

January 14, 2016

# 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: 160-14876-1

TestAmerica Sample Delivery Group: SL2017  
Client Project/Site: F15-055

For:

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

Attn: Mr. Scot Fitzgerald



Authorized for release by:  
1/14/2016 10:41:07 AM

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

[jayna.awalt@testamericainc.com](mailto:jayna.awalt@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?

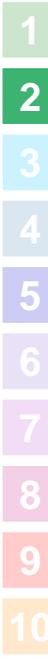


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[www.testamericainc.com](http://www.testamericainc.com)

*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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Client: CH2M Hill Plateau Remediation Company  
Project/Site: F15-055

TestAmerica Job ID: 160-14876-1  
SDG: SL2017

**Job ID: 160-14876-1**

**Laboratory: TestAmerica St. Louis**

**Narrative**

**CASE NARRATIVE**

CH2MHill Plateau Remediation Company  
P.O. Box 1600  
Richland, Washington 99352  
January 14, 2016  
Attention: Scot Fitzgerald

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SDG	: SL2017
Number of Samples	: 5 samples
Sample Matrix	: Other Liquid
Data Deliverable	: Summary
Date SDG Closed	: November 17, 2015

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II. Introduction

On November 17, 5 samples were 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: F15-055

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.

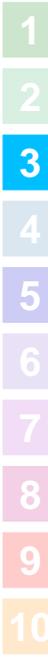
For WTPH methods, the lab utilizes method 8015B. Per CHPRC direction, the method name in the electronic data has been modified to read WTPH in the place of 8015B.

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



**Job ID: 160-14876-1 (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.

**ICP Metals**

**Batch: 231414**

Due to the high concentration of potassium and sodium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-227108 and analytical batch 160-231414 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. (160-14876-B-3-B MS) and (160-14876-B-3-C MSD)

The following samples were diluted to bring the concentration of target analytes within the calibration range: B32L01 (160-14876-1), B33KX8 (160-14876-3), B33KY0 (160-14876-4), (160-14876-B-3-B MS), (160-14876-B-3-C MSD) and (160-14876-B-3-A SD). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a "D" flag in the associated samples.

**Batch: 231720**

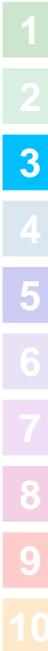
The following samples were diluted to bring the concentration of target analytes within the calibration range: B32L01 (160-14876-1). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a "D" flag in the associated samples.

**ICPMS Metals**

**Batch: 230295**

The following samples were diluted due to the nature of the sample matrix. The samples were high in salts, which cause internal standard and QC failures when the samples are run at a lesser dilution: B33KX8 (160-14876-3), B33KY0 (160-14876-4), (160-14876-B-3-E MS), (160-14876-B-3-F MSD) and (160-14876-B-3-D SD). Elevated reporting limits (RLs) are provided. This analyte has been qualified accordingly with a "D" flag in the associated samples.

**Alkalinity**



Client: CH2M Hill Plateau Remediation Company  
Project/Site: F15-055

TestAmerica Job ID: 160-14876-1  
SDG: SL2017

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**Job ID: 160-14876-1 (Continued)**

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**Laboratory: TestAmerica St. Louis (Continued)**

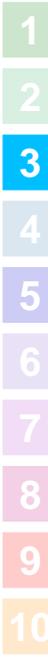
**Batch: 222904**

The following samples from alkalinity analytical batch 160-222904 were diluted to bring the concentration of target analytes within the acceptable titration range: B32L01 (160-14876-1), B33KX8 (160-14876-3) and B33KY0 (160-14876-4). Elevated reporting limits (RLs) are provided. Due to a limitation in the LIMS, the dilution factor for these samples will remain 1. The dilution was captured in the final volume used for analysis and is reflected in the reporting limit (> 5.0 mg/L). Due to the dilution factor showing as 1, no "D" flag is reported for these samples. Samples that were run at a dilution are included under the "DL" section of the sample results in the hardcopy.

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



Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-14876-1

SDG Number: SL2017

Login Number: 14876

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	0.8°, 1.1°
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	



**CH2MHill Plateau Remediation Company**

**COLLECTOR** S.W. King/CHPRC SL2017 **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** **F15-055-034** **PAGE 1 OF 1**

**SAMPLING LOCATION** SKID 1 INJECTION DAY 8 (FTB) 3/11/15 **PROJECT COORDINATOR** WHITLEY, KM **PRICE CODE** 9H **DATA TURNAROUND** 30 Days / 30 Days

**ICE CHEST NO.** GWS-456 **PROJECT DESIGNATION** 300-FF-5 Enhanced Attenuation - Stage A Phosphate Solution Injection - ot **SAF NO.** F15-055 **AIR QUALITY**  **METHOD OF SHIPMENT** FEDERAL EXPRESS **ORIGINAL**

**SHIPPED TO** TestAmerica St. Louis (N/A) **FIELD LOGBOOK NO.** HNF-A-506-81/38 **ACTUAL SAMPLE DEPTH** (N/A) **COA** 300205 **BILL OF LADING/AIR BILL NO.** WH20 2380 5225

COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR
WHITLEY, KM	373-4929	WHITLEY, KM
PRESCRIPTION	None	Cool <=6C
HOLDING TIME	6 Months	14 Days
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	500mL	500mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
SPECIAL HANDLING AND/OR STORAGE	OTHER LIQUID	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B332L52	OTHER LIQUID	NOV 16 2015	0745

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
S.W. King/CHPRC	NOV 16 2015 120	B.E. Briggs	NOV 16 2015 120
CHPRC	NOV 16 2015 140	CHPRC	NOV 16 2015 140
RELINQUISHED BY/REMOVED FROM	F E D E X	RELINQUISHED BY/STORED IN	DATE/TIME
		DiJ Clark J.H. Clark	11-17-15 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

**SPECIAL INSTRUCTIONS**

\*\* Offsite lab analyses will be a blend of river water and phosphate injection solution. TRVL-15-155  
 (1) 6010\_METALS\_ICP: COMMON {Calcium, Magnesium, Potassium, Sodium}; 6020\_METALS\_ICPMS: COMMON (Add-on) {Uranium}; 91215 {Carbonate alkalinity};  
 (2) 310.1\_ALKALINITY: COMMON (Add-on) {Bi-carbonate alkalinity, Carbonate alkalinity};

**LABORATORY SECTION** RECEIVED BY

**FINAL SAMPLE DISPOSITION** DISPOSAL METHOD

**PRINTED ON** 9/2/2015 **FSR ID = FSR4949** **TRVL NUM = TRVL-15-155** **A-6003-618 (REV 2)**



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CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-055-040	PAGE 1 OF 1
COLLECTOR K.C. Patterson/CHPRC	SL2017	COMPANY CONTACT WHITLEY, KM	TELEPHONE NO. 373-4929	PROJECT COORDINATOR WHITLEY, KM	PRICE CODE 9H
SAMPLING LOCATION SKID 2 INFILTRATION DAY 8		PROJECT DESIGNATION 300-FF-5 Enhanced Attenuation - Stage A Phosphate Solution Injection - ot	ACTUAL SAMPLE DEPTH (N/A)	SAF NO. F15-055	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO GWS-450	HMF-N-506-8134	FIELD LOGBOOK NO.		COA 300205	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO TestAmerica St. Louis	(N/A)	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO. 6420 2380 5225	

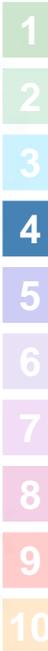
MATRIX* A=Air DL=Drum L=Liquid S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WT=Wipe X=Other	PRESERVATION None Cool <=6C
	HOLDING TIME 6 Months 14 Days
	TYPE OF CONTAINER G/P G/P
	NO. OF CONTAINER(S) 1 1
SPECIAL HANDLING AND/OR STORAGE	VOLUME 500mL 500mL
	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
833KX8	OTHER LIQUID	NOV 14 2015	0744

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K.C. Patterson/CHPRC	NOV 14 2015 1349	SSU-1	NOV 14 2015 1349
SSU-1	NOV 16 2015 0800	CHPRC	NOV 16 2015 0800
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
CHPRC	NOV 16 2015 1400	FEDEX	NOV 16 2015 0800
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
EX	NOV 16 2015 1400	Joe Clark-Jill Clark	NOV 17 2015 0920
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
2016	23	DISPOSED BY	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD		

**SPECIAL INSTRUCTIONS**

\*\* Offsite lab analyses will be a blend of river water and phosphate injection solution. TRVL-15-155  
 (1) 6010\_METALS\_ICP: COMMON {Calcium, Magnesium, Potassium, Sodium}; 6020\_METALS\_ICPMS: COMMON (Add-on) {Uranium};  
 (2) 310.1\_ALKALINITY: COMMON (Add-on) {Bi-carbonate alkalinity, Carbonate alkalinity};

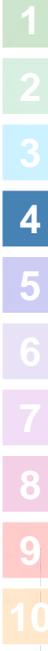


CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-055-042	PAGE 1 OF 1
COLLECTOR	K.C. Patterson/CHPRC	COMPANY CONTACT	WHITLEY, KM	PROJECT COORDINATOR	WHITLEY, KM
SAMPLING LOCATION	SKID 2 INFILTRATION DAY 9	PROJECT DESIGNATION	300-FF-5 Enhanced Attenuation - Stage A Phosphate Solution Injection - ot	SAF NO.	F15-055
ICE CHEST NO.	GWS-464	FIELD LOGBOOK NO.	HN F-N-506-8/30	COA	300205
SHIPPED TO	TestAmerica St. Louis	OFFSITE PROPERTY NO.	N/A	BILL OF LADING/AIR BILL NO.	7749 8365 9011

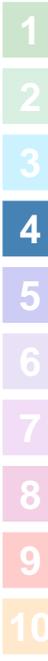
MATRIX*	A=Air DL=Drum L=Liquid DS=Drum S=Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	PRESERVATION	None	Cool <=6C
POSSIBLE SAMPLE HAZARDS/ REMARKS	*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	HOLDING TIME	6 Months	14 Days
SPECIAL HANDLING AND/OR STORAGE		TYPE OF CONTAINER	G/P	G/P
		NO. OF CONTAINER(S)	1	1
		VOLUME	500mL	500mL
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	DATE/TIME	REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
0833KY0	OTHER LIQUID	NOV 15 2015	0807	NOV 15 2015 1320	SSU-1	NOV 15 2015 1320	NOV 16 2015 0800	NOV 16 2015 0800	CHPRC	NOV 16 2015 0800
					FEDEX				FEDEX	
					FE				FE	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	K.C. Patterson/CHPRC	RECEIVED BY/STORED IN	SSU-1	** Offsite lab analyses will be a blend of river water and phosphate injection solution. TRVL-15-155	
RELINQUISHED BY/REMOVED FROM	SSU-1	RECEIVED BY/STORED IN	CHPRC	(1) 6010_METALS_ICP: COMMON {Calcium, Magnesium, Potassium, Sodium}; 6020_METALS_ICPMS: COMMON (Add-on) {Uranium};	
RELINQUISHED BY/REMOVED FROM	CHPRC	RECEIVED BY/STORED IN	FEDEX	(2) 310.1_ALKALINITY: COMMON (Add-on) {Bi-carbonate alkalinity, Carbonate alkalinity};	
RELINQUISHED BY/REMOVED FROM	FE	RECEIVED BY/STORED IN	Per Clark Tal Clark 11-17-15 0920		
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN			
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN			
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN			
LABORATORY SECTION	RECEIVED BY	TITLE			
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY			



CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-055-048	PAGE 1 OF 1
COLLECTOR	K.C. Patterson/CHPRC	SC2017	PROJECT COORDINATOR	WHITLEY, KM	PRICE CODE 9H
SAMPLING LOCATION	SKID 2 INFILTRATION DAY 32 (FTB)	9	SAF NO.	F15-055	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO.	GWS404	33 11/13/15	COA	300205	METHOD OF SHIPMENT
SHIPPED TO	TestAmerica St. Louis	N/A	FIELD LOGBOOK NO.	HNF-N-506-81/36	FEDERAL EXPRESS
			OFFSITE PROPERTY NO.	N/A	
			ACTUAL SAMPLE DEPTH	(N/A)	
			TELEPHONE NO.	373-4929	
			PROJECT DESIGNATION	300-FF-5 Enhanced Attenuation - Stage A Phosphate Solution Injection - ot	
			COMPANY CONTACT	WHITLEY, KM	
			PRELIMINARY ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	
			TYPE OF CONTAINER	G/P	
			HOLDING TIME	6 Months	
			PRESERVATION	None	
			NO. OF CONTAINER(S)	1	
			VOLUME	500mL	



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IMPORTANT!

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FedEx® Tracking

642023805225

Ship date

Mon 11/16/2015

Actual delivery

Tue 11/17/2015 9:13 am

Richland, WA US

Delivered

EARTH CITY, MO US

Signed for by B DANIELS

Travel History

Date/Time	Activity	Location
- 11/17/2015 - Tuesday		
9:13 am	Delivered	EARTH CITY, MO
7:23 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:16 am	At local FedEx facility	EARTH CITY, MO
6:04 am	At destination sort facility	BERKELEY, MO
5:15 am	Departed FedEx location	MEMPHIS, TN
1:23 am	Arrived at FedEx location	MEMPHIS, TN
- 11/16/2015 - Monday		
5:54 pm	Shipment information sent to FedEx	
5:06 pm	Left FedEx origin facility	PASCO, WA
3:25 pm	Picked up	PASCO, WA

Shipment Facts

Tracking number	642023805225	Service	FedEx Priority Overnight
Weight	80 lbs / 36.29 kgs	Delivered To	Shipping/Receiving
Total pieces	1	Total shipment weight	80 lbs / 36.29 kgs
Shipper reference	GWS-456	Packaging	Your Packaging
Special handling section	Deliver Weekday		



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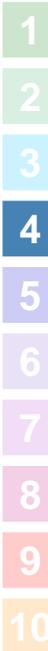
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FedEx® Tracking

774983659011

Ship date <b>Mon 11/16/2015</b>	Actual delivery <b>Tue 11/17/2015 9:13 am</b>
RICHLAND, WA US	EARTH CITY, MO US

**Delivered**  
*Signed for by: B.DANIELS*

Travel History

Date/Time	Activity	Location
<b>11/17/2015 - Tuesday</b>		
9:13 am	Delivered	EARTH CITY, MO
7:23 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:17 am	At local FedEx facility	EARTH CITY, MO
6:04 am	At destination sort facility	BERKELEY, MO
5:15 am	Departed FedEx location	MEMPHIS, TN
1:23 am	Arrived at FedEx location	MEMPHIS, TN
<b>11/16/2015 - Monday</b>		
5:06 pm	Left FedEx origin facility	PASCO, WA
3:25 pm	Picked up	PASCO, WA
11:08 am	Shipment information sent to FedEx	

Shipment Facts

<b>Tracking number</b>	774983659011	<b>Service</b>	FedEx Priority Overnight
<b>Weight</b>	78 lbs / 35.38 kgs	<b>Delivered To</b>	Shipping/Receiving
<b>Total pieces</b>	1	<b>Total shipment weight</b>	78 lbs / 35.38 kgs
<b>Shipper reference</b>	gws-464	<b>Packaging</b>	Your Packaging
<b>Special handling section</b>	Deliver Weekday, Additional Handling Surcharge		



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## Qualifiers

### Metals

Qualifier	Qualifier Description
B	Estimated result. Result is less than the RL, but greater than MDL
D	The reported value is from a dilution.
U	Analyzed for but not detected.

### General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.
B	Estimated result. Result is less than the RL, but greater than MDL

## 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: F15-055

TestAmerica Job ID: 160-14876-1  
SDG: SL2017

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL SL
6020A	Metals (ICP/MS)	SW846	TAL SL
310.1	Alkalinity	MCAWW	TAL SL

**Protocol References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.  
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

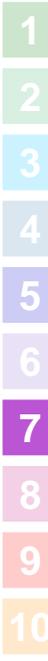


January 14, 2016  
Sample Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F15-055

TestAmerica Job ID: 160-14876-1  
SDG: SL2017

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-14876-1	B32L01	Other Aqueous Sample	11/16/15 11:20	11/17/15 09:20
160-14876-2	B32L52	Other Aqueous Sample	11/16/15 07:45	11/17/15 09:20
160-14876-3	B33KX8	Other Aqueous Sample	11/14/15 07:46	11/17/15 09:20
160-14876-4	B33KY0	Other Aqueous Sample	11/15/15 08:07	11/17/15 09:20
160-14876-5	B33KY6	Other Aqueous Sample	11/15/15 07:00	11/17/15 09:20



January 14, 2016  
**Client Sample Results**

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F15-055

TestAmerica Job ID: 160-14876-1  
SDG: SL2017

**Method: 6010C - Metals (ICP)**

**Client Sample ID: B32L01**  
**Date Collected: 11/16/15 11:20**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-1**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	18200	B D	20000	1080	ug/L		12/14/15 13:24	01/08/16 17:09	20
Magnesium	4070	B D	20000	1010	ug/L		12/14/15 13:24	01/08/16 17:09	20
Potassium	1970000	D	250000	22800	ug/L		12/14/15 13:24	01/11/16 11:24	50
Sodium	2260000	D	50000	5250	ug/L		12/14/15 13:24	01/11/16 11:24	50

**Client Sample ID: B32L52**  
**Date Collected: 11/16/15 07:45**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-2**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	54.2	U	1000	54.2	ug/L		12/14/15 13:24	01/08/16 17:26	1
Magnesium	50.5	U	1000	50.5	ug/L		12/14/15 13:24	01/08/16 17:26	1
Potassium	456	U	5000	456	ug/L		12/14/15 13:24	01/08/16 17:26	1
Sodium	105	U	1000	105	ug/L		12/14/15 13:24	01/08/16 17:26	1

**Client Sample ID: B33KX8**  
**Date Collected: 11/14/15 07:46**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-3**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	20100	D	20000	1080	ug/L		12/14/15 13:24	01/08/16 17:30	20
Magnesium	4590	B D	20000	1010	ug/L		12/14/15 13:24	01/08/16 17:30	20
Potassium	1350000	D	100000	9120	ug/L		12/14/15 13:24	01/08/16 17:30	20
Sodium	1620000	D	20000	2100	ug/L		12/14/15 13:24	01/08/16 17:30	20

**Client Sample ID: B33KY0**  
**Date Collected: 11/15/15 08:07**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-4**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	29400	D	20000	1080	ug/L		12/14/15 13:24	01/08/16 17:47	20
Magnesium	4550	B D	20000	1010	ug/L		12/14/15 13:24	01/08/16 17:47	20
Potassium	1170000	D	100000	9120	ug/L		12/14/15 13:24	01/08/16 17:47	20
Sodium	1420000	D	20000	2100	ug/L		12/14/15 13:24	01/08/16 17:47	20

**Client Sample ID: B33KY6**  
**Date Collected: 11/15/15 07:00**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-5**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	54.2	U	1000	54.2	ug/L		12/14/15 13:24	01/08/16 17:51	1
Magnesium	50.5	U	1000	50.5	ug/L		12/14/15 13:24	01/08/16 17:51	1
Potassium	456	U	5000	456	ug/L		12/14/15 13:24	01/08/16 17:51	1
Sodium	105	U	1000	105	ug/L		12/14/15 13:24	01/08/16 17:51	1

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

**Client Sample ID: B33KX8**  
**Date Collected: 11/14/15 07:46**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-3**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	5.8	U	25.0	5.8	ug/L		12/14/15 13:29	12/31/15 15:26	50

January 14, 2016  
**Client Sample Results**

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F15-055

TestAmerica Job ID: 160-14876-1  
SDG: SL2017

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

**Client Sample ID: B33KY0**  
**Date Collected: 11/15/15 08:07**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-4**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	5.8	U	25.0	5.8	ug/L		12/14/15 13:29	12/31/15 15:57	50

**Client Sample ID: B33KY6**  
**Date Collected: 11/15/15 07:00**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-5**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	0.23	U	1.0	0.23	ug/L		12/14/15 13:29	12/31/15 16:02	2

**General Chemistry**

**Client Sample ID: B32L52**  
**Date Collected: 11/16/15 07:45**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-2**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			11/20/15 18:41	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			11/20/15 18:41	1

**Client Sample ID: B33KY6**  
**Date Collected: 11/15/15 07:00**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-5**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	1.0	B	5.0	0.54	mg/L			11/20/15 19:21	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			11/20/15 19:21	1

**General Chemistry - DL**

**Client Sample ID: B32L01**  
**Date Collected: 11/16/15 11:20**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-1**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	2930		50.0	5.4	mg/L			11/20/15 18:28	1
Carbonate Alkalinity as CaCO3	5.4	U	50.0	5.4	mg/L			11/20/15 18:28	1

**Client Sample ID: B33KX8**  
**Date Collected: 11/14/15 07:46**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-3**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	1900		50.0	5.4	mg/L			11/20/15 18:55	1
Carbonate Alkalinity as CaCO3	5.4	U	50.0	5.4	mg/L			11/20/15 18:55	1

**Client Sample ID: B33KY0**  
**Date Collected: 11/15/15 08:07**  
**Date Received: 11/17/15 09:20**

**Lab Sample ID: 160-14876-4**  
**Matrix: Other Aqueous Sample**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	1770		50.0	5.4	mg/L			11/20/15 19:08	1
Carbonate Alkalinity as CaCO3	5.4	U	50.0	5.4	mg/L			11/20/15 19:08	1

January 14, 2016  
**QC Sample Results**

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F15-055

TestAmerica Job ID: 160-14876-1  
SDG: SL2017

**Method: 6010C - Metals (ICP)**

**Lab Sample ID: MB 160-227108/1-A**  
**Matrix: Water**  
**Analysis Batch: 231414**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 227108**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	54.2	U	1000	54.2	ug/L		12/14/15 13:24	01/08/16 17:02	1
Magnesium	50.5	U	1000	50.5	ug/L		12/14/15 13:24	01/08/16 17:02	1
Potassium	456	U	5000	456	ug/L		12/14/15 13:24	01/08/16 17:02	1
Sodium	105	U	1000	105	ug/L		12/14/15 13:24	01/08/16 17:02	1

**Lab Sample ID: LCS 160-227108/2-A**  
**Matrix: Water**  
**Analysis Batch: 231414**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 227108**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	10000	11830		ug/L		118	80 - 120
Magnesium	10000	10090		ug/L		101	80 - 120
Potassium	10000	11540		ug/L		115	80 - 120
Sodium	10000	11940		ug/L		119	80 - 120

**Lab Sample ID: 160-14876-3 MS**  
**Matrix: Other Aqueous Sample**  
**Analysis Batch: 231414**

**Client Sample ID: B33KX8**  
**Prep Type: Total/NA**  
**Prep Batch: 227108**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Calcium	20100	D	10000	31100		ug/L		110	75 - 125
Magnesium	4590	B D	10000	14300	B	ug/L		97	75 - 125
Potassium	1350000	D	10000	1220000		ug/L		-1256	75 - 125
Sodium	1620000	D	10000	1433000		ug/L		-1860	75 - 125

**Lab Sample ID: 160-14876-3 MSD**  
**Matrix: Other Aqueous Sample**  
**Analysis Batch: 231414**

**Client Sample ID: B33KX8**  
**Prep Type: Total/NA**  
**Prep Batch: 227108**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Calcium	20100	D	10000	31940		ug/L		118	75 - 125	3	20
Magnesium	4590	B D	10000	14530	B	ug/L		99	75 - 125	2	20
Potassium	1350000	D	10000	1238000		ug/L		-1078	75 - 125	1	20
Sodium	1620000	D	10000	1450000		ug/L		-1688	75 - 125	1	20

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

**Lab Sample ID: MB 160-227111/1-A**  
**Matrix: Water**  
**Analysis Batch: 230295**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 227111**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	0.23	U	1.0	0.23	ug/L		12/14/15 13:29	12/31/15 15:18	2

January 14, 2016  
**QC Sample Results**

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F15-055

TestAmerica Job ID: 160-14876-1  
SDG: SL2017

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

**Lab Sample ID: LCS 160-227111/2-A**  
**Matrix: Water**  
**Analysis Batch: 230295**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 227111**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Uranium	1000	1008		ug/L		101	80 - 120

**Lab Sample ID: 160-14876-3 MS**  
**Matrix: Other Aqueous Sample**  
**Analysis Batch: 230295**

**Client Sample ID: B33KX8**  
**Prep Type: Total/NA**  
**Prep Batch: 227111**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Uranium	5.8	U	1000	941.2	D	ug/L		94	75 - 125

**Lab Sample ID: 160-14876-3 MSD**  
**Matrix: Other Aqueous Sample**  
**Analysis Batch: 230295**

**Client Sample ID: B33KX8**  
**Prep Type: Total/NA**  
**Prep Batch: 227111**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Uranium	5.8	U	1000	951.5	D	ug/L		95	75 - 125	1	20

**Method: 310.1 - Alkalinity**

**Lab Sample ID: MB 160-222904/1**  
**Matrix: Water**  
**Analysis Batch: 222904**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			11/20/15 15:23	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			11/20/15 15:23	1

**Lab Sample ID: HLCS 160-222904/3**  
**Matrix: Water**  
**Analysis Batch: 222904**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	Limits
Bicarbonate Alkalinity as CaCO3	328	310.0		mg/L		95	90 - 110

**Lab Sample ID: LCS 160-222904/2**  
**Matrix: Water**  
**Analysis Batch: 222904**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Bicarbonate Alkalinity as CaCO3	200	189.0		mg/L		94	90 - 110

**Lab Sample ID: 160-14875-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 222904**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Bicarbonate Alkalinity as CaCO3	222		100	312.0		mg/L		90	80 - 120

TestAmerica St. Louis

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QC Sample Results

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F15-055

TestAmerica Job ID: 160-14876-1  
SDG: SL2017

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: 160-14875-A-1 DU  
Matrix: Water  
Analysis Batch: 222904

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Bicarbonate Alkalinity as CaCO3	222		223.0		mg/L		0.4	20
Carbonate Alkalinity as CaCO3	0.54	U	0.54	U	mg/L		NC	20

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January 14, 2016  
**QC Association Summary**

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: F15-055

TestAmerica Job ID: 160-14876-1  
 SDG: SL2017

**Metals**

**Prep Batch: 227108**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-14876-1	B32L01	Total/NA	Other Aqueous Sample	3010A	
160-14876-2	B32L52	Total/NA	Other Aqueous Sample	3010A	
160-14876-3	B33KX8	Total/NA	Other Aqueous Sample	3010A	
160-14876-3 MS	B33KX8	Total/NA	Other Aqueous Sample	3010A	
160-14876-3 MSD	B33KX8	Total/NA	Other Aqueous Sample	3010A	
160-14876-4	B33KY0	Total/NA	Other Aqueous Sample	3010A	
160-14876-5	B33KY6	Total/NA	Other Aqueous Sample	3010A	
LCS 160-227108/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-227108/1-A	Method Blank	Total/NA	Water	3010A	

**Prep Batch: 227111**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-14876-3	B33KX8	Total/NA	Other Aqueous Sample	3010A	
160-14876-3 MS	B33KX8	Total/NA	Other Aqueous Sample	3010A	
160-14876-3 MSD	B33KX8	Total/NA	Other Aqueous Sample	3010A	
160-14876-4	B33KY0	Total/NA	Other Aqueous Sample	3010A	
160-14876-5	B33KY6	Total/NA	Other Aqueous Sample	3010A	
LCS 160-227111/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-227111/1-A	Method Blank	Total/NA	Water	3010A	

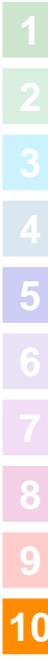
**Analysis Batch: 230295**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-14876-3	B33KX8	Total/NA	Other Aqueous Sample	6020A	227111
160-14876-3 MS	B33KX8	Total/NA	Other Aqueous Sample	6020A	227111
160-14876-3 MSD	B33KX8	Total/NA	Other Aqueous Sample	6020A	227111
160-14876-4	B33KY0	Total/NA	Other Aqueous Sample	6020A	227111
160-14876-5	B33KY6	Total/NA	Other Aqueous Sample	6020A	227111
LCS 160-227111/2-A	Lab Control Sample	Total/NA	Water	6020A	227111
MB 160-227111/1-A	Method Blank	Total/NA	Water	6020A	227111

**Analysis Batch: 231414**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-14876-1	B32L01	Total/NA	Other Aqueous Sample	6010C	227108
160-14876-2	B32L52	Total/NA	Other Aqueous Sample	6010C	227108
160-14876-3	B33KX8	Total/NA	Other Aqueous Sample	6010C	227108

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January 14, 2016  
**QC Association Summary**

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: F15-055

TestAmerica Job ID: 160-14876-1  
 SDG: SL2017

**Metals (Continued)**

**Analysis Batch: 231414 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-14876-3 MS	B33KX8	Total/NA	Other Aqueous Sample	6010C	227108
160-14876-3 MSD	B33KX8	Total/NA	Other Aqueous Sample	6010C	227108
160-14876-4	B33KY0	Total/NA	Other Aqueous Sample	6010C	227108
160-14876-5	B33KY6	Total/NA	Other Aqueous Sample	6010C	227108
LCS 160-227108/2-A	Lab Control Sample	Total/NA	Water	6010C	227108
MB 160-227108/1-A	Method Blank	Total/NA	Water	6010C	227108

**Analysis Batch: 231720**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-14876-1	B32L01	Total/NA	Other Aqueous Sample	6010C	227108

**General Chemistry**

**Analysis Batch: 222904**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-14875-A-1 DU	Duplicate	Total/NA	Water	310.1	
160-14875-A-1 MS	Matrix Spike	Total/NA	Water	310.1	
160-14876-1 - DL	B32L01	Total/NA	Other Aqueous Sample	310.1	
160-14876-2	B32L52	Total/NA	Other Aqueous Sample	310.1	
160-14876-3 - DL	B33KX8	Total/NA	Other Aqueous Sample	310.1	
160-14876-4 - DL	B33KY0	Total/NA	Other Aqueous Sample	310.1	
160-14876-5	B33KY6	Total/NA	Other Aqueous Sample	310.1	
HLCS 160-222904/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-222904/2	Lab Control Sample	Total/NA	Water	310.1	
MB 160-222904/1	Method Blank	Total/NA	Water	310.1	