

July 28, 2016

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: 300-3395-1

TestAmerica Sample Delivery Group: WC1220

Client Project/Site: F11-023

For:

CH2M Hill Plateau Remediation Company

PO BOX 1600

Mail Stop R3-50

Richland, Washington 99352

Attn: CPP Sample Management



Authorized for release by:

7/28/2016 11:02:21 AM

Steven Campbell, Project Mgmt. Assistant

steven.campbell@testamericainc.com

Designee for

Whitney Ritari, Project Manager I

(509)375-3131 ext164

whitney.ritari@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this package. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the attached signature.

The laboratory is accredited to EPA 7196A in Solid and Chemical Materials, per Washington State Department of Ecology this is approved for non-discharge water samples. The sample/ sample duplicate RPD agreement is not applicable if one or both results are less than five times the MDL.



Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Chain of Custody	5
Detection Summary	11
Client Sample Results	12
QC Sample Results	14
QC Association Summary	16
Lab Chronicle	17
Method Summary	20
Sample Summary	21
Receipt Checklists	22

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

Job ID: 300-3395-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-3395-1**

Comments

No additional comments.

Receipt

The samples were received on 6/30/2016 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.8° 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.



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		FLI2-023-279	PAGE 1 OF 1
COLLECTOR CHRIS FULTON CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION 100-DX Bldg Influent Tank valve T-M3 (V-MED06A)	PROJECT DESIGNATION 100-DX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	FIELD LOGBOOK NO. HMF-N-491-15	ACTUAL SAMPLE DEPTH N/A	SAF NO. FLI2-023	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. N/A	OFFSITE PROPERTY NO. N/A	ACTUAL SAMPLE DEPTH N/A	COA 302841	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO TestAmerica Incorporated, Richland	PRESERVATION Cool-4C		BILL OF LADING/AIR BILL NO. N/A		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Seiment T=Tissue V=Vegetation W=Water WT=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	HOLDING TIME 24 Hours	NO. OF CONTAINER(S) 1	VOLUME 60ml	7196 CR6; COMMON;		
		SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS				
		SAMPLE NO. B35X23	MATRIX*	SAMPLE DATE JUN 29 2016	SAMPLE TIME 1354		
						300-3395 COC	
							

#3395
WCE1920

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME JUN 29 2016 1430	RECEIVED BY/STORED IN SSU-1	DATE/TIME JUN 29 2016 1430	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.** The extraction wells associated with this SAF are all located at the Transfer Building.	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME JUN 30 2016 0935	RECEIVED BY/STORED IN Frank Hill CHPRC	DATE/TIME JUN 30 2016 0935		
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	

July 28, 2016

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST		F12-023-283	PAGE 1 OF 1
COLLECTOR	CHRIS FULLTON CHPRC	COMPANY CONTACT	SUMNER, LC 376-3922	PROJECT COORDINATOR	SUMNER, LC
SAMPLING LOCATION	100-DX Bldg 1804D Effluent Tank valve T-M5 (V-M1030A) FTB	PROJECT DESIGNATION	100-DX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	PRICE CODE	7H
ICE CHEST NO.	N/A	FIELD LOGBOOK NO.	HNF-N-491-15	SAF NO.	F12-023
SHIPPED TO	TestAmerica Incorporated, Richland	ACTUAL SAMPLE DEPTH	N/A	AIR QUALITY	<input type="checkbox"/>
		OFFSITE PROPERTY NO.	N/A	METHOD OF SHIPMENT	GOVERNMENT VEHICLE
				BILL OF LADING/AIR BILL NO.	N/A
					ORIGINAL

#3395
WSC 1220

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	COOL-4C
A=Air	*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/JATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	HOLDING TIME	24 Hours
DL=Drum		TYPE OF CONTAINER	3G
L=Liquid		NO. OF CONTAINER(S)	1
O=Oil		VOLUME	60ml
S=Soil		SPECIAL HANDLING AND/OR STORAGE	7196, CR6, COMMON;
SE=Sediment			
T=Tissue			
V=Vegetation			
W=Water			
WT=Wipe			
X=Other			

B35X27	WATER	MATRIX*	SAMPLE DATE	SAMPLE TIME	
			JUN 29 2016	1445	✓

July 28 2016

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ** The extraction wells associated with this SAF are all located at the Transfer Building.
CHRIS FULLTON	SSU-1	
DATE/TIME	DATE/TIME	
JUN 29 2016 1430	JUN 29 2016 1430	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
SSU-1	Frank Heis	
DATE/TIME	DATE/TIME	
JUN 30 2016 0130	JUN 30 2016 0130	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
Frank Heis	TRVL JOURNAL	
DATE/TIME	DATE/TIME	
JUN 30 2016 0935	JUN 30 2016 0935	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
CHPRC	TRVL JOURNAL	
DATE/TIME	DATE/TIME	
JUN 30 2016 0935	JUN 30 2016 0935	
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

PRINTED ON 6/1/2016 FSR ID = FSR33002 TRVL NUM = TRVL-16-163 A-6003-618 (REV 2)

COLLECTOR CHRIS FULTON CHPRC	COMPANY CONTACT SUMNER, LC 376-3922	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION 100-DX Bldg 1804D Effluent Tank valve T-M5 (V-MJ030A)	PROJECT DESIGNATION 100-DX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	FIELD LOGBOOK NO. HMF-N-491-15	ACTUAL SAMPLE DEPTH N/A	SAF NO. FI2-023	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. N/A	OFFSITE PROPERTY NO. N/A	COA 302841	BILL OF LADING/AIR BILL NO. N/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO TestAmerica Incorporated, Richland					

MATRIX*	SPECIAL HANDLING AND/OR STORAGE	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Solids L=Liquid O=Oil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		Cool-4C	24 Hours	ag	1	60ml	7196 CR6 COMMON
B35X30	WATER						

#3395
WSE1220

July 28, 2016

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	SIGN/PRINT NAMES	TITLE
CHRIS FULTON	JUN 29 2016 1430	SSU-1	JUN 29 2016 1430		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
SSU-1	JUN 30 2016 0130	Frank Hild	JUN 30 2016 0130		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
Frank Hild	JUN 30 2016 0933	L. Anderson, TARI	JUN 30 2016 0933		
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		

SPECIAL INSTRUCTIONS
 ** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ** The extraction wells associated with this SAF are all located at the Transfer Building.

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

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-023-280	PAGE 1 OF 1
COLLECTOR	CHRIS FULTON CHPRC	COMPANY CONTACT	SUNNER, LC	TELEPHONE NO.	376-3922
SAMPLING LOCATION	100-DX Bldg 1804D Influent Tank valve T-M3 (V-MED006A)	PROJECT DESIGNATION	100-DX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	PROJECT COORDINATOR	SUNNER, LC
ICE CHEST NO.	N/A	FIELD LOGBOOK NO.	HNF-A-491-15	SAF NO.	F12-023
SHIPPED TO	TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO.	N/A	ACTUAL SAMPLE DEPTH	N/A
				COA	302841
				BILL OF LADING/AIR BILL NO.	N/A
				PRICE CODE	7H
				AIR QUALITY	<input type="checkbox"/>
				METHOD OF SHIPMENT	GOVERNMENT VEHICLE
					ORIGINAL
					DATA TURNAROUND 30 Days / 30 Days

#3395
WCI 1220

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	Cool <=6C
A=Air	*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. N/A	HOLDING TIME	28 Days/48 Hours
DL=Drum		TYPE OF CONTAINER	P
DS=Drum		NO. OF CONTAINER(S)	1
Solids		VOLUME	500ml
L=Liquid		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
O=Oil			
S=Sediment			
T=Tissue			
V=Vegetation			
W=Water			
WI=Wipe			
X=Other			

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B35X24	WATER	JUN 29 2016	1354

July 28, 2016

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
CHRIS FULTON	JUN 29 2016 1430	SSU-1	JUN 29 2016 1430
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
SSU-1	JUN 30 2016 130	Frank Sisk CHPRC	JUN 30 2016 130
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Frank Sisk CHPRC	JUN 30 2016 130	Frank Sisk CHPRC	JUN 30 2016 130
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

SPECIAL INSTRUCTIONS
 ** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.** The extraction wells associated with this SAF are all located at the Transfer Building.
 (1) 300.0_ANIONS_IC: COMMON {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}; 300.0_ANIONS_IC: COMMON (Addison) {Phosphorus in phosphate};

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

PRINTED ON 6/1/2016 FSR ID = FSR33001 TRVL NUM = TRVL-16-163 A-6003-618 (REV 2)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-023-287	PAGE 1 OF 1
COLLECTOR	CHRIS FULTON CHPRC	COMPANY CONTACT	SUMNER, LC 376-3922	PROJECT COORDINATOR	SUMNER, LC
SAMPLING LOCATION	100-DX Bldg 1804D Effluent Tank valve T-M5 (V-MD039A)	PROJECT DESIGNATION	100-DX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	PRICE CODE	7H
ICE CHEST NO.	N/A	FIELD LOGBOOK NO.	HMF-N-491-15	SAF NO.	F12-023
SHIPPED TO	TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO.	N/A	ACTUAL SAMPLE DEPTH	N/A
				COA	302841
				BILL OF LADING/AIR BILL NO.	N/A
				METHOD OF SHIPMENT	GOVERNMENT VEHICLE
					ORIGINAL

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	Cool <=6C
A=Air	*Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/JATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	HOLDING TIME	28 Days/48 Hours
DL=Drum		TYPE OF CONTAINER	P
DS=Drum		NO. OF CONTAINER(S)	1
Solids		VOLUME	500mL
L=Liquid		SPECIAL HANDLING AND/OR STORAGE	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
O=Oil			
S=Soil			
SF=Sediment			
T=Tissue			
V=Vegetation			
W=Water			
WI=Wipe			
X=Other			

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B35X31	WATER	JUN 29 2016	1403

July 28 2016

CHAIN OF POSSESSION		SIGN / PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	CHRIS FULTON	DATE/TIME	JUN 29 2016 1430	RECEIVED BY/STORED IN	SSU-1
RELINQUISHED BY/REMOVED FROM	SSU-1	DATE/TIME	JUN 30 2016 0130	RECEIVED BY/STORED IN	Frank Heis CHPRC
RELINQUISHED BY/REMOVED FROM	Frank Heis CHPRC	DATE/TIME	JUN 30 2016 0230	RECEIVED BY/STORED IN	L Anderson, TRVL
RELINQUISHED BY/REMOVED FROM		DATE/TIME	JUN 30 2016 0230	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	DATE/TIME	DISPOSED BY	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD				

PRINTED ON 6/1/2016 FSR ID = FSR33003 TRVL NUM = TRVL-16-163 A-6003-618 (REV 2)

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ** The extraction wells associated with this SAF are all located at the Transfer Building.
 (1) 300.0_ANIONS_IC: COMMON {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}; 300.0_ANIONS_IC: COMMON (Add- Nitrates, Nitrogen in phosphate);

July 28, 2016
Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

Client Sample ID: B35X23

Lab Sample ID: 300-3395-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.028		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B35X27

Lab Sample ID: 300-3395-2

No Detections.

Client Sample ID: B35X30

Lab Sample ID: 300-3395-3

No Detections.

Client Sample ID: B35X24

Lab Sample ID: 300-3395-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	4.8	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.15	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	180	D	2.5	1.3	mg/L	10		300.0	Total/NA

Client Sample ID: B35X28

Lab Sample ID: 300-3395-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	0.59	D	0.40	0.20	mg/L	2		300.0	Total/NA
Sulfate	0.66	B D	1.3	0.63	mg/L	5		300.0	Total/NA

Client Sample ID: B35X31

Lab Sample ID: 300-3395-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	5.3	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.15	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	180	D	2.5	1.3	mg/L	10		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

July 28, 2016
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

Client Sample ID: B35X23

Lab Sample ID: 300-3395-1

Date Collected: 06/29/16 13:54

Matrix: Water

Date Received: 06/30/16 09:35

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.028		0.0040	0.0015	mg/L			06/30/16 11:26	1

Client Sample ID: B35X27

Lab Sample ID: 300-3395-2

Date Collected: 06/29/16 11:45

Matrix: Water

Date Received: 06/30/16 09:35

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			06/30/16 11:30	1

Client Sample ID: B35X30

Lab Sample ID: 300-3395-3

Date Collected: 06/29/16 14:03

Matrix: Water

Date Received: 06/30/16 09:35

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			06/30/16 11:30	1

Client Sample ID: B35X24

Lab Sample ID: 300-3395-4

Date Collected: 06/29/16 13:54

Matrix: Water

Date Received: 06/30/16 09:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14	D	0.40	0.20	mg/L			06/30/16 15:16	2
Nitrate as N	4.8	D	0.056	0.028	mg/L			06/30/16 15:16	2
Fluoride	0.15	D	0.10	0.050	mg/L			06/30/16 15:16	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/30/16 15:16	2
Orthophosphate as P	0.082	U D	0.16	0.082	mg/L			06/30/16 15:16	2
Sulfate	180	D	2.5	1.3	mg/L			06/30/16 18:01	10

Client Sample ID: B35X28

Lab Sample ID: 300-3395-5

Date Collected: 06/29/16 11:45

Matrix: Water

Date Received: 06/30/16 09:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.59	D	0.40	0.20	mg/L			06/30/16 15:31	2
Nitrate as N	0.028	U D	0.056	0.028	mg/L			06/30/16 15:31	2
Fluoride	0.050	U D	0.10	0.050	mg/L			06/30/16 15:31	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/30/16 15:31	2
Orthophosphate as P	0.082	U D	0.16	0.082	mg/L			06/30/16 15:31	2
Sulfate	0.66	B D	1.3	0.63	mg/L			06/30/16 18:16	5

TestAmerica Richland

July 28, 2016
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

Client Sample ID: B35X31
Date Collected: 06/29/16 14:03
Date Received: 06/30/16 09:35

Lab Sample ID: 300-3395-6
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15	D	0.40	0.20	mg/L			06/30/16 15:46	2
Nitrate as N	5.3	D	0.056	0.028	mg/L			06/30/16 15:46	2
Fluoride	0.15	D	0.10	0.050	mg/L			06/30/16 15:46	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/30/16 15:46	2
Orthophosphate as P	0.082	U D	0.16	0.082	mg/L			06/30/16 15:46	2
Sulfate	180	D	2.5	1.3	mg/L			06/30/16 18:32	10

Client: CH2M Hill Plateau Remediation Company
Project/Site: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-4745/5
Matrix: Water
Analysis Batch: 4745

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			06/30/16 13:30	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			06/30/16 13:30	1
Orthophosphate as P	0.041	U	0.082	0.041	mg/L			06/30/16 13:30	1

Lab Sample ID: LCS 300-4745/6
Matrix: Water
Analysis Batch: 4745

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	2.34		mg/L		104	80 - 120
Nitrite as N	3.04	3.13		mg/L		103	80 - 120
Orthophosphate as P	6.53	6.73		mg/L		103	80 - 120

Lab Sample ID: 300-3384-A-1 MS
Matrix: Water
Analysis Batch: 4745

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	0.20	D	0.452	0.621	D	mg/L		92	75 - 125
Nitrite as N	0.038	U D	0.609	0.541	D	mg/L		89	75 - 125
Orthophosphate as P	2.1	D	1.31	3.46	D	mg/L		104	75 - 125

Lab Sample ID: 300-3384-A-1 DU
Matrix: Water
Analysis Batch: 4745

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	0.20	D	0.208	D	mg/L		2	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20
Orthophosphate as P	2.1	D	2.15	D	mg/L		2	20

Lab Sample ID: MB 300-4746/5
Matrix: Water
Analysis Batch: 4746

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			06/30/16 13:30	1
Fluoride	0.025	U	0.050	0.025	mg/L			06/30/16 13:30	1
Sulfate	0.13	U	0.25	0.13	mg/L			06/30/16 13:30	1

Lab Sample ID: LCS 300-4746/6
Matrix: Water
Analysis Batch: 4746

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	16.3		mg/L		102	80 - 120
Fluoride	4.00	4.09		mg/L		102	80 - 120
Sulfate	20.0	20.5		mg/L		103	80 - 120

Client: CH2M Hill Plateau Remediation Company
Project/Site: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-3384-A-1 MS
Matrix: Water
Analysis Batch: 4746

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

Analyte	Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Chloride	9.7	D	3.20	13.0	D	mg/L		103	75 - 125
Fluoride	0.25	D	0.800	0.975	D	mg/L		91	75 - 125
Sulfate	37	D	4.00	41.1	D	mg/L		110	75 - 125

Lab Sample ID: 300-3384-A-1 DU
Matrix: Water
Analysis Batch: 4746

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample		DU DU		Unit	D	RPD	RPD Limit
	Result	Qualifier	Result	Qualifier				
Chloride	9.7	D	9.90	D	mg/L		2	20
Fluoride	0.25	D	0.254	D	mg/L		4	20
Sulfate	37	D	37.4	D	mg/L		2	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-4755/3
Matrix: Water
Analysis Batch: 4755

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			06/30/16 11:21	1

Lab Sample ID: LCS 300-4755/4
Matrix: Water
Analysis Batch: 4755

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	0.251		mg/L		100	80 - 120

Lab Sample ID: 300-3393-A-1 MS
Matrix: Water
Analysis Batch: 4755

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

Analyte	Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Cr (VI)	0.015		0.0499	0.0649		mg/L		100	75 - 125

Lab Sample ID: 300-3393-A-1 DU
Matrix: Water
Analysis Batch: 4755

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample		DU DU		Unit	D	RPD	RPD Limit
	Result	Qualifier	Result	Qualifier				
Cr (VI)	0.015		0.0151		mg/L		0	20

Client: CH2M Hill Plateau Remediation Company
Project/Site: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

HPLC/IC

Analysis Batch: 4745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3395-4	B35X24	Total/NA	Water	300.0	
300-3395-5	B35X28	Total/NA	Water	300.0	
300-3395-6	B35X31	Total/NA	Water	300.0	
MB 300-4745/5	Method Blank	Total/NA	Water	300.0	
LCS 300-4745/6	Lab Control Sample	Total/NA	Water	300.0	
300-3384-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
300-3384-A-1 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 4746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3395-4	B35X24	Total/NA	Water	300.0	
300-3395-4	B35X24	Total/NA	Water	300.0	
300-3395-5	B35X28	Total/NA	Water	300.0	
300-3395-5	B35X28	Total/NA	Water	300.0	
300-3395-6	B35X31	Total/NA	Water	300.0	
300-3395-6	B35X31	Total/NA	Water	300.0	
MB 300-4746/5	Method Blank	Total/NA	Water	300.0	
LCS 300-4746/6	Lab Control Sample	Total/NA	Water	300.0	
300-3384-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
300-3384-A-1 DU	Duplicate	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 4755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3395-1	B35X23	Total/NA	Water	7196A	
300-3395-2	B35X27	Total/NA	Water	7196A	
300-3395-3	B35X30	Total/NA	Water	7196A	
MB 300-4755/3	Method Blank	Total/NA	Water	7196A	
LCS 300-4755/4	Lab Control Sample	Total/NA	Water	7196A	
300-3393-A-1 MS	Matrix Spike	Total/NA	Water	7196A	
300-3393-A-1 DU	Duplicate	Total/NA	Water	7196A	

Client: CH2M Hill Plateau Remediation Company
Project/Site: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

Client Sample ID: B35X23

Date Collected: 06/29/16 13:54

Date Received: 06/30/16 09:35

Lab Sample ID: 300-3395-1

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			4755	06/30/16 11:26	RLC	TAL RCH

Client Sample ID: B35X27

Date Collected: 06/29/16 11:45

Date Received: 06/30/16 09:35

Lab Sample ID: 300-3395-2

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			4755	06/30/16 11:30	RLC	TAL RCH

Client Sample ID: B35X30

Date Collected: 06/29/16 14:03

Date Received: 06/30/16 09:35

Lab Sample ID: 300-3395-3

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			4755	06/30/16 11:30	RLC	TAL RCH

Client Sample ID: B35X24

Date Collected: 06/29/16 13:54

Date Received: 06/30/16 09:35

Lab Sample ID: 300-3395-4

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			4745	06/30/16 15:16	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4746	06/30/16 15:16	CPM	TAL RCH
Total/NA	Analysis	300.0		10			4746	06/30/16 18:01	CPM	TAL RCH

Client Sample ID: B35X28

Date Collected: 06/29/16 11:45

Date Received: 06/30/16 09:35

Lab Sample ID: 300-3395-5

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			4745	06/30/16 15:31	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4746	06/30/16 15:31	CPM	TAL RCH
Total/NA	Analysis	300.0		5			4746	06/30/16 18:16	CPM	TAL RCH

Client Sample ID: B35X31

Date Collected: 06/29/16 14:03

Date Received: 06/30/16 09:35

Lab Sample ID: 300-3395-6

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			4745	06/30/16 15:46	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4746	06/30/16 15:46	CPM	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

Client Sample ID: B35X31

Lab Sample ID: 300-3395-6

Date Collected: 06/29/16 14:03

Matrix: Water

Date Received: 06/30/16 09:35

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			4746	06/30/16 18:32	CPM	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4745/5

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			4745	06/30/16 13:30	CPM	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4746/5

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			4746	06/30/16 13:30	CPM	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4755/3

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			4755	06/30/16 11:21	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4745/6

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			4745	06/30/16 13:45	CPM	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4746/6

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			4746	06/30/16 13:45	CPM	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4755/4

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			4755	06/30/16 11:22	RLC	TAL RCH

Client Sample ID: Matrix Spike

Lab Sample ID: 300-3384-A-1 MS

Date Collected: 06/29/16 10:25

Matrix: Water

Date Received: 06/29/16 14:30

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			4745	06/30/16 14:15	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4746	06/30/16 14:15	CPM	TAL RCH

Client Sample ID: Matrix Spike

Lab Sample ID: 300-3393-A-1 MS

Date Collected: 06/29/16 14:17

Matrix: Water

Date Received: 06/30/16 09:35

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			4755	06/30/16 11:22	RLC	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: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

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 28, 2016
Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F11-023

TestAmerica Job ID: 300-3395-1
SDG: WC1220

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3395-1	B35X23	Water	06/29/16 13:54	06/30/16 09:35
300-3395-2	B35X27	Water	06/29/16 11:45	06/30/16 09:35
300-3395-3	B35X30	Water	06/29/16 14:03	06/30/16 09:35
300-3395-4	B35X24	Water	06/29/16 13:54	06/30/16 09:35
300-3395-5	B35X28	Water	06/29/16 11:45	06/30/16 09:35
300-3395-6	B35X31	Water	06/29/16 14:03	06/30/16 09:35

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

July 28, 2016

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-3395-1

SDG Number: WC1220

Login Number: 3395

List Number: 1

Creator: Anderson, Lori F

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.	N/A	
Residual Chlorine Checked.	N/A	

