

# 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: 160-3585-2

Client Project/Site: RFP-CBA-022 (7 DAY TAT)

For:

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

Attn: Martin Swanson



Authorized for release by:  
9/27/2013 5:13:00 PM

Ivan Vania, Project Manager I  
(314)298-8566  
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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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## Case Narrative

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

TestAmerica Job ID: 160-3585-2

**Job ID: 160-3585-2**

**Laboratory: TestAmerica St. Louis**

**Narrative**

### CASE NARRATIVE

**Client: Westinghouse Electric Company LLC**

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

**Report Number: 160-3585-2**

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 08/30/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 20.0 C.

#### RADIUM-226 BY GAMMA SPEC (21 DAY INGROWTH)

Samples L0501100TUB0 (160-3585-1), L0501101TUB0 (160-3585-2), L0501102TUB0 (160-3585-3), L0501103TUB0 (160-3585-4), L0501104TUB0 (160-3585-5), L0501105TUB0 (160-3585-6), L0501106TUB0 (160-3585-7), L0501107TUB0 (160-3585-8), L0501108TUB0 (160-3585-9), L050198TUB00 (160-3585-10), L050199TUB00 (160-3585-11), L050146TSS00 (160-3585-12) and L050147TRS00 (160-3585-13) were analyzed for Radium-226 by gamma spec (21 day ingrowth) in accordance with EPA GA\_01\_R. The samples were leached on 09/03/2013, prepared on 09/05/2013 and analyzed on 09/26/2013.

No other difficulties were encountered during the Radium 226 analysis. All other quality control parameters were within the acceptance limits.

## Hematite Decommissioning Project

Procedure HDP-PR-QA-006, Chain of Custody

Revision: 3

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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-083013-01 Page 1/1				Requested Analysis										Laboratory Name:					
Project Name:				Comp (C) or Grab (G)	Gamma Spec	Isotopic Uranium	Tc-99	Gamma Spec (21 day ingrow for Ra-226)						Total Containers	TA-MO				
Westinghouse Electric Company															Laboratory Address:				
Contact Person:															13715 Rider Trail North				
Phone Number:															Phone No.				
314-810-3382															314-298-8566				
Sampler Name				Laboratory Contact Person:															
Jeff Hoffman; Scott Jenkins				Joe Walker															
Phone No.				Phone No.															
708-870-8453				708-870-8453															
				Turn Around Time															
				Rush (7 days)															
				Remarks															
Sample ID	Date	Time	Matrix																
L0501100TUB0	8/29/2013	13:15	S	C	X		X	X						1	LSA 05-01 Bias				
L0501101TUB0	8/29/2013	13:30	S	C	X		X	X						1					
L0501102TUB0	8/29/2013	13:45	S	C	X		X	X						1					
L0501103TUB0	8/29/2013	14:00	S	C	X		X	X						1					
L0501104TUB0	8/29/2013	13:00	S	C	X		X	X						1					
L0501105TUB0	8/29/2013	13:15	S	C	X		X	X						1					
L0501106TUB0	8/29/2013	13:25	S	C	X		X	X						1					
L0501107TUB0	8/29/2013	13:40	S	C	X		X	X						1					
L0501108TUB0	8/29/2013	18:00	S	C	X		X	X						1					
L050198TUB00	8/28/2013	11:20	S	C	X		X	X						1					
L050199TUB00	8/29/2013	13:00	S	C	X		X	X						1	LSA 05-01 Bias				
Relinquished by: <i>[Signature]</i>				Date/Time: 8/30/13				Received by: <i>[Signature]</i>				Date/Time: 8-30 12:00				Total: 11		Cooler Temperature: Ambient	
Company Name: WEL								Company Name: Crossroads								Cooler ID: 0830-01		Shipper and Number:	
Received by: <i>[Signature]</i>				Date/Time: 8/30/13 17:10				Relinquished by: <i>[Signature]</i>				Date/Time: 8-30 17:10				Comments: Please re-analyze samples after 21-day ingrowth period.			
Company Name: JAF								Company Name: Crossroads											
Relinquished by:				Date/Time:				Received by:				Date/Time:							
Company Name:								Company Name:								Verified By: <i>[Signature]</i>			

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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.

[illegible]

## Login Sample Receipt Checklist

Client: Westinghouse Electric Company LLC

Job Number: 160-3585-2

Login Number: 3585

List Source: TestAmerica St. Louis

List Number: 1

Creator: Clarke, Jill C

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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.	False	
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.	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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Definitions/Glossary

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

TestAmerica Job ID: 160-3585-2

### Qualifiers

#### Rad

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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: RFP-CBA-022 (7 DAY TAT)

TestAmerica Job ID: 160-3585-2

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: RFP-CBA-022 (7 DAY TAT)

TestAmerica Job ID: 160-3585-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-3585-1	L0501100TUB0	Solid	08/29/13 13:15	08/30/13 18:00
160-3585-2	L0501101TUB0	Solid	08/29/13 13:30	08/30/13 18:00
160-3585-3	L0501102TUB0	Solid	08/29/13 13:45	08/30/13 18:00
160-3585-4	L0501103TUB0	Solid	08/29/13 14:00	08/30/13 18:00
160-3585-5	L0501104TUB0	Solid	08/29/13 13:00	08/30/13 18:00
160-3585-6	L0501105TUB0	Solid	08/29/13 13:15	08/30/13 18:00
160-3585-7	L0501106TUB0	Solid	08/29/13 13:25	08/30/13 18:00
160-3585-8	L0501107TUB0	Solid	08/29/13 13:40	08/30/13 18:00
160-3585-9	L0501108TUB0	Solid	08/29/13 18:00	08/30/13 18:00
160-3585-10	L050198TUB00	Solid	08/29/13 11:20	08/30/13 18:00
160-3585-11	L050199TUB00	Solid	08/29/13 13:00	08/30/13 18:00
160-3585-12	L050146TSS00	Solid	08/30/13 08:10	08/30/13 18:00
160-3585-13	L050147TRS00	Solid	08/30/13 08:30	08/30/13 18:00

# Client Sample Results

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

TestAmerica Job ID: 160-3585-2

**Client Sample ID: L0501100TUB0**

**Date Collected: 08/29/13 13:15**

**Date Received: 08/30/13 18:00**

**Lab Sample ID: 160-3585-1**

**Matrix: Solid**

## 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	0.249		0.0808	0.0847		0.127	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Bismuth 212	0.459		0.221	0.226		0.193	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Bismuth 214	0.474		0.0784	0.0926		0.0552	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Lead 212	0.315		0.0467	0.0619		0.0481	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Lead 214	0.514		0.0606	0.0807		0.0608	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Potassium 40	7.15		0.813	1.09		0.288	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Protactinium 231	0.0745	U	0.0628	0.0633		0.781	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Radium 226	0.474		0.0784	0.0926	1.00	0.0552	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Thorium 232	0.249		0.0808	0.0847		0.127	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Thorium 234	0.821		0.277	0.290		0.635	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Uranium 235	0.0862	U	0.0928	0.0932		0.167	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Americium 241	0.0193	U	0.0364	0.0364		0.0618	pCi/g	09/05/13 12:05	09/26/13 08:15	1
Protactinium 234m	1.90	U	2.71	2.72		4.98	pCi/g	09/05/13 12:05	09/26/13 08:15	1

**Client Sample ID: L0501101TUB0**

**Date Collected: 08/29/13 13:30**

**Date Received: 08/30/13 18:00**

**Lab Sample ID: 160-3585-2**

**Matrix: Solid**

## 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	1.19		0.178	0.215		0.132	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Bismuth 212	1.70		0.643	0.667		0.550	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Bismuth 214	1.36		0.215	0.257		0.154	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Lead 212	1.15		0.141	0.205		0.140	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Lead 214	1.65		0.163	0.236		0.0850	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Potassium 40	18.1		1.92	2.66		0.921	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Protactinium 231	0.745	U	0.588	0.593		2.26	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Radium 226	1.36		0.215	0.257	1.00	0.154	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Thorium 232	1.19		0.178	0.215		0.132	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Thorium 234	2.79		1.79	1.81		2.14	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Uranium 235	0.346	U	0.290	0.292		0.519	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Americium 241	0.0113	U	0.119	0.119		0.205	pCi/g	09/05/13 12:05	09/26/13 08:11	1
Protactinium 234m	1.95	U	7.14	7.14		11.4	pCi/g	09/05/13 12:05	09/26/13 08:11	1

**Client Sample ID: L0501102TUB0**

**Date Collected: 08/29/13 13:45**

**Date Received: 08/30/13 18:00**

**Lab Sample ID: 160-3585-3**

**Matrix: Solid**

## 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	0.231		0.0851	0.0883		0.105	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Bismuth 212	0.810		0.259	0.273		0.153	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Bismuth 214	0.388		0.0764	0.0864		0.0601	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Lead 212	0.249		0.0452	0.0555		0.0478	pCi/g	09/05/13 12:05	09/26/13 08:16	1

TestAmerica St. Louis

# Client Sample Results

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

TestAmerica Job ID: 160-3585-2

**Client Sample ID: L0501102TUB0**

**Lab Sample ID: 160-3585-3**

Date Collected: 08/29/13 13:45

Matrix: Solid

Date Received: 08/30/13 18:00

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

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Lead 214	0.432		0.0669	0.0806		0.0608	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Potassium 40	7.58		0.923	1.21		0.335	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Protactinium 231	0.243	U	0.355	0.356		0.944	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Radium 226	0.388		0.0764	0.0864	1.00	0.0601	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Thorium 232	0.231		0.0851	0.0883		0.105	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Thorium 234	0.437	U	0.236	0.240		0.745	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Uranium 235	0.105	U	0.109	0.110		0.192	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Americium 241	0.0192	U	0.0470	0.0471		0.0792	pCi/g	09/05/13 12:05	09/26/13 08:16	1
Protactinium 234m	3.40	U	2.70	2.73		4.15	pCi/g	09/05/13 12:05	09/26/13 08:16	1

**Client Sample ID: L0501103TUB0**

**Lab Sample ID: 160-3585-4**

Date Collected: 08/29/13 14:00

Matrix: Solid

Date Received: 08/30/13 18:00

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

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Actinium 228	0.583		0.192	0.201		0.118	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Bismuth 212	0.000	U	0.415	0.415		1.44	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Bismuth 214	0.881		0.192	0.213		0.171	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Lead 212	0.318		0.102	0.110		0.143	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Lead 214	0.988		0.182	0.209		0.160	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Potassium 40	5.22		1.28	1.38		1.21	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Protactinium 231	0.608	U	0.627	0.630		2.28	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Radium 226	0.881		0.192	0.213	1.00	0.171	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Thorium 232	0.583		0.192	0.201		0.118	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Thorium 234	3.95		2.01	2.05		2.45	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Uranium 235	0.897		0.382	0.393		0.422	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Americium 241	0.0348	U	0.142	0.142		0.244	pCi/g	09/05/13 12:05	09/26/13 08:13	1
Protactinium 234m	0.235	U	7.17	7.17		14.1	pCi/g	09/05/13 12:05	09/26/13 08:13	1

**Client Sample ID: L0501104TUB0**

**Lab Sample ID: 160-3585-5**

Date Collected: 08/29/13 13:00

Matrix: Solid

Date Received: 08/30/13 18:00

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

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Actinium 228	0.218		0.0603	0.0643		0.0874	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Bismuth 212	0.188	U	0.205	0.206		0.332	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Bismuth 214	0.659		0.0724	0.0997		0.0423	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Lead 212	0.269		0.0350	0.0494		0.0356	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Lead 214	0.710		0.0634	0.0973		0.0447	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Potassium 40	5.31		0.566	0.785		0.188	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Protactinium 231	0.218	U	0.293	0.294		0.580	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Radium 226	0.659		0.0724	0.0997	1.00	0.0423	pCi/g	09/05/13 12:05	09/26/13 09:23	1

TestAmerica St. Louis

# Client Sample Results

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

TestAmerica Job ID: 160-3585-2

**Client Sample ID: L0501104TUB0**

**Lab Sample ID: 160-3585-5**

**Date Collected: 08/29/13 13:00**

**Matrix: Solid**

**Date Received: 08/30/13 18:00**

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Thorium 232	0.218		0.0603	0.0643		0.0874	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Thorium 234	0.895		0.243	0.260		0.505	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Uranium 235	0.146		0.0828	0.0841		0.109	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Americium 241	-0.0131	U	0.0796	0.0796		0.0612	pCi/g	09/05/13 12:05	09/26/13 09:23	1
Protactinium 234m	0.869	U	1.89	1.90		3.27	pCi/g	09/05/13 12:05	09/26/13 09:23	1

**Client Sample ID: L0501105TUB0**

**Lab Sample ID: 160-3585-6**

**Date Collected: 08/29/13 13:15**

**Matrix: Solid**

**Date Received: 08/30/13 18:00**

## 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	0.731		0.132	0.152		0.156	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Bismuth 212	0.278	U	0.319	0.321		0.519	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Bismuth 214	1.15		0.126	0.174		0.0647	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Lead 212	0.580		0.0721	0.104		0.0772	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Lead 214	1.18		0.122	0.173		0.0975	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Potassium 40	16.3		1.35	2.15		0.335	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Protactinium 231	-0.556	U	0.812	0.814		1.35	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Radium 226	1.15		0.126	0.174	1.00	0.0647	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Thorium 232	0.731		0.132	0.152		0.156	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Thorium 234	1.86		0.874	0.896		1.05	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Uranium 235	0.257	U	0.167	0.169		0.292	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Americium 241	0.0329	U	0.0723	0.0724		0.121	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Protactinium 234m	0.217	U	3.65	3.65		7.86	pCi/g	09/05/13 12:05	09/26/13 09:24	1

**Client Sample ID: L0501106TUB0**

**Lab Sample ID: 160-3585-7**

**Date Collected: 08/29/13 13:25**

**Matrix: Solid**

**Date Received: 08/30/13 18:00**

## 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	0.949		0.149	0.177		0.0980	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Bismuth 212	0.998		0.340	0.356		0.329	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Bismuth 214	1.08		0.112	0.159		0.0764	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Lead 212	0.886		0.0681	0.133		0.0544	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Lead 214	1.25		0.0952	0.161		0.0704	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Potassium 40	16.8		1.11	2.05		0.234	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Protactinium 231	0.228	U	0.203	0.205		1.03	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Radium 226	1.08		0.112	0.159	1.00	0.0764	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Thorium 232	0.949		0.149	0.177		0.0980	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Thorium 234	1.84		0.684	0.711		0.872	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Uranium 235	0.141	U	0.144	0.144		0.234	pCi/g	09/05/13 12:05	09/26/13 09:24	1
Americium 241	-0.000888	U	0.0437	0.0437		0.0747	pCi/g	09/05/13 12:05	09/26/13 09:24	1

TestAmerica St. Louis

# Client Sample Results

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

TestAmerica Job ID: 160-3585-2

**Client Sample ID: L0501106TUB0**

**Lab Sample ID: 160-3585-7**

**Date Collected: 08/29/13 13:25**

**Matrix: Solid**

**Date Received: 08/30/13 18:00**

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

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Protactinium 234m	1.90	U	2.88	2.89		5.09	pCi/g	09/05/13 12:05	09/26/13 09:24	1

**Client Sample ID: L0501107TUB0**

**Lab Sample ID: 160-3585-8**

**Date Collected: 08/29/13 13:40**

**Matrix: Solid**

**Date Received: 08/30/13 18:00**

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

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Actinium 228	0.136		0.0513	0.0531		0.0884	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Bismuth 212	0.189	U	0.209	0.210		0.339	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Bismuth 214	0.662		0.0801	0.106		0.0440	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Lead 212	0.123		0.0321	0.0359		0.0437	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Lead 214	0.714		0.0764	0.106		0.0494	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Potassium 40	6.74		0.683	0.971		0.128	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Protactinium 231	0.105	U	0.114	0.115		0.679	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Radium 226	0.662		0.0801	0.106	1.00	0.0440	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Thorium 232	0.136		0.0513	0.0531		0.0884	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Thorium 234	0.491	U	0.206	0.212		0.549	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Uranium 235	0.124		0.0806	0.0816		0.108	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Americium 241	0.0293	U	0.0321	0.0322		0.0458	pCi/g	09/05/13 12:05	09/26/13 09:25	1
Protactinium 234m	0.000	U	0.932	0.933		4.43	pCi/g	09/05/13 12:05	09/26/13 09:25	1

**Client Sample ID: L0501108TUB0**

**Lab Sample ID: 160-3585-9**

**Date Collected: 08/29/13 18:00**

**Matrix: Solid**

**Date Received: 08/30/13 18:00**

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

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Actinium 228	0.385		0.190	0.194		0.255	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Bismuth 212	0.327	U	0.559	0.560		0.948	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Bismuth 214	0.668		0.186	0.199		0.181	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Lead 212	0.280		0.0947	0.101		0.131	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Lead 214	0.602		0.130	0.145		0.156	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Potassium 40	0.454	U	0.758	0.760		1.52	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Protactinium 231	-0.393	U	1.13	1.13		1.93	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Radium 226	0.668		0.186	0.199	1.00	0.181	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Thorium 232	0.385		0.190	0.194		0.255	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Thorium 234	1.00	U	0.520	0.531		1.83	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Uranium 235	0.294	U	0.251	0.253		0.338	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Americium 241	0.0295	U	0.0836	0.0837		0.142	pCi/g	09/05/13 12:05	09/26/13 08:39	1
Protactinium 234m	5.71	U	5.83	5.85		10.7	pCi/g	09/05/13 12:05	09/26/13 08:39	1

TestAmerica St. Louis

# Client Sample Results

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

TestAmerica Job ID: 160-3585-2

Client Sample ID: L050198TUB00

Lab Sample ID: 160-3585-10

Date Collected: 08/29/13 11:20

Matrix: Solid

Date Received: 08/30/13 18:00

## 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	0.934		0.146	0.174		0.0985	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Bismuth 212	0.686		0.376	0.383		0.550	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Bismuth 214	1.17		0.121	0.172		0.0660	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Lead 212	0.900		0.0760	0.139		0.0680	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Lead 214	1.27		0.103	0.168		0.0817	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Potassium 40	17.9		1.32	2.26		0.178	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Protactinium 231	0.397	U	0.354	0.357		1.21	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Radium 226	1.17		0.121	0.172	1.00	0.0660	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Thorium 232	0.934		0.146	0.174		0.0985	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Thorium 234	0.827	U	0.337	0.347		0.931	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Uranium 235	0.0197	U	0.164	0.164		0.277	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Americium 241	0.0237	U	0.0681	0.0682		0.114	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Protactinium 234m	0.171	U	4.10	4.10		7.30	pCi/g	09/05/13 12:05	09/26/13 10:49	1

Client Sample ID: L050199TUB00

Lab Sample ID: 160-3585-11

Date Collected: 08/29/13 13:00

Matrix: Solid

Date Received: 08/30/13 18:00

## 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		0.241	0.266		0.330	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Bismuth 212	1.01		0.651	0.660		0.960	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Bismuth 214	1.02		0.207	0.233		0.192	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Lead 212	0.906		0.122	0.169		0.128	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Lead 214	1.28		0.172	0.218		0.195	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Potassium 40	21.0		2.15	3.04		1.14	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Protactinium 231	1.26	U	0.778	0.790		1.60	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Radium 226	1.02		0.207	0.233	1.00	0.192	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Thorium 232	1.11		0.241	0.266		0.330	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Thorium 234	1.65		1.26	1.27		1.63	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Uranium 235	0.237	U	0.270	0.271		0.438	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Americium 241	0.0443	U	0.107	0.107		0.179	pCi/g	09/05/13 12:05	09/26/13 08:40	1
Protactinium 234m	6.41	U	6.94	6.97		10.7	pCi/g	09/05/13 12:05	09/26/13 08:40	1

Client Sample ID: L050146TSS00

Lab Sample ID: 160-3585-12

Date Collected: 08/30/13 08:10

Matrix: Solid

Date Received: 08/30/13 18:00

## 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	0.188		0.0492	0.0528		0.0579	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Bismuth 212	0.163	U	0.155	0.155		0.246	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Bismuth 214	0.566		0.0606	0.0845		0.0386	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Lead 212	0.174		0.0272	0.0352		0.0314	pCi/g	09/05/13 12:05	09/26/13 10:49	1

TestAmerica St. Louis

# Client Sample Results

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

TestAmerica Job ID: 160-3585-2

**Client Sample ID: L050146TSS00**

**Lab Sample ID: 160-3585-12**

**Date Collected: 08/30/13 08:10**

**Matrix: Solid**

**Date Received: 08/30/13 18:00**

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

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Lead 214	0.582		0.0496	0.0782		0.0366	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Potassium 40	7.64		0.579	0.973		0.193	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Protactinium 231	0.0707	U	0.118	0.118		0.558	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Radium 226	0.566		0.0606	0.0845	1.00	0.0386	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Thorium 232	0.188		0.0492	0.0528		0.0579	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Thorium 234	0.425	U	0.165	0.171		0.452	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Uranium 235	0.0947	U	0.0613	0.0620		0.101	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Americium 241	0.0187	U	0.0298	0.0299		0.0496	pCi/g	09/05/13 12:05	09/26/13 10:49	1
Protactinium 234m	-0.194	U	5.51	5.51		3.18	pCi/g	09/05/13 12:05	09/26/13 10:49	1

**Client Sample ID: L050147TRS00**

**Lab Sample ID: 160-3585-13**

**Date Collected: 08/30/13 08:30**

**Matrix: Solid**

**Date Received: 08/30/13 18:00**

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

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Actinium 228	0.190		0.0484	0.0522		0.0429	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Bismuth 212	0.235		0.154	0.156		0.230	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Bismuth 214	0.444		0.0562	0.0727		0.0387	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Lead 212	0.162		0.0258	0.0332		0.0295	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Lead 214	0.467		0.0481	0.0683		0.0305	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Potassium 40	6.92		0.562	0.904		0.193	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Protactinium 231	0.0964	U	0.189	0.189		0.481	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Radium 226	0.444		0.0562	0.0727	1.00	0.0387	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Thorium 232	0.190		0.0484	0.0522		0.0429	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Thorium 234	0.424		0.142	0.148		0.390	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Uranium 235	0.0119	U	0.0726	0.0726		0.117	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Americium 241	0.00520	U	0.0291	0.0291		0.0492	pCi/g	09/05/13 12:05	09/26/13 08:17	1
Protactinium 234m	1.38	U	0.850	0.861		2.72	pCi/g	09/05/13 12:05	09/26/13 08:17	1

TestAmerica St. Louis

# QC Sample Results

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

TestAmerica Job ID: 160-3585-2

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

Lab Sample ID: MB 160-70785/1-A

Matrix: Solid

Analysis Batch: 75044

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 70785

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium 228	0.002817	U	0.0147	0.0147		0.0598	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Bismuth 212	0.001730	U	0.0955	0.0955		0.186	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Bismuth 214	-0.01288	U	0.0803	0.0803		0.0397	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Lead 212	0.004282	U	0.0125	0.0125		0.0245	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Lead 214	-0.004057	U	0.0148	0.0148		0.0346	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Potassium 40	-0.1494	U	5.98	5.98		0.252	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Protactinium 231	0.03673	U	0.170	0.170		0.310	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Radium 226	-0.01288	U	0.0803	0.0803	1.00	0.0397	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Thorium 232	0.002817	U	0.0147	0.0147		0.0598	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Thorium 234	0.01597	U	0.0232	0.0233		0.292	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Uranium 235	-0.0008006	U	0.0348	0.0348		0.0637	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Americium 241	0.001479	U	0.0138	0.0138		0.0247	pCi/g	09/05/13 12:05	09/26/13 19:21	1
Protactinium 234m	-0.4795	U	19.2	19.2		2.62	pCi/g	09/05/13 12:05	09/26/13 19:21	1

Lab Sample ID: LCS 160-70785/2-A

Matrix: Solid

Analysis Batch: 75044

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 70785

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium 241	97.7	92.66		9.64		0.419	pCi/g	95	87 - 116
Cesium 137	31.6	30.74		3.22		0.109	pCi/g	97	87 - 120
Cobalt 60	24.5	23.20		2.34		0.0701	pCi/g	95	87 - 115

Lab Sample ID: 160-3585-13 DU

Matrix: Solid

Analysis Batch: 75044

Client Sample ID: L050147TRS00

Prep Type: Total/NA

Prep Batch: 70785

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Actinium 228	0.190		0.1477		0.0460		0.0634	pCi/g	0.43	1
Bismuth 212	0.235		0.1692	U	0.147		0.229	pCi/g	0.22	1
Bismuth 214	0.444		0.4597		0.0690		0.0302	pCi/g	0.11	1
Lead 212	0.162		0.1517		0.0316		0.0285	pCi/g	0.16	1
Lead 214	0.467		0.4864		0.0720		0.0507	pCi/g	0.14	1
Potassium 40	6.92		7.552		0.959		0.188	pCi/g	0.34	1
Protactinium 231	0.0964	U	0.07967	U	0.115		0.497	pCi/g	0.06	1
Radium 226	0.444		0.4597		0.0690	1.00	0.0302	pCi/g	0.11	1
Thorium 232	0.190		0.1477		0.0460		0.0634	pCi/g	0.43	1
Thorium 234	0.424		0.4659		0.176		0.374	pCi/g	0.13	1
Uranium 235	0.0119	U	0.05491	U	0.0732		0.122	pCi/g	0.29	1
Americium 241	0.00520	U	-0.00079	U	0.0322		0.0547	pCi/g	0.1	1
Protactinium 234m	1.38	U	0.1482	U	1.55		2.87	pCi/g	0.51	1

TestAmerica St. Louis



# QC Association Summary

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

TestAmerica Job ID: 160-3585-2

## Rad

### Leach Batch: 70118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-3585-1	L0501100TUB0	Total/NA	Solid	Dry and Grind	
160-3585-2	L0501101TUB0	Total/NA	Solid	Dry and Grind	
160-3585-3	L0501102TUB0	Total/NA	Solid	Dry and Grind	
160-3585-4	L0501103TUB0	Total/NA	Solid	Dry and Grind	
160-3585-5	L0501104TUB0	Total/NA	Solid	Dry and Grind	
160-3585-6	L0501105TUB0	Total/NA	Solid	Dry and Grind	
160-3585-7	L0501106TUB0	Total/NA	Solid	Dry and Grind	
160-3585-8	L0501107TUB0	Total/NA	Solid	Dry and Grind	
160-3585-9	L0501108TUB0	Total/NA	Solid	Dry and Grind	
160-3585-10	L050198TUB00	Total/NA	Solid	Dry and Grind	
160-3585-11	L050199TUB00	Total/NA	Solid	Dry and Grind	
160-3585-12	L050146TSS00	Total/NA	Solid	Dry and Grind	
160-3585-13	L050147TRS00	Total/NA	Solid	Dry and Grind	
160-3585-13 DU	L050147TRS00	Total/NA	Solid	Dry and Grind	

### Prep Batch: 70785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-3585-1	L0501100TUB0	Total/NA	Solid	Fill_Geo-21	70118
160-3585-2	L0501101TUB0	Total/NA	Solid	Fill_Geo-21	70118
160-3585-3	L0501102TUB0	Total/NA	Solid	Fill_Geo-21	70118
160-3585-4	L0501103TUB0	Total/NA	Solid	Fill_Geo-21	70118
160-3585-5	L0501104TUB0	Total/NA	Solid	Fill_Geo-21	70118
160-3585-6	L0501105TUB0	Total/NA	Solid	Fill_Geo-21	70118
160-3585-7	L0501106TUB0	Total/NA	Solid	Fill_Geo-21	70118
160-3585-8	L0501107TUB0	Total/NA	Solid	Fill_Geo-21	70118
160-3585-9	L0501108TUB0	Total/NA	Solid	Fill_Geo-21	70118
160-3585-10	L050198TUB00	Total/NA	Solid	Fill_Geo-21	70118
160-3585-11	L050199TUB00	Total/NA	Solid	Fill_Geo-21	70118
160-3585-12	L050146TSS00	Total/NA	Solid	Fill_Geo-21	70118
160-3585-13	L050147TRS00	Total/NA	Solid	Fill_Geo-21	70118
160-3585-13 DU	L050147TRS00	Total/NA	Solid	Fill_Geo-21	70118
LCS 160-70785/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-21	
MB 160-70785/1-A	Method Blank	Total/NA	Solid	Fill_Geo-21	