

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Richland
2800 George Washington Way
Richland, WA 99352
Tel: (509)375-3131

TestAmerica Job ID: 300-6358-1
TestAmerica Sample Delivery Group: WC2501
Client Project/Site: I18-002

For:
CH2M Hill Plateau Remediation Company
825 Jadwin Avenue
Richland, Washington 99352

Attn: CPP Sample Management

Kristine D. Allen

Authorized for release by:
11/29/2017 10:25:11 AM
Kristine Allen, Manager of Project Management
(253)248-4970
kristine.allen@testamericainc.com

Designee for
Ashley Worthy, Project Manager I
(509)375-3131
ashley.worthy@testamericainc.com

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this package. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the attached signature.

The laboratory is accredited to EPA 7196A in Solid and Chemical Materials, per Washington State Department of Ecology this is approved for non-discharge water samples.



LINKS

Review your project results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Chain of Custody	5
Detection Summary	11
Client Sample Results	13
QC Sample Results	15
QC Association Summary	17
Lab Chronicle	18
Method Summary	21
Sample Summary	22
Receipt Checklists	23

Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
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
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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

Job ID: 300-6358-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-6358-1**

Comments

No additional comments.

Receipt

The samples were received on 11/9/2017 2:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8° C.

HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

**CE2MHill Plateau
Remediation Company**

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
118-002-372

Page 1 of 1

Collector: Malcom Churn CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: 118-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: CERCLA, NOVEMBER 2017	Logbook No.: HNF-N-506 910150	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Rich	Method of Shipment: GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days	Offsite Property No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARK ** ** 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.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F4U9	Y	NOV 09 2017	0903	1x60-mL aG	7196_CR6: COMMON	24 Hours	COOL <=6C
B3F4U8	N	W	1	1x60-mL aG	7196_CR6: COMMON	24 Hours	COOL <=6C

WESS8
WESS8



300-6358 COC

Relinquished By: Malcom Churn Print First and Last Name	Signature	NOV 09 2017	0950	Received By: Chris Fritsch CHPRC	Signature	NOV 09 2017	0950	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By: Chris Fritsch CHPRC	Signature	NOV 09 2017	1000	Received By: SSU-1	Signature	NOV 09 2017	1000	
Relinquished By: SSU-1	Signature	NOV 09 2017	1210	Received By: Jeff Lucas CHPRC	Signature	NOV 09 2017	1210	
Relinquished By: Jeff Lucas CHPRC	Signature	NOV 09 2017	1410	Received By: B. Johnson Signature	Signature	NOV 09 2017	1410	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):						Disposed By:	

CE2MH11 Plateau
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
I18-002-374
Page 1 of 1

Collector: Malcom Churni CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: I18-002	Sampling Origin: Hanford site	Purchase Order/Charge Code: 300071
Project Title: CERCLA, NOVEMBER 2017	Logbook No.: HNF-N-506 910150	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Rich	Method of Shipment: GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days	Offsite Property No.: N/A
<p>POSSIBLE SAMPLE HAZARDS/REMARK</p> <p>** ** 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</p>		<p>SPECIAL INSTRUCTIONS</p> <p>N/A</p>

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F4K5	N	NOV 09 2017	1631	1x60-ml ag	7196_CR6: COMMON	24 Hours	COOL <=6C
B3F4K6	Y			1x60-ml ag	7196_CR6: COMMON	24 Hours	COOL <=6C

6358
we

Relinquished By: Malcom Churni CHPRC	Signature: <i>[Signature]</i>	Date/Time: NOV 09 2017 1240	Received By: Jeff Lucas KCHRC	Signature: <i>[Signature]</i>	Date/Time: NOV 09 2017 1240	<p>Matrix *</p> <p>S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other</p>
Relinquished By: Jeff Lucas KCHRC	Signature: <i>[Signature]</i>	Date/Time: NOV 09 2017 1410	Received By: B. Jorgenson, TARL	Signature: <i>[Signature]</i>	Date/Time: 11-9-17 1410	
Relinquished By: _____	Signature: _____	Date/Time: _____	Received By: _____	Signature: _____	Date/Time: _____	
Relinquished By: _____	Signature: _____	Date/Time: _____	Received By: _____	Signature: _____	Date/Time: _____	
Relinquished By: _____	Signature: _____	Date/Time: _____	Received By: _____	Signature: _____	Date/Time: _____	
Relinquished By: _____	Signature: _____	Date/Time: _____	Received By: _____	Signature: _____	Date/Time: _____	

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

Disposed By: _____ Date/Time: _____

CH2MHill Plateau
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
I18-002-382
Page 1 of 1

Collector: **Melcon Gutierrez** / **CHPRC** Contact/Requester: Karen Waters-Husted Telephone No.: 509-376-4650

SAF No.: I18-002 Sampling Origin: Hanford Site Purchase Order/Charge Code: 300071

Project Title: CERCLA, NOVEMBER 2017 Logbook No.: HNF-N-506 **910 / 150.51** Ice Chest No.: N/A

Shipped To (Lab): **TestAmerica Incorporated, Rich** Method of Shipment: GOVERNMENT VEHICLE Bill of Lading/Air Bill No.: N/A

Protocol: CERCLA Priority: 30 Days Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F4M2	N		NOV 09 2017	1240	1x60-mL aG	7196_CRE: COMMON	24 Hours	COOL <=6C
B3F4M3	Y	W			1x60-mL aG	7196_CRE: COMMON	24 Hours	COOL <=6C

6358
w-2501

Relinquished By: **Mr. Cl** Signature: *[Signature]* Date/Time: **NOV 09 2017 1240**

Print First and Last Name: _____ Signature: _____ Date/Time: _____

Relinquished By: **Jeff Lucas** Signature: *[Signature]* Date/Time: **NOV 09 2017 1410**

Print First and Last Name: **Jeff Lucas** / **CHPRC** Signature: _____ Date/Time: _____

Relinquished By: **B. Jorgenson** Signature: *[Signature]* Date/Time: **11-9-17 1410**

Print First and Last Name: _____ Signature: _____ Date/Time: _____

Relinquished By: _____ Signature: _____ Date/Time: _____

Print First and Last Name: _____ Signature: _____ Date/Time: _____

Relinquished By: _____ Signature: _____ Date/Time: _____

Print First and Last Name: _____ Signature: _____ Date/Time: _____

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

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

CH2MH11 Plateau
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
I18-002-381

Page 1 of 1

Collector: Malcom Churns CHPC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: I18-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: CERCLA, NOVEMBER 2017	Logbook No.: HNF-N-506 90/50.51	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Rich	Method of Shipment: GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days	Offsite Property No.: N/A
<p>POSSIBLE SAMPLE HAZARDS/REMARK</p> <p>** 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</p>		<p>SPECIAL INSTRUCTIONS</p> <p>N/A</p>

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F4M1	N	NOV 09 2017	11:07	1x125-mL P	300.0_ANTIONS_IC: COMMON	48 Hours	Cool <=6C

6354
202501

Relinquished By: Malcom Churns CHPC	NOV 09 2017	1240	Received By: Jeff Lucas CHPC	NOV 09 2017	1240	<p>Matrix*</p> <p>S = Soil DS = Drum Solids</p> <p>SE = Sediment DL = Drum Liquid</p> <p>SO = Solid T = Tissue</p> <p>SL = Sludge WI = Wipe</p> <p>W = Water L = Liquid</p> <p>O = Oil V = Vegetation</p> <p>A = Air X = Other</p>
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time	
Relinquished By: Jeff Lucas CHPC	NOV 09 2017	1410	Received By: Jeff Briggerson TARL	NOV 09 2017	1410	
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time	
Relinquished By:	Signature	Date/Time	Received By:	Signature	Date/Time	
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time	
<p>FINAL SAMPLE DISPOSITION</p> <p>Disposal Method (e.g., Return to customer, per lab procedure, used in process):</p>			<p>Disposed By:</p>		Date/Time:	

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# I18-002-396 Page 1 of 1

Collector: Malcom Churns CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: I18-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: CERCLA, NOVEMBER 2017	Logbook No.: HNF-N-506 <i>90/50</i>	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Rich	Method of Shipment: GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days	Offsite Property No.: N/A
POSSIBLE SAMPLE HAZARDS/REMARK ** ** 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.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F3K9	N	W	NOV 09 2017	0940	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours	COOL <=6C

11/29/2017

6358 we 2501

Relinquished By: Malcom Churns CHPRC	<i>MR CL</i>	Signature	NOV 09 2017	<i>0850</i>	Date/Time	Received By: Chris Fulton CHPRC	<i>[Signature]</i>	Signature	NOV 09 2017	<i>0930</i>	Date/Time	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid A = Air V = Vegetation X = Other
Relinquished By: Chris Fulton CHPRC	<i>[Signature]</i>	Signature	NOV 09 2017	<i>0930</i>	Date/Time	Received By: SSU-1	<i>[Signature]</i>	Signature	NOV 09 2017	<i>0930</i>	Date/Time	
Relinquished By: SSU-1	<i>[Signature]</i>	Signature	NOV 09 2017	<i>1210</i>	Date/Time	Received By: Jeff Lucas CHPRC	<i>[Signature]</i>	Signature	NOV 09 2017	<i>1210</i>	Date/Time	
Relinquished By: Jeff Lucas CHPRC	<i>[Signature]</i>	Signature	NOV 09 2017	<i>1410</i>	Date/Time	Received By: B. Jorgenson, IARL CHPRC	<i>[Signature]</i>	Signature	NOV 09 2017	<i>1410</i>	Date/Time	
FINAL SAMPLE DISPOSITION						Disposal Method (e.g., Return to customer, per lab procedure, used in process):	Disposed By:	Date/Time:				

Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

Client Sample ID: B3F4J9

Lab Sample ID: 300-6358-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0082		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3F4J8

Lab Sample ID: 300-6358-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0082		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3F3L0

Lab Sample ID: 300-6358-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0043		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3F3L1

Lab Sample ID: 300-6358-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0042		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3F4K5

Lab Sample ID: 300-6358-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0073		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3F4K6

Lab Sample ID: 300-6358-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0085		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3F4M2

Lab Sample ID: 300-6358-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0022	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3F4M3

Lab Sample ID: 300-6358-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0022	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3F4M1

Lab Sample ID: 300-6358-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	54	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	5.5	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.22	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	91	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B3F3K9

Lab Sample ID: 300-6358-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	32	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	7.8	D	0.056	0.028	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

Client Sample ID: B3F3K9 (Continued)

Lab Sample ID: 300-6358-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.21	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	95	D	0.50	0.25	mg/L	2		300.0	Total/NA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

Client Sample ID: B3F4J9

Lab Sample ID: 300-6358-1

Date Collected: 11/09/17 09:03

Matrix: Water

Date Received: 11/09/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0082		0.0040	0.0015	mg/L			11/09/17 15:33	1

Client Sample ID: B3F4J8

Lab Sample ID: 300-6358-2

Date Collected: 11/09/17 09:03

Matrix: Water

Date Received: 11/09/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0082		0.0040	0.0015	mg/L			11/09/17 15:34	1

Client Sample ID: B3F3L0

Lab Sample ID: 300-6358-3

Date Collected: 11/09/17 09:40

Matrix: Water

Date Received: 11/09/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0043		0.0040	0.0015	mg/L			11/09/17 15:34	1

Client Sample ID: B3F3L1

Lab Sample ID: 300-6358-4

Date Collected: 11/09/17 09:40

Matrix: Water

Date Received: 11/09/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0042		0.0040	0.0015	mg/L			11/09/17 15:34	1

Client Sample ID: B3F4K5

Lab Sample ID: 300-6358-5

Date Collected: 11/09/17 10:31

Matrix: Water

Date Received: 11/09/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0073		0.0040	0.0015	mg/L			11/09/17 15:35	1

Client Sample ID: B3F4K6

Lab Sample ID: 300-6358-6

Date Collected: 11/09/17 10:31

Matrix: Water

Date Received: 11/09/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0085		0.0040	0.0015	mg/L			11/09/17 15:35	1

Client Sample ID: B3F4M2

Lab Sample ID: 300-6358-7

Date Collected: 11/09/17 11:27

Matrix: Water

Date Received: 11/09/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0022	B	0.0040	0.0015	mg/L			11/09/17 15:38	1

TestAmerica Richland

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

Client Sample ID: B3F4M3

Lab Sample ID: 300-6358-8

Date Collected: 11/09/17 11:27

Matrix: Water

Date Received: 11/09/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0022	B	0.0040	0.0015	mg/L			11/09/17 15:39	1

Client Sample ID: B3F4M1

Lab Sample ID: 300-6358-9

Date Collected: 11/09/17 11:27

Matrix: Water

Date Received: 11/09/17 14:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	54	D	0.40	0.20	mg/L			11/10/17 05:56	2
Nitrate as N	5.5	D	0.056	0.028	mg/L			11/10/17 05:56	2
Fluoride	0.22	D	0.10	0.050	mg/L			11/10/17 05:56	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			11/10/17 05:56	2
Sulfate	91	D	0.50	0.25	mg/L			11/10/17 05:56	2

Client Sample ID: B3F3K9

Lab Sample ID: 300-6358-10

Date Collected: 11/09/17 09:40

Matrix: Water

Date Received: 11/09/17 14:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32	D	0.40	0.20	mg/L			11/10/17 06:12	2
Nitrate as N	7.8	D	0.056	0.028	mg/L			11/10/17 06:12	2
Fluoride	0.21	D	0.10	0.050	mg/L			11/10/17 06:12	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			11/10/17 06:12	2
Sulfate	95	D	0.50	0.25	mg/L			11/10/17 06:12	2

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-9631/55
Matrix: Water
Analysis Batch: 9631

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	0.014	U	0.028	0.014	mg/L			11/10/17 02:10	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			11/10/17 02:10	1

Lab Sample ID: LCS 300-9631/56
Matrix: Water
Analysis Batch: 9631

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	2.26	2.32		mg/L		103	80 - 120
Nitrite as N	3.04	3.22		mg/L		106	80 - 120

Lab Sample ID: 300-6359-A-1 MS
Matrix: Water
Analysis Batch: 9631

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	0.028	U D	0.452	0.366	D	mg/L		81	75 - 125
Nitrite as N	0.038	U D	0.609	0.562	D	mg/L		92	75 - 125

Lab Sample ID: 300-6359-A-1 DU
Matrix: Water
Analysis Batch: 9631

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	0.028	U D	0.028	U D	mg/L		NC	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-9632/55
Matrix: Water
Analysis Batch: 9632

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.10	U	0.20	0.10	mg/L			11/10/17 02:10	1
Fluoride	0.025	U	0.050	0.025	mg/L			11/10/17 02:10	1
Sulfate	0.13	U	0.25	0.13	mg/L			11/10/17 02:10	1

Lab Sample ID: LCS 300-9632/56
Matrix: Water
Analysis Batch: 9632

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16.0	16.6		mg/L		103	80 - 120
Fluoride	4.00	4.20		mg/L		105	80 - 120
Sulfate	20.0	20.9		mg/L		105	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
 SDG: WC2501

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-6359-A-1 MS
 Matrix: Water
 Analysis Batch: 9632

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

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	0.20	U D	3.20	3.03	D	mg/L		95	75 - 125	
Fluoride	0.050	U D	0.800	0.775	D	mg/L		97	75 - 125	
Sulfate	0.25	U D	4.00	4.04	D	mg/L		101	75 - 125	

Lab Sample ID: 300-6359-A-1 DU
 Matrix: Water
 Analysis Batch: 9632

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Chloride	0.20	U D	0.20	U D	mg/L		NC	20
Fluoride	0.050	U D	0.050	U D	mg/L		NC	20
Sulfate	0.25	U D	0.25	U D	mg/L		NC	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-9641/3
 Matrix: Water
 Analysis Batch: 9641

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

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			11/09/17 15:30	1

Lab Sample ID: LCS 300-9641/4
 Matrix: Water
 Analysis Batch: 9641

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

Analyte	Spike	Added	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
			Result	Qualifier					
Cr (VI)	0.250	0.257			mg/L		103	80 - 120	

Lab Sample ID: 300-6358-1 MS
 Matrix: Water
 Analysis Batch: 9641

Client Sample ID: B3F4J9
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Cr (VI)	0.0082		0.0501	0.0604		mg/L		104	75 - 125	

Lab Sample ID: 300-6358-1 DU
 Matrix: Water
 Analysis Batch: 9641

Client Sample ID: B3F4J9
 Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Cr (VI)	0.0082		0.00850		mg/L		4	20

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

HPLC/IC

Analysis Batch: 9631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6358-9	B3F4M1	Total/NA	Water	300.0	
300-6358-10	B3F3K9	Total/NA	Water	300.0	
MB 300-9631/55	Method Blank	Total/NA	Water	300.0	
LCS 300-9631/56	Lab Control Sample	Total/NA	Water	300.0	
300-6359-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
300-6359-A-1 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 9632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6358-9	B3F4M1	Total/NA	Water	300.0	
300-6358-10	B3F3K9	Total/NA	Water	300.0	
MB 300-9632/55	Method Blank	Total/NA	Water	300.0	
LCS 300-9632/56	Lab Control Sample	Total/NA	Water	300.0	
300-6359-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
300-6359-A-1 DU	Duplicate	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 9641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6358-1	B3F4J9	Total/NA	Water	7196A	
300-6358-2	B3F4J8	Total/NA	Water	7196A	
300-6358-3	B3F3L0	Total/NA	Water	7196A	
300-6358-4	B3F3L1	Total/NA	Water	7196A	
300-6358-5	B3F4K5	Total/NA	Water	7196A	
300-6358-6	B3F4K6	Total/NA	Water	7196A	
300-6358-7	B3F4M2	Total/NA	Water	7196A	
300-6358-8	B3F4M3	Total/NA	Water	7196A	
MB 300-9641/3	Method Blank	Total/NA	Water	7196A	
LCS 300-9641/4	Lab Control Sample	Total/NA	Water	7196A	
300-6358-1 MS	B3F4J9	Total/NA	Water	7196A	
300-6358-1 DU	B3F4J9	Total/NA	Water	7196A	

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
 Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
 SDG: WC2501

Client Sample ID: B3F4J9

Date Collected: 11/09/17 09:03

Date Received: 11/09/17 14:10

Lab Sample ID: 300-6358-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:33	TRH	TAL RCH

Client Sample ID: B3F4J8

Date Collected: 11/09/17 09:03

Date Received: 11/09/17 14:10

Lab Sample ID: 300-6358-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:34	TRH	TAL RCH

Client Sample ID: B3F3L0

Date Collected: 11/09/17 09:40

Date Received: 11/09/17 14:10

Lab Sample ID: 300-6358-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:34	TRH	TAL RCH

Client Sample ID: B3F3L1

Date Collected: 11/09/17 09:40

Date Received: 11/09/17 14:10

Lab Sample ID: 300-6358-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:34	TRH	TAL RCH

Client Sample ID: B3F4K5

Date Collected: 11/09/17 10:31

Date Received: 11/09/17 14:10

Lab Sample ID: 300-6358-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:35	TRH	TAL RCH

Client Sample ID: B3F4K6

Date Collected: 11/09/17 10:31

Date Received: 11/09/17 14:10

Lab Sample ID: 300-6358-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:35	TRH	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

Client Sample ID: B3F4M2

Lab Sample ID: 300-6358-7

Date Collected: 11/09/17 11:27
Date Received: 11/09/17 14:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:38	TRH	TAL RCH

Client Sample ID: B3F4M3

Lab Sample ID: 300-6358-8

Date Collected: 11/09/17 11:27
Date Received: 11/09/17 14:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:39	TRH	TAL RCH

Client Sample ID: B3F4M1

Lab Sample ID: 300-6358-9

Date Collected: 11/09/17 11:27
Date Received: 11/09/17 14:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			9631	11/10/17 05:56	ALR	TAL RCH
Total/NA	Analysis	300.0		2			9632	11/10/17 05:56	ALR	TAL RCH

Client Sample ID: B3F3K9

Lab Sample ID: 300-6358-10

Date Collected: 11/09/17 09:40
Date Received: 11/09/17 14:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			9631	11/10/17 06:12	ALR	TAL RCH
Total/NA	Analysis	300.0		2			9632	11/10/17 06:12	ALR	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-9631/55

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			9631	11/10/17 02:10	ALR	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-9632/55

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			9632	11/10/17 02:10	ALR	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

Client Sample ID: Method Blank

Lab Sample ID: MB 300-9641/3

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:30	TRH	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-9631/56

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			9631	11/10/17 02:25	ALR	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-9632/56

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			9632	11/10/17 02:25	ALR	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-9641/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:30	TRH	TAL RCH

Client Sample ID: B3F4J9

Lab Sample ID: 300-6358-1 MS

Date Collected: 11/09/17 09:03

Matrix: Water

Date Received: 11/09/17 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			9641	11/09/17 15:30	TRH	TAL RCH

Client Sample ID: Matrix Spike

Lab Sample ID: 300-6359-A-1 MS

Date Collected: 11/09/17 07:30

Matrix: Water

Date Received: 11/09/17 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			9631	11/10/17 02:55	ALR	TAL RCH
Total/NA	Analysis	300.0		2			9632	11/10/17 02:55	ALR	TAL RCH

Laboratory References:

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
SDG: WC2501

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL RCH
7196A	Chromium, Hexavalent	SW846	TAL RCH

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 RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131



Sample Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: I18-002

TestAmerica Job ID: 300-6358-1
 SDG: WC2501

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-6358-1	B3F4J9	Water	11/09/17 09:03	11/09/17 14:10
300-6358-2	B3F4J8	Water	11/09/17 09:03	11/09/17 14:10
300-6358-3	B3F3L0	Water	11/09/17 09:40	11/09/17 14:10
300-6358-4	B3F3L1	Water	11/09/17 09:40	11/09/17 14:10
300-6358-5	B3F4K5	Water	11/09/17 10:31	11/09/17 14:10
300-6358-6	B3F4K6	Water	11/09/17 10:31	11/09/17 14:10
300-6358-7	B3F4M2	Water	11/09/17 11:27	11/09/17 14:10
300-6358-8	B3F4M3	Water	11/09/17 11:27	11/09/17 14:10
300-6358-9	B3F4M1	Water	11/09/17 11:27	11/09/17 14:10
300-6358-10	B3F3K9	Water	11/09/17 09:40	11/09/17 14:10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-6358-1

SDG Number: WC2501

Login Number: 6358

List Number: 1

Creator: Bock, Julie A

List Source: TestAmerica Richland

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.	N/A	
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	
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 <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13