DATA ASSESSMENT

Lab Job No.: 160-6694-1
Laboratory: Test America-St. Louis
Site: Canadian Radium & Uranium (2222)

No. of Samples/Matrix: 6/sediment; 1/aqueous

Analysis: Metals and Mercury

Contractor: SAT 2

The following table summarizes the analytical methods used for the requested analyses and the USEPA Region 2 data validation standard operating procedures (SOPs) used for data validation.

Analysis	Analytical Method	Data Validation SOP No.
Metals	SW-846 Method 6010C	No. HW-2a (Revision 15), December 2012
Mercury	SW-846 Method 7470A	No. HW-2c (Revision 15), December 2012

The following definitions provide brief explanations of the national qualifiers assigned to results during the data review process.

U: The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

J: The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+: The result is an estimated quantity, but the result may be biased high.

J-: The result is an estimated quantity, but the result may be biased low.

R: The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

UJ: The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Reviewer's Signature: Yunru Yang **Date:** 6/2/14

DATA ASSESSMENT

On May 15, 2014, USEPA Region II SAT 2 personnel collected six sediment samples, including one field duplicate, and one rinse blank for metal and mercury analyses from the Canadian Radium & Uranium (2222) site, 105 Kisco Avenue, The Village of Mount Kisco, New York. These samples were shipped under Chain of Custody for the requested analysis to Test America-St. Louis, 13715 Rider Trail North, Earth City, MO. The laboratory verified that samples were received intact, properly sealed, and refrigerated. Sample cooler temperature was recorded at 1.1°C and 1.3°C.

Field Sample ID	Lab Sample ID	Matrix	Analysis	Sampling Date
2222-SD01	160-6694-1	Sediment	Metals, Mercury	5/15/2014
2222-SD02	160-6694-2	Sediment	Metals, Mercury	5/15/2014
2222-SD03	160-6694-3	Sediment	Metals, Mercury	5/15/2014
2222-SD04	160-6694-4	Sediment	Metals, Mercury	5/15/2014
2222-SD05	160-6694-5	Sediment	Metals, Mercury	5/15/2014
2222-SD06*	160-6694-6	Sediment	Metals, Mercury	5/15/2014
2222-RIN-01	160-6694-7	Aqueous	Metals, Mercury	5/15/2014

* A field duplicate of 2222-SD03

The following quality control (QC) parameters were evaluated. However, only data qualifications warranted by a specific QC non-conformance are summarized in this Data Assessment Report.

- Sample Receipt Conditions
- Preservation and Holding Times
- Calibration
- Initial and Continuing Calibration Verification
- Initial and Continuing Calibration Blanks
- Preparation Blanks
- Inductively Coupled Plasma (ICP) Interference Check
- Contract Required Quantitation Limit Check
- Linear Range Check
- Matrix Spike (MS) Recovery
- Laboratory Duplicate Analysis
- Laboratory Control Sample (LCS)
- ICP Serial Dilution
- Field Duplicate
- Field/Rinse Blank

Metals

Calibration Blanks

Trace levels of lead were detected in initial calibration blank (ICV) and all continuing calibration blanks (CCBs) associated with field rinse blank and sediment sample analyses. Since lead was not detected in the field rinse blank and lead concentrations in all sediment samples were greater than reporting limits, no action was required.

DATA ASSESSMENT

Trace levels of cadmium were detected in sample 2222-SD01 and its associated CCB. The presence of cadmium in sample 222-SD01 was qualified as non-detect (U) because its concentration was similar to that in the CCB.

Preparation Blank

Trace level of zinc was detected in the preparation blank associated with the sediment samples. Since zinc concentrations in all sediment samples were greater than reporting limits and greater than 10 times the blank concentration, no action was required.

Matrix Spike/Matrix Spike Duplicate

Sample 2222-SD01 was used for matrix spike (MS) and matrix spike duplicate (MSD) analyses for metals except for mercury. The recoveries of aluminum, calcium, iron, and magnesium were outside the control limits of 75% to 125%; however, since their concentrations in sample 2222-SD01 were greater than four times the spiked concentrations, no action was required.

The antimony and barium recoveries were <75% but >30%; antimony and barium results were estimated (J/UJ) in all sediment samples for potential low bias.

Instead of a sample duplicate analysis, the lab analyzed a matrix spike duplicate. The relative percent differences (RPD) between the MS and MSD concentrations were less than 30% for all analytes; no action was required.

Field Duplicate

Sample 2222-SD06 is field duplicate of 2222-SD03. The calcium results were estimated (J) in both samples for its RPD >50%.

Rinse Blank

Trace level of zinc was detected in rinse blank 2222-RIN-01. The zinc concentrations in all sediment samples were greater than 10 times the rinse blank concentration; no action was required.

Mercury

All QCs were within control limits. Data qualifications were not required.

Others

The solid content of sample 2222-SD04 was <50%; all results were estimated (J/UJ).

CASE NARRATIVE

Client: Weston Solutions, Inc.

Project: EPA Region 5 START 3 Contract

Report Number: 160-6694-1

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."

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

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

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

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

RECEIPT
The samples were received on 5/16/2014 6:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.1° C and 1.3° C.

TOTAL METALS (ICP)
Samples 2222-SD01 (160-6694-1), 2222-SD02 (160-6694-2), 2222-SD03 (160-6694-3), 2222-SD04 (160-6694-4), 2222-SD05 (160-6694-5) and 2222-SD06 (160-6694-6) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 05/19/2014 and analyzed on 05/22/2014.

Analytical Batch 123642
The following sample(s) was diluted due to the presence of iron which interferes with arsenic, chromium, lead, antimony, selenium, zinc. : (160-6694-1 MS), (160-6694-1 MSD), (160-6694-1 SD), 2222-SD01 (160-6694-1), 2222-SD02 (160-6694-2), 2222-SD03 (160-6694-3), 2222-SD04 (160-6694-4), 2222-SD05 (160-6694-5), 2222-SD06 (160-6694-6). Elevated reporting limits (RLs) are provided.

Zinc was detected in method blank MB 160-122752/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged.

The matrix spike and/or matrix spike duplicate (MS/MSD) recoveries for calcium, antimony, and barium were outside control limits. Sample matrix interference are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Due to the high concentration of aluminum, iron, calcium, and magnesium the matrix spike / matrix spike duplicate (MS/MSD) could not be evaluated for accuracy and precision. The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. The associated laboratory control sample (LCS) met acceptance criteria.

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

TOTAL METALS (ICP)
Sample 2222-RIN-01 (160-6694-7) was analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 05/19/2014 and analyzed on 05/22/2014.

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

TOTAL MERCURY
Sample 2222-RIN-01 (160-6694-7) was analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 05/22/2014 and analyzed on 05/27/2014.

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

MERCURY
Samples 2222-SD01 (160-6694-1), 2222-SD02 (160-6694-2), 2222-SD03 (160-6694-3), 2222-SD04 (160-6694-4), 2222-SD05 (160-6694-5) and 2222-SD06 (160-6694-6) were analyzed for mercury in accordance with EPA SW-846 Method 7471B. The samples were prepared on 05/27/2014 and analyzed on 05/28/2014.

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

PERCENT SOLIDS
Samples 2222-SD01 (160-6694-1), 2222-SD02 (160-6694-2), 2222-SD03 (160-6694-3), 2222-SD04 (160-6694-4), 2222-SD05 (160-6694-5) and 2222-SD06 (160-6694-6) were analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 05/17/2014.

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

TOTAL ALPHA RADIUM (GFPC)
Sample 2222-RIN-01 (160-6694-7) was analyzed for Total Alpha Radium (GFPC) in accordance with SW-846 Method 9315. The samples were prepared on 05/19/2014 and analyzed on 05/21/2014.

Insufficient volume of sample 2222-RIN-01 (160-6694-7) was available to perform a sample duplicate associated with total alpha radium batch 122912. A LCSD was performed.

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

RADIUM-228 (GFPC)
Sample 2222-RIN-01 (160-6694-7) was analyzed for Radium-228 (GFPC) in accordance with SW-846 Method 9320. The samples were prepared on 05/19/2014 and analyzed on 05/23/2014.

Insufficient volume of sample 2222-RIN-01 (160-6694-7) was available to perform a sample duplicate associated with radium-228 batch 122913. A LCSD was performed.

The barium carrier recovery was outside the upper control limit of 110% (114%). The blank activity is less than the MDC. The LCS/LCSD recoveries are within limits and all other carrier recoveries are acceptable. The laboratory believes this anomaly to be isolated to the blank and not indicative of the batch.

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

ISOTOPIC THORIUM (ALPHA SPECTROMETRY)
Samples 2222-SD01 (160-6694-1), 2222-SD02 (160-6694-2), 2222-SD03 (160-6694-3), 2222-SD04 (160-6694-4), 2222-SD05 (160-6694-5) and 2222-SD06 (160-6694-6) were analyzed for Isotopic Thorium (Alpha Spectrometry) in accordance with DOE A01R_Th. The samples were dried on 05/19/2014, prepared on 05/21/2014 and analyzed on 05/23/2014.

Samples contain rocks and are not homogeneous. Possible matrix interference: 2222-SD01 (160-6694-1), 2222-SD02 (160-6694-2), 2222-SD03 (160-6694-3), 2222-SD04 (160-6694-4), 2222-SD05 (160-6694-5), 2222-SD06 (160-6694-6).

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

ISOTOPIC THORIUM (ALPHA SPECTROMETRY)
Sample 2222-RIN-01 (160-6694-7) was analyzed for Isotopic Thorium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 05/20/2014 and analyzed on 05/21/2014.

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

ISOTOPIC URANIUM (ALPHA SPECTROMETRY)
Samples 2222-SD01 (160-6694-1), 2222-SD02 (160-6694-2), 2222-SD03 (160-6694-3), 2222-SD04 (160-6694-4), 2222-SD05 (160-6694-5) and 2222-SD06 (160-6694-6) were analyzed for Isotopic Uranium (Alpha Spectrometry) in accordance with DOE. The samples were dried on 05/19/2014, prepared on 05/21/2014 and analyzed on 05/23/2014.

Samples contain rocks and are not homogeneous. Possible matrix interference: 2222-SD01 (160-6694-1), 2222-SD02 (160-6694-2), 2222-SD03 (160-6694-3), 2222-SD04 (160-6694-4), 2222-SD05 (160-6694-5), 2222-SD06 (160-6694-6).

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

ISOTOPIC URANIUM (ALPHA SPECTROMETRY)
Sample 2222-RIN-01 (160-6694-7) was analyzed for Isotopic Uranium (Alpha Spectrometry) in accordance with DOE. The samples were prepared on 05/20/2014 and analyzed on 05/21/2014.

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

CESIUM-137 & OTHER GAMMA EMITTERS (GS)
Sample 2222-RIN-01 (160-6694-7) was analyzed for Cesium-137 & Other Gamma Emitters (GS) in accordance with DOE. The samples were prepared on 05/19/2014 and analyzed on 05/20/2014.

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

RADIUM 226 (NO INGROWTH)
Samples 2222-SD01 (160-6694-1), 2222-SD02 (160-6694-2), 2222-SD03 (160-6694-3), 2222-SD04 (160-6694-4), 2222-SD05 (160-6694-5) and 2222-SD06 (160-6694-6) were analyzed for Radium 226 (No ingrowth) in accordance with GA-01-R. The samples were dried on 05/19/2014, and prepared and analyzed on 05/21/2014.

Radium-226 by gamma spectroscopy is typically determined by inference from daughters (e.g. bismuth-214) after sealing the sample in an appropriate counting geometry/container and waiting 21 days to allow the radium-226 decay chain through radon-222 to reach secular equilibrium. Such an approach is considered to be the most reliable and representative means for establishing the true radium-226 concentration in the sample. The method requested by the client to report radium-226, using its own 186 keV gamma-ray emission, is subject to interference and potential bias due to the 185.7 keV uranium-235 gamma ray. Experience also indicates gamma spectroscopy software does not consistently assign accurate peak areas to radium-226 (186 keV), with the problem compounded by slight drift of the instrumentation. The laboratory considers radium-226 reported based upon the 186 keV gamma-ray emission to be best used by the client in a qualitative fashion.

The reporting limit for radium-226 analyzed by gamma spectroscopy was not met. The data is reported: (160-6694-1 DU), (MB 160-123290/1-A), 2222-SD01 (160-6694-1), 2222-SD02 (160-6694-2), 2222-SD03 (160-6694-3), 2222-SD04 (160-6694-4), 2222-SD05 (160-6694-5), 2222-SD06 (160-6694-6).

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

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 2222-SD01 Lab Sample ID: 160-6694-1

Lab Name: TestAmerica St. Louis Job No.: 160-6694-1

SDG ID.:

Matrix: Solid Date Sampled: 05/15/2014 08:25

Reporting Basis: DRY Date Received: 05/16/2014 06:45

% Solids: 72.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	10000	270	57	mg/Kg			10	6010C
7440-36-0	Antimony	4.1	13	4.1	mg/Kg	U	J	10	6010C
7440-38-2	Arsenic	4.2	13	3.1	mg/Kg	J		10	6010C
7440-39-3	Barium	150	66	1.5	mg/Kg		J	10	6010C
7440-41-7	Beryllium	1.0	6.6	1.0	mg/Kg	U		10	6010C
7440-43-9	Cadmium	0.80	6.6	0.45	mg/Kg	J → U		10	6010C
7440-70-2	Calcium	5200	3300	89	mg/Kg			10	6010C
7440-47-3	Chromium	44	13	1.8	mg/Kg			10	6010C
7440-48-4	Cobalt	10	66	1.9	mg/Kg	J		10	6010C
7440-50-8	Copper	41	33	3.3	mg/Kg			10	6010C
7439-89-6	Iron	16000	130	26	mg/Kg			10	6010C
7439-92-1	Lead	120	13	1.7	mg/Kg			10	6010C
7439-95-4	Magnesium	5000	1300	42	mg/Kg			10	6010C
7439-96-5	Manganese	220	13	1.1	mg/Kg			10	6010C
7440-02-0	Nickel	20	53	1.5	mg/Kg	J		10	6010C
7440-09-7	Potassium	1100	6600	960	mg/Kg	J		10	6010C
7782-49-2	Selenium	2.7	20	2.7	mg/Kg	U		10	6010C
7440-22-4	Silver	0.93	13	0.93	mg/Kg	U		10	6010C
7440-23-5	Sodium	150	1300	100	mg/Kg	J		10	6010C
7440-28-0	Thallium	2.5	27	2.5	mg/Kg	U		10	6010C
7440-62-2	Vanadium	24	66	6.7	mg/Kg	J		10	6010C
7440-66-6	Zinc	170	66	7.5	mg/Kg		B	10	6010C
7439-97-6	Mercury	0.097	0.041	0.014	mg/Kg			1	7471B

44 6/2/14

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 2222-SD02 | Lab Sample ID: 160-6694-2

Lab Name: TestAmerica St. Louis | Job No.: 160-6694-1

SDG ID.:

Matrix: Solid | Date Sampled: 05/15/2014 09:45

Reporting Basis: DRY | Date Received: 05/16/2014 06:45

% Solids: 71.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	5000	240	51	mg/Kg			10	6010C
7440-36-0	Antimony	3.7	12	3.7	mg/Kg	U	J	10	6010C
7440-38-2	Arsenic	2.8	12	2.8	mg/Kg	U		10	6010C
7440-39-3	Barium	41	60	1.3	mg/Kg	J		10	6010C
7440-41-7	Beryllium	0.89	6.0	0.89	mg/Kg	U		10	6010C
7440-43-9	Cadmium	0.40	6.0	0.40	mg/Kg	U		10	6010C
7440-70-2	Calcium	26000	3000	80	mg/Kg			10	6010C
7440-47-3	Chromium	26	12	1.6	mg/Kg			10	6010C
7440-48-4	Cobalt	8.3	60	1.7	mg/Kg	J		10	6010C
7440-50-8	Copper	42	30	2.9	mg/Kg			10	6010C
7439-89-6	Iron	12000	120	24	mg/Kg			10	6010C
7439-92-1	Lead	71	12	1.5	mg/Kg			10	6010C
7439-95-4	Magnesium	10000	1200	38	mg/Kg			10	6010C
7439-96-5	Manganese	150	12	0.95	mg/Kg			10	6010C
7440-02-0	Nickel	16	48	1.4	mg/Kg	J		10	6010C
7440-09-7	Potassium	1000	6000	860	mg/Kg	J		10	6010C
7782-49-2	Selenium	2.5	18	2.5	mg/Kg	U		10	6010C
7440-22-4	Silver	0.83	12	0.83	mg/Kg	U		10	6010C
7440-23-5	Sodium	140	1200	91	mg/Kg	J		10	6010C
7440-28-0	Thallium	2.3	24	2.3	mg/Kg	U		10	6010C
7440-62-2	Vanadium	14	60	6.0	mg/Kg	J		10	6010C
7440-66-6	Zinc	140	60	6.7	mg/Kg		F	10	6010C
7439-97-6	Mercury	0.043	0.050	0.017	mg/Kg	J		1	7471B

YY 6/2/14

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 2222-SD03 Lab Sample ID: 160-6694-3

Lab Name: TestAmerica St. Louis Job No.: 160-6694-1

SDG ID.:

Matrix: Solid Date Sampled: 05/15/2014 08:50

Reporting Basis: DRY Date Received: 05/16/2014 06:45

% Solids: 52.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	11000	350	76	mg/Kg			10	6010C
7440-36-0	Antimony	5.7	18	5.5	mg/Kg	J		10	6010C
7440-38-2	Arsenic	5.7	18	4.2	mg/Kg	J		10	6010C
7440-39-3	Barium	100	89	1.9	mg/Kg		J	10	6010C
7440-41-7	Beryllium	1.3	8.9	1.3	mg/Kg	U		10	6010C
7440-43-9	Cadmium	1.2	8.9	0.60	mg/Kg	J		10	6010C
7440-70-2	Calcium	17000	4400	120	mg/Kg		J	10	6010C
7440-47-3	Chromium	610	18	2.4	mg/Kg			10	6010C
7440-48-4	Cobalt	16	89	2.6	mg/Kg	J		10	6010C
7440-50-8	Copper	140	44	4.3	mg/Kg			10	6010C
7439-89-6	Iron	23000	180	35	mg/Kg			10	6010C
7439-92-1	Lead	290	18	2.3	mg/Kg			10	6010C
7439-95-4	Magnesium	7900	1800	56	mg/Kg			10	6010C
7439-96-5	Manganese	300	18	1.4	mg/Kg			10	6010C
7440-02-0	Nickel	40	71	2.1	mg/Kg	J		10	6010C
7440-09-7	Potassium	1800	8900	1300	mg/Kg	J		10	6010C
7782-49-2	Selenium	3.7	27	3.7	mg/Kg	U		10	6010C
7440-22-4	Silver	1.2	18	1.2	mg/Kg	U		10	6010C
7440-23-5	Sodium	180	1800	140	mg/Kg	J		10	6010C
7440-28-0	Thallium	3.4	35	3.4	mg/Kg	U		10	6010C
7440-62-2	Vanadium	33	89	9.0	mg/Kg	J		10	6010C
7440-66-6	Zinc	430	89	10	mg/Kg		B	10	6010C
7439-97-6	Mercury	0.18	0.061	0.020	mg/Kg			1	7471B

YY 6/2/14

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 2222-SD04 Lab Sample ID: 160-6694-4

Lab Name: TestAmerica St. Louis Job No.: 160-6694-1

SDG ID.:

Matrix: Solid Date Sampled: 05/15/2014 09:05

Reporting Basis: DRY Date Received: 05/16/2014 06:45

% Solids: 28.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	9100	690	150	mg/Kg		J	10	6010C
7440-36-0	Antimony	11	35	11	mg/Kg	U	J	10	6010C
7440-38-2	Arsenic	26	35	8.2	mg/Kg	J		10	6010C
7440-39-3	Barium	100	170	3.8	mg/Kg	J		10	6010C
7440-41-7	Beryllium	2.6	17	2.6	mg/Kg	U	J	10	6010C
7440-43-9	Cadmium	3.5	17	1.2	mg/Kg	J		10	6010C
7440-70-2	Calcium	17000	8600	230	mg/Kg		J	10	6010C
7440-47-3	Chromium	70	35	4.8	mg/Kg		J	10	6010C
7440-48-4	Cobalt	19	170	5.0	mg/Kg	J		10	6010C
7440-50-8	Copper	210	86	8.5	mg/Kg		J	10	6010C
7439-89-6	Iron	28000	350	69	mg/Kg			10	6010C
7439-92-1	Lead	520	35	4.5	mg/Kg			10	6010C
7439-95-4	Magnesium	7000	3500	110	mg/Kg			10	6010C
7439-96-5	Manganese	320	35	2.8	mg/Kg			10	6010C
7440-02-0	Nickel	58	140	4.0	mg/Kg	J		10	6010C
7440-09-7	Potassium	2500	17000	2500	mg/Kg	U	J	10	6010C
7782-49-2	Selenium	7.1	52	7.1	mg/Kg	U		10	6010C
7440-22-4	Silver	2.4	35	2.4	mg/Kg	U		10	6010C
7440-23-5	Sodium	900	3500	260	mg/Kg	J		10	6010C
7440-28-0	Thallium	6.6	69	6.6	mg/Kg	U	J	10	6010C
7440-62-2	Vanadium	23	170	18	mg/Kg	J		10	6010C
7440-66-6	Zinc	760	170	19	mg/Kg		B J	10	6010C
7439-97-6	Mercury	0.045	0.10	0.035	mg/Kg	J		1	7471B

YY 6/2/14

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 2222-SD05 Lab Sample ID: 160-6694-5

Lab Name: TestAmerica St. Louis Job No.: 160-6694-1

SDG ID.:

Matrix: Solid Date Sampled: 05/15/2014 09:15

Reporting Basis: DRY Date Received: 05/16/2014 06:45

% Solids: 76.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	4200	260	55	mg/Kg			10	6010C
7440-36-0	Antimony	4.0	13	4.0	mg/Kg	U	J	10	6010C
7440-38-2	Arsenic	3.1	13	3.1	mg/Kg	U		10	6010C
7440-39-3	Barium	16	65	1.4	mg/Kg	J		10	6010C
7440-41-7	Beryllium	0.97	6.5	0.97	mg/Kg	U		10	6010C
7440-43-9	Cadmium	0.44	6.5	0.44	mg/Kg	U		10	6010C
7440-70-2	Calcium	16000	3200	87	mg/Kg			10	6010C
7440-47-3	Chromium	18	13	1.8	mg/Kg			10	6010C
7440-48-4	Cobalt	9.0	65	1.9	mg/Kg	J		10	6010C
7440-50-8	Copper	38	32	3.2	mg/Kg			10	6010C
7439-89-6	Iron	15000	130	26	mg/Kg			10	6010C
7439-92-1	Lead	42	13	1.7	mg/Kg			10	6010C
7439-95-4	Magnesium	6500	1300	41	mg/Kg			10	6010C
7439-96-5	Manganese	130	13	1.0	mg/Kg			10	6010C
7440-02-0	Nickel	17	52	1.5	mg/Kg	J		10	6010C
7440-09-7	Potassium	940	6500	940	mg/Kg	U		10	6010C
7782-49-2	Selenium	2.7	19	2.7	mg/Kg	U		10	6010C
7440-22-4	Silver	0.91	13	0.91	mg/Kg	U		10	6010C
7440-23-5	Sodium	110	1300	99	mg/Kg	J		10	6010C
7440-28-0	Thallium	2.5	26	2.5	mg/Kg	U		10	6010C
7440-62-2	Vanadium	13	65	6.6	mg/Kg	J		10	6010C
7440-66-6	Zinc	130	65	7.3	mg/Kg		B	10	6010C
7439-97-6	Mercury	0.11	0.038	0.013	mg/Kg			1	7471B

YY 6/2/14

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 2222-SD06 Lab Sample ID: 160-6694-6

Lab Name: TestAmerica St. Louis Job No.: 160-6694-1

SDG ID.:

Matrix: Solid Date Sampled: 05/15/2014 08:45

Reporting Basis: DRY Date Received: 05/16/2014 06:45

% Solids: 54.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	10000	310	66	mg/Kg			10	6010C
7440-36-0	Antimony	5.3	15	4.8	mg/Kg	J		10	6010C
7440-38-2	Arsenic	5.6	15	3.6	mg/Kg	J		10	6010C
7440-39-3	Barium	99	77	1.7	mg/Kg		J	10	6010C
7440-41-7	Beryllium	1.2	7.7	1.2	mg/Kg	U		10	6010C
7440-43-9	Cadmium	2.0	7.7	0.53	mg/Kg	J		10	6010C
7440-70-2	Calcium	29000	3900	100	mg/Kg		J	10	6010C
7440-47-3	Chromium	510	15	2.1	mg/Kg			10	6010C
7440-48-4	Cobalt	18	77	2.2	mg/Kg	J		10	6010C
7440-50-8	Copper	180	39	3.8	mg/Kg			10	6010C
7439-89-6	Iron	22000	150	31	mg/Kg			10	6010C
7439-92-1	Lead	390	15	2.0	mg/Kg			10	6010C
7439-95-4	Magnesium	8500	1500	49	mg/Kg			10	6010C
7439-96-5	Manganese	260	15	1.2	mg/Kg			10	6010C
7440-02-0	Nickel	38	62	1.8	mg/Kg	J		10	6010C
7440-09-7	Potassium	1600	7700	1100	mg/Kg	J		10	6010C
7782-49-2	Selenium	3.2	23	3.2	mg/Kg	U		10	6010C
7440-22-4	Silver	1.1	15	1.1	mg/Kg	U		10	6010C
7440-23-5	Sodium	170	1500	120	mg/Kg	J		10	6010C
7440-28-0	Thallium	2.9	31	2.9	mg/Kg	U		10	6010C
7440-62-2	Vanadium	31	77	7.8	mg/Kg	J		10	6010C
7440-66-6	Zinc	550	77	8.7	mg/Kg		B	10	6010C
7439-97-6	Mercury	0.24	0.056	0.019	mg/Kg			1	7471B

YY 6/2/14

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 2222-RIN-01 Lab Sample ID: 160-6694-7

Lab Name: TestAmerica St. Louis Job No.: 160-6694-1

SDG ID.:

Matrix: Water Date Sampled: 05/15/2014 08:10

Reporting Basis: WET Date Received: 05/16/2014 06:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	22	200	22	ug/L	U		1	6010C
7440-36-0	Antimony	3.7	10	3.7	ug/L	U		1	6010C
7440-38-2	Arsenic	1.8	10	1.8	ug/L	U		1	6010C
7440-39-3	Barium	2.1	50	2.1	ug/L	U		1	6010C
7440-41-7	Beryllium	0.28	5.0	0.28	ug/L	U		1	6010C
7440-43-9	Cadmium	0.34	5.0	0.34	ug/L	U		1	6010C
7440-70-2	Calcium	54	1000	54	ug/L	U		1	6010C
7440-47-3	Chromium	3.4	10	3.4	ug/L	U		1	6010C
7440-48-4	Cobalt	2.7	50	2.7	ug/L	U		1	6010C
7440-50-8	Copper	2.1	25	2.1	ug/L	U		1	6010C
7439-89-6	Iron	13	100	13	ug/L	U		1	6010C
7439-92-1	Lead	0.60	10	0.60	ug/L	U		1	6010C
7439-95-4	Magnesium	51	1000	51	ug/L	U		1	6010C
7439-96-5	Manganese	1.0	15	1.0	ug/L	U		1	6010C
7440-02-0	Nickel	2.6	40	2.6	ug/L	U		1	6010C
7440-09-7	Potassium	460	5000	460	ug/L	U		1	6010C
7782-49-2	Selenium	2.1	15	2.1	ug/L	U		1	6010C
7440-22-4	Silver	0.99	10	0.99	ug/L	U		1	6010C
7440-23-5	Sodium	110	1000	110	ug/L	U		1	6010C
7440-28-0	Thallium	2.4	20	2.4	ug/L	U		1	6010C
7440-62-2	Vanadium	4.4	50	4.4	ug/L	U		1	6010C
7440-66-6	Zinc	9.2	20	8.3	ug/L	J		1	6010C
7439-97-6	Mercury	0.060	0.20	0.060	ug/L	U		1	7470A

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