

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

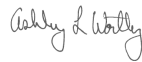
ANALYTICAL REPORT

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

TestAmerica Job ID: 300-8717-1
TestAmerica Sample Delivery Group: RL8717-1
Client Project/Site: S19-011

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

Attn: CPP Sample Management



Authorized for release by:
11/29/2018 2:13:04 PM

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



LINKS

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Have a Question?



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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: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

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
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: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

Job ID: 300-8717-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-8717-1**

Comments

No additional comments.

Receipt

The samples were received on 11/15/2018 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.0° 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.

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REV 0

11/29/18

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # S19-011-485		
Collector: Roger Friesz Jr. /CHPRC		Contact/Requester: Karen Waters-Husted		Telephone No.: 509-376-4650				
SAF No.: S19-011		Sampling Origin: Hanford Site		Purchase Order/Charge Code: 300071				
Project Title: SURV, NOVEMBER 2018		Logbook No.: HNF-N-506 105		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: SURV		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
B3LY48	N	W	NOV 14 2018	1310	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B3LY52	Y	W	NOV 14 2018	1310	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C



300-8717 COC

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Relinquished By: Roger Friesz Jr. /CHPRC Signature: [Signature] Date/Time: NOV 14 2018 1405	Received By: SSU-1 Signature: [Signature] Date/Time: NOV 14 2018 1405	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: SSU-1 Signature: [Signature] Date/Time: NOV 15 2018 0800	Received By: [Signature] Signature: [Signature] Date/Time: NOV 15 2018 0800			
Relinquished By: Lesly Wall /CHPRC Signature: [Signature] Date/Time: NOV 15 2018 0920	Received By: T. Holm Signature: [Signature] Date/Time: NOV 15 2018 0920			
Relinquished By: [Signature] Signature: [Signature] Date/Time: [Date/Time]	Received By: [Signature] Signature: [Signature] Date/Time: [Date/Time]			
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):		Disposed By:	Date/Time:

CH2M Hill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# S19-011-345
Page 1 of 1		

Collector: Roger Friesz Jr. ICHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: S19-011	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: SURV, NOVEMBER 2018	Logbook No.: HNF-N-506 <i>105</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: SURV	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
B3LVV2	Y		NOV 14 2018	1200	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B3LVV0	N		NOV 14 2018	1200	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

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Relinquished By: Roger Friesz Jr. ICHPRC <i>R. Friesz</i> NOV 14 2018 1405 Print First and Last Name Signature Date/Time	Received By: SSU-1 NOV 14 2018 1405 Print First and Last Name Signature Date/Time	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By: SSU-1 NOV 15 2018 0800 Print First and Last Name Signature Date/Time	Received By: Leahy Wall ICHPRC <i>Leahy Wall</i> NOV 15 2018 0800 Print First and Last Name Signature Date/Time	
Relinquished By: Leahy Wall ICHPRC <i>Leahy Wall</i> NOV 15 2018 0920 Print First and Last Name Signature Date/Time	Received By: J. Holm NOV 15 2018 0920 Print First and Last Name Signature Date/Time	
Relinquished By: Print First and Last Name Signature Date/Time	Received By: 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:

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			C.O.C.# S19-011-484			
					Page 1 of 1			
Collector: Roger Friesz Jr. /CHPRC		Contact/Requester: Karen Waters-Husted		Telephone No.: 509-376-4650				
SAF No.: S19-011		Sampling Origin: Hanford Site		Purchase Order/Charge Code: 300071				
Project Title: SURV, NOVEMBER 2018		Logbook No.: HNF-N-506 105		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: SURV		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
B3LY47	N		NOV 14 2018	1310	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B3LY51	Y		NOV 14 2018	1310	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

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Relinquished By: Roger Friesz Jr. /CHPRC Signature: [Signature] Date/Time: NOV 14 2018 1405	Received By: [Signature] Date/Time: NOV 14 2018 1405	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: SSU-1 Signature: [Signature] Date/Time: NOV 15 2018 0800	Received By: [Signature] Date/Time: NOV 15 2018 0800		
Relinquished By: [Signature] Date/Time: NOV 15 2018 0920	Received By: [Signature] Date/Time: NOV 15 2018 0920		
Relinquished By: [Signature] Date/Time: [Blank]	Received By: [Signature] Date/Time: [Blank]		
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.# S19-011-344
Page 1 of 1		

Collector: Roger Friesz Jr. /CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: S19-011	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: SURV, NOVEMBER 2018	Logbook No.: HNF-N-506 <i>105</i>	Ice Chest No.: <i>N/A</i>
Shipped To (Lab): CEL Laboratories, LLC <i>TARL</i>	Method of Shipment: Commercial Carrier	Bill of Lading/Air Bill No.: <i>N/A</i>
Protocol: SURV <i>KS 11/13/18</i>	Priority: 30 Days	Offsite Property No.: <i>N/A</i>

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
B3LVT9	N		NOV 14 2018	1200	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

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Relinquished By: Roger Friesz Jr. /CHPRC <i>[Signature]</i> <i>NOV 14 2018 1405</i> Print First and Last Name Signature Date/Time	Received By: SSU-1 <i>[Signature]</i> <i>NOV 14 2018 1405</i> Print First and Last Name Signature Date/Time	Matrix * S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other	
Relinquished By: SSU-1 <i>[Signature]</i> <i>NOV 15 2018 0500</i> Print First and Last Name Signature Date/Time	Received By: <i>[Signature]</i> <i>NOV 15 2018 0500</i> Print First and Last Name Signature Date/Time		
Relinquished By: <i>[Signature]</i> <i>NOV 15 2018 0920</i> Print First and Last Name Signature Date/Time	Received By: <i>[Signature]</i> <i>NOV 15 2018 0920</i> Print First and Last Name Signature Date/Time		
Relinquished By: _____ Print First and Last Name Signature Date/Time	Received By: _____ 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:

11/29/18
Detection Summary

REV 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

Client Sample ID: B3LY48

Lab Sample ID: 300-8717-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.019		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3LY52

Lab Sample ID: 300-8717-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.018		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3LVV2

Lab Sample ID: 300-8717-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0092		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3LVV0

Lab Sample ID: 300-8717-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0095		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3LY47

Lab Sample ID: 300-8717-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.019		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3LY51

Lab Sample ID: 300-8717-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.019		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3LVT9

Lab Sample ID: 300-8717-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	8.5	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.19	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	72	D	0.50	0.25	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

11/29/18
Client Sample Results

REV 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

Client Sample ID: B3LY48
Date Collected: 11/14/18 13:10
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.019		0.0040	0.0015	mg/L			11/15/18 10:41	1

Client Sample ID: B3LY52
Date Collected: 11/14/18 13:10
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.018		0.0040	0.0015	mg/L			11/15/18 10:41	1

Client Sample ID: B3LVV2
Date Collected: 11/14/18 12:00
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0092		0.0040	0.0015	mg/L			11/15/18 10:42	1

Client Sample ID: B3LVV0
Date Collected: 11/14/18 12:00
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-4
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0095		0.0040	0.0015	mg/L			11/15/18 10:42	1

Client Sample ID: B3LY47
Date Collected: 11/14/18 13:10
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-5
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.019		0.0040	0.0015	mg/L			11/15/18 10:42	1

Client Sample ID: B3LY51
Date Collected: 11/14/18 13:10
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-6
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.019		0.0040	0.0015	mg/L			11/15/18 10:43	1

Client Sample ID: B3LVT9
Date Collected: 11/14/18 12:00
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-7
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13	D	0.40	0.20	mg/L			11/15/18 10:55	2
Nitrate as N	8.5	D	0.056	0.028	mg/L			11/15/18 10:55	2
Fluoride	0.19	D	0.10	0.050	mg/L			11/15/18 10:55	2

TestAmerica Richland

11/29/18
Client Sample Results

REV 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

Client Sample ID: B3LVT9
Date Collected: 11/14/18 12:00
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-7
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.038	U D	0.076	0.038	mg/L			11/15/18 10:55	2
Sulfate	72	D	0.50	0.25	mg/L			11/15/18 10:55	2

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11/29/18
QC Sample Results

REV 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-15865/5
Matrix: Water
Analysis Batch: 15865

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			11/15/18 10:04	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			11/15/18 10:04	1

Lab Sample ID: LCS 300-15865/6
Matrix: Water
Analysis Batch: 15865

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	2.22		mg/L		98	80 - 120
Nitrite as N	3.04	3.00		mg/L		99	80 - 120

Lab Sample ID: 300-8717-A-7 MS
Matrix: Water
Analysis Batch: 15865

Client Sample ID: 300-8717-A-7 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	8.5	D	0.452	8.87	D	mg/L		87	75 - 125
Nitrite as N	0.038	U D	0.609	0.605	D	mg/L		99	75 - 125

Lab Sample ID: 300-8717-A-7 DU
Matrix: Water
Analysis Batch: 15865

Client Sample ID: 300-8717-A-7 DU
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Nitrate as N	8.5	D	8.25	D	mg/L		3	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-15866/5
Matrix: Water
Analysis Batch: 15866

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			11/15/18 10:04	1
Fluoride	0.025	U	0.050	0.025	mg/L			11/15/18 10:04	1
Sulfate	0.13	U	0.25	0.13	mg/L			11/15/18 10:04	1

Lab Sample ID: LCS 300-15866/6
Matrix: Water
Analysis Batch: 15866

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	15.5		mg/L		97	80 - 120
Fluoride	4.00	3.89		mg/L		97	80 - 120
Sulfate	20.0	19.6		mg/L		98	80 - 120

TestAmerica Richland

11/29/18
QC Sample Results

REV 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-8717-A-7 MS
Matrix: Water
Analysis Batch: 15866

Client Sample ID: 300-8717-A-7 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	13	D	3.20	16.8	D	mg/L		110	75 - 125
Fluoride	0.19	D	0.800	1.05	D	mg/L		108	75 - 125
Sulfate	72	D	4.00	76.0	D	mg/L		90	75 - 125

Lab Sample ID: 300-8717-A-7 DU
Matrix: Water
Analysis Batch: 15866

Client Sample ID: 300-8717-A-7 DU
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	13	D	12.9	D	mg/L		3	20
Fluoride	0.19	D	0.185	D	mg/L		0.2	20
Sulfate	72	D	70.5	D	mg/L		3	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-15873/3
Matrix: Water
Analysis Batch: 15873

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			11/15/18 10:37	1

Lab Sample ID: LCS 300-15873/4
Matrix: Water
Analysis Batch: 15873

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	0.256		mg/L		102	80 - 120

Lab Sample ID: 300-8717-2 MS
Matrix: Water
Analysis Batch: 15873

Client Sample ID: B3LY52
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.018		0.0501	0.0719		mg/L		107	75 - 125

Lab Sample ID: 300-8717-2 DU
Matrix: Water
Analysis Batch: 15873

Client Sample ID: B3LY52
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.018		0.0185		mg/L		2	20

TestAmerica Richland

11/29/18
QC Association Summary

REV 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

HPLC/IC

Analysis Batch: 15865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-8717-7	B3LVT9	Total/NA	Water	300.0	
MB 300-15865/5	Method Blank	Total/NA	Water	300.0	
LCS 300-15865/6	Lab Control Sample	Total/NA	Water	300.0	
300-8717-A-7 MS	300-8717-A-7 MS	Total/NA	Water	300.0	
300-8717-A-7 DU	300-8717-A-7 DU	Total/NA	Water	300.0	

Analysis Batch: 15866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-8717-7	B3LVT9	Total/NA	Water	300.0	
MB 300-15866/5	Method Blank	Total/NA	Water	300.0	
LCS 300-15866/6	Lab Control Sample	Total/NA	Water	300.0	
300-8717-A-7 MS	300-8717-A-7 MS	Total/NA	Water	300.0	
300-8717-A-7 DU	300-8717-A-7 DU	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 15873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-8717-1	B3LY48	Total/NA	Water	7196A	
300-8717-2	B3LY52	Total/NA	Water	7196A	
300-8717-3	B3LVV2	Total/NA	Water	7196A	
300-8717-4	B3LVV0	Total/NA	Water	7196A	
300-8717-5	B3LY47	Total/NA	Water	7196A	
300-8717-6	B3LY51	Total/NA	Water	7196A	
MB 300-15873/3	Method Blank	Total/NA	Water	7196A	
LCS 300-15873/4	Lab Control Sample	Total/NA	Water	7196A	
300-8717-2 MS	B3LY52	Total/NA	Water	7196A	
300-8717-2 DU	B3LY52	Total/NA	Water	7196A	

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

Client Sample ID: B3LY48
Date Collected: 11/14/18 13:10
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-1
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			15873	11/15/18 10:41	TRH	TAL RCH

Client Sample ID: B3LY52
Date Collected: 11/14/18 13:10
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-2
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			15873	11/15/18 10:41	TRH	TAL RCH

Client Sample ID: B3LVV2
Date Collected: 11/14/18 12:00
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-3
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			15873	11/15/18 10:42	TRH	TAL RCH

Client Sample ID: B3LVV0
Date Collected: 11/14/18 12:00
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-4
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			15873	11/15/18 10:42	TRH	TAL RCH

Client Sample ID: B3LY47
Date Collected: 11/14/18 13:10
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-5
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			15873	11/15/18 10:42	TRH	TAL RCH

Client Sample ID: B3LY51
Date Collected: 11/14/18 13:10
Date Received: 11/15/18 09:20

Lab Sample ID: 300-8717-6
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			15873	11/15/18 10:43	TRH	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

Client Sample ID: B3LVT9

Lab Sample ID: 300-8717-7

Date Collected: 11/14/18 12:00

Matrix: Water

Date Received: 11/15/18 09:20

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			15865	11/15/18 10:55	CJAB	TAL RCH
Total/NA	Analysis	300.0		2			15866	11/15/18 10:55	CJAB	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-15865/5

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			15865	11/15/18 10:04	CJAB	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-15866/5

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			15866	11/15/18 10:04	CJAB	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-15873/3

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			15873	11/15/18 10:37	TRH	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-15865/6

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			15865	11/15/18 10:20	CJAB	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-15866/6

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			15866	11/15/18 10:20	CJAB	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-15873/4

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			15873	11/15/18 10:38	TRH	TAL RCH

Client Sample ID: B3LY52

Lab Sample ID: 300-8717-2 MS

Date Collected: 11/14/18 13:10

Matrix: Water

Date Received: 11/15/18 09:20

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			15873	11/15/18 10:38	TRH	TAL RCH

Client Sample ID: 300-8717-A-7 MS

Lab Sample ID: 300-8717-A-7 MS

Date Collected: 11/14/18 12:00

Matrix: Water

Date Received: 11/15/18 09:20

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	10 mL	1.0 mL	15865	11/15/18 11:11	CJAB	TAL RCH
Total/NA	Analysis	300.0		2	10 mL	1.0 mL	15866	11/15/18 11:11	CJAB	TAL RCH

Client Sample ID: B3LY52

Lab Sample ID: 300-8717-2 DU

Date Collected: 11/14/18 13:10

Matrix: Water

Date Received: 11/15/18 09:20

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			15873	11/15/18 10:41	TRH	TAL RCH

Client Sample ID: 300-8717-A-7 DU

Lab Sample ID: 300-8717-A-7 DU

Date Collected: 11/14/18 12:00

Matrix: Water

Date Received: 11/15/18 09:20

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			15865	11/15/18 11:27	CJAB	TAL RCH
Total/NA	Analysis	300.0		2			15866	11/15/18 11:27	CJAB	TAL RCH

Laboratory References:

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

11/29/18
Method Summary

REV 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

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



11/29/18
Sample Summary

REV 0

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011

TestAmerica Job ID: 300-8717-1
SDG: RL8717-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-8717-1	B3LY48	Water	11/14/18 13:10	11/15/18 09:20
300-8717-2	B3LY52	Water	11/14/18 13:10	11/15/18 09:20
300-8717-3	B3LVV2	Water	11/14/18 12:00	11/15/18 09:20
300-8717-4	B3LVV0	Water	11/14/18 12:00	11/15/18 09:20
300-8717-5	B3LY47	Water	11/14/18 13:10	11/15/18 09:20
300-8717-6	B3LY51	Water	11/14/18 13:10	11/15/18 09:20
300-8717-7	B3LVT9	Water	11/14/18 12:00	11/15/18 09:20

- 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: 300-8717-1

SDG Number: RL8717-1

Login Number: 8717

List Number: 1

Creator: Holm, Tina R

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.	N/A	
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	

