

July 29, 2014

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: 160-7251-1

TestAmerica Sample Delivery Group: SL1488
Client Project/Site: X14-051

For:

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

Attn: General Mailbox



Authorized for release by:
7/29/2014 3:16:29 PM

Jayna Awalt, Project Manager II
(314)298-8566
jayna.awalt@testamericainc.com

LINKS

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results through
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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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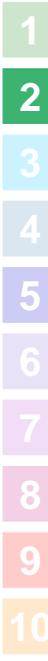


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Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Job ID: 160-7251-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
MS B3-60
Richland, Washington 99352
July 29, 2014
Attention: Scot Fitzgerald

SDG : SL1488
Number of Samples : 18 samples
Sample Matrix : Water
Data Deliverable : Summary
Date SDG Closed : June 27, 2014

II. Introduction

On June 27, 18 water samples were received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and receipt checklist for documentation of any variations on receipt conditions and temperature. Upon receipt, the 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: X14-051

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 a LCS/LCS duplicate.

Deviation from Request: None

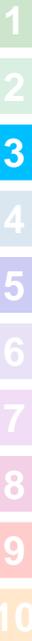
IV. Definitions

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

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



Job ID: 160-7251-1 (Continued)**Laboratory: TestAmerica St. Louis (Continued)**

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.
- **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**Prep/Analytical Batch: 132009/133624**

The native sample, matrix spike, and matrix spike duplicate (MS/MSD) were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of calcium in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Prep/Analytical Batch: 132009/133762

The following sample was diluted to bring the concentration of target analytes within the calibration range: B2X3W5 (160-7251-16). Elevated reporting limits (RLs) are provided. This analyte has been qualified accordingly with a "D" flag in the associated sample.

Anions**Batch: 130714**

Reanalysis of the following samples was performed outside of the 2x analytical holding time for Nitrite, due to a power outage during the initial run: B2X3W7 (160-7251-18), B2X3X3 (160-7251-13), B2X3X9 (160-7251-1), B2X3Y5 (160-7251-4), B2X401 (160-7251-7), B2X437 (160-7251-8), B2X443 (160-7251-9), B2X449 (160-7251-10). Per SDR14-235, the sample data for the analysis performed outside 2x hold has been reported.

Batch: 130715

Reanalysis of the following samples was performed outside of the 2x analytical holding time for Nitrate due to power outage during thunderstorm: B2X3W7 (160-7251-18), B2X3X3 (160-7251-13), B2X3X9 (160-7251-1), B2X3Y5 (160-7251-4), B2X401 (160-7251-7), B2X437 (160-7251-8), B2X443 (160-7251-9), B2X449 (160-7251-10). Further dilutions were also needed. Per SDR14-235, the sample data for analysis performed outside 2x hold has been reported.

The following samples were diluted to bring the concentration of target analytes within the calibration range: B2X3W7 (160-7251-18), B2X3X3 (160-7251-13), B2X3X9 (160-7251-1), B2X3Y5 (160-7251-4), B2X401 (160-7251-7), B2X437 (160-7251-8), B2X443 (160-7251-9), B2X449 (160-7251-10). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a "D" flag in the associated samples.

Alkalinity**Batch: 130302**

The following samples in Alkalinity batch 130302 are associated with a method blank (MB) that was above the reporting limit (RL):

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Job ID: 160-7251-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

(160-7251-3 DU), (160-7251-3 MS), B2X3W6 (160-7251-17), B2X3X2 (160-7251-14), B2X3X8 (160-7251-12), B2X3Y4 (160-7251-3), B2X400 (160-7251-6). The DI water used for the MB was not added to the samples in the analysis. Thus, the samples were not affected by the high result found in the MB. Sample concentrations are greater than 5x the method blank; therefore, flagging is not necessary.

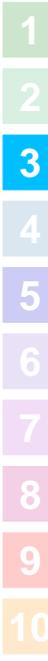
There were no observations or nonconformances for the following methods:

ICPMS Metals (Chromium)

I certify that this Summary Package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the signature on the cover page has authorized release of the data contained in this hard copy data package.

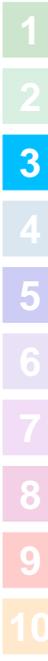
Reviewed and approved:

Jayna Awalt
St. Louis Project Manager



SAMPLE ISSUE RESOLUTION

SIR NUM SDR14-235
 REV NUM 0
 DATE INITIATED 6/30/2014



SAMPLE EVENT INFORMATION

SAF NUM(S) X14-051, S14-006
 OPERABLE UNIT(S) NONE, 100-HR-3
 PROJECT(S) SURV14, 100-D-100
 SAMPLE EVENT TITLE(S) SURV14, 100-D-100 Sampling
 LABORATORY TestAmerica St. Louis

SAMPLING INFORMATION

NUMBER OF SAMPLES 10
 SAMPLE NUMBERS B2WR64, B2WR65, B2X3W7, B2X3X3, B2X3X9, B2X3Y5, B2X401, B2X437, B2X443, B2X449
 SAMPLE MATRIX WATER
 COLLECTION DATE 6/25/2014 – 6/26/2014
 SDG NUM SL1487, SL1488

ISSUE BACKGROUND

CLASS Laboratory Issue
 TYPE Analysis Holding Time Exceeded
 DESCRIPTION The listed samples were put on instrument for analysis within hold time for nitrate and nitrite. Due to a power outage during storms on Friday 6/27/14 at TASL, the instrument stopped running. No data were recoverable. Samples will have to be run outside 2x hold time.

DISPOSITION

DESCRIPTION Proposed Disposition:
 (1) Analyze samples outside 2x hold time for nitrate and nitrite and note missed hold time in case narrative.
 OR
 (2) Cancel analyses.

JUSTIFICATION Accepted Disposition: Accept Proposed Disposition (1)

Submitted by:	Jayna Awalt / TASL	Date:	6/30/2014
Accepted by:	Karen Waters-Husted / CHPRC	Date:	6/30/2014
Accepted by:	Randy Hermann / CHPRC	Date:	6/30/2014

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-7251-1

SDG Number: SL1488

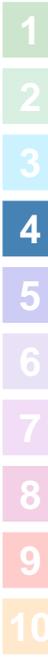
Login Number: 7251

List Number: 1

Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3
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	



July 29, 2014

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# X14-051-036	
81488				Page 1 of 1	
Collector	E.L. Kauer CHPRC X14-051	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X14-051	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303466ES20
Project Title	100-D-100 Monthly Sampling; June 2014	Logbook No.	HNF-N-506 65 / 71	Ice Chest No.	6WS116
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7704 3539 7631
Protocol	CHARACTERIZATION	Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS		Hold Time	
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/JATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRIORITY		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Sample No.	B2X3X9	Filter	N	Sample Analysis	COMMON ✓
Filter	N	No/Type Container	1x500-mL P	Holding Time	48 Hours
Date	6-26-14	Time	0935	Preservative	Cool <=6C

Relinquished By	E.L. Kauer CHPRC	Print	<i>[Signature]</i>	Sign		Date/Time	6-26-14 1050
Relinquished By	F.M. Hall CHPRC	Print	<i>[Signature]</i>	Sign		Date/Time	6-26-14 1050
Relinquished By	FED EX	Print	FEDEX	Sign		Date/Time	JUN 26 2014
Relinquished By	Jill Clarke FED EX	Print	<i>[Signature]</i>	Sign		Date/Time	6-27-14 0920
Relinquished By		Print		Sign		Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time		



CH2M Hill Plateau Remediation Company C.O.C. # **X14-051-037**
Page 1 of 1

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector: **E.L. Kauer** Telephone No. 376-4650
 CHPRC Purchase Order/Charge Code 303466ES20

SAF No. X14-051 Ice Chest No. **GWS 116**

Project Title: 100-D-100 Monthly Sampling; June 2014 Bill of Lading/Air Bill No. **7704 3539 7631**

Shipped To (Lab): **TestAmerica St. Louis** Offsite Property No. **N/A**

Protocol: CHARACTERIZATION Priority: **30 Days**

PRIORITY

POSSIBLE SAMPLE HAZARDS/REMARKS

*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2X3Y3	Y	W	JUN 26 2014	1005	1x500-mL G/P	6020_METALS_ICPMS: COMMON; ✓ 6010_METALS_ICP: COMMON ✓	6 Months	HNO3 to pH <2
B2X3Y4	N	W	JUN 26 2014	1005	1x500-mL G/P	6020_METALS_ICPMS: COMMON; ✓ 6010_METALS_ICP: COMMON ✓	6 Months	HNO3 to pH <2
B2X3Y4	N	W	JUN 26 2014	1005	1x500-mL G/P	310.1_ALKALINITY: GW 01 ✓	14 Days	Cool <=6C

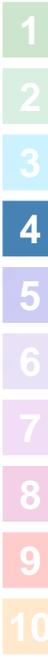
Relinquished By: E.L. Kauer Date/Time 1050 CHPRC Sign JUN 26 2014	Received By: F.M. Hall Date/Time 1050 CHPRC Sign JUN 26 2014
Relinquished By: F.W. Hall Date/Time 1400 CHPRC Sign JUN 26 2014	Received By: FEDEX Date/Time
Relinquished By: FED EX Date/Time	Received By: Jill Clarke Date/Time 0920 62714
Relinquished By: Date/Time	Received By: Date/Time

Disposed By: _____ Date/Time: _____

Disposal Method (e.g., Return to customer, per lab procedure, used in process): _____

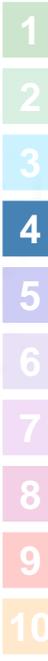
Matrix *

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



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# X14-051-038	
SA1498 E.L. Kauer CHPRC		Telephone No. 376-4650		Page 1 of 1	
Collector	X14-051	Contact/Requester	WATERS-HUSTED, K	Purchase Order/Charge Code	303466ES20
Project Title	100-D-100 Monthly Sampling; June 2014	Sampling Origin	Hanford Site	Ice Chest No.	LOWS 116
Shipped To (Lab)	TestAmerica St. Louis	Logbook No.	HNF-N-506 65-17C	Bill of Lading/Air Bill No.	7704 3539 7631
Protocol	CHARACTERIZATION	Method of Shipment	Commercial Carrier	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS		Priority:	30 Days	Hold Time	
*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		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Sample No.	B2X3Y5	No/Type Container	1x500-mL P	Sample Analysis	300.0_ANIONS_IC: COMMON ✓
Filter	N	Time	JUN 26 2014 1005	Holding Time	48 Hours
				Preservative	Cool <=6C

Relinquished By E.L. Kauer CHPRC	Print <i>E.L. Kauer</i>	Sign	Date/Time JUN 26 2014 1050	Received By F.M. Hall CHPRC	Print <i>F.M. Hall</i>	Sign	Date/Time JUN 26 2014 1050	Matrix *
Relinquished By F.M. Hall CHPRC	Print <i>F.M. Hall</i>	Sign	Date/Time JUN 26 2014 1050	Received By FEDEX	Print <i>FEDEX</i>	Sign	Date/Time JUN 26 2014 1050	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By		Sign	Date/Time	Received By <i>Jill Clarke</i>	Print <i>Jill Clarke</i>	Sign <i>Jill Clarke</i>	Date/Time 6-27-14 0920	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By		Sign	Date/Time	Received By		Sign	Date/Time	
Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By				
FINAL SAMPLE DISPOSITION				Date/Time				



CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector: E.L. Kauer
 SAF No.: CHPRC X14-051
 Project Title: 100-D-100 Monthly Sampling; June 2014
 Shipped To (Lab): TestAmerica St. Louis
 Protocol: CHARACTERIZATION

Contact/Requester: WATERS-HUSTED, K
 Telephone No.: 376-4650
 Sampling Origin: Hanford Site
 Purchase Order/Charge Code: 303466ES20
 Logbook No.: HNF-N-506 65/21
 Method of Shipment: Commercial Carrier
 Priority: 30 Days
 Bill of Lading/Air Bill No.: 7704 3539 7631
 Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
 *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2X3Y9	Y	W	JUN 26 2014	1035	1x500-mL G/P	6020_METALS_ICPMS: COMMON; ✓ 6010_METALS_ICP: COMMON ✓	6 Months	HNO3 to pH <2
B2X400	N	W	JUN 26 2014		1x500-mL G/P	6020_METALS_ICPMS: COMMON; ✓ 6010_METALS_ICP: COMMON ✓	6 Months	HNO3 to pH <2
B2X400	N	W	JUN 26 2014		1x500-mL G/P	310.1_ALKALINITY: GW 01 ✓	14 Days	Cool <=6C

SPECIAL INSTRUCTIONS
 Hold Time: Hold Time
 Total Activity Exemption: Yes No

RECEIVED

Relinquished By: E.L. Kauer CHPRC	Print: [Signature]	Sign: [Signature]	Date/Time: JUN 26 2014 1030
Relinquished By: CHPRC	Print: F.M. Hall	Sign: [Signature]	Date/Time: JUN 26 2014 1050
Relinquished By: CHPRC	Print: [Signature]	Sign: [Signature]	Date/Time: JUN 26 2014 1100

FEDEX

Received By: Jill Clarke
 Date/Time: JUN 27 14 0920

Received By: [Signature]
 Date/Time: JUN 26 2014

Received By: [Signature]
 Date/Time: JUN 26 2014

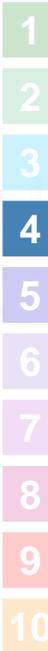
Received By: [Signature]
 Date/Time: JUN 26 2014

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Dispersed By: [Signature]

Date/Time: [Signature]

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



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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-051-040

Page 1 of 1

Collector	E.L. Kauer CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X14-051	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303466ES20
Project Title	100-D-100 Monthly Sampling; June 2014	Logbook No.	HNF-N-506 65/71	Ice Chest No.	GWS 116
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7204 3539 7631
Protocol	CHARACTERIZATION	Priority:	30 Days	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS

Hold Time: 48 Hours
Total Activity Exemption: Yes No

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2X401	N	WJUN 26 2014	1035	1x500-mL P	300.0_ANIONS_IC: COMMON ✓	48 Hours	Cool <=6C

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Relinquished By E.L. Kauer CHPRC	Print <i>[Signature]</i>	Sign JUN 26 2014	Date/Time 1050	Received By M. Hall CHPRC	Print <i>[Signature]</i>	Sign JUN 26 2014	Date/Time 1050	Matrix *
Relinquished By CHPRC	Print <i>[Signature]</i>	Sign JUN 26 2014	Date/Time 1400	Received By FEDEX	Print <i>[Signature]</i>	Sign JUN 26 2014	Date/Time 0920	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Print <i>[Signature]</i>	Sign FED EX	Date/Time	Received By Jill Clarke Jill Clarke	Print <i>[Signature]</i>	Sign JUN 26 2014	Date/Time 0920	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	

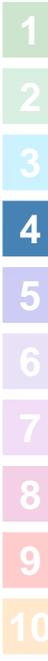
Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By

Date/Time

FINAL SAMPLE DISPOSITION

7/29/2014



CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector	U. W. Brotherton CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X14-051	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303466ES20
Project Title	100-D-100 Monthly Sampling; June 2014	Logbook No.	HNF-N-506 66/31	Ice Chest No.	625 116
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7704 3538 7631
Protocol	CHARACTERIZATION	Priority:	30 Days	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
 *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS Hold Time **PRIORITY**
 SPECIAL INSTRUCTIONS

Total Activity Exemption: Yes No

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2X437	N	JUN 26 2014	0825	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 29, 2014

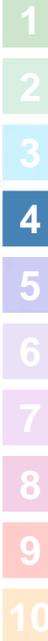
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
D. W. Brotherton			JUN 26 2014 0830	F. M. Hall			JUN 26 2014 0830	S = Soil DS = Drum Solids
CHPRC				CHPRC				DL = Drum Liquids
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	T = Tissue
D. W. Brotherton			JUN 26 2014 1400	FEDEX				WI = Wipe
CHPRC								L = Liquid
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	V = Vegetation
				Jill Clarke			6/27/14 0920	X = Other
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By

Date/Time



811488

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-051-076

Page 1 of 1

Collector	D.W. Brotherton CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X14-051	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303466ES20
Project Title	100-D-100 Monthly Sampling; June 2014	Logbook No.	HNF-N-506 <i>66/31</i>	Ice Chest No.	<i>6WS 116</i>
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	<i>7704 3539 7631</i>
Protocol	CHARACTERIZATION	Priority:	30 Days	Offsite Property No.	<i>N/A</i>

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
B2X449	N	<i>6/26/14</i>	<i>0944</i>	1x500-mL P	300.0 ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 29, 2014

Relinquished By	D.W. Brotherton CHPRC	Print	<i>D.W. Brotherton</i>	Sign	<i>[Signature]</i>	Date/Time	JUN 26 2014 1030
Relinquished By	F.M. Hall CHPRC	Print	<i>[Signature]</i>	Sign	<i>[Signature]</i>	Date/Time	JUN 26 2014 1030
Relinquished By	FED EX	Print	<i>[Signature]</i>	Sign	<i>[Signature]</i>	Date/Time	JUN 26 2014 1400
Relinquished By	FED EX	Print	<i>[Signature]</i>	Sign	<i>[Signature]</i>	Date/Time	JUN 26 2014
Relinquished By	Jill Clarke	Print	<i>Jill Clarke</i>	Sign	<i>[Signature]</i>	Date/Time	6-27-14 0920

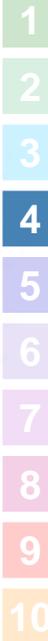
S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Date/Time

Disposed By

Disposal Method



CH2MHill Plateau Remediation Company 811488 C.O.C.# X14-051-035
Page 1 of 1

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector E.L. Kauer CHPRC **Contact/Requester** WATERS-HUSTED, K **Telephone No.** 376-4650
SAF No. X14-051 **Sampling Origin** Hanford Site **Purchase Order/Charge Code** 303466ES20
Project Title 100-D-100 Monthly Sampling; June 2014 **Logbook No.** HNF-N-506 65171 **Ice Chest No.** GWS 116
Shipped To (Lab) TestAmerica St. Louis **Method of Shipment** Commercial Carrier **Bill of Lading/Air Bill No.** 7704 3539 7631
Protocol CHARACTERIZATION **Priority:** 30 Days **PRIORITY** **Offsite Property No.** NA

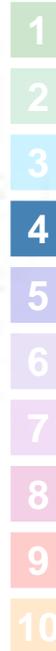
POSSIBLE SAMPLE HAZARDS/REMARKS **SPECIAL INSTRUCTIONS** **Hold Time** **Total Activity Exemption:** Yes No
 *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2X3X7	Y	W	6-26-14	0935	1x500-mL G/P	6020_METALS_ICPMS: COMMON; ✓ 6010_METALS_ICP: COMMON ✓	6 Months	HNO3 to pH <2
B2X3X8	N	W			1x500-mL G/P	6020_METALS_ICPMS: COMMON; ✓ 6010_METALS_ICP: COMMON ✓	6 Months	HNO3 to pH <2
B2X3X8	N	W			1x500-mL G/P	310.1_ALKALINITY: GW 01 ✓	14 Days	Cool <=6C

Relinquished By E.L. Kauer CHPRC	Print <i>E.L. Kauer</i>	Sign <i>E.L. Kauer</i>	Date 6-26-14	Time 1050	Received By F.M. Hall CHPRC	Print <i>F.M. Hall</i>	Sign <i>F.M. Hall</i>	Date/Time 6-26-14 1050
Relinquished By F.M. Hall CHPRC	Print <i>F.M. Hall</i>	Sign <i>F.M. Hall</i>	Date JUN 26 2014	Time 1400	Received By FEDEX	Print <i>FEDEX</i>	Sign <i>FEDEX</i>	Date/Time 6-27-14 0920
Relinquished By	Print	Sign	Date	Time	Received By <i>Jill Clarke</i>	Print <i>Jill Clarke</i>	Sign <i>Jill Clarke</i>	Date/Time 6-27-14 0920

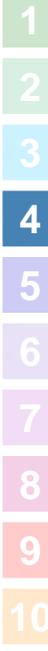
- Matrix *
- S = Soil
 - SE = Sediment
 - SO = Solid
 - SL = Sludge
 - W = Water
 - O = Oil
 - A = Air
 - DS = Drum Solids
 - DL = Drum Liquids
 - T = Tissue
 - WI = Wipe
 - L = Liquid
 - V = Vegetation
 - X = Other

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



CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # X14-051-034	
E.L. Kauer CHPRC		Telephone No. 376-4650		Page 1 of 1	
SAF No.	X14-051	Contact/Requester	WATERS-HUSTED, K	Purchase Order/Charge Code	303466ES20
Project Title	100-D-100 Monthly Sampling, June 2014	Sampling Origin	Hanford Site	Ice Chest No.	GWS 116
Shipped To (Lab)	TestAmerica St. Louis	Logbook No.	HNF-N-506 65/71	Bill of Lading/Air Bill No.	7704 3539 7631
Protocol	CHARACTERIZATION	Method of Shipment	Commercial Carrier	Offsite Property No.	NA
POSSIBLE SAMPLE HAZARDS/REMARKS		Priority:	30 Days	Hold Time	
*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.		PRIORITY		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
SPECIAL INSTRUCTIONS		300.0_ANIONS_IC: COMMON			
Sample No.	B2X3X3	No/Type Container	1x500-mL P	Sample Analysis	Preservative
Filter	N	Time	6-26-14 0857	Holding Time	48 Hours
					Cool <=6C

Relinquished By E.L. Kauer CHPRC	Print <i>[Signature]</i>	Sign	Date/Time 6-26-14 1050	Received By F.M. Hall CHPRC	Print <i>[Signature]</i>	Sign	Date/Time 6-26-14 1050	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
Relinquished By F.M. Hall CHPRC	Print <i>[Signature]</i>	Sign	Date/Time JUN 26 2014	Received By FEDEX	Print <i>[Signature]</i>	Sign	Date/Time 6-27-14 0920	
Relinquished By			Date/Time	Received By Jill Clarke Jill Clarke	Print <i>[Signature]</i>	Sign	Date/Time	
Relinquished By			Date/Time	Received By	Print <i>[Signature]</i>	Sign	Date/Time	
Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By				
FINAL SAMPLE DISPOSITION				Date/Time				



CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector: **E.L. Kauer** CHPRC
 Telephone No. 376-4650
 SAF No. X14-051
 Purchase Order/Charge Code 303466ES20
 Project Title: 100-D-100 Monthly Sampling; June 2014
 Logbook No. HNF-N-506 65/77
 Ice Chest No. GWS 116
 Shipped To (Lab): TestAmerica St. Louis
 Method of Shipment: Commercial Carrier
 Bill of Lading/Air Bill No. 7704 3539 7631
 Protocol: CHARACTERIZATION
 Priority: 30 Days
 Offsite Property No. 214

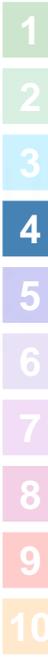
POSSIBLE SAMPLE HAZARDS/REMARKS
 *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.
SPECIAL INSTRUCTIONS Hold Time
 Total Activity Exemption: Yes No

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2X3X2	N	W	6-26-14	0857	1x500-mL G/P	6020_METALS_ICPMS: COMMON; 6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B2X3X2	N	W			1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B2X3X1	Y	W			1x500-mL G/P	6020_METALS_ICPMS: COMMON; 6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2

Relinquished By: **E.L. Kauer** CHPRC
 Date/Time: 6-26-14 1030
 Received By: **F.M. Hall** CHPRC
 Date/Time: 6-26-14 1050
 Relinquished By: **F.M. Hall** CHPRC
 Date/Time: JUN 26 2014
 Received By: **FEDEX**
 Relinquished By: **FED EX**
 Date/Time: 6-27-14 0920
 Received By: **Jill Clarke**
 Date/Time: 6-27-14 0920

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: _____



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# X14-051-031	
Collector E.L. Kauer CHPRC		Contact/Requester WATERS-HUSTED, K	Telephone No. 376-4650	Page 1 of 1	
SAF No. X14-051		Sampling Origin Hanford Site	Purchase Order/Charge Code 303466ES20		
Project Title 100-D-100 Monthly Sampling; June 2014		Logbook No. HNF-N-506 65771	Ice Chest No. GWS 116		
Shipped To (Lab) TestAmerica St. Louis		Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No. 7704 3539 7631		
Protocol CHARACTERIZATION		Priority: 30 Days	Offsite Property No. N/A		
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		HOLD TIME			
Sample No.	Filter	No/Type Container	Sample Analysis	Holding Time	Preservative
B2X3W5	Y	1x500-mL G/P	6020_METALS_ICPMS: COMMON; 6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B2X3W6	N	1x500-mL G/P	6020_METALS_ICPMS: COMMON; 6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B2X3W6	N	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By E.L. Kauer CHPRC	Print <i>[Signature]</i>	Sign 6-26-14	Date/Time 1050	Received By F.M. Hall CHPRC	Print <i>[Signature]</i>	Sign 6-26-14	Date/Time 1050
Relinquished By F.M. Hall CHPRC	Print <i>[Signature]</i>	Sign 6-26-14	Date/Time JUN 26 2014	Received By FEDEX	Print FEDEX	Sign 6-26-14	Date/Time 1050
Relinquished By FEDEX	Print <i>[Signature]</i>	Sign 6-26-14	Date/Time 1050	Received By Jill Clarke	Print <i>[Signature]</i>	Sign 6-27-14	Date/Time 0920
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

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

PRINTED O 6/10/2014	A-6004-842 (REV 2)
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811488

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X14-051-032

Page 1 of 1

Collector	E.L. Kauer CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X14-051	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303466ES20
Project Title	100-D-100 Monthly Sampling; June 2014	Logbook No.	HNF-N-506 65171	Ice Chest No.	GWS 116
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7704 3539 7631
Protocol	CHARACTERIZATION	Priority:	30 Days	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
B2X3W7	N	W 6-26-14	0823	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

Relinquished By	E.L. Kauer CHPRC	Print	Sign	Date/Time	1050	Received By	F.M. Hall CHPRC	Print	Sign	Date/Time	6-26-14 1050	Matrix *
Relinquished By	F.M. Hall CHPRC	Print	Sign	Date/Time	JUN 26 2014	Received By	FEDEX	Print	Sign	Date/Time	6-27-14 0920	S = Soil
Relinquished By	FEDEX	Print	Sign	Date/Time		Received By	Jill Clarke	Print	Sign	Date/Time		SE = Sediment
Relinquished By		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		SO = Solid
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		SL = Sludge
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		W = Water
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		O = Oil
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		A = Air
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		DS = Drum Solids
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		DL = Drum Liquids
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		T = Tissue
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		WI = Wipe
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		L = Liquid
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		V = Vegetation
		Print	Sign	Date/Time		Received By		Print	Sign	Date/Time		X = Other

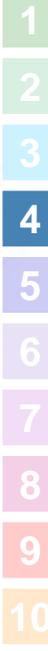
Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Date/Time

Disposed By

FINAL SAMPLE DISPOSITION

July 29, 2014



7/29/2014

Track a Shipment

770435397631

Help

Save tracking results

Enter up to 30 FedEx tracking, door tag or FedEx Office order numbers(one per line):

My Shipments

0
0
0

Track and save tracking results for your next visit to fedex.com

Ship (P/U) date :
Thur 6/26/2014 3:53 pm
RICHLAND, WA
US



Delivered
Signed for by: B.DANIELS
Actual delivery :
Fri 6/27/2014 9:16 am
EARTH CITY, MO
US

Delivery Options

This shipment's delivery has been customized by the recipient. Login or Signup for delivery options to edit or cancel the settings. This shipment's delivery has been customized by the recipient. Signup for delivery options to edit or cancel the settings. This shipment's delivery has been customized by the recipient. Add this address to My Profile to edit or cancel the settings. Renew your enrollment to view details or edit this delivery option.
Travel History

Date/Time	Activity	Location
6/27/2014 - Friday		
9:16 am	Delivered	EARTH CITY, MO
7:11 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:07 am	At local FedEx facility	EARTH CITY, MO
5:44 am	At destination sort facility	BERKELEY, MO
4:57 am	Departed FedEx location	MEMPHIS, TN
12:56 am	Arrived at FedEx location	MEMPHIS, TN

6/26/2014 - Thursday		
5:14 pm	Left FedEx origin facility	PASCO, WA
3:53 pm	Picked up	PASCO, WA
3:31 pm	Shipment information sent to FedEx	

Local Scan Time

Shipment Facts
 Tracking number 770435397631
 Weight 75 lbs
 Delivered To Shipping/Receiving
 Total shipment weight 75 lbs / 34.02 kgs
 Packaging Your Packaging
 Service FedEx Priority Overnight
 Dimensions 28x16x16 in.
 Total pieces 1
 Shipper reference gws-116
 Special handling section Deliver Weekday

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
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.

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: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL SL
6020A	Metals (ICP/MS)	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	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



July 29, 2014
Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-7251-1	B2X3X9	Water	06/26/14 09:35	06/27/14 09:20
160-7251-2	B2X3Y3	Water	06/26/14 10:05	06/27/14 09:20
160-7251-3	B2X3Y4	Water	06/26/14 10:05	06/27/14 09:20
160-7251-4	B2X3Y5	Water	06/26/14 10:05	06/27/14 09:20
160-7251-5	B2X3Y9	Water	06/26/14 10:35	06/27/14 09:20
160-7251-6	B2X400	Water	06/26/14 10:35	06/27/14 09:20
160-7251-7	B2X401	Water	06/26/14 10:35	06/27/14 09:20
160-7251-8	B2X437	Water	06/26/14 08:25	06/27/14 09:20
160-7251-9	B2X443	Water	06/26/14 09:10	06/27/14 09:20
160-7251-10	B2X449	Water	06/26/14 09:46	06/27/14 09:20
160-7251-11	B2X3X7	Water	06/26/14 09:35	06/27/14 09:20
160-7251-12	B2X3X8	Water	06/26/14 09:35	06/27/14 09:20
160-7251-13	B2X3X3	Water	06/26/14 08:57	06/27/14 09:20
160-7251-14	B2X3X2	Water	06/26/14 08:57	06/27/14 09:20
160-7251-15	B2X3X1	Water	06/26/14 08:57	06/27/14 09:20
160-7251-16	B2X3W5	Water	06/26/14 08:23	06/27/14 09:20
160-7251-17	B2X3W6	Water	06/26/14 08:23	06/27/14 09:20
160-7251-18	B2X3W7	Water	06/26/14 08:23	06/27/14 09:20

July 29, 2014
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Method: 6010C - Metals (ICP)

Client Sample ID: B2X3Y4
Date Collected: 06/26/14 10:05
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	97600		1000	54.2	ug/L		07/17/14 15:31	07/23/14 13:49	1
Magnesium	22900		1000	50.5	ug/L		07/17/14 15:31	07/23/14 13:49	1
Potassium	5170		5000	456	ug/L		07/17/14 15:31	07/23/14 13:49	1
Sodium	18800		1000	105	ug/L		07/17/14 15:31	07/23/14 13:49	1

Client Sample ID: B2X400
Date Collected: 06/26/14 10:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	78600		1000	54.2	ug/L		07/17/14 15:31	07/23/14 14:07	1
Magnesium	21100		1000	50.5	ug/L		07/17/14 15:31	07/23/14 14:07	1
Potassium	4760	B	5000	456	ug/L		07/17/14 15:31	07/23/14 14:07	1
Sodium	13600		1000	105	ug/L		07/17/14 15:31	07/23/14 14:07	1

Client Sample ID: B2X3X8
Date Collected: 06/26/14 09:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	96300		1000	54.2	ug/L		07/17/14 15:31	07/23/14 14:15	1
Magnesium	21500		1000	50.5	ug/L		07/17/14 15:31	07/23/14 14:15	1
Potassium	4940	B	5000	456	ug/L		07/17/14 15:31	07/23/14 14:15	1
Sodium	23500		1000	105	ug/L		07/17/14 15:31	07/23/14 14:15	1

Client Sample ID: B2X3X2
Date Collected: 06/26/14 08:57
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-14
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	95800		1000	54.2	ug/L		07/17/14 15:31	07/23/14 14:19	1
Magnesium	21700		1000	50.5	ug/L		07/17/14 15:31	07/23/14 14:19	1
Potassium	4610	B	5000	456	ug/L		07/17/14 15:31	07/23/14 14:19	1
Sodium	18300		1000	105	ug/L		07/17/14 15:31	07/23/14 14:19	1

Client Sample ID: B2X3W6
Date Collected: 06/26/14 08:23
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	96900		1000	54.2	ug/L		07/17/14 15:31	07/23/14 14:38	1
Magnesium	23400		1000	50.5	ug/L		07/17/14 15:31	07/23/14 14:38	1
Potassium	9130		5000	456	ug/L		07/17/14 15:31	07/23/14 14:38	1
Sodium	47000		1000	105	ug/L		07/17/14 15:31	07/23/14 14:38	1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: B2X3Y3
Date Collected: 06/26/14 10:05
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	94100		1000	54.2	ug/L		07/17/14 15:31	07/23/14 13:45	1
Potassium	5230		5000	456	ug/L		07/17/14 15:31	07/23/14 13:45	1
Magnesium	22300		1000	50.5	ug/L		07/17/14 15:31	07/23/14 13:45	1

TestAmerica St. Louis

July 29, 2014
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Client Sample ID: B2X3Y3
Date Collected: 06/26/14 10:05
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	19400		1000	105	ug/L		07/17/14 15:31	07/23/14 13:45	1

Client Sample ID: B2X3Y9
Date Collected: 06/26/14 10:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	77300		1000	54.2	ug/L		07/17/14 15:31	07/23/14 14:04	1
Potassium	4790	B	5000	456	ug/L		07/17/14 15:31	07/23/14 14:04	1
Magnesium	20700		1000	50.5	ug/L		07/17/14 15:31	07/23/14 14:04	1
Sodium	13600		1000	105	ug/L		07/17/14 15:31	07/23/14 14:04	1

Client Sample ID: B2X3X7
Date Collected: 06/26/14 09:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	94000		1000	54.2	ug/L		07/17/14 15:31	07/23/14 14:11	1
Potassium	5040		5000	456	ug/L		07/17/14 15:31	07/23/14 14:11	1
Magnesium	21100		1000	50.5	ug/L		07/17/14 15:31	07/23/14 14:11	1
Sodium	25700		1000	105	ug/L		07/17/14 15:31	07/23/14 14:11	1

Client Sample ID: B2X3X1
Date Collected: 06/26/14 08:57
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	91300		1000	54.2	ug/L		07/17/14 15:31	07/23/14 14:31	1
Potassium	4840	B	5000	456	ug/L		07/17/14 15:31	07/23/14 14:31	1
Magnesium	21000		1000	50.5	ug/L		07/17/14 15:31	07/23/14 14:31	1
Sodium	19700		1000	105	ug/L		07/17/14 15:31	07/23/14 14:31	1

Client Sample ID: B2X3W5
Date Collected: 06/26/14 08:23
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-16
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	97800	D	2000	108	ug/L		07/17/14 15:31	07/24/14 12:40	2
Potassium	8460		5000	456	ug/L		07/17/14 15:31	07/23/14 14:34	1
Magnesium	24300		1000	50.5	ug/L		07/17/14 15:31	07/23/14 14:34	1
Sodium	43100		1000	105	ug/L		07/17/14 15:31	07/23/14 14:34	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B2X3Y4
Date Collected: 06/26/14 10:05
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	98.1		10.0	3.3	ug/L		07/11/14 13:09	07/18/14 05:03	1

Client Sample ID: B2X400
Date Collected: 06/26/14 10:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	71.5		10.0	3.3	ug/L		07/11/14 13:09	07/18/14 05:16	1

TestAmerica St. Louis

July 29, 2014
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B2X3X8
Date Collected: 06/26/14 09:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	42.7		10.0	3.3	ug/L		07/11/14 13:09	07/18/14 05:29	1

Client Sample ID: B2X3X2
Date Collected: 06/26/14 08:57
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-14
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	45.5		10.0	3.3	ug/L		07/11/14 13:09	07/18/14 05:36	1

Client Sample ID: B2X3W6
Date Collected: 06/26/14 08:23
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	105		10.0	3.3	ug/L		07/11/14 13:09	07/18/14 05:56	1

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

Client Sample ID: B2X3Y3
Date Collected: 06/26/14 10:05
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	105		10.0	3.3	ug/L		07/11/14 13:09	07/18/14 04:23	1

Client Sample ID: B2X3Y9
Date Collected: 06/26/14 10:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	77.4		10.0	3.3	ug/L		07/11/14 13:09	07/18/14 05:10	1

Client Sample ID: B2X3X7
Date Collected: 06/26/14 09:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	41.7		10.0	3.3	ug/L		07/11/14 13:09	07/18/14 05:23	1

Client Sample ID: B2X3X1
Date Collected: 06/26/14 08:57
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	44.8		10.0	3.3	ug/L		07/11/14 13:09	07/18/14 05:43	1

Client Sample ID: B2X3W5
Date Collected: 06/26/14 08:23
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-16
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	98.5		10.0	3.3	ug/L		07/11/14 13:09	07/18/14 05:50	1

July 29, 2014
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

General Chemistry

Client Sample ID: B2X3X9
Date Collected: 06/26/14 09:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.055		0.020	0.0030	mg/L			06/30/14 13:38	1
Fluoride	0.089	B	0.10	0.010	mg/L			06/30/14 13:38	1

Client Sample ID: B2X3Y4
Date Collected: 06/26/14 10:05
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	102		5.0	0.54	mg/L			07/09/14 10:14	1
Bicarbonate Alkalinity as CaCO3	102		5.0	0.54	mg/L			07/09/14 10:14	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			07/09/14 10:14	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			07/09/14 10:14	1

Client Sample ID: B2X3Y5
Date Collected: 06/26/14 10:05
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.049		0.020	0.0030	mg/L			06/30/14 14:15	1
Fluoride	0.093	B	0.10	0.010	mg/L			06/30/14 14:15	1

Client Sample ID: B2X400
Date Collected: 06/26/14 10:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	90.0		5.0	0.54	mg/L			07/09/14 10:14	1
Bicarbonate Alkalinity as CaCO3	90.0		5.0	0.54	mg/L			07/09/14 10:14	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			07/09/14 10:14	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			07/09/14 10:14	1

Client Sample ID: B2X401
Date Collected: 06/26/14 10:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.047		0.020	0.0030	mg/L			06/30/14 14:52	1
Fluoride	0.10		0.10	0.010	mg/L			06/30/14 14:52	1

Client Sample ID: B2X437
Date Collected: 06/26/14 08:25
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.013	B	0.020	0.0030	mg/L			06/30/14 16:43	1
Fluoride	0.22		0.10	0.010	mg/L			06/30/14 16:43	1

Client Sample ID: B2X443
Date Collected: 06/26/14 09:10
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.11		0.020	0.0030	mg/L			06/30/14 17:20	1
Fluoride	0.11		0.10	0.010	mg/L			06/30/14 17:20	1

July 29, 2014
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

General Chemistry

Client Sample ID: B2X449
Date Collected: 06/26/14 09:46
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.096		0.020	0.0030	mg/L			06/30/14 19:11	1
Fluoride	0.10		0.10	0.010	mg/L			06/30/14 19:11	1

Client Sample ID: B2X3X8
Date Collected: 06/26/14 09:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	102		5.0	0.54	mg/L			07/09/14 10:14	1
Bicarbonate Alkalinity as CaCO3	102		5.0	0.54	mg/L			07/09/14 10:14	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			07/09/14 10:14	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			07/09/14 10:14	1

Client Sample ID: B2X3X3
Date Collected: 06/26/14 08:57
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.014	B	0.020	0.0030	mg/L			06/30/14 19:48	1
Fluoride	0.10		0.10	0.010	mg/L			06/30/14 19:48	1

Client Sample ID: B2X3X2
Date Collected: 06/26/14 08:57
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-14
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	98.0		5.0	0.54	mg/L			07/09/14 10:14	1
Bicarbonate Alkalinity as CaCO3	98.0		5.0	0.54	mg/L			07/09/14 10:14	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			07/09/14 10:14	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			07/09/14 10:14	1

Client Sample ID: B2X3W6
Date Collected: 06/26/14 08:23
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	114		5.0	0.54	mg/L			07/09/14 10:14	1
Bicarbonate Alkalinity as CaCO3	114		5.0	0.54	mg/L			07/09/14 10:14	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			07/09/14 10:14	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			07/09/14 10:14	1

Client Sample ID: B2X3W7
Date Collected: 06/26/14 08:23
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-18
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.053		0.020	0.0030	mg/L			06/30/14 21:02	1
Fluoride	0.29		0.10	0.010	mg/L			06/30/14 21:02	1

General Chemistry - DL

Client Sample ID: B2X3X9
Date Collected: 06/26/14 09:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	6.0	D	0.40	0.080	mg/L			07/04/14 05:51	20

TestAmerica St. Louis

July 29, 2014
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

General Chemistry - DL (Continued)

Client Sample ID: B2X3X9
Date Collected: 06/26/14 09:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21.3	D	4.0	0.40	mg/L			07/04/14 05:51	20
Sulfate	215	D	10.0	1.0	mg/L			07/04/14 05:51	20

Client Sample ID: B2X3Y5
Date Collected: 06/26/14 10:05
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	6.6	D	0.40	0.080	mg/L			07/04/14 08:23	20
Chloride	21.3	D	4.0	0.40	mg/L			07/04/14 08:23	20
Sulfate	210	D	10.0	1.0	mg/L			07/04/14 08:23	20

Client Sample ID: B2X401
Date Collected: 06/26/14 10:35
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	5.9	D	0.40	0.080	mg/L			07/04/14 09:01	20
Chloride	17.1	D	4.0	0.40	mg/L			07/04/14 09:01	20
Sulfate	175	D	10.0	1.0	mg/L			07/04/14 09:01	20

Client Sample ID: B2X437
Date Collected: 06/26/14 08:25
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	8.6	D	0.40	0.080	mg/L			07/04/14 09:39	20
Chloride	22.4	D	4.0	0.40	mg/L			07/04/14 09:39	20
Sulfate	286	D	10.0	1.0	mg/L			07/04/14 09:39	20

Client Sample ID: B2X443
Date Collected: 06/26/14 09:10
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	8.9	D	0.40	0.080	mg/L			07/04/14 10:17	20
Chloride	18.9	D	4.0	0.40	mg/L			07/04/14 10:17	20
Sulfate	206	D	10.0	1.0	mg/L			07/04/14 10:17	20

Client Sample ID: B2X449
Date Collected: 06/26/14 09:46
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	9.2	D	0.40	0.080	mg/L			07/04/14 10:55	20
Chloride	17.3	D	4.0	0.40	mg/L			07/04/14 10:55	20
Sulfate	193	D	10.0	1.0	mg/L			07/04/14 10:55	20

Client Sample ID: B2X3X3
Date Collected: 06/26/14 08:57
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	6.4	D	0.40	0.080	mg/L			07/04/14 11:33	20
Chloride	20.8	D	4.0	0.40	mg/L			07/04/14 11:33	20
Sulfate	206	D	10.0	1.0	mg/L			07/04/14 11:33	20

TestAmerica St. Louis

July 29, 2014
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

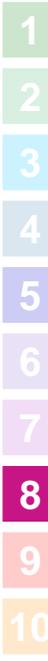
TestAmerica Job ID: 160-7251-1
SDG: SL1488

General Chemistry - DL

Client Sample ID: B2X3W7
Date Collected: 06/26/14 08:23
Date Received: 06/27/14 09:20

Lab Sample ID: 160-7251-18
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	6.1	D	0.40	0.080	mg/L			07/04/14 12:10	20
Chloride	23.0	D	4.0	0.40	mg/L			07/04/14 12:10	20
Sulfate	267	D	10.0	1.0	mg/L			07/04/14 12:10	20



July 29, 2014
QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-132009/1-A
Matrix: Water
Analysis Batch: 133624

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 132009

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	54.2	U	1000	54.2	ug/L		07/17/14 15:31	07/23/14 13:30	1
Magnesium	50.5	U	1000	50.5	ug/L		07/17/14 15:31	07/23/14 13:30	1
Potassium	456	U	5000	456	ug/L		07/17/14 15:31	07/23/14 13:30	1
Sodium	105	U	1000	105	ug/L		07/17/14 15:31	07/23/14 13:30	1

Lab Sample ID: LCS 160-132009/2-A
Matrix: Water
Analysis Batch: 133624

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 132009

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10000	10290		ug/L		103	80 - 120
Magnesium	10000	9104		ug/L		91	80 - 120
Potassium	10000	10340		ug/L		103	80 - 120
Sodium	10000	10770		ug/L		108	80 - 120

Lab Sample ID: 160-7251-3 MS
Matrix: Water
Analysis Batch: 133624

Client Sample ID: B2X3Y4
Prep Type: Total/NA
Prep Batch: 132009

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	97600		10000	106600		ug/L		90	75 - 125
Magnesium	22900		10000	33320		ug/L		104	75 - 125
Potassium	5170		10000	15860		ug/L		107	75 - 125
Sodium	18800		10000	29290		ug/L		105	75 - 125

Lab Sample ID: 160-7251-3 MSD
Matrix: Water
Analysis Batch: 133624

Client Sample ID: B2X3Y4
Prep Type: Total/NA
Prep Batch: 132009

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	97600		10000	109900		ug/L		123	75 - 125	3	20
Magnesium	22900		10000	34110		ug/L		112	75 - 125	2	20
Potassium	5170		10000	15660		ug/L		105	75 - 125	1	20
Sodium	18800		10000	28970		ug/L		102	75 - 125	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 160-130859/1-A
Matrix: Water
Analysis Batch: 132450

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 130859

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	3.3	U	10.0	3.3	ug/L		07/11/14 13:09	07/18/14 03:36	1

TestAmerica St. Louis

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QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

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

Lab Sample ID: LCS 160-130859/2-A
Matrix: Water
Analysis Batch: 132450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 130859

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	1000	981.2		ug/L		98	80 - 120

Lab Sample ID: 160-7251-2 MS
Matrix: Water
Analysis Batch: 132450

Client Sample ID: B2X3Y3
Prep Type: Dissolved
Prep Batch: 130859

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	105		1000	1058		ug/L		95	75 - 125

Lab Sample ID: 160-7251-2 MSD
Matrix: Water
Analysis Batch: 132450

Client Sample ID: B2X3Y3
Prep Type: Dissolved
Prep Batch: 130859

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chromium	105		1000	1059		ug/L		95	75 - 125	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-130714/3
Matrix: Water
Analysis Batch: 130714

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.0040	U	0.020	0.0040	mg/L			06/30/14 11:48	1
Nitrite as N	0.0030	U	0.020	0.0030	mg/L			06/30/14 11:48	1
Fluoride	0.010	U	0.10	0.010	mg/L			06/30/14 11:48	1
Chloride	0.020	U	0.20	0.020	mg/L			06/30/14 11:48	1
Sulfate	0.050	U	0.50	0.050	mg/L			06/30/14 11:48	1

Lab Sample ID: LCS 160-130714/4
Matrix: Water
Analysis Batch: 130714

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.400	0.391		mg/L		98	90 - 110
Nitrite as N	0.160	0.155		mg/L		97	90 - 110
Fluoride	1.00	0.978		mg/L		98	90 - 110
Chloride	2.00	1.90		mg/L		95	90 - 110
Sulfate	8.00	7.72		mg/L		96	90 - 110

Lab Sample ID: 160-7251-7 MS
Matrix: Water
Analysis Batch: 130714

Client Sample ID: B2X401
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	0.047		0.100	0.141		mg/L		94	90 - 110
Fluoride	0.10		2.00	1.97		mg/L		93	90 - 110

TestAmerica St. Louis

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 160-7251-13 MS
Matrix: Water
Analysis Batch: 130714

Client Sample ID: B2X3X3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	0.014	B	0.100	0.111		mg/L		97	90 - 110
Fluoride	0.10		2.00	1.97		mg/L		93	90 - 110

Lab Sample ID: 160-7251-7 DU
Matrix: Water
Analysis Batch: 130714

Client Sample ID: B2X401
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrite as N	0.047		0.0438		mg/L		7	20
Fluoride	0.10		0.107		mg/L		3	20

Lab Sample ID: MB 160-130715/9
Matrix: Water
Analysis Batch: 130715

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.0040	U	0.020	0.0040	mg/L			07/03/14 17:13	1
Nitrite as N	0.0030	U	0.020	0.0030	mg/L			07/03/14 17:13	1
Fluoride	0.010	U	0.10	0.010	mg/L			07/03/14 17:13	1
Chloride	0.020	U	0.20	0.020	mg/L			07/03/14 17:13	1
Sulfate	0.050	U	0.50	0.050	mg/L			07/03/14 17:13	1

Lab Sample ID: LCS 160-130715/10
Matrix: Water
Analysis Batch: 130715

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.400	0.394		mg/L		99	90 - 110
Nitrite as N	0.160	0.159		mg/L		99	90 - 110
Fluoride	1.00	0.958		mg/L		96	90 - 110
Chloride	2.00	1.92		mg/L		96	90 - 110
Sulfate	8.00	7.78		mg/L		97	90 - 110

Lab Sample ID: 160-7323-A-3 MS
Matrix: Water
Analysis Batch: 130715

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.36		0.400	0.754		mg/L		99	90 - 110
Nitrite as N	0.0030	U	0.100	0.0957		mg/L		96	90 - 110
Fluoride	0.094	B	2.00	2.10		mg/L		100	90 - 110
Chloride	1.2		2.00	3.19		mg/L		98	90 - 110
Sulfate	8.8		4.00	12.74		mg/L		98	90 - 110

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 160-7323-A-3 DU
Matrix: Water
Analysis Batch: 130715

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Nitrate as N	0.36		0.362		mg/L		1	20
Nitrite as N	0.0030	U	0.0030	U	mg/L		NC	20
Fluoride	0.094	B	0.0942	B	mg/L		0.7	20
Chloride	1.2		1.22		mg/L		0.03	20
Sulfate	8.8		8.73		mg/L		1	20

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 160-7251-1 MS
Matrix: Water
Analysis Batch: 130715

Client Sample ID: B2X3X9
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Nitrate as N - DL	6.0	D	8.00	14.00	D	mg/L		100	90 - 110
Chloride - DL	21.3	D	40.0	60.84	D	mg/L		99	90 - 110
Sulfate - DL	215	D	80.0	292.1	D	mg/L		96	90 - 110

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-130302/1
Matrix: Water
Analysis Batch: 130302

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	3.75		1.3	0.14	mg/L			07/09/14 10:14	1
Bicarbonate Alkalinity as CaCO3	3.75		1.3	0.14	mg/L			07/09/14 10:14	1
Carbonate Alkalinity as CaCO3	0.14	U	1.3	0.14	mg/L			07/09/14 10:14	1
Hydroxide Alkalinity	0.14	U	1.3	0.14	mg/L			07/09/14 10:14	1

Lab Sample ID: HLCS 160-130302/3
Matrix: Water
Analysis Batch: 130302

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

Analyte	Spike Added	HLCS	HLCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Alkalinity	400	368.0		mg/L		92	90 - 110
Bicarbonate Alkalinity as CaCO3	400	368.0		mg/L		92	90 - 110

Lab Sample ID: LCS 160-130302/2
Matrix: Water
Analysis Batch: 130302

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Alkalinity	200	182.0		mg/L		91	90 - 110
Bicarbonate Alkalinity as CaCO3	200	182.0		mg/L		91	90 - 110

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QC Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
 SDG: SL1488

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: 160-7251-3 MS
Matrix: Water
Analysis Batch: 130302

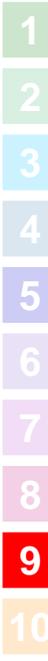
Client Sample ID: B2X3Y4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	102		100	202.0		mg/L		100	80 - 120
Bicarbonate Alkalinity as CaCO3	102		100	202.0		mg/L		100	80 - 120

Lab Sample ID: 160-7251-3 DU
Matrix: Water
Analysis Batch: 130302

Client Sample ID: B2X3Y4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	102		100.0		mg/L		2	20
Bicarbonate Alkalinity as CaCO3	102		100.0		mg/L		2	20
Carbonate Alkalinity as CaCO3	0.54	U	0.54	U	mg/L		NC	20
Hydroxide Alkalinity	0.54	U	0.54	U	mg/L		NC	20



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QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Metals

Prep Batch: 130859

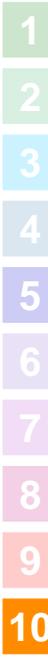
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7251-2	B2X3Y3	Dissolved	Water	3010A	
160-7251-2 MS	B2X3Y3	Dissolved	Water	3010A	
160-7251-2 MSD	B2X3Y3	Dissolved	Water	3010A	
160-7251-3	B2X3Y4	Total/NA	Water	3010A	
160-7251-5	B2X3Y9	Dissolved	Water	3010A	
160-7251-6	B2X400	Total/NA	Water	3010A	
160-7251-11	B2X3X7	Dissolved	Water	3010A	
160-7251-12	B2X3X8	Total/NA	Water	3010A	
160-7251-14	B2X3X2	Total/NA	Water	3010A	
160-7251-15	B2X3X1	Dissolved	Water	3010A	
160-7251-16	B2X3W5	Dissolved	Water	3010A	
160-7251-17	B2X3W6	Total/NA	Water	3010A	
LCS 160-130859/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-130859/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 132009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7251-2	B2X3Y3	Dissolved	Water	3010A	
160-7251-3	B2X3Y4	Total/NA	Water	3010A	
160-7251-3 MS	B2X3Y4	Total/NA	Water	3010A	
160-7251-3 MSD	B2X3Y4	Total/NA	Water	3010A	
160-7251-5	B2X3Y9	Dissolved	Water	3010A	
160-7251-6	B2X400	Total/NA	Water	3010A	
160-7251-11	B2X3X7	Dissolved	Water	3010A	
160-7251-12	B2X3X8	Total/NA	Water	3010A	
160-7251-14	B2X3X2	Total/NA	Water	3010A	
160-7251-15	B2X3X1	Dissolved	Water	3010A	
160-7251-16	B2X3W5	Dissolved	Water	3010A	
160-7251-17	B2X3W6	Total/NA	Water	3010A	
LCS 160-132009/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-132009/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 132450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7251-2	B2X3Y3	Dissolved	Water	6020A	130859
160-7251-2 MS	B2X3Y3	Dissolved	Water	6020A	130859
160-7251-2 MSD	B2X3Y3	Dissolved	Water	6020A	130859
160-7251-3	B2X3Y4	Total/NA	Water	6020A	130859
160-7251-5	B2X3Y9	Dissolved	Water	6020A	130859
160-7251-6	B2X400	Total/NA	Water	6020A	130859
160-7251-11	B2X3X7	Dissolved	Water	6020A	130859
160-7251-12	B2X3X8	Total/NA	Water	6020A	130859
160-7251-14	B2X3X2	Total/NA	Water	6020A	130859
160-7251-15	B2X3X1	Dissolved	Water	6020A	130859
160-7251-16	B2X3W5	Dissolved	Water	6020A	130859
160-7251-17	B2X3W6	Total/NA	Water	6020A	130859
LCS 160-130859/2-A	Lab Control Sample	Total/NA	Water	6020A	130859
MB 160-130859/1-A	Method Blank	Total/NA	Water	6020A	130859



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QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
SDG: SL1488

Metals (Continued)

Analysis Batch: 133624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7251-2	B2X3Y3	Dissolved	Water	6010C	132009
160-7251-3	B2X3Y4	Total/NA	Water	6010C	132009
160-7251-3 MS	B2X3Y4	Total/NA	Water	6010C	132009
160-7251-3 MSD	B2X3Y4	Total/NA	Water	6010C	132009
160-7251-5	B2X3Y9	Dissolved	Water	6010C	132009
160-7251-6	B2X400	Total/NA	Water	6010C	132009
160-7251-11	B2X3X7	Dissolved	Water	6010C	132009
160-7251-12	B2X3X8	Total/NA	Water	6010C	132009
160-7251-14	B2X3X2	Total/NA	Water	6010C	132009
160-7251-15	B2X3X1	Dissolved	Water	6010C	132009
160-7251-16	B2X3W5	Dissolved	Water	6010C	132009
160-7251-17	B2X3W6	Total/NA	Water	6010C	132009
LCS 160-132009/2-A	Lab Control Sample	Total/NA	Water	6010C	132009
MB 160-132009/1-A	Method Blank	Total/NA	Water	6010C	132009

Analysis Batch: 133762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7251-16	B2X3W5	Dissolved	Water	6010C	132009

General Chemistry

Analysis Batch: 130302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7251-3	B2X3Y4	Total/NA	Water	310.1	
160-7251-3 DU	B2X3Y4	Total/NA	Water	310.1	
160-7251-3 MS	B2X3Y4	Total/NA	Water	310.1	
160-7251-6	B2X400	Total/NA	Water	310.1	
160-7251-12	B2X3X8	Total/NA	Water	310.1	
160-7251-14	B2X3X2	Total/NA	Water	310.1	
160-7251-17	B2X3W6	Total/NA	Water	310.1	
HLCS 160-130302/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-130302/2	Lab Control Sample	Total/NA	Water	310.1	
MB 160-130302/1	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 130714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7251-1	B2X3X9	Total/NA	Water	300.0	
160-7251-4	B2X3Y5	Total/NA	Water	300.0	
160-7251-7	B2X401	Total/NA	Water	300.0	
160-7251-7 DU	B2X401	Total/NA	Water	300.0	
160-7251-7 MS	B2X401	Total/NA	Water	300.0	
160-7251-8	B2X437	Total/NA	Water	300.0	
160-7251-9	B2X443	Total/NA	Water	300.0	
160-7251-10	B2X449	Total/NA	Water	300.0	
160-7251-13	B2X3X3	Total/NA	Water	300.0	
160-7251-13 MS	B2X3X3	Total/NA	Water	300.0	
160-7251-18	B2X3W7	Total/NA	Water	300.0	
LCS 160-130714/4	Lab Control Sample	Total/NA	Water	300.0	
MB 160-130714/3	Method Blank	Total/NA	Water	300.0	

July 29, 2014
QC Association Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: X14-051

TestAmerica Job ID: 160-7251-1
 SDG: SL1488

General Chemistry (Continued)

Analysis Batch: 130715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-7251-1 - DL	B2X3X9	Total/NA	Water	300.0	
160-7251-1 MS - DL	B2X3X9	Total/NA	Water	300.0	
160-7251-4 - DL	B2X3Y5	Total/NA	Water	300.0	
160-7251-7 - DL	B2X401	Total/NA	Water	300.0	
160-7251-8 - DL	B2X437	Total/NA	Water	300.0	
160-7251-9 - DL	B2X443	Total/NA	Water	300.0	
160-7251-10 - DL	B2X449	Total/NA	Water	300.0	
160-7251-13 - DL	B2X3X3	Total/NA	Water	300.0	
160-7251-18 - DL	B2X3W7	Total/NA	Water	300.0	
160-7323-A-3 DU	Duplicate	Total/NA	Water	300.0	
160-7323-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
LCS 160-130715/10	Lab Control Sample	Total/NA	Water	300.0	
MB 160-130715/9	Method Blank	Total/NA	Water	300.0	

