

03/28/2018

REV.0

# 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: 300-6851-1  
TestAmerica Sample Delivery Group: WC2755  
Client Project/Site: F16-045

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

Attn: CPP Sample Management



Authorized for release by:  
3/28/2018 9:30:37 AM

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

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

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

*The laboratory is accredited to EPA 7196A in Solid and Chemical Materials, per Washington State Department of Ecology this is approved for non-discharge water samples.*

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Client: CH2M Hill Plateau Remediation Company  
Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

## Qualifiers

### HPLC/IC

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

### General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

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**Job ID: 300-6851-1**

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**Laboratory: TestAmerica Richland**

**Narrative**

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**Job Narrative  
300-6851-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 3/7/2018 2:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7° C.

**HPLC/IC**

Method(s) 300.0: The matrix spike (MS) recoveries for Nitrate as N in analytical batch 300-10582 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. MS recovery is above calibrated range and fails at approximately 28%. A greater dilution was run outside of hold time that was on the curve but still failed to meet acceptance criteria.

The CCVs failed for the initial analytical run. All samples were re-analyzed with passing instrument QC. For more information see the attached SIR.

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.



<b>SAMPLE ISSUE RESOLUTION (SIR) REPORT</b>		<b>SIR Number:</b> SIR18-0546 <b>Rev. Number:</b> 0 <b>Date Initiated:</b> 03/12/2018
<b><u>SAMPLE EVENT INFORMATION</u></b>		
<b>SAF NUM(S):</b>	F16-045	
<b>LABORATORY:</b>	TARL	
<b><u>SAMPLING INFORMATION</u></b>		
<b>NUMBER OF SAMPLES:</b>	1	
<b>SAMPLE NUMBERS:</b>	B3HW92	
<b>SAMPLE MATRIX:</b>	WATER	
<b>SDG NUM(S):</b>	WC2755	
<b><u>ISSUE BACKGROUND</u></b>		
<b>CLASS:</b>	Laboratory Issue	
<b>TYPE:</b>	Instrument Failure	
<b>DESCRIPTION:</b>	The CCVs failed for the initial analytical run. The anion samples listed above were affected. All samples were re-analyzed with passing instrument QC (CCVs) outside of the required 48 hour holding time, but within 2X the holding time of 96 hours.	
<b><u>RESOLUTION</u></b>		
<b>PROPOSED RESOLUTION:</b>	Initiate SIR, report results and include comments in the case narrative.	
<b>FINAL RESOLUTION:</b>	Accept proposed resolution	
<b>SUBMITTED BY:</b>		
WORTHY, A _____	03/12/2018 _____	
<b>ACCEPTED BY:</b>		
NAGEL, SE _____	03/12/2018 _____	



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-045-1072	PAGE 1 OF 1
COLLECTOR Kathy Turner /CHPRC		COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	REQUIRED TAT 30 Days	
SAMPLING LOCATION Valve V14-YE31, 299-E33-360		PROJECT DESIGNATION .200W Pump & Treat - Extraction Well Water Sampling		SAF NO. F16-045	<b>ORIGINAL</b>	
ICE CHEST NO. N/A		FIELD LOGBOOK NO. HNF-N-491 19	ACTUAL SAMPLE DEPTH N/A	PURCHASE ORDER/CHARGE CODE 304235		
SHIPPED TO TestAmerica Incorporated, Richland		OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

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	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool~4C
		<b>HOLDING TIME</b>	24 Hours
		<b>TYPE OF CONTAINER</b>	aG
		<b>NO. OF CONTAINER(S)</b>	1
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A	<b>SAMPLE ANALYSIS</b>

6851  
WC 2755



300-6851 COC

SAMPLE NO.	FILTERED	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B3HW91	N/A	WATER	MAR 07 2018	0905	✓

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
Kathy Turner /CHPRC	MAR 07 2018 1325	Frank Hall /CHPRC	MAR 07 2018 1025	TRVL-18-083
Frank Hall /CHPRC	MAR 07 2018 1320	Troy Bacon CHPRC	MAR 07 2018 1320	
Troy Bacon CHPRC	MAR 07 2018 1435	Mar R Holm TARL	3/7/18/1435	

3/28/2018

FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME
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CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F16-045-1073	PAGE 1 OF 1
COLLECTOR Kathy Turner /CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC		REQUIRED TAT 30 Days	
SAMPLING LOCATION Valve V14-YE31, 299-E33-360		PROJECT DESIGNATION 200W Pump & Treat - Extraction Well Water Sampling		SAF NO. F16-045	<b>ORIGINAL</b>	
ICE CHEST NO. N/A	FIELD LOGBOOK NO. HNF-N-491 19	ACTUAL SAMPLE DEPTH N/A	PURCHASE ORDER/CHARGE CODE 304235	METHOD OF SHIPMENT GOVERNMENT VEHICLE		
SHIPPED TO TestAmerica Incorporated, Richland		OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

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	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	48 Hours
		<b>TYPE OF CONTAINER</b>	P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250ml
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

6857  
WC2755

SAMPLE NO.	FILTERED	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B3HW92	N/A	WATER	MAR 07 2018	0905	✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b> TRVL-18-083 (1) 300.0_ANIONS_IC: COMMON {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}; 300.0_ANIONS_IC: COMMON (Add-on) {Bromide};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
Kathy Turner /CHPRC	MAR 07 2018 1320	Frank Heff /CHPRC	MAR 07 2018 1025	
Frank Heff /CHPRC	MAR 07 2018 1320	Troy Bacon /CHPRC	MAR 07 2018 1320	
Troy Bacon /CHPRC	MAR 07 2018 1435	Troy R Holm	MAR 27/18/14:35	

FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME
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Client: CH2M Hill Plateau Remediation Company  
 Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
 SDG: WC2755

**Client Sample ID: B3HW91**

**Lab Sample ID: 300-6851-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0055		0.0040	0.0015	mg/L	1		7196A	Total/NA

**Client Sample ID: B3HW92**

**Lab Sample ID: 300-6851-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	19	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	56	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.32	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.076	D y	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	99	D	2.5	1.3	mg/L	10		300.0	Total/NA
Bromide	0.26	D	0.25	0.13	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.



Client: CH2M Hill Plateau Remediation Company  
 Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
 SDG: WC2755

**Client Sample ID: B3HW91**

**Lab Sample ID: 300-6851-1**

Date Collected: 03/07/18 09:05

Matrix: Water

Date Received: 03/07/18 14:35

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0055		0.0040	0.0015	mg/L			03/07/18 16:24	1

**Client Sample ID: B3HW92**

**Lab Sample ID: 300-6851-2**

Date Collected: 03/07/18 09:05

Matrix: Water

Date Received: 03/07/18 14:35

**Method: 300.0 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19	D	0.40	0.20	mg/L			03/09/18 05:50	2
Nitrate as N	56	D	0.28	0.14	mg/L			03/09/18 06:38	10
Fluoride	0.32	D	0.10	0.050	mg/L			03/09/18 05:50	2
Nitrite as N	0.076	D y	0.076	0.038	mg/L			03/09/18 05:50	2
Sulfate	99	D	2.5	1.3	mg/L			03/09/18 06:38	10
Bromide	0.26	D	0.25	0.13	mg/L			03/09/18 05:50	2

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-10581/11

Matrix: Water

Analysis Batch: 10581

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			03/08/18 18:04	1
Fluoride	0.025	U	0.050	0.025	mg/L			03/08/18 18:04	1
Sulfate	0.13	U	0.25	0.13	mg/L			03/08/18 18:04	1
Bromide	0.063	U	0.13	0.063	mg/L			03/08/18 18:04	1

Lab Sample ID: LCS 300-10581/12

Matrix: Water

Analysis Batch: 10581

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16.0	15.6		mg/L		97	80 - 120
Fluoride	4.00	3.95		mg/L		99	80 - 120
Sulfate	20.0	19.6		mg/L		98	80 - 120
Bromide	10.0	9.87		mg/L		99	80 - 120

Lab Sample ID: 300-6851-2 MS

Matrix: Water

Analysis Batch: 10581

Client Sample ID: B3HW92

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	19	D	3.20	22.5	D	mg/L		97	75 - 125
Fluoride	0.32	D	0.800	1.09	D	mg/L		96	75 - 125
Bromide	0.26	D	2.00	2.01	D	mg/L		87	75 - 125

Lab Sample ID: 300-6851-2 MS

Matrix: Water

Analysis Batch: 10581

Client Sample ID: B3HW92

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	99	D	20.0	118	D	mg/L		96	75 - 125

Lab Sample ID: 300-6851-2 DU

Matrix: Water

Analysis Batch: 10581

Client Sample ID: B3HW92

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	19	D	19.1	D	mg/L		2	20
Fluoride	0.32	D	0.314	D	mg/L		1	20
Bromide	0.26	D	0.261	D	mg/L		1	20

Lab Sample ID: 300-6851-2 DU

Matrix: Water

Analysis Batch: 10581

Client Sample ID: B3HW92

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	99	D	95.6	D	mg/L		3	20

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 300-10582/11  
Matrix: Water  
Analysis Batch: 10582

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			03/08/18 18:04	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			03/08/18 18:04	1

Lab Sample ID: LCS 300-10582/12  
Matrix: Water  
Analysis Batch: 10582

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	2.26	2.22		mg/L		98	80 - 120
Nitrite as N	3.04	3.00		mg/L		99	80 - 120

Lab Sample ID: 300-6851-2 MS  
Matrix: Water  
Analysis Batch: 10582

Client Sample ID: B3HW92  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	0.076	D y	0.609	0.572	D	mg/L		81	75 - 125

Lab Sample ID: 300-6851-2 DU  
Matrix: Water  
Analysis Batch: 10582

Client Sample ID: B3HW92  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrite as N	0.076	D y	0.0612	B D y	mg/L		22	20

Lab Sample ID: 300-6851-2 DU  
Matrix: Water  
Analysis Batch: 10582

Client Sample ID: B3HW92  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	56	D	54.4	D	mg/L		3	20

Lab Sample ID: MB 300-10592/5  
Matrix: Water  
Analysis Batch: 10592

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			03/09/18 13:54	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			03/09/18 13:54	1

Lab Sample ID: LCS 300-10592/6  
Matrix: Water  
Analysis Batch: 10592

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	2.23		mg/L		99	80 - 120
Nitrite as N	3.04	3.09		mg/L		101	80 - 120

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

**Method: 300.0 - Anions, Ion Chromatography (Continued)**

**Lab Sample ID: MB 300-10593/5**

**Matrix: Water**

**Analysis Batch: 10593**

**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			03/09/18 13:54	1
Fluoride	0.025	U	0.050	0.025	mg/L			03/09/18 13:54	1
Sulfate	0.13	U	0.25	0.13	mg/L			03/09/18 13:54	1
Bromide	0.063	U	0.13	0.063	mg/L			03/09/18 13:54	1

**Lab Sample ID: LCS 300-10593/6**

**Matrix: Water**

**Analysis Batch: 10593**

**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	16.0		mg/L		100	80 - 120
Fluoride	4.00	4.02		mg/L		101	80 - 120
Sulfate	20.0	20.0		mg/L		100	80 - 120
Bromide	10.0	10.1		mg/L		101	80 - 120

**Lab Sample ID: 300-6851-2 MS**

**Matrix: Water**

**Analysis Batch: 10593**

**Client Sample ID: B3HW92**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	17	D	32.0	46.7	D	mg/L		91	75 - 125
Fluoride	0.71	B D	8.00	7.33	D	mg/L		83	75 - 125
Sulfate	95	D	40.0	131	D	mg/L		90	75 - 125
Bromide	1.3	U D	20.0	17.1	D	mg/L		86	75 - 125

**Lab Sample ID: 300-6851-2 DU**

**Matrix: Water**

**Analysis Batch: 10593**

**Client Sample ID: B3HW92**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	17	D	16.5	D	mg/L		6	20
Fluoride	0.71	B D	0.693	B D	mg/L		2	20
Sulfate	95	D	89.3	D	mg/L		6	20
Bromide	1.3	U D	1.3	U D	mg/L		NC	20

**Method: 7196A - Chromium, Hexavalent**

**Lab Sample ID: MB 300-10574/3**

**Matrix: Water**

**Analysis Batch: 10574**

**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			03/07/18 16:21	1

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 300-10574/4  
Matrix: Water  
Analysis Batch: 10574

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	0.257		mg/L		103	80 - 120

Lab Sample ID: 300-6851-1 MS  
Matrix: Water  
Analysis Batch: 10574

Client Sample ID: B3HW91  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.0055		0.0501	0.0588		mg/L		106	75 - 125

Lab Sample ID: 300-6851-1 DU  
Matrix: Water  
Analysis Batch: 10574

Client Sample ID: B3HW91  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.0055		0.00650		mg/L		17	20

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
 SDG: WC2755

**HPLC/IC**

**Analysis Batch: 10581**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6851-2	B3HW92	Total/NA	Water	300.0	
300-6851-2	B3HW92	Total/NA	Water	300.0	
MB 300-10581/11	Method Blank	Total/NA	Water	300.0	
LCS 300-10581/12	Lab Control Sample	Total/NA	Water	300.0	
300-6851-2 MS	B3HW92	Total/NA	Water	300.0	
300-6851-2 MS	B3HW92	Total/NA	Water	300.0	
300-6851-2 DU	B3HW92	Total/NA	Water	300.0	
300-6851-2 DU	B3HW92	Total/NA	Water	300.0	

**Analysis Batch: 10582**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6851-2	B3HW92	Total/NA	Water	300.0	
300-6851-2	B3HW92	Total/NA	Water	300.0	
MB 300-10582/11	Method Blank	Total/NA	Water	300.0	
LCS 300-10582/12	Lab Control Sample	Total/NA	Water	300.0	
300-6851-2 MS	B3HW92	Total/NA	Water	300.0	
300-6851-2 DU	B3HW92	Total/NA	Water	300.0	
300-6851-2 DU	B3HW92	Total/NA	Water	300.0	

**Analysis Batch: 10592**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 300-10592/5	Method Blank	Total/NA	Water	300.0	
LCS 300-10592/6	Lab Control Sample	Total/NA	Water	300.0	

**Analysis Batch: 10593**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 300-10593/5	Method Blank	Total/NA	Water	300.0	
LCS 300-10593/6	Lab Control Sample	Total/NA	Water	300.0	
300-6851-2 MS	B3HW92	Total/NA	Water	300.0	
300-6851-2 DU	B3HW92	Total/NA	Water	300.0	

**General Chemistry**

**Analysis Batch: 10574**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6851-1	B3HW91	Total/NA	Water	7196A	
MB 300-10574/3	Method Blank	Total/NA	Water	7196A	
LCS 300-10574/4	Lab Control Sample	Total/NA	Water	7196A	
300-6851-1 MS	B3HW91	Total/NA	Water	7196A	
300-6851-1 DU	B3HW91	Total/NA	Water	7196A	



Client: CH2M Hill Plateau Remediation Company  
Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

**Client Sample ID: B3HW91**  
Date Collected: 03/07/18 09:05  
Date Received: 03/07/18 14:35

**Lab Sample ID: 300-6851-1**  
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			10574	03/07/18 16:24	TRH	TAL RCH

**Client Sample ID: B3HW92**  
Date Collected: 03/07/18 09:05  
Date Received: 03/07/18 14:35

**Lab Sample ID: 300-6851-2**  
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			10581	03/09/18 05:50	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			10582	03/09/18 05:50	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10581	03/09/18 06:38	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10582	03/09/18 06:38	RTQ	TAL RCH

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

**Lab Sample ID: MB 300-10574/3**  
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			10574	03/07/18 16:21	TRH	TAL RCH

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

**Lab Sample ID: MB 300-10581/11**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			10581	03/08/18 18:04	RTQ	TAL RCH

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

**Lab Sample ID: MB 300-10582/11**  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			10582	03/08/18 18:04	RTQ	TAL RCH

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

**Lab Sample ID: MB 300-10592/5**  
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		1			10592	03/09/18 13:54	RTQ	TAL RCH

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 300-10593/5**

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			10593	03/09/18 13:54	RTQ	TAL RCH

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 300-10574/4**

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			10574	03/07/18 16:21	TRH	TAL RCH

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 300-10581/12**

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			10581	03/08/18 18:20	RTQ	TAL RCH

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 300-10582/12**

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			10582	03/08/18 18:20	RTQ	TAL RCH

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 300-10592/6**

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			10592	03/09/18 14:10	RTQ	TAL RCH

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 300-10593/6**

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			10593	03/09/18 14:10	RTQ	TAL RCH

Client: CH2M Hill Plateau Remediation Company  
Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

**Client Sample ID: B3HW91**

**Lab Sample ID: 300-6851-1 MS**

Date Collected: 03/07/18 09:05

Matrix: Water

Date Received: 03/07/18 14:35

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			10574	03/07/18 16:22	TRH	TAL RCH

**Client Sample ID: B3HW92**

**Lab Sample ID: 300-6851-2 MS**

Date Collected: 03/07/18 09:05

Matrix: Water

Date Received: 03/07/18 14:35

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		2			10581	03/09/18 06:06	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			10582	03/09/18 06:06	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10581	03/09/18 06:54	RTQ	TAL RCH
Total/NA	Analysis	300.0		20			10593	03/10/18 01:08	RTQ	TAL RCH

**Client Sample ID: B3HW91**

**Lab Sample ID: 300-6851-1 DU**

Date Collected: 03/07/18 09:05

Matrix: Water

Date Received: 03/07/18 14:35

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			10574	03/07/18 16:25	TRH	TAL RCH

**Client Sample ID: B3HW92**

**Lab Sample ID: 300-6851-2 DU**

Date Collected: 03/07/18 09:05

Matrix: Water

Date Received: 03/07/18 14:35

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		2			10581	03/09/18 06:22	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			10582	03/09/18 06:22	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10581	03/09/18 07:10	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			10582	03/09/18 07:10	RTQ	TAL RCH
Total/NA	Analysis	300.0		20			10593	03/10/18 01:24	RTQ	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: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

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



Client: CH2M Hill Plateau Remediation Company  
Project/Site: F16-045

TestAmerica Job ID: 300-6851-1  
SDG: WC2755

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<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
300-6851-1	B3HW91	Water	03/07/18 09:05	03/07/18 14:35
300-6851-2	B3HW92	Water	03/07/18 09:05	03/07/18 14:35

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

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-6851-1

SDG Number: WC2755

Login Number: 6851

List Number: 1

Creator: Jorgenson, Briana F

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	

