

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: 300-6994-1
TestAmerica Sample Delivery Group: WC2816
Client Project/Site: S18-004

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

Attn: CPP Sample Management



Authorized for release by:
5/9/2018 3:34:25 PM

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



LINKS

Review your project results through
TotalAccess

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www.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.

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Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
SDG: WC2816

Qualifiers

HPLC/IC

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

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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)

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
SDG: WC2816

Job ID: 300-6994-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-6994-1**

Comments

No additional comments.

Receipt

The samples were received on 4/9/2018 2:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

HPLC/IC

Method(s) 300.0: The continuing calibration blank (CCB) for analytical batch 300-10897 contained Chloride above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

General Chemistry

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



CH2MHill Plateau
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

COC.#
S18-004-312
Page 1 of 1

Rev O

Collector: Roy Shepard /CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: S18-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: SURV, APRIL 2018	Logbook No.: HNF-N-506 - 99	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
B3HVL8	N	W	4-9-18	1117	1x60-mL aG	7196_CR6: COMMON	24 Hours	COOL <=6C

May 9, 2018

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WC 2816

300-6994 COC



Relinquished By: Roy Shepard /CHPRC	Signature: <i>[Signature]</i>	Date/Time: 4/9/18 1200	Received By: Daniel Klug /CHPRC	Signature: <i>[Signature]</i>	Date/Time: APR 09 2018 1200
Relinquished By: Daniel Klug /CHPRC	Signature: <i>[Signature]</i>	Date/Time: APR 09 2018 1425	Received By: TARI	Signature: <i>[Signature]</i>	Date/Time: 4/9/18 1425
Relinquished By: _____	Signature: _____	Date/Time: _____	Received By: _____	Signature: _____	Date/Time: _____
Relinquished By: _____	Signature: _____	Date/Time: _____	Received By: _____	Signature: _____	Date/Time: _____

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

Printed On 3/12/2018

FSR ID = FSR58664

A-6004-842 (REV 3)

CH2MHILL Plateau
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
S18-004-311
Page 1 of 1

Rev 0

Collector: Roy Shepard /CHERC	SAF No.: S18-004	Project Title: SURV, APRIL 2018	Shipped To (Lab): TestAmerica Incorporated, Rich	Protocol: CERCLA
Contact/Requester: Karen Waters-Husted	Sampling Origin: Hanford Site.	Logbook No.: HNF-N-506-99	Method of Shipment: GOVERNMENT VEHICLE	Priority: 30 Days
Telephone No.: 509-376-4650	Purchase Order/Charge Code: 300071	Ice Chest No.: N/A	Bill of Lading/Air Bill No.: N/A	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
B3HVL7	N	W	4-9-18	1117	1x125-mL P	300.0_ANTIONS_IC: COMMON	48 Hours	COOL <=6C

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Relinquished By: Roy Shepard /CHERC	Signature:	Date/Time: 4/18/18 1200	Received By: Daniel King /CHERC	Signature:	Date/Time: APR 09 2018 1200
Relinquished By: Daniel King /CHERC	Signature:	Date/Time: APR 09 2018 1425	Received By: P. Holm	Signature:	Date/Time: 4/9/18/1425
Relinquished By: <u>Print First and Last Name</u>	Signature: _____	Date/Time: _____	Received By: <u>Print First and Last Name</u>	Signature: _____	Date/Time: _____
Relinquished By: <u>Print First and Last Name</u>	Signature: _____	Date/Time: _____	Received By: <u>Print First and Last Name</u>	Signature: _____	Date/Time: _____

- Matrix *
- S = Soil
 - SE = Sediment
 - SO = Solid
 - SL = Sludge
 - W = Water
 - O = Oil
 - A = Air
 - DS = Drum Solids
 - DL = Drum Liquid
 - 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): _____

Disposed By: _____

Date/Time: _____

CH2MHILL Plateau
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
W18-004-172
Page 1 of 1

Collector: Suzanna Briggs /CHPRC Contact/Requester: Karen Waters-Husted Telephone No.: 509-376-4650

OSAF No.: W18-004 Sampling Origin: Hanford Site Purchase Order/Charge Code: 300071

Project Title: RCRA_WAC, APRIL 2018 Logbook No.: HNF-N-506 ~1000-10 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: RCRA 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
B3HP88	N	APR 09 2018	1004	1x125-mL P	300.0_ANTONS_IC: COMMON	48 Hours	Cool <=6C

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we 2816
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Relinquished By: <u>S. Briggs</u> Signature Date/Time: APR 9 2018 1115	Received By: <u>D. Key</u> Signature Date/Time: APR 09 2018 1115	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: <u>D. Key</u> Signature Date/Time: APR 09 2018 1425	Received By: <u>T. Ari</u> Signature Date/Time: 4/9/18 1425	
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: _____	

CH2M Hill Plateau
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
W18-004-175
Page 1 of 1

Collector: Juan Aguilar /CH2M	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: W18-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: RCRA_WAC, APRIL 2018	Logbook No.: HNF-N-506-49817J	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: RCRA	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
B3HPU3	N	4-9-18	0944	1x125-mL P	300.0_ANTONS_IC: COMMON	48 Hours	COOL <=6C

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WAC 2816

Relinquished By: Juan Aguilar /CH2M	Signature	APR 03 2018	Date/Time	Received By: Diana King /CH2M	Signature	APR 03 2018	Date/Time	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquid SO = Solid T = Tissue SL = Sludge W1 = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Print First and Last Name	Signature	Date/Time	Received By: J. King	Signature	Date/Time			
Relinquished By: Diana King /CH2M	Signature	APR 03 2018	Date/Time	Received By: JARI	Signature	4/9/18	Date/Time	
Print First and Last Name	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			
Print First and Last Name	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:
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CH2MH111 Plateau
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
S18-004-257
Page 1 of 1

Rev 0

Collector: Jean Aguilera CH2RC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: S18-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: SURV, APRIL 2018	Logbook No.: HNF-N-506-48171	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 ** ** 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 N/A</p>

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3HV70	N	W	4-4-18	0901	1x125-mL P	300.0_ANTIONS_IC: COMMON	48 Hours	Cool <=6C

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Relinquished By: Jean Aguilera CH2RC	Signature	APR 0 9 2018 1026	Received By: Daniel King CH2RC	Signature	APR 0 9 2018 1026	<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: Daniel King CH2RC	Signature	APR 0 9 2018 1425	Received By: J THOM	Signature	4/9/18 1425	
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	
FINAL SAMPLE DISPOSITION			Disposal Method (e.g., Return to customer, per lab procedure, used in process):		Disposed By:	Date/Time:

May 9, 2018
Detection Summary

Rev 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
SDG: WC2816

Client Sample ID: B3HVL8

Lab Sample ID: 300-6994-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0089		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3HVL7

Lab Sample ID: 300-6994-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	20	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	16	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.48	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.078	D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	140	D	2.5	1.3	mg/L	10		300.0	Total/NA

Client Sample ID: B3HP88

Lab Sample ID: 300-6994-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	24	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	30	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.27	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.067	B D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	81	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B3HPJ3

Lab Sample ID: 300-6994-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	26	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	29	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.27	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.059	B D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	88	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B3HV70

Lab Sample ID: 300-6994-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	22	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	28	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.33	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.083	D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	85	D	0.50	0.25	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

May 9, 2018
Client Sample Results

Rev 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
SDG: WC2816

Client Sample ID: B3HVL8
Date Collected: 04/09/18 11:17
Date Received: 04/09/18 14:25

Lab Sample ID: 300-6994-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0089		0.0040	0.0015	mg/L			04/09/18 16:16	1

Client Sample ID: B3HVL7
Date Collected: 04/09/18 11:17
Date Received: 04/09/18 14:25

Lab Sample ID: 300-6994-2
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20	D	0.40	0.20	mg/L			04/09/18 16:44	2
Nitrate as N	16	D	0.28	0.14	mg/L			04/09/18 19:25	10
Fluoride	0.48	D	0.10	0.050	mg/L			04/09/18 16:44	2
Nitrite as N	0.078	D	0.076	0.038	mg/L			04/09/18 16:44	2
Sulfate	140	D	2.5	1.3	mg/L			04/09/18 19:25	10

Client Sample ID: B3HP88
Date Collected: 04/09/18 10:04
Date Received: 04/09/18 14:25

Lab Sample ID: 300-6994-3
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24	D	0.40	0.20	mg/L			04/09/18 17:32	2
Nitrate as N	30	D	0.28	0.14	mg/L			04/09/18 20:14	10
Fluoride	0.27	D	0.10	0.050	mg/L			04/09/18 17:32	2
Nitrite as N	0.067	B D	0.076	0.038	mg/L			04/09/18 17:32	2
Sulfate	81	D	0.50	0.25	mg/L			04/09/18 17:32	2

Client Sample ID: B3HPJ3
Date Collected: 04/09/18 09:44
Date Received: 04/09/18 14:25

Lab Sample ID: 300-6994-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26	D	0.40	0.20	mg/L			04/09/18 17:48	2
Nitrate as N	29	D	0.28	0.14	mg/L			04/09/18 20:30	10
Fluoride	0.27	D	0.10	0.050	mg/L			04/09/18 17:48	2
Nitrite as N	0.059	B D	0.076	0.038	mg/L			04/09/18 17:48	2
Sulfate	88	D	0.50	0.25	mg/L			04/09/18 17:48	2

Client Sample ID: B3HV70
Date Collected: 04/09/18 09:01
Date Received: 04/09/18 14:25

Lab Sample ID: 300-6994-5
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22	D	0.40	0.20	mg/L			04/09/18 18:04	2
Nitrate as N	28	D	0.28	0.14	mg/L			04/09/18 20:46	10
Fluoride	0.33	D	0.10	0.050	mg/L			04/09/18 18:04	2
Nitrite as N	0.083	D	0.076	0.038	mg/L			04/09/18 18:04	2
Sulfate	85	D	0.50	0.25	mg/L			04/09/18 18:04	2

TestAmerica Richland

May 9, 2018
QC Sample Results

Rev 0

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
 SDG: WC2816

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-10896/5
 Matrix: Water
 Analysis Batch: 10896

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			04/09/18 11:22	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			04/09/18 11:22	1

Lab Sample ID: LCS 300-10896/6
 Matrix: Water
 Analysis Batch: 10896

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	2.45		mg/L		108	80 - 120
Nitrite as N	3.04	3.29		mg/L		108	80 - 120

Lab Sample ID: 300-6994-2 MS
 Matrix: Water
 Analysis Batch: 10896

Client Sample ID: B3HVL7
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	0.078	D	0.609	0.588	D	mg/L		84	75 - 125

Lab Sample ID: 300-6994-2 MS
 Matrix: Water
 Analysis Batch: 10896

Client Sample ID: B3HVL7
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	16	D	2.26	18.0	D	mg/L		97	75 - 125

Lab Sample ID: 300-6994-2 DU
 Matrix: Water
 Analysis Batch: 10896

Client Sample ID: B3HVL7
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrite as N	0.078	D	0.0722	B D	mg/L		7	20

Lab Sample ID: 300-6994-2 DU
 Matrix: Water
 Analysis Batch: 10896

Client Sample ID: B3HVL7
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	16	D	15.6	D	mg/L		1	20

Lab Sample ID: MB 300-10897/5
 Matrix: Water
 Analysis Batch: 10897

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			04/09/18 11:22	1
Fluoride	0.025	U	0.050	0.025	mg/L			04/09/18 11:22	1
Sulfate	0.13	U	0.25	0.13	mg/L			04/09/18 11:22	1

TestAmerica Richland

May 9, 2018
QC Sample Results

Rev 0

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
 SDG: WC2816

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 300-10897/6
 Matrix: Water
 Analysis Batch: 10897

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	17.0		mg/L		106	80 - 120
Fluoride	4.00	4.29		mg/L		107	80 - 120
Sulfate	20.0	20.7		mg/L		103	80 - 120

Lab Sample ID: 300-6994-2 MS
 Matrix: Water
 Analysis Batch: 10897

Client Sample ID: B3HVL7
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20	D	3.20	23.8	D	mg/L		112	75 - 125
Fluoride	0.48	D	0.800	1.33	D	mg/L		107	75 - 125

Lab Sample ID: 300-6994-2 MS
 Matrix: Water
 Analysis Batch: 10897

Client Sample ID: B3HVL7
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	140	D	20.0	158	D	mg/L		86	75 - 125

Lab Sample ID: 300-6994-2 DU
 Matrix: Water
 Analysis Batch: 10897

Client Sample ID: B3HVL7
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	20	D	20.2	D	mg/L		0.2	20
Fluoride	0.48	D	0.480	D	mg/L		1	20

Lab Sample ID: 300-6994-2 DU
 Matrix: Water
 Analysis Batch: 10897

Client Sample ID: B3HVL7
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	140	D	139	D	mg/L		1	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-10904/3
 Matrix: Water
 Analysis Batch: 10904

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			04/09/18 16:12	1

Lab Sample ID: LCS 300-10904/4
 Matrix: Water
 Analysis Batch: 10904

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.250	0.252		mg/L		101	80 - 120

TestAmerica Richland

May 9, 2018
QC Sample Results

Rev 0

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
 SDG: WC2816

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 300-6994-1 MS
Matrix: Water
Analysis Batch: 10904

Client Sample ID: B3HVL8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.0089		0.0501	0.0607		mg/L		103	75 - 125

Lab Sample ID: 300-6994-1 DU
Matrix: Water
Analysis Batch: 10904

Client Sample ID: B3HVL8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.0089		0.00880		mg/L		1	20

May 9, 2018
QC Association Summary

Rev 0

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
 SDG: WC2816

HPLC/IC

Analysis Batch: 10896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6994-2	B3HVL7	Total/NA	Water	300.0	
300-6994-2	B3HVL7	Total/NA	Water	300.0	
300-6994-3	B3HP88	Total/NA	Water	300.0	
300-6994-3	B3HP88	Total/NA	Water	300.0	
300-6994-4	B3HPJ3	Total/NA	Water	300.0	
300-6994-4	B3HPJ3	Total/NA	Water	300.0	
300-6994-5	B3HV70	Total/NA	Water	300.0	
300-6994-5	B3HV70	Total/NA	Water	300.0	
MB 300-10896/5	Method Blank	Total/NA	Water	300.0	
LCS 300-10896/6	Lab Control Sample	Total/NA	Water	300.0	
300-6994-2 MS	B3HVL7	Total/NA	Water	300.0	
300-6994-2 MS	B3HVL7	Total/NA	Water	300.0	
300-6994-2 DU	B3HVL7	Total/NA	Water	300.0	
300-6994-2 DU	B3HVL7	Total/NA	Water	300.0	

Analysis Batch: 10897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6994-2	B3HVL7	Total/NA	Water	300.0	
300-6994-2	B3HVL7	Total/NA	Water	300.0	
300-6994-3	B3HP88	Total/NA	Water	300.0	
300-6994-4	B3HPJ3	Total/NA	Water	300.0	
300-6994-5	B3HV70	Total/NA	Water	300.0	
MB 300-10897/5	Method Blank	Total/NA	Water	300.0	
LCS 300-10897/6	Lab Control Sample	Total/NA	Water	300.0	
300-6994-2 MS	B3HVL7	Total/NA	Water	300.0	
300-6994-2 MS	B3HVL7	Total/NA	Water	300.0	
300-6994-2 DU	B3HVL7	Total/NA	Water	300.0	
300-6994-2 DU	B3HVL7	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 10904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6994-1	B3HVL8	Total/NA	Water	7196A	
MB 300-10904/3	Method Blank	Total/NA	Water	7196A	
LCS 300-10904/4	Lab Control Sample	Total/NA	Water	7196A	
300-6994-1 MS	B3HVL8	Total/NA	Water	7196A	
300-6994-1 DU	B3HVL8	Total/NA	Water	7196A	

TestAmerica Richland

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
SDG: WC2816

Client Sample ID: B3HVL8

Date Collected: 04/09/18 11:17

Date Received: 04/09/18 14:25

Lab Sample ID: 300-6994-1

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			10904	04/09/18 16:16	TRH	TAL RCH

Client Sample ID: B3HVL7

Date Collected: 04/09/18 11:17

Date Received: 04/09/18 14:25

Lab Sample ID: 300-6994-2

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	300.0		2			10896	04/09/18 16:44	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			10897	04/09/18 16:44	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10896	04/09/18 19:25	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10897	04/09/18 19:25	RTQ	TAL RCH

Client Sample ID: B3HP88

Date Collected: 04/09/18 10:04

Date Received: 04/09/18 14:25

Lab Sample ID: 300-6994-3

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	300.0		2			10896	04/09/18 17:32	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			10897	04/09/18 17:32	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10896	04/09/18 20:14	RTQ	TAL RCH

Client Sample ID: B3HPJ3

Date Collected: 04/09/18 09:44

Date Received: 04/09/18 14:25

Lab Sample ID: 300-6994-4

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	300.0		2			10896	04/09/18 17:48	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			10897	04/09/18 17:48	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10896	04/09/18 20:30	RTQ	TAL RCH

Client Sample ID: B3HV70

Date Collected: 04/09/18 09:01

Date Received: 04/09/18 14:25

Lab Sample ID: 300-6994-5

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	300.0		2			10896	04/09/18 18:04	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			10897	04/09/18 18:04	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10896	04/09/18 20:46	RTQ	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
SDG: WC2816

Client Sample ID: Method Blank

Lab Sample ID: MB 300-10896/5

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			10896	04/09/18 11:22	RTQ	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-10897/5

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			10897	04/09/18 11:22	RTQ	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-10904/3

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			10904	04/09/18 16:12	TRH	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-10896/6

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			10896	04/09/18 11:38	RTQ	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-10897/6

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			10897	04/09/18 11:38	RTQ	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-10904/4

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			10904	04/09/18 16:13	TRH	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
SDG: WC2816

Client Sample ID: B3HVL8

Lab Sample ID: 300-6994-1 MS

Date Collected: 04/09/18 11:17

Matrix: Water

Date Received: 04/09/18 14:25

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			10904	04/09/18 16:13	TRH	TAL RCH

Client Sample ID: B3HVL7

Lab Sample ID: 300-6994-2 MS

Date Collected: 04/09/18 11:17

Matrix: Water

Date Received: 04/09/18 14:25

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			10896	04/09/18 17:00	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			10897	04/09/18 17:00	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10896	04/09/18 19:41	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10897	04/09/18 19:41	RTQ	TAL RCH

Client Sample ID: B3HVL8

Lab Sample ID: 300-6994-1 DU

Date Collected: 04/09/18 11:17

Matrix: Water

Date Received: 04/09/18 14:25

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			10904	04/09/18 16:16	TRH	TAL RCH

Client Sample ID: B3HVL7

Lab Sample ID: 300-6994-2 DU

Date Collected: 04/09/18 11:17

Matrix: Water

Date Received: 04/09/18 14:25

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			10896	04/09/18 17:16	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			10897	04/09/18 17:16	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10896	04/09/18 19:57	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10897	04/09/18 19:57	RTQ	TAL RCH

Laboratory References:

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

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
SDG: WC2816

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



May 9, 2018
Sample Summary

Rev 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-004

TestAmerica Job ID: 300-6994-1
SDG: WC2816

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-6994-1	B3HVL8	Water	04/09/18 11:17	04/09/18 14:25
300-6994-2	B3HVL7	Water	04/09/18 11:17	04/09/18 14:25
300-6994-3	B3HP88	Water	04/09/18 10:04	04/09/18 14:25
300-6994-4	B3HPJ3	Water	04/09/18 09:44	04/09/18 14:25
300-6994-5	B3HV70	Water	04/09/18 09:01	04/09/18 14:25

- 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: 300-6994-1

SDG Number: WC2816

Login Number: 6994

List Number: 1

Creator: Holm, Tina R

List Source: TestAmerica Richland

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.	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.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

