

July 5, 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: 300-5716-1
TestAmerica Sample Delivery Group: WC2140
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:
7/5/2017 8:59:28 AM
Steven Campbell, Project Mgmt. Assistant
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Designee for
Whitney Ritari, Project Manager I
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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.



LINKS

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www.testamericainc.com

July 5, 2017

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

TestAmerica Job ID: 300-5716-1
SDG: WC2140

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Estimated result. Result is less than the RL, but greater than MDL
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: 300-5716-1
SDG: WC2140

Job ID: 300-5716-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-5716-1**

Comments

No additional comments.

Receipt

The samples were received on 6/28/2017 10:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° 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. #
S17-006-387
Page 1 of 1

Collector	Roger Friesz Jr. /C:RFRC	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 93 / 58	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

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** 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

SPECIAL INSTRUCTIONS
 N/A
Hold Time
 N/A
Total Activity Exemption: Yes No

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39RJ6	N	W	6-27-17	1357	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B39RK0	Y	W	6-27-17	1357	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

5716
W2214D



300-5716 COC

Reinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Reinquished By Roger Friesz Jr. /C:RFRC	Print	Sign	JUN 27 2017 1500	Received By SSU-1	Print	Sign	JUN 27 2017 1500	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Reinquished By Ledy West /C:LRWC	Print	Sign	JUN 28 2017 0700	Received By Ledy West /C:LRWC	Print	Sign	JUN 28 2017 0700	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Reinquished By Ledy West /C:LRWC	Print	Sign	JUN 28 2017 1020	Received By A. Rogers /C:AROG	Print	Sign	JUN 28 2017 1020	

FINAL SAMPLE DISPOSITION
 Disposal Method (e.g., Return to customer, per lab procedure, used in process)
 Disposed By: _____ Date/Time: _____

July 5, 2017

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S17-006-383**
Page 1 of 1

Collector	Roger Fiasz Jr. / 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>93 / 58</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 PRIORITY	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS			SPECIAL INSTRUCTIONS	Hold Time	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 438.1			N/A		

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39RH7	Y	W	<u>6-27-17</u>	<u>1231</u>	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B39RH4	N	W	<u>6-27-17</u>	<u>1231</u>	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

5716
WC 2140

Relinquished By	Roger Fiasz Jr. / CHPRC	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Relinquished By	<i>[Signature]</i>			<u>JUN 27 2017 1500</u>	SSU-1			<u>JUN 27 2017 1500</u>	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	SSU-1			<u>JUN 28 2017 0700</u>	Received By	<i>[Signature]</i>		<u>JUN 28 2017 0700</u>	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Relinquished By	Lesly Ward / CHPRC			<u>JUN 28 2017 1030</u>	Received By	A. ROGERS, TARL		<u>JUN 28 2017 1030</u>	
Relinquished By	<i>[Signature]</i>				Received By	<i>[Signature]</i>			
FINAL SAMPLE DISPOSITION									
Disposal Method (e.g., Return to customer, per lab procedure, used in process)					Disposed By				
Date/Time									

July 5, 2017

July 5, 2017
Detection Summary

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

TestAmerica Job ID: 300-5716-1
SDG: WC2140

Client Sample ID: B39RJ6

Lab Sample ID: 300-5716-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0024	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B39RK0

Lab Sample ID: 300-5716-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0024	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B39RH7

Lab Sample ID: 300-5716-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0039	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B39RH4

Lab Sample ID: 300-5716-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0033	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

July 5, 2017 Client Sample Results

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

TestAmerica Job ID: 300-5716-1
SDG: WC2140

Client Sample ID: B39RJ6

Lab Sample ID: 300-5716-1

Date Collected: 06/27/17 13:57

Matrix: Water

Date Received: 06/28/17 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0024	B	0.0040	0.0015	mg/L			06/28/17 11:45	1

Client Sample ID: B39RK0

Lab Sample ID: 300-5716-2

Date Collected: 06/27/17 13:57

Matrix: Water

Date Received: 06/28/17 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0024	B	0.0040	0.0015	mg/L			06/28/17 11:45	1

Client Sample ID: B39RH7

Lab Sample ID: 300-5716-3

Date Collected: 06/27/17 12:31

Matrix: Water

Date Received: 06/28/17 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0039	B	0.0040	0.0015	mg/L			06/28/17 11:46	1

Client Sample ID: B39RH4

Lab Sample ID: 300-5716-4

Date Collected: 06/27/17 12:31

Matrix: Water

Date Received: 06/28/17 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0033	B	0.0040	0.0015	mg/L			06/28/17 11:46	1

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

TestAmerica Job ID: 300-5716-1
SDG: WC2140

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-8434/3
Matrix: Water
Analysis Batch: 8434

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			06/28/17 11:42	1

Lab Sample ID: LCS 300-8434/4
Matrix: Water
Analysis Batch: 8434

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	0.255		mg/L		102	80 - 120

Lab Sample ID: 300-5716-1 MS
Matrix: Water
Analysis Batch: 8434

Client Sample ID: B39RJ6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.0024	B	0.0501	0.0527		mg/L		100	75 - 125

Lab Sample ID: 300-5716-1 DU
Matrix: Water
Analysis Batch: 8434

Client Sample ID: B39RJ6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.0024	B	0.00240	B	mg/L		0	20

July 5, 2017
QC Association Summary

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

TestAmerica Job ID: 300-5716-1
SDG: WC2140

General Chemistry

Analysis Batch: 8434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5716-1	B39RJ6	Total/NA	Water	7196A	
300-5716-2	B39RK0	Total/NA	Water	7196A	
300-5716-3	B39RH7	Total/NA	Water	7196A	
300-5716-4	B39RH4	Total/NA	Water	7196A	
MB 300-8434/3	Method Blank	Total/NA	Water	7196A	
LCS 300-8434/4	Lab Control Sample	Total/NA	Water	7196A	
300-5716-1 MS	B39RJ6	Total/NA	Water	7196A	
300-5716-1 DU	B39RJ6	Total/NA	Water	7196A	

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

TestAmerica Job ID: 300-5716-1
SDG: WC2140

Client Sample ID: B39RJ6

Date Collected: 06/27/17 13:57

Date Received: 06/28/17 10:20

Lab Sample ID: 300-5716-1

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			8434	06/28/17 11:45	HR	TAL RCH

Client Sample ID: B39RK0

Date Collected: 06/27/17 13:57

Date Received: 06/28/17 10:20

Lab Sample ID: 300-5716-2

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			8434	06/28/17 11:45	HR	TAL RCH

Client Sample ID: B39RH7

Date Collected: 06/27/17 12:31

Date Received: 06/28/17 10:20

Lab Sample ID: 300-5716-3

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			8434	06/28/17 11:46	HR	TAL RCH

Client Sample ID: B39RH4

Date Collected: 06/27/17 12:31

Date Received: 06/28/17 10:20

Lab Sample ID: 300-5716-4

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			8434	06/28/17 11:46	HR	TAL RCH

Client Sample ID: Method Blank

Date Collected: N/A

Date Received: N/A

Lab Sample ID: MB 300-8434/3

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			8434	06/28/17 11:42	HR	TAL RCH

Client Sample ID: Lab Control Sample

Date Collected: N/A

Date Received: N/A

Lab Sample ID: LCS 300-8434/4

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			8434	06/28/17 11:42	HR	TAL RCH

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

TestAmerica Job ID: 300-5716-1
SDG: WC2140

Client Sample ID: B39RJ6

Lab Sample ID: 300-5716-1 MS

Date Collected: 06/27/17 13:57

Matrix: Water

Date Received: 06/28/17 10:20

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			8434	06/28/17 11:42	HR	TAL RCH

Laboratory References:

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

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

TestAmerica Job ID: 300-5716-1
SDG: WC2140

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

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



July 5, 2017 Sample Summary

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

TestAmerica Job ID: 300-5716-1
SDG: WC2140

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-5716-1	B39RJ6	Water	06/27/17 13:57	06/28/17 10:20
300-5716-2	B39RK0	Water	06/27/17 13:57	06/28/17 10:20
300-5716-3	B39RH7	Water	06/27/17 12:31	06/28/17 10:20
300-5716-4	B39RH4	Water	06/27/17 12:31	06/28/17 10:20

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Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-5716-1

SDG Number: WC2140

Login Number: 5716

List Number: 1

Creator: Rogers, Angeline D

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	

