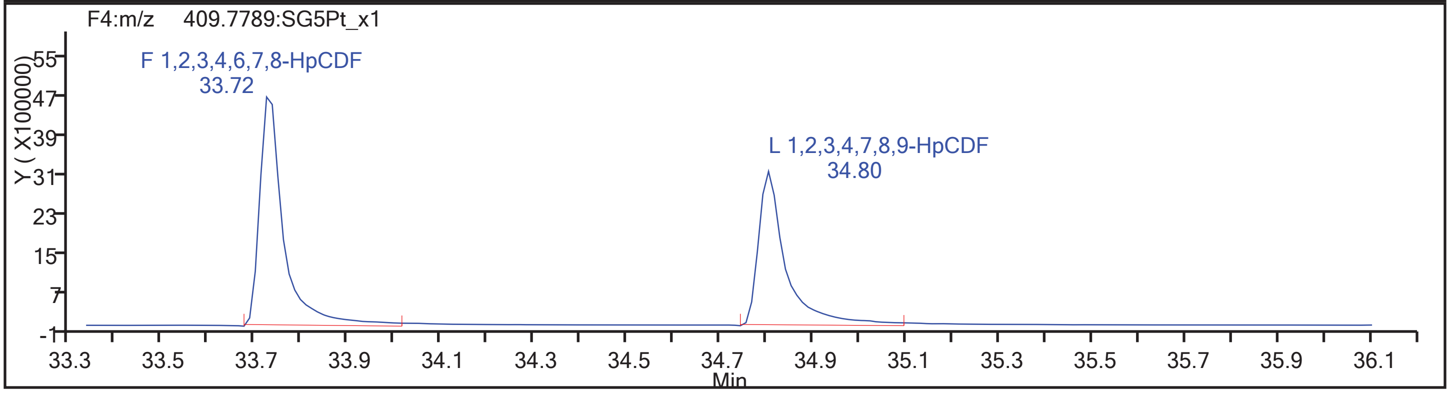

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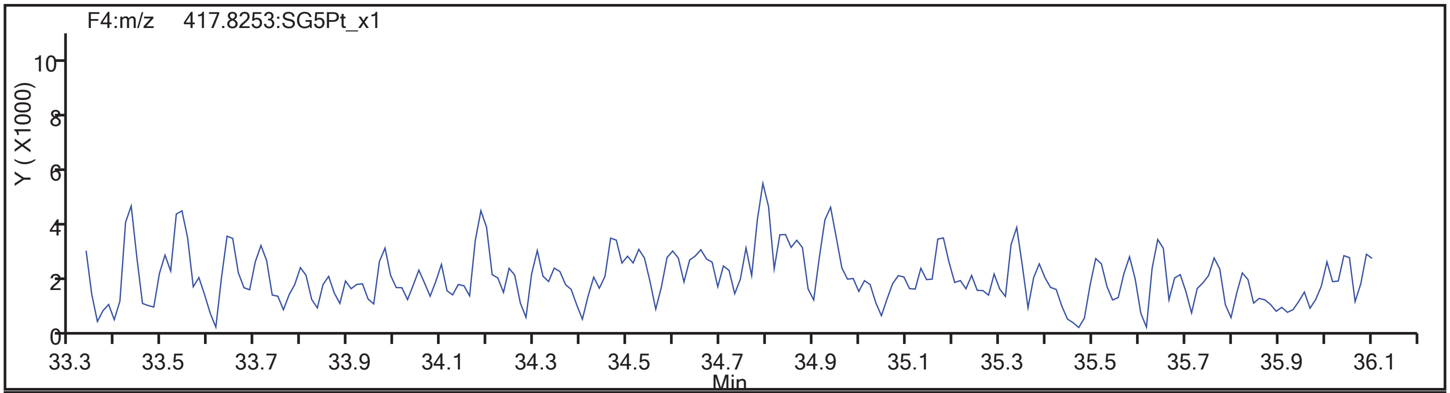

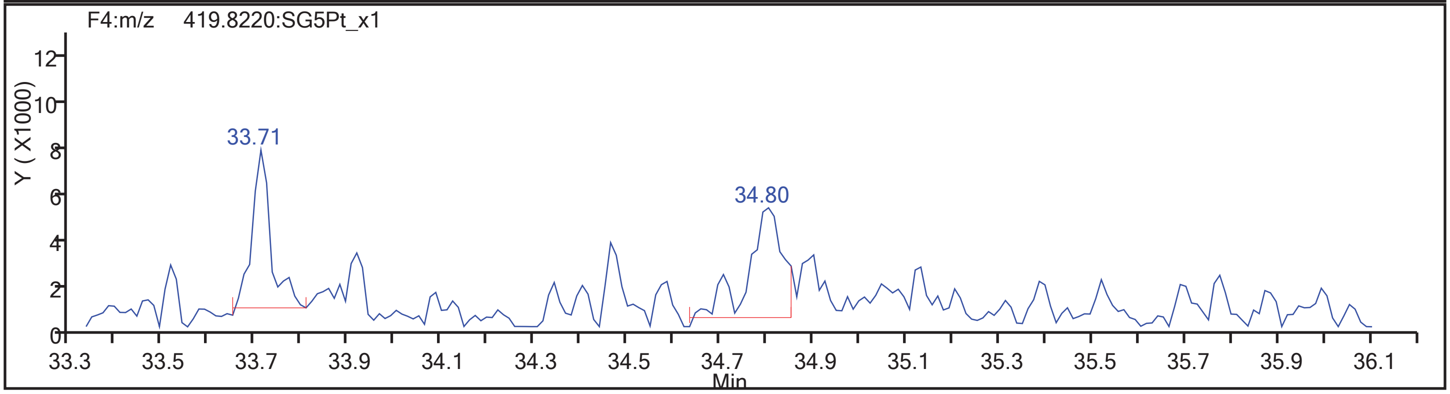

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TestAmerica Sacramento

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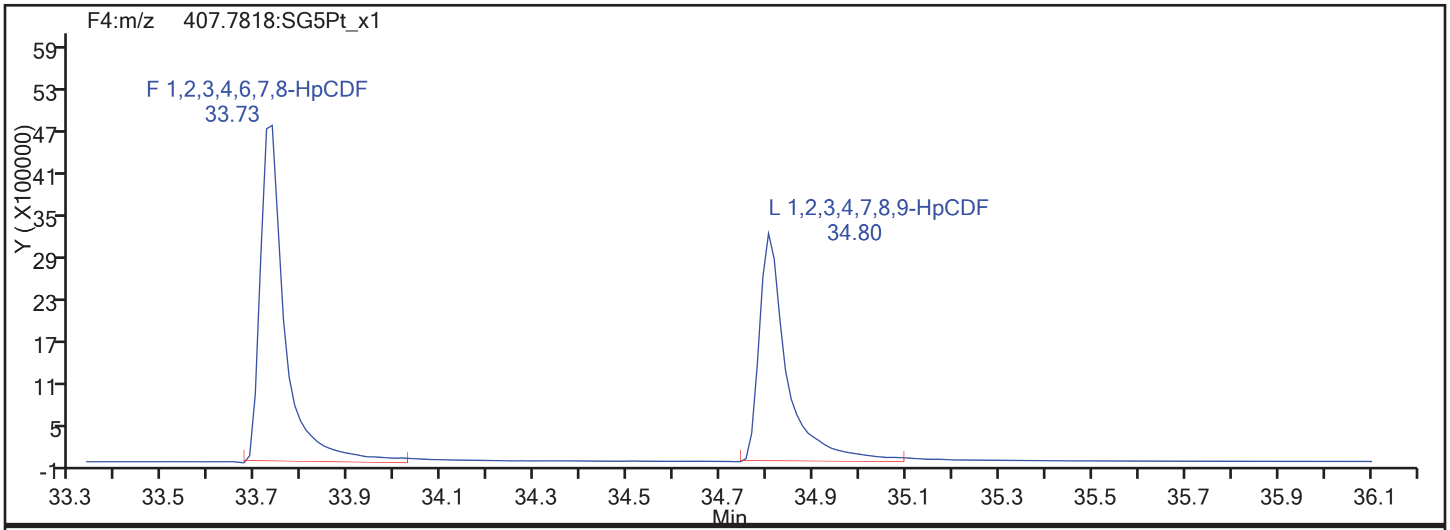
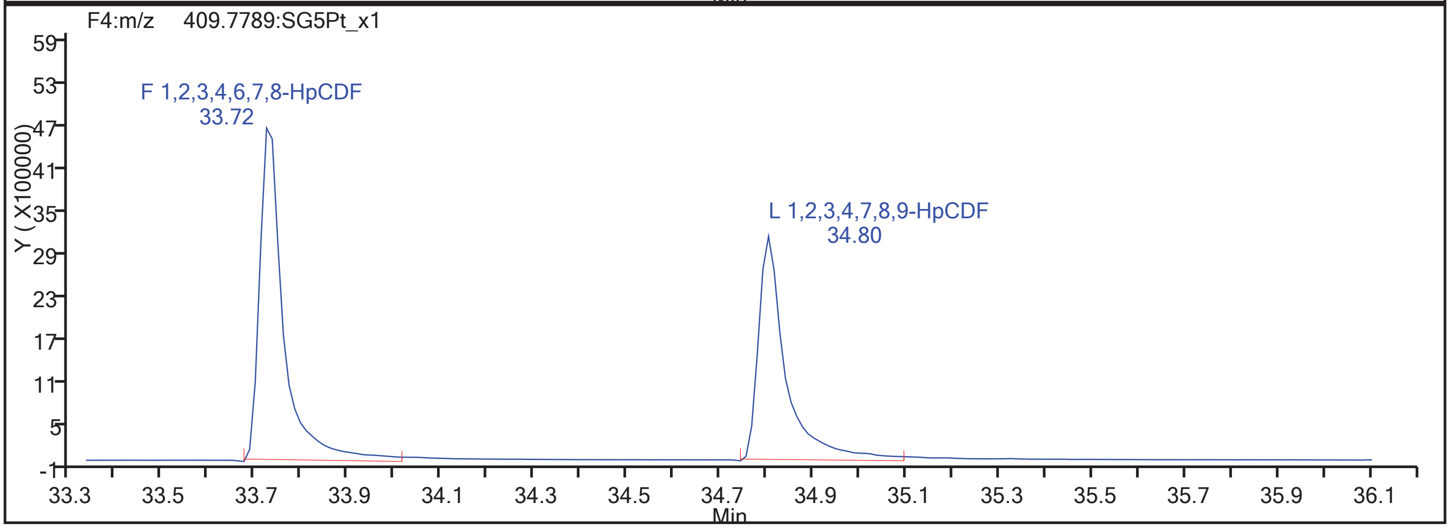
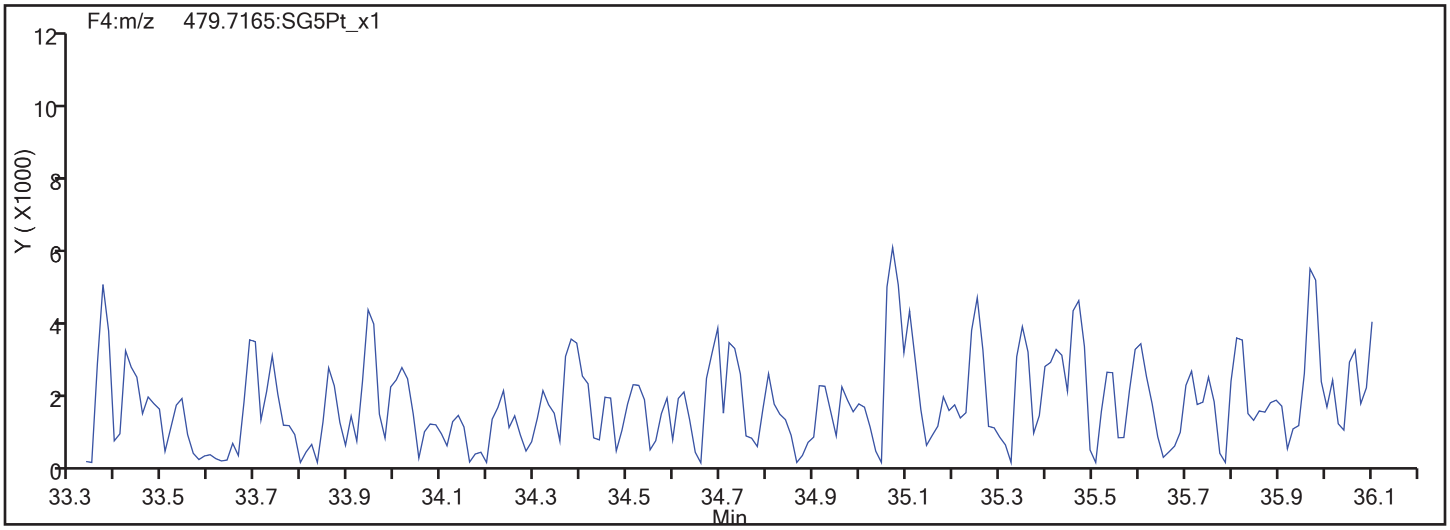




HpCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 14-Nov-2017 09:06:45 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

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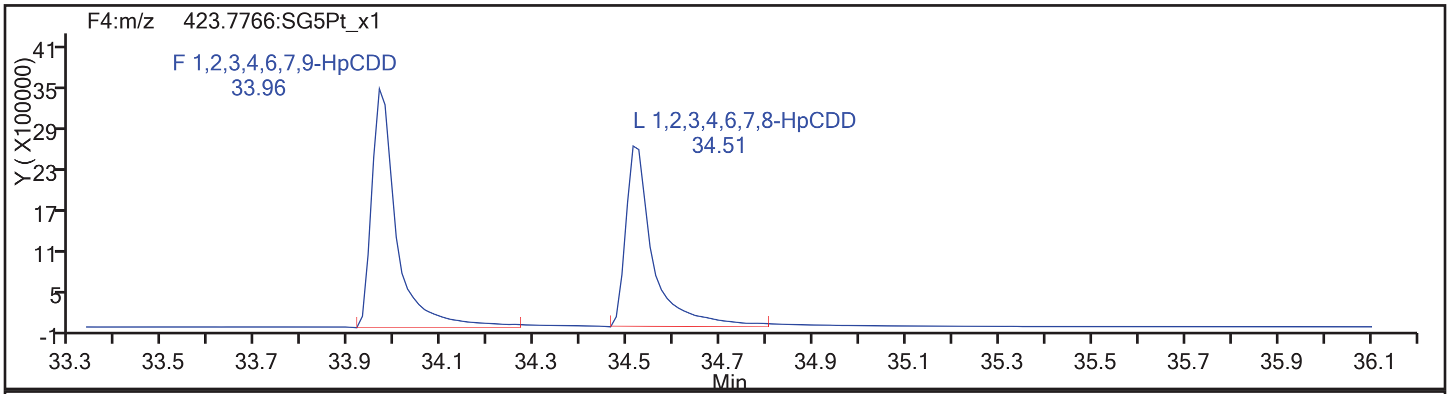
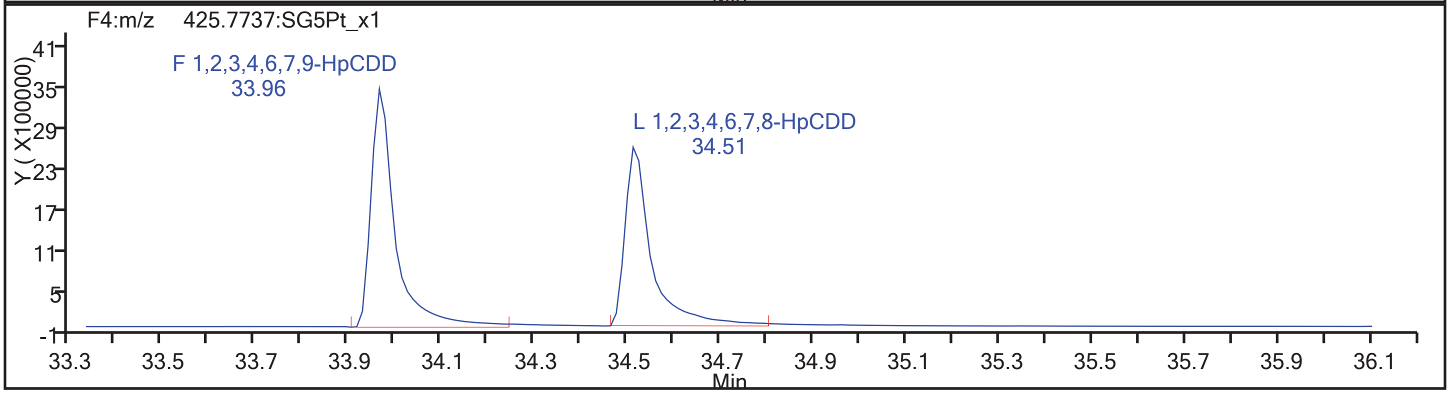
Client ID:

Worklist#: 194429 Sample Line#: 27

Column Type: DB-5 Column Dia: 0.32 mm

HpCDD





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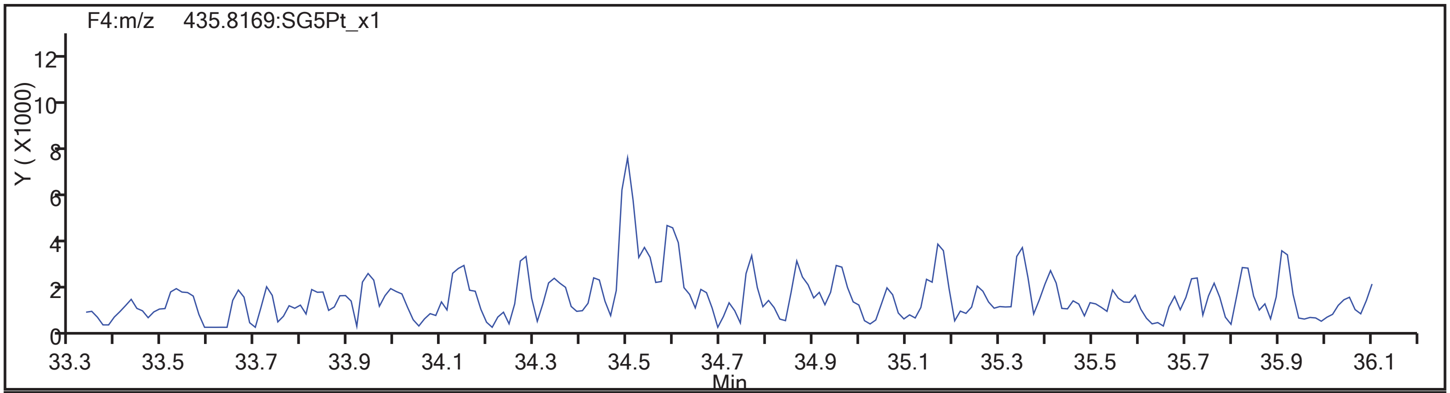

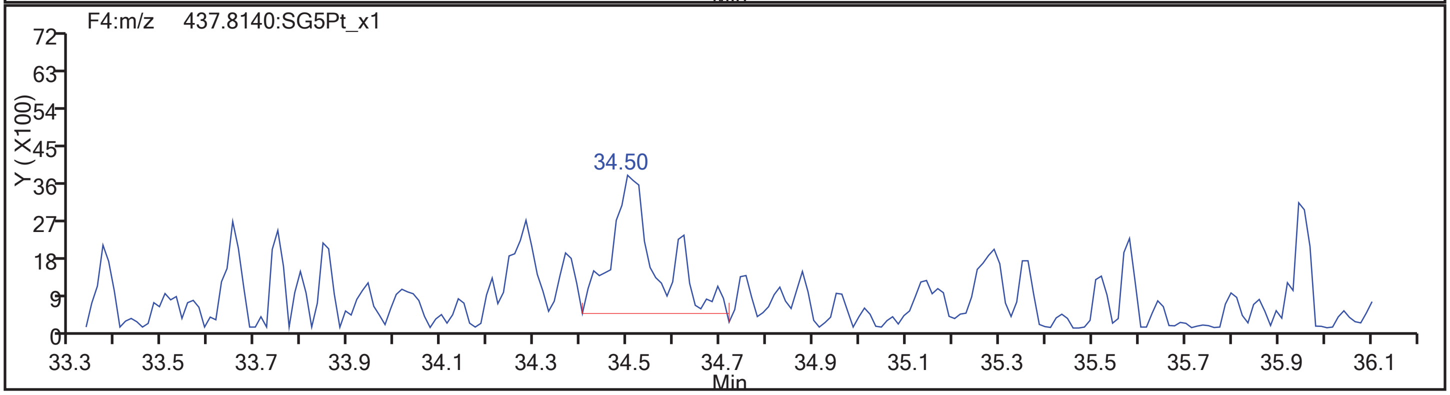

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TestAmerica Sacramento

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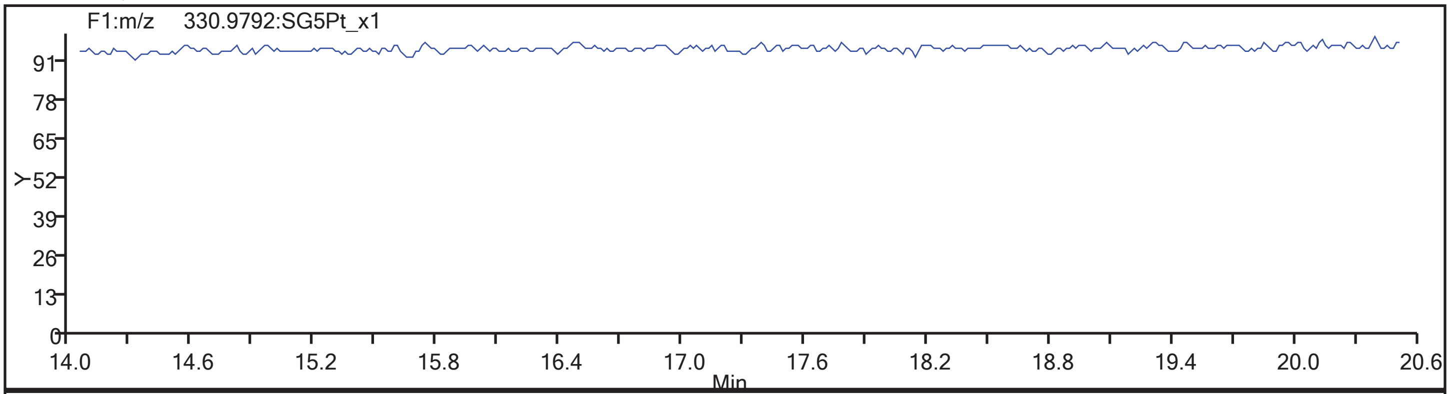
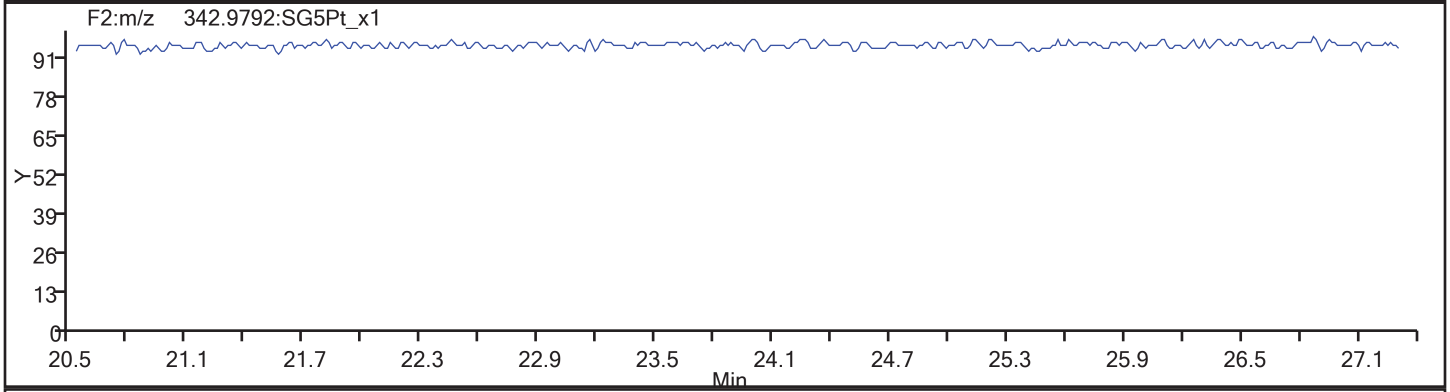
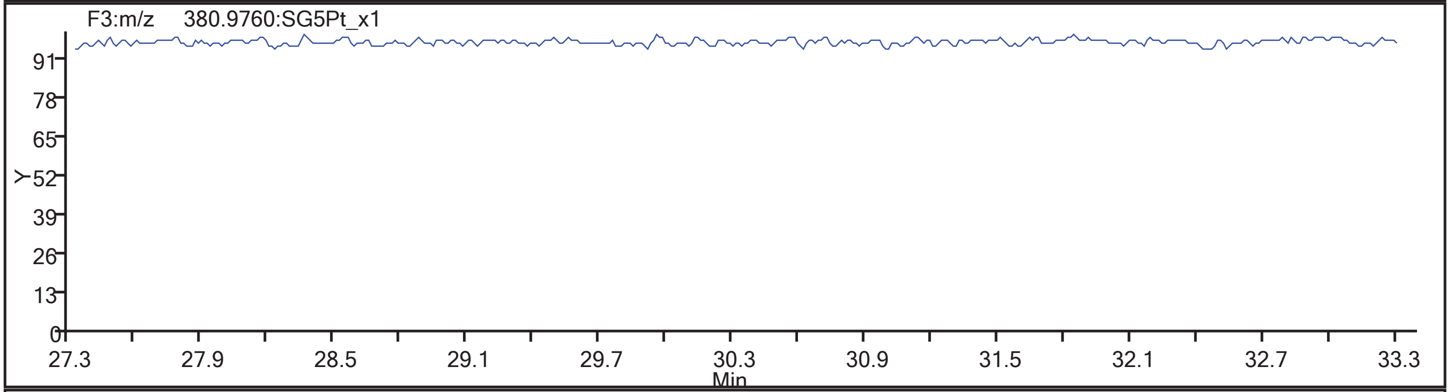
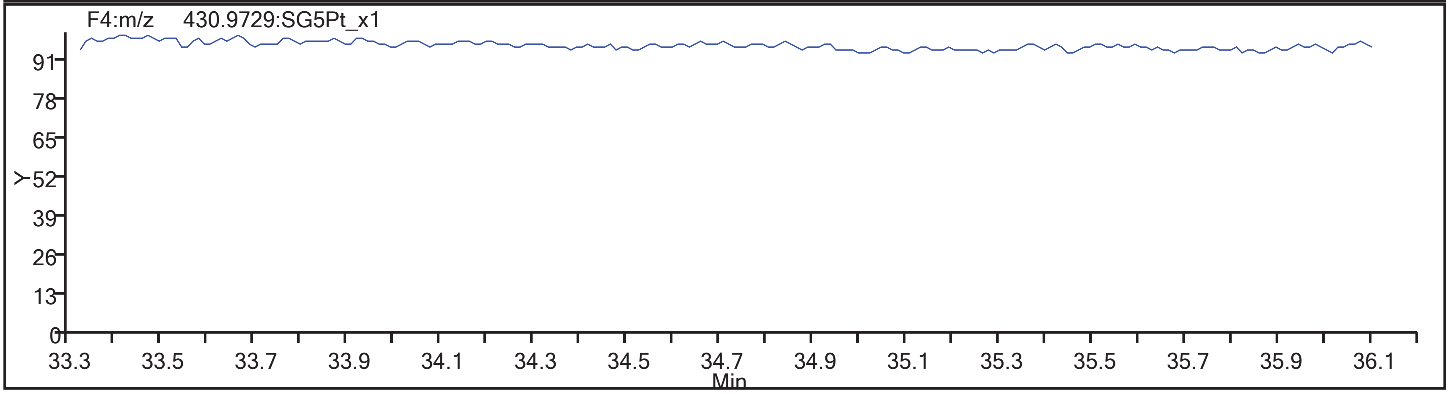


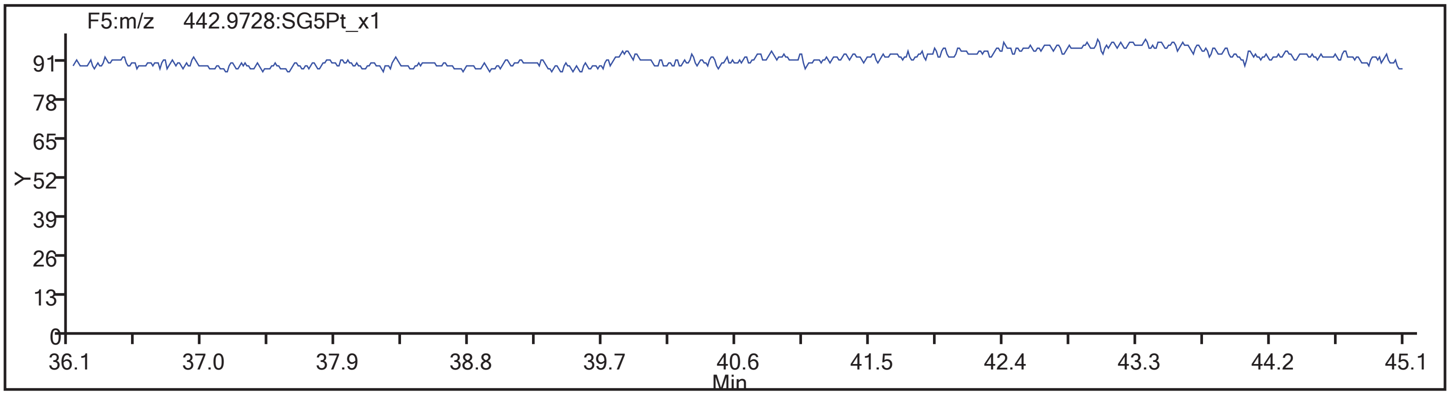






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_27.d		
Injection Date:	14-Nov-2017 09:06:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194429	Sample Line#:	27
Column Type:	DB-5	Column Dia:	0.32 mm



Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d
Lims ID: WDM Lab Sample ID:
Client ID: WDM01
Sample Type: WDM
Inject. Date: 15-Nov-2017 11:03:08 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM111517 WDM HRDXNCP_00034
Misc. Info.: 15NO173D5
Operator ID: SMA Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 09:37:12 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 15-Nov-2017 14:37:07

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.780	105392473	0.790	1.5089					0.00	
2,3,7,8-TCDF	17.810	236340391	0.768	1.0971	81.8	81.8	0.3393	0.3393		
A Non-2,3,7,8-sub-TCDF	17.493						0.0	0.0		
S Total TCDF					81.8	81.8	0.3393	0.3393		
D 13C-2,3,7,8-TCDD	18.521	65843390	0.799	0.9906					0.00	
2,3,7,8-TCDD	18.536	78526173	0.779	1.1645	41.0	41.0	0.1987	0.1987		
A Non-2,3,7,8-sub-TCDD	17.962						0.0	0.0		
S Total TCDD					41.0	41.0	0.1987	0.1987		
A F1 PeCDFs	20.479						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.750						0.0	0.0		
S Total PeCDF							0.000100	0.000100		
A Non-2,3,7,8-sub-PeCDD	24.021						0.0	0.0		
S Total PeCDD							0.000100	0.000100		
A Non-2,3,7,8-sub-HxCDF	30.786						0.0	0.0		
S Total HxCDF							0.000100	0.000100		
A Non-2,3,7,8-sub-HxCDD	31.352	531311	1.359	0.0000						
S Total HxCDD							0.000100	0.000100		
1,2,3,4,6,7,8-HpCDF	34.058	62022766	1.035	1.5871						
1,2,3,4,7,8,9-HpCDF	35.176	46428300	1.052	1.2290						
A Non-2,3,7,8-sub-HpCDF	34.617						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.885	36280518	1.050	1.1631						
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.285	129003663	0.839							
1,3,6,8-TCDD	16.238	78784955	0.800							
1,2,3,9-TCDF	17.810	236340391	0.768							
1,2,3,7-TCDD	18.415	68167715	0.791							
1,2,3,9-TCDD	18.718	81929817	0.787							
2,3,4,7-TCDF	18.718	102811010	0.791							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.685	32425348								
1,2,8,9-TCDF	19.701	107184104	0.787							
1,3,4,6,8-PeCDF	19.988	86226406	1.581							
1,2,4,7,9-PeCDD	21.819	60184760	1.563							
1,2,3,8,9-PeCDD	26.223	57886733	1.613							
1,2,3,8,9-PeCDF	26.455	47839685								
1,2,3,4,6,8-HxCDF	28.829	83489172	1.282							
1,2,4,6,7,9-HxCDD	30.267	61049141	1.283							
1,2,3,4,6,7-HxCDD	32.437	60105745	1.246							
1,2,3,4,8,9-HxCDF	32.743	77313427	1.279							
1,2,3,4,6,7,9-HpCDD	34.313	42254752	1.058							

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d
Lims ID: WDM Lab Sample ID:
Client ID: WDM01
Sample Type: WDM
Inject. Date: 15-Nov-2017 11:03:08 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM111517 WDM HRDXNCP_00034
Misc. Info.: 15NO173D5
Operator ID: SMA Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 16-Nov-2017 09:37:12 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 15-Nov-2017 14:37:07

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.780	17.813	-2	1.000	46499495	10846138	36634	91585	296		
317.9389	17.780	17.813	-2	1.000	58892978	13936195	19487	48717	715	0.790(0.650-0.890)	
2,3,7,8-TCDF											
303.9016	17.810	17.832	-1	1.002	102655661	22452614	41609	104022	540		
305.8987	17.810	17.832	-1	1.002	133684730	29492582	50651	126627	582	0.768(0.650-0.890)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.493						41609	104022			
305.8987	17.493						50651	126627			
13C-2,3,7,8-TCDD											
331.9368	18.521	18.545	-1	1.000	29243567	6733872	16851	42127	400		
333.9339	18.521	18.545	-1	1.000	36599823	8477656	8377	20942	1012	0.799(0.650-0.890)	
2,3,7,8-TCDD											
319.8965	18.536	18.563	-2	1.001	34391051	7714381	15151	37877	509		
321.8936	18.536	18.563	-2	1.001	44135122	10152973	20042	50105	507	0.779(0.650-0.890)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.962						15151	37877			
321.8936	17.962						20042	50105			
A F1 PeCDFs											
339.8597	20.479						3870	9675			
341.8567	20.479						4941	12352			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.750						10807	27017			
341.8567	23.750						5891	14727			
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.021						10707	26767			
357.8516	24.021						6611	16527			

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.786						15730	39325			
375.8178	30.786						12788	31970			
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.385	31.352	2	1.000	306081	68489	12247	30617	6		
391.8127	31.412	31.352	4	1.000	225230	49584	13099	32747	4	1.359(1.050-1.430)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.058	34.068	-1	1.000	31548841	10214796	36116	90290	283		
409.7789	34.058	34.068	-1	1.000	30473925	9900808	36762	91905	269	1.035(0.880-1.200)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.176	35.191	-1	1.000	23804874	6971846	36116	90290	193		
409.7789	35.176	35.191	-1	1.000	22623426	6653139	36762	91905	181	1.052(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.617						36116	90290			
409.7789	34.617						36762	91905			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.885	34.889	0	1.000	18581121	5542004	25839	64597	214		
425.7737	34.885	34.889	0	1.000	17699397	5276041	23527	58817	224	1.050(0.880-1.200)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						25839	64597			
425.7737	35.261						23527	58817			
1,3,6,8-TCDF											
303.9016	15.285	15.285	0		58843579	17328073	41609	104022	416		
305.8987	15.285	15.285	0		70160084	21220159	50651	126627	419	0.839(0.650-0.890)	
1,3,6,8-TCDD											
319.8965	16.238	16.238	0		35026884	9372138	15151	37877	619		
321.8936	16.223	16.238	-1		43758071	11756263	20042	50105	587	0.800(0.650-0.890)	
1,2,3,9-TCDF											
303.9016	17.810	17.810	0		102655661	22452614	41609	104022	540		
305.8987	17.810	17.810	0		133684730	29492582	50651	126627	582	0.768(0.650-0.890)	
1,2,3,7-TCDD											
319.8965	18.415	18.415	0		30108483	7364289	15151	37877	486		
321.8936	18.415	18.415	0		38059232	9280486	20042	50105	463	0.791(0.650-0.890)	
1,2,3,9-TCDD											
319.8965	18.718	18.718	0		36081173	7783355	15151	37877	514		
321.8936	18.718	18.718	0		45848644	9938951	20042	50105	496	0.787(0.650-0.890)	
2,3,4,7-TCDF											
303.9016	18.718	18.718	0		45413494	10211077	41609	104022	245		
305.8987	18.718	18.718	0		57397516	12801450	50651	126627	253	0.791(0.650-0.890)	
1,2,8,9-TCDD											
319.8965	19.685	19.685	0		32425348	6847257	15151	37877	452		
1,2,8,9-TCDF											
303.9016	19.701	19.701	0		47196629	10242471	41609	104022	246		
305.8987	19.701	19.701	0		59987475	13046179	50651	126627	258	0.787(0.650-0.890)	
1,3,4,6,8-PeCDF											
339.8597	19.988	19.988	0		52816177	11056953	3870	9675	2857		
341.8567	19.988	19.988	0		33410229	7035304	4941	12352	1424	1.581(1.320-1.780)	

Signal	RT (min.)	Exp RT (min.)	O Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	21.819	21.819	0		36700855	6072080	10707	26767	567		
357.8516	21.833	21.819	1		23483905	3908183	6611	16527	591	1.563(1.320-1.780)	
1,2,3,8,9-PeCDD											
355.8546	26.223	26.223	0		35736760	4951502	10707	26767	462		
357.8516	26.223	26.223	0		22149973	3072465	6611	16527	465	1.613(1.320-1.780)	
1,2,3,8,9-PeCDF											
339.8597	26.455	26.455	0		47839685	6437447	10807	27017	596		
1,2,3,4,6,8-HxCDF											
373.8208	28.829	28.829	0		46906673	5965605	15730	39325	379		
375.8178	28.829	28.829	0		36582499	4710897	12788	31970	368	1.282(1.050-1.430)	
1,2,4,6,7,9-HxCDD											
389.8157	30.267	30.267	0		34307918	5871093	12247	30617	479		
391.8127	30.267	30.267	0		26741223	4704317	13099	32747	359	1.283(1.050-1.430)	
1,2,3,4,6,7-HxCDD											
389.8157	32.437	32.437	0		33345776	9253076	12247	30617	756		
391.8127	32.437	32.437	0		26759969	7573187	13099	32747	578	1.246(1.050-1.430)	
1,2,3,4,8,9-HxCDF											
373.8208	32.743	32.743	0		43387318	12611624	15730	39325	802		
375.8178	32.743	32.743	0		33926109	9950932	12788	31970	778	1.279(1.050-1.430)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.313	34.313	0		21721082	7077790	25839	64597	274		
425.7737	34.313	34.313	0		20533670	6566503	23527	58817	279	1.058(0.880-1.200)	

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d
Lims ID: WDM
Client ID: WDM01
Inject. Date: 15-Nov-2017 11:03:08 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: SMA
Lims Batch ID: 194923 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 31.352

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065				
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.385	306081	68489	225230	49584		1.359	
Signal Totals:							
	306081	68489	225230	49584			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	531311	118073				1.359	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (531311 * 0.0) / (0 * 0.000)

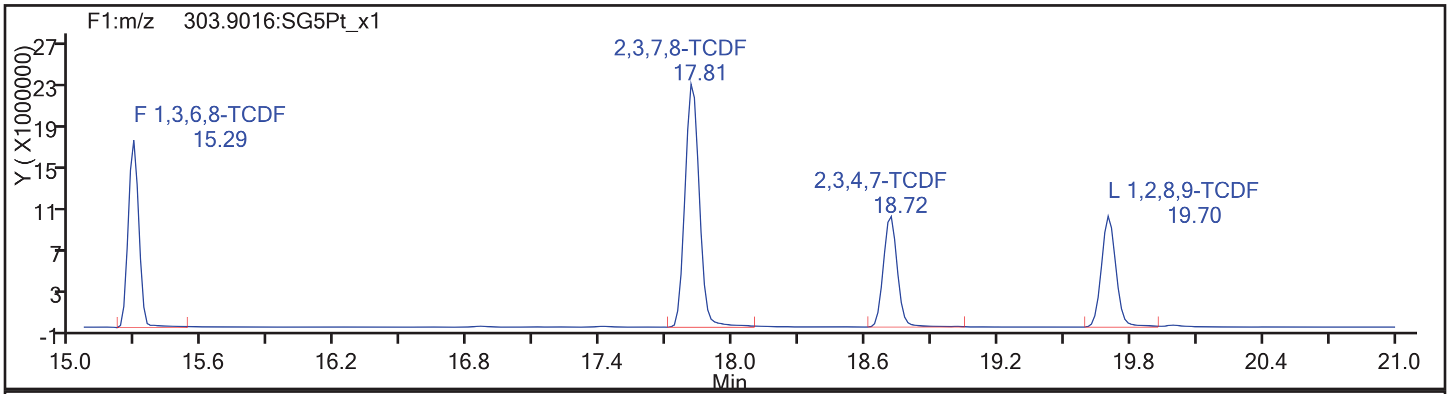
Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

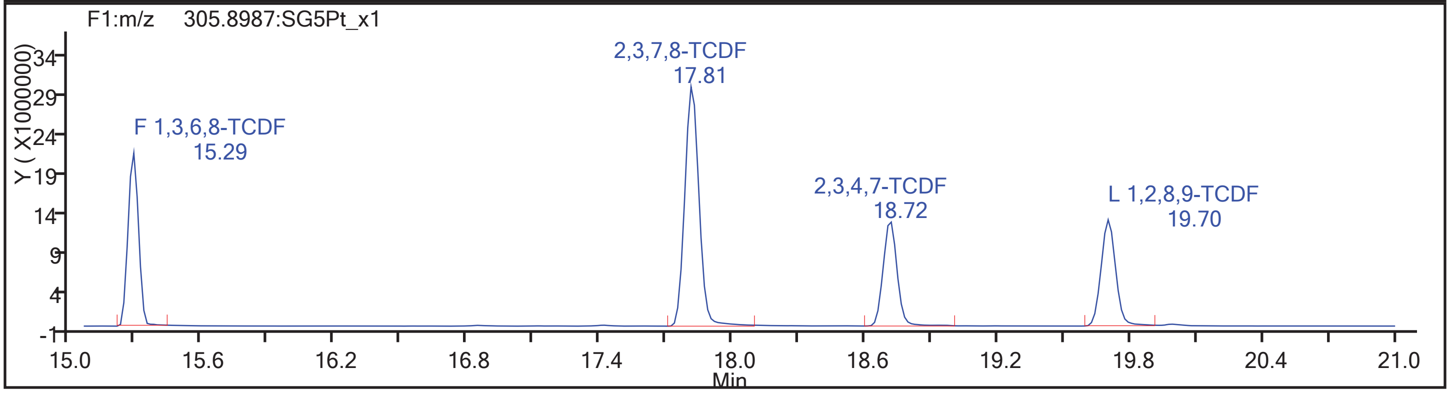
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d

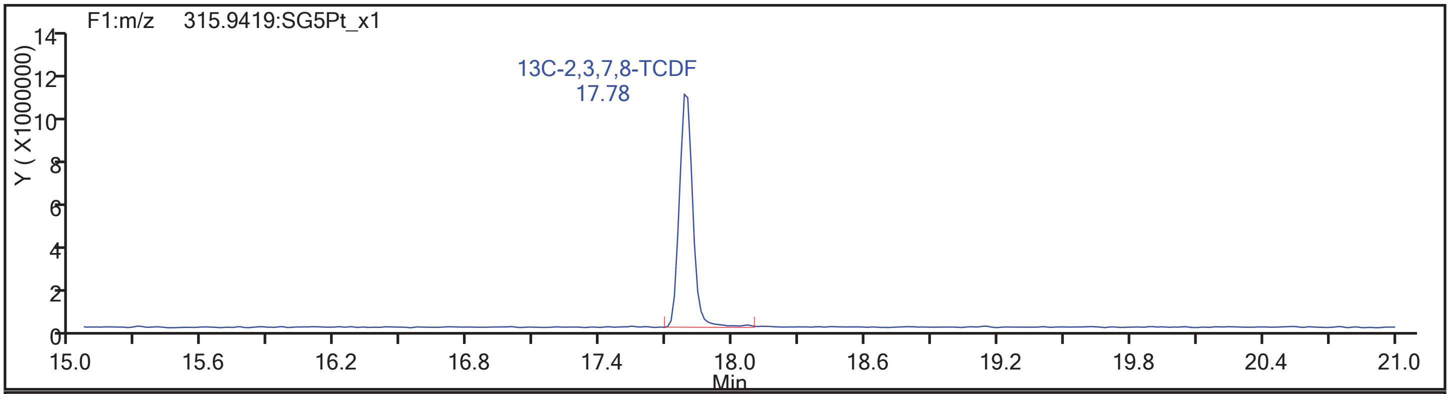
Injection Date:	15-Nov-2017 11:03:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	194923	Sample Line#:	1
Column Type:		Column Dia:	

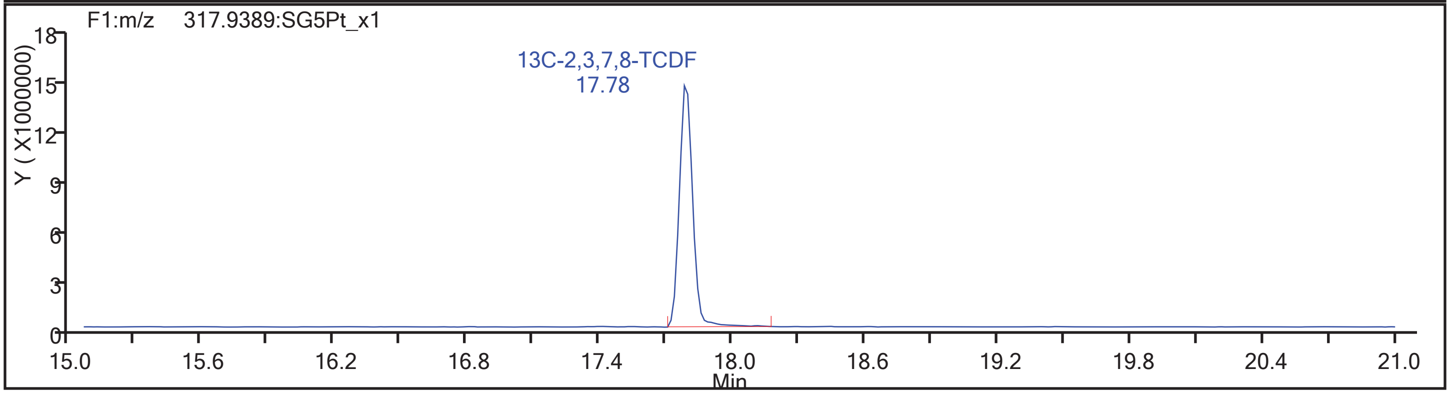
TCDF





TCDF Standards





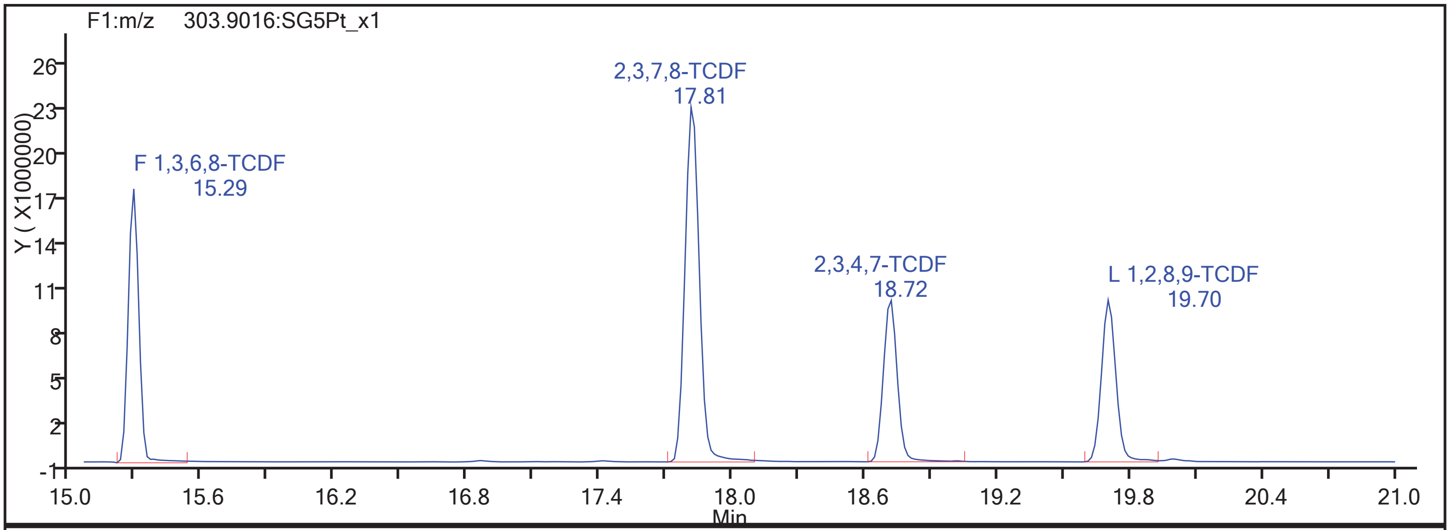
Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

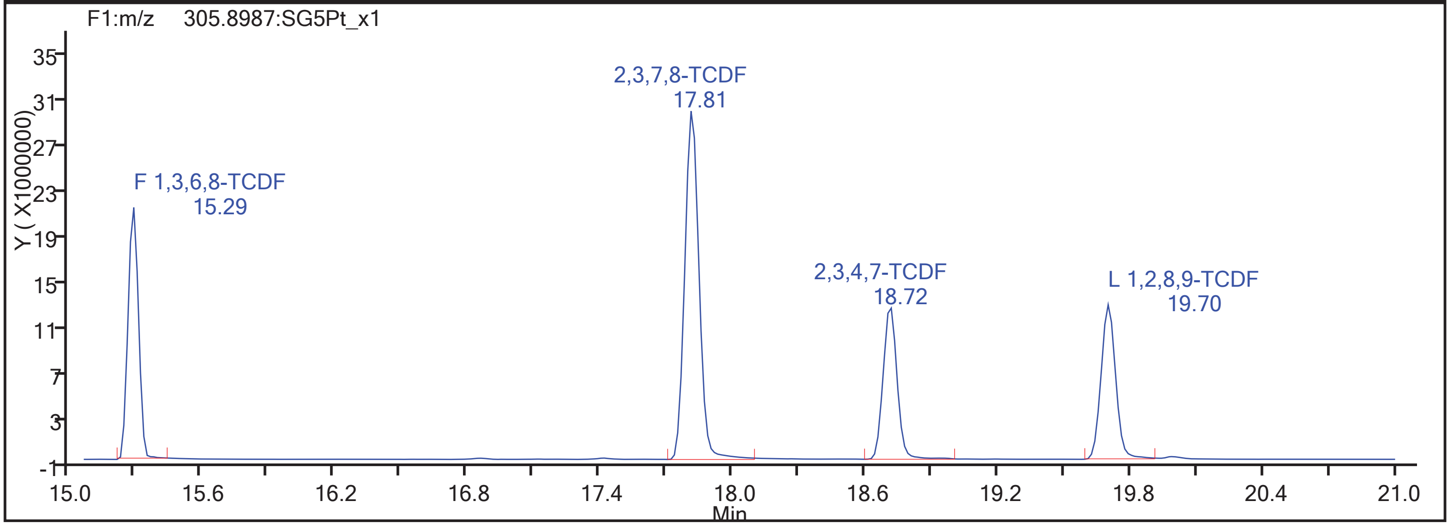
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d

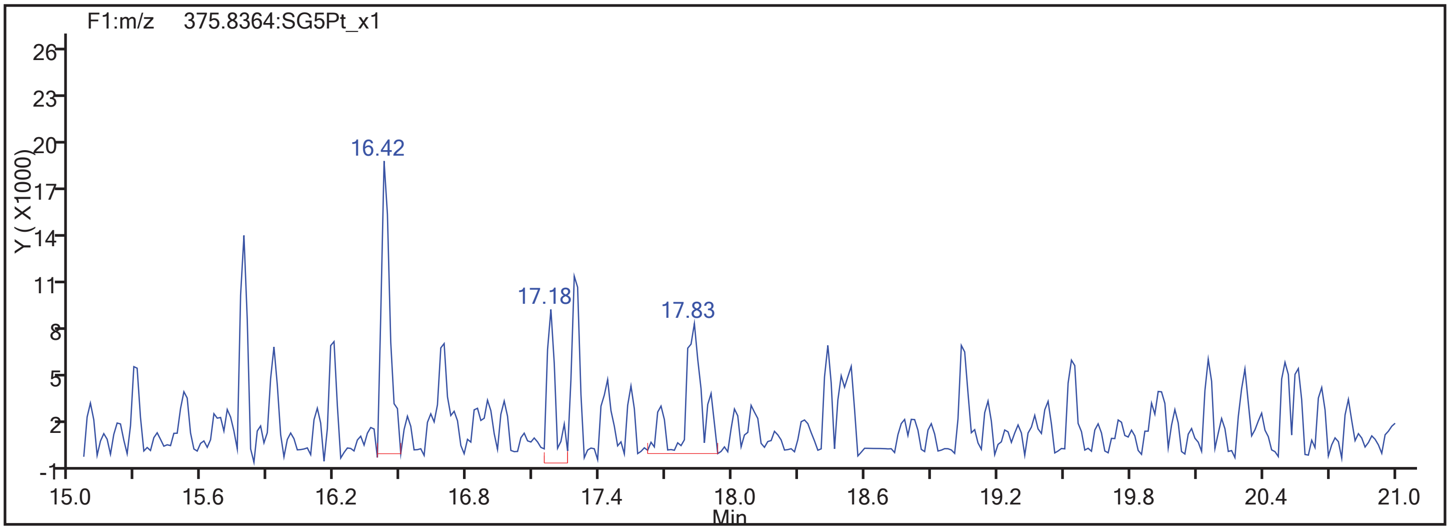
Injection Date:	15-Nov-2017 11:03:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	194923	Sample Line#:	1
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass

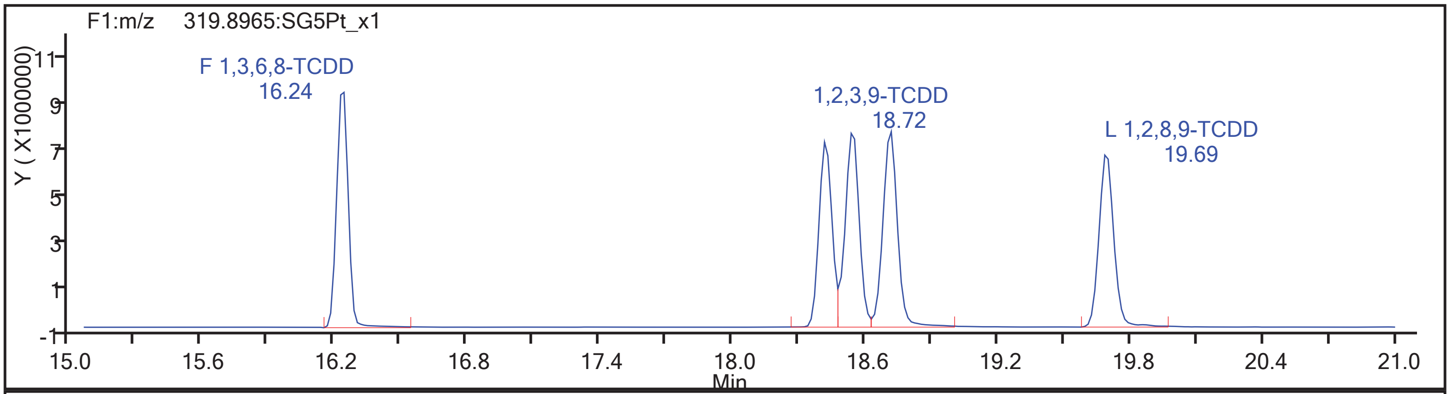


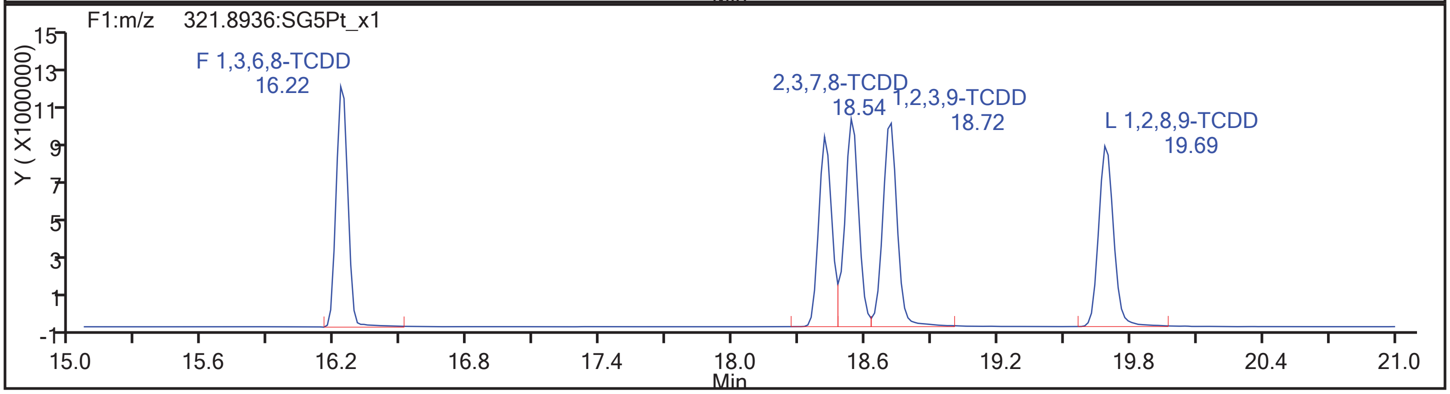
Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

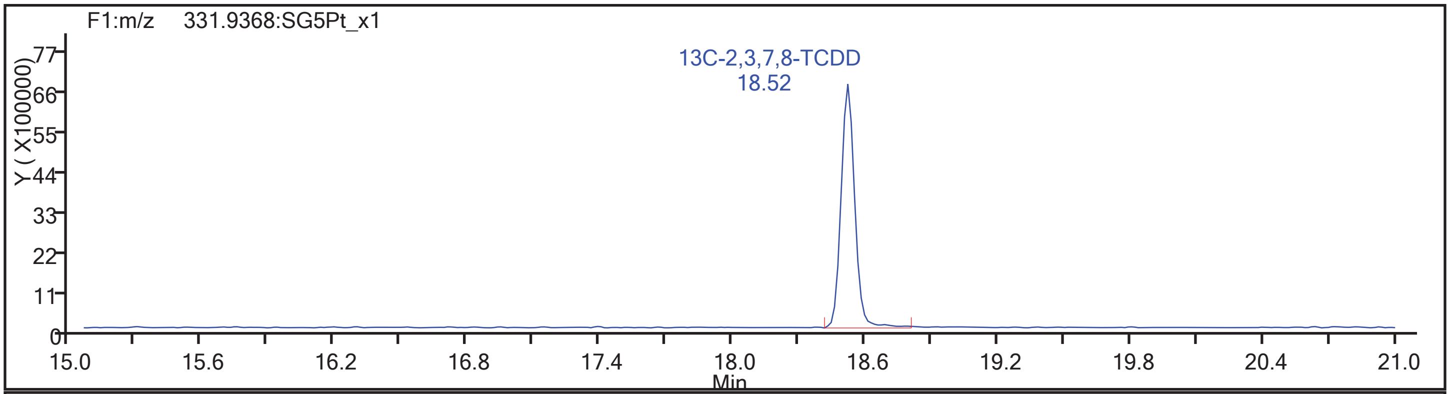
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d
Injection Date: 15-Nov-2017 11:03:08
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 194923
Sample Line#: 1
Column Type:
Column Dia:

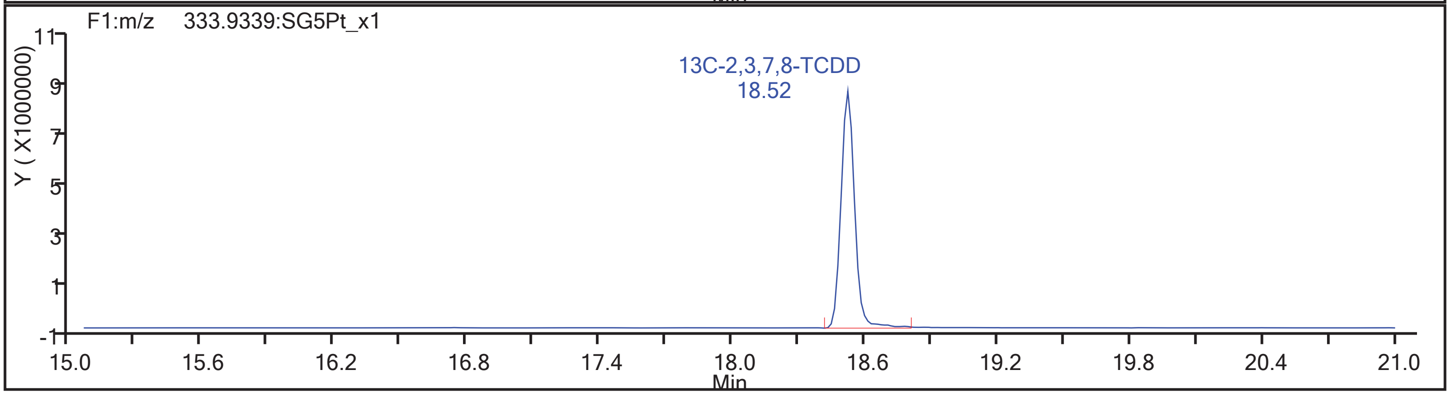
TCDD





TCDD Standards



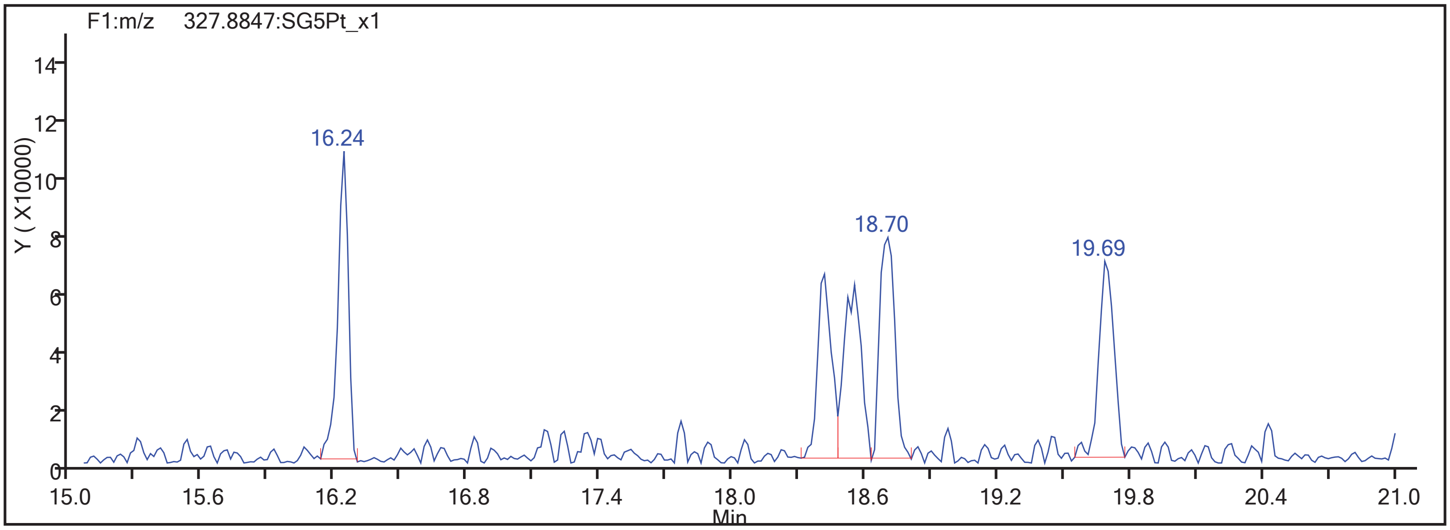


Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

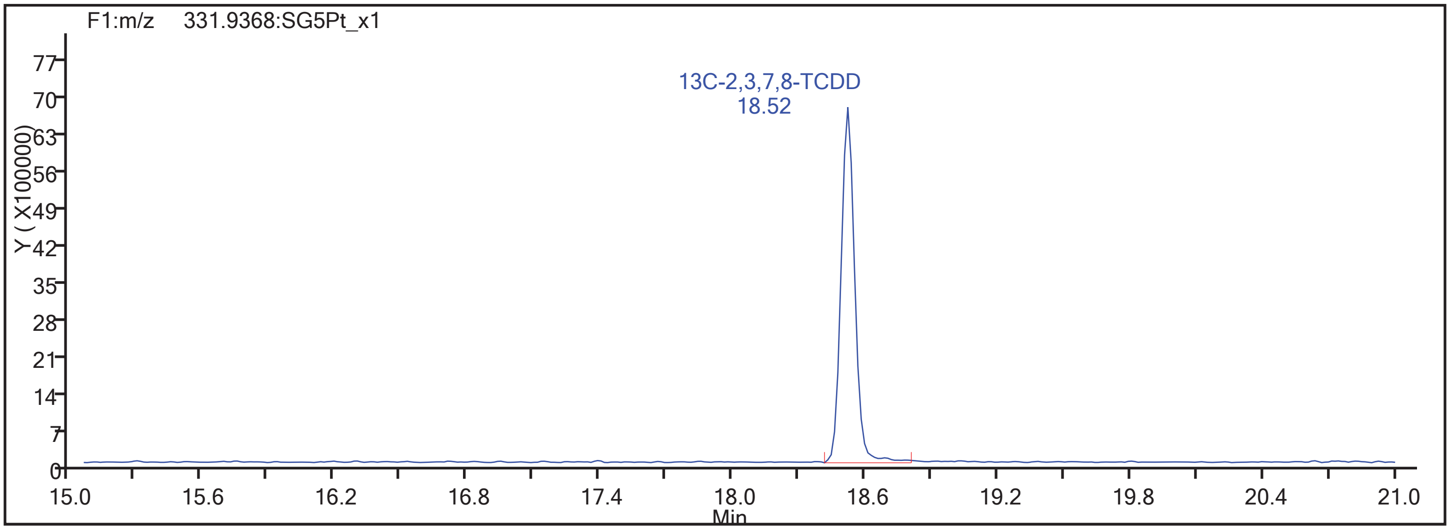
TestAmerica Sacramento

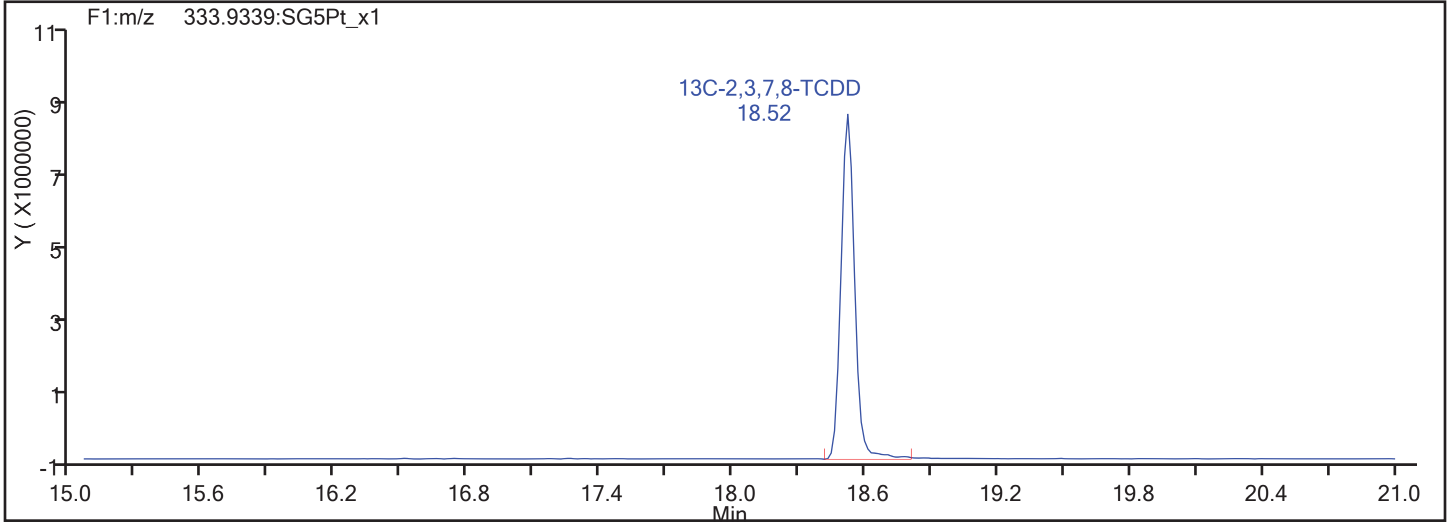
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d		
Injection Date:	15-Nov-2017 11:03:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	194923	Sample Line#:	1
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



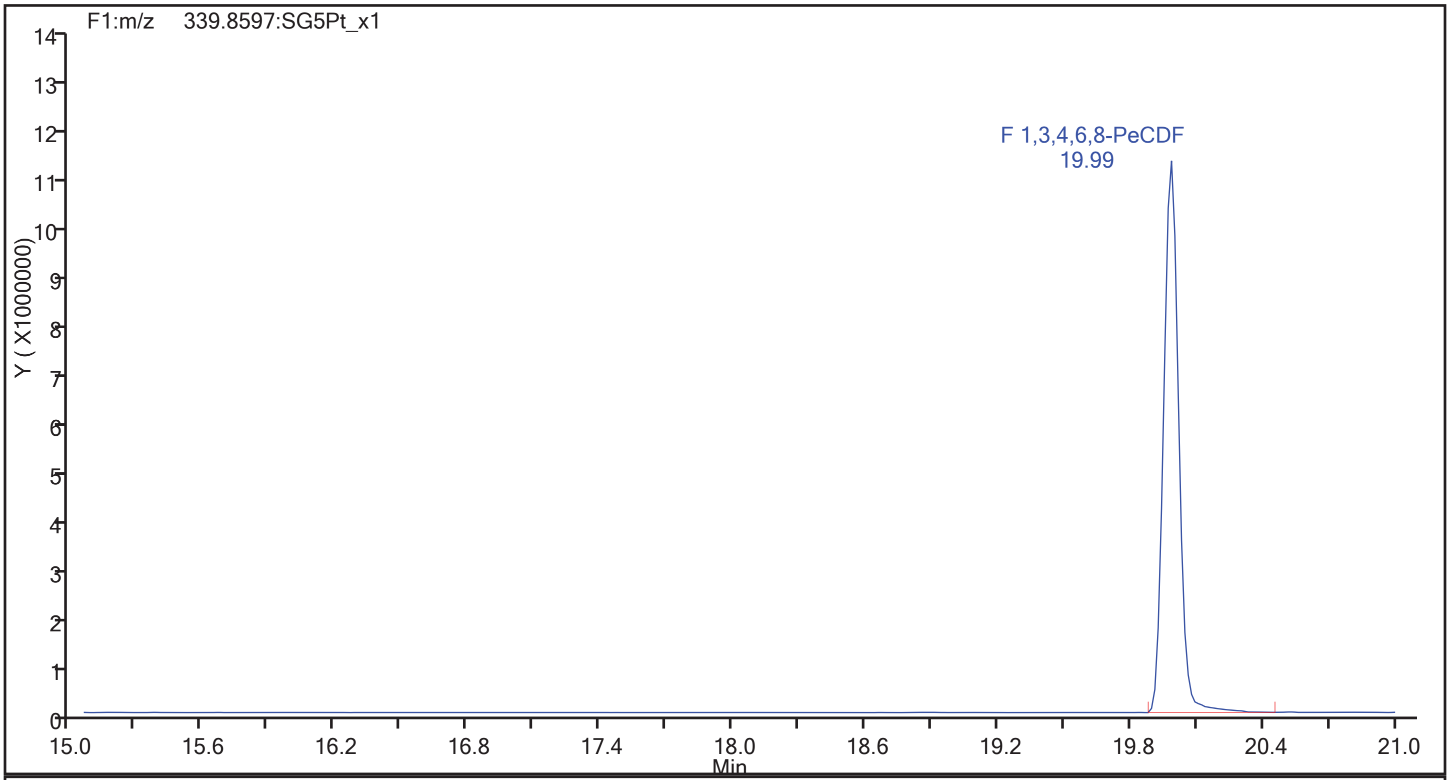


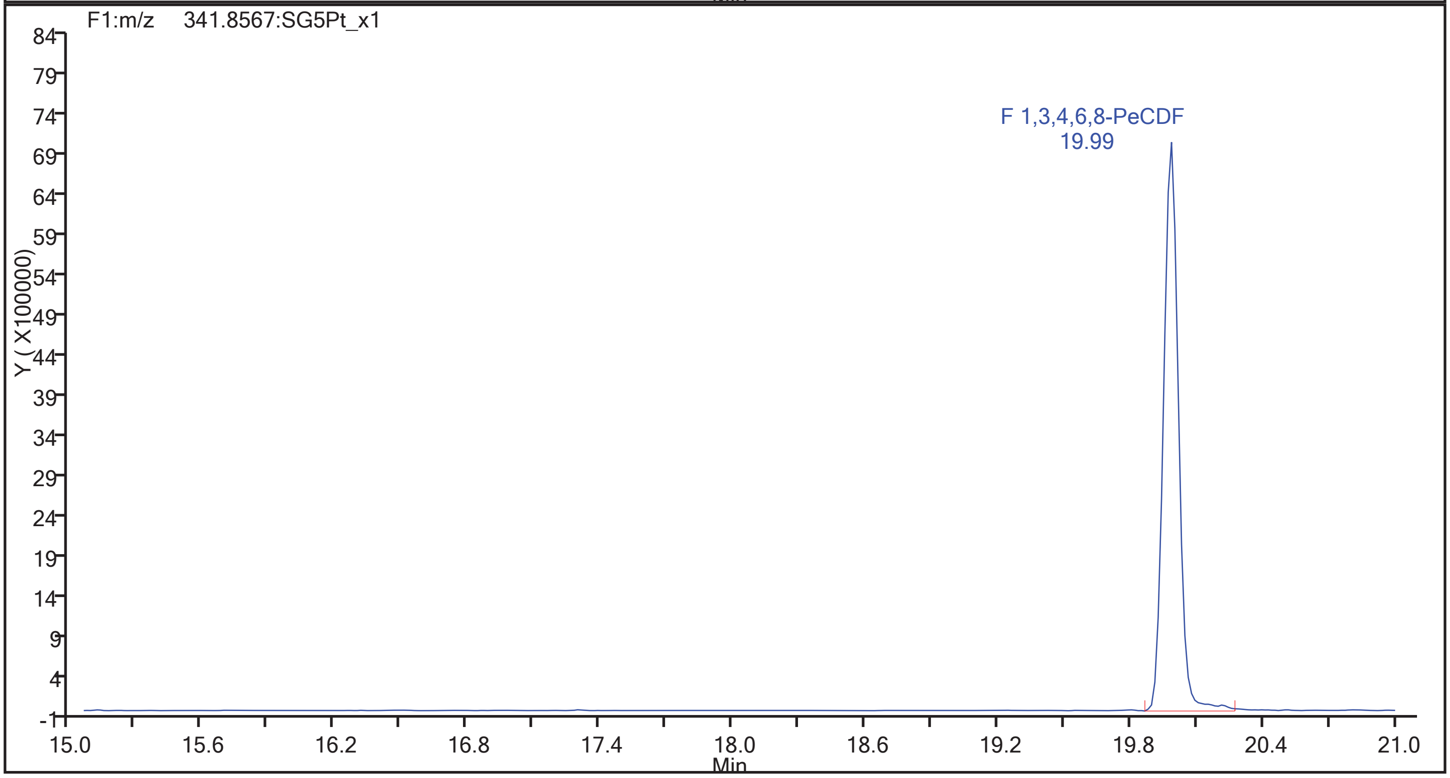
Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d		
Injection Date:	15-Nov-2017 11:03:08	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	194923	Sample Line#:	1
Column Type:		Column Dia:	

F1 PeCDFs





Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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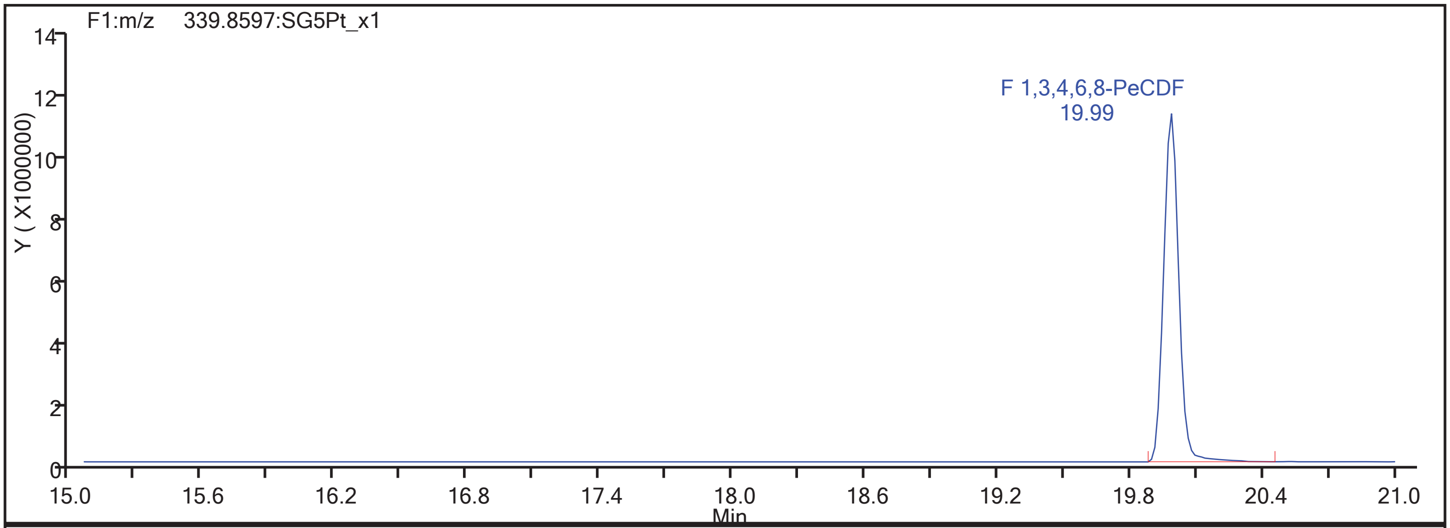
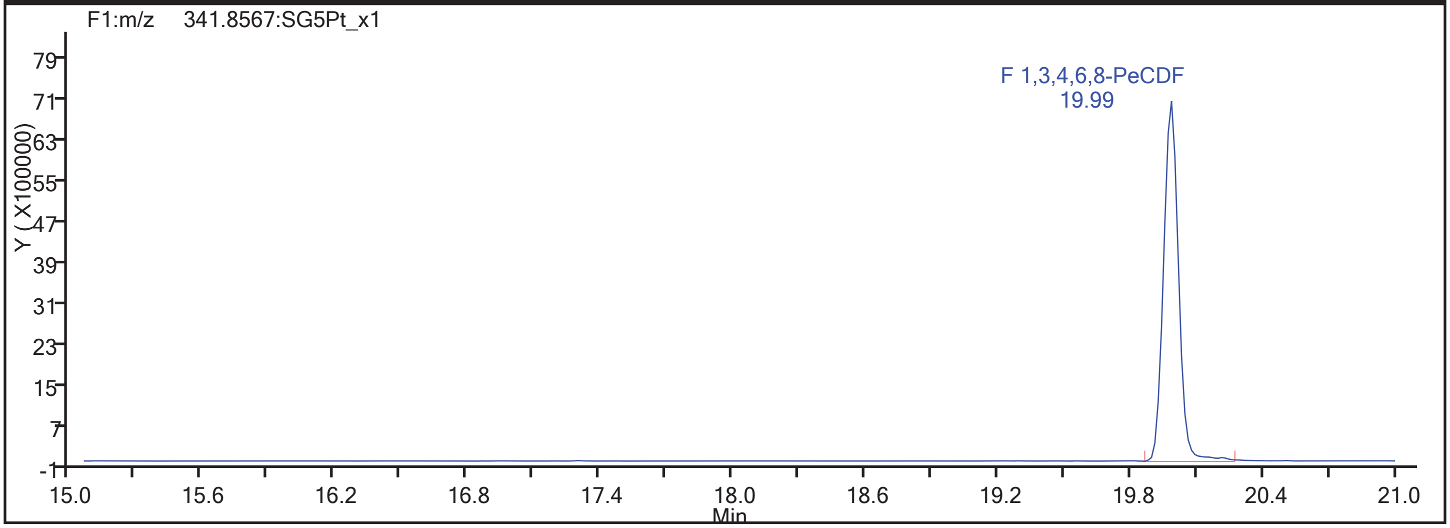
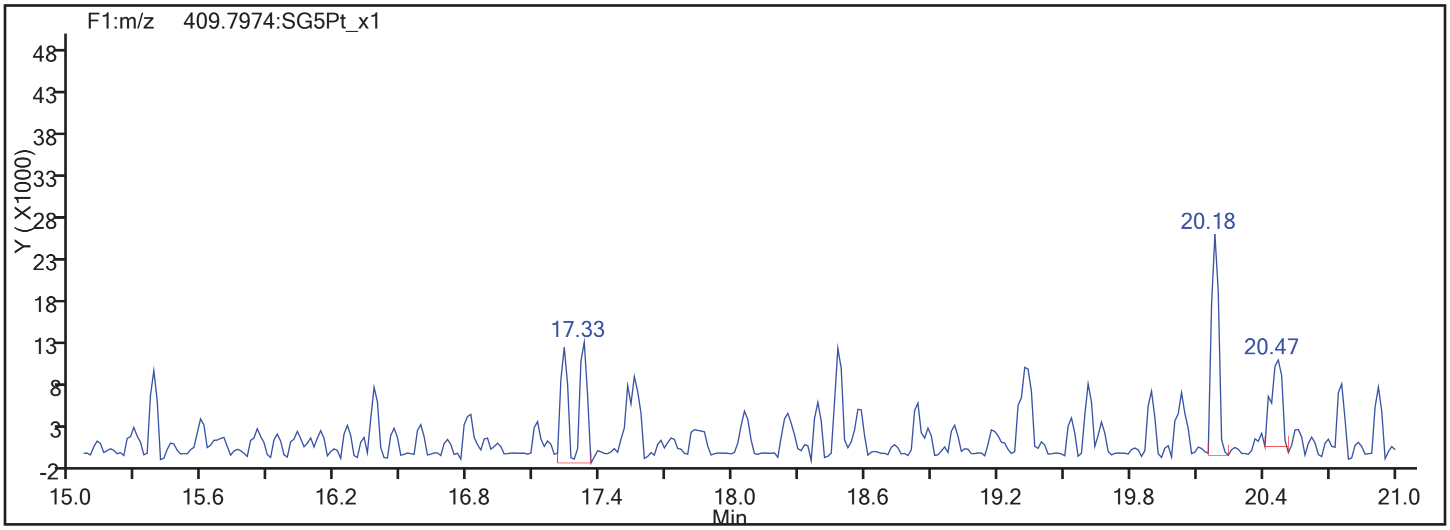




F1 PeCDFs Interference Mass



Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
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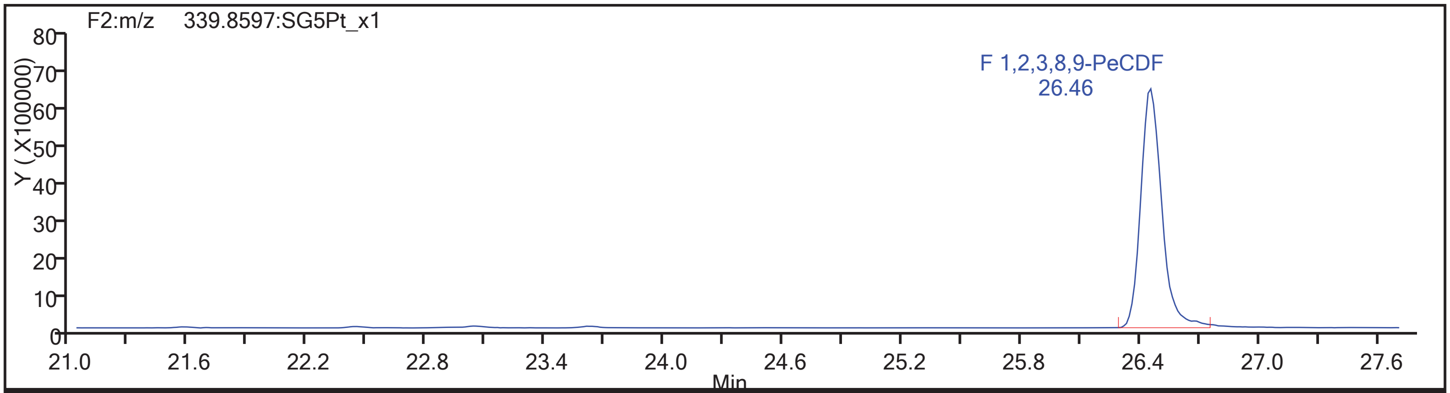
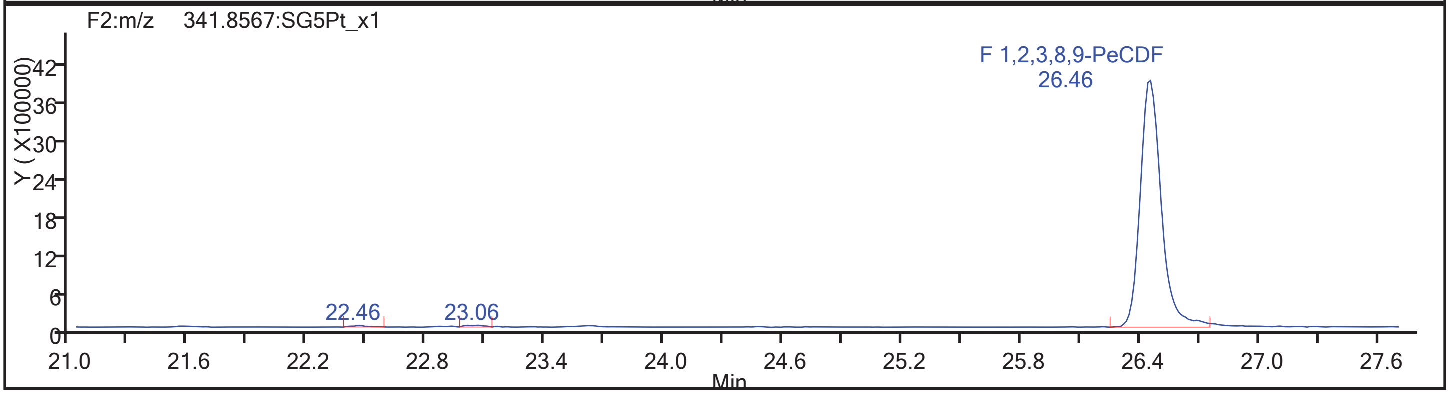
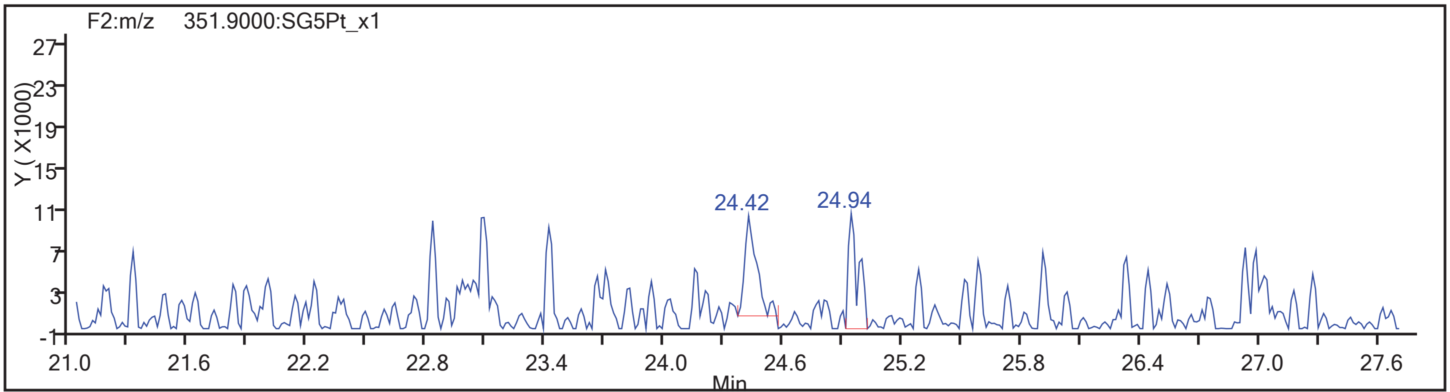
Column Type:		Column Dia:	

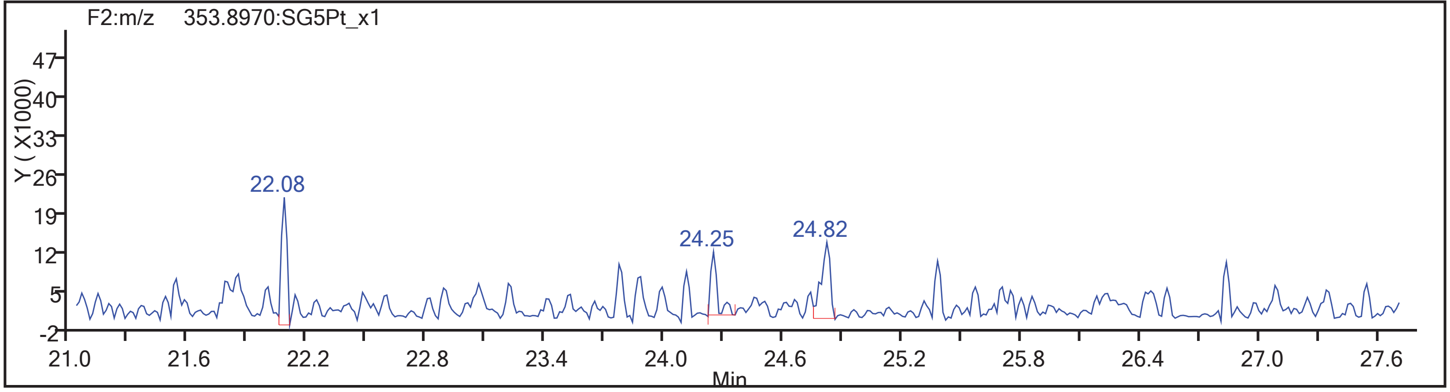
PeCDF





PeCDF Standards





TestAmerica Sacramento

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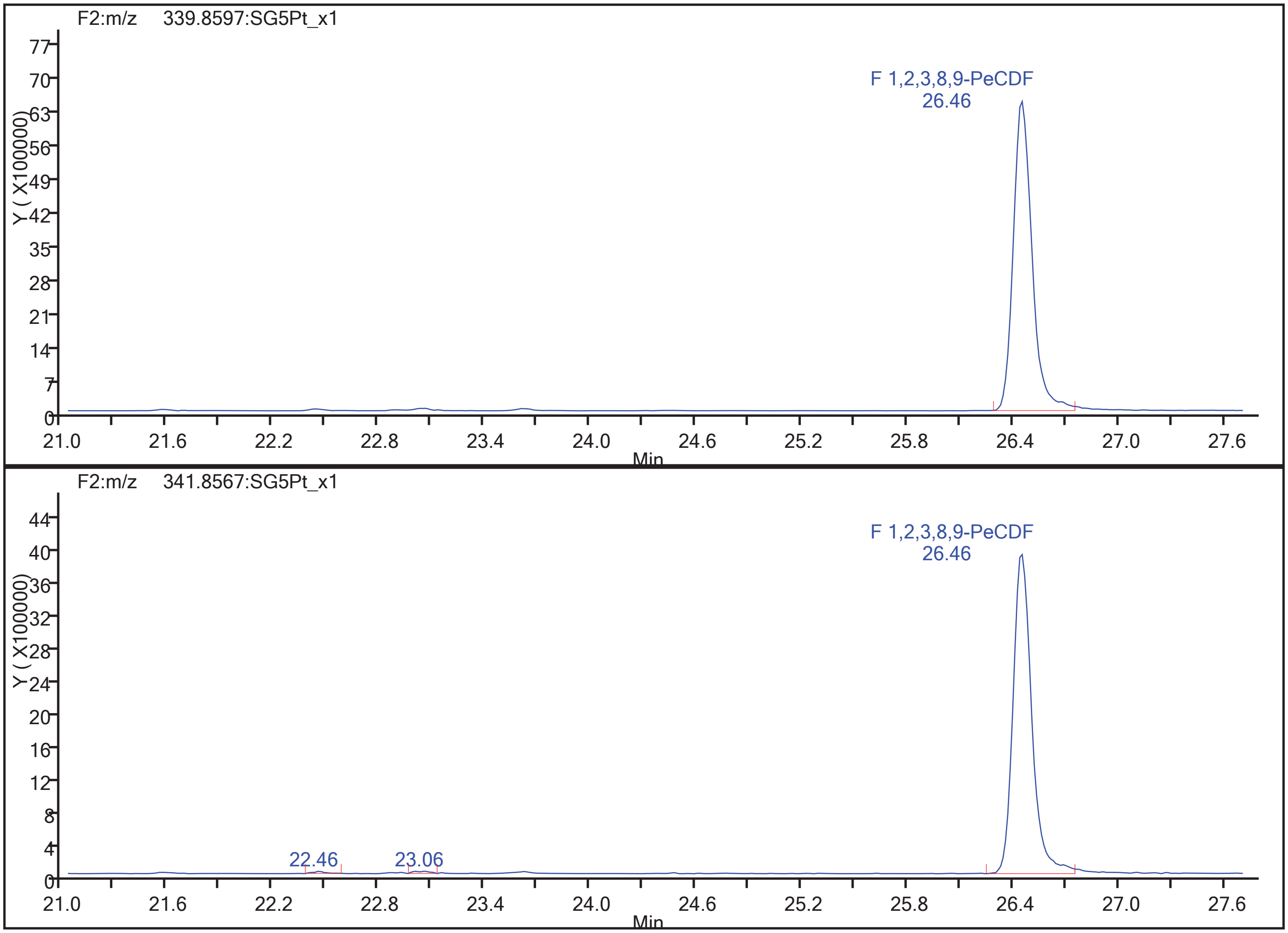
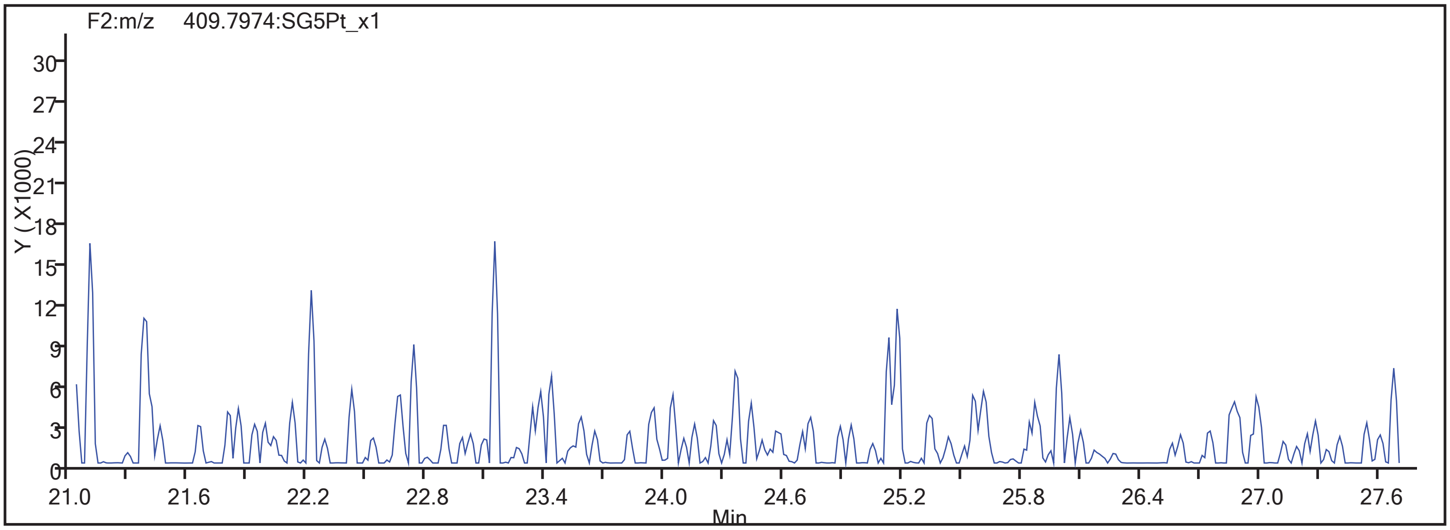


PeCDF Interference Mass



Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d
Injection Date: 15-Nov-2017 11:03:08
Injection Vol: 2.0 ul
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Operator ID: SMA
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Column Dia:

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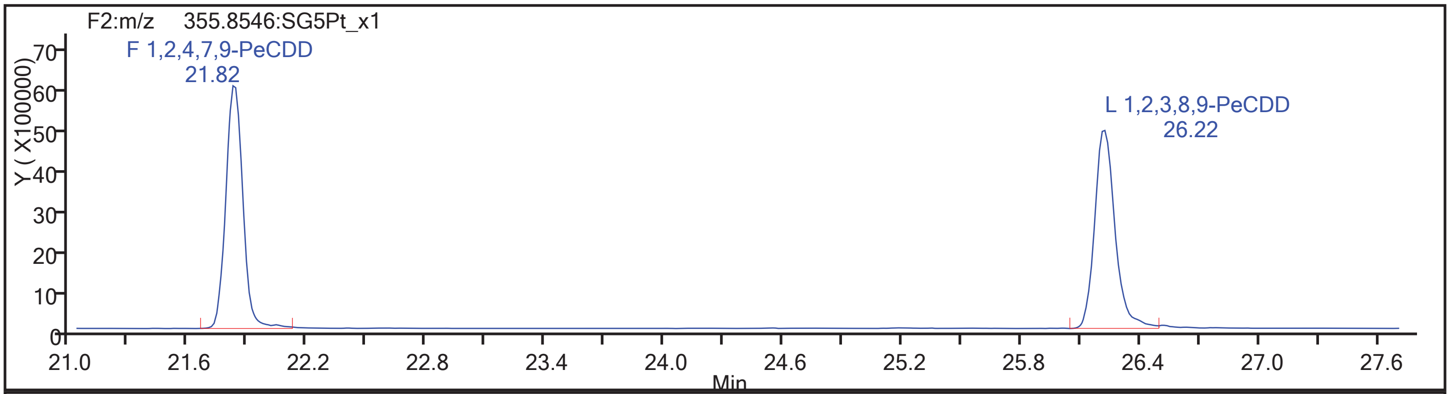
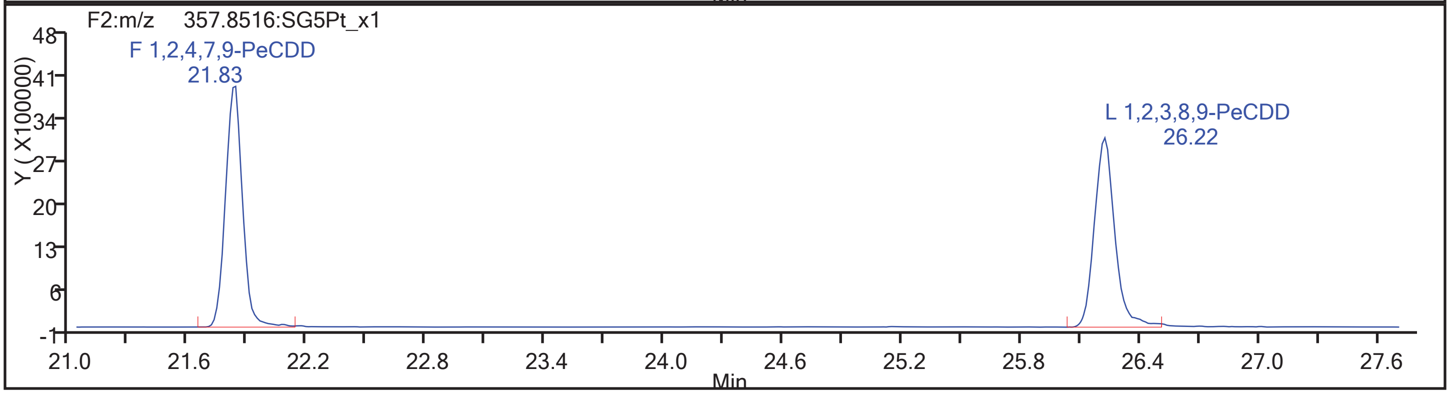
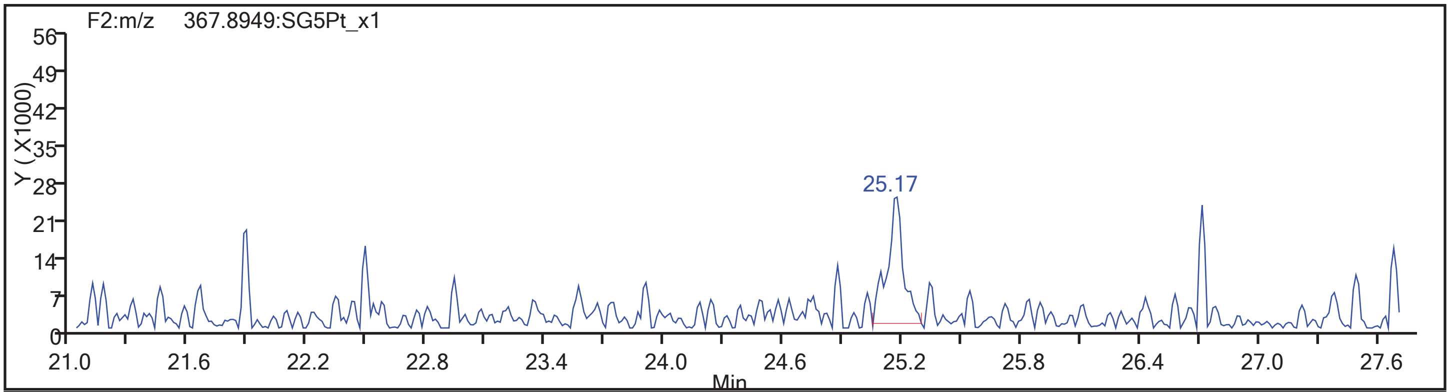
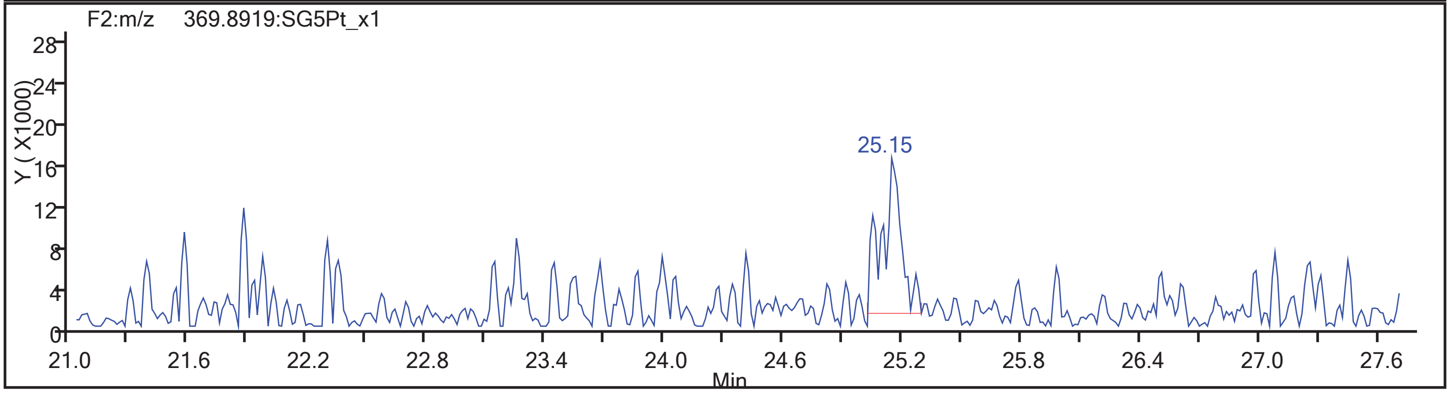




PeCDD Standards





Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d
Injection Date: 15-Nov-2017 11:03:08
Injection Vol: 2.0 ul
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Operator ID: SMA
Method: Dioxin_3D5
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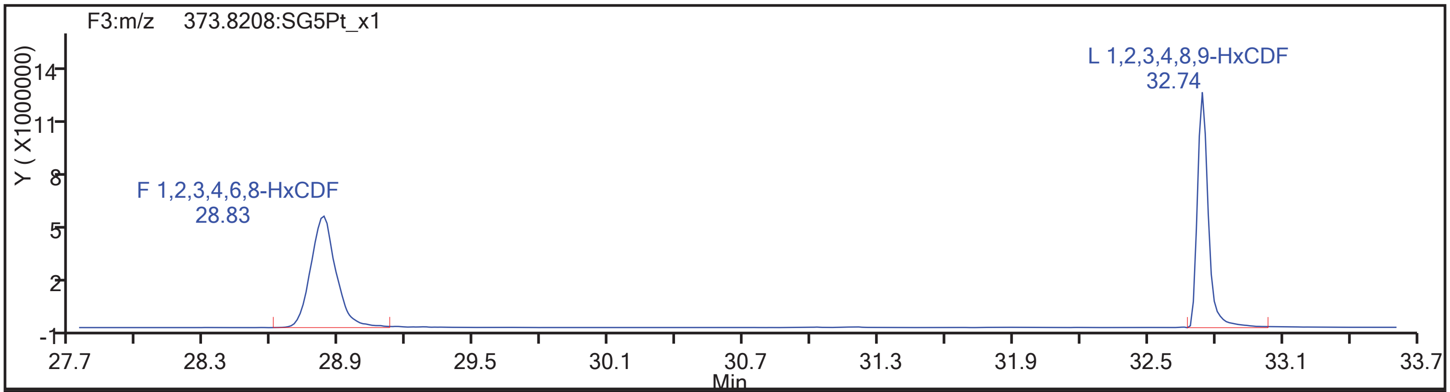
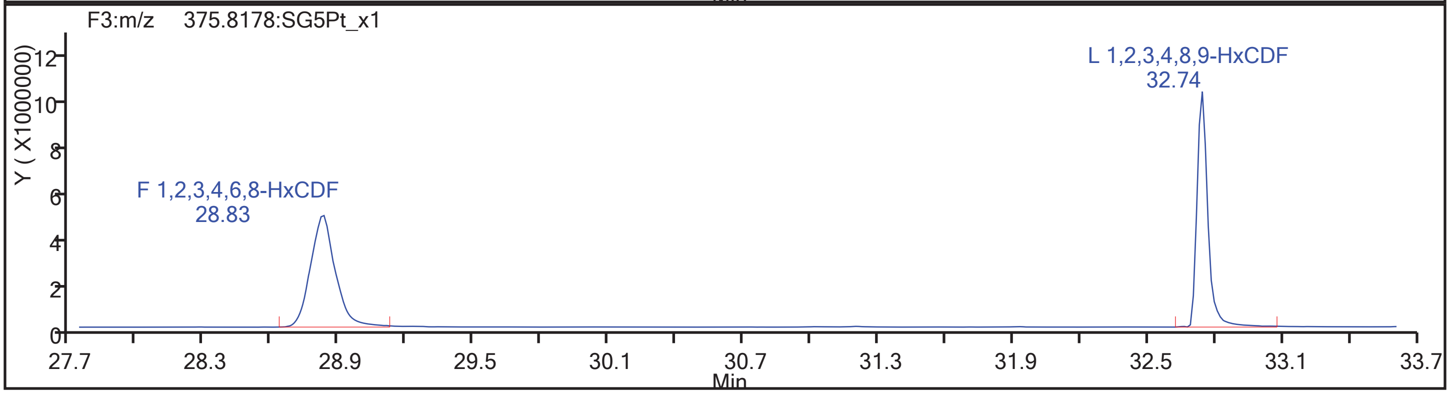
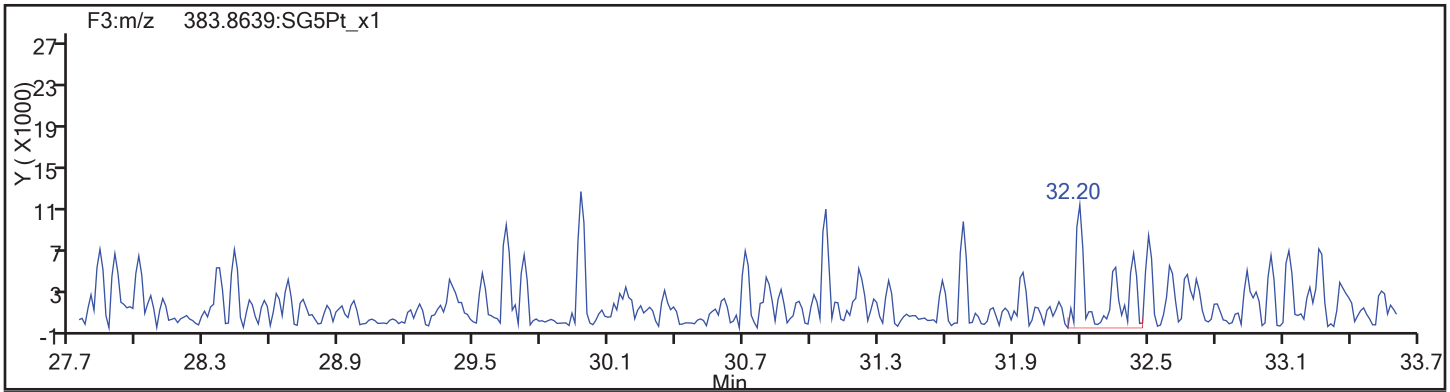
Client ID: WDM01
Worklist#: 194923
Sample Line#: 1
Column Type:
Column Dia:

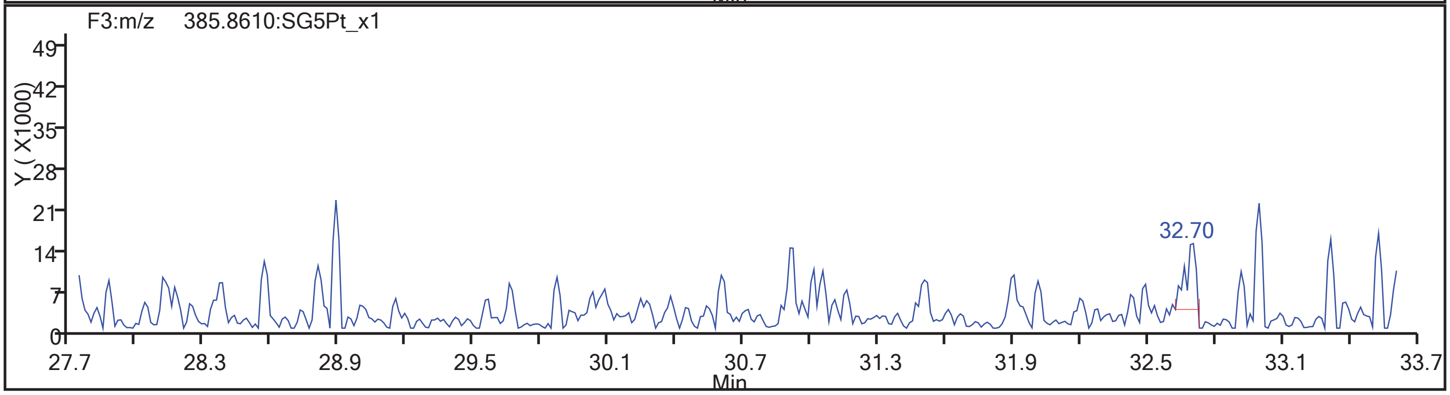
HxCDF





HxCDF Standards





Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	194923	Sample Line#:	1
Column Type:		Column Dia:	

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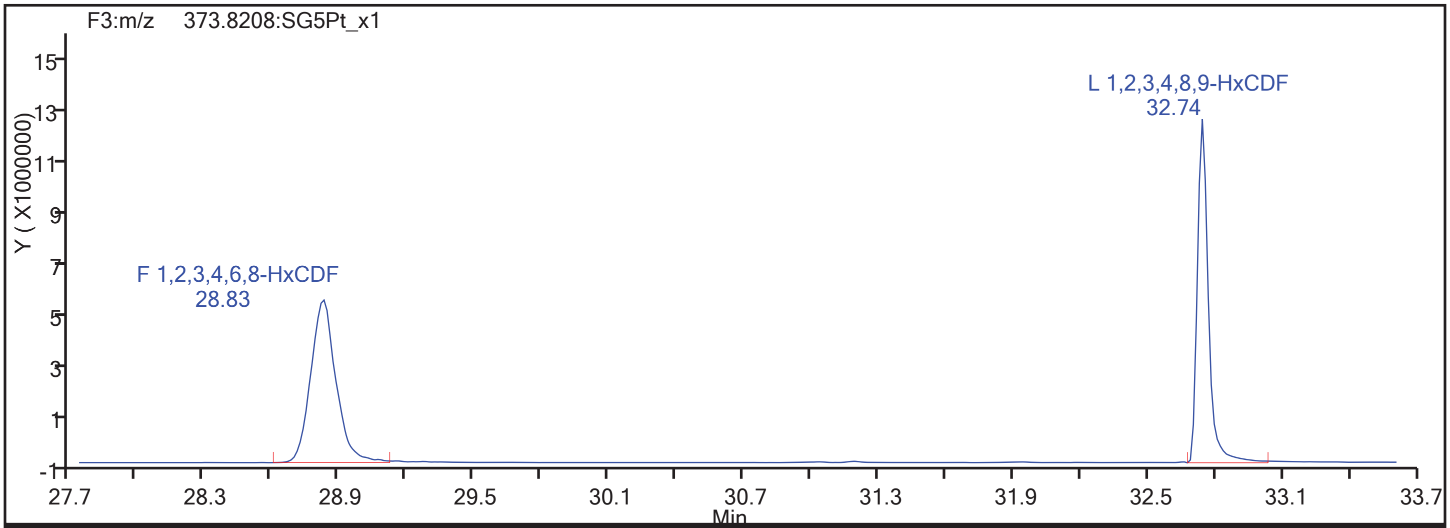
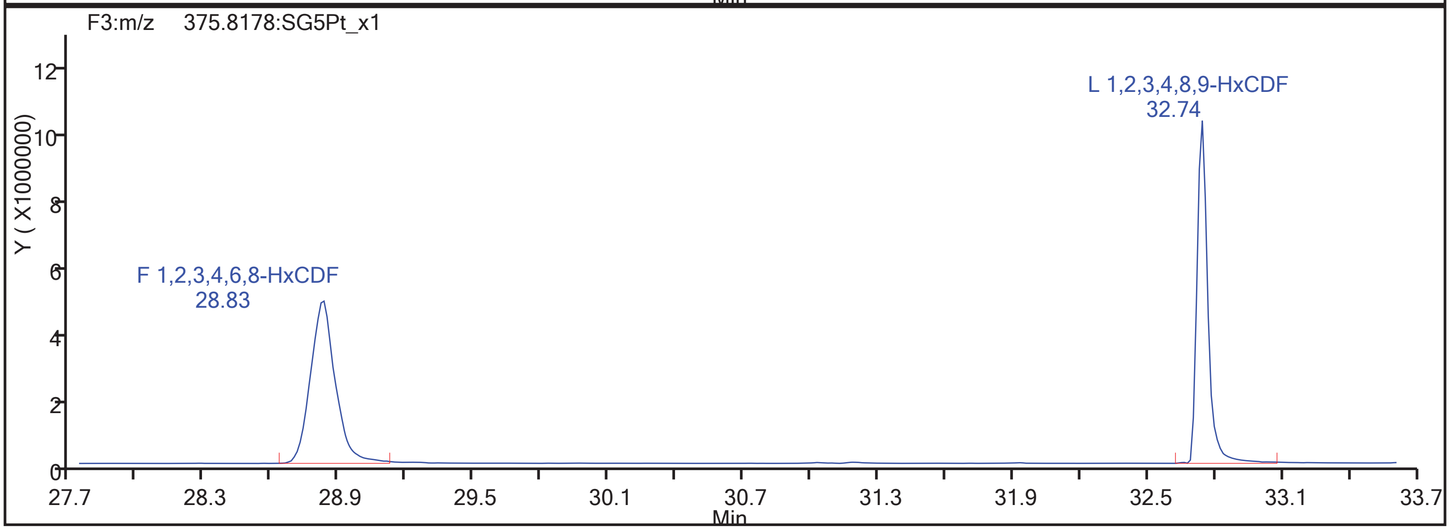
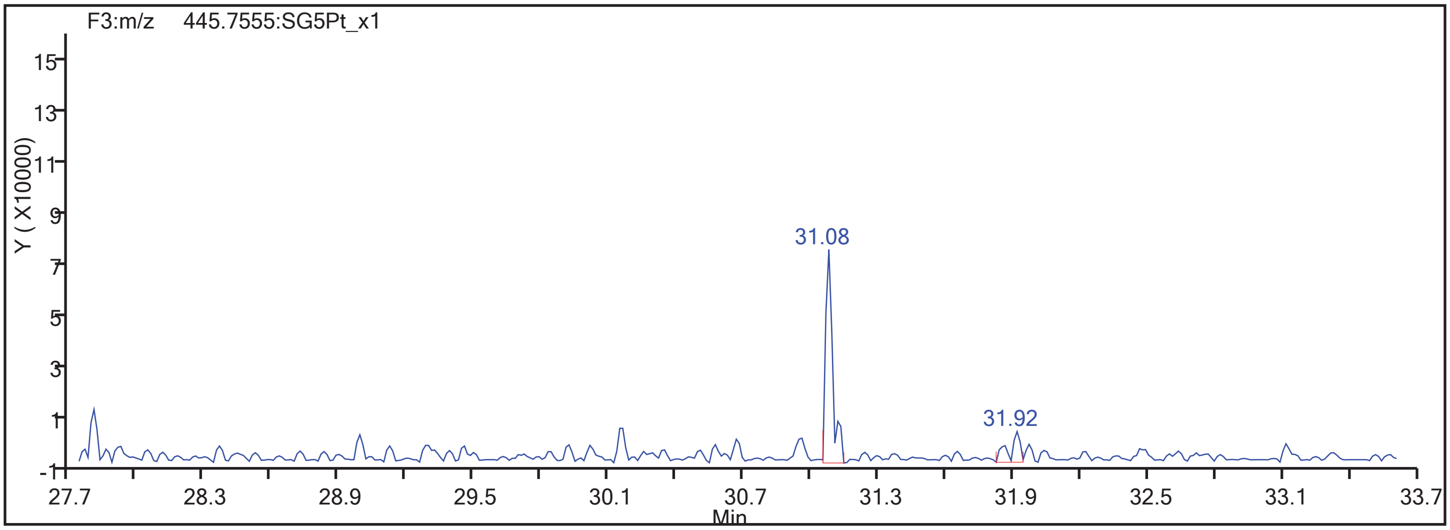




HxCDF Interference Mass



Report Date: 16-Nov-2017 09:37:16 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Instrument ID:	3D5	Operator ID:	SMA
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
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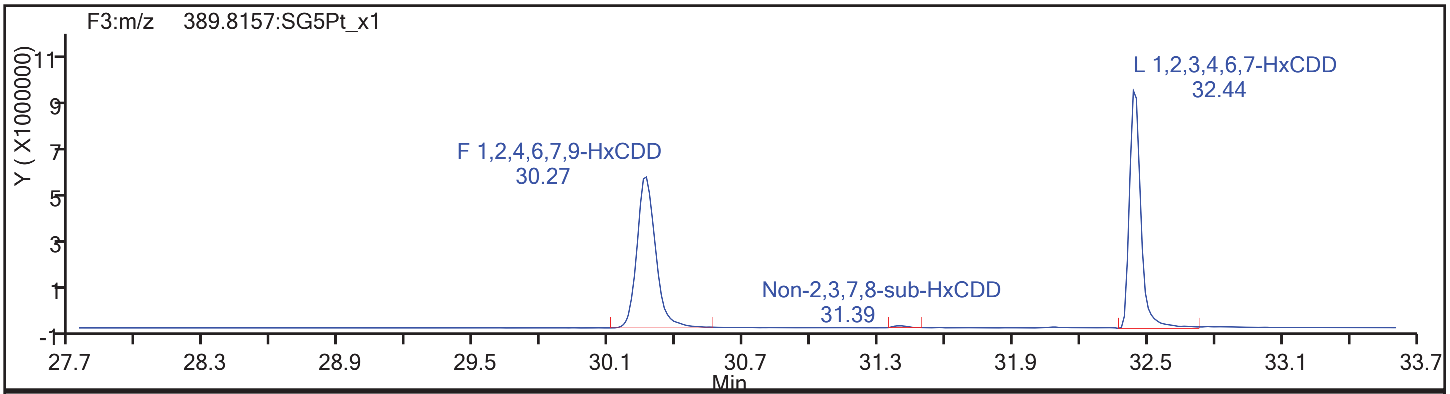
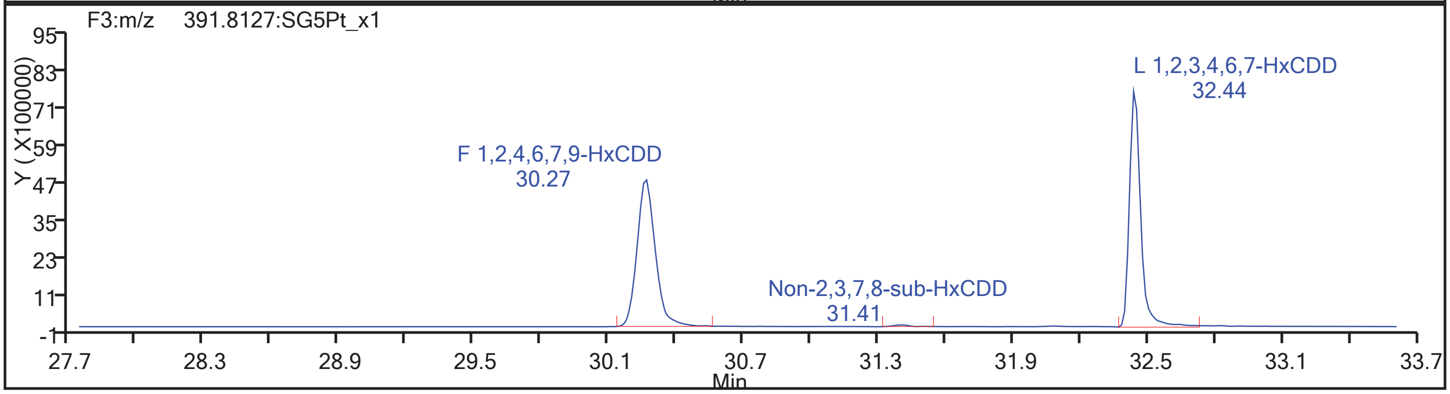
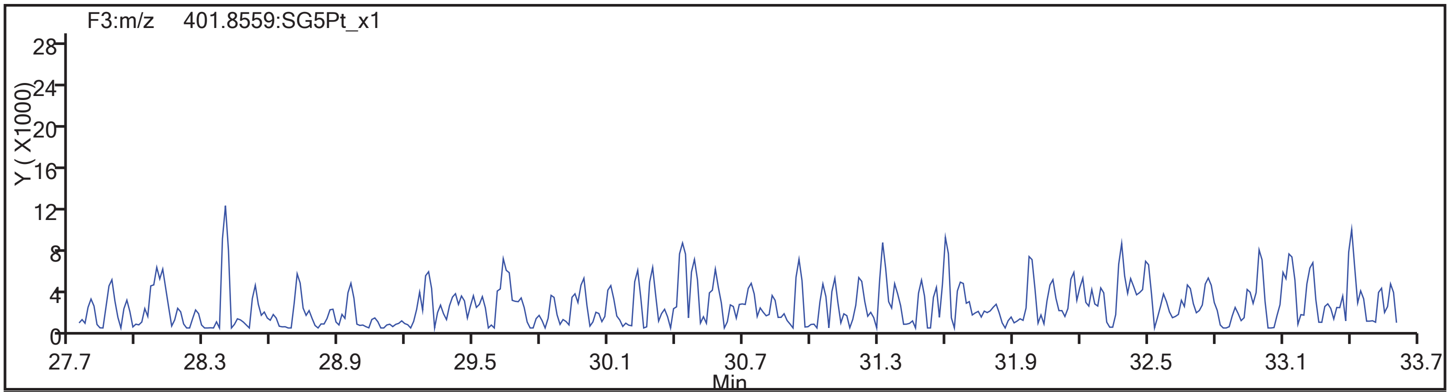
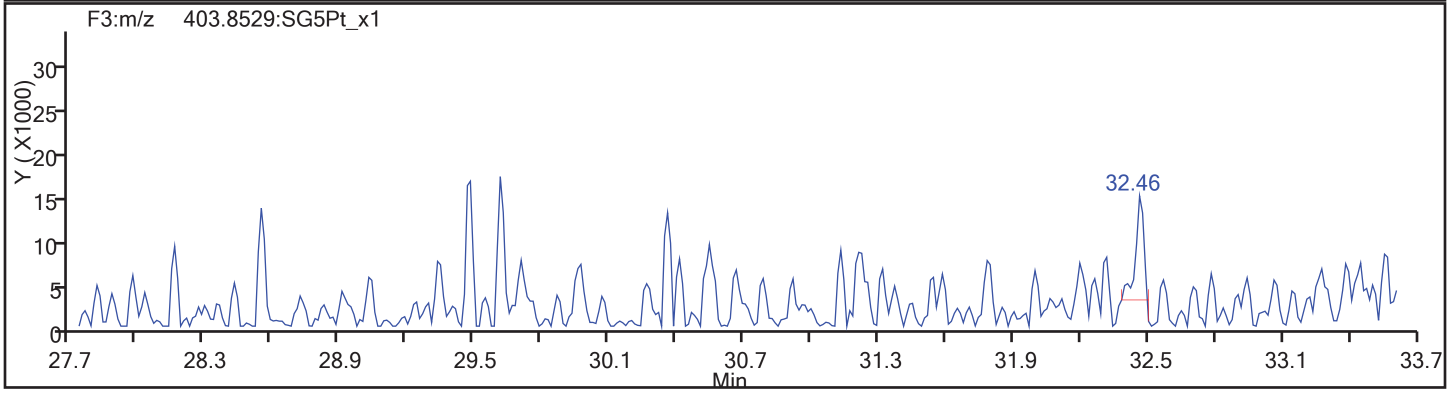




HxCDD Standards





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TestAmerica Sacramento

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Injection Date: 15-Nov-2017 11:03:08

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: WDM01

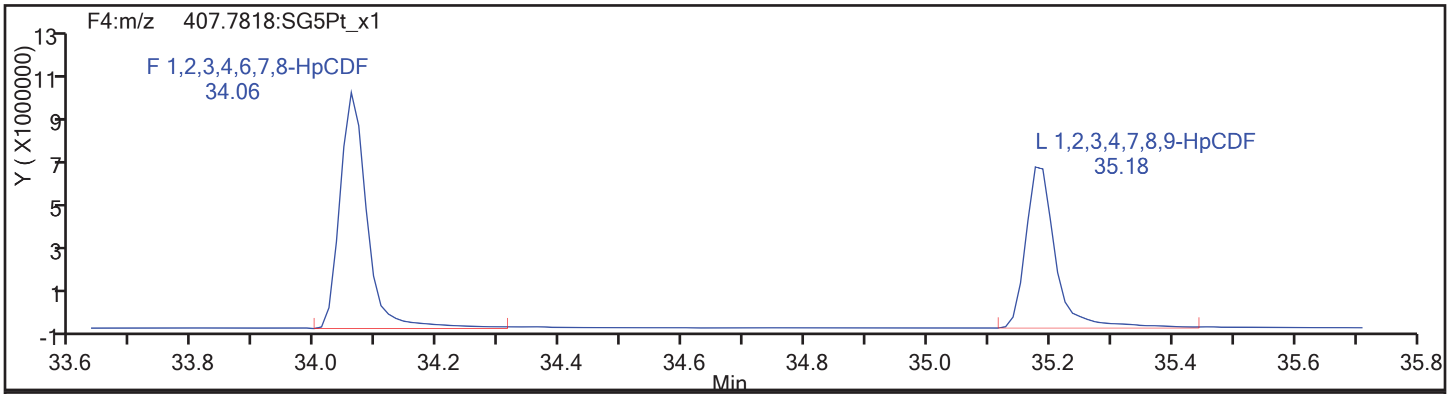
Worklist#: 194923

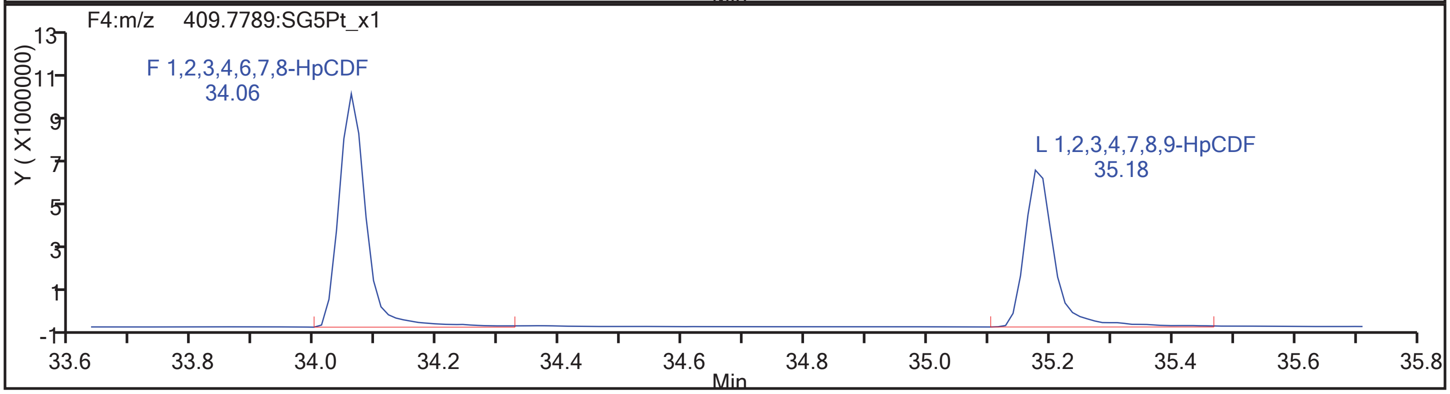
Sample Line#: 1

Column Type:

Column Dia:

HpCDF





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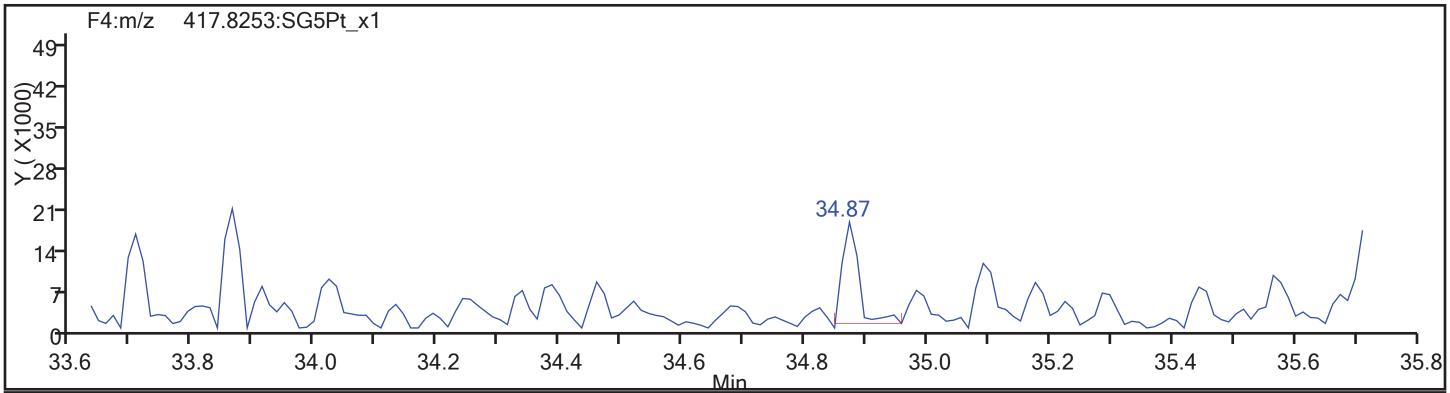

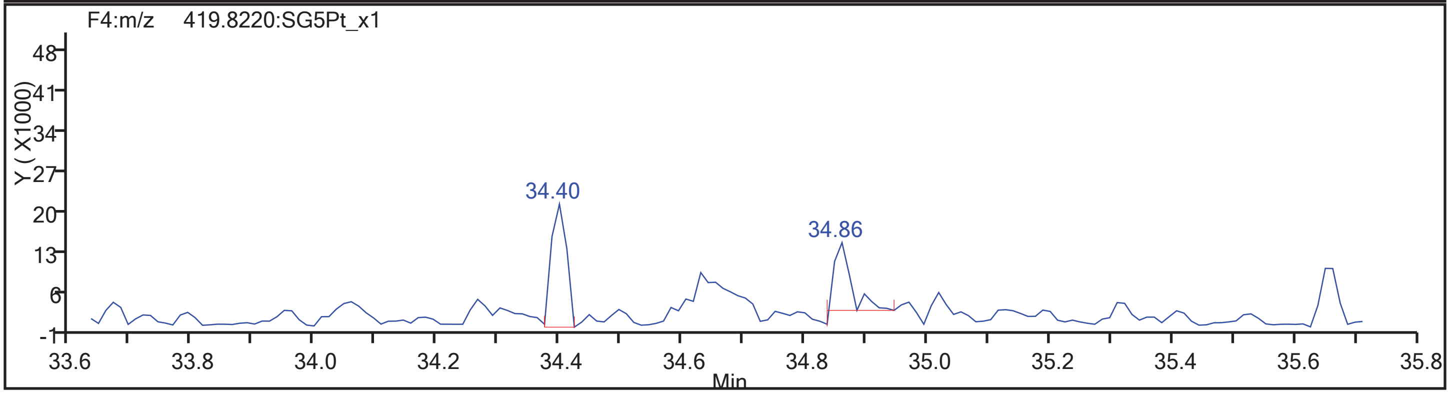

TestAmerica Sacramento

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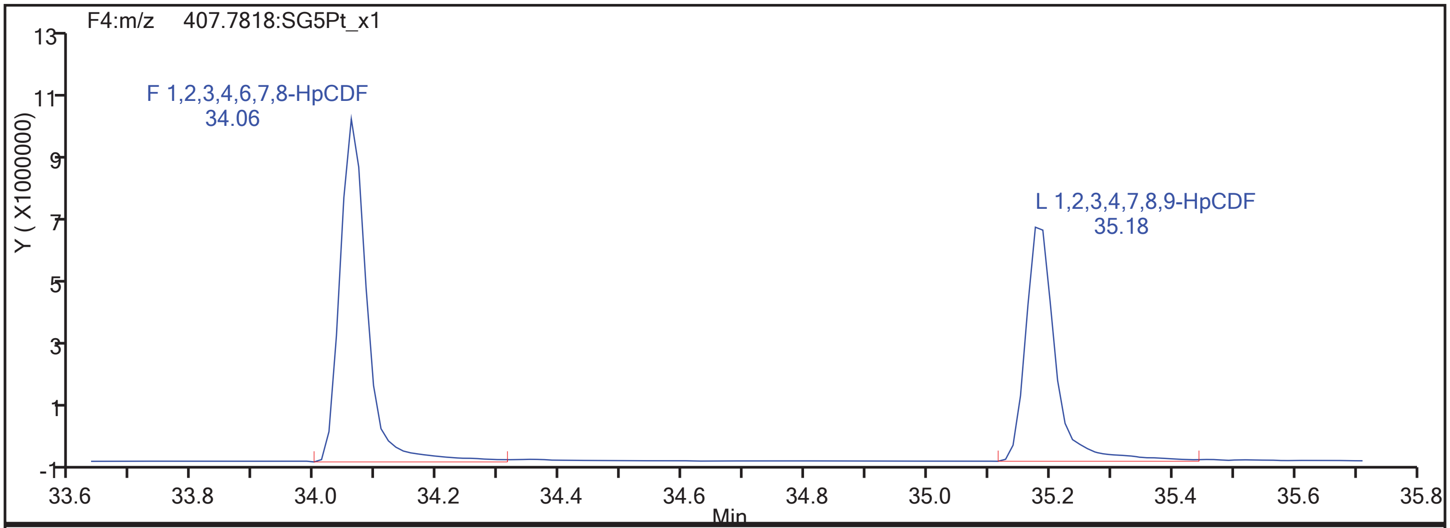
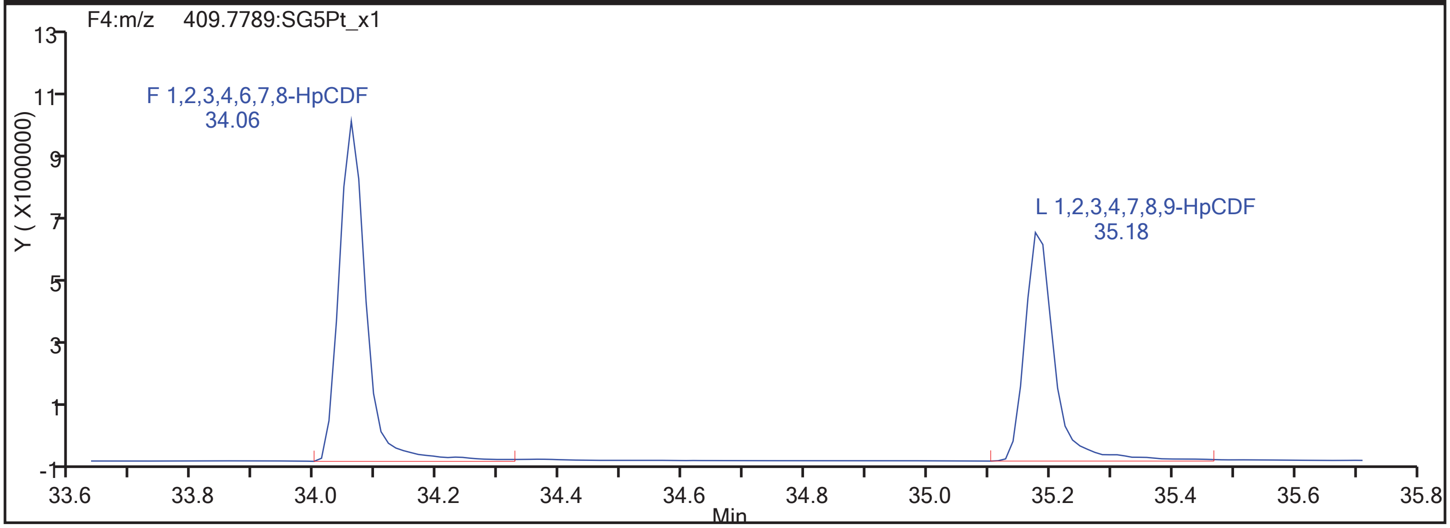
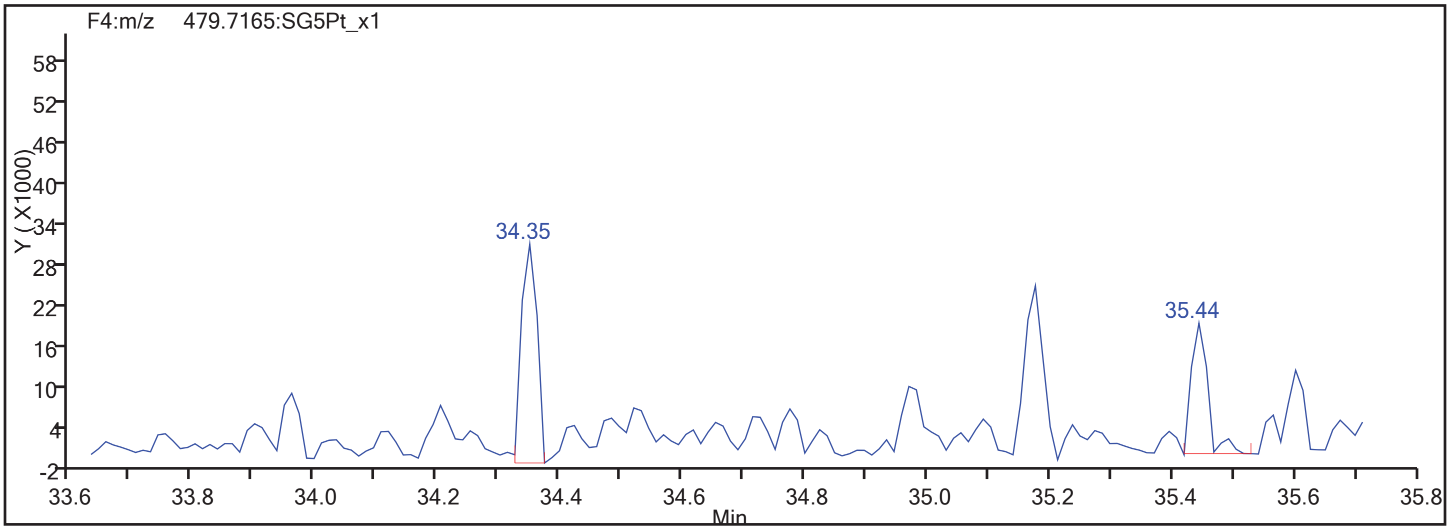




HpCDF Interference Mass



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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Column Dia:

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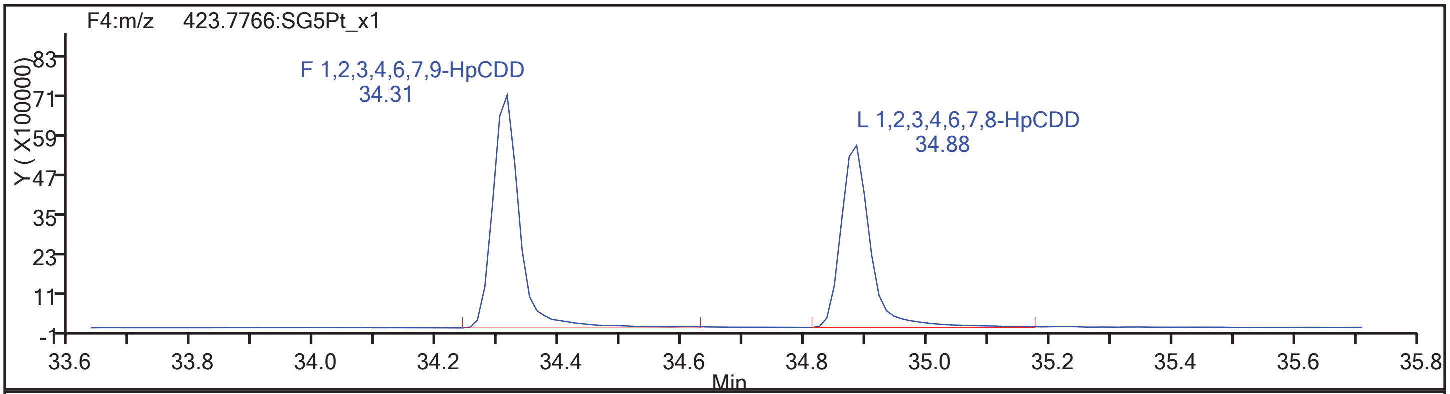

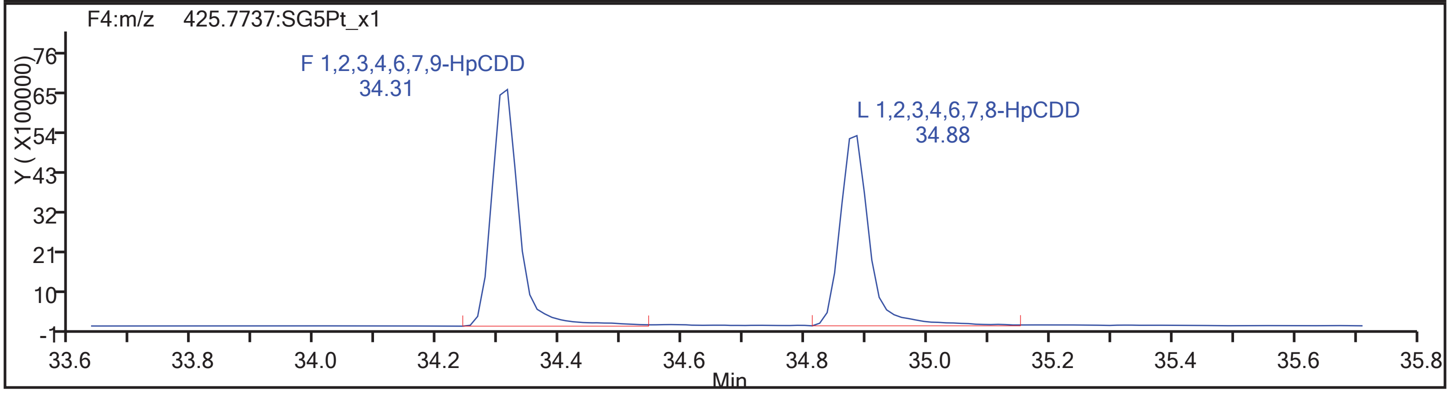

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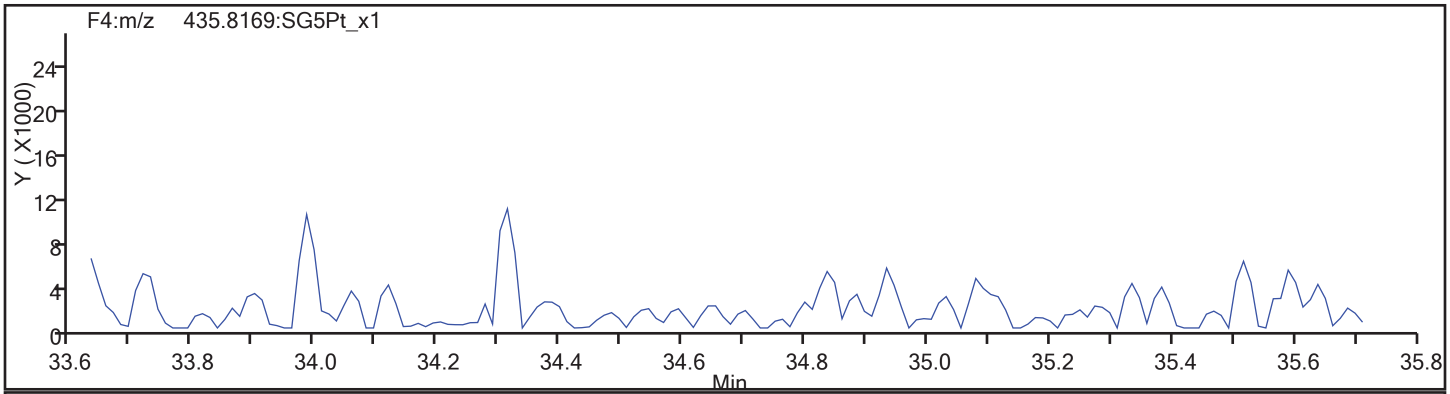

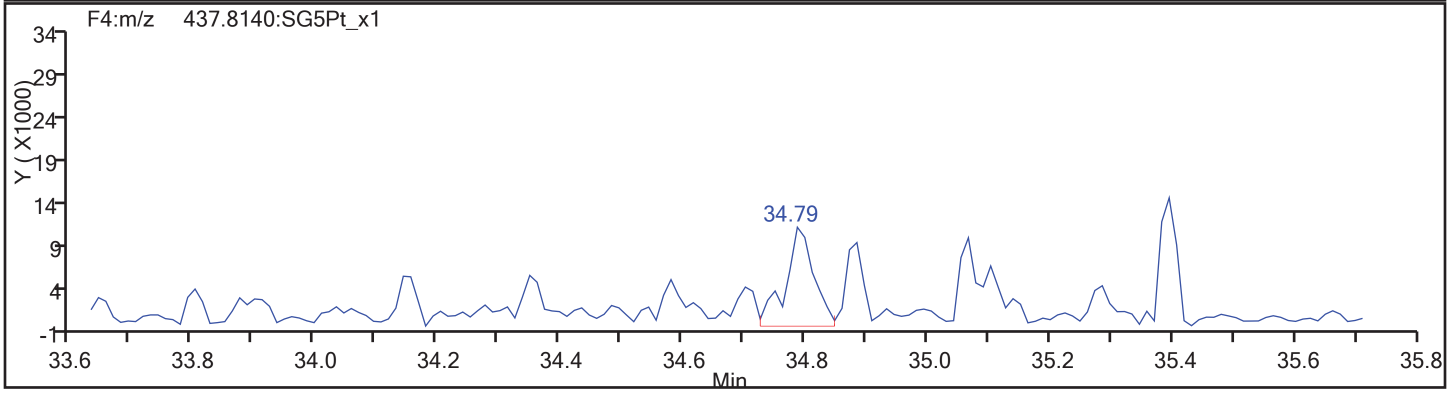

TestAmerica Sacramento

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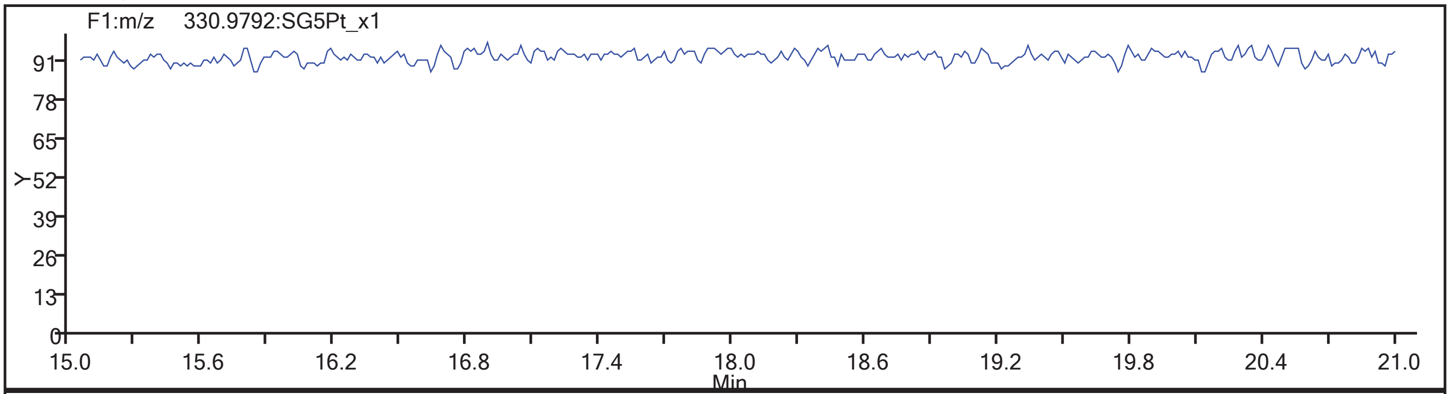

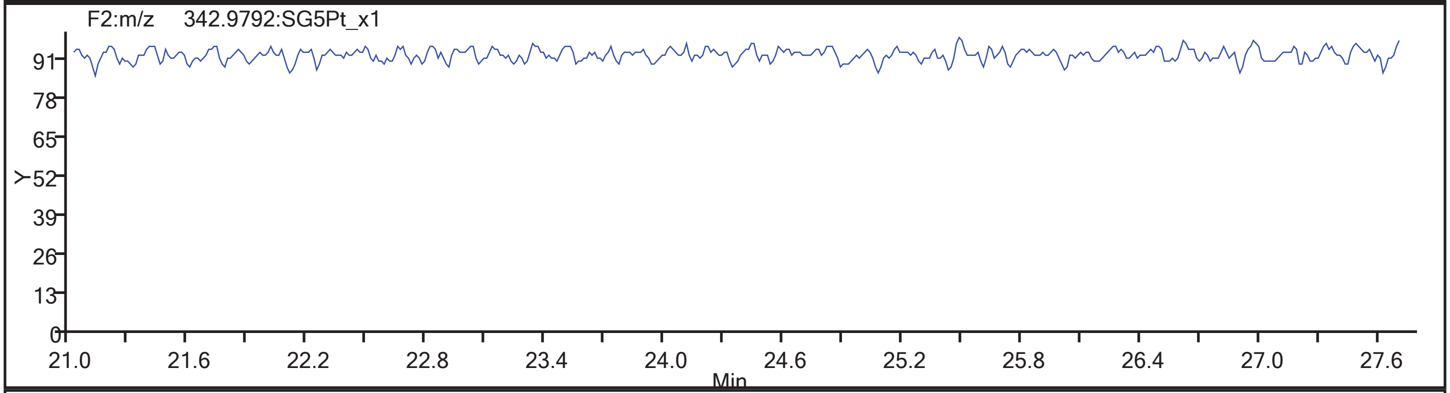

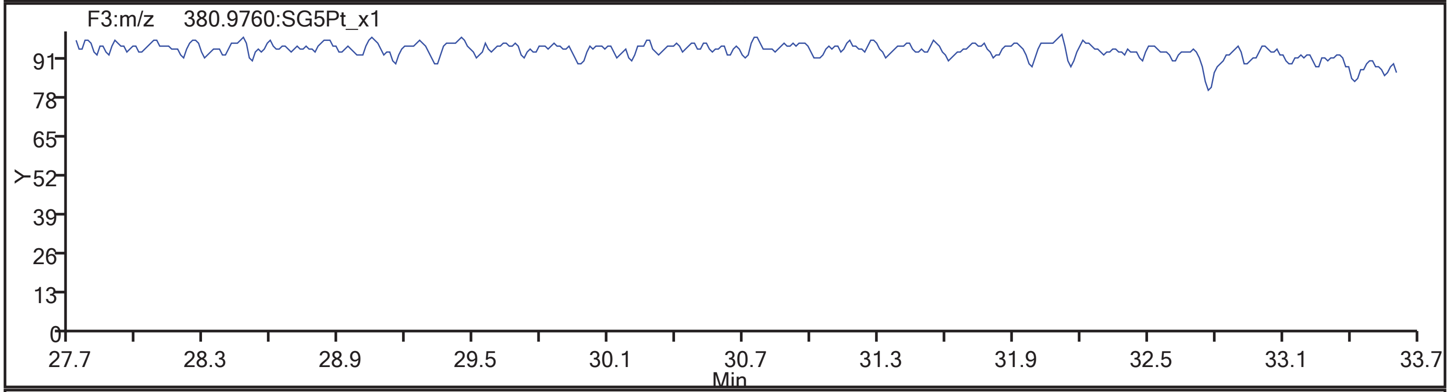

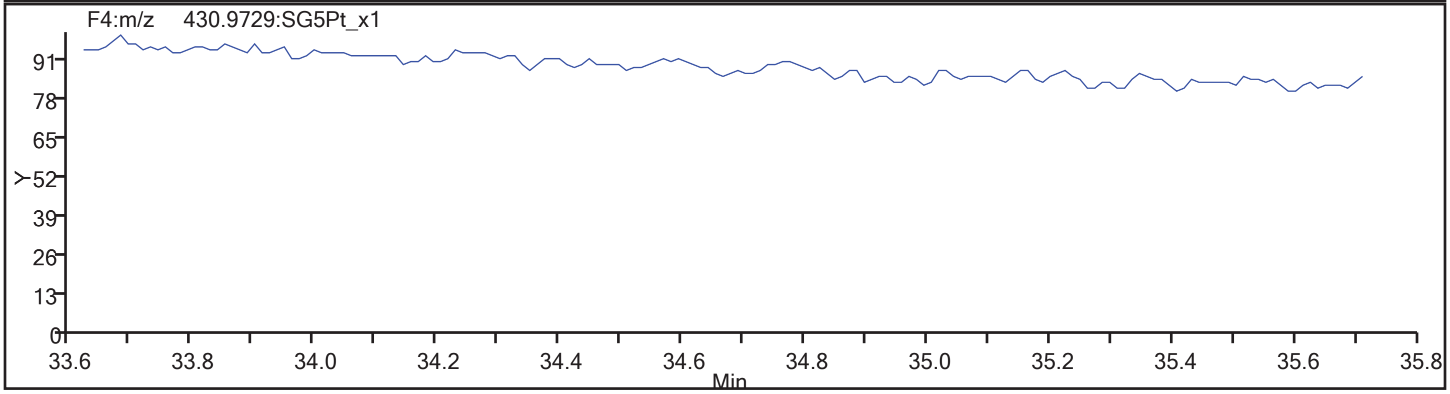

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_1.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
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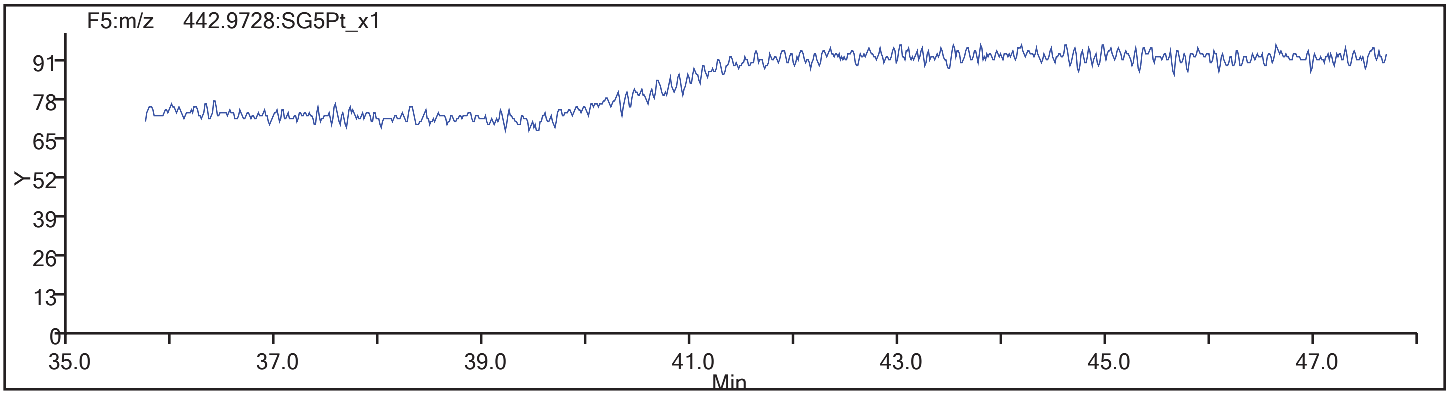
Column Type:		Column Dia:	



Report Date: 20-Nov-2017 11:46:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d
Lims ID: WDM
Client ID: WDM01
Sample Type: WDM
Inject. Date: 18-Nov-2017 12:59:42 ALS Bottle#: 1 Worklist Smp#: 54
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM111617D WDM HRDXNCP_00034
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:46:49 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:13:39

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.720	88294590	0.77	1.5089					0.00	
2,3,7,8-TCDF	17.750	197128576	0.77	1.0971	81.4	81.4	0.3504	0.3504		
A Non-2,3,7,8-sub-TCDF	17.425						0.0	0.0		
S Total TCDF					81.4	81.4	0.3504	0.3504		
D 13C-2,3,7,8-TCDD	18.445	52848332	0.80	0.9906					0.00	
2,3,7,8-TCDD	18.461	66023726	0.78	1.1645	42.9	42.9	0.2069	0.2069		
A Non-2,3,7,8-sub-TCDD	17.894						0.0	0.0		
S Total TCDD					42.9	42.9	0.2069	0.2069		
A F1 PeCDFs	20.434						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.682	1036104	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.905						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.679						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	31.278	547774	1.21	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	34.022	53944230	1.06	1.5871						
1,2,3,4,7,8,9-HpCDF	35.140	40845160	1.03	1.2290						
A Non-2,3,7,8-sub-HpCDF	34.581						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.836	32644983	1.06	1.1631						
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.225	106013477	0.75							
1,3,6,8-TCDD	16.177	63163449	0.83							
1,2,3,9-TCDF	17.750	197128576	0.77							
1,2,3,7-TCDD	18.340	55527950	0.77							
1,2,3,9-TCDD	18.627	67467849	0.80							
2,3,4,7-TCDF	18.627	83228351	0.75							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.610	27516146								
1,2,8,9-TCDF	19.625	87931780	0.76							
1,3,4,6,8-PeCDF	19.897	73139513	1.62							
1,2,4,7,9-PeCDD	21.723	51286876	1.59							
1,2,3,8,9-PeCDD	26.087	49379238	1.61							
1,2,3,8,9-PeCDF	26.319	40403822								
1,2,3,4,6,8-HxCDF	28.669	73265178	1.27							
1,2,4,6,7,9-HxCDD	30.160	52531062	1.26							
1,2,3,4,6,7-HxCDD	32.397	51099443	1.22							
1,2,3,4,8,9-HxCDF	32.690	65933553	1.31							
1,2,3,4,6,7,9-HpCDD	34.265	38692843	1.07							

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d
Lims ID: WDM
Client ID: WDM01
Sample Type: WDM
Inject. Date: 18-Nov-2017 12:59:42 ALS Bottle#: 1 Worklist Smp#: 54
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM111617D WDM HRDXNCP_00034
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:46:49 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:13:39

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.720	17.720	0	1.000	38505292	9353836	26628	66570	351		
317.9389	17.720	17.720	0	1.000	49789298	11752945	13249	33122	887	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.750	17.750	0	1.002	86017116	18822309	45870	114675	410		
305.8987	17.750	17.750	0	1.002	111111460	24001645	35274	88185	680	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.425						45870	114675			
305.8987	17.425						35274	88185			
13C-2,3,7,8-TCDD											
331.9368	18.445	18.445	0	1.000	23408062	5598645	10343	25857	541		
333.9339	18.445	18.445	0	1.000	29440270	6819611	4947	12367	1379	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.461	18.461	0	1.001	28982565	6653022	14560	36400	457		
321.8936	18.461	18.461	0	1.001	37041161	8583702	15365	38412	559	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.894						14560	36400			
321.8936	17.894						15365	38412			
A F1 PeCDFs											
339.8597	20.434						2691	6727			
341.8567	20.434						2485	6212			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.337	23.682	-81	1.000	107866	26671	6042	15105	4		
341.8567	22.337	23.682	-81	1.000	121116	16218	4307	10767	4	0.89(1.32-1.78)	
339.8597	22.924	23.682	-45	1.000	288346	37986	6042	15105	6		
341.8567	22.910	23.682	-46	1.000	179476	19869	4307	10767	5	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	23.483	23.682	-12	1.000	244094	31313	6042	15105	5		
341.8567	23.524	23.682	-9	1.000	146732	21362	4307	10767	5	1.66(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.905						7774	19435			
357.8516	23.905						4712	11780			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.679						13504	33760			
375.8178	30.679						10853	27132			
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.345	31.278	4	1.000	299938	63792	11827	29567	5		
391.8127	31.318	31.278	2	1.000	247836	58905	7793	19482	8	1.21(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.022	0	1.000	27698498	8655668	34071	85177	254		
409.7789	34.022	34.022	0	1.000	26245732	8017984	39641	99102	202	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.140	35.140	0	1.000	20766545	5852503	34071	85177	172		
409.7789	35.140	35.140	0	1.000	20078615	5521089	39641	99102	139	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.581						34071	85177			
409.7789	34.581						39641	99102			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.836	0	1.000	16783585	4786129	29434	73585	163		
425.7737	34.836	34.836	0	1.000	15861398	4634315	25137	62842	184	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						29434	73585			
425.7737	35.261						25137	62842			
1,3,6,8-TCDF											
303.9016	15.225	15.225	0		45557691	13900618	45870	114675	303		
305.8987	15.225	15.225	0		60455786	17681623	35274	88185	501	0.75(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	16.177	16.177	0		28560210	7788105	14560	36400	535		
321.8936	16.177	16.177	0		34603239	9353163	15365	38412	609	0.83(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.750	17.750	0		86017116	18822309	45870	114675	410		
305.8987	17.750	17.750	0		111111460	24001645	35274	88185	680	0.77(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.340	18.340	0		24205565	5954804	14560	36400	409		
321.8936	18.340	18.340	0		31322385	7674668	15365	38412	499	0.77(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.627	18.627	0		29996390	6400236	14560	36400	440		
321.8936	18.627	18.627	0		37471459	8031840	15365	38412	523	0.80(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	18.627	18.627	0		35623078	8006104	45870	114675	175		
305.8987	18.627	18.627	0		47605273	10794368	35274	88185	306	0.75(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.610	19.610	0		27516146	5777074	14560	36400	397		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	19.625	19.625	0		37864496	7919548	45870	114675	173		
305.8987	19.610	19.625	-1		50067284	10451163	35274	88185	296	0.76(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	19.897	19.897	0		45193869	9522577	2691	6727	3539		
341.8567	19.897	19.897	0		27945644	5815785	2485	6212	2340	1.62(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	21.723	21.723	0		31505222	5315417	7774	19435	684		
357.8516	21.723	21.723	0		19781654	3336057	4712	11780	708	1.59(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	26.087	26.087	0		30494497	4363848	7774	19435	561		
357.8516	26.073	26.087	-1		18884741	2696213	4712	11780	572	1.61(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	26.319	26.319	0		40403822	5459623	6042	15105	904		
1,2,3,4,6,8-HxCDF											
373.8208	28.669	28.669	0		41050482	5078422	13504	33760	376		
375.8178	28.669	28.669	0		32214696	4100374	10853	27132	378	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	30.160	30.160	0		29281145	4686147	11827	29567	396		
391.8127	30.147	30.160	-1		23249917	3738785	7793	19482	480	1.26(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.397	32.397	0		28070416	7703740	11827	29567	651		
391.8127	32.383	32.397	-1		23029027	6191314	7793	19482	794	1.22(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.690	32.690	0		37338352	10634087	13504	33760	787		
375.8178	32.690	32.690	0		28595201	8164892	10853	27132	752	1.31(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.265	34.265	0		20045194	5874989	29434	73585	200		
425.7737	34.265	34.265	0		18647649	5735073	25137	62842	228	1.07(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Lims ID:	WDM		
Client ID:	WDM01		
Inject. Date:	18-Nov-2017 12:59:42	Dil. Factor:	1.0000
Sample Type:	WDM, Window Defining Mix		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	54

Non-2,3,7,8-sub-PeCDF, RT: 23.682

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142				
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.337	107866	26671	121116	16218		0.89	R
22.924	288346	37986	179476	19869		1.61	
23.483	244094	31313	146732	21362		1.66	
Signal Totals:							
	640306	95970	447324	57449			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1087630	153419				1.43	RQ
	1036104	154408					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (1087630 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (1036104 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d
Lims ID: WDM
Client ID: WDM01
Inject. Date: 18-Nov-2017 12:59:42 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195573 Lims Sample ID: 54

Non-2,3,7,8-sub-HxCDD, RT: 31.278

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065				
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.345	299938	63792	247836	58905		1.21	
Signal Totals:							
	299938	63792	247836	58905			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	547774	122697				1.21	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

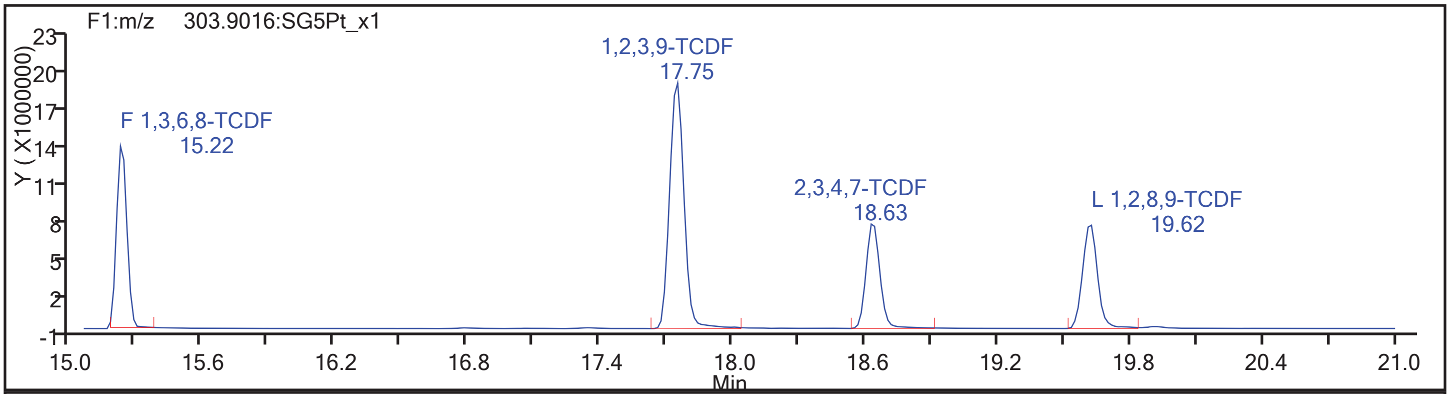
Amount: 0.0 = (547774 * 0.0) / (0 * 0.000)

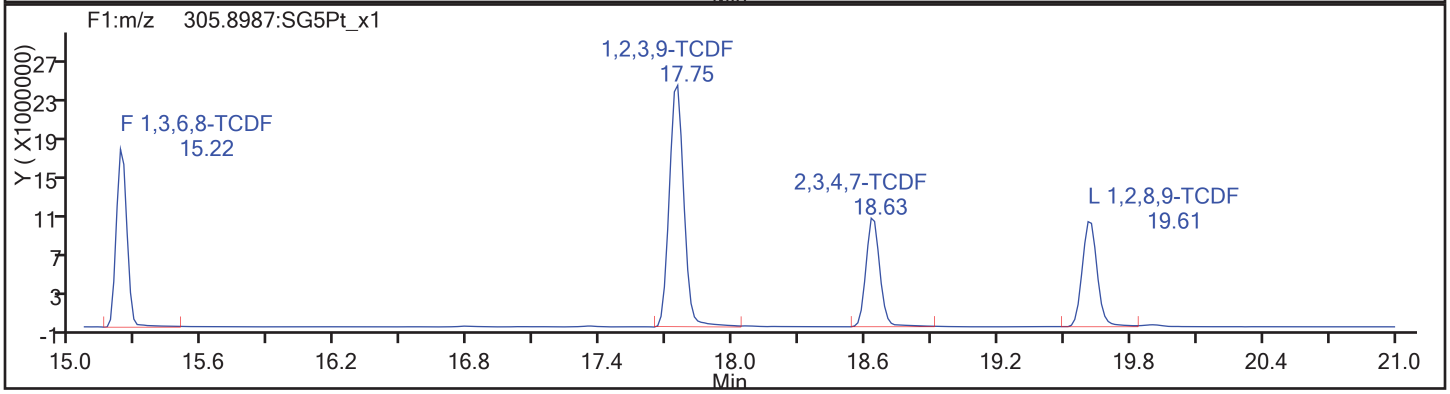
Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

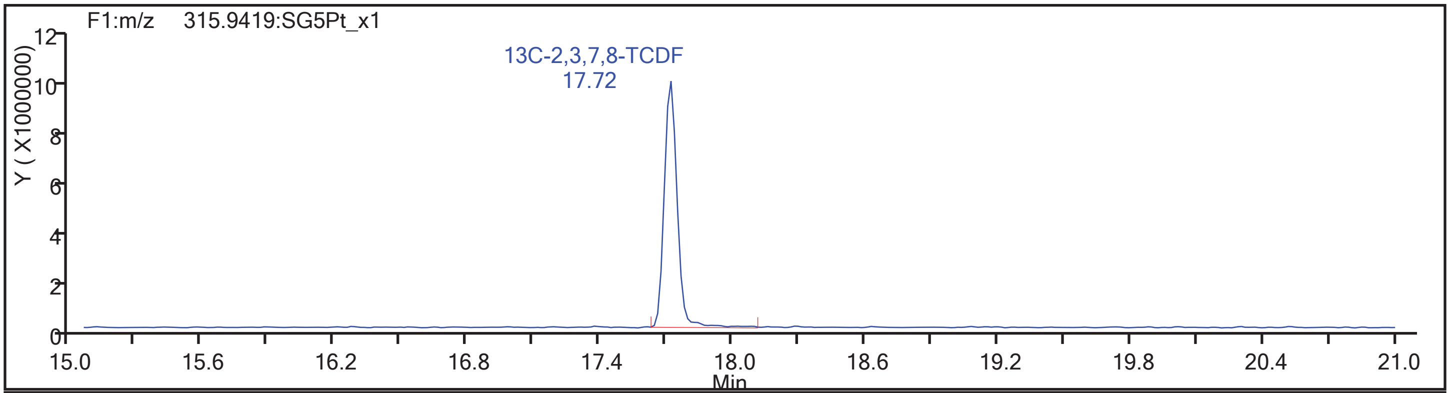
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d
Injection Date: 18-Nov-2017 12:59:42 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195573 Sample Line#: 54
Column Type: Column Dia:

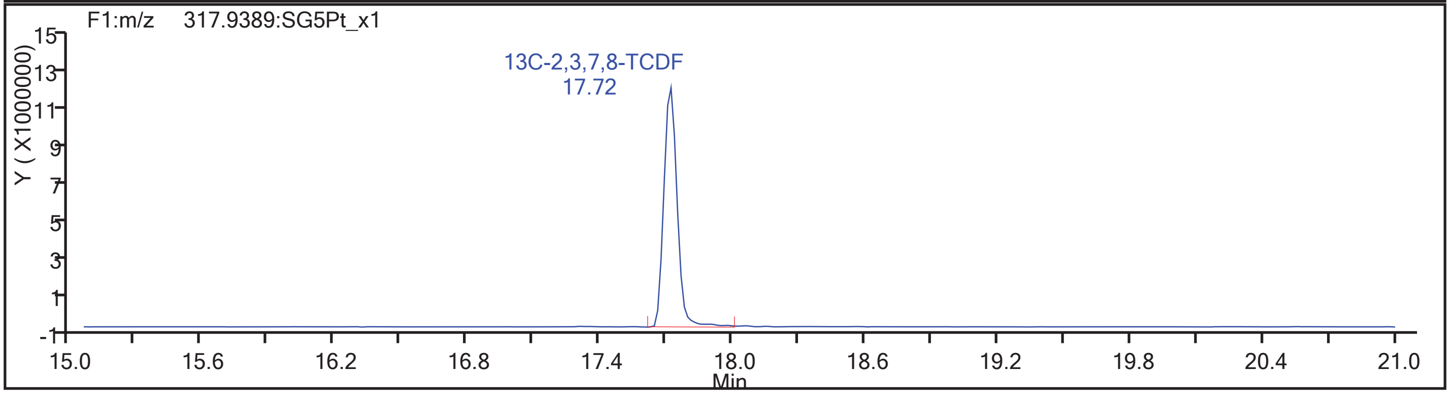
TCDF





TCDF Standards



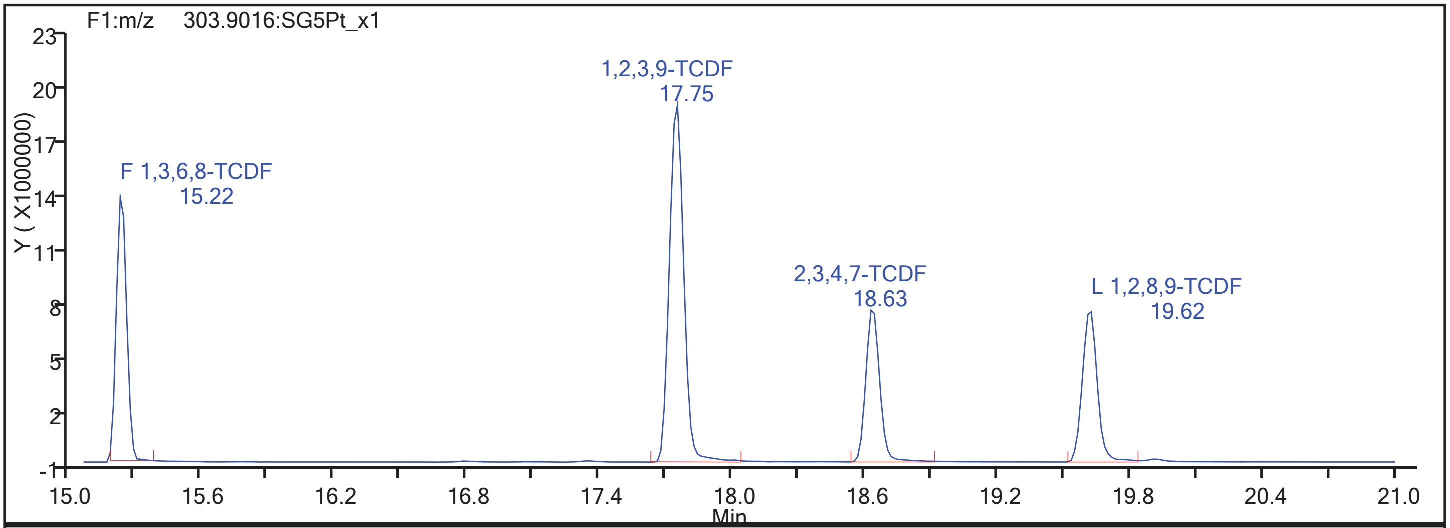


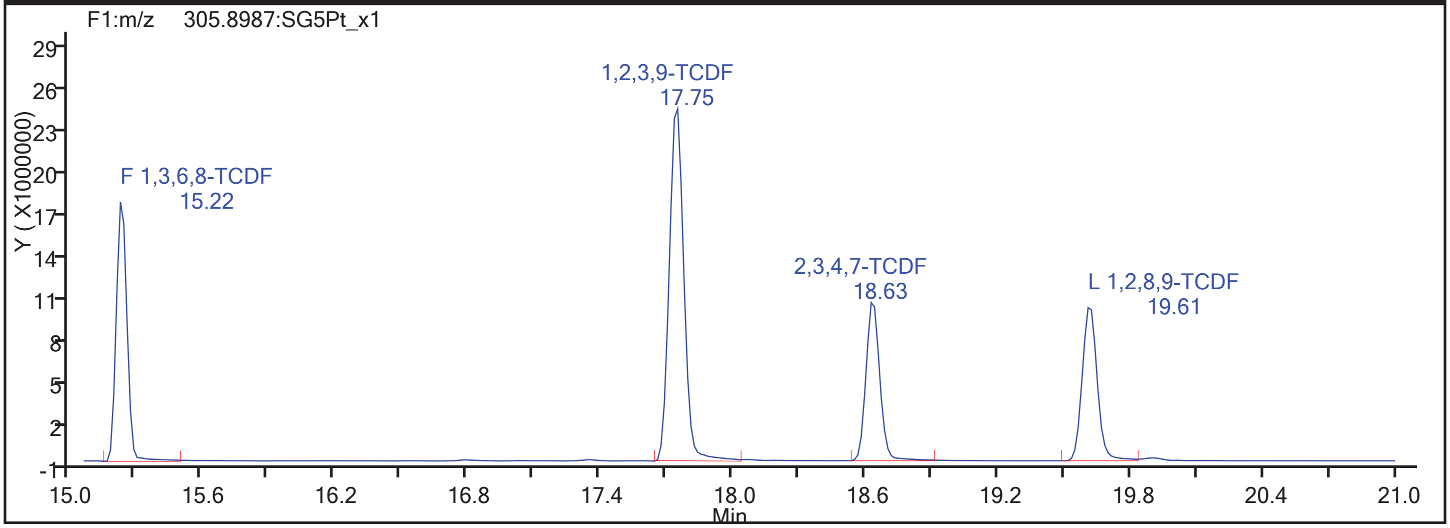
Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

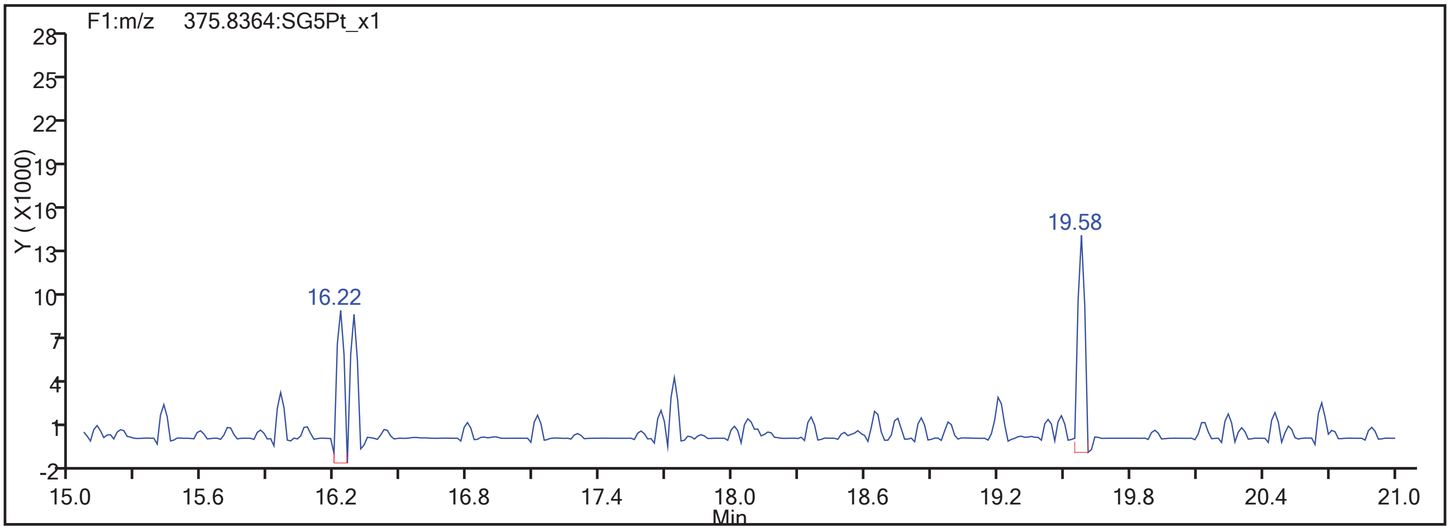
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass

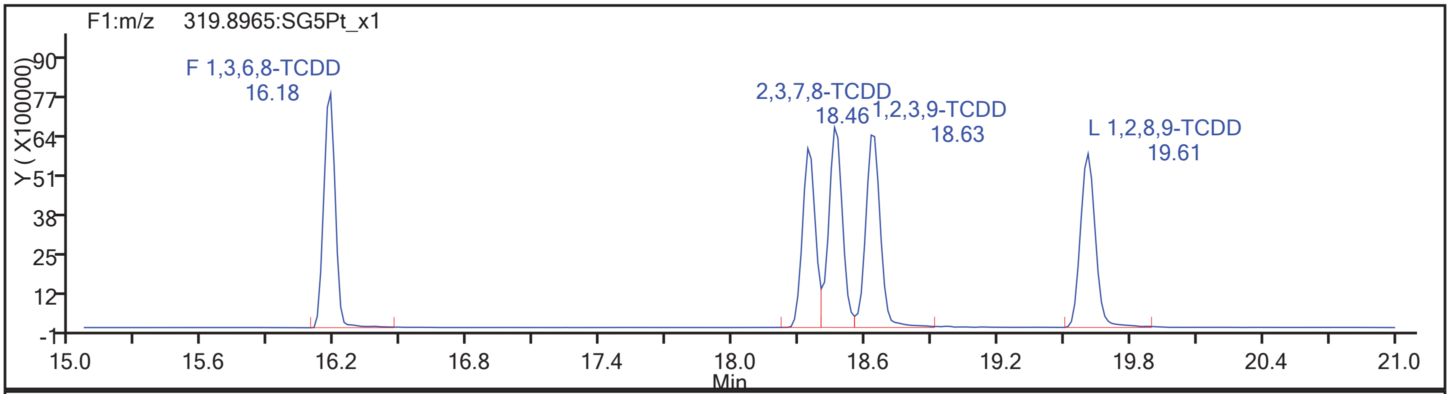


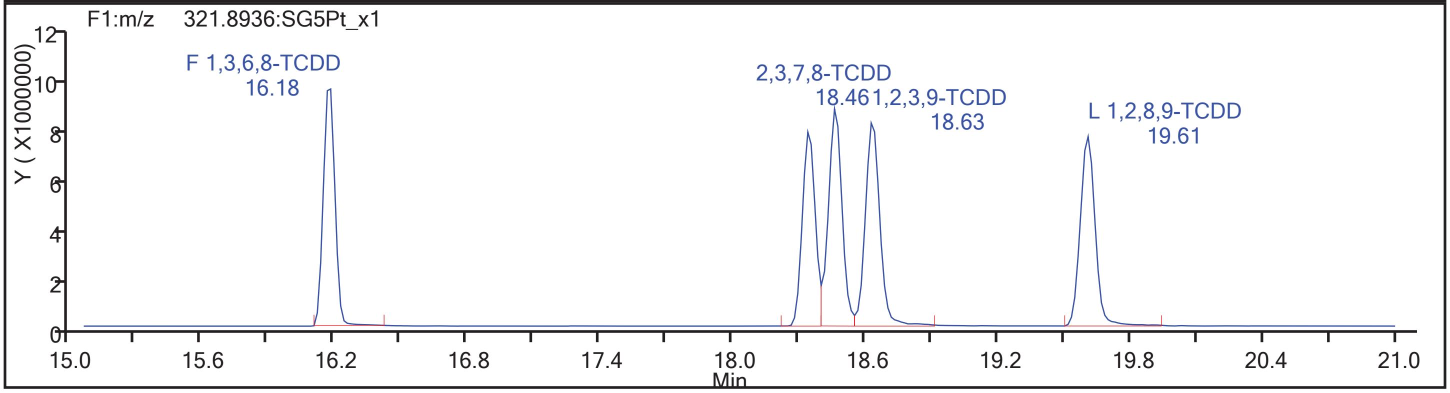
Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

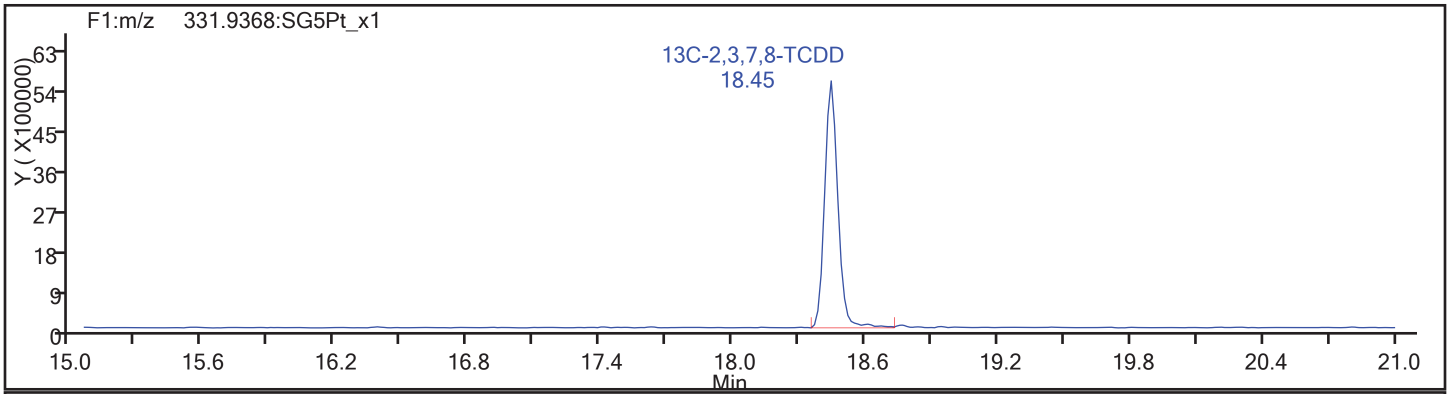
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

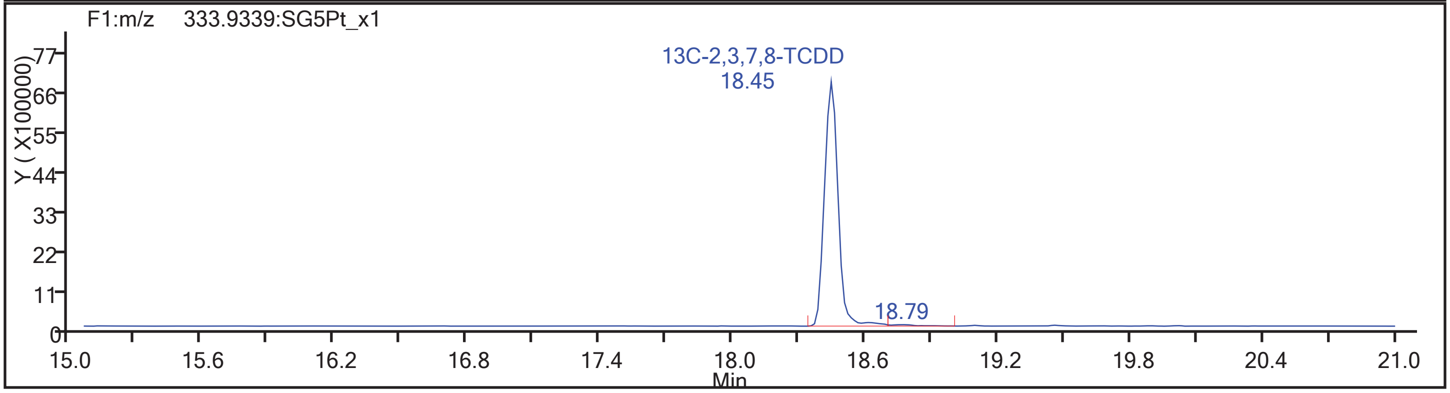
TCDD





TCDD Standards





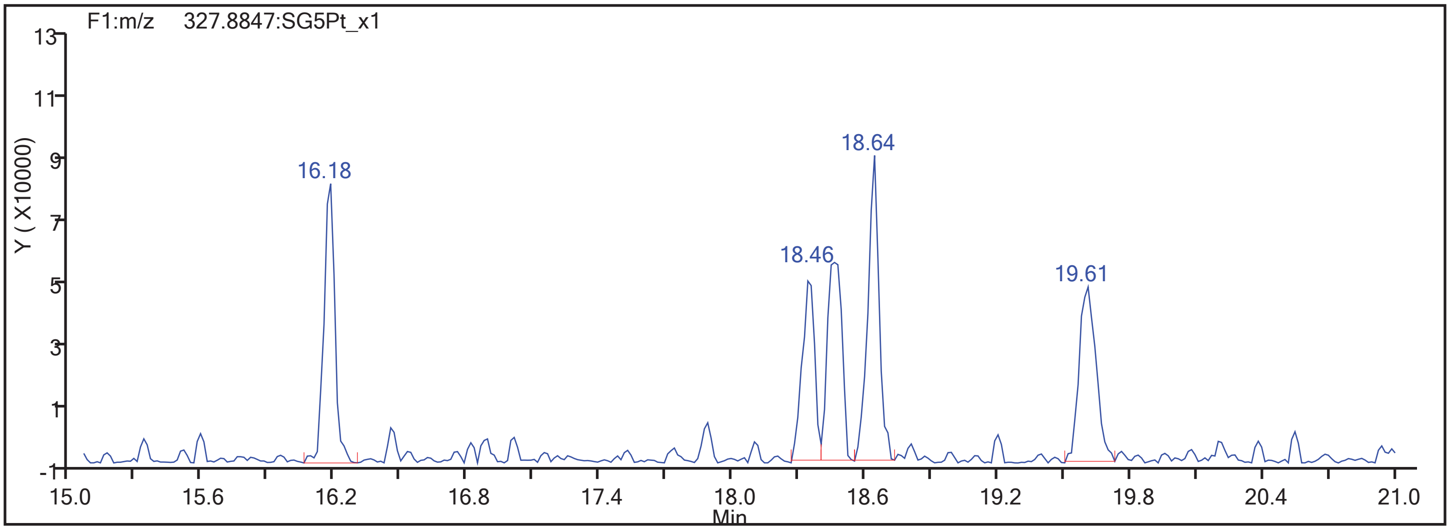
Report Date: 20-Nov-2017 11:46:50

Chrom Revision: 2.2 16-Aug-2017 16:24:46

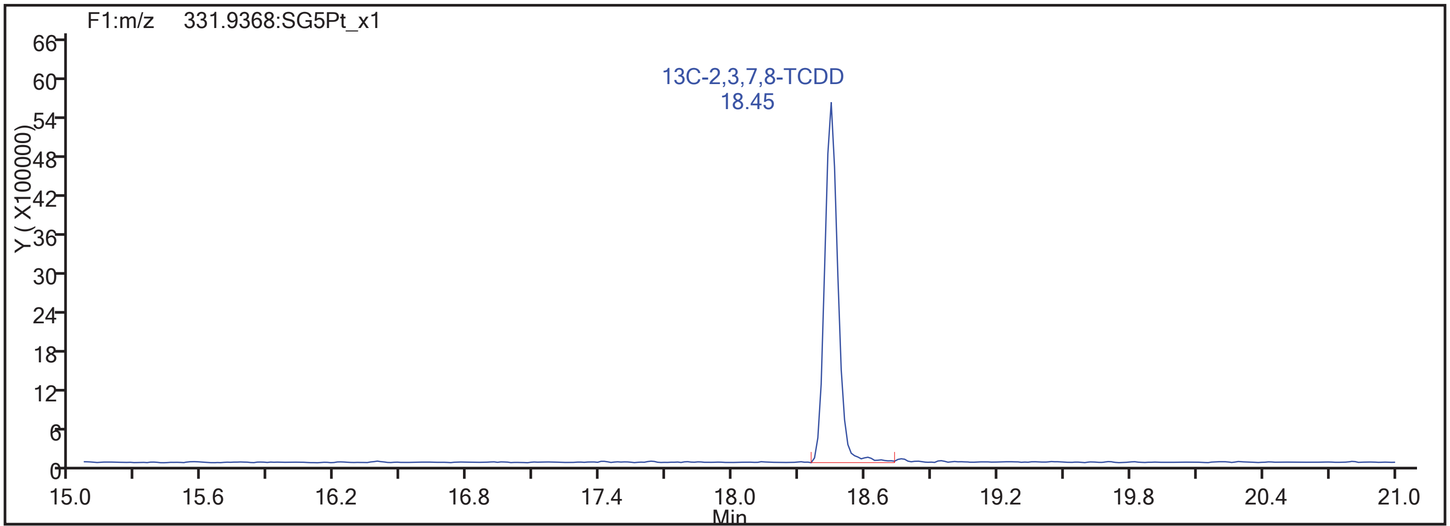
TestAmerica Sacramento

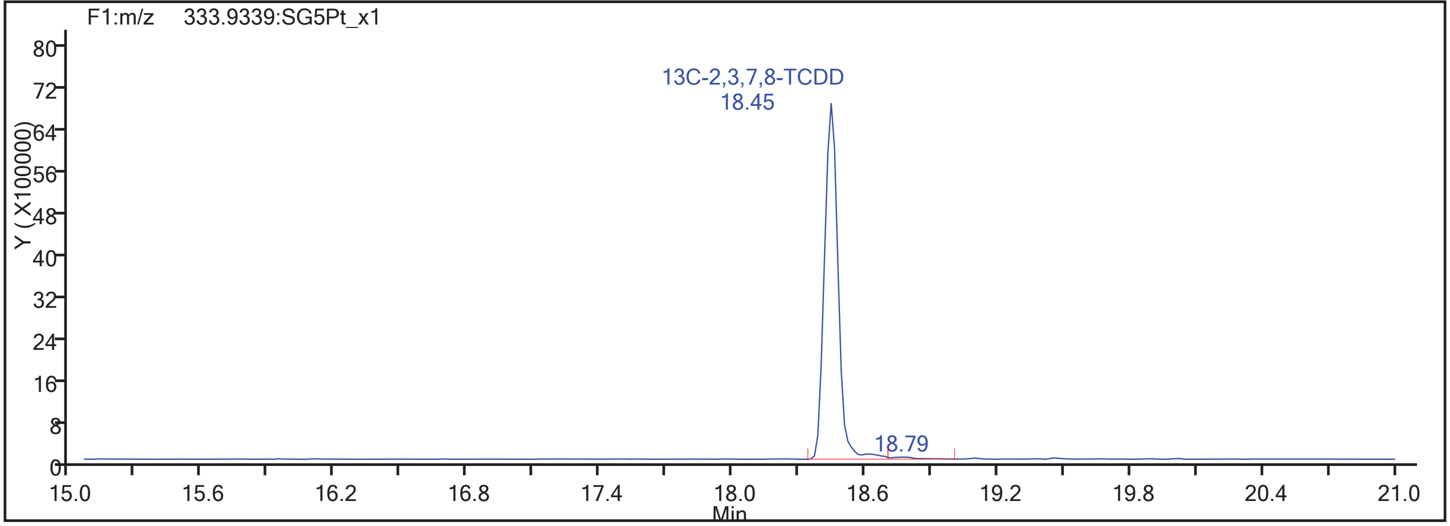
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



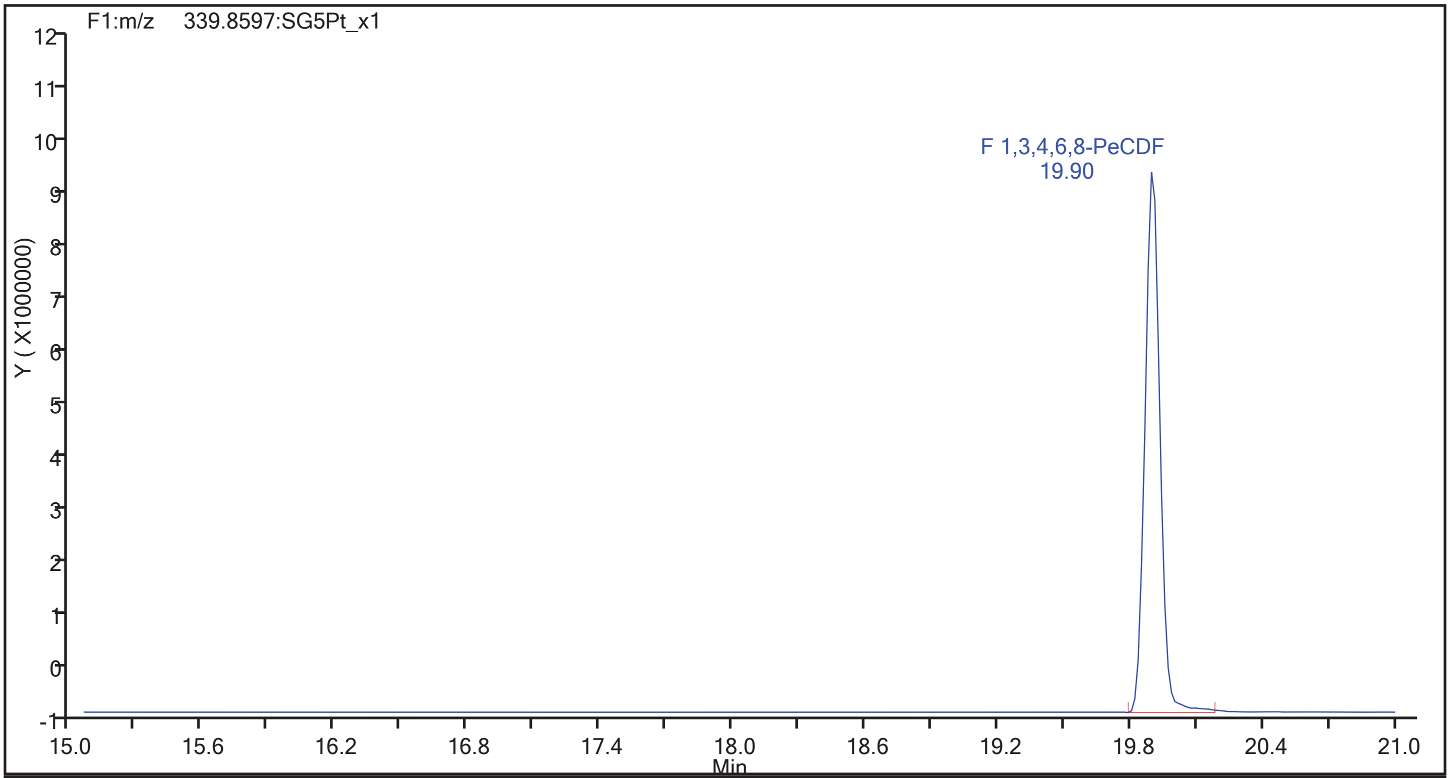


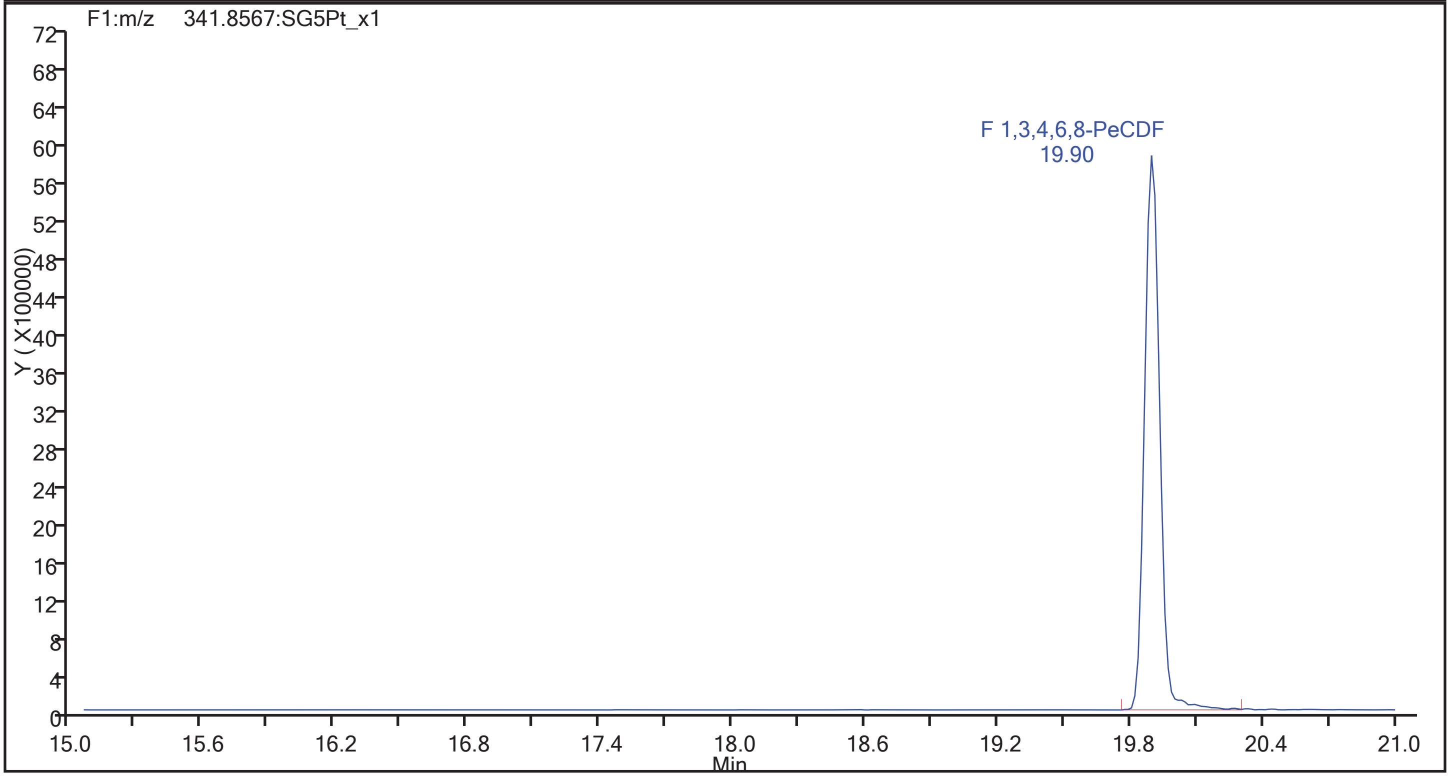
Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

F1 PeCDFs

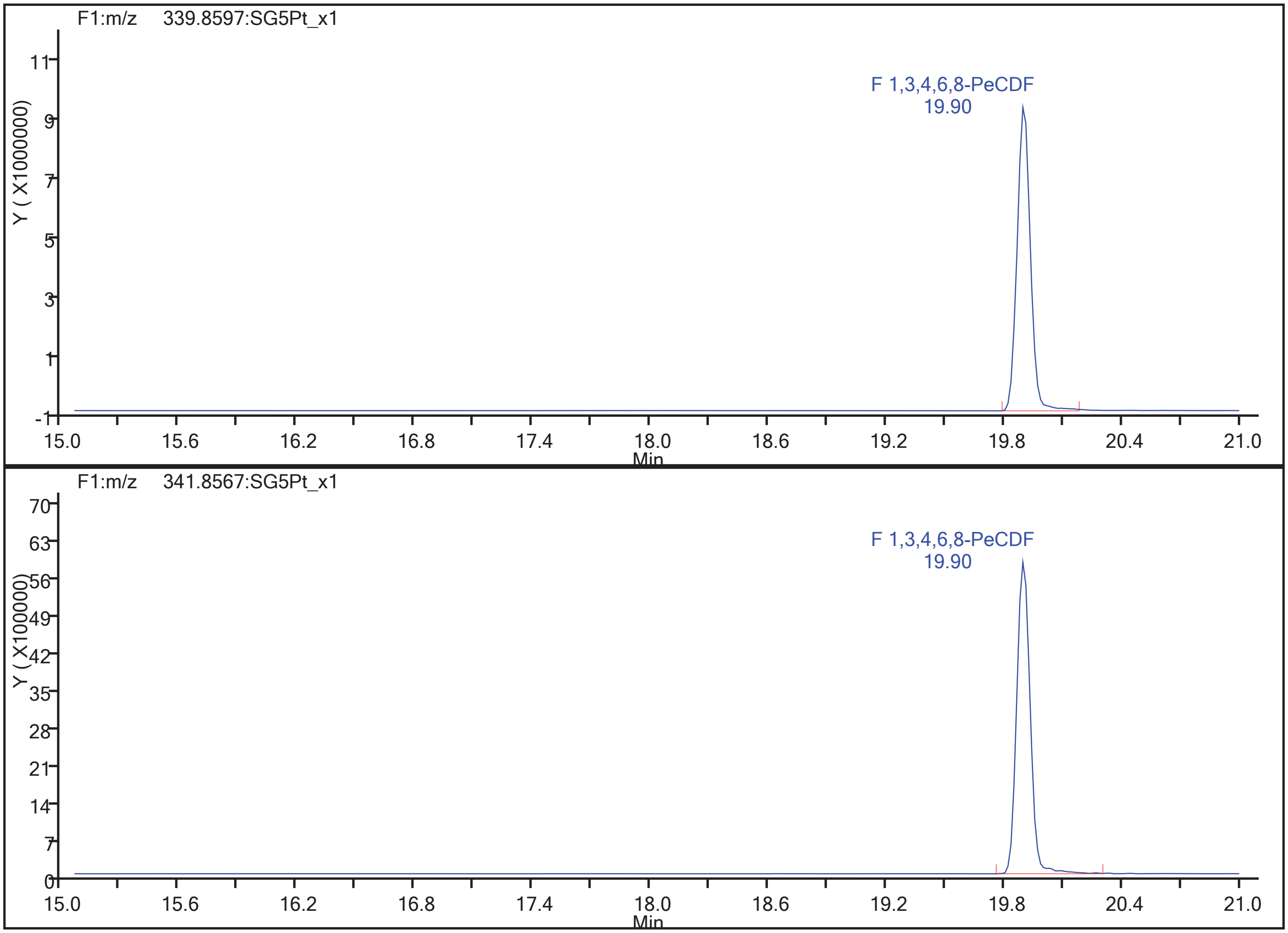




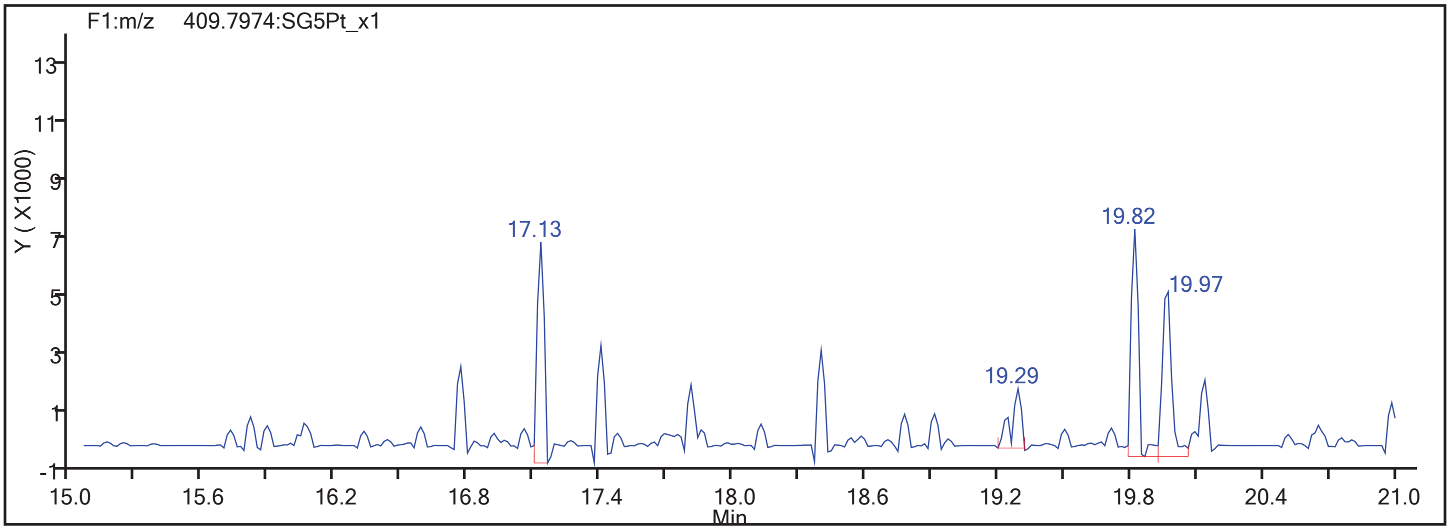
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

F1 PeCDFs



F1 PeCDFs Interference Mass



Report Date: 20-Nov-2017 11:46:50　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
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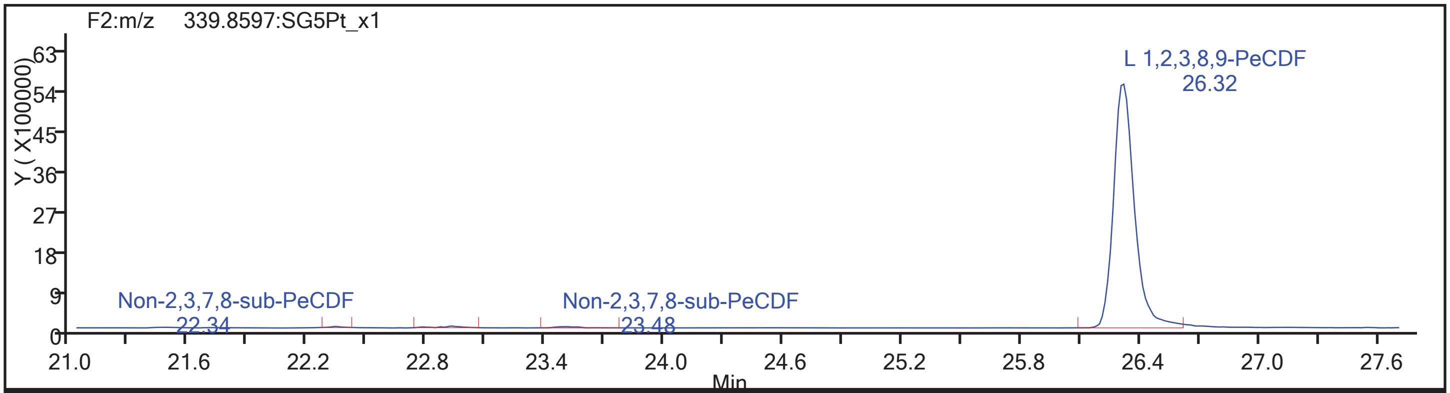
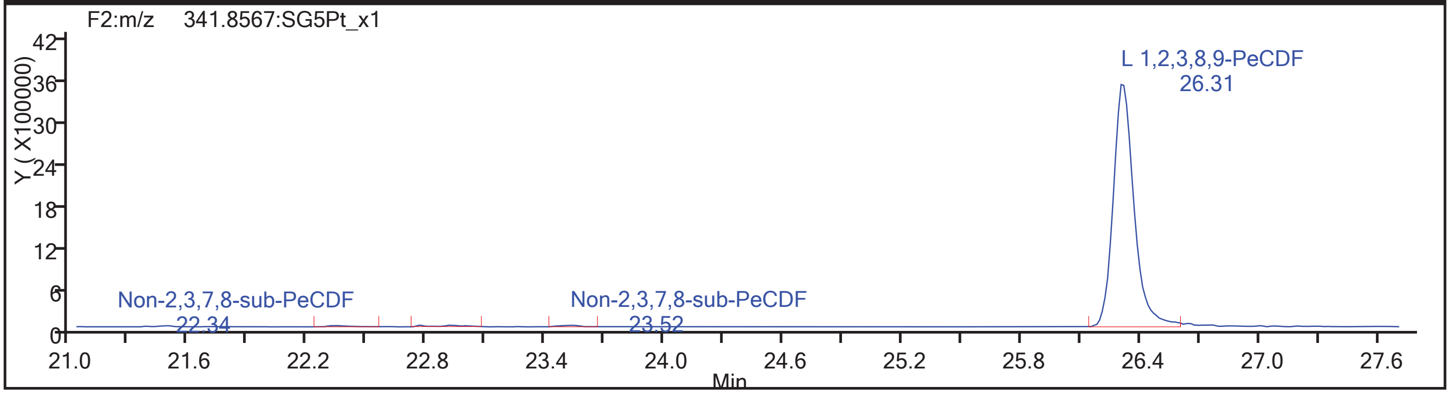
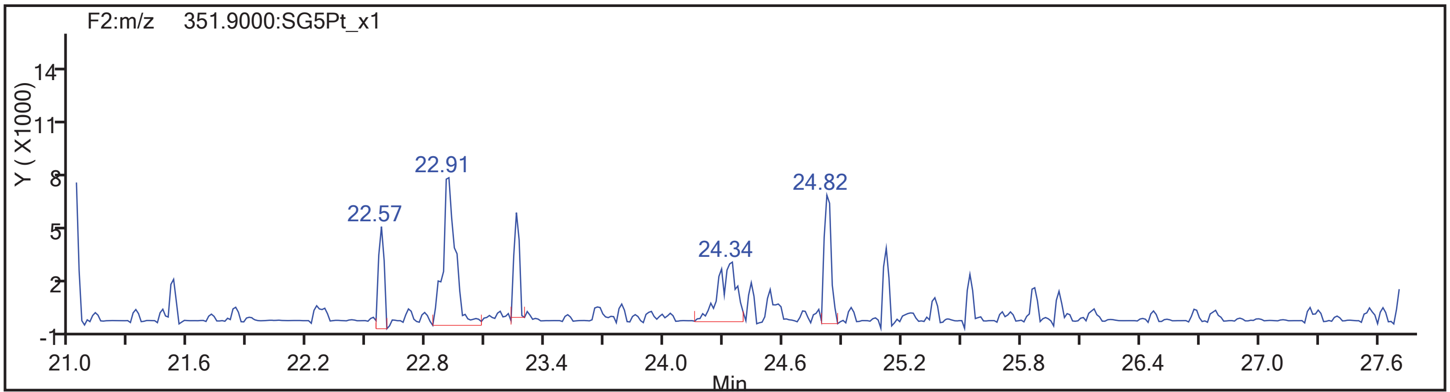
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

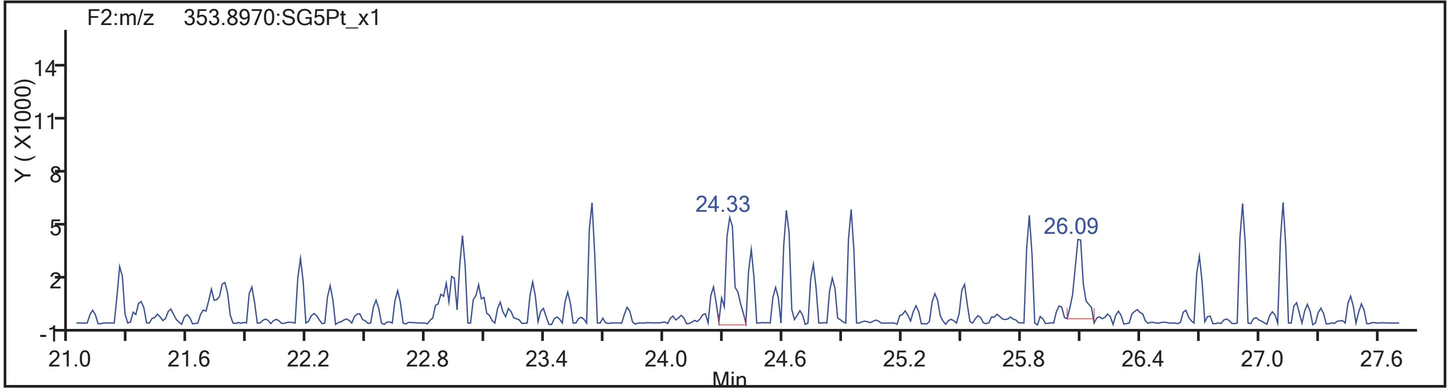
PeCDF





PeCDF Standards





Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
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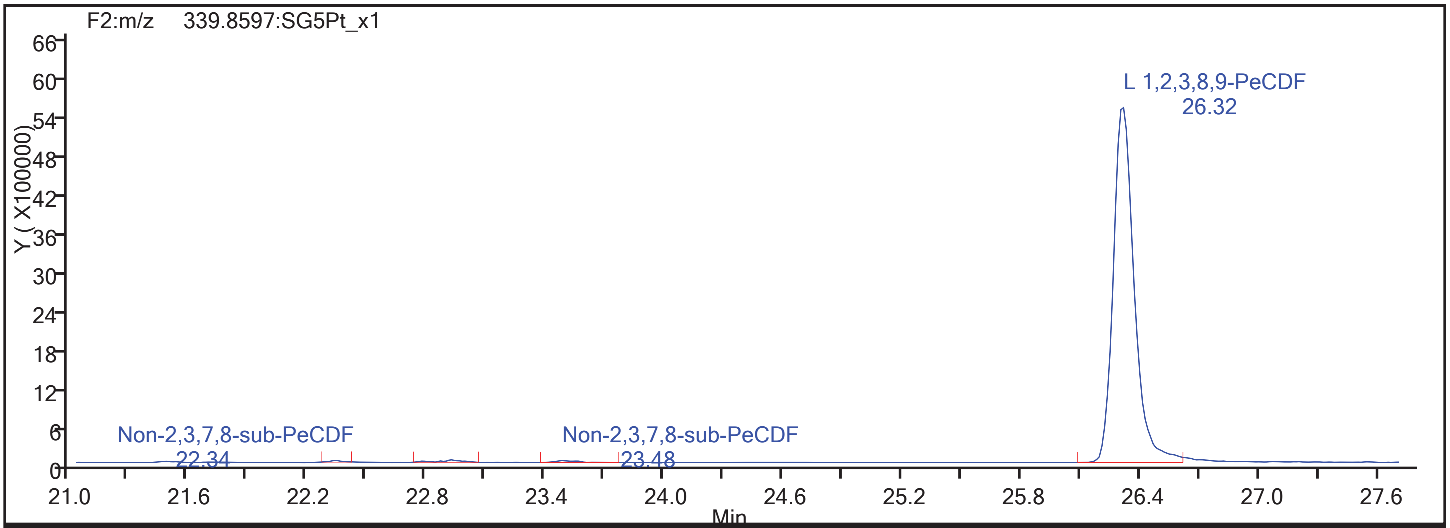
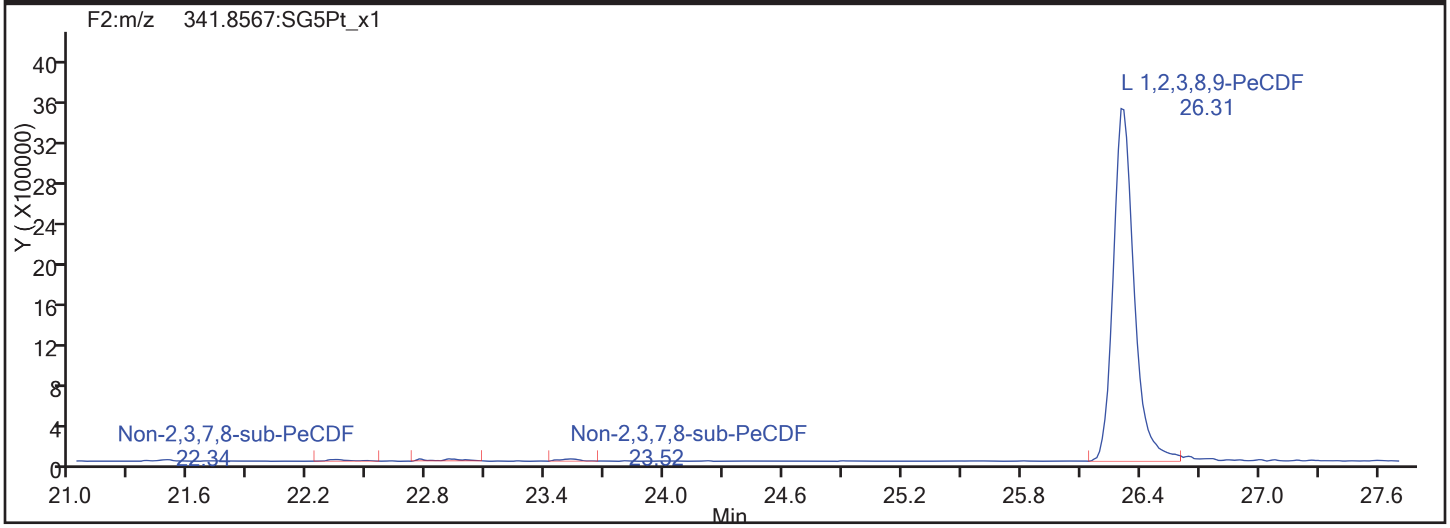
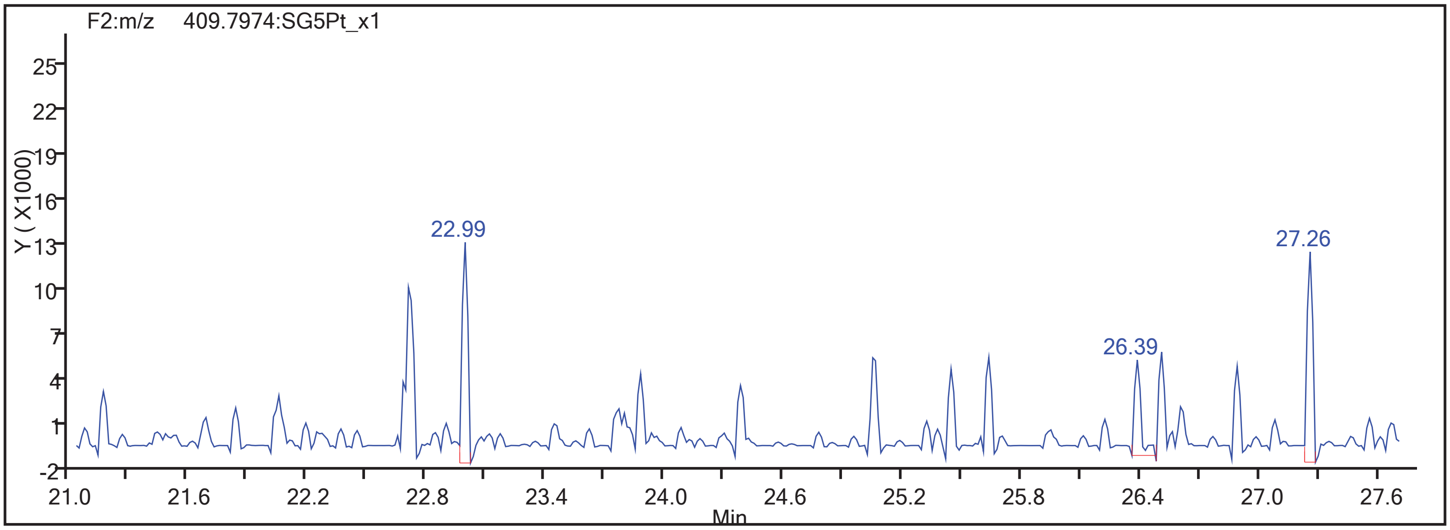
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

PeCDF





PeCDF Interference Mass



Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

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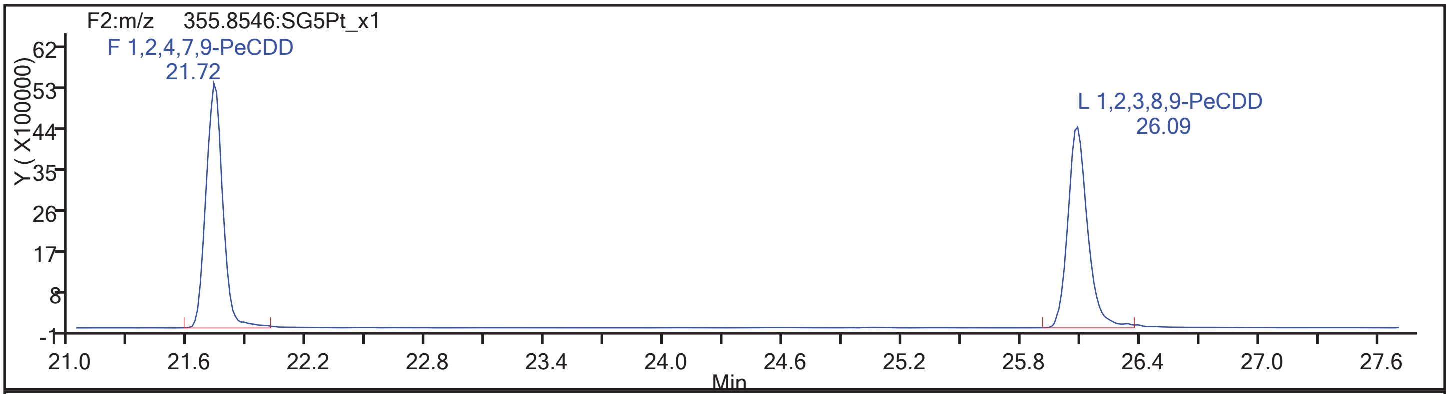
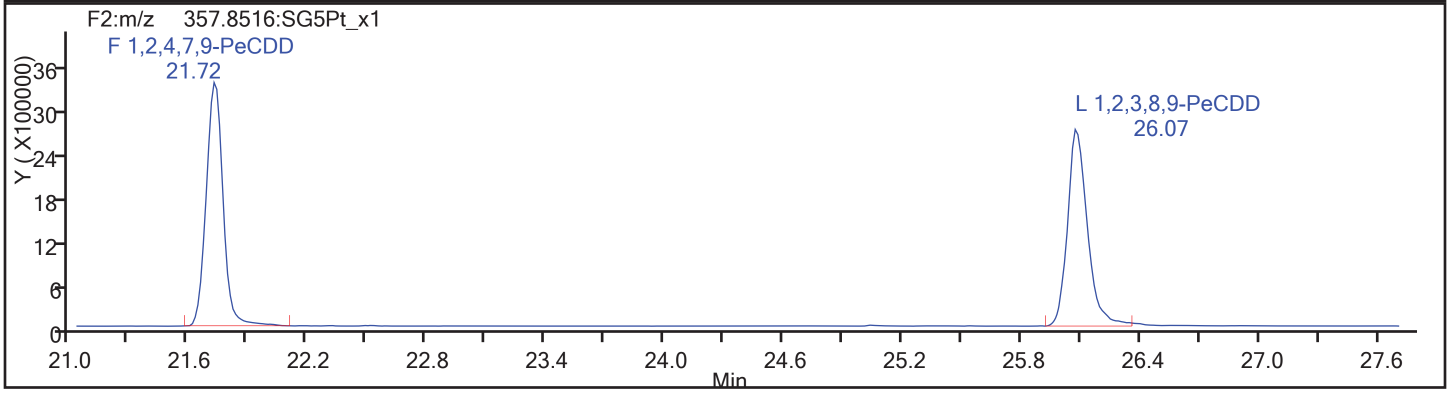
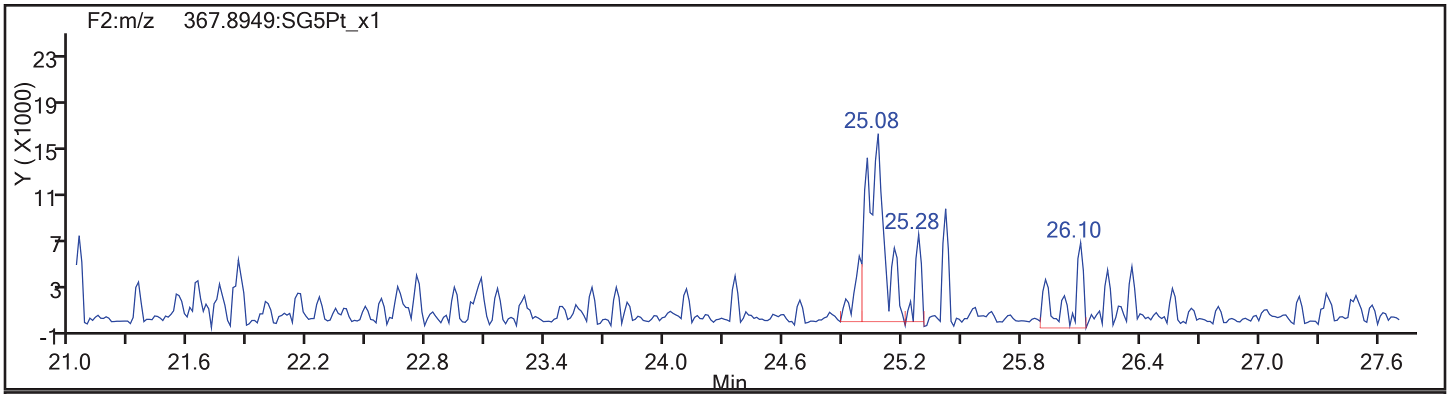
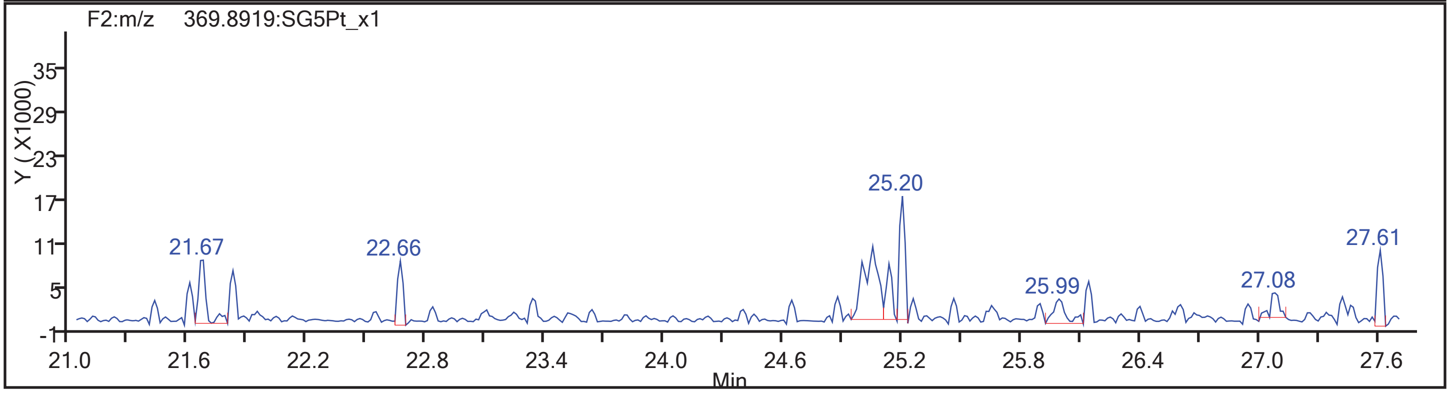




PeCDD Standards



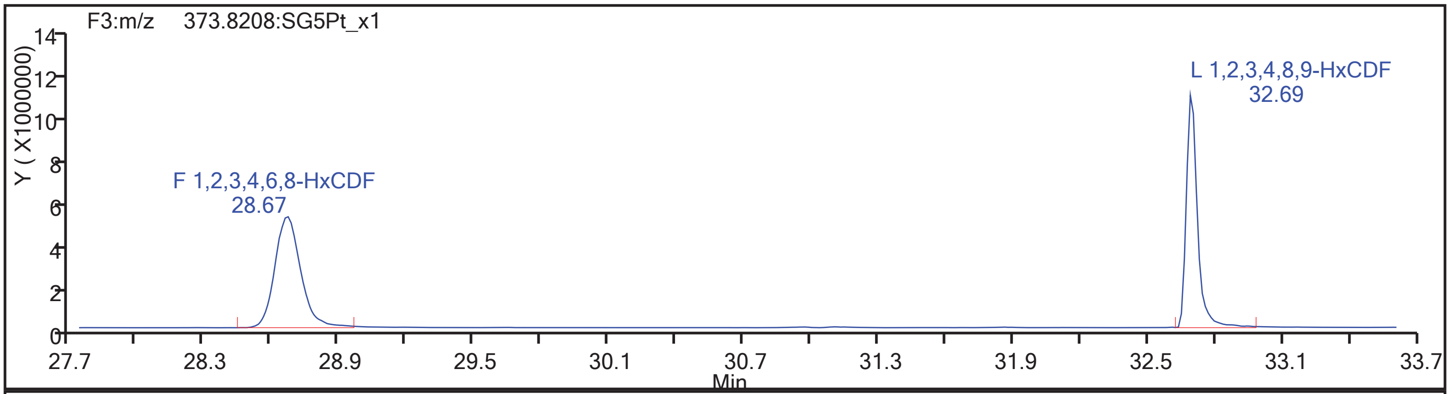


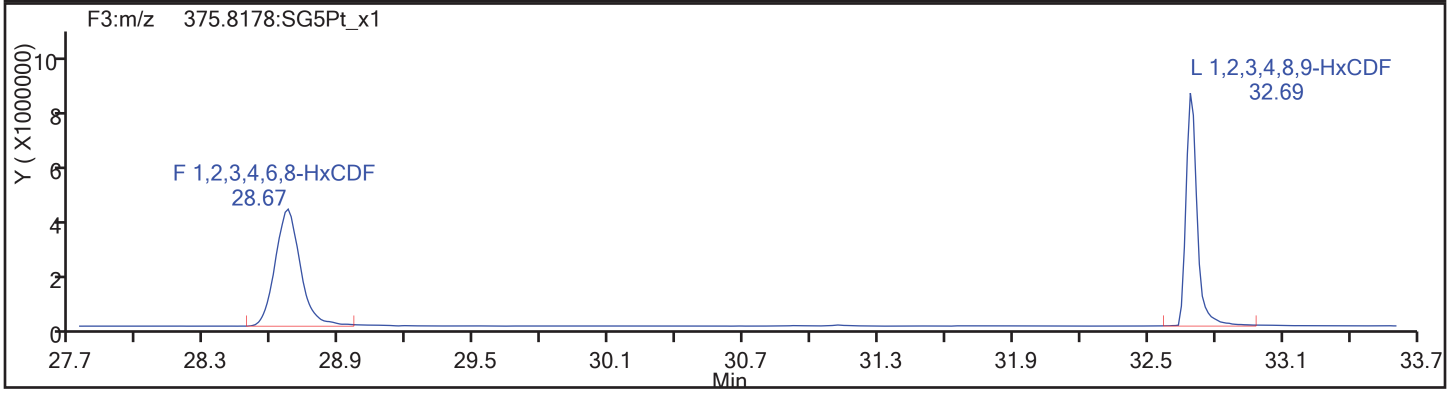
Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

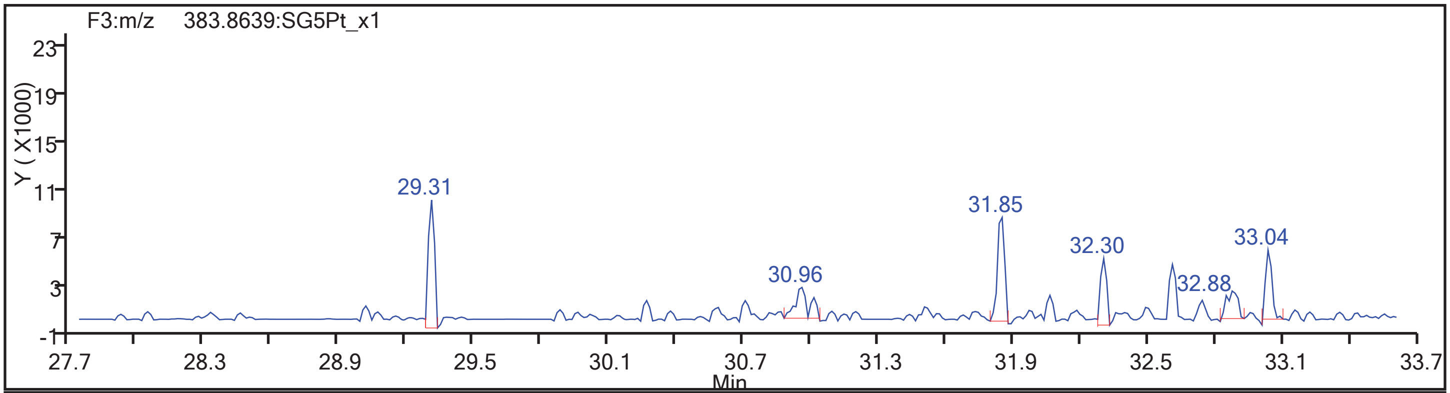
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

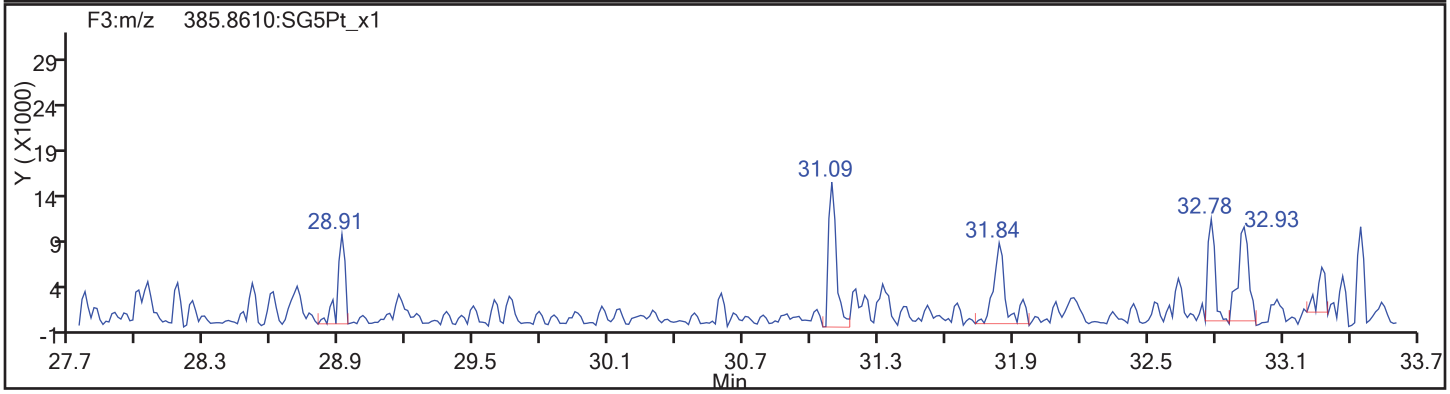
HxCDF





HxCDF Standards





Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

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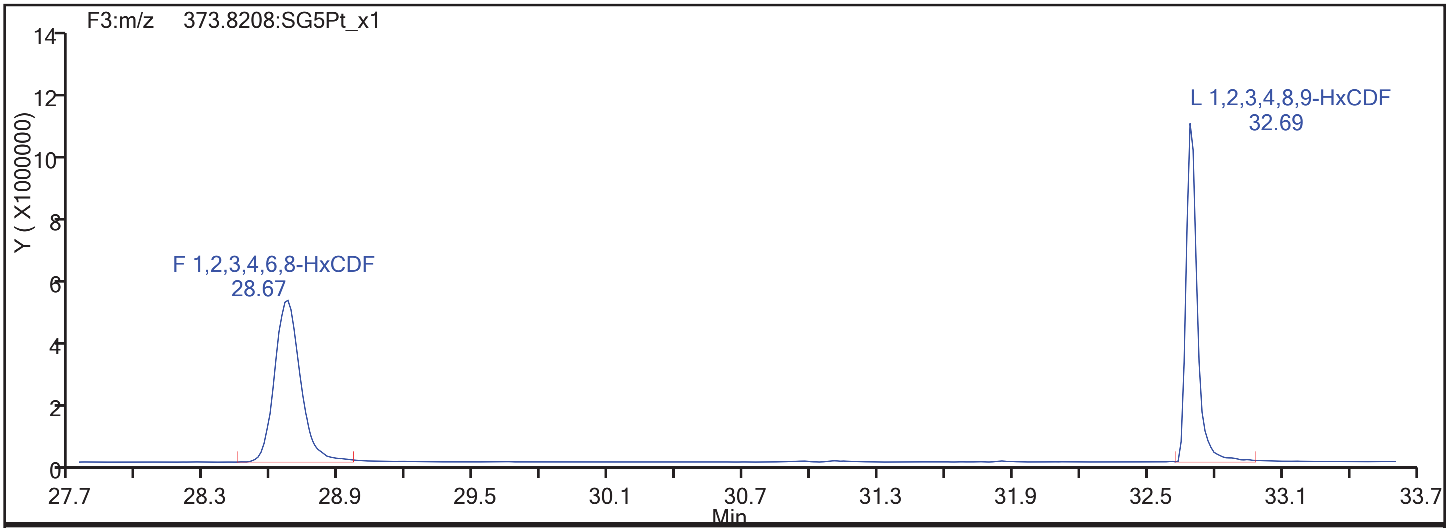
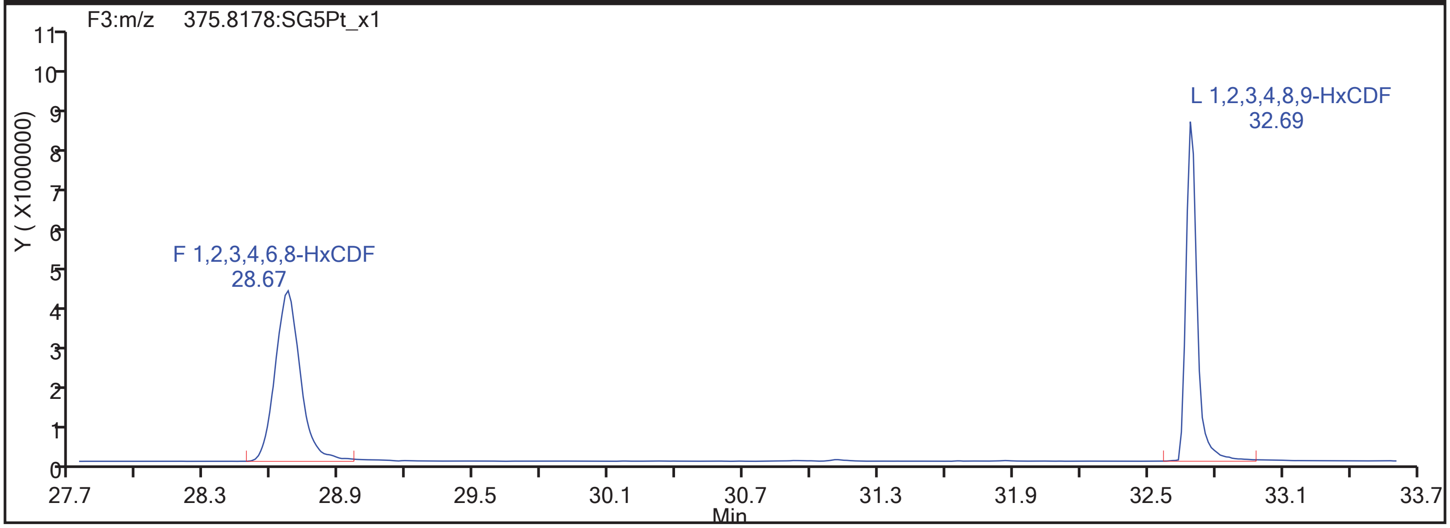
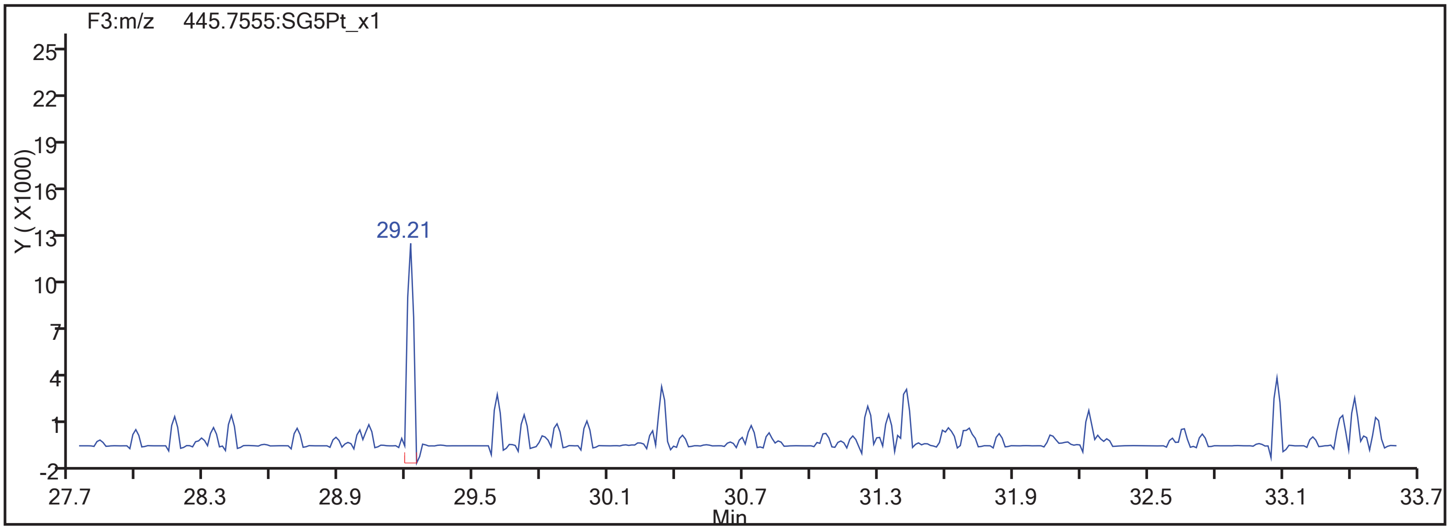




HxCDF Interference Mass



Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

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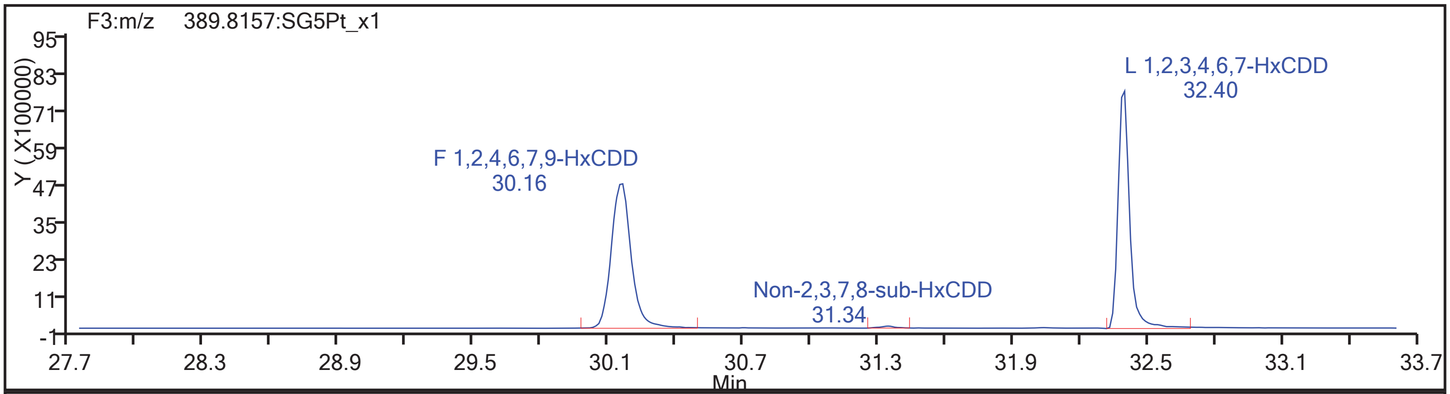
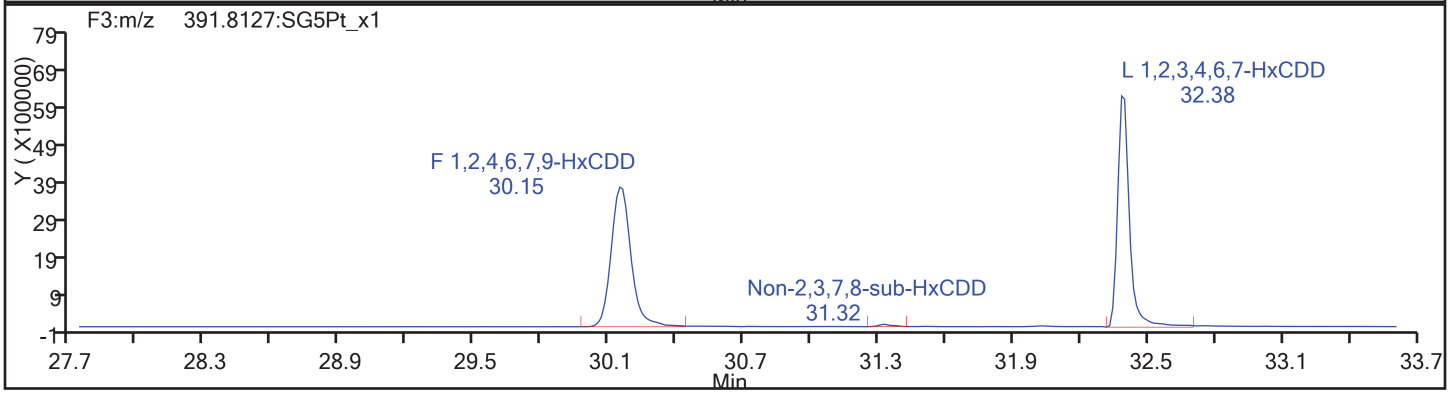
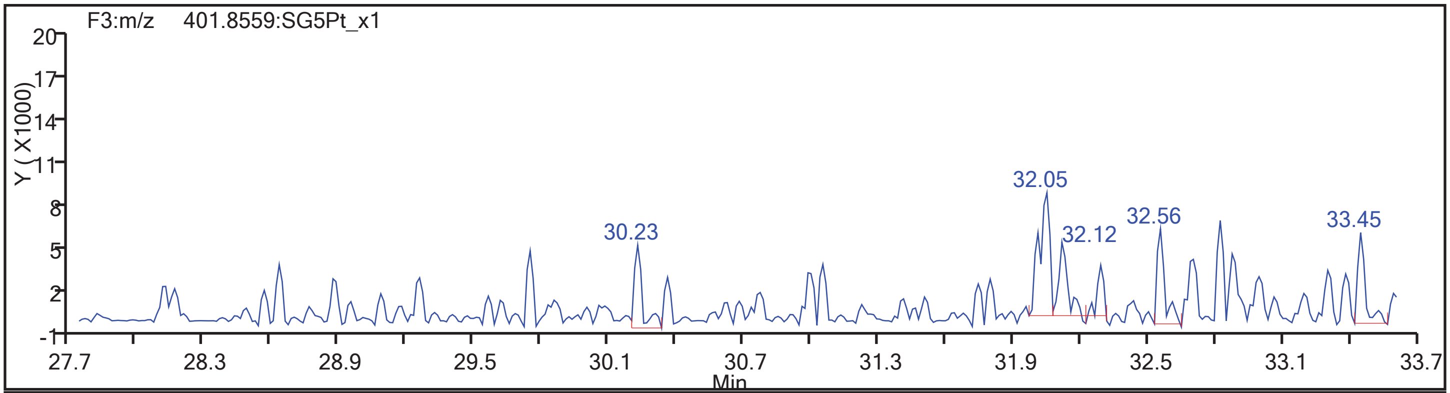
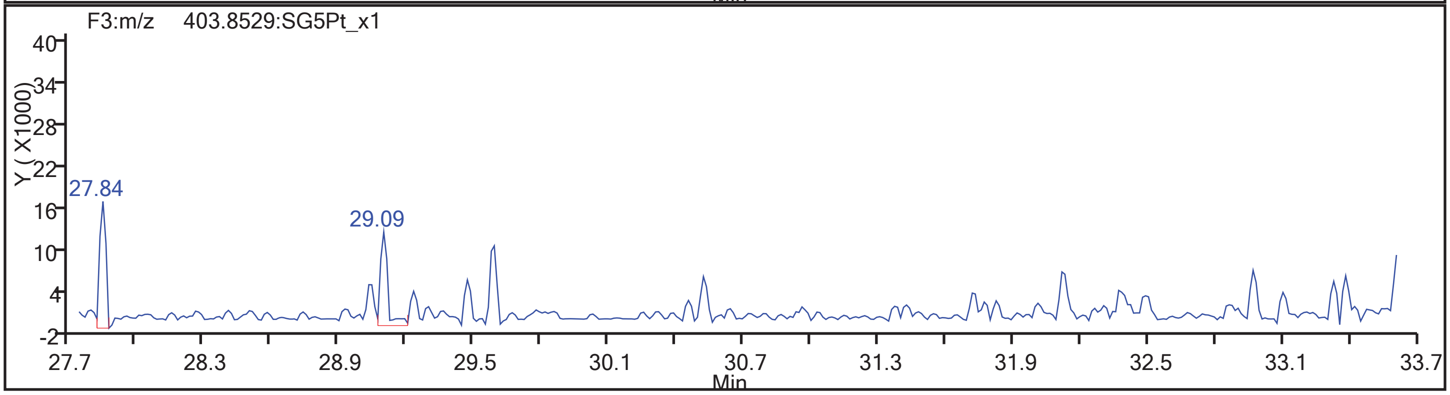




HxCDD Standards





Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d

Injection Date: 18-Nov-2017 12:59:42 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

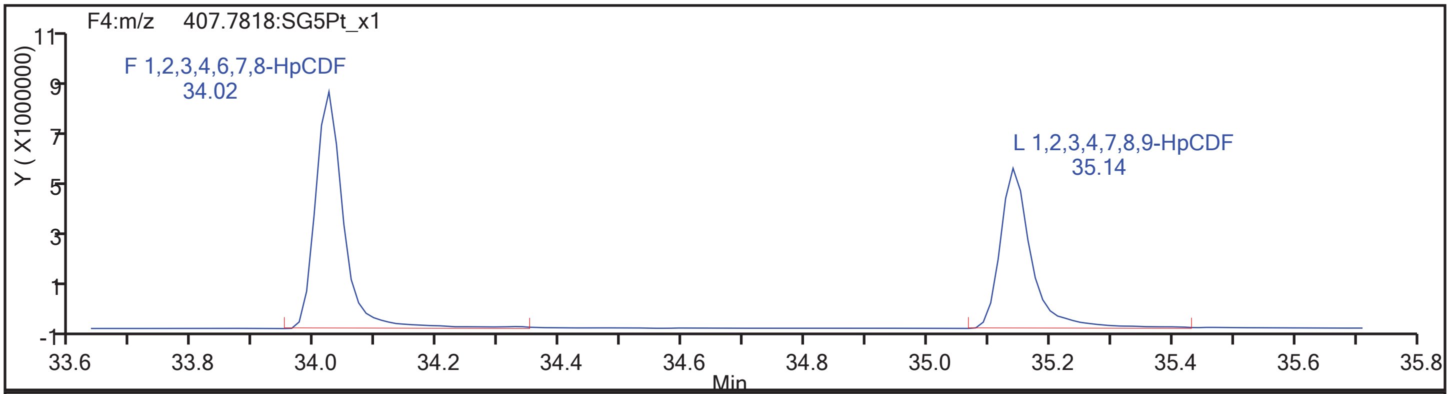
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

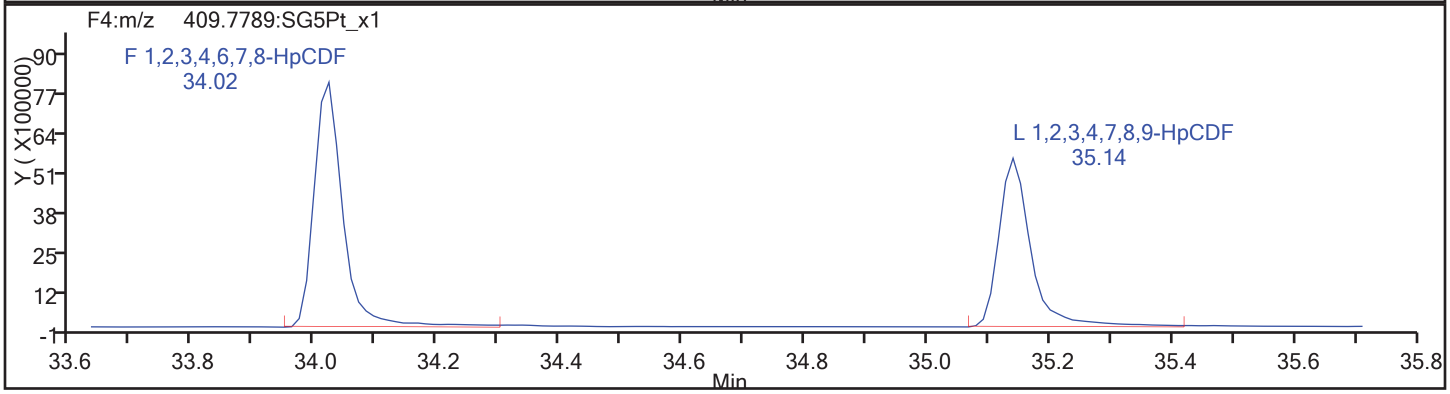
Client ID: WDM01

Worklist#: 195573 Sample Line#: 54

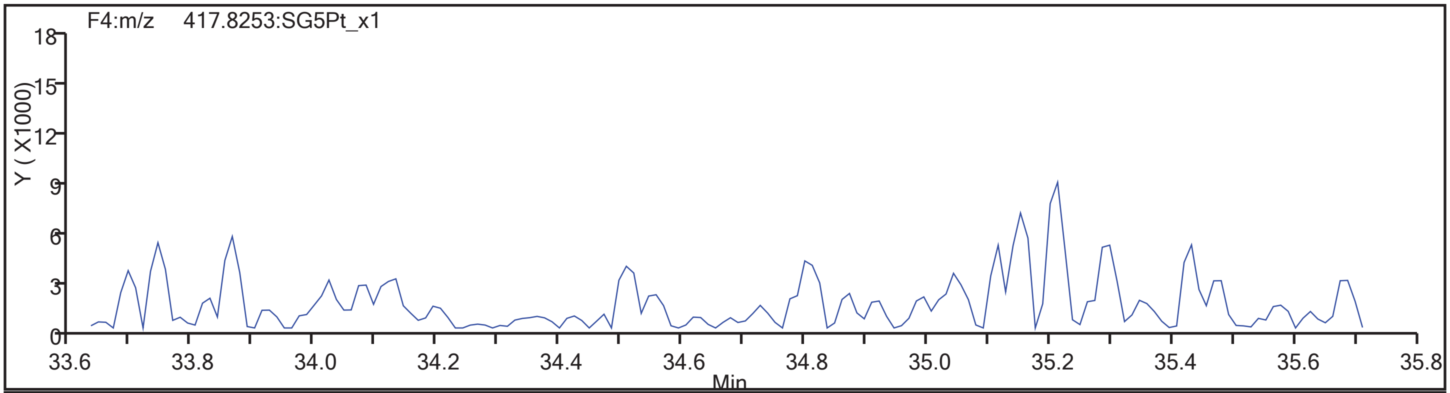
Column Type: Column Dia:

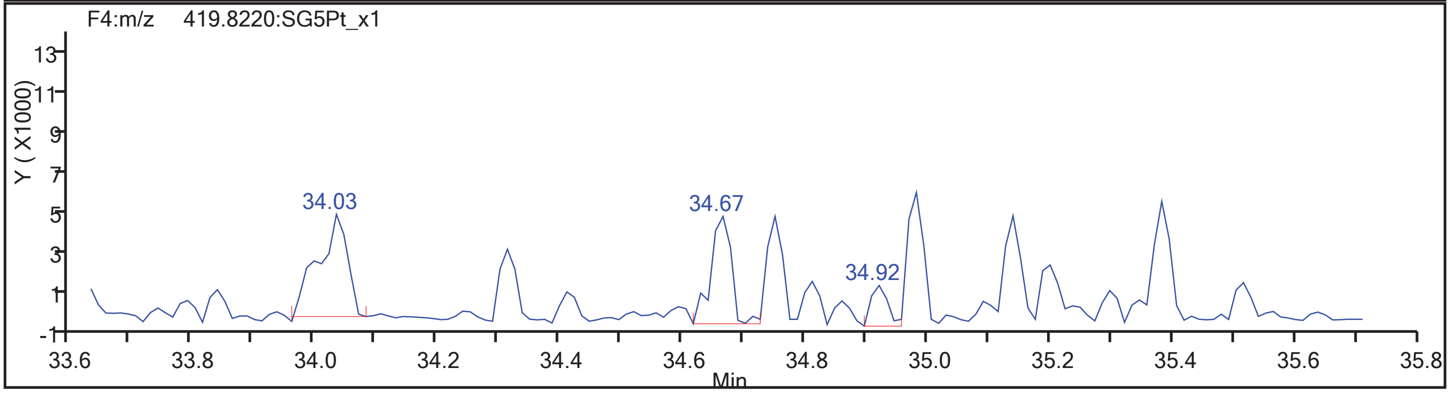
HpCDF





HpCDF Standards



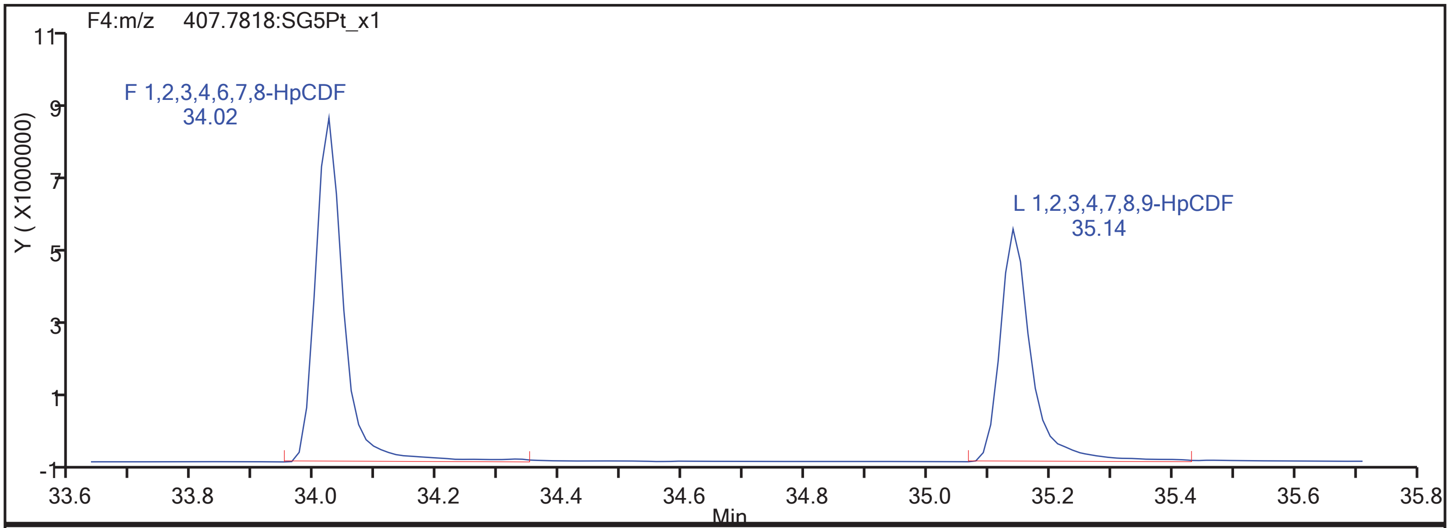


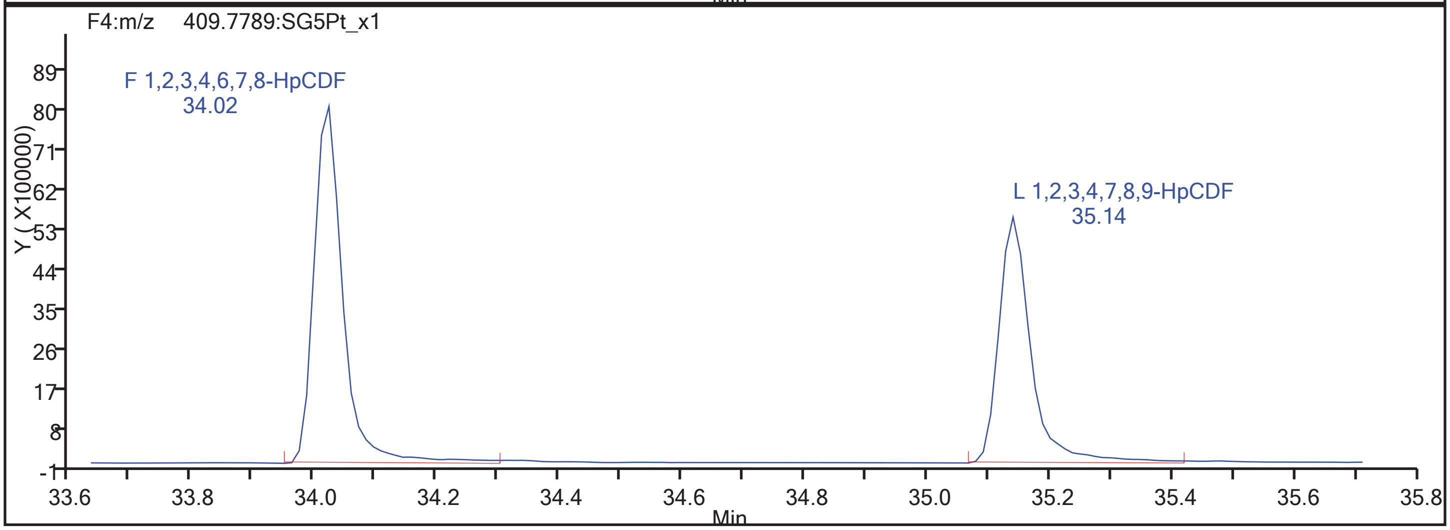
Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

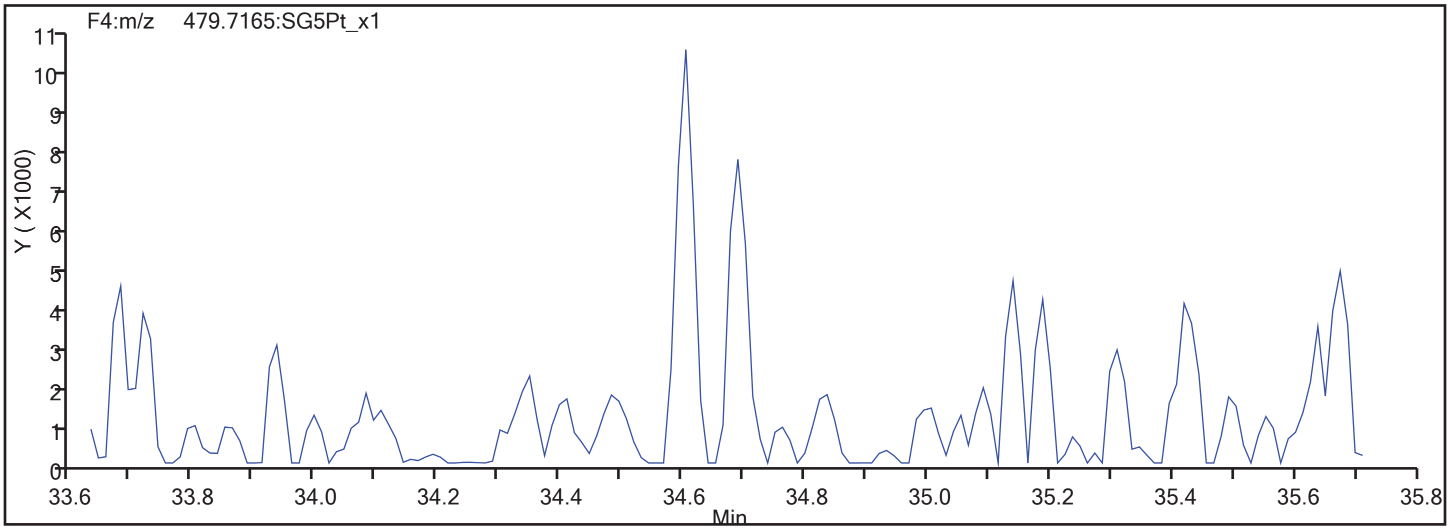
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195573	Sample Line#:	54
Column Type:		Column Dia:	

HpCDF





HpCDF Interference Mass



Report Date: 20-Nov-2017 11:46:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d
Injection Date: 18-Nov-2017 12:59:42 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195573 Sample Line#: 54
Column Type: Column Dia:

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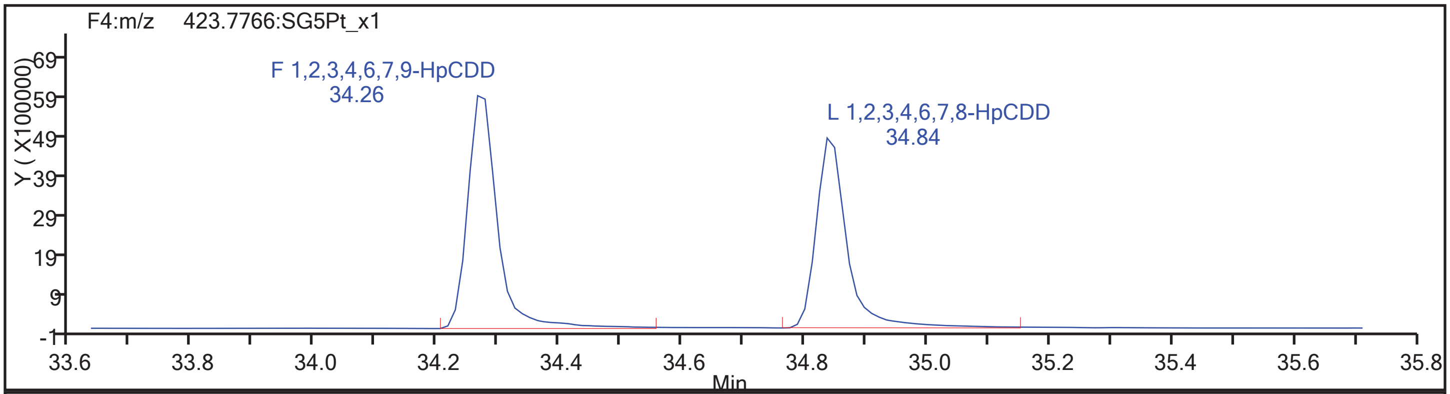
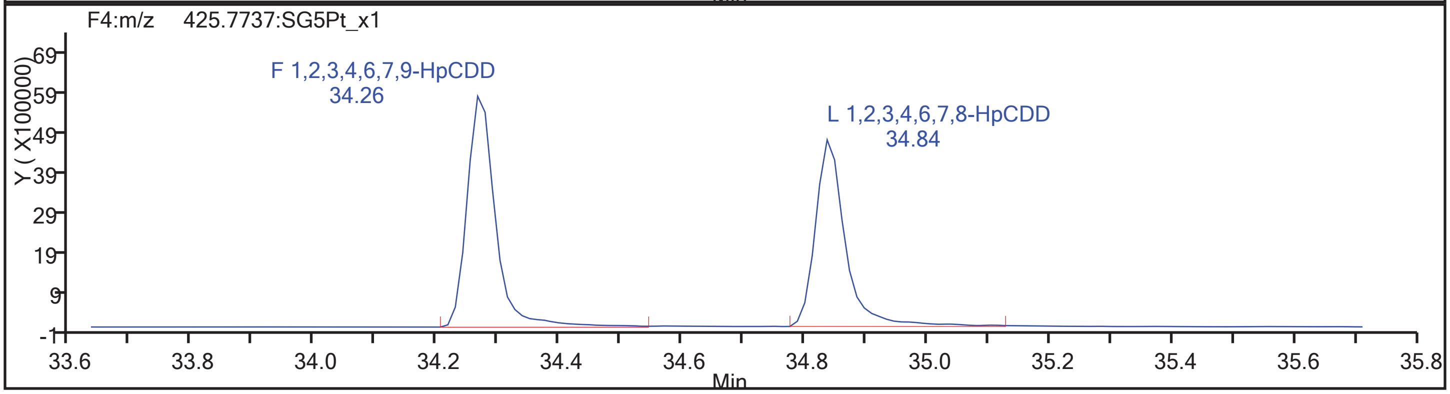
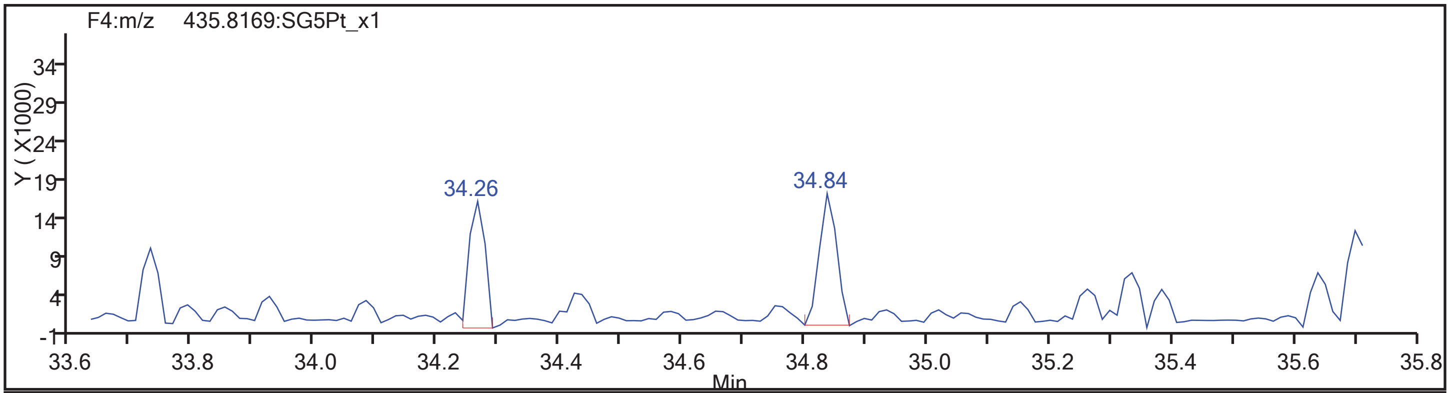
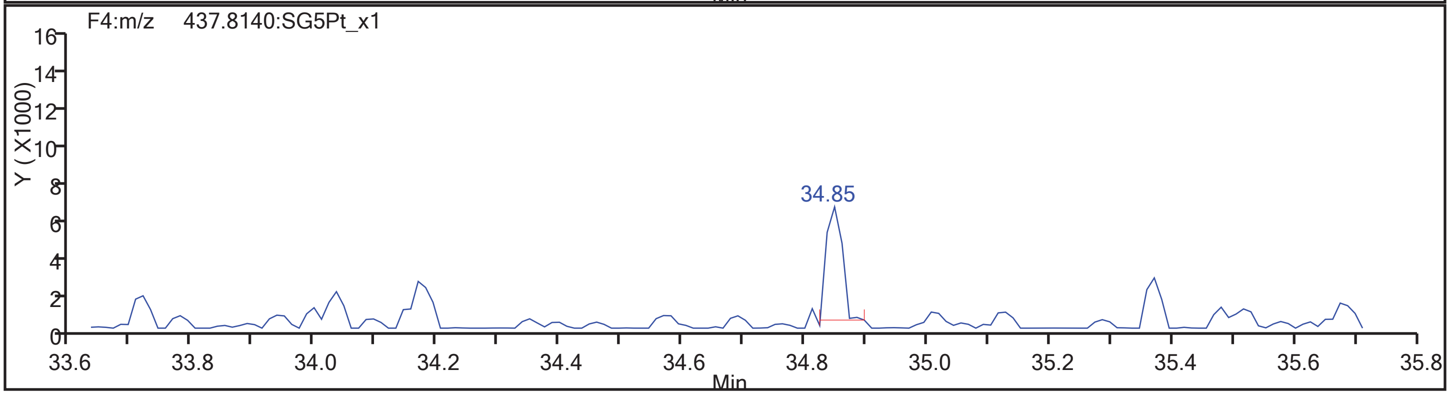




HpCDD Standards





Report Date: 20-Nov-2017 11:46:51
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d
Injection Date: 18-Nov-2017 12:59:42
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195573
Sample Line#: 54
Column Type:
Column Dia:

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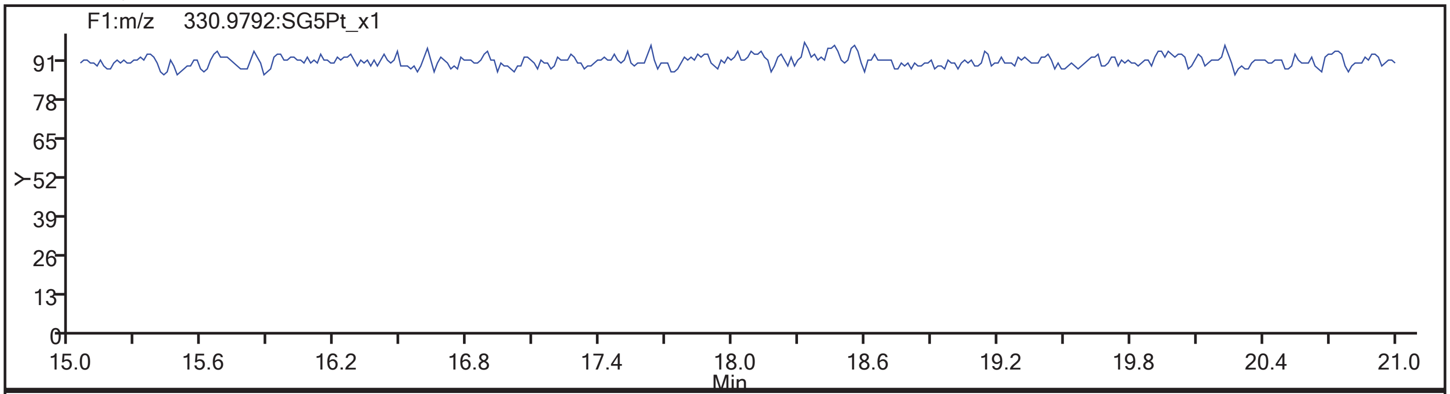

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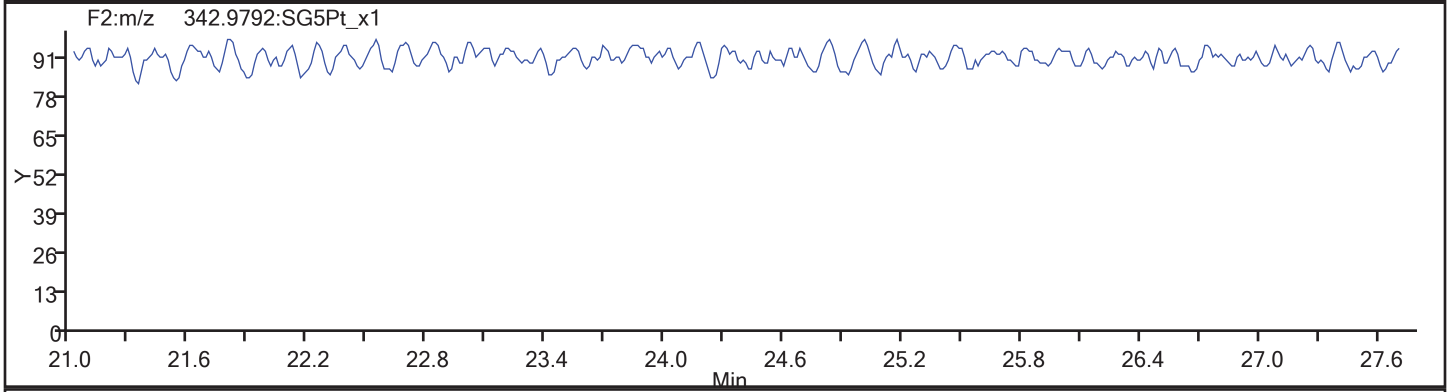

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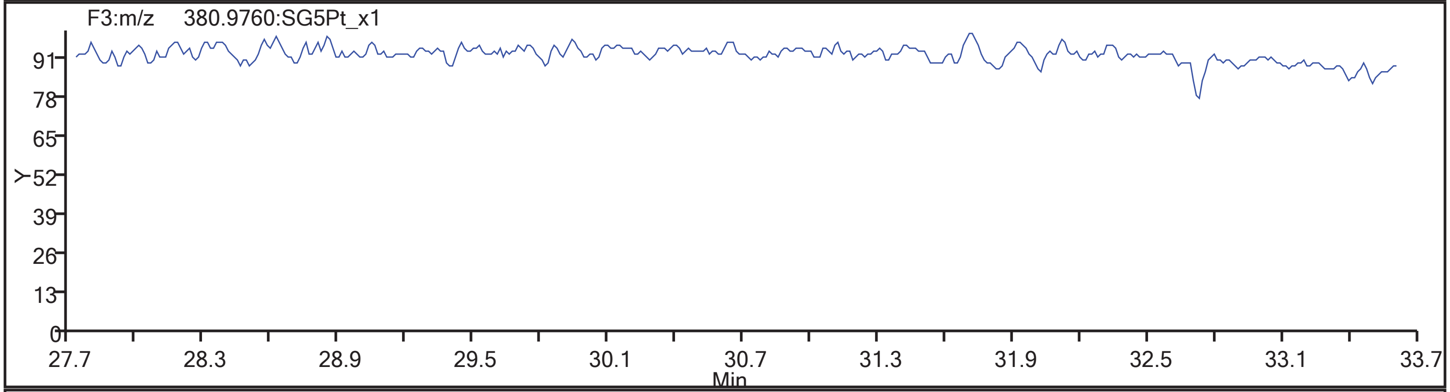

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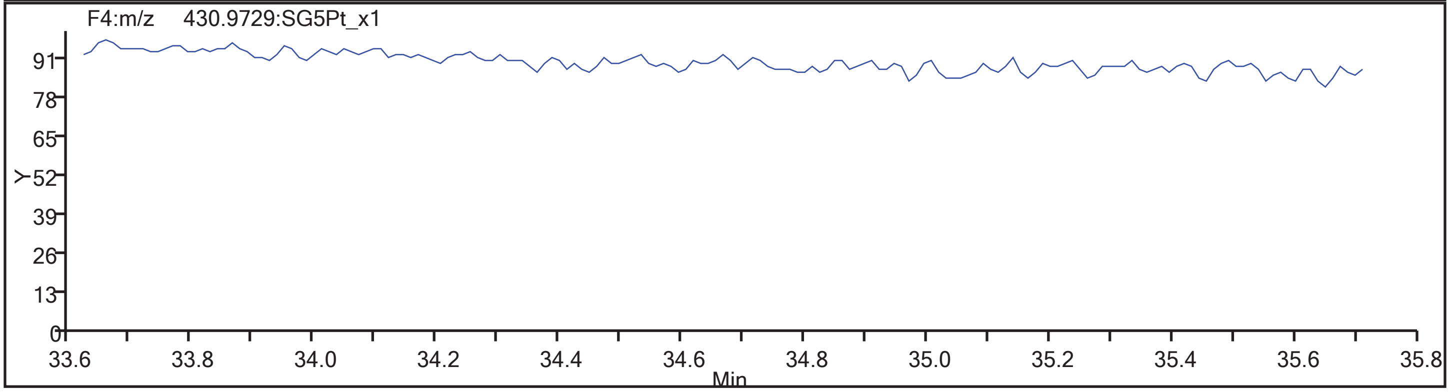

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_54.d		
Injection Date:	18-Nov-2017 12:59:42	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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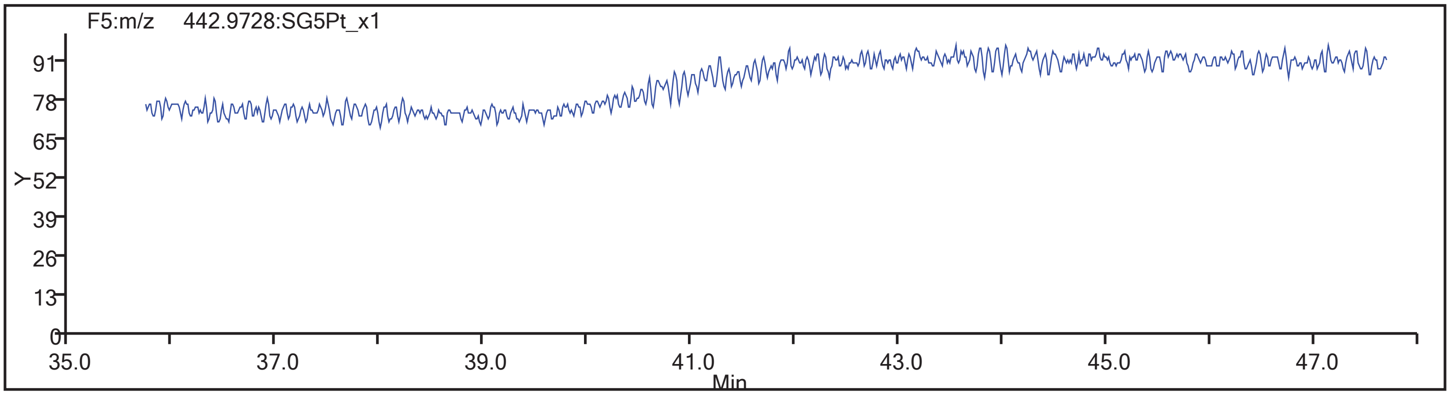
Column Type:		Column Dia:	



Report Date: 20-Nov-2017 11:47:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Lims ID: WDM
Client ID: WDM01
Sample Type: WDM
Inject. Date: 18-Nov-2017 23:50:29 ALS Bottle#: 1 Worklist Smp#: 67
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM111617E WDM HRDXNCP_00034
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:47:45 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 19-Nov-2017 08:10:59

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.705	98493220	0.74	1.5089					0.00	
2,3,7,8-TCDF	17.720	215140705	0.77	1.0971	79.6	79.6	0.5242	0.5242		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF					79.6	79.6	0.5242	0.5242		
D 13C-2,3,7,8-TCDD	18.430	60540436	0.82	0.9906					0.00	
2,3,7,8-TCDD	18.445	71895832	0.79	1.1645	40.8	40.8	0.2004	0.2004		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD					40.8	40.8	0.2004	0.2004		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668	972136	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.885						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	31.252	442710	1.24	0.0000						RQ
S Total HxCDD										RQ
1,2,3,4,6,7,8-HpCDF	33.998	56122095	1.05	1.5871						
1,2,3,4,7,8,9-HpCDF	35.128	43488215	1.04	1.2290						
A Non-2,3,7,8-sub-HpCDF	34.563						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.824	34059412	1.04	1.1631						
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.210	118079269	0.76							
1,3,6,8-TCDD	16.147	71292734	0.75							
1,2,3,9-TCDF	17.720	215140705	0.77							
1,2,3,7-TCDD	18.324	61022168	0.74							
1,2,3,9-TCDD	18.612	74073003	0.81							
2,3,4,7-TCDF	18.612	92296812	0.79							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDF	19.595	97826293	0.76							
1,2,8,9-TCDD	19.595	29273666								
1,3,4,6,8-PeCDF	19.882	79456474	1.59							
1,2,4,7,9-PeCDD	21.710	57145206	1.59							
1,2,3,8,9-PeCDD	26.060	53987501	1.57							
1,2,3,8,9-PeCDF	26.292	43137703								
1,2,3,4,6,8-HxCDF	28.629	78576305	1.26							
1,2,4,6,7,9-HxCDD	30.133	56469662	1.27							
1,2,3,4,6,7-HxCDD	32.370	53388892	1.25							
1,2,3,4,8,9-HxCDF	32.676	70015523	1.28							
1,2,3,4,6,7,9-HpCDD	34.253	39716067	1.06							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Lims ID: WDM
Client ID: WDM01
Sample Type: WDM
Inject. Date: 18-Nov-2017 23:50:29 ALS Bottle#: 1 Worklist Smp#: 67
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM111617E WDM HRDXNCP_00034
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:47:45 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 19-Nov-2017 08:10:59

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	1.000	42048045	9713901	24450	61125	397		
317.9389	17.705	17.705	0	1.000	56445175	13248745	13338	33345	993	0.74(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720	17.720	0	1.001	93675752	20156624	55961	139902	360		
305.8987	17.720	17.720	0	1.001	121464953	26219579	76096	190240	345	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						55961	139902			
305.8987	17.402						76096	190240			
13C-2,3,7,8-TCDD											
331.9368	18.430	18.430	0	1.000	27187111	6336282	12621	31552	502		
333.9339	18.430	18.430	0	1.000	33353325	7778828	6053	15132	1285	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.445	18.445	0	1.001	31671137	7105940	11951	29877	595		
321.8936	18.445	18.445	0	1.001	40224695	9324347	20994	52485	444	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						11951	29877			
321.8936	17.871						20994	52485			
A F1 PeCDFs											
339.8597	20.426						2871	7177			
341.8567	20.426						3314	8285			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.337	23.668	-80	1.000	138665	26475	6596	16490	4		
341.8567	22.296	23.668	-82	1.000	159090	17250	5058	12645	3	0.87(1.32-1.78)	
339.8597	22.896	23.668	-46	1.000	246626	37610	6596	16490	6		
341.8567	22.896	23.668	-46	1.000	180616	27306	5058	12645	5	1.37(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	23.496	23.668	-10	1.000	192474	34771	6596	16490	5		
341.8567	23.496	23.668	-10	1.000	124294	17768	5058	12645	4	1.55(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.885						8086	20215			
357.8516	23.885						5313	13282			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						15931	39827			
375.8178	30.653						11525	28812			
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	31.318	31.252	4	1.000	245072	62356	9770	24425	6		
391.8127	31.318	31.252	4	1.000	268711	58669	8893	22232	7	0.91(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.998	33.998	0	1.000	28794255	8745145	34754	86885	252		
409.7789	33.998	33.998	0	1.000	27327840	8634459	37791	94477	228	1.05(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128	35.128	0	1.000	22119537	6131639	34754	86885	176		
409.7789	35.128	35.128	0	1.000	21368678	5816892	37791	94477	154	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.563						34754	86885			
409.7789	34.563						37791	94477			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.824	34.824	0	1.000	17382484	5126559	27120	67800	189		
425.7737	34.824	34.824	0	1.000	16676928	4890456	25223	63057	194	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						27120	67800			
425.7737	35.261						25223	63057			
1,3,6,8-TCDF											
303.9016	15.210	15.210	0		50867830	14558243	55961	139902	260		
305.8987	15.210	15.210	0		67211439	19471412	76096	190240	256	0.76(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	16.147	16.147	0		30632260	8194701	11951	29877	686		
321.8936	16.147	16.147	0		40660474	11041851	20994	52485	526	0.75(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.720	17.720	0		93675752	20156624	55961	139902	360		
305.8987	17.720	17.720	0		121464953	26219579	76096	190240	345	0.77(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.324	18.324	0		26009666	6476566	11951	29877	542		
321.8936	18.324	18.324	0		35012502	8616603	20994	52485	410	0.74(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.612	18.612	0		33195156	7340937	11951	29877	614		
321.8936	18.612	18.612	0		40877847	9100444	20994	52485	433	0.81(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	18.612	18.612	0		40856740	9311497	55961	139902	166		
305.8987	18.612	18.612	0		51440072	11684304	76096	190240	154	0.79(0.65-0.89)	
1,2,8,9-TCDF											
303.9016	19.595	19.595	0		42170866	9129526	55961	139902	163		
305.8987	19.595	19.595	0		55655427	11763662	76096	190240	155	0.76(0.65-0.89)	

Report Date: 20-Nov-2017 11:47:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDD											
319.8965	19.595	19.595	0		29273666	6057326	11951	29877	507		
1,3,4,6,8-PeCDF											
339.8597	19.882	19.882	0		48721811	10470700	2871	7177	3647		
341.8567	19.882	19.882	0		30734663	6472094	3314	8285	1953	1.59(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	21.710	21.710	0		35077168	5838632	8086	20215	722		
357.8516	21.696	21.710	-1		22068038	3752710	5313	13282	706	1.59(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	26.060	26.060	0		32954283	4766363	8086	20215	589		
357.8516	26.060	26.060	0		21033218	2915060	5313	13282	549	1.57(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	26.292	26.292	0		43137703	5958106	6596	16490	903		
1,2,3,4,6,8-HxCDF											
373.8208	28.629	28.629	0		43776674	5339915	15931	39827	335		
375.8178	28.642	28.629	1		34799631	4300336	11525	28812	373	1.26(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	30.133	30.133	0		31601068	5147222	9770	24425	527		
391.8127	30.133	30.133	0		24868594	3968617	8893	22232	446	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.370	32.370	0		29624900	8313041	9770	24425	851		
391.8127	32.370	32.370	0		23763992	6623913	8893	22232	745	1.25(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.676	32.676	0		39368816	11327692	15931	39827	711		
375.8178	32.676	32.676	0		30646707	8785306	11525	28812	762	1.28(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.253	34.253	0		20399130	6267767	27120	67800	231		
425.7737	34.253	34.253	0		19316937	5976297	25223	63057	237	1.06(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d		
Lims ID:	WDM		
Client ID:	WDM01		
Inject. Date:	18-Nov-2017 23:50:29	Dil. Factor:	1.0000
Sample Type:	WDM, Window Defining Mix		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	67

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142				
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.337	138665	26475	159090	17250		0.87	R
22.896	246626	37610	180616	27306		1.37	
23.496	192474	34771	124294	17768		1.55	
Signal Totals:							
	577765	98856	464000	62324			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1041765	161180				1.25	RQ
	972136	161010					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (1041765 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (972136 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Lims ID: WDM
Client ID: WDM01
Inject. Date: 18-Nov-2017 23:50:29 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195574 Lims Sample ID: 67

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065				
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.318	245072	62356	268711	58669		0.91	R
Signal Totals:							
	245072	62356	268711	58669			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	513783	121025				0.91	RQ
	442710	112643					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (513783 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (442710 * 0.0) / (0 * 0.000)

QC Flag Legend

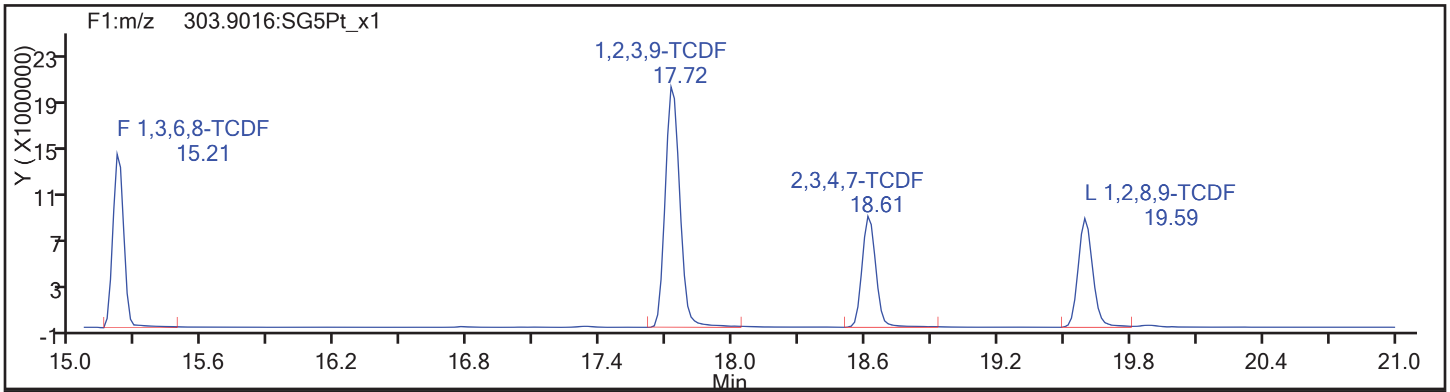
Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

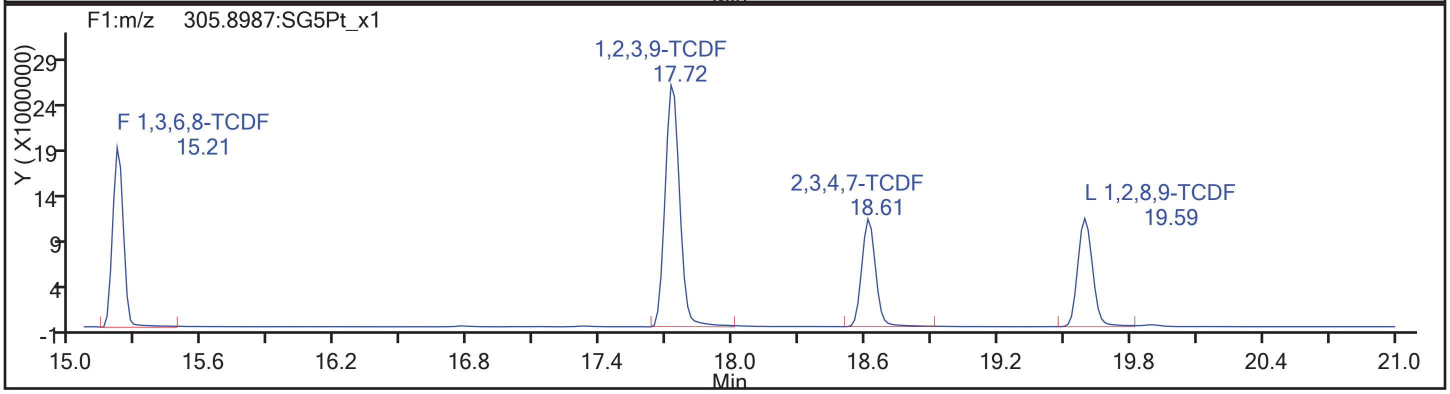
Report Date: 20-Nov-2017 11:47:46
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

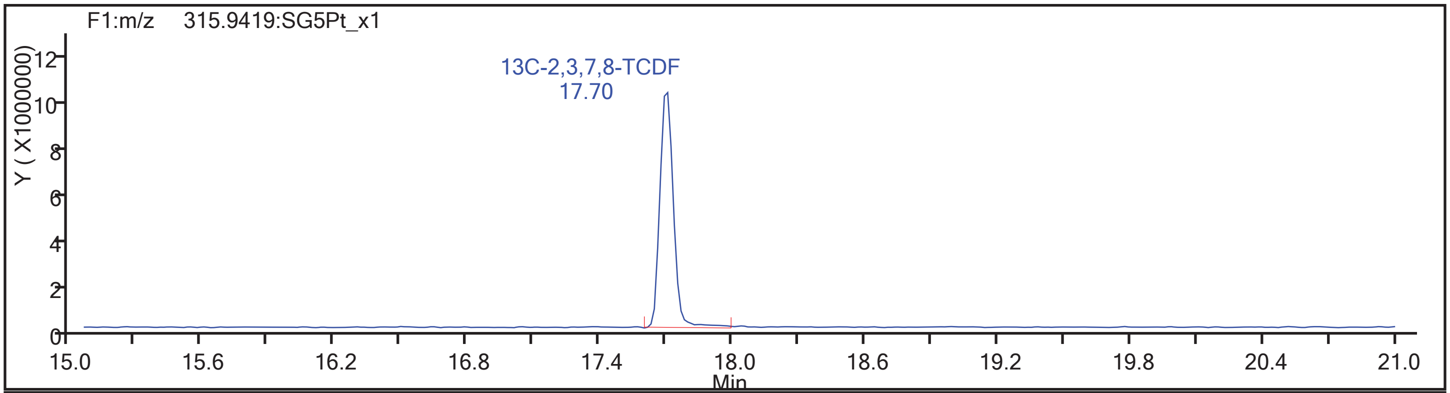
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Injection Date: 18-Nov-2017 23:50:29
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195574
Sample Line#: 67
Column Type:
Column Dia:

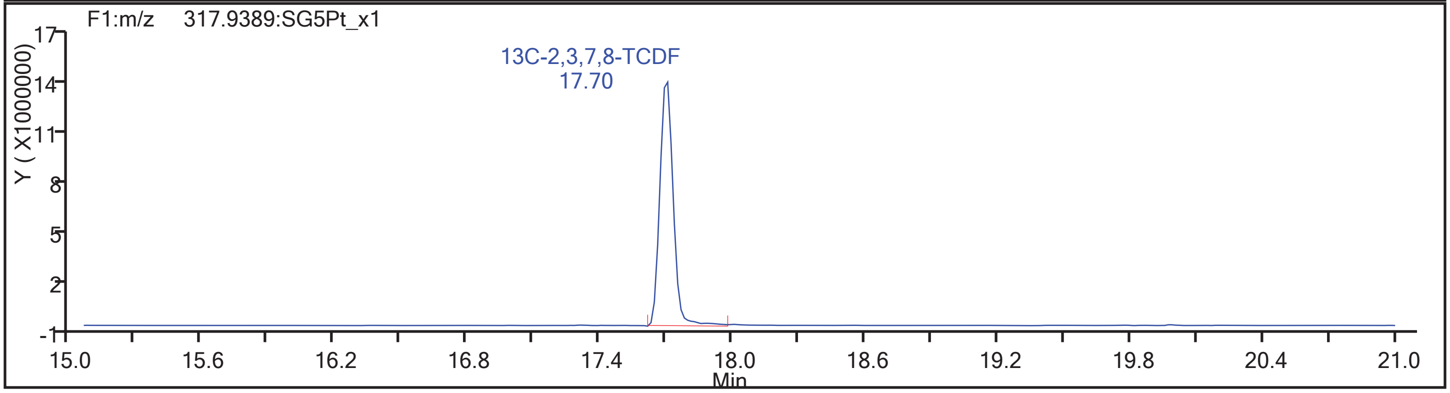
TCDF





TCDF Standards



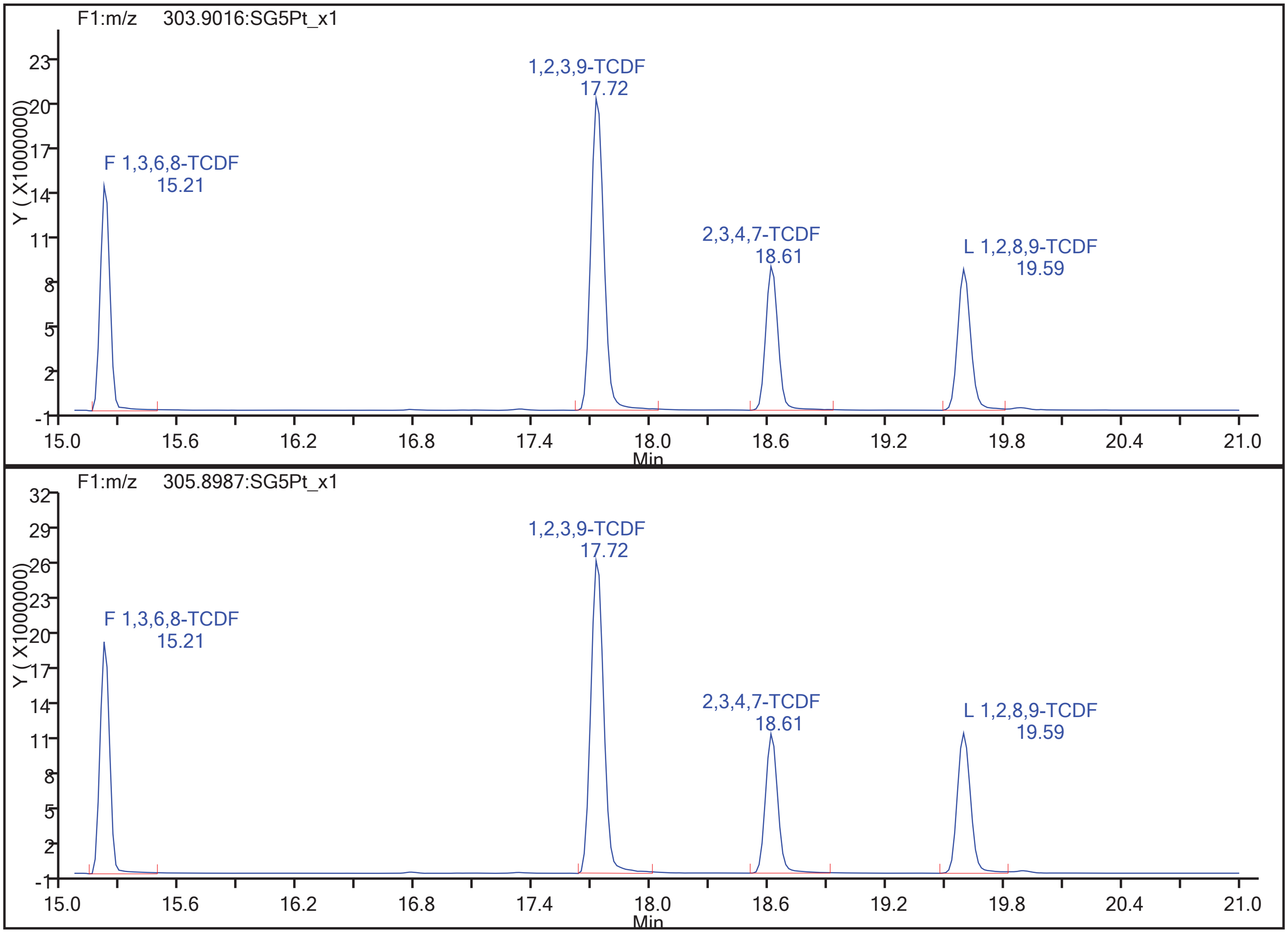


Report Date: 20-Nov-2017 11:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

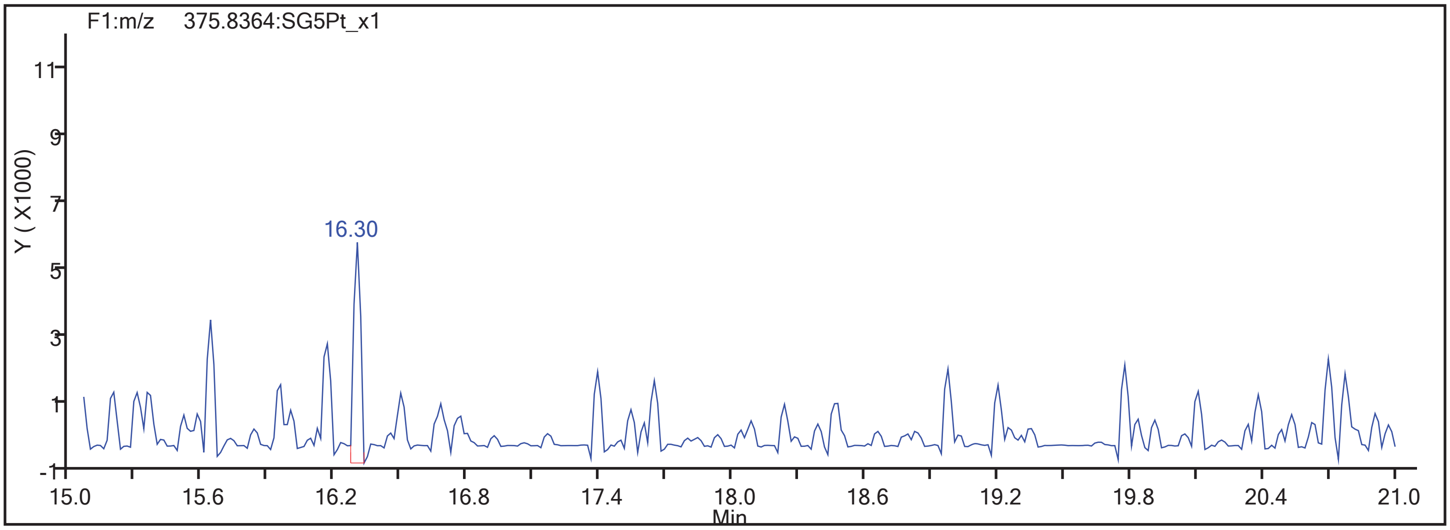
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Injection Date: 18-Nov-2017 23:50:29
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195574
Sample Line#: 67
Column Type:
Column Dia:

TCDF



TCDF Interference Mass

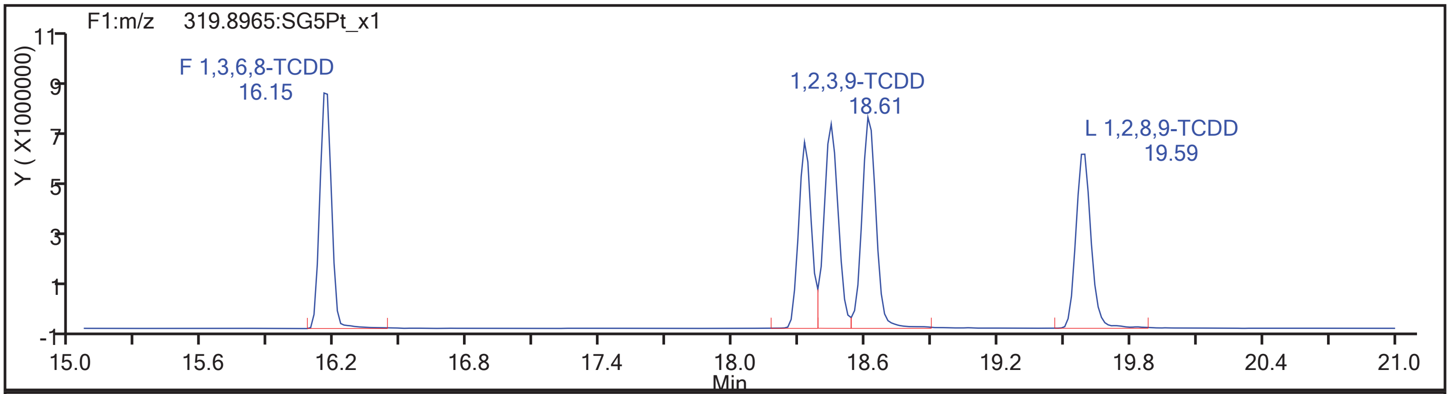


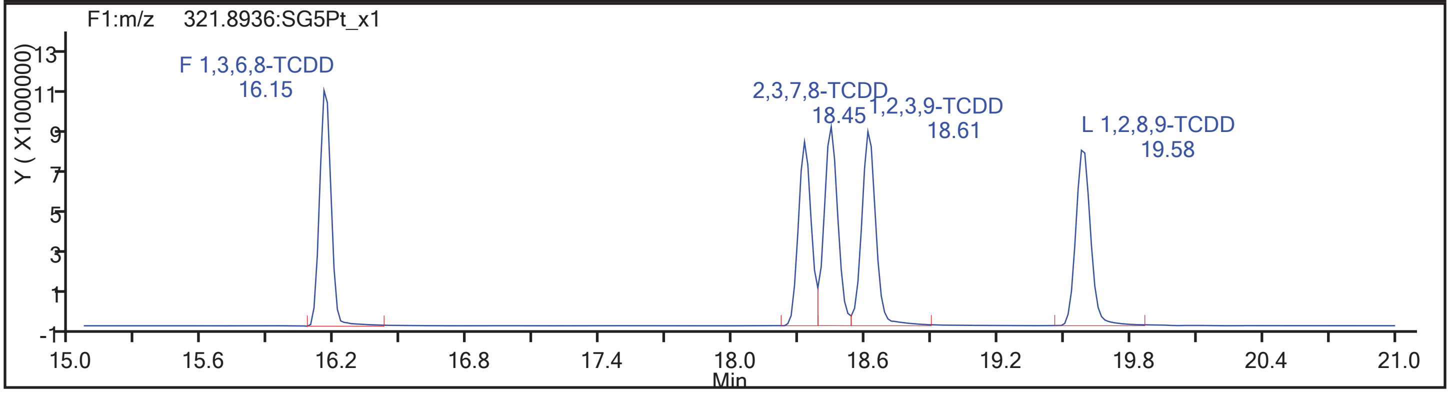
Report Date: 20-Nov-2017 11:47:46
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

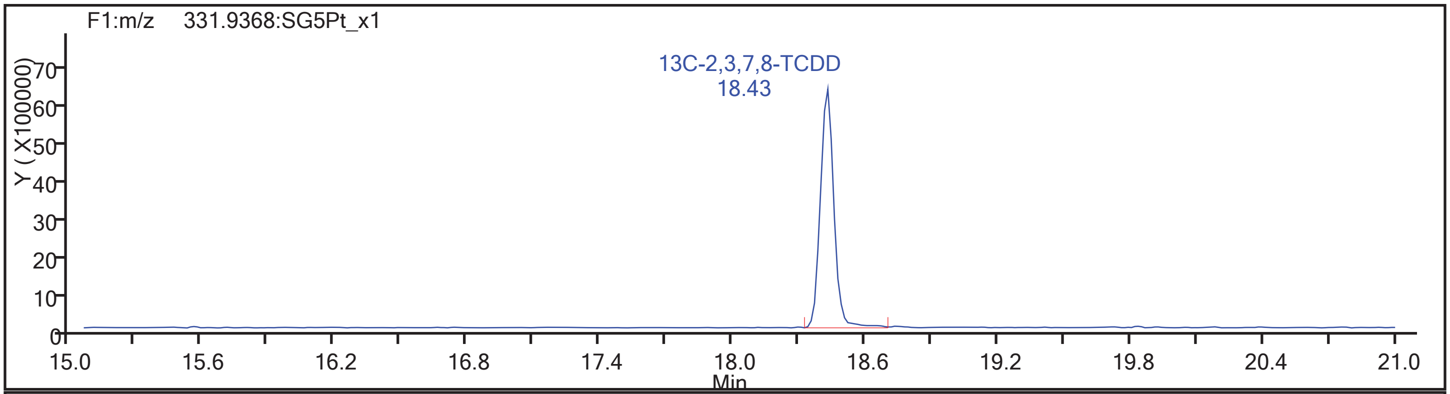
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Injection Date: 18-Nov-2017 23:50:29
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195574
Sample Line#: 67
Column Type:
Column Dia:

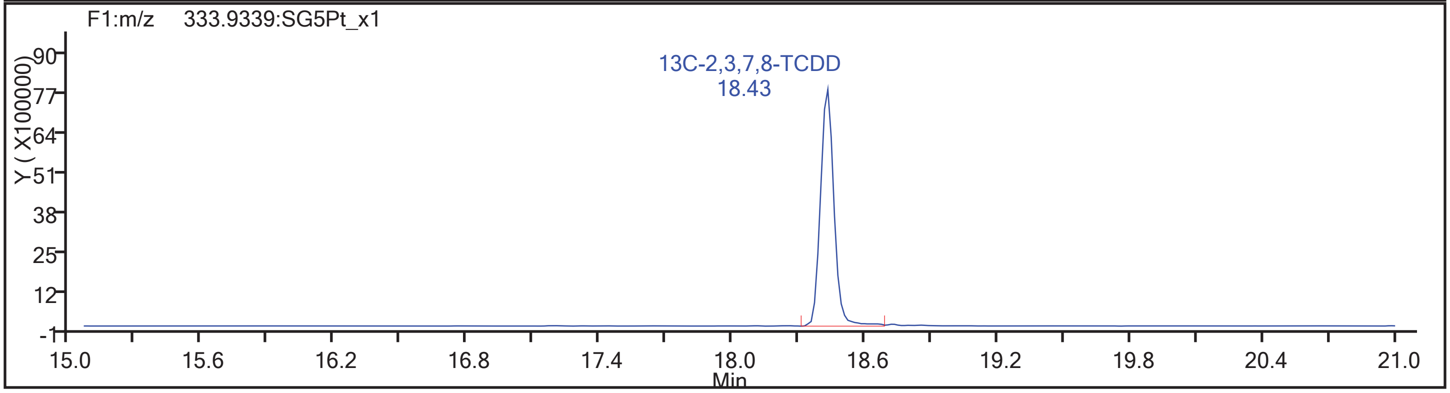
TCDD





TCDD Standards



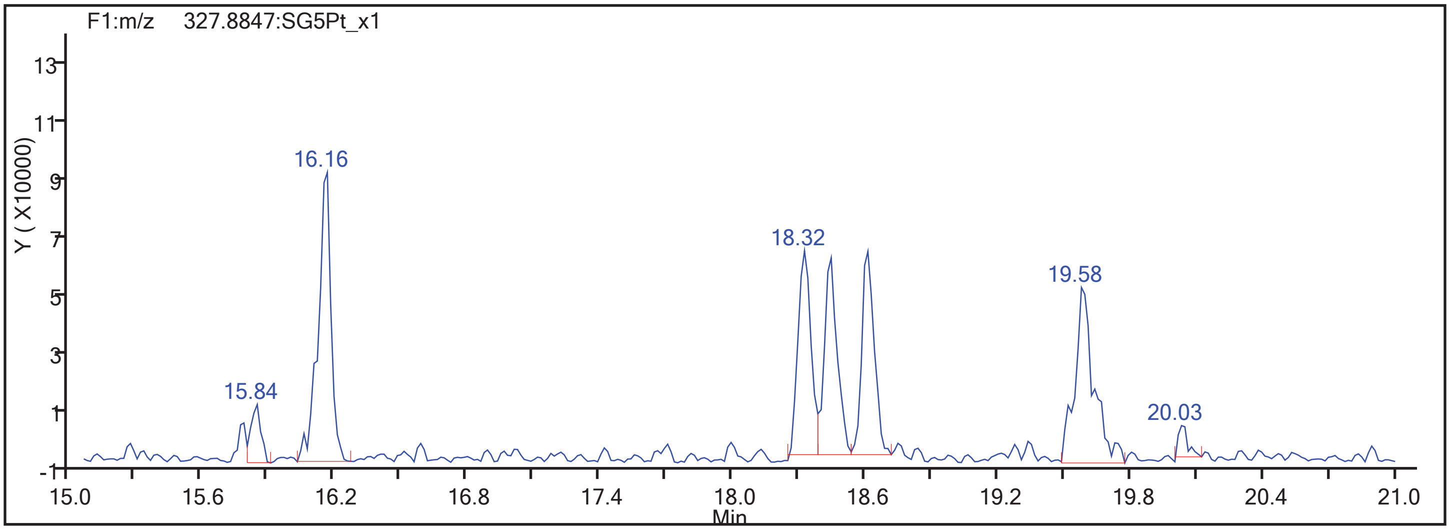


Report Date: 20-Nov-2017 11:47:46
Chrom Revision: 2.2 16-Aug-2017 16:24:46

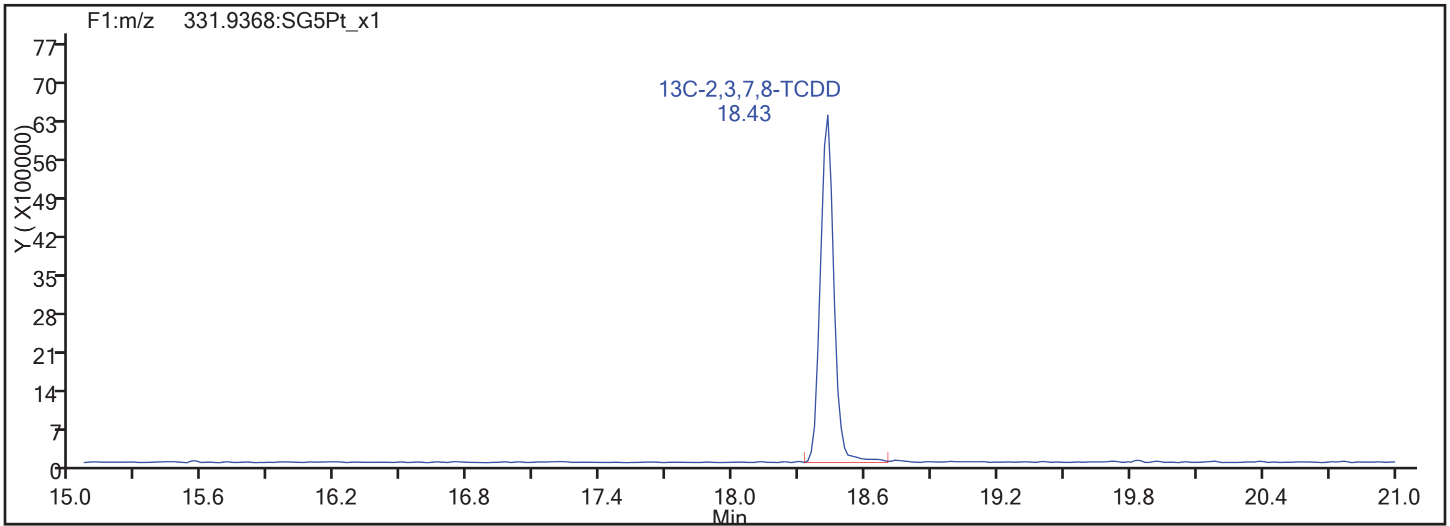
TestAmerica Sacramento

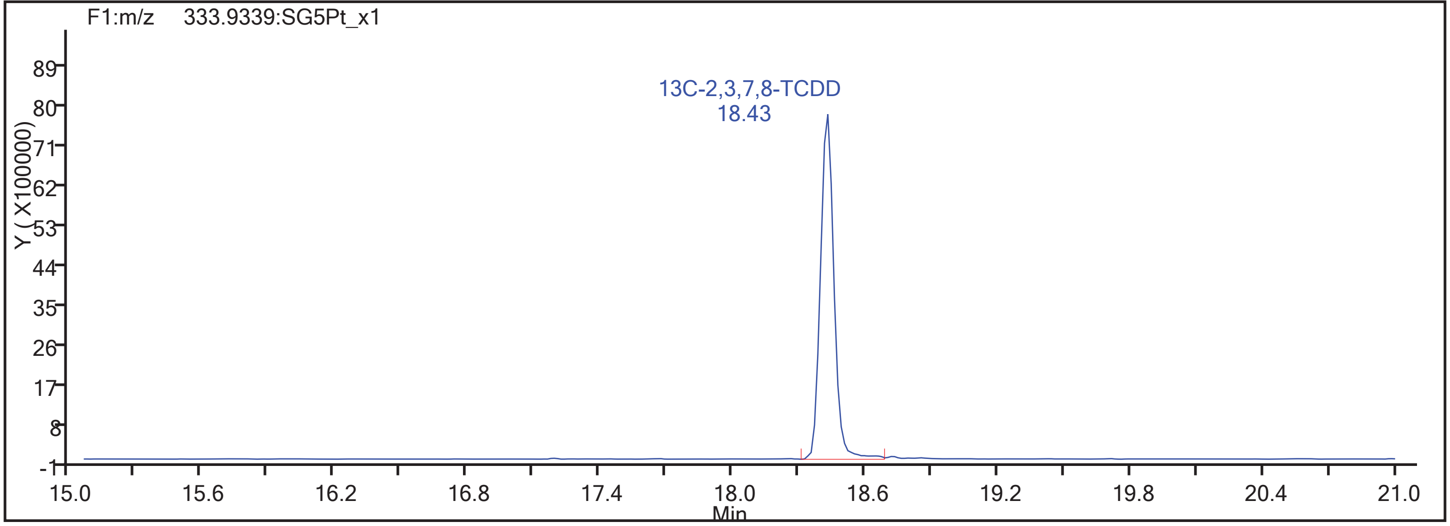
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Injection Date: 18-Nov-2017 23:50:29
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195574
Sample Line#: 67
Column Type:
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards



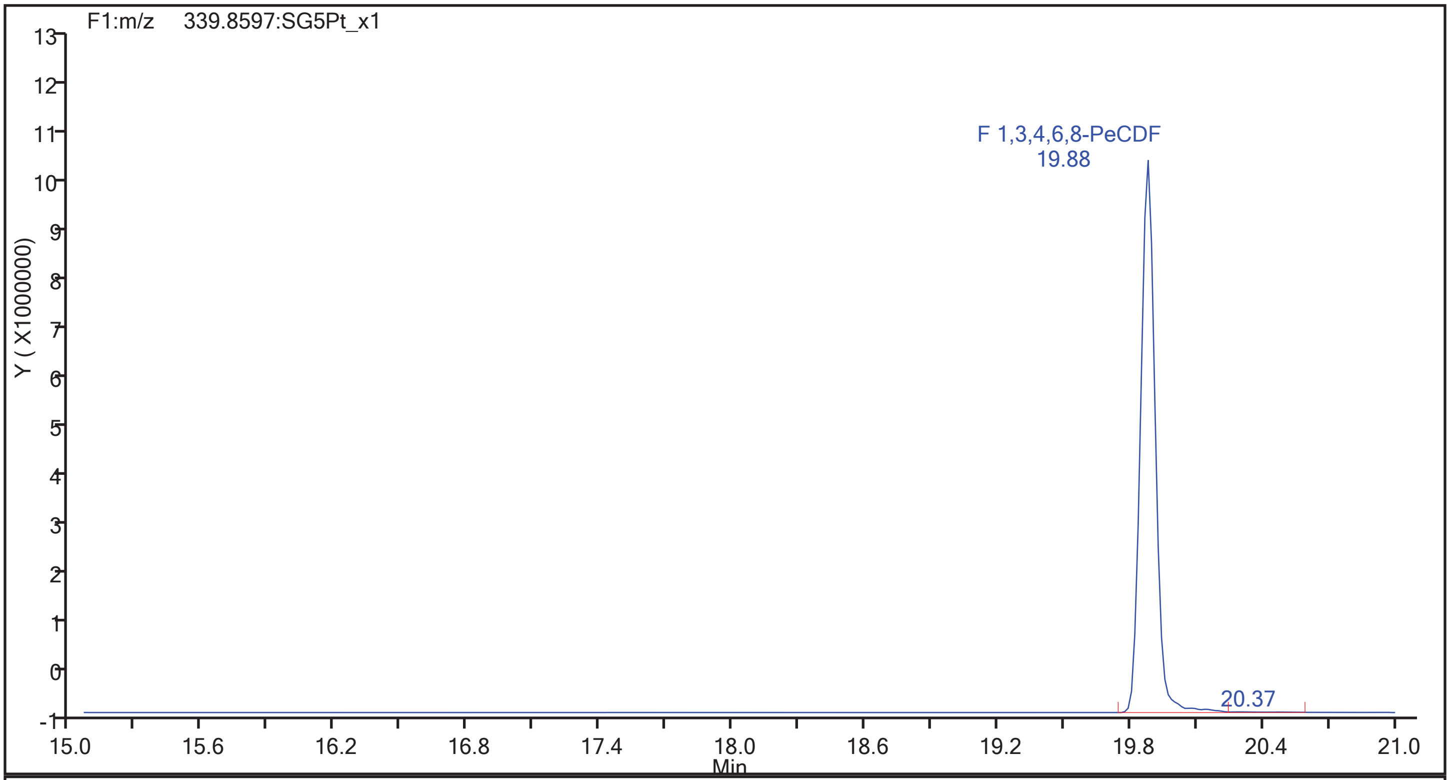


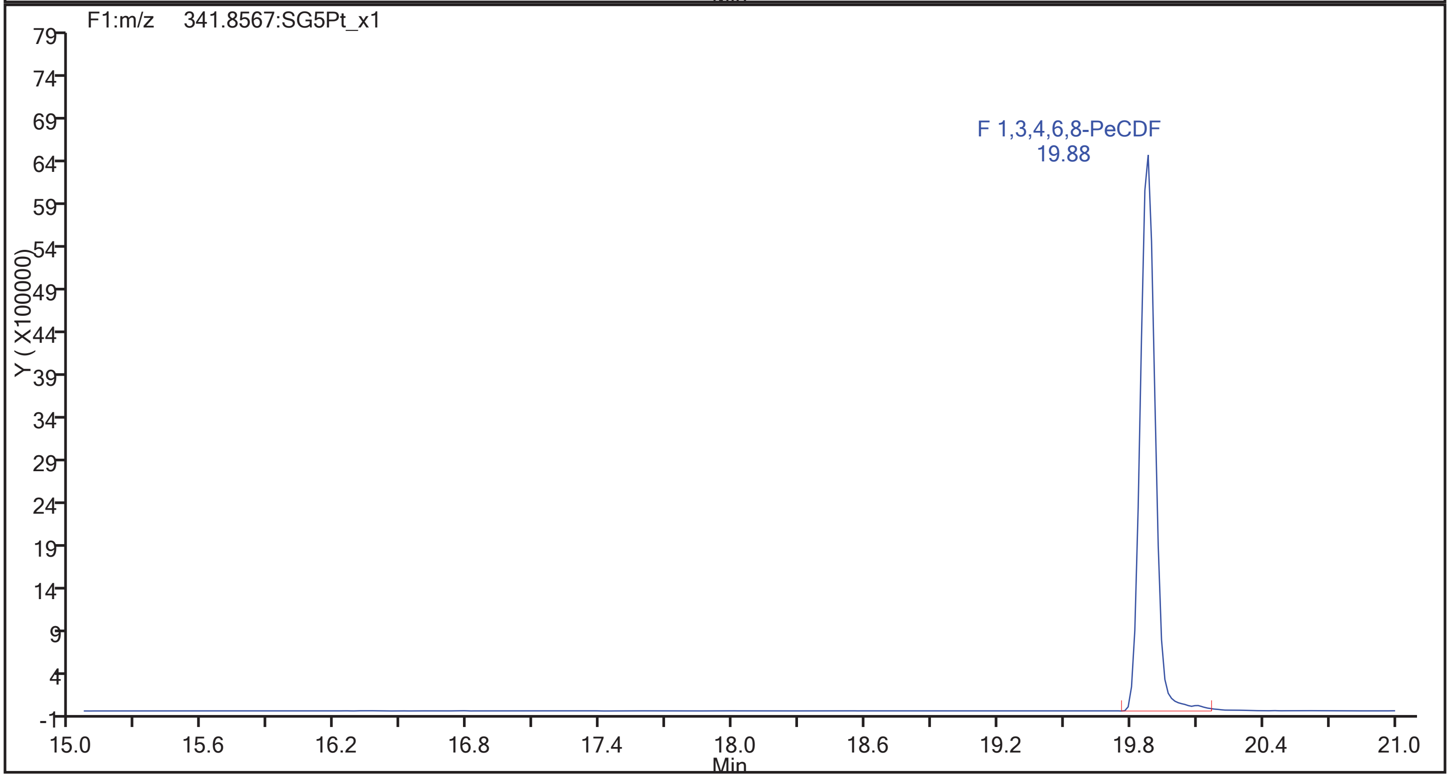
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d

Injection Date:	18-Nov-2017 23:50:29	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195574	Sample Line#:	67
Column Type:		Column Dia:	

F1 PeCDFs





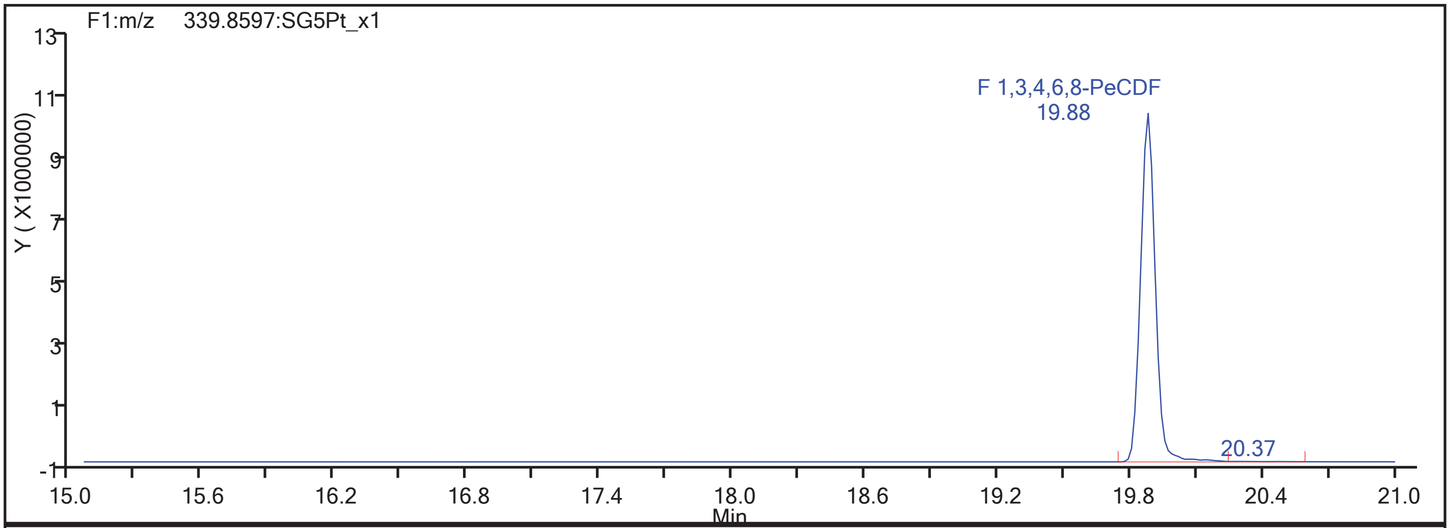
Report Date: 20-Nov-2017 11:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

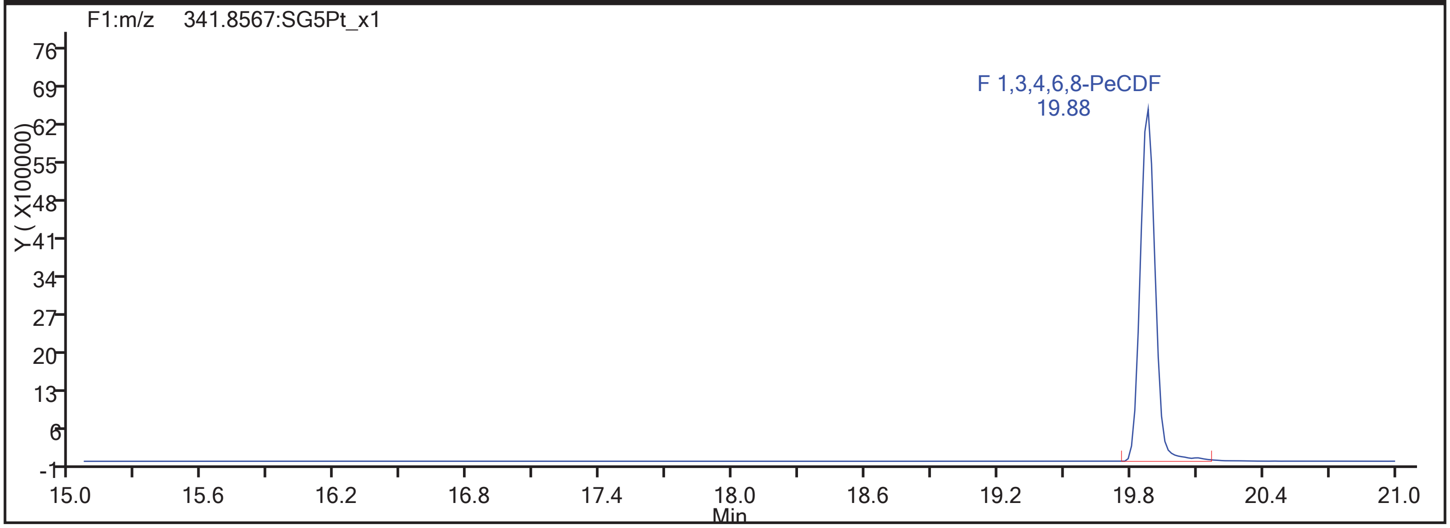
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d

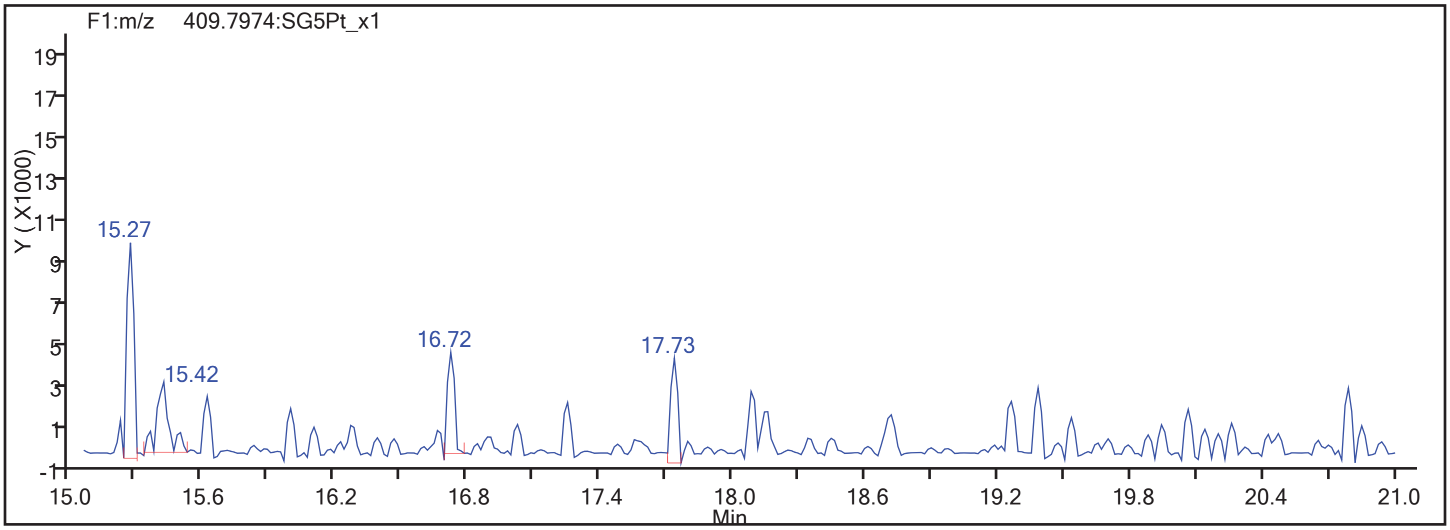
Injection Date:	18-Nov-2017 23:50:29	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195574	Sample Line#:	67
Column Type:		Column Dia:	

F1 PeCDFs





F1 PeCDFs Interference Mass

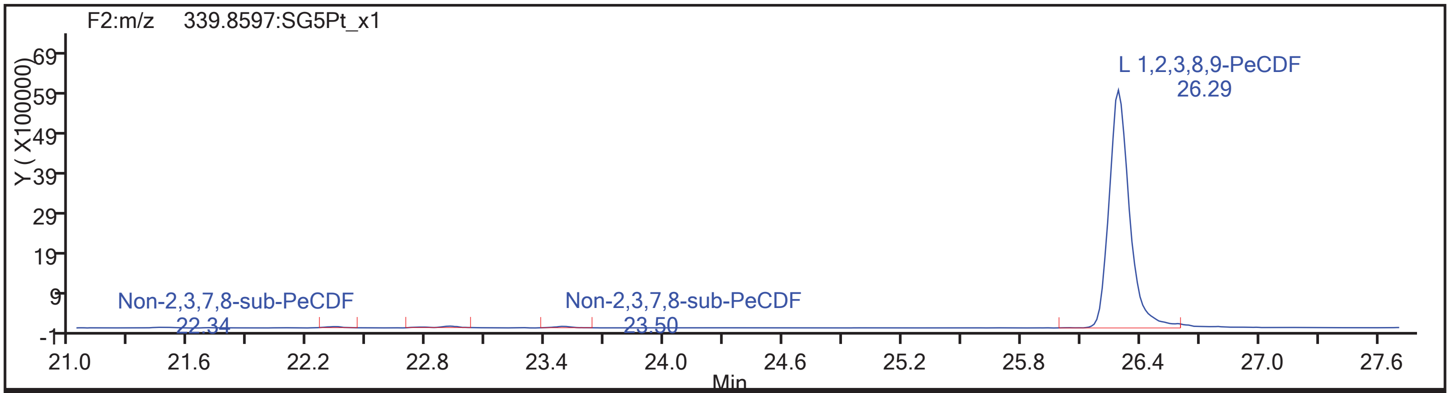


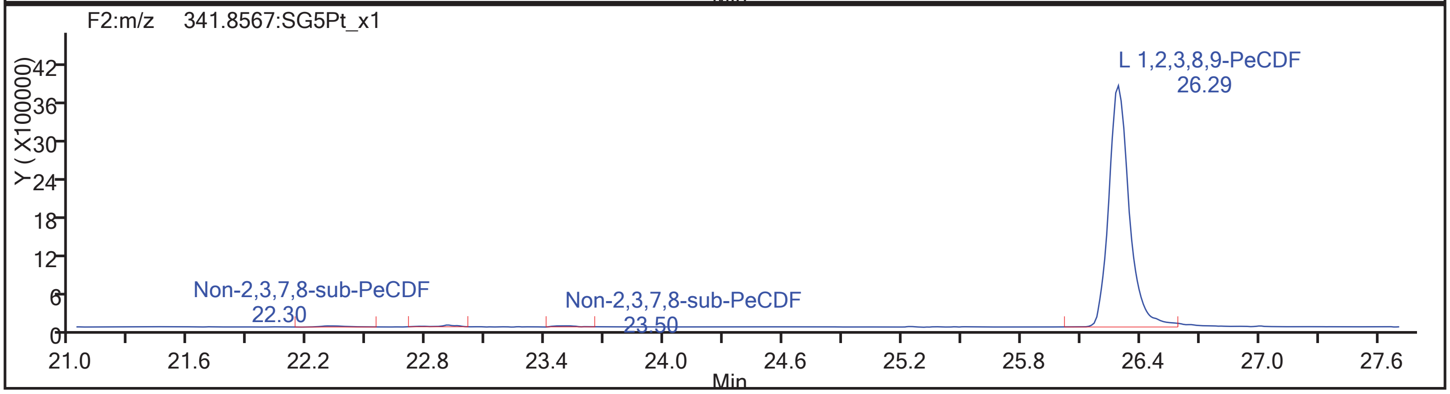
Report Date: 20-Nov-2017 11:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

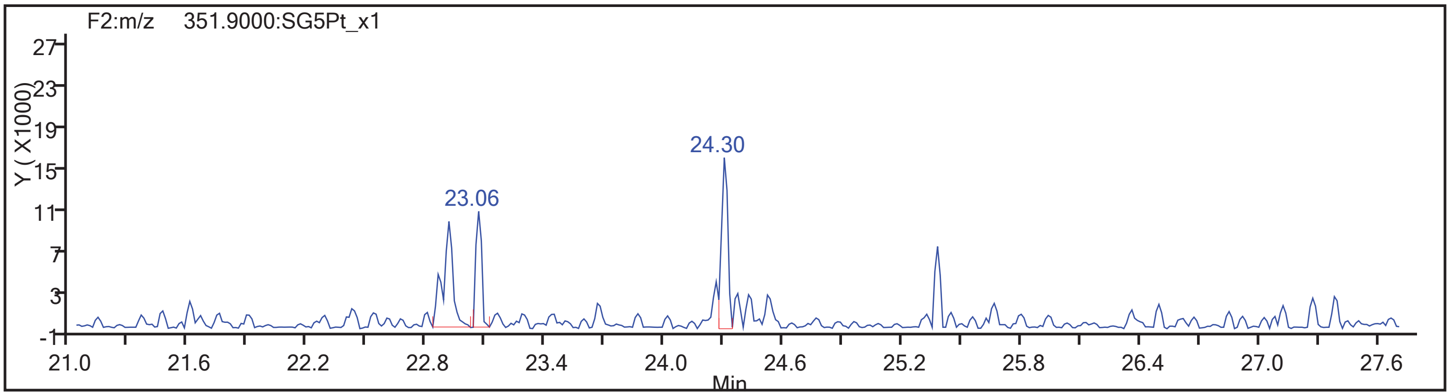
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d		
Injection Date:	18-Nov-2017 23:50:29	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195574	Sample Line#:	67
Column Type:		Column Dia:	

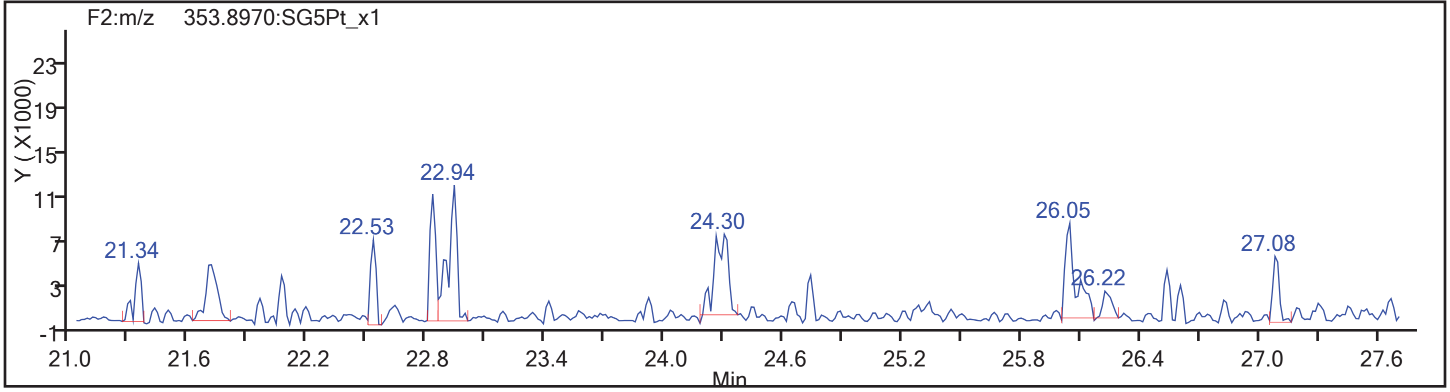
PeCDF





PeCDF Standards



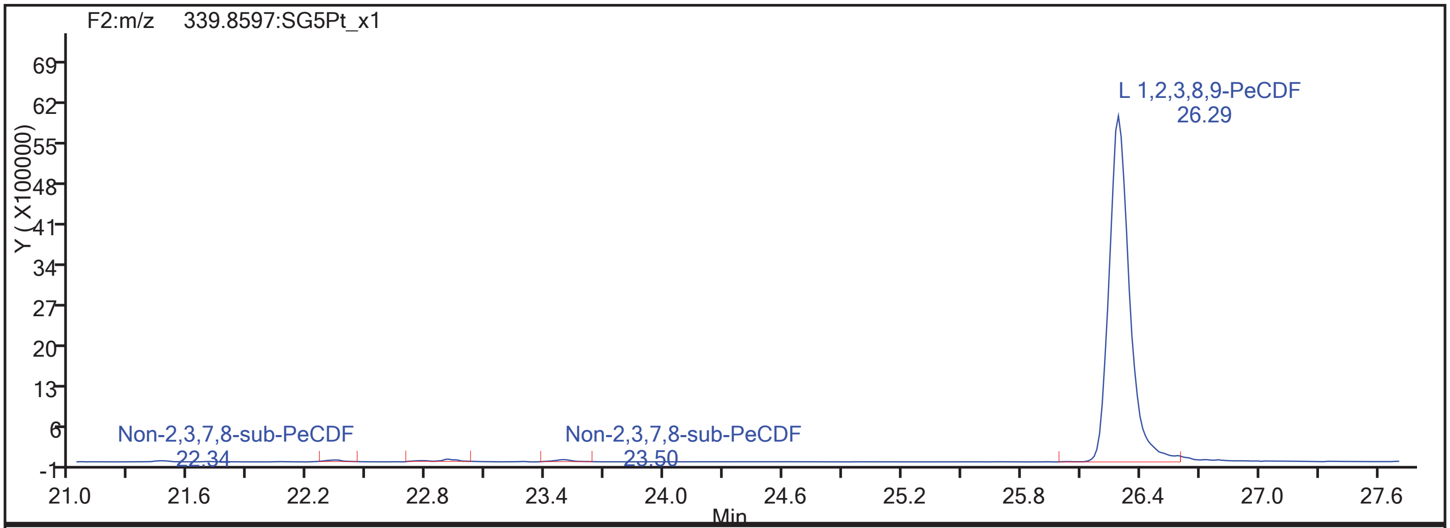


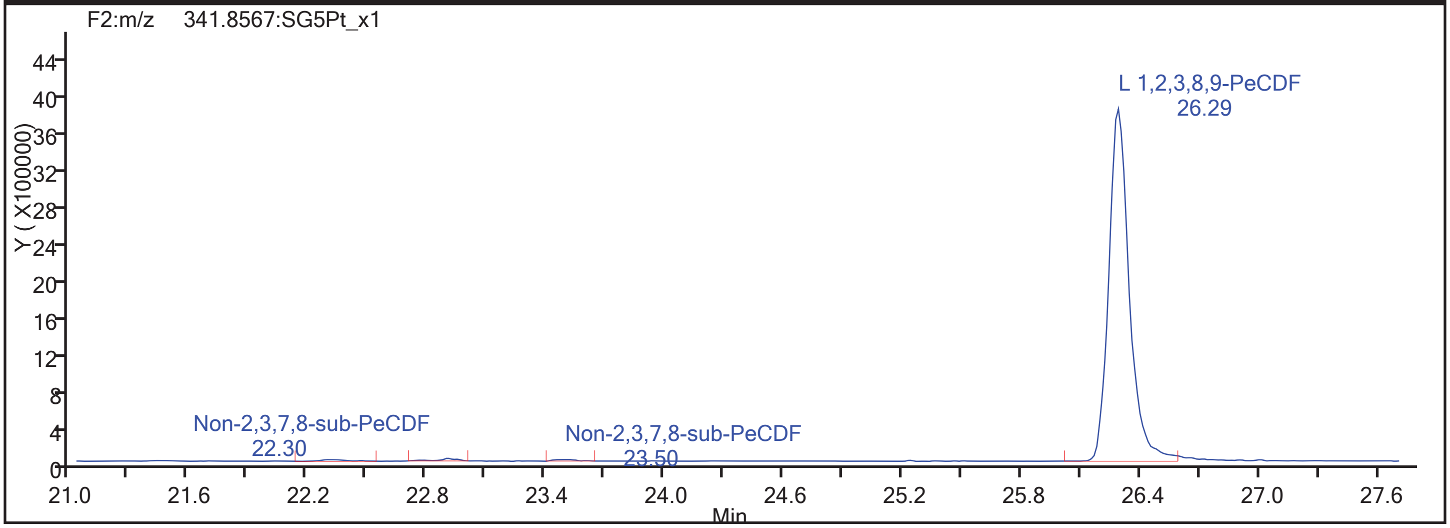
Report Date: 20-Nov-2017 11:47:46   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

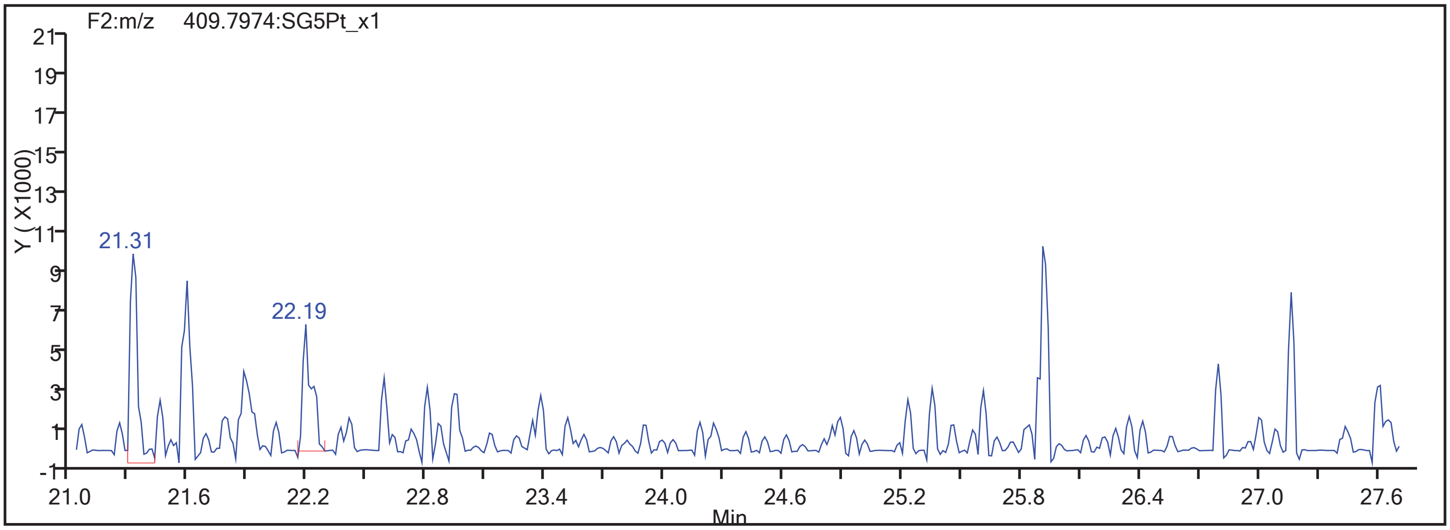
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d		
Injection Date:	18-Nov-2017 23:50:29	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195574	Sample Line#:	67
Column Type:		Column Dia:	

PeCDF





PeCDF Interference Mass

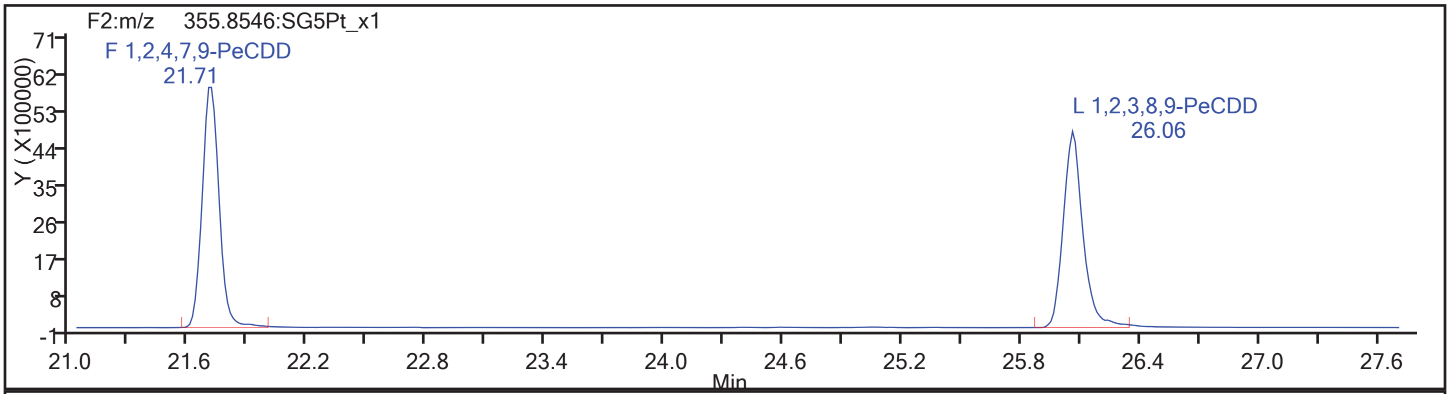


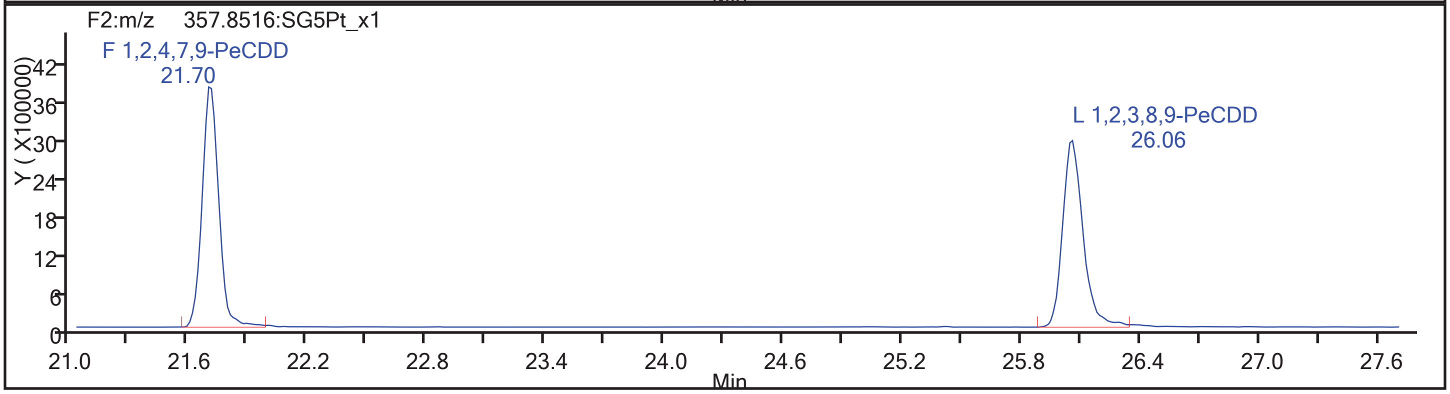
Report Date: 20-Nov-2017 11:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

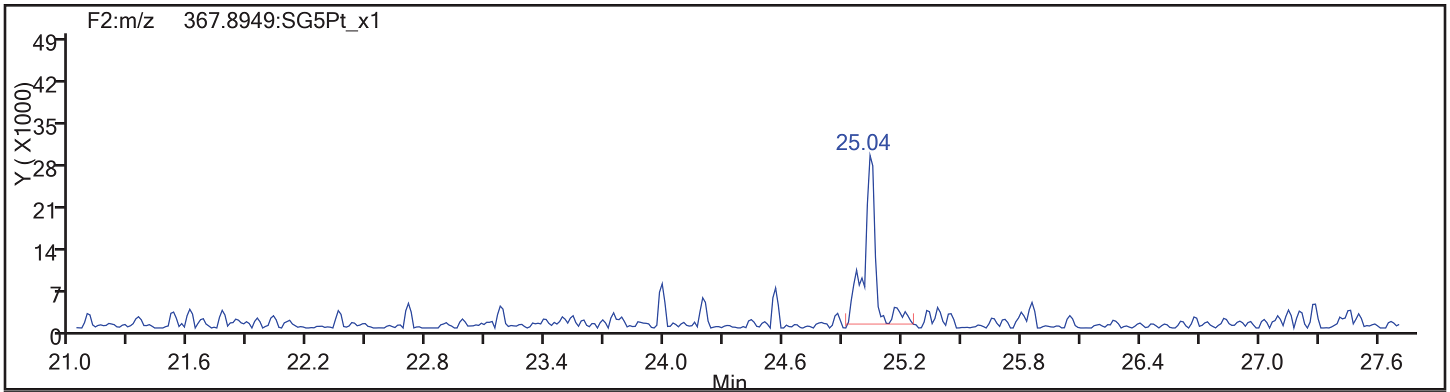
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Injection Date: 18-Nov-2017 23:50:29
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195574
Sample Line#: 67
Column Type:
Column Dia:

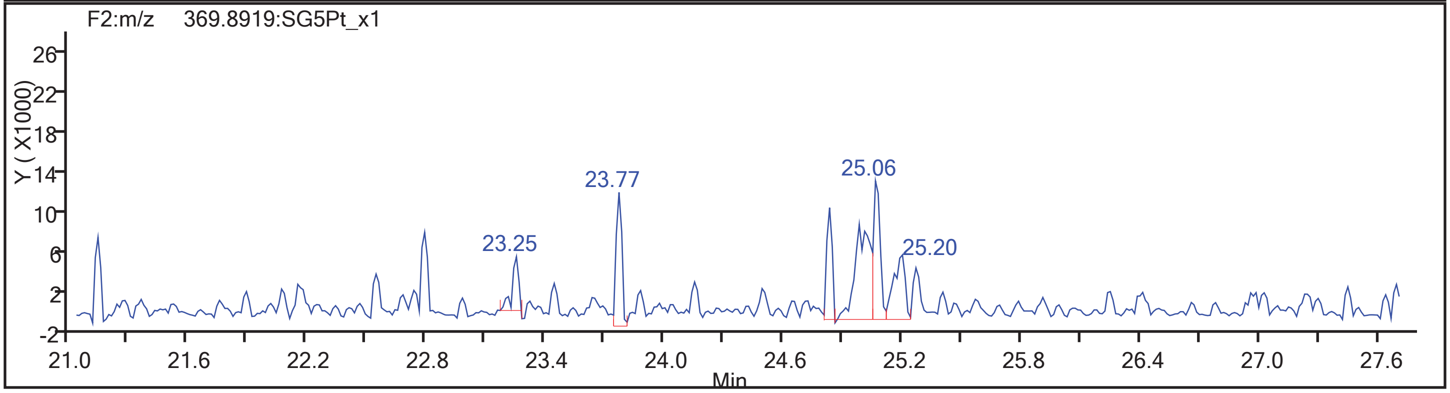
PeCDD





PeCDD Standards



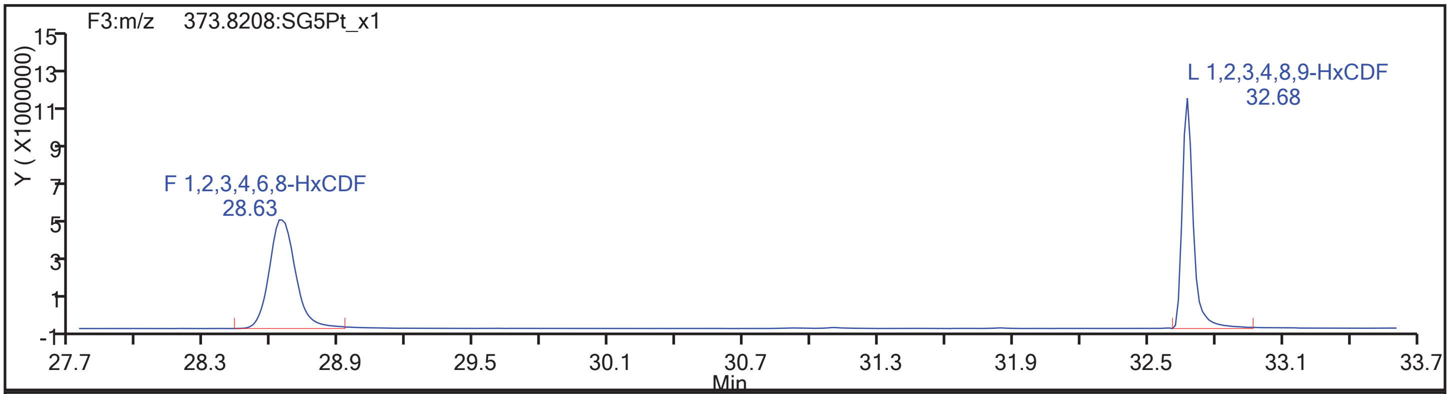


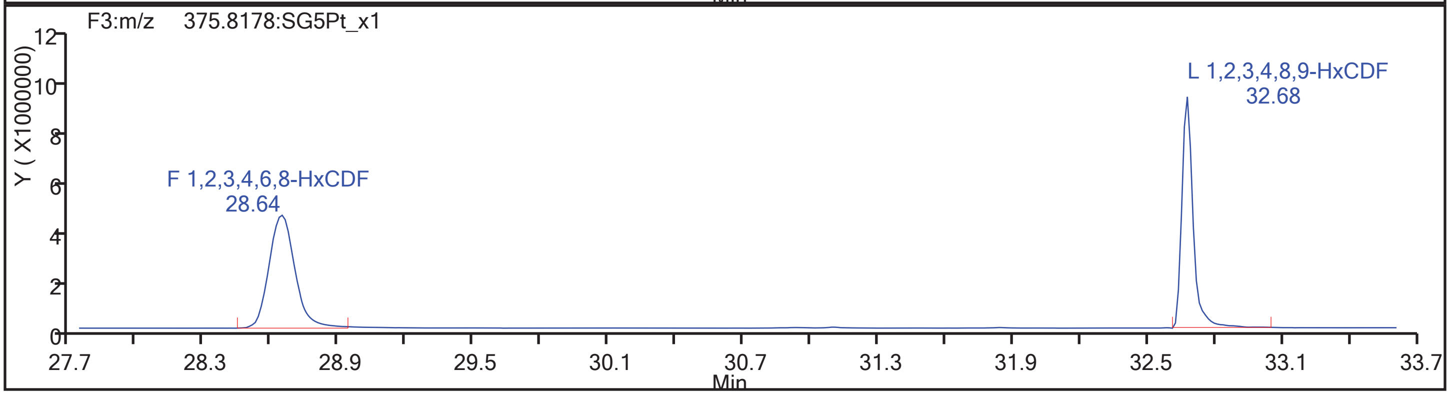
Report Date: 20-Nov-2017 11:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

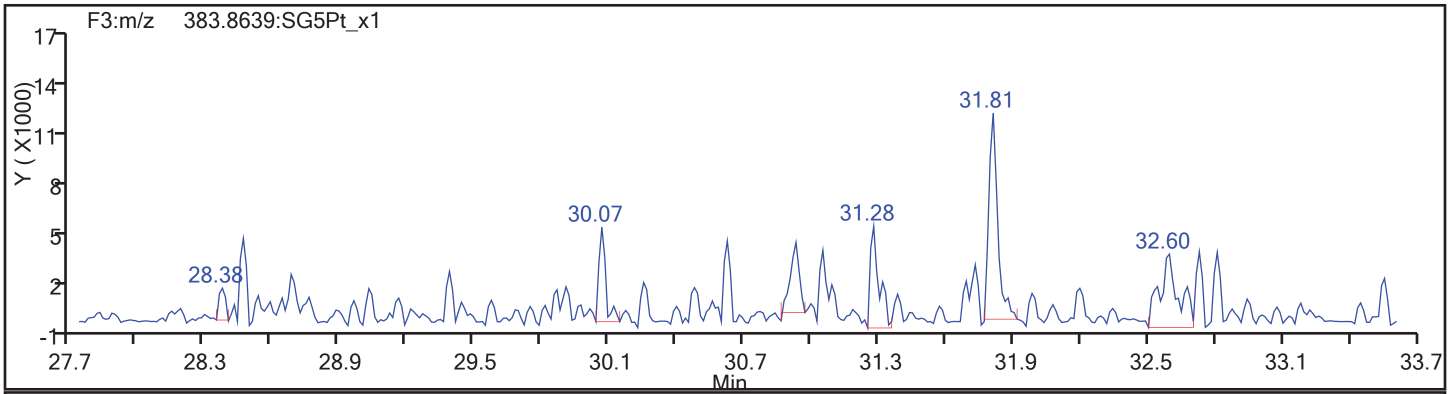
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Injection Date: 18-Nov-2017 23:50:29
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195574
Sample Line#: 67
Column Type:
Column Dia:

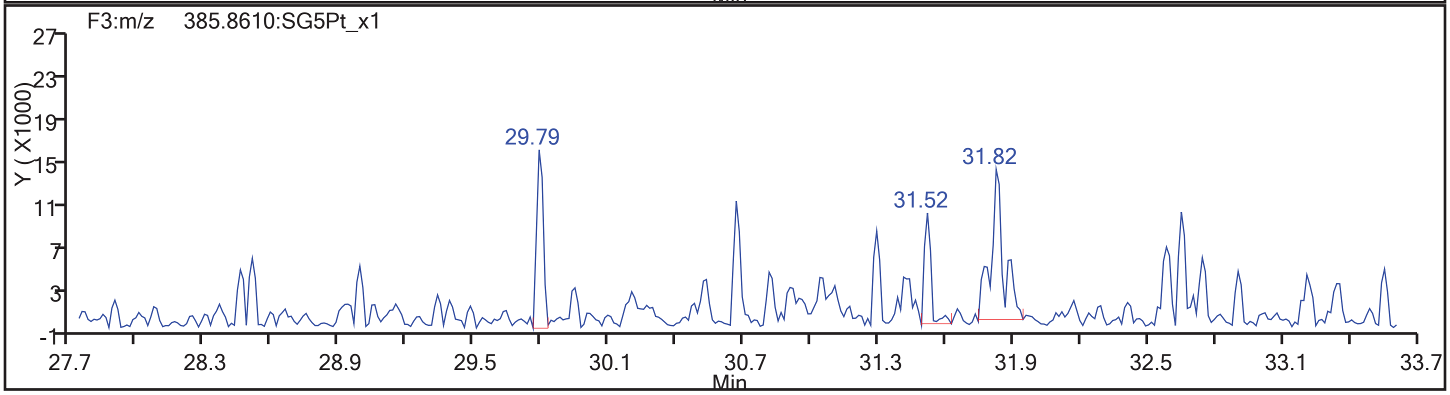
HxCDF





HxCDF Standards



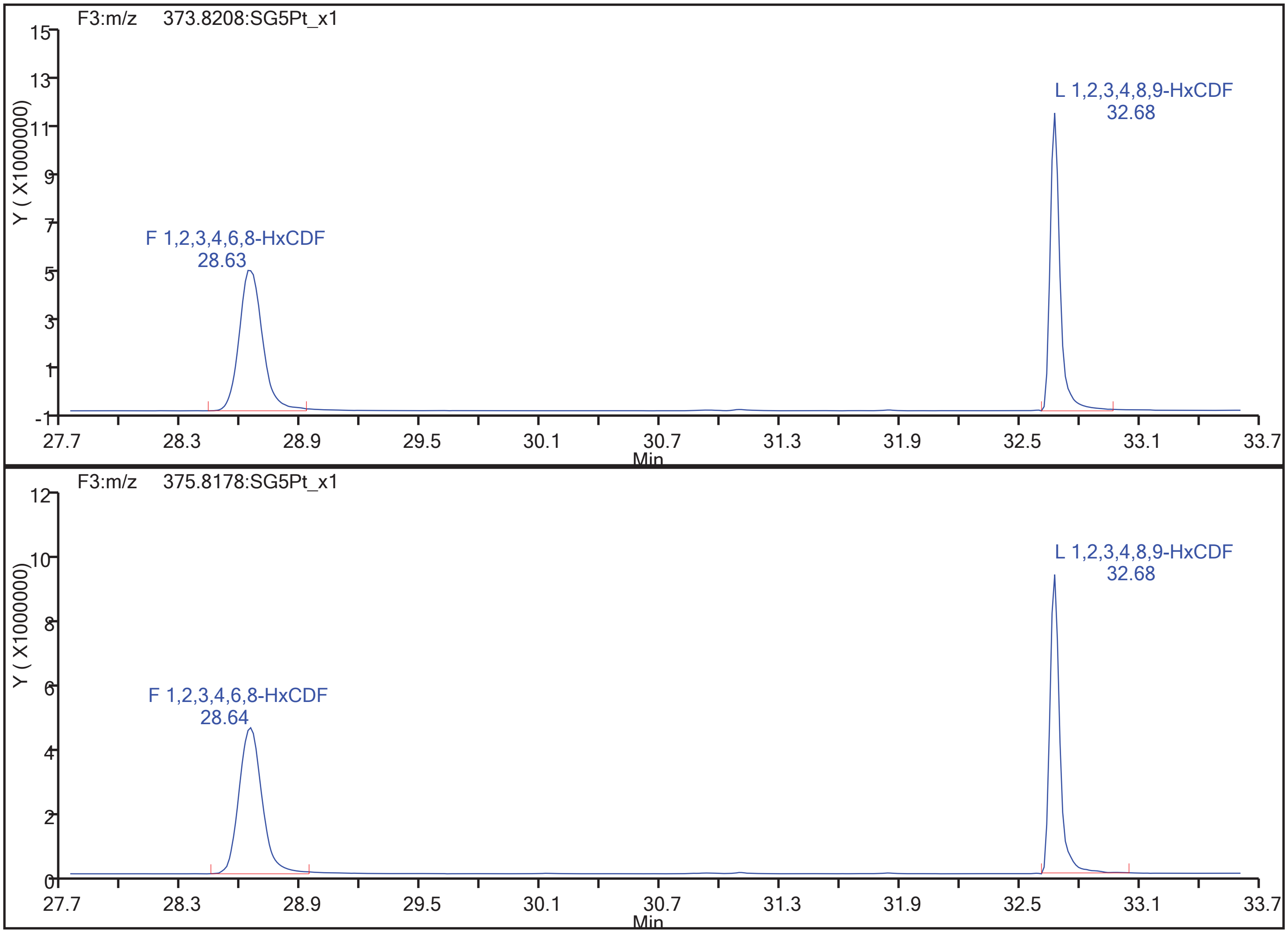


Report Date: 20-Nov-2017 11:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

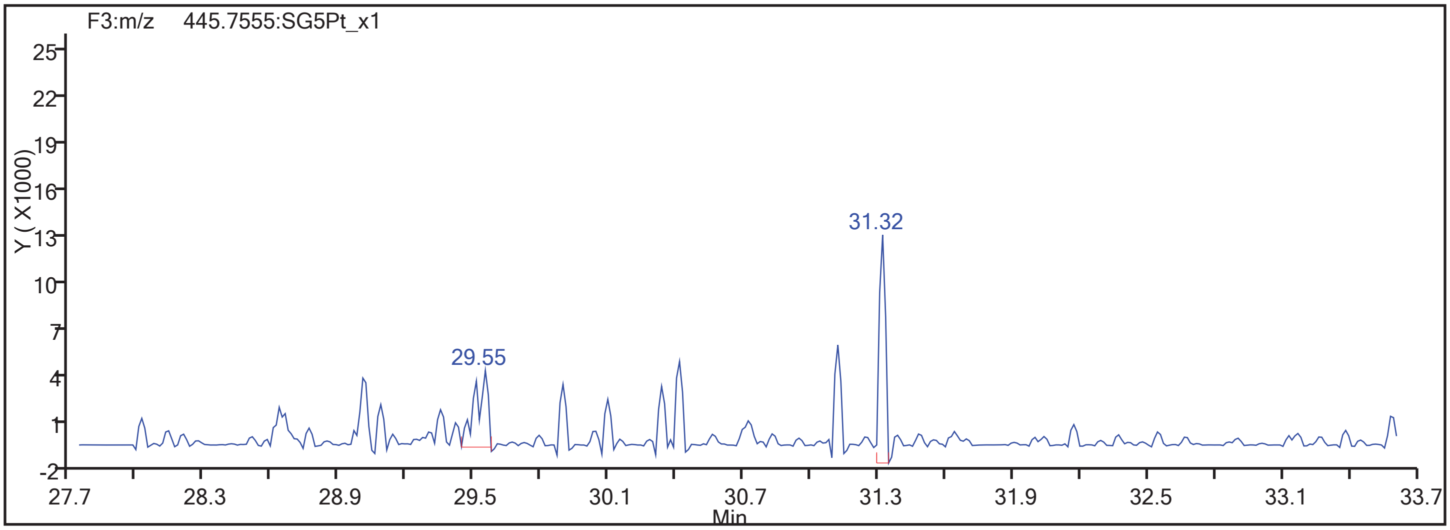
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d		
Injection Date:	18-Nov-2017 23:50:29	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195574	Sample Line#:	67
Column Type:		Column Dia:	

HxCDF



HxCDF Interference Mass

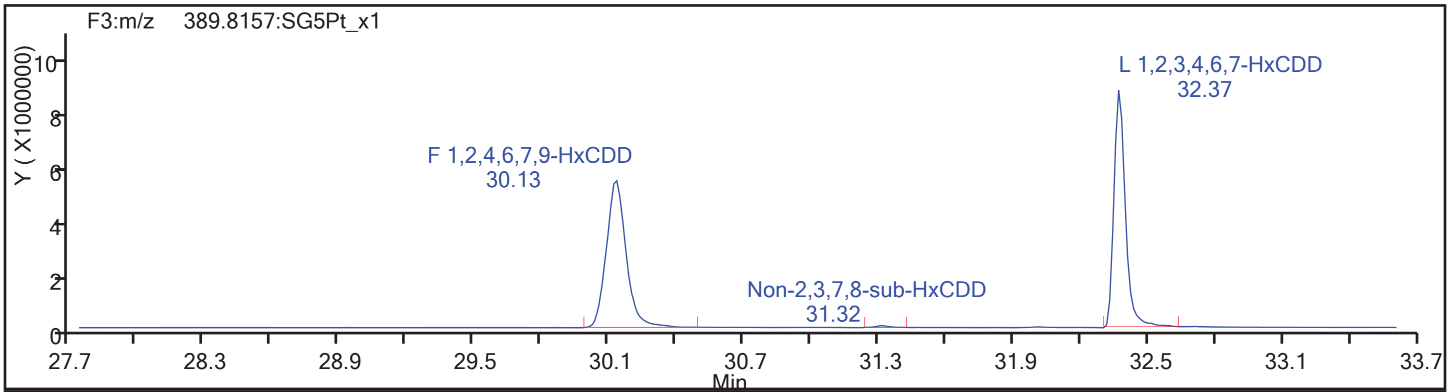


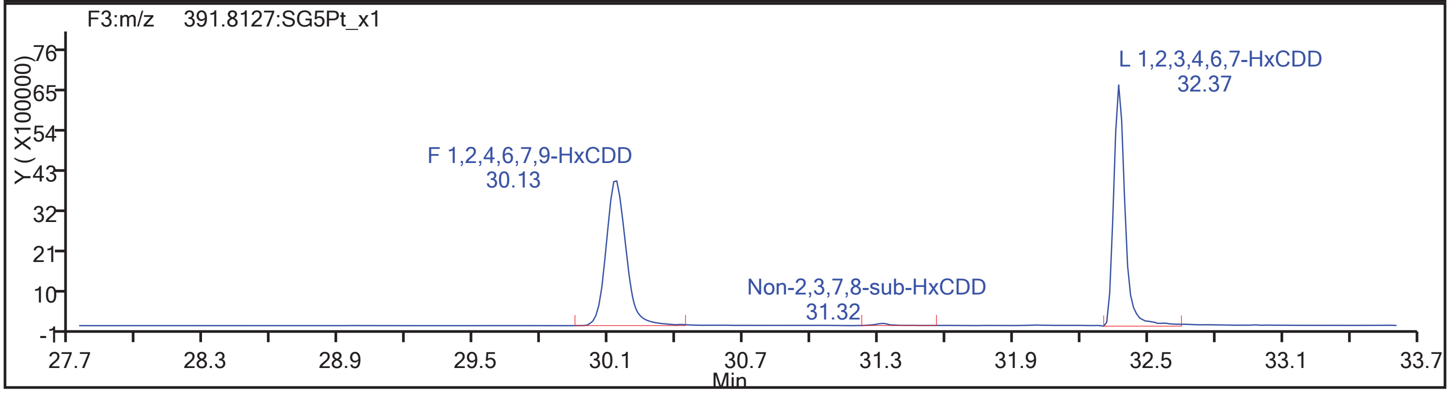
Report Date: 20-Nov-2017 11:47:46		Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

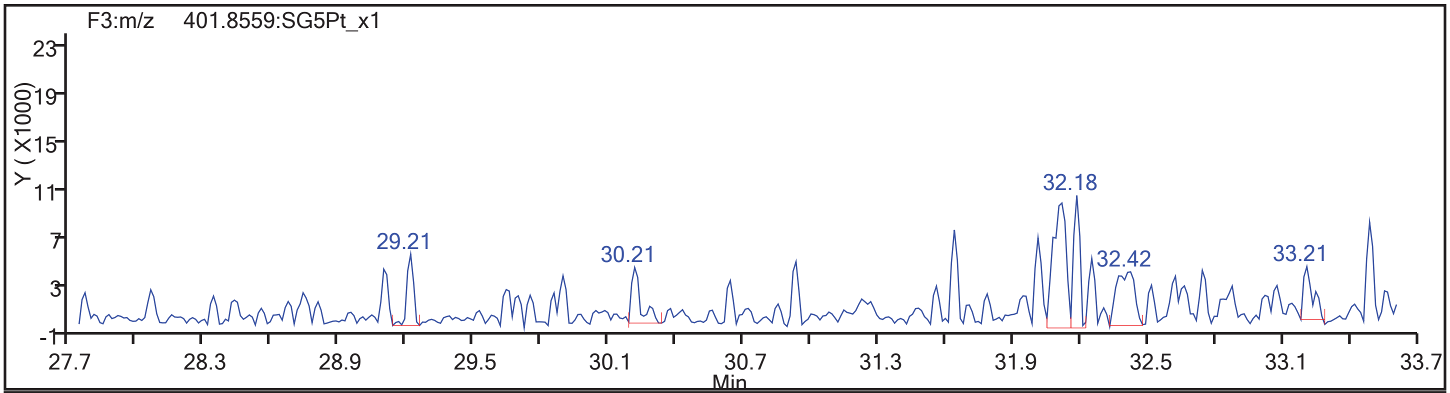
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Injection Date: 18-Nov-2017 23:50:29
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195574
Sample Line#: 67
Column Type:
Column Dia:

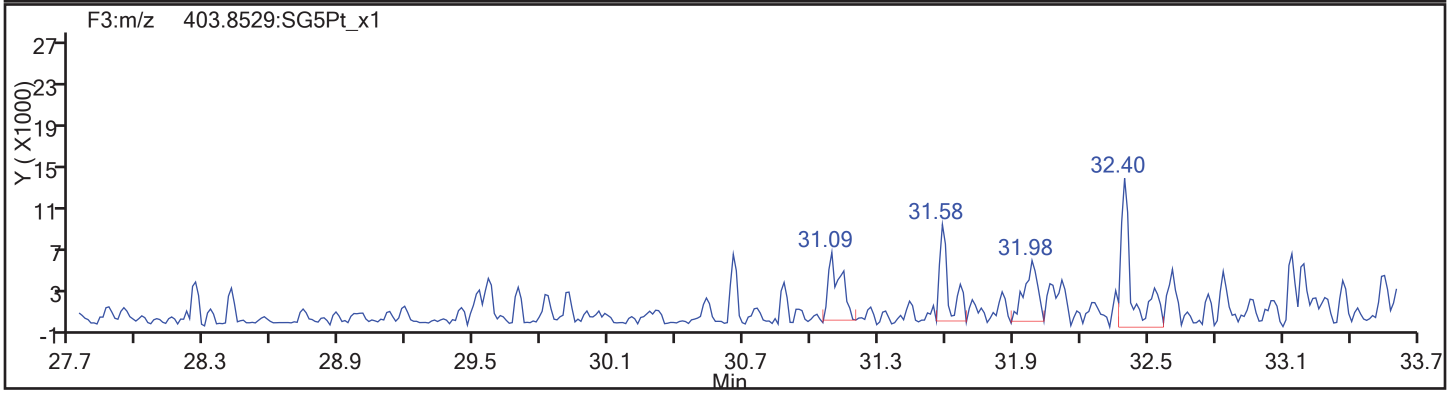
HxCDD





HxCDD Standards



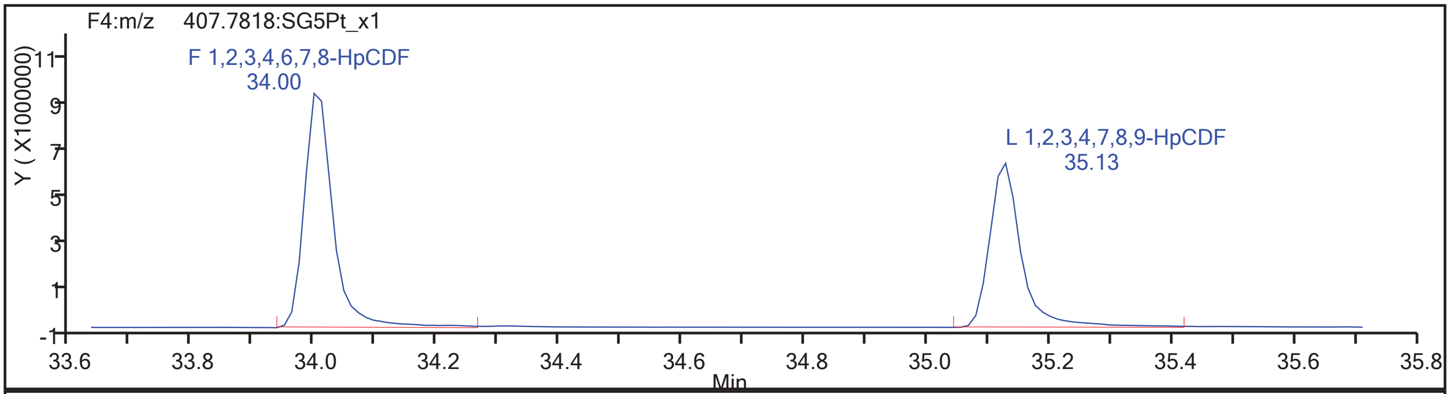


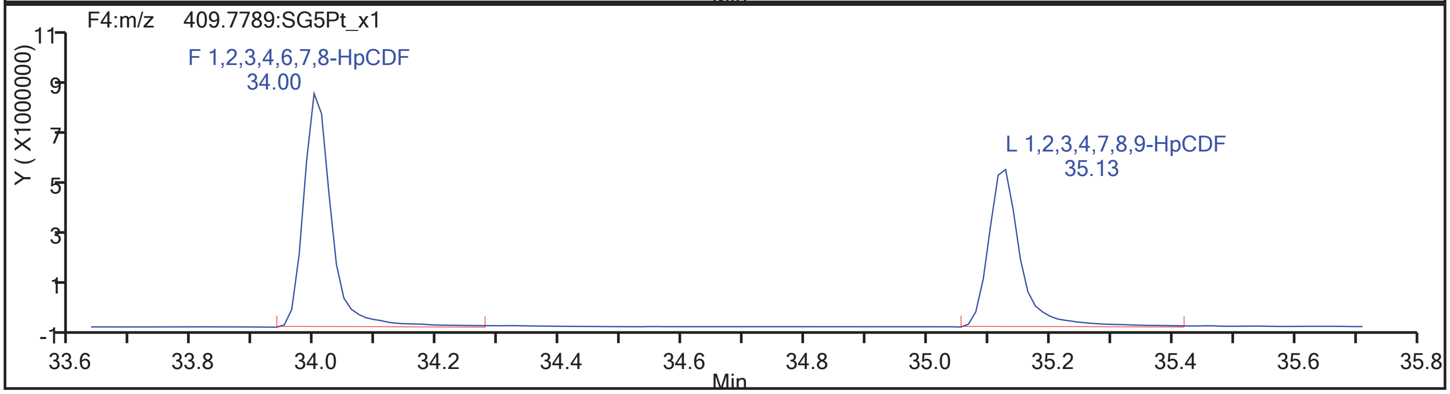
Report Date: 20-Nov-2017 11:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

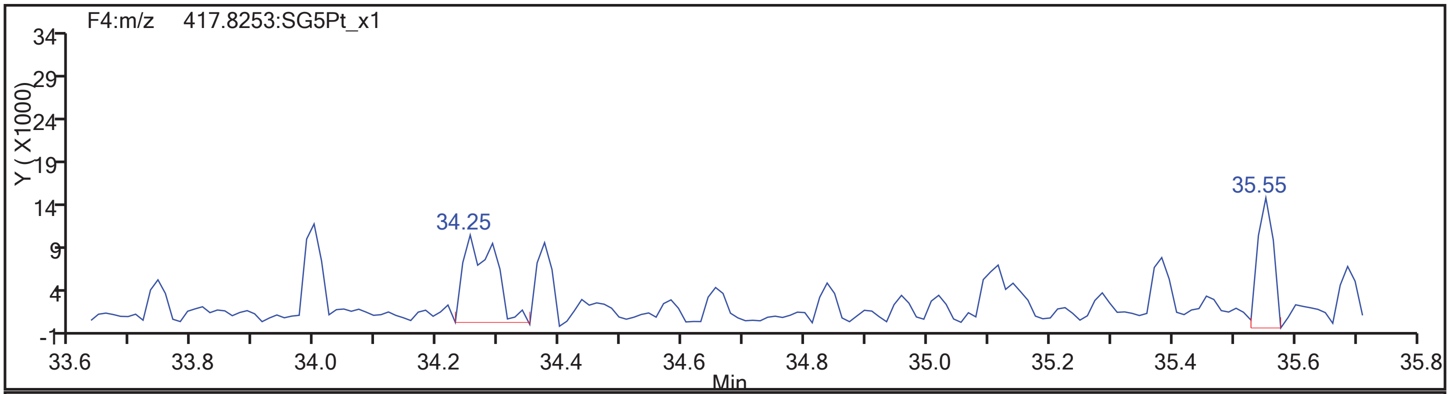
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d		
Injection Date:	18-Nov-2017 23:50:29	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195574	Sample Line#:	67
Column Type:		Column Dia:	

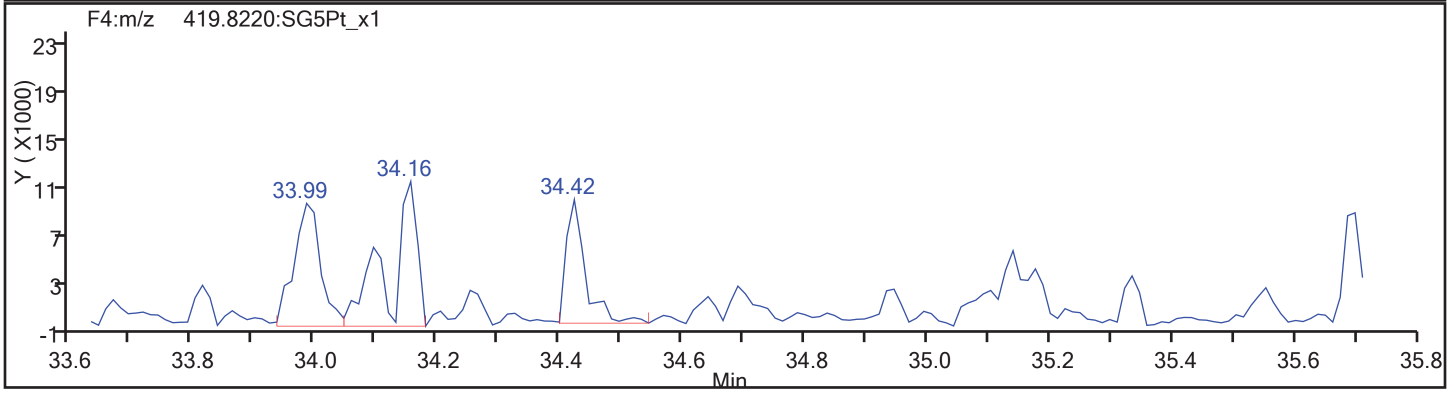
HpCDF





HpCDF Standards





Report Date: 20-Nov-2017 11:47:46 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d

Injection Date: 18-Nov-2017 23:50:29

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: WDM01

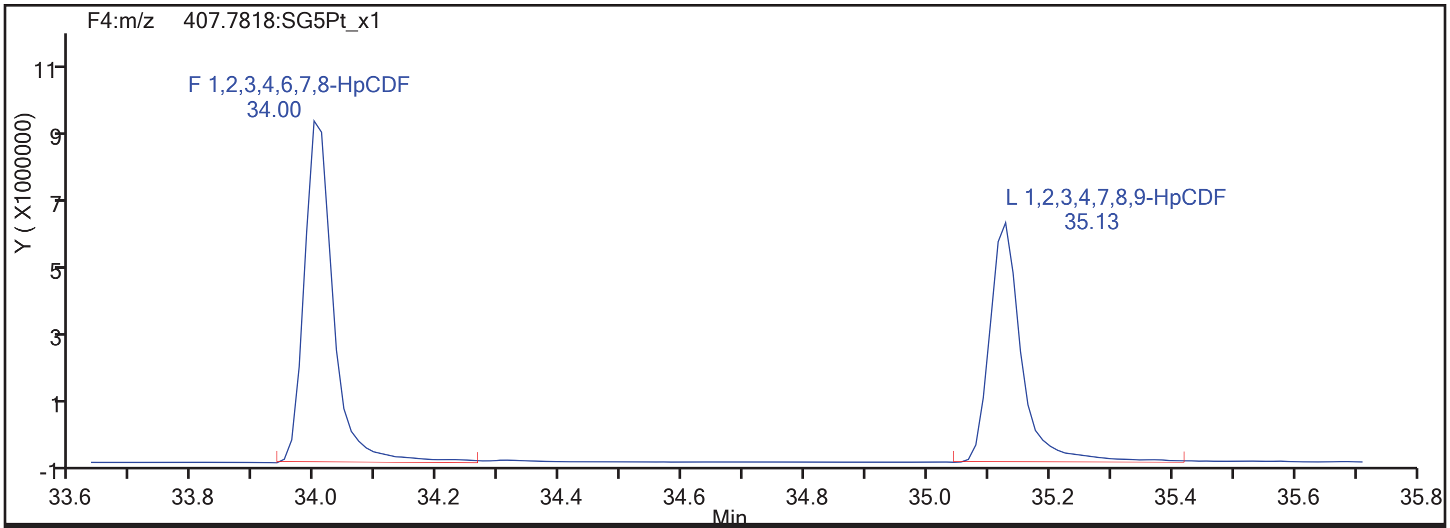
Worklist#: 195574

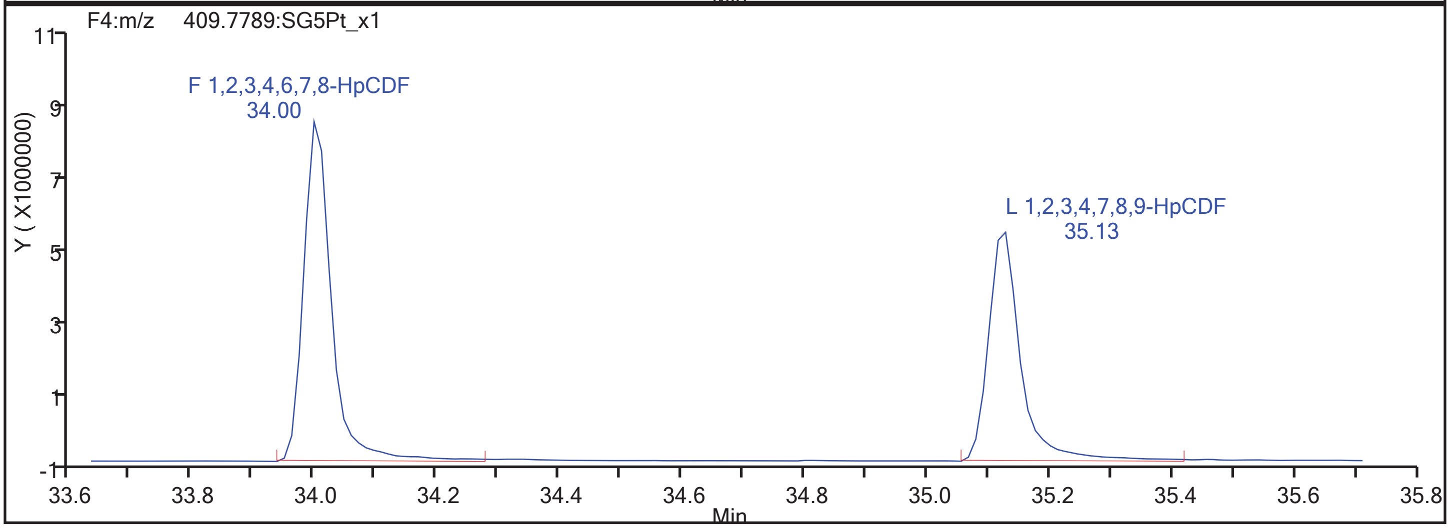
Sample Line#: 67

Column Type:

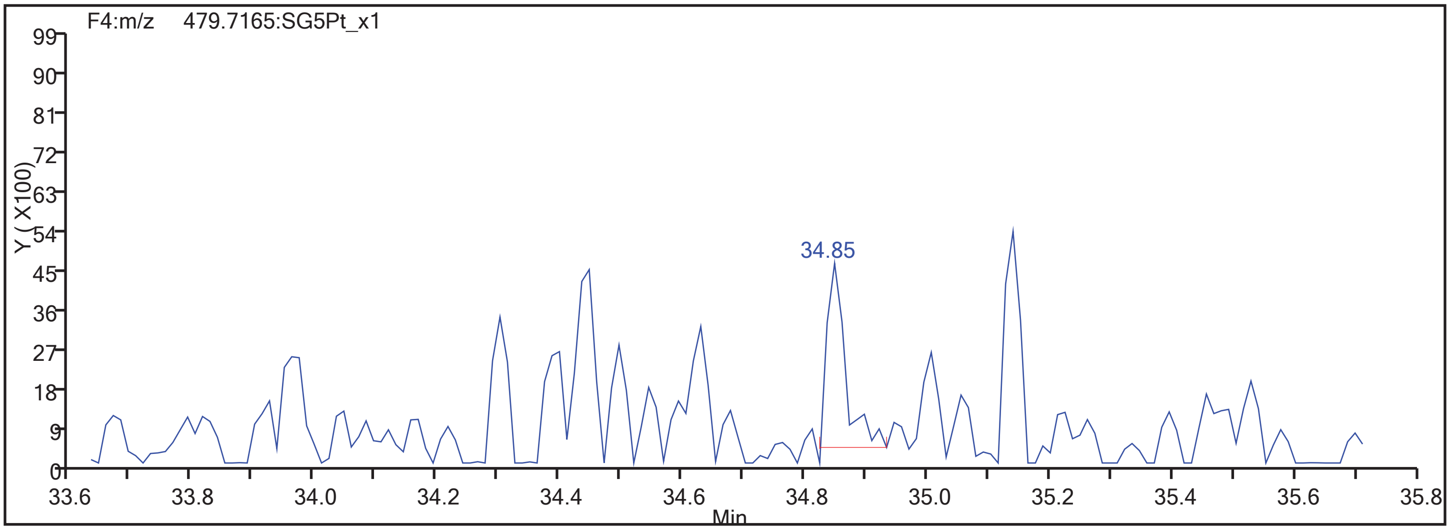
Column Dia:

HpCDF





HpCDF Interference Mass



Report Date: 20-Nov-2017 11:47:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d
Injection Date: 18-Nov-2017 23:50:29 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195574 Sample Line#: 67
Column Type: Column Dia:

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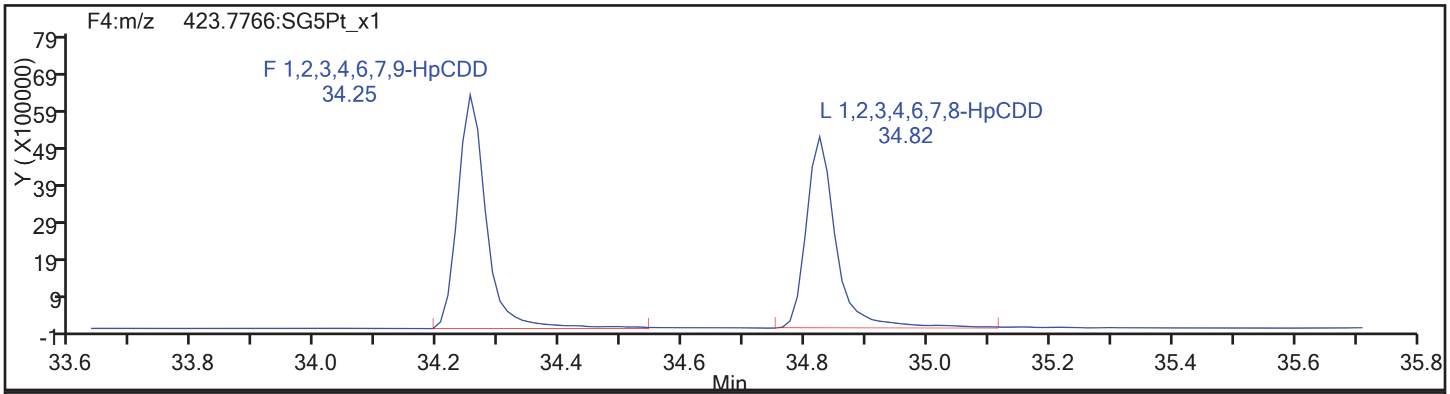

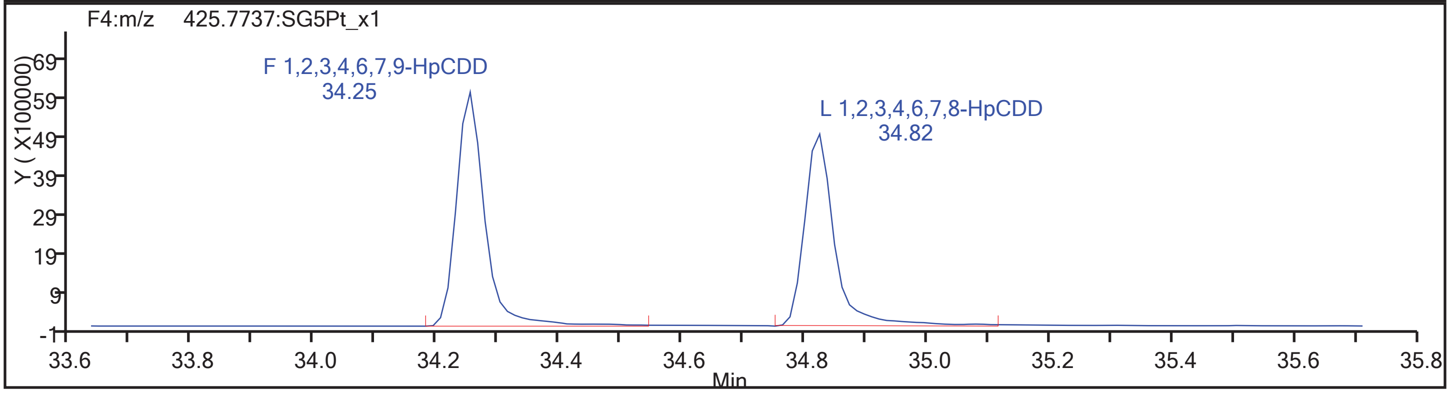

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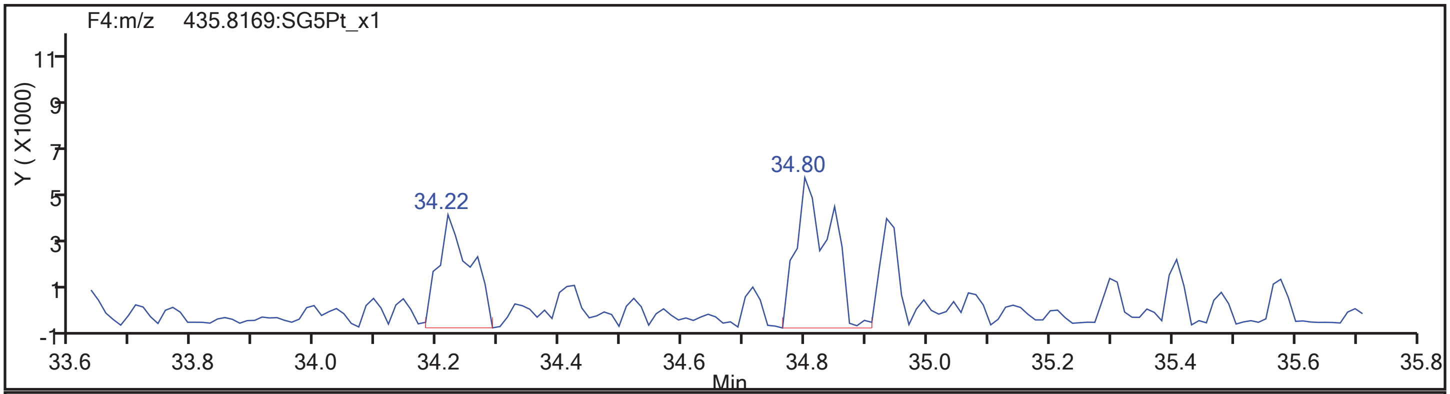
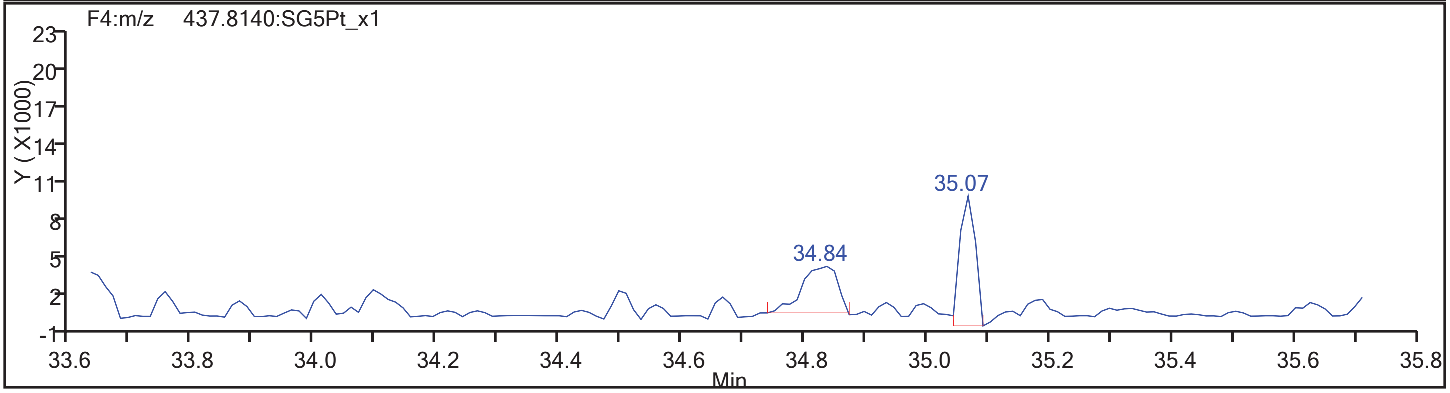
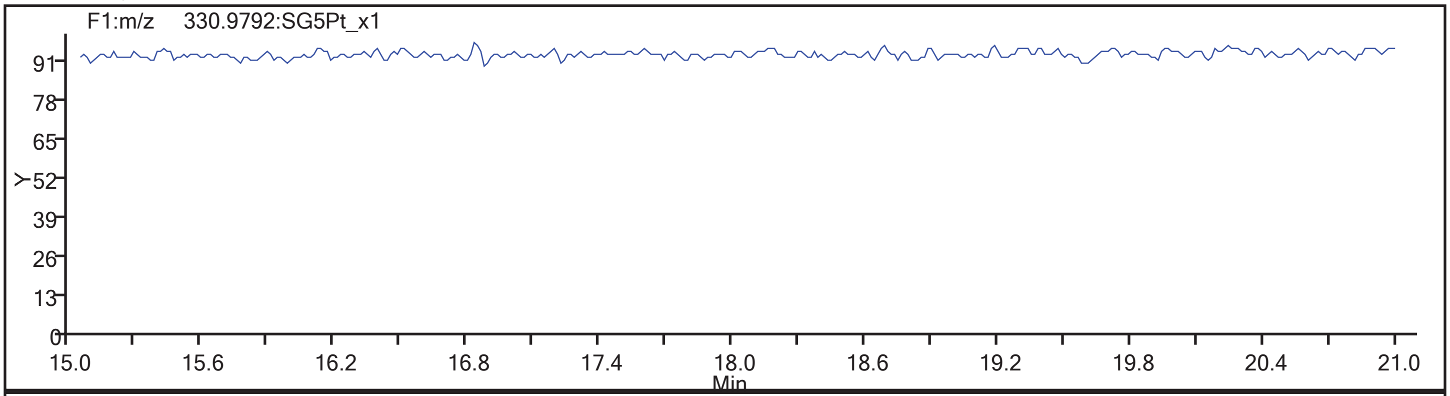


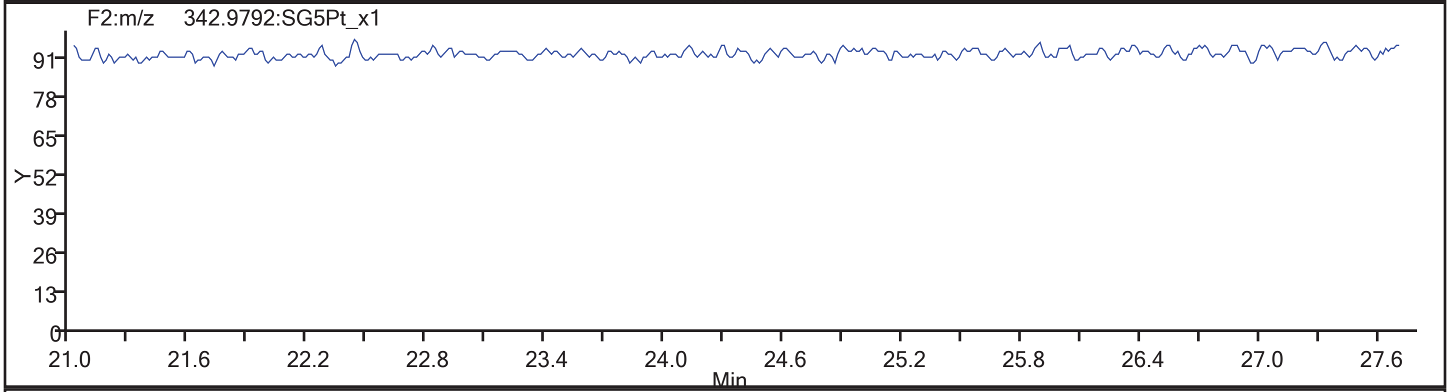


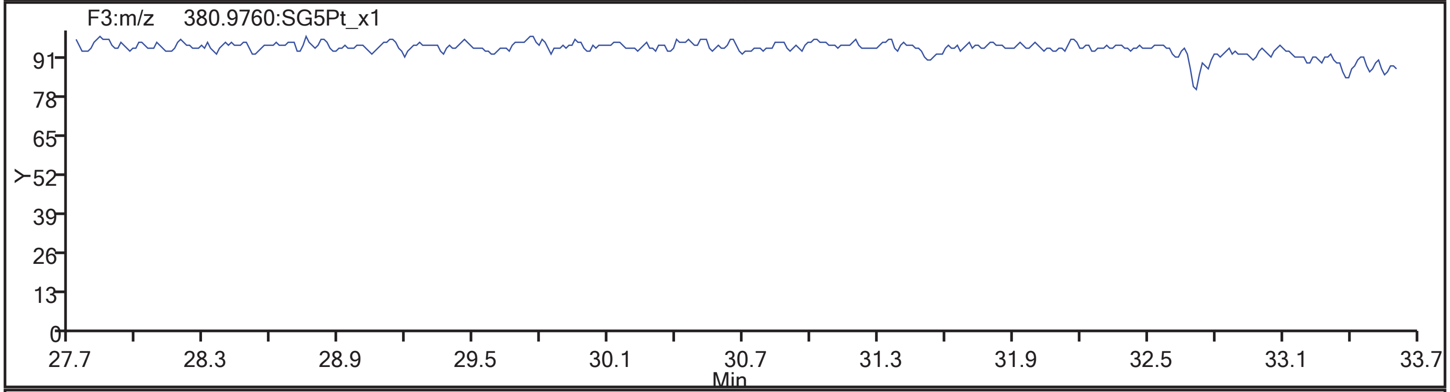
Report Date: 20-Nov-2017 11:47:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

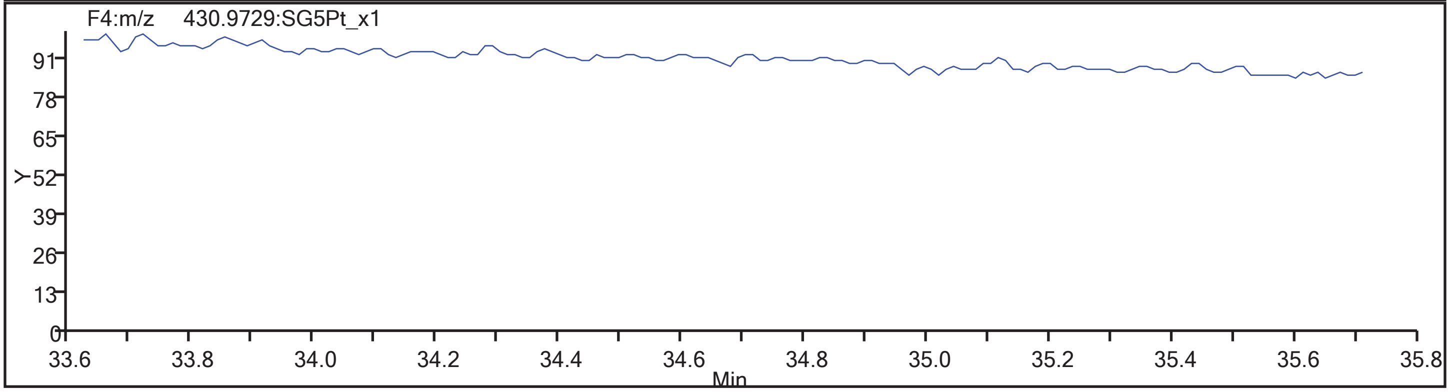
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d		
Injection Date:	18-Nov-2017 23:50:29	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195574	Sample Line#:	67
Column Type:		Column Dia:	



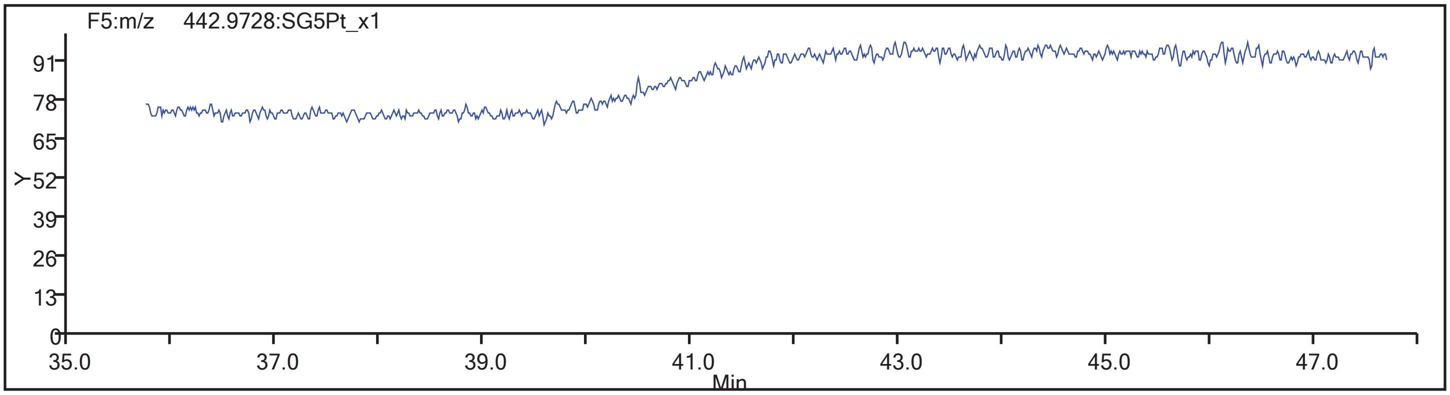






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_67.d		
Injection Date:	18-Nov-2017 23:50:29	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195574	Sample Line#:	67
Column Type:		Column Dia:	



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d
Lims ID: WDM
Client ID: WDM01
Sample Type: WDM
Inject. Date: 19-Nov-2017 10:51:16 ALS Bottle#: 1 Worklist Smp#: 80
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM111617F WDM HRDXNCP_00034
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:49:03 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:37:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.705	86439089	0.78	1.5089					0.00	
2,3,7,8-TCDF	17.720	191101864	0.76	1.0971	80.6	80.6	0.4668	0.4668		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF					80.6	80.6	0.4668	0.4668		
D 13C-2,3,7,8-TCDD	18.430	51744034	0.84	0.9906					0.00	
2,3,7,8-TCDD	18.445	62993481	0.77	1.1645	41.8	41.8	0.2617	0.2617		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD					41.8	41.8	0.2617	0.2617		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668	284549	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	31.252	514131	1.24	0.0000						RQ
S Total HxCDD										RQ
1,2,3,4,6,7,8-HpCDF	34.010	52925376	1.06	1.5871						
1,2,3,4,7,8,9-HpCDF	35.128	40094676	1.04	1.2290						
A Non-2,3,7,8-sub-HpCDF	34.569						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.824	31906039	1.06	1.1631						
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.210	102070596	0.81							
1,3,6,8-TCDD	16.162	61342173	0.81							
1,2,3,9-TCDF	17.720	191101864	0.76							
1,2,3,7-TCDD	18.324	53724077	0.76							
1,2,3,9-TCDD	18.612	66152231	0.79							
2,3,4,7-TCDF	18.612	81767323	0.80							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.580	26642051								
1,2,8,9-TCDF	19.595	85991883	0.75							
1,3,4,6,8-PeCDF	19.882	67467773	1.55							
1,2,4,7,9-PeCDD	21.696	49165593	1.59							
1,2,3,8,9-PeCDD	26.060	47986467	1.62							
1,2,3,8,9-PeCDF	26.292	38939375								
1,2,3,4,6,8-HxCDF	28.629	71708284	1.28							
1,2,4,6,7,9-HxCDD	30.133	51518388	1.29							
1,2,3,4,6,7-HxCDD	32.370	50662892	1.29							
1,2,3,4,8,9-HxCDF	32.676	65180096	1.30							
1,2,3,4,6,7,9-HpCDD	34.253	36687984	1.10							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

Report Date: 20-Nov-2017 11:49:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d
Lims ID: WDM
Client ID: WDM01
Sample Type: WDM
Inject. Date: 19-Nov-2017 10:51:16 ALS Bottle#: 1 Worklist Smp#: 80
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM111617F WDM HRDXNCP_00034
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 20-Nov-2017 11:49:03 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK015

First Level Reviewer: arghestanis Date: 20-Nov-2017 11:37:45

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	1.000	37811362	9028505	26736	66840	338		
317.9389	17.705	17.705	0	1.000	48627727	11603153	14271	35677	813	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720	17.720	0	1.001	82790054	17939448	43265	108162	415		
305.8987	17.720	17.720	0	1.001	108311810	23528531	62402	156005	377	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						43265	108162			
305.8987	17.402						62402	156005			
13C-2,3,7,8-TCDD											
331.9368	18.430	18.430	0	1.000	23552148	5390020	14615	36537	369		
333.9339	18.430	18.430	0	1.000	28191886	6465250	5728	14320	1129	0.84(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.445	18.445	0	1.001	27352676	6280336	19559	48897	321		
321.8936	18.445	18.445	0	1.001	35640805	8215856	16572	41430	496	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						19559	48897			
321.8936	17.871						16572	41430			
A F1 PeCDFs											
339.8597	20.426						2821	7052			
341.8567	20.426						2708	6770			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.910	23.668	-45	1.000	205033	36694	5992	14980	6		
341.8567	22.924	23.668	-45	1.000	111588	20404	4716	11790	4	1.84(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						10173	25432			
357.8516	23.878						3885	9712			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						12829	32072			
375.8178	30.653						10405	26012			
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	31.305	31.252	3	1.000	351941	74317	8680	21700	9		
391.8127	31.305	31.252	3	1.000	229523	46184	10406	26015	4	1.53(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.010	34.010	0	1.000	27182800	8176094	32903	82257	248		
409.7789	33.998	34.010	-1	1.000	25742576	7760551	29078	72695	267	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128	35.128	0	1.000	20456950	5735657	32903	82257	174		
409.7789	35.128	35.128	0	1.000	19637726	5443762	29078	72695	187	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.569						32903	82257			
409.7789	34.569						29078	72695			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.824	34.824	0	1.000	16394144	4800252	27288	68220	176		
425.7737	34.824	34.824	0	1.000	15511895	4541352	21186	52965	214	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						27288	68220			
425.7737	35.261						21186	52965			
1,3,6,8-TCDF											
303.9016	15.210	15.210	0		45609051	12847982	43265	108162	297		
305.8987	15.210	15.210	0		56461545	16844158	62402	156005	270	0.81(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	16.162	16.162	0		27396511	7344397	19559	48897	375		
321.8936	16.147	16.162	-1		33945662	9054422	16572	41430	546	0.81(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.720	17.720	0		82790054	17939448	43265	108162	415		
305.8987	17.720	17.720	0		108311810	23528531	62402	156005	377	0.76(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.324	18.324	0		23284633	5756847	19559	48897	294		
321.8936	18.324	18.324	0		30439444	7467831	16572	41430	451	0.76(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.612	18.612	0		29115829	6387313	19559	48897	327		
321.8936	18.612	18.612	0		37036402	7946815	16572	41430	480	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	18.612	18.612	0		36266157	8121247	43265	108162	188		
305.8987	18.612	18.612	0		45501166	10295720	62402	156005	165	0.80(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.580	19.580	0		26642051	5498994	19559	48897	281		
1,2,8,9-TCDF											
303.9016	19.595	19.595	0		36843858	8018454	43265	108162	185		
305.8987	19.595	19.595	0		49148025	10439578	62402	156005	167	0.75(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	19.882	19.882	0		41013033	8479229	2821	7052	3006		
341.8567	19.882	19.882	0		26454740	5665268	2708	6770	2092	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	21.696	21.696	0		30167780	5009261	10173	25432	492		
357.8516	21.696	21.696	0		18997813	3105949	3885	9712	799	1.59(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	26.060	26.060	0		29692061	4237200	10173	25432	417		
357.8516	26.060	26.060	0		18294406	2490581	3885	9712	641	1.62(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	26.292	26.292	0		38939375	5353820	5992	14980	893		
1,2,3,4,6,8-HxCDF											
373.8208	28.629	28.629	0		40294717	4940541	12829	32072	385		
375.8178	28.629	28.629	0		31413567	3925264	10405	26012	377	1.28(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	30.133	30.133	0		29062999	4685063	8680	21700	540		
391.8127	30.120	30.133	-1		22455389	3698506	10406	26015	355	1.29(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.370	32.370	0		28566288	7895597	8680	21700	910		
391.8127	32.370	32.370	0		22096604	6149821	10406	26015	591	1.29(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.676	32.676	0		36843849	10596593	12829	32072	826		
375.8178	32.676	32.676	0		28336247	8223055	10405	26012	790	1.30(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.253	34.253	0		19178233	5911206	27288	68220	217		
425.7737	34.253	34.253	0		17509751	5471472	21186	52965	258	1.10(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
Lims ID:	WDM		
Client ID:	WDM01		
Inject. Date:	19-Nov-2017 10:51:16	Dil. Factor:	1.0000
Sample Type:	WDM, Window Defining Mix		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	80

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142				
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.910	205033	36694	111588	20404		1.84	R
Signal Totals:							
	205033	36694	111588	20404			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	316621	57098				1.84	RQ
	284549	52030					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (316621 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (284549 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 20-Nov-2017 11:49:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
Lims ID:	WDM		
Client ID:	WDM01		
Inject. Date:	19-Nov-2017 10:51:16	Dil. Factor:	1.0000
Sample Type:	WDM, Window Defining Mix		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195575	Lims Sample ID:	80

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065				
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.305	351941	74317	229523	46184		1.53	R
Signal Totals:							
	351941	74317	229523	46184			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	581464	120501				1.53	RQ
	514131	103452					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (581464 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (514131 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

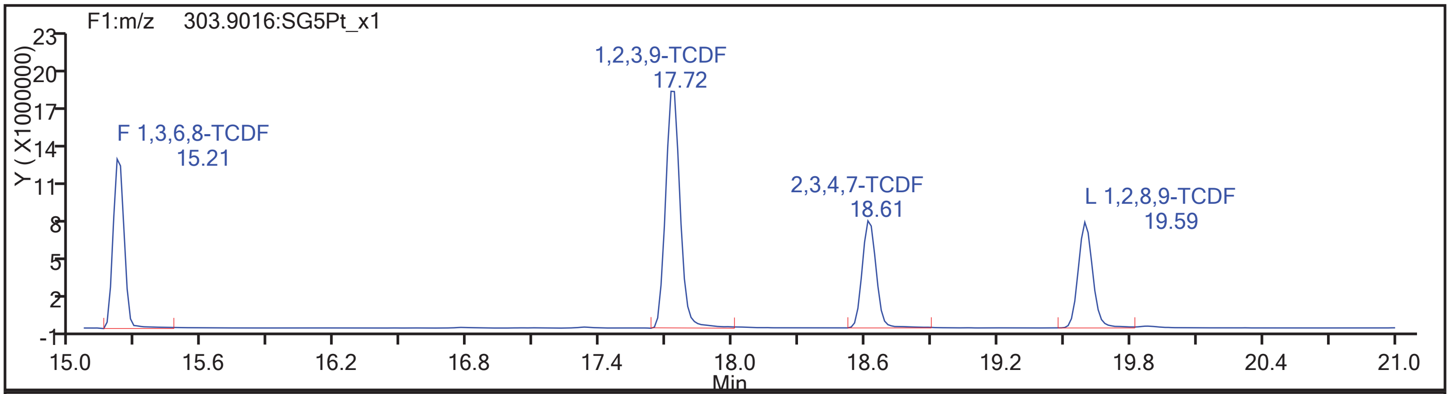
Report Date: 20-Nov-2017 11:49:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

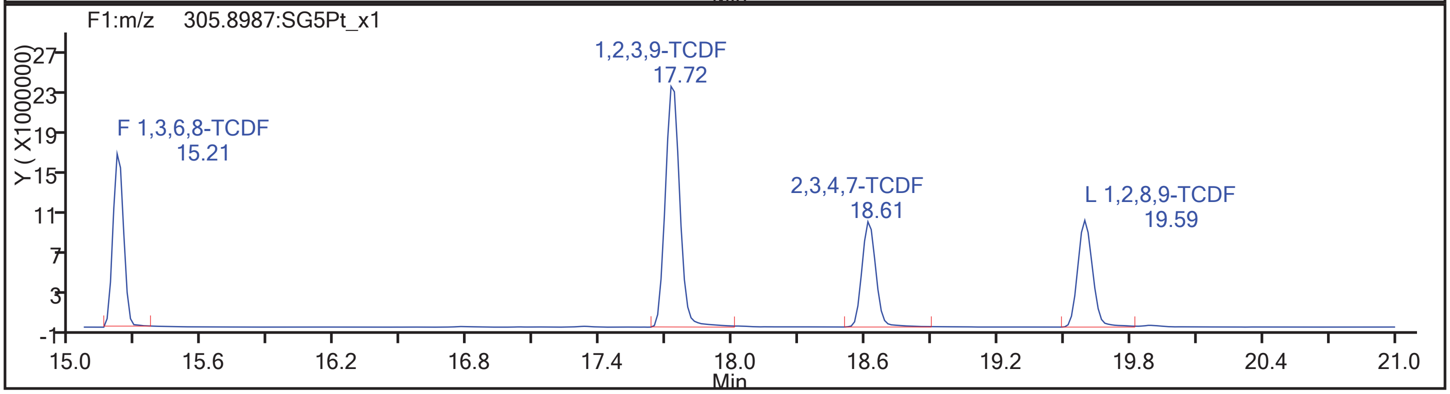
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d

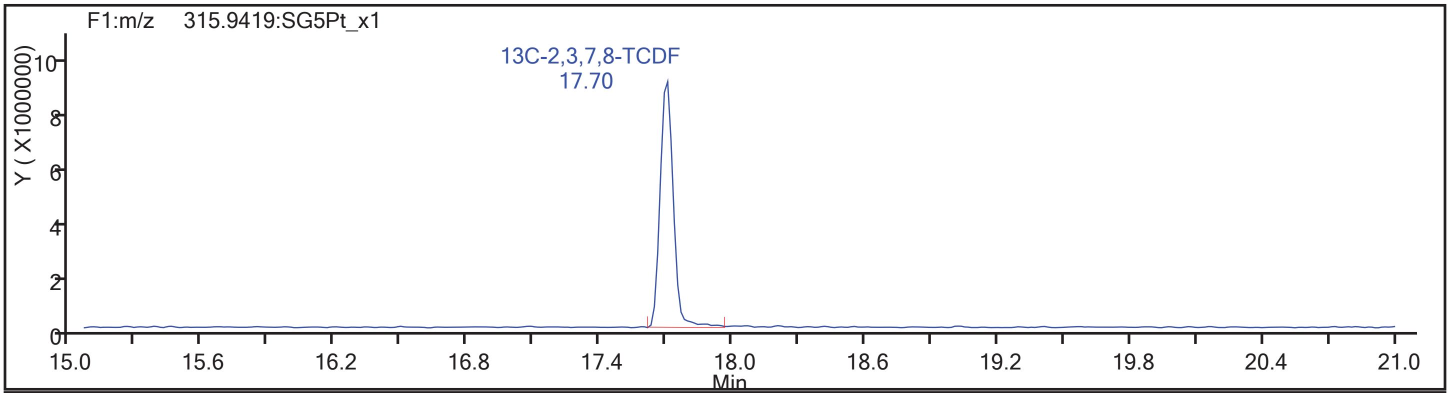
Injection Date: 19-Nov-2017 10:51:16
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195575
Sample Line#: 80
Column Type:
Column Dia:

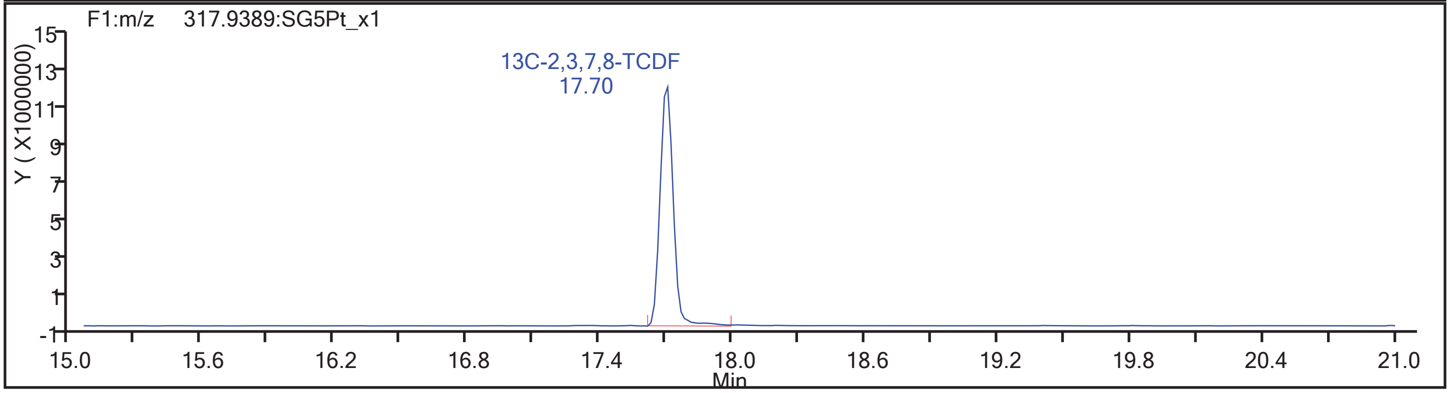
TCDF





TCDF Standards



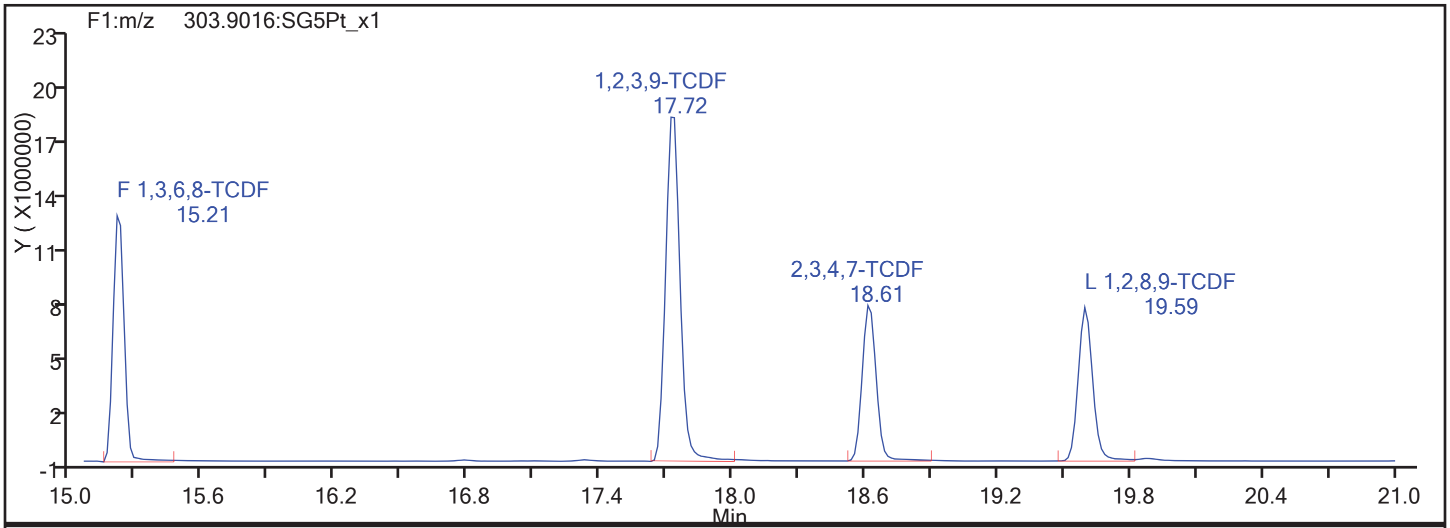


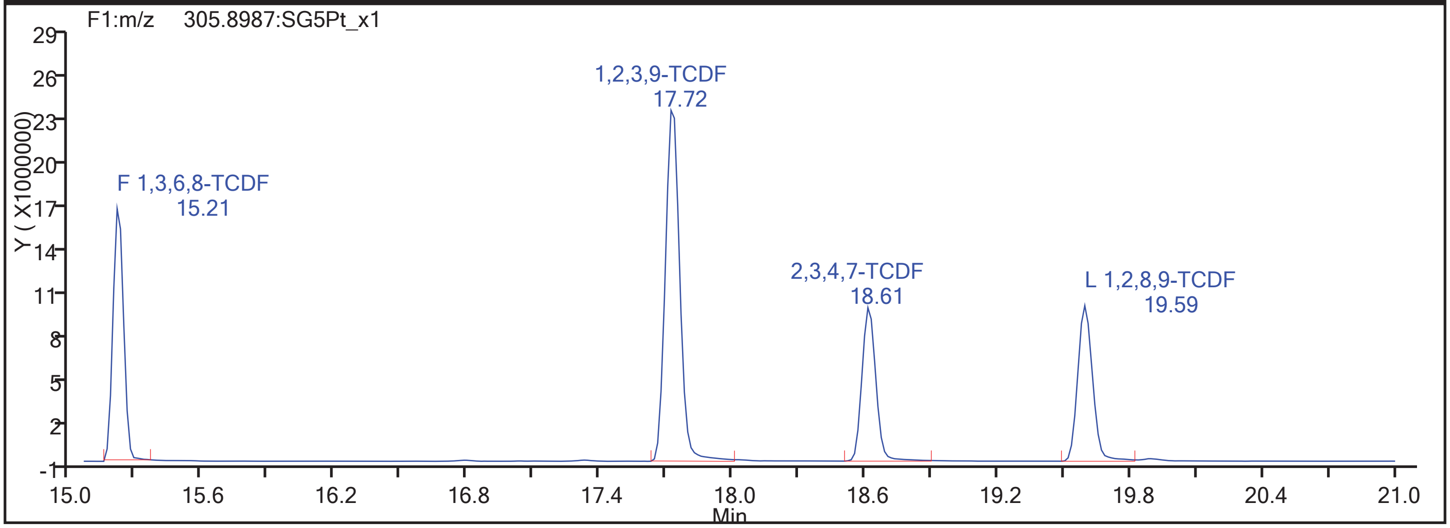
Report Date: 20-Nov-2017 11:49:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

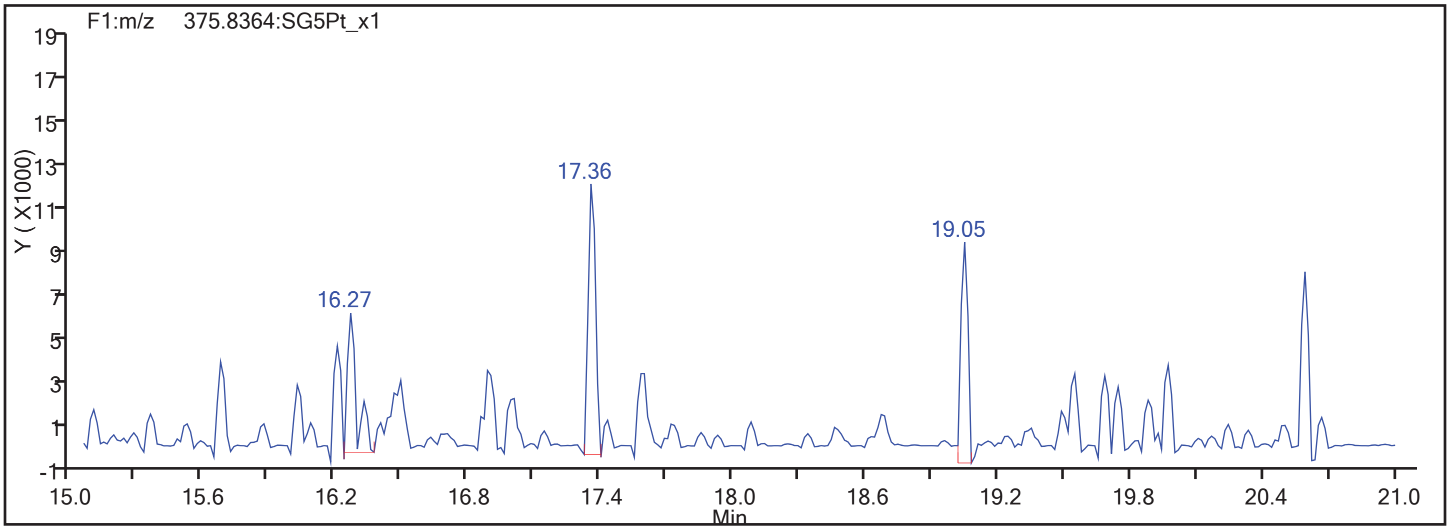
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d
Injection Date: 19-Nov-2017 10:51:16
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195575
Sample Line#: 80
Column Type:
Column Dia:

TCDF





TCDF Interference Mass

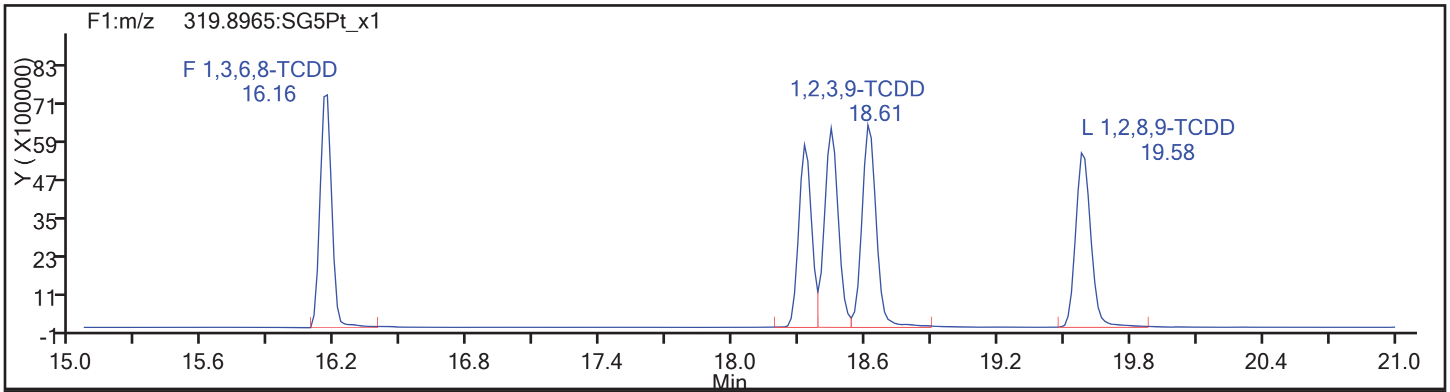


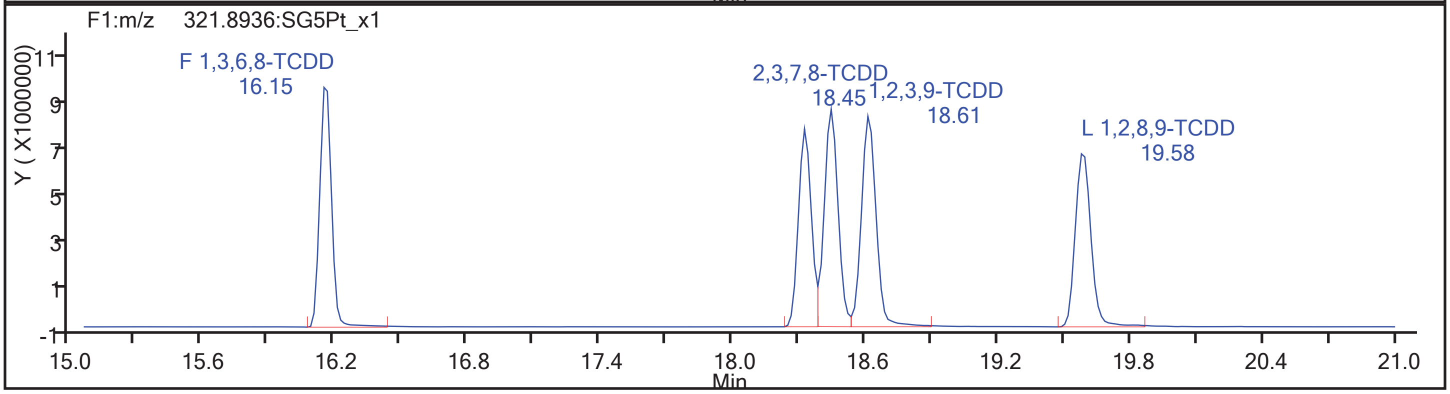
Report Date: 20-Nov-2017 11:49:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

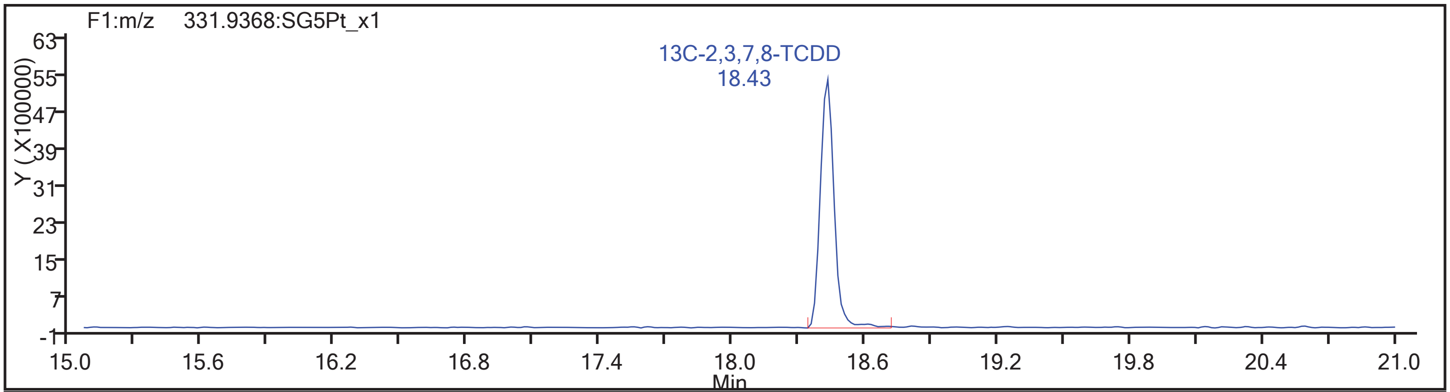
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d
Injection Date: 19-Nov-2017 10:51:16
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195575
Sample Line#: 80
Column Type:
Column Dia:

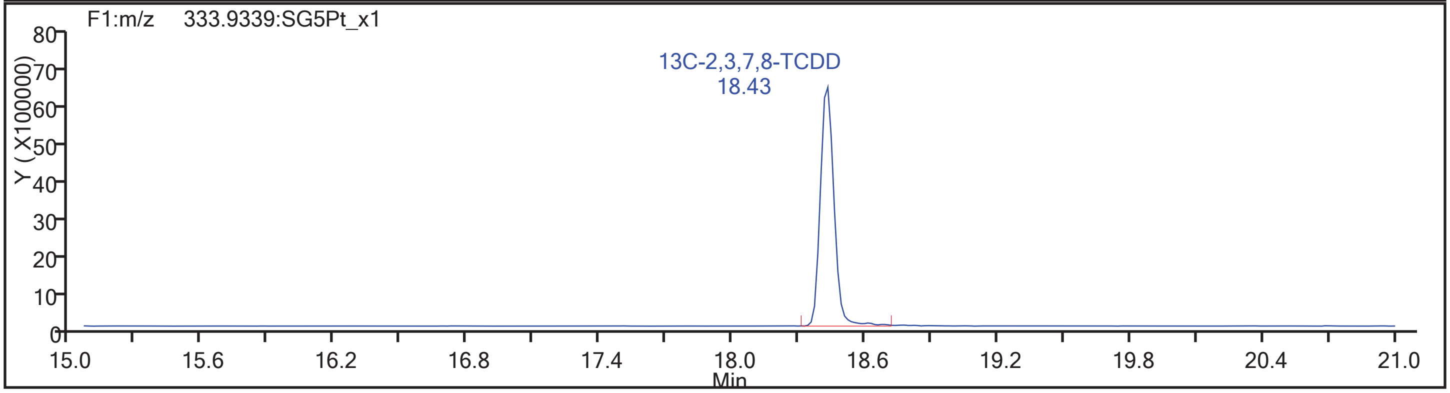
TCDD





TCDD Standards

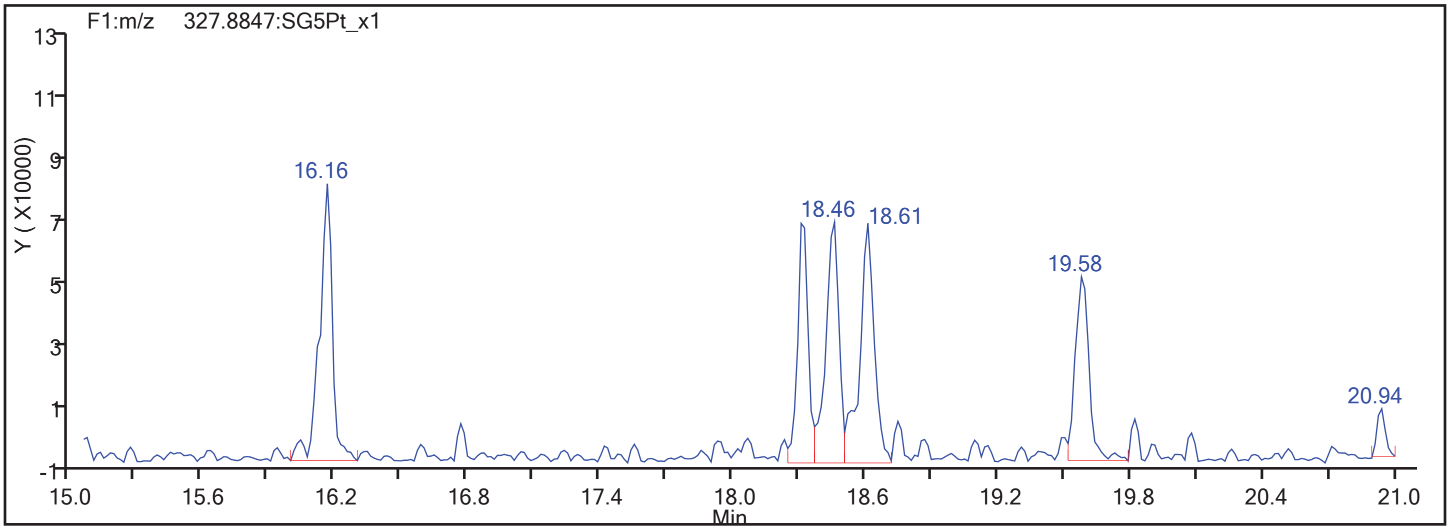




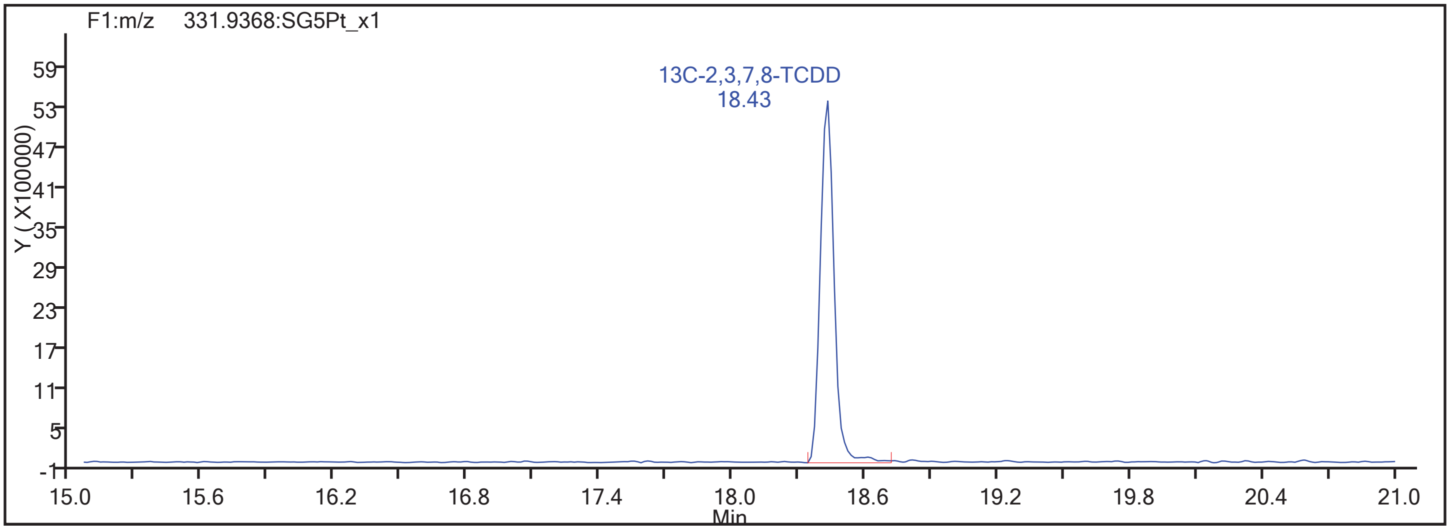
TestAmerica Sacramento

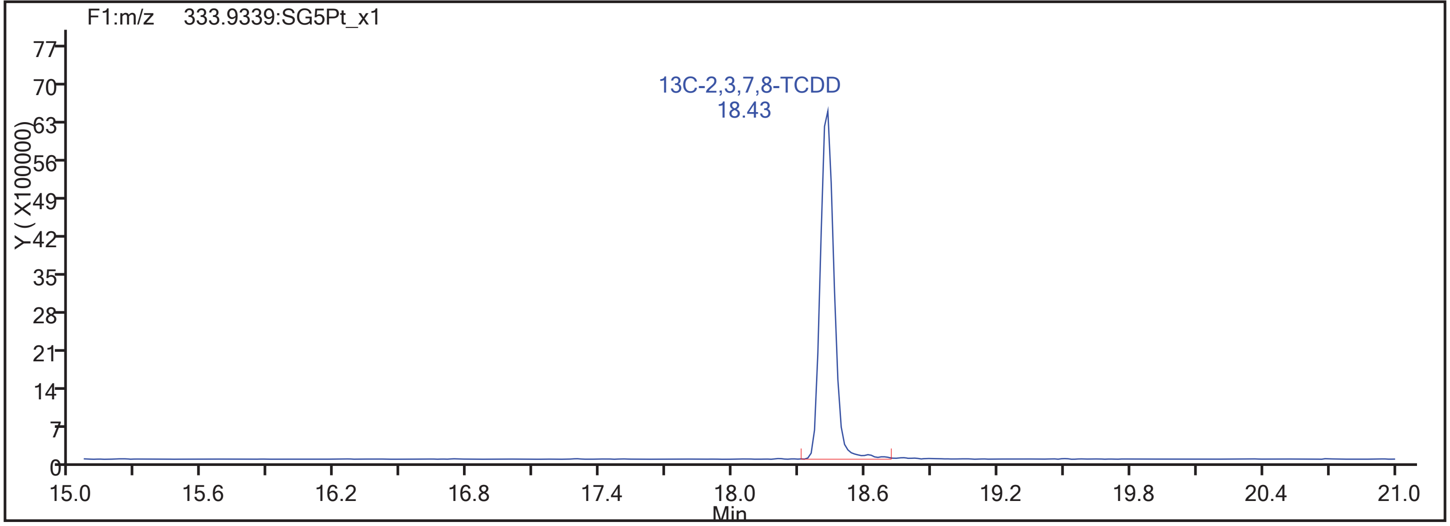
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d
Injection Date: 19-Nov-2017 10:51:16
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195575
Sample Line#: 80
Column Type:
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards

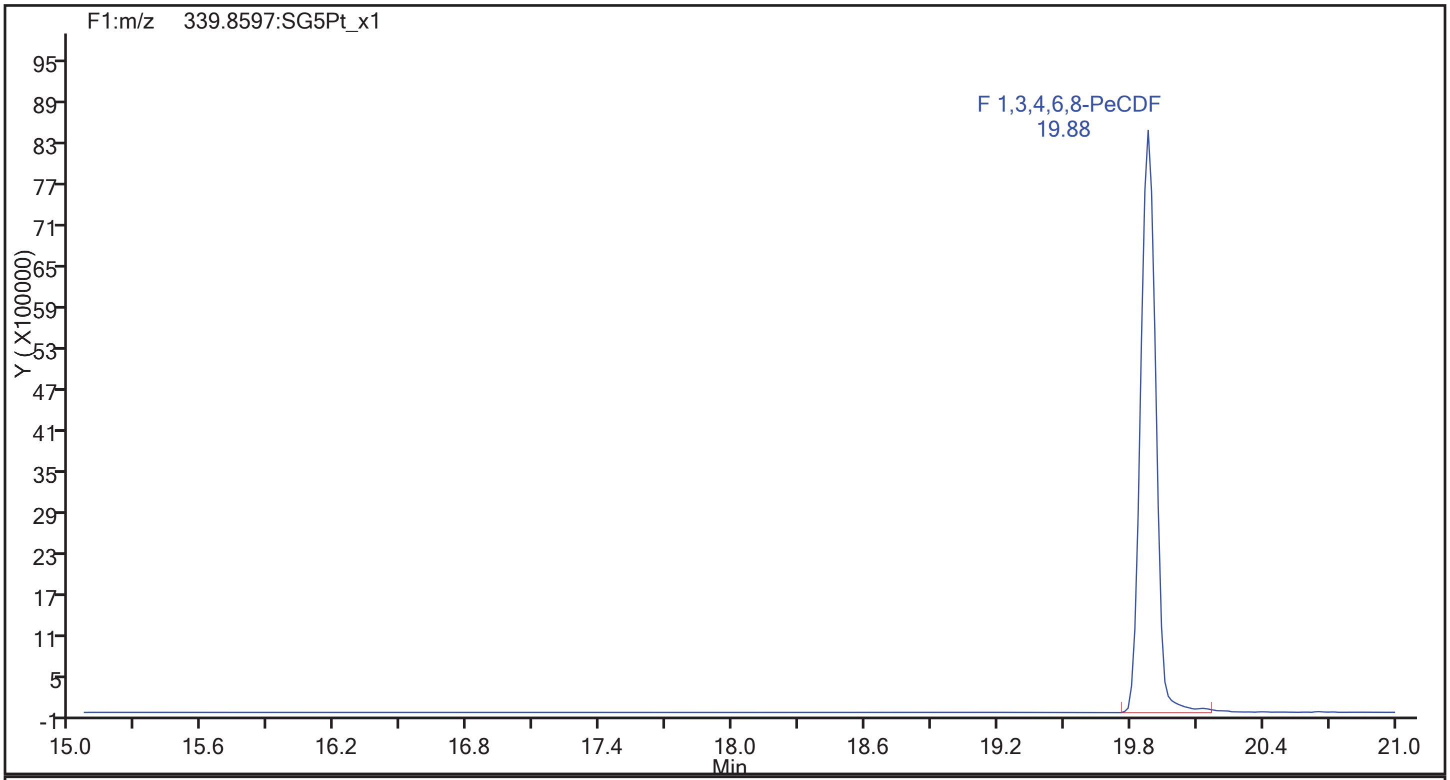


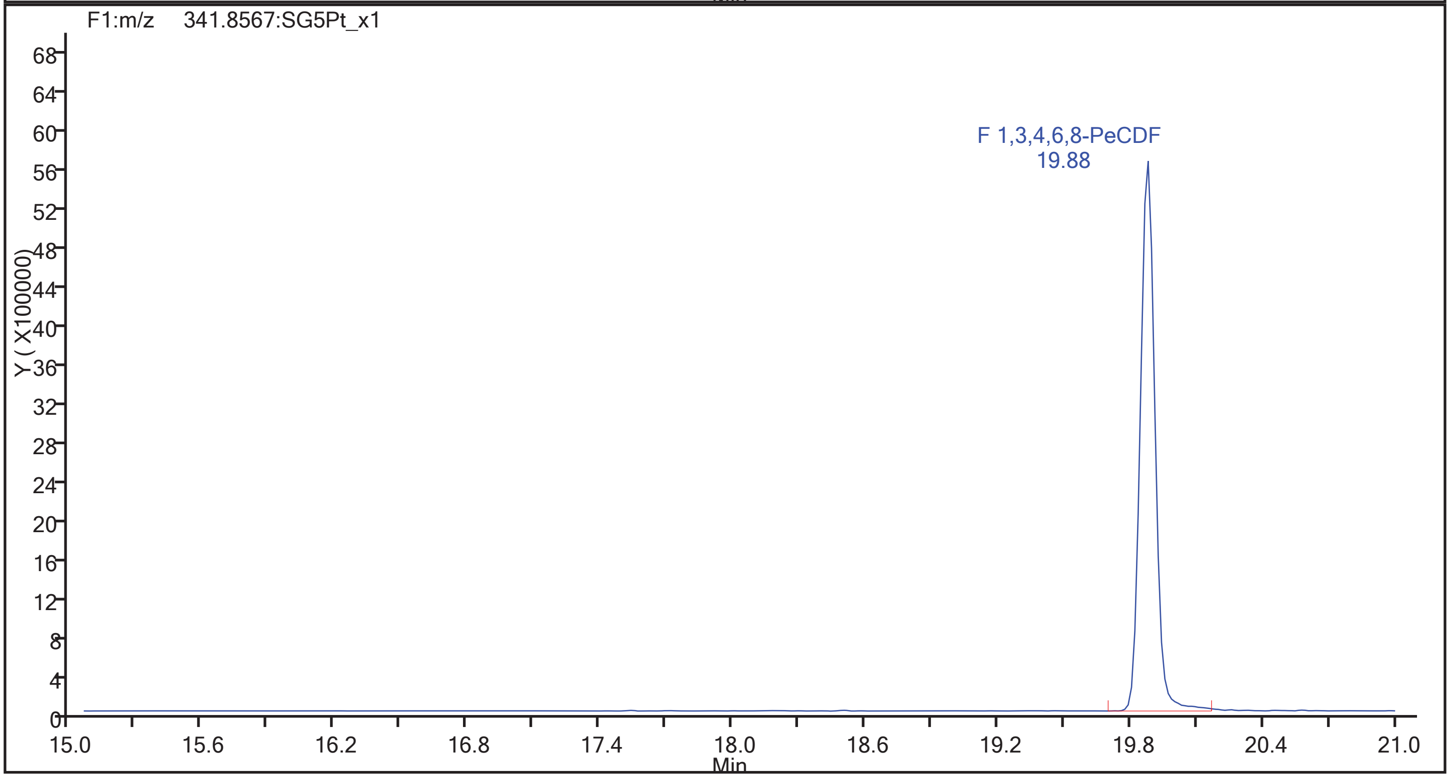


TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
Injection Date:	19-Nov-2017 10:51:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195575	Sample Line#:	80
Column Type:		Column Dia:	

F1 PeCDFs





Report Date: 20-Nov-2017 11:49:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
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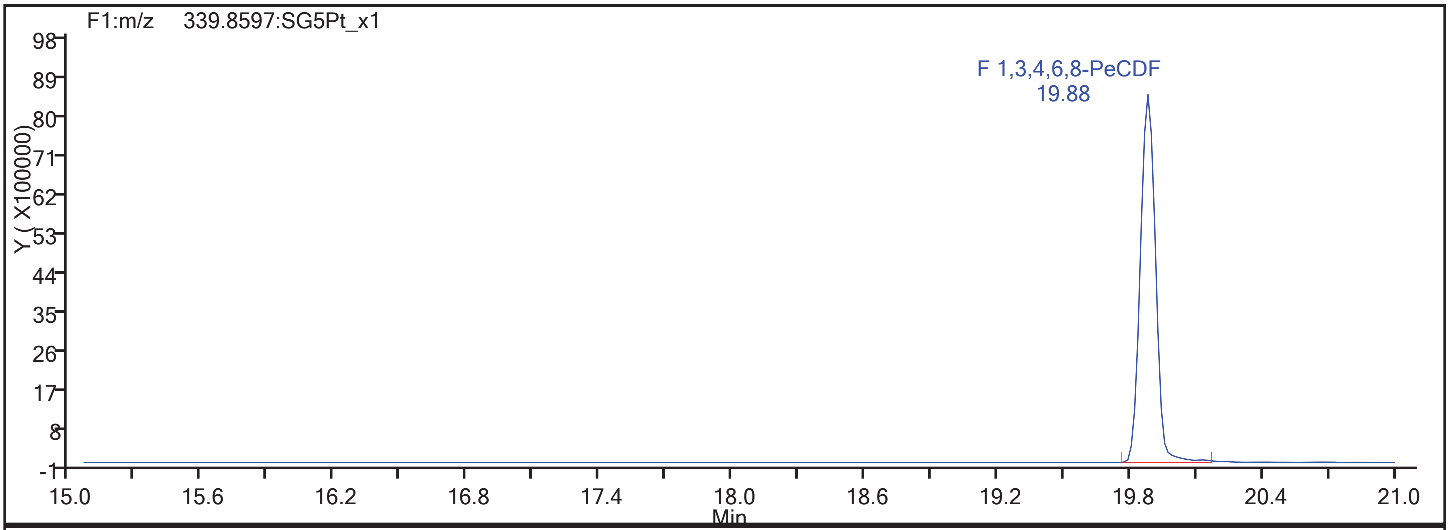
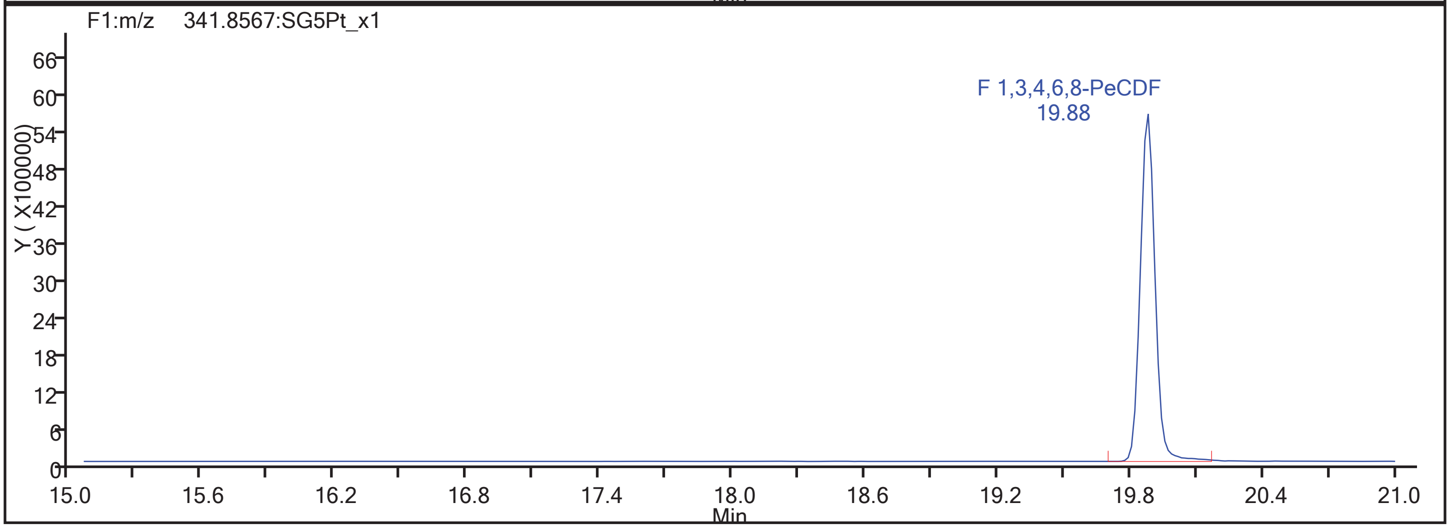
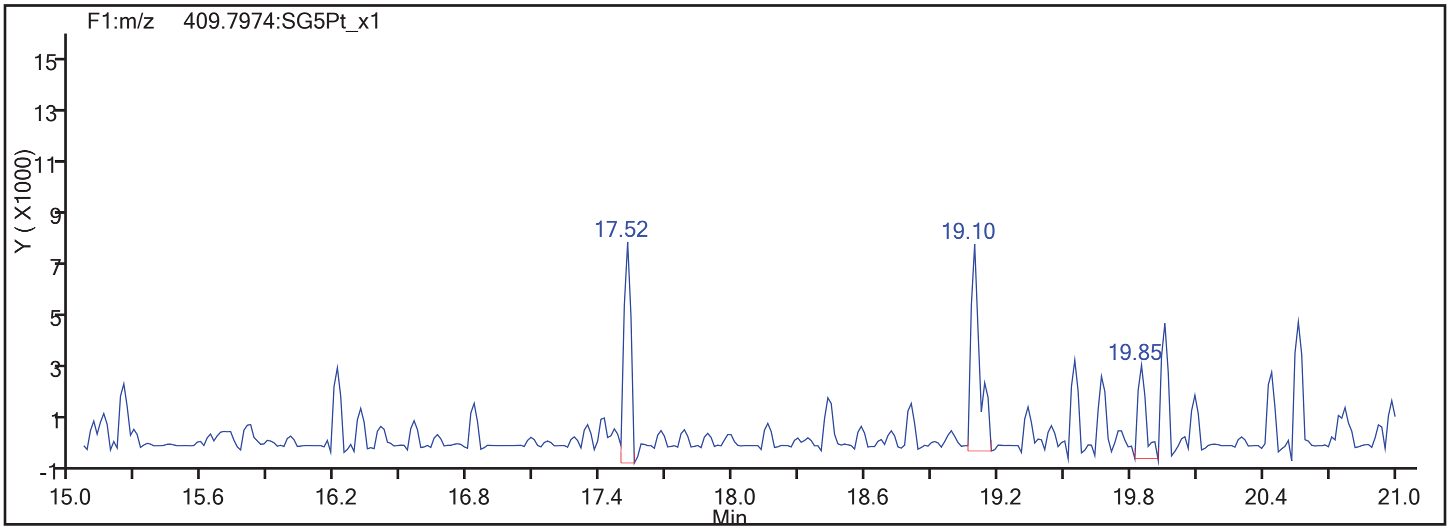
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195575	Sample Line#:	80
Column Type:		Column Dia:	

F1 PeCDFs





F1 PeCDFs Interference Mass

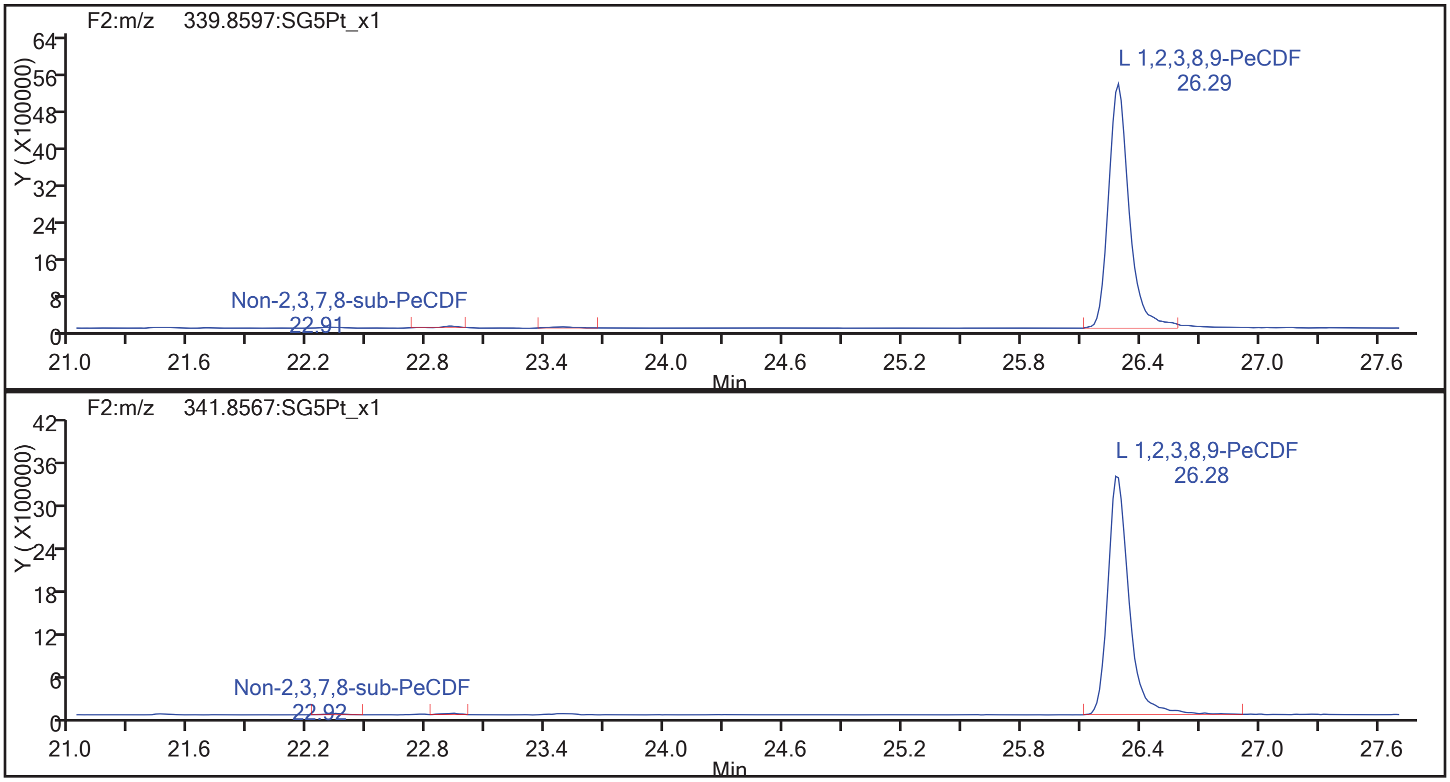


Report Date: 20-Nov-2017 11:49:04 Chrom Revision: 2.2 16-Aug-2017 16:24:46

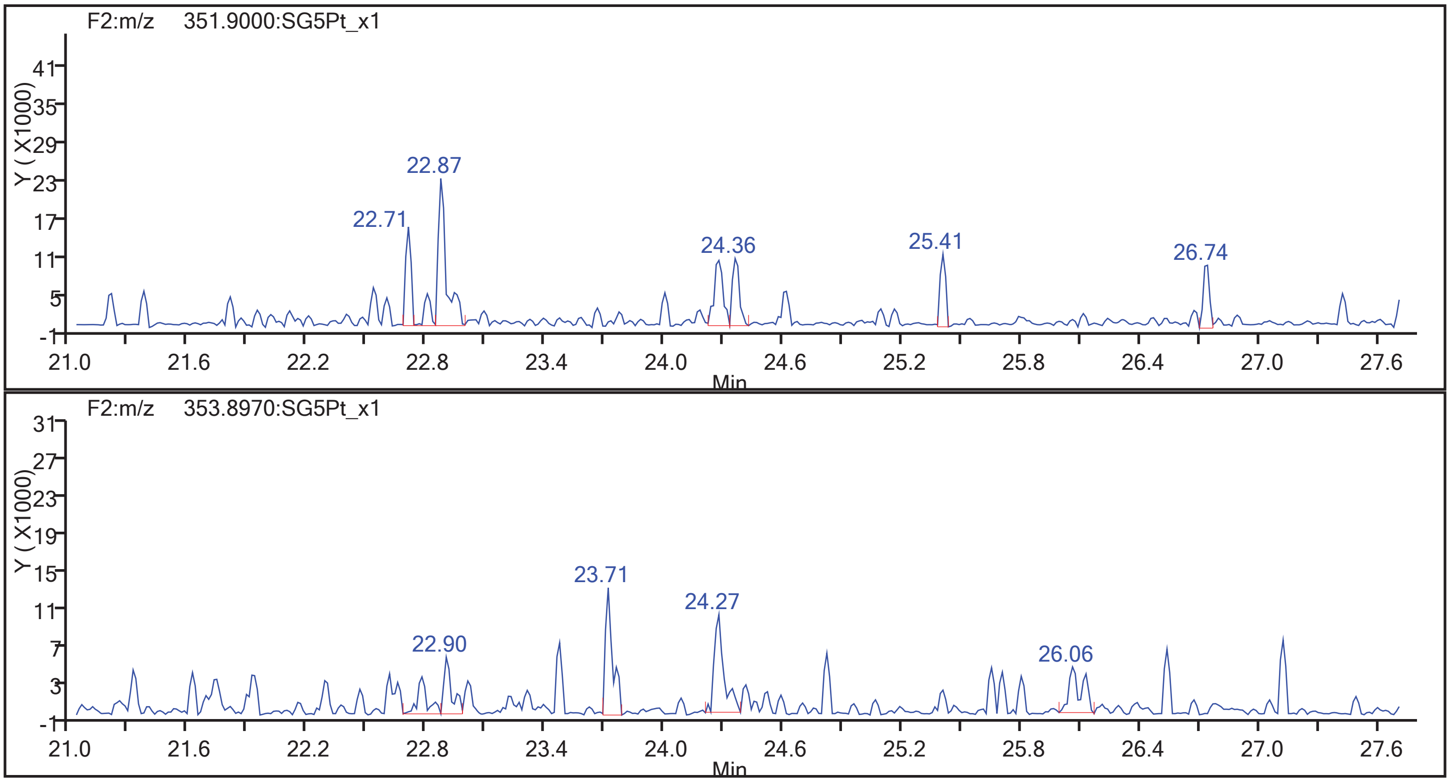
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
Injection Date:	19-Nov-2017 10:51:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195575	Sample Line#:	80
Column Type:		Column Dia:	

PeCDF



PeCDF Standards

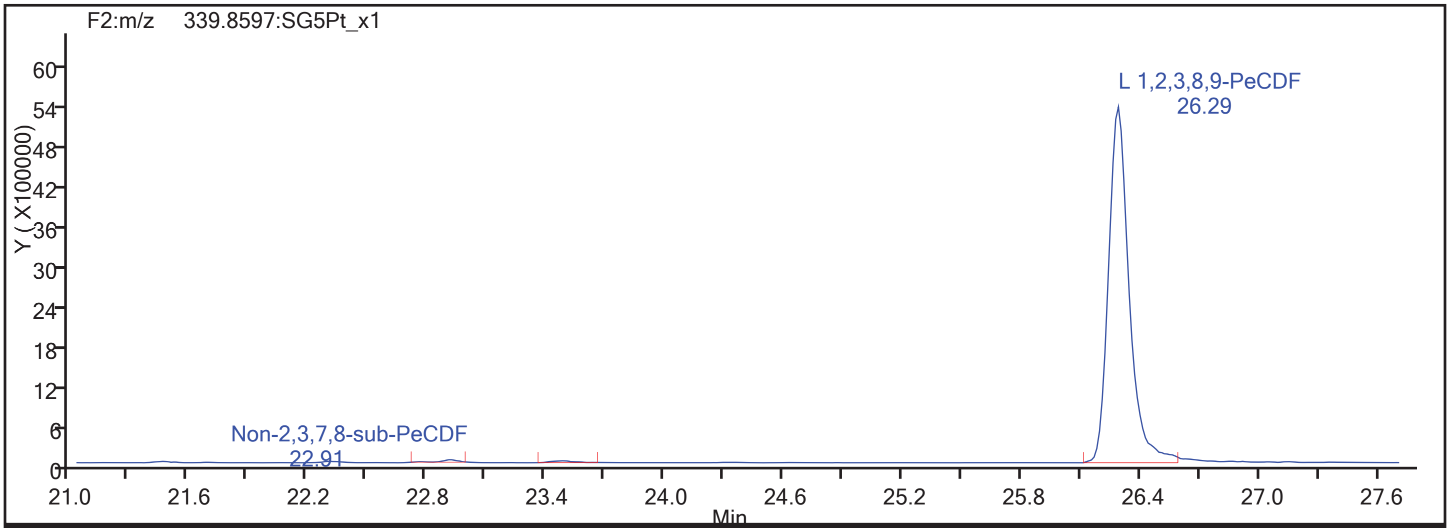


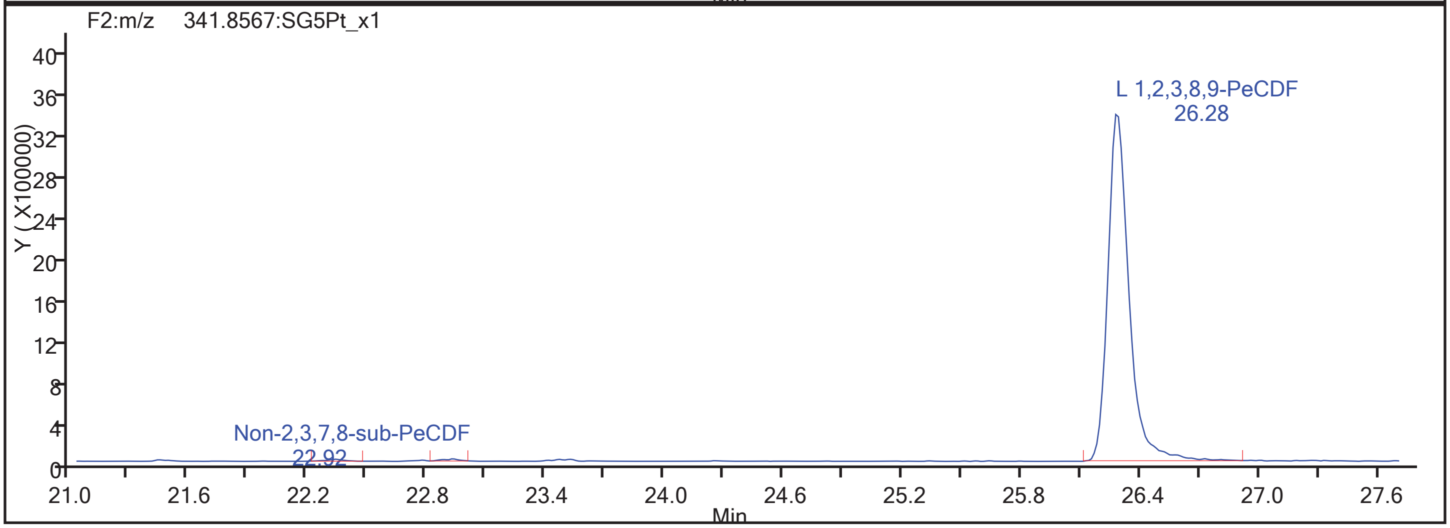
Report Date: 20-Nov-2017 11:49:04　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

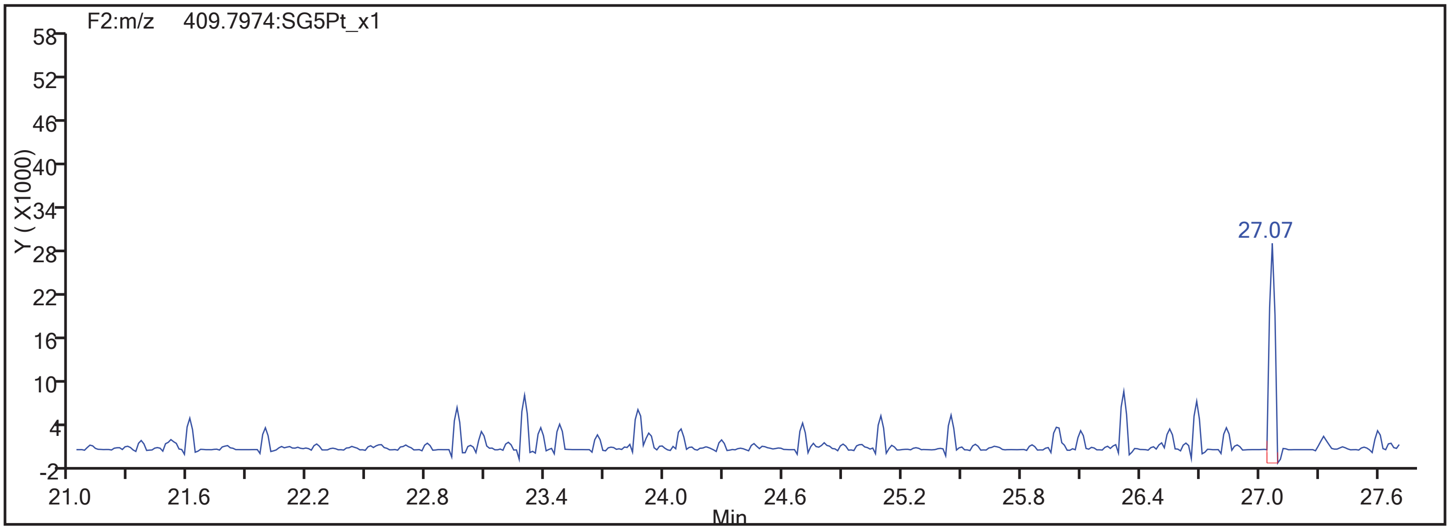
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d
Injection Date: 19-Nov-2017 10:51:16
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: WDM01
Worklist#: 195575
Sample Line#: 80
Column Type:
Column Dia:

PeCDF





PeCDF Interference Mass



Report Date: 20-Nov-2017 11:49:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d

Injection Date: 19-Nov-2017 10:51:16

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: WDM01

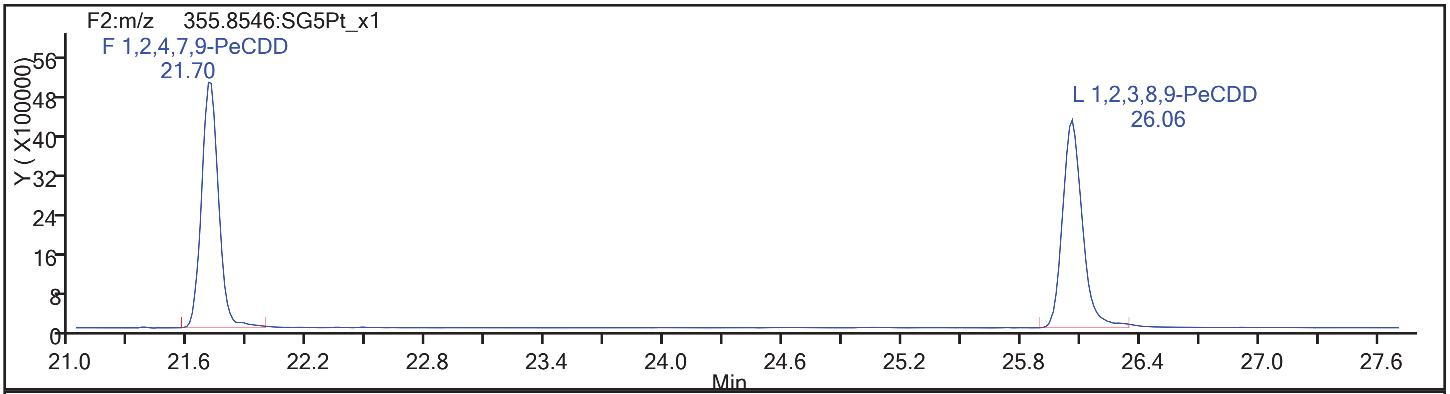
Worklist#: 195575

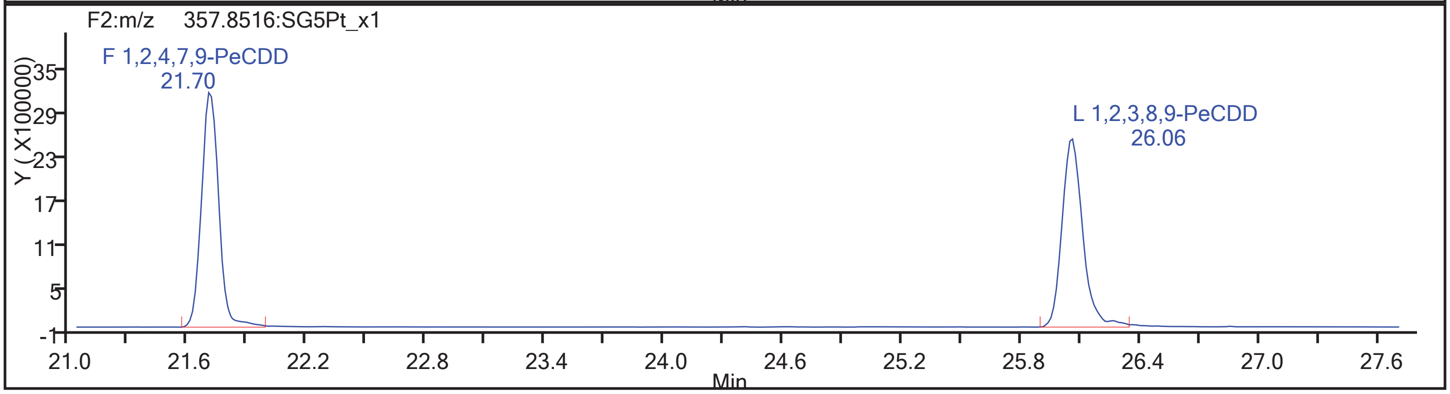
Sample Line#: 80

Column Type:

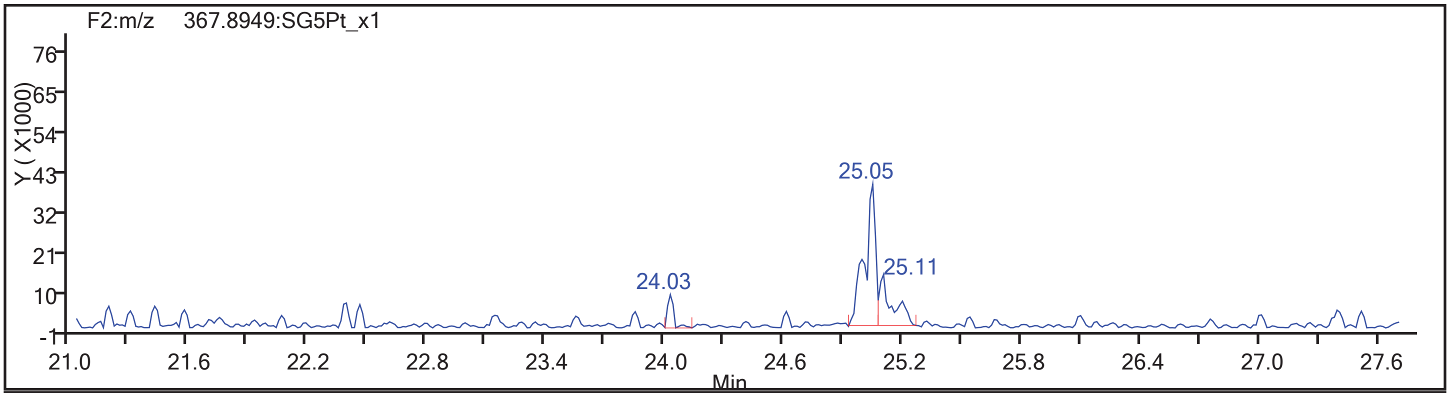
Column Dia:

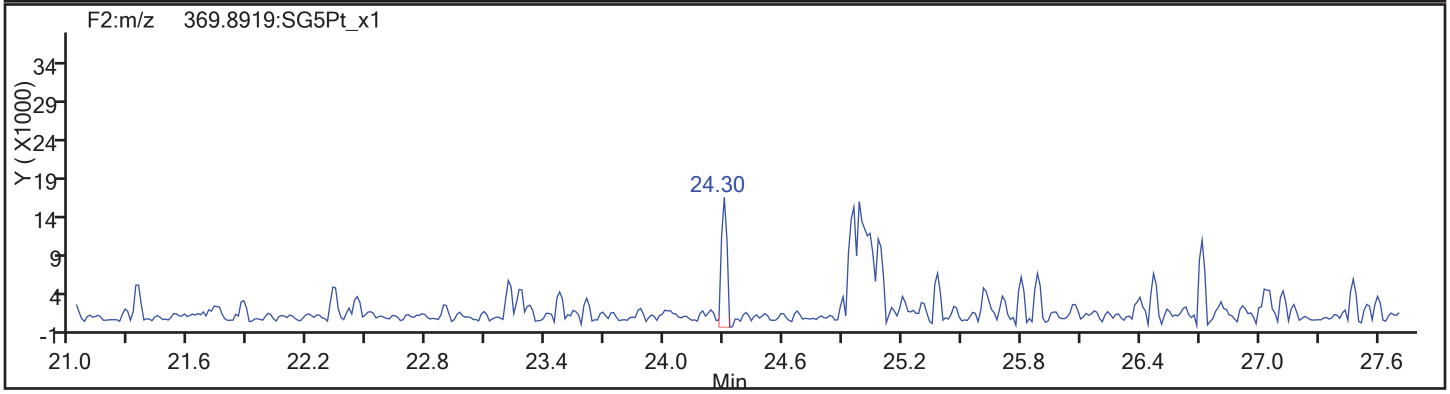
PeCDD





PeCDD Standards



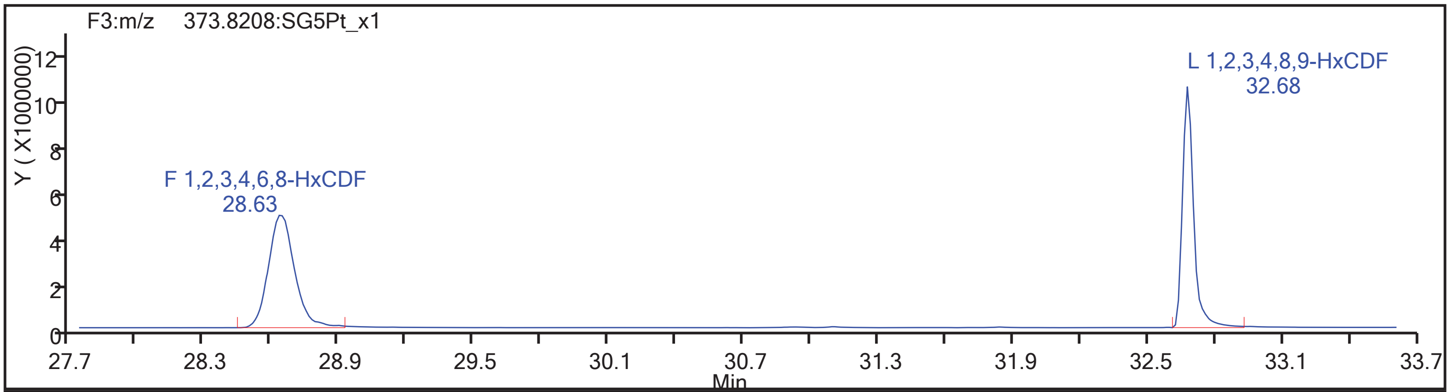


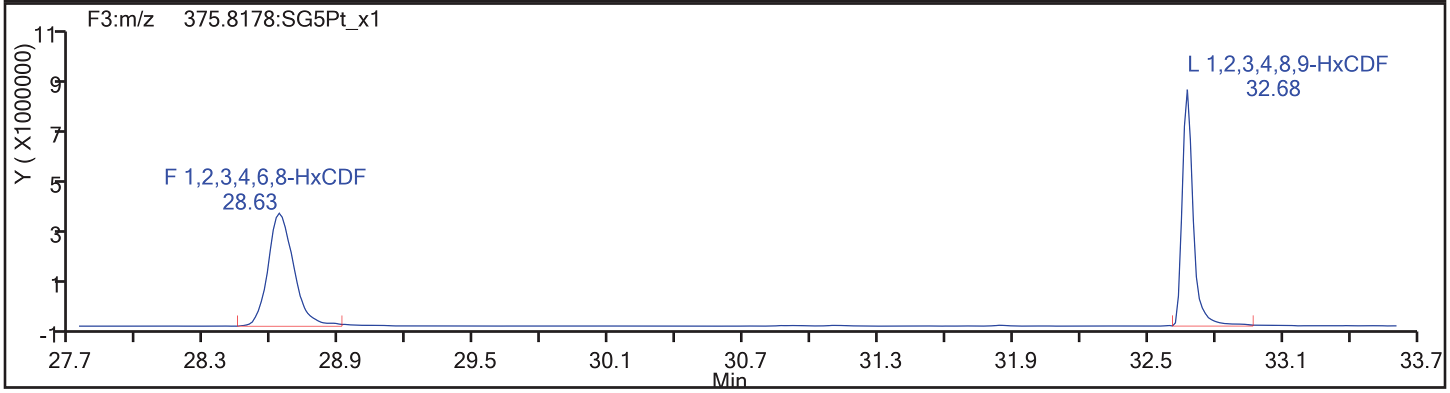
Report Date: 20-Nov-2017 11:49:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

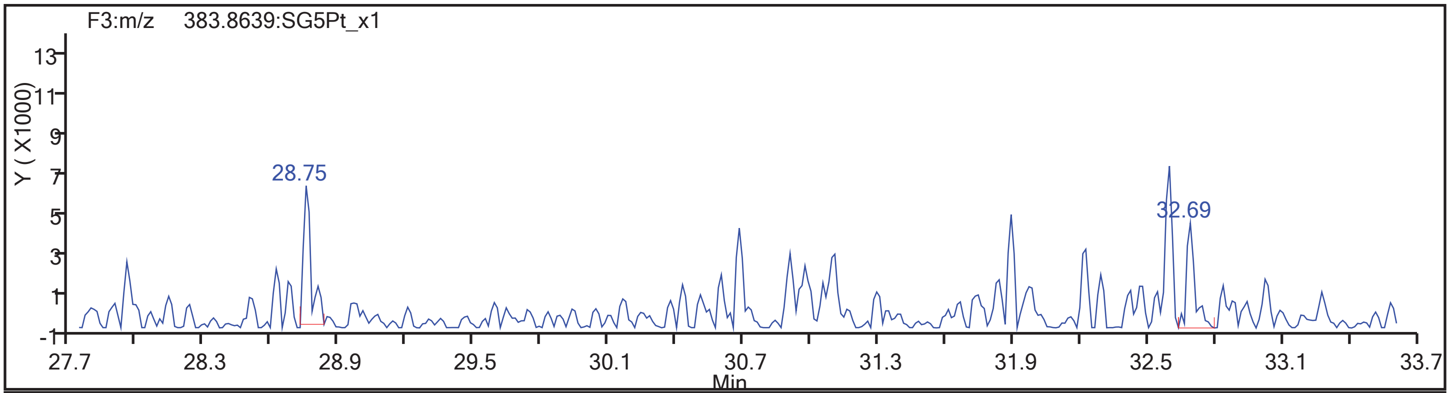
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
Injection Date:	19-Nov-2017 10:51:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195575	Sample Line#:	80
Column Type:		Column Dia:	

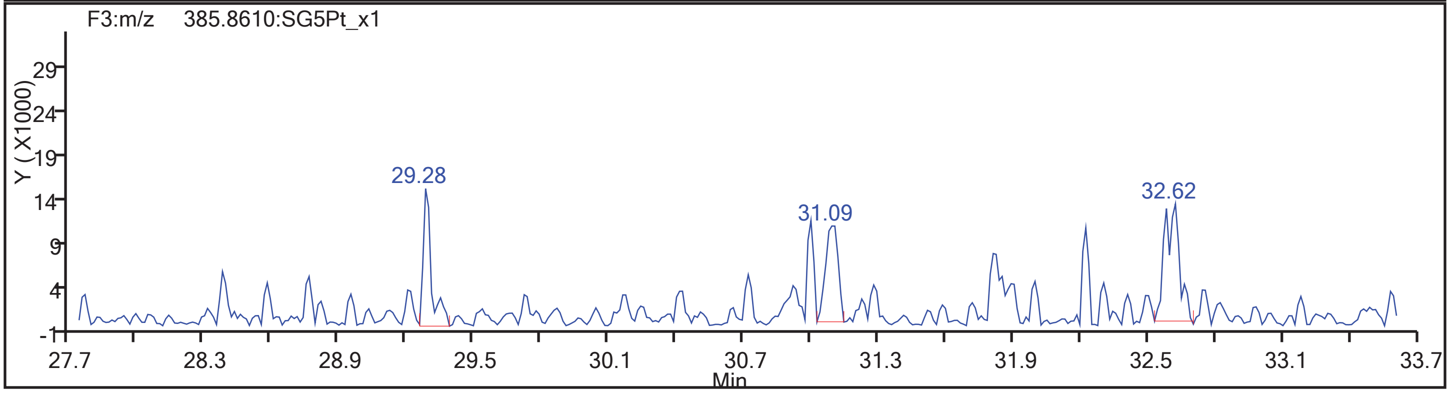
HxCDF





HxCDF Standards





Report Date: 20-Nov-2017 11:49:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d

Injection Date: 19-Nov-2017 10:51:16

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: WDM01

Worklist#: 195575

Sample Line#: 80

Column Type:

Column Dia:

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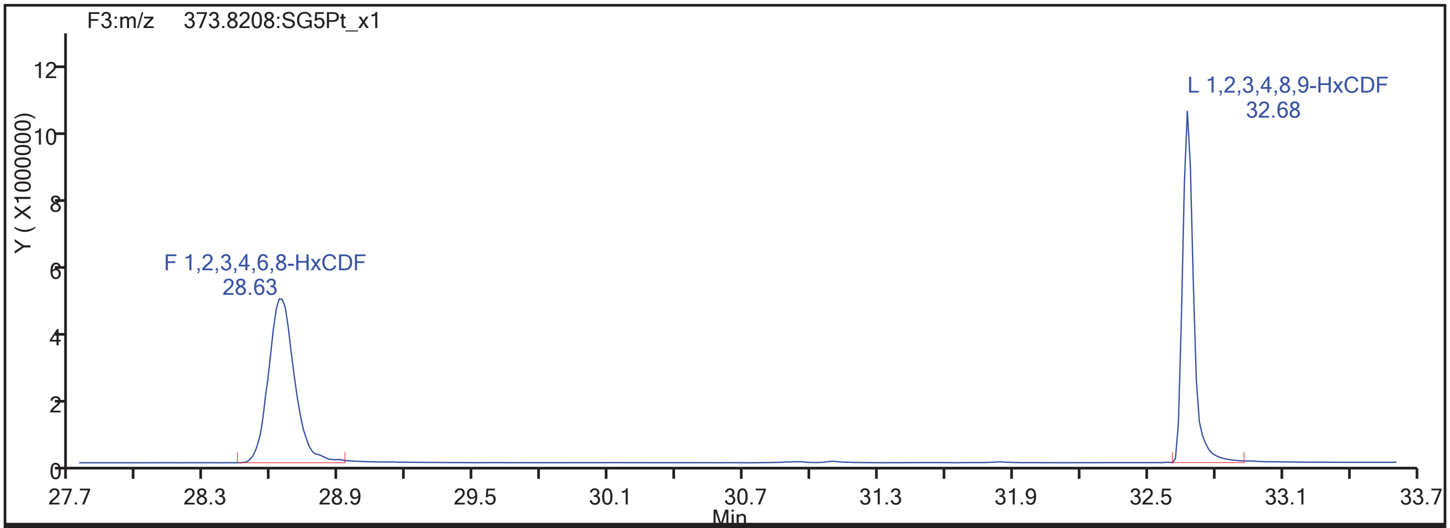
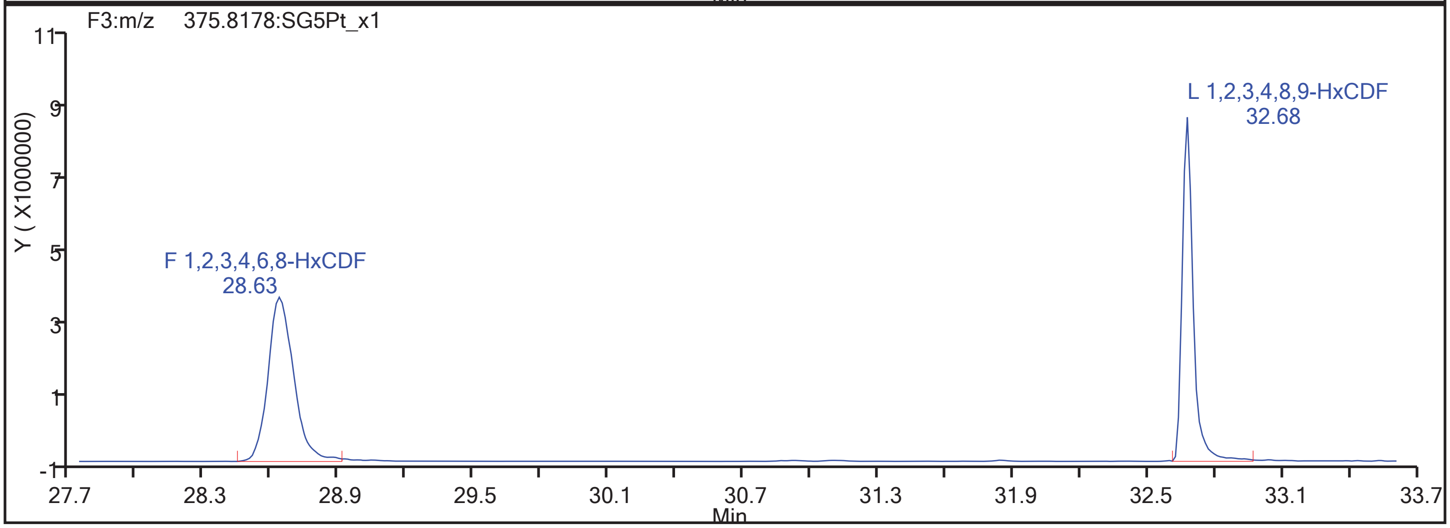
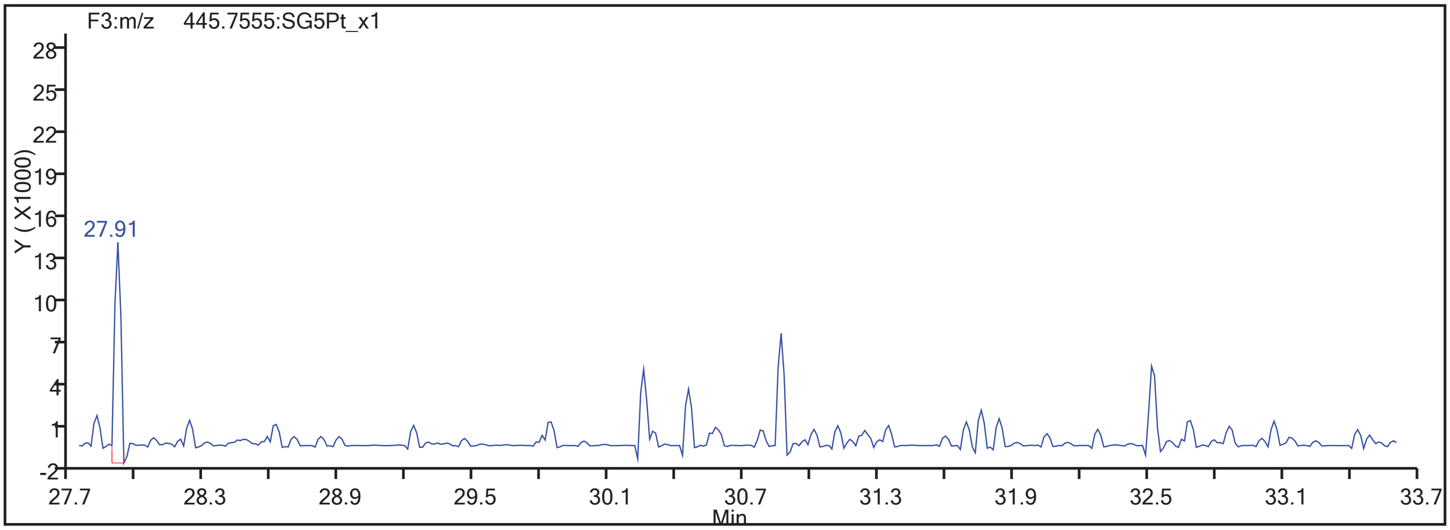




HxCDF Interference Mass

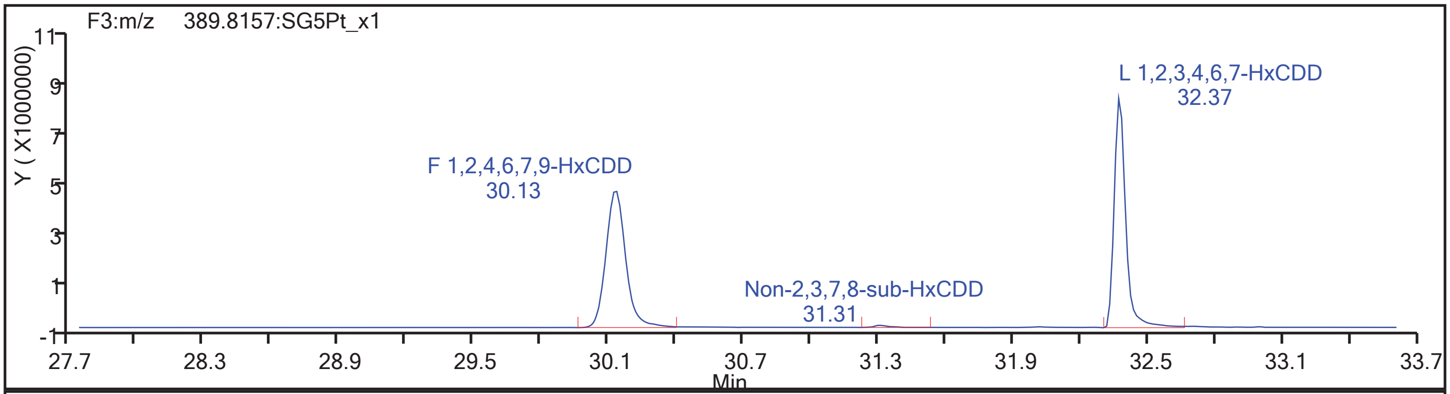


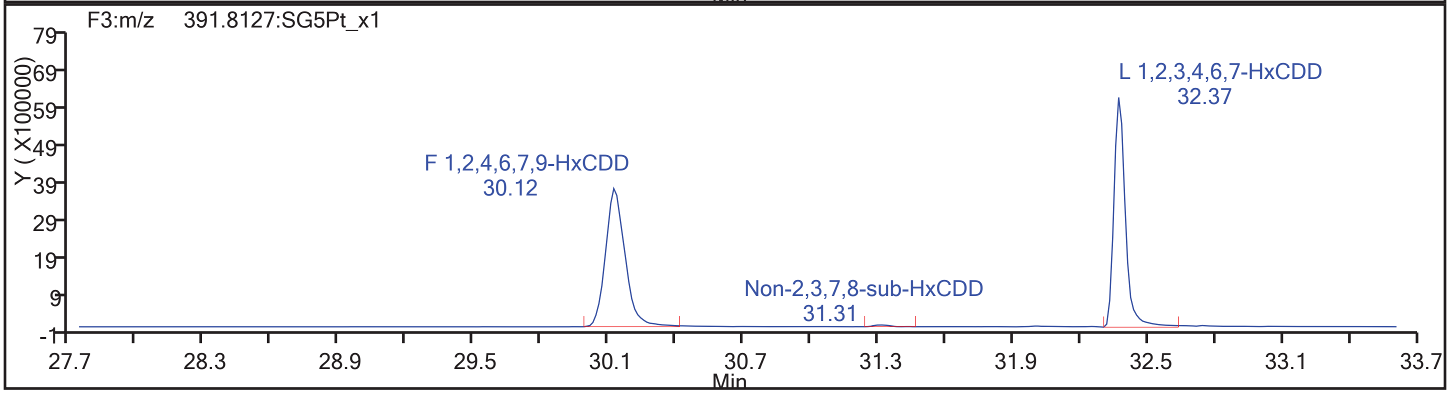
Report Date: 20-Nov-2017 11:49:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

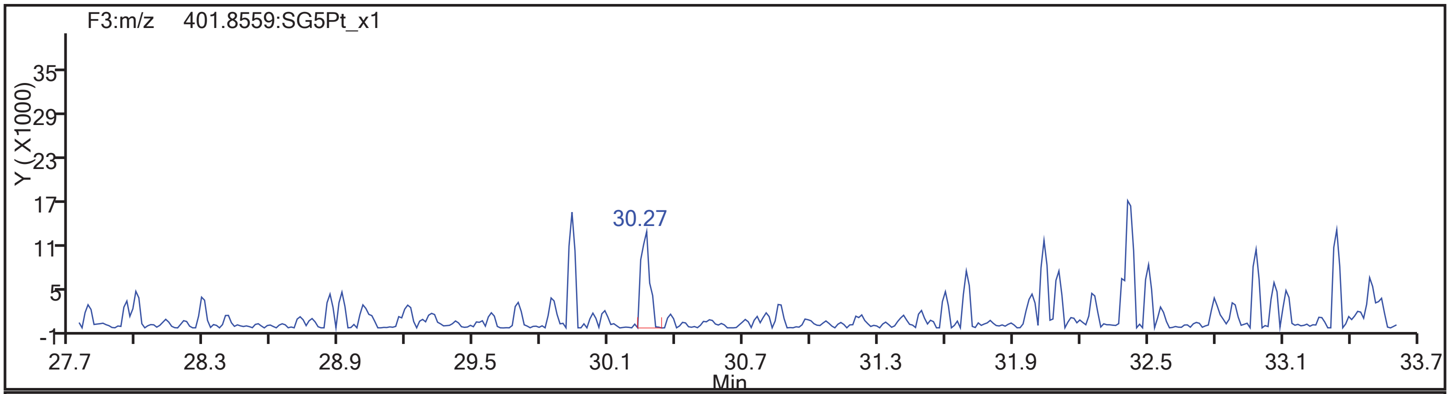
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
Injection Date:	19-Nov-2017 10:51:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195575	Sample Line#:	80
Column Type:		Column Dia:	

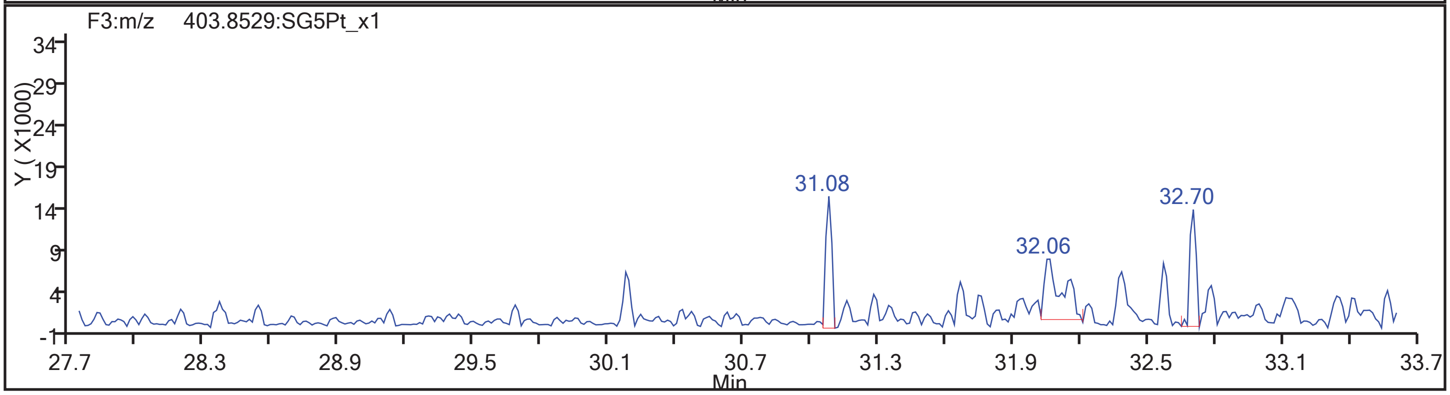
HxCDD





HxCDD Standards

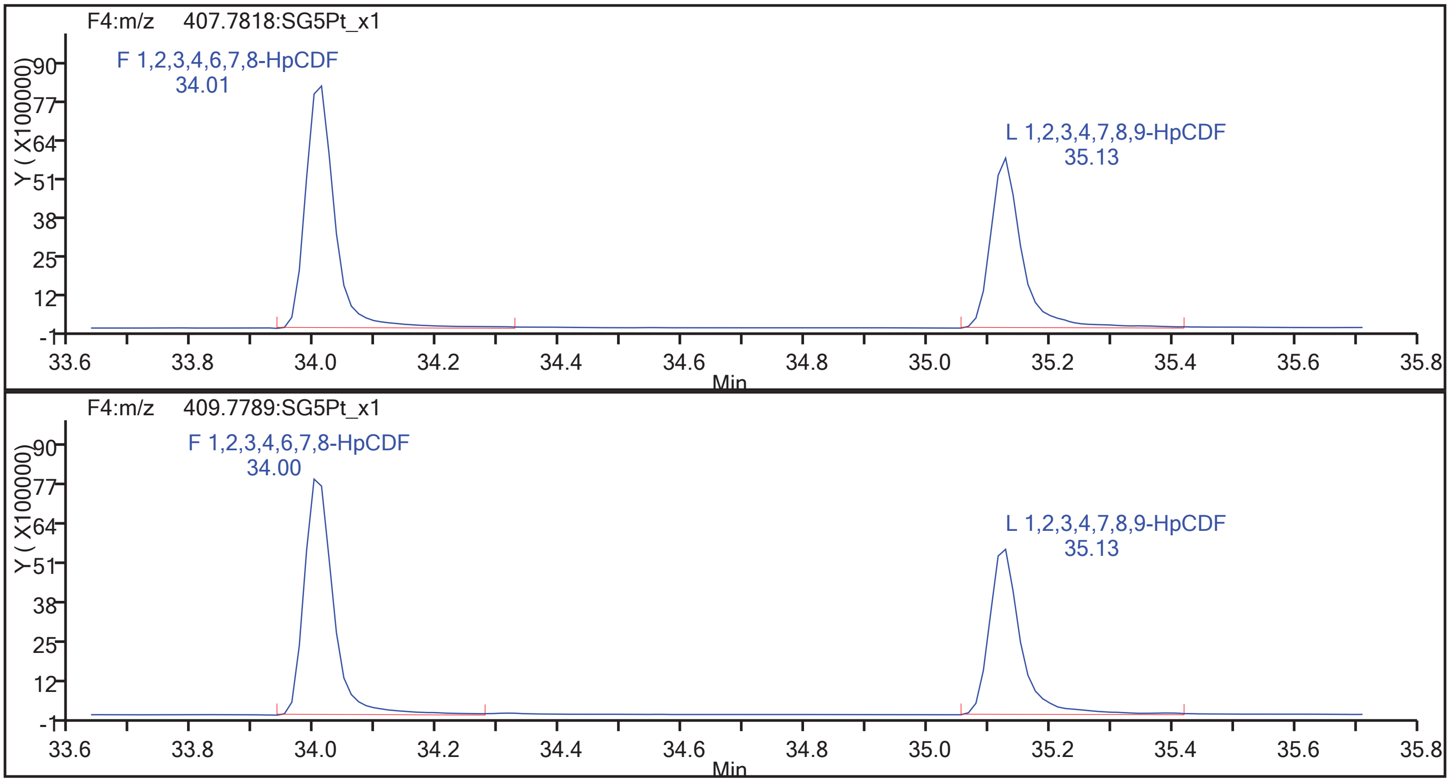




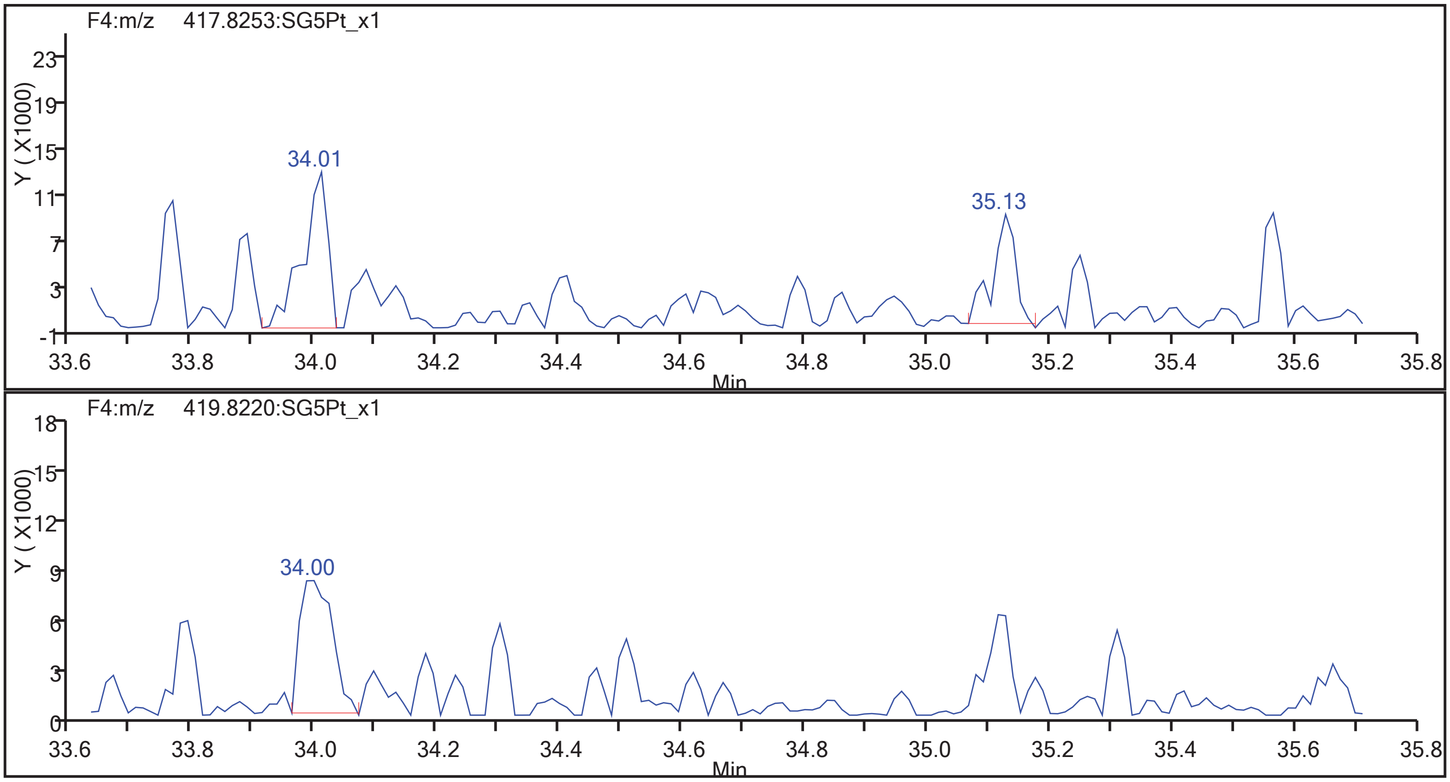
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
Injection Date:	19-Nov-2017 10:51:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195575	Sample Line#:	80
Column Type:		Column Dia:	

HpCDF



HpCDF Standards

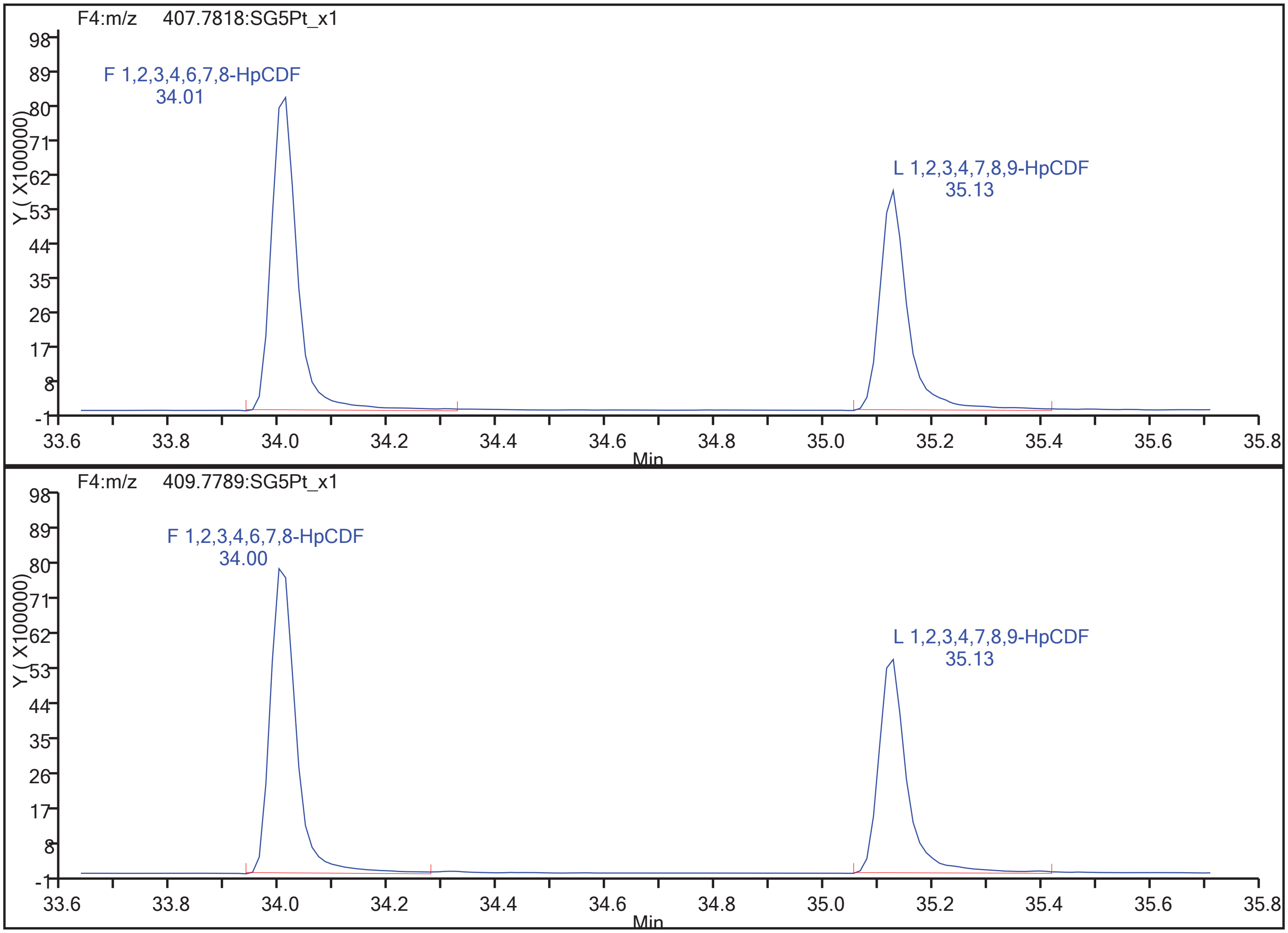


Report Date: 20-Nov-2017 11:49:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

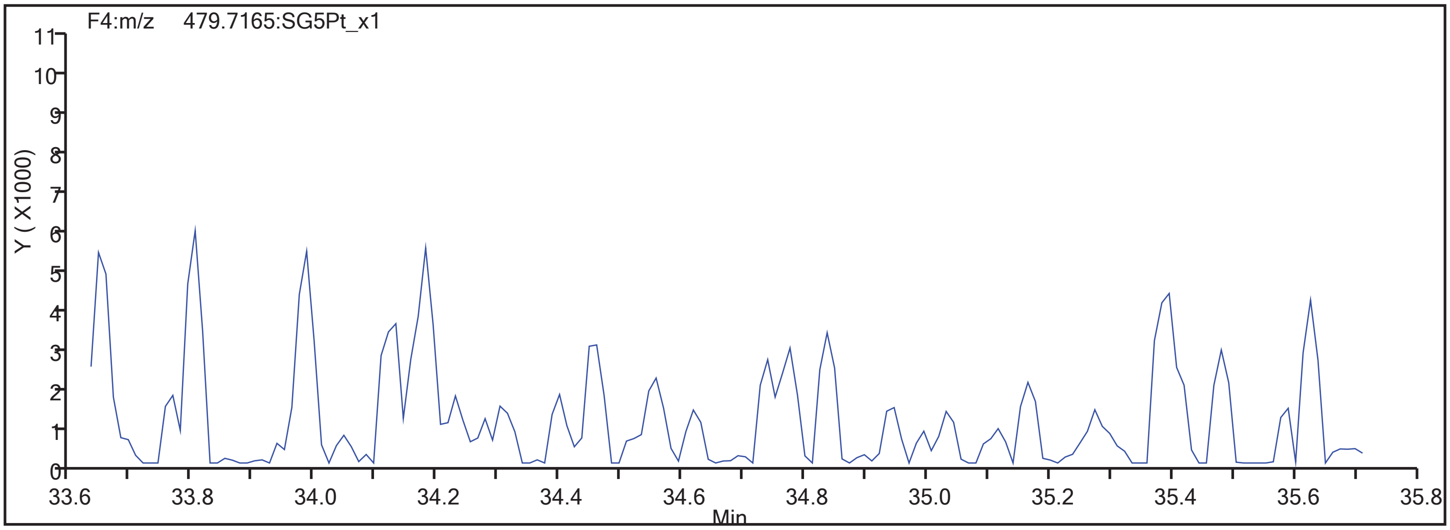
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
Injection Date:	19-Nov-2017 10:51:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195575	Sample Line#:	80
Column Type:		Column Dia:	

HpCDF



HpCDF Interference Mass



Report Date: 20-Nov-2017 11:49:05 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d

Injection Date: 19-Nov-2017 10:51:16

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: WDM01

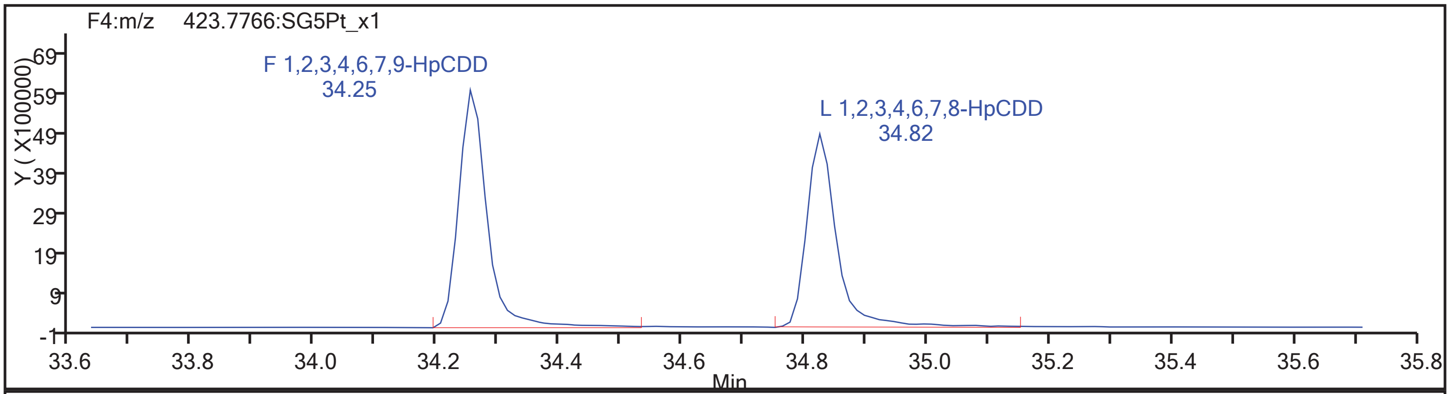
Worklist#: 195575

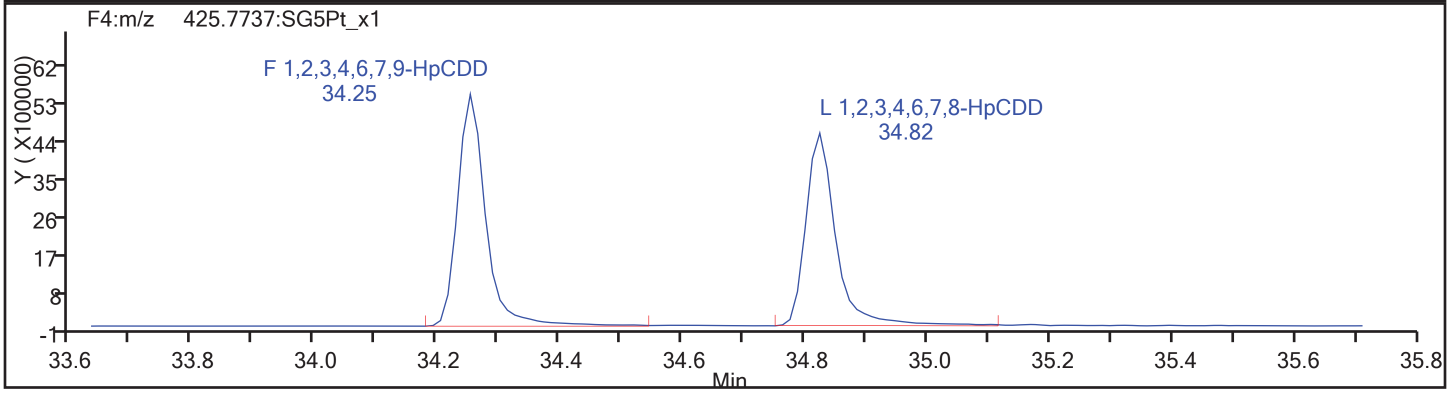
Sample Line#: 80

Column Type:

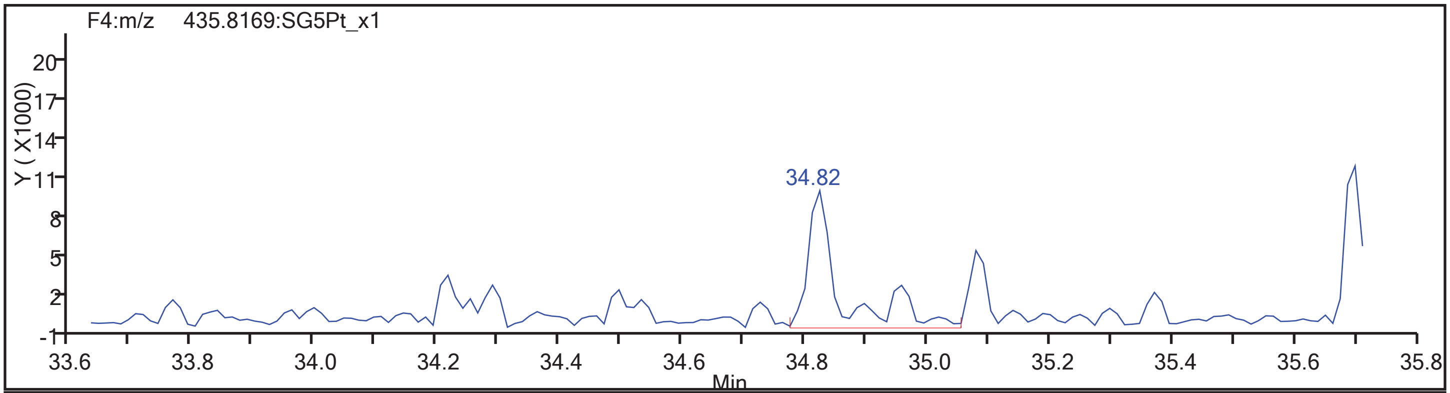
Column Dia:

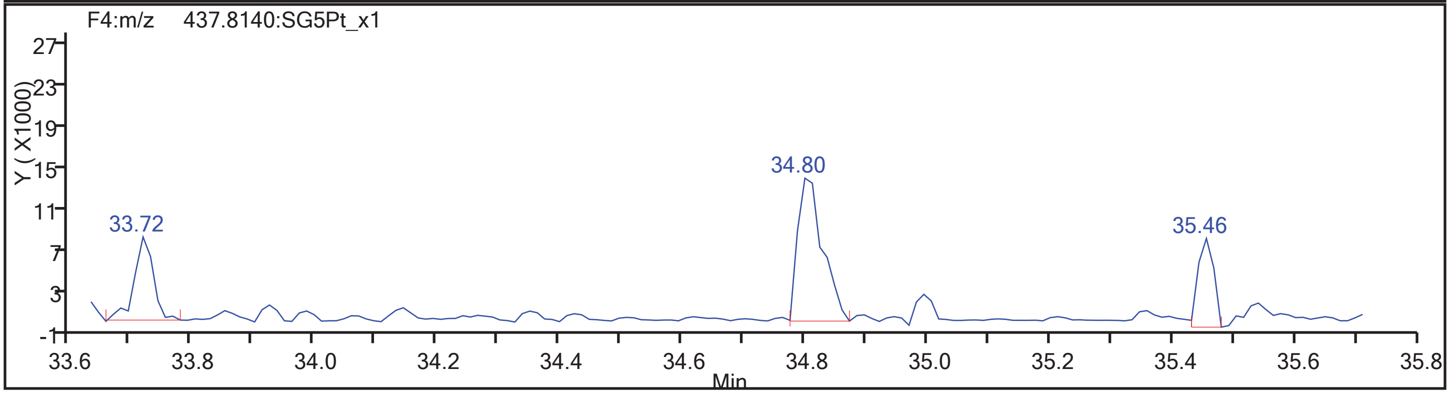
HpCDD





HpCDD Standards





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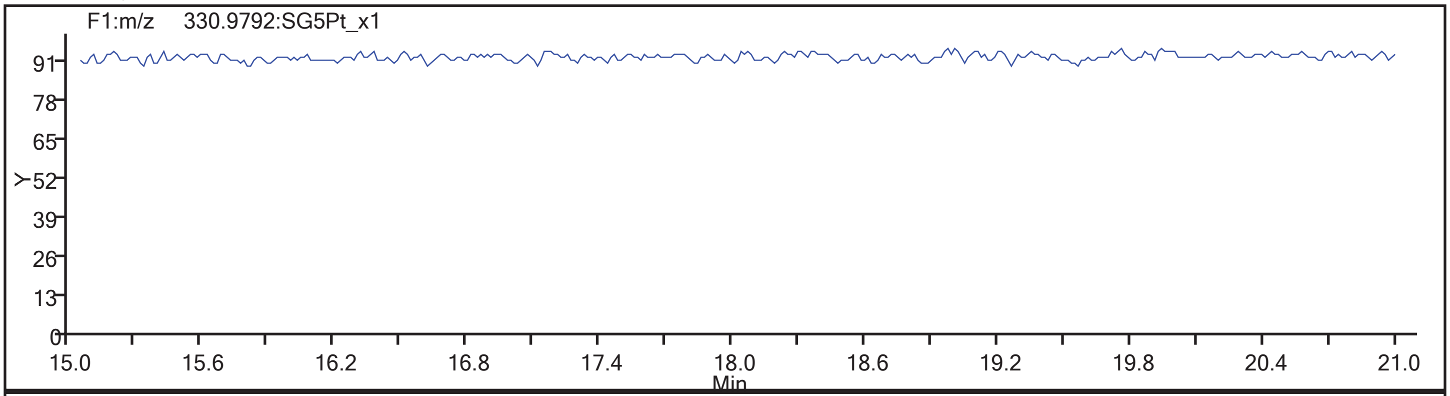
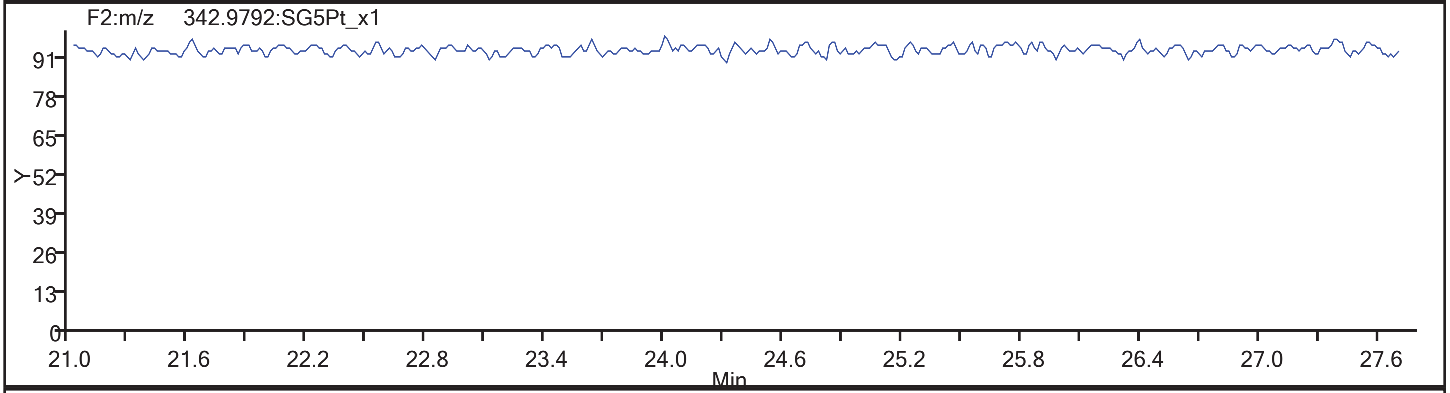
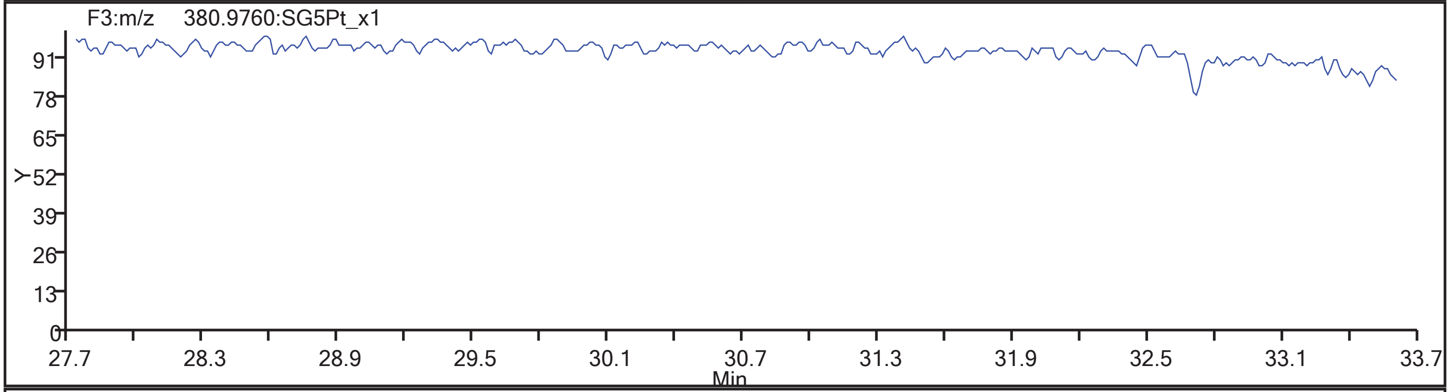
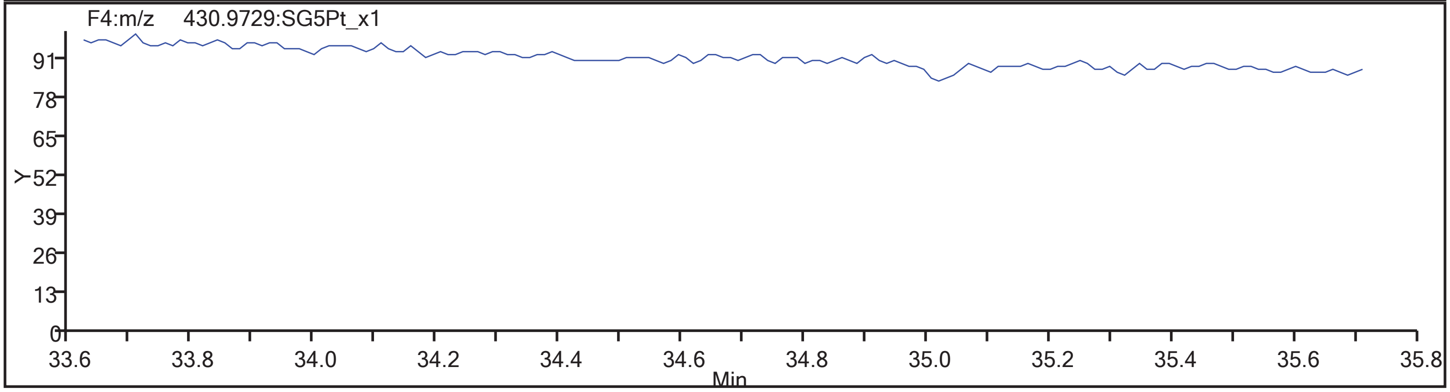
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
Injection Date:	19-Nov-2017 10:51:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195575	Sample Line#:	80
Column Type:		Column Dia:	



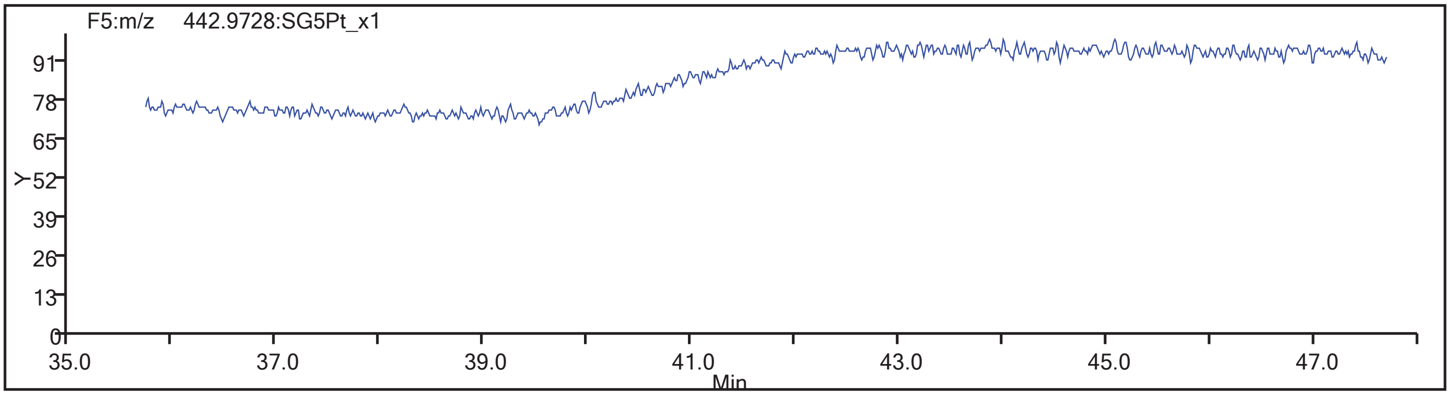






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_80.d		
Injection Date:	19-Nov-2017 10:51:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	WDM01		
Worklist#:	195575	Sample Line#:	80
Column Type:		Column Dia:	



Report Date: 03-Mar-2017 09:14:20 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_001.d				
Lims ID:	CPS				
Client ID:	CPS01				
Sample Type:	CPS				
Inject. Date:	02-Mar-2017 13:26:59	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	DB225 CPSM HRDXNCP_00031				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		

Method:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m		
Limit Group:	HR - 8290A_D5 - ICAL		
Last Update:	03-Mar-2017 09:14:18	Calib Date:	02-Mar-2017 16:36:13
Integrator:	Picker		
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d		

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK026

First Level Reviewer: stephensk Date: 03-Mar-2017 08:59:24

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.339	164083000	0.81	1.2599					0.00	
2,3,7,8-TCDF	16.366	164773588	0.74	1.0784	37.2	37.2	0.1164	0.1164		
D 13C-2,3,7,8-TCDD	14.940	114096375	0.78	0.9567					0.00	
2,3,7,8-TCDD	14.954						0.0807	0.0807		U
S Total Dioxins & Furans							0.000100	0.000100		
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Review Flags
U - Marked Undetected

Reagents:

HRDXNCP_00031 Amount Added: 1.00 Units: mL

Report Date: 03-Mar-2017 09:14:20 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_001.d
Lims ID: CPS
Client ID: CPS01
Sample Type: CPS
Inject. Date: 02-Mar-2017 13:26:59 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: DB225 CPSM HRDXNCP_00031
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 03-Mar-2017 09:14:18 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK026

First Level Reviewer: stephensk Date: 03-Mar-2017 08:59:24

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.339	16.342	0	1.000	73627704	13223246	23246	58115	569		
317.9389	16.339	16.342	0	1.000	90455296	16299682	10674	26685	1527	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.366	16.366	0	1.002	69984040	13487007	17994	44985	750		
305.8987	16.366	16.366	0	1.002	94789548	18284469	19071	47677	959	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.940	14.932	0	1.000	49831547	9934834	20161	50402	493		
333.9339	14.940	14.932	0	1.000	64264828	12750300	8570	21425	1488	0.78(0.65-0.89)	
2,3,7,8-TCDD											U
319.8965	14.951						9005	22512			
321.8936	14.951						11355	28387			
Total Dioxins & Furans											
303.9016		0.0	0				17994	44985			
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				17994	44985			

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

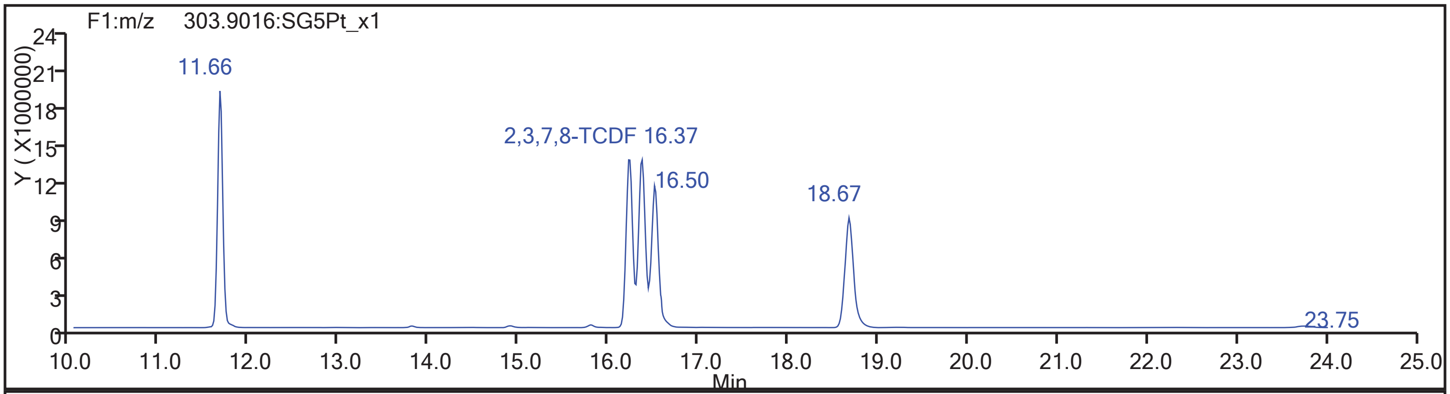
HRDXNCP_00031 Amount Added: 1.00 Units: mL

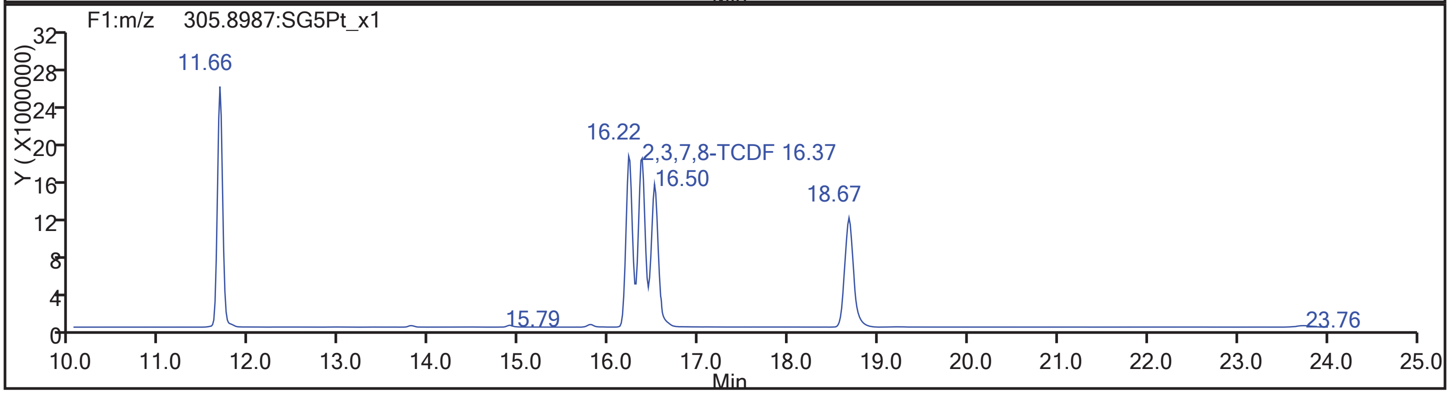
Report Date: 03-Mar-2017 09:14:20 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento

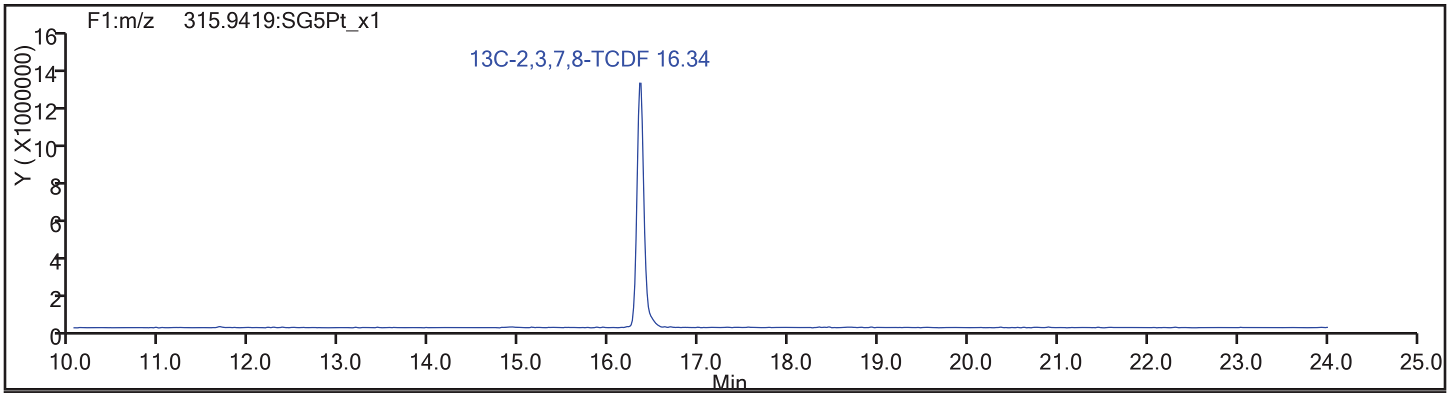
Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_001.d
Injection Date: 02-Mar-2017 13:26:59
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CPS01
Worklist#: 153001
Sample Line#: 1
Column Type: DB-225
Column Dia: 0.32 mm

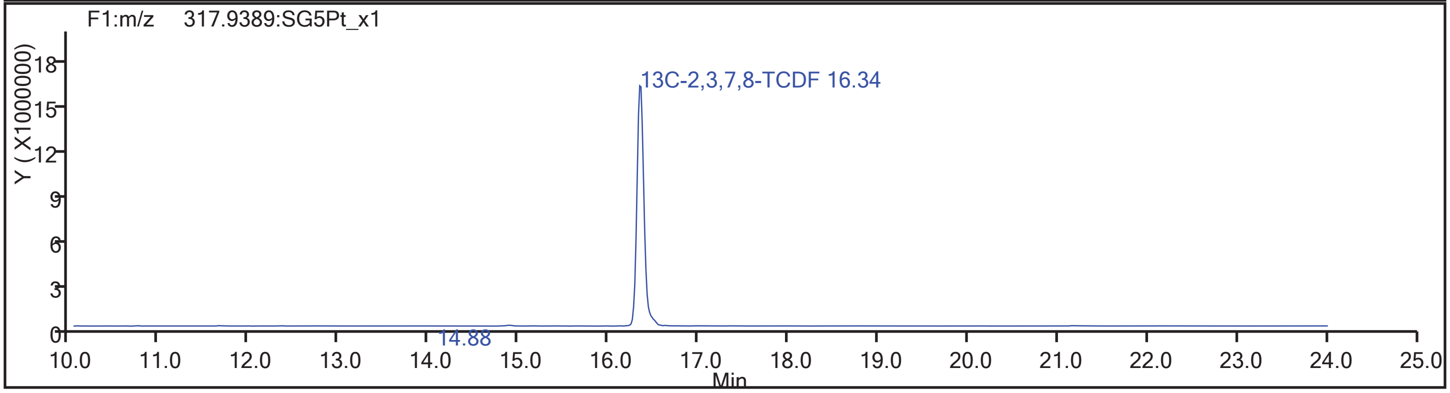
TCDF





TCDF Standards

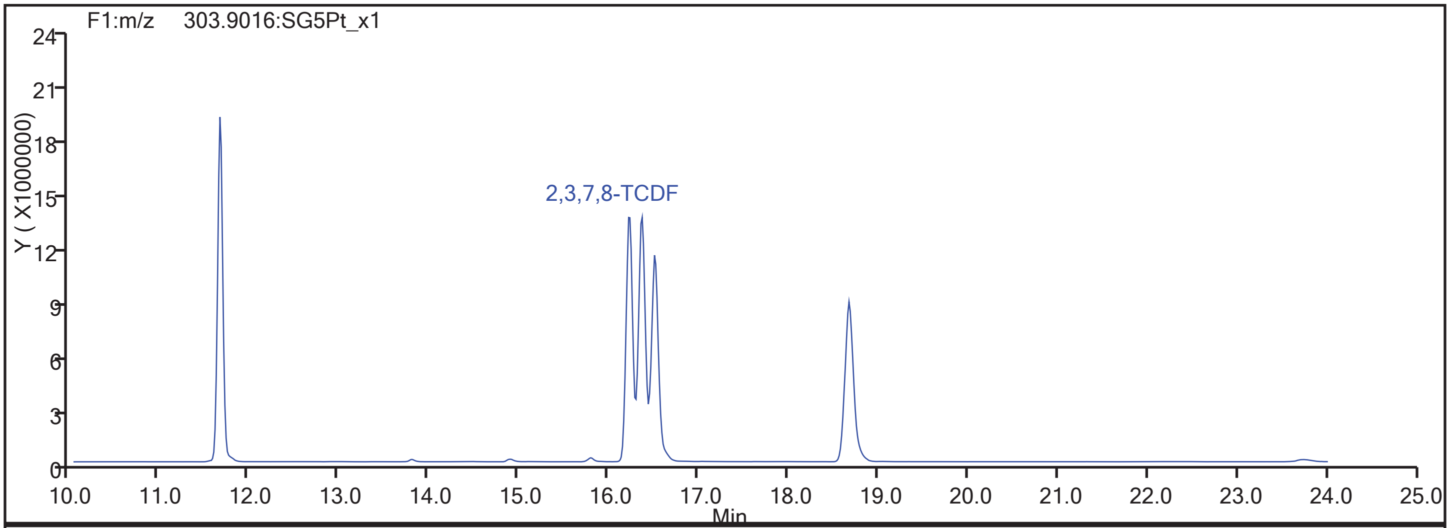


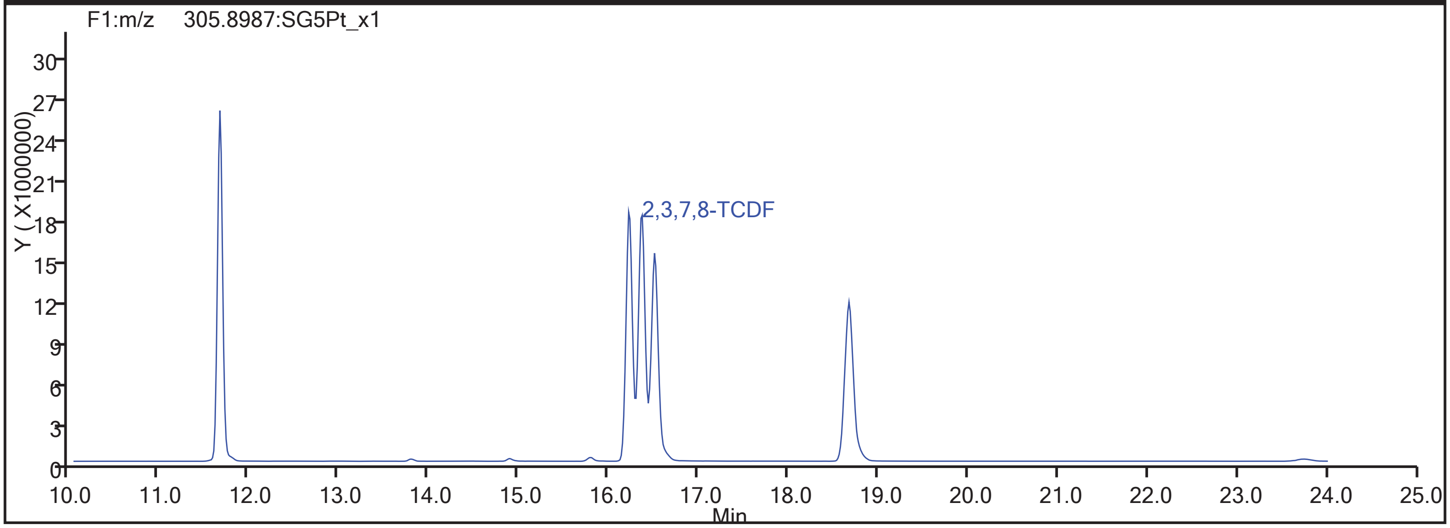


TestAmerica Sacramento

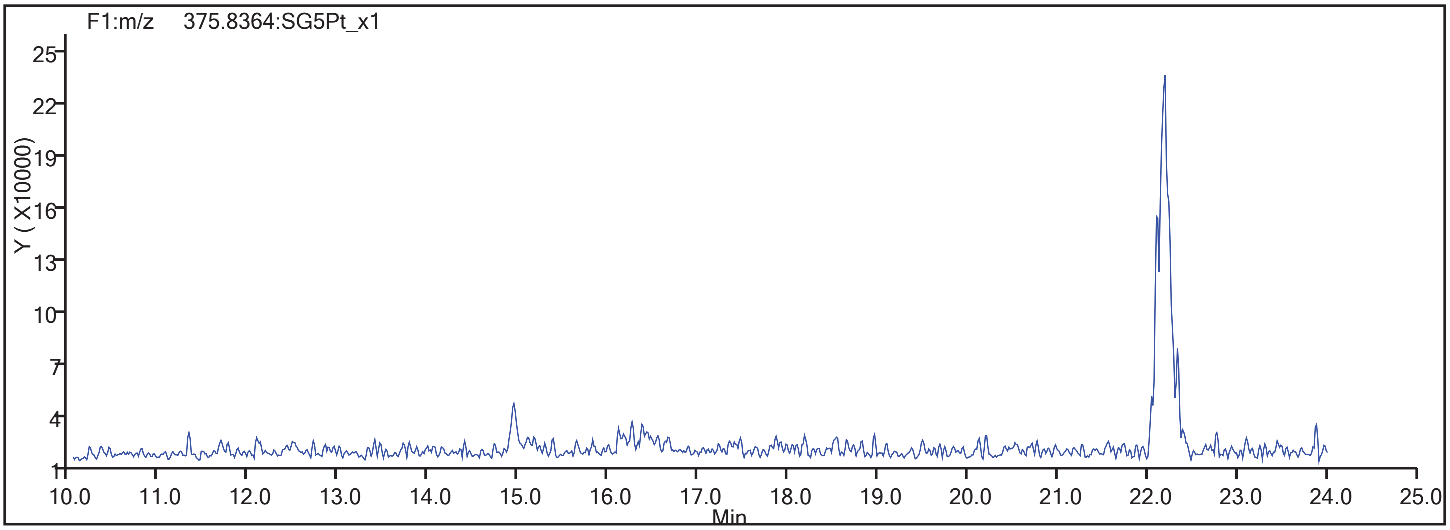
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_001.d		
Injection Date:	02-Mar-2017 13:26:59	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CPS01		
Worklist#:	153001	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



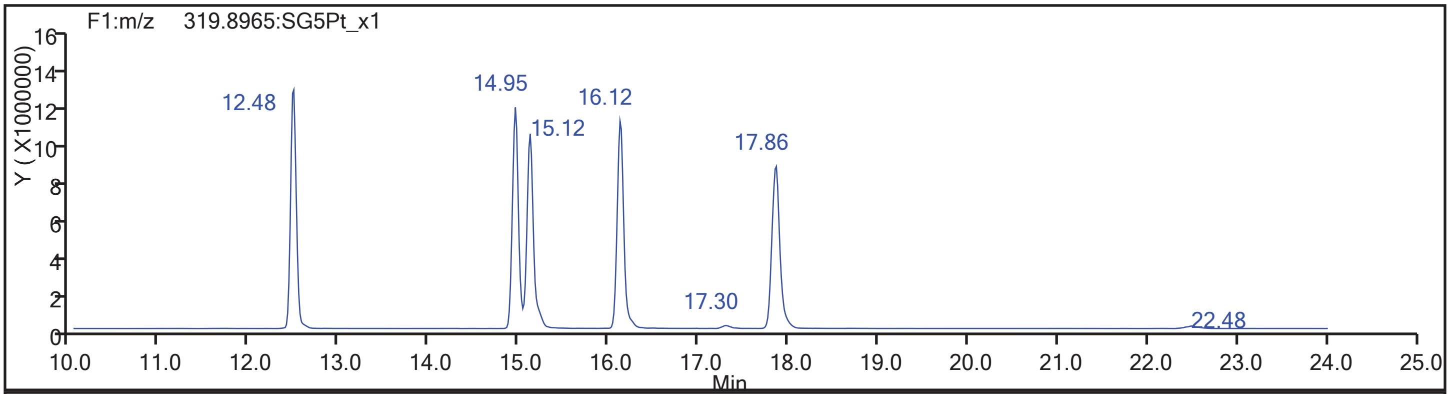
Report Date: 03-Mar-2017 09:14:20 Chrom Revision: 2.2 03-Feb-2017 15:35:04

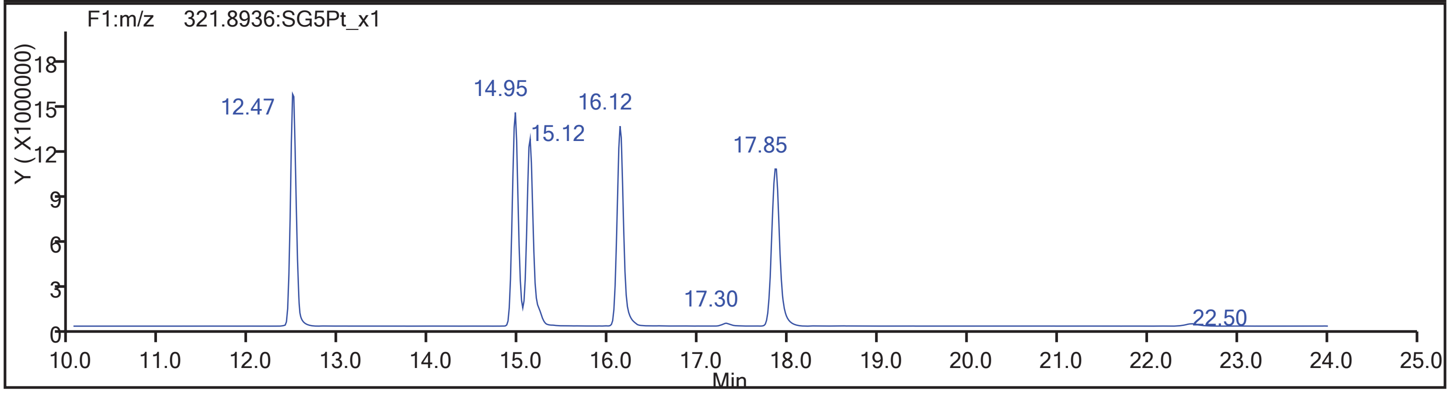
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_001.d

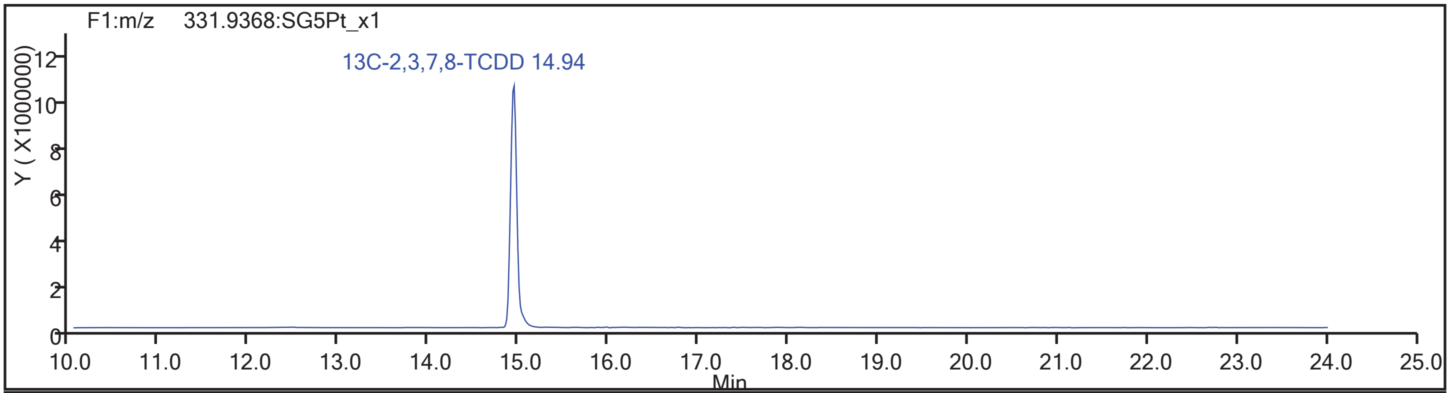
Injection Date:	02-Mar-2017 13:26:59	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CPS01		
Worklist#:	153001	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

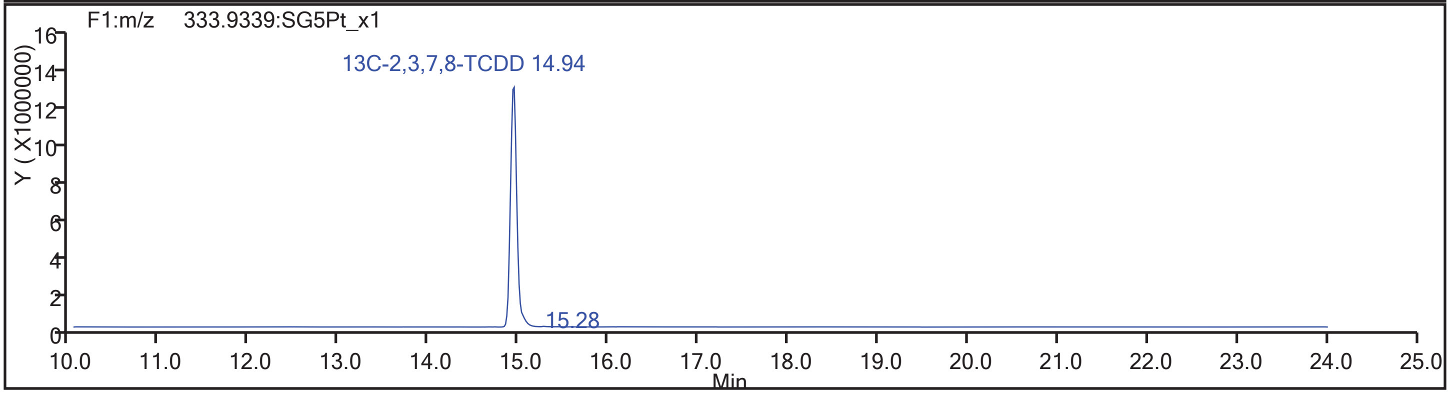
TCDD





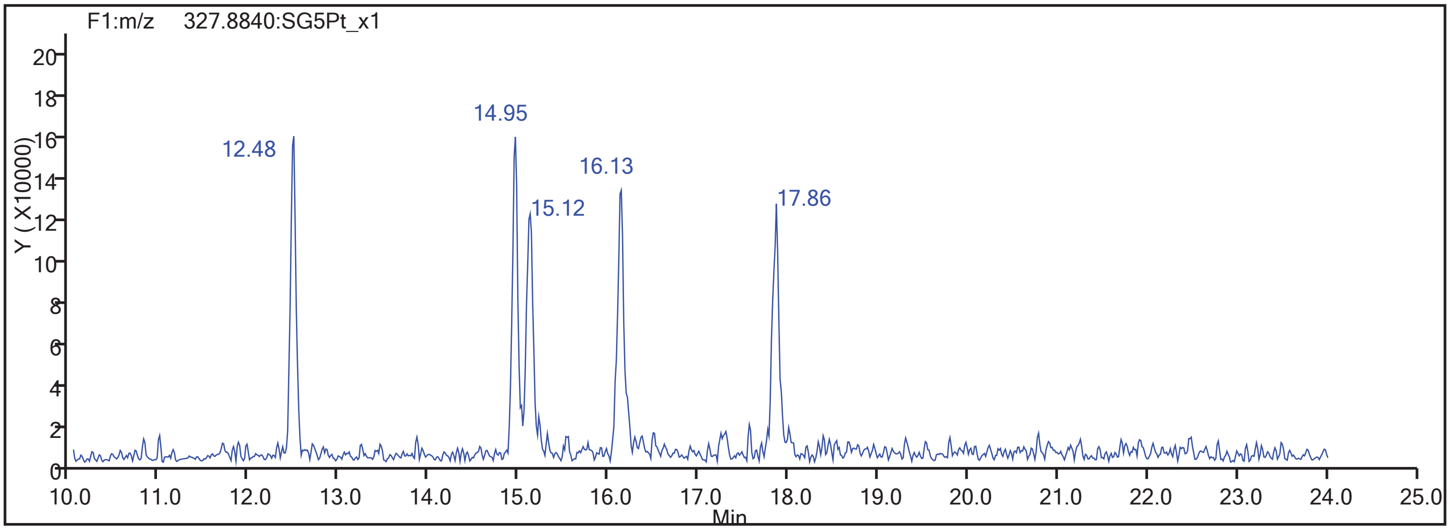
TCDD Standards



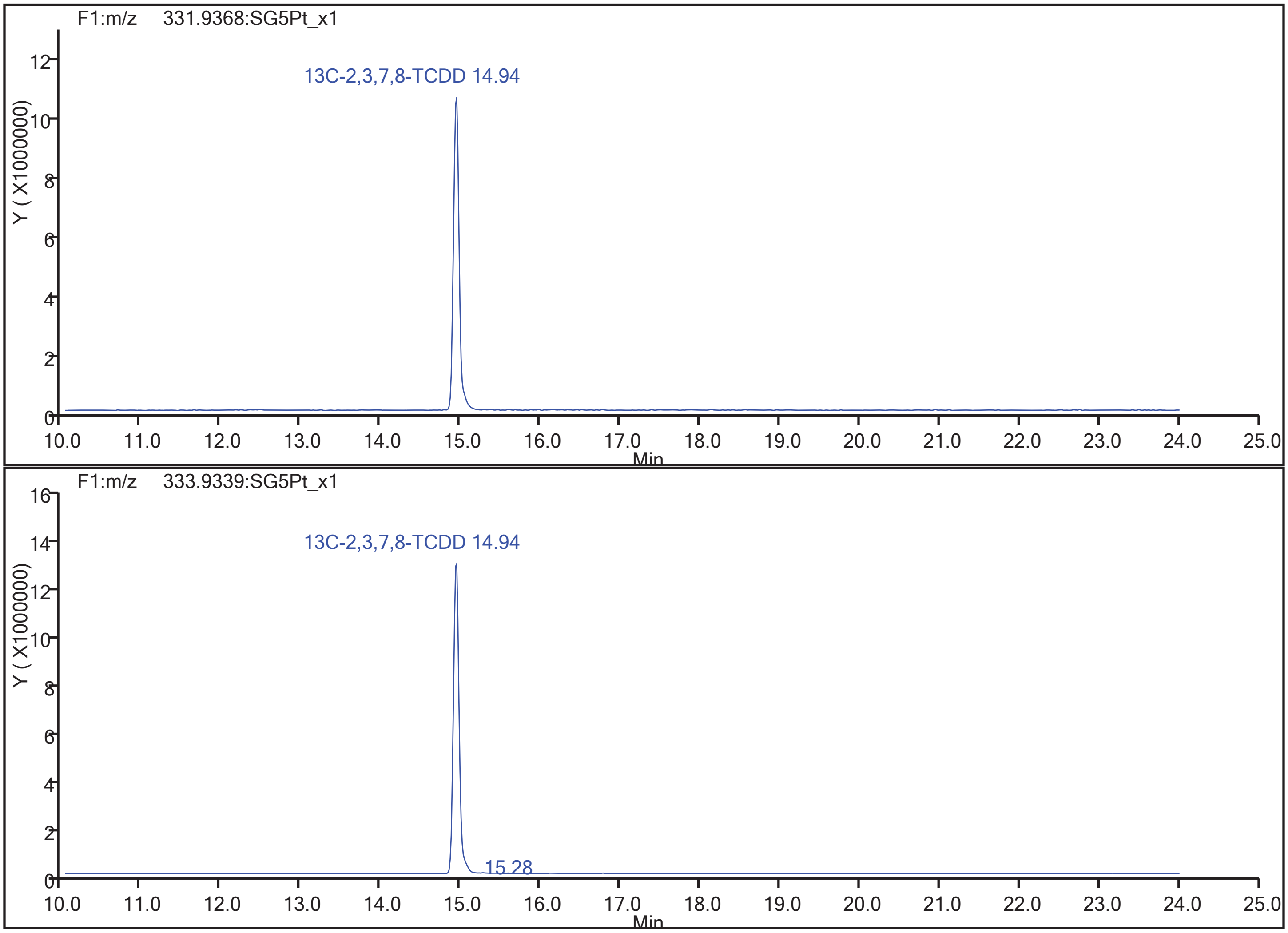


Data File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_001.d		
Injection Date:	02-Mar-2017 13:26:59	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	CPS01		
Worklist#:	153001	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

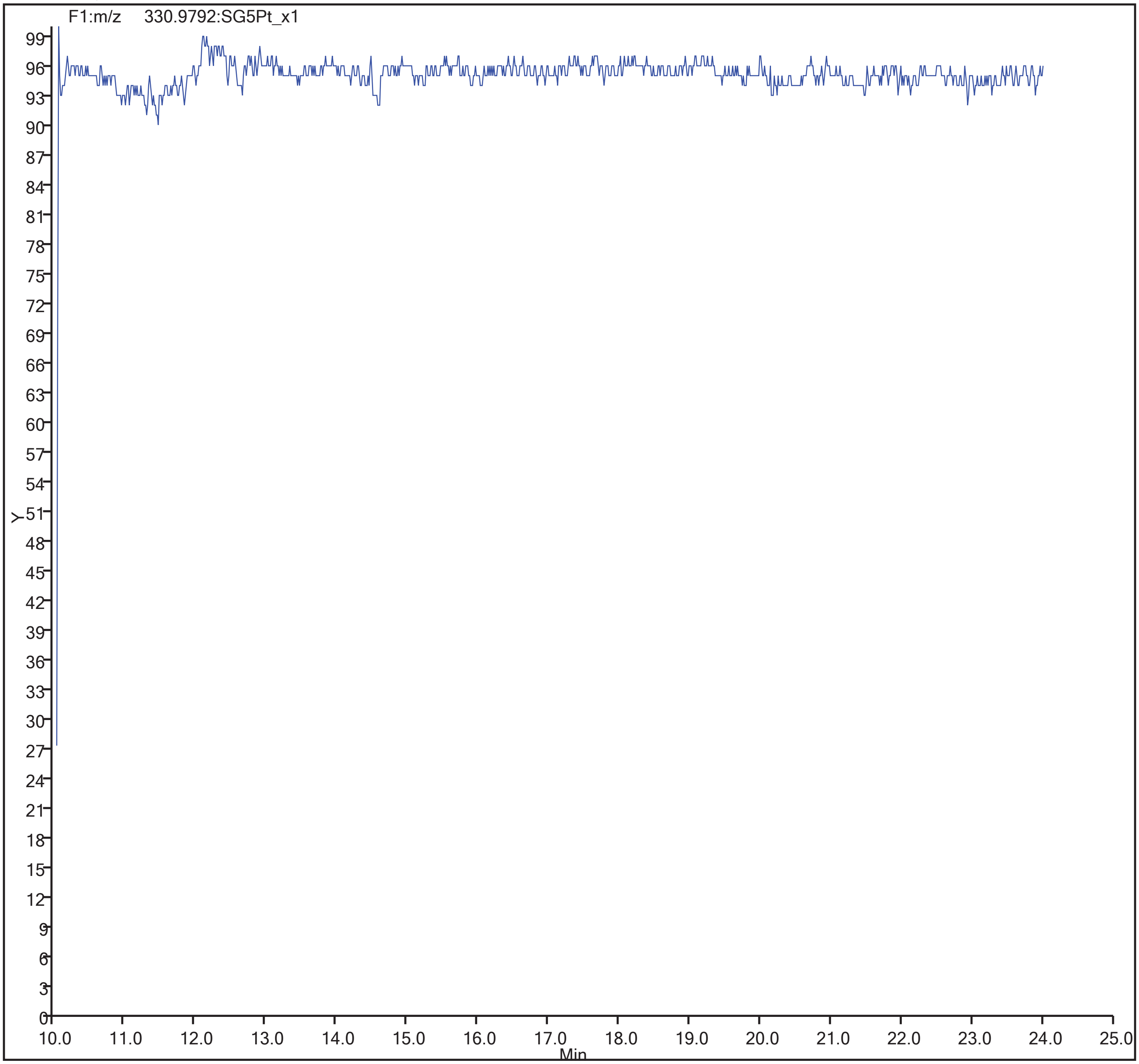


37Cl4-TCDD Standards



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_001.d
Injection Date: 02-Mar-2017 13:26:59
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID: CPS01
Worklist#: 153001
Sample Line#: 1
Column Type: DB-225
Column Dia: 0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_001.d				
Lims ID:	CPS				
Client ID:					
Sample Type:	CPS				
Inject. Date:	07-Nov-2017 10:09:47	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:					
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 16:51:35	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				

First Level Reviewer: shardaa Date: 09-Nov-2017 16:39:58

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.123	198900965	0.78	1.2599					0.00	
2,3,7,8-TCDF	16.137	203828346	0.74	1.0784	38.0	38.0	0.0844	0.0844		
D 13C-2,3,7,8-TCDD	14.711	148074033	0.78	0.9567					0.00	
2,3,7,8-TCDD	14.724	145359909	0.79	1.1123	35.3	35.3	0.0781	0.0781		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

Report Date: 09-Nov-2017 16:51:35 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 07-Nov-2017 10:09:47 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:35 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:39:58

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.123	16.123	0	1.000	87083680	17094557	12911	32277	1324		
317.9389	16.123	16.123	0	1.000	111817285	22037692	10564	26410	2086	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.137	16.137	0	1.001	86822796	18022131	15550	38875	1159		
305.8987	16.137	16.137	0	1.001	117005550	24000646	20077	50192	1195	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.711	14.711	0	1.000	64733244	14110626	14787	36967	954		
333.9339	14.711	14.711	0	1.000	83340789	18044457	9354	23385	1929	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.724	14.724	0	1.001	64021404	13815429	13209	33022	1046		
321.8936	14.724	14.724	0	1.001	81338505	17915087	14716	36790	1217	0.79(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				15550	38875			
Total Dioxins & Furans											
303.9016		0.0	0				15550	38875			

Reagents:

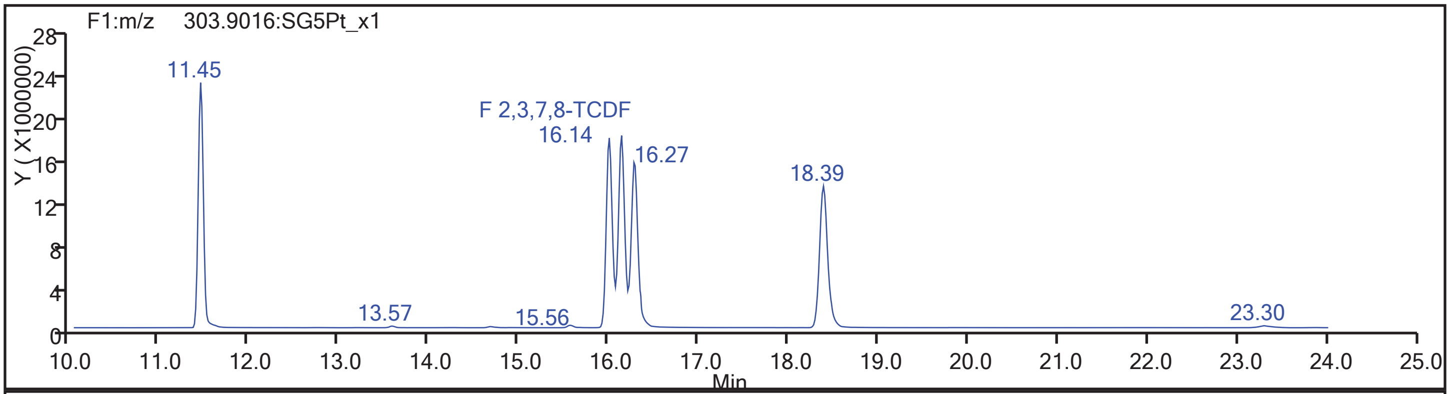
HRDXNCP_00034 Amount Added: 1.00 Units: mL

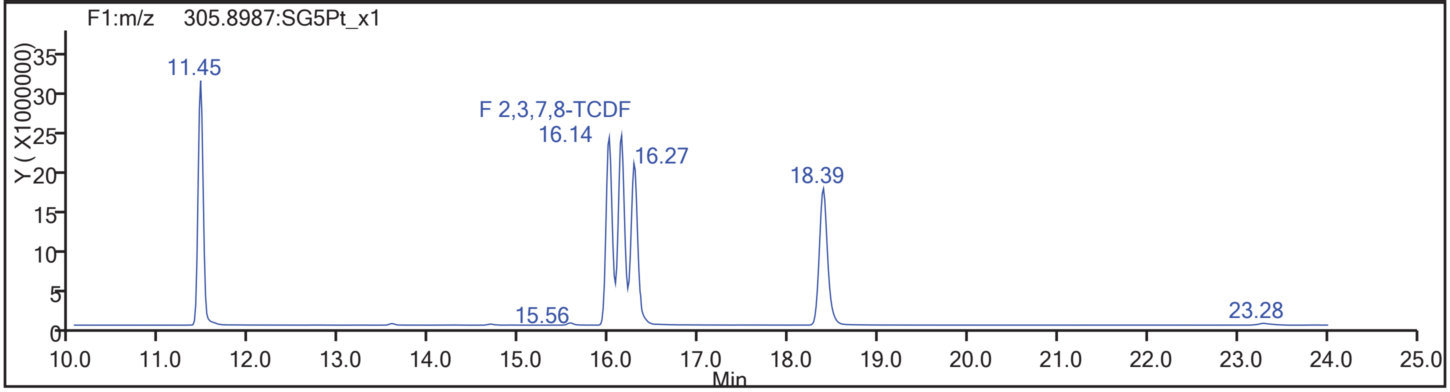
Report Date: 09-Nov-2017 16:51:36		Chrom Revision: 2.2 16-Aug-2017 16:24:46	

TestAmerica Sacramento

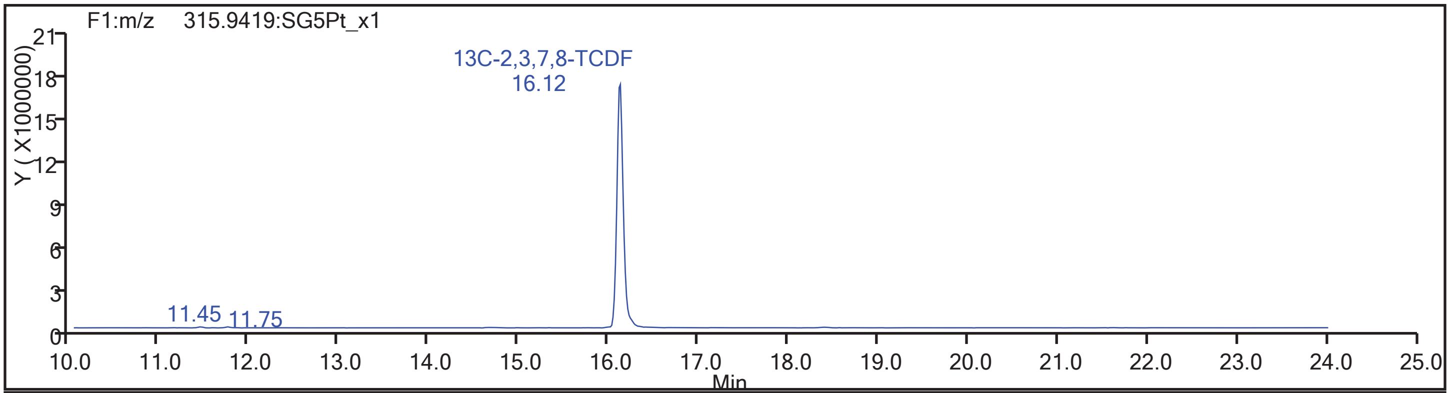
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_001.d		
Injection Date:	07-Nov-2017 10:09:47	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

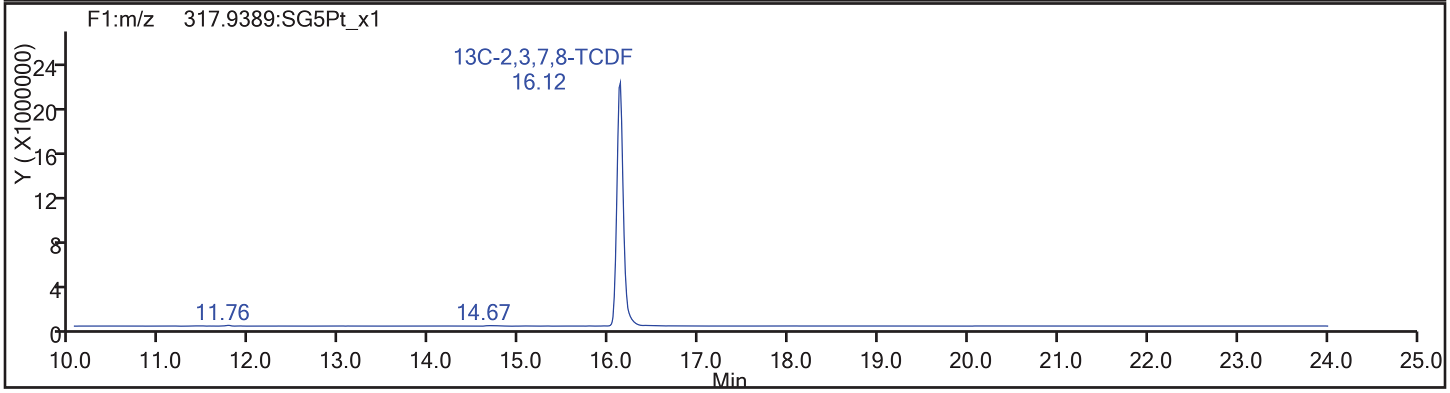
TCDF





TCDF Standards



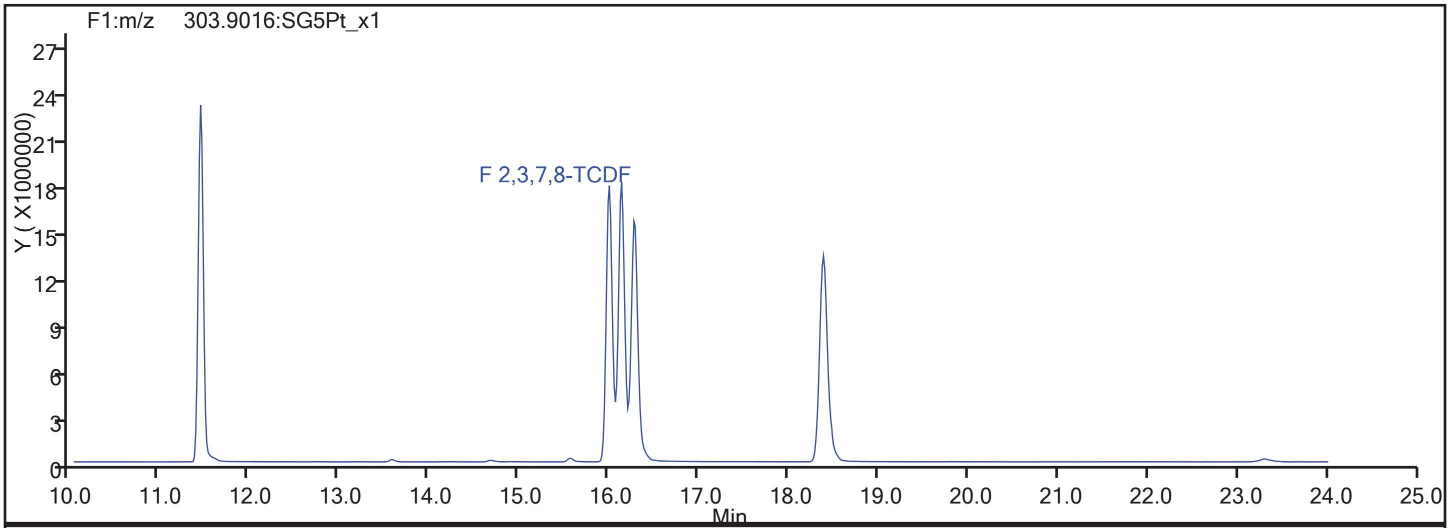


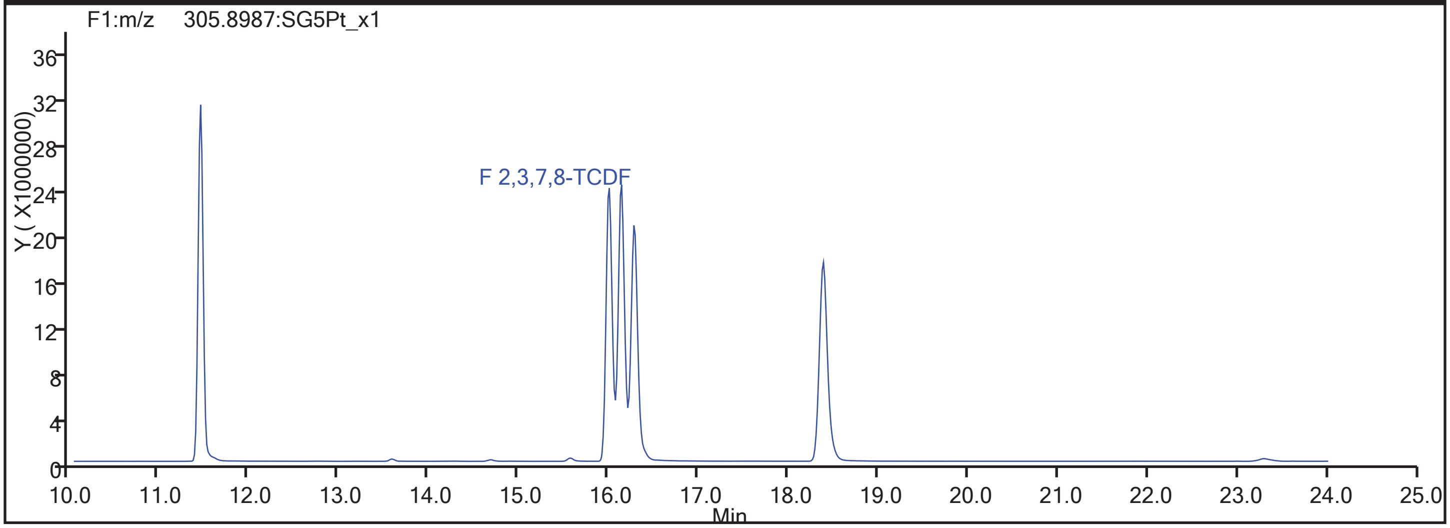
Report Date: 09-Nov-2017 16:51:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

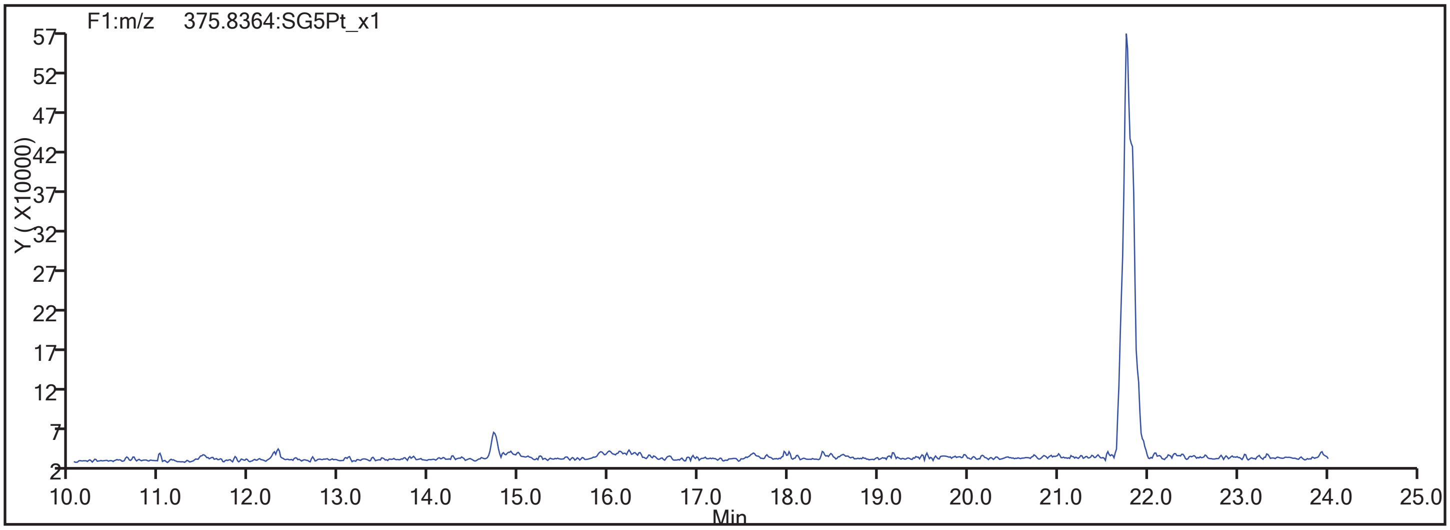
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_001.d		
Injection Date:	07-Nov-2017 10:09:47	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

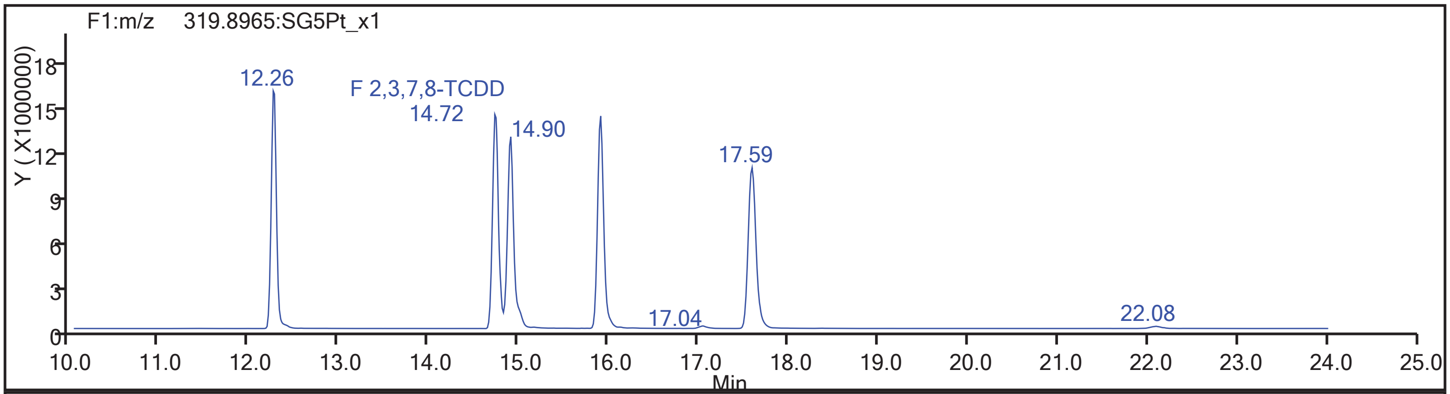


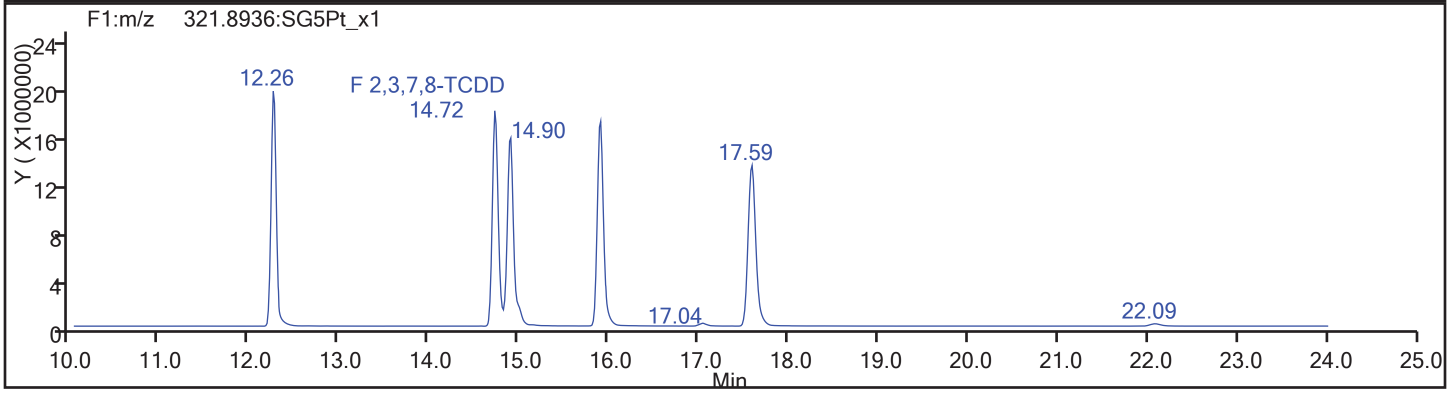
Report Date: 09-Nov-2017 16:51:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

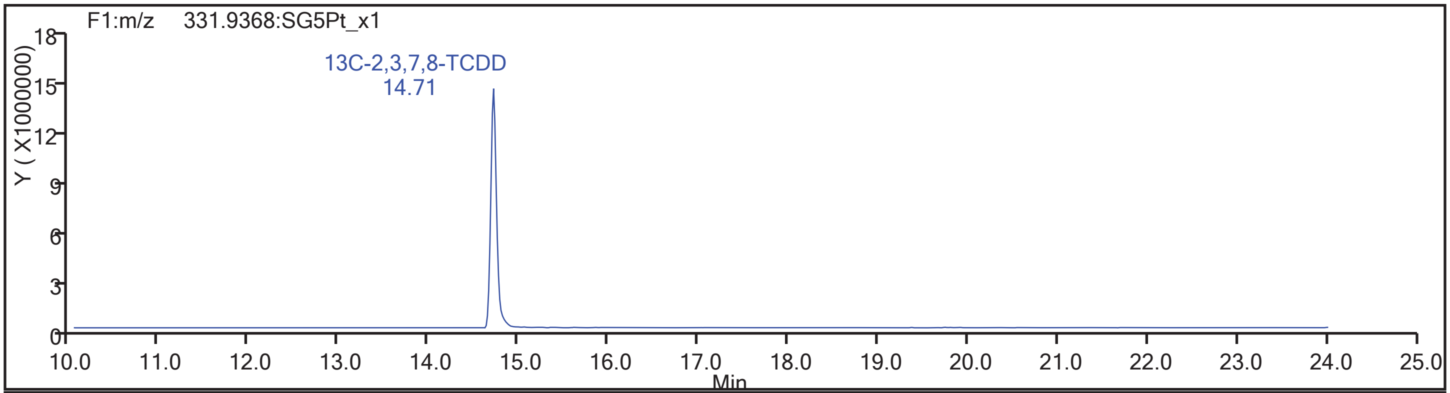
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_001.d		
Injection Date:	07-Nov-2017 10:09:47	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

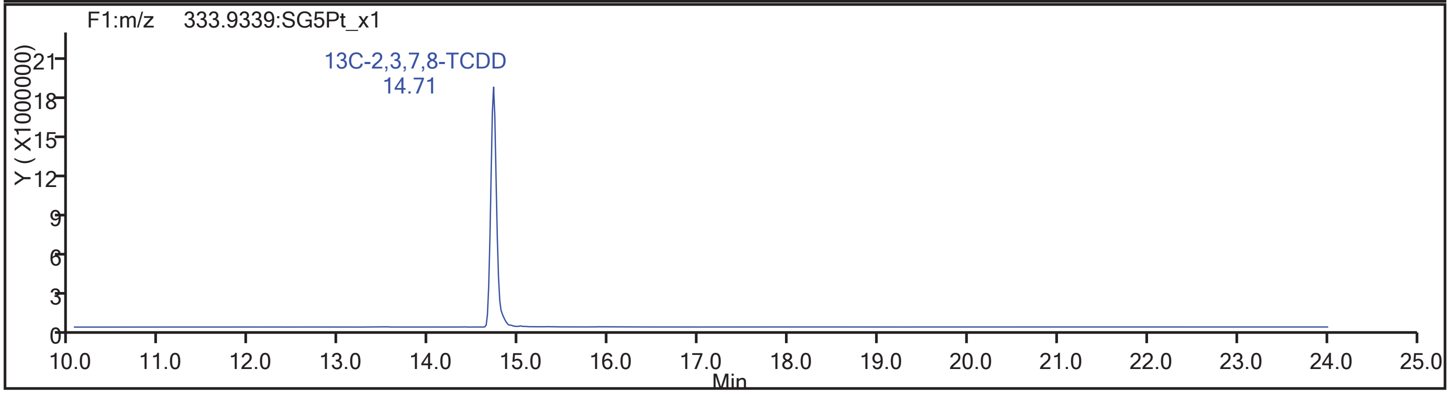
TCDD





TCDD Standards



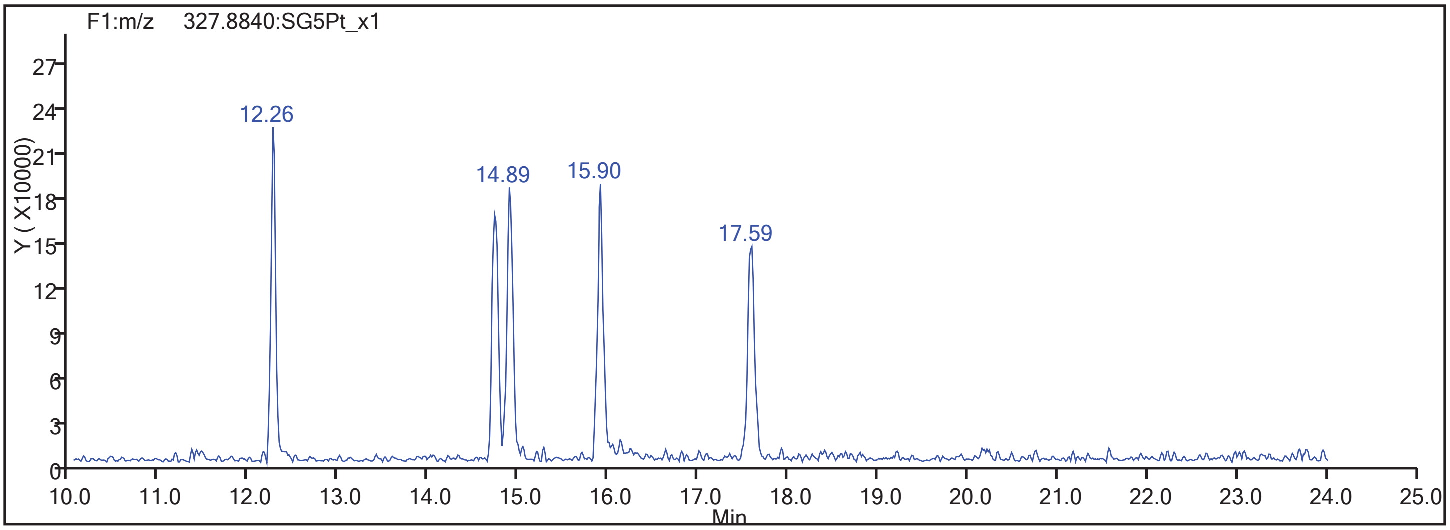


Report Date: 09-Nov-2017 16:51:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

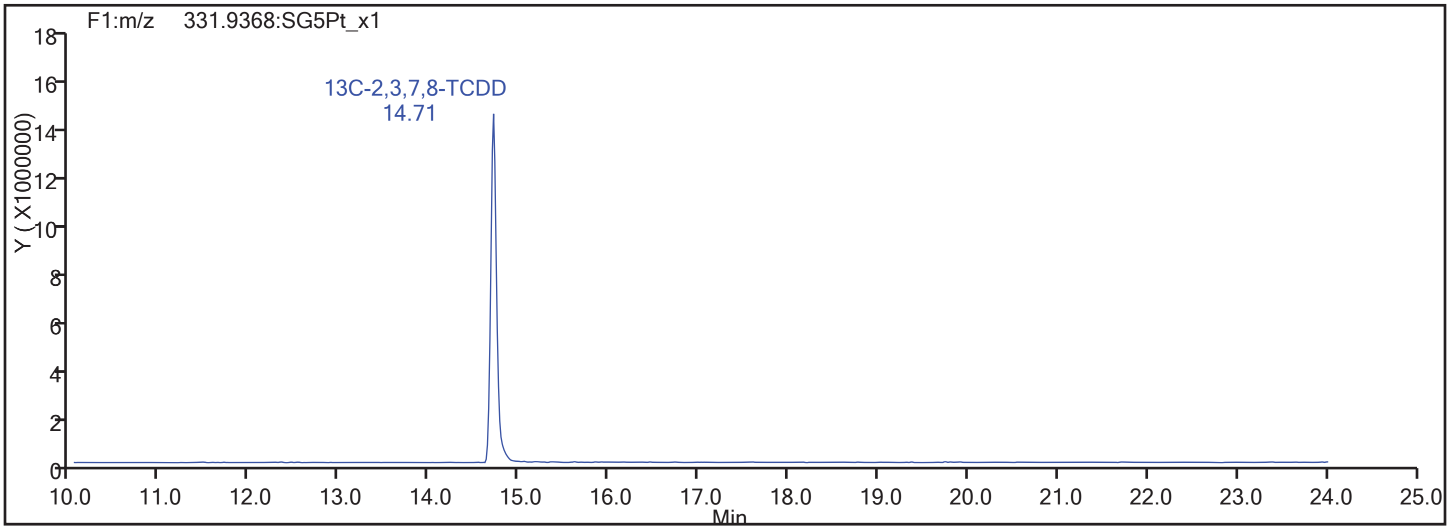
TestAmerica Sacramento

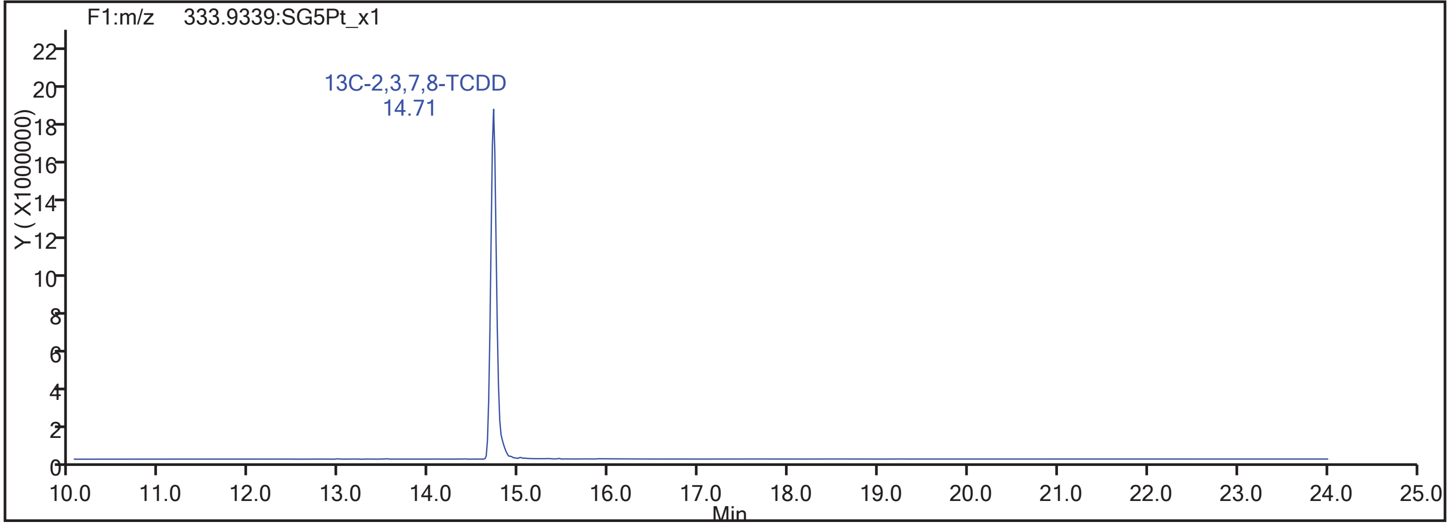
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_001.d		
Injection Date:	07-Nov-2017 10:09:47	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

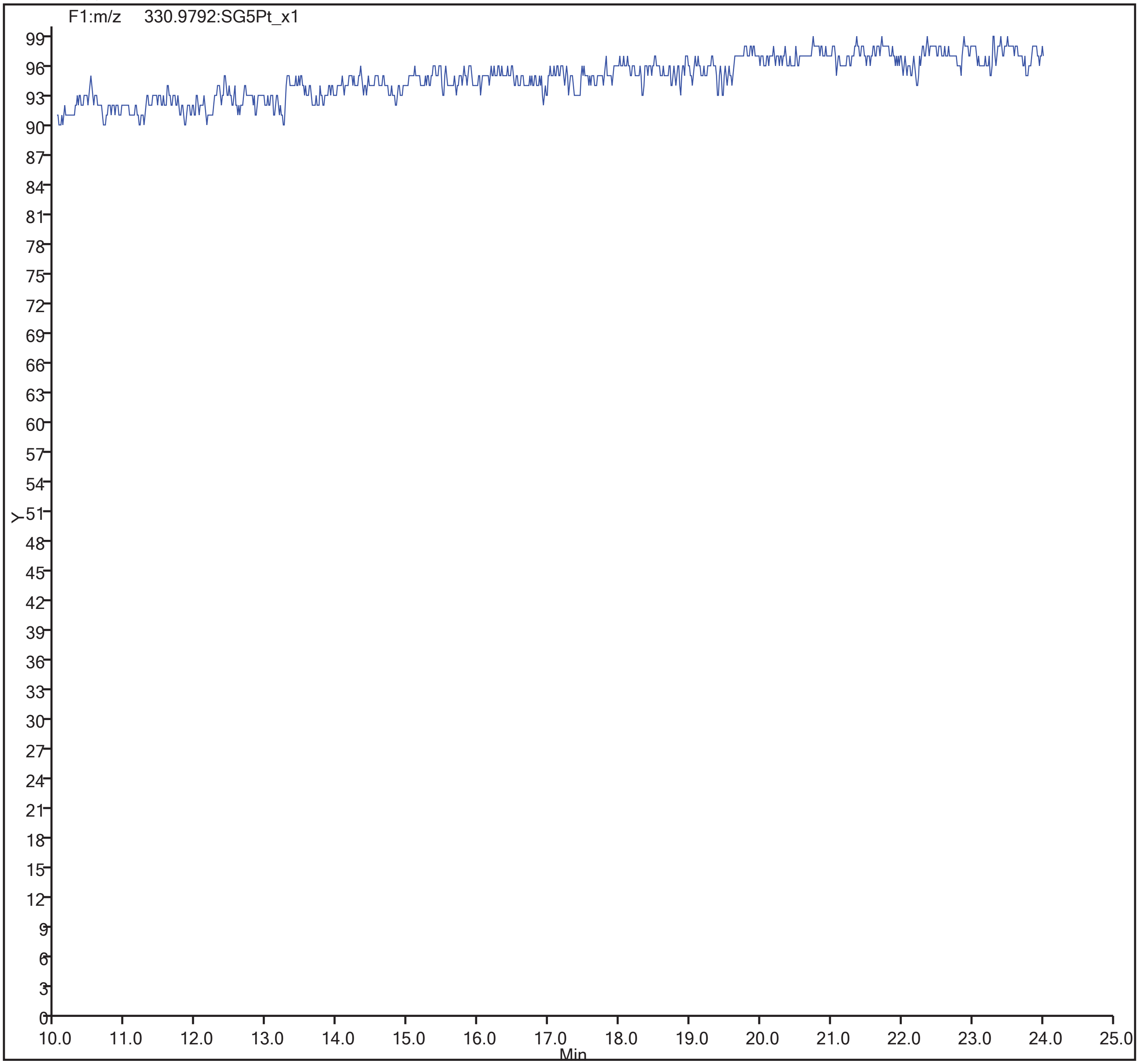


37Cl4-TCDD Standards





Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_001.d		
Injection Date:	07-Nov-2017 10:09:47	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193317	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_001.d				
Lims ID:	CPS				
Client ID:					
Sample Type:	CPS				
Inject. Date:	07-Nov-2017 22:48:19	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:					
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 17:06:38	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				

First Level Reviewer: shardaa Date: 09-Nov-2017 17:06:38

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.096	187422194	0.81	1.2599					0.00	
2,3,7,8-TCDF	16.110	207619372	0.76	1.0784	41.1	41.1	0.1113	0.1113		
D 13C-2,3,7,8-TCDD	14.697	129584648	0.81	0.9567					0.00	
2,3,7,8-TCDD	14.724	135278757	0.79	1.1123	37.5	37.5	0.0897	0.0897		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNCP_00034	Amount Added: 1.00	Units: mL

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 07-Nov-2017 22:48:19 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 17:06:38 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 17:06:38

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.096	16.096	0	1.000	83764693	16022214	19692	49230	814		
317.9389	16.096	16.096	0	1.000	103657501	20184349	14252	35630	1416	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.110	16.110	0	1.001	89777964	17418523	21559	53897	808		
305.8987	16.110	16.110	0	1.001	117841408	23093424	21893	54732	1055	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.697	14.697	0	1.000	58007285	12217357	51517	128792	237		
333.9339	14.711	14.697	1	1.000	71577363	15176402	29468	73670	515	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.724	14.724	0	1.002	59508807	13563652	12959	32397	1047		
321.8936	14.724	14.724	0	1.002	75769950	17015984	14379	35947	1183	0.79(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				21559	53897			
Total Dioxins & Furans											
303.9016		0.0	0				21559	53897			

Reagents:

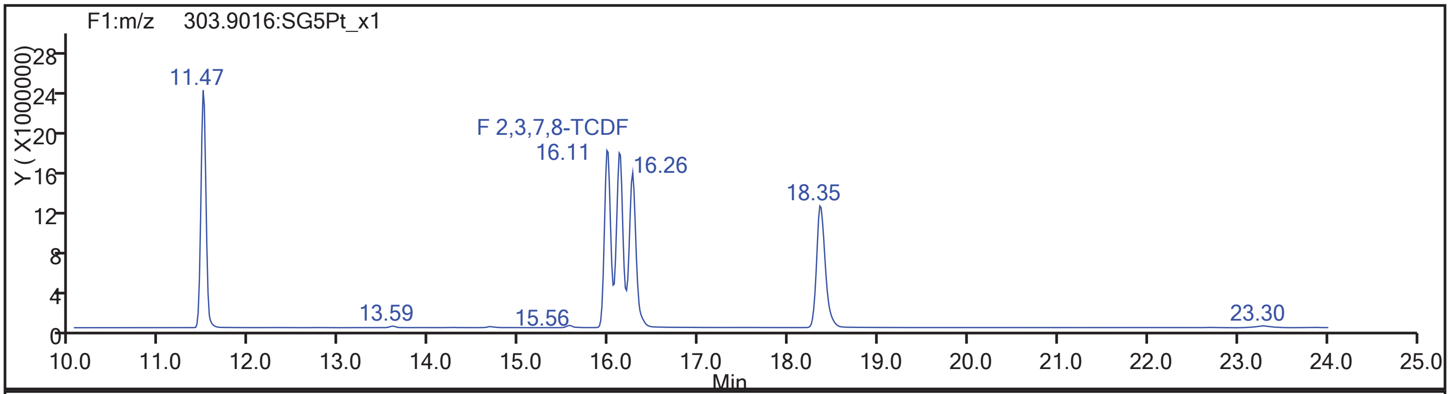
HRDXNCP_00034 Amount Added: 1.00 Units: mL

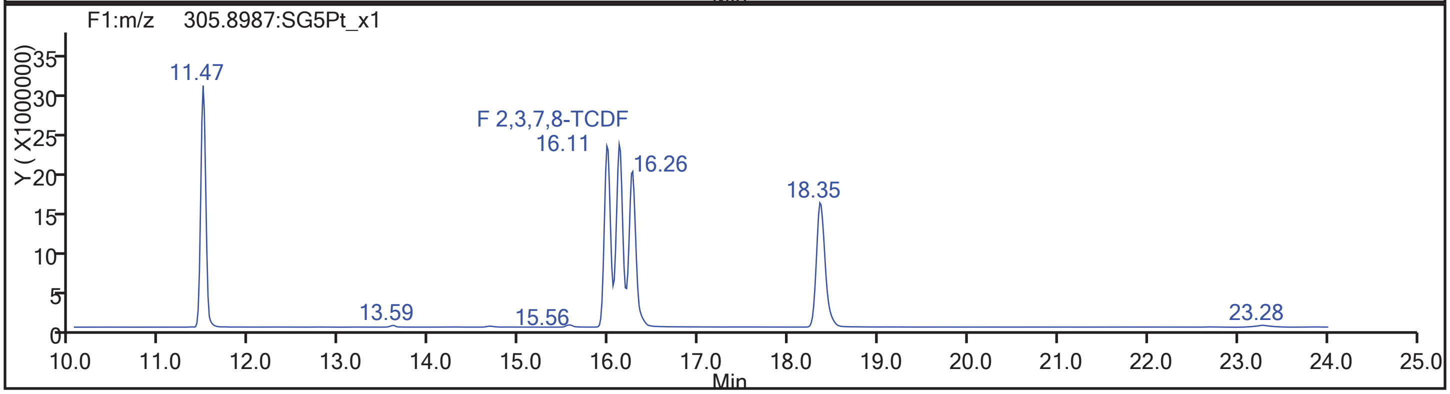
Report Date: 09-Nov-2017 17:06:38 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

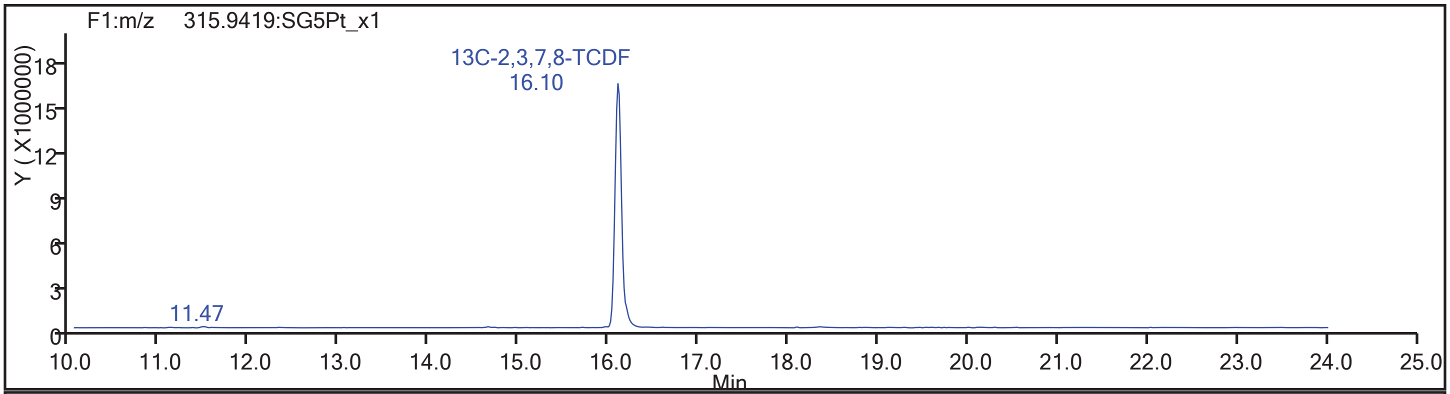
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_001.d		
Injection Date:	07-Nov-2017 22:48:19	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

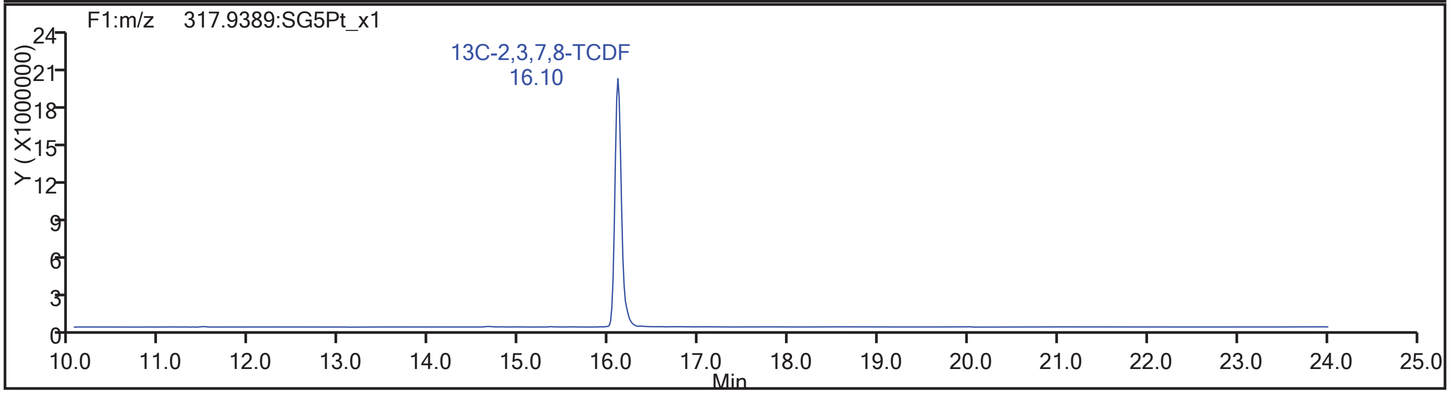
TCDF





TCDF Standards

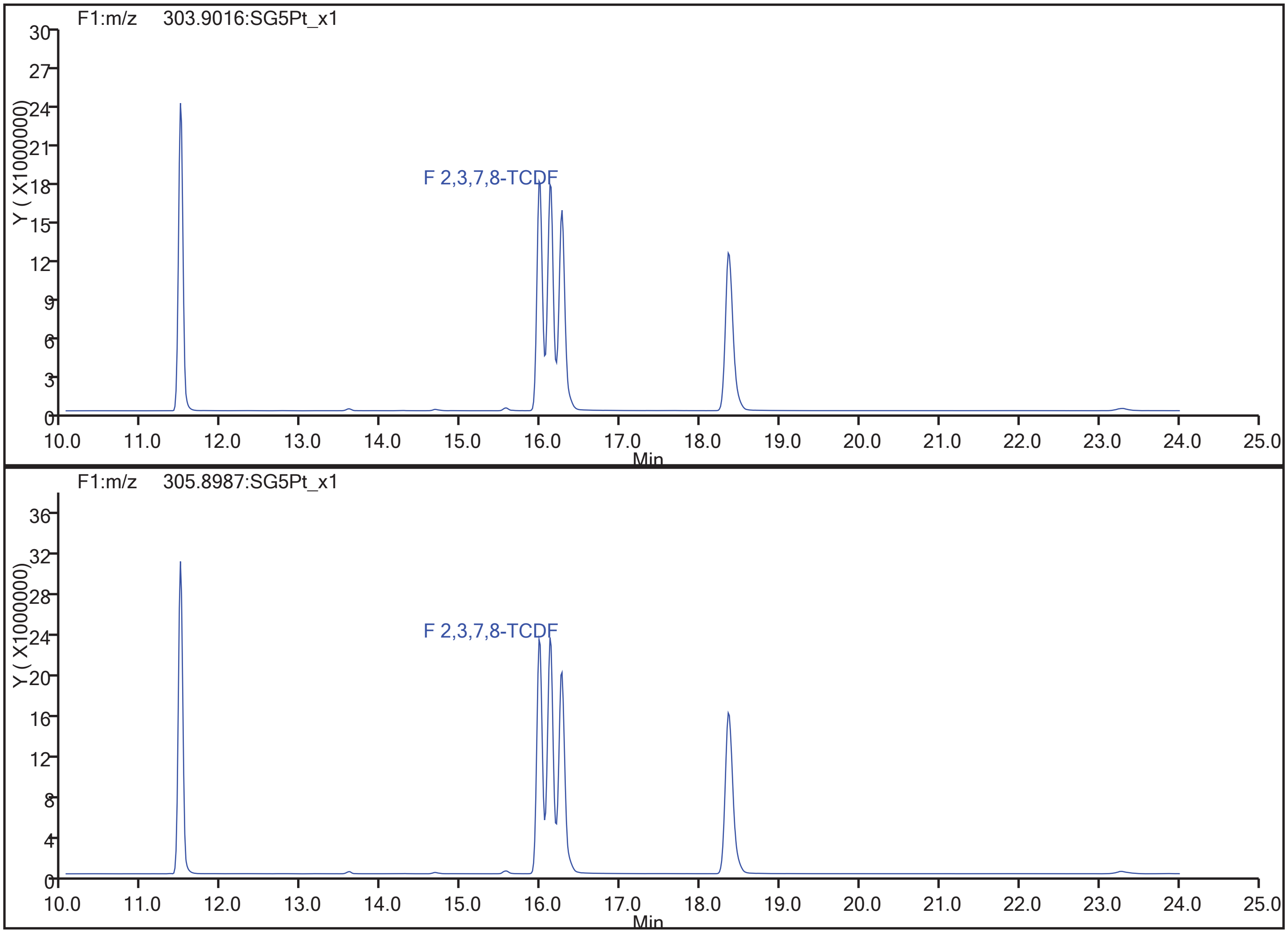




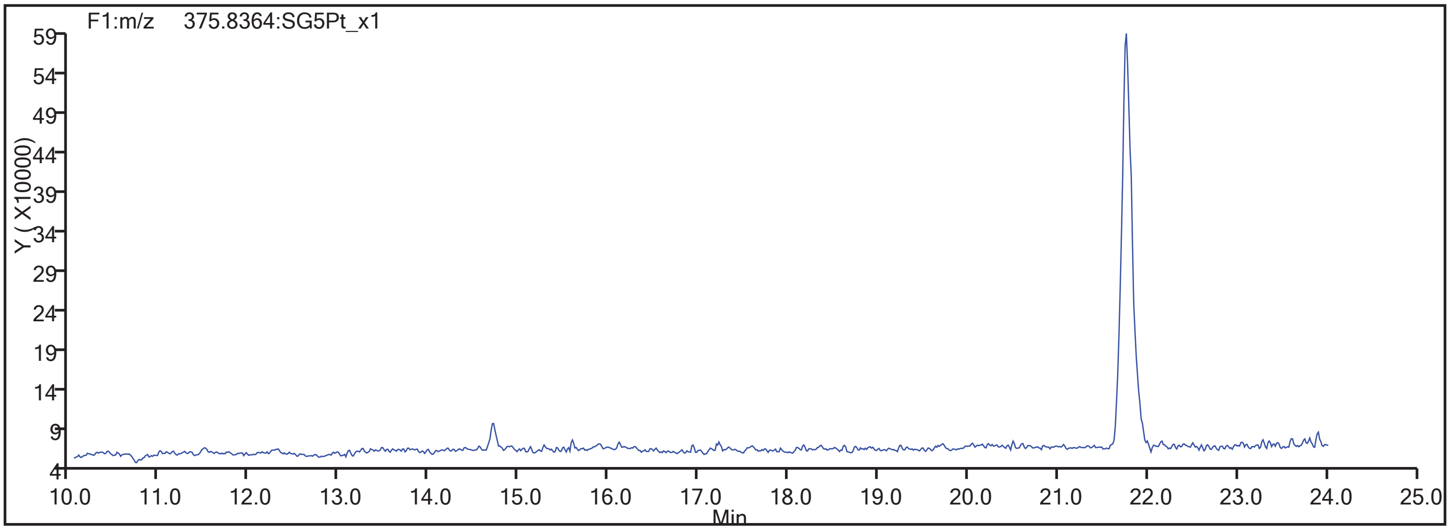
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_001.d		
Injection Date:	07-Nov-2017 22:48:19	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF



TCDF Interference Mass

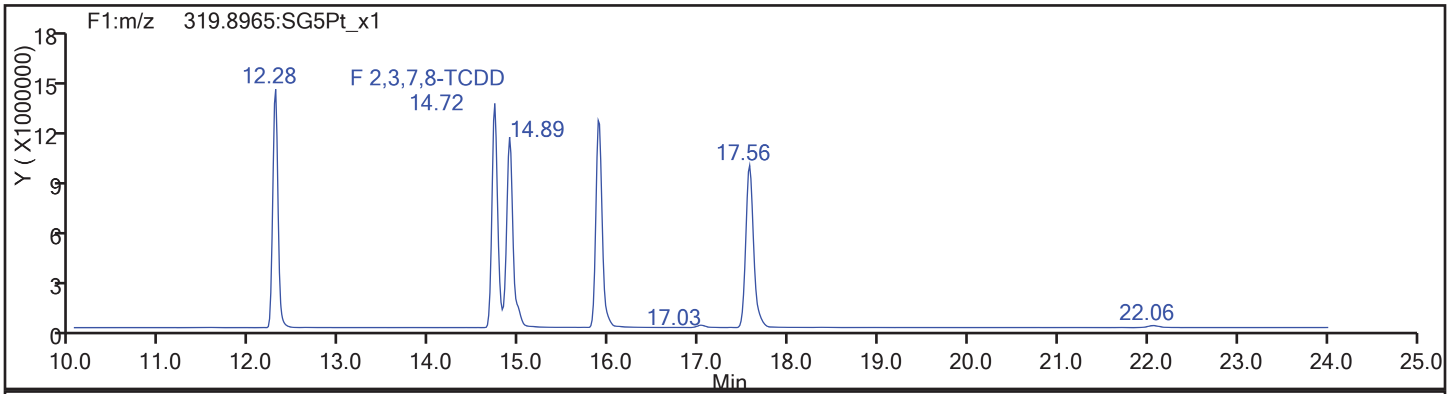


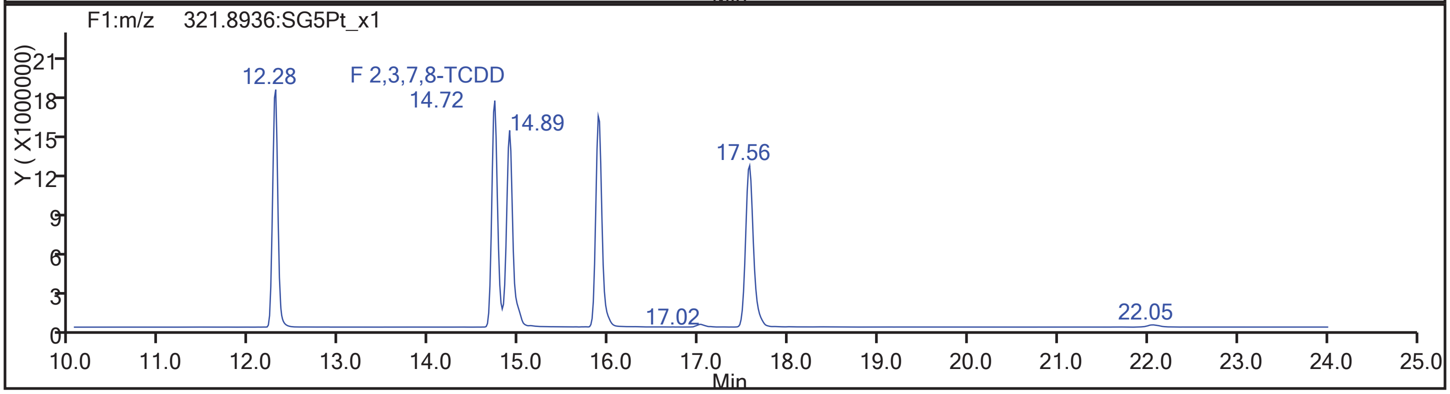
Report Date: 09-Nov-2017 17:06:38 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

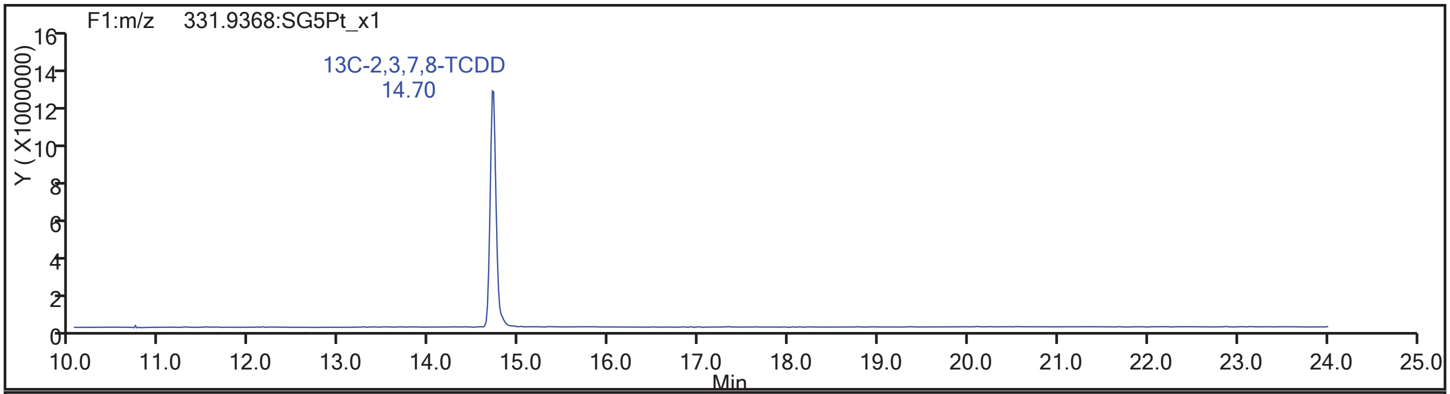
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_001.d		
Injection Date:	07-Nov-2017 22:48:19	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

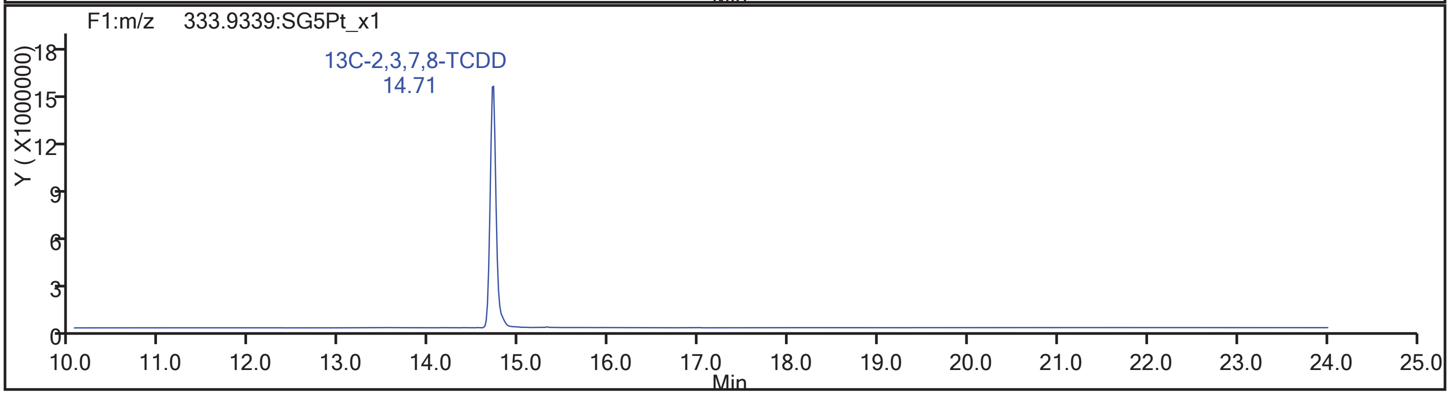
TCDD





TCDD Standards



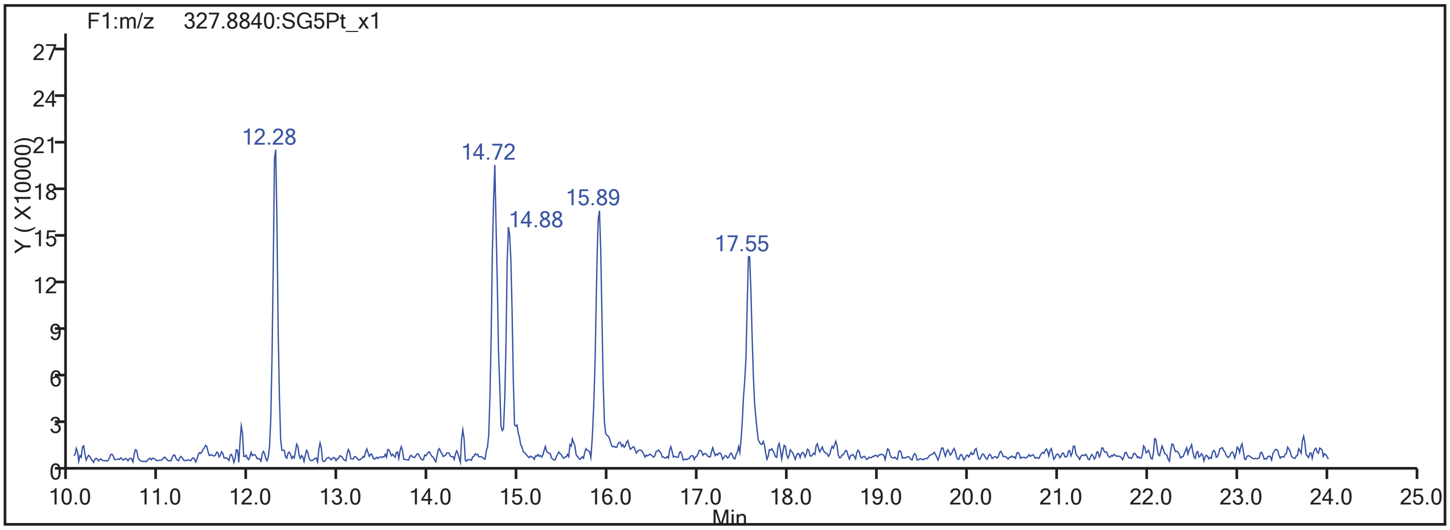


Report Date: 09-Nov-2017 17:06:38 Chrom Revision: 2.2 16-Aug-2017 16:24:46

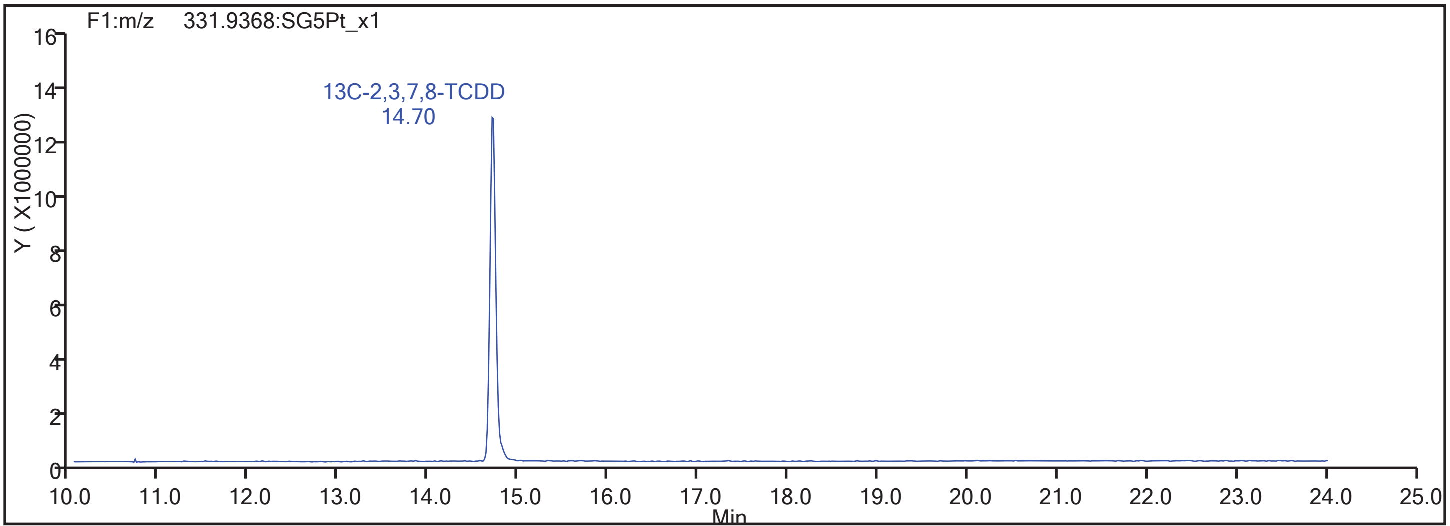
TestAmerica Sacramento

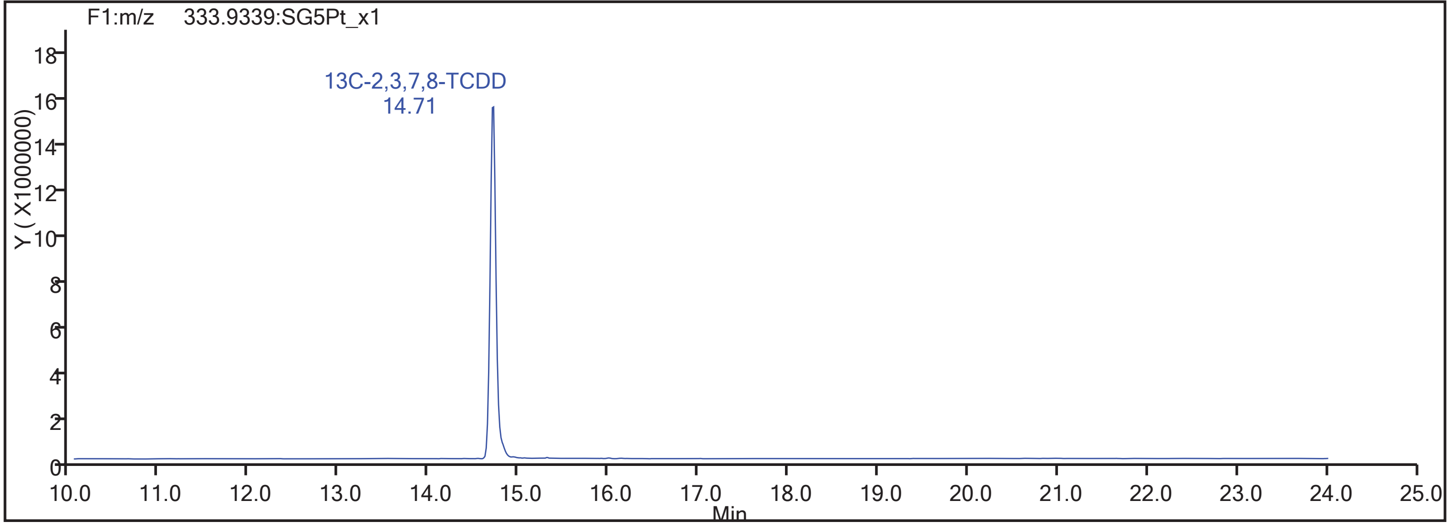
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_001.d		
Injection Date:	07-Nov-2017 22:48:19	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD



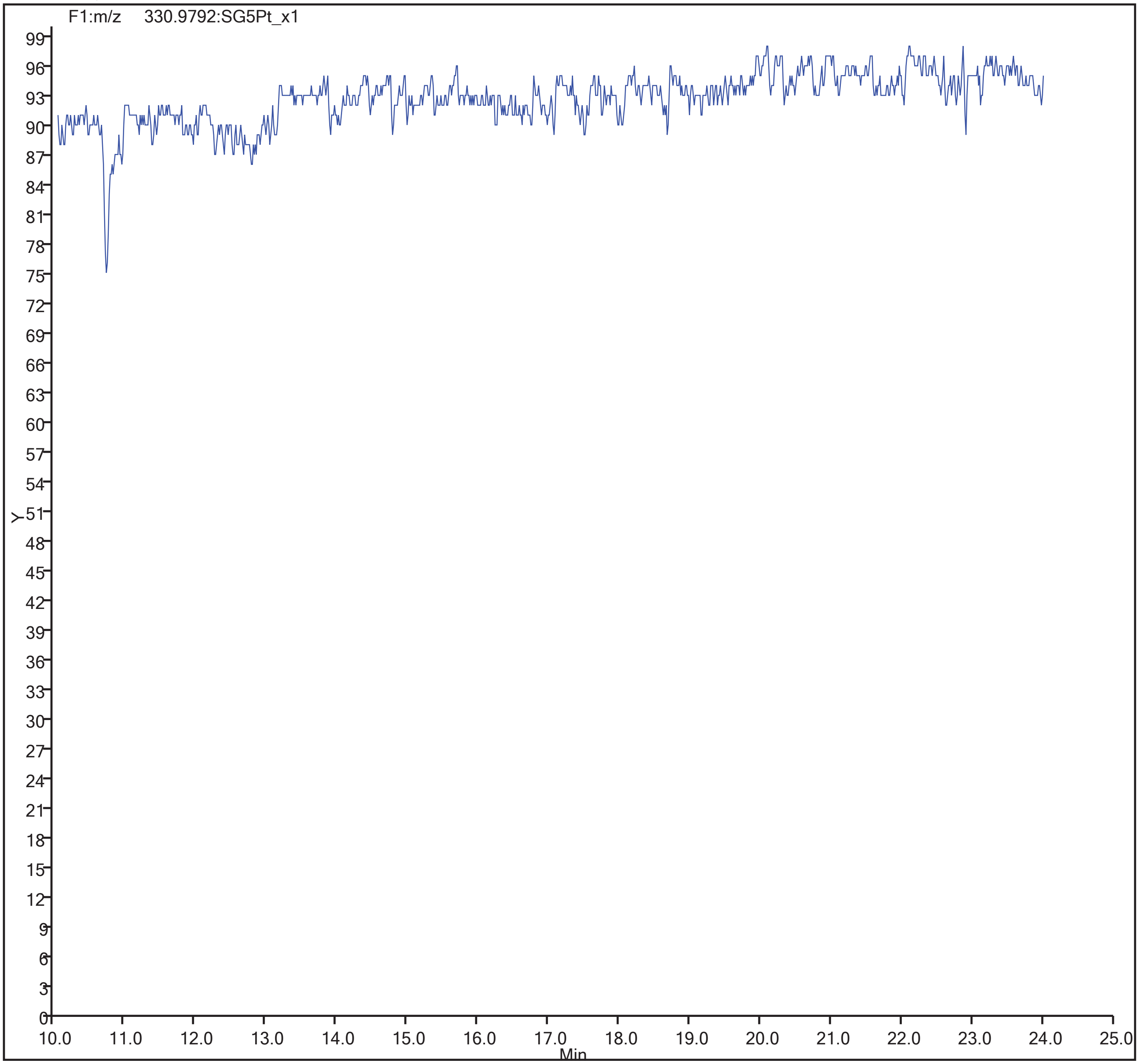
37Cl4-TCDD Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b\07NO17A9D2_001.d		
Injection Date:	07-Nov-2017 22:48:19	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	193641	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_001.d				
Lims ID:	CPS				
Client ID:					
Sample Type:	CPS				
Inject. Date:	05-Dec-2017 11:33:58	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:					
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		

Method:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m		
Limit Group:	HR - 8290A_D5 - ICAL		
Last Update:	05-Dec-2017 23:47:42	Calib Date:	02-Mar-2017 16:36:13
Integrator:	Picker		
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d		

Column 1 :	DB-225 (0.32 mm)	Det: F1:HRSIR
Process Host:	XAWRK005	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.100	56840558	0.77	1.2599					0.00	
2,3,7,8-TCDF	16.114	56316947	0.73	1.0784	36.7	36.7	0.2676	0.2676		
D 13C-2,3,7,8-TCDD	14.701	43351999	0.75	0.9567					0.00	
2,3,7,8-TCDD	14.715	41565224	0.81	1.1123	34.5	34.5	0.1544	0.1544		
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

Reagents:

HRDXNCP_00034 Amount Added: 1.00 Units: mL

Report Date: 05-Dec-2017 23:47:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 05-Dec-2017 11:33:58 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 05-Dec-2017 23:47:42 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK005

Signal	RT (min.)	Adj RT (min.)	M Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.100	16.100	0	1.000	24803730	4980104	17570	43925	283		
317.9389	16.100	16.100	0	1.000	32036828	6390917	13506	33765	473	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.114	16.114	0	1.001	23831930	4917844	19200	48000	256		
305.8987	16.114	16.114	0	1.001	32485017	6671658	13611	34027	490	0.73(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.701	14.701	0	1.000	18595864	3802940	34226	85565	111		
333.9339	14.701	14.701	0	1.000	24756135	5064619	28903	72257	175	0.75(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	14.715	14.715	0	1.001	18653979	4085393	7172	17930	570		
321.8936	14.715	14.715	0	1.001	22911245	4971272	8057	20142	617	0.81(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				19200	48000			
Total Dioxins & Furans											
303.9016		0.0	0				19200	48000			

Reagents:

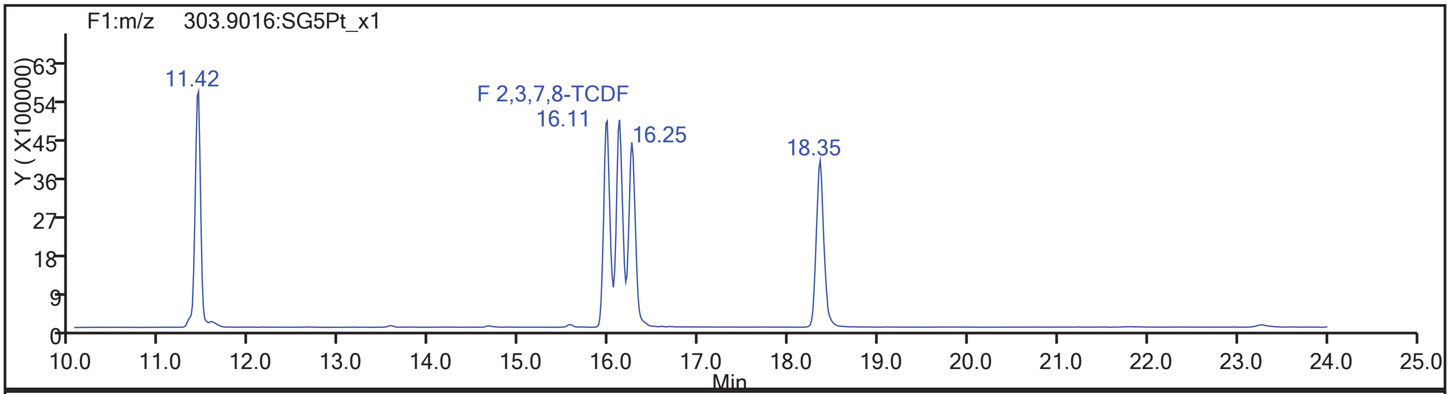
HRDXNCP_00034 Amount Added: 1.00 Units: mL

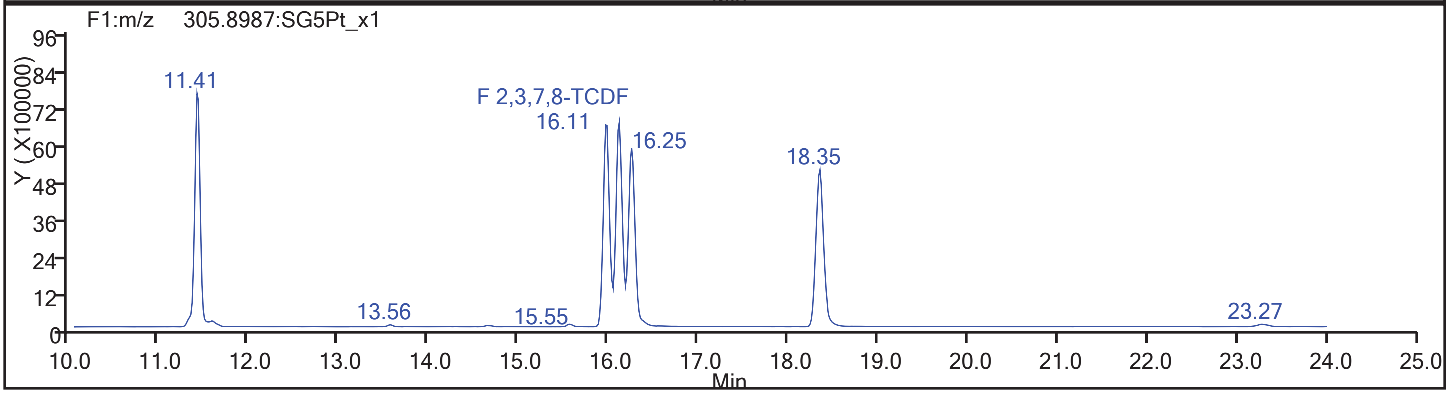
Report Date: 05-Dec-2017 23:47:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

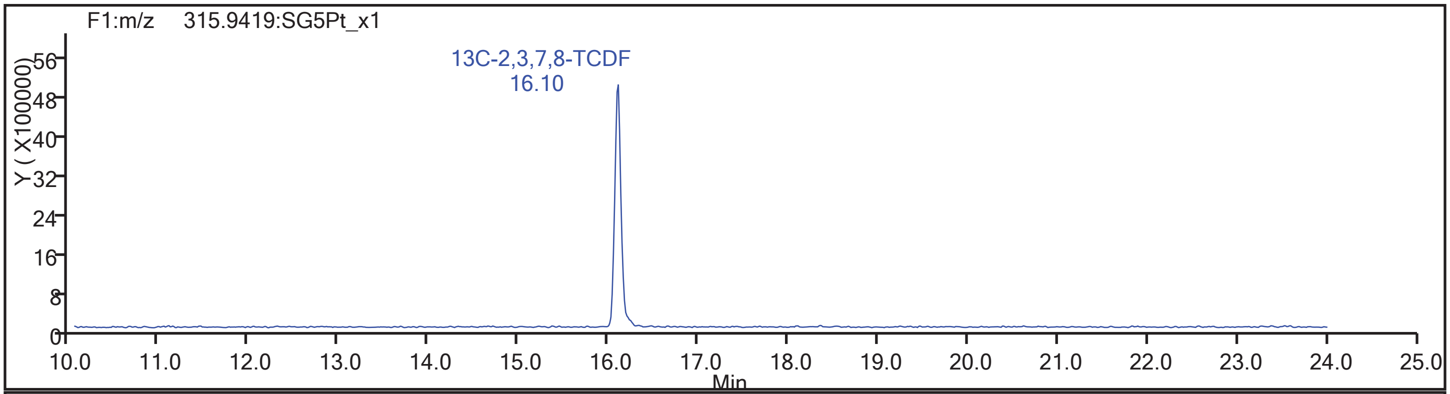
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_001.d
Injection Date: 05-Dec-2017 11:33:58
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 198469
Sample Line#: 1
Column Type: DB-225
Column Dia: 0.32 mm

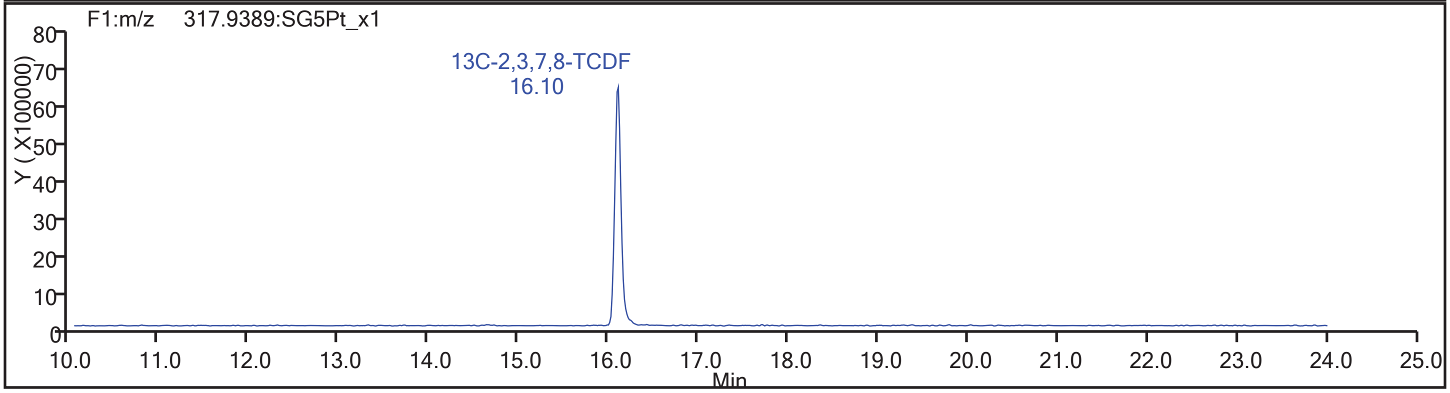
TCDF





TCDF Standards

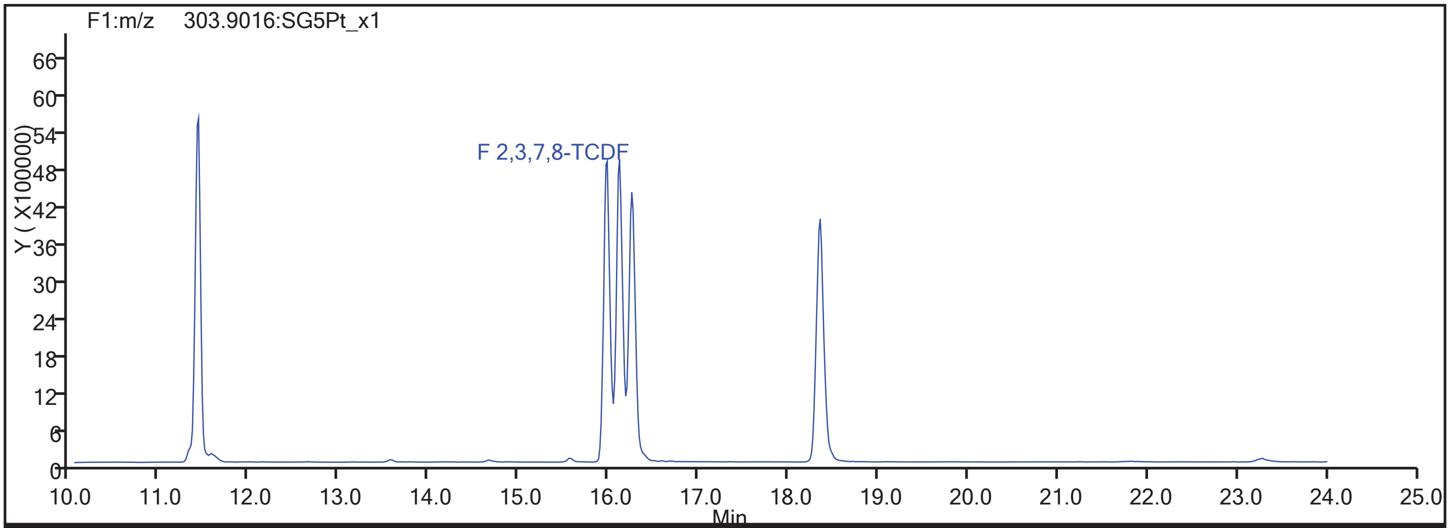


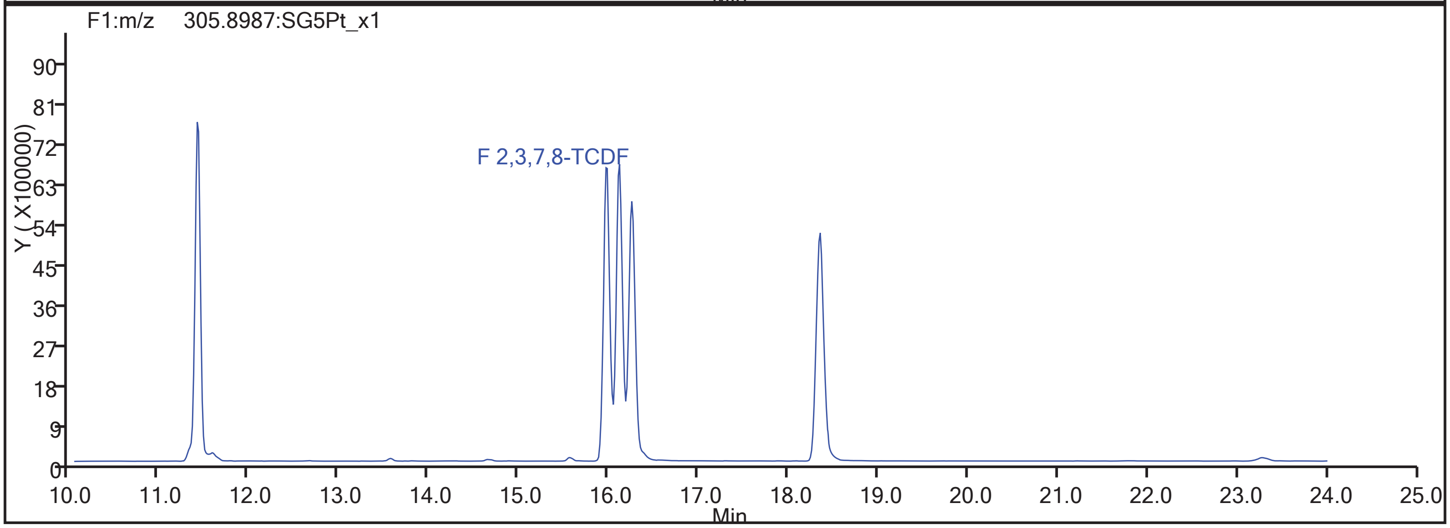


TestAmerica Sacramento

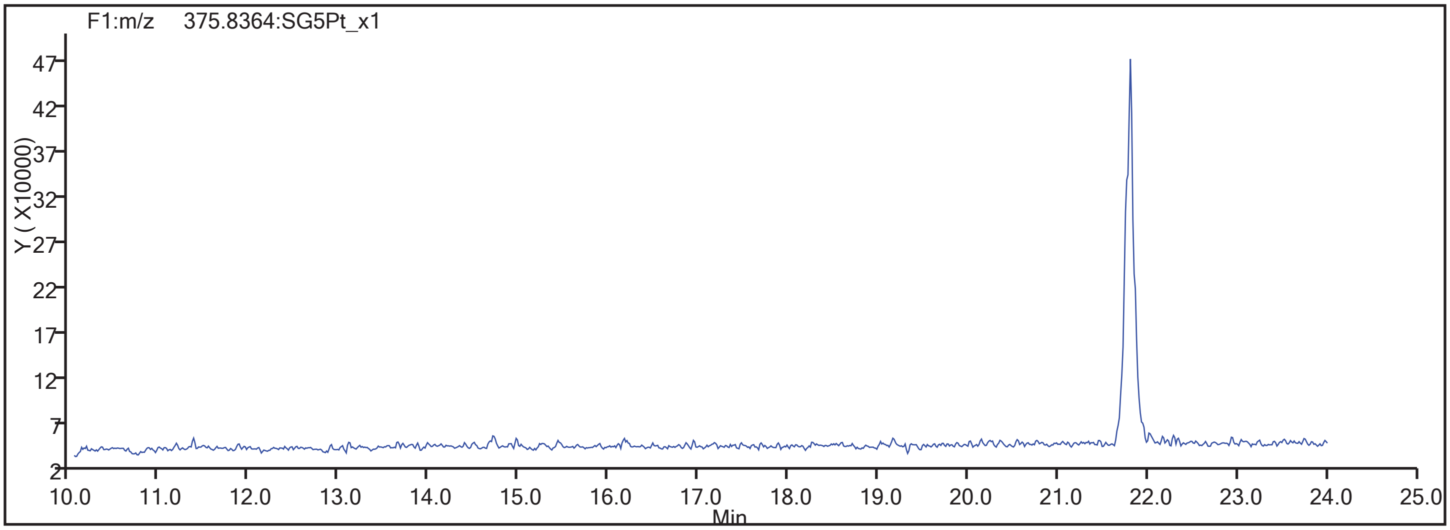
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_001.d		
Injection Date:	05-Dec-2017 11:33:58	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	198469	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass

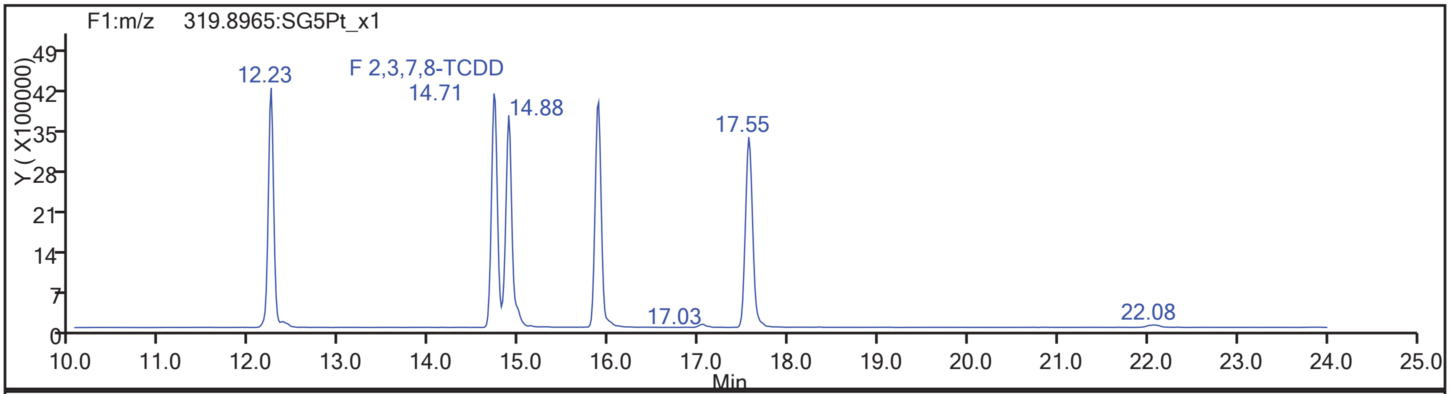


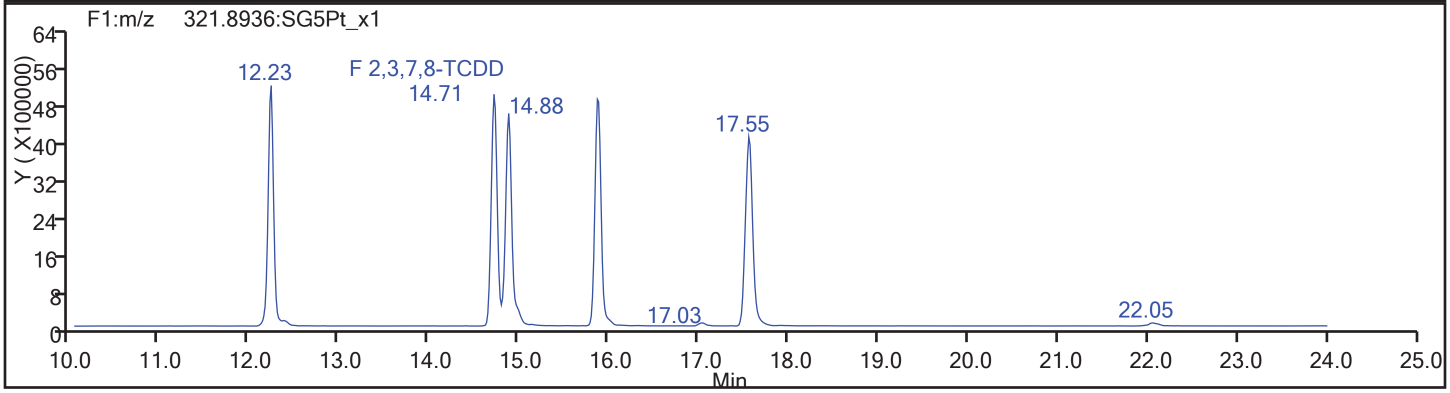
Report Date: 05-Dec-2017 23:47:43 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

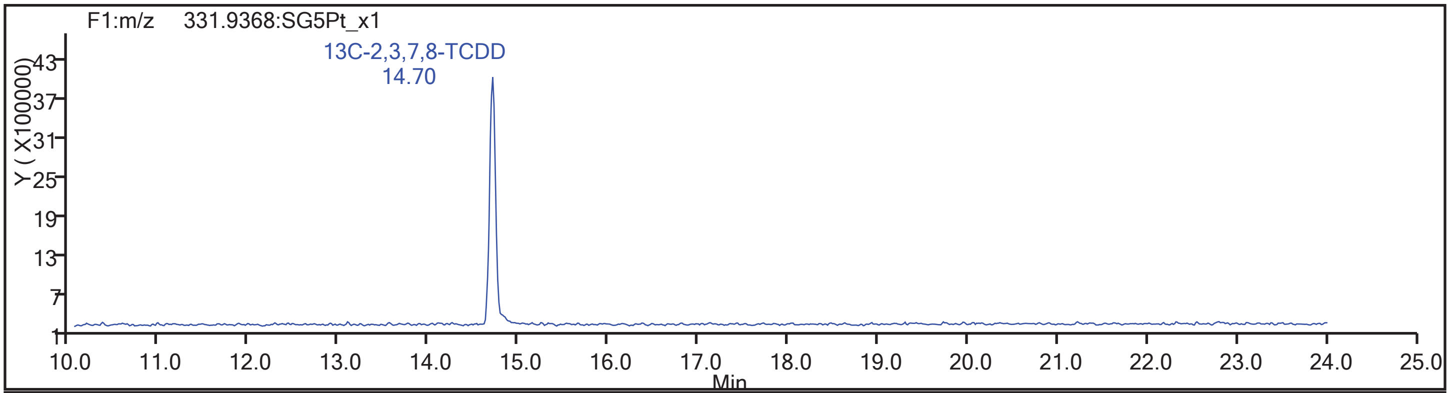
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_001.d		
Injection Date:	05-Dec-2017 11:33:58	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	198469	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

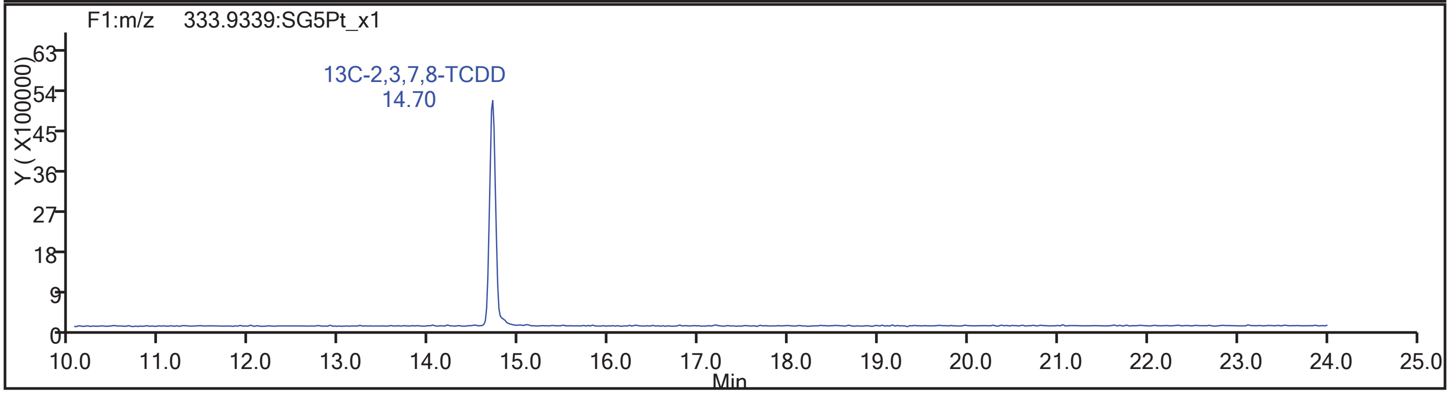
TCDD





TCDD Standards

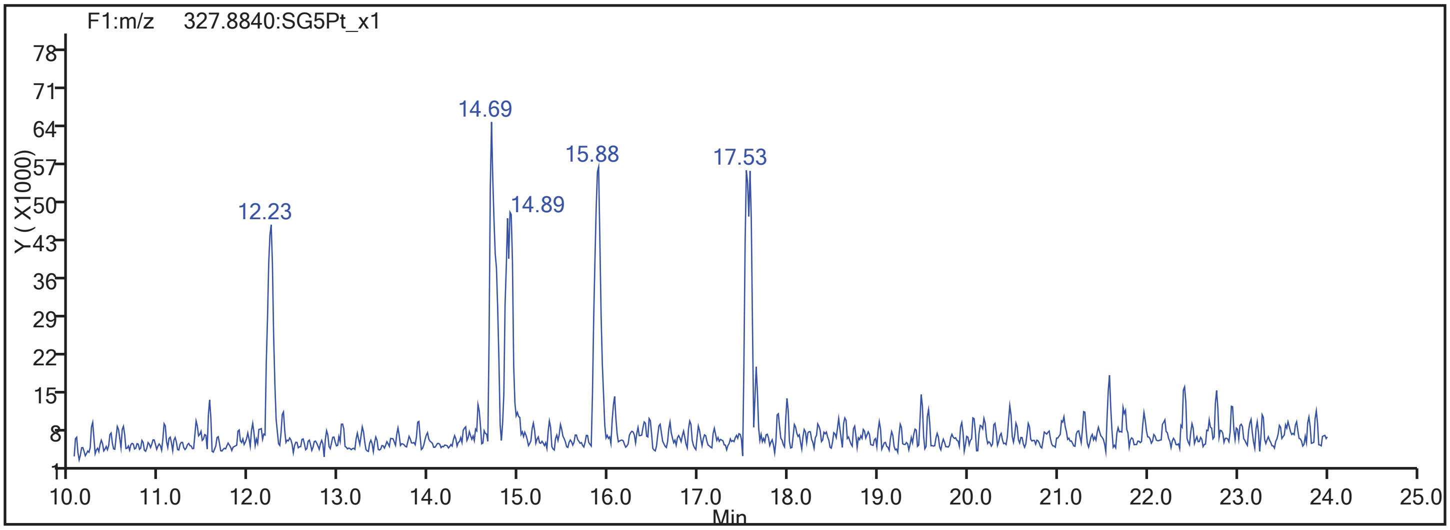




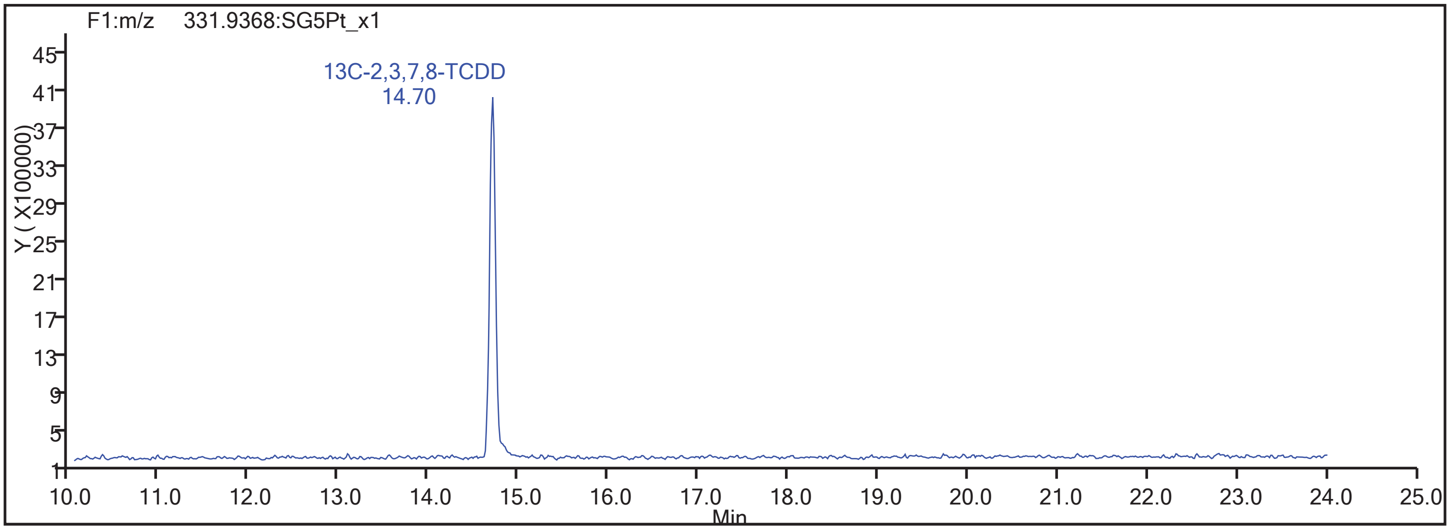
TestAmerica Sacramento

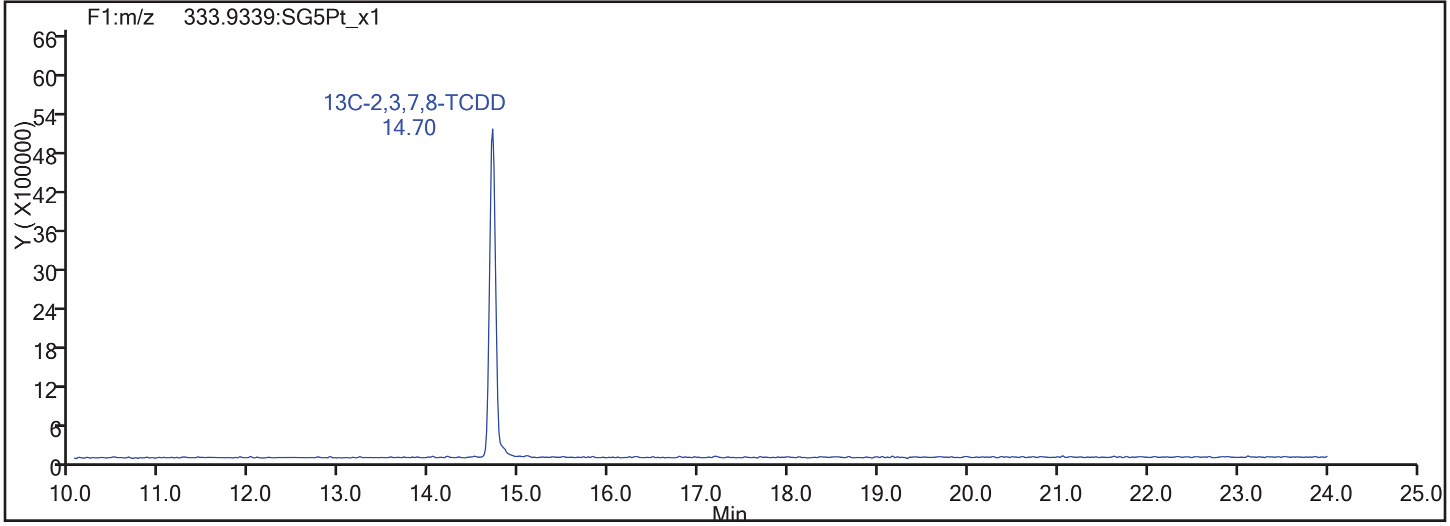
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_001.d		
Injection Date:	05-Dec-2017 11:33:58	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	198469	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD



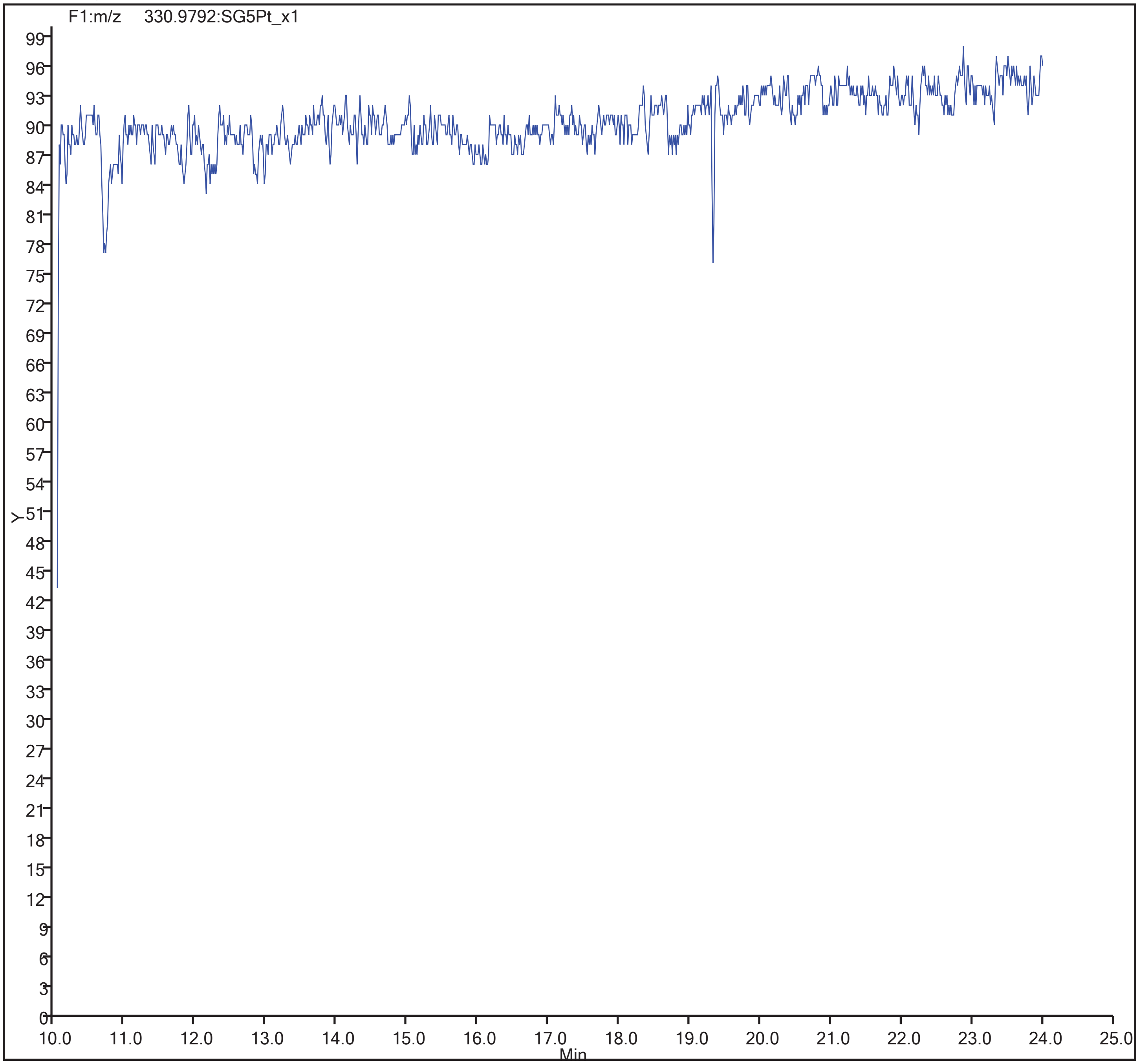
37Cl4-TCDD Standards





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_001.d		
Injection Date:	05-Dec-2017 11:33:58	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	198469	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-189721/1-A
Matrix: Solid
Lab File ID: 13NO1710D5_17.d
Analysis Method: 8290A
Date Collected:
Extract. Method: 8290
Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.00(g)
Date Analyzed: 11/14/2017 01:05
Con. Extract Vol.: 20.00(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 194428
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.40	U	1.0	0.40	0.051
51207-31-9	2,3,7,8-TCDF	0.40	U	1.0	0.40	0.044
40321-76-4	1,2,3,7,8-PeCDD	0.75	U	5.0	0.75	0.077
57117-41-6	1,2,3,7,8-PeCDF	0.75	U	5.0	0.75	0.065
57117-31-4	2,3,4,7,8-PeCDF	0.75	U	5.0	0.75	0.066
39227-28-6	1,2,3,4,7,8-HxCDD	0.323	J	5.0	2.0	0.071
57653-85-7	1,2,3,6,7,8-HxCDD	2.0	U	5.0	2.0	0.054
19408-74-3	1,2,3,7,8,9-HxCDD	2.0	U	5.0	2.0	0.054
70648-26-9	1,2,3,4,7,8-HxCDF	0.75	U	5.0	0.75	0.056
57117-44-9	1,2,3,6,7,8-HxCDF	1.0	U	5.0	1.0	0.046
72918-21-9	1,2,3,7,8,9-HxCDF	1.0	U	5.0	1.0	0.056
60851-34-5	2,3,4,6,7,8-HxCDF	0.75	U	5.0	0.75	0.052
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.45	J	5.0	1.0	0.18
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.155	J	5.0	1.0	0.053
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.0	U	5.0	2.0	0.066
3268-87-9	OCDD	15.2		10	4.0	0.11
39001-02-0	OCDF	0.738	J	10	4.0	0.079

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	60		40-135
89059-46-1	13C-2,3,7,8-TCDF	55		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	58		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	57		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	62		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	60		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	60		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	57		40-135
114423-97-1	13C-OCDD	53		40-135

Report Date: 15-Nov-2017 08:04:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d
Lims ID: MB 320-189721/1-A
Client ID:
Sample Type: MB
Inject. Date: 14-Nov-2017 01:05:49 ALS Bottle#: 15 Worklist Smp#: 17
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-189721/1-a RI mb 320-189721/1-a RI
Misc. Info.: 13NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 15-Nov-2017 08:04:26 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK023

First Level Reviewer: krongsingn Date: 15-Nov-2017 08:04:26

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.823	134007809	0.77	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.324	93865468	0.77	1.2741	55.0	55.0	0.2617	0.2617	54.98	
2,3,7,8-TCDF	17.324						0.0220	0.0220		
A Non-2,3,7,8-sub-TCDF	17.022						0.0	0.0		
S Total TCDF							0.0220	0.0220		
D 13C-2,3,7,8-TCDD	18.020	79186418	0.77	0.9921	59.6	59.6	0.2748	0.2748	59.56	
$ 37Cl4-2,3,7,8-TCDD	18.035	51202111		1.0466	36.5	36.5	0.0710	0.0710	91.27	
2,3,7,8-TCDD	18.035						0.0253	0.0253		
A Non-2,3,7,8-sub-TCDD	17.468						0.0	0.0		
S Total TCDD							0.0253	0.0253		
D 13C-1,2,3,7,8-PeCDF	22.328	74434913	1.55	0.9696	57.3	57.3	0.3449	0.3449	57.28	
1,2,3,7,8-PeCDF	22.342						0.0324	0.0324		
D 13C-2,3,4,7,8-PeCDF	23.664	74091371	1.56							
2,3,4,7,8-PeCDF	23.692						0.0331	0.0331		
A F1 PeCDFs	19.948						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.086						0.0	0.0		
S Total PeCDF							0.0331	0.0331		
D 13C-1,2,3,7,8-PeCDD	24.387	59412166	1.62	0.7588	58.4	58.4	0.1580	0.1580	58.43	
1,2,3,7,8-PeCDD	24.415						0.0384	0.0384		
A Non-2,3,7,8-sub-PeCDD	23.290						0.0	0.0		
S Total PeCDD							0.0384	0.0384		
D 13C-1,2,3,4,7,8-HxCDF	30.486	55135763	0.52	0.9644	59.7	59.7	0.7916	0.7916	59.69	
1,2,3,4,7,8-HxCDF	30.500						0.0281	0.0281		
D 13C-1,2,3,6,7,8-HxCDF	30.673	73900955	0.51							
1,2,3,6,7,8-HxCDF	30.687						0.0232	0.0232		
D 13C-2,3,4,6,7,8-HxCDF	31.498	63823139	0.52							
2,3,4,6,7,8-HxCDF	31.512						0.0259	0.0259		
D 13C-1,2,3,7,8,9-HxCDF	32.310	55195585	0.52							
1,2,3,7,8,9-HxCDF	32.311						0.0279	0.0279		
A Non-2,3,7,8-sub-HxCDF	30.141						0.0261	0.2307		U
S Total HxCDF							0.2307	0.2307		

Report Date: 15-Nov-2017 08:04:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.124	95785341	1.23	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.684	38104579	1.25							
1,2,3,4,7,8-HxCDD	31.698	79921	1.22	0.9505	0.1615	0.1615	0.0353	0.0353		
D 13C-1,2,3,6,7,8-HxCDD	31.791	52081087	1.24	0.8791	61.9	61.9	0.5559	0.5559	61.85	
1,2,3,6,7,8-HxCDD	31.698						0.0272	0.0272		U
1,2,3,7,8,9-HxCDD	32.124						0.0269	0.0269		
A Non-2,3,7,8-sub-HxCDD	30.779	293489	1.24	1.1438	0.5149	0.4927	0.0294	0.2939		RQ
S Total HxCDD					0.6764	0.6541	0.0298	0.0298		RQ
1,2,3,4,6,7,8-HpCDF	33.746	52680	1.04	1.6399	0.0861	0.0774	0.0266	0.0266		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.734	41507950	0.43	0.7618	56.9	56.9	1.216	1.216	56.88	
D 13C-1,2,3,4,7,8,9-HpCDF	34.803	35180115	0.42							
1,2,3,4,7,8,9-HpCDF	34.803						0.0328	0.0328		
A Non-2,3,7,8-sub-HpCDF	34.268	118083	1.04	1.4851	0.2009	0.1916	0.0294	0.1190		RQM
S Total HpCDF					0.2870	0.2690	0.0297	0.0297		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.511	44884028	1.05	0.7762	60.4	60.4	0.5975	0.5975	60.37	
1,2,3,4,6,7,8-HpCDD	34.523	547167	0.92	0.9932	1.227	1.227	0.0889	0.0889		
A Non-2,3,7,8-sub-HpCDD	34.238	2667694	1.03	0.9932	5.984	5.984	0.0889	5.984		
S Total HpCDD					7.212	7.212	0.0889	0.0889		
D 13C-OCDD	36.834	64565968	0.88	0.6314	106.8	106.8	0.3244	0.3244	53.38	
OCDF	36.930	160281	0.86	1.3460	0.3689	0.3689	0.0394	0.0394		
OCDD	36.846	2608874	0.98	1.0604	7.621	7.621	0.0564	0.0564		

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.
Review Flags
M - Manually Integrated
U - Marked Undetected

Report Date: 15-Nov-2017 08:04:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d				
Lims ID:	MB 320-189721/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	14-Nov-2017 01:05:49	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	mb 320-189721/1-a RI mb 320-189721/1-a RI				
Misc. Info.:	13NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	15-Nov-2017 08:04:26	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK023				
First Level Reviewer: krongsingn		Date:	15-Nov-2017 08:04:26		

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.823	17.823	0		58392130	13974195	17959	44897	778		
333.9339	17.823	17.823	0		75615679	18132056	17057	42642	1063	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.324	17.309	1	0.972	40964575	9634267	29789	74472	323		
317.9389	17.324	17.309	1	0.972	52900893	12399354	13033	32582	951	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.324						654	1635			
305.8987	17.324						1546	3865			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.022						654	1635			
305.8987	17.022						1546	3865			
13C-2,3,7,8-TCDD											
331.9368	18.020	18.020	0	1.011	34512118	7188187	17959	44897	400		
333.9339	18.020	18.020	0	1.011	44674300	9431899	17057	42642	553	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.035	18.035	0	1.012	51202111	10923991	9545	23862	1144		
2,3,7,8-TCDD											
319.8965	18.035						988	2470			
321.8936	18.035						691	1727			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.468						988	2470			
321.8936	17.468						691	1727			
13C-1,2,3,7,8-PeCDF											
351.9000	22.328	22.328	0	1.253	45222576	7381008	25417	63542	290		
353.8970	22.328	22.328	0	1.253	29212337	4851322	17529	43822	277	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.342						541	1352			
341.8567	22.342						1303	3257			
13C-2,3,4,7,8-PeCDF											
351.9000	23.664	23.664	0	1.328	45151209	7020637	25417	63542	276		
353.8970	23.664	23.664	0	1.328	28940162	4536236	17529	43822	259	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.692						541	1352			
341.8567	23.692						1303	3257			
A F1 PeCDFs											
339.8597	19.948						523	1307			
341.8567	19.948						1194	2985			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.086						541	1352			
341.8567	23.086						1303	3257			
13C-1,2,3,7,8-PeCDD											
367.8949	24.387	24.387	0	1.368	36735319	5236929	10481	26202	500		
369.8919	24.387	24.387	0	1.368	22676847	3364515	4917	12292	684	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.415						839	2097			
357.8516	24.415						415	1037			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.290						839	2097			
357.8516	23.290						415	1037			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.486	30.474	1	0.949	18937620	3420181	21007	52517	163		
385.8610	30.486	30.474	1	0.949	36198143	6482520	41059	102647	158	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.500						909	2272			
375.8178	30.500						649	1622			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.673	30.660	1	0.955	25020681	4061143	21007	52517	193		
385.8610	30.673	30.660	1	0.955	48880274	7810284	41059	102647	190	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.687						909	2272			
375.8178	30.687						649	1622			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.498	31.499	0	0.981	21787715	4765813	21007	52517	227		
385.8610	31.498	31.499	0	0.981	42035424	9128288	41059	102647	222	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.512						909	2272			
375.8178	31.512						649	1622			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.310	32.297	1	1.006	18940618	4149958	21007	52517	198		
385.8610	32.310	32.297	1	1.006	36254967	7854528	41059	102647	191	0.52(0.43-0.59)	

Report Date: 15-Nov-2017 08:04:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.311						909	2272			
375.8178	32.311						649	1622			
A Non-2,3,7,8-sub-HxCDF											U
373.8208	30.141	30.141	0	0.989	108903	22646	909	2272			
375.8178	30.141	30.141	0	0.989	82743	16914	649	1622		1.32(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.124	32.111	1		52736151	11151876	21916	54790	509		
403.8529	32.124	32.111	1		43049190	9172844	17811	44527	515	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.684	31.685	0	0.986	21172812	5661221	21916	54790	258		
403.8529	31.684	31.685	0	0.986	16931767	4585696	17811	44527	257	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.698	31.698	0	0.997	43923	5425	661	1652	8		
391.8127	31.711	31.698	1	0.997	35998	4969	807	2017	6	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.791	31.791	0	0.990	28856121	6000731	21916	54790	274		
403.8529	31.791	31.791	0	0.990	23224966	4923643	17811	44527	276	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											U
389.8157	31.805						661	1652			
391.8127	31.805						807	2017			
1,2,3,7,8,9-HxCDD											
389.8157	32.124						661	1652			
391.8127	32.124						807	2017			
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	29.555	30.779	-73	0.930	94539	10028	661	1652	15		
391.8127	29.528	30.779	-75	0.929	80559	10864	807	2017	13	1.17(1.05-1.43)	
389.8157	30.939	30.779	10	0.973	45669	8218	661	1652	12		
391.8127	30.966	30.779	11	0.974	39584	7355	807	2017	9	1.15(1.05-1.43)	
389.8157	31.139	30.779	22	0.979	31606	6026	661	1652	9		
	Empc Correction				18344	5124	661	1652	8		
391.8127	31.139	30.779	22	0.979	14794	4133	807	2017	5	2.14(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7818	33.746	33.722	1	1.000	32815	6852	1339	3347	5		
	Empc Correction				26856	6053	1339	3347	5		
409.7789	33.734	33.722	1	1.000	25824	5821	595	1487	10	1.27(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.734	33.722	1	1.050	12472753	3381721	22116	55290	153		
419.8220	33.734	33.722	1	1.050	29035197	7708228	53168	132920	145	0.43(0.37-0.51)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.803	34.791	1	1.083	10388040	2541885	22116	55290	115		
419.8220	34.803	34.791	1	1.083	24792075	6064947	53168	132920	114	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.803						1339	3347			
409.7789	34.803						595	1487			

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											RQM
407.7818	34.037	34.268	-14	1.009	35753	11001	1339	3347	8		M
409.7789	34.037	34.268	-14	1.009	37575	11998	595	1487	20	0.95(0.88-1.20)	
407.7818	34.123	34.268	-9	1.012	28571	6807	1339	3347	5		M
	Empc Correction				22816	6528	1339	3347	5		
409.7789	34.123	34.268	-9	1.012	21939	6277	595	1487	11	1.30(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.511	34.500	1	1.074	22985321	5825767	17735	44337	328		
437.8140	34.511	34.500	1	1.074	21898707	5542911	19966	49915	278	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.523	34.512	1	1.000	262597	60653	2247	5617	27		
425.7737	34.523	34.512	1	1.000	284570	67988	1770	4425	38	0.92(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.977	34.238	-16	0.985	1355890	356917	2247	5617	159		
425.7737	33.977	34.238	-16	0.985	1311804	346463	1770	4425	196	1.03(0.88-1.20)	
13C-OCDD											
469.7779	36.834	36.834	0	1.147	30159325	6493404	10140	25350	640		
471.7750	36.834	36.834	0	1.147	34406643	7351115	6513	16282	1129	0.88(0.76-1.02)	
OCDF											
441.7428	36.930	36.930	0	1.003	74170	14886	505	1262	29		
443.7399	36.930	36.930	0	1.003	86111	16459	962	2405	17	0.86(0.76-1.02)	
OCDD											
457.7377	36.846	36.834	1	1.000	1292872	257015	792	1980	325		
459.7348	36.846	36.834	1	1.000	1316002	286969	865	2162	332	0.98(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d
Lims ID: MB 320-189721/1-A
Client ID:
Inject. Date: 14-Nov-2017 01:05:49
Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194428
Lims Sample ID: 17

Non-2,3,7,8-sub-HxCDF, RT: 30.141

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	55135763	9902701
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	55135763	9902701

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
31.352	108903	22646	82743	16914	0.2307	1.32	

Compound is Marked ND

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d		
Lims ID:	MB 320-189721/1-A		
Client ID:			
Inject. Date:	14-Nov-2017 01:05:49	Dil. Factor:	1.0000
Sample Type:	MB, Method Blank		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194428	Lims Sample ID:	17

Non-2,3,7,8-sub-HxCDD, RT: 30.779

Initial Calibration RRF　　IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	52081087	10924374
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	52081087	10924374

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.555	94539	10028	80559	10864	0.2939	1.17	
30.939	45669	8218	39584	7355	0.1431	1.15	
31.139	31606	6026	14794	4133	0.0779	2.14	RQ
31.139	18344	5124	14794	4133	0.0556		Empc Correction
Signal Totals:							
	158552	23370	134937	22352			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	306751	46624				1.27	RQ
	293489	45722					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5149 = (306751 * 100.000) / (52081087 * 1.144)
Empc Amount: 0.4927 = (293489 * 100.000) / (52081087 * 1.144)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d
Lims ID: MB 320-189721/1-A
Client ID:
Inject. Date: 14-Nov-2017 01:05:49
Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194428
Lims Sample ID: 17

Non-2,3,7,8-sub-HpCDF, RT: 34.268

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	41507950	11089949
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	41507950	11089949

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.037	35753	11001	37575	11998	0.1190	0.95	M
34.123	28571	6807	21939	6277	0.0819	1.30	RQM
34.123	22816	6528	21939	6277	0.0726		Empc Correction
Signal Totals:							
	58569	17529	59514	18275			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	123838	36083				1.08	RQM
	118083	35804					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2009 = (123838 * 100.000) / (41507950 * 1.485)
Empc Amount: 0.1916 = (118083 * 100.000) / (41507950 * 1.485)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d		
Lims ID:	MB 320-189721/1-A		
Client ID:			
Inject. Date:	14-Nov-2017 01:05:49	Dil. Factor:	1.0000
Sample Type:	MB, Method Blank		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194428	Lims Sample ID:	17

Non-2,3,7,8-sub-HpCDD, RT: 34.238

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	44884028	11368678

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	44884028	11368678

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.977	1355890	356917	1311804	346463	5.98	1.03	
Signal Totals:							
	1355890	356917	1311804	346463			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2667694	703380				1.03	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

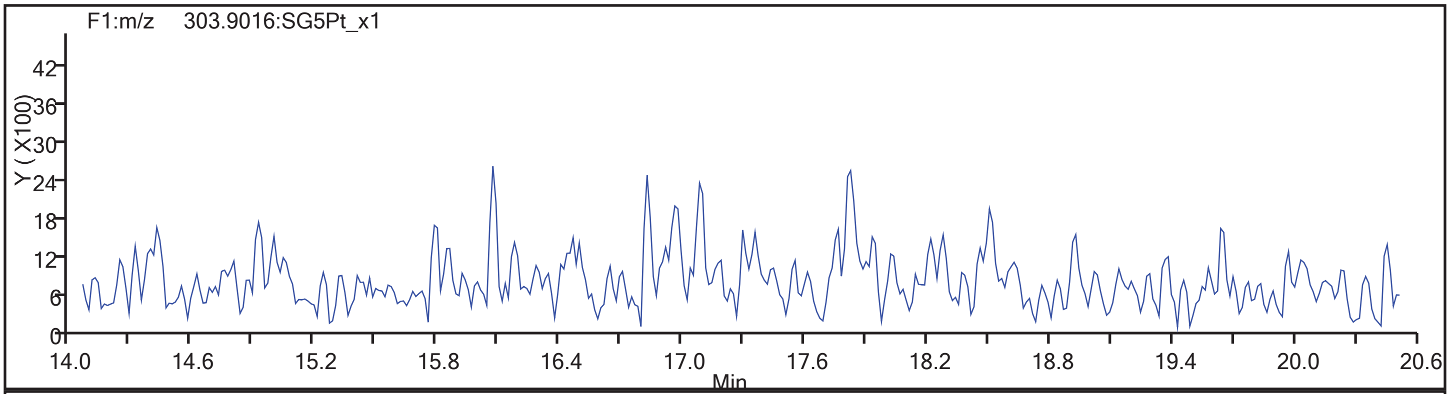
Amount: 5.984 = (2667694 * 100.000) / (44884028 * 0.993)

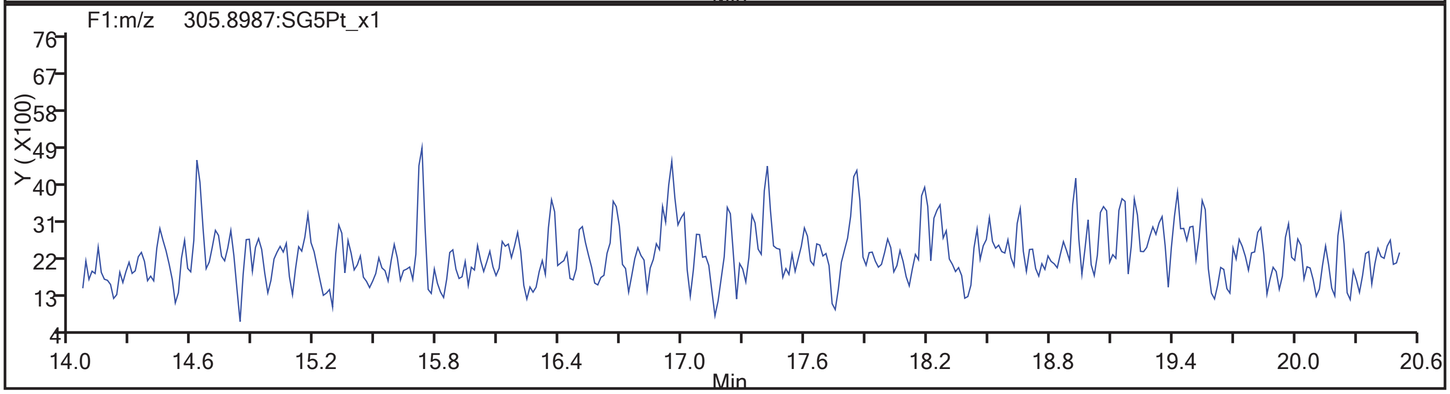
Report Date: 15-Nov-2017 08:04:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

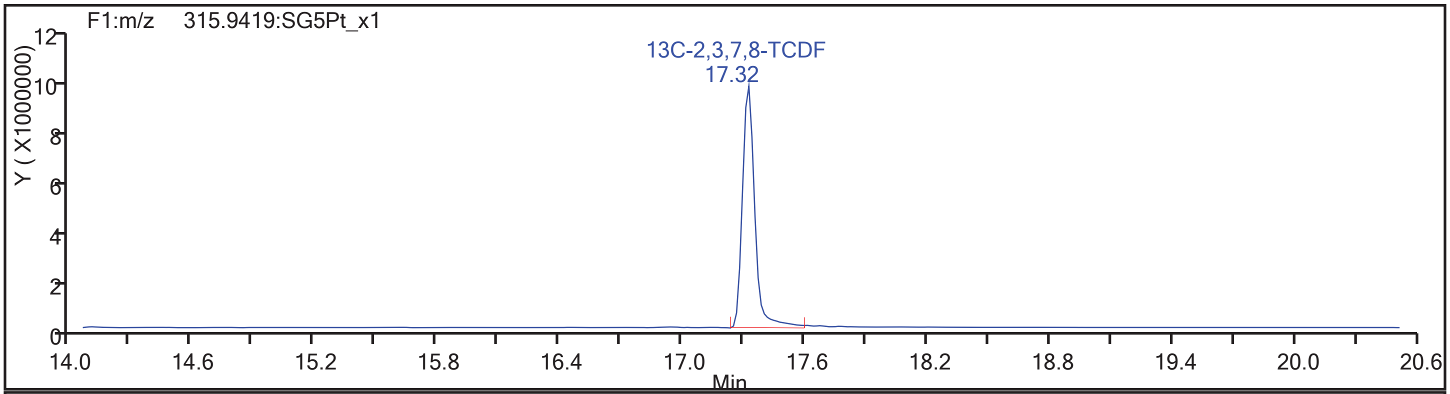
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d		
Injection Date:	14-Nov-2017 01:05:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

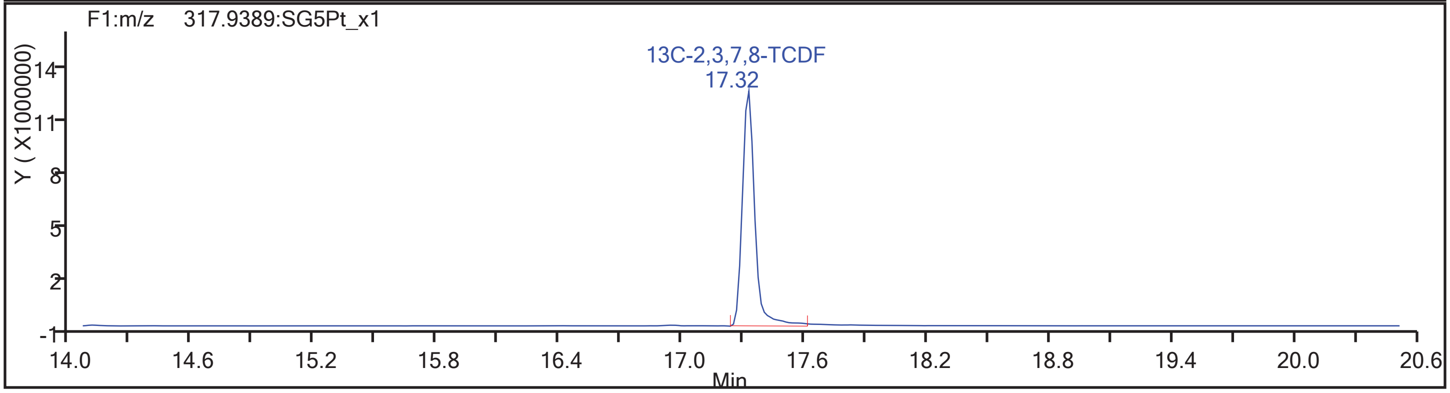
TCDF





TCDF Standards





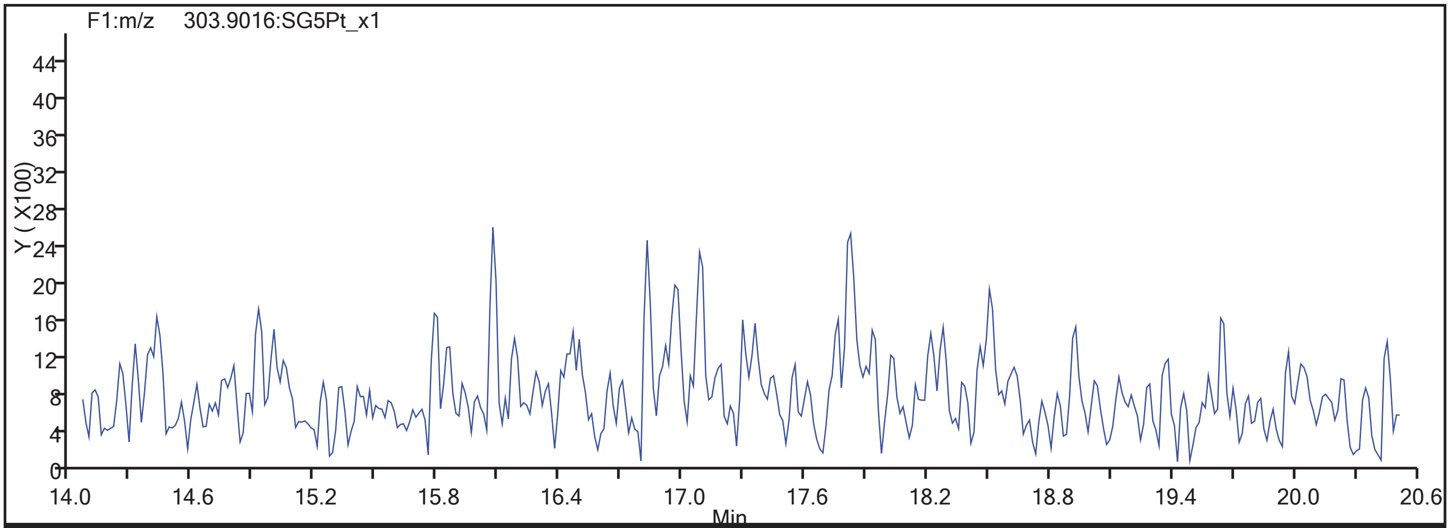
Report Date: 15-Nov-2017 08:04:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

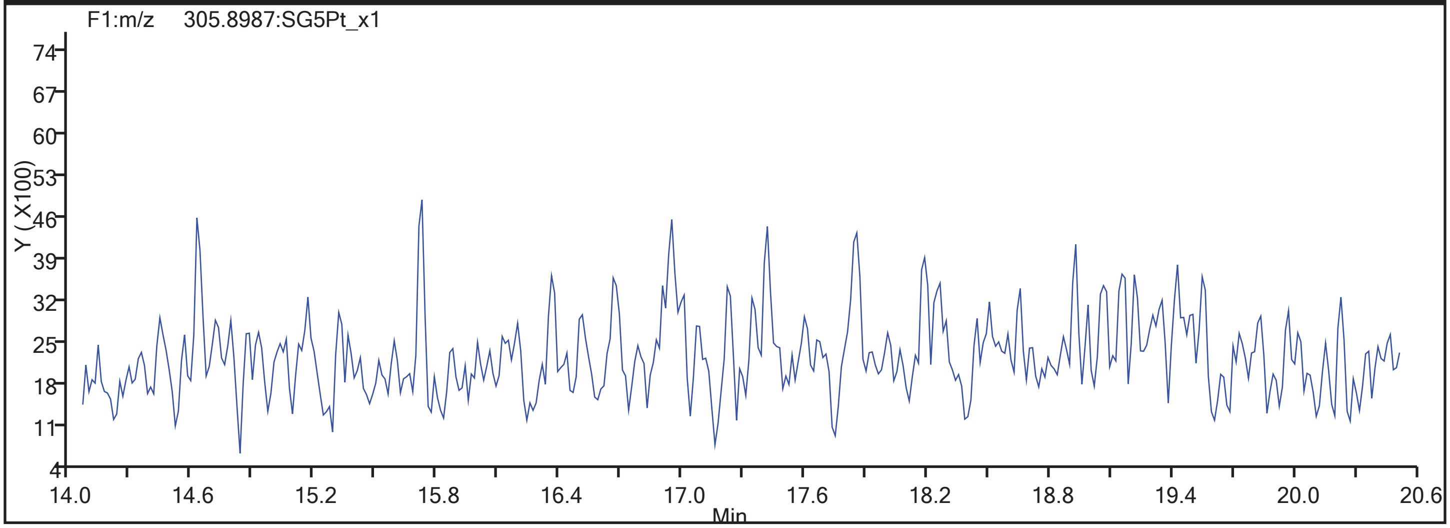
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d

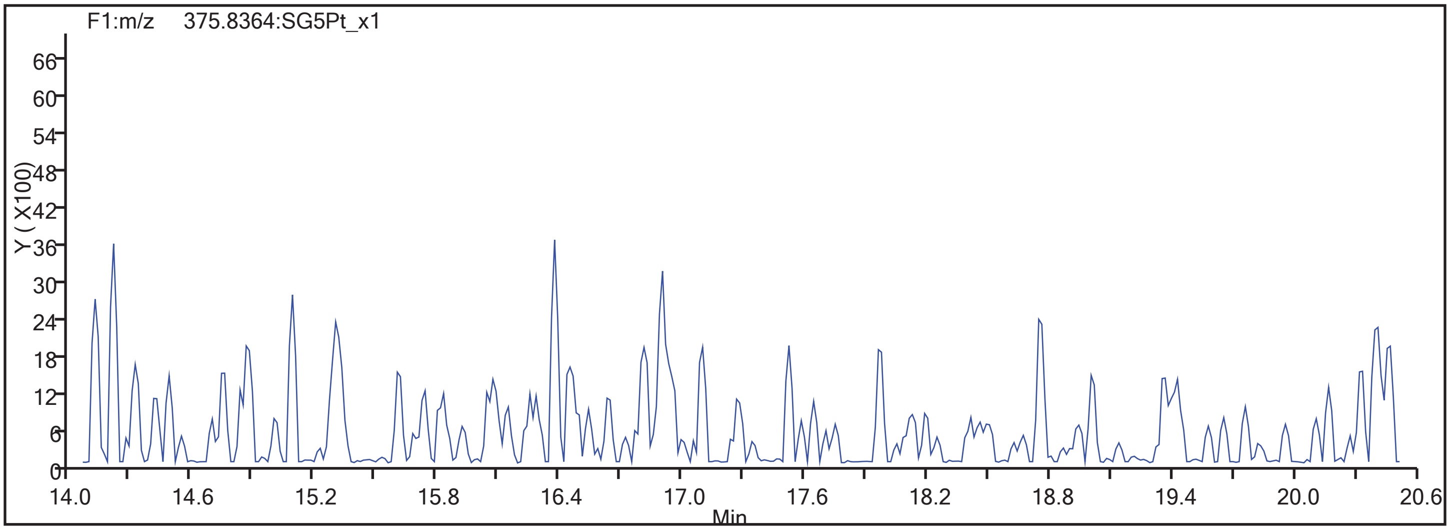
Injection Date:	14-Nov-2017 01:05:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



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TestAmerica Sacramento

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Client ID:
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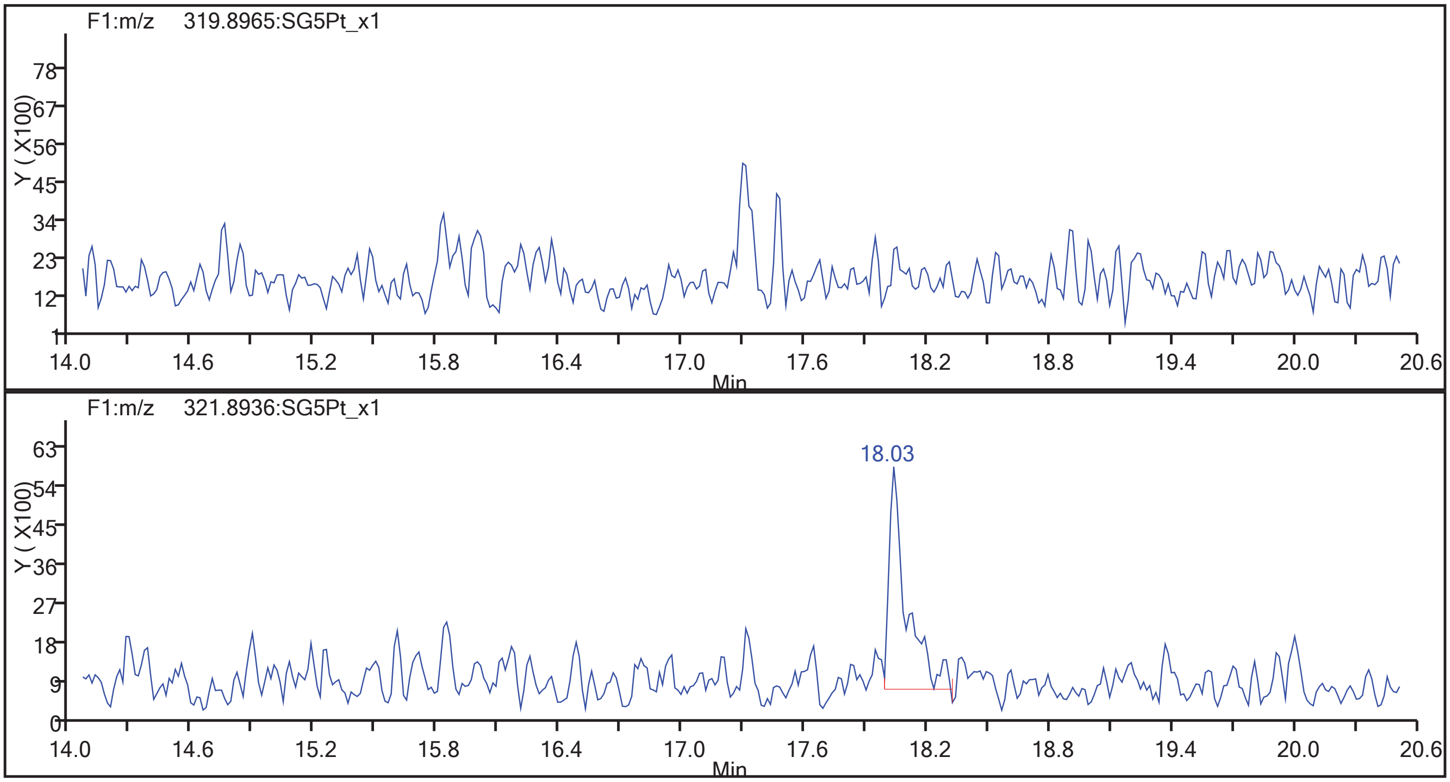
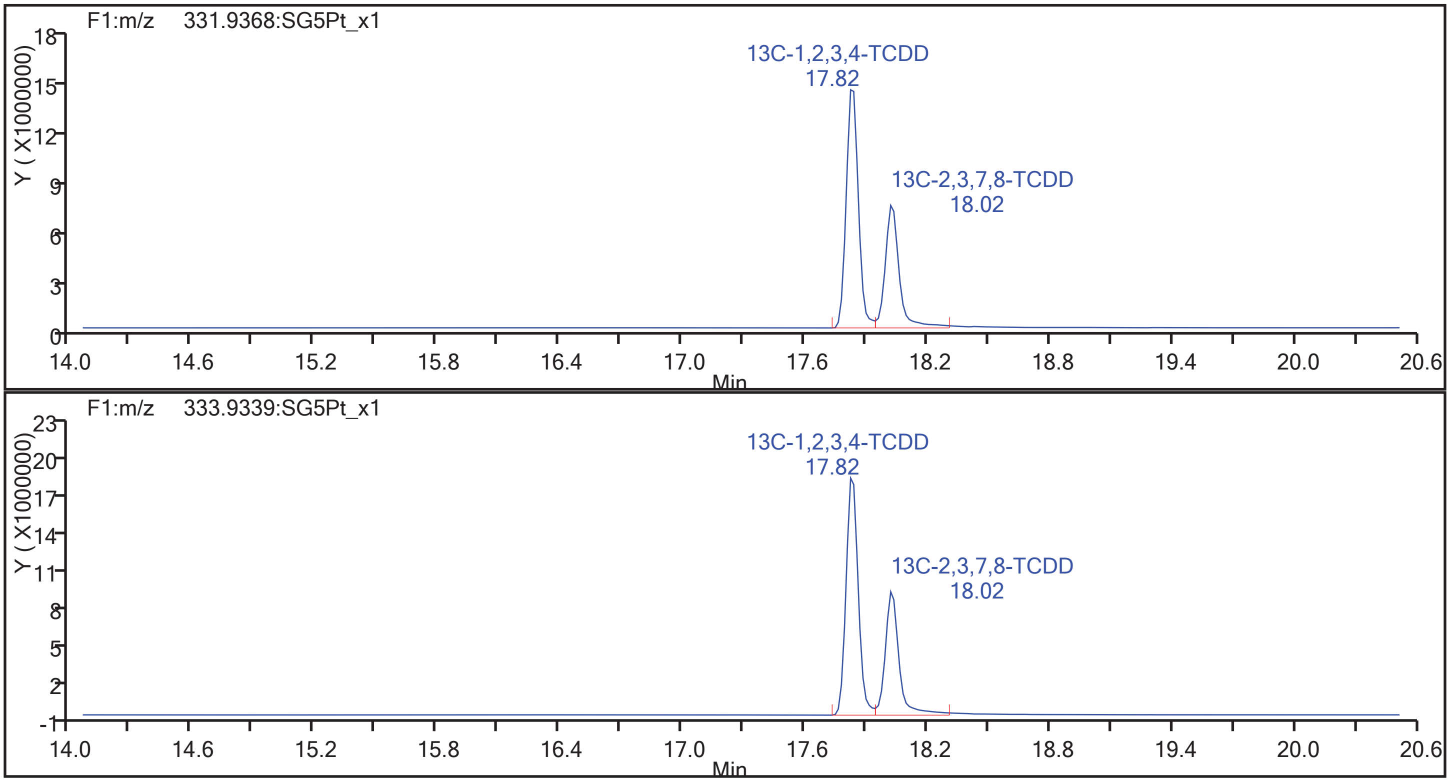
Sample Line#: 17
Column Type: DB-5
Column Dia: 0.32 mm

TCDD



TCDD Standards



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TestAmerica Sacramento

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Client ID:			
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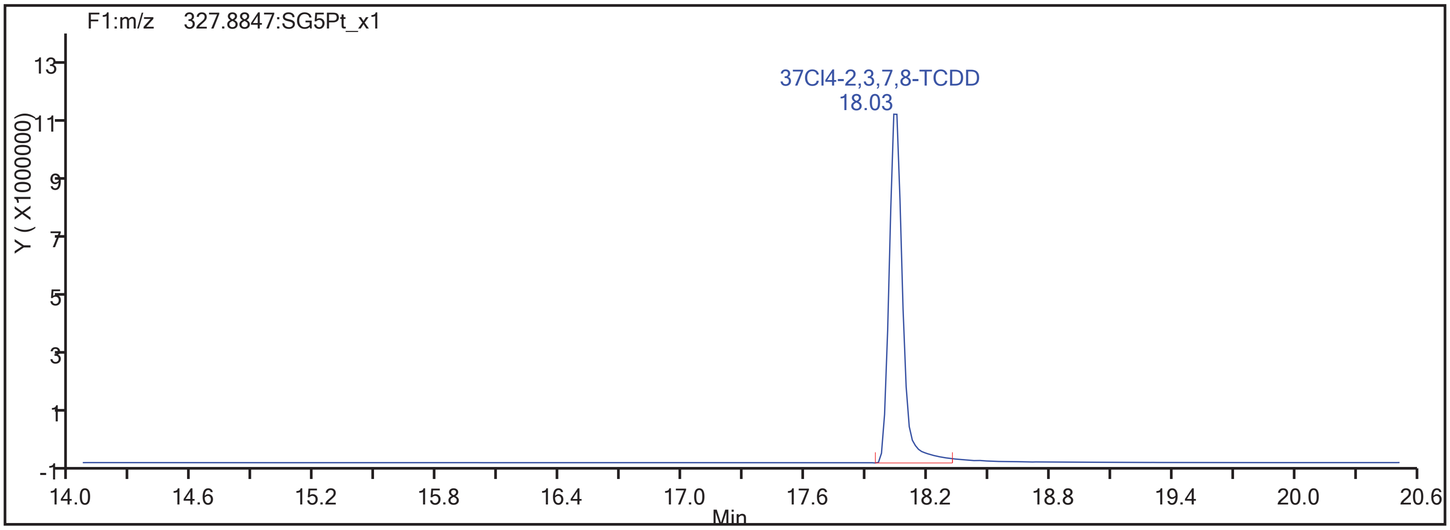
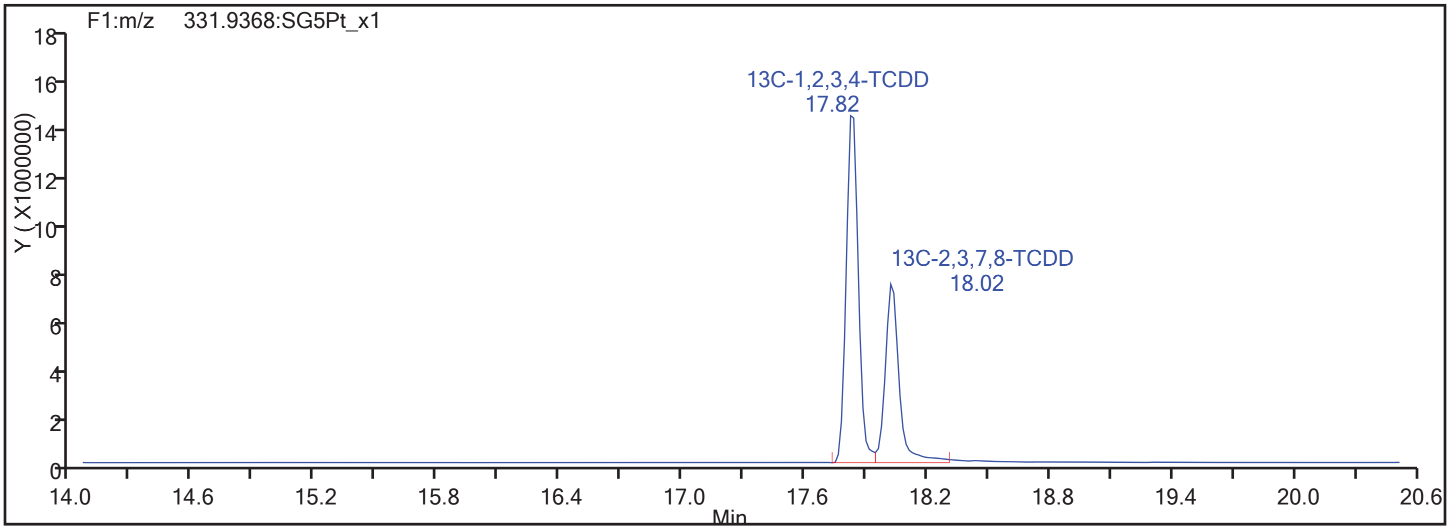
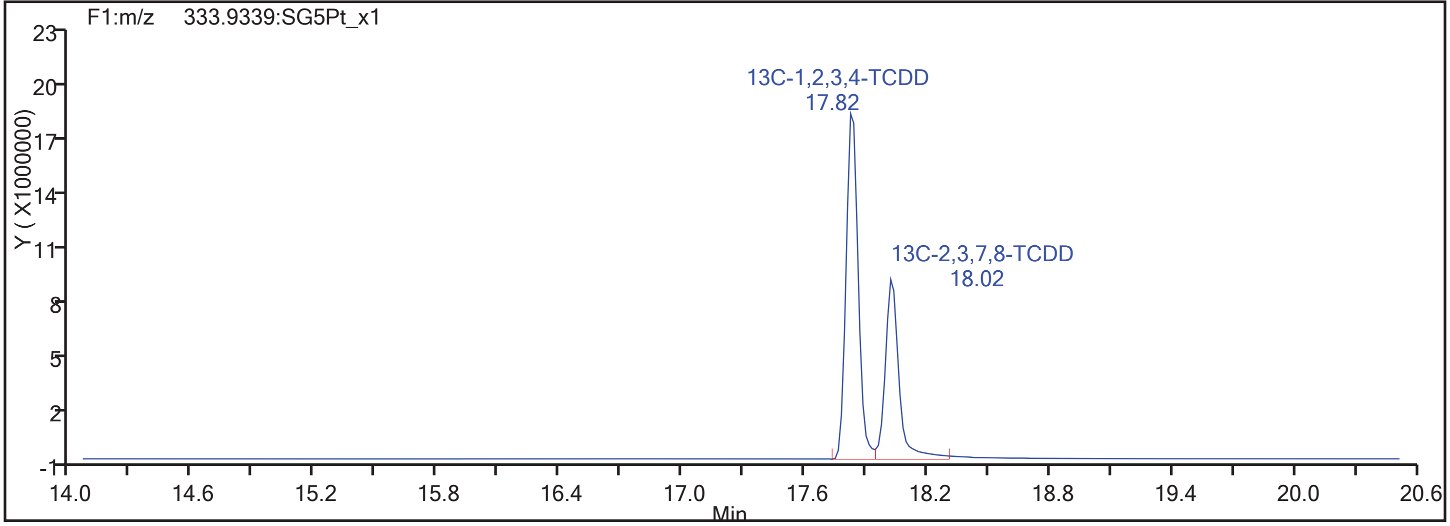
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

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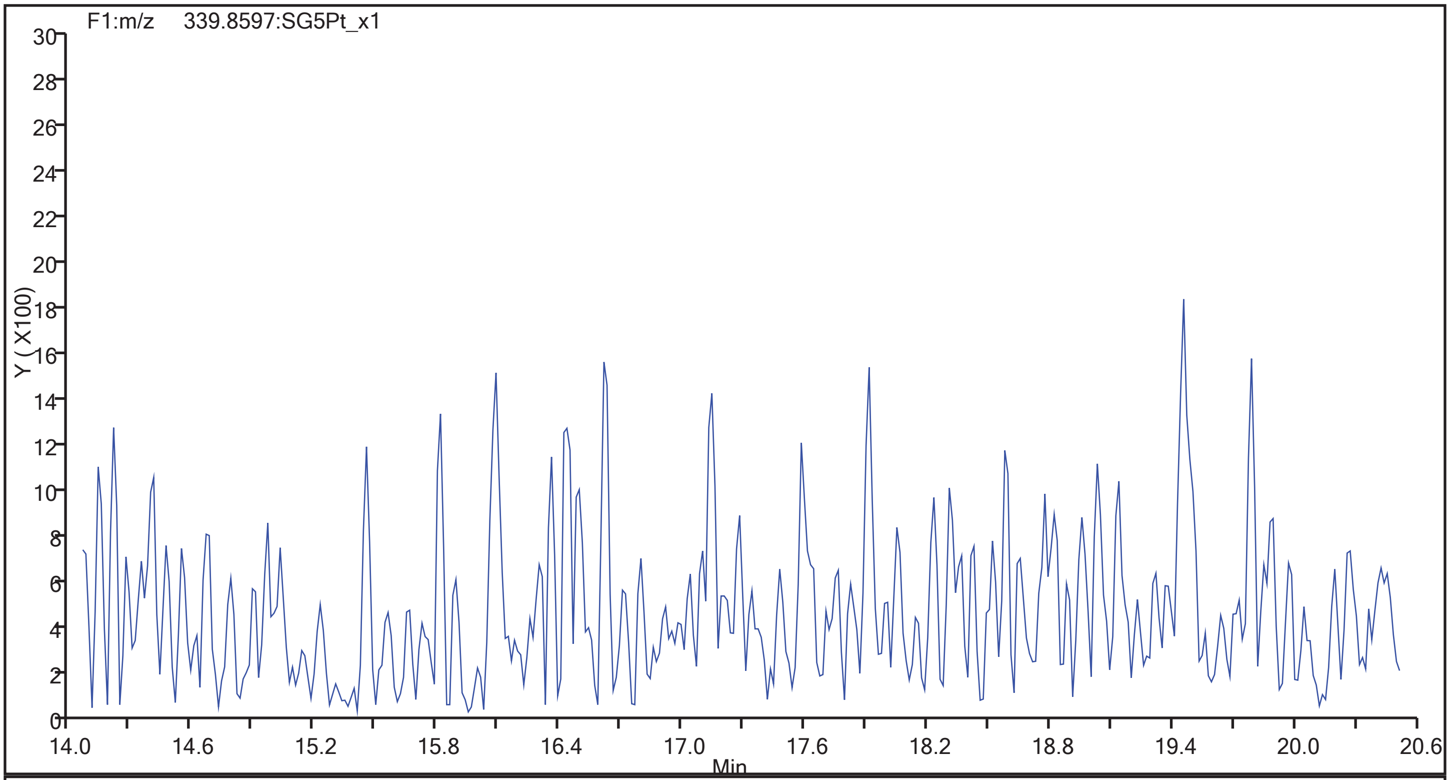
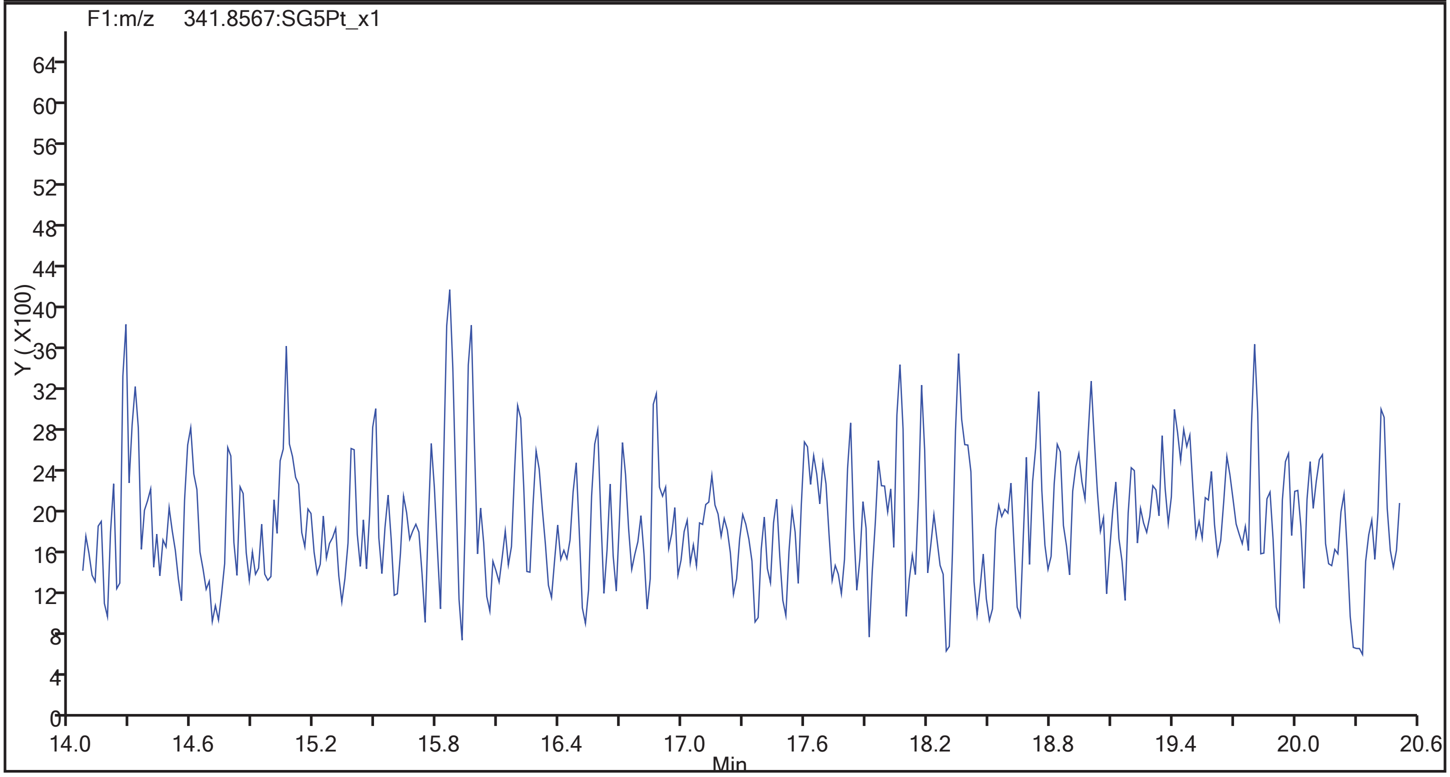
F1 PeCDFs





TestAmerica Sacramento

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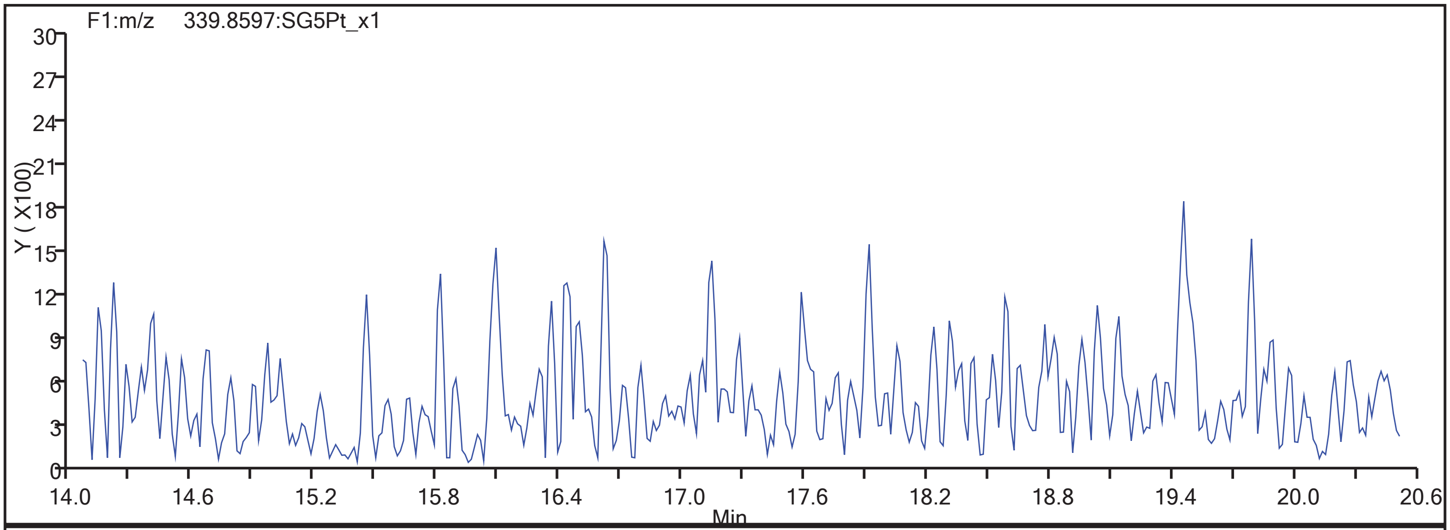
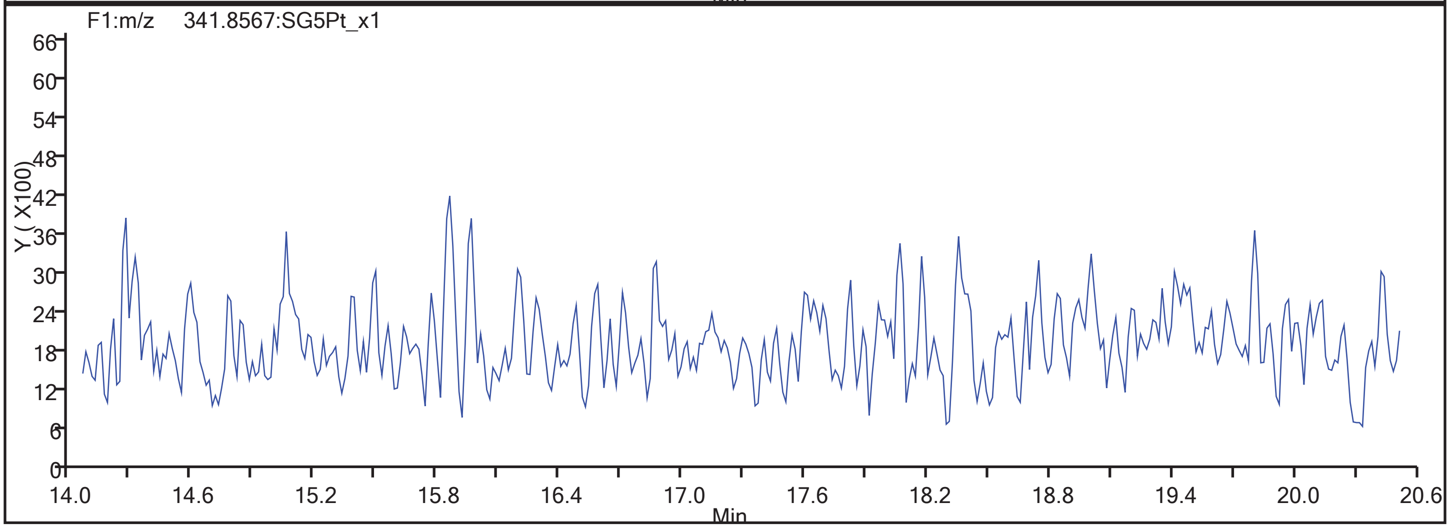
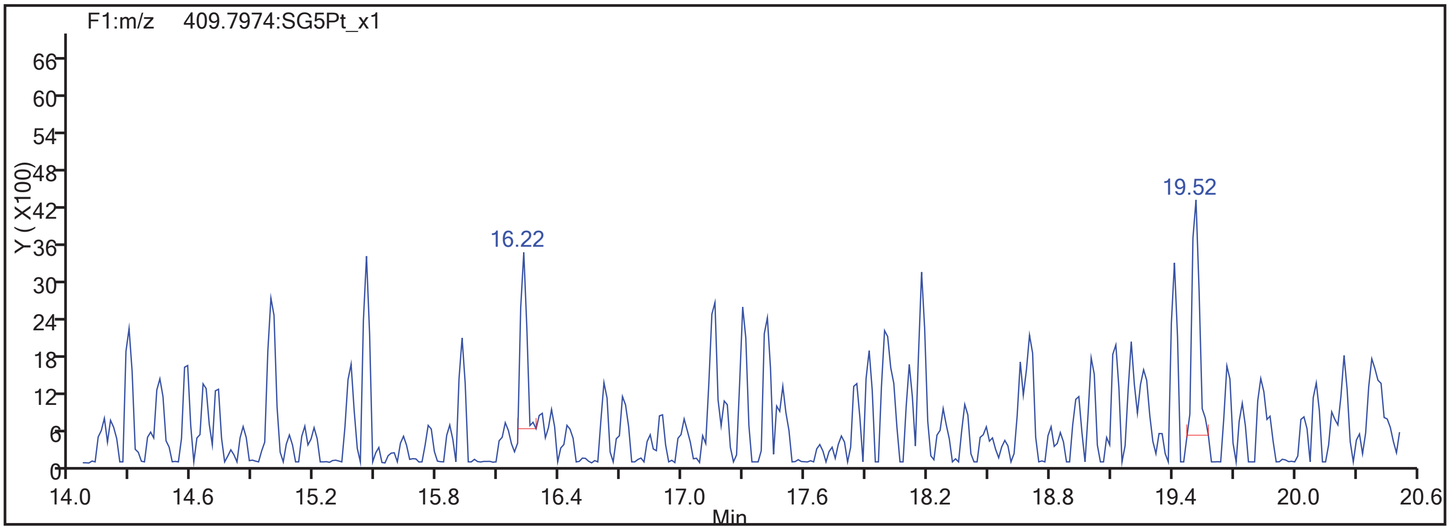
F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 15-Nov-2017 08:04:29		Chrom Revision: 2.2 16-Aug-2017 16:24:46	

TestAmerica Sacramento

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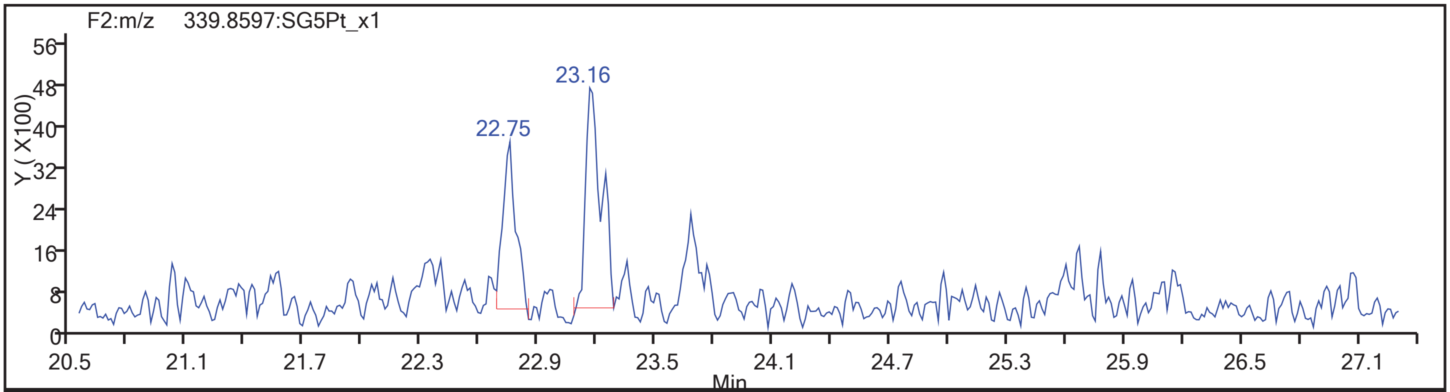
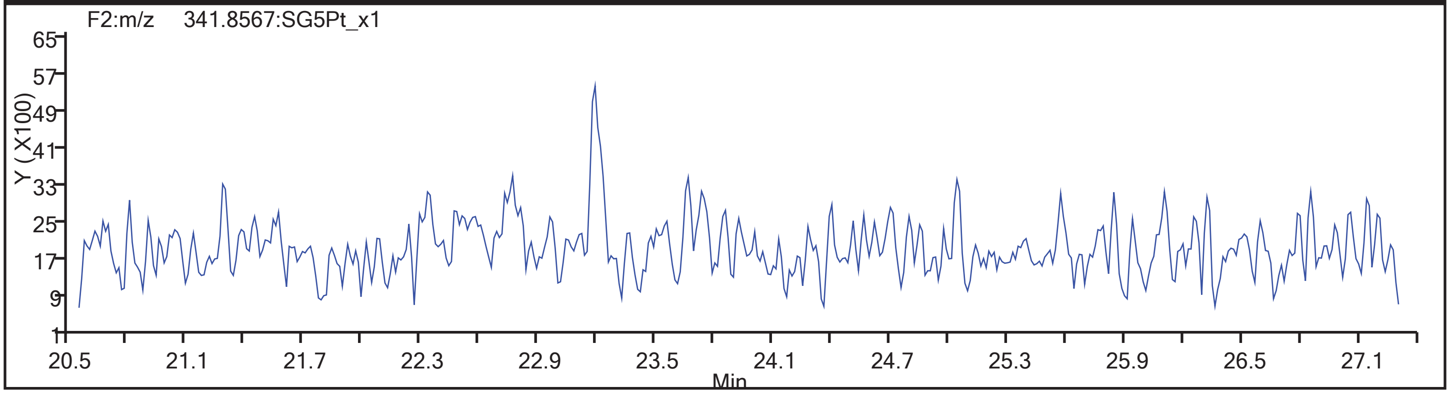
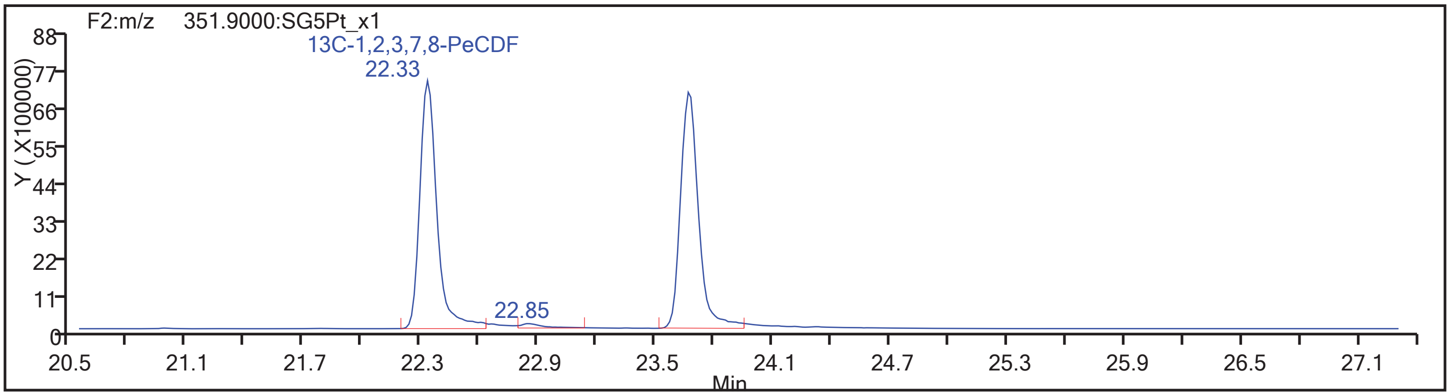
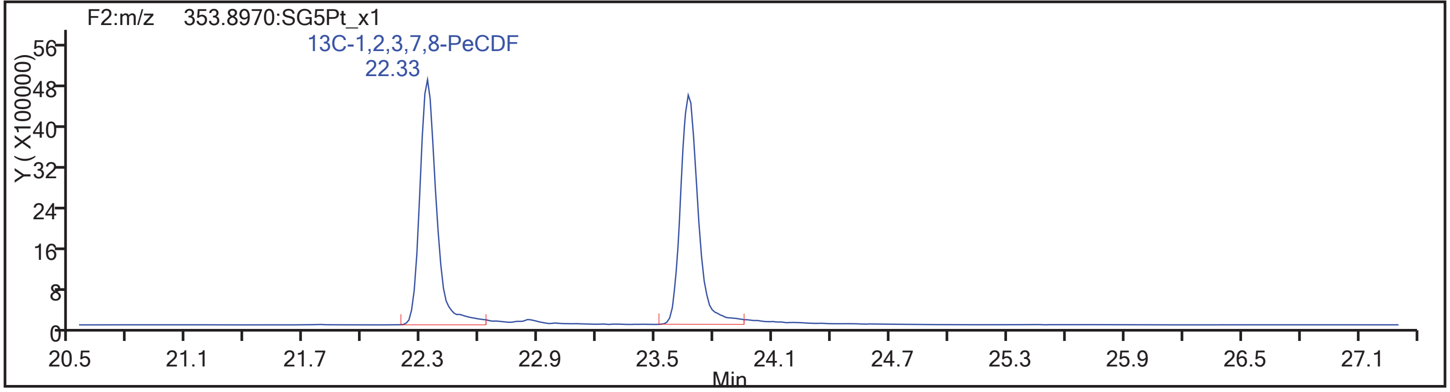
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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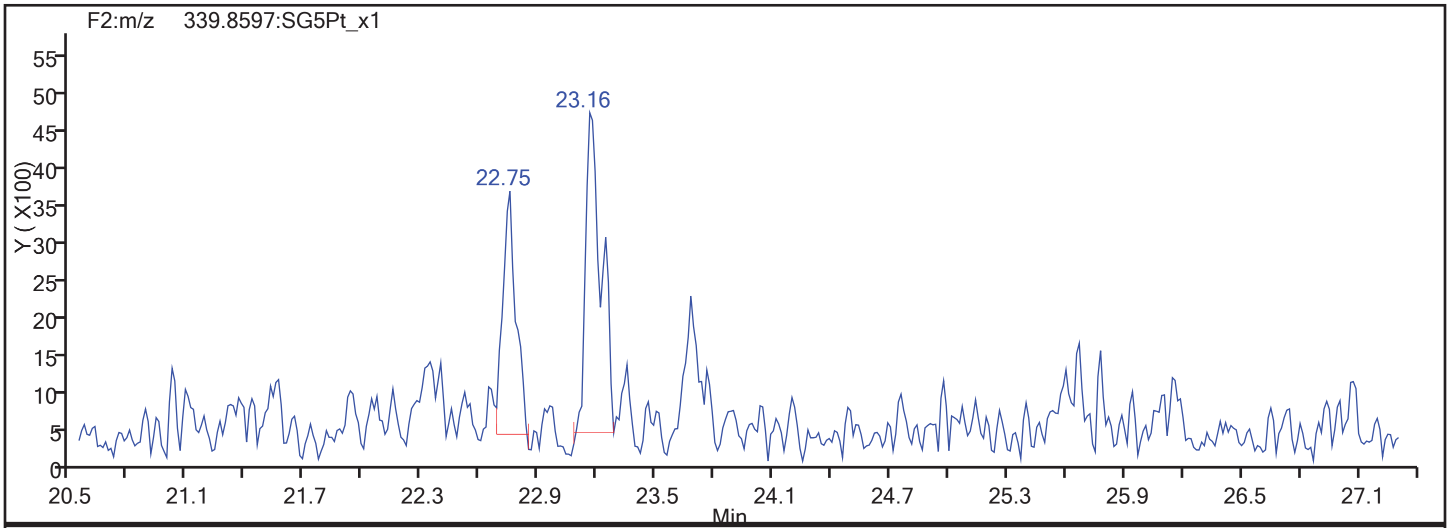
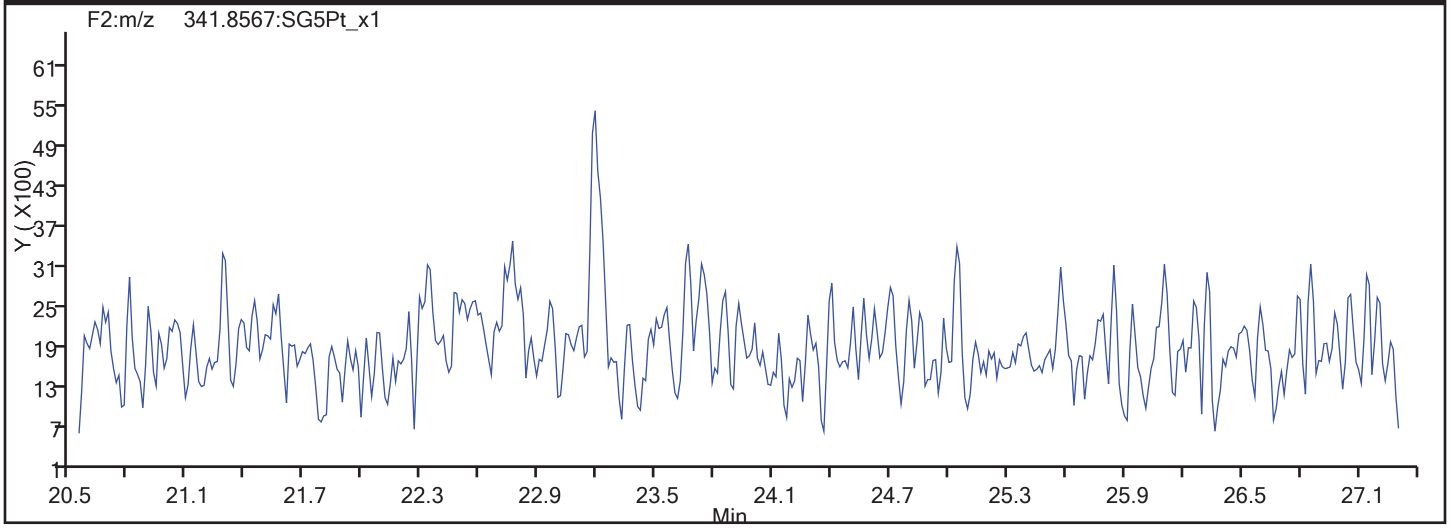
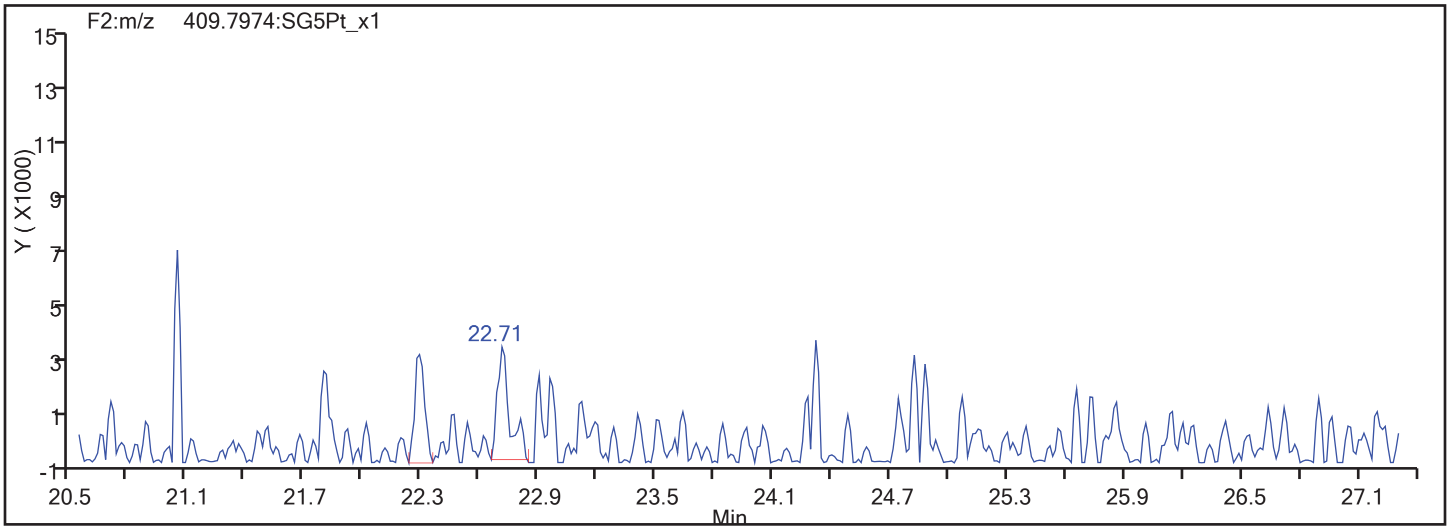
PeCDF





PeCDF Interference Mass



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TestAmerica Sacramento

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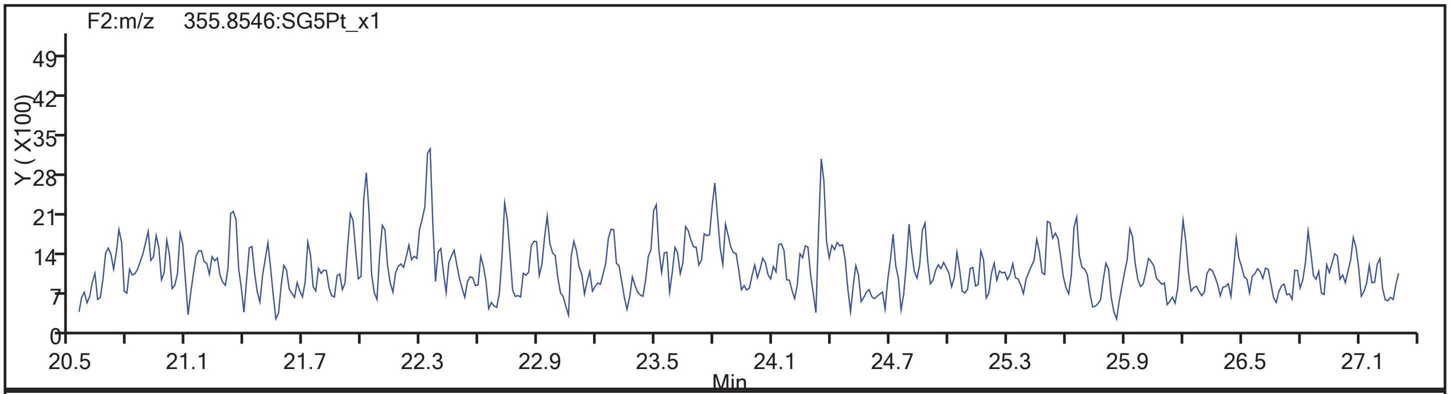

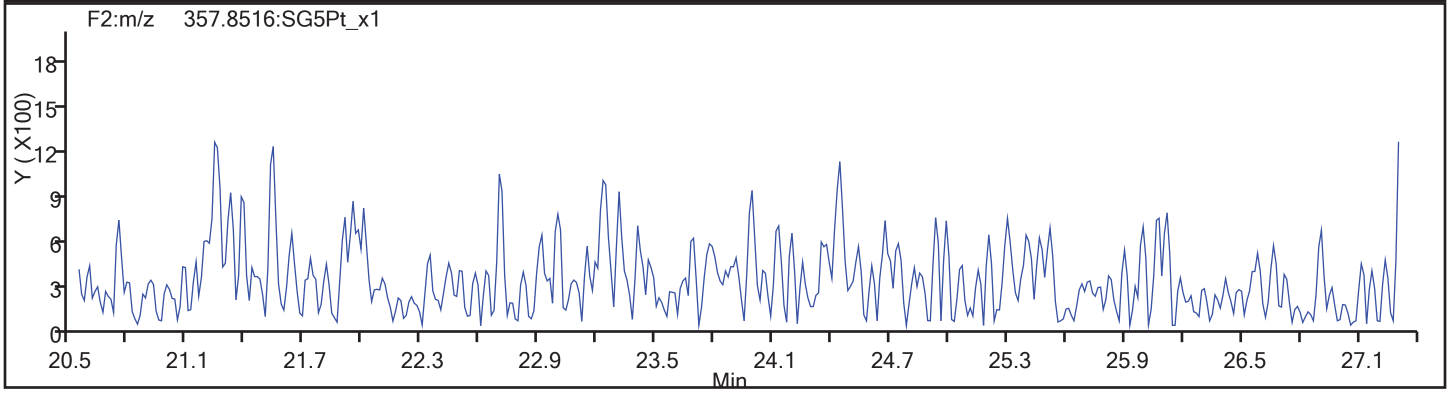

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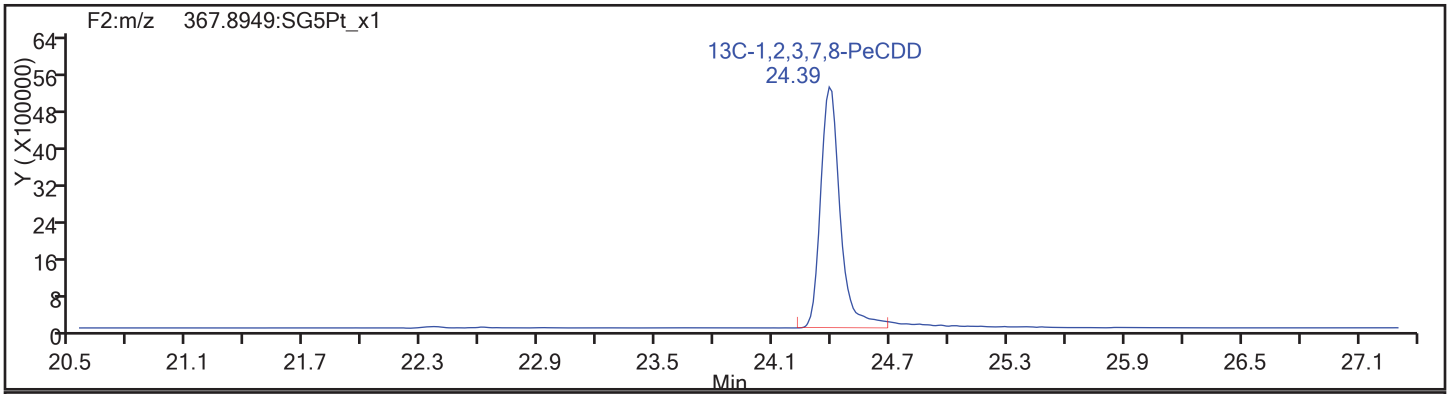

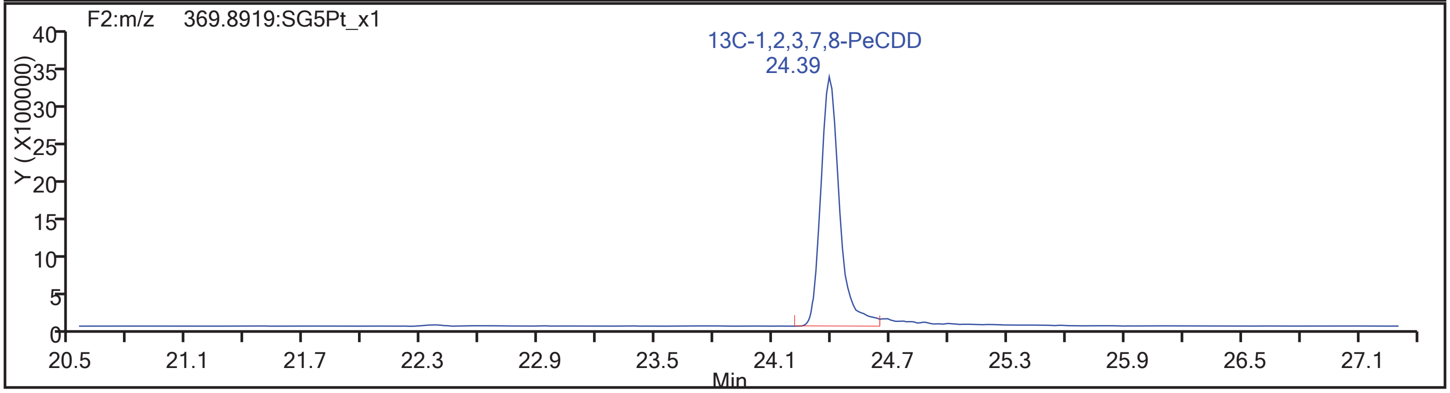

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TestAmerica Sacramento

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Injection Date: 14-Nov-2017 01:05:49 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

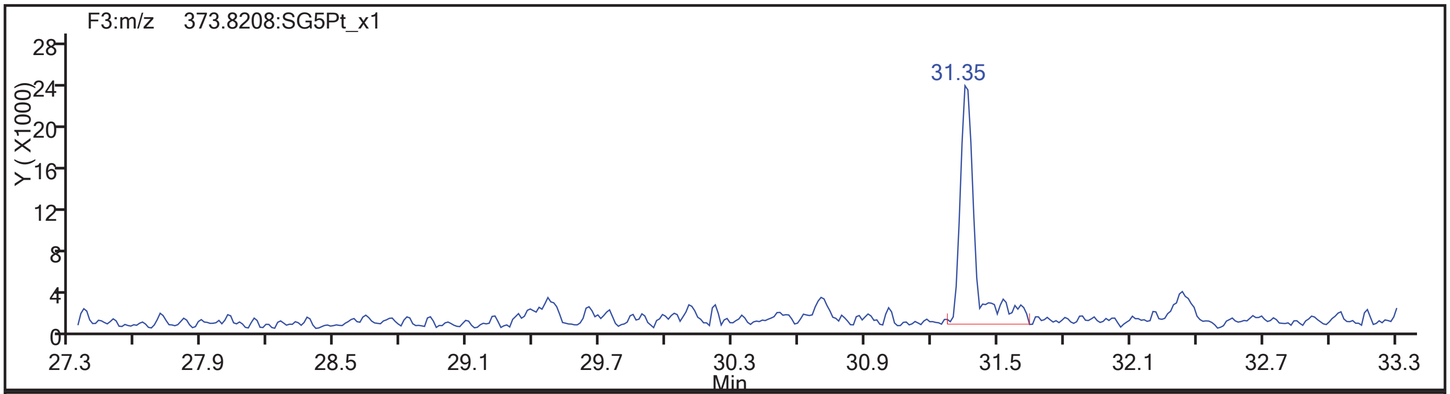
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

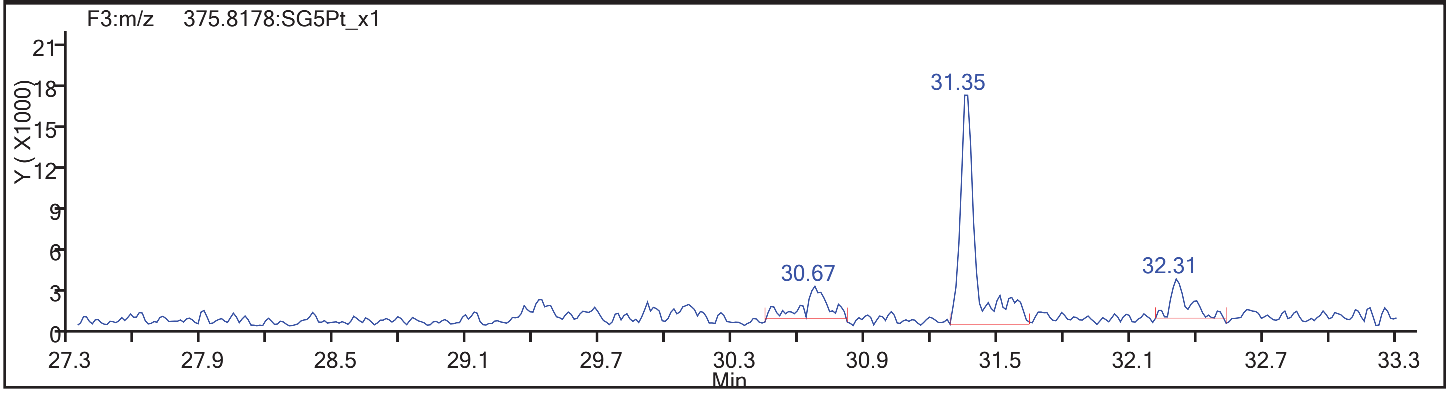
Client ID:

Worklist#: 194428 Sample Line#: 17

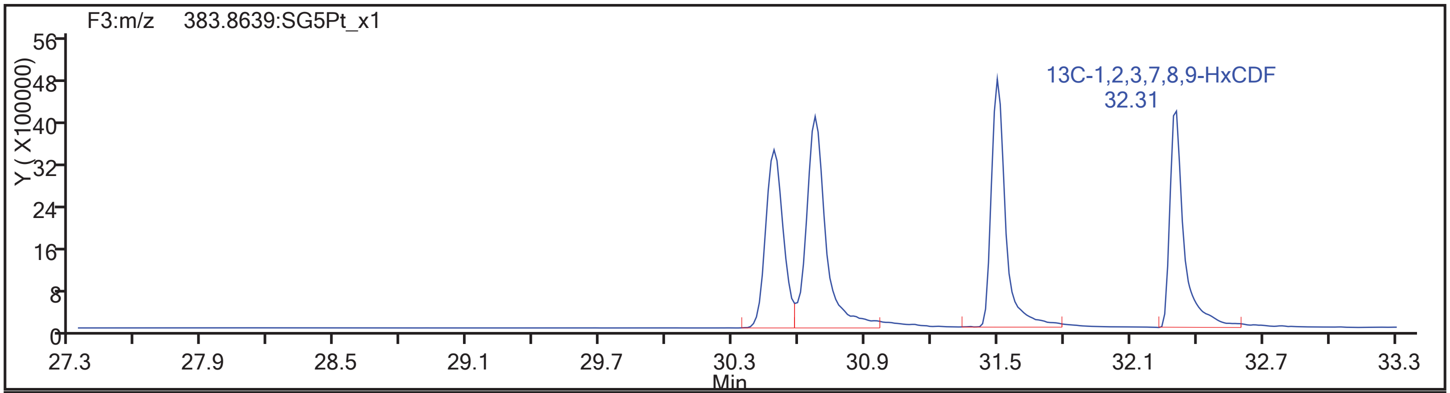
Column Type: DB-5 Column Dia: 0.32 mm

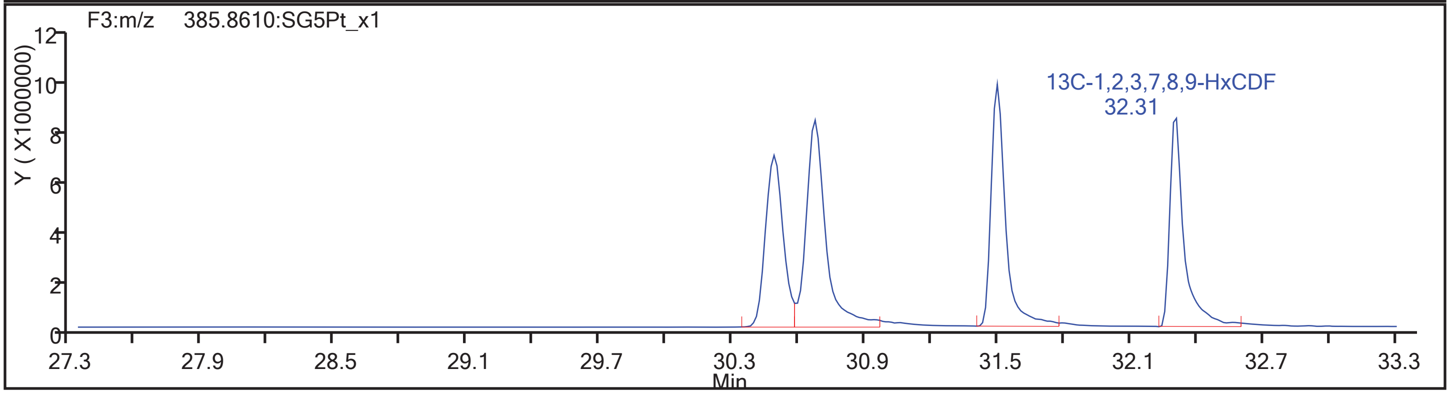
HxCDF





HxCDF Standards





TestAmerica Sacramento

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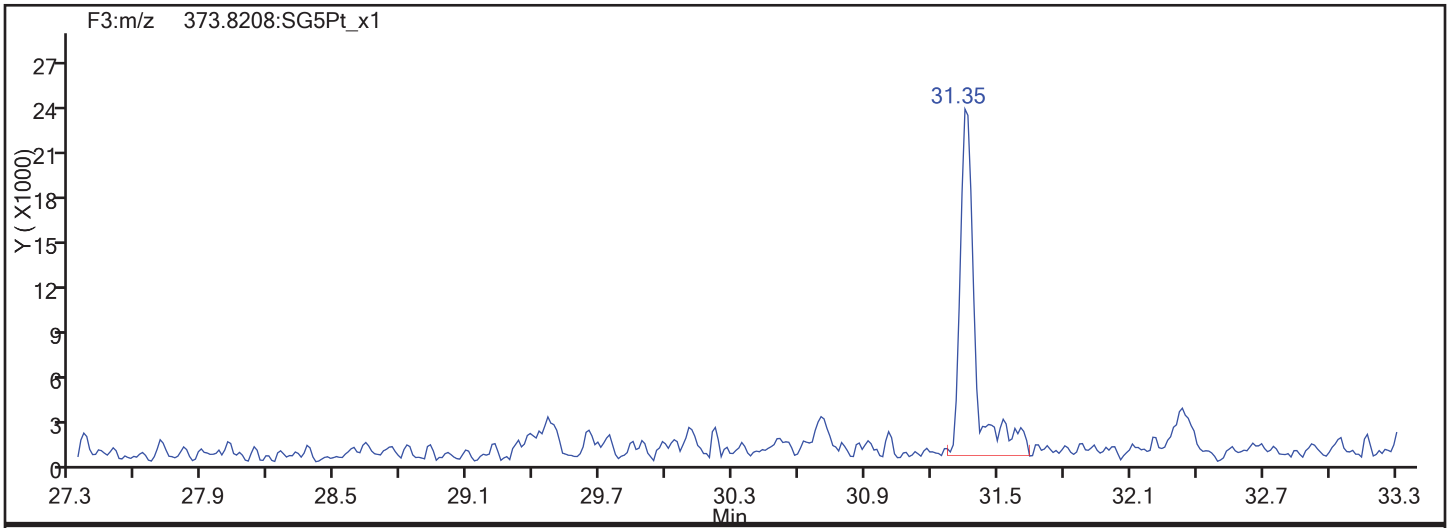
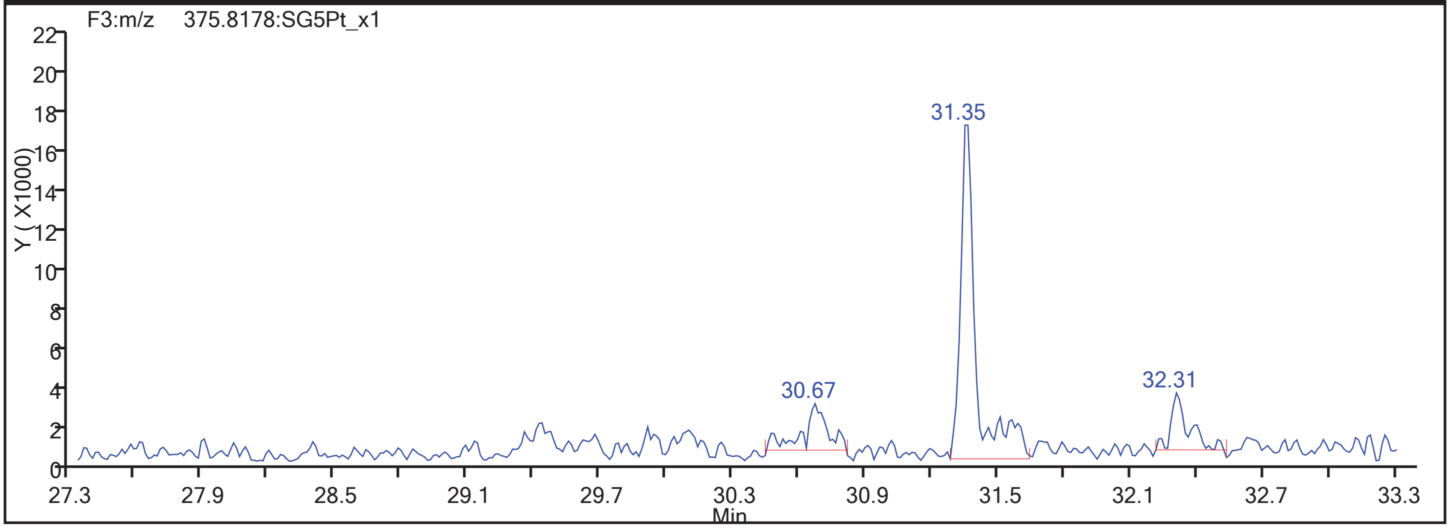
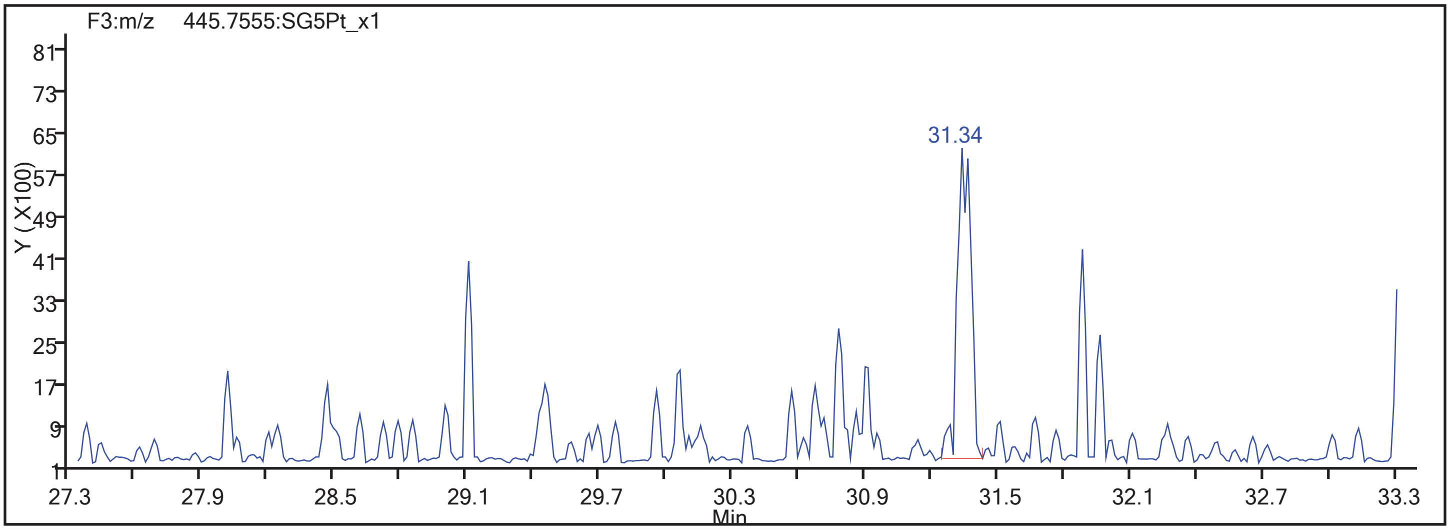
HxCDF





HxCDF Interference Mass



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TestAmerica Sacramento

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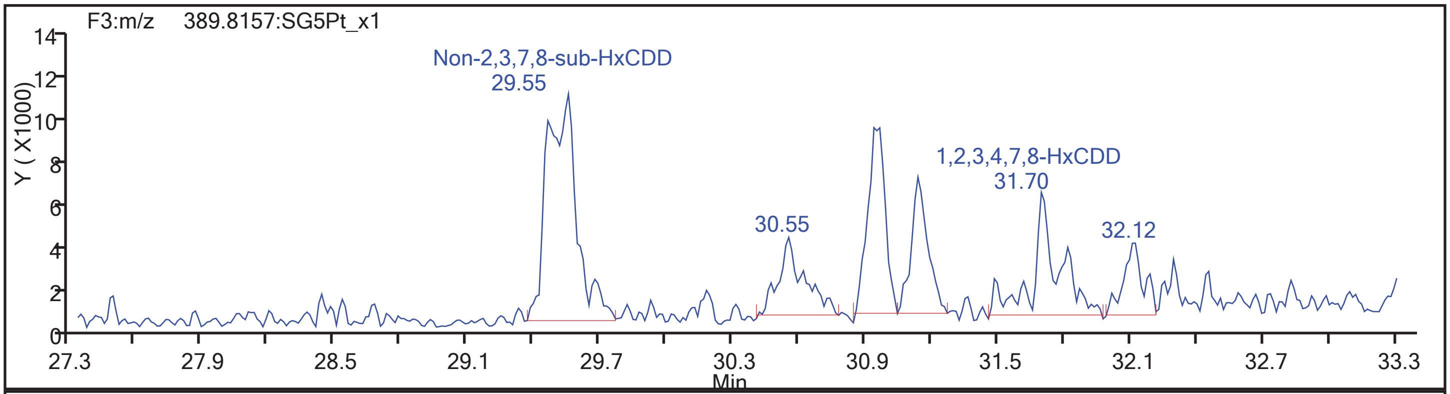
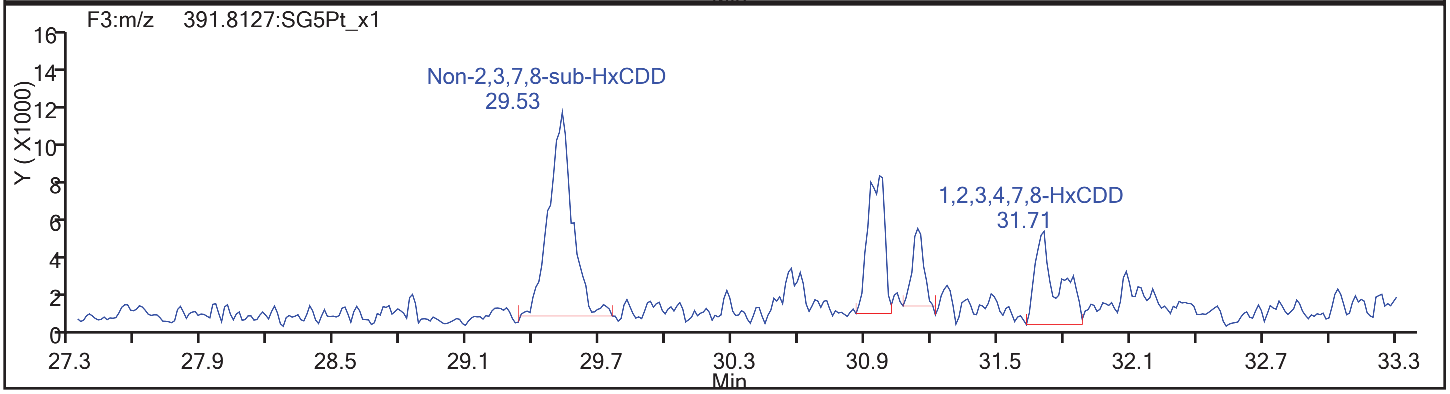
HxCDD





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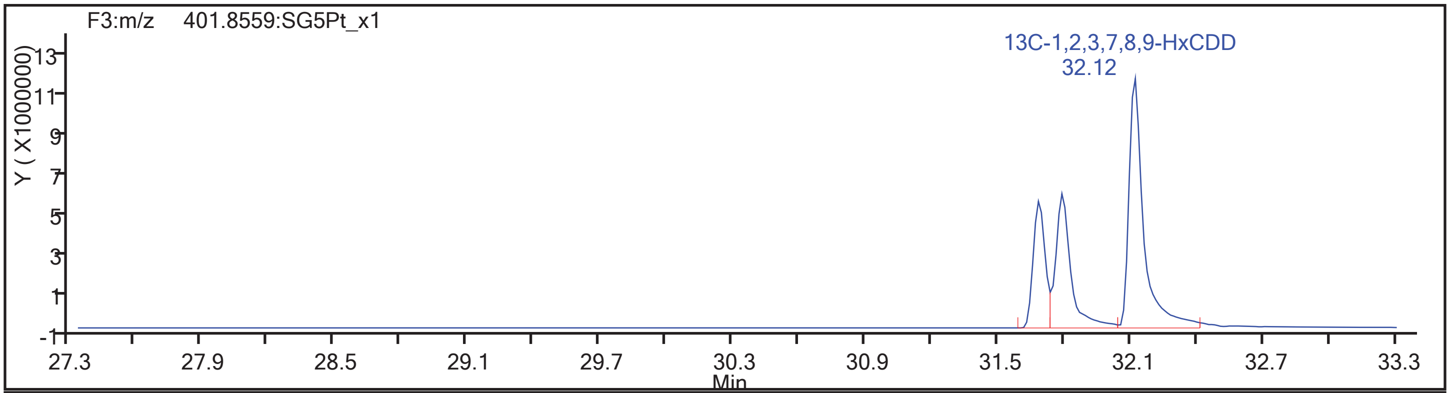

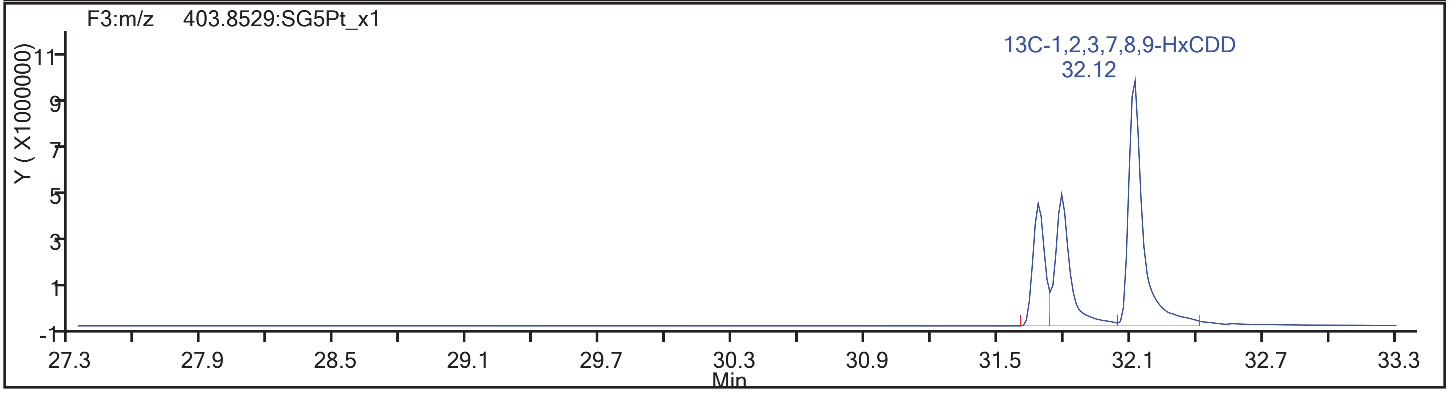

TestAmerica Sacramento

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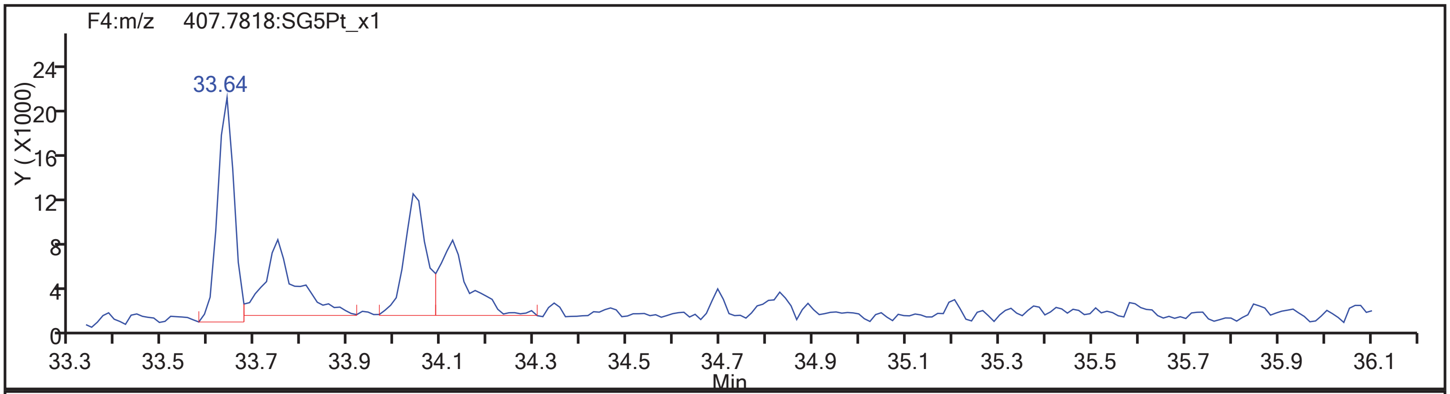
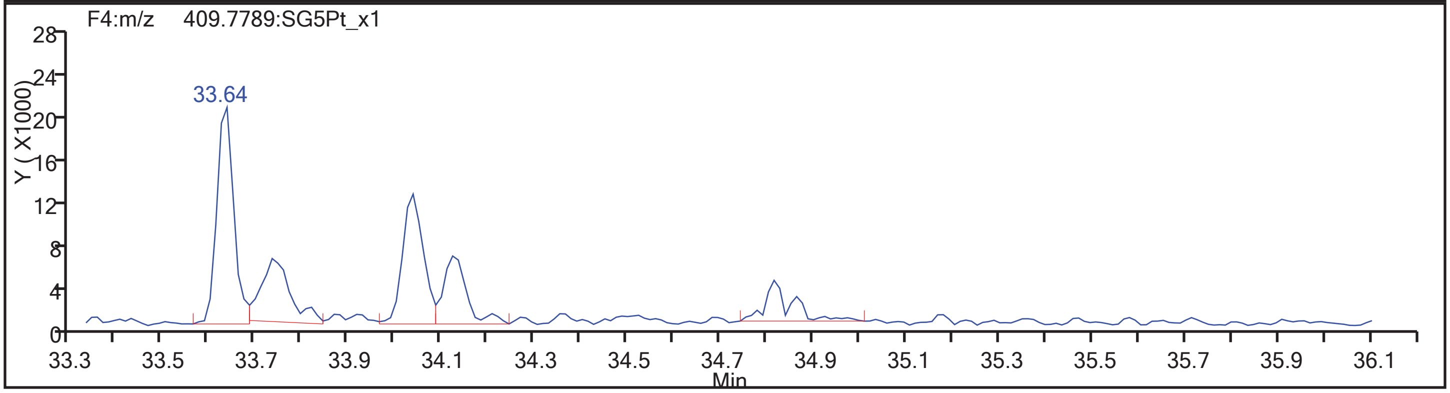
HpCDF





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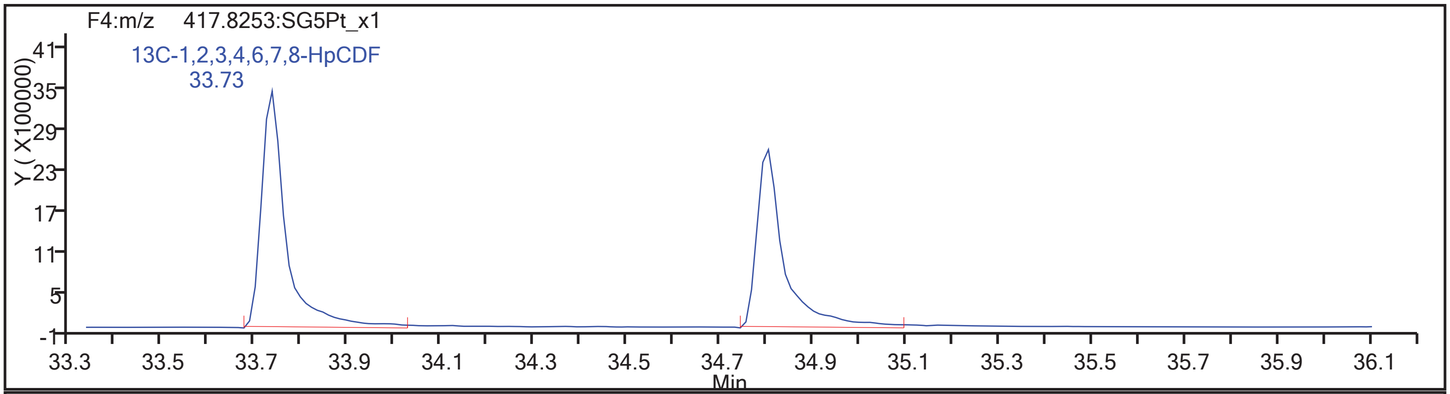

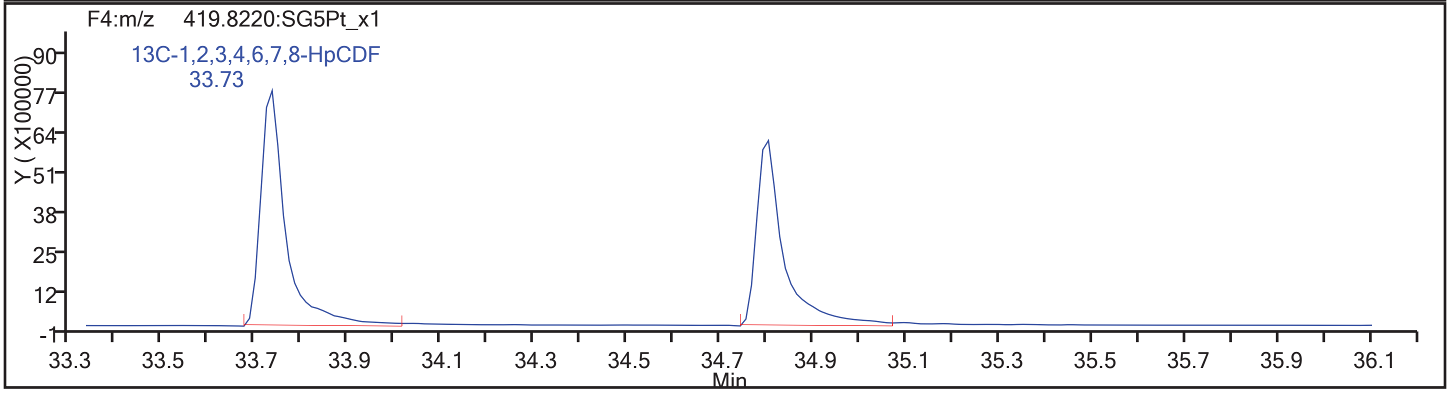

TestAmerica Sacramento

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Instrument ID: 10D5 Operator ID: AJS
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Client ID:
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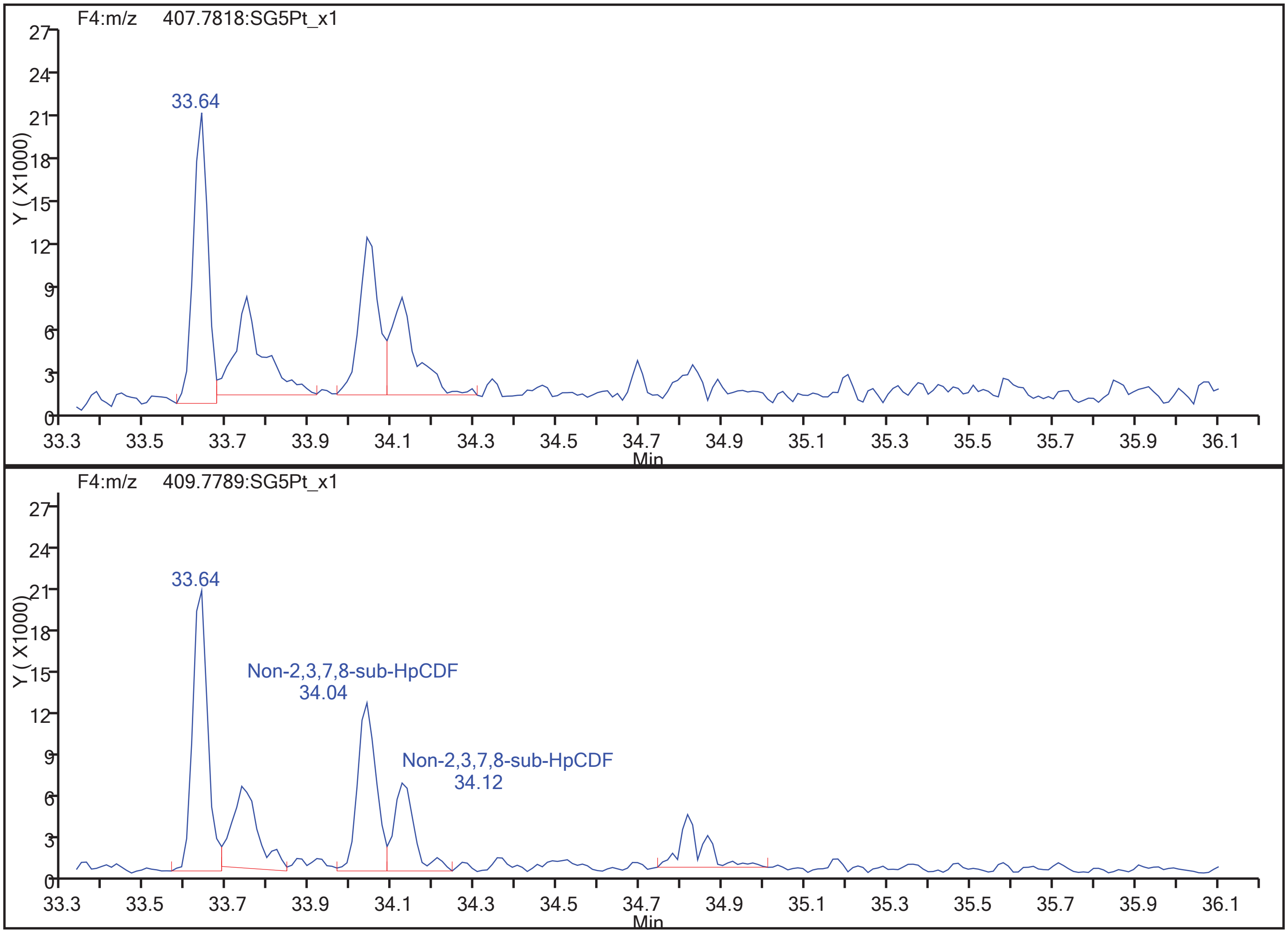
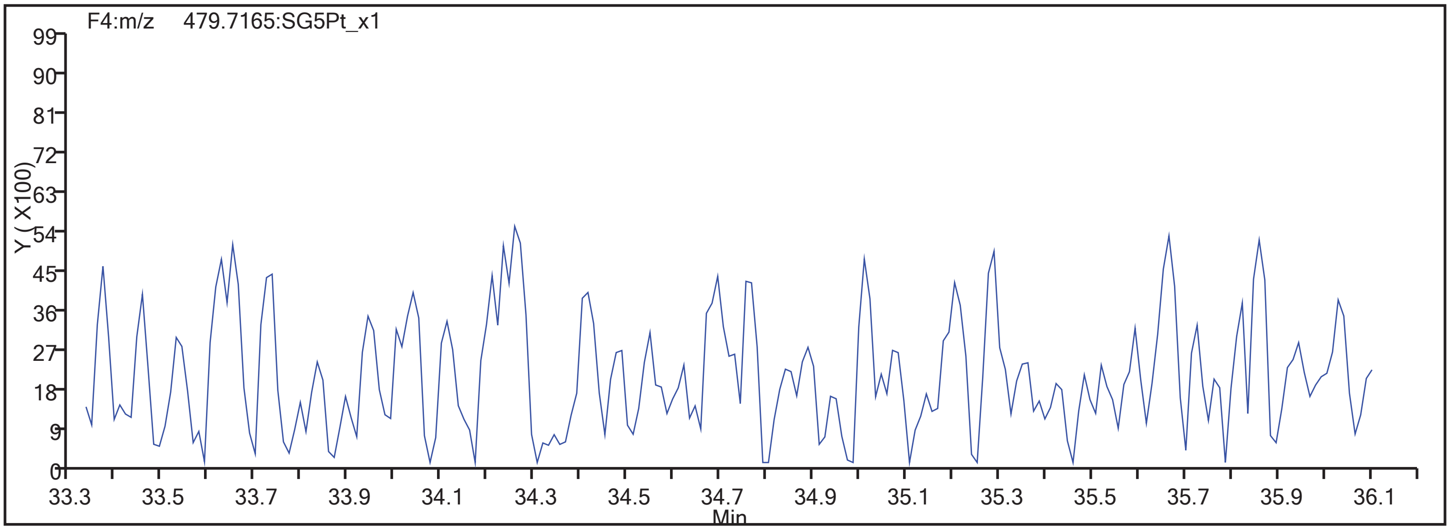
HpCDF



HpCDF Interference Mass



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d		
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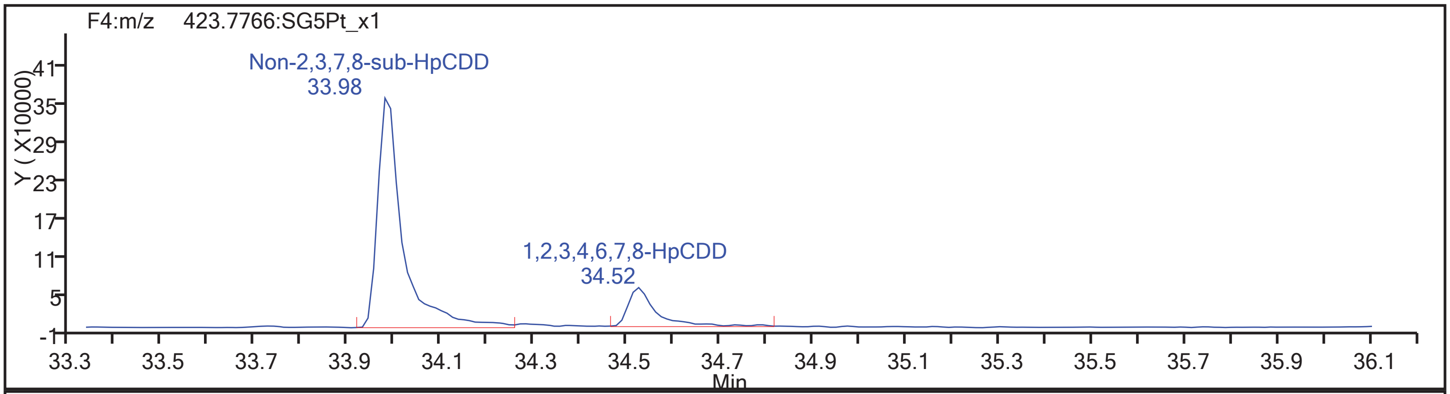
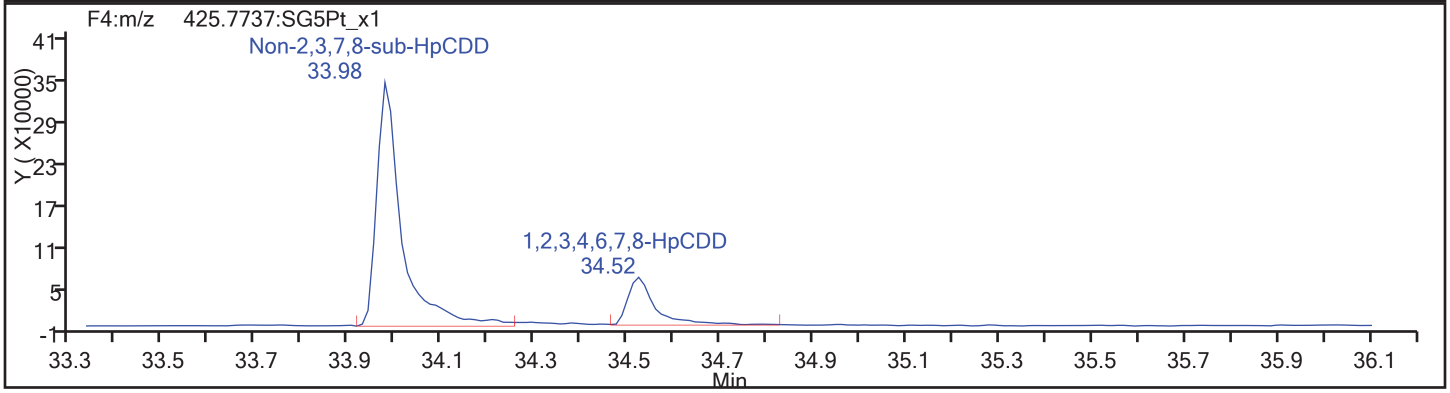
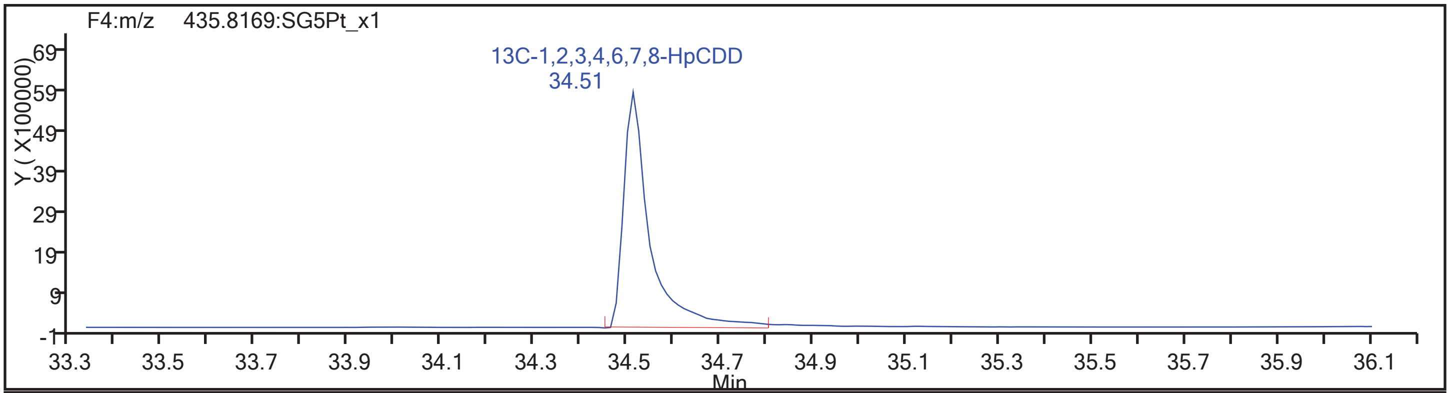
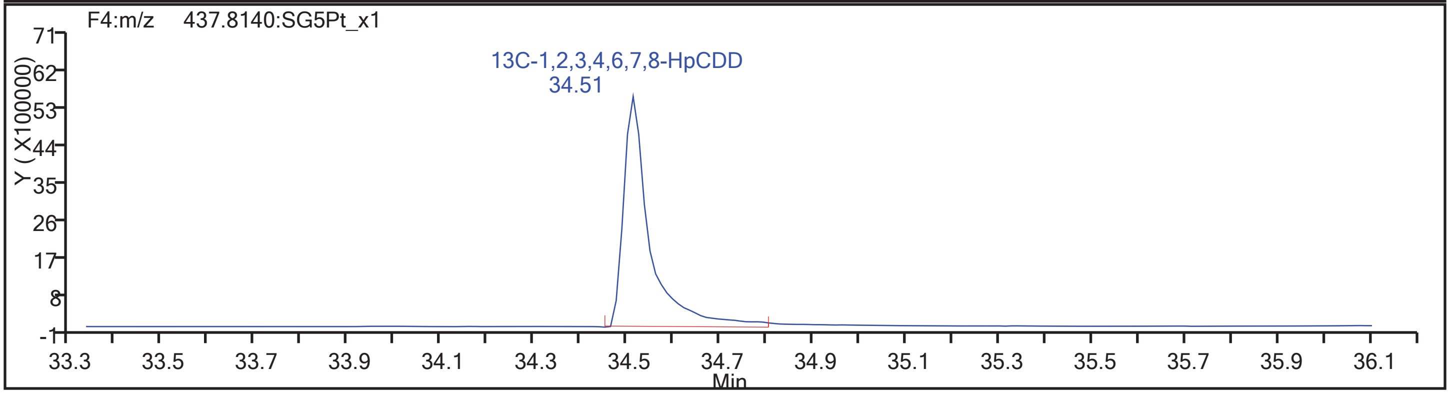
HpCDD





HpCDD Standards

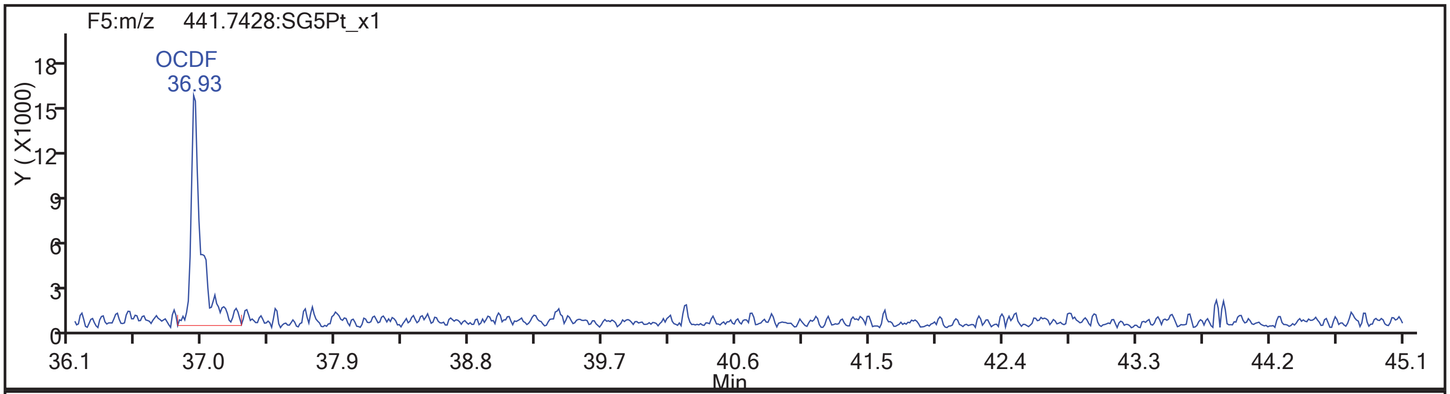


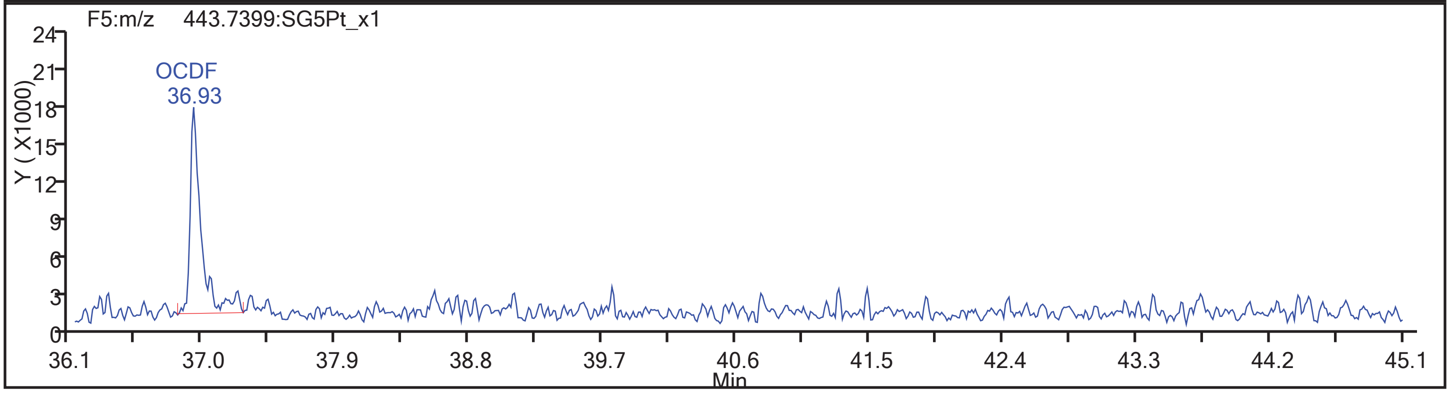


TestAmerica Sacramento

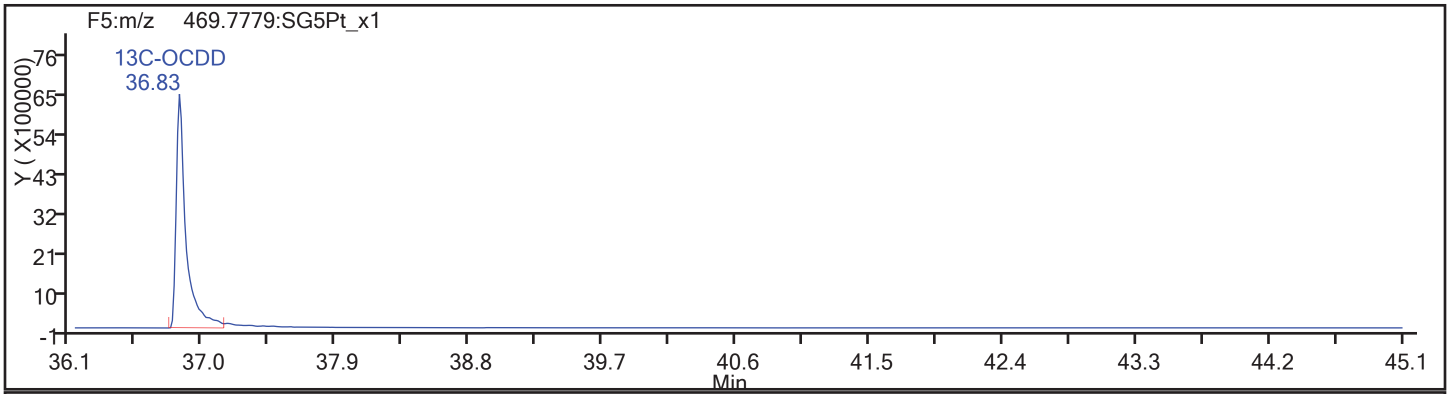
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d
Injection Date: 14-Nov-2017 01:05:49
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194428
Sample Line#: 17
Column Type: DB-5
Column Dia: 0.32 mm

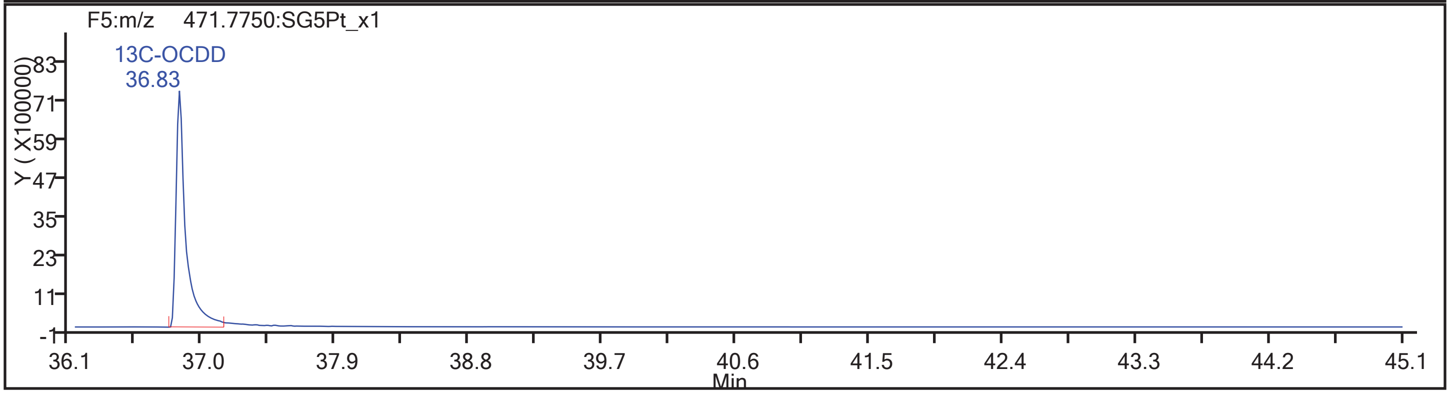
OCDF





OCDF Standards





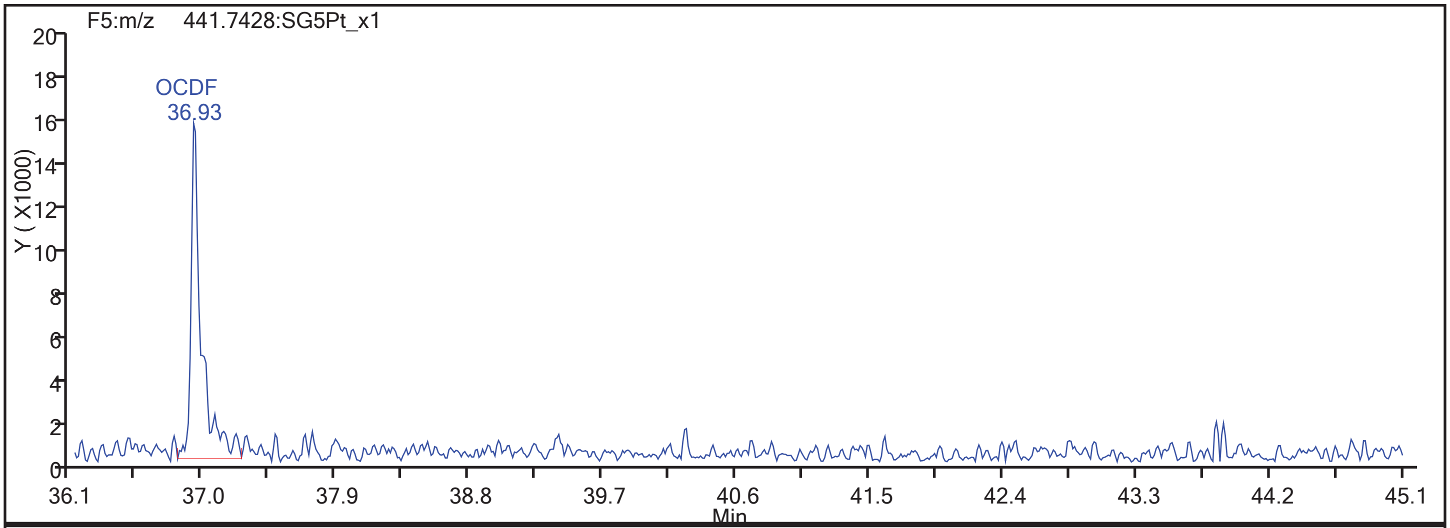
Report Date: 15-Nov-2017 08:04:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

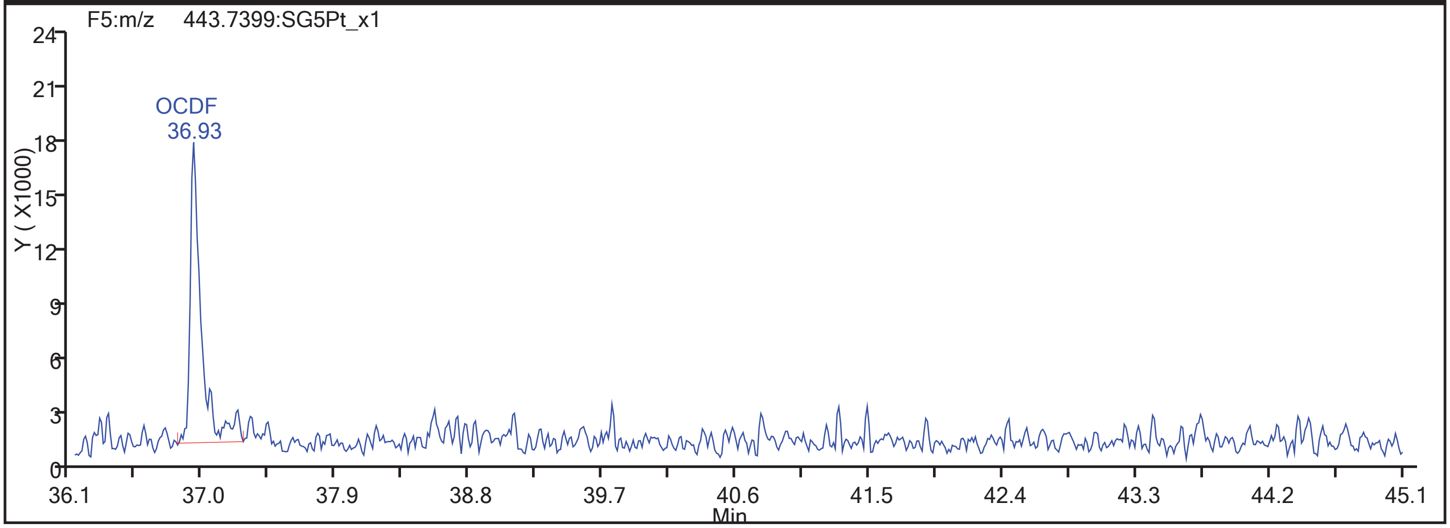
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d

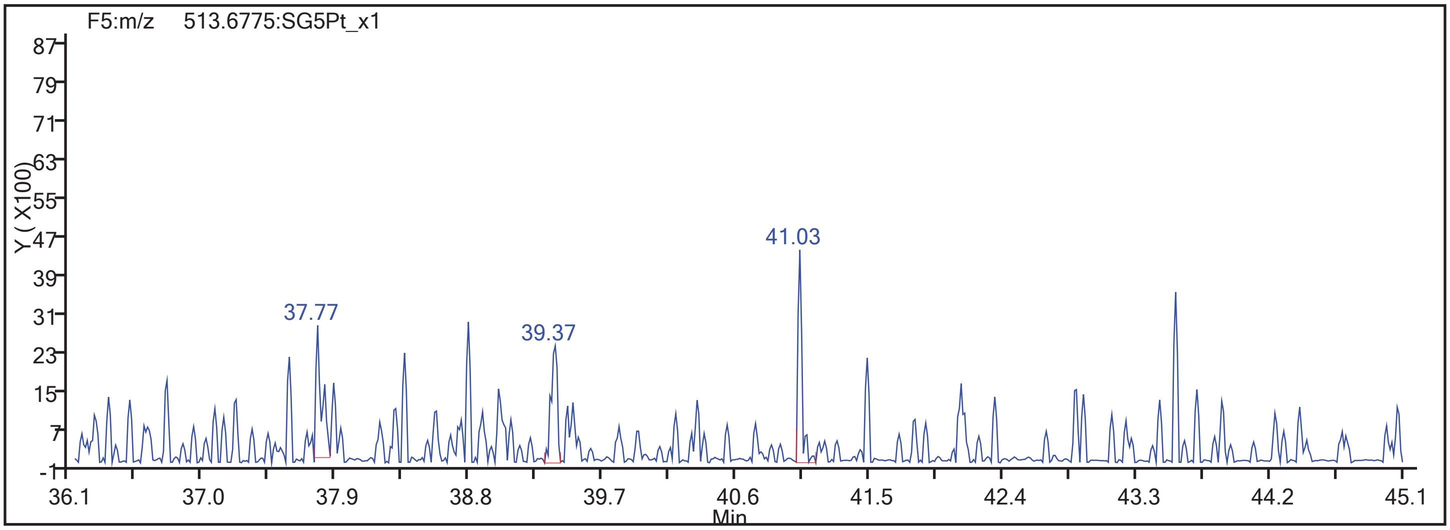
Injection Date:	14-Nov-2017 01:05:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

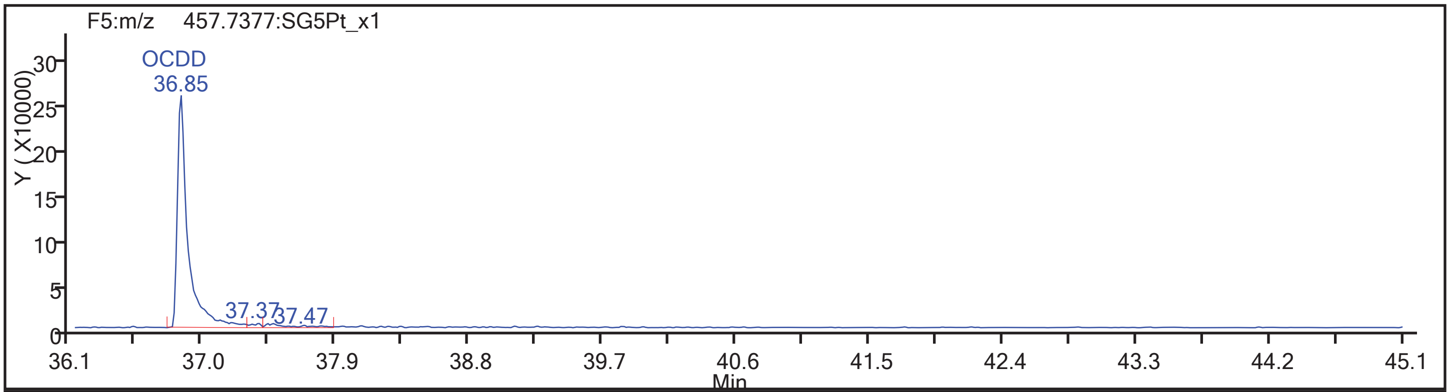


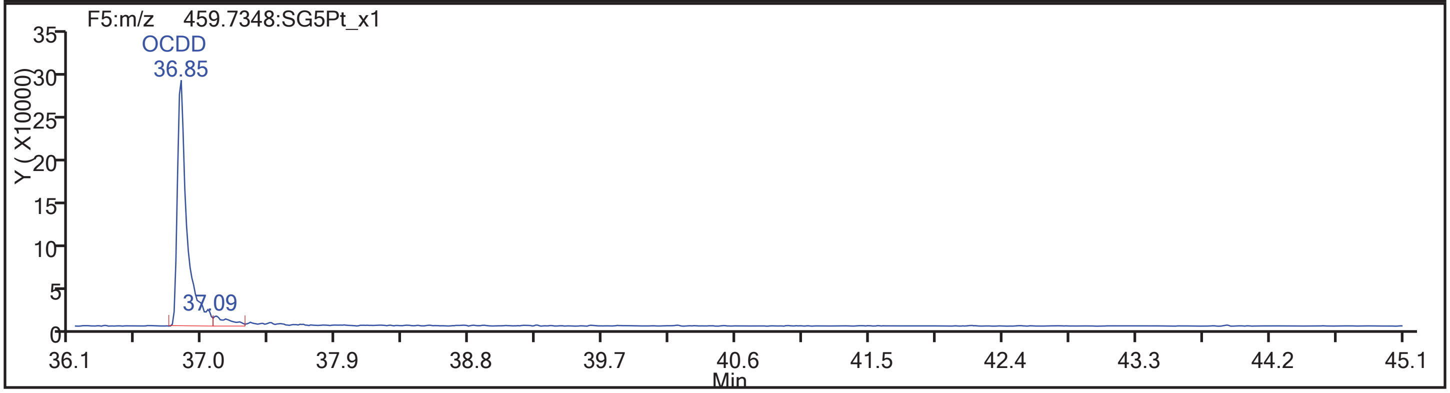
Report Date: 15-Nov-2017 08:04:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

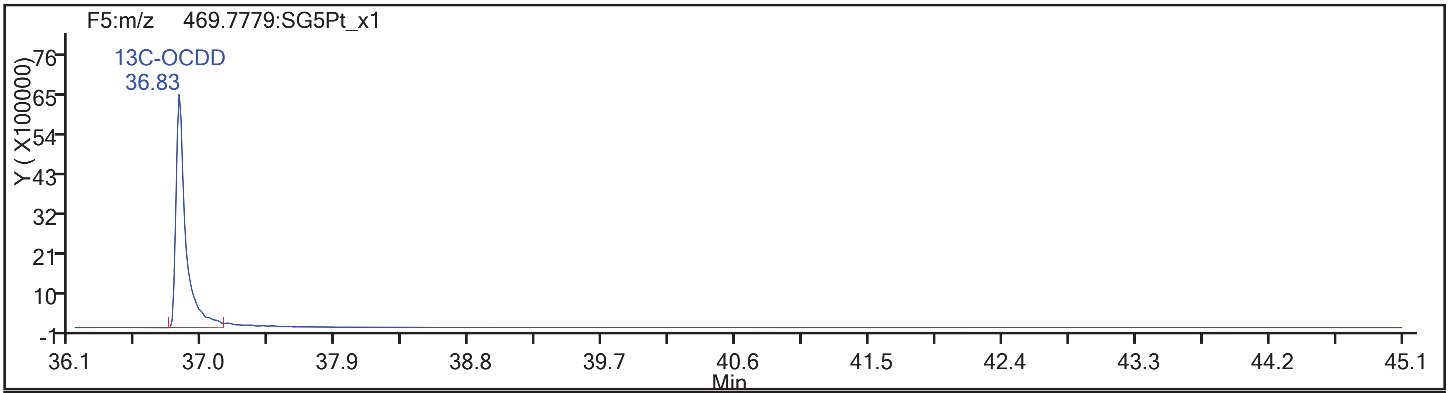
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d
Injection Date: 14-Nov-2017 01:05:49
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194428
Sample Line#: 17
Column Type: DB-5
Column Dia: 0.32 mm

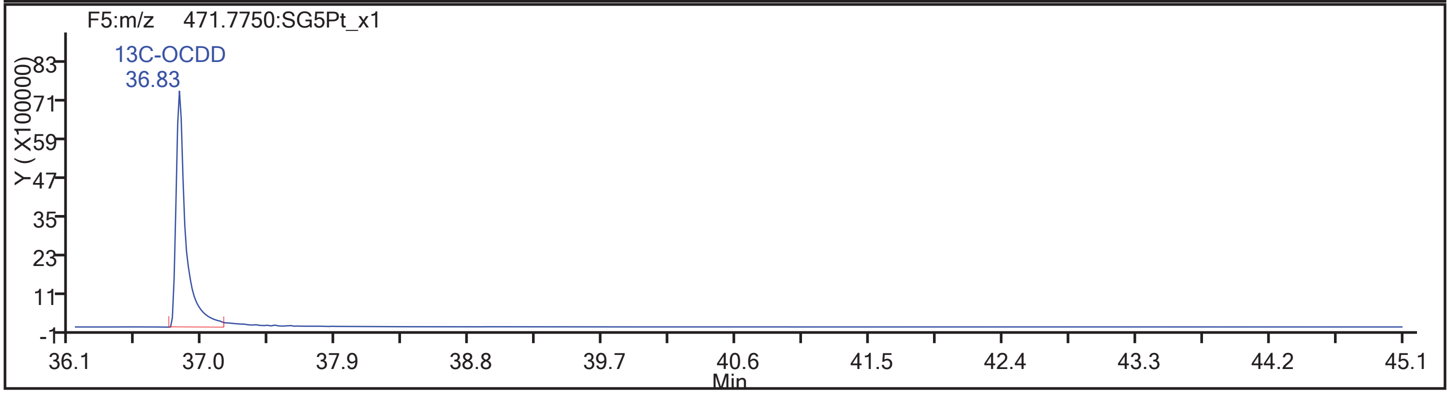
OCDD





OCDD Standards

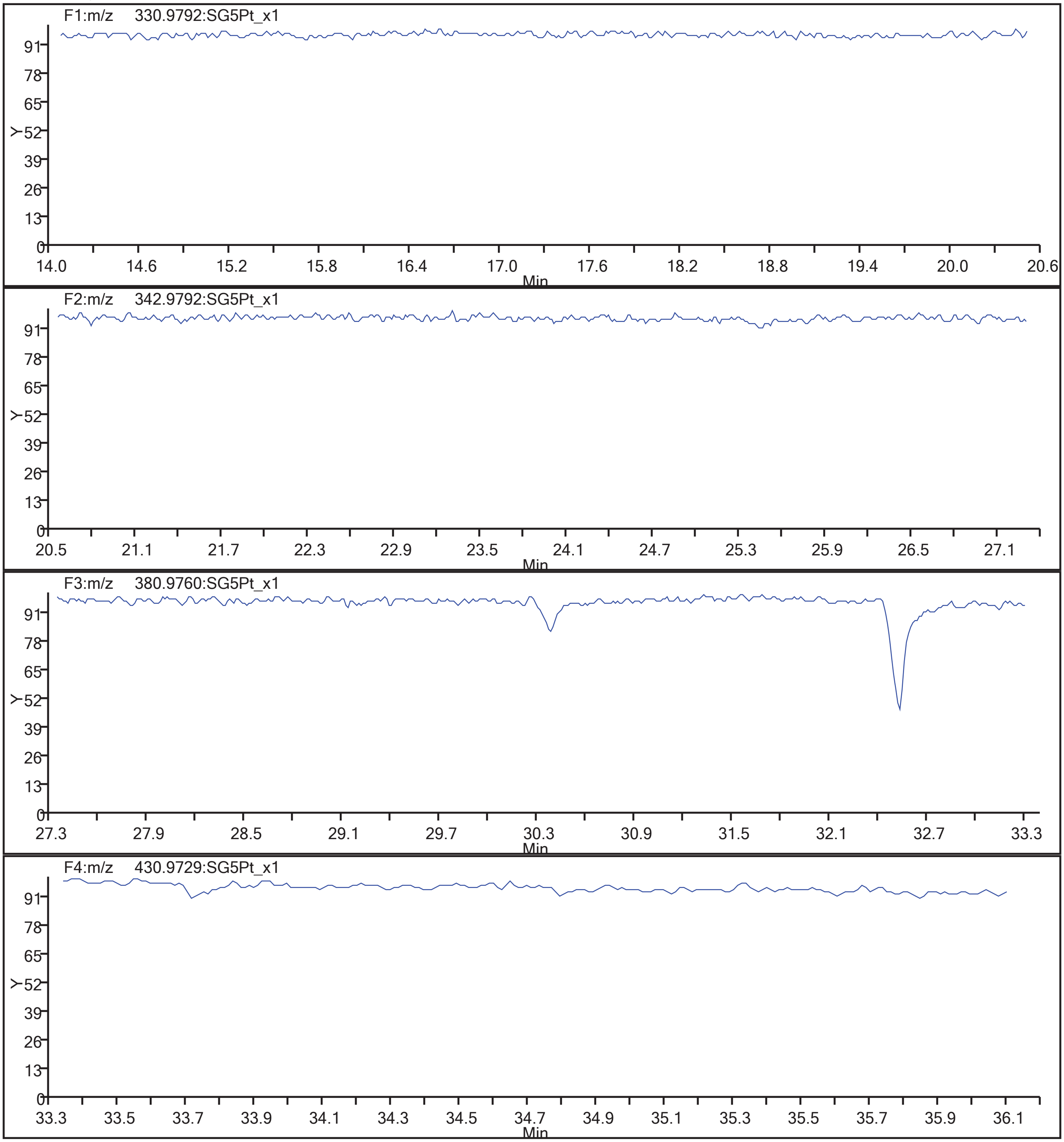




Report Date: 15-Nov-2017 08:04:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

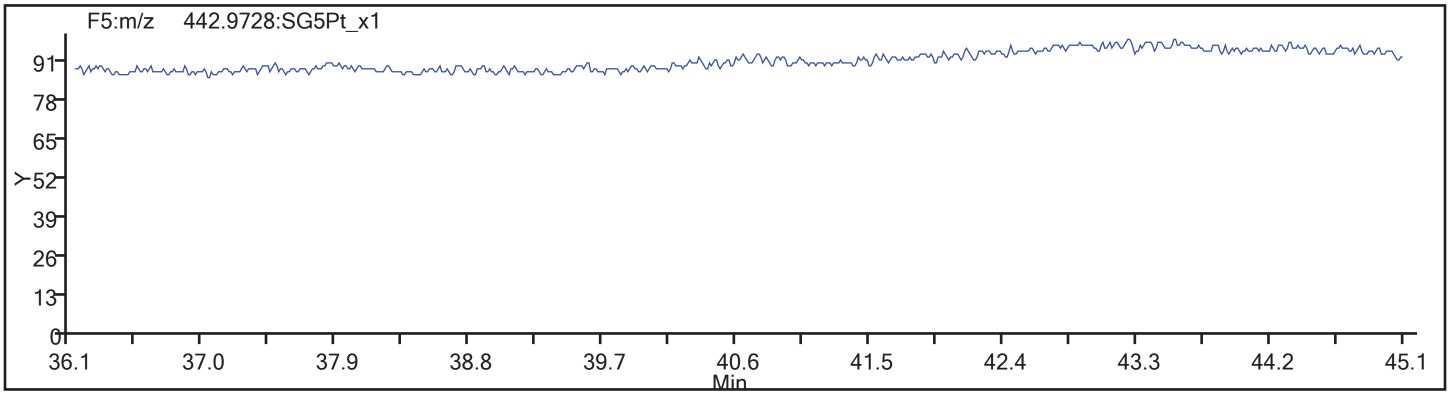
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d		
Injection Date:	14-Nov-2017 01:05:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b\13NO1710D5_17.d		
Injection Date:	14-Nov-2017 01:05:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194428	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID:	Lab Sample ID: MB 320-195095/1-A
Matrix: Solid	Lab File ID: 16NO173D5_57.d
Analysis Method: 8290A	Date Collected:
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.00(g)	Date Analyzed: 11/18/2017 15:25
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture:	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195573	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	0.40	U	1.0	0.40	0.060
51207-31-9	2,3,7,8-TCDF	0.40	U	1.0	0.40	0.050
40321-76-4	1,2,3,7,8-PeCDD	0.75	U	5.0	0.75	0.066
57117-41-6	1,2,3,7,8-PeCDF	0.75	U	5.0	0.75	0.044
57117-31-4	2,3,4,7,8-PeCDF	0.75	U	5.0	0.75	0.046
39227-28-6	1,2,3,4,7,8-HxCDD	0.184	J	5.0	2.0	0.054
57653-85-7	1,2,3,6,7,8-HxCDD	2.0	U	5.0	2.0	0.049
19408-74-3	1,2,3,7,8,9-HxCDD	2.0	U	5.0	2.0	0.047
70648-26-9	1,2,3,4,7,8-HxCDF	0.75	U	5.0	0.75	0.061
57117-44-9	1,2,3,6,7,8-HxCDF	1.0	U	5.0	1.0	0.056
72918-21-9	1,2,3,7,8,9-HxCDF	1.0	U	5.0	1.0	0.064
60851-34-5	2,3,4,6,7,8-HxCDF	0.75	U	5.0	0.75	0.060
35822-46-9	1,2,3,4,6,7,8-HpCDD	0.978	J M	5.0	1.0	0.097
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.170	J M	5.0	1.0	0.071
55673-89-7	1,2,3,4,7,8,9-HpCDF	0.189	J M	5.0	2.0	0.092
3268-87-9	OCDD	15.7		10	4.0	0.13
39001-02-0	OCDF	1.83	J	10	4.0	0.078

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	64		40-135
89059-46-1	13C-2,3,7,8-TCDF	61		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	68		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	66		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	68		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	65		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	70		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	68		40-135
114423-97-1	13C-OCDD	67		40-135

Report Date: 06-Dec-2017 13:44:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d
Lims ID: MB 320-195095/1-A
Client ID:
Sample Type: MB
Inject. Date: 18-Nov-2017 15:25:14 ALS Bottle#: 37 Worklist Smp#: 57
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-195095/1-A MB 320-195095/1-A
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 13:44:48 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 19-Nov-2017 09:39:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	144983245	0.81	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	133975347	0.78	1.5089	61.2	61.2	0.2375	0.2375	61.24	
2,3,7,8-TCDF	17.720						0.0251	0.0251		
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF							0.0251	0.0251		
D 13C-2,3,7,8-TCDD	18.445	91980864	0.80	0.9906	64.0	64.0	0.1863	0.1863	64.04	
$ 37Cl4-2,3,7,8-TCDD	18.476	64734838		1.1732	38.1	38.1	0.0494	0.0494	95.15	
2,3,7,8-TCDD	18.461						0.0302	0.0302		
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD							0.0302	0.0302		
D 13C-1,2,3,7,8-PeCDF	22.896	107291380	1.59	1.1280	65.6	65.6	0.1941	0.1941	65.60	
1,2,3,7,8-PeCDF	22.910						0.0222	0.0222		
D 13C-2,3,4,7,8-PeCDF	24.287	106381622	1.64							
2,3,4,7,8-PeCDF	24.301						0.0229	0.0229		
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0225	0.0225		RQU
S Total PeCDF							0.0229	0.0229		
D 13C-1,2,3,7,8-PeCDD	25.037	71994156	1.67	0.7269	68.3	68.3	0.0928	0.0928	68.32	
1,2,3,7,8-PeCDD	25.037						0.0330	0.0330		
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD							0.0330	0.0330		
D 13C-1,2,3,4,7,8-HxCDF	30.932	84031782	0.53	1.0279	64.7	64.7	0.3587	0.3587	64.71	
1,2,3,4,7,8-HxCDF	30.932						0.0307	0.0307		
D 13C-1,2,3,6,7,8-HxCDF	31.092	97968881	0.51							
1,2,3,6,7,8-HxCDF	31.092						0.0279	0.0279		
D 13C-2,3,4,6,7,8-HxCDF	31.838	94066151	0.52							
2,3,4,6,7,8-HxCDF	31.838						0.0299	0.0299		
D 13C-1,2,3,7,8,9-HxCDF	32.597	86628082	0.52							
1,2,3,7,8,9-HxCDF	32.597						0.0320	0.0320		
A Non-2,3,7,8-sub-HxCDF	30.653	71106	1.24	1.3751	0.0779	0.0615	0.0300	0.0615		RQ
S Total HxCDF					0.0779	0.0615	0.0301	0.0301		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.424	126337698	1.23	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.011	62520900	1.34							
1,2,3,4,7,8-HxCDD	32.024	71451	1.24	1.0646	0.1236	0.0919	0.0272	0.0272		RQ
D 13C-1,2,3,6,7,8-HxCDD	32.104	72993547	1.29	0.8502	68.0	68.0	0.3468	0.3468	67.96	
1,2,3,6,7,8-HxCDD	32.024						0.0245	0.0245		RQU
1,2,3,7,8,9-HxCDD	32.424						0.0235	0.0235		
A Non-2,3,7,8-sub-HxCDD	31.252						0.0	0.0		
S Total HxCDD					0.1236	0.0919	0.0251	0.0251		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	55939487	0.44	0.6490	68.2	68.2	0.7680	0.7680	68.23	
1,2,3,4,6,7,8-HpCDF	34.022	75542	1.04	1.5871	0.0962	0.0851	0.0357	0.0357		RQM
D 13C-1,2,3,4,7,8,9-HpCDF	35.128	44722653	0.42							
1,2,3,4,7,8,9-HpCDF	35.140	64938	1.04	1.2290	0.1097	0.0945	0.0461	0.0461		RQM
A Non-2,3,7,8-sub-HpCDF	34.569	216910	1.08	1.4080	0.2754	0.2754	0.0402	0.2754		M
S Total HpCDF					0.4813	0.4549	0.0409	0.0409		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	47648783	1.08	0.5387	70.0	70.0	0.4151	0.4151	70.01	
1,2,3,4,6,7,8-HpCDD	34.848	270961	0.94	1.1631	0.4889	0.4889	0.0483	0.0483		M
A Non-2,3,7,8-sub-HpCDD	35.261	135002	1.04	1.1631	0.3070	0.2436	0.0483	0.2436		RQ
S Total HpCDD					0.7959	0.7325	0.0483	0.0483		RQ
D 13C-OCDD	37.245	67858700	0.88	0.4009	134.0	134.0	0.2226	0.2226	66.99	
OCDF	37.365	392909	0.89	1.2649	1.019	0.9155	0.0392	0.0392		RQ
OCDD	37.257	2762349	0.87	1.0390	7.836	7.836	0.0659	0.0659		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d
Lims ID: MB 320-195095/1-A
Client ID:
Sample Type: MB
Inject. Date: 18-Nov-2017 15:25:14 ALS Bottle#: 37 Worklist Smp#: 57
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-195095/1-A MB 320-195095/1-A
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 13:44:48 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 19-Nov-2017 09:39:14

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		64962370	15099182	13233	33082	1141		
333.9339	18.249	18.234	1		80020875	18827736	11805	29512	1595	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.971	58672761	13558774	32905	82262	412		
317.9389	17.720	17.705	1	0.971	75302586	17442735	15735	39337	1109	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720						944	2360			
305.8987	17.720						2467	6167			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						944	2360			
305.8987	17.402						2467	6167			
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.011	40859895	8877532	13233	33082	671		
333.9339	18.445	18.430	1	1.011	51120969	11114367	11805	29512	941	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.476	18.461	1	1.012	64734838	14406369	7861	19652	1833		
2,3,7,8-TCDD											
319.8965	18.461						1816	4540			
321.8936	18.461						994	2485			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						1816	4540			
321.8936	17.871						994	2485			
13C-1,2,3,7,8-PeCDF											
351.9000	22.896	22.883	1	1.255	65903520	10596682	18223	45557	582		
353.8970	22.896	22.883	1	1.255	41387860	6852597	11498	28745	596	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.910						542	1355			
341.8567	22.910						1229	3072			
13C-2,3,4,7,8-PeCDF											
351.9000	24.287	24.274	1	1.331	66026568	10600009	18223	45557	582		
353.8970	24.287	24.274	1	1.331	40355054	6420136	11498	28745	558	1.64(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.301						542	1355			
341.8567	24.301						1229	3072			
A F1 PeCDFs											
339.8597	20.426						446	1115			
341.8567	20.426						1183	2957			
A Non-2,3,7,8-sub-PeCDF											U
339.8597	22.065	23.668	-96	0.964	7176	2654	542	1355	5		
341.8567	22.078	23.668	-95	0.964	26566	6978	1229	3072	6	0.27(1.32-1.78)	
	Empc Correction				4629	1712	1229	3072	1		
13C-1,2,3,7,8-PeCDD											
367.8949	25.037	25.010	2	1.372	44985044	6621020	5203	13007	1273		
369.8919	25.024	25.010	1	1.371	27009112	4130735	3951	9877	1045	1.67(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037						1058	2645			
357.8516	25.037						541	1352			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						1058	2645			
357.8516	23.878						541	1352			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.932	30.919	1	0.954	29241068	6516077	17750	44375	367		
385.8610	30.932	30.919	1	0.954	54790714	12204630	31594	78985	386	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.932						1717	4292			
375.8178	30.932						1377	3442			
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.092	31.079	1	0.959	33174453	6785126	17750	44375	382		
385.8610	31.092	31.079	1	0.959	64794428	12675243	31594	78985	401	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.092						1717	4292			
375.8178	31.092						1377	3442			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.838	31.824	1	0.982	32037603	8071793	17750	44375	455		
385.8610	31.838	31.824	1	0.982	62028548	15865450	31594	78985	502	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.838						1717	4292			
375.8178	31.838						1377	3442			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.005	29464732	7675719	17750	44375	432		
385.8610	32.597	32.583	1	1.005	57163350	15439036	31594	78985	489	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.597						1717	4292			
375.8178	32.597						1377	3442			
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	31.678	30.653	61	1.024	58298	11347	1717	4292	7		
	Empc Correction				39362	10196	1717	4292	6		
375.8178	31.691	30.653	62	1.025	31744	8223	1377	3442	6	1.84(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.424	32.410	1		69587028	18519612	25456	63640	728		
403.8529	32.424	32.410	1		56750670	14939357	14000	35000	1067	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.011	31.997	1	0.987	35811677	10681015	25456	63640	420		
403.8529	32.011	31.997	1	0.987	26709223	7760012	14000	35000	554	1.34(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	32.024	32.011	1	0.998	64189	13523	940	2350	14		
	Empc Correction				39553	8849	940	2350	9		
391.8127	32.011	32.011	0	0.997	31898	7137	1161	2902	6	2.01(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.990	41086362	10255271	25456	63640	403		
403.8529	32.104	32.091	1	0.990	31907185	7874928	14000	35000	562	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	32.117						940	2350			
391.8127	32.117						1161	2902			
1,2,3,7,8,9-HxCDD											
389.8157	32.424						940	2350			
391.8127	32.424						1161	2902			
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.252						940	2350			
391.8127	31.252						1161	2902			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	17182891	5657868	22815	57037	248		
419.8220	34.010	33.998	1	1.049	38756596	12377668	43891	109727	282	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7818	34.022	34.010	1	1.000	38512	13058	2307	5767	6		
409.7789	34.022	34.010	1	1.000	46856	16582	1779	4447	9	0.82(0.88-1.20)	M
	Empc Correction				37030	12555	1779	4447	7		
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.128	35.116	1	1.083	13307221	3959591	22815	57037	174		
419.8220	35.128	35.116	1	1.083	31415432	9205955	43891	109727	210	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											RQM
407.7818	35.140	35.128	1	1.033	33106	9697	2307	5767	4		M
409.7789	35.128	35.128	0	1.033	42321	16124	1779	4447	9	0.78(0.88-1.20)	M
	Empc Correction				31832	9324	1779	4447	5		
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.338	34.569	-14	1.010	112604	35814	2307	5767	16		M
409.7789	34.326	34.569	-15	1.009	104306	27845	1779	4447	16	1.08(0.88-1.20)	M

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.812	1	1.074	24788610	7280919	15707	39267	464		
437.8140	34.824	34.812	1	1.074	22860173	6717427	14216	35540	473	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.848	34.824	1	1.001	131032	40414	1716	4290	24		M
425.7737	34.836	34.824	1	1.000	139929	44728	1427	3567	31	0.94(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											RQ
423.7766	34.277	35.261	-59	0.984	68825	18579	1716	4290	11		a
425.7737	34.265	35.261	-60	0.984	101329	23891	1427	3567	17	0.68(0.88-1.20)	
	Empc Correction				66177	17864	1427	3567	13		
13C-OCDD											
469.7779	37.245	37.245	0	1.149	31780129	8161442	4777	11942	1708		
471.7750	37.245	37.245	0	1.149	36078571	9315097	7169	17922	1299	0.88(0.76-1.02)	
OCDF											RQ
441.7428	37.365	37.353	1	1.003	185021	51132	611	1527	84		
443.7399	37.353	37.353	0	1.003	252267	65099	1121	2802	58	0.73(0.76-1.02)	
	Empc Correction				207888	57451	1121	2802	51		
OCDD											
457.7377	37.257	37.257	0	1.000	1284129	327694	1226	3065	267		
459.7348	37.257	37.257	0	1.000	1478220	383620	1169	2922	328	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Report Date: 06-Dec-2017 13:44:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d
Lims ID: MB 320-195095/1-A
Client ID:
Inject. Date: 18-Nov-2017 15:25:14 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195573 Lims Sample ID: 57

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	107291380	17449279
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	107291380	17449279

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.065	7176	2654	26566	6978	0.0279	0.27	RQ
22.065	7176	2654	4629	1712	0.009770		Empc Correction

Compound is Marked ND

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d		
Lims ID:	MB 320-195095/1-A		
Client ID:			
Inject. Date:	18-Nov-2017 15:25:14	Dil. Factor:	1.0000
Sample Type:	MB, Method Blank		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	57

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	84031782	18720707
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	84031782	18720707

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
31.678	58298	11347	31744	8223	0.0779	1.84	RQ
31.678	39362	10196	31744	8223	0.0615		Empc Correction
Signal Totals:							
	39362	10196	31744	8223			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	90042	19570				1.84	RQ
	71106	18419					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0779 = (90042 * 100.000) / (84031782 * 1.375)
Empc Amount: 0.0615 = (71106 * 100.000) / (84031782 * 1.375)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d		
Lims ID:	MB 320-195095/1-A		
Client ID:			
Inject. Date:	18-Nov-2017 15:25:14	Dil. Factor:	1.0000
Sample Type:	MB, Method Blank		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	57

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	55939487	18035536
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	55939487	18035536

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.338	112604	35814	104306	27845	0.2754	1.08	M
Signal Totals:							
	112604	35814	104306	27845			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	216910	63659				1.08	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2754 = (216910 * 100.000) / (55939487 * 1.408)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d		
Lims ID:	MB 320-195095/1-A		
Client ID:			
Inject. Date:	18-Nov-2017 15:25:14	Dil. Factor:	1.0000
Sample Type:	MB, Method Blank		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	57

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	47648783	13998346

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	47648783	13998346

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.277	68825	18579	101329	23891	0.3070	0.68	RQ
34.277	68825	18579	66177	17864	0.2436		Empc Correction
Signal Totals:							
	68825	18579	66177	17864			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	170154	42470				0.68	RQ
	135002	36443					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3070 = (170154 * 100.000) / (47648783 * 1.163)
Empc Amount: 0.2436 = (135002 * 100.000) / (47648783 * 1.163)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

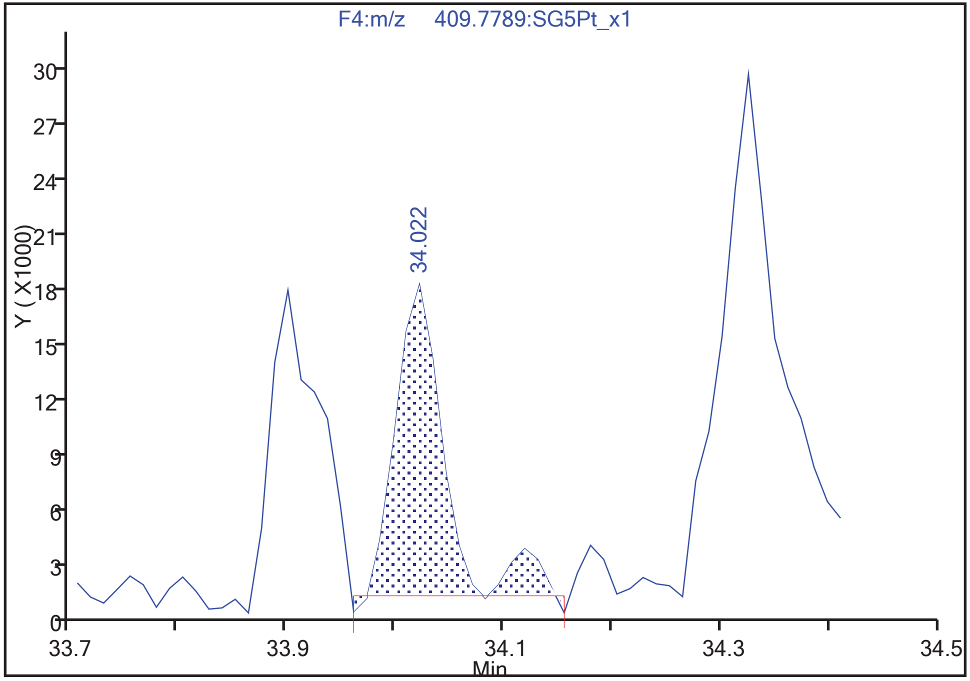
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d				
Injection Date:	18-Nov-2017 15:25:14	Instrument ID:	3D5		
Lims ID:	MB 320-195095/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	37	Worklist Smp#:	57
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

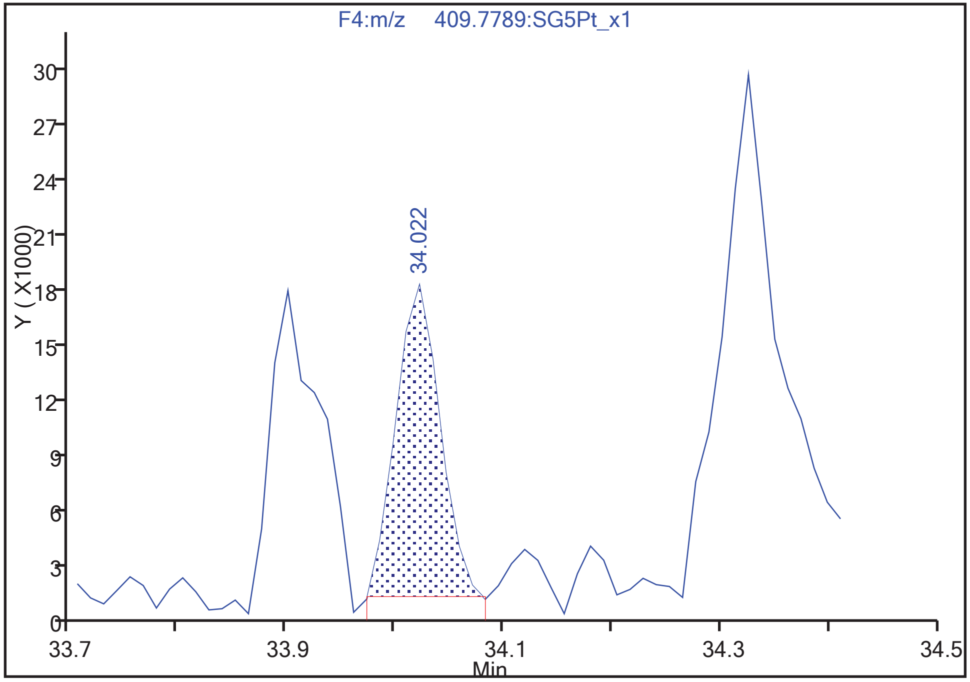
Processing Integration Results

RT:	34.02
Area:	51248
Amount:	0.101105
Amount Units:	pg/ul



Manual Integration Results

RT:	34.02
Area:	46856
Amount:	0.096158
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 13:43:10

Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

TestAmerica Sacramento

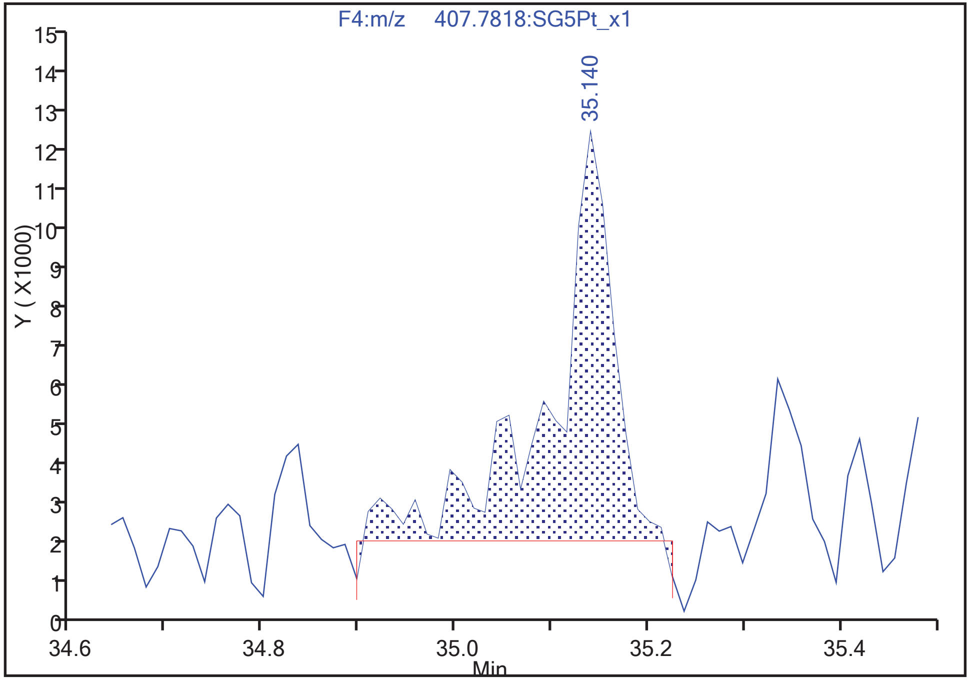
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d				
Injection Date:	18-Nov-2017 15:25:14	Instrument ID:	3D5		
Lims ID:	MB 320-195095/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	37	Worklist Smp#:	57
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

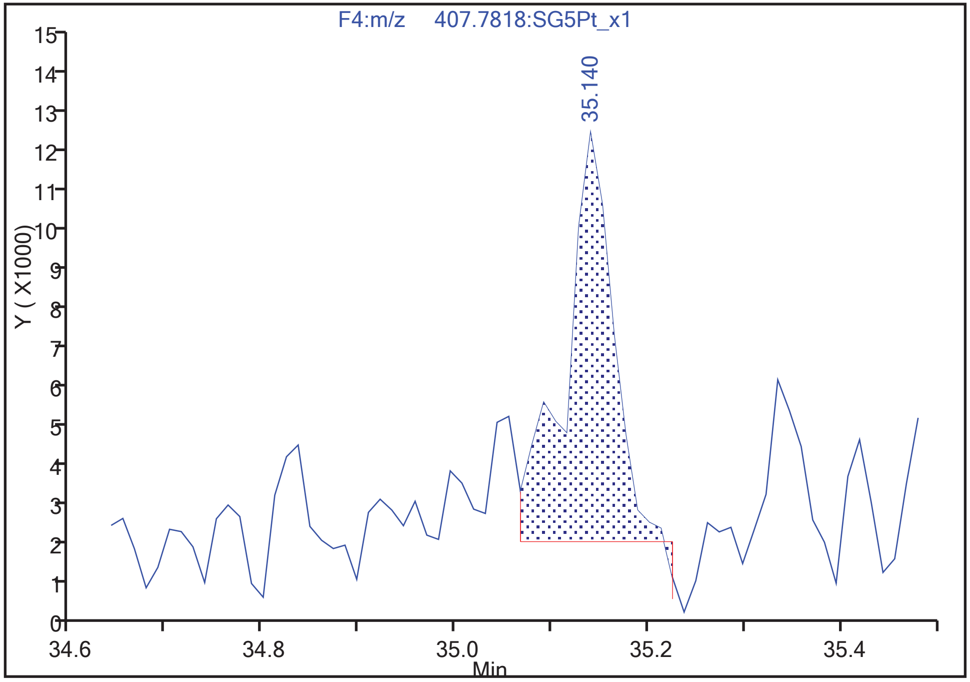
Processing Integration Results

RT:	35.14
Area:	43671
Amount:	0.129968
Amount Units:	pg/ul



Manual Integration Results

RT:	35.14
Area:	33106
Amount:	0.109716
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 13:43:21

Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

TestAmerica Sacramento

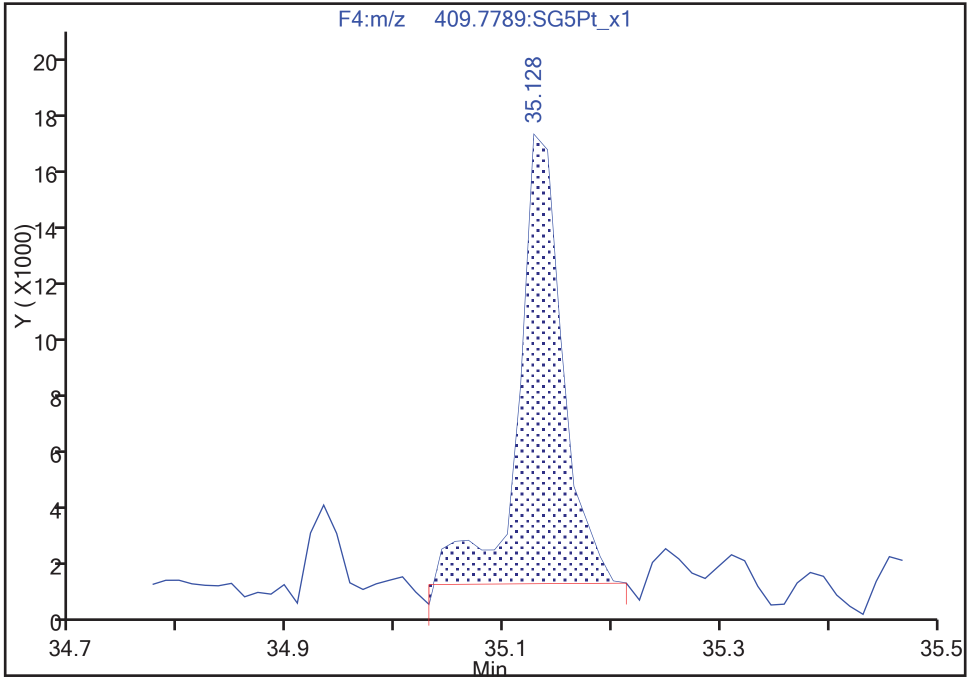
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d				
Injection Date:	18-Nov-2017 15:25:14	Instrument ID:	3D5		
Lims ID:	MB 320-195095/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	37	Worklist Smp#:	57
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

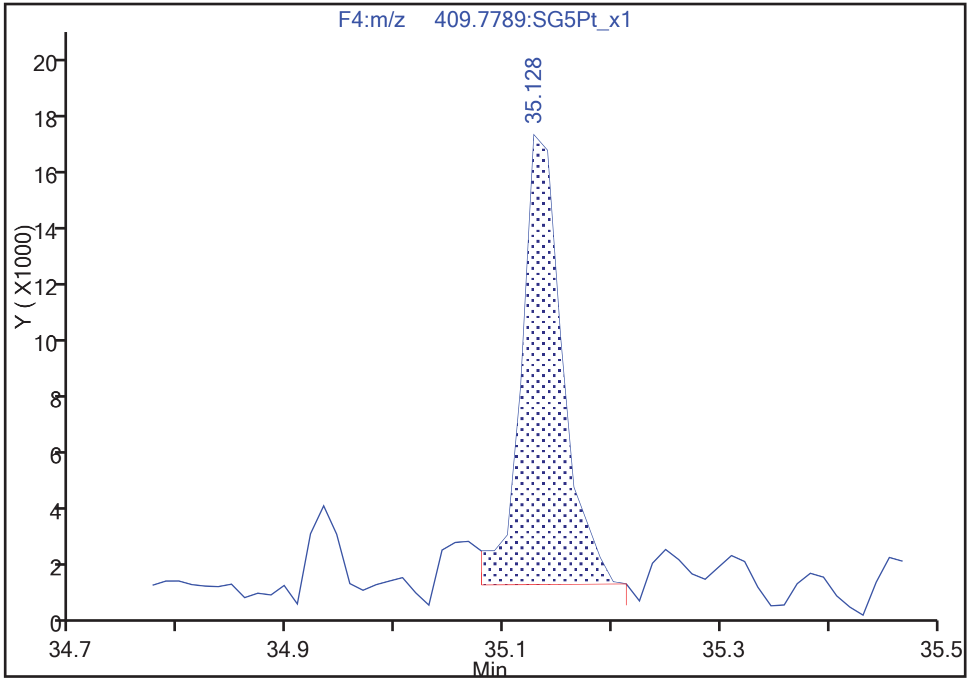
Processing Integration Results

RT:	35.13
Area:	45679
Amount:	0.129968
Amount Units:	pg/ul



Manual Integration Results

RT:	35.13
Area:	42321
Amount:	0.109716
Amount Units:	pg/ul



Reviewer: dadunj, 06-Dec-2017 13:43:23

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 06-Dec-2017 13:44:49

Chrom Revision: 2.2 16-Aug-2017 16:24:46
Manual Integration/User Assign Peak Report

TestAmerica Sacramento

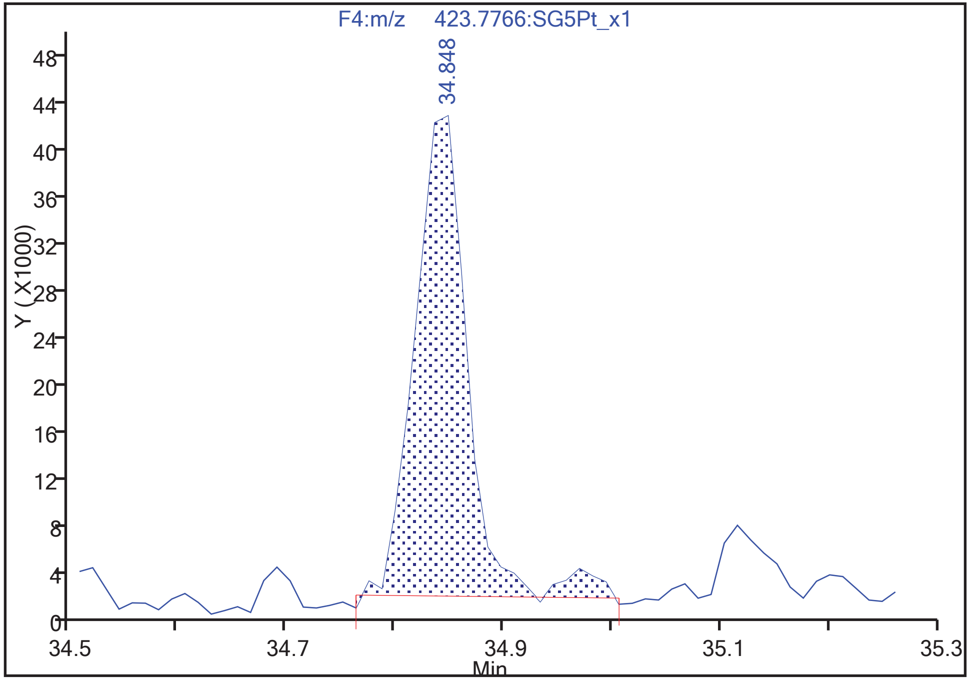
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d
Injection Date: 18-Nov-2017 15:25:14
Instrument ID: 3D5
Lims ID: MB 320-195095/1-A
Client ID:
Operator ID: SMA, ALM
ALS Bottle#: 37
Worklist Smp#: 57
Injection Vol: 2.0 ul
Dil. Factor: 1.0000
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Column:
Detector F4:HRSIR

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

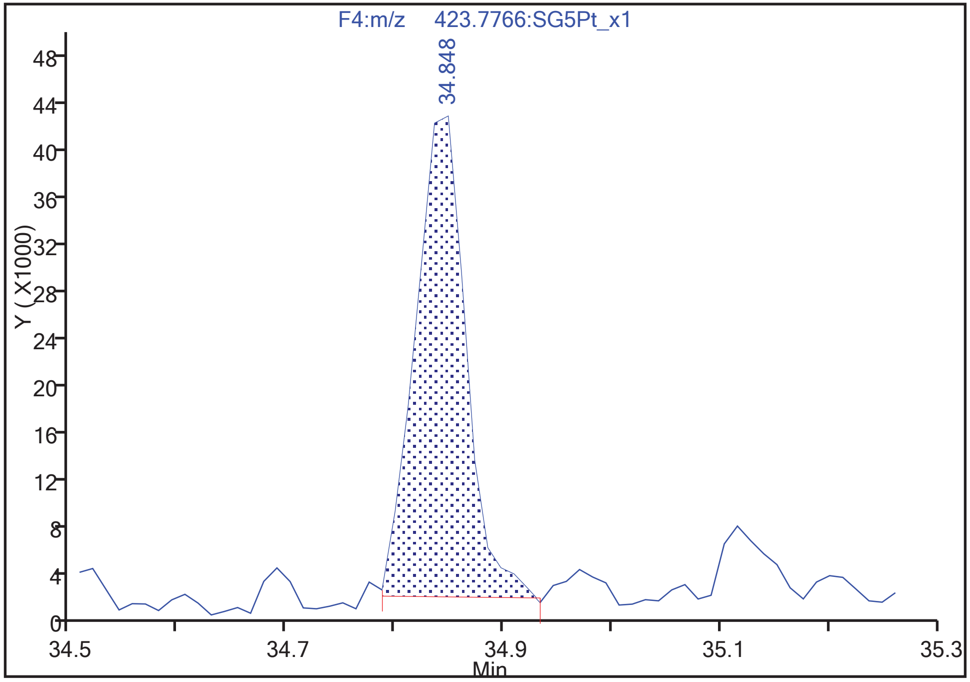
Processing Integration Results

RT: 34.85
Area: 137266
Amount: 0.500160
Amount Units: pg/ul



Manual Integration Results

RT: 34.85
Area: 131032
Amount: 0.488912
Amount Units: pg/ul



Reviewer: dadunj, 06-Dec-2017 13:43:56
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

Report Date: 06-Dec-2017 13:44:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d

Injection Date: 18-Nov-2017 15:25:14 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

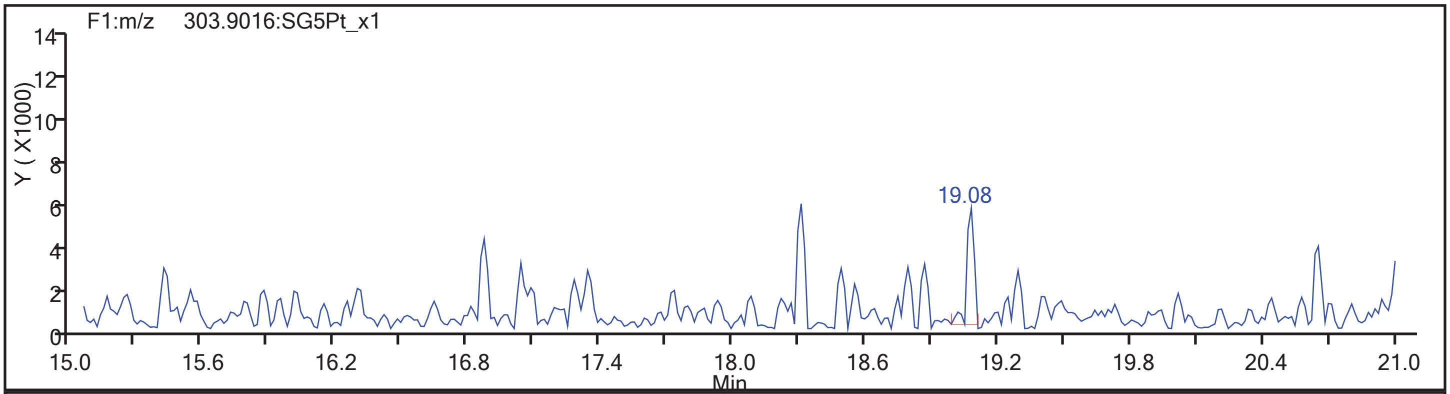
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

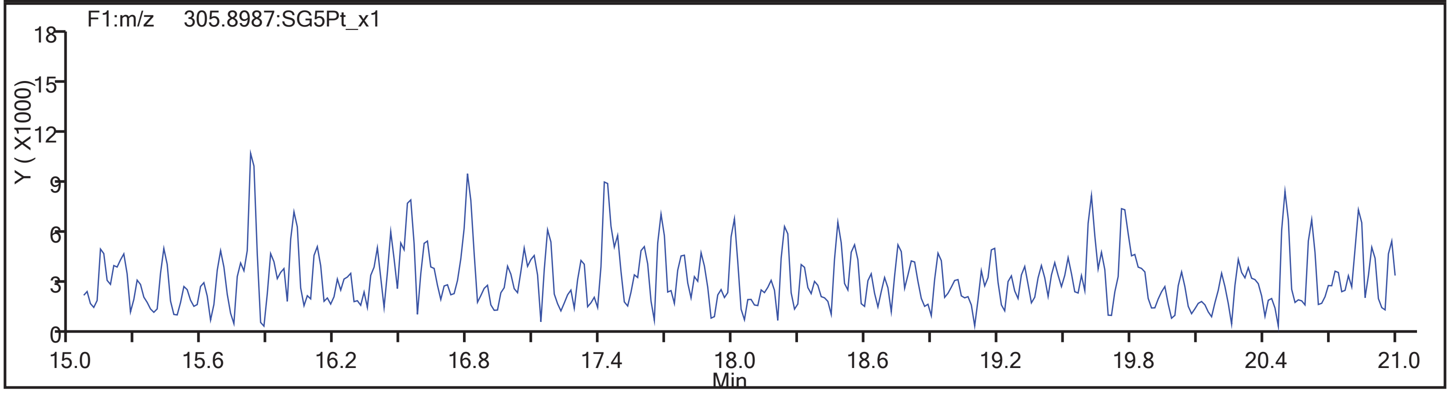
Client ID:

Worklist#: 195573 Sample Line#: 57

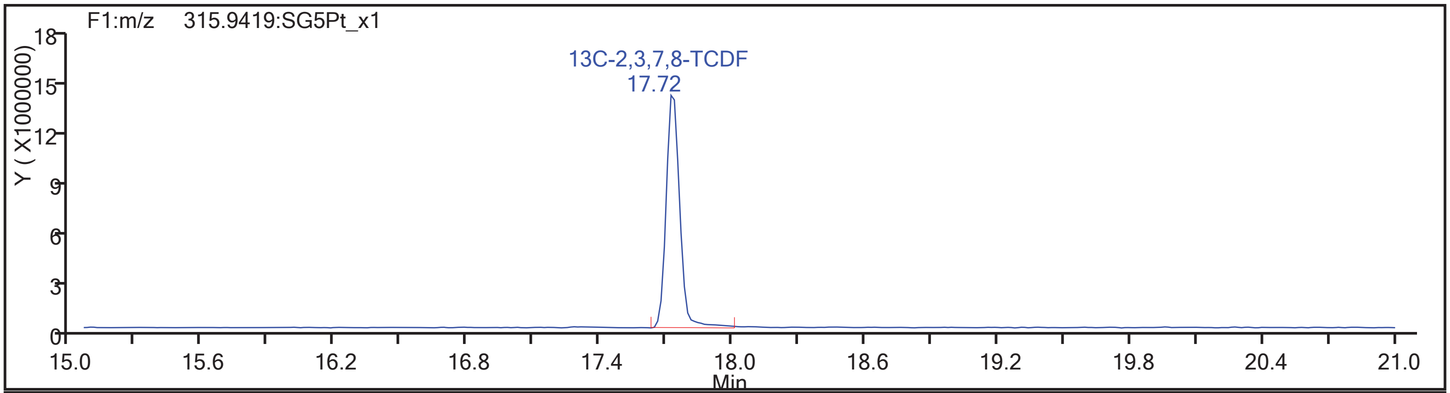
Column Type: Column Dia:

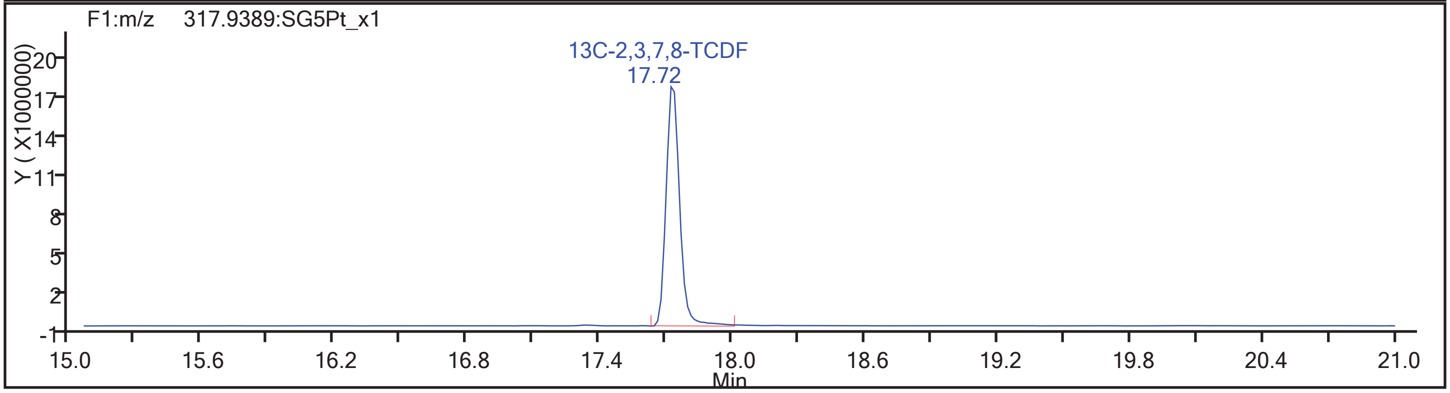
TCDF





TCDF Standards



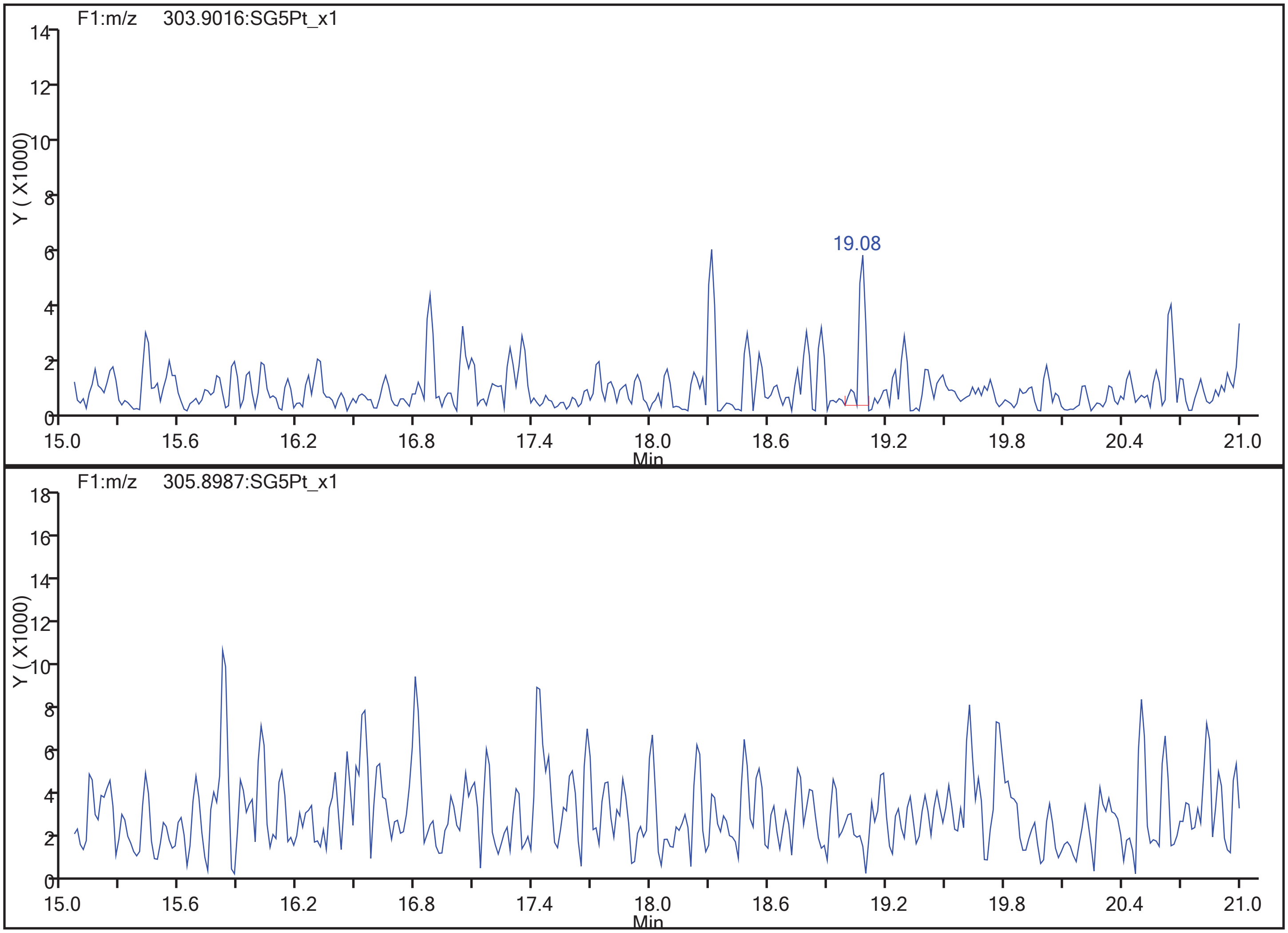


Report Date: 06-Dec-2017 13:44:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

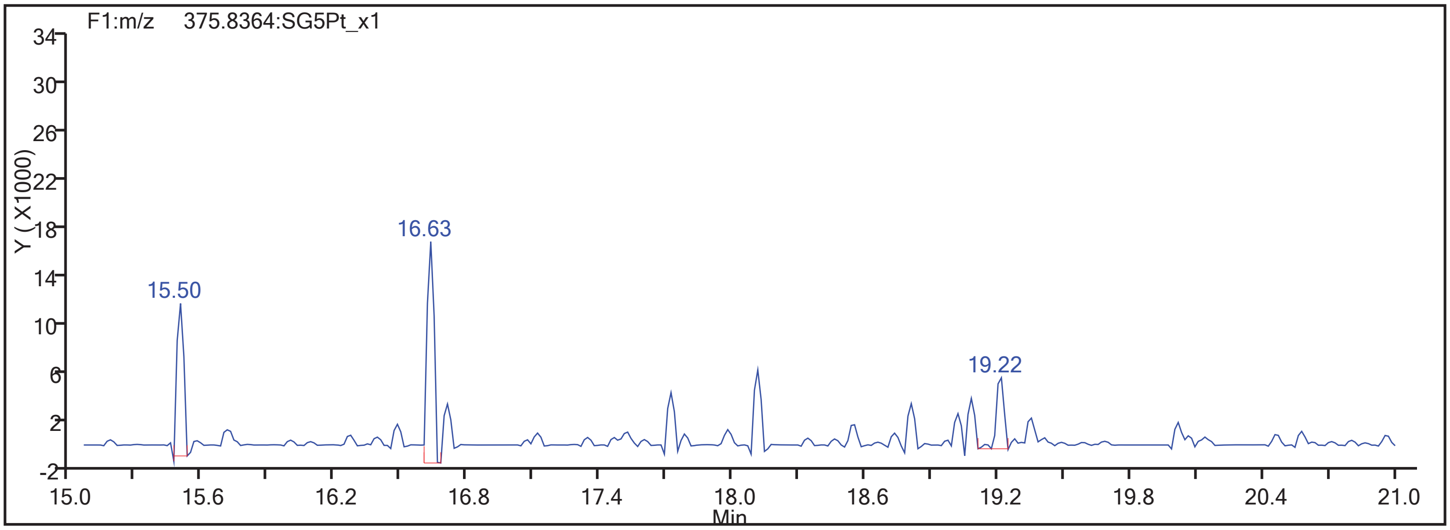
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d		
Injection Date:	18-Nov-2017 15:25:14	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	57
Column Type:		Column Dia:	

TCDF



TCDF Interference Mass



Report Date: 06-Dec-2017 13:44:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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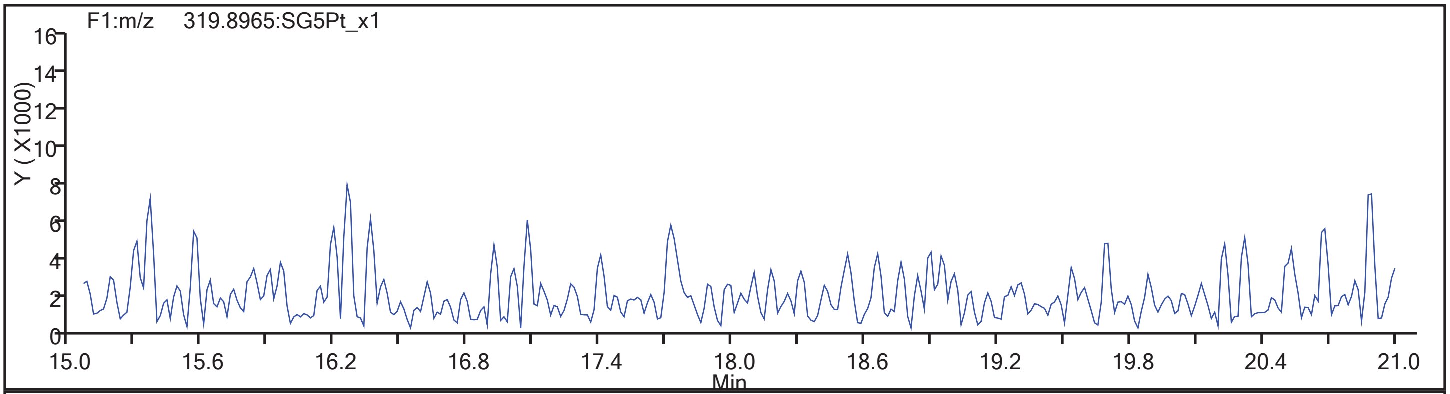
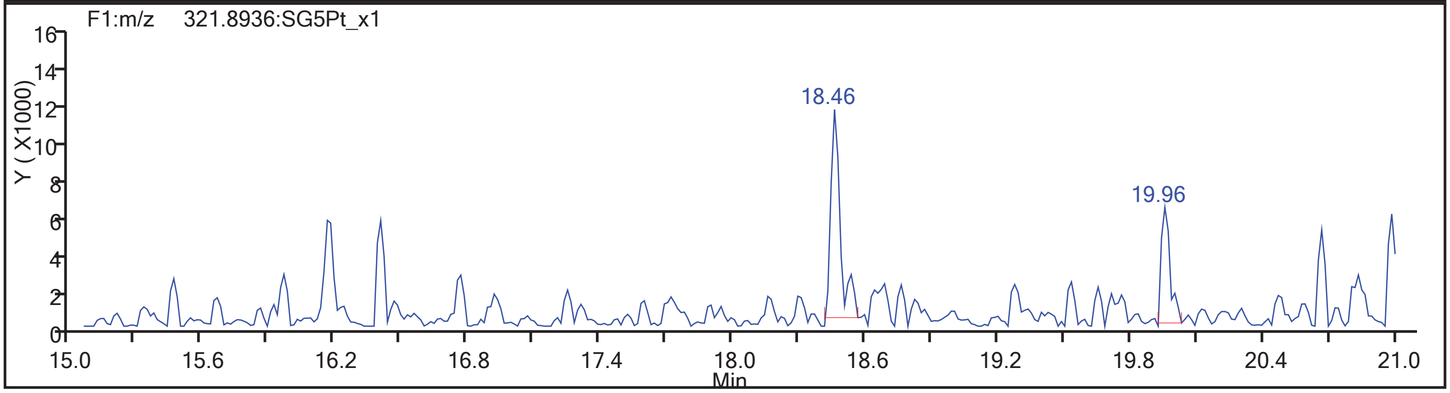
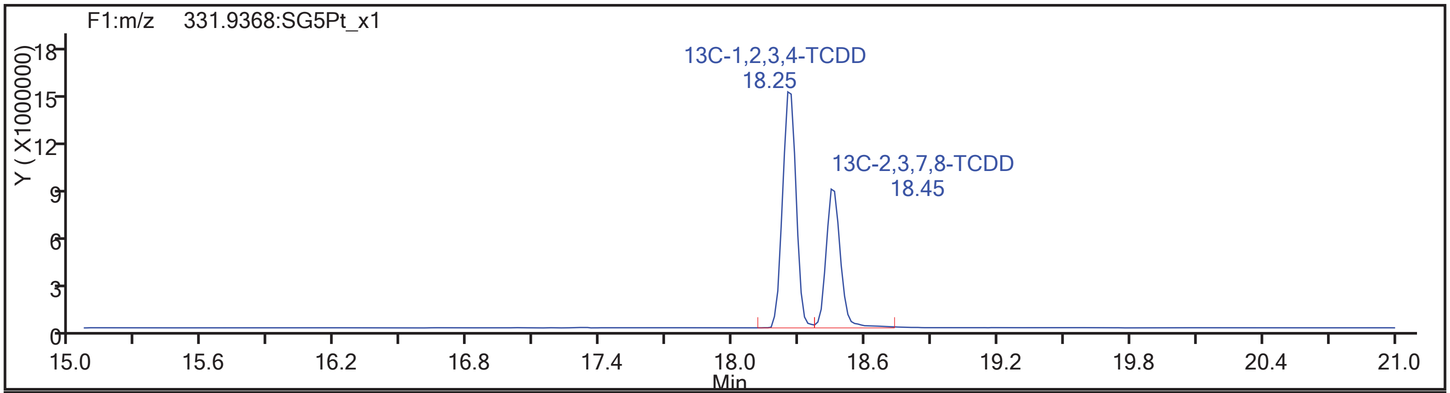
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	57
Column Type:		Column Dia:	

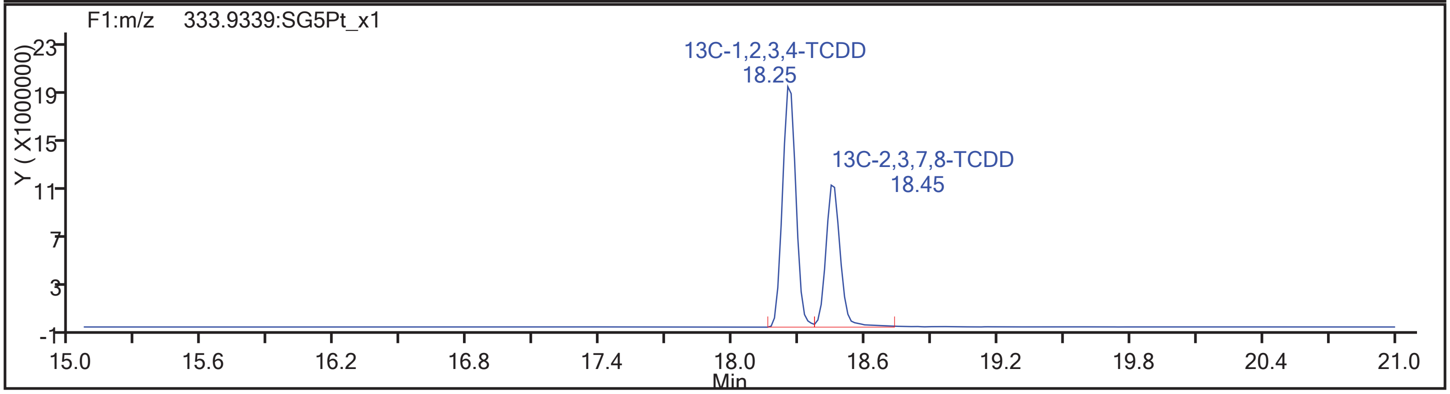
TCDD





TCDD Standards





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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 15:25:14

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

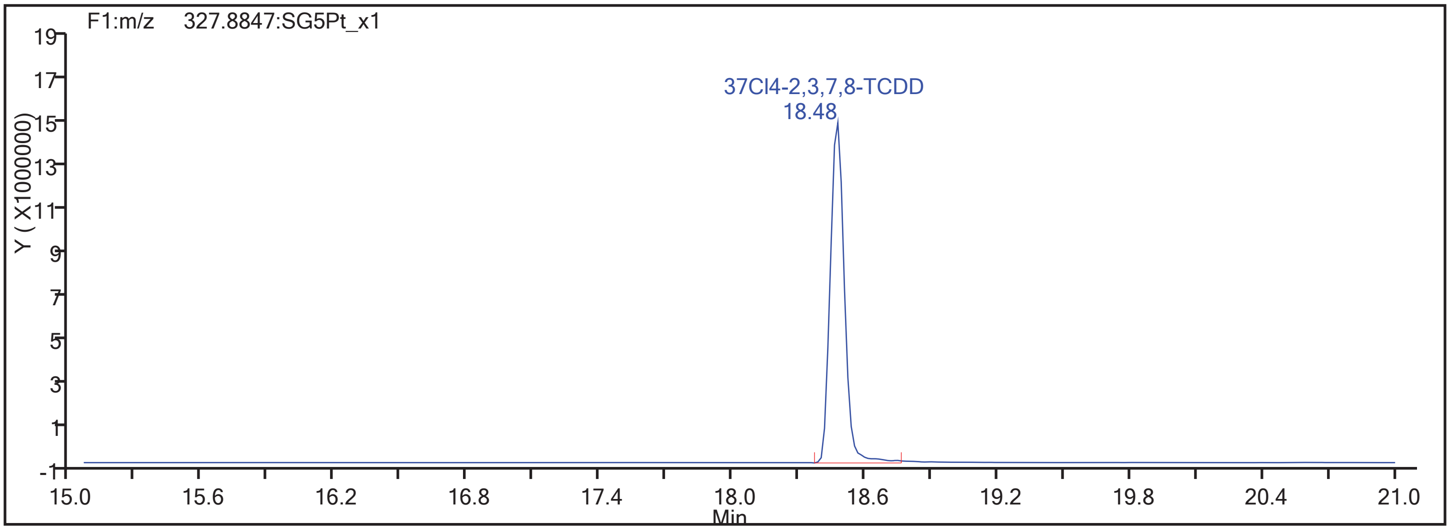
Worklist#: 195573

Sample Line#: 57

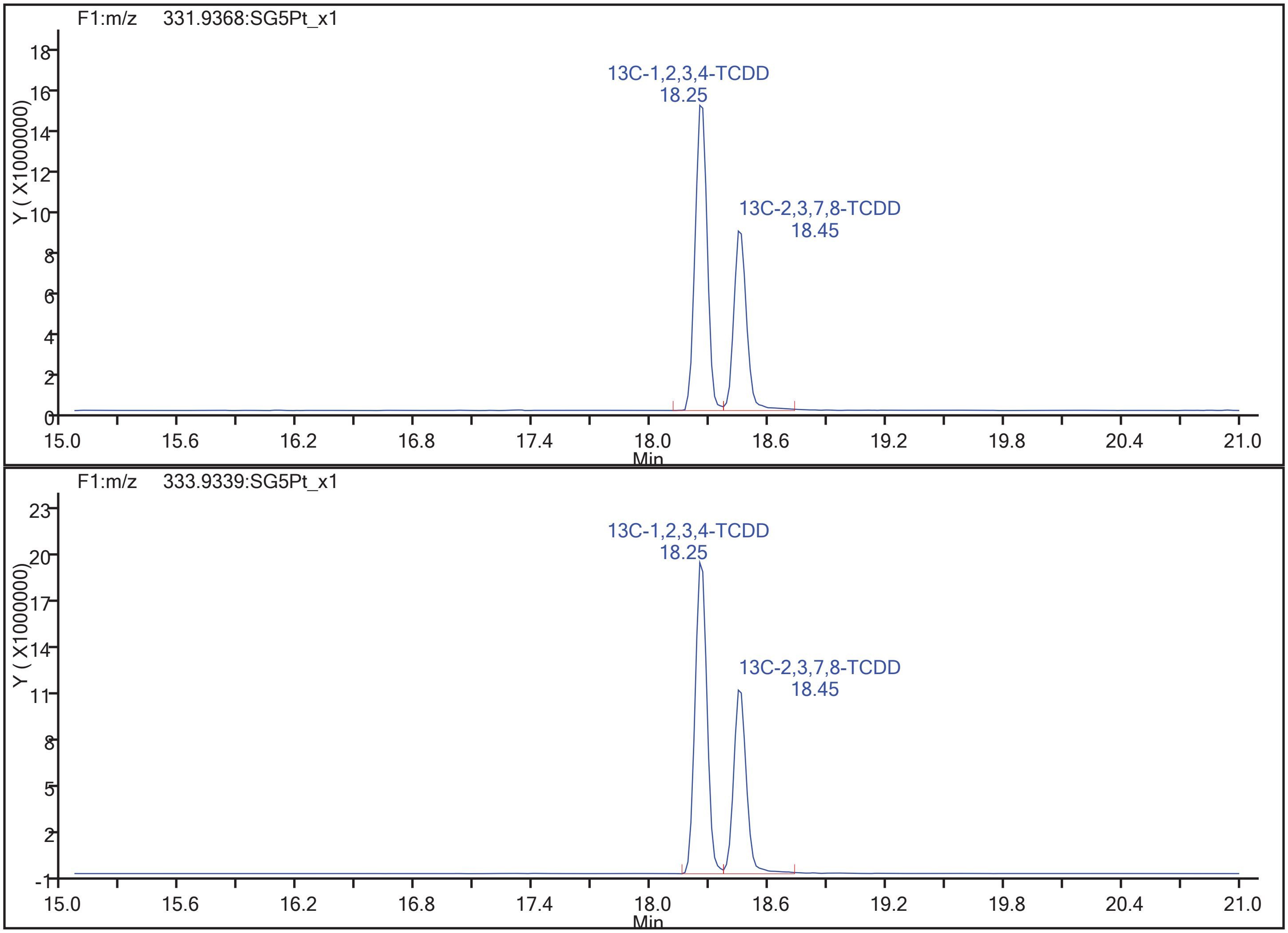
Column Type:

Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards



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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 15:25:14 Injection Vol: 2.0 ul
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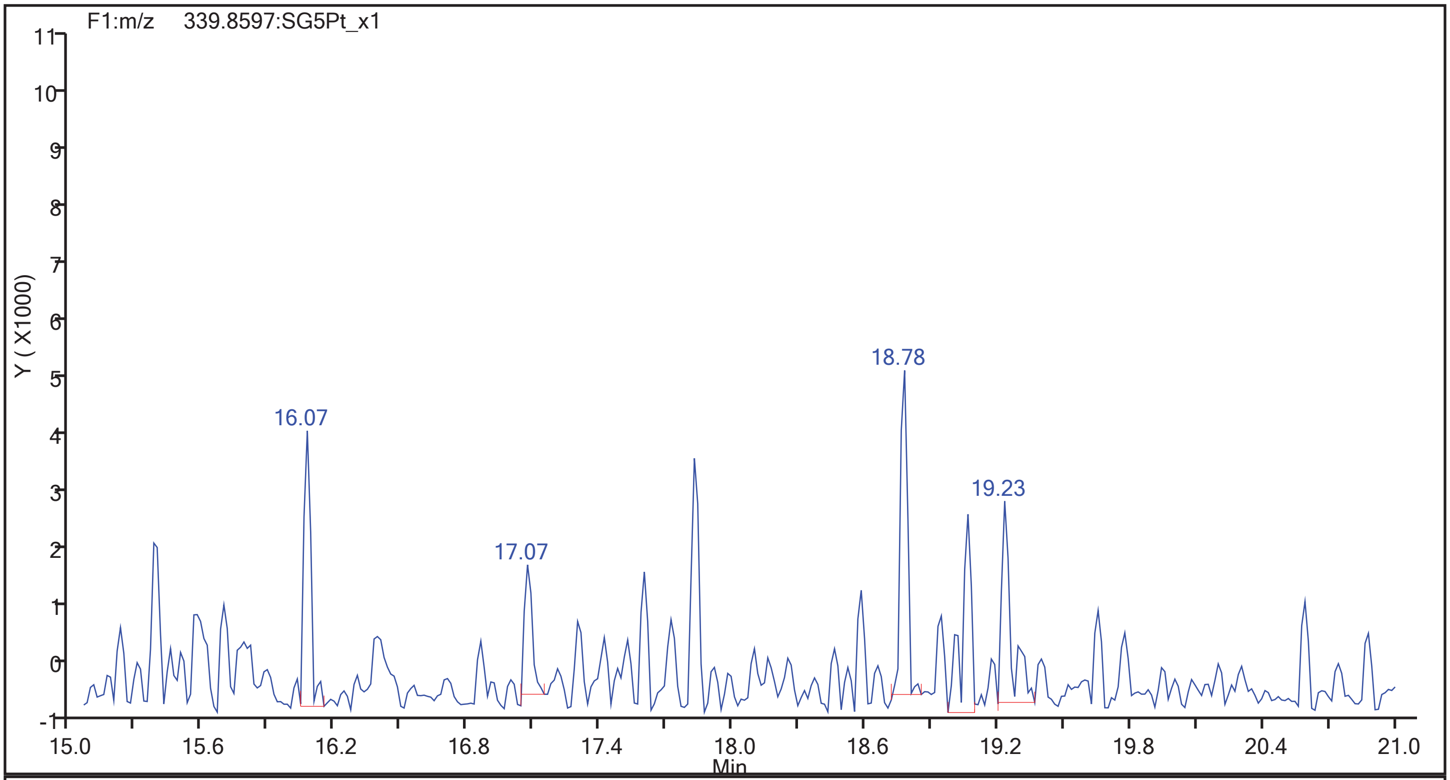
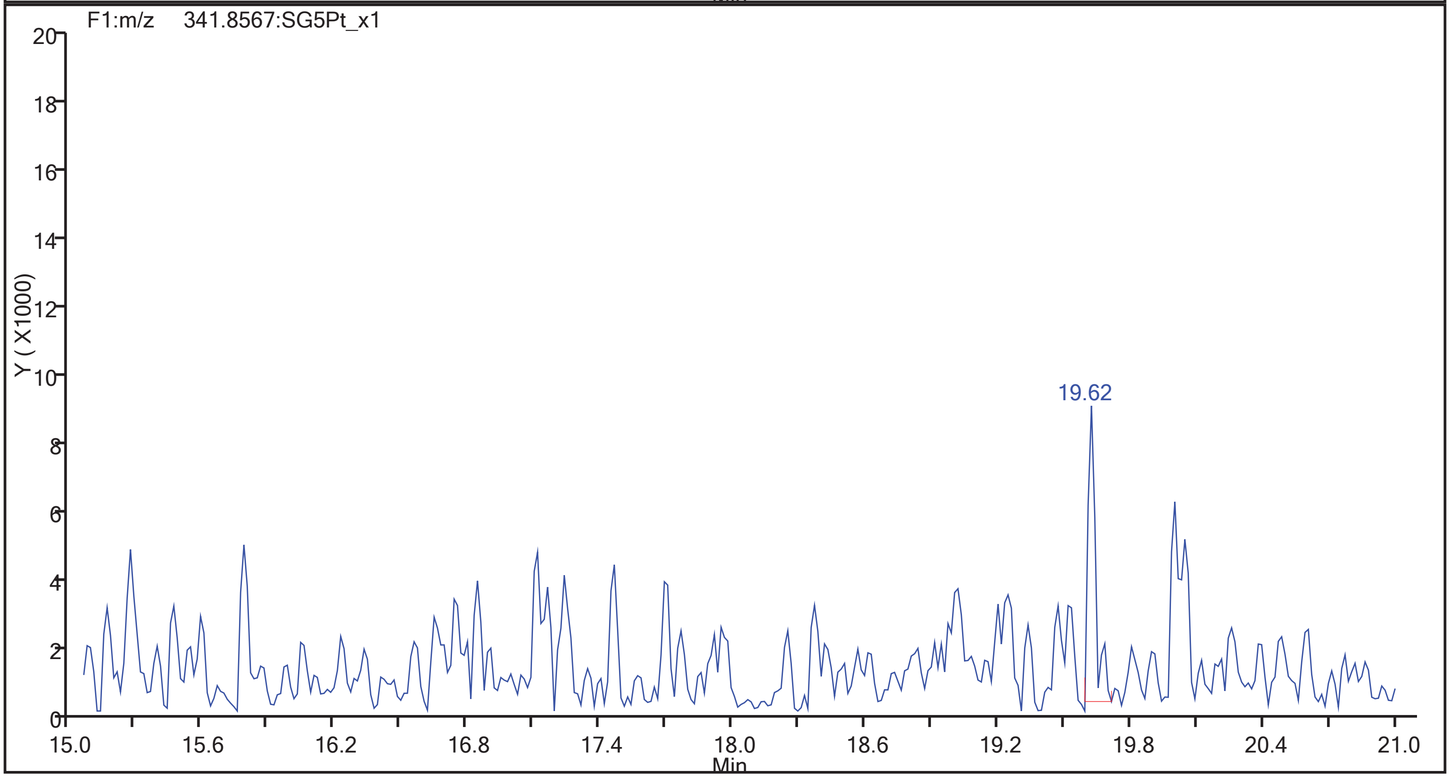
F1 PeCDFs





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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 15:25:14
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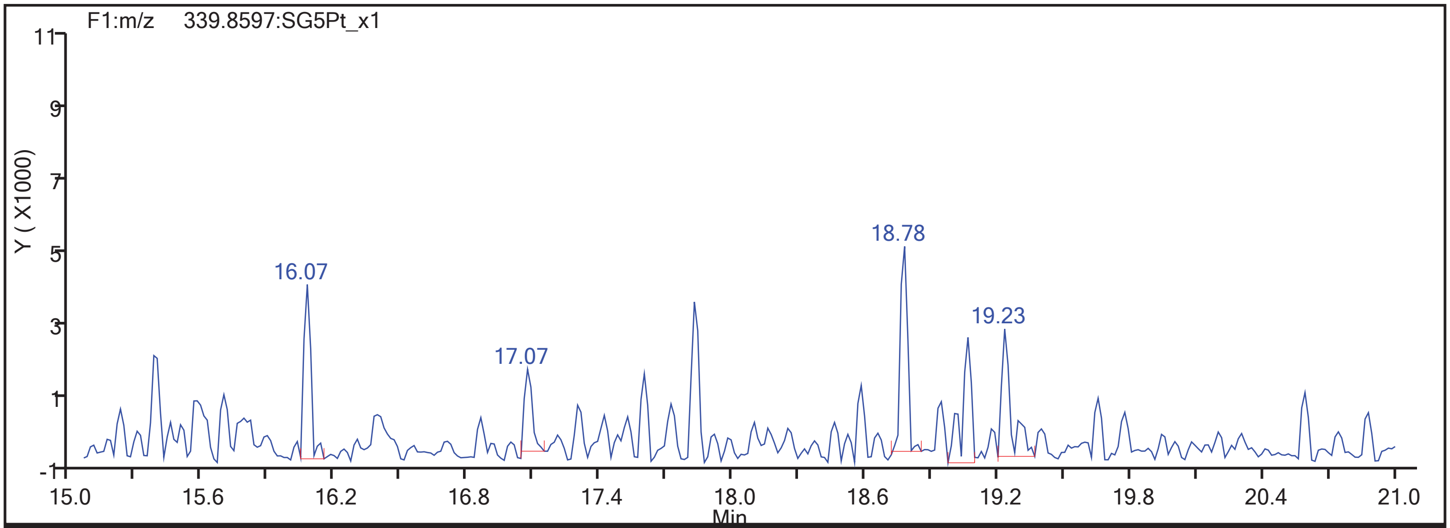
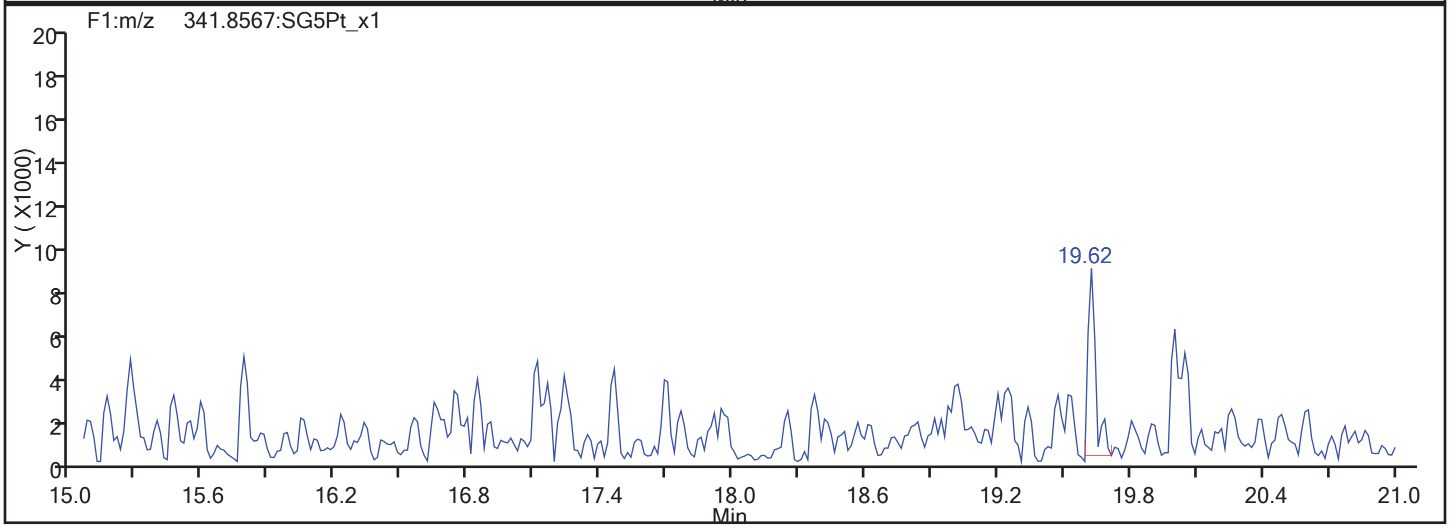
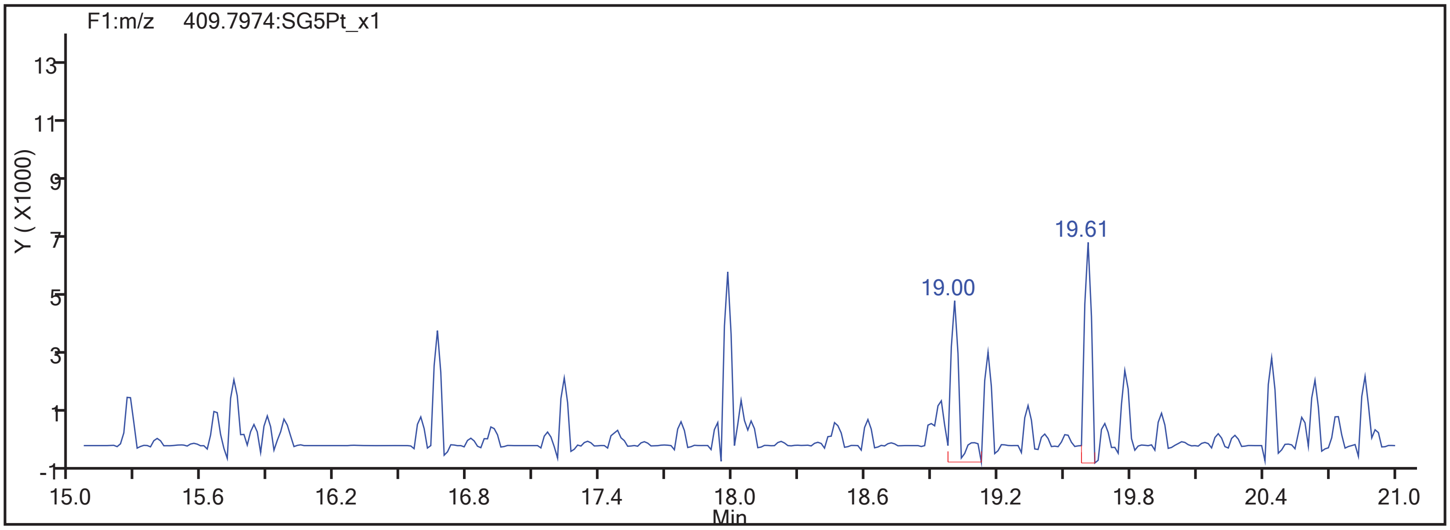
Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass



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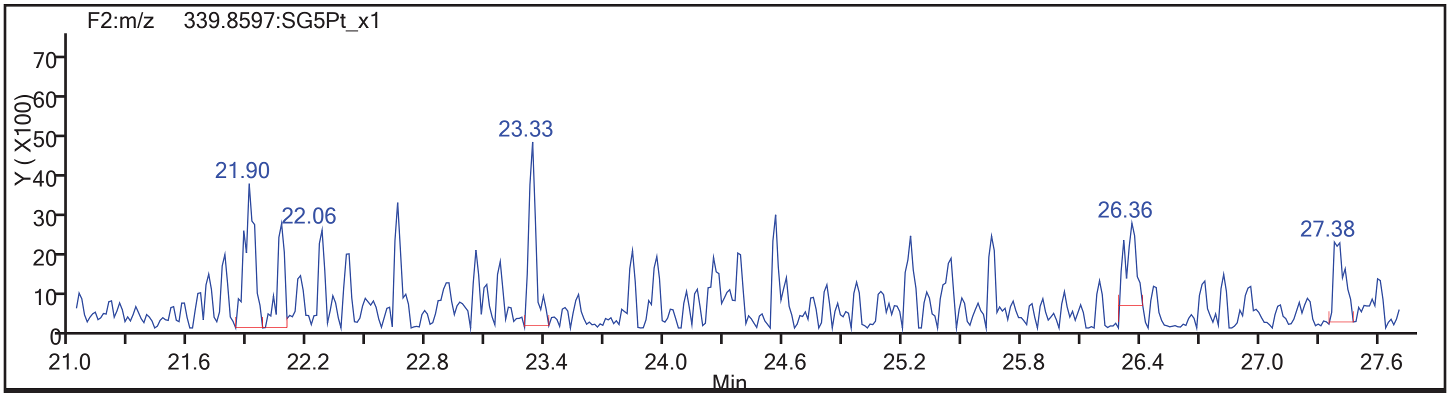
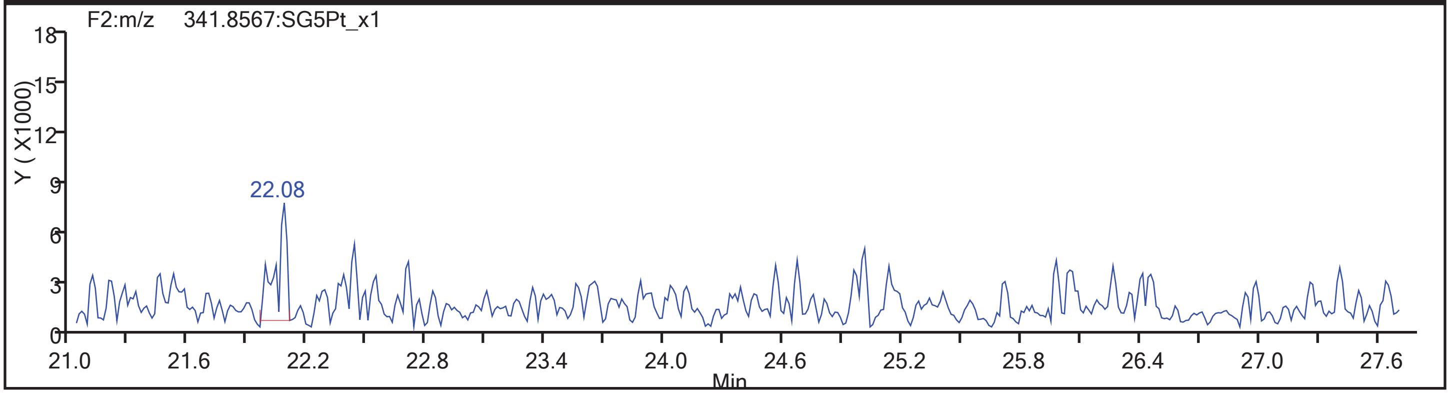
TestAmerica Sacramento

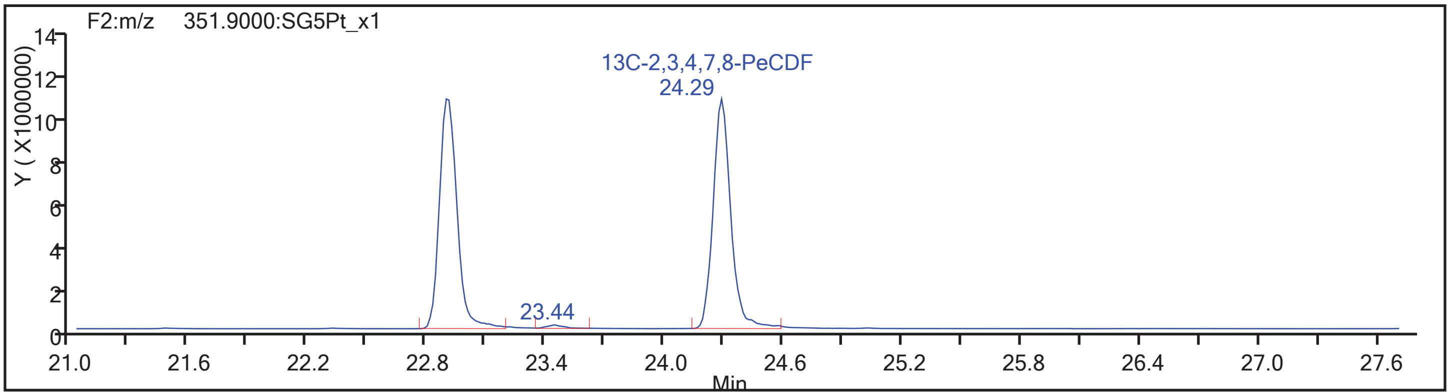
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d		
Injection Date:	18-Nov-2017 15:25:14	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	57
Column Type:		Column Dia:	

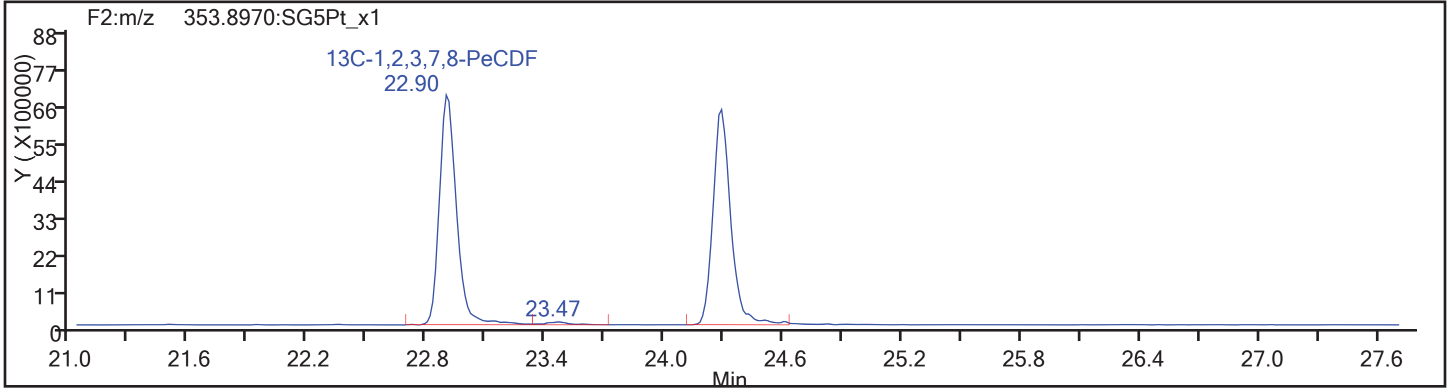
PeCDF





PeCDF Standards





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TestAmerica Sacramento

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Injection Date:	18-Nov-2017 15:25:14	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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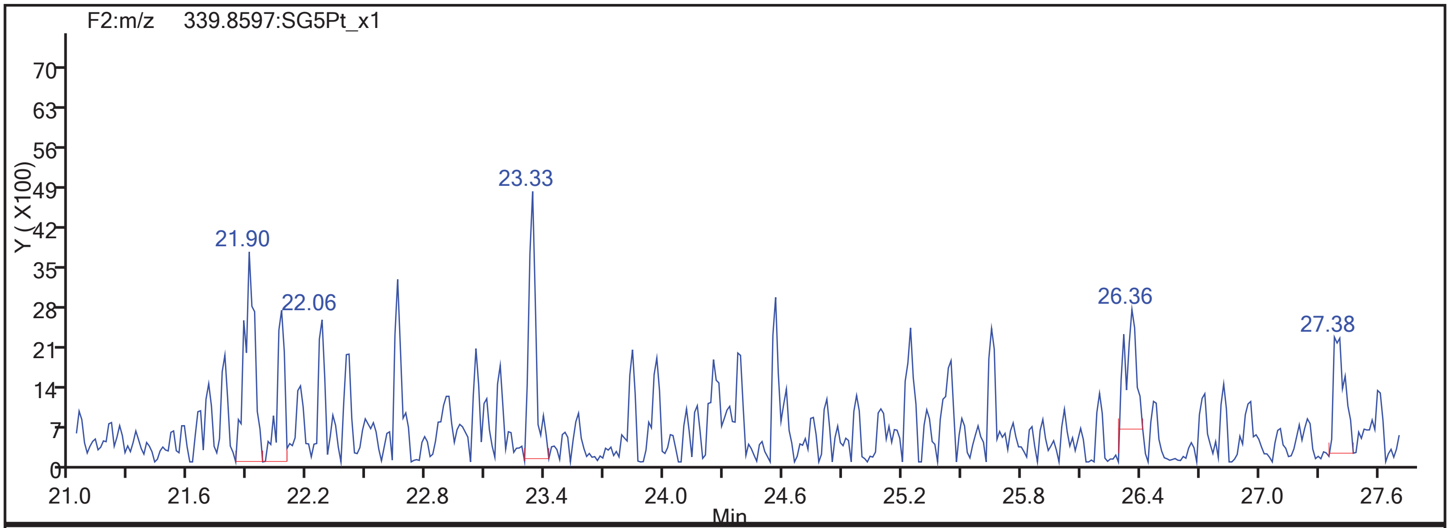
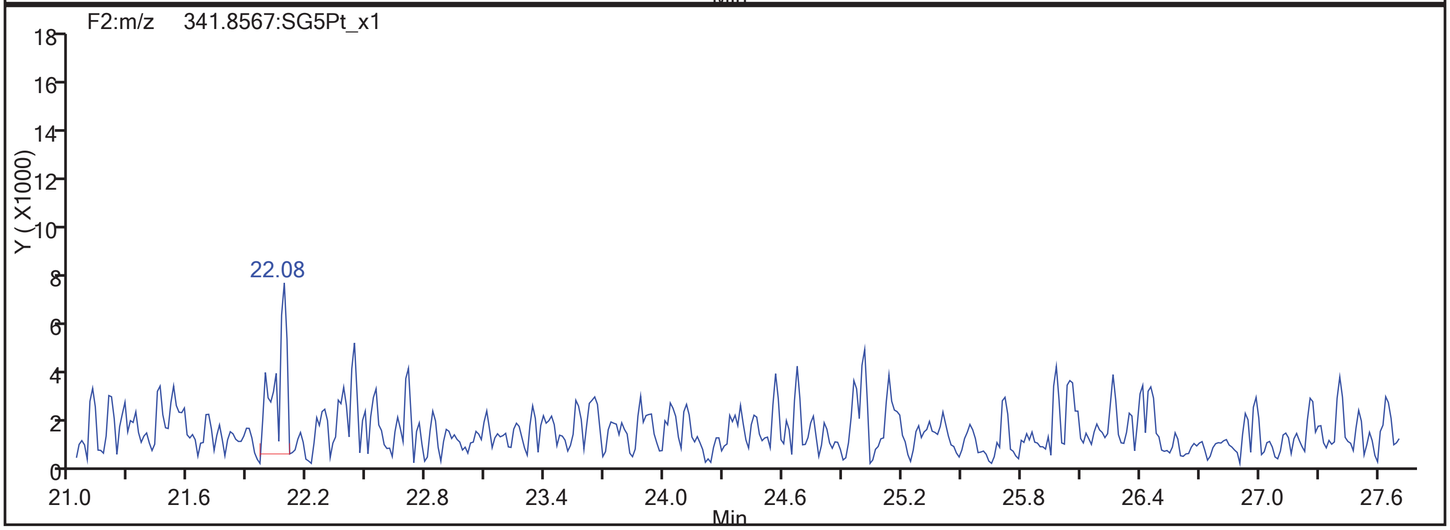
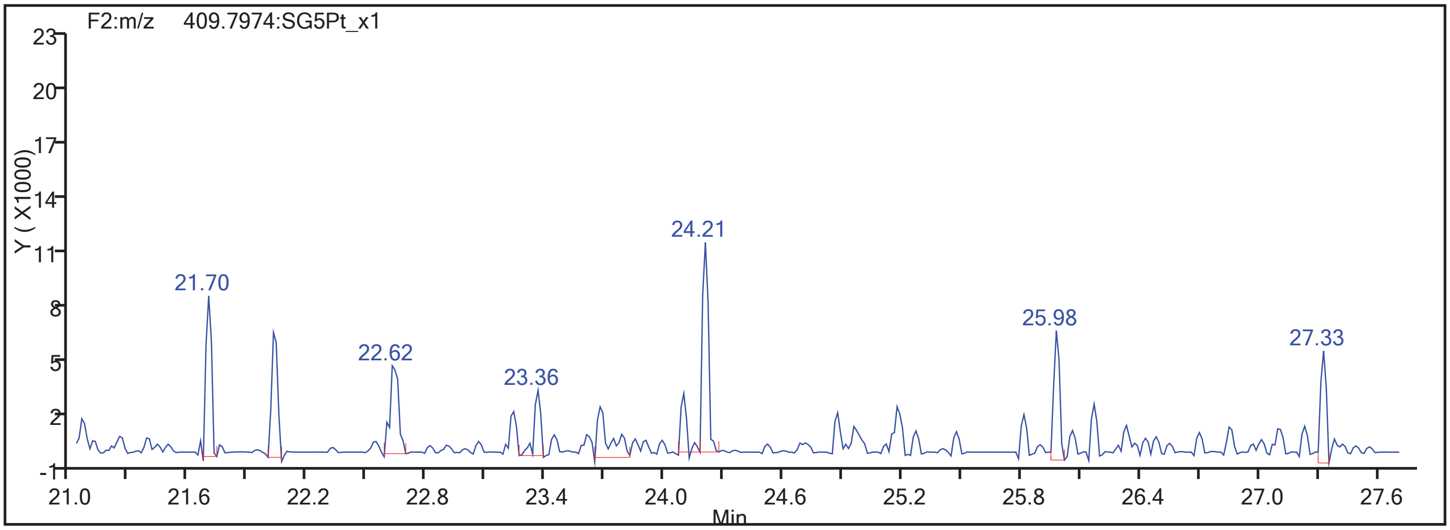
Column Type:		Column Dia:	

PeCDF





PeCDF Interference Mass



Report Date: 06-Dec-2017 13:44:49
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 18-Nov-2017 15:25:14
Injection Vol: 2.0 ul
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Operator ID: SMA, ALM
Method: Dioxin_3D5
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Sample Line#: 57
Column Type:
Column Dia:

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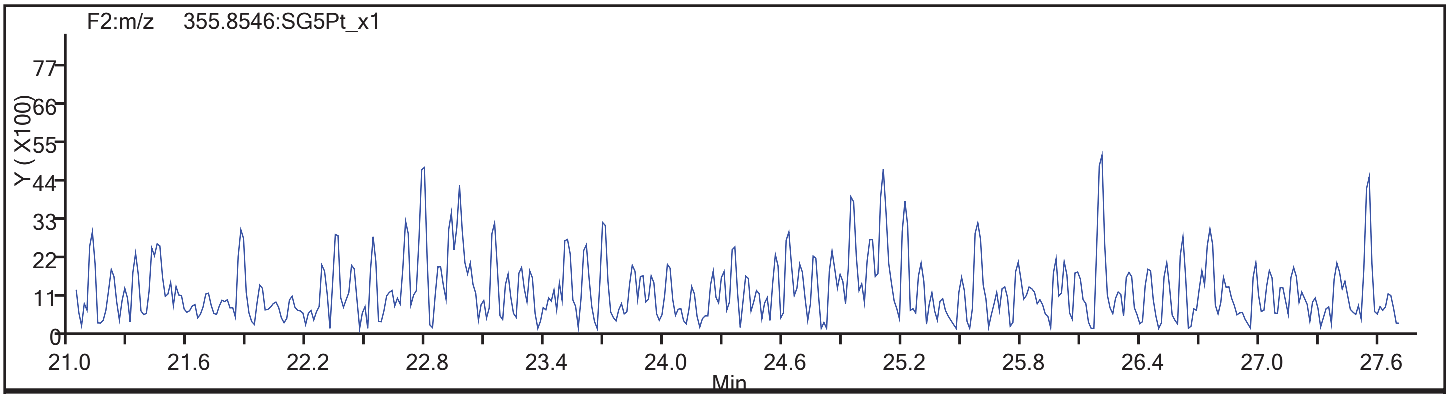

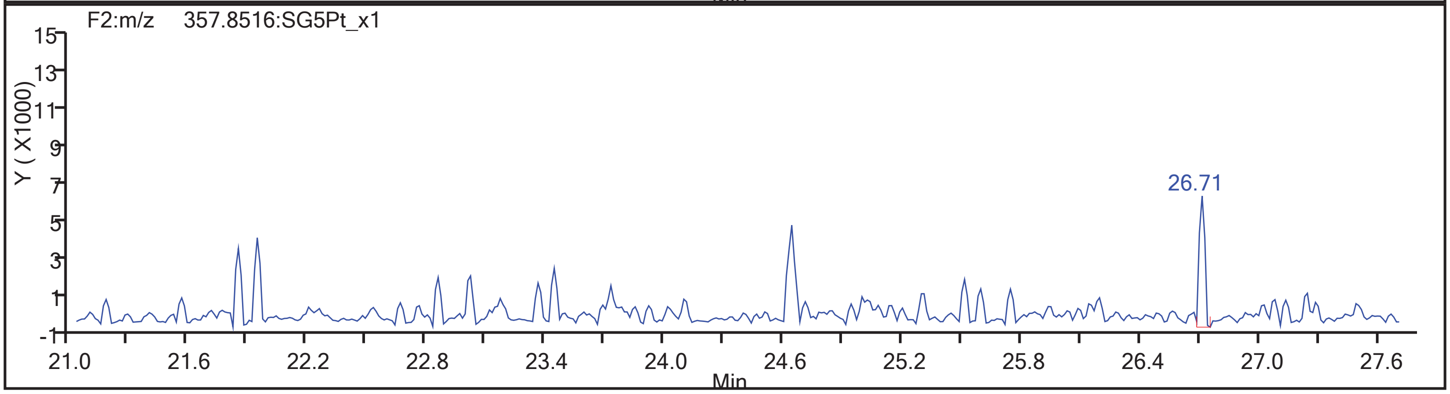

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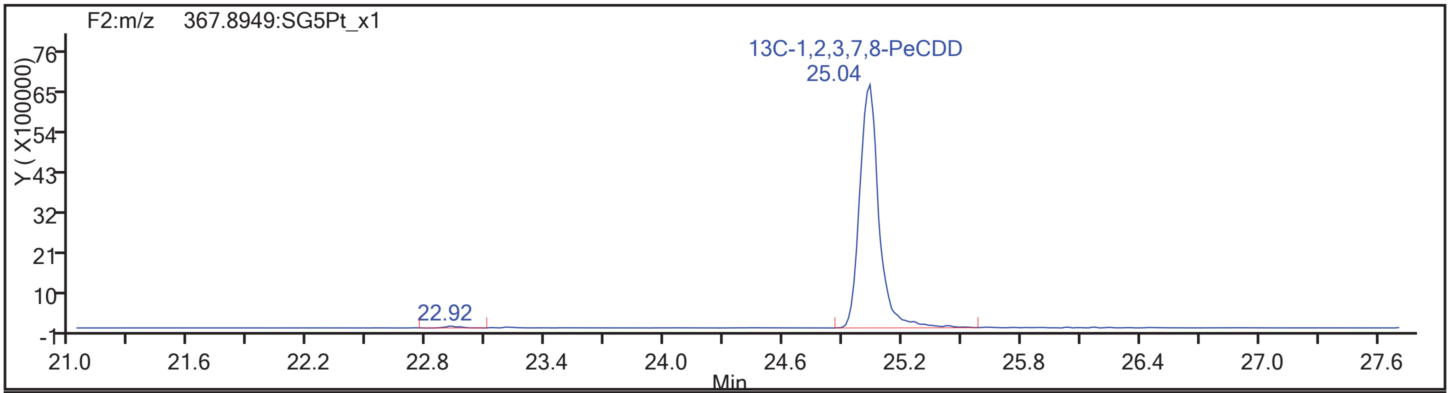

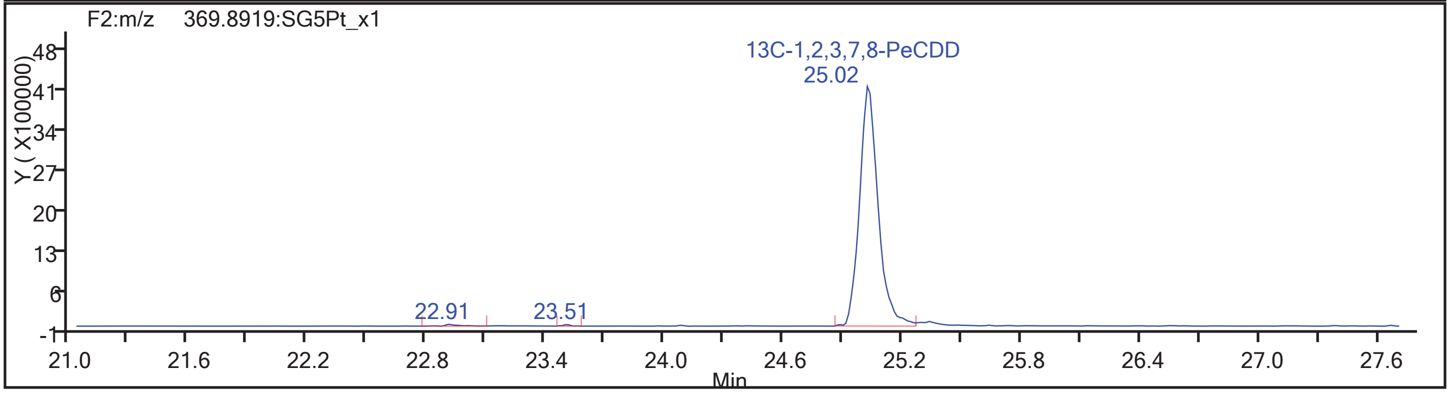

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TestAmerica Sacramento

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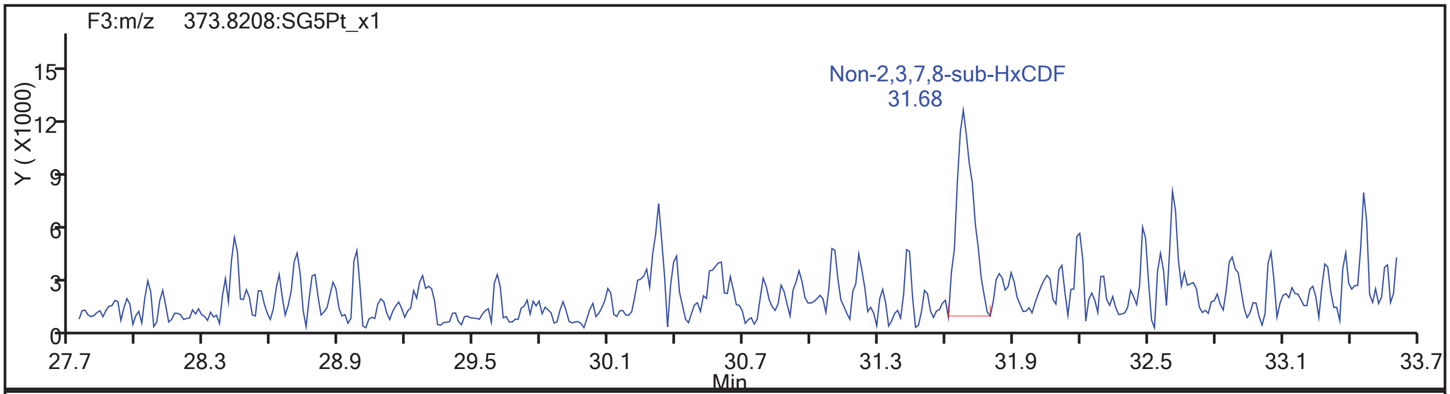
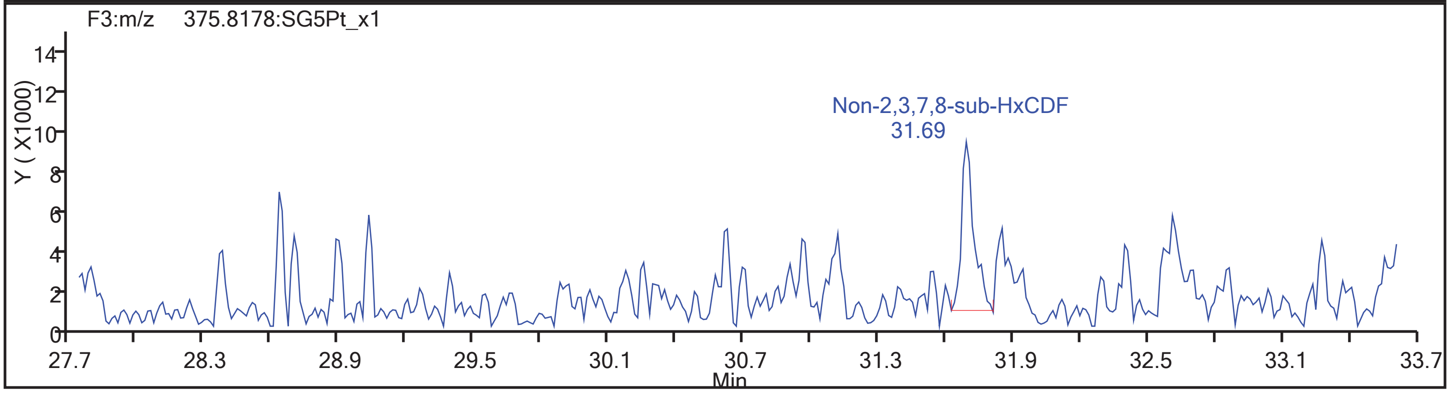
Injection Date: 18-Nov-2017 15:25:14 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573 Sample Line#: 57
Column Type: Column Dia:

HxCDF





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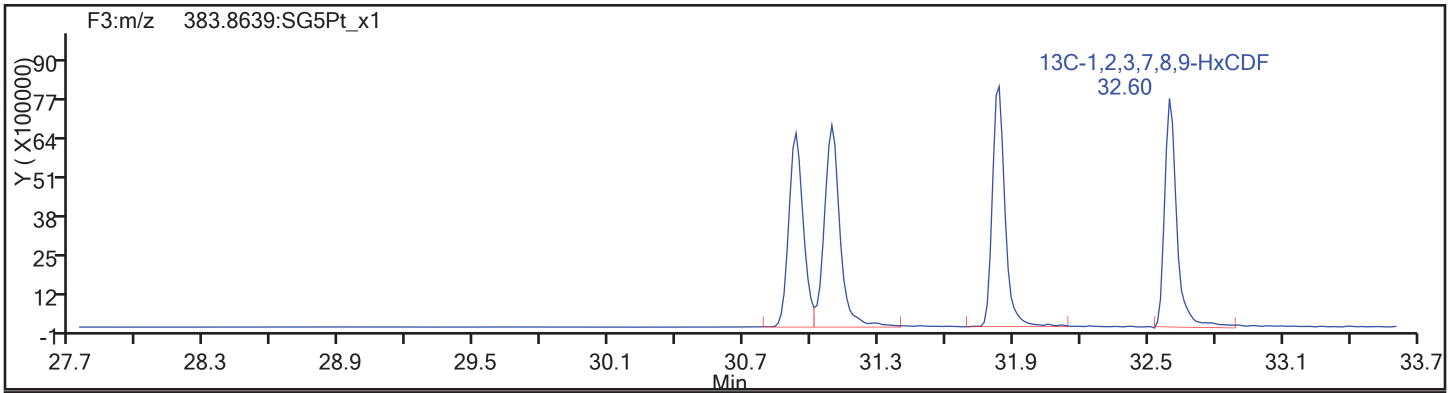

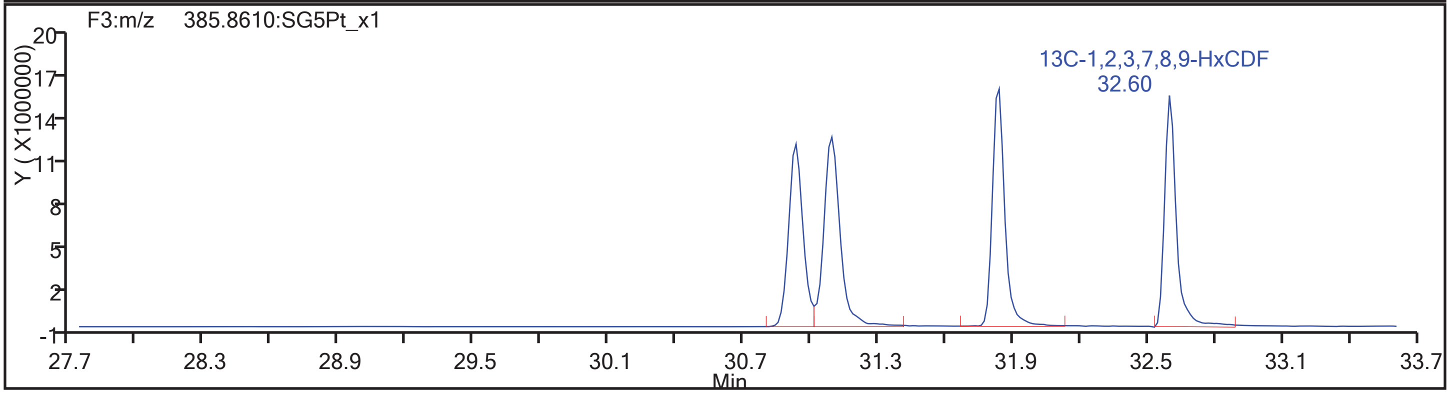

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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 15:25:14 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 195573 Sample Line#: 57

Column Type: Column Dia:

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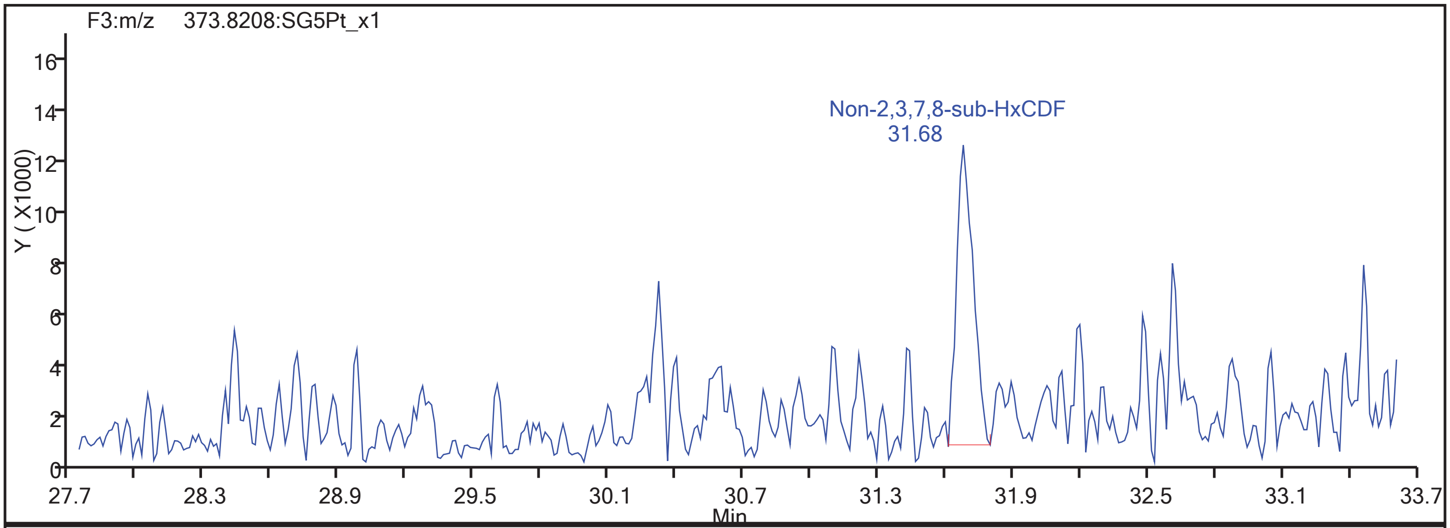
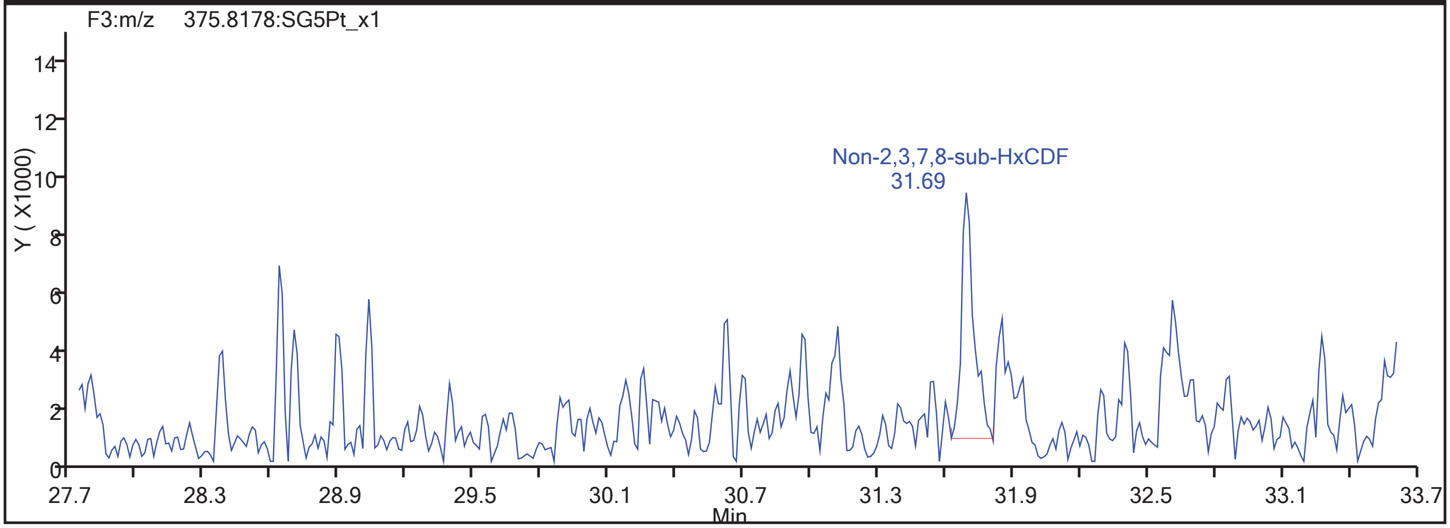
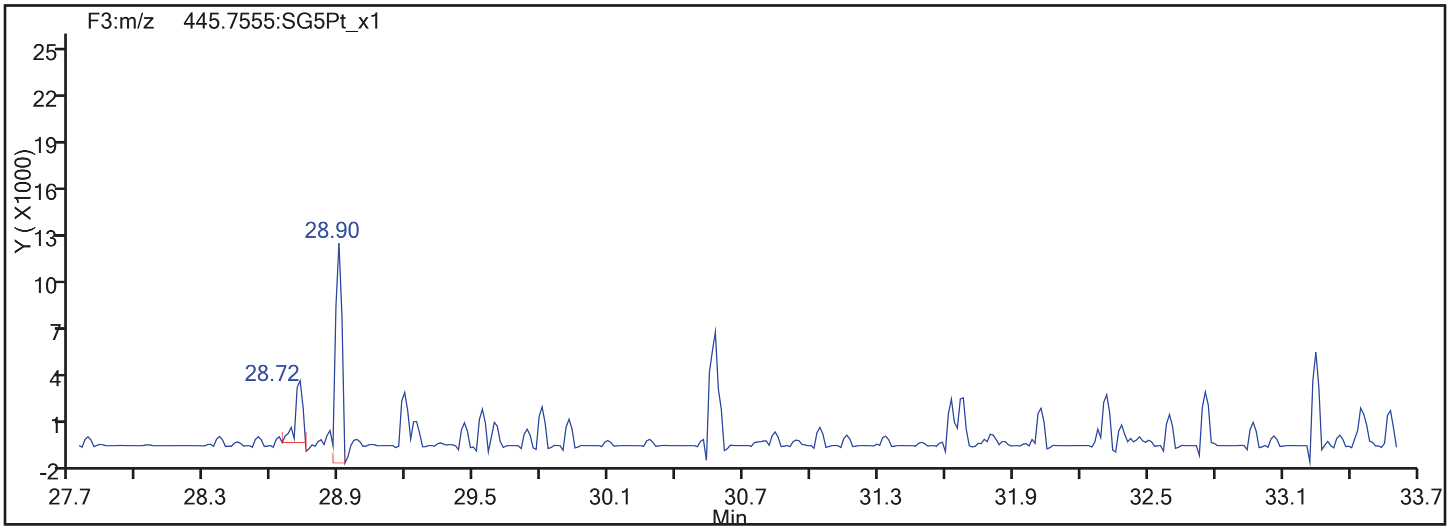




HxCDF Interference Mass



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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 15:25:14 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

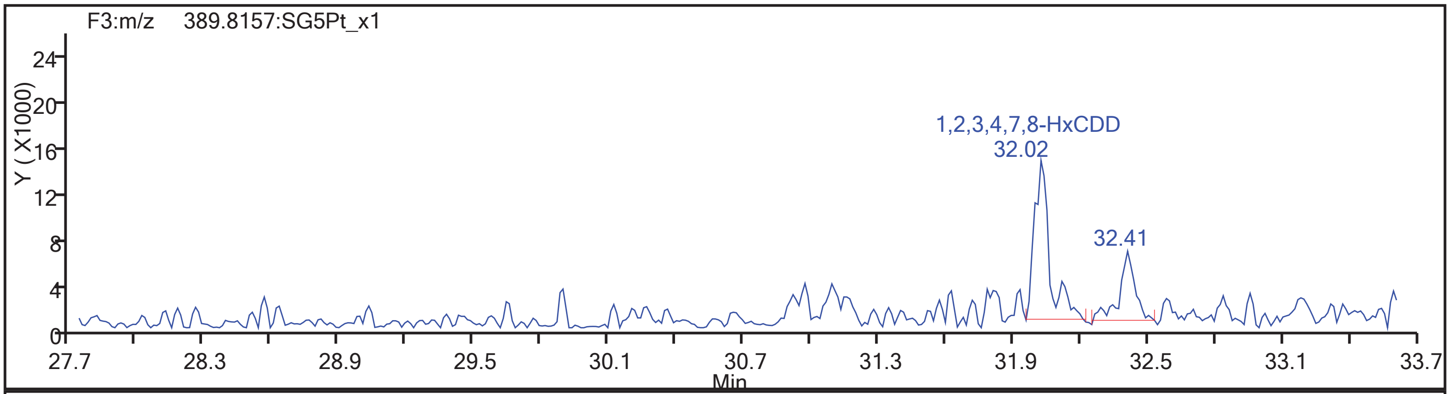
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

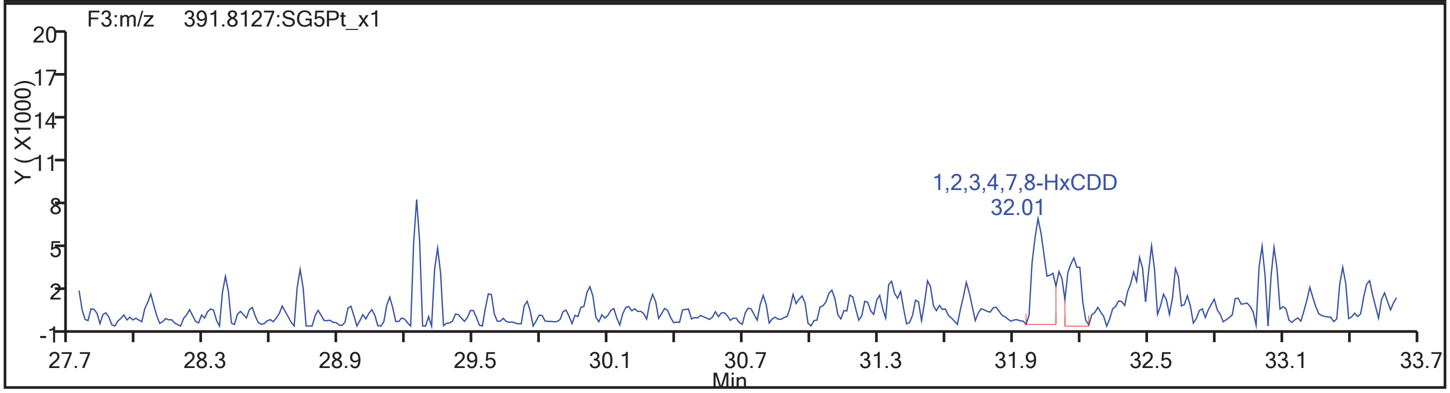
Client ID:

Worklist#: 195573 Sample Line#: 57

Column Type: Column Dia:

HxCDD





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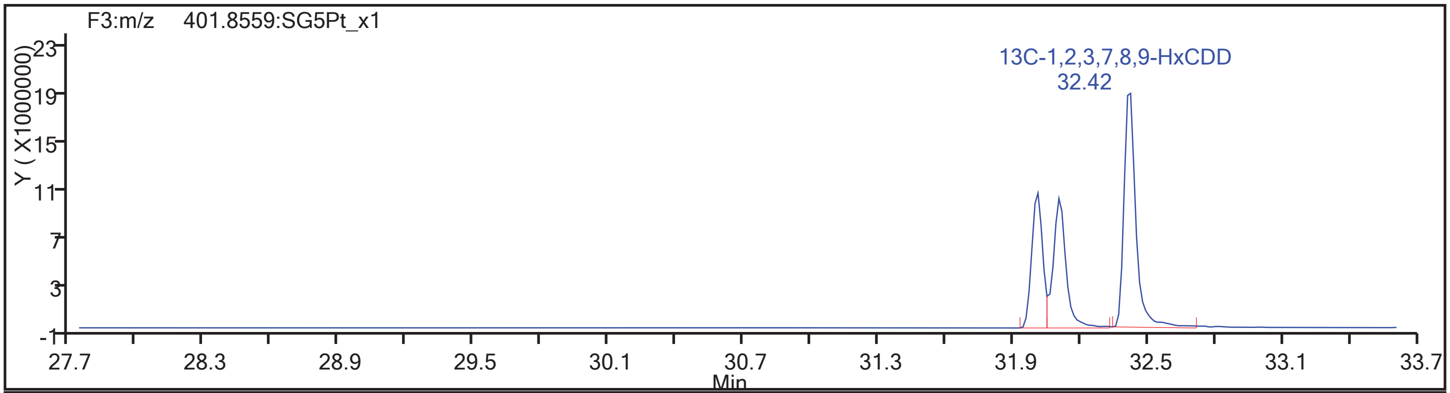

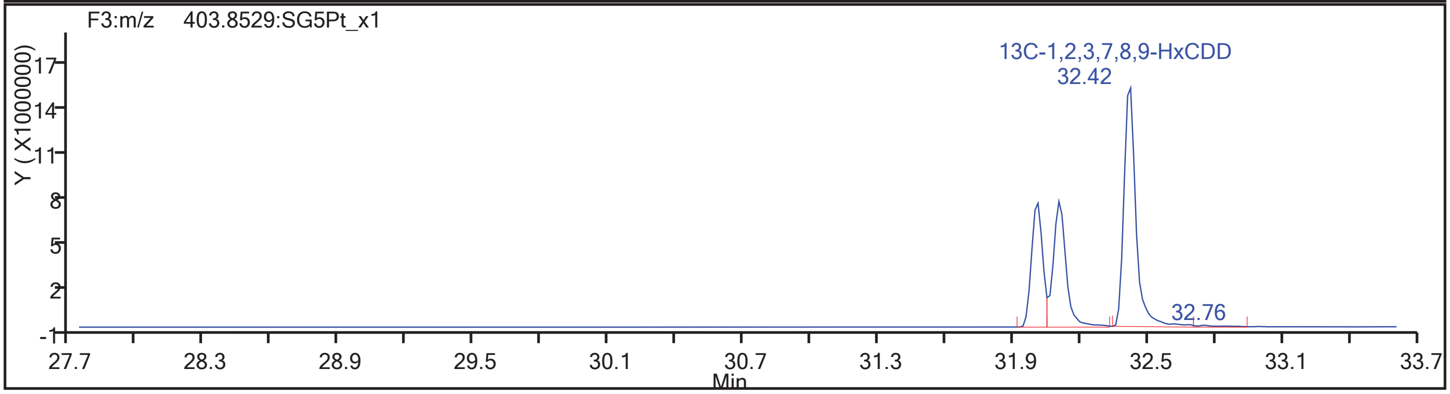

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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 15:25:14 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

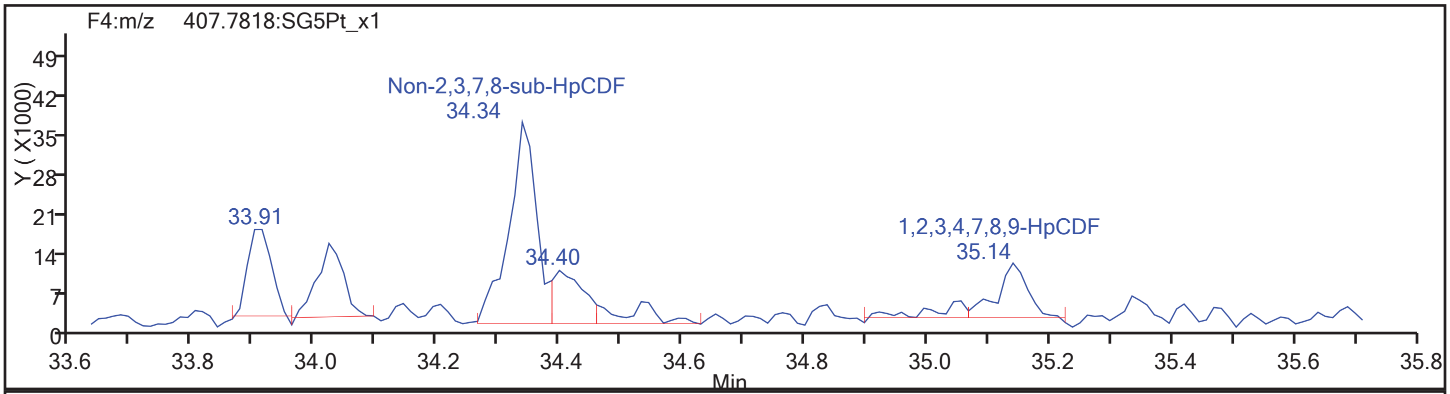
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

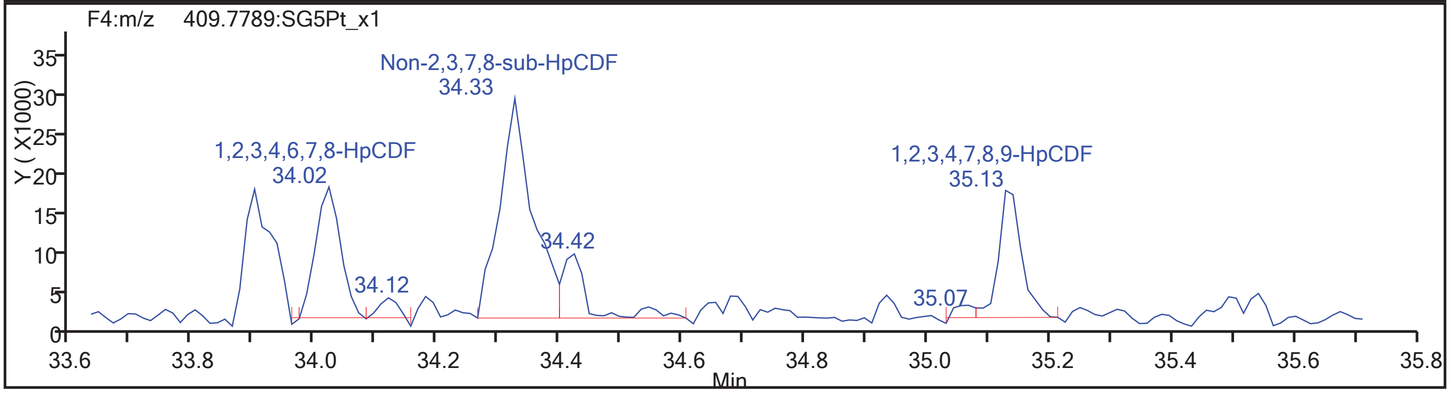
Client ID:

Worklist#: 195573 Sample Line#: 57

Column Type: Column Dia:

HpCDF





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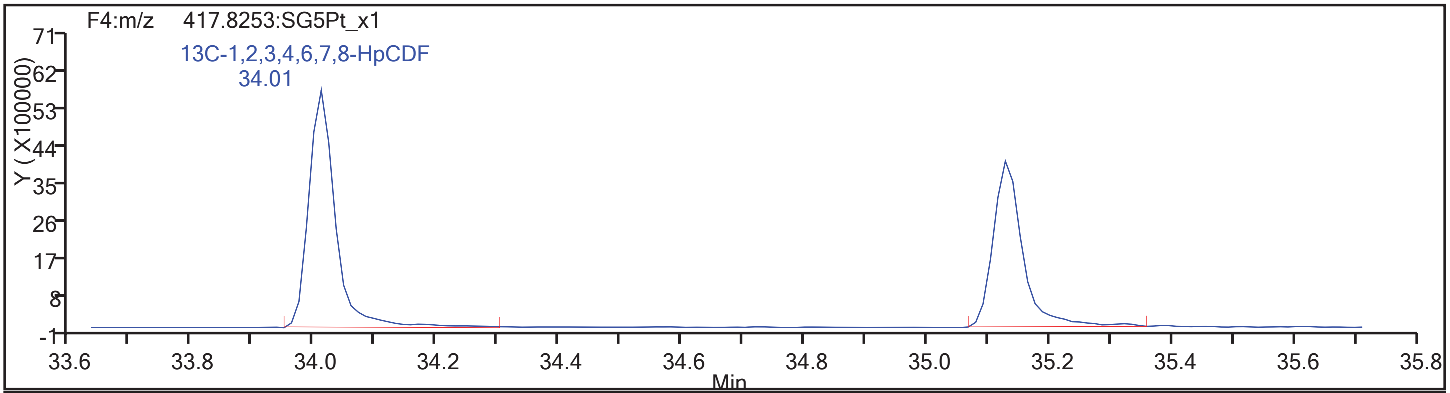

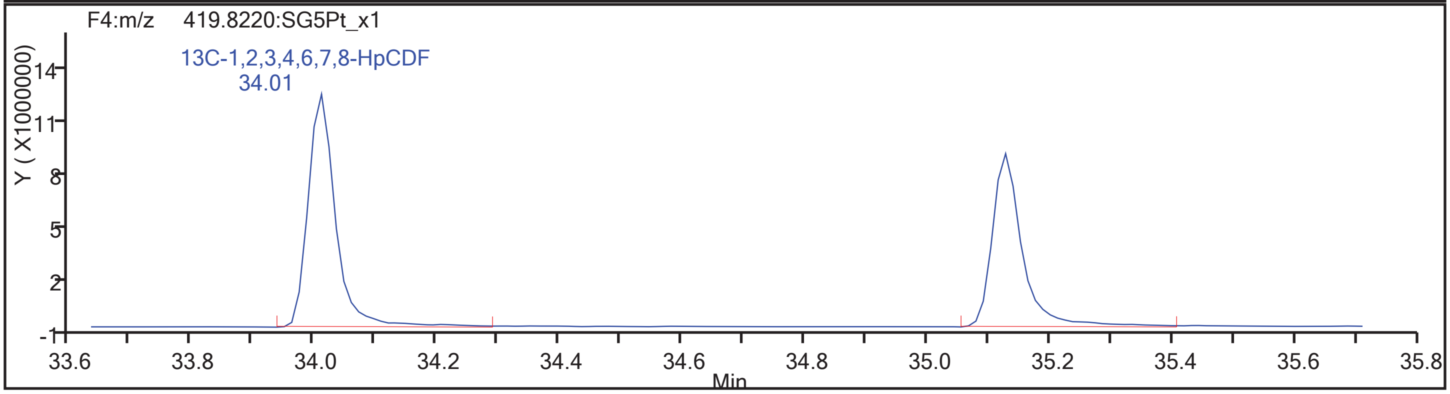

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TestAmerica Sacramento

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Injection Vol: 2.0 ul
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Operator ID: SMA, ALM
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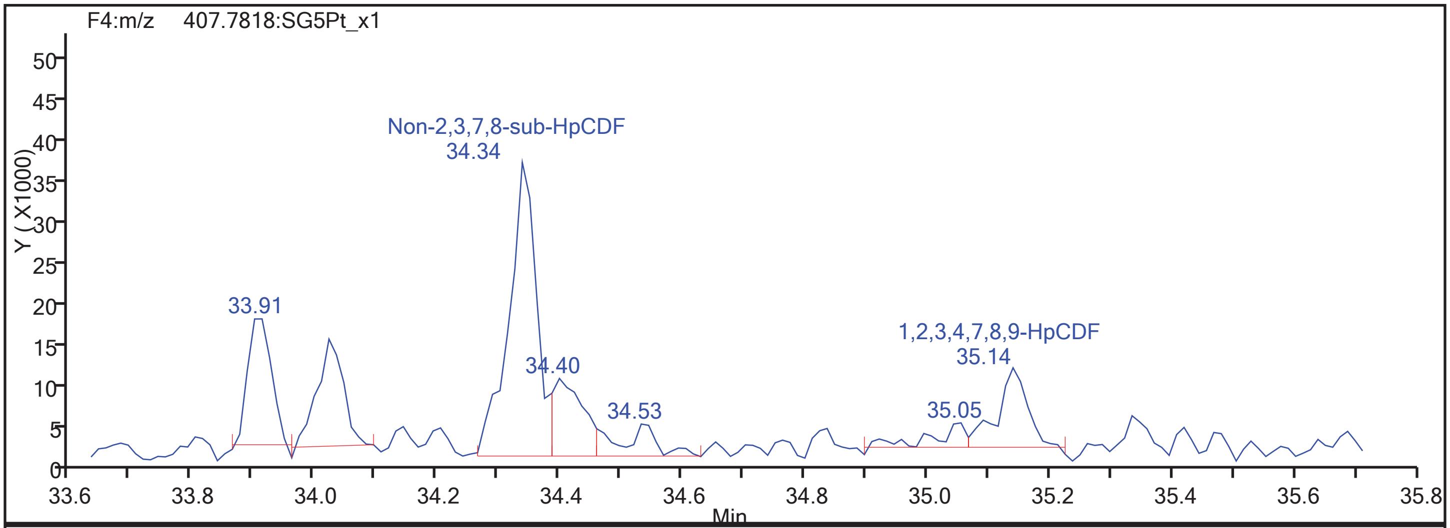
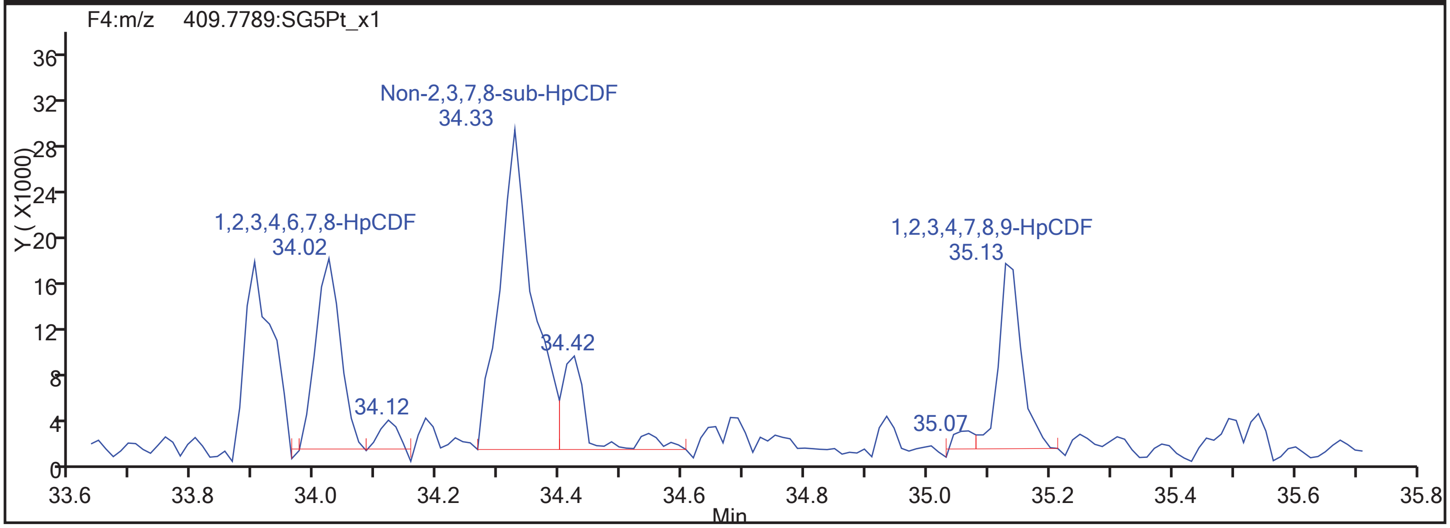
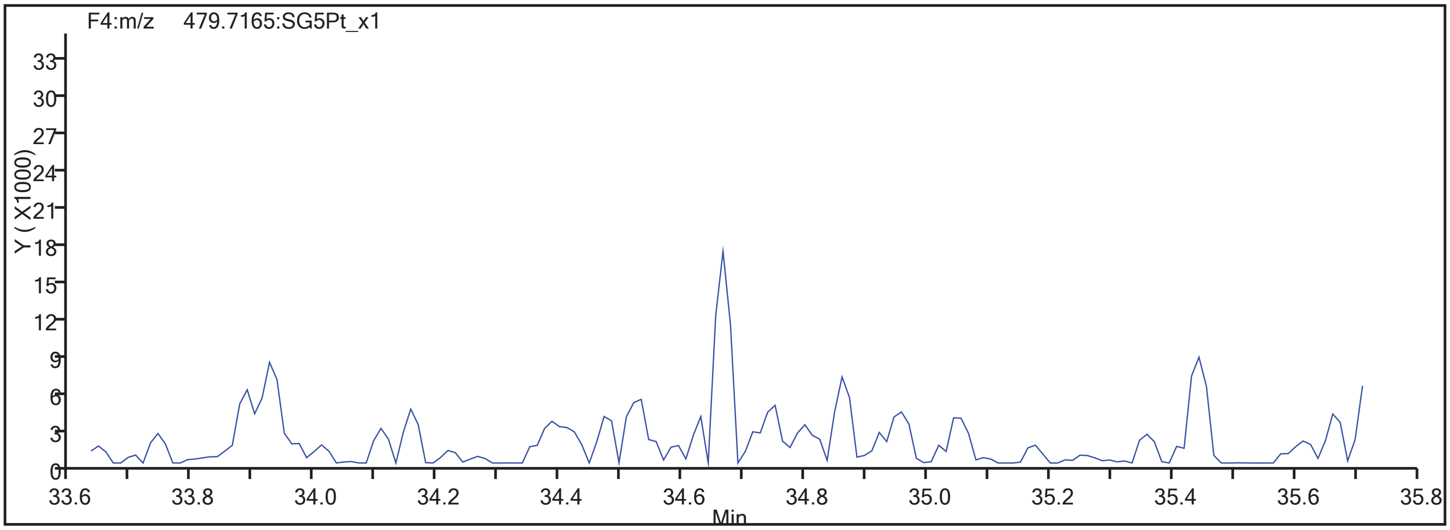




HpCDF Interference Mass



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TestAmerica Sacramento

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Injection Date:	18-Nov-2017 15:25:14	Injection Vol:	2.0 ul
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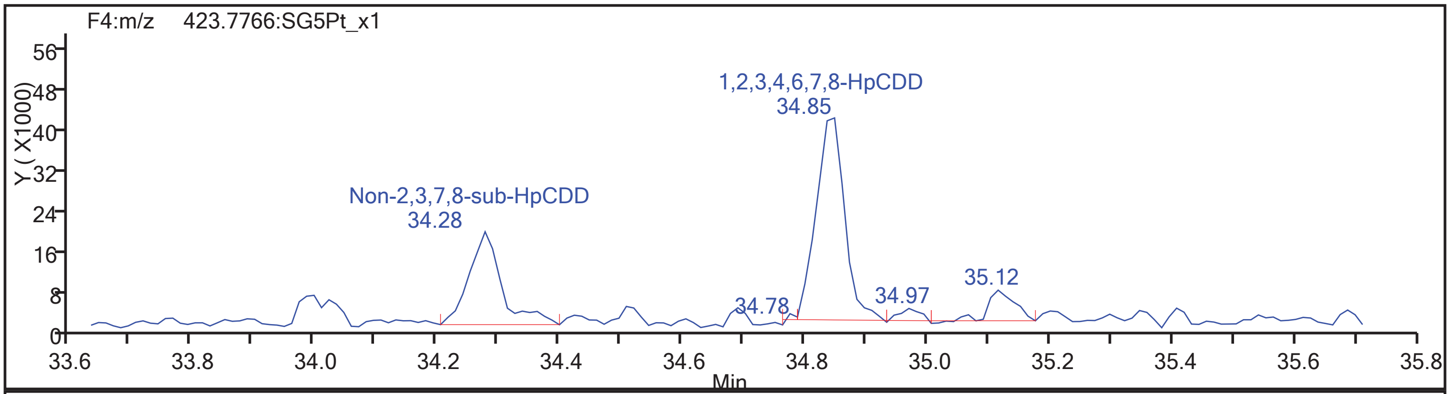
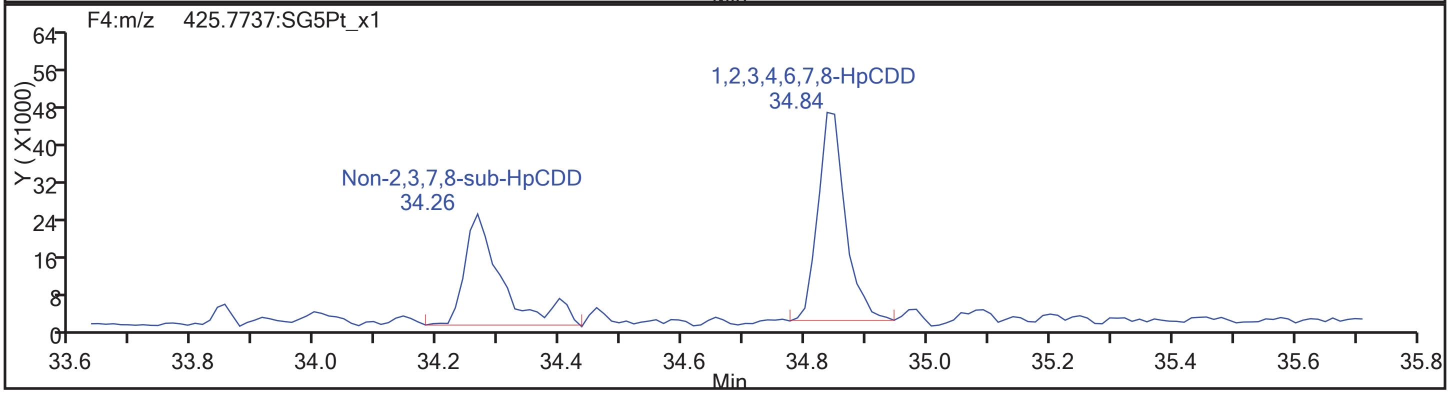
HpCDD





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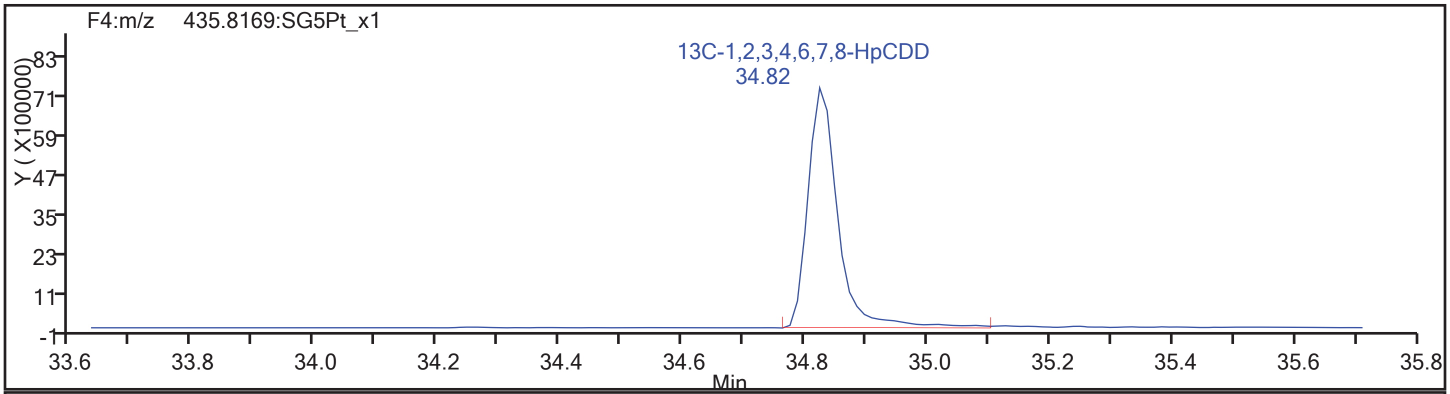

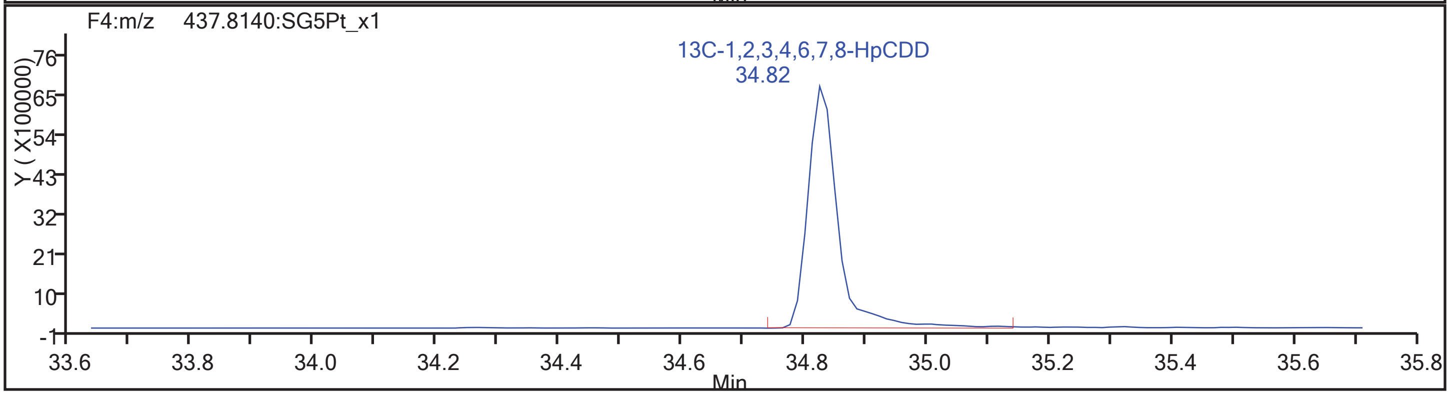

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TestAmerica Sacramento

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Injection Date: 18-Nov-2017 15:25:14 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573 Sample Line#: 57
Column Type: Column Dia:

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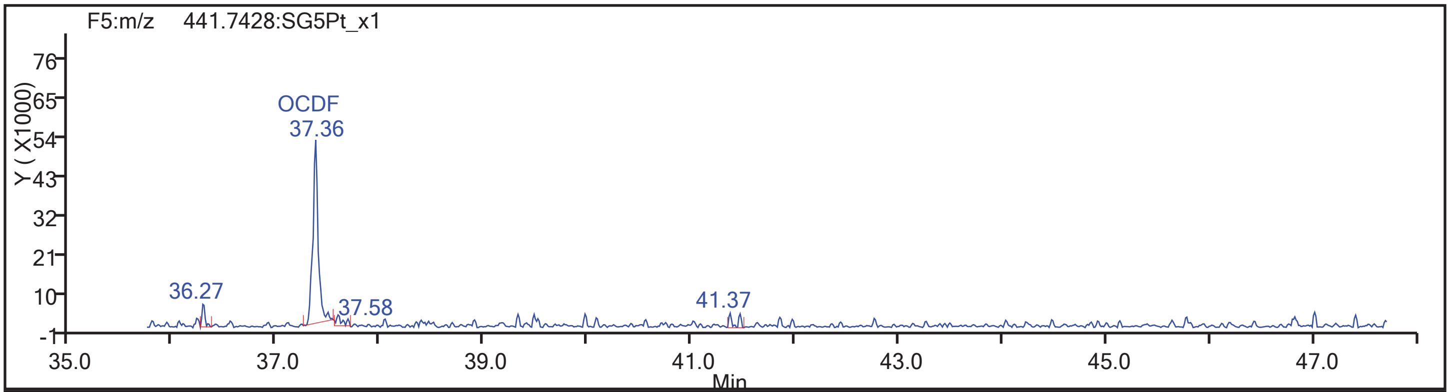
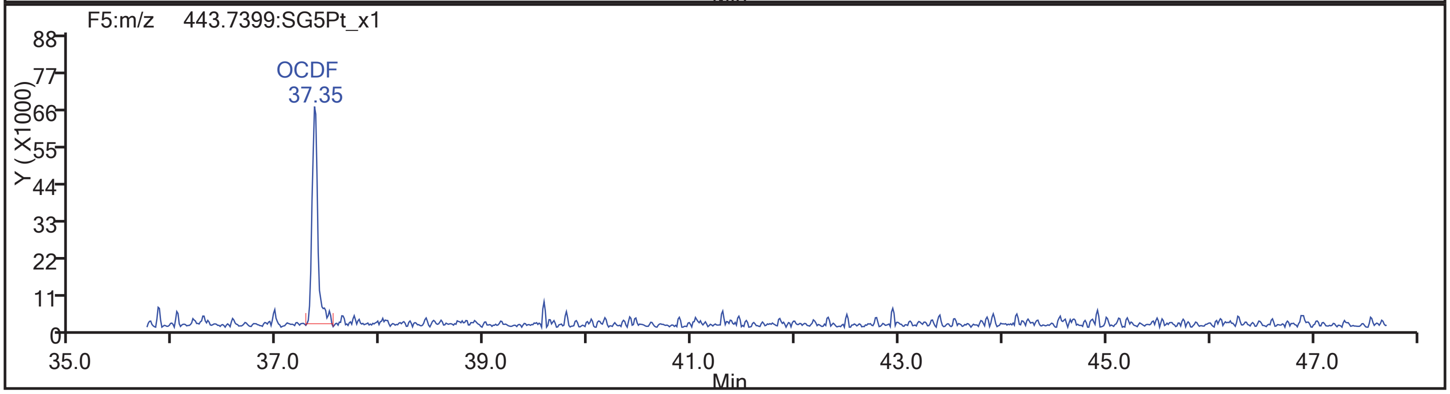
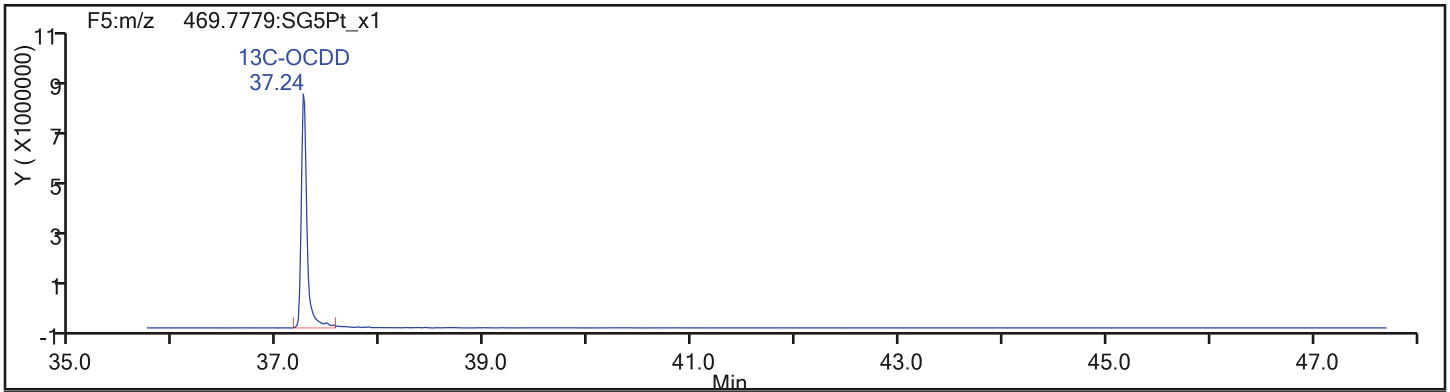
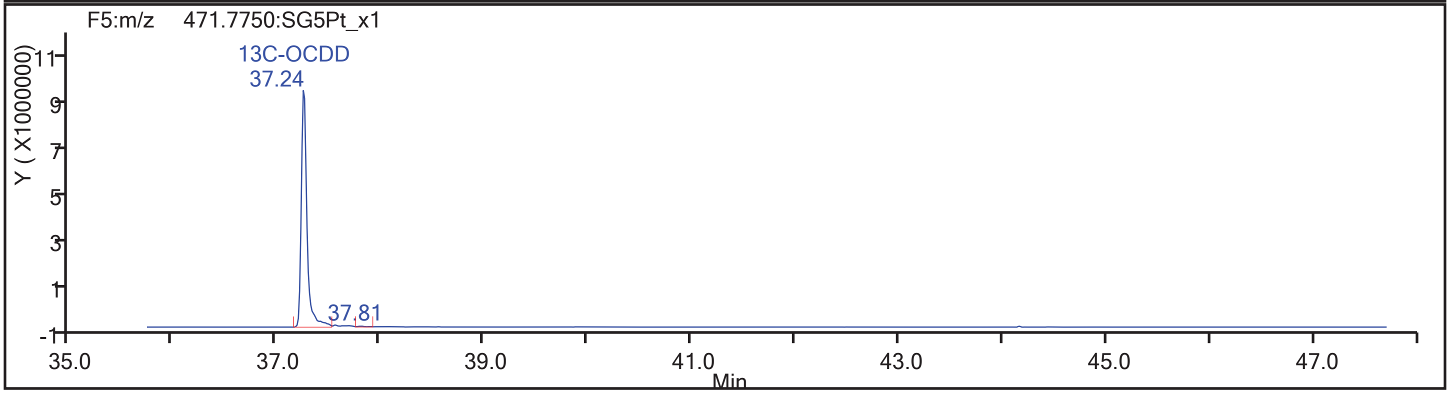




OCDF Standards



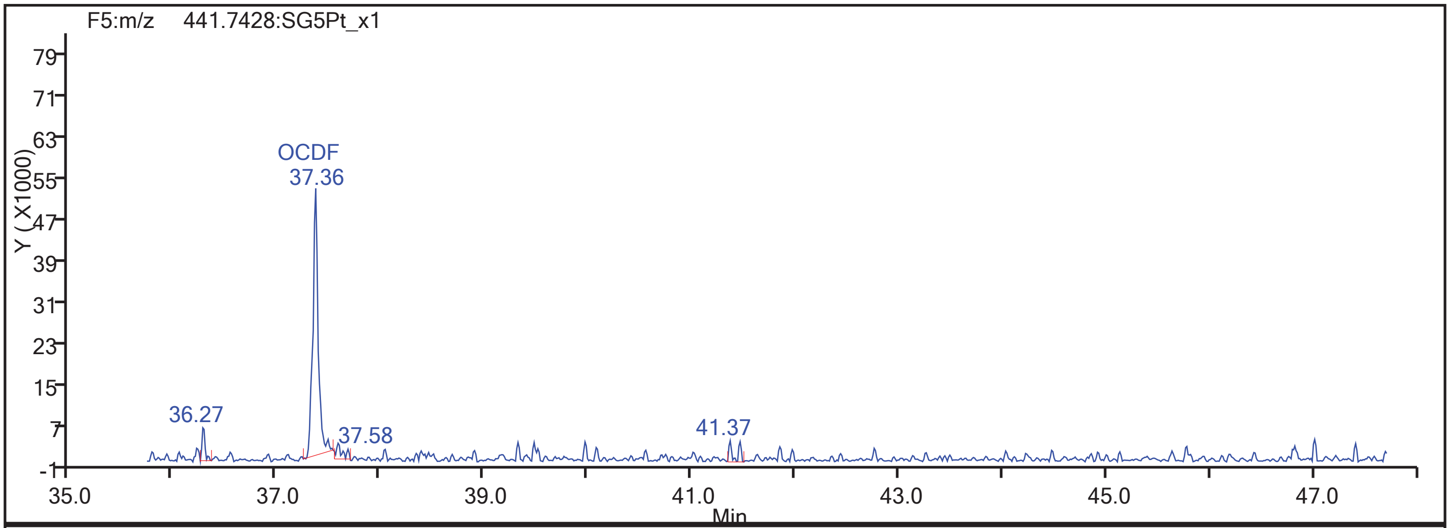


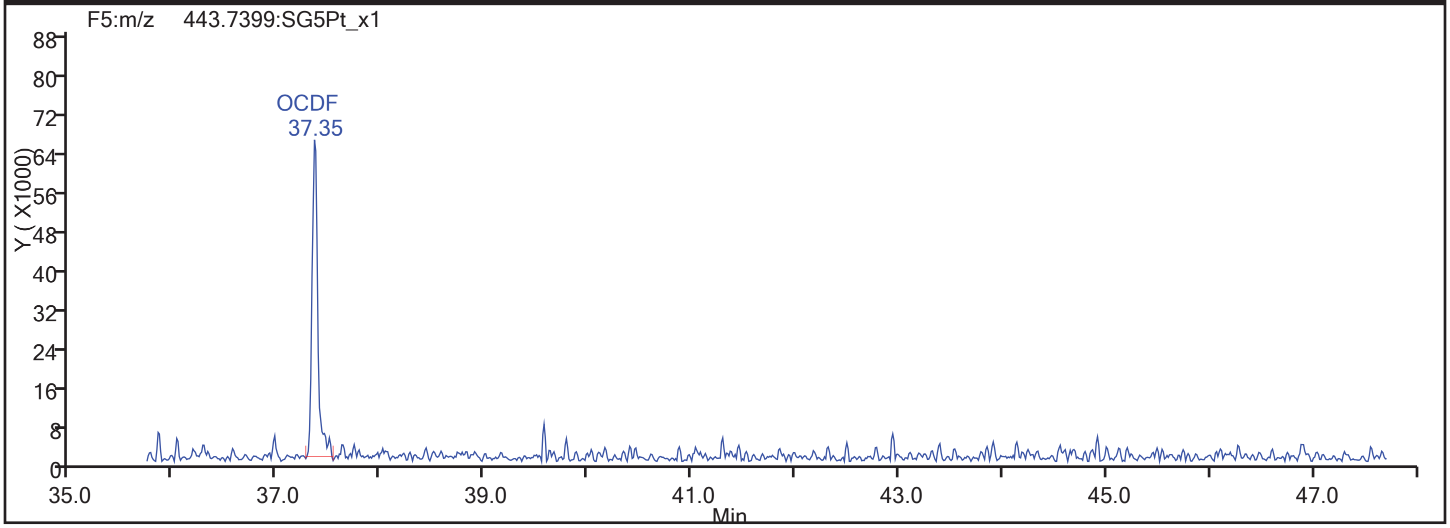
Report Date: 06-Dec-2017 13:44:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

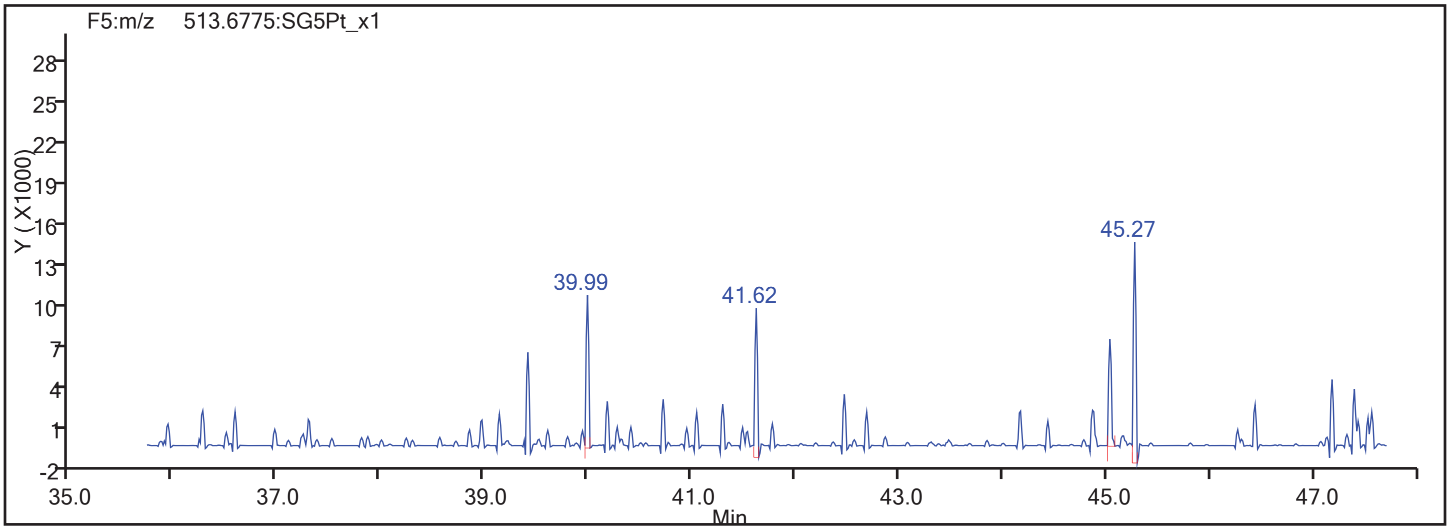
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d		
Injection Date:	18-Nov-2017 15:25:14	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	57
Column Type:		Column Dia:	

OCDF





OCDF Interference Mass

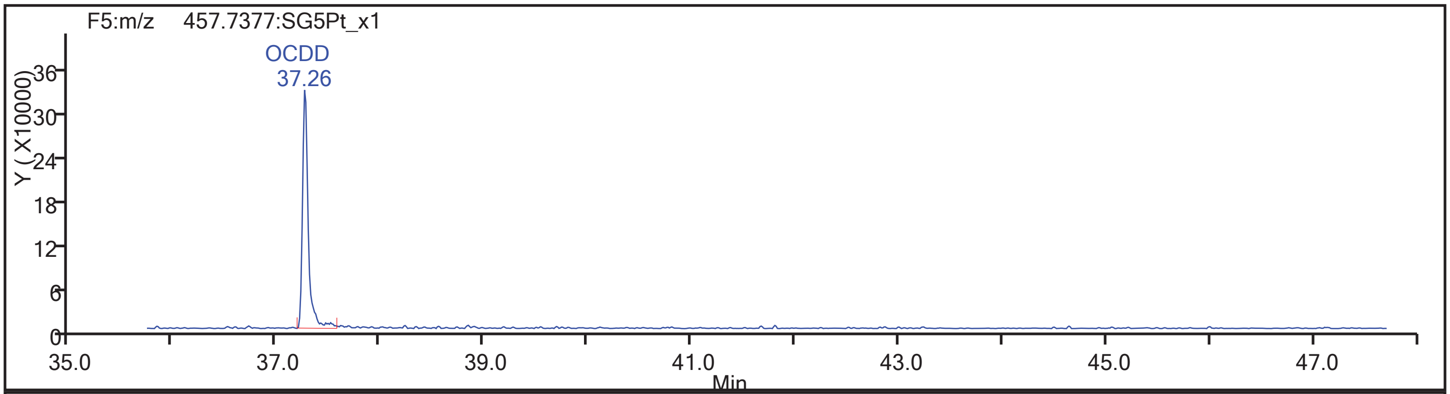


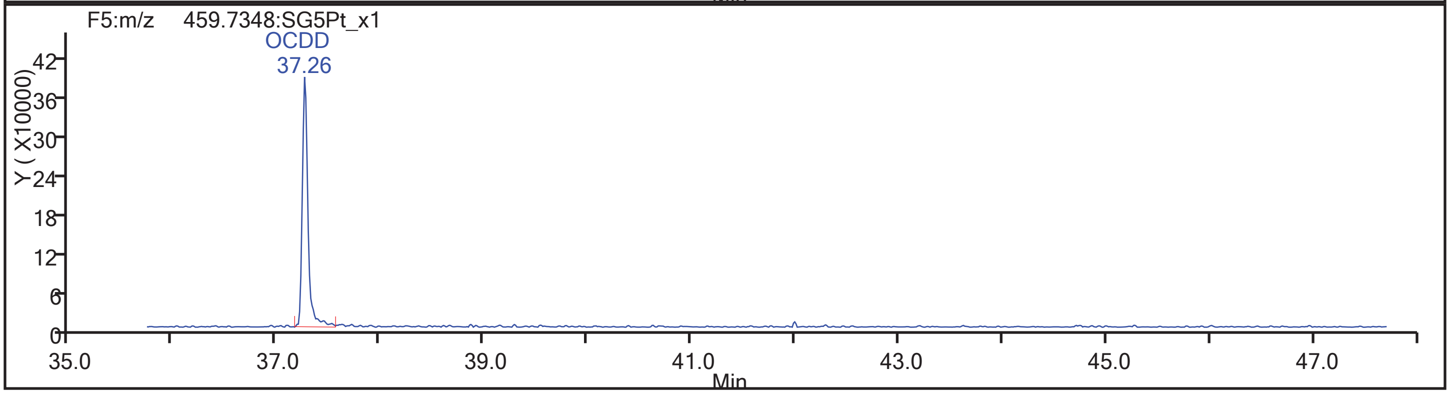
Report Date: 06-Dec-2017 13:44:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

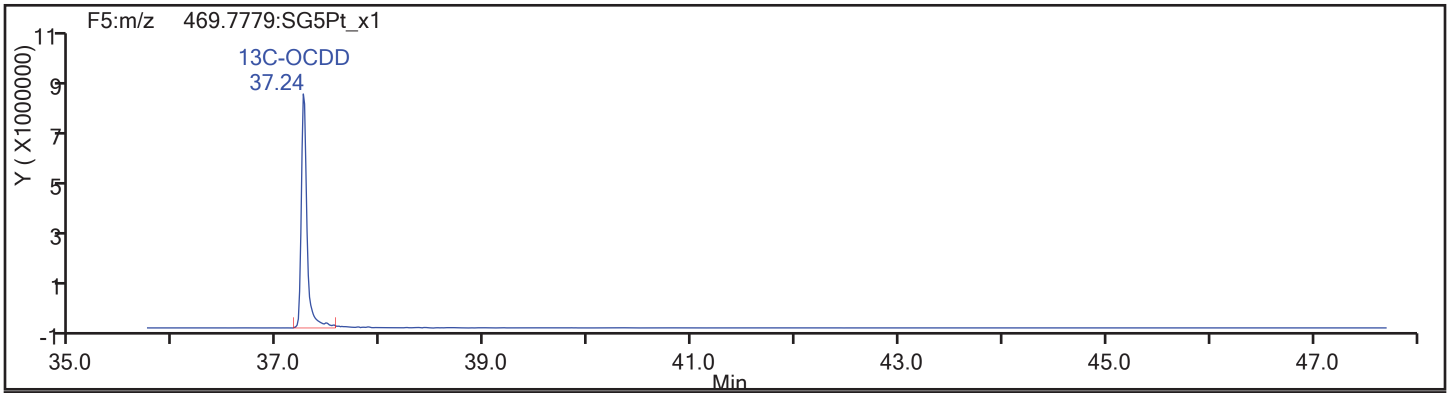
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d		
Injection Date:	18-Nov-2017 15:25:14	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	57
Column Type:		Column Dia:	

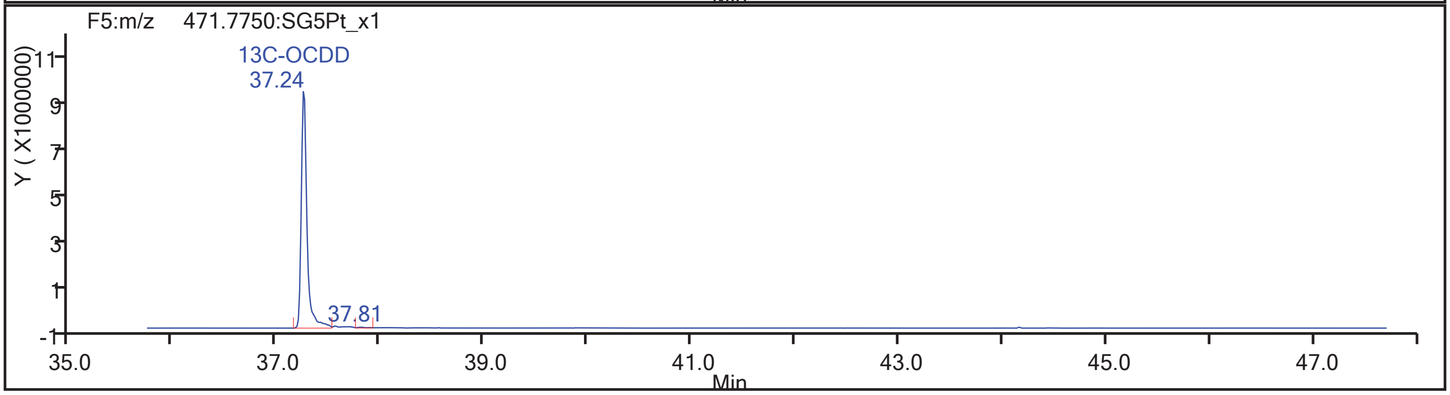
OCDD





OCDD Standards

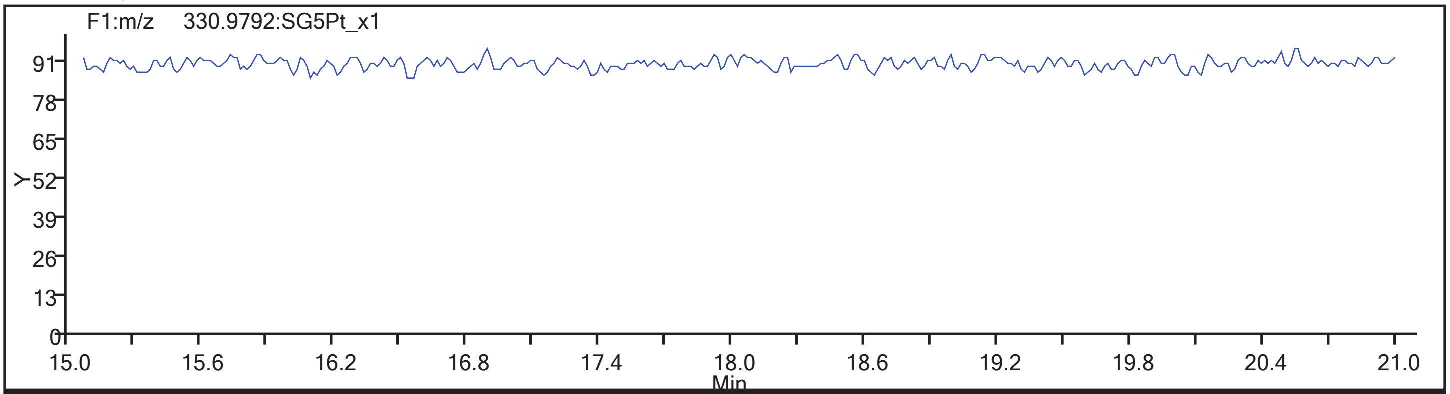


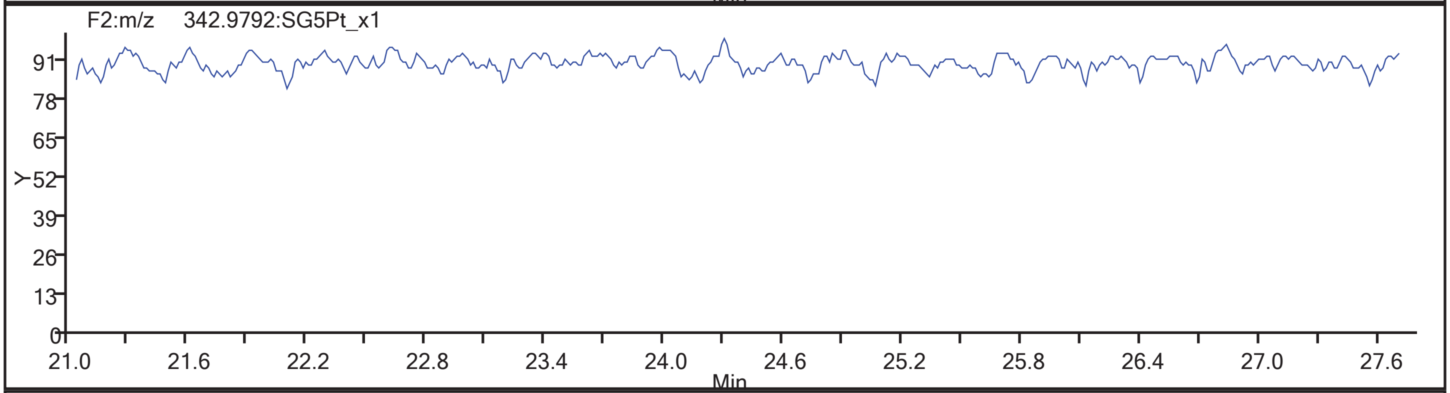


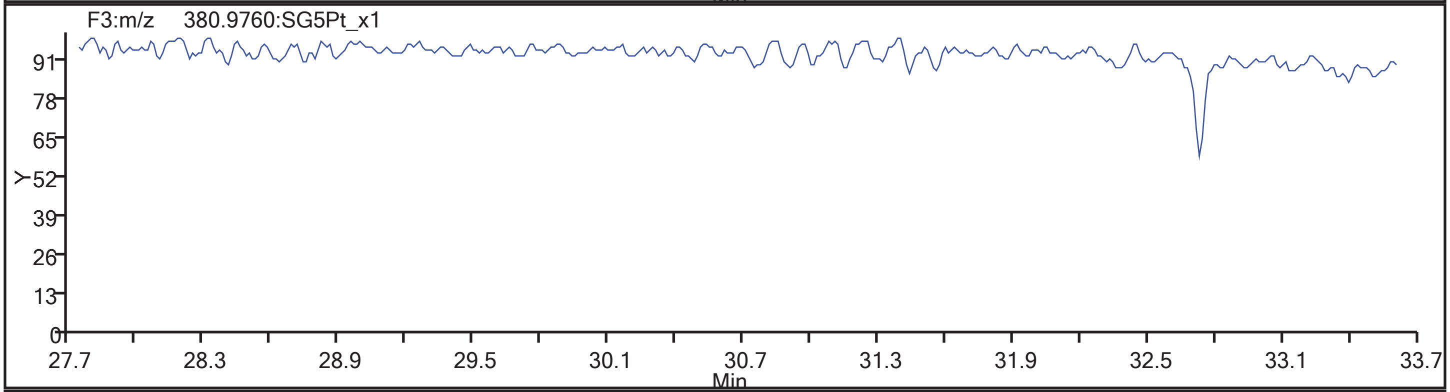
Report Date: 06-Dec-2017 13:44:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

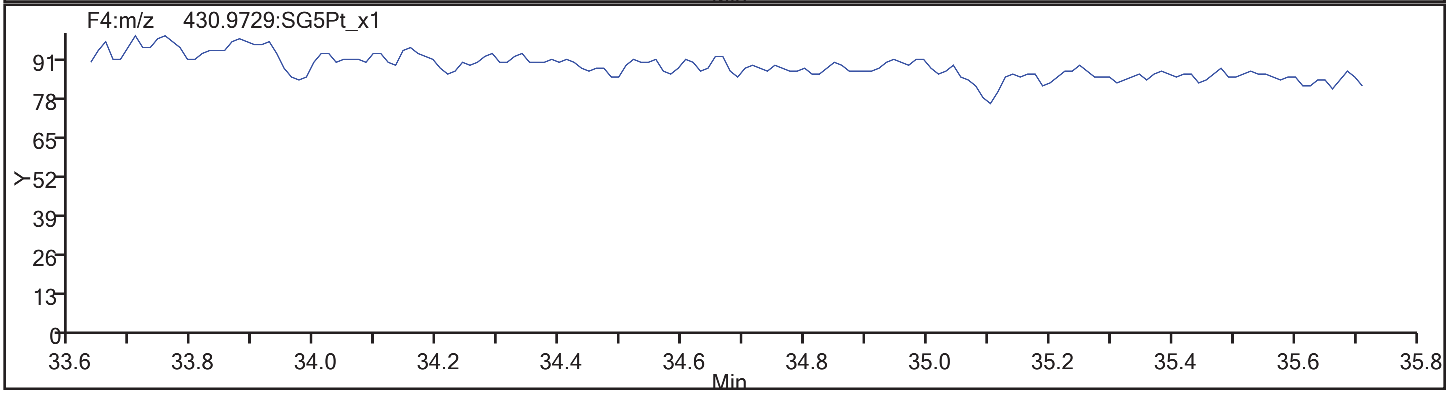
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d
Injection Date: 18-Nov-2017 15:25:14
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573
Sample Line#: 57
Column Type:
Column Dia:









TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_57.d

Injection Date: 18-Nov-2017 15:25:14

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

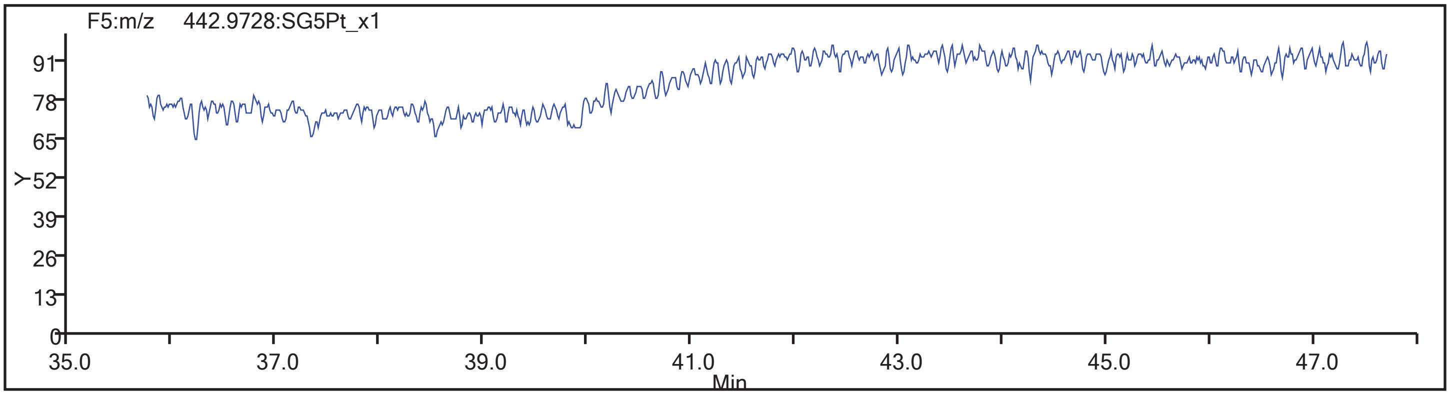
Client ID:

Worklist#: 195573

Sample Line#: 57

Column Type:

Column Dia:



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID:	Lab Sample ID: LCS 320-189721/2-A
Matrix: Solid	Lab File ID: 09NO1710D5_57.d
Analysis Method: 8290A	Date Collected:
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.00(g)	Date Analyzed: 11/11/2017 05:20
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture:	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194084	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	20.0		1.0	0.40	0.089
51207-31-9	2,3,7,8-TCDF	20.3		1.0	0.40	0.069
40321-76-4	1,2,3,7,8-PeCDD	106		5.0	0.75	0.21
57117-41-6	1,2,3,7,8-PeCDF	106		5.0	0.75	0.51
57117-31-4	2,3,4,7,8-PeCDF	109		5.0	0.75	0.52
39227-28-6	1,2,3,4,7,8-HxCDD	115		5.0	2.0	0.61
57653-85-7	1,2,3,6,7,8-HxCDD	104		5.0	2.0	0.47
19408-74-3	1,2,3,7,8,9-HxCDD	104		5.0	2.0	0.46
70648-26-9	1,2,3,4,7,8-HxCDF	103		5.0	0.75	0.87
57117-44-9	1,2,3,6,7,8-HxCDF	98.6		5.0	1.0	0.72
72918-21-9	1,2,3,7,8,9-HxCDF	93.8		5.0	1.0	0.87
60851-34-5	2,3,4,6,7,8-HxCDF	101		5.0	0.75	0.80
35822-46-9	1,2,3,4,6,7,8-HpCDD	103		5.0	1.0	0.65
67562-39-4	1,2,3,4,6,7,8-HpCDF	108		5.0	1.0	1.5
55673-89-7	1,2,3,4,7,8,9-HpCDF	112		5.0	2.0	1.8
3268-87-9	OCDD	204	B	10	4.0	0.32
39001-02-0	OCDF	217		10	4.0	0.36

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	51		40-135
89059-46-1	13C-2,3,7,8-TCDF	53		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	55		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	56		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	53		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	59		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	56		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	49		40-135
114423-97-1	13C-OCDD	47		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d
Lims ID: LCS 320-189721/2-A
Client ID:
Sample Type: LCS
Inject. Date: 11-Nov-2017 05:20:04 ALS Bottle#: 30 Worklist Smp#: 57
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-189721/2-a lcs 320-189721/2-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 10:46:20 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 10:47:42

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.899	114139777	0.81	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.385	76880915	0.79	1.2741	52.9	52.9	0.2033	0.2033	52.87	
2,3,7,8-TCDF	17.400	8841548	0.76	1.1341	10.1	10.1	0.0347	0.0347	101	
A Non-2,3,7,8-sub-TCDF	17.113						0.0	0.0		
S Total TCDF					10.1	10.1	0.0347	0.0347		
D 13C-2,3,7,8-TCDD	18.095	57834274	0.77	0.9921	51.1	51.1	0.1870	0.1870	51.07	
$ 37Cl4-2,3,7,8-TCDD	18.111	44921182		1.0466	37.6	37.6	0.0643	0.0643	94.01	
2,3,7,8-TCDD	18.111	5791602	0.79	0.9993	10.0	10.0	0.0446	0.0446	100	
A Non-2,3,7,8-sub-TCDD	17.566						0.0	0.0		
S Total TCDD					10.0	10.0	0.0446	0.0446		
D 13C-1,2,3,7,8-PeCDF	22.437	62163042	1.55	0.9696	56.2	56.2	0.1814	0.1814	56.17	
1,2,3,7,8-PeCDF	22.465	38345405	1.62	1.1627	53.1	53.1	0.2534	0.2534	106	
D 13C-2,3,4,7,8-PeCDF	23.787	63960109	1.54							
2,3,4,7,8-PeCDF	23.814	38486067	1.61	1.1395	54.3	54.3	0.2585	0.2585	109	
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.175						0.0	0.0		
S Total PeCDF					107.4	107.4	0.2559	0.2559		
D 13C-1,2,3,7,8-PeCDD	24.510	47978752	1.61	0.7588	55.4	55.4	0.0892	0.0892	55.40	
1,2,3,7,8-PeCDD	24.537	24155883	1.57	0.9490	53.1	53.1	0.1058	0.1058	106	
A Non-2,3,7,8-sub-PeCDD	23.433						0.0	0.0		
S Total PeCDD					53.1	53.1	0.1058	0.1058		
D 13C-1,2,3,4,7,8-HxCDF	30.580	51882723	0.51	0.9644	59.0	59.0	0.4663	0.4663	59.03	
1,2,3,4,7,8-HxCDF	30.606	37524467	1.29	1.4012	51.6	51.6	0.4360	0.4360	103	
D 13C-1,2,3,6,7,8-HxCDF	30.766	64729602	0.51							
1,2,3,6,7,8-HxCDF	30.779	43344654	1.28	1.6951	49.3	49.3	0.3604	0.3604	98.57	
D 13C-2,3,4,6,7,8-HxCDF	31.565	59718841	0.53							
2,3,4,6,7,8-HxCDF	31.578	40029576	1.26	1.5205	50.7	50.7	0.4018	0.4018	101	
D 13C-1,2,3,7,8,9-HxCDF	32.350	52414770	0.52							
1,2,3,7,8,9-HxCDF	32.363	34314397	1.29	1.4099	46.9	46.9	0.4333	0.4333	93.82	
A Non-2,3,7,8-sub-HxCDF	30.267						0.0	0.0		
S Total HxCDF					198.6	198.6	0.4078	0.4078		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.177	91138627	1.23	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.751	36523821	1.26							
1,2,3,4,7,8-HxCDD	31.764	23218873	1.28	0.9505	57.4	57.4	0.3042	0.3042	115	
D 13C-1,2,3,6,7,8-HxCDD	31.844	42564485	1.25	0.8791	53.1	53.1	0.3145	0.3145	53.13	
1,2,3,6,7,8-HxCDD	31.871	27417478	1.29	1.2343	52.2	52.2	0.2342	0.2342	104	
1,2,3,7,8,9-HxCDD	32.190	27595542	1.28	1.2467	52.0	52.0	0.2319	0.2319	104	
A Non-2,3,7,8-sub-HxCDD	30.913						0.0	0.0		
S Total HxCDD					161.6	161.6	0.2568	0.2568		
D 13C-1,2,3,4,6,7,8-HpCDF	33.770	34006105	0.44	0.7618	49.0	49.0	0.8961	0.8961	48.98	
1,2,3,4,6,7,8-HpCDF	33.782	30034125	1.06	1.6399	53.9	53.9	0.7495	0.7495	108	
D 13C-1,2,3,4,7,8,9-HpCDF	34.839	32520162	0.43							
1,2,3,4,7,8,9-HpCDF	34.851	25231265	1.08	1.3302	55.8	55.8	0.9240	0.9240	112	
A Non-2,3,7,8-sub-HpCDF	34.311						0.0	0.0		
S Total HpCDF					109.6	109.6	0.8367	0.8367		
D 13C-1,2,3,4,6,7,8-HpCDD	34.548	39642501	1.06	0.7762	56.0	56.0	0.6840	0.6840	56.04	
1,2,3,4,6,7,8-HpCDD	34.560	20183781	1.03	0.9932	51.3	51.3	0.3252	0.3252	103	
A Non-2,3,7,8-sub-HpCDD	34.287						0.0	0.0		
S Total HpCDD					51.3	51.3	0.3252	0.3252		
D 13C-OCDD	36.882	53986016	0.87	0.6314	93.8	93.8	0.3182	0.3182	46.91	
OCDF	36.978	39396548	0.90	1.3460	108.4	108.4	0.1796	0.1796	108	
OCDD	36.894	29207568	0.90	1.0604	102.0	102.0	0.1579	0.1579	102	

Report Date: 13-Nov-2017 10:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d
Lims ID: LCS 320-189721/2-A
Client ID:
Sample Type: LCS
Inject. Date: 11-Nov-2017 05:20:04 ALS Bottle#: 30 Worklist Smp#: 57
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-189721/2-a lcs 320-189721/2-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 10:46:20 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 10:47:42

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.899	17.914	-1		51040150	12409073	11521	28802	1077		
333.9339	17.899	17.914	-1		63099627	15224167	8987	22467	1694	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.385	17.400	-1	0.971	33995826	8226346	20250	50625	406		
317.9389	17.385	17.400	-1	0.971	42885089	10386561	8384	20960	1239	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.400	17.415	-1	1.001	3827529	909401	1082	2705	840		
305.8987	17.400	17.415	-1	1.001	5014019	1216921	1852	4630	657	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.113						1082	2705			
305.8987	17.113						1852	4630			
13C-2,3,7,8-TCDD											
331.9368	18.095	18.111	-1	1.011	25122876	5810127	11521	28802	504		
333.9339	18.095	18.111	-1	1.011	32711398	7542329	8987	22467	839	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.111	18.125	-1	1.012	44921182	10209091	7443	18607	1372		
2,3,7,8-TCDD											
319.8965	18.111	18.125	-1	1.001	2553827	578076	1370	3425	422		
321.8936	18.111	18.125	-1	1.001	3237775	748009	1008	2520	742	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.566						1370	3425			
321.8936	17.566						1008	2520			
13C-1,2,3,7,8-PeCDF											
351.9000	22.437	22.451	-1	1.254	37795508	6376336	11565	28912	551		
353.8970	22.437	22.451	-1	1.254	24367534	4186185	7874	19685	532	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.465	22.465	0	1.001	23722724	4037879	7199	17997	561		
341.8567	22.451	22.465	-1	1.001	14622681	2467023	5247	13117	470	1.62(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.787	23.801	-1	1.329	38810274	6394096	11565	28912	553		
353.8970	23.787	23.801	-1	1.329	25149835	4111085	7874	19685	522	1.54(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.814	23.828	-1	1.061	23762837	3878938	7199	17997	539		
341.8567	23.814	23.828	-1	1.061	14723230	2379736	5247	13117	454	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.001						342	855			
341.8567	20.001						844	2110			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.175						7199	17997			
341.8567	23.175						5247	13117			
13C-1,2,3,7,8-PeCDD											
367.8949	24.510	24.524	-1	1.369	29594748	4554042	3870	9675	1177		
369.8919	24.510	24.524	-1	1.369	18384004	2749986	3611	9027	762	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.537	24.551	-1	1.001	14769275	2230307	1631	4077	1367		
357.8516	24.537	24.551	-1	1.001	9386608	1449983	1302	3255	1114	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.433						1631	4077			
357.8516	23.433						1302	3255			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.580	30.593	-1	0.950	17614097	3434686	13400	33500	256		
385.8610	30.580	30.593	-1	0.950	34268626	6728387	25227	63067	267	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.606	30.606	0	1.001	21128824	4038366	13785	34462	293		
375.8178	30.606	30.606	0	1.001	16395643	3163157	11049	27622	286	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.766	30.766	0	0.956	21979797	3940845	13400	33500	294		
385.8610	30.766	30.766	0	0.956	42749805	7684585	25227	63067	305	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.779	30.793	-1	1.007	24303748	4503669	13785	34462	327		
375.8178	30.779	30.793	-1	1.007	19040906	3540870	11049	27622	320	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.565	31.578	-1	0.981	20573686	4967091	13400	33500	371		
385.8610	31.565	31.578	-1	0.981	39145155	9329618	25227	63067	370	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.578	31.591	-1	1.033	22353235	5280881	13785	34462	383		
375.8178	31.578	31.591	-1	1.033	17676341	4238444	11049	27622	384	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.350	32.363	-1	1.005	17825605	4287267	13400	33500	320		
385.8610	32.350	32.363	-1	1.005	34589165	8262468	25227	63067	328	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.363	32.377	-1	1.058	19322947	4614393	13785	34462	335		
375.8178	32.363	32.377	-1	1.058	14991450	3655244	11049	27622	331	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.267						13785	34462			
375.8178	30.267						11049	27622			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.177	32.177	0		50342172	11825536	12510	31275	945		
403.8529	32.177	32.177	0		40796455	9647796	11239	28097	858	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.751	31.751	0	0.987	20328971	5395698	12510	31275	431		
403.8529	31.751	31.751	0	0.987	16194850	4324046	11239	28097	385	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.764	31.764	0	0.997	13041650	3475131	6619	16547	525		
391.8127	31.764	31.764	0	0.997	10177223	2728104	5051	12627	540	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.844	31.858	-1	0.990	23639998	5598104	12510	31275	447		
403.8529	31.844	31.858	-1	0.990	18924487	4493660	11239	28097	400	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.871	31.871	0	1.001	15442937	3611076	6619	16547	546		
391.8127	31.857	31.871	-1	1.000	11974541	2773809	5051	12627	549	1.29(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.190	32.190	0	1.011	15501817	3657107	6619	16547	553		
391.8127	32.190	32.190	0	1.011	12093725	2834026	5051	12627	561	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.913						6619	16547			
391.8127	30.913						5051	12627			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.770	33.770	0	1.050	10356427	3027403	18412	46030	164		
419.8220	33.770	33.770	0	1.050	23649678	6981825	40226	100565	174	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.782	33.782	0	1.000	15431851	4408656	25577	63942	172		
409.7789	33.782	33.782	0	1.000	14602274	4138350	23632	59080	175	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.839	34.851	-1	1.083	9817374	2601222	18412	46030	141		
419.8220	34.839	34.851	-1	1.083	22702788	5891845	40226	100565	146	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.851	34.863	-1	1.032	13076583	3478060	25577	63942	136		
409.7789	34.851	34.863	-1	1.032	12154682	3179215	23632	59080	135	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.311						25577	63942			
409.7789	34.311						23632	59080			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.548	34.560	-1	1.074	20389858	5603197	27699	69247	202		
437.8140	34.548	34.560	-1	1.074	19252643	5360667	17902	44755	299	1.06(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.560	34.572	-1	1.000	10249030	2839811	7591	18977	374		
425.7737	34.560	34.572	-1	1.000	9934751	2784618	6575	16437	424	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.287						7591	18977			
425.7737	34.287						6575	16437			
13C-OCDD											
469.7779	36.882	36.894	-1	1.146	25099439	5651388	8314	20785	680		
471.7750	36.882	36.894	-1	1.146	28886577	6454368	8942	22355	722	0.87(0.76-1.02)	
OCDF											
441.7428	36.978	36.990	-1	1.003	18661037	4310580	3003	7507	1435		
443.7399	36.978	36.990	-1	1.003	20735511	4843578	2849	7122	1700	0.90(0.76-1.02)	
OCDD											
457.7377	36.894	36.906	-1	1.000	13825459	3102816	1975	4937	1571		
459.7348	36.882	36.906	-1	1.000	15382109	3530634	2080	5200	1697	0.90(0.76-1.02)	

Report Date: 13-Nov-2017 10:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d

Injection Date: 11-Nov-2017 05:20:04

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

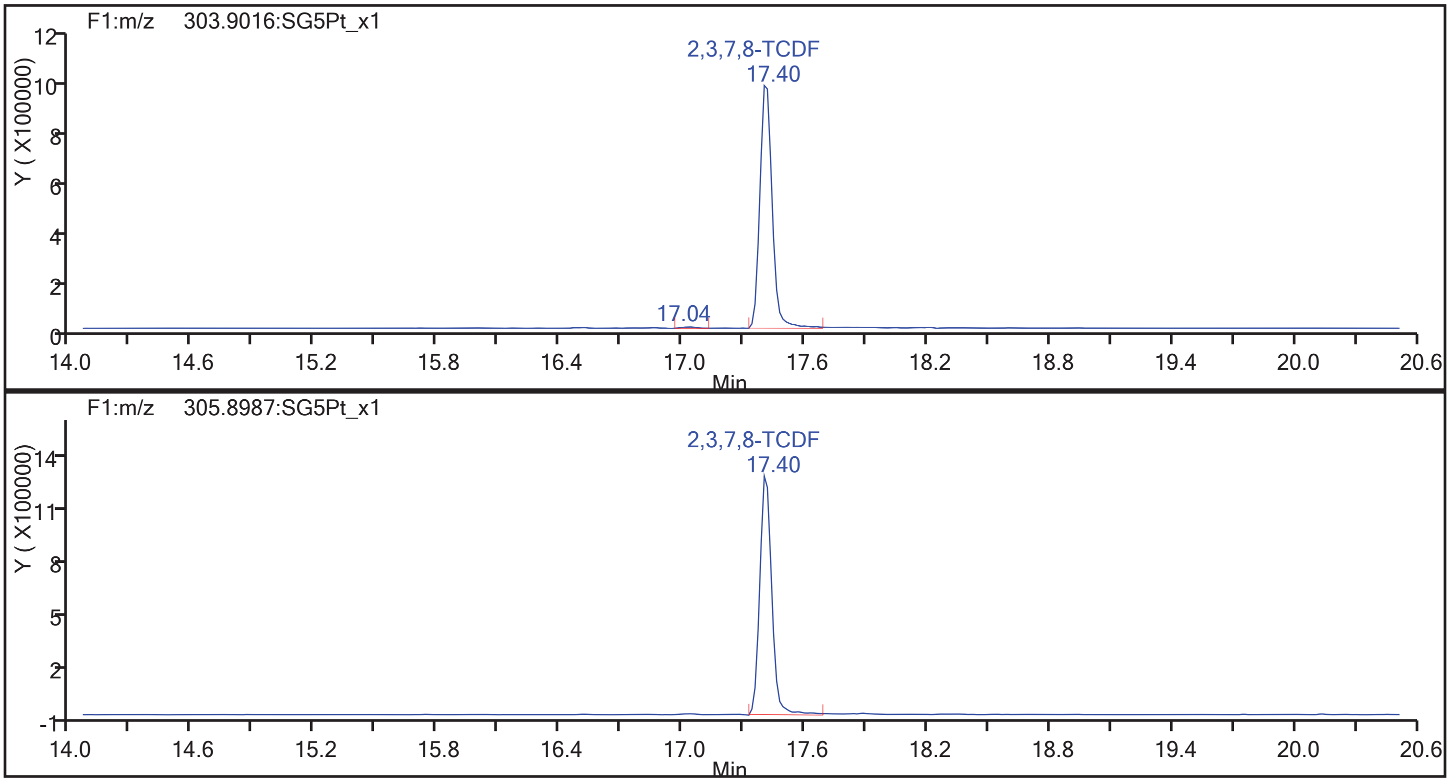
Worklist#: 194084

Sample Line#: 57

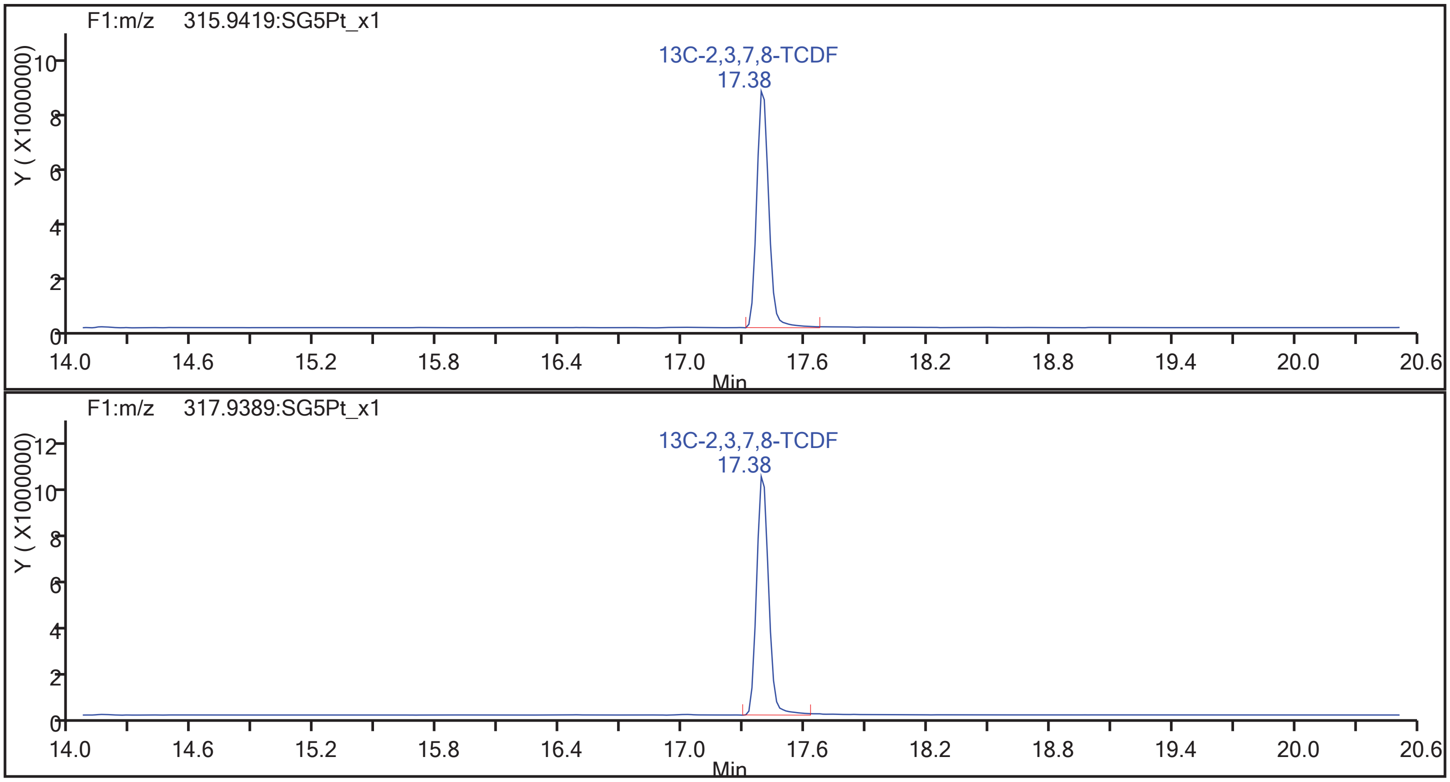
Column Type: DB-5

Column Dia: 0.32 mm

TCDF



TCDF Standards



TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d		
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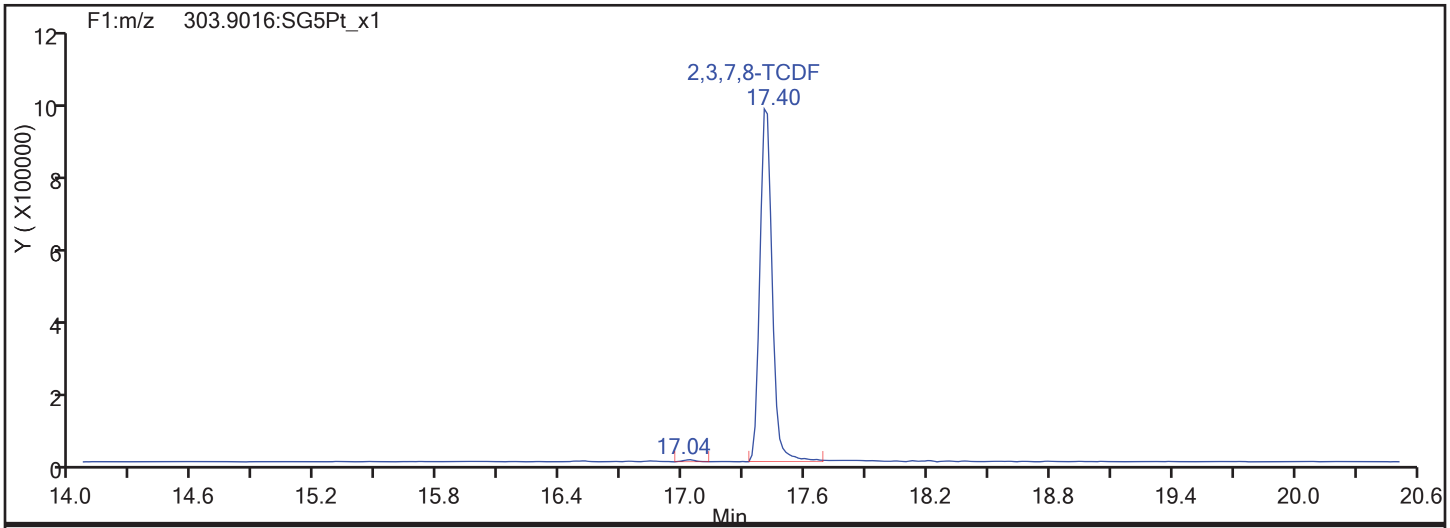
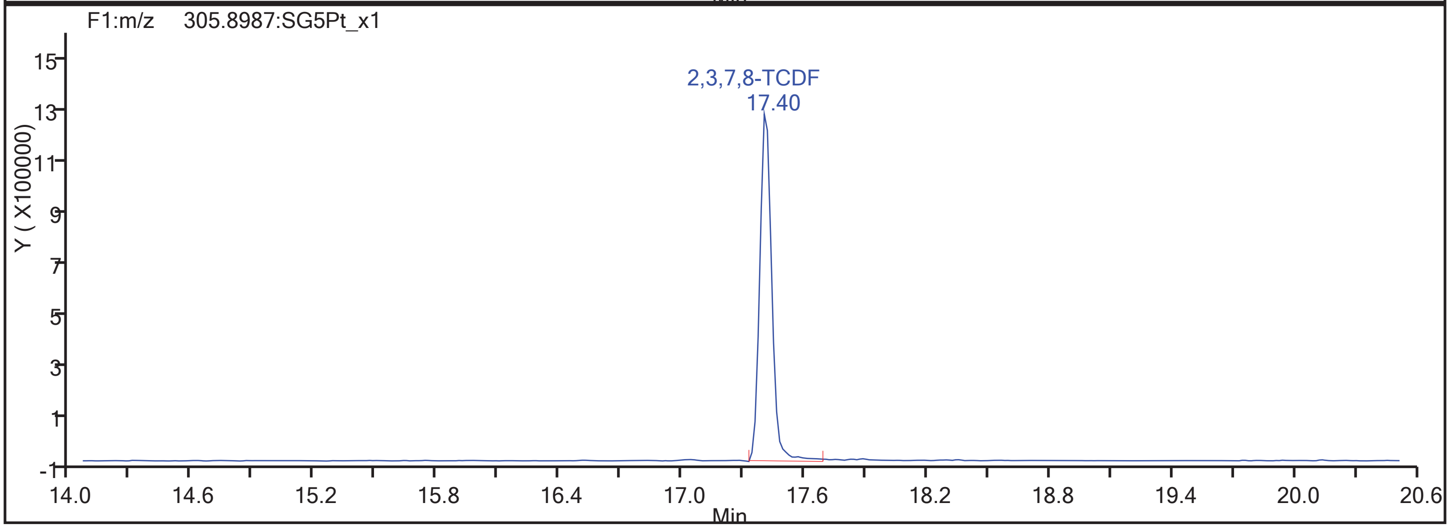
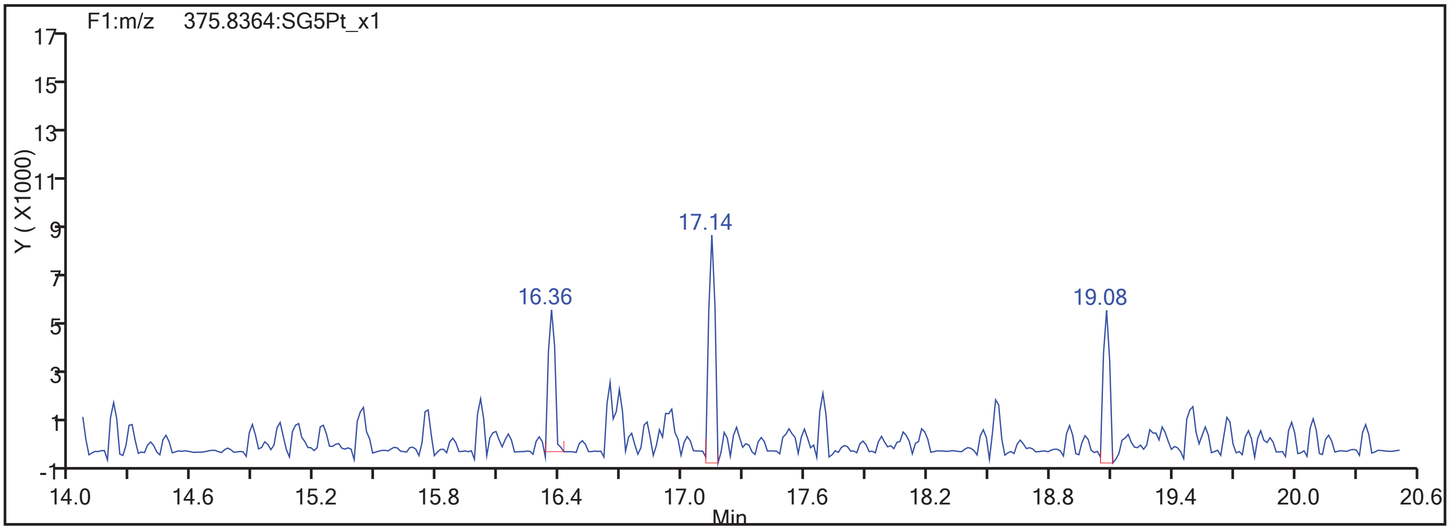
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	57
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



Report Date: 13-Nov-2017 10:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d
Injection Date: 11-Nov-2017 05:20:04 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
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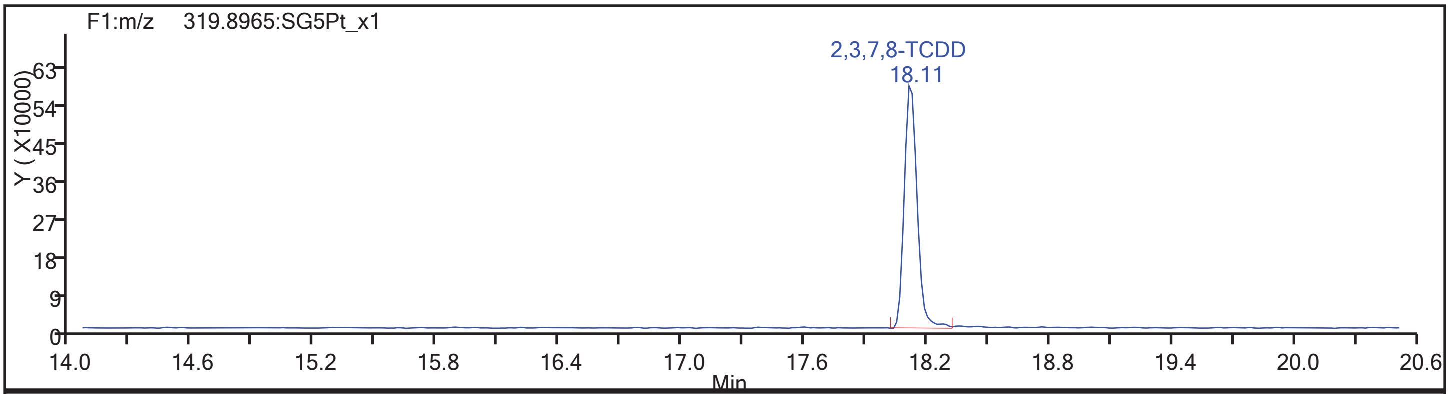
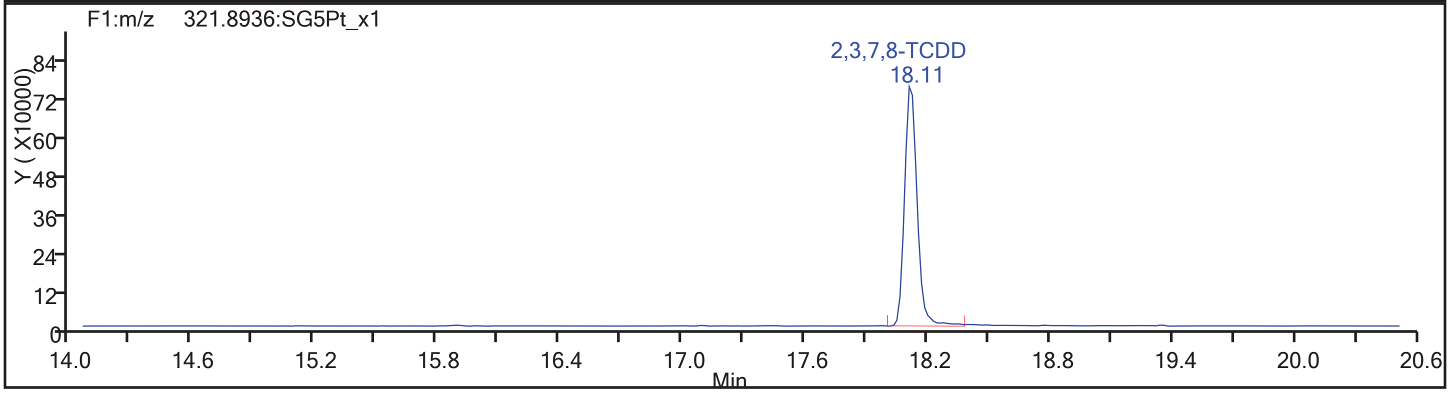
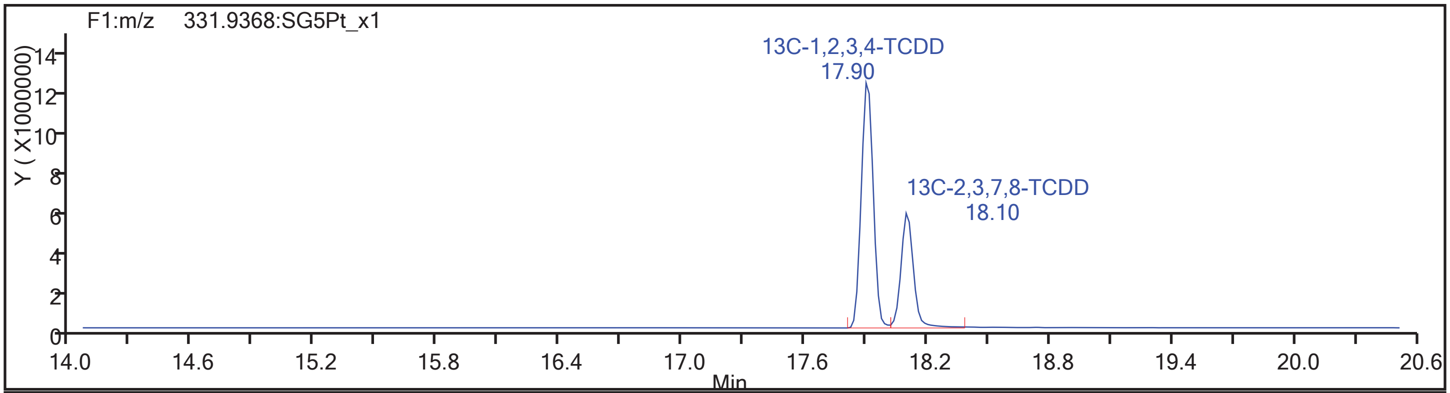
Client ID:
Worklist#: 194084 Sample Line#: 57
Column Type: DB-5 Column Dia: 0.32 mm

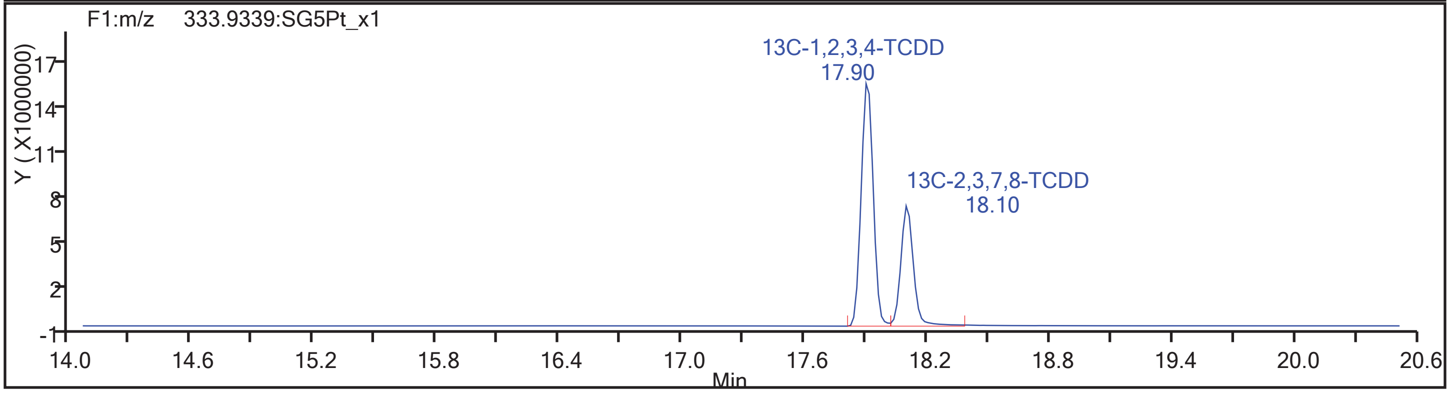
TCDD





TCDD Standards





TestAmerica Sacramento

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Injection Date: 11-Nov-2017 05:20:04
Injection Vol: 2.0 ul
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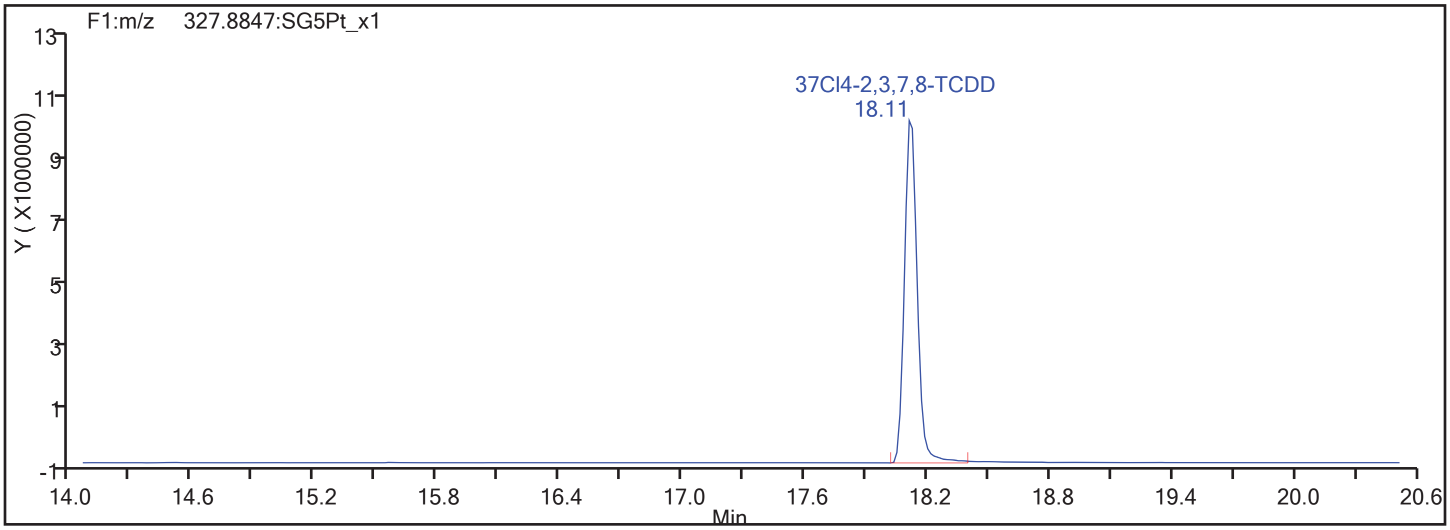
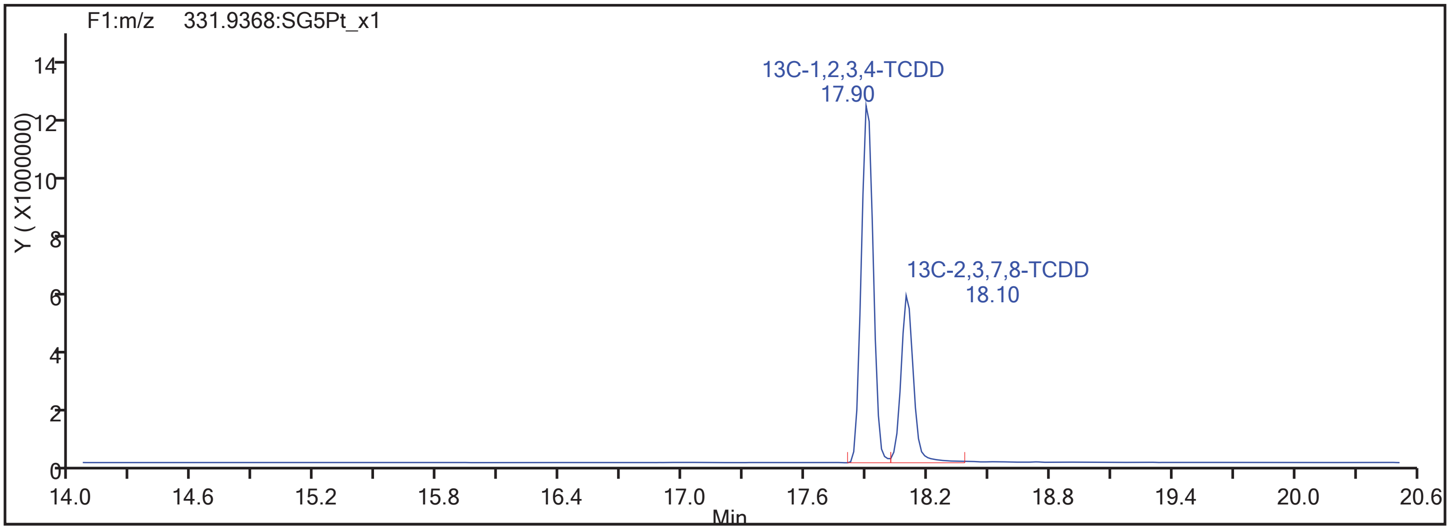
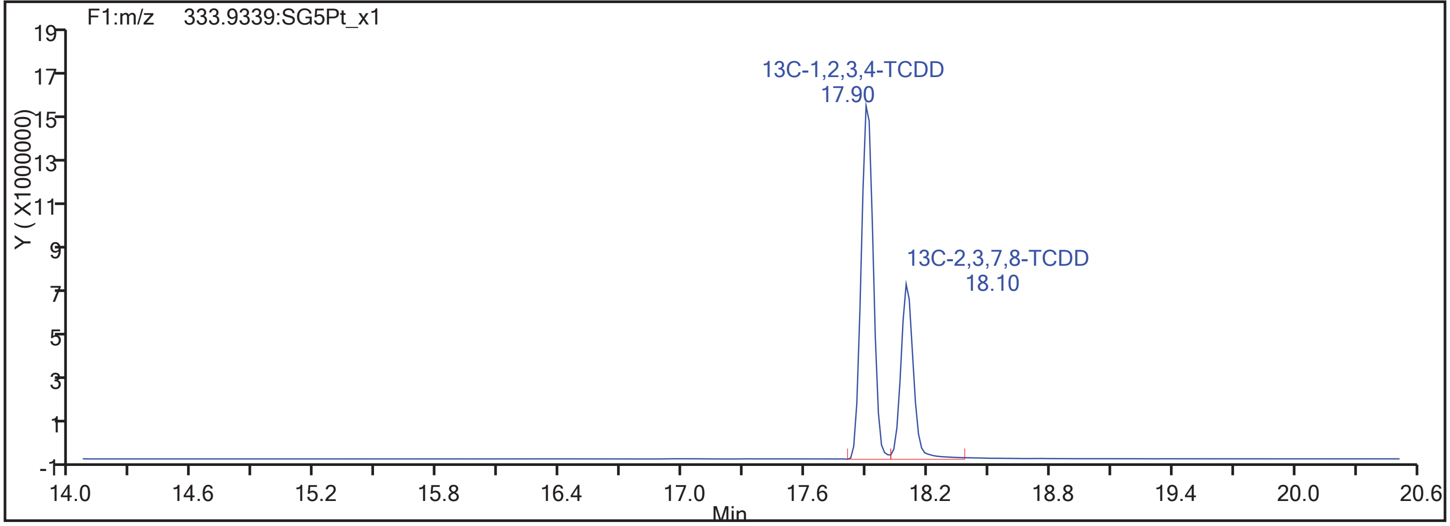
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 57
Column Type: DB-5
Column Dia: 0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



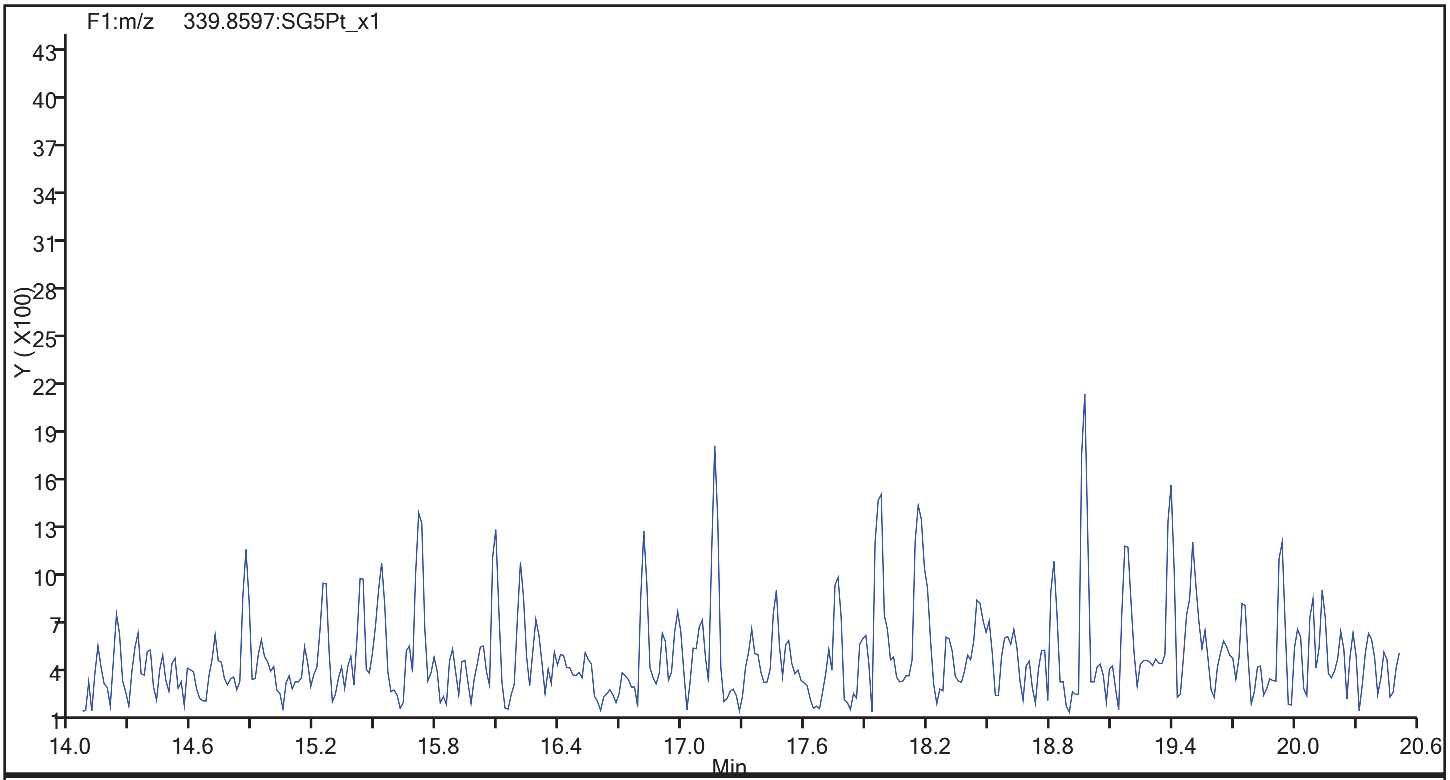


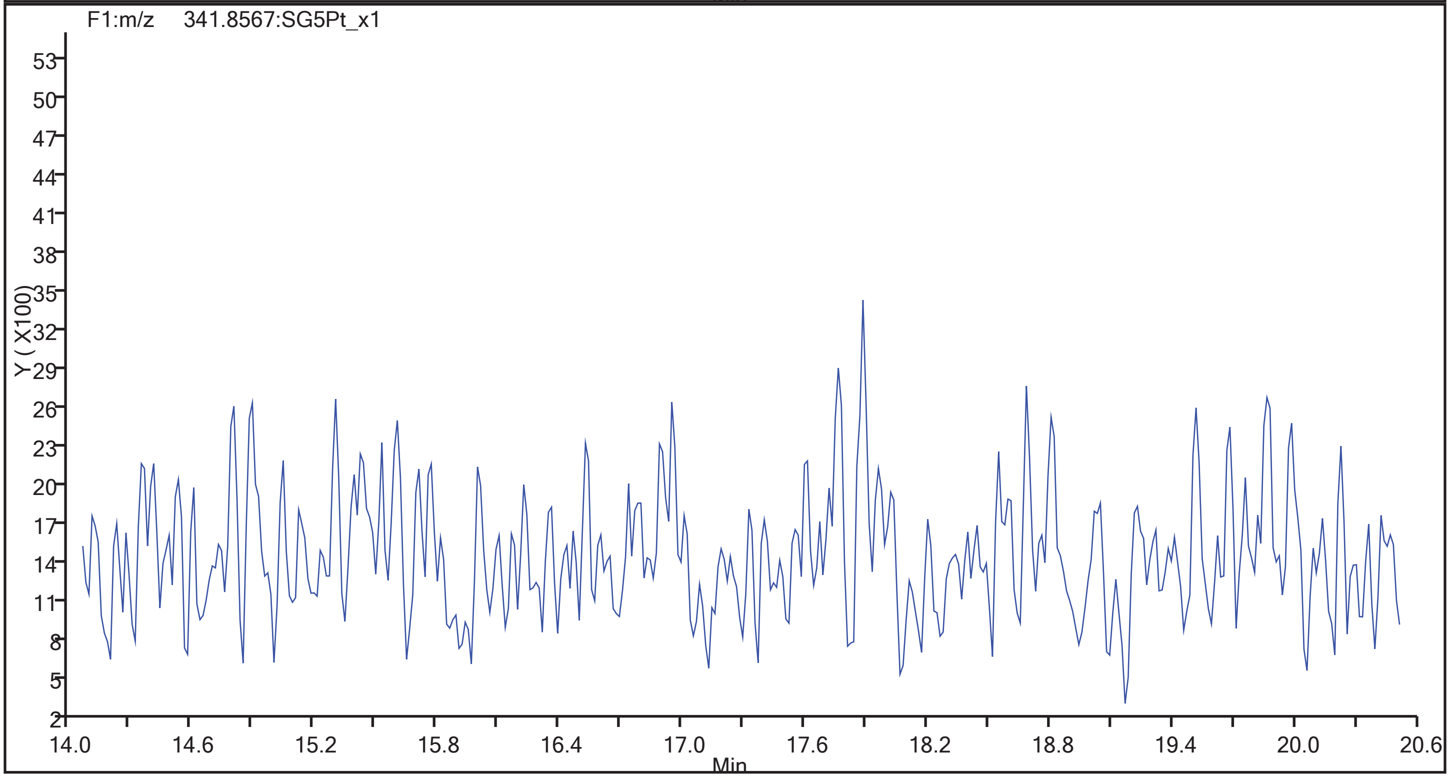
Report Date: 13-Nov-2017 10:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d		
Injection Date:	11-Nov-2017 05:20:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	57
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



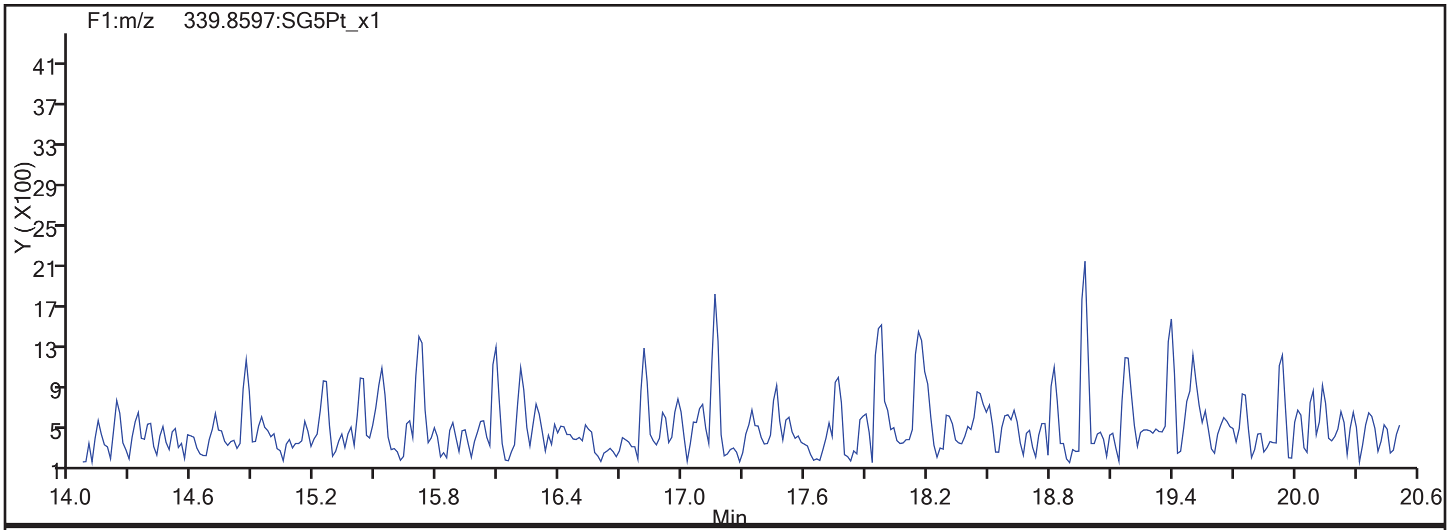


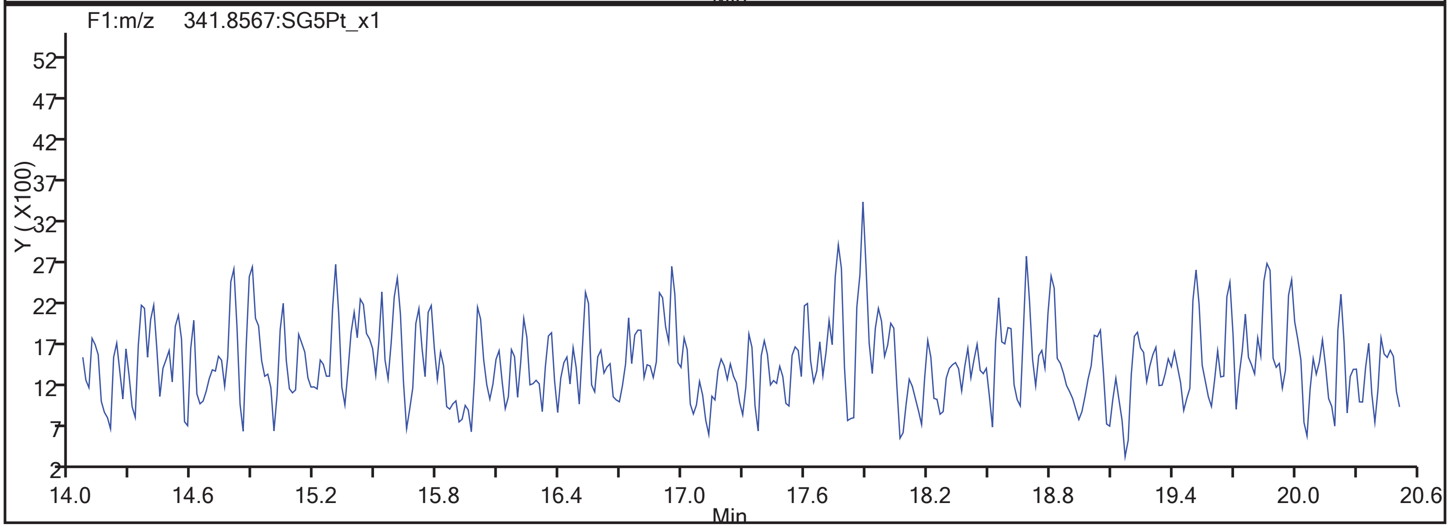
Report Date: 13-Nov-2017 10:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

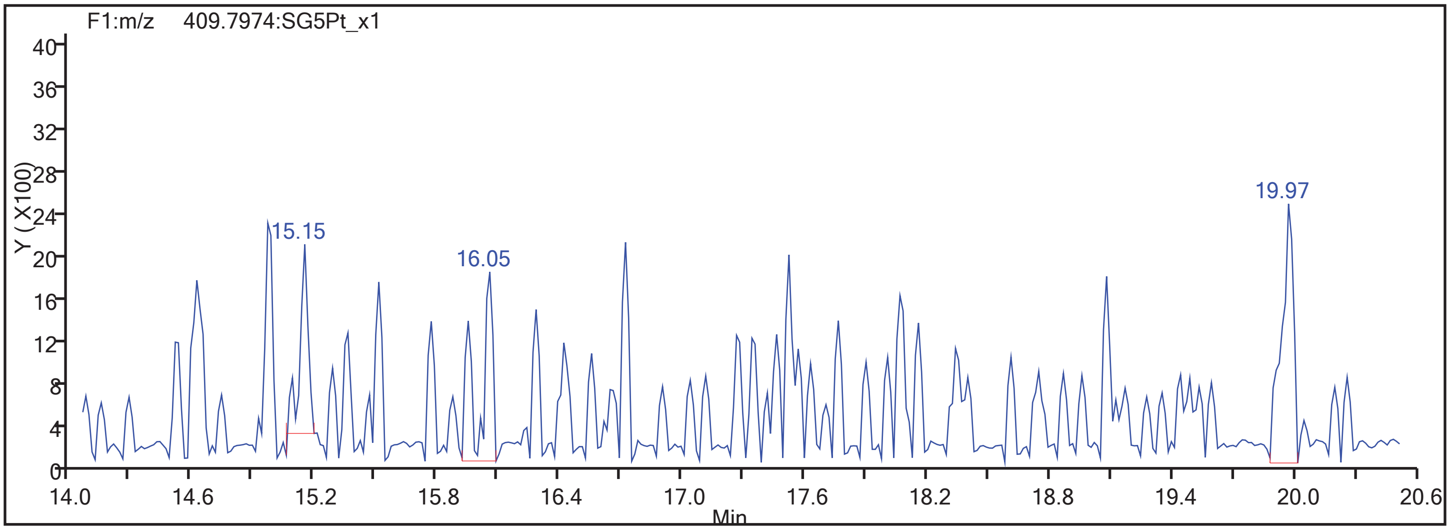
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d
Injection Date: 11-Nov-2017 05:20:04
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 57
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass

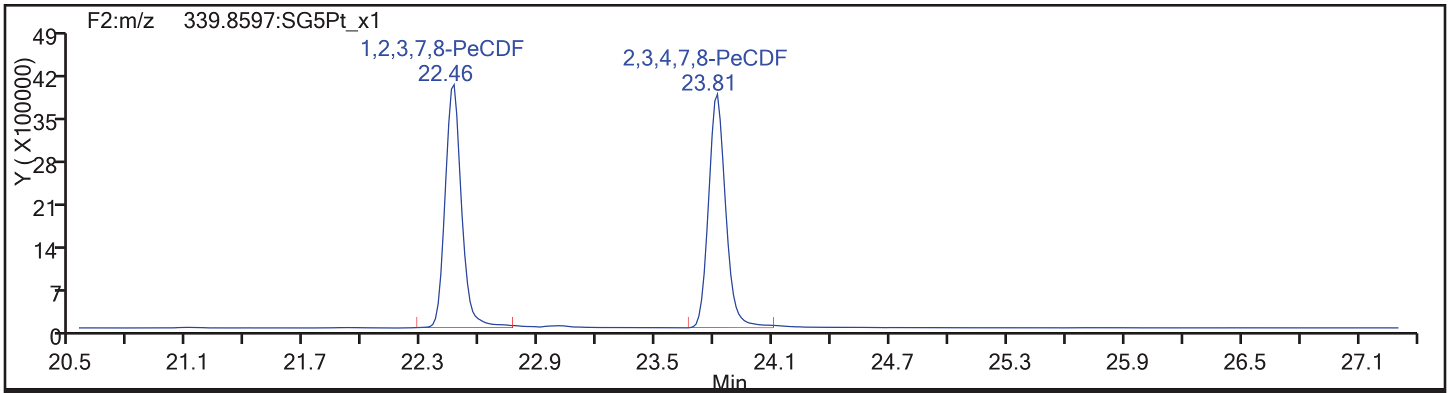


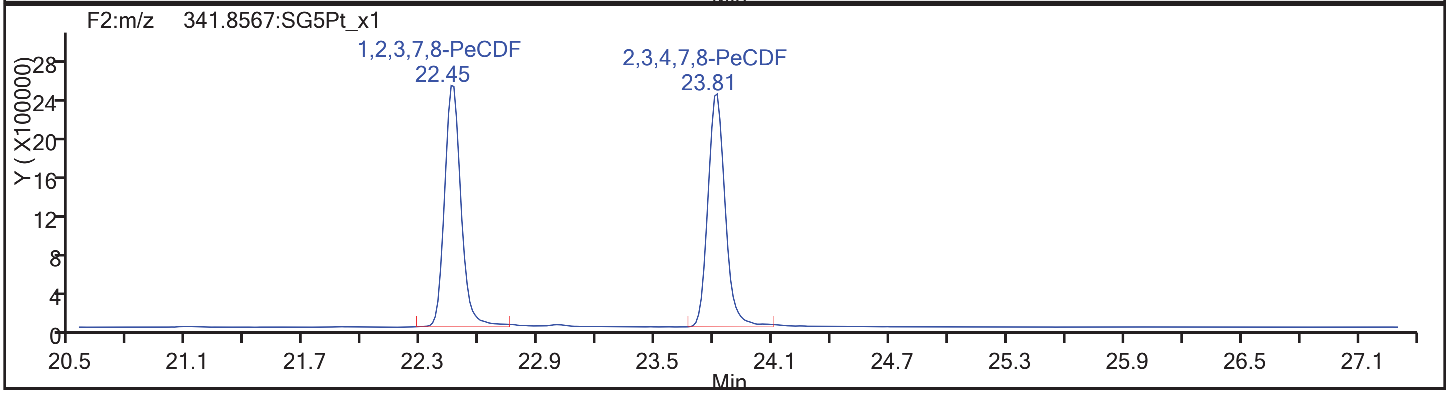
Report Date: 13-Nov-2017 10:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

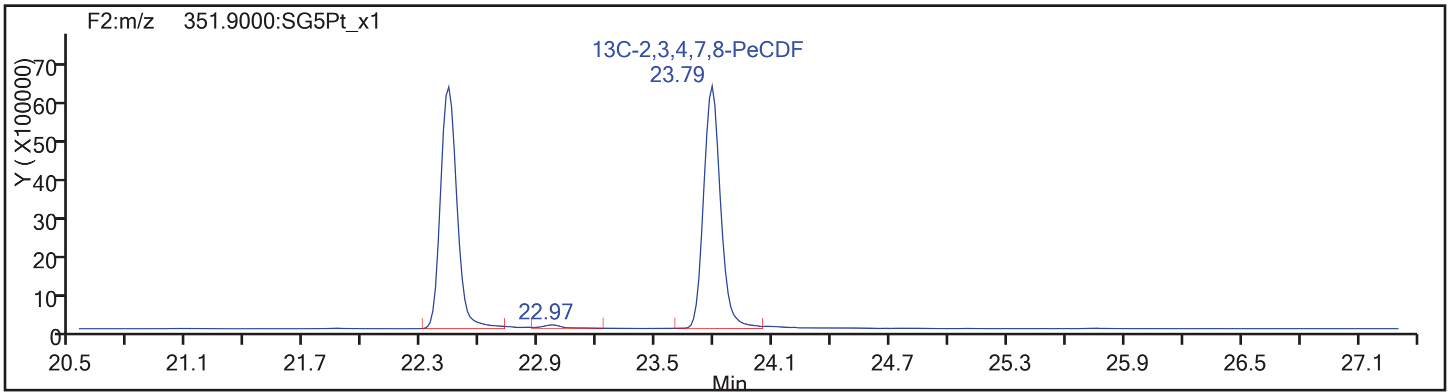
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d		
Injection Date:	11-Nov-2017 05:20:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	57
Column Type:	DB-5	Column Dia:	0.32 mm

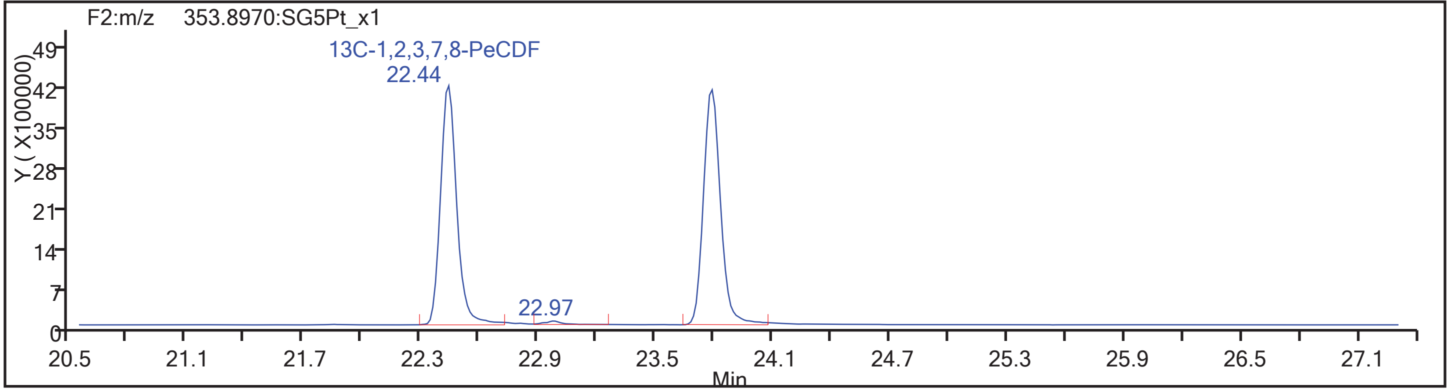
PeCDF





PeCDF Standards





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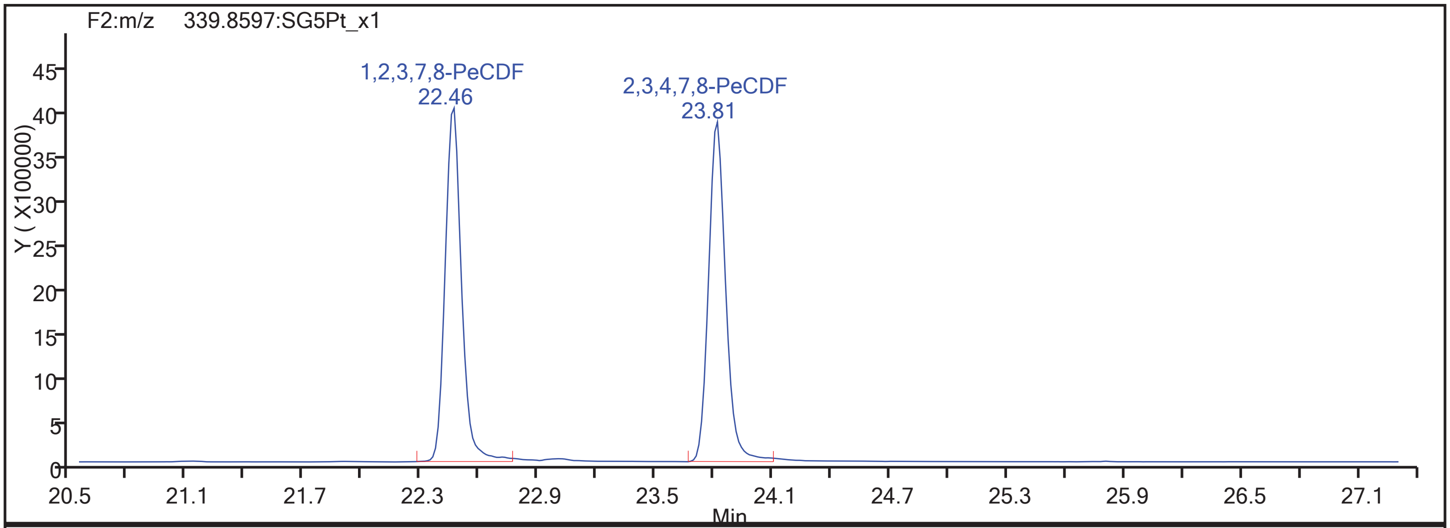
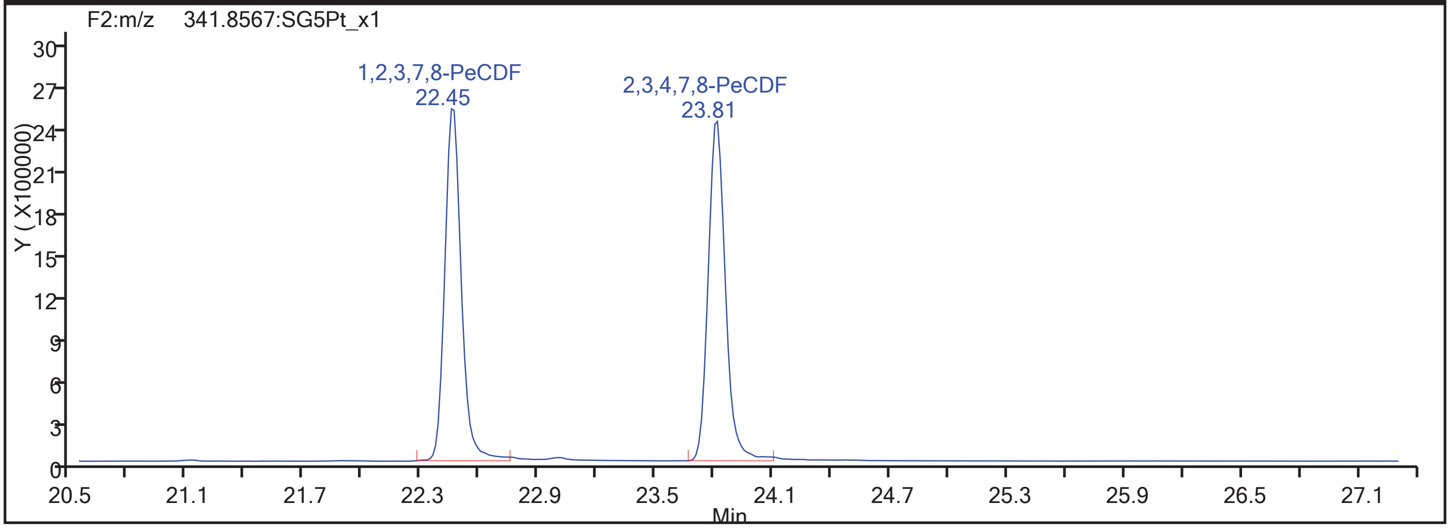
TestAmerica Sacramento

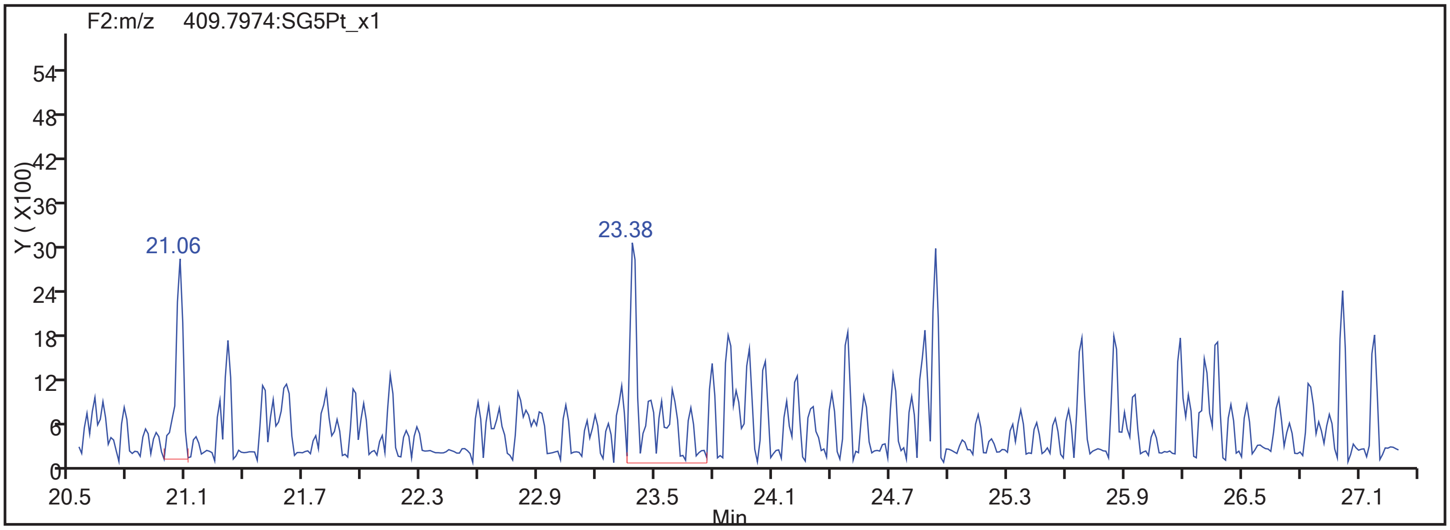
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d		
Injection Date:	11-Nov-2017 05:20:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	57
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF





PeCDF Interference Mass



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TestAmerica Sacramento

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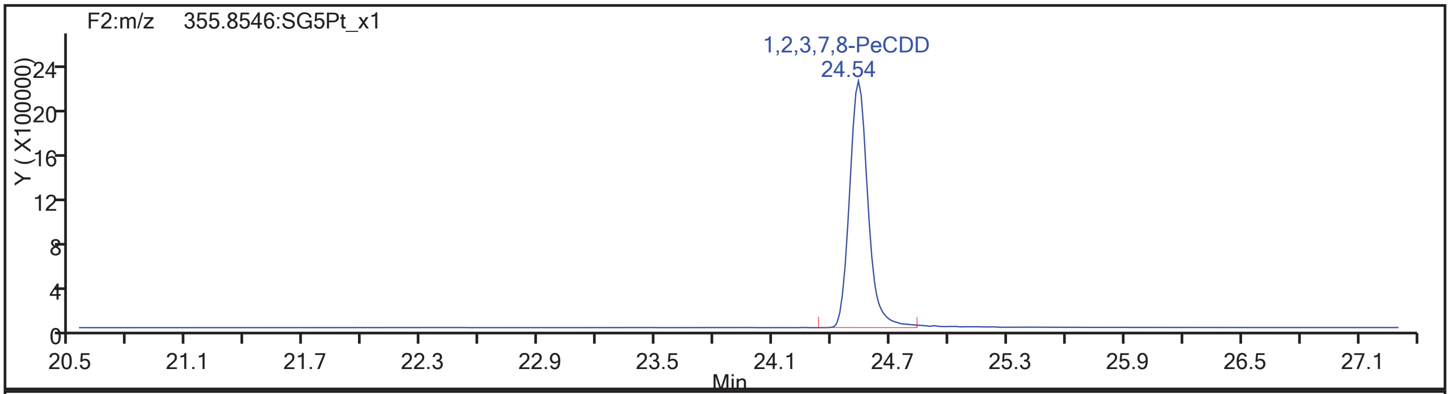
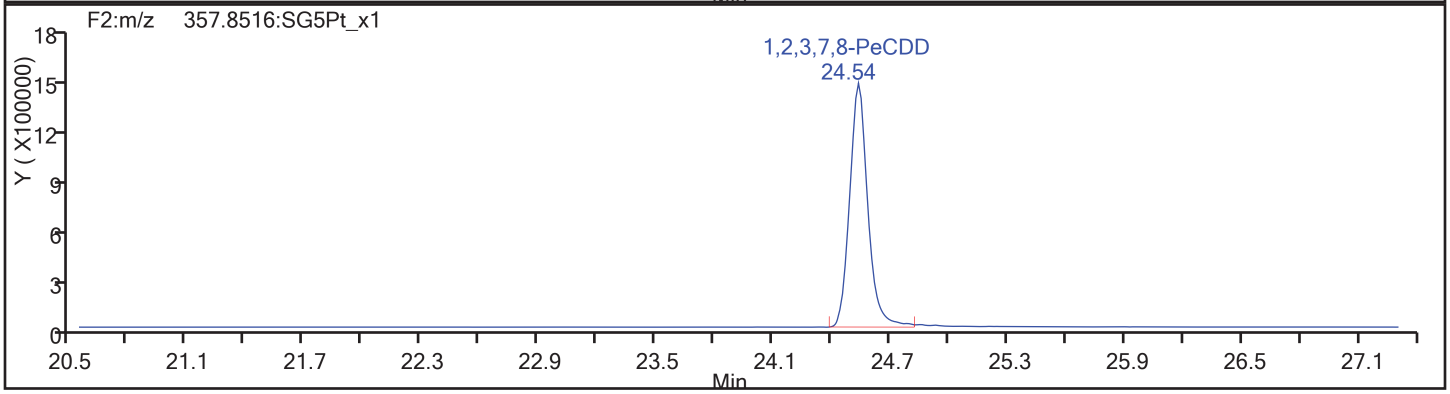
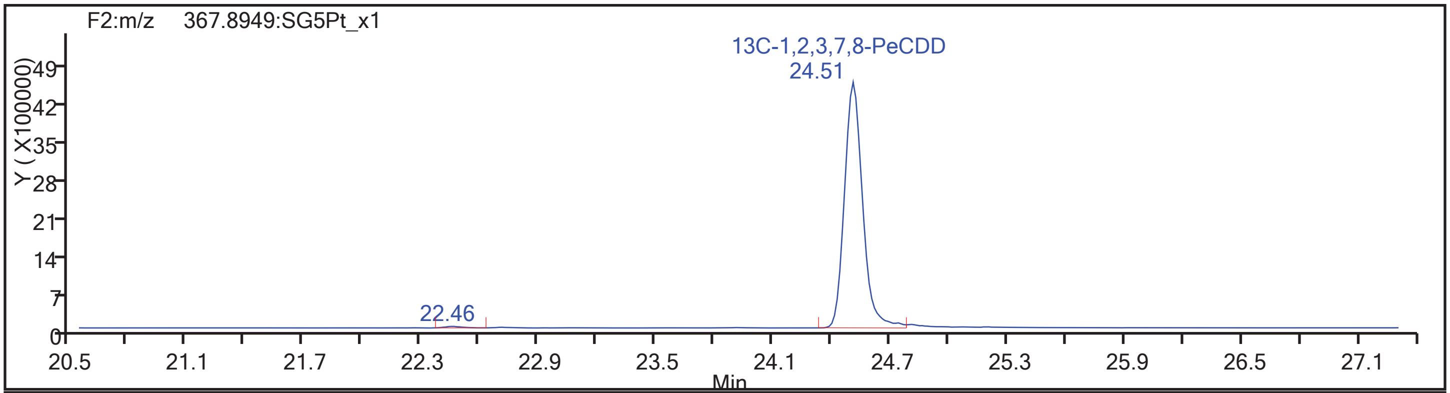
Injection Date: 11-Nov-2017 05:20:04
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 57
Column Type: DB-5
Column Dia: 0.32 mm

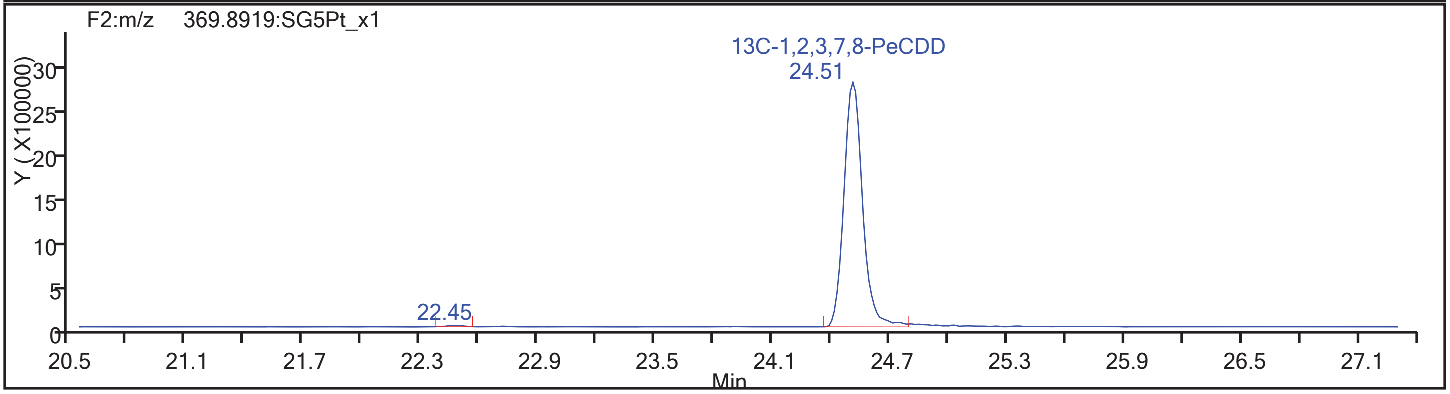
PeCDD





PeCDD Standards



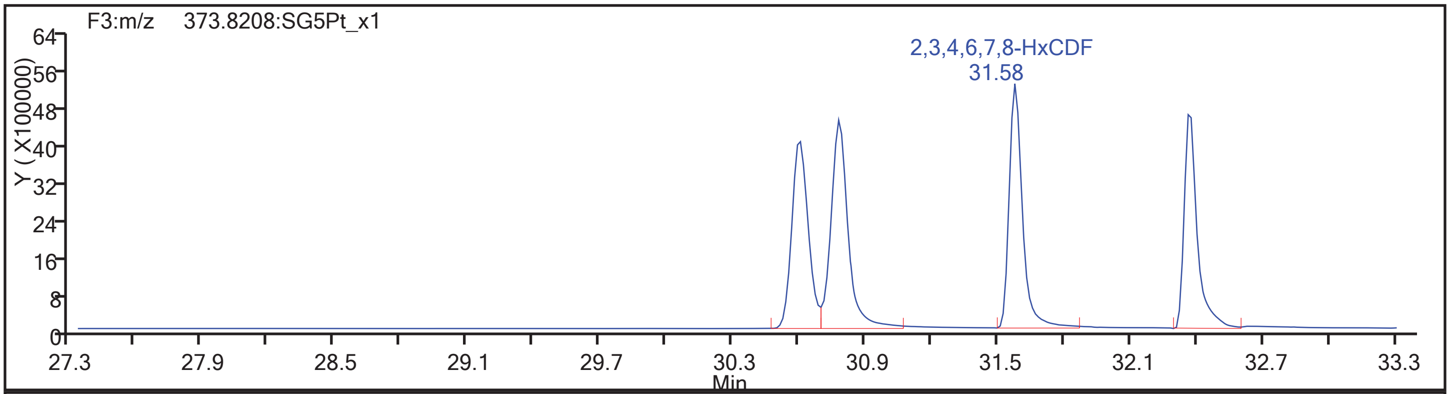


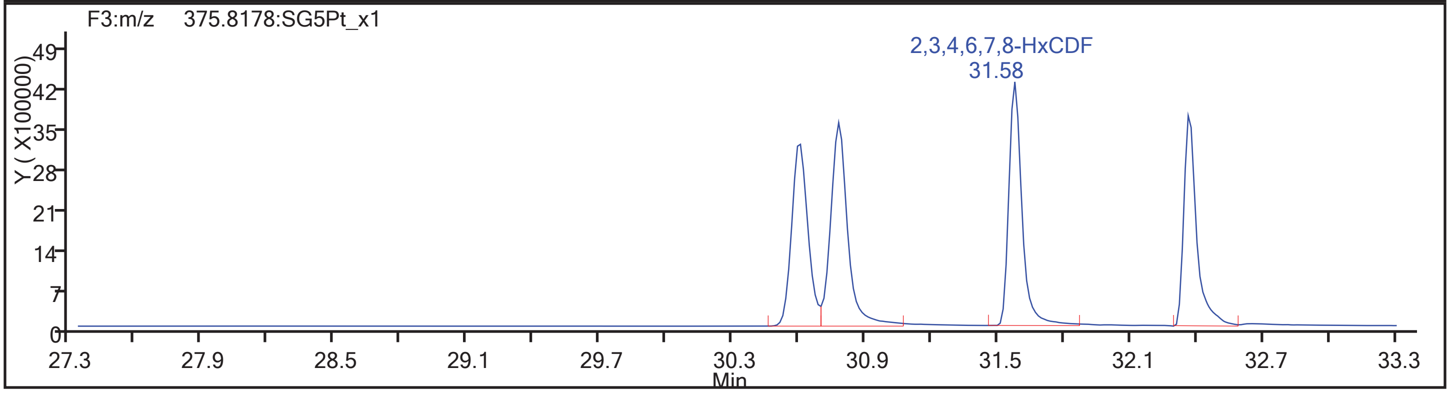
Report Date: 13-Nov-2017 10:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

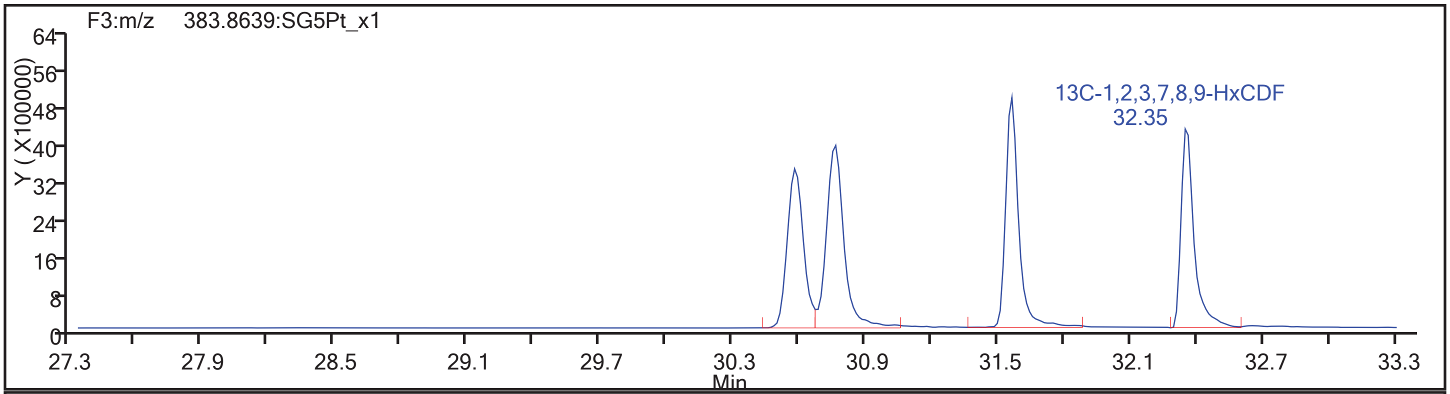
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d
Injection Date: 11-Nov-2017 05:20:04
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 57
Column Type: DB-5
Column Dia: 0.32 mm

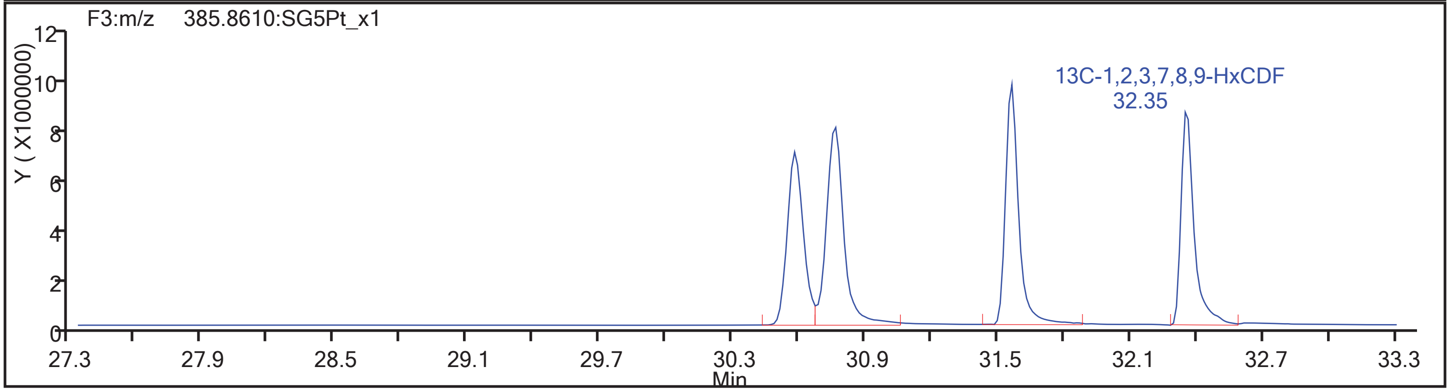
HxCDF





HxCDF Standards





Report Date: 13-Nov-2017 10:47:44 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d

Injection Date: 11-Nov-2017 05:20:04 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

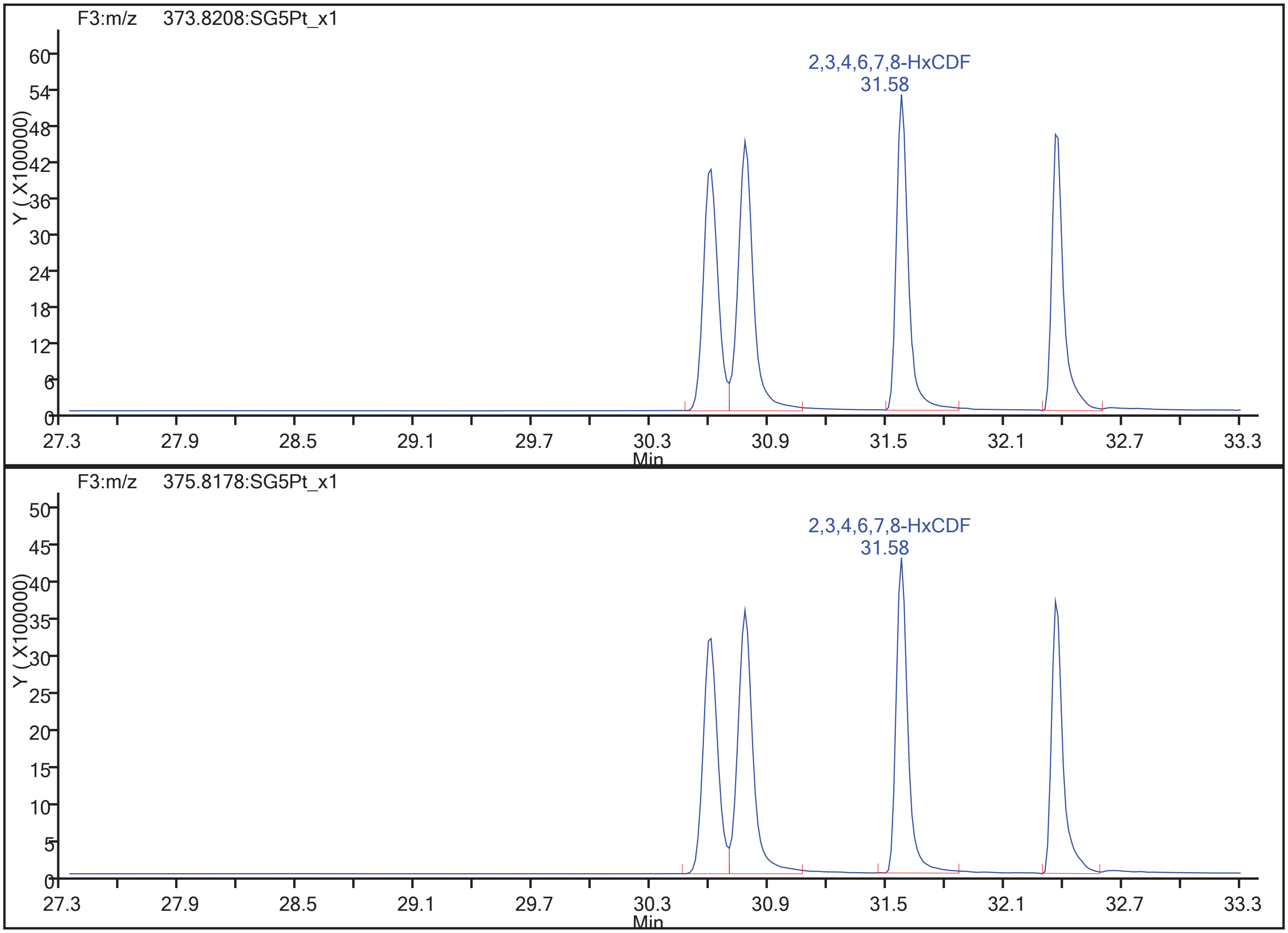
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

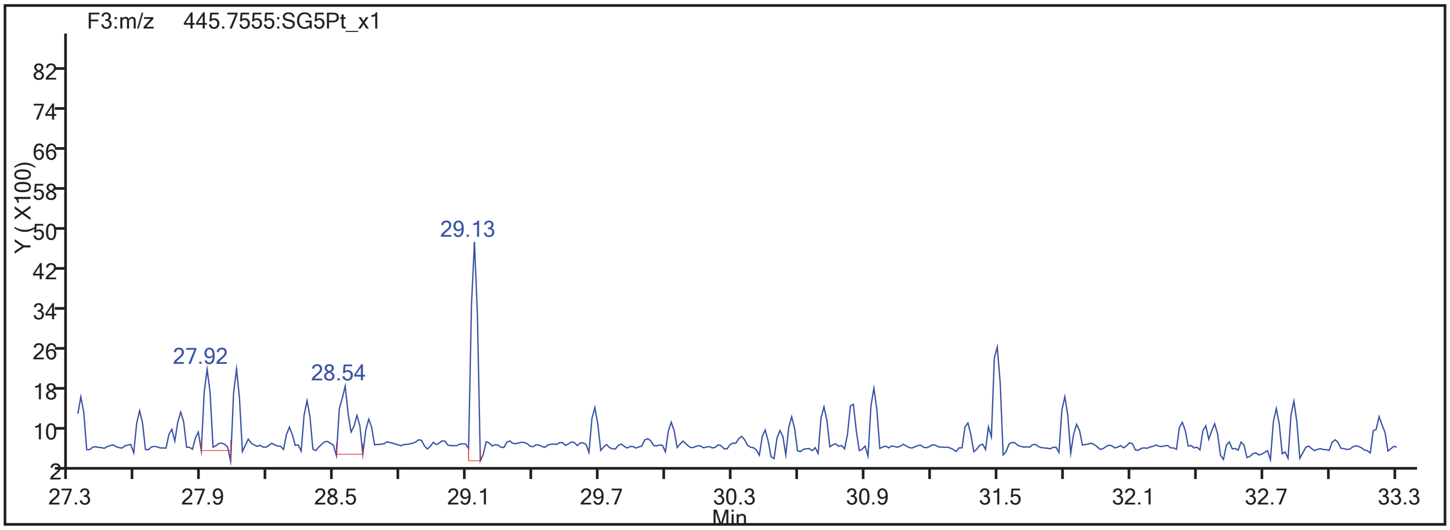
Worklist#: 194084 Sample Line#: 57

Column Type: DB-5 Column Dia: 0.32 mm

HxCDF



HxCDF Interference Mass

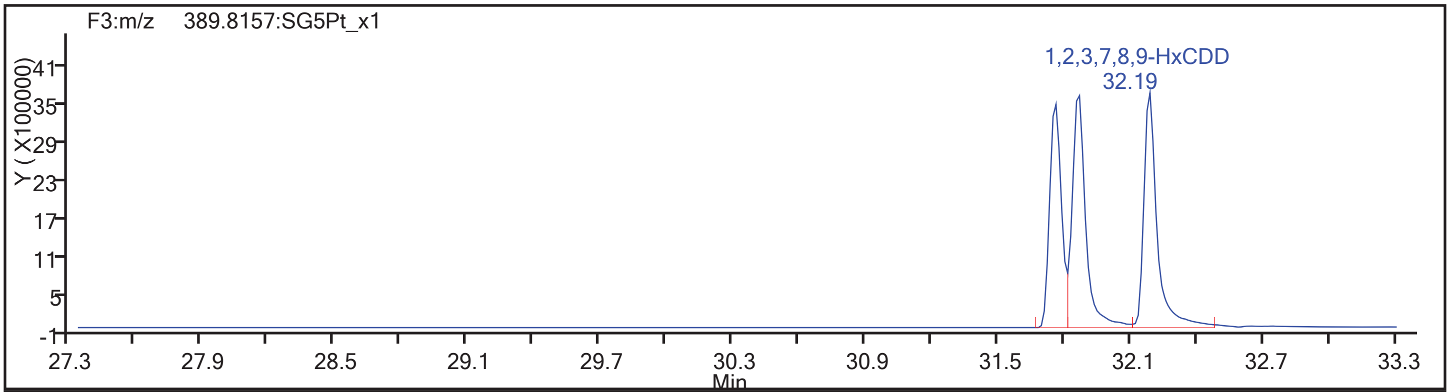


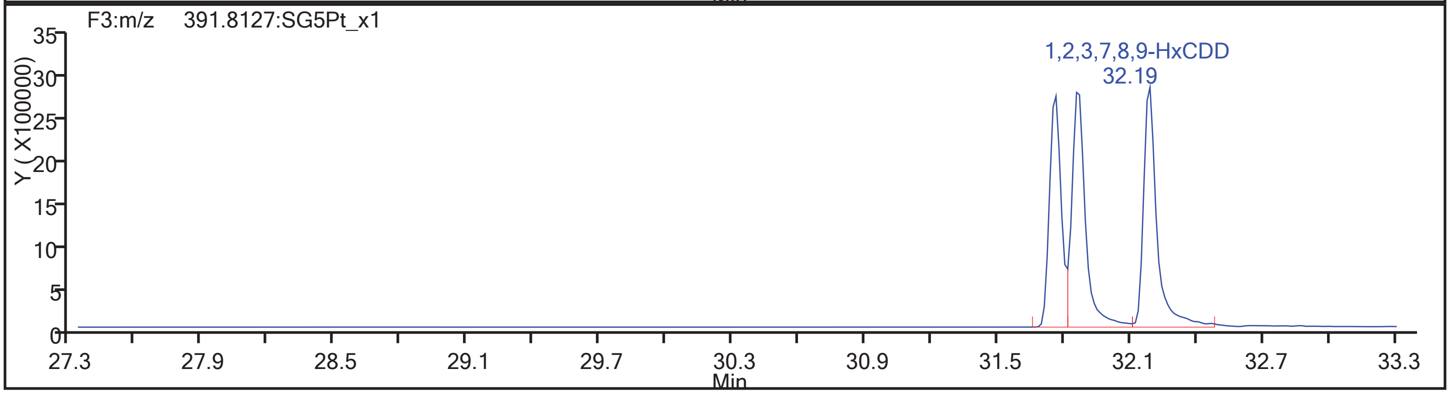
Report Date: 13-Nov-2017 10:47:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

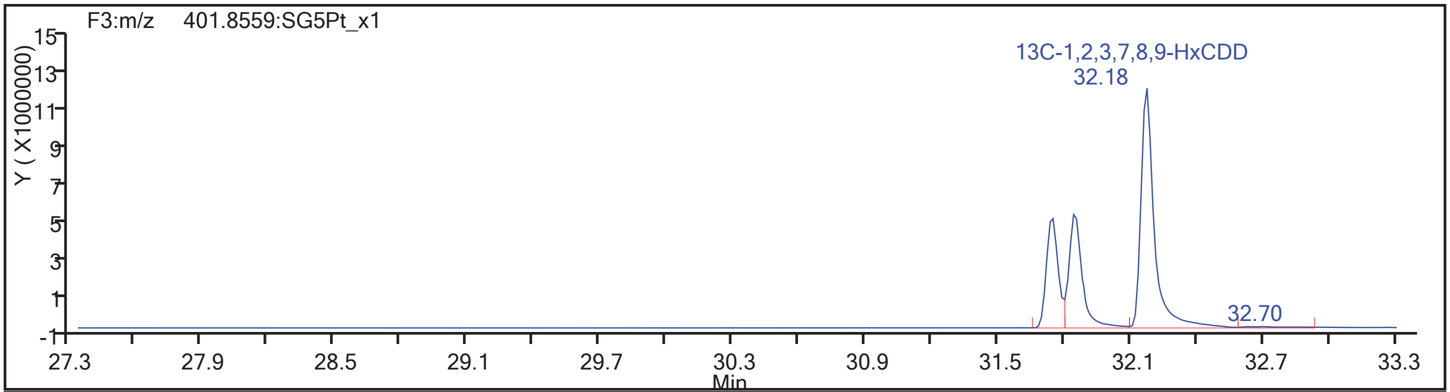
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d
Injection Date: 11-Nov-2017 05:20:04 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084 Sample Line#: 57
Column Type: DB-5 Column Dia: 0.32 mm

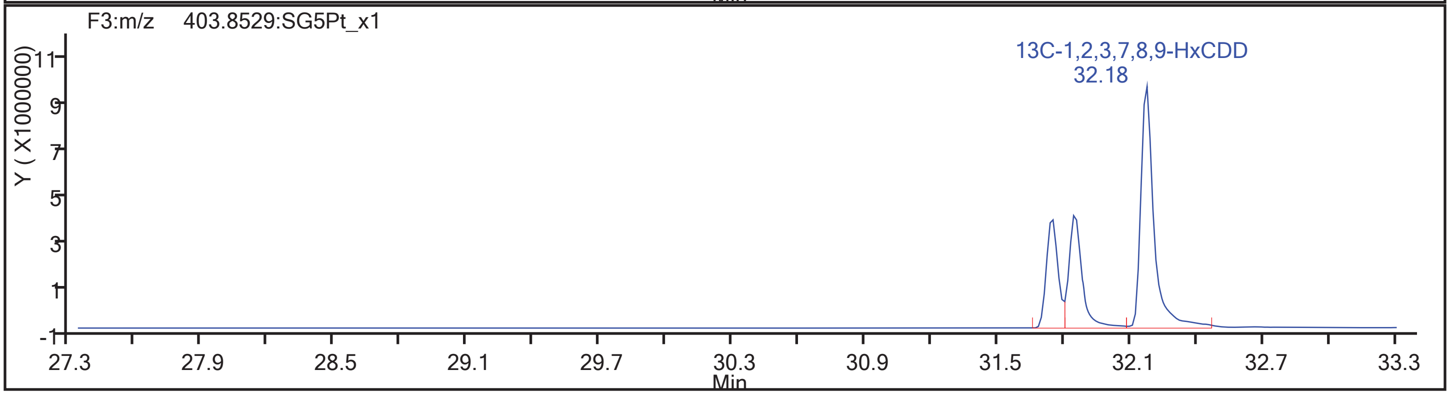
HxCDD





HxCDD Standards



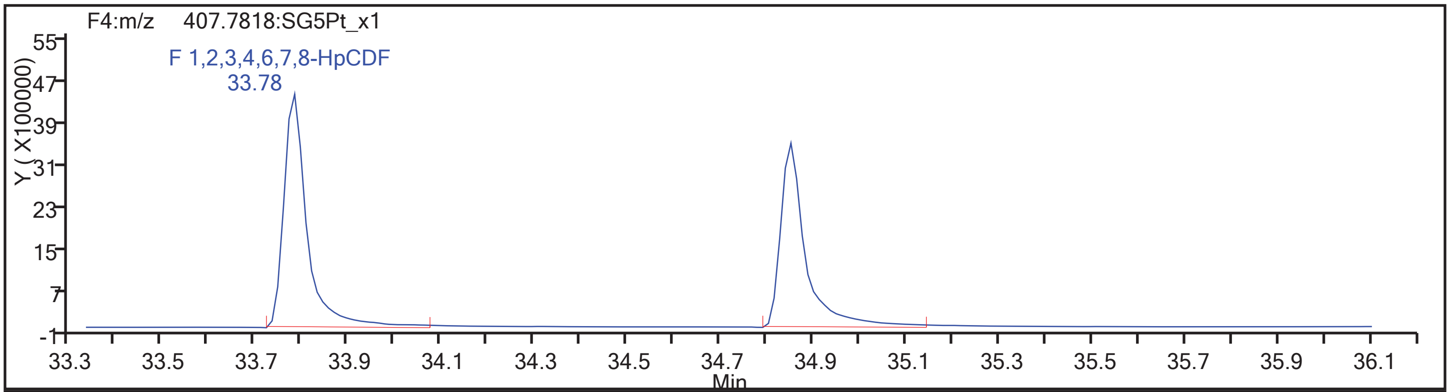


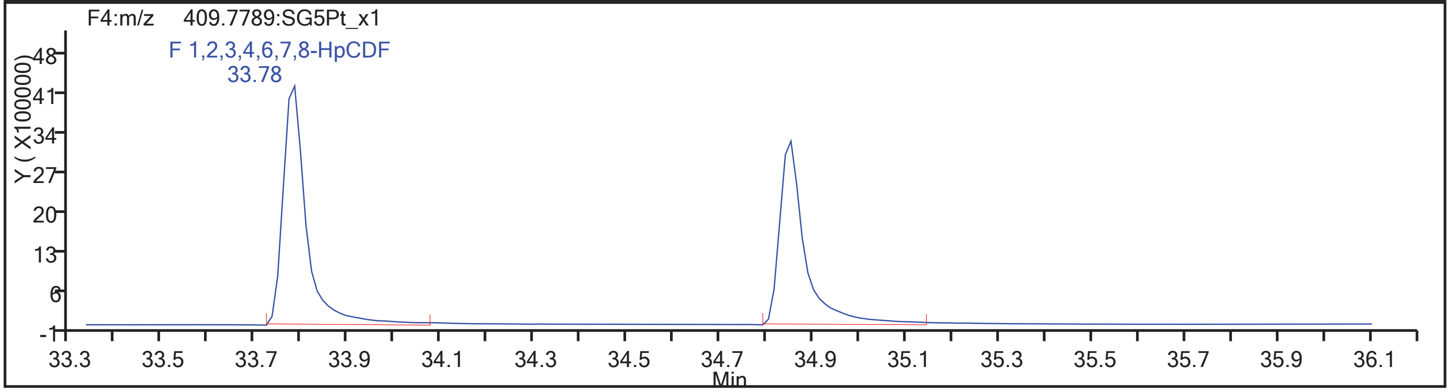
Report Date: 13-Nov-2017 10:47:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

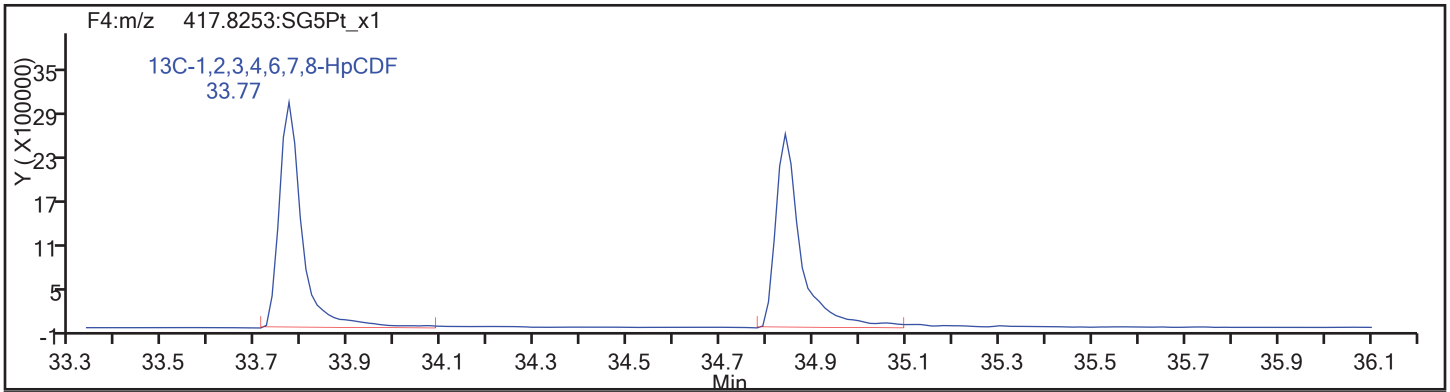
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d
Injection Date: 11-Nov-2017 05:20:04
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 57
Column Type: DB-5
Column Dia: 0.32 mm

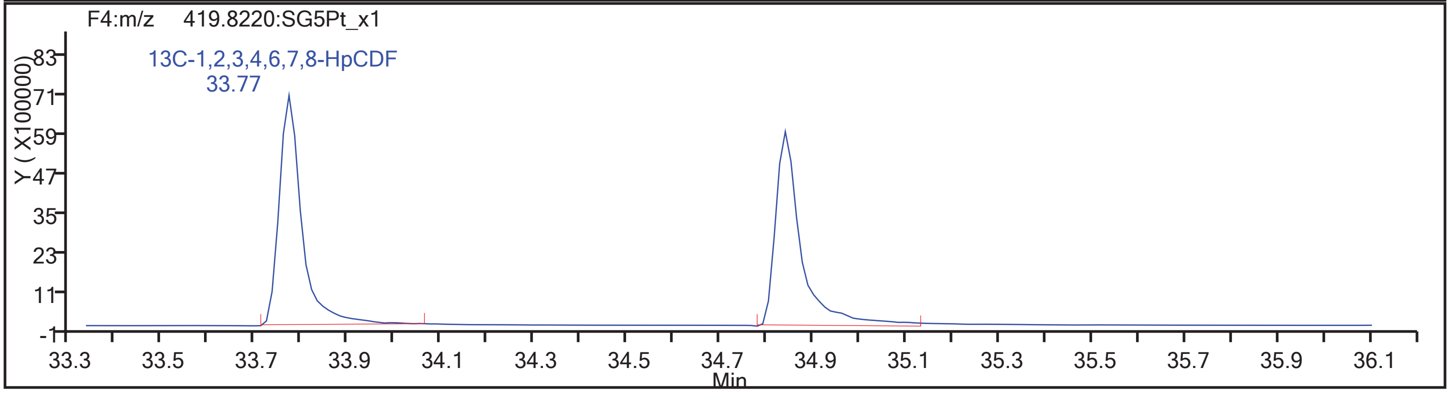
HpCDF





HpCDF Standards

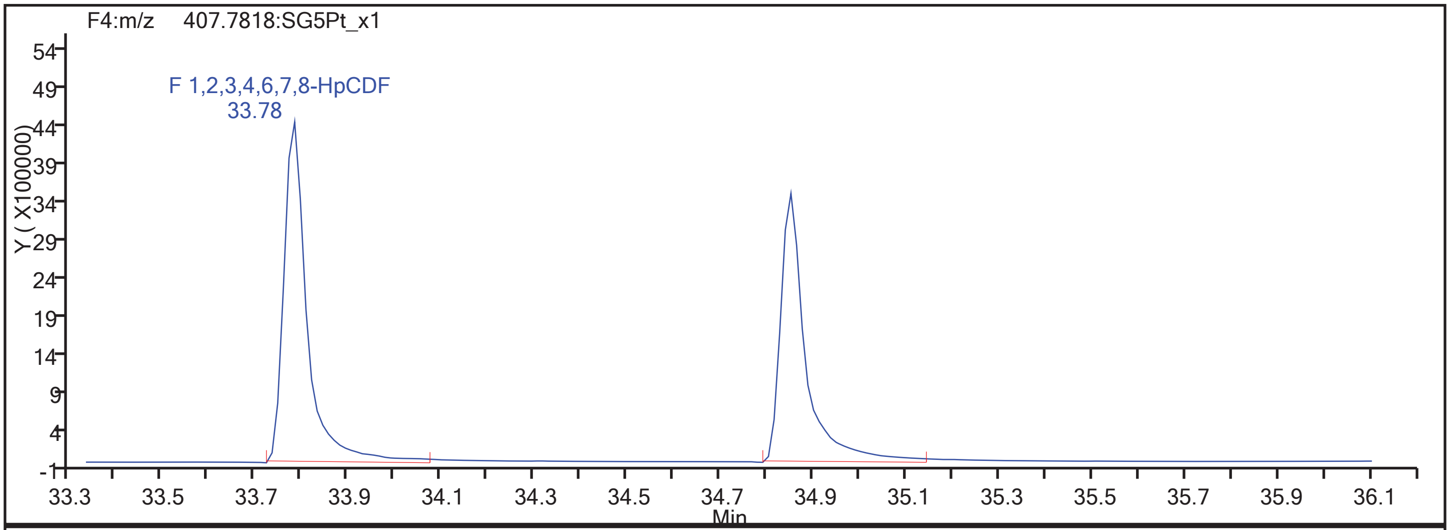


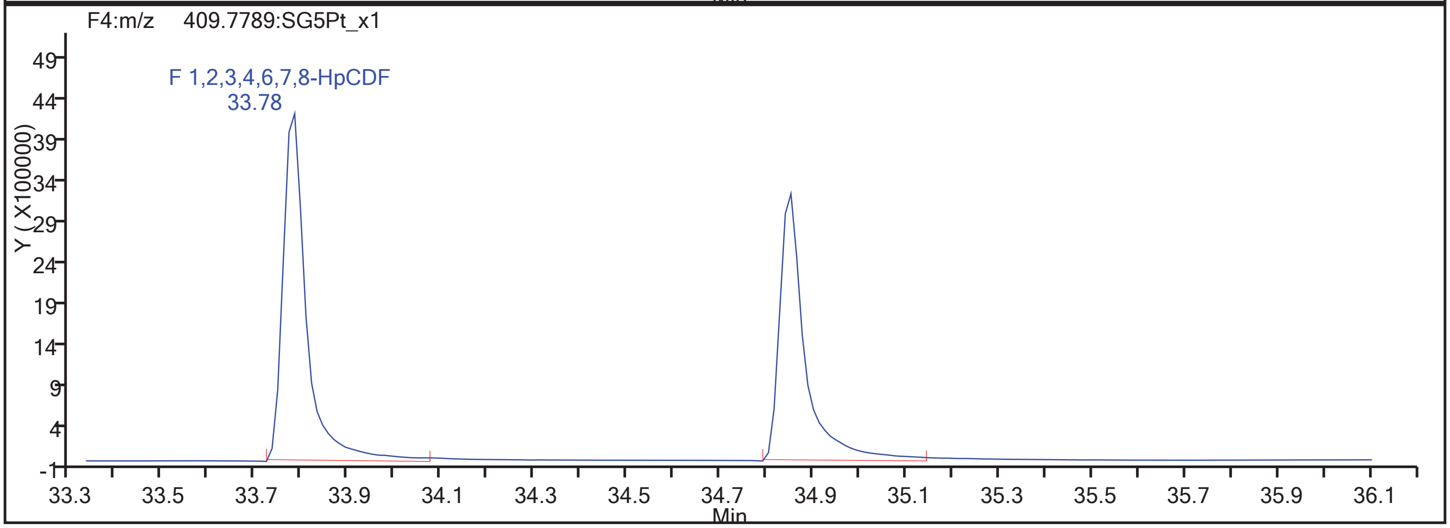


TestAmerica Sacramento

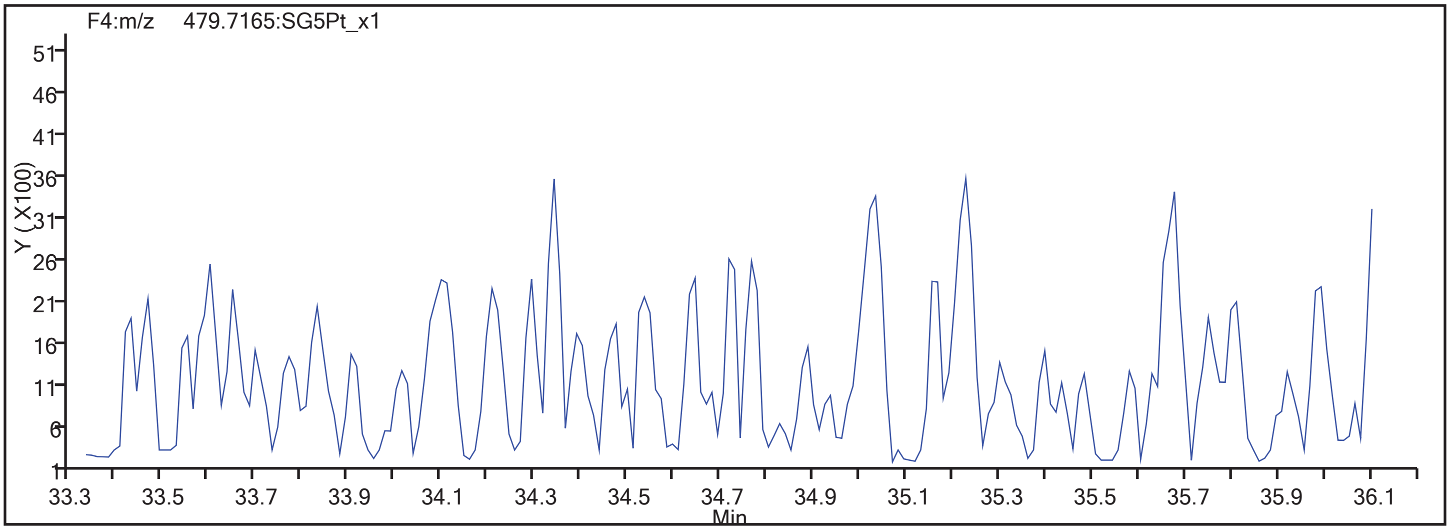
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d		
Injection Date:	11-Nov-2017 05:20:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	57
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF





HpCDF Interference Mass

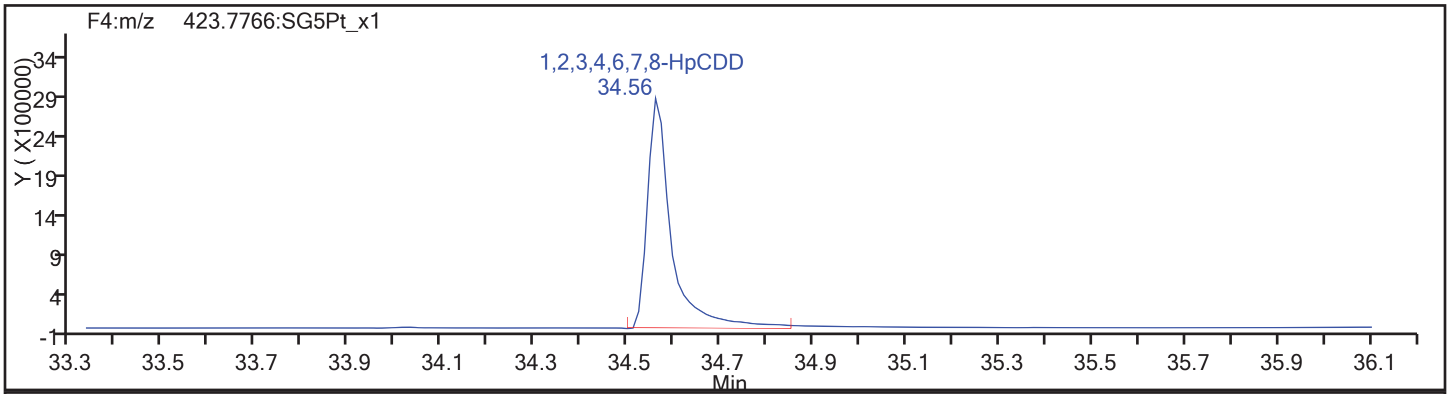


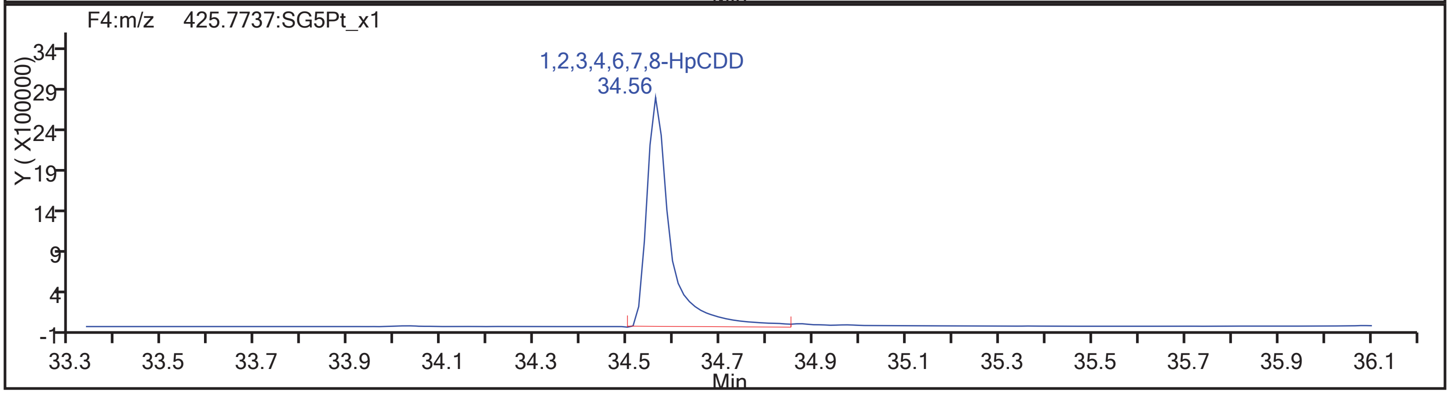
Report Date: 13-Nov-2017 10:47:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

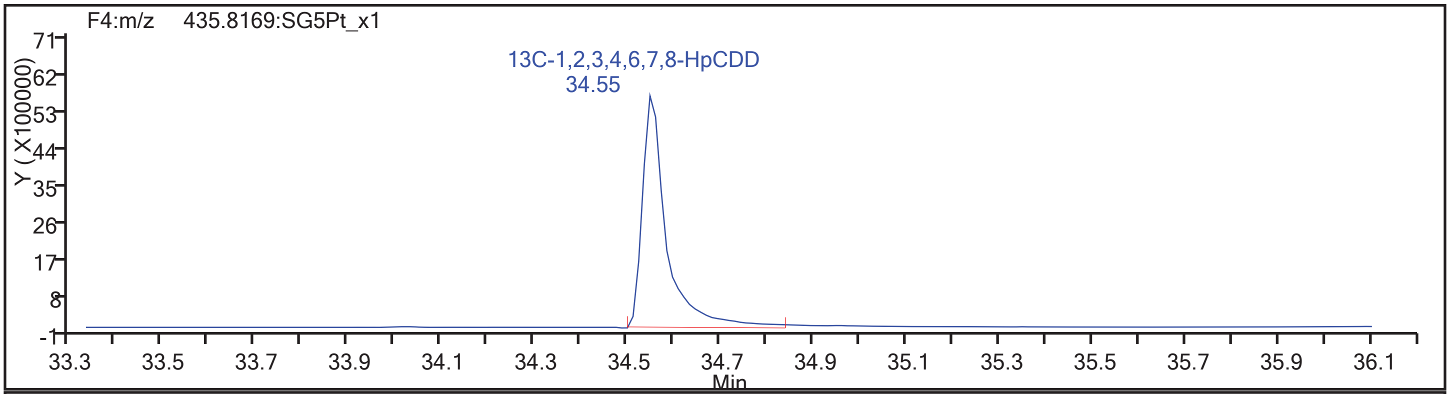
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d		
Injection Date:	11-Nov-2017 05:20:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	57
Column Type:	DB-5	Column Dia:	0.32 mm

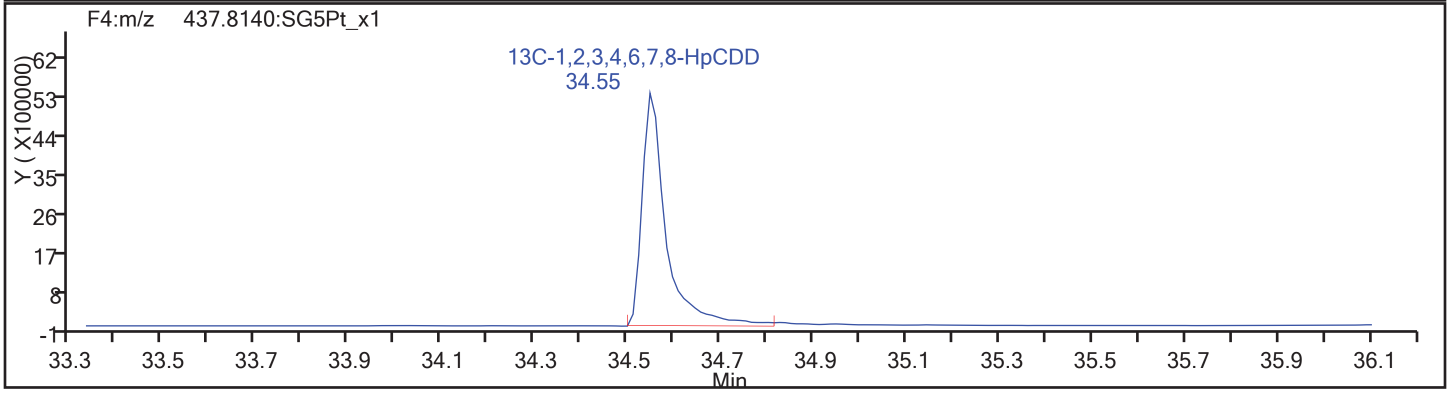
HpCDD





HpCDD Standards

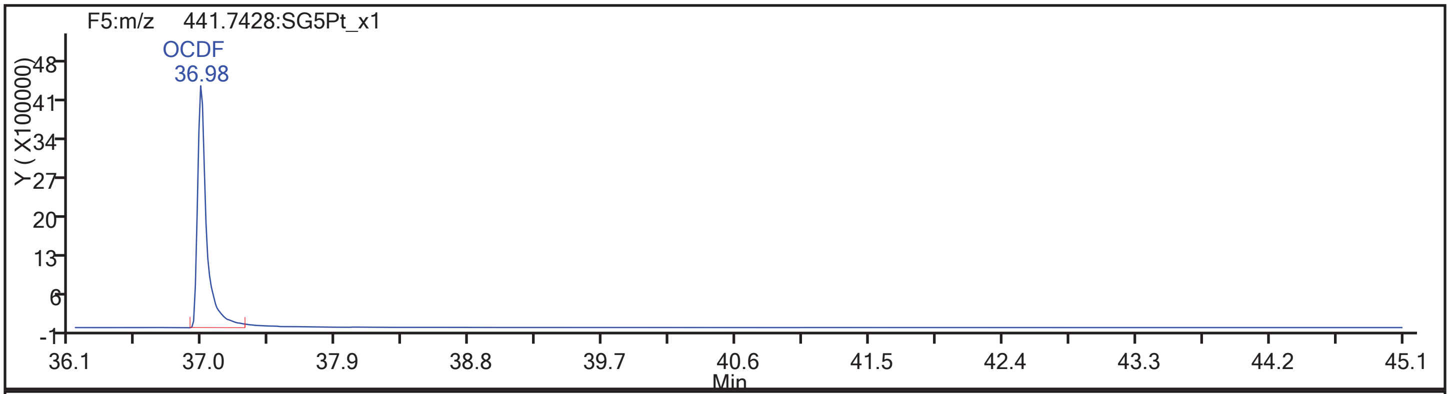


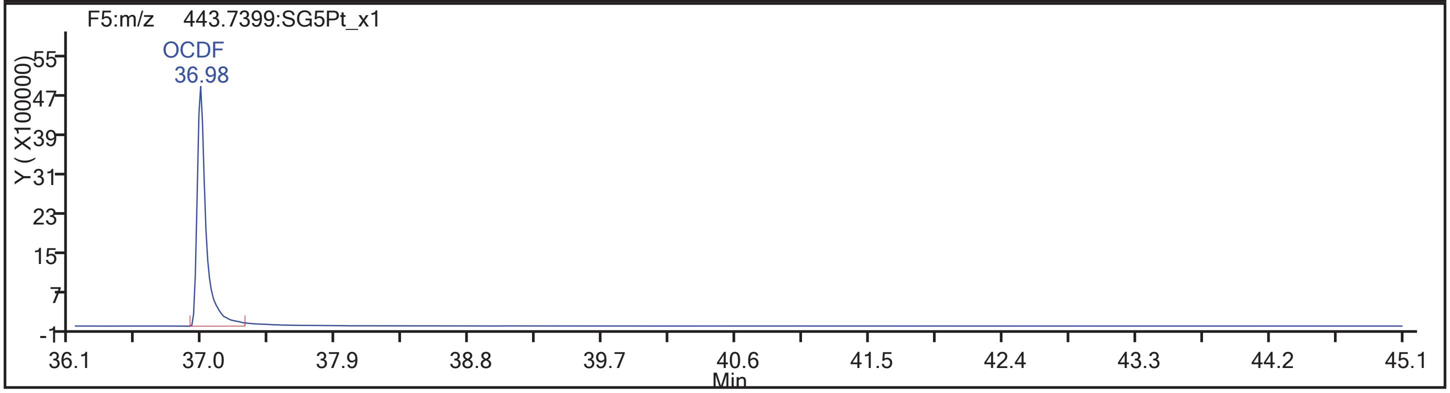


TestAmerica Sacramento

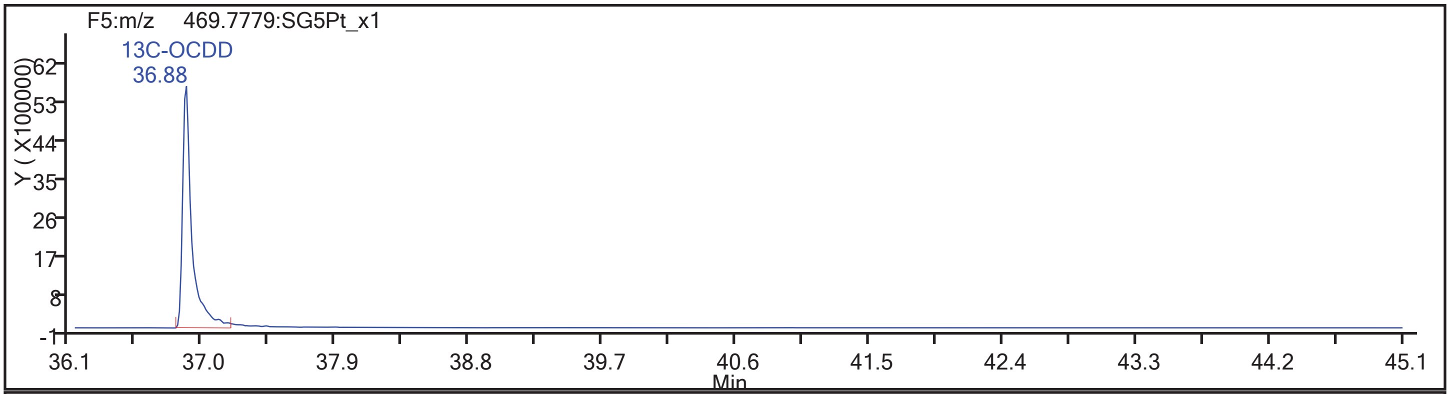
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d
Injection Date: 11-Nov-2017 05:20:04
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 57
Column Type: DB-5
Column Dia: 0.32 mm

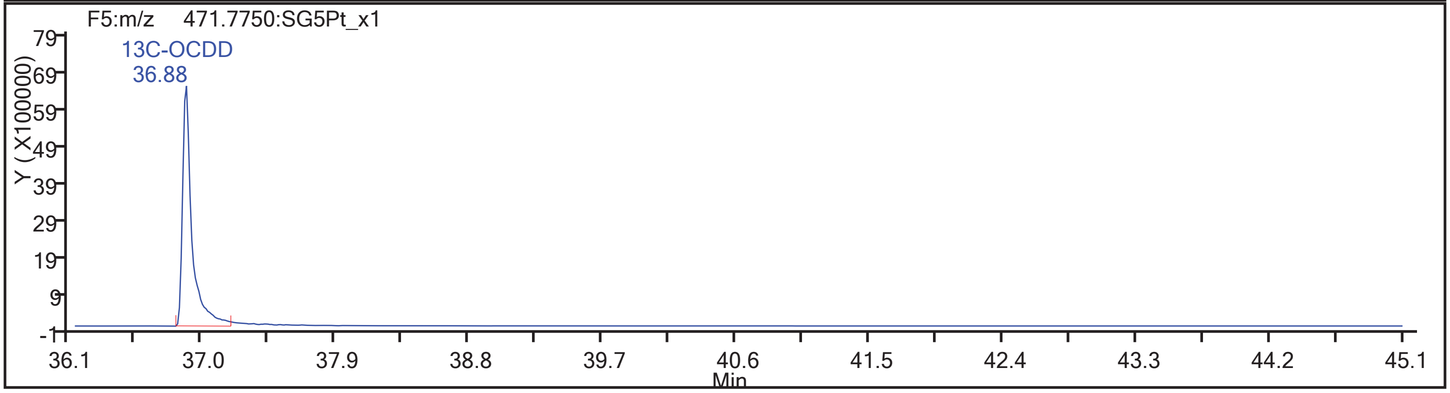
OCDF





OCDF Standards





TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d

Injection Date: 11-Nov-2017 05:20:04 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

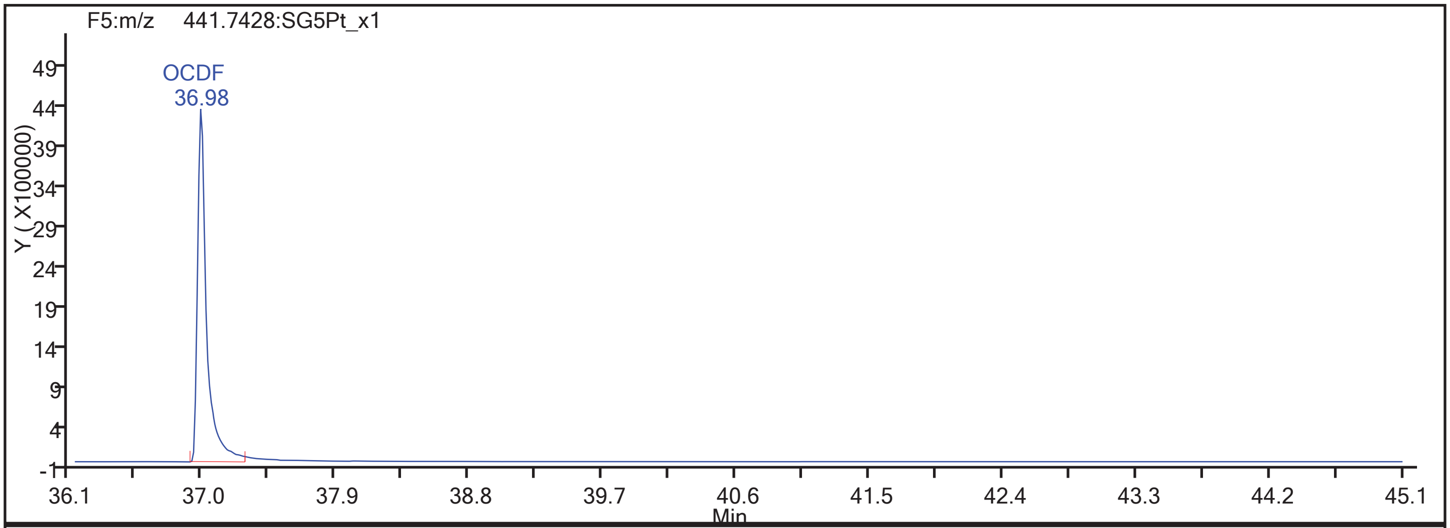
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

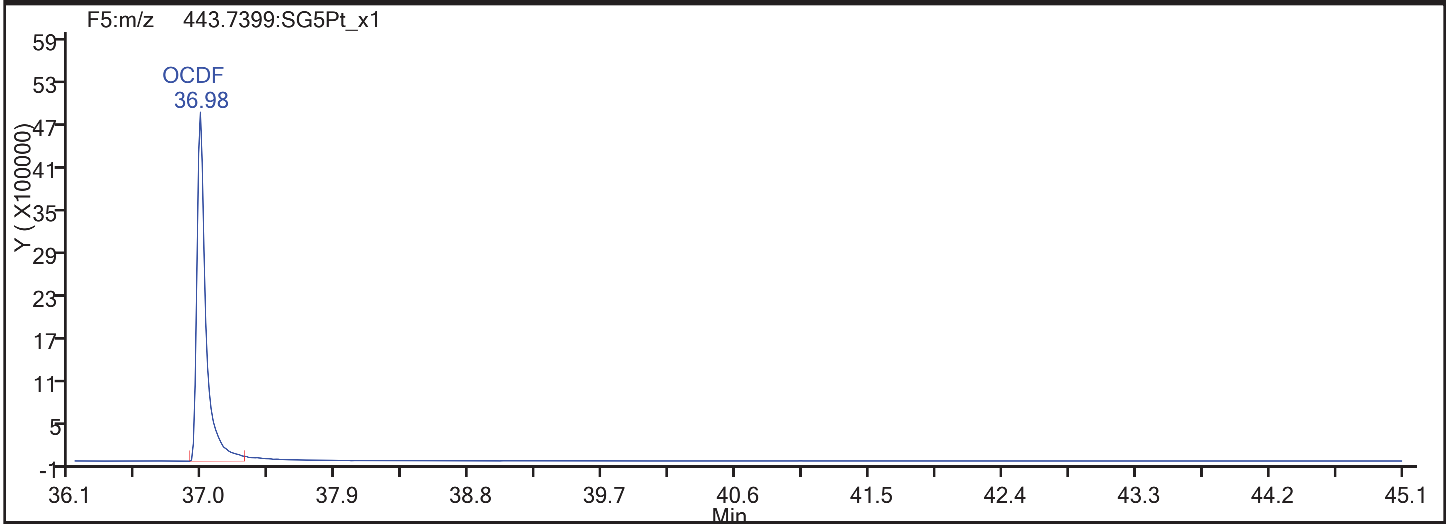
Client ID:

Worklist#: 194084 Sample Line#: 57

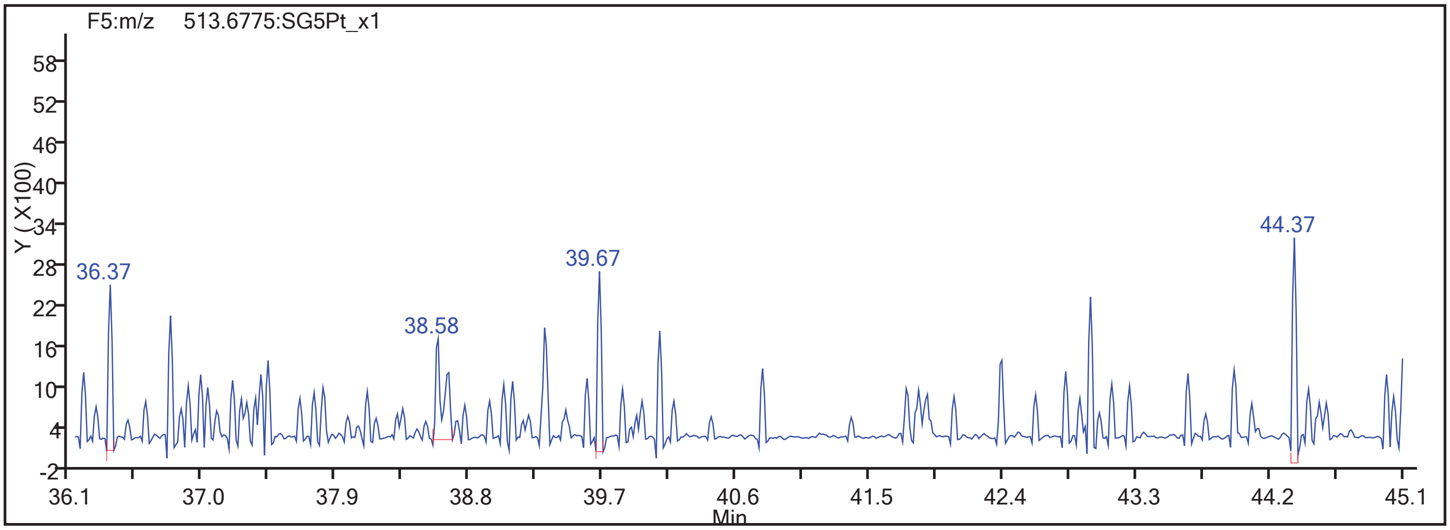
Column Type: DB-5 Column Dia: 0.32 mm

OCDF





OCDF Interference Mass

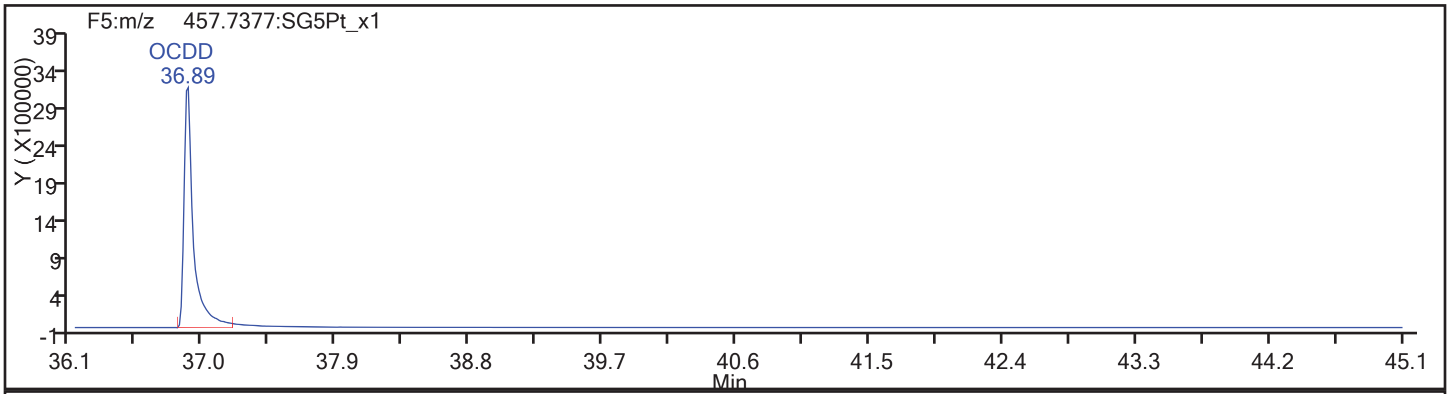


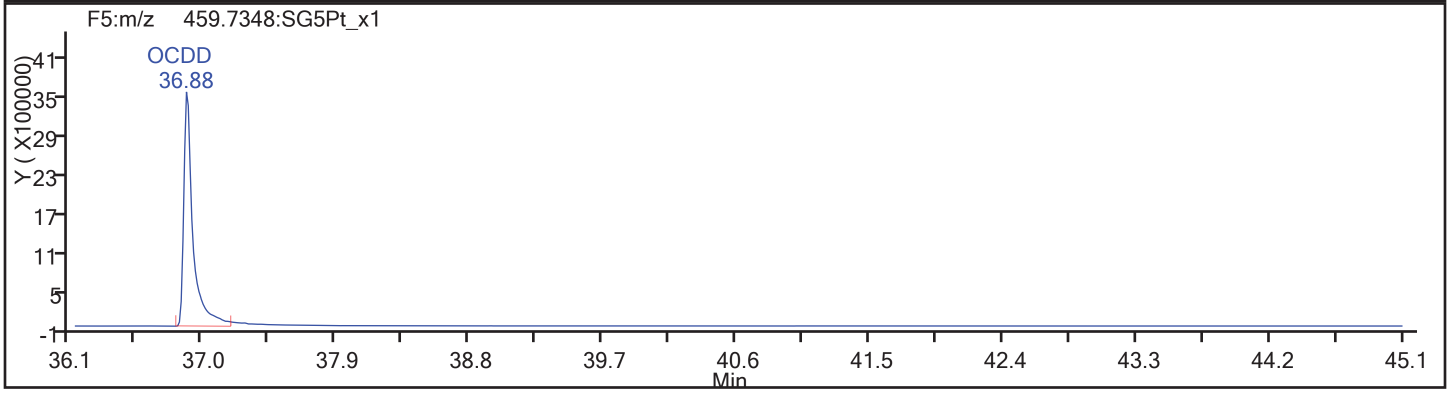
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d

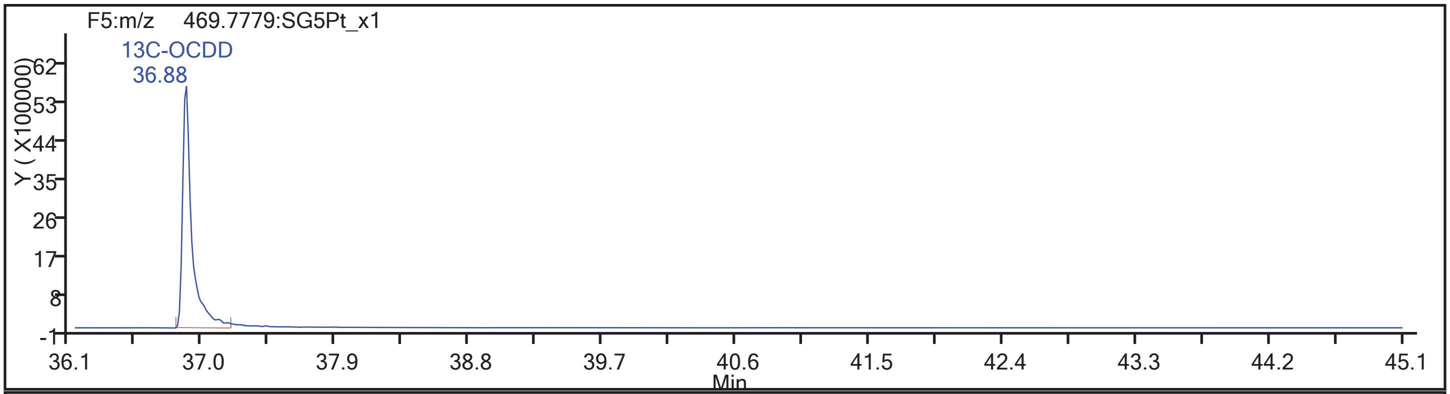
Injection Date:	11-Nov-2017 05:20:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	57
Column Type:	DB-5	Column Dia:	0.32 mm

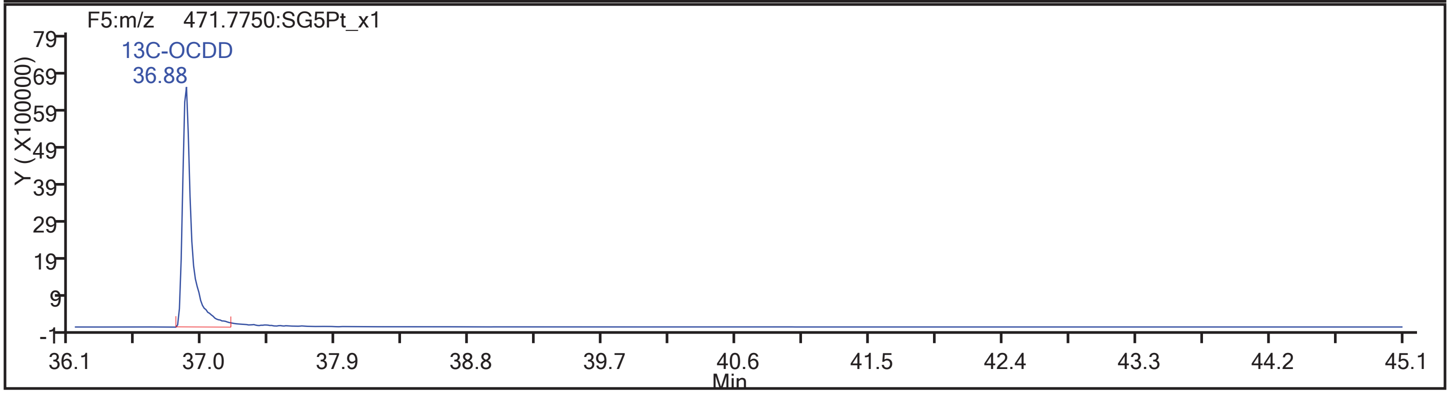
OCDD





OCDD Standards

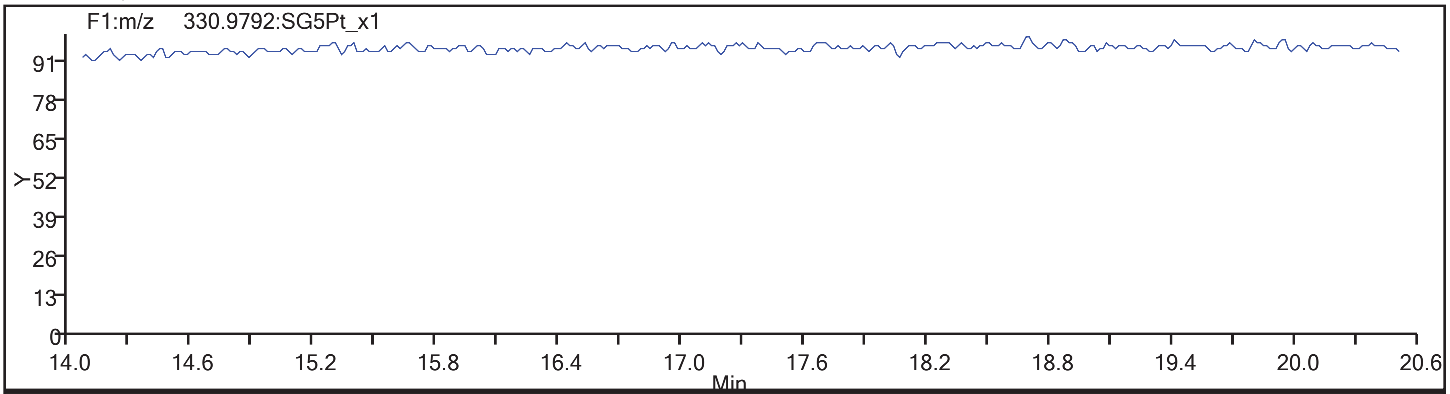


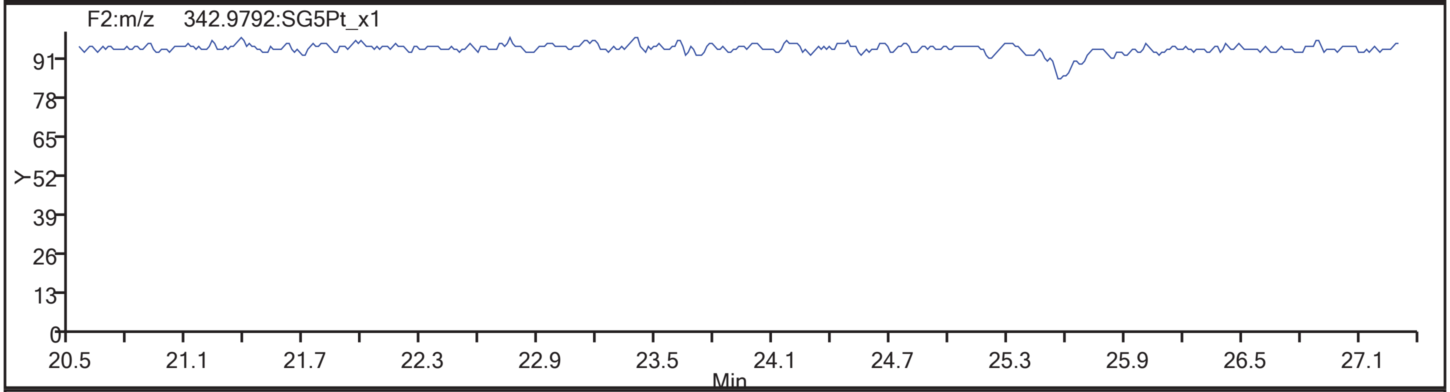


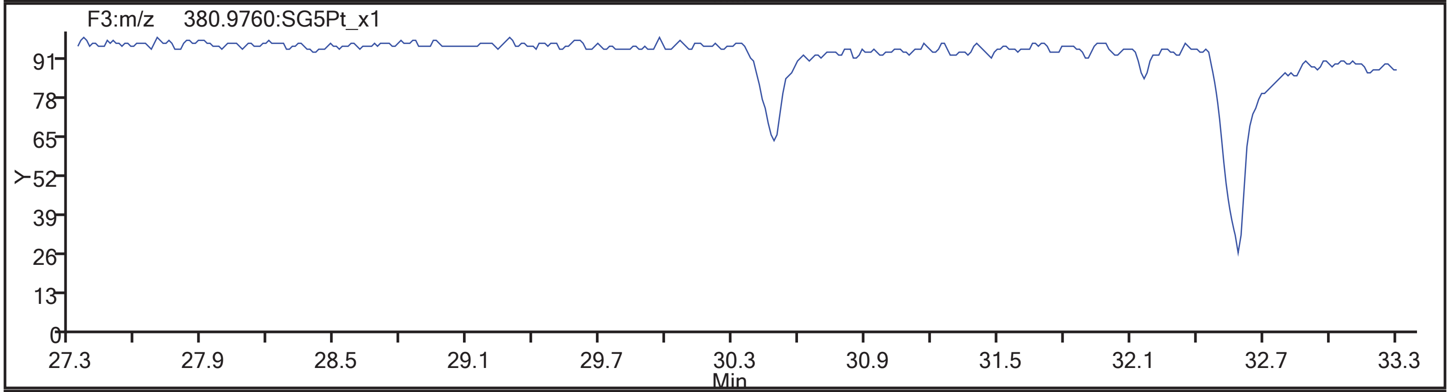
Report Date: 13-Nov-2017 10:47:45 Chrom Revision: 2.2 16-Aug-2017 16:24:46

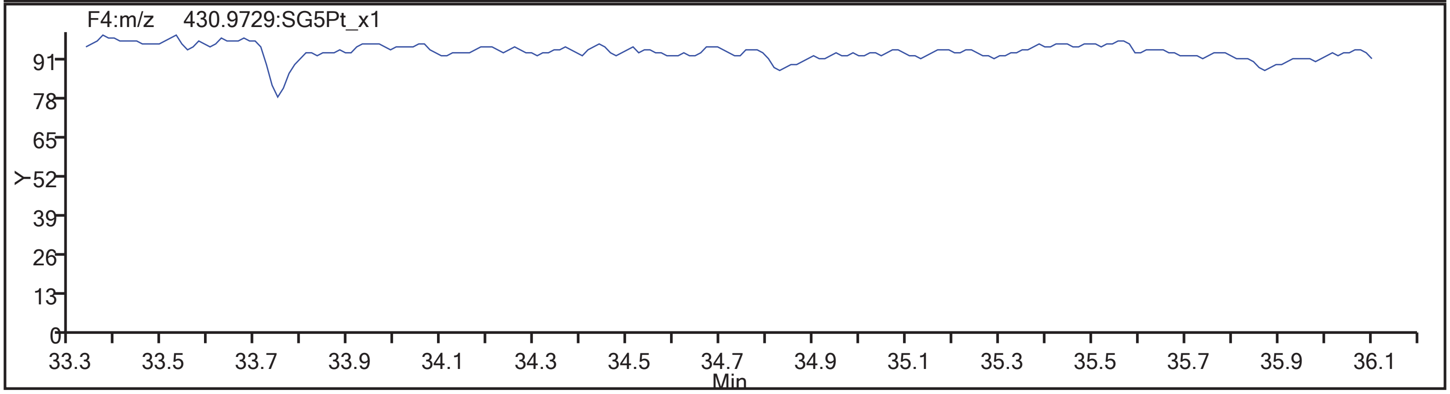
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d		
Injection Date:	11-Nov-2017 05:20:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	57
Column Type:	DB-5	Column Dia:	0.32 mm



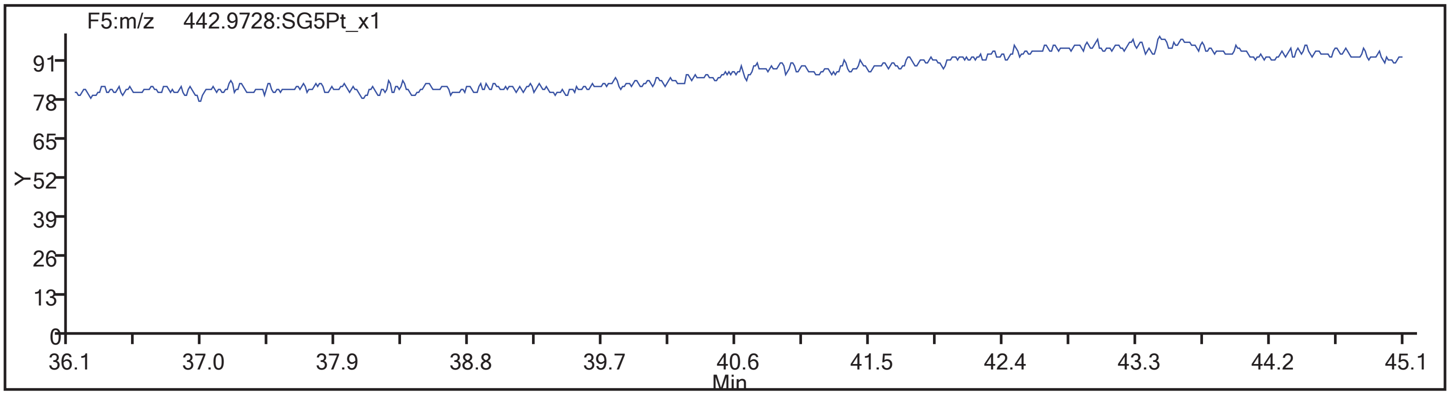






TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_57.d		
Injection Date:	11-Nov-2017 05:20:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	57
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID:	Lab Sample ID: LCS 320-195095/2-A
Matrix: Solid	Lab File ID: 16NO173D5_58.d
Analysis Method: 8290A	Date Collected:
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.00(g)	Date Analyzed: 11/18/2017 16:13
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture:	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195573	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	18.2		1.0	0.40	0.095
51207-31-9	2,3,7,8-TCDF	17.9		1.0	0.40	0.086
40321-76-4	1,2,3,7,8-PeCDD	92.2		5.0	0.75	0.20
57117-41-6	1,2,3,7,8-PeCDF	93.7		5.0	0.75	0.43
57117-31-4	2,3,4,7,8-PeCDF	93.9		5.0	0.75	0.44
39227-28-6	1,2,3,4,7,8-HxCDD	93.2		5.0	2.0	0.37
57653-85-7	1,2,3,6,7,8-HxCDD	95.2		5.0	2.0	0.33
19408-74-3	1,2,3,7,8,9-HxCDD	96.5		5.0	2.0	0.32
70648-26-9	1,2,3,4,7,8-HxCDF	97.3		5.0	0.75	0.60
57117-44-9	1,2,3,6,7,8-HxCDF	97.2		5.0	1.0	0.55
72918-21-9	1,2,3,7,8,9-HxCDF	95.4		5.0	1.0	0.63
60851-34-5	2,3,4,6,7,8-HxCDF	98.3		5.0	0.75	0.58
35822-46-9	1,2,3,4,6,7,8-HpCDD	96.3		5.0	1.0	0.61
67562-39-4	1,2,3,4,6,7,8-HpCDF	97.2		5.0	1.0	1.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	96.6		5.0	2.0	1.3
3268-87-9	OCDD	191		10	4.0	0.25
39001-02-0	OCDF	178		10	4.0	0.24

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	62		40-135
89059-46-1	13C-2,3,7,8-TCDF	60		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	64		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	62		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	64		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	64		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	67		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	65		40-135
114423-97-1	13C-OCDD	66		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_58.d
Lims ID: LCS 320-195095/2-A
Client ID:
Sample Type: LCS
Inject. Date: 18-Nov-2017 16:13:46 ALS Bottle#: 38 Worklist Smp#: 58
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-195095/2-A LCS 320-195095/2-A
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 13:44:48 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 19-Nov-2017 09:39:32

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.264	149178249	0.85	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.735	135471491	0.76	1.5089	60.2	60.2	0.2122	0.2122	60.19	
2,3,7,8-TCDF	17.750	13277111	0.77	1.0971	8.933	8.933	0.0428	0.0428	89.33	
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF					8.933	8.933	0.0428	0.0428		
D 13C-2,3,7,8-TCDD	18.461	92113753	0.76	0.9906	62.3	62.3	0.2138	0.2138	62.33	
$ 37Cl4-2,3,7,8-TCDD	18.476	65043636		1.1732	37.2	37.2	0.0712	0.0712	92.91	
2,3,7,8-TCDD	18.476	9771116	0.76	1.1645	9.110	9.110	0.0474	0.0474	91.10	
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD					9.110	9.110	0.0474	0.0474		
D 13C-1,2,3,7,8-PeCDF	22.896	104995097	1.58	1.1280	62.4	62.4	0.2120	0.2120	62.39	
1,2,3,7,8-PeCDF	22.937	56183780	1.64	1.1422	46.9	46.9	0.2134	0.2134	93.70	
D 13C-2,3,4,7,8-PeCDF	24.287	101930503	1.62							
2,3,4,7,8-PeCDF	24.315	54757435	1.57	1.1102	47.0	47.0	0.2195	0.2195	93.95	
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668						0.0	0.0		
S Total PeCDF					93.8	93.8	0.2165	0.2165		
D 13C-1,2,3,7,8-PeCDD	25.037	69845257	1.70	0.7269	64.4	64.4	0.1365	0.1365	64.41	
1,2,3,7,8-PeCDD	25.065	36285767	1.57	1.1272	46.1	46.1	0.0990	0.0990	92.18	
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD					46.1	46.1	0.0990	0.0990		
D 13C-1,2,3,4,7,8-HxCDF	30.932	81494520	0.48	1.0279	63.6	63.6	0.2996	0.2996	63.59	
1,2,3,4,7,8-HxCDF	30.959	53424818	1.28	1.3475	48.6	48.6	0.3000	0.3000	97.30	
D 13C-1,2,3,6,7,8-HxCDF	31.092	94296052	0.52							
1,2,3,6,7,8-HxCDF	31.119	58602082	1.28	1.4794	48.6	48.6	0.2733	0.2733	97.22	
D 13C-2,3,4,6,7,8-HxCDF	31.838	87701120	0.54							
2,3,4,6,7,8-HxCDF	31.851	55399580	1.25	1.3833	49.1	49.1	0.2922	0.2922	98.28	
D 13C-1,2,3,7,8,9-HxCDF	32.597	80927189	0.53							
1,2,3,7,8,9-HxCDF	32.610	50181271	1.30	1.2903	47.7	47.7	0.3133	0.3133	95.45	
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF					194.1	194.1	0.2947	0.2947		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.424	124680107	1.27	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.011	60529548	1.24							
1,2,3,4,7,8-HxCDD	32.024	33740713	1.21	1.0646	46.6	46.6	0.1842	0.1842	93.25	
D 13C-1,2,3,6,7,8-HxCDD	32.104	67973244	1.26	0.8502	64.1	64.1	0.2569	0.2569	64.13	
1,2,3,6,7,8-HxCDD	32.117	38201904	1.25	1.1809	47.6	47.6	0.1661	0.1661	95.18	
1,2,3,7,8,9-HxCDD	32.437	40369576	1.24	1.2311	48.2	48.2	0.1593	0.1593	96.49	
A Non-2,3,7,8-sub-HxCDD	31.252						0.0	0.0		
S Total HxCDD					142.5	142.5	0.1698	0.1698		
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	52698867	0.45	0.6490	65.1	65.1	0.7330	0.7330	65.13	
1,2,3,4,6,7,8-HpCDF	34.022	40640779	1.04	1.5871	48.6	48.6	0.5107	0.5107	97.18	
D 13C-1,2,3,4,7,8,9-HpCDF	35.128	43508092	0.44							
1,2,3,4,7,8,9-HpCDF	35.140	31290232	1.06	1.2290	48.3	48.3	0.6595	0.6595	96.63	
A Non-2,3,7,8-sub-HpCDF	34.569						0.0	0.0		
S Total HpCDF					96.9	96.9	0.5851	0.5851		
D 13C-1,2,3,4,6,7,8-HpCDD	34.836	44857574	1.10	0.5387	66.8	66.8	0.3677	0.3677	66.79	
1,2,3,4,6,7,8-HpCDD	34.836	25134998	1.08	1.1631	48.2	48.2	0.3039	0.3039	96.35	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					48.2	48.2	0.3039	0.3039		
D 13C-OCDD	37.257	65924587	0.90	0.4009	131.9	131.9	0.1927	0.1927	65.94	
OCDF	37.365	37188455	0.91	1.2649	89.2	89.2	0.1220	0.1220	89.19	
OCDD	37.269	32786868	0.88	1.0390	95.7	95.7	0.1248	0.1248	95.73	

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_58.d
Lims ID: LCS 320-195095/2-A
Client ID:
Sample Type: LCS
Inject. Date: 18-Nov-2017 16:13:46 ALS Bottle#: 38 Worklist Smp#: 58
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-195095/2-A LCS 320-195095/2-A
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 13:44:48 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 19-Nov-2017 09:39:32

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.264	18.234	2		68333760	15970822	14329	35822	1115		a
333.9339	18.264	18.234	2		80844489	18967986	15271	38177	1242	0.85(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.735	17.705	2	0.971	58586500	13568442	28939	72347	469		
317.9389	17.735	17.705	2	0.971	76884991	17777125	15799	39497	1125	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.750	17.720	2	1.001	5772136	1400274	1874	4685	747		
305.8987	17.750	17.720	2	1.001	7504975	1795862	4012	10030	448	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						1874	4685			
305.8987	17.402						4012	10030			
13C-2,3,7,8-TCDD											
331.9368	18.461	18.430	2	1.011	39774485	8929879	14329	35822	623		
333.9339	18.461	18.430	2	1.011	52339268	11626743	15271	38177	761	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.476	18.461	1	1.012	65043636	14768202	11674	29185	1265		
2,3,7,8-TCDD											
319.8965	18.476	18.461	1	1.001	4215803	965043	2364	5910	408		
321.8936	18.476	18.461	1	1.001	5555313	1239922	2179	5447	569	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						2364	5910			
321.8936	17.871						2179	5447			
13C-1,2,3,7,8-PeCDF											
351.9000	22.896	22.883	1	1.254	64259706	10609510	19684	49210	539		
353.8970	22.896	22.883	1	1.254	40735391	6785857	13730	34325	494	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.937	22.910	2	1.002	34878773	5882359	9927	24817	593		
341.8567	22.924	22.910	1	1.001	21305007	3504980	7032	17580	498	1.64(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.287	24.274	1	1.330	62986291	9627390	19684	49210	489		
353.8970	24.287	24.274	1	1.330	38944212	6006497	13730	34325	437	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.315	24.301	1	1.062	33419780	5108218	9927	24817	515		
341.8567	24.315	24.301	1	1.062	21337655	3197160	7032	17580	455	1.57(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.426						627	1567			
341.8567	20.426						1344	3360			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.668						9927	24817			
341.8567	23.668						7032	17580			
13C-1,2,3,7,8-PeCDD											
367.8949	25.037	25.010	2	1.371	43968311	6472579	6656	16640	972		
369.8919	25.037	25.010	2	1.371	25876946	3796934	7208	18020	527	1.70(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.065	25.037	2	1.001	22179023	3212170	2639	6597	1217		
357.8516	25.051	25.037	1	1.001	14106744	2063108	1947	4867	1060	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						2639	6597			
357.8516	23.878						1947	4867			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.932	30.919	1	0.954	26532759	5862492	14696	36740	399		
385.8610	30.932	30.919	1	0.954	54961761	11785708	27035	67587	436	0.48(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.959	30.932	2	1.001	30031988	6345291	16296	40740	389		
375.8178	30.959	30.932	2	1.001	23392830	4948294	12243	30607	404	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.092	31.079	1	0.959	32180441	6613573	14696	36740	450		
385.8610	31.092	31.079	1	0.959	62115611	12995351	27035	67587	481	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.119	31.092	2	1.006	32895464	6719944	16296	40740	412		
375.8178	31.105	31.092	1	1.006	25706618	5331193	12243	30607	435	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.838	31.824	1	0.982	30725992	7981162	14696	36740	543		
385.8610	31.838	31.824	1	0.982	56975128	14609009	27035	67587	540	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.851	31.838	1	1.030	30802340	8008765	16296	40740	491		
375.8178	31.851	31.838	1	1.030	24597240	6414700	12243	30607	524	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.005	27945061	7497642	14696	36740	510		
385.8610	32.597	32.583	1	1.005	52982128	14156574	27035	67587	524	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.610	32.597	1	1.054	28353203	7617465	16296	40740	467		
375.8178	32.610	32.597	1	1.054	21828068	5792738	12243	30607	473	1.30(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						16296	40740			
375.8178	30.653						12243	30607			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.424	32.410	1		69853545	18920257	16862	42155	1122		
403.8529	32.424	32.410	1		54826562	14951273	12729	31822	1175	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.011	31.997	1	0.987	33538607	9600924	16862	42155	569		
403.8529	32.011	31.997	1	0.987	26990941	7873803	12729	31822	619	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.024	32.011	1	0.998	18450277	5347881	7069	17672	757		
391.8127	32.024	32.011	1	0.998	15290436	4323711	6602	16505	655	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.990	37935792	9587985	16862	42155	569		
403.8529	32.104	32.091	1	0.990	30037452	7840186	12729	31822	616	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.117	32.117	0	1.000	21255430	5242532	7069	17672	742		
391.8127	32.117	32.117	0	1.000	16946474	4344338	6602	16505	658	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.437	32.424	1	1.010	22333783	5984242	7069	17672	847		
391.8127	32.437	32.424	1	1.010	18035793	4864098	6602	16505	737	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.252						7069	17672			
391.8127	31.252						6602	16505			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	16440501	5166684	19124	47810	270		
419.8220	34.010	33.998	1	1.049	36258366	11683067	45322	113305	258	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.010	1	1.000	20750054	6725617	25822	64555	260		
409.7789	34.022	34.010	1	1.000	19890725	6478581	28809	72022	225	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.128	35.116	1	1.083	13246923	3798245	19124	47810	199		
419.8220	35.128	35.116	1	1.083	30261169	8833180	45322	113305	195	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.140	35.128	1	1.033	16112502	4804726	25822	64555	186		
409.7789	35.140	35.128	1	1.033	15177730	4437535	28809	72022	154	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.569						25822	64555			
409.7789	34.569						28809	72022			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.836	34.812	1	1.074	23513685	6852881	14533	36332	472		
437.8140	34.824	34.812	1	1.074	21343889	6356762	12303	30757	517	1.10(0.88-1.20)	

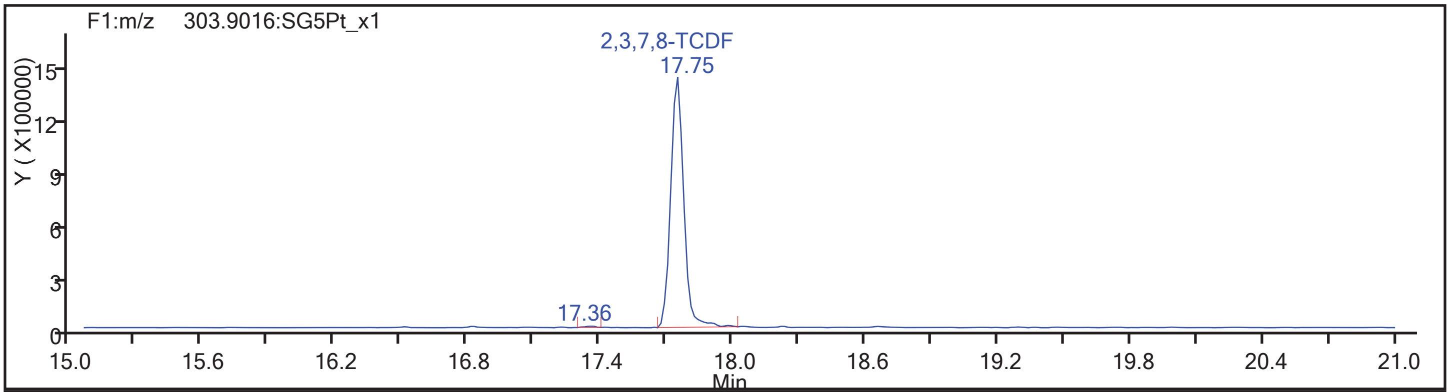
Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.000	13026189	3845975	10269	25672	375		
425.7737	34.836	34.824	1	1.000	12108809	3654471	8409	21022	435	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						10269	25672			
425.7737	35.261						8409	21022			
13C-OCDD											
469.7779	37.257	37.245	1	1.149	31186977	8216914	4878	12195	1684		
471.7750	37.257	37.245	1	1.149	34737610	8912237	5589	13972	1595	0.90(0.76-1.02)	
OCDF											
441.7428	37.365	37.353	1	1.003	17692942	4745049	2378	5945	1995		
443.7399	37.365	37.353	1	1.003	19495513	4910078	2910	7275	1687	0.91(0.76-1.02)	
OCDD											
457.7377	37.269	37.257	1	1.000	15361815	4035042	2505	6262	1611		
459.7348	37.269	37.257	1	1.000	17425053	4498798	1939	4847	2320	0.88(0.76-1.02)	

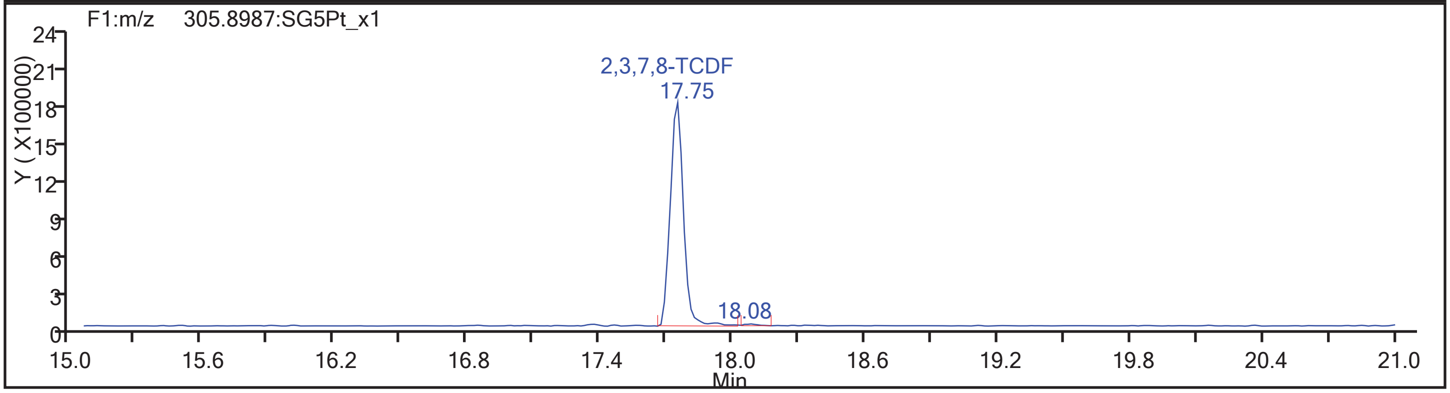
Report Date: 06-Dec-2017 13:45:36 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

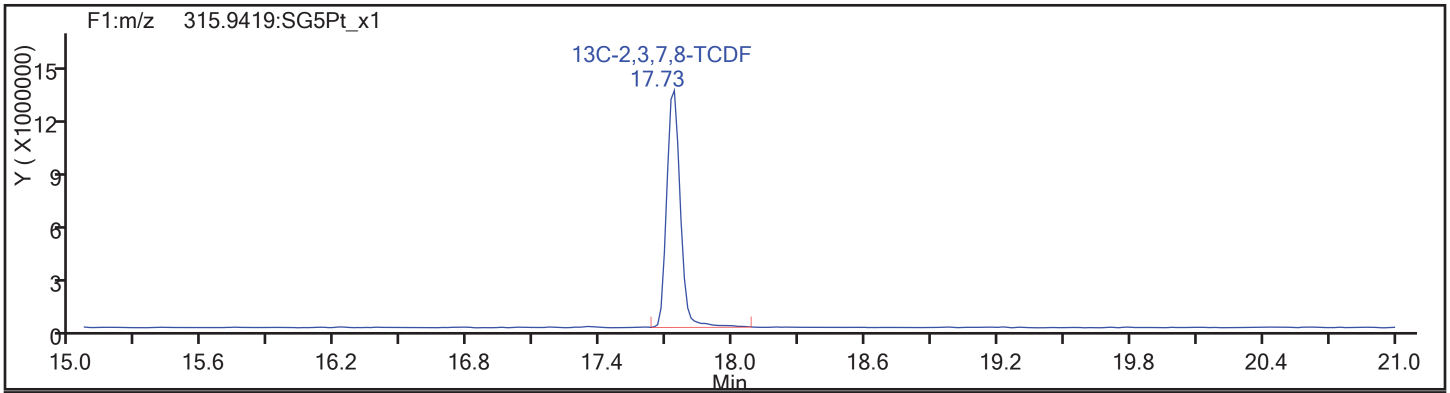
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_58.d		
Injection Date:	18-Nov-2017 16:13:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	58
Column Type:		Column Dia:	

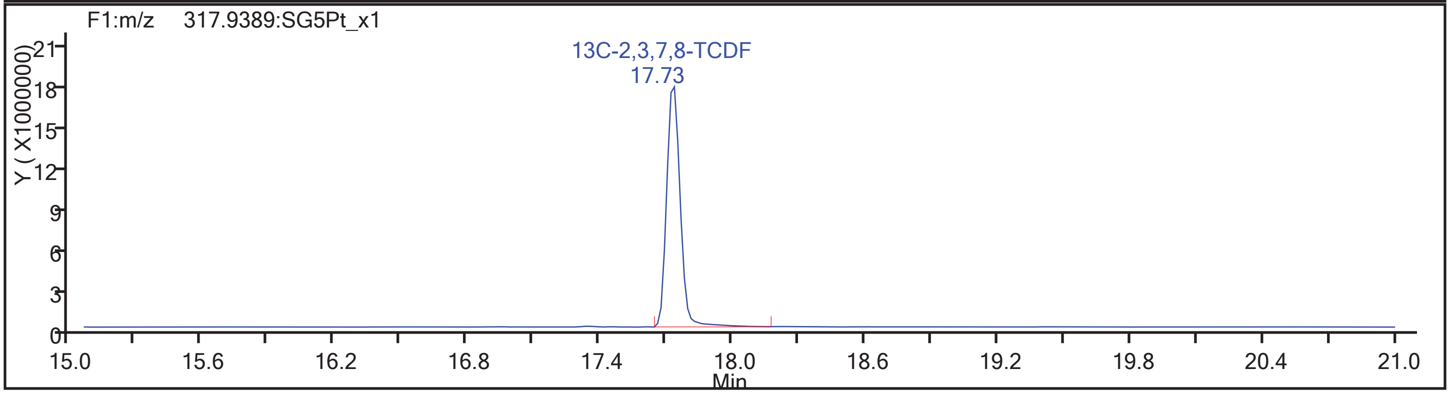
TCDF





TCDF Standards

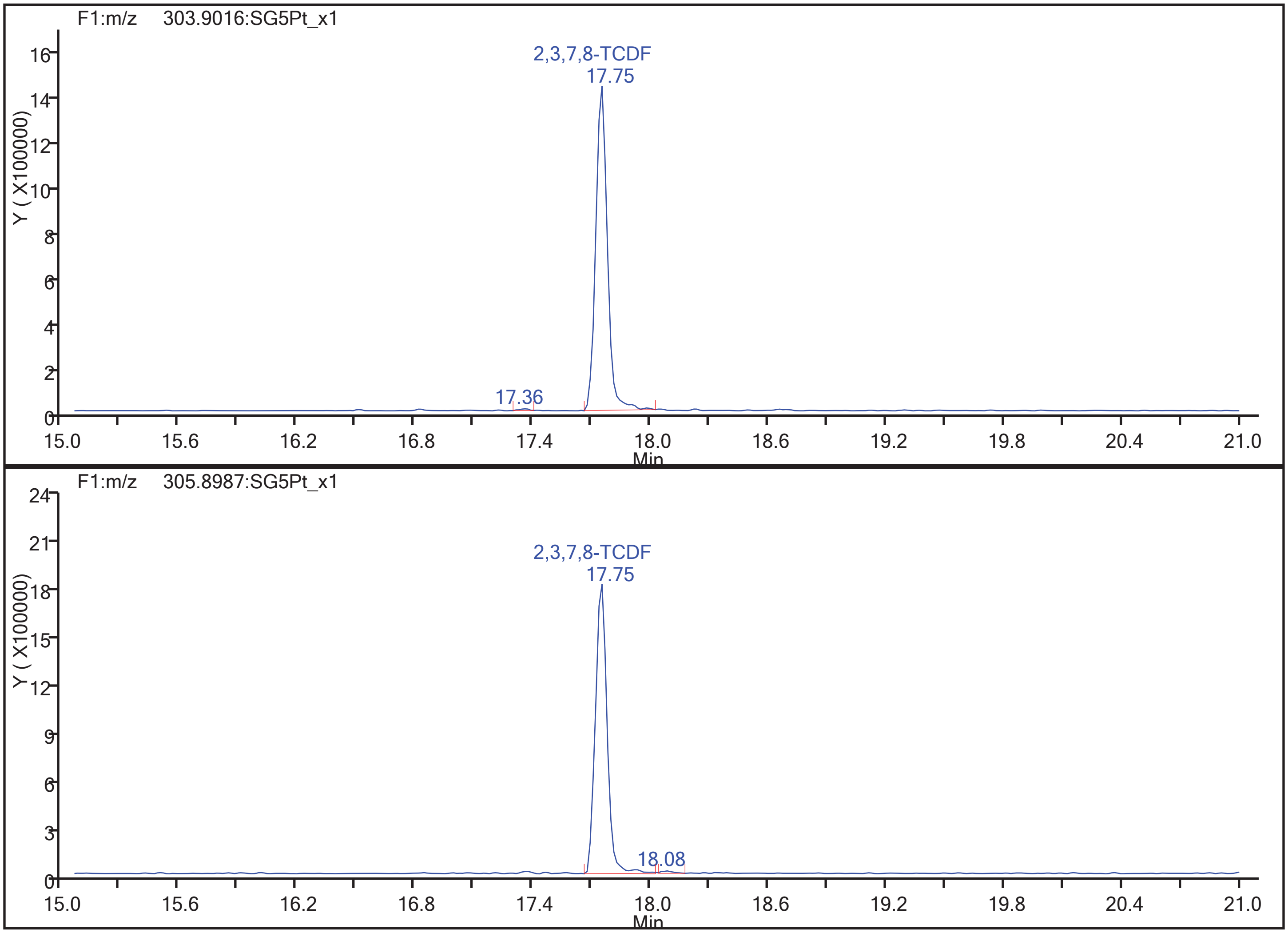




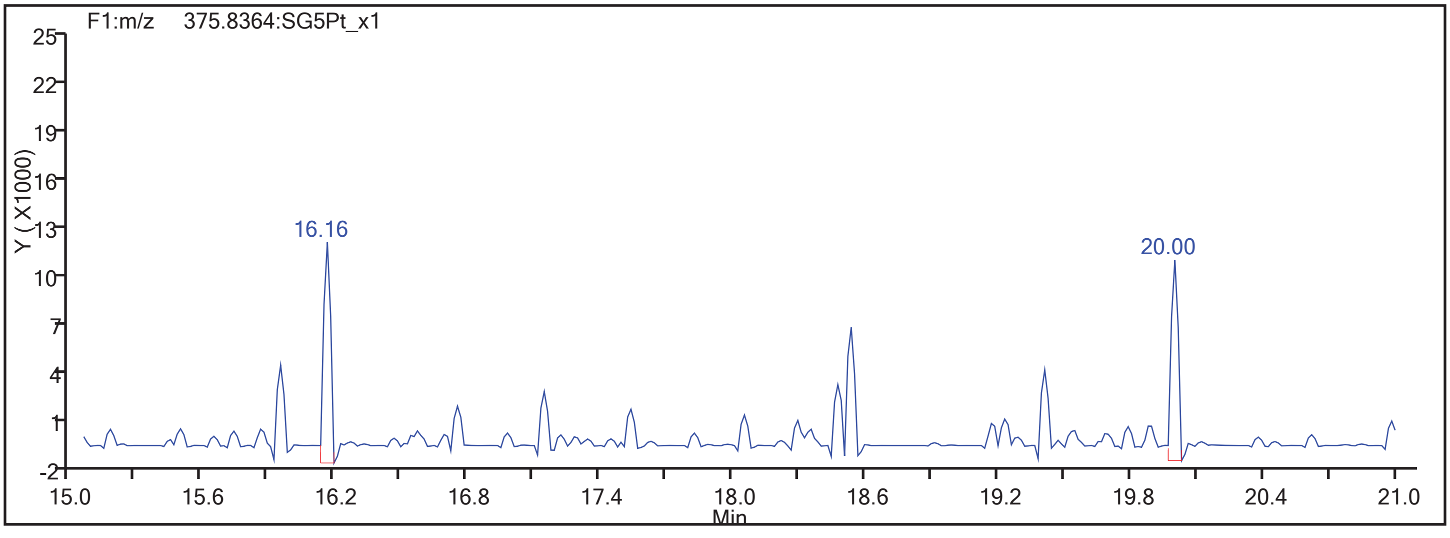
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_58.d		
Injection Date:	18-Nov-2017 16:13:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	58
Column Type:		Column Dia:	

TCDF



TCDF Interference Mass

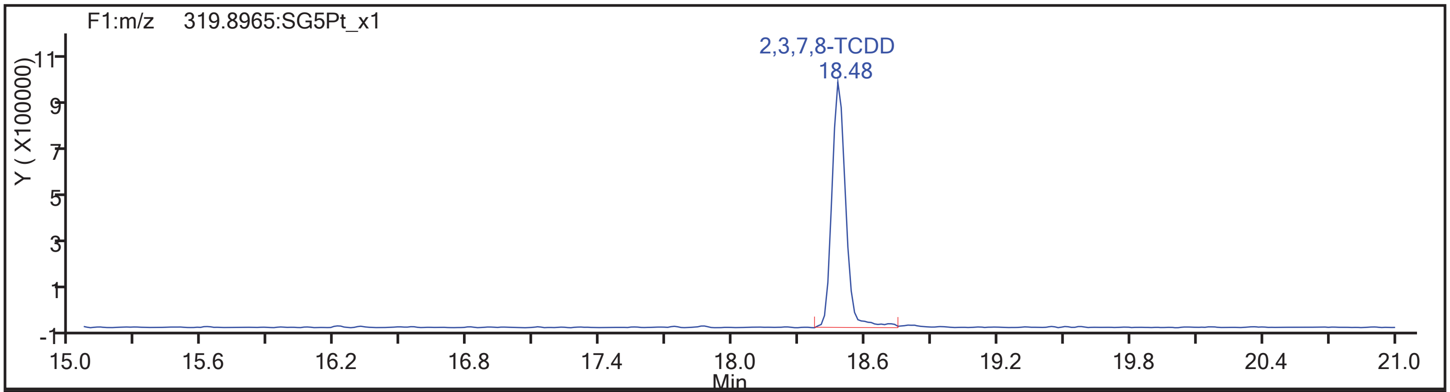


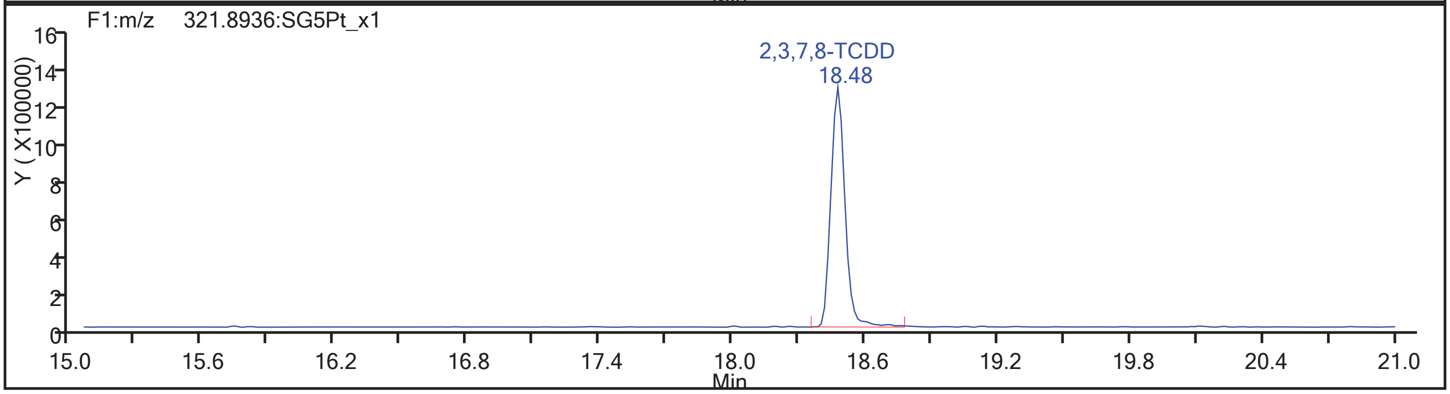
Report Date: 06-Dec-2017 13:45:37 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

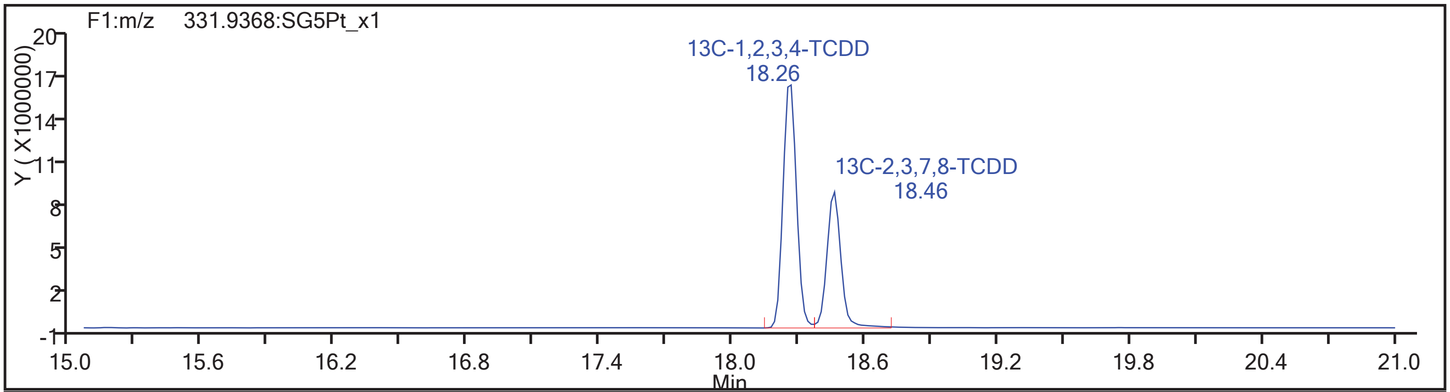
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_58.d
Injection Date: 18-Nov-2017 16:13:46 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573 Sample Line#: 58
Column Type: Column Dia:

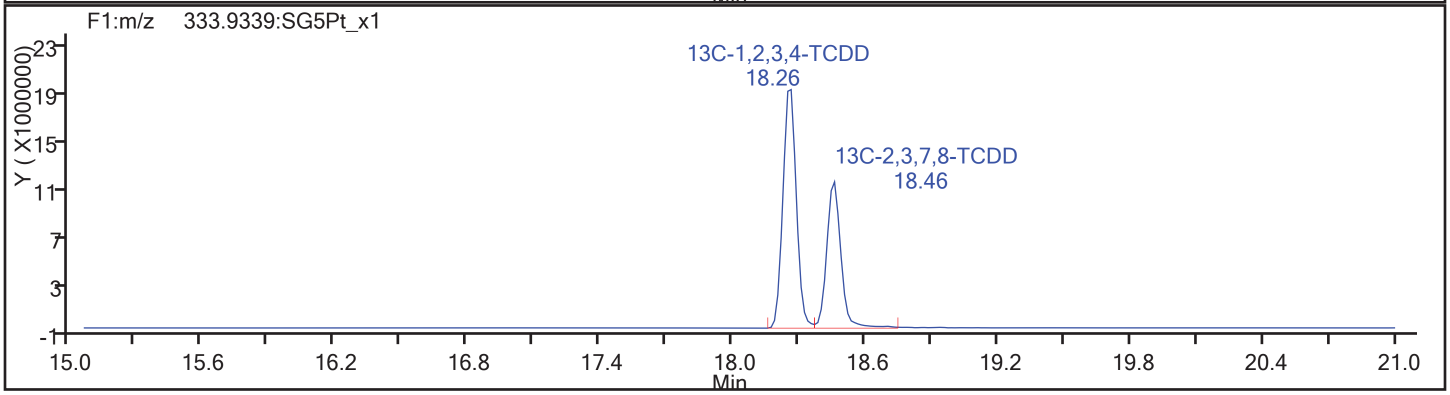
TCDD





TCDD Standards





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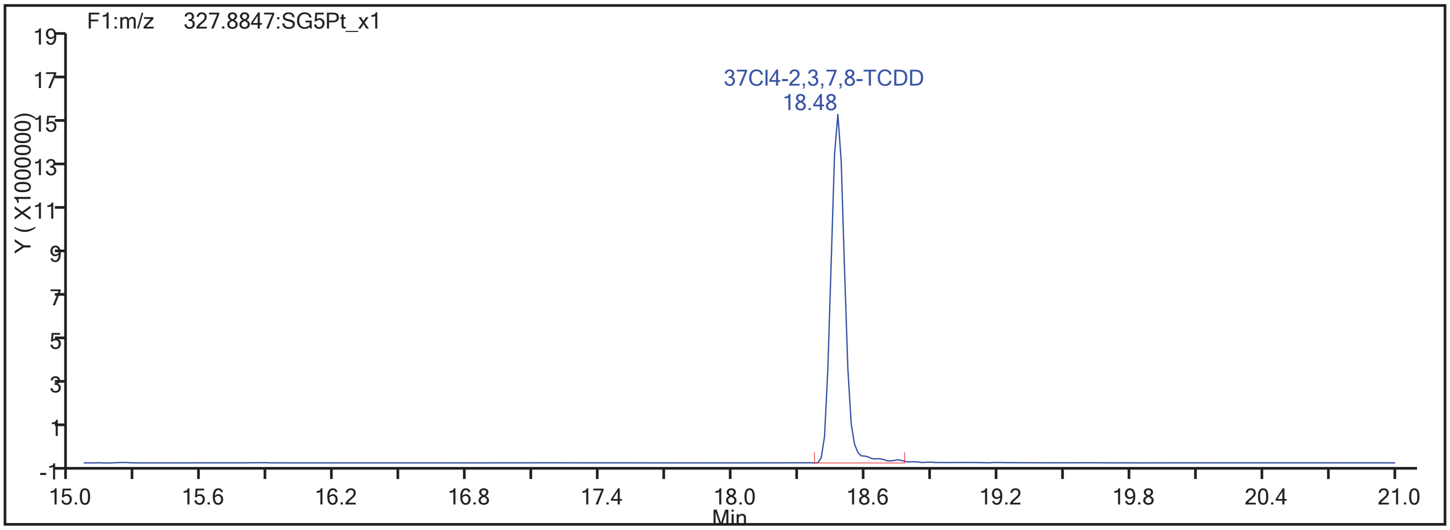
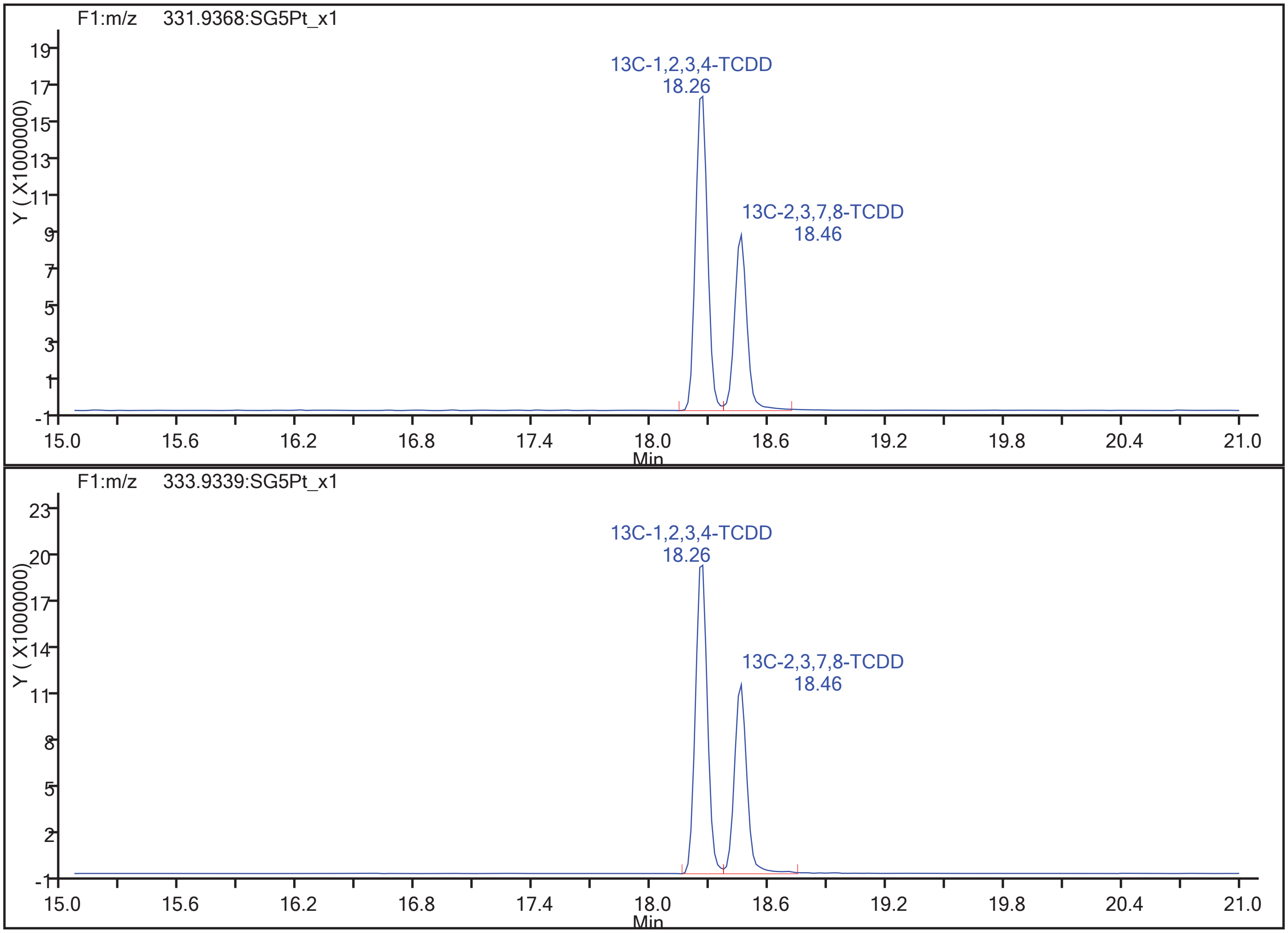
Injection Date:	18-Nov-2017 16:13:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	58
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



Report Date: 06-Dec-2017 13:45:37 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_58.d

Injection Date: 18-Nov-2017 16:13:46 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID:

Worklist#: 195573 Sample Line#: 58

Column Type: Column Dia:

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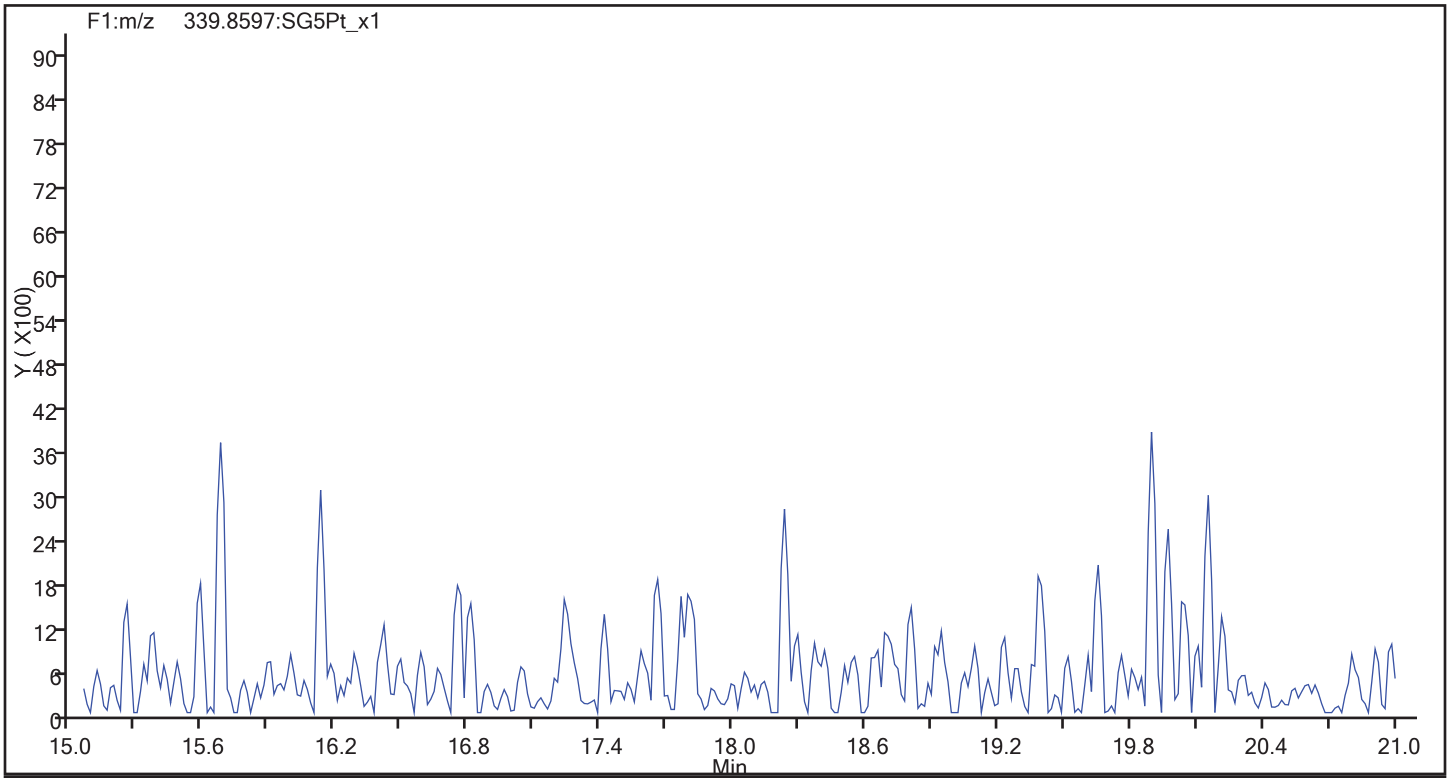

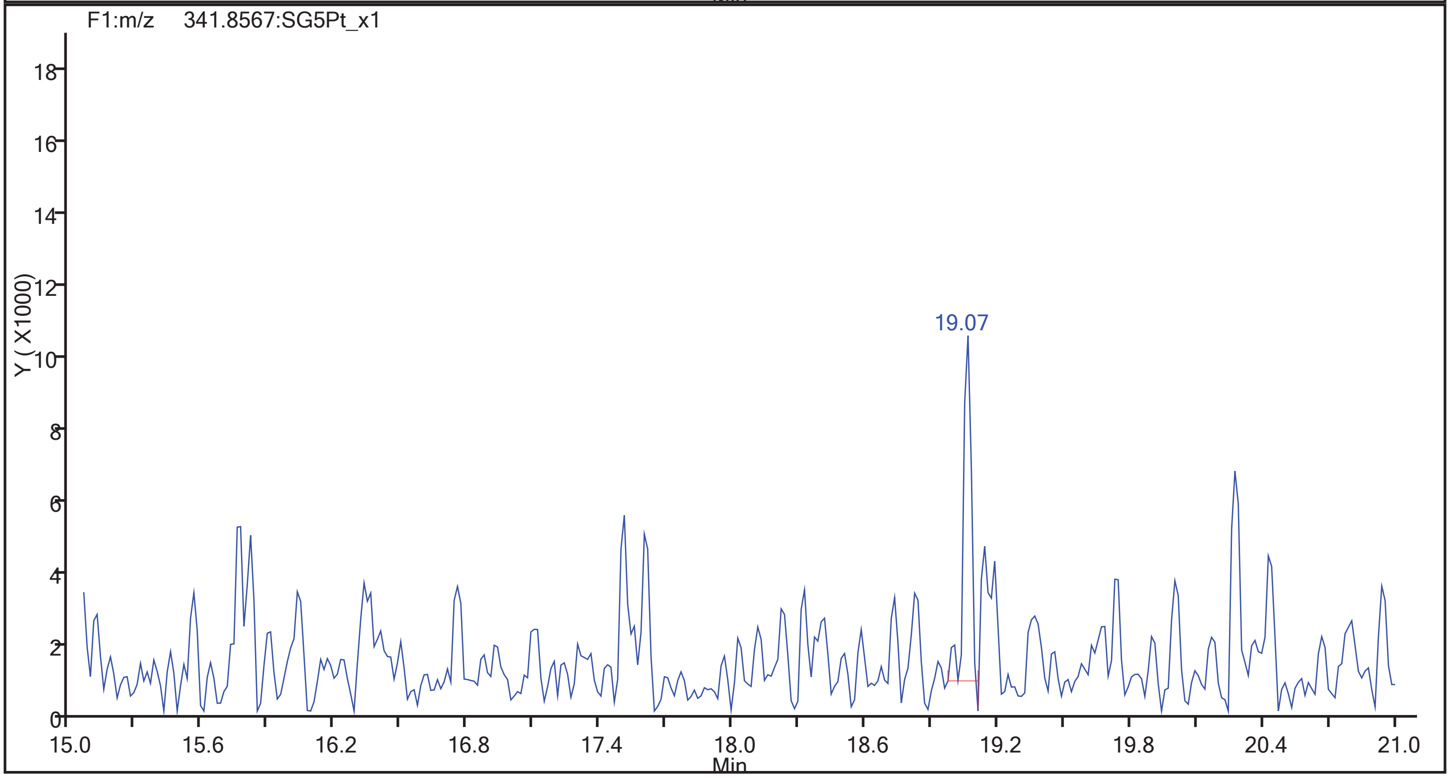

Report Date: 06-Dec-2017 13:45:37 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Vol: 2.0 ul
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Method: Dioxin_3D5
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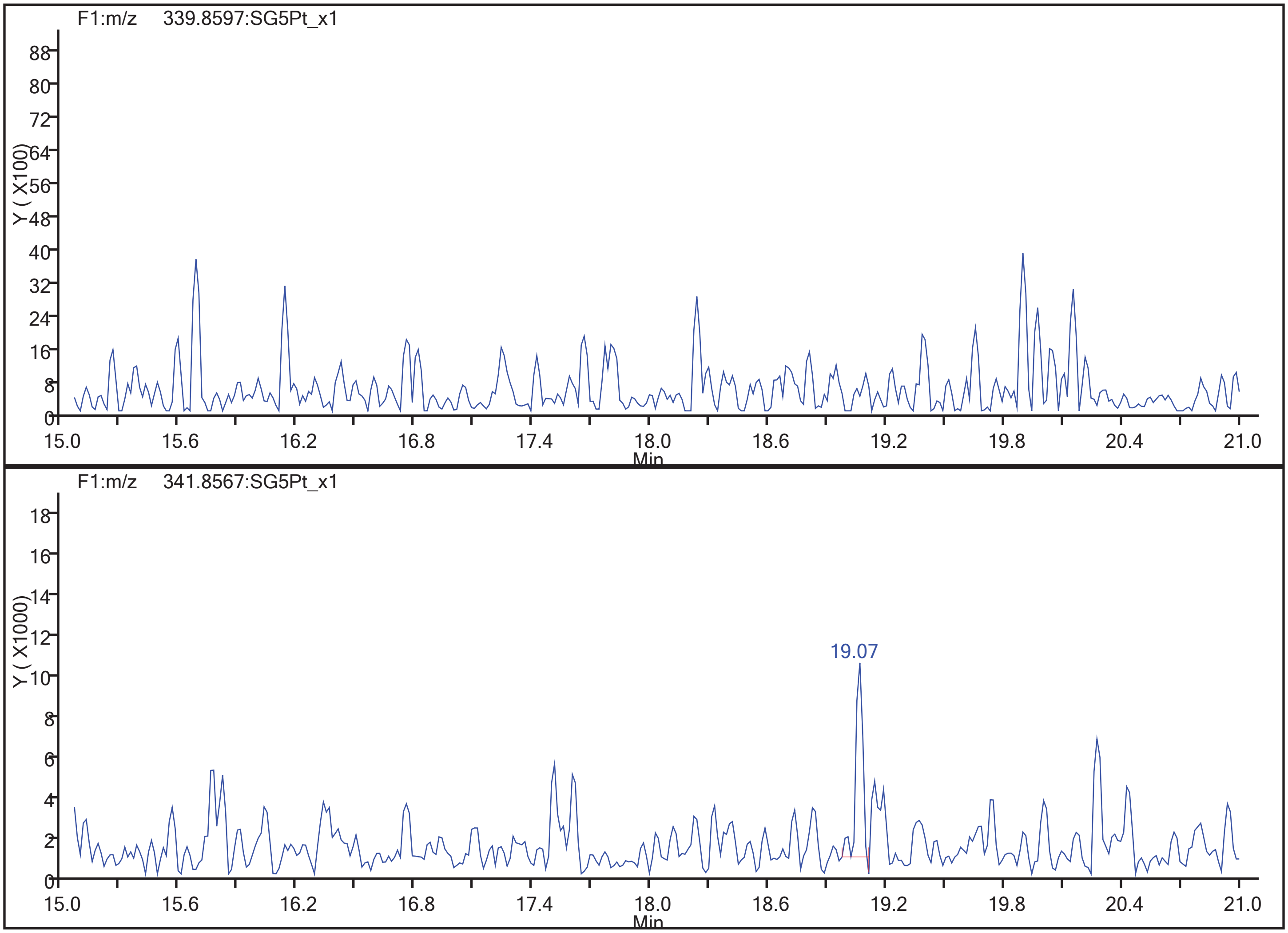
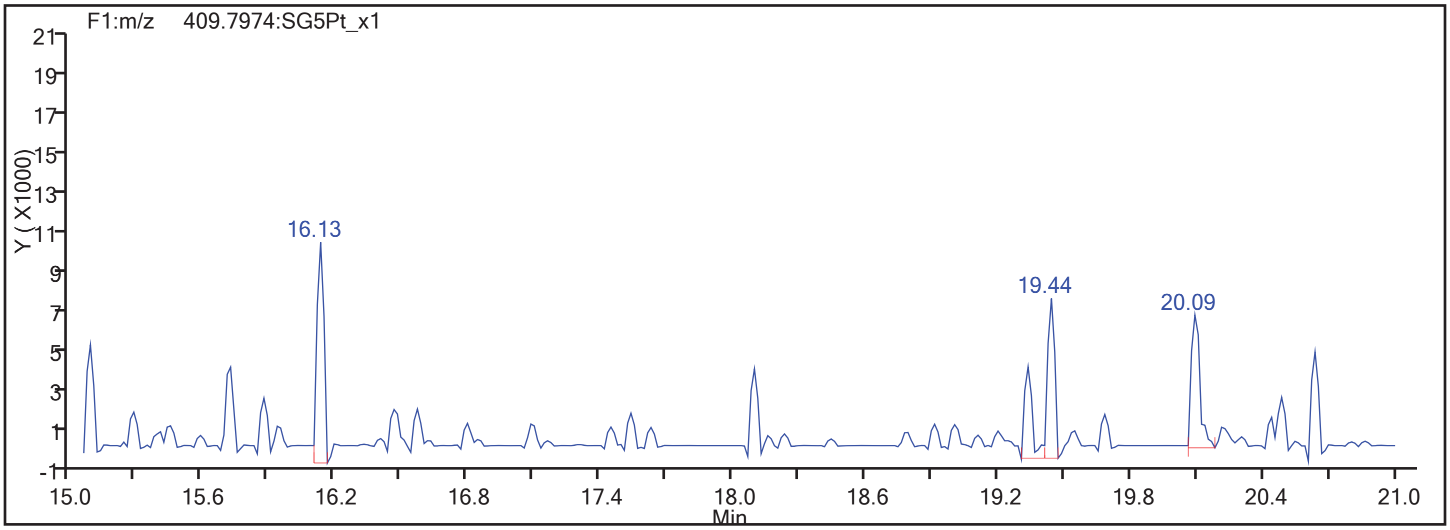


F1 PeCDFs Interference Mass



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TestAmerica Sacramento

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Method: Dioxin_3D5

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Sample Line#: 58

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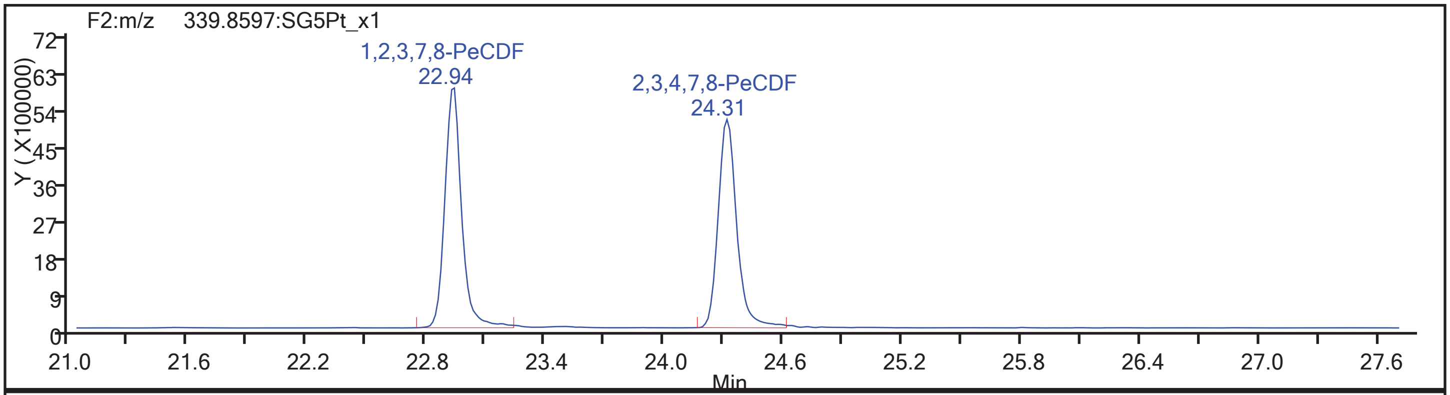

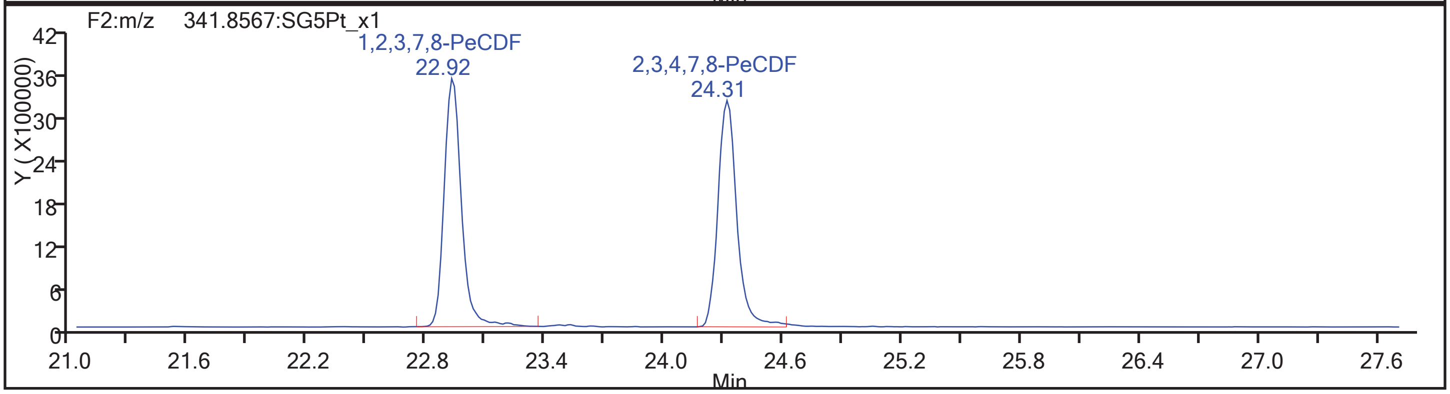

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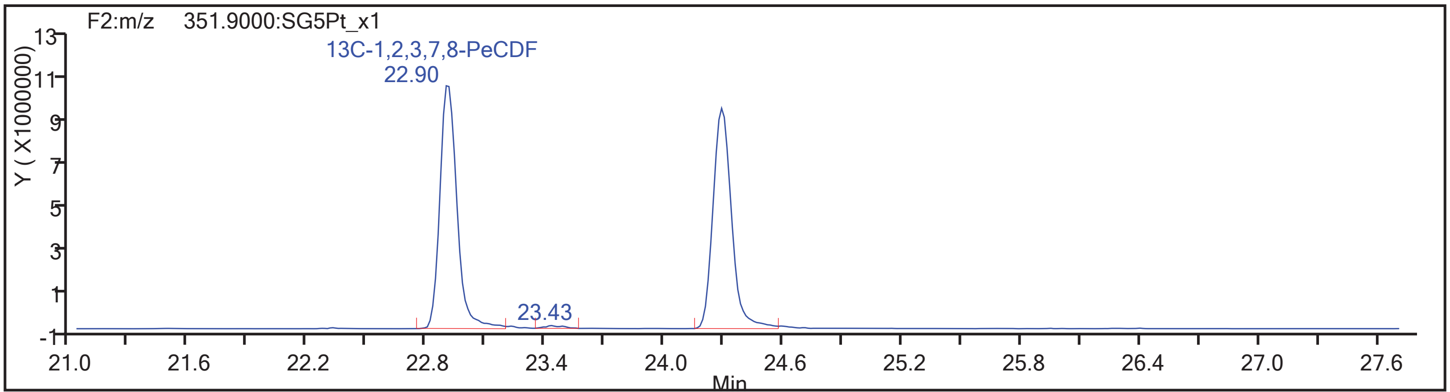

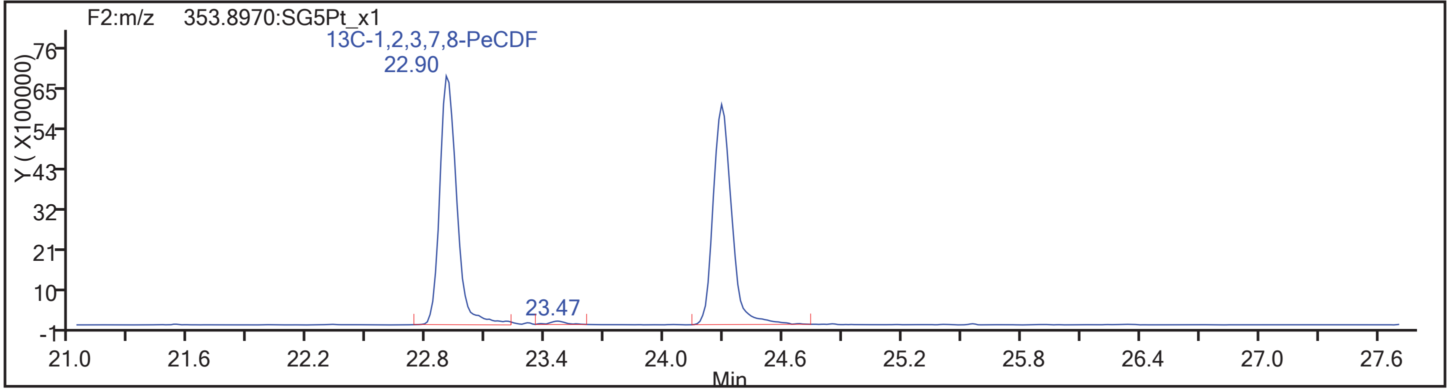

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TestAmerica Sacramento

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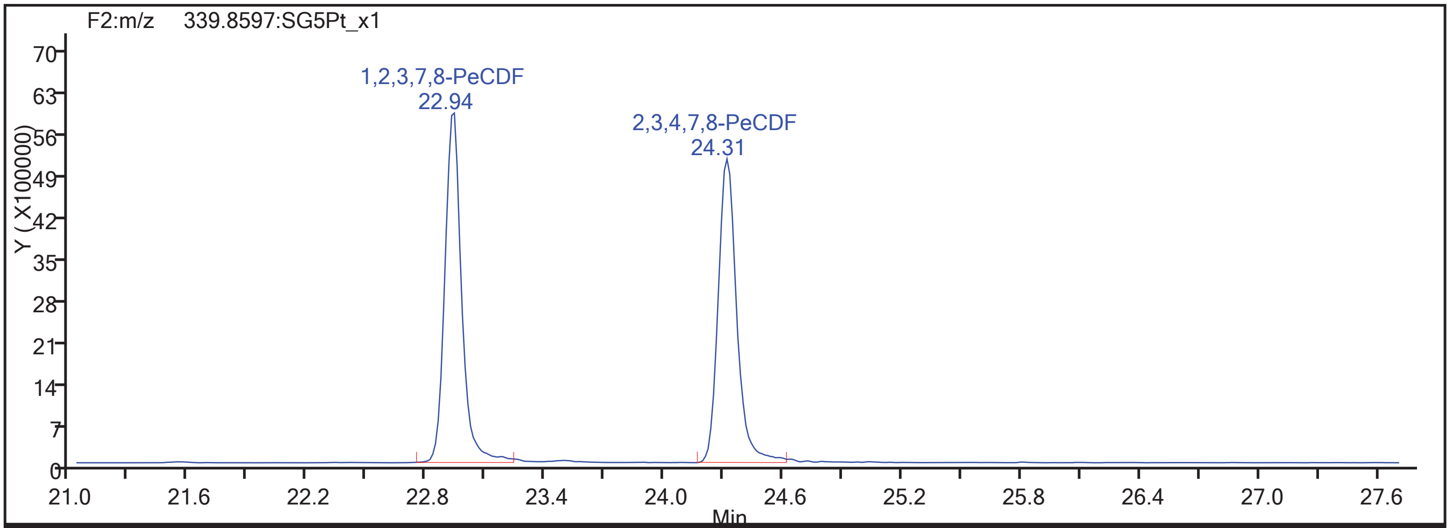

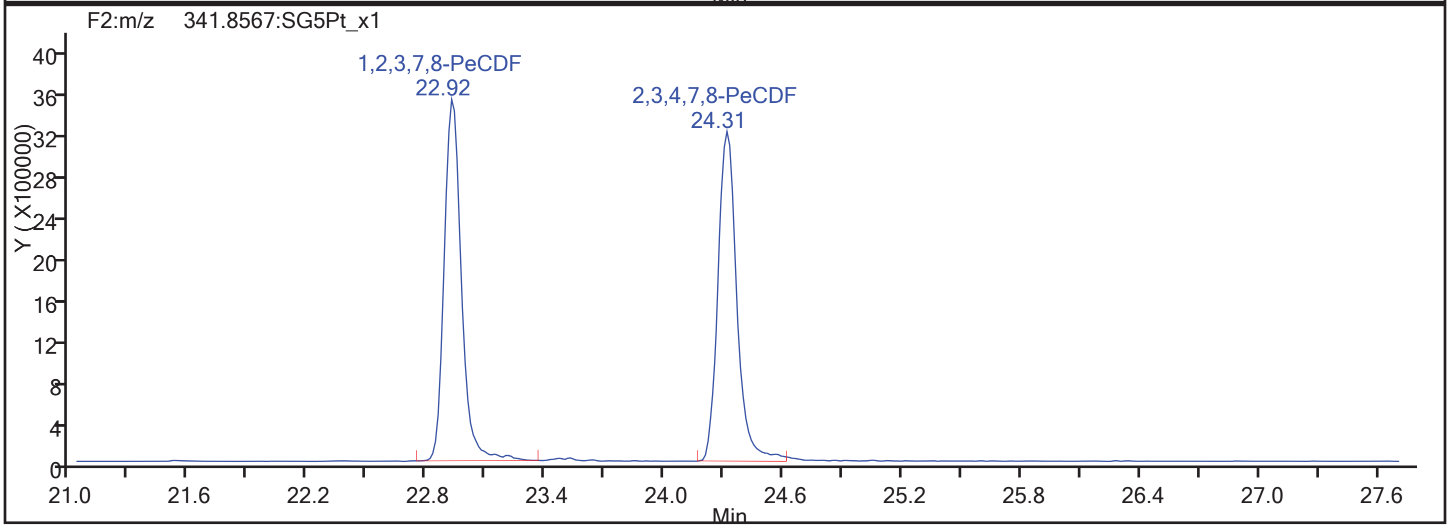

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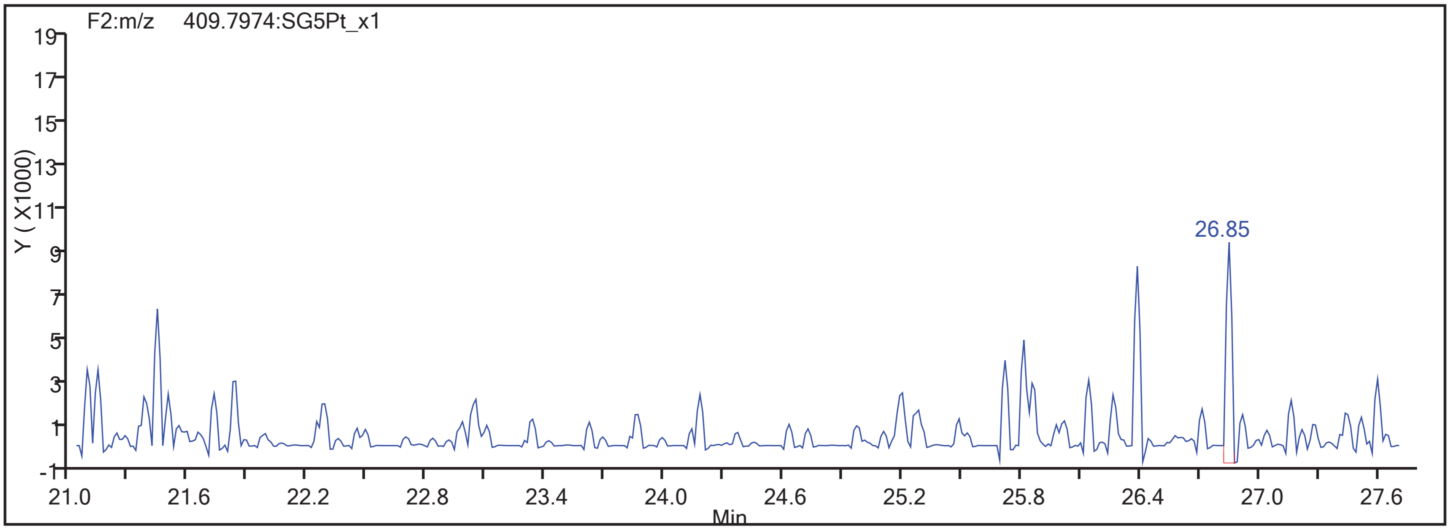

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TestAmerica Sacramento

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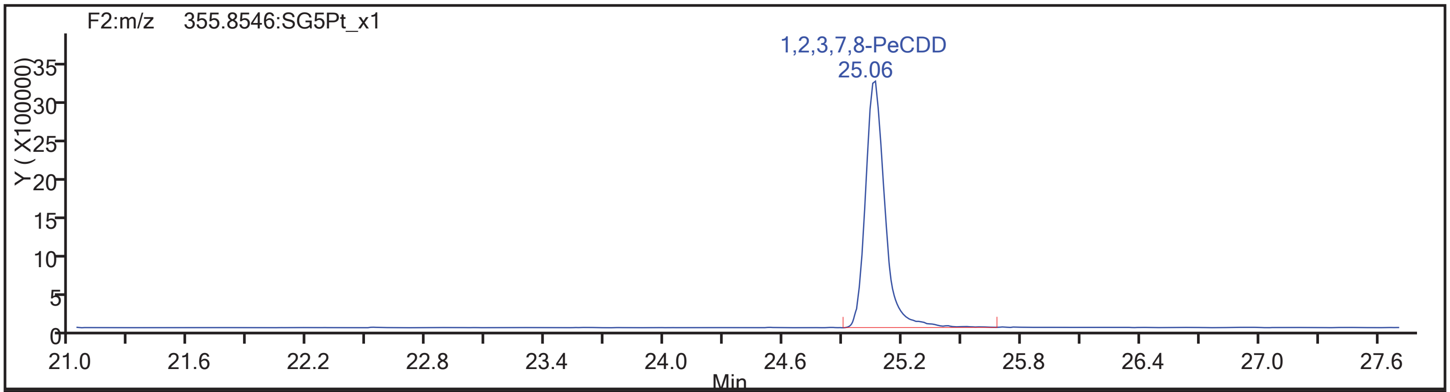

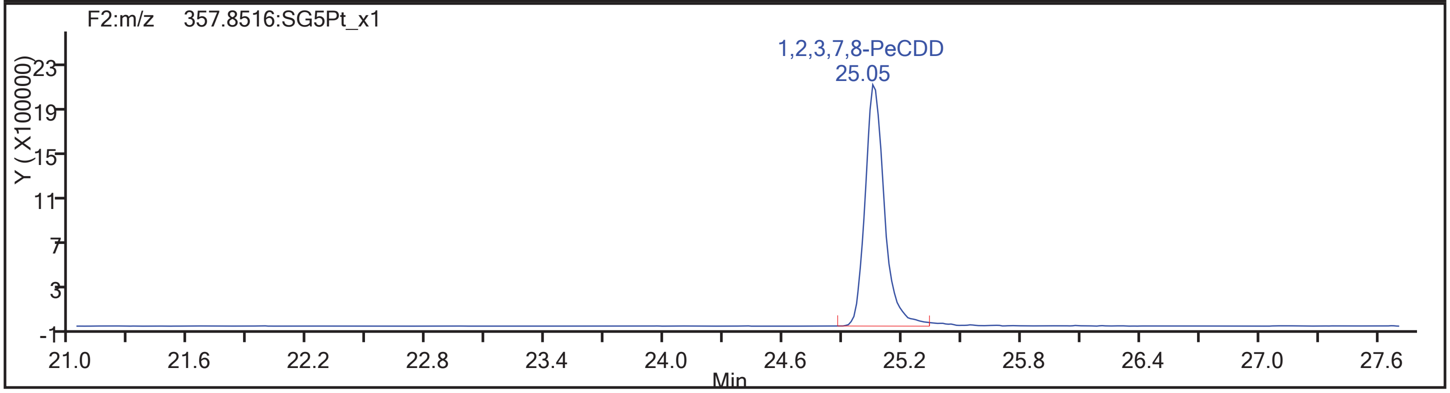

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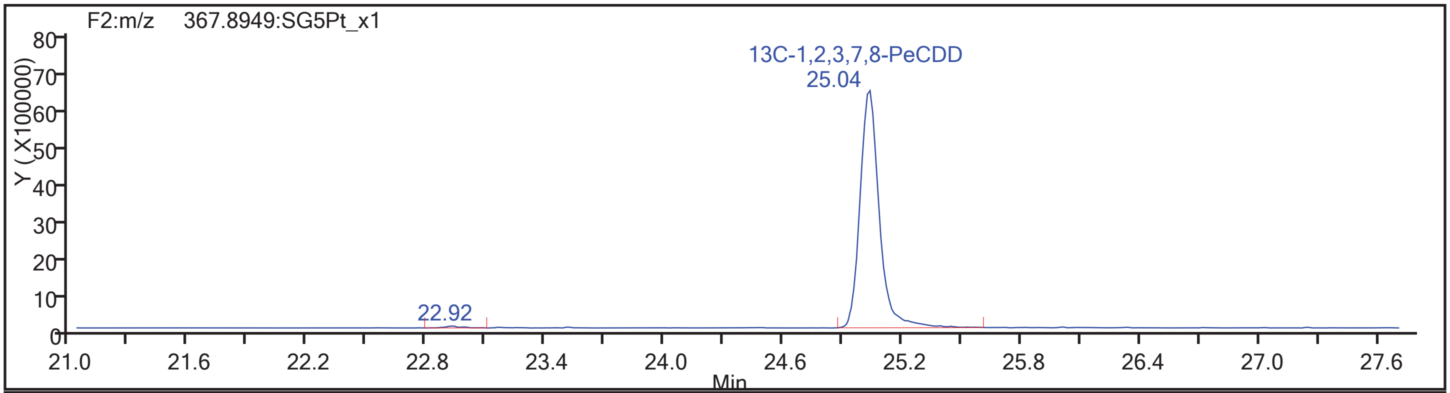

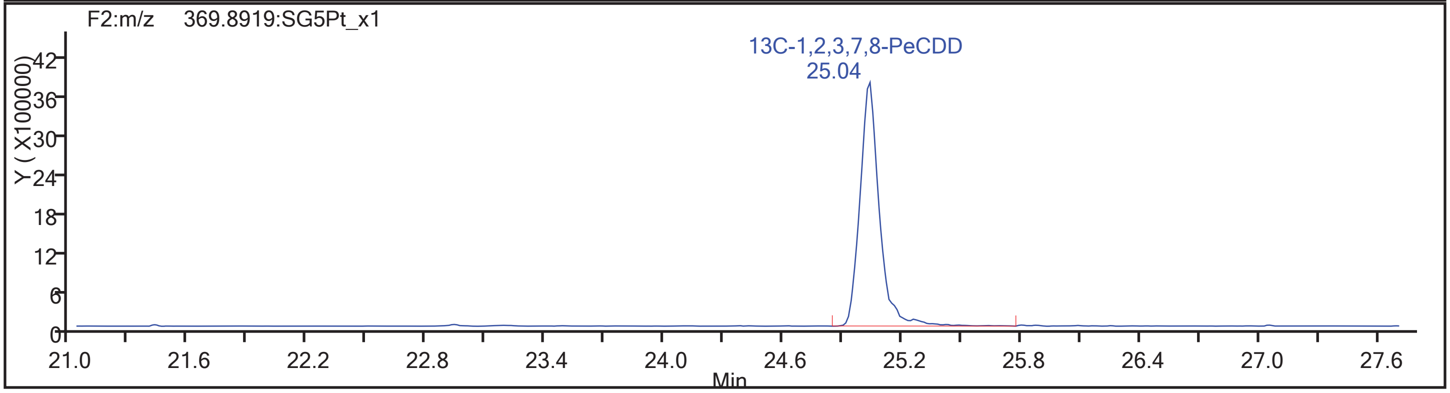

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TestAmerica Sacramento

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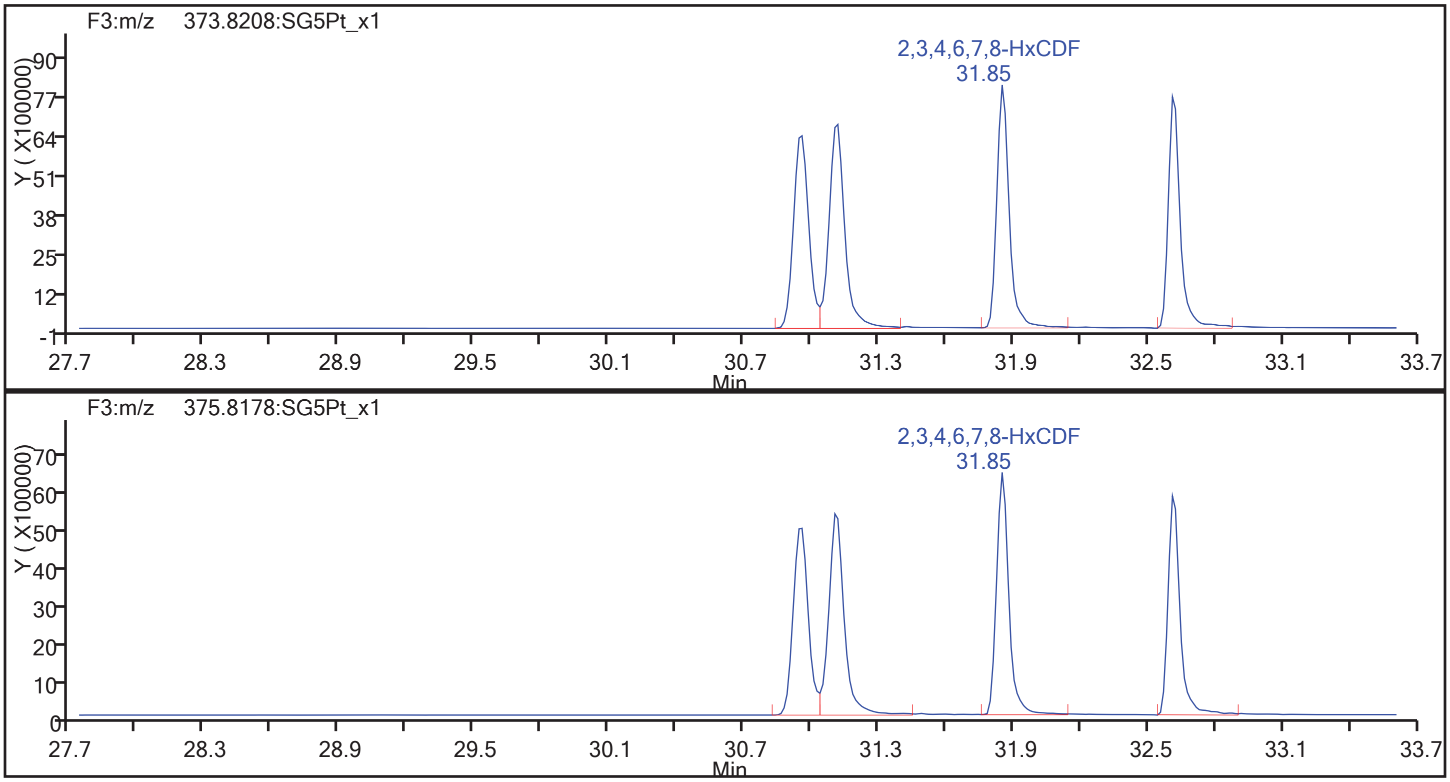

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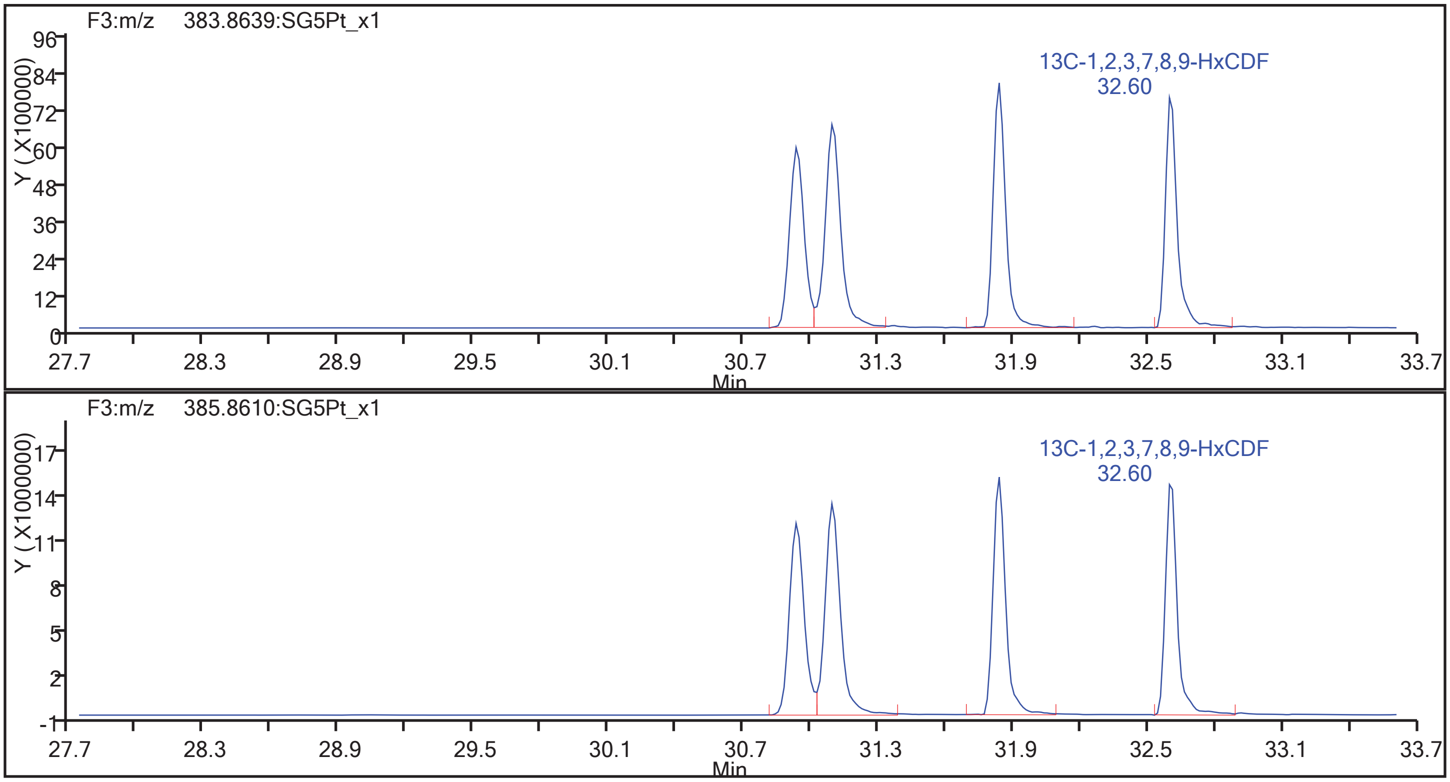

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TestAmerica Sacramento

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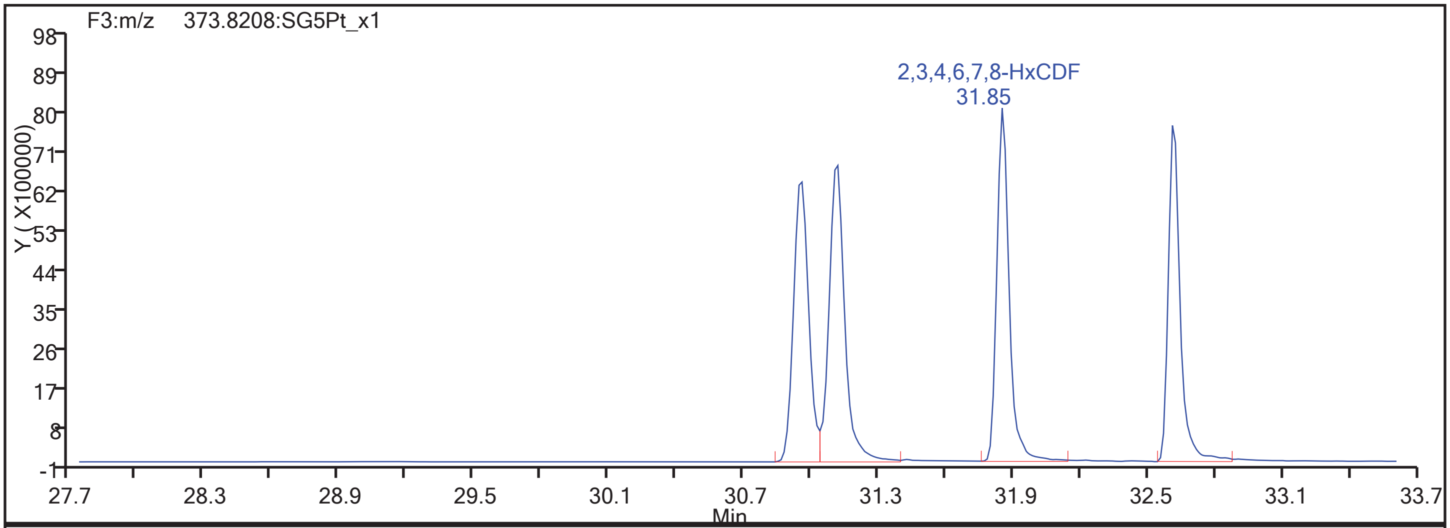
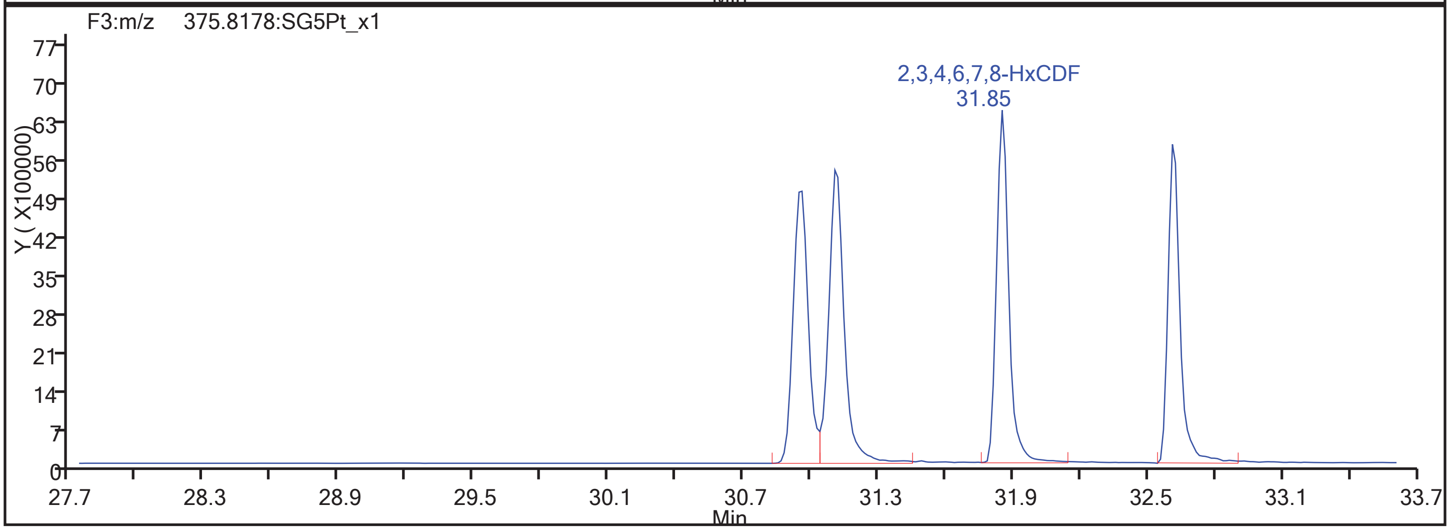
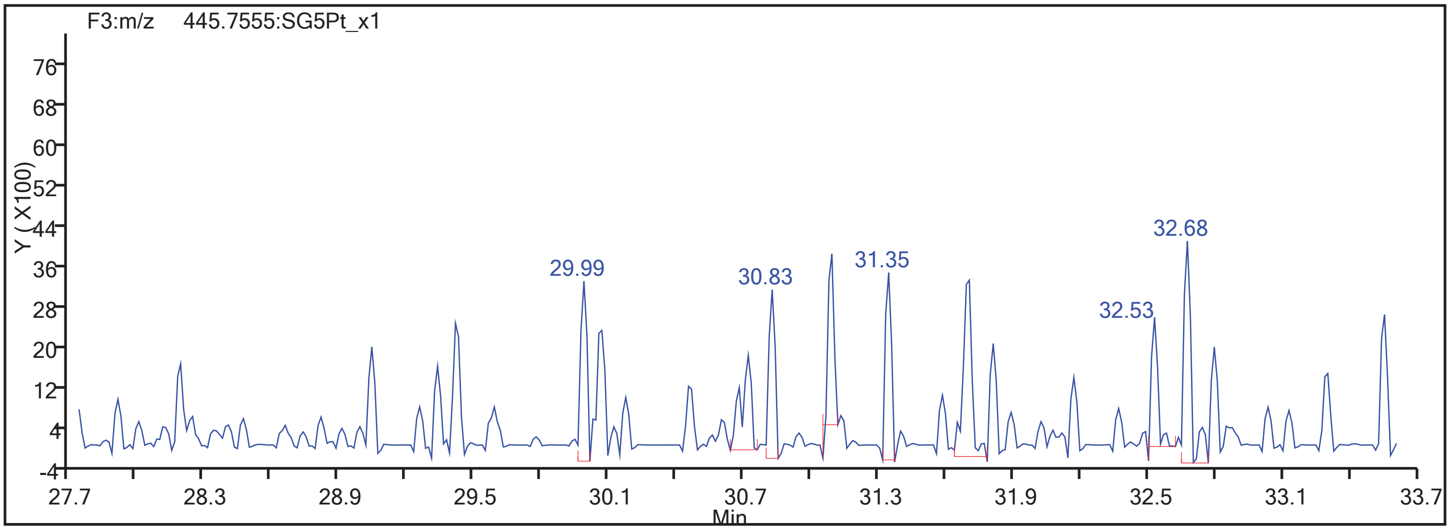




HxCDF Interference Mass



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TestAmerica Sacramento

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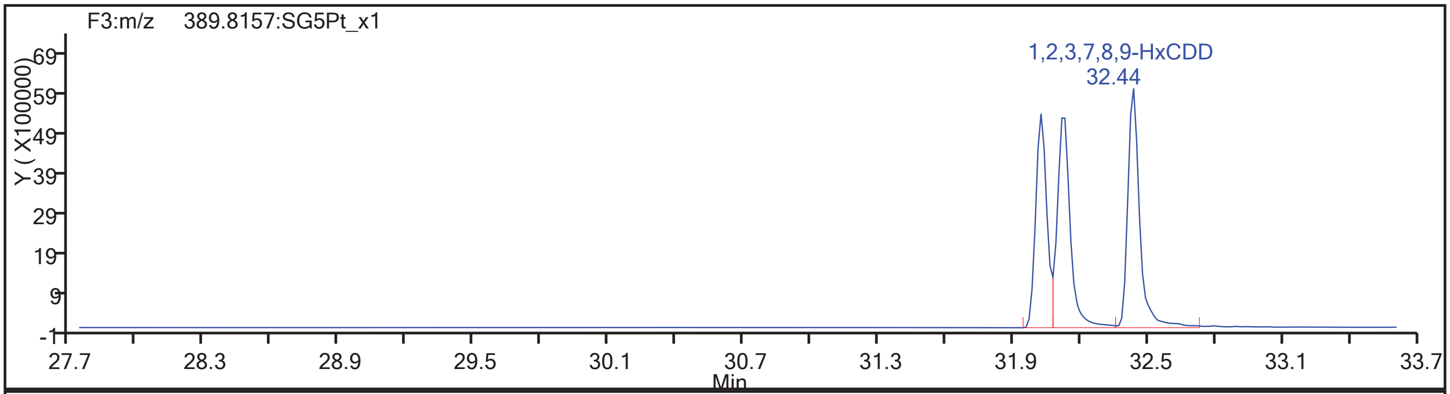

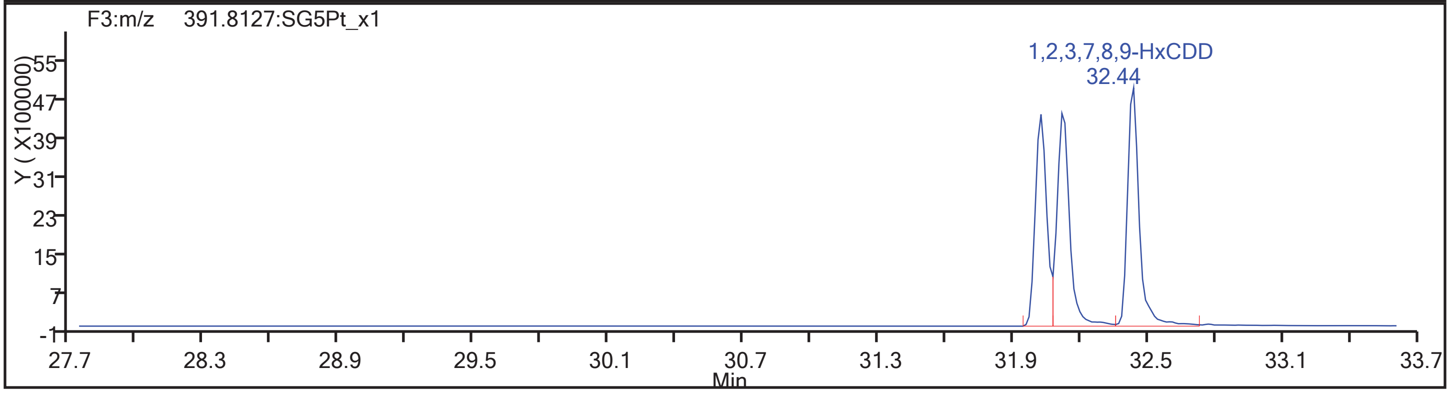

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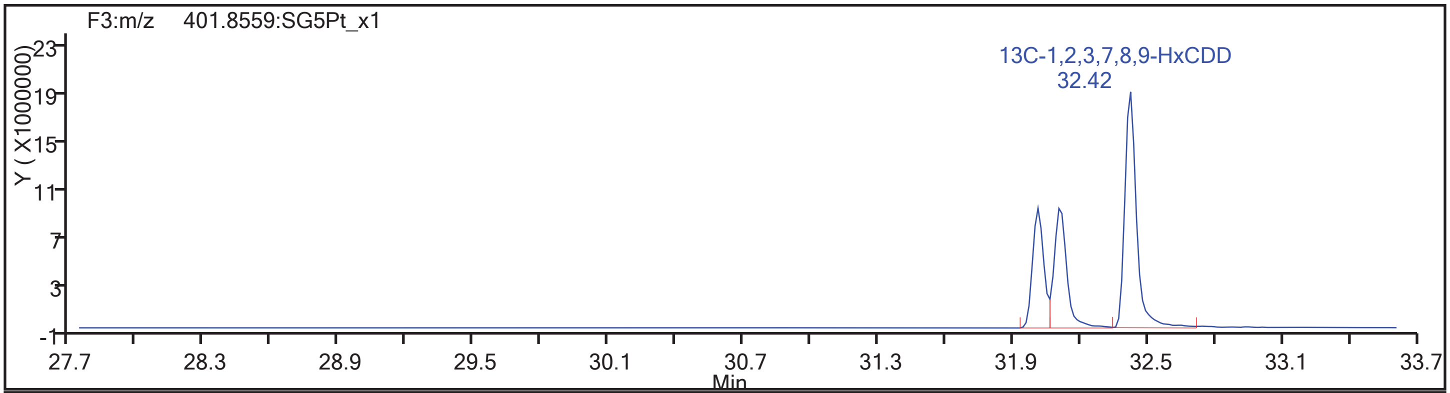

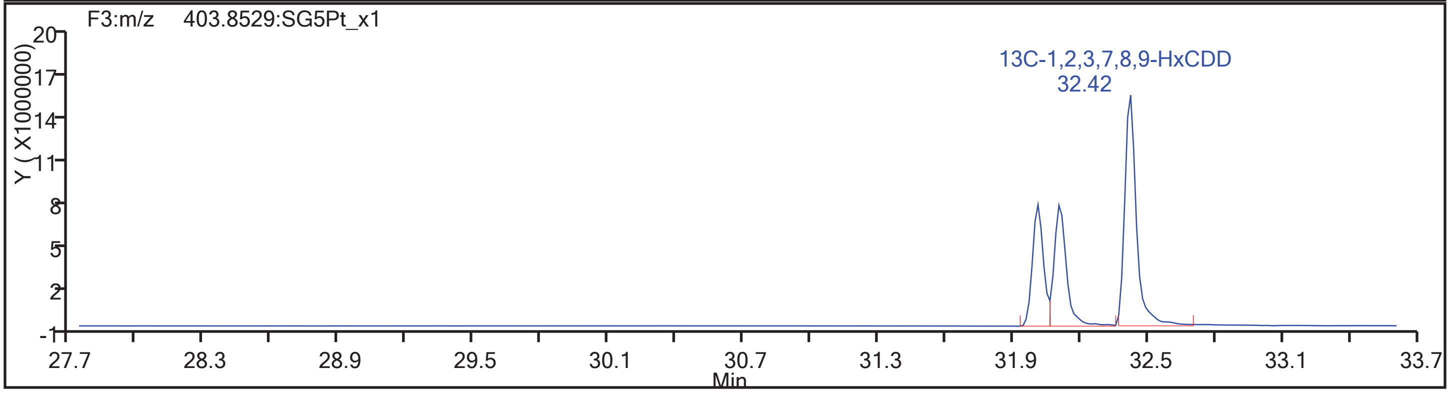

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TestAmerica Sacramento

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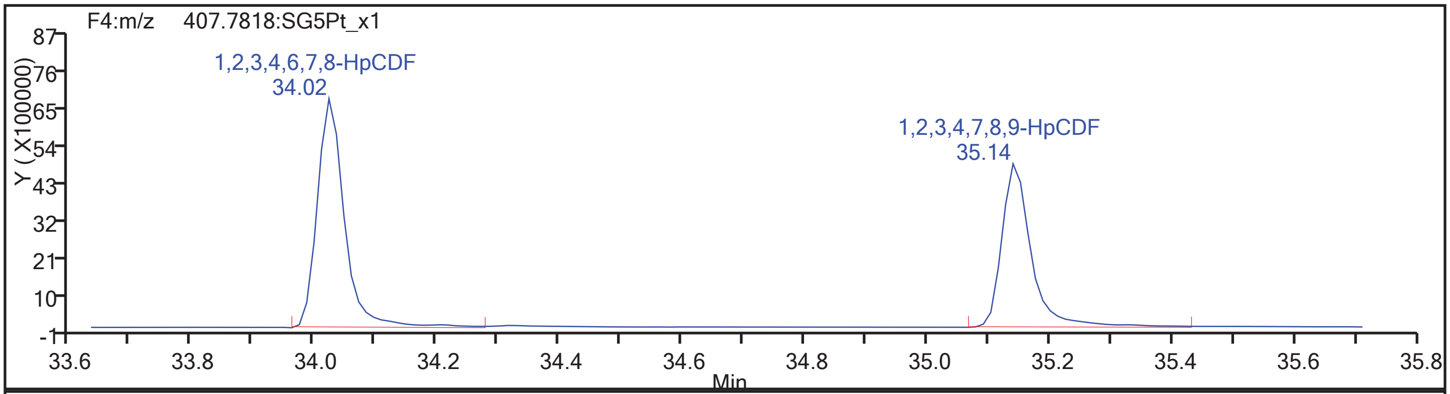

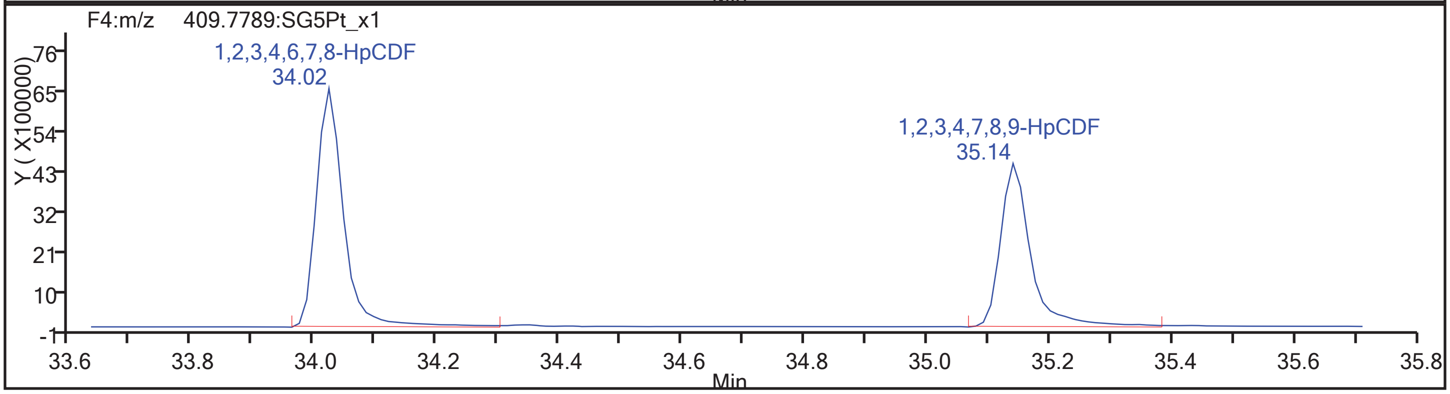

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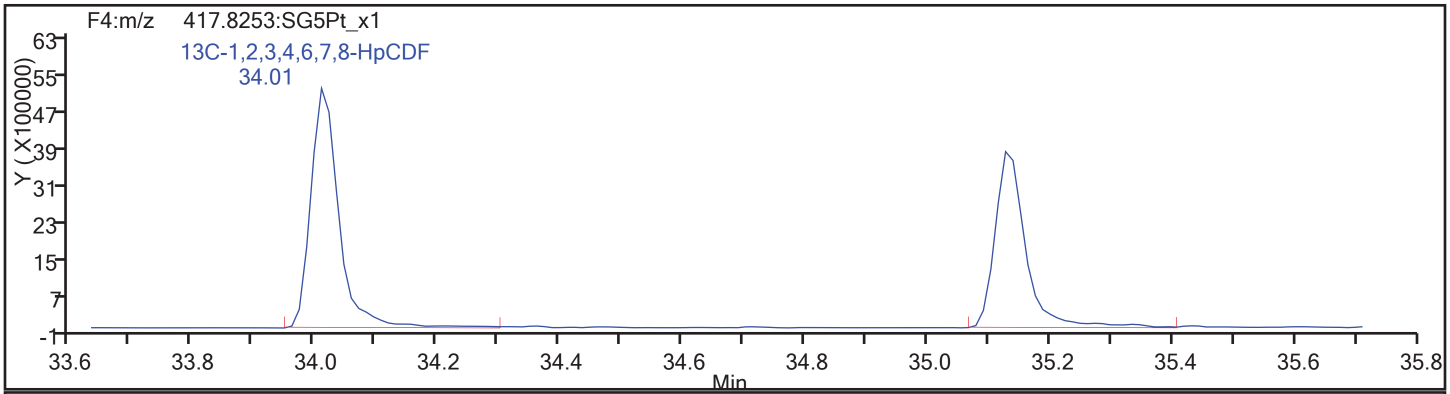

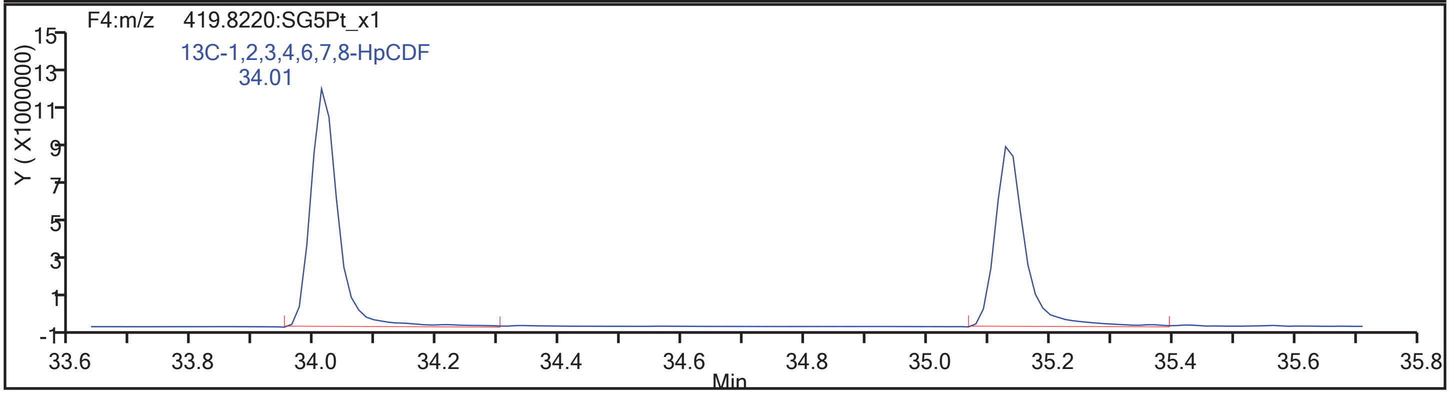

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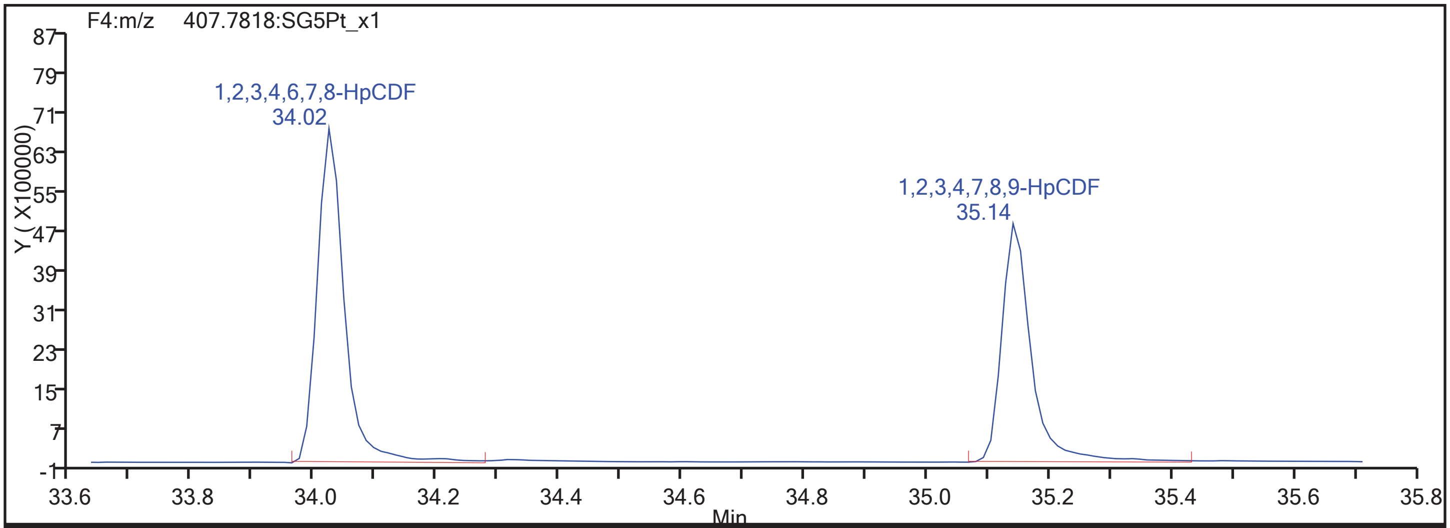

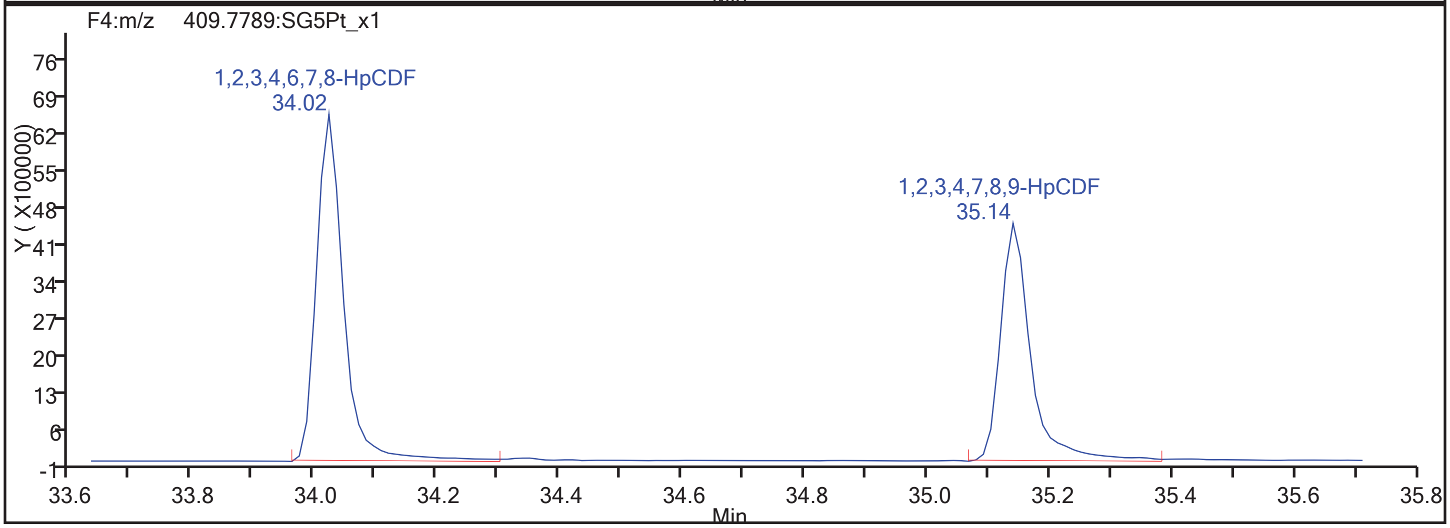

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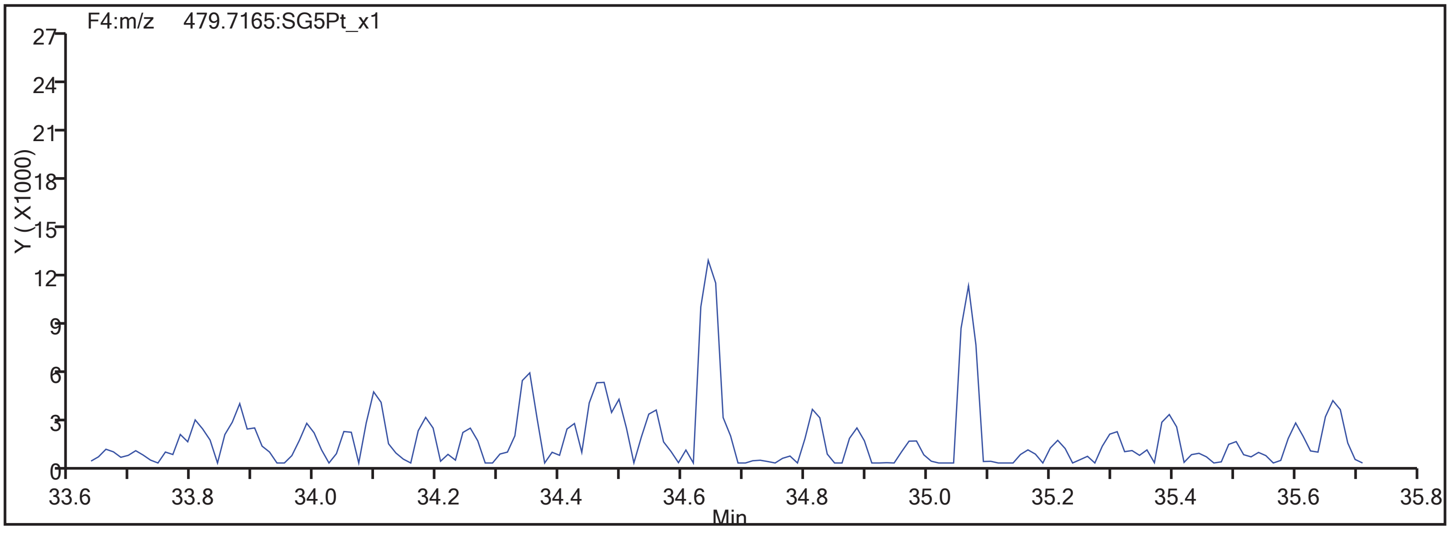

TestAmerica Sacramento

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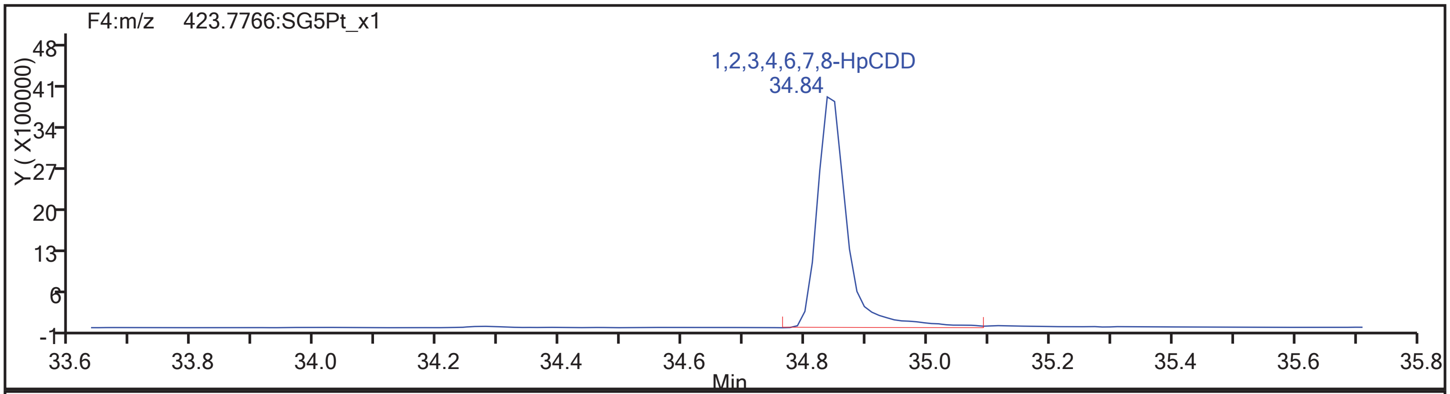

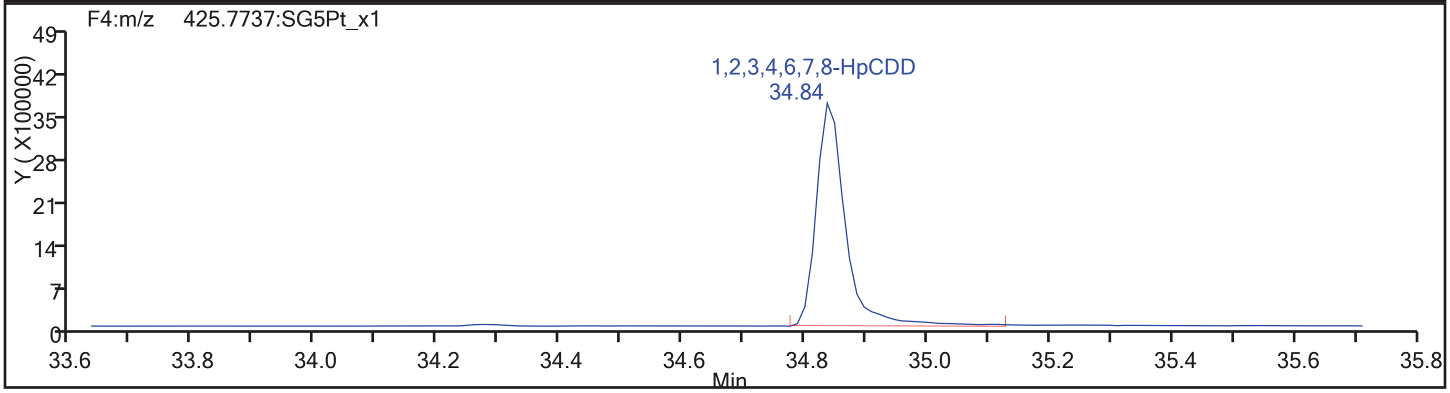

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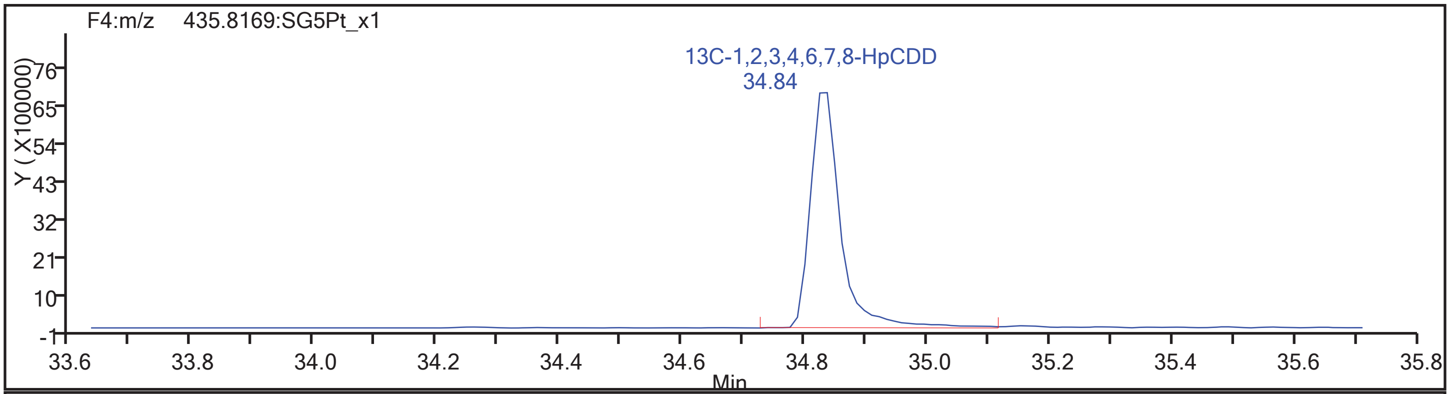

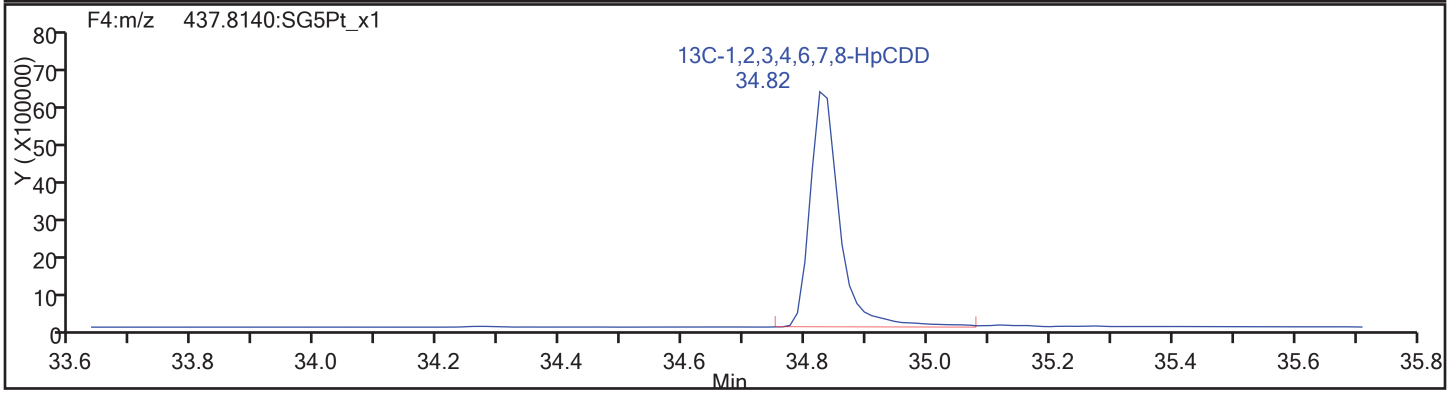

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TestAmerica Sacramento

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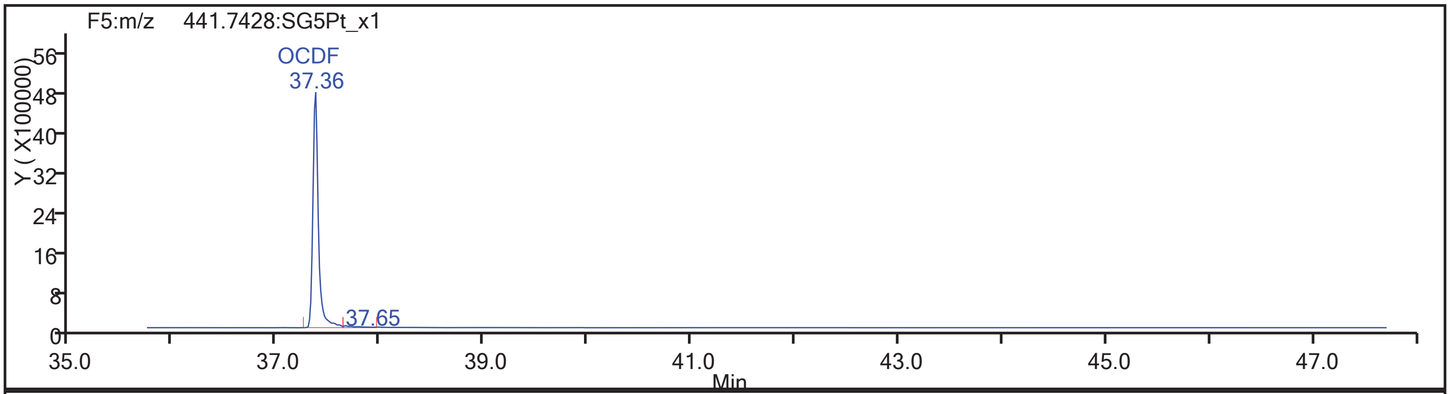

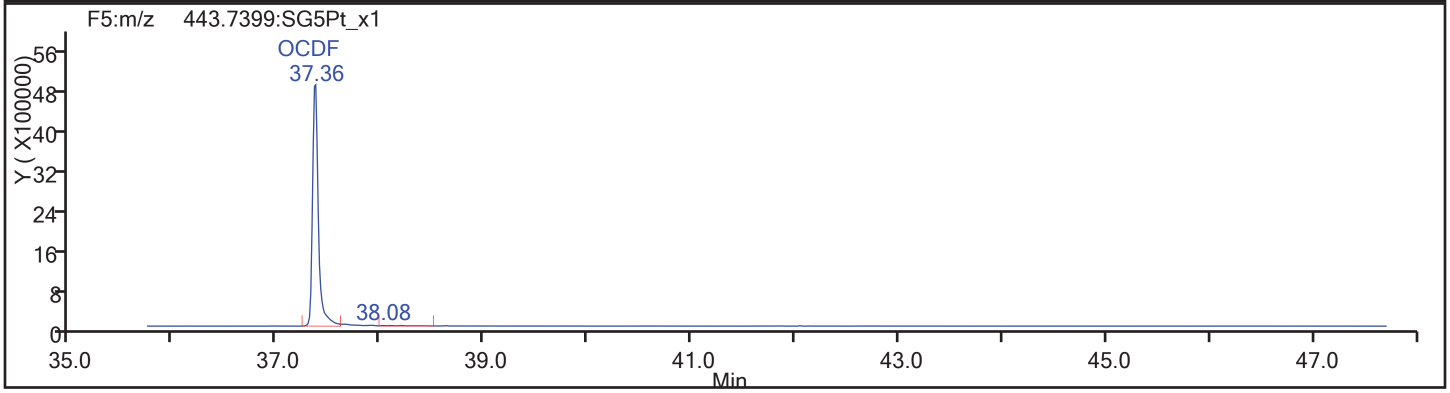

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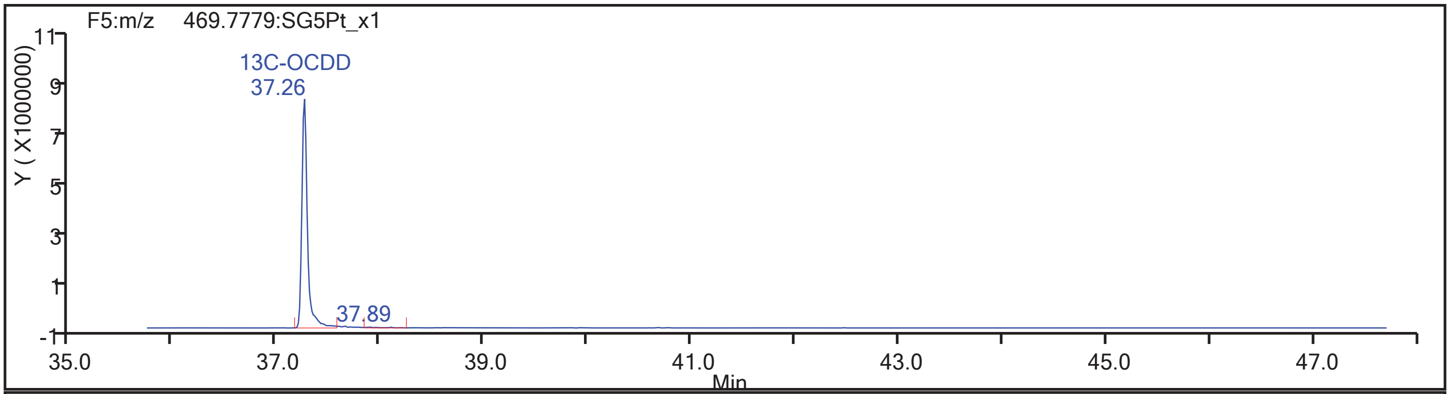

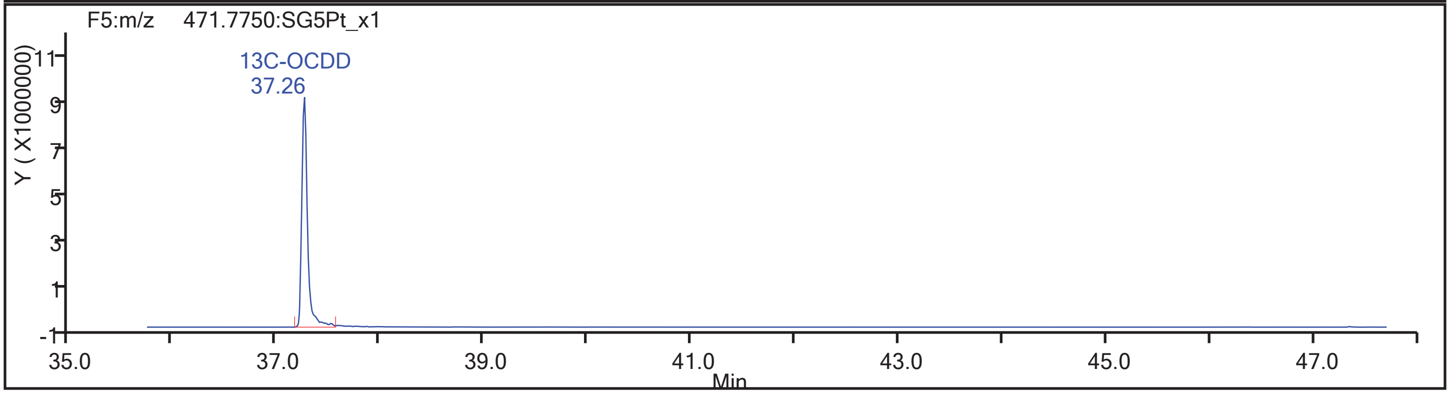

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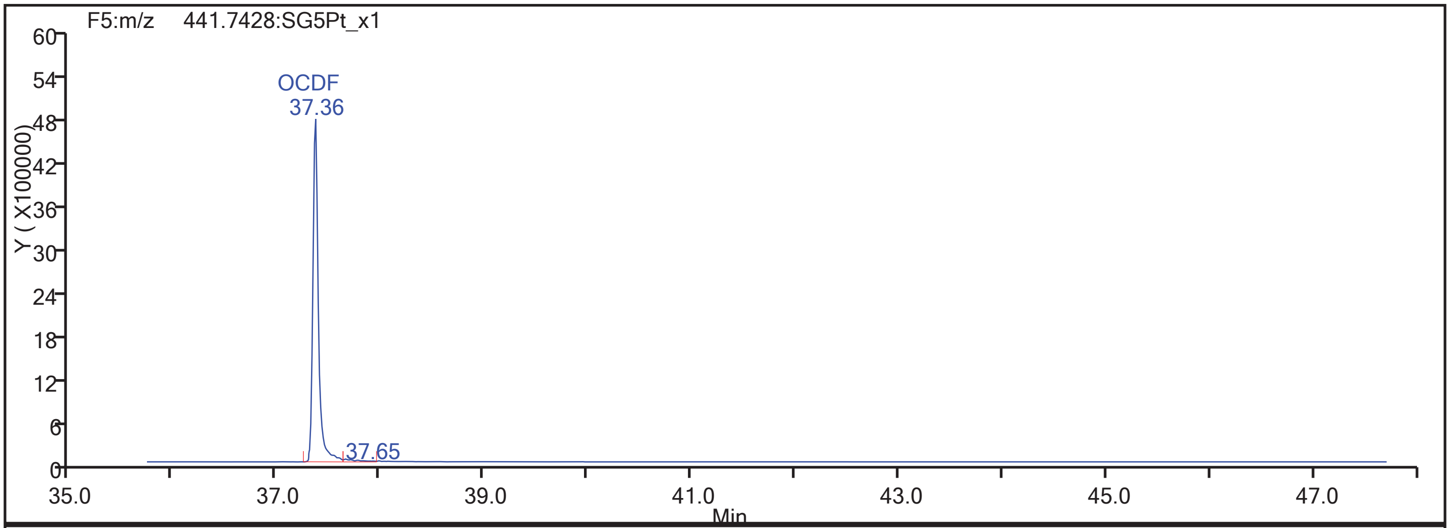
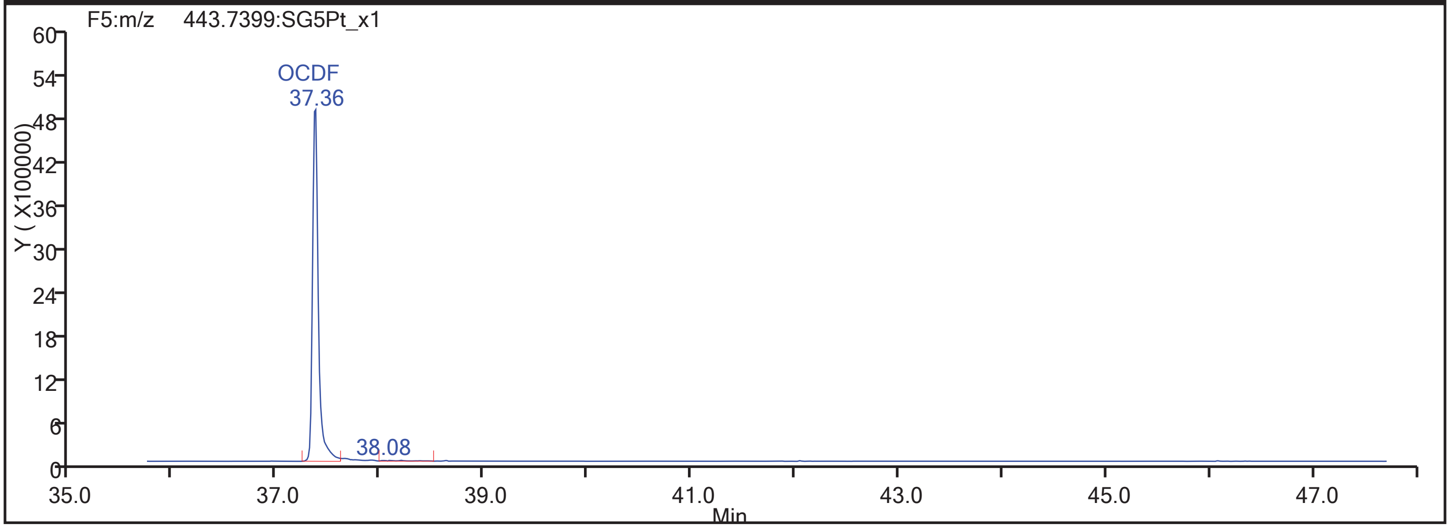
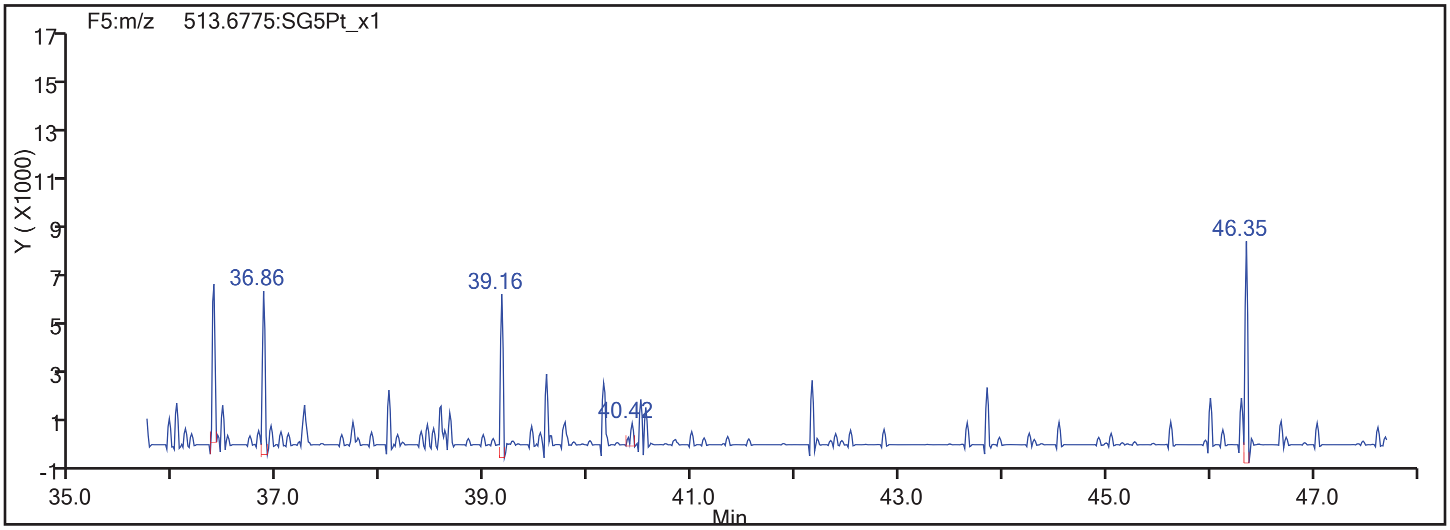




OCDF Interference Mass



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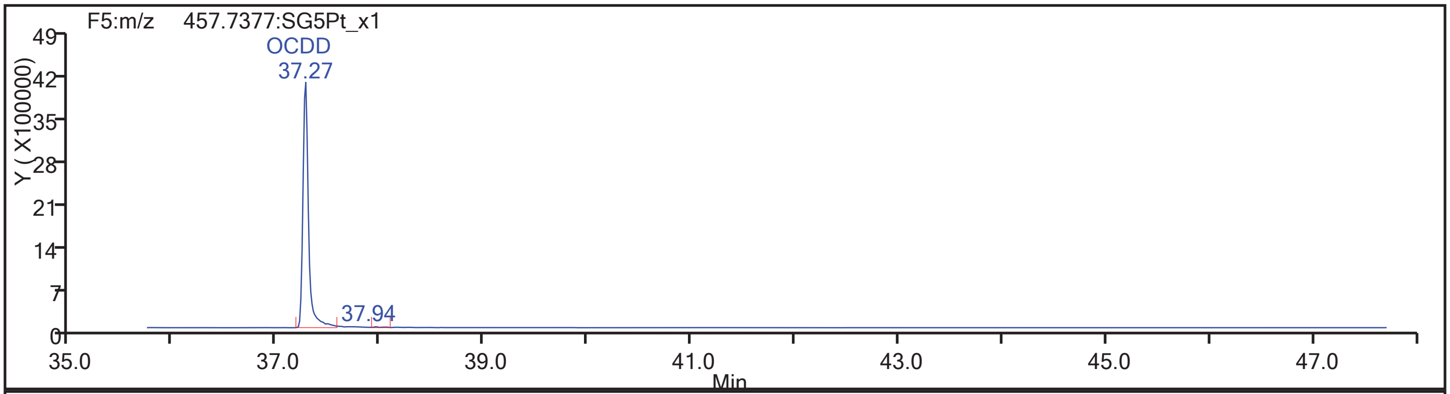

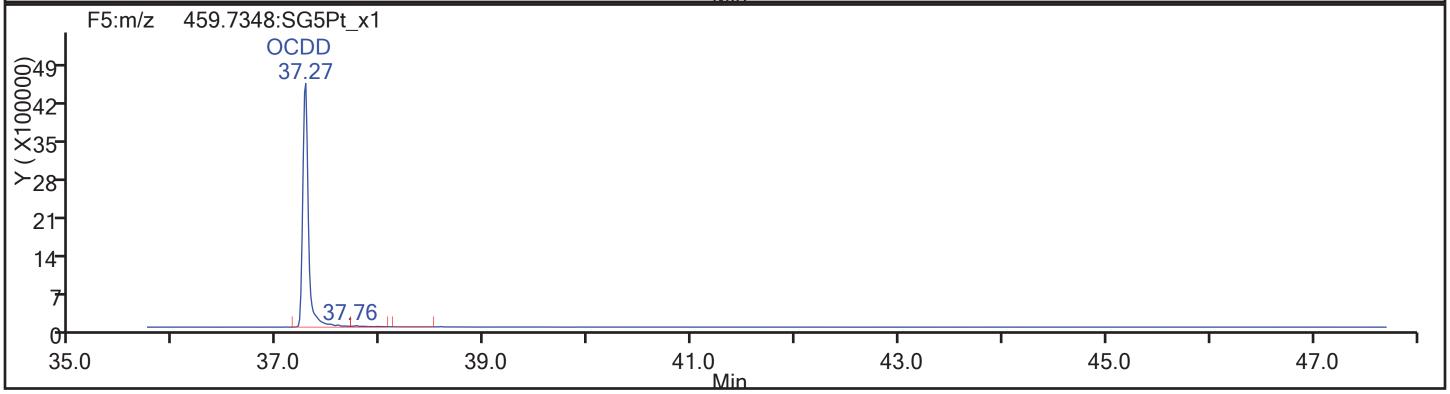

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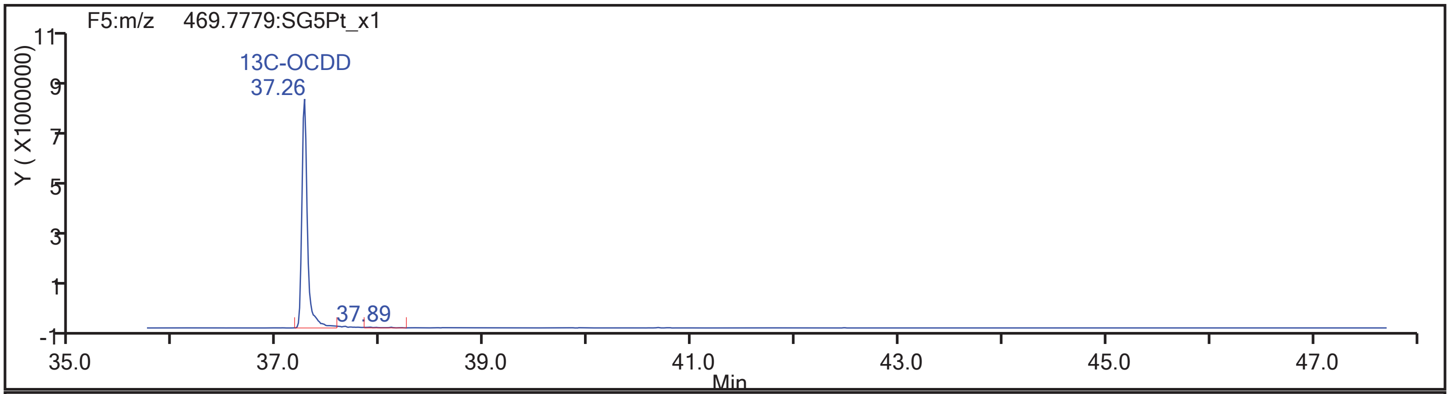

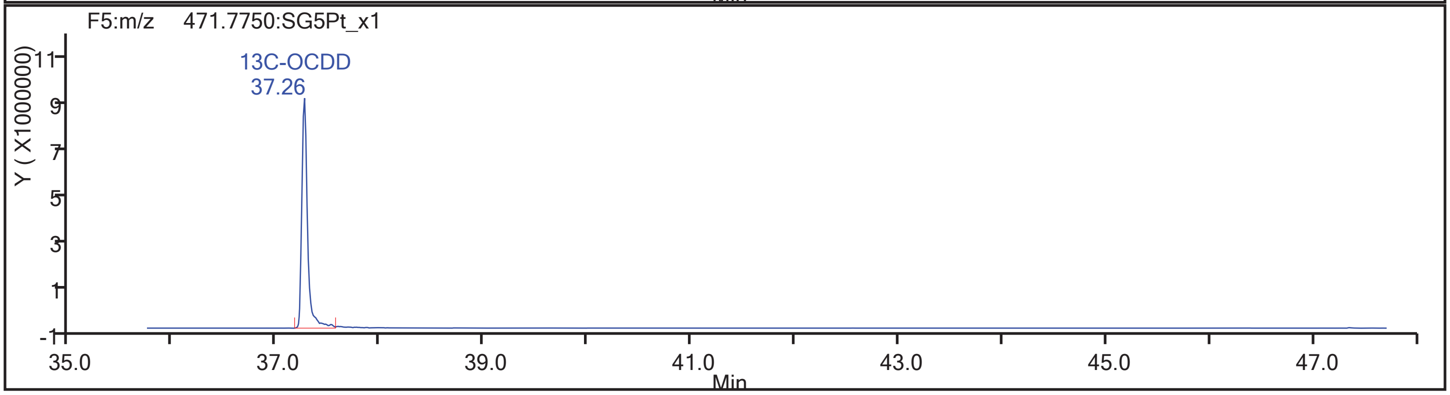

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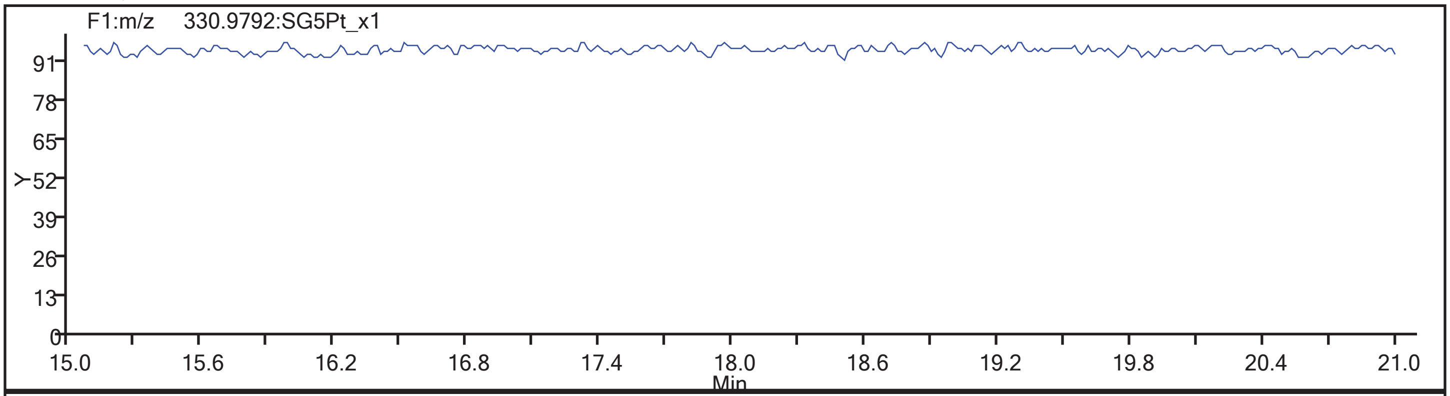

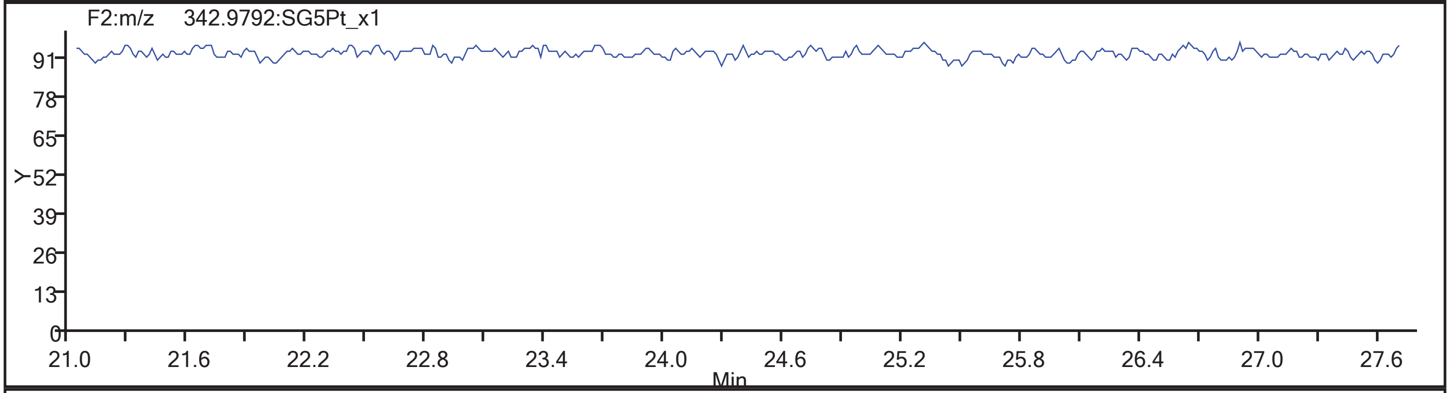

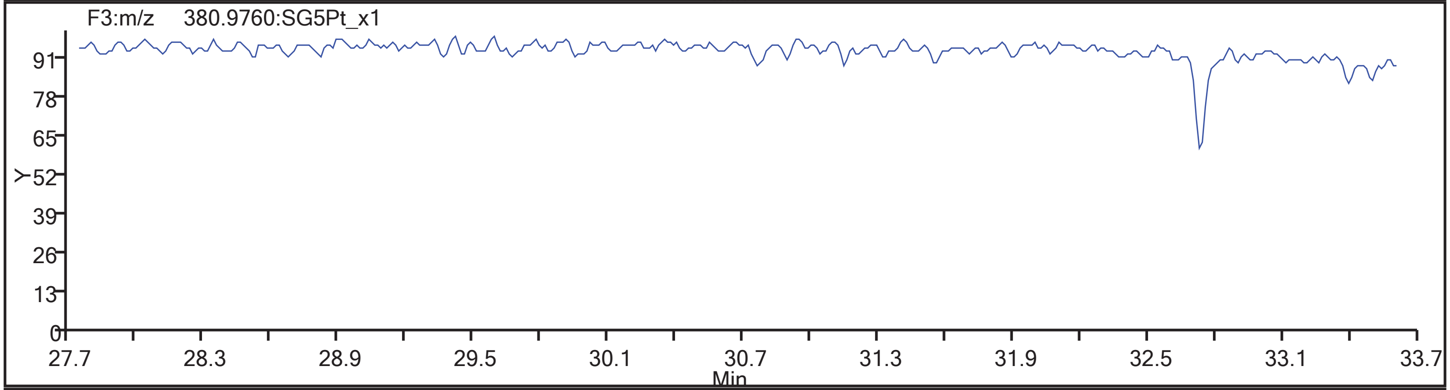

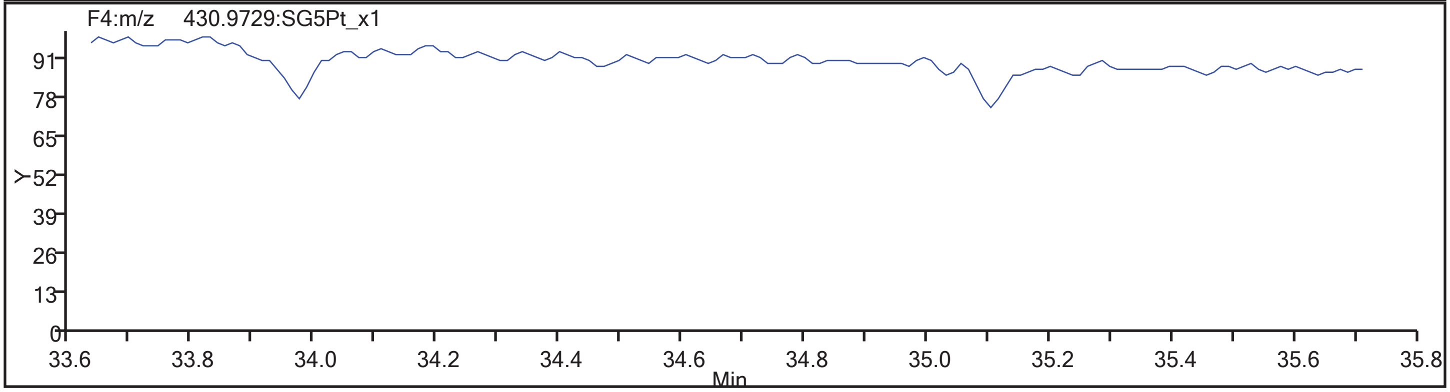

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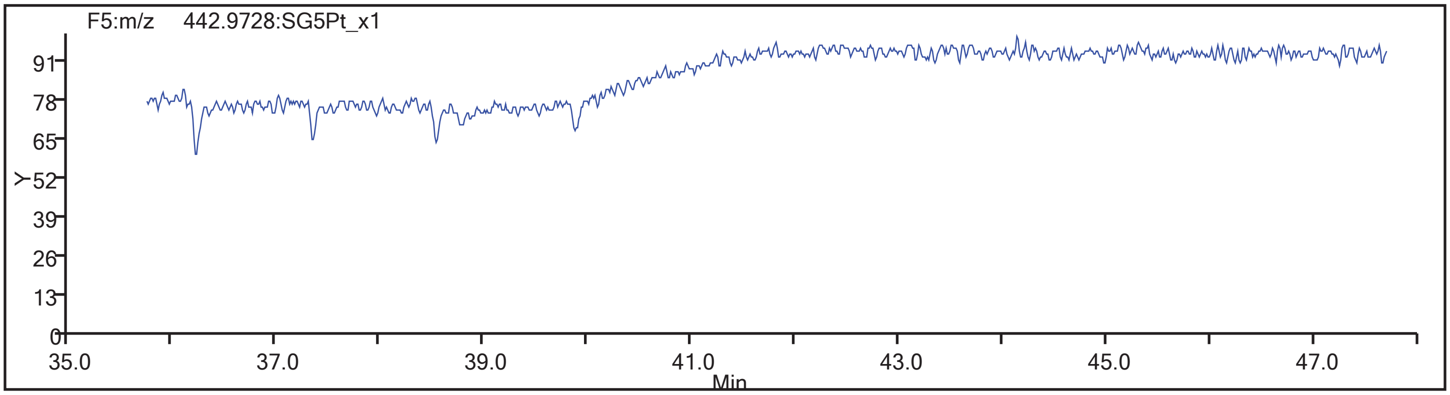
Worklist#:	195573	Sample Line#:	58
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID:	Lab Sample ID: LCSD 320-189721/3-A
Matrix: Solid	Lab File ID: 09NO1710D5_58.d
Analysis Method: 8290A	Date Collected:
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.00(g)	Date Analyzed: 11/11/2017 06:06
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture:	GPC Cleanup:(Y/N) N
Analysis Batch No.: 194084	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	21.3		1.0	0.40	0.083
51207-31-9	2,3,7,8-TCDF	20.8		1.0	0.40	0.068
40321-76-4	1,2,3,7,8-PeCDD	106		5.0	0.75	0.23
57117-41-6	1,2,3,7,8-PeCDF	106		5.0	0.75	0.45
57117-31-4	2,3,4,7,8-PeCDF	109		5.0	0.75	0.46
39227-28-6	1,2,3,4,7,8-HxCDD	111		5.0	2.0	0.64
57653-85-7	1,2,3,6,7,8-HxCDD	98.9		5.0	2.0	0.50
19408-74-3	1,2,3,7,8,9-HxCDD	100		5.0	2.0	0.49
70648-26-9	1,2,3,4,7,8-HxCDF	104		5.0	0.75	0.86
57117-44-9	1,2,3,6,7,8-HxCDF	98.5		5.0	1.0	0.71
72918-21-9	1,2,3,7,8,9-HxCDF	93.4		5.0	1.0	0.85
60851-34-5	2,3,4,6,7,8-HxCDF	102		5.0	0.75	0.79
35822-46-9	1,2,3,4,6,7,8-HpCDD	102		5.0	1.0	0.60
67562-39-4	1,2,3,4,6,7,8-HpCDF	105		5.0	1.0	1.5
55673-89-7	1,2,3,4,7,8,9-HpCDF	110		5.0	2.0	1.9
3268-87-9	OCDD	204	B	10	4.0	0.75
39001-02-0	OCDF	213		10	4.0	0.34

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	54		40-135
89059-46-1	13C-2,3,7,8-TCDF	57		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	62		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	62		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	61		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	65		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	61		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	56		40-135
114423-97-1	13C-OCDD	53		40-135

Report Date: 13-Nov-2017 10:48:55 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d
Lims ID: LCSD 320-189721/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 11-Nov-2017 06:06:11 ALS Bottle#: 31 Worklist Smp#: 58
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcsd 320-189721/3-a lcsd 320-189721/3-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 10:46:20 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 10:48:54

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	114727839	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	83589788	0.79	1.2741	57.2	57.2	0.2122	0.2122	57.18	
2,3,7,8-TCDF	17.430	9851818	0.79	1.1341	10.4	10.4	0.0338	0.0338	104	
A Non-2,3,7,8-sub-TCDF	17.113						0.0	0.0		
S Total TCDF					10.4	10.4	0.0338	0.0338		
D 13C-2,3,7,8-TCDD	18.111	61820553	0.77	0.9921	54.3	54.3	0.1869	0.1869	54.31	
$ 37Cl4-2,3,7,8-TCDD	18.126	45014047		1.0466	37.5	37.5	0.0774	0.0774	93.72	
2,3,7,8-TCDD	18.141	6588792	0.77	0.9993	10.7	10.7	0.0416	0.0416	107	
A Non-2,3,7,8-sub-TCDD	17.566						0.0	0.0		
S Total TCDD					10.7	10.7	0.0416	0.0416		
D 13C-1,2,3,7,8-PeCDF	22.451	68867218	1.57	0.9696	61.9	61.9	0.1882	0.1882	61.91	
1,2,3,7,8-PeCDF	22.478	42472297	1.61	1.1627	53.0	53.0	0.2271	0.2271	106	
D 13C-2,3,4,7,8-PeCDF	23.801	70974441	1.54							
2,3,4,7,8-PeCDF	23.828	42878176	1.59	1.1395	54.6	54.6	0.2317	0.2317	109	
A F1 PeCDFs	20.001						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.175						0.0	0.0		
S Total PeCDF					107.7	107.7	0.2294	0.2294		
D 13C-1,2,3,7,8-PeCDD	24.524	54262400	1.61	0.7588	62.3	62.3	0.0990	0.0990	62.33	
1,2,3,7,8-PeCDD	24.551	27345301	1.57	0.9490	53.1	53.1	0.1164	0.1164	106	
A Non-2,3,7,8-sub-PeCDD	23.433						0.0	0.0		
S Total PeCDD					53.1	53.1	0.1164	0.1164		
D 13C-1,2,3,4,7,8-HxCDF	30.593	58201665	0.52	0.9644	65.0	65.0	0.4716	0.4716	65.02	
1,2,3,4,7,8-HxCDF	30.606	42458193	1.30	1.4012	52.1	52.1	0.4282	0.4282	104	
D 13C-1,2,3,6,7,8-HxCDF	30.766	70512907	0.52							
1,2,3,6,7,8-HxCDF	30.793	48579239	1.26	1.6951	49.2	49.2	0.3540	0.3540	98.48	
D 13C-2,3,4,6,7,8-HxCDF	31.578	67083553	0.52							
2,3,4,6,7,8-HxCDF	31.591	45270429	1.27	1.5205	51.2	51.2	0.3946	0.3946	102	
D 13C-1,2,3,7,8,9-HxCDF	32.363	57916139	0.52							
1,2,3,7,8,9-HxCDF	32.377	38335826	1.27	1.4099	46.7	46.7	0.4256	0.4256	93.43	
A Non-2,3,7,8-sub-HxCDF	30.267						0.0	0.0		
S Total HxCDF					199.2	199.2	0.4006	0.4006		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.190	92817951	1.26	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.764	38833347	1.24							
1,2,3,4,7,8-HxCDD	31.778	26193370	1.27	0.9505	55.3	55.3	0.3225	0.3225	111	
D 13C-1,2,3,6,7,8-HxCDD	31.858	49796339	1.23	0.8791	61.0	61.0	0.3306	0.3306	61.03	
1,2,3,6,7,8-HxCDD	31.871	30398275	1.28	1.2343	49.5	49.5	0.2483	0.2483	98.91	
1,2,3,7,8,9-HxCDD	32.204	31076824	1.29	1.2467	50.1	50.1	0.2458	0.2458	100	
A Non-2,3,7,8-sub-HxCDD	30.913						0.0	0.0		
S Total HxCDD					154.9	154.9	0.2722	0.2722		
D 13C-1,2,3,4,6,7,8-HpCDF	33.782	39884804	0.43	0.7618	56.4	56.4	0.9143	0.9143	56.41	
1,2,3,4,6,7,8-HpCDF	33.794	34245305	1.06	1.6399	52.4	52.4	0.7672	0.7672	105	
D 13C-1,2,3,4,7,8,9-HpCDF	34.852	37060441	0.42							
1,2,3,4,7,8,9-HpCDF	34.864	29226431	1.06	1.3302	55.1	55.1	0.9458	0.9458	110	
A Non-2,3,7,8-sub-HpCDF	34.311						0.0	0.0		
S Total HpCDF					107.4	107.4	0.8565	0.8565		
D 13C-1,2,3,4,6,7,8-HpCDD	34.560	44305081	1.07	0.7762	61.5	61.5	0.5826	0.5826	61.50	
1,2,3,4,6,7,8-HpCDD	34.572	22487972	1.02	0.9932	51.1	51.1	0.3009	0.3009	102	
A Non-2,3,7,8-sub-HpCDD	34.287						0.0	0.0		
S Total HpCDD					51.1	51.1	0.3009	0.3009		
D 13C-OCDD	36.894	62606492	0.88	0.6314	106.8	106.8	0.2232	0.2232	53.41	
OCDF	36.990	44875580	0.91	1.3460	106.5	106.5	0.1701	0.1701	107	
OCDD	36.906	33859195	0.89	1.0604	102.0	102.0	0.3733	0.3733	102	

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d
Lims ID: LCSD 320-189721/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 11-Nov-2017 06:06:11 ALS Bottle#: 31 Worklist Smp#: 58
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: lcsd 320-189721/3-a lcsd 320-189721/3-a
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 10:46:20 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 10:48:54

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		50190240	12340473	11237	28092	1098		
333.9339	17.914	17.914	0		64537599	15883003	9691	24227	1639	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	36853485	8834065	17742	44355	498		
317.9389	17.400	17.400	0	0.971	46736303	11275593	12775	31937	883	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.430	17.415	1	1.002	4347694	1023685	1094	2735	936		
305.8987	17.415	17.415	0	1.001	5504124	1315389	1989	4972	661	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.113						1094	2735			
305.8987	17.113						1989	4972			
13C-2,3,7,8-TCDD											
331.9368	18.111	18.111	0	1.011	26811660	6087394	11237	28092	542		
333.9339	18.111	18.111	0	1.011	35008893	7877934	9691	24227	813	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.126	18.125	0	1.012	45014047	10134877	9151	22877	1108		
2,3,7,8-TCDD											
319.8965	18.141	18.125	1	1.002	2874947	645256	1316	3290	490		
321.8936	18.126	18.125	0	1.001	3713845	848857	1004	2510	845	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.566						1316	3290			
321.8936	17.566						1004	2510			
13C-1,2,3,7,8-PeCDF											
351.9000	22.451	22.451	0	1.253	42043788	7283546	12468	31170	584		
353.8970	22.451	22.451	0	1.253	26823430	4782121	8129	20322	588	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.478	22.465	1	1.001	26212344	4460943	7593	18982	588		
341.8567	22.464	22.465	0	1.001	16259953	2781250	5152	12880	540	1.61(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.801	23.801	0	1.329	43063706	7061451	12468	31170	566		
353.8970	23.801	23.801	0	1.329	27910735	4603022	8129	20322	566	1.54(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.828	23.828	0	1.061	26348023	4358391	7593	18982	574		
341.8567	23.828	23.828	0	1.061	16530153	2687847	5152	12880	522	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.001						447	1117			
341.8567	20.001						1078	2695			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.175						7593	18982			
341.8567	23.175						5152	12880			
13C-1,2,3,7,8-PeCDD											
367.8949	24.524	24.524	0	1.369	33445714	5038721	5270	13175	956		
369.8919	24.524	24.524	0	1.369	20816686	3171833	3212	8030	987	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551	24.551	0	1.001	16700682	2528881	2351	5877	1076		
357.8516	24.551	24.551	0	1.001	10644619	1592428	1277	3192	1247	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.433						2351	5877			
357.8516	23.433						1277	3192			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.593	30.593	0	0.950	19860803	3944864	13193	32982	299		
385.8610	30.593	30.593	0	0.950	38340862	7498298	27428	68570	273	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.606	30.606	0	1.000	23963781	4578401	15494	38735	295		
375.8178	30.606	30.606	0	1.000	18494412	3579903	11971	29927	299	1.30(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.766	30.766	0	0.956	24113956	4462291	13193	32982	338		
385.8610	30.766	30.766	0	0.956	46398951	8467510	27428	68570	309	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.793	30.793	0	1.007	27090828	5114870	15494	38735	330		
375.8178	30.793	30.793	0	1.007	21488411	4018822	11971	29927	336	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.578	31.578	0	0.981	23040280	5738846	13193	32982	435		
385.8610	31.578	31.578	0	0.981	44043273	10841631	27428	68570	395	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.591	31.591	0	1.033	25334546	6274543	15494	38735	405		
375.8178	31.591	31.591	0	1.033	19935883	4941892	11971	29927	413	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.363	32.363	0	1.005	19783212	4987606	13193	32982	378		
385.8610	32.363	32.363	0	1.005	38132927	9433802	27428	68570	344	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.377	32.377	0	1.058	21481697	5308239	15494	38735	343		
375.8178	32.377	32.377	0	1.058	16854129	4198377	11971	29927	351	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.267						15494	38735			
375.8178	30.267						11971	29927			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.190	32.177	1		51803790	12465732	15093	37732	826		
403.8529	32.190	32.177	1		41014161	9863852	10864	27160	908	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.764	31.751	1	0.987	21503592	6041857	15093	37732	400		
403.8529	31.751	31.751	0	0.986	17329755	4848571	10864	27160	446	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.778	31.764	1	0.997	14653810	3962646	8599	21497	461		
391.8127	31.778	31.764	1	0.997	11539560	3085005	5600	14000	551	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.858	31.858	0	0.990	27479029	6341173	15093	37732	420		
403.8529	31.858	31.858	0	0.990	22317310	5241093	10864	27160	482	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.871	31.871	0	1.000	17068481	4106210	8599	21497	478		
391.8127	31.871	31.871	0	1.000	13329794	3276321	5600	14000	585	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.204	32.190	1	1.011	17480318	4194203	8599	21497	488		
391.8127	32.204	32.190	1	1.011	13596506	3189678	5600	14000	570	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.913						8599	21497			
391.8127	30.913						5600	14000			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.782	33.770	1	1.049	11919180	3491967	18833	47082	185		
419.8220	33.782	33.770	1	1.049	27965624	8171320	43379	108447	188	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.794	33.782	1	1.000	17629551	5151710	28442	71105	181		
409.7789	33.794	33.782	1	1.000	16615754	4746326	30257	75642	157	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.852	34.851	0	1.083	10959849	2950699	18833	47082	157		
419.8220	34.852	34.851	0	1.083	26100592	6875932	43379	108447	159	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.864	34.863	0	1.032	15024695	4019662	28442	71105	141		
409.7789	34.864	34.863	0	1.032	14201736	3719038	30257	75642	123	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.311						28442	71105			
409.7789	34.311						30257	75642			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.560	34.560	0	1.074	22920005	6302974	15564	38910	405		
437.8140	34.560	34.560	0	1.074	21385076	5892875	24827	62067	237	1.07(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.572	34.572	0	1.000	11336066	3195890	7387	18467	433		
425.7737	34.572	34.572	0	1.000	11151906	3165630	7192	17980	440	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.287						7387	18467			
425.7737	34.287						7192	17980			
13C-OCDD											
469.7779	36.894	36.894	0	1.146	29285845	6674376	5171	12927	1291		
471.7750	36.894	36.894	0	1.146	33320647	7537428	7417	18542	1016	0.88(0.76-1.02)	
OCDF											
441.7428	36.990	36.990	0	1.003	21437294	4992307	3514	8785	1421		
443.7399	36.990	36.990	0	1.003	23438286	5509174	2995	7487	1839	0.91(0.76-1.02)	
OCDD											
457.7377	36.906	36.906	0	1.000	15979425	3611834	2712	6780	1332		
459.7348	36.894	36.906	-1	1.000	17879770	3970611	8541	21352	465	0.89(0.76-1.02)	

Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d

Injection Date: 11-Nov-2017 06:06:11 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

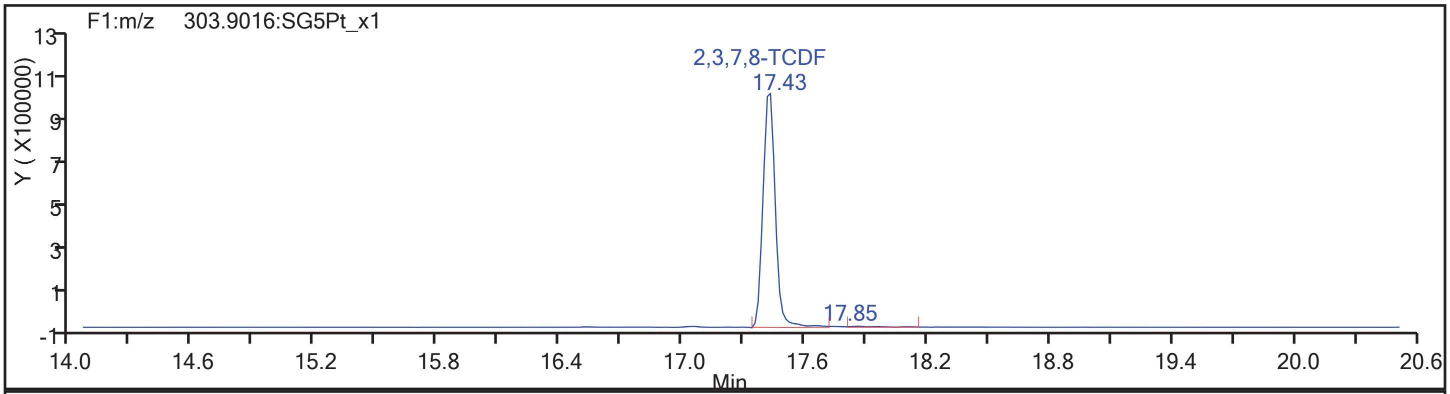
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

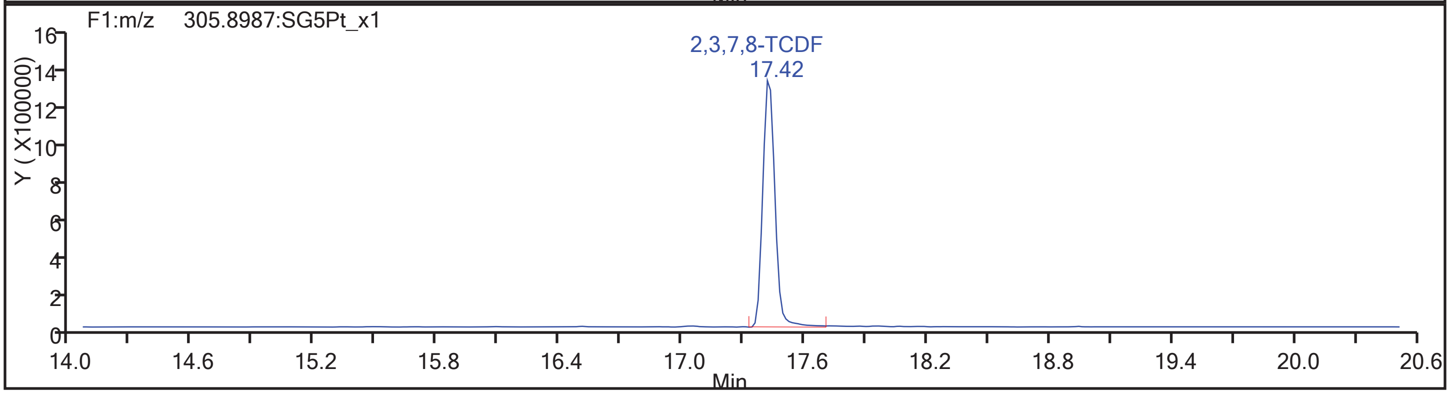
Client ID:

Worklist#: 194084 Sample Line#: 58

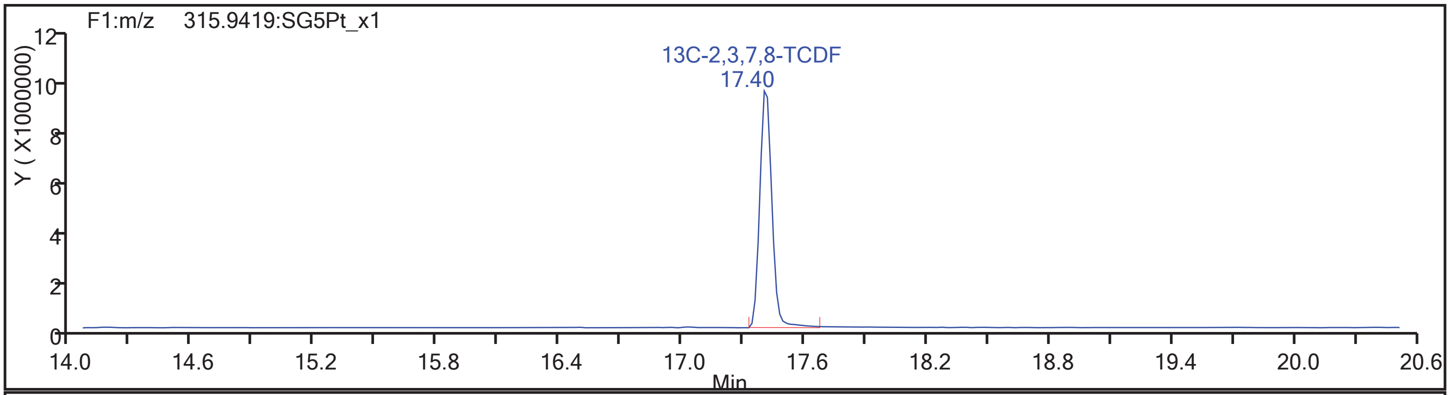
Column Type: DB-5 Column Dia: 0.32 mm

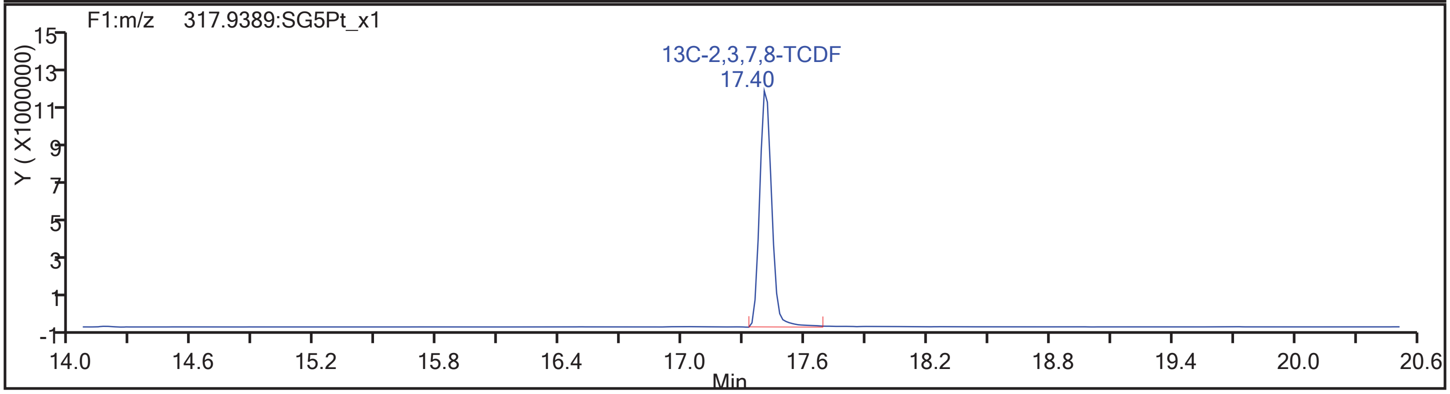
TCDF





TCDF Standards

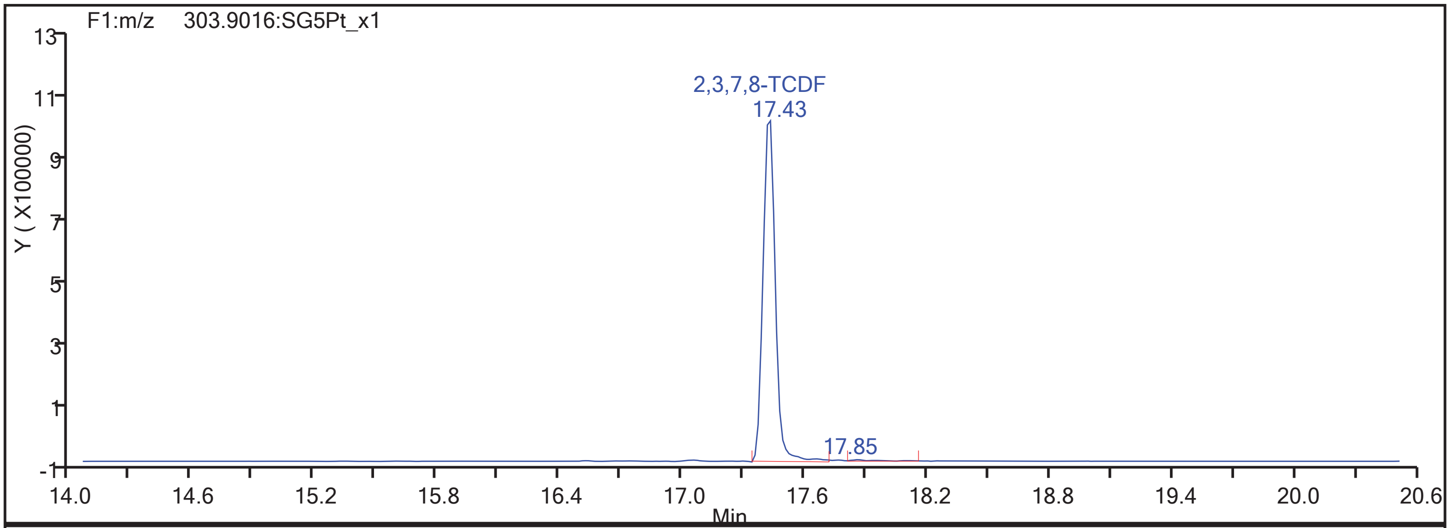


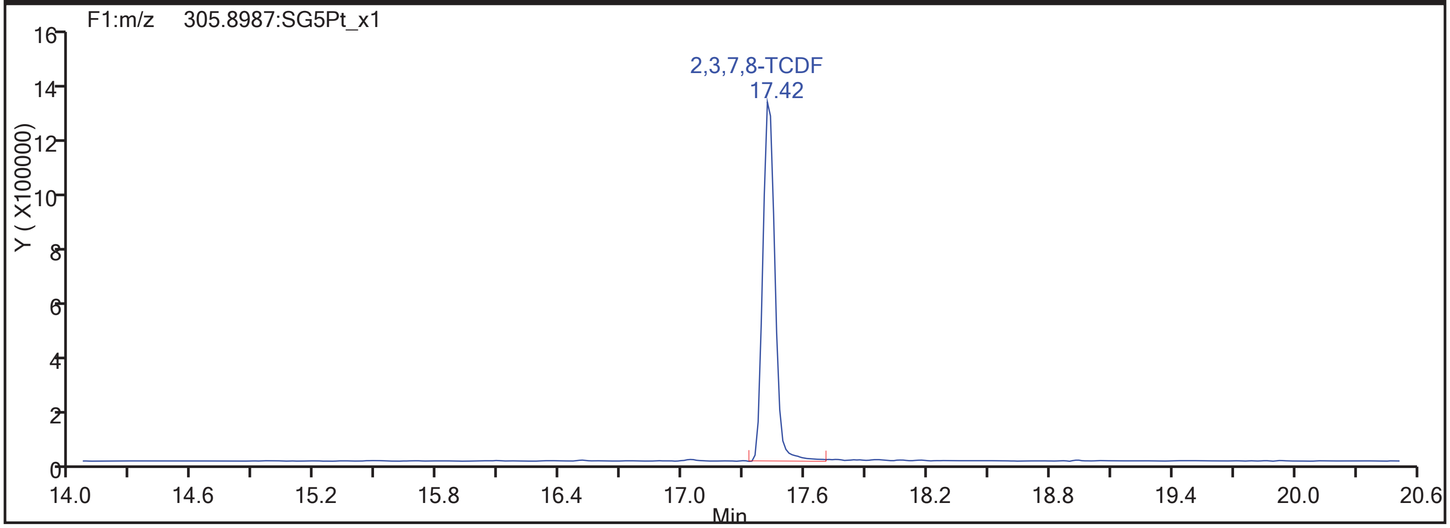


TestAmerica Sacramento

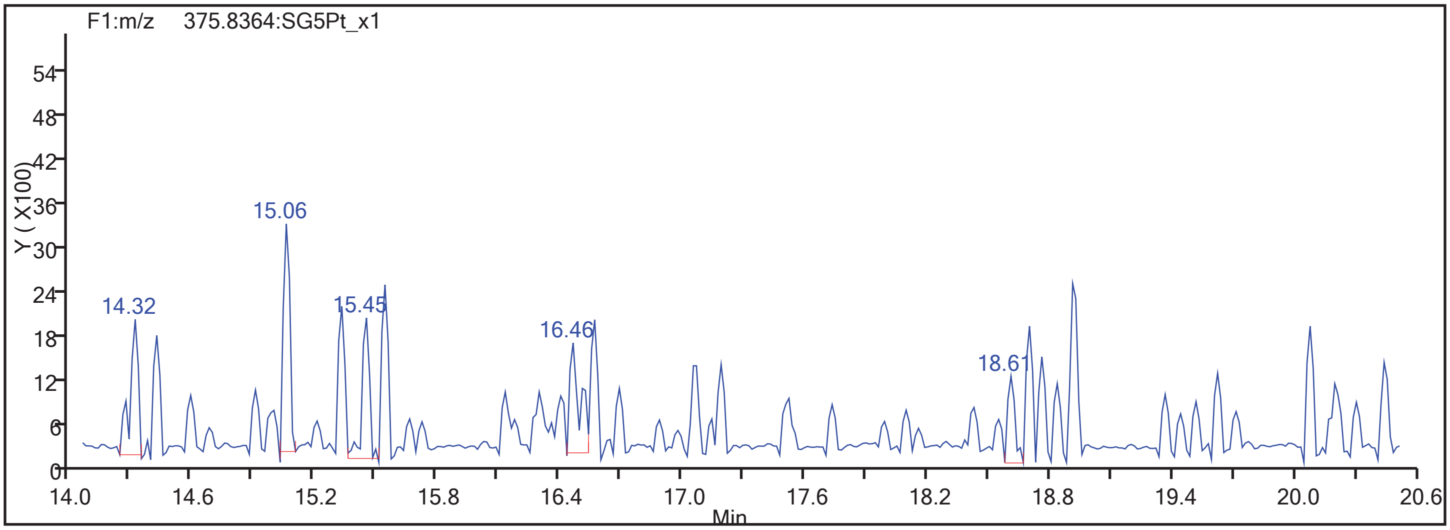
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d		
Injection Date:	11-Nov-2017 06:06:11	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	58
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



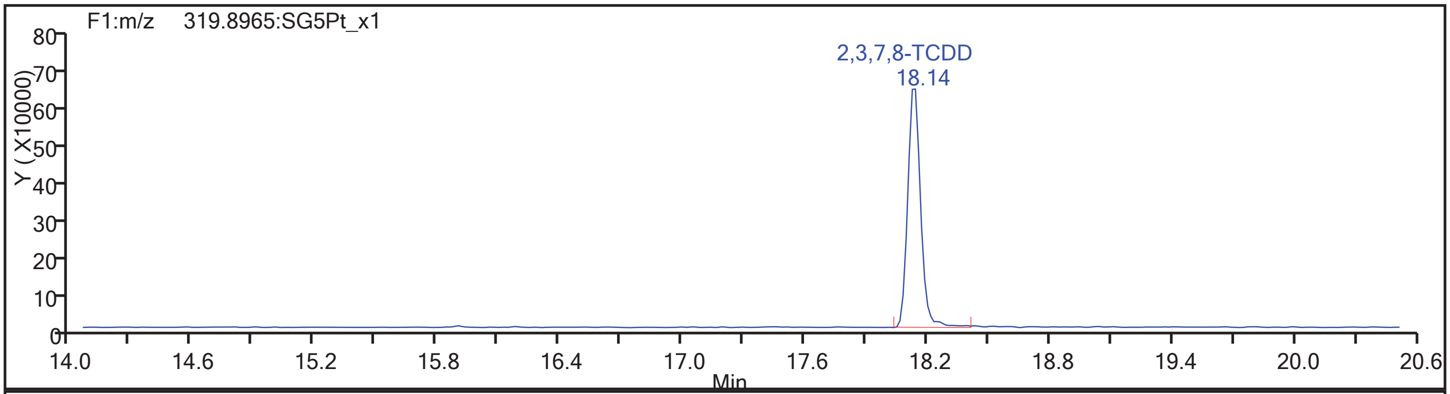
Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

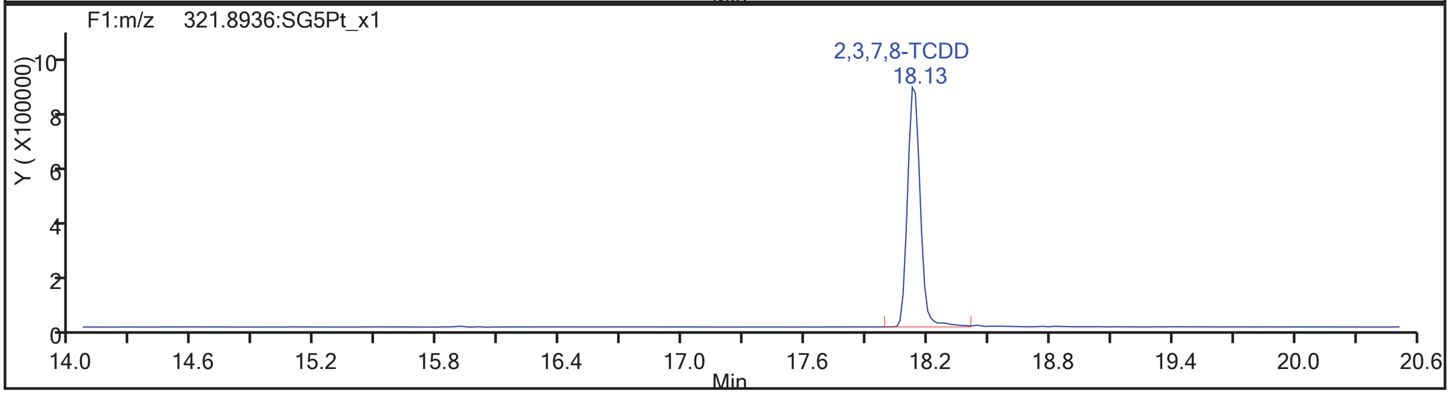
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d

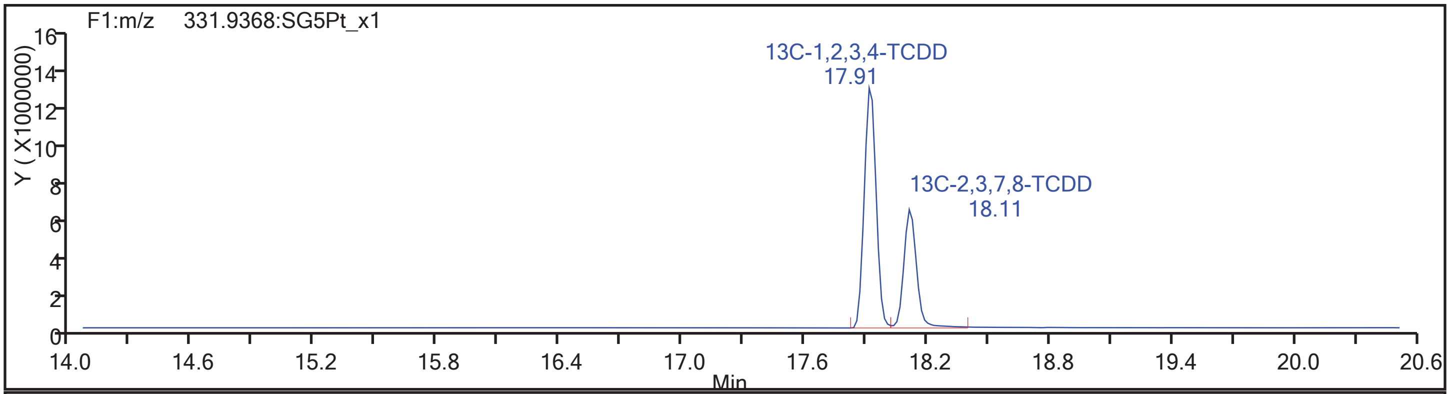
Injection Date:	11-Nov-2017 06:06:11	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	58
Column Type:	DB-5	Column Dia:	0.32 mm

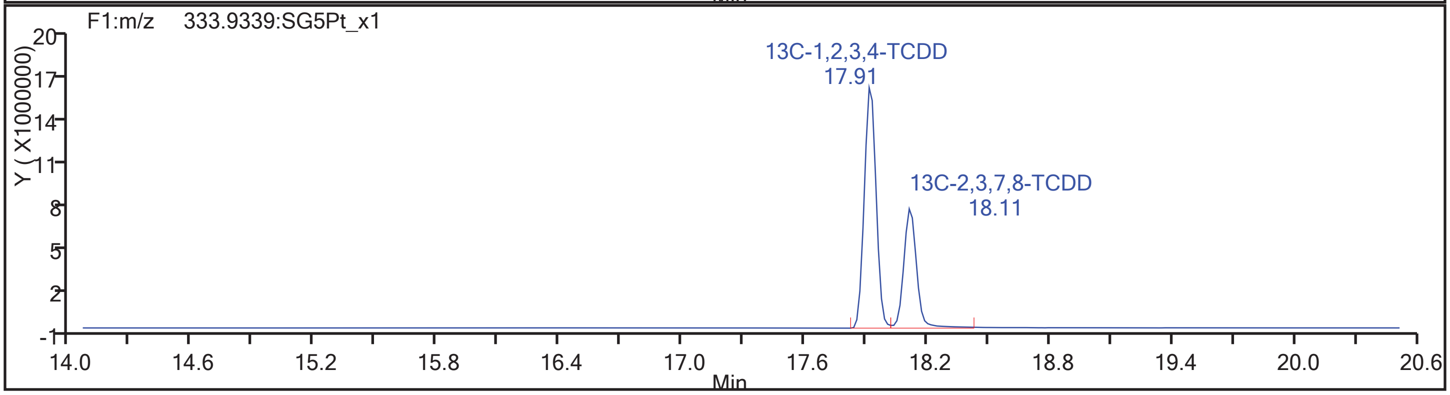
TCDD





TCDD Standards



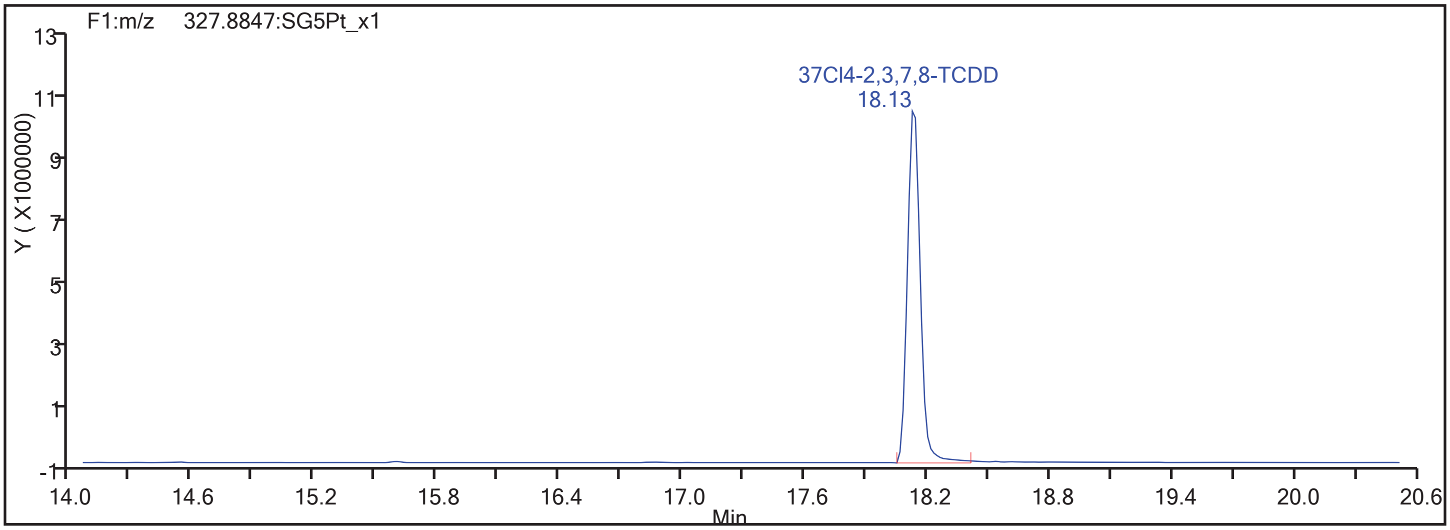


Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

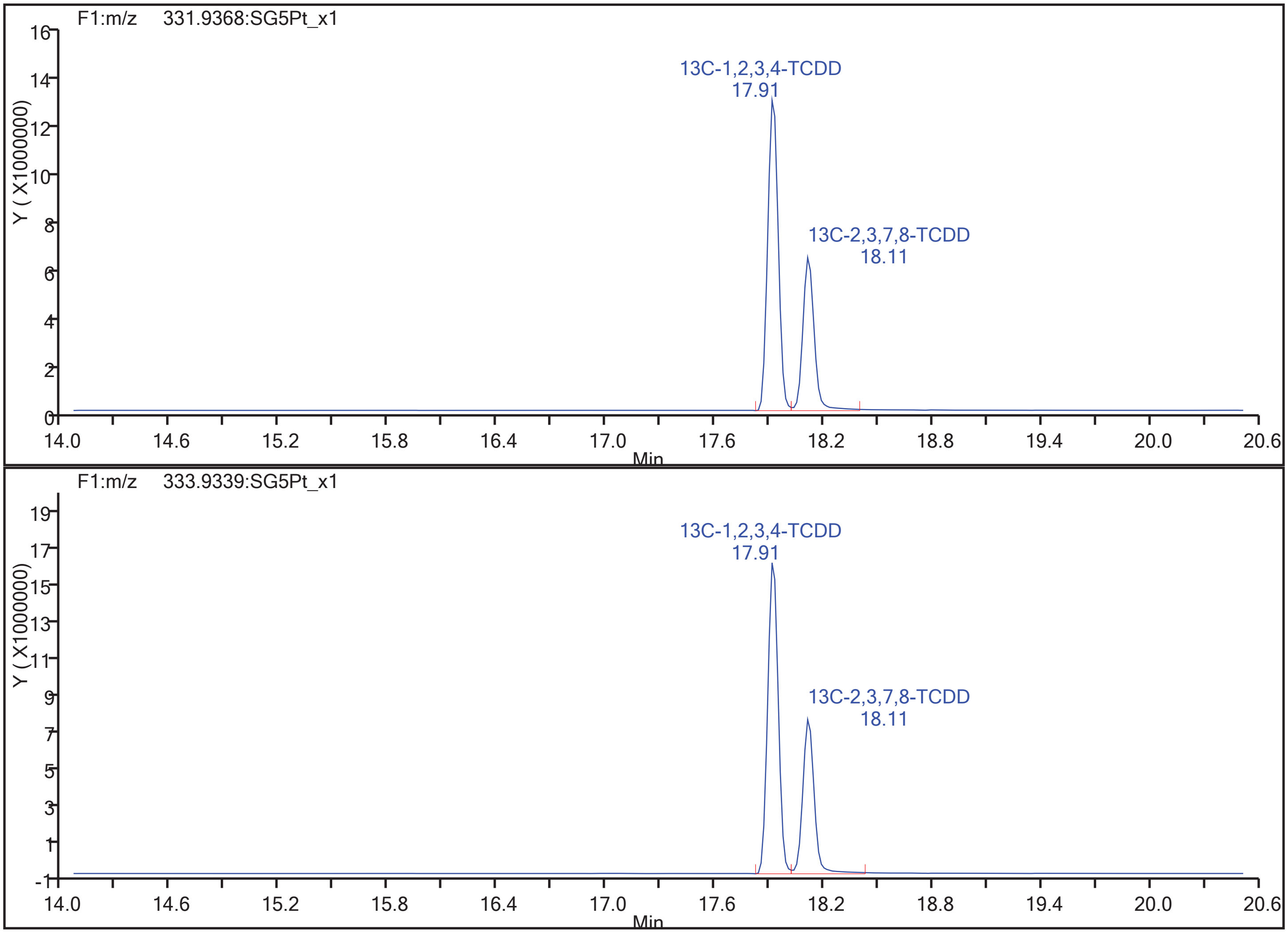
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d		
Injection Date:	11-Nov-2017 06:06:11	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	58
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards

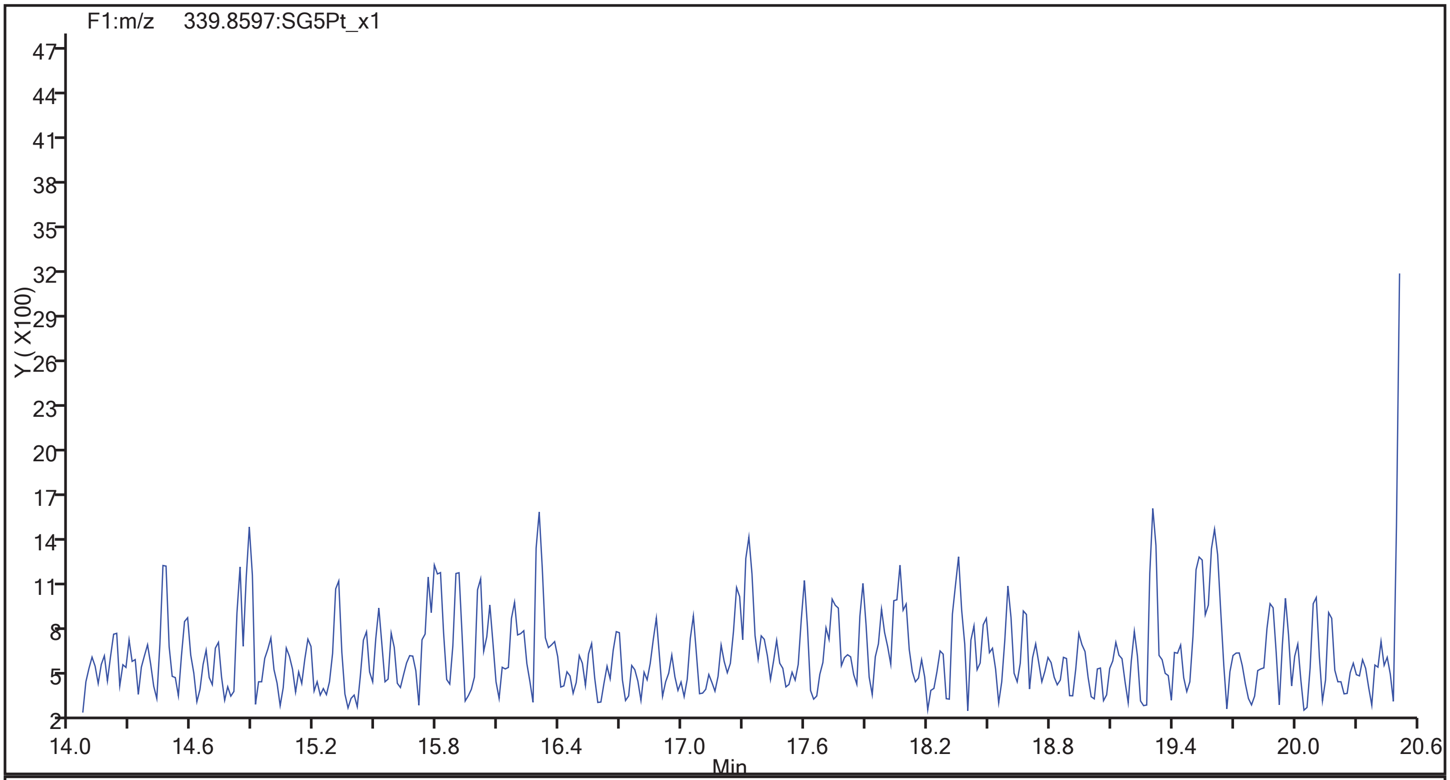


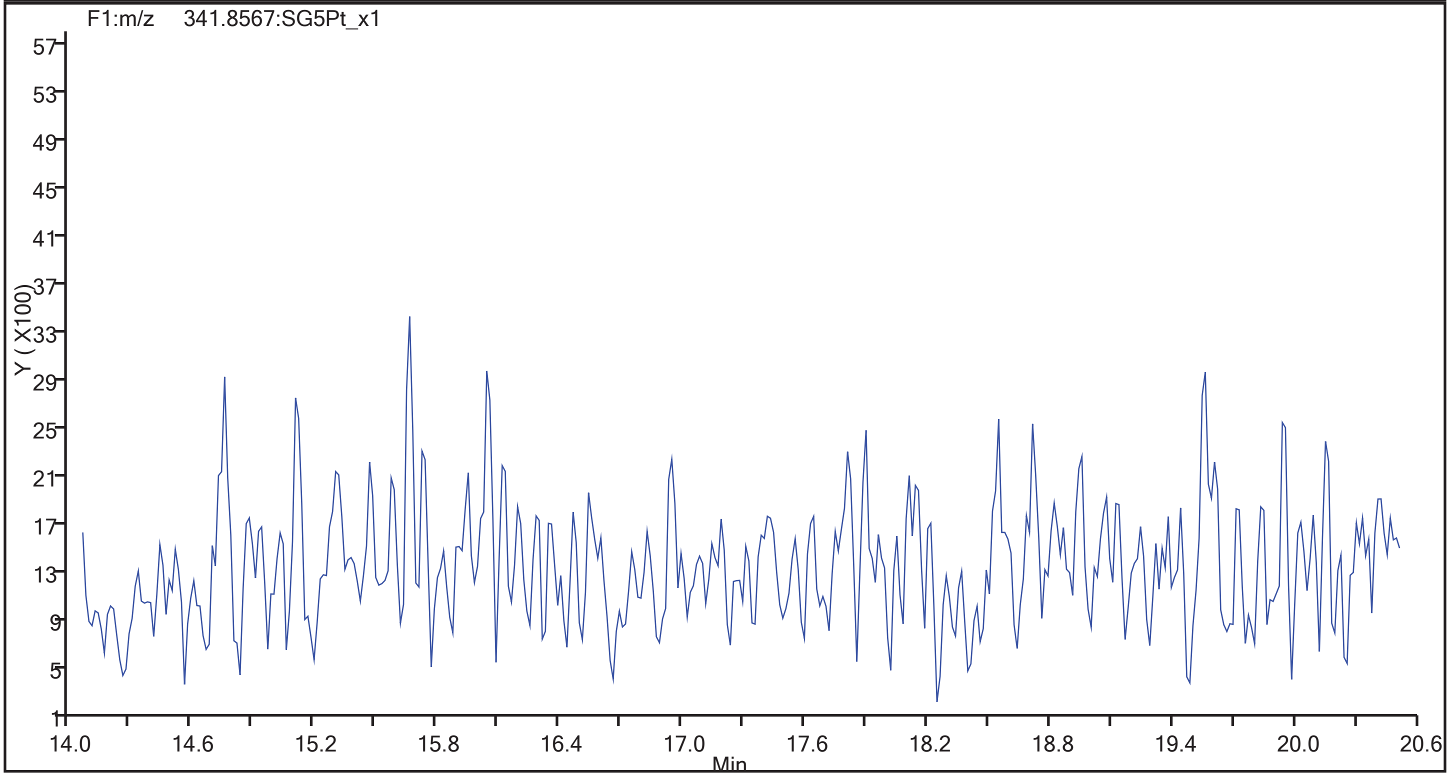
Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d		
Injection Date:	11-Nov-2017 06:06:11	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	58
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



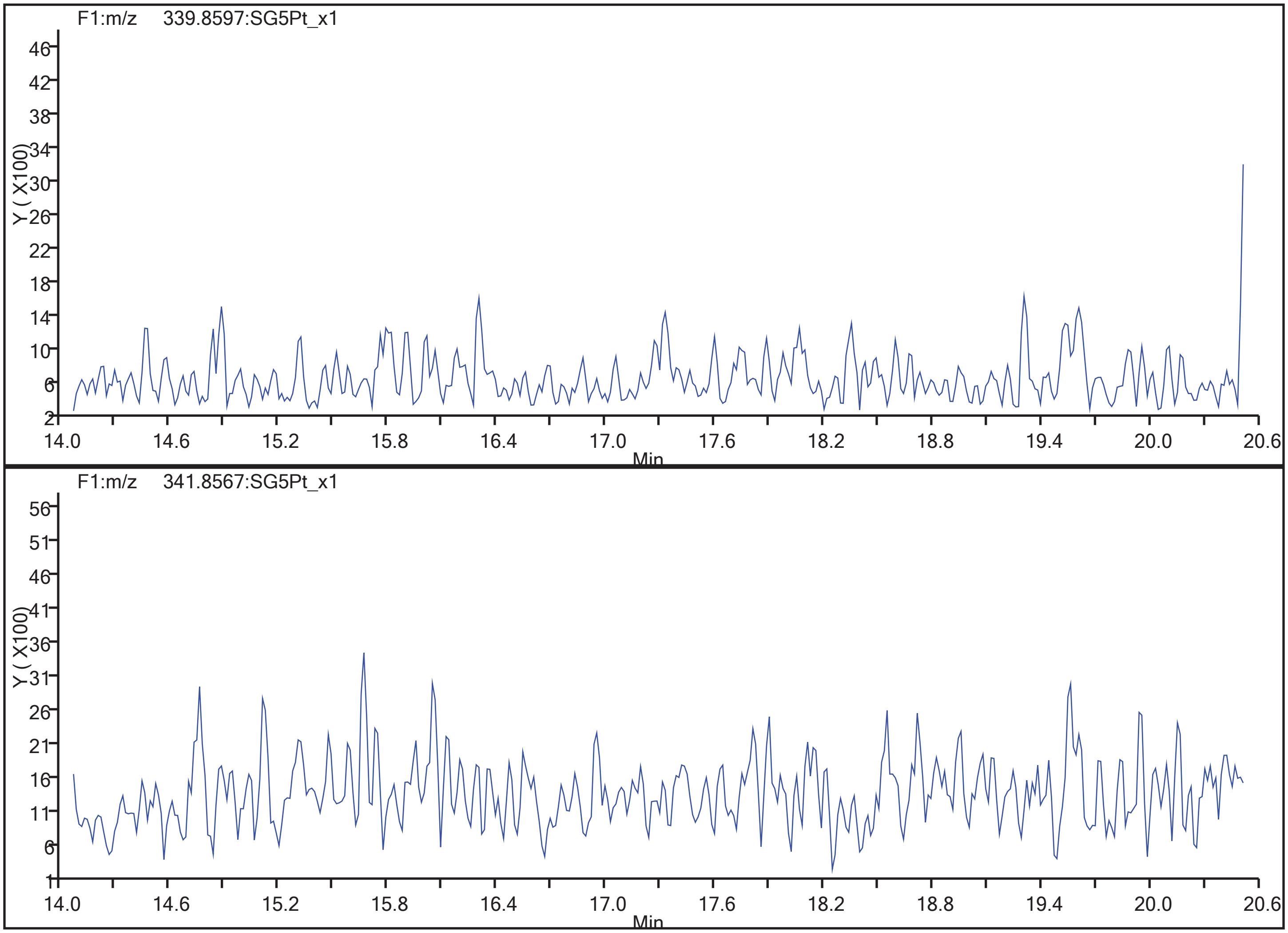


Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

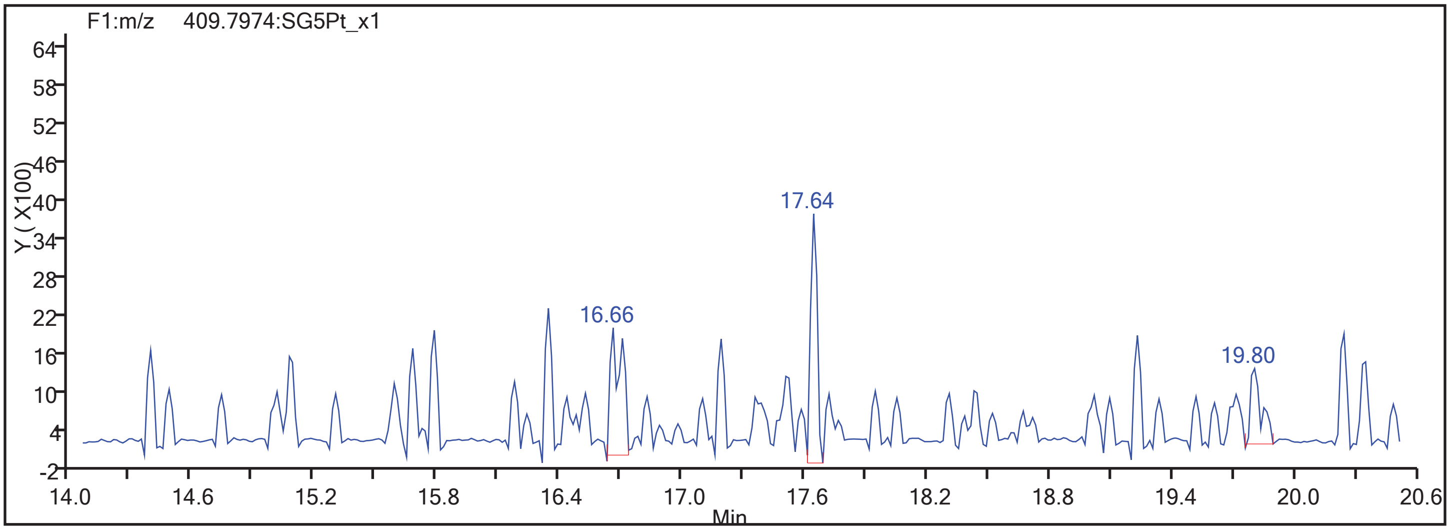
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d		
Injection Date:	11-Nov-2017 06:06:11	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	58
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs



F1 PeCDFs Interference Mass



Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d
Injection Date: 11-Nov-2017 06:06:11
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
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Client ID:
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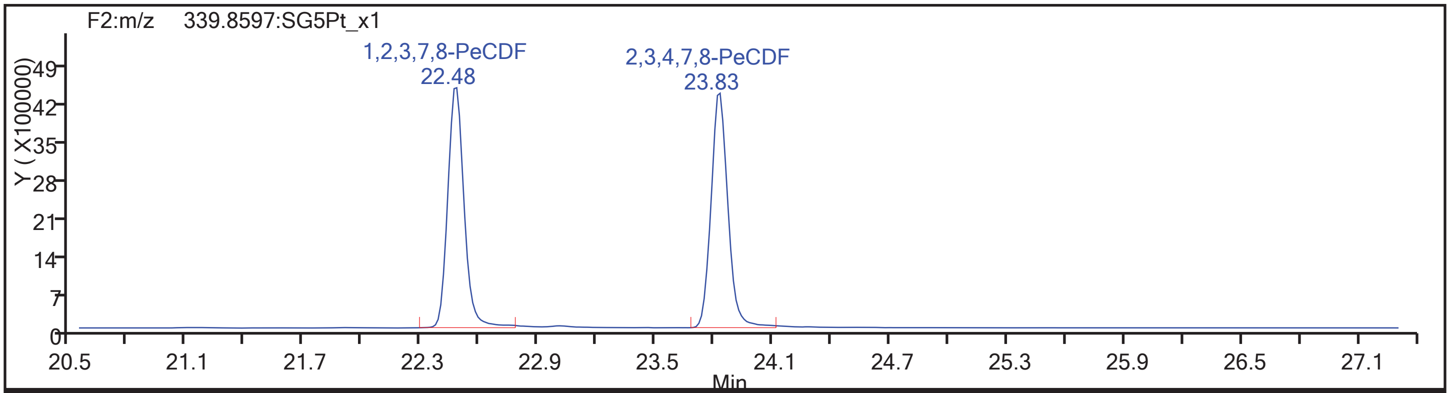
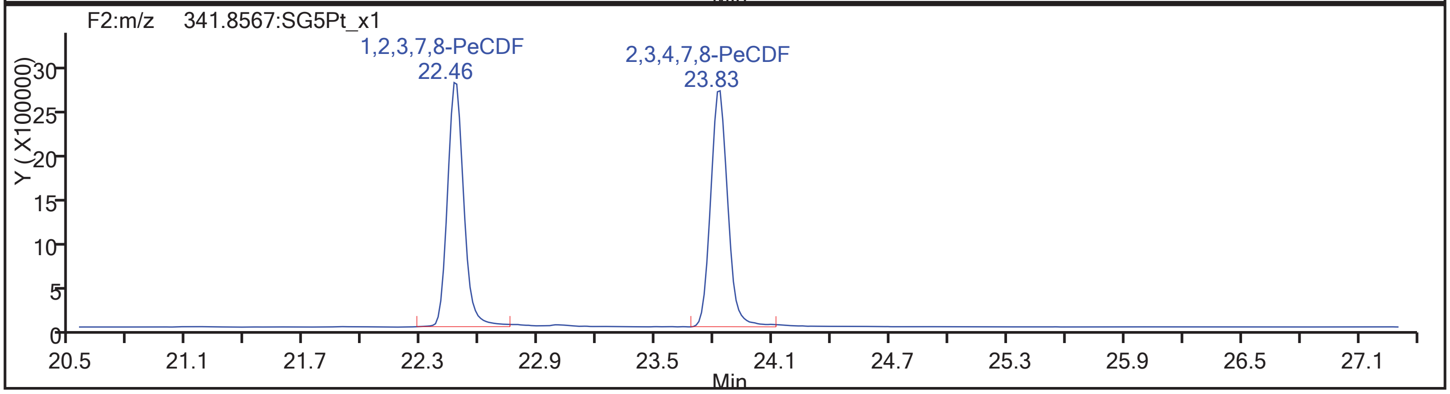
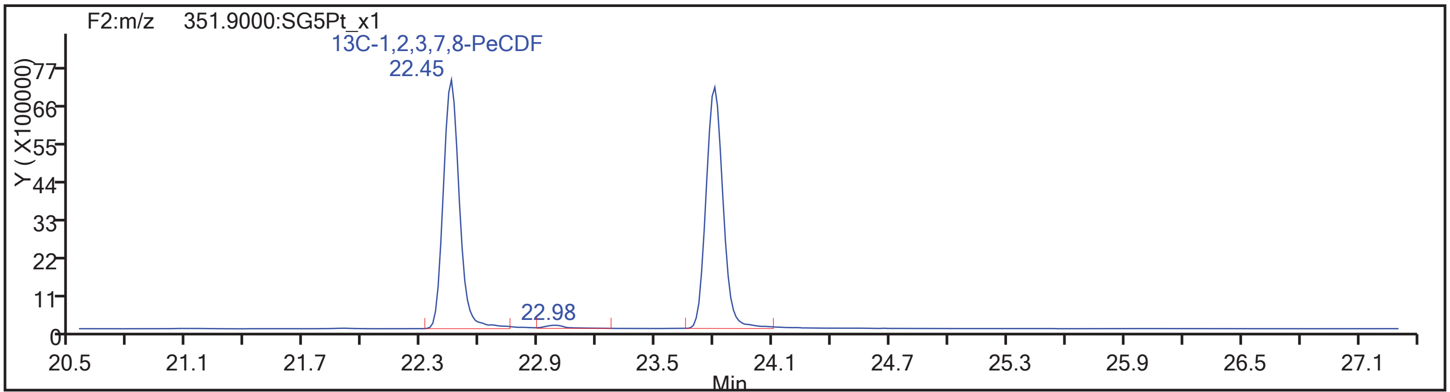
Sample Line#: 58
Column Type: DB-5
Column Dia: 0.32 mm

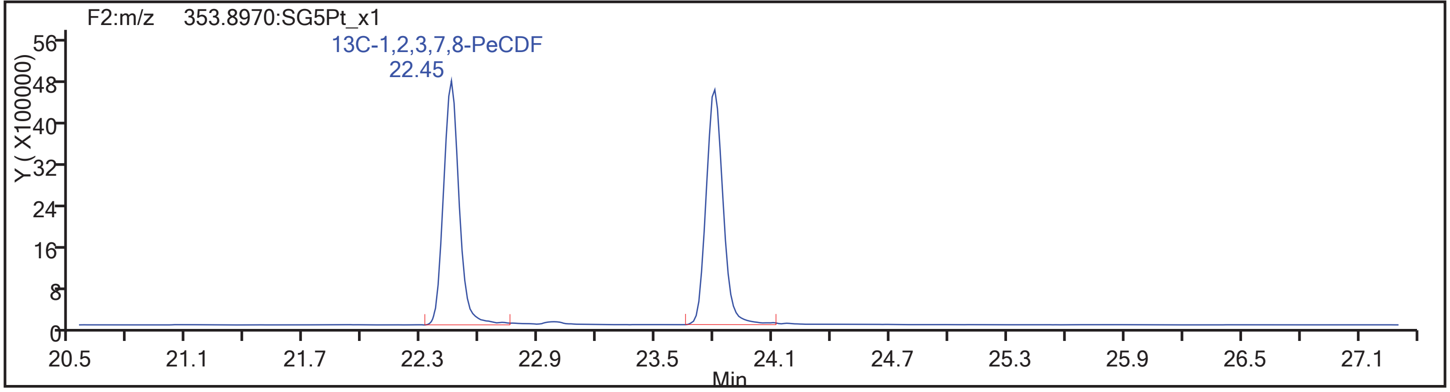
PeCDF





PeCDF Standards



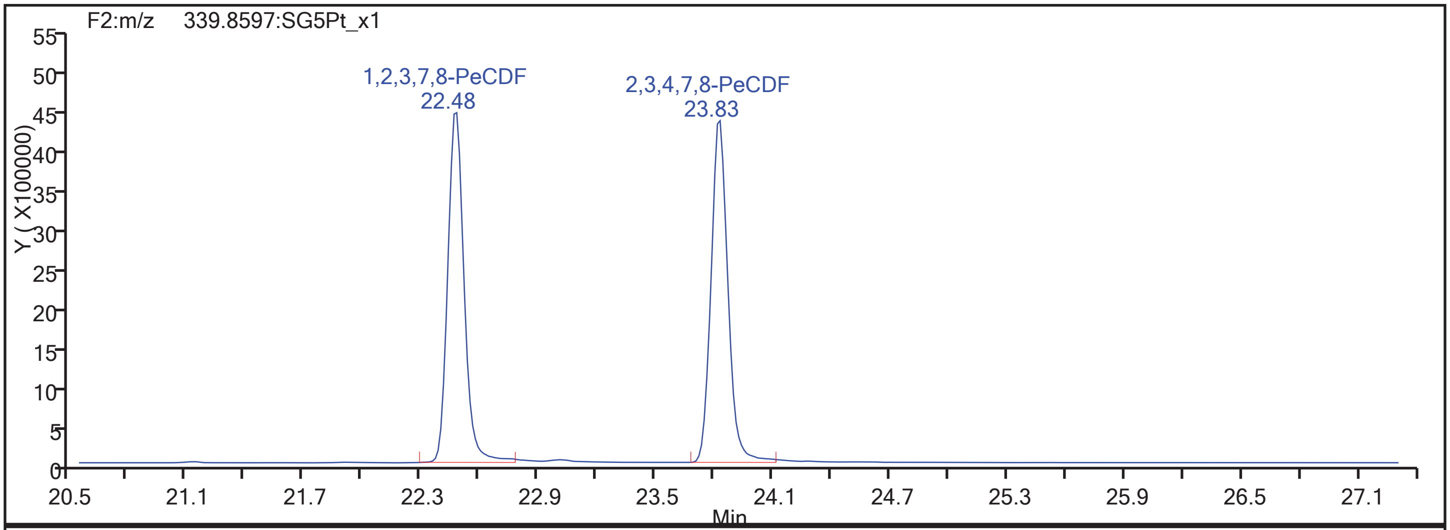


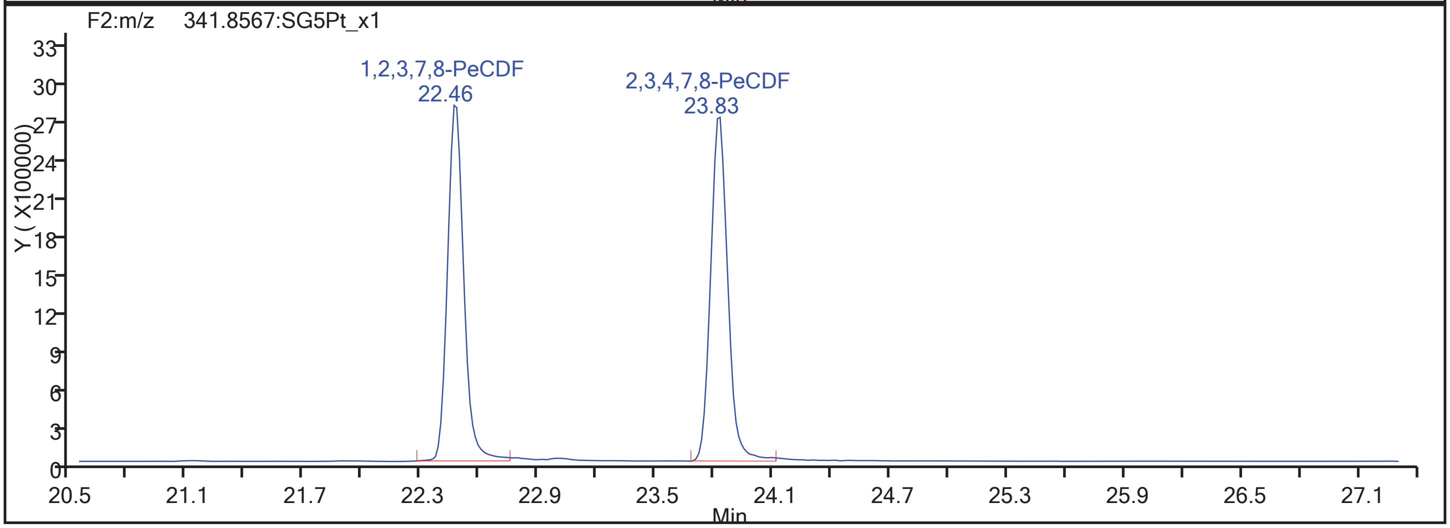
Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:44

TestAmerica Sacramento

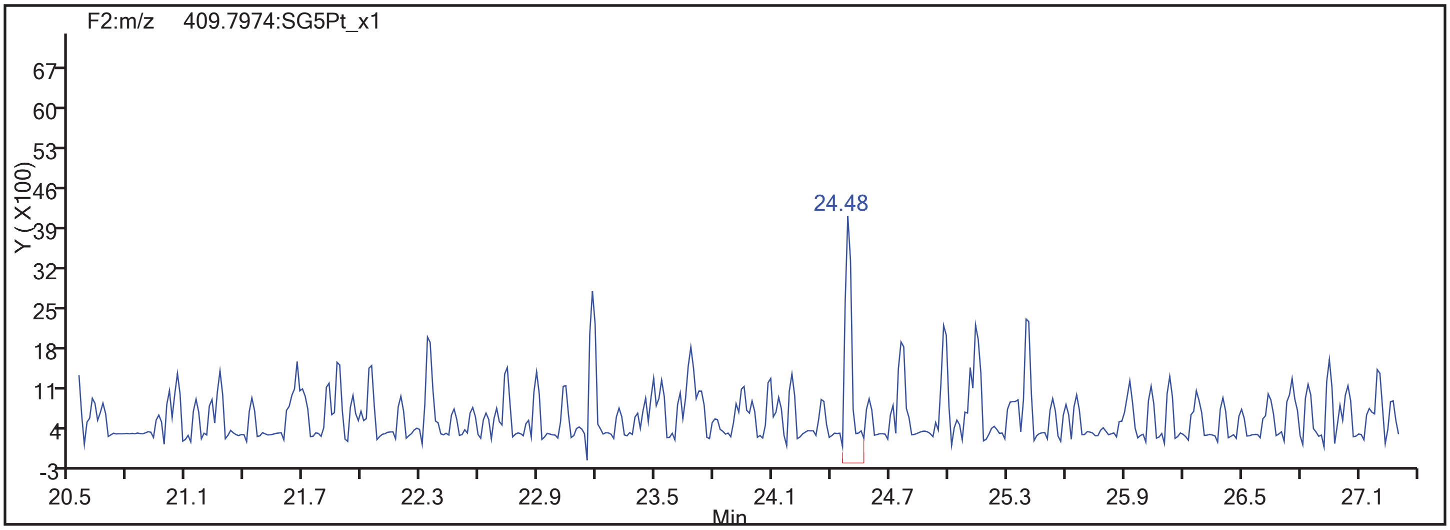
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d
Injection Date: 11-Nov-2017 06:06:11
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 58
Column Type: DB-5
Column Dia: 0.32 mm

PeCDF





PeCDF Interference Mass

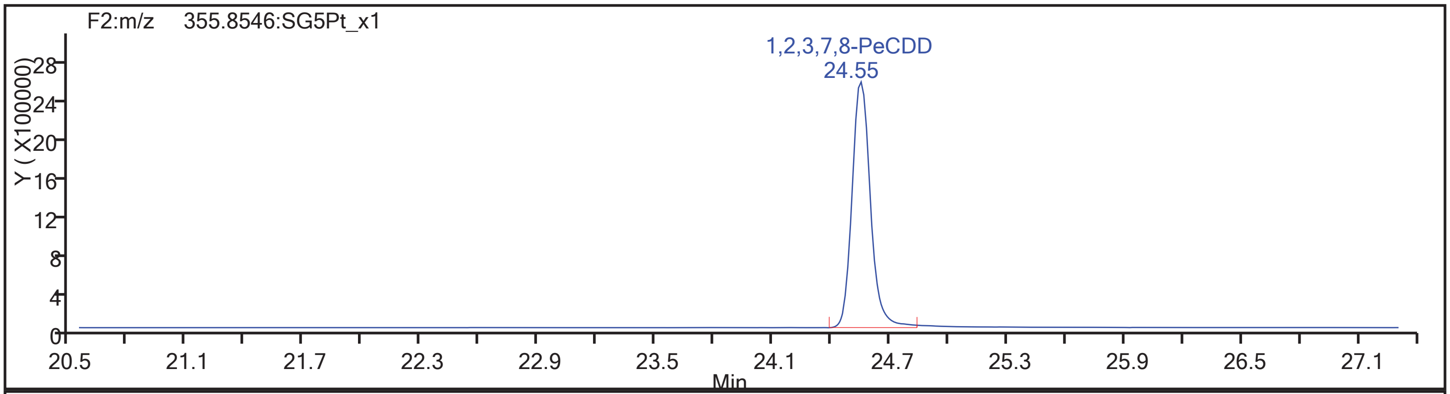


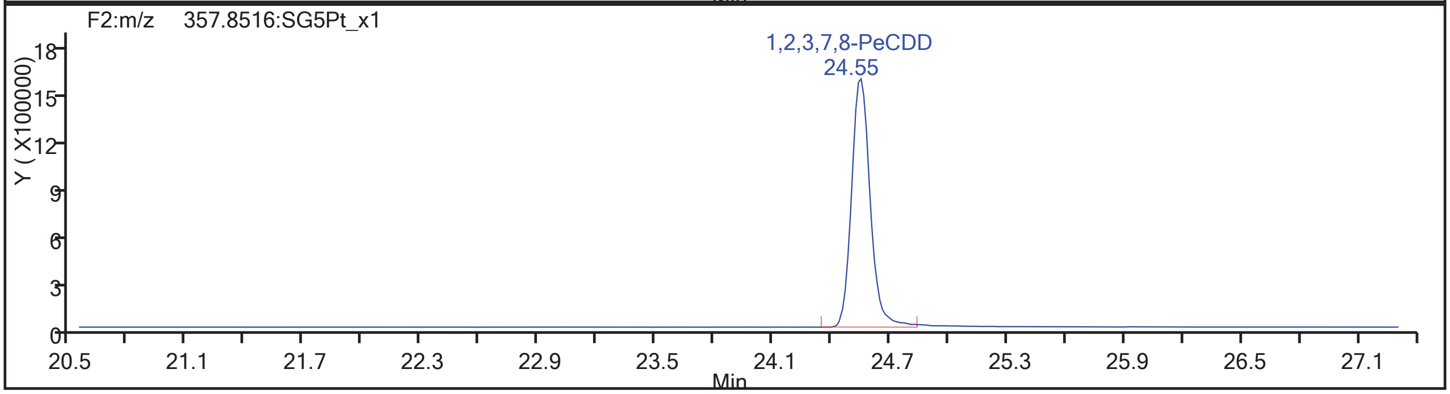
Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

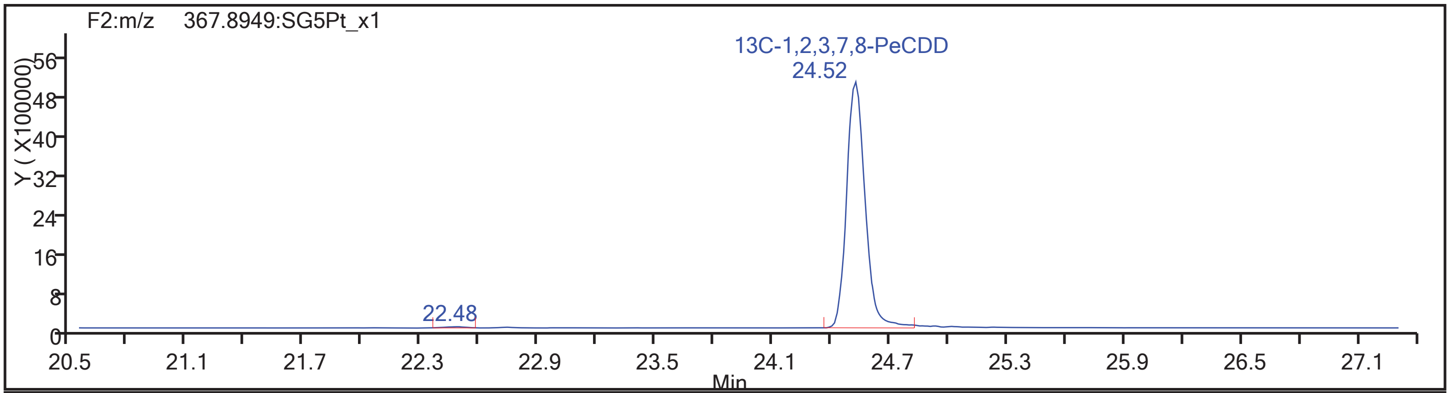
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d
Injection Date: 11-Nov-2017 06:06:11 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084 Sample Line#: 58
Column Type: DB-5 Column Dia: 0.32 mm

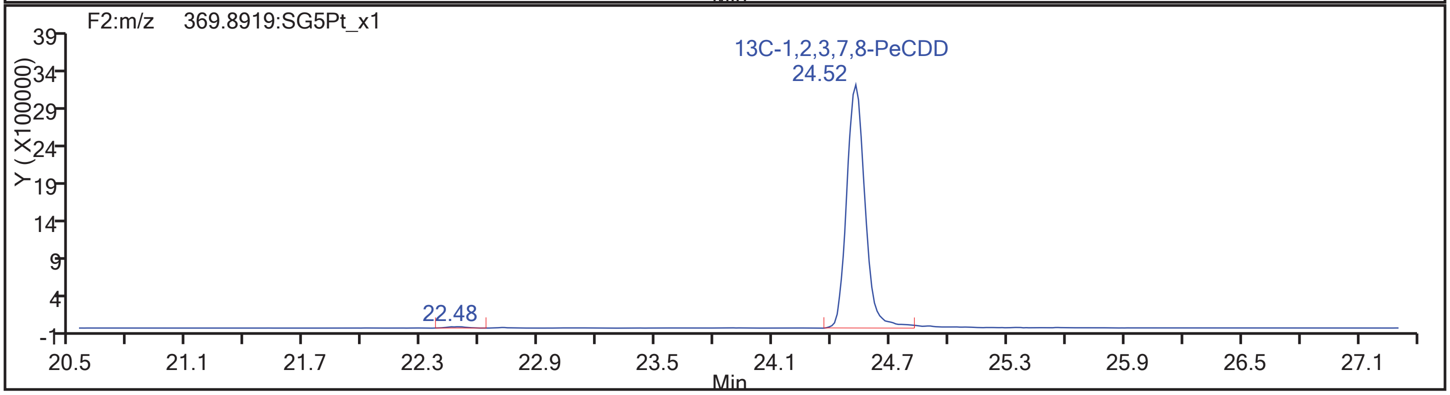
PeCDD





PeCDD Standards





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TestAmerica Sacramento

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Injection Date: 11-Nov-2017 06:06:11 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

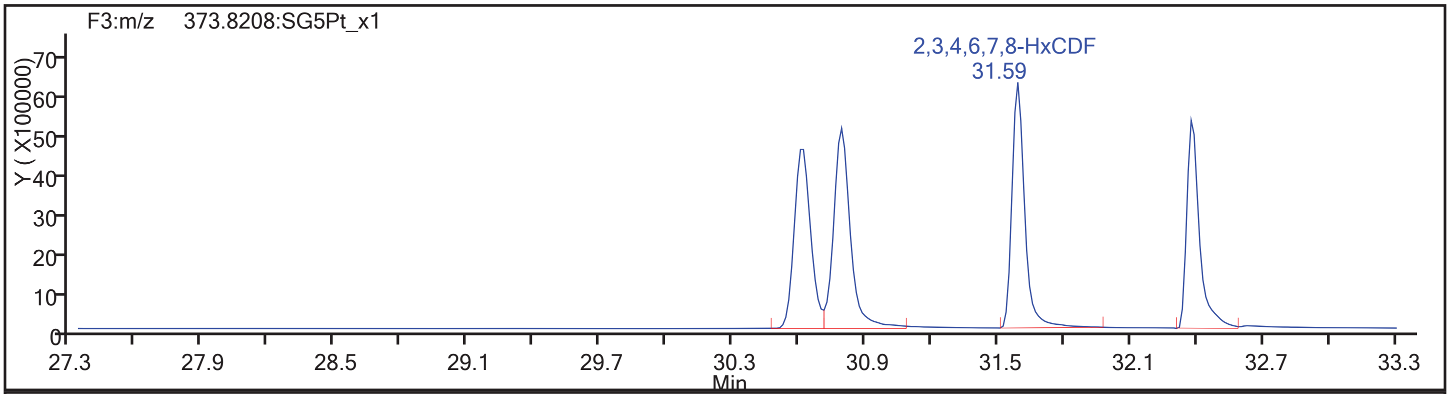
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

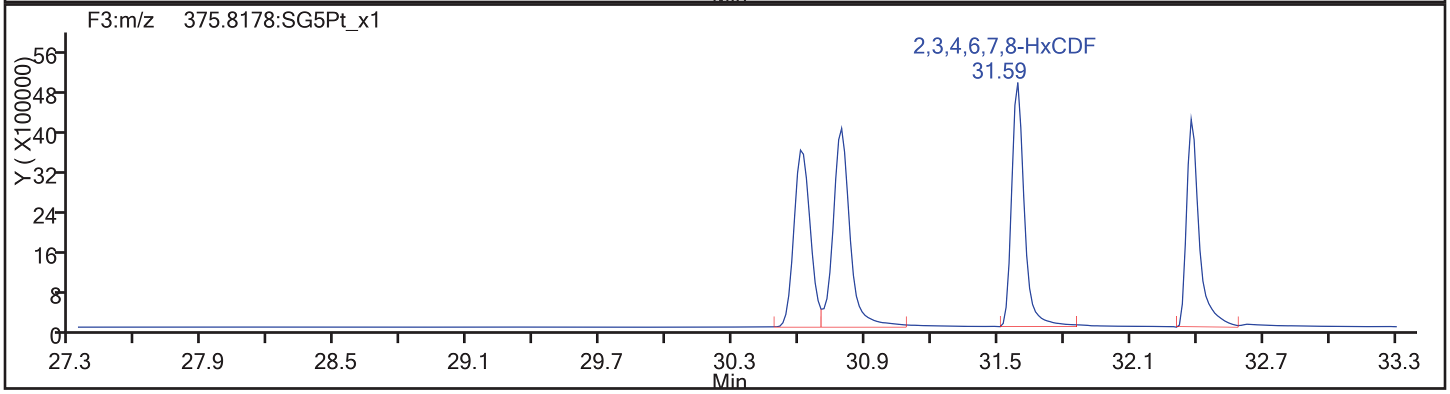
Client ID:

Worklist#: 194084 Sample Line#: 58

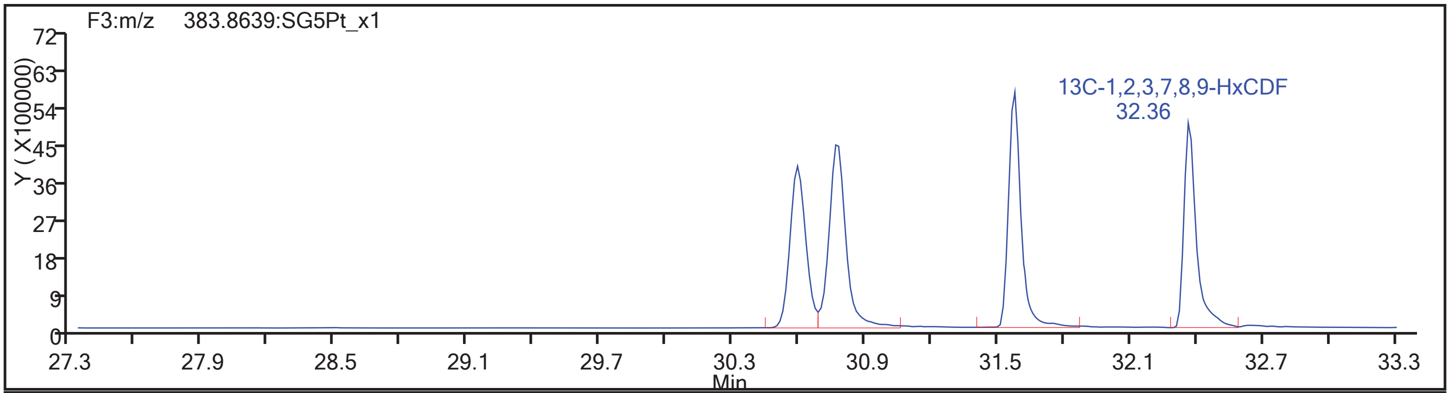
Column Type: DB-5 Column Dia: 0.32 mm

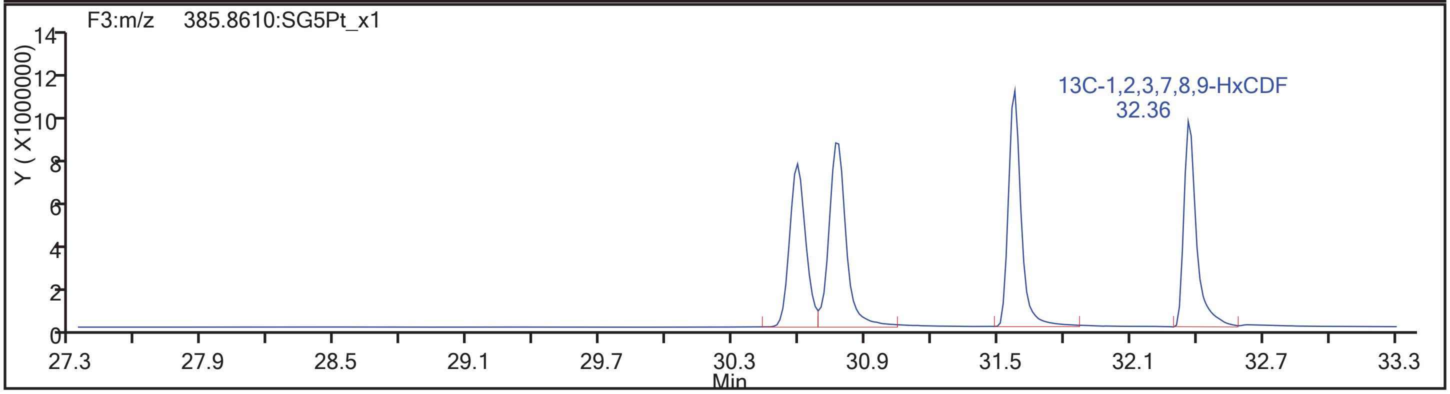
HxCDF





HxCDF Standards





TestAmerica Sacramento

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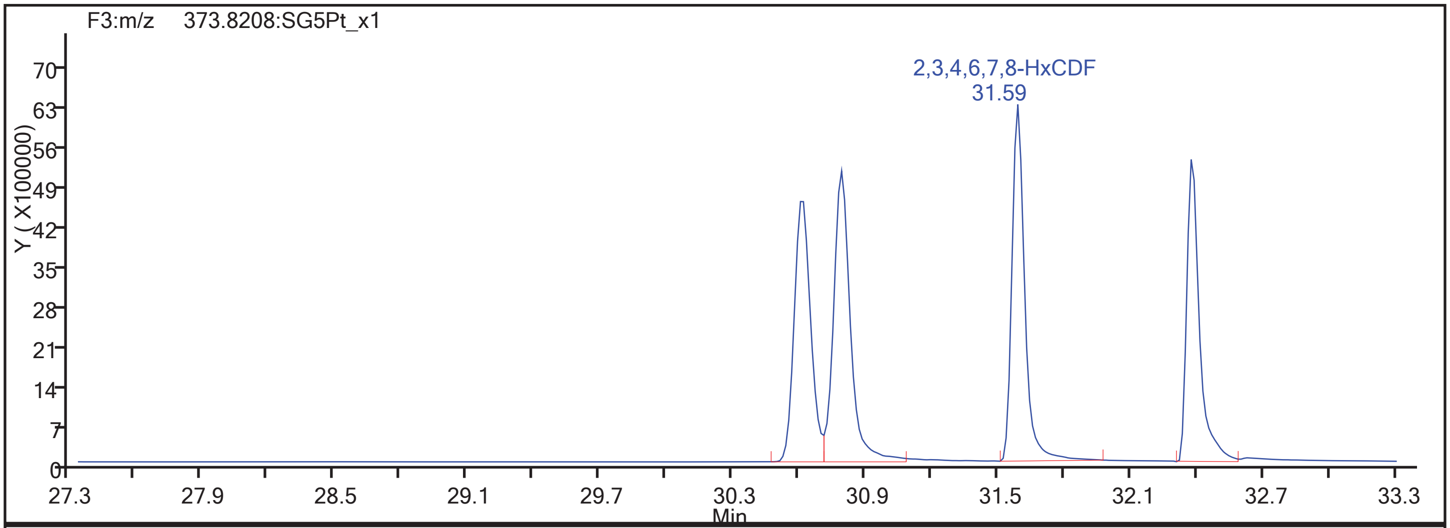
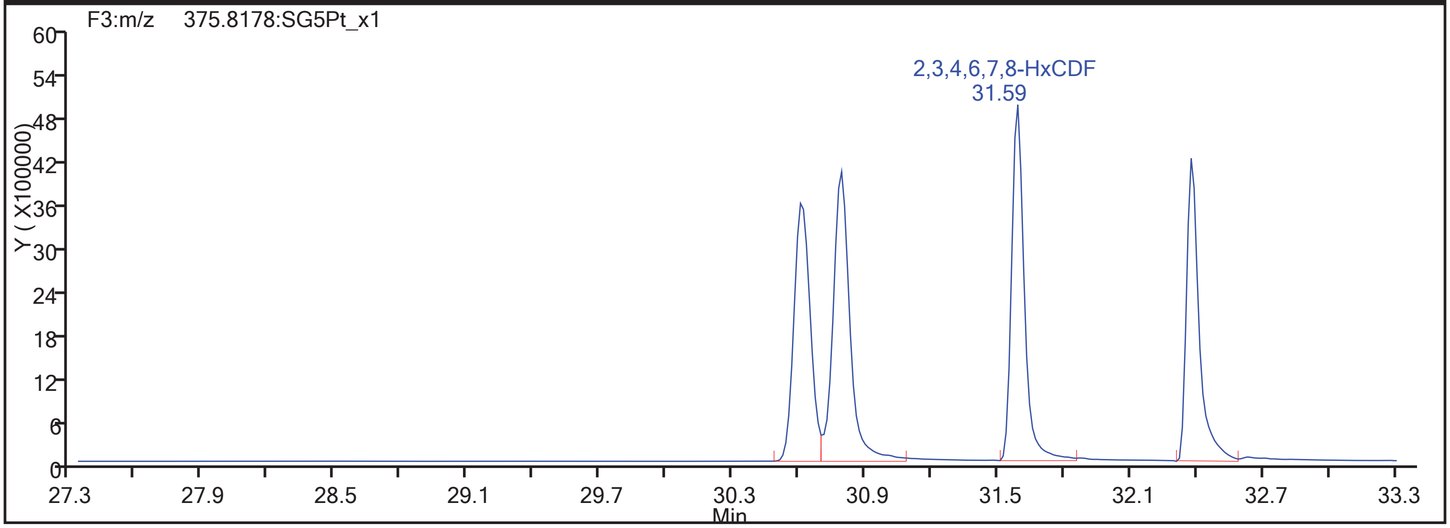
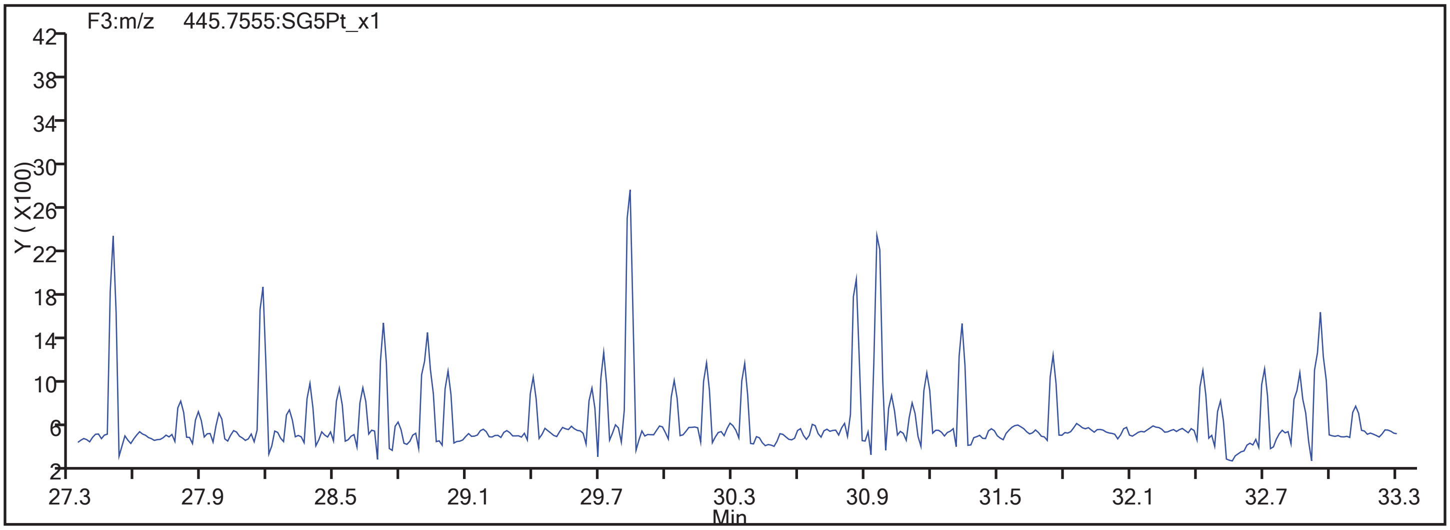
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	58
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF





HxCDF Interference Mass



Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d		
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Client ID:			
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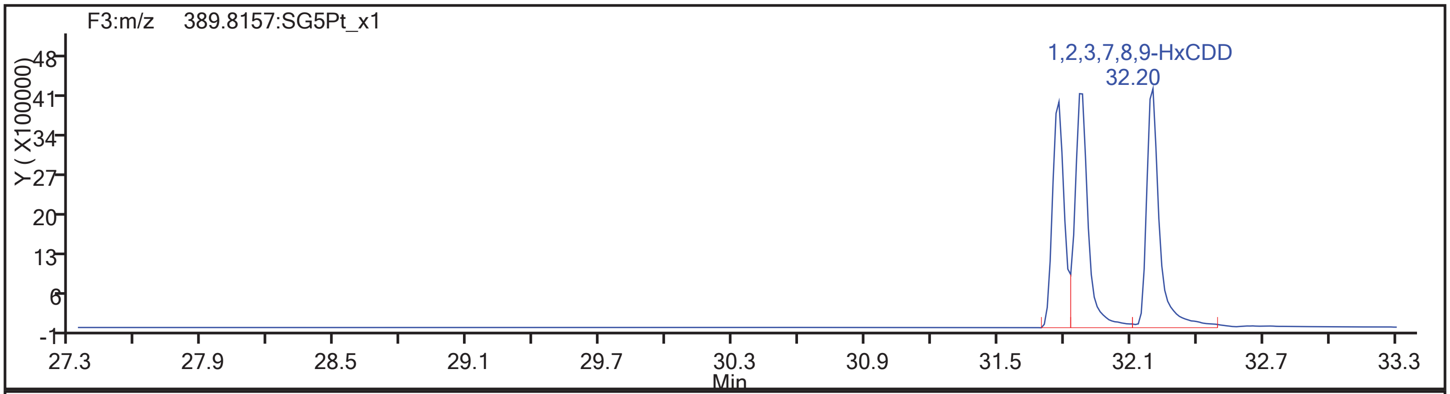
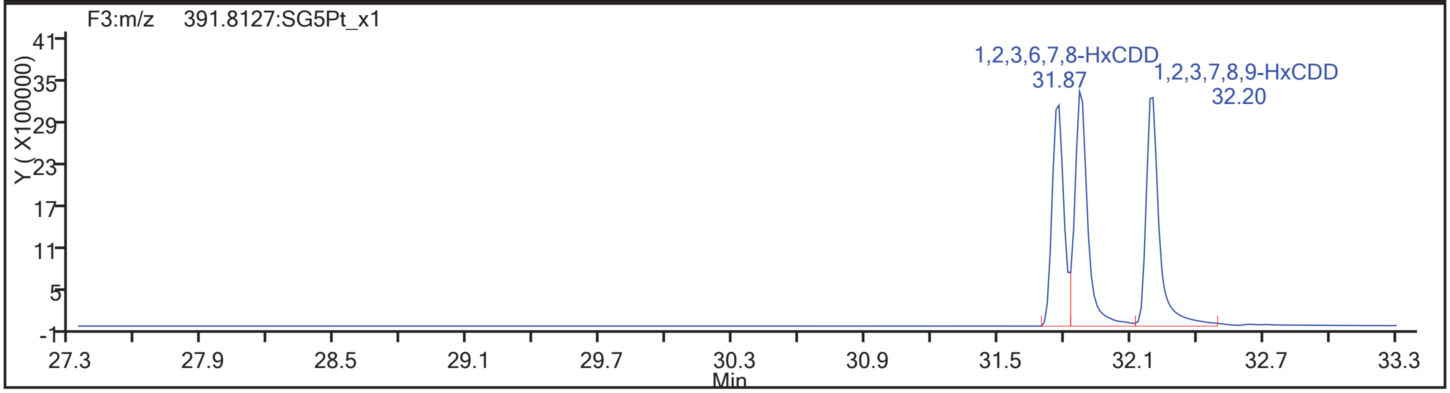
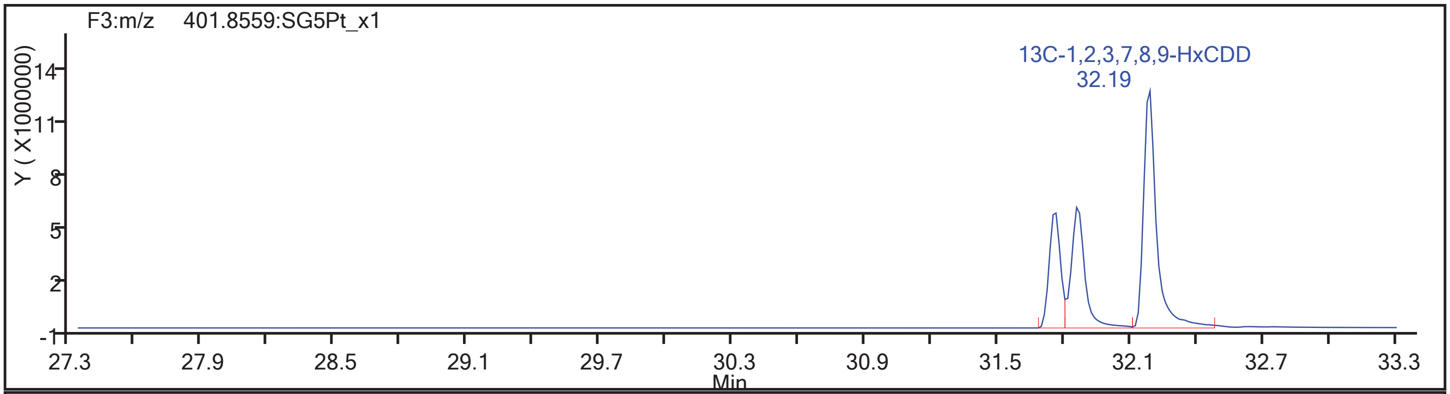
Column Type:	DB-5	Column Dia:	0.32 mm

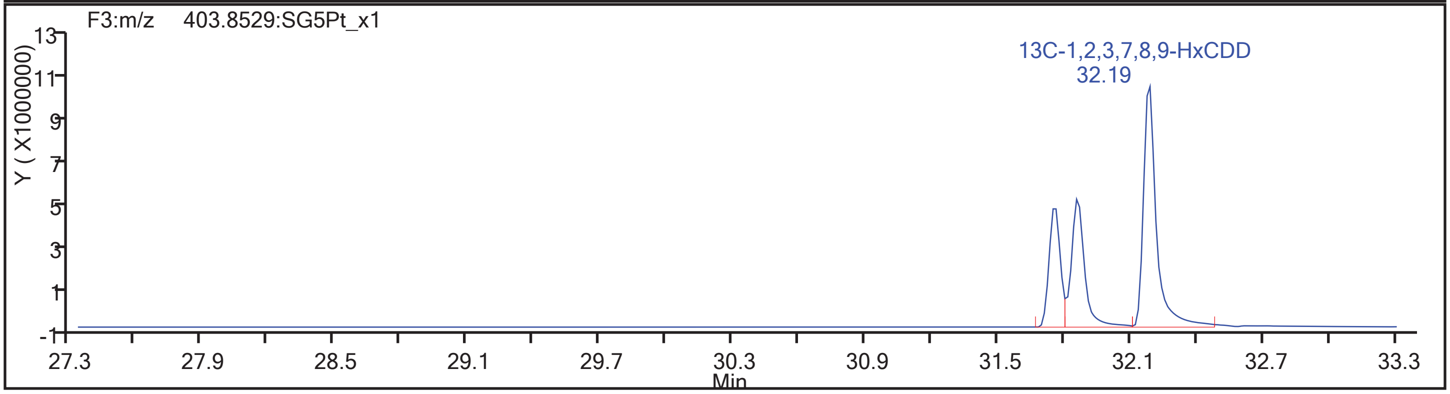
HxCDD





HxCDD Standards





Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d

Injection Date: 11-Nov-2017 06:06:11 Injection Vol: 2.0 ul

Instrument ID: 10D5 Operator ID: AJS

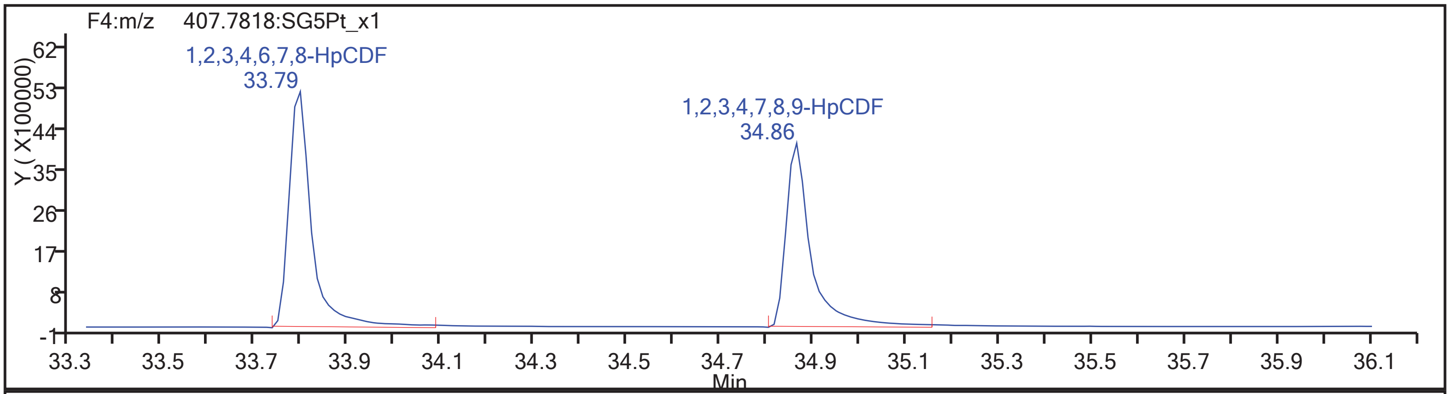
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

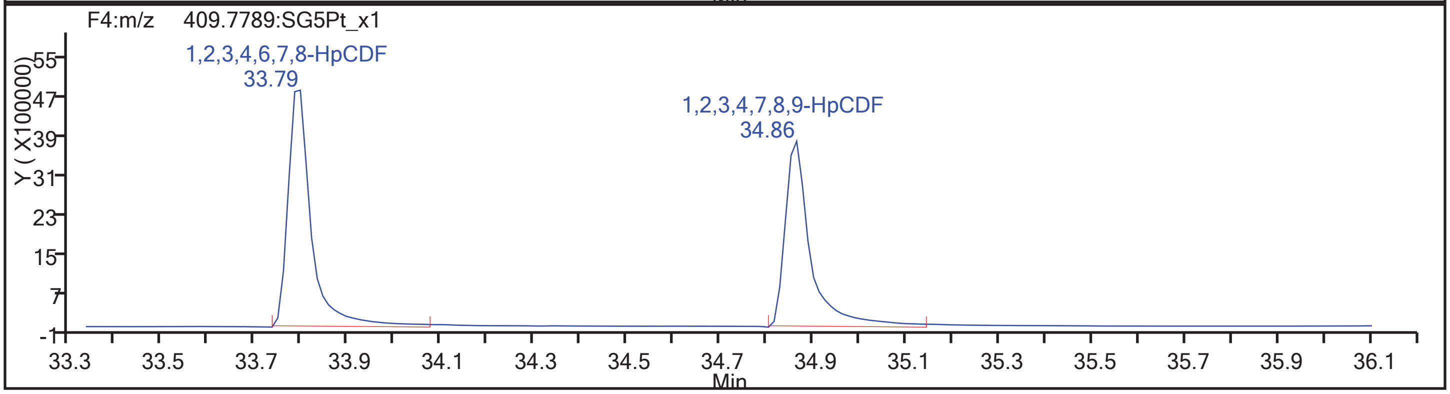
Client ID:

Worklist#: 194084 Sample Line#: 58

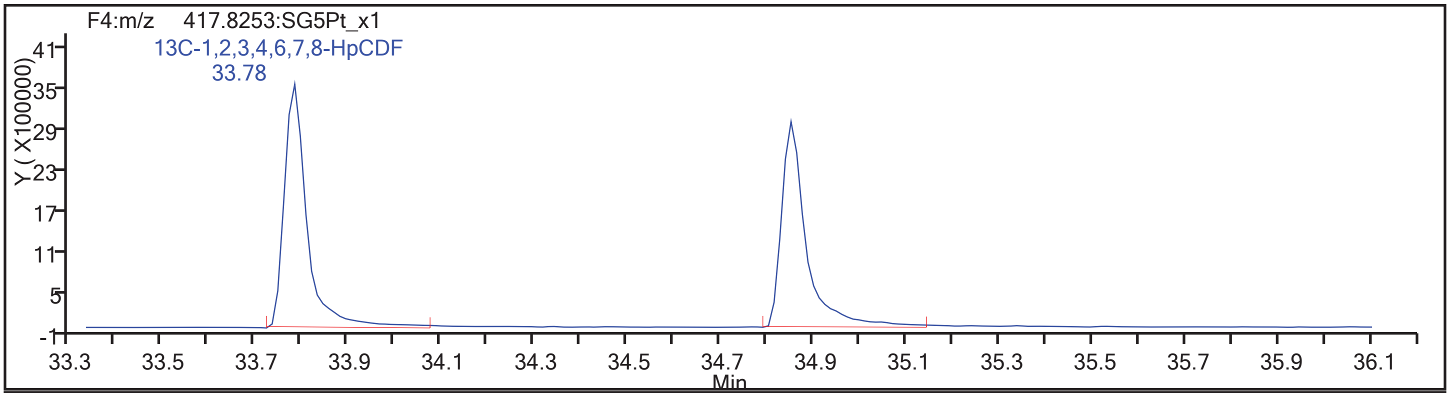
Column Type: DB-5 Column Dia: 0.32 mm

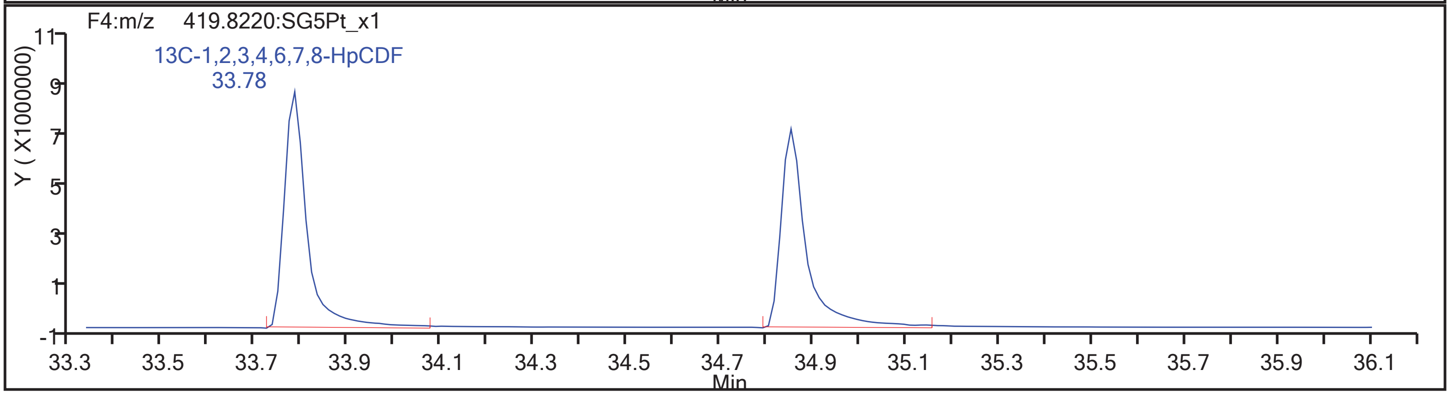
HpCDF





HpCDF Standards





Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d

Injection Date: 11-Nov-2017 06:06:11

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

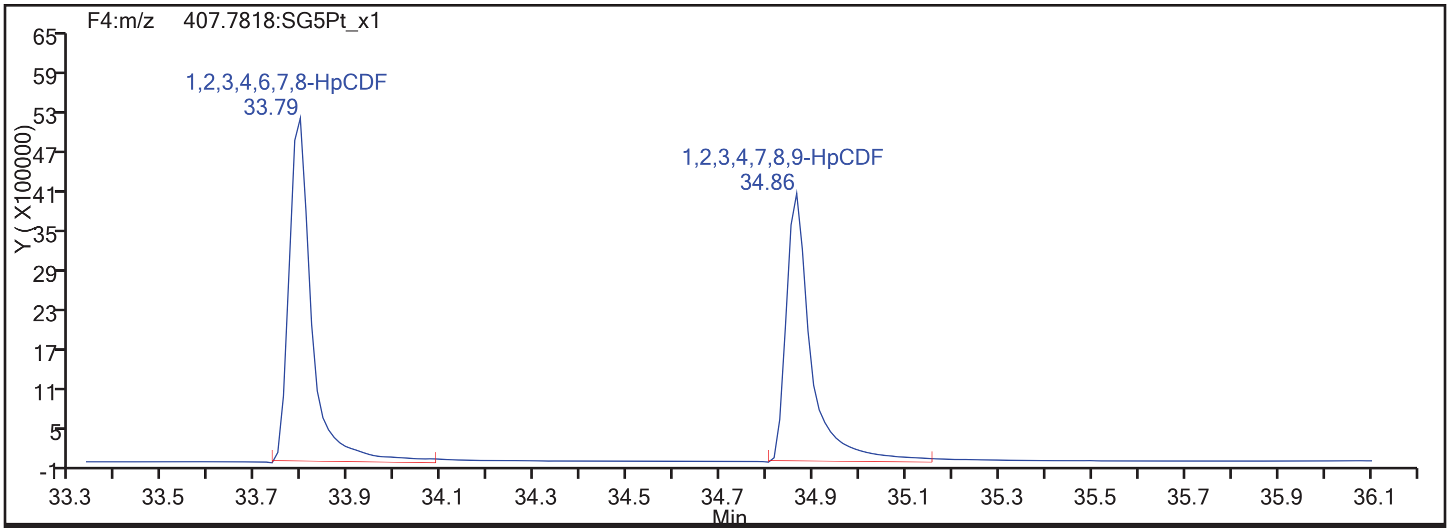
Worklist#: 194084

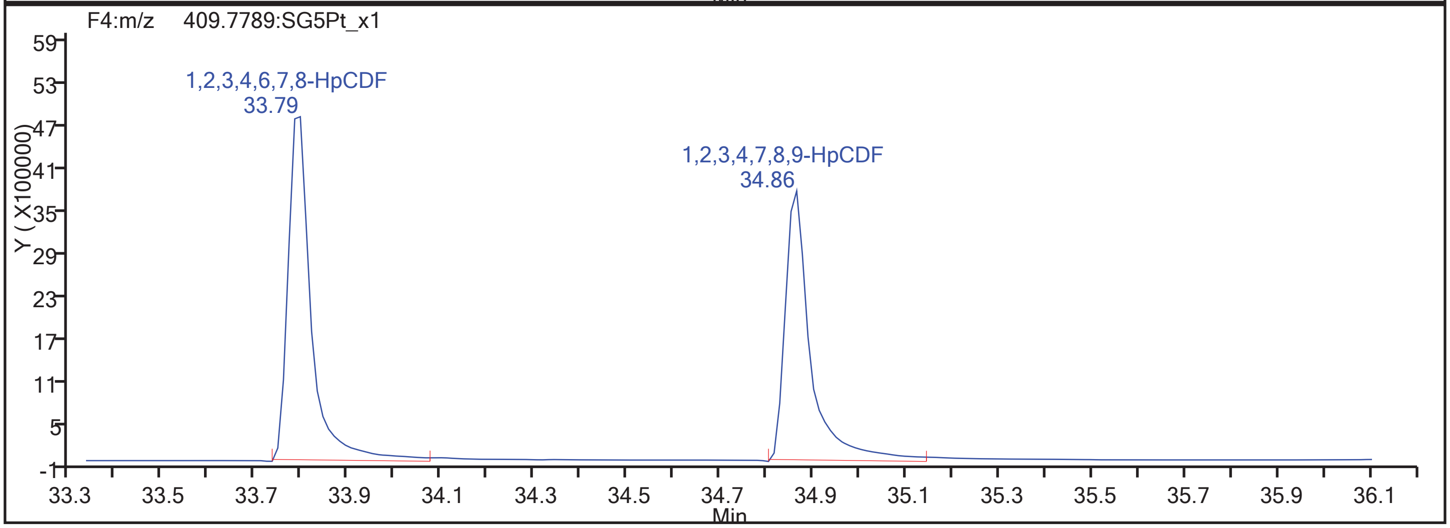
Sample Line#: 58

Column Type: DB-5

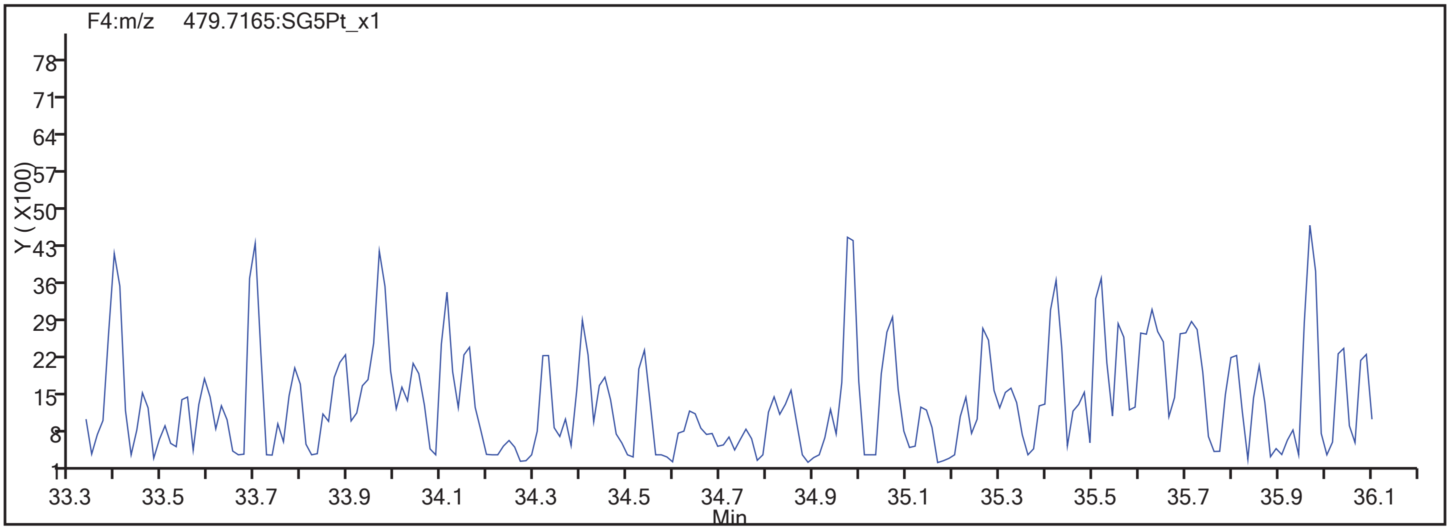
Column Dia: 0.32 mm

HpCDF





HpCDF Interference Mass

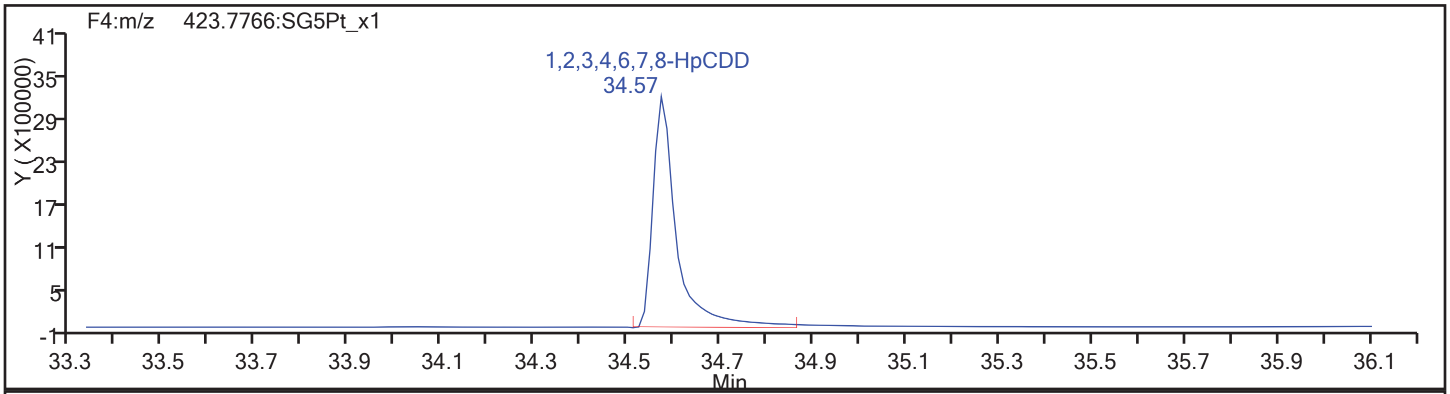


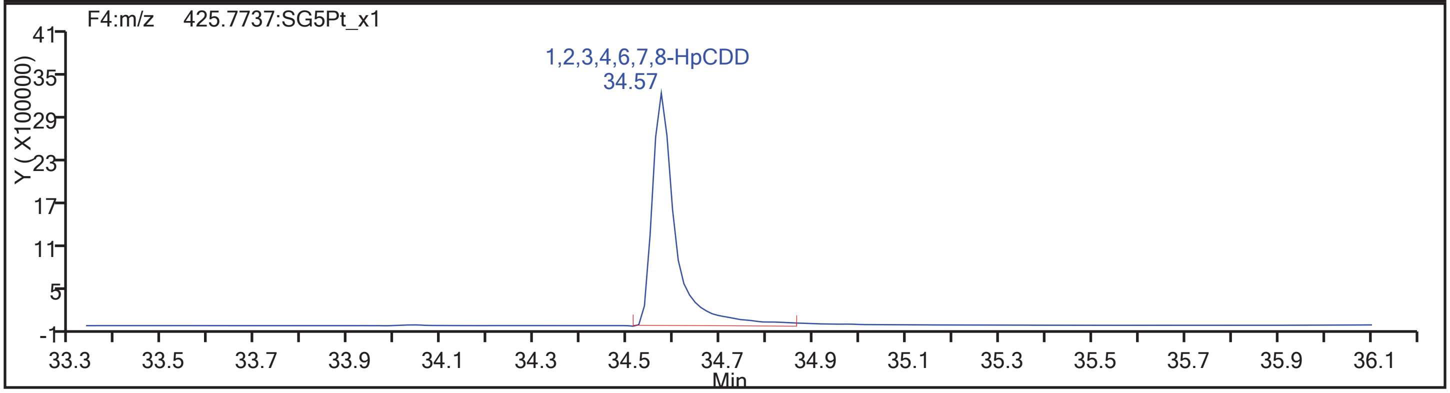
Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

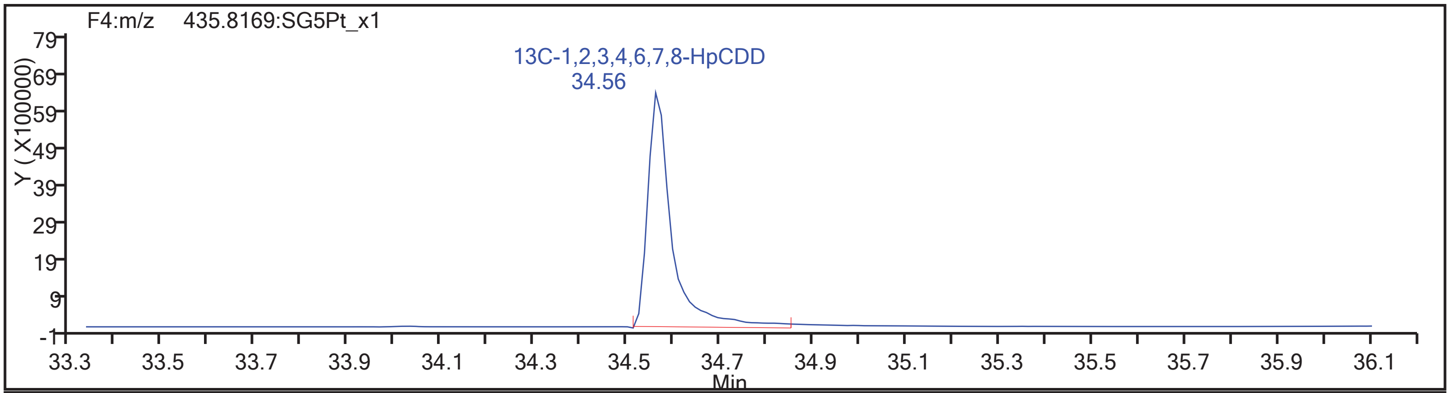
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d		
Injection Date:	11-Nov-2017 06:06:11	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	58
Column Type:	DB-5	Column Dia:	0.32 mm

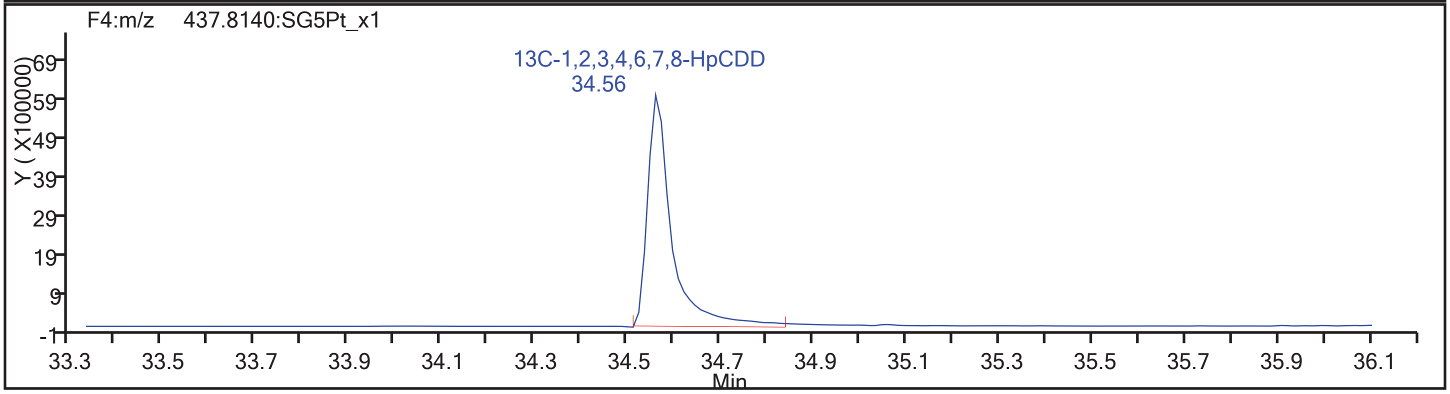
HpCDD





HpCDD Standards



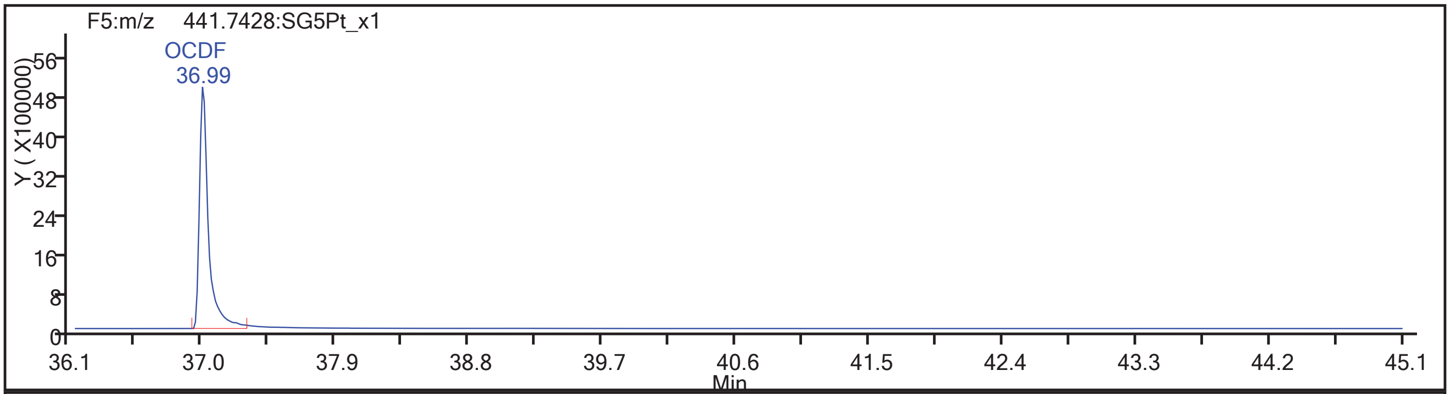


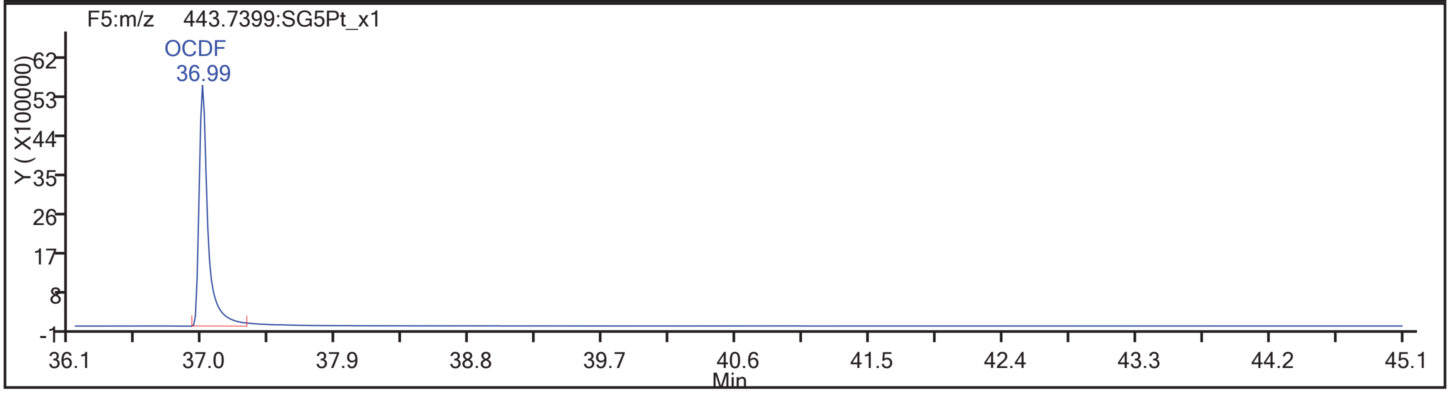
Report Date: 13-Nov-2017 10:48:56 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

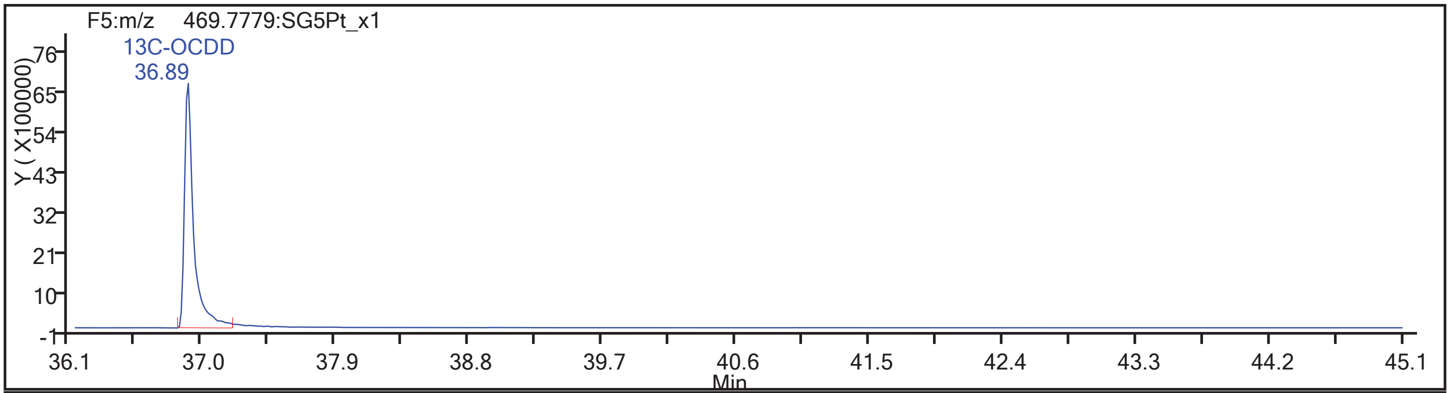
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d
Injection Date: 11-Nov-2017 06:06:11 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084 Sample Line#: 58
Column Type: DB-5 Column Dia: 0.32 mm

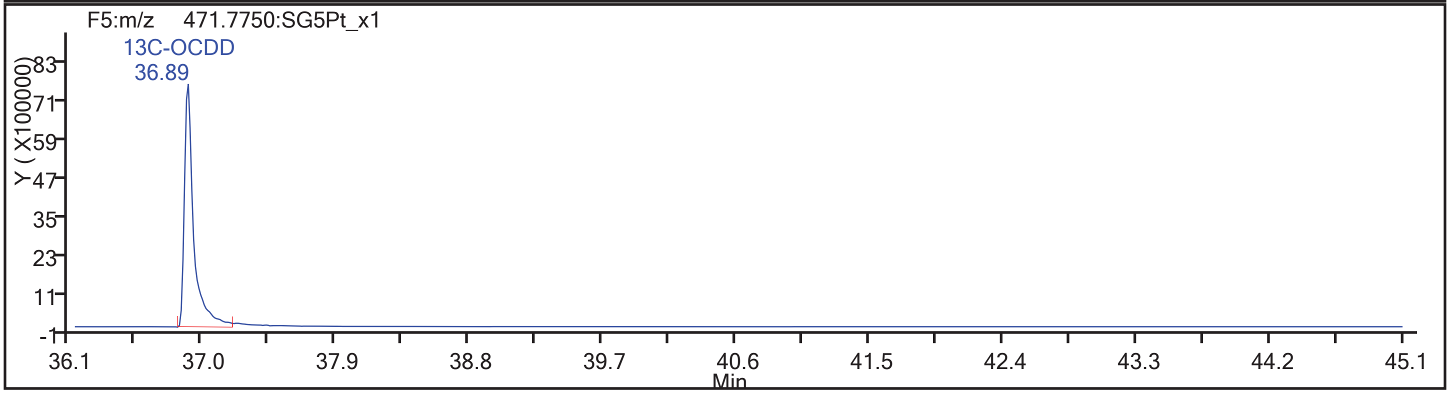
OCDF





OCDF Standards

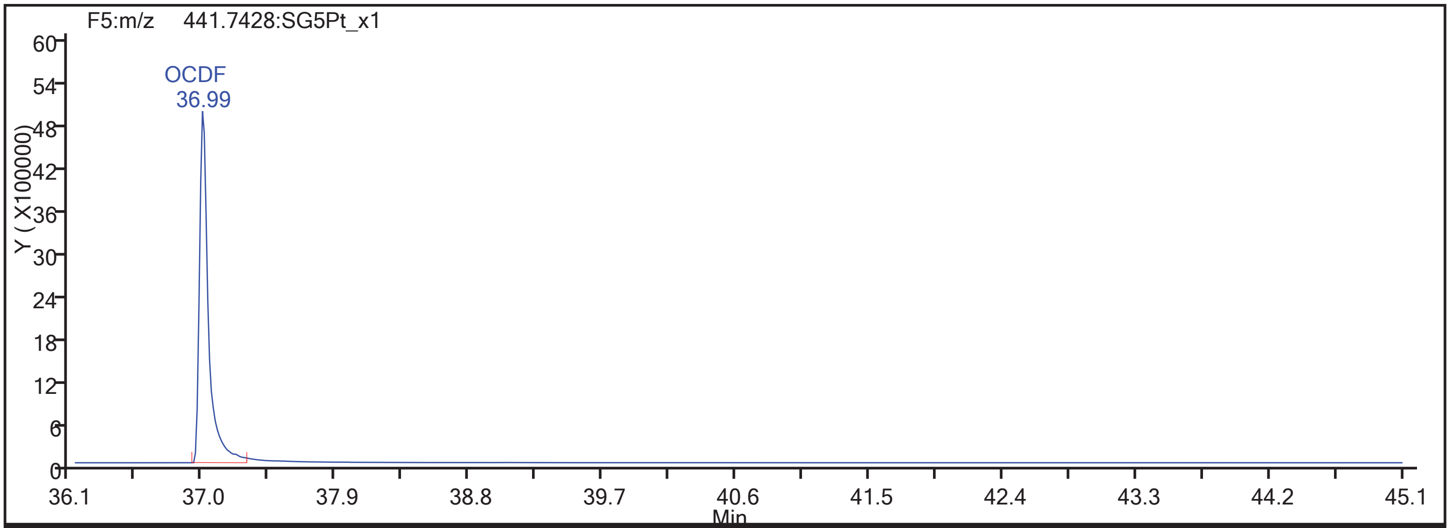


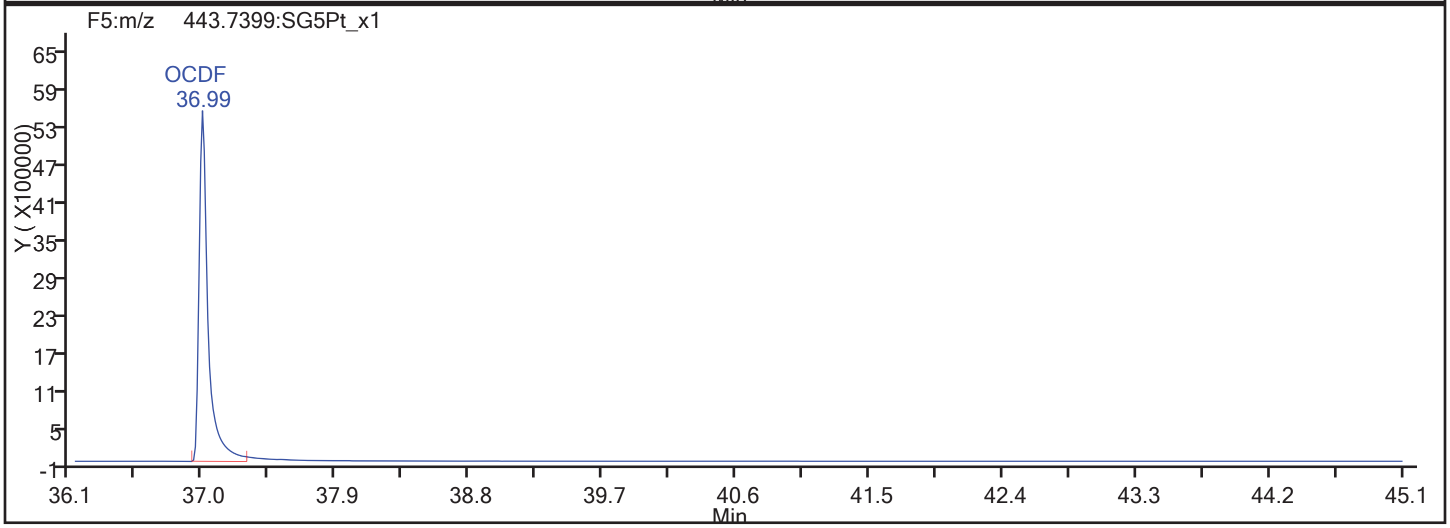


TestAmerica Sacramento

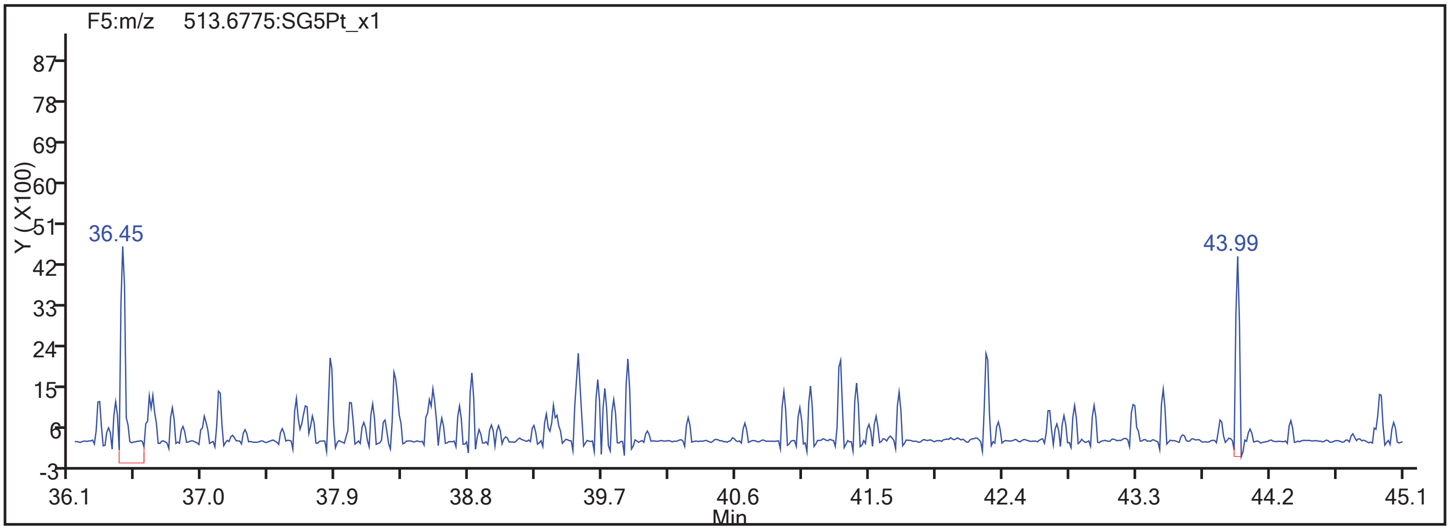
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d		
Injection Date:	11-Nov-2017 06:06:11	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	58
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF





OCDF Interference Mass

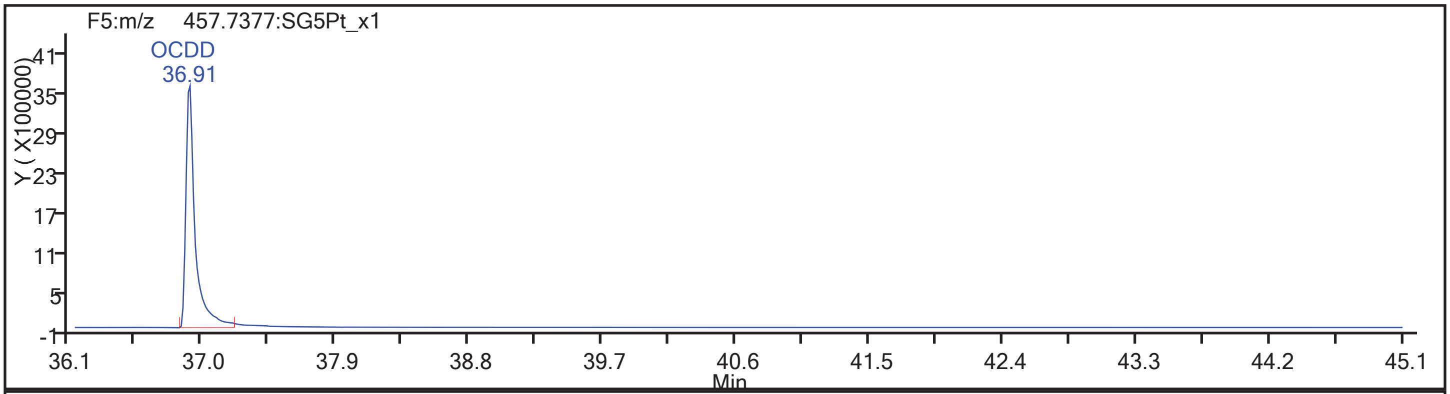


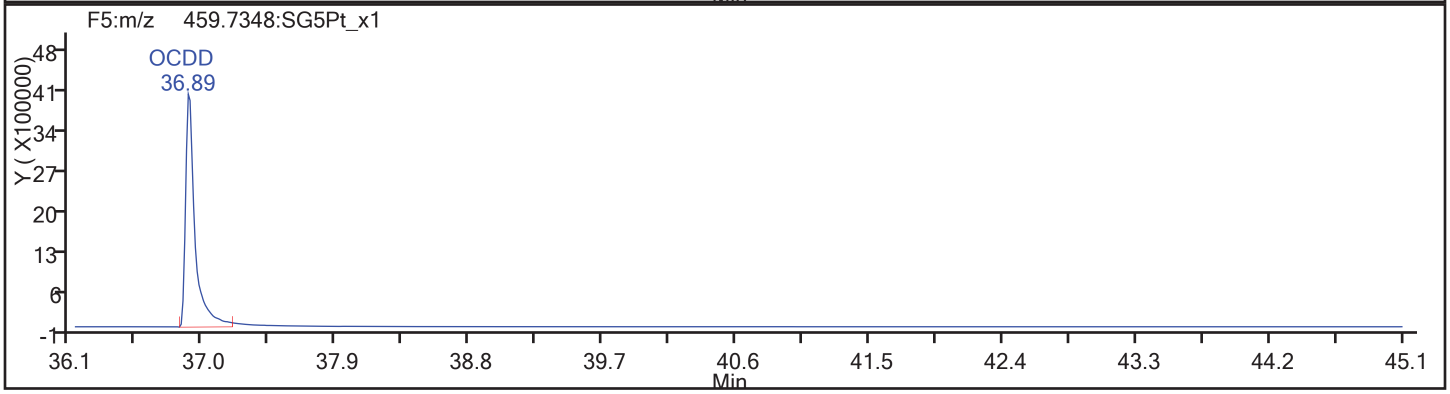
Report Date: 13-Nov-2017 10:48:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

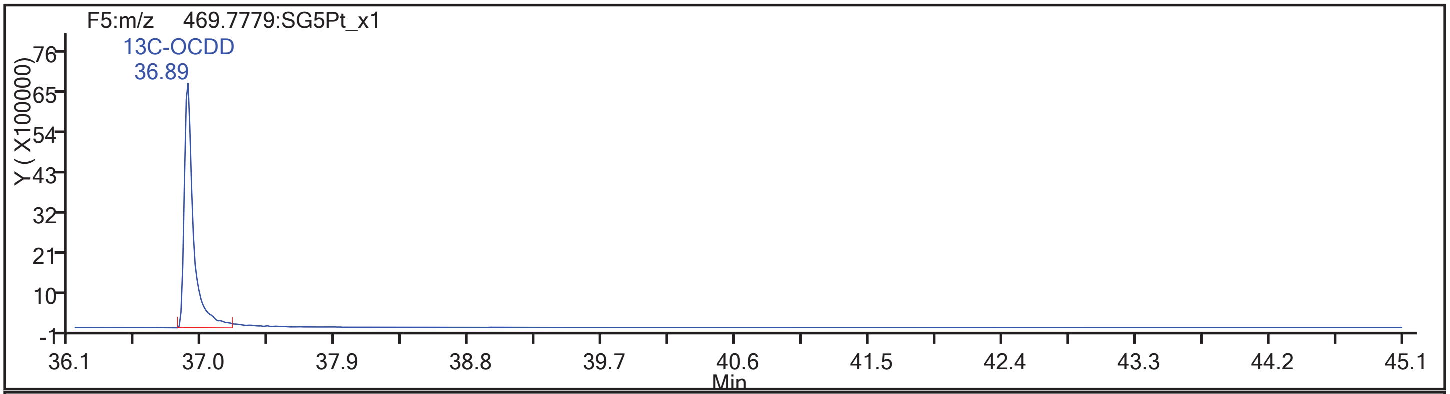
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d
Injection Date: 11-Nov-2017 06:06:11 Injection Vol: 2.0 ul
Instrument ID: 10D5 Operator ID: AJS
Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084 Sample Line#: 58
Column Type: DB-5 Column Dia: 0.32 mm

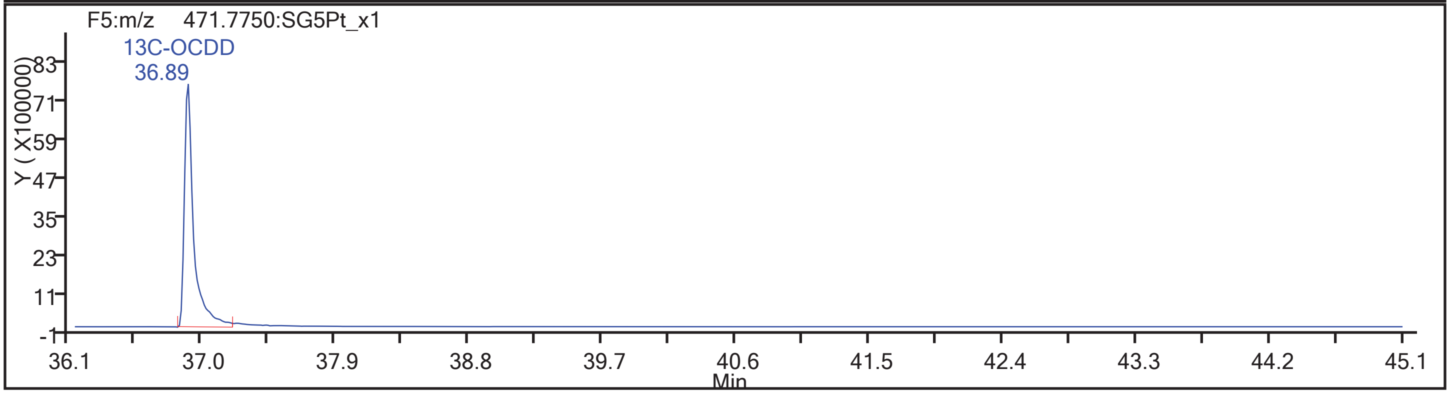
OCDD





OCDD Standards



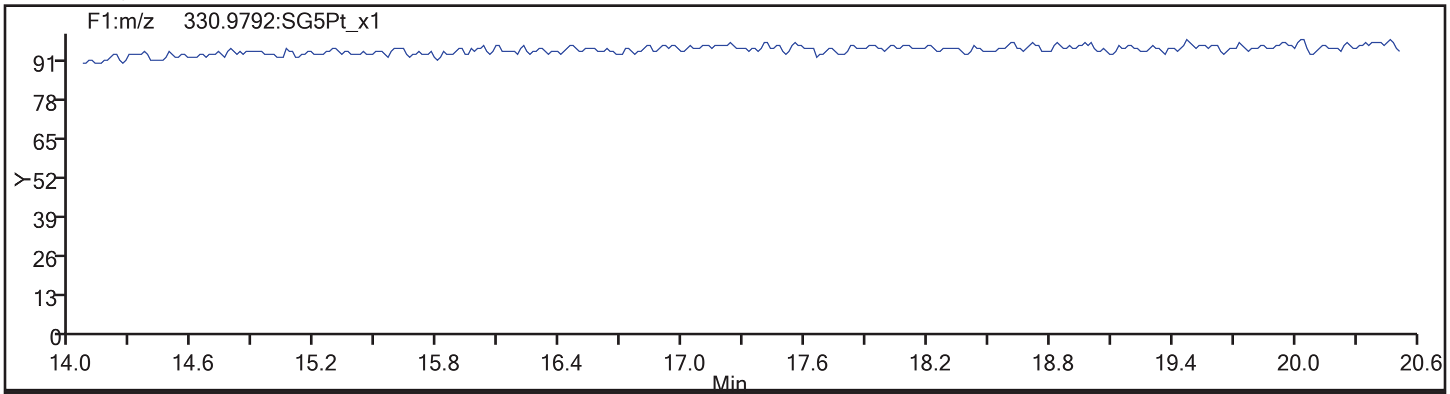


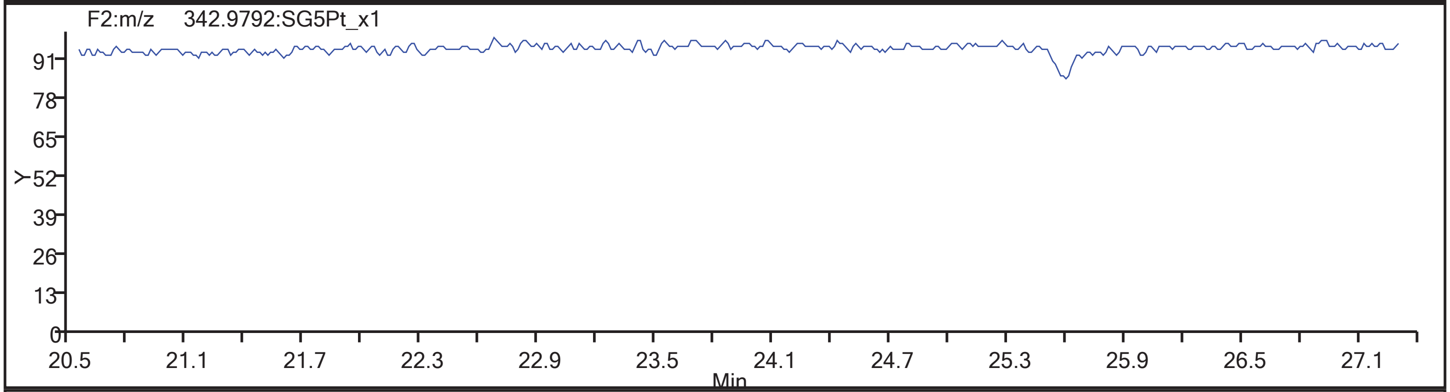
Report Date: 13-Nov-2017 10:48:57 Chrom Revision: 2.2 16-Aug-2017 16:24:46

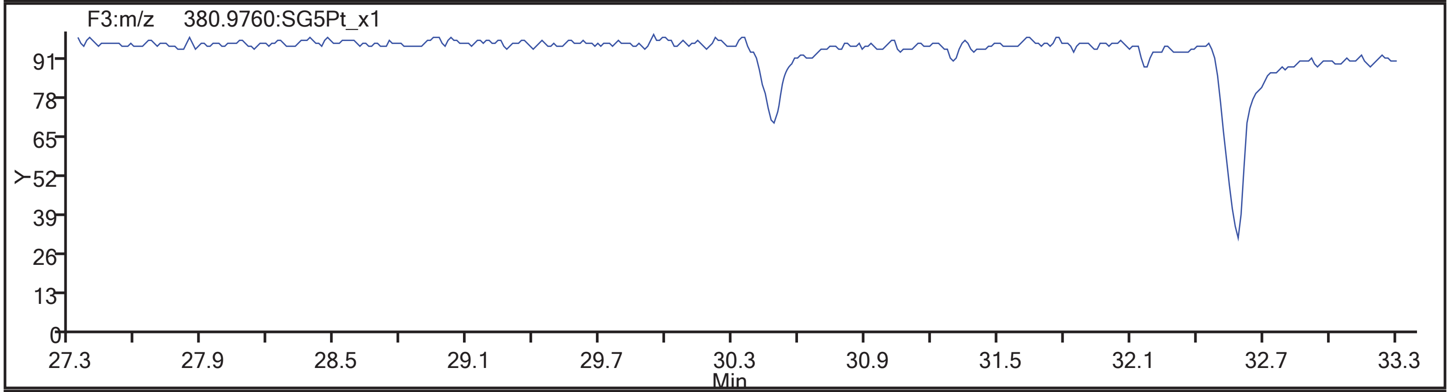
TestAmerica Sacramento

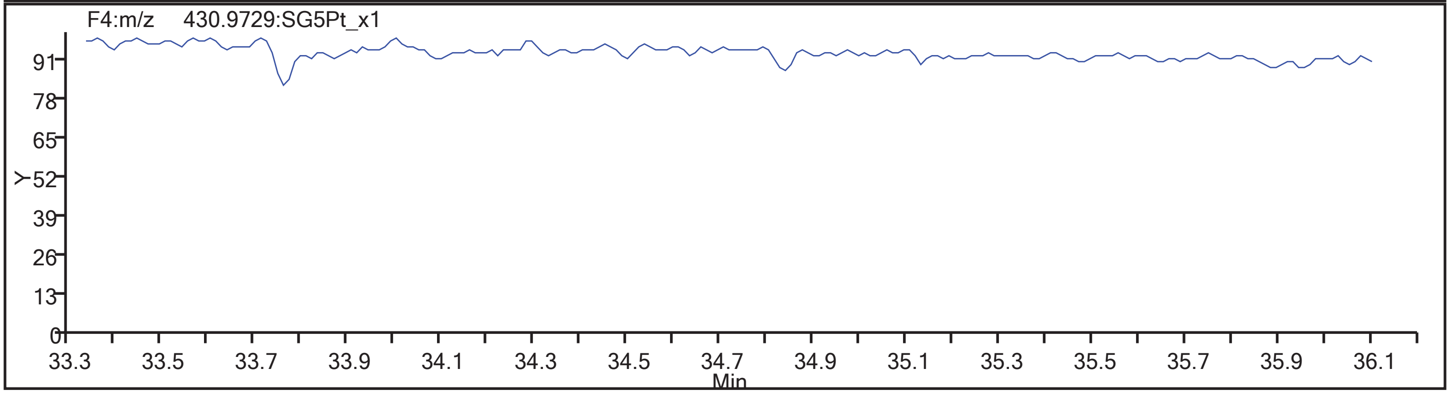
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d

Injection Date: 11-Nov-2017 06:06:11
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 194084
Sample Line#: 58
Column Type: DB-5
Column Dia: 0.32 mm





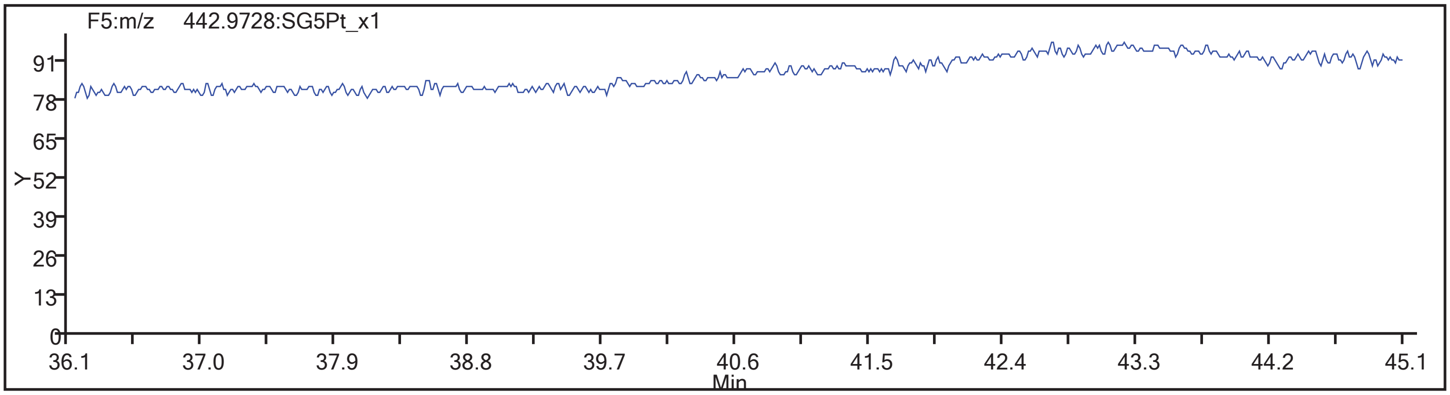




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_58.d

Injection Date:	11-Nov-2017 06:06:11	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	194084	Sample Line#:	58
Column Type:	DB-5	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-195095/3-A
Matrix: Solid
Lab File ID: 16NO173D5_59.d
Analysis Method: 8290A
Date Collected:
Extract. Method: 8290
Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.00(g)
Date Analyzed: 11/18/2017 17:02
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 195573
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	18.2		1.0	0.40	0.097
51207-31-9	2,3,7,8-TCDF	17.7		1.0	0.40	0.074
40321-76-4	1,2,3,7,8-PeCDD	95.1		5.0	0.75	0.20
57117-41-6	1,2,3,7,8-PeCDF	89.4		5.0	0.75	0.40
57117-31-4	2,3,4,7,8-PeCDF	91.0		5.0	0.75	0.41
39227-28-6	1,2,3,4,7,8-HxCDD	93.8		5.0	2.0	0.39
57653-85-7	1,2,3,6,7,8-HxCDD	95.3		5.0	2.0	0.35
19408-74-3	1,2,3,7,8,9-HxCDD	96.7		5.0	2.0	0.34
70648-26-9	1,2,3,4,7,8-HxCDF	93.7		5.0	0.75	0.60
57117-44-9	1,2,3,6,7,8-HxCDF	96.5		5.0	1.0	0.54
72918-21-9	1,2,3,7,8,9-HxCDF	94.9		5.0	1.0	0.62
60851-34-5	2,3,4,6,7,8-HxCDF	95.4		5.0	0.75	0.58
35822-46-9	1,2,3,4,6,7,8-HpCDD	92.3		5.0	1.0	0.57
67562-39-4	1,2,3,4,6,7,8-HpCDF	95.3		5.0	1.0	0.99
55673-89-7	1,2,3,4,7,8,9-HpCDF	96.1		5.0	2.0	1.3
3268-87-9	OCDD	198		10	4.0	0.28
39001-02-0	OCDF	192		10	4.0	0.21

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	72		40-135
89059-46-1	13C-2,3,7,8-TCDF	70		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	71		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	73		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	72		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	71		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	79		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	75		40-135
114423-97-1	13C-OCDD	75		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d
Lims ID: LCSD 320-195095/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 18-Nov-2017 17:02:17 ALS Bottle#: 39 Worklist Smp#: 59
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-195095/3-A LCSD 320-195095/3-A
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 13:44:48 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 19-Nov-2017 09:40:24

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	153999882	0.83	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	163661284	0.78	1.5089	70.4	70.4	0.1961	0.1961	70.43	
2,3,7,8-TCDF	17.735	15891754	0.76	1.0971	8.851	8.851	0.0372	0.0372	88.51	
A Non-2,3,7,8-sub-TCDF	17.402						0.0	0.0		
S Total TCDF					8.851	8.851	0.0372	0.0372		
D 13C-2,3,7,8-TCDD	18.445	109749308	0.76	0.9906	71.9	71.9	0.1967	0.1967	71.94	
$ 37Cl4-2,3,7,8-TCDD	18.461	69941044		1.1732	38.7	38.7	0.0550	0.0550	96.78	
2,3,7,8-TCDD	18.461	11631980	0.79	1.1645	9.102	9.102	0.0485	0.0485	91.02	
A Non-2,3,7,8-sub-TCDD	17.871						0.0	0.0		
S Total TCDD					9.102	9.102	0.0485	0.0485		
D 13C-1,2,3,7,8-PeCDF	22.896	127527210	1.61	1.1280	73.4	73.4	0.2070	0.2070	73.41	
1,2,3,7,8-PeCDF	22.924	65112893	1.58	1.1422	44.7	44.7	0.1997	0.1997	89.41	
D 13C-2,3,4,7,8-PeCDF	24.274	125655720	1.61							
2,3,4,7,8-PeCDF	24.301	64412342	1.55	1.1102	45.5	45.5	0.2054	0.2054	90.99	
A F1 PeCDFs	20.426						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.668	541862	1.55	1.1262	0.4317	0.3773	0.2025	0.3773	0.00	RQ
S Total PeCDF					90.6	90.6	0.2026	0.2026		RQ
D 13C-1,2,3,7,8-PeCDD	25.010	79962767	1.68	0.7269	71.4	71.4	0.1178	0.1178	71.44	
1,2,3,7,8-PeCDD	25.051	42836785	1.58	1.1272	47.5	47.5	0.0985	0.0985	95.05	
A Non-2,3,7,8-sub-PeCDD	23.878						0.0	0.0		
S Total PeCDD					47.5	47.5	0.0985	0.0985		
D 13C-1,2,3,4,7,8-HxCDF	30.919	98379655	0.52	1.0279	71.0	71.0	0.3527	0.3527	70.98	
1,2,3,4,7,8-HxCDF	30.945	62078913	1.28	1.3475	46.8	46.8	0.2985	0.2985	93.65	
D 13C-1,2,3,6,7,8-HxCDF	31.079	113647148	0.51							
1,2,3,6,7,8-HxCDF	31.105	70258924	1.28	1.4794	48.3	48.3	0.2719	0.2719	96.55	
D 13C-2,3,4,6,7,8-HxCDF	31.824	106348637	0.53							
2,3,4,6,7,8-HxCDF	31.838	64904254	1.29	1.3833	47.7	47.7	0.2908	0.2908	95.38	
D 13C-1,2,3,7,8,9-HxCDF	32.583	101033985	0.53							
1,2,3,7,8,9-HxCDF	32.597	60208382	1.27	1.2903	47.4	47.4	0.3118	0.3118	94.86	
A Non-2,3,7,8-sub-HxCDF	30.653						0.0	0.0		
S Total HxCDF					190.2	190.2	0.2933	0.2933		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.410	134827610	1.24	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.997	73427612	1.27							
1,2,3,4,7,8-HxCDD	32.011	41159942	1.30	1.0646	46.9	46.9	0.1953	0.1953	93.80	
D 13C-1,2,3,6,7,8-HxCDD	32.091	82433751	1.30	0.8502	71.9	71.9	0.2980	0.2980	71.92	
1,2,3,6,7,8-HxCDD	32.117	46390964	1.30	1.1809	47.7	47.7	0.1761	0.1761	95.31	
1,2,3,7,8,9-HxCDD	32.424	49045711	1.25	1.2311	48.3	48.3	0.1689	0.1689	96.66	
A Non-2,3,7,8-sub-HxCDD	31.252						0.0	0.0		
S Total HxCDD					142.9	142.9	0.1801	0.1801		
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	65652134	0.43	0.6490	75.0	75.0	0.8509	0.8509	75.03	
1,2,3,4,6,7,8-HpCDF	34.010	49630591	1.05	1.5871	47.6	47.6	0.4937	0.4937	95.27	
D 13C-1,2,3,4,7,8,9-HpCDF	35.116	55660938	0.44							
1,2,3,4,7,8,9-HpCDF	35.128	38775366	1.07	1.2290	48.1	48.1	0.6375	0.6375	96.12	
A Non-2,3,7,8-sub-HpCDF	34.569						0.0	0.0		
S Total HpCDF					95.7	95.7	0.5656	0.5656		
D 13C-1,2,3,4,6,7,8-HpCDD	34.812	57335023	1.06	0.5387	78.9	78.9	0.3684	0.3684	78.94	
1,2,3,4,6,7,8-HpCDD	34.824	30762398	1.03	1.1631	46.1	46.1	0.2843	0.2843	92.26	
A Non-2,3,7,8-sub-HpCDD	35.261						0.0	0.0		
S Total HpCDD					46.1	46.1	0.2843	0.2843		
D 13C-OCDD	37.245	81612290	0.91	0.4009	151.0	151.0	0.2639	0.2639	75.49	
OCDF	37.353	49543184	0.92	1.2649	96.0	96.0	0.1062	0.1062	95.99	
OCDD	37.257	42026583	0.89	1.0390	99.1	99.1	0.1392	0.1392	99.12	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 06-Dec-2017 13:46:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d
Lims ID: LCSD 320-195095/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 18-Nov-2017 17:02:17 ALS Bottle#: 39 Worklist Smp#: 59
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-195095/3-A LCSD 320-195095/3-A
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 13:44:48 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK019

First Level Reviewer: arghestanis Date: 19-Nov-2017 09:40:24

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		69650670	16570631	15383	38457	1077		
333.9339	18.249	18.234	1		84349212	20751052	13701	34252	1515	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.971	71891938	16655131	26493	66232	629		
317.9389	17.720	17.705	1	0.971	91769346	22232776	17671	44177	1258	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.735	17.720	1	1.001	6874880	1573600	2956	7390	532		
305.8987	17.735	17.720	1	1.001	9016874	2146114	3397	8492	632	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.402						2956	7390			
305.8987	17.402						3397	8492			
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.011	47524591	10691290	15383	38457	695		
333.9339	18.445	18.430	1	1.011	62224717	13978751	13701	34252	1020	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.461	18.461	0	1.012	69941044	16178223	9627	24067	1681		
2,3,7,8-TCDD											
319.8965	18.461	18.461	0	1.001	5132703	1168232	3449	8622	339		
321.8936	18.461	18.461	0	1.001	6499277	1505801	2123	5307	709	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.871						3449	8622			
321.8936	17.871						2123	5307			
13C-1,2,3,7,8-PeCDF											
351.9000	22.896	22.883	1	1.255	78748318	13100363	21476	53690	610		
353.8970	22.896	22.883	1	1.255	48778892	8233209	13383	33457	615	1.61(1.32-1.78)	

Report Date: 06-Dec-2017 13:46:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.924	22.910	1	1.001	39863887	6554740	11296	28240	580		
341.8567	22.910	22.910	0	1.001	25249006	4193854	8166	20415	514	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.274	24.274	0	1.330	77567167	12562106	21476	53690	585		
353.8970	24.274	24.274	0	1.330	48088553	7696412	13383	33457	575	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.301	24.301	0	1.061	39123279	6195628	11296	28240	548		
341.8567	24.301	24.301	0	1.061	25289063	4111252	8166	20415	503	1.55(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.426						605	1512			
341.8567	20.426						1336	3340			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	23.469	23.668	-12	1.025	407528	55980	11296	28240	5		
	Empc Correction				329367	47540	11296	28240	4		
341.8567	23.469	23.668	-12	1.025	212495	30671	8166	20415	4	1.92(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	25.010	0	1.370	50139139	7300299	8282	20705	881		
369.8919	25.024	25.010	1	1.371	29823628	4333405	4496	11240	964	1.68(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.051	25.037	1	1.002	26219226	3714937	2706	6765	1373		
357.8516	25.037	25.037	0	1.001	16617559	2476058	2463	6157	1005	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.878						2706	6765			
357.8516	23.878						2463	6157			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.919	0	0.954	33863511	7157026	17767	44417	403		
385.8610	30.919	30.919	0	0.954	64516144	14030352	34760	86900	404	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.945	30.932	1	1.001	34897725	7514551	19224	48060	391		
375.8178	30.932	30.932	0	1.000	27181188	5868239	14868	37170	395	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.079	31.079	0	0.959	38231347	8025875	17767	44417	452		
385.8610	31.079	31.079	0	0.959	75415801	15468458	34760	86900	445	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.105	31.092	1	1.006	39393879	8192955	19224	48060	426		
375.8178	31.092	31.092	0	1.006	30865045	6537424	14868	37170	440	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.824	31.824	0	0.982	36825948	9473631	17767	44417	533		
385.8610	31.824	31.824	0	0.982	69522689	17710243	34760	86900	510	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.838	31.838	0	1.030	36513258	9463403	19224	48060	492		
375.8178	31.838	31.838	0	1.030	28390996	7359214	14868	37170	495	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.005	34863896	9603332	17767	44417	541		
385.8610	32.583	32.583	0	1.005	66170089	17696772	34760	86900	509	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.597	32.597	0	1.054	33689960	9013609	19224	48060	469		
375.8178	32.597	32.597	0	1.054	26518422	7189033	14868	37170	484	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.653						19224	48060			
375.8178	30.653						14868	37170			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.410	0		74683182	20229926	21805	54512	928		
403.8529	32.410	32.410	0		60144428	15988980	14901	37252	1073	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.997	31.997	0	0.987	41121084	11701512	21805	54512	537		
403.8529	31.997	31.997	0	0.987	32306528	9125241	14901	37252	612	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.011	32.011	0	0.998	23233521	6624178	10719	26797	618		
391.8127	32.011	32.011	0	0.998	17926421	5108318	6942	17355	736	1.30(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.990	46519383	11909368	21805	54512	546		
403.8529	32.091	32.091	0	0.990	35914368	9322705	14901	37252	626	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.117	32.117	0	1.001	26205847	6548135	10719	26797	611		
391.8127	32.104	32.117	-1	1.000	20185117	5243679	6942	17355	755	1.30(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.424	32.424	0	1.010	27248980	7385099	10719	26797	689		
391.8127	32.424	32.424	0	1.010	21796731	5862108	6942	17355	844	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.252						10719	26797			
391.8127	31.252						6942	17355			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	19647915	6273827	28704	71760	219		
419.8220	33.998	33.998	0	1.049	46004219	14712713	51300	128250	287	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.010	34.010	0	1.000	25467437	8211727	34511	86277	238		
409.7789	34.010	34.010	0	1.000	24163154	7695836	31260	78150	246	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.116	35.116	0	1.083	16917628	5026809	28704	71760	175		
419.8220	35.116	35.116	0	1.083	38743310	11529429	51300	128250	225	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128	35.128	0	1.033	20069624	6157390	34511	86277	178		
409.7789	35.128	35.128	0	1.033	18705742	5663168	31260	78150	181	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.569						34511	86277			
409.7789	34.569						31260	78150			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.812	34.812	0	1.074	29517116	8475140	14714	36785	576		
437.8140	34.812	34.812	0	1.074	27817907	8210872	14034	35085	585	1.06(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Q Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.824	34.824	0	1.000	15598337	4664218	10778	26945	433		
425.7737	34.824	34.824	0	1.000	15164061	4598496	11290	28225	407	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.261						10778	26945			
425.7737	35.261						11290	28225			
13C-OCDD											
469.7779	37.245	37.245	0	1.149	38952041	10451508	6567	16417	1592		
471.7750	37.245	37.245	0	1.149	42660249	11223871	8762	21905	1281	0.91(0.76-1.02)	
OCDF											
441.7428	37.353	37.353	0	1.003	23733610	6118448	2471	6177	2476		
443.7399	37.341	37.353	-1	1.003	25809574	6676302	3354	8385	1991	0.92(0.76-1.02)	
OCDD											
457.7377	37.257	37.257	0	1.000	19821749	5133985	3157	7892	1626		
459.7348	37.245	37.257	-1	1.000	22204834	5907336	3113	7782	1898	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d		
Lims ID:	LCSD 320-195095/3-A		
Client ID:			
Inject. Date:	18-Nov-2017 17:02:17	Dil. Factor:	1.0000
Sample Type:	LCSD, LCS Duplicate		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195573	Lims Sample ID:	59

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	127527210	21333572
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	127527210	21333572

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.469	407528	55980	212495	30671	0.4317	1.92	RQ
23.469	329367	47540	212495	30671	0.3773		Empc Correction
Signal Totals:							
	329367	47540	212495	30671			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	620023	86651				1.92	RQ
	541862	78211					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4317 = (620023 * 100.000) / (127527210 * 1.126)
Empc Amount: 0.3773 = (541862 * 100.000) / (127527210 * 1.126)

QC Flag Legend

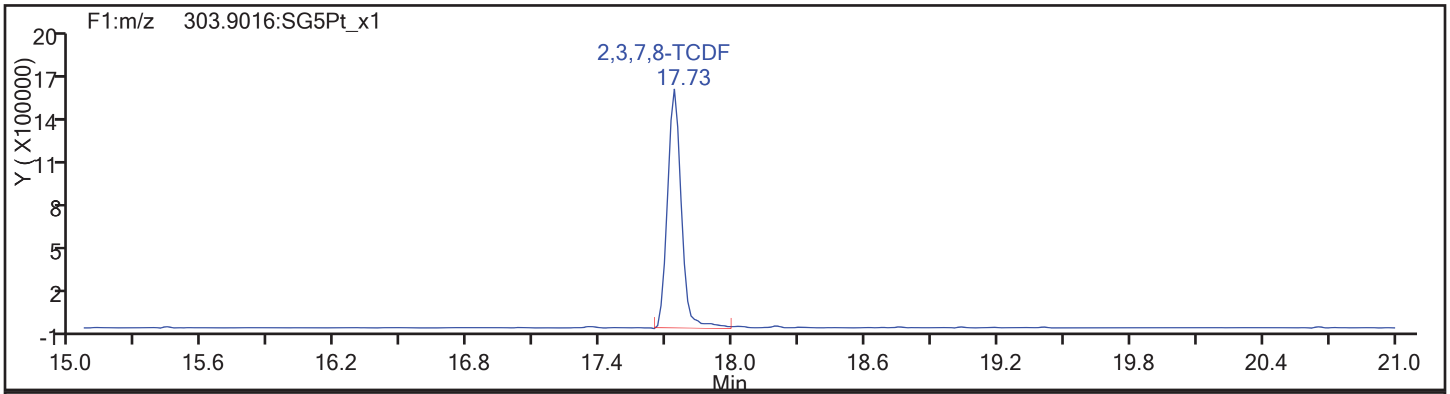
Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

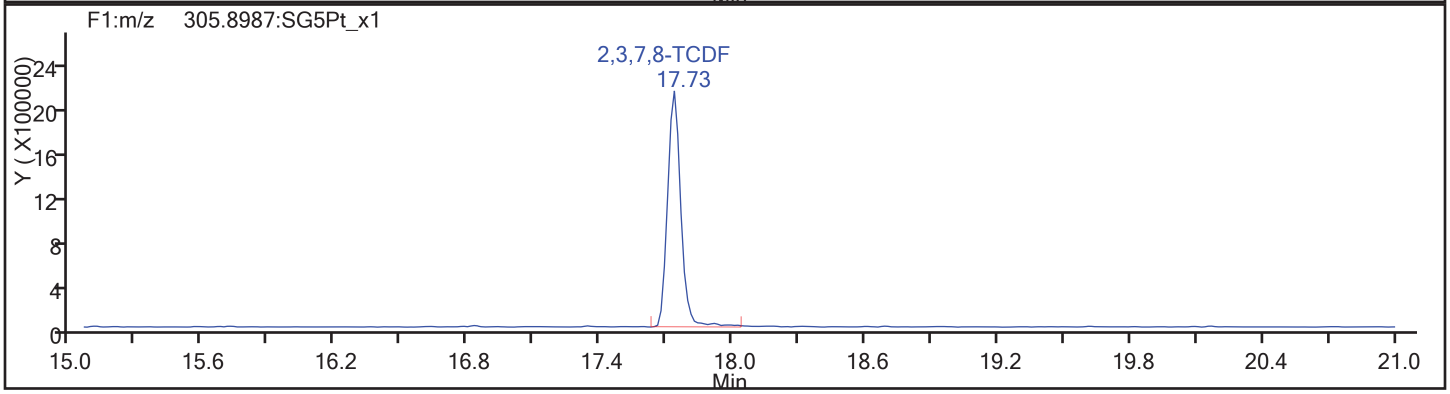
Report Date: 06-Dec-2017 13:46:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

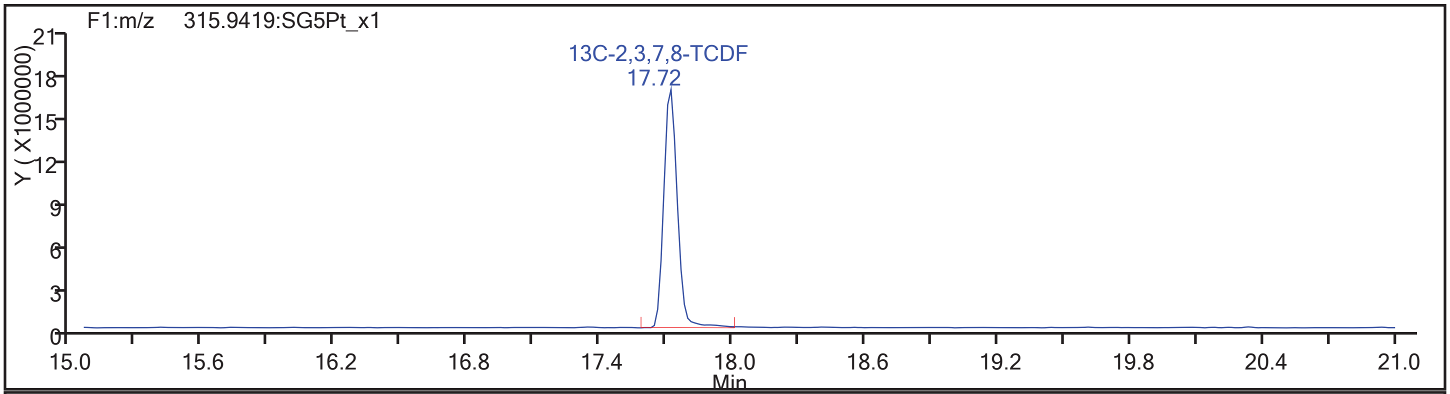
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d
Injection Date: 18-Nov-2017 17:02:17 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573 Sample Line#: 59
Column Type: Column Dia:

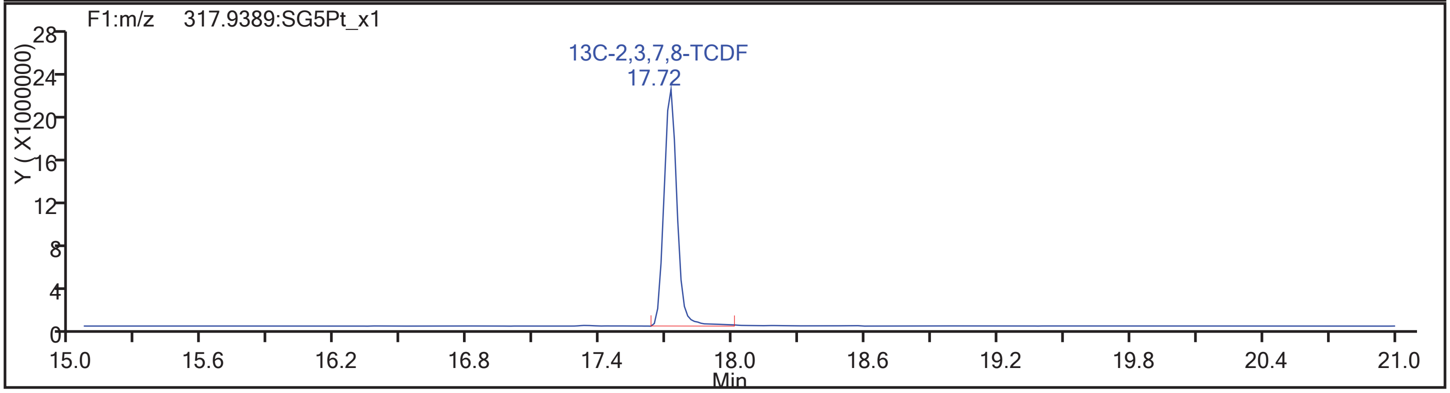
TCDF





TCDF Standards



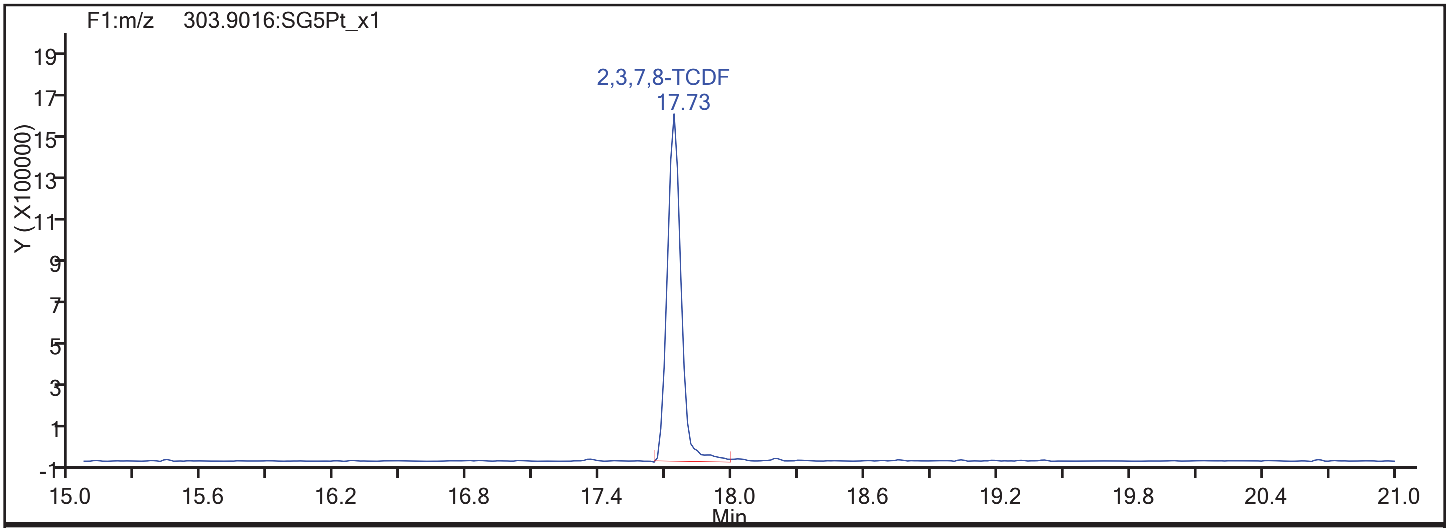


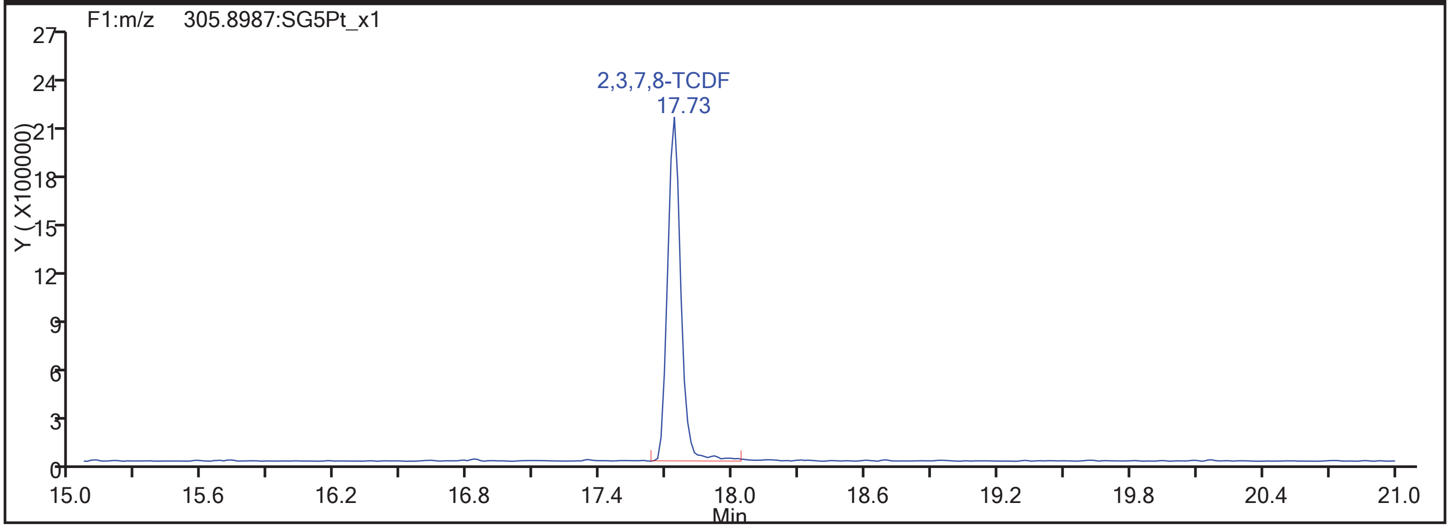
Report Date: 06-Dec-2017 13:46:28 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

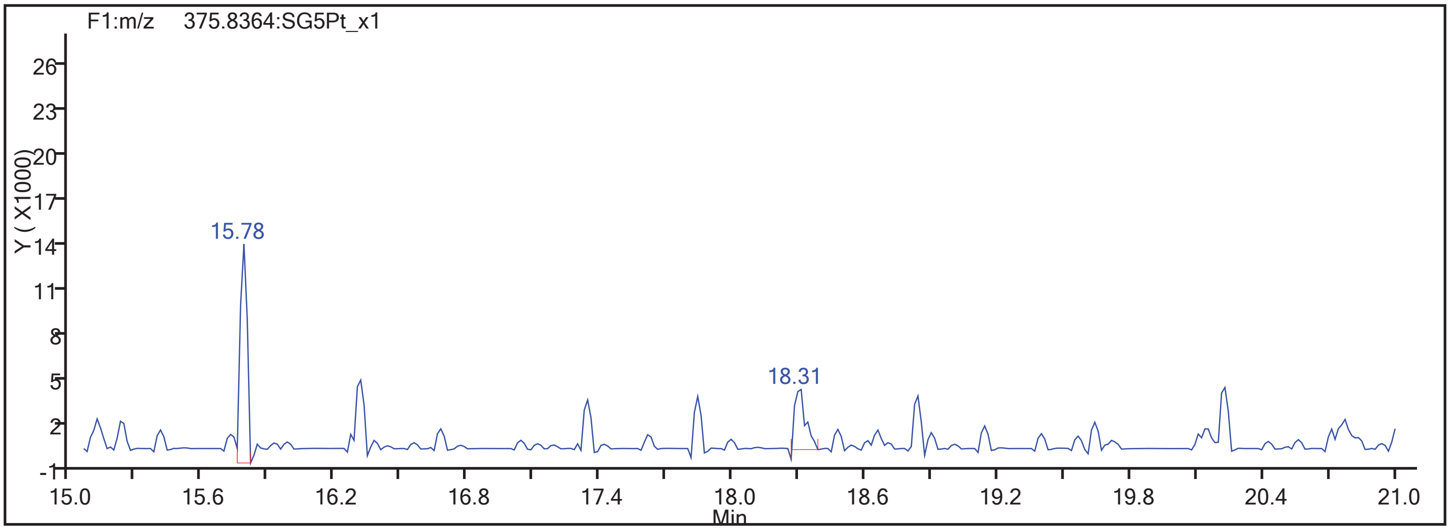
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d		
Injection Date:	18-Nov-2017 17:02:17	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	59
Column Type:		Column Dia:	

TCDF





TCDF Interference Mass

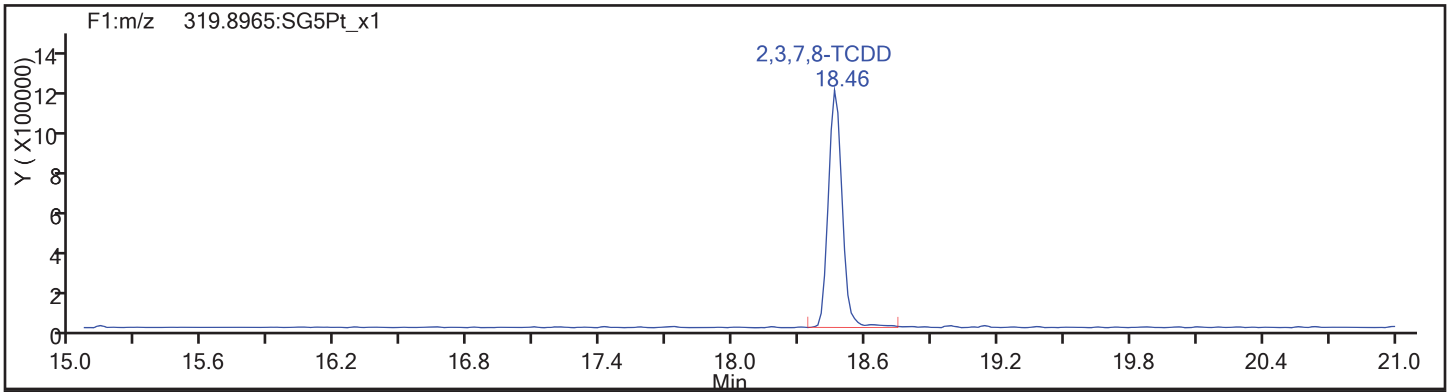


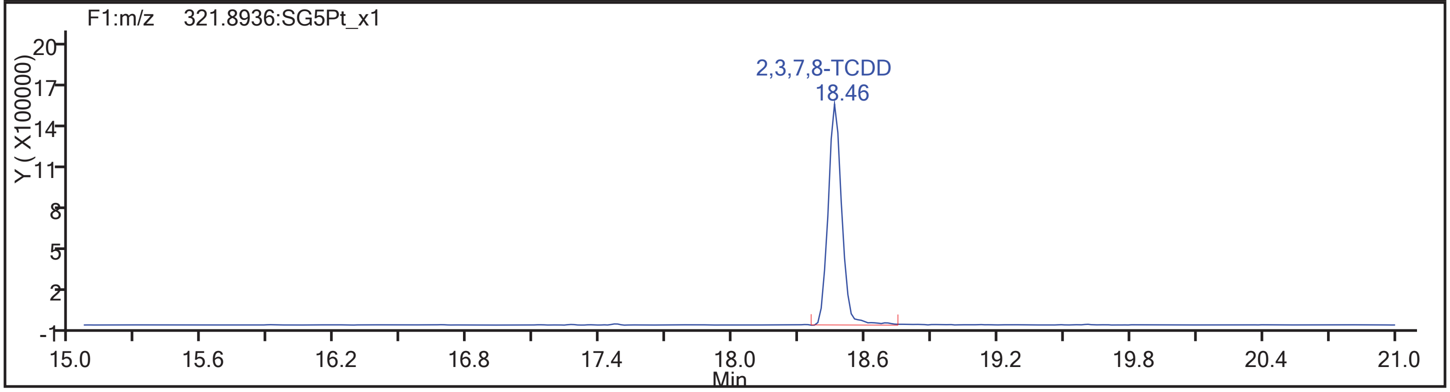
Report Date: 06-Dec-2017 13:46:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

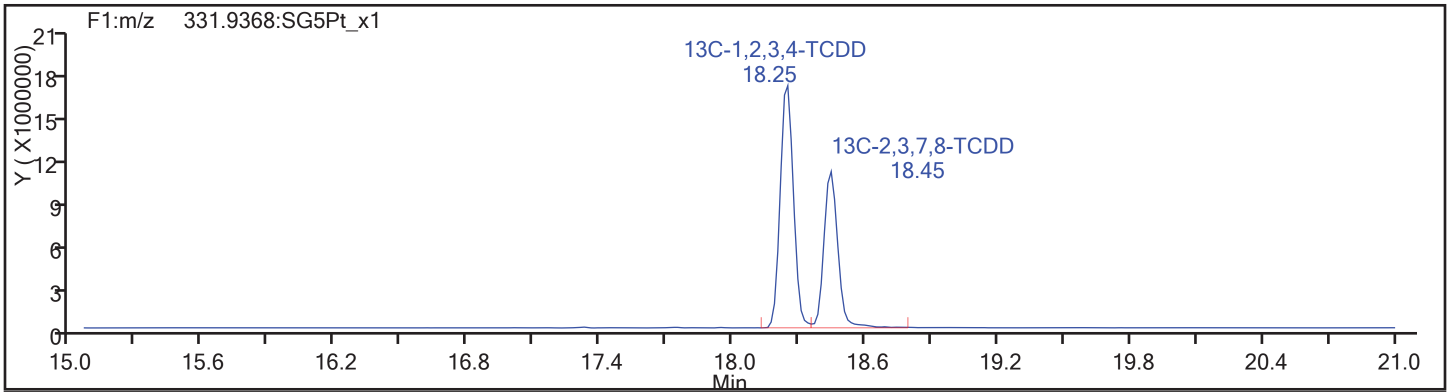
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d
Injection Date: 18-Nov-2017 17:02:17 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573 Sample Line#: 59
Column Type: Column Dia:

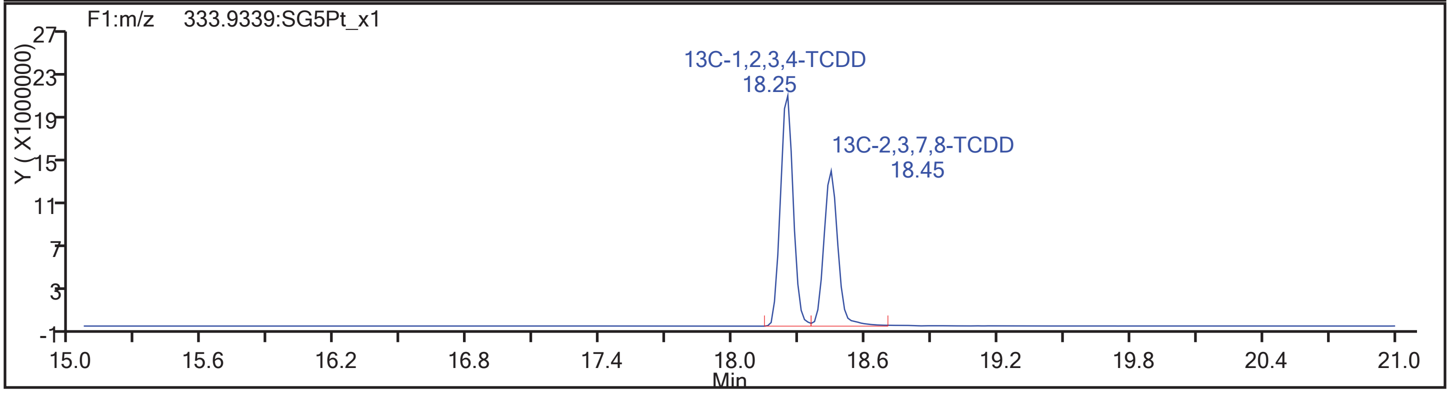
TCDD





TCDD Standards

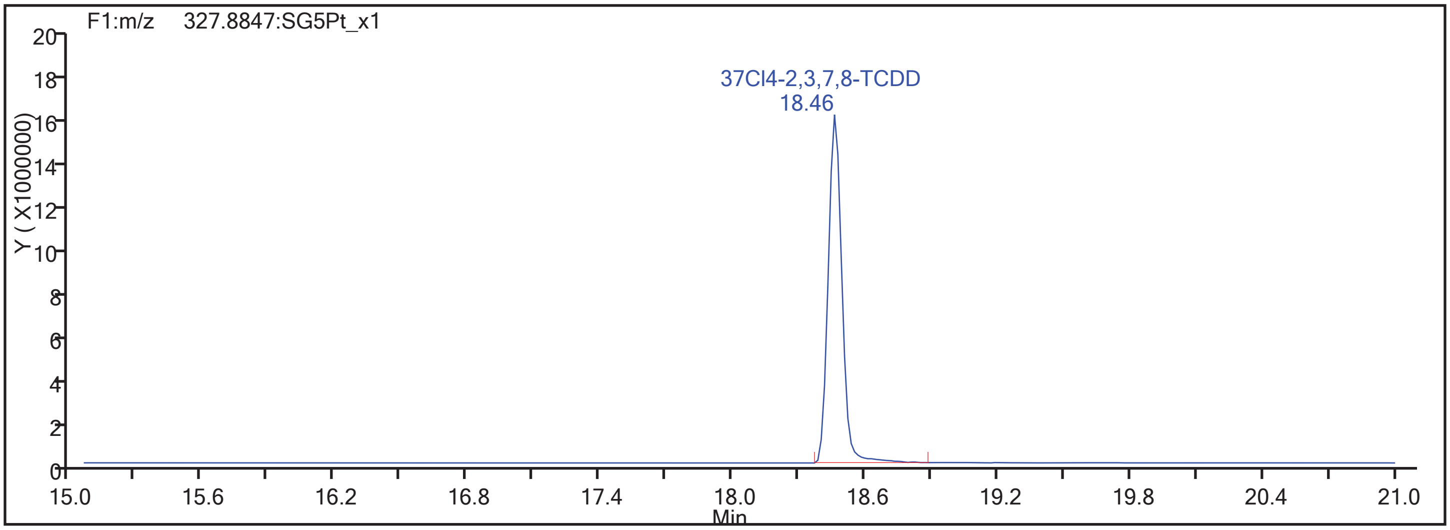




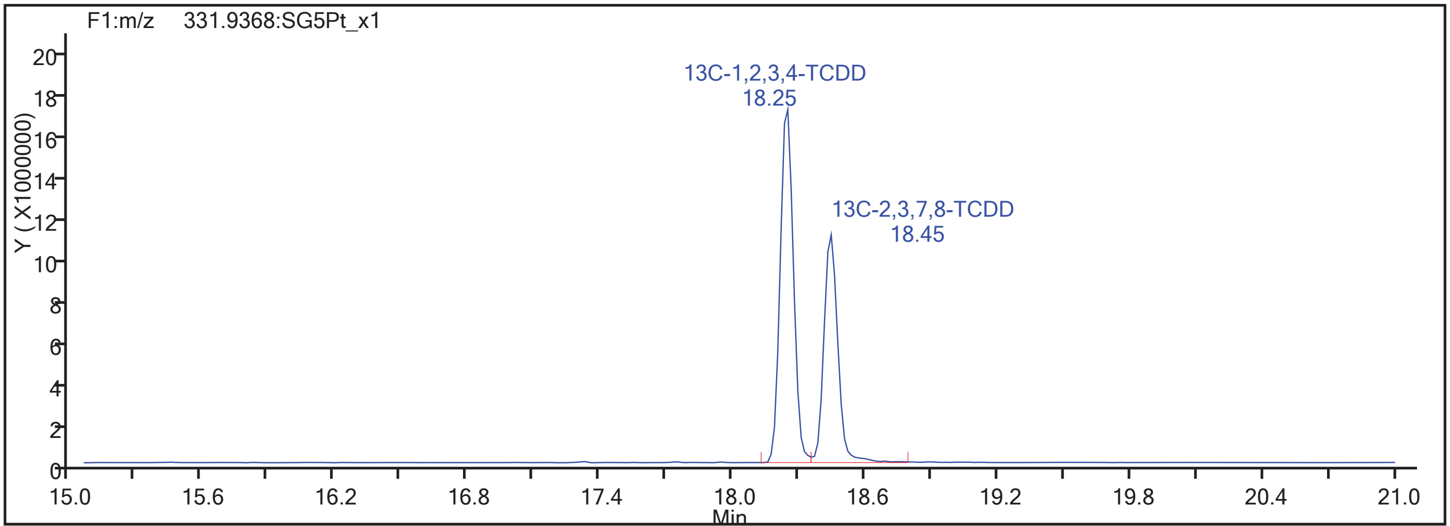
TestAmerica Sacramento

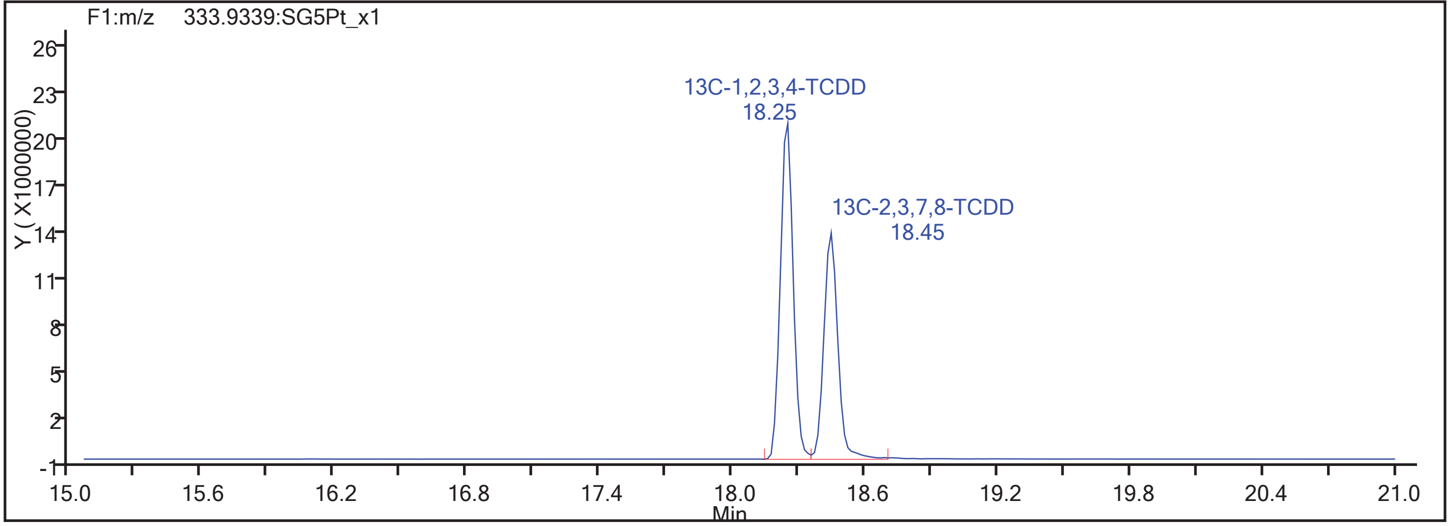
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d		
Injection Date:	18-Nov-2017 17:02:17	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
Worklist#:	195573	Sample Line#:	59
Column Type:		Column Dia:	

37Cl4-TCDD



37Cl4-TCDD Standards



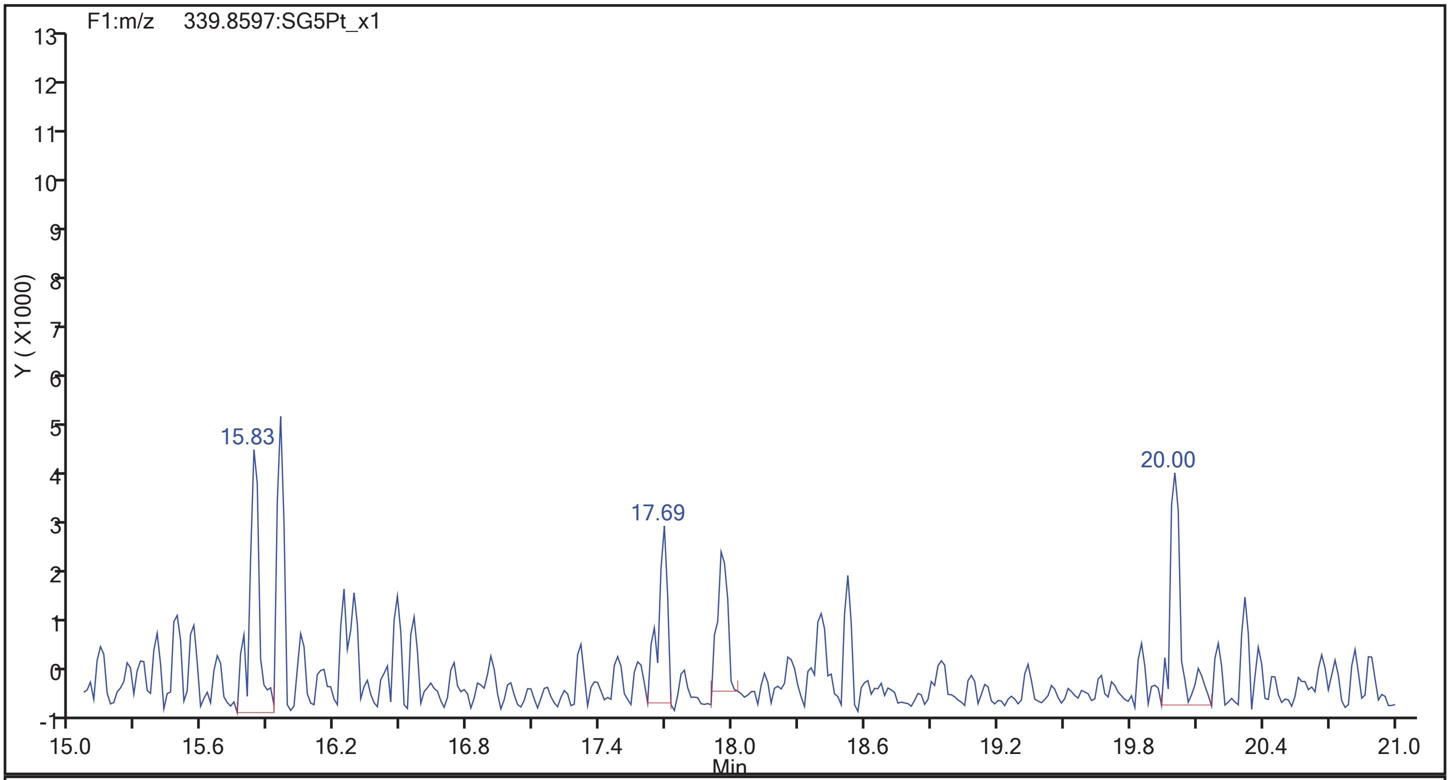


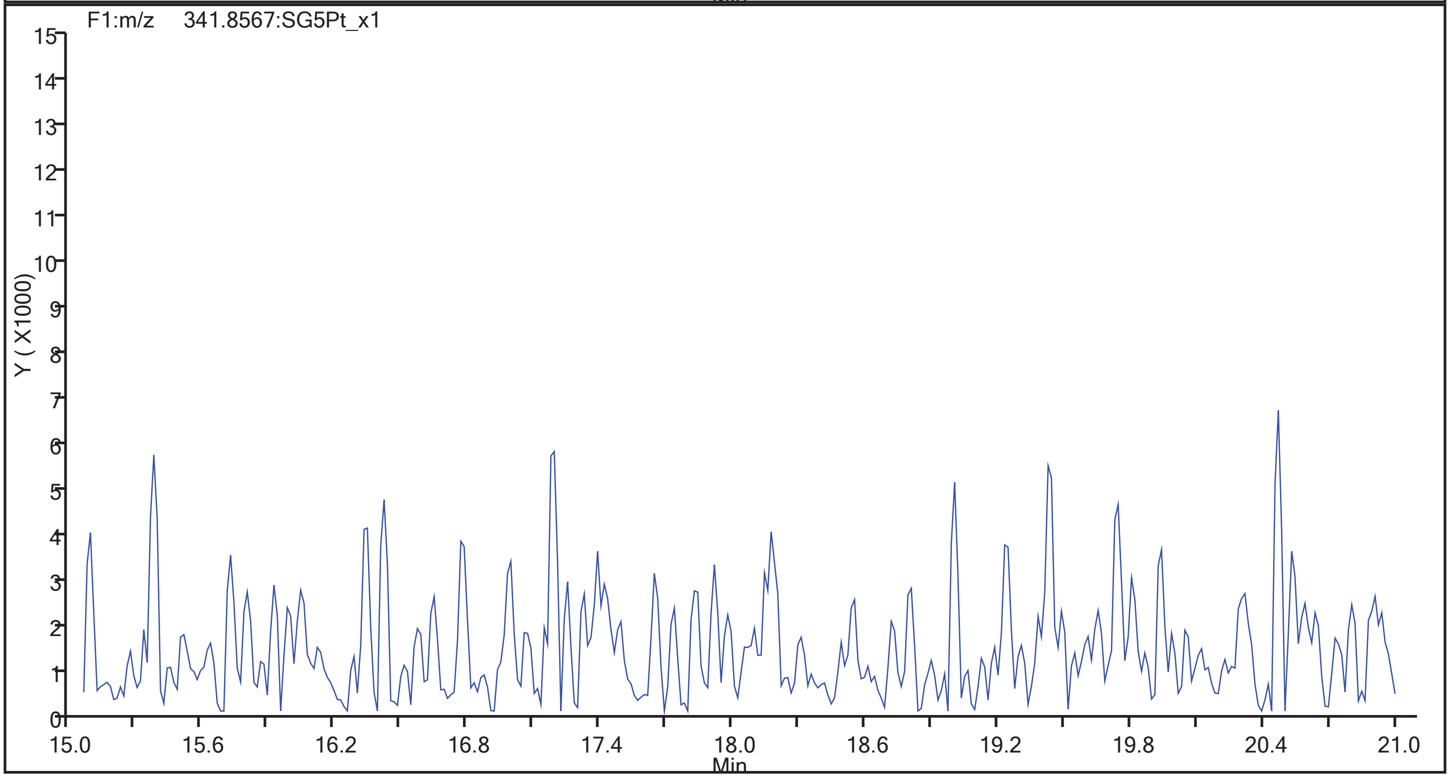
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d

Injection Date: 18-Nov-2017 17:02:17
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573
Sample Line#: 59
Column Type:
Column Dia:

F1 PeCDFs



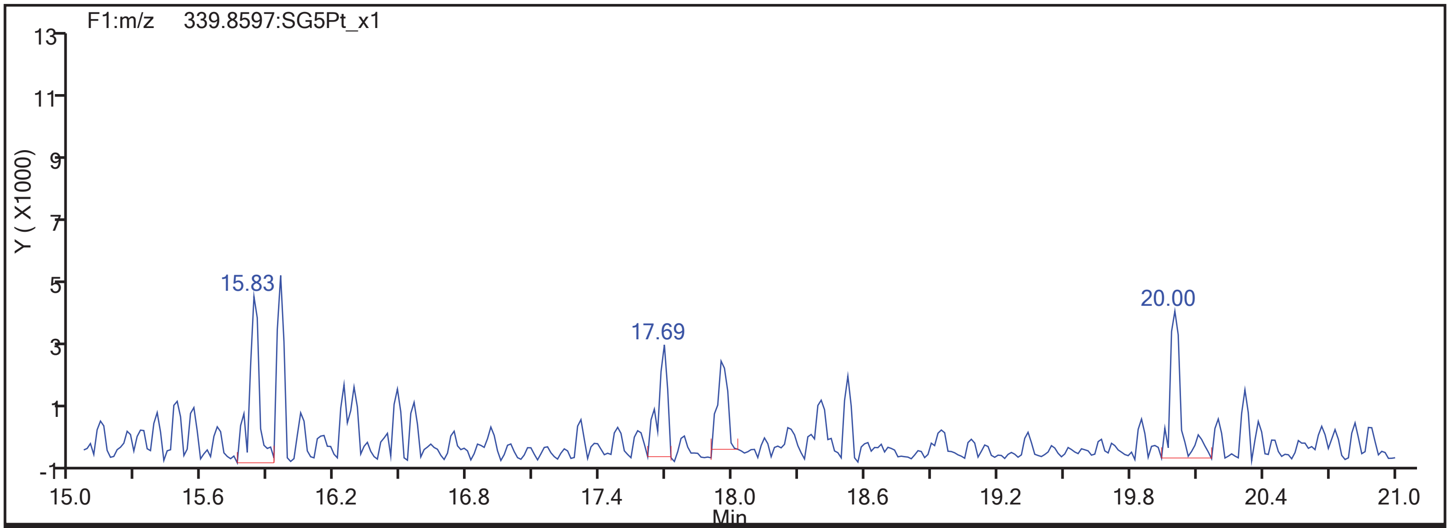


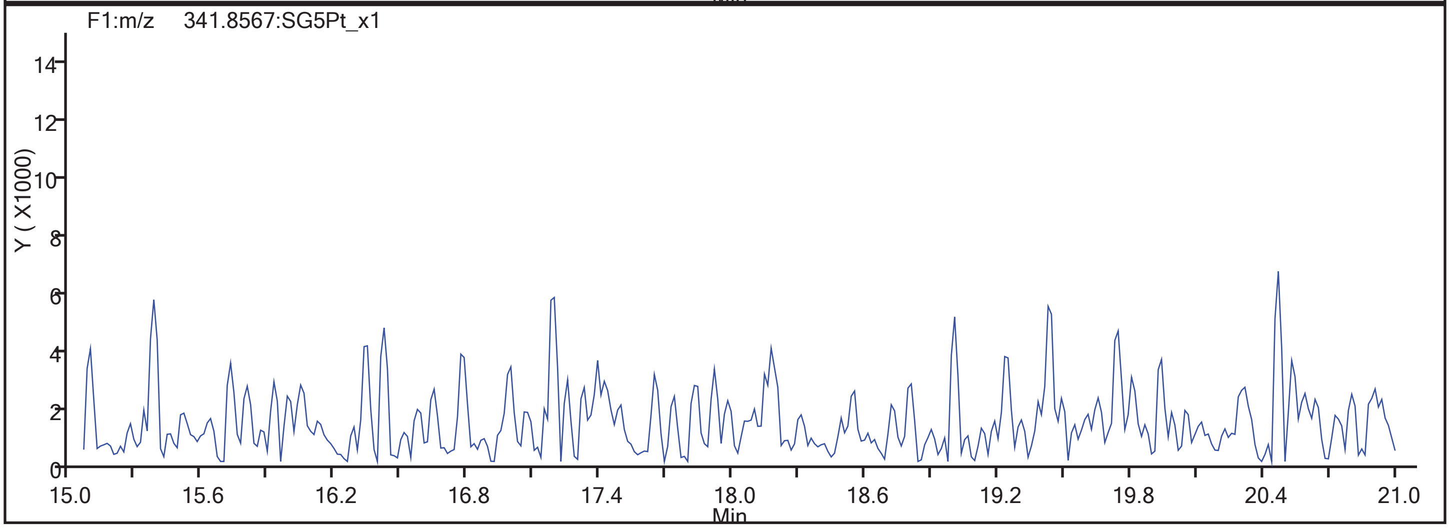
Report Date: 06-Dec-2017 13:46:29
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

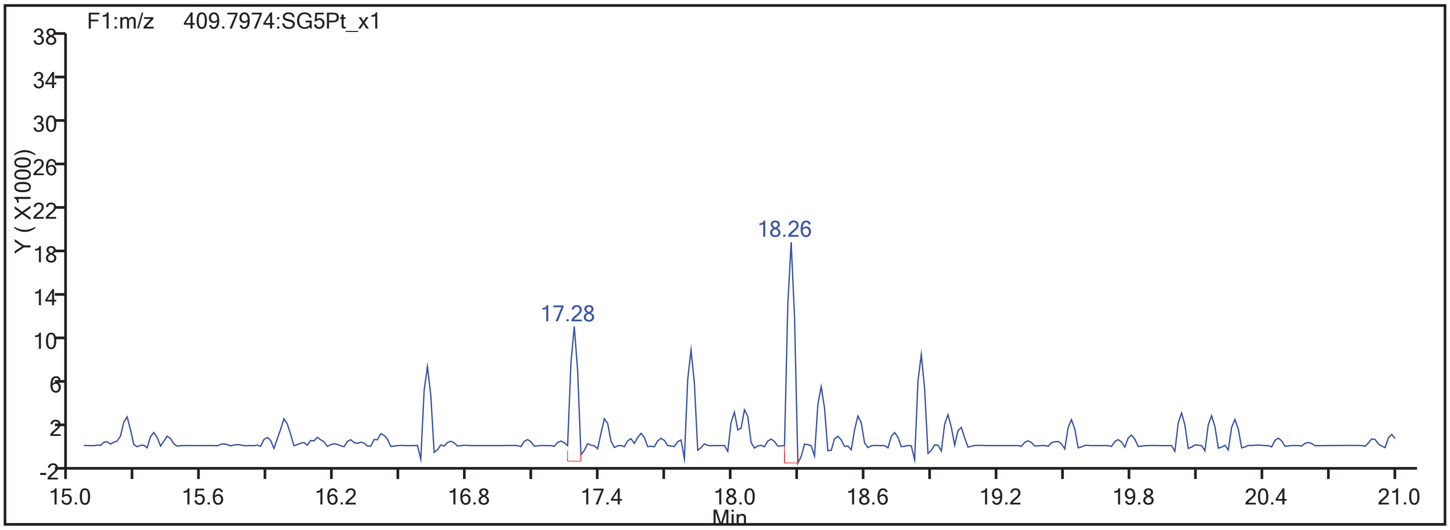
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d
Injection Date: 18-Nov-2017 17:02:17
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID:
Worklist#: 195573
Sample Line#: 59
Column Type:
Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 06-Dec-2017 13:46:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_59.d

Injection Date: 18-Nov-2017 17:02:17

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID:

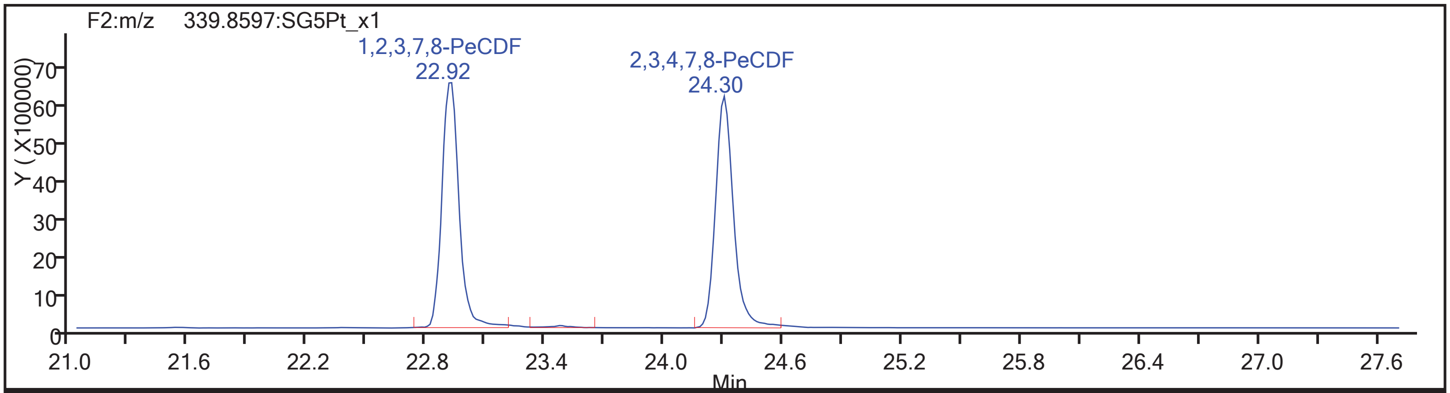
Worklist#: 195573

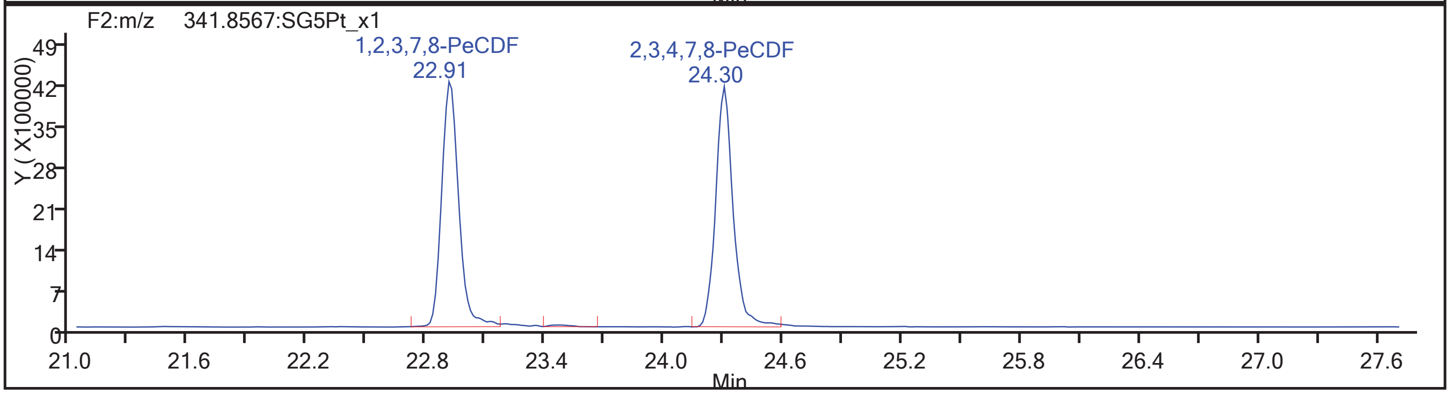
Sample Line#: 59

Column Type:

Column Dia:

PeCDF





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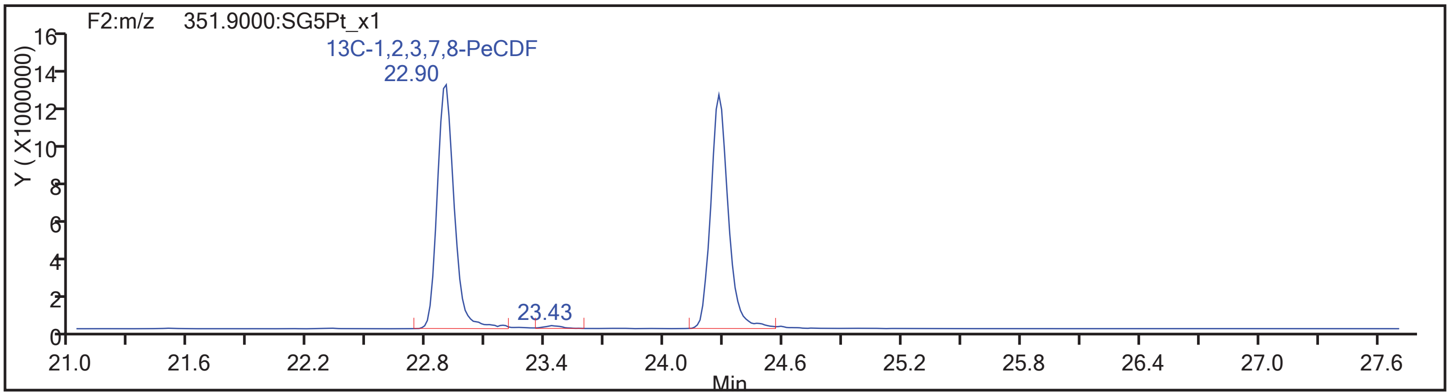

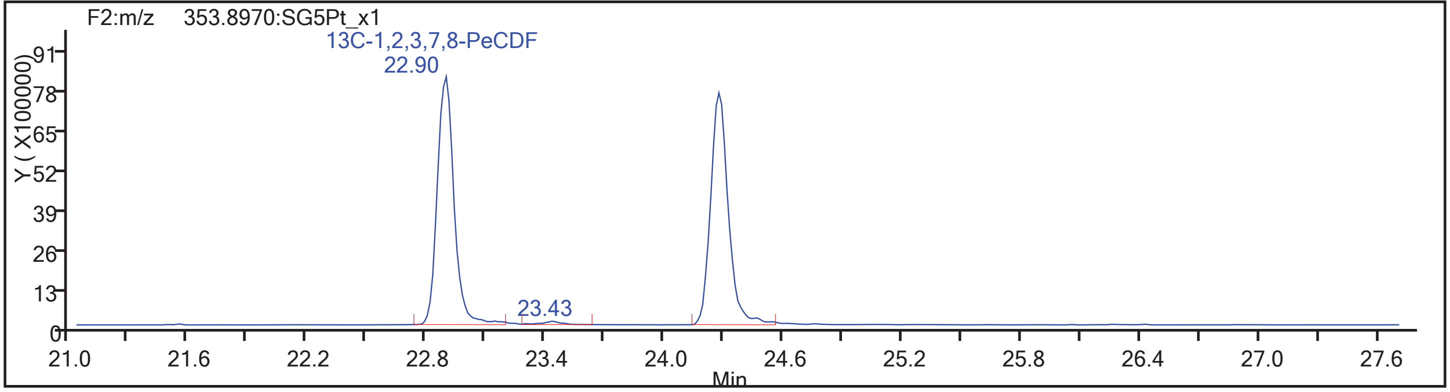

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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:			
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Column Type:		Column Dia:	

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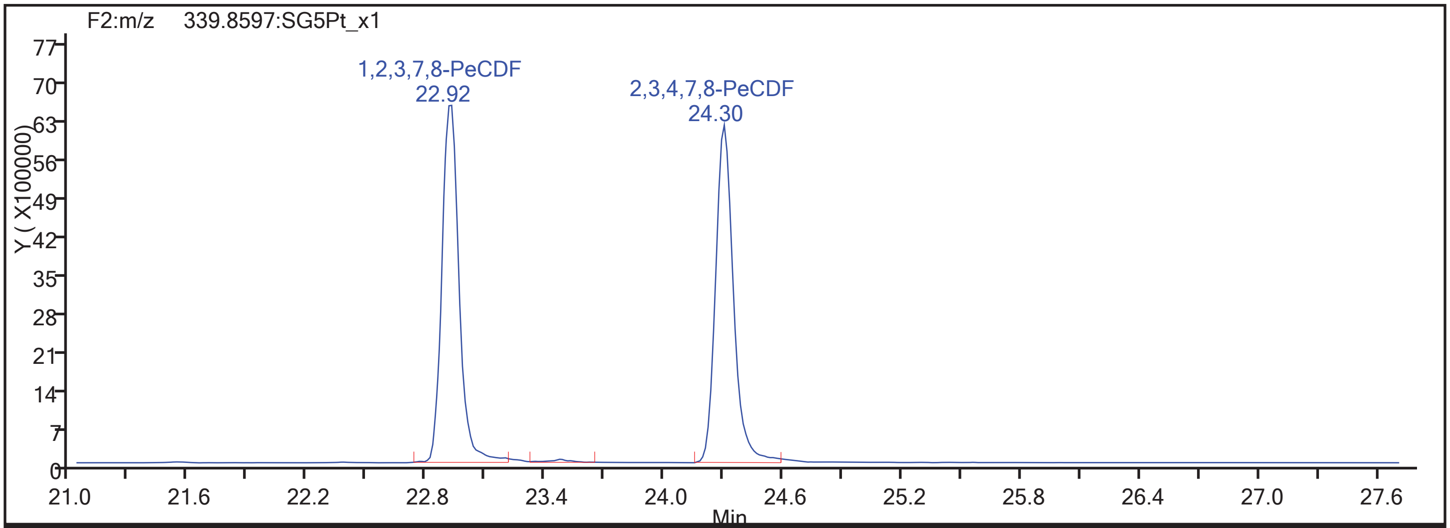

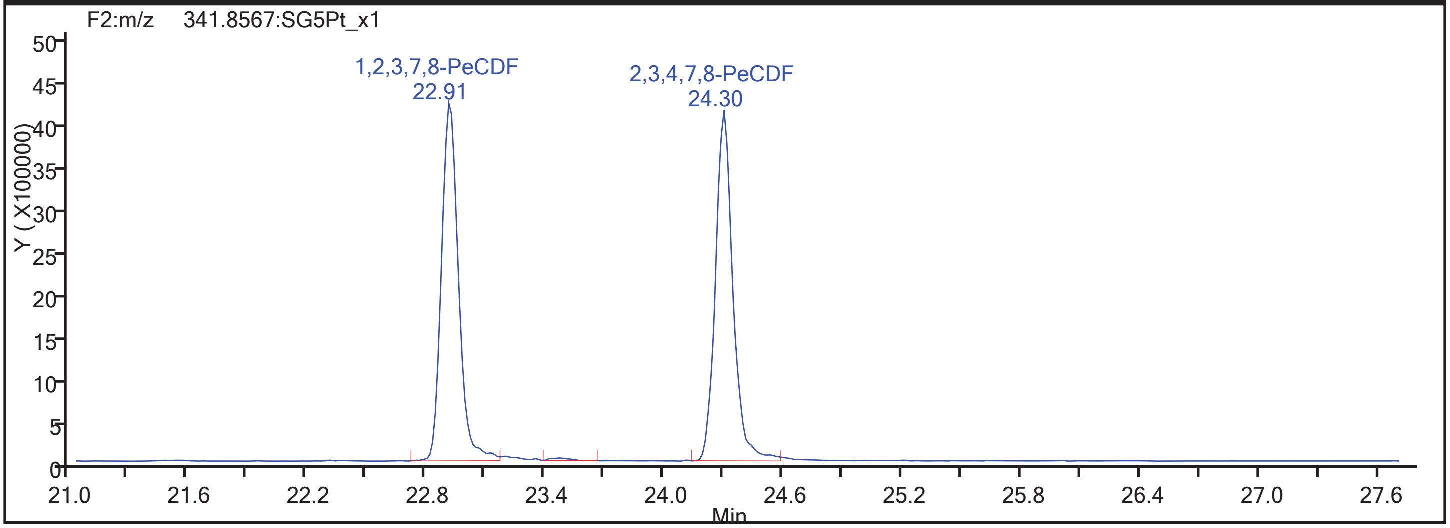

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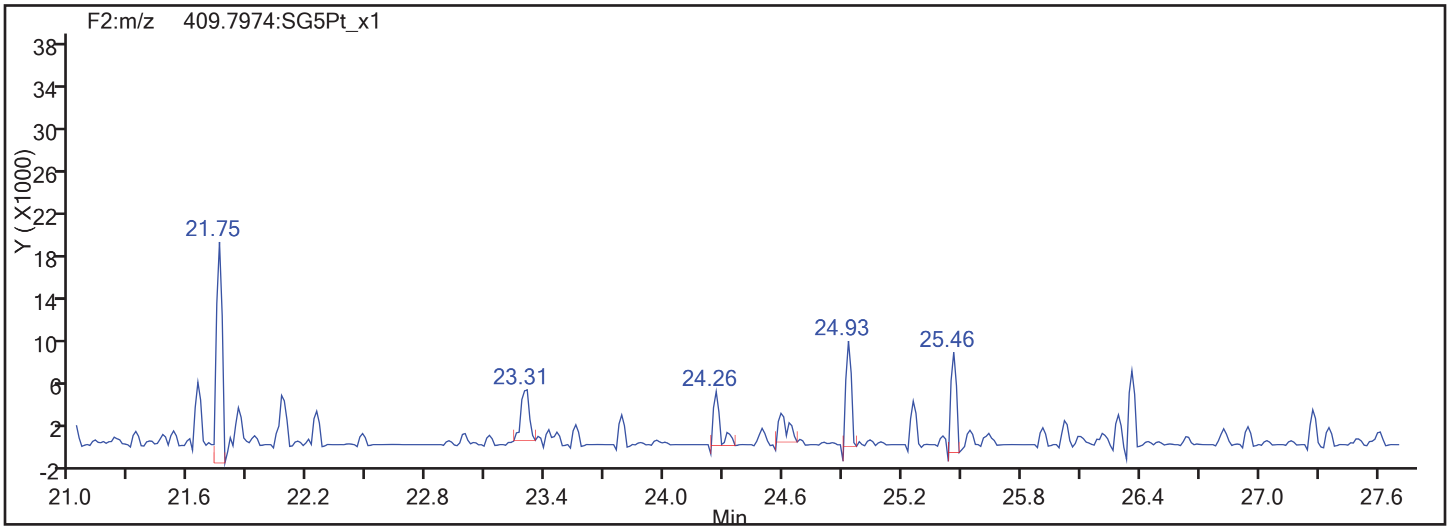

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TestAmerica Sacramento

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Column Type:		Column Dia:	

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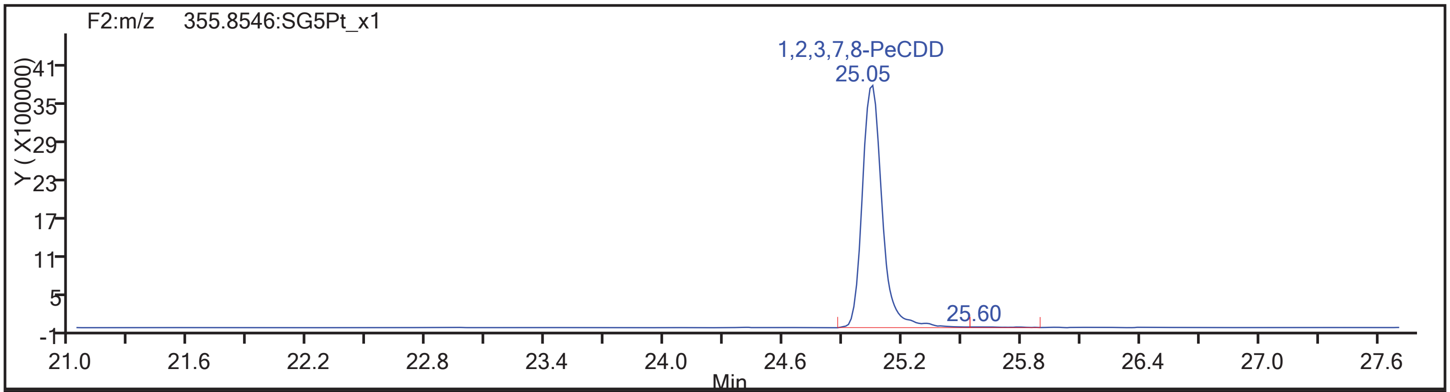

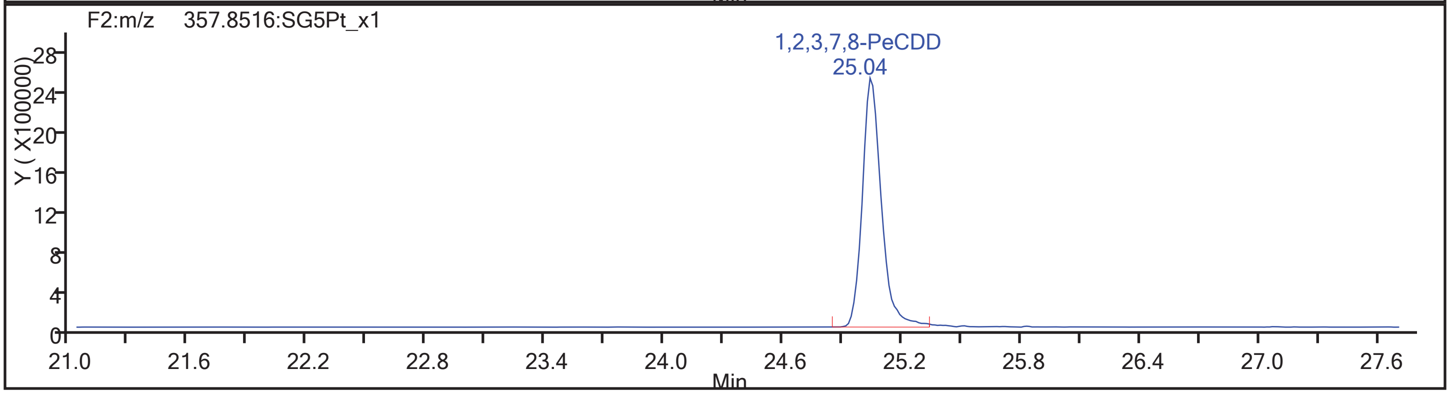

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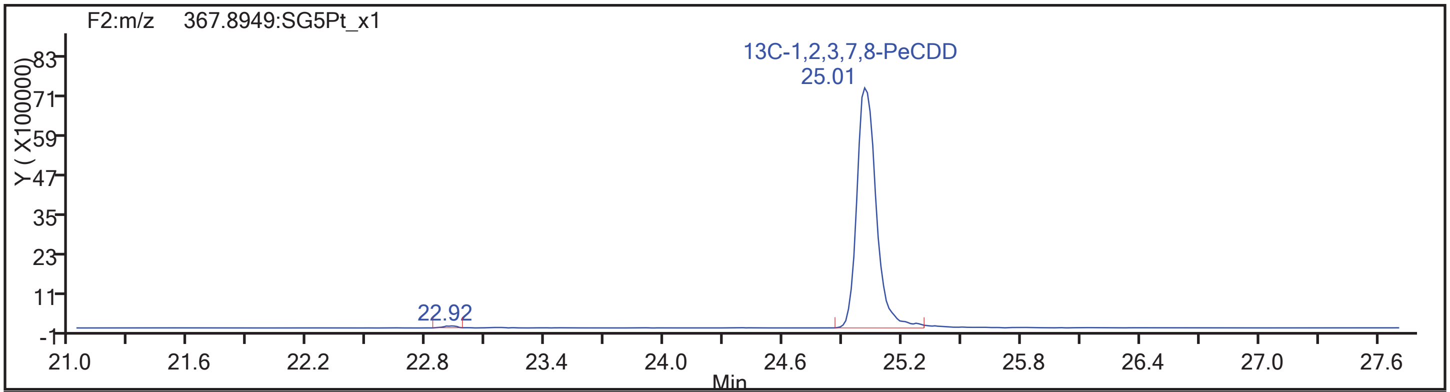

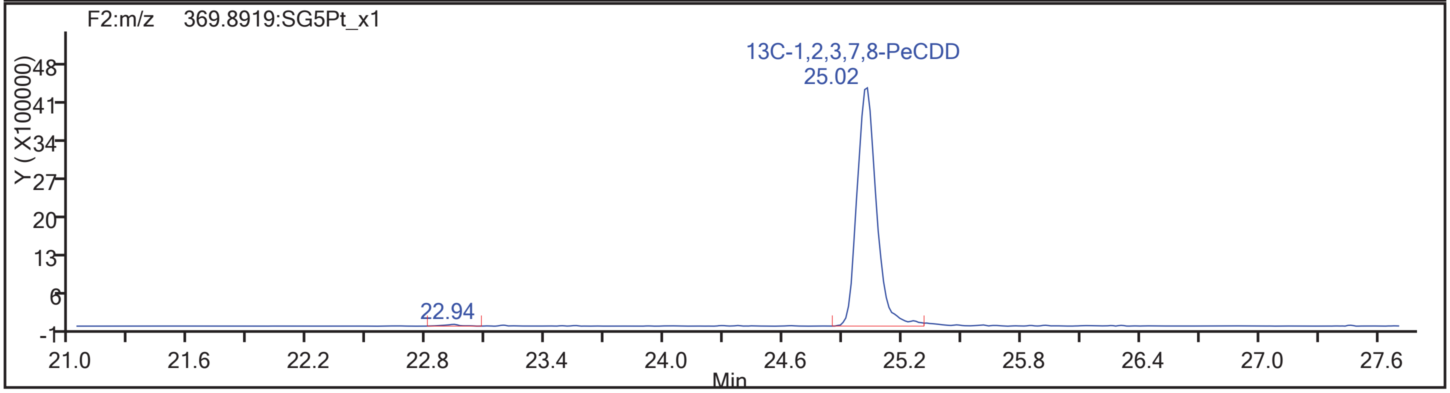

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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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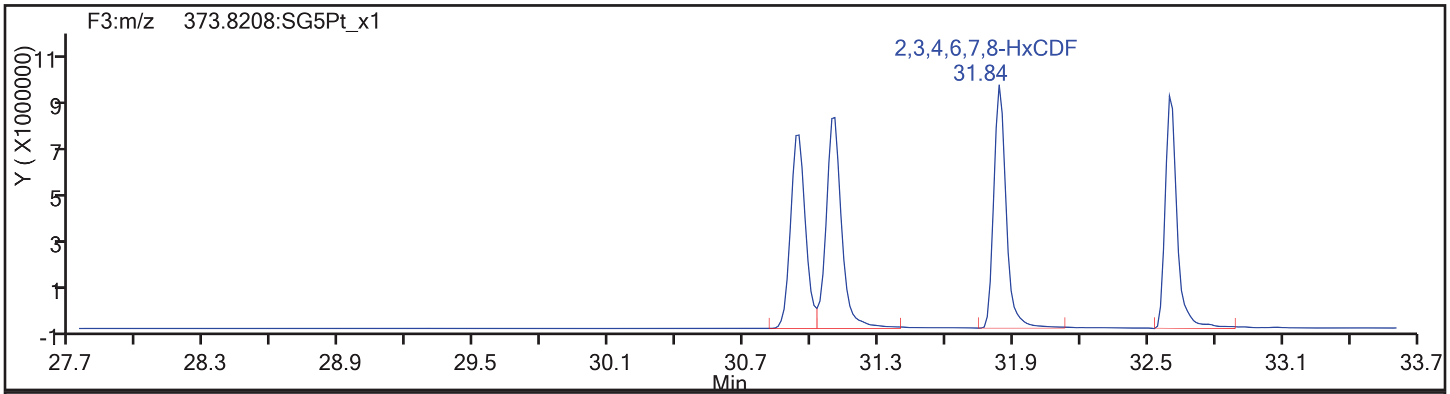

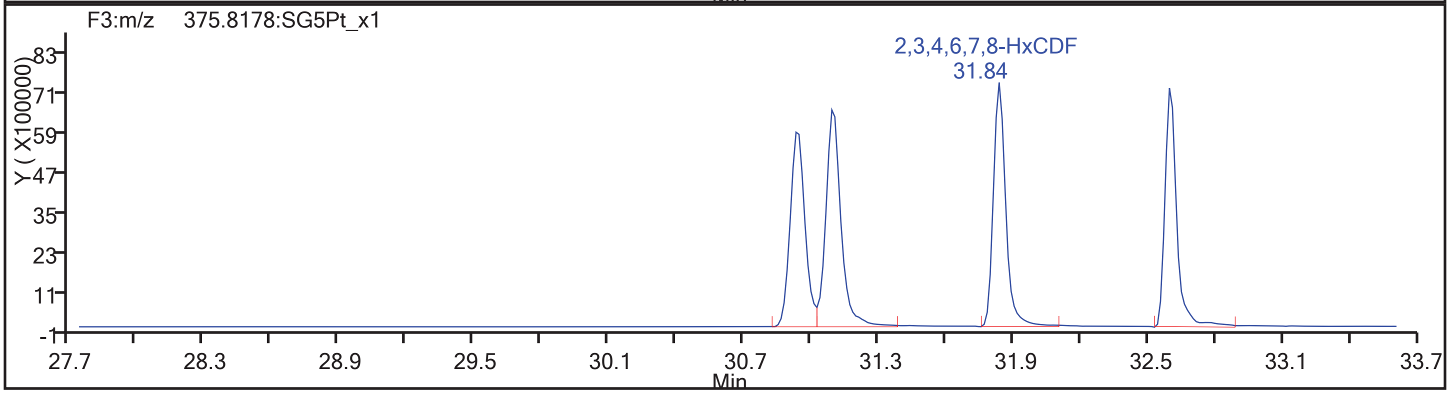

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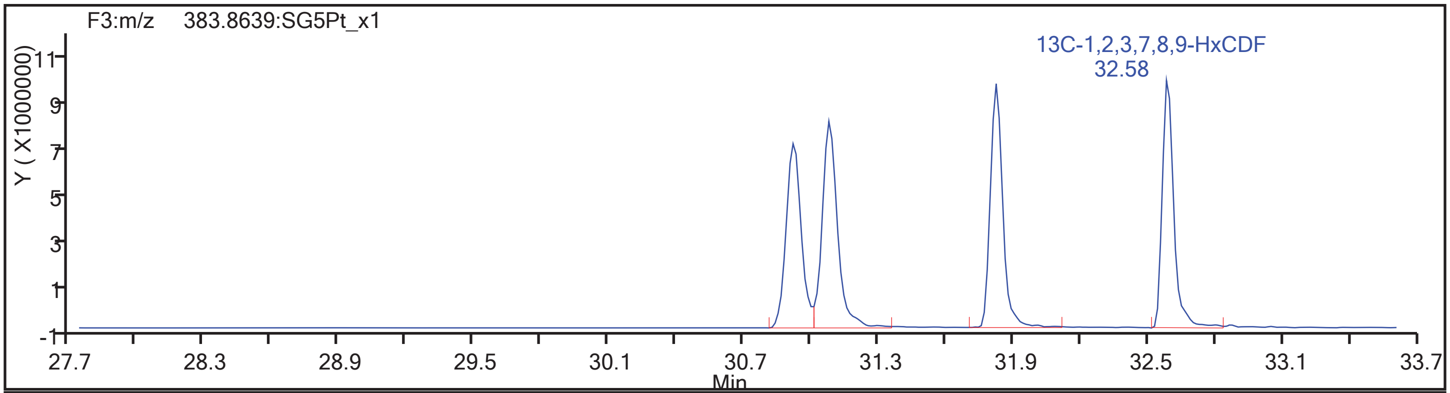

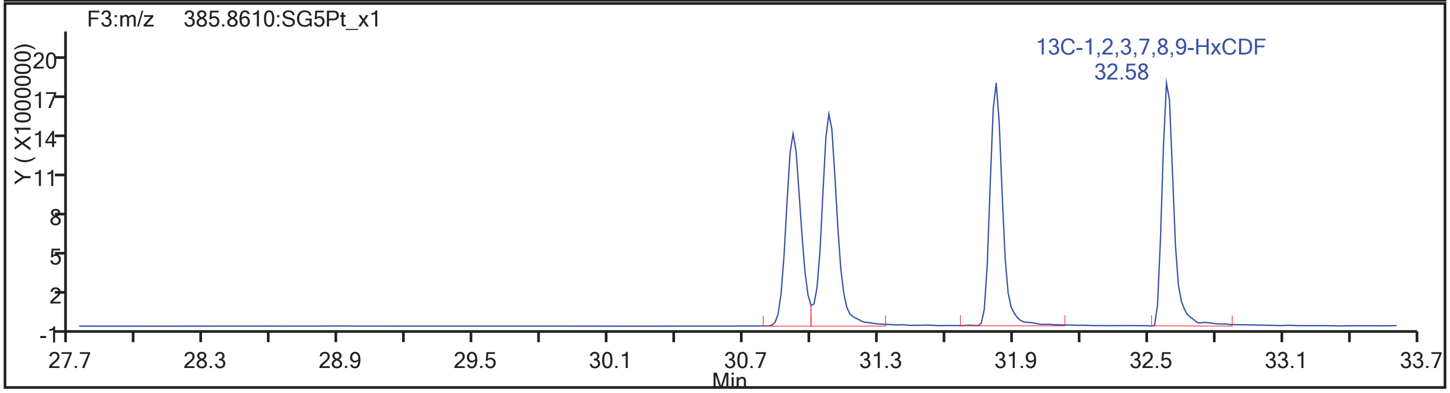

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TestAmerica Sacramento

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Client ID:

Worklist#: 195573 Sample Line#: 59

Column Type: Column Dia:

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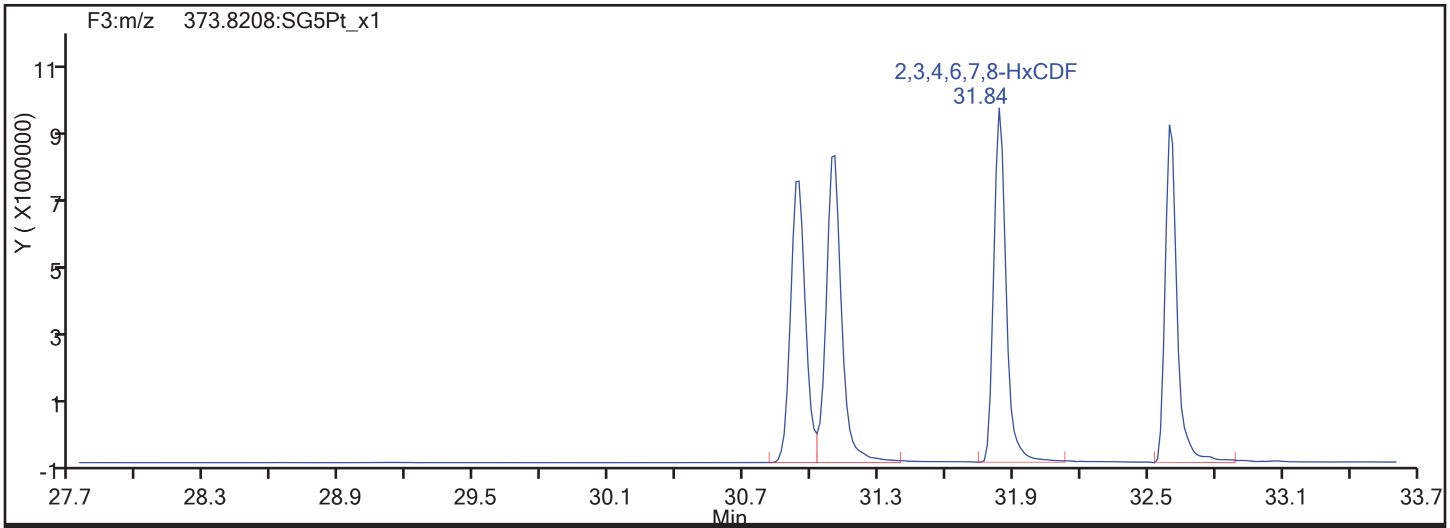
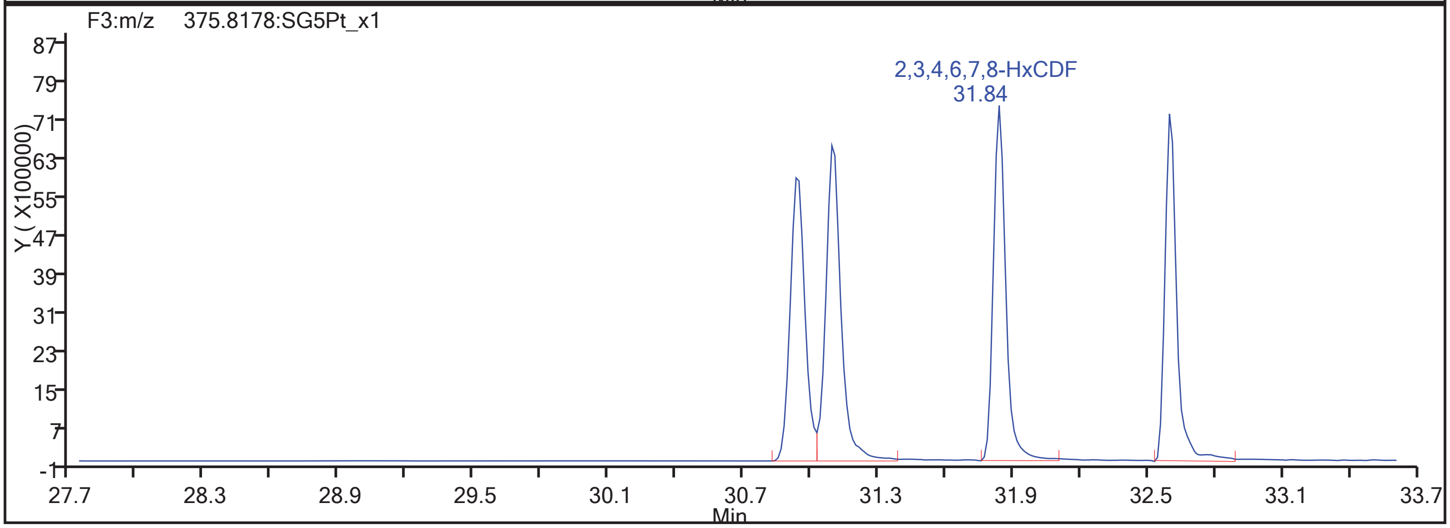
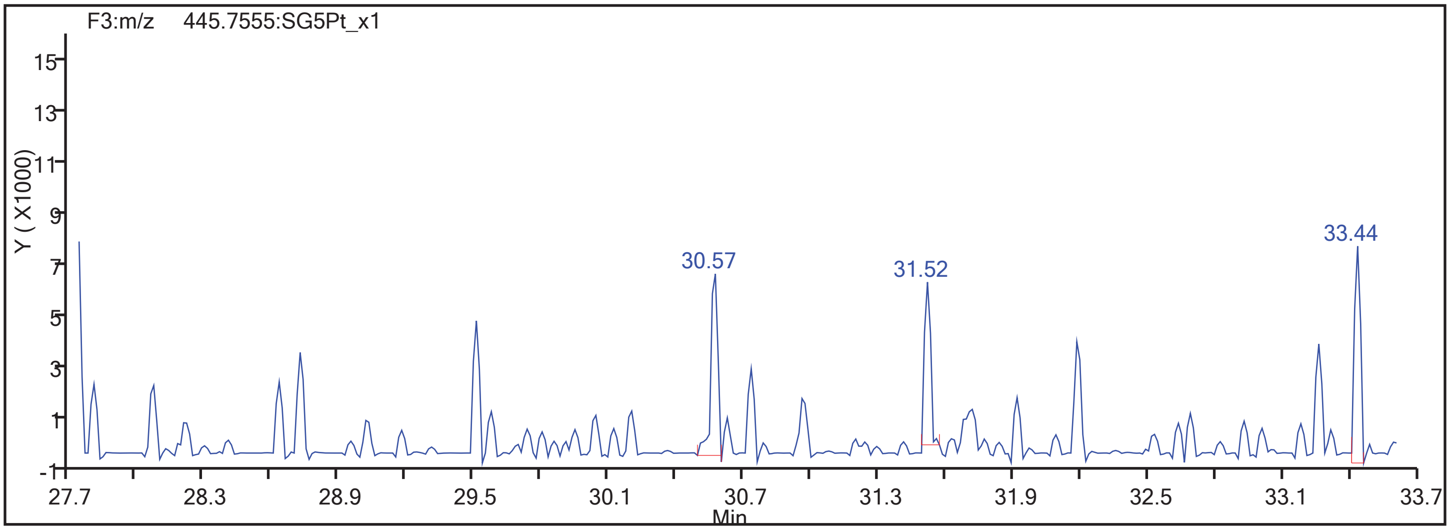




HxCDF Interference Mass



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TestAmerica Sacramento

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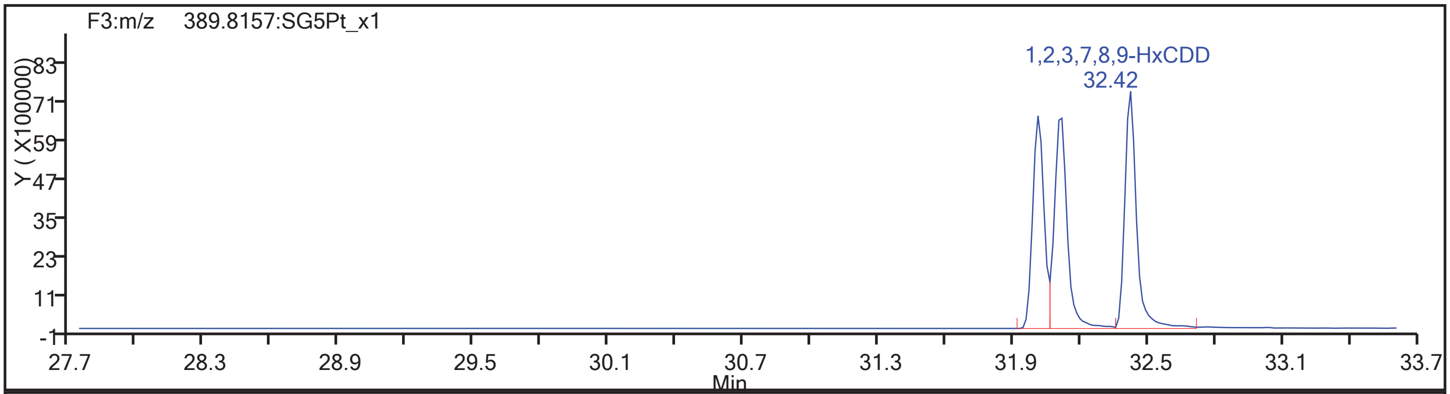

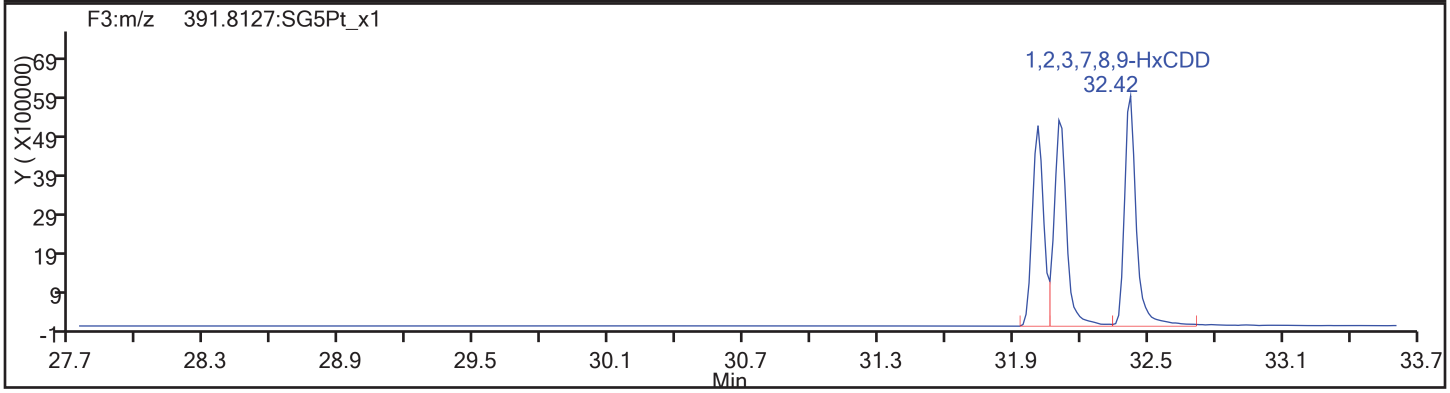

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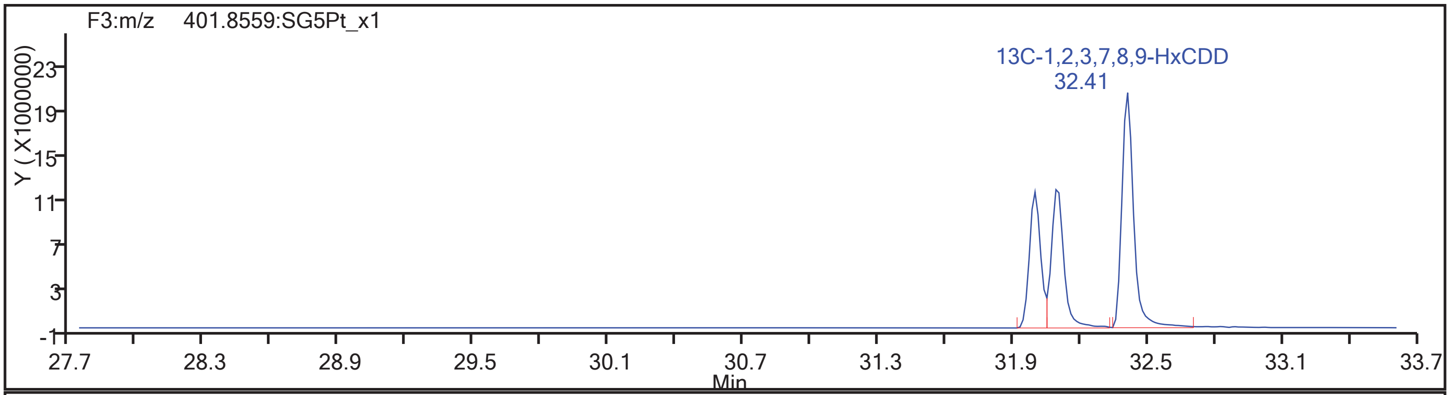

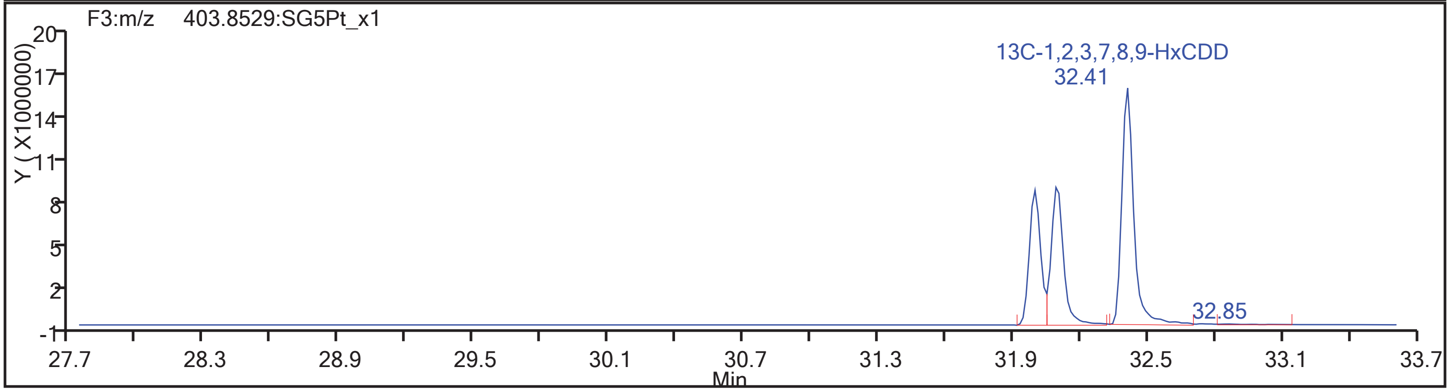

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TestAmerica Sacramento

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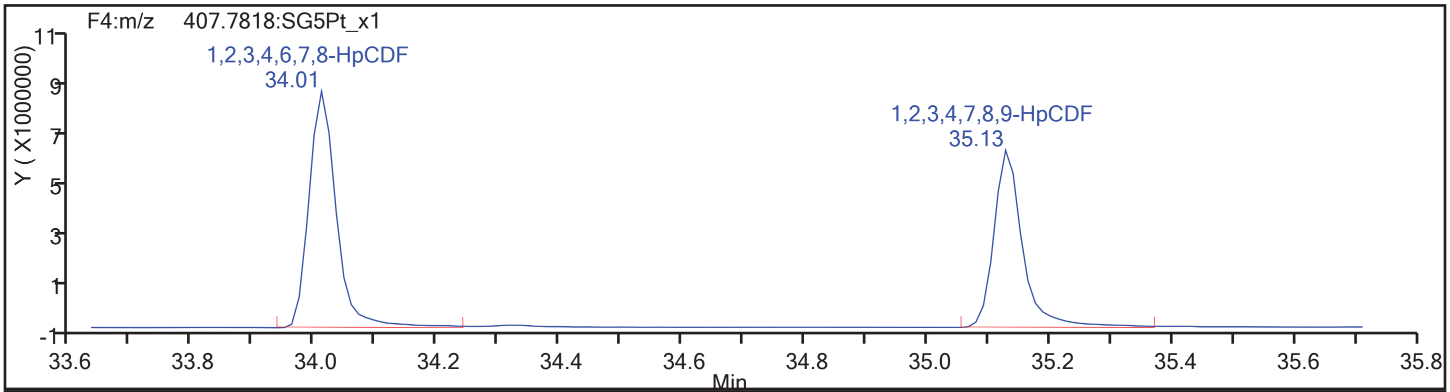

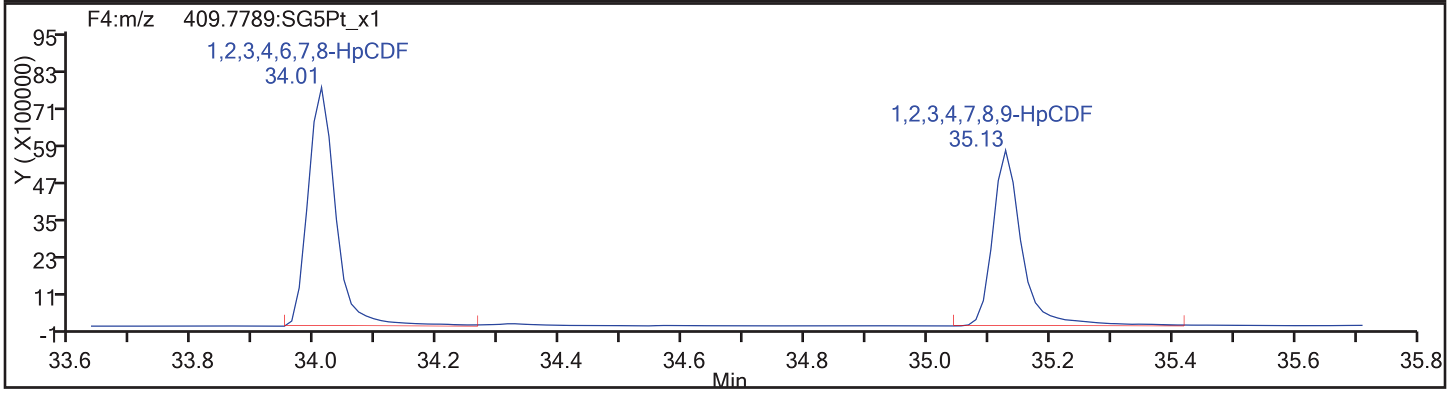

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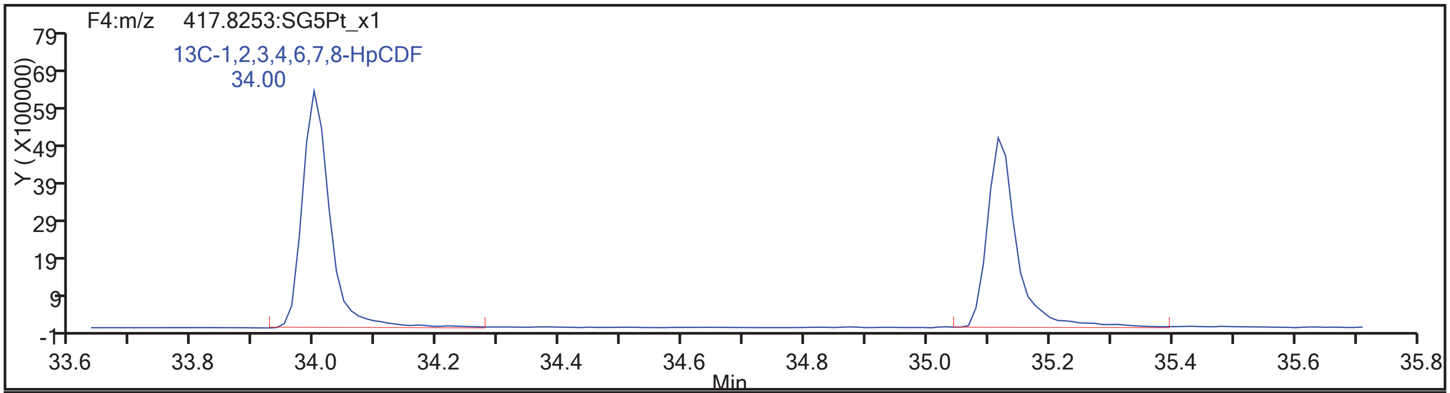

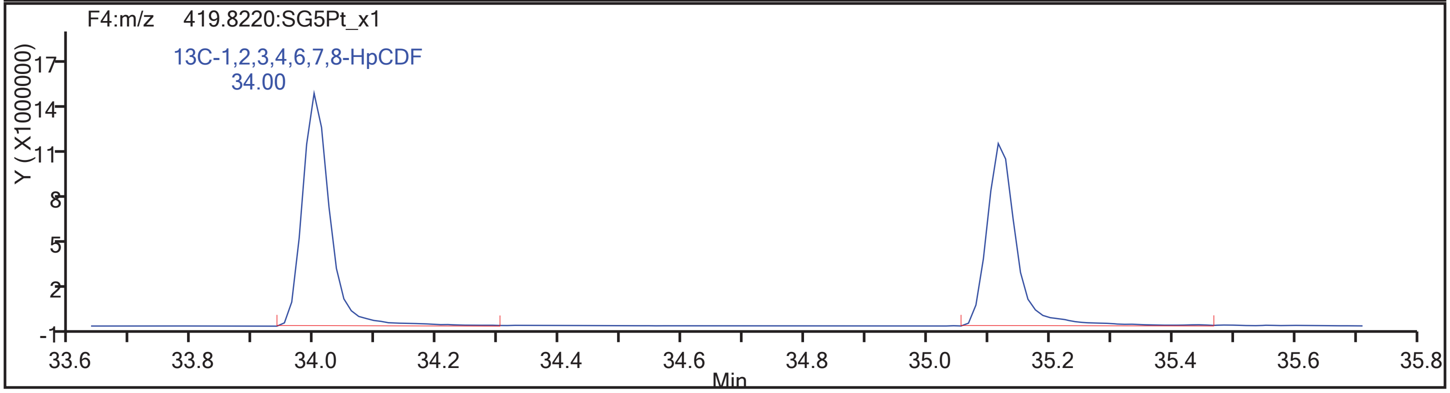

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TestAmerica Sacramento

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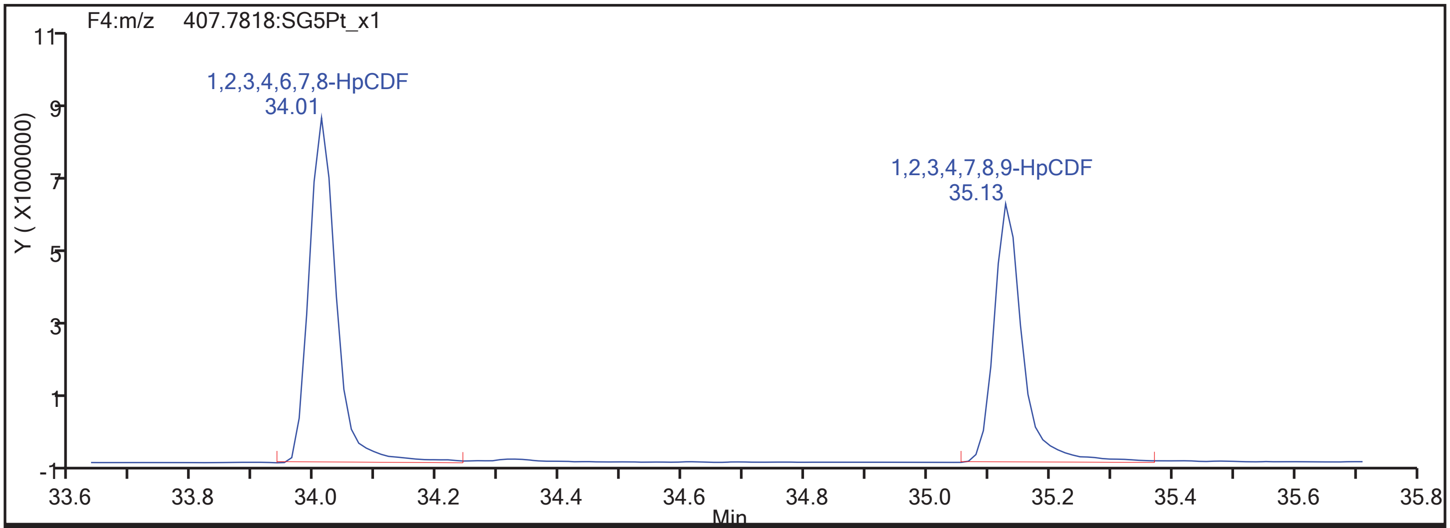
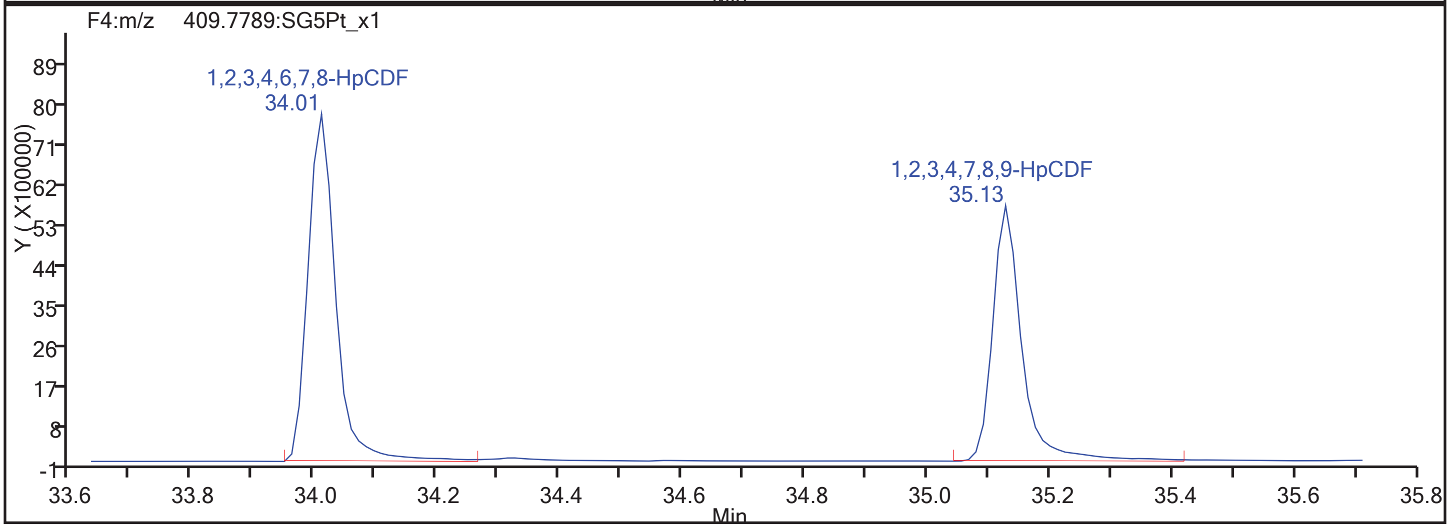
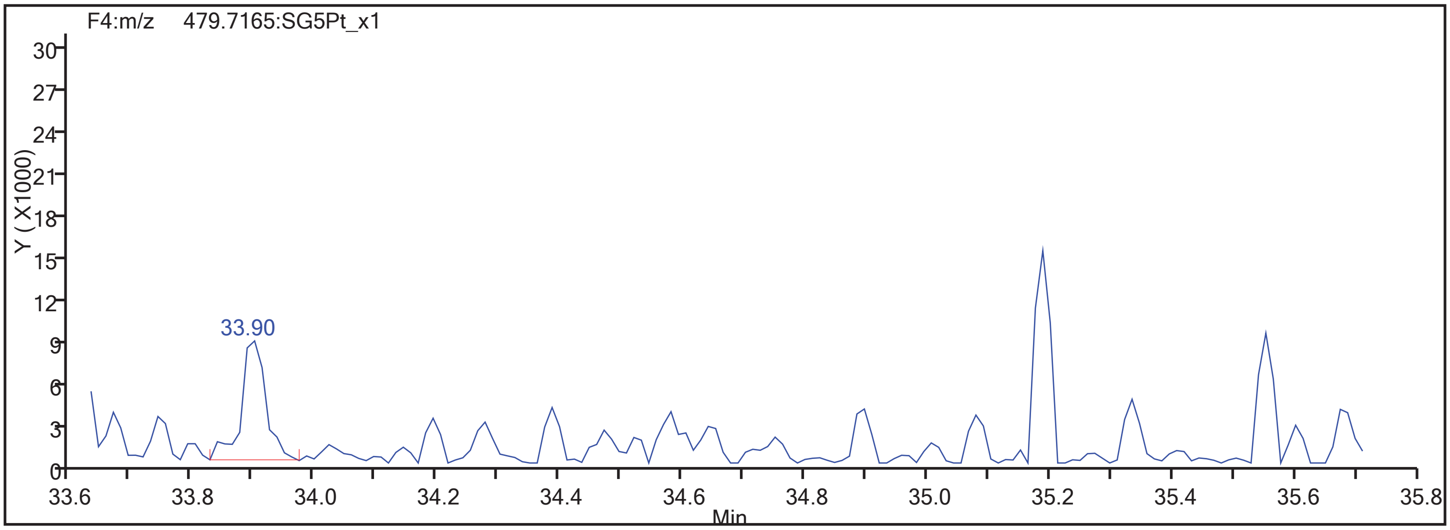




HpCDF Interference Mass



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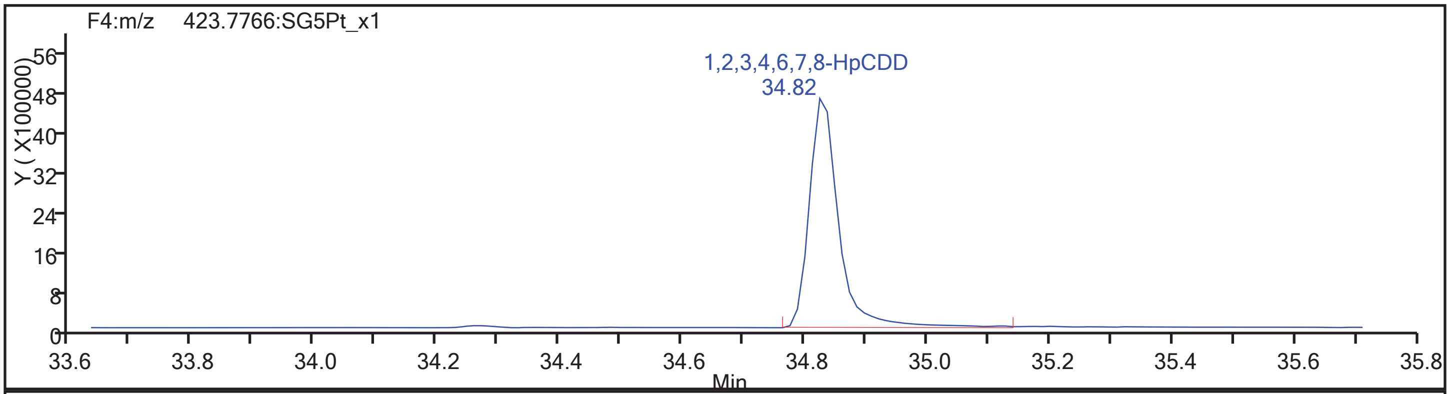

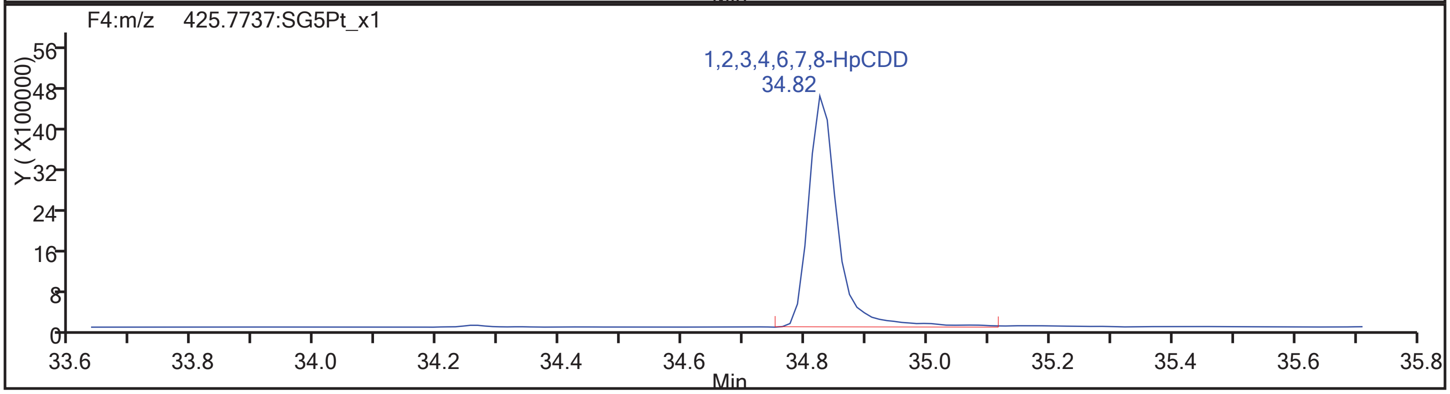

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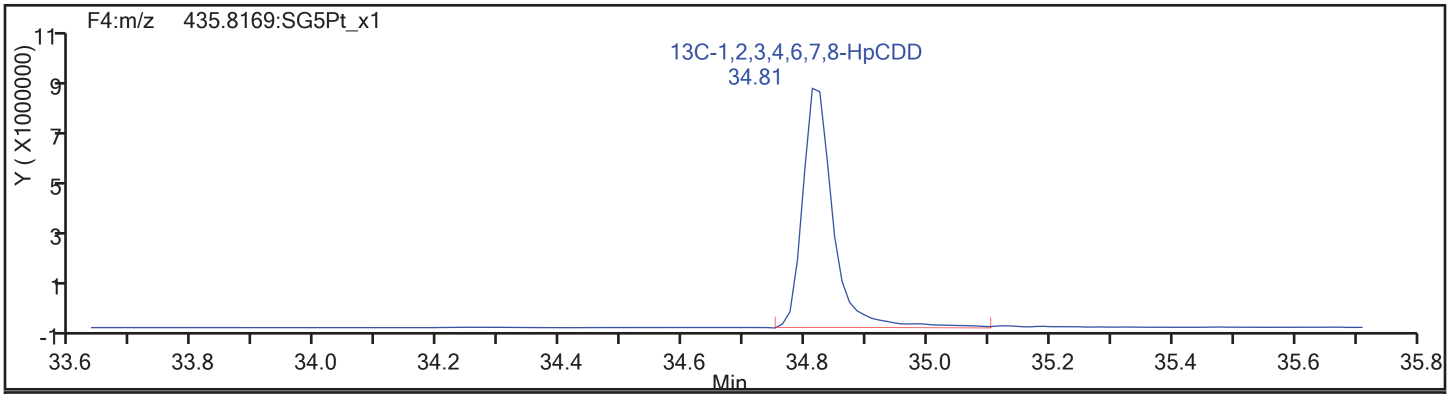

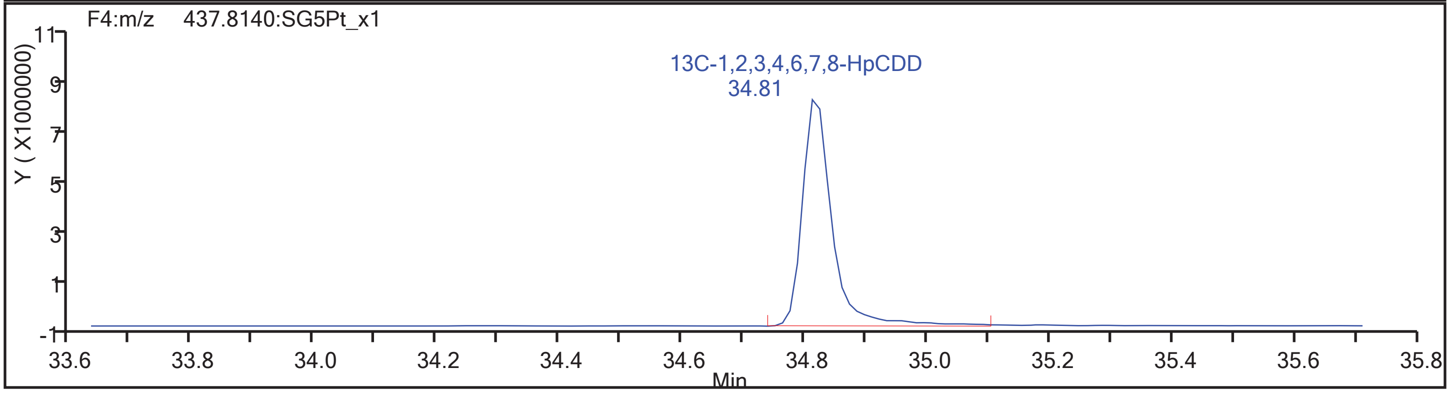

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TestAmerica Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
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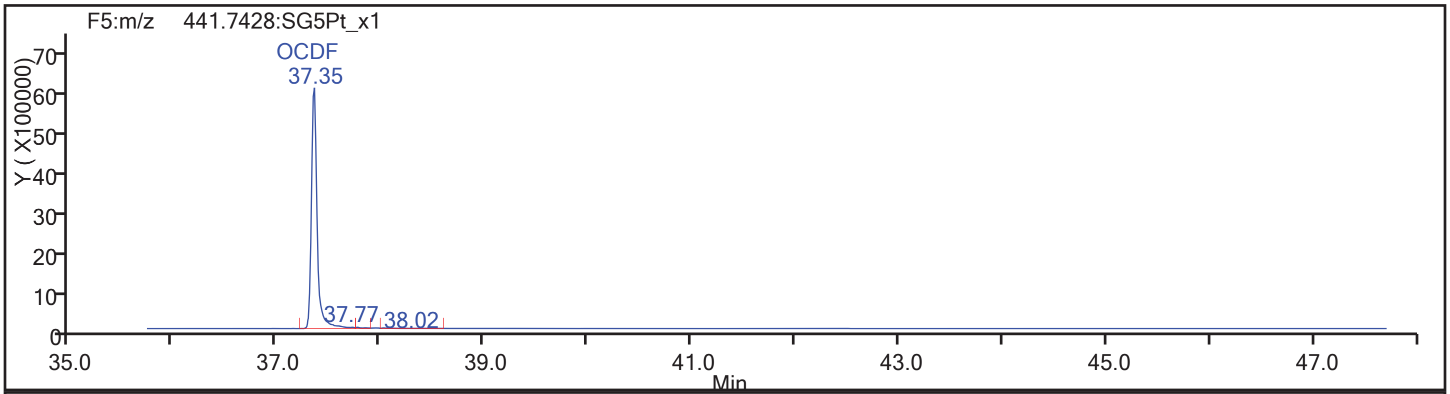

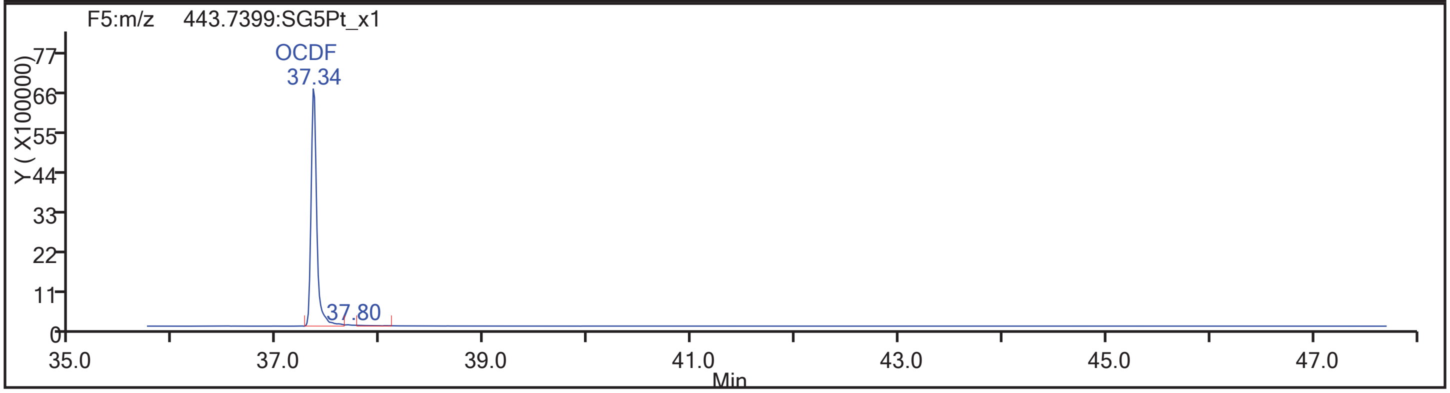

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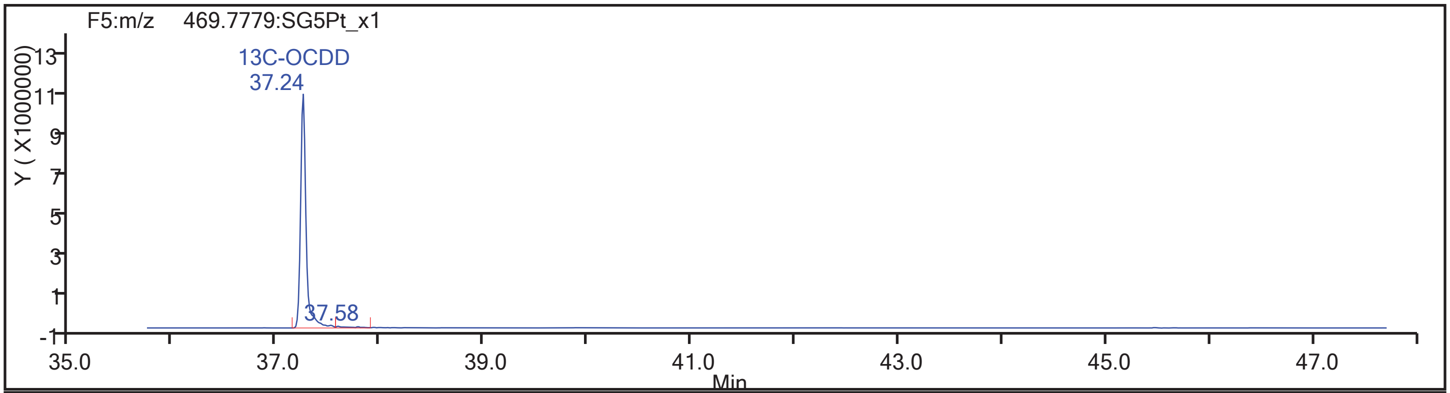

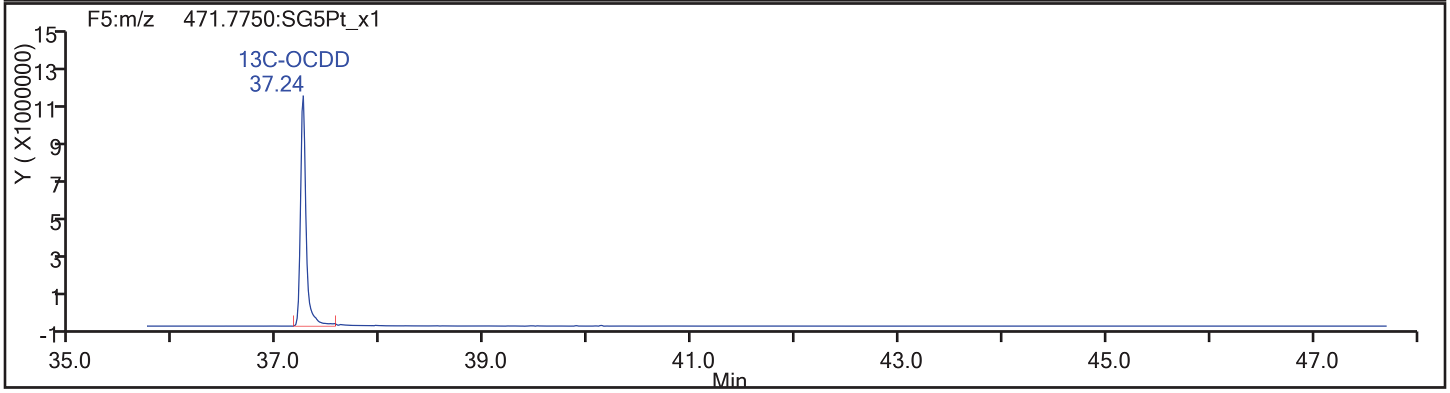

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Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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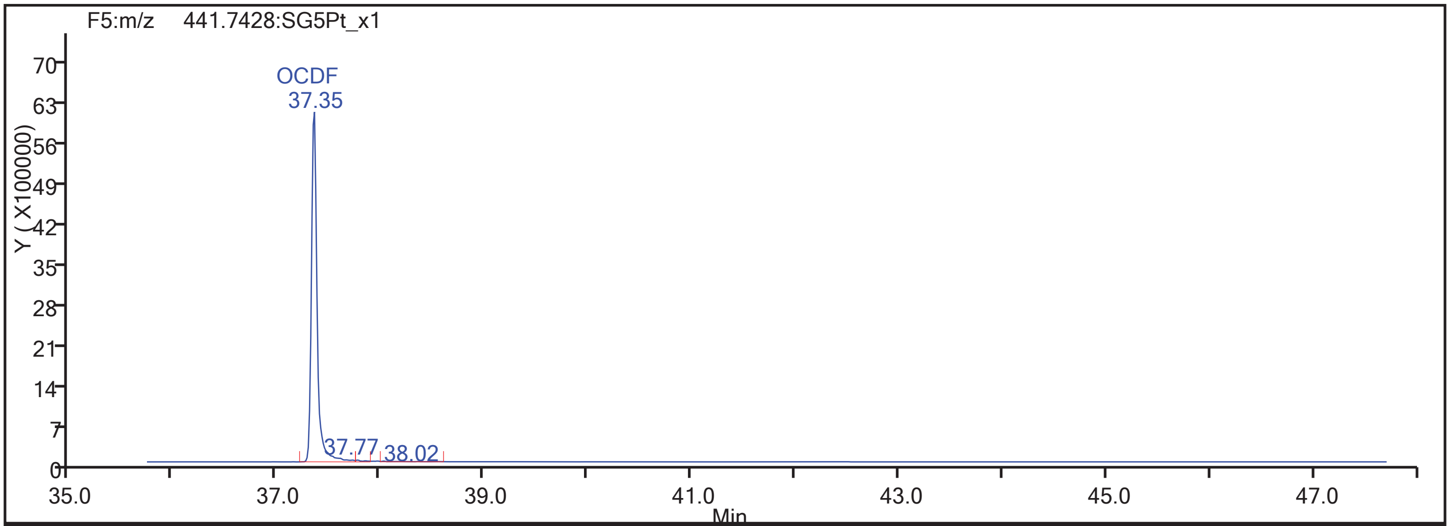
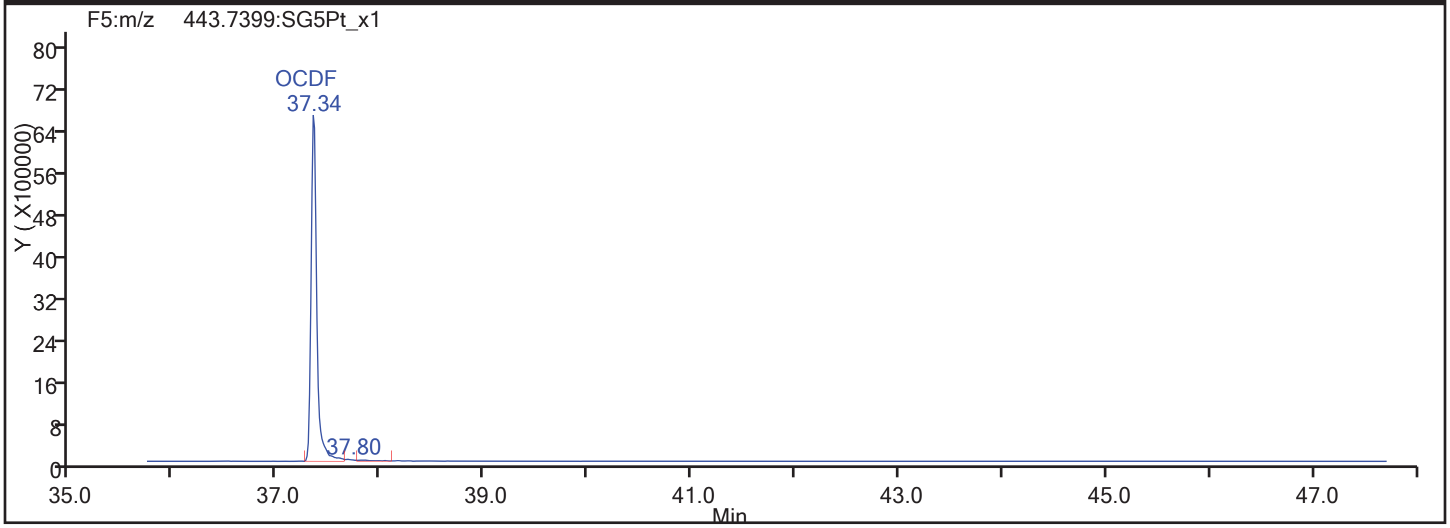
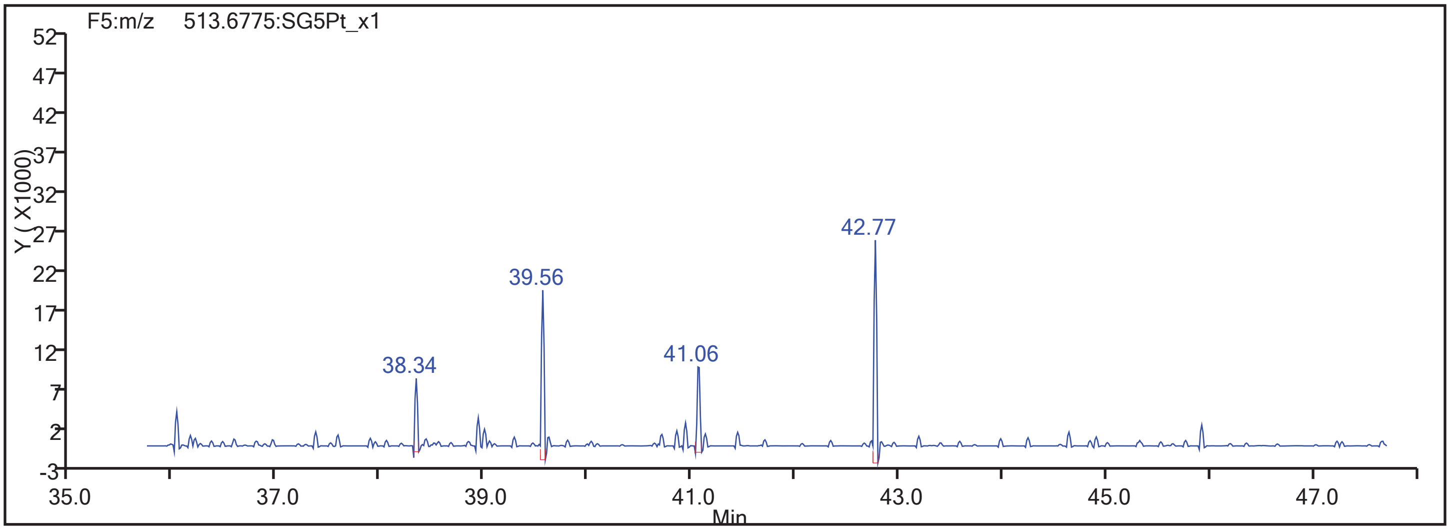




OCDF Interference Mass



TestAmerica Sacramento

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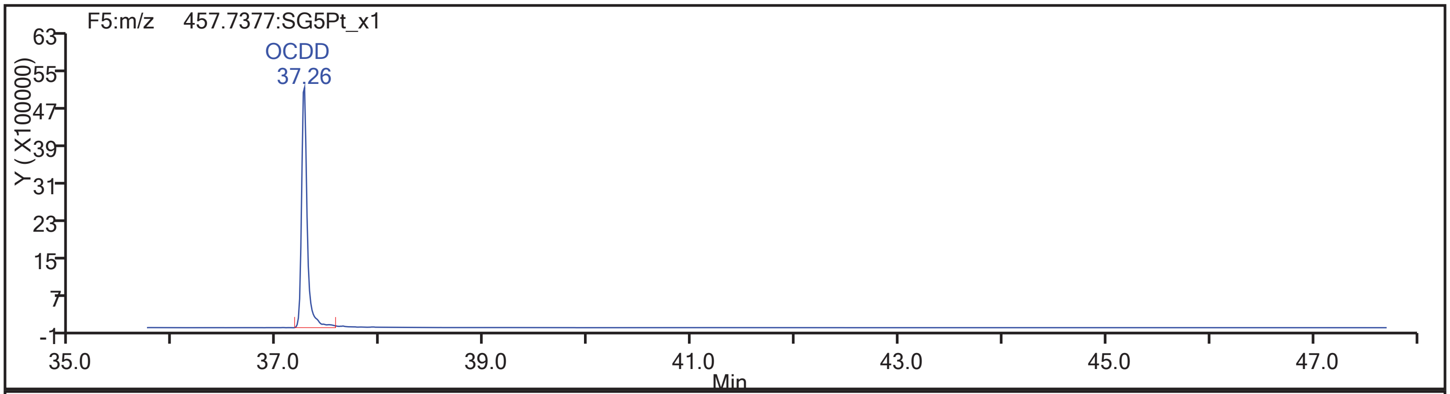

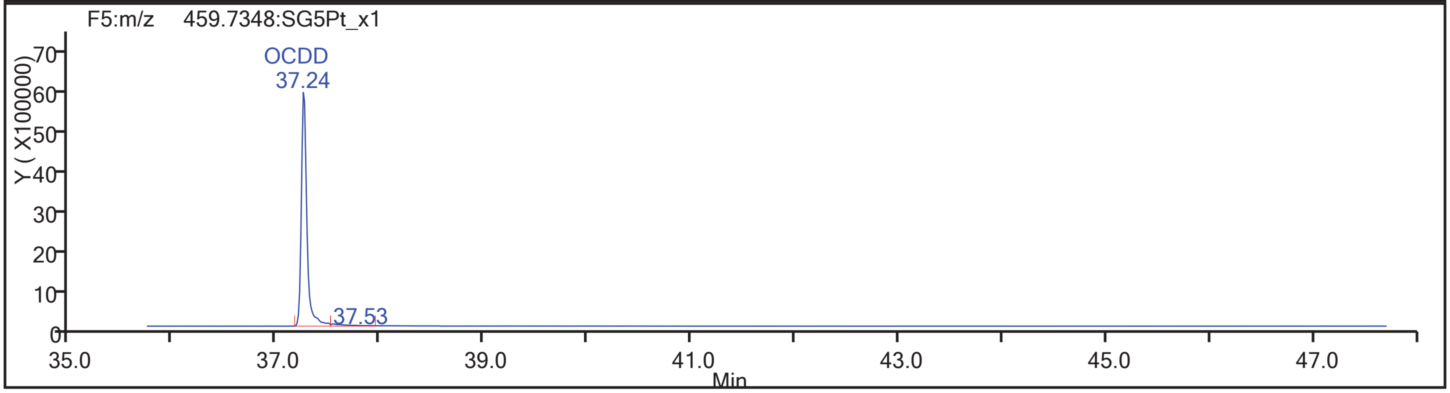

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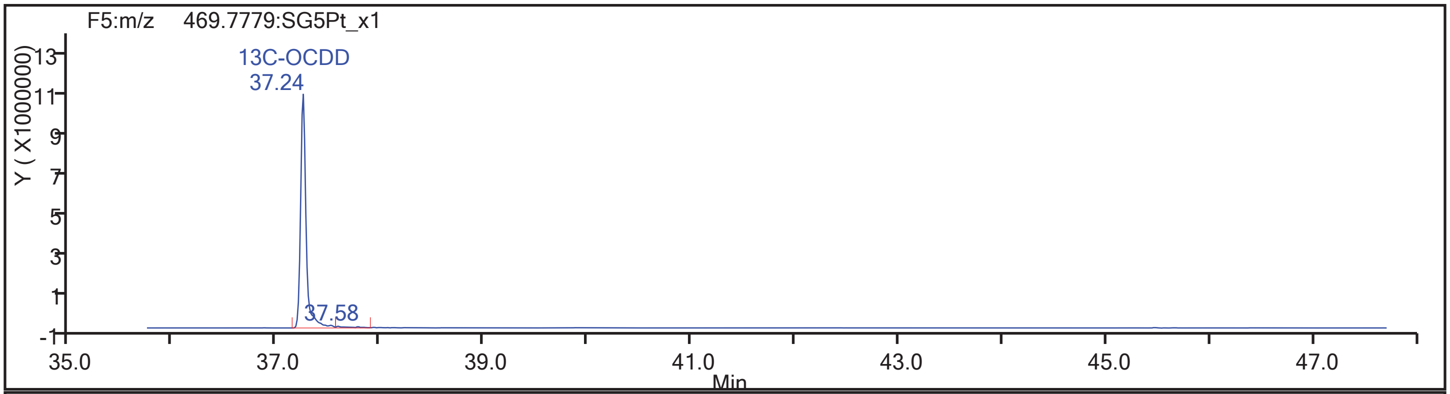

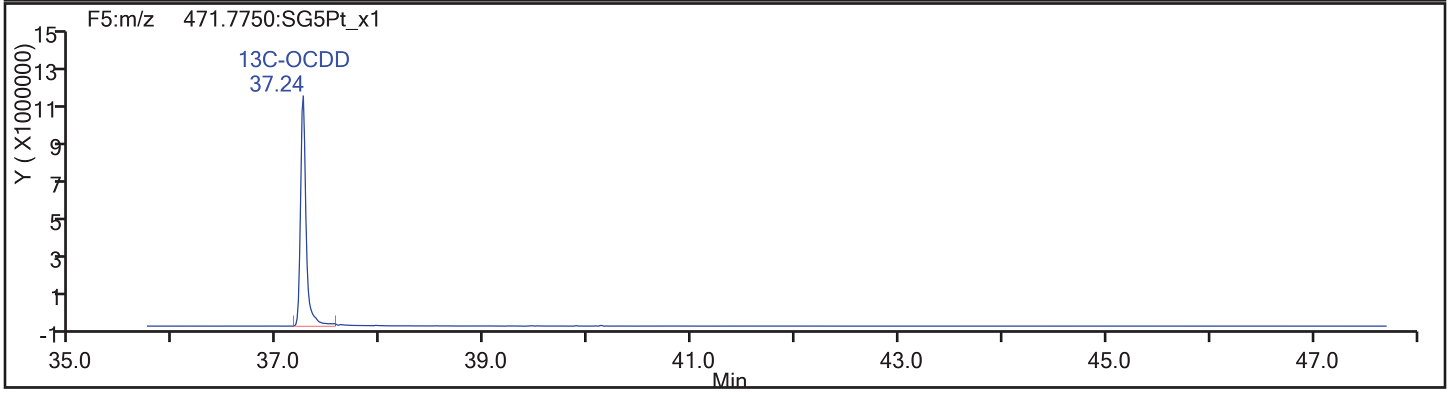

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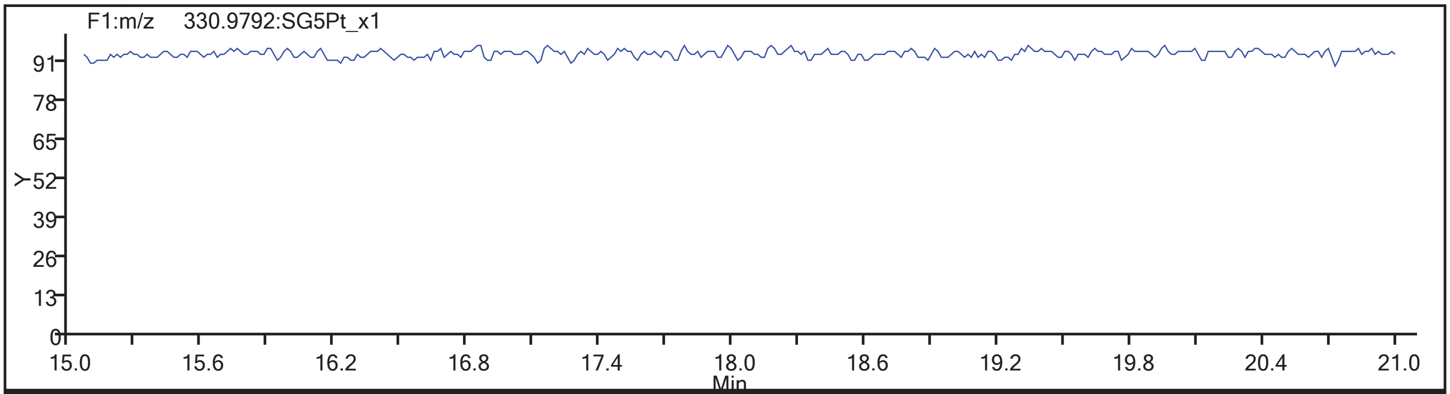

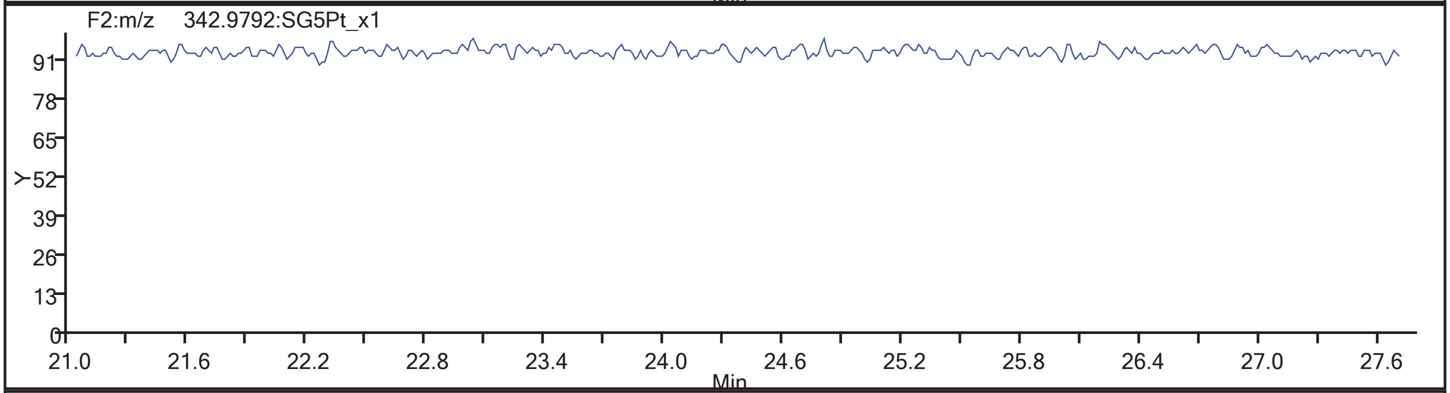

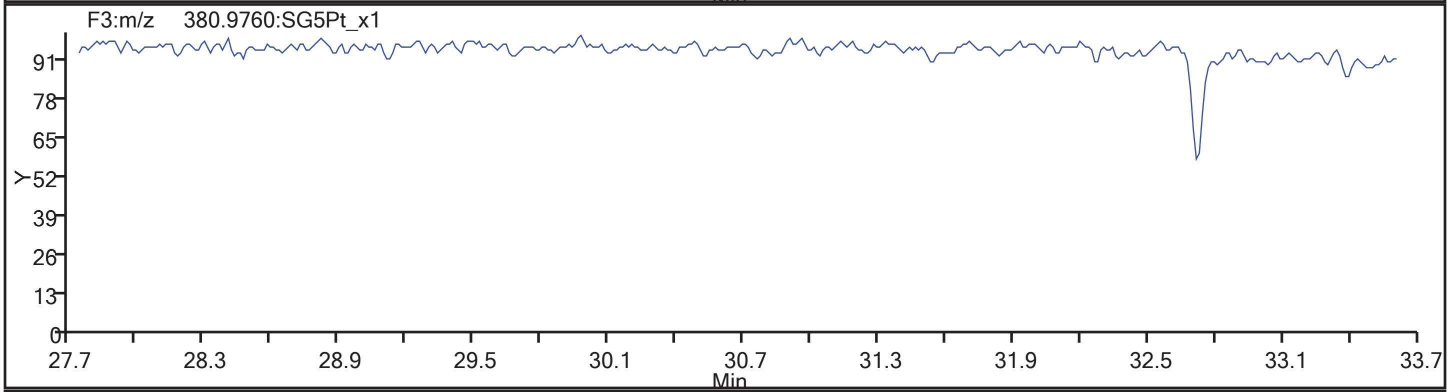

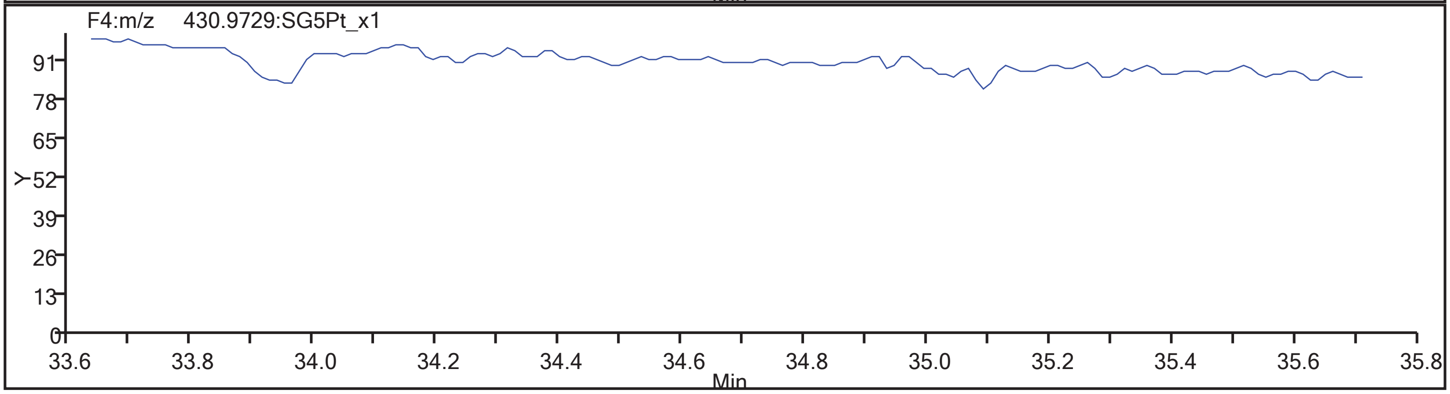

TestAmerica Sacramento

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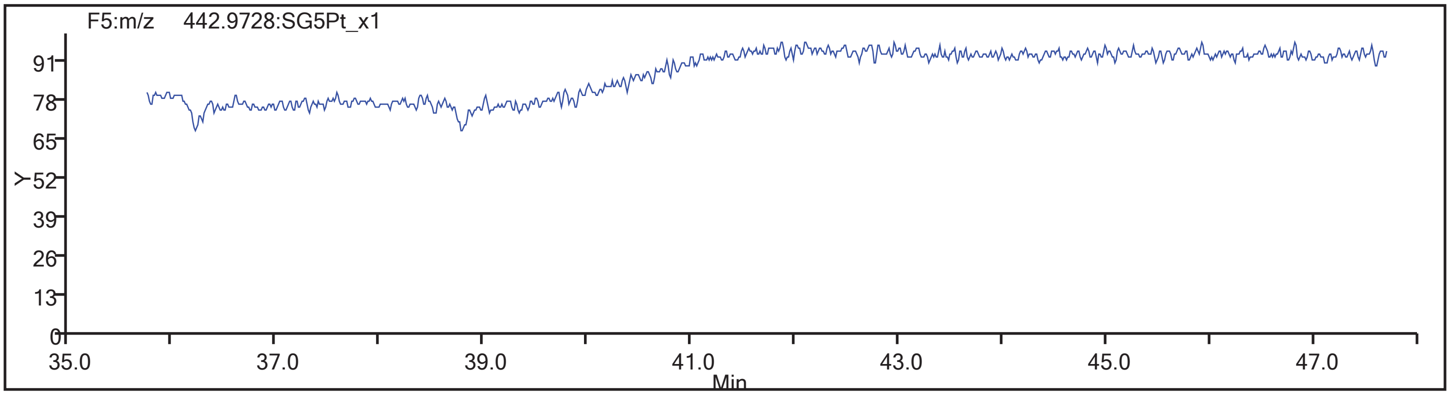

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

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Client Sample ID: SHAD041DP022SS03NS MS RA	Lab Sample ID: 160-24924-9 MS RA
Matrix: Solid	Lab File ID: 07NO179D2_014.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:59
Extract. Method: 8290	Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.05(g)	Date Analyzed: 11/07/2017 18:21
Con. Extract Vol.: 20.00(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 2.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 193317	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	2,3,7,8-TCDF	23.5	M	1.0	0.41	0.20

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	60		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_014.d				
Lims ID:	160-24924-G-9-B MS				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	MS				
Inject. Date:	07-Nov-2017 18:21:28	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-9-B MS				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	09-Nov-2017 16:51:06	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK008				

First Level Reviewer: shardaa Date: 09-Nov-2017 16:45:47

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.018	421521554	0.81	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.143	316184237	0.80	1.2599	59.5	59.5	0.2049	0.2049	59.54	
2,3,7,8-TCDF	16.170	39471168	0.79	1.0784	11.6	11.6	0.0962	0.0962	116	M
D 13C-2,3,7,8-TCDD	14.757	234898134	0.80	0.9567	58.2	58.2	0.3651	0.3651	58.25	
$ 37Cl4-2,3,7,8-TCDD	14.771	170509304		1.1208	36.1	36.1	0.0408	0.0408	90.23	
2,3,7,8-TCDD	14.771	26297004	0.81	1.1123	10.1	10.1	0.0624	0.0624	101	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_014.d
Lims ID: 160-24924-G-9-B MS
Client ID: SHAD041DP022SS03NS
Sample Type: MS
Inject. Date: 07-Nov-2017 18:21:28 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-B MS
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:45:47

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.018	14.991	2		188028189	41665911	87256	218140	478		
333.9339	15.018	14.991	2		233493365	51756136	43264	108160	1196	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.143	16.130	1	1.075	141001739	27847411	50770	126925	549		
317.9389	16.143	16.130	1	1.075	175182498	34748131	45678	114195	761	0.80(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.170	16.144	2	1.002	17420824	3379493	14019	35047	241		M
305.8987	16.170	16.144	2	1.002	22050344	4247784	11965	29912	355	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.757	14.731	2	0.983	104410380	22022838	87256	218140	252		
333.9339	14.744	14.731	1	0.982	130487754	27914221	43264	108160	645	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.771	14.744	2	0.984	170509304	37093156	17098	42745	2169		
2,3,7,8-TCDD											
319.8965	14.771	14.744	2	1.001	11729972	2517302	6146	15365	410		
321.8936	14.771	14.744	2	1.001	14567032	3205040	7712	19280	416	0.81(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				14019	35047			
Total Dioxins & Furans											
303.9016		0.0	0				14019	35047			

QC Flag Legend

Review Flags
- M - Manually Integrated

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

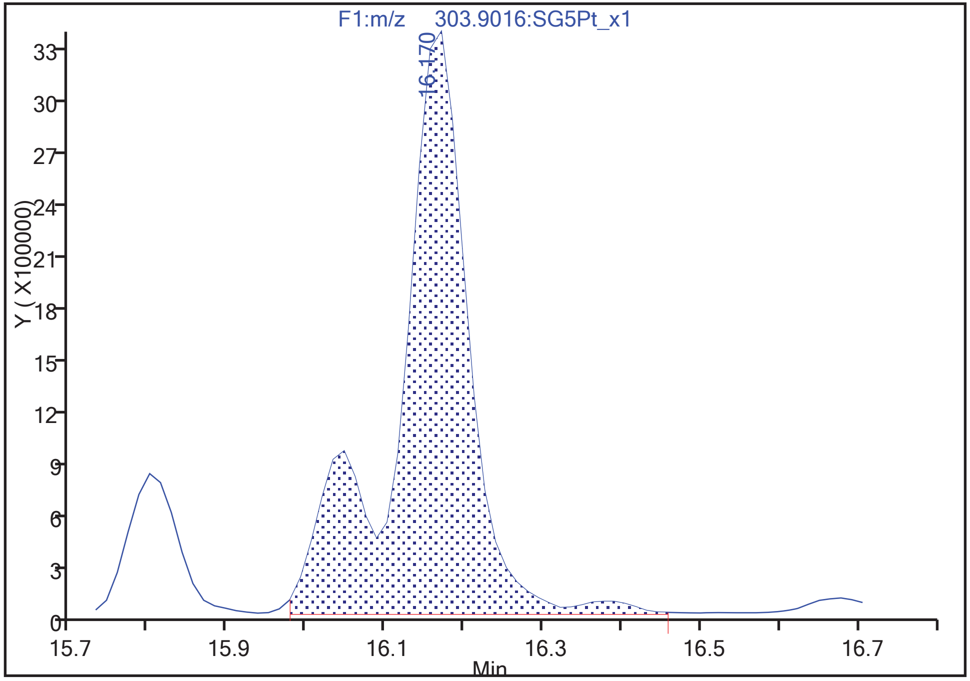
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_014.d				
Injection Date:	07-Nov-2017 18:21:28	Instrument ID:	9D2		
Lims ID:	160-24924-G-9-B MS				
Client ID:	SHAD041DP022SS03NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

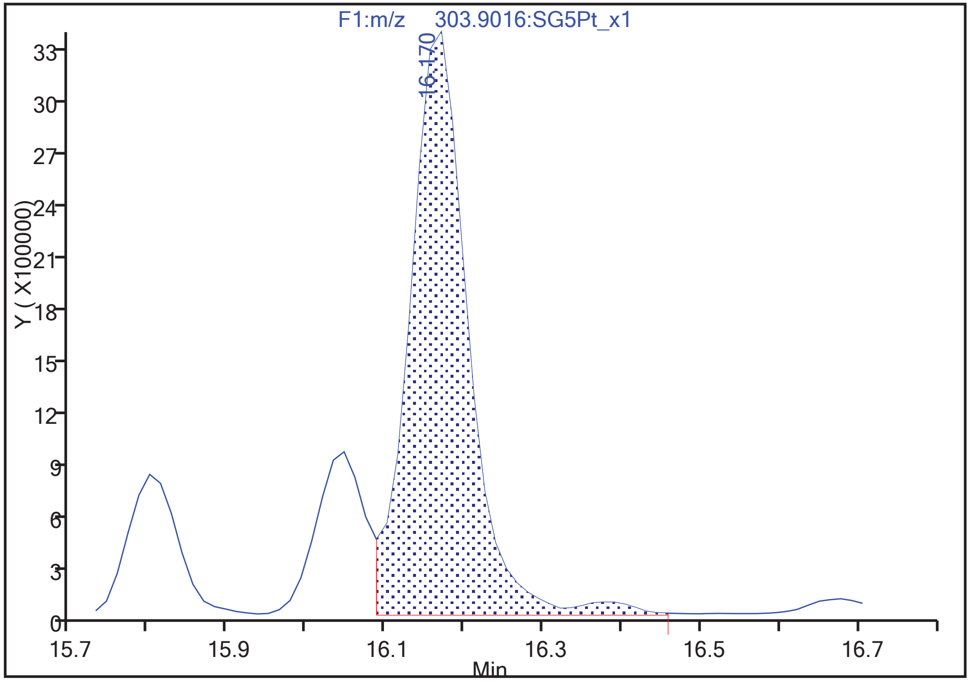
Processing Integration Results

RT: 16.17
Area: 21368796
Amount: 12.733402
Amount Units: pg/ul



Manual Integration Results

RT: 16.17
Area: 17420824
Amount: 11.575592
Amount Units: pg/ul



Reviewer: shardaa, 09-Nov-2017 16:45:42

Audit Action: Split an Integrated Peak

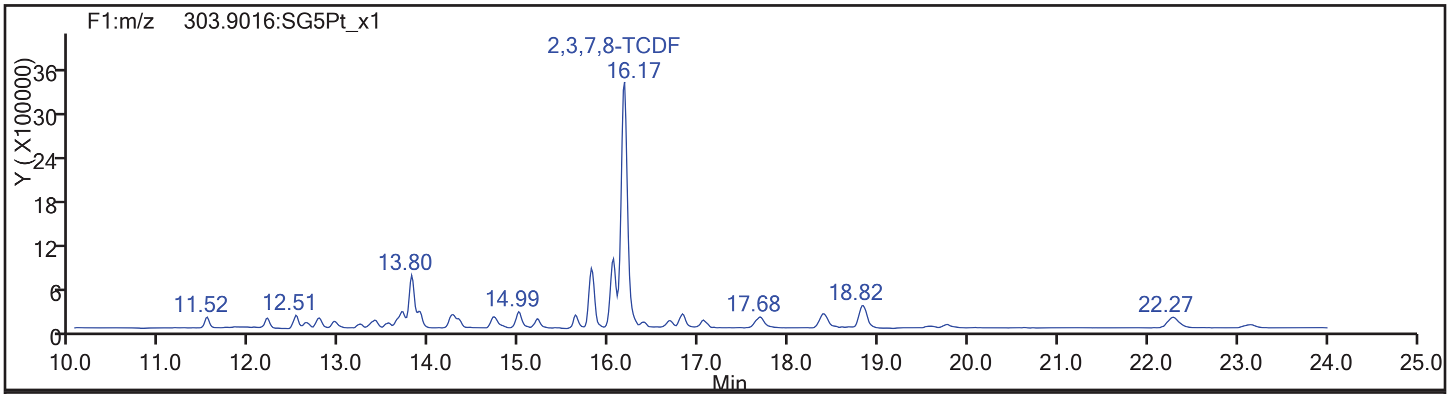
Audit Reason: Poor chromatography

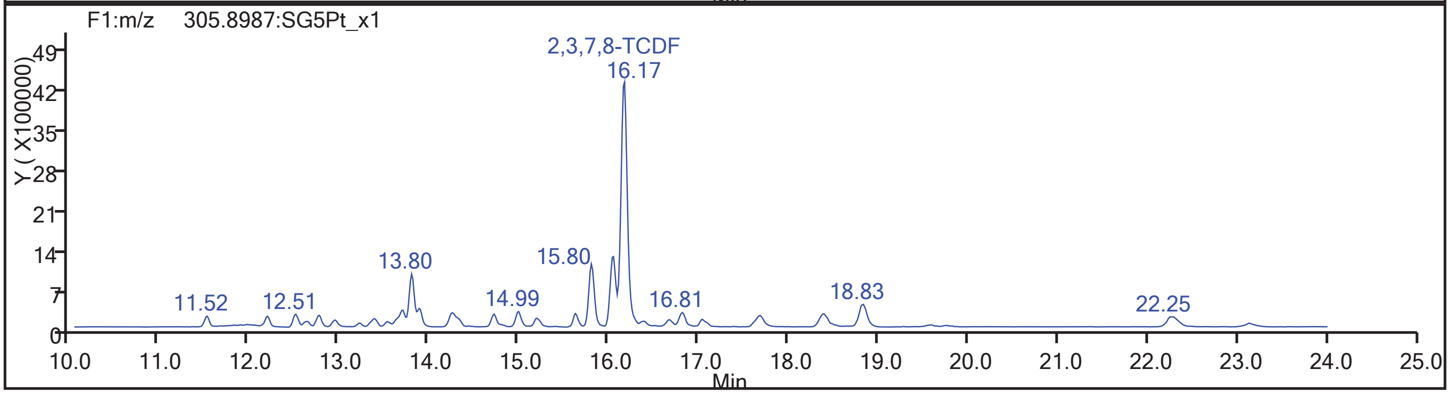
Report Date: 09-Nov-2017 16:51:31 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

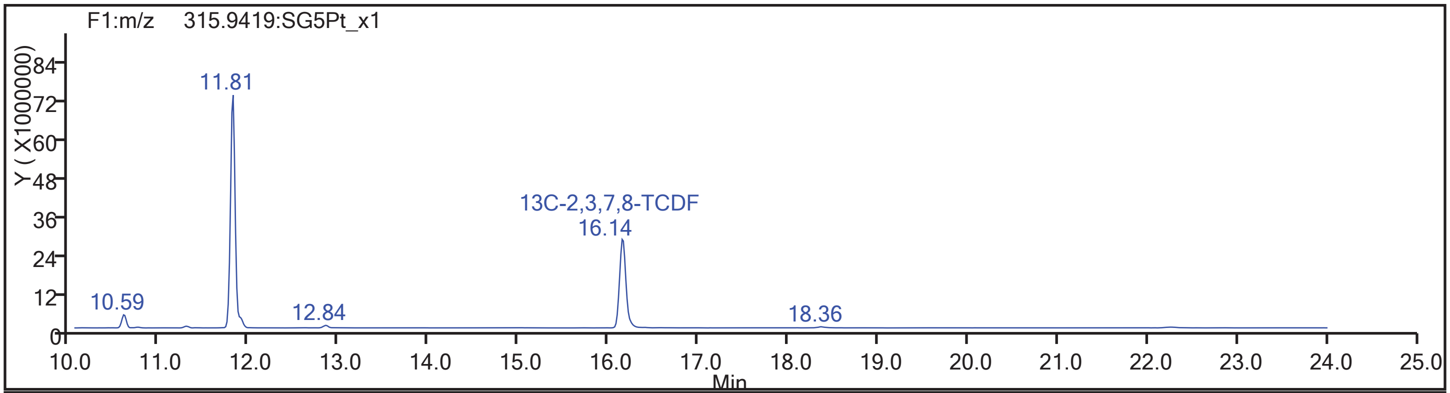
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_014.d
Injection Date: 07-Nov-2017 18:21:28
Injection Vol: 2.0 ul
Instrument ID: 9D2
Operator ID:
Method: DXN_DB225_9D2
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 193317
Sample Line#: 14
Column Type: DB-225
Column Dia: 0.32 mm

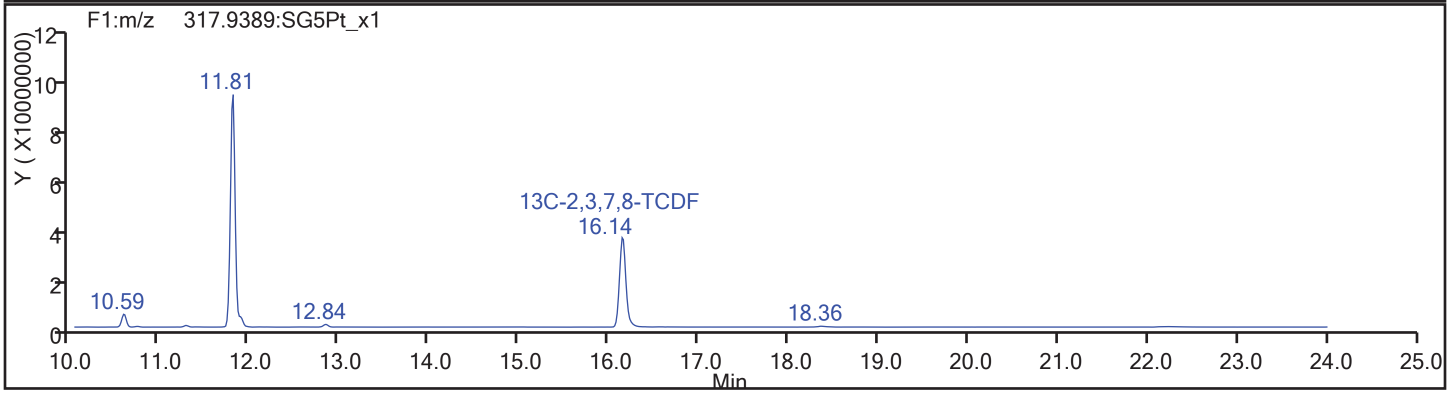
TCDF





TCDF Standards



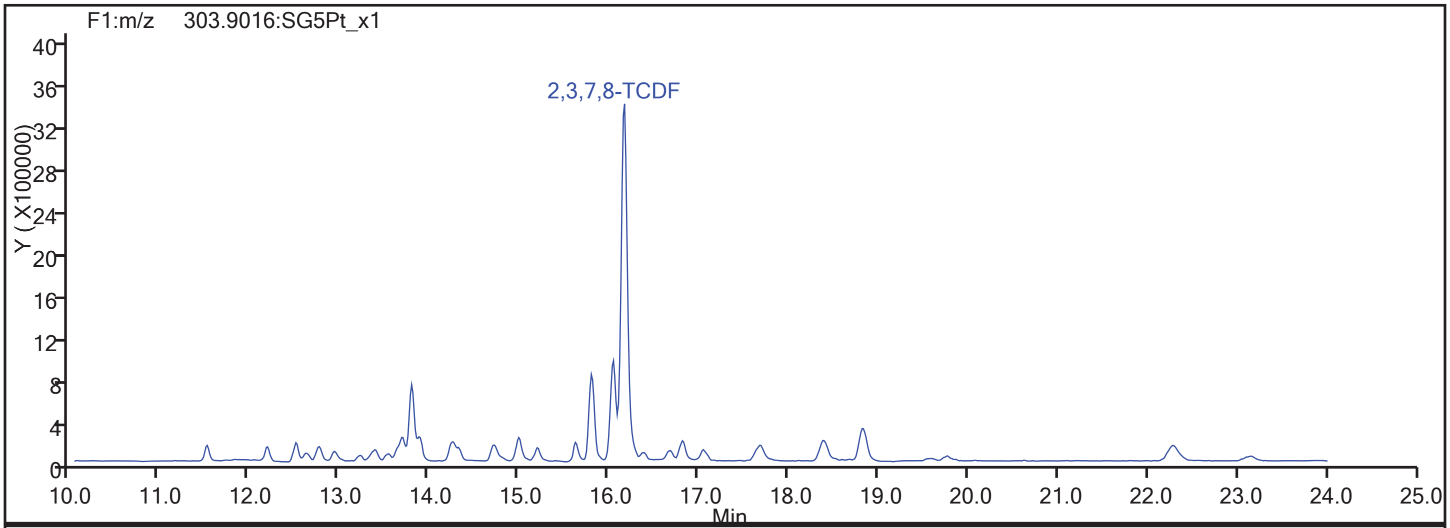


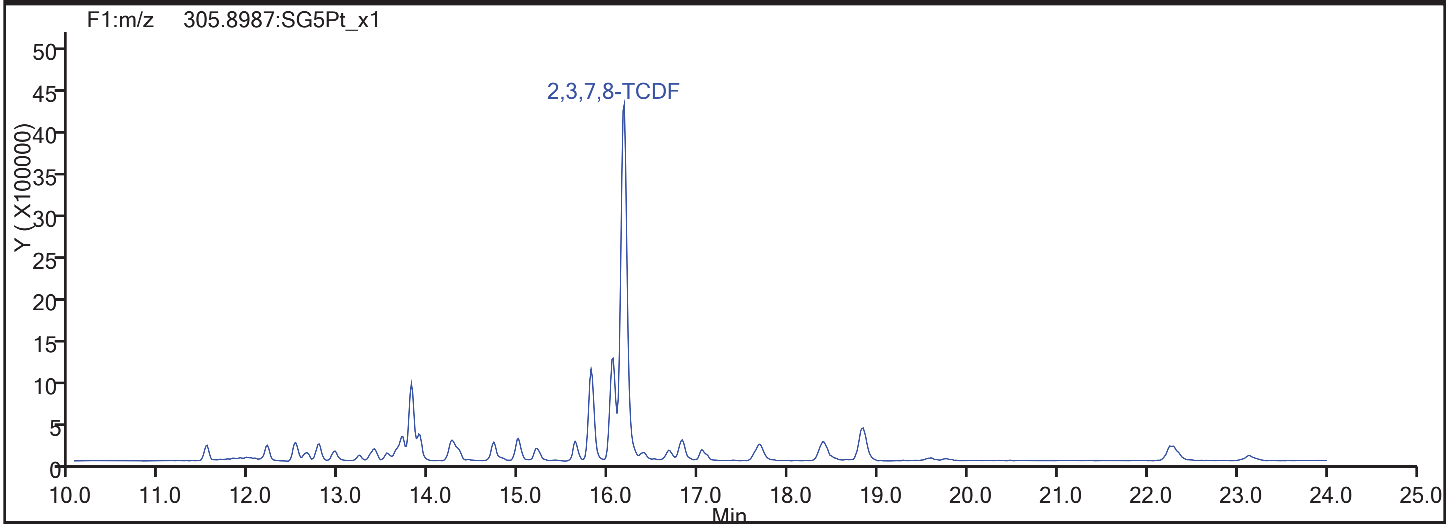
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_014.d

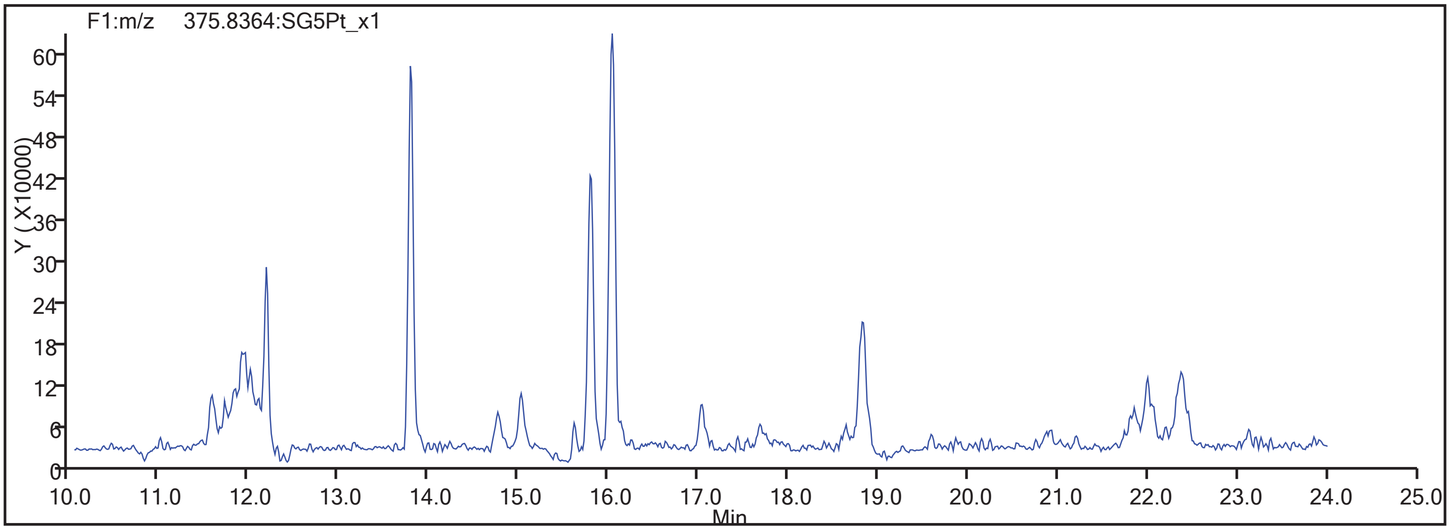
Injection Date:	07-Nov-2017 18:21:28	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	193317	Sample Line#:	14
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_014.d

Injection Date: 07-Nov-2017 18:21:28 Injection Vol: 2.0 ul

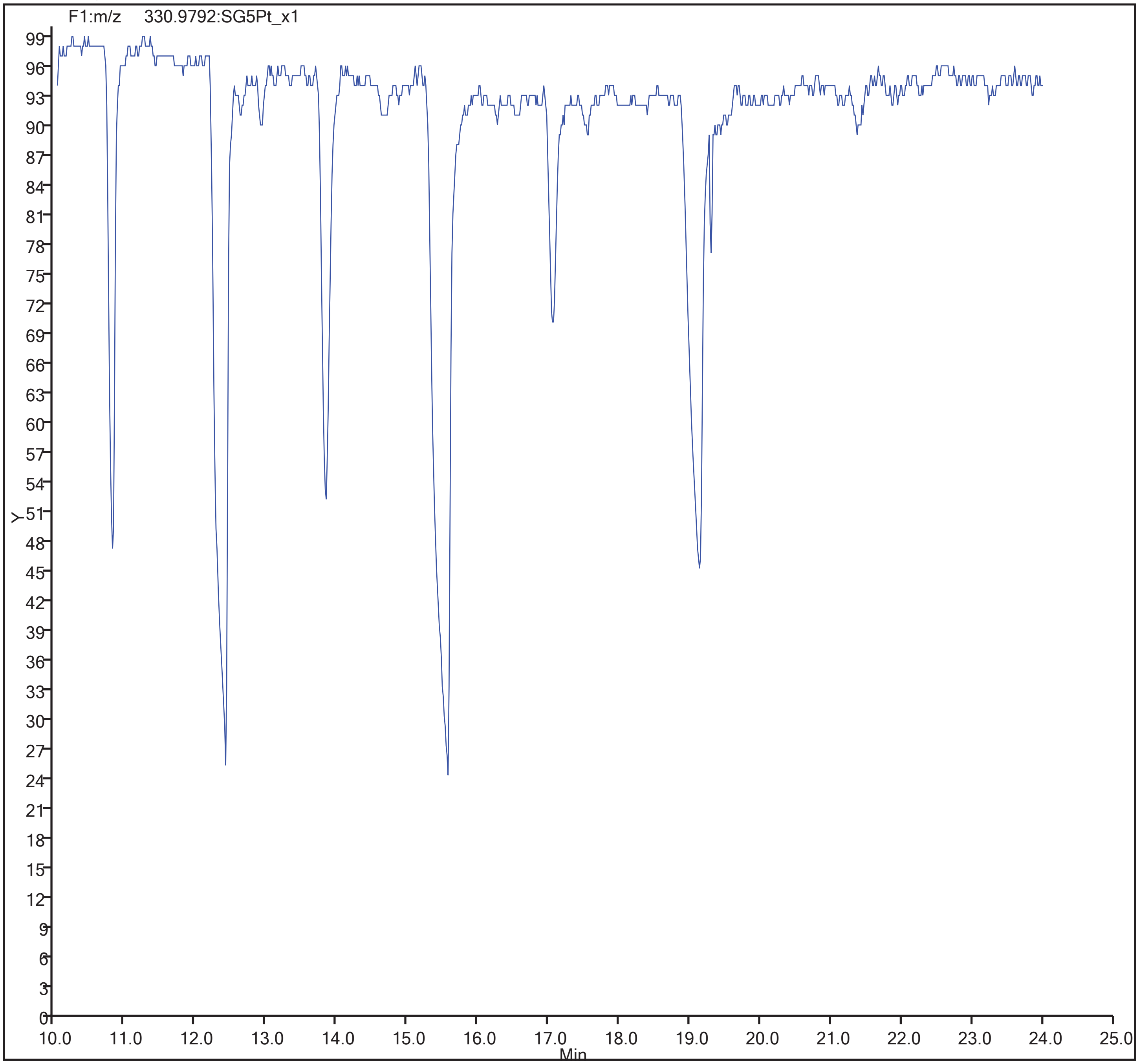
Instrument ID: 9D2 Operator ID:

Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

Worklist#: 193317 Sample Line#: 14

Column Type: DB-225 Column Dia: 0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP022SS03NS MS

Lab Sample ID: 160-24924-9 MS

Matrix: Solid

Lab File ID: 09NO1710D5_73.d

Analysis Method: 8290A

Date Collected: 10/05/2017 16:59

Extract. Method: 8290

Date Extracted: 10/17/2017 11:29

Sample wt/vol: 10.05(g)

Date Analyzed: 11/11/2017 18:07

Con. Extract Vol.: 20.00(uL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 2.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 194085

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	20.5		1.0	0.41	0.16
40321-76-4	1,2,3,7,8-PeCDD	105		5.1	0.76	0.52
57117-41-6	1,2,3,7,8-PeCDF	101		5.1	0.76	0.99
57117-31-4	2,3,4,7,8-PeCDF	105		5.1	0.76	1.0
39227-28-6	1,2,3,4,7,8-HxCDD	122		5.1	2.0	0.89
57653-85-7	1,2,3,6,7,8-HxCDD	107		5.1	2.0	0.69
19408-74-3	1,2,3,7,8,9-HxCDD	98.5		5.1	2.0	0.68
70648-26-9	1,2,3,4,7,8-HxCDF	102		5.1	0.76	1.5
57117-44-9	1,2,3,6,7,8-HxCDF	91.4		5.1	1.0	1.2
72918-21-9	1,2,3,7,8,9-HxCDF	83.4		5.1	1.0	1.5
60851-34-5	2,3,4,6,7,8-HxCDF	92.1		5.1	0.76	1.4
35822-46-9	1,2,3,4,6,7,8-HpCDD	123		5.1	1.0	0.81
67562-39-4	1,2,3,4,6,7,8-HpCDF	107	J	5.1	1.0	2.6
55673-89-7	1,2,3,4,7,8,9-HpCDF	152	J	5.1	2.0	3.2
3268-87-9	OCDD	280	B	10	4.1	0.51
39001-02-0	OCDF	217		10	4.1	0.42

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	58		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	62		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	65		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	58		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	72		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	51		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	26	Q	40-135
114423-97-1	13C-OCDD	38	Q	40-135

Report Date: 13-Nov-2017 12:52:39 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d
Lims ID: 160-24924-G-9-B MS
Client ID: SHAD041DP022SS03NS
Sample Type: MS
Inject. Date: 11-Nov-2017 18:07:59 ALS Bottle#: 47 Worklist Smp#: 73
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-9-b ms 160-24924-g-9-b ms
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 12:52:38 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 12:52:38

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.914	98165809	0.78	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.400	76868370	0.79	1.2741	61.5	61.5	0.3183	0.3183	61.46	
2,3,7,8-TCDF	17.415	9343309	0.77	1.1341	10.7	10.7	0.1676	0.1676	107	
A Non-2,3,7,8-sub-TCDF	17.105	4116794	0.77	1.1341	4.770	4.722	0.1676	1.005	0.00	RQM
S Total TCDF					15.5	15.4	0.1676	0.1676		RQ
D 13C-2,3,7,8-TCDD	18.110	56406436	0.77	0.9921	57.9	57.9	0.1746	0.1746	57.92	
$ 37Cl4-2,3,7,8-TCDD	18.125	38779845		1.0466	37.7	37.7	0.0860	0.0860	94.36	
2,3,7,8-TCDD	18.125	5676844	0.78	0.9993	10.1	10.1	0.0810	0.0810	101	
A Non-2,3,7,8-sub-TCDD	17.559	2125483	0.84	0.9993	3.771	3.771	0.0810	1.977	0.00	
S Total TCDD					13.8	13.8	0.0810	0.0810		
D 13C-1,2,3,7,8-PeCDF	22.451	61891569	1.55	0.9696	65.0	65.0	0.1720	0.1720	65.02	
1,2,3,7,8-PeCDF	22.478	35814370	1.61	1.1627	49.8	49.8	0.4852	0.4852	99.54	
D 13C-2,3,4,7,8-PeCDF	23.801	63008724	1.57							
2,3,4,7,8-PeCDF	23.828	36444337	1.61	1.1395	51.7	51.7	0.4950	0.4950	103	
A F1 PeCDFs	20.001	1512172	1.46	1.1511	2.123	2.123	0.0299	2.123	0.00	
A Non-2,3,7,8-sub-PeCDF	23.161	1184665	1.53	1.1511	1.663	1.663	0.4901	1.663	0.00	
S Total PeCDF					105.2	105.2	0.4901	0.4901		
D 13C-1,2,3,7,8-PeCDD	24.524	46531467	1.67	0.7588	62.5	62.5	0.0959	0.0959	62.47	
1,2,3,7,8-PeCDD	24.551	22739778	1.54	0.9490	51.5	51.5	0.2552	0.2552	103	
A Non-2,3,7,8-sub-PeCDD	23.419	651457	1.55	0.9490	1.659	1.475	0.2552	0.8992	0.00	RQ
S Total PeCDD					53.2	53.0	0.2552	0.2552		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.593	50968110	0.52	0.9644	71.9	71.9	0.4188	0.4188	71.87	
1,2,3,4,7,8-HxCDF	30.620	36039919	1.29	1.4012	50.5	50.5	0.7424	0.7424	101	
D 13C-1,2,3,6,7,8-HxCDF	30.779	59493595	0.52							
1,2,3,6,7,8-HxCDF	30.793	38900071	1.28	1.6951	45.0	45.0	0.6137	0.6137	90.05	
D 13C-2,3,4,6,7,8-HxCDF	31.578	53412273	0.53							
2,3,4,6,7,8-HxCDF	31.591	35151459	1.29	1.5205	45.4	45.4	0.6842	0.6842	90.71	
D 13C-1,2,3,7,8,9-HxCDF	32.363	47143893	0.51							
1,2,3,7,8,9-HxCDF	32.377	29522994	1.29	1.4099	41.1	41.1	0.7378	0.7378	82.17	
A Non-2,3,7,8-sub-HxCDF	30.254	2596854	1.24	1.5067	3.576	3.382	0.6904	1.731	0.00	RQM

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					185.5	185.3	0.6945	0.6945		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.190	73533062	1.25	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.764	34482406	1.25							
1,2,3,4,7,8-HxCDD	31.778	21244982	1.30	0.9505	59.9	59.9	0.4382	0.4382	120	
D 13C-1,2,3,6,7,8-HxCDD	31.858	37319628	1.25	0.8791	57.7	57.7	0.2836	0.2836	57.73	
1,2,3,6,7,8-HxCDD	31.884	24212074	1.28	1.2343	52.6	52.6	0.3375	0.3375	105	
1,2,3,7,8,9-HxCDD	32.203	22564967	1.26	1.2467	48.5	48.5	0.3341	0.3341	97.00	
A Non-2,3,7,8-sub-HxCDD	30.893	3657945	1.27	1.1438	8.569	8.569	0.3642	5.042	0.00	
S Total HxCDD					169.5	169.5	0.3699	0.3699		
D 13C-1,2,3,4,6,7,8-HpCDF	33.770	14818974	0.43	0.7618	26.5	26.5	0.6611	0.6611	26.45	
1,2,3,4,6,7,8-HpCDF	33.782	12764209	1.05	1.6399	52.5	52.5	1.274	1.274	105	
D 13C-1,2,3,4,7,8,9-HpCDF	34.852	19071992	0.42							
1,2,3,4,7,8,9-HpCDF	34.876	14711092	1.04	1.3302	74.6	74.6	1.571	1.571	149	
A Non-2,3,7,8-sub-HpCDF	34.305	2763379	1.04	1.4851	13.6	12.6	1.407	12.6	0.00	RQ
S Total HpCDF					140.8	139.7	1.423	1.423		RQ
1,2,3,4,6,7,8-HpCDD	34.584	17313069	1.02	0.9932	60.4	60.4	0.3987	0.3987	121	
D 13C-1,2,3,4,6,7,8-HpCDD	34.572	28868889	1.09	0.7762	50.6	50.6	0.2952	0.2952	50.58	
A Non-2,3,7,8-sub-HpCDD	34.286	3753829	1.07	0.9932	13.1	13.1	0.3987	13.1	0.00	
S Total HpCDD					73.5	73.5	0.3987	0.3987		
D 13C-OCDD	36.906	35249781	0.87	0.6314	75.9	75.9	0.1459	0.1459	37.96	
OCDF	37.014	25360971	0.91	1.3460	106.9	106.9	0.2088	0.2088	107	
OCDD	36.918	25742502	0.89	1.0604	137.7	137.7	0.2535	0.2535	138	
1,3,6,8-TCDF	15.737	850288	0.66							
1,3,6,8-TCDD	15.888	1114324	0.80							
2,3,4,7-TCDF	17.415						0.0	0.0		U
1,2,3,7-TCDD	17.914	126544	0.83							
1,2,3,9-TCDD	18.277						0.0	0.0		
1,2,3,9-TCDF	18.277						0.0	0.0		
1,2,8,9-TCDD	19.229						0.0	0.0		
1,2,8,9-TCDF	19.244						0.0	0.0		
1,3,4,6,8-PeCDF	19.547	1512172	1.46							
1,2,4,7,9-PeCDD	21.305	477991	1.02							R
1,2,3,8,9-PeCDD	25.546						0.0	0.0		
1,2,3,8,9-PeCDF	25.764						0.0	0.0		
1,2,3,4,6,8-HxCDF	28.064						0.0	0.0		
1,2,4,6,7,9-HxCDD	29.688						0.0	0.0		U
1,2,3,4,6,7-HxCDD	32.203						0.0	0.0		U
1,2,3,4,8,9-HxCDF	32.377						0.0	0.0		U
1,2,3,4,6,7,9-HpCDD	34.025						0.0	0.0		U
1,2,3,8-TCDD	0.0						0.0	0.0		
1,3,7,9-TCDD	0.0						0.0	0.0		
1,2,3,4,6,7,9-HpCDF	0.0						0.0	0.0		
1,2,3,4,7-PeCDD	0.0						0.0	0.0		
1,4,7,8-TCDD	0.0						0.0	0.0		

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Report Date: 13-Nov-2017 12:52:39 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d				
Lims ID:	160-24924-G-9-B MS				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	MS				
Inject. Date:	11-Nov-2017 18:07:59	ALS Bottle#:	47	Worklist Smp#:	73
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-g-9-b ms 160-24924-g-9-b ms				
Misc. Info.:	09NO1710D5				
Operator ID:	AJS	Instrument ID:	10D5		
Method:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	13-Nov-2017 12:52:38	Calib Date:	13-Oct-2017 03:12:53		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d				
Column 1 :	DB-5 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK002				
First Level Reviewer: dadunj		Date:	13-Nov-2017 12:52:38		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.914	17.914	0		42950021	10703663	10171	25427	1052		
333.9339	17.914	17.914	0		55215788	13626283	6686	16715	2038	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.400	17.400	0	0.971	34006696	8711964	22828	57070	382		
317.9389	17.400	17.400	0	0.971	42861674	10894553	16639	41597	655	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.415	17.415	0	1.001	4071790	1015790	5966	14915	170		
305.8987	17.415	17.415	0	1.001	5271519	1282580	8945	22362	143	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	14.981	17.105	-127	0.861	123105	39228	5966	14915	7		M
305.8987	14.981	17.105	-127	0.861	147734	45064	8945	22362	5	0.83(0.65-0.89)	
303.9016	15.313	17.105	-107	0.880	83007	28583	5966	14915	5		M
305.8987	15.313	17.105	-107	0.880	120223	33798	8945	22362	4	0.69(0.65-0.89)	
303.9016	15.480	17.105	-97	0.890	235683	67008	5966	14915	11		a
305.8987	15.480	17.105	-97	0.890	306091	92354	8945	22362	10	0.77(0.65-0.89)	
303.9016	15.737	17.105	-82	0.904	339131	67455	5966	14915	11		a
305.8987	15.737	17.105	-82	0.904	511157	96291	8945	22362	11	0.66(0.65-0.89)	
303.9016	16.281	17.105	-49	0.936	134204	36121	5966	14915	6		M
305.8987	16.281	17.105	-49	0.936	164753	48435	8945	22362	5	0.81(0.65-0.89)	
303.9016	16.508	17.105	-36	0.949	297010	75032	5966	14915	13		a
	Empc Correction				255427	60623	5966	14915	10		
305.8987	16.508	17.105	-36	0.949	331724	78732	8945	22362	9	0.90(0.65-0.89)	
303.9016	16.719	17.105	-23	0.961	362872	38757	5966	14915	6		M
305.8987	16.704	17.105	-24	0.960	513306	49575	8945	22362	6	0.71(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.853	17.105	45	1.026	225326	51113	5966	14915	9		a
305.8987	17.853	17.105	45	1.026	263051	65691	8945	22362	7	0.86(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.110	18.111	0	1.011	24520681	5766776	10171	25427	567		
333.9339	18.110	18.111	0	1.011	31885755	7398862	6686	16715	1107	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.125	18.126	0	1.012	38779845	9087058	8760	21900	1037		
2,3,7,8-TCDD											
319.8965	18.125	18.126	0	1.001	2488404	574400	2284	5710	251		
321.8936	18.125	18.126	0	1.001	3188440	739720	1981	4952	373	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	15.888	17.559	-100	0.877	496253	146600	2284	5710	64		a
321.8936	15.888	17.559	-100	0.877	618071	182425	1981	4952	92	0.80(0.65-0.89)	
319.8965	16.190	17.559	-82	0.894	387505	107626	2284	5710	47		
321.8936	16.190	17.559	-82	0.894	435037	116649	1981	4952	59	0.89(0.65-0.89)	
319.8965	16.992	17.559	-34	0.938	86478	20318	2284	5710	9		
321.8936	16.992	17.559	-34	0.938	102139	24785	1981	4952	13	0.85(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.451	22.437	1	1.253	37623536	6683708	9445	23612	708		
353.8970	22.451	22.437	1	1.253	24268033	4347565	6785	16962	641	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.478	22.465	1	1.001	22104786	3926006	15227	38067	258		
341.8567	22.465	22.465	0	1.001	13709584	2412391	9665	24162	250	1.61(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.801	23.801	0	1.329	38448022	6424661	9445	23612	680		
353.8970	23.801	23.801	0	1.329	24560702	4187085	6785	16962	617	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.828	23.815	1	1.061	22466220	3734382	15227	38067	245		
341.8567	23.828	23.815	1	1.061	13978117	2339721	9665	24162	242	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.547	20.001	-27	0.871	898481	190669	475	1187	401		a
341.8567	19.547	20.001	-27	0.871	613691	132519	1045	2612	127	1.46(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	21.101	23.161	-123	0.940	715973	114580	15227	38067	8		
341.8567	21.115	23.161	-123	0.940	468692	74282	9665	24162	8	1.53(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.524	24.524	0	1.369	29071857	4392233	4033	10082	1089		
369.8919	24.524	24.524	0	1.369	17459610	2671133	3052	7630	875	1.67(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.551	24.551	0	1.001	13794737	2099438	4129	10322	508		
357.8516	24.551	24.551	0	1.001	8945041	1412550	2713	6782	521	1.54(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.305	23.419	-127	0.869	241347	45501	4129	10322	11		a
357.8516	21.319	23.419	-126	0.869	236644	42800	2713	6782	16	1.02(1.32-1.78)	
	Empc Correction				155707	29355	2713	6782	11		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
355.8546	22.505	23.419	-55	0.918	148674	28012	4129	10322	7		
357.8516	22.505	23.419	-55	0.918	105729	16381	2713	6782	6	1.41(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.593	30.580	1	0.950	17462800	3445793	10099	25247	341		
385.8610	30.593	30.580	1	0.950	33505310	6467414	19306	48265	335	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.620	30.607	1	1.001	20274481	3876108	23265	58162	167		
375.8178	30.620	30.607	1	1.001	15765438	3045939	17986	44965	169	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.779	30.766	1	0.956	20317672	3763507	10099	25247	373		
385.8610	30.779	30.766	1	0.956	39175923	7272933	19306	48265	377	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.793	30.780	1	1.007	21847852	4221371	23265	58162	181		
375.8178	30.793	30.780	1	1.007	17052219	3283440	17986	44965	183	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.578	31.565	1	0.981	18554276	4550542	10099	25247	451		
385.8610	31.578	31.565	1	0.981	34857997	8579111	19306	48265	444	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.591	31.578	1	1.033	19801538	4854594	23265	58162	209		
375.8178	31.591	31.578	1	1.033	15349921	3764208	17986	44965	209	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.363	32.364	0	1.005	16014072	4088006	10099	25247	405		
385.8610	32.363	32.364	0	1.005	31129821	7848123	19306	48265	407	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.377	32.377	0	1.058	16654935	4151419	23265	58162	178		
375.8178	32.377	32.377	0	1.058	12868059	3273657	17986	44965	182	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											RQM
373.8208	28.490	30.254	-106	0.931	732086	105528	23265	58162	5		M
375.8178	28.503	30.254	-105	0.932	596962	83244	17986	44965	5	1.23(1.05-1.43)	
373.8208	29.834	30.254	-25	0.975	851168	126367	23265	58162	5		M
	Empc Correction				701821	108880	23265	58162	5		
375.8178	29.848	30.254	-24	0.976	565985	87807	17986	44965	5	1.50(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.190	32.177	1		40908667	10189568	9985	24962	1020		
403.8529	32.190	32.177	1		32624395	8012120	8169	20422	981	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.764	31.751	1	0.987	19172863	5231653	9985	24962	524		
403.8529	31.764	31.751	1	0.987	15309543	4188186	8169	20422	513	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.778	31.765	1	0.997	12005584	3382903	8865	22162	382		
391.8127	31.778	31.765	1	0.997	9239398	2525826	6882	17205	367	1.30(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.858	31.858	0	0.990	20706960	5256913	9985	24962	526		
403.8529	31.858	31.858	0	0.990	16612668	4194223	8169	20422	513	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8157	31.884	31.871	1	1.001	13606969	3321312	8865	22162	375		
391.8127	31.871	31.871	0	1.000	10605105	2657943	6882	17205	386	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.203	32.190	1	1.011	12581606	3215601	8865	22162	363		
391.8127	32.190	32.190	0	1.010	9983361	2443269	6882	17205	355	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.688	30.893	-72	0.932	353990	53605	8865	22162	6		a
391.8127	29.688	30.893	-72	0.932	313422	43579	6882	17205	6	1.13(1.05-1.43)	
389.8157	30.673	30.893	-13	0.963	475986	100202	8865	22162	11		
391.8127	30.673	30.893	-13	0.963	362126	75229	6882	17205	11	1.31(1.05-1.43)	
389.8157	31.032	30.893	8	0.974	1219394	256099	8865	22162	29		
391.8127	31.046	30.893	9	0.975	933027	206238	6882	17205	30	1.31(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.770	33.770	0	1.049	4452022	1488641	8949	22372	166		
419.8220	33.770	33.770	0	1.049	10366952	3400622	27721	69302	123	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.782	33.783	0	1.000	6551999	2094020	20028	50070	105		
409.7789	33.782	33.783	0	1.000	6212210	1947220	20847	52117	93	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.852	34.840	1	1.083	5674611	1290204	8949	22372	144		
419.8220	34.864	34.840	1	1.083	13397381	2923455	27721	69302	105	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.876	34.852	1	1.033	7508565	1698979	20028	50070	85		
409.7789	34.876	34.852	1	1.033	7202527	1616240	20847	52117	78	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											RQ
407.7818	34.086	34.305	-13	1.009	1641236	437211	20028	50070	22		
	Empc Correction				1408781	407872	20028	50070	20		
409.7789	34.086	34.305	-13	1.009	1354598	392185	20847	52117	19	1.21(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.584	34.560	1	1.000	8752072	2523542	7191	17977	351		
425.7737	34.584	34.560	1	1.000	8560997	2435640	5891	14727	413	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.572	34.560	1	1.074	15049957	4337266	8252	20630	526		
437.8140	34.572	34.560	1	1.074	13818932	3922563	8429	21072	465	1.09(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.025	34.286	-16	0.984	1940610	601255	7191	17977	84		a
425.7737	34.025	34.286	-16	0.984	1813219	567977	5891	14727	96	1.07(0.88-1.20)	
13C-OCDD											
469.7779	36.906	36.894	1	1.146	16395260	4026493	3773	9432	1067		
471.7750	36.906	36.894	1	1.146	18854521	4686728	2936	7340	1596	0.87(0.76-1.02)	
OCDF											
441.7428	37.014	36.990	1	1.003	12064357	2993957	2526	6315	1185		
443.7399	37.014	36.990	1	1.003	13296614	3215670	2371	5927	1356	0.91(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	36.918	36.894	1	1.000	12126937	3123944	2699	6747	1157		
459.7348	36.918	36.894	1	1.000	13615565	3503499	1986	4965	1764	0.89(0.76-1.02)	
1,3,6,8-TCDF											
303.9016	15.737	14.966	46		339131	67455	5966	14915	11		a
305.8987	15.737	14.966	46		511157	96291	8945	22362	11	0.66(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.888	15.888	0		496253	146600	2284	5710	64		
321.8936	15.888	15.888	0		618071	182425	1981	4952	92	0.80(0.65-0.89)	
2,3,4,7-TCDF											U
303.9016	17.415						5966	14915			
305.8987	17.415						8945	22362			
1,2,3,7-TCDD											
319.8965	17.914	18.005	-5		57454	12398	2284	5710	5		
321.8936	17.929	18.005	-5		69090	15359	1981	4952	8	0.83(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.277						2284	5710			
321.8936	18.277						1981	4952			
1,2,3,9-TCDF											
303.9016	18.277						5966	14915			
305.8987	18.277						8945	22362			
1,2,8,9-TCDD											
319.8965	19.229						2284	5710			
1,2,8,9-TCDF											
303.9016	19.244						5966	14915			
305.8987	19.244						8945	22362			
1,3,4,6,8-PeCDF											
339.8597	19.547	19.517	2		898481	190669	475	1187	401		
341.8567	19.547	19.517	2		613691	132519	1045	2612	127	1.46(1.32-1.78)	
1,2,4,7,9-PeCDD											R
355.8546	21.305	21.292	1		241347	45501	4129	10322	11		
357.8516	21.319	21.292	2		236644	42800	2713	6782	16	1.02(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.546						4129	10322			
357.8516	25.546						2713	6782			
1,2,3,8,9-PeCDF											
339.8597	25.764						15227	38067			
341.8567	25.764						9665	24162			
1,2,3,4,6,8-HxCDF											
373.8208	28.064						23265	58162			
375.8178	28.064						17986	44965			
1,2,4,6,7,9-HxCDD											U
389.8157	29.648						8865	22162			
391.8127	29.648						6882	17205			
1,2,3,4,6,7-HxCDD											U
389.8157	32.137						8865	22162			
391.8127	32.137						6882	17205			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,8,9-HxCDF											U
373.8208	32.443						23265	58162			
375.8178	32.443						17986	44965			
1,2,3,4,6,7,9-HpCDD											U
423.7766	34.013						7191	17977			
425.7737	34.013						5891	14727			
1,2,3,8-TCDD											
319.8965	0.0						2284	5710			
321.8936	0.0						1981	4952			
1,3,7,9-TCDD											
319.8965	0.0						2284	5710			
321.8936	0.0						1981	4952			
1,2,3,4,6,7,9-HpCDF											
407.7818	0.0						20028	50070			
409.7789	0.0						20847	52117			
1,2,3,4,7-PeCDD											
355.8546	0.0						4129	10322			
357.8516	0.0						2713	6782			
1,4,7,8-TCDD											
319.8965	0.0						2284	5710			
321.8936	0.0						1981	4952			

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated
U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d
Lims ID: 160-24924-G-9-B MS
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 18:07:59
Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194085
Lims Sample ID: 73

Non-2,3,7,8-sub-TCDF, RT: 17.105

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	100.000	76868370	19606517

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	76868370	19606517

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
14.981	123105	39228	147734	45064	0.3107	0.83	M
15.313	83007	28583	120223	33798	0.2331	0.69	M
15.480	235683	67008	306091	92354	0.6214	0.77	
15.737	339131	67455	511157	96291	0.9753	0.66	
16.281	134204	36121	164753	48435	0.3429	0.81	M
16.508	297010	75032	331724	78732	0.7212	0.90	RQ
16.508	255427	60623	331724	78732	0.6735		Empc Correction
16.719	362872	38757	513306	49575	1.01	0.71	M
17.853	225326	51113	263051	65691	0.5602	0.86	
Signal Totals:							
	1758755	388888	2358039	509940			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4158377	913237				0.76	RQM
	4116794	898828					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.770 = (4158377 * 100.000) / (76868370 * 1.134)
Empc Amount: 4.722 = (4116794 * 100.000) / (76868370 * 1.134)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d		
Lims ID:	160-24924-G-9-B MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 18:07:59	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	73

Non-2,3,7,8-sub-TCDD, RT: 17.559

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	56406436	13165638

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	56406436	13165638

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.888	496253	146600	618071	182425	1.98	0.80	
16.190	387505	107626	435037	116649	1.46	0.89	
16.992	86478	20318	102139	24785	0.3346	0.85	
Signal Totals:							
	970236	274544	1155247	323859			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2125483	598403				0.84	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.771 = (2125483 * 100.000) / (56406436 * 0.999)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d
Lims ID: 160-24924-G-9-B MS
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 18:07:59 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 73

F1 PeCDFs, RT: 20.001

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	61891569	11031273
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	61891569	11031273

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.547	898481	190669	613691	132519	2.12	1.46	
Signal Totals:							
	898481	190669	613691	132519			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1512172	323188				1.46	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.123 = (1512172 * 100.000) / (61891569 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d
Lims ID: 160-24924-G-9-B MS
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 18:07:59
Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194085
Lims Sample ID: 73

Non-2,3,7,8-sub-PeCDF, RT: 23.161

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	61891569	11031273
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	61891569	11031273

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.101	715973	114580	468692	74282	1.66	1.53	
Signal Totals:							
	715973	114580	468692	74282			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1184665	188862				1.53	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.663 = (1184665 * 100.000) / (61891569 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d		
Lims ID:	160-24924-G-9-B MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 18:07:59	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	73

Non-2,3,7,8-sub-PeCDD, RT: 23.419

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	46531467	7063366

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	46531467	7063366

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.305	241347	45501	236644	42800	1.08	1.02	RQ
21.305	241347	45501	155707	29355	0.8992		Empc Correction
22.505	148674	28012	105729	16381	0.5761	1.41	
Signal Totals:							
	390021	73513	261436	45736			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	732394	132694				1.14	RQ
	651457	119249					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.659 = (732394 * 100.000) / (46531467 * 0.949)
Empc Amount: 1.475 = (651457 * 100.000) / (46531467 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d		
Lims ID:	160-24924-G-9-B MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 18:07:59	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	73

Non-2,3,7,8-sub-HxCDF, RT: 30.254

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	50968110	9913207
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	50968110	9913207

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.490	732086	105528	596962	83244	1.73	1.23	M
29.834	851168	126367	565985	87807	1.85	1.50	RQM
29.834	701821	108880	565985	87807	1.65		Empc Correction
Signal Totals:							
	1433907	214408	1162947	171051			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2746201	402946				1.36	RQM
	2596854	385459					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.576 = (2746201 * 100.000) / (50968110 * 1.507)
Empc Amount: 3.382 = (2596854 * 100.000) / (50968110 * 1.507)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Report Date: 13-Nov-2017 12:52:39 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d		
Lims ID:	160-24924-G-9-B MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 18:07:59	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	73

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	37319628	9451136
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	37319628	9451136

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.688	353990	53605	313422	43579	1.56	1.13	
30.673	475986	100202	362126	75229	1.96	1.31	
31.032	1219394	256099	933027	206238	5.04	1.31	
Signal Totals:							
	2049370	409906	1608575	325046			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3657945	734952				1.27	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 8.569 = (3657945 * 100.000) / (37319628 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d		
Lims ID:	160-24924-G-9-B MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 18:07:59	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	73

Non-2,3,7,8-sub-HpCDF, RT: 34.305

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	14818974	4889263
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	14818974	4889263

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.086	1641236	437211	1354598	392185	13.6	1.21	RQ
34.086	1408781	407872	1354598	392185	12.6		Empc Correction
Signal Totals:							
	1408781	407872	1354598	392185			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2995834	829396				1.21	RQ
	2763379	800057					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 13.613 = (2995834 * 100.000) / (14818974 * 1.485)
Empc Amount: 12.557 = (2763379 * 100.000) / (14818974 * 1.485)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d
Lims ID: 160-24924-G-9-B MS
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 18:07:59 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 73

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	28868889	8259829

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	28868889	8259829

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.025	1940610	601255	1813219	567977	13.1	1.07	
Signal Totals:							
	1940610	601255	1813219	567977			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3753829	1169232				1.07	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 13.092 = (3753829 * 100.000) / (28868889 * 0.993)

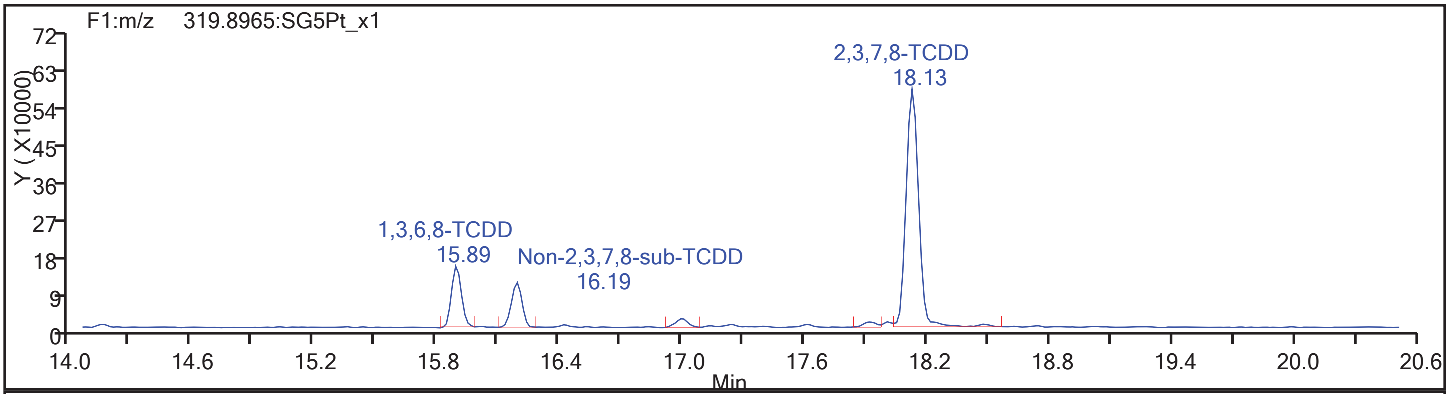
Report Date: 13-Nov-2017 12:52:39 Chrom Revision: 2.2 16-Aug-2017 16:24:46

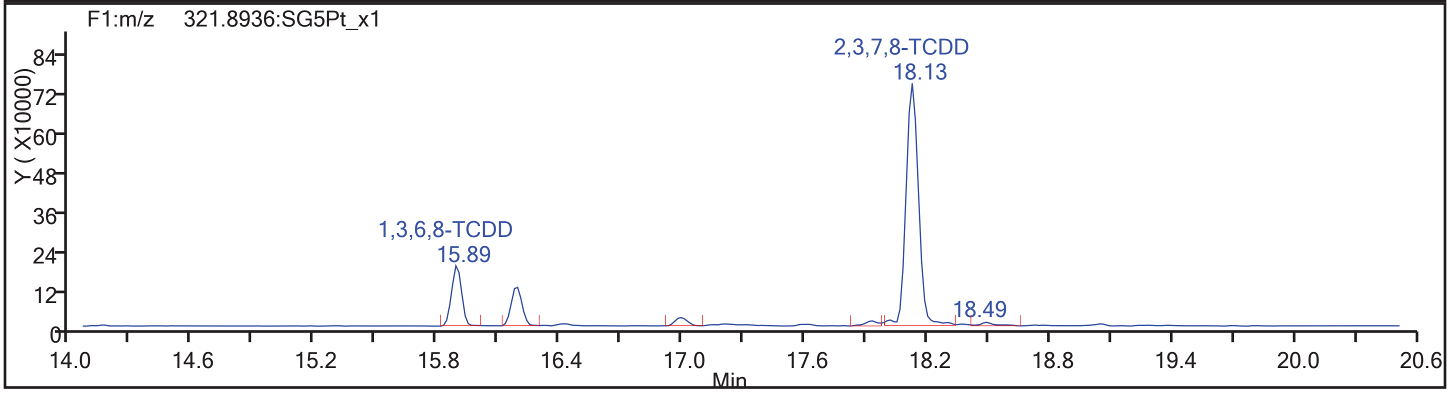
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d

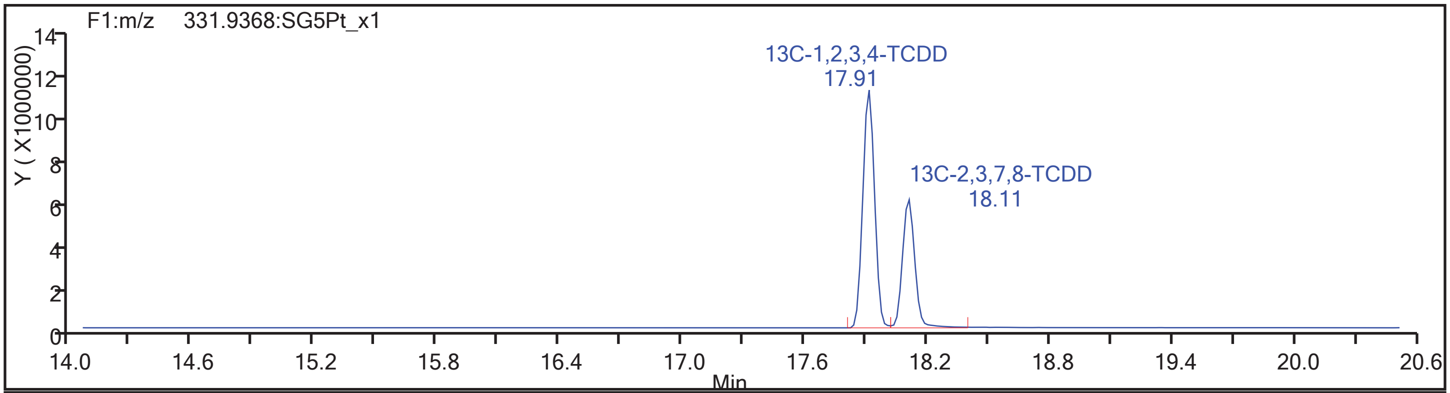
Injection Date:	11-Nov-2017 18:07:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	73
Column Type:	DB-5	Column Dia:	0.32 mm

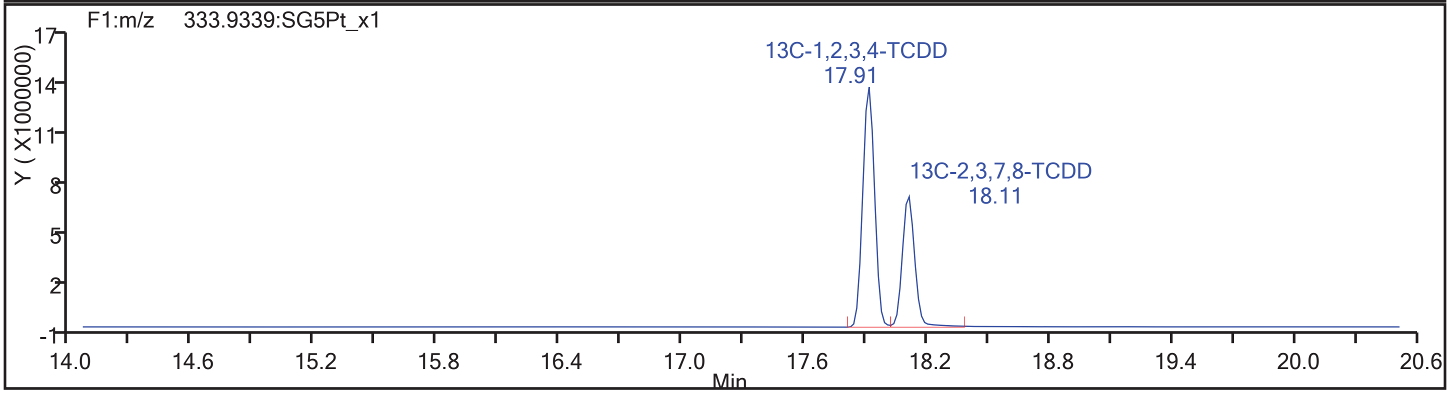
TCDD





TCDD Standards





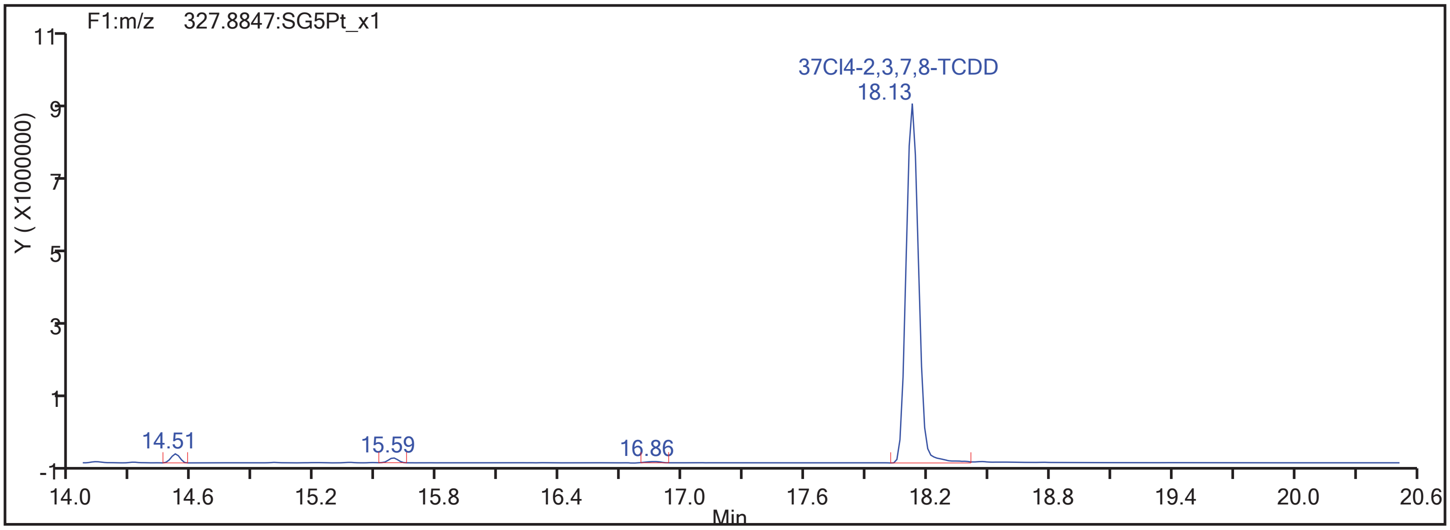
Report Date: 13-Nov-2017 12:52:39 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

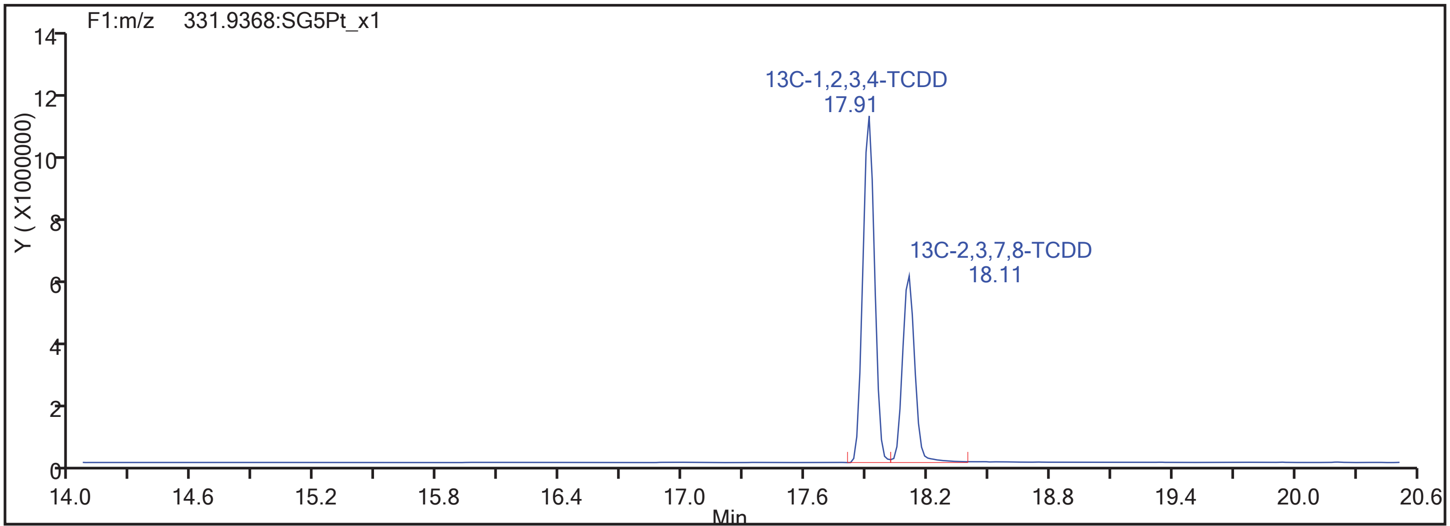
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d

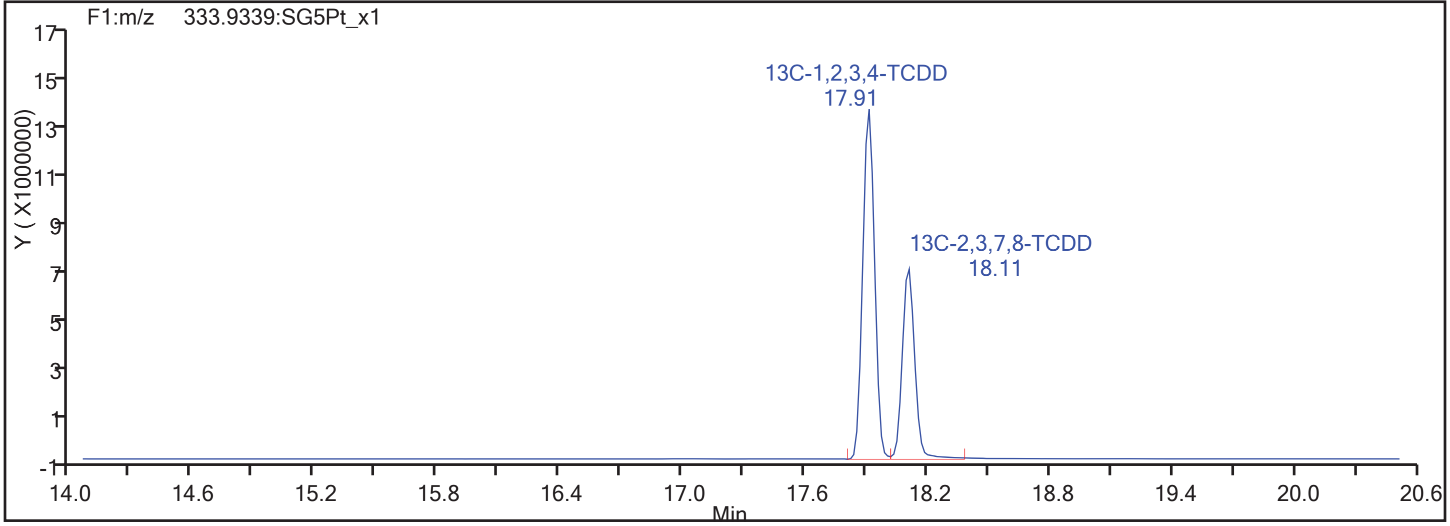
Injection Date:	11-Nov-2017 18:07:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	73
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards

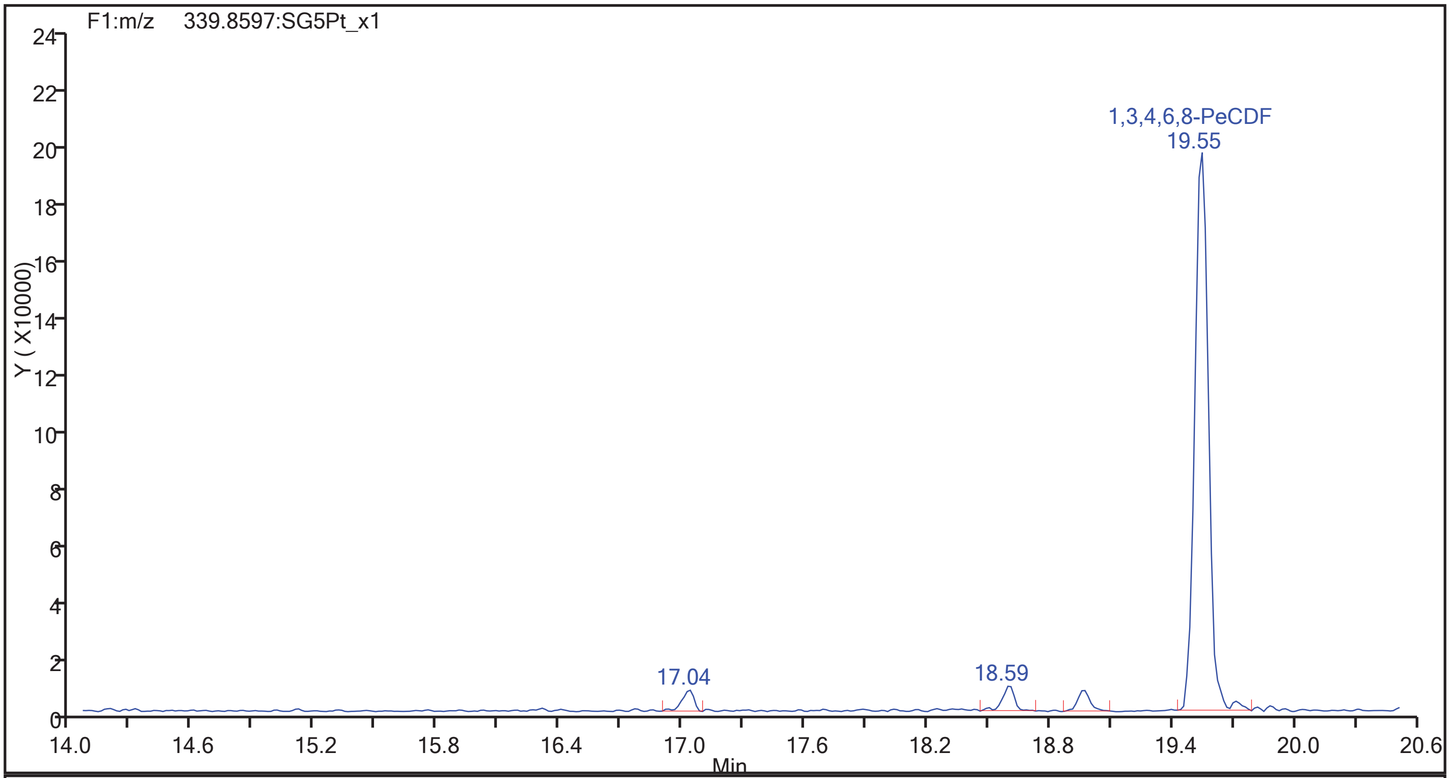


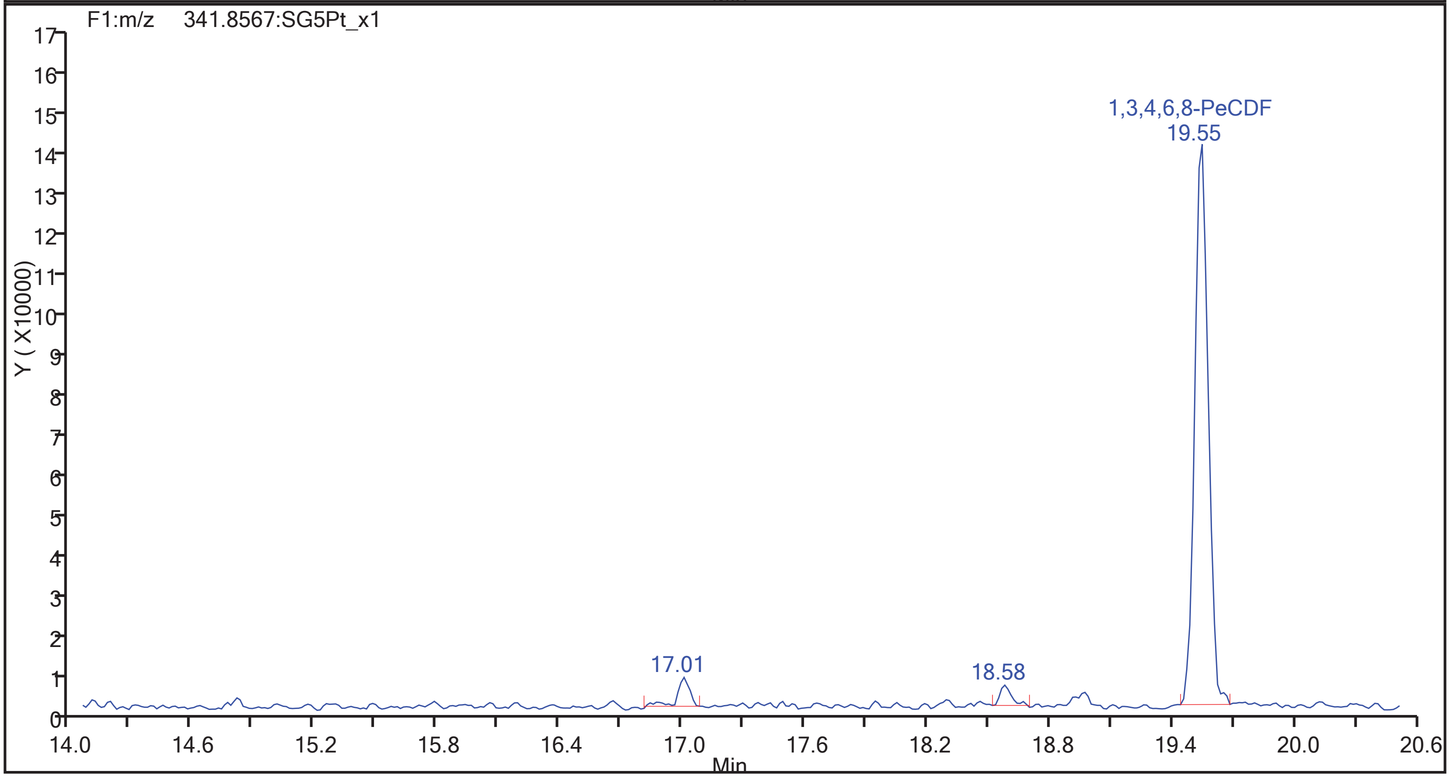


TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d
Injection Date: 11-Nov-2017 18:07:59
Injection Vol: 2.0 ul
Instrument ID: 10D5
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 194085
Sample Line#: 73
Column Type: DB-5
Column Dia: 0.32 mm

F1 PeCDFs





TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_73.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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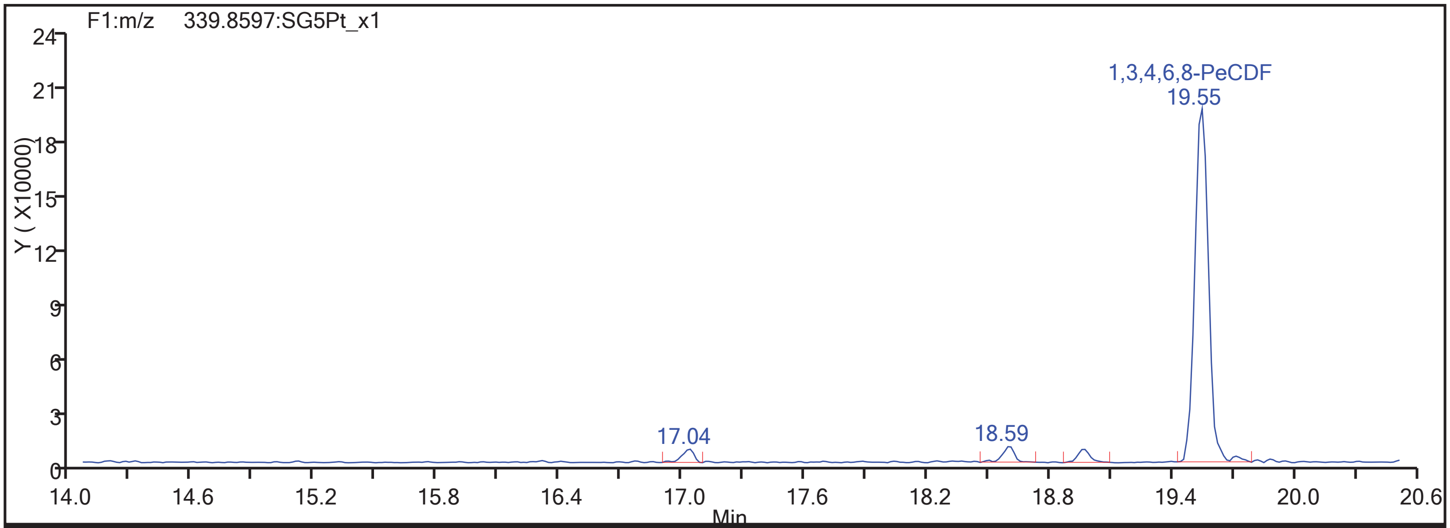
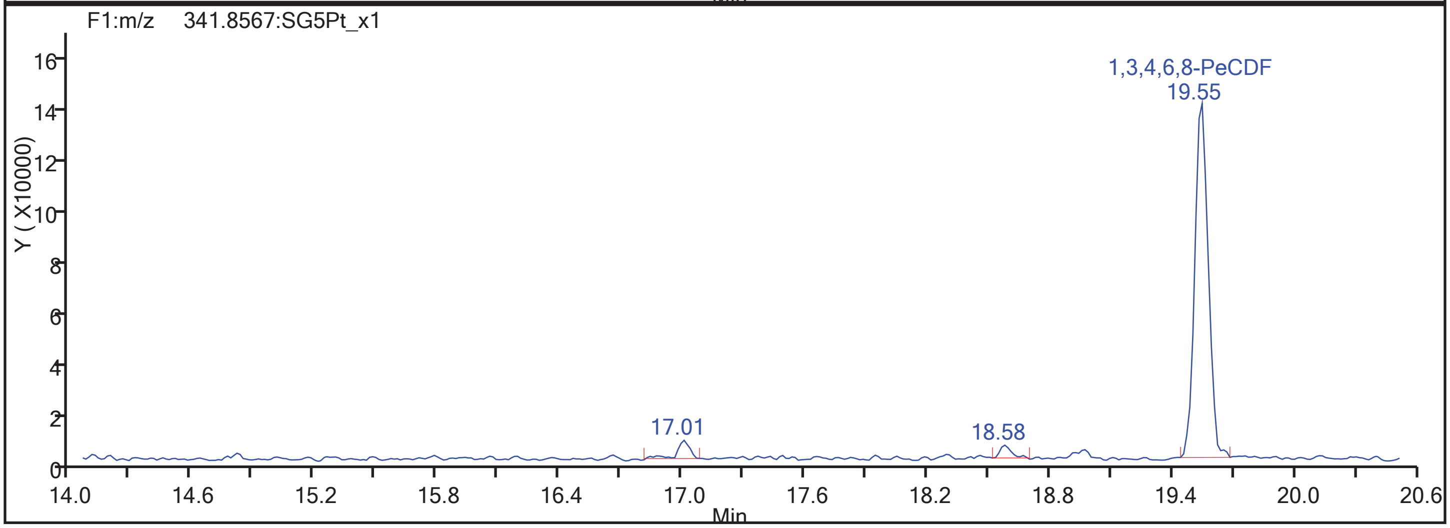
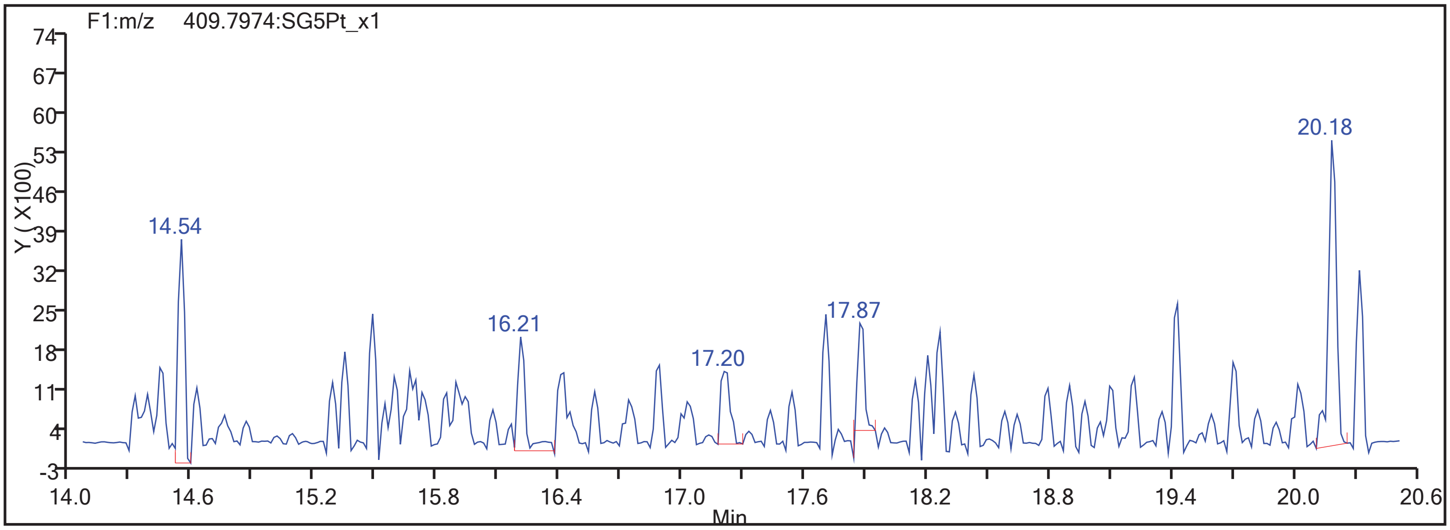




F1 PeCDFs Interference Mass



Report Date: 13-Nov-2017 12:52:39 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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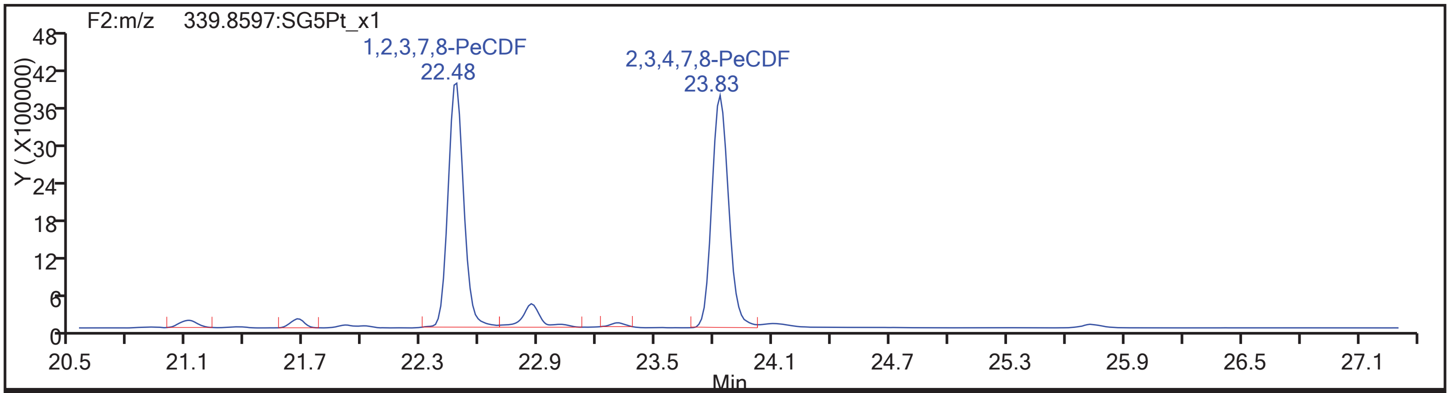

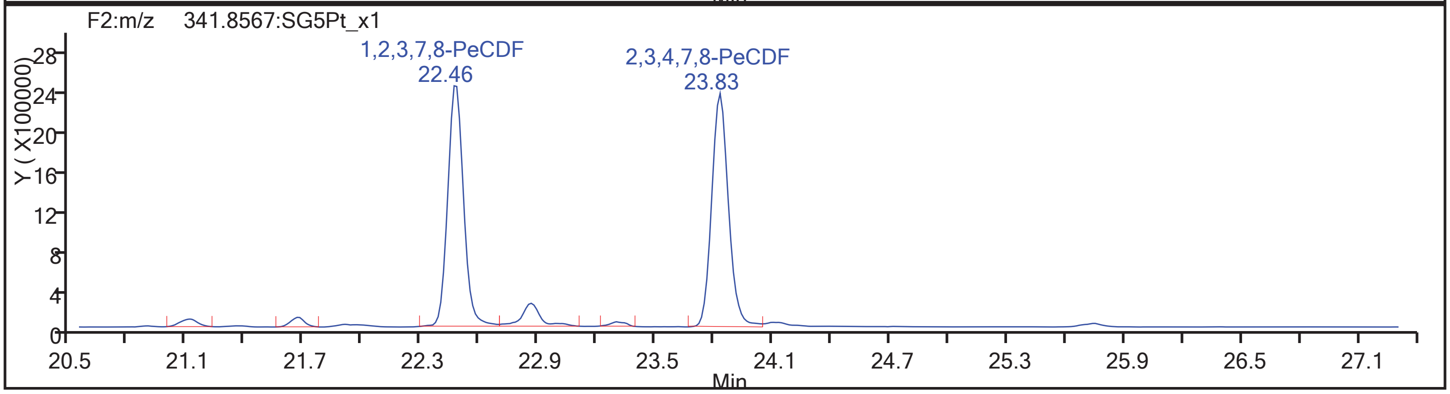

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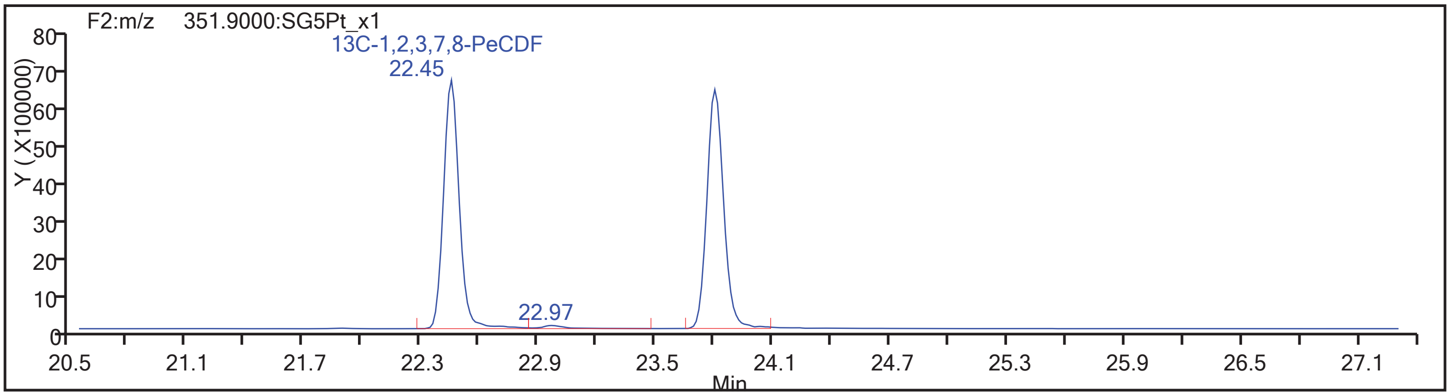

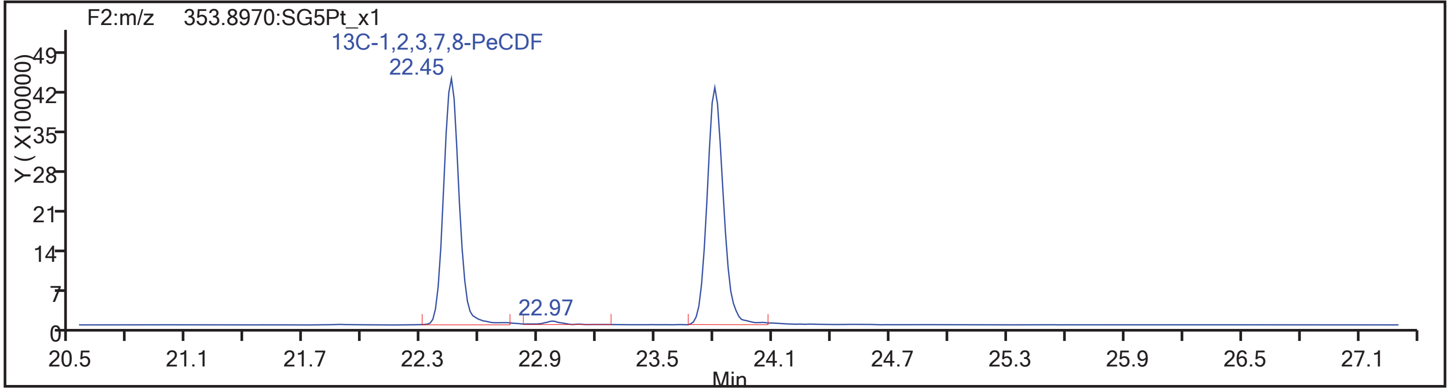

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TestAmerica Sacramento

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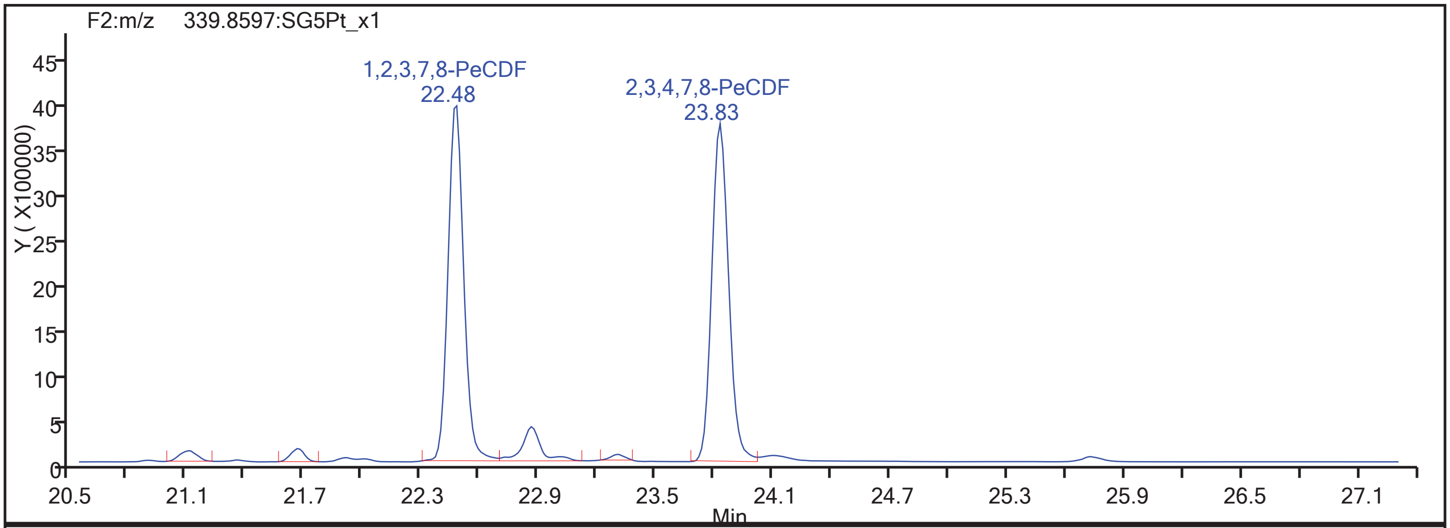

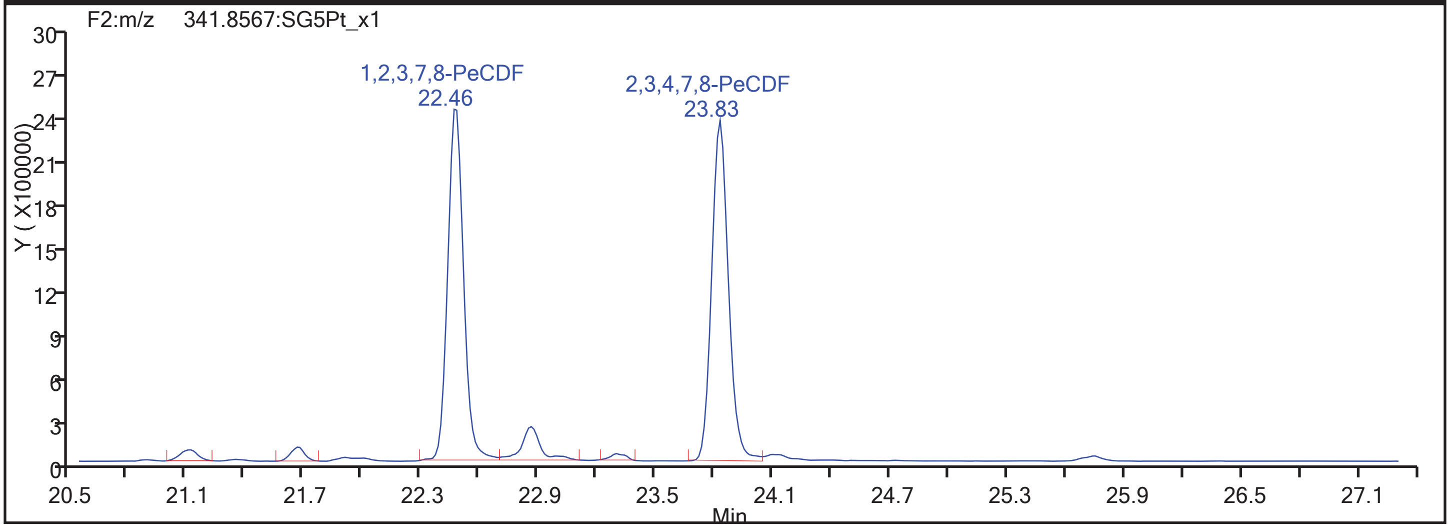

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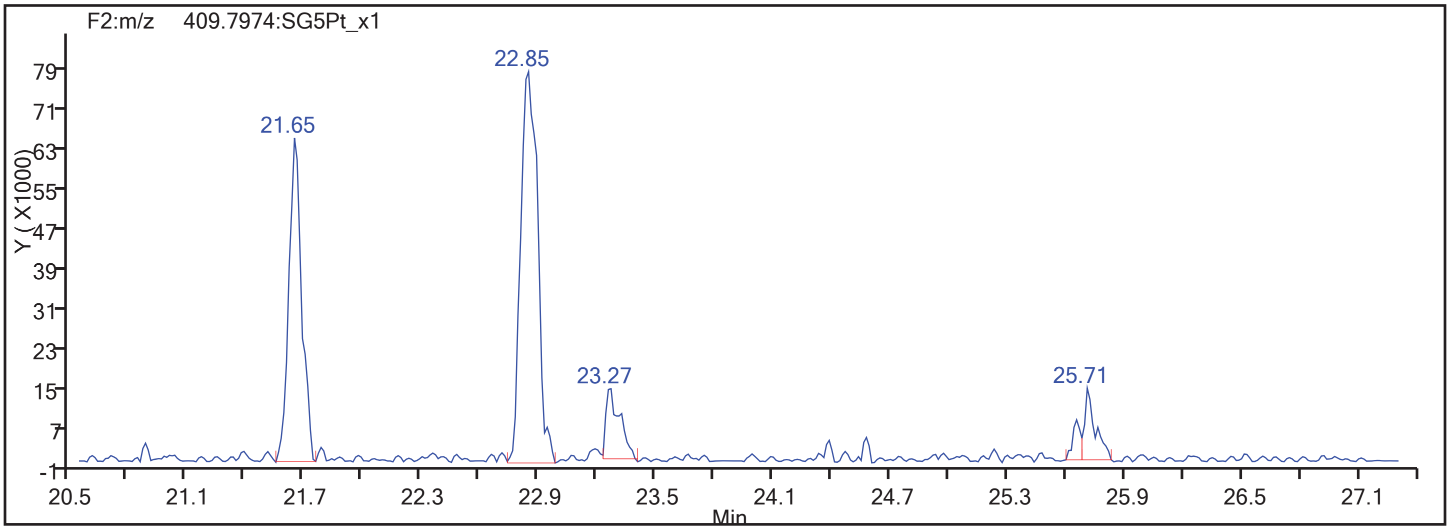

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TestAmerica Sacramento

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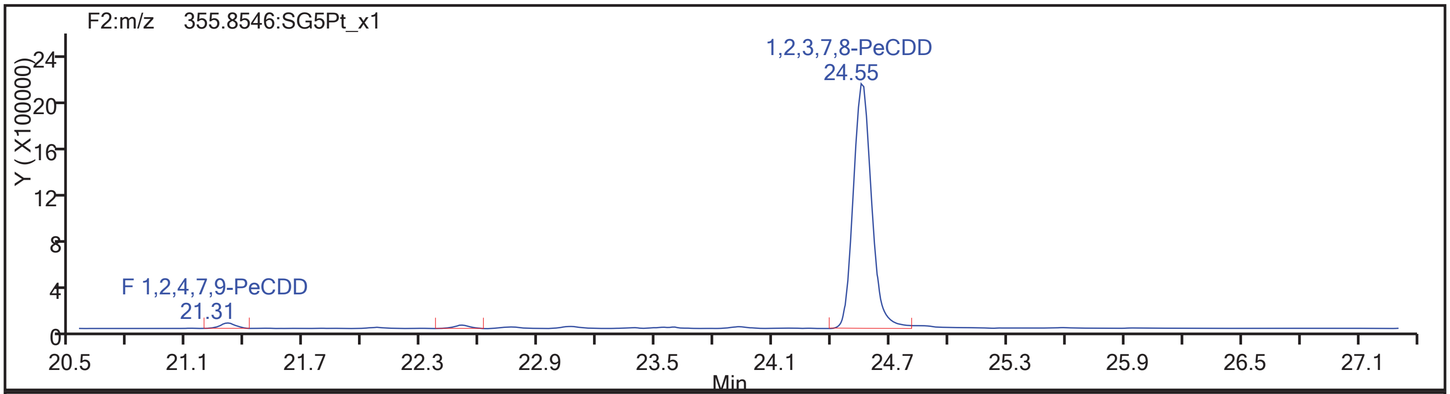

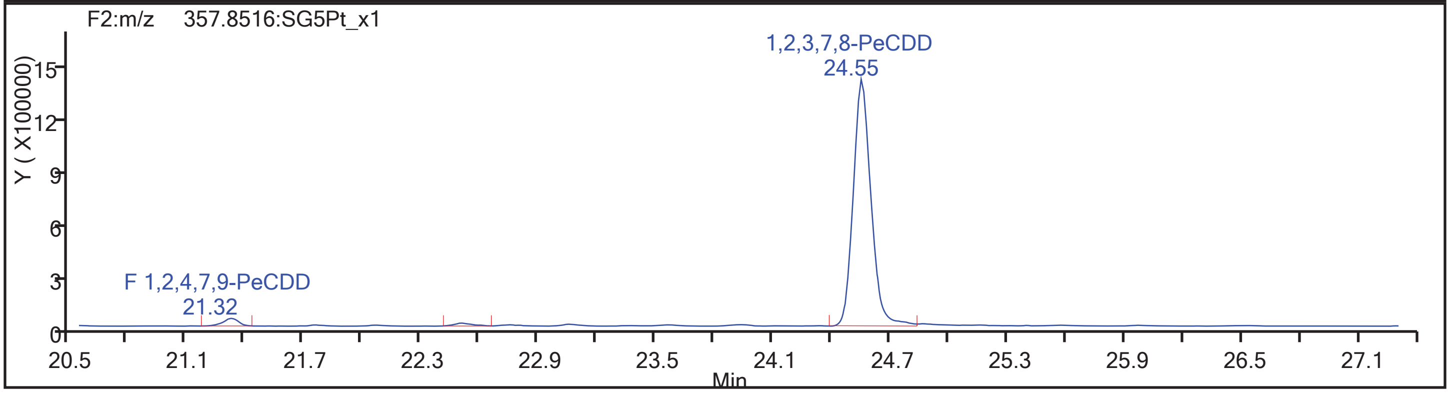

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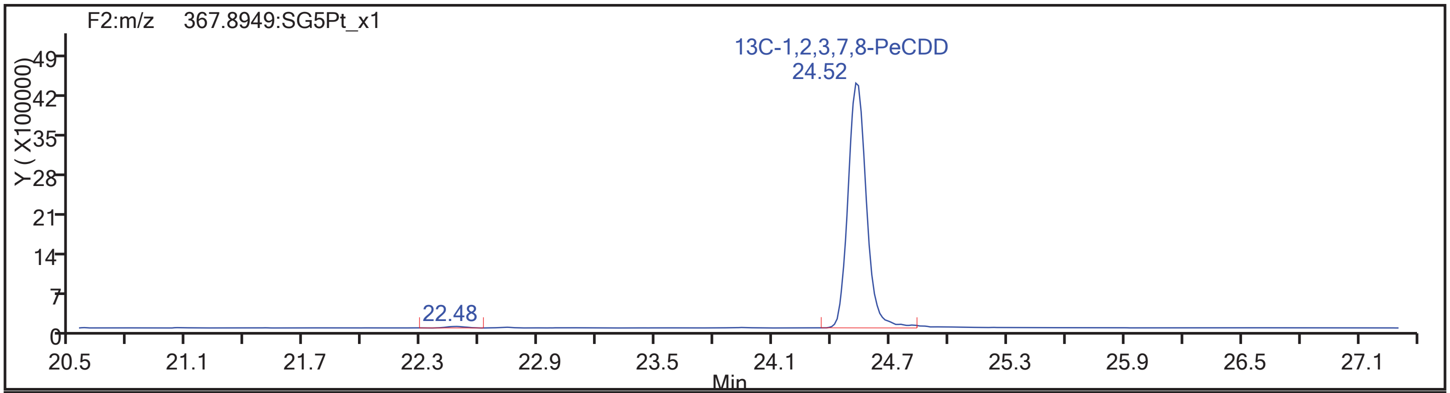

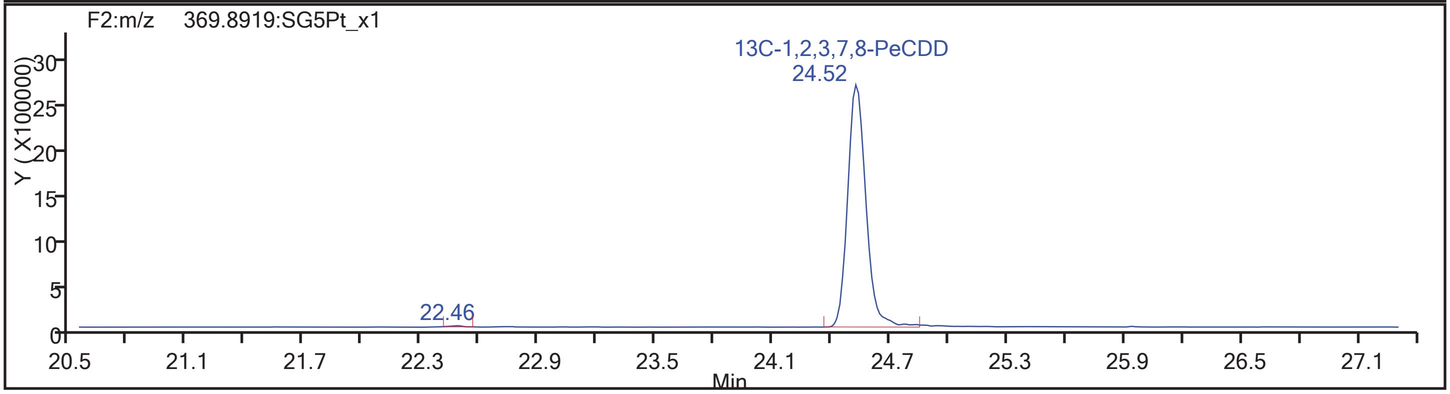

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TestAmerica Sacramento

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Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

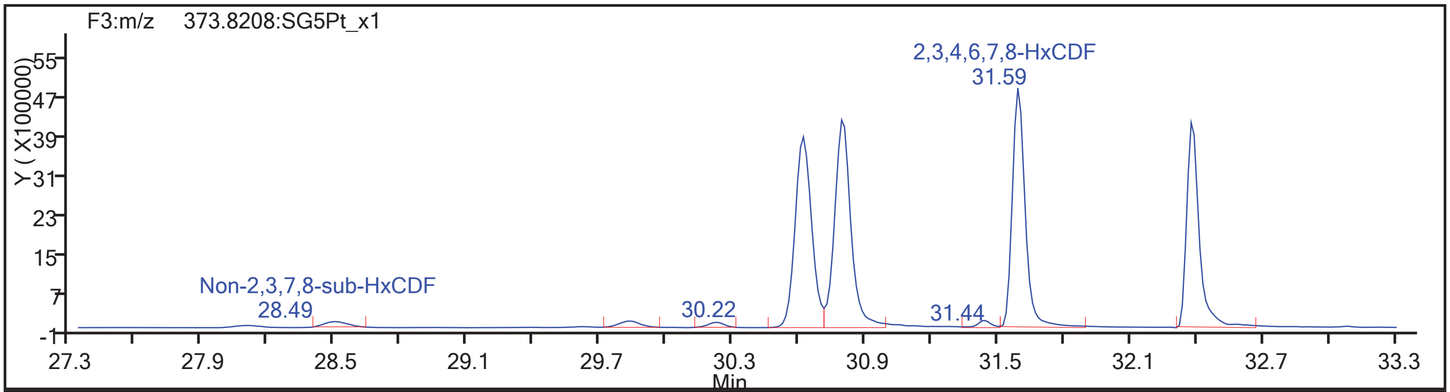
Worklist#: 194085

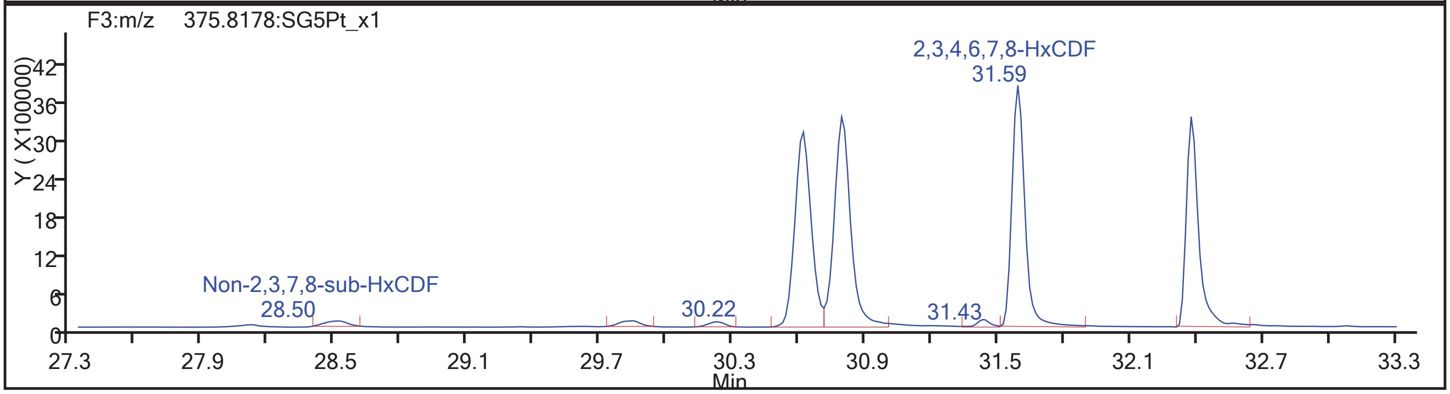
Sample Line#: 73

Column Type: DB-5

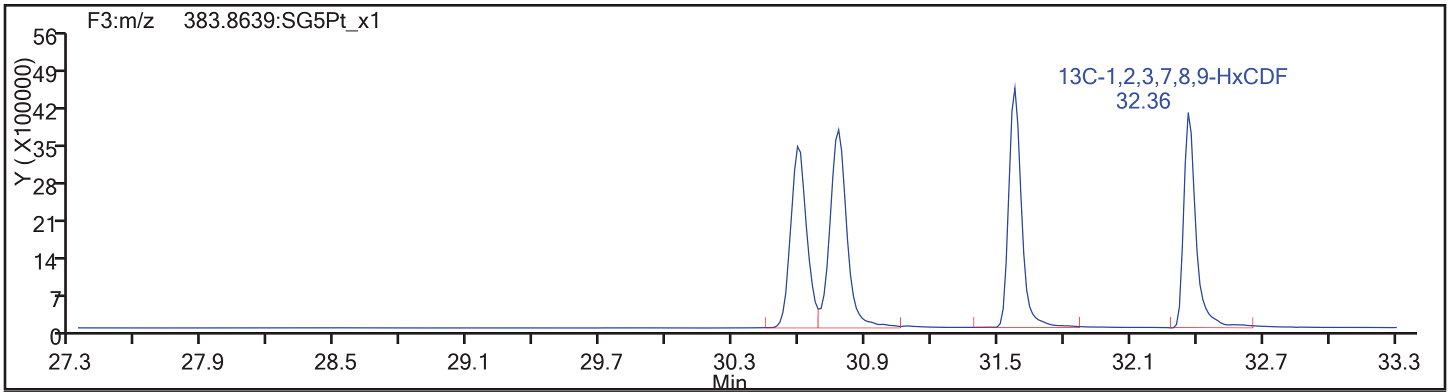
Column Dia: 0.32 mm

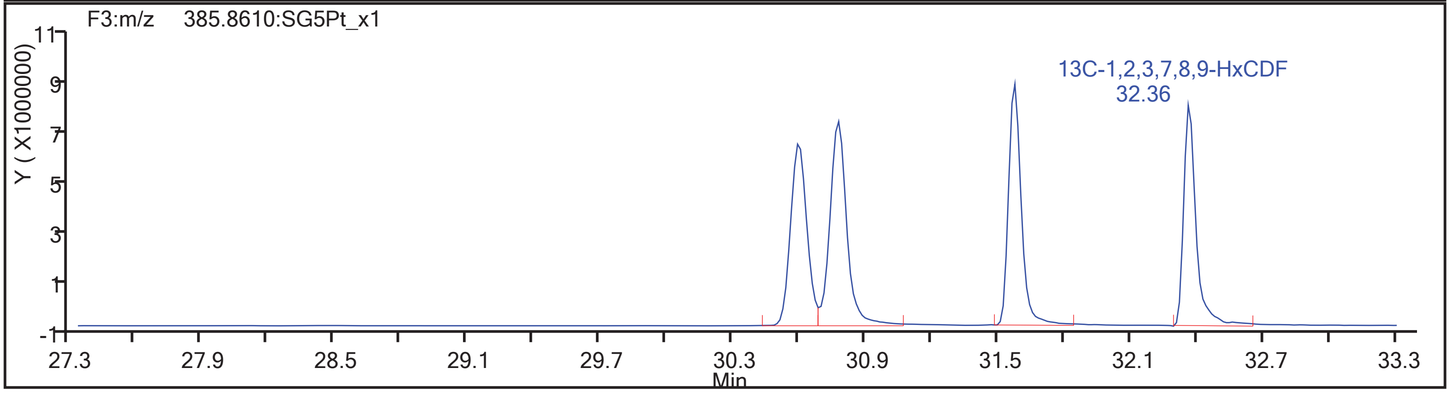
HxCDF





HxCDF Standards





TestAmerica Sacramento

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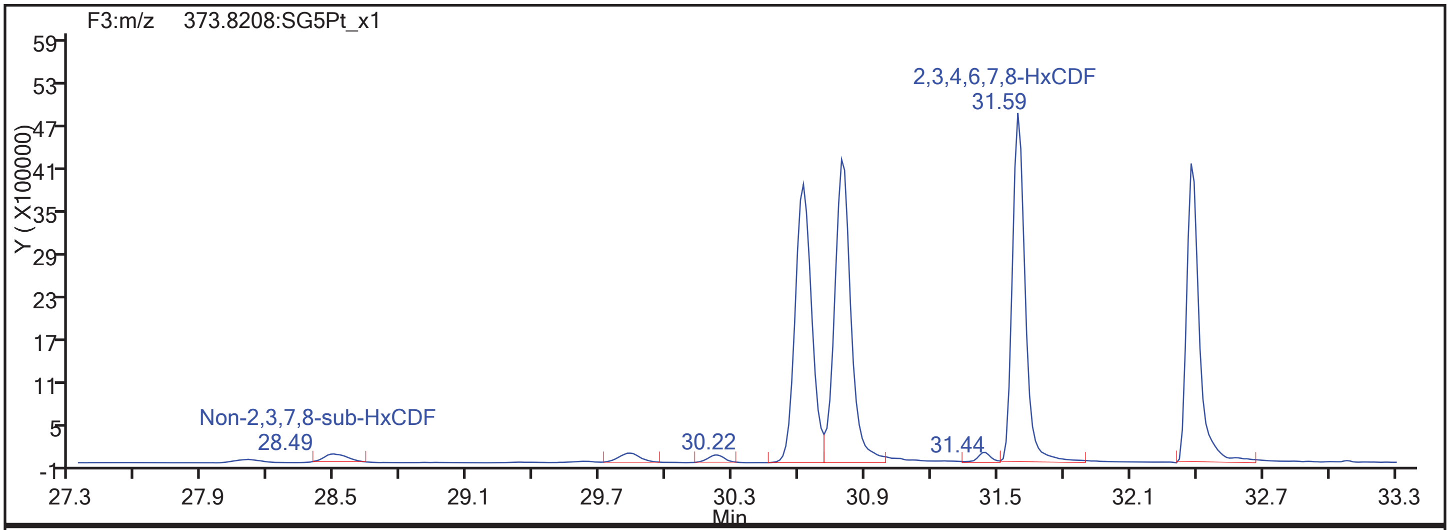
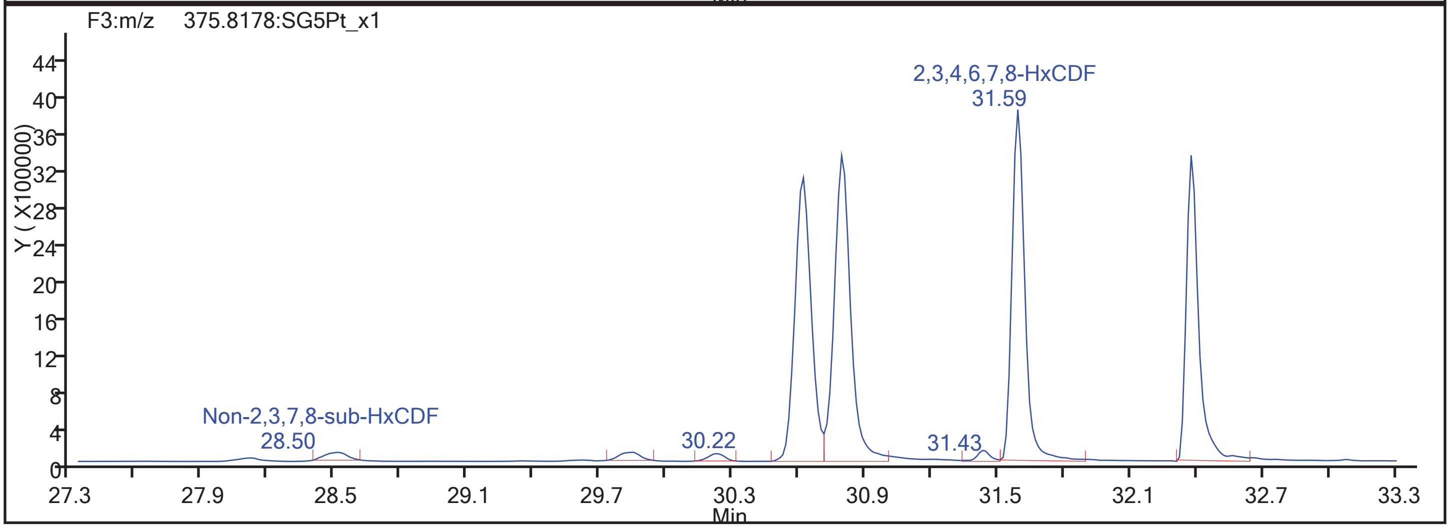
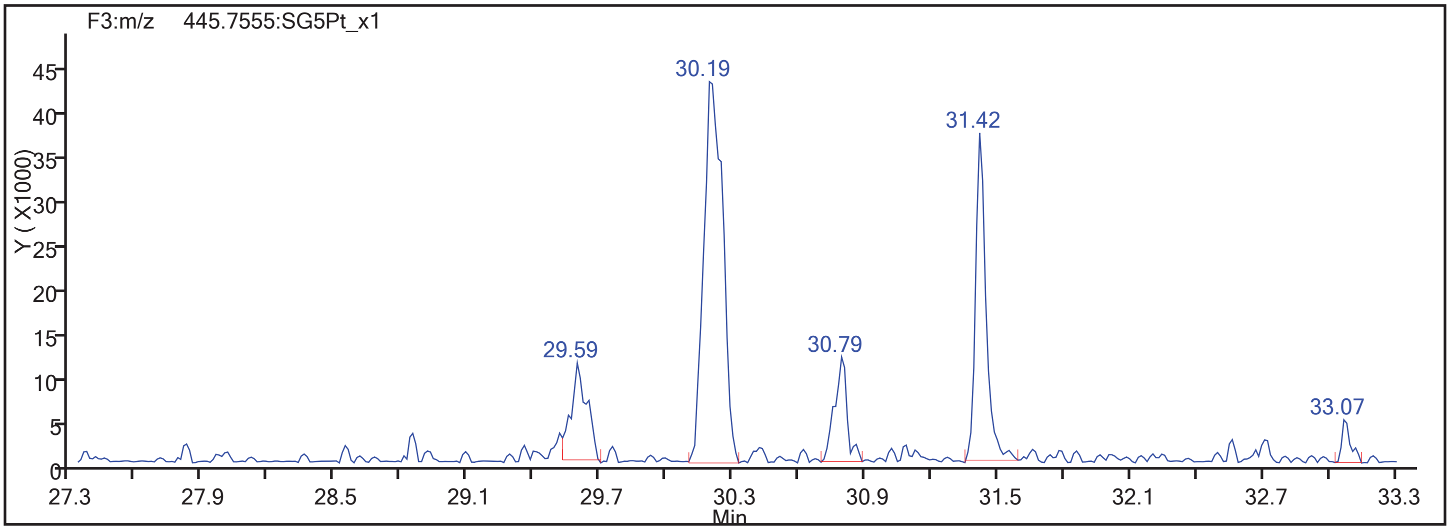




HxCDF Interference Mass



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TestAmerica Sacramento

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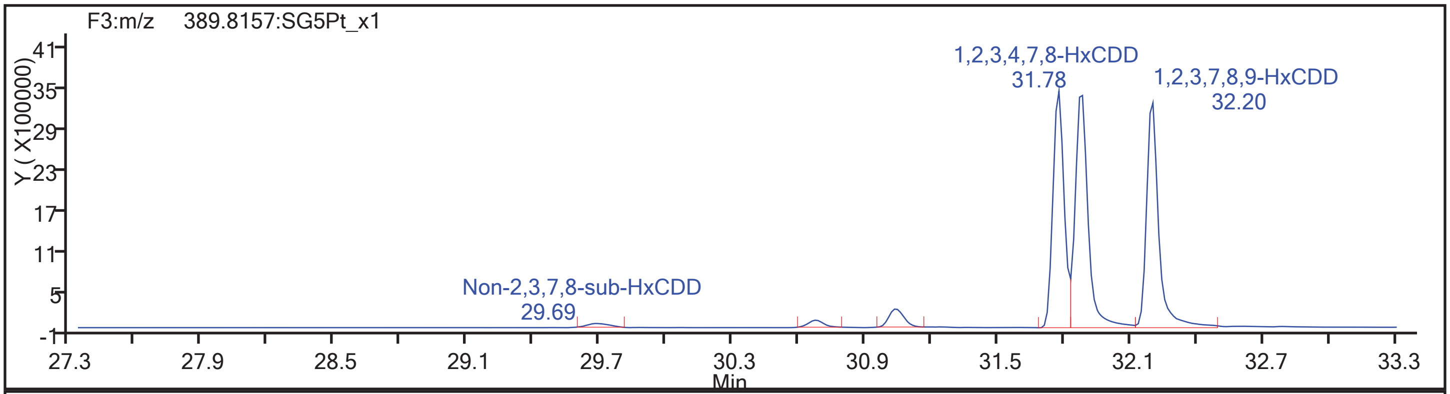

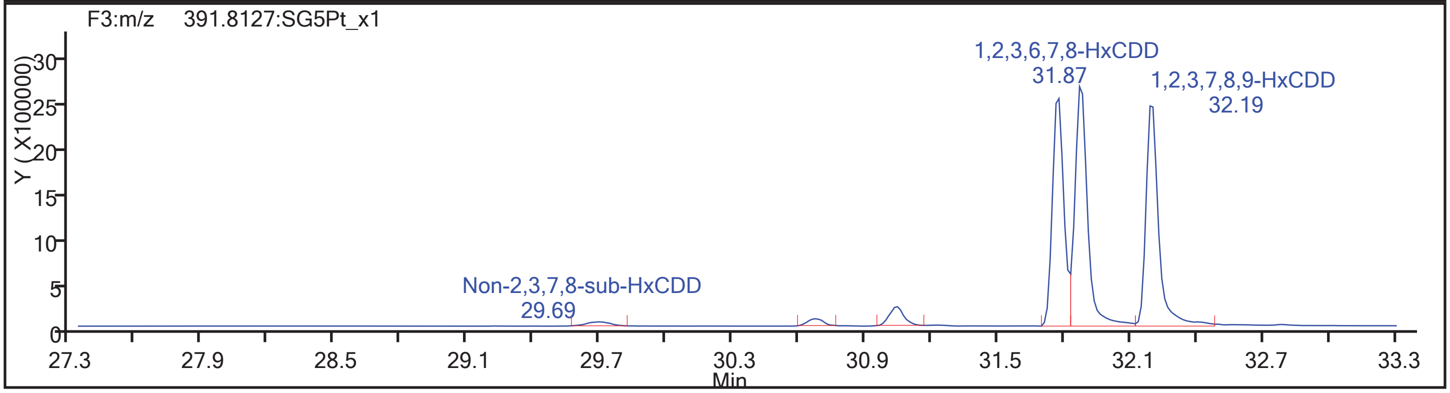

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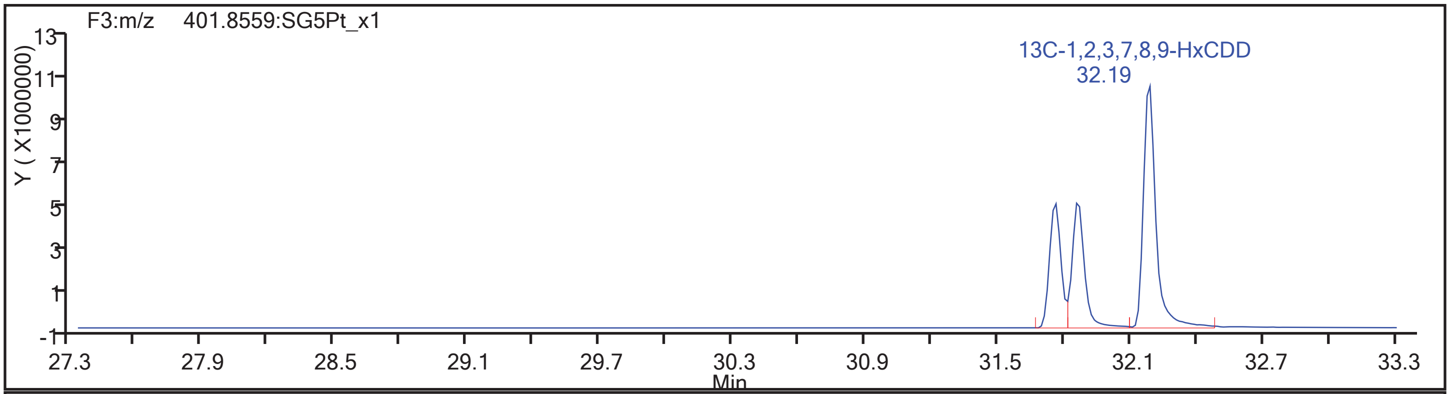

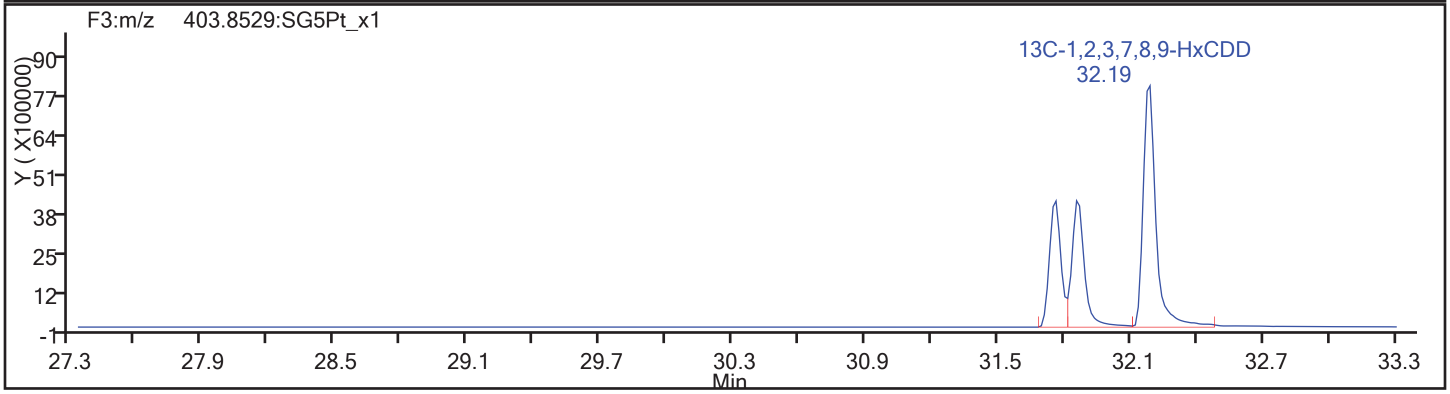

TestAmerica Sacramento

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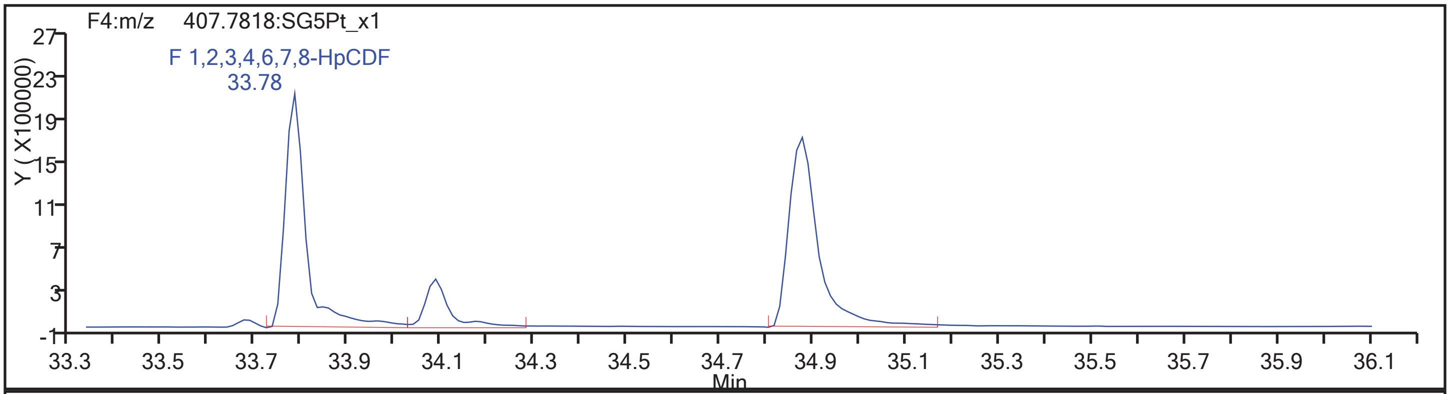

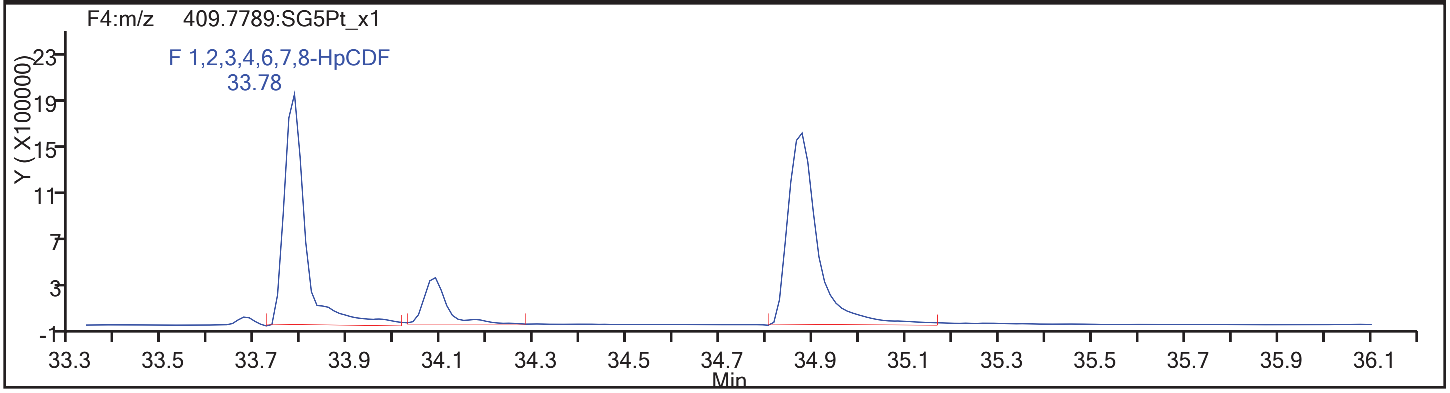

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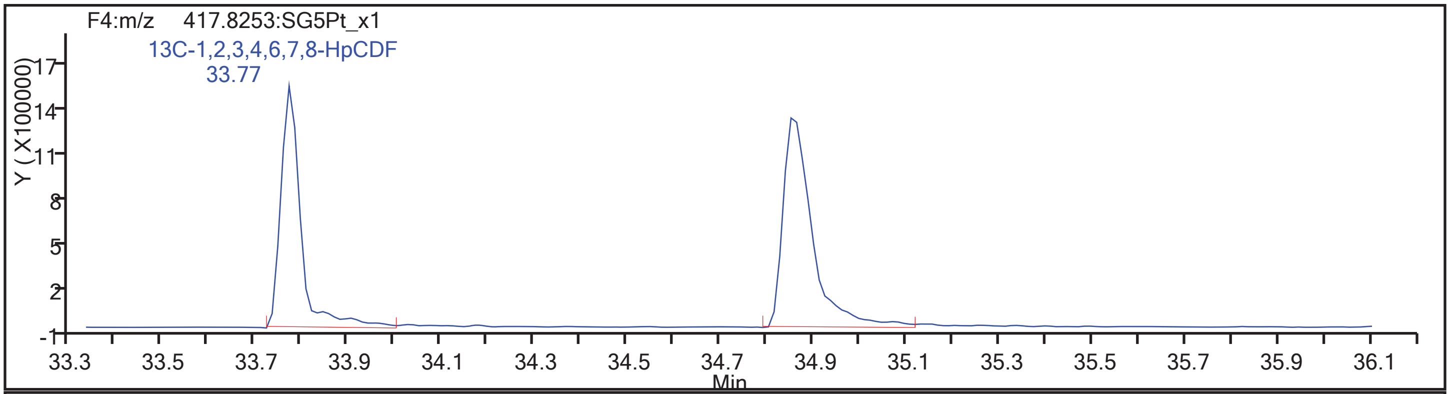

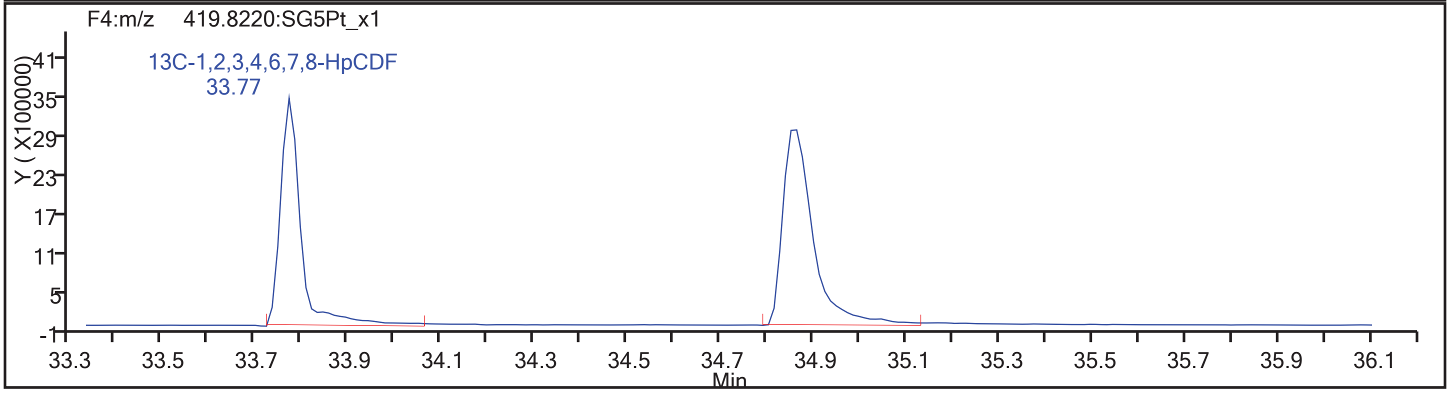

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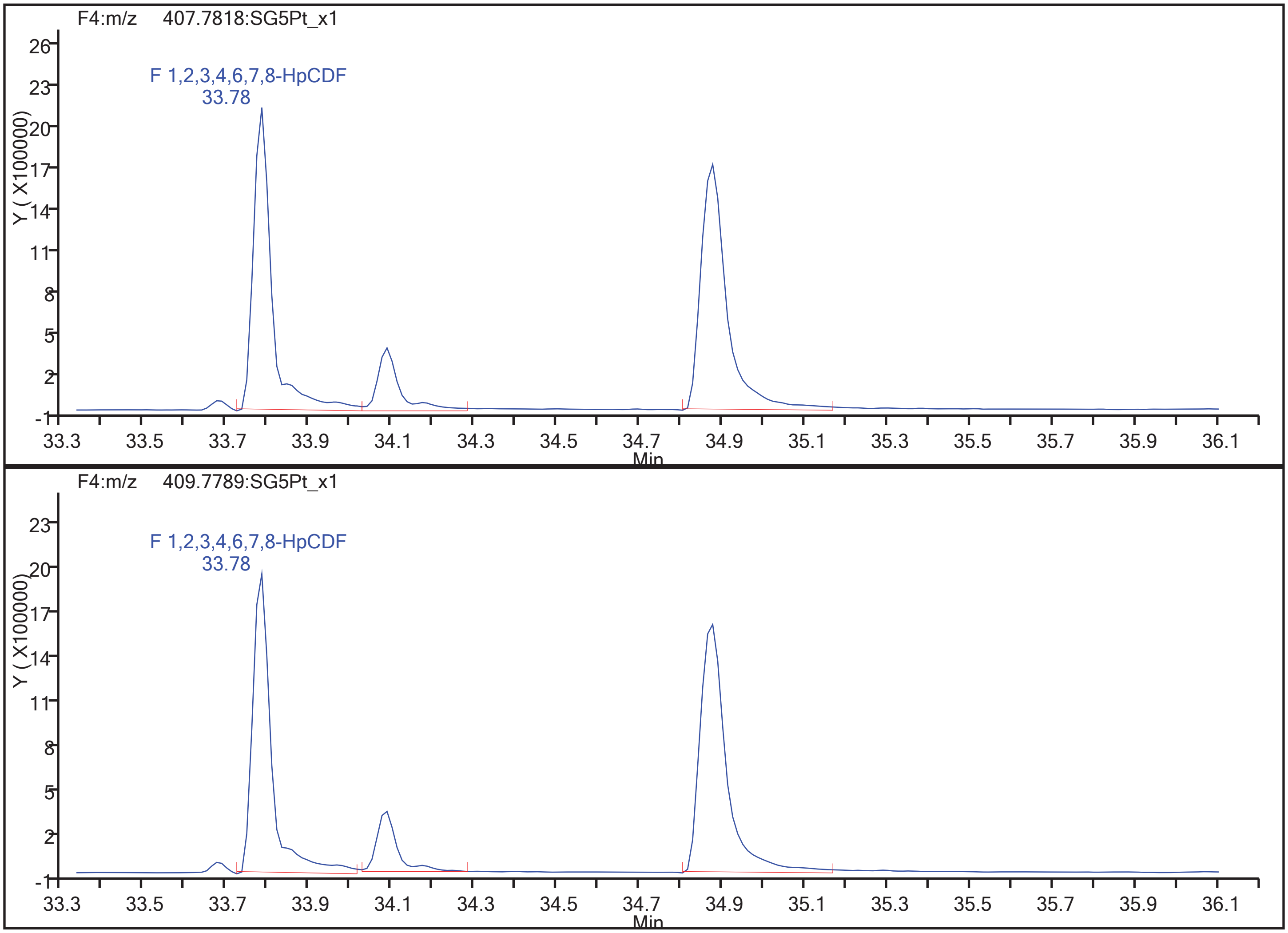
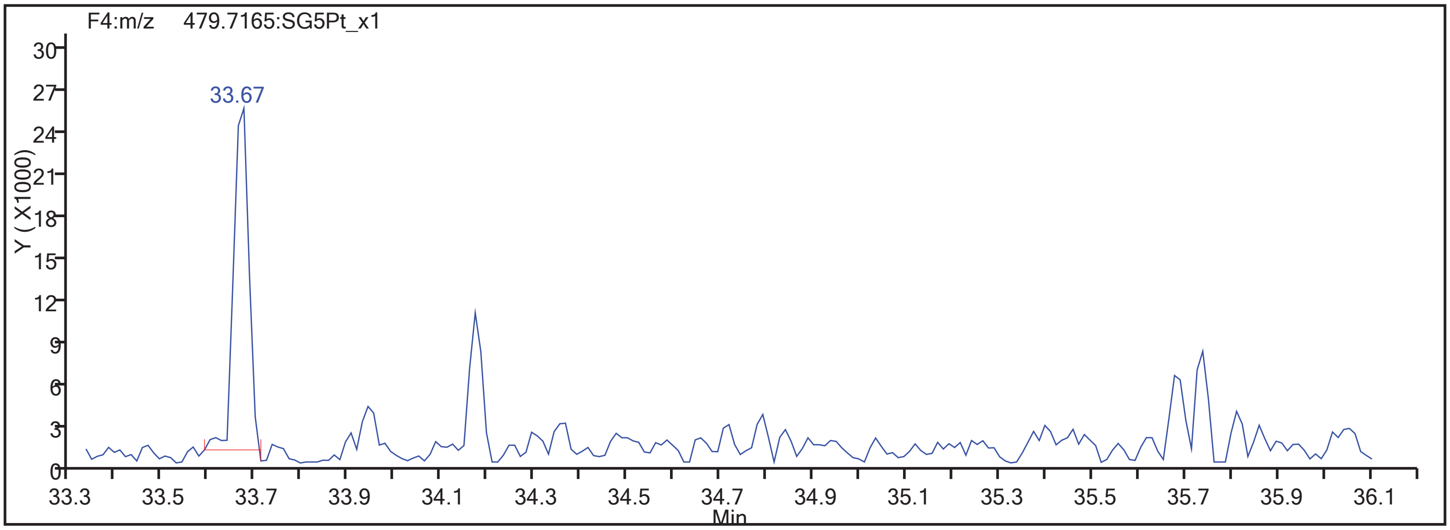


HpCDF Interference Mass



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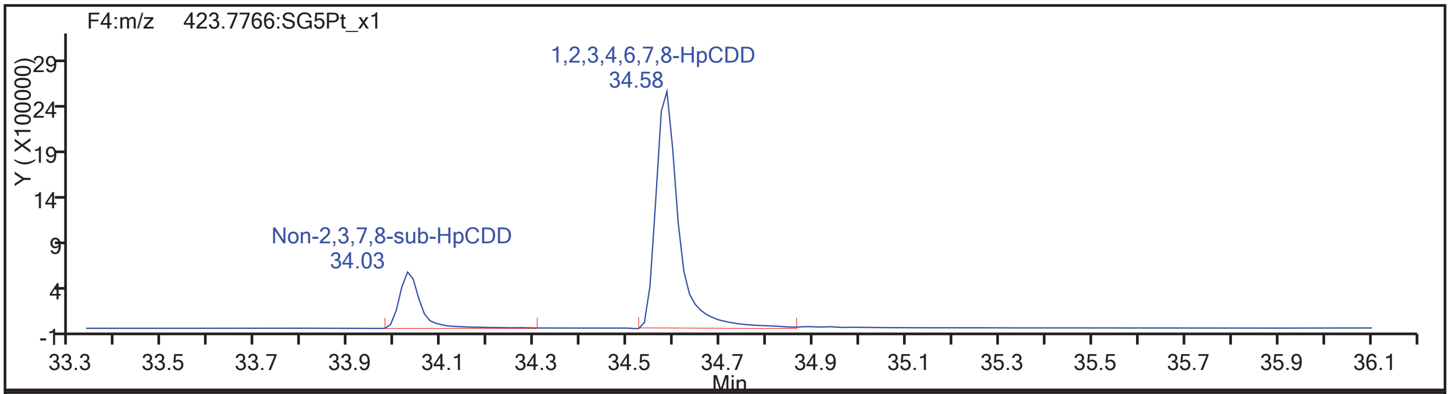

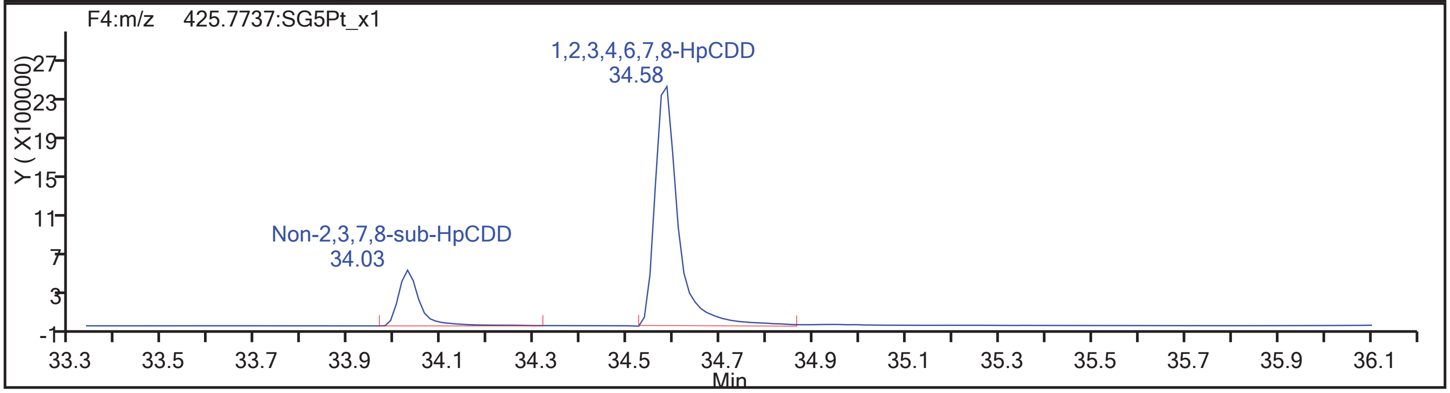

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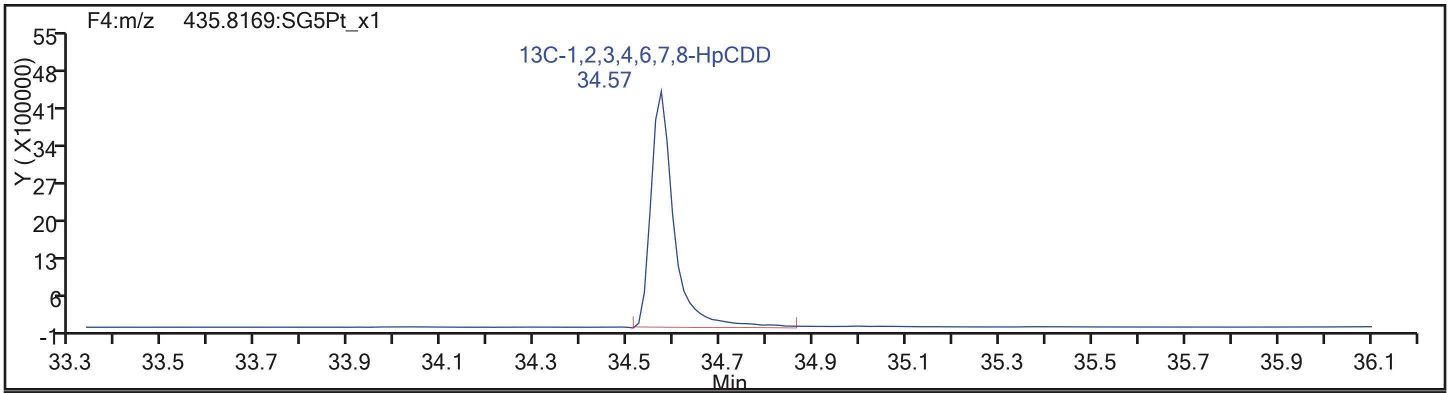

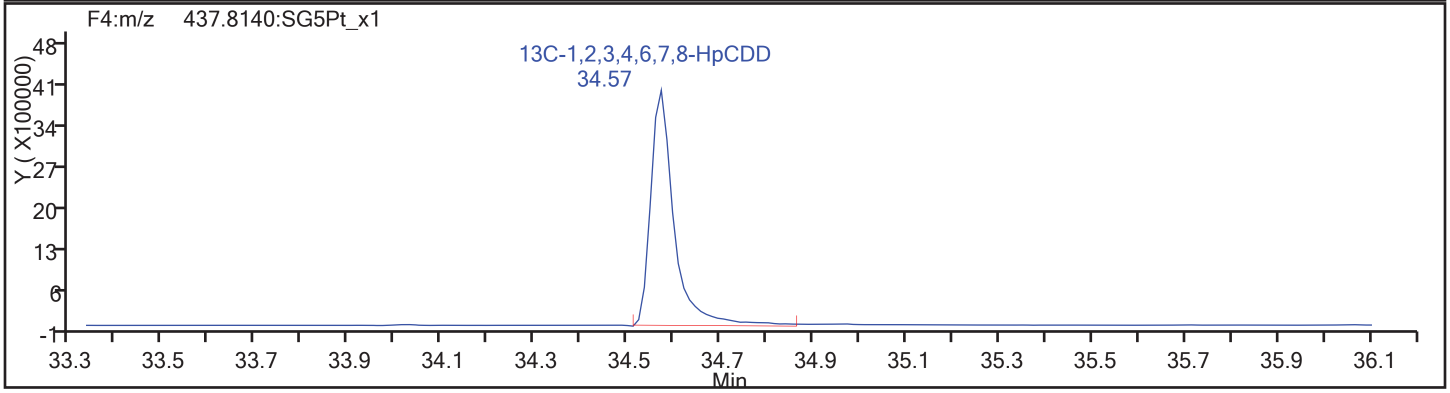

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TestAmerica Sacramento

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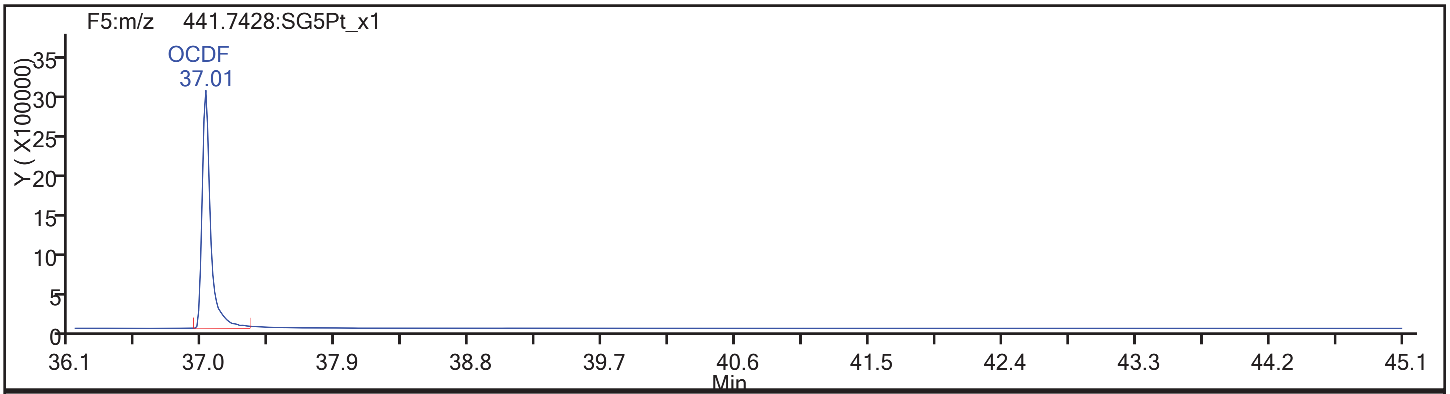

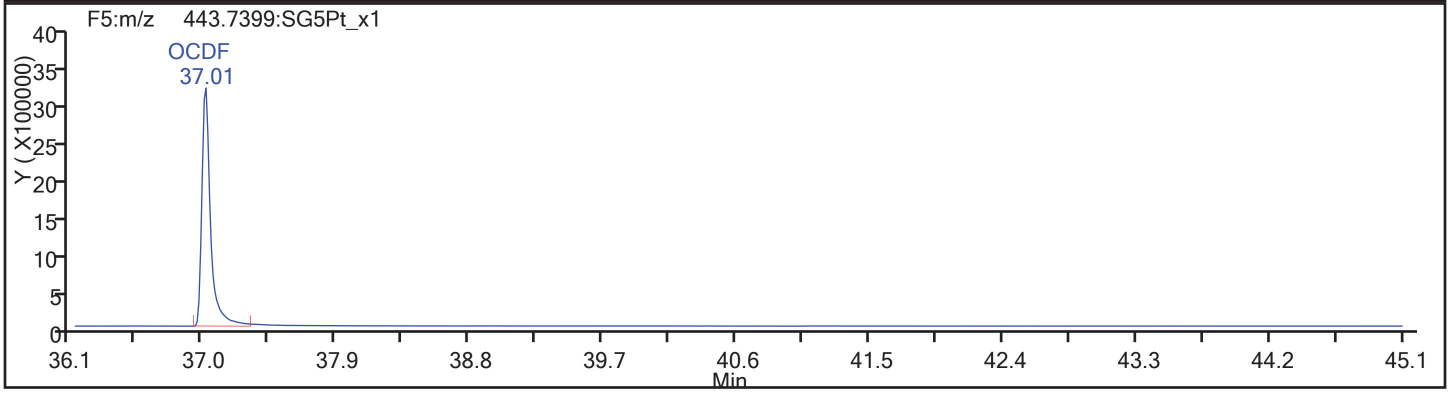

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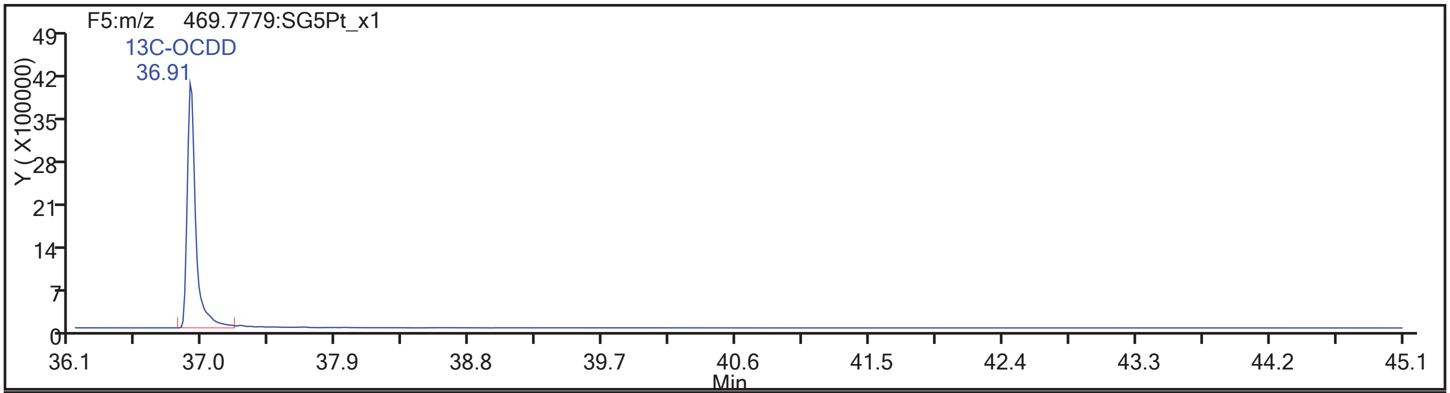

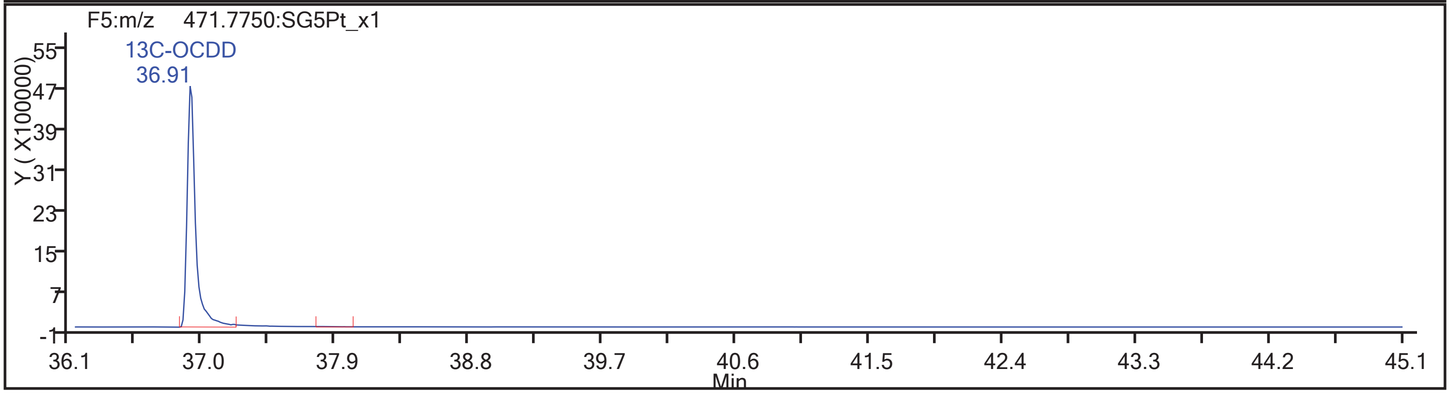

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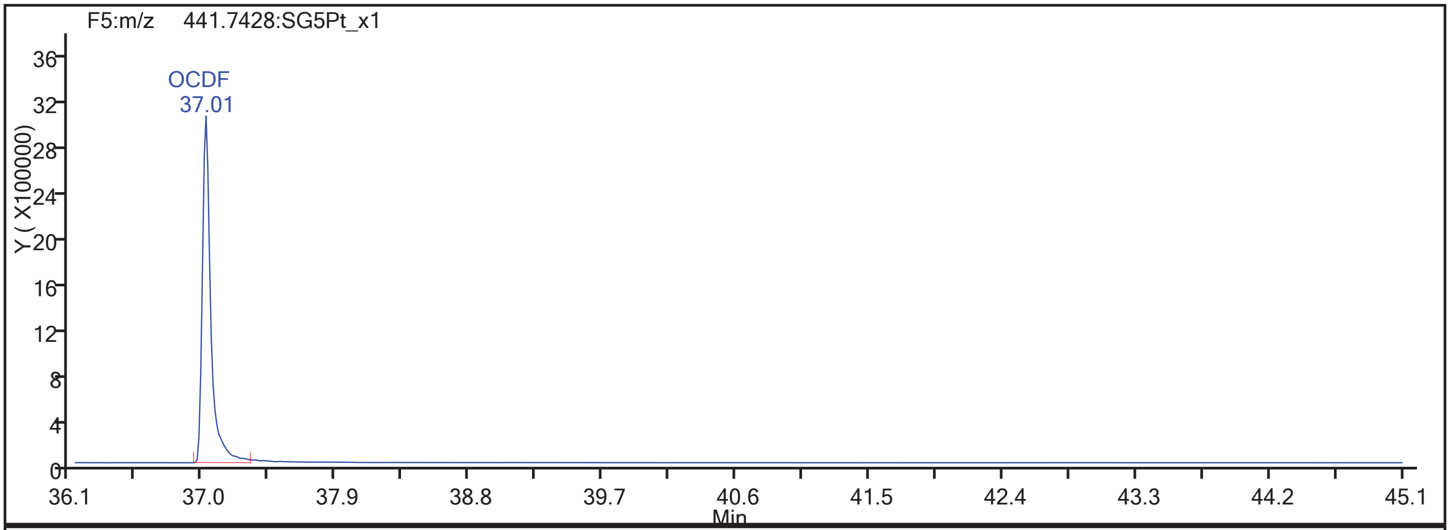

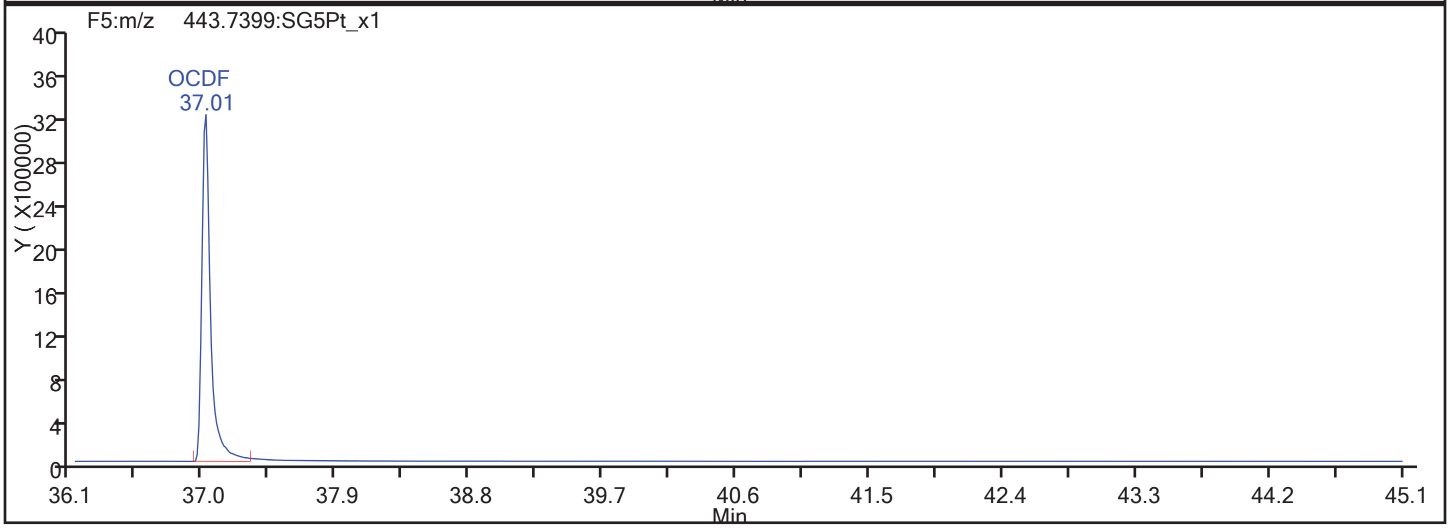

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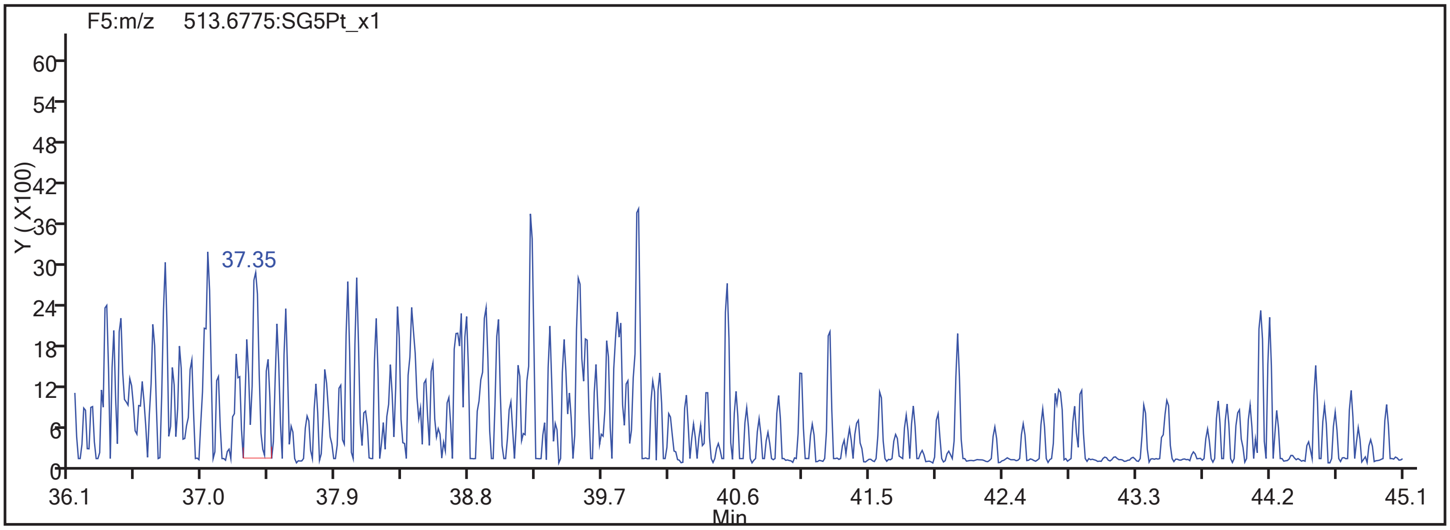

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TestAmerica Sacramento

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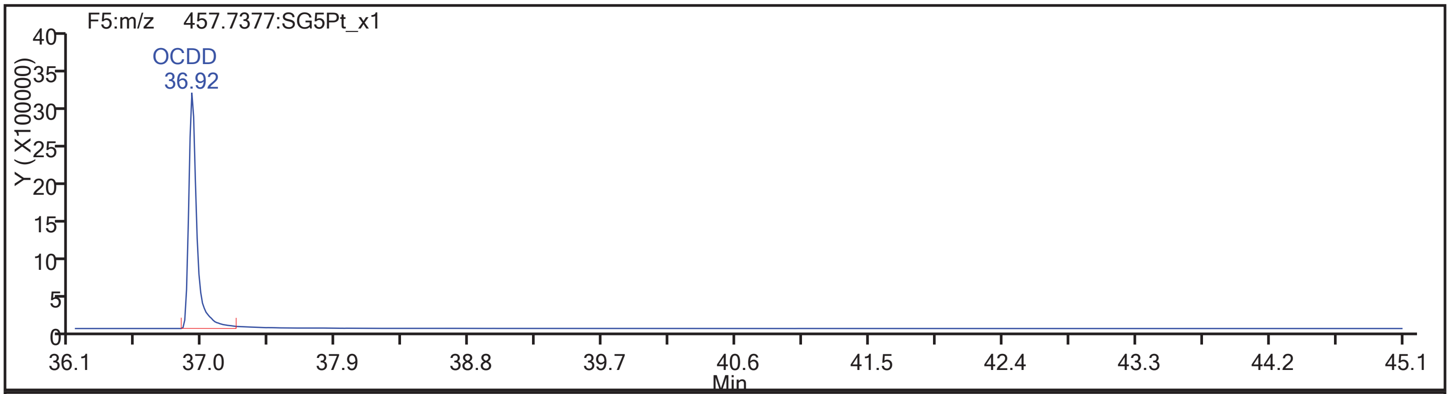

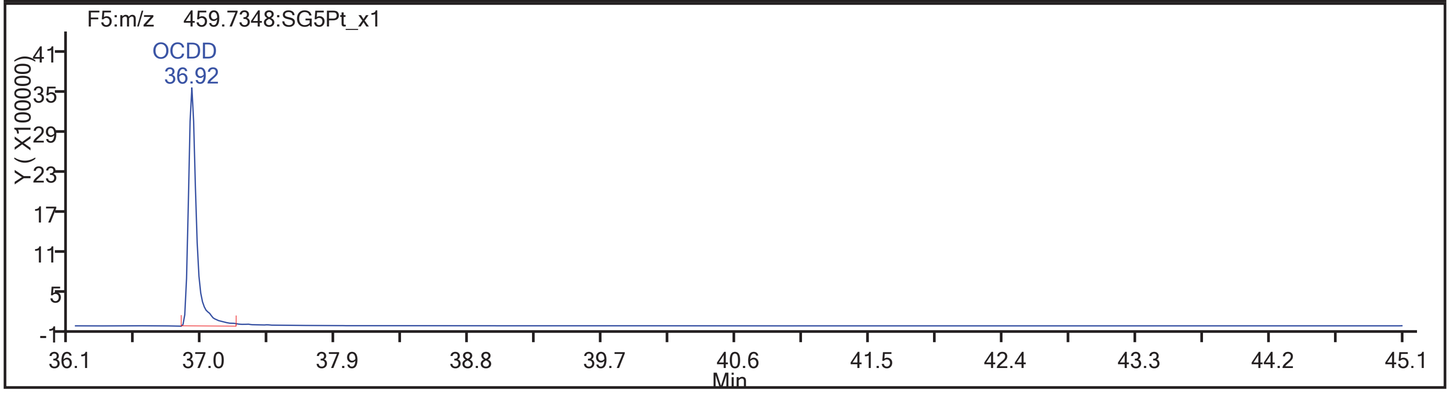

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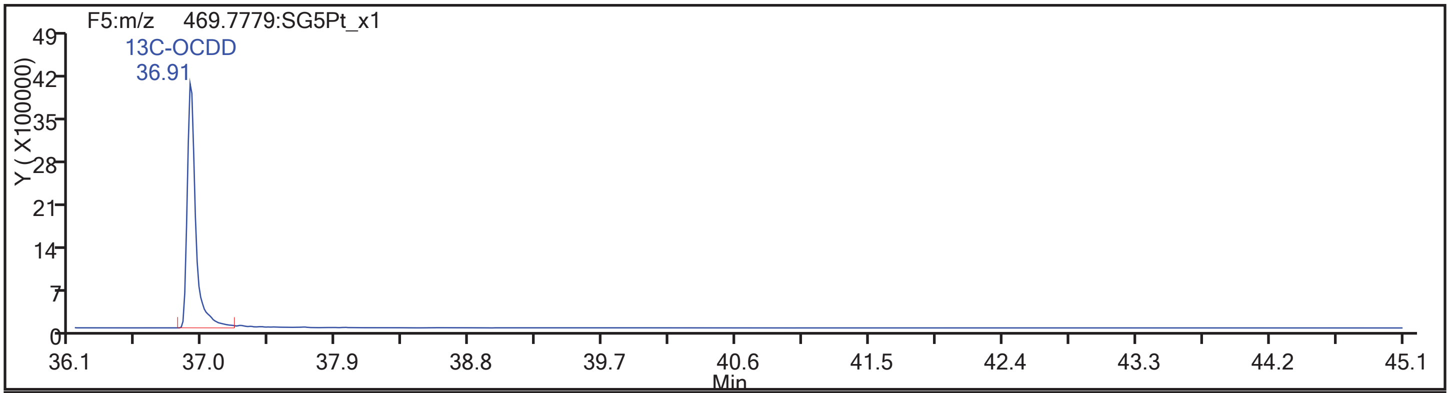

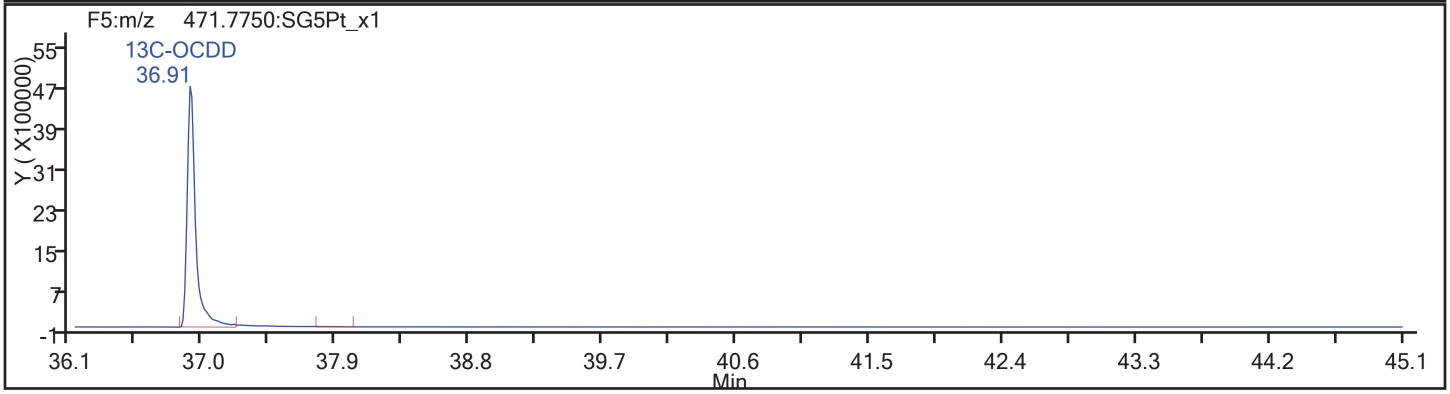

TestAmerica Sacramento

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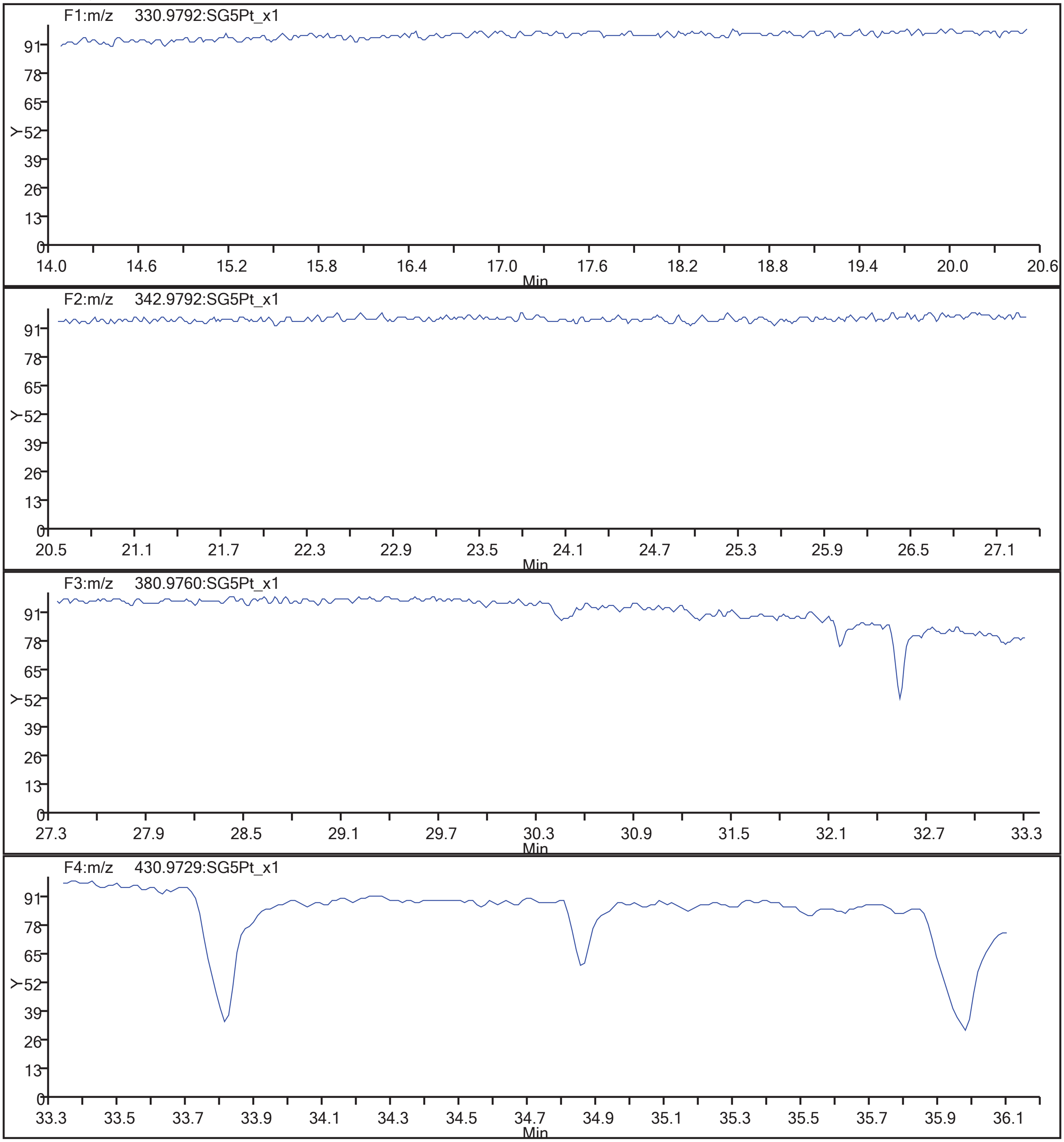

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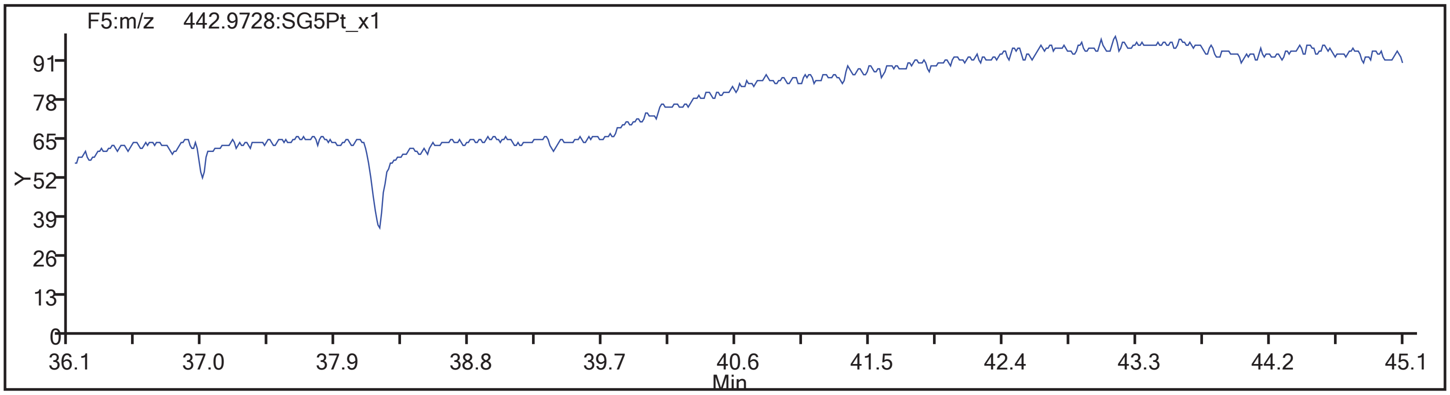


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS03NS MS RE	Lab Sample ID: 160-24924-9 MS RE
Matrix: Solid	Lab File ID: 16NO173D5_74.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:59
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.15(g)	Date Analyzed: 11/19/2017 05:40
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 2.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195574	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*19.2*	*H*	*1.0*	0.40	*0.18*
40321-76-4	*1,2,3,7,8-PeCDD*	*96.0*	*H*	*5.0*	0.75	*0.54*
57117-41-6	*1,2,3,7,8-PeCDF*	*96.5*	*H*	*5.0*	0.75	*0.99*
57117-31-4	*2,3,4,7,8-PeCDF*	*96.6*	*H*	*5.0*	0.75	*1.0*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*97.6*	*H*	*5.0*	2.0	*0.63*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*104*	*H*	*5.0*	2.0	*0.57*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*97.1*	*H*	*5.0*	2.0	*0.55*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*101*	*H*	*5.0*	0.75	*1.4*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*99.9*	*H*	*5.0*	1.0	*1.2*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*95.6*	*H*	*5.0*	1.0	*1.4*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*101*	*H*	*5.0*	0.75	*1.3*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*160*	*H J*	*5.0*	1.0	*0.88*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*125*	*H*	*5.0*	1.0	*1.4*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*123*	*H*	*5.0*	2.0	*1.9*
3268-87-9	*OCDD*	*809*	*H J*	*10*	4.0	*0.77*
39001-02-0	*OCDF*	*244*	*H*	*10*	4.0	*0.30*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	61		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	62		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	61		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	63		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	62		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	61		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	47		40-135
114423-97-1	13C-OCDD	58		40-135

Report Date: 06-Dec-2017 10:55:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d				
Lims ID:	160-24924-G-9-E MS				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	MS				
Inject. Date:	19-Nov-2017 05:40:06	ALS Bottle#:	49	Worklist Smp#:	74
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-9-E MS 160-24924-G-9-E MS				
Misc. Info.:	16NO173D5				
Operator ID:	SMA, ALM	Instrument ID:	3D5		
Method:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	06-Dec-2017 10:19:05	Calib Date:	15-Nov-2017 15:05:45		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d				
Column 1 :		Det: F1:HRSIR			
Process Host:	XAWRK017				
First Level Reviewer: dadunj		Date:	06-Dec-2017 14:48:20		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.249	146184062	0.84	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.720	131727069	0.77	1.5089	59.7	59.7	0.1624	0.1624	59.72	
2,3,7,8-TCDF	17.735	15037312	0.79	1.0971	10.4	10.4	0.1939	0.1939	104	
A Non-2,3,7,8-sub-TCDF	17.402	4611608	0.77	1.0971	3.289	3.191	0.1939	0.8139	0.00	RQM
S Total TCDF					13.7	13.6	0.1939	0.1939		RQ
D 13C-2,3,7,8-TCDD	18.445	89023069	0.78	0.9906	61.5	61.5	0.1425	0.1425	61.48	
$ 37Cl4-2,3,7,8-TCDD	18.461	64422681		1.1732	37.6	37.6	0.0572	0.0572	93.91	
2,3,7,8-TCDD	18.461	9918621	0.79	1.1645	9.568	9.568	0.0881	0.0881	95.68	
A Non-2,3,7,8-sub-TCDD	17.871	3872329	0.87	1.1645	3.735	3.735	0.0881	1.969	0.00	
S Total TCDD					13.3	13.3	0.0881	0.0881		
D 13C-1,2,3,7,8-PeCDF	22.883	101175860	1.64	1.1280	61.4	61.4	0.1722	0.1722	61.36	
1,2,3,7,8-PeCDF	22.924	55455797	1.62	1.1422	48.0	48.0	0.4911	0.4911	95.98	
D 13C-2,3,4,7,8-PeCDF	24.274	101003756	1.62							
2,3,4,7,8-PeCDF	24.301	53968981	1.65	1.1102	48.0	48.0	0.5052	0.5052	96.09	
A F1 PeCDFs	20.426	2257561	1.56	1.1262	1.981	1.981	0.0323	1.981	0.00	
A Non-2,3,7,8-sub-PeCDF	23.668	1328264	1.55	1.1262	1.447	1.166	0.4980	1.166	0.00	RQ
S Total PeCDF					99.5	99.2	0.4981	0.4981		RQ
D 13C-1,2,3,7,8-PeCDD	25.024	66237901	1.68	0.7269	62.3	62.3	0.1005	0.1005	62.34	
1,2,3,7,8-PeCDD	25.051	35652794	1.63	1.1272	47.8	47.8	0.2688	0.2688	95.50	
A Non-2,3,7,8-sub-PeCDD	23.878	611160	1.55	1.1272	0.9386	0.8185	0.2688	0.8185	0.00	RQ
S Total PeCDD					48.7	48.6	0.2688	0.2688		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.919	79452987	0.50	1.0279	62.4	62.4	0.2381	0.2381	62.44	
1,2,3,4,7,8-HxCDF	30.945	53614645	1.25	1.3475	50.1	50.1	0.6824	0.6824	100	
D 13C-1,2,3,6,7,8-HxCDF	31.092	91725908	0.52							
1,2,3,6,7,8-HxCDF	31.105	58392935	1.27	1.4794	49.7	49.7	0.6216	0.6216	99.36	
D 13C-2,3,4,6,7,8-HxCDF	31.824	84554133	0.53							
2,3,4,6,7,8-HxCDF	31.851	55426881	1.29	1.3833	50.4	50.4	0.6647	0.6647	101	
D 13C-1,2,3,7,8,9-HxCDF	32.597	79162156	0.53							
1,2,3,7,8,9-HxCDF	32.610	48755379	1.29	1.2903	47.6	47.6	0.7127	0.7127	95.12	
A Non-2,3,7,8-sub-HxCDF	30.653	2368845	1.38	1.3751	2.168	2.168	0.6687	2.168	0.00	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					199.9	199.9	0.6703	0.6703		
* 13C-1,2,3,7,8,9-HxCDD	32.410	123794132	1.27	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.011	58458342	1.30							
1,2,3,4,7,8-HxCDD	32.024	34004070	1.30	1.0646	48.6	48.6	0.3151	0.3151	97.10	
D 13C-1,2,3,6,7,8-HxCDD	32.104	65786321	1.26	0.8502	62.5	62.5	0.2145	0.2145	62.51	
1,2,3,6,7,8-HxCDD	32.117	40105243	1.25	1.1809	51.6	51.6	0.2840	0.2840	103	
1,2,3,7,8,9-HxCDD	32.424	39124315	1.25	1.2311	48.3	48.3	0.2725	0.2725	96.62	
A Non-2,3,7,8-sub-HxCDD	31.252	5969896	1.24	1.1589	7.982	7.831	0.2894	4.588	0.00	RQ
S Total HxCDD					156.5	156.3	0.2905	0.2905		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	34.010	37747932	0.45	0.6490	47.0	47.0	0.5185	0.5185	46.99	
1,2,3,4,6,7,8-HpCDF	34.022	37243585	1.01	1.5871	62.2	62.2	0.7159	0.7159	124	
D 13C-1,2,3,4,7,8,9-HpCDF	35.128	38963255	0.44							
1,2,3,4,7,8,9-HpCDF	35.140	28447151	1.05	1.2290	61.3	61.3	0.9244	0.9244	123	
A Non-2,3,7,8-sub-HpCDF	34.569	8719350	1.08	1.4080	16.4	16.4	0.8069	16.4	0.00	M
S Total HpCDF					139.9	139.9	0.8202	0.8202		
D 13C-1,2,3,4,6,7,8-HpCDD	34.824	40419896	1.07	0.5387	60.6	60.6	0.2727	0.2727	60.61	
1,2,3,4,6,7,8-HpCDD	34.836	37334869	1.07	1.1631	79.4	79.4	0.4361	0.4361	159	
A Non-2,3,7,8-sub-HpCDD	35.261	12058926	1.08	1.1631	25.7	25.7	0.4361	25.7	0.00	
S Total HpCDD					105.1	105.1	0.4361	0.4361		
D 13C-OCDD	37.257	57836084	0.88	0.4009	116.5	116.5	0.1270	0.1270	58.27	
OCDF	37.353	44313833	0.88	1.2649	121.1	121.1	0.1477	0.1477	121	
OCDD	37.257	120808909	0.93	1.0390	402.1	402.1	0.3812	0.3812	402	
1,3,6,8-TCDF	15.754	1023887	0.92							R
1,3,6,8-TCDD	16.177	2041361	0.86							
1,2,3,9-TCDF	17.735						0.0	0.0		U
1,2,3,7-TCDD	18.324						0.0	0.0		
1,2,3,9-TCDD	18.612						0.0	0.0		
2,3,4,7-TCDF	18.612						0.0	0.0		
1,2,8,9-TCDD	19.595						0.0	0.0		
1,2,8,9-TCDF	19.595						0.0	0.0		
1,3,4,6,8-PeCDF	19.927	2257561	1.56							
1,2,4,7,9-PeCDD	21.723	700796	1.13							R
1,2,3,8,9-PeCDD	26.060						0.0	0.0		
1,2,3,8,9-PeCDF	26.292						0.0	0.0		
1,2,3,4,6,8-HxCDF	28.629						0.0	0.0		
1,2,4,6,7,9-HxCDD	30.147	1101749	0.98							R
1,2,3,4,6,7-HxCDD	32.424						0.0	0.0		U
1,2,3,4,8,9-HxCDF	32.610						0.0	0.0		U
1,2,3,4,6,7,9-HpCDD	34.265						0.0	0.0		U
1,4,7,8-TCDD	0.0						0.0	0.0		
1,2,3,4,7-PeCDD	0.0						0.0	0.0		
1,2,3,4,6,7,9-HpCDF	0.0						0.0	0.0		
1,2,3,8-TCDD	0.0						0.0	0.0		
1,3,7,9-TCDD	0.0						0.0	0.0		

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated
U - Marked Undetected

Report Date: 06-Dec-2017 10:55:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Lims ID: 160-24924-G-9-E MS
Client ID: SHAD041DP022SS03NS
Sample Type: MS
Inject. Date: 19-Nov-2017 05:40:06 ALS Bottle#: 49 Worklist Smp#: 74
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-E MS 160-24924-G-9-E MS
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 10:19:05 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK017

First Level Reviewer: dadunj Date: 06-Dec-2017 14:48:20

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.249	18.234	1		66679978	16276660	11517	28792	1413		
333.9339	18.249	18.234	1		79504084	19165324	8494	21235	2256	0.84(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.720	17.705	1	0.971	57097050	13741009	21186	52965	649		
317.9389	17.720	17.705	1	0.971	74630019	17920319	13560	33900	1322	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.735	17.720	1	1.001	6640503	1571447	13097	32742	120		
305.8987	17.735	17.720	1	1.001	8396809	1934399	13841	34602	140	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	15.754	17.402	-99	0.889	490375	134533	13097	32742	10		a
	Empc Correction				410804	112085	13097	32742	9		
305.8987	15.754	17.402	-99	0.889	533512	145566	13841	34602	11	0.92(0.65-0.89)	
303.9016	16.011	17.402	-83	0.904	456014	113771	13097	32742	9		M
305.8987	16.026	17.402	-82	0.904	582795	149237	13841	34602	11	0.78(0.65-0.89)	M
303.9016	16.813	17.402	-35	0.949	422937	105262	13097	32742	8		
	Empc Correction				360763	95781	13097	32742	7		
305.8987	16.797	17.402	-36	0.948	468524	124391	13841	34602	9	0.90(0.65-0.89)	
303.9016	17.024	17.402	-23	0.961	528518	59662	13097	32742	5		
305.8987	17.024	17.402	-23	0.961	647690	60859	13841	34602	4	0.82(0.65-0.89)	
303.9016	18.188	17.402	47	1.026	253436	56310	13097	32742	4		
305.8987	18.173	17.402	46	1.026	369552	90126	13841	34602	7	0.69(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.445	18.430	1	1.011	38985198	8638869	11517	28792	750		
333.9339	18.445	18.430	1	1.011	50037871	10831444	8494	21235	1275	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.461	18.445	1	1.012	64422681	14483557	9519	23797	1522		

Report Date: 06-Dec-2017 10:55:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,7,8-TCDD											
319.8965	18.461	18.445	1	1.001	4366520	930266	3758	9395	248		
321.8936	18.461	18.445	1	1.001	5552101	1272567	4233	10582	301	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.177	17.871	-101	0.877	944773	265485	3758	9395	71		a
321.8936	16.177	17.871	-101	0.877	1096588	297629	4233	10582	70	0.86(0.65-0.89)	
319.8965	16.480	17.871	-83	0.893	705639	189859	3758	9395	51		
321.8936	16.480	17.871	-83	0.893	807524	200504	4233	10582	47	0.87(0.65-0.89)	
319.8965	17.312	17.871	-33	0.939	146173	32542	3758	9395	9		
321.8936	17.296	17.871	-34	0.938	171632	36127	4233	10582	9	0.85(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.869	1	1.254	62784546	10920417	16871	42177	647		
353.8970	22.883	22.869	1	1.254	38391314	6618022	10667	26667	620	1.64(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.924	22.896	2	1.002	34277401	5742144	23818	59545	241		
341.8567	22.910	22.896	1	1.001	21178396	3465690	15530	38825	223	1.62(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.274	24.260	1	1.330	62421565	9972483	16871	42177	591		
353.8970	24.274	24.260	1	1.330	38582191	6201701	10667	26667	581	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.301	24.274	2	1.062	33602548	5311609	23818	59545	223		
341.8567	24.301	24.274	2	1.062	20366433	3201265	15530	38825	206	1.65(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.927	20.426	-30	0.871	1374953	267088	1042	2605	256		a
341.8567	19.927	20.426	-30	0.871	882608	170987	1509	3772	113	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.505	23.668	-130	0.940	1128237	167986	23818	59545	7		a
	Empc Correction				807376	134696	23818	59545	6		
341.8567	21.519	23.668	-129	0.940	520888	86901	15530	38825	6	2.17(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.024	24.996	2	1.371	41566764	6052933	6490	16225	933		
369.8919	25.024	24.996	2	1.371	24671137	3749407	3871	9677	969	1.68(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.051	25.024	2	1.001	22074344	3243748	7733	19332	419		
357.8516	25.051	25.024	2	1.001	13578450	2022892	4148	10370	488	1.63(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.723	23.878	-129	0.868	371490	70622	7733	19332	9		a
357.8516	21.723	23.878	-129	0.868	329306	60587	4148	10370	15	1.13(1.32-1.78)	
	Empc Correction				239670	45562	4148	10370	11		
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.906	1	0.954	26332276	5504868	12839	32097	429		
385.8610	30.932	30.906	2	0.954	53120711	11080155	20836	52090	532	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.945	30.932	1	1.001	29829528	6544238	33881	84702	193		
375.8178	30.945	30.932	1	1.001	23785117	5154030	27119	67797	190	1.25(1.05-1.43)	

Report Date: 06-Dec-2017 10:55:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.092	31.065	2	0.959	31561640	6763336	12839	32097	527		
385.8610	31.092	31.065	2	0.959	60164268	12635086	20836	52090	606	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.105	31.092	1	1.006	32644368	6812547	33881	84702	201		
375.8178	31.105	31.092	1	1.006	25748567	5473764	27119	67797	202	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.824	31.811	1	0.982	29174664	7494455	12839	32097	584		
385.8610	31.824	31.811	1	0.982	55379469	14110641	20836	52090	677	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.851	31.824	2	1.030	31271959	7888317	33881	84702	233		
375.8178	31.838	31.824	1	1.030	24154922	6180563	27119	67797	228	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.597	32.583	1	1.006	27288523	7805016	12839	32097	608		
385.8610	32.597	32.583	1	1.006	51873633	14747883	20836	52090	708	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.610	32.597	1	1.055	27426500	7782753	33881	84702	230		
375.8178	32.610	32.597	1	1.055	21328879	6022733	27119	67797	222	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.267	30.653	-23	0.979	1372526	242841	33881	84702	7		a
375.8178	30.267	30.653	-23	0.979	996319	178449	27119	67797	7	1.38(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.410	32.397	1		69260165	19173185	11208	28020	1711		
403.8529	32.410	32.397	1		54533967	15225379	13881	34702	1097	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.011	31.984	2	0.988	33087499	9754463	11208	28020	870		
403.8529	31.997	31.984	1	0.987	25370843	7312539	13881	34702	527	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.024	31.997	2	0.998	19249408	5631964	12373	30932	455		
391.8127	32.011	31.997	1	0.997	14754662	4247727	11518	28795	369	1.30(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.104	32.091	1	0.991	36673949	9960925	11208	28020	889		
403.8529	32.104	32.091	1	0.991	29112372	7845775	13881	34702	565	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.117	32.104	1	1.000	22288766	5951645	12373	30932	481		
391.8127	32.117	32.104	1	1.000	17816477	4775849	11518	28795	415	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.424	32.410	1	1.010	21735347	5825574	12373	30932	471		
391.8127	32.424	32.410	1	1.010	17388968	4691106	11518	28795	407	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.147	31.252	-66	0.939	545911	98648	12373	30932	8		a
391.8127	30.147	31.252	-66	0.939	555838	89156	11518	28795	8	0.98(1.05-1.43)	
	Empc Correction				440250	79554	11518	28795	7		
389.8157	30.999	31.252	-15	0.966	850893	195088	12373	30932	16		
391.8127	30.999	31.252	-15	0.966	635365	167171	11518	28795	15	1.34(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
389.8157	31.332	31.252	5	0.976	1980298	448171	12373	30932	36		
391.8127	31.318	31.252	4	0.976	1517179	336721	11518	28795	29	1.31(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.010	33.998	1	1.049	11717684	4132337	15179	37947	272		
419.8220	34.010	33.998	1	1.049	26030248	9122283	31122	77805	293	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.022	34.010	1	1.000	18693479	6512595	32741	81852	199		
409.7789	34.022	34.010	1	1.000	18550106	6404969	27494	68735	233	1.01(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.128	35.116	1	1.084	11939766	3778734	15179	37947	249		
419.8220	35.128	35.116	1	1.084	27023489	8216645	31122	77805	264	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.140	35.128	1	1.033	14554933	4436297	32741	81852	135		
409.7789	35.140	35.128	1	1.033	13892218	4242054	27494	68735	154	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.326	34.569	-15	1.009	4519096	1519766	32741	81852	46		M
409.7789	34.326	34.569	-15	1.009	4200254	1424781	27494	68735	52	1.08(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.824	34.812	1	1.074	20923617	6593725	11036	27590	597		
437.8140	34.824	34.812	1	1.074	19496279	6226193	9174	22935	679	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.836	34.824	1	1.000	19304722	6110092	14016	35040	436		
425.7737	34.836	34.824	1	1.000	18030147	5787913	11997	29992	482	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.265	35.261	-60	0.984	6273611	1959453	14016	35040	140		a
425.7737	34.265	35.261	-60	0.984	5785315	1871066	11997	29992	156	1.08(0.88-1.20)	
13C-OCDD											
469.7779	37.257	37.233	1	1.150	27116576	7311211	3340	8350	2189		
471.7750	37.245	37.233	1	1.149	30719508	8243018	3664	9160	2250	0.88(0.76-1.02)	
OCDF											
441.7428	37.353	37.341	1	1.003	20803282	5979259	3006	7515	1989		
443.7399	37.353	37.341	1	1.003	23510551	6682999	2805	7012	2383	0.88(0.76-1.02)	
OCDD											
457.7377	37.257	37.245	1	1.000	58122215	15885338	3771	9427	4213		
459.7348	37.257	37.245	1	1.000	62686694	17245851	8549	21372	2017	0.93(0.76-1.02)	
1,3,6,8-TCDF											R
303.9016	15.754	15.210	33		490375	134533	13097	32742	10		
305.8987	15.754	15.210	33		533512	145566	13841	34602	11	0.92(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	16.177	16.147	2		944773	265485	3758	9395	71		
321.8936	16.177	16.147	2		1096588	297629	4233	10582	70	0.86(0.65-0.89)	
1,2,3,9-TCDF											U
303.9016	17.720						13097	32742			
305.8987	17.720						13841	34602			
1,2,3,7-TCDD											
319.8965	18.324						3758	9395			
321.8936	18.324						4233	10582			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,9-TCDD											
319.8965	18.612						3758	9395			
321.8936	18.612						4233	10582			
2,3,4,7-TCDF											
303.9016	18.612						13097	32742			
305.8987	18.612						13841	34602			
1,2,8,9-TCDD											
319.8965	19.595						3758	9395			
1,2,8,9-TCDF											
303.9016	19.595						13097	32742			
305.8987	19.595						13841	34602			
1,3,4,6,8-PeCDF											
339.8597	19.927	19.882	3		1374953	267088	1042	2605	256		
341.8567	19.927	19.882	3		882608	170987	1509	3772	113	1.56(1.32-1.78)	
1,2,4,7,9-PeCDD											R
355.8546	21.723	21.710	1		371490	70622	7733	19332	9		
357.8516	21.723	21.710	1		329306	60587	4148	10370	15	1.13(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	26.060						7733	19332			
357.8516	26.060						4148	10370			
1,2,3,8,9-PeCDF											
339.8597	26.292						23818	59545			
1,2,3,4,6,8-HxCDF											
373.8208	28.629						33881	84702			
375.8178	28.629						27119	67797			
1,2,4,6,7,9-HxCDD											R
389.8157	30.147	30.133	1		545911	98648	12373	30932	8		
391.8127	30.147	30.133	1		555838	89156	11518	28795	8	0.98(1.05-1.43)	
1,2,3,4,6,7-HxCDD											U
389.8157	32.370						12373	30932			
391.8127	32.370						11518	28795			
1,2,3,4,8,9-HxCDF											U
373.8208	32.676						33881	84702			
375.8178	32.676						27119	67797			
1,2,3,4,6,7,9-HpCDD											U
423.7766	34.253						14016	35040			
425.7737	34.253						11997	29992			
1,4,7,8-TCDD											
319.8965	0.0						3758	9395			
321.8936	0.0						4233	10582			
1,2,3,4,7-PeCDD											
355.8546	0.0						7733	19332			
357.8516	0.0						4148	10370			
1,2,3,4,6,7,9-HpCDF											
407.7818	0.0						32741	81852			
409.7789	0.0						27494	68735			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,8-TCDD											
319.8965	0.0						3758	9395			
321.8936	0.0						4233	10582			
1,3,7,9-TCDD											
319.8965	0.0						3758	9395			
321.8936	0.0						4233	10582			

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Lims ID:	160-24924-G-9-E MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 05:40:06	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	74

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF | IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	131727069	31661328

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	131727069	31661328

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.754	490375	134533	533512	145566	0.7085	0.92	RQ
15.754	410804	112085	533512	145566	0.6534		Empc Correction
16.011	456014	113771	582795	149237	0.7188	0.78	M
16.813	422937	105262	468524	124391	0.6168	0.90	RQ
16.813	360763	95781	468524	124391	0.5738		Empc Correction
17.024	528518	59662	647690	60859	0.8139	0.82	
18.188	253436	56310	369552	90126	0.4311	0.69	
Signal Totals:							
	2009535	437609	2602073	570179			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4753353	1039717				0.83	RQM
	4611608	1007788					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.289 = (4753353 * 100.000) / (131727069 * 1.097)
Empc Amount: 3.191 = (4611608 * 100.000) / (131727069 * 1.097)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Lims ID: 160-24924-G-9-E MS
Client ID: SHAD041DP022SS03NS
Inject. Date: 19-Nov-2017 05:40:06
Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 74

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	89023069	19470313

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	89023069	19470313

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.177	944773	265485	1096588	297629	1.97	0.86	
16.480	705639	189859	807524	200504	1.46	0.87	
17.312	146173	32542	171632	36127	0.3066	0.85	
Signal Totals:							
	1796585	487886	2075744	534260			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3872329	1022146				0.87	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.735 = (3872329 * 100.000) / (89023069 * 1.164)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Lims ID:	160-24924-G-9-E MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 05:40:06	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	74

F1 PeCDFs, RT: 20.426

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	101175860	17538439
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	101175860	17538439

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.927	1374953	267088	882608	170987	1.98	1.56	
Signal Totals:							
	1374953	267088	882608	170987			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2257561	438075				1.56	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.981 = (2257561 * 100.000) / (101175860 * 1.126)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Lims ID: 160-24924-G-9-E MS
Client ID: SHAD041DP022SS03NS
Inject. Date: 19-Nov-2017 05:40:06
Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 74

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	101175860	17538439
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	101175860	17538439

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.505	1128237	167986	520888	86901	1.45	2.17	RQ
21.505	807376	134696	520888	86901	1.17		Empc Correction
Signal Totals:							
	807376	134696	520888	86901			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1649125	254887				2.17	RQ
	1328264	221597					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.447 = (1649125 * 100.000) / (101175860 * 1.126)
Empc Amount: 1.166 = (1328264 * 100.000) / (101175860 * 1.126)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Lims ID:	160-24924-G-9-E MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 05:40:06	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	74

Non-2,3,7,8-sub-PeCDD, RT: 23.878

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.127	D 13C-1,2,3,7,8-PeCDD	100.000	66237901	9802340

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.127		100.000	66237901	9802340

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.723	371490	70622	329306	60587	0.9386	1.13	RQ
21.723	371490	70622	239670	45562	0.8185		Empc Correction
Signal Totals:							
	371490	70622	239670	45562			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	700796	131209				1.13	RQ
	611160	116184					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.9386 = (700796 * 100.000) / (66237901 * 1.127)
Empc Amount: 0.8185 = (611160 * 100.000) / (66237901 * 1.127)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Lims ID:	160-24924-G-9-E MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 05:40:06	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	74

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	79452987	16585023
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	79452987	16585023

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
30.267	1372526	242841	996319	178449	2.17	1.38	
Signal Totals:							
	1372526	242841	996319	178449			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2368845	421290				1.38	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.168 = (2368845 * 100.000) / (79452987 * 1.375)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Lims ID: 160-24924-G-9-E MS
Client ID: SHAD041DP022SS03NS
Inject. Date: 19-Nov-2017 05:40:06 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195574 Lims Sample ID: 74

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	65786321	17806700
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	65786321	17806700

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.147	545911	98648	555838	89156	1.45	0.98	RQ
30.147	545911	98648	440250	79554	1.29		Empc Correction
30.999	850893	195088	635365	167171	1.95	1.34	
31.332	1980298	448171	1517179	336721	4.59	1.31	
Signal Totals:							
	3377102	741907	2592794	583446			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6085484	1334955				1.25	RQ
	5969896	1325353					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 7.982 = (6085484 * 100.000) / (65786321 * 1.159)
Empc Amount: 7.831 = (5969896 * 100.000) / (65786321 * 1.159)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Lims ID:	160-24924-G-9-E MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 05:40:06	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	74

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	37747932	13254620
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	37747932	13254620

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.326	4519096	1519766	4200254	1424781	16.4	1.08	M
Signal Totals:							
	4519096	1519766	4200254	1424781			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8719350	2944547				1.08	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 16.405 = (8719350 * 100.000) / (37747932 * 1.408)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Lims ID:	160-24924-G-9-E MS		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 05:40:06	Dil. Factor:	1.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	74

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF   IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	40419896	12819918

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	40419896	12819918

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.265	6273611	1959453	5785315	1871066	25.7	1.08	
Signal Totals:							
	6273611	1959453	5785315	1871066			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12058926	3830519				1.08	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

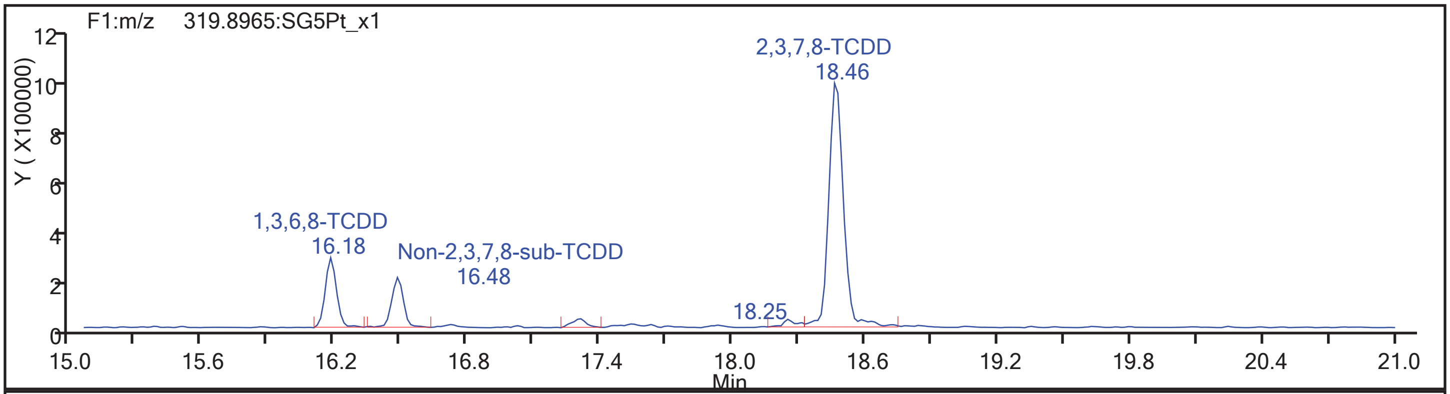
Amount: 25.650 = (12058926 * 100.000) / (40419896 * 1.163)

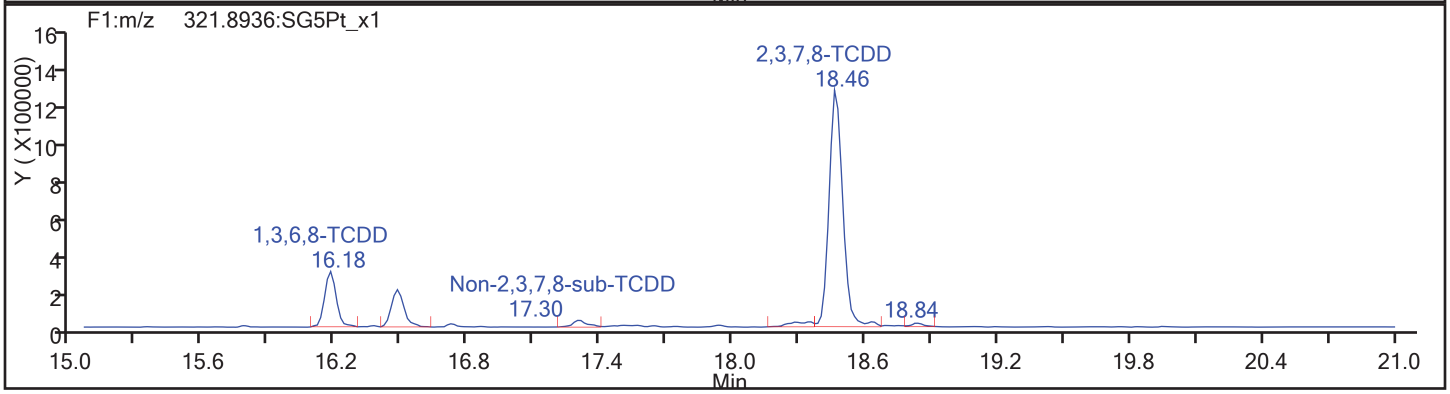
Report Date: 06-Dec-2017 10:55:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

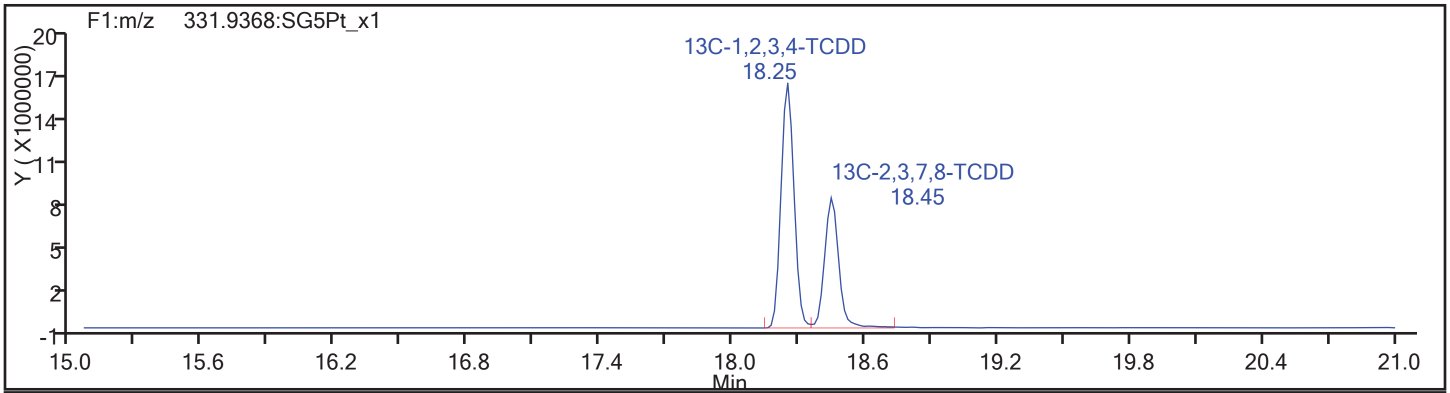
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Injection Date: 19-Nov-2017 05:40:06
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 74
Column Type:
Column Dia:

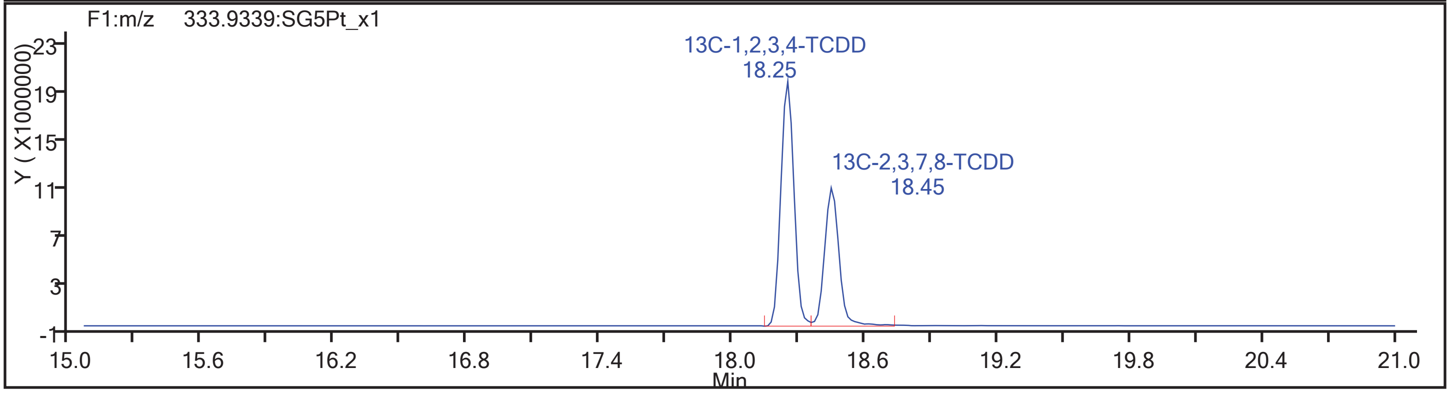
TCDD





TCDD Standards





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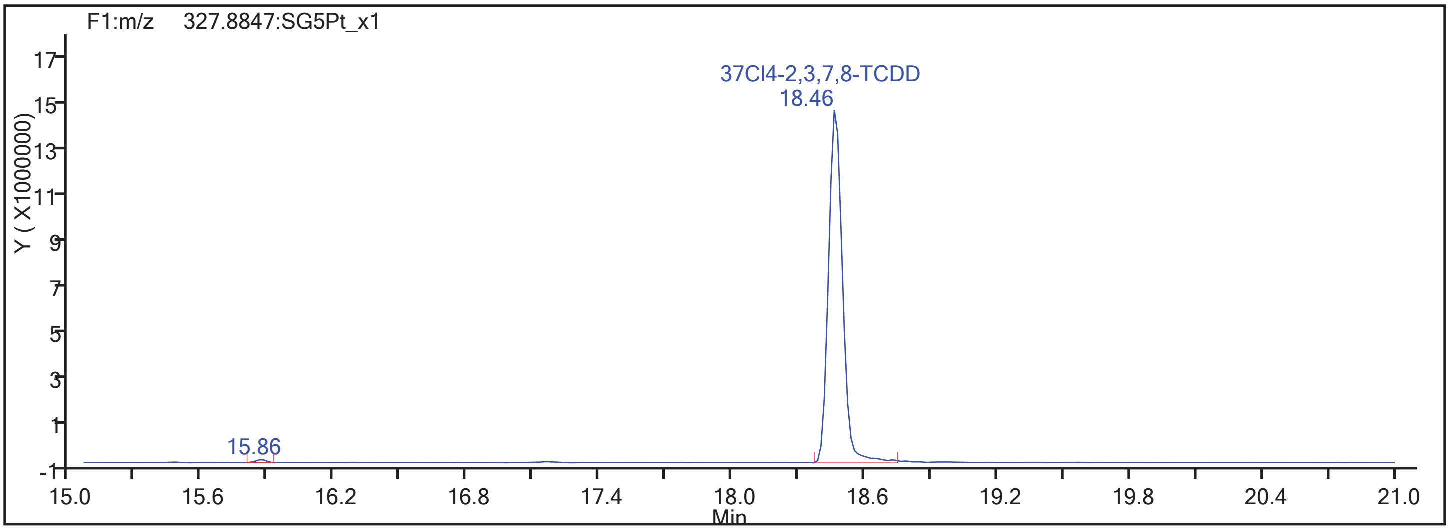
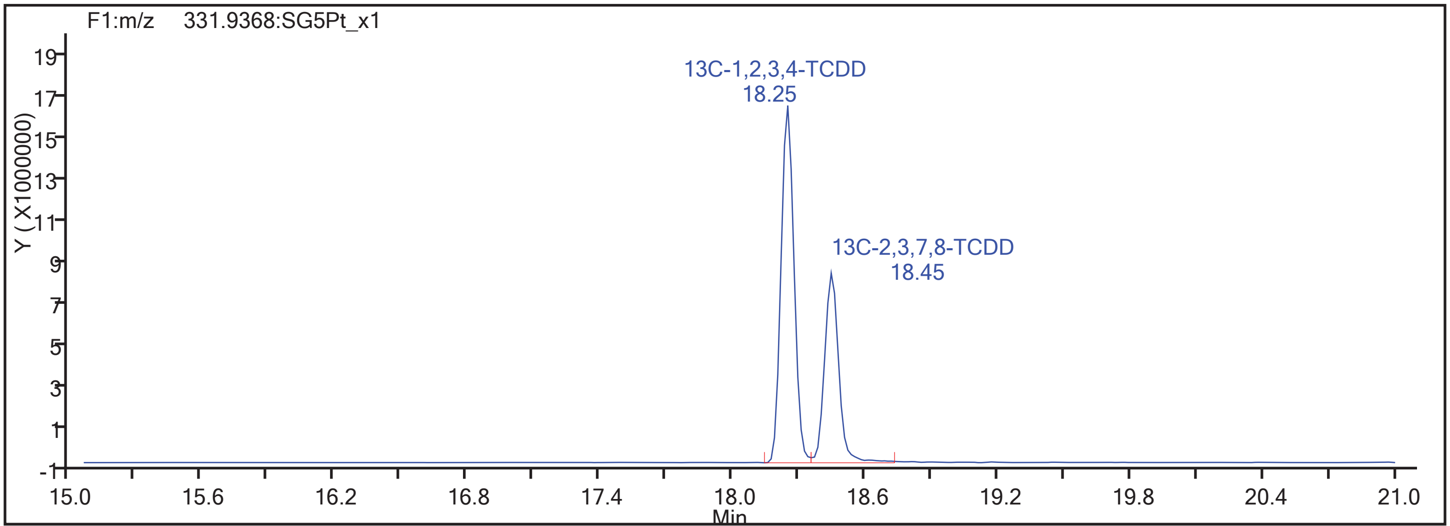
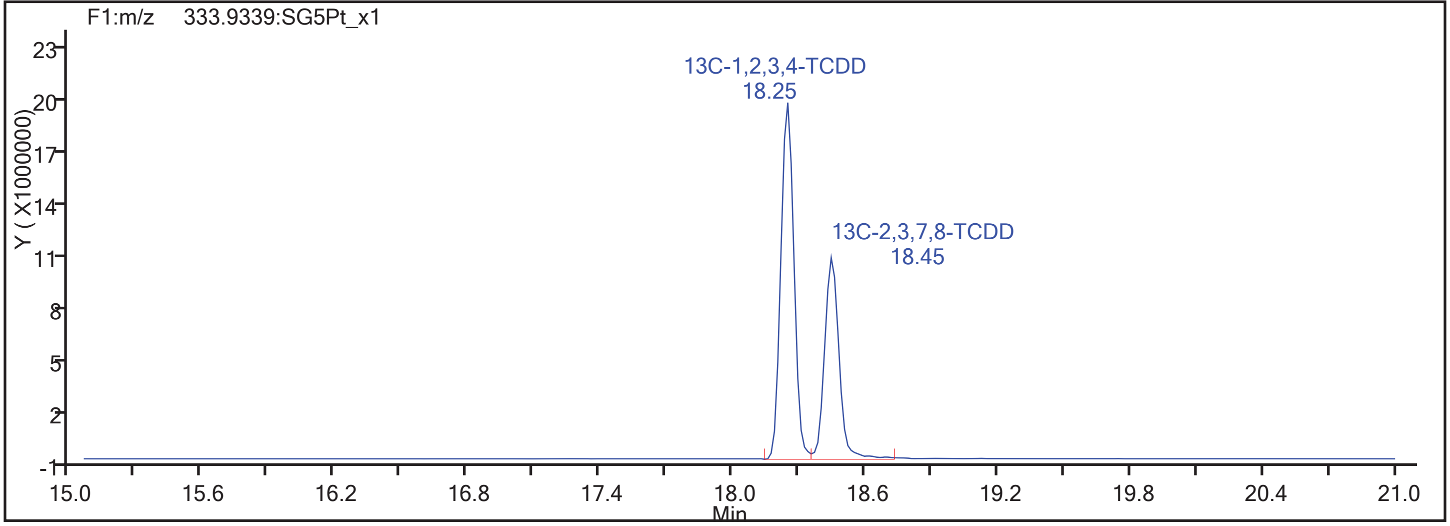
Injection Date: 19-Nov-2017 05:40:06
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 74
Column Type:
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards





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TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d

Injection Date: 19-Nov-2017 05:40:06 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

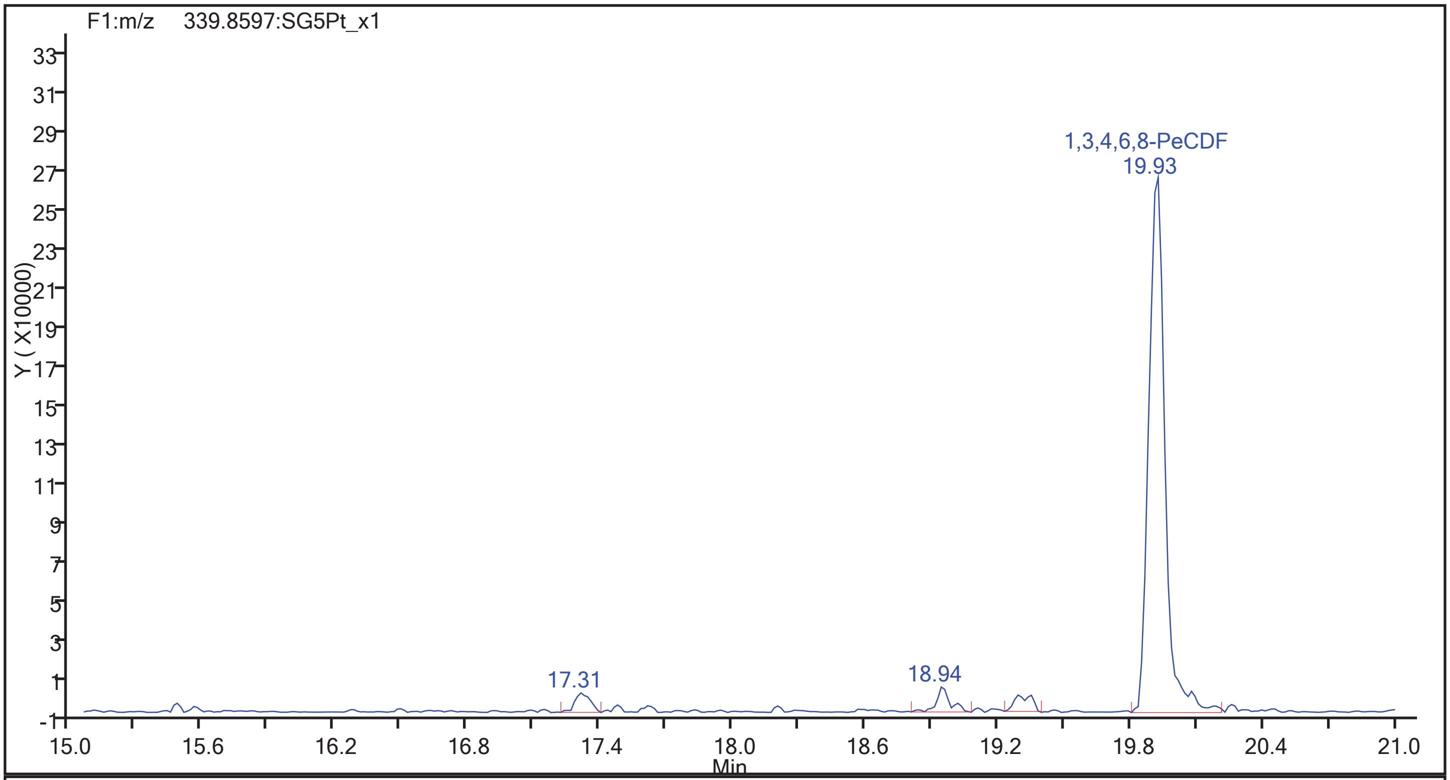
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

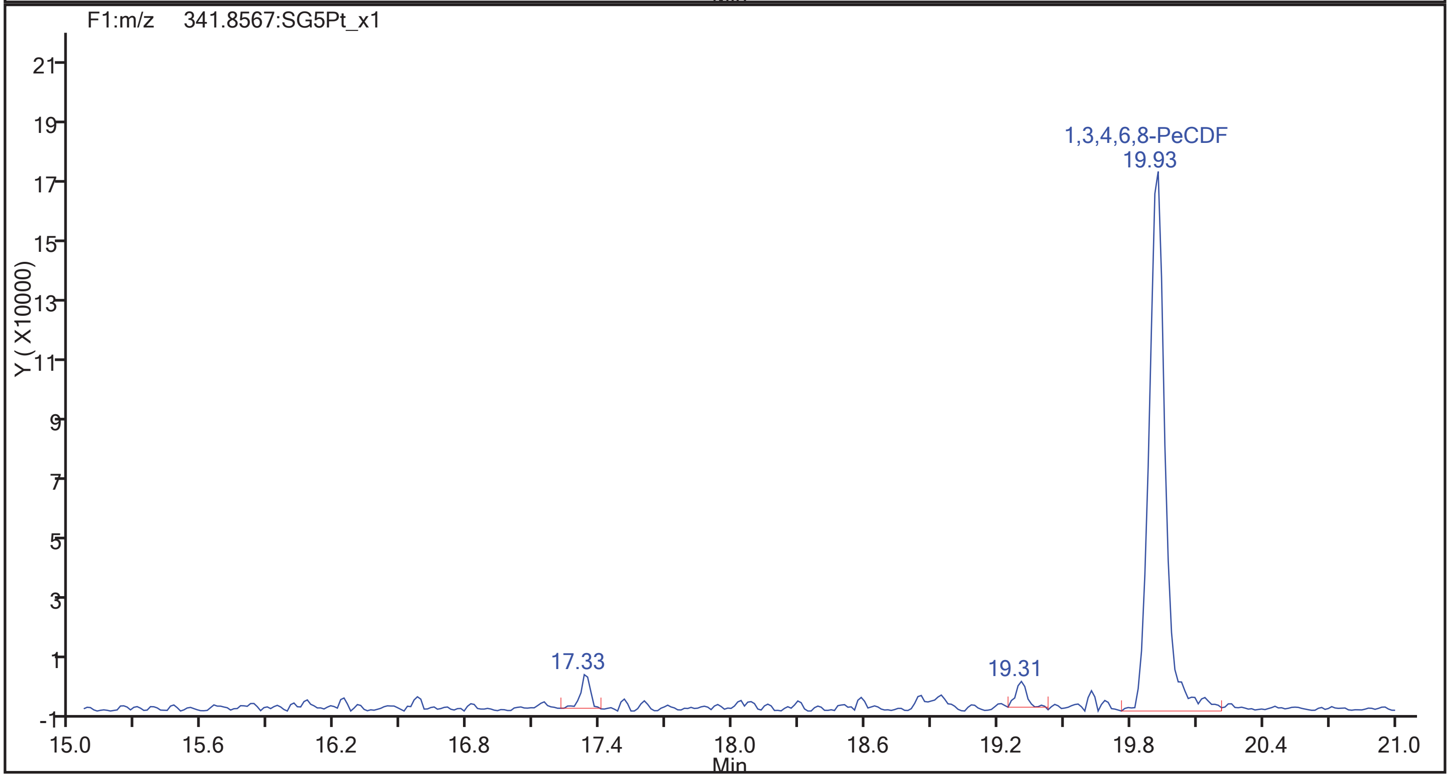
Client ID: SHAD041DP022SS03NS

Worklist#: 195574 Sample Line#: 74

Column Type: Column Dia:

F1 PeCDFs



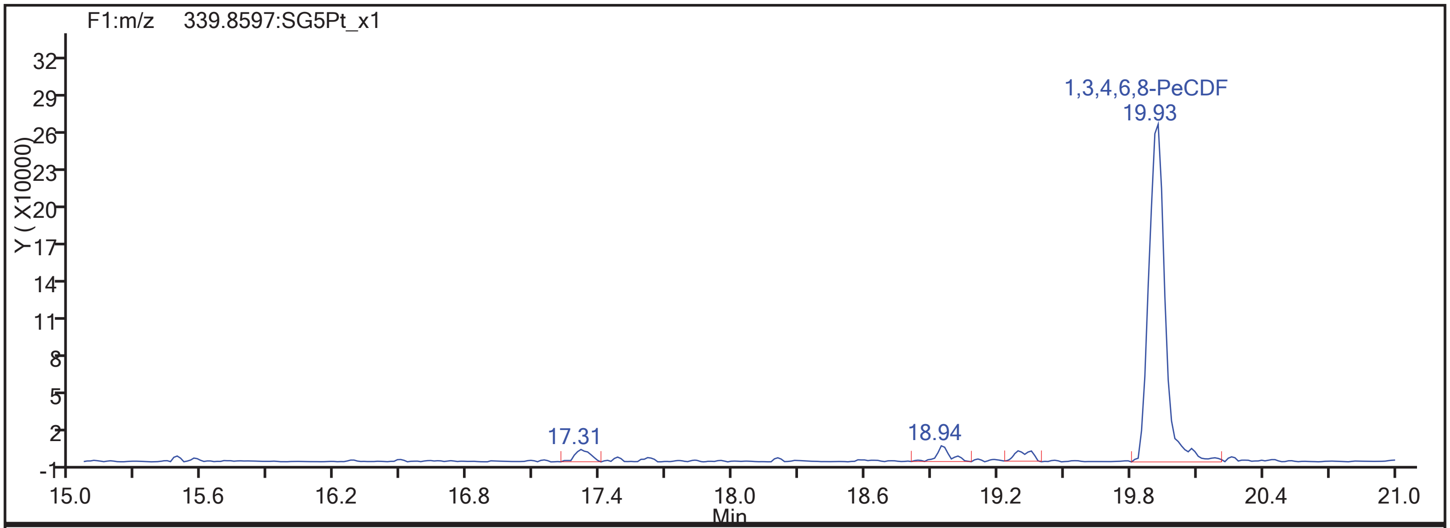


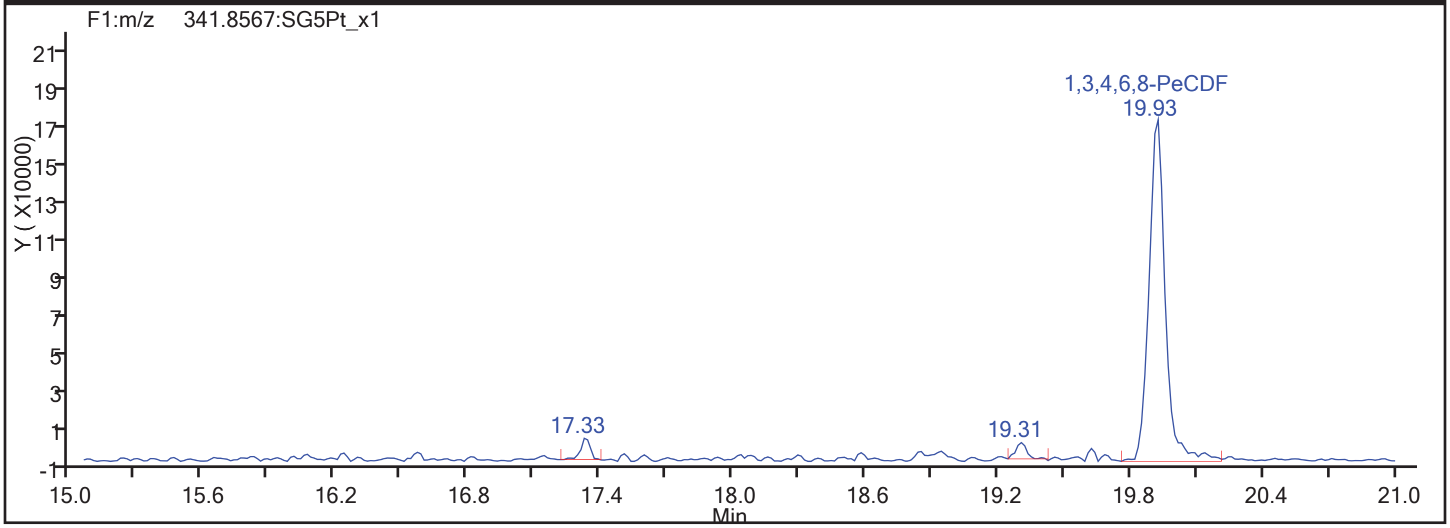
Report Date: 06-Dec-2017 10:55:47
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

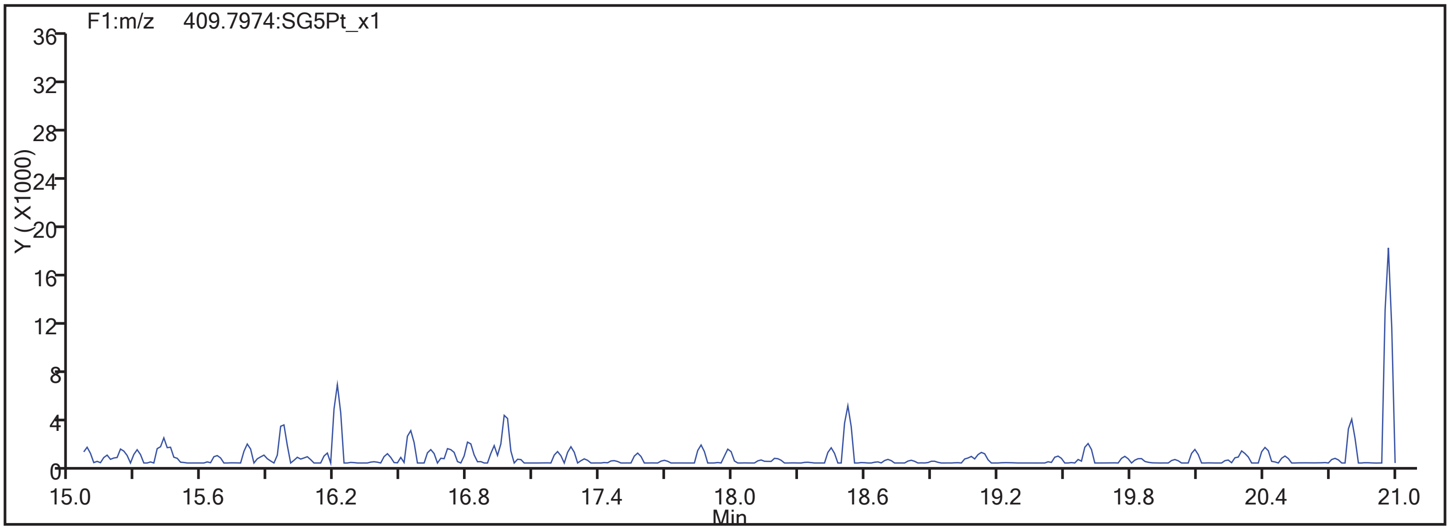
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Injection Date: 19-Nov-2017 05:40:06
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 74
Column Type:
Column Dia:

F1 PeCDFs





F1 PeCDFs Interference Mass



TestAmerica Sacramento

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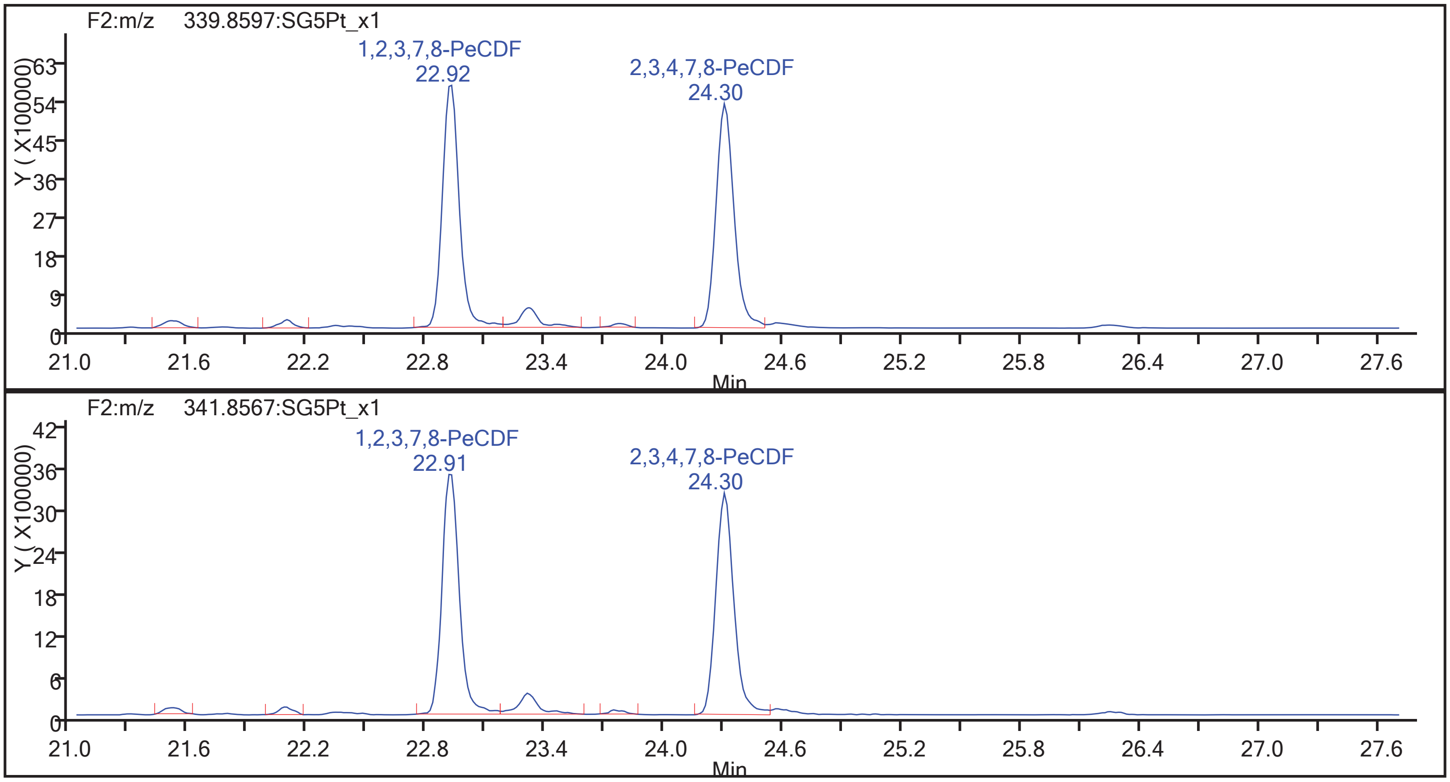
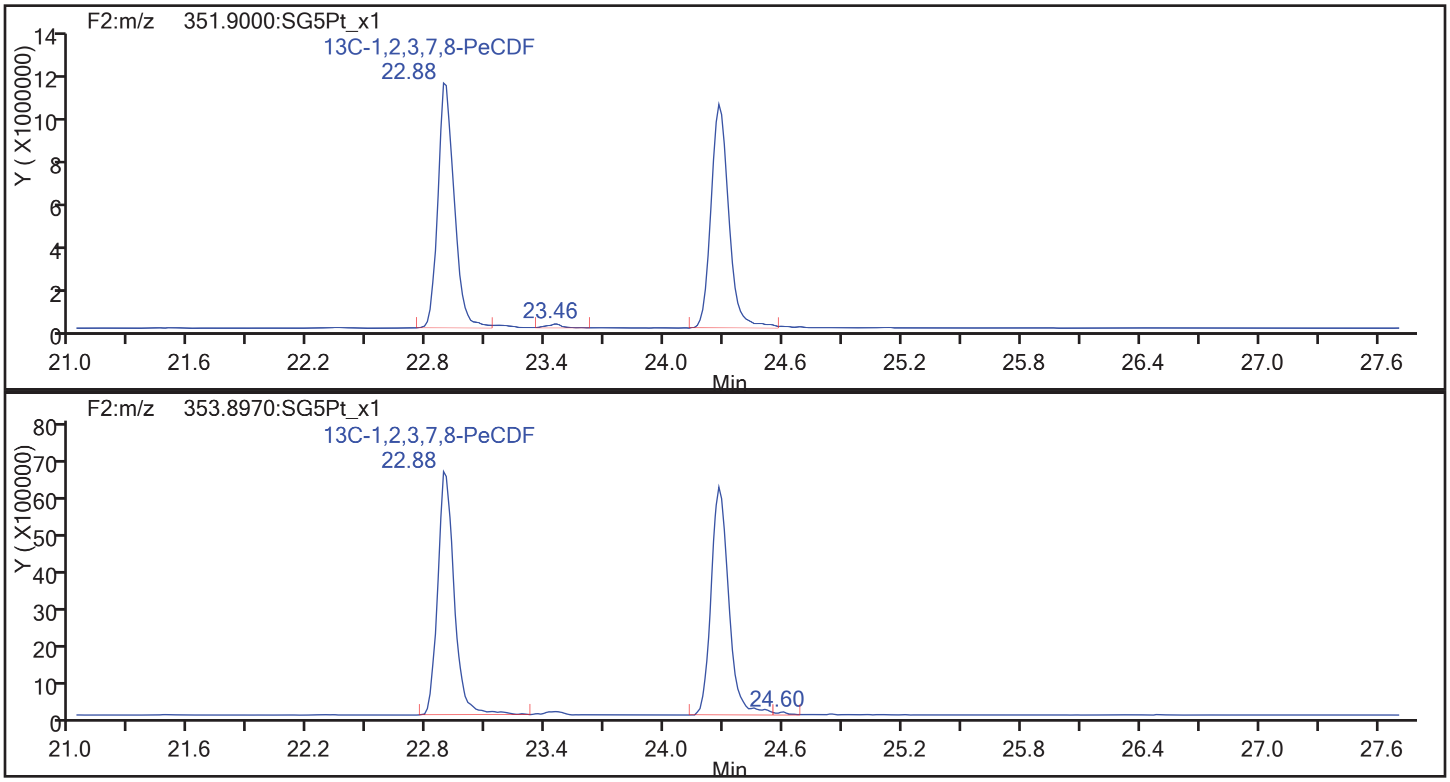
Injection Date:	19-Nov-2017 05:40:06	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	74
Column Type:		Column Dia:	

PeCDF



PeCDF Standards

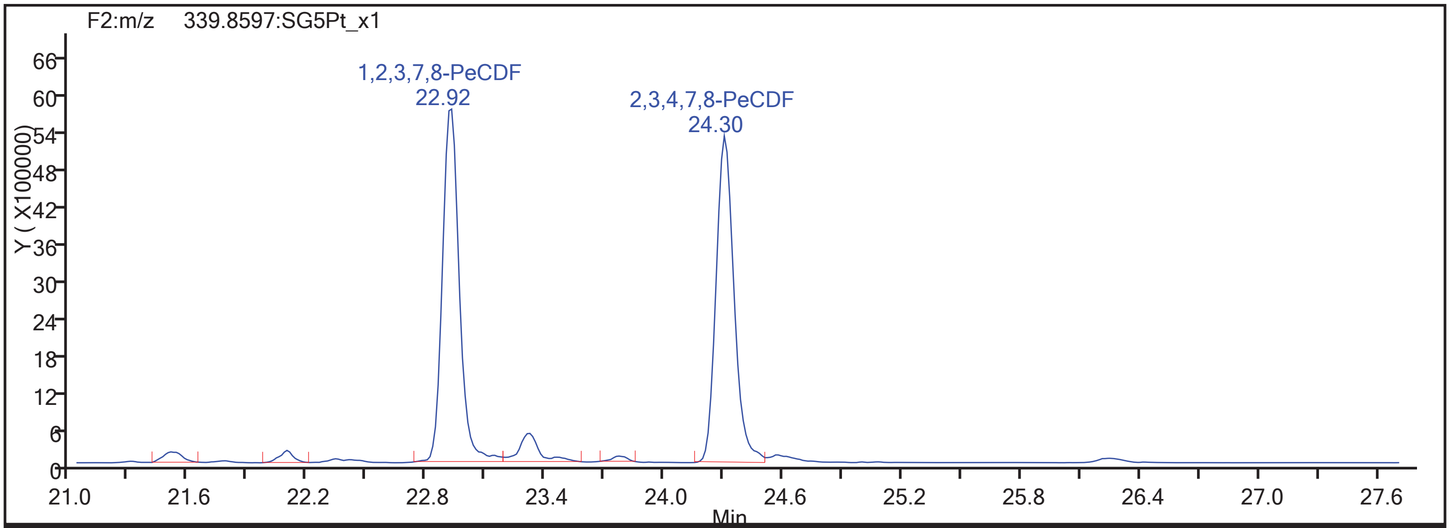


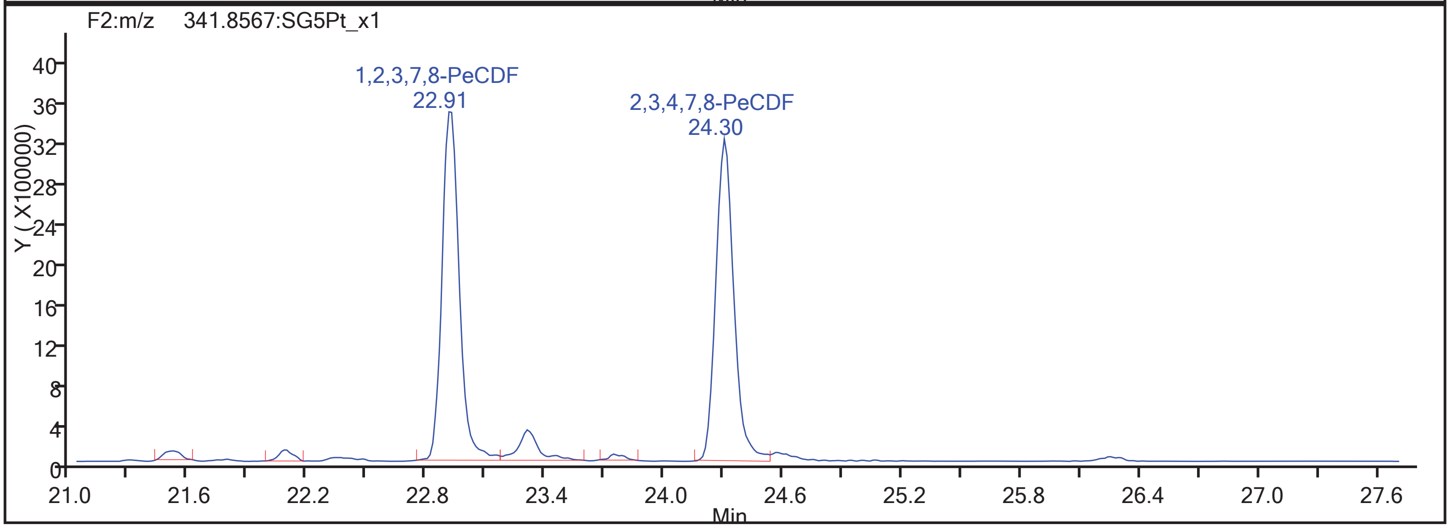
Report Date: 06-Dec-2017 10:55:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

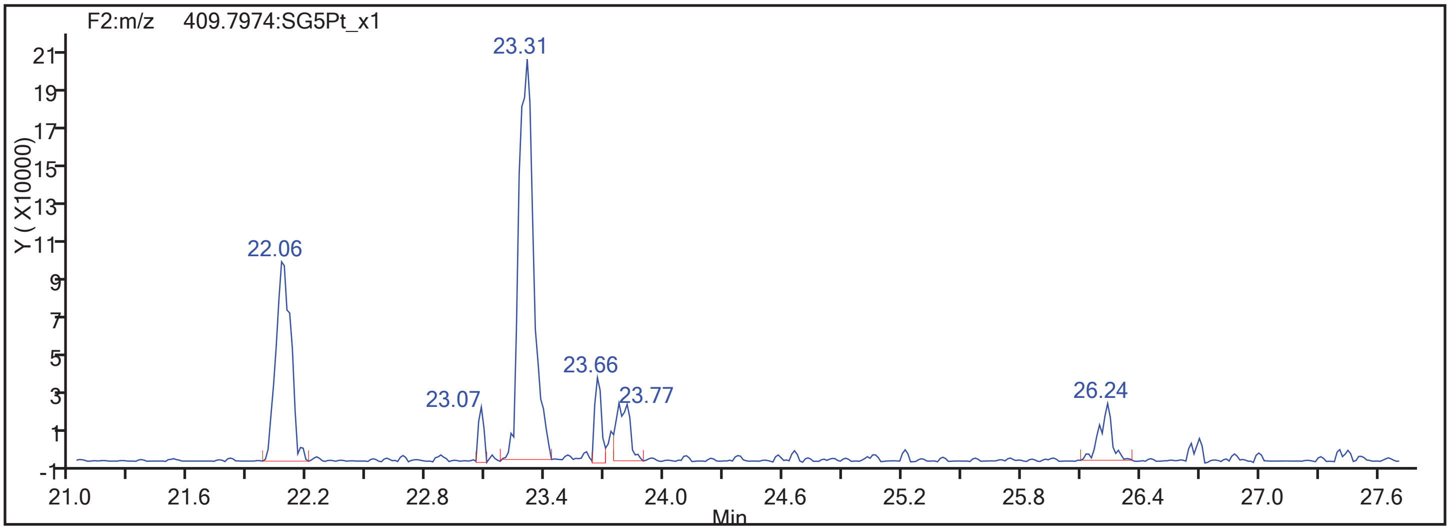
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Injection Date: 19-Nov-2017 05:40:06 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574 Sample Line#: 74
Column Type: Column Dia:

PeCDF





PeCDF Interference Mass

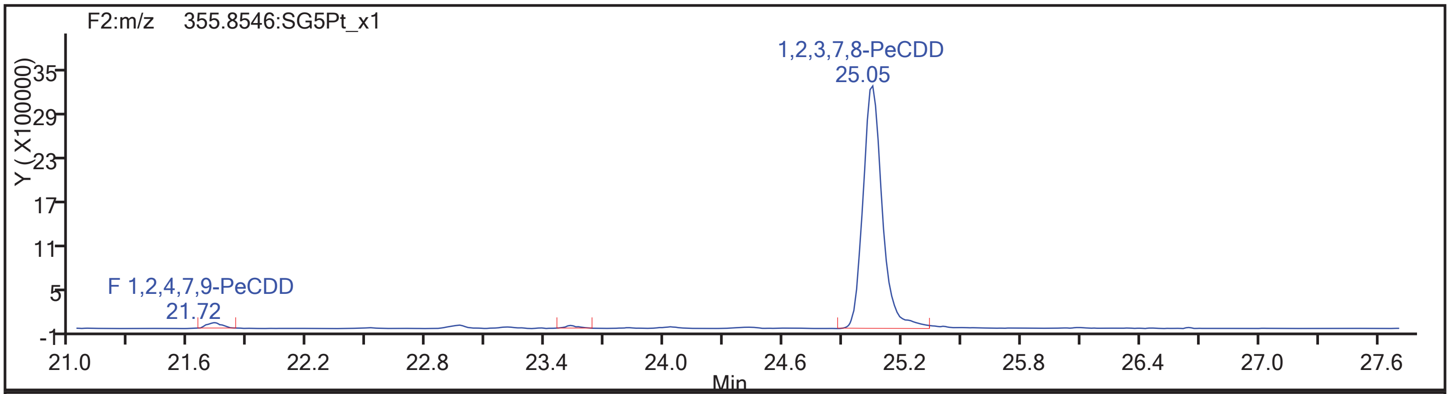


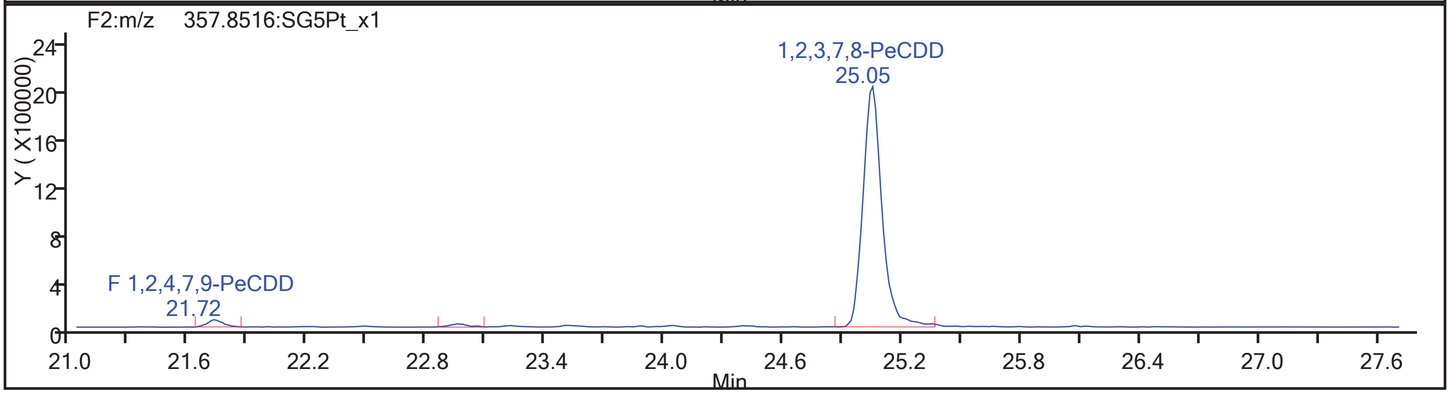
Report Date: 06-Dec-2017 10:55:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

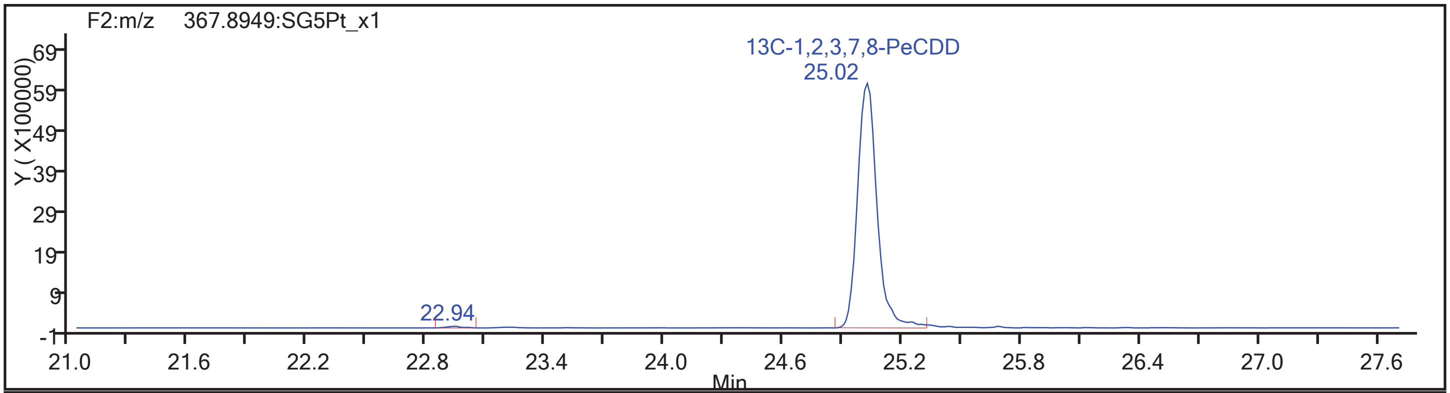
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Injection Date: 19-Nov-2017 05:40:06
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 74
Column Type:
Column Dia:

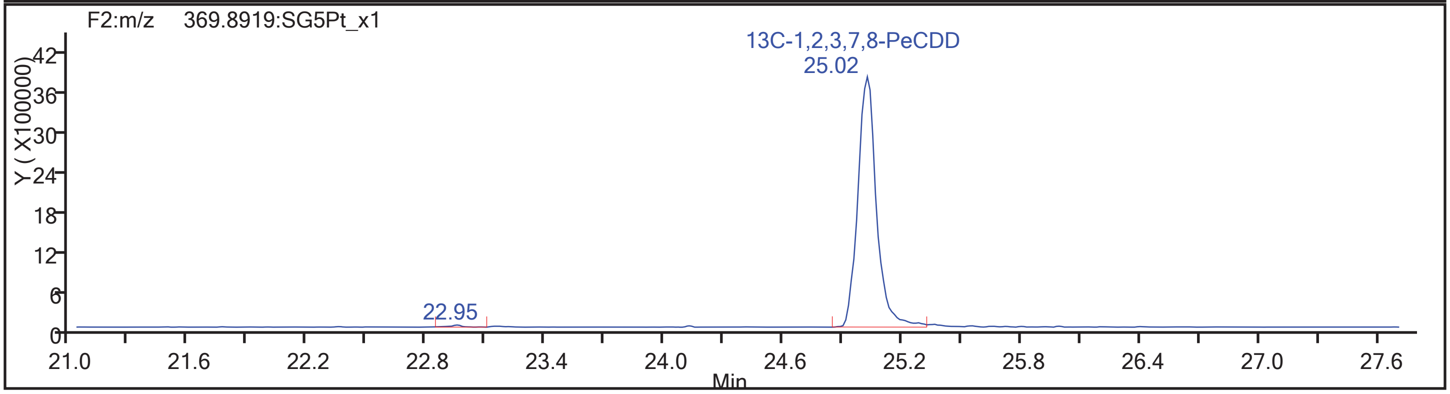
PeCDD





PeCDD Standards



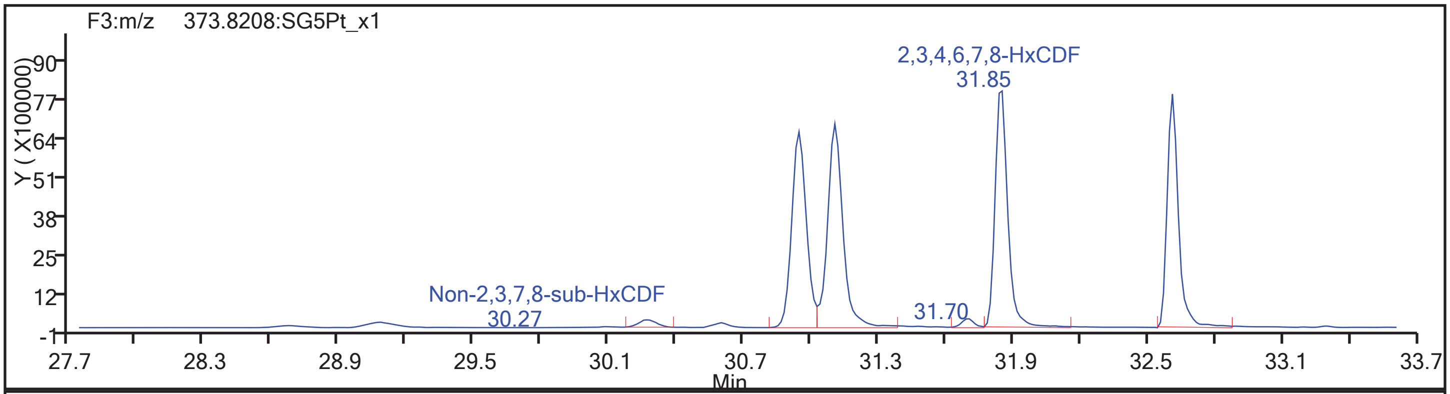


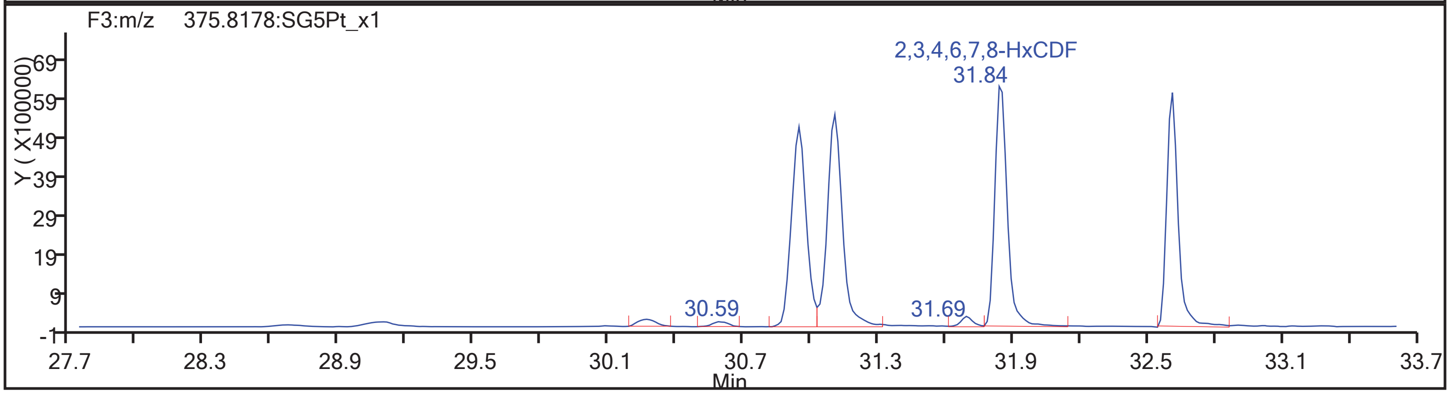
Report Date: 06-Dec-2017 10:55:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

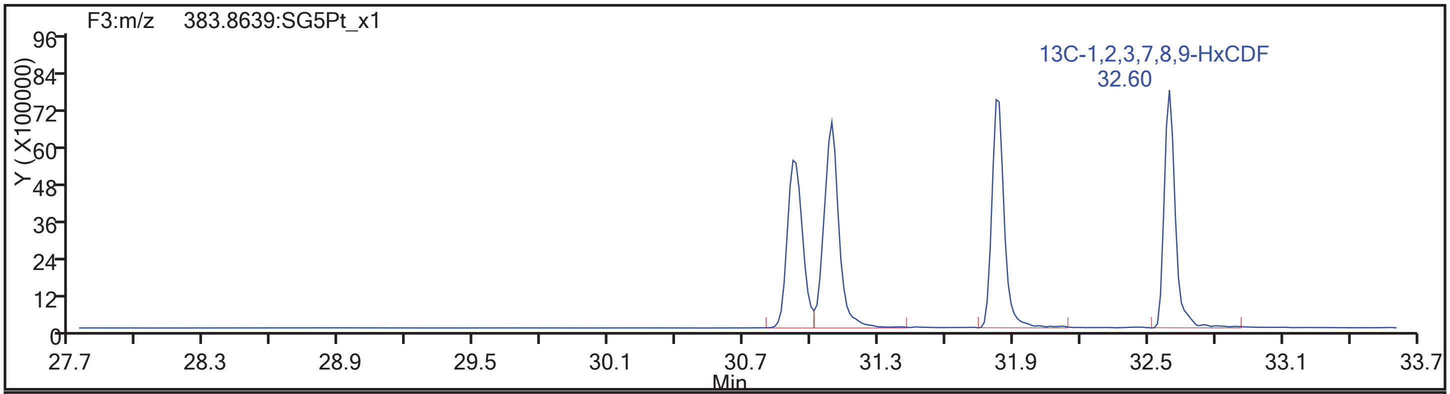
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Injection Date: 19-Nov-2017 05:40:06 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574 Sample Line#: 74
Column Type: Column Dia:

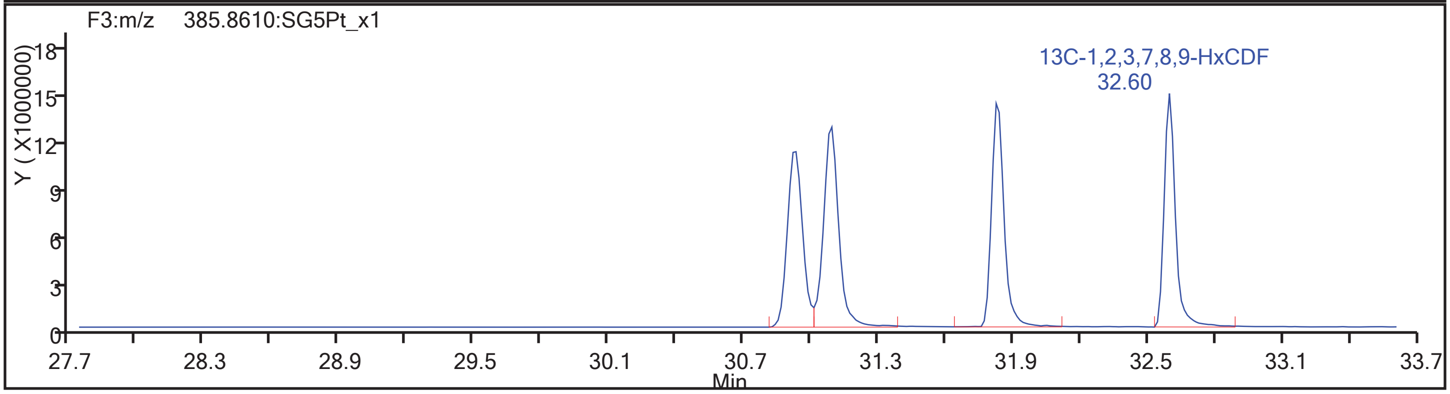
HxCDF





HxCDF Standards





Report Date: 06-Dec-2017 10:55:47 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d

Injection Date: 19-Nov-2017 05:40:06

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

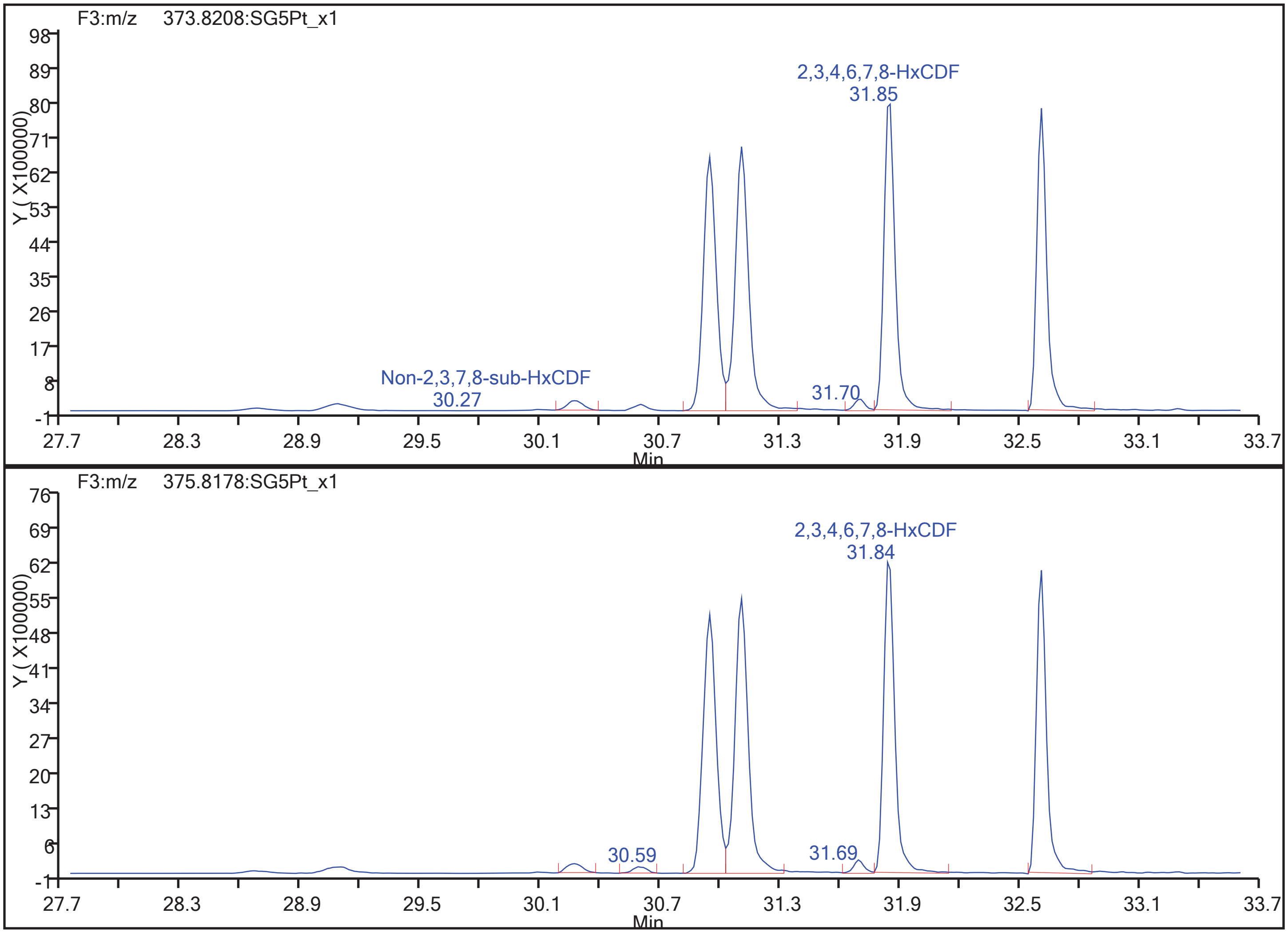
Worklist#: 195574

Sample Line#: 74

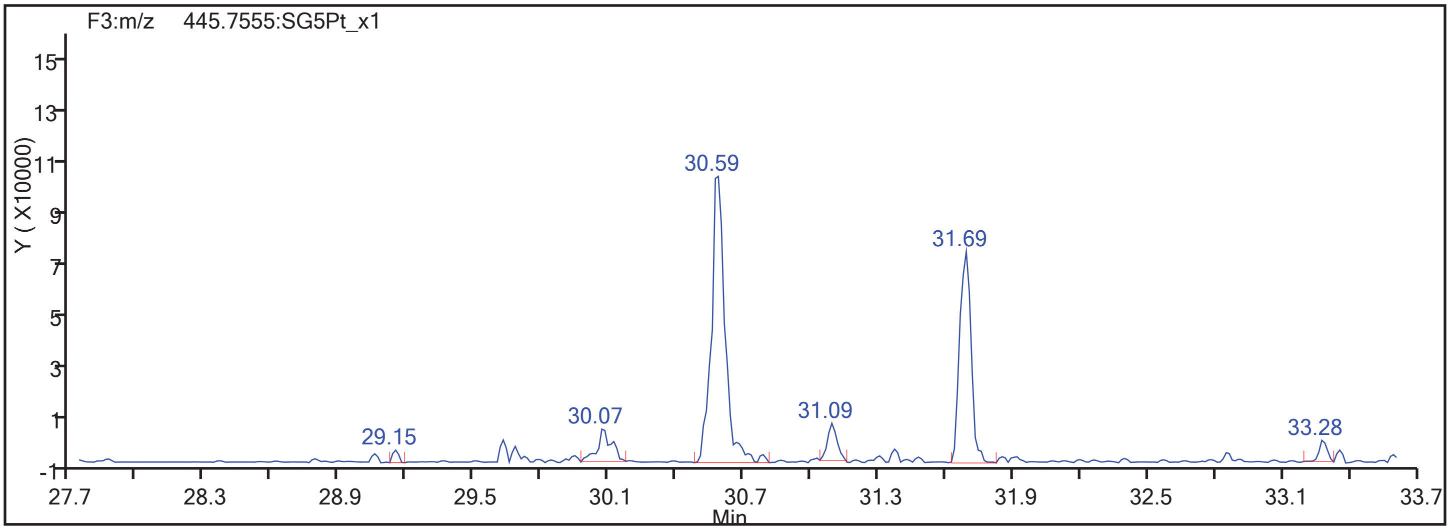
Column Type:

Column Dia:

HxCDF



HxCDF Interference Mass

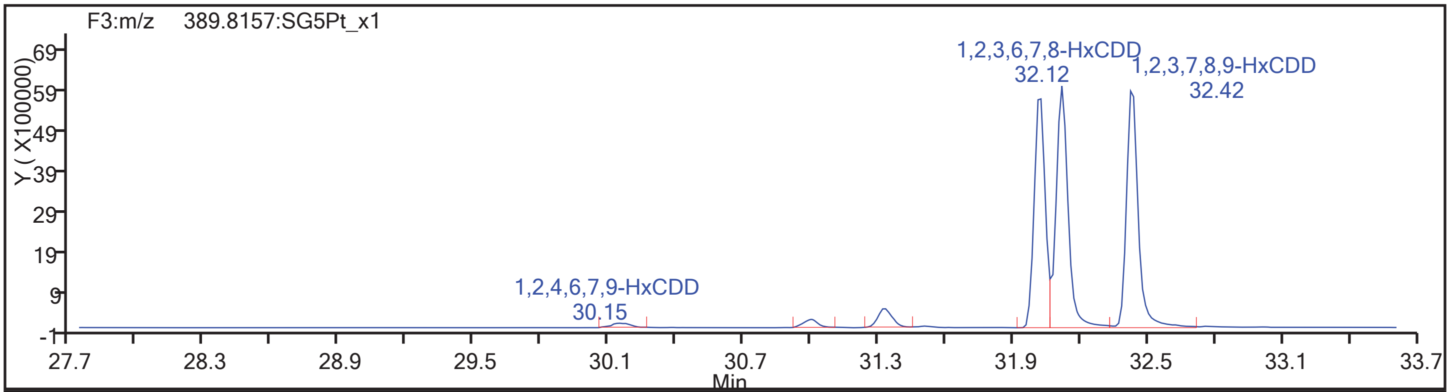


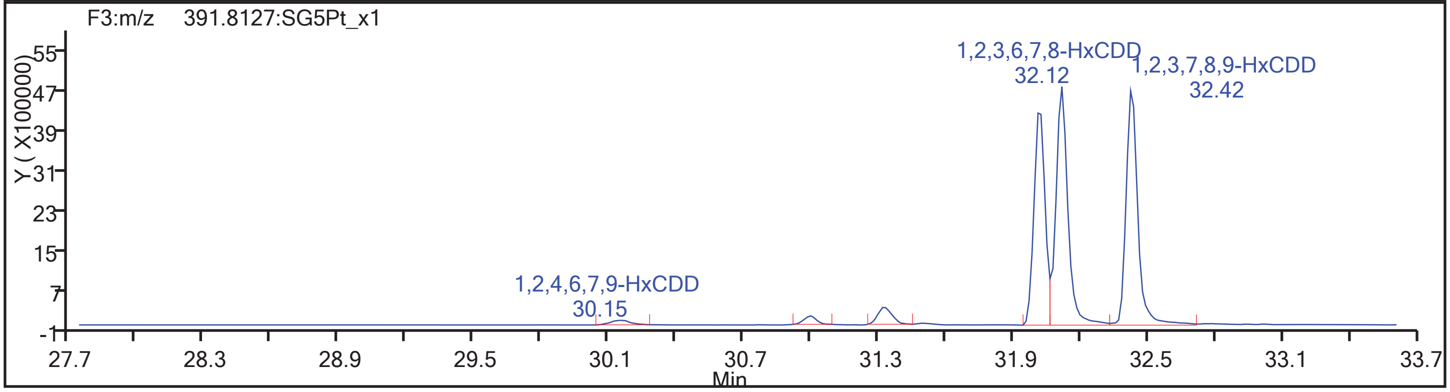
Report Date: 06-Dec-2017 10:55:47   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

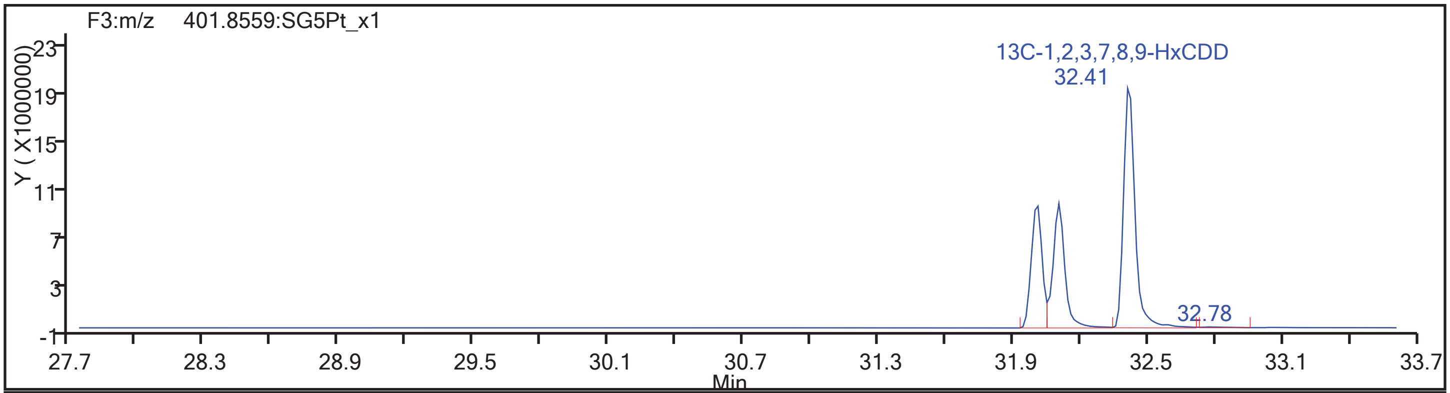
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Injection Date:	19-Nov-2017 05:40:06	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	74
Column Type:		Column Dia:	

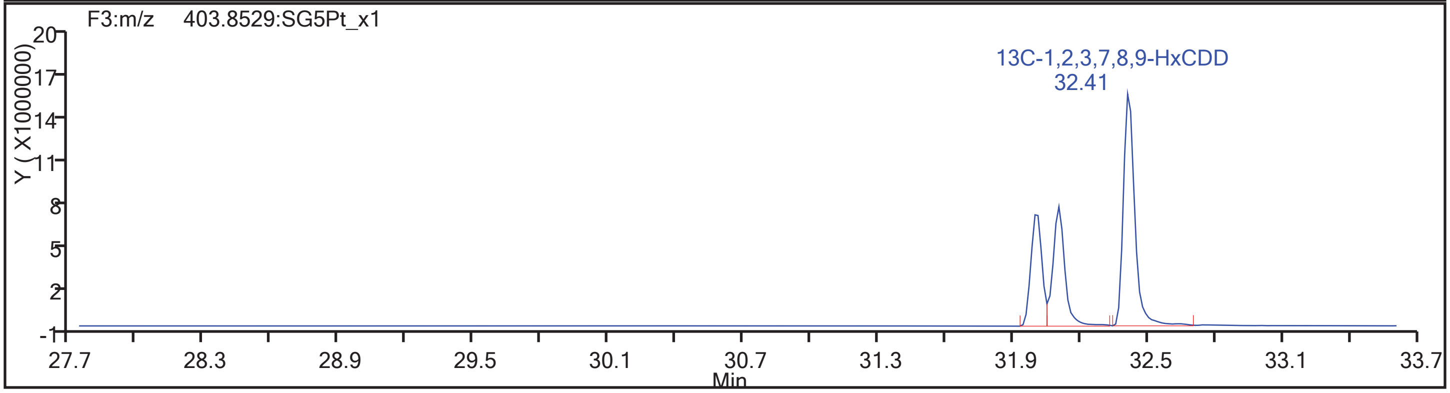
HxCDD





HxCDD Standards

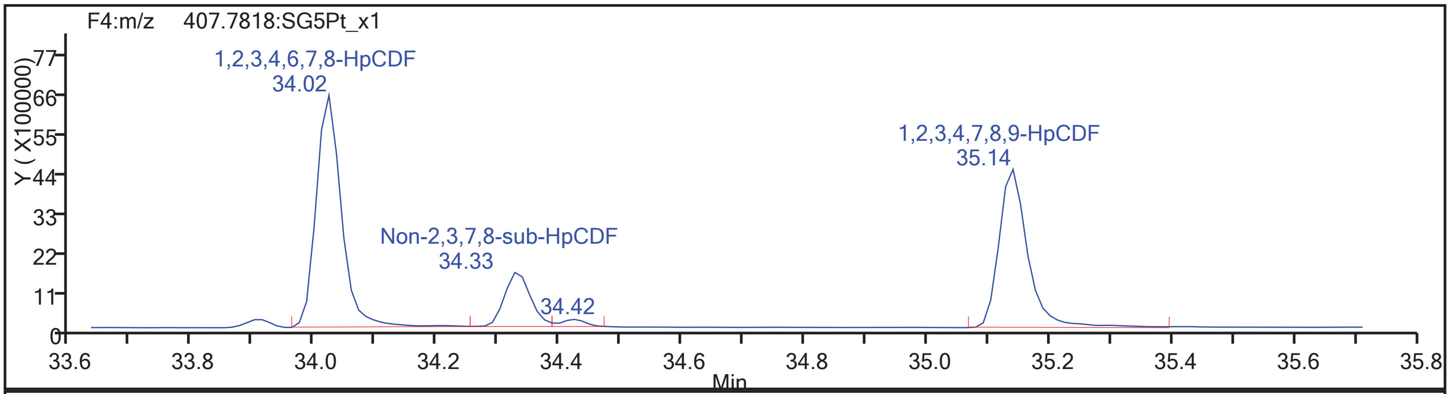


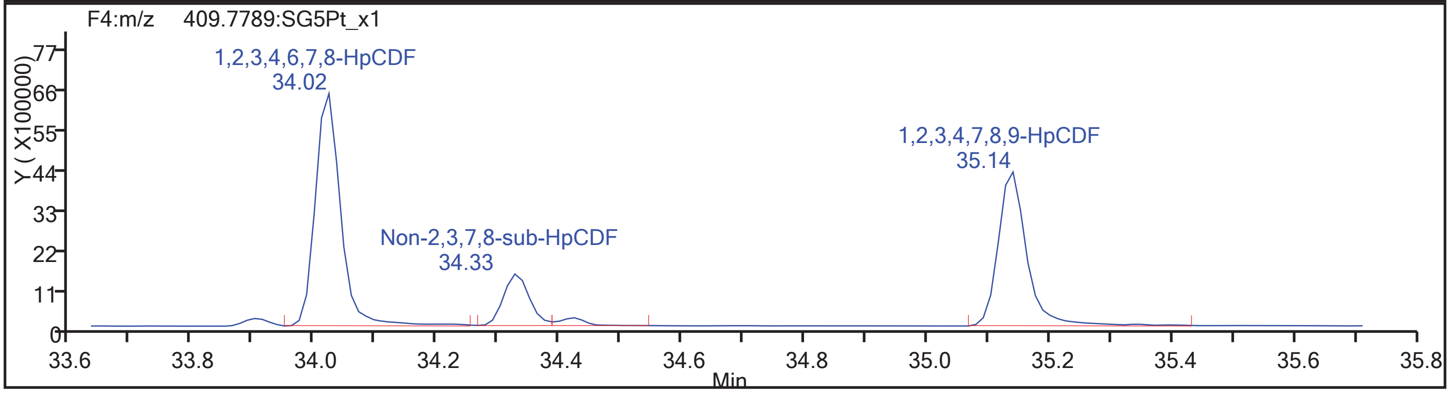


TestAmerica Sacramento

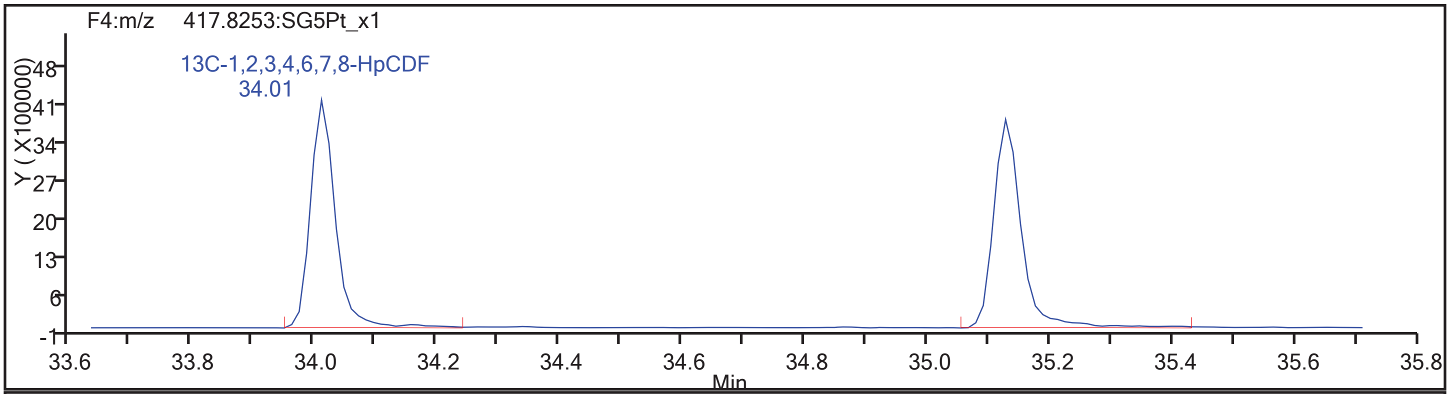
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Injection Date:	19-Nov-2017 05:40:06	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	74
Column Type:		Column Dia:	

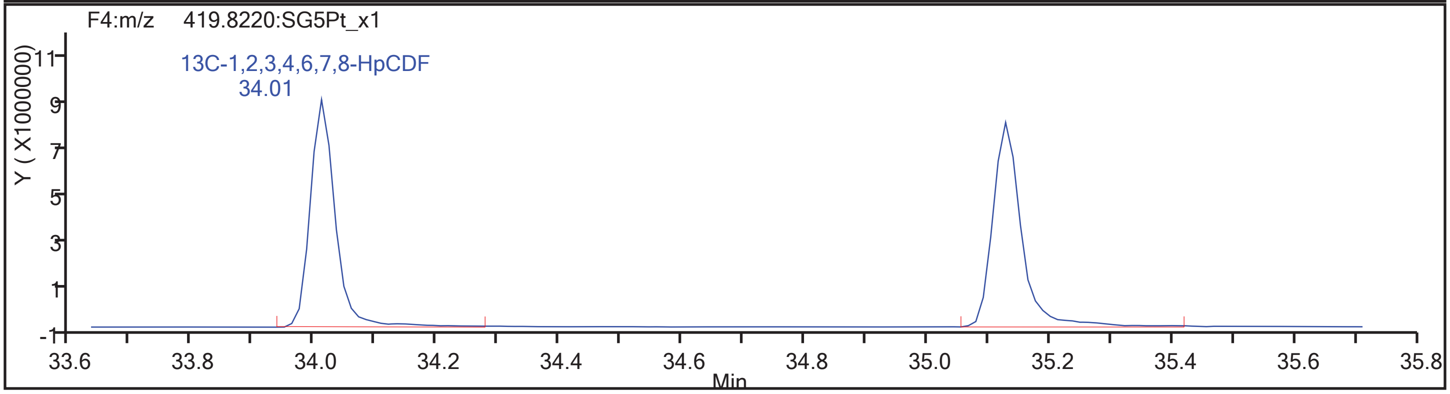
HpCDF





HpCDF Standards



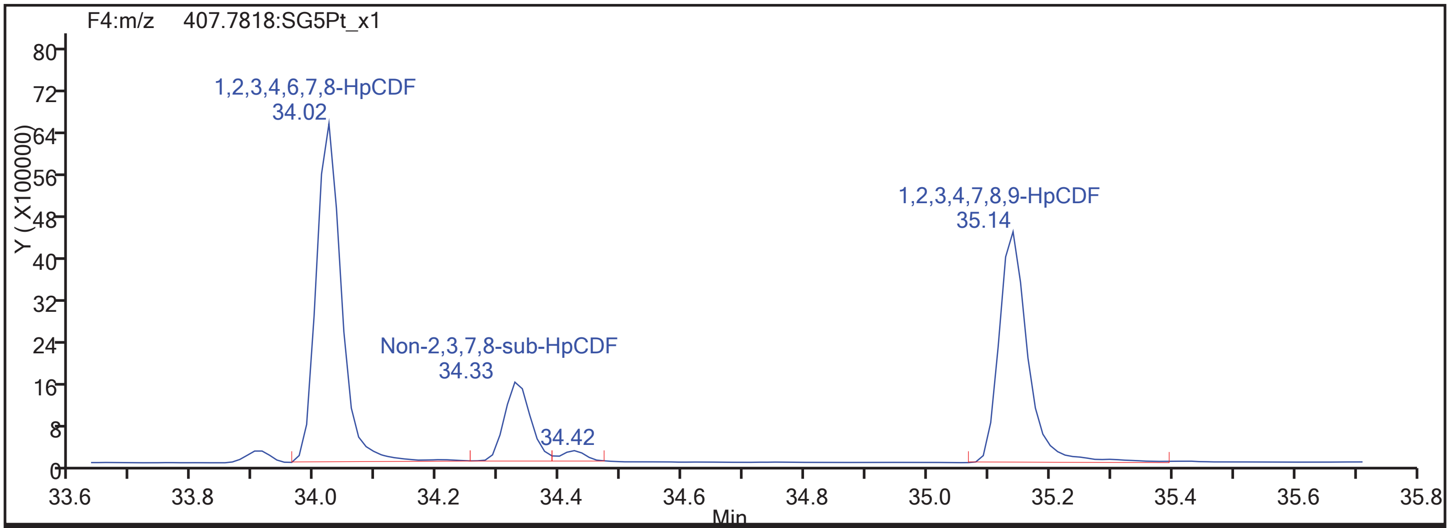


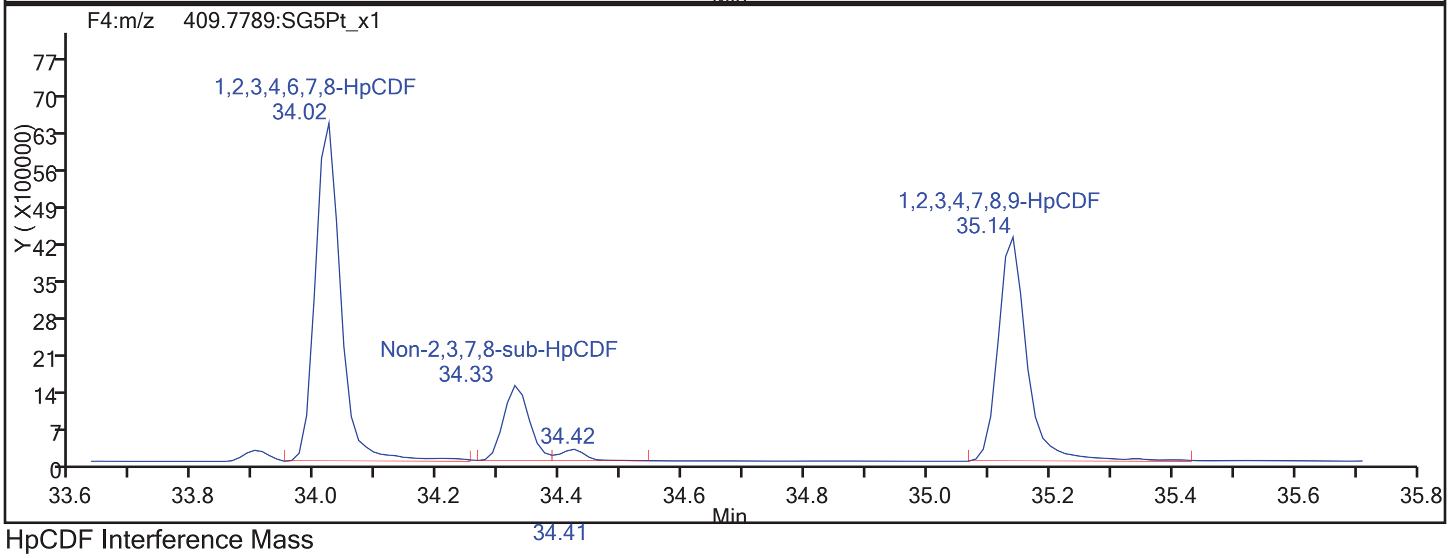
Report Date: 06-Dec-2017 10:55:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

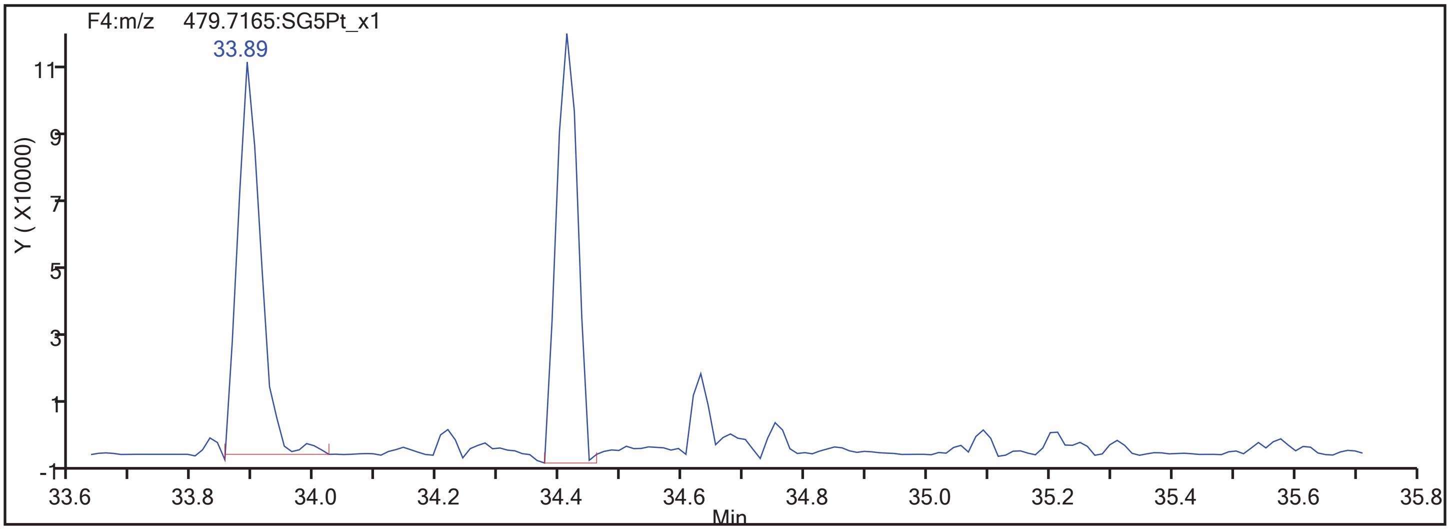
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Injection Date: 19-Nov-2017 05:40:06
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 74
Column Type:
Column Dia:

HpCDF





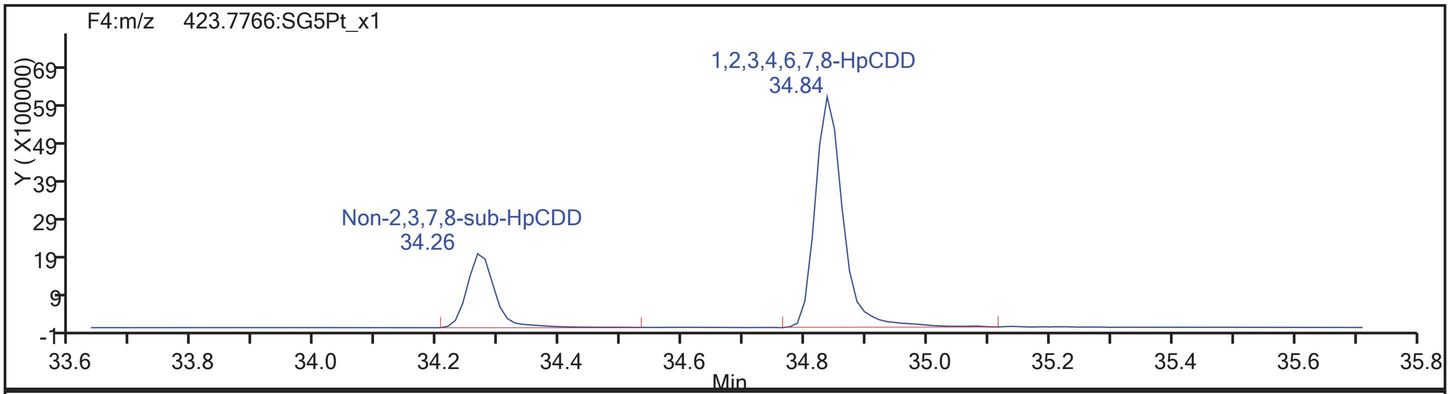
HpCDF Interference Mass

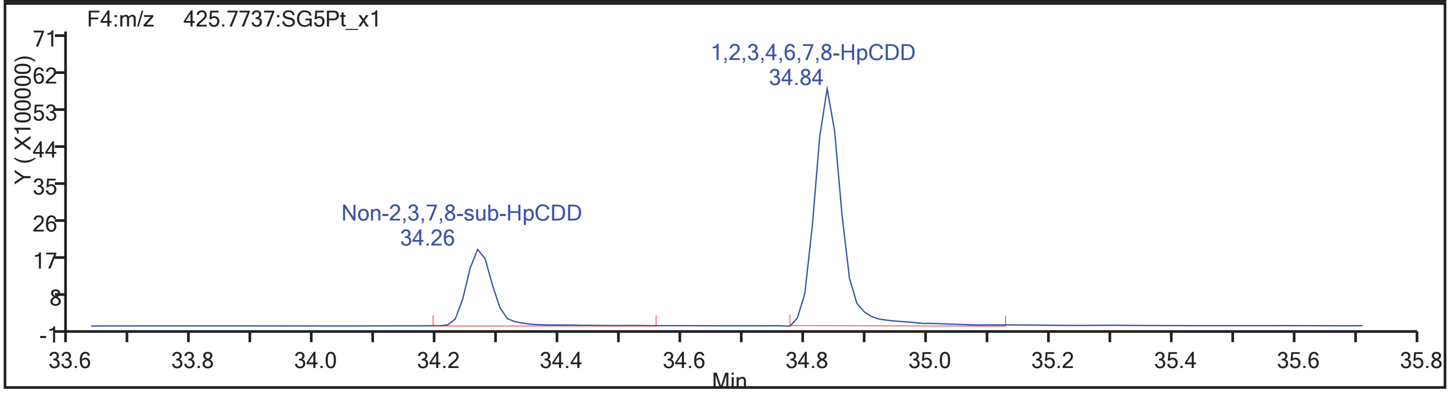


TestAmerica Sacramento

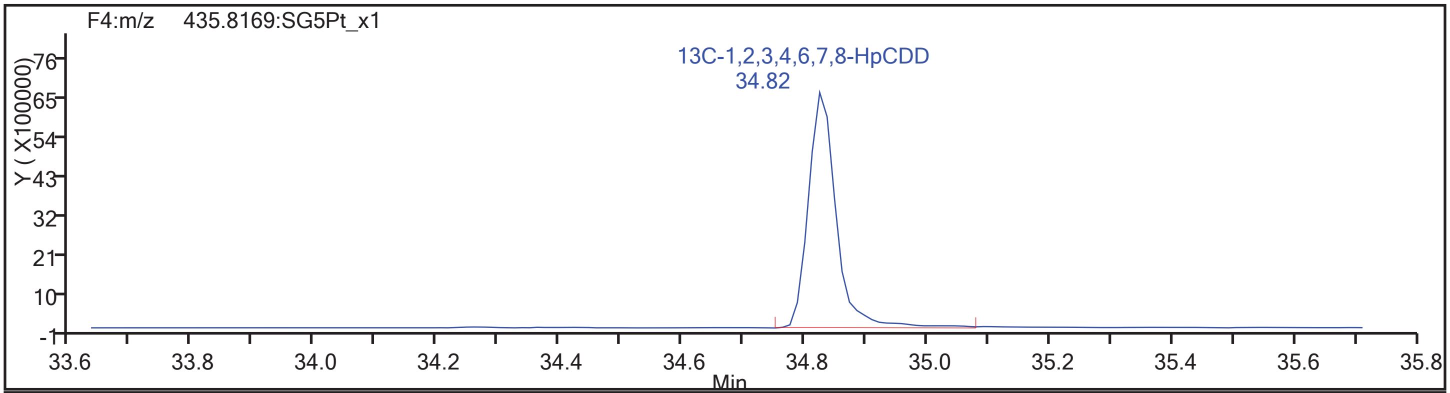
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Injection Date:	19-Nov-2017 05:40:06	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	74
Column Type:		Column Dia:	

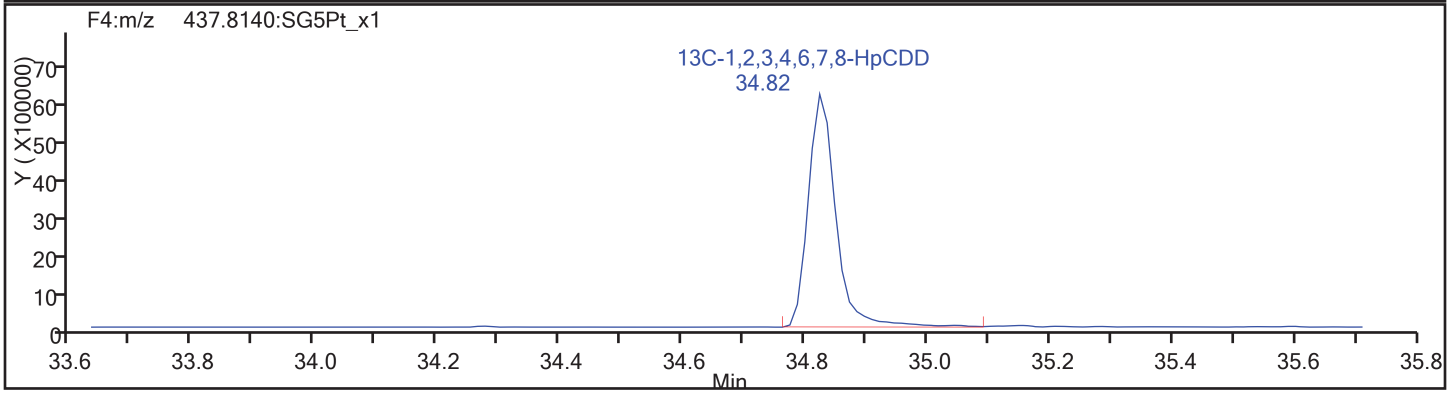
HpCDD





HpCDD Standards



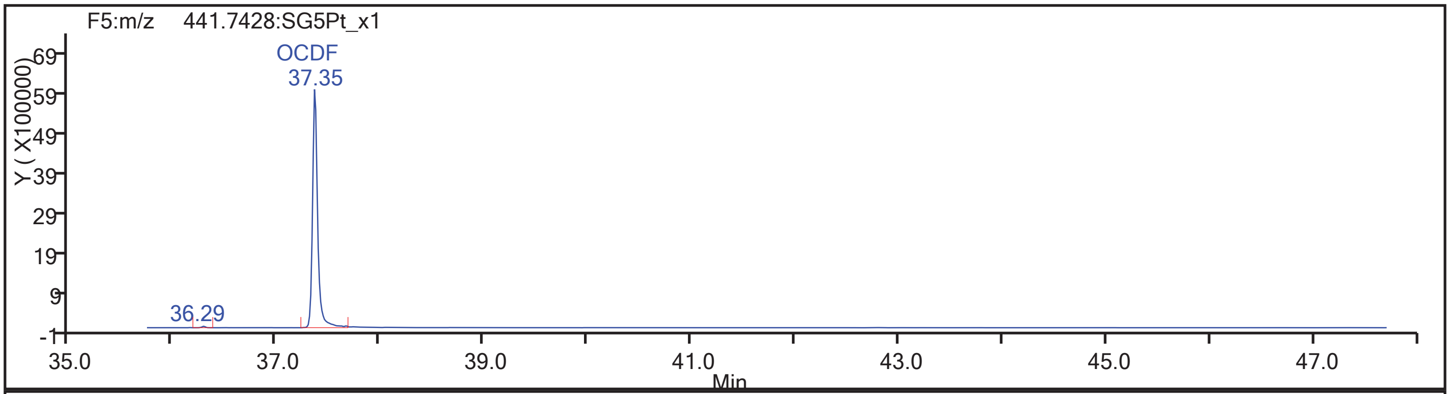


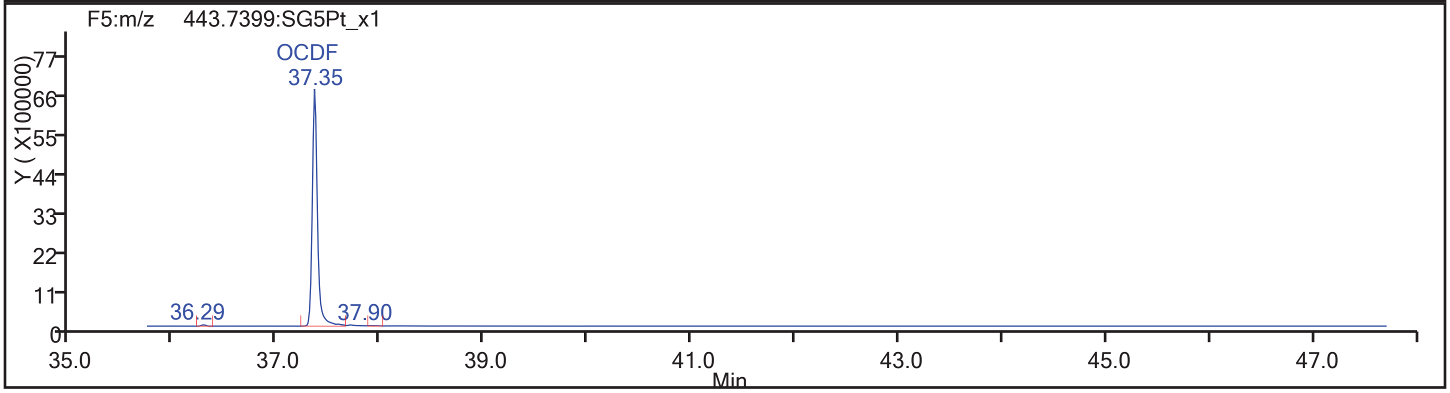
Report Date: 06-Dec-2017 10:55:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

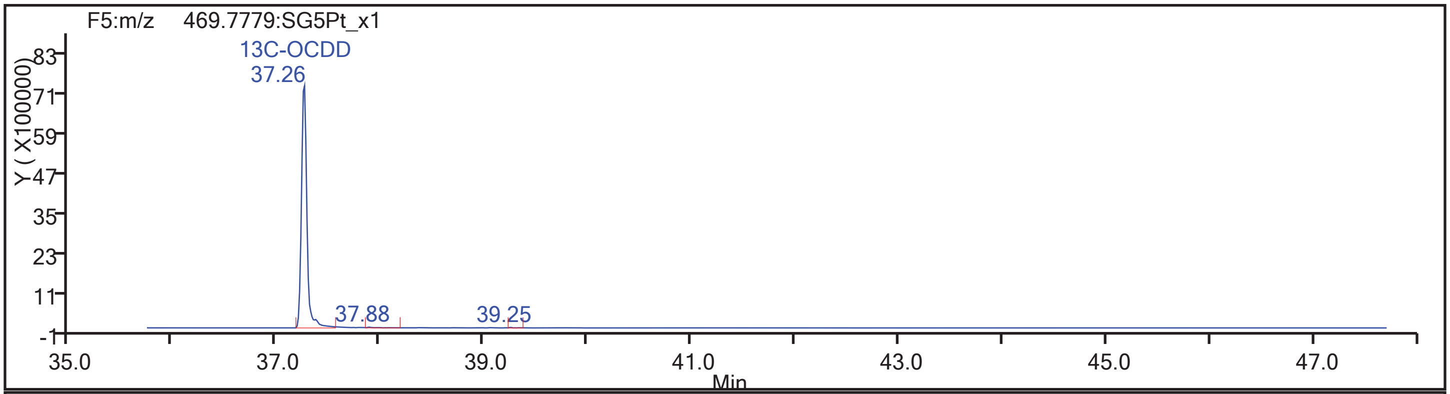
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Injection Date:	19-Nov-2017 05:40:06	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	74
Column Type:		Column Dia:	

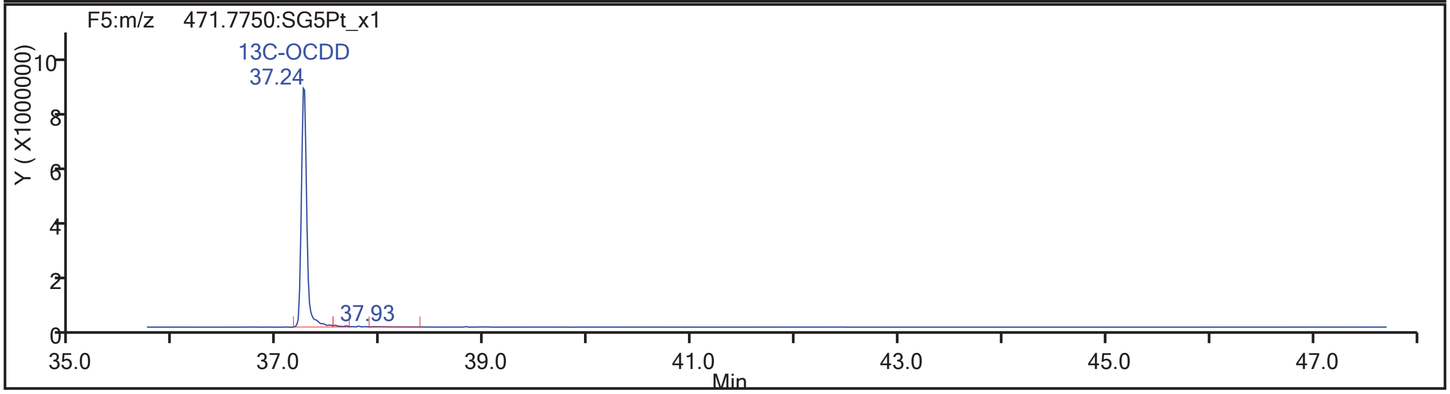
OCDF





OCDF Standards



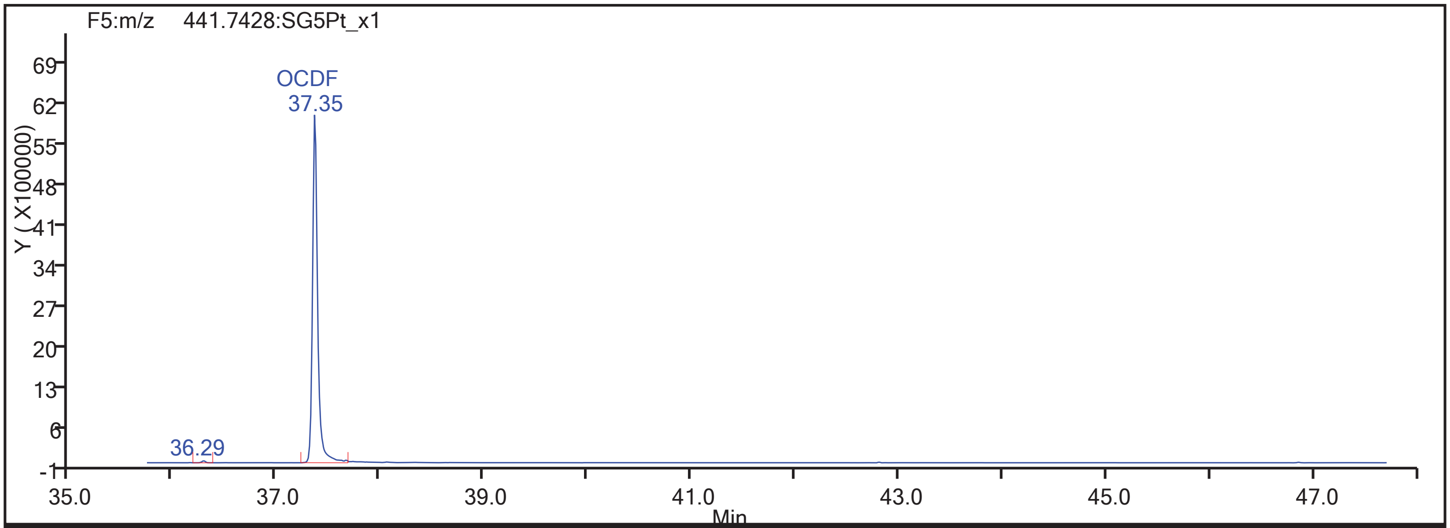


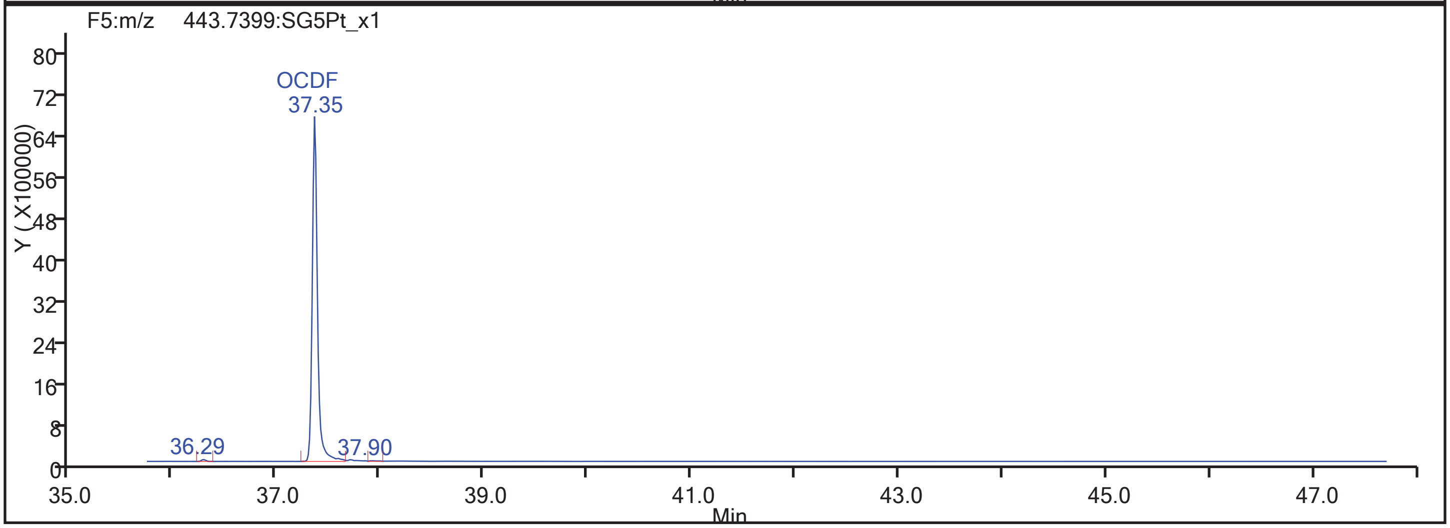
Report Date: 06-Dec-2017 10:55:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

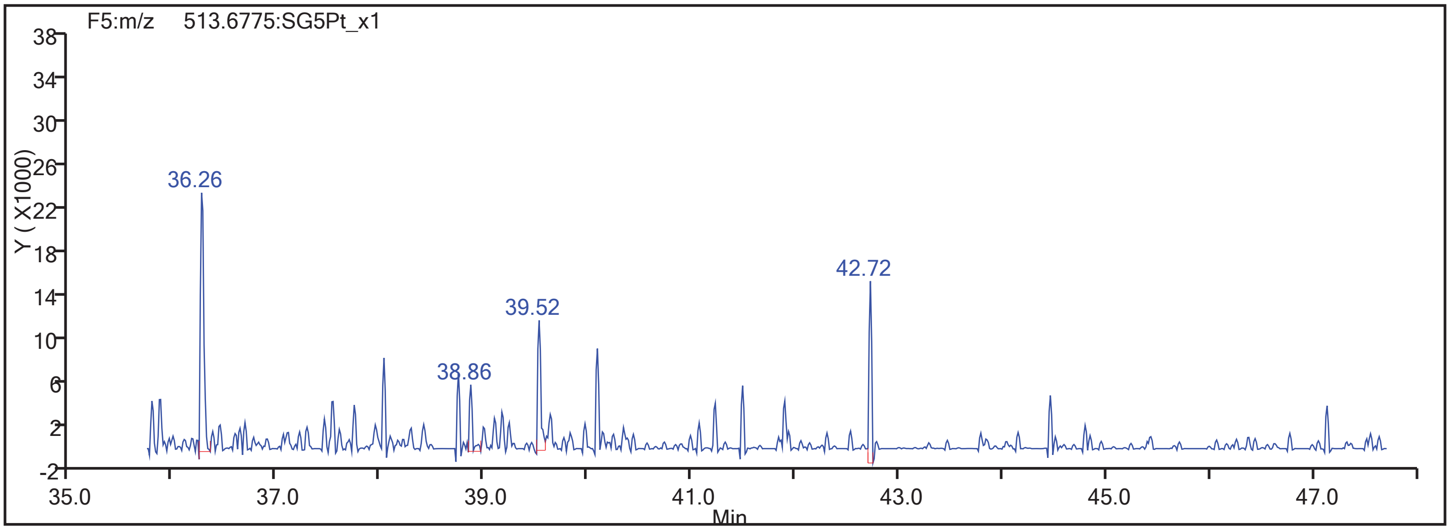
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Injection Date: 19-Nov-2017 05:40:06
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 74
Column Type:
Column Dia:

OCDF





OCDF Interference Mass

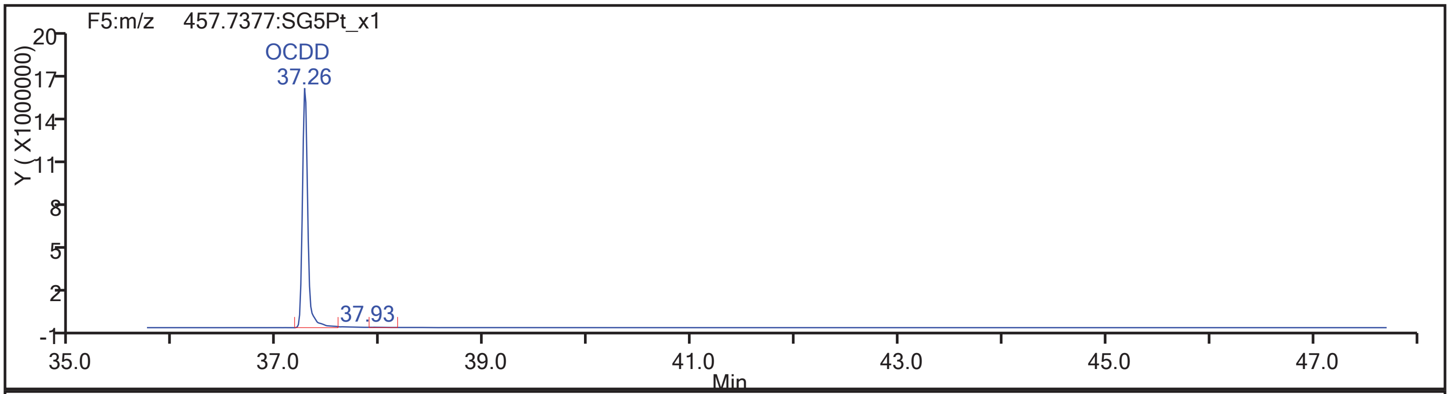


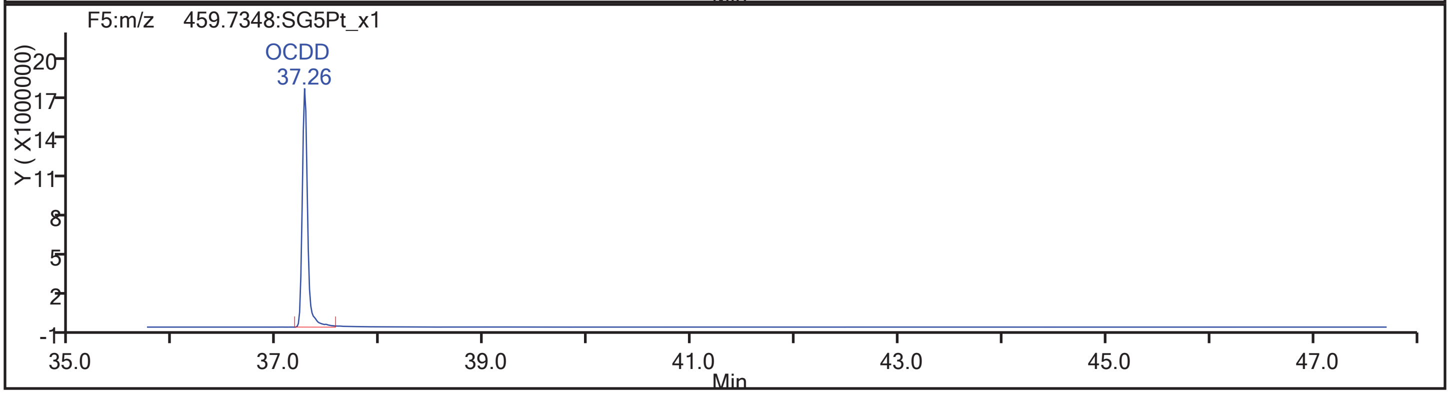
Report Date: 06-Dec-2017 10:55:48 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

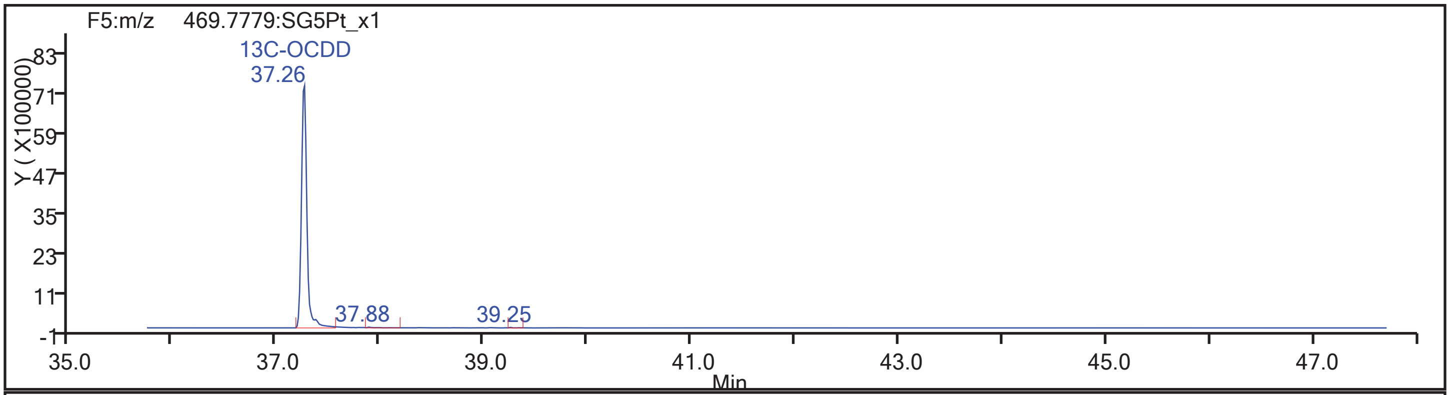
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d
Injection Date: 19-Nov-2017 05:40:06
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 74
Column Type:
Column Dia:

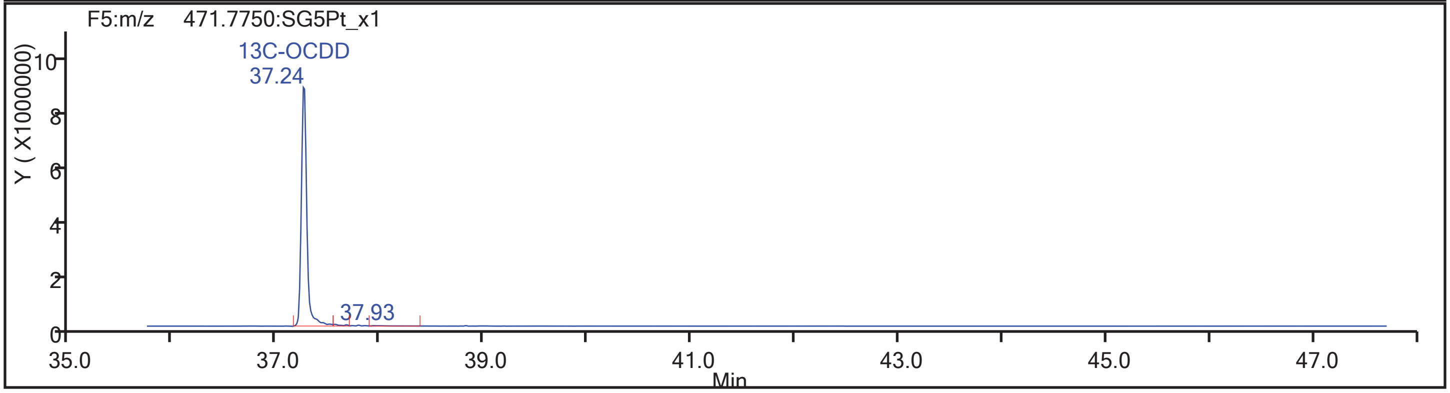
OCDD





OCDD Standards

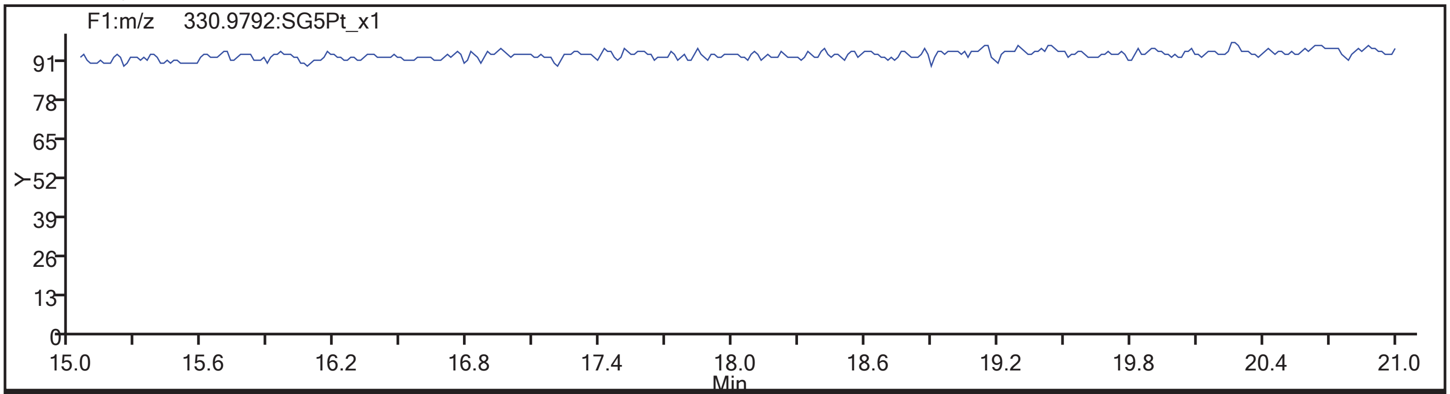


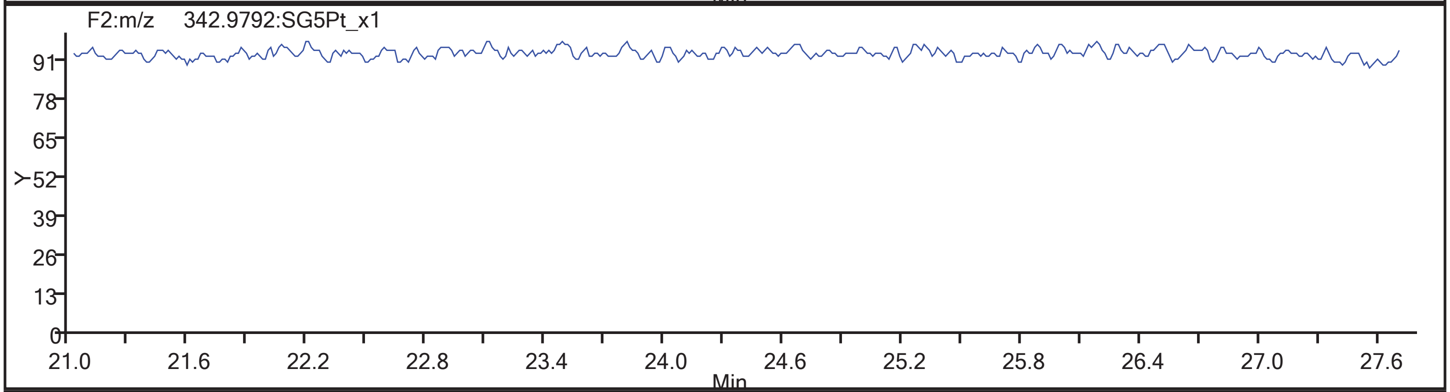


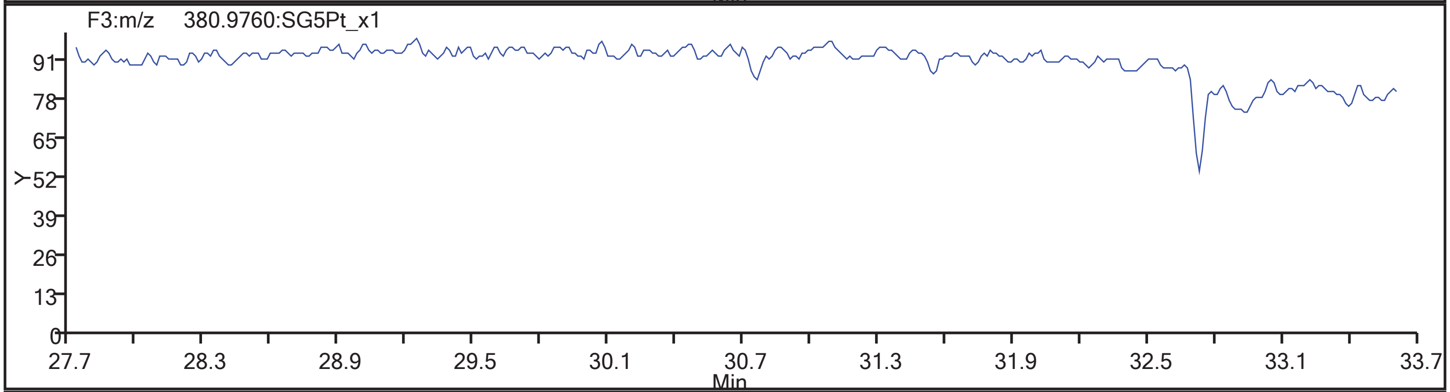
Report Date: 06-Dec-2017 10:55:48
Chrom Revision: 2.2 16-Aug-2017 16:24:46

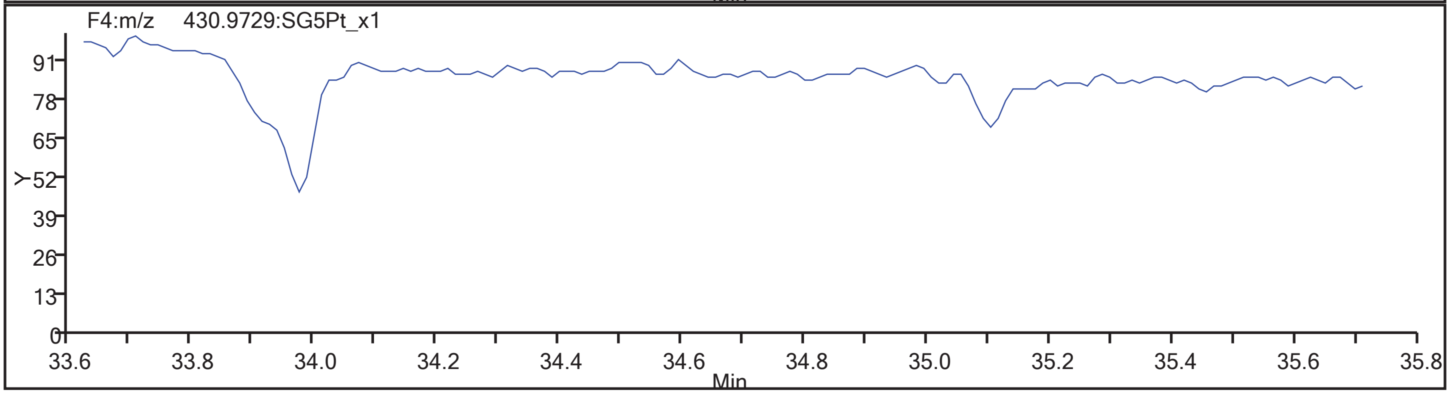
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d		
Injection Date:	19-Nov-2017 05:40:06	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	74
Column Type:		Column Dia:	





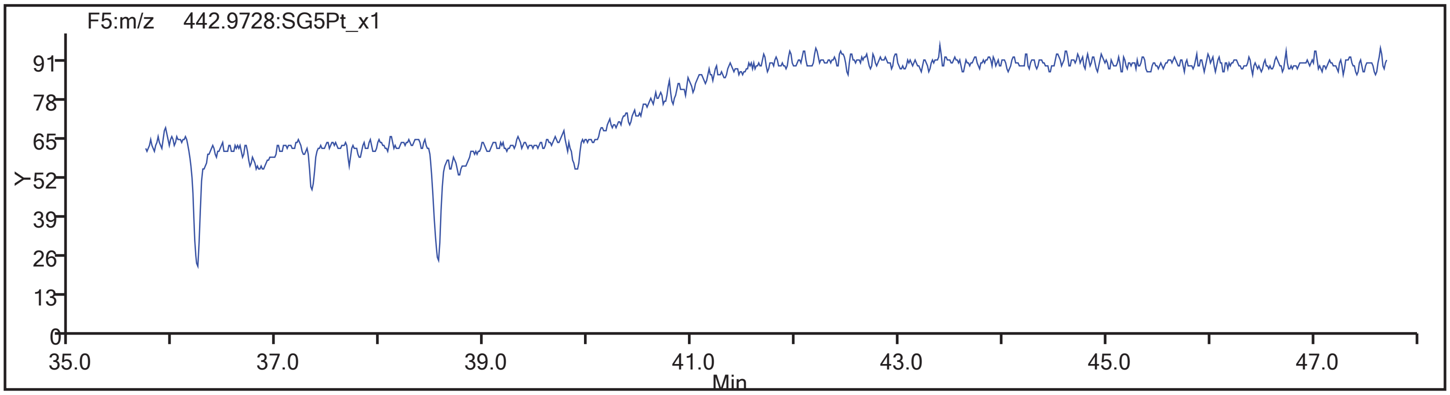




TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_74.d

Injection Date:	19-Nov-2017 05:40:06	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	74
Column Type:		Column Dia:	



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS03NS MS RERA	Lab Sample ID: 160-24924-9 MS RERA
Matrix: Solid	Lab File ID: 05DE179D2_009.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:59
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 10.15(g)	Date Analyzed: 12/05/2017 16:36
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 2.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 198469	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	*2,3,7,8-TCDF*	*20.2*	*H*	*1.0*	0.40	*0.59*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	59		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_009.d				
Lims ID:	160-24924-G-9-E MS				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	MS				
Inject. Date:	05-Dec-2017 16:36:48	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-9-E MS				
Misc. Info.:	DB225RES				
Operator ID:		Instrument ID:	9D2		
Method:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	06-Dec-2017 10:58:08	Calib Date:	02-Mar-2017 16:36:13		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d				
Column 1 :	DB-225 (0.32 mm)		Det: F1:HRSIR		
Process Host:	XAWRK017				

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.976	122820898	0.77	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.114	91484535	0.77	1.2599	59.1	59.1	0.3082	0.3082	59.12	
2,3,7,8-TCDF	16.128	9912179	0.72	1.0784	10.0	10.0	0.2921	0.2921	100	
D 13C-2,3,7,8-TCDD	14.715	70462101	0.78	0.9567	60.0	60.0	1.162	1.162	59.97	
$ 37Cl4-2,3,7,8-TCDD	14.729	46160807		1.1208	33.5	33.5	0.0772	0.0772	83.84	
2,3,7,8-TCDD	14.729	7828344	0.77	1.1123	9.988	9.988	0.1937	0.1937	99.88	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_009.d
Lims ID: 160-24924-G-9-E MS
Client ID: SHAD041DP022SS03NS
Sample Type: MS
Inject. Date: 05-Dec-2017 16:36:48 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-E MS
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 10:58:08 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK017

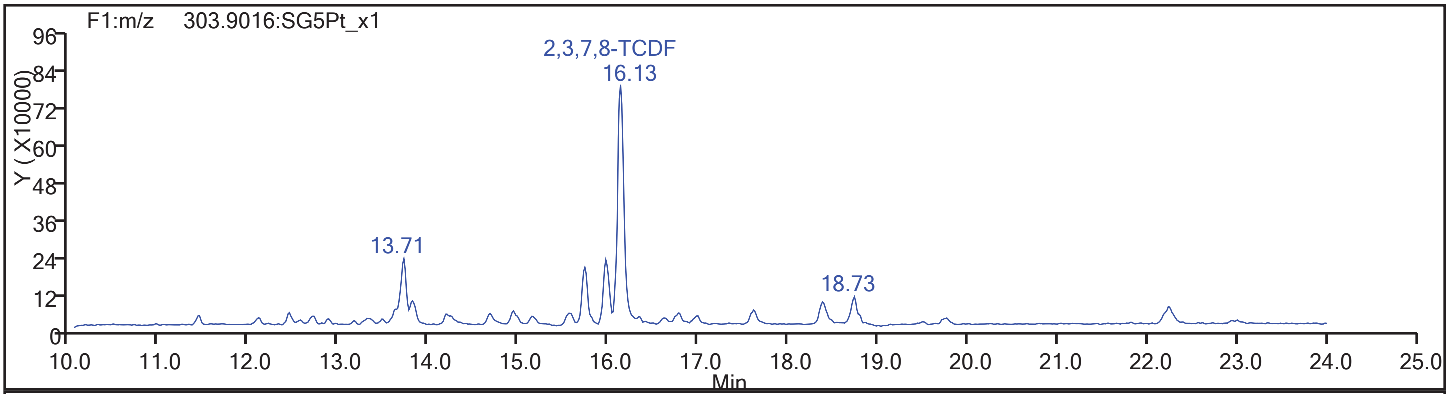
Signal	RT (min.)	Adj RT (min.)	M Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.976	14.967	1		53465985	10655200	68204	170510	156		
333.9339	14.962	14.967	0		69354913	14132828	41992	104980	337	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.114	16.106	1	1.076	39775837	7866573	21730	54325	362		
317.9389	16.114	16.106	1	1.076	51708698	10347222	16766	41915	617	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.128	16.119	1	1.001	4148892	778549	13331	33327	58		
305.8987	16.128	16.119	1	1.001	5763287	1158242	9620	24050	120	0.72(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.715	14.706	1	0.983	30980276	6376693	68204	170510	93		
333.9339	14.715	14.706	1	0.983	39481825	8124937	41992	104980	193	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.729	14.734	0	0.984	46160807	9550401	8574	21435	1114		
2,3,7,8-TCDD											
319.8965	14.729	14.734	0	1.001	3416457	712874	6715	16787	106		
321.8936	14.729	14.734	0	1.001	4411887	899136	5783	14457	155	0.77(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				13331	33327			
Total Dioxins & Furans											
303.9016		0.0	0				13331	33327			

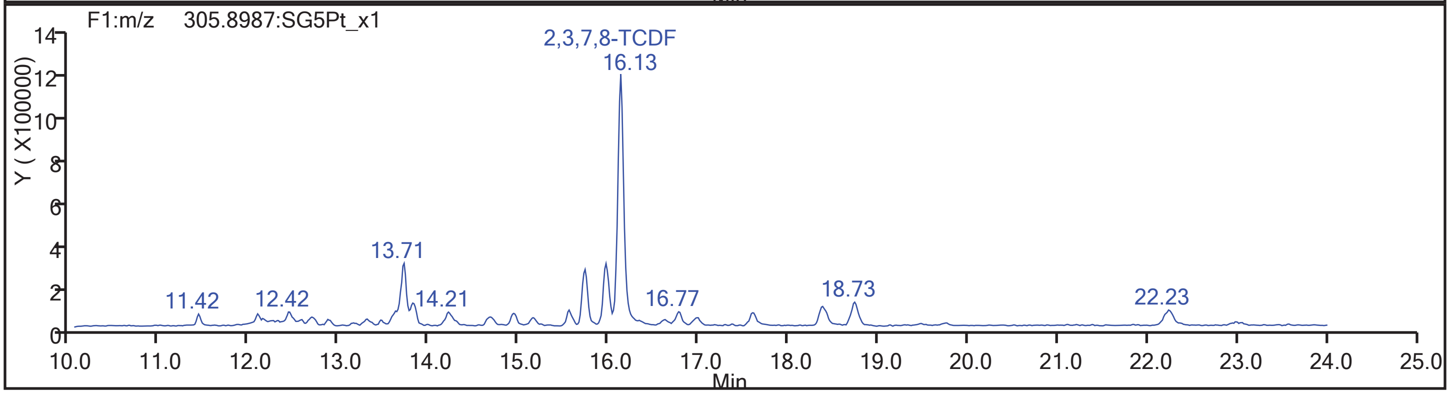
Report Date: 06-Dec-2017 10:58:38		Chrom Revision: 2.2 16-Aug-2017 16:24:46	

TestAmerica Sacramento

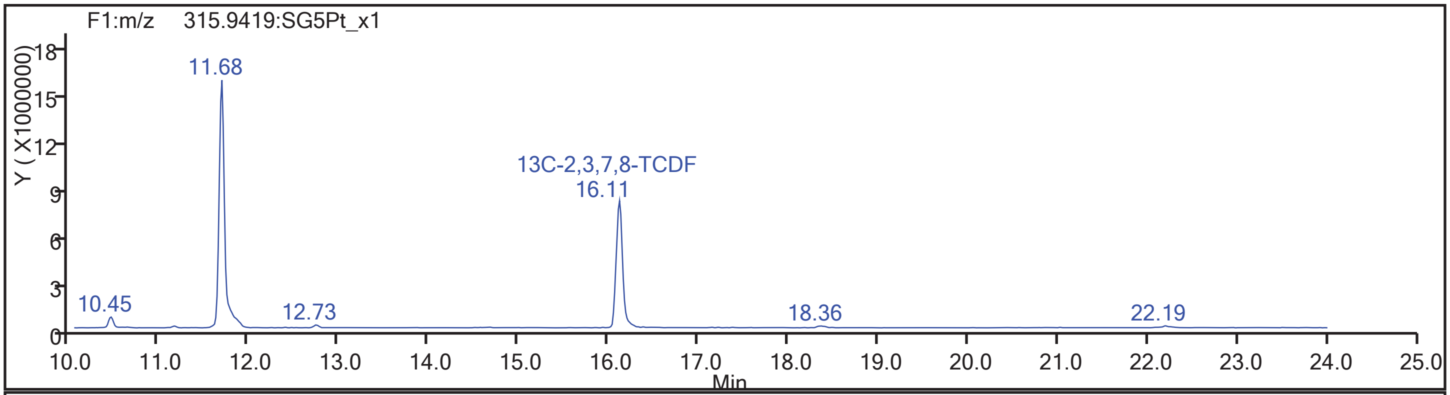
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_009.d		
Injection Date:	05-Dec-2017 16:36:48	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	198469	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

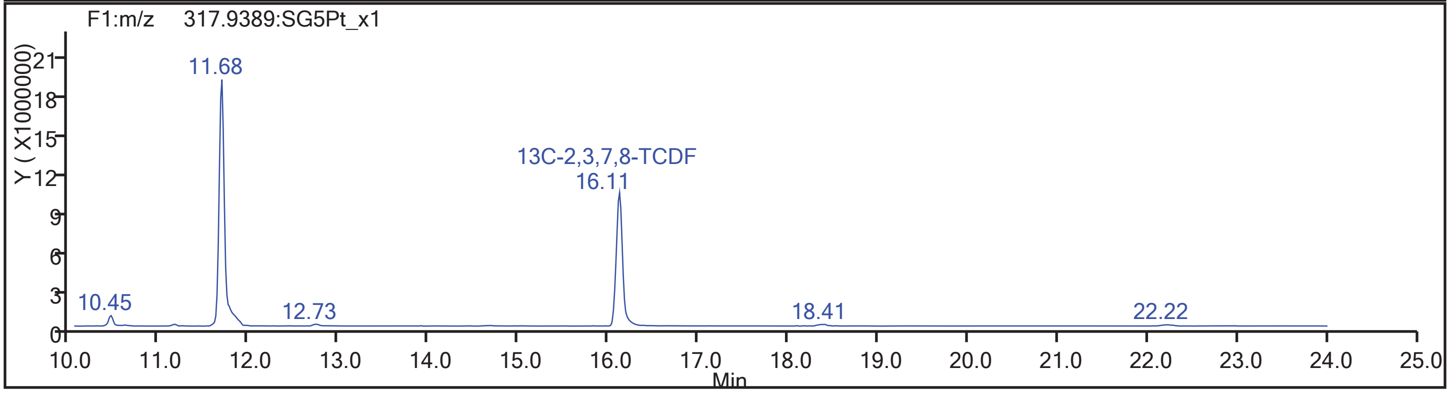
TCDF





TCDF Standards



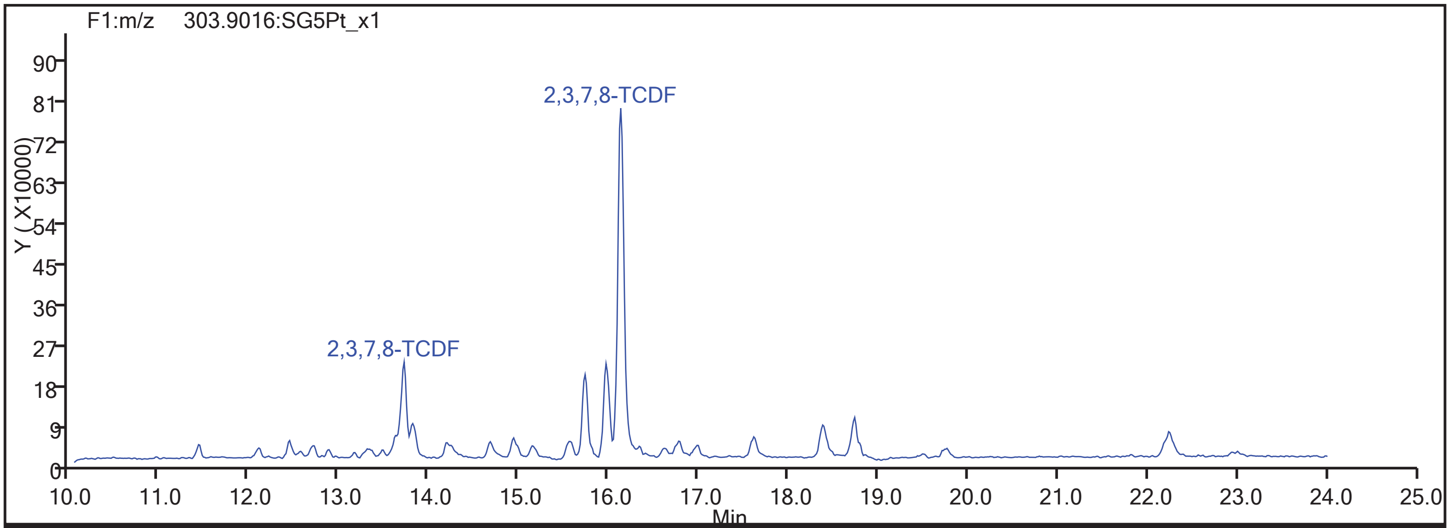


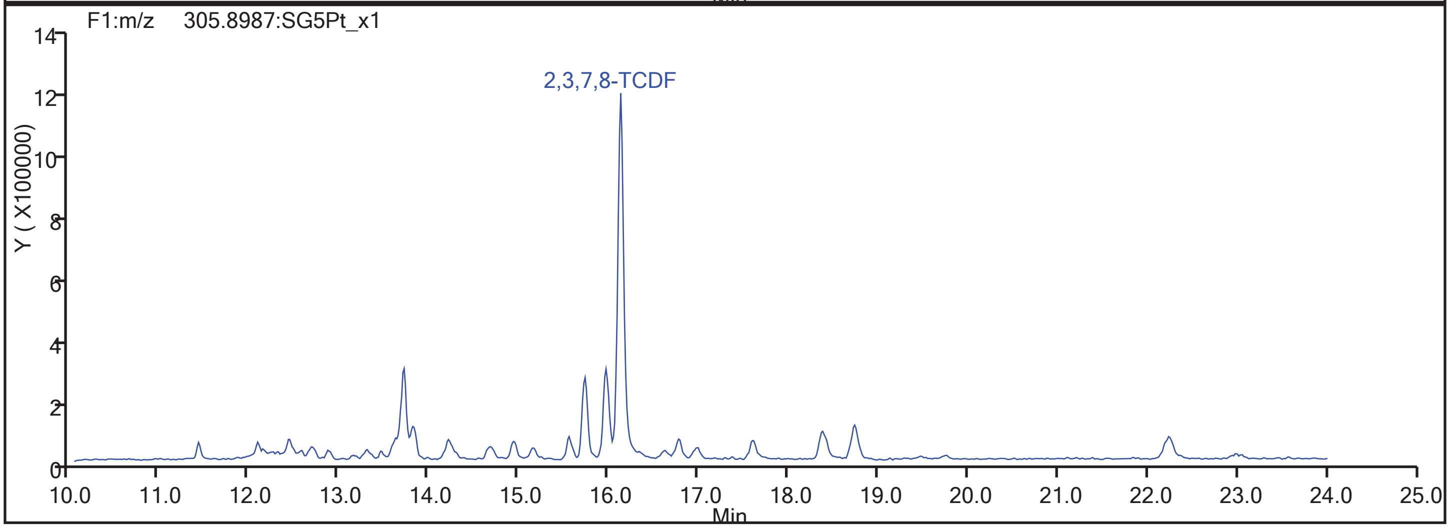
Report Date: 06-Dec-2017 10:58:38 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

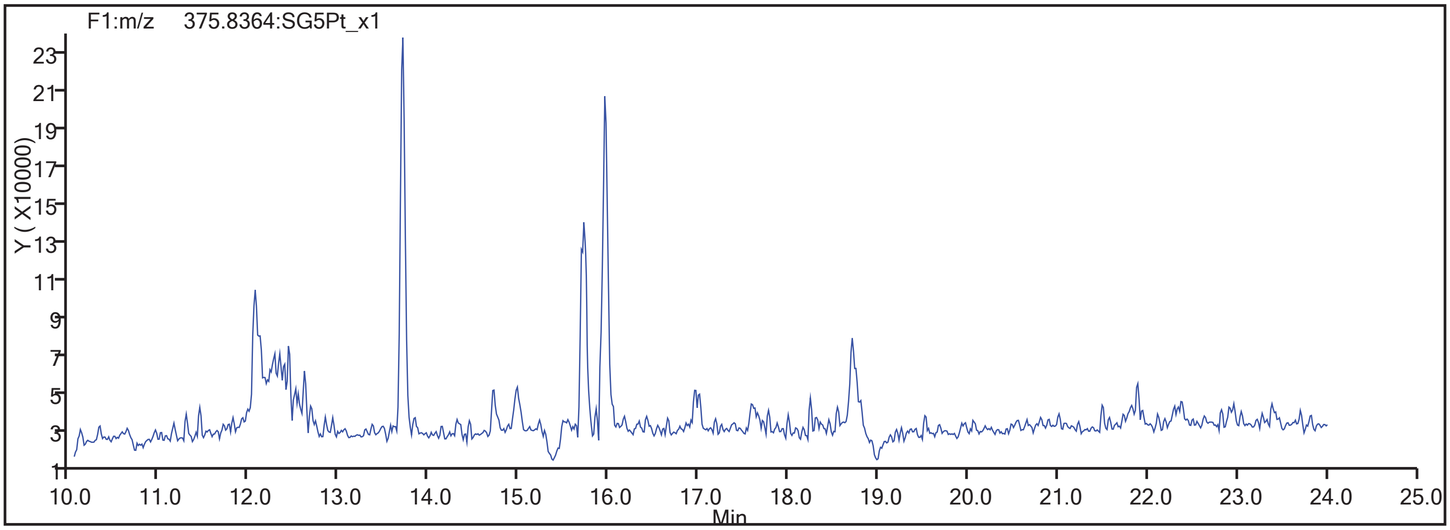
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_009.d		
Injection Date:	05-Dec-2017 16:36:48	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	198469	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





TCDF Interference Mass



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_009.d

Injection Date: 05-Dec-2017 16:36:48

Injection Vol: 2.0 ul

Instrument ID: 9D2

Operator ID:

Method: DXN_DB225_9D2

Limit Group: HR - 8290A_D5 - ICAL

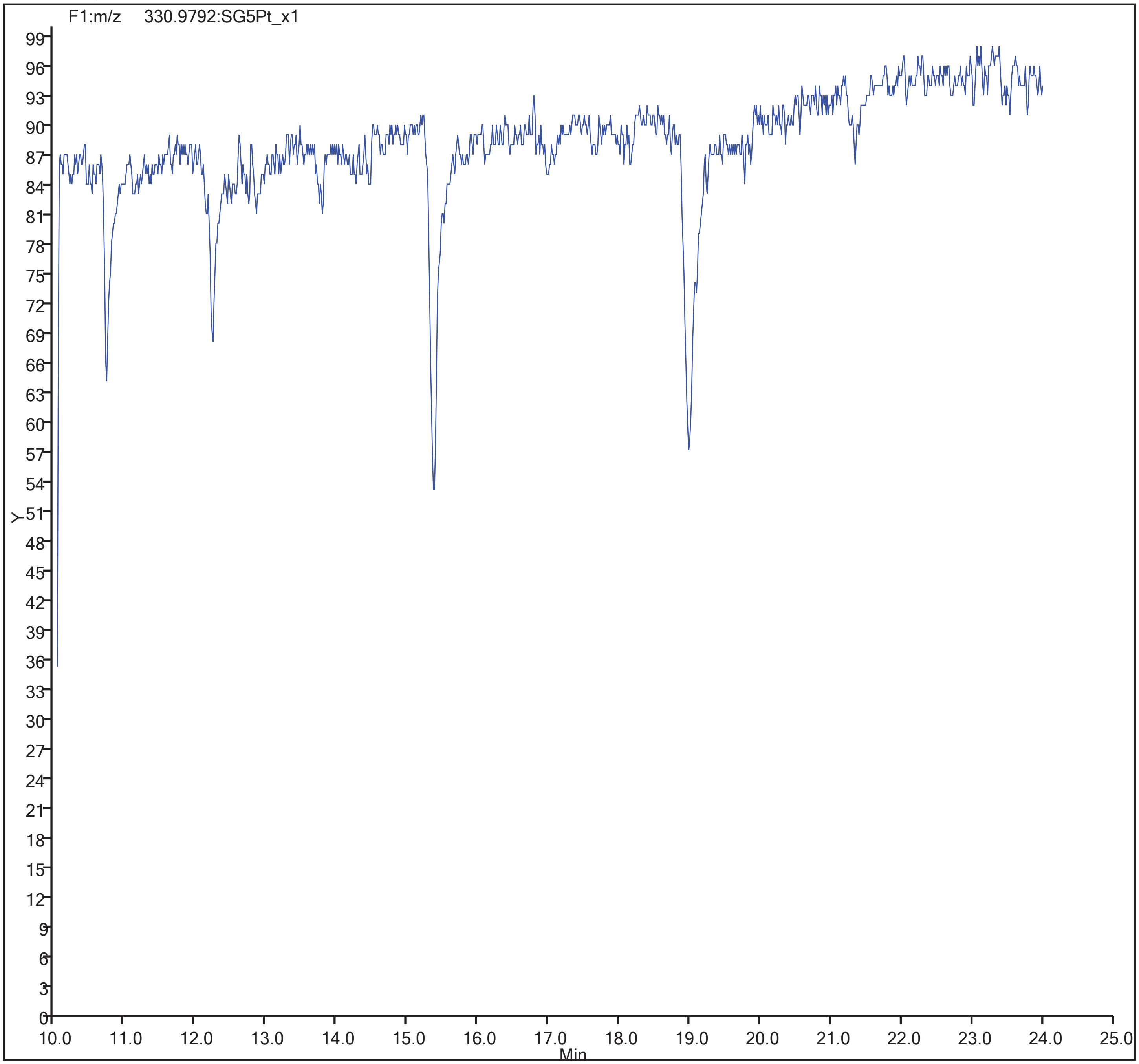
Client ID: SHAD041DP022SS03NS

Worklist#: 198469

Sample Line#: 9

Column Type: DB-225

Column Dia: 0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Client Sample ID: SHAD041DP022SS03NS MSD RA
Lab Sample ID: 160-24924-9 MSD RA
Matrix: Solid
Lab File ID: 07NO179D2_015.d
Analysis Method: 8290A
Date Collected: 10/05/2017 16:59
Extract. Method: 8290
Date Extracted: 10/17/2017 11:29
Sample wt/vol: 10.01(g)
Date Analyzed: 11/07/2017 18:59
Con. Extract Vol.: 20.00(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 2.0
GPC Cleanup:(Y/N) N
Analysis Batch No.: 193317
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	2,3,7,8-TCDF	23.5	M	1.0	0.41	0.18

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	62		40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_015.d
Lims ID: 160-24924-G-9-C MSD
Client ID: SHAD041DP022SS03NS
Sample Type: MSD
Inject. Date: 07-Nov-2017 18:59:18 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-C-MSD
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:50:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.007	419472273	0.81	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.131	327115683	0.81	1.2599	61.9	61.9	0.1798	0.1798	61.90	
2,3,7,8-TCDF	16.145	40650977	0.79	1.0784	11.5	11.5	0.0859	0.0859	115	M
D 13C-2,3,7,8-TCDD	14.732	236989649	0.79	0.9567	59.1	59.1	0.3457	0.3457	59.05	
$ 37Cl4-2,3,7,8-TCDD	14.760	171892360		1.1208	36.6	36.6	0.0359	0.0359	91.41	
2,3,7,8-TCDD	14.760	26118262	0.80	1.1123	9.908	9.908	0.0636	0.0636	99.08	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

QC Flag Legend
Review Flags
M - Manually Integrated

Report Date: 09-Nov-2017 16:51:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_015.d
Lims ID: 160-24924-G-9-C MSD
Client ID: SHAD041DP022SS03NS
Sample Type: MSD
Inject. Date: 07-Nov-2017 18:59:18 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-C-MSD
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 09-Nov-2017 16:51:06 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK008

First Level Reviewer: shardaa Date: 09-Nov-2017 16:50:45

Signal	RT (min.)	Adj RT (min.)	N Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.007	14.991	1		187273274	41640738	81315	203287	512		
333.9339	15.007	14.991	1		232198999	51784131	42296	105740	1224	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.131	16.130	0	1.075	146116260	29048798	40842	102105	711		
317.9389	16.131	16.130	0	1.075	180999423	36335053	43807	109517	829	0.81(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.145	16.144	0	1.001	17979750	3452743	13236	33090	261		M
305.8987	16.145	16.144	0	1.001	22671227	4396973	11002	27505	400	0.79(0.65-0.89)	M
13C-2,3,7,8-TCDD											
331.9368	14.732	14.731	0	0.982	104690516	23112214	81315	203287	284		
333.9339	14.732	14.731	0	0.982	132299133	28708090	42296	105740	679	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.760	14.744	1	0.984	171892360	37387456	15017	37542	2490		
2,3,7,8-TCDD											
319.8965	14.760	14.744	1	1.002	11604503	2537503	6268	15670	405		
321.8936	14.760	14.744	1	1.002	14513759	3223598	8399	20997	384	0.80(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				13236	33090			
Total Dioxins & Furans											
303.9016		0.0	0				13236	33090			

QC Flag Legend

Review Flags

M - Manually Integrated

TestAmerica Sacramento

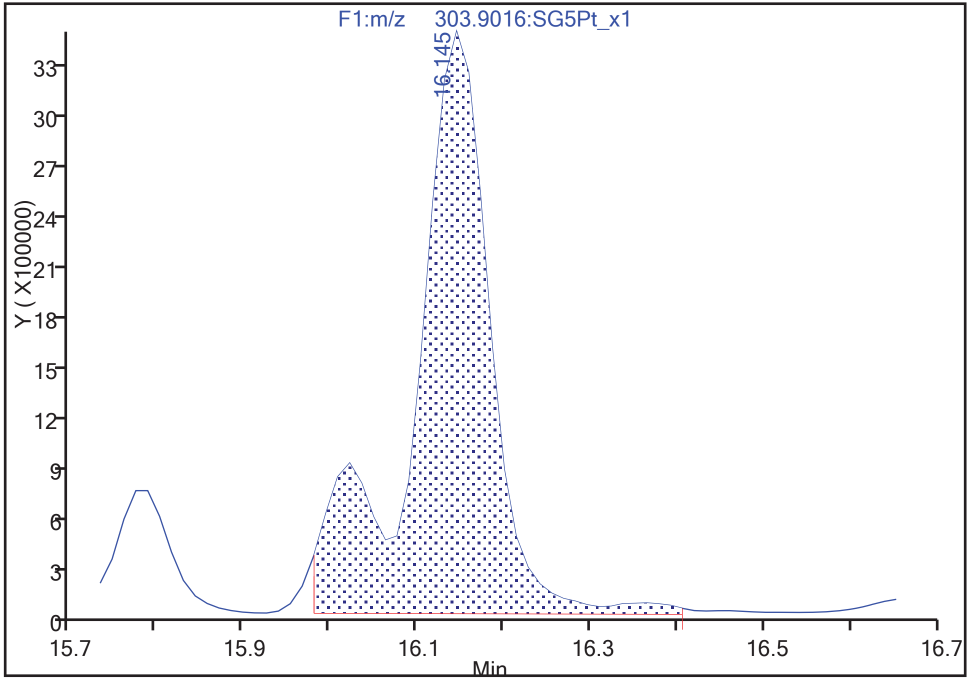
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_015.d				
Injection Date:	07-Nov-2017 18:59:18	Instrument ID:	9D2		
Lims ID:	160-24924-G-9-C MSD				
Client ID:	SHAD041DP022SS03NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

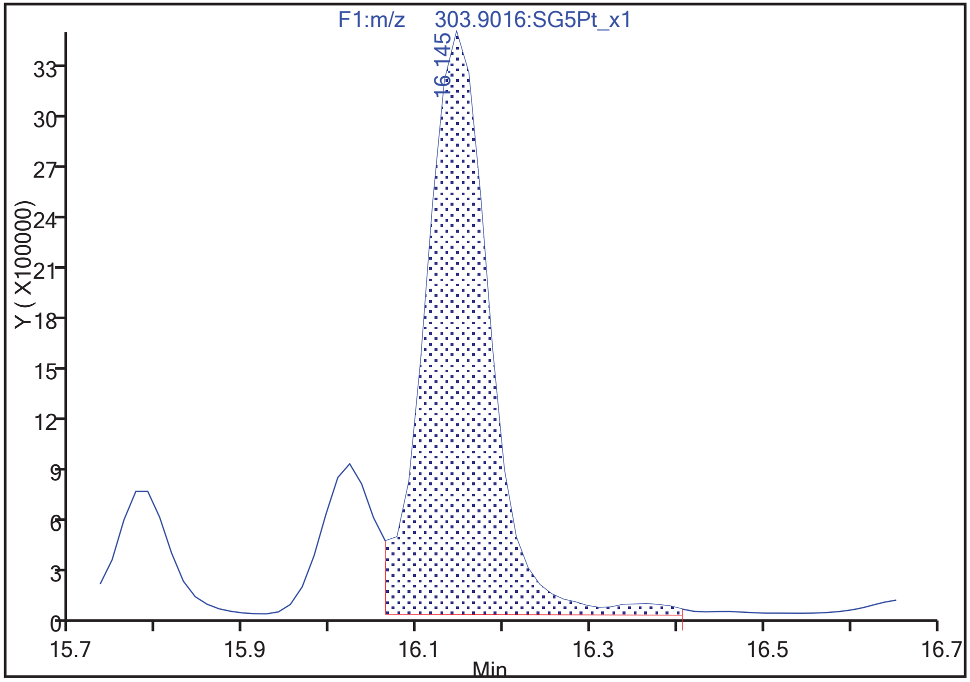
Processing Integration Results

RT: 16.15
Area: 21296876
Amount: 13.755006
Amount Units: pg/ul



Manual Integration Results

RT: 16.15
Area: 17979750
Amount: 11.523200
Amount Units: pg/ul



Reviewer: shardaa, 09-Nov-2017 16:50:24
Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

TestAmerica Sacramento

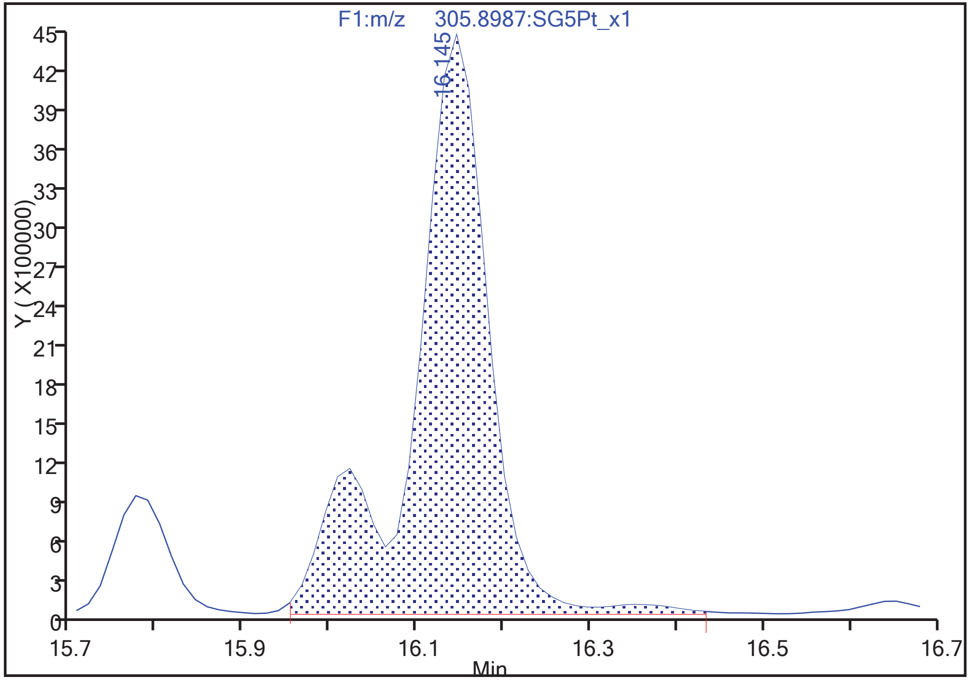
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_015.d				
Injection Date:	07-Nov-2017 18:59:18	Instrument ID:	9D2		
Lims ID:	160-24924-G-9-C MSD				
Client ID:	SHAD041DP022SS03NS				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

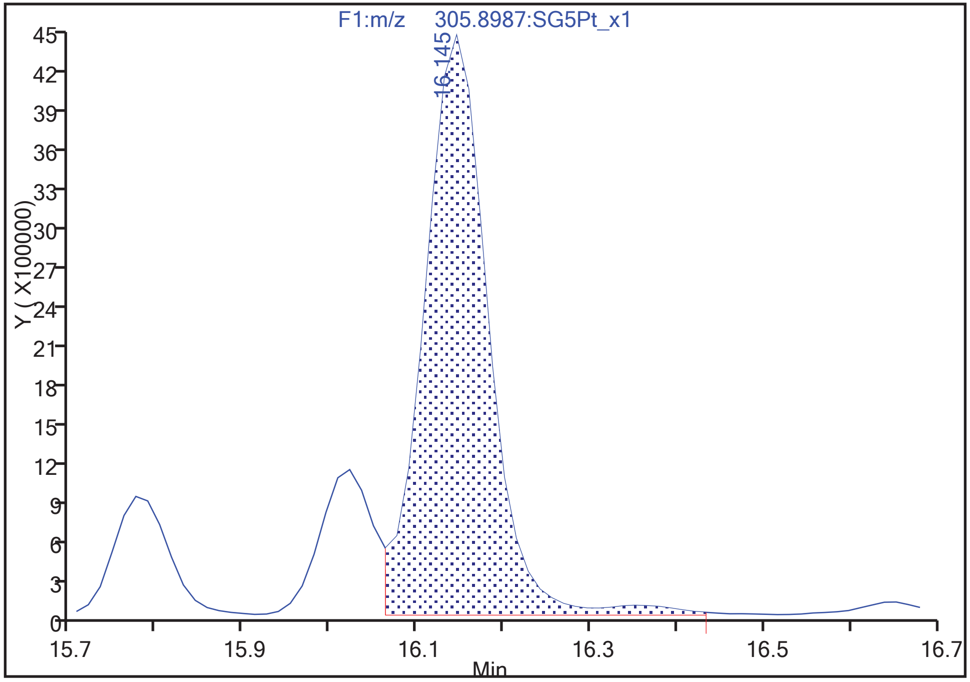
RT:	16.15
Area:	27227358
Amount:	13.755006
Amount Units:	pg/ul

Processing Integration Results



RT:	16.15
Area:	22671227
Amount:	11.523200
Amount Units:	pg/ul

Manual Integration Results



Reviewer: shardaa, 09-Nov-2017 16:50:38

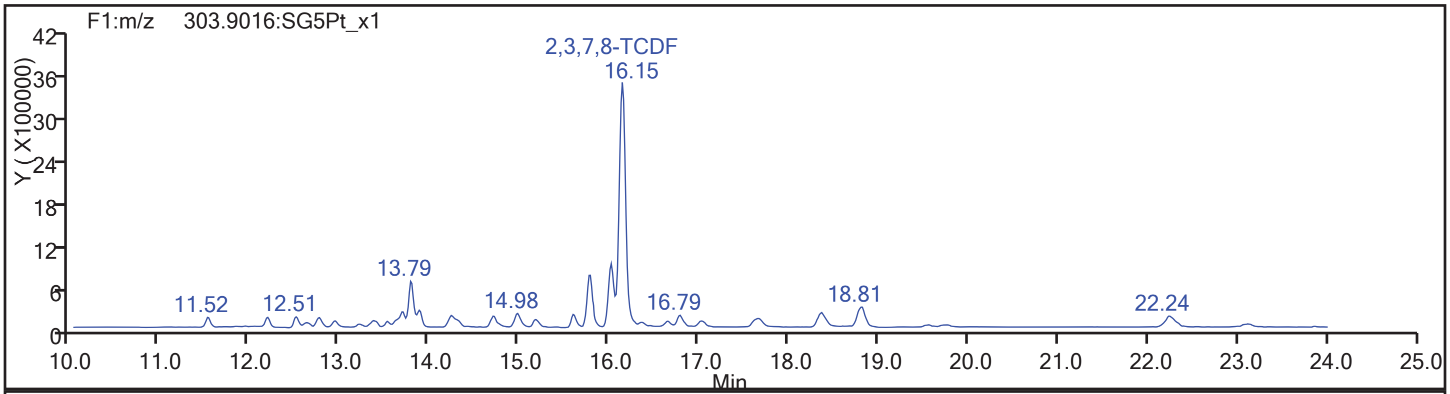
Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

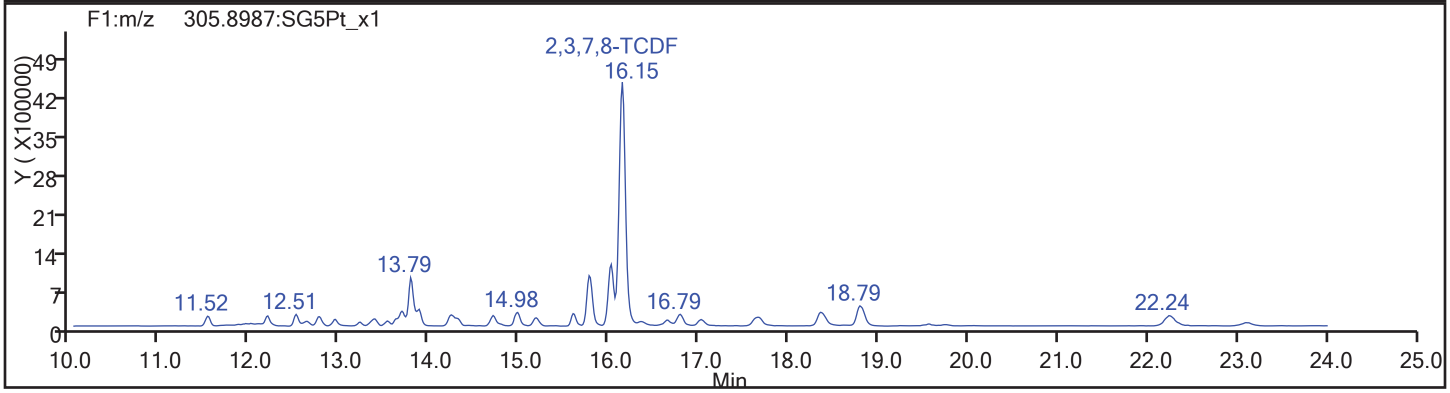
Report Date: 09-Nov-2017 16:51:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

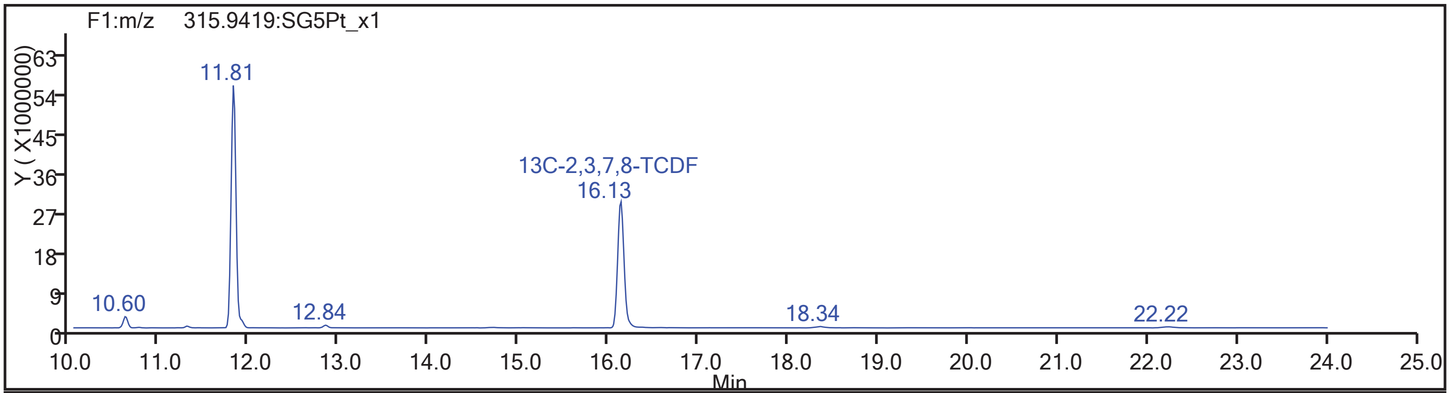
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_015.d		
Injection Date:	07-Nov-2017 18:59:18	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	193317	Sample Line#:	15
Column Type:	DB-225	Column Dia:	0.32 mm

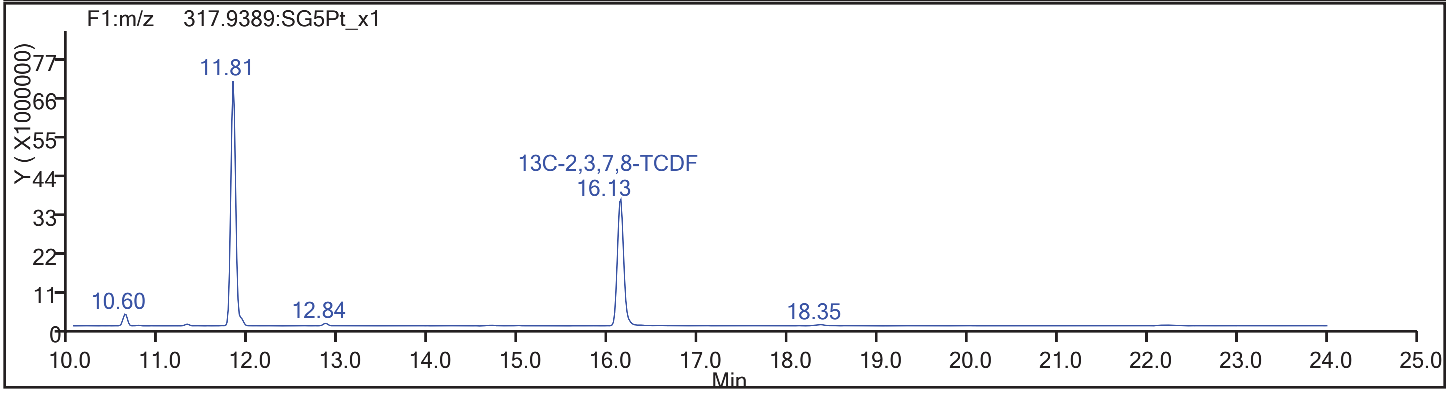
TCDF





TCDF Standards



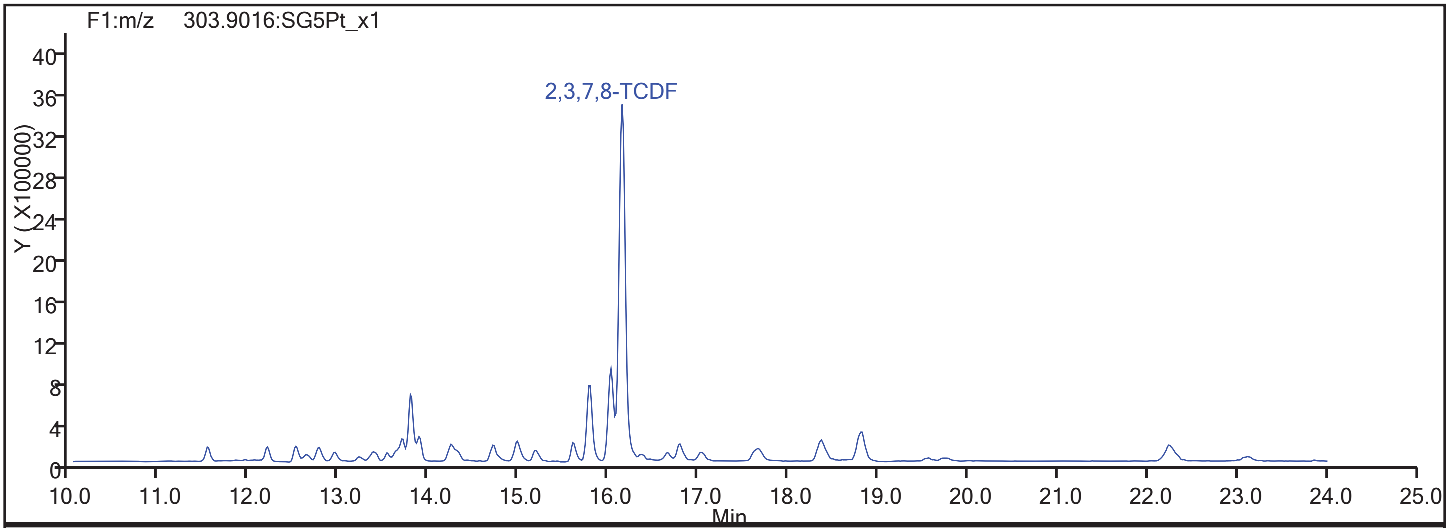


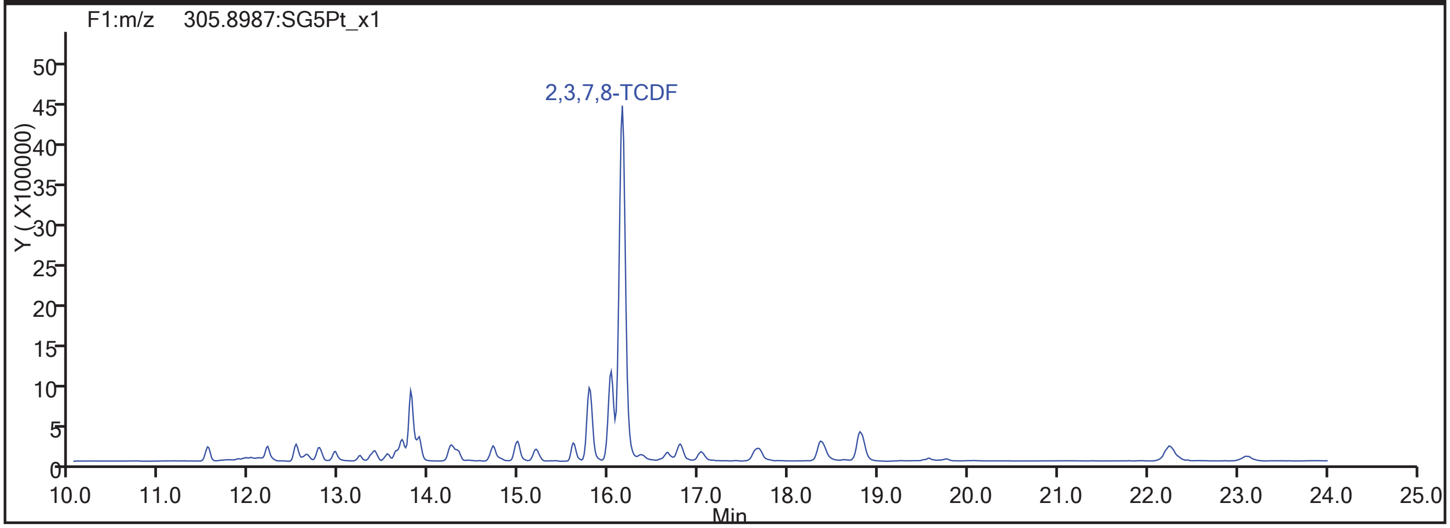
Report Date: 09-Nov-2017 16:51:32 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

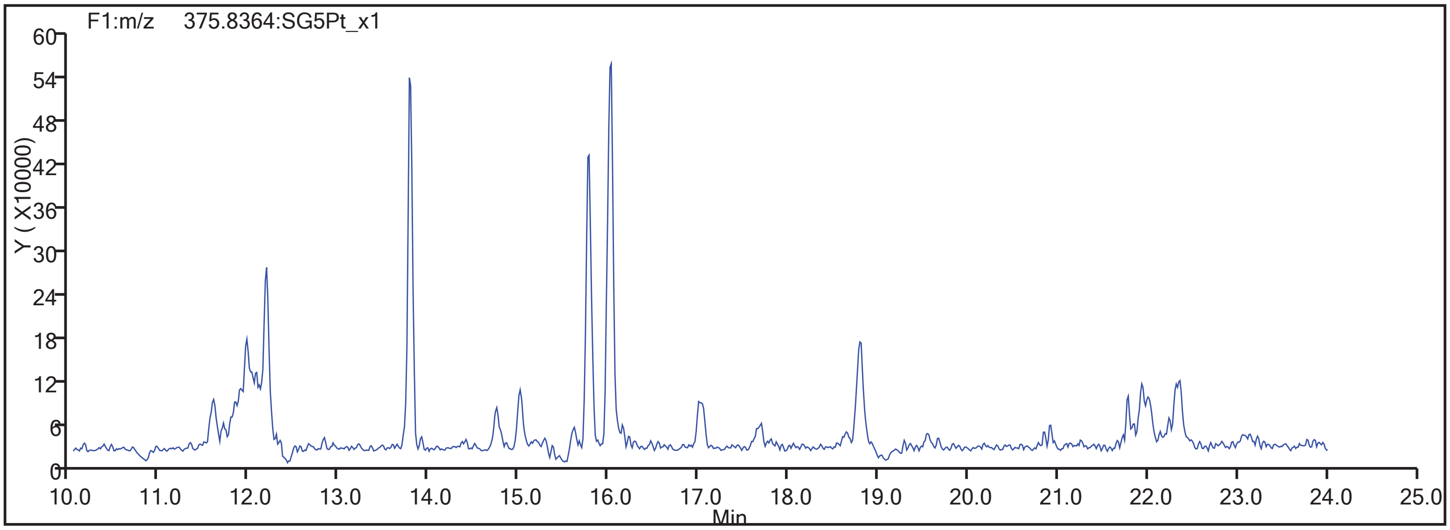
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_015.d		
Injection Date:	07-Nov-2017 18:59:18	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	193317	Sample Line#:	15
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





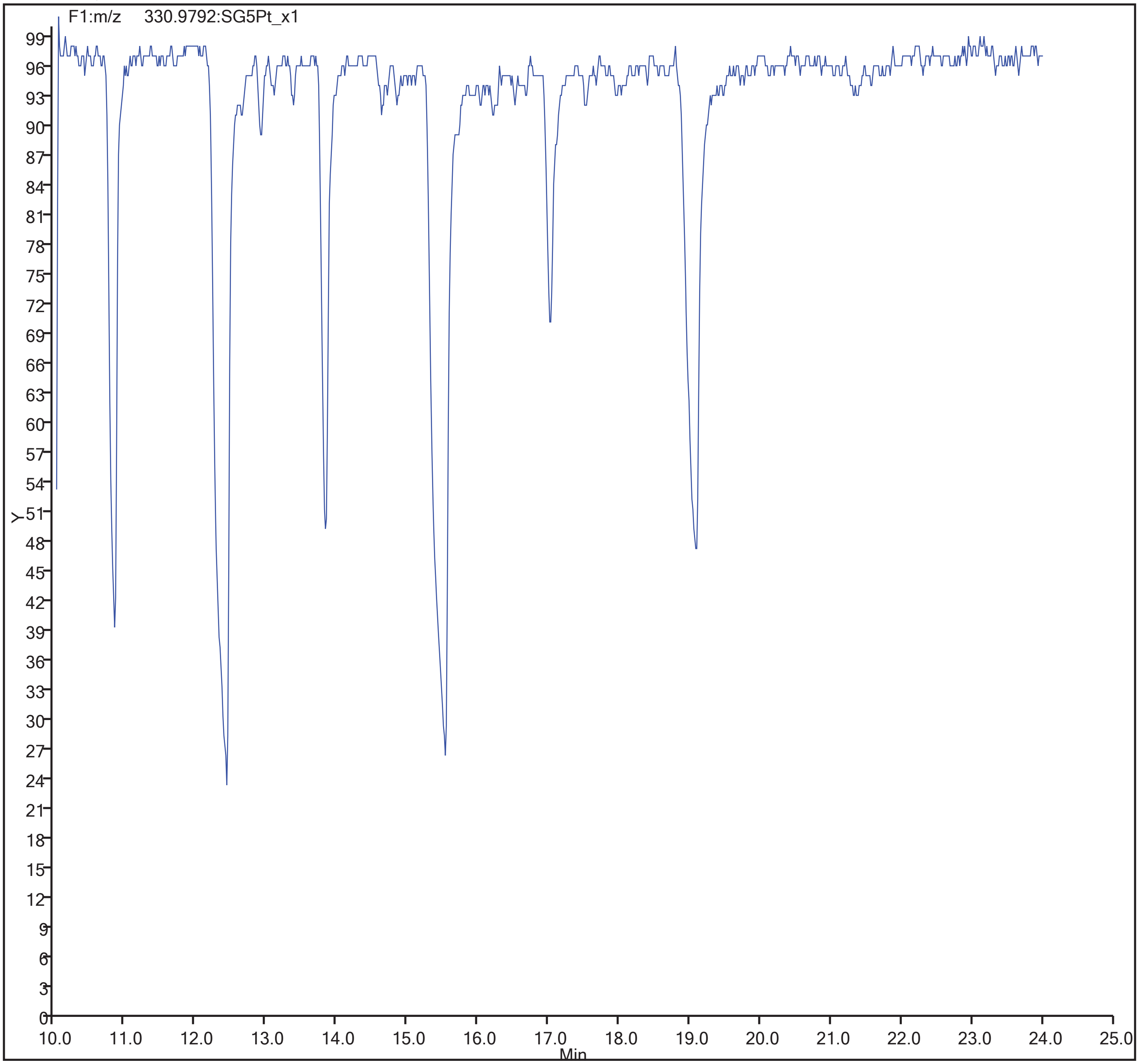
TCDF Interference Mass



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b\07NO179D2_015.d

Injection Date:	07-Nov-2017 18:59:18	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	193317	Sample Line#:	15
Column Type:	DB-225	Column Dia:	0.32 mm



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP022SS03NS MSD

Lab Sample ID: 160-24924-9 MSD

Matrix: Solid

Lab File ID: 09NO1710D5_74.d

Analysis Method: 8290A

Date Collected: 10/05/2017 16:59

Extract. Method: 8290

Date Extracted: 10/17/2017 11:29

Sample wt/vol: 10.01(g)

Date Analyzed: 11/11/2017 18:54

Con. Extract Vol.: 20.00(uL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 2.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 194085

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	2,3,7,8-TCDD	20.9		1.0	0.41	0.15
40321-76-4	1,2,3,7,8-PeCDD	104		5.1	0.76	0.40
57117-41-6	1,2,3,7,8-PeCDF	99.5		5.1	0.76	0.90
57117-31-4	2,3,4,7,8-PeCDF	107		5.1	0.76	0.91
39227-28-6	1,2,3,4,7,8-HxCDD	117		5.1	2.0	0.77
57653-85-7	1,2,3,6,7,8-HxCDD	105		5.1	2.0	0.59
19408-74-3	1,2,3,7,8,9-HxCDD	97.1		5.1	2.0	0.59
70648-26-9	1,2,3,4,7,8-HxCDF	99.8		5.1	0.76	1.4
57117-44-9	1,2,3,6,7,8-HxCDF	89.8		5.1	1.0	1.2
72918-21-9	1,2,3,7,8,9-HxCDF	85.5		5.1	1.0	1.4
60851-34-5	2,3,4,6,7,8-HxCDF	92.4		5.1	0.76	1.3
35822-46-9	1,2,3,4,6,7,8-HpCDD	117		5.1	1.0	0.61
67562-39-4	1,2,3,4,6,7,8-HpCDF	107	J	5.1	1.0	2.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	158	J	5.1	2.0	2.4
3268-87-9	OCDD	259	B	10	4.1	0.60
39001-02-0	OCDF	199		10	4.1	0.37

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	59		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	65		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	66		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	57		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	70		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	49		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	24	Q	40-135
114423-97-1	13C-OCDD	38	Q	40-135

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d
Lims ID: 160-24924-G-9-C MSD
Client ID: SHAD041DP022SS03NS
Sample Type: MSD
Inject. Date: 11-Nov-2017 18:54:07 ALS Bottle#: 48 Worklist Smp#: 74
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-9-c msd 160-24924-g-9-c msd
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 12:58:29 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 12:58:29

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.929	99733646	0.79	6.2E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.415	81161719	0.79	1.2741	63.9	63.9	1.443	1.443	63.87	
2,3,7,8-TCDF	17.430	9486944	0.79	1.1341	10.3	10.3	0.1472	0.1472	103	
A Non-2,3,7,8-sub-TCDF	17.105	3756881	0.77	1.1341	4.241	4.081	0.1472	0.9230	0.00	RQM
S Total TCDF					14.5	14.4	0.1472	0.1472		RQ
D 13C-2,3,7,8-TCDD	18.126	58185213	0.76	0.9921	58.8	58.8	0.1852	0.1852	58.81	
$ 37Cl4-2,3,7,8-TCDD	18.141	40804671		1.0466	39.1	39.1	0.0723	0.0723	97.73	
2,3,7,8-TCDD	18.141	5946996	0.81	0.9993	10.2	10.2	0.0747	0.0747	102	
A Non-2,3,7,8-sub-TCDD	17.559	1993091	0.73	0.9993	3.428	3.428	0.0747	1.777	0.00	
S Total TCDD					13.7	13.7	0.0747	0.0747		
D 13C-1,2,3,7,8-PeCDF	22.465	63928118	1.56	0.9696	66.1	66.1	0.1723	0.1723	66.11	
1,2,3,7,8-PeCDF	22.478	36276057	1.59	1.1627	48.8	48.8	0.4391	0.4391	97.61	
D 13C-2,3,4,7,8-PeCDF	23.815	66872534	1.55							
2,3,4,7,8-PeCDF	23.842	38200696	1.60	1.1395	52.4	52.4	0.4480	0.4480	105	
A F1 PeCDFs	20.001	1285411	1.58	1.1511	1.747	1.747	0.0293	1.747	0.00	
A Non-2,3,7,8-sub-PeCDF	23.161	913069	1.68	1.1511	1.241	1.241	0.4435	1.241	0.00	
S Total PeCDF					104.2	104.2	0.4435	0.4435		
D 13C-1,2,3,7,8-PeCDD	24.537	49051389	1.61	0.7588	64.8	64.8	0.0942	0.0942	64.82	
1,2,3,7,8-PeCDD	24.565	23823901	1.58	0.9490	51.2	51.2	0.1954	0.1954	102	
A Non-2,3,7,8-sub-PeCDD	23.419	601132	1.55	0.9490	1.403	1.291	0.1954	0.7834	0.00	RQ
S Total PeCDD					52.6	52.5	0.1954	0.1954		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.607	53615911	0.53	0.9644	69.6	69.6	0.3818	0.3818	69.61	
1,2,3,4,7,8-HxCDF	30.620	36765648	1.28	1.4012	48.9	48.9	0.7000	0.7000	97.87	
D 13C-1,2,3,6,7,8-HxCDF	30.779	62410371	0.52							
1,2,3,6,7,8-HxCDF	30.806	40034493	1.29	1.6951	44.1	44.1	0.5787	0.5787	88.10	
D 13C-2,3,4,6,7,8-HxCDF	31.578	56989570	0.52							
2,3,4,6,7,8-HxCDF	31.605	36926936	1.26	1.5205	45.3	45.3	0.6451	0.6451	90.59	
D 13C-1,2,3,7,8,9-HxCDF	32.377	49817894	0.52							
1,2,3,7,8,9-HxCDF	32.390	31681110	1.28	1.4099	41.9	41.9	0.6957	0.6957	83.82	
A Non-2,3,7,8-sub-HxCDF	30.254	1218553	1.10	1.5067	1.508	1.508	0.6510	1.508	0.00	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					181.7	181.7	0.6549	0.6549		
* 13C-1,2,3,7,8,9-HxCDD	32.190	79872358	1.25	4.6E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.764	35872109	1.28							
1,2,3,4,7,8-HxCDD	31.778	21763157	1.28	0.9505	57.1	57.1	0.3765	0.3765	114	
D 13C-1,2,3,6,7,8-HxCDD	31.871	40072472	1.24	0.8791	57.1	57.1	0.2785	0.2785	57.07	
1,2,3,6,7,8-HxCDD	31.884	25396247	1.29	1.2343	51.3	51.3	0.2899	0.2899	103	
1,2,3,7,8,9-HxCDD	32.204	23794820	1.28	1.2467	47.6	47.6	0.2871	0.2871	95.26	
A Non-2,3,7,8-sub-HxCDD	30.893	3318320	1.25	1.1438	7.240	7.240	0.3129	4.188	0.00	
S Total HxCDD					163.4	163.4	0.3178	0.3178		
D 13C-1,2,3,4,6,7,8-HpCDF	33.782	14877242	0.43	0.7618	24.4	24.4	0.3918	0.3918	24.45	
1,2,3,4,6,7,8-HpCDF	33.782	12768921	1.05	1.6399	52.3	52.3	0.9708	0.9708	105	
D 13C-1,2,3,4,7,8,9-HpCDF	34.864	20849125	0.41							
1,2,3,4,7,8,9-HpCDF	34.876	15307894	1.05	1.3302	77.3	77.3	1.197	1.197	155	
A Non-2,3,7,8-sub-HpCDF	34.305	2972162	1.02	1.4851	13.5	13.5	1.072	13.5	0.00	
S Total HpCDF					143.1	143.1	1.084	1.084		
1,2,3,4,6,7,8-HpCDD	34.584	17313802	1.01	0.9932	57.3	57.3	0.2974	0.2974	115	
D 13C-1,2,3,4,6,7,8-HpCDD	34.572	30426718	1.04	0.7762	49.1	49.1	0.3745	0.3745	49.08	
A Non-2,3,7,8-sub-HpCDD	34.286	3106534	1.07	0.9932	10.3	10.3	0.2974	10.3	0.00	
S Total HpCDD					67.6	67.6	0.2974	0.2974		
D 13C-OCDD	36.906	38727407	0.88	0.6314	76.8	76.8	0.1523	0.1523	38.40	
OCDF	37.014	25435794	0.91	1.3460	97.6	97.6	0.1836	0.1836	97.59	
OCDD	36.918	26060840	0.89	1.0604	126.9	126.9	0.2955	0.2955	127	
1,3,6,8-TCDF	14.996	245075	0.77							
1,3,6,8-TCDD	15.903	1033213	0.79							
2,3,4,7-TCDF	17.430						0.0	0.0		U
1,2,3,7-TCDD	17.944	115572	1.24							R
1,2,3,9-TCDD	18.277						0.0	0.0		
1,2,3,9-TCDF	18.277						0.0	0.0		
1,2,8,9-TCDD	19.229						0.0	0.0		
1,2,8,9-TCDF	19.244						0.0	0.0		
1,3,4,6,8-PeCDF	19.562	1285411	1.58							
1,2,4,7,9-PeCDD	21.319	416633	1.14							R
1,2,3,8,9-PeCDD	25.546						0.0	0.0		
1,2,3,8,9-PeCDF	25.764						0.0	0.0		
1,2,3,4,6,8-HxCDF	28.064						0.0	0.0		
1,2,4,6,7,9-HxCDD	29.688	570113	1.06							
1,2,3,4,6,7-HxCDD	32.204						0.0	0.0		U
1,2,3,4,8,9-HxCDF	32.390						0.0	0.0		U
1,2,3,4,6,7,9-HpCDD	34.037						0.0	0.0		U
1,2,3,8-TCDD	0.0						0.0	0.0		
1,3,7,9-TCDD	0.0						0.0	0.0		
1,2,3,4,6,7,9-HpCDF	0.0						0.0	0.0		
1,2,3,4,7-PeCDD	0.0						0.0	0.0		
1,4,7,8-TCDD	0.0						0.0	0.0		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Report Date: 13-Nov-2017 12:58:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d
Lims ID: 160-24924-G-9-C MSD
Client ID: SHAD041DP022SS03NS
Sample Type: MSD
Inject. Date: 11-Nov-2017 18:54:07 ALS Bottle#: 48 Worklist Smp#: 74
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-g-9-c msd 160-24924-g-9-c msd
Misc. Info.: 09NO1710D5
Operator ID: AJS Instrument ID: 10D5

Method: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\Dioxin_10D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 13-Nov-2017 12:58:29 Calib Date: 13-Oct-2017 03:12:53
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\10D5\20171013-49091.b\12OC17B10D5_6.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK002

First Level Reviewer: dadunj Date: 13-Nov-2017 12:58:29

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.929	17.914	1		43872105	10943212	10563	26407	1036		
333.9339	17.929	17.914	1		55861541	13718741	7561	18902	1814	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.415	17.400	1	0.971	35884018	8814515	79288	198220	111		
317.9389	17.415	17.400	1	0.971	45277701	11100448	102117	255292	109	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.430	17.415	1	1.001	4201304	1046617	5978	14945	175		
305.8987	17.430	17.415	1	1.001	5285640	1303609	7325	18312	178	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	14.996	17.105	-126	0.861	106902	31591	5978	14945	5		a
305.8987	14.981	17.105	-127	0.860	138173	41802	7325	18312	6	0.77(0.65-0.89)	
303.9016	15.328	17.105	-106	0.880	47855	17591	5978	14945	3		M
305.8987	15.328	17.105	-106	0.880	96021	29098	7325	18312	4	0.50(0.65-0.89)	M
	Empc Correction				62149	22845	7325	18312	3		
303.9016	15.495	17.105	-96	0.890	241013	72799	5978	14945	12		
305.8987	15.495	17.105	-96	0.890	291687	92674	7325	18312	13	0.83(0.65-0.89)	
303.9016	15.752	17.105	-81	0.904	385418	75976	5978	14945	13		
305.8987	15.752	17.105	-81	0.904	464184	88542	7325	18312	12	0.83(0.65-0.89)	
303.9016	15.964	17.105	-68	0.917	151980	23048	5978	14945	4		
305.8987	15.948	17.105	-69	0.916	267136	39801	7325	18312	5	0.57(0.65-0.89)	M
	Empc Correction				197376	29932	7325	18312	4		
303.9016	16.523	17.105	-35	0.949	251886	64201	5978	14945	11		
305.8987	16.523	17.105	-35	0.949	339418	83182	7325	18312	11	0.74(0.65-0.89)	
303.9016	16.735	17.105	-22	0.961	304932	35409	5978	14945	6		
305.8987	16.735	17.105	-22	0.961	419312	43562	7325	18312	6	0.73(0.65-0.89)	

Report Date: 13-Nov-2017 12:58:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46
Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.854	17.105	45	1.025	189221	44525	5978	14945	7		M
305.8987	17.876	17.105	46	0.000			7325	18312		0.00(0.65-0.89)	
303.9016	18.065	17.105	57	1.037	71943	18324	5978	14945	3		
305.8987	18.065	17.105	57	1.037	137067	31092	7325	18312	4	0.52(0.65-0.89)	
	Empc Correction				93432	23797	7325	18312	3		
13C-2,3,7,8-TCDD											
331.9368	18.126	18.111	1	1.011	25197008	5694916	10563	26407	539		
333.9339	18.126	18.111	1	1.011	32988205	7438260	7561	18902	984	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.141	18.126	1	1.012	40804671	9568401	7465	18662	1282		
2,3,7,8-TCDD											
319.8965	18.141	18.126	1	1.001	2656683	602778	2113	5282	285		
321.8936	18.141	18.126	1	1.001	3290313	780805	1809	4522	432	0.81(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	15.903	17.559	-99	0.877	454691	135218	2113	5282	64		a
321.8936	15.903	17.559	-99	0.877	578522	168044	1809	4522	93	0.79(0.65-0.89)	
319.8965	16.190	17.559	-82	0.893	307632	84034	2113	5282	40		
321.8936	16.190	17.559	-82	0.893	469063	119331	1809	4522	66	0.66(0.65-0.89)	
319.8965	17.007	17.559	-33	0.938	81422	20619	2113	5282	10		
321.8936	17.007	17.559	-33	0.938	101761	21451	1809	4522	12	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.465	22.437	2	1.253	38949001	6845152	9662	24155	708		
353.8970	22.465	22.437	2	1.253	24979117	4394290	6815	17037	645	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.478	22.465	1	1.001	22282791	4011173	13970	34925	287		
341.8567	22.478	22.465	1	1.001	13993266	2510510	8982	22455	280	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.815	23.801	1	1.328	40608064	6826603	9662	24155	707		
353.8970	23.815	23.801	1	1.328	26264470	4351553	6815	17037	639	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.842	23.815	2	1.061	23513683	3955614	13970	34925	283		
341.8567	23.842	23.815	2	1.061	14687013	2455973	8982	22455	273	1.60(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.562	20.001	-26	0.871	786945	163595	565	1412	290		a
341.8567	19.562	20.001	-26	0.871	498466	102785	951	2377	108	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	21.115	23.161	-123	0.940	572869	95954	13970	34925	7		
341.8567	21.115	23.161	-123	0.940	340200	58354	8982	22455	6	1.68(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.537	24.524	1	1.369	30237398	4739573	3808	9520	1245		
369.8919	24.537	24.524	1	1.369	18813991	2931882	3242	8105	904	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.565	24.551	1	1.001	14596785	2205168	3196	7990	690		
357.8516	24.565	24.551	1	1.001	9227116	1434146	2495	6237	575	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.319	23.419	-126	0.869	221647	39972	3196	7990	13		a
357.8516	21.333	23.419	-125	0.869	194986	32238	2495	6237	13	1.14(1.32-1.78)	
	Empc Correction				142998	25788	2495	6237	10		
355.8546	22.519	23.419	-54	0.918	151354	26219	3196	7990	8		
357.8516	22.505	23.419	-55	0.917	85133	14943	2495	6237	6	1.78(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.607	30.580	2	0.951	18465961	3594718	11100	27750	324		
385.8610	30.607	30.580	2	0.951	35149950	6809725	19469	48672	350	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.620	30.607	1	1.000	20649785	4076894	23072	57680	177		
375.8178	30.620	30.607	1	1.000	16115863	3152315	17751	44377	178	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.779	30.766	1	0.956	21378438	4169506	11100	27750	376		
385.8610	30.779	30.766	1	0.956	41031933	7856380	19469	48672	404	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.806	30.780	2	1.007	22519961	4362455	23072	57680	189		
375.8178	30.793	30.780	1	1.006	17514532	3340662	17751	44377	188	1.29(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.578	31.565	1	0.981	19531782	4881155	11100	27750	440		
385.8610	31.578	31.565	1	0.981	37457788	9298344	19469	48672	478	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.605	31.578	2	1.033	20577089	5020642	23072	57680	218		
375.8178	31.591	31.578	1	1.032	16349847	3987260	17751	44377	225	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.377	32.364	1	1.006	16940994	4415227	11100	27750	398		
385.8610	32.377	32.364	1	1.006	32876900	8422667	19469	48672	433	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.390	32.377	1	1.058	17806007	4596542	23072	57680	199		
375.8178	32.390	32.377	1	1.058	13875103	3466825	17751	44377	195	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.834	30.254	-25	0.975	638770	107774	23072	57680	5		
375.8178	29.834	30.254	-25	0.975	579783	94814	17751	44377	5	1.10(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.190	32.177	1		44321020	11458604	11641	29102	984		
403.8529	32.190	32.177	1		35551338	9294833	8679	21697	1071	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.764	31.751	1	0.987	20126317	5768265	11641	29102	496		
403.8529	31.764	31.751	1	0.987	15745792	4469755	8679	21697	515	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.778	31.765	1	0.997	12198365	3492534	8214	20535	425		
391.8127	31.778	31.765	1	0.997	9564792	2720517	6436	16090	423	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.871	31.858	1	0.990	22151227	5618881	11641	29102	483		
403.8529	31.871	31.858	1	0.990	17921245	4615320	8679	21697	532	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8157	31.884	31.871	1	1.000	14287855	3599737	8214	20535	438		
391.8127	31.884	31.871	1	1.000	11108392	2834840	6436	16090	440	1.29(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.204	32.190	1	1.010	13353057	3398063	8214	20535	414		
391.8127	32.204	32.190	1	1.010	10441763	2684405	6436	16090	417	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.688	30.893	-72	0.932	293728	44836	8214	20535	5		a
391.8127	29.675	30.893	-73	0.931	276385	40796	6436	16090	6	1.06(1.05-1.43)	
389.8157	30.673	30.893	-13	0.962	468533	103750	8214	20535	13		
391.8127	30.673	30.893	-13	0.962	360285	74676	6436	16090	12	1.30(1.05-1.43)	
389.8157	31.046	30.893	9	0.974	1081815	238233	8214	20535	29		
391.8127	31.046	30.893	9	0.974	837574	182232	6436	16090	28	1.29(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.782	33.770	1	1.049	4491822	1419649	9211	23027	154		
419.8220	33.782	33.770	1	1.049	10385420	3279557	15569	38922	211	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.782	33.783	0	1.000	6540298	2052185	16134	40335	127		
409.7789	33.782	33.783	0	1.000	6228623	2017753	13791	34477	146	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.864	34.840	1	1.083	6084161	1513304	9211	23027	164		
419.8220	34.864	34.840	1	1.083	14764964	3477830	15569	38922	223	0.41(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.876	34.852	1	1.032	7824011	1795477	16134	40335	111		
409.7789	34.876	34.852	1	1.032	7483883	1726051	13791	34477	125	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.086	34.305	-13	1.009	1503146	441742	16134	40335	27		
409.7789	34.086	34.305	-13	1.009	1469016	433651	13791	34477	31	1.02(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.584	34.560	1	1.000	8695909	2546062	5512	13780	462		
425.7737	34.584	34.560	1	1.000	8617893	2578447	4946	12365	521	1.01(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.572	34.560	1	1.074	15480698	4527464	9071	22677	499		
437.8140	34.572	34.560	1	1.074	14946020	4323130	15057	37642	287	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.037	34.286	-15	0.985	1604293	479027	5512	13780	87		a
425.7737	34.037	34.286	-15	0.985	1502241	468620	4946	12365	95	1.07(0.88-1.20)	
13C-OCDD											
469.7779	36.906	36.894	1	1.146	18126507	4586803	3619	9047	1267		
471.7750	36.906	36.894	1	1.146	20600900	5238012	4362	10905	1201	0.88(0.76-1.02)	
OCDF											
441.7428	37.014	36.990	1	1.003	12122752	2927923	2299	5747	1274		
443.7399	37.002	36.990	1	1.003	13313042	3142376	2558	6395	1228	0.91(0.76-1.02)	
OCDD											
457.7377	36.918	36.894	1	1.000	12299739	3201142	3871	9677	827		
459.7348	36.918	36.894	1	1.000	13761101	3552242	2286	5715	1554	0.89(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,3,6,8-TCDF											
303.9016	14.996	14.966	2		106902	31591	5978	14945	5		
305.8987	14.981	14.966	1		138173	41802	7325	18312	6	0.77(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.903	15.888	1		454691	135218	2113	5282	64		
321.8936	15.903	15.888	1		578522	168044	1809	4522	93	0.79(0.65-0.89)	
2,3,4,7-TCDF											U
303.9016	17.415						5978	14945			
305.8987	17.415						7325	18312			
1,2,3,7-TCDD											R
319.8965	17.944	18.005	-4		63980	14625	2113	5282	7		
321.8936	17.944	18.005	-4		51592	14240	1809	4522	8	1.24(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.277						2113	5282			
321.8936	18.277						1809	4522			
1,2,3,9-TCDF											
303.9016	18.277						5978	14945			
305.8987	18.277						7325	18312			
1,2,8,9-TCDD											
319.8965	19.229						2113	5282			
1,2,8,9-TCDF											
303.9016	19.244						5978	14945			
305.8987	19.244						7325	18312			
1,3,4,6,8-PeCDF											
339.8597	19.562	19.517	3		786945	163595	565	1412	290		
341.8567	19.562	19.517	3		498466	102785	951	2377	108	1.58(1.32-1.78)	
1,2,4,7,9-PeCDD											R
355.8546	21.319	21.292	2		221647	39972	3196	7990	13		
357.8516	21.333	21.292	2		194986	32238	2495	6237	13	1.14(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.546						3196	7990			
357.8516	25.546						2495	6237			
1,2,3,8,9-PeCDF											
339.8597	25.764						13970	34925			
341.8567	25.764						8982	22455			
1,2,3,4,6,8-HxCDF											
373.8208	28.064						23072	57680			
375.8178	28.064						17751	44377			
1,2,4,6,7,9-HxCDD											
389.8157	29.688	29.648	2		293728	44836	8214	20535	5		
391.8127	29.675	29.648	2		276385	40796	6436	16090	6	1.06(1.05-1.43)	
1,2,3,4,6,7-HxCDD											U
389.8157	32.137						8214	20535			
391.8127	32.137						6436	16090			
1,2,3,4,8,9-HxCDF											U
373.8208	32.443						23072	57680			
375.8178	32.443						17751	44377			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,9-HpCDD											U
423.7766	34.013						5512	13780			
425.7737	34.013						4946	12365			
1,2,3,8-TCDD											
319.8965	0.0						2113	5282			
321.8936	0.0						1809	4522			
1,3,7,9-TCDD											
319.8965	0.0						2113	5282			
321.8936	0.0						1809	4522			
1,2,3,4,6,7,9-HpCDF											
407.7818	0.0						16134	40335			
409.7789	0.0						13791	34477			
1,2,3,4,7-PeCDD											
355.8546	0.0						3196	7990			
357.8516	0.0						2495	6237			
1,4,7,8-TCDD											
319.8965	0.0						2113	5282			
321.8936	0.0						1809	4522			

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d
Lims ID: 160-24924-G-9-C MSD
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 18:54:07 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 74

Non-2,3,7,8-sub-TCDF, RT: 17.105

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.134	D 13C-2,3,7,8-TCDF	100.000	81161719	19914963

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	81161719	19914963

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
14.996	106902	31591	138173	41802	0.2662	0.77	
15.328	47855	17591	96021	29098	0.1563	0.50	RQM
15.328	47855	17591	62149	22845	0.1195		Empc Correction
15.495	241013	72799	291687	92674	0.5787	0.83	
15.752	385418	75976	464184	88542	0.9230	0.83	
15.964	151980	23048	267136	39801	0.4553	0.57	RQM
15.964	151980	23048	197376	29932	0.3795		Empc Correction
16.523	251886	64201	339418	83182	0.6424	0.74	
16.735	304932	35409	419312	43562	0.7868	0.73	
17.854	189221	44525	0	0	0.2056	0.00	M
18.065	71943	18324	137067	31092	0.2271	0.52	RQ
18.065	71943	18324	93432	23797	0.1797		Empc Correction
Signal Totals:							
	1751150	383464	2005731	426336			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3904148	833217				0.81	RQM
	3756881	809800					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.241 = (3904148 * 100.000) / (81161719 * 1.134)
Empc Amount: 4.081 = (3756881 * 100.000) / (81161719 * 1.134)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d
Lims ID: 160-24924-G-9-C MSD
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 18:54:07 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 74

Non-2,3,7,8-sub-TCDD, RT: 17.559

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.999	D 13C-2,3,7,8-TCDD	100.000	58185213	13133176

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.999		100.000	58185213	13133176

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.903	454691	135218	578522	168044	1.78	0.79	
16.190	307632	84034	469063	119331	1.34	0.66	
17.007	81422	20619	101761	21451	0.3150	0.80	
Signal Totals:							
	843745	239871	1149346	308826			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1993091	548697				0.73	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.428 = (1993091 * 100.000) / (58185213 * 0.999)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d		
Lims ID:	160-24924-G-9-C MSD		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 18:54:07	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	74

F1 PeCDFs, RT: 20.001

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	63928118	11239442
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	63928118	11239442

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.562	786945	163595	498466	102785	1.75	1.58	
Signal Totals:							
	786945	163595	498466	102785			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1285411	266380				1.58	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.747 = (1285411 * 100.000) / (63928118 * 1.151)

Report Date: 13-Nov-2017 12:58:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d		
Lims ID:	160-24924-G-9-C MSD		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 18:54:07	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	74

Non-2,3,7,8-sub-PeCDF, RT: 23.161

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.163	D 13C-1,2,3,7,8-PeCDF	100.000	63928118	11239442
2,3,4,7,8-PeCDF	1.140				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.151		100.000	63928118	11239442

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.115	572869	95954	340200	58354	1.24	1.68	
Signal Totals:							
	572869	95954	340200	58354			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	913069	154308				1.68	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.241 = (913069 * 100.000) / (63928118 * 1.151)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d
Lims ID: 160-24924-G-9-C MSD
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 18:54:07 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 74

Non-2,3,7,8-sub-PeCDD, RT: 23.419

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.949	D 13C-1,2,3,7,8-PeCDD	100.000	49051389	7671455

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.949		100.000	49051389	7671455

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.319	221647	39972	194986	32238	0.8950	1.14	RQ
21.319	221647	39972	142998	25788	0.7834		Empc Correction
22.519	151354	26219	85133	14943	0.5080	1.78	
Signal Totals:							
	373001	66191	228131	40731			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	653120	113372				1.33	RQ
	601132	106922					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.403 = (653120 * 100.000) / (49051389 * 0.949)
Empc Amount: 1.291 = (601132 * 100.000) / (49051389 * 0.949)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 13-Nov-2017 12:58:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d		
Lims ID:	160-24924-G-9-C MSD		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 18:54:07	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	74

Non-2,3,7,8-sub-HxCDF, RT: 30.254

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.401	D 13C-1,2,3,4,7,8-HxCDF	100.000	53615911	10404443
1,2,3,6,7,8-HxCDF	1.695				
2,3,4,6,7,8-HxCDF	1.521				
1,2,3,7,8,9-HxCDF	1.410				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.507		100.000	53615911	10404443

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
29.834	638770	107774	579783	94814	1.51	1.10	
Signal Totals:							
	638770	107774	579783	94814			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1218553	202588				1.10	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 1.508 = (1218553 * 100.000) / (53615911 * 1.507)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d
Lims ID: 160-24924-G-9-C MSD
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 18:54:07
Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5
Operator: AJS
Lims Batch ID: 194085
Lims Sample ID: 74

Non-2,3,7,8-sub-HxCDD, RT: 30.893

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.950	D 13C-1,2,3,6,7,8-HxCDD	100.000	40072472	10234201
1,2,3,6,7,8-HxCDD	1.234				
1,2,3,7,8,9-HxCDD	1.247				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.144		100.000	40072472	10234201

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.688	293728	44836	276385	40796	1.24	1.06	
30.673	468533	103750	360285	74676	1.81	1.30	
31.046	1081815	238233	837574	182232	4.19	1.29	
Signal Totals:							
	1844076	386819	1474244	297704			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3318320	684523				1.25	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 7.240 = (3318320 * 100.000) / (40072472 * 1.144)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d		
Lims ID:	160-24924-G-9-C MSD		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	11-Nov-2017 18:54:07	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	10D5	Operator:	AJS
Lims Batch ID:	194085	Lims Sample ID:	74

Non-2,3,7,8-sub-HpCDF, RT: 34.305

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.640	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	14877242	4699206
1,2,3,4,7,8,9-HpCDF	1.330				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.485		100.000	14877242	4699206

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.086	1503146	441742	1469016	433651	13.5	1.02	
Signal Totals:							
	1503146	441742	1469016	433651			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2972162	875393				1.02	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 13.452 = (2972162 * 100.000) / (14877242 * 1.485)

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AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d
Lims ID: 160-24924-G-9-C MSD
Client ID: SHAD041DP022SS03NS
Inject. Date: 11-Nov-2017 18:54:07 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 194085 Lims Sample ID: 74

Non-2,3,7,8-sub-HpCDD, RT: 34.286

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.993	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	30426718	8850594

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.993		100.000	30426718	8850594

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.037	1604293	479027	1502241	468620	10.3	1.07	
Signal Totals:							
	1604293	479027	1502241	468620			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3106534	947647				1.07	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 10.280 = (3106534 * 100.000) / (30426718 * 0.993)

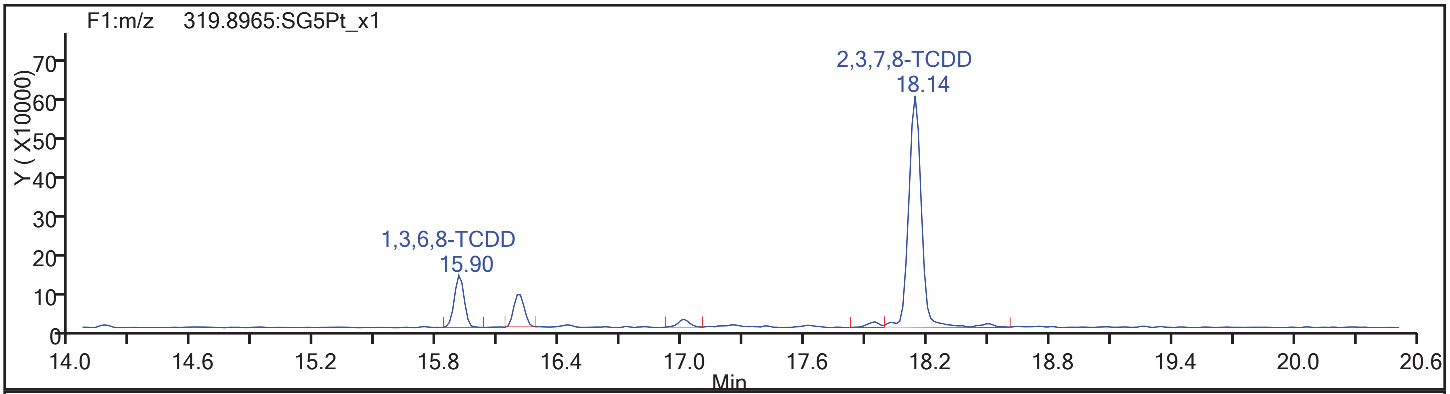
Report Date: 13-Nov-2017 12:58:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

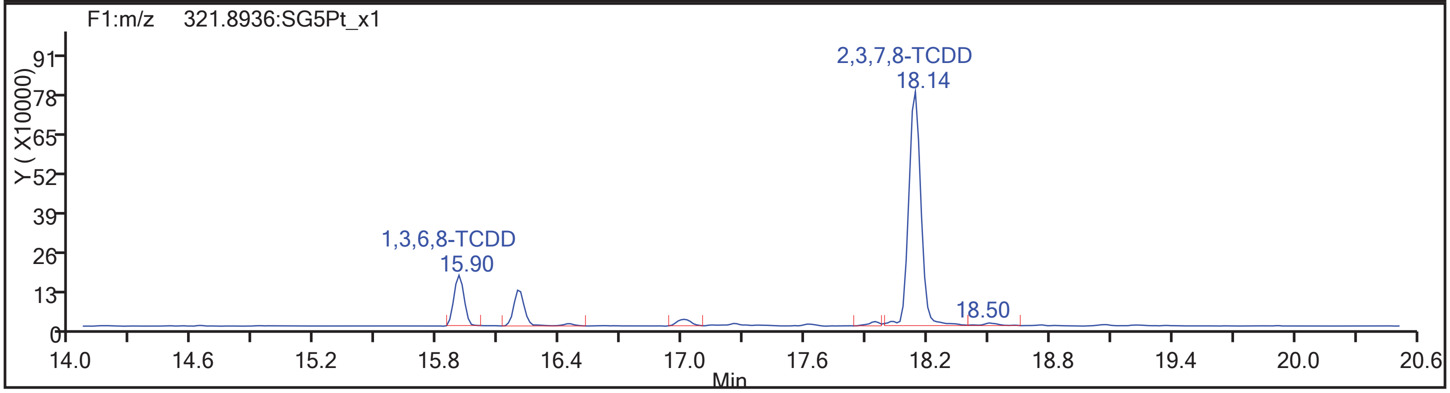
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d

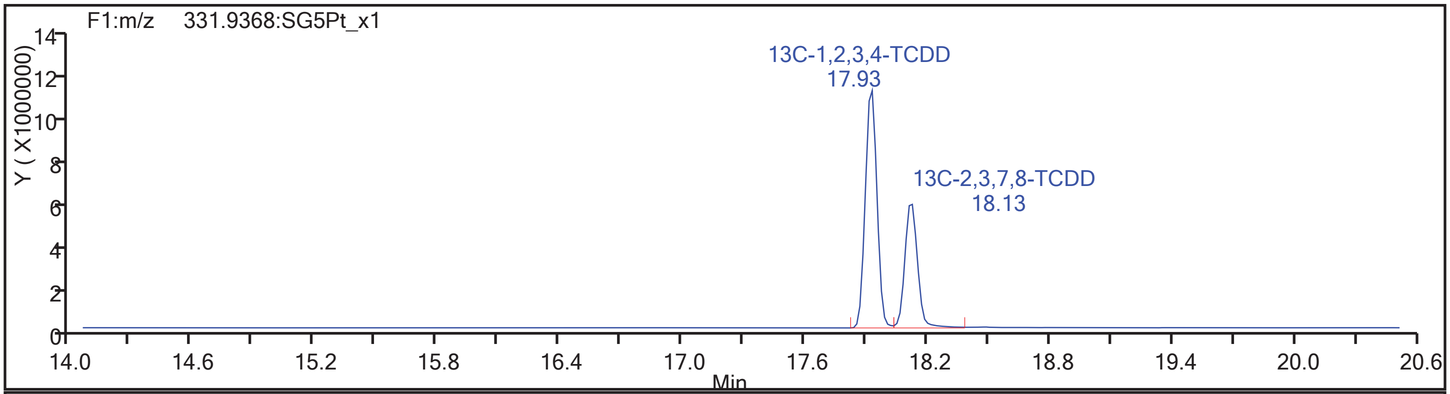
Injection Date:	11-Nov-2017 18:54:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	74
Column Type:	DB-5	Column Dia:	0.32 mm

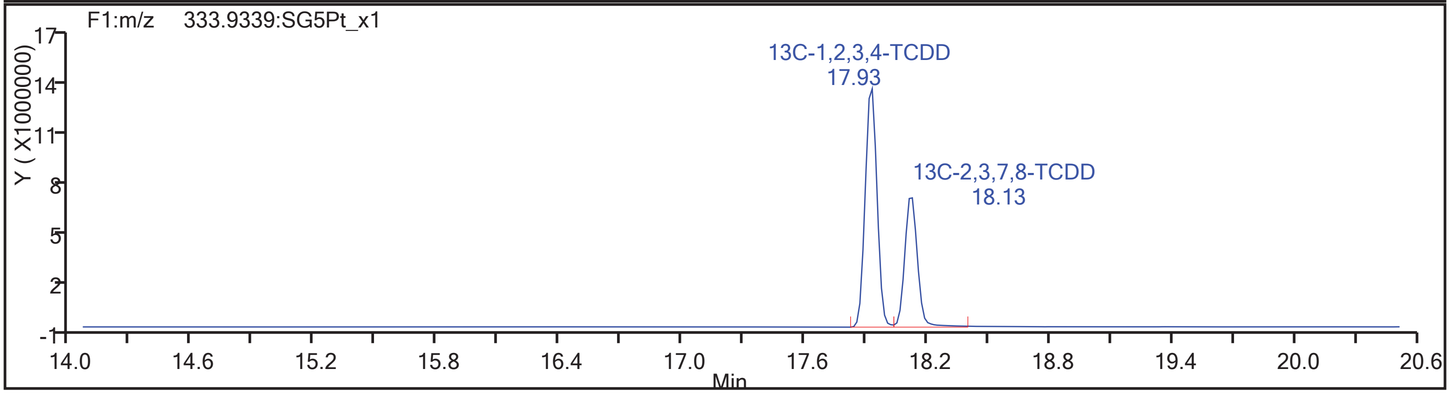
TCDD





TCDD Standards



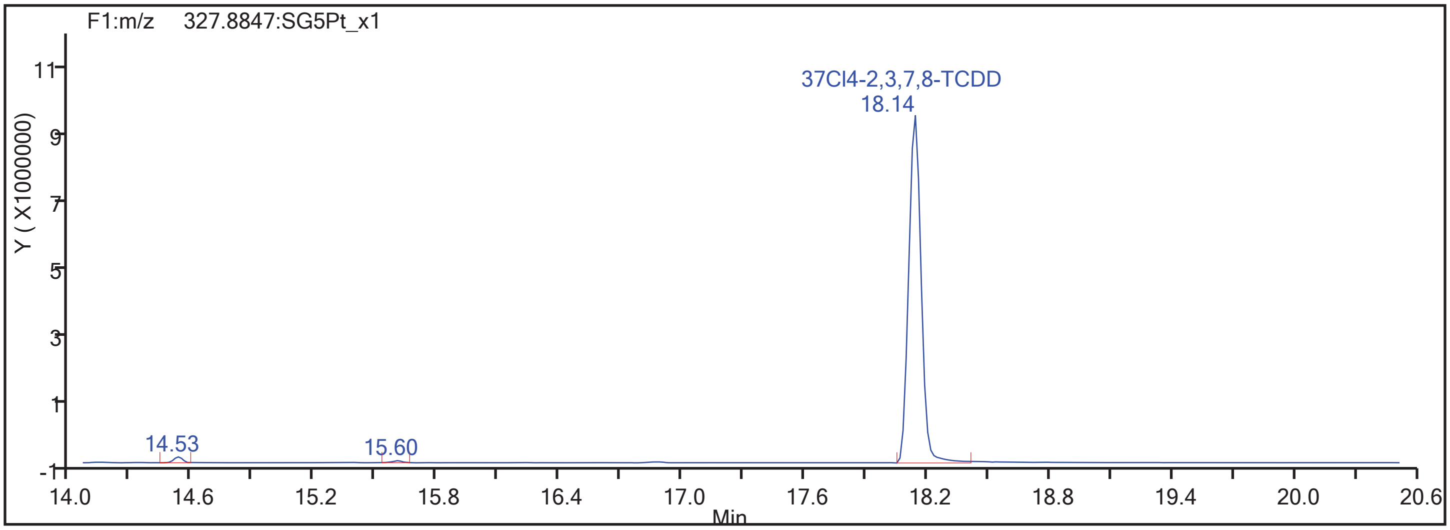


Report Date: 13-Nov-2017 12:58:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

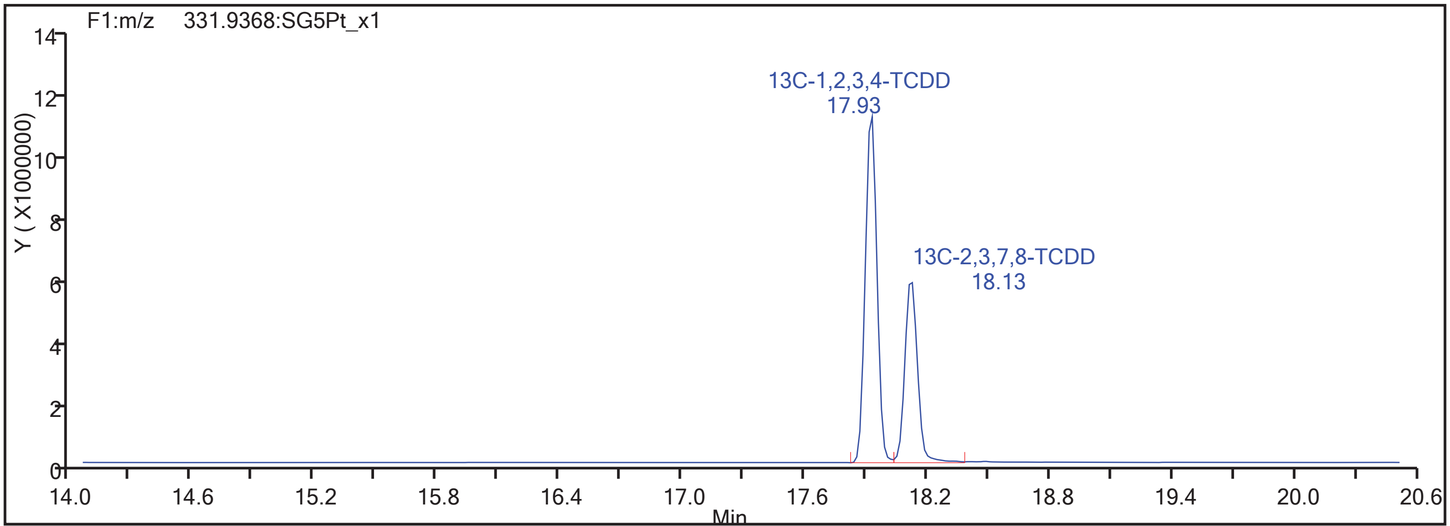
TestAmerica Sacramento

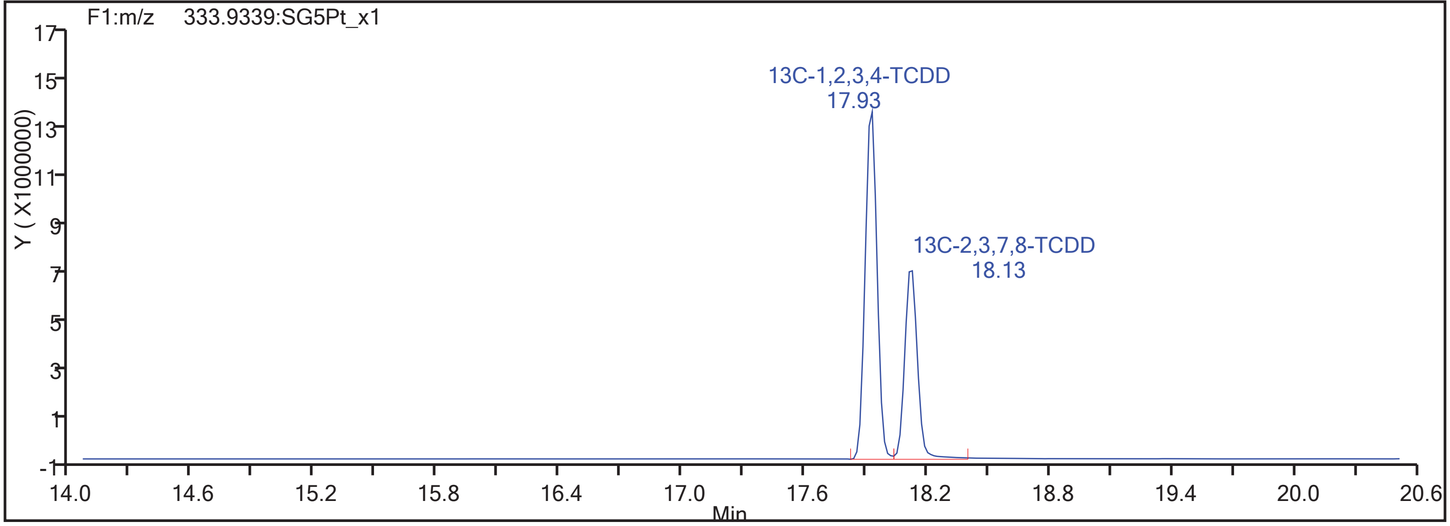
Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d		
Injection Date:	11-Nov-2017 18:54:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	74
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD



37Cl4-TCDD Standards



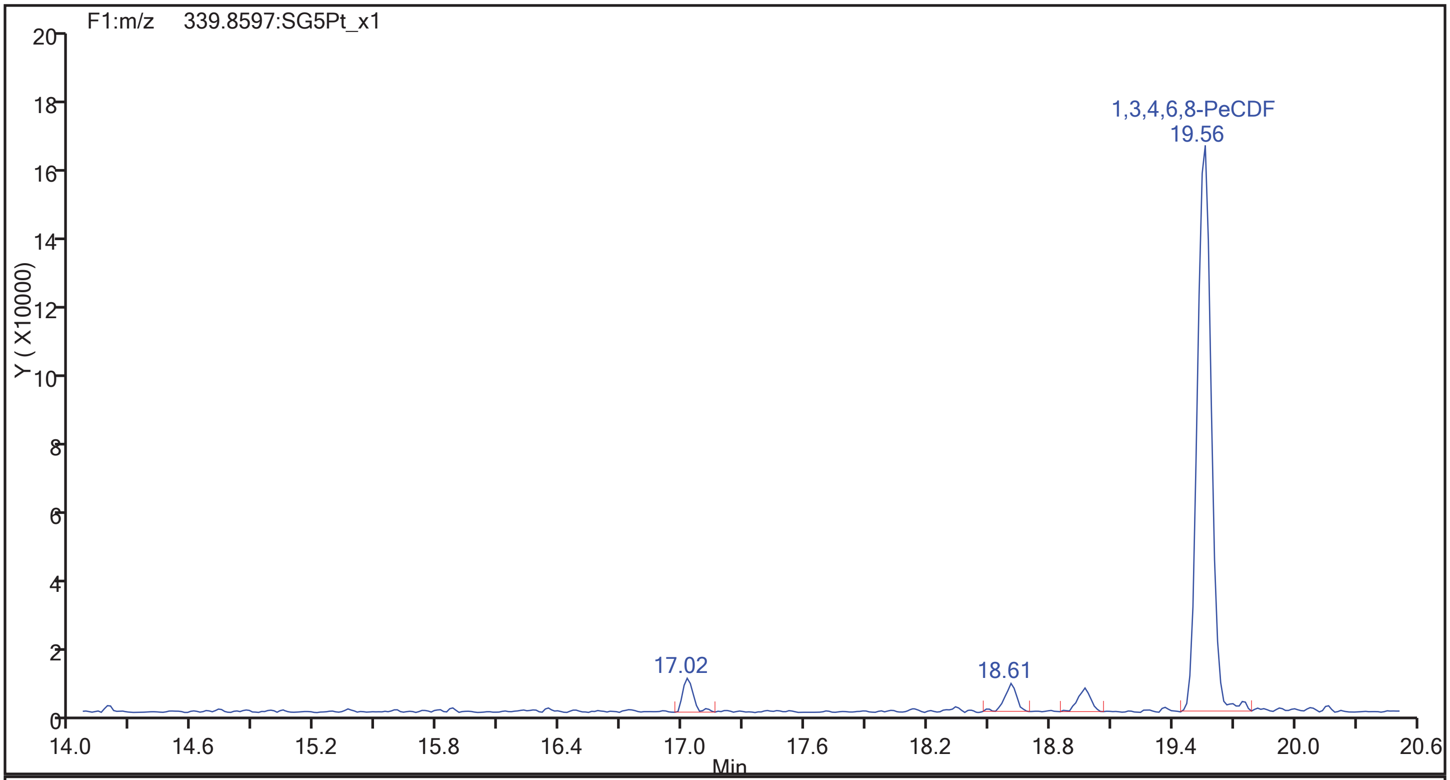


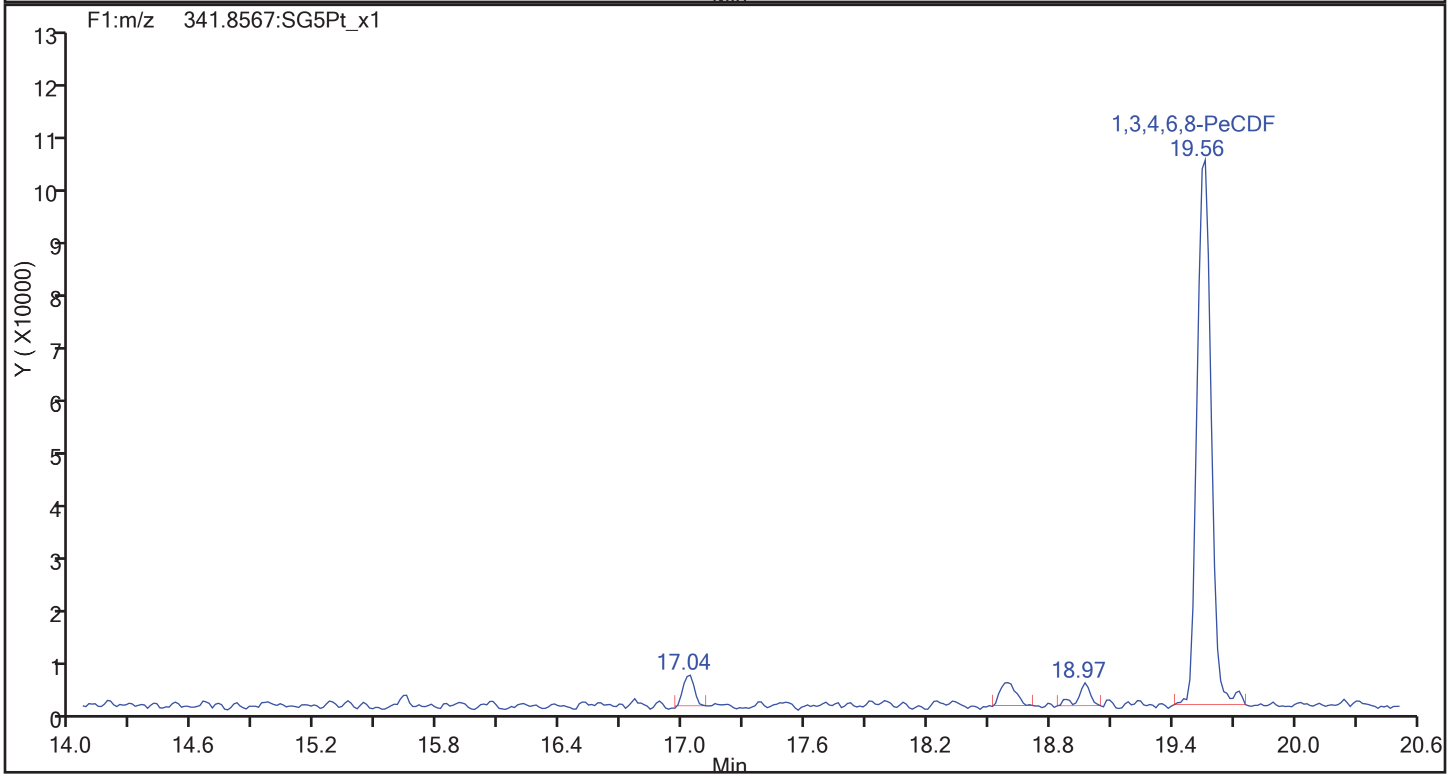
Report Date: 13-Nov-2017 12:58:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d		
Injection Date:	11-Nov-2017 18:54:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	194085	Sample Line#:	74
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs





Report Date: 13-Nov-2017 12:58:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b\09NO1710D5_74.d

Injection Date: 11-Nov-2017 18:54:07

Injection Vol: 2.0 ul

Instrument ID: 10D5

Operator ID: AJS

Method: Dioxin_10D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

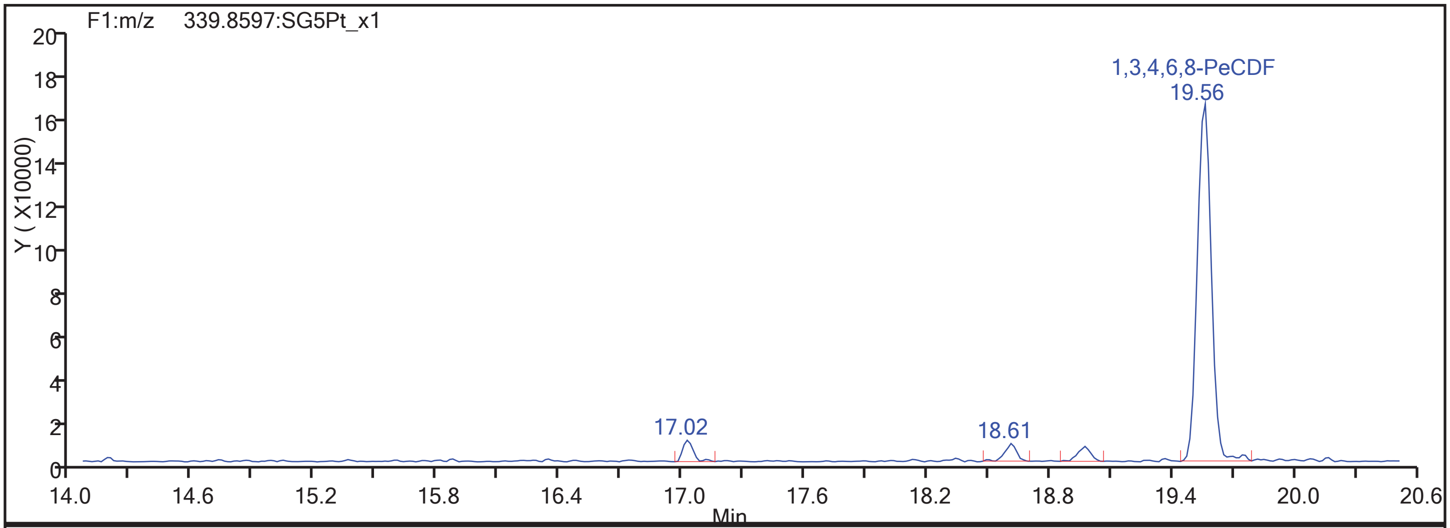
Worklist#: 194085

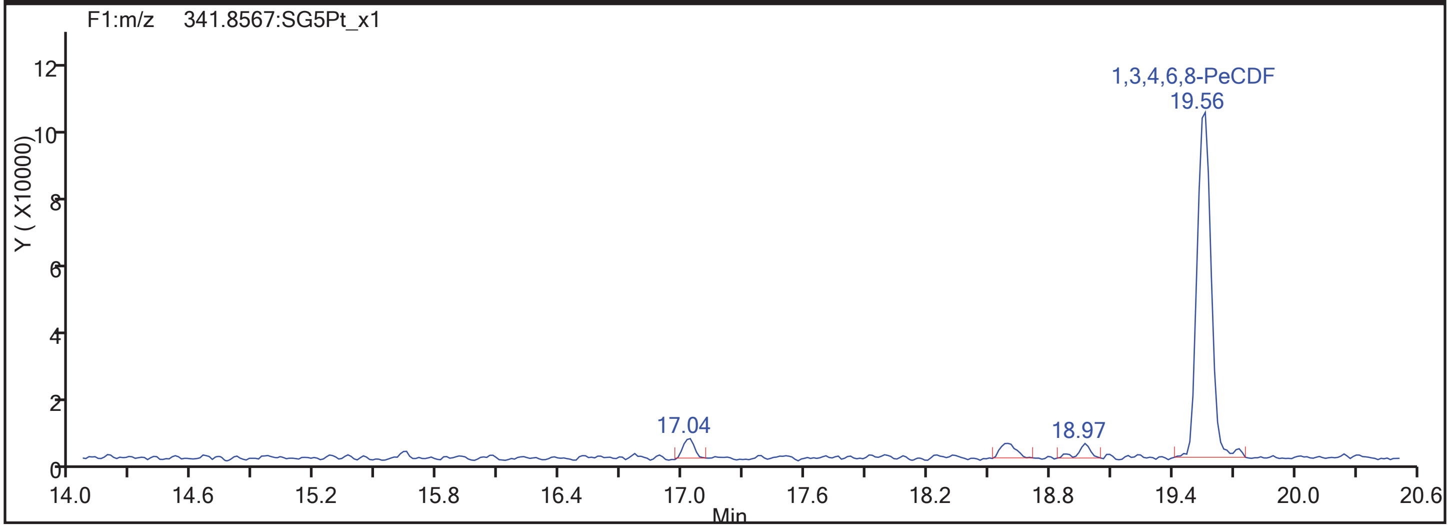
Sample Line#: 74

Column Type: DB-5

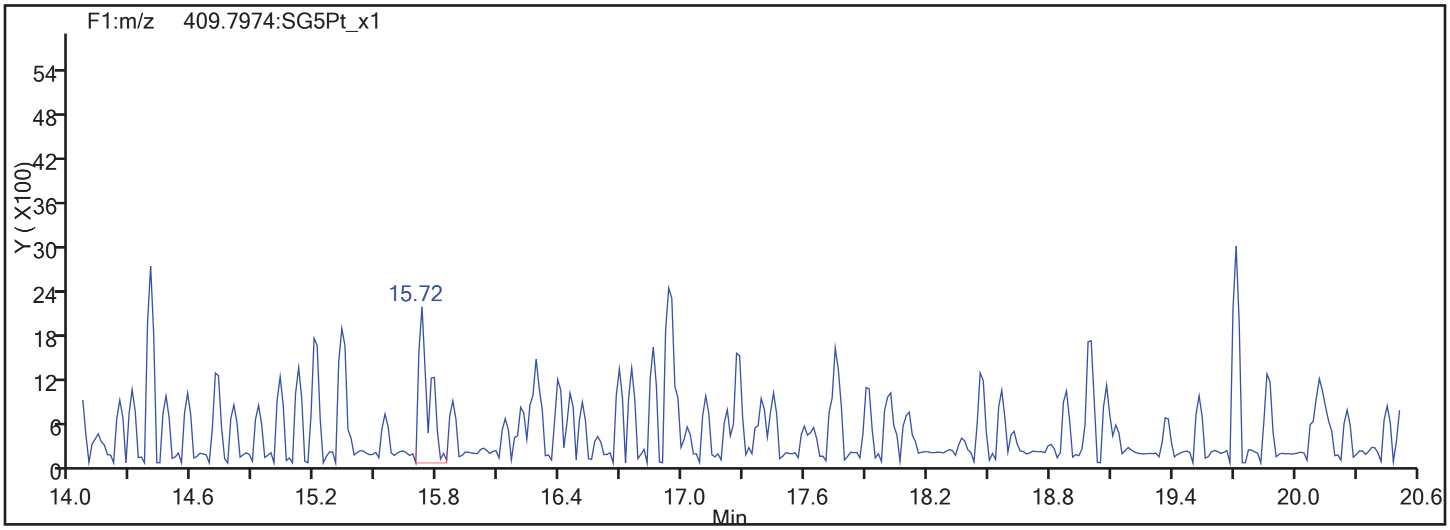
Column Dia: 0.32 mm

F1 PeCDFs





F1 PeCDFs Interference Mass



Report Date: 13-Nov-2017 12:58:30 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

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Injection Date: 11-Nov-2017 18:54:07
Injection Vol: 2.0 ul
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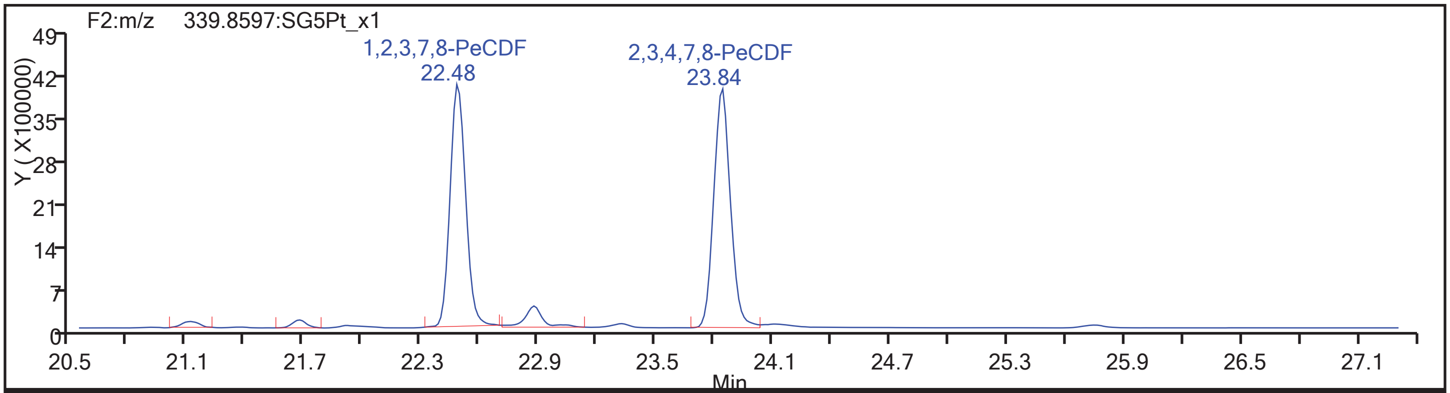
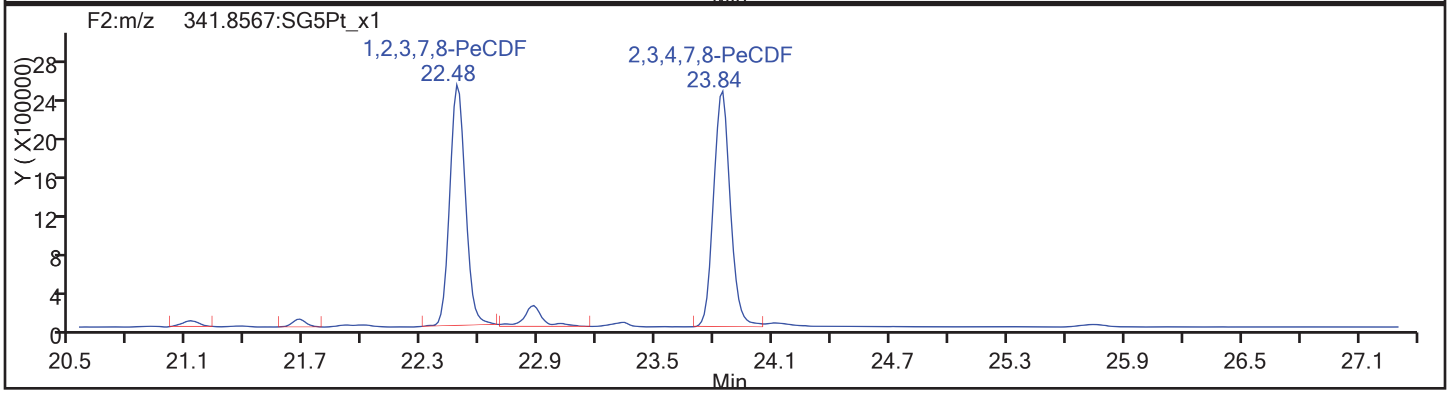
Operator ID: AJS
Method: Dioxin_10D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 194085
Sample Line#: 74
Column Type: DB-5
Column Dia: 0.32 mm

PeCDF





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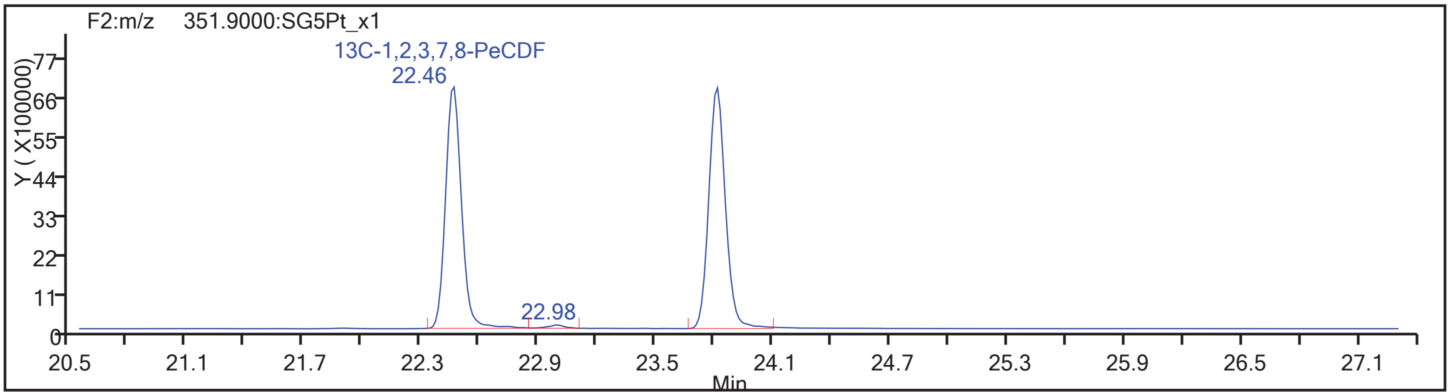

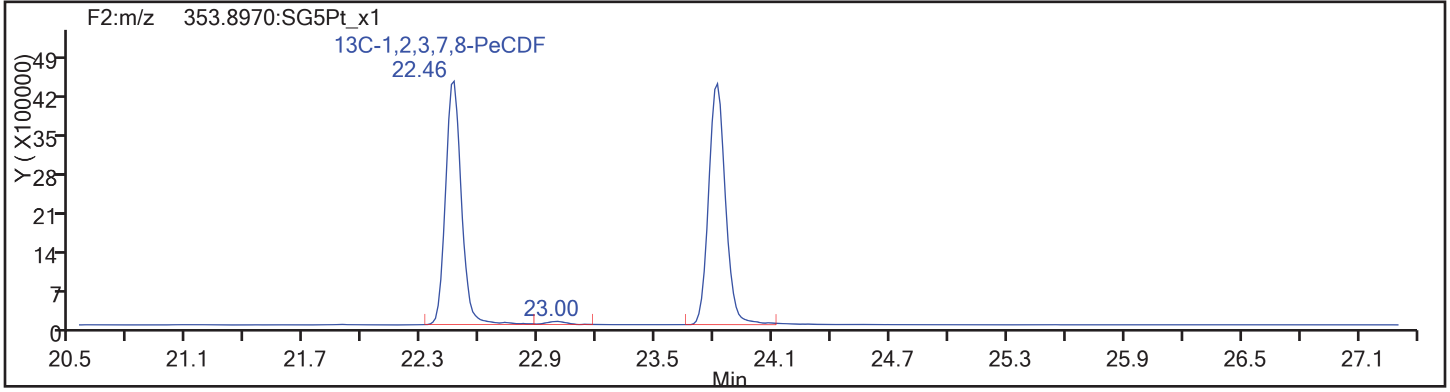

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TestAmerica Sacramento

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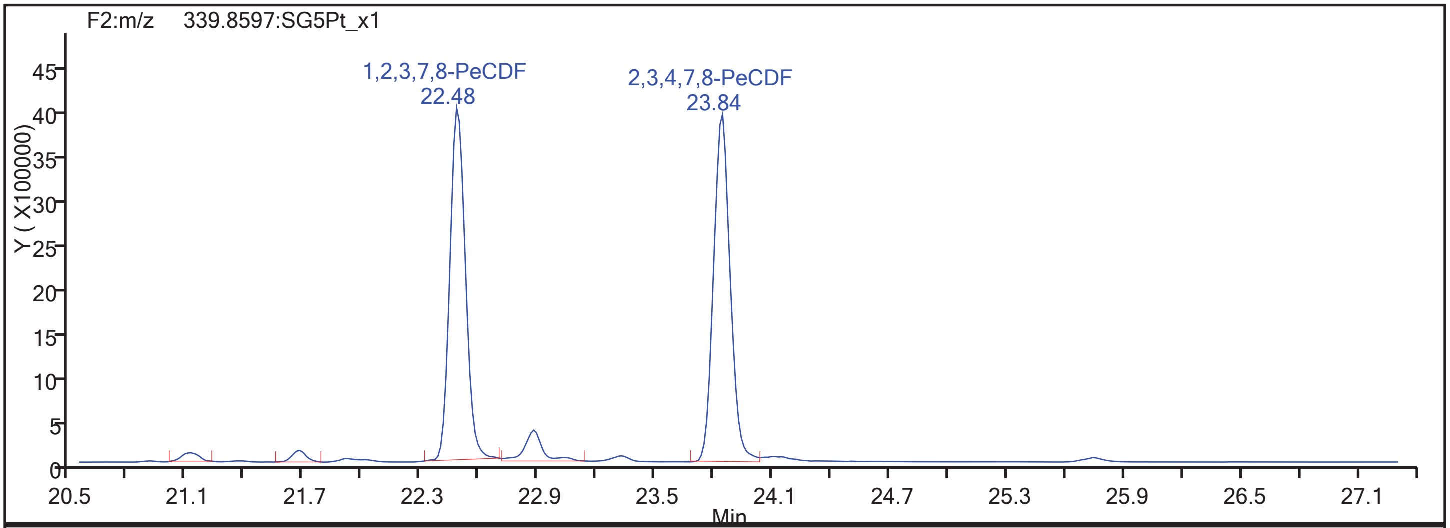

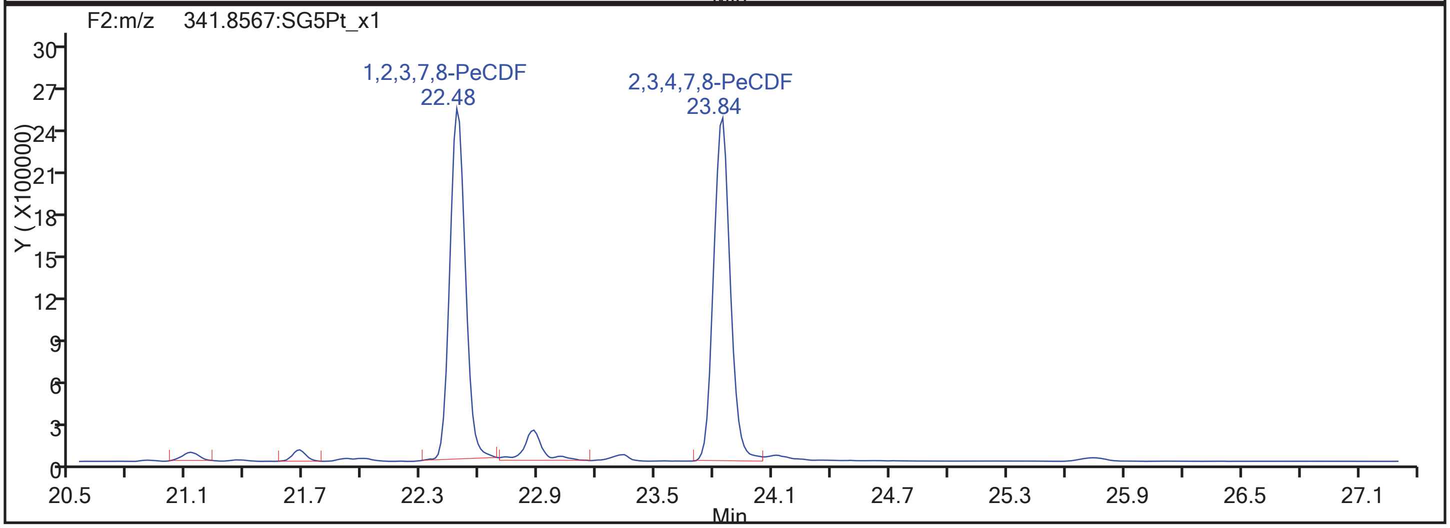

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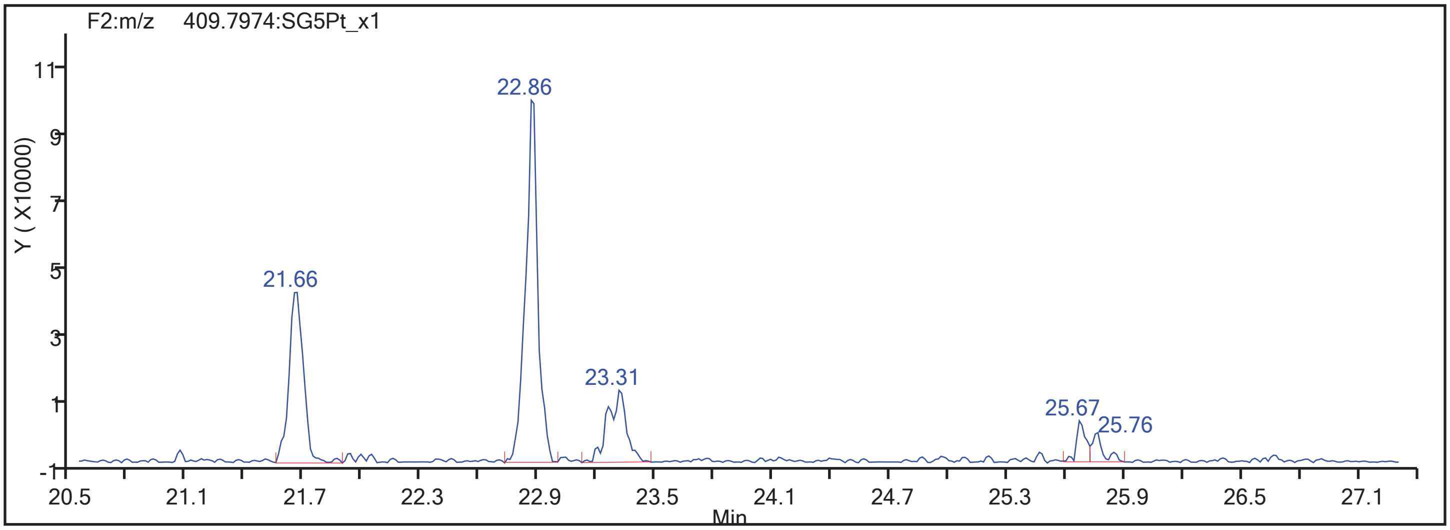

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Chrom Revision: 2.2 16-Aug-2017 16:24:46
TestAmerica Sacramento

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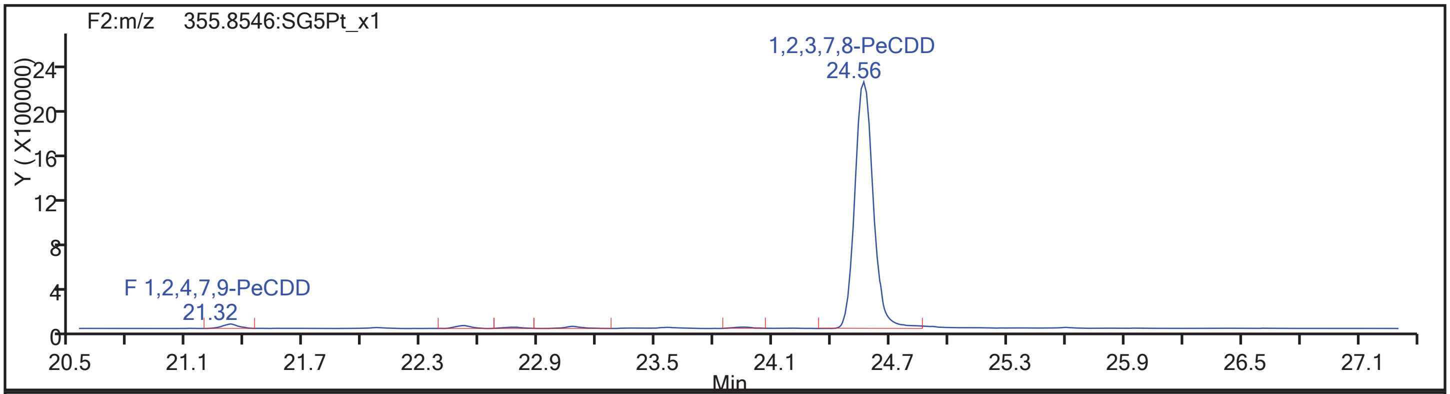

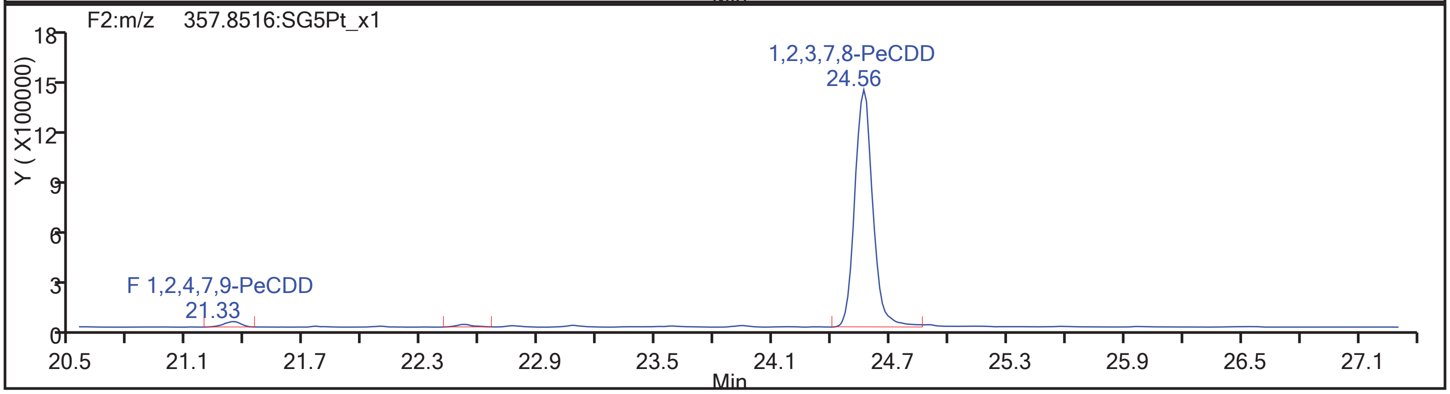

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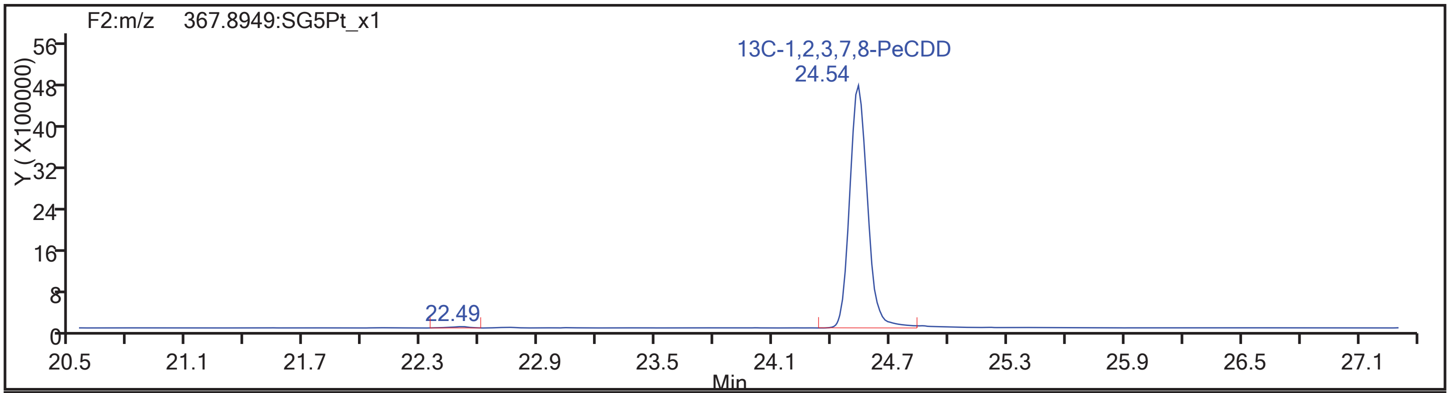

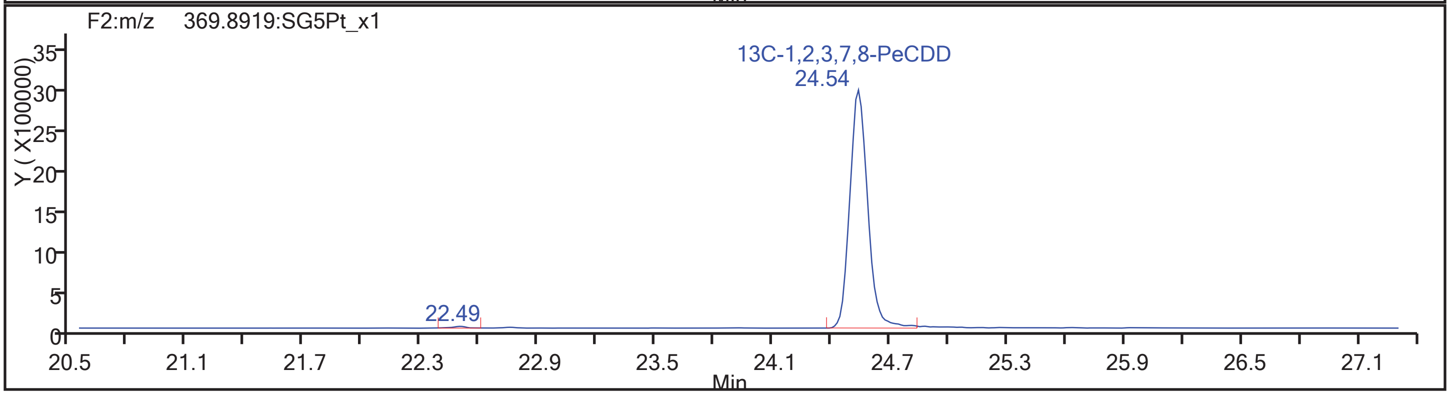

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TestAmerica Sacramento

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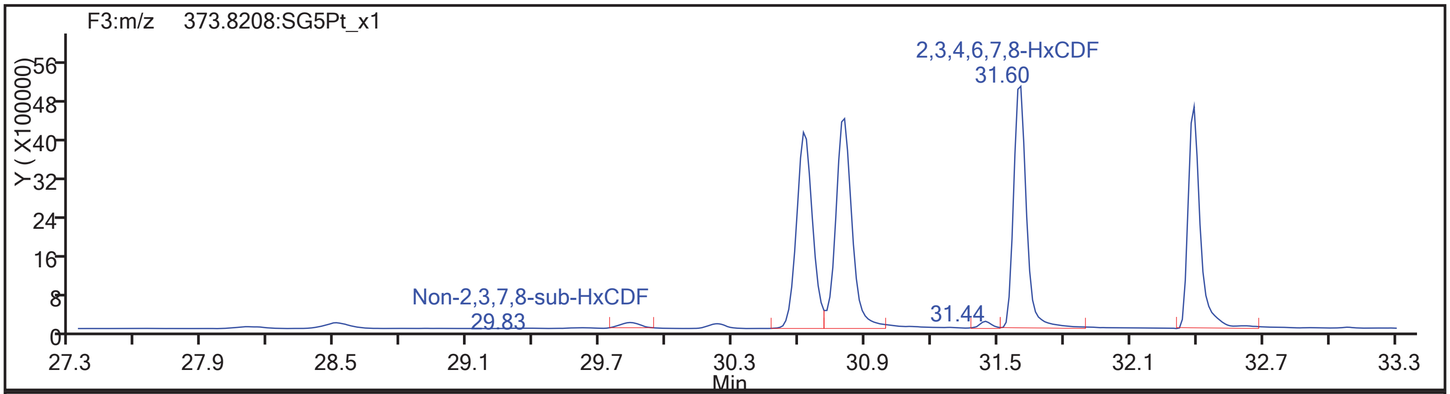
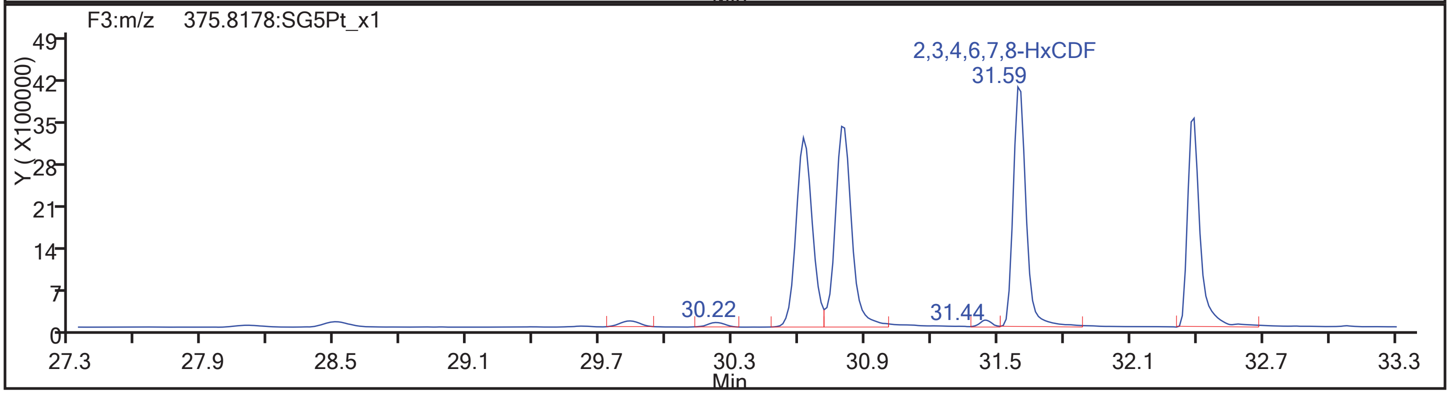
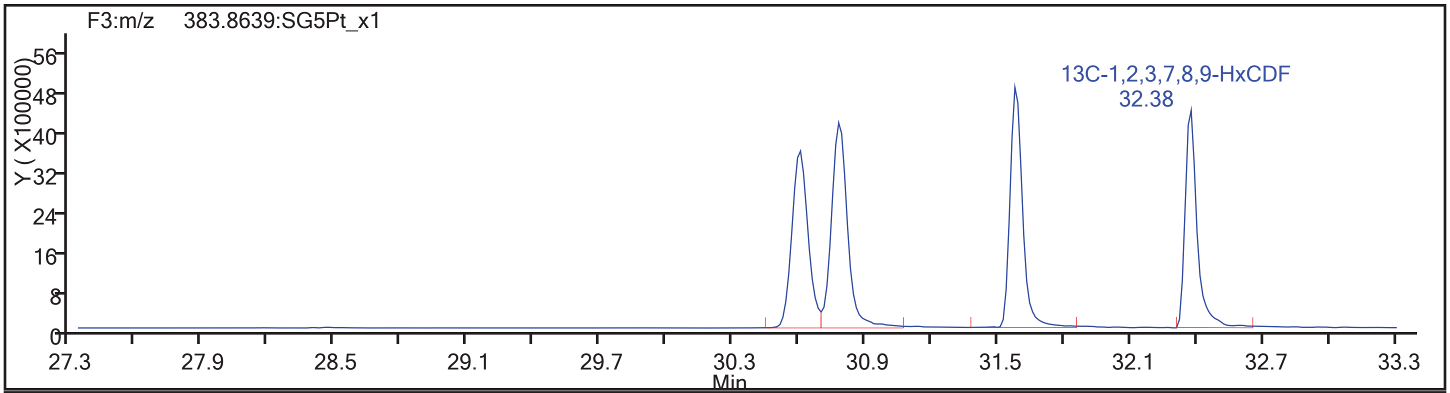
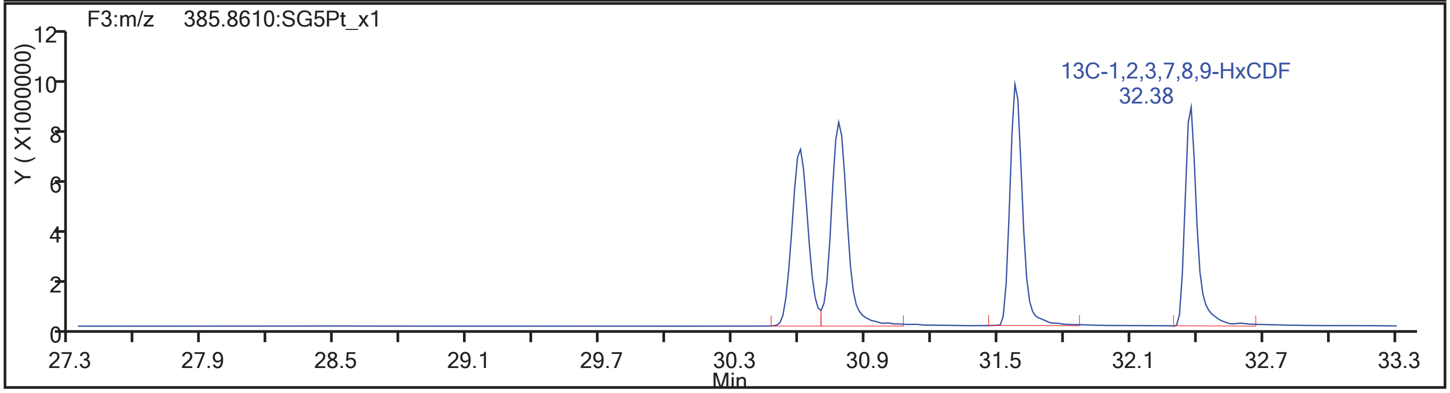
HxCDF





HxCDF Standards





TestAmerica Sacramento

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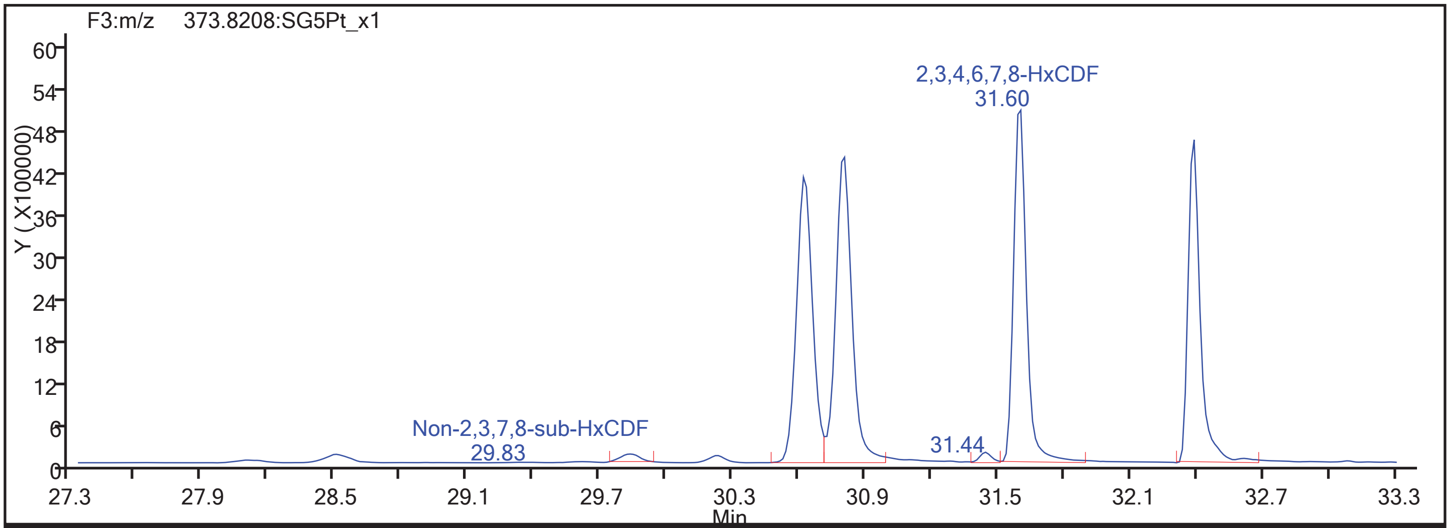
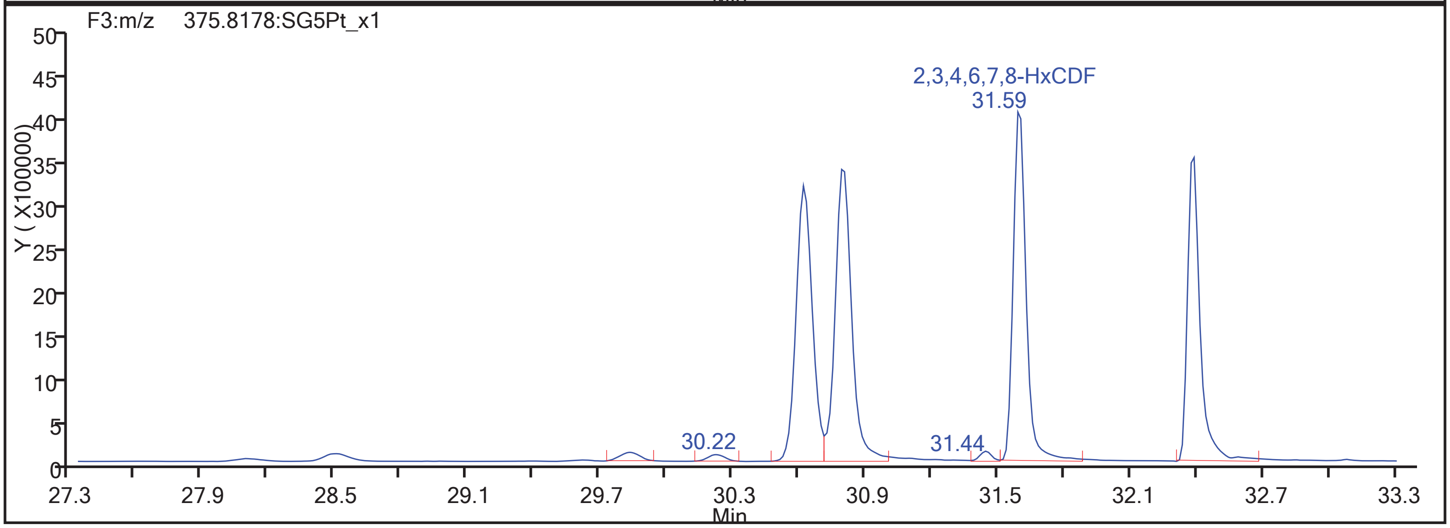
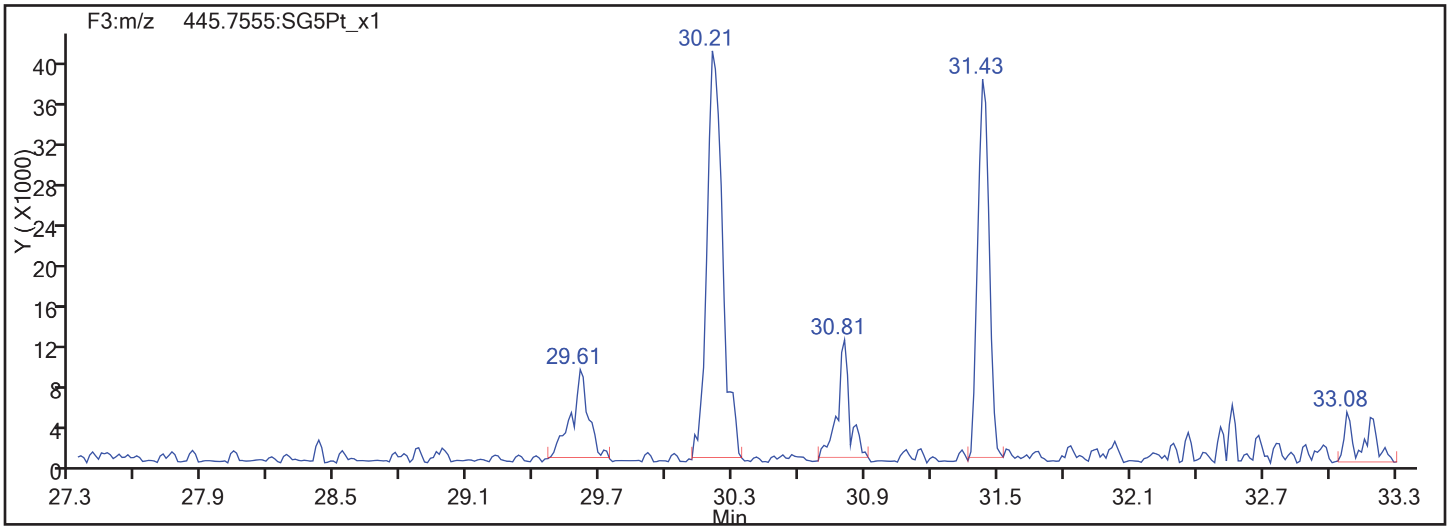




HxCDF Interference Mass



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TestAmerica Sacramento

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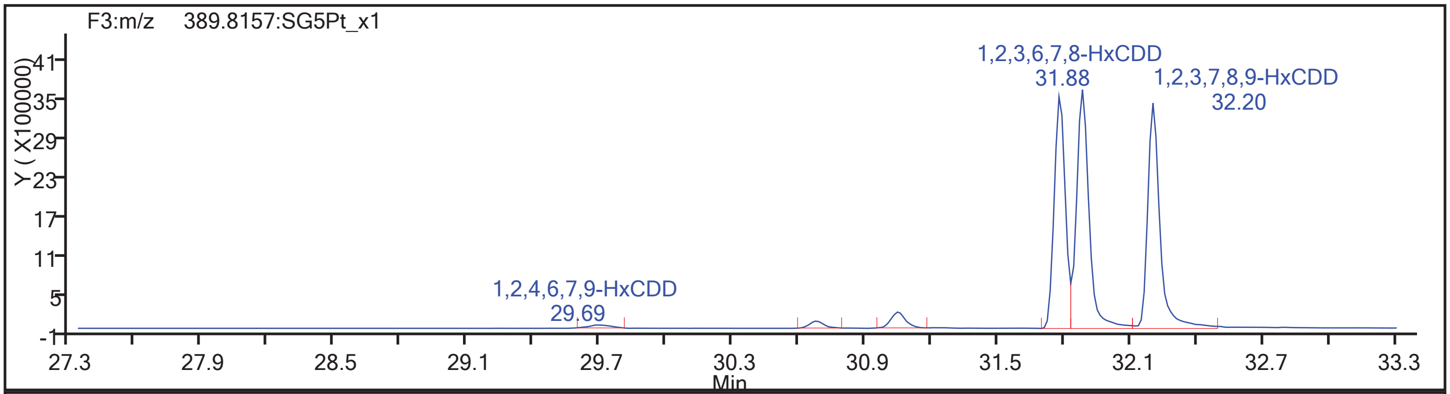

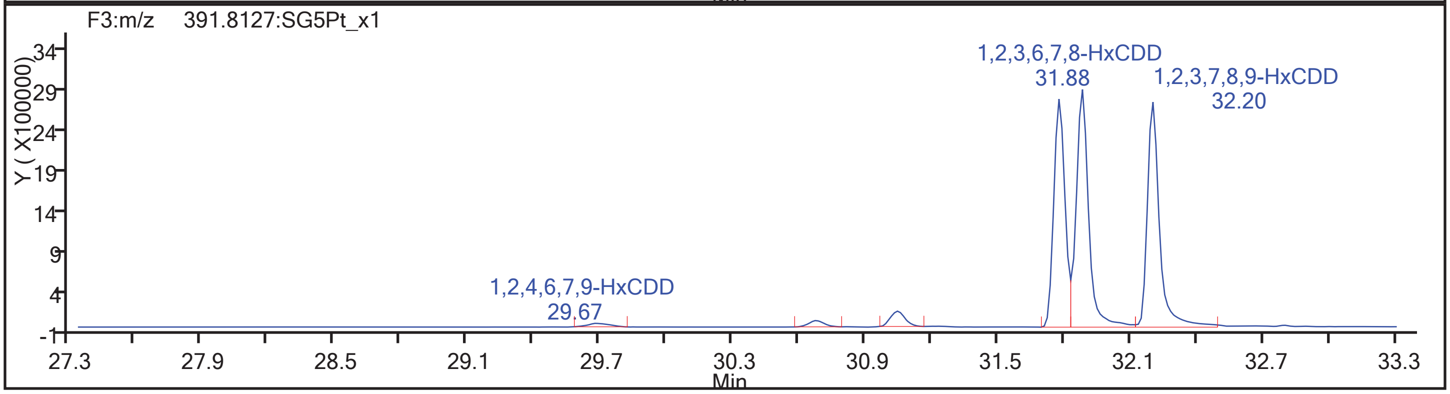

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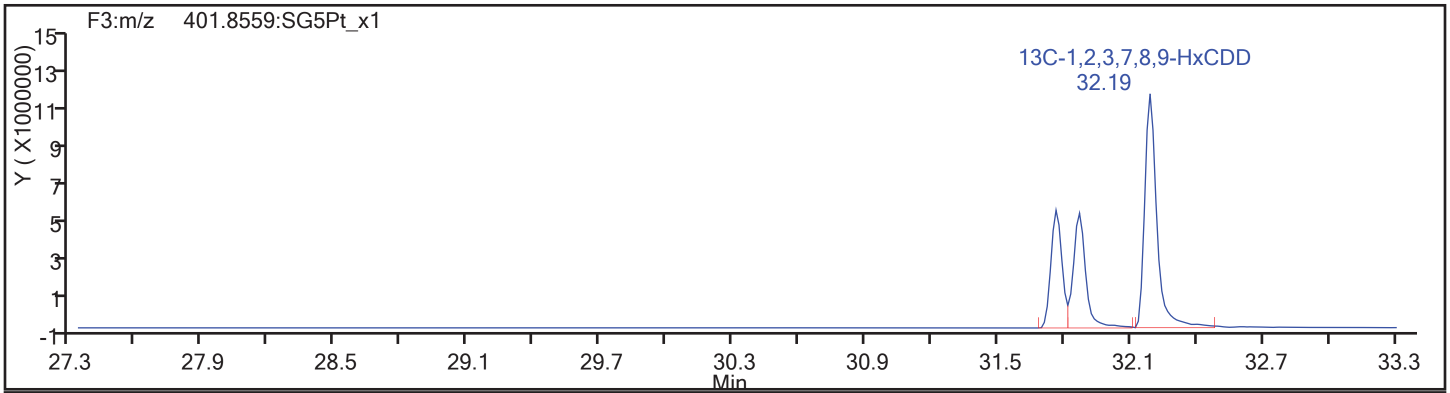

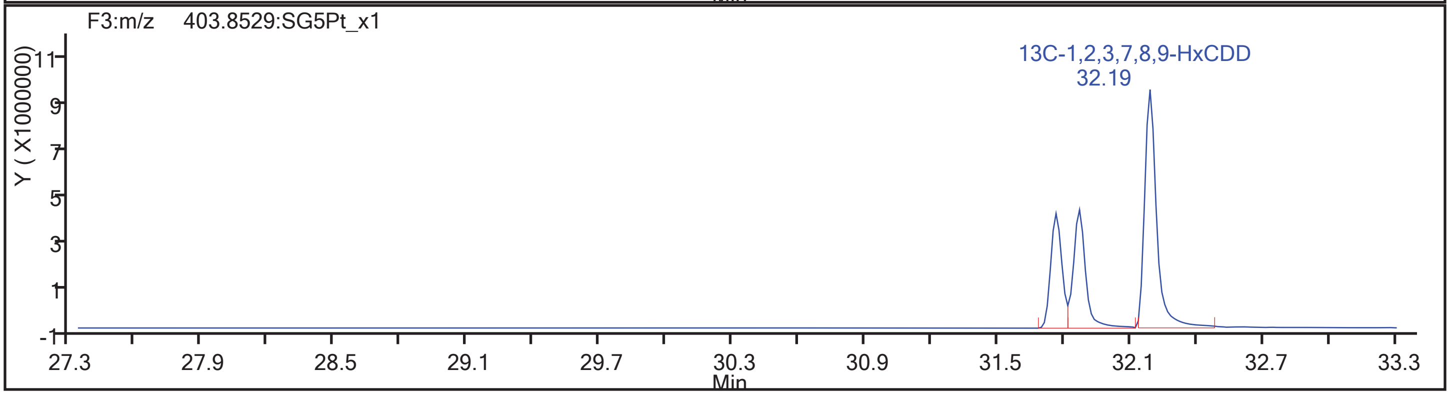

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TestAmerica Sacramento

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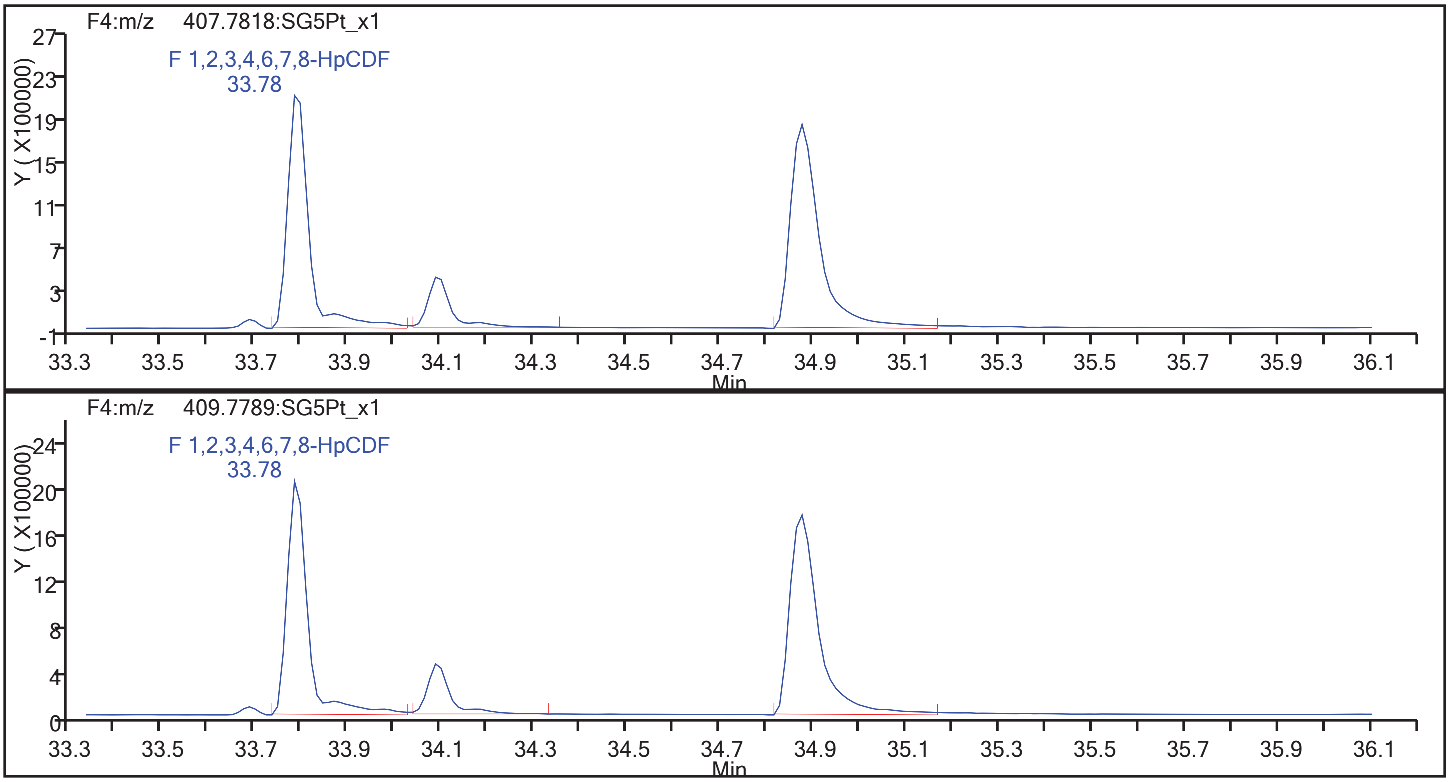

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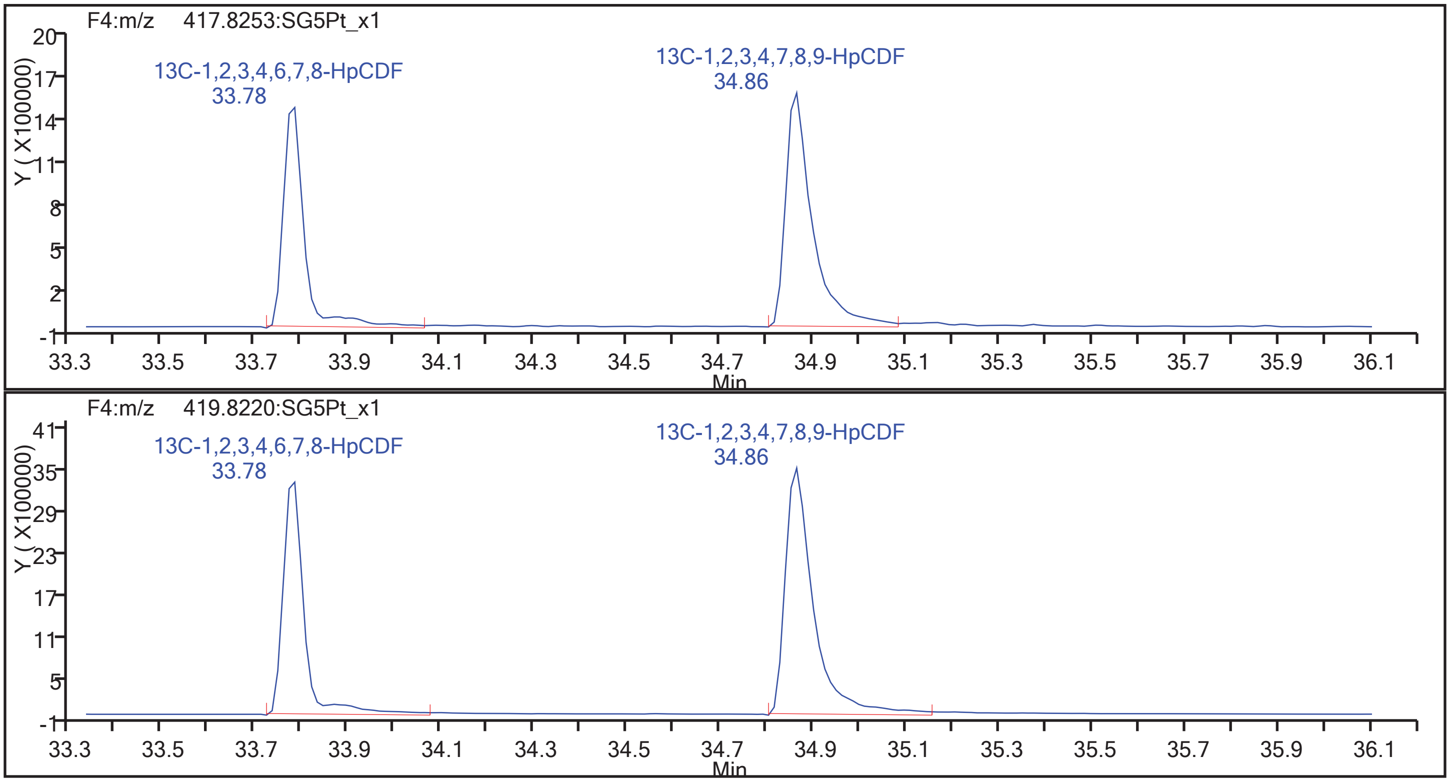

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TestAmerica Sacramento

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Instrument ID: 10D5 Operator ID: AJS

Method: Dioxin_10D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

Worklist#: 194085 Sample Line#: 74

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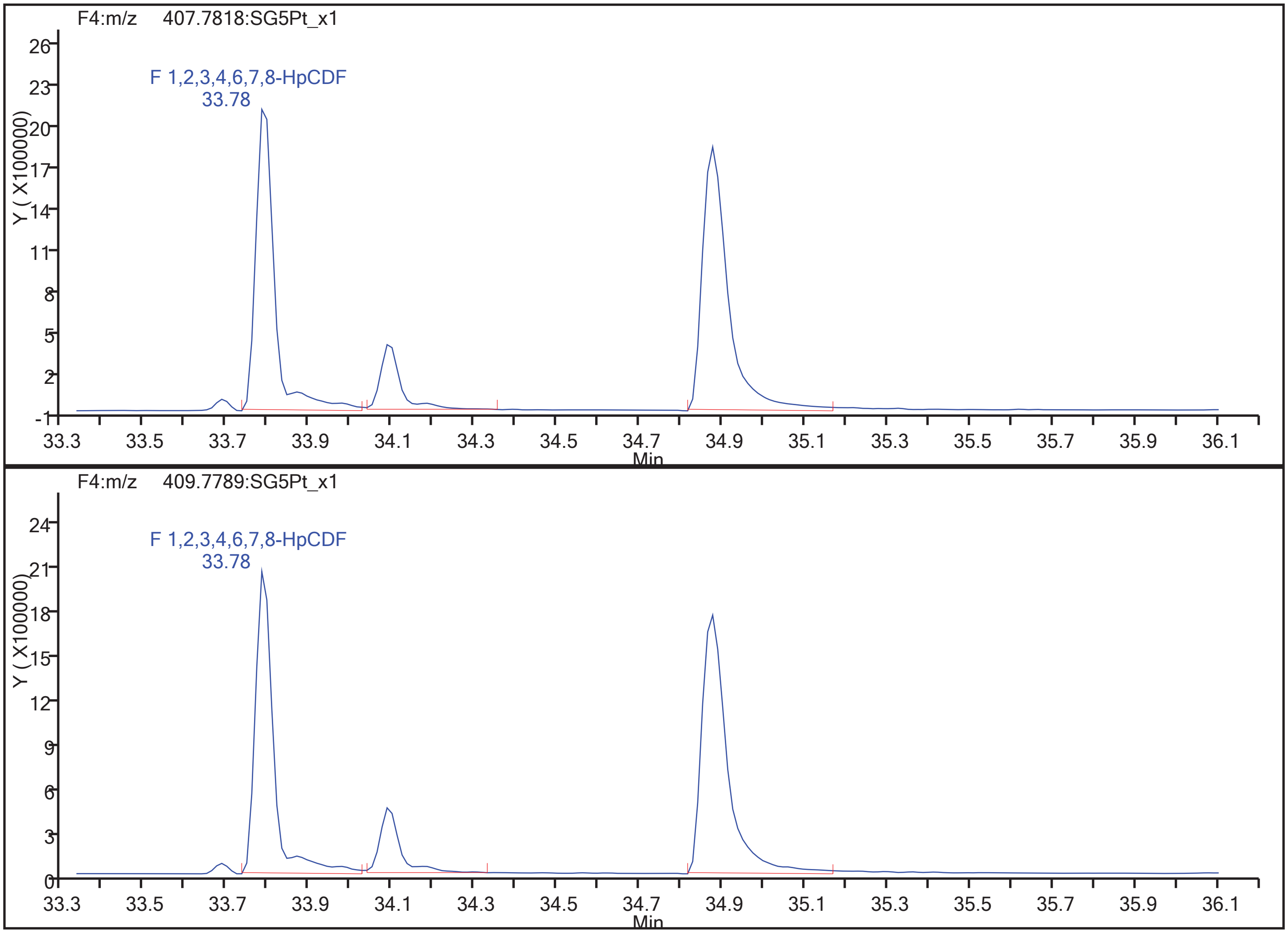
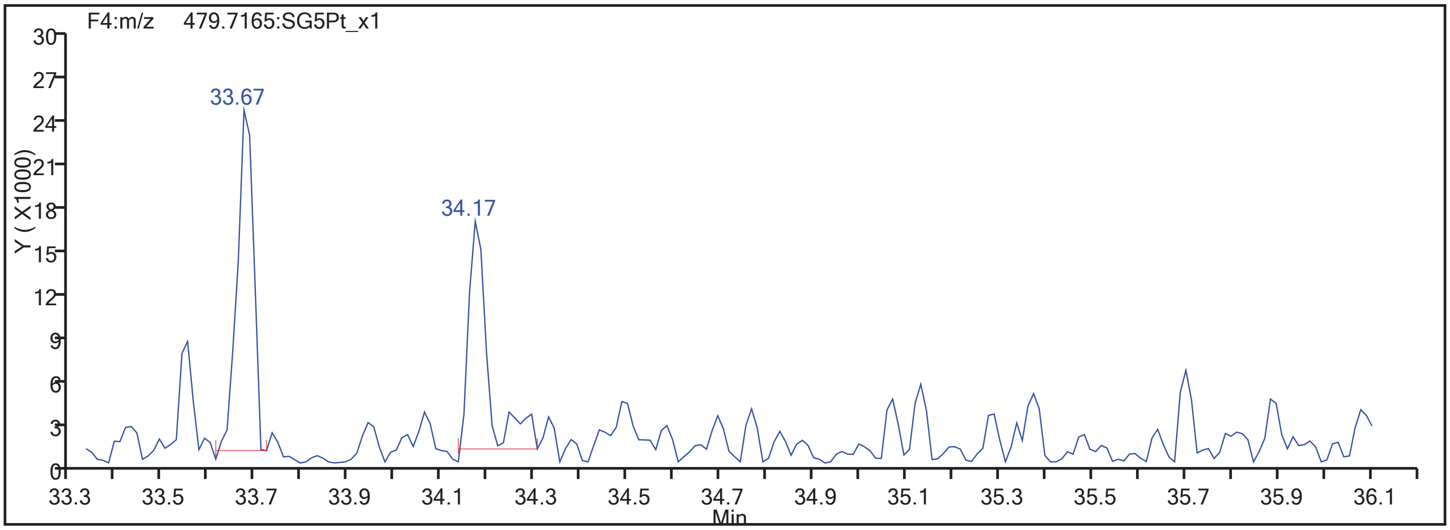


HpCDF Interference Mass



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TestAmerica Sacramento

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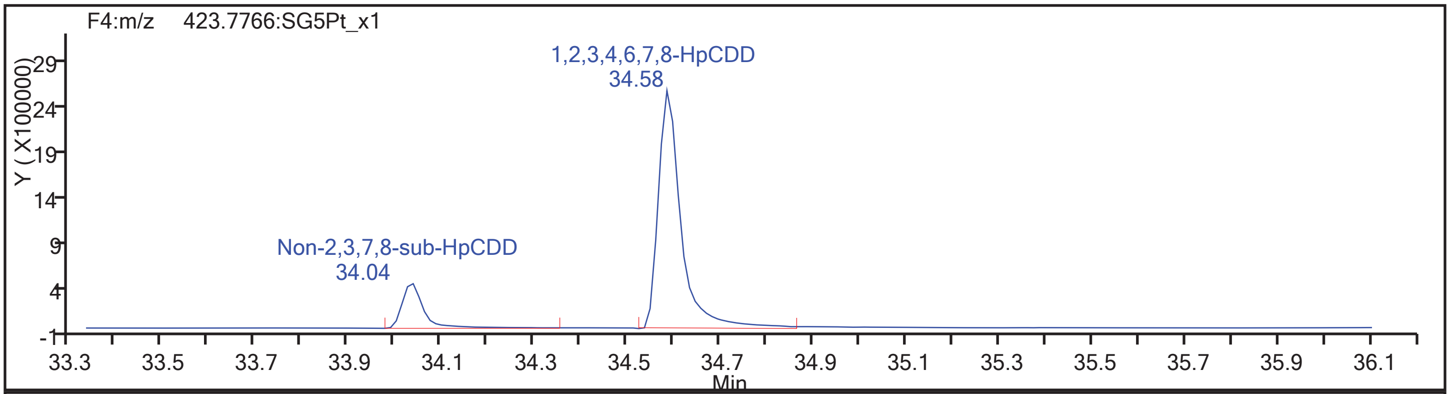

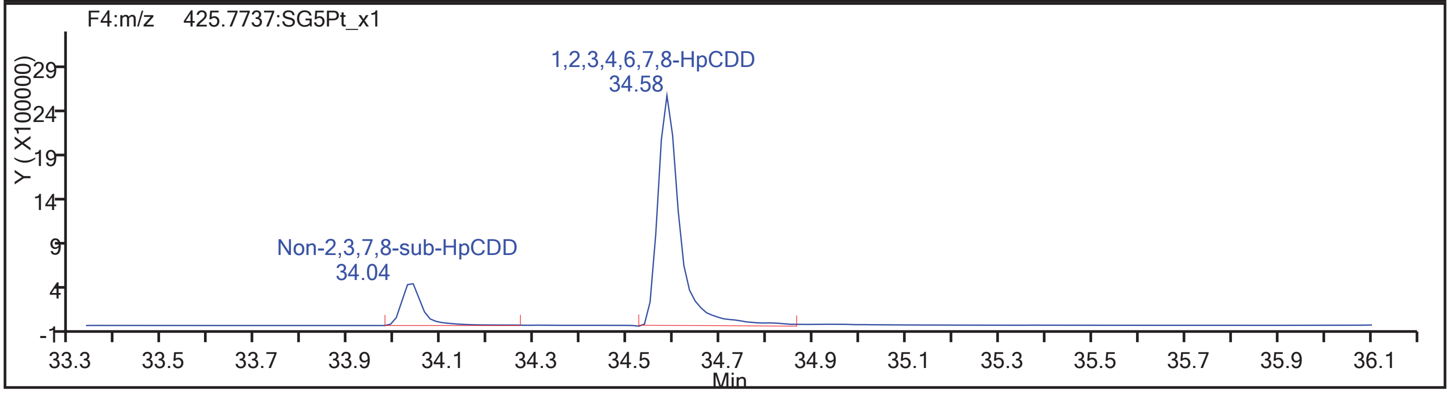

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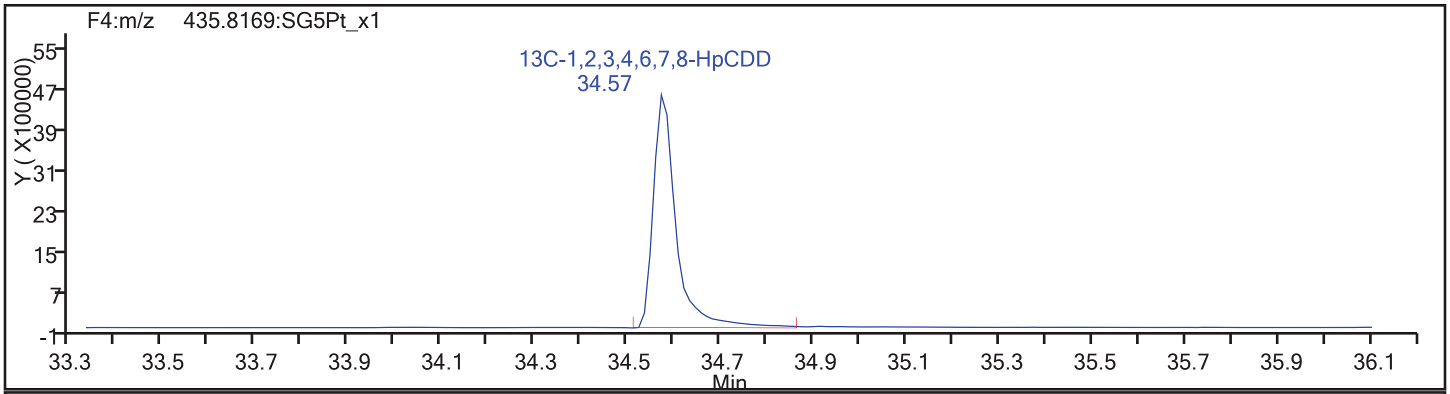

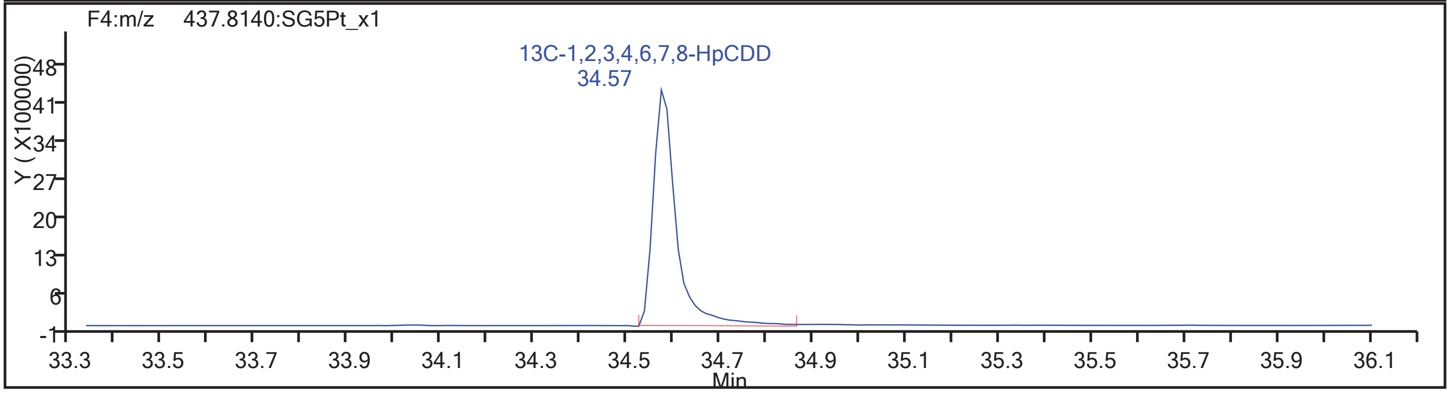

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TestAmerica Sacramento

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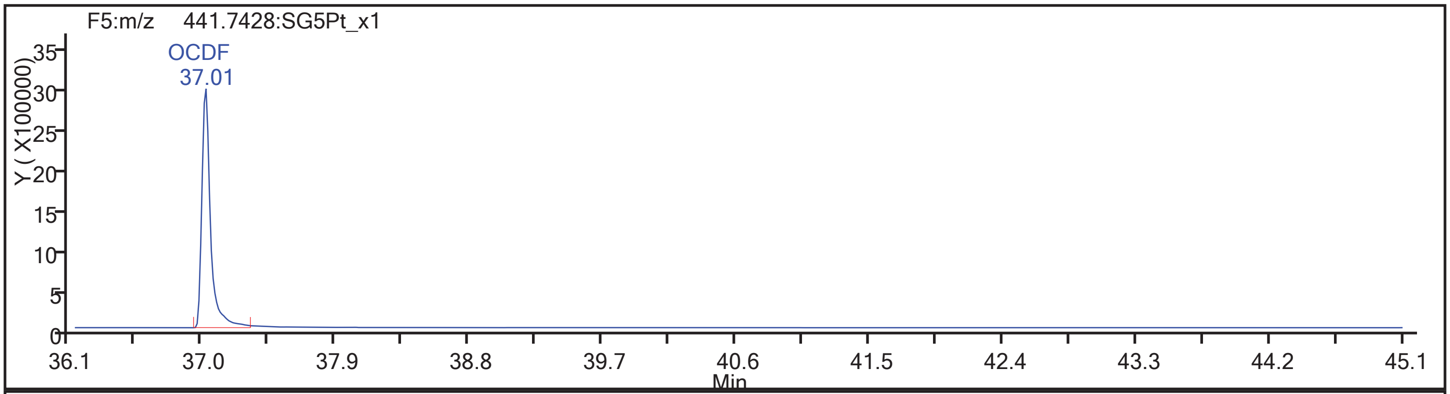

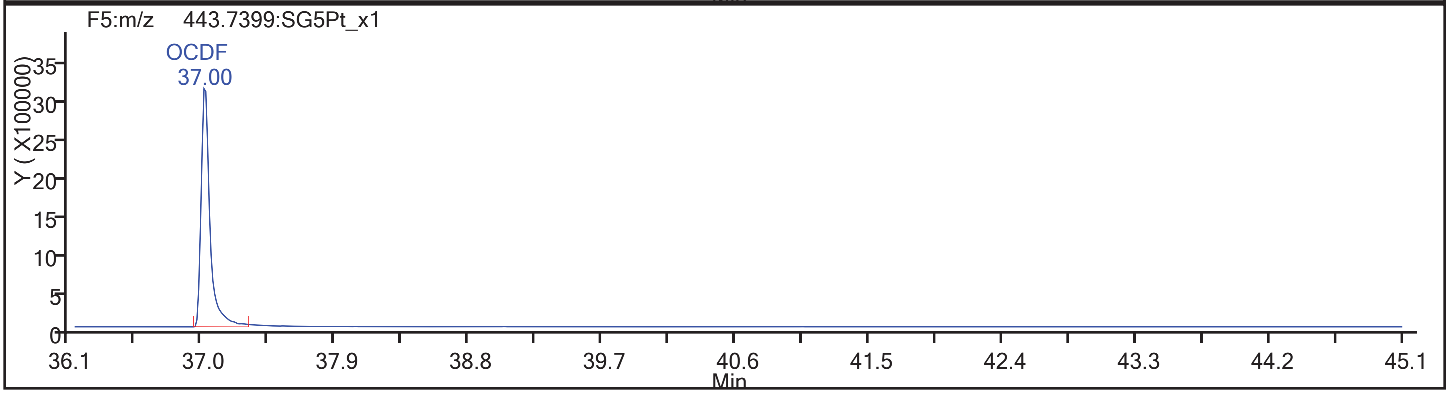

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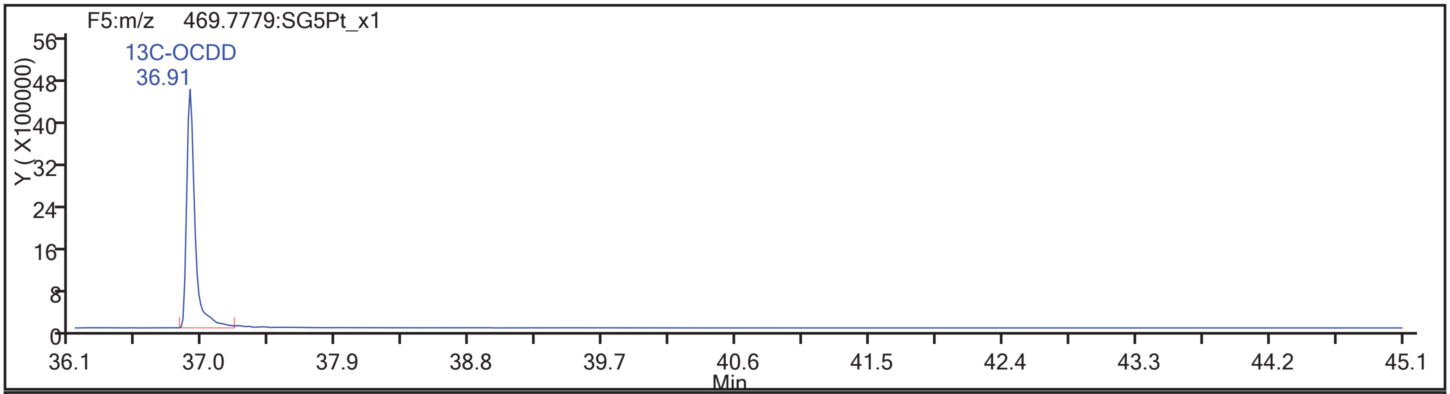

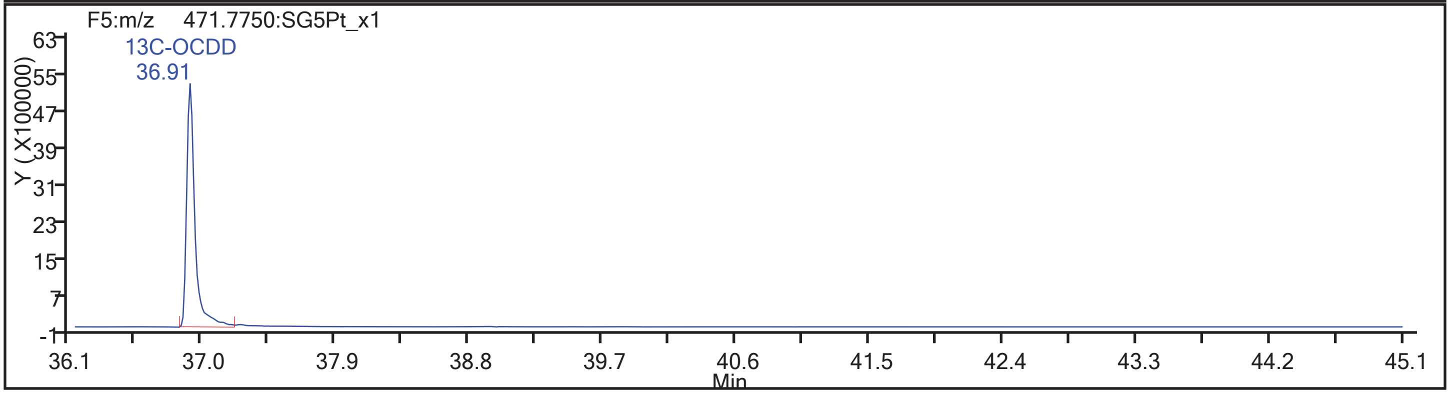

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TestAmerica Sacramento

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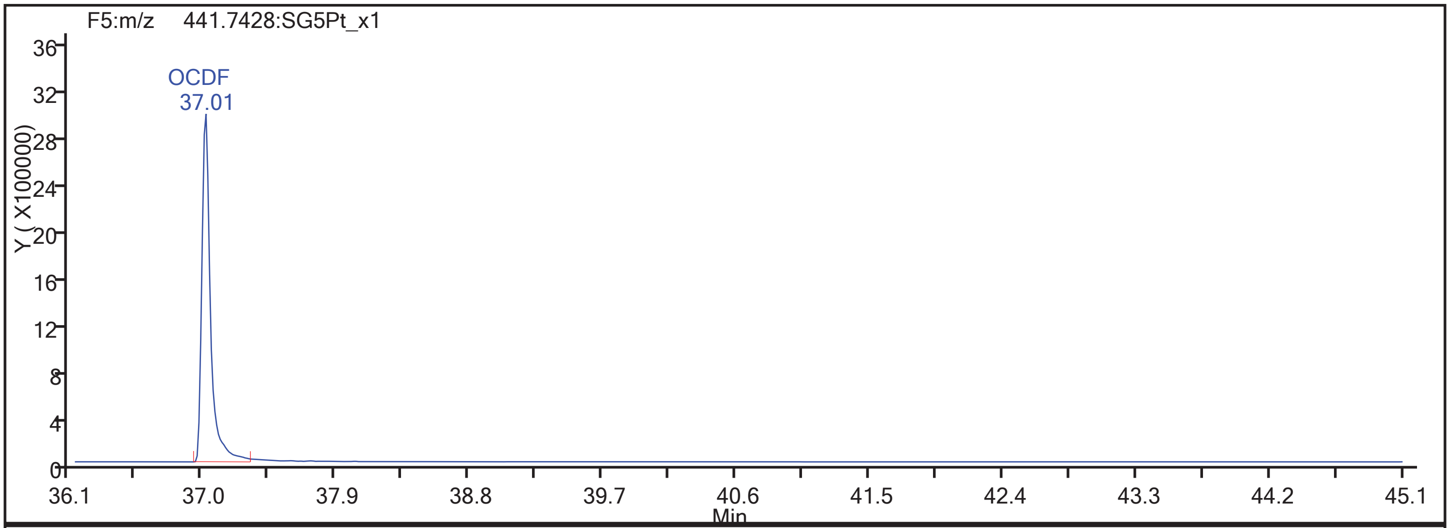
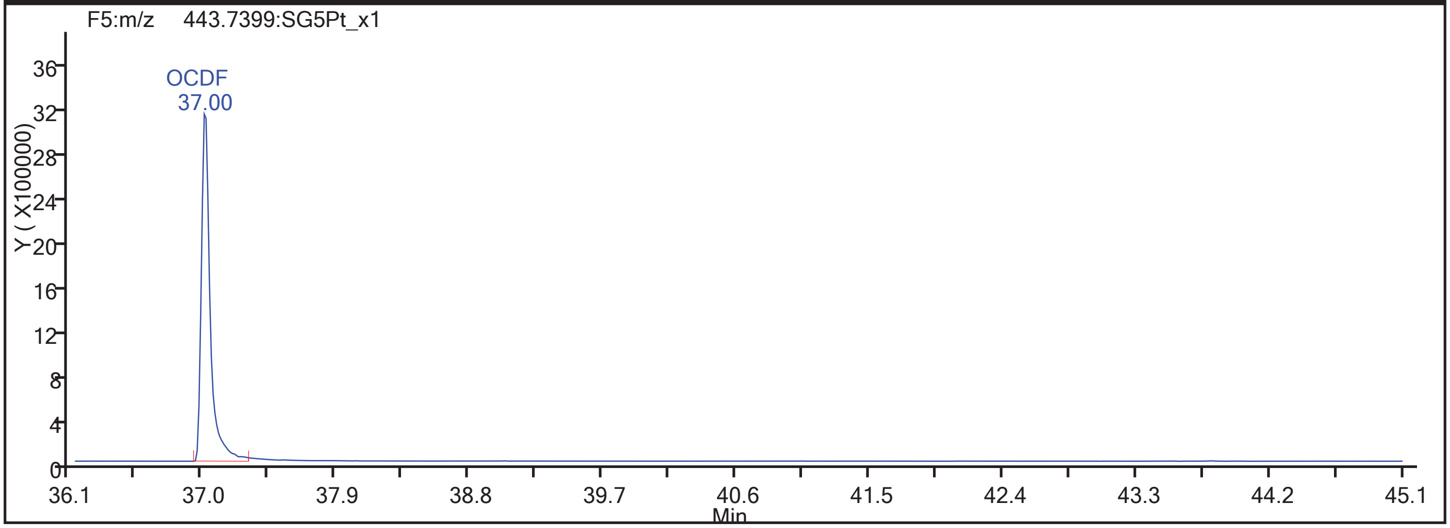
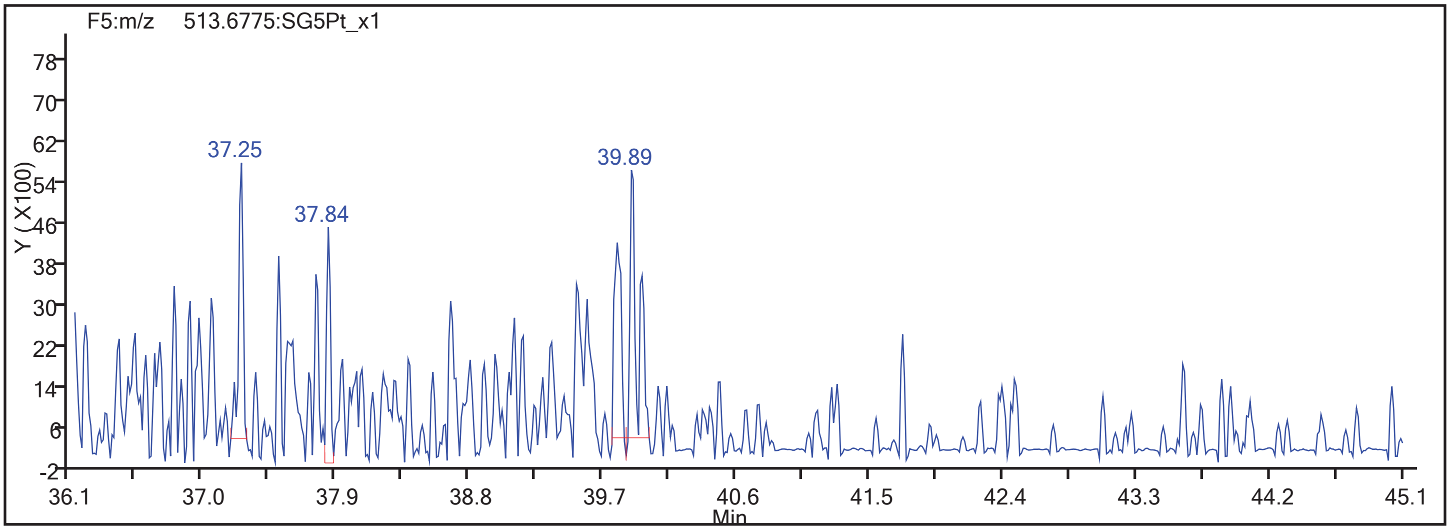




OCDF Interference Mass



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TestAmerica Sacramento

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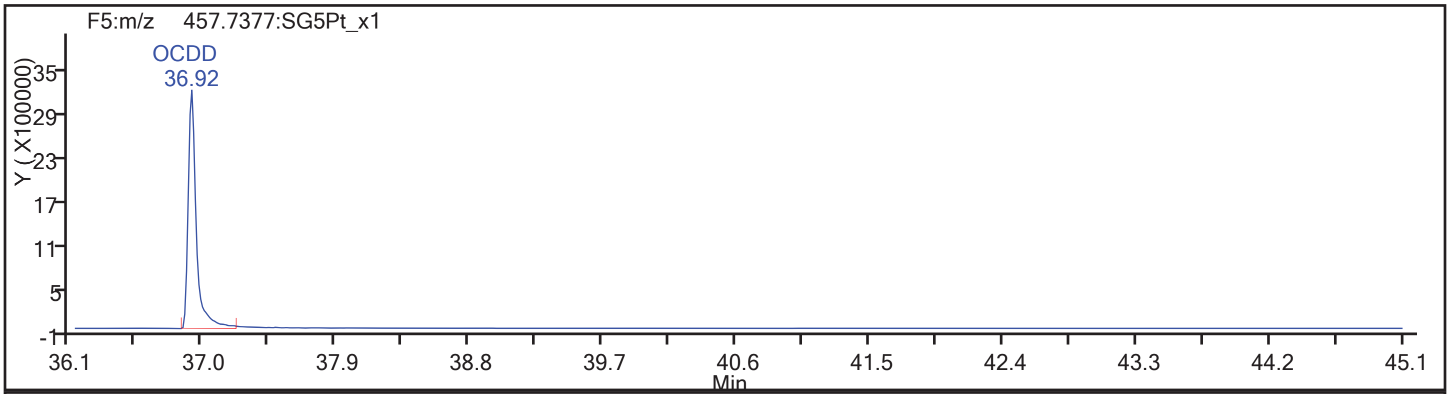

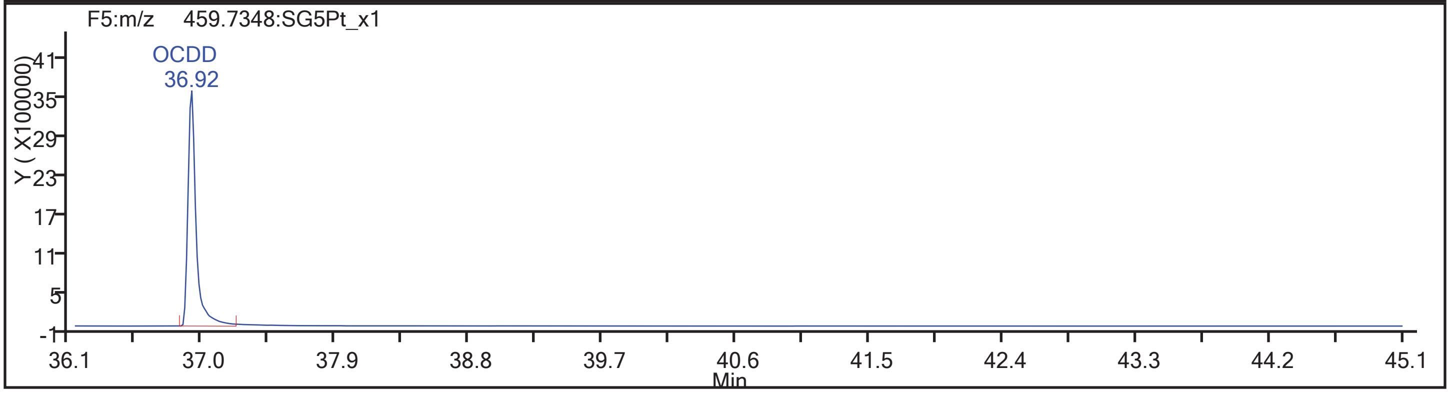

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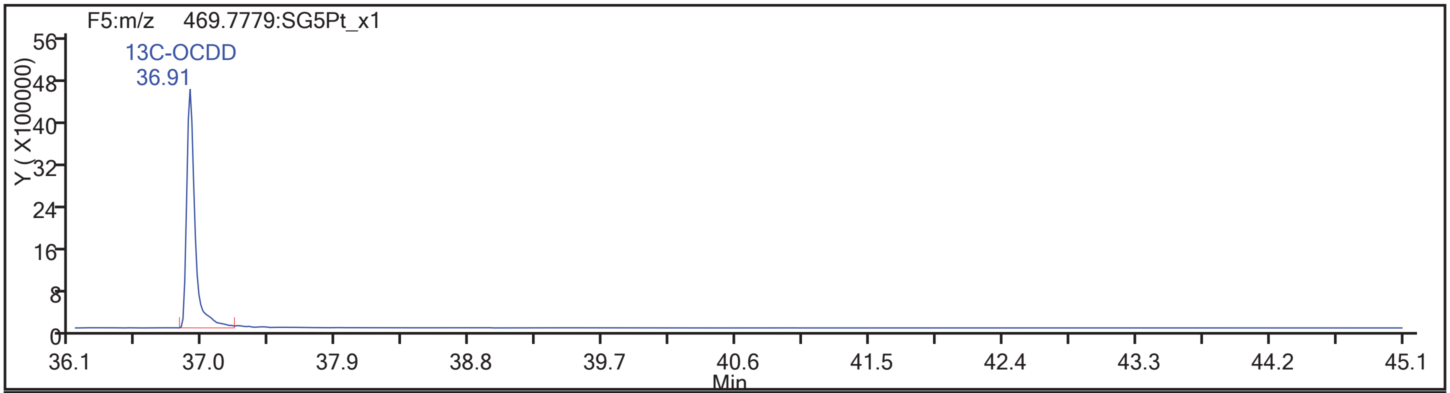

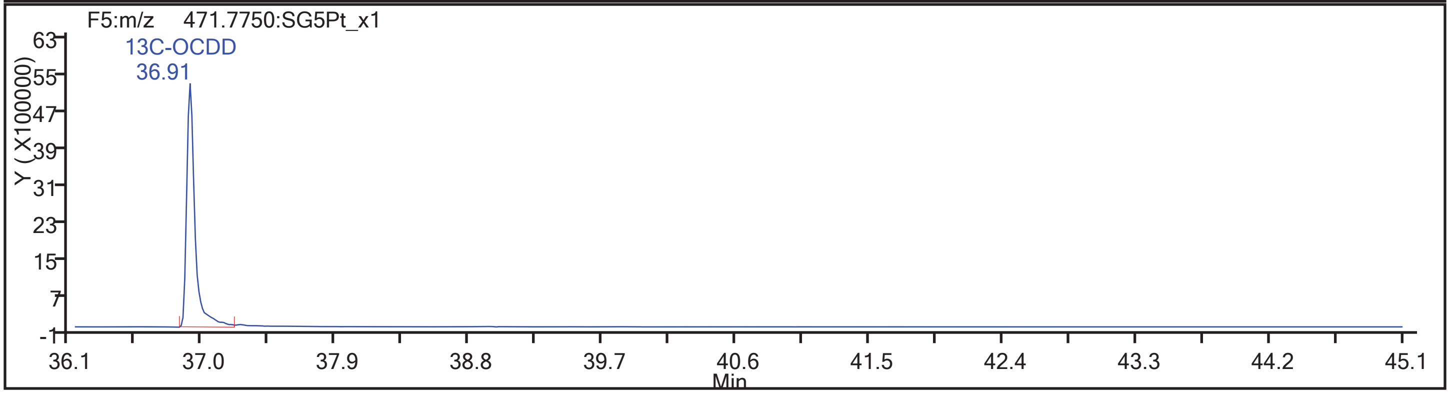

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TestAmerica Sacramento

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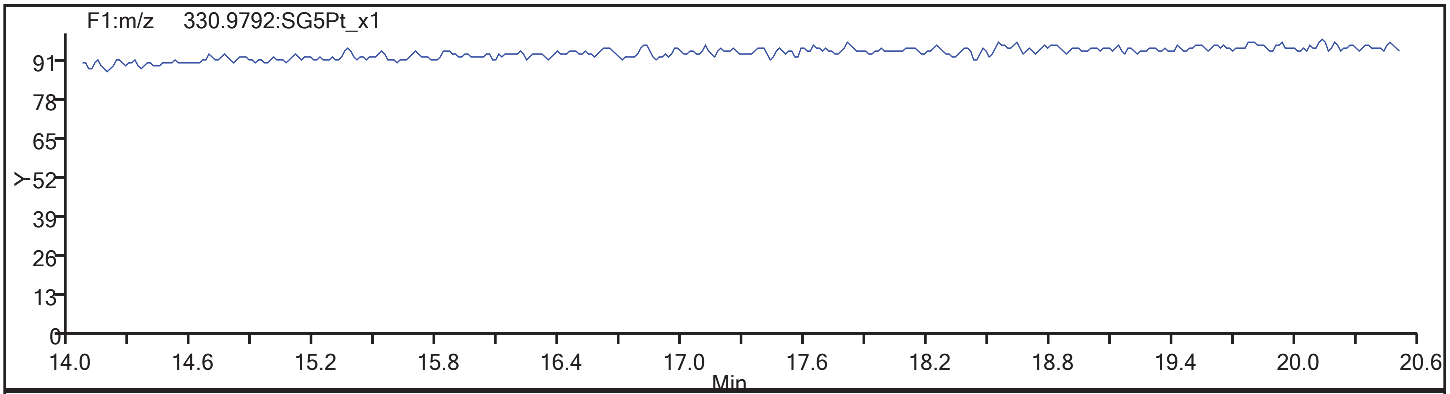

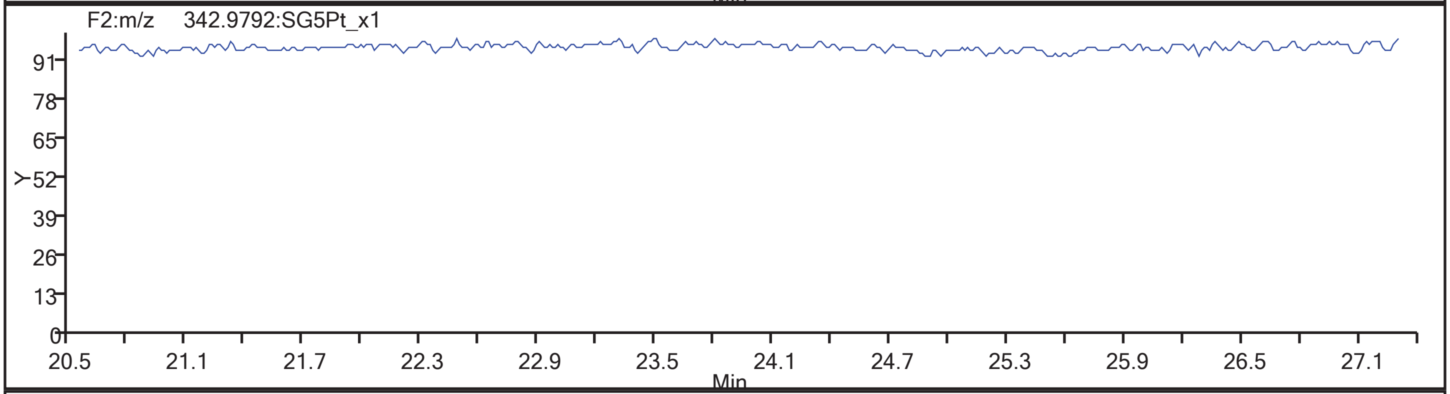

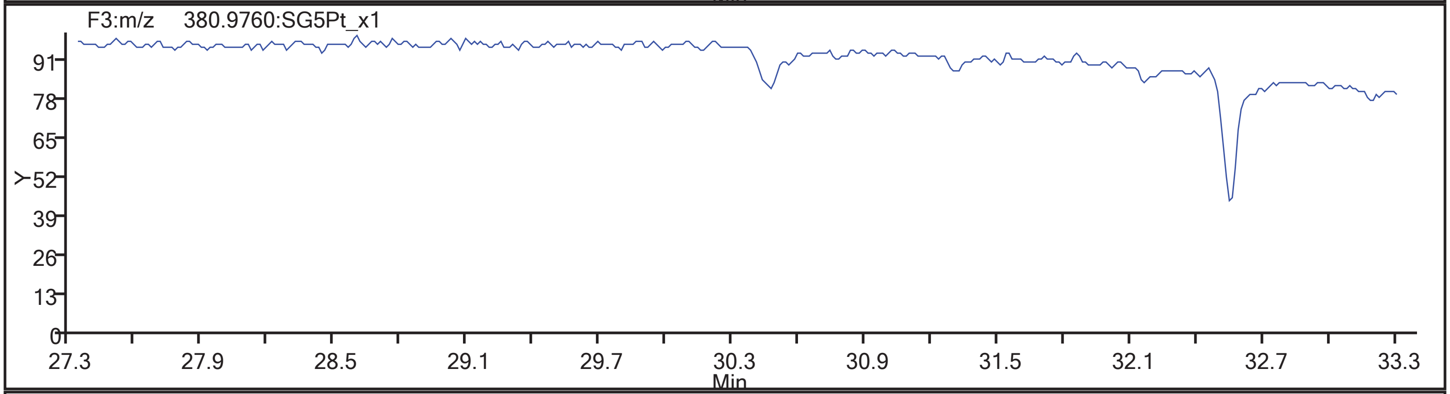

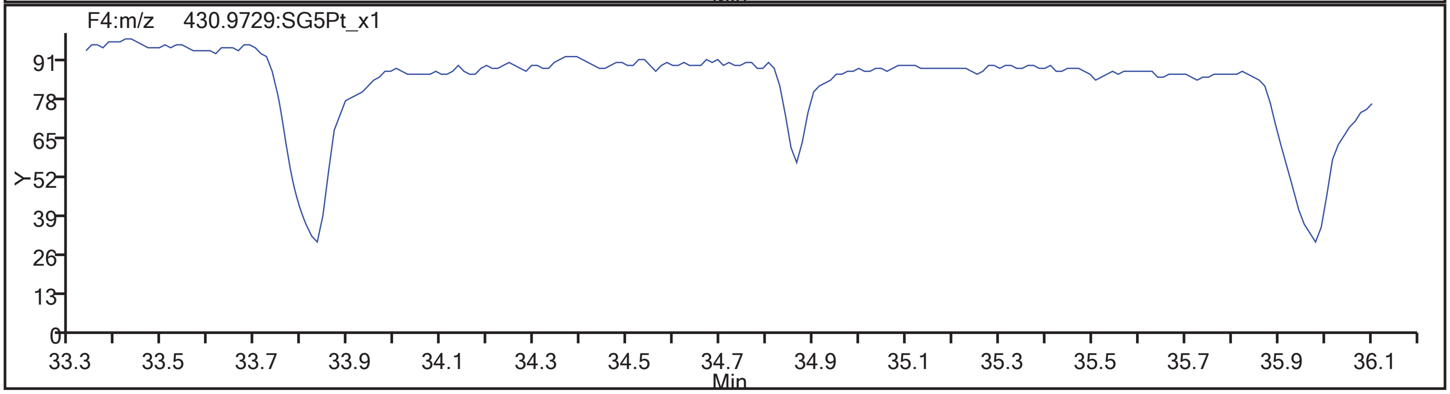

TestAmerica Sacramento

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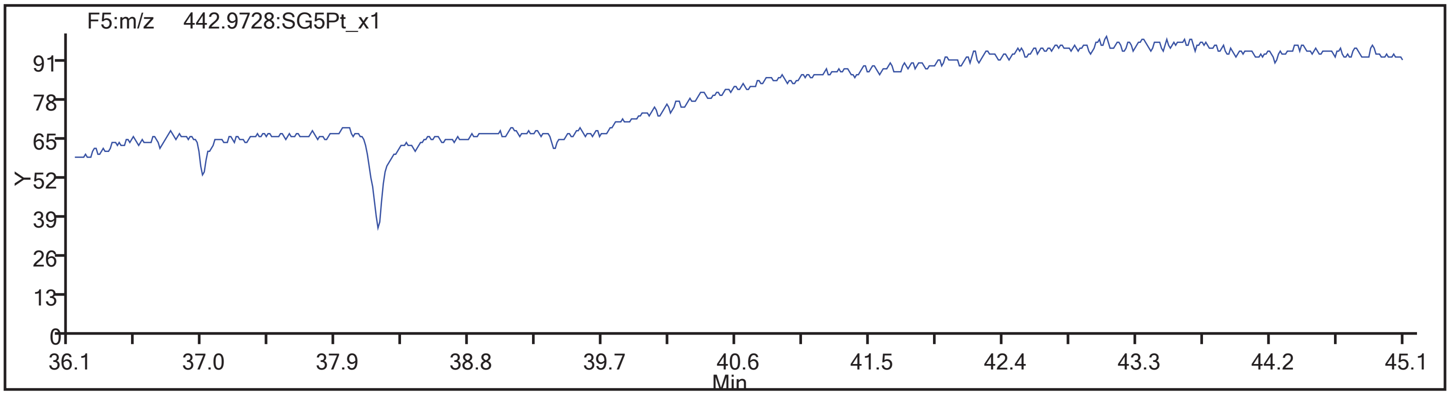


FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 160-24924-2
SDG No.:	
Client Sample ID: SHAD041DP022SS03NS MSD RE	Lab Sample ID: 160-24924-9 MSD RE
Matrix: Solid	Lab File ID: 16NO173D5_75.d
Analysis Method: 8290A	Date Collected: 10/05/2017 16:59
Extract. Method: 8290	Date Extracted: 11/16/2017 11:16
Sample wt/vol: 9.84(g)	Date Analyzed: 11/19/2017 06:28
Con. Extract Vol.: 20.0(uL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 2.0	GPC Cleanup:(Y/N) N
Analysis Batch No.: 195574	Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
1746-01-6	*2,3,7,8-TCDD*	*19.6*	*H*	*1.0*	0.41	*0.18*
40321-76-4	*1,2,3,7,8-PeCDD*	*96.1*	*H*	*5.2*	0.78	*0.45*
57117-41-6	*1,2,3,7,8-PeCDF*	*98.8*	*M H*	*5.2*	0.78	*0.93*
57117-31-4	*2,3,4,7,8-PeCDF*	*104*	*H*	*5.2*	0.78	*0.95*
39227-28-6	*1,2,3,4,7,8-HxCDD*	*95.2*	*H*	*5.2*	2.1	*0.65*
57653-85-7	*1,2,3,6,7,8-HxCDD*	*102*	*H*	*5.2*	2.1	*0.59*
19408-74-3	*1,2,3,7,8,9-HxCDD*	*90.6*	*H*	*5.2*	2.1	*0.56*
70648-26-9	*1,2,3,4,7,8-HxCDF*	*101*	*H*	*5.2*	0.78	*1.3*
57117-44-9	*1,2,3,6,7,8-HxCDF*	*102*	*H*	*5.2*	1.0	*1.2*
72918-21-9	*1,2,3,7,8,9-HxCDF*	*97.4*	*H*	*5.2*	1.0	*1.3*
60851-34-5	*2,3,4,6,7,8-HxCDF*	*100*	*H*	*5.2*	0.78	*1.3*
35822-46-9	*1,2,3,4,6,7,8-HpCDD*	*129*	*H J*	*5.2*	1.0	*0.88*
67562-39-4	*1,2,3,4,6,7,8-HpCDF*	*126*	*H*	*5.2*	1.0	*1.5*
55673-89-7	*1,2,3,4,7,8,9-HpCDF*	*126*	*H*	*5.2*	2.1	*1.9*
3268-87-9	*OCDD*	*495*	*H J*	*10*	4.1	*0.49*
39001-02-0	*OCDF*	*213*	*H*	*10*	4.1	*0.35*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	70		40-135
109719-79-1	13C-1,2,3,7,8-PeCDD	68		40-135
109719-77-9	13C-1,2,3,7,8-PeCDF	66		40-135
109719-81-5	13C-1,2,3,6,7,8-HxCDD	63		40-135
114423-98-2	13C-1,2,3,4,7,8-HxCDF	64		40-135
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	50		40-135
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	39	Q	40-135
114423-97-1	13C-OCDD	36	Q	40-135

FORM I 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Lims ID: 160-24924-G-9-F MSD
Client ID: SHAD041DP022SS03NS
Sample Type: MSD
Inject. Date: 19-Nov-2017 06:28:37 ALS Bottle#: 50 Worklist Smp#: 75
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-F MSD 160-24924-G-9-F MSD
Misc. Info.: 16NO173D5
Operator ID: SMA, ALM Instrument ID: 3D5

Method: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 10:19:05 Calib Date: 15-Nov-2017 15:05:45
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d

Column 1 : Det: F1:HRSIR
Process Host: XAWRK017

First Level Reviewer: dadunj Date: 06-Dec-2017 14:52:22

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.234	137169009	0.84	1.6E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.705	147981819	0.78	1.5089	71.5	71.5	0.2436	0.2436	71.50	
2,3,7,8-TCDF	17.720	15980419	0.78	1.0971	9.843	9.843	0.1806	0.1806	98.43	
A Non-2,3,7,8-sub-TCDF	17.402	4902743	0.77	1.0971	3.236	3.020	0.1806	0.7978	0.00	RQ
S Total TCDF					13.1	12.9	0.1806	0.1806		RQ
D 13C-2,3,7,8-TCDD	18.430	94702274	0.82	0.9906	69.7	69.7	0.1775	0.1775	69.70	
$ 37Cl4-2,3,7,8-TCDD	18.445	63110395		1.1732	39.2	39.2	0.0692	0.0692	98.04	
2,3,7,8-TCDD	18.461	10419666	0.82	1.1645	9.449	9.449	0.0859	0.0859	94.49	
A Non-2,3,7,8-sub-TCDD	17.871	3760315	0.77	1.1645	3.445	3.410	0.0859	1.869	0.00	RQ
S Total TCDD					12.9	12.9	0.0859	0.0859		RQ
D 13C-1,2,3,7,8-PeCDF	22.883	102362269	1.63	1.1280	66.2	66.2	0.2031	0.2031	66.16	
1,2,3,7,8-PeCDF	22.910	55672925	1.68	1.1422	47.6	47.6	0.4460	0.4460	95.24	M
D 13C-2,3,4,7,8-PeCDF	24.260	107473303	1.60							
2,3,4,7,8-PeCDF	24.287	57017299	1.63	1.1102	50.2	50.2	0.4588	0.4588	100	
A F1 PeCDFs	20.426	2070453	1.67	1.1262	1.796	1.796	0.0365	1.796	0.00	
A Non-2,3,7,8-sub-PeCDF	23.668	1500503	1.32	1.1262	1.302	1.302	0.4523	1.302	0.00	
S Total PeCDF					100.9	100.9	0.4524	0.4524		
D 13C-1,2,3,7,8-PeCDD	25.010	67507032	1.63	0.7269	67.7	67.7	0.1329	0.1329	67.71	
1,2,3,7,8-PeCDD	25.037	35245330	1.65	1.1272	46.3	46.3	0.2172	0.2172	92.64	
A Non-2,3,7,8-sub-PeCDD	23.878	942591	1.55	1.1272	1.442	1.239	0.2172	0.7370	0.00	RQ
S Total PeCDD					47.8	47.6	0.2172	0.2172		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.919	76880604	0.50	1.0279	63.7	63.7	0.2728	0.2728	63.73	
1,2,3,4,7,8-HxCDF	30.932	50442302	1.24	1.3475	48.7	48.7	0.6188	0.6188	97.38	
D 13C-1,2,3,6,7,8-HxCDF	31.079	87491533	0.50							
1,2,3,6,7,8-HxCDF	31.092	55782513	1.28	1.4794	49.0	49.0	0.5637	0.5637	98.09	
D 13C-2,3,4,6,7,8-HxCDF	31.811	82521447	0.52							
2,3,4,6,7,8-HxCDF	31.838	51431279	1.30	1.3833	48.4	48.4	0.6028	0.6028	96.72	
D 13C-1,2,3,7,8,9-HxCDF	32.583	78040118	0.55							
1,2,3,7,8,9-HxCDF	32.597	46557898	1.30	1.2903	46.9	46.9	0.6463	0.6463	93.87	
A Non-2,3,7,8-sub-HxCDF	30.653	2146161	1.19	1.3751	2.030	2.030	0.6064	2.030	0.00	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					195.1	195.1	0.6079	0.6079		
* 13C-1,2,3,7,8,9-HxCDD	32.397	117350611	1.29	1.4E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.997	55274984	1.23							
1,2,3,4,7,8-HxCDD	32.011	30795136	1.26	1.0646	45.9	45.9	0.3148	0.3148	91.74	
D 13C-1,2,3,6,7,8-HxCDD	32.091	63056638	1.27	0.8502	63.2	63.2	0.2682	0.2682	63.20	
1,2,3,6,7,8-HxCDD	32.104	36779631	1.26	1.1809	49.4	49.4	0.2839	0.2839	98.78	
1,2,3,7,8,9-HxCDD	32.410	33886584	1.31	1.2311	43.7	43.7	0.2723	0.2723	87.31	
A Non-2,3,7,8-sub-HxCDD	31.252	5775845	1.25	1.1589	7.904	7.904	0.2892	4.933	0.00	
S Total HxCDD					146.8	146.8	0.2903	0.2903		
D 13C-1,2,3,4,6,7,8-HpCDF	33.998	29334567	0.42	0.6490	38.5	38.5	0.4717	0.4717	38.52	
1,2,3,4,6,7,8-HpCDF	34.010	28300347	1.08	1.5871	60.8	60.8	0.7008	0.7008	122	
D 13C-1,2,3,4,7,8,9-HpCDF	35.116	29218624	0.45							
1,2,3,4,7,8,9-HpCDF	35.128	21926717	1.06	1.2290	60.8	60.8	0.9051	0.9051	122	
A Non-2,3,7,8-sub-HpCDF	34.569	4772043	0.99	1.4080	11.6	11.6	0.7900	11.6	0.00	M
S Total HpCDF					133.2	133.2	0.8029	0.8029		
D 13C-1,2,3,4,6,7,8-HpCDD	34.812	31663936	1.08	0.5387	50.1	50.1	0.2943	0.2943	50.09	
1,2,3,4,6,7,8-HpCDD	34.824	22889640	1.04	1.1631	62.2	62.2	0.4241	0.4241	124	
A Non-2,3,7,8-sub-HpCDD	35.261	4950052	1.00	1.1631	13.4	13.4	0.4241	13.4	0.00	
S Total HpCDD					75.6	75.6	0.4241	0.4241		
D 13C-OCDD	37.233	33621762	0.88	0.4009	71.5	71.5	0.1294	0.1294	35.73	
OCDF	37.353	21842100	0.90	1.2649	102.7	102.7	0.1695	0.1695	103	
OCDD	37.245	41640653	0.88	1.0390	238.4	238.4	0.2357	0.2357	238	
1,3,6,8-TCDF	15.739	955541	0.78							
1,3,6,8-TCDD	16.162	2060993	0.70							
1,2,3,9-TCDF	17.720						0.0	0.0		U
1,2,3,7-TCDD	18.264	211902	1.28							R
1,2,3,9-TCDD	18.612						0.0	0.0		
2,3,4,7-TCDF	18.612						0.0	0.0		
1,2,8,9-TCDD	19.595						0.0	0.0		
1,2,8,9-TCDF	19.595						0.0	0.0		
1,3,4,6,8-PeCDF	19.912	2070453	1.67							
1,2,4,7,9-PeCDD	21.696	657114	1.08							R
1,2,3,8,9-PeCDD	26.060						0.0	0.0		
1,2,3,8,9-PeCDF	26.292						0.0	0.0		
1,2,3,4,6,8-HxCDF	28.629						0.0	0.0		
1,2,4,6,7,9-HxCDD	30.160						0.0	0.0		U
1,2,3,4,6,7-HxCDD	32.410						0.0	0.0		U
1,2,3,4,8,9-HxCDF	32.597						0.0	0.0		U
1,2,3,4,6,7,9-HpCDD	34.253						0.0	0.0		U
1,4,7,8-TCDD	0.0						0.0	0.0		
1,2,3,4,7-PeCDD	0.0						0.0	0.0		
1,2,3,4,6,7,9-HpCDF	0.0						0.0	0.0		
1,2,3,8-TCDD	0.0						0.0	0.0		
1,3,7,9-TCDD	0.0						0.0	0.0		

QC Flag Legend

Processing Flags

- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags

- M - Manually Integrated
- U - Marked Undetected

Report Date: 06-Dec-2017 10:55:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d				
Lims ID:	160-24924-G-9-F MSD				
Client ID:	SHAD041DP022SS03NS				
Sample Type:	MSD				
Inject. Date:	19-Nov-2017 06:28:37	ALS Bottle#:	50	Worklist Smp#:	75
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	160-24924-G-9-F MSD 160-24924-G-9-F MSD				
Misc. Info.:	16NO173D5				
Operator ID:	SMA, ALM	Instrument ID:	3D5		
Method:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\Dioxin_3D5.m				
Limit Group:	HR - 8290A_D5 - ICAL				
Last Update:	06-Dec-2017 10:19:05	Calib Date:	15-Nov-2017 15:05:45		
Integrator:	Picker				
Quant Method:	Isotopic Dilution	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\3D5\20171115-50480.b\15NO173D5_6.d				
Column 1 :			Det: F1:HRSIR		
Process Host:	XAWRK017				
First Level Reviewer: dadunj		Date:	06-Dec-2017 14:52:22		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.234	18.234	0		62699627	15016969	13267	33167	1132		
333.9339	18.234	18.234	0		74469382	18191530	10087	25217	1803	0.84(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.705	17.705	0	0.971	64763243	15388759	34151	85377	451		
317.9389	17.705	17.705	0	0.971	83218576	20034512	14663	36657	1366	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.720	17.720	0	1.001	7010801	1571855	12343	30857	127		
305.8987	17.720	17.720	0	1.001	8969618	2051424	15728	39320	130	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	15.739	17.402	-100	0.889	417519	114142	12343	30857	9		a
305.8987	15.739	17.402	-100	0.889	538022	146931	15728	39320	9	0.78(0.65-0.89)	
303.9016	16.011	17.402	-83	0.904	642504	117636	12343	30857	10		
	Empc Correction				494042	100774	12343	30857	8		
305.8987	15.996	17.402	-84	0.903	641614	130876	15728	39320	8	1.00(0.65-0.89)	
303.9016	16.797	17.402	-36	0.949	337431	84416	12343	30857	7		
305.8987	16.797	17.402	-36	0.949	640625	142764	15728	39320	9	0.53(0.65-0.89)	
	Empc Correction				438222	109631	15728	39320	7		
303.9016	17.009	17.402	-24	0.961	547125	61045	12343	30857	5		
305.8987	17.009	17.402	-24	0.961	748160	84883	15728	39320	5	0.73(0.65-0.89)	
303.9016	18.173	17.402	46	1.026	338829	86509	12343	30857	7		
305.8987	18.173	17.402	46	1.026	401779	108763	15728	39320	7	0.84(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.430	18.430	0	1.011	42659473	9511416	13267	33167	717		
333.9339	18.430	18.430	0	1.011	52042801	11615605	10087	25217	1152	0.82(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.445	18.445	0	1.012	63110395	13753967	10782	26955	1276		

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,7,8-TCDD											
319.8965	18.461	18.445	1	1.002	4704313	1019639	3458	8645	295		
321.8936	18.461	18.445	1	1.002	5715353	1220413	4993	12482	244	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	16.162	17.871	-102	0.877	850066	235755	3458	8645	68		a
321.8936	16.162	17.871	-102	0.877	1210927	334309	4993	12482	67	0.70(0.65-0.89)	
319.8965	16.465	17.871	-84	0.893	643617	180907	3458	8645	52		
321.8936	16.465	17.871	-84	0.893	850188	226387	4993	12482	45	0.76(0.65-0.89)	
319.8965	17.296	17.871	-34	0.938	89406	26149	3458	8645	8		
321.8936	17.296	17.871	-34	0.938	154850	35875	4993	12482	7	0.58(0.65-0.89)	
	Empc Correction				116111	33959	4993	12482	7		
13C-1,2,3,7,8-PeCDF											
351.9000	22.883	22.869	1	1.255	63488868	10765482	17077	42692	630		
353.8970	22.883	22.869	1	1.255	38873401	6719960	13350	33375	503	1.63(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	22.910	22.896	1	1.001	34903873	5896135	23387	58467	252		
341.8567	22.896	22.896	0	1.001	20769052	3585292	12243	30607	293	1.68(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	24.260	24.260	0	1.330	66156561	10327087	17077	42692	605		
353.8970	24.260	24.260	0	1.330	41316742	6388353	13350	33375	479	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.287	24.274	1	1.061	35318130	5434530	23387	58467	232		
341.8567	24.287	24.274	1	1.061	21699169	3317447	12243	30607	271	1.63(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.912	20.426	-31	0.870	1294733	247883	1205	3012	206		a
341.8567	19.912	20.426	-31	0.870	775720	142483	1671	4177	85	1.67(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	21.506	23.668	-130	0.940	854162	146004	23387	58467	6		a
341.8567	21.506	23.668	-130	0.940	646341	107114	12243	30607	9	1.32(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.010	24.996	1	1.372	41859819	6291683	7050	17625	892		
369.8919	24.996	24.996	0	1.371	25647213	3687323	5781	14452	638	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.037	25.024	1	1.001	21948475	3231260	5622	14055	575		
357.8516	25.037	25.024	1	1.001	13296855	1967071	4151	10377	474	1.65(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.696	23.878	-131	0.868	340902	66869	5622	14055	12		a
357.8516	21.724	23.878	-129	0.869	316212	61232	4151	10377	15	1.08(1.32-1.78)	
	Empc Correction				219936	43141	4151	10377	10		
355.8546	22.937	23.878	-56	0.917	232046	39549	5622	14055	7		
357.8516	22.937	23.878	-56	0.917	207895	27528	4151	10377	7	1.12(1.32-1.78)	
	Empc Correction				149707	25515	4151	10377	6		
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.919	30.906	1	0.954	25518528	5572688	13334	33335	418		
385.8610	30.919	30.906	1	0.954	51362076	11017176	23118	57795	477	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDF											
373.8208	30.932	30.932	0	1.000	27959220	6112343	30892	77230	198		
375.8178	30.932	30.932	0	1.000	22483082	4846605	24442	61105	198	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.079	31.065	1	0.959	29297052	6254383	13334	33335	469		
385.8610	31.066	31.065	0	0.959	58194481	12119272	23118	57795	524	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.092	31.092	0	1.006	31291058	6559329	30892	77230	212		
375.8178	31.092	31.092	0	1.006	24491455	5143758	24442	61105	210	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.811	31.811	0	0.982	28207974	7338121	13334	33335	550		
385.8610	31.811	31.811	0	0.982	54313473	13518714	23118	57795	585	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.838	31.824	1	1.030	29029992	7513466	30892	77230	243		
375.8178	31.838	31.824	1	1.030	22401287	5714602	24442	61105	234	1.30(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.583	32.583	0	1.006	27761544	8044654	13334	33335	603		
385.8610	32.583	32.583	0	1.006	50278574	14214228	23118	57795	615	0.55(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.597	32.597	0	1.054	26291773	7450223	30892	77230	241		
375.8178	32.597	32.597	0	1.054	20266125	5866814	24442	61105	240	1.30(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.253	30.653	-24	0.978	1165036	220251	30892	77230	7		a
375.8178	30.240	30.653	-25	0.978	981125	176952	24442	61105	7	1.19(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.397	32.397	0		66104302	18245212	14785	36962	1234		
403.8529	32.397	32.397	0		51246309	14251400	14859	37147	959	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.997	31.984	1	0.988	30457971	8853637	14785	36962	599		
403.8529	31.997	31.984	1	0.988	24817013	7045088	14859	37147	474	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.011	31.997	1	0.998	17172186	5016500	10136	25340	495		
391.8127	31.997	31.997	0	0.997	13622950	3930002	11898	29745	330	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.091	32.091	0	0.991	35264253	9210680	14785	36962	623		
403.8529	32.091	32.091	0	0.991	27792385	7222760	14859	37147	486	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.104	32.104	0	1.000	20533082	5416275	10136	25340	534		
391.8127	32.104	32.104	0	1.000	16246549	4298865	11898	29745	361	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.410	32.410	0	1.010	19233439	5339273	10136	25340	527		
391.8127	32.410	32.410	0	1.010	14653145	4194327	11898	29745	353	1.31(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.160	31.252	-65	0.940	589881	90985	10136	25340	9		a
391.8127	30.133	31.252	-67	0.939	476476	73522	11898	29745	6	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
389.8157	30.972	31.252	-17	0.965	626557	145780	10136	25340	14		
391.8127	30.972	31.252	-17	0.965	478357	124964	11898	29745	11	1.31(1.05-1.43)	
389.8157	31.319	31.252	4	0.976	1997045	402374	10136	25340	40		
391.8127	31.319	31.252	4	0.976	1607529	323860	11898	29745	27	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.998	33.998	0	1.049	8610947	3063010	11274	28185	272		
419.8220	33.998	33.998	0	1.049	20723620	7368491	28517	71292	258	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.010	34.010	0	1.000	14701143	5110650	24596	61490	208		
409.7789	34.010	34.010	0	1.000	13599204	4769693	21815	54537	219	1.08(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.116	35.116	0	1.084	9053698	2717379	11274	28185	241		
419.8220	35.116	35.116	0	1.084	20164926	6218040	28517	71292	218	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.128	35.128	0	1.033	11292898	3480267	24596	61490	141		
409.7789	35.128	35.128	0	1.033	10633819	3225071	21815	54537	148	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.313	34.569	-15	1.009	2372853	797346	24596	61490	32		M
409.7789	34.313	34.569	-15	1.009	2399190	814263	21815	54537	37	0.99(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.812	34.812	0	1.075	16404897	5181843	11645	29112	445		
437.8140	34.812	34.812	0	1.075	15259039	4803399	8963	22407	536	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.824	34.824	0	1.000	11653190	3780363	9995	24987	378		
425.7737	34.824	34.824	0	1.000	11236450	3623858	9709	24272	373	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.253	35.261	-60	0.984	2477663	846149	9995	24987	85		a
425.7737	34.253	35.261	-60	0.984	2472389	832388	9709	24272	86	1.00(0.88-1.20)	
13C-OCDD											
469.7779	37.233	37.233	0	1.149	15697094	4507309	3771	9427	1195		
471.7750	37.233	37.233	0	1.149	17924668	5370775	2972	7430	1807	0.88(0.76-1.02)	
OCDF											
441.7428	37.353	37.341	1	1.003	10368541	2709690	1605	4012	1688		
443.7399	37.341	37.341	0	1.003	11473559	2992155	2632	6580	1137	0.90(0.76-1.02)	
OCDD											
457.7377	37.245	37.245	0	1.000	19507023	5794009	2190	5475	2646		
459.7348	37.245	37.245	0	1.000	22133630	6513843	2649	6622	2459	0.88(0.76-1.02)	
1,3,6,8-TCDF											
303.9016	15.739	15.210	32		417519	114142	12343	30857	9		
305.8987	15.739	15.210	32		538022	146931	15728	39320	9	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	16.162	16.147	1		850066	235755	3458	8645	68		
321.8936	16.162	16.147	1		1210927	334309	4993	12482	67	0.70(0.65-0.89)	
1,2,3,9-TCDF											U
303.9016	17.720						12343	30857			
305.8987	17.720						15728	39320			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7-TCDD											R
319.8965	18.264	18.324	-4		118893	20384	3458	8645	6		
321.8936	18.249	18.324	-5		93009	23752	4993	12482	5	1.28(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.612						3458	8645			
321.8936	18.612						4993	12482			
2,3,4,7-TCDF											
303.9016	18.612						12343	30857			
305.8987	18.612						15728	39320			
1,2,8,9-TCDD											
319.8965	19.595						3458	8645			
1,2,8,9-TCDF											
303.9016	19.595						12343	30857			
305.8987	19.595						15728	39320			
1,3,4,6,8-PeCDF											
339.8597	19.912	19.882	2		1294733	247883	1205	3012	206		
341.8567	19.912	19.882	2		775720	142483	1671	4177	85	1.67(1.32-1.78)	
1,2,4,7,9-PeCDD											R
355.8546	21.696	21.710	-1		340902	66869	5622	14055	12		
357.8516	21.724	21.710	1		316212	61232	4151	10377	15	1.08(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	26.060						5622	14055			
357.8516	26.060						4151	10377			
1,2,3,8,9-PeCDF											
339.8597	26.292						23387	58467			
1,2,3,4,6,8-HxCDF											
373.8208	28.629						30892	77230			
375.8178	28.629						24442	61105			
1,2,4,6,7,9-HxCDD											U
389.8157	30.133						10136	25340			
391.8127	30.133						11898	29745			
1,2,3,4,6,7-HxCDD											U
389.8157	32.370						10136	25340			
391.8127	32.370						11898	29745			
1,2,3,4,8,9-HxCDF											U
373.8208	32.676						30892	77230			
375.8178	32.676						24442	61105			
1,2,3,4,6,7,9-HpCDD											U
423.7766	34.253						9995	24987			
425.7737	34.253						9709	24272			
1,4,7,8-TCDD											
319.8965	0.0						3458	8645			
321.8936	0.0						4993	12482			
1,2,3,4,7-PeCDD											
355.8546	0.0						5622	14055			
357.8516	0.0						4151	10377			

Signal	RT (min.)	Exp RT (min.)	P Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,9-HpCDF											
407.7818	0.0						24596	61490			
409.7789	0.0						21815	54537			
1,2,3,8-TCDD											
319.8965	0.0						3458	8645			
321.8936	0.0						4993	12482			
1,3,7,9-TCDD											
319.8965	0.0						3458	8645			
321.8936	0.0						4993	12482			

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Lims ID: 160-24924-G-9-F MSD
Client ID: SHAD041DP022SS03NS
Inject. Date: 19-Nov-2017 06:28:37 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195574 Lims Sample ID: 75

Non-2,3,7,8-sub-TCDF, RT: 17.402

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.097	D 13C-2,3,7,8-TCDF	100.000	147981819	35423271

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.097		100.000	147981819	35423271

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.739	417519	114142	538022	146931	0.5886	0.78	
16.011	642504	117636	641614	130876	0.7909	1.00	RQ
16.011	494042	100774	641614	130876	0.6995		Empc Correction
16.797	337431	84416	640625	142764	0.6024	0.53	RQ
16.797	337431	84416	438222	109631	0.4778		Empc Correction
17.009	547125	61045	748160	84883	0.7978	0.73	
18.173	338829	86509	401779	108763	0.4562	0.84	
Signal Totals:							
	2134946	446886	2767797	581084			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5253608	1077965				0.77	RQ
	4902743	1027970					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.236 = (5253608 * 100.000) / (147981819 * 1.097)
Empc Amount: 3.020 = (4902743 * 100.000) / (147981819 * 1.097)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 06-Dec-2017 10:55:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d		
Lims ID:	160-24924-G-9-F MSD		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 06:28:37	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	75

Non-2,3,7,8-sub-TCDD, RT: 17.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.164	D 13C-2,3,7,8-TCDD	100.000	94702274	21127021

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.164		100.000	94702274	21127021

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.162	850066	235755	1210927	334309	1.87	0.70	
16.465	643617	180907	850188	226387	1.35	0.76	
17.296	89406	26149	154850	35875	0.2215	0.58	RQ
17.296	89406	26149	116111	33959	0.1864		Empc Correction
Signal Totals:							
	1583089	442811	2177226	594655			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3799054	1039382				0.71	RQ
	3760315	1037466					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 3.445 = (3799054 * 100.000) / (94702274 * 1.164)

Empc Amount: 3.410 = (3760315 * 100.000) / (94702274 * 1.164)

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d		
Lims ID:	160-24924-G-9-F MSD		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 06:28:37	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	75

F1 PeCDFs, RT: 20.426

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	102362269	17485442
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	102362269	17485442

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.912	1294733	247883	775720	142483	1.80	1.67	
Signal Totals:							
	1294733	247883	775720	142483			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2070453	390366				1.67	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.796 = (2070453 * 100.000) / (102362269 * 1.126)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Lims ID: 160-24924-G-9-F MSD
Client ID: SHAD041DP022SS03NS
Inject. Date: 19-Nov-2017 06:28:37
Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 75

Non-2,3,7,8-sub-PeCDF, RT: 23.668

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.142	D 13C-1,2,3,7,8-PeCDF	100.000	102362269	17485442
2,3,4,7,8-PeCDF	1.110				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.126		100.000	102362269	17485442

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.506	854162	146004	646341	107114	1.30	1.32	
Signal Totals:							
	854162	146004	646341	107114			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1500503	253118				1.32	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.302 = (1500503 * 100.000) / (102362269 * 1.126)

Report Date: 06-Dec-2017 10:55:49 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d		
Lims ID:	160-24924-G-9-F MSD		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 06:28:37	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	75

Non-2,3,7,8-sub-PeCDD, RT: 23.878

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.127	D 13C-1,2,3,7,8-PeCDD	100.000	67507032	9979006

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.127		100.000	67507032	9979006

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.696	340902	66869	316212	61232	0.8635	1.08	RQ
21.696	340902	66869	219936	43141	0.7370		Empc Correction
22.937	232046	39549	207895	27528	0.5781	1.12	RQ
22.937	232046	39549	149707	25515	0.5017		Empc Correction
Signal Totals:							
	572948	106418	369643	68656			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1097055	195178				1.09	RQ
	942591	175074					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.442 = (1097055 * 100.000) / (67507032 * 1.127)
Empc Amount: 1.239 = (942591 * 100.000) / (67507032 * 1.127)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Lims ID: 160-24924-G-9-F MSD
Client ID: SHAD041DP022SS03NS
Inject. Date: 19-Nov-2017 06:28:37
Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 3D5
Operator: SMA, ALM
Lims Batch ID: 195574
Lims Sample ID: 75

Non-2,3,7,8-sub-HxCDF, RT: 30.653

Initial Calibration RRF

IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.348	D 13C-1,2,3,4,7,8-HxCDF	100.000	76880604	16589864
1,2,3,6,7,8-HxCDF	1.479				
2,3,4,6,7,8-HxCDF	1.383				
1,2,3,7,8,9-HxCDF	1.290				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.375		100.000	76880604	16589864

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
30.253	1165036	220251	981125	176952	2.03	1.19	
Signal Totals:							
	1165036	220251	981125	176952			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2146161	397203				1.19	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.030 = (2146161 * 100.000) / (76880604 * 1.375)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d		
Lims ID:	160-24924-G-9-F MSD		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 06:28:37	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	75

Non-2,3,7,8-sub-HxCDD, RT: 31.252

Initial Calibration RRF — IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.065	D 13C-1,2,3,6,7,8-HxCDD	100.000	63056638	16433440
1,2,3,6,7,8-HxCDD	1.181				
1,2,3,7,8,9-HxCDD	1.231				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	63056638	16433440

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.160	589881	90985	476476	73522	1.46	1.24	
30.972	626557	145780	478357	124964	1.51	1.31	
31.319	1997045	402374	1607529	323860	4.93	1.24	
Signal Totals:							
	3213483	639139	2562362	522346			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5775845	1161485				1.25	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 7.904 = (5775845 * 100.000) / (63056638 * 1.159)

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d		
Lims ID:	160-24924-G-9-F MSD		
Client ID:	SHAD041DP022SS03NS		
Inject. Date:	19-Nov-2017 06:28:37	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	3D5	Operator:	SMA, ALM
Lims Batch ID:	195574	Lims Sample ID:	75

Non-2,3,7,8-sub-HpCDF, RT: 34.569

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.587	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	29334567	10431501
1,2,3,4,7,8,9-HpCDF	1.229				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.408		100.000	29334567	10431501

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.313	2372853	797346	2399190	814263	11.6	0.99	M
Signal Totals:							
	2372853	797346	2399190	814263			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4772043	1611609				0.99	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 11.554 = (4772043 * 100.000) / (29334567 * 1.408)

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento
AreaSum WorkSheet Report

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Lims ID: 160-24924-G-9-F MSD
Client ID: SHAD041DP022SS03NS
Inject. Date: 19-Nov-2017 06:28:37 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 3D5 Operator: SMA, ALM
Lims Batch ID: 195574 Lims Sample ID: 75

Non-2,3,7,8-sub-HpCDD, RT: 35.261

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.163	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	31663936	9985242

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.163		100.000	31663936	9985242

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.253	2477663	846149	2472389	832388	13.4	1.00	
Signal Totals:							
	2477663	846149	2472389	832388			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4950052	1678537				1.00	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 13.441 = (4950052 * 100.000) / (31663936 * 1.163)

TestAmerica Sacramento

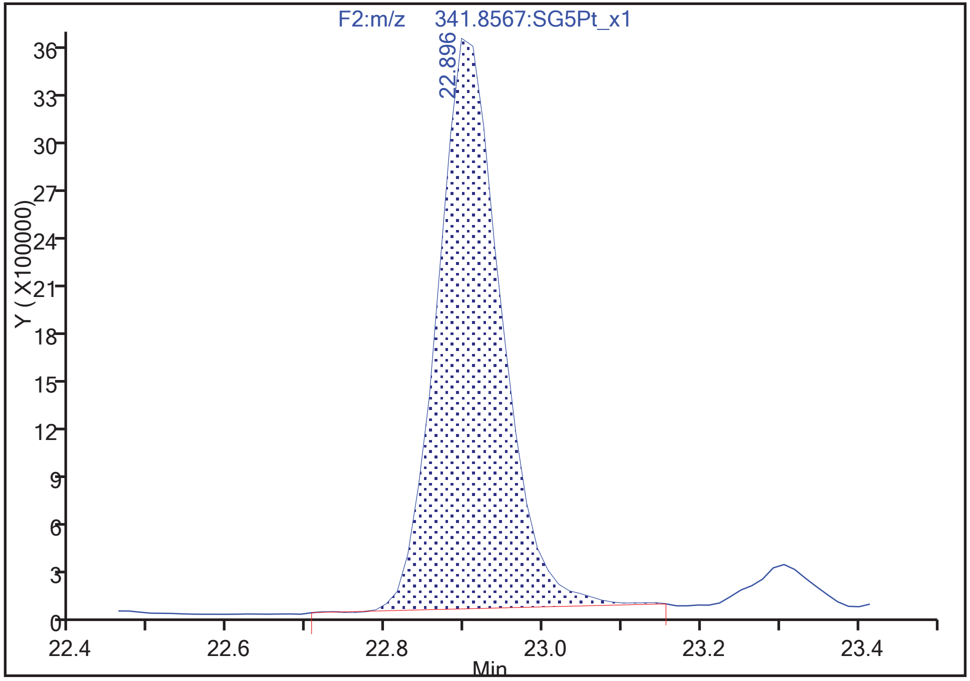
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d				
Injection Date:	19-Nov-2017 06:28:37	Instrument ID:	3D5		
Lims ID:	160-24924-G-9-F MSD				
Client ID:	SHAD041DP022SS03NS				
Operator ID:	SMA, ALM	ALS Bottle#:	50	Worklist Smp#:	75
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL		
Column:		Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

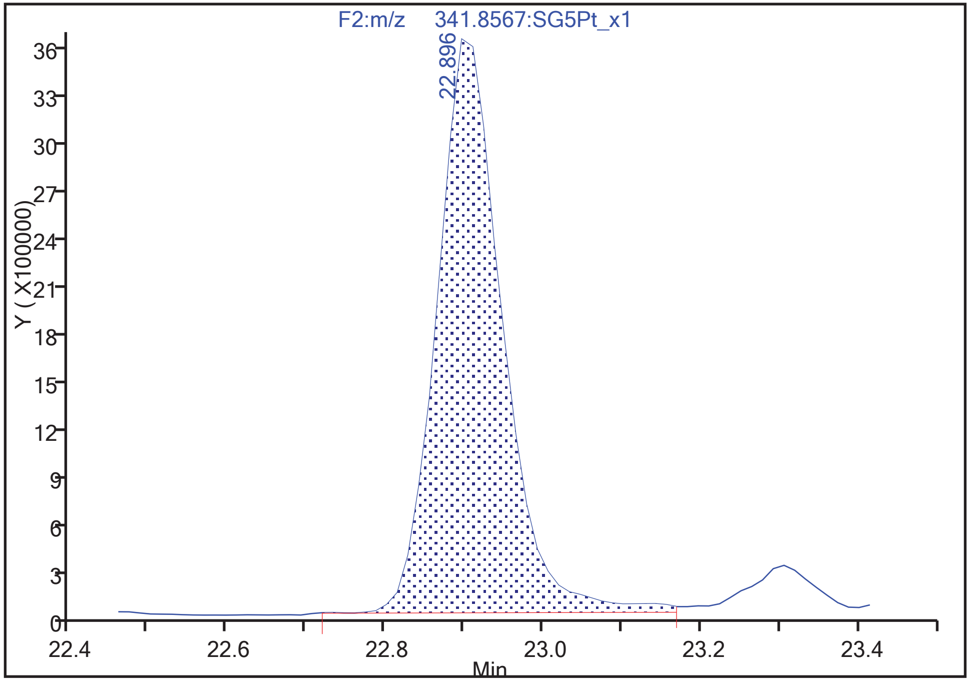
RT: 22.90
Area: 20107562
Amount: 47.052348
Amount Units: pg/ul

Processing Integration Results



RT: 22.90
Area: 20769052
Amount: 47.618133
Amount Units: pg/ul

Manual Integration Results



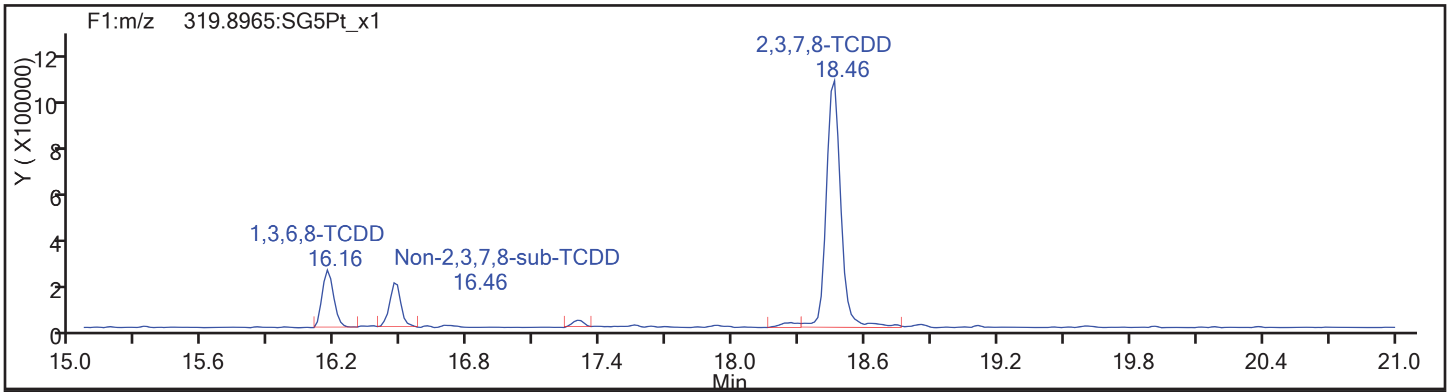
Reviewer: dadunj, 06-Dec-2017 14:49:41
Audit Action: Manually Integrated Audit Reason: Baseline

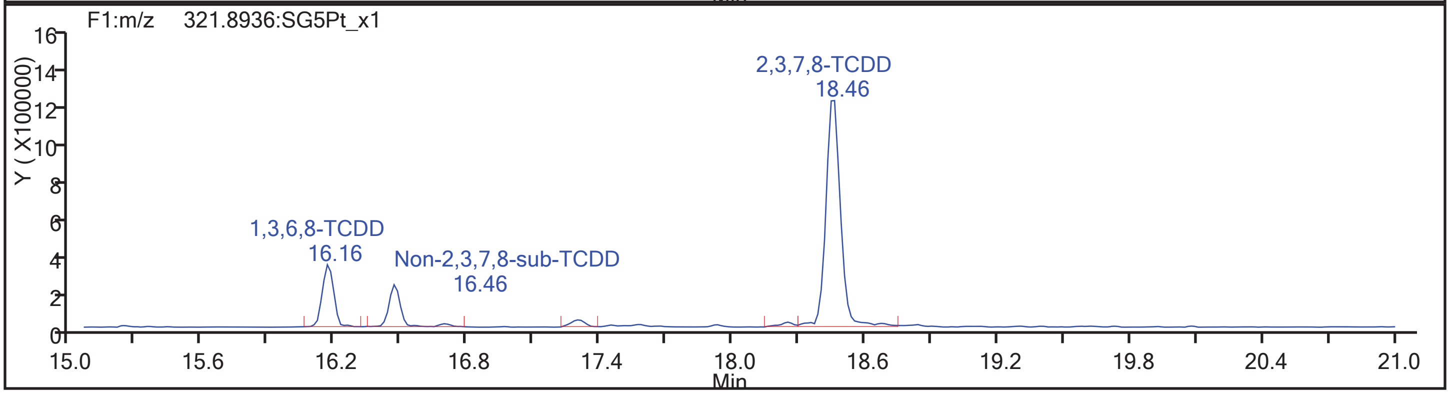
Report Date: 06-Dec-2017 10:55:50
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

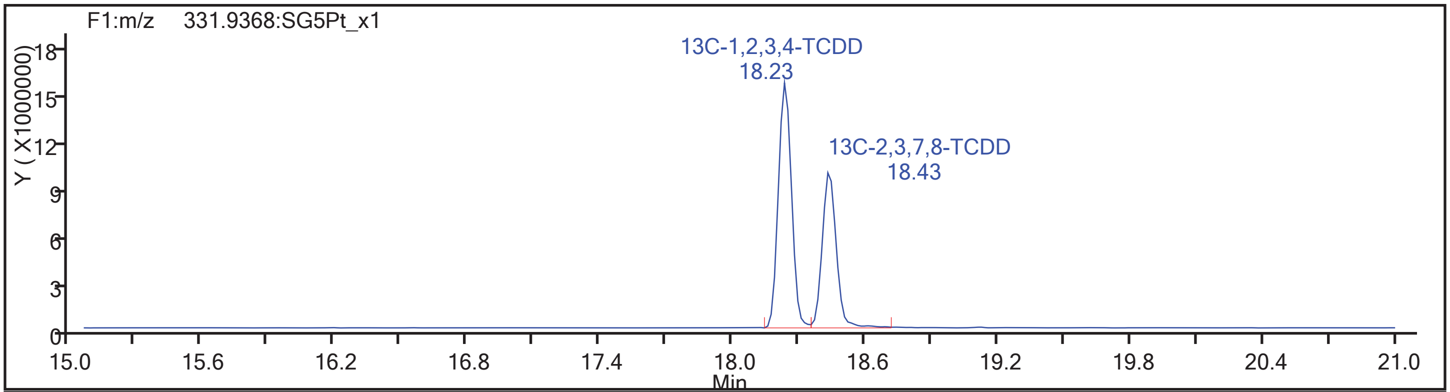
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Injection Date: 19-Nov-2017 06:28:37
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 75
Column Type:
Column Dia:

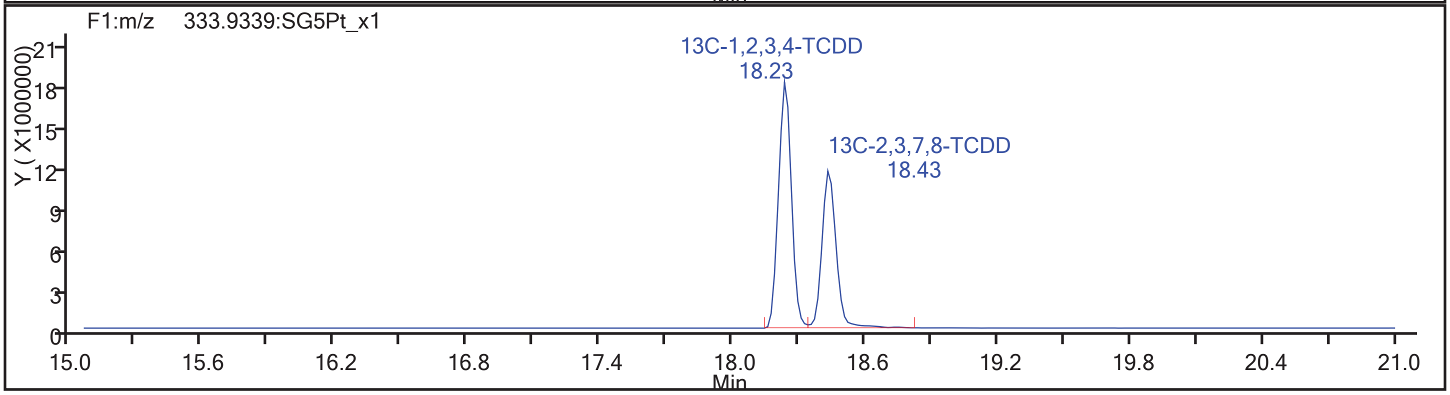
TCDD





TCDD Standards





Report Date: 06-Dec-2017 10:55:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d

Injection Date: 19-Nov-2017 06:28:37

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

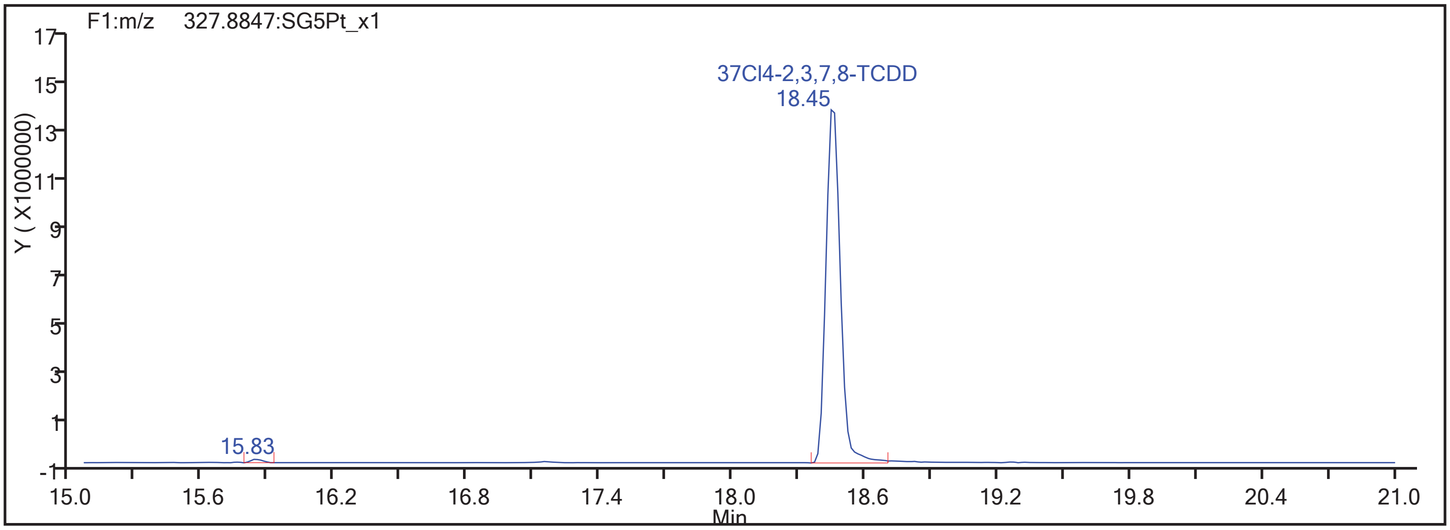
Worklist#: 195574

Sample Line#: 75

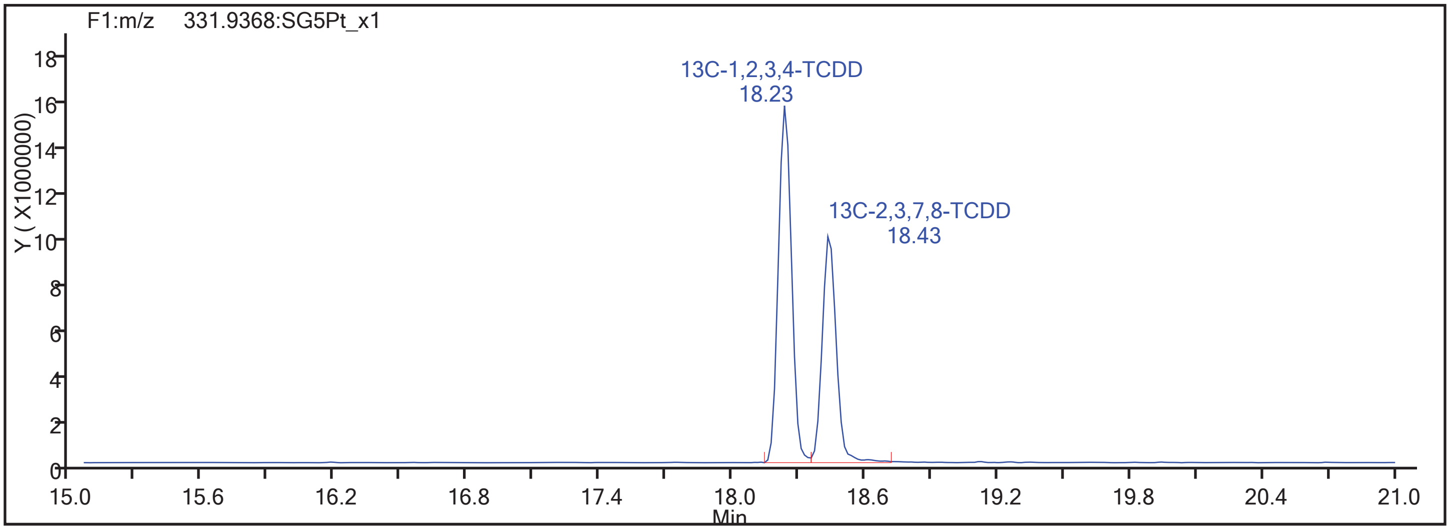
Column Type:

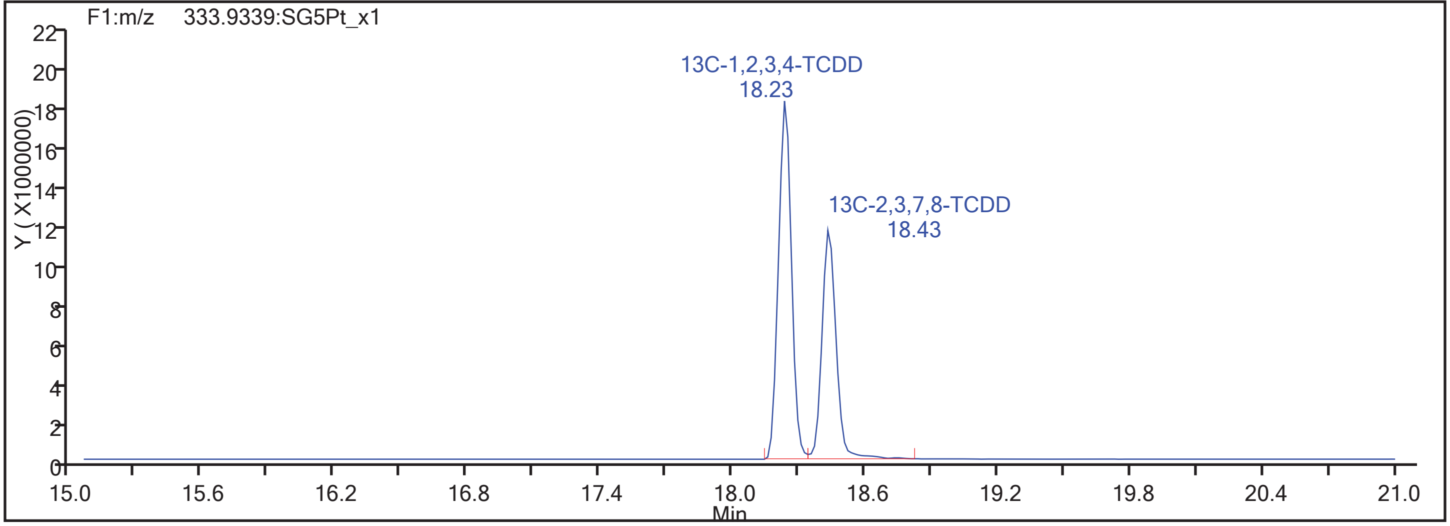
Column Dia:

37Cl4-TCDD



37Cl4-TCDD Standards



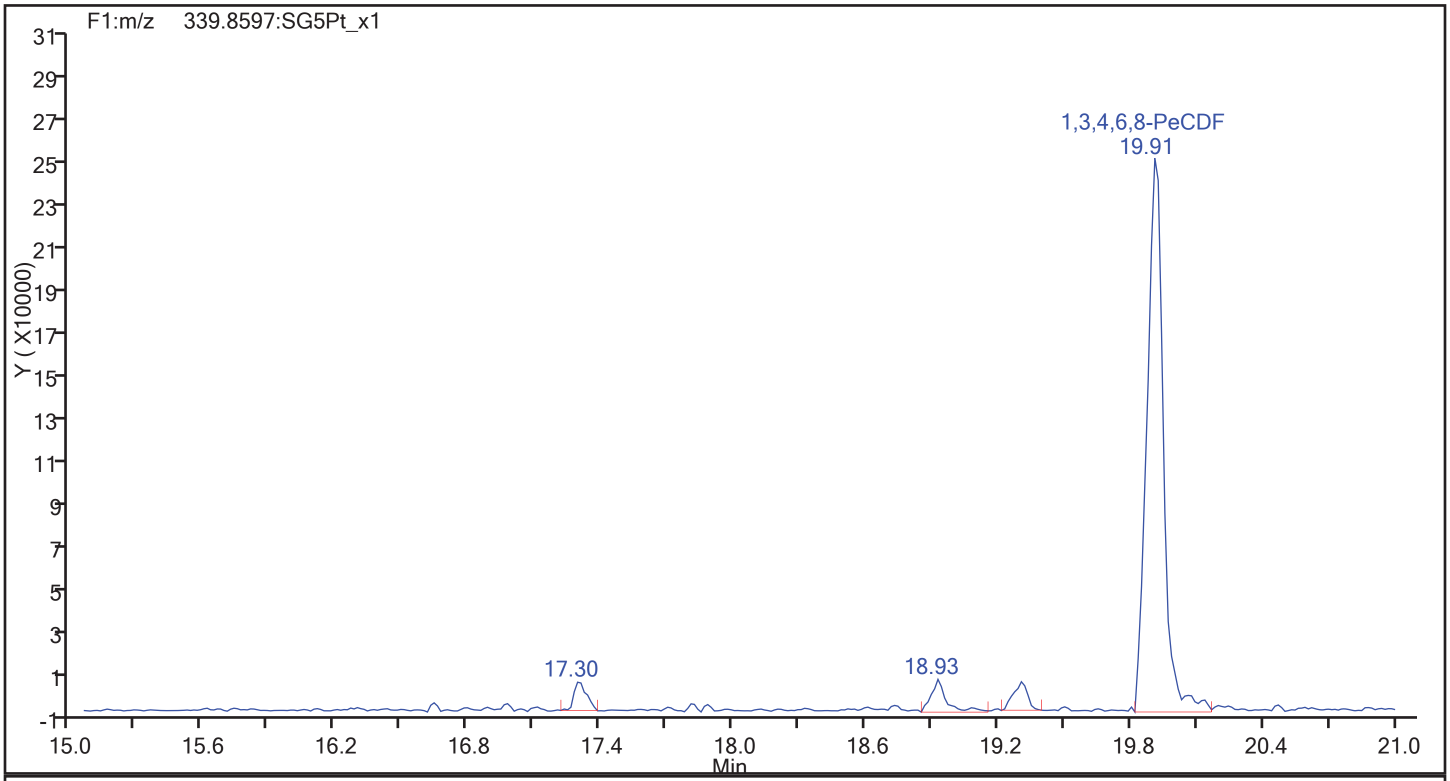


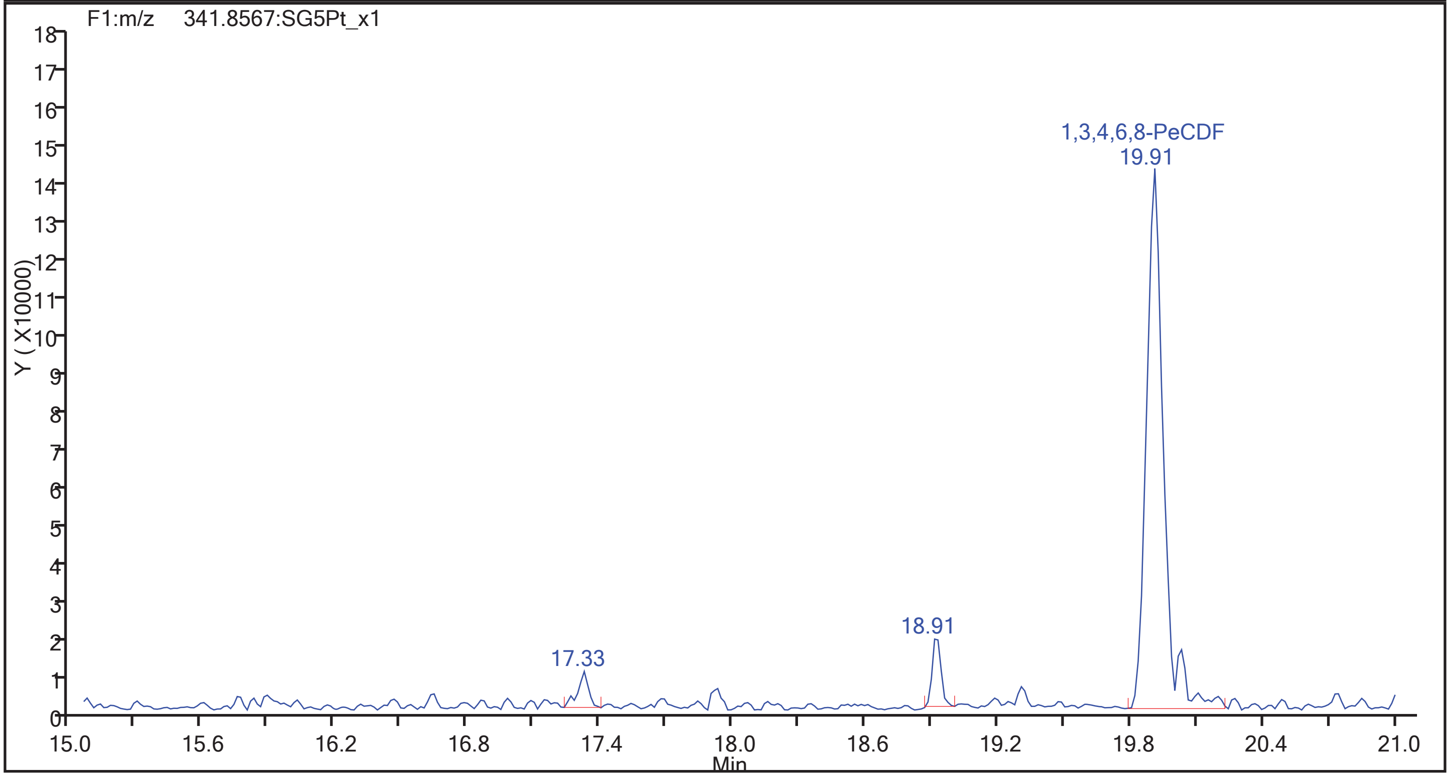
Report Date: 06-Dec-2017 10:55:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d		
Injection Date:	19-Nov-2017 06:28:37	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	75
Column Type:		Column Dia:	

F1 PeCDFs



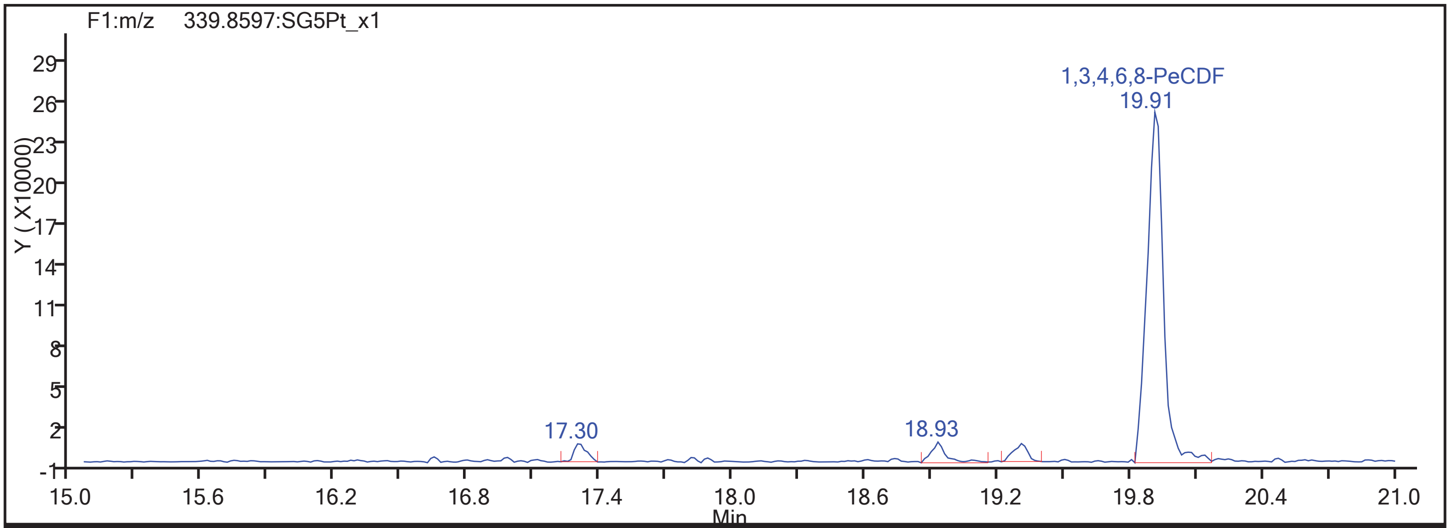


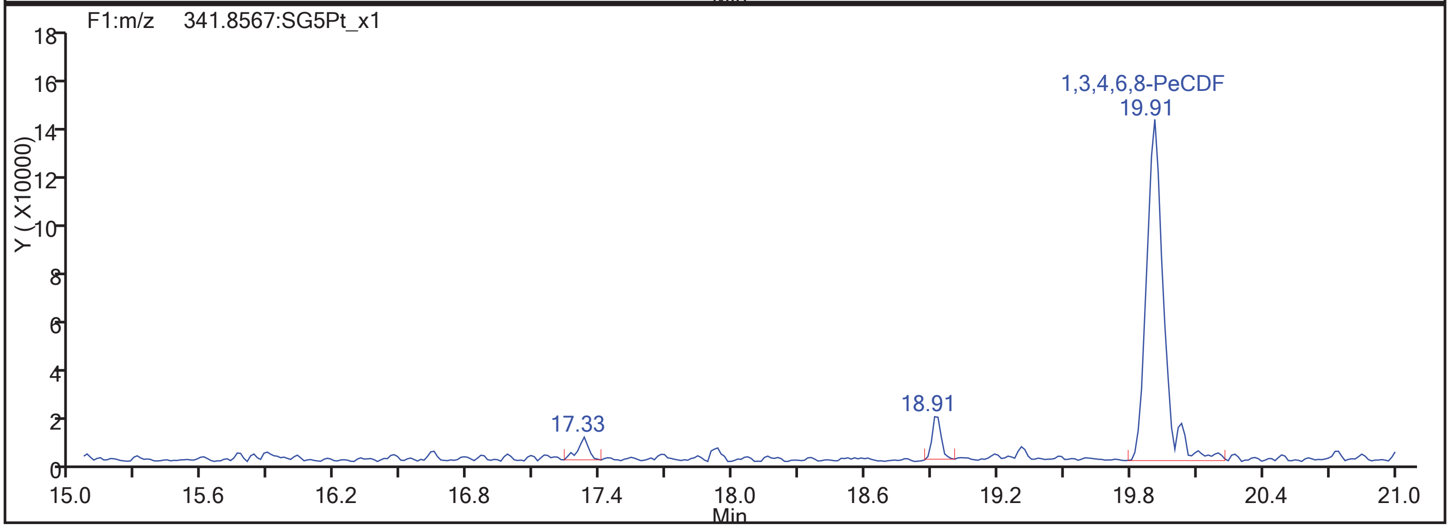
Report Date: 06-Dec-2017 10:55:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

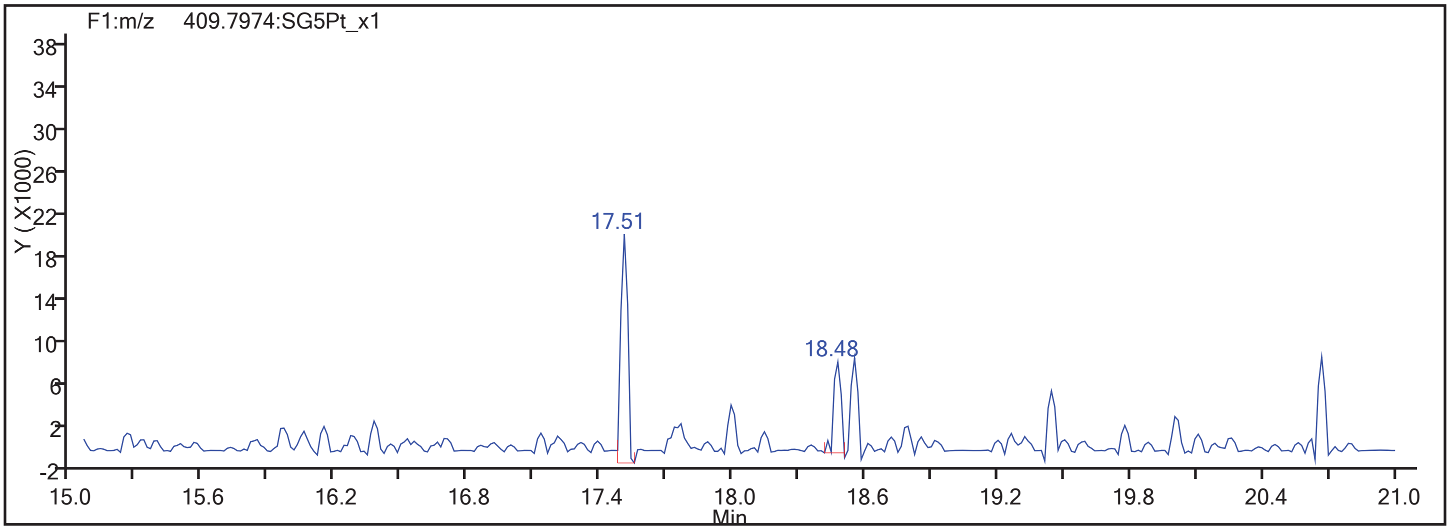
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d		
Injection Date:	19-Nov-2017 06:28:37	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	75
Column Type:		Column Dia:	

F1 PeCDFs





F1 PeCDFs Interference Mass

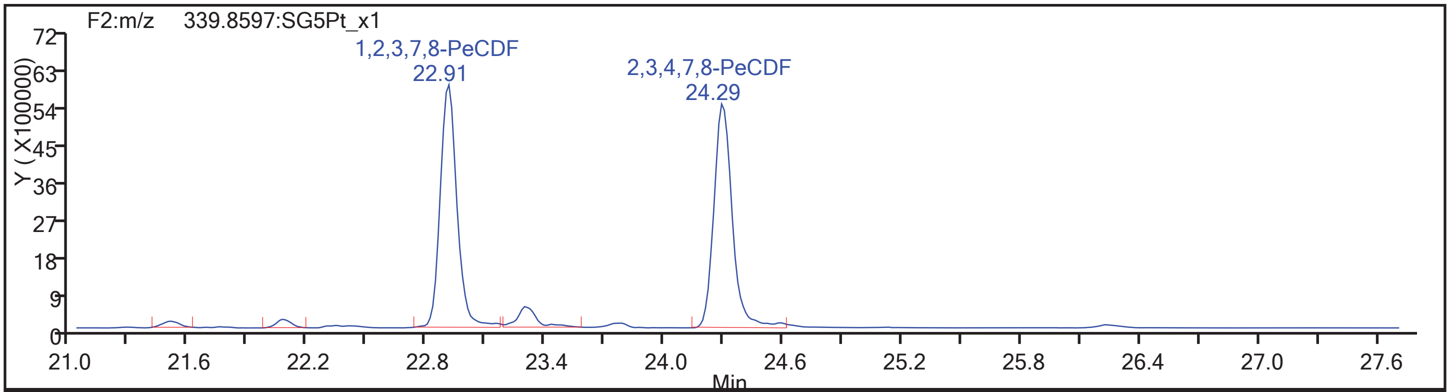


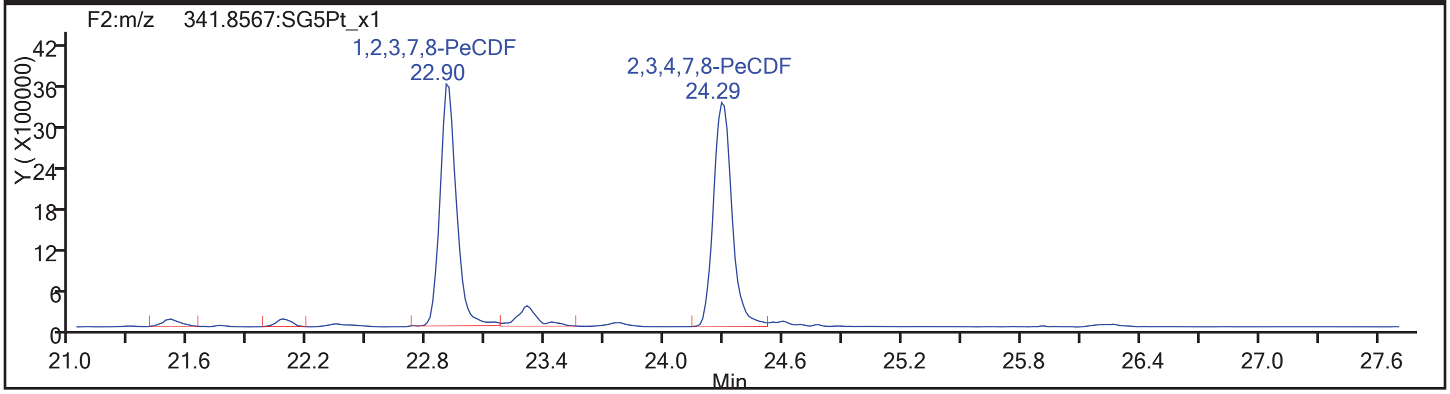
Report Date: 06-Dec-2017 10:55:50　　Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

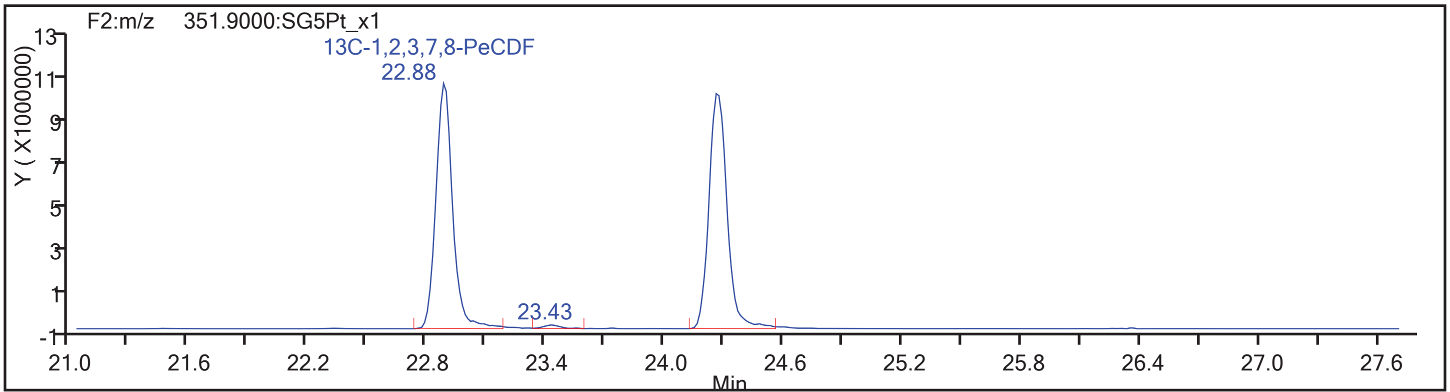
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Injection Date: 19-Nov-2017 06:28:37　　Injection Vol: 2.0 ul
Instrument ID: 3D5　　Operator ID: SMA, ALM
Method: Dioxin_3D5　　Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574　　Sample Line#: 75
Column Type:　　Column Dia:

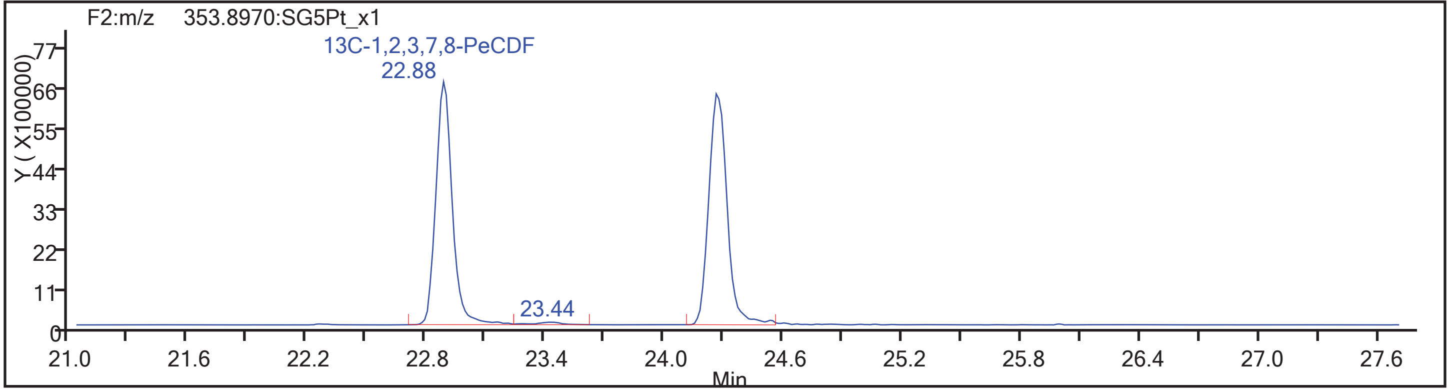
PeCDF





PeCDF Standards



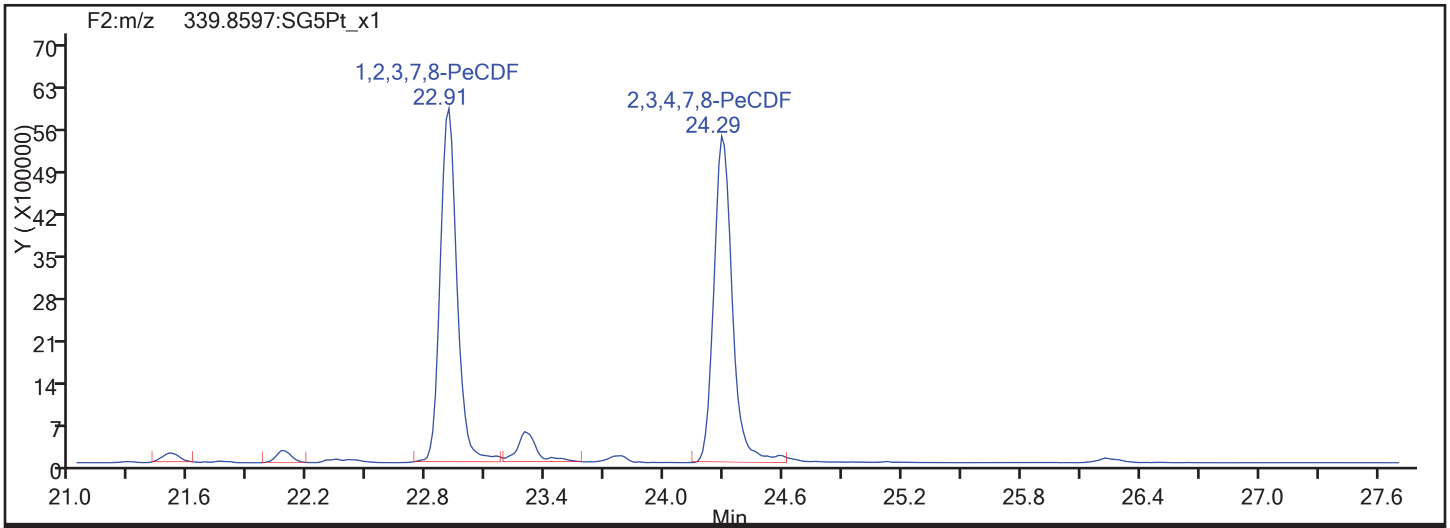


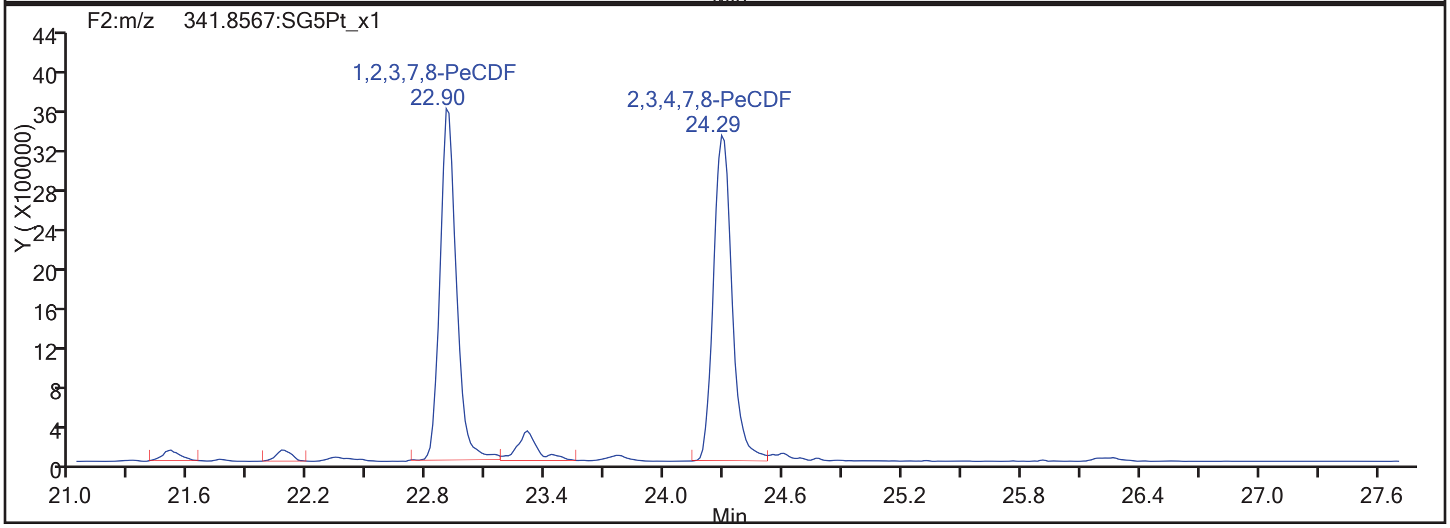
Report Date: 06-Dec-2017 10:55:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

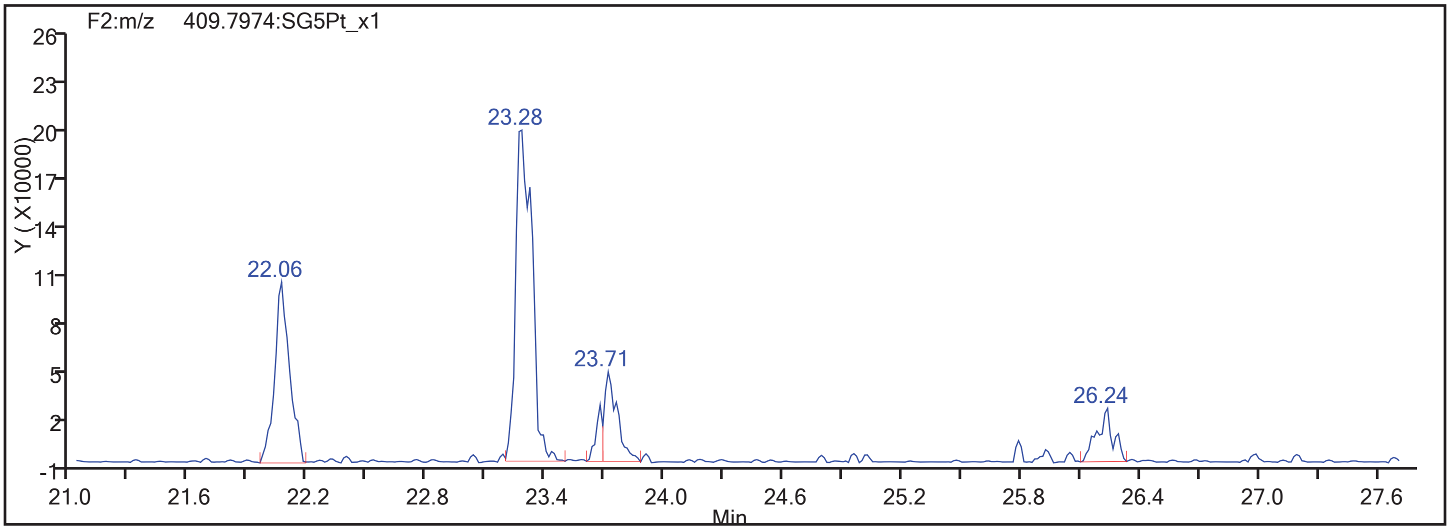
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d		
Injection Date:	19-Nov-2017 06:28:37	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	75
Column Type:		Column Dia:	

PeCDF





PeCDF Interference Mass



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d

Injection Date: 19-Nov-2017 06:28:37 Injection Vol: 2.0 ul

Instrument ID: 3D5 Operator ID: SMA, ALM

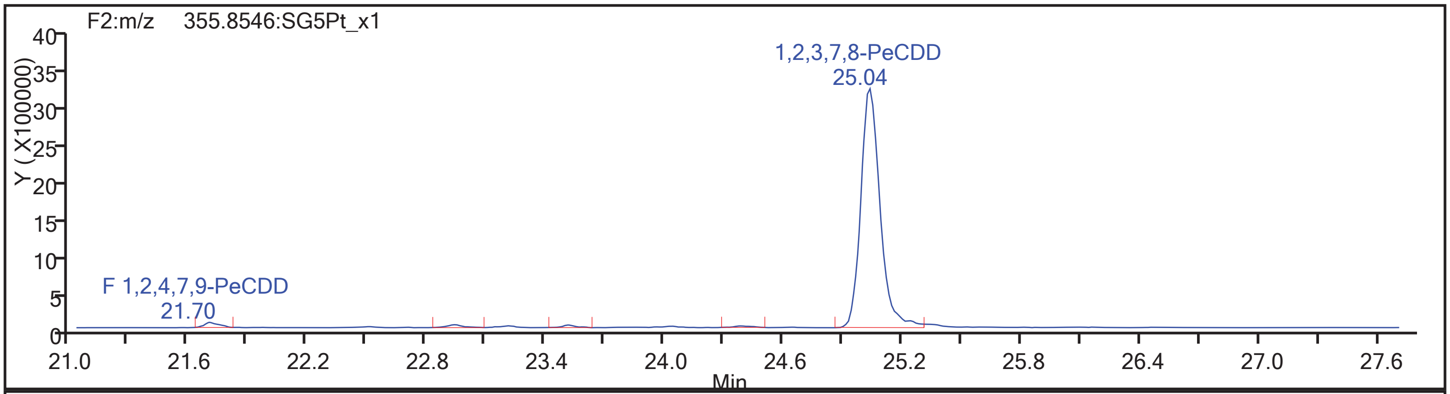
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

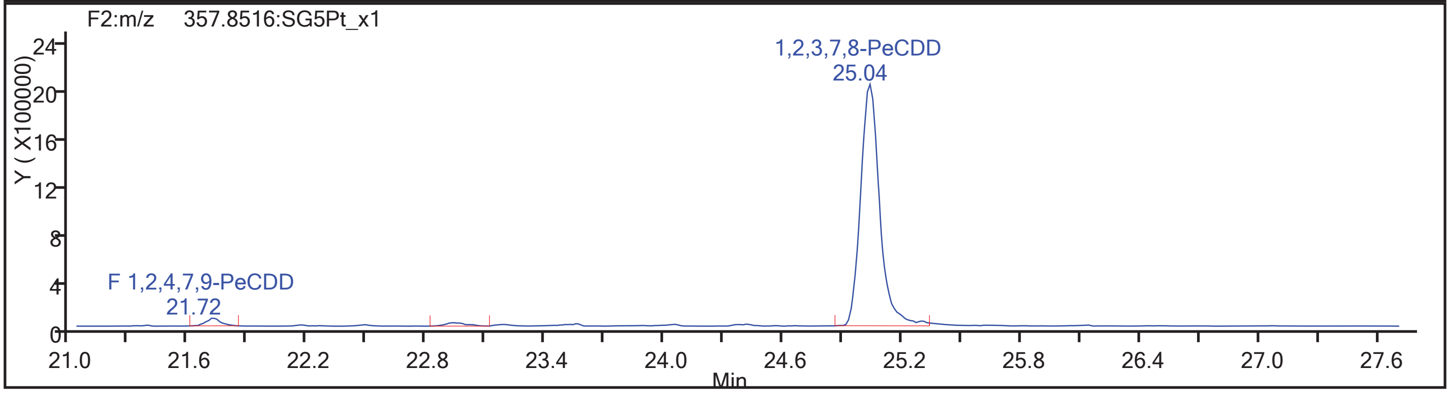
Client ID: SHAD041DP022SS03NS

Worklist#: 195574 Sample Line#: 75

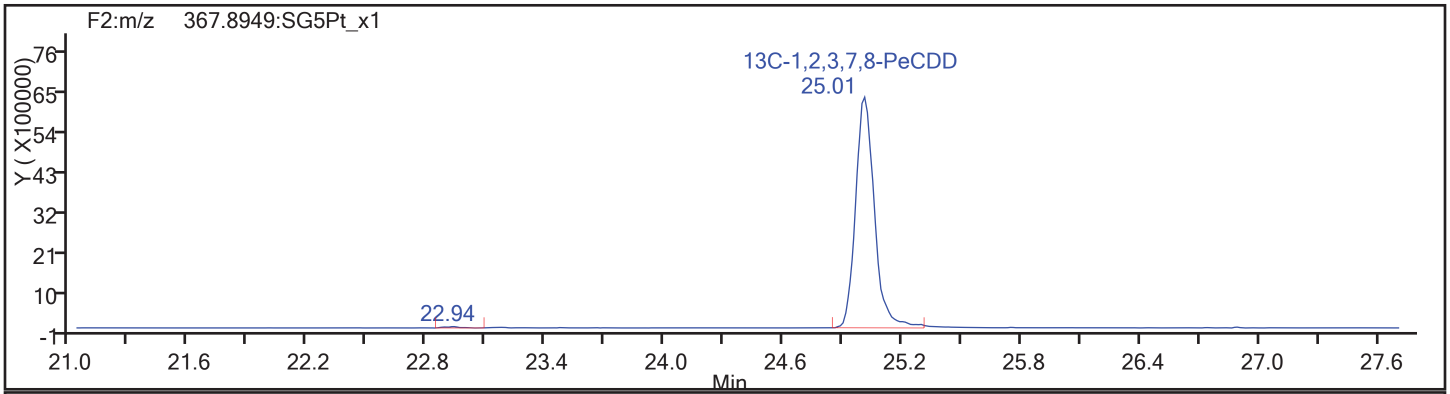
Column Type: Column Dia:

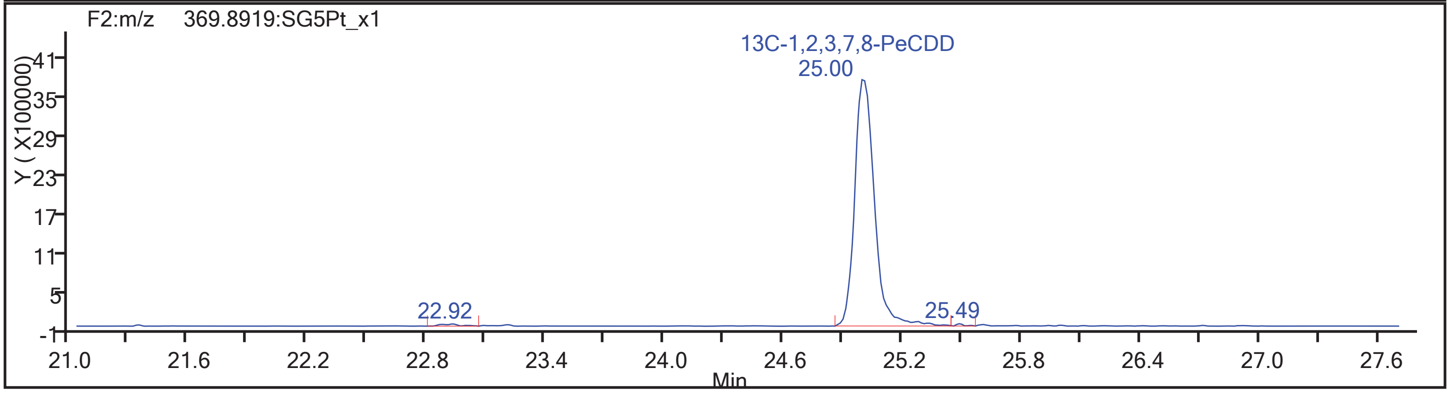
PeCDD





PeCDD Standards



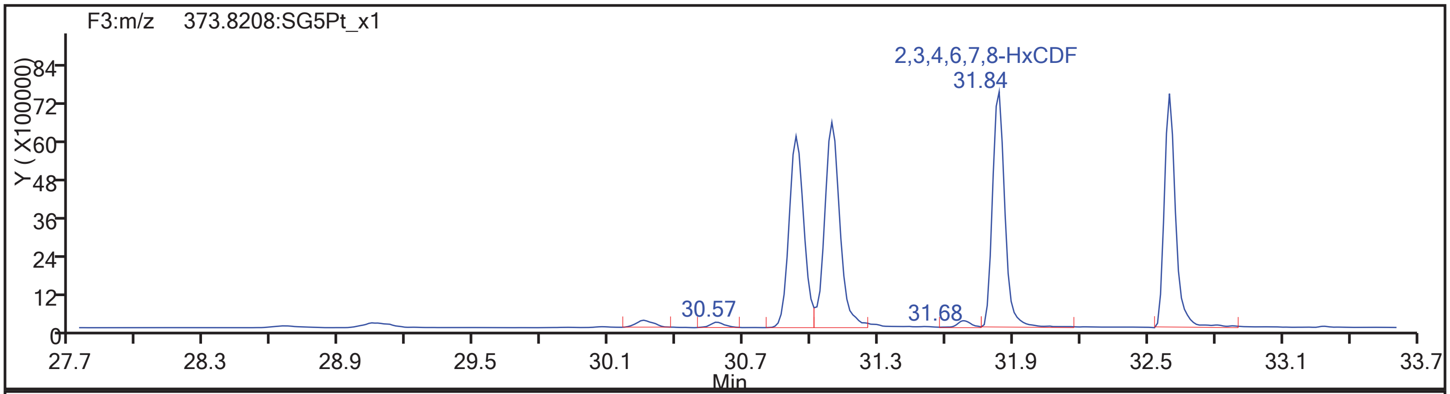


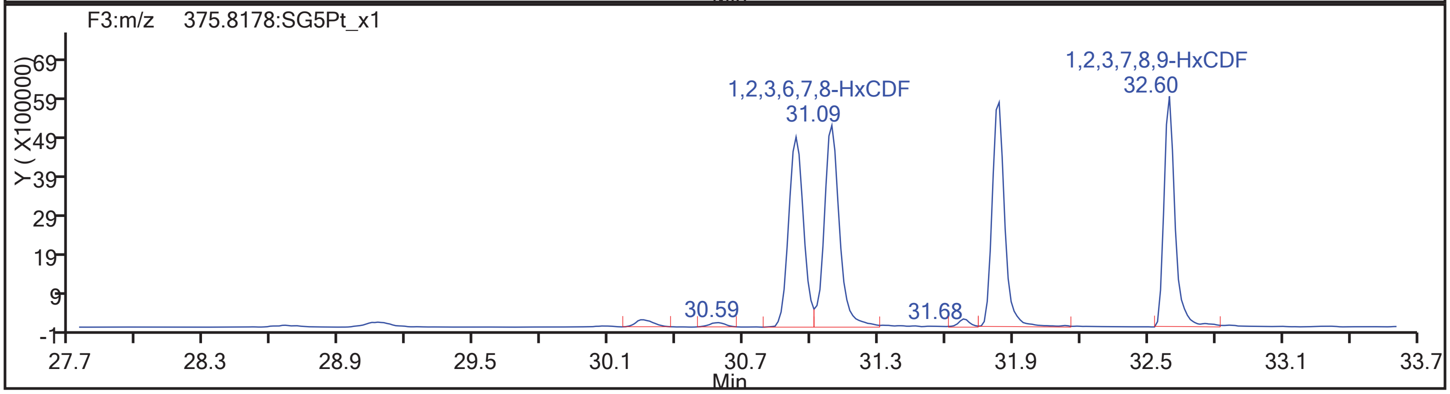
Report Date: 06-Dec-2017 10:55:50
Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

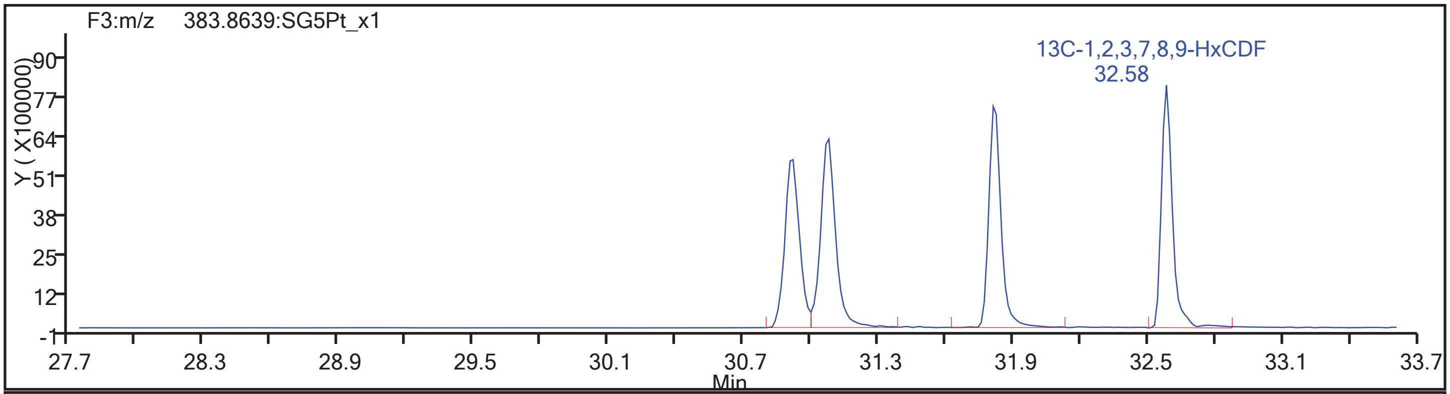
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Injection Date: 19-Nov-2017 06:28:37
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 75
Column Type:
Column Dia:

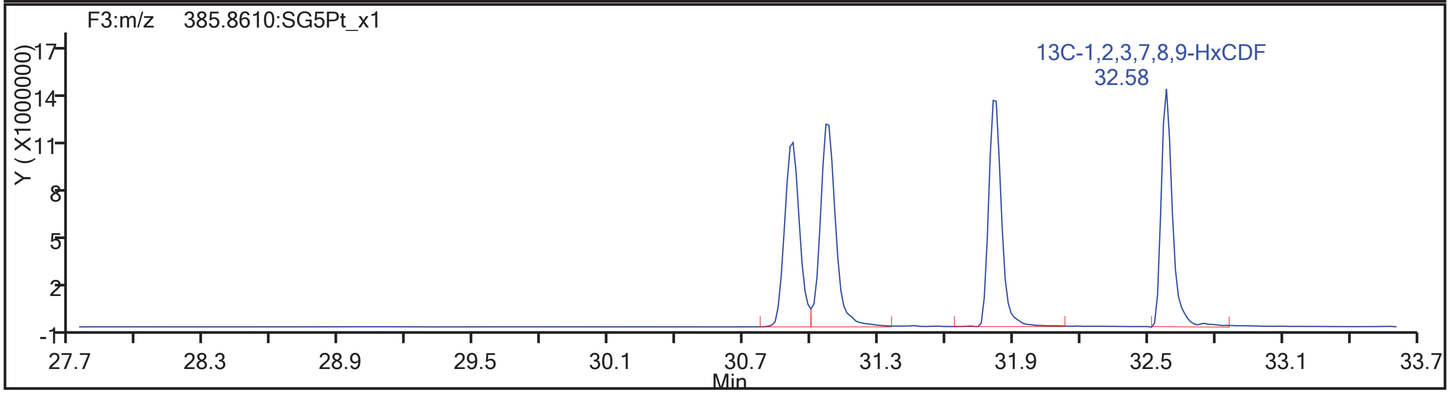
HxCDF





HxCDF Standards





Report Date: 06-Dec-2017 10:55:50   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d

Injection Date: 19-Nov-2017 06:28:37   Injection Vol: 2.0 ul

Instrument ID: 3D5   Operator ID: SMA, ALM

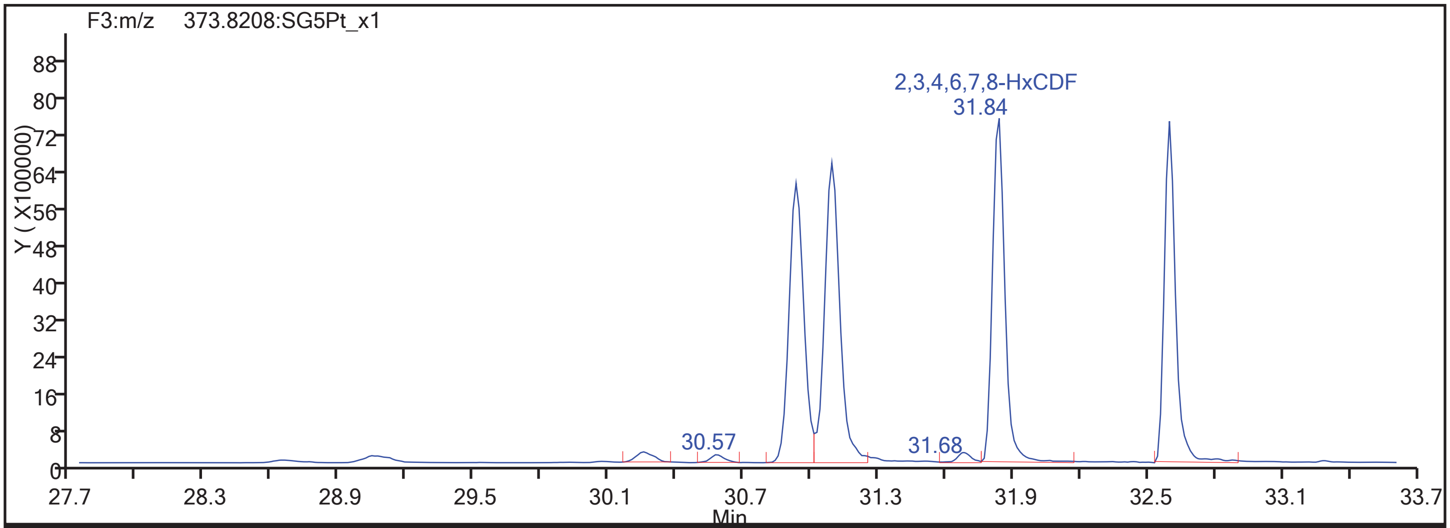
Method: Dioxin_3D5   Limit Group: HR - 8290A_D5 - ICAL

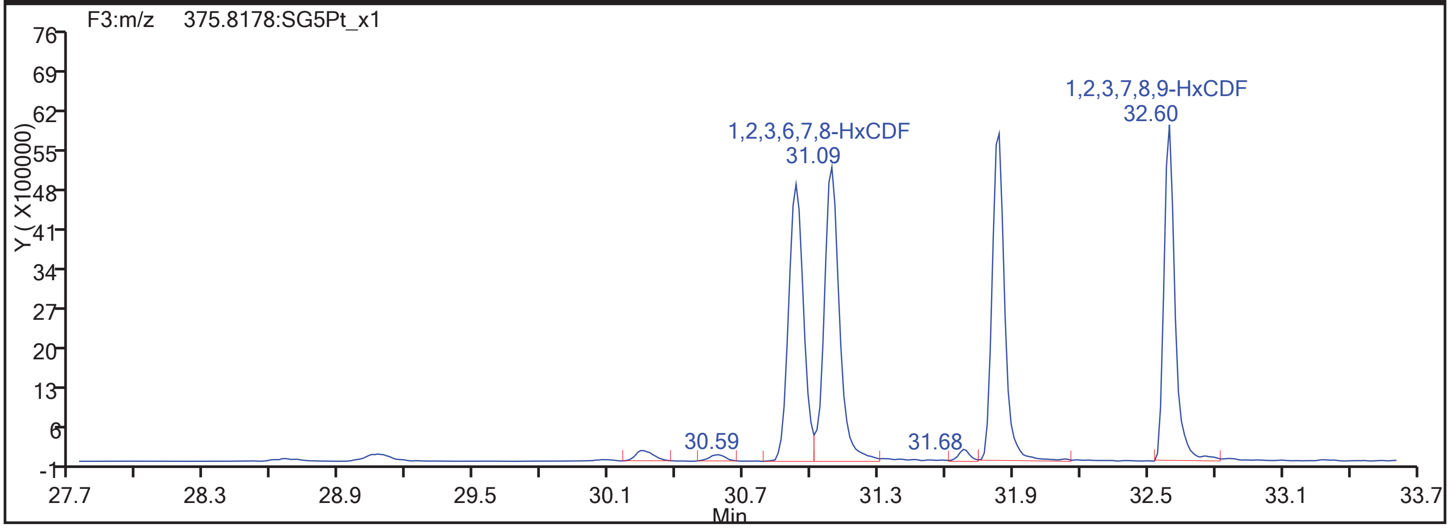
Client ID: SHAD041DP022SS03NS

Worklist#: 195574   Sample Line#: 75

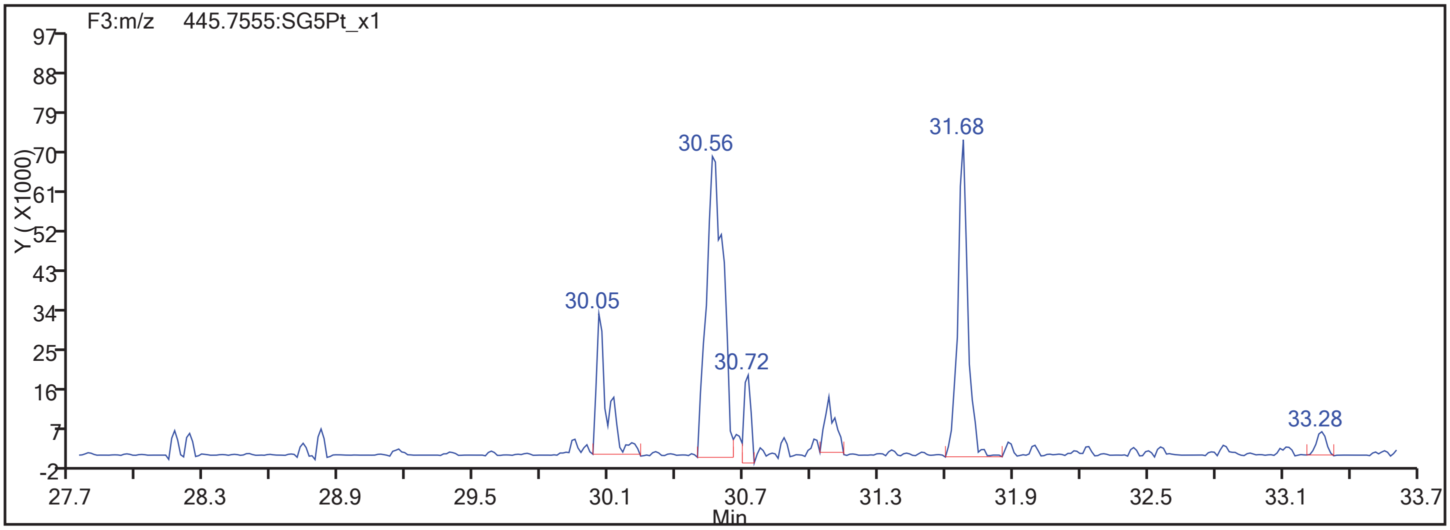
Column Type: Column Dia:

HxCDF





HxCDF Interference Mass

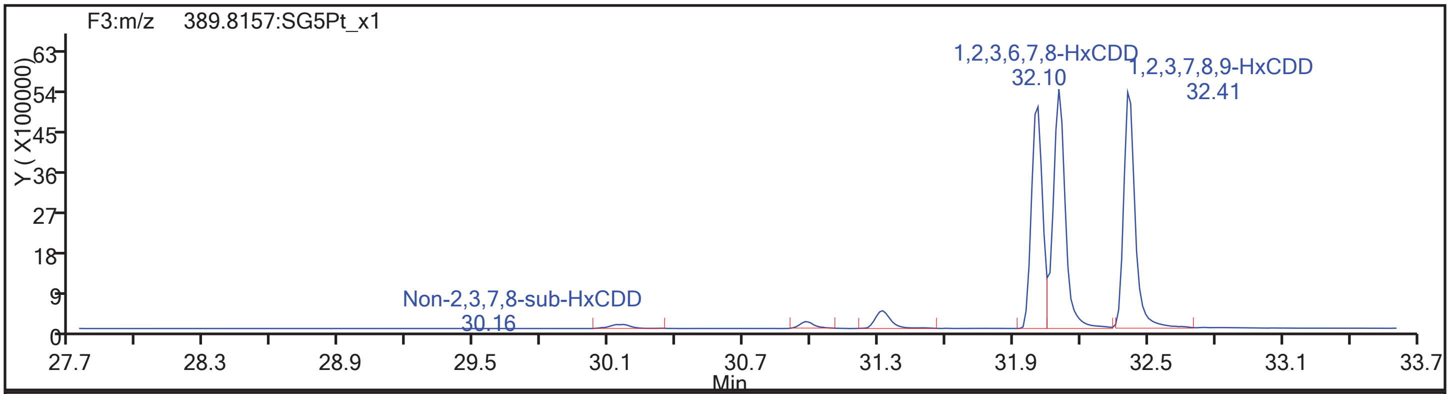


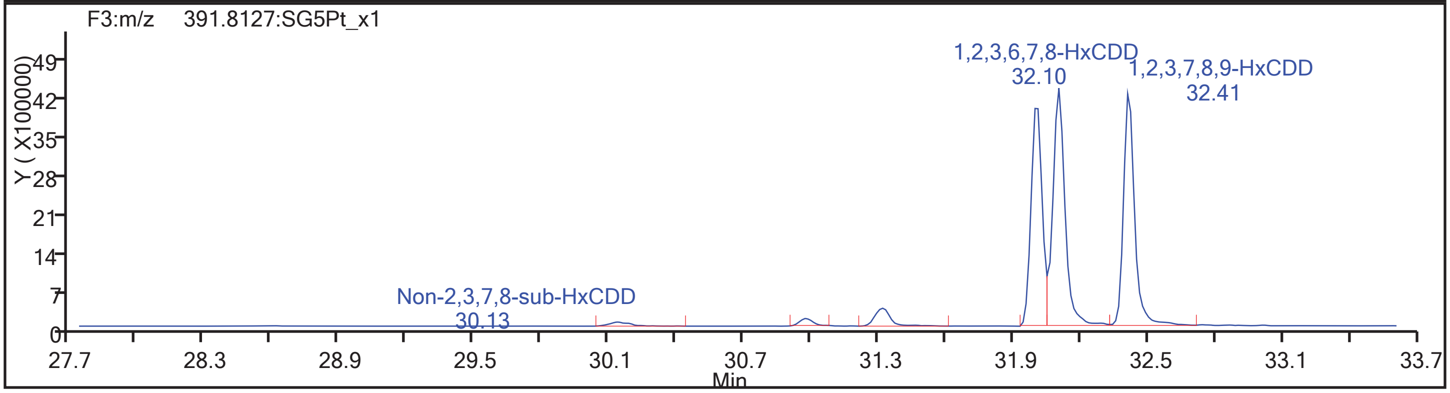
Report Date: 06-Dec-2017 10:55:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

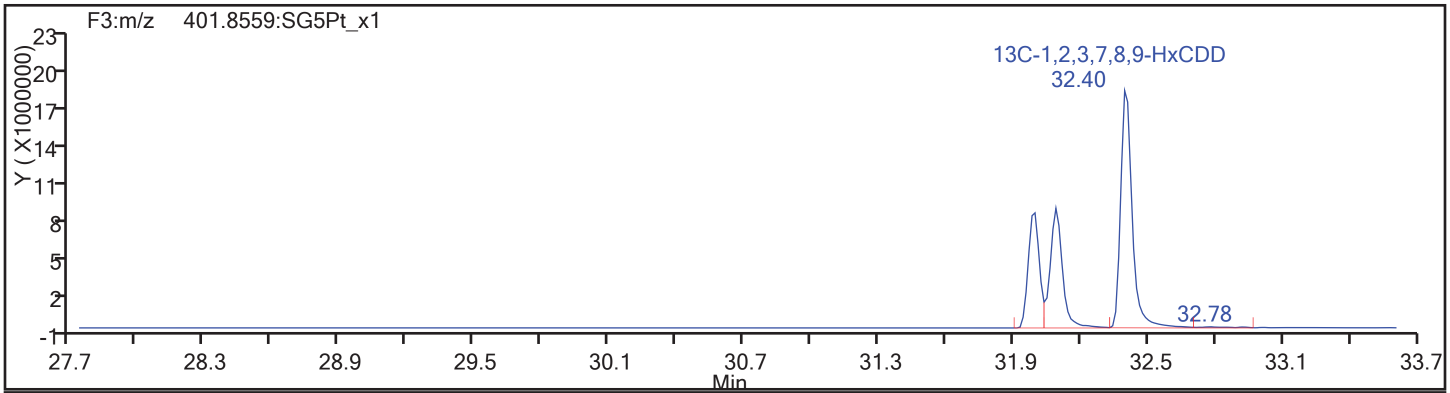
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Injection Date: 19-Nov-2017 06:28:37
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 75
Column Type:
Column Dia:

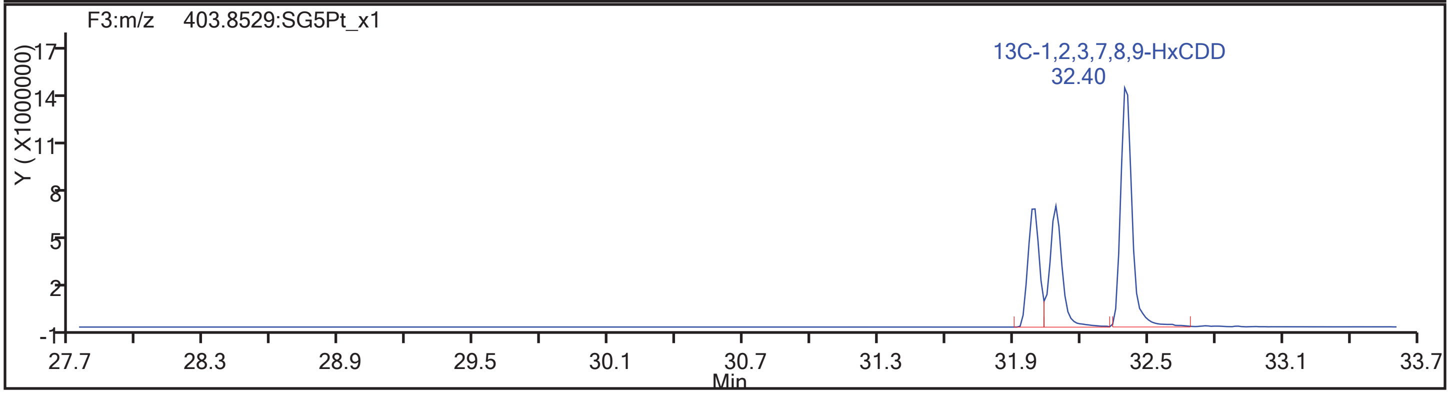
HxCDD





HxCDD Standards



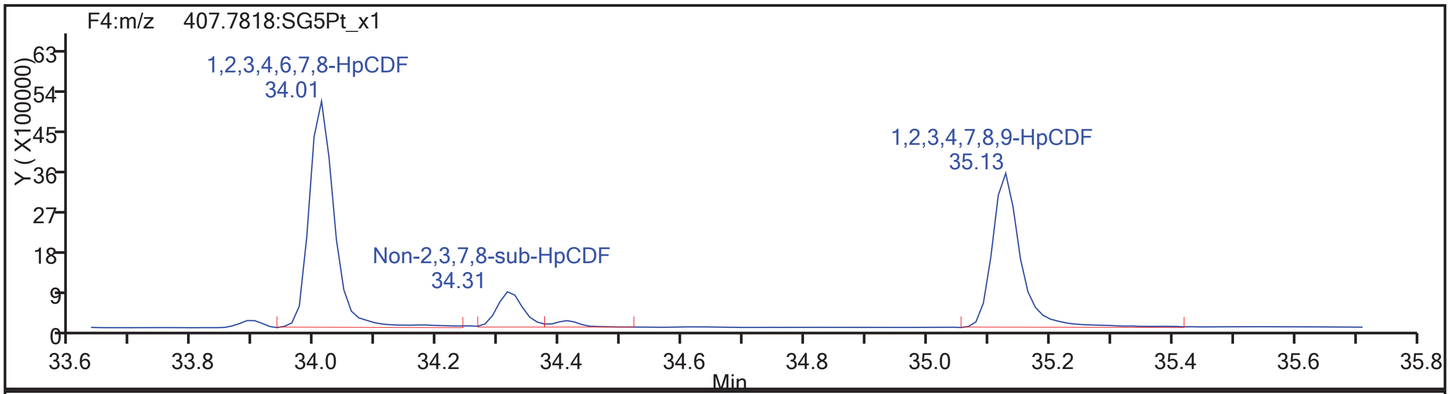


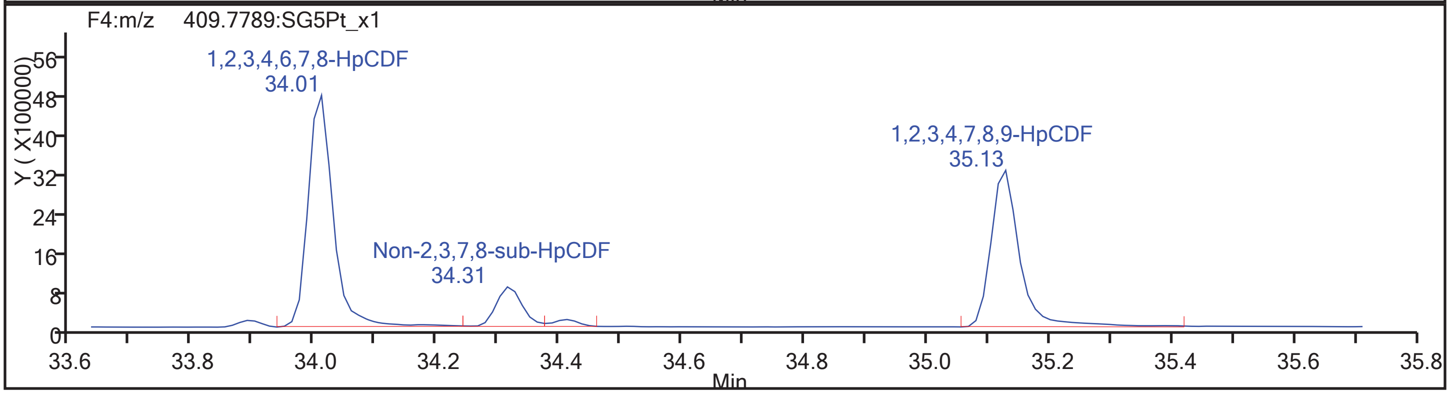
Report Date: 06-Dec-2017 10:55:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

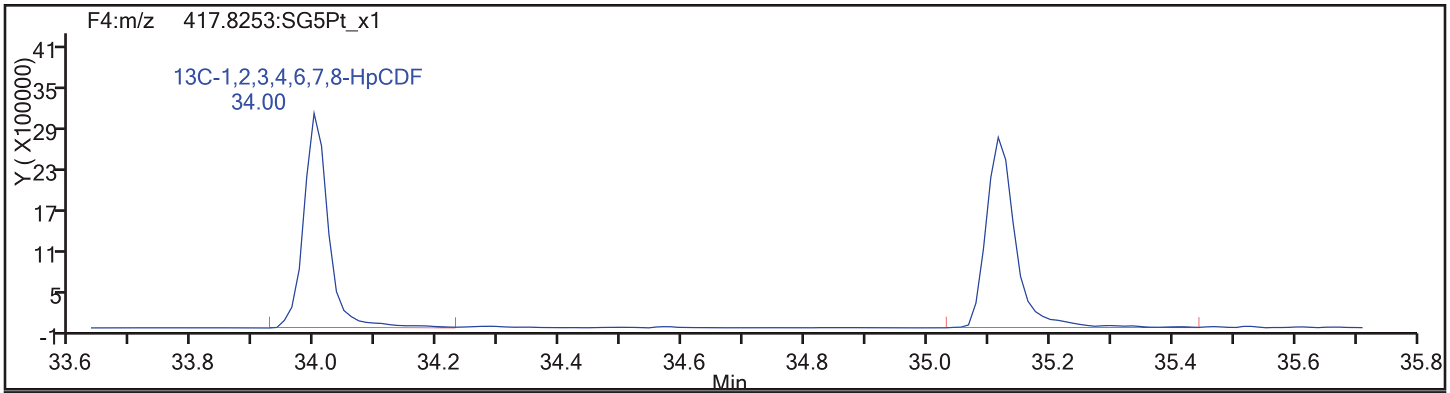
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Injection Date: 19-Nov-2017 06:28:37
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 75
Column Type:
Column Dia:

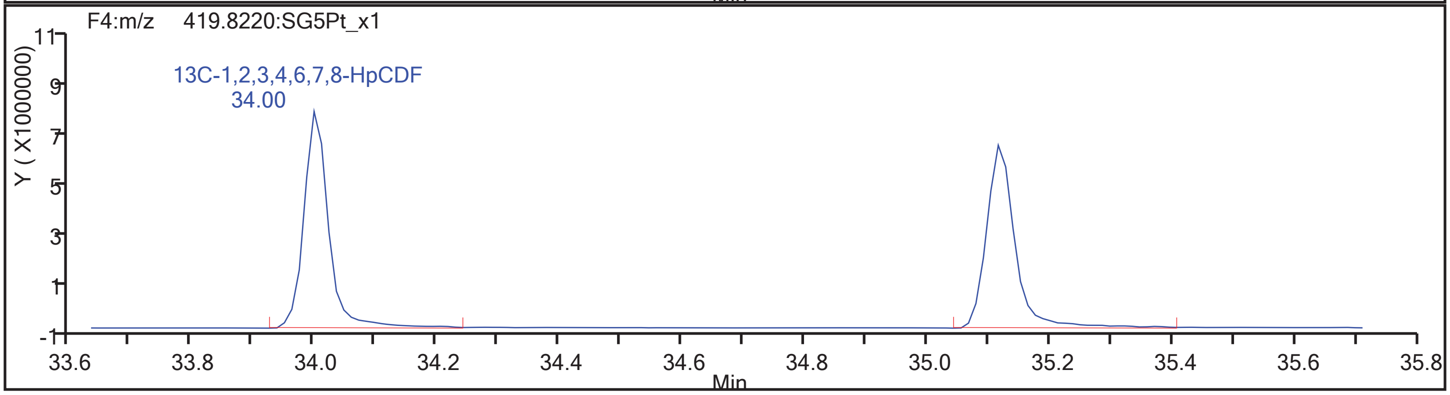
HpCDF





HpCDF Standards



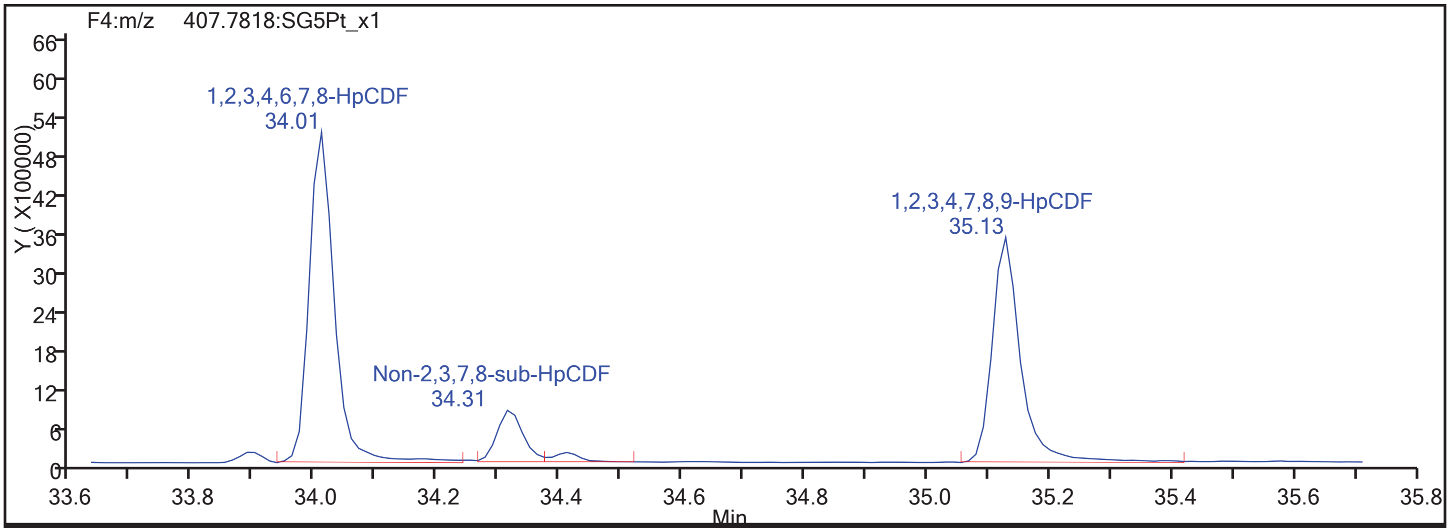


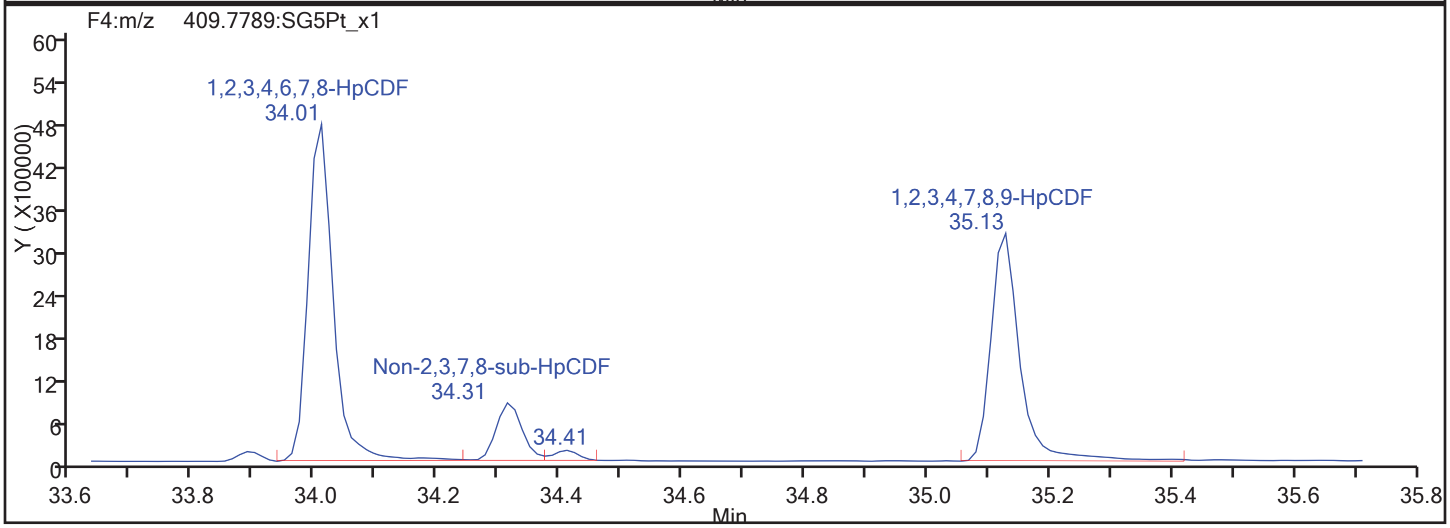
Report Date: 06-Dec-2017 10:55:50   Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

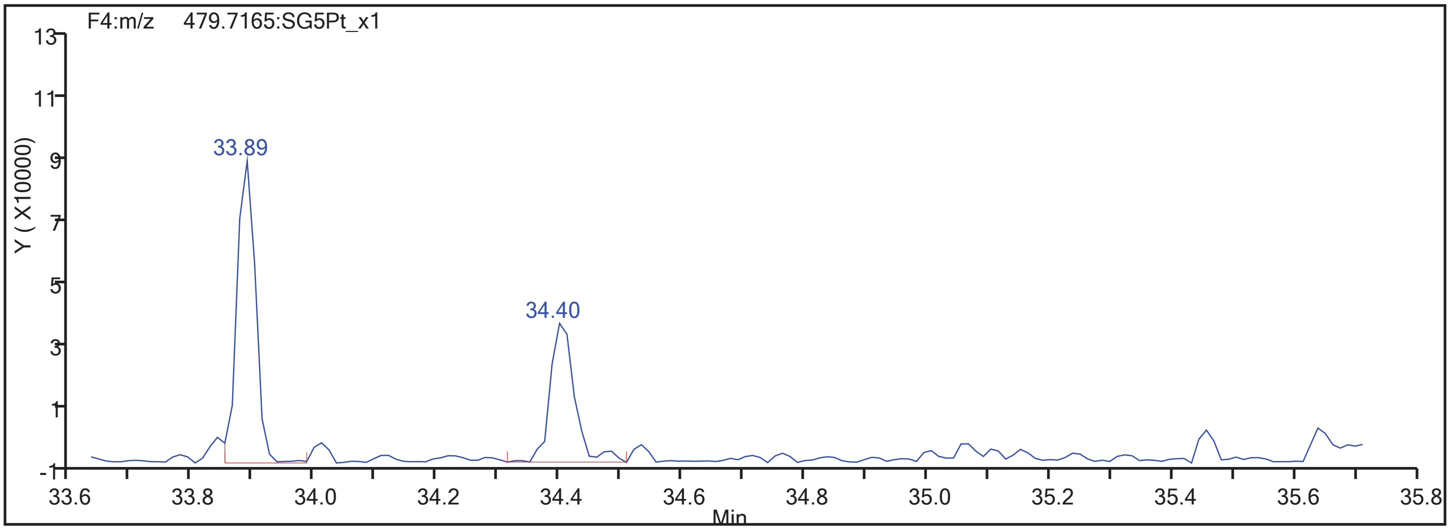
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Injection Date: 19-Nov-2017 06:28:37   Injection Vol: 2.0 ul
Instrument ID: 3D5   Operator ID: SMA, ALM
Method: Dioxin_3D5   Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574   Sample Line#: 75
Column Type: Column Dia:

HpCDF





HpCDF Interference Mass



Report Date: 06-Dec-2017 10:55:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d

Injection Date: 19-Nov-2017 06:28:37

Injection Vol: 2.0 ul

Instrument ID: 3D5

Operator ID: SMA, ALM

Method: Dioxin_3D5

Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

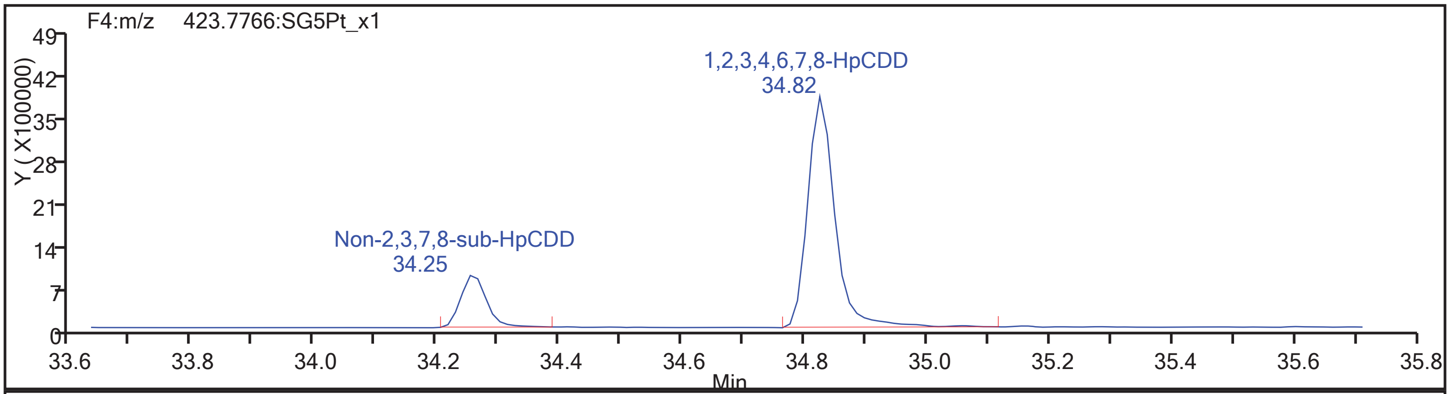
Worklist#: 195574

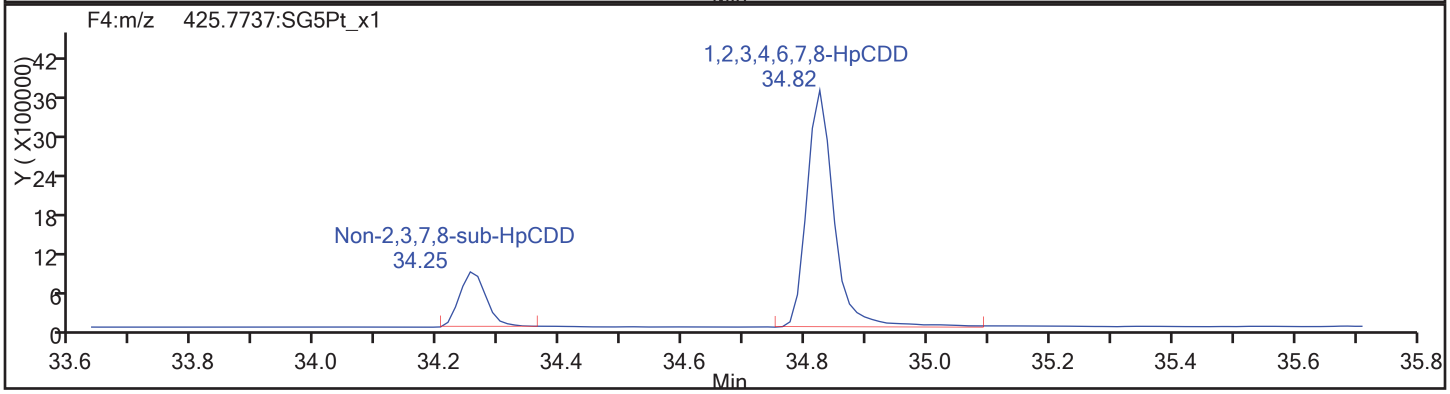
Sample Line#: 75

Column Type:

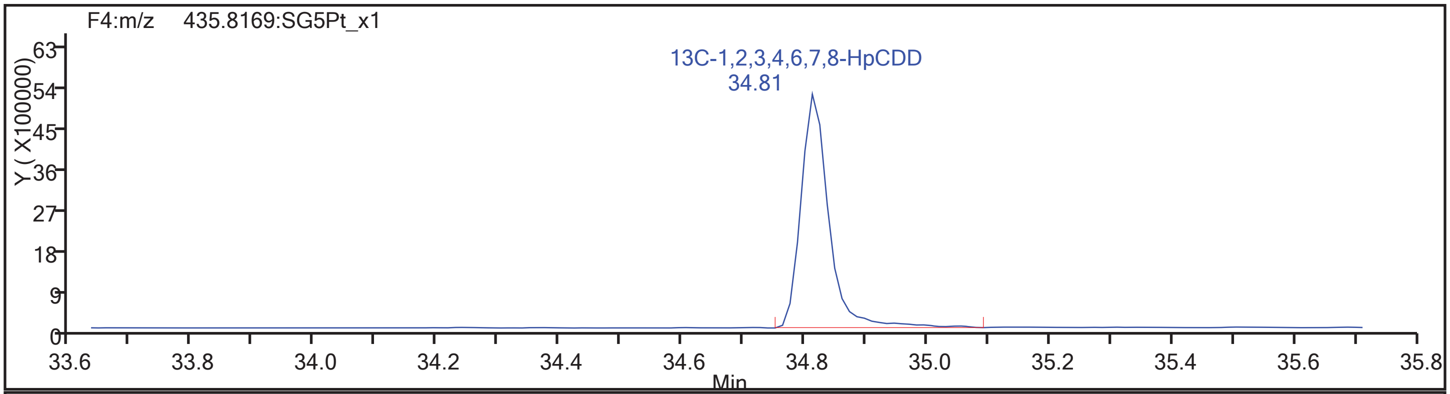
Column Dia:

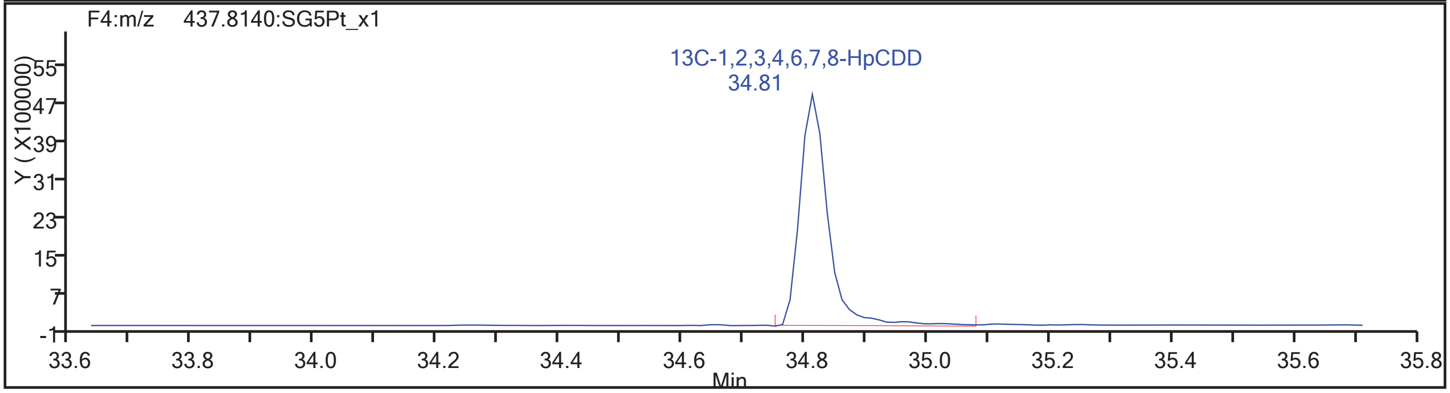
HpCDD





HpCDD Standards



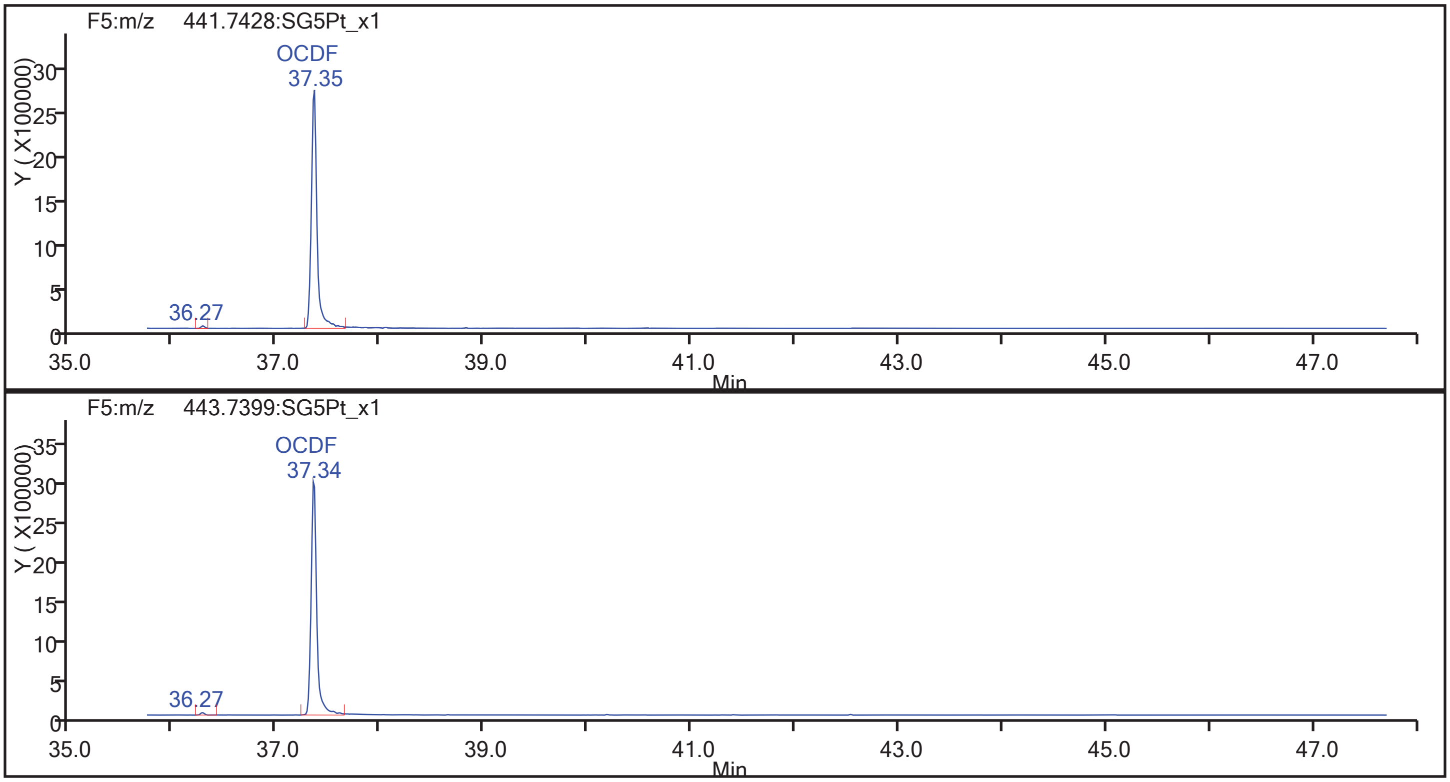


Report Date: 06-Dec-2017 10:55:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

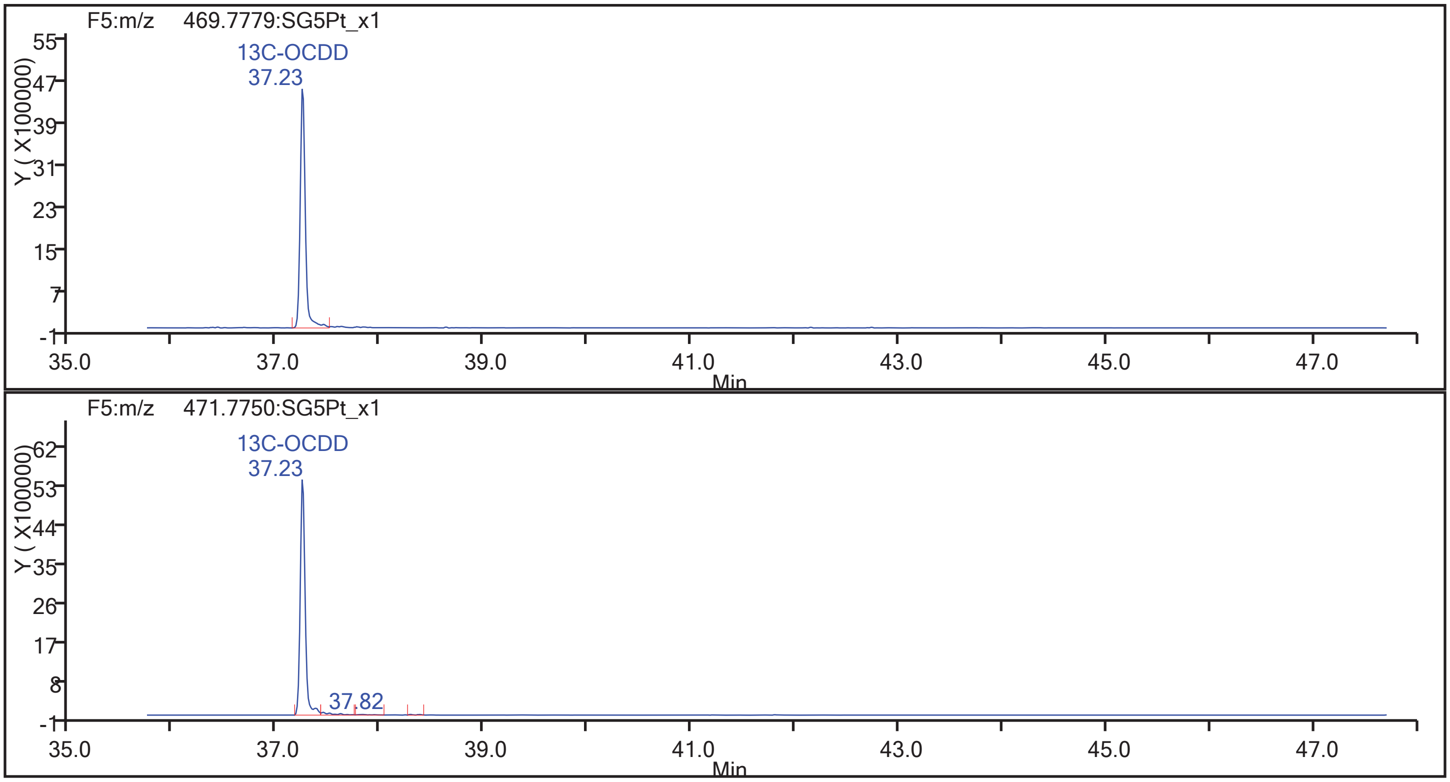
TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d		
Injection Date:	19-Nov-2017 06:28:37	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	75
Column Type:		Column Dia:	

OCDF



OCDF Standards

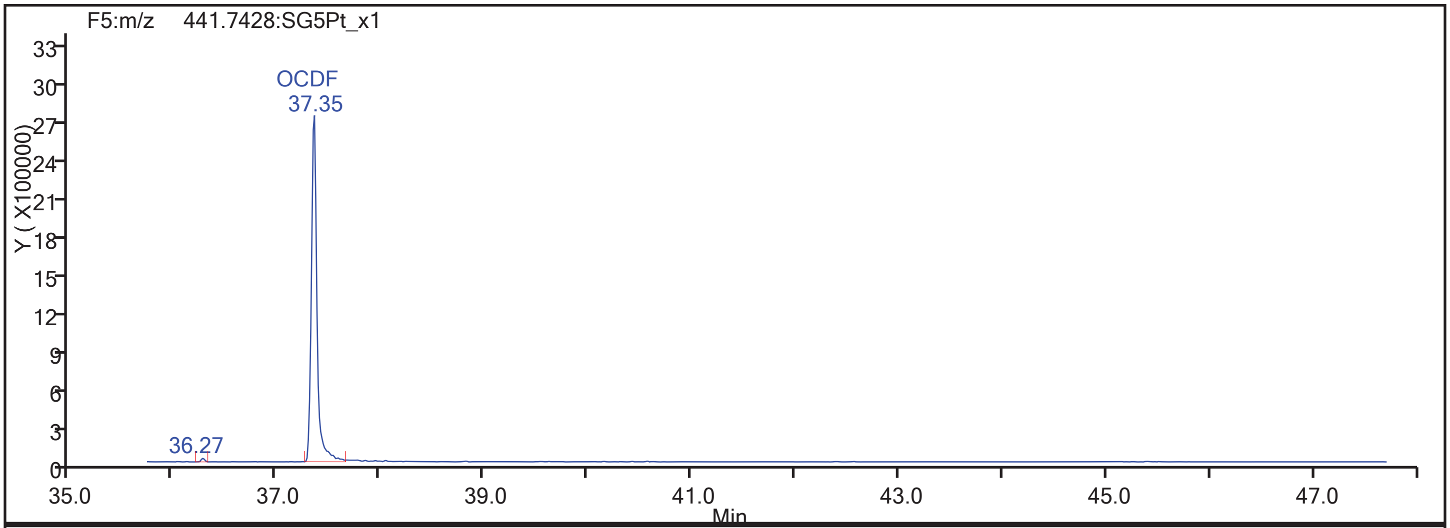


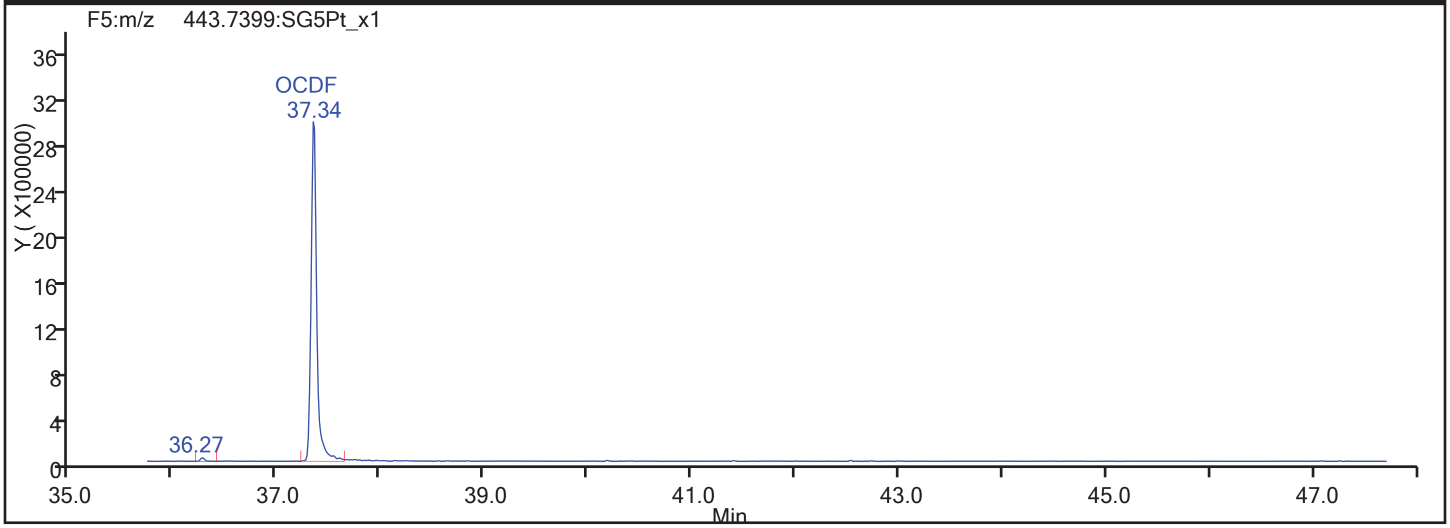
Report Date: 06-Dec-2017 10:55:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

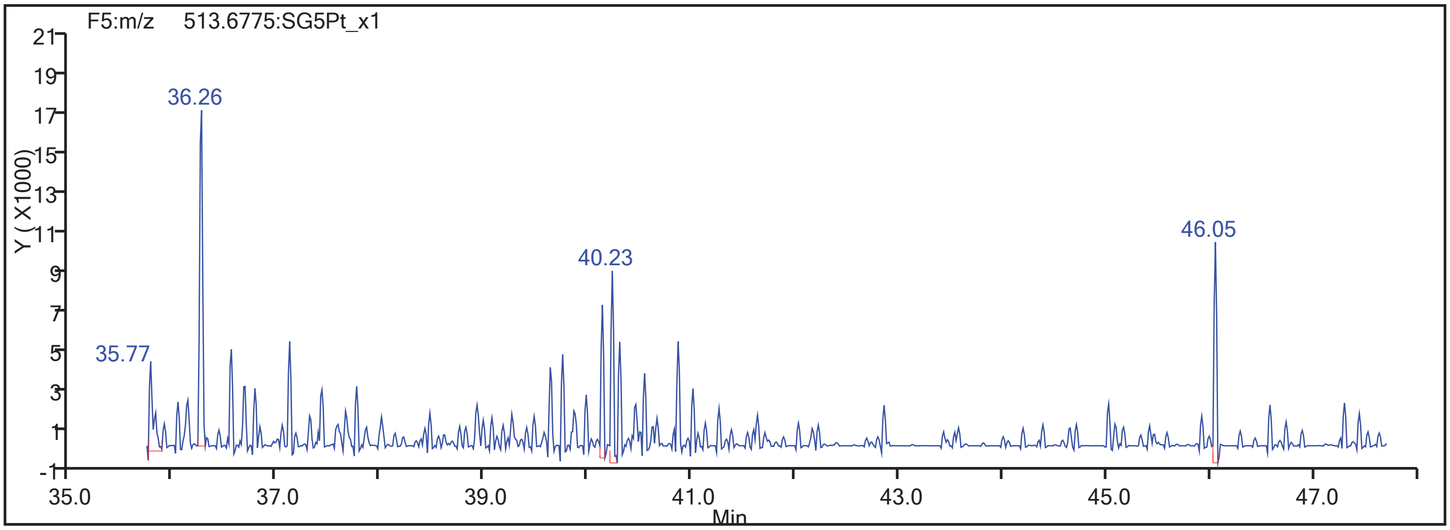
Data File:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d		
Injection Date:	19-Nov-2017 06:28:37	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	SMA, ALM
Method:	Dioxin_3D5	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	195574	Sample Line#:	75
Column Type:		Column Dia:	

OCDF





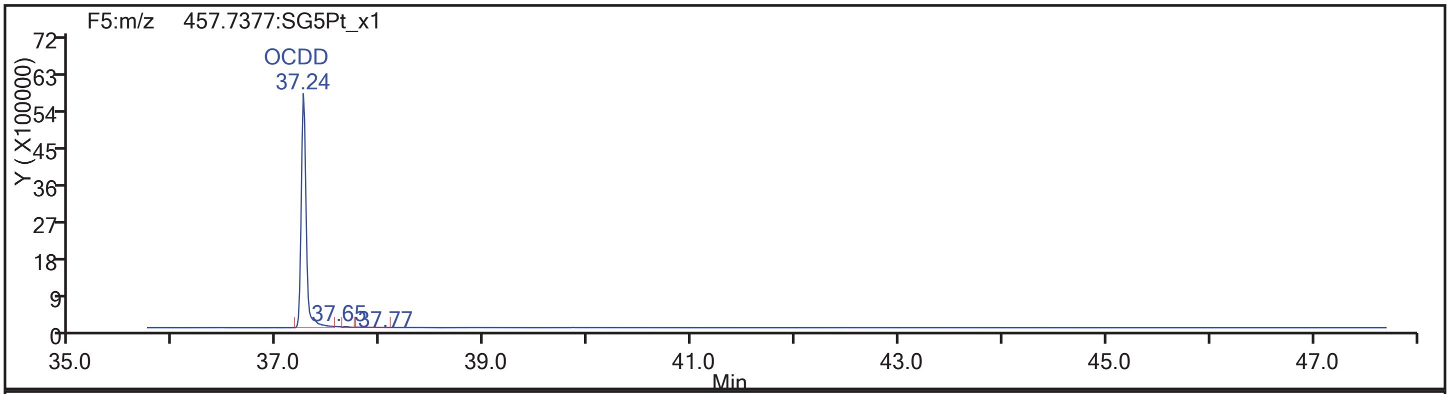
OCDF Interference Mass

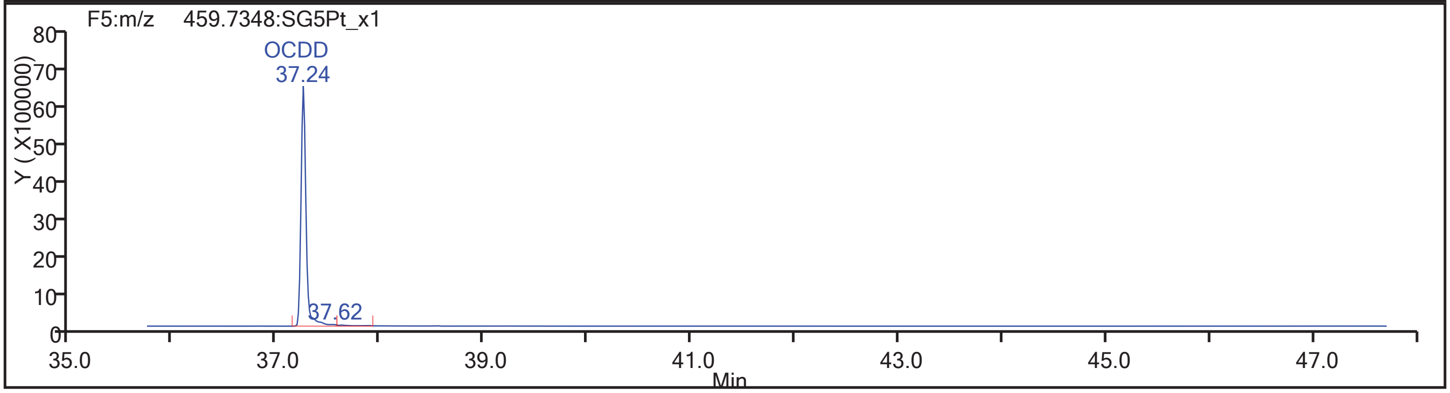


TestAmerica Sacramento

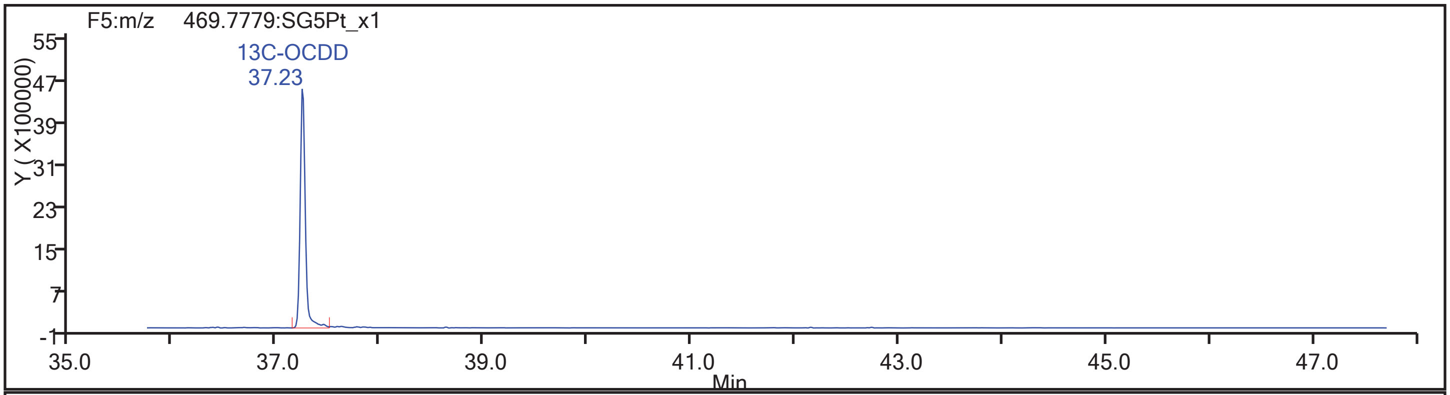
Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Injection Date: 19-Nov-2017 06:28:37 Injection Vol: 2.0 ul
Instrument ID: 3D5 Operator ID: SMA, ALM
Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574 Sample Line#: 75
Column Type: Column Dia:

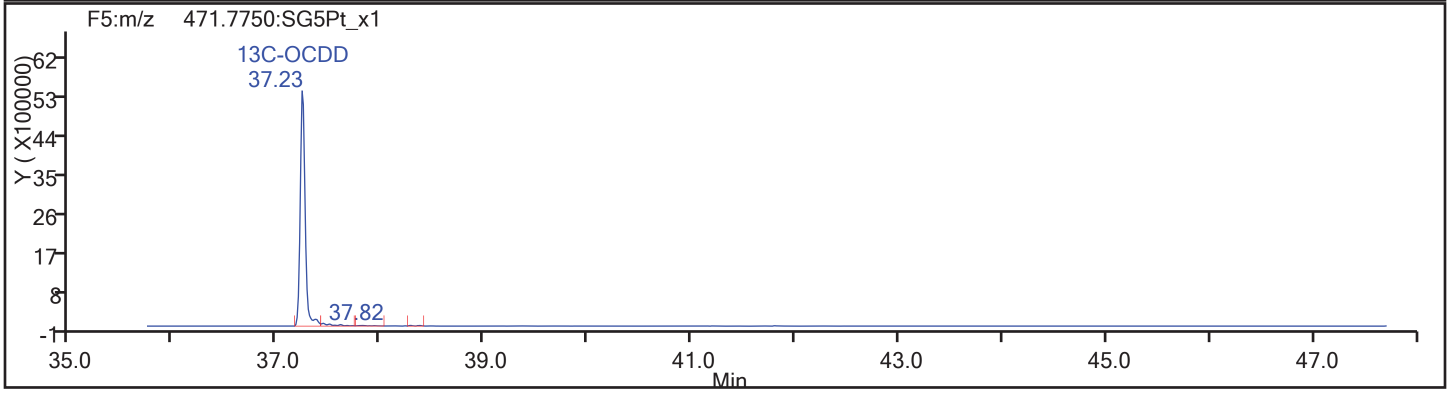
OCDD





OCDD Standards

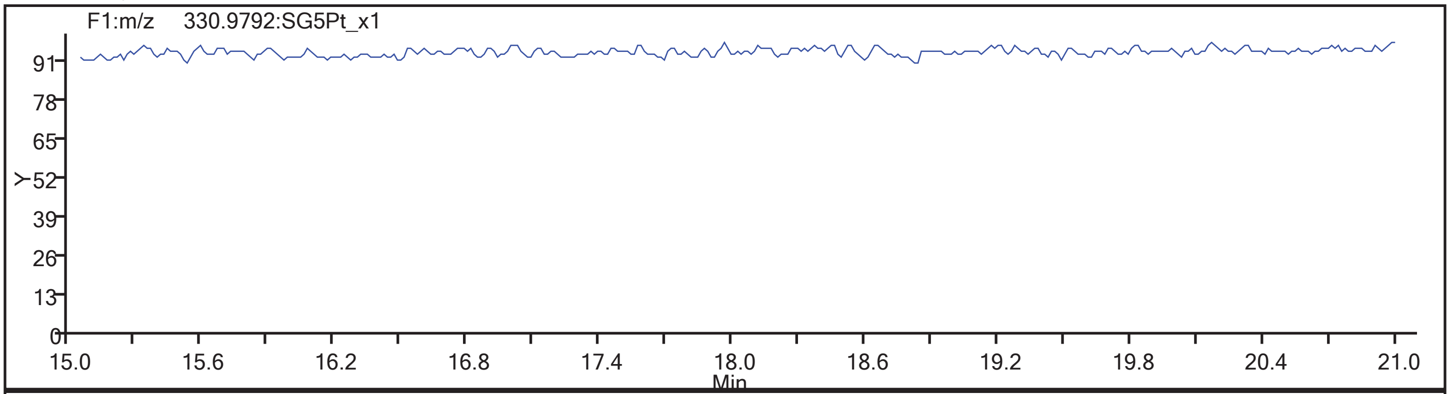


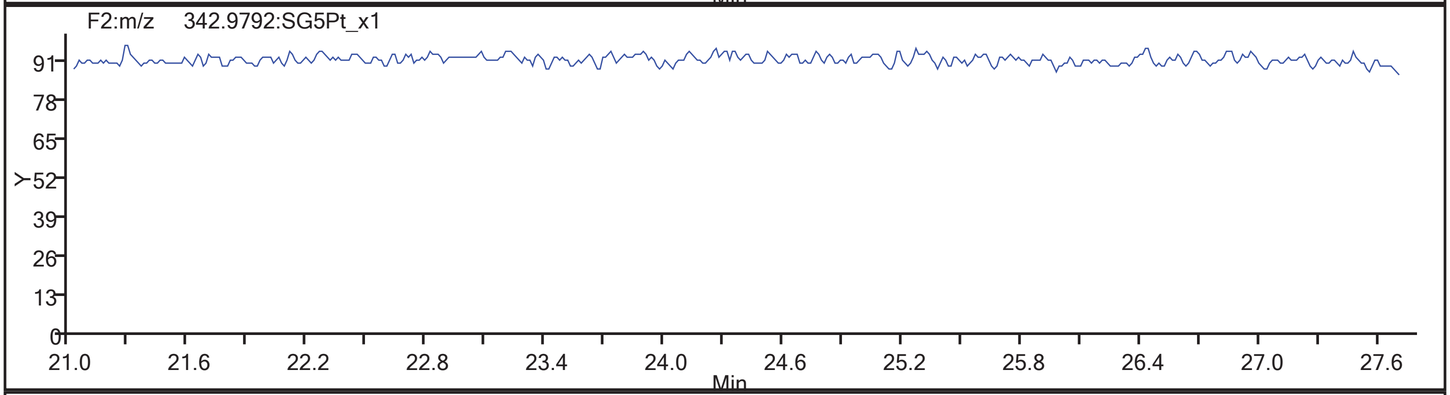


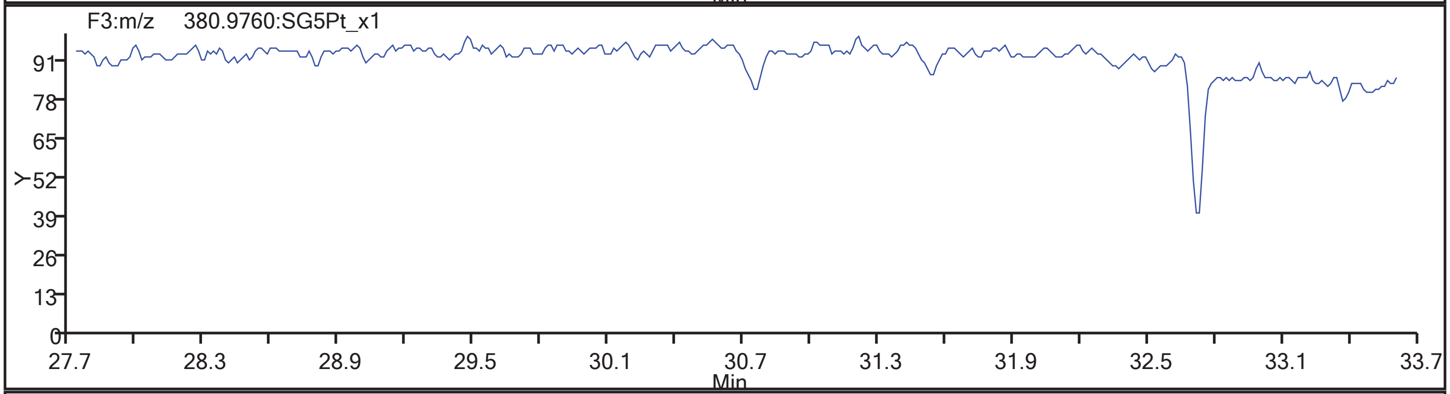
Report Date: 06-Dec-2017 10:55:50 Chrom Revision: 2.2 16-Aug-2017 16:24:46

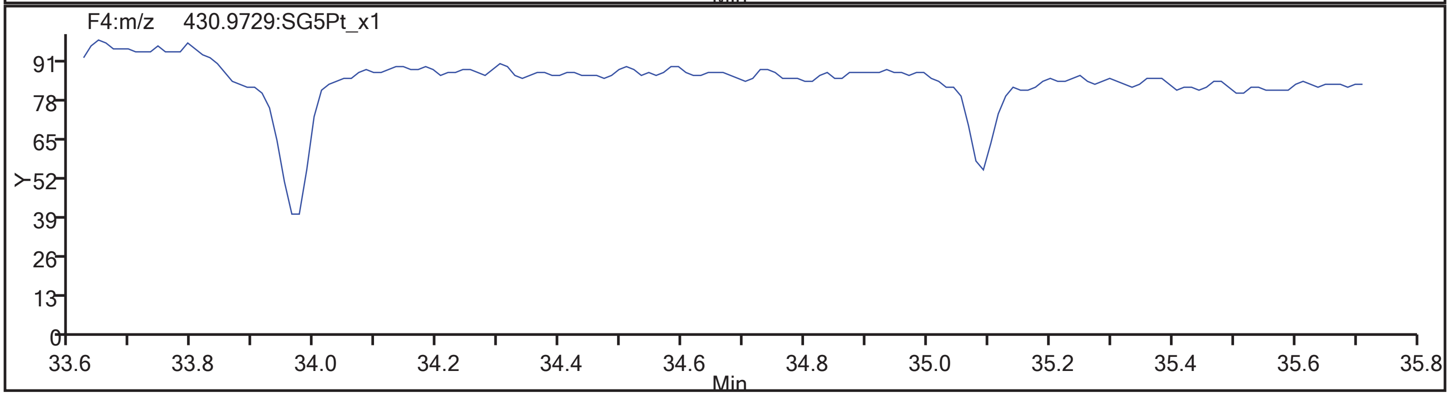
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d
Injection Date: 19-Nov-2017 06:28:37
Injection Vol: 2.0 ul
Instrument ID: 3D5
Operator ID: SMA, ALM
Method: Dioxin_3D5
Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 195574
Sample Line#: 75
Column Type:
Column Dia:









TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b\16NO173D5_75.d

Injection Date: 19-Nov-2017 06:28:37 Injection Vol: 2.0 ul

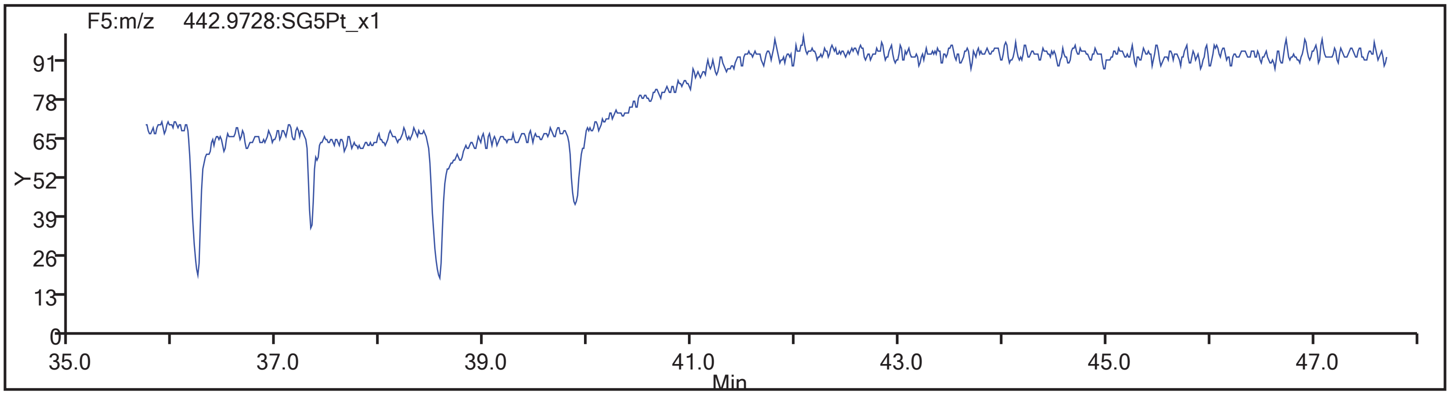
Instrument ID: 3D5 Operator ID: SMA, ALM

Method: Dioxin_3D5 Limit Group: HR - 8290A_D5 - ICAL

Client ID: SHAD041DP022SS03NS

Worklist#: 195574 Sample Line#: 75

Column Type: Column Dia:



FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Client Sample ID: SHAD041DP022SS03NS MSD RERA

Lab Sample ID: 160-24924-9 MSD RERA

Matrix: Solid

Lab File ID: 05DE179D2_010.d

Analysis Method: 8290A

Date Collected: 10/05/2017 16:59

Extract. Method: 8290

Date Extracted: 11/16/2017 11:16

Sample wt/vol: 9.84(g)

Date Analyzed: 12/05/2017 17:14

Con. Extract Vol.: 20.0(uL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 2.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 198469

Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	EDL
51207-31-9	*2,3,7,8-TCDF*	*20.1*	*H*	*1.0*	0.41	*0.42*

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	71		40-135

FORM I 8290A

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_010.d
Lims ID: 160-24924-G-9-F MSD
Client ID: SHAD041DP022SS03NS
Sample Type: MSD
Inject. Date: 05-Dec-2017 17:14:42 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-F MSD
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 10:58:08 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK017

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	14.977	116857216	0.78	2.8E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.116	104156180	0.77	1.2599	70.7	70.7	0.3029	0.3029	70.75	
2,3,7,8-TCDF	16.129	10857772	0.71	1.0784	9.666	9.666	0.2047	0.2047	96.66	
D 13C-2,3,7,8-TCDD	14.717	79078365	0.75	0.9567	70.7	70.7	1.117	1.117	70.73	
$ 37Cl4-2,3,7,8-TCDD	14.730	46282647		1.1208	35.3	35.3	0.0785	0.0785	88.35	
2,3,7,8-TCDD	14.744	8277528	0.80	1.1123	9.411	9.411	0.1120	0.1120	94.11	
S Total 2378-Chlorinated							0.000100	0.000100		
S Total Dioxins & Furans							0.000100	0.000100		

TestAmerica Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_010.d
Lims ID: 160-24924-G-9-F MSD
Client ID: SHAD041DP022SS03NS
Sample Type: MSD
Inject. Date: 05-Dec-2017 17:14:42 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 160-24924-G-9-F MSD
Misc. Info.: DB225RES
Operator ID: Instrument ID: 9D2

Method: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\DXN_DB225_9D2.m
Limit Group: HR - 8290A_D5 - ICAL
Last Update: 06-Dec-2017 10:58:08 Calib Date: 02-Mar-2017 16:36:13
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\9D2\20170303-40436.b\02MR179D2_006.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: XAWRK017

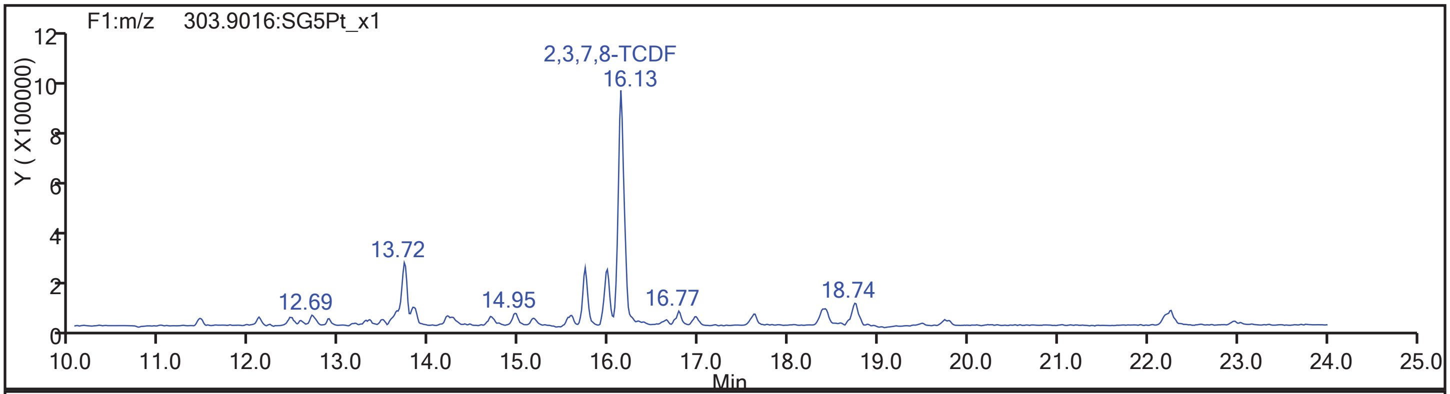
Signal	RT (min.)	Adj RT (min.)	M Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	14.977	14.967	1		51031498	10725253	73015	182537	147		
333.9339	14.977	14.967	1		65825718	13919393	32301	80752	431	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.116	16.106	1	1.076	45350381	9120447	19589	48972	466		
317.9389	16.116	16.106	1	1.076	58805799	12132770	18033	45082	673	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.129	16.119	1	1.001	4520037	911668	10540	26350	86		
305.8987	16.129	16.119	1	1.001	6337735	1237541	8226	20565	150	0.71(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	14.717	14.706	1	0.983	33999081	7582010	73015	182537	104		
333.9339	14.717	14.706	1	0.983	45079284	10050852	32301	80752	311	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	14.730	14.734	0	0.984	46282647	10063872	8673	21682	1160		
2,3,7,8-TCDD											
319.8965	14.744	14.734	1	1.002	3686714	765936	4623	11557	166		
321.8936	14.730	14.734	0	1.001	4590814	947755	4163	10407	228	0.80(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
303.9016		0.0	0				10540	26350			
Total Dioxins & Furans											
303.9016		0.0	0				10540	26350			

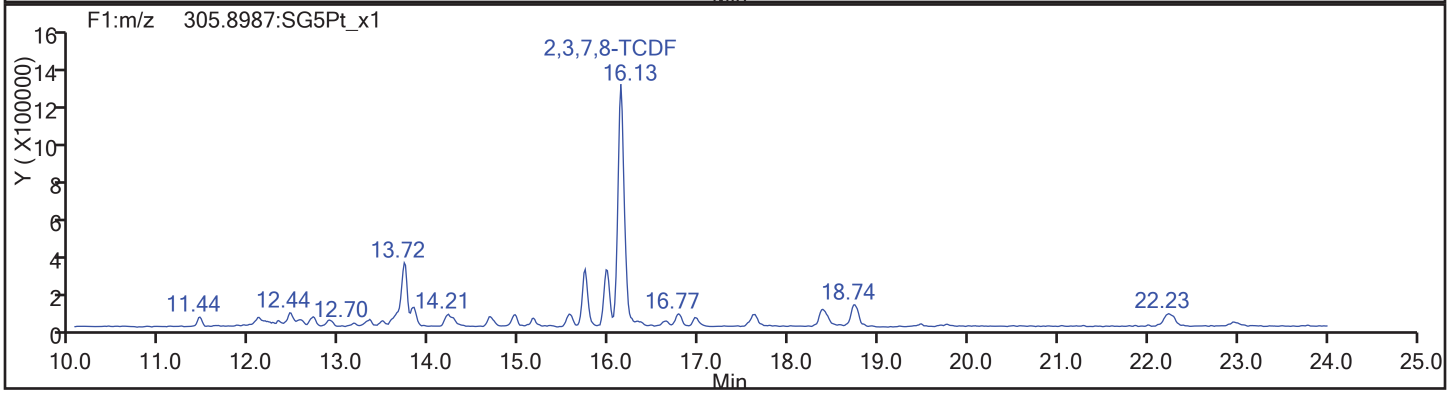
Report Date: 06-Dec-2017 10:58:39 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

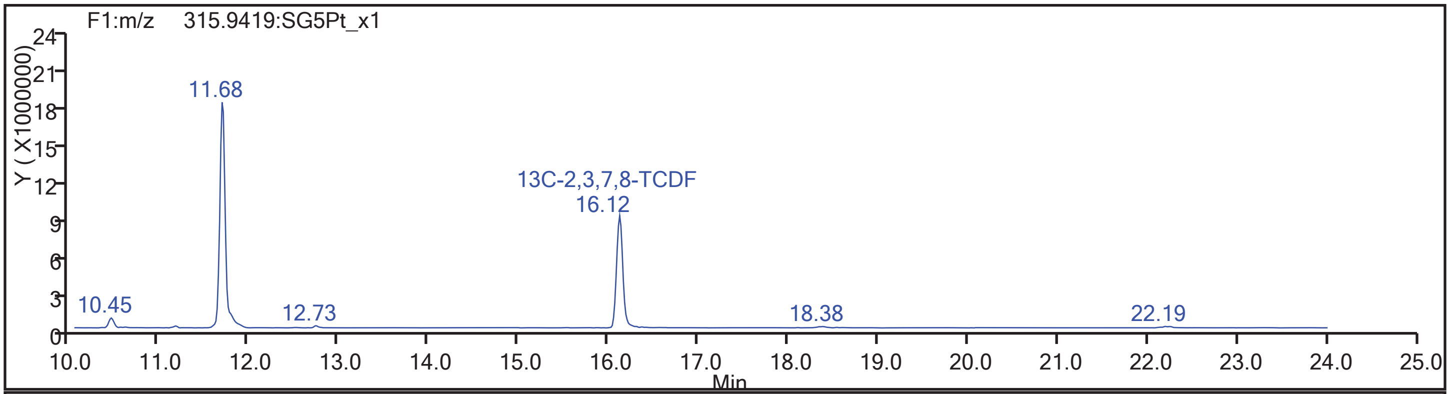
Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_010.d
Injection Date: 05-Dec-2017 17:14:42 Injection Vol: 2.0 ul
Instrument ID: 9D2 Operator ID:
Method: DXN_DB225_9D2 Limit Group: HR - 8290A_D5 - ICAL
Client ID: SHAD041DP022SS03NS
Worklist#: 198469 Sample Line#: 10
Column Type: DB-225 Column Dia: 0.32 mm

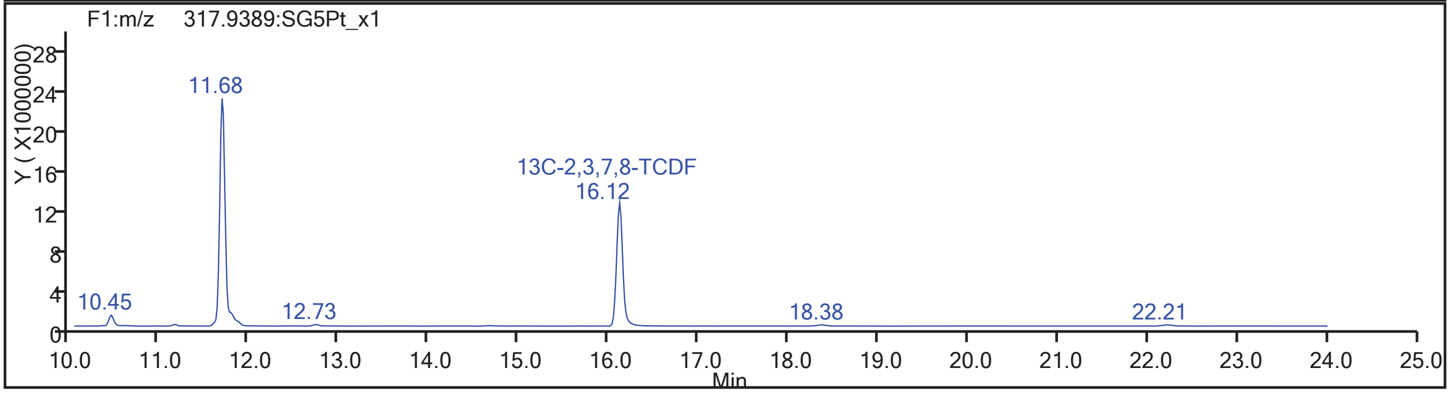
TCDF





TCDF Standards



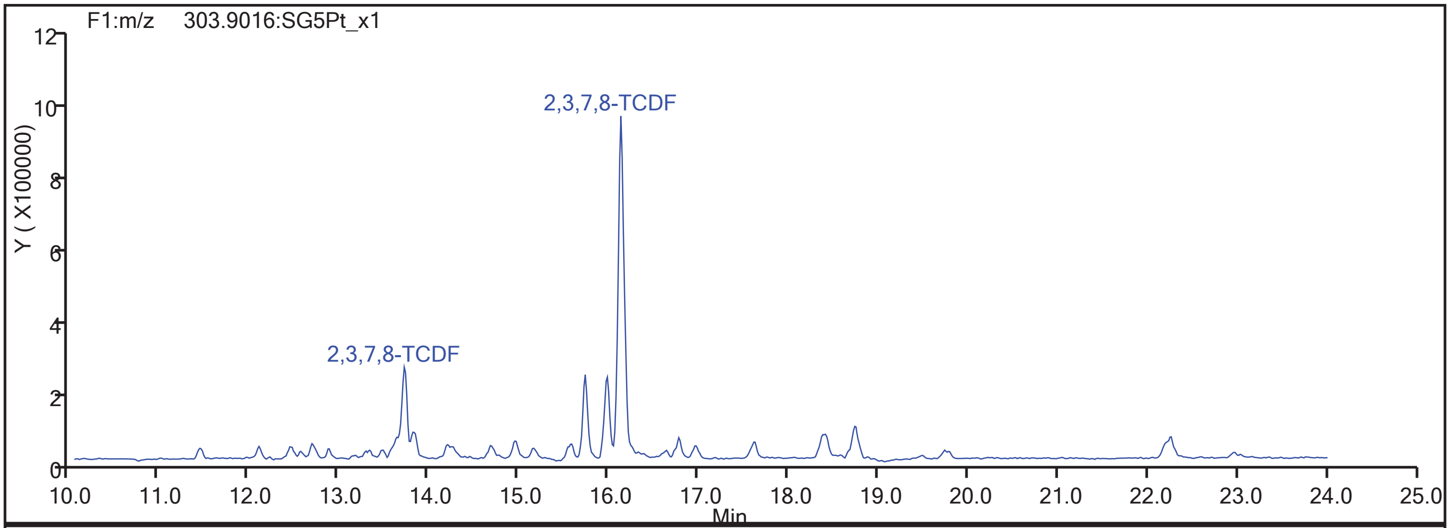


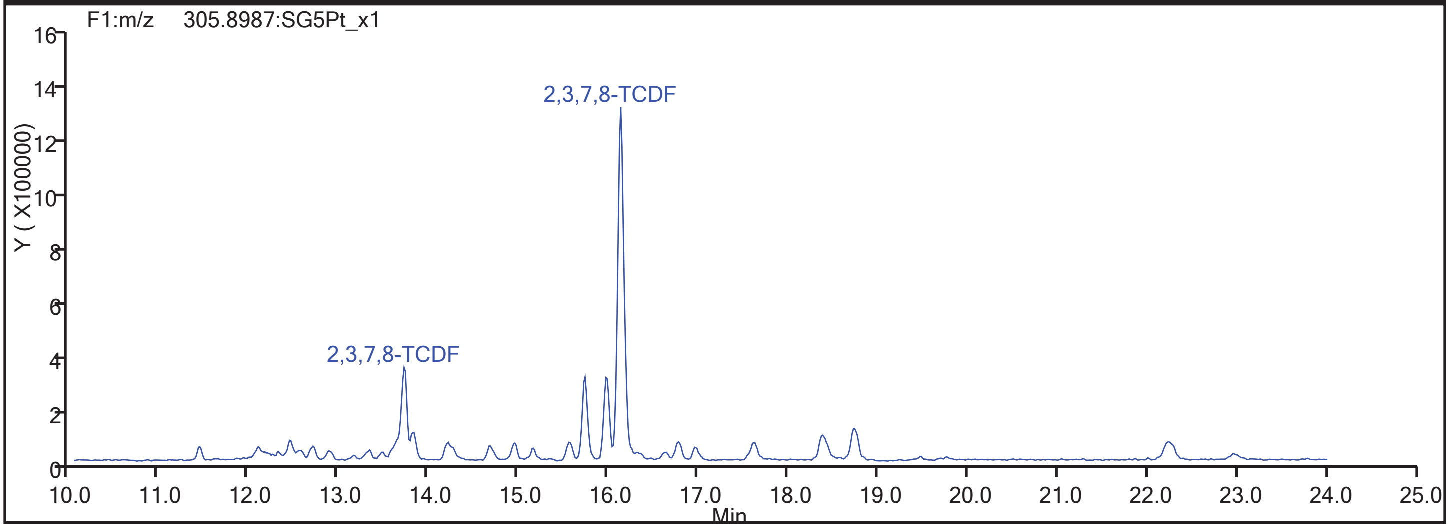
Report Date: 06-Dec-2017 10:58:39 Chrom Revision: 2.2 16-Aug-2017 16:24:46

TestAmerica Sacramento

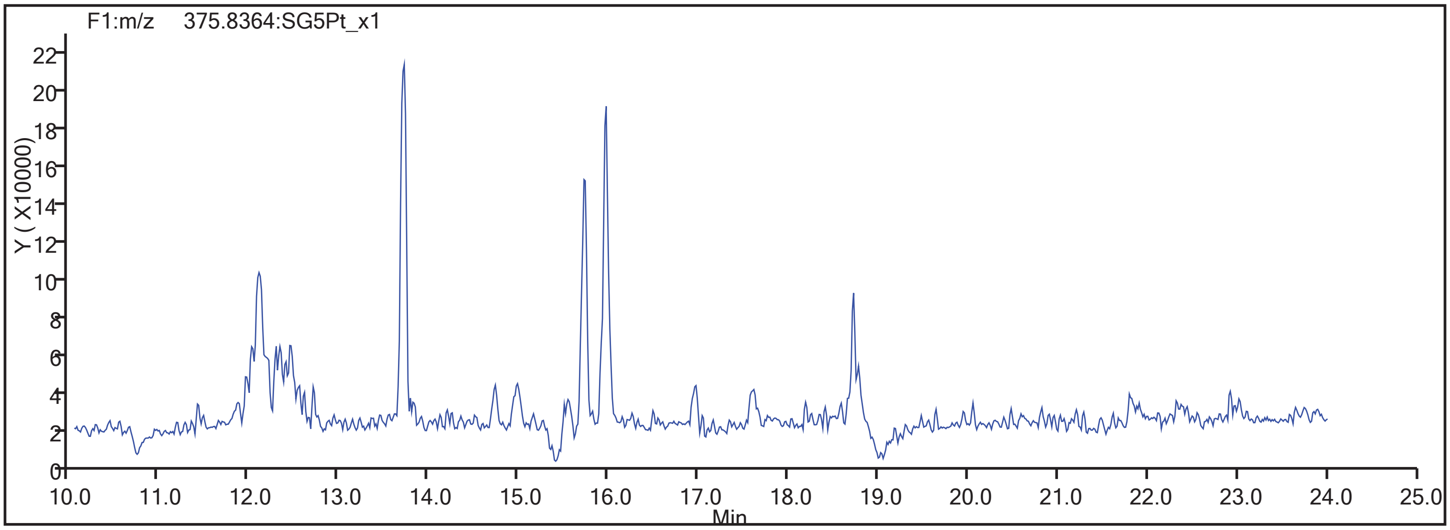
Data File:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_010.d		
Injection Date:	05-Dec-2017 17:14:42	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	198469	Sample Line#:	10
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF





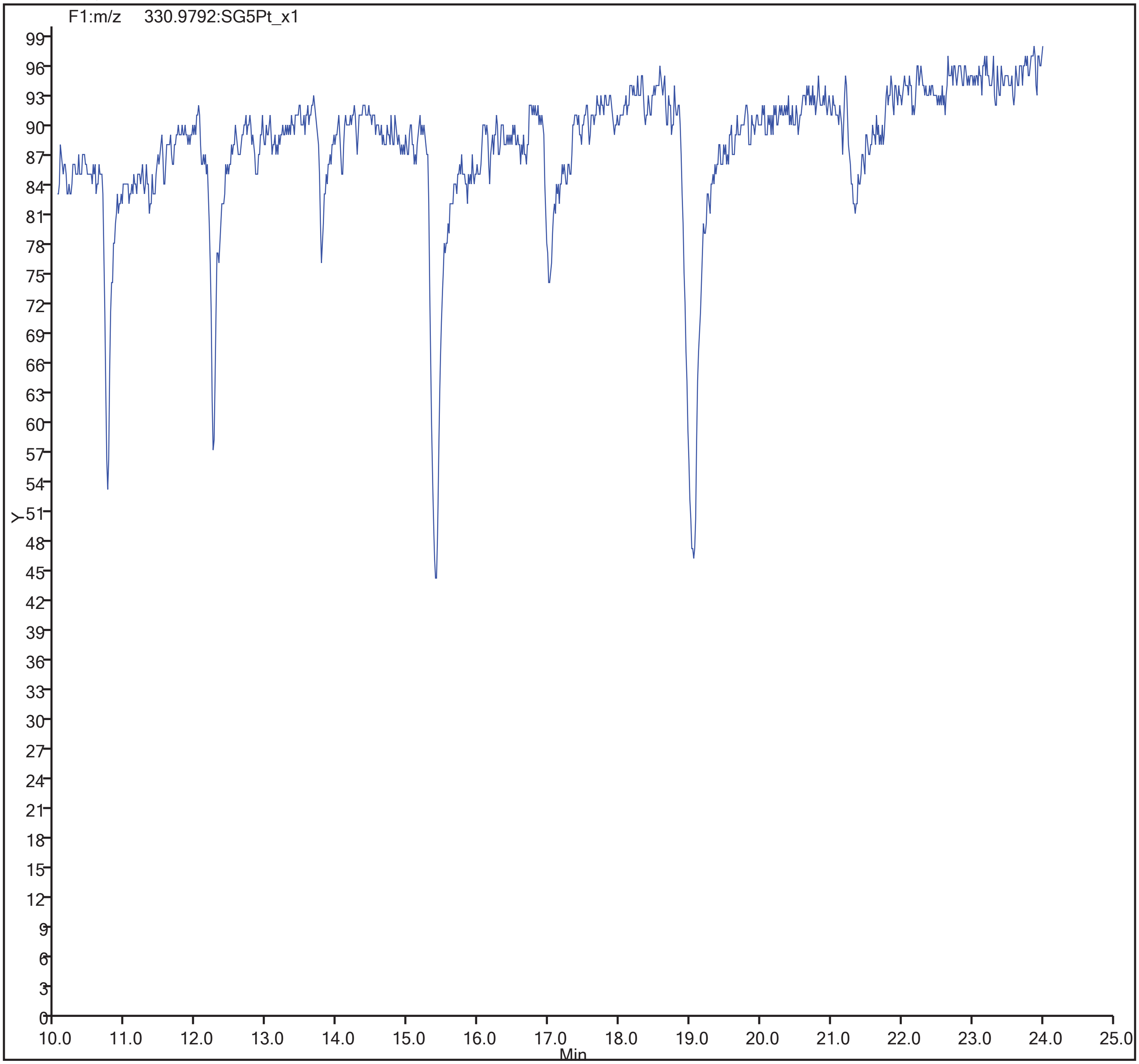
TCDF Interference Mass



TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b\05DE179D2_010.d

Injection Date:	05-Dec-2017 17:14:42	Injection Vol:	2.0 ul
Instrument ID:	9D2	Operator ID:	
Method:	DXN_DB225_9D2	Limit Group:	HR - 8290A_D5 - ICAL
Client ID:	SHAD041DP022SS03NS		
Worklist#:	198469	Sample Line#:	10
Column Type:	DB-225	Column Dia:	0.32 mm



DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 9D2 Start Date: 03/02/2017 13:26

Analysis Batch Number: 153001 End Date: 03/02/2017 17:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-153001/1		03/02/2017 13:26	1	02MR179D2_001.d	DB-225 0.32(mm)
IC 320-153001/2		03/02/2017 14:04	1	02MR179D2_002.d	DB-225 0.32(mm)
IC 320-153001/3		03/02/2017 14:42	1	02MR179D2_003.d	DB-225 0.32(mm)
IC 320-153001/4		03/02/2017 15:20	1	02MR179D2_004.d	DB-225 0.32(mm)
IC 320-153001/5		03/02/2017 15:58	1	02MR179D2_005.d	DB-225 0.32(mm)
IC 320-153001/6		03/02/2017 16:36	1	02MR179D2_006.d	DB-225 0.32(mm)
ICV 320-153001/7		03/02/2017 17:14	1	02MR179D2_007.d	DB-225 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Instrument ID: 10D5
Start Date: 10/12/2017 23:19
Analysis Batch Number: 189155
End Date: 10/13/2017 03:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-189155/1		10/12/2017 23:19	1	12OC17B10D5_1.d	DB-5 0.32(mm)
IC 320-189155/2		10/13/2017 00:08	1	12OC17B10D5_2.d	DB-5 0.32(mm)
IC 320-189155/3		10/13/2017 00:54	1	12OC17B10D5_3.d	DB-5 0.32(mm)
IC 320-189155/4		10/13/2017 01:40	1	12OC17B10D5_4.d	DB-5 0.32(mm)
IC 320-189155/5		10/13/2017 02:26	1	12OC17B10D5_5.d	DB-5 0.32(mm)
IC 320-189155/6		10/13/2017 03:12	1	12OC17B10D5_6.d	DB-5 0.32(mm)
ICV 320-189155/7		10/13/2017 03:58	1	12OC17B10D5_7.d	DB-5 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento   Job No.: 160-24924-2

SDG No.:

Instrument ID: 9D2   Start Date: 11/07/2017 10:09

Analysis Batch Number: 193317   End Date: 11/07/2017 20:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-193317/1		11/07/2017 10:09	1	07NO179D2_001.d	DB-225 0.32(mm)
CCV 320-193317/2		11/07/2017 10:47	1	07NO179D2_002.d	DB-225 0.32(mm)
ZZZZZ		11/07/2017 12:03	1		DB-225 0.32(mm)
160-24924-1 RA		11/07/2017 12:41	1	07NO179D2_005.d	DB-225 0.32(mm)
160-24924-2 RA		11/07/2017 13:18	1	07NO179D2_006.d	DB-225 0.32(mm)
ZZZZZ		11/07/2017 13:56	1		DB-225 0.32(mm)
ZZZZZ		11/07/2017 14:34	1		DB-225 0.32(mm)
ZZZZZ		11/07/2017 15:12	1		DB-225 0.32(mm)
ZZZZZ		11/07/2017 15:50	1		DB-225 0.32(mm)
160-24924-7 RA		11/07/2017 16:28	1	07NO179D2_011.d	DB-225 0.32(mm)
160-24924-8 RA		11/07/2017 17:05	1	07NO179D2_012.d	DB-225 0.32(mm)
160-24924-9 RA		11/07/2017 17:43	1	07NO179D2_013.d	DB-225 0.32(mm)
160-24924-9 MS RA		11/07/2017 18:21	1	07NO179D2_014.d	DB-225 0.32(mm)
160-24924-9 MSD RA		11/07/2017 18:59	1	07NO179D2_015.d	DB-225 0.32(mm)
ZZZZZ		11/07/2017 19:37	1		DB-225 0.32(mm)
CCV 320-193317/18		11/07/2017 20:52	1	07NO179D2_018.d	DB-225 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 9D2 Start Date: 11/07/2017 22:48

Analysis Batch Number: 193641 End Date: 11/08/2017 07:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-193641/1		11/07/2017 22:48	1	07NO17A9D2_001.d	DB-225 0.32(mm)
CCV 320-193641/2		11/07/2017 23:26	1	07NO17A9D2_002.d	DB-225 0.32(mm)
ZZZZZ		11/08/2017 00:41	1		DB-225 0.32(mm)
ZZZZZ		11/08/2017 01:19	1		DB-225 0.32(mm)
160-24924-13 RA		11/08/2017 01:57	1	07NO17A9D2_006.d	DB-225 0.32(mm)
160-24924-14 RA		11/08/2017 02:35	1	07NO17A9D2_007.d	DB-225 0.32(mm)
ZZZZZ		11/08/2017 03:13	1		DB-225 0.32(mm)
ZZZZZ		11/08/2017 03:50	1		DB-225 0.32(mm)
ZZZZZ		11/08/2017 04:28	1		DB-225 0.32(mm)
ZZZZZ		11/08/2017 05:06	1		DB-225 0.32(mm)
ZZZZZ		11/08/2017 05:44	1		DB-225 0.32(mm)
CCV 320-193641/14		11/08/2017 07:00	1	07NO17A9D2_014.d	DB-225 0.32(mm)

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Instrument ID: 10D5

Start Date: 11/11/2017 02:05

Analysis Batch Number: 194084

End Date: 11/11/2017 11:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-194084/53		11/11/2017 02:05	1	09NO1710D5_53.d	DB-5 0.32(mm)
CCV 320-194084/54		11/11/2017 03:01	1	09NO1710D5_54.d	DB-5 0.32(mm)
ZZZZZ		11/11/2017 03:47	1		DB-5 0.32(mm)
ZZZZZ		11/11/2017 04:33	1		DB-5 0.32(mm)
LCS 320-189721/2-A		11/11/2017 05:20	1	09NO1710D5_57.d	DB-5 0.32(mm)
LCSD 320-189721/3-A		11/11/2017 06:06	1	09NO1710D5_58.d	DB-5 0.32(mm)
160-24924-1		11/11/2017 06:52	1	09NO1710D5_59.d	DB-5 0.32(mm)
160-24924-2		11/11/2017 07:38	1	09NO1710D5_60.d	DB-5 0.32(mm)
ZZZZZ		11/11/2017 08:24	1		DB-5 0.32(mm)
160-24924-4		11/11/2017 09:10	1	09NO1710D5_62.d	DB-5 0.32(mm)
160-24924-5		11/11/2017 09:56	1	09NO1710D5_63.d	DB-5 0.32(mm)
ZZZZZ		11/11/2017 10:42	1		DB-5 0.32(mm)
CCV 320-194084/65		11/11/2017 11:39	1	09NO1710D5_65.d	DB-5 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Instrument ID: 10D5

Start Date: 11/11/2017 12:35

Analysis Batch Number: 194085

End Date: 11/11/2017 22:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-194085/66		11/11/2017 12:35	1	09NO1710D5_66.d	DB-5 0.32(mm)
CCV 320-194085/67		11/11/2017 13:31	1	09NO1710D5_67.d	DB-5 0.32(mm)
ZZZZZ		11/11/2017 14:17	1		DB-5 0.32(mm)
160-24924-6		11/11/2017 15:03	1	09NO1710D5_69.d	DB-5 0.32(mm)
160-24924-7		11/11/2017 15:49	1	09NO1710D5_70.d	DB-5 0.32(mm)
160-24924-8		11/11/2017 16:35	1	09NO1710D5_71.d	DB-5 0.32(mm)
160-24924-9		11/11/2017 17:21	1	09NO1710D5_72.d	DB-5 0.32(mm)
160-24924-9 MS		11/11/2017 18:07	1	09NO1710D5_73.d	DB-5 0.32(mm)
160-24924-9 MSD		11/11/2017 18:54	1	09NO1710D5_74.d	DB-5 0.32(mm)
160-24924-10		11/11/2017 19:40	1	09NO1710D5_75.d	DB-5 0.32(mm)
160-24924-11		11/11/2017 20:26	1	09NO1710D5_76.d	DB-5 0.32(mm)
ZZZZZ		11/11/2017 21:12	1		DB-5 0.32(mm)
CCV 320-194085/78		11/11/2017 22:08	1	09NO1710D5_78.d	DB-5 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Instrument ID: 10D5
Start Date: 11/11/2017 23:04
Analysis Batch Number: 194086
End Date: 11/12/2017 08:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-194086/79		11/11/2017 23:04	1	09NO1710D5_79.d	DB-5 0.32(mm)
CCV 320-194086/80		11/12/2017 00:00	1	09NO1710D5_80.d	DB-5 0.32(mm)
ZZZZZ		11/12/2017 00:47	1		DB-5 0.32(mm)
160-24924-12		11/12/2017 01:33	1	09NO1710D5_82.d	DB-5 0.32(mm)
160-24924-13		11/12/2017 02:19	1	09NO1710D5_83.d	DB-5 0.32(mm)
ZZZZZ		11/12/2017 03:05	1		DB-5 0.32(mm)
ZZZZZ		11/12/2017 03:51	1		DB-5 0.32(mm)
160-24924-16		11/12/2017 04:37	1	09NO1710D5_86.d	DB-5 0.32(mm)
160-24924-17		11/12/2017 05:23	1	09NO1710D5_87.d	DB-5 0.32(mm)
160-24924-18		11/12/2017 06:09	1	09NO1710D5_88.d	DB-5 0.32(mm)
160-24924-19		11/12/2017 06:56	1	09NO1710D5_89.d	DB-5 0.32(mm)
ZZZZZ		11/12/2017 07:42	1		DB-5 0.32(mm)
CCV 320-194086/91		11/12/2017 08:38	1	09NO1710D5_91.d	DB-5 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 10D5 Start Date: 11/13/2017 22:28

Analysis Batch Number: 194428 End Date: 11/14/2017 08:10

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-194428/14		11/13/2017 22:28	1	13NO1710D5_14.d	DB-5 0.32(mm)
CCV 320-194428/15		11/13/2017 23:30	1	13NO1710D5_15.d	DB-5 0.32(mm)
MB 320-189721/1-A		11/14/2017 01:05	1	13NO1710D5_17.d	DB-5 0.32(mm)
ZZZZZ		11/14/2017 01:51	1		DB-5 0.32(mm)
ZZZZZ		11/14/2017 02:37	1		DB-5 0.32(mm)
160-24924-3		11/14/2017 03:24	1	13NO1710D5_20.d	DB-5 0.32(mm)
ZZZZZ		11/14/2017 04:10	1		DB-5 0.32(mm)
ZZZZZ		11/14/2017 04:56	1		DB-5 0.32(mm)
ZZZZZ		11/14/2017 05:42	1		DB-5 0.32(mm)
ZZZZZ		11/14/2017 06:28	1		DB-5 0.32(mm)
CCV 320-194428/26		11/14/2017 08:10	1	13NO1710D5_26.d	DB-5 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 10D5 Start Date: 11/14/2017 09:06

Analysis Batch Number: 194429 End Date: 11/14/2017 18:55

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-194429/27		11/14/2017 09:06	1	13NO1710D5_27.d	DB-5 0.32(mm)
CCV 320-194429/28		11/14/2017 10:17	1	13NO1710D5_28.d	DB-5 0.32(mm)
ZZZZZ		11/14/2017 11:03	1		DB-5 0.32(mm)
ZZZZZ		11/14/2017 11:50	1		DB-5 0.32(mm)
ZZZZZ		11/14/2017 12:36	1		DB-5 0.32(mm)
ZZZZZ		11/14/2017 13:22	1		DB-5 0.32(mm)
ZZZZZ		11/14/2017 14:08	1		DB-5 0.32(mm)
160-24924-14		11/14/2017 14:54	1	13NO1710D5_34.d	DB-5 0.32(mm)
160-24924-15		11/14/2017 15:40	1	13NO1710D5_35.d	DB-5 0.32(mm)
ZZZZZ		11/14/2017 16:26	1		DB-5 0.32(mm)
ZZZZZ		11/14/2017 17:12	1		DB-5 0.32(mm)
ZZZZZ		11/14/2017 17:59	1		DB-5 0.32(mm)
CCV 320-194429/39		11/14/2017 18:55	1	13NO1710D5_39.d	DB-5 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Instrument ID: 3D5
Start Date: 11/15/2017 11:03
Analysis Batch Number: 194923
End Date: 11/15/2017 16:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-194923/1		11/15/2017 11:03	1	15NO173D5_1.d	DB-5 0.32(mm)
IC 320-194923/2		11/15/2017 11:51	1	15NO173D5_2.d	DB-5 0.32(mm)
IC 320-194923/3		11/15/2017 12:40	1	15NO173D5_3.d	DB-5 0.32(mm)
IC 320-194923/4		11/15/2017 13:28	1	15NO173D5_4.d	DB-5 0.32(mm)
IC 320-194923/5		11/15/2017 14:17	1	15NO173D5_5.d	DB-5 0.32(mm)
IC 320-194923/6		11/15/2017 15:05	1	15NO173D5_6.d	DB-5 0.32(mm)
ICV 320-194923/7		11/15/2017 15:54	1	15NO173D5_7.d	DB-5 0.32(mm)
ZZZZZ		11/15/2017 16:57	1		DB-5 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 3D5 Start Date: 11/18/2017 12:59

Analysis Batch Number: 195573 End Date: 11/18/2017 22:51

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-195573/54		11/18/2017 12:59	1	16NO173D5_54.d	DB-5 0.32(mm)
CCV 320-195573/55		11/18/2017 13:48	1	16NO173D5_55.d	DB-5 0.32(mm)
ZZZZZ		11/18/2017 14:36	1		DB-5 0.32(mm)
MB 320-195095/1-A		11/18/2017 15:25	1	16NO173D5_57.d	DB-5 0.32(mm)
LCS 320-195095/2-A		11/18/2017 16:13	1	16NO173D5_58.d	DB-5 0.32(mm)
LCSD 320-195095/3-A		11/18/2017 17:02	1	16NO173D5_59.d	DB-5 0.32(mm)
160-24924-1 RE		11/18/2017 17:50	1	16NO173D5_60.d	DB-5 0.32(mm)
160-24924-2 RE		11/18/2017 18:39	1	16NO173D5_61.d	DB-5 0.32(mm)
160-24924-3 RE		11/18/2017 19:27	1	16NO173D5_62.d	DB-5 0.32(mm)
160-24924-4 RE		11/18/2017 20:16	1	16NO173D5_63.d	DB-5 0.32(mm)
160-24924-5 RE		11/18/2017 21:04	1	16NO173D5_64.d	DB-5 0.32(mm)
CCV 320-195573/66		11/18/2017 22:51	1	16NO173D5_66.d	DB-5 0.32(mm)

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Instrument ID: 3D5

Start Date: 11/18/2017 23:50

Analysis Batch Number: 195574

End Date: 11/19/2017 09:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-195574/67		11/18/2017 23:50	1	16NO173D5_67.d	DB-5 0.32(mm)
CCV 320-195574/68		11/19/2017 00:49	1	16NO173D5_68.d	DB-5 0.32(mm)
ZZZZZ		11/19/2017 01:37	1		DB-5 0.32(mm)
160-24924-6 RE		11/19/2017 02:26	1	16NO173D5_70.d	DB-5 0.32(mm)
160-24924-7 RE		11/19/2017 03:14	1	16NO173D5_71.d	DB-5 0.32(mm)
160-24924-8 RE		11/19/2017 04:03	1	16NO173D5_72.d	DB-5 0.32(mm)
160-24924-9 RE		11/19/2017 04:51	1	16NO173D5_73.d	DB-5 0.32(mm)
160-24924-9 MS RE		11/19/2017 05:40	1	16NO173D5_74.d	DB-5 0.32(mm)
160-24924-9 MSD RE		11/19/2017 06:28	1	16NO173D5_75.d	DB-5 0.32(mm)
160-24924-10 RE		11/19/2017 07:17	1	16NO173D5_76.d	DB-5 0.32(mm)
160-24924-11 RE		11/19/2017 08:05	1	16NO173D5_77.d	DB-5 0.32(mm)
CCV 320-195574/79		11/19/2017 09:52	1	16NO173D5_79.d	DB-5 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Instrument ID: 3D5 Start Date: 11/19/2017 10:51

Analysis Batch Number: 195575 End Date: 11/19/2017 20:53

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-195575/80		11/19/2017 10:51	1	16NO173D5_80.d	DB-5 0.32(mm)
CCV 320-195575/81		11/19/2017 11:49	1	16NO173D5_81.d	DB-5 0.32(mm)
ZZZZZ		11/19/2017 12:38	1		DB-5 0.32(mm)
160-24924-12 RE		11/19/2017 13:26	1	16NO173D5_83.d	DB-5 0.32(mm)
160-24924-13 RE		11/19/2017 14:15	1	16NO173D5_84.d	DB-5 0.32(mm)
160-24924-14 RE		11/19/2017 15:03	1	16NO173D5_85.d	DB-5 0.32(mm)
160-24924-15 RE		11/19/2017 15:52	1	16NO173D5_86.d	DB-5 0.32(mm)
160-24924-16 RE		11/19/2017 16:41	1	16NO173D5_87.d	DB-5 0.32(mm)
160-24924-17 RE		11/19/2017 17:29	1	16NO173D5_88.d	DB-5 0.32(mm)
160-24924-18 RE		11/19/2017 18:18	1	16NO173D5_89.d	DB-5 0.32(mm)
160-24924-19 RE		11/19/2017 19:06	1	16NO173D5_90.d	DB-5 0.32(mm)
CCV 320-195575/92		11/19/2017 20:53	1	16NO173D5_92.d	DB-5 0.32(mm)

8290A

DIOXIN ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Instrument ID: 9D2

Start Date: 12/05/2017 11:33

Analysis Batch Number: 198469

End Date: 12/05/2017 20:24

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-198469/1		12/05/2017 11:33	1	05DE179D2_001.d	DB-225 0.32(mm)
CCV 320-198469/2		12/05/2017 12:11	1	05DE179D2_002.d	DB-225 0.32(mm)
ZZZZZ		12/05/2017 12:49	1		DB-225 0.32(mm)
160-24924-1 RERA		12/05/2017 13:27	1	05DE179D2_004.d	DB-225 0.32(mm)
160-24924-2 RERA		12/05/2017 14:05	1	05DE179D2_005.d	DB-225 0.32(mm)
160-24924-7 RERA		12/05/2017 14:43	1	05DE179D2_006.d	DB-225 0.32(mm)
160-24924-8 RERA		12/05/2017 15:21	1	05DE179D2_007.d	DB-225 0.32(mm)
160-24924-9 RERA		12/05/2017 15:58	1	05DE179D2_008.d	DB-225 0.32(mm)
160-24924-9 MS RERA		12/05/2017 16:36	1	05DE179D2_009.d	DB-225 0.32(mm)
160-24924-9 MSD RERA		12/05/2017 17:14	1	05DE179D2_010.d	DB-225 0.32(mm)
160-24924-11 RERA		12/05/2017 17:52	1	05DE179D2_011.d	DB-225 0.32(mm)
ZZZZZ		12/05/2017 18:30	1		DB-225 0.32(mm)
160-24924-14 RERA		12/05/2017 19:08	1	05DE179D2_013.d	DB-225 0.32(mm)
CCV 320-198469/15		12/05/2017 20:24	1	05DE179D2_015.d	DB-225 0.32(mm)

8290A

DIOXIN BATCH WORKSHEET

Lab Name: TestAmerica Sacramento
Job No.: 160-24924-2
SDG No.:
Batch Number: 189721
Batch Start Date: 10/17/17 11:29
Batch Analyst: Nguyen, Angela D
Batch Method: 8290
Batch End Date: 10/27/17 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	RotoVapID	HRDXNIDA 00306	HRDXNIS 00101	HRDXNSU 00172
MB 320-189721/1		8290, 8290A		10.00 g	20.00 uL	8	1 mL	20 uL	1 mL
LCS 320-189721/2		8290, 8290A		10.00 g	20.00 uL	6	1 mL	20 uL	1 mL
LCSD 320-189721/3		8290, 8290A		10.00 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-1	SHAD041DP026SS02 NS	8290, 8290A	T	10.03 g	20.00 uL	6	1 mL	20 uL	1 mL
160-24924-G-2	SHAD041DP026SS03 NS	8290, 8290A	T	10.03 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-3	SHAD041DP026SS04 NS	8290, 8290A	T	9.99 g	20.00 uL	6	1 mL	20 uL	1 mL
160-24924-G-4	SHAD041DP026SS05 NS	8290, 8290A	T	10.23 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-5	SHAD041DP026SS05 DS	8290, 8290A	T	10.03 g	20.00 uL	6	1 mL	20 uL	1 mL
160-24924-G-6	SHAD041DP026SS06 NS	8290, 8290A	T	9.92 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-7	SHAD041DP022SS01 NS	8290, 8290A	T	10.02 g	20.00 uL	6	1 mL	20 uL	1 mL
160-24924-G-8	SHAD041DP022SS02 NS	8290, 8290A	T	9.96 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-9	SHAD041DP022SS03 NS	8290, 8290A	T	10.04 g	20.00 uL	6	1 mL	20 uL	1 mL
160-24924-G-9 MS	SHAD041DP022SS03 NS	8290, 8290A	T	10.05 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-9 MSD	SHAD041DP022SS03 NS	8290, 8290A	T	10.01 g	20.00 uL	6	1 mL	20 uL	1 mL
160-24924-G-10	SHAD041DP022SS04 NS	8290, 8290A	T	10.05 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-11	SHAD041DP022SS05 NS	8290, 8290A	T	9.92 g	20.00 uL	6	1 mL	20 uL	1 mL
160-24924-G-12	SHAD041DP022SS06 NS	8290, 8290A	T	10.19 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-13	SHAD041DP013SS01 NS	8290, 8290A	T	10.05 g	20.00 uL	6	1 mL	20 uL	1 mL
160-24924-G-14	SHAD041DP013SS02 NS	8290, 8290A	T	10.10 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-15	SHAD041DP013SS03 NS	8290, 8290A	T	10.07 g	20.00 uL	6	1 mL	20 uL	1 mL
160-24924-G-16	SHAD041DP013SS04 NS	8290, 8290A	T	9.98 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-17	SHAD041DP013SS05 NS	8290, 8290A	T	10.01 g	20.00 uL	6	1 mL	20 uL	1 mL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Batch Number: 189721 Batch Start Date: 10/17/17 11:29 Batch Analyst: Nguyen, Angela D

Batch Method: 8290 Batch End Date: 10/27/17 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	RotoVapID	HRDXNIDA 00306	HRDXNIS 00101	HRDXNSU 00172
160-24924-G-18	SHAD041DP013SS05 DS	8290, 8290A	T	10.10 g	20.00 uL	8	1 mL	20 uL	1 mL
160-24924-G-19	SHAD041DP013SS06 NS	8290, 8290A	T	10.14 g	20.00 uL	6	1 mL	20 uL	1 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNTA 00083					
MB 320-189721/1		8290, 8290A							
LCS 320-189721/2		8290, 8290A		50 uL					
LCSD 320-189721/3		8290, 8290A		50 uL					
160-24924-G-1	SHAD041DP026SS02 NS	8290, 8290A	T						
160-24924-G-2	SHAD041DP026SS03 NS	8290, 8290A	T						
160-24924-G-3	SHAD041DP026SS04 NS	8290, 8290A	T						
160-24924-G-4	SHAD041DP026SS05 NS	8290, 8290A	T						
160-24924-G-5	SHAD041DP026SS05 DS	8290, 8290A	T						
160-24924-G-6	SHAD041DP026SS06 NS	8290, 8290A	T						
160-24924-G-7	SHAD041DP022SS01 NS	8290, 8290A	T						
160-24924-G-8	SHAD041DP022SS02 NS	8290, 8290A	T						
160-24924-G-9	SHAD041DP022SS03 NS	8290, 8290A	T						
160-24924-G-9 MS	SHAD041DP022SS03 NS	8290, 8290A	T	50 uL					
160-24924-G-9 MSD	SHAD041DP022SS03 NS	8290, 8290A	T	50 uL					
160-24924-G-10	SHAD041DP022SS04 NS	8290, 8290A	T						
160-24924-G-11	SHAD041DP022SS05 NS	8290, 8290A	T						
160-24924-G-12	SHAD041DP022SS06 NS	8290, 8290A	T						
160-24924-G-13	SHAD041DP013SS01 NS	8290, 8290A	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Batch Number: 189721 Batch Start Date: 10/17/17 11:29 Batch Analyst: Nguyen, Angela D

Batch Method: 8290 Batch End Date: 10/27/17 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNTA 00083					
160-24924-G-14	SHAD041DP013SS02 NS	8290, 8290A	T						
160-24924-G-15	SHAD041DP013SS03 NS	8290, 8290A	T						
160-24924-G-16	SHAD041DP013SS04 NS	8290, 8290A	T						
160-24924-G-17	SHAD041DP013SS05 NS	8290, 8290A	T						
160-24924-G-18	SHAD041DP013SS05 DS	8290, 8290A	T						
160-24924-G-19	SHAD041DP013SS06 NS	8290, 8290A	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Batch Number: 189721 Batch Start Date: 10/17/17 11:29 Batch Analyst: Nguyen, Angela D

Batch Method: 8290 Batch End Date: 10/27/17 14:00

Batch Notes	
65% DCM:Hexane ID	1063074
Alumina ID	26
Balance ID	QA-074
Batch Comment	20% and 65% eluents were combined and than brought to F.V.
Dual Column C/U Analyst	MEL
Dual Column C/U Date	10/27/2017
DCM:Hexane ID	20%-1040410
Hexane ID	0000175756
Na2SO4 ID	0000168174
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Analyst ID - SU Reagent Drop	MEL 10/27/17 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Silica Gel ID	1066403 / 1069584
Soxhlet/Soxtherm End	18:00
Soxhlet/Soxtherm Start	15:00
Storage Box ID	DXN-981
Tetradecane ID	STBH0250
Thimble Lot ID	981115901
Toluene ID	0000160561

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Batch Number: 195095 Batch Start Date: 11/16/17 11:16 Batch Analyst: Sathyanarayanan, Sanjhosh

Batch Method: 8290 Batch End Date: 11/17/17 12:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ExtractionID	RotoVapID	HRDXNIDA 00307	HRDXNIS 00101
MB 320-195095/1		8290, 8290A		10.00 g	20.0 uL	D1	1	1 mL	20 uL
LCS 320-195095/2		8290, 8290A		10.00 g	20.0 uL	D2	3	1 mL	20 uL
LCSD 320-195095/3		8290, 8290A		10.00 g	20.0 uL	D3	1	1 mL	20 uL
160-24924-G-1	SHAD041DP026SS02 NS	8290, 8290A	T	10.06 g	20.0 uL	D4	3	1 mL	20 uL
160-24924-G-2	SHAD041DP026SS03 NS	8290, 8290A	T	10.03 g	20.0 uL	D5	1	1 mL	20 uL
160-24924-G-3	SHAD041DP026SS04 NS	8290, 8290A	T	10.02 g	20.0 uL	D6	3	1 mL	20 uL
160-24924-G-4	SHAD041DP026SS05 NS	8290, 8290A	T	9.97 g	20.0 uL	E1	1	1 mL	20 uL
160-24924-G-5	SHAD041DP026SS05 DS	8290, 8290A	T	10.04 g	20.0 uL	E2	3	1 mL	20 uL
160-24924-G-6	SHAD041DP026SS06 NS	8290, 8290A	T	10.01 g	20.0 uL	E3	1	1 mL	20 uL
160-24924-G-7	SHAD041DP022SS01 NS	8290, 8290A	T	9.94 g	20.0 uL	E4	3	1 mL	20 uL
160-24924-G-8	SHAD041DP022SS02 NS	8290, 8290A	T	9.90 g	20.0 uL	E5	1	1 mL	20 uL
160-24924-G-9	SHAD041DP022SS03 NS	8290, 8290A	T	10.08 g	20.0 uL	E6	3	1 mL	20 uL
160-24924-G-9 MS	SHAD041DP022SS03 NS	8290, 8290A	T	10.15 g	20.0 uL	F1	1	1 mL	20 uL
160-24924-G-9 MSD	SHAD041DP022SS03 NS	8290, 8290A	T	9.84 g	20.0 uL	F2	3	1 mL	20 uL
160-24924-G-10	SHAD041DP022SS04 NS	8290, 8290A	T	10.11 g	20.0 uL	F3	1	1 mL	20 uL
160-24924-G-11	SHAD041DP022SS05 NS	8290, 8290A	T	9.98 g	20.0 uL	F4	3	1 mL	20 uL
160-24924-G-12	SHAD041DP022SS06 NS	8290, 8290A	T	9.91 g	20.0 uL	F5	1	1 mL	20 uL
160-24924-G-13	SHAD041DP013SS01 NS	8290, 8290A	T	9.97 g	20.0 uL	F6	3	1 mL	20 uL
160-24924-G-14	SHAD041DP013SS02 NS	8290, 8290A	T	10.21 g	20.0 uL	H1	1	1 mL	20 uL
160-24924-G-15	SHAD041DP013SS03 NS	8290, 8290A	T	10.07 g	20.0 uL	H2	3	1 mL	20 uL
160-24924-G-16	SHAD041DP013SS04 NS	8290, 8290A	T	9.83 g	20.0 uL	H3	1	1 mL	20 uL
160-24924-G-17	SHAD041DP013SS05 NS	8290, 8290A	T	9.90 g	20.0 uL	H4	3	1 mL	20 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Batch Number: 195095 Batch Start Date: 11/16/17 11:16 Batch Analyst: Sathyanarayanan, Sanjhosh

Batch Method: 8290 Batch End Date: 11/17/17 12:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ExtractionID	RotoVapID	HRDXNIDA 00307	HRDXNIS 00101
160-24924-G-18	SHAD041DP013SS05 DS	8290, 8290A	T	10.14 g	20.0 uL	H5	1	1 mL	20 uL
160-24924-G-19	SHAD041DP013SS06 NS	8290, 8290A	T	9.90 g	20.0 uL	H6	3	1 mL	20 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNSU 00173	HRDXNTA 00083	AnalysisComment			
MB 320-195095/1		8290, 8290A		1 mL		RX			
LCS 320-195095/2		8290, 8290A		1 mL	50 uL	RX			
LCSD 320-195095/3		8290, 8290A		1 mL	50 uL	RX			
160-24924-G-1	SHAD041DP026SS02 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-2	SHAD041DP026SS03 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-3	SHAD041DP026SS04 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-4	SHAD041DP026SS05 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-5	SHAD041DP026SS05 DS	8290, 8290A	T	1 mL		RX			
160-24924-G-6	SHAD041DP026SS06 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-7	SHAD041DP022SS01 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-8	SHAD041DP022SS02 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-9	SHAD041DP022SS03 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-9 MS	SHAD041DP022SS03 NS	8290, 8290A	T	1 mL	50 uL	RX			
160-24924-G-9 MSD	SHAD041DP022SS03 NS	8290, 8290A	T	1 mL	50 uL	RX			
160-24924-G-10	SHAD041DP022SS04 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-11	SHAD041DP022SS05 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-12	SHAD041DP022SS06 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-13	SHAD041DP013SS01 NS	8290, 8290A	T	1 mL		RX			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: TestAmerica Sacramento

Job No.: 160-24924-2

SDG No.:

Batch Number: 195095

Batch Start Date: 11/16/17 11:16

Batch Analyst: Sathyanarayanan, Sanjhosh

Batch Method: 8290

Batch End Date: 11/17/17 12:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNSU 00173	HRDXNTA 00083	AnalysisComment			
160-24924-G-14	SHAD041DP013SS02 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-15	SHAD041DP013SS03 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-16	SHAD041DP013SS04 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-17	SHAD041DP013SS05 NS	8290, 8290A	T	1 mL		RX			
160-24924-G-18	SHAD041DP013SS05 DS	8290, 8290A	T	1 mL		RX			
160-24924-G-19	SHAD041DP013SS06 NS	8290, 8290A	T	1 mL		RX			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 160-24924-2

SDG No.:

Batch Number: 195095 Batch Start Date: 11/16/17 11:16 Batch Analyst: Sathyanarayanan, Sanjhosh

Batch Method: 8290 Batch End Date: 11/17/17 12:00

Batch Notes	
65% DCM:Hexane ID	1071651
Alumina ID	26
Balance ID	QA-74
Batch Comment	20% and 65% eluents were combined and than brought to F.V.
Dual Column C/U Analyst	MEL
Dual Column C/U Date	11/17/2017
DCM:Hexane ID	20%-1063086
Hexane ID	0000181539
Na2SO4 ID	0000168174
Analyst ID - IDA Reagent Drop	DTG 11/16/17 - EC15131 - B 4/4
Analyst ID - IDA Reagent Drop Witness	SXS 11/16/17
Analyst ID - IS Reagent Drop	TGL 11/17/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	MEL 11/17/17
Analyst ID - SU Reagent Drop	MEL 11/17/17 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 11/17/17
Analyst ID - TA Reagent Drop	DTG 11/16/17 - EH153171 - B 10/10
Analyst ID - TA Reagent Drop Witness	SXS 11/16/17
Silica Gel ID	1082349 / 1091138
Soxhlet/Soxtherm End	19:00
Soxhlet/Soxtherm Start	16:00
Storage Box ID	DXN-986
Tetradecane ID	STBH0250
Thimble Lot ID	974039102
Toluene ID	0000162750

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Data Review Checklist
HRGCMS/LRGCMS Analyses

Job #(s): 160 - 24924

Worklists: 50075

Method: 8290A_D5

ICAL Batch 153001

ICV Batch (if not ICAL) - Same -

Sample/QC Batch(es) 193317 / Prep: 189721

	Primary Column	**Confirmation Column (if needed)**
1st Level Reviewer/Date		/ 11-9-17
2nd Level Reviewer/Date		12/5/17

QA/QC Verification	Primary Column 1st Level	Primary Column 2nd Level	Confirmation Column 1st Level	Confirmation Column 2nd Level
- Daily Standard meets criteria?			✓	✓
- Method Blank meets criteria?			✓	na
- LCS meets native recovery criteria?			NA	na
- IDA recoveries within limits?*			✓	✓
- Ion ratios within 15% of theoretical values?			✓	✓
- Other QC (Dup, MS, SD) within specs?			~~NA~~ ✓ AS 11-9-17	✓
Sample Analysis:				
- Correct sample aliquot used?			✓	✓
- All raw data present?			✓	✓
- Standard Target [✓ DL's] used? If RL's are used, specify______			✓	✓
- DL's below [✓ TDL]/LCL (circle one)			✓	✓
- All positives reported at levels > MB DLs?			✓	✓
- Correct RRF's used for method?			✓	✓
- IDA amounts correct for method?			✓	✓
- Target analytes are not saturated?			✓	✓
- Dilution/splitting of extract taken into account?			NA	na
- Have dilution calculations been verified?			NA	na
- If multiple dilutions or analyses for a sample, are results comparable?			NA	na
- Has a manual calculation for the sequence been verified?			✓	✓
- Are retention times (RT) correct?			✓	✓
- Manual integrations checked?			✓	✓
- QC Checker Run & Reviewed?			✓	✓
- Appropriate Documents Uploaded?			✓	✓

NCMs: ______

Comments: ______

* Note: Lower IDA recoveries are acceptable if IDA S/N ≥ 10:1 and DLs are < LCL for target analytes.

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name:	07NO179D2_DB225	Worklist Number:	50075
Instrument Name:	9D2	Chrom Method:	DXN_DB225_9D2
Data Directory:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b		
QC Batching:	Disabled	Limit Group Batching: Enabled	

QC Batch: 1	HR - 8290A_D5 - ICAL Raw Batch: 193317
# 1 CPS	# 1 CPS
# 2 CCV	# 2 CCV
# 3 RB	# 3 RB
# 4 MB 320-189721/1-A	# 4 MB 320-189721/1-A
# 5 160-24924-G-1-A	# 5 160-24924-G-1-A
# 6 160-24924-G-2-A	# 6 160-24924-G-2-A
# 7 160-24924-G-3-A	# 7 160-24924-G-3-A
# 8 160-24924-G-4-A	# 8 160-24924-G-4-A
# 9 160-24924-G-5-A	# 9 160-24924-G-5-A
#10 160-24924-G-6-A	#10 160-24924-G-6-A
#11 160-24924-G-7-A	#11 160-24924-G-7-A
#12 160-24924-G-8-A	#12 160-24924-G-8-A
#13 160-24924-G-9-A	#13 160-24924-G-9-A
#14 160-24924-G-9-B MS	#14 160-24924-G-9-B MS
#15 160-24924-G-9-C MSD	#15 160-24924-G-9-C MSD
#16 160-24924-G-10-A	#16 160-24924-G-10-A
#17 RB	#17 RB
#18 CCV	#18 CCV

TestAmerica Laboratories
Worklist Report

Worklist Name:	07NO179D2_DB225	Worklist Number:	50075
Instrument Name:	9D2	Chrom Method:	DXN_DB225_9D2
Injection Volume:	2.000	Units:	ul
Analysis Type:	Semi VOA		
Batch Directory:	\\ChromNA\Sacramento\ChromData\9D2\20171107-50075.b		
Upload Directory:	\\CORPTALSAPP12\320-WS-RawData\Organics\MS\9D2		

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050075-001	# 1 CPS	HRDXNCP_00034	CPS	sv	2.000	uL	1.000
320-0050075-002	# 2 CCV	HRDXNL4_00059	CCV	sv	2.000	uL	1.000
320-0050075-003	# 3 RB		RB	sv	2.000	uL	1.000
320-0050075-004	# 4 MB 320-189721/1-A		MB	sv	2.000	uL	1.000
320-0050075-005	# 5 160-24924-G-1-A		Client	sv	2.000	uL	1.000
320-0050075-006	# 6 160-24924-G-2-A		Client	sv	2.000	uL	1.000
320-0050075-007	# 7 160-24924-G-3-A		Client	sv	2.000	uL	1.000
320-0050075-008	# 8 160-24924-G-4-A		Client	sv	2.000	uL	1.000
320-0050075-009	# 9 160-24924-G-5-A		Client	sv	2.000	uL	1.000
320-0050075-010	#10 160-24924-G-6-A		Client	sv	2.000	uL	1.000
320-0050075-011	#11 160-24924-G-7-A		Client	sv	2.000	uL	1.000
320-0050075-012	#12 160-24924-G-8-A		Client	sv	2.000	uL	1.000
320-0050075-013	#13 160-24924-G-9-A		Client	sv	2.000	uL	1.000
320-0050075-014	#14 160-24924-G-9-B MS		MS	sv	2.000	uL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050075-015	#15 160-24924-G-9-C MSD		MSD	sv	2.000	uL	1.000
320-0050075-016	#16 160-24924-G-10-A		Client	sv	2.000	uL	1.000
320-0050075-017	#17 RB		RB	sv	2.000	uL	1.000
320-0050075-018	#18 CCV	HRDXNL4_00059	CCV	sv	2.000	uL	1.000

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
07NO179D2	1	CPS 110717	CPS HRDXNCP_00034				1.00000	
07NO179D2	2	CCV 110717	CCV CS-4 HRDXNL4_00059				1.00000	
07NO179D2	3	RB 110717	RB Reagent Blank C-14				1.00000	
07NO179D2	4	320-189721	MB 320-189721/1-A	20	8290A_D5/Solid	D975	10.00000	g
07NO179D2	5	320-189721	160-24924-G-1-A	20	8290A_D5/Solid	D975	10.00000	g
07NO179D2	6	320-189721	160-24924-G-2-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	7	320-189721	160-24924-G-3-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	8	320-189721	160-24924-G-4-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	9	320-189721	160-24924-G-5-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	10	320-189721	160-24924-G-6-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	11	320-189721	160-24924-G-7-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	12	320-189721	160-24924-G-8-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	13	320-189721	160-24924-G-9-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	14	320-189721	160-24924-G-9-B MS	20	8290A_D5/Solid		10.00000	g
07NO179D2	15	320-189721	160-24924-G-9-C-MSD	20	8290A_D5/Solid		10.00000	g
07NO179D2	16	320-189721	160-24924-G-10-A	20	8290A_D5/Solid		10.00000	g
07NO179D2	17	RB 110717	RB Reagent Blank C-14				1.00000	
07NO179D2	18	CCV 110717A	CCV CS-4 HRDXNL4_00059				1.00000	
07NO179D2	19						1.00000	
07NO179D2	20						1.00000	
07NO179D2	21						1.00000	
07NO179D2	22						1.00000	
07NO179D2	23						1.00000	
07NO179D2	24						1.00000	
07NO179D2	25						1.00000	
07NO179D2	26						1.00000	
07NO179D2	27						1.00000	
07NO179D2	28		AJS 11-07-17				1.00000	
07NO179D2	29						1.00000	

logfile checked
11-07-17 ALM

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING	Sacramento Daily Calibration Checklist Dioxin Methods

Method IDs 8290A_D5

ICAL Event # 28730

Worklist # 50075

Batch # (s) 193317

Column ID DB5

Instrument ID 9D2

CCV IDs CCV110717; CCV110717A

CCV Solution HRDxNL4-00059

Analyzed by AJS

Date Analyzed 11-7-17

Std. Pkg. By AJS

Date Std. Pkg. Assembled 11-9-17

Std. Pkg. Reviewed By

Date Std. Pkg. Reviewed 12/5/17

DAILY STANDARD PACKAGE	INITIATED	REVIEWED
Standard, CPS, and Solvent Blank checked?	✓	✓
Copy of log-file checked?	✓	✓
CPS blow up checked?	✓	✓
Summary of Method criteria present or documented below?	✓	✓
CCV standard within method specified limits?*	✓	✓
Analyte retention times correct?	✓	✓
Isotopic ratios within limits?	✓	✓
CPS valley ≤ method specified limits?** ?	✓	✓
Are chromatographic windows correct?	✓	✓
Samples analyzed within 12 hrs of daily standard?	✓	✓
Manual reintegrations checked and hardcopies included?	✓	na
Absolute retention times for 13C12-1,2,3,4-TCDD and 13C12-1,2,3,7,8,9-HxCDD are within +/- 15 seconds of the retention times in the Initial Calibration? (for 1613B only) ?	NA	na
Resolution Plot(s) Checked and Scanned?	✓	NA
ICal Checklist Included?	✓	NA
CCV Checklist Scanned?	NA	✓

COMMENTS:

* **Method 8290/TO9/M0023A: (beginning)** ≤ 20% from curve RRFs for native analytes, ≤ 30% from curve RRFs for labeled compounds.

Method 8290/TO9/M0023A: (ending) ≤ 25% from curve RRFs for native analytes, ≤ 35% from curve RRFs for labeled compounds.

Method 23: See Method 23 Daily Standard Criteria, Table 5.

Method 1613B: See, Method 1613B or Method 1613B Tetras Daily Standard Criteria,

** **Method 23/0023A CPSM Criteria:** Compare the 2378 TCDF (DB-225)/TCDD (DB-5) peak to the one eluting just before it. Normalize to the smaller of the two peaks. Do the same for 2378 TCDF/TCDD and the peak eluting just after it. In both cases the valley between peaks must be ≤ 25%

Method 1613B/8290/TO9 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak

Test America – West Sacramento

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Initial Calibration Checklist
Dioxin Methods

Worklist: #40436 Batch #: 152997, 152998, 152999, 153000, 153001, 153002, 153003, 153004, 153005
Calibration Event ID #: 28726, 28727, 28728, 28729, 28730, 28731, 28732, 28733, 28734

Method ID: 1613B, 1613B_Tetra, 8290, 8290A, 8290A_D5, DLM02.x, EPA_0023A, EPA_23, TO9

Column ID DB225

Instrument ID 9D2

STD ID's L4, L3, L2, L6, L5

STD Solution See WL #40436

GC Program DB225

Multiplier Setting 370v

Analyzed By KStephens

Date Analyzed 03-02-2017

Prepared By KStephens

Date Prepared 03-03-2017

Reviewed By SMA

Date Reviewed 03-03-2017

ANALYSIS OFFICIAL	INITIATED	REVIEWED
Curve summary present?	X	X
Calibration levels verified from L2 to L6?	X	X
Copy of log-file present?	X	X
Beginning and Ending Static resolution check scanned?	X	X
DLM02.2: Beginning and ending CPSM blow ups present?	X	X
DLM02.2: CPSM valley < 25%. Resolution documented below? **	X (1)	X (1)
Target file RT's correct?	X	X
%RSD within method-specified limits?*	X	X
Signal-to-noise criteria met?	X	X
Isotopic ratios within limits?	X	X
High point free of saturation?	X	X
Are chromatographic windows correct?	X	X
DLM02.2: Absolute retention time for 13C12-1,2,3,4-TCDD > 25 minutes on a DB-5 column or 13C12-1,2,3,4-TCDD > 15 minutes on a DB-225 column?	X (2)	X (2)
Manual reintegration's checked in TALS/CHROM?	NA	NA
ICAL Checklist/Summary scanned: Date 03-03-17 initials SMA	NA	X

COMMENTS: (1) Beginning CPSM = 24% valley; Ending CPSM = 25%
(2) L4 IS RT: 13C-1,2,3,4-TCDD = 15.196

* Method 8290/TO9/M0023A: %RSD ≤20% for natives, ≤30% for labeled compounds; S/N≥10
Method 1613B/DLM02.2: %RSD≤ 20% natives, ≤30% labeled compounds; S/N ≥10
Method 23: %RSD ≤ values specified in Table 5, Method 23; S/N ≥ 10

** DLM02.2 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak.

C:\Documents and Settings\stephensk\Desktop\DailyForms\9D2 Dioxins ICAL DB225 Checklist 03-02-2017.doc
QA-384 07/10/14 KSS

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

DB225 copy (partial)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

D981

Soxhlet Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-189721/1 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A	DB225- pre-emptive	MB 320-189721/1-A
2	LCS~320-189721/2 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCS 320-189721/2-A
3	LCSD~320-189721/3 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCSD 320-189721/3-A
4	160-24924-G-1 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4	DB225- pre-emptive ↓	160-24924-G-1-A
5	160-24924-G-2 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-2-A
6	160-24924-G-3 (8290A_DOD5)	N/A (160-24924-2)	9.99 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-3-A
7	160-24924-G-4 (8290A_DOD5)	N/A (160-24924-2)	10.23 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-4-A
8	160-24924-G-5 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-5-A
9	160-24924-G-6 (8290A_DOD5)	N/A (160-24924-2)	9.92 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-6-A
10	160-24924-G-7 (8290A_DOD5)	N/A (160-24924-2)	10.02 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-7-A
11	160-24924-G-8 (8290A_DOD5)	N/A (160-24924-2)	9.96 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-8-A
12	160-24924-G-9 (8290A_DOD5)	N/A (160-24924-2)	10.04 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-A
13	160-24924-G-9~MS (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-B MS
14	160-24924-G-9~MSD (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-C MSD
15	160-24924-G-10 (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-10-A

Printed : 10/27/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

16	160-24924-G-11 (8290A_DOD5)	N/A (160-24924-2)	9.92 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-11-A
17	160-24924-G-12 (8290A_DOD5)	N/A (160-24924-2)	10.19 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-12-A
18	160-24924-G-13 (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-13-A
19	160-24924-G-14 (8290A_DOD5)	N/A (160-24924-2)	10.10 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-14-A
20	160-24924-G-15 (8290A_DOD5)	N/A (160-24924-2)	10.07 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-15-A
21	160-24924-G-16 (8290A_DOD5)	N/A (160-24924-2)	9.98 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-16-A
22	160-24924-G-17 (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-17-A
23	160-24924-G-18 (8290A_DOD5)	N/A (160-24924-2)	10.10 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-18-A
24	160-24924-G-19 (8290A_DOD5)	N/A (160-24924-2)	10.14 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-19-A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250
Toluene ID	0000160561
MeCL2 ID	N/A
Soxhlet/Soxtherm Start	15:00
Soxhlet/Soxtherm End	18:00
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Analyst ID - SU Reagent Drop	MEL 10/27/17 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Nonane ID	N/A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

Sulfuric Acid Lot Number	N/A
5% NaCl Reagent ID	N/A
20% KOH Reagent ID	N/A
Acid cleanup Analyst	N/A
Date of Acid Cleanup	N/A
1:1 DCM:Cyclohexane ID	N/A
5% Carbon:Silica Gel ID	N/A
75:20:5DCM/MeOH/Benzene ID	N/A
Benzene ID	N/A
Carbon Column C/U Analyst	N/A
Carbon Column C/U Date	N/A
DCM:Hexane ID	20%-1040410
65% DCM:Hexane ID	1063074
Alumina ID	26
Silica Gel ID	1066403 / 1069584
Dual Column C/U Analyst	MEL
Dual Column C/U Date	10/27/2017
GPC ID	N/A
GPC Analyst	N/A
GPC Date	N/A
Split Analyst/Date	N/A
Split Volume	N/A
Storage Box ID	DXN-981

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

Batch Comment 20% and 65% eluents were combined and than brought to F.V.

Comments

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
LCS 320-189721/2	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCS 320-189721/2	HRDXNIS_00101	20.0 uL	20.00 uL		
LCS 320-189721/2	HRDXNSU_00172	1 mL	20.00 uL		
LCS 320-189721/2	HRDXNTA_00083	50.0 uL	20.00 uL		
LCSD 320-189721/3	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCSD 320-189721/3	HRDXNIS_00101	20.0 uL	20.00 uL		
LCSD 320-189721/3	HRDXNSU_00172	1 mL	20.00 uL		
LCSD 320-189721/3	HRDXNTA_00083	50.0 uL	20.00 uL		
160-24924-G-1	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-1	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-1	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-2	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-2	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-2	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-3	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-3	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-3	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-4	HRDXNIDA_00306	1.00 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

160-24924-G-4	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-4	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-5	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-5	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-5	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-6	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-6	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-6	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-7	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-7	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-7	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-8	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-8	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-8	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MS	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9 MS	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9 MS	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MS	HRDXNTA_00083	50.0 uL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

160-24924-G-9 MSD	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9 MSD	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9 MSD	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MSD	HRDXNTA_00083	50.0 uL	20.00 uL		
160-24924-G-10	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-10	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-10	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-11	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-11	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-11	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-12	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-12	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-12	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-13	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-13	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-13	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-14	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-14	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-14	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-15	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-15	HRDXNIS_00101	20.0 uL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

160-24924-G-15	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-16	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-16	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-16	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-17	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-17	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-17	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-18	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-18	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-18	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-19	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-19	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-19	HRDXNSU_00172	1 mL	20.00 uL		
MB 320-189721/1	HRDXNIDA_00306	1.00 mL	20.00 uL		
MB 320-189721/1	HRDXNIS_00101	20.0 uL	20.00 uL		
MB 320-189721/1	HRDXNSU_00172	1 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Other Reagents:

Reagent	Amount/Units	Lot#:

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End:

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	
Toluene ID	0000160561
MeCL2 ID	
Soxhlet/Soxtherm Start	1500
Soxhlet/Soxtherm End	1800
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Analyst ID - SU Reagent Drop	MEC 10/27/17 1.0ml HRDXNSU-00172 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 20.0µL HRDXNIS_00101 (3/4)
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Nonane ID	

Printed : 10/17/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End:

Sulfuric Acid Lot Number

5% NaCl Reagent ID

20% KOH Reagent ID

Acid cleanup Analyst

Date of Acid Cleanup

1:1 DCM:Cyclohexane ID

5% Carbon:Silica Gel ID

75:20:5DCM/MeOH/Benzene ID

Benzene ID

Carbon Column C/U Analyst

Carbon Column C/U Date

DCM:Hexane ID

65% DCM:Hexane ID

Alumina ID 26

Silica Gel ID

Dual Column C/U Analyst MEL

Dual Column C/U Date 10/27/17

GPC ID

GPC Analyst

GPC Date

Split Analyst/Date

Split Volume

Storage Box ID DXN-981

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-189721 Test: 8290 (solid)

Earliest Holding Time: 11/04/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	NA	Na
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	1st Level Reviewer	2nd Level Reviewer
All samples properly preserved	NA	Na
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	Na
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	1st Level Reviewer	2nd Level Reviewer
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	1st Level Reviewer	2nd Level Reviewer
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TGL Date: 10/27/17

2nd Level Reviewer: Mway Date: 10/29/2017

Comments:

Q:\FORMS\Checklists\QA-448

QA-448 3/17/14 AVM

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Data Review Checklist
HRGCMS/LRGCMS Analyses

Job #(s): 160-24924

Worklists: 50168

Method: 8290A_D5

ICAL Batch 153001

ICV Batch (If not ICAL) Same

Sample/QC Batch(es) 193641 / Prep: 189721

	Primary Column	Confirmation Column (If needed)
1st Level Reviewer/Date		/ 11-9-17
2nd Level Reviewer/Date		12/5/17

QA/QC Verification	Primary Column 1st Level	Primary Column 2nd Level	Confirmation Column 1st Level	Confirmation Column 2nd Level
- Daily Standard meets criteria?			✓	✓
- Method Blank meets criteria?			✓	na
- LCS meets native recovery criteria?			NA	na
- IDA recoveries within limits?*			✓	✓
- Ion ratios within 15% of theoretical values?			✓	✓
- Other QC (Dup, MS, SD) within specs?			NA	na
Sample Analysis:				
- Correct sample aliquot used?			✓	✓
- All raw data present?			✓	✓
- Standard Target [✓ DL's] used? If RL's are used, specify______			✓	✓
- DL's below [✓ TDL]/LCL (circle one)			✓	✓
- All positives reported at levels > MB DLs?			✓	✓
- Correct RRF's used for method?			✓	✓
- IDA amounts correct for method?			✓	✓
- Target analytes are not saturated?			✓	✓
- Dilution/splitting of extract taken into account?			NA	na
- Have dilution calculations been verified?			NA	na
- If multiple dilutions or analyses for a sample, are results comparable?			NA	na
- Has a manual calculation for the sequence been verified?			✓	✓
- Are retention times (RT) correct?			✓	✓
- Manual integrations checked?			✓	✓
- QC Checker Run & Reviewed?			✓	✓
- Appropriate Documents Uploaded?			✓	✓

NCMs: ______

Comments: ______

* Note: Lower IDA recoveries are acceptable if IDA S/N ≥ 10:1 and DLs are < LCL for target analytes.

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 07NO17A9D2_DB225
Worklist Number: 50168
Instrument Name: 9D2
Chrom Method: DXN_DB225_9D2
Data Directory: \\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b
QC Batching: Disabled
Limit Group Batching: Enabled

QC Batch: 1	HR - 8290A_D5 - ICAL Raw Batch: 193641
# 1 CPS	# 1 CPS
# 2 CCV	# 2 CCV
# 3 RB	# 3 RB
# 4 160-24924-G-11-A	# 4 160-24924-G-11-A
# 5 160-24924-G-12-A	# 5 160-24924-G-12-A
# 6 160-24924-G-13-A	# 6 160-24924-G-13-A
# 7 160-24924-G-14-A	# 7 160-24924-G-14-A
# 8 160-24924-G-15-A	# 8 160-24924-G-15-A
# 9 160-24924-G-16-A	# 9 160-24924-G-16-A
#10 160-24924-G-17-A	#10 160-24924-G-17-A
#11 160-24924-G-18-A	#11 160-24924-G-18-A
#12 160-24924-G-19-A	#12 160-24924-G-19-A
#13 RB	#13 RB
#14 CCV	#14 CCV

TestAmerica Laboratories
Worklist Report

Worklist Name:	07NO17A9D2_DB225	Worklist Number:	50168
Instrument Name:	9D2	Chrom Method:	DXN_DB225_9D2
Injection Volume:	2.000	Units:	ul
Analysis Type:	Semi VOA		
Batch Directory:	\\ChromNA\Sacramento\ChromData\9D2\20171108-50168.b		
Upload Directory:	\\CORPTALSAPP12\320-WS-RawData\Organics\MS\9D2		

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050168-001	# 1 CPS	HRDXNCP_00034	CPS	sv	2.000	uL	1.000
320-0050168-002	# 2 CCV	HRDXNL4_00059	CCV	sv	2.000	uL	1.000
320-0050168-003	# 3 RB		RB	sv	2.000	uL	1.000
320-0050168-004	# 4 160-24924-G-11-A		Client	sv	2.000	uL	1.000
320-0050168-005	# 5 160-24924-G-12-A		Client	sv	2.000	uL	1.000
320-0050168-006	# 6 160-24924-G-13-A		Client	sv	2.000	uL	1.000
320-0050168-007	# 7 160-24924-G-14-A		Client	sv	2.000	uL	1.000
320-0050168-008	# 8 160-24924-G-15-A		Client	sv	2.000	uL	1.000
320-0050168-009	# 9 160-24924-G-16-A		Client	sv	2.000	uL	1.000
320-0050168-010	#10 160-24924-G-17-A		Client	sv	2.000	uL	1.000
320-0050168-011	#11 160-24924-G-18-A		Client	sv	2.000	uL	1.000
320-0050168-012	#12 160-24924-G-19-A		Client	sv	2.000	uL	1.000
320-0050168-013	#13 RB		RB	sv	2.000	uL	1.000
320-0050168-014	#14 CCV	HRDXNL4_00059	CCV	sv	2.000	uL	1.000

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
07NO17A9D2	1	CPS 110717A	CPS HRDXNCP_00034				1.00000	
07NO17A9D2	2	CCV 110717B	CCV CS-4 HRDXNL4_00059				1.00000	
07NO17A9D2	3	RB 110717B	RB Reagent Blank C-14				1.00000	
07NO17A9D2	4	320-189721	160-24924-G-11-A	20	8290A_D5/Solid	D981	10.00000	g
07NO17A9D2	5	320-189721	160-24924-G-12-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	6	320-189721	160-24924-G-13-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	7	320-189721	160-24924-G-14-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	8	320-189721	160-24924-G-15-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	9	320-189721	160-24924-G-16-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	10	320-189721	160-24924-G-17-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	11	320-189721	160-24924-G-18-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	12	320-189721	160-24924-G-19-A	20	8290A_D5/Solid		10.00000	g
07NO17A9D2	13	RB 110717C	RB Reagent Blank C-14				1.00000	
07NO17A9D2	14	CCV 110717C	CCV CS-4 HRDXNL4_00059				1.00000	
07NO17A9D2	15						1.00000	
07NO17A9D2	16						1.00000	
07NO17A9D2	17						1.00000	
07NO17A9D2	18						1.00000	
07NO17A9D2	19						1.00000	
07NO17A9D2	20						1.00000	
07NO17A9D2	21						1.00000	
07NO17A9D2	22						1.00000	
07NO17A9D2	23		ALM 11-07-17				1.00000	
07NO17A9D2	24						1.00000	

Log file checked
AJS.
11-8-17

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Daily Calibration Checklist
Dioxin Methods

Method IDs 8290A_D5 **ICAL Event #** 28730

Worklist # 50168 **Batch # (s)** 193641

Column ID DB225 **Instrument ID** 9D2

CCV IDs CCV110717B, CCV110717C **CCV Solution** HRDxNL4_00059

Analyzed by ALM **Date Analyzed** 11-7-17, 11-8-17

Std. Pkg. By AJS **Date Std. Pkg. Assembled** 11-9-17

Std. Pkg. Reviewed By **Date Std. Pkg. Reviewed** 12/5/17

DAILY STANDARD PACKAGE	INITIATED	REVIEWED
Standard, CPS, and Solvent Blank checked?	✓	✓
Copy of log-file checked?	✓	✓
CPS blow up checked?	✓	✓
Summary of Method criteria present or documented below?	✓	✓
CCV standard within method specified limits?*	✓	✓
Analyte retention times correct?	✓	✓
Isotopic ratios within limits?	✓	✓
CPS valley ≤ method specified limits?** ?	✓	✓
Are chromatographic windows correct?	✓	✓
Samples analyzed within 12 hrs of daily standard?	✓	✓
Manual reintegrations checked and hardcopies included?	✓	na
Absolute retention times for 13C12-1,2,3,4-TCDD and 13C12-1,2,3,7,8,9-HxCDD are within +/- 15 seconds of the retention times in the Initial Calibration? (for 1613B only) ?	NA	na
Resolution Plot(s) Checked and Scanned?	✓	NA
ICal Checklist Included?	✓	NA
CCV Checklist Scanned?	NA	✓

COMMENTS:

* **Method 8290/TO9/M0023A: (beginning)** ≤ 20% from curve RRFs for native analytes, ≤ 30% from curve RRFs for labeled compounds.

Method 8290/TO9/M0023A: (ending) ≤ 25% from curve RRFs for native analytes, ≤ 35% from curve RRFs for labeled compounds.

Method 23: See Method 23 Daily Standard Criteria, Table 5.

Method 1613B: See, Method 1613B or Method 1613B Tetras Daily Standard Criteria,

** **Method 23/0023A CPSM Criteria:** Compare the 2378 TCDF (DB-225)/TCDD (DB-5) peak to the one eluting just before it. Normalize to the smaller of the two peaks. Do the same for 2378 TCDF/TCDD and the peak eluting just after it. In both cases the valley between peaks must be ≤ 25%

Method 1613B/8290/TO9 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak

Test America – West Sacramento

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Initial Calibration Checklist
Dioxin Methods

Worklist: #40436 Batch #: 152997, 152998, 152999, 153000, 153001, 153002, 153003, 153004, 153005
Calibration Event ID #: 28726, 28727, 28728, 28729, 28730, 28731, 28732, 28733, 28734

Method ID: 1613B, 1613B_Tetra, 8290, 8290A, 8290A_D5, DLM02.x, EPA_0023A, EPA_23, TO9

Column ID DB225

Instrument ID 9D2

STD ID's L4, L3, L2, L6, L5

STD Solution See WL #40436

GC Program DB225

Multiplier Setting 370v

Analyzed By KStephens

Date Analyzed 03-02-2017

Prepared By KStephens

Date Prepared 03-03-2017

Reviewed By SMA

Date Reviewed 03-03-2017

ANALYSIS OFFICIAL	INITIATED	REVIEWED
Curve summary present?	X	x
Calibration levels verified from L2 to L6?	X	x
Copy of log-file present?	X	x
Beginning and Ending Static resolution check scanned?	X	x
DLM02.2: Beginning and ending CPSM blow ups present?	X	x
DLM02.2: CPSM valley < 25%. Resolution documented below? **	X (1)	X (1)
Target file RT's correct?	X	x
%RSD within method-specified limits?*	X	x
Signal-to-noise criteria met?	X	x
Isotopic ratios within limits?	X	x
High point free of saturation?	X	x
Are chromatographic windows correct?	X	x
DLM02.2: Absolute retention time for 13C12-1,2,3,4-TCDD > 25 minutes on a DB-5 column or 13C12-1,2,3,4-TCDD > 15 minutes on a DB-225 column?	X (2)	X (2)
Manual reintegration's checked in TALS/CHROM?	NA	NA
ICAL Checklist/Summary scanned: Date 03-03-17 initials SMA	NA	X

COMMENTS: (1) Beginning CPSM = 24% valley; Ending CPSM = 25%
(2) L4 IS RT: 13C-1,2,3,4-TCDD = 15.196

* Method 8290/TO9/M0023A: %RSD ≤20% for natives, ≤30% for labeled compounds; S/N≥10
Method 1613B/DLM02.2: %RSD≤ 20% natives, ≤30% labeled compounds; S/N ≥10
Method 23: %RSD ≤ values specified in Table 5, Method 23; S/N ≥ 10

** DLM02.2 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak.

C:\Documents and Settings\stephensk\Desktop\DailyForms\9D2 Dioxins ICAL DB225 Checklist 03-02-2017.doc
QA-384 07/10/14 KSS

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

DB225 copy (partial)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

D981

Soxhlet Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-189721/1 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		MB 320-189721/1-A
2	LCS~320-189721/2 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A	DB225- pre-emptive	LCS 320-189721/2-A
3	LCSD~320-189721/3 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCSD 320-189721/3-A
4	160-24924-G-1 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-1-A
5	160-24924-G-2 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4	DB225- pre-emptive	160-24924-G-2-A
6	160-24924-G-3 (8290A_DOD5)	N/A (160-24924-2)	9.99 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-3-A
7	160-24924-G-4 (8290A_DOD5)	N/A (160-24924-2)	10.23 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-4-A
8	160-24924-G-5 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-5-A
9	160-24924-G-6 (8290A_DOD5)	N/A (160-24924-2)	9.92 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-6-A
10	160-24924-G-7 (8290A_DOD5)	N/A (160-24924-2)	10.02 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-7-A
11	160-24924-G-8 (8290A_DOD5)	N/A (160-24924-2)	9.96 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-8-A
12	160-24924-G-9 (8290A_DOD5)	N/A (160-24924-2)	10.04 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-A
13	160-24924-G-9~MS (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-B MS
14	160-24924-G-9~MSD (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-C MSD
15	160-24924-G-10 (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-10-A

Printed : 10/27/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

16	160-24924-G-11 (8290A_DOD5)	N/A (160-24924-2)	9.92 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-11-A
17	160-24924-G-12 (8290A_DOD5)	N/A (160-24924-2)	10.19 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-12-A
18	160-24924-G-13 (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-13-A
19	160-24924-G-14 (8290A_DOD5)	N/A (160-24924-2)	10.10 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-14-A
20	160-24924-G-15 (8290A_DOD5)	N/A (160-24924-2)	10.07 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-15-A
21	160-24924-G-16 (8290A_DOD5)	N/A (160-24924-2)	9.98 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-16-A
22	160-24924-G-17 (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-17-A
23	160-24924-G-18 (8290A_DOD5)	N/A (160-24924-2)	10.10 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-18-A
24	160-24924-G-19 (8290A_DOD5)	N/A (160-24924-2)	10.14 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-19-A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250
Toluene ID	0000160561
MeCL2 ID	N/A
Soxhlet/Soxtherm Start	15:00
Soxhlet/Soxtherm End	18:00
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Analyst ID - SU Reagent Drop	MEL 10/27/17 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Nonane ID	N/A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

Sulfuric Acid Lot Number N/A

5% NaCl Reagent ID N/A

20% KOH Reagent ID N/A

Acid cleanup Analyst N/A

Date of Acid Cleanup N/A

1:1 DCM:Cyclohexane ID N/A

5% Carbon:Silica Gel ID N/A

75:20:5DCM/MeOH/Benzene ID N/A

Benzene ID N/A

Carbon Column C/U Analyst N/A

Carbon Column C/U Date N/A

DCM:Hexane ID 20%-1040410

65% DCM:Hexane ID 1063074

Alumina ID 26

Silica Gel ID 1066403 / 1069584

Dual Column C/U Analyst MEL

Dual Column C/U Date 10/27/2017

GPC ID N/A

GPC Analyst N/A

GPC Date N/A

Split Analyst/Date N/A

Split Volume N/A

Storage Box ID DXN-981

Printed : 10/27/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

Batch Comment 20% and 65% eluents were combined and than brought to F.V.

Comments

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
LCS 320-189721/2	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCS 320-189721/2	HRDXNIS_00101	20.0 uL	20.00 uL		
LCS 320-189721/2	HRDXNSU_00172	1 mL	20.00 uL		
LCS 320-189721/2	HRDXNTA_00083	50.0 uL	20.00 uL		
LCSD 320-189721/3	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCSD 320-189721/3	HRDXNIS_00101	20.0 uL	20.00 uL		
LCSD 320-189721/3	HRDXNSU_00172	1 mL	20.00 uL		
LCSD 320-189721/3	HRDXNTA_00083	50.0 uL	20.00 uL		
160-24924-G-1	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-1	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-1	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-2	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-2	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-2	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-3	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-3	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-3	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-4	HRDXNIDA_00306	1.00 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

160-24924-G-4	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-4	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-5	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-5	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-5	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-6	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-6	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-6	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-7	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-7	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-7	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-8	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-8	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-8	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MS	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9 MS	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9 MS	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MS	HRDXNTA_00083	50.0 uL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

160-24924-G-9 MSD	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9 MSD	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9 MSD	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MSD	HRDXNTA_00083	50.0 uL	20.00 uL		
160-24924-G-10	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-10	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-10	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-11	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-11	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-11	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-12	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-12	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-12	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-13	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-13	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-13	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-14	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-14	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-14	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-15	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-15	HRDXNIS_00101	20.0 uL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

160-24924-G-15	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-16	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-16	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-16	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-17	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-17	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-17	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-18	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-18	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-18	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-19	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-19	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-19	HRDXNSU_00172	1 mL	20.00 uL		
MB 320-189721/1	HRDXNIDA_00306	1.00 mL	20.00 uL		
MB 320-189721/1	HRDXNIS_00101	20.0 uL	20.00 uL		
MB 320-189721/1	HRDXNSU_00172	1 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Other Reagents:

Reagent	Amount/Units	Lot#:

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End:

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	
Toluene ID	0000160561
MeCL2 ID	
Soxhlet/Soxtherm Start	1500
Soxhlet/Soxtherm End	1800
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Analyst ID - SU Reagent Drop	MEC 10/27/17 1.0ml HRDXNSU-00172 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 20.0μL HRDXNIS_00101 (3/4)
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Nonane ID	

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End:

Sulfuric Acid Lot Number

5% NaCl Reagent ID

20% KOH Reagent ID

Acid cleanup Analyst

Date of Acid Cleanup

1:1 DCM:Cyclohexane ID

5% Carbon:Silica Gel ID

75:20:5DCM/MeOH/Benzene ID

Benzene ID

Carbon Column C/U Analyst

Carbon Column C/U Date

DCM:Hexane ID

65% DCM:Hexane ID

Alumina ID 26

Silica Gel ID

Dual Column C/U Analyst MEL

Dual Column C/U Date 10/27/17

GPC ID

GPC Analyst

GPC Date

Split Analyst/Date

Split Volume

Storage Box ID DXN-981

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-189721 Test: 8290 (solid)
Earliest Holding Time: 11/04/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	NA	NA
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	NA
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	**1st Level Reviewer**	**2nd Level Reviewer**
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TGL Date: 10/27/17
2nd Level Reviewer: Date: 10/29/2017
Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Data Review Checklist
HRGCMS/LRGCMS Analyses

Job #(s): 160-24924

Worklists: 50278

Method: 8290A_D5

ICAL Batch 189150

ICV Batch (if not ICAL) Same

Sample/QC Batch(es) 194084, 194085, 194086

	Primary Column	Confirmation Column (if needed)
1st Level Reviewer/Date	Fa Jr D. 11/18/17	
2nd Level Reviewer/Date	12/5/17	

QA/QC Verification	Primary Column 1st Level	Primary Column 2nd Level	Confirmation Column 1st Level	Confirmation Column 2nd Level
- Daily Standard meets criteria?	✓	✓		
- Method Blank meets criteria?	✓	④		
- LCS meets native recovery criteria?	✓	✓		
- IDA recoveries within limits?*	✓	③		
- Ion ratios within 15% of theoretical values?	✓	✓		
- Other QC (Dup, MS, SD) within specs?	①	①		
Sample Analysis:				
- Correct sample aliquot used?	✓	✓		
- All raw data present?	✓	✓		
- Standard Target DL's used? If RL's are used, specify	✓	✓		
- DL's below TDL/LCL (circle one)	✓	②		
- All positives reported at levels > MB DLs?	✓	✓		
- Correct RRF's used for method?	✓	✓		
- IDA amounts correct for method?	✓	✓		
- Target analytes are not saturated?	✓	✓		
- Dilution/splitting of extract taken into account?	✓	na		
- Have dilution calculations been verified?	NA	na		
- If multiple dilutions or analyses for a sample, are results comparable?	NA	na		
- Has a manual calculation for the sequence been verified?	NA	✓		
- Are retention times (RT) correct?	NA	✓		
- Manual integrations checked?	✓	✓		
- QC Checker Run & Reviewed?	✓	✓		
- Appropriate Documents Uploaded?	✓	✓		

NCMs: ① 406986

Comments: I can't find file sequence document for attach. in this WL please check again.

* Note: Lower IDA recoveries are acceptable if IDA S/N ≥ 10:1 and DLs are < LCL for target analytes.

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name:	09NO1710D5_DXN (2)	Worklist Number:	50278
Instrument Name:	10D5	Chrom Method:	Dioxin_10D5
Data Directory:	\\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b		
QC Batching:	Enabled	Limit Group Batching:	Enabled

QC Batch: 1	HR - 8290A_D5 - ICAL Raw Batch: 194084
#53 WDM	#53 WDM
#54 CCV	#54 CCV
#55 RB	#55 RB
#56 MB 320-189721/1-A	#56 MB 320-189721/1-A
#57 LCS 320-189721/2-A	#57 LCS 320-189721/2-A
#58 LCSD 320-189721/3-A	#58 LCSD 320-189721/3-A
#59 160-24924-G-1-A	#59 160-24924-G-1-A -RA
#60 160-24924-G-2-A	#60 160-24924-G-2-A -RA
#61 160-24924-G-3-A	#61 160-24924-G-3-A -RA
#62 160-24924-G-4-A	#62 160-24924-G-4-A
#63 160-24924-G-5-A	#63 160-24924-G-5-A
#64 RB	#64 RB
#65 CCV	#65 CCV

QC Batch: 2	HR - 8290A_D5 - ICAL Raw Batch: 194085
#66 WDM	#66 WDM
#67 CCV	#67 CCV
#68 RB	#68 RB
#69 160-24924-G-6-A	#69 160-24924-G-6-A
#70 160-24924-G-7-A	#70 160-24924-G-7-A -RA
#71 160-24924-G-8-A ✓	#71 160-24924-G-8-A -RA
#72 160-24924-G-9-A	#72 160-24924-G-9-A -RA
#73 160-24924-G-9-B MS	#73 160-24924-G-9-B MS
#74 160-24924-G-9-C MSD	#74 160-24924-G-9-C MSD
#75 160-24924-G-10-A	#75 160-24924-G-10-A
#76 160-24924-G-11-A	#76 160-24924-G-11-A
#77 RB	#77 RB
#78 CCV	#78 CCV

QC Batch: 3	HR - 8290A_D5 - ICAL Raw Batch: 194086
#79 WDM	#79 WDM
#80 CCV	#80 CCV
#81 RB	#81 RB
#82 160-24924-G-12-A	#82 160-24924-G-12-A
#83 160-24924-G-13-A	#83 160-24924-G-13-A -RA
#84 160-24924-G-14-A	#84 160-24924-G-14-A -RA
#85 160-24924-G-15-A	#85 160-24924-G-15-A
#86 160-24924-G-16-A	#86 160-24924-G-16-A
#87 160-24924-G-17-A	#87 160-24924-G-17-A
#88 160-24924-G-18-A	#88 160-24924-G-18-A
#89 160-24924-G-19-A	#89 160-24924-G-19-A
#90 RB	#90 RB
#91 CCV	#91 CCV

D. 11/13/17

QC Batch: 4	HR - 8290A_D5 - ICAL Raw Batch: 194088
#92 WDM	#92 WDM
#93 CCV	#93 CCV

QC Batch: 4	HR - 8290A_D5 - ICAL Raw Batch: 194088
#94 RB	#94 RB
#95 MB 320-189776/1-A	#95 MB 320-189776/1-A
#96 LCS 320-189776/2-A	#96 LCS 320-189776/2-A
#97 LCSD 320-189776/3-A	#97 LCSD 320-189776/3-A
#98 160-24922-G-1-A	#98 160-24922-G-1-A
#99 160-24922-G-2-A	#99 160-24922-G-2-A
#100 160-24922-G-3-A	#100 160-24922-G-3-A
#101 160-24922-G-4-A	#101 160-24922-G-4-A
#102 160-24922-G-5-A	#102 160-24922-G-5-A
#103 160-24922-G-6-A	#103 160-24922-G-6-A
#104 RB	#104 RB
#105 CCV	#105 CCV

QC Batch: 5	HR - 8290A_D5 - ICAL Raw Batch: 194089
#106 WDM	#106 WDM
#107 CCV	#107 CCV
#108 RB	#108 RB
#109 160-24922-G-7-A	#109 160-24922-G-7-A
#110 160-24922-G-8-A	#110 160-24922-G-8-A
#111 160-24922-G-9-A	#111 160-24922-G-9-A
#112 160-24922-G-10-A	#112 160-24922-G-10-A
#113 160-24922-G-11-A	#113 160-24922-G-11-A
#114 160-24922-G-12-A	#114 160-24922-G-12-A
#115 160-24922-G-13-A	#115 160-24922-G-13-A
#116 160-24922-G-13-B MS	#116 160-24922-G-13-B MS
#117 160-24922-G-13-C MSD	#117 160-24922-G-13-C MSD
#118 RB	#118 RB
#119 CCV	#119 CCV

TestAmerica Laboratories
Worklist Report

Worklist Name: 09NO1710D5_DXN (2)
Instrument Name: 10D5
Injection Volume: 2.000
Analysis Type: Semi VOA
Batch Directory: \\ChromNA\Sacramento\ChromData\10D5\20171110-50278.b
Upload Directory: \\CorpTALSAPP12\320-WS-RawData\Organics\MS\10D5

Worklist Number: 50278
Chrom Method: Dioxin_10D5
Units: ul

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050278-053	#53 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050278-054	#54 CCV	HRDXNL4_00059	CCV	sv	1.000	mL	1.000
320-0050278-055	#55 RB		RB	sv	1.000	mL	1.000
320-0050278-056	#56 MB 320-189721/1-A		MB	sv	1.000	mL	1.000
320-0050278-057	#57 LCS 320-189721/2-A		LCS	sv	1.000	mL	1.000
320-0050278-058	#58 LCSD 320-189721/3-A		LCSD	sv	1.000	mL	1.000
320-0050278-059	#59 160-24924-G-1-A		Client	sv	1.000	mL	1.000
320-0050278-060	#60 160-24924-G-2-A		Client	sv	1.000	mL	1.000
320-0050278-061	#61 160-24924-G-3-A		Client	sv	1.000	mL	1.000
320-0050278-062	#62 160-24924-G-4-A		Client	sv	1.000	mL	1.000
320-0050278-063	#63 160-24924-G-5-A		Client	sv	1.000	mL	1.000
320-0050278-064	#64 RB		RB	sv	1.000	mL	1.000
320-0050278-065	#65 CCV	HRDXNL4_00059	CCV	sv	1.000	mL	1.000
320-0050278-066	#66 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050278-067	#67 CCV	HRDXNL4_00059	CCV	sv	1.000	mL	1.000
320-0050278-068	#68 RB		RB	sv	1.000	mL	1.000
320-0050278-069	#69 160-24924-G-6-A		Client	sv	1.000	mL	1.000
320-0050278-070	#70 160-24924-G-7-A		Client	sv	1.000	mL	1.000
320-0050278-071	#71 160-24924-G-8-A		Client	sv	1.000	mL	1.000
320-0050278-072	#72 160-24924-G-9-A		Client	sv	1.000	mL	1.000
320-0050278-073	#73 160-24924-G-9-B MS		MS	sv	1.000	mL	1.000
320-0050278-074	#74 160-24924-G-9-C MSD		MSD	sv	1.000	mL	1.000
320-0050278-075	#75 160-24924-G-10-A		Client	sv	1.000	mL	1.000
320-0050278-076	#76 160-24924-G-11-A		Client	sv	1.000	mL	1.000
320-0050278-077	#77 RB		RB	sv	1.000	mL	1.000
320-0050278-078	#78 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050278-079	#79 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050278-080	#80 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050278-081	#81 RB		RB	sv	1.000	mL	1.000
320-0050278-082	#82 160-24924-G-12-A		Client	sv	1.000	mL	1.000
320-0050278-083	#83 160-24924-G-13-A		Client	sv	1.000	mL	1.000
320-0050278-084	#84 160-24924-G-14-A		Client	sv	1.000	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050278-085	#85 160-24924-G-15-A		Client	sv	1.000	mL	1.000
320-0050278-086	#86 160-24924-G-16-A		Client	sv	1.000	mL	1.000
320-0050278-087	#87 160-24924-G-17-A		Client	sv	1.000	mL	1.000
320-0050278-088	#88 160-24924-G-18-A		Client	sv	1.000	mL	1.000
320-0050278-089	#89 160-24924-G-19-A		Client	sv	1.000	mL	1.000
320-0050278-090	#90 RB		RB	sv	1.000	mL	1.000
320-0050278-091	#91 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050278-092	#92 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050278-093	#93 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050278-094	#94 RB		RB	sv	1.000	mL	1.000
320-0050278-095	#95 MB 320-189776/1-A		MB	sv	1.000	mL	1.000
320-0050278-096	#96 LCS 320-189776/2-A		LCS	sv	1.000	mL	1.000
320-0050278-097	#97 LCSD 320-189776/3-A		LCSD	sv	1.000	mL	1.000
320-0050278-098	#98 160-24922-G-1-A		Client	sv	1.000	mL	1.000
320-0050278-099	#99 160-24922-G-2-A		Client	sv	1.000	mL	1.000
320-0050278-100	#100 160-24922-G-3-A		Client	sv	1.000	mL	1.000
320-0050278-101	#101 160-24922-G-4-A		Client	sv	1.000	mL	1.000
320-0050278-102	#102 160-24922-G-5-A		Client	sv	1.000	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050278-103	#103 160-24922-G-6-A		Client	sv	1.000	mL	1.000
320-0050278-104	#104 RB		RB	sv	1.000	mL	1.000
320-0050278-105	#105 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050278-106	#106 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050278-107	#107 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050278-108	#108 RB		RB	sv	1.000	mL	1.000
320-0050278-109	#109 160-24922-G-7-A		Client	sv	1.000	mL	1.000
320-0050278-110	#110 160-24922-G-8-A		Client	sv	1.000	mL	1.000
320-0050278-111	#111 160-24922-G-9-A		Client	sv	1.000	mL	1.000
320-0050278-112	#112 160-24922-G-10-A		Client	sv	1.000	mL	1.000
320-0050278-113	#113 160-24922-G-11-A		Client	sv	1.000	mL	1.000
320-0050278-114	#114 160-24922-G-12-A		Client	sv	1.000	mL	1.000
320-0050278-115	#115 160-24922-G-13-A		Client	sv	1.000	mL	1.000
320-0050278-116	#116 160-24922-G-13-B MS		MS	sv	1.000	mL	1.000
320-0050278-117	#117 160-24922-G-13-C MSD		MSD	sv	1.000	mL	1.000
320-0050278-118	#118 RB		RB	sv	1.000	mL	1.000
320-0050278-119	#119 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000

Sample List Report

MassLynx 4.1

10D5

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\09NO1710D5.SPL
Last Modified: Saturday, November 11, 2017 21:55:48 Pacific Standard Time
Printed: Saturday, November 11, 2017 21:56:15 Pacific Standard Time

Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	09NO1710D5_1	WDM HRDXNCP_00034	WDM 110917	Tray01:1		—
2	09NO1710D5_2	CS-4 HRDXNL4_00059	CCV 110917	Tray01:2		—
3	09NO1710D5_3	Reagent Blank C-14	RB 110917	Tray01:3		—
4	09NO1710D5_4	mb 320-191260/1-a	mb 320-191260/1-a	Tray01:71	1613B/Water	42
5	09NO1710D5_5	lcs 320-191260/2-a	lcs 320-191260/2-a	Tray01:72	1613B/Water	
6	09NO1710D5_6	lcsd 320-191260/3-a	lcsd 320-191260/3-a	Tray01:73	1613B/Water	
7	09NO1710D5_7	lb 320-190971/1-b	lb 320-190971/1-b	Tray01:74	1613B/Water	
8	09NO1710D5_8	560-70465-a-1-e	560-70465-a-1-e	Tray01:75	1613B/Water	
9	09NO1710D5_9	lcs 320-188490/2-a RI	lcs 320-188490/2-a RI	Tray01:76	8290A_D5/Water	D974
10	09NO1710D5_10	lcsd 320-188490/3-a RI	lcsd 320-188490/3-a RI	Tray01:77	8290A_D5/Water	
11	09NO1710D5_11	lcs 320-184197/2-a RI	lcs 320-184197/2-a RI	Tray01:78	8290/1613/Water	40
12	09NO1710D5_12	CS-4 HRDXNL4_00059	CCV 110917A	Tray01:2		—
13	09NO1710D5_13	WDM HRDXNCP_00034	WDM 110917A	Tray01:1		—
14	09NO1710D5_14	CS-4 HRDXNL4_00059	CCV 110917B	Tray01:2		—
15	09NO1710D5_15	Reagent Blank C-14	RB 110917A	Tray01:3		—
16	09NO1710D5_16	MB 320-189625/1-A	MB 320-189625/1-A	Tray01:85	8290A_D5/Solid	D978
17	09NO1710D5_17	LCS 320-189625/2-A	LCS 320-189625/2-A	Tray01:86	8290A_D5/Solid	
18	09NO1710D5_18	LCSD 320-189625/3-A	LCSD 320-189625/3-A	Tray01:87	8290A_D5/Solid	
19	09NO1710D5_19	160-24917-F-1-A	160-24917-F-1-A	Tray01:88	8290A_D5/Solid	
20	09NO1710D5_20	160-24917-F-2-A	160-24917-F-2-A	Tray01:89	8290A_D5/Solid	
21	09NO1710D5_21	160-24917-F-3-A	160-24917-F-3-A	Tray01:90	8290A_D5/Solid	
22	09NO1710D5_22	160-24917-F-4-A	160-24917-F-4-A	Tray01:91	8290A_D5/Solid	
23	09NO1710D5_23	160-24917-F-5-A	160-24917-F-5-A	Tray01:92	8290A_D5/Solid	
24	09NO1710D5_24	Reagent Blank C-14	RB 110917B	Tray01:3		—
25	09NO1710D5_25	CS-4 HRDXNL4_00059	CCV 110917C	Tray01:2		—
26	09NO1710D5_26	WDM HRDXNCP_00034	WDM 110917B	Tray01:1		—
27	09NO1710D5_27	CS-4 HRDXNL4_00059	CCV 110917D	Tray01:2		—
28	09NO1710D5_28	Reagent Blank C-14	RB 110917C	Tray01:3		—
29	09NO1710D5_29	160-24917-f-6-a	160-24917-f-6-a	Tray01:4	8290A_D5/Solid	D978
30	09NO1710D5_30	160-24917-f-7-a	160-24917-f-7-a	Tray01:5	8290A_D5/Solid	
31	09NO1710D5_31	160-24917-f-8-a	160-24917-f-8-a	Tray01:6	8290A_D5/Solid	
32	09NO1710D5_32	160-24917-f-9-a	160-24917-f-9-a	Tray01:7	8290A_D5/Solid	
33	09NO1710D5_33	160-24917-f-10-a	160-24917-f-10-a	Tray01:8	8290A_D5/Solid	
34	09NO1710D5_34	160-24917-f-11-a	160-24917-f-11-a	Tray01:9	8290A_D5/Solid	
35	09NO1710D5_35	160-24917-f-12-a	160-24917-f-12-a	Tray01:10	8290A_D5/Solid	
36	09NO1710D5_36	160-24917-f-13-a	160-24917-f-13-a	Tray01:11	8290A_D5/Solid	
37	09NO1710D5_37	Reagent Blank C-14	RB 110917D	Tray01:3		—
38	09NO1710D5_38	CS-4 HRDXNL4_00059	CCV 110917E	Tray01:2		—
39	09NO1710D5_39	WDM HRDXNCP_00034	WDM 110917C	Tray01:1		—
40	09NO1710D5_40	CS-4 HRDXNL4_00059	CCV 110917F	Tray01:2		—
41	09NO1710D5_41	Reagent Blank C-14	RB 110917E	Tray01:3		—
42	09NO1710D5_42	160-24917-f-14-a	160-24917-f-14-a	Tray01:15	8290A_D5/Solid	D978
43	09NO1710D5_43	160-24917-f-15-a	160-24917-f-15-a	Tray01:16	8290A_D5/Solid	
44	09NO1710D5_44	160-24917-f-16-a	160-24917-f-16-a	Tray01:17	8290A_D5/Solid	
45	09NO1710D5_45	160-24917-f-17-a	160-24917-f-17-a	Tray01:18	8290A_D5/Solid	
46	09NO1710D5_46	160-24917-f-18-a	160-24917-f-18-a	Tray01:19	8290A_D5/Solid	
47	09NO1710D5_47	160-24917-f-19-a	160-24917-f-19-a	Tray01:20	8290A_D5/Solid	
48	09NO1710D5_48	160-24917-f-20-a	160-24917-f-20-a	Tray01:21	8290A_D5/Solid	
49	09NO1710D5_49	160-24917-f-20-b ms	160-24917-f-20-b ms	Tray01:22	8290A_D5/Solid	
50	09NO1710D5_50	160-24917-f-20-c msd	160-24917-f-20-c msd	Tray01:23	8290A_D5/Solid	
51	09NO1710D5_51	Reagent Blank C-14	RB 110917F	Tray01:3		—
52	09NO1710D5_52	CS-4 HRDXNL4_00059	CCV 110917G	Tray01:2		—
53	09NO1710D5_53	WDM HRDXNCP_00034	WDM 110917D	Tray01:1		—
54	09NO1710D5_54	CS-4 HRDXNL4_00059	CCV 110917H	Tray01:2		—
55	09NO1710D5_55	Reagent Blank C-14	RB 110917G	Tray01:3		—
56	09NO1710D5_56	mb 320-189721/1-a	mb 320-189721/1-a	Tray01:29	8290A_D5/Solid	D981
57	09NO1710D5_57	lcs 320-189721/2-a	lcs 320-189721/2-a	Tray01:30	8290A_D5/Solid	
58	09NO1710D5_58	lcsd 320-189721/3-a	lcsd 320-189721/3-a	Tray01:31	8290A_D5/Solid	

Sample List Report **MassLynx 4.1**

10D5

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\09NO1710D5.SPL
Last Modified: Saturday, November 11, 2017 21:55:48 Pacific Standard Time
Printed: Saturday, November 11, 2017 21:56:15 Pacific Standard Time

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
59	09NO1710D5_59	160-24924-g-1-a	160-24924-g-1-a	Tray01:32	8290A_D5/Solid	
60	09NO1710D5_60	160-24924-g-2-a	160-24924-g-2-a	Tray01:33	8290A_D5/Solid	
61	09NO1710D5_61	160-24924-g-3-a	160-24924-g-3-a	Tray01:34	8290A_D5/Solid	
62	09NO1710D5_62	160-24924-g-4-a	160-24924-g-4-a	Tray01:35	8290A_D5/Solid	
63	09NO1710D5_63	160-24924-g-5-a	160-24924-g-5-a	Tray01:36	8290A_D5/Solid	
64	09NO1710D5_64	Reagent Blank C-14	RB 110917H	Tray01:3		
65	09NO1710D5_65	CS-4 HRDXNL4_00059	CCV 110917I	Tray01:2		---
66	09NO1710D5_66	WDM HRDXNCP_00034	WDM 110917E	Tray01:1		---
67	09NO1710D5_67	CS-4 HRDXNL4_00059	CCV 110917J	Tray01:2		---
68	09NO1710D5_68	Reagent Blank C-14	RB 110917I	Tray01:3		---
69	09NO1710D5_69	160-24924-g-6-a	160-24924-g-6-a	Tray01:43	8290A_D5/Solid	---
70	09NO1710D5_70	160-24924-g-7-a	160-24924-g-7-a	Tray01:44	8290A_D5/Solid	D981
71	09NO1710D5_71	160-24924-g-8-a	160-24924-g-8-a	Tray01:45	8290A_D5/Solid	
72	09NO1710D5_72	160-24924-g-9-a	160-24924-g-9-a	Tray01:46	8290A_D5/Solid	
73	09NO1710D5_73	160-24924-g-9-b ms	160-24924-g-9-b ms	Tray01:47	8290A_D5/Solid	
74	09NO1710D5_74	160-24924-g-9-c msd	160-24924-g-9-c msd	Tray01:48	8290A_D5/Solid	
75	09NO1710D5_75	160-24924-g-10-a	160-24924-g-10-a	Tray01:49	8290A_D5/Solid	
76	09NO1710D5_76	160-24924-g-11-a	160-24924-g-11-a	Tray01:50	8290A_D5/Solid	
77	09NO1710D5_77	Reagent Blank C-14	RB 110917J	Tray01:3		
78	09NO1710D5_78	CS-4 HRDXNL4_00060	CCV 110917K	Tray01:2		---
79	09NO1710D5_79	WDM HRDXNCP_00034	WDM 110917F	Tray01:1		---
80	09NO1710D5_80	CS-4 HRDXNL4_00060	CCV 110917L	Tray01:2		---
81	09NO1710D5_81	Reagent Blank C-14	RB 110917K	Tray01:3		---
82	09NO1710D5_82	160-24924-g-12-a	160-24924-g-12-a	Tray01:57	8290A_D5/Solid	---
83	09NO1710D5_83	160-24924-g-13-a	160-24924-g-13-a	Tray01:58	8290A_D5/Solid	D981
84	09NO1710D5_84	160-24924-g-14-a	160-24924-g-14-a	Tray01:59	8290A_D5/Solid	
85	09NO1710D5_85	160-24924-g-15-a	160-24924-g-15-a	Tray01:60	8290A_D5/Solid	
86	09NO1710D5_86	160-24924-g-16-a	160-24924-g-16-a	Tray01:61	8290A_D5/Solid	
87	09NO1710D5_87	160-24924-g-17-a	160-24924-g-17-a	Tray01:62	8290A_D5/Solid	
88	09NO1710D5_88	160-24924-g-18-a	160-24924-g-18-a	Tray01:63	8290A_D5/Solid	
89	09NO1710D5_89	160-24924-g-19-a	160-24924-g-19-a	Tray01:64	8290A_D5/Solid	
90	09NO1710D5_90	Reagent Blank C-14	RB 110917L	Tray01:3		
91	09NO1710D5_91	CS-4 HRDXNL4_00060	CCV 110917M	Tray01:2		---
92	09NO1710D5_92	WDM HRDXNCP_00034	WDM 110917G	Tray01:1		---
93	09NO1710D5_93	CS-4 HRDXNL4_00060	CCV 110917N	Tray01:2		---
94	09NO1710D5_94	Reagent Blank C-14	RB 110917M	Tray01:3		---
95	09NO1710D5_95	mb 320-189776/1-a	mb 320-189776/1-a	Tray01:71	8290A_D5/Solid	---
96	09NO1710D5_96	lcs 320-189776/2-a	lcs 320-189776/2-a	Tray01:72	8290A_D5/Solid	D979
97	09NO1710D5_97	lcsd 320-189776/3-a	lcsd 320-189776/3-a	Tray01:73	8290A_D5/Solid	
98	09NO1710D5_98	160-24922-g-1-a	160-24922-g-1-a	Tray01:74	8290A_D5/Solid	
99	09NO1710D5_99	160-24922-g-2-a	160-24922-g-2-a	Tray01:75	8290A_D5/Solid	
100	09NO1710D5_100	160-24922-g-3-a	160-24922-g-3-a	Tray01:76	8290A_D5/Solid	
101	09NO1710D5_101	160-24922-g-4-a	160-24922-g-4-a	Tray01:77	8290A_D5/Solid	
102	09NO1710D5_102	160-24922-g-5-a	160-24922-g-5-a	Tray01:78	8290A_D5/Solid	
103	09NO1710D5_103	160-24922-g-6-a	160-24922-g-6-a	Tray01:79	8290A_D5/Solid	
104	09NO1710D5_104	Reagent Blank C-14	RB 110917N	Tray01:3		
105	09NO1710D5_105	CS-4 HRDXNL4_00060	CCV 110917O	Tray01:2		---
106	09NO1710D5_106	WDM HRDXNCP_00034	WDM 110917H	Tray01:1		---
107	09NO1710D5_107	CS-4 HRDXNL4_00060	CCV 110917P	Tray01:2		---
108	09NO1710D5_108	Reagent Blank C-14	RB 110917O	Tray01:3		---
109	09NO1710D5_109	160-24922-g-7-a	160-24922-g-7-a	Tray01:85	8290A_D5/Solid	---
110	09NO1710D5_110	160-24922-g-8-a	160-24922-g-8-a	Tray01:86	8290A_D5/Solid	D979
111	09NO1710D5_111	160-24922-g-9-a	160-24922-g-9-a	Tray01:87	8290A_D5/Solid	
112	09NO1710D5_112	160-24922-g-10-a	160-24922-g-10-a	Tray01:88	8290A_D5/Solid	
113	09NO1710D5_113	160-24922-g-11-a	160-24922-g-11-a	Tray01:89	8290A_D5/Solid	
114	09NO1710D5_114	160-24922-g-12-a	160-24922-g-12-a	Tray01:90	8290A_D5/Solid	
115	09NO1710D5_115	160-24922-g-13-a	160-24922-g-13-a	Tray01:91	8290A_D5/Solid	
116	09NO1710D5_116	160-24922-g-13-b ms	160-24922-g-13-b ms	Tray01:92	8290A_D5/Solid	

	File Name	**File Text**	**Sample ID**	**Bottle**	**Method/Matrix**	**Box #**
117	09NO1710D5_117	160-24922-g-13-c msd	160-24922-g-13-c msd	Tray01:93	8290A_D5/Solid	
118	09NO1710D5_118	Reagent Blank C-14	RB 110917P	Tray01:3		
119	09NO1710D5_119	CS-4 HRDXNL4_00060	CCV 110917Q	Tray01:2		—
120	09NO1710D5_120	WDM HRDXNCP_00034	WDM 110917I	Tray01:1		—
121	09NO1710D5_121	CS-4 HRDXNL4_00060	CCV 110917R	Tray01:2		—
122	09NO1710D5_122	Reagent Blank C-14	RB 110917Q	Tray01:3		—

Logfile ✓'d
11-12-17 KSS

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING	Sacramento **Daily Calibration Checklist** Dioxin Methods

Method IDs 8290_DoD5

ICAL Event # 35216

Worklist # 50278

Batch # (s) 194084

Column ID DB-5

Instrument ID 10D5

CCV IDs CCV110917(#54, #65)

CCV Solution HRDXNL4-02059

Analyzed by SMA/AJS

Date Analyzed 11/11/17 – 11/12/17

Std. Pkg. By AJS/SMA

Date Std. Pkg. Assembled 11/13/17

Std. Pkg. Reviewed By Su

Date Std. Pkg. Reviewed 12/5/17

DAILY STANDARD PACKAGE	INITIATED	REVIEWED
Standard, CPS, and Solvent Blank checked?	✓	✓
Copy of log-file checked?	✓	✓
CPS blow up checked?	✓	✓
Summary of Method criteria present or documented below?	✓	✓
CCV standard within method specified limits?*	✓	✓
Analyte retention times correct?	✓	✓
Isotopic ratios within limits?	✓	✓
CPS valley ≤ method specified limits?** ?	✓	✓
Are chromatographic windows correct?	✓	✓
Samples analyzed within 12 hrs of daily standard?	✓	✓
Manual reintegrations checked and hardcopies included?	NA	NA
Absolute retention times for 13C12-1,2,3,4-TCDD and 13C12-1,2,3,7,8,9-HxCDD are within +/- 15 seconds of the retention times in the Initial Calibration? (for 1613B only) ?	NA	NA
Resolution Plot(s) Checked and Scanned?	✓	NA
ICal Checklist Included?	✓	NA
CCV Checklist Scanned?	NA	✓

COMMENTS:

* **Method 8290/TO9/M0023A: (beginning)** ≤ 20% from curve RRFs for native analytes, ≤ 30% from curve RRFs for labeled compounds.
Method 8290/TO9/M0023A: (ending) ≤ 25% from curve RRFs for native analytes, ≤ 35% from curve RRFs for labeled compounds.
Method 23: See Method 23 Daily Standard Criteria, Table 5.
Method 1613B: See, Method 1613B or Method 1613B Tetras Daily Standard Criteria,

** **Method 23/0023A CPSM Criteria**: Compare the 2378 TCDF (DB-225)/TCDD (DB-5) peak to the one eluting just before it. Normalize to the smaller of the two peaks. Do the same for 2378 TCDF/TCDD and the peak eluting just after it. In both cases the valley between peaks must be ≤ 25%

Method 1613B/8290/TO9 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Daily Calibration Checklist
Dioxin Methods

Method IDs 8290 DODS

ICAL Event # 35216

Worklist # 50278

Batch # (s) 194085, 194086

Column ID DB-5

Instrument ID 10D5

CCV IDs CCV 110917 (67, 78, 80, 91)

CCV Solution HRDXNL4-0[illegible]059

Analyzed by SMA/AJS

Date Analyzed 11/11/17 - 11/12/17

Std. Pkg. By AJS/SMA

Date Std. Pkg. Assembled 11/13/17

Std. Pkg. Reviewed By

Date Std. Pkg. Reviewed 12/5/17

DAILY STANDARD PACKAGE	INITIATED	REVIEWED
Standard, CPS, and Solvent Blank checked?	✓	✓
Copy of log-file checked?	✓	✓
CPS blow up checked?	✓	✓
Summary of Method criteria present or documented below?	✓	✓
CCV standard within method specified limits?*	✓	✓
Analyte retention times correct?	✓	✓
Isotopic ratios within limits?	✓	✓
CPS valley ≤ method specified limits?** ?	✓	✓
Are chromatographic windows correct?	✓	✓
Samples analyzed within 12 hrs of daily standard?	✓	✓
Manual reintegrations checked and hardcopies included?	NA	na
Absolute retention times for 13C12-1,2,3,4-TCDD and 13C12-1,2,3,7,8,9-HxCDD are within +/- 15 seconds of the retention times in the Initial Calibration? (for 1613B only) ?	NA	na
Resolution Plot(s) Checked and Scanned?	✓	NA
ICal Checklist Included?	✓	NA
CCV Checklist Scanned?	NA	✓

COMMENTS:

* **Method 8290/TO9/M0023A: (beginning)** ≤ 20% from curve RRFs for native analytes, ≤ 30% from curve RRFs for labeled compounds.

Method 8290/TO9/M0023A: (ending) ≤ 25% from curve RRFs for native analytes, ≤ 35% from curve RRFs for labeled compounds.

Method 23: See Method 23 Daily Standard Criteria, Table 5.

Method 1613B: See, Method 1613B or Method 1613B Tetras Daily Standard Criteria,

** **Method 23/0023A CPSM Criteria**: Compare the 2378 TCDF (DB-225)/TCDD (DB-5) peak to the one eluting just before it. Normalize to the smaller of the two peaks. Do the same for 2378 TCDF/TCDD and the peak eluting just after it. In both cases the valley between peaks must be ≤ 25%

Method 1613B/8290/TO9 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak

Test America – West Sacramento

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Initial Calibration Checklist
Dioxin Methods

Worklist #49091- Batch #189153, 189154, 189155, 189156, 189157, 189158, 189159, 189160, 189161
Calibration Event ID # 35214, 35215, 35216, 35217, 35218, 35219, 35220, 35221, 35222

Method ID: 8290, 8290A, 8290A_D5, 1613B_Tetras, EPA_0023A, DLM02.x, EPA_23, 1613B, TO_9

Column ID ________DB5_______________

Instrument ID ______10D5_______

STD ID's __CS-4, CS-3, CS-2, CS-6, CS-5__

STD Solution __See WL #49091__

GC Program ________DioxinnoGC_________

Multiplier Setting ____370v______

Analyzed By ________AMessecar_________

Date Analyzed _____10-12-17____

Prepared By ________SArghestani ___________

Date Prepared ______10-13-17____

Reviewed By _______________

Date Reviewed ____10/16/17____

ANALYSIS OPTION	INITIATED	REVIEWED
Curve summary present?	X	✓
Calibration levels verified from CS-2 to CS-6?	X	✓
Copy of log-file present?	X	✓
Beginning and Ending Static resolution check scanned?	X	✓
DLM02.2: Beginning and ending CPSM blow ups present?	X	✓
DLM02.2: CPSM valley < 25%. Resolution documented below? **	X (1)	✓
Target file RT's correct?	X	✓
%RSD within method-specified limits?*	X	✓
Signal-to-noise criteria met?	X	✓
Isotopic ratios within limits?	X	✓
High point free of saturation?	X	✓
Are chromatographic windows correct?	X	✓
DLM02.2: Absolute retention time for 13C12-1,2,3,4-TCDD > 25 minutes on a DB-5 column or 13C12-1,2,3,4-TCDD > 15 minutes on a DB-225 column?	NA (2)	NA
Manual reintegration's checked in TALS/CHROM?	NA	NA
ICAL Checklist/Summary scanned: Date 10/16/17 initials SMA	NA	NA

COMMENTS: (1) Beginning CPSM = 24% valley; Ending CPSM = 21% valley
(2) CS-4 IS RT: 13C-1,2,3,4-TCDD = 17.929; 13C-1,2,3,7,8,9-HxCDD = 32.243

* Method 8290/TO9/M0023A: %RSD ≤20% for natives, ≤30% for labeled compounds; S/N≥10
Method 1613B/DLM02.2: %RSD≤ 20% natives, ≤30% labeled compounds; S/N ≥10
Method 23: %RSD ≤ values specified in Table 5, Method 23; S/N ≥ 10

** **DLM02.2 CPSM Criteria**: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak.

C:\Documents and Settings\stephensk\Desktop\DailyForms\10D5 Dioxins Checklist ICA1012201710D5.doc
QA-384 07/10/14 KSS

D981

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Soxhlet Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-189721/1 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A	DB225- pre-emptive	MB 320-189721/1-A
2	LCS~320-189721/2 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCS 320-189721/2-A
3	LCSD~320-189721/3 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCSD 320-189721/3-A
4	160-24924-G-1 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4	DB225- pre-emptive	160-24924-G-1-A
5	160-24924-G-2 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-2-A
6	160-24924-G-3 (8290A_DOD5)	N/A (160-24924-2)	9.99 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-3-A
7	160-24924-G-4 (8290A_DOD5)	N/A (160-24924-2)	10.23 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-4-A
8	160-24924-G-5 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-5-A
9	160-24924-G-6 (8290A_DOD5)	N/A (160-24924-2)	9.92 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-6-A
10	160-24924-G-7 (8290A_DOD5)	N/A (160-24924-2)	10.02 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-7-A
11	160-24924-G-8 (8290A_DOD5)	N/A (160-24924-2)	9.96 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-8-A
12	160-24924-G-9 (8290A_DOD5)	N/A (160-24924-2)	10.04 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-A
13	160-24924-G-9~MS (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-B MS
14	160-24924-G-9~MSD (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-C MSD
15	160-24924-G-10 (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-10-A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Analyst: Nguyen, Angela D
Batch Open: 10/17/2017 11:29:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 10/27/2017 2:00:00PM

16	160-24924-G-11 (8290A_DOD5)	N/A (160-24924-2)	9.92 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-11-A
17	160-24924-G-12 (8290A_DOD5)	N/A (160-24924-2)	10.19 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-12-A
18	160-24924-G-13 (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-13-A
19	160-24924-G-14 (8290A_DOD5)	N/A (160-24924-2)	10.10 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-14-A
20	160-24924-G-15 (8290A_DOD5)	N/A (160-24924-2)	10.07 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-15-A
21	160-24924-G-16 (8290A_DOD5)	N/A (160-24924-2)	9.98 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-16-A
22	160-24924-G-17 (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-17-A
23	160-24924-G-18 (8290A_DOD5)	N/A (160-24924-2)	10.10 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-18-A
24	160-24924-G-19 (8290A_DOD5)	N/A (160-24924-2)	10.14 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-19-A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Analyst: Nguyen, Angela D
Batch Open: 10/17/2017 11:29:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 10/27/2017 2:00:00PM

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250
Toluene ID	0000160561
MeCL2 ID	N/A
Soxhlet/Soxtherm Start	15:00
Soxhlet/Soxtherm End	18:00
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Analyst ID - SU Reagent Drop	MEL 10/27/17 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Nonane ID	N/A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Analyst: Nguyen, Angela D
Batch Open: 10/17/2017 11:29:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 10/27/2017 2:00:00PM

Sulfuric Acid Lot Number	N/A
5% NaCl Reagent ID	N/A
20% KOH Reagent ID	N/A
Acid cleanup Analyst	N/A
Date of Acid Cleanup	N/A
1:1 DCM:Cyclohexane ID	N/A
5% Carbon:Silica Gel ID	N/A
75:20:5DCM/MeOH/Benzene ID	N/A
Benzene ID	N/A
Carbon Column C/U Analyst	N/A
Carbon Column C/U Date	N/A
DCM:Hexane ID	20%-1040410
65% DCM:Hexane ID	1063074
Alumina ID	26
Silica Gel ID	1066403 / 1069584
Dual Column C/U Analyst	MEL
Dual Column C/U Date	10/27/2017
GPC ID	N/A
GPC Analyst	N/A
GPC Date	N/A
Split Analyst/Date	N/A
Split Volume	N/A
Storage Box ID	DXN-981

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Method Code: 320-8290_P_Sox-320

Batch End: 10/27/2017 2:00:00PM

Batch Comment 20% and 65% eluents were combined and than brought to F.V.

Comments

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
LCS 320-189721/2	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCS 320-189721/2	HRDXNIS_00101	20.0 uL	20.00 uL		
LCS 320-189721/2	HRDXNSU_00172	1 mL	20.00 uL		
LCS 320-189721/2	HRDXNTA_00083	50.0 uL	20.00 uL		
LCSD 320-189721/3	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCSD 320-189721/3	HRDXNIS_00101	20.0 uL	20.00 uL		
LCSD 320-189721/3	HRDXNSU_00172	1 mL	20.00 uL		
LCSD 320-189721/3	HRDXNTA_00083	50.0 uL	20.00 uL		
160-24924-G-1	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-1	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-1	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-2	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-2	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-2	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-3	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-3	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-3	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-4	HRDXNIDA_00306	1.00 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Analyst: Nguyen, Angela D
Batch Open: 10/17/2017 11:29:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 10/27/2017 2:00:00PM

160-24924-G-4	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-4	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-5	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-5	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-5	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-6	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-6	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-6	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-7	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-7	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-7	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-8	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-8	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-8	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MS	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9 MS	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9 MS	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MS	HRDXNTA_00083	50.0 uL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Analyst: Nguyen, Angela D
Batch Open: 10/17/2017 11:29:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 10/27/2017 2:00:00PM

160-24924-G-9 MSD	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9 MSD	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9 MSD	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MSD	HRDXNTA_00083	50.0 uL	20.00 uL		
160-24924-G-10	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-10	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-10	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-11	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-11	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-11	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-12	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-12	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-12	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-13	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-13	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-13	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-14	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-14	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-14	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-15	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-15	HRDXNIS_00101	20.0 uL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Method Code: 320-8290_P_Sox-320

Batch End: 10/27/2017 2:00:00PM

160-24924-G-15	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-16	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-16	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-16	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-17	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-17	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-17	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-18	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-18	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-18	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-19	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-19	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-19	HRDXNSU_00172	1 mL	20.00 uL		
MB 320-189721/1	HRDXNIDA_00306	1.00 mL	20.00 uL		
MB 320-189721/1	HRDXNIS_00101	20.0 uL	20.00 uL		
MB 320-189721/1	HRDXNSU_00172	1 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Analyst: Nguyen, Angela D
Batch Open: 10/17/2017 11:29:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 10/27/2017 2:00:00PM

Other Reagents:

Reagent	Amount/Units	Lot#:

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Method Code: 320-8290_P_Sox-320

Batch End:

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	
Toluene ID	0000160561
MeCL2 ID	
Soxhlet/Soxtherm Start	1500
Soxhlet/Soxtherm End	1800
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Analyst ID - SU Reagent Drop	MEC 10/27/17 1.0ml HRDXNSU-00172 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 20.0µL HRDXNIS_00101 (3/4)
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Nonane ID	

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Analyst: Nguyen, Angela D
Batch Open: 10/17/2017 11:29:00AM
Method Code: 320-8290_P_Sox-320
Batch End:

Sulfuric Acid Lot Number
5% NaCl Reagent ID
20% KOH Reagent ID
Acid cleanup Analyst
Date of Acid Cleanup
1:1 DCM:Cyclohexane ID
5% Carbon:Silica Gel ID
75:20:5DCM/MeOH/Benzene ID
Benzene ID
Carbon Column C/U Analyst
Carbon Column C/U Date
DCM:Hexane ID
65% DCM:Hexane ID
Alumina ID 26
Silica Gel ID
Dual Column C/U Analyst MEL
Dual Column C/U Date 10/27/17
GPC ID
GPC Analyst
GPC Date
Split Analyst/Date
Split Volume
Storage Box ID DXN-981

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-189721 Test: 8290 (solid)

Earliest Holding Time: 11/04/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	NA	NA
Method/sample/login/QAS checked and correct	✓	✓

Worksheet Tab	1st Level Reviewer	2nd Level Reviewer
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	NA
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓

Reagents Tab	1st Level Reviewer	2nd Level Reviewer
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓

Batch Information	1st Level Reviewer	2nd Level Reviewer
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TGL Date: 10/27/17

2nd Level Reviewer: Date: 10/29/2017

Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Data Review Checklist
HRGCMS/LRGCMS Analyses

Job #(s): 160-21917, 160-21922, 160-21921

Worklists: 50363

Method: 8290A_D5

ICAL Batch 189155

ICV Batch (if not ICAL) Same

Sample/QC Batch(es) 194127, 194128, 194092

	Primary Column	Confirmation Column (if needed)
1st Level Reviewer/Date	11/15/2017	
2nd Level Reviewer/Date	11/17/17	

QA/QC Verification	Primary Column 1st Level	Primary Column 2nd Level	Confirmation Column 1st Level	Confirmation Column 2nd Level
- Daily Standard meets criteria?	✓	✓		
- Method Blank meets criteria?	✓	✓		
- LCS meets native recovery criteria?	✓	✓		
- IDA recoveries within limits?*	✓	✓		
- Ion ratios within 15% of theoretical values?	✓	✓		
- Other QC (Dup, MS, SD) within specs?	✓	✓		
Sample Analysis:				
- Correct sample aliquot used?	✓	✓		
- All raw data present?	✓	✓		
- Standard Target DL's used? If RL's are used, specify____	✓	✓		
- DL's below TDL/LCL (circle one)	✓	✓		
- All positives reported at levels > MB DLs?	✓	✓		
- Correct RRF's used for method?	✓	✓		
- IDA amounts correct for method?	✓	✓		
- Target analytes are not saturated?	✓	✓		
- Dilution/splitting of extract taken into account?	NA	✓		
- Have dilution calculations been verified?	NA	✓		
- If multiple dilutions or analyses for a sample, are results comparable?	NA	✓		
- Has a manual calculation for the sequence been verified?	NA	✓		
- Are retention times (RT) correct?	✓	✓		
- Manual integrations checked?	✓	✓		
- QC Checker Run & Reviewed?	✓	✓		
- Appropriate Documents Uploaded?		✓		

NCMs: ____

Comments: MS ## not show %R, I don't set 1st please check again.

* Note: Lower IDA recoveries are acceptable if IDA S/N ≥ 10:1 and DLs are < LCL for target analytes.

I:\qa\forms\checklists\qa-371_hrms_review 2016-05-13.doc

QA-371 Revised 5/13/2016 ERS

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 13NO1710D5_DXN
Worklist Number: 50363
Instrument Name: 10D5
Chrom Method: Dioxin_10D5
Data Directory: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b
QC Batching: Enabled
Limit Group Batching: Enabled

QC Batch: 1	HR - 8290A_D5 - ICAL Raw Batch: 194427	HR - 8290A - ICAL Raw Batch: 194692
# 1 WDM	# 1 WDM	# 1 WDM
# 2 CCV	# 2 CCV	# 2 CCV
# 3 RB	# 3 RB	# 3 RB
# 4 MB 320-189688/1-A	# 4 MB 320-189688/1-A	# 4 MB 320-189688/1-A
# 5 LCS 320-189688/2-A	# 5 LCS 320-189688/2-A	# 5 LCS 320-189688/2-A
# 6 LCSD 320-189688/3-A	# 6 LCSD 320-189688/3-A	# 6 LCSD 320-189688/3-A
# 7 160-24917-F-17-A	# 7 160-24917-F-17-A	
# 8 160-24917-F-20-B MS	# 8 160-24917-F-20-B MS	
# 9 160-24922-G-27-A	# 9 160-24922-G-27-A	
#10 160-24922-G-28-A	#10 160-24922-G-28-A	
#11 160-24917-F-30-A	#11 160-24917-F-30-A	
#12 RB	#12 RB	#12 RB
#13 CCV	#13 CCV	#13 CCV

QC Batch: 2	HR - 8290A_D5 - ICAL Raw Batch: 194428
#14 WDM	#14 WDM
#15 CCV	#15 CCV
#16 RB	#16 RB
#17 MB 320-189721/1-A	#17 MB 320-189721/1-A
#18 160-24924-G-1-A	#18 160-24924-G-1-A
#19 160-24924-G-2-A	#19 160-24924-G-2-A
#20 160-24924-G-3-A	#20 160-24924-G-3-A
#21 160-24924-G-4-A	#21 160-24924-G-4-A
#22 160-24924-G-6-A	#22 160-24924-G-6-A
#23 160-24924-G-10-A	#23 160-24924-G-10-A
#24 160-24924-G-11-A	#24 160-24924-G-11-A
#25 RB	#25 RB
#26 CCV	#26 CCV

QC Batch: 3	HR - 8290A_D5 - ICAL Raw Batch: 194429
#27 WDM	#27 WDM
#28 CCV	#28 CCV
#29 RB	#29 RB
#30 160-24924-G-9-A	#30 160-24924-G-9-A
#31 160-24924-G-9-B MS	#31 160-24924-G-9-B MS
#32 160-24924-G-9-C MSD	#32 160-24924-G-9-C MSD
#33 160-24924-G-12-A	#33 160-24924-G-12-A
#34 160-24924-G-14-A	#34 160-24924-G-14-A
#35 160-24924-G-15-A	#35 160-24924-G-15-A
#36 160-24924-G-18-A	#36 160-24924-G-18-A
#37 160-24924-G-19-A	#37 160-24924-G-19-A
#38 RB	#38 RB
#39 CCV	#39 CCV

Report Date: 14-Nov-2017 17:36:54 Chrom Revision: 2.2 16-Aug-2017 16:24:46 Page: 1

TestAmerica Laboratories
Worklist Report

Worklist Name:	13NO1710D5_DXN	Worklist Number:	50363
Instrument Name:	10D5	Chrom Method:	Dioxin_10D5
Injection Volume:	2.000	Units:	ul
Analysis Type:	Semi VOA		
Batch Directory:	\\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b		
Upload Directory:	\\CorpTALSAPP12\320-WS-RawData\Organics\MS\10D5		

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050363-001	# 1 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050363-002	# 2 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050363-003	# 3 RB		RB	sv	1.000	mL	1.000
320-0050363-004	# 4 MB 320-189688/1-A		MB	sv	1.000	mL	1.000
320-0050363-005	# 5 LCS 320-189688/2-A		LCS	sv	1.000	mL	1.000
320-0050363-006	# 6 LCSD 320-189688/3-A		LCSD	sv	1.000	mL	1.000
320-0050363-007	# 7 160-24917-F-17-A		Client	sv	1.000	mL	2.000
320-0050363-008	# 8 160-24917-F-20-B MS		MS	sv	1.000	mL	1.000
320-0050363-009	# 9 160-24922-G-27-A		Client	sv	1.000	mL	1.000
320-0050363-010	#10 160-24922-G-28-A		Client	sv	1.000	mL	1.000
320-0050363-011	#11 160-24917-F-30-A		Client	sv	1.000	mL	2.000
320-0050363-012	#12 RB		RB	sv	1.000	mL	1.000
320-0050363-013	#13 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050363-014	#14 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050363-015	#15 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050363-016	#16 RB		RB	sv	1.000	mL	1.000
320-0050363-017	#17 MB 320-189721/1-A		MB	sv	1.000	mL	1.000
320-0050363-018	#18 160-24924-G-1-A		Client	sv	1.000	mL	1.000
320-0050363-019	#19 160-24924-G-2-A		Client	sv	1.000	mL	1.000
320-0050363-020	#20 160-24924-G-3-A		Client	sv	1.000	mL	1.000
320-0050363-021	#21 160-24924-G-4-A		Client	sv	1.000	mL	1.000
320-0050363-022	#22 160-24924-G-6-A		Client	sv	1.000	mL	1.000
320-0050363-023	#23 160-24924-G-10-A		Client	sv	1.000	mL	1.000
320-0050363-024	#24 160-24924-G-11-A		Client	sv	1.000	mL	1.000
320-0050363-025	#25 RB		RB	sv	1.000	mL	1.000
320-0050363-026	#26 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050363-027	#27 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050363-028	#28 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050363-029	#29 RB		RB	sv	1.000	mL	1.000
320-0050363-030	#30 160-24924-G-9-A		Client	sv	1.000	mL	1.000
320-0050363-031	#31 160-24924-G-9-B MS		MS	sv	1.000	mL	1.000
320-0050363-032	#32 160-24924-G-9-C MSD		MSD	sv	1.000	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050363-033	#33 160-24924-G-12-A		Client	sv	1.000	mL	1.000
320-0050363-034	#34 160-24924-G-14-A		Client	sv	1.000	mL	1.000
320-0050363-035	#35 160-24924-G-15-A		Client	sv	1.000	mL	1.000
320-0050363-036	#36 160-24924-G-18-A		Client	sv	1.000	mL	1.000
320-0050363-037	#37 160-24924-G-19-A		Client	sv	1.000	mL	1.000
320-0050363-038	#38 RB		RB	sv	1.000	mL	1.000
320-0050363-039	#39 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000

Sample List Report **MassLynx 4.1** 10D5

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\13NO1710D5.SPL Page 1 of 3
Last Modified: Monday, November 13, 2017 16:45:44 Pacific Standard Time
Printed: Monday, November 13, 2017 16:45:56 Pacific Standard Time Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	13NO1710D5_1	WDM HRDXNCP_00034	WDM 111317	Tray01:1		---	AJS
2	13NO1710D5_2	CS-4 HRDXNL4_00060	CCV 111317	Tray01:2		---	AJS
3	13NO1710D5_3	Reagent Blank C-14	RB 111317	Tray01:3		---	AJS
4	13NO1710D5_4	mb 320-189688/1-a	mb 320-189688/1-a	Tray01:4	8290A_D5/Water	D979	AJS
5	13NO1710D5_5	lcs 320-189688/2-a	lcs 320-189688/2-a	Tray01:5	8290A_D5/Water		AJS
6	13NO1710D5_6	lcsd 320-189688/3-a	lcsd 320-189688/3-a	Tray01:6	8290A_D5/Water		AJS
7	13NO1710D5_7	160-24917-F-17-A 2X	160-24917-F-17-A 2X	Tray01:7	8290A_D5/Solid	D978	AJS
8	13NO1710D5_8	160-24917-F-20 B-MS RI	160-24917-F-20 B-MS RI	Tray01:8	8290A_D5/Solid		AJS
9	13NO1710D5_9	160-24922-G-27-A	160-24922-G-27-A	Tray01:9	8290A_D5/Solid	D979	AJS
10	13NO1710D5_10	160-24922-G-28-A	160-24922-G-28-A	Tray01:10	8290A_D5/Solid		AJS
11	13NO1710D5_11	160-24917-F-30-A 2X	160-24917-F-30-A 2X	Tray01:11	8290A_D5/Solid	D975	AJS
12	13NO1710D5_12	Reagent Blank C-14	RB 111317A	Tray01:3		---	AJS
13	13NO1710D5_13	CS-4 HRDXNL4_00060	CCV 111317A	Tray01:2		---	AJS
14	13NO1710D5_14	WDM HRDXNCP_00034	WDM 111317A	Tray01:1		---	AJS
15	13NO1710D5_15	CS-4 HRDXNL4_00060	CCV 111317B	Tray01:2		---	AJS
16	13NO1710D5_16	Reagent Blank C-14	RB 111317B	Tray01:3		---	AJS
17	13NO1710D5_17	mb 320-189721/1-a RI	mb 320-189721/1-a RI	Tray01:15	8290A_D5/Water	D981	AJS
18	13NO1710D5_18	160-24924-g-1-a RI	160-24924-g-1-a RI	Tray01:16	8290A_D5/Water		AJS
19	13NO1710D5_19	160-24924-g-2-a RI	160-24924-g-2-a RI	Tray01:17	8290A_D5/Water		AJS
20	13NO1710D5_20	160-24924-g-3-a RI	160-24924-g-3-a RI	Tray01:18	8290A_D5/Solid	---	AJS
21	13NO1710D5_21	160-24924-g-4-a RI	160-24924-g-4-a RI	Tray01:19	8290A_D5/Solid		AJS
22	13NO1710D5_22	160-24924-g-6-a RI	160-24924-g-6-a RI	Tray01:20	8290A_D5/Solid	---	AJS
23	13NO1710D5_23	160-24924-g-10-a RI	160-24924-g-10-a RI	Tray01:21	8290A_D5/Solid		AJS
24	13NO1710D5_24	160-24924-g-11-a RI	160-24924-g-11-a RI	Tray01:22	8290A_D5/Solid	---	AJS
25	13NO1710D5_25	Reagent Blank C-14	RB 111317C	Tray01:3		---	AJS
26	13NO1710D5_26	CS-4 HRDXNL4_00060	CCV 111317C	Tray01:2		---	AJS
27	13NO1710D5_27	WDM HRDXNCP_00034	WDM 111317B	Tray01:1		---	AJS
28	13NO1710D5_28	CS-4 HRDXNL4_00060	CCV 111317D	Tray01:2		---	AJS
29	13NO1710D5_29	Reagent Blank C-14	RB 111317D	Tray01:3		---	AJS
30	13NO1710D5_30	160-24924-g-9-a RI	160-24924-g-9-a RI	Tray01:29	8290A_D5/Water	D981	AJS
31	13NO1710D5_31	160-24924-g-9-b ms RI	160-24924-g-9-b ms RI	Tray01:30	8290A_D5/Water		AJS
32	13NO1710D5_32	160-24924-g-9-c msd RI	160-24924-g-9-c msd RI	Tray01:31	8290A_D5/Water		AJS
33	13NO1710D5_33	160-24924-g-12-a RI	160-24924-g-12-a RI	Tray01:32	8290A_D5/Solid	---	AJS
34	13NO1710D5_34	160-24924-g-14-a RI	160-24924-g-14-a RI	Tray01:33	8290A_D5/Solid		AJS
35	13NO1710D5_35	160-24924-g-15-a RI	160-24924-g-15-a RI	Tray01:34	8290A_D5/Solid	---	AJS
36	13NO1710D5_36	160-24924-g-18-a RI	160-24924-g-18-a RI	Tray01:35	8290A_D5/Solid		AJS
37	13NO1710D5_37	160-24924-g-19-a RI	160-24924-g-19-a RI	Tray01:36	8290A_D5/Solid	---	AJS
38	13NO1710D5_38	Reagent Blank C-14	RB 111317E	Tray01:3		---	AJS
39	13NO1710D5_39	CS-4 HRDXNL4_00060	CCV 111317E	Tray01:2		---	AJS
40	13NO1710D5_40	WDM HRDXNCP_00034	WDM 111317C	Tray01:1		---	AJS
41	13NO1710D5_41	CS-4 HRDXNL4_00060	CCV 111317F	Tray01:2		---	AJS
42	13NO1710D5_42	Reagent Blank C-14	RB 111317F	Tray01:3		---	AJS

logfile checked
11-14-17 ALM

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Daily Calibration Checklist
Dioxin Methods

Method IDs 8290A_D5

ICAL Event # 35216

Worklist # 50363

Batch # (s) 194427, 194692

Column ID DB-5

Instrument ID 10D5

CCV IDs CCV111317, CCV111317A

CCV Solution HRDXNL4_00060

Analyzed by AJS

Date Analyzed 11-13-17

Std. Pkg. By ALM

Date Std. Pkg. Assembled 11-14-17

Std. Pkg. Reviewed By

Date Std. Pkg. Reviewed 11/17/17

DAILY STANDARD PACKAGE	INITIATED	REVIEWED
Standard, CPS, and Solvent Blank checked?	✓	✓
Copy of log-file checked?	✓	✓
CPS blow up checked?	✓	✓
Summary of Method criteria present or documented below?	✓	✓
CCV standard within method specified limits?*	✓	✓
Analyte retention times correct?	✓	
Isotopic ratios within limits?	✓	✓
CPS valley ≤ method specified limits?** ?	✓	✓
Are chromatographic windows correct?	✓	✓
Samples analyzed within 12 hrs of daily standard?	✓	✓
Manual reintegrations checked and hardcopies included?	NA	na
Absolute retention times for 13C12-1,2,3,4-TCDD and 13C12-1,2,3,7,8,9-HxCDD are within +/- 15 seconds of the retention times in the Initial Calibration? (for 1613B only) ?	NA	na
Resolution Plot(s) Checked and Scanned?	✓	NA
ICal Checklist Included?	✓	NA
CCV Checklist Scanned?	NA	✓

COMMENTS:

* **Method 8290/TO9/M0023A: (beginning)** ≤ 20% from curve RRFs for native analytes, ≤ 30% from curve RRFs for labeled compounds.
Method 8290/TO9/M0023A: (ending) ≤ 25% from curve RRFs for native analytes, ≤ 35% from curve RRFs for labeled compounds.
Method 23: See Method 23 Daily Standard Criteria, Table 5.
Method 1613B: See, Method 1613B or Method 1613B Tetras Daily Standard Criteria,

** **Method 23/0023A CPSM Criteria:** Compare the 2378 TCDF (DB-225)/TCDD (DB-5) peak to the one eluting just before it. Normalize to the smaller of the two peaks. Do the same for 2378 TCDF/TCDD and the peak eluting just after it. In both cases the valley between peaks must be ≤ 25%

Method 1613B/8290/TO9 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING	Sacramento **Daily Calibration Checklist** Dioxin Methods

Method IDs 8290A_D5

ICAL Event # 35216

Worklist # 50363

Batch # (s) 194428

Column ID DB5

Instrument ID 10D5

CCV IDs CCV111317B, CCV111317C

CCV Solution HRDXNL4_00060

Analyzed by AJS

Date Analyzed 11-13-17, 11-14-17

Std. Pkg. By AJS

Date Std. Pkg. Assembled 11-14-17

Std. Pkg. Reviewed By

Date Std. Pkg. Reviewed 11/17/17

DAILY STANDARD PACKAGE	INITIATED	REVIEWED
Standard, CPS, and Solvent Blank checked?	✓	✓
Copy of log-file checked?	✓	✓
CPS blow up checked?	✓	✓
Summary of Method criteria present or documented below?	✓	✓
CCV standard within method specified limits?*	✓	✓
Analyte retention times correct?	✓	✓
Isotopic ratios within limits?	✓	✓
CPS valley ≤ method specified limits?** ?	✓	✓
Are chromatographic windows correct?	✓	✓
Samples analyzed within 12 hrs of daily standard?	✓	✓
Manual reintegrations checked and hardcopies included?	✓	vg
Absolute retention times for 13C12-1,2,3,4-TCDD and 13C12-1,2,3,7,8,9-HxCDD are within +/- 15 seconds of the retention times in the Initial Calibration? (for 1613B only) ?	NA	vg
Resolution Plot(s) Checked and Scanned?	✓	NA
ICal Checklist Included?	✓	NA
CCV Checklist Scanned?	NA	✓

COMMENTS:

* **Method 8290/TO9/M0023A: (beginning)** ≤ 20% from curve RRFs for native analytes, ≤ 30% from curve RRFs for labeled compounds.

Method 8290/TO9/M0023A: (ending) ≤ 25% from curve RRFs for native analytes, ≤ 35% from curve RRFs for labeled compounds.

Method 23: See Method 23 Daily Standard Criteria, Table 5.

Method 1613B: See, Method 1613B or Method 1613B Tetras Daily Standard Criteria,

** **Method 23/0023A CPSM Criteria:** Compare the 2378 TCDF (DB-225)/TCDD (DB-5) peak to the one eluting just before it. Normalize to the smaller of the two peaks. Do the same for 2378 TCDF/TCDD and the peak eluting just after it. In both cases the valley between peaks must be ≤ 25%

Method 1613B/8290/TO9 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak

Test America – West Sacramento

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Initial Calibration Checklist
Dioxin Methods

Worklist #49091- Batch #189153, 189154, 189155, 189156, 189157, 189158, 189159, 189160, 189161
Calibration Event ID # 35214, 35215, 35216, 35217, 35218, 35219, 35220, 35221, 35222

Method ID: 8290, 8290A, 8290A_D5, 1613B_Tetras, EPA_0023A, DLM02.x, EPA_23, 1613B, TO_9

Column ID ________DB5_______________

Instrument ID ______10D5_______

STD ID's __CS-4, CS-3, CS-2, CS-6, CS-5__

STD Solution __See WL #49091__

GC Program ________DioxinnoGC_________

Multiplier Setting ____370v______

Analyzed By ________AMessecar_________

Date Analyzed _____10-12-17____

Prepared By ________ SArghestani _________

Date Prepared ______10-13-17____

Reviewed By R Hubbe

Date Reviewed 10/16/17

ANALYSIS OFFICIAL	INITIALED	REVIEWED
Curve summary present?	X	✓
Calibration levels verified from CS-2 to CS-6?	X	✓
Copy of log-file present?	X	✓
Beginning and Ending Static resolution check scanned?	X	✓
DLM02.2: Beginning and ending CPSM blow ups present?	X	✓
DLM02.2: CPSM valley < 25%. Resolution documented below? **	X (1)	✓
Target file RT's correct?	X	✓
%RSD within method-specified limits?*	X	✓
Signal-to-noise criteria met?	X	✓
Isotopic ratios within limits?	X	✓
High point free of saturation?	X	✓
Are chromatographic windows correct?	X	✓
DLM02.2: Absolute retention time for 13C12-1,2,3,4-TCDD > 25 minutes on a DB-5 column or 13C12-1,2,3,4-TCDD > 15 minutes on a DB-225 column?	NA (2)	NA
Manual reintegration's checked in TALS/CHROM?	NA	NA
ICAL Checklist/Summary scanned: Date 10/16/17 initials SMA	NA	NA

COMMENTS: (1) Beginning CPSM = 24% valley; Ending CPSM = 21% valley
(2) CS-4 IS RT: 13C-1,2,3,4-TCDD = 17.929; 13C-1,2,3,7,8,9-HxCDD = 32.243

* Method 8290/TO9/M0023A: %RSD ≤20% for natives, ≤30% for labeled compounds; S/N≥10
Method 1613B/DLM02.2: %RSD≤ 20% natives, ≤30% labeled compounds; S/N ≥10
Method 23: %RSD ≤ values specified in Table 5, Method 23; S/N ≥ 10

** **DLM02.2 CPSM Criteria**: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak.

C:\Documents and Settings\stephensk\Desktop\DailyForms\10D5 Dioxins Checklist ICA1012201710D5.doc
QA-384 07/10/14 KSS

D978

Batch Number: 320-189625
Method Code: 320-8290_P_Sox-320

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Analyst: Sathyanarayanan, Sanjhosh X

E
20 HpCDD need 2X Dil'n
COPY # 24 - 20-MS RI 130CDD 39)

Batch Open: 10/16/2017 3:39:00PM
Batch End: 10/19/2017 2:00:00PM

Soxhlet Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-189625/1 N/A	N/A	10.00 g	20.0 uL	N/A	N/A	N/A	DB225 pre-emptive	MB 320-189625/1-A
2	LCS~320-189625/2 N/A	N/A	10.00 g	20.0 uL	N/A	N/A	N/A		LCS 320-189625/2-A
3	LCSD~320-189625/3 N/A	N/A	10.00 g	20.0 uL	N/A	N/A	N/A		LCSD 320-189625/3-A
4	160-24917-F-1 (8290A_DOD5)	N/A (160-24917-2)	10.02 g	20.0 uL	10/16/17	15_Days	4	DB225 preemptive	160-24917-F-1-A
5	160-24917-F-2 (8290A_DOD5)	N/A (160-24917-2)	9.98 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-2-A
6	160-24917-F-3 (8290A_DOD5)	N/A (160-24917-2)	10.06 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-3-A
7	160-24917-F-4 (8290A_DOD5)	N/A (160-24917-2)	10.05 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-4-A
8	160-24917-F-5 (8290A_DOD5)	N/A (160-24917-2)	10.04 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-5-A
9	160-24917-F-6 (8290A_DOD5)	N/A (160-24917-2)	10.04 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-6-A
10	160-24917-F-7 (8290A_DOD5)	N/A (160-24917-2)	10.12 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-7-A
11	160-24917-F-8 (8290A_DOD5)	N/A (160-24917-2)	9.90 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-8-A
12	160-24917-F-9 (8290A_DOD5)	N/A (160-24917-2)	10.01 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-9-A
13	160-24917-F-10 (8290A_DOD5)	N/A (160-24917-2)	10.16 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-10-A
14	160-24917-F-11 (8290A_DOD5)	N/A (160-24917-2)	10.11 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-11-A
15	160-24917-F-12 (8290A_DOD5)	N/A (160-24917-2)	10.09 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-12-A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM

Batch End: 10/19/2017 2:00:00PM

16	160-24917-F-13 (8290A_DOD5)	N/A (160-24917-2)	10.06 g	20.0 uL	10/16/17	15_Days	4	DB225 pre-emptive
17	160-24917-F-14 (8290A_DOD5) ✓	N/A (160-24917-2)	9.91 g	20.0 uL	10/16/17	15_Days	4	DB225 pre-emptive
18	160-24917-F-15 (8290A_DOD5) ✓	N/A (160-24917-2)	9.91 g	20.0 uL	10/16/17	15_Days	4	
19	160-24917-F-16 (8290A_DOD5) ✓	N/A (160-24917-2)	9.88 g	20.0 uL	10/16/17	15_Days	4	
20	160-24917-F-17 (8290A_DOD5) ✓	N/A (160-24917-2)	9.77 g	20.0 uL	10/16/17	15_Days	4	
21	160-24917-F-18 (8290A_DOD5) ✓	N/A (160-24917-2)	10.07 g	20.0 uL	10/16/17	15_Days	4	
22	160-24917-F-19 (8290A_DOD5) ✓	N/A (160-24917-2)	9.92 g	20.0 uL	10/16/17	15_Days	4	
23	160-24917-F-20 (8290A_DOD5) ✓	N/A (160-24917-2)	9.93 g	20.0 uL	10/16/17	15_Days	4	
24	160-24917-F-20~MS (8290A_DOD5)	N/A (160-24917-2)	9.95 g	20.0 uL	10/16/17	15_Days	4	
25	160-24917-F-20~MSD (8290A_DOD5)	N/A (160-24917-2)	9.86 g	20.0 uL	10/16/17	15_Days	4	11/1/17

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM

Batch End: 10/19/2017 2:00:00PM

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-74
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250 PMW 10/17/17
Toluene ID	0000160561
MeCL2 ID	N/A
Soxhlet/Soxtherm Start	18:40
Soxhlet/Soxtherm End	21:40
Analyst ID - IDA Reagent Drop	DTG 10/16/17 - EC15131 - B 1/4
Analyst ID - IDA Reagent Drop Witness	SXS 10/16/17
Analyst ID - TA Reagent Drop	DTG 10/16/17 - EH15371 - B 5/10
Analyst ID - TA Reagent Drop Witness	SXS 10/16/17
Analyst ID - SU Reagent Drop	MEL 10/19/17 1/4 EC15131
Analyst ID - SU Reagent Drop Witness	DTG 10/19/17
Analyst ID - IS Reagent Drop	TGL 10/19/17 EH15371 B 2/4
Analyst ID - IS Reagent Drop Witness	DTG 10/19/17
Nonane ID	N/A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM

Batch End: 10/19/2017 2:00:00PM

Sulfuric Acid Lot Number	N/A
5% NaCl Reagent ID	N/A
20% KOH Reagent ID	N/A
Acid cleanup Analyst	N/A
Date of Acid Cleanup	N/A
1:1 DCM:Cyclohexane ID	N/A
5% Carbon:Silica Gel ID	N/A
75:20:5DCM/MeOH/Benzene ID	N/A
Benzene ID	N/A
Carbon Column C/U Analyst	N/A
Carbon Column C/U Date	N/A
DCM:Hexane ID	20%-1032465
65% DCM:Hexane ID	1061659
Alumina ID	26
Silica Gel ID	1062261 / 1063865
Dual Column C/U Analyst	MEL
Dual Column C/U Date	10/19/2017
GPC ID	N/A
GPC Analyst	N/A
GPC Date	N/A
Split Analyst/Date	N/A
Split Volume	N/A
Storage Box ID	DXN-978

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM

Batch End: 10/19/2017 2:00:00PM

Batch Comment

Comments

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM
Batch End: 10/19/2017 2:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-189625/1	HRDXNIDA_00306	1.00 mL	20.0 uL		
MB 320-189625/1	HRDXNIS_00101	20.0 uL	20.0 uL		
MB 320-189625/1	HRDXNSU_00172	1 mL	20.0 uL		
LCS 320-189625/2	HRDXNIDA_00306	1.00 mL	20.0 uL		
LCS 320-189625/2	HRDXNIS_00101	20.0 uL	20.0 uL		
LCS 320-189625/2	HRDXNSU_00172	1 mL	20.0 uL		
LCS 320-189625/2	HRDXNTA_00083	50.0 uL	20.0 uL		
LCSD 320-189625/3	HRDXNIDA_00306	1.00 mL	20.0 uL		
LCSD 320-189625/3	HRDXNIS_00101	20.0 uL	20.0 uL		
LCSD 320-189625/3	HRDXNSU_00172	1 mL	20.0 uL		
LCSD 320-189625/3	HRDXNTA_00083	50.0 uL	20.0 uL		
160-24917-F-1	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-1	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-1	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-2	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-2	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-2	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-3	HRDXNIDA_00306	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM
Batch End: 10/19/2017 2:00:00PM

160-24917-F-3	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-3	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-4	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-4	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-4	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-5	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-5	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-5	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-6	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-6	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-6	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-7	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-7	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-7	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-8	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-8	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-8	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-9	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-9	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-9	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-10	HRDXNIDA_00306	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM

Batch End: 10/19/2017 2:00:00PM

160-24917-F-10	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-10	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-11	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-11	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-11	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-12	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-12	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-12	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-13	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-13	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-13	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-14	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-14	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-14	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-15	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-15	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-15	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-16	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-16	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-16	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-17	HRDXNIDA_00306	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM

Batch End: 10/19/2017 2:00:00PM

160-24917-F-17	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-17	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-18	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-18	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-18	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-19	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-19	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-19	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-20	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-20	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-20	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-20 MS	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-20 MS	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-20 MS	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-20 MS	HRDXNTA_00083	50.0 uL	20.0 uL		
160-24917-F-20 MSD	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-20 MSD	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-20 MSD	HRDXNSU_00172	1 mL	20.0 uL		
160-24917-F-20 MSD	HRDXNTA_00083	50.0 uL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM

Batch End: 10/19/2017 2:00:00PM

Other Reagents:

Reagent	Amount/Units	Lot#:

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM
Batch End:

Batch Notes

Perform Calculation (0=No, 1=Yes)
Nominal Amount Used
Thimble Lot ID 981115901
Balance ID QA-74
Hexane ID 0000175754
Na2SO4 ID 0000168174
Tetradecane ID STBH0250 PMW 10/17/17
Toluene ID 000160561
MeCL2 ID
Soxhlet/Soxtherm Start 18:40
Soxhlet/Soxtherm End 21:40
Analyst ID - IDA Reagent Drop DTG 10/16/17 EC15131 B 1/4
Analyst ID - IDA Reagent Drop Witness SS 10/16/17
Analyst ID - TA Reagent Drop DTG 10/16/17 ~~EH151~~ DTG 10/16/17 EH15371 B 5/10
Analyst ID - TA Reagent Drop Witness SXS 10/16/17
Analyst ID - SU Reagent Drop MEC 10/19/17 1.0ml HRDXNSU-00172 1/4 EC15131
Analyst ID - SU Reagent Drop Witness DTG 10/19/17
Analyst ID - IS Reagent Drop TGL 10/19/17 20.0µL HRDXNIS_00101 (2/4)
Analyst ID - IS Reagent Drop Witness
Nonane ID

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189625
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 3:39:00PM
Batch End:

Sulfuric Acid Lot Number
5% NaCl Reagent ID
20% KOH Reagent ID
Acid cleanup Analyst
Date of Acid Cleanup
1:1 DCM:Cyclohexane ID
5% Carbon:Silica Gel ID
75:20:5DCM/MeOH/Benzene ID
Benzene ID
Carbon Column C/U Analyst
Carbon Column C/U Date
DCM:Hexane ID
65% DCM:Hexane ID
Alumina ID 26
Silica Gel ID
Dual Column C/U Analyst MEC
Dual Column C/U Date 10/19/17
GPC ID
GPC Analyst
GPC Date
Split Analyst/Date
Split Volume
Storage Box ID DXN-978

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-189625 Test: 8290 (solid)

Earliest Holding Time: 11/03/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	NA	NA
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	NA
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	**1st Level Reviewer**	**2nd Level Reviewer**
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TGL Date: 10/19/17

2nd Level Reviewer: VPM Date: 10/19/17

Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Test America – Sacramento

Sample Dilution Record

Method ID 8290A_D5 **Job #** 160-24917

Analyst (Print Name) Ajay Sharda **Analyst Initials** AJS

Date 11-13-17

Sample#	Original F.V. (uL)	Aliquot (uL)	Dilution F.V. (uL)	Dilution Factor
17	20	5	10	2

Comments:
Sample Diluted due to 'E' flag

C:\Users\stephensk\AppData\Local\Microsoft\Windows\Temporary Internet Files\OLK1159\QA-747_SampleDilutionRecord.doc
10/20/16 RBH

D975

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

COPY

Batch Number: 320-189635
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 4:28:00PM
Batch End: 10/19/2017 2:00:00PM

D975

Soxhlet Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-189635/1 N/A	N/A	10.00 g	20.0 uL	N/A	N/A	N/A	DB225-pre-emptive	MB 320-189635/1-A
2	LCS~320-189635/2 N/A	N/A	10.00 g	20.0 uL	N/A	N/A	N/A		LCS 320-189635/2-A
3	LCSD~320-189635/3 N/A	N/A	10.00 g	20.0 uL	N/A	N/A	N/A		LCSD 320-189635/3-A
4	160-24917-F-21 (8290A_DOD5)	N/A (160-24917-2)	10.11 g	20.0 uL	10/16/17	15_Days	4	DB225-pre-emptive	160-24917-F-21-A
5	160-24917-F-22 (8290A_DOD5)	N/A (160-24917-2)	9.99 g	20.0 uL	10/16/17	15_Days	4	done	160-24917-F-22-A
6	160-24917-F-23 (8290A_DOD5)	N/A (160-24917-2)	9.94 g	20.0 uL	10/16/17	15_Days	4	~~RR 5X OCR↑~~	160-24917-F-23-A
7	160-24917-F-24 (8290A_DOD5)	N/A (160-24917-2)	10.00 g	20.0 uL	10/16/17	15_Days	4	~~RR~~ 5X OCR↑	160-24917-F-24-A
8	160-24917-F-25 (8290A_DOD5)	N/A (160-24917-2)	10.12 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-25-A
9	160-24917-F-26 (8290A_DOD5)	N/A (160-24917-2)	10.11 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-26-A
10	160-24917-F-27 (8290A_DOD5)	N/A (160-24917-2)	9.97 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-27-A
11	160-24917-F-28 (8290A_DOD5)	N/A (160-24917-2)	10.11 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-28-A
12	160-24917-F-29 (8290A_DOD5)	N/A (160-24917-2)	9.91 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-29-A
13	160-24917-F-30 (8290A_DOD5)	N/A (160-24917-2)	9.98 g	20.0 uL	10/16/17	15_Days	4	RR 2x ↑OCR.	160-24917-F-30-A
14	160-24917-F-30~MS (8290A_DOD5)	N/A (160-24917-2)	9.88 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-30-B MS
15	160-24917-F-30~MSD (8290A_DOD5)	N/A (160-24917-2)	10.02 g	20.0 uL	10/16/17	15_Days	4		160-24917-F-30-C MSD

11/3/17

Printed : 10/19/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189635

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 4:28:00PM

Batch End: 10/19/2017 2:00:00PM

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-74
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250
Toluene ID	0000160561
MeCL2 ID	N/A
Soxhlet/Soxtherm Start	18:40
Soxhlet/Soxtherm End	21:40
Analyst ID - IDA Reagent Drop	DTG 10/16/17 - EC15131 - B 1/4
Analyst ID - IDA Reagent Drop Witness	SXS 10/16/17
Analyst ID - TA Reagent Drop	DTG 10/16/17 - EH15371 - B 5/10
Analyst ID - TA Reagent Drop Witness	SXS 10/16/17
Analyst ID - SU Reagent Drop	DTG 10/18/17 - EC15131 - B1/4
Analyst ID - SU Reagent Drop Witness	DXD 10/18/17
Analyst ID - IS Reagent Drop	TGL 10/19/17 EH15371 B 2/4
Analyst ID - IS Reagent Drop Witness	DTG 10/19/17
Nonane ID	N/A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189635

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 4:28:00PM

Batch End: 10/19/2017 2:00:00PM

Sulfuric Acid Lot Number N/A

5% NaCl Reagent ID N/A

20% KOH Reagent ID N/A

Acid cleanup Analyst N/A

Date of Acid Cleanup N/A

1:1 DCM:Cyclohexane ID N/A

5% Carbon:Silica Gel ID N/A

75:20:5DCM/MeOH/Benzene ID N/A

Benzene ID N/A

Carbon Column C/U Analyst N/A

Carbon Column C/U Date N/A

DCM:Hexane ID 20%-1014284

65% DCM:Hexane ID 1061659

Alumina ID 26

Silica Gel ID 1062261 / 1063865

Dual Column C/U Analyst DG

Dual Column C/U Date 10/18/2017

GPC ID N/A

GPC Analyst N/A

GPC Date N/A

Split Analyst/Date N/A

Split Volume N/A

Storage Box ID DXN-975

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189635

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 4:28:00PM

Batch End: 10/19/2017 2:00:00PM

Batch Comment

Comments

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189635

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 4:28:00PM

Batch End: 10/19/2017 2:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-189635/1	HRDXNIDA_00306	1.00 mL	20.0 uL		
MB 320-189635/1	HRDXNIS_00101	20.0 uL	20.0 uL		
MB 320-189635/1	HRDXNSU_00172	1.00 mL	20.0 uL		
LCS 320-189635/2	HRDXNIDA_00306	1.00 mL	20.0 uL		
LCS 320-189635/2	HRDXNIS_00101	20.0 uL	20.0 uL		
LCS 320-189635/2	HRDXNSU_00172	1.00 mL	20.0 uL		
LCS 320-189635/2	HRDXNTA_00083	50.0 uL	20.0 uL		
LCSD 320-189635/3	HRDXNIDA_00306	1.00 mL	20.0 uL		
LCSD 320-189635/3	HRDXNIS_00101	20.0 uL	20.0 uL		
LCSD 320-189635/3	HRDXNSU_00172	1.00 mL	20.0 uL		
LCSD 320-189635/3	HRDXNTA_00083	50.0 uL	20.0 uL		
160-24917-F-21	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-21	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-21	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-22	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-22	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-22	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-23	HRDXNIDA_00306	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189635

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 4:28:00PM

Method Code: 320-8290_P_Sox-320

Batch End: 10/19/2017 2:00:00PM

160-24917-F-23	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-23	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-24	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-24	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-24	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-25	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-25	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-25	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-26	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-26	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-26	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-27	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-27	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-27	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-28	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-28	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-28	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-29	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-29	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-29	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-30	HRDXNIDA_00306	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189635

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 4:28:00PM

Batch End: 10/19/2017 2:00:00PM

160-24917-F-30	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-30	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-30 MS	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-30 MS	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-30 MS	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-30 MS	HRDXNTA_00083	50.0 uL	20.0 uL		
160-24917-F-30 MSD	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24917-F-30 MSD	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24917-F-30 MSD	HRDXNSU_00172	1.00 mL	20.0 uL		
160-24917-F-30 MSD	HRDXNTA_00083	50.0 uL	20.0 uL		

Other Reagents:

Reagent	Amount/Units	Lot#:

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189635

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 10/16/2017 4:28:00PM

Batch End:

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-74
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250
Toluene ID	0000160561
MeCL2 ID	
Soxhlet/Soxtherm Start	18:40
Soxhlet/Soxtherm End	21:40
Analyst ID - IDA Reagent Drop	DTG 10/16/17 EC15131 B1/4
Analyst ID - IDA Reagent Drop Witness	SXS 10/16/17
Analyst ID - TA Reagent Drop	DTG 10/16/17 EH15371 B5/10
Analyst ID - TA Reagent Drop Witness	SXS 10/16/17
Analyst ID - SU Reagent Drop	DTG 10/18/17 EC15131 HRDXNSU_00172 (1/4) 1.00mL
Analyst ID - SU Reagent Drop Witness	DXD 10/18/17
Analyst ID - IS Reagent Drop	TGL 10/19/17 20.0µL HRDXNIS_00101 (2/4)
Analyst ID - IS Reagent Drop Witness	DTG ~~10/18/17~~ DTG 10/19/17 10/19/17
Nonane ID	

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189635
Analyst: Sathyanarayanan, Sanjhosh X
Batch Open: 10/16/2017 4:28:00PM
Method Code: 320-8290_P_Sox-320
Batch End:

Sulfuric Acid Lot Number	
5% NaCl Reagent ID	
20% KOH Reagent ID	
Acid cleanup Analyst	
Date of Acid Cleanup	
1:1 DCM:Cyclohexane ID	
5% Carbon:Silica Gel ID	
75:20:5DCM/MeOH/Benzene ID	
Benzene ID	
Carbon Column C/U Analyst	
Carbon Column C/U Date	
DCM:Hexane ID	1014284
65% DCM:Hexane ID	1061659
Alumina ID	26
Silica Gel ID	1062261 / 1063865
Dual Column C/U Analyst	DG
Dual Column C/U Date	10/18/17
GPC ID	
GPC Analyst	
GPC Date	
Split Analyst/Date	
Split Volume	~~DXA~~
Storage Box ID	DXN-975

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-189635 Test: 8290 (solid)

Earliest Holding Time: 11/03/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	NA	NA
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	1st Level Reviewer	2nd Level Reviewer
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	NA
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	1st Level Reviewer	2nd Level Reviewer
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	1st Level Reviewer	2nd Level Reviewer
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TGL Date: 10/19/17

2nd Level Reviewer: VMM Date: 10/19/17

Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Test America – Sacramento

Sample Dilution Record

Method ID 8290A_D5

Job # 160-24917

Analyst (Print Name) Ajay Sharda

Analyst Initials AjS

Date 11-10-17

Sample#	**Original F.V. (uL)**	**Aliquot (uL)**	**Dilution F.V. (uL)**	**Dilution Factor**
23	20	2	10	5
24	20	2	10	5

Comments: Dilution due to 'E' flag (DOD-samples)

C:\Users\stephensk\AppData\Local\Microsoft\Windows\Temporary Internet Files\OLK1159\QA-747_SampleDilutionRecord.doc
10/20/16 RBH

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Test America – Sacramento
Sample Dilution Record

Method ID 8290A_D5 **Job #** 160-24917

Analyst (Print Name) Ajay Sharda **Analyst Initials** AJS

Date 11-13-17

Sample#	Original F.V. (uL)	Aliquot (uL)	Dilution F.V. (uL)	Dilution Factor
30	20	5	10	2

Comments: Diluted due to 'E' flag.

C:\Users\stephensk\AppData\Local\Microsoft\Windows\Temporary Internet Files\OLK1159\QA-747_SampleDilutionRecord.doc
10/20/16 RBH

D979

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189688
Analyst: Do, David X
Batch Open: 10/17/2017 10:14:00AM
Method Code: 320-8290_P_Sep-320
Batch End: 10/24/2017 2:00:00PM

Separatory Funnel (Liquid-Liquid) Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	GrossWt TareWt	InitAmnt FinAmnt	PHs Rcvd	PHs Adj1	PHs Adj2	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1	MB~320-189688/1 N/A	N/A		1000 mL 20.0 uL				N/A	N/A	N/A	DB225 preemptive	MB 320-189688/1-A
2	LCS~320-189688/2 N/A	N/A		1000 mL 20.0 uL				N/A	N/A	N/A		LCS 320-189688/2-A
3	LCSD~320-189688/3 N/A	N/A		1000 mL 20.0 uL				N/A	N/A	N/A		LCSD 320-189688/3-A
4	160-24922-R-15 (8290A_DOD5)	N/A (160-24922-2)	1540.5 g 501.48 g	1039 mL 20.0 uL				10/16/17	16_Days	4	DB225 Preemptive	160-24922-R-15-A
5	160-24925-J-18 (8290A_DOD5)	N/A (160-24925-2)	1476.4 g 505.06 g	971.3 mL 20.0 uL				10/16/17	16_Days	4		160-24925-J-18-A
6	160-24925-Q-26 (8290A_DOD5)	N/A (160-24925-2)	1553.7 g 501.35 g	1052.4 mL 20.0 uL				10/16/17	16_Days	4		160-24925-Q-26-A
7	680-144218-A-1 (8290A)	N/A (680-144218-1)	1362.1 g 391.47 g	970.6 mL 20.0 uL				10/18/17	12_Days	2		680-144218-A-1-A
8	680-144218-A-2 (8290A)	N/A (680-144218-1)	1318.2 g 393.61 g	924.6 mL 20.0 uL				10/18/17	12_Days	2		680-144218-A-2-A
9	680-144218-A-6 (8290A)	N/A (680-144218-1)	1339.8 g 394.17 g	945.6 mL 20.0 uL				10/18/17	12_Days	2		680-144218-A-6-A
10	680-144218-A-7 (8290A)	N/A (680-144218-1)	1374.0 g 395.81 g	978.2 mL 20.0 uL				10/18/17	12_Days	2		680-144218-A-7-A

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189688 Analyst: Do, David X Batch Open: 10/17/2017 10:14:00AM

Method Code: 320-8290_P_Sep-320 Batch End: 10/24/2017 2:00:00PM

11	680-144218-A-8 (8290A)	N/A (680-144218-1)	1321.3 g 394.75 g	926.6 mL 20.0 uL				10/18/17	12_Days	2	680-144218-A-8-A
12	680-144218-A-9 (8290A)	N/A (680-144218-1)	1373.7 g 395.74 g	978 mL 20.0 uL				10/18/17	12_Days	2	680-144218-A-9-A
13	680-144295-A-10 (8290A)	N/A (680-144295-1)	1340.0 g 395.07 g	944.9 mL 20.0 uL				10/20/17	12_Days	2	680-144295-A-10-A
14	680-144218-A-11 (8290A)	N/A (680-144218-1)	1373.9 g 392.63 g	981.3 mL 20.0 uL				10/18/17	12_Days	2	680-144218-A-11-A

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189688
Analyst: Do, David X
Batch Open: 10/17/2017 10:14:00AM
Method Code: 320-8290_P_Sep-320
Batch End: 10/24/2017 2:00:00PM

Batch Notes

Balance ID	QA-63
Hexane ID	0000175756
MeCL2 ID	0000180800
Na2SO4 ID	0000168174
Tetradecane ID	DXD 10/17/17
Sep Funnel Extractions (date and time)	DXD 10/17/17
Analyst ID - IDA Reagent Drop	DXD 10/17/17 - EC15131 - B 2/4
Analyst ID - IDA Reagent Drop Witness	PMW 10/17/17, SXS 10/17/17 for samples #12-14
Analyst ID - TA Reagent Drop	DXD 10/17/17 - EH15371 - B 5/10
Analyst ID - TA Reagent Drop Witness	PMW 10/17/17
Analyst ID - SU Reagent Drop	MEL 10/24/17 2/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/24/17
Analyst ID - IS Reagent Drop	TGL 10/24/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	DTG 10/24/17
5% NaCl Reagent ID	N/A
Sulfuric Acid ID	N/A
20% KOH Reagent ID	N/A
Nonane ID	N/A
Acid cleanup Analyst	N/A
Date of Acid Cleanup	N/A

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189688

Analyst: Do, David X

Batch Open: 10/17/2017 10:14:00AM

Method Code: 320-8290_P_Sep-320

Batch End: 10/24/2017 2:00:00PM

1:1 DCM:Cyclohexane ID	N/A
5% Carbon:Silica Gel ID	N/A
75:20:5DCM/MeOH/Benzene ID	N/A
Benzene ID	N/A
Carbon Column C/U Analyst	N/A
Carbon Column C/U Date	N/A
DCM:Hexane ID	20%-1032465
65% DCM:Hexane ID	1061658
Alumina ID	26
Silica Gel ID	1062261 / 1068685
Dual Column C/U Analyst	MEL
Dual Column C/U Date	10/24/17
GPC ID	N/A
GPC Analyst	N/A
GPC Date	N/A
Split Analyst/Date	N/A
Split Volume	N/A
Storage Box ID	DXN-979
Batch Comment	

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189688
Method Code: 320-8290_P_Sep-320

Analyst: Do, David X

Batch Open: 10/17/2017 10:14:00AM
Batch End: 10/24/2017 2:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-189688/1	HRDXNIDA_00306	1.00 mL	20.0 uL		
MB 320-189688/1	HRDXNIS_00101	20.0 uL	20.0 uL		
MB 320-189688/1	HRDXNSU_00172	1 mL	20.0 uL		
LCS 320-189688/2	HRDXNIDA_00306	1.00 mL	20.0 uL		
LCS 320-189688/2	HRDXNIS_00101	20.0 uL	20.0 uL		
LCS 320-189688/2	HRDXNSU_00172	1 mL	20.0 uL		
LCS 320-189688/2	HRDXNTA_00083	50.0 uL	20.0 uL		
LCSD 320-189688/3	HRDXNIDA_00306	1.00 mL	20.0 uL		
LCSD 320-189688/3	HRDXNIS_00101	20.0 uL	20.0 uL		
LCSD 320-189688/3	HRDXNSU_00172	1 mL	20.0 uL		
LCSD 320-189688/3	HRDXNTA_00083	50.0 uL	20.0 uL		
160-24922-R-15	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24922-R-15	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24922-R-15	HRDXNSU_00172	1 mL	20.0 uL		
160-24925-J-18	HRDXNIDA_00306	1.00 mL	20.0 uL		
160-24925-J-18	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24925-J-18	HRDXNSU_00172	1 mL	20.0 uL		
160-24925-Q-26	HRDXNIDA_00306	1.00 mL	20.0 uL		

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189688
Analyst: Do, David X
Batch Open: 10/17/2017 10:14:00AM
Method Code: 320-8290_P_Sep-320
Batch End: 10/24/2017 2:00:00PM

160-24925-Q-26	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24925-Q-26	HRDXNSU_00172	1 mL	20.0 uL		
680-144218-A-1	HRDXNIDA_00306	1.00 mL	20.0 uL		
680-144218-A-1	HRDXNIS_00101	20.0 uL	20.0 uL		
680-144218-A-1	HRDXNSU_00172	1 mL	20.0 uL		
680-144218-A-2	HRDXNIDA_00306	1.00 mL	20.0 uL		
680-144218-A-2	HRDXNIS_00101	20.0 uL	20.0 uL		
680-144218-A-2	HRDXNSU_00172	1 mL	20.0 uL		
680-144218-A-6	HRDXNIDA_00306	1.00 mL	20.0 uL		
680-144218-A-6	HRDXNIS_00101	20.0 uL	20.0 uL		
680-144218-A-6	HRDXNSU_00172	1 mL	20.0 uL		
680-144218-A-7	HRDXNIDA_00306	1.00 mL	20.0 uL		
680-144218-A-7	HRDXNIS_00101	20.0 uL	20.0 uL		
680-144218-A-7	HRDXNSU_00172	1 mL	20.0 uL		
680-144218-A-8	HRDXNIDA_00306	1.00 mL	20.0 uL		
680-144218-A-8	HRDXNIS_00101	20.0 uL	20.0 uL		
680-144218-A-8	HRDXNSU_00172	1 mL	20.0 uL		
680-144218-A-9	HRDXNIDA_00306	1.00 mL	20.0 uL		
680-144218-A-9	HRDXNIS_00101	20.0 uL	20.0 uL		
680-144218-A-9	HRDXNSU_00172	1 mL	20.0 uL		
680-144295-A-10	HRDXNIDA_00306	1.00 mL	20.0 uL		

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189688
Analyst: Do, David X
Batch Open: 10/17/2017 10:14:00AM
Method Code: 320-8290_P_Sep-320
Batch End: 10/24/2017 2:00:00PM

680-144295-A-10	HRDXNIS_00101	20.0 uL	20.0 uL		
680-144295-A-10	HRDXNSU_00172	1 mL	20.0 uL		
680-144218-A-11	HRDXNIDA_00306	1.00 mL	20.0 uL		
680-144218-A-11	HRDXNIS_00101	20.0 uL	20.0 uL		
680-144218-A-11	HRDXNSU_00172	1 mL	20.0 uL		

Other Reagents:

Reagent	Amount/Units	Lot#:

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189688
Analyst: Do, David X
Batch Open: 10/17/2017 10:14:00AM
Method Code: 320-8290_P_Sep-320
Batch End:

1:1 DCM:Cyclohexane ID	
5% Carbon:Silica Gel ID	
75:20:5DCM/MeOH/Benzene ID	
Benzene ID	
Carbon Column C/U Analyst	
Carbon Column C/U Date	
DCM:Hexane ID	
65% DCM:Hexane ID	
Alumina ID	
Silica Gel ID	
Dual Column C/U Analyst	
Dual Column C/U Date	
GPC ID	
GPC Analyst	
GPC Date	
Split Analyst/Date	
Split Volume	TGL 10/24/17
Storage Box ID	DXN-6979
Batch Comment	

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189688

Method Code: 320-8290_P_Sep-320

Analyst: Do, David X

Batch Open: 10/17/2017 10:14:00AM

Batch End:

Batch Notes

Balance ID	QA-63
Hexane ID	
MeCL2 ID	0000180800
Na2SO4 ID	0000168174
Tetradecane ID	DXD 10/17/17
Sep Funnel Extractions (date and time)	DXD 10/17/17
Analyst ID - IDA Reagent Drop	DXD 10/17/17 - EC15131 - B 2/4
Analyst ID - IDA Reagent Drop Witness	PMW 10/17/17, SXS 10/17/17 for samples #12-14
Analyst ID - TA Reagent Drop	DXD 10/17/17 - EH15371 - B 5/10
Analyst ID - TA Reagent Drop Witness	PMW 10/17/17
Analyst ID - SU Reagent Drop	MEC 10/24/17 1.0ml HRDXNSU-00172 2/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/24/17
Analyst ID - IS Reagent Drop	TGL 10/24/17 20.0µL HRDXNIS-00101 (3/4)
Analyst ID - IS Reagent Drop Witness	DTG 10/24/17
5% NaCl Reagent ID	
Sulfuric Acid ID	
20% KOH Reagent ID	
Nonane ID	
Acid cleanup Analyst	
Date of Acid Cleanup	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-189688 Test: 8290 (water)

Earliest Holding Time: 11/04/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	NA	NA
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	NA
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	**1st Level Reviewer**	**2nd Level Reviewer**
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TBL Date: 10/24/17

2nd Level Reviewer: VPM Date: 10/24/17

Comments:

D-979

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-190166
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/19/2017 12:28:00PM
Batch End: 10/24/2017 2:00:00PM

Soxhlet Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-190166/1 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A	DB225 pre-emptive 11-10	MB 320-190166/1-A
2	LCS~320-190166/2 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCS 320-190166/2-A
3	LCSD~320-190166/3 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCSD 320-190166/3-A
4	560-70333-B-1 (1613B)	N/A (560-70333-2)	2.08 g	20.00 uL	11/10/17	20_Days	2		560-70333-B-1-H
5	160-24925-G-4 (8290A_DOD5)	N/A (160-24925-2)	9.90 g	20.00 uL	10/16/17	16_Days	4	DB225 pre-emptive 11-10	160-24925-G-4-A
6	160-24925-G-17 (8290A_DOD5)	N/A (160-24925-2)	10.04 g	20.00 uL	10/16/17	16_Days	4		160-24925-G-17-A
7	600-155367-A-1 (8290A)	N/A (600-155367-1)	5.63 g	20.0 uL	10/23/17	16_Days	2		600-155367-A-1-A
8	160-24922-G-27 (8290A_DOD5)	N/A (160-24922-2)	10.04 g	20.00 uL	10/16/17	16_Days	4	DB225 pre-emptive 11-10	160-24922-G-27-A
9	160-24922-G-28 (8290A_DOD5)	N/A (160-24922-2)	10.17 g	20.00 uL	10/16/17	16_Days	4		160-24922-G-28-A
10	160-24922-G-29 (8290A_DOD5)	N/A (160-24922-2)	10.11 g	20.00 uL	10/16/17	16_Days	4		160-24922-G-29-A
11	160-24922-G-29~MS (8290A_DOD5)	N/A (160-24922-2)	9.95 g	20.00 uL	10/16/17	16_Days	4		160-24922-G-29-B MS
12	160-24922-G-29~MSD (8290A_DOD5)	N/A (160-24922-2)	9.97 g	20.00 uL	10/16/17	16_Days	4		160-24922-G-29-C MSD

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-190166
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/19/2017 12:28:00PM
Batch End: 10/24/2017 2:00:00PM

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981328501
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250
Toluene ID	0000160561
MeCL2 ID	N/A
Soxhlet/Soxtherm Start	16:00
Soxhlet/Soxtherm End	19:00
Analyst ID - IDA Reagent Drop	DTG 10/19/17 EC15131 B-3/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/19/17
Analyst ID - TA Reagent Drop	DTG 10/19/17 EH15371 B-6/10
Analyst ID - TA Reagent Drop Witness	ADN 10/19/17
Analyst ID - SU Reagent Drop	MEL 10/24/17 2/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/24/17
Analyst ID - IS Reagent Drop	TGL 10/24/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	MEL 10/24/17
Nonane ID	N/A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-190166

Analyst: Nguyen, Angela D

Batch Open: 10/19/2017 12:28:00PM

Method Code: 320-8290_P_Sox-320

Batch End: 10/24/2017 2:00:00PM

Sulfuric Acid Lot Number N/A

5% NaCl Reagent ID N/A

20% KOH Reagent ID N/A

Acid cleanup Analyst N/A

Date of Acid Cleanup N/A

1:1 DCM:Cyclohexane ID N/A

5% Carbon:Silica Gel ID N/A

75:20:5DCM/MeOH/Benzene ID N/A

Benzene ID N/A

Carbon Column C/U Analyst N/A

Carbon Column C/U Date N/A

DCM:Hexane ID 20%-1032465

65% DCM:Hexane ID 1061658

Alumina ID 26

Silica Gel ID 1062261 / 1068685

Dual Column C/U Analyst MEL

Dual Column C/U Date 10/24/2017

GPC ID N/A

GPC Analyst N/A

GPC Date N/A

Split Analyst/Date N/A

Split Volume N/A

Storage Box ID DXN-979

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-190166

Analyst: Nguyen, Angela D

Batch Open: 10/19/2017 12:28:00PM

Method Code: 320-8290_P_Sox-320

Batch End: 10/24/2017 2:00:00PM

Batch Comment

Comments

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-190166

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/19/2017 12:28:00PM

Batch End: 10/24/2017 2:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-190166/1	HRDXNIDA_00306	1.00 mL	20.00 uL		
MB 320-190166/1	HRDXNIS_00101	20.0 uL	20.00 uL		
MB 320-190166/1	HRDXNSU_00172	1 mL	20.00 uL		
LCS 320-190166/2	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCS 320-190166/2	HRDXNIS_00101	20.0 uL	20.00 uL		
LCS 320-190166/2	HRDXNSU_00172	1 mL	20.00 uL		
LCS 320-190166/2	HRDXNTA_00083	50.0 uL	20.00 uL		
LCSD 320-190166/3	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCSD 320-190166/3	HRDXNIS_00101	20.0 uL	20.00 uL		
LCSD 320-190166/3	HRDXNSU_00172	1 mL	20.00 uL		
LCSD 320-190166/3	HRDXNTA_00083	50.0 uL	20.00 uL		
560-70333-B-1	HRDXNIDA_00306	1.00 mL	20.00 uL		
560-70333-B-1	HRDXNIS_00101	20.0 uL	20.00 uL		
560-70333-B-1	HRDXNSU_00172	1 mL	20.00 uL		
160-24925-G-4	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24925-G-4	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24925-G-4	HRDXNSU_00172	1 mL	20.00 uL		
160-24925-G-17	HRDXNIDA_00306	1.00 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-190166
Analyst: Nguyen, Angela D
Batch Open: 10/19/2017 12:28:00PM
Method Code: 320-8290_P_Sox-320
Batch End: 10/24/2017 2:00:00PM

160-24925-G-17	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24925-G-17	HRDXNSU_00172	1 mL	20.00 uL		
600-155367-A-1	HRDXNIDA_00306	1.00 mL	20.0 uL		
600-155367-A-1	HRDXNIS_00101	20.0 uL	20.0 uL		
600-155367-A-1	HRDXNSU_00172	1 mL	20.0 uL		
160-24922-G-27	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24922-G-27	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24922-G-27	HRDXNSU_00172	1 mL	20.00 uL		
160-24922-G-28	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24922-G-28	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24922-G-28	HRDXNSU_00172	1 mL	20.00 uL		
160-24922-G-29	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24922-G-29	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24922-G-29	HRDXNSU_00172	1 mL	20.00 uL		
160-24922-G-29 MS	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24922-G-29 MS	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24922-G-29 MS	HRDXNSU_00172	1 mL	20.00 uL		
160-24922-G-29 MS	HRDXNTA_00083	50.00 uL	20.00 uL		
160-24922-G-29 MSD	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24922-G-29 MSD	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24922-G-29 MSD	HRDXNSU_00172	1 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-190166

Analyst: Nguyen, Angela D

Batch Open: 10/19/2017 12:28:00PM

Method Code: 320-8290_P_Sox-320

Batch End: 10/24/2017 2:00:00PM

160-24922-G-29 MSD	HRDXNTA_00083	50.00 uL	20.00 uL		

Other Reagents:

Reagent	**Amount/Units**	**Lot#:**

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-190166

Analyst: Nguyen, Angela D

Batch Open: 10/19/2017 12:28:00PM

Method Code: 320-8290_P_Sox-320

Batch End:

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981328501
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	
Toluene ID	0000160561
MeCL2 ID	
Soxhlet/Soxtherm Start	1600
Soxhlet/Soxtherm End	1900
Analyst ID - IDA Reagent Drop	DTG 10/19/17 EC15131 B-3/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/19/17
Analyst ID - TA Reagent Drop	DTG 10/19/17 EH15371 B-6/10
Analyst ID - TA Reagent Drop Witness	ADN 10/19/17
Analyst ID - SU Reagent Drop	MEL 10/24/17 1.0ml HRDXNSU-00172 2/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/24/17
Analyst ID - IS Reagent Drop	TGL 10/24/17 20.0µL HRDXNIS_00101 (2/4)
Analyst ID - IS Reagent Drop Witness	MEC 10/24/17
Nonane ID	

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-190166

Analyst: Nguyen, Angela D

Batch Open: 10/19/2017 12:28:00PM

Method Code: 320-8290_P_Sox-320

Batch End:

Sulfuric Acid Lot Number

5% NaCl Reagent ID

20% KOH Reagent ID

Acid cleanup Analyst

Date of Acid Cleanup

1:1 DCM:Cyclohexane ID

5% Carbon:Silica Gel ID

75:20:5DCM/MeOH/Benzene ID

Benzene ID

Carbon Column C/U Analyst

Carbon Column C/U Date

DCM:Hexane ID

65% DCM:Hexane ID

Alumina ID 26

Silica Gel ID

Dual Column C/U Analyst MEL

Dual Column C/U Date 10/24/17

GPC ID

GPC Analyst

GPC Date

Split Analyst/Date

Split Volume

Storage Box ID DXN-979

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-190166 Test: 8290/1613 (solid)
Earliest Holding Time: 11/01/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓ vpm 10/24/17
All necessary NCMs filed (including holding time) vpm 10/24/17	✓ ~~NA~~	~~NA~~ ✓
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	NA
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	**1st Level Reviewer**	**2nd Level Reviewer**
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TGL Date: 10/24/17
2nd Level Reviewer: VPM Date: ~~10/24/17~~ 10/25/17
Comments: vpm 10/25/17

D987

RI Copy

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Soxhlet Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1	MB~320-189721/1 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A	OCDD Contamination DB225- pre-emptive	MB 320-189721/1-A
2	LCS~320-189721/2 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCS 320-189721/2-A
3	LCSD~320-189721/3 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCSD 320-189721/3-A
4	160-24924-G-1 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4	RI for IDA recovery DB225- pre-emptive	160-24924-G-1-A
5	160-24924-G-2 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-2-A
6	160-24924-G-3 (8290A_DOD5)	N/A (160-24924-2)	9.99 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-3-A
7	160-24924-G-4 (8290A_DOD5)	N/A (160-24924-2)	10.23 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-4-A
8	160-24924-G-5 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-5-A
9	160-24924-G-6 (8290A_DOD5)	N/A (160-24924-2)	9.92 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-6-A
10	160-24924-G-7 (8290A_DOD5)	N/A (160-24924-2)	10.02 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-7-A
11	160-24924-G-8 (8290A_DOD5)	N/A (160-24924-2)	9.96 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-8-A
12	160-24924-G-9 (8290A_DOD5)	N/A (160-24924-2)	10.04 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-A
13	160-24924-G-9~MS (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-B MS
14	160-24924-G-9~MSD (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-C MSD
15	160-24924-G-10 (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-10-A

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Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Method Code: 320-8290_P_Sox-320

Batch End: 10/27/2017 2:00:00PM

16	160-24924-G-11 (8290A_DOD5)	N/A (160-24924-2)	9.92 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-11-A
17	160-24924-G-12 (8290A_DOD5)	N/A (160-24924-2)	10.19 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-12-A
18	160-24924-G-13 (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-13-A
19	160-24924-G-14 (8290A_DOD5)	N/A (160-24924-2)	10.10 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-14-A
20	160-24924-G-15 (8290A_DOD5)	N/A (160-24924-2)	10.07 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-15-A
21	160-24924-G-16 (8290A_DOD5)	N/A (160-24924-2)	9.98 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-16-A
22	160-24924-G-17 (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-17-A
23	160-24924-G-18 (8290A_DOD5)	N/A (160-24924-2)	10.10 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-18-A
24	160-24924-G-19 (8290A_DOD5)	N/A (160-24924-2)	10.14 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-19-A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250
Toluene ID	0000160561
MeCL2 ID	N/A
Soxhlet/Soxtherm Start	15:00
Soxhlet/Soxtherm End	18:00
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Analyst ID - SU Reagent Drop	MEL 10/27/17 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Nonane ID	N/A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

Sulfuric Acid Lot Number	N/A
5% NaCl Reagent ID	N/A
20% KOH Reagent ID	N/A
Acid cleanup Analyst	N/A
Date of Acid Cleanup	N/A
1:1 DCM:Cyclohexane ID	N/A
5% Carbon:Silica Gel ID	N/A
75:20:5DCM/MeOH/Benzene ID	N/A
Benzene ID	N/A
Carbon Column C/U Analyst	N/A
Carbon Column C/U Date	N/A
DCM:Hexane ID	20%-1040410
65% DCM:Hexane ID	1063074
Alumina ID	26
Silica Gel ID	1066403 / 1069584
Dual Column C/U Analyst	MEL
Dual Column C/U Date	10/27/2017
GPC ID	N/A
GPC Analyst	N/A
GPC Date	N/A
Split Analyst/Date	N/A
Split Volume	N/A
Storage Box ID	DXN-981

Printed : 10/27/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Method Code: 320-8290_P_Sox-320

Batch End: 10/27/2017 2:00:00PM

Batch Comment 20% and 65% eluents were combined and than brought to F.V.

Comments

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
LCS 320-189721/2	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCS 320-189721/2	HRDXNIS_00101	20.0 uL	20.00 uL		
LCS 320-189721/2	HRDXNSU_00172	1 mL	20.00 uL		
LCS 320-189721/2	HRDXNTA_00083	50.0 uL	20.00 uL		
LCSD 320-189721/3	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCSD 320-189721/3	HRDXNIS_00101	20.0 uL	20.00 uL		
LCSD 320-189721/3	HRDXNSU_00172	1 mL	20.00 uL		
LCSD 320-189721/3	HRDXNTA_00083	50.0 uL	20.00 uL		
160-24924-G-1	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-1	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-1	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-2	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-2	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-2	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-3	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-3	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-3	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-4	HRDXNIDA_00306	1.00 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

160-24924-G-4	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-4	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-5	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-5	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-5	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-6	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-6	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-6	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-7	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-7	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-7	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-8	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-8	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-8	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MS	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9 MS	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9 MS	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MS	HRDXNTA_00083	50.0 uL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

160-24924-G-9 MSD	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9 MSD	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9 MSD	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MSD	HRDXNTA_00083	50.0 uL	20.00 uL		
160-24924-G-10	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-10	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-10	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-11	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-11	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-11	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-12	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-12	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-12	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-13	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-13	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-13	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-14	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-14	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-14	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-15	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-15	HRDXNIS_00101	20.0 uL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Analyst: Nguyen, Angela D
Batch Open: 10/17/2017 11:29:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 10/27/2017 2:00:00PM

160-24924-G-15	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-16	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-16	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-16	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-17	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-17	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-17	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-18	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-18	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-18	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-19	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-19	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-19	HRDXNSU_00172	1 mL	20.00 uL		
MB 320-189721/1	HRDXNIDA_00306	1.00 mL	20.00 uL		
MB 320-189721/1	HRDXNIS_00101	20.0 uL	20.00 uL		
MB 320-189721/1	HRDXNSU_00172	1 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

Other Reagents:

Reagent	Amount/Units	Lot#:

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End:

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	
Toluene ID	0000160561
MeCL2 ID	
Soxhlet/Soxtherm Start	1500
Soxhlet/Soxtherm End	1800
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Analyst ID - SU Reagent Drop	MEC 10/27/17 1.0ml HRDXNSU-00172 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 20.0µL HRDXNIS_00101 (3/4)
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Nonane ID	

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End:

Sulfuric Acid Lot Number	
5% NaCl Reagent ID	
20% KOH Reagent ID	
Acid cleanup Analyst	
Date of Acid Cleanup	
1:1 DCM:Cyclohexane ID	
5% Carbon:Silica Gel ID	
75:20:5DCM/MeOH/Benzene ID	
Benzene ID	
Carbon Column C/U Analyst	
Carbon Column C/U Date	
DCM:Hexane ID	
65% DCM:Hexane ID	
Alumina ID	26
Silica Gel ID	
Dual Column C/U Analyst	MEL
Dual Column C/U Date	10/27/17
GPC ID	
GPC Analyst	
GPC Date	
Split Analyst/Date	
Split Volume	
Storage Box ID	DXN-981

Printed : 10/17/2017

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-189721 Test: 8290 (solid)

Earliest Holding Time: 11/04/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	NA	NA
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	1st Level Reviewer	2nd Level Reviewer
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	NA
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	1st Level Reviewer	2nd Level Reviewer
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	1st Level Reviewer	2nd Level Reviewer
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TGL Date: 10/27/17

2nd Level Reviewer: Date: 10/29/2017

Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Data Review Checklist
HRGCMS/LRGCMS Analyses

Job #(s): 160-24924

Method: 8290A - D5

ICAL Batch 189155

ICV Batch (if not ICAL) Same

Worklists: 50363

Sample/QC Batch(es) 194429

	Primary Column	Confirmation Column (if needed)
1st Level Reviewer/Date	Pratumrat Pimtong 11/16/2017	
2nd Level Reviewer/Date	Sht 12/5/17	

	Primary Column		Confirmation Column	
QA/QC Verification	1st Level	2nd Level	1st Level	2nd Level
- Daily Standard meets criteria?	✓	✓		
- Method Blank meets criteria?	✓	na		
- LCS meets native recovery criteria?	✓	na		
- IDA recoveries within limits?*		✓		
- Ion ratios within 15% of theoretical values?	qflgs	qflags		
- Other QC (Dup, MS, SD) within specs?	✓	na		
Sample Analysis:				
- Correct sample aliquot used?	✓	✓		
- All raw data present?	✓	✓		
- Standard Target DL's used? If RL's are used, specify__________	✓	✓		
- DL's below TDL/LCL (circle one)	✓	✓		
- All positives reported at levels > MB DLs?	✓	✓		
- Correct RRF's used for method?	✓	✓		
- IDA amounts correct for method?	✓	✓		
- Target analytes are not saturated?	✓	✓		
- Dilution/splitting of extract taken into account?	NA	na		
- Have dilution calculations been verified?	NA	na		
- If multiple dilutions or analyses for a sample, are results comparable?	NA	na		
- Has a manual calculation for the sequence been verified?	NA	✓		
- Are retention times (RT) correct?	✓	✓		
- Manual integrations checked?	✓	✓		
- QC Checker Run & Reviewed?	✓	✓		
- Appropriate Documents Uploaded?	✓	✓		

NCMs:

Comments: : MS/MSD surrogate low.

* Note: Lower IDA recoveries are acceptable if IDA S/N ≥ 10:1 and DLs are < LCL for target analytes.

I:\qa\forms\checklists\qa-371_hrms_review 2016-05-13.doc

QA-371 Revised 5/13/2016 ERS

Report Date: 16-Nov-2017 07:17:29 Chrom Revision: 2.2 16-Aug-2017 16:24:46 Page: 1

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 13NO1710D5_DXN
Worklist Number: 50363
Instrument Name: 10D5
Chrom Method: Dioxin_10D5
Data Directory: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b
QC Batching: Enabled
Limit Group Batching: Enabled

QC Batch: 1	HR - 8290A_D5 - ICAL Raw Batch: 194427	HR - 8290A - ICAL Raw Batch: 194692
# 1 WDM	# 1 WDM	# 1 WDM
# 2 CCV	# 2 CCV	# 2 CCV
# 3 RB	# 3 RB	# 3 RB
# 4 MB 320-189688/1-A	# 4 MB 320-189688/1-A	# 4 MB 320-189688/1-A
# 5 LCS 320-189688/2-A	# 5 LCS 320-189688/2-A	# 5 LCS 320-189688/2-A
# 6 LCSD 320-189688/3-A	# 6 LCSD 320-189688/3-A	# 6 LCSD 320-189688/3-A
# 7 160-24917-F-17-A	# 7 160-24917-F-17-A	
# 8 160-24917-F-20-B MS	# 8 160-24917-F-20-B MS	
# 9 160-24922-G-27-A	# 9 160-24922-G-27-A	
#10 160-24922-G-28-A	#10 160-24922-G-28-A	
#11 160-24917-F-30-A	#11 160-24917-F-30-A	
#12 RB	#12 RB	#12 RB
#13 CCV	#13 CCV	#13 CCV

QC Batch: 2	HR - 8290A_D5 - ICAL Raw Batch: 194428
#14 WDM	#14 WDM
#15 CCV	#15 CCV
#16 RB	#16 RB
#17 MB 320-189721/1-A	#17 MB 320-189721/1-A
#18 160-24924-G-1-A	#18 160-24924-G-1-A
#19 160-24924-G-2-A	#19 160-24924-G-2-A
#20 160-24924-G-3-A	#20 160-24924-G-3-A
#21 160-24924-G-4-A	#21 160-24924-G-4-A
#22 160-24924-G-6-A	#22 160-24924-G-6-A
#23 160-24924-G-10-A	#23 160-24924-G-10-A
#24 160-24924-G-11-A	#24 160-24924-G-11-A
#25 RB	#25 RB
#26 CCV	#26 CCV

QC Batch: 3	HR - 8290A_D5 - ICAL Raw Batch: 194429
#27 WDM	#27 WDM
#28 CCV	#28 CCV
#29 RB	#29 RB
#30 160-24924-G-9-A	#30 160-24924-G-9-A RA
#31 160-24924-G-9-B MS	#31 160-24924-G-9-B MS
#32 160-24924-G-9-C MSD	#32 160-24924-G-9-C MSD
#33 160-24924-G-12-A	#33 160-24924-G-12-A
#34 160-24924-G-14-A	#34 160-24924-G-14-A RA
#35 160-24924-G-15-A	#35 160-24924-G-15-A
#36 160-24924-G-18-A	#36 160-24924-G-18-A
#37 160-24924-G-19-A	#37 160-24924-G-19-A
#38 RB	#38 RB
#39 CCV	#39 CCV

Pratumrat

11/16/2017

TestAmerica Laboratories
Worklist Report

Worklist Name: 13NO1710D5_DXN
Instrument Name: 10D5
Injection Volume: 2.000
Analysis Type: Semi VOA
Batch Directory: \\ChromNA\Sacramento\ChromData\10D5\20171113-50363.b
Upload Directory: \\CorpTALSAPP12\320-WS-RawData\Organics\MS\10D5

Worklist Number: 50363
Chrom Method: Dioxin_10D5
Units: ul

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050363-001	# 1 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050363-002	# 2 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050363-003	# 3 RB		RB	sv	1.000	mL	1.000
320-0050363-004	# 4 MB 320-189688/1-A		MB	sv	1.000	mL	1.000
320-0050363-005	# 5 LCS 320-189688/2-A		LCS	sv	1.000	mL	1.000
320-0050363-006	# 6 LCSD 320-189688/3-A		LCSD	sv	1.000	mL	1.000
320-0050363-007	# 7 160-24917-F-17-A		Client	sv	1.000	mL	2.000
320-0050363-008	# 8 160-24917-F-20-B MS		MS	sv	1.000	mL	1.000
320-0050363-009	# 9 160-24922-G-27-A		Client	sv	1.000	mL	1.000
320-0050363-010	#10 160-24922-G-28-A		Client	sv	1.000	mL	1.000
320-0050363-011	#11 160-24917-F-30-A		Client	sv	1.000	mL	2.000
320-0050363-012	#12 RB		RB	sv	1.000	mL	1.000
320-0050363-013	#13 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050363-014	#14 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050363-015	#15 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050363-016	#16 RB		RB	sv	1.000	mL	1.000
320-0050363-017	#17 MB 320-189721/1-A		MB	sv	1.000	mL	1.000
320-0050363-018	#18 160-24924-G-1-A		Client	sv	1.000	mL	1.000
320-0050363-019	#19 160-24924-G-2-A		Client	sv	1.000	mL	1.000
320-0050363-020	#20 160-24924-G-3-A		Client	sv	1.000	mL	1.000
320-0050363-021	#21 160-24924-G-4-A		Client	sv	1.000	mL	1.000
320-0050363-022	#22 160-24924-G-6-A		Client	sv	1.000	mL	1.000
320-0050363-023	#23 160-24924-G-10-A		Client	sv	1.000	mL	1.000
320-0050363-024	#24 160-24924-G-11-A		Client	sv	1.000	mL	1.000
320-0050363-025	#25 RB		RB	sv	1.000	mL	1.000
320-0050363-026	#26 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050363-027	#27 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050363-028	#28 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050363-029	#29 RB		RB	sv	1.000	mL	1.000
320-0050363-030	#30 160-24924-G-9-A		Client	sv	1.000	mL	1.000
320-0050363-031	#31 160-24924-G-9-B MS		MS	sv	1.000	mL	1.000
320-0050363-032	#32 160-24924-G-9-C MSD		MSD	sv	1.000	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050363-033	#33 160-24924-G-12-A		Client	sv	1.000	mL	1.000
320-0050363-034	#34 160-24924-G-14-A		Client	sv	1.000	mL	1.000
320-0050363-035	#35 160-24924-G-15-A		Client	sv	1.000	mL	1.000
320-0050363-036	#36 160-24924-G-18-A		Client	sv	1.000	mL	1.000
320-0050363-037	#37 160-24924-G-19-A		Client	sv	1.000	mL	1.000
320-0050363-038	#38 RB		RB	sv	1.000	mL	1.000
320-0050363-039	#39 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000

Sample List Report **MassLynx 4.1**

10D5

Sample List: C:\MassLynx\Data Jan2017.PRO\SampleDB\13NO1710D5.SPL

Last Modified: Monday, November 13, 2017 16:45:44 Pacific Standard Time

Printed: Monday, November 13, 2017 16:45:56 Pacific Standard Time

Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	13NO1710D5_1	WDM HRDXNCP_00034	WDM 111317	Tray01:1		---	AJS
2	13NO1710D5_2	CS-4 HRDXNL4_00060	CCV 111317	Tray01:2		---	AJS
3	13NO1710D5_3	Reagent Blank C-14	RB 111317	Tray01:3		---	AJS
4	13NO1710D5_4	mb 320-189688/1-a	mb 320-189688/1-a	Tray01:4	8290A_D5/Water	D979	AJS
5	13NO1710D5_5	lcs 320-189688/2-a	lcs 320-189688/2-a	Tray01:5	8290A_D5/Water		AJS
6	13NO1710D5_6	lcsd 320-189688/3-a	lcsd 320-189688/3-a	Tray01:6	8290A_D5/Water		AJS
7	13NO1710D5_7	160-24917-F-17-A 2X	160-24917-F-17-A 2X	Tray01:7	8290A_D5/Solid	D978	AJS
8	13NO1710D5_8	160-24917-F-20 B-MS RI	160-24917-F-20 B-MS RI	Tray01:8	8290A_D5/Solid		AJS
9	13NO1710D5_9	160-24922-G-27-A	160-24922-G-27-A	Tray01:9	8290A_D5/Solid	D979	AJS
10	13NO1710D5_10	160-24922-G-28-A	160-24922-G-28-A	Tray01:10	8290A_D5/Solid		AJS
11	13NO1710D5_11	160-24917-F-30-A 2X	160-24917-F-30-A 2X	Tray01:11	8290A_D5/Solid	D975	AJS
12	13NO1710D5_12	Reagent Blank C-14	RB 111317A	Tray01:3		---	AJS
13	13NO1710D5_13	CS-4 HRDXNL4_00060	CCV 111317A	Tray01:2		---	AJS
14	13NO1710D5_14	WDM HRDXNCP_00034	WDM 111317A	Tray01:1		---	AJS
15	13NO1710D5_15	CS-4 HRDXNL4_00060	CCV 111317B	Tray01:2		---	AJS
16	13NO1710D5_16	Reagent Blank C-14	RB 111317B	Tray01:3		---	AJS
17	13NO1710D5_17	mb 320-189721/1-a RI	mb 320-189721/1-a RI	Tray01:15	8290A_D5/Water	D981	AJS
18	13NO1710D5_18	160-24924-g-1-a RI	160-24924-g-1-a RI	Tray01:16	8290A_D5/Water		AJS
19	13NO1710D5_19	160-24924-g-2-a RI	160-24924-g-2-a RI	Tray01:17	8290A_D5/Water		AJS
20	13NO1710D5_20	160-24924-g-3-a RI	160-24924-g-3-a RI	Tray01:18	8290A_D5/Solid	---	AJS
21	13NO1710D5_21	160-24924-g-4-a RI	160-24924-g-4-a RI	Tray01:19	8290A_D5/Solid		AJS
22	13NO1710D5_22	160-24924-g-6-a RI	160-24924-g-6-a RI	Tray01:20	8290A_D5/Solid	---	AJS
23	13NO1710D5_23	160-24924-g-10-a RI	160-24924-g-10-a RI	Tray01:21	8290A_D5/Solid		AJS
24	13NO1710D5_24	160-24924-g-11-a RI	160-24924-g-11-a RI	Tray01:22	8290A_D5/Solid	---	AJS
25	13NO1710D5_25	Reagent Blank C-14	RB 111317C	Tray01:3		---	AJS
26	13NO1710D5_26	CS-4 HRDXNL4_00060	CCV 111317C	Tray01:2		---	AJS
27	13NO1710D5_27	WDM HRDXNCP_00034	WDM 111317B	Tray01:1		---	AJS
28	13NO1710D5_28	CS-4 HRDXNL4_00060	CCV 111317D	Tray01:2		---	AJS
29	13NO1710D5_29	Reagent Blank C-14	RB 111317D	Tray01:3		---	AJS
30	13NO1710D5_30	160-24924-g-9-a RI	160-24924-g-9-a RI	Tray01:29	8290A_D5/Water	D981	AJS
31	13NO1710D5_31	160-24924-g-9-b ms RI	160-24924-g-9-b ms RI	Tray01:30	8290A_D5/Water		AJS
32	13NO1710D5_32	160-24924-g-9-c msd RI	160-24924-g-9-c msd RI	Tray01:31	8290A_D5/Water		AJS
33	13NO1710D5_33	160-24924-g-12-a RI	160-24924-g-12-a RI	Tray01:32	8290A_D5/Solid	---	AJS
34	13NO1710D5_34	160-24924-g-14-a RI	160-24924-g-14-a RI	Tray01:33	8290A_D5/Solid		AJS
35	13NO1710D5_35	160-24924-g-15-a RI	160-24924-g-15-a RI	Tray01:34	8290A_D5/Solid	---	AJS
36	13NO1710D5_36	160-24924-g-18-a RI	160-24924-g-18-a RI	Tray01:35	8290A_D5/Solid		AJS
37	13NO1710D5_37	160-24924-g-19-a RI	160-24924-g-19-a RI	Tray01:36	8290A_D5/Solid	---	AJS
38	13NO1710D5_38	Reagent Blank C-14	RB 111317E	Tray01:3		---	AJS
39	13NO1710D5_39	CS-4 HRDXNL4_00060	CCV 111317E	Tray01:2		---	AJS
40	13NO1710D5_40	WDM HRDXNCP_00034	WDM 111317C	Tray01:1		---	AJS
41	13NO1710D5_41	CS-4 HRDXNL4_00060	CCV 111317F	Tray01:2		---	AJS
42	13NO1710D5_42	Reagent Blank C-14	RB 111317F	Tray01:3		---	AJS

logfile checked
11-14-17 ALM

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Daily Calibration Checklist
Dioxin Methods

Method IDs 8290A_D5

ICAL Event # 35216

Worklist # 50363

Batch # (s) 194429

Column ID DB-5

Instrument ID 10D5

CCV IDs CCV111317D, CCV111317E

CCV Solution HRDXNL4.00060

Analyzed by AJS

Date Analyzed 11-14-17

Std. Pkg. By ALM

Date Std. Pkg. Assembled 11-15-17

Std. Pkg. Reviewed By

Date Std. Pkg. Reviewed 12/5/17

DAILY STANDARD PACKAGE	INITIATED	REVIEWED
Standard, CPS, and Solvent Blank checked?	✓	✓
Copy of log-file checked?	✓	✓
CPS blow up checked?	✓	✓
Summary of Method criteria present or documented below?	✓	✓
CCV standard within method specified limits?*	✓	✓
Analyte retention times correct?	✓	✓
Isotopic ratios within limits?	✓	✓
CPS valley ≤ method specified limits?** ?	✓	✓
Are chromatographic windows correct?	✓	✓
Samples analyzed within 12 hrs of daily standard?	✓	✓
Manual reintegrations checked and hardcopies included?	NA	na
Absolute retention times for 13C12-1,2,3,4-TCDD and 13C12-1,2,3,7,8,9-HxCDD are within +/- 15 seconds of the retention times in the Initial Calibration? (for 1613B only) ?	NA	na
Resolution Plot(s) Checked and Scanned?	✓	NA
ICal Checklist Included?	✓	NA
CCV Checklist Scanned?	NA	✓

COMMENTS:

* **Method 8290/TO9/M0023A: (beginning)** ≤ 20% from curve RRFs for native analytes, ≤ 30% from curve RRFs for labeled compounds.

Method 8290/TO9/M0023A: (ending) ≤ 25% from curve RRFs for native analytes, ≤ 35% from curve RRFs for labeled compounds.

Method 23: See Method 23 Daily Standard Criteria, Table 5.

Method 1613B: See, Method 1613B or Method 1613B Tetras Daily Standard Criteria,

** **Method 23/0023A CPSM Criteria:** Compare the 2378 TCDF (DB-225)/TCDD (DB-5) peak to the one eluting just before it. Normalize to the smaller of the two peaks. Do the same for 2378 TCDF/TCDD and the peak eluting just after it. In both cases the valley between peaks must be ≤ 25%

Method 1613B/8290/TO9 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak

Test America – West Sacramento

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Initial Calibration Checklist
Dioxin Methods

Worklist #49091- Batch #189153, 189154, 189155, 189156, 189157, 189158, 189159, 189160, 189161
Calibration Event ID # 35214, 35215, 35216, 35217, 35218, 35219, 35220, 35221, 35222

Method ID: 8290, 8290A, 8290A_D5, 1613B_Tetras, EPA_0023A, DLM02.x, EPA_23, 1613B, TO_9

Column ID ________DB5______________ Instrument ID ______10D5______

STD ID's __CS-4, CS-3, CS-2, CS-6, CS-5__ STD Solution __See WL #49091__

GC Program ________DioxinnoGC________ Multiplier Setting ____370v______

Analyzed By ________AMessecar________ Date Analyzed _____10-12-17____

Prepared By ________ SArghestani __________ Date Prepared ______10-13-17____

Reviewed By ______________ Date Reviewed ____10/16/17____

ANALYSIS OFFICIAL	INITIATED	REVIEWED
Curve summary present?	X	✓
Calibration levels verified from CS-2 to CS-6?	X	✓
Copy of log-file present?	X	✓
Beginning and Ending Static resolution check scanned?	X	✓
DLM02.2: Beginning and ending CPSM blow ups present?	X	✓
DLM02.2: CPSM valley < 25%. Resolution documented below? **	X (1)	✓
Target file RT's correct?	X	✓
%RSD within method-specified limits?*	X	✓
Signal-to-noise criteria met?	X	✓
Isotopic ratios within limits?	X	✓
High point free of saturation?	X	✓
Are chromatographic windows correct?	X	✓
DLM02.2: Absolute retention time for 13C12-1,2,3,4-TCDD > 25 minutes on a DB-5 column or 13C12-1,2,3,4-TCDD > 15 minutes on a DB-225 column?	NA (2)	NA
Manual reintegration's checked in TALS/CHROM?	NA	NA
ICAL Checklist/Summary scanned: Date 10/16/17 initials SMA	NA	NA

COMMENTS: (1) Beginning CPSM = 24% valley; Ending CPSM = 21% valley
(2) CS-4 IS RT: 13C-1,2,3,4-TCDD = 17.929; 13C-1,2,3,7,8,9-HxCDD = 32.243

* Method 8290/TO9/M0023A: %RSD ≤20% for natives, ≤30% for labeled compounds; S/N≥10
Method 1613B/DLM02.2: %RSD≤ 20% natives, ≤30% labeled compounds; S/N ≥10
Method 23: %RSD ≤ values specified in Table 5, Method 23; S/N ≥ 10

** **DLM02.2 CPSM Criteria**: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak.

C:\Documents and Settings\stephensk\Desktop\DailyForms\10D5 Dioxins Checklist ICA1012201710D5.doc
QA-384 07/10/14 KSS

D981

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

RI Copy

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Soxhlet Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1	MB~320-189721/1 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A	OCDD contamination DB225- pre-emptive	MB 320-189721/1-A
2	LCS~320-189721/2 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCS 320-189721/2-A
3	LCSD~320-189721/3 N/A	N/A	10.00 g	20.00 uL	N/A	N/A	N/A		LCSD 320-189721/3-A
4	160-24924-G-1 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4	RI for IDA recovery DB225- pre-emptive	160-24924-G-1-A
5	160-24924-G-2 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-2-A
6	160-24924-G-3 (8290A_DOD5)	N/A (160-24924-2)	9.99 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-3-A
7	160-24924-G-4 (8290A_DOD5)	N/A (160-24924-2)	10.23 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-4-A
8	160-24924-G-5 (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-5-A
9	160-24924-G-6 (8290A_DOD5)	N/A (160-24924-2)	9.92 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-6-A
10	160-24924-G-7 (8290A_DOD5)	N/A (160-24924-2)	10.02 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-7-A
11	160-24924-G-8 (8290A_DOD5)	N/A (160-24924-2)	9.96 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-8-A
12	160-24924-G-9 (8290A_DOD5)	N/A (160-24924-2)	10.04 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-A
13	160-24924-G-9-MS (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-B MS
14	160-24924-G-9-MSD (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-9-C MSD
15	160-24924-G-10 (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4		160-24924-G-10-A

→

Printed : 10/27/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

16	160-24924-G-11 (8290A_DOD5)	N/A (160-24924-2)	9.92 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-11-A
17	160-24924-G-12 (8290A_DOD5)	N/A (160-24924-2)	10.19 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-12-A
18	160-24924-G-13 (8290A_DOD5)	N/A (160-24924-2)	10.05 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-13-A
19	160-24924-G-14 (8290A_DOD5)	N/A (160-24924-2)	10.10 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-14-A
20	160-24924-G-15 (8290A_DOD5)	N/A (160-24924-2)	10.07 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-15-A
21	160-24924-G-16 (8290A_DOD5)	N/A (160-24924-2)	9.98 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-16-A
22	160-24924-G-17 (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-17-A
23	160-24924-G-18 (8290A_DOD5)	N/A (160-24924-2)	10.10 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-18-A
24	160-24924-G-19 (8290A_DOD5)	N/A (160-24924-2)	10.14 g	20.00 uL	10/16/17	15_Days	4	160-24924-G-19-A

Printed : 10/27/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250
Toluene ID	0000160561
MeCL2 ID	N/A
Soxhlet/Soxtherm Start	15:00
Soxhlet/Soxtherm End	18:00
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Analyst ID - SU Reagent Drop	MEL 10/27/17 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Nonane ID	N/A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Sulfuric Acid Lot Number	N/A
5% NaCl Reagent ID	N/A
20% KOH Reagent ID	N/A
Acid cleanup Analyst	N/A
Date of Acid Cleanup	N/A
1:1 DCM:Cyclohexane ID	N/A
5% Carbon:Silica Gel ID	N/A
75:20:5DCM/MeOH/Benzene ID	N/A
Benzene ID	N/A
Carbon Column C/U Analyst	N/A
Carbon Column C/U Date	N/A
DCM:Hexane ID	20%-1040410
65% DCM:Hexane ID	1063074
Alumina ID	26
Silica Gel ID	1066403 / 1069584
Dual Column C/U Analyst	MEL
Dual Column C/U Date	10/27/2017
GPC ID	N/A
GPC Analyst	N/A
GPC Date	N/A
Split Analyst/Date	N/A
Split Volume	N/A
Storage Box ID	DXN-981

Printed : 10/27/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Method Code: 320-8290_P_Sox-320

Batch End: 10/27/2017 2:00:00PM

Batch Comment 20% and 65% eluents were combined and than brought to F.V.

Comments

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
LCS 320-189721/2	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCS 320-189721/2	HRDXNIS_00101	20.0 uL	20.00 uL		
LCS 320-189721/2	HRDXNSU_00172	1 mL	20.00 uL		
LCS 320-189721/2	HRDXNTA_00083	50.0 uL	20.00 uL		
LCSD 320-189721/3	HRDXNIDA_00306	1.00 mL	20.00 uL		
LCSD 320-189721/3	HRDXNIS_00101	20.0 uL	20.00 uL		
LCSD 320-189721/3	HRDXNSU_00172	1 mL	20.00 uL		
LCSD 320-189721/3	HRDXNTA_00083	50.0 uL	20.00 uL		
160-24924-G-1	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-1	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-1	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-2	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-2	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-2	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-3	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-3	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-3	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-4	HRDXNIDA_00306	1.00 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

160-24924-G-4	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-4	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-5	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-5	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-5	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-6	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-6	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-6	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-7	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-7	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-7	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-8	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-8	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-8	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MS	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9 MS	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9 MS	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MS	HRDXNTA_00083	50.0 uL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

160-24924-G-9 MSD	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-9 MSD	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-9 MSD	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-9 MSD	HRDXNTA_00083	50.0 uL	20.00 uL		
160-24924-G-10	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-10	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-10	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-11	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-11	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-11	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-12	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-12	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-12	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-13	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-13	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-13	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-14	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-14	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-14	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-15	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-15	HRDXNIS_00101	20.0 uL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End: 10/27/2017 2:00:00PM

160-24924-G-15	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-16	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-16	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-16	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-17	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-17	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-17	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-18	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-18	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-18	HRDXNSU_00172	1 mL	20.00 uL		
160-24924-G-19	HRDXNIDA_00306	1.00 mL	20.00 uL		
160-24924-G-19	HRDXNIS_00101	20.0 uL	20.00 uL		
160-24924-G-19	HRDXNSU_00172	1 mL	20.00 uL		
MB 320-189721/1	HRDXNIDA_00306	1.00 mL	20.00 uL		
MB 320-189721/1	HRDXNIS_00101	20.0 uL	20.00 uL		
MB 320-189721/1	HRDXNSU_00172	1 mL	20.00 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End: 10/27/2017 2:00:00PM

Other Reagents:

Reagent	Amount/Units	Lot#:

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721
Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM
Batch End:

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	981115901
Balance ID	QA-074
Hexane ID	0000175756
Na2SO4 ID	0000168174
Tetradecane ID	
Toluene ID	0000160561
MeCL2 ID	
Soxhlet/Soxtherm Start	1500
Soxhlet/Soxtherm End	1800
Analyst ID - IDA Reagent Drop	DXD 10/17/17 EC15131 B-2/4
Analyst ID - IDA Reagent Drop Witness	ADN 10/17/17
Analyst ID - TA Reagent Drop	DXD 10/17/17 EH15371 B- 5/10
Analyst ID - TA Reagent Drop Witness	ADN 10/17/17
Analyst ID - SU Reagent Drop	MEC 10/27/17 1.0ml HRDXNSU-00172 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 10/27/17
Analyst ID - IS Reagent Drop	TGL 10/27/17 20.0µL HRDXNIS_00101 (3/4)
Analyst ID - IS Reagent Drop Witness	DXD 10/27/17
Nonane ID	

Printed : 10/17/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-189721

Method Code: 320-8290_P_Sox-320

Analyst: Nguyen, Angela D

Batch Open: 10/17/2017 11:29:00AM

Batch End:

Sulfuric Acid Lot Number	
5% NaCl Reagent ID	
20% KOH Reagent ID	
Acid cleanup Analyst	
Date of Acid Cleanup	
1:1 DCM:Cyclohexane ID	
5% Carbon:Silica Gel ID	
75:20:5DCM/MeOH/Benzene ID	
Benzene ID	
Carbon Column C/U Analyst	
Carbon Column C/U Date	
DCM:Hexane ID	
65% DCM:Hexane ID	
Alumina ID	26
Silica Gel ID	
Dual Column C/U Analyst	MEL
Dual Column C/U Date	10/27/17
GPC ID	
GPC Analyst	
GPC Date	
Split Analyst/Date	
Split Volume	
Storage Box ID	DXN-981

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-189721 Test: 8290 (solid)

Earliest Holding Time: 11/04/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	NA	NA
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	NA
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	**1st Level Reviewer**	**2nd Level Reviewer**
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TGL Date: 10/27/17

2nd Level Reviewer: Date: 10/29/2017

Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Data Review Checklist
HRGCMS/LRGCMS Analyses

Job #(s): 160-21924

Worklists: 00645

Method: 8290A-D5

ICAL Batch 194923

ICV Batch (if not ICAL) Same

Sample/QC Batch(es) 195573, 195574, 195575

	Primary Column	Confirmation Column (if needed)
1st Level Reviewer/Date	Jerin D. 12/06/17	
2nd Level Reviewer/Date	12/6/17	

	Primary Column		Confirmation Column	
QA/QC Verification	1st Level	2nd Level	1st Level	2nd Level
- Daily Standard meets criteria?	✓	✓		
- Method Blank meets criteria?	✓			
- LCS meets native recovery criteria?	✓	✓		
- IDA recoveries within limits?*	①	①		
- Ion ratios within 15% of theoretical values?	✓	✓		
- Other QC (Dup, MS, SD) within specs?	✓	✓		
Sample Analysis:				
- Correct sample aliquot used?	✓	✓		
- All raw data present?	✓	✓		
- Standard Target DL's used? If RL's are used, specify ______	✓	✓		
- DL's below TDL/LCL (circle one)	✓	✓		
- All positives reported at levels > MB DLs?	✓	✓		
- Correct RRF's used for method?	✓	✓		
- IDA amounts correct for method?	✓	✓		
- Target analytes are not saturated?	✓	✓		
- Dilution/splitting of extract taken into account?	NA	na		
- Have dilution calculations been verified?	NA	na		
- If multiple dilutions or analyses for a sample, are results comparable?	NA	na		
- Has a manual calculation for the sequence been verified?	NA	✓		
- Are retention times (RT) correct?	NA	✓		
- Manual integrations checked?	✓	✓		
- QC Checker Run & Reviewed?	✓	✓		
- Appropriate Documents Uploaded?	✓	✓		

NCMs: ① 109985 ✓

Comments:

* Note: Lower IDA recoveries are acceptable if IDA S/N ≥ 10:1 and DLs are < LCL for target analytes.

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 16NO173D5_DXN_2 Worklist Number: 50645
Instrument Name: 3D5 Chrom Method: Dioxin_3D5
Data Directory: \\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b
QC Batching: Enabled Limit Group Batching: Enabled

QC Batch: 1	HR - 8290 - ICAL Raw Batch: 195570
#26 CCV	#26 CCV
#27 WDM	#27 WDM
#28 RB	#28 RB
#29 MB 320-193933/1-A	#29 MB 320-193933/1-A
#30 LCS 320-193933/2-A	#30 LCS 320-193933/2-A
#31 LCSD 320-193933/3-A	#31 LCSD 320-193933/3-A
#32 320-33016-A-1-A	#32 320-33016-A-1-A
#33 320-33016-A-2-A	#33 320-33016-A-2-A
#34 320-33016-A-3-A	#34 320-33016-A-3-A
#35 320-33016-A-4-A	#35 320-33016-A-4-A
#36 320-33016-A-5-A	#36 320-33016-A-5-A
#37 RB	#37 RB
#38 x CCV	#38 x CCV
#39 CCV	#39 CCV

QC Batch: 2	HR - 8290 - ICAL Raw Batch: 195571
#39 CCV	#39 CCV
#40 WDM	#40 WDM
#41 RB	#41 RB
#42 MB 320-192108/1-A	#42 MB 320-192108/1-A
#43 LCS 320-192108/2-A	#43 LCS 320-192108/2-A
#44 LCSD 320-192108/3-A	#44 LCSD 320-192108/3-A
#45 320-32750-A-1-A	#45 320-32750-A-1-A
#46 320-33016-A-6-A	#46 320-33016-A-6-A
#47 320-33016-A-7-A	#47 320-33016-A-7-A
#48 320-33016-A-8-A	#48 320-33016-A-8-A
#49 320-33016-A-9-A	#49 320-33016-A-9-A
#50 RB	#50 RB
#51 RB	#51 RB
#52 CCV	#52 CCV

QC Batch: 3	HR - 8290 - ICAL Raw Batch: 195572
#52 CCV	#52 CCV
#53 RB	#53 RB

QC Batch: 4	HR - 8290A_D5 - ICAL Raw Batch: 195573
#54 WDM	#54 WDM
#55 CCV	#55 CCV
#56 RB	#56 RB
#57 MB 320-195095/1-A	#57 MB 320-195095/1-A
#58 LCS 320-195095/2-A	#58 LCS 320-195095/2-A
#59 LCSD 320-195095/3-A	#59 LCSD 320-195095/3-A
#60 160-24924-G-1-B	#60 160-24924-G-1-B -RA
#61 160-24924-G-2-B	#61 160-24924-G-2-B -RA
#62 160-24924-G-3-B	#62 160-24924-G-3-B
#63 160-24924-G-4-B	#63 160-24924-G-4-B
#64 160-24924-G-5-B	#64 160-24924-G-5-B

Sct "S , OCDD- MB hit
H-flag

QC Batch: 4	HR - 8290A_D5 - ICAL Raw Batch: 195573
#65 RB	#65 RB
#66 CCV	#66 CCV

QC Batch: 5	HR - 8290A_D5 - ICAL Raw Batch: 195574
#67 WDM	#67 WDM
#68 CCV	#68 CCV
#69 RB	#69 RB
#70 160-24924-G-6-B	#70 160-24924-G-6-B
#71 160-24924-G-7-B	#71 160-24924-G-7-B -RA
#72 160-24924-G-8-B	#72 160-24924-G-8-B -RA
#73 160-24924-G-9-D	#73 160-24924-G-9-D -RA
#74 160-24924-G-9-E MS	#74 160-24924-G-9-E MS
#75 160-24924-G-9-F MSD	#75 160-24924-G-9-F MSD
#76 160-24924-G-10-B	#76 160-24924-G-10-B
#77 160-24924-G-11-B	#77 160-24924-G-11-B
#78 RB	#78 RB
#79 CCV	#79 CCV

QC Batch: 6	HR - 8290A_D5 - ICAL Raw Batch: 195575
#80 WDM	#80 WDM
#81 CCV	#81 CCV
#82 RB	#82 RB
#83 160-24924-G-12-B	#83 160-24924-G-12-B
#84 160-24924-G-13-B	#84 160-24924-G-13-B
#85 160-24924-G-14-B	#85 160-24924-G-14-B
#86 160-24924-G-15-B	#86 160-24924-G-15-B
#87 160-24924-G-16-B	#87 160-24924-G-16-B
#88 160-24924-G-17-B	#88 160-24924-G-17-B
#89 160-24924-G-18-B	#89 160-24924-G-18-B
#90 160-24924-G-19-B	#90 160-24924-G-19-B
#91 RB	#91 RB
#92 CCV	#92 CCV

12/06/17

TestAmerica Laboratories
Worklist Report

Worklist Name:	16NO173D5_DXN_2	Worklist Number:	50645
Instrument Name:	3D5	Chrom Method:	Dioxin_3D5
Injection Volume:	2.000	Units:	ul
Analysis Type:	Semi VOA		
Batch Directory:	\\ChromNA\Sacramento\ChromData\3D5\20171118-50645.b		
Upload Directory:	\\CorpTALSAPP12\320-WS-RawData\Organics\MS\3D5		

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050645-026	#26 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050645-027	#27 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050645-028	#28 RB		RB	sv	1.000	mL	1.000
320-0050645-029	#29 MB 320-193933/1-A		MB	sv	1.000	mL	1.000
320-0050645-030	#30 LCS 320-193933/2-A		LCS	sv	1.000	mL	1.000
320-0050645-031	#31 LCSD 320-193933/3-A		LCSD	sv	1.000	mL	1.000
320-0050645-032	#32 320-33016-A-1-A		Client	sv	1.000	mL	1.000
320-0050645-033	#33 320-33016-A-2-A		Client	sv	1.000	mL	1.000
320-0050645-034	#34 320-33016-A-3-A		Client	sv	1.000	mL	1.000
320-0050645-035	#35 320-33016-A-4-A		Client	sv	1.000	mL	1.000
320-0050645-036	#36 320-33016-A-5-A		Client	sv	1.000	mL	1.000
320-0050645-037	#37 RB		RB	sv	1.000	mL	1.000
320-0050645-038	#38 x CCV		Client	sv	1.000	mL	1.000
320-0050645-039	#39 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050645-040	#40 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050645-041	#41 RB		RB	sv	1.000	mL	1.000
320-0050645-042	#42 MB 320-192108/1-A		MB	sv	1.000	mL	1.000
320-0050645-043	#43 LCS 320-192108/2-A		LCS	sv	1.000	mL	1.000
320-0050645-044	#44 LCSD 320-192108/3-A		LCSD	sv	1.000	mL	1.000
320-0050645-045	#45 320-32750-A-1-A		Client	sv	1.000	mL	1.000
320-0050645-046	#46 320-33016-A-6-A		Client	sv	1.000	mL	1.000
320-0050645-047	#47 320-33016-A-7-A		Client	sv	1.000	mL	1.000
320-0050645-048	#48 320-33016-A-8-A		Client	sv	1.000	mL	1.000
320-0050645-049	#49 320-33016-A-9-A		Client	sv	1.000	mL	1.000
320-0050645-050	#50 RB		RB	sv	1.000	mL	1.000
320-0050645-051	#51 RB		RB	sv	1.000	mL	1.000
320-0050645-052	#52 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050645-053	#53 RB		RB	sv	1.000	mL	1.000
320-0050645-054	#54 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050645-055	#55 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050645-056	#56 RB		RB	sv	1.000	mL	1.000
320-0050645-057	#57 MB 320-195095/1-A		MB	sv	1.000	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050645-058	#58 LCS 320-195095/2-A		LCS	sv	1.000	mL	1.000
320-0050645-059	#59 LCSD 320-195095/3-A		LCSD	sv	1.000	mL	1.000
320-0050645-060	#60 160-24924-G-1-B		Client	sv	1.000	mL	1.000
320-0050645-061	#61 160-24924-G-2-B		Client	sv	1.000	mL	1.000
320-0050645-062	#62 160-24924-G-3-B		Client	sv	1.000	mL	1.000
320-0050645-063	#63 160-24924-G-4-B		Client	sv	1.000	mL	1.000
320-0050645-064	#64 160-24924-G-5-B		Client	sv	1.000	mL	1.000
320-0050645-065	#65 RB		RB	sv	1.000	mL	1.000
320-0050645-066	#66 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050645-067	#67 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050645-068	#68 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050645-069	#69 RB		RB	sv	1.000	mL	1.000
320-0050645-070	#70 160-24924-G-6-B		Client	sv	1.000	mL	1.000
320-0050645-071	#71 160-24924-G-7-B		Client	sv	1.000	mL	1.000
320-0050645-072	#72 160-24924-G-8-B		Client	sv	1.000	mL	1.000
320-0050645-073	#73 160-24924-G-9-D		Client	sv	1.000	mL	1.000
320-0050645-074	#74 160-24924-G-9-E MS		MS	sv	1.000	mL	1.000
320-0050645-075	#75 160-24924-G-9-F MSD		MSD	sv	1.000	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0050645-076	#76 160-24924-G-10-B		Client	sv	1.000	mL	1.000
320-0050645-077	#77 160-24924-G-11-B		Client	sv	1.000	mL	1.000
320-0050645-078	#78 RB		RB	sv	1.000	mL	1.000
320-0050645-079	#79 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050645-080	#80 WDM	HRDXNCP_00034	WDM	sv	1.000	mL	1.000
320-0050645-081	#81 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000
320-0050645-082	#82 RB		RB	sv	1.000	mL	1.000
320-0050645-083	#83 160-24924-G-12-B		Client	sv	1.000	mL	1.000
320-0050645-084	#84 160-24924-G-13-B		Client	sv	1.000	mL	1.000
320-0050645-085	#85 160-24924-G-14-B		Client	sv	1.000	mL	1.000
320-0050645-086	#86 160-24924-G-15-B		Client	sv	1.000	mL	1.000
320-0050645-087	#87 160-24924-G-16-B		Client	sv	1.000	mL	1.000
320-0050645-088	#88 160-24924-G-17-B		Client	sv	1.000	mL	1.000
320-0050645-089	#89 160-24924-G-18-B		Client	sv	1.000	mL	1.000
320-0050645-090	#90 160-24924-G-19-B		Client	sv	1.000	mL	1.000
320-0050645-091	#91 RB		RB	sv	1.000	mL	1.000
320-0050645-092	#92 CCV	HRDXNL4_00060	CCV	sv	1.000	mL	1.000

Sample List Report

MassLynx 4.1

Sample List: C:\MassLynx\Data2017.PRO\SampleDB\16NO173D5.SPL

Last Modified: Saturday, November 18, 2017 00:16:47 Pacific Standard Time

Printed: Saturday, November 18, 2017 18:47:39 Pacific Standard Time

3D5

Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	16NO173D5_1	WDM HRDXNCP_00034	WDM111617	Tray01:1	---		SMA
2	16NO173D5_2	CS-4 HRDXNL4_00060	CCV 111617	Tray01:2	---		SMA
3	16NO173D5_3	Reagent Blank C-14	RB 111617	Tray01:3	---		SMA
4	16NO173D5_4	MB 320-194930/1-A	MB 320-194930/1-A	Tray01:4	1613B/Water	46	SMA
5	16NO173D5_5	LCS 320-194930/2-A	LCS 320-194930/2-A	Tray01:5	1613B/Water		SMA
6	16NO173D5_6	LCSD 320-194930/3-A	LCSD 320-194930/3-A	Tray01:6	1613B/Water		SMA
7	16NO173D5_7	320-32529-B-1-A	320-32529-B-1-A	Tray01:7	1613B/Water		SMA
8	16NO173D5_8	LCS 320-194748/2-A	LCS 320-194748/2-A	Tray01:8	8290A/Solid	D983	SMA
9	16NO173D5_9	LCSD 320-194748/3-A	LCSD 320-194748/3-A	Tray01:9	8290A/Solid		SMA
10	16NO173D5_10	MB 320-194748/1-A	MB 320-194748/1-A	Tray01:10	8290A/Solid		SMA
11	16NO173D5_11	600-155367-A-2-B	600-155367-A-2-B	Tray01:11	8290A/Solid		SMA
12	16NO173D5_12	Reagent Blank C-14	RB 111617A	Tray01:3	---		SMA
13	16NO173D5_13	CS-4 HRDXNL4_00060	CCV 111617A	Tray01:2	---		SMA
14	16NO173D5_14	WDM HRDXNCP_00034	WDM111617A	Tray01:1	---		SMA
15	16NO173D5_15	Reagent Blank C-14	RB 111617B	Tray01:3	---		SMA
16	16NO173D5_16	MB 320-190370/1-A	MB 320-190370/1-A	Tray01:12	8290A/Solid	D980	SMA, ALM
17	16NO173D5_17	LCS 320-190370/2-A	LCS 320-190370/2-A	Tray01:13	8290A/Solid		SMA, ALM
18	16NO173D5_18	LCSD 320-190370/3-A	LCSD 320-190370/3-A	Tray01:14	8290A/Solid		SMA, ALM
19	16NO173D5_19	310-116465-C-1-A	310-116465-C-1-A	Tray01:15	8290A/Solid		SMA, ALM
20	16NO173D5_20	LCS 320-192159/2-A	LCS 320-192159/2-A	Tray01:16	8290/Solid	43	SMA, ALM
21	16NO173D5_21	LCSD 320-192159/3-A	LCSD 320-192159/3-A	Tray01:17	8290/Solid		SMA, ALM
22	16NO173D5_22	MB 320-192159/1-A	MB 320-192159/1-A	Tray01:18	8290/Solid		SMA, ALM
23	16NO173D5_23	320-32775-A-1-A	320-32775-A-1-A	Tray01:19	8290/Solid		SMA, ALM
24	16NO173D5_24	680-144745-A-13-A (20x)	680-144745-A-13-A 20x	Tray01:20	8290A/Solid	D983	SMA, ALM
25	16NO173D5_25	Reagent Blank C-14	RB 111617C	Tray01:3	---		SMA, ALM
26	16NO173D5_26	CS-4 HRDXNL4_00060	CCV 111617B	Tray01:2	---		SMA, ALM
27	16NO173D5_27	WDM HRDXNCP_00034	WDM111617B	Tray01:1	---		SMA, ALM
28	16NO173D5_28	Reagent Blank C-14	RB 111617D	Tray01:3	---		SMA, ALM
29	16NO173D5_29	MB 320-193933/1-A	MB 320-193933/1-A	Tray01:21	8290/Solid	45	SMA
30	16NO173D5_30	LCS 320-193933/2-A	LCS 320-193933/2-A	Tray01:22	8290/Solid		SMA
31	16NO173D5_31	LCSD 320-193933/3-A	LCSD 320-193933/3-A	Tray01:23	8290/Solid		SMA
32	16NO173D5_32	320-33016-A-1-A	320-33016-A-1-A	Tray01:24	8290/Solid		SMA
33	16NO173D5_33	320-33016-A-2-A	320-33016-A-2-A	Tray01:25	8290/Solid		SMA
34	16NO173D5_34	320-33016-A-3-A	320-33016-A-3-A	Tray01:26	8290/Solid		SMA
35	16NO173D5_35	320-33016-A-4-A	320-33016-A-4-A	Tray01:27	8290/Solid		SMA
36	16NO173D5_36	320-33016-A-5-A	320-33016-A-5-A	Tray01:28	8290/Solid		SMA
37	16NO173D5_37	Reagent Blank C-14	RB 111617E	Tray01:3	---		SMA
38	16NO173D5_38	CS-4 HRDXNL4_00060	CCV 111617C	Tray01:2	---		SMA
39	16NO173D5_39	CS-4 HRDXNL4_00060	CCV 111617D	Tray01:2	---		SMA
40	16NO173D5_40	WDM HRDXNCP_00034	WDM111617C	Tray01:1	---		SMA
41	16NO173D5_41	Reagent Blank C-14	RB 111617F	Tray01:3	---		SMA
42	16NO173D5_42	MB 320-192108/1-A	MB 320-192108/1-A	Tray01:29	8290/Tissue	45	SMA
43	16NO173D5_43	LCS 320-192108/2-A	LCS 320-192108/2-A	Tray01:30	8290/Tissue		SMA
44	16NO173D5_44	LCSD 320-192108/3-A	LCSD 320-192108/3-A	Tray01:31	8290/Tissue		SMA
45	16NO173D5_45	320-32750-A-1-A	320-32750-A-1-A	Tray01:32	8290/Tissue		SMA
46	16NO173D5_46	320-33016-A-6-A	320-33016-A-6-A	Tray01:33	8290/Solid	45	SMA
47	16NO173D5_47	320-33016-A-7-A	320-33016-A-7-A	Tray01:34	8290/Solid		SMA
48	16NO173D5_48	320-33016-A-8-A	320-33016-A-8-A	Tray01:35	8290/Solid		SMA
49	16NO173D5_49	320-33016-A-9-A	320-33016-A-9-A	Tray01:36	8290/Solid		SMA
50	16NO173D5_50	Reagent Blank C-14	RB 111617G	Tray01:3	---		SMA
51	16NO173D5_51	Reagent Blank C-14	RB 111617H	Tray01:3	---		SMA
52	16NO173D5_52	CS-4 HRDXNL4_00060	CCV 111617E	Tray01:2	---		SMA
53	16NO173D5_53	Reagent Blank C-14	RB 111617I	Tray01:3	---		SMA
54	16NO173D5_54	WDM HRDXNCP_00034	WDM111617D	Tray01:1	---		SMA, ALM
55	16NO173D5_55	CS-4 HRDXNL4_00060	CCV 111617F	Tray01:2	---		SMA, ALM
56	16NO173D5_56	Reagent Blank C-14	RB 111617J	Tray01:3	---		SMA, ALM
57	16NO173D5_57	MB 320-195095/1-A	MB 320-195095/1-A	Tray01:37	8290A_D5/Solid	45	SMA, ALM
58	16NO173D5_58	LCS 320-195095/2-A	LCS 320-195095/2-A	Tray01:38	8290A_D5/Solid		SMA, ALM

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
59	16NO173D5_59	LCSD 320-195095/3-A	LCSD 320-195095/3-A	Tray01:39	8290A_D5/Solid		SMA, ALM
60	16NO173D5_60	160-24924-G-1-B	160-24924-G-1-B	Tray01:40	8290A_D5/Solid		SMA, ALM
61	16NO173D5_61	160-24924-G-2-B	160-24924-G-2-B	Tray01:41	8290A_D5/Solid		SMA, ALM
62	16NO173D5_62	160-24924-G-3-B	160-24924-G-3-B	Tray01:42	8290A_D5/Solid		SMA, ALM
63	16NO173D5_63	160-24924-G-4-B	160-24924-G-4-B	Tray01:43	8290A_D5/Solid		SMA, ALM
64	16NO173D5_64	160-24924-G-5-B	160-24924-G-5-B	Tray01:44	8290A_D5/Solid		SMA, ALM
65	16NO173D5_65	Reagent Blank C-14	RB 111617K	Tray01:3	---		SMA, ALM
66	16NO173D5_66	CS-4 HRDXNL4_00060	CCV 111617G	Tray01:2	---		SMA, ALM
67	16NO173D5_67	WDM HRDXNCP_00034	WDM111617E	Tray01:1	---		SMA, ALM
68	16NO173D5_68	CS-4 HRDXNL4_00060	CCV 111617H	Tray01:2	---		SMA, ALM
69	16NO173D5_69	Reagent Blank C-14	RB 111617L	Tray01:3	---		SMA, ALM
70	16NO173D5_70	160-24924-G-6-B	160-24924-G-6-B	Tray01:45	8290A_D5/Solid	45	SMA, ALM
71	16NO173D5_71	160-24924-G-7-B	160-24924-G-7-B	Tray01:46	8290A_D5/Solid		SMA, ALM
72	16NO173D5_72	160-24924-G-8-B	160-24924-G-8-B	Tray01:47	8290A_D5/Solid		SMA, ALM
73	16NO173D5_73	160-24924-G-9-D	160-24924-G-9-D	Tray01:48	8290A_D5/Solid		SMA, ALM
74	16NO173D5_74	160-24924-G-9-E MS	160-24924-G-9-E MS	Tray01:49	8290A_D5/Solid		SMA, ALM
75	16NO173D5_75	160-24924-G-9-F MSD	160-24924-G-9-F MSD	Tray01:50	8290A_D5/Solid		SMA, ALM
76	16NO173D5_76	160-24924-G-10-B	160-24924-G-10-B	Tray01:51	8290A_D5/Solid		SMA, ALM
77	16NO173D5_77	160-24924-G-11-B	160-24924-G-11-B	Tray01:52	8290A_D5/Solid		SMA, ALM
78	16NO173D5_78	Reagent Blank C-14	RB 111617M	Tray01:3	---		SMA, ALM
79	16NO173D5_79	CS-4 HRDXNL4_00060	CCV 111617I	Tray01:2	---		SMA, ALM
80	16NO173D5_80	WDM HRDXNCP_00034	WDM111617F	Tray01:1	---		SMA, ALM
81	16NO173D5_81	CS-4 HRDXNL4_00060	CCV 111617J	Tray01:2	---		SMA, ALM
82	16NO173D5_82	Reagent Blank C-14	RB 111617N	Tray01:3	---		SMA, ALM
83	16NO173D5_83	160-24924-G-12-B	160-24924-G-12-B	Tray01:53	8290A_D5/Solid	45	SMA, ALM
84	16NO173D5_84	160-24924-G-13-B	160-24924-G-13-B	Tray01:54	8290A_D5/Solid		SMA, ALM
85	16NO173D5_85	160-24924-G-14-B	160-24924-G-14-B	Tray01:55	8290A_D5/Solid		SMA, ALM
86	16NO173D5_86	160-24924-G-15-B	160-24924-G-15-B	Tray01:56	8290A_D5/Solid		SMA, ALM
87	16NO173D5_87	160-24924-G-16-B	160-24924-G-16-B	Tray01:57	8290A_D5/Solid		SMA, ALM
88	16NO173D5_88	160-24924-G-17-B	160-24924-G-17-B	Tray01:58	8290A_D5/Solid		SMA, ALM
89	16NO173D5_89	160-24924-G-18-B	160-24924-G-18-B	Tray01:59	8290A_D5/Solid		SMA, ALM
90	16NO173D5_90	160-24924-G-19-B	160-24924-G-19-B	Tray01:60	8290A_D5/Solid		SMA, ALM
91	16NO173D5_91	Reagent Blank C-14	RB 111617O	Tray01:3	---		SMA, ALM
92	16NO173D5_92	CS-4 HRDXNL4_00060	CCV 111617K	Tray01:2	---		SMA, ALM
93	16NO173D5_93	WDM HRDXNCP_00034	WDM111617G	Tray01:1	---		SMA, ALM
94	16NO173D5_94	Reagent Blank C-14	RB 111617P	Tray01:3	---		SMA, ALM

logfile checked
11-18-17 ALM

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Sacramento

Daily Calibration Checklist
Dioxin Methods

Method IDs 8290A_D5
ICAL Event #

Worklist # 50645
Batch # (s) 195573, 195574, 195575

Column ID DB-5
Instrument ID 3D5

CCV IDs CCV 111617 (#55, #66, #68, #79, #81, #92)
CCV Solution HRDXNL4-00060

Analyzed by SMA/ALM
Date Analyzed 11/18/17 - 11/19/17

Std. Pkg. By ALM/SMA
Date Std. Pkg. Assembled 11/21/17

Std. Pkg. Reviewed By
Date Std. Pkg. Reviewed 12/6/17

DAILY STANDARD PACKAGE	INITIATED	REVIEWED
Standard, CPS, and Solvent Blank checked?	✓	✓
Copy of log-file checked?	✓	✓
CPS blow up checked?	✓	✓
Summary of Method criteria present or documented below?	✓	✓
CCV standard within method specified limits?*	✓	✓
Analyte retention times correct?	✓	✓
Isotopic ratios within limits?	✓	✓
CPS valley ≤ method specified limits?** ?	✓	✓
Are chromatographic windows correct?	✓	✓
Samples analyzed within 12 hrs of daily standard?	✓	✓
Manual reintegrations checked and hardcopies included?	NA	NA
Absolute retention times for 13C12-1,2,3,4-TCDD and 13C12-1,2,3,7,8,9-HxCDD are within +/- 15 seconds of the retention times in the Initial Calibration? (for 1613B only) ?	NA	NA
Resolution Plot(s) Checked and Scanned?	✓	NA
ICal Checklist Included?	✓	NA
CCV Checklist Scanned?	NA	✓

COMMENTS:

* **Method 8290/TO9/M0023A: (beginning)** ≤ 20% from curve RRFs for native analytes, ≤ 30% from curve RRFs for labeled compounds.
Method 8290/TO9/M0023A: (ending) ≤ 25% from curve RRFs for native analytes, ≤ 35% from curve RRFs for labeled compounds.
Method 23: See Method 23 Daily Standard Criteria, Table 5.
Method 1613B: See, Method 1613B or Method 1613B Tetras Daily Standard Criteria,

** **Method 23/0023A CPSM Criteria:** Compare the 2378 TCDF (DB-225)/TCDD (DB-5) peak to the one eluting just before it. Normalize to the smaller of the two peaks. Do the same for 2378 TCDF/TCDD and the peak eluting just after it. In both cases the valley between peaks must be ≤ 25%

Method 1613B/8290/TO9 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End: 11/17/2017 12:00:00PM

Soxhlet Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1 C	MB~320-195095/1 N/A	N/A	10.00 g	20.0 uL	N/A	N/A	N/A	RX	MB 320-195095/1-A
2	LCS~320-195095/2 ✓ N/A	N/A	10.00 g	20.0 uL	N/A	N/A	N/A	RX	LCS 320-195095/2-A
3	LCSD~320-195095/3 ✓ N/A	N/A	10.00 g	20.0 uL	N/A	N/A	N/A	RX	LCSD 320-195095/3-A
4	160-24924-G-1 ✓ (8290A_DOD5)	N/A (160-24924-2)	10.06 g	20.0 uL	10/16/17	15_Days	4	RX DB-225 14.8 pg/ml	160-24924-G-1-B
5	160-24924-G-2 ✓ (8290A_DOD5)	N/A (160-24924-2)	10.03 g	20.0 uL	10/16/17	15_Days	4	RX 〃 1.5 〃	160-24924-G-2-B
6	160-24924-G-3 ✓ (8290A_DOD5)	N/A (160-24924-2)	10.02 g	20.0 uL	10/16/17	15_Days	4	RX —	160-24924-G-3-B
7	160-24924-G-4 – (8290A_DOD5)	N/A (160-24924-2)	9.97 g	20.0 uL	10/16/17	15_Days	4	RX —	160-24924-G-4-B
8	160-24924-G-5 – (8290A_DOD5)	N/A (160-24924-2)	10.04 g	20.0 uL	10/16/17	15_Days	4	RX —	160-24924-G-5-B
9	160-24924-G-6 – (8290A_DOD5)	N/A (160-24924-2)	10.01 g	20.0 uL	10/16/17	15_Days	4	RX —	160-24924-G-6-B
10	160-24924-G-7 ✓ (8290A_DOD5)	N/A (160-24924-2)	9.94 g	20.0 uL	10/16/17	15_Days	4	RX 〃 1.72 〃	160-24924-G-7-B
11	160-24924-G-8 ✓ (8290A_DOD5)	N/A (160-24924-2)	9.90 g	20.0 uL	10/16/17	15_Days	4	RX 〃 8.7 〃	160-24924-G-8-B
12	160-24924-G-9 (8290A_DOD5)	N/A (160-24924-2)	10.08 g	20.0 uL	10/16/17	15_Days	4	RX 〃 1.0 〃	160-24924-G-9-D
13	160-24924-G-9~MS (8290A_DOD5)	N/A (160-24924-2)	10.15 g	20.0 uL	10/16/17	15_Days	4	RX	160-24924-G-9-E MS
14	160-24924-G-9~MSD (8290A_DOD5)	N/A (160-24924-2)	9.84 g	20.0 uL	10/16/17	15_Days	4	RX	160-24924-G-9-F MSD
15	160-24924-G-10 (8290A_DOD5)	N/A (160-24924-2)	10.11 g	20.0 uL	10/16/17	15_Days	4	RX —	160-24924-G-10-B

Printed : 11/17/2017

TestAmerica Sacramento

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095   Analyst: Sathyanarayanan, Sanjhosh X   Batch Open: 11/16/2017 11:16:00AM

Method Code: 320-8290_P_Sox-320   Batch End: 11/17/2017 12:00:00PM

16	160-24924-G-11 (8290A_DOD5) ✓	N/A (160-24924-2)	9.98 g	20.0 uL	10/16/17	15_Days	4	RX	0.16 Ps/ml	160-24924-G-11-B
17	160-24924-G-12 (8290A_DOD5) ✓	N/A (160-24924-2)	9.91 g	20.0 uL	10/16/17	15_Days	4	RX	—	160-24924-G-12-B
18	160-24924-G-13 (8290A_DOD5) ✓	N/A (160-24924-2)	9.97 g	20.0 uL	10/16/17	15_Days	4	RX	0.1 Ps/ml	160-24924-G-13-B
19	160-24924-G-14 (8290A_DOD5) —	N/A (160-24924-2)	10.21 g	20.0 uL	10/16/17	15_Days	4	RX	0.08 "	160-24924-G-14-B
20	160-24924-G-15 (8290A_DOD5) —	N/A (160-24924-2)	10.07 g	20.0 uL	10/16/17	15_Days	4	RX	—	160-24924-G-15-B
21	160-24924-G-16 (8290A_DOD5) ✓	N/A (160-24924-2)	9.83 g	20.0 uL	10/16/17	15_Days	4	RX	—	160-24924-G-16-B
22	160-24924-G-17 (8290A_DOD5) ✓	N/A (160-24924-2)	9.90 g	20.0 uL	10/16/17	15_Days	4	RX		160-24924-G-17-B
23	160-24924-G-18 (8290A_DOD5) ✓	N/A (160-24924-2)	10.14 g	20.0 uL	10/16/17	15_Days	4	RX		160-24924-G-18-B
24	160-24924-G-19 (8290A_DOD5) ✓	N/A (160-24924-2)	9.90 g	20.0 uL	10/16/17	15_Days	4	RX		160-24924-G-19-B

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM

Batch End: 11/17/2017 12:00:00PM

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	N/A
Thimble Lot ID	974039102
Balance ID	QA-74
Hexane ID	0000181539
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250
Toluene ID	0000162750
MeCL2 ID	N/A
Soxhlet/Soxtherm Start	16:00
Soxhlet/Soxtherm End	19:00
Analyst ID - IDA Reagent Drop	DTG 11/16/17 - EC15131 - B 4/4
Analyst ID - IDA Reagent Drop Witness	SXS 11/16/17
Analyst ID - TA Reagent Drop	DTG 11/16/17 - EH153171 - B 10/10
Analyst ID - TA Reagent Drop Witness	SXS 11/16/17
Analyst ID - SU Reagent Drop	MEL 11/17/17 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 11/17/17
Analyst ID - IS Reagent Drop	TGL 11/17/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	MEL 11/17/17
Nonane ID	N/A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM

Batch End: 11/17/2017 12:00:00PM

Sulfuric Acid Lot Number	N/A
5% NaCl Reagent ID	N/A
20% KOH Reagent ID	N/A
Acid cleanup Analyst	N/A
Date of Acid Cleanup	N/A
1:1 DCM:Cyclohexane ID	N/A
5% Carbon:Silica Gel ID	N/A
75:20:5DCM/MeOH/Benzene ID	N/A
Benzene ID	N/A
Carbon Column C/U Analyst	N/A
Carbon Column C/U Date	N/A
DCM:Hexane ID	20%-1063086
65% DCM:Hexane ID	1071651
Alumina ID	26
Silica Gel ID	1082349 / 1091138
Dual Column C/U Analyst	MEL
Dual Column C/U Date	11/17/2017
GPC ID	N/A
GPC Analyst	N/A
GPC Date	N/A
Split Analyst/Date	N/A
Split Volume	N/A
Storage Box ID	DXN-986

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM

Method Code: 320-8290_P_Sox-320

Batch End: 11/17/2017 12:00:00PM

Batch Comment 20% and 65% eluents were combined and than brought to F.V.

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Analyst: Sathyanarayanan, Sanjhosh X
Batch Open: 11/16/2017 11:16:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 11/17/2017 12:00:00PM

Comments

160-24924-G-1
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-2
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-3
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-4
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-5
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-6
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-7
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-8
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-9
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-9~MS
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-9~MSD
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-10
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-11
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-12
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-13
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-14
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-15
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-16
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-17

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Analyst: Sathyanarayanan, Sanjhosh X
Batch Open: 11/16/2017 11:16:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 11/17/2017 12:00:00PM

Rework Comments: RX due to MB contamination (HpCDD/OCDD)

160-24924-G-18

Rework Comments: RX due to MB contamination (HpCDD/OCDD)

160-24924-G-19

Rework Comments: RX due to MB contamination (HpCDD/OCDD)

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End: 11/17/2017 12:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-195095/1	HRDXNIDA_00307	1.00 mL	20.0 uL		
MB 320-195095/1	HRDXNIS_00101	20.0 uL	20.0 uL		
MB 320-195095/1	HRDXNSU_00173	1 mL	20.0 uL		
LCS 320-195095/2	HRDXNIDA_00307	1.00 mL	20.0 uL		
LCS 320-195095/2	HRDXNIS_00101	20.0 uL	20.0 uL		
LCS 320-195095/2	HRDXNSU_00173	1 mL	20.0 uL		
LCS 320-195095/2	HRDXNTA_00083	50.0 uL	20.0 uL		
LCSD 320-195095/3	HRDXNIDA_00307	1.00 mL	20.0 uL		
LCSD 320-195095/3	HRDXNIS_00101	20.0 uL	20.0 uL		
LCSD 320-195095/3	HRDXNSU_00173	1 mL	20.0 uL		
LCSD 320-195095/3	HRDXNTA_00083	50.0 uL	20.0 uL		
160-24924-G-1	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-1	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-1	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-2	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-2	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-2	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-3	HRDXNIDA_00307	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End: 11/17/2017 12:00:00PM

160-24924-G-3	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-3	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-4	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-4	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-4	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-5	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-5	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-5	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-6	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-6	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-6	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-7	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-7	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-7	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-8	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-8	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-8	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-9	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-9	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-9	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-9 MS	HRDXNIDA_00307	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Analyst: Sathyanarayanan, Sanjhosh X
Batch Open: 11/16/2017 11:16:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 11/17/2017 12:00:00PM

160-24924-G-9 MS	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-9 MS	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-9 MSD	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-9 MSD	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-9 MSD	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-10	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-10	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-10	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-11	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-11	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-11	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-12	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-12	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-12	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-13	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-13	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-13	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-14	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-14	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-14	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-15	HRDXNIDA_00307	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095 Analyst: Sathyanarayanan, Sanjhosh X Batch Open: 11/16/2017 11:16:00AM

Method Code: 320-8290_P_Sox-320 Batch End: 11/17/2017 12:00:00PM

160-24924-G-15	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-15	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-16	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-16	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-16	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-17	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-17	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-17	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-18	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-18	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-18	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-19	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-19	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-19	HRDXNSU_00173	1 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Analyst: Sathyanarayanan, Sanjhosh X
Batch Open: 11/16/2017 11:16:00AM
Method Code: 320-8290_P_Sox-320
Batch End: 11/17/2017 12:00:00PM

Other Reagents:

Reagent	Amount/Units	Lot#:

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Analyst: Sathyanarayanan, Sanjhosh X
Batch Open: 11/16/2017 11:16:00AM
Method Code: 320-8290_P_Sox-320
Batch End:

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	974039102
Balance ID	QA-74
Hexane ID	0000181539
Na2SO4 ID	0000168174
Tetradecane ID	
Toluene ID	0000162750
MeCL2 ID	
Soxhlet/Soxtherm Start	16:00
Soxhlet/Soxtherm End	19:00
Analyst ID - IDA Reagent Drop	DTG 11/16/17 - EC15131 - B 4/4
Analyst ID - IDA Reagent Drop Witness	SXS 11/16/17
Analyst ID - TA Reagent Drop	DTG 11/16/17 - EH153171 - B 10/10
Analyst ID - TA Reagent Drop Witness	SXS 11/16/17
Analyst ID - SU Reagent Drop	MEL 11/17/17 1.0ml HRDXNSU-00173 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 11/17/17
Analyst ID - IS Reagent Drop	TGL 11/17/17 20.0μl HRDXNIS 00101 (3/4)
Analyst ID - IS Reagent Drop Witness	MEL 11/17/17
Nonane ID	

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM

Method Code: 320-8290_P_Sox-320

Batch End:

Sulfuric Acid Lot Number

5% NaCl Reagent ID

20% KOH Reagent ID

Acid cleanup Analyst

Date of Acid Cleanup

1:1 DCM:Cyclohexane ID

5% Carbon:Silica Gel ID

75:20:5DCM/MeOH/Benzene ID

Benzene ID

Carbon Column C/U Analyst

Carbon Column C/U Date

DCM:Hexane ID

65% DCM:Hexane ID

Alumina ID 26

Silica Gel ID

Dual Column C/U Analyst MEL

Dual Column C/U Date 11/17/17

GPC ID

GPC Analyst

GPC Date

Split Analyst/Date

Split Volume

Storage Box ID DXN-986

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-195095 Test: 8290 (solid RX)

Earliest Holding Time: 11/04/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	✓	✓
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	NA
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	**1st Level Reviewer**	**2nd Level Reviewer**
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TGL Date: 11/17/17

2nd Level Reviewer: VPM Date: 11/17/17

Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Data Review Checklist
HRGCMS/LRGCMS Analyses

Job #(s): 160-24924

Worklists: 51371

Method: 8290A_D5

ICAL Batch 153001

ICV Batch (if not ICAL)

Sample/QC Batch(es) 198469

	Primary Column	**Confirmation Column** (if needed)
1st Level Reviewer/Date		ALM 12-06-17
2nd Level Reviewer/Date		12/6/17

	Primary Column 1st Level	Primary Column 2nd Level	Confirmation Column 1st Level	Confirmation Column 2nd Level
QA/QC Verification				
- Daily Standard meets criteria?			(Sum for ALM) ✓	✓
- Method Blank meets criteria?			NA	na
- LCS meets native recovery criteria?			NA	na
- IDA recoveries within limits?*			✓	✓
- Ion ratios within 15% of theoretical values?			✓	✓
- Other QC (Dup, MS, SD) within specs?			✓	✓
Sample Analysis:				
- Correct sample aliquot used?			✓	✓
- All raw data present?			✓	✓
- Standard Target DL's used? If RL's are used, specify			✓	✓
- DL's below TDL/LCL (circle one)			✓	✓
- All positives reported at levels > MB DLs?			✓	✓
- Correct RRF's used for method?			✓	✓
- IDA amounts correct for method?			✓	✓
- Target analytes are not saturated?			✓	✓
- Dilution/splitting of extract taken into account?			na	na
- Have dilution calculations been verified?			na	na
- If multiple dilutions or analyses for a sample, are results comparable?			na	na
- Has a manual calculation for the sequence been verified?			✓	✓
- Are retention times (RT) correct?			✓	✓
- Manual integrations checked?			✓	✓
- QC Checker Run & Reviewed?			✓	✓
- Appropriate Documents Uploaded?			✓	✓

NCMs:

Comments:

* Note: Lower IDA recoveries are acceptable if IDA S/N ≥ 10:1 and DLs are < LCL for target analytes.

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name:	05DE179D2_DB225	Worklist Number:	51371
Instrument Name:	9D2	Chrom Method:	DXN_DB225_9D2
Data Directory:	\\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b		
QC Batching:	Disabled	Limit Group Batching:	Enabled

QC Batch: 1	HR - 8290A_D5 - ICAL Raw Batch: 198469
# 1 CPS	# 1 CPS
# 2 CCV	# 2 CCV
# 3 MB 320-195095/1-A	# 3 MB 320-195095/1-A
# 4 160-24924-G-1-B	# 4 160-24924-G-1-B
# 5 160-24924-G-2-B	# 5 160-24924-G-2-B
# 6 160-24924-G-7-B	# 6 160-24924-G-7-B
# 7 160-24924-G-8-B	# 7 160-24924-G-8-B
# 8 160-24924-G-9-D	# 8 160-24924-G-9-D
# 9 160-24924-G-9-E MS	# 9 160-24924-G-9-E MS
#10 160-24924-G-9-F MSD	#10 160-24924-G-9-F MSD
#11 160-24924-G-11-B	#11 160-24924-G-11-B
#12 160-24924-G-13-B	#12 160-24924-G-13-B
#13 160-24924-G-14-B	#13 160-24924-G-14-B
#14 RB	#14 RB
#15 CCV	#15 CCV

TestAmerica Laboratories
Worklist Report

Worklist Name: 05DE179D2_DB225
Instrument Name: 9D2
Injection Volume: 2.000
Analysis Type: Semi VOA
Batch Directory: \\ChromNA\Sacramento\ChromData\9D2\20171205-51371.b
Upload Directory: \\CORPTALSAPP12\320-WS-RawData\Organics\MS\9D2

Worklist Number: 51371
Chrom Method: DXN_DB225_9D2
Units: ul

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0051371-001	# 1 CPS	HRDXNCP_00034	CPS	sv	2.000	uL	1.000
320-0051371-002	# 2 CCV	HRDXNL4_00061	CCV	sv	2.000	uL	1.000
320-0051371-003	# 3 MB 320-195095/1-A		MB	sv	2.000	uL	1.000
320-0051371-004	# 4 160-24924-G-1-B		Client	sv	2.000	uL	1.000
320-0051371-005	# 5 160-24924-G-2-B		Client	sv	2.000	uL	1.000
320-0051371-006	# 6 160-24924-G-7-B		Client	sv	2.000	uL	1.000
320-0051371-007	# 7 160-24924-G-8-B		Client	sv	2.000	uL	1.000
320-0051371-008	# 8 160-24924-G-9-D		Client	sv	2.000	uL	1.000
320-0051371-009	# 9 160-24924-G-9-E MS		MS	sv	2.000	uL	1.000
320-0051371-010	#10 160-24924-G-9-F MSD		MSD	sv	2.000	uL	1.000
320-0051371-011	#11 160-24924-G-11-B		Client	sv	2.000	uL	1.000
320-0051371-012	#12 160-24924-G-13-B		Client	sv	2.000	uL	1.000
320-0051371-013	#13 160-24924-G-14-B		Client	sv	2.000	uL	1.000
320-0051371-014	#14 RB		RB	sv	2.000	uL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
320-0051371-015	#15 CCV	HRDXNL4_00061	CCV	sv	2.000	uL	1.000

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
05DE179D2	1	CPS 120517	CPS HRDXNCP_00034				1.00000	
05DE179D2	2	CCV 120517	CCV CS-4 HRDXNL4_00061				1.00000	
05DE179D2	3	320-195095	MB 320-195095/1-A				1.00000	
05DE179D2	4	320-195095	160-24924-G-1-B	20	8290A_D5/Solid	D986	10.00000	g
05DE179D2	5	320-195095	160-24924-G-2-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	6	320-195095	160-24924-G-7-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	7	320-195095	160-24924-G-8-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	8	320-195095	160-24924-G-9-D	20	8290A_D5/Solid		10.00000	g
05DE179D2	9	320-195095	160-24924-G-9-E MS	20	8290A_D5/Solid		10.00000	g
05DE179D2	10	320-195095	160-24924-G-9-F MSD	20	8290A_D5/Solid		10.00000	g
05DE179D2	11	320-195095	160-24924-G-11-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	12	320-195095	160-24924-G-13-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	13	320-195095	160-24924-G-14-B	20	8290A_D5/Solid		10.00000	g
05DE179D2	14	RB 120517	RB Reagent Blank C-14				1.00000	
05DE179D2	15	CCV 120517A	CCV CS-4 HRDXNL4_00061				1.00000	
05DE179D2	16						1.00000	
05DE179D2	17						1.00000	
05DE179D2	18						1.00000	
05DE179D2	19						1.00000	
05DE179D2	20						1.00000	
05DE179D2	21		SMA 12-05-17				1.00000	
05DE179D2	22						1.00000	
05DE179D2	23						1.00000	

logfile checked
12-05-17 ALM

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Daily Calibration Checklist
Dioxin Methods

Method IDs 8290A_D5
ICAL Event # 28730
Worklist # 51371
Batch # (s) 198469
Column ID DB-225
Instrument ID 9D2
CCV IDs CCV120517, CCV120517A
CCV Solution HRDXNLH_00061
Analyzed by SMA
Date Analyzed 12-05-17
Std. Pkg. By ALM
Date Std. Pkg. Assembled 12-06-17
Std. Pkg. Reviewed By
Date Std. Pkg. Reviewed 12/6/17

DAILY STANDARD PACKAGE	INITIATED	REVIEWED
Standard, CPS, and Solvent Blank checked?	✓	✓
Copy of log-file checked?	✓	✓
CPS blow up checked?	✓	✓
Summary of Method criteria present or documented below?	✓	✓
CCV standard within method specified limits?*	✓	✓
Analyte retention times correct?	✓	✓
Isotopic ratios within limits?	✓	✓
CPS valley ≤ method specified limits?** ?	✓	✓
Are chromatographic windows correct?	✓	✓
Samples analyzed within 12 hrs of daily standard?	✓	✓
Manual reintegrations checked and hardcopies included?	NA	na
Absolute retention times for 13C12-1,2,3,4-TCDD and 13C12-1,2,3,7,8,9-HxCDD are within +/- 15 seconds of the retention times in the Initial Calibration? (for 1613B only) ?	NA	na
Resolution Plot(s) Checked and Scanned?	✓	NA
ICal Checklist Included?	✓	NA ✓
CCV Checklist Scanned?	NA	✓

COMMENTS:

* **Method 8290/TO9/M0023A: (beginning)** ≤ 20% from curve RRFs for native analytes, ≤ 30% from curve RRFs for labeled compounds.
Method 8290/TO9/M0023A: (ending) ≤ 25% from curve RRFs for native analytes, ≤ 35% from curve RRFs for labeled compounds.
Method 23: See Method 23 Daily Standard Criteria, Table 5.
Method 1613B: See, Method 1613B or Method 1613B Tetras Daily Standard Criteria,

** **Method 23/0023A CPSM Criteria:** Compare the 2378 TCDF (DB-225)/TCDD (DB-5) peak to the one eluting just before it. Normalize to the smaller of the two peaks. Do the same for 2378 TCDF/TCDD and the peak eluting just after it. In both cases the valley between peaks must be ≤ 25%

Method 1613B/8290/TO9 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak

Test America – West Sacramento

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Initial Calibration Checklist
Dioxin Methods

Worklist: #40436 Batch #: 152997, 152998, 152999, 153000, 153001, 153002, 153003, 153004, 153005
Calibration Event ID #: 28726, 28727, 28728, 28729, 28730, 28731, 28732, 28733, 28734

Method ID: 1613B, 1613B_Tetra, 8290, 8290A, 8290A_D5, DLM02.x, EPA_0023A, EPA_23, TO9

Column ID DB225

Instrument ID 9D2

STD ID's L4, L3, L2, L6, L5

STD Solution See WL #40436

GC Program DB225

Multiplier Setting 370v

Analyzed By KStephens

Date Analyzed 03-02-2017

Prepared By KStephens

Date Prepared 03-03-2017

Reviewed By SMA

Date Reviewed 03-03-2017

ANALYSIS OFFICIAL	INITIATED	REVIEWED
Curve summary present?	X	X
Calibration levels verified from L2 to L6?	X	X
Copy of log-file present?	X	X
Beginning and Ending Static resolution check scanned?	X	X
DLM02.2: Beginning and ending CPSM blow ups present?	X	X
DLM02.2: CPSM valley < 25%. Resolution documented below? **	X (1)	X (1)
Target file RT's correct?	X	X
%RSD within method-specified limits?*	X	X
Signal-to-noise criteria met?	X	X
Isotopic ratios within limits?	X	X
High point free of saturation?	X	X
Are chromatographic windows correct?	X	X
DLM02.2: Absolute retention time for 13C12-1,2,3,4-TCDD > 25 minutes on a DB-5 column or 13C12-1,2,3,4-TCDD > 15 minutes on a DB-225 column?	X (2)	X (2)
Manual reintegration's checked in TALS/CHROM?	NA	NA
ICAL Checklist/Summary scanned: Date 03-03-17 initials SMA	NA	X

COMMENTS: (1) Beginning CPSM = 24% valley; Ending CPSM = 25%
(2) L4 IS RT: 13C-1,2,3,4-TCDD = 15.196

* Method 8290/TO9/M0023A: %RSD ≤20% for natives, ≤30% for labeled compounds; S/N≥10
Method 1613B/DLM02.2: %RSD≤ 20% natives, ≤30% labeled compounds; S/N ≥10
Method 23: %RSD ≤ values specified in Table 5, Method 23; S/N ≥ 10

** DLM02.2 CPSM Criteria: 25% valley between 2378 TCDF (DB-225)/TCDD (DB-5) and its closest eluters normalized to the 2378 peak.

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

DB225 Copy

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End: 11/17/2017 12:00:00PM

Soxhlet Extraction of Dioxins and Furans

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1 c	MB~320-195095/1 N/A	N/A	10.00 g	20.0 uL	N/A	N/A	N/A	RX	MB 320-195095/1-A
2	LCS~320-195095/2 N/A ✓	N/A	10.00 g	20.0 uL	N/A	N/A	N/A	RX	LCS 320-195095/2-A
3	LCSD~320-195095/3 N/A ✓	N/A	10.00 g	20.0 uL	N/A	N/A	N/A	RX	LCSD 320-195095/3-A
4	160-24924-G-1 (8290A_DOD5) ✓	N/A (160-24924-2)	10.06 g	20.0 uL	10/16/17	15_Days	4	RX DB-225 14.8 Pg/ml	160-24924-G-1-B
5	160-24924-G-2 (8290A_DOD5) ✓	N/A (160-24924-2)	10.03 g	20.0 uL	10/16/17	15_Days	4	RX " 1.5 "	160-24924-G-2-B
6	160-24924-G-3 (8290A_DOD5) ✓	N/A (160-24924-2)	10.02 g	20.0 uL	10/16/17	15_Days	4	RX —	160-24924-G-3-B
7	160-24924-G-4 (8290A_DOD5) —	N/A (160-24924-2)	9.97 g	20.0 uL	10/16/17	15_Days	4	RX —	160-24924-G-4-B
8	160-24924-G-5 (8290A_DOD5) —	N/A (160-24924-2)	10.04 g	20.0 uL	10/16/17	15_Days	4	RX —	160-24924-G-5-B
9	160-24924-G-6 (8290A_DOD5) —	N/A (160-24924-2)	10.01 g	20.0 uL	10/16/17	15_Days	4	RX —	160-24924-G-6-B
10	160-24924-G-7 (8290A_DOD5) ✓	N/A (160-24924-2)	9.94 g	20.0 uL	10/16/17	15_Days	4	RX " 1.72 "	160-24924-G-7-B
11	160-24924-G-8 (8290A_DOD5) ✓	N/A (160-24924-2)	9.90 g	20.0 uL	10/16/17	15_Days	4	RX " 8.7 "	160-24924-G-8-B
12	160-24924-G-9 (8290A_DOD5)	N/A (160-24924-2)	10.08 g	20.0 uL	10/16/17	15_Days	4	RX " 1.0 "	160-24924-G-9-D
13	160-24924-G-9~MS (8290A_DOD5)	N/A (160-24924-2)	10.15 g	20.0 uL	10/16/17	15_Days	4	RX	160-24924-G-9-E MS
14	160-24924-G-9~MSD (8290A_DOD5)	N/A (160-24924-2)	9.84 g	20.0 uL	10/16/17	15_Days	4	RX	160-24924-G-9-F MSD
15	160-24924-G-10 (8290A_DOD5) —	N/A (160-24924-2)	10.11 g	20.0 uL	10/16/17	15_Days	4	RX —	160-24924-G-10-B

Printed : 11/17/2017

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End: 11/17/2017 12:00:00PM

16	160-24924-G-11 (8290A_DOD5) ✓	N/A (160-24924-2)	9.98 g	20.0 uL	10/16/17	15_Days	4	RX	0.16 Pg/ml	160-24924-G-11-B
17	160-24924-G-12 (8290A_DOD5) ✓	N/A (160-24924-2)	9.91 g	20.0 uL	10/16/17	15_Days	4	RX	—	160-24924-G-12-B
18	160-24924-G-13 (8290A_DOD5) ✓	N/A (160-24924-2)	9.97 g	20.0 uL	10/16/17	15_Days	4	RX	0.1 Pg/ml	160-24924-G-13-B
19	160-24924-G-14 (8290A_DOD5) —	N/A (160-24924-2)	10.21 g	20.0 uL	10/16/17	15_Days	4	RX	0.08 "	160-24924-G-14-B
20	160-24924-G-15 (8290A_DOD5) —	N/A (160-24924-2)	10.07 g	20.0 uL	10/16/17	15_Days	4	RX	—	160-24924-G-15-B
21	160-24924-G-16 (8290A_DOD5) ✓	N/A (160-24924-2)	9.83 g	20.0 uL	10/16/17	15_Days	4	RX	—	160-24924-G-16-B
22	160-24924-G-17 (8290A_DOD5) ✓	N/A (160-24924-2)	9.90 g	20.0 uL	10/16/17	15_Days	4	RX		160-24924-G-17-B
23	160-24924-G-18 (8290A_DOD5) ✓	N/A (160-24924-2)	10.14 g	20.0 uL	10/16/17	15_Days	4	RX		160-24924-G-18-B
24	160-24924-G-19 (8290A_DOD5) ✓	N/A (160-24924-2)	9.90 g	20.0 uL	10/16/17	15_Days	4	RX		160-24924-G-19-B

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End: 11/17/2017 12:00:00PM

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	N/A
Thimble Lot ID	974039102
Balance ID	QA-74
Hexane ID	0000181539
Na2SO4 ID	0000168174
Tetradecane ID	STBH0250
Toluene ID	0000162750
MeCL2 ID	N/A
Soxhlet/Soxtherm Start	16:00
Soxhlet/Soxtherm End	19:00
Analyst ID - IDA Reagent Drop	DTG 11/16/17 - EC15131 - B 4/4
Analyst ID - IDA Reagent Drop Witness	SXS 11/16/17
Analyst ID - TA Reagent Drop	DTG 11/16/17 - EH153171 - B 10/10
Analyst ID - TA Reagent Drop Witness	SXS 11/16/17
Analyst ID - SU Reagent Drop	MEL 11/17/17 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 11/17/17
Analyst ID - IS Reagent Drop	TGL 11/17/17 EH15371 B 3/4
Analyst ID - IS Reagent Drop Witness	MEL 11/17/17
Nonane ID	N/A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM

Batch End: 11/17/2017 12:00:00PM

Sulfuric Acid Lot Number	N/A
5% NaCl Reagent ID	N/A
20% KOH Reagent ID	N/A
Acid cleanup Analyst	N/A
Date of Acid Cleanup	N/A
1:1 DCM:Cyclohexane ID	N/A
5% Carbon:Silica Gel ID	N/A
75:20:5DCM/MeOH/Benzene ID	N/A
Benzene ID	N/A
Carbon Column C/U Analyst	N/A
Carbon Column C/U Date	N/A
DCM:Hexane ID	20%-1063086
65% DCM:Hexane ID	1071651
Alumina ID	26
Silica Gel ID	1082349 / 1091138
Dual Column C/U Analyst	MEL
Dual Column C/U Date	11/17/2017
GPC ID	N/A
GPC Analyst	N/A
GPC Date	N/A
Split Analyst/Date	N/A
Split Volume	N/A
Storage Box ID	DXN-986

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM

Batch End: 11/17/2017 12:00:00PM

Batch Comment 20% and 65% eluents were combined and than brought to F.V.

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End: 11/17/2017 12:00:00PM

Comments

160-24924-G-1
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-2
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-3
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-4
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-5
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-6
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-7
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-8
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-9
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-9~MS
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-9~MSD
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-10
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-11
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-12
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-13
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-14
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-15
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-16
Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-17

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM

Batch End: 11/17/2017 12:00:00PM

160-24924-G-18	Rework Comments: RX due to MB contamination (HpCDD/OCDD)
160-24924-G-19	Rework Comments: RX due to MB contamination (HpCDD/OCDD)
	Rework Comments: RX due to MB contamination (HpCDD/OCDD)

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End: 11/17/2017 12:00:00PM

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-195095/1	HRDXNIDA_00307	1.00 mL	20.0 uL		
MB 320-195095/1	HRDXNIS_00101	20.0 uL	20.0 uL		
MB 320-195095/1	HRDXNSU_00173	1 mL	20.0 uL		
LCS 320-195095/2	HRDXNIDA_00307	1.00 mL	20.0 uL		
LCS 320-195095/2	HRDXNIS_00101	20.0 uL	20.0 uL		
LCS 320-195095/2	HRDXNSU_00173	1 mL	20.0 uL		
LCS 320-195095/2	HRDXNTA_00083	50.0 uL	20.0 uL		
LCSD 320-195095/3	HRDXNIDA_00307	1.00 mL	20.0 uL		
LCSD 320-195095/3	HRDXNIS_00101	20.0 uL	20.0 uL		
LCSD 320-195095/3	HRDXNSU_00173	1 mL	20.0 uL		
LCSD 320-195095/3	HRDXNTA_00083	50.0 uL	20.0 uL		
160-24924-G-1	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-1	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-1	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-2	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-2	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-2	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-3	HRDXNIDA_00307	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End: 11/17/2017 12:00:00PM

160-24924-G-3	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-3	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-4	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-4	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-4	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-5	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-5	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-5	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-6	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-6	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-6	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-7	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-7	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-7	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-8	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-8	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-8	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-9	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-9	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-9	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-9 MS	HRDXNIDA_00307	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End: 11/17/2017 12:00:00PM

160-24924-G-9 MS	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-9 MS	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-9 MSD	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-9 MSD	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-9 MSD	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-10	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-10	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-10	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-11	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-11	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-11	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-12	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-12	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-12	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-13	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-13	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-13	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-14	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-14	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-14	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-15	HRDXNIDA_00307	1.00 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM

Batch End: 11/17/2017 12:00:00PM

160-24924-G-15	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-15	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-16	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-16	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-16	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-17	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-17	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-17	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-18	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-18	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-18	HRDXNSU_00173	1 mL	20.0 uL		
160-24924-G-19	HRDXNIDA_00307	1.00 mL	20.0 uL		
160-24924-G-19	HRDXNIS_00101	20.0 uL	20.0 uL		
160-24924-G-19	HRDXNSU_00173	1 mL	20.0 uL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM

Batch End: 11/17/2017 12:00:00PM

Other Reagents:

Reagent	Amount/Units	Lot#:

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095
Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM
Batch End:

Batch Notes

Perform Calculation (0=No, 1=Yes)	
Nominal Amount Used	
Thimble Lot ID	974039102
Balance ID	QA-74
Hexane ID	0000181539
Na2SO4 ID	0000168174
Tetradecane ID	
Toluene ID	0000162750
MeCL2 ID	
Soxhlet/Soxtherm Start	16:00
Soxhlet/Soxtherm End	19:00
Analyst ID - IDA Reagent Drop	DTG 11/16/17 - EC15131 - B 4/4
Analyst ID - IDA Reagent Drop Witness	SXS 11/16/17
Analyst ID - TA Reagent Drop	DTG 11/16/17 - EH153171 - B 10/10
Analyst ID - TA Reagent Drop Witness	SXS 11/16/17
Analyst ID - SU Reagent Drop	MEL 11/17/17 1.0ml HRDXNSU-00173 3/4 EC15131
Analyst ID - SU Reagent Drop Witness	TGL 11/17/17
Analyst ID - IS Reagent Drop	TGL 11/17/17 20.0µl HRDXNIS 00101 (3/4)
Analyst ID - IS Reagent Drop Witness	MEL 11/17/17
Nonane ID	

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-195095

Method Code: 320-8290_P_Sox-320

Analyst: Sathyanarayanan, Sanjhosh X

Batch Open: 11/16/2017 11:16:00AM

Batch End:

Sulfuric Acid Lot Number
5% NaCl Reagent ID
20% KOH Reagent ID
Acid cleanup Analyst
Date of Acid Cleanup
1:1 DCM:Cyclohexane ID
5% Carbon:Silica Gel ID
75:20:5DCM/MeOH/Benzene ID
Benzene ID
Carbon Column C/U Analyst
Carbon Column C/U Date
DCM:Hexane ID
65% DCM:Hexane ID
Alumina ID 26
Silica Gel ID
Dual Column C/U Analyst MEL
Dual Column C/U Date 11/17/17
GPC ID
GPC Analyst
GPC Date
Split Analyst/Date
Split Volume
Storage Box ID DXN-986

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-195095 Test: 8290 (solid RX)

Earliest Holding Time: 11/04/2017

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	✓	✓
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	1st Level Reviewer	2nd Level Reviewer
All samples properly preserved	NA	NA
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	NA
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	1st Level Reviewer	2nd Level Reviewer
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	1st Level Reviewer	2nd Level Reviewer
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: TGL Date: 11/17/17

2nd Level Reviewer: VPM Date: 11/17/17

Comments:

Q:\FORMS\Checklists\QA-448 QA-448 3/17/14 AVM

Shipping and Receiving Documents

Ahtna Environmental, Inc.

296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF COUSTODY

WATER / [✓ SOIL]

Chain of Custody #: 201710-

Carbon Copies: White - Laboratory Yellow - Ahtna

160-24924 Chain of Custody

Project Information:

Project Location: Sharpe Army Depot, Lathrop, CA

Sampler/s: B. Foster

Project Name: SHAD-041 RI/FS

Report To: Sylvester Kosowski

Project Number: 05122.16

E-Mail: skosowski@htna.net

Sampling Event: SHAD-041 RI/FS

Laboratory: Test America

Lab Sample Receipt

Laboratory Sample Delivery

Group #:

Custody Seal:

Temp (°C):

Lab Number	Sample Number/Description	Sample Collection: Date	Sample Collection: Time	Matrix: Water	Matrix: Soil	Matrix: Other	Total # of Bottles	HCl	HNO$_3$	H$_2$SO$_4$	NaOH	MeOH	NaHSO^4	None	Other	Radium 226 (901.1)	VOCs (8260C)	Hexavalent Chromium (7196A)	Lead, Chromium (6010C)	PAHs (8270D)	PCBs (8082A)	PCDD/PCDF (8290A)		Notes
	~~SHAD041DP026SS01NS~~	~~10/5/17~~			~~X~~												~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		RK
	SHAD041DP026SS02NS	10/5/17	1604		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP026SS03NS	10/5/17	1611		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP026SS04NS	10/5/17	1615		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP026SS05NS	10/5/17	1622		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP026SS05DS	10/5/17	1626		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP026SS06NS	10/5/17	1631		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP022SS01NS	10/5/17	1645		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP022SS02NS	10/5/17	1655		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP022SS03NS	10/5/17	1659		X		21					3		18			X	X	X	X	X	X		MS/MSD
	SHAD041DP022SS04NS	10/5/17	1710		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP022SS05NS	10/5/17	1715		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP022SS06NS	10/5/17	1723		X		7					1		6			X	X	X	X	X	X		
		~~10/ /17~~																						RK
		~~10/ /17~~																						RK

Turnaround Time: X : Standard ____ : 3-5 Day Rush ____ : 48 Hour Rush ____ : 24 Hour Rush

Shipment: Method: FedEx Tracking ID:

Comments:

Chain of Custody Tracking:

Relinquished By Sampler: B Fost	**Date/Time:** 10/6/17 @ 1545	**Received By:** Clark	**Date/Time:** 10.7.17 0850
Relinquished By:	**Date/Time:**	**Received By:**	**Date/Time:**
Relinquished By:	**Date/Time:**	**Received By Laboratory:**	**Date/Time:**

Ahtna
Environmental, Inc.

296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

WATER / [✓ SOIL]

Chain of Custody #: 201710-
Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:

Project Location: Sharpe Army Depot, Lathrop, CA
Sampler/s: B. Foster
Project Name: SHAD-041 RI/FS
Report To: Sylvester Kosowski
Project Number: 05122.16
E-Mail: skosowski@htna.net
Sampling Event: SHAD-041 RI/FS
Laboratory: Test America

Lab Sample Receipt

Laboratory Sample Delivery
Group #:
Custody Seal:
Temp (°C):

Lab Number	Sample Number/Description	Sample Collection		Matrix			Total # of Bottles	Number of Preserved Bottles								Analysis Requested								Notes
		Date	Time	Water	Soil	Other		HCl	HNO_3	H_2SO_4	NaOH	MeOH	$NaHSO^4$	None	Other	Radium 226 (901.1)	VOCs (8260C)	Hexavalent Chromium (7196A)	Lead, Chromium (6010C)	PAHs (8270D)	PCBs (8082A)	PCDD/PCDF (8290A)		
	SHAD041DP013SS01NS	10/5/17	1423		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS02NS	10/5/17	1434		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS03NS	10/5/17	1444		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS04NS	10/5/17	1506		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS05NS	10/5/17	1510		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS05DS	10/5/17	1515		X		7					1		6			X	X	X	X	X	X		
	SHAD041DP013SS06NS	10/5/17	1518		X		7					1		6			X	X	X	X	X	X		
	TB-100617-7	10/6/17	1303	X			3	3									X							
	TB-100617-8	10/6/17	1303	X			3	3									X							
	TB-100617-9	10/6/17	1303	X			3	3									X							
	TB-100617-10	10/6/17	1303	X			3	3									X							
		10/__/17																						RK
		10/__/17																						RK
		10/__/17																						RK
		10/__/17																						RK

Turnaround Time: X : Standard ____ : 3-5 Day Rush ____ : 48 Hour Rush ____ : 24 Hour Rush

Shipment: Method: FedEx Tracking ID:

Comments:

Chain of Custody Tracking:

Relinquished By Sampler: B Fost	Date/Time: 10/6/17 @ 1545	Received By: Jill Clark	Date/Time: 10.7.17 0850
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By Laboratory:	Date/Time:

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Ridenhower, Rhonda E	Carrier Tracking No(s):	COC No: 160-123686.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: rhonda.ridenhower@testamericainc.com	State of Origin: California	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD ELAP - A2LA; DoD ELAP - L-A-B		Job #: 160-24924-2
Address: 880 Riverside Parkway,	**Due Date Requested:** 10/25/2017	**Analysis Requested**		**Preservation Codes:**
City: West Sacramento	**TAT Requested (days):**			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Sharpe Army Depot - Task 16	Project #: 16006651			
Site:	SSOW#:			

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A_DOD5/8290_P_Sox 17 Isomers List	Total Number of containers	Special Instructions/Note:
				Preservation Code:					
SHAD041DP026SS02NS (160-24924-1)	10/5/17	16:04 Pacific		Solid			X	1	
SHAD041DP026SS03NS (160-24924-2)	10/5/17	16:11 Pacific		Solid			X	1	
SHAD041DP026SS04NS (160-24924-3)	10/5/17	16:15 Pacific		Solid			X	1	
SHAD041DP026SS05NS (160-24924-4)	10/5/17	16:22 Pacific		Solid			X	1	
SHAD041DP026SS05DS (160-24924-5)	10/5/17	16:26 Pacific		Solid			X	1	
SHAD041DP026SS06NS (160-24924-6)	10/5/17	16:31 Pacific		Solid			X	1	
SHAD041DP022SS01NS (160-24924-7)	10/5/17	16:45 Pacific		Solid			X	1	
SHAD041DP022SS02NS (160-24924-8)	10/5/17	16:55 Pacific		Solid			X	1	
SHAD041DP022SS03NS (160-24924-9)	10/5/17	16:59 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Level 1 radioactive*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by:	Date/Time: 10/11/17 17⁰⁰	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10/13/17 9:45	Company TA WS
Custody Seals Intact: △ Yes △ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.6 2.4 3.0		

Ver: 09/20/2016

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Ridenhower, Rhonda E	Carrier Tracking No(s):	COC No: 160-123686.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: rhonda.ridenhower@testamericainc.com	State of Origin: California	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD ELAP - A2LA; DoD ELAP - L-A-B		Job #: 160-24924-2
Address: 880 Riverside Parkway, ,	**Due Date Requested:** 10/25/2017	**Analysis Requested**		**Preservation Codes:**
City: West Sacramento	**TAT Requested (days):**			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Sharpe Army Depot - Task 16	Project #: 16006651			
Site:	SSOW#:			

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A_DOD5/8290_P_Sox 17 Isomers List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SHAD041DP022SS03NS (160-24924-9MS)	10/5/17	16:59 Pacific	MS	Solid			X	1	
SHAD041DP022SS03NS (160-24924-9MSD)	10/5/17	16:59 Pacific	MSD	Solid			X	1	
SHAD041DP022SS04NS (160-24924-10)	10/5/17	17:10 Pacific		Solid			X	1	
SHAD041DP022SS05NS (160-24924-11)	10/5/17	17:15 Pacific		Solid			X	1	
SHAD041DP022SS06NS (160-24924-12)	10/5/17	17:23 Pacific		Solid			X	1	
SHAD041DP013SS01NS (160-24924-13)	10/5/17	14:23 Pacific		Solid			X	1	
SHAD041DP013SS02NS (160-24924-14)	10/5/17	14:34 Pacific		Solid			X	1	
SHAD041DP013SS03NS (160-24924-15)	10/5/17	14:44 Pacific		Solid			X	1	
SHAD041DP013SS04NS (160-24924-16)	10/5/17	15:06 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Level 1 radioactive*			***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*		
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 4		Special Instructions/QC Requirements:		
Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:	
Relinquished by:	Date/Time: 10/11/17 1700	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10/13/17 9:45	Company TA LS
Custody Seals Intact: △ Yes △ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.6 2.4 5.0		

Ver: 09/20/2016

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone (314) 298-8566 Fax (314) 298-8757

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Ridenhower, Rhonda E	Carrier Tracking No(s):	COC No: 160-123686.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: rhonda.ridenhower@testamericainc.com	State of Origin: California	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD ELAP - A2LA; DoD ELAP - L-A-B		Job #: 160-24924-2

Address: 880 Riverside Parkway, ,
Due Date Requested: 10/25/2017
City: West Sacramento
TAT Requested (days):
State, Zip: CA, 95605
Phone: 916-373-5600(Tel) 916-372-1059(Fax)
PO #:
Email:
WO #:
Project Name: Sharpe Army Depot - Task 16
Project #: 16006651
Site:
SSOW#:

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A_DOD5/8290_P_Sox 17 Isomers List	Total Number of containers	Special Instructions/Note:
				Preservation Code:					
SHAD041DP013SS05NS (160-24924-17)	10/5/17	15:10 Pacific		Solid			X	1	
SHAD041DP013SS05DS (160-24924-18)	10/5/17	15:15 Pacific		Solid			X	1	
SHAD041DP013SS06NS (160-24924-19)	10/5/17	15:18 Pacific		Solid			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Level 1 radioactive

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)
Primary Deliverable Rank: 4
Special Instructions/QC Requirements:

Empty Kit Relinquished by:
Date:
Time:
Method of Shipment:

Relinquished by:	Date/Time: 10/11/17 1700	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10/13/17 9:45	Company TA LS

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 2.6 2.4 3.0

Ver: 09/20/2016

Login Sample Receipt Checklist

Client: Ahtna Engineering Services LLC

Job Number: 160-24924-2

Login Number: 24924

List Source: TestAmerica St. Louis

List Number: 1

Creator: Clarke, Jill C

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Ahtna Engineering Services LLC

Job Number: 160-24924-2

Login Number: 24924
List Number: 2
Creator: Aguayo, Alonso

List Source: TestAmerica Sacramento
List Creation: 10/13/17 05:55 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	