

8/4/2016

# 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: 300-3436-1  
TestAmerica Sample Delivery Group: WC1242  
Client Project/Site: X16-043

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

Attn: CPP Sample Management



Authorized for release by:  
8/4/2016 7:59:27 AM  
Steven Campbell, Project Mgmt. Assistant  
[steven.campbell@testamericainc.com](mailto:steven.campbell@testamericainc.com)

Designee for  
Whitney Ritari, Project Manager I  
(509)375-3131 ext164  
[whitney.ritari@testamericainc.com](mailto:whitney.ritari@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. The sample/ sample duplicate RPD agreement is not applicable if one or both results are less than five times the MDL.*



### LINKS

Review your project results through  
**TotalAccess**

Have a Question?



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

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## Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

## Qualifiers

### HPLC/IC

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

### 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.
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, 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: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

**Job ID: 300-3436-1**

**Laboratory: TestAmerica Richland**

## Narrative

**Job Narrative**  
**300-3436-1**

### Comments

No additional comments.

### Receipt

The samples were received on 7/8/2016 3:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 8.9° 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.



**CH2MHill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. # **X16-043-046**  
Page 1 of 1

Collector CH2M CHRRC	Chris Fulton	Contact/Requester WATERS-HUSTED, K	Telephone No. 376-4650
SAF No. X16-043		Sampling Origin Hanford Site	Purchase Order/Charge Code 304027
Project Title 100-KW Rebound Study, June 27, 2016		Logbook No. HNF-N-506 55 / 87	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
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>		<b>SPECIAL INSTRUCTIONS</b>	
*Contains Radioactive Material at concentrations that are not 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	Holding Time	Preservative
B360J7	N	W JUL 08 2016	1009	1x60-ml aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B360J6	Y	W JUL 08 2016	1009	1x60-ml aG	7196_CR6: COMMON	24 Hours	Cool <=6C

A 34336  
WCL1212



300-3436 COC

Relinquished By Chris Fulton CHRRC	Print Sign	Date/Time JUL 08 2016 1048	Received By Ledy Hill CHRRC	Print Sign	Date/Time JUL 08 2016 1048	Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Relinquished By Ledy Hill CHRRC	Print Sign	Date/Time JUL 08 2016 1510	Received By J. Bock TARL	Print Sign	Date/Time JUL 08 2016 1510	
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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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #  
**X16-043-006**  
Page 1 of 1

Collector	Chris Fujton CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-043	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, June 27, 2016	Logbook No.	HNF-N-506 <b>857 87</b>	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
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			<b>SPECIAL INSTRUCTIONS</b>		
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CER/LATA 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	Holding Time	Preservative
B36098	Y	W	JUL 28 2016	0904	1x60-ml aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B36099	N	W	JUL 28 2016	0904	1x60-ml aG	7196_CR6: COMMON	24 Hours	Cool <=6C

3436  
wciava

Relinquished By	Chris Fujton CHPRC	Print	Sign	Date/Time	10/18	Received By	Leslye KATREK	Print	Sign	Date/Time	10/18	Matrix *
Relinquished By	<i>[Signature]</i>			JUL 08 2016	15:0	Received By	<i>[Signature]</i>			JUL 08 2016	10/18	S = Soil
Relinquished By	<i>[Signature]</i>			JUL 08 2016	15:0	Received By	J. Bock, TARL			JUL 08 2016	15:0	SE = Sediment
Relinquished By						Received By						SO = Solid
Relinquished By						Received By						SL = Sludge
Relinquished By						Received By						W = Water
Relinquished By						Received By						O = Oil
Relinquished By						Received By						A = Air
Relinquished By						Received By						DS = Drum Solids
Relinquished By						Received By						DL = Drum Liquids
Relinquished By						Received By						T = Tissue
Relinquished By						Received By						WT = Wipe
Relinquished By						Received By						L = Liquid
Relinquished By						Received By						V = Vegetation
Relinquished By						Received By						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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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #  
**X16-043-007**  
Page 1 of 1

Collector <i>Chris Fulton CHPRC</i>	Contact/Requester WATERS-HUSTED, K	Telephone No. 376-4650
SAF No. X16-043	Sampling Origin Hanford Site	Purchase Order/Charge Code 304027
Project Title 100-KW Rebound Study, June 27, 2016	Logbook No. HNF-N-506 857 27	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
<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/IATA 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	Holding Time	Preservative
B360B0	Y	<i>Sul - 08/08/2016</i>	0728	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B360B1	N	<i>Sul - 08/08/2016</i>	0720	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

*3434  
US 21342*

Relinquished By <i>Chris Fulton CHPRC</i>	Print <i>Chris Fulton</i>	Sign <i>[Signature]</i>	Date/Time JUL 08 2016 1048	Received By <i>Lesly West CHPRC</i>	Print <i>Lesly West</i>	Sign <i>[Signature]</i>	Date/Time JUL 08 2016 1048
Relinquished By <i>Lesly West CHPRC</i>	Print <i>Lesly West</i>	Sign <i>[Signature]</i>	Date/Time JUL 08 2016 1510	Received By <i>J. Bock, TARL</i>	Print <i>J. Bock, TARL</i>	Sign <i>[Signature]</i>	Date/Time JUL 08 2016 1510
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

- Matrix \*
- S = Soil
  - SE = Sediment
  - SO = Solid
  - SL = Sludge
  - W = Water
  - O = Oil
  - A = Air
  - DS = Drum Solids
  - DL = Drum 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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**CH2M/Hill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. # **X16-043-004**  
Page 1 of 1

Collector	Chris Fulton CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-043	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, June 27, 2016	Logbook No.	HNF-N-506 <b>85/87</b>	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:	<b>30 Days PRIORITY</b>	Offsite Property No.	N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			<b>SPECIAL INSTRUCTIONS</b>		
*Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 438.1.			Hold Time		
			Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35YX4	N	JUL 08 2016	1849	1x60-ml aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B35YX3	Y	JUL 08 2016	1849	1x60-ml aG	7196_CR6: COMMON	24 Hours	Cool <=6C

3434  
wclara

Relinquished By	Chris Fulton CHPRC	Print	Sign	Date/Time	1300	Received By	Lesly West CHPRC	Print	Sign	Date/Time	1300	Matrix *
Relinquished By	Lesly West CHPRC	Print	Sign	Date/Time	1510	Received By	J. Bock, TARL	Print	Sign	Date/Time	1510	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By		Date/Time		Received By		Date/Time		Disposed By		Date/Time		

Collector	Chris Fulton CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAP No.	X16-043	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, June 27, 2016	Logbook No.	HNF-N-506 <del>857</del> / <del>87</del>	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
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			<b>SPECIAL INSTRUCTIONS</b>		
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CER/LATA 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	Holding Time	Preservative
B360F2	N	JUL 08 2016	1130	1x60-ml aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B360F1	Y	JUL 08 2016	1130	1x60-ml aG	7196_CR6: COMMON	24 Hours	Cool <=6C

3432  
WATER

Relinquished By	Chris Fulton CHPRC	Print Sign	Date/Time	JUL 08 2016 1300	Received By	Lesly West CHPRC	Print Sign	Date/Time	JUL 08 2016 1300	Matrix *
Relinquished By	Lesly West	Print Sign	Date/Time	JUL 08 2016 1510	Received By	J. Beck, TABL	Print Sign	Date/Time	JUL 08 2016 1510	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By		Date/Time			Received By		Date/Time		DS = Drum Solids DL = Drum Liquids T = Tissue WI = 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

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector	Chris Fulton CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-043	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, June 27, 2016	Logbook No.	HNF-N-506 <b>857/87</b>	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
<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/IATA 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	Holding Time	Preservative
B360B7	N	JUL 08 2016	1212	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B360B6	Y	JUL 08 2016	1212	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

3439  
W&E 1212

Relinquished By	Chris Fulton CHPRC	Print Sign	Date/Time	JUL 08 2016	1300	Received By	Leahy CHPRC	Print Sign	Date/Time	JUL 08 2016	1300	Matrix *
Relinquished By	Leahy CHPRC	Print Sign	Date/Time	JUL 08 2016	1510	Received By	J. Bock, TARL	Print Sign	Date/Time	JUL 08 2016	1510	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air 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			

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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Collector Chris Fulton CHPRC	Contact/Requester WATERS-HUSTED, K	Telephone No. 376-4650
SAF No. X16-043	Sampling Origin Hanford Site	Purchase Order/Charge Code 304027
Project Title 100-KW Rebound Study, June 27, 2016	Logbook No. HNF-N-506 <u>§5/§7</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: 30 Days	Offsite Property No. N/A
<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.		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
B360J5	N	W JUL 08 2016	1009	1x500-ml P	300.0 ANIONS_IC: COMMON	48 Hours	Cool <=6C

3434  
wslrara

Relinquished By Chris Fulton CHPRC	Sign 	Date/Time JUL 08 2016 1048	Received By Lesly West CHPRC	Print 	Date/Time JUL 08 2016 1048	Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By Lesly West CHPRC	Sign 	Date/Time JUL 08 2016 1510	Received By Lesly West CHPRC	Print 1 Bock-TARL	Date/Time JUL 08 2016 1510	

Relinquished By	Date/Time	Received By	Date/Time
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

C.O.C. #  
**X16-043-003**  
Page 1 of 1

Collector	Chris Fulton CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-043	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, June 27, 2016	Logbook No.	HNF-N-506 <del>857</del> / <del>87</del>	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
<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	Holding Time	Preservative
B35YX2	N		W JUL 08 2016	10:49	1x500-ml P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

3434  
use 1242

Relinquished By	Chris Fulton CHPRC	Sign		Date/Time	JUL 08 2016 13:00	Received By	Lesly West KCHPRC	Print		Date/Time	JUL 08 2016 13:00	Matrix *	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Relinquished By	Lesly West KCHPRC	Sign		Date/Time	JUL 08 2016 1510	Received By	J. Bock, TARL	Print		Date/Time	JUL 08 2016 1510			
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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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #  
**X16-043-029**  
Page 1 of 1

Collector	Chris Fulton CHPRC		Contact/Requester	WATERS-HUSTED, K		Telephone No.	376-4650	
SAF No.	X16-043		Sampling Origin	Hanford Site		Purchase Order/Charge Code	304027	
Project Title	100-KW Rebound Study, June 27, 2016		Logbook No.	HNF-N-506 85 / 87		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	
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			<b>SPECIAL INSTRUCTIONS</b>			<b>Hold Time</b>		
*Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/171A Dangerous Goods Regulations but are not releasable per DOE Order 458.1.			PRIORITY			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
B360F0	N		WJUL 08 2016	1130	1x500-ml P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

3434  
WJUL 08 2016

Relinquished By	Chris Fulton CHPRC	Print	Sign	Date/Time	Received By	Lesly West ACPRC	Print	Sign	Date/Time	Matrix *
Relinquished By	Lesly West ACPRC	Print	Sign	Date/Time	Received By	Lesly West ACPRC	Print	Sign	Date/Time	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By				Date/Time	Received By				Date/Time	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
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				

**CH2MHill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. #

**X16-043-012**

Page 1 of 1

Collector	Chris Fulton CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-043	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, June 27, 2016	Logbook No.	HNF-N-50685 / 87	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
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			<b>SPECIAL INSTRUCTIONS</b>	<b>Hold Time</b>	<b>Total Activity Exemption:</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
*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.					
Sample No.	B360B5	Filter	N	Date	JUL 08 2016
		* Time		No/Type Container	1x500-mL P
				Sample Analysis	300.0_ANIONS_IC: COMMON
				Holding Time	48 Hours
				Preservative	Cool <-6C

3436  
wclara

Relinquished By	Chris Fulton CHPRC	Print Sign	Date/Time	JUL 08 2016 1300	Received By	Lesly Weal CHPRC	Print Sign	Date/Time	JUL 08 2016 1300	Matrix *
Relinquished By	Lesly Weal CHPRC	Print Sign	Date/Time	JUL 08 2016 1510	Received By	J. Bock, TANK	Print Sign	Date/Time	JUL 08 2016 1510	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By		Date/Time		Received By		Date/Time		DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other		
<b>FINAL SAMPLE DISPOSITION</b>										
Disposal Method (e.g., Return to customer, per lab procedure, used in process)					Disposed By					

## Detection Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

## Client Sample ID: B360J7

Lab Sample ID: 300-3436-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0049		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B360J6

Lab Sample ID: 300-3436-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0056		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B36098

Lab Sample ID: 300-3436-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0077		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B36099

Lab Sample ID: 300-3436-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0056		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B360B0

Lab Sample ID: 300-3436-5

No Detections.

## Client Sample ID: B360B1

Lab Sample ID: 300-3436-6

No Detections.

## Client Sample ID: B36YX4

Lab Sample ID: 300-3436-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0028	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B36YX3

Lab Sample ID: 300-3436-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0043		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B360F2

Lab Sample ID: 300-3436-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0036	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B360F1

Lab Sample ID: 300-3436-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0036	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B360B7

Lab Sample ID: 300-3436-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.014		0.0040	0.0015	mg/L	1		7196A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

## Detection Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

## Client Sample ID: B360B6

## Lab Sample ID: 300-3436-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.015		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B360J5

## Lab Sample ID: 300-3436-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	6.6	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.28	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	78	D	0.50	0.25	mg/L	2		300.0	Total/NA

## Client Sample ID: B36YX2

## Lab Sample ID: 300-3436-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	66	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	11	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.26	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	16	D	0.50	0.25	mg/L	2		300.0	Total/NA

## Client Sample ID: B360F0

## Lab Sample ID: 300-3436-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	24	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	9.4	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.24	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	31	D	0.50	0.25	mg/L	2		300.0	Total/NA

## Client Sample ID: B360B5

## Lab Sample ID: 300-3436-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	9.2	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.17	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.056	B D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	76	D	0.50	0.25	mg/L	2		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: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

**Client Sample ID: B360J7**

Date Collected: 07/08/16 10:09

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-1**

Matrix: Water

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0049		0.0040	0.0015	mg/L			07/08/16 17:39	1

**Client Sample ID: B360J6**

Date Collected: 07/08/16 10:09

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-2**

Matrix: Water

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0056		0.0040	0.0015	mg/L			07/08/16 17:40	1

**Client Sample ID: B36098**

Date Collected: 07/08/16 09:06

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-3**

Matrix: Water

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0077		0.0040	0.0015	mg/L			07/08/16 17:40	1

**Client Sample ID: B36099**

Date Collected: 07/08/16 09:06

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-4**

Matrix: Water

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0056		0.0040	0.0015	mg/L			07/08/16 17:40	1

**Client Sample ID: B360B0**

Date Collected: 07/08/16 07:20

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-5**

Matrix: Water

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			07/08/16 17:43	1

**Client Sample ID: B360B1**

Date Collected: 07/08/16 07:20

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-6**

Matrix: Water

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			07/08/16 17:44	1

**Client Sample ID: B36YX4**

Date Collected: 07/08/16 10:49

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-7**

Matrix: Water

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0028	B	0.0040	0.0015	mg/L			07/08/16 17:44	1

TestAmerica Richland

Client Sample Results

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

Client Sample ID: B36YX3

Lab Sample ID: 300-3436-8

Date Collected: 07/08/16 10:49

Matrix: Water

Date Received: 07/08/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0043		0.0040	0.0015	mg/L			07/08/16 17:44	1

Client Sample ID: B360F2

Lab Sample ID: 300-3436-9

Date Collected: 07/08/16 11:30

Matrix: Water

Date Received: 07/08/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0036	B	0.0040	0.0015	mg/L			07/08/16 17:45	1

Client Sample ID: B360F1

Lab Sample ID: 300-3436-10

Date Collected: 07/08/16 11:30

Matrix: Water

Date Received: 07/08/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0036	B	0.0040	0.0015	mg/L			07/08/16 17:45	1

Client Sample ID: B360B7

Lab Sample ID: 300-3436-11

Date Collected: 07/08/16 12:12

Matrix: Water

Date Received: 07/08/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.014		0.0040	0.0015	mg/L			07/08/16 17:45	1

Client Sample ID: B360B6

Lab Sample ID: 300-3436-12

Date Collected: 07/08/16 12:12

Matrix: Water

Date Received: 07/08/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.015		0.0040	0.0015	mg/L			07/08/16 17:48	1

Client Sample ID: B360J5

Lab Sample ID: 300-3436-13

Date Collected: 07/08/16 10:09

Matrix: Water

Date Received: 07/08/16 15:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16	D	0.40	0.20	mg/L			07/08/16 18:24	2
Nitrate as N	6.6	D	0.056	0.028	mg/L			07/08/16 18:24	2
Fluoride	0.28	D	0.10	0.050	mg/L			07/08/16 18:24	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/08/16 18:24	2
Sulfate	78	D	0.50	0.25	mg/L			07/08/16 18:24	2

## Client Sample Results

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

## Client Sample ID: B36YX2

Lab Sample ID: 300-3436-14

Date Collected: 07/08/16 10:49

Matrix: Water

Date Received: 07/08/16 15:10

## Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	66	D	0.40	0.20	mg/L			07/08/16 19:09	2
Nitrate as N	11	D	0.056	0.028	mg/L			07/08/16 19:09	2
Fluoride	0.26	D	0.10	0.050	mg/L			07/08/16 19:09	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/08/16 19:09	2
Sulfate	16	D	0.50	0.25	mg/L			07/08/16 19:09	2

## Client Sample ID: B360F0

Lab Sample ID: 300-3436-15

Date Collected: 07/08/16 11:30

Matrix: Water

Date Received: 07/08/16 15:10

## Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24	D	0.40	0.20	mg/L			07/08/16 19:24	2
Nitrate as N	9.4	D	0.056	0.028	mg/L			07/08/16 19:24	2
Fluoride	0.24	D	0.10	0.050	mg/L			07/08/16 19:24	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/08/16 19:24	2
Sulfate	31	D	0.50	0.25	mg/L			07/08/16 19:24	2

## Client Sample ID: B360B5

Lab Sample ID: 300-3436-16

Date Collected: 07/08/16 12:12

Matrix: Water

Date Received: 07/08/16 15:10

## Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17	D	0.40	0.20	mg/L			07/08/16 19:39	2
Nitrate as N	9.2	D	0.056	0.028	mg/L			07/08/16 19:39	2
Fluoride	0.17	D	0.10	0.050	mg/L			07/08/16 19:39	2
Nitrite as N	0.056	B D	0.076	0.038	mg/L			07/08/16 19:39	2
Sulfate	76	D	0.50	0.25	mg/L			07/08/16 19:39	2

QC Sample Results

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
 SDG: WC1242

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-4813/5  
 Matrix: Water  
 Analysis Batch: 4813

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			07/08/16 17:54	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			07/08/16 17:54	1

Lab Sample ID: LCS 300-4813/6  
 Matrix: Water  
 Analysis Batch: 4813

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	2.27		mg/L		101	80 - 120
Nitrite as N	3.04	3.04		mg/L		100	80 - 120

Lab Sample ID: 300-3436-13 MS  
 Matrix: Water  
 Analysis Batch: 4813

Client Sample ID: B360J5  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	6.6	D	0.452	6.95	D	mg/L		83	75 - 125
Nitrite as N	0.038	U D	0.609	0.512	D	mg/L		84	75 - 125

Lab Sample ID: 300-3436-13 DU  
 Matrix: Water  
 Analysis Batch: 4813

Client Sample ID: B360J5  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	6.6	D	6.61	D	mg/L		0.6	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-4814/5  
 Matrix: Water  
 Analysis Batch: 4814

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			07/08/16 17:54	1
Fluoride	0.025	U	0.050	0.025	mg/L			07/08/16 17:54	1
Sulfate	0.13	U	0.25	0.13	mg/L			07/08/16 17:54	1

Lab Sample ID: LCS 300-4814/6  
 Matrix: Water  
 Analysis Batch: 4814

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	15.8		mg/L		99	80 - 120
Fluoride	4.00	3.97		mg/L		99	80 - 120
Sulfate	20.0	19.9		mg/L		99	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-3436-13 MS  
Matrix: Water  
Analysis Batch: 4814

Client Sample ID: B360J5  
Prep Type: Total/NA

Analyte	Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits	
	Result	Qualifier		Result	Qualifier				Limit	Limit
Chloride	16	D	3.20	19.1	D	mg/L		93	75 - 125	
Fluoride	0.28	D	0.800	1.01	D	mg/L		91	75 - 125	
Sulfate	78	D	4.00	81.1	D	mg/L		75	75 - 125	

Lab Sample ID: 300-3436-13 DU  
Matrix: Water  
Analysis Batch: 4814

Client Sample ID: B360J5  
Prep Type: Total/NA

Analyte	Sample		DU DU		Unit	D	RPD	RPD Limit	
	Result	Qualifier	Result	Qualifier				RPD	Limit
Chloride	16	D	16.2	D	mg/L		0.6	20	
Fluoride	0.28	D	0.280	D	mg/L		0.5	20	
Sulfate	78	D	78.7	D	mg/L		0.8	20	

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-4819/3  
Matrix: Water  
Analysis Batch: 4819

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			07/08/16 17:35	1

Lab Sample ID: LCS 300-4819/4  
Matrix: Water  
Analysis Batch: 4819

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

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier				Limit	Limit
Cr (VI)	0.250	0.254		mg/L		102	80 - 120	

Lab Sample ID: 300-3434-A-1 MS  
Matrix: Water  
Analysis Batch: 4819

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

Analyte	Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits	
	Result	Qualifier		Result	Qualifier				Limit	Limit
Cr (VI)	0.0038	B	0.0500	0.0525		mg/L		97	75 - 125	

Lab Sample ID: 300-3434-A-1 DU  
Matrix: Water  
Analysis Batch: 4819

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample		DU DU		Unit	D	RPD	RPD Limit	
	Result	Qualifier	Result	Qualifier				RPD	Limit
Cr (VI)	0.0038	B	0.00410		mg/L		8	20	

## QC Association Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

## HPLC/IC

## Analysis Batch: 4813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3436-13	B360J5	Total/NA	Water	300.0	
300-3436-14	B36YX2	Total/NA	Water	300.0	
300-3436-15	B360F0	Total/NA	Water	300.0	
300-3436-16	B360B5	Total/NA	Water	300.0	
MB 300-4813/5	Method Blank	Total/NA	Water	300.0	
LCS 300-4813/6	Lab Control Sample	Total/NA	Water	300.0	
300-3436-13 MS	B360J5	Total/NA	Water	300.0	
300-3436-13 DU	B360J5	Total/NA	Water	300.0	

## Analysis Batch: 4814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3436-13	B360J5	Total/NA	Water	300.0	
300-3436-14	B36YX2	Total/NA	Water	300.0	
300-3436-15	B360F0	Total/NA	Water	300.0	
300-3436-16	B360B5	Total/NA	Water	300.0	
MB 300-4814/5	Method Blank	Total/NA	Water	300.0	
LCS 300-4814/6	Lab Control Sample	Total/NA	Water	300.0	
300-3436-13 MS	B360J5	Total/NA	Water	300.0	
300-3436-13 DU	B360J5	Total/NA	Water	300.0	

## General Chemistry

## Analysis Batch: 4819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3436-1	B360J7	Total/NA	Water	7196A	
300-3436-2	B360J6	Total/NA	Water	7196A	
300-3436-3	B36098	Total/NA	Water	7196A	
300-3436-4	B36099	Total/NA	Water	7196A	
300-3436-5	B360B0	Total/NA	Water	7196A	
300-3436-6	B360B1	Total/NA	Water	7196A	
300-3436-7	B36YX4	Total/NA	Water	7196A	
300-3436-8	B36YX3	Total/NA	Water	7196A	
300-3436-9	B360F2	Total/NA	Water	7196A	
300-3436-10	B360F1	Total/NA	Water	7196A	
300-3436-11	B360B7	Total/NA	Water	7196A	
300-3436-12	B360B6	Total/NA	Water	7196A	
MB 300-4819/3	Method Blank	Total/NA	Water	7196A	
LCS 300-4819/4	Lab Control Sample	Total/NA	Water	7196A	
300-3434-A-1 MS	Matrix Spike	Total/NA	Water	7196A	
300-3434-A-1 DU	Duplicate	Total/NA	Water	7196A	

## Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

**Client Sample ID: B360J7**

Date Collected: 07/08/16 10:09

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-1**

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			4819	07/08/16 17:39	RLC	TAL RCH

**Client Sample ID: B360J6**

Date Collected: 07/08/16 10:09

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-2**

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			4819	07/08/16 17:40	RLC	TAL RCH

**Client Sample ID: B36098**

Date Collected: 07/08/16 09:06

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-3**

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			4819	07/08/16 17:40	RLC	TAL RCH

**Client Sample ID: B36099**

Date Collected: 07/08/16 09:06

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-4**

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			4819	07/08/16 17:40	RLC	TAL RCH

**Client Sample ID: B360B0**

Date Collected: 07/08/16 07:20

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-5**

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	7196A		1			4819	07/08/16 17:43	RLC	TAL RCH

**Client Sample ID: B360B1**

Date Collected: 07/08/16 07:20

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-6**

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			4819	07/08/16 17:44	RLC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

**Client Sample ID: B36YX4**

Date Collected: 07/08/16 10:49  
Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-7**

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			4819	07/08/16 17:44	RLC	TAL RCH

**Client Sample ID: B36YX3**

Date Collected: 07/08/16 10:49  
Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-8**

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			4819	07/08/16 17:44	RLC	TAL RCH

**Client Sample ID: B360F2**

Date Collected: 07/08/16 11:30  
Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-9**

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			4819	07/08/16 17:45	RLC	TAL RCH

**Client Sample ID: B360F1**

Date Collected: 07/08/16 11:30  
Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-10**

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			4819	07/08/16 17:45	RLC	TAL RCH

**Client Sample ID: B360B7**

Date Collected: 07/08/16 12:12  
Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-11**

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	7196A		1			4819	07/08/16 17:45	RLC	TAL RCH

**Client Sample ID: B360B6**

Date Collected: 07/08/16 12:12  
Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-12**

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			4819	07/08/16 17:48	RLC	TAL RCH

## Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

**Client Sample ID: B360J5**

Date Collected: 07/08/16 10:09

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-13**

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			4813	07/08/16 18:24	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4814	07/08/16 18:24	CPM	TAL RCH

**Client Sample ID: B36YX2**

Date Collected: 07/08/16 10:49

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-14**

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			4813	07/08/16 19:09	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4814	07/08/16 19:09	CPM	TAL RCH

**Client Sample ID: B360F0**

Date Collected: 07/08/16 11:30

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-15**

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			4813	07/08/16 19:24	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4814	07/08/16 19:24	CPM	TAL RCH

**Client Sample ID: B360B5**

Date Collected: 07/08/16 12:12

Date Received: 07/08/16 15:10

**Lab Sample ID: 300-3436-16**

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			4813	07/08/16 19:39	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4814	07/08/16 19:39	CPM	TAL RCH

**Client Sample ID: Method Blank**

Date Collected: N/A

Date Received: N/A

**Lab Sample ID: MB 300-4813/5**

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			4813	07/08/16 17:54	CPM	TAL RCH

**Client Sample ID: Method Blank**

Date Collected: N/A

Date Received: N/A

**Lab Sample ID: MB 300-4814/5**

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			4814	07/08/16 17:54	CPM	TAL RCH

TestAmerica Richland

## Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

## Client Sample ID: Method Blank

Lab Sample ID: MB 300-4819/3

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			4819	07/08/16 17:35	RLC	TAL RCH

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4813/6

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			4813	07/08/16 18:09	CPM	TAL RCH

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4814/6

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			4814	07/08/16 18:09	CPM	TAL RCH

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4819/4

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			4819	07/08/16 17:35	RLC	TAL RCH

## Client Sample ID: Matrix Spike

Lab Sample ID: 300-3434-A-1 MS

Date Collected: 07/08/16 08:48

Matrix: Water

Date Received: 07/08/16 15:10

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			4819	07/08/16 17:36	RLC	TAL RCH

## Client Sample ID: B360J5

Lab Sample ID: 300-3436-13 MS

Date Collected: 07/08/16 10:09

Matrix: Water

Date Received: 07/08/16 15:10

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			4813	07/08/16 18:39	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4814	07/08/16 18:39	CPM	TAL RCH

## Laboratory References:

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

TestAmerica Richland

### Method Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: X16-043

TestAmerica Job ID: 300-3436-1  
SDG: WC1242

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: X16-043

TestAmerica Job ID: 300-3436-1  
 SDG: WC1242

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3436-1	B360J7	Water	07/08/16 10:09	07/08/16 15:10
300-3436-2	B360J6	Water	07/08/16 10:09	07/08/16 15:10
300-3436-3	B36098	Water	07/08/16 09:06	07/08/16 15:10
300-3436-4	B36099	Water	07/08/16 09:06	07/08/16 15:10
300-3436-5	B360B0	Water	07/08/16 07:20	07/08/16 15:10
300-3436-6	B360B1	Water	07/08/16 07:20	07/08/16 15:10
300-3436-7	B36YX4	Water	07/08/16 10:49	07/08/16 15:10
300-3436-8	B36YX3	Water	07/08/16 10:49	07/08/16 15:10
300-3436-9	B360F2	Water	07/08/16 11:30	07/08/16 15:10
300-3436-10	B360F1	Water	07/08/16 11:30	07/08/16 15:10
300-3436-11	B360B7	Water	07/08/16 12:12	07/08/16 15:10
300-3436-12	B360B6	Water	07/08/16 12:12	07/08/16 15:10
300-3436-13	B360J5	Water	07/08/16 10:09	07/08/16 15:10
300-3436-14	B36YX2	Water	07/08/16 10:49	07/08/16 15:10
300-3436-15	B360F0	Water	07/08/16 11:30	07/08/16 15:10
300-3436-16	B360B5	Water	07/08/16 12:12	07/08/16 15:10

## Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-3436-1

SDG Number: WC1242

Login Number: 3436

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	