

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: 300-5713-1

TestAmerica Sample Delivery Group: WC2137

Client Project/Site: I17-006

For:

CH2M Hill Plateau Remediation Company

825 Jadwin Avenue

Richland, Washington 99352

Attn: CPP Sample Management



Authorized for release by:

6/30/2017 2:12:33 PM

Whitney Ritari, Project Manager I

(509)375-3131 ext164

whitney.ritari@testamericainc.com

LINKS

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results through

TotalAccess

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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: I17-006

TestAmerica Job ID: 300-5713-1
SDG: WC2137

Job ID: 300-5713-1

Laboratory: TestAmerica Richland

Narrative

Job Narrative
300-5713-1

Comments

No additional comments.

Receipt

The samples were received on 6/27/2017 2:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.7° 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. # I17-006-194
Page 1 of 1

Collector	Frank Hall CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	I17-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	100KR4, May 2017	Logbook No.	HNF-N-506 85 / 57	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:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS			SPECIAL INSTRUCTIONS		
*** 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.	B39FX8	Filter	N	Date	6-27-17
		*	W	Time	0840
		No/Type Container	1x60-ml aG	Sample Analysis	7196_CR6: COMMON
		Holding Time	24 Hours	Preservative	Cool <=6C

June 30, 2017

5713
W62137



Relinquished By	Frank Hall CHPRC	Print	Sign	Date/Time	JUN 27 2017 1053	Received By	Roy Shepard CHPRC	Print	Sign	Date/Time	JUN 27 2017 1415	Matrix *	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Roy Shepard CHPRC			Date/Time	JUN 27 2017 1415	Received By	J. Bock, TARL			Date/Time	JUN 27 2017 1415	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other	

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

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CH2M/Hill Plateau Remediation Company

C.O.C. #
II7-006-152
Page 1 of 1

Collector	Frank Hill <i>ACHPRC</i>	Contact/Requester	Karen Waters-Husted
SAF No.	II7-006	Sampling Origin	Hanford Site
Project Title	100KR4, May 2017	Logbook No.	HNF-N-506 <u>88</u> / <u>87</u>
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE
Protocol	CERCLA	Priority:	30 Days
POSSIBLE SAMPLE HAZARDS/REMARKS		PRIORITY	
*** 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	
		Hold Time	
		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39FK5	N	W	6-27-17	0940	1x60-mL aG	7196_CRG: COMMON	24 Hours	Cool <=8C

June 30, 2017

S113
W02a137

Relinquished By	Print Frank Hill <i>ACHPRC</i>	Date/Time	Date/Time
Relinquished By	<i>[Signature]</i>	JUN 27 2017	1053
Relinquished By	Roy Shepard <i>CHPRC</i>	Date/Time	Date/Time
Relinquished By	<i>[Signature]</i>	JUN 27 2017	1415
Relinquished By	Received By	Date/Time	Date/Time
Relinquished By	Roy Shepard <i>CHPRC</i>	JUN 27 2017	1053
Relinquished By	<i>[Signature]</i>	JUN 27 2017	1415
Relinquished By	Received By	Date/Time	Date/Time
Relinquished By	<i>[Signature]</i>	JUN 27 2017	1415

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)
PRINTED ON 3/27/2017	FSR ID = FSR36830

June 30, 2017 Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I17-006

TestAmerica Job ID: 300-5713-1
SDG: WC2137

Client Sample ID: B39FX8

Lab Sample ID: 300-5713-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.054		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B39FK5

Lab Sample ID: 300-5713-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.025		0.0040	0.0015	mg/L	1		7196A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

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Client: CH2M Hill Plateau Remediation Company
Project/Site: I17-006

TestAmerica Job ID: 300-5713-1
SDG: WC2137

Client Sample ID: B39FX8

Date Collected: 06/27/17 08:40
Date Received: 06/27/17 14:15

Lab Sample ID: 300-5713-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.054		0.0040	0.0015	mg/L			06/27/17 16:11	1

Client Sample ID: B39FK5

Date Collected: 06/27/17 09:40
Date Received: 06/27/17 14:15

Lab Sample ID: 300-5713-2

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.025		0.0040	0.0015	mg/L			06/27/17 16:12	1



Client: CH2M Hill Plateau Remediation Company
Project/Site: I17-006

TestAmerica Job ID: 300-5713-1
SDG: WC2137

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-8424/3
Matrix: Water
Analysis Batch: 8424

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			06/27/17 16:08	1

Lab Sample ID: LCS 300-8424/4
Matrix: Water
Analysis Batch: 8424

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: 300-5713-1 MS
Matrix: Water
Analysis Batch: 8424

Client Sample ID: B39FX8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.054		0.0501	0.106		mg/L		104	75 - 125

Lab Sample ID: 300-5713-1 DU
Matrix: Water
Analysis Batch: 8424

Client Sample ID: B39FX8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.054		0.0542		mg/L		1	20

Client: CH2M Hill Plateau Remediation Company
Project/Site: I17-006

TestAmerica Job ID: 300-5713-1
SDG: WC2137

General Chemistry

Analysis Batch: 8424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-5713-1	B39FX8	Total/NA	Water	7196A	
300-5713-2	B39FK5	Total/NA	Water	7196A	
MB 300-8424/3	Method Blank	Total/NA	Water	7196A	
LCS 300-8424/4	Lab Control Sample	Total/NA	Water	7196A	
300-5713-1 MS	B39FX8	Total/NA	Water	7196A	
300-5713-1 DU	B39FX8	Total/NA	Water	7196A	

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Client: CH2M Hill Plateau Remediation Company
Project/Site: I17-006

TestAmerica Job ID: 300-5713-1
SDG: WC2137

Client Sample ID: B39FX8
Date Collected: 06/27/17 08:40
Date Received: 06/27/17 14:15

Lab Sample ID: 300-5713-1
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			8424	06/27/17 16:11	HR	TAL RCH

Client Sample ID: B39FK5
Date Collected: 06/27/17 09:40
Date Received: 06/27/17 14:15

Lab Sample ID: 300-5713-2
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			8424	06/27/17 16:12	HR	TAL RCH

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

Lab Sample ID: MB 300-8424/3
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			8424	06/27/17 16:08	HR	TAL RCH

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

Lab Sample ID: LCS 300-8424/4
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			8424	06/27/17 16:08	HR	TAL RCH

Client Sample ID: B39FX8
Date Collected: 06/27/17 08:40
Date Received: 06/27/17 14:15

Lab Sample ID: 300-5713-1 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			8424	06/27/17 16:09	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: I17-006

TestAmerica Job ID: 300-5713-1
SDG: WC2137

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



June 30, 2017 Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I17-006

TestAmerica Job ID: 300-5713-1
SDG: WC2137

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-5713-1	B39FX8	Water	06/27/17 08:40	06/27/17 14:15
300-5713-2	B39FK5	Water	06/27/17 09:40	06/27/17 14:15

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Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-5713-1

SDG Number: WC2137

Login Number: 5713

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	

