

July 5, 2017

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: 300-5704-1
TestAmerica Sample Delivery Group: WC2133
Client Project/Site: S17-006

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

Attn: CPP Sample Management



Authorized for release by:
7/5/2017 8:53:48 AM
Steven Campbell, Project Mgmt. Assistant
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Designee for
Whitney Ritari, Project Manager I
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whitney.ritari@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

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www.testamericainc.com

July 5, 2017

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133



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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: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133

Job ID: 300-5704-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-5704-1**

Comments

No additional comments.

Receipt

The samples were received on 6/23/2017 3:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.2° 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.



CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S17-006-423**
Page 1 of 1

Collector Dane Wright CHPRC	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. S17-006	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071
Project Title SURV, JUNE 2017	Logbook No. HNF-N-506 93 / 52	Ice Chest No. N/A
Shipped To (Lab) TestAmerica Incorporated, Richland	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/REMARKS		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
*** 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. B39T12	Filter N	Date JUN 23 2017
	* W	Time 1357X
	No/Type Container 1x60-ml aG	Sample Analysis 7196_CR6: COMMON
	Holding Time 24 Hours	Preservative Cool <=6C

WC 2133
5204



300-5704 CCC

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Relinquished By Dane Wright CHPRC	Print 	Sign	Date/Time JUN 23 2017 1355	Received By Troy Bacon CHPRC	Print 	Sign	Date/Time JUN 23 2017 1355	Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By Troy Bacon CHPRC			Date/Time JUN 23 2017 1500	Received By A. Rogers, TARI			Date/Time JUN 23 2017 1500	
Relinquished By			Date/Time	Received By			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. #
S17-006-478
Page 1 of 1

Collector Dave Wright CHPRC	S17-006	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
Project Title SURV, JUNE 2017	SAF No.	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071
Shipped To (Lab) TestAmerica Incorporated, Richland	Logbook No. HNF-N-506 93 / 57	Method of Shipment GOVERNMENT VEHICLE	Ice Chest No. N/A
Protocol SURV	Priority: 30 Days	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1		Priority: 30 Days	Offsite Property No. N/A
SPECIAL INSTRUCTIONS N/A		Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Sample No.	Filter	*	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B39TNS	N	W	JUN 23 2017	1335	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

WC2133
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July 5, 2017

Relinquished By Dave Wright CHPRC	Print	Sign	Date/Time JUN 23 2017	Received By Troy Bacon CHPRC	Print	Sign	Date/Time JUN 23 2017	Matrix *
Relinquished By Troy Bacon CHPRC	Print	Sign	Date/Time JUN 23 2017 1500	Received By A. ROGERS, TARI	Print	Sign	Date/Time JUN 23 2017 1500	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WL = Wipe L = Liquid V = Vegetation X = Other
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Received By	Date/Time	
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Date/Time

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S17-006-482
Page 1 of 1

Collector	Dave Wright CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S17-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JUNE 2017	Logbook No.	HNF-N-50693/57	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	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/REMARKS			SPECIAL INSTRUCTIONS		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			N/A		
Sample No.	Filter	*	Date	Time	No/Type Container
B39TP5	N	W	JUN 23 2017	1036	1x60-mL aG
Sample Analysis			Sample No.		
Holding Time			7196_CR6: COMMON		
Preservative			24 Hours		
Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			Cool <=6C		

July 5, 2017

WC2133
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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Dave Wright CHPRC			JUN 23 2017 1255	Troy Bacon CHPRC			JUN 23 2017 1255	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Troy Bacon CHPRC			JUN 23 2017 1500	A. Rogers TAEI			JUN 23 2017 1500	
Relinquished By	Date/Time	Received By	Date/Time	FINAL SAMPLE DISPOSITION				
				Disposal Method (e.g., Return to customer, per lab procedure, used in process)				

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
S17-006-481
Page 1 of 1

Collector	Dave Wright CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S17-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JUNE 2017	Logbook No.	HNF-N-506 93 / 57	Ice Chest No.	D11A
Shipped To (Lab)	FestAmerica-St. Louis TARL	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	D11A
Protocol	SURV	Priority:	30 Days	Offsite Property No.	D11A
POSSIBLE SAMPLE HAZARDS/REMARKS			SPECIAL INSTRUCTIONS		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			N/A		
Sample No.	Filter	Date	No./Type Container	Sample Analysis	Holding Time
B39TP6	N	JUN 23 2017	1x125-mL P	300.0 ANIONS_IC: COMMON	48 Hours
					Preservative
					Cool <=6C

Waters
A/R 6/23/17
Waters
6704

July 5, 2017

Reinquished By	Dave Wright CHPRC	Print	Sign	Date/Time	1255 JUN 23 2017	Received By	Troy Bacon CHPRC	Print	Sign	Date/Time	1255 JUN 23 2017	Matrix *
Reinquished By	Troy Bacon CHPRC	Print	Sign	Date/Time	1500 JUN 23 2017	Received By	A. Rogers TARL	Print	Sign	Date/Time	1500 JUN 23 2017	S = Soil
Reinquished By				Date/Time		Received By				Date/Time		SE = Sediment
Reinquished By				Date/Time		Received By				Date/Time		SO = Solid
Reinquished By				Date/Time		Received By				Date/Time		SL = Sludge
Reinquished By				Date/Time		Received By				Date/Time		W = Water
Reinquished By				Date/Time		Received By				Date/Time		O = Oil
Reinquished By				Date/Time		Received By				Date/Time		A = Air
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)										

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# S17-006-422
Page 1 of 1

Collector	Dave Wright CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S17-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JUNE 2017	Logbook No.	HNF-N-506 <u>93</u> / <u>57</u>	Ice Chest No.	
Shipped To (Lab)	<u>TestAmerica-St. Louis</u> <u>TARL</u>	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	
Protocol	SURV	Priority:	30 Days	Offsite Property No.	
POSSIBLE SAMPLE HAZARDS/REMARKS			PRIORITY		
*** 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.	B39T13	Filter	N	No/Type Container	1x125-ml P
		Date	<u>JUN 23 2017</u>	Sample Analysis	300.0_ANIONS_IC: COMMON
		Time	<u>13:07</u>	Holding Time	48 Hours
		Preservative			Cool <=6C

WCC2133
5304

July 5, 2017

Relinquished By	Dave Wright CHPRC	Print	Sign	Date/Time	<u>JUN 23 2017</u>	Received By	Troy Bacon CHPRC	Print	Sign	Date/Time	<u>JUN 23 2017</u>	Matrix *	
Relinquished By	Troy Bacon CHPRC	Print	Sign	Date/Time	<u>JUN 23 2017</u>	Received By	A. Rogers, TARL	Print	Sign	Date/Time	<u>JUN 23 2017</u>	S = Soil	
Relinquished By		Date/Time				Received By		Date/Time				SE = Sediment	
Relinquished By		Date/Time				Received By		Date/Time				SO = Solid	
Relinquished By		Date/Time				Received By		Date/Time				SL = Sludge	
Relinquished By		Date/Time				Received By		Date/Time				W = Water	
Relinquished By		Date/Time				Received By		Date/Time				O = Oil	
Relinquished By		Date/Time				Received By		Date/Time				A = Air	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time							

July 5, 2017 Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133

Client Sample ID: B39T12

Lab Sample ID: 300-5704-1

No Detections.

Client Sample ID: B39TN5

Lab Sample ID: 300-5704-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.12		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B39TP5

Lab Sample ID: 300-5704-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.025		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B39TP6

Lab Sample ID: 300-5704-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.4	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	2.9	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.39	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	30	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B39T13

Lab Sample ID: 300-5704-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	19	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.59	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	50	D	0.50	0.25	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

July 5, 2017 Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133

Client Sample ID: B39T12
Date Collected: 06/23/17 13:27
Date Received: 06/23/17 15:00

Lab Sample ID: 300-5704-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			06/23/17 15:54	1

Client Sample ID: B39TN5
Date Collected: 06/23/17 12:33
Date Received: 06/23/17 15:00

Lab Sample ID: 300-5704-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.12		0.0040	0.0015	mg/L			06/23/17 15:54	1

Client Sample ID: B39TP5
Date Collected: 06/23/17 10:36
Date Received: 06/23/17 15:00

Lab Sample ID: 300-5704-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.025		0.0040	0.0015	mg/L			06/23/17 15:55	1

Client Sample ID: B39TP6
Date Collected: 06/23/17 10:36
Date Received: 06/23/17 15:00

Lab Sample ID: 300-5704-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.4	D	0.40	0.20	mg/L			06/24/17 01:01	2
Nitrate as N	2.9	D	0.056	0.028	mg/L			06/24/17 01:01	2
Fluoride	0.39	D	0.10	0.050	mg/L			06/24/17 01:01	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/24/17 01:01	2
Sulfate	30	D	0.50	0.25	mg/L			06/24/17 01:01	2

Client Sample ID: B39T13
Date Collected: 06/23/17 13:27
Date Received: 06/23/17 15:00

Lab Sample ID: 300-5704-5
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17	D	0.40	0.20	mg/L			06/24/17 01:46	2
Nitrate as N	19	D	0.28	0.14	mg/L			06/24/17 07:17	10
Fluoride	0.59	D	0.10	0.050	mg/L			06/24/17 01:46	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/24/17 01:46	2
Sulfate	50	D	0.50	0.25	mg/L			06/24/17 01:46	2

July 5, 2017 QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-8387/39

Matrix: Water

Analysis Batch: 8387

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			06/24/17 00:31	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			06/24/17 00:31	1

Lab Sample ID: LCS 300-8387/40

Matrix: Water

Analysis Batch: 8387

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	2.30		mg/L		102	80 - 120
Nitrite as N	3.04	3.14		mg/L		103	80 - 120

Lab Sample ID: 300-5704-4 MS

Matrix: Water

Analysis Batch: 8387

Client Sample ID: B39TP6

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	2.9	D	0.452	3.34	D	mg/L		92	75 - 125
Nitrite as N	0.038	U D	0.609	0.536	D	mg/L		88	75 - 125

Lab Sample ID: 300-5704-4 DU

Matrix: Water

Analysis Batch: 8387

Client Sample ID: B39TP6

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Nitrate as N	2.9	D	2.89	D	mg/L		1	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-8388/39

Matrix: Water

Analysis Batch: 8388

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			06/24/17 00:31	1
Fluoride	0.025	U	0.050	0.025	mg/L			06/24/17 00:31	1
Sulfate	0.13	U	0.25	0.13	mg/L			06/24/17 00:31	1

Lab Sample ID: LCS 300-8388/40

Matrix: Water

Analysis Batch: 8388

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	16.1		mg/L		101	80 - 120
Fluoride	4.00	4.07		mg/L		102	80 - 120
Sulfate	20.0	20.3		mg/L		102	80 - 120

TestAmerica Richland

July 5, 2017 QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-5704-4 MS
Matrix: Water
Analysis Batch: 8388

Client Sample ID: B39TP6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6.4	D	3.20	9.44	D	mg/L		96	75 - 125
Fluoride	0.39	D	0.800	1.14	D	mg/L		94	75 - 125
Sulfate	30	D	4.00	33.8	D	mg/L		93	75 - 125

Lab Sample ID: 300-5704-4 DU
Matrix: Water
Analysis Batch: 8388

Client Sample ID: B39TP6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	6.4	D	6.29	D	mg/L		1	20
Fluoride	0.39	D	0.381	D	mg/L		1	20
Sulfate	30	D	29.8	D	mg/L		1	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-8402/3
Matrix: Water
Analysis Batch: 8402

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			06/23/17 15:50	1

Lab Sample ID: LCS 300-8402/4
Matrix: Water
Analysis Batch: 8402

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	0.253		mg/L		101	80 - 120

Lab Sample ID: 300-5700-A-1 MS
Matrix: Water
Analysis Batch: 8402

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
Cr (VI)	0.10		0.0501	0.150		mg/L		98	75 - 125

Lab Sample ID: 300-5700-A-1 DU
Matrix: Water
Analysis Batch: 8402

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.10		0.102		mg/L		0.8	20

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July 5, 2017
QC Association Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
 SDG: WC2133

HPLC/IC

Analysis Batch: 8387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5704-4	B39TP6	Total/NA	Water	300.0	
300-5704-5	B39T13	Total/NA	Water	300.0	
300-5704-5	B39T13	Total/NA	Water	300.0	
MB 300-8387/39	Method Blank	Total/NA	Water	300.0	
LCS 300-8387/40	Lab Control Sample	Total/NA	Water	300.0	
300-5704-4 MS	B39TP6	Total/NA	Water	300.0	
300-5704-4 DU	B39TP6	Total/NA	Water	300.0	

Analysis Batch: 8388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5704-4	B39TP6	Total/NA	Water	300.0	
300-5704-5	B39T13	Total/NA	Water	300.0	
MB 300-8388/39	Method Blank	Total/NA	Water	300.0	
LCS 300-8388/40	Lab Control Sample	Total/NA	Water	300.0	
300-5704-4 MS	B39TP6	Total/NA	Water	300.0	
300-5704-4 DU	B39TP6	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 8402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5704-1	B39T12	Total/NA	Water	7196A	
300-5704-2	B39TN5	Total/NA	Water	7196A	
300-5704-3	B39TP5	Total/NA	Water	7196A	
MB 300-8402/3	Method Blank	Total/NA	Water	7196A	
LCS 300-8402/4	Lab Control Sample	Total/NA	Water	7196A	
300-5700-A-1 MS	Matrix Spike	Total/NA	Water	7196A	
300-5700-A-1 DU	Duplicate	Total/NA	Water	7196A	

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133

Client Sample ID: B39T12
Date Collected: 06/23/17 13:27
Date Received: 06/23/17 15:00

Lab Sample ID: 300-5704-1
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			8402	06/23/17 15:54	HR	TAL RCH

Client Sample ID: B39TN5
Date Collected: 06/23/17 12:33
Date Received: 06/23/17 15:00

Lab Sample ID: 300-5704-2
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			8402	06/23/17 15:54	HR	TAL RCH

Client Sample ID: B39TP5
Date Collected: 06/23/17 10:36
Date Received: 06/23/17 15:00

Lab Sample ID: 300-5704-3
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			8402	06/23/17 15:55	HR	TAL RCH

Client Sample ID: B39TP6
Date Collected: 06/23/17 10:36
Date Received: 06/23/17 15:00

Lab Sample ID: 300-5704-4
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			8387	06/24/17 01:01	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8388	06/24/17 01:01	ALR	TAL RCH

Client Sample ID: B39T13
Date Collected: 06/23/17 13:27
Date Received: 06/23/17 15:00

Lab Sample ID: 300-5704-5
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			8387	06/24/17 01:46	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8388	06/24/17 01:46	ALR	TAL RCH
Total/NA	Analysis	300.0		10			8387	06/24/17 07:17	ALR	TAL RCH

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 300-8387/39
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			8387	06/24/17 00:31	ALR	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133

Client Sample ID: Method Blank

Lab Sample ID: MB 300-8388/39

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			8388	06/24/17 00:31	ALR	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-8402/3

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			8402	06/23/17 15:50	HR	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-8387/40

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			8387	06/24/17 00:46	ALR	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-8388/40

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			8388	06/24/17 00:46	ALR	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-8402/4

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			8402	06/23/17 15:50	HR	TAL RCH

Client Sample ID: Matrix Spike

Lab Sample ID: 300-5700-A-1 MS

Date Collected: 06/23/17 08:05

Matrix: Water

Date Received: 06/23/17 10:20

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			8402	06/23/17 15:50	HR	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133

Client Sample ID: B39TP6

Lab Sample ID: 300-5704-4 MS

Date Collected: 06/23/17 10:36

Matrix: Water

Date Received: 06/23/17 15:00

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			8387	06/24/17 01:16	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8388	06/24/17 01:16	ALR	TAL RCH

Laboratory References:

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

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Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133

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



July 5, 2017 Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5704-1
SDG: WC2133

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-5704-1	B39T12	Water	06/23/17 13:27	06/23/17 15:00
300-5704-2	B39TN5	Water	06/23/17 12:33	06/23/17 15:00
300-5704-3	B39TP5	Water	06/23/17 10:36	06/23/17 15:00
300-5704-4	B39TP6	Water	06/23/17 10:36	06/23/17 15:00
300-5704-5	B39T13	Water	06/23/17 13:27	06/23/17 15:00

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July 5, 2017

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-5704-1

SDG Number: WC2133

Login Number: 5704

List Number: 1

Creator: Rogers, Angeline D

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.	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 <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	