

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: 300-5700-1
TestAmerica Sample Delivery Group: WC2129
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 8:36:54 AM
Steven Campbell, Project Mgmt. Assistant
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Designee for
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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.



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July 5, 2017

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

TestAmerica Job ID: 300-5700-1
SDG: WC2129



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Qualifiers

HPLC/IC

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

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: 300-5700-1
SDG: WC2129

Job ID: 300-5700-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-5700-1**

Comments

No additional comments.

Receipt

The samples were received on 6/23/2017 10:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 7.7° C.

HPLC/IC

Method 300.0: The method blank in analytical batch 8388 contained Fluoride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or 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.

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CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S17-006-468**
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 03 / 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		
*** 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		
Sample No. B39TL2	Filter N	Date JUN 23 2017
	Time 0905	No/Type Container 1x60-mL AG
		Sample Analysis 7196_CR6: COMMON
		Holding Time 24 Hours
		Preservative Cool <=6C
		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

5000
WCA129



Relinquished By Dave Wright CHPRC	Print <i>[Signature]</i>	Sign	Date/Time JUN 23 2017 0910	Received By Troy Barger CHPRC	Print <i>[Signature]</i>	Sign	Date/Time JUN 23 2017 0910	Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Relinquished By Troy Barger CHPRC	Print <i>[Signature]</i>	Sign	Date/Time JUN 23 2017 1020	Received By A. ROGERS, TARI	Print <i>[Signature]</i>	Sign	Date/Time JUN 23 2017 1026	
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	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

CH2MHill Plateau Remediation Company

C.O.C. #
S17-006-470
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. 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		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1		
SPECIAL INSTRUCTIONS N/A		
Hold Time N/A		
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
B39TL3	N	W JUN 2 3 2017	0905	1x60-mL aG	7196_CRG: COMMON	24 Hours	Cool <=6C

July 5, 2017

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Relinquished By Dave Wright CHPRC	Print 	Sign	Date/Time JUN 2 3 2017 1020	Received By Toy Bacon CHPRC	Print 	Sign	Date/Time JUN 2 3 2017 1020	Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Relinquished By Toy Bacon CHPRC	Print 	Sign	Date/Time JUN 2 3 2017	Received By A ROGERS, TARL	Print 	Sign	Date/Time JUN 2 3 2017 1020	
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Received By	Date/Time	

FINAL SAMPLE DISPOSITION	Disposed Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
S17-006-474
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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 Q3 / 5	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.	B39TMS	Filter	N	Date	JUN 23 2017 09:03
		* Time		No/Type Container	1x60-mL aG
				Sample Analysis	7196_CR6: COMMON
				Holding Time	24 Hours
				Preservative	Cool <=6C

July 5, 2017

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Relinquished By	Dave Wright CHPRC	Print	Sign	Date/Time	JUN 23 2017 09:10	Received By	Troy Bacon CHPRC	Print	Sign	Date/Time	JUN 23 2017 09:10	Matrix *
												S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Troy Bacon CHPRC	Print	Sign	Date/Time	JUN 23 2017 10:20	Received By	A. Rogers, TARL	Print	Sign	Date/Time	JUN 23 2017 10:20	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Relinquished By		Print	Sign	Date/Time		Received By		Print	Sign	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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Collector Dave Wright CHPRC	SAF No. S17-006	Project Title SURY, JUNE 2017	Shipped To (Lab) TestAmerica-St. Louis TARL	Protocol SURY	Contact/Requester Karen Waters-Husted	Sampling Origin Hanford Site	Logbook No. HNF-N-50693 / 52	Method of Shipment Commercial Carrier	Priority: 30 Days	Telephone No. 509-376-4650	Purchase Order/Charge Code 300071	Ice Chest No.	Bill of Lading/Air Bill No.	Offsite Property No.	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1					Sample Analysis	Sample No. B39TL4	Filter N	* W	Date JUN 23 2017	Time 0805	No./Type Container 1x125-mL P	300.0 ANIONS_IC: COMMON	Holding Time 48 Hours	Preservative Cool <=6C	

July 5, 2017

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Relinquished By Dave Wright CHPRC	Print 	Sign	Date/Time JUN 23 2017 0910	Received By Troy Bacon CHPRC	Print 	Sign	Date/Time JUN 23 2017 0910	S = Soil	DS = Drum Solids			
Relinquished By Troy Bacon CHPRC	Print 	Sign	Date/Time JUN 23 2017 1020	Received By A. Rogers, TARL	Print 	Sign	Date/Time JUN 23 2017 1020	SE = Sediment	DL = Drum Liquids			
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	SO = Solid	T = Tissue			
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	SL = Sludge	WT = Wipe			
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	W = Water	L = Liquid			
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	O = Oil	V = Vegetation			
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	A = Air	X = Other			
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By				Date/Time

Collector Dave Wright CHPRC	S17-006	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
Project Title SURY, JUNE 2017	Logbook No. HNF-N-506 03 / <u>SP</u>	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071
Shipped To (Lab) <u>TestAmerica-St. Louis</u> <u>TARL</u>	Method of Shipment Commercial Carrier	Ice Chest No.	Bill of Lading/Air Bill No.
Protocol SURY	Priority: 30 Days	Offsite Property No.	
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1		SPECIAL INSTRUCTIONS N/A	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
B39TL5	N	W <u>JUN 23 2017</u>	<u>0805</u>	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

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July 5, 2017

Relinquished By Dave Wright CHPRC	Print <i>[Signature]</i>	Sign	Date/Time <u>JUN 23 2017</u>	Received By Troy Bacon CHPRC	Print <i>[Signature]</i>	Sign	Date/Time <u>JUN 23 2017</u>	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			Date/Time	Received By			Date/Time	

Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
S17-006-473
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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 Q3 / ST	Ice Chest No.	
Shipped To (Lab)	TestAmerica-St. Louis 774RL	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	
Protocol	SURV	Priority:	30 Days	Offsite Property No.	
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			Hold Time		
			N/A		
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B39TM6	N	JUN 23 2017	0903	1x125-mL P	300.0_ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

July 5, 2017

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Relinquished By	Dave Wright CHPRC	Print	Sign	Date/Time	0910	Received By	Troy Bacot CHPRC	Print	Sign	Date/Time	0910	Matrix *
Relinquished By	Troy Bacot CHPRC	Print	Sign	Date/Time	JUN 23 2017 1020	Received By	A. Rogers TARL	Print	Sign	Date/Time	JUN 23 2017 1020	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)		Date/Time		Disposed By		Date/Time				

July 5, 2017 Detection Summary

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

TestAmerica Job ID: 300-5700-1
SDG: WC2129

Client Sample ID: B39TL2

Lab Sample ID: 300-5700-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.10		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B39TL3

Lab Sample ID: 300-5700-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.10		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B39TM5

Lab Sample ID: 300-5700-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.040		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B39TL4

Lab Sample ID: 300-5700-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.6	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	4.3	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.38	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	25	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B39TL5

Lab Sample ID: 300-5700-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.6	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	4.3	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.38	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.080	D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	25	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B39TM6

Lab Sample ID: 300-5700-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.9	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	2.7	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.38	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	26	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: 300-5700-1
SDG: WC2129

Client Sample ID: B39TL2

Lab Sample ID: 300-5700-1

Date Collected: 06/23/17 08:05
Date Received: 06/23/17 10:20

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.10		0.0040	0.0015	mg/L			06/23/17 15:53	1

Client Sample ID: B39TL3

Lab Sample ID: 300-5700-2

Date Collected: 06/23/17 08:05
Date Received: 06/23/17 10:20

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.10		0.0040	0.0015	mg/L			06/23/17 15:53	1

Client Sample ID: B39TM5

Lab Sample ID: 300-5700-3

Date Collected: 06/23/17 09:02
Date Received: 06/23/17 10:20

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.040		0.0040	0.0015	mg/L			06/23/17 15:54	1

Client Sample ID: B39TL4

Lab Sample ID: 300-5700-4

Date Collected: 06/23/17 08:05
Date Received: 06/23/17 10:20

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.6	D	0.40	0.20	mg/L			06/23/17 17:29	2
Nitrate as N	4.3	D	0.056	0.028	mg/L			06/23/17 17:29	2
Fluoride	0.38	D	0.10	0.050	mg/L			06/23/17 17:29	2
Nitrite as N	0.083	D	0.076	0.038	mg/L			06/23/17 17:29	2
Sulfate	25	D	0.50	0.25	mg/L			06/23/17 17:29	2

Client Sample ID: B39TL5

Lab Sample ID: 300-5700-5

Date Collected: 06/23/17 08:05
Date Received: 06/23/17 10:20

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.6	D	0.40	0.20	mg/L			06/23/17 17:14	2
Nitrate as N	4.3	D	0.056	0.028	mg/L			06/23/17 17:14	2
Fluoride	0.38	D	0.10	0.050	mg/L			06/23/17 17:14	2
Nitrite as N	0.080	D	0.076	0.038	mg/L			06/23/17 17:14	2
Sulfate	25	D	0.50	0.25	mg/L			06/23/17 17:14	2

Client Sample ID: B39TM6

Lab Sample ID: 300-5700-6

Date Collected: 06/23/17 09:02
Date Received: 06/23/17 10:20

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.9	D	0.40	0.20	mg/L			06/23/17 16:29	2
Nitrate as N	2.7	D	0.056	0.028	mg/L			06/23/17 16:29	2

TestAmerica Richland

July 5, 2017
Client Sample Results

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

TestAmerica Job ID: 300-5700-1
SDG: WC2129

Client Sample ID: B39TM6

Lab Sample ID: 300-5700-6

Date Collected: 06/23/17 09:02

Matrix: Water

Date Received: 06/23/17 10:20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.38	D	0.10	0.050	mg/L			06/23/17 16:29	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/23/17 16:29	2
Sulfate	26	D	0.50	0.25	mg/L			06/23/17 16:29	2

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

TestAmerica Job ID: 300-5700-1
SDG: WC2129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-8387/5
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			06/23/17 15:59	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			06/23/17 15:59	1

Lab Sample ID: LCS 300-8387/6
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	2.32		mg/L		103	80 - 120
Nitrite as N	3.04	3.15		mg/L		104	80 - 120

Lab Sample ID: 300-5700-6 MS
Matrix: Water
Analysis Batch: 8387

Client Sample ID: B39TM6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	2.7	D	0.452	3.19	D	mg/L		108	75 - 125
Nitrite as N	0.038	U D	0.609	0.577	D	mg/L		95	75 - 125

Lab Sample ID: 300-5700-6 DU
Matrix: Water
Analysis Batch: 8387

Client Sample ID: B39TM6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Nitrate as N	2.7	D	2.66	D	mg/L		2	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-8388/5
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			06/23/17 15:59	1
Fluoride	0.0278	B	0.050	0.025	mg/L			06/23/17 15:59	1
Sulfate	0.13	U	0.25	0.13	mg/L			06/23/17 15:59	1

Lab Sample ID: LCS 300-8388/6
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	16.2		mg/L		101	80 - 120
Fluoride	4.00	4.09		mg/L		102	80 - 120
Sulfate	20.0	20.4		mg/L		102	80 - 120

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

TestAmerica Job ID: 300-5700-1
SDG: WC2129

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-5700-6 MS
Matrix: Water
Analysis Batch: 8388

Client Sample ID: B39TM6
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	6.9	D	3.20	10.2	D	mg/L		104	75 - 125	
Fluoride	0.38	D	0.800	1.17	D	mg/L		99	75 - 125	
Sulfate	26	D	4.00	30.4	D	mg/L		101	75 - 125	

Lab Sample ID: 300-5700-6 DU
Matrix: Water
Analysis Batch: 8388

Client Sample ID: B39TM6
Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Chloride	6.9	D	6.80	D	mg/L		1	20	
Fluoride	0.38	D	0.367	D	mg/L		2	20	
Sulfate	26	D	26.0	D	mg/L		2	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		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
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	LCS	Unit	D	%Rec	%Rec.	Limits
			Result	Qualifier					
Cr (VI)	0.250	0.253			mg/L		101	80 - 120	

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

Client Sample ID: B39TL2
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Cr (VI)	0.10		0.0501	0.150		mg/L		98	75 - 125	

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

Client Sample ID: B39TL2
Prep Type: Total/NA

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

July 5, 2017 QC Association Summary

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

TestAmerica Job ID: 300-5700-1
SDG: WC2129

HPLC/IC

Analysis Batch: 8387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5700-4	B39TL4	Total/NA	Water	300.0	
300-5700-5	B39TL5	Total/NA	Water	300.0	
300-5700-6	B39TM6	Total/NA	Water	300.0	
MB 300-8387/5	Method Blank	Total/NA	Water	300.0	
LCS 300-8387/6	Lab Control Sample	Total/NA	Water	300.0	
300-5700-6 MS	B39TM6	Total/NA	Water	300.0	
300-5700-6 DU	B39TM6	Total/NA	Water	300.0	

Analysis Batch: 8388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5700-4	B39TL4	Total/NA	Water	300.0	
300-5700-5	B39TL5	Total/NA	Water	300.0	
300-5700-6	B39TM6	Total/NA	Water	300.0	
MB 300-8388/5	Method Blank	Total/NA	Water	300.0	
LCS 300-8388/6	Lab Control Sample	Total/NA	Water	300.0	
300-5700-6 MS	B39TM6	Total/NA	Water	300.0	
300-5700-6 DU	B39TM6	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 8402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5700-1	B39TL2	Total/NA	Water	7196A	
300-5700-2	B39TL3	Total/NA	Water	7196A	
300-5700-3	B39TM5	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	
300-5700-1 MS	B39TL2	Total/NA	Water	7196A	
300-5700-1 DU	B39TL2	Total/NA	Water	7196A	

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

TestAmerica Job ID: 300-5700-1
SDG: WC2129

Client Sample ID: B39TL2

Date Collected: 06/23/17 08:05

Date Received: 06/23/17 10:20

Lab Sample ID: 300-5700-1

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 15:53	HR	TAL RCH

Client Sample ID: B39TL3

Date Collected: 06/23/17 08:05

Date Received: 06/23/17 10:20

Lab Sample ID: 300-5700-2

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 15:53	HR	TAL RCH

Client Sample ID: B39TM5

Date Collected: 06/23/17 09:02

Date Received: 06/23/17 10:20

Lab Sample ID: 300-5700-3

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 15:54	HR	TAL RCH

Client Sample ID: B39TL4

Date Collected: 06/23/17 08:05

Date Received: 06/23/17 10:20

Lab Sample ID: 300-5700-4

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	06/23/17 17:29	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8388	06/23/17 17:29	ALR	TAL RCH

Client Sample ID: B39TL5

Date Collected: 06/23/17 08:05

Date Received: 06/23/17 10:20

Lab Sample ID: 300-5700-5

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	06/23/17 17:14	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8388	06/23/17 17:14	ALR	TAL RCH

Client Sample ID: B39TM6

Date Collected: 06/23/17 09:02

Date Received: 06/23/17 10:20

Lab Sample ID: 300-5700-6

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	300.0		2			8387	06/23/17 16:29	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8388	06/23/17 16:29	ALR	TAL RCH

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

TestAmerica Job ID: 300-5700-1
SDG: WC2129

Client Sample ID: Method Blank

Lab Sample ID: MB 300-8387/5

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			8387	06/23/17 15:59	ALR	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-8388/5

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			8388	06/23/17 15:59	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 300-8387/6

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			8387	06/23/17 16:14	ALR	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-8388/6

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			8388	06/23/17 16:14	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: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 300-5700-1
SDG: WC2129

Client Sample ID: B39TL2

Date Collected: 06/23/17 08:05

Date Received: 06/23/17 10:20

Lab Sample ID: 300-5700-1 MS

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 15:50	HR	TAL RCH

Client Sample ID: B39TM6

Date Collected: 06/23/17 09:02

Date Received: 06/23/17 10:20

Lab Sample ID: 300-5700-6 MS

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	06/23/17 16:44	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8388	06/23/17 16:44	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: 300-5700-1
SDG: WC2129

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: 300-5700-1
SDG: WC2129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-5700-1	B39TL2	Water	06/23/17 08:05	06/23/17 10:20
300-5700-2	B39TL3	Water	06/23/17 08:05	06/23/17 10:20
300-5700-3	B39TM5	Water	06/23/17 09:02	06/23/17 10:20
300-5700-4	B39TL4	Water	06/23/17 08:05	06/23/17 10:20
300-5700-5	B39TL5	Water	06/23/17 08:05	06/23/17 10:20
300-5700-6	B39TM6	Water	06/23/17 09:02	06/23/17 10:20

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July 5, 2017

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-5700-1

SDG Number: WC2129

Login Number: 5700

List Number: 1

Creator: Bock, Julie A

List Source: TestAmerica Richland

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

