

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: 300-5710-1

TestAmerica Sample Delivery Group: WC2135

Client Project/Site: S17-006

For:

CH2M Hill Plateau Remediation Company

825 Jadwin Avenue

Richland, Washington 99352

Attn: CPP Sample Management



Authorized for release by:

6/30/2017 2:11:41 PM

Whitney Ritari, Project Manager I

(509)375-3131 ext164

[whitney.ritari@testamericainc.com](mailto:whitney.ritari@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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## Qualifiers

### 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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

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

TestAmerica Job ID: 300-5710-1  
SDG: WC2135

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**Job ID: 300-5710-1**

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**Laboratory: TestAmerica Richland**

**Narrative**

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**Job Narrative  
300-5710-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 6/26/2017 1:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 9.4° C.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

S17-006-385

Page 1 of 1

Collector <b>KATHY TURNER</b> CHPRC	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. S17-006	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071
Project Title SURV, JUNE 2017	Logbook No. HNF-N-506 <u>88 / 80</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 SURV	Priority: 30 Days	Offsite Property No. N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1		N/A

Sample No.	Filter	* Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B39R1	N	W	JUN 26 2017 1114	1x60-ml aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B39R14	Y	W	↓	1x60-ml aG	7196_CR6: COMMON	24 Hours	Cool <=6C

June 30, 2017

→ S110  
W02R135

300-5710 COC



Relinquished By <b>KATHY TURNER</b> CHPRC	Print Kathy Turner	Sign <i>[Signature]</i>	Date/Time JUN 26 2017 1103	Received By Test West CHPRC	Print J. Bock, TARL	Sign <i>[Signature]</i>	Date/Time JUN 26 2017 1103
Relinquished By Test West CHPRC	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time JUN 26 2017 1340	Received By <i>[Signature]</i>	Print J. Bock, TARL	Sign <i>[Signature]</i>	Date/Time JUN 26 2017 1340
Relinquished By	Date/Time	Received By	Date/Time	Received By	Date/Time	Received By	Date/Time

Matrix *	
S	= Soil
SE	= Sediment
SO	= Solid
SL	= Sludge
W	= Water
O	= Oil
A	= Air
DS	= Drum Solids
DL	= Drums Liquids
T	= Tissue
WT	= Wipe
L	= Liquid
V	= Vegetation
X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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# June 30, 2017 Detection Summary

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

TestAmerica Job ID: 300-5710-1  
SDG: WC2135

## Client Sample ID: B39RJ1

Lab Sample ID: 300-5710-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0053		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B39RJ4

Lab Sample ID: 300-5710-2

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

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

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

TestAmerica Job ID: 300-5710-1  
SDG: WC2135

**Client Sample ID: B39RJ1**  
**Date Collected: 06/26/17 11:14**  
**Date Received: 06/26/17 13:40**

**Lab Sample ID: 300-5710-1**  
**Matrix: Water**

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0053		0.0040	0.0015	mg/L			06/26/17 14:47	1

**Client Sample ID: B39RJ4**  
**Date Collected: 06/26/17 11:14**  
**Date Received: 06/26/17 13:40**

**Lab Sample ID: 300-5710-2**  
**Matrix: Water**

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0055		0.0040	0.0015	mg/L			06/26/17 14:48	1

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

TestAmerica Job ID: 300-5710-1  
SDG: WC2135

## Method: 7196A - Chromium, Hexavalent

**Lab Sample ID: MB 300-8413/3**  
**Matrix: Water**  
**Analysis Batch: 8413**

**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			06/26/17 14:44	1

**Lab Sample ID: LCS 300-8413/4**  
**Matrix: Water**  
**Analysis Batch: 8413**

**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	0.254		mg/L		102	80 - 120

**Lab Sample ID: 300-5710-1 MS**  
**Matrix: Water**  
**Analysis Batch: 8413**

**Client Sample ID: B39RJ1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.0053		0.0501	0.0558		mg/L		101	75 - 125

**Lab Sample ID: 300-5710-1 DU**  
**Matrix: Water**  
**Analysis Batch: 8413**

**Client Sample ID: B39RJ1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.0053		0.00550		mg/L		4	20

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

TestAmerica Job ID: 300-5710-1  
SDG: WC2135

**General Chemistry**

**Analysis Batch: 8413**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5710-1	B39RJ1	Total/NA	Water	7196A	
300-5710-2	B39RJ4	Total/NA	Water	7196A	
MB 300-8413/3	Method Blank	Total/NA	Water	7196A	
LCS 300-8413/4	Lab Control Sample	Total/NA	Water	7196A	
300-5710-1 MS	B39RJ1	Total/NA	Water	7196A	
300-5710-1 DU	B39RJ1	Total/NA	Water	7196A	

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

TestAmerica Job ID: 300-5710-1  
SDG: WC2135

**Client Sample ID: B39RJ1**  
Date Collected: 06/26/17 11:14  
Date Received: 06/26/17 13:40

**Lab Sample ID: 300-5710-1**  
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			8413	06/26/17 14:47	HR	TAL RCH

**Client Sample ID: B39RJ4**  
Date Collected: 06/26/17 11:14  
Date Received: 06/26/17 13:40

**Lab Sample ID: 300-5710-2**  
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			8413	06/26/17 14:48	HR	TAL RCH

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

**Lab Sample ID: MB 300-8413/3**  
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			8413	06/26/17 14:44	HR	TAL RCH

**Client Sample ID: Lab Control Sample**  
Date Collected: N/A  
Date Received: N/A

**Lab Sample ID: LCS 300-8413/4**  
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	7196A		1			8413	06/26/17 14:44	HR	TAL RCH

**Client Sample ID: B39RJ1**  
Date Collected: 06/26/17 11:14  
Date Received: 06/26/17 13:40

**Lab Sample ID: 300-5710-1 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			8413	06/26/17 14:44	HR	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: S17-006

TestAmerica Job ID: 300-5710-1  
SDG: WC2135

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Method	Method Description	Protocol	Laboratory
7196A	Chromium, Hexavalent	SW846	TAL RCH

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**Protocol References:**

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: S17-006

TestAmerica Job ID: 300-5710-1  
SDG: WC2135

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-5710-1	B39RJ1	Water	06/26/17 11:14	06/26/17 13:40
300-5710-2	B39RJ4	Water	06/26/17 11:14	06/26/17 13:40

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## Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-5710-1

SDG Number: WC2135

**Login Number: 5710**

**List Number: 1**

**Creator: Bock, Julie A**

**List Source: TestAmerica Richland**

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

