

# 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: 300-1088-1  
TestAmerica Sample Delivery Group: WC0442  
Client Project/Site: CH2M Hill Chemical

For:  
CH2M Hill Plateau Remediation Company  
PO BOX 1600  
Mail Stop R3-50  
Richland, Washington 99352

Attn: CPP Sample Management



Authorized for release by:  
10/27/2015 2:53:33 PM  
Steven Campbell, Quality Assurance Assistant  
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Designee for  
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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. The sample/ sample duplicate RPD agreement is not applicable if one or both results are elss than five times the MDL.*

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### LINKS

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**Definitions/Glossary**

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
 SDG: WC0442



**Qualifiers**

**HPLC/IC**

Qualifier	Qualifier Description
U	Analyzed for but not detected.
D	The reported value is from a dilution.

**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.
□	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)

Case Narrative

Client: CH2M Hill Plateau Remediation Company  
Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
SDG: WC0442



Job ID: 300-1088-1

Laboratory: TestAmerica Richland

Narrative

Job Narrative  
300-1088-1

Comments

No additional comments.

Receipt

The samples were received on 10/14/2015 2:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.9° 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.

**SAMPLE ISSUE RESOLUTION**

<b>SIR NUM</b>	SIR16-189
<b>REV NUM</b>	0
<b>DATE INITIATED</b>	1/20/2016

**SAMPLE EVENT INFORMATION**

**SAF NUM(S)** X16-011  
**OPERABLE UNIT(S)** 200-BP-5  
**PROJECT(S)** CERC15  
**SAMPLE EVENT TITLE(S)** CERC15  
**LABORATORY** TestAmerica Incorporated, Richland

**SAMPLING INFORMATION**

**NUMBER OF SAMPLES** 1  
**SAMPLE NUMBERS** B33BC0  
**SAMPLE MATRIX** WATER  
**COLLECTION DATE** 10/14/2015 - 10/14/2015  
**SDG NUM** WC0442

**ISSUE BACKGROUND**

**CLASS** Chain of Custody Issue (Field)  
**TYPE** Incorrect Relinquish/Receipt Date/Time  
**DESCRIPTION** COC X16-011-002, SAMPLE B33BC0.  
 First relinquished by time does not match the received by time.

**DISPOSITION**

**DESCRIPTION** DOCUMENT AND CLOSE  
**JUSTIFICATION** DOCUMENT AND CLOSE

SUBMITTED BY: Jessa Szecsody DATE: 12/28/2015  
 ACCEPTED BY: Kirsten Killand DATE: 01/20/2016



**CH2M Hill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. #

**X16-011-002**

Page 1 of 1

Collector	J.R. Aguilar/CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-011	Sampling Origin	Hanford Site	Purchase Order/Charge Code	302869
Project Title	200-BP-5 Characterization Sampling	Logbook No.	HNF-N-506 <u>76/S2</u>	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	15 Days	Offsite Property No.	N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			<b>SPECIAL INSTRUCTIONS</b>		
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.			Hold Time		
			Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Sample No.	Filter	* Date	Time	No./Type Container	Sample Analysis
B33BC0	N	10-14-15	0808	1x60-mL aG	7196_CR6: COMMON
					Holding Time
					24 Hours
					Preservative
					Cool <=6C

300-1088 COC



#1088  
 WCCPZ  
 OF 1011415  
 WCC442

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
J.R. Aguilar/CHPRC			OCT 14 2015 0900	E.L. Kauer/CHPRC			OCT 14 2015 0910	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
E.L. Kauer/CHPRC			OCT 14 2015	J. Bock/TARL			OCT 14 2015	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *

<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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**CH2MHill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. #

**X16-011-001**

Page 1 of 1

Collector	J.R. Aguilar/CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-011	Sampling Origin	Hanford Site	Purchase Order/Charge Code	302869
Project Title	200-BP-5 Characterization Sampling	Logbook No.	HNF-N-506 76 / 82	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	15 Days PRIORITY	Offsite Property No.	N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			<b>SPECIAL INSTRUCTIONS</b>		
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.			Hold Time		
			Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
			N/A		

Sample No.	Filter	* Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B33BB9	N	W 10-14-15	0808	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

# 1088  
W 10442

Relinquished By	J.R. Aguilar/CHPRC	Print	Sign	Date/Time	Received By	E.L. Kauer/CHPRC	Print	Sign	Date/Time	Matrix *
				OCT 14 2015 0910				OCT 14 2015 0910		S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	E.L. Kauer/CHPRC	Print	Sign	Date/Time	Received By	J. Beck, TARL	Print	Sign	Date/Time	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
				OCT 14 2015 1420				OCT 14 2015 1420		
Relinquished By				Date/Time	Received By			Date/Time		

<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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**Detection Summary**

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
 SDG: WC0442

**Client Sample ID: B33BC0**

**Lab Sample ID: 300-1088-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0095		0.0040	0.0015	mg/L	1		7196A	Total/NA

**Client Sample ID: B33BB9**

**Lab Sample ID: 300-1088-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	27	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	83	D	1.4	0.70	mg/L	50		300.0	Total/NA
Fluoride	0.31	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	140	D	1.3	0.63	mg/L	5		300.0	Total/NA



This Detection Summary does not include radiochemical test results.

TestAmerica Richland

**Client Sample Results**

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
 SDG: WC0442

**Client Sample ID: B33BC0**

**Date Collected: 10/14/15 08:08**

**Date Received: 10/14/15 14:20**

**Lab Sample ID: 300-1088-1**

**Matrix: Water**

<b>General Chemistry</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0095		0.0040	0.0015	mg/L			10/14/15 19:20	1

**Client Sample ID: B33BB9**

**Date Collected: 10/14/15 08:08**

**Date Received: 10/14/15 14:20**

**Lab Sample ID: 300-1088-2**

**Matrix: Water**

<b>Method: 300.0 - Anions, Ion Chromatography</b>									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27	D	0.40	0.20	mg/L			10/14/15 18:24	2
Nitrate as N	83	D	1.4	0.70	mg/L			10/15/15 12:26	50
Fluoride	0.31	D	0.10	0.050	mg/L			10/14/15 18:24	2
Nitrite as N	0.038	U	0.076	0.038	mg/L			10/14/15 18:24	2
Sulfate	140	D	1.3	0.63	mg/L			10/14/15 21:24	5

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QC Sample Results

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
 SDG: WC0442

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Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-1458/5 Client Sample ID: Method Blank  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1458

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			10/14/15 17:54	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			10/14/15 17:54	1

Lab Sample ID: LCS 300-1458/6 Client Sample ID: Lab Control Sample  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1458

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	2.26	2.27		mg/L		101	80 - 120
Nitrite as N	3.04	3.06		mg/L		101	80 - 120

Lab Sample ID: 300-1088-2 MS Client Sample ID: B33BB9  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1458

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	0.038	U	0.609	0.509	D	mg/L		84	75 - 125

Lab Sample ID: 300-1088-2 DU Client Sample ID: B33BB9  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1458

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

Lab Sample ID: MB 300-1459/5 Client Sample ID: Method Blank  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1459

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.10	U	0.20	0.10	mg/L			10/14/15 17:54	1
Fluoride	0.025	U	0.050	0.025	mg/L			10/14/15 17:54	1
Sulfate	0.13	U	0.25	0.13	mg/L			10/14/15 17:54	1

Lab Sample ID: LCS 300-1459/6 Client Sample ID: Lab Control Sample  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1459

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16.0	15.9		mg/L		99	80 - 120
Fluoride	4.00	3.98		mg/L		100	80 - 120
Sulfate	20.0	19.9		mg/L		99	80 - 120

Lab Sample ID: 300-1088-2 MS Client Sample ID: B33BB9  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1459

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	27	D	3.20	30.0	D	mg/L		87	75 - 125

TestAmerica Richland

QC Sample Results

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
 SDG: WC0442

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Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-1088-2 MS Client Sample ID: B33BB9  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1459

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.31	D	0.800	1.02	D	mg/L		89	75 - 125

Lab Sample ID: 300-1088-2 MS Client Sample ID: B33BB9  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1459

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	140	D	10.0	151	D	mg/L		84	75 - 125

Lab Sample ID: 300-1088-2 DU Client Sample ID: B33BB9  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1459

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	27	D	27.0	D	mg/L		0.9	20
Fluoride	0.31	D	0.305	D	mg/L		0.8	20

Lab Sample ID: 300-1088-2 DU Client Sample ID: B33BB9  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1459

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	140	D	142	D	mg/L		0.3	20

Lab Sample ID: 300-1088-2 MS Client Sample ID: B33BB9  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1495

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	83	D	11.3	93.0	D	mg/L		93	75 - 125

Lab Sample ID: 300-1088-2 DU Client Sample ID: B33BB9  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1495

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	83	D	82.3	D	mg/L		0.3	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-1483/22 Client Sample ID: Method Blank  
 Matrix: Water Prep Type: Total/NA  
 Analysis Batch: 1483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			10/14/15 19:14	1

QC Sample Results

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
 SDG: WC0442

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 300-1483/23  
 Matrix: Water  
 Analysis Batch: 1483

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	0.262		mg/L		105	80 - 120

Lab Sample ID: 300-1086-A-1 MS  
 Matrix: Water  
 Analysis Batch: 1483

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.024		0.0500	0.0762		mg/L		104	85 - 115

Lab Sample ID: 300-1086-A-1 DU  
 Matrix: Water  
 Analysis Batch: 1483

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.024		0.0244		mg/L		0.8	20

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QC Association Summary

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
 SDG: WC0442



HPLC/IC

Analysis Batch: 1458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-1088-2	B33BB9	Total/NA	Water	300.0	
300-1088-2 DU	B33BB9	Total/NA	Water	300.0	
300-1088-2 MS	B33BB9	Total/NA	Water	300.0	
LCS 300-1458/6	Lab Control Sample	Total/NA	Water	300.0	
MB 300-1458/5	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 1459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-1088-2	B33BB9	Total/NA	Water	300.0	
300-1088-2	B33BB9	Total/NA	Water	300.0	
300-1088-2 DU	B33BB9	Total/NA	Water	300.0	
300-1088-2 DU	B33BB9	Total/NA	Water	300.0	
300-1088-2 MS	B33BB9	Total/NA	Water	300.0	
300-1088-2 MS	B33BB9	Total/NA	Water	300.0	
LCS 300-1459/6	Lab Control Sample	Total/NA	Water	300.0	
MB 300-1459/5	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 1495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-1088-2	B33BB9	Total/NA	Water	300.0	
300-1088-2 DU	B33BB9	Total/NA	Water	300.0	
300-1088-2 MS	B33BB9	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 1483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-1086-A-1 DU	Duplicate	Total/NA	Water	7196A	
300-1086-A-1 MS	Matrix Spike	Total/NA	Water	7196A	
300-1088-1	B33BC0	Total/NA	Water	7196A	
LCS 300-1483/23	Lab Control Sample	Total/NA	Water	7196A	
MB 300-1483/22	Method Blank	Total/NA	Water	7196A	

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
 SDG: WC0442

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**Client Sample ID: B33BC0**

**Lab Sample ID: 300-1088-1**

Date Collected: 10/14/15 08:08

Matrix: Water

Date Received: 10/14/15 14:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			1483	10/14/15 19:20	AMC	TAL RCH

**Client Sample ID: B33BB9**

**Lab Sample ID: 300-1088-2**

Date Collected: 10/14/15 08:08

Matrix: Water

Date Received: 10/14/15 14:20

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	10 mL		1458	10/14/15 18:24	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		1459	10/14/15 18:24	CPM	TAL RCH
Total/NA	Analysis	300.0		5	10 mL		1459	10/14/15 21:24	CPM	TAL RCH
Total/NA	Analysis	300.0		50	10 mL		1495	10/15/15 12:26	CPM	TAL RCH

**Client Sample ID: Duplicate**

**Lab Sample ID: 300-1086-A-1 DU**

Date Collected: 10/14/15 08:53

Matrix: Water

Date Received: 10/14/15 14:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			1483	10/14/15 19:15	AMC	TAL RCH

**Client Sample ID: B33BB9**

**Lab Sample ID: 300-1088-2 DU**

Date Collected: 10/14/15 08:08

Matrix: Water

Date Received: 10/14/15 14:20

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	10 mL		1458	10/14/15 18:54	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		1459	10/14/15 18:54	CPM	TAL RCH
Total/NA	Analysis	300.0		5	10 mL		1459	10/14/15 21:55	CPM	TAL RCH
Total/NA	Analysis	300.0		50	10 mL		1495	10/15/15 12:56	CPM	TAL RCH

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 300-1458/6**

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	10 mL		1458	10/14/15 18:09	CPM	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
 SDG: WC0442

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**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 300-1459/6**

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	10 mL		1459	10/14/15 18:09	CPM	TAL RCH

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 300-1483/23**

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			1483	10/14/15 19:14	AMC	TAL RCH

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 300-1458/5**

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	10 mL		1458	10/14/15 17:54	CPM	TAL RCH

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 300-1459/5**

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	10 mL		1459	10/14/15 17:54	CPM	TAL RCH

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 300-1483/22**

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			1483	10/14/15 19:14	AMC	TAL RCH

**Client Sample ID: Matrix Spike**

**Lab Sample ID: 300-1086-A-1 MS**

Date Collected: 10/14/15 08:53

Matrix: Water

Date Received: 10/14/15 14:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1		3.0 mL	1483	10/14/15 19:14	AMC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
 SDG: WC0442

**Client Sample ID: B33BB9**

**Lab Sample ID: 300-1088-2 MS**

**Date Collected: 10/14/15 08:08**

**Matrix: Water**

**Date Received: 10/14/15 14:20**

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	10 mL		1458	10/14/15 18:39	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		1459	10/14/15 18:39	CPM	TAL RCH
Total/NA	Analysis	300.0		5	10 mL		1459	10/14/15 21:39	CPM	TAL RCH
Total/NA	Analysis	300.0		50	10 mL		1495	10/15/15 12:41	CPM	TAL RCH

**Laboratory References:**

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



### Method Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
SDG: WC0442



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

### Sample Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1088-1  
SDG: WC0442

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

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-1088-1	B33BC0	Water	10/14/15 08:08	10/14/15 14:20
300-1088-2	B33BB9	Water	10/14/15 08:08	10/14/15 14:20

**Login Sample Receipt Checklist**



Client: CH2M Hill Plateau Remediation Company

Job Number: 300-1088-1  
SDG Number: WC0442

**Login Number: 1088**  
**List Number: 1**  
**Creator: Friesz, Jordan D**

**List Source: TestAmerica Richland**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
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.	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	