

June 28, 2016

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-17692-1

TestAmerica Sample Delivery Group: SL2214
Client Project/Site: W16-006

For:

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

Attn: Mr. Scot Fitzgerald



Authorized for release by:
6/28/2016 6:42:02 PM

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

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
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.

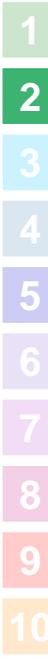


Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Chain of Custody	5
Definitions/Glossary	13
Method Summary	14
Sample Summary	15
Client Sample Results	16
QC Sample Results	17
QC Association Summary	18

Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 160-17692-1
SDG: SL2214

Job ID: 160-17692-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
June 28, 2016
Attention: Scot Fitzgerald

SDG : SL2214
Number of Samples : 6 samples
Sample Matrix : Water
Data Deliverable : Summary
Date SDG Closed : June 7, 2016

II. Introduction

On June 7, 6 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: W16-006

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.

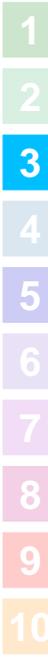
For solid matrices, all Metals analyses (including Hg) use a Standard Reference Material for the Laboratory Control Sample (LCS). Certificate for this source material may be obtained from TASL.

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

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

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

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



Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 160-17692-1
SDG: SL2214

Job ID: 160-17692-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

For extractable and volatile organic analyses, several analytes are considered poor performers and will not meet CHPRC QC limits. Per CHPRC direction, the lab's statistical limits have been reported. Excursions outside these statistical limits will include a non-conformance in the sections below.

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

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:

Jayna Awalt
St. Louis Project Manager

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-17692-1
SDG Number: SL2214

Login Number: 17692
List Number: 1
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	0.7°
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 (excluding tests with immediate HTs)	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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector	K.C. Patterson/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W16-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	RCRA, JUNE 2016	Logbook No.	HNF-N-506 83/81	Ice Chest No.	GWS-434
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	776455827663
Protocol	RCRA	Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS		Hold Time	
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1		N/A		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis
B357R7	N	JUN 06 2016	0730	1x500-mL G/P	310.1_ALKALINITY: COMMON
					Holding Time
					14 Days
					Preservative
					Cool <=6C

June 28, 2016

Relinquished By K.C. Patterson/CHPRC	Print 	Sign	Date/Time JUN 06 2016 1330	Received By Troy Bacon CHPRC	Print Troy L. Bacon	Sign	Date/Time JUN 06 2016 1336	Matrix *
Relinquished By Troy Bacon CHPRC	Print Troy L. Bacon	Sign	Date/Time JUN 06 2016 1400	Received By FEDEX	Print FEDEX	Sign	Date/Time JUN 06 2016 1400	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By			Date/Time FEDEX	Received By BRIAN DANIELS			Date/Time 6/21/16 0900	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE				Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Date/Time
DISPOSITION				Disposed By				Date/Time
PRINTED ON 4/28/2016				FSR ID = FSR31693				A-6004-842 (REV 2)



Collector: K.C. Patterson/CHPRC Telephone No. 509-376-4650
 SAF No. W16-006 Purchase Order/Charge Code 300071
 Project Title RCRA, JUNE 2016 Ice Chest No. GWS-434
 Shipped To (Lab) TestAmerica St. Louis Bill of Lading/Air Bill No. 7764 5552 7613
 Protocol RCRA Offsite Property No. N/A
 Priority: 30 Days **PRIORITY**

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

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B357R8	N	WJUN 06 2016	1233	1x500-mL G/P	310.1_ALKALINITY: COMMON	14 Days	Cool <=6C

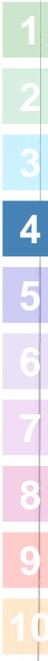
Relinquished By K.C. Patterson/CHPRC	Print 	Sign	Date/Time JUN 06 2016 1330	Received By Troy Bacon CHPRC	Print Troy L. Bacon	Sign	Date/Time JUN 06 2016 1330	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By Troy Bacon CHPRC	Print 	Sign	Date/Time JUN 06 2016 1400	Received By FEDEX	Print FEDEX	Sign	Date/Time JUN 06 2016 1330	
Relinquished By			Date/Time FEDEX	Received By BRIAN DANIELS	Print BRIAN DANIELS	Sign B.D.	Date/Time 6/16/16 0900	
Relinquished By			Date/Time	Received By			Date/Time	

Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By
 PRINTED ON 4/28/2016 FSR ID = FSR32065 A-6004-842 (REV 2)



CH2M Hill Plateau Remediation Company SL2214		C.O.C.# W16-006-110 Page 1 of 1	
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			
Collector: K.C. Patterson/CHPRC SAF No.: W16-006 Project Title: RCRA, JUNE 2016 Shipped To (Lab): <u>TestAmerica St. Louis</u> Protocol: RCRA	Contact/Requester: Karen Waters-Husted Sampling Origin: Hanford Site Logbook No.: HNF-N-506 <u>83/81</u> Method of Shipment: Commercial Carrier Priority: 30 Days	Telephone No.: 509-376-4650 Purchase Order/Charge Code: 300071 Ice Chest No.: <u>GWS-436</u> Bill of Lading/Air Bill No.: <u>776455527663</u> Offsite Property No.: <u>N/A</u>	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1		SPECIAL INSTRUCTIONS: N/A	
Sample No.: B357T3	Filter: N	No/Type Container: 1x500-mL G/P	Sample Analysis: COMMON
Date: JUN 06 2016 <u>0931</u>	Time:	Holding Time: 14 Days	Preservative: Cool <=6C

Relinquished By: K.C. Patterson/CHPRC Date/Time: JUN 06 2016 0950 Sign: <i>[Signature]</i>	Received By: Troy Bacon/CHPRC Date/Time: JUN 06 2016 0950 Sign: <i>[Signature]</i>	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: Troy Bacon/CHPRC Date/Time: JUN 06 2016 1400 Sign: <i>[Signature]</i>	Received By: FEDEX Date/Time:	
Relinquished By:	Received By: BRIAN DANIELS Date/Time: <u>6/28/2016 0900</u> Sign: <i>[Signature]</i>	
Relinquished By:	Received By:	
Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By:
FINAL SAMPLE DISPOSITION		Date/Time:
PRINTED ON 5/2/2016		FSR ID = FSR32111



CH2M Hill Plateau Remediation Company SL2214		C.O.C.# W16-006-117 Page 1 of 1	
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			
Collector K.C. Patterson/CHPRC	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	
SAF No. W16-006	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071	
Project Title RCRA, JUNE 2016	Logbook No. HNF-N-506 83781	Ice Chest No. 6WS-436	
Shipped To (Lab) TestAmerica St. Louis	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No. 7764 5552 7663	
Protocol RCRA	Priority: 30 Days	Offsite Property No. N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			
SPECIAL INSTRUCTIONS N/A		Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Sample No. B357Y5	Filter N	No/Type Container 1x500-mL G/P	Holding Time 14 Days
Date WJUN 06 2016 1103	Time 1103	Sample Analysis 310.1_ALKALINITY: COMMON	Preservative Cool <=6C

Relinquished By K.C. Patterson/CHPRC	Print 	Sign Troy L. Bacon	Date/Time JUN 06 2016 1330
Relinquished By Troy Bacon CHPRC	Print FEDEX	Sign FEDEX	Date/Time JUN 06 2016 1330
Relinquished By Relinquished By	Print FEDEX	Sign BRIAN DANIELS	Date/Time 6/17/16 0900
Relinquished By Relinquished By	Print FEDEX	Sign Relinquished By	Date/Time Relinquished By
Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Date/Time

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

PRINTED ON 4/21/2016
 FSR ID = FSR8549
 A-6004-842 (REV 2)

CH2M Hill Plateau Remediation Company SL2214		C.O.C.# W16-006-119 Page 1 of 1	
Collector Dan Woehle CHPRG	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	
SAF No. W16-006	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071	
Project Title RCRA, JUNE 2016	Logbook No. HNF-N-506 <u>86/16</u>	Ice Chest No. GWS-436	
Shipped To (Lab) TestAmerica St. Louis	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No. 776455527663	
Protocol RCRA	Priority: 30 Days	Offsite Property No. N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			
SPECIAL INSTRUCTIONS N/A		Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Sample No. B35817	Filter N	No/Type Container 1x500-mL G/P	Sample Analysis 310.1_ALKALINITY: COMMON
Date 6.6.16	Time 1020	Holding Time 14 Days	Preservative Cool <=6C

Relinquished By Dan Woehle CHPRG	Date/Time JUN 06 2016 1400	Received By Troy Bacon CHPRC	Date/Time JUN 06 2016 1100	Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By Dan Woehle CHPRG	Date/Time JUN 06 2016 1400	Received By FEDEX	Date/Time JUN 06 2016 1100	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By Dan Woehle CHPRG	Date/Time JUN 06 2016 1400	Received By BRYAN DANIELS	Date/Time 6/16 0900	
Relinquished By Dan Woehle CHPRG	Date/Time JUN 06 2016 1400	Received By FEDEX	Date/Time JUN 06 2016 1100	
Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time
PRINTED ON 4/28/2016		FSR ID = FSR31939		A-6004-842 (REV 2)



CH2M Hill Plateau Remediation Company SL2214		C.O.C.# W16-006-120	
Dan Woehle CHPRC		Page 1 of 1	
Collector	Karen Waters-Husted	Telephone No. 509-376-4650	
SAF No.	W16-006	Purchase Order/Charge Code 300071	
Project Title	RCRA, JUNE 2016	Ice Chest No. GWS-436	
Shipped To (Lab)	TestAmerica St. Louis	Bill of Lading/Air Bill No. 772455527663	
Protocol	RCRA	Offsite Property No. N/A	
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			
Special Instructions	N/A	Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Sample No.	Filter *	Date	Time
B35818	N	6/6/16	1020
No/Type Container	Sample Analysis	Holding Time	Preservative
1x500-mL G/P	COMMON	14 Days	Cool <=6C

Relinquished By Dan Woehle CHPRC	Print [Signature]	Sign	Date/Time JUN 06 2016 11:00	Received By Troy Bacon CHPRC	Print [Signature]	Sign	Date/Time JUN 06 2016 11:00	Matrix *
Relinquished By Troy Bacon CHPRC	Print [Signature]	Sign	Date/Time JUN 06 2016 11:00	Received By FEDEX	Print [Signature]	Sign	Date/Time JUN 06 2016	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By [Signature]	Print [Signature]	Sign	Date/Time FEDEX	Received By BRIAN DANIELS	Print [Signature]	Sign	Date/Time 6/2/16 0900	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By [Signature]	Print [Signature]	Sign	Date/Time FEDEX	Received By [Signature]	Print [Signature]	Sign	Date/Time [Signature]	
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Date/Time
PRINTED ON 4/28/2016				FSR ID = FSR31939				A-6004-842 (REV 2)



My Profile | Support | Locations | English | Search or tracking number | Subr



Shipping | Tracking | Manage | Learn | FedEx Office®

Login

IMPORTANT!

FedEx is now conducting standard daily operations in southeastern U.S. Learn More

FedEx® Tracking

776455527663

Ship date:

Mon 6/06/2016

RICHLAND, WA US

Actual delivery:

Tue 6/07/2016 9:21 am

EARTH CITY, MO US

Delivered

Signed for by: B DANIELS

Travel History

Date/Time	Activity	Location
- 6/07/2016 - Tuesday		
9:21 am	Delivered	EARTH CITY, MO
7:24 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:19 am	At local FedEx facility	EARTH CITY, MO
5:32 am	At destination sort facility	BERKELEY, MO
4:42 am	Departed FedEx location	MEMPHIS, TN
12:31 am	Arrived at FedEx location	MEMPHIS, TN
- 6/06/2016 - Monday		
4:58 pm	Left FedEx origin facility	PASCO, WA
4:24 pm	Shipment information sent to FedEx	
3:26 pm	Picked up	PASCO, WA

Shipment Facts

Tracking number	776455527663	Service	FedEx Standard Overnight
Weight	22 lbs / 9.98 kgs	Delivered To	Shipping/Receiving
Total pieces	1	Total shipment weight	22 lbs / 9.98 kgs
Terms	Recipient	Shipper reference	GWS-436
Packaging	Your Packaging	Special handling section	Deliver Weekday, Additional Handling Surcharge



Search or tracking number | Subr

Customer Focus

New Customer Center
Small Business Center
Service Guide
Customer Support

Company Information

About FedEx
Careers
Investor Relations
Subscribe to FedEx email

Featured Services

FedEx Delivery Manager
FedEx SameDay
FedEx Home Delivery
FedEx TechConnect
Healthcare Solutions
Online Retail Solutions
Packaging Services
Ancillary Clearance Services

Other Resources

FedEx Compatible
Developer Resource Center
FedEx Ship Manager Software
FedEx Mobile

Companies

FedEx Express
FedEx Ground
FedEx Office
FedEx Freight
FedEx Custom Critical
FedEx Trade Networks
FedEx CrossBorder
FedEx SupplyChain

Follow FedEx

United States - English

Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: W16-006

TestAmerica Job ID: 160-17692-1
 SDG: SL2214

Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Estimated result. Result is less than the RL, but greater than MDL
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)

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 160-17692-1
SDG: SL2214

Method	Method Description	Protocol	Laboratory
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.

Laboratory References:

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



June 28, 2016

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 160-17692-1
SDG: SL2214

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17692-1	B357R7	Water	06/06/16 07:30	06/07/16 09:00
160-17692-2	B357R8	Water	06/06/16 12:23	06/07/16 09:00
160-17692-3	B357T3	Water	06/06/16 09:31	06/07/16 09:00
160-17692-4	B357Y5	Water	06/06/16 11:03	06/07/16 09:00
160-17692-5	B35817	Water	06/06/16 10:20	06/07/16 09:00
160-17692-6	B35818	Water	06/06/16 10:20	06/07/16 09:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: W16-006

TestAmerica Job ID: 160-17692-1
 SDG: SL2214

General Chemistry

Client Sample ID: B357R7
 Date Collected: 06/06/16 07:30
 Date Received: 06/07/16 09:00

Lab Sample ID: 160-17692-1
 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	1.0	B	5.0	0.54	mg/L			06/16/16 11:24	1

Client Sample ID: B357R8
 Date Collected: 06/06/16 12:23
 Date Received: 06/07/16 09:00

Lab Sample ID: 160-17692-2
 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	94.0		5.0	0.54	mg/L			06/16/16 11:24	1

Client Sample ID: B357T3
 Date Collected: 06/06/16 09:31
 Date Received: 06/07/16 09:00

Lab Sample ID: 160-17692-3
 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	93.0		5.0	0.54	mg/L			06/16/16 11:24	1

Client Sample ID: B357Y5
 Date Collected: 06/06/16 11:03
 Date Received: 06/07/16 09:00

Lab Sample ID: 160-17692-4
 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	93.0		5.0	0.54	mg/L			06/16/16 11:24	1

Client Sample ID: B35817
 Date Collected: 06/06/16 10:20
 Date Received: 06/07/16 09:00

Lab Sample ID: 160-17692-5
 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	94.0		5.0	0.54	mg/L			06/16/16 11:24	1

Client Sample ID: B35818
 Date Collected: 06/06/16 10:20
 Date Received: 06/07/16 09:00

Lab Sample ID: 160-17692-6
 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	96.0		5.0	0.54	mg/L			06/16/16 11:24	1

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 160-17692-1
SDG: SL2214

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-256779/1
Matrix: Water
Analysis Batch: 256779

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	0.54	U	5.0	0.54	mg/L			06/16/16 11:24	1

Lab Sample ID: HLCS 160-256779/3
Matrix: Water
Analysis Batch: 256779

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

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	403	380.0		mg/L		94	90 - 110

Lab Sample ID: LCS 160-256779/2
Matrix: Water
Analysis Batch: 256779

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	201	192.0		mg/L		95	90 - 110

Lab Sample ID: 160-17667-A-1 MS
Matrix: Water
Analysis Batch: 256779

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
Alkalinity	126		101	222.0		mg/L		95	80 - 120

Lab Sample ID: 160-17667-A-1 DU
Matrix: Water
Analysis Batch: 256779

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	126		126.0		mg/L		0	20

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: W16-006

TestAmerica Job ID: 160-17692-1
 SDG: SL2214

General Chemistry

Analysis Batch: 256779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17667-A-1 DU	Duplicate	Total/NA	Water	310.1	
160-17667-A-1 MS	Matrix Spike	Total/NA	Water	310.1	
160-17692-1	B357R7	Total/NA	Water	310.1	
160-17692-2	B357R8	Total/NA	Water	310.1	
160-17692-3	B357T3	Total/NA	Water	310.1	
160-17692-4	B357Y5	Total/NA	Water	310.1	
160-17692-5	B35817	Total/NA	Water	310.1	
160-17692-6	B35818	Total/NA	Water	310.1	
HLCS 160-256779/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-256779/2	Lab Control Sample	Total/NA	Water	310.1	
MB 160-256779/1	Method Blank	Total/NA	Water	310.1	

