

June 30, 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: 300-5674-1

TestAmerica Sample Delivery Group: WC2118

Client Project/Site: F16-046

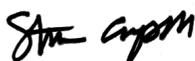
For:

CH2M Hill Plateau Remediation Company

825 Jadwin Avenue

Richland, Washington 99352

Attn: CPP Sample Management



Authorized for release by:

6/30/2017 6:19:53 PM

Steven Campbell, Project Mgmt. Assistant

steven.campbell@testamericainc.com

Designee for

Whitney Ritari, Project Manager I

(509)375-3131 ext164

whitney.ritari@testamericainc.com

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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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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
X	See case narrative notes for explanation of the 'X' flag

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: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

Job ID: 300-5674-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-5674-1**

Comments

No additional comments.

Receipt

The samples were received on 6/20/2017 11:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3° 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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CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-046-958	PAGE 1 OF 1
COLLECTOR Kevin Patterson CHFRG	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 289-TA, Pre UJX Resin Column, Valve Y25-Y11A1	PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Compliance Sampling - Water	FIELD LOGBOOK NO. 49116	SAF NO. F16-046	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE
ICE CHEST NO. NA	OFFSITE PROPERTY NO. NA	ACTUAL SAMPLE DEPTH N/A	COA 304235	ORIGINAL	
SHIPPED TO Testamerica Incorporated, Richland	BILL OF LADING/AIR BILL NO. NA				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <=6C	HOLDING TIME 24 Hours	TYPE OF CONTAINER ag	NO. OF CONTAINERS(S) 1	VOLUME 60mL	SAMPLE ANALYSIS 7196 CR6: COMMON;
SPECIAL HANDLING AND/OR STORAGE NA							
SAMPLE NO. B3B991	MATRIX* WATER	SAMPLE DATE JUN 20 2017	SAMPLE TIME 0920				

SUMN
occurs



300-5674 COC

June 30, 2017

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS TRVL-17-147
RELINQUISHED BY/REMOVED FROM CHFRG	DATE/TIME JUN 20 2017 1000	RECEIVED BY/STORED IN Christina Aguilera Cn J
RELINQUISHED BY/REMOVED FROM Christina Aguilera Cn J	DATE/TIME JUN 20 2017 1135	RECEIVED BY/STORED IN J. Bock, TARI
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
LABORATORY SECTION	RECEIVED BY	TITLE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-046-959	PAGE 1 OF 1
COLLECTOR Kevin Patterson CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 289-TA, Pre UIX Resin Column, Valve V25-Y11A1	PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Compliance Sampling - Water	FIELD LOGBOOK NO. #NFN-49116	ACTUAL SAMPLE DEPTH N/A	SAF NO. F16-046	METHOD OF SHIPMENT GOVERNMENT VEHICLE ORIGINAL
ICE CHEST NO. NA	OFFSITE PROPERTY NO. NA	COA 304235	BILL OF LADING/AIR BILL NO. NA		
SHIPPED TO TestAmerica Incorporated, Richland					

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	Cool <=6C	48 Hours	P	1	250ml	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SPECIAL HANDLING AND/OR STORAGE NA							
SAMPLE NO. B3B992	MATRIX*	SAMPLE DATE	SAMPLE TIME				
	WATER	JUN 20 2017	0920				

June 30, 2017

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM Kevin Patterson CHPRC	RECEIVED BY/STORED IN Catherine Aguirre Cand	TRVL-17-147 (1) 300.0 ANIONS_IC: COMMON; 300.0 ANIONS_IC: COMMON (Add-on) {Bromide};
DATE/TIME JUN 20 2017 1000	DATE/TIME JUN 20 2017 1000	
RELINQUISHED BY/REMOVED FROM Catherine Aguirre Cand	RECEIVED BY/STORED IN J. Bock, TAD	
DATE/TIME JUN 20 2017 1135	DATE/TIME JUN 20 2017 1135	
RELINQUISHED BY/REMOVED FROM J. Bock, TAD	RECEIVED BY/STORED IN	
DATE/TIME 1135	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		1F16-046-1004	PAGE 1 OF 1
COLLECTOR Kevin Patterson CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 289-TA, Intra resin, Valve V17-Y11A1	PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Compliance Sampling - Water	FIELD LOGBOOK NO. HNF-N-49116	ACTUAL SAMPLE DEPTH N/A	SAF NO. F16-046	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. NA	OFFSITE PROPERTY NO. NA	COA 304235	BILL OF LADING/AIR BILL NO. NA	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO Testamerica Incorporated, Richland					

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <=6C	HOLDING TIME 48 Hours	TYPE OF CONTAINER P	NO. OF CONTAINER(S) 1	VOLUME 250ml	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SAMPLE NO. 3389F6	MATRIX* WATER	SAMPLE DATE JUN 20 2017	SAMPLE TIME 0810				

June 30, 2017

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM Kevin Patterson CHPRC	DATE/TIME JUN 20 2017 0915	RECEIVED BY/STORED IN Christina Aguiar CHPRC	DATE/TIME JUN 20 2017 0905	TRVL-17-147 (1) 300.0 ANIONS_IC: COMMON; 300.0 ANIONS_IC: COMMON (Add-on) {Bromide};	
RELINQUISHED BY/REMOVED FROM Christina Aguiar CHPRC	DATE/TIME JUN 20 2017 1135	RECEIVED BY/STORED IN 1. Brock, TARI	DATE/TIME JUN 20 2017 1135		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		FIG-046-1010	PAGE 1 OF 1
COLLECTOR Kevin Patterson CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 289-TA, Intra resin, Valve V19-Y11A1	PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Compliance Sampling - Water	FIELD LOGBOOK NO. 49116	ACTUAL SAMPLE DEPTH N/A	SAF NO. F16-046	METHOD OF SHIPMENT GOVERNMENT VEHICLE
ICE CHEST NO. NA	OFFSITE PROPERTY NO. NA	BILL OF LADING/AIR BILL NO. NA	ORIGINAL		
SHIPPED TO TestAmerica Incorporated, Richland					

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	PRESERVATION		HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SPECIAL HANDLING AND/OR STORAGE	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
				NO. OF CONTAINER(S)	VOLUME						
38B9H2	WATER	JUN 20 2017	0846	1	250ml	48 Hours	P	1	250ml	NA	✓

June 30 2017

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	SPECIAL INSTRUCTIONS
CHPRC	JUN 20 2017 0846	CHPRC	JUN 20 2017 0846	TRVL-17-147 (1) 300.0 ANIONS_IC: COMMON; 300.0 ANIONS_IC: COMMON (Add-on) {Bromide};
CHPRC	JUN 20 2017 1135	J. BOOK, TARB	JUN 20 2017 1135	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

FI6-046-1007

PAGE 1 OF 1

COLLECTOR Kevin Patterson CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7C	DATA TURNOURROUND 15 Days / 15 Days
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SAMPLING LOCATION 289-TA, Intra resin, Valve V18-Y11A1	PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Compliance Sampling - Water	FIELD LOGBOOK NO. HNF-N-491 16	ACTUAL SAMPLE DEPTH N/A	SAF NO. FI6-046	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE
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ICE CHEST NO. NA	OFFSITE PROPERTY NO. NA	BILL OF LADING/AIR BILL NO. NA	ORIGINAL			
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SHIPPED TO
TestAmerica Incorporated, Richland

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/LATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <=6C	HOLDING TIME 48 Hours	NO. OF CONTAINER(S) 1	VOLUME 250mL	SPECIAL HANDLING AND/OR STORAGE NA	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS
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SAMPLE NO. 53B9F9	MATRIX* WATER	SAMPLE DATE JUN 20 2017	SAMPLE TIME 0843	DATE/TIME JUN 20 2017 1135			
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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM Kevin Patterson CHPRC	RECEIVED BY/STORED IN Cristina Aguiar CHPRC	TRVL-17-147 (1) 300.0 ANIONS_IC: COMMON; 300.0 ANIONS_IC: COMMON (Add-on) {Bromide};
RELINQUISHED BY/REMOVED FROM Cristina Aguiar CHPRC	RECEIVED BY/STORED IN J. Bock CHPRC	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
LABORATORY SECTION	RECEIVED BY	TITLE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME

June 30 2017

June 30, 2017 Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

Client Sample ID: B3B991

Lab Sample ID: 300-5674-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.012		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B3B992

Lab Sample ID: 300-5674-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	25	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	49	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.34	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	95	D	0.50	0.25	mg/L	2		300.0	Total/NA
Bromide	0.27	D	0.25	0.13	mg/L	2		300.0	Total/NA

Client Sample ID: B3B9F6

Lab Sample ID: 300-5674-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	25	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	49	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.34	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	97	D	0.50	0.25	mg/L	2		300.0	Total/NA
Bromide	0.28	D	0.25	0.13	mg/L	2		300.0	Total/NA

Client Sample ID: B3B9H2

Lab Sample ID: 300-5674-4

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	48	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.34	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	100	D	2.5	1.3	mg/L	10		300.0	Total/NA
Bromide	0.28	D	0.25	0.13	mg/L	2		300.0	Total/NA

Client Sample ID: B3B9F9

Lab Sample ID: 300-5674-5

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	48	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.34	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	98	D	0.50	0.25	mg/L	2		300.0	Total/NA
Bromide	0.28	D	0.25	0.13	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

~~June 30 2017~~
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

Client Sample ID: B3B991
Date Collected: 06/20/17 09:20
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.012		0.0040	0.0015	mg/L			06/20/17 13:12	1

Client Sample ID: B3B992
Date Collected: 06/20/17 09:20
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-2
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25	D	0.40	0.20	mg/L			06/20/17 18:14	2
Nitrate as N	49	D	0.28	0.14	mg/L			06/20/17 20:45	10
Fluoride	0.34	D	0.10	0.050	mg/L			06/20/17 18:14	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/20/17 18:14	2
Sulfate	95	D	0.50	0.25	mg/L			06/20/17 18:14	2
Bromide	0.27	D	0.25	0.13	mg/L			06/20/17 18:14	2

Client Sample ID: B3B9F6
Date Collected: 06/20/17 08:40
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-3
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25	D	0.40	0.20	mg/L			06/20/17 17:59	2
Nitrate as N	49	D	0.28	0.14	mg/L			06/20/17 20:30	10
Fluoride	0.34	D	0.10	0.050	mg/L			06/20/17 17:59	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/20/17 17:59	2
Sulfate	97	D	0.50	0.25	mg/L			06/20/17 17:59	2
Bromide	0.28	D	0.25	0.13	mg/L			06/20/17 17:59	2

Client Sample ID: B3B9H2
Date Collected: 06/20/17 08:46
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-4
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			06/20/17 17:44	2
Nitrate as N	48	D	0.28	0.14	mg/L			06/20/17 20:15	10
Fluoride	0.34	D	0.10	0.050	mg/L			06/20/17 17:44	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/20/17 17:44	2
Sulfate	100	D	2.5	1.3	mg/L			06/20/17 20:15	10
Bromide	0.28	D	0.25	0.13	mg/L			06/20/17 17:44	2

Client Sample ID: B3B9F9
Date Collected: 06/20/17 08:43
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-5
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			06/20/17 17:29	2
Nitrate as N	48	D	0.28	0.14	mg/L			06/20/17 20:00	10
Fluoride	0.34	D	0.10	0.050	mg/L			06/20/17 17:29	2

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~~June 30, 2017~~
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

Client Sample ID: B3B9F9
Date Collected: 06/20/17 08:43
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-5
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			06/20/17 17:29	2
Sulfate	98	D	0.50	0.25	mg/L			06/20/17 17:29	2
Bromide	0.28	D	0.25	0.13	mg/L			06/20/17 17:29	2

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Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-8334/17
Matrix: Water
Analysis Batch: 8334

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			06/20/17 15:58	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			06/20/17 15:58	1

Lab Sample ID: LCS 300-8334/18
Matrix: Water
Analysis Batch: 8334

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	2.31		mg/L		102	80 - 120
Nitrite as N	3.04	3.15		mg/L		104	80 - 120

Lab Sample ID: 300-5678-A-2 MS
Matrix: Water
Analysis Batch: 8334

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	10	D	2.26	12.4	D	mg/L		100	75 - 125
Nitrite as N	1.4	D	3.04	4.19	D	mg/L		92	75 - 125

Lab Sample ID: 300-5678-A-2 DU
Matrix: Water
Analysis Batch: 8334

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	10	D	9.72	D	mg/L		4	20
Nitrite as N	1.4	D	1.35	D	mg/L		3	20

Lab Sample ID: MB 300-8335/17
Matrix: Water
Analysis Batch: 8335

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			06/20/17 15:58	1
Fluoride	0.025	U	0.050	0.025	mg/L			06/20/17 15:58	1
Sulfate	0.13	U	0.25	0.13	mg/L			06/20/17 15:58	1
Bromide	0.063	U	0.13	0.063	mg/L			06/20/17 15:58	1

Lab Sample ID: LCS 300-8335/18
Matrix: Water
Analysis Batch: 8335

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	4.08		mg/L		102	80 - 120
Sulfate	20.0	20.5		mg/L		103	80 - 120
Bromide	10.0	10.2		mg/L		102	80 - 120

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-5676-B-1 MS
Matrix: Water
Analysis Batch: 8335

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
Chloride	15	D	8.00	22.5	D	mg/L		100	75 - 125
Fluoride	0.42	D	2.00	2.20	D	mg/L		89	75 - 125
Sulfate	56	D	10.0	66.8	D X	mg/L		106	75 - 125
Bromide	0.42	B D	5.00	4.68	D	mg/L		85	75 - 125

Lab Sample ID: 300-5676-B-1 DU
Matrix: Water
Analysis Batch: 8335

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	15	D	14.5	D	mg/L		0.1	20
Fluoride	0.42	D	0.418	D	mg/L		0.4	20
Sulfate	56	D	56.3	D	mg/L		0.4	20
Bromide	0.42	B D	0.418	B D	mg/L		0.2	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-8346/3
Matrix: Water
Analysis Batch: 8346

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			06/20/17 13:09	1

Lab Sample ID: LCS 300-8346/4
Matrix: Water
Analysis Batch: 8346

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: 300-5674-1 MS
Matrix: Water
Analysis Batch: 8346

Client Sample ID: B3B991
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.012		0.0501	0.0615		mg/L		99	75 - 125

Lab Sample ID: 300-5674-1 DU
Matrix: Water
Analysis Batch: 8346

Client Sample ID: B3B991
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.012		0.0115		mg/L		3	20

June 30, 2017
QC Association Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: F16-046

TestAmerica Job ID: 300-5674-1
 SDG: WC2118

HPLC/IC

Analysis Batch: 8334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5674-2	B3B992	Total/NA	Water	300.0	
300-5674-2	B3B992	Total/NA	Water	300.0	
300-5674-3	B3B9F6	Total/NA	Water	300.0	
300-5674-3	B3B9F6	Total/NA	Water	300.0	
300-5674-4	B3B9H2	Total/NA	Water	300.0	
300-5674-4	B3B9H2	Total/NA	Water	300.0	
300-5674-5	B3B9F9	Total/NA	Water	300.0	
300-5674-5	B3B9F9	Total/NA	Water	300.0	
MB 300-8334/17	Method Blank	Total/NA	Water	300.0	
LCS 300-8334/18	Lab Control Sample	Total/NA	Water	300.0	
300-5678-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
300-5678-A-2 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 8335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5674-2	B3B992	Total/NA	Water	300.0	
300-5674-3	B3B9F6	Total/NA	Water	300.0	
300-5674-4	B3B9H2	Total/NA	Water	300.0	
300-5674-4	B3B9H2	Total/NA	Water	300.0	
300-5674-5	B3B9F9	Total/NA	Water	300.0	
MB 300-8335/17	Method Blank	Total/NA	Water	300.0	
LCS 300-8335/18	Lab Control Sample	Total/NA	Water	300.0	
300-5676-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
300-5676-B-1 DU	Duplicate	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 8346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5674-1	B3B991	Total/NA	Water	7196A	
MB 300-8346/3	Method Blank	Total/NA	Water	7196A	
LCS 300-8346/4	Lab Control Sample	Total/NA	Water	7196A	
300-5674-1 MS	B3B991	Total/NA	Water	7196A	
300-5674-1 DU	B3B991	Total/NA	Water	7196A	

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

Client Sample ID: B3B991
Date Collected: 06/20/17 09:20
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-1
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			8346	06/20/17 13:12	TP	TAL RCH

Client Sample ID: B3B992
Date Collected: 06/20/17 09:20
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-2
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			8334	06/20/17 18:14	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8335	06/20/17 18:14	ALR	TAL RCH
Total/NA	Analysis	300.0		10			8334	06/20/17 20:45	ALR	TAL RCH

Client Sample ID: B3B9F6
Date Collected: 06/20/17 08:40
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-3
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			8334	06/20/17 17:59	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8335	06/20/17 17:59	ALR	TAL RCH
Total/NA	Analysis	300.0		10			8334	06/20/17 20:30	ALR	TAL RCH

Client Sample ID: B3B9H2
Date Collected: 06/20/17 08:46
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-4
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			8334	06/20/17 17:44	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8335	06/20/17 17:44	ALR	TAL RCH
Total/NA	Analysis	300.0		10			8334	06/20/17 20:15	ALR	TAL RCH
Total/NA	Analysis	300.0		10			8335	06/20/17 20:15	ALR	TAL RCH

Client Sample ID: B3B9F9
Date Collected: 06/20/17 08:43
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-5
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			8334	06/20/17 17:29	ALR	TAL RCH
Total/NA	Analysis	300.0		2			8335	06/20/17 17:29	ALR	TAL RCH
Total/NA	Analysis	300.0		10			8334	06/20/17 20:00	ALR	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

Client Sample ID: Method Blank

Lab Sample ID: MB 300-8334/17

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			8334	06/20/17 15:58	ALR	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-8335/17

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			8335	06/20/17 15:58	ALR	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-8346/3

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			8346	06/20/17 13:09	TP	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-8334/18

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			8334	06/20/17 16:13	ALR	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-8335/18

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			8335	06/20/17 16:13	ALR	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-8346/4

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			8346	06/20/17 13:09	TP	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

Client Sample ID: B3B991
Date Collected: 06/20/17 09:20
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5674-1 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			8346	06/20/17 13:09	TP	TAL RCH

Client Sample ID: Matrix Spike
Date Collected: 06/19/17 14:15
Date Received: 06/20/17 11:35

Lab Sample ID: 300-5676-B-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	300.0		5			8335	06/20/17 19:14	ALR	TAL RCH

Client Sample ID: Matrix Spike
Date Collected: 06/20/17 12:10
Date Received: 06/20/17 14:30

Lab Sample ID: 300-5678-A-2 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		10			8334	06/21/17 02:00	ALR	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: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

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



June 30, 2017 Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-046

TestAmerica Job ID: 300-5674-1
SDG: WC2118

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-5674-1	B3B991	Water	06/20/17 09:20	06/20/17 11:35
300-5674-2	B3B992	Water	06/20/17 09:20	06/20/17 11:35
300-5674-3	B3B9F6	Water	06/20/17 08:40	06/20/17 11:35
300-5674-4	B3B9H2	Water	06/20/17 08:46	06/20/17 11:35
300-5674-5	B3B9F9	Water	06/20/17 08:43	06/20/17 11:35

- 1
- 2
- 3
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- 12
- 13

June 30, 2017

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-5674-1

SDG Number: WC2118

Login Number: 5674

List Number: 1

Creator: Bock, Julie A

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	

