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: 160-15356-1
TestAmerica Sample Delivery Group: SL2067
Client Project/Site: X15-069
Revision: 1

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

Attn: Mr. Scot Fitzgerald

Elizabeth M. Hoerchler

Authorized for release by:
1/25/2016 5:23:48 PM
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LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

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SAMPLE ISSUE RESOLUTION

SIR NUM	SIR16-168
REV NUM	0
DATE INITIATED	1/8/2016

SAMPLE EVENT INFORMATION

SAF NUM(S)	X15-069
OPERABLE UNIT(S)	300-FF-5
PROJECT(S)	CERC15
SAMPLE EVENT TITLE(S)	CERC15
LABORATORY	TestAmerica St. Louis

SAMPLING INFORMATION

NUMBER OF SAMPLES	28
SAMPLE NUMBERS	B33939, B33940, B33943, B33944, B33947, B33948, B33951, B33952, B33963, B33964, B33967, B33968, B33971, B33972, B33975, B33976, B33987, B33988, B33991, B33992, B33999, B339B0, B339C9, B339D0, B339D7, B339D8, B339H2, B339H3
SAMPLE MATRIX	WATER
COLLECTION DATE	12/10/2015 - 12/11/2015
SDG NUM	SL2067

ISSUE BACKGROUND

CLASS	Sample Management Issues
TYPE	Method Correction
DESCRIPTION	The laboratory has a backlog for ICP and has requested permission to subtitute ICP-MS.

DISPOSITION

DESCRIPTION	Report requested analytes (sodium, calcium, potassium and magnesium) by 6020.
JUSTIFICATION	Final Disposition: Accept proposed resolution. SUBMITTED BY: Jayna Awalt DATE: 01/07/2016 ACCEPTED BY: Karen Waters-Husted DATE: 01/08/2016

Job ID: 160-15356-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE
Rev. 1-Revision created in error

CH2MHill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
January 25, 2016
Attention: Scot Fitzgerald

SDG : SL2067
Number of Samples : 28 samples
Sample Matrix : Water
Data Deliverable : Summary
Date SDG Closed : December 12, 2015

II. Introduction

On December 12, 28 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: X15-069. **These samples were analyzed by ICPMS metals instead of ICP metals per SIR 16-168.**

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.

IV. Definitions

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

Job ID: 160-15356-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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. Due to limitations of the LIMS system, "D" flags may appear on QC samples.
- **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: 233591

The following samples in preparation batch 160-228518 and analytical batch 160-233591 were diluted to bring the concentration of target analytes within the calibration range: B339D8 (160-15356-1), B339D7 (160-15356-2), B339H2 (160-15356-3), B339H3 (160-15356-4), B33943 (160-15356-5), B33944 (160-15356-6), B33991 (160-15356-7), B33992 (160-15356-8), B339D0 (160-15356-9), B339C9 (160-15356-10), B33976 (160-15356-13), B33975 (160-15356-14), B339B0 (160-15356-15), B33999 (160-15356-16), B33987 (160-15356-19), B33988 (160-15356-20), (160-15356-B-1-E MS), (160-15356-B-1-F MSD) and (160-15356-B-1-D SD). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a “D” flag in the associated samples.

Due to the high concentration of sodium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 160-228518 and analytical batch 160-233591 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria. (160-15356-B-1-E MS) and (160-15356-B-1-F MSD)

The CCVL associated with preparation batch 160-228518 and analytical batch 160-233591 was outside upper QC limits for sodium. The concentration of this analyte in the samples was at such a high level as to make the CCVL unnecessary. (CCVL 160-233591/26), (CCVL 160-233591/39) and (CCVL 160-233591/48)

Sodium was detected in method blank MB 160-228518/1-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 "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".

The continuing calibration blank (CCB) for analytical batch 160-233591 contained sodium above the reporting limit (RL). All reported samples associated with this CCB contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. (CCB 160-233591/50)

Batch: 233592

The following samples in preparation batch 160-228520 and analytical batch 160-233592 were diluted to bring the concentration of target analytes within the calibration range: B33940 (160-15356-23), B33939 (160-15356-24), B33972 (160-15356-27) and B33971 (160-15356-28). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a “D” flag in the associated samples.

Job ID: 160-15356-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 160-228520 and analytical batch 160-233592 were outside control limits for sodium. Sample matrix interference and/or non-homogeneity are suspected, because the associated laboratory control sample (LCS) recovery was within acceptance limits. (160-15356-B-21-E MS) and (160-15356-B-21-F MSD) This analyte has been qualified accordingly with an “N” flag in the associated samples.

The CCVL associated with preparation batch 160-228520 and analytical batch 160-233592 was outside upper QC limits for sodium. The concentration of this analyte in the samples was at such a high level as to make the CCVL unnecessary. (CCVL 160-233592/17), (CCVL 160-233592/24) and (CCVL 160-233592/36)

The method blank for preparation batch 160-228520 and analytical batch 160-233592 contained sodium above the reporting limit (RL). Associated samples were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank. (MB 160-228520/1-A)

The continuing calibration blank (CCB) for analytical batch 160-233592 contained sodium above the reporting limit (RL). All reported samples associated with this CCB contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. (CCB 160-233592/26)

Batch: 233867

The following samples in preparation batch 160-228518 and analytical batch 160-233867 were diluted to bring the concentration of target analytes within the calibration range: B33988 (160-15356-20). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a “D” flag in the associated samples.

There were no observations or non-conformances associated with the following methods:
Alkalinity

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:

Elizabeth Hoerchler
St. Louis Project Manager Assistant

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-15356-1
SDG Number: SL2067

Login Number: 15356
List Number: 1
Creator: Daniels, Brian J

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	0.3°, 1.3°
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 SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X15-069-055

Collector	K.C. Patterson CHPRC	Contact/Requester	WHITLEY, KM	Telephone No.	373-4929
SAF No.	X15-069	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300205
Project Title	300 Area Uranium Sequestration Post Inj	Logbook No.	HNF-N-506 80/59	Ice Chest No.	GWS-489
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	775184485974
Protocol	CERCLA	Priority:	30 Days PRIORITY	Offsite Property No.	N/A

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B339D8	N	W	DEC 11 2015	1022	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B339D8	N	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B339D7	Y	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
K.C. Patterson CHPRC			DEC 11 2015 1025	CHRIS FULTON CHPRC			DEC 11 2015 1025
CHRIS FULTON CHPRC			DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniels			12/11/15 0900

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 FSR ID = FSR7350 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-059**

Collector	S.W. King/CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 83 / 9	**Ice Chest No.**	FWS-4989
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7751 8448 5974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	N/A

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B339H2	Y	W	DEC 11 2015	0825	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B339H3	N	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B339H3	N	W	DEC 11 2015	0825	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
S.W. King/CHPRC			DEC 11 2015 0920	CHRIS FULTON CHPRC			DEC 11 2015 0920
CHRIS FULTON CHPRC			DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniels			12/12/15 0940

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PRINTED ON 10/1/2015 **FSR ID = FSR7353** A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-064**

Collector	S.W. King/CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 83/9	**Ice Chest No.**	GWS-499
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	775184485974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	N/A

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B33943	Y	W	DEC 11 2015	0855	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33944	N	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33944	N	W	DEC 11 2015	0835	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
S.W. King/CHPRC			DEC 11 2015 0920	CHRIS FULTON CHPRC			DEC 11 2015 0920
CHRIS FULTON CHPRC			DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniels			12/12/15 0900

Matrix *

S	= Soil	DS	= Drum Solids		
SE	= Sediment	DL	= Drum Liquids		
SO	= Solid	T	= Tissue		
SL	= Sludge	WI	= Wipe		
W	= Water	L	= Liquid		
O	= Oil	V	= Vegetation		
A	= Air	X	= Other		

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 **FSR ID = FSR7355** A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-069**

Collector	S.W. King/CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 839	**Ice Chest No.**	GWS -485
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	775186783505
Protocol	CERCLA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	N/A

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B33991	Y	W	DEC 11 2015	1110	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33992	N	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33992	N	W	DEC 11 2015	1110	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
S.W. King/CHPRC	[signature]	DEC 11 2015 1225	T.L. BACON/CHPRC	Troy L. Bacon	DEC 11 2015 1225
T.L. BACON/CHPRC	Troy L. Bacon	DEC 11 2015 1400	FEDEX		
FEDEX			Brian Daniel B		12/12/15 09a

Matrix *

S	= Soil	DS	= Drum Solids
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SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 **FSR ID = FSR7366** A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-070**

Collector	K.C. Patterson/CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 50 56	**Ice Chest No.**	GWS-489
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	775184485974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	N/A

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B339D0	N	W	DEC 10 2015	0841	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B339D0	N	W	/	/	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B339C9	Y	W	/	/	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
K.C. Patterson/CHPRC			DEC 10 2015 1130	SSU-1			DEC 10 2015 1130
SSU-1			DEC 11 2015 0800	T.L. BACON/CHPRC		Troy L. Bacon	DEC 11 2015 0800
T.L. BACON/CHPRC		Troy L. Bacon	DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniels		B	12/12/15 0900

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 **FSR ID = FSR7374** A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-071**

Collector	S.W. King/CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 83/9	**Ice Chest No.**	GW-489
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	775184485974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	NA

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B33948	N	W	DEC 11 2015	0935	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33948	N	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B33947	Y	W	DEC 11 2015	0935	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
S.W. King/CHPRC			DEC 11 2015 1020	CHRIS FULTON CHPRC			DEC 11 2015 1020
CHRIS FULTON CHPRC			DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniels			12/12/15 0900

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 **FSR ID = FSR7354** A-6004-842 (REV 2)

87 16

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-073**

Page 1 of 1

Collector	K.C. Patterson CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 80/58	**Ice Chest No.**	GWS-489
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	775184485974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	NA

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B33976	N	W	DEC 11 2015	0857	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33976	N	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B33975	Y	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
K.C. Patterson CHPRC			DEC 11 2015 0920	CHRIS FULTON CHPRC			DEC 11 2015 0920
CHRIS FULTON CHPRC			DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniels			12/12/15 0900

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 **FSR ID = FSR7362** A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-074**

Collector	K.C. Patterson/CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506____/____	**Ice Chest No.**	GWS-489
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	775184485974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	N/A

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B339B0	N	W	DEC 10 2015	1247	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B339B0	N	W			1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B33999	Y	W			1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	K.C. Patterson/CHPRC		DEC 10 2015 1335	SSU-1			DEC 10 2015 1335
SSU-1			DEC 11 2015 0800		T.L. BACON/CHPRC	Troy L. Bacon	DEC 11 2015 0800
	T.L. BACON/CHPRC	Troy L. Bacon	DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniels		B	12/11/15 0900

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 FSR ID = FSR7369 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-076**

Collector	K.C. Patterson CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 80/58	**Ice Chest No.**	GWS-489
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	775184485974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	NA

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B33963	Y	W	DEC 11 2015	0926	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33964	N	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33964	N	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
K.C. Patterson CHPRC			DEC 11 2015 0930	CHRIS FULTON CHPRC			DEC 11 2015 0930
CHRIS FULTON CHPRC			DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniels		B-l	12/12/15 0900

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 FSR ID = FSR7359 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-077**

Collector	S.W. King/CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 839/9	**Ice Chest No.**	GWS-485
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7751867835 05
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	N/A

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B33987	Y	W	DEC 11 2015	1045	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33988	N	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33988	N	W	DEC 11 2015	1045	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
S.W. King/CHPRC			DEC 11 2015	T.L. BACON/CHPRC			DEC 11 2015
T.L. BACON/CHPRC			DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniels			12/12/15 0900

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 FSR ID = FSR7365 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-078**

Collector	S.W. King/CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 83 / 9	**Ice Chest No.**	GW05-489
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	775184485974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	N/A

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B33952	N	W	DEC 11 2015	1012	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33952	N	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B33951	Y	W	DEC 11 2015	1012	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
S.W. King/CHPRC			DEC 11 2015 1020	CHRIS FULTON CHPRC			DEC 11 2015 1020
CHRIS FULTON CHPRC			DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniel B			12/12/15 0900

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 **FSR ID = FSR7356** A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-079**

Collector	S.W. King/CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 83/9	**Ice Chest No.**	GW-489
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	775184485974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	NA

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B33940	N	W	DEC 11 2015	0825	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33940	N	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B33939	Y	W	DEC 11 2015	0825	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By	Received By
Print: S.W. King/CHPRC; Sign: Scott Ruiz; Date/Time: DEC 11 2015 0920	Print: CHRIS FULTON CHPRC; Sign: [signature]; Date/Time: DEC 11 2015 0920
Print: CHRIS FULTON CHPRC; Sign: [signature]; Date/Time: DEC 11 2015 1400	Received By: FEDEX; Date/Time:
Relinquished By: FED EX; Date/Time:	Received By: Brian Davis [signature]; Date/Time: 12/12/15 0900
Relinquished By: ; Date/Time:	Received By: ; Date/Time:

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 FSR ID = FSR7353 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-080**

Collector	K.C. Patterson CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 80/58	**Ice Chest No.**	GWS-489
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	775184485974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	NA

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B33967	Y	W	DEC 11 2015	0949	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33968	N	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33968	N	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
K.C. Patterson CHPRC			DEC 11 2015 1000	CHRIS FULTON CHPRC			DEC 11 2015 1000
CHRIS FULTON CHPRC			DEC 11 2015 1400	FEDEX			
FED EX				Brian Daniels			12/12/15 0900

Matrix *

S	= Soil	DS	= Drum Solids		
SE	= Sediment	DL	= Drum Liquids		
SO	= Solid	T	= Tissue		
SL	= Sludge	WI	= Wipe		
W	= Water	L	= Liquid		
O	= Oil	V	= Vegetation		
A	= Air	X	= Other		

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 **FSR ID = FSR7360** A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2067

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X15-069-081**

Collector	K.C. Patterson CHPRC	**Contact/Requester**	WHITLEY, KM	**Telephone No.**	373-4929
SAF No.	X15-069	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300205
Project Title	300 Area Uranium Sequestration Post Inj	**Logbook No.**	HNF-N-506 80 / 58	**Ice Chest No.**	GWS-489
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7758448 5974
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	N/A

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B33972	N	W	DEC 1 1 2015	0806	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B33972	N	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B33971	Y	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
K.C. Patterson CHPRC			DEC 1 1 2015 0920	CHRIS FULTON CHPRC			DEC 1 1 2015 0920
CHRIS FULTON CHPRC			DEC 1 1 2015	FEDEX			
FED EX				Brian Daniels			12/12/15 0900

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 10/1/2015 **FSR ID = FSR7361** A-6004-842 (REV 2)

FedEx ® Tracking

775184485974

Ship date
Fri 12/11/2015

RICHLAND, WA US

Delivered
Signed for by: B.DANIELS

Actual delivery
Sat 12/12/2015 8:57 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 12/12/2015 - Saturday		
8:57 am	Delivered	EARTH CITY, MO
7:53 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:45 am	At local FedEx facility	EARTH CITY, MO
6:06 am	At local FedEx facility	BERKELEY, MO
5:23 am	At destination sort facility	BERKELEY, MO
4:35 am	Departed FedEx location	MEMPHIS, TN
12:46 am	Arrived at FedEx location	MEMPHIS, TN
- 12/11/2015 - Friday		
5:08 pm	Left FedEx origin facility	PASCO, WA
3:25 pm	Picked up	PASCO, WA
1:31 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking number	775184485974	**Service**	FedEx Priority Overnight
Weight	87 lbs / 39.46 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	87 lbs / 39.46 kgs
Shipper reference	gws-489	**Packaging**	Your Packaging
Special handling section	For Saturday Delivery; Additional Handling Surcharge		

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FedEx ® Tracking

775186783505

Ship date
Fri 12/11/2015
RICHLAND, WA US

Delivered
Signed for by: B DANIELS

Actual delivery
Sat 12/12/2015 8:57 am
EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 12/12/2015 - Saturday		
8:57 am	Delivered	EARTH CITY, MO
7:50 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:45 am	At local FedEx facility	EARTH CITY, MO
6:08 am	At local FedEx facility	BERKELEY, MO
5:23 am	At destination sort facility	BERKELEY, MO
4:35 am	Departed FedEx location	MEMPHIS, TN
12:46 am	Arrived at FedEx location	MEMPHIS, TN
- 12/11/2015 - Friday		
5:08 pm	Left FedEx origin facility	PASCO, WA
3:25 pm	Picked up	PASCO, WA
3:18 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking number	775186783505	Service	FedEx Priority Overnight
Weight	47 lbs / 21.32 kgs	Dimensions	16x16x17 in.
Delivered To	Shipping/Receiving	Total pieces	1
Total shipment weight	47 lbs / 21.32 kgs	Shipper reference	gws-485
Packaging	Your Packaging	Special handling section	For Saturday Delivery, Additional Handling Surcharge

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Qualifiers

Metals

Qualifier	Qualifier Description
D	The reported value is from a dilution.
B	Estimated result. Result is less than the RL, but greater than MDL
U	Analyzed for but not detected.
N	Recovery exceeds upper or lower control limits

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-069

TestAmerica Job ID: 160-15356-1
SDG: SL2067

Method	Method Description	Protocol	Laboratory
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

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-069

TestAmerica Job ID: 160-15356-1
SDG: SL2067

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-15356-1	B339D8	Water	12/11/15 10:22	12/12/15 09:00
160-15356-2	B339D7	Water	12/11/15 10:22	12/12/15 09:00
160-15356-3	B339H2	Water	12/11/15 08:25	12/12/15 09:00
160-15356-4	B339H3	Water	12/11/15 08:25	12/12/15 09:00
160-15356-5	B33943	Water	12/11/15 08:55	12/12/15 09:00
160-15356-6	B33944	Water	12/11/15 08:55	12/12/15 09:00
160-15356-7	B33991	Water	12/11/15 11:10	12/12/15 09:00
160-15356-8	B33992	Water	12/11/15 11:10	12/12/15 09:00
160-15356-9	B339D0	Water	12/10/15 08:41	12/12/15 09:00
160-15356-10	B339C9	Water	12/10/15 08:41	12/12/15 09:00
160-15356-11	B33948	Water	12/11/15 09:35	12/12/15 09:00
160-15356-12	B33947	Water	12/11/15 09:35	12/12/15 09:00
160-15356-13	B33976	Water	12/11/15 08:57	12/12/15 09:00
160-15356-14	B33975	Water	12/11/15 08:57	12/12/15 09:00
160-15356-15	B339B0	Water	12/10/15 12:47	12/12/15 09:00
160-15356-16	B33999	Water	12/10/15 12:47	12/12/15 09:00
160-15356-17	B33963	Water	12/11/15 09:26	12/12/15 09:00
160-15356-18	B33964	Water	12/11/15 09:26	12/12/15 09:00
160-15356-19	B33987	Water	12/11/15 10:45	12/12/15 09:00
160-15356-20	B33988	Water	12/11/15 10:45	12/12/15 09:00
160-15356-21	B33952	Water	12/11/15 10:12	12/12/15 09:00
160-15356-22	B33951	Water	12/11/15 10:12	12/12/15 09:00
160-15356-23	B33940	Water	12/11/15 08:25	12/12/15 09:00
160-15356-24	B33939	Water	12/11/15 08:25	12/12/15 09:00
160-15356-25	B33967	Water	12/11/15 09:49	12/12/15 09:00
160-15356-26	B33968	Water	12/11/15 09:49	12/12/15 09:00
160-15356-27	B33972	Water	12/11/15 08:06	12/12/15 09:00
160-15356-28	B33971	Water	12/11/15 08:06	12/12/15 09:00

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-069

TestAmerica Job ID: 160-15356-1
SDG: SL2067

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B339D8 — **Lab Sample ID: 160-15356-1**
Date Collected: 12/11/15 10:22 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	3.2	B D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 19:06	10
Sodium	185000	D	250	119	ug/L		12/21/15 12:34	01/21/16 19:06	10
Potassium	52800	D	500	208	ug/L		12/21/15 12:34	01/21/16 19:06	10
Calcium	25300	D	500	341	ug/L		12/21/15 12:34	01/21/16 19:06	10
Magnesium	9720	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 19:06	10

Client Sample ID: B339H3 — **Lab Sample ID: 160-15356-4**
Date Collected: 12/11/15 08:25 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	47.6	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 19:46	10
Sodium	158000	D	250	119	ug/L		12/21/15 12:34	01/21/16 19:46	10
Potassium	19300	D	500	208	ug/L		12/21/15 12:34	01/21/16 19:46	10
Calcium	52600	D	500	341	ug/L		12/21/15 12:34	01/21/16 19:46	10
Magnesium	14800	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 19:46	10

Client Sample ID: B33944 — **Lab Sample ID: 160-15356-6**
Date Collected: 12/11/15 08:55 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	59.2	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 20:20	10
Sodium	335000	D	250	119	ug/L		12/21/15 12:34	01/21/16 20:20	10
Potassium	81900	D	500	208	ug/L		12/21/15 12:34	01/21/16 20:20	10
Calcium	35700	D	500	341	ug/L		12/21/15 12:34	01/21/16 20:20	10
Magnesium	12800	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 20:20	10

Client Sample ID: B33992 — **Lab Sample ID: 160-15356-8**
Date Collected: 12/11/15 11:10 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	1050	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 20:33	10
Sodium	120000	D	250	119	ug/L		12/21/15 12:34	01/21/16 20:33	10
Potassium	9220	D	500	208	ug/L		12/21/15 12:34	01/21/16 20:33	10
Calcium	88400	D	500	341	ug/L		12/21/15 12:34	01/21/16 20:33	10
Magnesium	22700	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 20:33	10

Client Sample ID: B339D0 — **Lab Sample ID: 160-15356-9**
Date Collected: 12/10/15 08:41 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	33.9	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 20:40	10
Sodium	679000	D	250	119	ug/L		12/21/15 12:34	01/21/16 20:40	10
Potassium	125000	D	500	208	ug/L		12/21/15 12:34	01/21/16 20:40	10
Calcium	14800	D	500	341	ug/L		12/21/15 12:34	01/21/16 20:40	10
Magnesium	12900	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 20:40	10

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-069

TestAmerica Job ID: 160-15356-1
SDG: SL2067

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B33948 — **Lab Sample ID: 160-15356-11**
Date Collected: 12/11/15 09:35 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	56.3		1.0	0.23	ug/L		12/21/15 12:34	01/21/16 20:53	2
Sodium	33700		50.0	23.7	ug/L		12/21/15 12:34	01/21/16 20:53	2
Potassium	6650		100	41.6	ug/L		12/21/15 12:34	01/21/16 20:53	2
Calcium	66700		100	68.1	ug/L		12/21/15 12:34	01/21/16 20:53	2
Magnesium	16900		50.0	5.6	ug/L		12/21/15 12:34	01/21/16 20:53	2

Client Sample ID: B33976 — **Lab Sample ID: 160-15356-13**
Date Collected: 12/11/15 08:57 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	11.0	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 21:07	10
Sodium	333000	D	250	119	ug/L		12/21/15 12:34	01/21/16 21:07	10
Potassium	107000	D	500	208	ug/L		12/21/15 12:34	01/21/16 21:07	10
Calcium	31100	D	500	341	ug/L		12/21/15 12:34	01/21/16 21:07	10
Magnesium	11500	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 21:07	10

Client Sample ID: B339B0 — **Lab Sample ID: 160-15356-15**
Date Collected: 12/10/15 12:47 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	6.4	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 21:40	10
Sodium	119000	D	250	119	ug/L		12/21/15 12:34	01/21/16 21:40	10
Potassium	10100	D	500	208	ug/L		12/21/15 12:34	01/21/16 21:40	10
Calcium	61800	D	500	341	ug/L		12/21/15 12:34	01/21/16 21:40	10
Magnesium	17100	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 21:40	10

Client Sample ID: B33964 — **Lab Sample ID: 160-15356-18**
Date Collected: 12/11/15 09:26 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	28.2		1.0	0.23	ug/L		12/21/15 12:34	01/21/16 22:00	2
Sodium	36800		50.0	23.7	ug/L		12/21/15 12:34	01/21/16 22:00	2
Potassium	7510		100	41.6	ug/L		12/21/15 12:34	01/21/16 22:00	2
Calcium	65900		100	68.1	ug/L		12/21/15 12:34	01/21/16 22:00	2
Magnesium	16600		50.0	5.6	ug/L		12/21/15 12:34	01/21/16 22:00	2

Client Sample ID: B33988 — **Lab Sample ID: 160-15356-20**
Date Collected: 12/11/15 10:45 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	7.2	B D	10.0	2.3	ug/L		12/21/15 12:34	01/21/16 22:14	20
Sodium	1110000	D	500	237	ug/L		12/21/15 12:34	01/22/16 15:03	20
Potassium	600000	D	1000	416	ug/L		12/21/15 12:34	01/21/16 22:14	20
Calcium	126000	D	1000	681	ug/L		12/21/15 12:34	01/21/16 22:14	20
Magnesium	165000	D	500	55.9	ug/L		12/21/15 12:34	01/21/16 22:14	20

Client Sample ID: B33952 — **Lab Sample ID: 160-15356-21**
Date Collected: 12/11/15 10:12 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	134		1.0	0.23	ug/L		12/21/15 12:37	01/21/16 22:34	2

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

Client Sample ID: B33952 — **Lab Sample ID: 160-15356-21**
Date Collected: 12/11/15 10:12 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	24700	N	50.0	23.7	ug/L		12/21/15 12:37	01/21/16 22:34	2
Potassium	4450		100	41.6	ug/L		12/21/15 12:37	01/21/16 22:34	2
Calcium	70800		100	68.1	ug/L		12/21/15 12:37	01/21/16 22:34	2
Magnesium	15400		50.0	5.6	ug/L		12/21/15 12:37	01/21/16 22:34	2

Client Sample ID: B33940 — **Lab Sample ID: 160-15356-23**
Date Collected: 12/11/15 08:25 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	47.4	D	5.0	1.2	ug/L		12/21/15 12:37	01/21/16 23:27	10
Sodium	144000	D N	250	119	ug/L		12/21/15 12:37	01/21/16 23:27	10
Potassium	18000	D	500	208	ug/L		12/21/15 12:37	01/21/16 23:27	10
Calcium	50400	D	500	341	ug/L		12/21/15 12:37	01/21/16 23:27	10
Magnesium	13500	D	250	28.0	ug/L		12/21/15 12:37	01/21/16 23:27	10

Client Sample ID: B33968 — **Lab Sample ID: 160-15356-26**
Date Collected: 12/11/15 09:49 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	74.4		1.0	0.23	ug/L		12/21/15 12:37	01/21/16 23:48	2
Sodium	33200	N	50.0	23.7	ug/L		12/21/15 12:37	01/21/16 23:48	2
Potassium	6560		100	41.6	ug/L		12/21/15 12:37	01/21/16 23:48	2
Calcium	66800		100	68.1	ug/L		12/21/15 12:37	01/21/16 23:48	2
Magnesium	16600		50.0	5.6	ug/L		12/21/15 12:37	01/21/16 23:48	2

Client Sample ID: B33972 — **Lab Sample ID: 160-15356-27**
Date Collected: 12/11/15 08:06 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	9.4	D	5.0	1.2	ug/L		12/21/15 12:37	01/21/16 23:54	10
Sodium	87800	D N	250	119	ug/L		12/21/15 12:37	01/21/16 23:54	10
Potassium	25000	D	500	208	ug/L		12/21/15 12:37	01/21/16 23:54	10
Calcium	56600	D	500	341	ug/L		12/21/15 12:37	01/21/16 23:54	10
Magnesium	15000	D	250	28.0	ug/L		12/21/15 12:37	01/21/16 23:54	10

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

Client Sample ID: B339D7 — **Lab Sample ID: 160-15356-2**
Date Collected: 12/11/15 10:22 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	3.7	B D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 19:33	10
Sodium	259000	D	250	119	ug/L		12/21/15 12:34	01/21/16 19:33	10
Potassium	72900	D	500	208	ug/L		12/21/15 12:34	01/21/16 19:33	10
Calcium	34300	D	500	341	ug/L		12/21/15 12:34	01/21/16 19:33	10
Magnesium	13600	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 19:33	10

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-069

TestAmerica Job ID: 160-15356-1
SDG: SL2067

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

Client Sample ID: B339H2 — **Lab Sample ID: 160-15356-3**
Date Collected: 12/11/15 08:25 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	49.4	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 19:39	10
Sodium	160000	D	250	119	ug/L		12/21/15 12:34	01/21/16 19:39	10
Potassium	19500	D	500	208	ug/L		12/21/15 12:34	01/21/16 19:39	10
Calcium	53200	D	500	341	ug/L		12/21/15 12:34	01/21/16 19:39	10
Magnesium	14700	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 19:39	10

Client Sample ID: B33943 — **Lab Sample ID: 160-15356-5**
Date Collected: 12/11/15 08:55 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	50.5	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 20:13	10
Sodium	299000	D	250	119	ug/L		12/21/15 12:34	01/21/16 20:13	10
Potassium	71700	D	500	208	ug/L		12/21/15 12:34	01/21/16 20:13	10
Calcium	32000	D	500	341	ug/L		12/21/15 12:34	01/21/16 20:13	10
Magnesium	11300	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 20:13	10

Client Sample ID: B33991 — **Lab Sample ID: 160-15356-7**
Date Collected: 12/11/15 11:10 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	1020	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 20:26	10
Sodium	120000	D	250	119	ug/L		12/21/15 12:34	01/21/16 20:26	10
Potassium	9160	D	500	208	ug/L		12/21/15 12:34	01/21/16 20:26	10
Calcium	88600	D	500	341	ug/L		12/21/15 12:34	01/21/16 20:26	10
Magnesium	22700	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 20:26	10

Client Sample ID: B339C9 — **Lab Sample ID: 160-15356-10**
Date Collected: 12/10/15 08:41 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	38.4	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 20:47	10
Sodium	685000	D	250	119	ug/L		12/21/15 12:34	01/21/16 20:47	10
Potassium	124000	D	500	208	ug/L		12/21/15 12:34	01/21/16 20:47	10
Calcium	14900	D	500	341	ug/L		12/21/15 12:34	01/21/16 20:47	10
Magnesium	13000	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 20:47	10

Client Sample ID: B33947 — **Lab Sample ID: 160-15356-12**
Date Collected: 12/11/15 09:35 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	57.6		1.0	0.23	ug/L		12/21/15 12:34	01/21/16 21:00	2
Sodium	33400		50.0	23.7	ug/L		12/21/15 12:34	01/21/16 21:00	2
Potassium	6700		100	41.6	ug/L		12/21/15 12:34	01/21/16 21:00	2
Calcium	67200		100	68.1	ug/L		12/21/15 12:34	01/21/16 21:00	2
Magnesium	16700		50.0	5.6	ug/L		12/21/15 12:34	01/21/16 21:00	2

Client Sample ID: B33975 — **Lab Sample ID: 160-15356-14**
Date Collected: 12/11/15 08:57 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	10.1	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 21:13	10

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

Client Sample ID: B33975 — **Lab Sample ID: 160-15356-14**
Date Collected: 12/11/15 08:57 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	343000	D	250	119	ug/L		12/21/15 12:34	01/21/16 21:13	10
Potassium	111000	D	500	208	ug/L		12/21/15 12:34	01/21/16 21:13	10
Calcium	31100	D	500	341	ug/L		12/21/15 12:34	01/21/16 21:13	10
Magnesium	11500	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 21:13	10

Client Sample ID: B33999 — **Lab Sample ID: 160-15356-16**
Date Collected: 12/10/15 12:47 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	5.9	D	5.0	1.2	ug/L		12/21/15 12:34	01/21/16 21:47	10
Sodium	116000	D	250	119	ug/L		12/21/15 12:34	01/21/16 21:47	10
Potassium	9770	D	500	208	ug/L		12/21/15 12:34	01/21/16 21:47	10
Calcium	59500	D	500	341	ug/L		12/21/15 12:34	01/21/16 21:47	10
Magnesium	16600	D	250	28.0	ug/L		12/21/15 12:34	01/21/16 21:47	10

Client Sample ID: B33963 — **Lab Sample ID: 160-15356-17**
Date Collected: 12/11/15 09:26 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	25.3		1.0	0.23	ug/L		12/21/15 12:34	01/21/16 21:54	2
Sodium	35900		50.0	23.7	ug/L		12/21/15 12:34	01/21/16 21:54	2
Potassium	7300		100	41.6	ug/L		12/21/15 12:34	01/21/16 21:54	2
Calcium	63600		100	68.1	ug/L		12/21/15 12:34	01/21/16 21:54	2
Magnesium	16200		50.0	5.6	ug/L		12/21/15 12:34	01/21/16 21:54	2

Client Sample ID: B33987 — **Lab Sample ID: 160-15356-19**
Date Collected: 12/11/15 10:45 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	2.3	U	10.0	2.3	ug/L		12/21/15 12:34	01/21/16 22:07	20
Sodium	1000000	D	500	237	ug/L		12/21/15 12:34	01/21/16 22:07	20
Potassium	64700	D	1000	416	ug/L		12/21/15 12:34	01/21/16 22:07	20
Calcium	13400	D	1000	681	ug/L		12/21/15 12:34	01/21/16 22:07	20
Magnesium	17200	D	500	55.9	ug/L		12/21/15 12:34	01/21/16 22:07	20

Client Sample ID: B33951 — **Lab Sample ID: 160-15356-22**
Date Collected: 12/11/15 10:12 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	178		1.0	0.23	ug/L		12/21/15 12:37	01/21/16 23:21	2
Sodium	33000		50.0	23.7	ug/L		12/21/15 12:37	01/21/16 23:21	2
Potassium	5890		100	41.6	ug/L		12/21/15 12:37	01/21/16 23:21	2
Calcium	92500		100	68.1	ug/L		12/21/15 12:37	01/21/16 23:21	2
Magnesium	20700		50.0	5.6	ug/L		12/21/15 12:37	01/21/16 23:21	2

Client Sample ID: B33939 — **Lab Sample ID: 160-15356-24**
Date Collected: 12/11/15 08:25 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	47.8	D	5.0	1.2	ug/L		12/21/15 12:37	01/21/16 23:34	10
Sodium	144000	D	250	119	ug/L		12/21/15 12:37	01/21/16 23:34	10

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

Client Sample ID: B33939 — **Lab Sample ID: 160-15356-24**
Date Collected: 12/11/15 08:25 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	17800	D	500	208	ug/L		12/21/15 12:37	01/21/16 23:34	10
Calcium	49500	D	500	341	ug/L		12/21/15 12:37	01/21/16 23:34	10
Magnesium	13400	D	250	28.0	ug/L		12/21/15 12:37	01/21/16 23:34	10

Client Sample ID: B33967 — **Lab Sample ID: 160-15356-25**
Date Collected: 12/11/15 09:49 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	70.8		1.0	0.23	ug/L		12/21/15 12:37	01/21/16 23:41	2
Sodium	32300		50.0	23.7	ug/L		12/21/15 12:37	01/21/16 23:41	2
Potassium	6580		100	41.6	ug/L		12/21/15 12:37	01/21/16 23:41	2
Calcium	65000		100	68.1	ug/L		12/21/15 12:37	01/21/16 23:41	2
Magnesium	16100		50.0	5.6	ug/L		12/21/15 12:37	01/21/16 23:41	2

Client Sample ID: B33971 — **Lab Sample ID: 160-15356-28**
Date Collected: 12/11/15 08:06 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	8.8	D	5.0	1.2	ug/L		12/21/15 12:37	01/22/16 00:01	10
Sodium	92000	D	250	119	ug/L		12/21/15 12:37	01/22/16 00:01	10
Potassium	27100	D	500	208	ug/L		12/21/15 12:37	01/22/16 00:01	10
Calcium	55600	D	500	341	ug/L		12/21/15 12:37	01/22/16 00:01	10
Magnesium	14700	D	250	28.0	ug/L		12/21/15 12:37	01/22/16 00:01	10

General Chemistry

Client Sample ID: B339D8 — **Lab Sample ID: 160-15356-1**
Date Collected: 12/11/15 10:22 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	248		5.0	0.54	mg/L			12/15/15 07:50	1
Bicarbonate Alkalinity	248		5.0	0.54	mg/L			12/15/15 07:50	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1

Client Sample ID: B339H3 — **Lab Sample ID: 160-15356-4**
Date Collected: 12/11/15 08:25 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	210		5.0	0.54	mg/L			12/15/15 07:50	1
Bicarbonate Alkalinity	210		5.0	0.54	mg/L			12/15/15 07:50	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1

Client Sample ID: B33944 — **Lab Sample ID: 160-15356-6**
Date Collected: 12/11/15 08:55 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	370		5.0	0.54	mg/L			12/15/15 07:50	1
Bicarbonate Alkalinity	370		5.0	0.54	mg/L			12/15/15 07:50	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1

General Chemistry (Continued)

Client Sample ID: B33944 — **Lab Sample ID: 160-15356-6**
Date Collected: 12/11/15 08:55 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1

Client Sample ID: B33992 — **Lab Sample ID: 160-15356-8**
Date Collected: 12/11/15 11:10 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**263**		5.0	0.54	mg/L			12/15/15 07:50	1
Bicarbonate Alkalinity	**263**		5.0	0.54	mg/L			12/15/15 07:50	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1

Client Sample ID: B339D0 — **Lab Sample ID: 160-15356-9**
Date Collected: 12/10/15 08:41 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**530**		5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	**530**		5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

Client Sample ID: B33948 — **Lab Sample ID: 160-15356-11**
Date Collected: 12/11/15 09:35 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**128**		5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	**128**		5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

Client Sample ID: B33976 — **Lab Sample ID: 160-15356-13**
Date Collected: 12/11/15 08:57 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**312**		5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	**312**		5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

Client Sample ID: B339B0 — **Lab Sample ID: 160-15356-15**
Date Collected: 12/10/15 12:47 — **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**163**		5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	**163**		5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

General Chemistry

Client Sample ID: B33964 **Lab Sample ID: 160-15356-18**
Date Collected: 12/11/15 09:26 **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**127**		5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	**127**		5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

Client Sample ID: B33988 **Lab Sample ID: 160-15356-20**
Date Collected: 12/11/15 10:45 **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**802**		5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	**802**		5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

Client Sample ID: B33952 **Lab Sample ID: 160-15356-21**
Date Collected: 12/11/15 10:12 **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**192**		5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	**192**		5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

Client Sample ID: B33940 **Lab Sample ID: 160-15356-23**
Date Collected: 12/11/15 08:25 **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**206**		5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	**206**		5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

Client Sample ID: B33968 **Lab Sample ID: 160-15356-26**
Date Collected: 12/11/15 09:49 **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**126**		5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	**126**		5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

Client Sample ID: B33972 **Lab Sample ID: 160-15356-27**
Date Collected: 12/11/15 08:06 **Matrix: Water**
Date Received: 12/12/15 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**154**		5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	**154**		5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-069

TestAmerica Job ID: 160-15356-1
SDG: SL2067

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 160-228518/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 233591 — **Prep Batch: 228518**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	0.23	U	1.0	0.23	ug/L		12/21/15 12:34	01/21/16 18:52	2
Sodium	38.56	B	50.0	23.7	ug/L		12/21/15 12:34	01/21/16 18:52	2
Potassium	41.6	U	100	41.6	ug/L		12/21/15 12:34	01/21/16 18:52	2
Calcium	68.1	U	100	68.1	ug/L		12/21/15 12:34	01/21/16 18:52	2
Magnesium	5.6	U	50.0	5.6	ug/L		12/21/15 12:34	01/21/16 18:52	2

Lab Sample ID: LCS 160-228518/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 233591 — **Prep Batch: 228518**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	1000	1001		ug/L		100	80 - 120
Sodium	10000	9794		ug/L		98	80 - 120
Potassium	10000	9841		ug/L		98	80 - 120
Calcium	10000	10350		ug/L		103	80 - 120
Magnesium	10000	9479		ug/L		95	80 - 120

Lab Sample ID: 160-15356-1 MS — **Client Sample ID: B339D8**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 233591 — **Prep Batch: 228518**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	3.2	B D	1000	1005	D	ug/L		100	75 - 125
Sodium	185000	D	10000	195000	D	ug/L		95	75 - 125
Potassium	52800	D	10000	62570	D	ug/L		98	75 - 125
Calcium	25300	D	10000	35770	D	ug/L		105	75 - 125
Magnesium	9720	D	10000	19990	D	ug/L		103	75 - 125

Lab Sample ID: 160-15356-1 MSD — **Client Sample ID: B339D8**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 233591 — **Prep Batch: 228518**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	3.2	B D	1000	969.9	D	ug/L		97	75 - 125	4	20
Sodium	185000	D	10000	191900	D	ug/L		64	75 - 125	2	20
Potassium	52800	D	10000	61180	D	ug/L		84	75 - 125	2	20
Calcium	25300	D	10000	34810	D	ug/L		95	75 - 125	3	20
Magnesium	9720	D	10000	19510	D	ug/L		98	75 - 125	2	20

Lab Sample ID: MB 160-228520/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 233592 — **Prep Batch: 228520**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	0.23	U	1.0	0.23	ug/L		12/21/15 12:37	01/21/16 22:21	2
Sodium	141.6		50.0	23.7	ug/L		12/21/15 12:37	01/21/16 22:21	2
Potassium	41.6	U	100	41.6	ug/L		12/21/15 12:37	01/21/16 22:21	2
Calcium	68.1	U	100	68.1	ug/L		12/21/15 12:37	01/21/16 22:21	2
Magnesium	5.6	U	50.0	5.6	ug/L		12/21/15 12:37	01/21/16 22:21	2

Lab Sample ID: LCS 160-228520/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 233592 — **Prep Batch: 228520**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	1000	952.8		ug/L		95	80 - 120
Sodium	10000	9582		ug/L		96	80 - 120
Potassium	10000	9674		ug/L		97	80 - 120
Calcium	10000	10200		ug/L		102	80 - 120
Magnesium	10000	9195		ug/L		92	80 - 120

Lab Sample ID: 160-15356-21 MS — **Client Sample ID: B33952**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 233592 — **Prep Batch: 228520**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	134		1000	1103		ug/L		97	75 - 125
Sodium	24700	N	10000	32110	N	ug/L		74	75 - 125
Potassium	4450		10000	13760		ug/L		93	75 - 125
Calcium	70800		10000	79650		ug/L		89	75 - 125
Magnesium	15400		10000	23240		ug/L		78	75 - 125

Lab Sample ID: 160-15356-21 MSD — **Client Sample ID: B33952**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 233592 — **Prep Batch: 228520**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	134		1000	1118		ug/L		98	75 - 125	1	20
Sodium	24700	N	10000	32960		ug/L		83	75 - 125	3	20
Potassium	4450		10000	13960		ug/L		95	75 - 125	1	20
Calcium	70800		10000	81270		ug/L		105	75 - 125	2	20
Magnesium	15400		10000	23850		ug/L		84	75 - 125	3	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-227201/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 227201

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1
Bicarbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/15/15 07:50	1

Lab Sample ID: HLCS 160-227201/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 227201

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	400	380.0		mg/L		95	90 - 110
Bicarbonate Alkalinity	400	380.0		mg/L		95	90 - 110

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: LCS 160-227201/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 227201

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	190.0		mg/L		95	90 - 110
Bicarbonate Alkalinity	200	190.0		mg/L		95	90 - 110

Lab Sample ID: 160-15322-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 227201

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	150		100	250.0		mg/L		100	80 - 120
Bicarbonate Alkalinity	150		100	250.0		mg/L		100	80 - 120

Lab Sample ID: 160-15322-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 227201

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	150		154.0		mg/L		3	20
Bicarbonate Alkalinity	150		154.0		mg/L		3	20
Carbonate Alkalinity	0.54	U	0.54	U	mg/L		NC	20
Hydroxide Alkalinity	0.54	U	0.54	U	mg/L		NC	20

Lab Sample ID: MB 160-227547/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 227547

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Bicarbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			12/16/15 09:20	1

Lab Sample ID: HLCS 160-227547/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 227547

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	400	377.0		mg/L		94	90 - 110
Bicarbonate Alkalinity	400	377.0		mg/L		94	90 - 110

Lab Sample ID: LCS 160-227547/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 227547

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

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: 160-15356-9 MS — **Client Sample ID: B339D0**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 227547

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	530		100	620.0		mg/L		90	80 - 120
Bicarbonate Alkalinity	530		100	620.0		mg/L		90	80 - 120

Lab Sample ID: 160-15356-9 DU — **Client Sample ID: B339D0**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 227547

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	530		532.0		mg/L		0.4	20
Bicarbonate Alkalinity	530		532.0		mg/L		0.4	20
Carbonate Alkalinity	0.54	U	0.54	U	mg/L		NC	20
Hydroxide Alkalinity	0.54	U	0.54	U	mg/L		NC	20

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-069

TestAmerica Job ID: 160-15356-1
SDG: SL2067

Metals

Prep Batch: 228518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-15356-1	B339D8	Total/NA	Water	3010A	
160-15356-1 MS	B339D8	Total/NA	Water	3010A	
160-15356-1 MSD	B339D8	Total/NA	Water	3010A	
160-15356-2	B339D7	Dissolved	Water	3010A	
160-15356-3	B339H2	Dissolved	Water	3010A	
160-15356-4	B339H3	Total/NA	Water	3010A	
160-15356-5	B33943	Dissolved	Water	3010A	
160-15356-6	B33944	Total/NA	Water	3010A	
160-15356-7	B33991	Dissolved	Water	3010A	
160-15356-8	B33992	Total/NA	Water	3010A	
160-15356-9	B339D0	Total/NA	Water	3010A	
160-15356-10	B339C9	Dissolved	Water	3010A	
160-15356-11	B33948	Total/NA	Water	3010A	
160-15356-12	B33947	Dissolved	Water	3010A	
160-15356-13	B33976	Total/NA	Water	3010A	
160-15356-14	B33975	Dissolved	Water	3010A	
160-15356-15	B339B0	Total/NA	Water	3010A	
160-15356-16	B33999	Dissolved	Water	3010A	
160-15356-17	B33963	Dissolved	Water	3010A	
160-15356-18	B33964	Total/NA	Water	3010A	
160-15356-19	B33987	Dissolved	Water	3010A	
160-15356-20	B33988	Total/NA	Water	3010A	
LCS 160-228518/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-228518/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 228520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-15356-21	B33952	Total/NA	Water	3010A	
160-15356-21 MS	B33952	Total/NA	Water	3010A	
160-15356-21 MSD	B33952	Total/NA	Water	3010A	
160-15356-22	B33951	Dissolved	Water	3010A	
160-15356-23	B33940	Total/NA	Water	3010A	
160-15356-24	B33939	Dissolved	Water	3010A	
160-15356-25	B33967	Dissolved	Water	3010A	
160-15356-26	B33968	Total/NA	Water	3010A	
160-15356-27	B33972	Total/NA	Water	3010A	
160-15356-28	B33971	Dissolved	Water	3010A	
LCS 160-228520/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-228520/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 233591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-15356-1	B339D8	Total/NA	Water	6020A	228518
160-15356-1 MS	B339D8	Total/NA	Water	6020A	228518
160-15356-1 MSD	B339D8	Total/NA	Water	6020A	228518
160-15356-2	B339D7	Dissolved	Water	6020A	228518
160-15356-3	B339H2	Dissolved	Water	6020A	228518
160-15356-4	B339H3	Total/NA	Water	6020A	228518
160-15356-5	B33943	Dissolved	Water	6020A	228518
160-15356-6	B33944	Total/NA	Water	6020A	228518
160-15356-7	B33991	Dissolved	Water	6020A	228518

Metals (Continued)

Analysis Batch: 233591 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-15356-8	B33992	Total/NA	Water	6020A	228518
160-15356-9	B339D0	Total/NA	Water	6020A	228518
160-15356-10	B339C9	Dissolved	Water	6020A	228518
160-15356-11	B33948	Total/NA	Water	6020A	228518
160-15356-12	B33947	Dissolved	Water	6020A	228518
160-15356-13	B33976	Total/NA	Water	6020A	228518
160-15356-14	B33975	Dissolved	Water	6020A	228518
160-15356-15	B339B0	Total/NA	Water	6020A	228518
160-15356-16	B33999	Dissolved	Water	6020A	228518
160-15356-17	B33963	Dissolved	Water	6020A	228518
160-15356-18	B33964	Total/NA	Water	6020A	228518
160-15356-19	B33987	Dissolved	Water	6020A	228518
160-15356-20	B33988	Total/NA	Water	6020A	228518
LCS 160-228518/2-A	Lab Control Sample	Total/NA	Water	6020A	228518
MB 160-228518/1-A	Method Blank	Total/NA	Water	6020A	228518

Analysis Batch: 233592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-15356-21	B33952	Total/NA	Water	6020A	228520
160-15356-21 MS	B33952	Total/NA	Water	6020A	228520
160-15356-21 MSD	B33952	Total/NA	Water	6020A	228520
160-15356-22	B33951	Dissolved	Water	6020A	228520
160-15356-23	B33940	Total/NA	Water	6020A	228520
160-15356-24	B33939	Dissolved	Water	6020A	228520
160-15356-25	B33967	Dissolved	Water	6020A	228520
160-15356-26	B33968	Total/NA	Water	6020A	228520
160-15356-27	B33972	Total/NA	Water	6020A	228520
160-15356-28	B33971	Dissolved	Water	6020A	228520
LCS 160-228520/2-A	Lab Control Sample	Total/NA	Water	6020A	228520
MB 160-228520/1-A	Method Blank	Total/NA	Water	6020A	228520

Analysis Batch: 233867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-15356-20	B33988	Total/NA	Water	6020A	228518

General Chemistry

Analysis Batch: 227201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-15322-A-2 DU	Duplicate	Total/NA	Water	310.1	
160-15322-A-2 MS	Matrix Spike	Total/NA	Water	310.1	
160-15356-1	B339D8	Total/NA	Water	310.1	
160-15356-4	B339H3	Total/NA	Water	310.1	
160-15356-6	B33944	Total/NA	Water	310.1	
160-15356-8	B33992	Total/NA	Water	310.1	
HLCS 160-227201/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-227201/2	Lab Control Sample	Total/NA	Water	310.1	
MB 160-227201/1	Method Blank	Total/NA	Water	310.1	

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X15-069

TestAmerica Job ID: 160-15356-1
SDG: SL2067

General Chemistry (Continued)

Analysis Batch: 227547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-15356-9	B339D0	Total/NA	Water	310.1	
160-15356-9 DU	B339D0	Total/NA	Water	310.1	
160-15356-9 MS	B339D0	Total/NA	Water	310.1	
160-15356-11	B33948	Total/NA	Water	310.1	
160-15356-13	B33976	Total/NA	Water	310.1	
160-15356-15	B339B0	Total/NA	Water	310.1	
160-15356-18	B33964	Total/NA	Water	310.1	
160-15356-20	B33988	Total/NA	Water	310.1	
160-15356-21	B33952	Total/NA	Water	310.1	
160-15356-23	B33940	Total/NA	Water	310.1	
160-15356-26	B33968	Total/NA	Water	310.1	
160-15356-27	B33972	Total/NA	Water	310.1	
HLCS 160-227547/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-227547/2	Lab Control Sample	Total/NA	Water	310.1	
MB 160-227547/1	Method Blank	Total/NA	Water	310.1	