TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17030-1
Client Project/Site: HDP RFP-CBA-022 (7 DAY TAT)

For:
Westinghouse Electric Company LLC
3300 State Road P
Festus, Missouri 63028

Attn: Mr. Martin Swanson

Authorized for release by:
4/25/2016 5:23:31 PM

Ivan Vania, Project Manager II
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LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 160-17030-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Westinghouse Electric Company LLC

Project: HDP RFP-CBA-022 (7 DAY TAT)

Report Number: 160-17030-1

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

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

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

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

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

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

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

RECEIPT

The samples were received on 4/19/2016 1:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 20.0º C.

TECHNETIUM-99 (ICPMS)

Samples L09-01-01-P-S-S-00 (160-17030-1), L09-01-02-P-R-S-00 (160-17030-2), L09-01-03-P-E-S-00 (160-17030-3), L09-01-04-P-S-S-00 (160-17030-4), L09-01-05-P-R-S-00 (160-17030-5), L09-01-06-P-E-S-00 (160-17030-6), L09-01-07-P-S-S-00 (160-17030-7), L09-01-08-P-R-S-00 (160-17030-8), L09-01-09-P-E-S-00 (160-17030-9), L09-01-10-P-S-S-00 (160-17030-10), L09-01-11-P-R-S-00 (160-17030-11), L09-01-12-P-E-S-00 (160-17030-12), L09-01-13-P-S-S-00 (160-17030-13), L09-01-14-P-R-S-00 (160-17030-14), L09-01-14-P-R-Q-00 (160-17030-15), L09-01-15-P-E-S-00 (160-17030-16), L09-01-16-P-S-S-00 (160-17030-17), L09-01-17-P-R-S-00 (160-17030-18), L09-01-18-P-E-S-00 (160-17030-19), L09-01-19-P-S-S-00 (160-17030-20), L09-01-19-P-S-Q-00 (160-17030-21), L09-01-20-P-R-S-00 (160-17030-22), L09-01-21-P-E-S-00 (160-17030-23), L09-01-22-P-S-S-00 (160-17030-24), L09-01-23-P-R-S-00 (160-17030-25) and L09-01-24-P-E-S-00 (160-17030-26) were analyzed for Technetium-99 (ICPMS) in accordance with EPA SW-846 Method 6020A. The samples were prepared on 04/20/2016 and 04/21/2016 and analyzed on 04/22/2016.

Job ID: 160-17030-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Preparation Batch 160-246991, Analytical Batch 160-247604:
The matrix spike / matrix spike duplicate (MS/MSD) recovery and precision for technetium was outside control limits, indicating a matrix interference. The sample was a non-homogeneous mixture of soil. The LCS was within acceptable limits. (160-17030-A-25-F MS) and (160-17030-A-25-G MSD)

Analytical Batch 160-247604:
The carrier was outside the upper limits in the bracketing CCV. However, technetium was within acceptable limits, showing that there was no bias. Original results will be reported. (CCV 160-247604/86)

Preparation Batch 160-246991, Analytical Batch 160-247605 :
The Relative Error Ratio and Duplicate Error Ratio were outside control limits for technetium. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control samples were within acceptance limits.(160-17030-A-25-F MS) and (160-17030-A-25-G MSD)

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

PERCENT SOLIDS

Samples L09-01-01-P-S-S-00 (160-17030-1), L09-01-02-P-R-S-00 (160-17030-2), L09-01-03-P-E-S-00 (160-17030-3), L09-01-04-P-S-S-00 (160-17030-4), L09-01-05-P-R-S-00 (160-17030-5), L09-01-06-P-E-S-00 (160-17030-6), L09-01-07-P-S-S-00 (160-17030-7), L09-01-08-P-R-S-00 (160-17030-8), L09-01-09-P-E-S-00 (160-17030-9), L09-01-10-P-S-S-00 (160-17030-10), L09-01-11-P-R-S-00 (160-17030-11), L09-01-12-P-E-S-00 (160-17030-12), L09-01-13-P-S-S-00 (160-17030-13), L09-01-14-P-R-S-00 (160-17030-14), L09-01-14-P-R-Q-00 (160-17030-15), L09-01-15-P-E-S-00 (160-17030-16), L09-01-16-P-S-S-00 (160-17030-17), L09-01-17-P-R-S-00 (160-17030-18), L09-01-18-P-E-S-00 (160-17030-19), L09-01-19-P-S-S-00 (160-17030-20), L09-01-19-P-S-Q-00 (160-17030-21), L09-01-20-P-R-S-00 (160-17030-22), L09-01-21-P-E-S-00 (160-17030-23), L09-01-22-P-S-S-00 (160-17030-24), L09-01-23-P-R-S-00 (160-17030-25) and L09-01-24-P-E-S-00 (160-17030-26) were analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 04/20/2016.

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

CESIUM-137 & OTHER GAMMA EMITTERS (GS)

Samples L09-01-01-P-S-S-00 (160-17030-1), L09-01-02-P-R-S-00 (160-17030-2), L09-01-03-P-E-S-00 (160-17030-3), L09-01-04-P-S-S-00 (160-17030-4), L09-01-05-P-R-S-00 (160-17030-5), L09-01-06-P-E-S-00 (160-17030-6), L09-01-07-P-S-S-00 (160-17030-7), L09-01-08-P-R-S-00 (160-17030-8), L09-01-09-P-E-S-00 (160-17030-9), L09-01-10-P-S-S-00 (160-17030-10), L09-01-11-P-R-S-00 (160-17030-11), L09-01-12-P-E-S-00 (160-17030-12), L09-01-13-P-S-S-00 (160-17030-13), L09-01-14-P-R-S-00 (160-17030-14), L09-01-14-P-R-Q-00 (160-17030-15), L09-01-15-P-E-S-00 (160-17030-16), L09-01-16-P-S-S-00 (160-17030-17), L09-01-17-P-R-S-00 (160-17030-18), L09-01-18-P-E-S-00 (160-17030-19), L09-01-19-P-S-S-00 (160-17030-20), L09-01-19-P-S-Q-00 (160-17030-21), L09-01-20-P-R-S-00 (160-17030-22), L09-01-21-P-E-S-00 (160-17030-23), L09-01-22-P-S-S-00 (160-17030-24), L09-01-23-P-R-S-00 (160-17030-25) and L09-01-24-P-E-S-00 (160-17030-26) were analyzed for Cesium-137 & Other Gamma Emitters (GS) in accordance with DOE GA-01-R. The samples were leached on 04/19/2016, prepared on 04/20/2016 and analyzed on 04/20/2016 and 04/21/2016.

Method(s) GA-01-R: Gamma
Preparation Batch 160-246947:
Radium-226 is reported in these samples at the client's request. Radium-226 is reported from the 609.31 keV line of bismuth-214. Because the samples have not had 21-days of ingrowth, the activity for radium-226 is an estimated value and may be biased low. This bias is caused by the disruption of secular equilibrium between radium-226 and bismuth-214 by the loss of radon-222 during sample preparation. The samples are reported with the MDC achieved. L09-01-19-P-S-Q-00 (160-17030-21), L09-01-20-P-R-S-00 (160-17030-22), L09-01-21-P-E-S-00 (160-17030-23), L09-01-22-P-S-S-00 (160-17030-24), L09-01-23-P-R-S-00 (160-17030-25), L09-01-24-P-E-S-00 (160-17030-26), (LCS 160-246947/2-A), (MB 160-246947/1-A) and (160-17030-A-21-D DU)

Preparation Batch 160-246938:
Radium-226 is reported in these samples at the client's request. Radium-226 is reported from the 609.31 keV line of bismuth-214. Because the samples have not had 21-days of ingrowth, the activity for radium-226 is an estimated value and may be biased low. This bias is caused by the disruption of secular equilibrium between radium-226 and bismuth-214 by the loss of radon-222 during sample preparation. The samples are reported with the MDC achieved. L09-01-01-P-S-S-00 (160-17030-1), L09-01-02-P-R-S-00 (160-17030-2),

Job ID: 160-17030-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

L09-01-03-P-E-S-00 (160-17030-3), L09-01-04-P-S-S-00 (160-17030-4), L09-01-05-P-R-S-00 (160-17030-5), L09-01-06-P-E-S-00 (160-17030-6), L09-01-07-P-S-S-00 (160-17030-7), L09-01-08-P-R-S-00 (160-17030-8), L09-01-09-P-E-S-00 (160-17030-9), L09-01-10-P-S-S-00 (160-17030-10), L09-01-11-P-R-S-00 (160-17030-11), L09-01-12-P-E-S-00 (160-17030-12), L09-01-13-P-S-S-00 (160-17030-13), L09-01-14-P-R-S-00 (160-17030-14), L09-01-14-P-R-Q-00 (160-17030-15), L09-01-15-P-E-S-00 (160-17030-16), L09-01-16-P-S-S-00 (160-17030-17), L09-01-17-P-R-S-00 (160-17030-18), L09-01-18-P-E-S-00 (160-17030-19), L09-01-19-P-S-S-00 (160-17030-20), (LCS 160-246938/2-A), (MB 160-246938/1-A) and (160-17030-A-1-G DU)

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

Hematite Decommissioning Project	Procedure HDP-PR-QA-006, *Chain of Custody*	
	Revision: 4	Page 1 of 1
	Westinghouse Non-Proprietary Class 3	

FORM HDP-PR-QA-006-1
CHAIN OF CUSTODY

Instructions: Each time the container is transferred to another organization, a person from each organization should sign the CoC. The Laboratory/End User must verify that the sample is correctly identified before the sample is released for use or analysis and send the completed CoC to HDP.

Chain of Custody ID No. F-041916-01 **Page** 1 of 3

Project Name:
Westinghouse Electric Company

Contact Person:
Clark Evers

Phone Number:
314-810-3336

Sampler Name
Donte Love

Laboratory Name:
TA-MO

Laboratory Address:
13715 Rider Trail North

Phone No.
314-298-8566

Laboratory Contact Person:
Ivan Vania

Phone No.
708-870-8453

Turn Around Time
Rush (7 days)

Sample ID	Date	Time	Matrix	Comp (C) or Grab (G)	Requested Analysis: Gamma Spec	Isotopic Uranium	Tc-99	Gamma Spec (21 day ingrow for Ra-226)							Total Containers	Remarks
L09-01-01-P-S-S-00	4/15/2016	14:45	S	G	X		X	X							1	LSA 09-01
L09-01-02-P-R-S-00	4/15/2016	15:00	S	C	X		X	X							1	LSA 09-01
L09-01-03-P-E-S-00	4/15/2016	15:05	S	G	X		X	X							1	LSA 09-01
L09-01-04-P-S-S-00	4/16/2016	8:10	S	G	X		X	X							1	LSA 09-01
L09-01-05-P-R-S-00	4/16/2016	9:00	S	C	X		X	X							1	LSA 09-01
L09-01-06-P-E-S-00	4/16/2016	9:05	S	G	X		X	X							1	LSA 09-01
L09-01-07-P-S-S-00	4/15/2016	15:20	S	G	X		X	X							1	LSA 09-01
L09-01-08-P-R-S-00	4/15/2016	15:30	S	C	X		X	X							1	LSA 09-01
L09-01-09-P-E-S-00	4/15/2016	15:35	S	G	X		X	X							1	LSA 09-01
L09-01-10-P-S-S-00	4/16/2016	10:15	S	G	X		X	X							1	LSA 09-01
L09-01-11-P-R-S-00	4/16/2016	10:30	S	C	X		X	X							1	LSA 09-01
L09-01-12-P-E-S-00	4/16/2016	10:35	S	G	X		X	X							1	LSA 09-01

Relinquished by: C. Gorsich	Date/Time 4-19-16 1150	Received by:	Date/Time 4-19-16 1150	Total 26	Cooler Temperature: Ambient
Company Name: WEC		Company Name: CROSSROADS		Cooler ID: See Comment	Shipper and Number:
Received by:	Date/Time	Relinquished by:	Date/Time	Comments: Cooler ID: 0419-03/04/05/06	
Company Name:		Company Name:			
Relinquished by: 3815	Date/Time 4-19-16 12:00	Received by:	Date/Time 4-19-16 13:00	Verified By: C. Gorsich 4-19-16	
Company Name: CROSS ROADS		Company Name: TA-St. Louis			

160-17030 Chain of Custody

Hematite Decommissioning Project	Procedure HDP-PR-QA-006, *Chain of Custody*	
	Revision: 4	Page 1 of 1
	Westinghouse Non-Proprietary Class 3	

FORM HDP-PR-QA-006-1

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Chain of Cutody ID No. F-041916-01 **Page** 2 of 3

Project Name: Westinghouse Electric Company

Contact Person: Clark Evers

Phone Number: 314-810-3336

Sampler Name Donte Love

Laboratory Name: TA-MO

Laboratory Address: 13715 Rider Trail North

Phone No. 314-298-8566

Laboratory Contact Person: Ivan Vania

Phone No. 708-870-8453

Turn Around Time Rush (7 days)

Sample ID	Date	Time	Matrix	Comp (C) or Grab (G)	Gamma Spec	Isotopic Uranium	Tc-99	Gamma Spec (21 day ingrow for Ra-226)							Total Containers	Remarks
L09-01-13-P-S-S-00	4/16/2016	10:45	S	G	X		X	X							1	LSA 09-01
L09-01-14-P-R-S-00	4/16/2016	10:55	S	C	X		X	X							1	LSA 09-01
L09-01-14-P-R-Q-00	4/16/2016	10:55	S	C	X		X	X							1	LSA 09-01
L09-01-15-P-E-S-00	4/16/2016	11:00	S	G	X		X	X							1	LSA 09-01
L09-01-16-P-S-S-00	4/16/2016	11:05	S	G	X		X	X							1	LSA 09-01
L09-01-17-P-R-S-00	4/16/2016	11:15	S	C	X		X	X							1	LSA 09-01
L09-01-18-P-E-S-00	4/16/2016	11:20	S	G	X		X	X							1	LSA 09-01
L09-01-19-P-S-S-00	4/18/2016	16:00	S	G	X		X	X							1	LSA 09-01
L09-01-19-P-S-Q-00	4/18/2016	16:00	S	G	X		X	X							1	LSA 09-01
L09-01-20-P-R-S-00	4/18/2016	16:10	S	C	X		X	X							1	LSA 09-01
L09-01-21-P-E-S-00	4/18/2016	16:15	S	G	X		X	X							1	LSA 09-01
L09-01-22-P-S-S-00	4/16/2016	14:10	S	G	X		X	X							1	LSA 09-01

Relinquished by: Gorsm	Date/Time	Received by:	Date/Time	Total	Cooler Temperature:
Company Name: WEC	4-19-16 1150	Company Name: CROSSROADS	4-19-16 1150	26	Ambient
				Cooler ID: See comment	Shipper and Number:
Received by:	Date/Time	Relinquished by:	Date/Time	Comments: Cooler ID: 0419-03/04/05/06	
Company Name:		Company Name:			
Relinquished by: 3815	Date/Time 4-19-16 13:00	Received by: C Dedner	Date/Time 4-19-16 13:00	Verified By: C. Gorsm 4-19-16	
Company Name: CROSS ROADS		Company Name: TA-St. Louis			

Hematite Decommissioning Project	Procedure HDP-PR-QA-006, *Chain of Custody*	
	Revision: 4	Page 1 of 1
	Westinghouse Non-Proprietary Class 3	

FORM HDP-PR-QA-006-1

CHAIN OF CUSTODY

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Chain of Custody ID No. F-041916-01 **Page** 3 of 3

Project Name:
Westinghouse Electric Company

Contact Person:
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Phone Number:
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Sampler Name
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Laboratory Address:
13715 Rider Trail North

Phone No.
314-298-8566

Laboratory Contact Person:
Ivan Vania

Phone No.
708-870-8453

Turn Around Time
Rush (7 days)

Sample ID	Date	Time	Matrix	Comp (C) or Grab (G)	Requested Analysis: Gamma Spec	Isotopic Uranium	Tc-99	Gamma Spec (21 day ingrow for Ra-226)						Total Containers	Remarks
L09-01-23-P-R-S-00	4/16/2016	14:25	S	C	X		X	X						1	LSA 09-01
L09-01-24-P-E-S-00	4/16/2016	14:30	S	G	X		X	X						1	LSA 09-01

Relinquished by: Gorsuch	Date/Time 4-19-16 1150	Received by: RGoff	Date/Time 4-19-16 1150	Total 26	Cooler Temperature: Ambient
Company Name: WEC		Company Name: CROSSROADS		Cooler ID: See comment	Shipper and Number:
Received by:	Date/Time	Relinquished by:	Date/Time	Comments: Cooler ID: 0419-03/04/05/06	
Company Name:		Company Name:			
Relinquished by: RGoff 3815	Date/Time 4-19-16 13:00	Received by: C. Dienar	Date/Time 4-19-16 1300	Verified By: C. Gorsuch	
Company Name: CROSSROADS		Company Name: TA-St. Louis		4-19-16	

Login Sample Receipt Checklist

Client: Westinghouse Electric Company LLC

Job Number: 160-17030-1

Login Number: 17030
List Number: 1
Creator: Dedner, Connie L

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
F	MS/MSD Recovery and/or RPD exceeds the control limits
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: Westinghouse Electric Company LLC
Project/Site: HDP RFP-CBA-022 (7 DAY TAT)

TestAmerica Job ID: 160-17030-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS), Tc-99	SW846	TAL SL
Moisture	Percent Moisture	EPA	TAL SL
6020A	Metals (ICP/MS), Tc-99 in Activity	SW846	TAL SL
GA-01-R	Cesium-137 & Other Gamma Emitters (GS)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

Sample Summary

Client: Westinghouse Electric Company LLC
Project/Site: HDP RFP-CBA-022 (7 DAY TAT)

TestAmerica Job ID: 160-17030-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17030-1	L09-01-01-P-S-S-00	Solid	04/15/16 14:45	04/19/16 13:00
160-17030-2	L09-01-02-P-R-S-00	Solid	04/15/16 15:00	04/19/16 13:00
160-17030-3	L09-01-03-P-E-S-00	Solid	04/15/16 15:05	04/19/16 13:00
160-17030-4	L09-01-04-P-S-S-00	Solid	04/16/16 08:10	04/19/16 13:00
160-17030-5	L09-01-05-P-R-S-00	Solid	04/16/16 09:00	04/19/16 13:00
160-17030-6	L09-01-06-P-E-S-00	Solid	04/16/16 09:05	04/19/16 13:00
160-17030-7	L09-01-07-P-S-S-00	Solid	04/15/16 15:20	04/19/16 13:00
160-17030-8	L09-01-08-P-R-S-00	Solid	04/15/16 15:30	04/19/16 13:00
160-17030-9	L09-01-09-P-E-S-00	Solid	04/15/16 15:35	04/19/16 13:00
160-17030-10	L09-01-10-P-S-S-00	Solid	04/16/16 10:15	04/19/16 13:00
160-17030-11	L09-01-11-P-R-S-00	Solid	04/16/16 10:30	04/19/16 13:00
160-17030-12	L09-01-12-P-E-S-00	Solid	04/16/16 10:35	04/19/16 13:00
160-17030-13	L09-01-13-P-S-S-00	Solid	04/16/16 10:45	04/19/16 13:00
160-17030-14	L09-01-14-P-R-S-00	Solid	04/16/16 10:55	04/19/16 13:00
160-17030-15	L09-01-14-P-R-Q-00	Solid	04/16/16 10:55	04/19/16 13:00
160-17030-16	L09-01-15-P-E-S-00	Solid	04/16/16 11:00	04/19/16 13:00
160-17030-17	L09-01-16-P-S-S-00	Solid	04/16/16 11:05	04/19/16 13:00
160-17030-18	L09-01-17-P-R-S-00	Solid	04/16/16 11:15	04/19/16 13:00
160-17030-19	L09-01-18-P-E-S-00	Solid	04/16/16 11:20	04/19/16 13:00
160-17030-20	L09-01-19-P-S-S-00	Solid	04/18/16 16:00	04/19/16 13:00
160-17030-21	L09-01-19-P-S-Q-00	Solid	04/18/16 16:00	04/19/16 13:00
160-17030-22	L09-01-20-P-R-S-00	Solid	04/18/16 16:10	04/19/16 13:00
160-17030-23	L09-01-21-P-E-S-00	Solid	04/18/16 16:15	04/19/16 13:00
160-17030-24	L09-01-22-P-S-S-00	Solid	04/16/16 14:10	04/19/16 13:00
160-17030-25	L09-01-23-P-R-S-00	Solid	04/16/16 14:25	04/19/16 13:00
160-17030-26	L09-01-24-P-E-S-00	Solid	04/16/16 14:30	04/19/16 13:00

Client Sample ID: L09-01-01-P-S-S-00

Lab Sample ID: 160-17030-1
Date Collected: 04/15/16 14:45
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.840**		0.101	0.132		0.0928	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Americium 241	0.0115	U	0.0365	0.0366		0.0615	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Bismuth 212	**0.872**		0.298	0.312		0.287	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Bismuth 214	**0.517**		0.0695	0.0878		0.0475	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Lead 212	**0.822**		0.0588	0.122		0.0487	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Lead 214	**0.620**		0.0697	0.0950		0.0536	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Potassium 40	**12.7**		0.870	1.56		0.260	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Protactinium 231	0.365	U	0.170	0.175		0.868	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Radium 226	**0.517**		0.0695	0.0878	1.00	0.0475	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Thorium 234	0.570	U	0.211	0.219	1.00	0.600	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Uranium 235	0.125	U	0.100	0.101		0.180	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Protactinium 234m	0.138	U	0.894	0.894		3.90	pCi/g	04/20/16 13:16	04/20/16 17:16	1
Thorium 232	**0.840**		0.101	0.132		0.0928	pCi/g	04/20/16 13:16	04/20/16 17:16	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.287*		*0.0392*	*0.0492*		*0.0277*	*pCi/g*	*04/20/16 13:16*	*04/20/16 17:16*	*1*

Client Sample ID: L09-01-01-P-S-S-00

Lab Sample ID: 160-17030-1
Date Collected: 04/15/16 14:45
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 82.8

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000081	0.000024	mg/Kg	☼	04/20/16 01:24	04/22/16 18:25	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0138	U	0.0680	0.0680	1.62	0.277	pCi/g	04/20/16 01:24	04/22/16 18:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*75*		*30 - 110*	*04/20/16 01:24*	*04/22/16 18:25*	*1*

Client Sample ID: L09-01-02-P-R-S-00

Lab Sample ID: 160-17030-2
Date Collected: 04/15/16 15:00
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.04**		0.124	0.162		0.0957	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Americium 241	0.00923	U	0.0541	0.0541		0.0915	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Bismuth 212	**1.10**		0.336	0.354		0.310	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Bismuth 214	**0.734**		0.0855	0.114		0.0622	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Lead 212	**0.963**		0.0737	0.145		0.0628	pCi/g	04/20/16 13:16	04/20/16 19:25	1

Client Sample ID: L09-01-02-P-R-S-00

Lab Sample ID: 160-17030-2
Date Collected: 04/15/16 15:00
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Lead 214	**0.920**		0.0818	0.126		0.0695	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Potassium 40	**18.7**		1.08	2.17		0.318	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Protactinium 231	0.344	U	0.449	0.451		0.741	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Radium 226	**0.734**		0.0855	0.114	1.00	0.0622	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Thorium 234	**1.18**		0.418	0.436	1.00	0.649	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Uranium 235	0.145	U	0.138	0.139		0.222	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Protactinium 234m	0.888	U	2.56	2.56		4.43	pCi/g	04/20/16 13:16	04/20/16 19:25	1
Thorium 232	**1.04**		0.124	0.162		0.0957	pCi/g	04/20/16 13:16	04/20/16 19:25	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.312*		*0.0448*	*0.0551*		*0.0355*	*pCi/g*	*04/20/16 13:16*	*04/20/16 19:25*	*1*

Client Sample ID: L09-01-02-P-R-S-00

Lab Sample ID: 160-17030-2
Date Collected: 04/15/16 15:00
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 79.9

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000074	0.000022	mg/Kg	☼	04/20/16 01:24	04/22/16 18:45	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.151	U	0.0287	0.0319	1.47	0.252	pCi/g	04/20/16 01:24	04/22/16 18:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*85*		*30 - 110*	*04/20/16 01:24*	*04/22/16 18:45*	*1*

Client Sample ID: L09-01-03-P-E-S-00

Lab Sample ID: 160-17030-3
Date Collected: 04/15/16 15:05
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.995**		0.102	0.144		0.0714	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Americium 241	0.00207	U	0.0485	0.0485		0.0820	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Bismuth 212	**1.17**		0.333	0.355		0.301	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Bismuth 214	**0.670**		0.0773	0.104		0.0543	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Lead 212	**0.951**		0.0640	0.139		0.0470	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Lead 214	**0.808**		0.0750	0.113		0.0582	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Potassium 40	**18.6**		1.01	2.15		0.183	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Protactinium 231	0.539	U	0.228	0.236		0.905	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Radium 226	**0.670**		0.0773	0.104	1.00	0.0543	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Thorium 234	**0.769**		0.248	0.261	1.00	0.638	pCi/g	04/20/16 13:16	04/20/16 19:27	1

Client Sample ID: L09-01-03-P-E-S-00

Lab Sample ID: 160-17030-3
Matrix: Solid
Date Collected: 04/15/16 15:05
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium 235	0.111	U	0.105	0.105		0.188	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Protactinium 234m	0.0739	U	2.58	2.58		4.61	pCi/g	04/20/16 13:16	04/20/16 19:27	1
Thorium 232	**0.995**		0.102	0.144		0.0714	pCi/g	04/20/16 13:16	04/20/16 19:27	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Pb-210	*1.24*		*0.450*	*0.472*		*0.605*	*pCi/g*	*04/20/16 13:16*	*04/20/16 19:27*	*1*
Tl-208	*0.297*		*0.0410*	*0.0513*		*0.0326*	*pCi/g*	*04/20/16 13:16*	*04/20/16 19:27*	*1*

Client Sample ID: L09-01-03-P-E-S-00

Lab Sample ID: 160-17030-3
Matrix: Solid
Date Collected: 04/15/16 15:05
Date Received: 04/19/16 13:00
Percent Solids: 80.8

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000077	0.000023	mg/Kg	☼	04/20/16 01:24	04/22/16 18:48	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0477	U	0.0511	0.0513	1.55	0.265	pCi/g	04/20/16 01:24	04/22/16 18:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*80*		*30 - 110*	*04/20/16 01:24*	*04/22/16 18:48*	*1*

Client Sample ID: L09-01-04-P-S-S-00

Lab Sample ID: 160-17030-4
Matrix: Solid
Date Collected: 04/16/16 08:10
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.433**		0.0755	0.0875		0.0466	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Americium 241	0.00599	U	0.0313	0.0313		0.0531	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Bismuth 212	**0.503**		0.210	0.217		0.272	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Bismuth 214	**0.386**		0.0631	0.0747		0.0468	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Lead 212	**0.395**		0.0462	0.0689		0.0411	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Lead 214	**0.381**		0.0539	0.0669		0.0407	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Potassium 40	**5.15**		0.773	0.935		0.621	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Protactinium 231	0.106	U	0.116	0.116		0.537	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Radium 226	**0.386**		0.0631	0.0747	1.00	0.0468	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Thorium 234	0.500	U	0.311	0.315	1.00	0.502	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Uranium 235	0.0469	U	0.0824	0.0825		0.138	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Protactinium 234m	**2.73**		1.69	1.71		1.60	pCi/g	04/20/16 13:16	04/20/16 20:03	1
Thorium 232	**0.433**		0.0755	0.0875		0.0466	pCi/g	04/20/16 13:16	04/20/16 20:03	1

Client Sample ID: L09-01-04-P-S-S-00

Lab Sample ID: 160-17030-4
Date Collected: 04/16/16 08:10
Matrix: Solid
Date Received: 04/19/16 13:00

Other Detected Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tl-208	0.125		0.0239	0.0272		0.0186	pCi/g	04/20/16 13:16	04/20/16 20:03	1

Client Sample ID: L09-01-04-P-S-S-00

Lab Sample ID: 160-17030-4
Date Collected: 04/16/16 08:10
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 87.7

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000057	0.000017	mg/Kg	☼	04/20/16 01:24	04/22/16 18:50	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0235	U	0.0882	0.0882	1.14	0.196	pCi/g	04/20/16 01:24	04/22/16 18:50	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Re	100		30 - 110	04/20/16 01:24	04/22/16 18:50	1

Client Sample ID: L09-01-05-P-R-S-00

Lab Sample ID: 160-17030-5
Date Collected: 04/16/16 09:00
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.950**		0.0943	0.134		0.0882	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Americium 241	0.00144	U	0.0466	0.0466		0.0789	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Bismuth 212	**0.963**		0.334	0.348		0.327	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Bismuth 214	**0.644**		0.0723	0.0981		0.0515	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Lead 212	**0.814**		0.0630	0.123		0.0561	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Lead 214	**0.821**		0.0660	0.108		0.0520	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Potassium 40	**16.1**		0.881	1.84		0.215	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Protactinium 231	0.348	U	0.184	0.188		0.925	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Radium 226	**0.644**		0.0723	0.0981	1.00	0.0515	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Thorium 234	**0.889**		0.373	0.385	1.00	0.592	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Uranium 235	0.0457	U	0.0683	0.0684		0.202	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Protactinium 234m	3.52	U	2.52	2.55		3.59	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Thorium 232	**0.950**		0.0943	0.134		0.0882	pCi/g	04/20/16 13:16	04/20/16 20:04	1

Other Detected Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Pb-210	1.18		0.487	0.507		0.585	pCi/g	04/20/16 13:16	04/20/16 20:04	1
Tl-208	0.323		0.0381	0.0506		0.0269	pCi/g	04/20/16 13:16	04/20/16 20:04	1

Client Sample ID: L09-01-05-P-R-S-00

Lab Sample ID: 160-17030-5
Date Collected: 04/16/16 09:00
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 80.2

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	0.000021	J	0.000066	0.000020	mg/Kg	☼	04/20/16 01:24	04/22/16 18:53	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.356		0.136	0.140	1.32	0.225	pCi/g	04/20/16 01:24	04/22/16 18:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*95*		*30 - 110*	*04/20/16 01:24*	*04/22/16 18:53*	*1*

Client Sample ID: L09-01-06-P-E-S-00

Lab Sample ID: 160-17030-6
Date Collected: 04/16/16 09:05
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	1.02		0.113	0.154		0.0887	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Americium 241	0.0118	U	0.0536	0.0536		0.0900	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Bismuth 212	0.687		0.288	0.297		0.406	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Bismuth 214	0.714		0.0776	0.107		0.0483	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Lead 212	0.981		0.0712	0.146		0.0574	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Lead 214	0.793		0.0686	0.107		0.0583	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Potassium 40	18.7		1.09	2.20		0.352	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Protactinium 231	-0.560	U	0.583	0.586		0.953	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Radium 226	0.714		0.0776	0.107	1.00	0.0483	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Thorium 234	1.18		0.421	0.438	1.00	0.654	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Uranium 235	0.147	U	0.132	0.133		0.205	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Protactinium 234m	2.58	U	2.56	2.58		4.89	pCi/g	04/20/16 13:16	04/20/16 20:05	1
Thorium 232	1.02		0.113	0.154		0.0887	pCi/g	04/20/16 13:16	04/20/16 20:05	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.343*		*0.0461*	*0.0582*		*0.0339*	*pCi/g*	*04/20/16 13:16*	*04/20/16 20:05*	*1*

Client Sample ID: L09-01-06-P-E-S-00

Lab Sample ID: 160-17030-6
Date Collected: 04/16/16 09:05
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 81.2

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000064	0.000019	mg/Kg	☼	04/20/16 01:24	04/22/16 18:55	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.107	U	0.0861	0.0867	1.27	0.217	pCi/g	04/20/16 01:24	04/22/16 18:55	1

Client Sample ID: L09-01-06-P-E-S-00

Lab Sample ID: 160-17030-6
Date Collected: 04/16/16 09:05
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 81.2

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Re	97		30 - 110	04/20/16 01:24	04/22/16 18:55	1

Client Sample ID: L09-01-07-P-S-S-00

Lab Sample ID: 160-17030-7
Date Collected: 04/15/16 15:20
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.958**		0.131	0.163		0.0843	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Americium 241	-0.00428	U	0.0477	0.0477		0.0805	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Bismuth 212	**0.973**		0.362	0.376		0.341	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Bismuth 214	**0.525**		0.0768	0.0942		0.0601	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Lead 212	**0.851**		0.0658	0.128		0.0549	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Lead 214	**0.665**		0.0683	0.0972		0.0522	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Potassium 40	**8.97**		1.27	1.57		1.12	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Protactinium 231	0.534	U	0.346	0.351		0.734	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Radium 226	**0.525**		0.0768	0.0942	1.00	0.0601	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Thorium 234	0.634	U	0.229	0.238	1.00	0.666	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Uranium 235	0.0644	U	0.106	0.106		0.197	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Protactinium 234m	0.855	U	2.07	2.08		3.61	pCi/g	04/20/16 13:16	04/20/16 20:37	1
Thorium 232	**0.958**		0.131	0.163		0.0843	pCi/g	04/20/16 13:16	04/20/16 20:37	1

Other Detected Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tl-208	0.264		0.0420	0.0501		0.0336	pCi/g	04/20/16 13:16	04/20/16 20:37	1

Client Sample ID: L09-01-07-P-S-S-00

Lab Sample ID: 160-17030-7
Date Collected: 04/15/16 15:20
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 81.8

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000064	0.000019	mg/Kg	☼	04/20/16 01:24	04/22/16 18:58	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0461	U	0.0444	0.0446	1.28	0.219	pCi/g	04/20/16 01:24	04/22/16 18:58	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Re	96		30 - 110	04/20/16 01:24	04/22/16 18:58	1

Client Sample ID: L09-01-08-P-R-S-00

Lab Sample ID: 160-17030-8
Date Collected: 04/15/16 15:30
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.18**		0.112	0.162		0.0973	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Americium 241	0.0144	U	0.0545	0.0545		0.0915	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Bismuth 212	**1.43**		0.469	0.491		0.404	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Bismuth 214	**0.783**		0.0847	0.117		0.0589	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Lead 212	**1.02**		0.0709	0.150		0.0594	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Lead 214	**0.904**		0.0800	0.124		0.0670	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Potassium 40	**20.5**		1.06	2.32		0.286	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Protactinium 231	0.132	U	0.390	0.390		0.664	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Radium 226	**0.783**		0.0847	0.117	1.00	0.0589	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Thorium 234	**1.14**		0.586	0.598	1.00	0.745	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Uranium 235	0.0798	U	0.126	0.126		0.218	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Protactinium 234m	0.000	U	1.72	1.72		4.85	pCi/g	04/20/16 13:16	04/20/16 20:38	1
Thorium 232	**1.18**		0.112	0.162		0.0973	pCi/g	04/20/16 13:16	04/20/16 20:38	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.347*		*0.0443*	*0.0568*		*0.0339*	*pCi/g*	*04/20/16 13:16*	*04/20/16 20:38*	*1*

Client Sample ID: L09-01-08-P-R-S-00

Lab Sample ID: 160-17030-8
Date Collected: 04/15/16 15:30
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 80.8

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000064	0.000019	mg/Kg	☼	04/20/16 01:24	04/22/16 19:00	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.103	U	0.0919	0.0924	1.28	0.219	pCi/g	04/20/16 01:24	04/22/16 19:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*97*		*30 - 110*	*04/20/16 01:24*	*04/22/16 19:00*	*1*

Client Sample ID: L09-01-09-P-E-S-00

Lab Sample ID: 160-17030-9
Date Collected: 04/15/16 15:35
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.05**		0.107	0.151		0.0861	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Americium 241	0.00285	U	0.0541	0.0541		0.0913	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Bismuth 212	**1.26**		0.354	0.378		0.305	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Bismuth 214	**0.744**		0.0892	0.118		0.0631	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Lead 212	**1.06**		0.0771	0.157		0.0605	pCi/g	04/20/16 13:16	04/20/16 20:39	1

Client Sample ID: L09-01-09-P-E-S-00

Lab Sample ID: 160-17030-9
Date Collected: 04/15/16 15:35
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Lead 214	**0.767**		0.0660	0.104		0.0597	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Potassium 40	**19.0**		1.07	2.22		0.266	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Protactinium 231	0.700	U	0.292	0.302		0.930	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Radium 226	**0.744**		0.0892	0.118	1.00	0.0631	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Thorium 234	**0.932**		0.261	0.278	1.00	0.764	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Uranium 235	0.0888	U	0.123	0.124		0.201	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Protactinium 234m	1.54	U	2.89	2.89		4.92	pCi/g	04/20/16 13:16	04/20/16 20:39	1
Thorium 232	**1.05**		0.107	0.151		0.0861	pCi/g	04/20/16 13:16	04/20/16 20:39	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Pb-210	*1.55*		*0.560*	*0.589*		*0.702*	*pCi/g*	*04/20/16 13:16*	*04/20/16 20:39*	*1*
Tl-208	*0.310*		*0.0394*	*0.0508*		*0.0303*	*pCi/g*	*04/20/16 13:16*	*04/20/16 20:39*	*1*

Client Sample ID: L09-01-09-P-E-S-00

Lab Sample ID: 160-17030-9
Date Collected: 04/15/16 15:35
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 80.9

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000062	0.000019	mg/Kg	☼	04/20/16 01:24	04/22/16 19:03	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	-0.0384	U	0.0269	0.0271	1.25	0.213	pCi/g	04/20/16 01:24	04/22/16 19:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*99*		*30 - 110*	*04/20/16 01:24*	*04/22/16 19:03*	*1*

Client Sample ID: L09-01-10-P-S-S-00

Lab Sample ID: 160-17030-10
Date Collected: 04/16/16 10:15
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.452**		0.0984	0.109		0.0677	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Americium 241	-0.00168	U	0.0322	0.0322		0.0548	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Bismuth 212	**0.355**		0.198	0.202		0.286	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Bismuth 214	**0.492**		0.0666	0.0840		0.0451	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Lead 212	**0.317**		0.0395	0.0569		0.0358	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Lead 214	**0.555**		0.0595	0.0829		0.0396	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Potassium 40	**8.25**		0.677	1.08		0.161	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Protactinium 231	0.245	U	0.243	0.245		0.637	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Radium 226	**0.492**		0.0666	0.0840	1.00	0.0451	pCi/g	04/20/16 13:16	04/20/16 21:29	1

Client Sample ID: L09-01-10-P-S-S-00

Lab Sample ID: 160-17030-10
Matrix: Solid
Date Collected: 04/16/16 10:15
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium 234	**0.481**		0.164	0.172	1.00	0.476	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Uranium 235	0.0877	U	0.0835	0.0839		0.127	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Protactinium 234m	0.411	U	1.83	1.83		3.65	pCi/g	04/20/16 13:16	04/20/16 21:29	1
Thorium 232	**0.452**		0.0984	0.109		0.0677	pCi/g	04/20/16 13:16	04/20/16 21:29	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.117*		*0.0235*	*0.0264*		*0.0185*	*pCi/g*	*04/20/16 13:16*	*04/20/16 21:29*	*1*

Client Sample ID: L09-01-10-P-S-S-00

Lab Sample ID: 160-17030-10
Matrix: Solid
Date Collected: 04/16/16 10:15
Date Received: 04/19/16 13:00
Percent Solids: 90.4

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	**0.000020**	**J**	0.000057	0.000017	mg/Kg	☼	04/20/16 01:24	04/22/16 19:18	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	**0.337**		0.0444	0.0541	1.13	0.194	pCi/g	04/20/16 01:24	04/22/16 19:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*98*		*30 - 110*	*04/20/16 01:24*	*04/22/16 19:18*	*1*

Client Sample ID: L09-01-11-P-R-S-00

Lab Sample ID: 160-17030-11
Matrix: Solid
Date Collected: 04/16/16 10:30
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.859**		0.125	0.153		0.110	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Americium 241	-0.0198	U	0.0532	0.0533		0.0889	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Bismuth 212	**0.881**		0.311	0.324		0.309	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Bismuth 214	**0.787**		0.0850	0.118		0.0581	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Lead 212	**0.809**		0.0635	0.122		0.0528	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Lead 214	**0.857**		0.0813	0.121		0.0610	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Potassium 40	**15.7**		0.966	1.88		0.349	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Protactinium 231	0.267	U	0.149	0.152		0.968	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Radium 226	**0.787**		0.0850	0.118	1.00	0.0581	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Thorium 234	**0.869**		0.242	0.258	1.00	0.686	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Uranium 235	0.0814	U	0.120	0.120		0.206	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Protactinium 234m	2.07	U	2.13	2.14		3.88	pCi/g	04/20/16 13:16	04/21/16 11:17	1
Thorium 232	**0.859**		0.125	0.153		0.110	pCi/g	04/20/16 13:16	04/21/16 11:17	1

Client Sample ID: L09-01-11-P-R-S-00

Lab Sample ID: 160-17030-11
Date Collected: 04/16/16 10:30
Matrix: Solid
Date Received: 04/19/16 13:00

Other Detected Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tl-208	*0.283*		*0.0354*	*0.0460*		*0.0256*	*pCi/g*	*04/20/16 13:16*	*04/21/16 11:17*	*1*

Client Sample ID: L09-01-11-P-R-S-00

Lab Sample ID: 160-17030-11
Date Collected: 04/16/16 10:30
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 79.8

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000068	0.000020	mg/Kg	☼	04/20/16 01:24	04/22/16 19:21	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0906	U	0.0888	0.0892	1.36	0.232	pCi/g	04/20/16 01:24	04/22/16 19:21	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Re	*92*		*30 - 110*	*04/20/16 01:24*	*04/22/16 19:21*	*1*

Client Sample ID: L09-01-12-P-E-S-00

Lab Sample ID: 160-17030-12
Date Collected: 04/16/16 10:35
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.03**		0.117	0.157		0.114	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Americium 241	0.0260	U	0.0558	0.0559		0.0929	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Bismuth 212	**1.37**		0.439	0.462		0.396	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Bismuth 214	**0.813**		0.0872	0.121		0.0552	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Lead 212	**0.986**		0.0720	0.146		0.0580	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Lead 214	**0.909**		0.0868	0.128		0.0650	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Potassium 40	**19.6**		1.09	2.28		0.269	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Protactinium 231	0.281	U	0.174	0.177		1.09	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Radium 226	**0.813**		0.0872	0.121	1.00	0.0552	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Thorium 234	**1.09**		0.457	0.471	1.00	0.724	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Uranium 235	0.110	U	0.124	0.125		0.203	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Protactinium 234m	-0.292	U	11.7	11.7		5.52	pCi/g	04/20/16 13:16	04/20/16 21:30	1
Thorium 232	**1.03**		0.117	0.157		0.114	pCi/g	04/20/16 13:16	04/20/16 21:30	1

Other Detected Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tl-208	*0.319*		*0.0450*	*0.0558*		*0.0341*	*pCi/g*	*04/20/16 13:16*	*04/20/16 21:30*	*1*

Client Sample ID: L09-01-12-P-E-S-00

Lab Sample ID: 160-17030-12
Date Collected: 04/16/16 10:35
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 82.3

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000061	0.000018	mg/Kg	☼	04/20/16 01:24	04/22/16 19:23	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0231	U	0.0682	0.0682	1.23	0.210	pCi/g	04/20/16 01:24	04/22/16 19:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*99*		*30 - 110*	*04/20/16 01:24*	*04/22/16 19:23*	*1*

Client Sample ID: L09-01-13-P-S-S-00

Lab Sample ID: 160-17030-13
Date Collected: 04/16/16 10:45
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.00**		0.124	0.160		0.0906	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Americium 241	-0.0111	U	0.0348	0.0348		0.0589	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Bismuth 212	**1.54**		0.314	0.352		0.164	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Bismuth 214	**0.593**		0.0886	0.108		0.0675	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Lead 212	**0.929**		0.0741	0.141		0.0613	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Lead 214	**0.671**		0.0789	0.105		0.0628	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Potassium 40	**14.1**		1.03	1.77		0.410	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Protactinium 231	**0.817**		0.346	0.357		0.572	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Radium 226	**0.593**		0.0886	0.108	1.00	0.0675	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Thorium 234	**0.938**		0.418	0.429	1.00	0.656	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Uranium 235	0.0957	U	0.123	0.123		0.203	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Protactinium 234m	0.630	U	2.71	2.71		4.78	pCi/g	04/20/16 13:16	04/20/16 22:10	1
Thorium 232	**1.00**		0.124	0.160		0.0906	pCi/g	04/20/16 13:16	04/20/16 22:10	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.335*		*0.0416*	*0.0542*		*0.0264*	*pCi/g*	*04/20/16 13:16*	*04/20/16 22:10*	*1*

Client Sample ID: L09-01-13-P-S-S-00

Lab Sample ID: 160-17030-13
Date Collected: 04/16/16 10:45
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 80.3

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000064	0.000019	mg/Kg	☼	04/20/16 01:24	04/22/16 19:26	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.00220	U	0.0438	0.0438	1.28	0.220	pCi/g	04/20/16 01:24	04/22/16 19:26	1

Client Sample ID: L09-01-13-P-S-S-00

Lab Sample ID: 160-17030-13
Date Collected: 04/16/16 10:45
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 80.3

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Re	97		30 - 110	04/20/16 01:24	04/22/16 19:26	1

Client Sample ID: L09-01-14-P-R-S-00

Lab Sample ID: 160-17030-14
Date Collected: 04/16/16 10:55
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.25**		0.163	0.205		0.0912	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Americium 241	-0.0309	U	0.109	0.109		0.0965	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Bismuth 212	**0.999**		0.296	0.313		0.368	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Bismuth 214	**0.696**		0.0837	0.110		0.0581	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Lead 212	**1.02**		0.0920	0.161		0.0812	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Lead 214	**0.724**		0.0821	0.112		0.0645	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Potassium 40	**15.9**		0.997	1.88		0.325	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Protactinium 231	0.523	U	0.213	0.220		0.977	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Radium 226	**0.696**		0.0837	0.110	1.00	0.0581	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Thorium 234	**1.01**		0.467	0.479	1.00	0.746	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Uranium 235	0.0241	U	0.124	0.124		0.201	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Protactinium 234m	1.91	U	2.60	2.60		4.30	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Thorium 232	**1.25**		0.163	0.205		0.0912	pCi/g	04/20/16 13:16	04/20/16 22:11	1

Other Detected Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tl-208	*0.347*		*0.0449*	*0.0573*		*0.0325*	*pCi/g*	*04/20/16 13:16*	*04/20/16 22:11*	*1*

Client Sample ID: L09-01-14-P-R-S-00

Lab Sample ID: 160-17030-14
Date Collected: 04/16/16 10:55
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 80.1

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000062	0.000019	mg/Kg	☼	04/20/16 01:24	04/22/16 19:28	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	-0.00214	U	0.0866	0.0866	1.25	0.214	pCi/g	04/20/16 01:24	04/22/16 19:28	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Re	101		30 - 110	04/20/16 01:24	04/22/16 19:28	1

Client Sample ID: L09-01-14-P-R-Q-00

Lab Sample ID: 160-17030-15
Matrix: Solid
Date Collected: 04/16/16 10:55
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.934**		0.128	0.160		0.0735	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Americium 241	0.0145	U	0.0488	0.0489		0.0820	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Bismuth 212	**1.35**		0.499	0.519		0.425	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Bismuth 214	**0.569**		0.0889	0.107		0.0690	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Lead 212	**0.917**		0.0699	0.138		0.0546	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Lead 214	**0.595**		0.0853	0.105		0.0713	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Potassium 40	**14.2**		0.966	1.74		0.316	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Protactinium 231	-0.0761	U	0.182	0.182		0.320	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Radium 226	**0.569**		0.0889	0.107	1.00	0.0690	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Thorium 234	**0.777**		0.441	0.449	1.00	0.715	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Uranium 235	**0.237**		0.126	0.128		0.169	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Protactinium 234m	0.0851	U	2.35	2.35		4.30	pCi/g	04/20/16 13:16	04/20/16 22:11	1
Thorium 232	**0.934**		0.128	0.160		0.0735	pCi/g	04/20/16 13:16	04/20/16 22:11	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.293*		*0.0387*	*0.0492*		*0.0279*	*pCi/g*	*04/20/16 13:16*	*04/20/16 22:11*	*1*

Client Sample ID: L09-01-14-P-R-Q-00

Lab Sample ID: 160-17030-15
Matrix: Solid
Date Collected: 04/16/16 10:55
Date Received: 04/19/16 13:00
Percent Solids: 80.6

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000064	0.000019	mg/Kg	☼	04/20/16 01:24	04/22/16 19:31	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	-0.0219	U	0.0231	0.0232	1.28	0.219	pCi/g	04/20/16 01:24	04/22/16 19:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*97*		*30 - 110*	*04/20/16 01:24*	*04/22/16 19:31*	*1*

Client Sample ID: L09-01-15-P-E-S-00

Lab Sample ID: 160-17030-16
Matrix: Solid
Date Collected: 04/16/16 11:00
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.12**		0.186	0.218		0.132	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Americium 241	0.0163	U	0.0568	0.0568		0.0953	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Bismuth 212	**1.56**		0.444	0.473		0.380	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Bismuth 214	**0.817**		0.0948	0.127		0.0538	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Lead 212	**1.06**		0.0850	0.161		0.0722	pCi/g	04/20/16 13:16	04/20/16 22:45	1

Client Sample ID: L09-01-15-P-E-S-00

Lab Sample ID: 160-17030-16
Date Collected: 04/16/16 11:00
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Lead 214	**0.873**		0.0974	0.133		0.0755	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Potassium 40	**18.9**		1.27	2.32		0.396	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Protactinium 231	0.466	U	0.253	0.258		1.07	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Radium 226	**0.817**		0.0948	0.127	1.00	0.0538	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Thorium 234	**1.11**		0.521	0.533	1.00	0.825	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Uranium 235	0.0116	U	0.126	0.126		0.215	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Protactinium 234m	1.12	U	1.67	1.67		5.47	pCi/g	04/20/16 13:16	04/20/16 22:45	1
Thorium 232	**1.12**		0.186	0.218		0.132	pCi/g	04/20/16 13:16	04/20/16 22:45	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.366*		*0.0511*	*0.0636*		*0.0373*	*pCi/g*	*04/20/16 13:16*	*04/20/16 22:45*	*1*

Client Sample ID: L09-01-15-P-E-S-00

Lab Sample ID: 160-17030-16
Date Collected: 04/16/16 11:00
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 80.8

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000062	0.000019	mg/Kg	☼	04/20/16 01:24	04/22/16 19:33	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.00424	U	0.0560	0.0560	1.24	0.212	pCi/g	04/20/16 01:24	04/22/16 19:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*100*		*30 - 110*	*04/20/16 01:24*	*04/22/16 19:33*	*1*

Client Sample ID: L09-01-16-P-S-S-00

Lab Sample ID: 160-17030-17
Date Collected: 04/16/16 11:05
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.457**		0.0903	0.101		0.0650	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Americium 241	0.00796	U	0.0345	0.0345		0.0584	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Bismuth 212	**0.703**		0.216	0.228		0.181	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Bismuth 214	**0.705**		0.0688	0.100		0.0421	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Lead 212	**0.436**		0.0449	0.0723		0.0409	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Lead 214	**0.713**		0.0597	0.0954		0.0550	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Potassium 40	**10.0**		0.666	1.21		0.197	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Protactinium 231	0.353	U	0.236	0.239		0.779	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Radium 226	**0.705**		0.0688	0.100	1.00	0.0421	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Thorium 234	**0.661**		0.298	0.306	1.00	0.474	pCi/g	04/20/16 13:16	04/20/16 22:46	1

Client Sample ID: L09-01-16-P-S-S-00

Lab Sample ID: 160-17030-17
Date Collected: 04/16/16 11:05
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium 235	0.0599	U	0.0737	0.0740		0.158	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Protactinium 234m	2.14	U	1.98	1.99		3.10	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Thorium 232	**0.457**		0.0903	0.101		0.0650	pCi/g	04/20/16 13:16	04/20/16 22:46	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.144*		*0.0243*	*0.0285*		*0.0200*	*pCi/g*	*04/20/16 13:16*	*04/20/16 22:46*	*1*

Client Sample ID: L09-01-16-P-S-S-00

Lab Sample ID: 160-17030-17
Date Collected: 04/16/16 11:05
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 90.1

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000056	0.000017	mg/Kg	☼	04/20/16 01:24	04/22/16 19:36	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0438	U	0.0249	0.0252	1.11	0.190	pCi/g	04/20/16 01:24	04/22/16 19:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*100*		*30 - 110*	*04/20/16 01:24*	*04/22/16 19:36*	*1*

Client Sample ID: L09-01-17-P-R-S-00

Lab Sample ID: 160-17030-18
Date Collected: 04/16/16 11:15
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.05**		0.119	0.160		0.0974	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Americium 241	-0.0210	U	0.0503	0.0503		0.0839	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Bismuth 212	**1.00**		0.355	0.370		0.339	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Bismuth 214	**0.737**		0.0785	0.110		0.0503	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Lead 212	**0.933**		0.0713	0.140		0.0578	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Lead 214	**0.755**		0.0784	0.111		0.0584	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Potassium 40	**17.3**		0.994	2.03		0.192	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Protactinium 231	-0.565	U	0.593	0.596		0.969	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Radium 226	**0.737**		0.0785	0.110	1.00	0.0503	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Thorium 234	**1.18**		0.431	0.449	1.00	0.674	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Uranium 235	0.0824	U	0.104	0.105		0.198	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Protactinium 234m	3.22	U	2.03	2.05		4.73	pCi/g	04/20/16 13:16	04/20/16 22:46	1
Thorium 232	**1.05**		0.119	0.160		0.0974	pCi/g	04/20/16 13:16	04/20/16 22:46	1

Client Sample ID: L09-01-17-P-R-S-00

Lab Sample ID: 160-17030-18
Date Collected: 04/16/16 11:15
Matrix: Solid
Date Received: 04/19/16 13:00

Other Detected Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tl-208	0.291		0.0437	0.0531		0.0357	pCi/g	04/20/16 13:16	04/20/16 22:46	1

Client Sample ID: L09-01-17-P-R-S-00

Lab Sample ID: 160-17030-18
Date Collected: 04/16/16 11:15
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 84.8

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000057	0.000017	mg/Kg	☼	04/20/16 01:24	04/22/16 19:38	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.00586	U	0.0581	0.0581	1.14	0.195	pCi/g	04/20/16 01:24	04/22/16 19:38	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Re	104		30 - 110	04/20/16 01:24	04/22/16 19:38	1

Client Sample ID: L09-01-18-P-E-S-00

Lab Sample ID: 160-17030-19
Date Collected: 04/16/16 11:20
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.861**		0.129	0.156		0.127	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Americium 241	-0.00480	U	0.0545	0.0545		0.0919	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Bismuth 212	**1.26**		0.490	0.507		0.462	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Bismuth 214	**0.826**		0.105	0.135		0.0755	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Lead 212	**0.962**		0.0732	0.144		0.0593	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Lead 214	**0.862**		0.0777	0.119		0.0612	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Potassium 40	**17.6**		1.12	2.12		0.208	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Protactinium 231	0.535	U	0.311	0.316		0.952	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Radium 226	**0.826**		0.105	0.135	1.00	0.0755	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Thorium 234	**0.902**		0.258	0.275	1.00	0.713	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Uranium 235	0.0975	U	0.136	0.137		0.221	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Protactinium 234m	1.54	U	3.17	3.18		5.40	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Thorium 232	**0.861**		0.129	0.156		0.127	pCi/g	04/20/16 13:16	04/20/16 23:34	1

Other Detected Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Pb-210	1.33		0.493	0.517		0.654	pCi/g	04/20/16 13:16	04/20/16 23:34	1
Tl-208	0.295		0.0431	0.0528		0.0347	pCi/g	04/20/16 13:16	04/20/16 23:34	1

Client Sample ID: L09-01-18-P-E-S-00

Lab Sample ID: 160-17030-19
Date Collected: 04/16/16 11:20
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 96.2

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000054	0.000016	mg/Kg	☼	04/20/16 01:24	04/22/16 19:41	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	-0.0149	U	0.0266	0.0267	1.09	0.186	pCi/g	04/20/16 01:24	04/22/16 19:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*95*		*30 - 110*	*04/20/16 01:24*	*04/22/16 19:41*	*1*

Client Sample ID: L09-01-19-P-S-S-00

Lab Sample ID: 160-17030-20
Date Collected: 04/18/16 16:00
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.695**		0.0920	0.115		0.0849	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Americium 241	0.000472	U	0.0419	0.0419		0.0710	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Bismuth 212	**0.828**		0.264	0.277		0.242	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Bismuth 214	**0.710**		0.0648	0.0977		0.0366	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Lead 212	**0.624**		0.0511	0.0958		0.0436	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Lead 214	**0.728**		0.0625	0.0983		0.0479	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Potassium 40	**12.5**		0.791	1.49		0.292	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Protactinium 231	0.248	U	0.160	0.162		0.797	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Radium 226	**0.710**		0.0648	0.0977	1.00	0.0366	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Thorium 234	**0.787**		0.362	0.371	1.00	0.579	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Uranium 235	0.0927	U	0.0739	0.0745		0.109	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Protactinium 234m	1.56	U	2.01	2.01		3.31	pCi/g	04/20/16 13:16	04/20/16 23:35	1
Thorium 232	**0.695**		0.0920	0.115		0.0849	pCi/g	04/20/16 13:16	04/20/16 23:35	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.228*		*0.0331*	*0.0406*		*0.0251*	*pCi/g*	*04/20/16 13:16*	*04/20/16 23:35*	*1*

Client Sample ID: L09-01-19-P-S-S-00

Lab Sample ID: 160-17030-20
Date Collected: 04/18/16 16:00
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 90.8

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000057	0.000017	mg/Kg	☼	04/20/16 01:24	04/22/16 19:56	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0902	U	0.0319	0.0330	1.14	0.196	pCi/g	04/20/16 01:24	04/22/16 19:56	1

Client Sample ID: L09-01-19-P-S-S-00

Lab Sample ID: 160-17030-20
Date Collected: 04/18/16 16:00
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 90.8

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Re	97		30 - 110	04/20/16 01:24	04/22/16 19:56	1

Client Sample ID: L09-01-19-P-S-Q-00

Lab Sample ID: 160-17030-21
Date Collected: 04/18/16 16:00
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.624**		0.0795	0.102		0.0724	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Americium 241	0.00602	U	0.0392	0.0392		0.0659	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Bismuth 212	**0.778**		0.226	0.240		0.192	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Bismuth 214	**0.481**		0.0621	0.0798		0.0464	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Lead 212	**0.593**		0.0531	0.0933		0.0467	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Lead 214	**0.627**		0.0556	0.0856		0.0424	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Potassium 40	**11.3**		0.735	1.37		0.243	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Protactinium 231	0.491	U	0.221	0.227		0.751	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Radium 226	**0.481**		0.0621	0.0798	1.00	0.0464	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Thorium 234	0.446	U	0.173	0.179	1.00	0.479	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Uranium 235	0.0211	U	0.102	0.102		0.172	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Protactinium 234m	0.305	U	1.69	1.69		3.05	pCi/g	04/20/16 13:57	04/20/16 17:25	1
Thorium 232	**0.624**		0.0795	0.102		0.0724	pCi/g	04/20/16 13:57	04/20/16 17:25	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Pb-210	*1.03*		*0.410*	*0.427*		*0.511*	*pCi/g*	*04/20/16 13:57*	*04/20/16 17:25*	*1*
Tl-208	*0.168*		*0.0282*	*0.0332*		*0.0232*	*pCi/g*	*04/20/16 13:57*	*04/20/16 17:25*	*1*

Client Sample ID: L09-01-19-P-S-Q-00

Lab Sample ID: 160-17030-21
Date Collected: 04/18/16 16:00
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 87.1

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000079	0.000024	mg/Kg	☼	04/21/16 00:43	04/22/16 18:01	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0544	U	0.0165	0.0172	1.59	0.272	pCi/g	04/21/16 00:43	04/22/16 18:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*72*		*30 - 110*	*04/21/16 00:43*	*04/22/16 18:01*	*1*

Client Sample ID: L09-01-20-P-R-S-00

Lab Sample ID: 160-17030-22

Date Collected: 04/18/16 16:10

Matrix: Solid

Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.889**		0.139	0.166		0.0940	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Americium 241	0.0250	U	0.0619	0.0619		0.103	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Bismuth 212	**1.60**		0.437	0.467		0.357	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Bismuth 214	**0.911**		0.120	0.153		0.0780	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Lead 212	**0.826**		0.0881	0.138		0.0771	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Lead 214	**0.976**		0.106	0.147		0.0742	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Potassium 40	**18.0**		1.34	2.27		0.250	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Protactinium 231	0.363	U	0.238	0.241		1.40	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Radium 226	**0.911**		0.120	0.153	1.00	0.0780	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Thorium 234	**1.44**		0.543	0.564	1.00	0.842	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Uranium 235	0.0868	U	0.156	0.157		0.245	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Protactinium 234m	-1.34	U	3.86	3.86		6.70	pCi/g	04/20/16 13:57	04/20/16 20:02	1
Thorium 232	**0.889**		0.139	0.166		0.0940	pCi/g	04/20/16 13:57	04/20/16 20:02	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.302*		*0.0502*	*0.0592*		*0.0357*	*pCi/g*	*04/20/16 13:57*	*04/20/16 20:02*	*1*

Client Sample ID: L09-01-20-P-R-S-00

Lab Sample ID: 160-17030-22

Date Collected: 04/18/16 16:10

Matrix: Solid

Date Received: 04/19/16 13:00

Percent Solids: 81.8

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000062	0.000019	mg/Kg	☼	04/21/16 00:43	04/22/16 18:05	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0255	U	0.0815	0.0816	1.24	0.212	pCi/g	04/21/16 00:43	04/22/16 18:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*99*		*30 - 110*	*04/21/16 00:43*	*04/22/16 18:05*	*1*

Client Sample ID: L09-01-21-P-E-S-00

Lab Sample ID: 160-17030-23

Date Collected: 04/18/16 16:15

Matrix: Solid

Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.03**		0.106	0.150		0.0934	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Americium 241	0.00208	U	0.0592	0.0592		0.0996	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Bismuth 212	**1.51**		0.317	0.353		0.227	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Bismuth 214	**0.814**		0.0800	0.116		0.0492	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Lead 212	**1.03**		0.0718	0.152		0.0583	pCi/g	04/20/16 13:57	04/20/16 20:03	1

Client Sample ID: L09-01-21-P-E-S-00

Lab Sample ID: 160-17030-23
Date Collected: 04/18/16 16:15
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Lead 214	**0.962**		0.0798	0.128		0.0720	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Potassium 40	**18.7**		1.04	2.18		0.313	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Protactinium 231	0.325	U	0.213	0.216		0.985	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Radium 226	**0.814**		0.0800	0.116	1.00	0.0492	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Thorium 234	**0.837**		0.258	0.273	1.00	0.769	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Uranium 235	0.0946	U	0.144	0.144		0.219	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Protactinium 234m	3.37	U	1.78	1.81		4.45	pCi/g	04/20/16 13:57	04/20/16 20:03	1
Thorium 232	**1.03**		0.106	0.150		0.0934	pCi/g	04/20/16 13:57	04/20/16 20:03	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.318*		*0.0413*	*0.0529*		*0.0310*	*pCi/g*	*04/20/16 13:57*	*04/20/16 20:03*	*1*

Client Sample ID: L09-01-21-P-E-S-00

Lab Sample ID: 160-17030-23
Date Collected: 04/18/16 16:15
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 82.7

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000063	0.000019	mg/Kg	☼	04/21/16 00:43	04/22/16 18:09	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	-0.0279	U	0.0262	0.0263	1.26	0.215	pCi/g	04/21/16 00:43	04/22/16 18:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*97*		*30 - 110*	*04/21/16 00:43*	*04/22/16 18:09*	*1*

Client Sample ID: L09-01-22-P-S-S-00

Lab Sample ID: 160-17030-24
Date Collected: 04/16/16 14:10
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.820**		0.115	0.142		0.116	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Americium 241	0.00992	U	0.0358	0.0359		0.0608	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Bismuth 212	**0.985**		0.392	0.405		0.380	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Bismuth 214	**0.625**		0.104	0.122		0.0738	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Lead 212	**0.800**		0.0731	0.127		0.0575	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Lead 214	**0.699**		0.0855	0.112		0.0760	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Potassium 40	**12.4**		1.04	1.64		0.218	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Protactinium 231	0.525	U	0.270	0.276		0.982	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Radium 226	**0.625**		0.104	0.122	1.00	0.0738	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Thorium 234	0.607	U	0.255	0.263	1.00	0.732	pCi/g	04/20/16 13:57	04/20/16 20:34	1

Client Sample ID: L09-01-22-P-S-S-00

Lab Sample ID: 160-17030-24
Date Collected: 04/16/16 14:10
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Uranium 235	0.102	U	0.136	0.137		0.217	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Protactinium 234m	1.72	U	3.38	3.38		5.76	pCi/g	04/20/16 13:57	04/20/16 20:34	1
Thorium 232	**0.820**		0.115	0.142		0.116	pCi/g	04/20/16 13:57	04/20/16 20:34	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.286*		*0.0453*	*0.0541*		*0.0294*	*pCi/g*	*04/20/16 13:57*	*04/20/16 20:34*	*1*

Client Sample ID: L09-01-22-P-S-S-00

Lab Sample ID: 160-17030-24
Date Collected: 04/16/16 14:10
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 85.7

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000057	0.000017	mg/Kg	☼	04/21/16 00:43	04/22/16 18:14	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	-0.00588	U	0.0407	0.0408	1.14	0.196	pCi/g	04/21/16 00:43	04/22/16 18:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*102*		*30 - 110*	*04/21/16 00:43*	*04/22/16 18:14*	*1*

Client Sample ID: L09-01-23-P-R-S-00

Lab Sample ID: 160-17030-25
Date Collected: 04/16/16 14:25
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.06**		0.119	0.160		0.0807	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Americium 241	0.0376	U	0.0531	0.0532		0.0877	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Bismuth 212	**1.14**		0.351	0.371		0.319	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Bismuth 214	**0.657**		0.0950	0.117		0.0731	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Lead 212	**0.976**		0.0811	0.150		0.0678	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Lead 214	**0.681**		0.0818	0.108		0.0671	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Potassium 40	**15.0**		0.963	1.81		0.263	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Protactinium 231	0.421	U	0.207	0.212		1.04	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Radium 226	**0.657**		0.0950	0.117	1.00	0.0731	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Thorium 234	**1.19**		0.460	0.476	1.00	0.719	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Uranium 235	0.0942	U	0.130	0.130		0.222	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Protactinium 234m	2.61	U	2.18	2.20		4.27	pCi/g	04/20/16 13:57	04/20/16 20:35	1
Thorium 232	**1.06**		0.119	0.160		0.0807	pCi/g	04/20/16 13:57	04/20/16 20:35	1

Client Sample ID: L09-01-23-P-R-S-00

Lab Sample ID: 160-17030-25
Date Collected: 04/16/16 14:25
Matrix: Solid
Date Received: 04/19/16 13:00

Other Detected Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tl-208	0.333		0.0427	0.0549		0.0298	pCi/g	04/20/16 13:57	04/20/16 20:35	1

Client Sample ID: L09-01-23-P-R-S-00

Lab Sample ID: 160-17030-25
Date Collected: 04/16/16 14:25
Matrix: Solid
Date Received: 04/19/16 13:00
Percent Solids: 83.3

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	0.00058	F1 F2	0.000057	0.000017	mg/Kg	☼	04/21/16 01:34	04/22/16 14:13	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	9.96	F	0.409	1.00	1.15	0.196	pCi/g	04/21/16 01:34	04/22/16 14:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Re	104		30 - 110	04/21/16 01:34	04/22/16 14:13	1

Client Sample ID: L09-01-24-P-E-S-00

Lab Sample ID: 160-17030-26
Date Collected: 04/16/16 14:30
Matrix: Solid
Date Received: 04/19/16 13:00

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	1.02		0.134	0.170		0.121	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Americium 241	0.0209	U	0.0613	0.0613		0.103	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Bismuth 212	1.29		0.382	0.405		0.287	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Bismuth 214	0.588		0.0952	0.113		0.0742	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Lead 212	0.958		0.0906	0.154		0.0739	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Lead 214	0.736		0.0935	0.121		0.0678	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Potassium 40	13.9		1.15	1.83		0.239	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Protactinium 231	0.417	U	0.238	0.242		1.23	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Radium 226	0.588		0.0952	0.113	1.00	0.0742	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Thorium 234	0.695	U	0.289	0.298	1.00	0.809	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Uranium 235	0.0642	U	0.110	0.110		0.202	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Protactinium 234m	0.839	U	3.29	3.29		5.82	pCi/g	04/20/16 13:57	04/20/16 21:28	1
Thorium 232	1.02		0.134	0.170		0.121	pCi/g	04/20/16 13:57	04/20/16 21:28	1

Other Detected Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tl-208	0.304		0.0511	0.0600		0.0363	pCi/g	04/20/16 13:57	04/20/16 21:28	1

Client: Westinghouse Electric Company LLC
Project/Site: HDP RFP-CBA-022 (7 DAY TAT)

TestAmerica Job ID: 160-17030-1

Client Sample ID: L09-01-24-P-E-S-00
Date Collected: 04/16/16 14:30
Date Received: 04/19/16 13:00

Lab Sample ID: 160-17030-26
Matrix: Solid
Percent Solids: 84.9

Method: 6020A - Metals (ICP/MS), Tc-99

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000062	0.000019	mg/Kg	☼	04/21/16 01:34	04/22/16 14:26	1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.0467	U F	0.0751	0.0752	1.24	0.212	pCi/g	04/21/16 01:34	04/22/16 14:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*95*		*30 - 110*	*04/21/16 01:34*	*04/22/16 14:26*	*1*

Method: 6020A - Metals (ICP/MS), Tc-99

Lab Sample ID: MB 160-246892/1-A
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000047	0.000014	mg/Kg		04/20/16 01:24	04/22/16 18:18	1

Lab Sample ID: LCS 160-246892/2-A
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Technetium 99	0.00119	0.00118		mg/Kg		99	80 - 120

Lab Sample ID: 160-17030-1 MS
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: L09-01-01-P-S-S-00
Prep Type: Total/NA
Prep Batch: 246892

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Technetium 99	ND		0.00144	0.00138		mg/Kg	☼	96	75 - 125

Lab Sample ID: 160-17030-1 MSD
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: L09-01-01-P-S-S-00
Prep Type: Total/NA
Prep Batch: 246892

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Technetium 99	ND		0.00144	0.00142		mg/Kg	☼	99	75 - 125	3	30

Lab Sample ID: MB 160-246990/1-A
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246990

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000049	0.000015	mg/Kg		04/21/16 00:43	04/22/16 16:09	1

Lab Sample ID: LCS 160-246990/2-A
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246990

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Technetium 99	0.00119	0.00117		mg/Kg		98	80 - 120

Lab Sample ID: 160-17035-A-1-D MS
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 246990

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Technetium 99	0.000030	J	0.00139	0.00139		mg/Kg	☼	98	75 - 125

Lab Sample ID: 160-17035-A-1-E MSD
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 246990

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Technetium 99	0.000030	J	0.00138	0.00138		mg/Kg	☼	98	75 - 125	0	30

Lab Sample ID: MB 160-246991/1-A
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246991

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technetium 99	ND		0.000050	0.000015	mg/Kg		04/21/16 01:34	04/22/16 14:04	1

Lab Sample ID: LCS 160-246991/2-A
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246991

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Technetium 99			0.00119	0.00114		mg/Kg		96	80 - 120		

Lab Sample ID: 160-17030-25 MS
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: L09-01-23-P-R-S-00
Prep Type: Total/NA
Prep Batch: 246991

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Technetium 99	0.00058	F1 F2	0.00143	0.000873	F1	mg/Kg	☼	20	75 - 125		

Lab Sample ID: 160-17030-25 MSD
Matrix: Solid
Analysis Batch: 247604

Client Sample ID: L09-01-23-P-R-S-00
Prep Type: Total/NA
Prep Batch: 246991

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Technetium 99	0.00058	F1 F2	0.00142	0.00142	F1 F2	mg/Kg	☼	59	75 - 125	48	30

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

Lab Sample ID: MB 160-246892/1-A
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246892

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.01134	U	0.0382	0.0382	0.946	0.162	pCi/g	04/20/16 01:24	04/22/16 18:18	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*106*		*30 - 110*	*04/20/16 01:24*	*04/22/16 18:18*	*1*

Lab Sample ID: LCS 160-246892/2-A
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246892

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Technetium 99			20.3	20.16		1.88	1.19	0.204	pCi/g	99	80 - 120		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Re	*84*		*30 - 110*

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity (Continued)

Lab Sample ID: 160-17030-1 MS
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: L09-01-01-P-S-S-00
Prep Type: Total/NA
Prep Batch: 246892

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Technetium 99	0.0138	U	24.7	23.62		2.34	1.28	0.219	pCi/g	96	75 - 125

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Re	*95*		*30 - 110*

Lab Sample ID: 160-17030-1 MSD
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: L09-01-01-P-S-S-00
Prep Type: Total/NA
Prep Batch: 246892

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Technetium 99	0.0138	U	24.7	24.34		2.34	1.53	0.262	pCi/g	99	75 - 125	0.15	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Re	*79*		*30 - 110*

Lab Sample ID: MB 160-246990/1-A
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246990

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	-0.001692	U	0.107	0.107	0.988	0.169	pCi/g	04/21/16 00:43	04/22/16 16:09	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Re	*101*		*30 - 110*	*04/21/16 00:43*	*04/22/16 16:09*	*1*

Lab Sample ID: LCS 160-246990/2-A
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246990

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Technetium 99			20.4	20.03		2.02	0.991	0.170	pCi/g	98	80 - 120

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Re	*101*		*30 - 110*

Lab Sample ID: 160-17035-A-1-D MS
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 246990

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Technetium 99	0.508		23.7	23.74		2.22	1.22	0.209	pCi/g	98	75 - 125

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity (Continued)

Lab Sample ID: 160-17035-A-1-D MS
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 246990

Carrier	MS %Yield	MS Qualifier	Limits
Re	95		30 - 110

Lab Sample ID: 160-17035-A-1-E MSD
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 246990

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Technetium 99	0.508		23.6	23.70		2.21	1.23	0.210	pCi/g	98	75 - 125	0.01	1

Carrier	MSD %Yield	MSD Qualifier	Limits
Re	94		30 - 110

Lab Sample ID: MB 160-246991/1-A
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246991

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium 99	0.001696	U	0.0205	0.0205	0.991	0.170	pCi/g	04/21/16 01:34	04/22/16 14:04	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Re	101		30 - 110	04/21/16 01:34	04/22/16 14:04	1

Lab Sample ID: LCS 160-246991/2-A
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246991

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Technetium 99			20.3	19.55		1.86	1.01	0.174	pCi/g	96	80 - 120		

Carrier	LCS %Yield	LCS Qualifier	Limits
Re	98		30 - 110

Lab Sample ID: 160-17030-25 MS
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: L09-01-23-P-R-S-00
Prep Type: Total/NA
Prep Batch: 246991

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Technetium 99	9.96	F	24.5	14.95	F1	1.45	1.54	0.264	pCi/g	20	75 - 125		

Carrier	MS %Yield	MS Qualifier	Limits
Re	78		30 - 110

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity (Continued)

Lab Sample ID: 160-17030-25 MSD
Matrix: Solid
Analysis Batch: 247605

Client Sample ID: L09-01-23-P-R-S-00
Prep Type: Total/NA
Prep Batch: 246991

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Technetium 99	9.96	F	24.3	24.40	F1 F	2.26	1.23	0.211	pCi/g	59	75 - 125	2.55	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Re	*97*		*30 - 110*

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-246938/1-A
Matrix: Solid
Analysis Batch: 246973

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246938

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	0.003989	U	0.0289	0.0289		0.0574	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Americium 241	-0.003537	U	0.0136	0.0136		0.0241	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Bismuth 212	0.003655	U	0.0787	0.0787		0.165	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Bismuth 214	0.002342	U	0.0151	0.0151		0.0328	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Lead 212	0.005459	U	0.0127	0.0127		0.0241	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Lead 214	0.01311	U	0.0167	0.0168		0.0299	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Potassium 40	-0.07202	U	3.79	3.79		0.319	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Protactinium 231	0.1085	U	0.178	0.179		0.304	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Radium 226	0.002342	U	0.0151	0.0151	1.00	0.0328	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Thorium 234	0.01168	U	0.0351	0.0351	1.00	0.278	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Uranium 235	0.01571	U	0.0293	0.0293		0.0871	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Protactinium 234m	0.2679	U	1.27	1.27		2.42	pCi/g	04/20/16 13:16	04/20/16 17:12	1
Thorium 232	0.003989	U	0.0289	0.0289		0.0574	pCi/g	04/20/16 13:16	04/20/16 17:12	1

Other Detected Radionuclides	*MB Result*	*MB Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Other Detected Radionuclide	*None*						*pCi/g*	*04/20/16 13:16*	*04/20/16 17:12*	*1*

Lab Sample ID: LCS 160-246938/2-A
Matrix: Solid
Analysis Batch: 246980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246938

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium 241	101	104.0		10.8		0.504	pCi/g	103	87 - 116
Cesium 137	34.0	37.02		3.83	0.200	0.143	pCi/g	109	87 - 120
Cobalt 60	31.5	34.12		3.38		0.0938	pCi/g	108	87 - 115

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: 160-17030-1 DU
Matrix: Solid
Analysis Batch: 247452

Client Sample ID: L09-01-01-P-S-S-00
Prep Type: Total/NA
Prep Batch: 246938

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Actinium 228	0.840		0.9617		0.149		0.0683	pCi/g	0.43	1
Americium 241	0.0115	U	0.02015	U	0.0515		0.0858	pCi/g	0.1	1
Bismuth 212	0.872		0.8960		0.285		0.265	pCi/g	0.04	1
Bismuth 214	0.517		0.6320		0.102		0.0551	pCi/g	0.61	1
Lead 212	0.822		0.8544		0.129		0.0545	pCi/g	0.13	1
Lead 214	0.620		0.7019		0.0978		0.0548	pCi/g	0.42	1
Potassium 40	12.7		11.99		1.49		0.289	pCi/g	0.23	1
Protactinium 231	0.365	U	0.3540	U	0.207		0.882	pCi/g	0.03	1
Radium 226	0.517		0.6320		0.102	1.00	0.0551	pCi/g	0.61	1
Thorium 234	0.570	U	0.5491	U	0.250	1.00	0.635	pCi/g	0.05	1
Uranium 235	0.125	U	0.02620	U	0.0778		0.218	pCi/g	0.55	1
Protactinium 234m	0.138	U	1.737	U	2.06		3.43	pCi/g	0.54	1
Thorium 232	0.840		0.9617		0.149		0.0683	pCi/g	0.43	1

Other Detected Radionuclides	*Sample Result*	*Sample Qual*	*DU Result*	*DU Qual*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*RER*	*RER Limit*
Tl-208	*0.287*		*0.2994*		*0.0539*		*0.0328*	*pCi/g*	*0.12*	*1*

Lab Sample ID: MB 160-246947/1-A
Matrix: Solid
Analysis Batch: 246982

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246947

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	0.007739	U	0.0373	0.0373		0.0727	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Americium 241	0.0007296	U	0.0126	0.0126		0.0235	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Bismuth 212	-0.04765	U	0.160	0.160		0.294	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Bismuth 214	0.0000	U	0.00696	0.00696		0.0355	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Lead 212	-0.006588	U	0.0782	0.0782		0.0299	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Lead 214	0.001472	U	0.0135	0.0135		0.0294	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Potassium 40	0.006464	U	0.146	0.146		0.331	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Protactinium 231	0.03582	U	0.242	0.243		0.447	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Radium 226	0.0000	U	0.00696	0.00696	1.00	0.0355	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Thorium 234	0.1226	U	0.131	0.132	1.00	0.246	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Uranium 235	-0.01400	U	0.554	0.554		0.0763	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Protactinium 234m	0.0000	U	0.424	0.424		3.73	pCi/g	04/20/16 13:57	04/20/16 17:23	1
Thorium 232	0.007739	U	0.0373	0.0373		0.0727	pCi/g	04/20/16 13:57	04/20/16 17:23	1

Other Detected Radionuclides	*MB Result*	*MB Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Other Detected Radionuclide	*None*						*pCi/g*	*04/20/16 13:57*	*04/20/16 17:23*	*1*

Method: GA-01-R - Cesium-137 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: LCS 160-246947/2-A
Matrix: Solid
Analysis Batch: 246978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246947

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Americium 241			101	98.87		10.3		0.501	pCi/g	98	87 - 116		
Cesium 137			34.0	32.89		3.44	0.200	0.154	pCi/g	97	87 - 120		
Cobalt 60			31.5	29.50		2.98		0.120	pCi/g	94	87 - 115		

Lab Sample ID: 160-17030-21 DU
Matrix: Solid
Analysis Batch: 246982

Client Sample ID: L09-01-19-P-S-Q-00
Prep Type: Total/NA
Prep Batch: 246947

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Actinium 228	0.624			0.7385		0.138		0.0933	pCi/g			0.48	1
Americium 241	0.00602	U		-0.01447	U	0.0490		0.0822	pCi/g			0.23	1
Bismuth 212	0.778			1.037		0.382		0.316	pCi/g			0.42	1
Bismuth 214	0.481			0.5969		0.101		0.0490	pCi/g			0.64	1
Lead 212	0.593			0.5715		0.0990		0.0590	pCi/g			0.11	1
Lead 214	0.627			0.6834		0.105		0.0552	pCi/g			0.30	1
Potassium 40	11.3			11.35		1.51		0.296	pCi/g			0.01	1
Protactinium 231	0.491	U		0.4226	U	0.320		0.858	pCi/g			0.12	1
Radium 226	0.481			0.5969		0.101	1.00	0.0490	pCi/g			0.64	1
Thorium 234	0.446	U		0.6339		0.248	1.00	0.633	pCi/g			0.44	1
Uranium 235	0.0211	U		0.08253	U	0.116		0.188	pCi/g			0.28	1
Protactinium 234m	0.305	U		-0.03782	U	0.0364		6.35	pCi/g			0.20	1
Thorium 232	0.624			0.7385		0.138		0.0933	pCi/g			0.48	1
Other Detected Radionuclides	***Sample Result***	***Sample Qual***		***DU Result***	***DU Qual***	***Total Uncert. (2σ+/-)***	***RL***	***MDC***	***Unit***			***RER***	***RER Limit***
Pb-210	*1.03*			*0.8489*		*0.449*		*0.566*	*pCi/g*			*0.21*	*1*
Tl-208	*0.168*			*0.1958*		*0.0434*		*0.0282*	*pCi/g*			*0.36*	*1*

Metals

Prep Batch: 246892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-1	L09-01-01-P-S-S-00	Total/NA	Solid	None	
160-17030-1 MS	L09-01-01-P-S-S-00	Total/NA	Solid	None	
160-17030-1 MSD	L09-01-01-P-S-S-00	Total/NA	Solid	None	
160-17030-2	L09-01-02-P-R-S-00	Total/NA	Solid	None	
160-17030-3	L09-01-03-P-E-S-00	Total/NA	Solid	None	
160-17030-4	L09-01-04-P-S-S-00	Total/NA	Solid	None	
160-17030-5	L09-01-05-P-R-S-00	Total/NA	Solid	None	
160-17030-6	L09-01-06-P-E-S-00	Total/NA	Solid	None	
160-17030-7	L09-01-07-P-S-S-00	Total/NA	Solid	None	
160-17030-8	L09-01-08-P-R-S-00	Total/NA	Solid	None	
160-17030-9	L09-01-09-P-E-S-00	Total/NA	Solid	None	
160-17030-10	L09-01-10-P-S-S-00	Total/NA	Solid	None	
160-17030-11	L09-01-11-P-R-S-00	Total/NA	Solid	None	
160-17030-12	L09-01-12-P-E-S-00	Total/NA	Solid	None	
160-17030-13	L09-01-13-P-S-S-00	Total/NA	Solid	None	
160-17030-14	L09-01-14-P-R-S-00	Total/NA	Solid	None	
160-17030-15	L09-01-14-P-R-Q-00	Total/NA	Solid	None	
160-17030-16	L09-01-15-P-E-S-00	Total/NA	Solid	None	
160-17030-17	L09-01-16-P-S-S-00	Total/NA	Solid	None	
160-17030-18	L09-01-17-P-R-S-00	Total/NA	Solid	None	
160-17030-19	L09-01-18-P-E-S-00	Total/NA	Solid	None	
160-17030-20	L09-01-19-P-S-S-00	Total/NA	Solid	None	
LCS 160-246892/2-A	Lab Control Sample	Total/NA	Solid	None	
MB 160-246892/1-A	Method Blank	Total/NA	Solid	None	

Prep Batch: 246990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-21	L09-01-19-P-S-Q-00	Total/NA	Solid	None	
160-17030-22	L09-01-20-P-R-S-00	Total/NA	Solid	None	
160-17030-23	L09-01-21-P-E-S-00	Total/NA	Solid	None	
160-17030-24	L09-01-22-P-S-S-00	Total/NA	Solid	None	
160-17035-A-1-D MS	Matrix Spike	Total/NA	Solid	None	
160-17035-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	None	
LCS 160-246990/2-A	Lab Control Sample	Total/NA	Solid	None	
MB 160-246990/1-A	Method Blank	Total/NA	Solid	None	

Prep Batch: 246991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-25	L09-01-23-P-R-S-00	Total/NA	Solid	None	
160-17030-25 MS	L09-01-23-P-R-S-00	Total/NA	Solid	None	
160-17030-25 MSD	L09-01-23-P-R-S-00	Total/NA	Solid	None	
160-17030-26	L09-01-24-P-E-S-00	Total/NA	Solid	None	
LCS 160-246991/2-A	Lab Control Sample	Total/NA	Solid	None	
MB 160-246991/1-A	Method Blank	Total/NA	Solid	None	

Analysis Batch: 247604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-1	L09-01-01-P-S-S-00	Total/NA	Solid	6020A	246892
160-17030-1 MS	L09-01-01-P-S-S-00	Total/NA	Solid	6020A	246892
160-17030-1 MSD	L09-01-01-P-S-S-00	Total/NA	Solid	6020A	246892
160-17030-2	L09-01-02-P-R-S-00	Total/NA	Solid	6020A	246892

Metals (Continued)

Analysis Batch: 247604 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-3	L09-01-03-P-E-S-00	Total/NA	Solid	6020A	246892
160-17030-4	L09-01-04-P-S-S-00	Total/NA	Solid	6020A	246892
160-17030-5	L09-01-05-P-R-S-00	Total/NA	Solid	6020A	246892
160-17030-6	L09-01-06-P-E-S-00	Total/NA	Solid	6020A	246892
160-17030-7	L09-01-07-P-S-S-00	Total/NA	Solid	6020A	246892
160-17030-8	L09-01-08-P-R-S-00	Total/NA	Solid	6020A	246892
160-17030-9	L09-01-09-P-E-S-00	Total/NA	Solid	6020A	246892
160-17030-10	L09-01-10-P-S-S-00	Total/NA	Solid	6020A	246892
160-17030-11	L09-01-11-P-R-S-00	Total/NA	Solid	6020A	246892
160-17030-12	L09-01-12-P-E-S-00	Total/NA	Solid	6020A	246892
160-17030-13	L09-01-13-P-S-S-00	Total/NA	Solid	6020A	246892
160-17030-14	L09-01-14-P-R-S-00	Total/NA	Solid	6020A	246892
160-17030-15	L09-01-14-P-R-Q-00	Total/NA	Solid	6020A	246892
160-17030-16	L09-01-15-P-E-S-00	Total/NA	Solid	6020A	246892
160-17030-17	L09-01-16-P-S-S-00	Total/NA	Solid	6020A	246892
160-17030-18	L09-01-17-P-R-S-00	Total/NA	Solid	6020A	246892
160-17030-19	L09-01-18-P-E-S-00	Total/NA	Solid	6020A	246892
160-17030-20	L09-01-19-P-S-S-00	Total/NA	Solid	6020A	246892
160-17030-21	L09-01-19-P-S-Q-00	Total/NA	Solid	6020A	246990
160-17030-22	L09-01-20-P-R-S-00	Total/NA	Solid	6020A	246990
160-17030-23	L09-01-21-P-E-S-00	Total/NA	Solid	6020A	246990
160-17030-24	L09-01-22-P-S-S-00	Total/NA	Solid	6020A	246990
160-17030-25	L09-01-23-P-R-S-00	Total/NA	Solid	6020A	246991
160-17030-25 MS	L09-01-23-P-R-S-00	Total/NA	Solid	6020A	246991
160-17030-25 MSD	L09-01-23-P-R-S-00	Total/NA	Solid	6020A	246991
160-17030-26	L09-01-24-P-E-S-00	Total/NA	Solid	6020A	246991
160-17035-A-1-D MS	Matrix Spike	Total/NA	Solid	6020A	246990
160-17035-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	6020A	246990
LCS 160-246892/2-A	Lab Control Sample	Total/NA	Solid	6020A	246892
LCS 160-246990/2-A	Lab Control Sample	Total/NA	Solid	6020A	246990
LCS 160-246991/2-A	Lab Control Sample	Total/NA	Solid	6020A	246991
MB 160-246892/1-A	Method Blank	Total/NA	Solid	6020A	246892
MB 160-246990/1-A	Method Blank	Total/NA	Solid	6020A	246990
MB 160-246991/1-A	Method Blank	Total/NA	Solid	6020A	246991

General Chemistry

Analysis Batch: 246893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-1	L09-01-01-P-S-S-00	Total/NA	Solid	Moisture	
160-17030-1 DU	L09-01-01-P-S-S-00	Total/NA	Solid	Moisture	
160-17030-2	L09-01-02-P-R-S-00	Total/NA	Solid	Moisture	
160-17030-3	L09-01-03-P-E-S-00	Total/NA	Solid	Moisture	
160-17030-4	L09-01-04-P-S-S-00	Total/NA	Solid	Moisture	
160-17030-5	L09-01-05-P-R-S-00	Total/NA	Solid	Moisture	
160-17030-6	L09-01-06-P-E-S-00	Total/NA	Solid	Moisture	
160-17030-7	L09-01-07-P-S-S-00	Total/NA	Solid	Moisture	
160-17030-8	L09-01-08-P-R-S-00	Total/NA	Solid	Moisture	
160-17030-9	L09-01-09-P-E-S-00	Total/NA	Solid	Moisture	
160-17030-10	L09-01-10-P-S-S-00	Total/NA	Solid	Moisture	

General Chemistry (Continued)

Analysis Batch: 246893 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-11	L09-01-11-P-R-S-00	Total/NA	Solid	Moisture	
160-17030-12	L09-01-12-P-E-S-00	Total/NA	Solid	Moisture	
160-17030-13	L09-01-13-P-S-S-00	Total/NA	Solid	Moisture	
160-17030-14	L09-01-14-P-R-S-00	Total/NA	Solid	Moisture	
160-17030-15	L09-01-14-P-R-Q-00	Total/NA	Solid	Moisture	
160-17030-16	L09-01-15-P-E-S-00	Total/NA	Solid	Moisture	
160-17030-17	L09-01-16-P-S-S-00	Total/NA	Solid	Moisture	
160-17030-18	L09-01-17-P-R-S-00	Total/NA	Solid	Moisture	
160-17030-19	L09-01-18-P-E-S-00	Total/NA	Solid	Moisture	
160-17030-20	L09-01-19-P-S-S-00	Total/NA	Solid	Moisture	
160-17030-21	L09-01-19-P-S-Q-00	Total/NA	Solid	Moisture	
160-17030-22	L09-01-20-P-R-S-00	Total/NA	Solid	Moisture	
160-17030-23	L09-01-21-P-E-S-00	Total/NA	Solid	Moisture	
160-17030-24	L09-01-22-P-S-S-00	Total/NA	Solid	Moisture	
160-17030-25	L09-01-23-P-R-S-00	Total/NA	Solid	Moisture	
160-17030-26	L09-01-24-P-E-S-00	Total/NA	Solid	Moisture	

Rad

Leach Batch: 246849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-1	L09-01-01-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-17030-1 DU	L09-01-01-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-17030-2	L09-01-02-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-17030-3	L09-01-03-P-E-S-00	Total/NA	Solid	Dry and Grind	
160-17030-4	L09-01-04-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-17030-5	L09-01-05-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-17030-6	L09-01-06-P-E-S-00	Total/NA	Solid	Dry and Grind	
160-17030-7	L09-01-07-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-17030-8	L09-01-08-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-17030-9	L09-01-09-P-E-S-00	Total/NA	Solid	Dry and Grind	
160-17030-10	L09-01-10-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-17030-11	L09-01-11-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-17030-12	L09-01-12-P-E-S-00	Total/NA	Solid	Dry and Grind	
160-17030-13	L09-01-13-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-17030-14	L09-01-14-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-17030-15	L09-01-14-P-R-Q-00	Total/NA	Solid	Dry and Grind	
160-17030-16	L09-01-15-P-E-S-00	Total/NA	Solid	Dry and Grind	
160-17030-17	L09-01-16-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-17030-18	L09-01-17-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-17030-19	L09-01-18-P-E-S-00	Total/NA	Solid	Dry and Grind	
160-17030-20	L09-01-19-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-17030-21	L09-01-19-P-S-Q-00	Total/NA	Solid	Dry and Grind	
160-17030-21 DU	L09-01-19-P-S-Q-00	Total/NA	Solid	Dry and Grind	
160-17030-22	L09-01-20-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-17030-23	L09-01-21-P-E-S-00	Total/NA	Solid	Dry and Grind	
160-17030-24	L09-01-22-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-17030-25	L09-01-23-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-17030-26	L09-01-24-P-E-S-00	Total/NA	Solid	Dry and Grind	

Rad (Continued)

Prep Batch: 246892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-1	L09-01-01-P-S-S-00	Total/NA	Solid	None	
160-17030-1 MS	L09-01-01-P-S-S-00	Total/NA	Solid	None	
160-17030-1 MSD	L09-01-01-P-S-S-00	Total/NA	Solid	None	
160-17030-2	L09-01-02-P-R-S-00	Total/NA	Solid	None	
160-17030-3	L09-01-03-P-E-S-00	Total/NA	Solid	None	
160-17030-4	L09-01-04-P-S-S-00	Total/NA	Solid	None	
160-17030-5	L09-01-05-P-R-S-00	Total/NA	Solid	None	
160-17030-6	L09-01-06-P-E-S-00	Total/NA	Solid	None	
160-17030-7	L09-01-07-P-S-S-00	Total/NA	Solid	None	
160-17030-8	L09-01-08-P-R-S-00	Total/NA	Solid	None	
160-17030-9	L09-01-09-P-E-S-00	Total/NA	Solid	None	
160-17030-10	L09-01-10-P-S-S-00	Total/NA	Solid	None	
160-17030-11	L09-01-11-P-R-S-00	Total/NA	Solid	None	
160-17030-12	L09-01-12-P-E-S-00	Total/NA	Solid	None	
160-17030-13	L09-01-13-P-S-S-00	Total/NA	Solid	None	
160-17030-14	L09-01-14-P-R-S-00	Total/NA	Solid	None	
160-17030-15	L09-01-14-P-R-Q-00	Total/NA	Solid	None	
160-17030-16	L09-01-15-P-E-S-00	Total/NA	Solid	None	
160-17030-17	L09-01-16-P-S-S-00	Total/NA	Solid	None	
160-17030-18	L09-01-17-P-R-S-00	Total/NA	Solid	None	
160-17030-19	L09-01-18-P-E-S-00	Total/NA	Solid	None	
160-17030-20	L09-01-19-P-S-S-00	Total/NA	Solid	None	
LCS 160-246892/2-A	Lab Control Sample	Total/NA	Solid	None	
MB 160-246892/1-A	Method Blank	Total/NA	Solid	None	

Prep Batch: 246938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-1	L09-01-01-P-S-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-1 DU	L09-01-01-P-S-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-2	L09-01-02-P-R-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-3	L09-01-03-P-E-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-4	L09-01-04-P-S-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-5	L09-01-05-P-R-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-6	L09-01-06-P-E-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-7	L09-01-07-P-S-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-8	L09-01-08-P-R-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-9	L09-01-09-P-E-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-10	L09-01-10-P-S-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-11	L09-01-11-P-R-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-12	L09-01-12-P-E-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-13	L09-01-13-P-S-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-14	L09-01-14-P-R-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-15	L09-01-14-P-R-Q-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-16	L09-01-15-P-E-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-17	L09-01-16-P-S-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-18	L09-01-17-P-R-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-19	L09-01-18-P-E-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-20	L09-01-19-P-S-S-00	Total/NA	Solid	Fill_Geo-0	246849
LCS 160-246938/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-0	
MB 160-246938/1-A	Method Blank	Total/NA	Solid	Fill_Geo-0	

Rad (Continued)

Prep Batch: 246947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-21	L09-01-19-P-S-Q-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-21 DU	L09-01-19-P-S-Q-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-22	L09-01-20-P-R-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-23	L09-01-21-P-E-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-24	L09-01-22-P-S-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-25	L09-01-23-P-R-S-00	Total/NA	Solid	Fill_Geo-0	246849
160-17030-26	L09-01-24-P-E-S-00	Total/NA	Solid	Fill_Geo-0	246849
LCS 160-246947/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-0	
MB 160-246947/1-A	Method Blank	Total/NA	Solid	Fill_Geo-0	

Prep Batch: 246990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-21	L09-01-19-P-S-Q-00	Total/NA	Solid	None	
160-17030-22	L09-01-20-P-R-S-00	Total/NA	Solid	None	
160-17030-23	L09-01-21-P-E-S-00	Total/NA	Solid	None	
160-17030-24	L09-01-22-P-S-S-00	Total/NA	Solid	None	
160-17035-A-1-D MS	Matrix Spike	Total/NA	Solid	None	
160-17035-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	None	
LCS 160-246990/2-A	Lab Control Sample	Total/NA	Solid	None	
MB 160-246990/1-A	Method Blank	Total/NA	Solid	None	

Prep Batch: 246991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17030-25	L09-01-23-P-R-S-00	Total/NA	Solid	None	
160-17030-25 MS	L09-01-23-P-R-S-00	Total/NA	Solid	None	
160-17030-25 MSD	L09-01-23-P-R-S-00	Total/NA	Solid	None	
160-17030-26	L09-01-24-P-E-S-00	Total/NA	Solid	None	
LCS 160-246991/2-A	Lab Control Sample	Total/NA	Solid	None	
MB 160-246991/1-A	Method Blank	Total/NA	Solid	None	

Tracer/Carrier Summary

Client: Westinghouse Electric Company LLC
Project/Site: HDP RFP-CBA-022 (7 DAY TAT)

TestAmerica Job ID: 160-17030-1

Method: 6020A - Metals (ICP/MS), Tc-99 in Activity

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Re (30-110)
160-17030-1	L09-01-01-P-S-S-00	75
160-17030-1 MS	L09-01-01-P-S-S-00	95
160-17030-1 MSD	L09-01-01-P-S-S-00	79
160-17030-2	L09-01-02-P-R-S-00	85
160-17030-3	L09-01-03-P-E-S-00	80
160-17030-4	L09-01-04-P-S-S-00	100
160-17030-5	L09-01-05-P-R-S-00	95
160-17030-6	L09-01-06-P-E-S-00	97
160-17030-7	L09-01-07-P-S-S-00	96
160-17030-8	L09-01-08-P-R-S-00	97
160-17030-9	L09-01-09-P-E-S-00	99
160-17030-10	L09-01-10-P-S-S-00	98
160-17030-11	L09-01-11-P-R-S-00	92
160-17030-12	L09-01-12-P-E-S-00	99
160-17030-13	L09-01-13-P-S-S-00	97
160-17030-14	L09-01-14-P-R-S-00	101
160-17030-15	L09-01-14-P-R-Q-00	97
160-17030-16	L09-01-15-P-E-S-00	100
160-17030-17	L09-01-16-P-S-S-00	100
160-17030-18	L09-01-17-P-R-S-00	104
160-17030-19	L09-01-18-P-E-S-00	95
160-17030-20	L09-01-19-P-S-S-00	97
160-17030-21	L09-01-19-P-S-Q-00	72
160-17030-22	L09-01-20-P-R-S-00	99
160-17030-23	L09-01-21-P-E-S-00	97
160-17030-24	L09-01-22-P-S-S-00	102
160-17030-25	L09-01-23-P-R-S-00	104
160-17030-25 MS	L09-01-23-P-R-S-00	78
160-17030-25 MSD	L09-01-23-P-R-S-00	97
160-17030-26	L09-01-24-P-E-S-00	95
160-17035-A-1-D MS	Matrix Spike	95
160-17035-A-1-E MSD	Matrix Spike Duplicate	94
LCS 160-246892/2-A	Lab Control Sample	84
LCS 160-246990/2-A	Lab Control Sample	101
LCS 160-246991/2-A	Lab Control Sample	98
MB 160-246892/1-A	Method Blank	106
MB 160-246990/1-A	Method Blank	101
MB 160-246991/1-A	Method Blank	101

Tracer/Carrier Legend

Re = Re