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: 160-16414-2
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:
4/5/2016 3:52:31 PM

Ivan Vania, Project Manager II
(314)298-8566
ivan.vania@testamericainc.com

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Job ID: 160-16414-2

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Westinghouse Electric Company LLC

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

Report Number: 160-16414-2

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 3/8/2016 10:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 20.0º C and 20.0º C.

RADIUM-226 BY GAMMA SPEC (21 DAY INGROWTH)

Samples L04-01-01-P-S-S-00 (160-16414-1), L04-01-02-P-R-S-00 (160-16414-2), L04-01-04-P-S-S-00 (160-16414-3), L04-01-05-P-R-S-00 (160-16414-4), L04-01-07-P-S-S-00 (160-16414-5), L04-01-07-P-S-Q-00 (160-16414-6), L04-01-08-P-R-S-00 (160-16414-7), L04-01-10-P-S-S-00 (160-16414-8), L04-01-11-P-R-S-00 (160-16414-9), L04-01-13-P-S-S-00 (160-16414-10), L04-01-14-P-R-S-00 (160-16414-11), L04-01-14-P-R-Q-00 (160-16414-12), L04-01-16-P-S-S-00 (160-16414-13), L04-01-17-P-R-S-00 (160-16414-14), L04-01-19-P-S-S-00 (160-16414-15), L04-01-20-P-R-S-00 (160-16414-16), L04-01-22-P-S-S-00 (160-16414-17) and L04-01-23-P-R-S-00 (160-16414-18) were analyzed for Radium-226 by gamma spec (21 day ingrowth) in accordance with EPA GA_01_R. The samples were leached on 03/08/2016, prepared on 03/10/2016 and analyzed on 03/31/2016.

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 Cutody ID No. F-030716-01 **Page** 1/2

Project Name:
Westinghouse Electric Company

Contact Person:
Clark Evers

Phone Number:
314-810-3336

Sampler Name
Andrew Schooley

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
L04-01-01-P-S-S-00	3/4/2016	10:35	S	G	X		X	X						1	LSA 04-01
L04-01-02-P-R-S-00	3/4/2016	10:40	S	C	X		X	X						1	LSA 04-01
L04-01-04-P-S-S-00	3/4/2016	10:00	S	G	X		X	X						1	LSA 04-01
L04-01-05-P-R-S-00	3/4/2016	10:10	S	C	X		X	X						1	LSA 04-01
L04-01-07-P-S-S-00	3/4/2016	9:40	S	G	X		X	X						1	LSA 04-01
L04-01-07-P-S-Q-00	3/4/2016	9:40	S	G	X		X	X						1	LSA 04-01
L04-01-08-P-R-S-00	3/4/2016	9:45	S	C	X		X	X						1	LSA 04-01
L04-01-10-P-S-S-00	3/4/2016	9:25	S	G	X		X	X						1	LSA 04-01
L04-01-11-P-R-S-00	3/4/2016	9:30	S	C	X		X	X						1	LSA 04-01
L04-01-13-P-S-S-00	3/4/2016	9:00	S	G	X		X	X						1	LSA 04-01
L04-01-14-P-R-S-00	3/4/2016	9:15	S	C	X		X	X						1	LSA 04-01
L04-01-14-P-R-Q-00	3/4/2016	9:15	S	C	X		X	X						1	LSA 04-01

Relinquished by:	Date/Time	Received by:	Date/Time	Total	Cooler Temperature:
Gorsuch	3/8/16	Lauri Brady	3/8/16	18	Ambient
Company Name: WEC	0900	Company Name: CROSSROADS	0900	Cooler ID: 0304-01/02	Shipper and Number:
Received by:	Date/Time	Relinquished by:	Date/Time	Comments: N/A	
Company Name:		Company Name: Crossroads	3/8/16 10:10		
Relinquished by:	Date/Time	Received by:	Date/Time	Verified By: Gorsuch 3/7/16	
Company Name:		Company Name: TDSI Fedex	3.8.16 1010		

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-F

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 Cutody ID No. F-030716-01 **Page** 2/2

Project Name:
Westinghouse Electric Company

Contact Person:
Clark Evers

Phone Number:
314-810-3336

Sampler Name
Andrew Schooley

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
L04-01-16-P-S-S-00	3/4/2016	8:40	S	G	X		X	X						1	LSA 04-01
L04-01-17-P-R-S-00	3/4/2016	8:50	S	C	X		X	X						1	LSA 04-01
L04-01-19-P-S-S-00	3/4/2016	8:00	S	G	X		X	X						1	LSA 04-01
L04-01-20-P-R-S-00	3/4/2016	8:20	S	C	X		X	X						1	LSA 04-01
L04-01-22-P-S-S-00	3/4/2016	8:10	S	G	X		X	X						1	LSA 04-01
L04-01-23-P-R-S-00	3/4/2016	13:35	S	C	X		X	X						1	LSA 04-01

Relinquished by: Gorsuch	Date/Time 3/8/16 0900	Received by: Edward Brady	Date/Time 3/8/16 0900	Total 18	Cooler Temperature: Ambient
Company Name: WEC		Company Name: CROSSROADS		Cooler ID: 0304-01/02	Shipper and Number:
Received by:	Date/Time	Relinquished by: Edward Brady	Date/Time 3/8/16 1010	Comments: N/A	
Company Name:		Company Name: CROSSROADS			
Relinquished by:	Date/Time	Received by:	Date/Time 3/8/16 1010	Verified By: Gorsuch 3/7/16	
Company Name:		Company Name: TBI Couriers			

Login Sample Receipt Checklist

Client: Westinghouse Electric Company LLC

Job Number: 160-16414-2

Login Number: 16414
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

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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: 160-16414-2

Method	Method Description	Protocol	Laboratory
GA-01-R	Radium-226 & Other Gamma Emitters (GS)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy

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: 160-16414-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-16414-1	L04-01-01-P-S-S-00	Solid	03/04/16 10:35	03/08/16 10:10
160-16414-2	L04-01-02-P-R-S-00	Solid	03/04/16 10:40	03/08/16 10:10
160-16414-3	L04-01-04-P-S-S-00	Solid	03/04/16 10:00	03/08/16 10:10
160-16414-4	L04-01-05-P-R-S-00	Solid	03/04/16 10:10	03/08/16 10:10
160-16414-5	L04-01-07-P-S-S-00	Solid	03/04/16 09:40	03/08/16 10:10
160-16414-6	L04-01-07-P-S-Q-00	Solid	03/04/16 09:40	03/08/16 10:10
160-16414-7	L04-01-08-P-R-S-00	Solid	03/04/16 09:45	03/08/16 10:10
160-16414-8	L04-01-10-P-S-S-00	Solid	03/04/16 09:25	03/08/16 10:10
160-16414-9	L04-01-11-P-R-S-00	Solid	03/04/16 09:30	03/08/16 10:10
160-16414-10	L04-01-13-P-S-S-00	Solid	03/04/16 09:00	03/08/16 10:10
160-16414-11	L04-01-14-P-R-S-00	Solid	03/04/16 09:15	03/08/16 10:10
160-16414-12	L04-01-14-P-R-Q-00	Solid	03/04/16 09:15	03/08/16 10:10
160-16414-13	L04-01-16-P-S-S-00	Solid	03/04/16 08:40	03/08/16 10:10
160-16414-14	L04-01-17-P-R-S-00	Solid	03/04/16 08:50	03/08/16 10:10
160-16414-15	L04-01-19-P-S-S-00	Solid	03/04/16 08:00	03/08/16 10:10
160-16414-16	L04-01-20-P-R-S-00	Solid	03/04/16 08:20	03/08/16 10:10
160-16414-17	L04-01-22-P-S-S-00	Solid	03/04/16 08:10	03/08/16 10:10
160-16414-18	L04-01-23-P-R-S-00	Solid	03/04/16 13:35	03/08/16 10:10

Client Sample ID: L04-01-01-P-S-S-00

Lab Sample ID: 160-16414-1

Date Collected: 03/04/16 10:35

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.950**		0.105	0.143		0.122	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Bismuth 212	**1.15**		0.370	0.389		0.323	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Bismuth 214	**0.934**		0.105	0.143		0.0733	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Lead 212	**0.839**		0.0827	0.136		0.0729	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Lead 214	**1.18**		0.0985	0.157		0.0811	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Potassium 40	**17.2**		1.10	2.08		0.361	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Protactinium 231	0.310	U	0.196	0.199		1.10	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Radium 226	**0.934**		0.105	0.143	1.00	0.0733	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Thorium 232	**0.950**		0.105	0.143		0.122	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Thorium 234	**1.74**		0.323	0.371		0.869	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Uranium 235	**0.297**		0.144	0.147		0.197	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Americium 241	0.0192	U	0.0653	0.0654		0.109	pCi/g	03/10/16 12:13	03/31/16 12:05	1
Protactinium 234m	**5.28**		2.36	2.42		4.29	pCi/g	03/10/16 12:13	03/31/16 12:05	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.354*		*0.0413*	*0.0552*		*0.0242*	*pCi/g*	*03/10/16 12:13*	*03/31/16 12:05*	*1*

Client Sample ID: L04-01-02-P-R-S-00

Lab Sample ID: 160-16414-2

Date Collected: 03/04/16 10:40

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.31**		0.146	0.196		0.108	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Bismuth 212	**1.76**		0.597	0.624		0.516	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Bismuth 214	**1.24**		0.127	0.180		0.0888	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Lead 212	**1.26**		0.0921	0.188		0.0768	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Lead 214	**1.48**		0.109	0.189		0.0892	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Potassium 40	**23.2**		1.30	2.67		0.386	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Protactinium 231	0.643	U	0.269	0.278		1.41	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Radium 226	**1.24**		0.127	0.180	1.00	0.0888	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Thorium 232	**1.31**		0.146	0.196		0.108	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Thorium 234	**1.06**		0.295	0.316		0.821	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Uranium 235	0.108	U	0.156	0.157		0.259	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Americium 241	-0.0107	U	30.1	30.1		0.114	pCi/g	03/10/16 12:13	03/31/16 12:07	1
Protactinium 234m	1.49	U	3.00	3.00		5.10	pCi/g	03/10/16 12:13	03/31/16 12:07	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.433*		*0.0542*	*0.0702*		*0.0395*	*pCi/g*	*03/10/16 12:13*	*03/31/16 12:07*	*1*

Client Sample ID: L04-01-04-P-S-S-00

Lab Sample ID: 160-16414-3

Date Collected: 03/04/16 10:00

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.874**		0.103	0.136		0.101	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Bismuth 212	**1.10**		0.287	0.309		0.256	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Bismuth 214	**0.894**		0.0855	0.126		0.0518	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Lead 212	**0.845**		0.0678	0.129		0.0586	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Lead 214	**1.03**		0.0779	0.132		0.0510	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Potassium 40	**15.8**		0.930	1.87		0.237	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Protactinium 231	0.511	U	0.254	0.260		0.903	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Radium 226	**0.894**		0.0855	0.126	1.00	0.0518	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Thorium 232	**0.874**		0.103	0.136		0.101	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Thorium 234	**1.19**		0.615	0.627		0.781	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Uranium 235	**0.275**		0.139	0.142		0.172	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Americium 241	0.00629	U	0.0531	0.0531		0.0892	pCi/g	03/10/16 12:13	03/31/16 12:08	1
Protactinium 234m	0.617	U	2.40	2.40		4.18	pCi/g	03/10/16 12:13	03/31/16 12:08	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Pb-210	*1.55*		*0.574*	*0.602*		*0.690*	*pCi/g*	*03/10/16 12:13*	*03/31/16 12:08*	*1*
Tl-208	*0.254*		*0.0393*	*0.0473*		*0.0329*	*pCi/g*	*03/10/16 12:13*	*03/31/16 12:08*	*1*

Client Sample ID: L04-01-05-P-R-S-00

Lab Sample ID: 160-16414-4

Date Collected: 03/04/16 10:10

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.05**		0.152	0.186		0.111	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Bismuth 212	**1.25**		0.428	0.448		0.516	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Bismuth 214	**1.06**		0.135	0.175		0.0870	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Lead 212	**1.03**		0.108	0.171		0.0926	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Lead 214	**1.25**		0.110	0.170		0.0881	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Potassium 40	**18.7**		1.57	2.47		0.649	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Protactinium 231	0.247	U	0.579	0.579		0.986	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Radium 226	**1.06**		0.135	0.175	1.00	0.0870	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Thorium 232	**1.05**		0.152	0.186		0.111	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Thorium 234	**1.37**		0.544	0.563		0.841	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Uranium 235	0.0935	U	0.125	0.126		0.251	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Americium 241	-0.0136	U	0.0787	0.0787		0.132	pCi/g	03/10/16 12:13	03/31/16 12:11	1
Protactinium 234m	-0.457	U	18.3	18.3		6.82	pCi/g	03/10/16 12:13	03/31/16 12:11	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.394*		*0.0659*	*0.0775*		*0.0475*	*pCi/g*	*03/10/16 12:13*	*03/31/16 12:11*	*1*

Client Sample ID: L04-01-07-P-S-S-00

Lab Sample ID: 160-16414-5

Date Collected: 03/04/16 09:40

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.738**		0.0987	0.124		0.111	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Bismuth 212	**0.805**		0.265	0.278		0.226	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Bismuth 214	**0.799**		0.0851	0.119		0.0595	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Lead 212	**0.735**		0.0698	0.118		0.0603	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Lead 214	**0.991**		0.0800	0.130		0.0590	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Potassium 40	**14.4**		0.906	1.73		0.243	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Protactinium 231	0.292	U	0.186	0.189		0.904	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Radium 226	**0.799**		0.0851	0.119	1.00	0.0595	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Thorium 232	**0.738**		0.0987	0.124		0.111	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Thorium 234	**0.760**		0.237	0.250		0.700	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Uranium 235	0.0511	U	0.0995	0.0996		0.203	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Americium 241	-0.0113	U	0.0471	0.0472		0.0792	pCi/g	03/10/16 12:13	03/31/16 12:36	1
Protactinium 234m	3.56	U	2.18	2.20		3.76	pCi/g	03/10/16 12:13	03/31/16 12:36	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.215*		*0.0360*	*0.0424*		*0.0293*	*pCi/g*	*03/10/16 12:13*	*03/31/16 12:36*	*1*

Client Sample ID: L04-01-07-P-S-Q-00

Lab Sample ID: 160-16414-6

Date Collected: 03/04/16 09:40

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.417**		0.0910	0.100		0.0893	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Bismuth 212	0.227	U	0.216	0.218		0.344	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Bismuth 214	**0.639**		0.0834	0.107		0.0608	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Lead 212	**0.438**		0.0524	0.0772		0.0472	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Lead 214	**0.765**		0.0717	0.107		0.0418	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Potassium 40	**10.1**		0.836	1.33		0.218	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Protactinium 231	0.0339	U	0.0504	0.0505		0.724	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Radium 226	**0.639**		0.0834	0.107	1.00	0.0608	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Thorium 232	**0.417**		0.0910	0.100		0.0893	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Thorium 234	0.565	U	0.226	0.234		0.607	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Uranium 235	0.127	U	0.100	0.101		0.161	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Americium 241	-0.00362	U	0.0410	0.0410		0.0697	pCi/g	03/10/16 12:13	03/31/16 12:38	1
Protactinium 234m	0.252	U	2.44	2.44		4.38	pCi/g	03/10/16 12:13	03/31/16 12:38	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.163*		*0.0335*	*0.0375*		*0.0257*	*pCi/g*	*03/10/16 12:13*	*03/31/16 12:38*	*1*

Client Sample ID: L04-01-08-P-R-S-00

Lab Sample ID: 160-16414-7

Date Collected: 03/04/16 09:45

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.01**		0.116	0.154		0.116	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Bismuth 212	**1.33**		0.524	0.542		0.482	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Bismuth 214	**1.09**		0.114	0.160		0.0813	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Lead 212	**1.02**		0.0824	0.156		0.0683	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Lead 214	**1.27**		0.0917	0.161		0.0810	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Potassium 40	**20.9**		1.18	2.42		0.388	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Protactinium 231	-0.605	U	0.729	0.732		1.20	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Radium 226	**1.09**		0.114	0.160	1.00	0.0813	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Thorium 232	**1.01**		0.116	0.154		0.116	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Thorium 234	**1.51**		0.515	0.539		0.801	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Uranium 235	0.218	U	0.130	0.132		0.243	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Americium 241	0.00137	U	0.0606	0.0606		0.103	pCi/g	03/10/16 12:13	03/31/16 12:40	1
Protactinium 234m	0.747	U	2.87	2.87		4.99	pCi/g	03/10/16 12:13	03/31/16 12:40	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.334*		*0.0414*	*0.0538*		*0.0297*	*pCi/g*	*03/10/16 12:13*	*03/31/16 12:40*	*1*

Client Sample ID: L04-01-10-P-S-S-00

Lab Sample ID: 160-16414-8

Date Collected: 03/04/16 09:25

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.11**		0.119	0.164		0.0955	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Bismuth 212	**1.14**		0.454	0.469		0.440	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Bismuth 214	**1.05**		0.0905	0.142		0.0502	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Lead 212	**1.02**		0.0713	0.150		0.0559	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Lead 214	**1.13**		0.0841	0.145		0.0579	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Potassium 40	**18.5**		1.08	2.18		0.325	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Protactinium 231	-0.500	U	0.617	0.620		1.02	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Radium 226	**1.05**		0.0905	0.142	1.00	0.0502	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Thorium 232	**1.11**		0.119	0.164		0.0955	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Thorium 234	**0.877**		0.300	0.314		0.782	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Uranium 235	0.111	U	0.138	0.138		0.215	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Americium 241	0.0287	U	0.0497	0.0498		0.0825	pCi/g	03/10/16 12:13	03/31/16 12:42	1
Protactinium 234m	0.639	U	2.35	2.35		4.11	pCi/g	03/10/16 12:13	03/31/16 12:42	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.323*		*0.0434*	*0.0548*		*0.0328*	*pCi/g*	*03/10/16 12:13*	*03/31/16 12:42*	*1*

Client Sample ID: L04-01-11-P-R-S-00

Lab Sample ID: 160-16414-9

Date Collected: 03/04/16 09:30

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.06**		0.143	0.179		0.145	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Bismuth 212	**1.49**		0.667	0.685		0.588	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Bismuth 214	**1.32**		0.138	0.195		0.0870	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Lead 212	**1.12**		0.101	0.177		0.0889	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Lead 214	**1.42**		0.117	0.188		0.0724	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Potassium 40	**19.2**		1.36	2.39		0.244	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Protactinium 231	0.369	U	0.215	0.219		1.52	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Radium 226	**1.32**		0.138	0.195	1.00	0.0870	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Thorium 232	**1.06**		0.143	0.179		0.145	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Thorium 234	**1.05**		0.383	0.398		1.02	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Uranium 235	0.0736	U	0.125	0.125		0.279	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Americium 241	0.0147	U	0.0727	0.0727		0.122	pCi/g	03/10/16 12:13	03/31/16 12:45	1
Protactinium 234m	0.985	U	3.66	3.66		6.49	pCi/g	03/10/16 12:13	03/31/16 12:45	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Other Detected Radionuclide	*None*						*pCi/g*	*03/10/16 12:13*	*03/31/16 12:45*	*1*

Client Sample ID: L04-01-13-P-S-S-00

Lab Sample ID: 160-16414-10

Date Collected: 03/04/16 09:00

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.100**		0.0296	0.0313		0.0607	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Bismuth 212	0.113	U	0.129	0.129		0.210	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Bismuth 214	**0.303**		0.0427	0.0531		0.0314	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Lead 212	**0.0864**		0.0195	0.0225		0.0213	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Lead 214	**0.326**		0.0402	0.0526		0.0306	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Potassium 40	**4.18**		0.409	0.592		0.129	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Protactinium 231	0.100	U	0.108	0.108		0.283	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Radium 226	**0.303**		0.0427	0.0531	1.00	0.0314	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Thorium 232	**0.100**		0.0296	0.0313		0.0607	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Thorium 234	0.166	U	0.106	0.108		0.326	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Uranium 235	0.0348	U	0.0483	0.0484		0.102	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Americium 241	-0.0115	U	0.0227	0.0227		0.0379	pCi/g	03/10/16 12:13	03/31/16 14:10	1
Protactinium 234m	-0.00694	U	0.0836	0.0836		2.43	pCi/g	03/10/16 12:13	03/31/16 14:10	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Other Detected Radionuclide	*None*						*pCi/g*	*03/10/16 12:13*	*03/31/16 14:10*	*1*

Client Sample ID: L04-01-14-P-R-S-00

Lab Sample ID: 160-16414-11

Date Collected: 03/04/16 09:15

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.08**		0.125	0.166		0.124	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Bismuth 212	**1.65**		0.611	0.635		0.522	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Bismuth 214	**1.18**		0.114	0.168		0.0707	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Lead 212	**1.11**		0.0850	0.167		0.0689	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Lead 214	**1.28**		0.0923	0.162		0.0702	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Potassium 40	**19.0**		1.25	2.31		0.413	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Protactinium 231	0.691	U	0.348	0.356		0.911	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Radium 226	**1.18**		0.114	0.168	1.00	0.0707	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Thorium 232	**1.08**		0.125	0.166		0.124	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Thorium 234	**0.993**		0.501	0.512		0.801	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Uranium 235	0.0612	U	0.157	0.157		0.245	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Americium 241	0.0279	U	0.0582	0.0583		0.0969	pCi/g	03/10/16 12:13	03/31/16 14:09	1
Protactinium 234m	1.91	U	3.39	3.39		5.45	pCi/g	03/10/16 12:13	03/31/16 14:09	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.348*		*0.0514*	*0.0628*		*0.0383*	*pCi/g*	*03/10/16 12:13*	*03/31/16 14:09*	*1*

Client Sample ID: L04-01-14-P-R-Q-00

Lab Sample ID: 160-16414-12

Date Collected: 03/04/16 09:15

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.08**		0.150	0.185		0.0945	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Bismuth 212	**1.51**		0.384	0.414		0.334	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Bismuth 214	**1.29**		0.103	0.168		0.0595	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Lead 212	**1.01**		0.0773	0.152		0.0682	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Lead 214	**1.42**		0.0922	0.174		0.0581	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Potassium 40	**20.1**		1.09	2.30		0.264	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Protactinium 231	0.445	U	0.533	0.536		0.877	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Radium 226	**1.29**		0.103	0.168	1.00	0.0595	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Thorium 232	**1.08**		0.150	0.185		0.0945	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Thorium 234	**1.14**		0.608	0.619		0.793	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Uranium 235	0.0809	U	0.145	0.145		0.243	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Americium 241	0.00795	U	0.0491	0.0491		0.0831	pCi/g	03/10/16 12:13	03/31/16 14:08	1
Protactinium 234m	0.813	U	2.74	2.74		4.74	pCi/g	03/10/16 12:13	03/31/16 14:08	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Pb-210	*1.53*		*0.554*	*0.582*		*0.700*	*pCi/g*	*03/10/16 12:13*	*03/31/16 14:08*	*1*
Tl-208	*0.329*		*0.0470*	*0.0579*		*0.0384*	*pCi/g*	*03/10/16 12:13*	*03/31/16 14:08*	*1*

Client Sample ID: L04-01-16-P-S-S-00

Lab Sample ID: 160-16414-13

Date Collected: 03/04/16 08:40

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	0.0553	U	0.0287	0.0293		0.0575	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Bismuth 212	0.0705	U	0.0830	0.0833		0.134	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Bismuth 214	**0.181**		0.0354	0.0401		0.0298	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Lead 212	**0.0821**		0.0204	0.0230		0.0217	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Lead 214	**0.205**		0.0312	0.0378		0.0225	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Potassium 40	**2.50**		0.338	0.424		0.180	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Protactinium 231	0.0418	U	0.0968	0.0969		0.331	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Radium 226	**0.181**		0.0354	0.0401	1.00	0.0298	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Thorium 232	0.0553	U	0.0287	0.0293		0.0575	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Thorium 234	0.0700	U	0.0962	0.0965		0.303	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Uranium 235	0.0326	U	0.0483	0.0484		0.0734	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Americium 241	0.0116	U	0.0162	0.0163		0.0269	pCi/g	03/10/16 12:13	03/31/16 14:07	1
Protactinium 234m	0.425	U	0.636	0.637		2.05	pCi/g	03/10/16 12:13	03/31/16 14:07	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Other Detected Radionuclide	*None*						*pCi/g*	*03/10/16 12:13*	*03/31/16 14:07*	*1*

Client Sample ID: L04-01-17-P-R-S-00

Lab Sample ID: 160-16414-14

Date Collected: 03/04/16 08:50

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	0.0837	U	0.0518	0.0525		0.0933	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Bismuth 212	0.0752	U	0.148	0.149		0.257	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Bismuth 214	**0.237**		0.0449	0.0512		0.0272	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Lead 212	**0.0982**		0.0323	0.0347		0.0360	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Lead 214	**0.281**		0.0372	0.0472		0.0234	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Potassium 40	**3.48**		0.507	0.620		0.187	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Protactinium 231	-0.0626	U	0.310	0.310		0.544	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Radium 226	**0.237**		0.0449	0.0512	1.00	0.0272	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Thorium 232	0.0837	U	0.0518	0.0525		0.0933	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Thorium 234	0.237	U	0.140	0.142		0.323	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Uranium 235	0.0206	U	0.0572	0.0572		0.0979	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Americium 241	-0.00537	U	0.0258	0.0258		0.0441	pCi/g	03/10/16 12:13	03/31/16 14:11	1
Protactinium 234m	-0.790	U	4.33	4.34		3.74	pCi/g	03/10/16 12:13	03/31/16 14:11	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Other Detected Radionuclide	*None*						*pCi/g*	*03/10/16 12:13*	*03/31/16 14:11*	*1*

Client Sample ID: L04-01-19-P-S-S-00

Lab Sample ID: 160-16414-15

Date Collected: 03/04/16 08:00

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.866**		0.114	0.144		0.133	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Bismuth 212	**0.999**		0.354	0.369		0.432	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Bismuth 214	**0.926**		0.112	0.147		0.0695	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Lead 212	**0.769**		0.0740	0.124		0.0611	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Lead 214	**1.07**		0.101	0.150		0.0877	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Potassium 40	**13.8**		1.19	1.85		0.384	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Protactinium 231	0.428	U	0.319	0.323		1.06	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Radium 226	**0.926**		0.112	0.147	1.00	0.0695	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Thorium 232	**0.866**		0.114	0.144		0.133	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Thorium 234	**0.965**		0.493	0.503		0.784	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Uranium 235	0.175	U	0.168	0.168		0.204	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Americium 241	0.0281	U	0.0598	0.0599		0.0998	pCi/g	03/10/16 12:13	03/31/16 14:50	1
Protactinium 234m	1.30	U	3.46	3.46		6.09	pCi/g	03/10/16 12:13	03/31/16 14:50	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.263*		*0.0502*	*0.0572*		*0.0402*	*pCi/g*	*03/10/16 12:13*	*03/31/16 14:50*	*1*

Client Sample ID: L04-01-20-P-R-S-00

Lab Sample ID: 160-16414-16

Date Collected: 03/04/16 08:20

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**1.26**		0.140	0.190		0.151	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Bismuth 212	**1.47**		0.483	0.507		0.443	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Bismuth 214	**1.35**		0.114	0.181		0.0600	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Lead 212	**1.08**		0.0820	0.162		0.0682	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Lead 214	**1.36**		0.0901	0.167		0.0679	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Potassium 40	**18.7**		1.26	2.29		0.476	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Protactinium 231	0.491	U	0.259	0.265		1.09	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Radium 226	**1.35**		0.114	0.181	1.00	0.0600	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Thorium 232	**1.26**		0.140	0.190		0.151	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Thorium 234	**1.13**		0.509	0.523		0.808	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Uranium 235	0.117	U	0.140	0.140		0.229	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Americium 241	-0.000440	U	0.0556	0.0556		0.0941	pCi/g	03/10/16 12:25	03/31/16 14:47	1
Protactinium 234m	2.22	U	3.39	3.39		5.66	pCi/g	03/10/16 12:25	03/31/16 14:47	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.346*		*0.0499*	*0.0615*		*0.0370*	*pCi/g*	*03/10/16 12:25*	*03/31/16 14:47*	*1*

Client Sample ID: L04-01-22-P-S-S-00

Lab Sample ID: 160-16414-17

Date Collected: 03/04/16 08:10

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	**0.387**		0.0653	0.0763		0.0435	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Bismuth 212	0.176	U	0.170	0.171		0.273	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Bismuth 214	**0.541**		0.0607	0.0828		0.0371	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Lead 212	**0.286**		0.0386	0.0535		0.0377	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Lead 214	**0.504**		0.0489	0.0717		0.0384	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Potassium 40	**5.94**		0.516	0.797		0.145	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Protactinium 231	0.158	U	0.116	0.118		0.614	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Radium 226	**0.541**		0.0607	0.0828	1.00	0.0371	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Thorium 232	**0.387**		0.0653	0.0763		0.0435	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Thorium 234	0.375	U	0.157	0.162		0.425	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Uranium 235	0.0568	U	0.0717	0.0720		0.131	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Americium 241	-0.0154	U	0.0338	0.0338		0.0564	pCi/g	03/10/16 12:25	03/31/16 15:48	1
Protactinium 234m	-0.467	U	5.44	5.44		2.63	pCi/g	03/10/16 12:25	03/31/16 15:48	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.119*		*0.0253*	*0.0282*		*0.0192*	*pCi/g*	*03/10/16 12:25*	*03/31/16 15:48*	*1*

Client Sample ID: L04-01-23-P-R-S-00

Lab Sample ID: 160-16414-18

Date Collected: 03/04/16 13:35

Matrix: Solid

Date Received: 03/08/16 10:10

Method: GA-01-R - Radium-226 & 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	0.156		0.0926	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Bismuth 212	**1.25**		0.387	0.408		0.342	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Bismuth 214	**1.02**		0.0915	0.139		0.0598	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Lead 212	**0.880**		0.0760	0.137		0.0668	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Lead 214	**1.20**		0.0924	0.155		0.0755	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Potassium 40	**17.9**		1.02	2.07		0.303	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Protactinium 231	0.118	U	7.20	7.20		0.762	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Radium 226	**1.02**		0.0915	0.139	1.00	0.0598	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Thorium 232	**1.03**		0.117	0.156		0.0926	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Thorium 234	**1.11**		0.453	0.467		0.716	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Uranium 235	0.165	U	0.115	0.116		0.181	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Americium 241	-0.0127	U	0.278	0.278		0.0945	pCi/g	03/10/16 12:25	03/31/16 15:51	1
Protactinium 234m	0.972	U	2.66	2.66		4.57	pCi/g	03/10/16 12:25	03/31/16 15:51	1

Other Detected Radionuclides	*Result*	*Qualifier*	*Count Uncert. (2σ+/-)*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*	*Prepared*	*Analyzed*	*Dil Fac*
Tl-208	*0.299*		*0.0406*	*0.0509*		*0.0311*	*pCi/g*	*03/10/16 12:25*	*03/31/16 15:51*	*1*

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-240026/1-A
Matrix: Solid
Analysis Batch: 243073

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240026

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	0.005512	U	0.0251	0.0251		0.0481	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Bismuth 212	0.01006	U	0.102	0.102		0.194	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Bismuth 214	0.0008043	U	0.0177	0.0177		0.0363	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Lead 212	0.005620	U	0.0120	0.0120		0.0226	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Lead 214	0.01100	U	0.0143	0.0144		0.0236	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Potassium 40	-0.08209	U	3.28	3.28		0.198	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Protactinium 231	-0.01434	U	0.0540	0.0540		0.321	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Radium 226	0.0008043	U	0.0177	0.0177	1.00	0.0363	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Thorium 232	0.005512	U	0.0251	0.0251		0.0481	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Thorium 234	0.1493	U	0.184	0.185		0.279	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Uranium 235	0.003434	U	0.00954	0.00955		0.0680	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Americium 241	-0.002076	U	0.0133	0.0133		0.0237	pCi/g	03/10/16 12:13	03/31/16 10:42	1
Protactinium 234m	-0.2053	U	1.38	1.38		2.56	pCi/g	03/10/16 12:13	03/31/16 10:42	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*	*03/10/16 12:13*	*03/31/16 10:42*	*1*

Lab Sample ID: LCS 160-240026/2-A
Matrix: Solid
Analysis Batch: 243068

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 240026

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium 241	101	102.0		10.6		0.603	pCi/g	101	87 - 116
Cesium 137	34.1	34.09		3.58		0.198	pCi/g	100	87 - 120
Cobalt 60	31.7	31.39		3.18		0.132	pCi/g	99	87 - 115

Lab Sample ID: 160-16413-A-7-I DU
Matrix: Solid
Analysis Batch: 243353

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 240026

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Actinium 228	1.17		1.010		0.156		0.106	pCi/g	0.45	1
Bismuth 212	1.51		1.228		0.460		0.424	pCi/g	0.28	1
Bismuth 214	1.12		1.183		0.159		0.0603	pCi/g	0.21	1
Lead 212	1.12		1.112		0.165		0.0663	pCi/g	0.04	1
Lead 214	1.30		1.289		0.164		0.0759	pCi/g	0.05	1
Potassium 40	18.8		18.73		2.23		0.397	pCi/g	0.01	1
Protactinium 231	0.648	U	0.2460	U	0.196		1.11	pCi/g	0.80	1
Radium 226	1.12		1.183		0.159	1.00	0.0603	pCi/g	0.21	1
Thorium 232	1.17		1.010		0.156		0.106	pCi/g	0.45	1
Thorium 234	1.23		1.414		0.563		0.851	pCi/g	0.16	1
Uranium 235	0.0396	U	0.1182	U	0.156		0.262	pCi/g	0.35	1
Americium 241	0.0168	U	0.01376	U	0.0630		0.106	pCi/g	0.02	1

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: 160-16413-A-7-I DU
Matrix: Solid
Analysis Batch: 243353

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 240026

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Protactinium 234m	0.530	U		4.247	U	2.14		5.96	pCi/g			0.65	1

Other Detected Radionuclides	*Sample Result*	*Sample Qual*		*DU Result*	*DU Qual*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*			*RER*	*RER Limit*
Tl-208	*0.398*			*0.3628*		*0.0576*		*0.0310*	*pCi/g*			*0.28*	*1*

Lab Sample ID: MB 160-240028/1-A
Matrix: Solid
Analysis Batch: 243073

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240028

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	0.001169	U	0.00793	0.00793		0.0523	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Bismuth 212	-0.03337	U	0.134	0.134		0.242	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Bismuth 214	-0.004613	U	0.0378	0.0378		0.0356	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Lead 212	0.001245	U	0.0121	0.0121		0.0236	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Lead 214	0.008810	U	0.0154	0.0154		0.0294	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Potassium 40	-0.09363	U	1.92	1.92		0.297	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Protactinium 231	0.05987	U	0.126	0.126		0.222	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Radium 226	-0.004613	U	0.0378	0.0378	1.00	0.0356	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Thorium 232	0.001169	U	0.00793	0.00793		0.0523	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Thorium 234	0.1406	U	0.143	0.143		0.248	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Uranium 235	0.01443	U	0.0304	0.0304		0.0526	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Americium 241	0.006477	U	0.0125	0.0125		0.0213	pCi/g	03/10/16 12:25	03/31/16 14:49	1
Protactinium 234m	0.3000	U	0.822	0.823		1.54	pCi/g	03/10/16 12:25	03/31/16 14:49	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*	*03/10/16 12:25*	*03/31/16 14:49*	*1*

Lab Sample ID: LCS 160-240028/2-A
Matrix: Solid
Analysis Batch: 243072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 240028

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Americium 241			101	100.9		10.5		0.540	pCi/g	100	87 - 116		
Cesium 137			34.1	36.96		3.82		0.150	pCi/g	108	87 - 120		
Cobalt 60			31.7	33.43		3.31		0.0915	pCi/g	105	87 - 115		

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: 160-16414-16 DU
Matrix: Solid
Analysis Batch: 243073

Client Sample ID: L04-01-20-P-R-S-00
Prep Type: Total/NA
Prep Batch: 240028

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Actinium 228	1.26			1.018		0.152		0.0909	pCi/g			0.70	1
Bismuth 212	1.47			1.328		0.430		0.377	pCi/g			0.16	1
Bismuth 214	1.35			1.237		0.166		0.0651	pCi/g			0.33	1
Lead 212	1.08			1.049		0.153		0.0557	pCi/g			0.1	1
Lead 214	1.36			1.330		0.166		0.0567	pCi/g			0.08	1
Potassium 40	18.7			17.98		2.13		0.392	pCi/g			0.16	1
Protactinium 231	0.491	U		-0.4797	U	0.645		1.06	pCi/g			1.07	1
Radium 226	1.35			1.237		0.166	1.00	0.0651	pCi/g			0.33	1
Thorium 232	1.26			1.018		0.152		0.0909	pCi/g			0.70	1
Thorium 234	1.13			1.318		0.491		0.736	pCi/g			0.19	1
Uranium 235	0.117	U		0.07414	U	0.128		0.212	pCi/g			0.16	1
Americium 241	-0.000440	U		0.0000	U	0.0440		0.0975	pCi/g			0	1
Protactinium 234m	2.22	U		0.2072	U	2.92		5.13	pCi/g			0.32	1

Other Detected Radionuclides	*Sample Result*	*Sample Qual*		*DU Result*	*DU Qual*	*Total Uncert. (2σ+/-)*	*RL*	*MDC*	*Unit*			*RER*	*RER Limit*
Tl-208	*0.346*			*0.3207*		*0.0515*		*0.0312*	*pCi/g*			*0.23*	*1*

Rad

Leach Batch: 239580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16413-A-7-I DU	Duplicate	Total/NA	Solid	Dry and Grind	
160-16414-1	L04-01-01-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-16414-2	L04-01-02-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-16414-3	L04-01-04-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-16414-4	L04-01-05-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-16414-5	L04-01-07-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-16414-6	L04-01-07-P-S-Q-00	Total/NA	Solid	Dry and Grind	
160-16414-7	L04-01-08-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-16414-8	L04-01-10-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-16414-9	L04-01-11-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-16414-10	L04-01-13-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-16414-11	L04-01-14-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-16414-12	L04-01-14-P-R-Q-00	Total/NA	Solid	Dry and Grind	
160-16414-13	L04-01-16-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-16414-14	L04-01-17-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-16414-15	L04-01-19-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-16414-16	L04-01-20-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-16414-16 DU	L04-01-20-P-R-S-00	Total/NA	Solid	Dry and Grind	
160-16414-17	L04-01-22-P-S-S-00	Total/NA	Solid	Dry and Grind	
160-16414-18	L04-01-23-P-R-S-00	Total/NA	Solid	Dry and Grind	

Prep Batch: 240026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16413-A-7-I DU	Duplicate	Total/NA	Solid	Fill_Geo-21	239580
160-16414-1	L04-01-01-P-S-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-2	L04-01-02-P-R-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-3	L04-01-04-P-S-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-4	L04-01-05-P-R-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-5	L04-01-07-P-S-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-6	L04-01-07-P-S-Q-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-7	L04-01-08-P-R-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-8	L04-01-10-P-S-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-9	L04-01-11-P-R-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-10	L04-01-13-P-S-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-11	L04-01-14-P-R-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-12	L04-01-14-P-R-Q-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-13	L04-01-16-P-S-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-14	L04-01-17-P-R-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-15	L04-01-19-P-S-S-00	Total/NA	Solid	Fill_Geo-21	239580
LCS 160-240026/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-21	
MB 160-240026/1-A	Method Blank	Total/NA	Solid	Fill_Geo-21	

Prep Batch: 240028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-16414-16	L04-01-20-P-R-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-16 DU	L04-01-20-P-R-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-17	L04-01-22-P-S-S-00	Total/NA	Solid	Fill_Geo-21	239580
160-16414-18	L04-01-23-P-R-S-00	Total/NA	Solid	Fill_Geo-21	239580
LCS 160-240028/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-21	
MB 160-240028/1-A	Method Blank	Total/NA	Solid	Fill_Geo-21	