

November 12, 2015

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: 160-14712-1

TestAmerica Sample Delivery Group: SL1990
Client Project/Site: X15-052

For:

CH2M Hill Plateau Remediation Company
PO BOX 1600, MS H8-41
Richland, Washington 99352

Attn: Mr. Scot Fitzgerald



Authorized for release by:
11/12/2015 4:53:36 PM

Jayna Awalt, Project Manager II
(314)298-8566

jayna.awalt@testamericainc.com

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

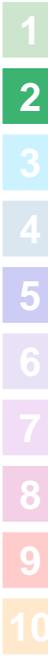


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Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-052

TestAmerica Job ID: 160-14712-1
SDG: SL1990

Job ID: 160-14712-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
November 12, 2015
Attention: Scot Fitzgerald

SDG : SL1990
Number of Samples : 1 sample
Sample Matrix : Water
Data Deliverable : Summary
Date SDG Closed : November 7, 2015

II. Introduction

On November 7, 1 sample was received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and receipt checklists for documentation of any variations on receipt conditions and temperature. Upon receipt, samples were given laboratory Ids to correspond with specific client Ids. Please refer to the Sample Summary sheets attached to this case narrative. This report is incomplete without the narrative.

The following SAFs are associated with this SDG: X15-052

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix QC were analyzed with an LCS/LCS duplicate.

Note: For Metals analyses, per standard practice, all 6020 water and soil samples are initially prepared at 2x dilution. This standard dilution does not affect reporting limits as MDL studies are also prepared in the same manner. These dilutions do not necessitate flagging unless otherwise noted in the case narrative.

For Anion analysis, samples have been started at a 2x dilution per CHPRC direction. The samples are flagged accordingly with a "D" flag if sample concentration is above the MDL/RL. Non-conformance will be included in the below section only if dilution is greater than 2x.

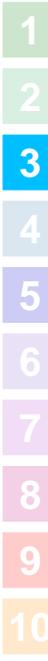
For WTPH methods, the lab utilizes method 8015B. Per CHPRC direction, the method name in the electronic data has been modified to read WTPH in the place of 8015B.

Per CHPRC direction (June 2014), Boron will be reported for Metals using method 6010. Boron will no longer be reported by method 6020.

Per CHPRC direction, due to the short hold times for Nitrate, Nitrite and Phosphate by IC (48 hours) as well as pH analysis (24 hours), a SIR request is not needed when samples are run outside 1x hold but within 2x hold. A narrative comment will be included below if a sample is run outside the lab-specified hold time for waters.

Per CHPRC direction, data for pH analysis will be reported outside 1x 24 hour hold time due to this being a field parameter.

IV. Definitions



Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-052TestAmerica Job ID: 160-14712-1
SDG: SL1990**Job ID: 160-14712-1 (Continued)****Laboratory: TestAmerica St. Louis (Continued)**

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike
DUP- Laboratory Duplicate
MS- Matrix Spike
MSD- Matrix Spike Duplicate

The term "Detection Limit" used in the analytical data report refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

The following data qualifiers may be applicable to the results in this report, as appropriate.

- **B** - For inorganic analyses, the sample result is greater than the MDL but less than the RL.
- **B** - For organic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **J** - For organic analyses, the sample is estimated and less than the RL.
- **C** - For inorganic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **D** - For all analyses, the sample result was obtained from the analysis of a dilution. For Metals analyses, per standard practice, all solid samples are initially prepared at a 2x dilution. This standard dilution does not affect reporting limits as MDL studies are also prepared in the same manner. These dilutions do not necessitate qualification unless otherwise noted in the case narrative.
- **N** - For inorganics and GC analyses, the spike/spike duplicate recoveries are outside QC limits.
- **T** - For GCMS analyses, the spike/spike duplicate recoveries are outside QC limits.
- **O** - For all analyses, the LCS (LCSD) recoveries are outside QC limits.
- **M** - For inorganic analyses, the precision was outside control limits.
- **P** - For organic analyses (PCB/Pests only), the aroclor target analyte has greater than 25% difference for detected concentrations between the two GC columns.

ICPMS Metals**Batch: 221615**

Aluminum was detected in method blank MB 160-221161/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "B". If the associated sample reported a result above the MDL and/or RL and is not greater than 5x the method blank, the result has been flagged "C".

Due to LRC (Linear Range Check) failures, the linear range for beryllium has been lowered to the concentration of the highest calibration standard (200ppb) in the samples. The LCS and MS/MSD were above the LRC for this analyte, but were within acceptable recovery limits so data was not adversely affected. (LCS 160-221161/2-A), (160-14712-A-1-B MS) and (160-14712-A-1-C MSD)

The continuing calibration verification (CCV) associated with analytical batch 160-221615 recovered above the upper control limit for arsenic, beryllium, and antimony. The samples associated with this CCV were not detected above the reporting limit for the affected analytes; therefore, the data has been reported. The following samples are impacted: (CCV 160-221615/18) and (CCV 160-221615/27).

We certify that this data package is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager or designee and the laboratory's client services representative as verified by their signature on this report.

Reviewed and approved:

Jayna Awalt
St. Louis Project Manager

Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-052

TestAmerica Job ID: 160-14712-1
SDG: SL1990

Job ID: 160-14712-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-14712-1

SDG Number: SL1990

Login Number: 14712

List Number: 1

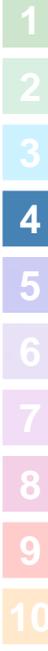
Creator: Clarke, Jill C

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.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.50°
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 <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

CH2M Hill Plateau Remediation Company SL1990		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST C.O.C.# X15-052-012 Page 1 of 1	
Collector: WM. WISECHPRC SAF No.: X15-052 Project Title: 200-BP-5 Treatability Test - Week 2 Shipped To (Lab): TestAmerica St. Louis Protocol: CERCLA	Contact/Requester: WATERS-HUSTED, K Sampling Origin: Hanford Site Logbook No.: HNF-N-506 80/19 Method of Shipment: Commercial Carrier Priority: 3 Days SPECIAL INSTRUCTIONS: PRIORITY N/A	Telephone No.: 376-4650 Purchase Order/Charge Code: 302869 Ice Chest No.: 605-343 Bill of Lading/Air Bill No.: 774923696731 Offsite Property No.: N/A	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
POSSIBLE SAMPLE HAZARDS/REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	Hold Time:	Holding Time:	Preservative:
Sample No.: B32J84	No/Type Container: 1x500-mL G/P	Sample Analysis: 6020_METALS_ICPMS: Uranium (1); 6020_METALS_ICPMS: GW 01	Holding Time: 6 Months Preservative: HNO3 to pH <2

Relinquished By: WM. WISECHPRC Relinquished By: SSU-1	Print: <i>[Signature]</i> Sign:	Date/Time: NOV 05 2015 1500	Received By: SSU-1	Print:	Sign:	Date/Time: NOV 05 2015 1500	Matrix* S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By: L.D. Wall CHPRC	Print: <i>[Signature]</i> Sign:	Date/Time: NOV 06 2015 1025	Received By: L.D. Wall CHPRC	Print: <i>[Signature]</i> Sign:	Date/Time: NOV 06 2015 1025	Date/Time: NOV 06 2015 1025	
Relinquished By: L.D. Wall CHPRC	Print: <i>[Signature]</i> Sign:	Date/Time: NOV 06 2015 1400	Received By: FEDEX	Print:	Sign:	Date/Time: NOV 06 2015 1400	
Relinquished By: FEDEX	Print: <i>[Signature]</i> Sign:	Date/Time: NOV 06 2015 1400	Received By: Jill Clark	Print: <i>[Signature]</i> Sign:	Date/Time: 11-7-15	Date/Time: 0835	Disposed By:
Disposal Method (e.g., Return to customer, per lab procedure, used in process)							Date/Time:





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774923696731

Ship date

Fri 11/06/2015

Actual delivery

Sat 11/07/2015 8:28 am

RICHLAND, WA US

Delivered

Signed for by: C. CLARK

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 11/07/2015 - Saturday		
8:28 am	Delivered	EARTH CITY, MO
8:00 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:34 am	At local FedEx facility	EARTH CITY, MO
5:30 am	At destination sort facility	BERKELEY, MO
4:44 am	Departed FedEx location	MEMPHIS, TN
12:33 am	Arrived at FedEx location	MEMPHIS, TN
- 11/06/2015 - Friday		
5:01 pm	Left FedEx origin facility	PASCO, WA
3:41 pm	Shipment information sent to FedEx	
3:23 pm	Picked up	PASCO, WA

Shipment Facts

Tracking number	774923696731	Service	FedEx Priority Overnight
Weight	83 lbs / 37.65 kgs	Delivered To	Shipping/Receiving
Total pieces	1	Total shipment weight	83 lbs / 37.65 kgs
Shipper reference	gws-343	Packaging	Your Packaging
Special handling section	For Saturday Delivery		



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Qualifiers

Metals

Qualifier	Qualifier Description
B	Estimated result. Result is less than the RL, but greater than MDL
C	The analyte was detected in both the sample and the associated QC blank, and the sample concentration was \leq 5X the blank concentration.
U	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
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)



Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-052

TestAmerica Job ID: 160-14712-1
SDG: SL1990

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL SL

Protocol References:

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

Laboratory References:

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



Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-052

TestAmerica Job ID: 160-14712-1
SDG: SL1990

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-14712-1	B32J84	Water	11/05/15 11:45	11/07/15 08:35

- 1
- 2
- 3
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- 8
- 9
- 10

November 12, 2015
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: X15-052

TestAmerica Job ID: 160-14712-1
 SDG: SL1990

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B32J84
Date Collected: 11/05/15 11:45
Date Received: 11/07/15 08:35

Lab Sample ID: 160-14712-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	18.5	B C	50.0	17.3	ug/L		11/10/15 15:41	11/11/15 19:46	2
Uranium	118		1.0	0.23	ug/L		11/10/15 15:41	11/11/15 19:46	2
Antimony	1.7	U	5.0	1.7	ug/L		11/10/15 15:41	11/11/15 19:46	2
Arsenic	6.0	B	10.0	1.2	ug/L		11/10/15 15:41	11/11/15 19:46	2
Barium	114		2.0	0.22	ug/L		11/10/15 15:41	11/11/15 19:46	2
Beryllium	0.35	U	0.50	0.35	ug/L		11/10/15 15:41	11/11/15 19:46	2
Cadmium	0.12	B	0.50	0.10	ug/L		11/10/15 15:41	11/11/15 19:46	2
Chromium	8.4	B	10.0	1.0	ug/L		11/10/15 15:41	11/11/15 19:46	2
Cobalt	0.60	B	2.0	0.22	ug/L		11/10/15 15:41	11/11/15 19:46	2
Copper	0.68	U	1.0	0.68	ug/L		11/10/15 15:41	11/11/15 19:46	2
Lead	0.17	U	3.0	0.17	ug/L		11/10/15 15:41	11/11/15 19:46	2
Manganese	0.88	U	2.0	0.88	ug/L		11/10/15 15:41	11/11/15 19:46	2
Molybdenum	4.7	B	5.0	1.0	ug/L		11/10/15 15:41	11/11/15 19:46	2
Nickel	0.80	U	5.0	0.80	ug/L		11/10/15 15:41	11/11/15 19:46	2
Selenium	9.3		5.0	1.6	ug/L		11/10/15 15:41	11/11/15 19:46	2
Silver	0.82	U	2.0	0.82	ug/L		11/10/15 15:41	11/11/15 19:46	2
Strontium	643		5.0	0.060	ug/L		11/10/15 15:41	11/11/15 19:46	2
Thallium	0.55	U	2.0	0.55	ug/L		11/10/15 15:41	11/11/15 19:46	2
Thorium	0.55	U	2.0	0.55	ug/L		11/10/15 15:41	11/11/15 19:46	2
Tin	1.1	U	2.0	1.1	ug/L		11/10/15 15:41	11/11/15 19:46	2
Uranium	118		1.0	0.23	ug/L		11/10/15 15:41	11/11/15 19:46	2
Zinc	9.3	U	20.0	9.3	ug/L		11/10/15 15:41	11/11/15 19:46	2

Client: CH2M Hill Plateau Remediation Company
 Project/Site: X15-052

TestAmerica Job ID: 160-14712-1
 SDG: SL1990

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 160-221161/1-A
Matrix: Water
Analysis Batch: 221615

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 221161

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	19.96	B	50.0	17.3	ug/L		11/10/15 15:41	11/11/15 19:32	2
Antimony	1.7	U	5.0	1.7	ug/L		11/10/15 15:41	11/11/15 19:32	2
Arsenic	1.2	U	10.0	1.2	ug/L		11/10/15 15:41	11/11/15 19:32	2
Barium	0.22	U	2.0	0.22	ug/L		11/10/15 15:41	11/11/15 19:32	2
Beryllium	0.35	U	0.50	0.35	ug/L		11/10/15 15:41	11/11/15 19:32	2
Cadmium	0.10	U	0.50	0.10	ug/L		11/10/15 15:41	11/11/15 19:32	2
Chromium	1.0	U	10.0	1.0	ug/L		11/10/15 15:41	11/11/15 19:32	2
Cobalt	0.22	U	2.0	0.22	ug/L		11/10/15 15:41	11/11/15 19:32	2
Copper	0.68	U	1.0	0.68	ug/L		11/10/15 15:41	11/11/15 19:32	2
Lead	0.17	U	3.0	0.17	ug/L		11/10/15 15:41	11/11/15 19:32	2
Manganese	0.88	U	2.0	0.88	ug/L		11/10/15 15:41	11/11/15 19:32	2
Molybdenum	1.0	U	5.0	1.0	ug/L		11/10/15 15:41	11/11/15 19:32	2
Nickel	0.80	U	5.0	0.80	ug/L		11/10/15 15:41	11/11/15 19:32	2
Selenium	1.6	U	5.0	1.6	ug/L		11/10/15 15:41	11/11/15 19:32	2
Silver	0.82	U	2.0	0.82	ug/L		11/10/15 15:41	11/11/15 19:32	2
Strontium	0.060	U	5.0	0.060	ug/L		11/10/15 15:41	11/11/15 19:32	2
Thallium	0.55	U	2.0	0.55	ug/L		11/10/15 15:41	11/11/15 19:32	2
Thorium	0.55	U	2.0	0.55	ug/L		11/10/15 15:41	11/11/15 19:32	2
Tin	1.1	U	2.0	1.1	ug/L		11/10/15 15:41	11/11/15 19:32	2
Uranium	0.23	U	1.0	0.23	ug/L		11/10/15 15:41	11/11/15 19:32	2
Zinc	9.3	U	20.0	9.3	ug/L		11/10/15 15:41	11/11/15 19:32	2

Lab Sample ID: LCS 160-221161/2-A
Matrix: Water
Analysis Batch: 221615

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 221161
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aluminum	10000	9320		ug/L		93	80 - 120
Antimony	500	478.8		ug/L		96	80 - 120
Arsenic	1000	978.4		ug/L		98	80 - 120
Barium	1000	955.5		ug/L		96	80 - 120
Beryllium	1000	1097		ug/L		110	80 - 120
Cadmium	1000	983.4		ug/L		98	80 - 120
Chromium	1000	947.8		ug/L		95	80 - 120
Cobalt	1000	954.6		ug/L		95	80 - 120
Copper	1000	950.8		ug/L		95	80 - 120
Lead	1000	956.3		ug/L		96	80 - 120
Manganese	1000	1010		ug/L		101	80 - 120
Molybdenum	500	475.6		ug/L		95	80 - 120
Nickel	1000	995.6		ug/L		100	80 - 120
Selenium	500	485.5		ug/L		97	80 - 120
Silver	200	196.1		ug/L		98	80 - 120
Strontium	1000	950.7		ug/L		95	80 - 120
Thallium	200	187.0		ug/L		93	80 - 120
Thorium	1000	955.2		ug/L		96	80 - 120
Tin	1000	941.6		ug/L		94	80 - 120
Uranium	1000	952.4		ug/L		95	80 - 120
Zinc	1000	948.7		ug/L		95	80 - 120

TestAmerica St. Louis

Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-052

TestAmerica Job ID: 160-14712-1
SDG: SL1990

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 160-14712-1 MS
Matrix: Water
Analysis Batch: 221615

Client Sample ID: B32J84
Prep Type: Total/NA
Prep Batch: 221161

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aluminum	18.5	B C	10000	9627		ug/L		96	75 - 125
Antimony	1.7	U	500	506.7		ug/L		101	75 - 125
Arsenic	6.0	B	1000	1035		ug/L		103	75 - 125
Barium	114		1000	1093		ug/L		98	75 - 125
Beryllium	0.35	U	1000	1088		ug/L		109	75 - 125
Cadmium	0.12	B	1000	1011		ug/L		101	75 - 125
Chromium	8.4	B	1000	976.5		ug/L		97	75 - 125
Cobalt	0.60	B	1000	956.4		ug/L		96	75 - 125
Copper	0.68	U	1000	939.8		ug/L		94	75 - 125
Lead	0.17	U	1000	979.6		ug/L		98	75 - 125
Manganese	0.88	U	1000	1020		ug/L		102	75 - 125
Molybdenum	4.7	B	500	494.4		ug/L		98	75 - 125
Nickel	0.80	U	1000	983.3		ug/L		98	75 - 125
Selenium	9.3		500	503.1		ug/L		99	75 - 125
Silver	0.82	U	200	198.3		ug/L		99	75 - 125
Strontium	643		1000	1599		ug/L		96	75 - 125
Thallium	0.55	U	200	193.8		ug/L		97	75 - 125
Thorium	0.55	U	1000	1003		ug/L		100	75 - 125
Tin	1.1	U	1000	981.0		ug/L		98	75 - 125
Uranium	118		1000	1108		ug/L		99	75 - 125
Uranium	118		1000	1108		ug/L		99	75 - 125
Zinc	9.3	U	1000	961.6		ug/L		96	75 - 125

Lab Sample ID: 160-14712-1 MSD
Matrix: Water
Analysis Batch: 221615

Client Sample ID: B32J84
Prep Type: Total/NA
Prep Batch: 221161

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aluminum	18.5	B C	10000	9814		ug/L		98	75 - 125	2	20
Antimony	1.7	U	500	514.1		ug/L		103	75 - 125	1	20
Arsenic	6.0	B	1000	1038		ug/L		103	75 - 125	0	20
Barium	114		1000	1121		ug/L		101	75 - 125	3	20
Beryllium	0.35	U	1000	1078		ug/L		108	75 - 125	1	20
Cadmium	0.12	B	1000	1027		ug/L		103	75 - 125	2	20
Chromium	8.4	B	1000	982.1		ug/L		97	75 - 125	1	20
Cobalt	0.60	B	1000	960.3		ug/L		96	75 - 125	0	20
Copper	0.68	U	1000	953.1		ug/L		95	75 - 125	1	20
Lead	0.17	U	1000	997.2		ug/L		100	75 - 125	2	20
Manganese	0.88	U	1000	1032		ug/L		103	75 - 125	1	20
Molybdenum	4.7	B	500	502.7		ug/L		100	75 - 125	2	20
Nickel	0.80	U	1000	990.1		ug/L		99	75 - 125	1	20
Selenium	9.3		500	493.5		ug/L		97	75 - 125	2	20
Silver	0.82	U	200	201.9		ug/L		101	75 - 125	2	20
Strontium	643		1000	1620		ug/L		98	75 - 125	1	20
Thallium	0.55	U	200	195.8		ug/L		98	75 - 125	1	20
Thorium	0.55	U	1000	1011		ug/L		101	75 - 125	1	20
Tin	1.1	U	1000	1002		ug/L		100	75 - 125	2	20
Uranium	118		1000	1126		ug/L		101	75 - 125	2	20

TestAmerica St. Louis

Client: CH2M Hill Plateau Remediation Company
 Project/Site: X15-052

TestAmerica Job ID: 160-14712-1
 SDG: SL1990

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 160-14712-1 MSD
Matrix: Water
Analysis Batch: 221615

Client Sample ID: B32J84
Prep Type: Total/NA
Prep Batch: 221161

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	118		1000	1126		ug/L		101	75 - 125	2	20
Zinc	9.3	U	1000	968.2		ug/L		97	75 - 125	1	20

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November 12, 2015
QC Association Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: X15-052

TestAmerica Job ID: 160-14712-1
 SDG: SL1990

Metals

Prep Batch: 221161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-14712-1	B32J84	Total/NA	Water	3010A	
160-14712-1 MS	B32J84	Total/NA	Water	3010A	
160-14712-1 MSD	B32J84	Total/NA	Water	3010A	
LCS 160-221161/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-221161/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 221615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-14712-1	B32J84	Total/NA	Water	6020A	221161
160-14712-1 MS	B32J84	Total/NA	Water	6020A	221161
160-14712-1 MSD	B32J84	Total/NA	Water	6020A	221161
LCS 160-221161/2-A	Lab Control Sample	Total/NA	Water	6020A	221161
MB 160-221161/1-A	Method Blank	Total/NA	Water	6020A	221161

