

# 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: 300-6469-1

TestAmerica Sample Delivery Group: WC2547

Client Project/Site: I18-002

For:

CH2M Hill Plateau Remediation Company

825 Jadwin Avenue

Richland, Washington 99352

Attn: CPP Sample Management



Authorized for release by:

11/30/2017 6:34:24 PM

Ashley Worthy, Project Manager I

(509)375-3131

[ashley.worthy@testamericainc.com](mailto:ashley.worthy@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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## Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

## 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	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)

**Case Narrative**

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

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**Job ID: 300-6469-1**

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**Laboratory: TestAmerica Richland****Narrative**

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**Job Narrative  
300-6469-1****Comments**

No additional comments.

**Receipt**

The samples were received on 11/28/2017 2:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° 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.

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**CH2M Hill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C.#  
**118-002-283**  
Page 1 of 1

Collector: Jan Aguilar /CJ/PRC Contact/Requester: Karen Waters-Husted Telephone No.: 509-376-4650

SAF No.: 118-002 Sampling Origin: Hanford Site Purchase Order/Charge Code: 300071

Project Title: CERCLA, NOVEMBER 2017 Logbook No.: HNF-N-506 -96 P959 Ice Chest No.: N/A

Shipped To (Lab): TestAmerica Incorporated, Rich 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/REMARK**  
\*\* \* 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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F3X4	N		11/28/17	1201	1x60-ml ag	7196_CR6: COMMON	24 Hours	COOL <=6C
B3F3X6	Y		11/28/17	1204	1x60-ml ag	7196_CR6: COMMON	24 Hours	COOL <=6C

6469  
W02547



300-9469 COC

Relinquished By: [Signature] Signature: [Signature] Date/Time: NOV 28 2017 1240

Relinquished By: [Signature] Signature: [Signature] Date/Time: NOV 28 2017 1410

Relinquished By: [Signature] Signature: [Signature] Date/Time: [Signature]

Relinquished By: [Signature] Signature: [Signature] Date/Time: [Signature]

Received By: [Signature] Signature: [Signature] Date/Time: NOV 28 2017 1240

Received By: [Signature] Signature: [Signature] Date/Time: NOV 28 2017 1410

Received By: [Signature] Signature: [Signature] Date/Time: [Signature]

Received By: [Signature] Signature: [Signature] Date/Time: [Signature]

**FINAL SAMPLE DISPOSITION** Disposal Method (e.g., Return to customer, per lab procedure, used in process): [Signature] Date/Time: [Signature]

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



CH2MHILL Plateau  
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#  
I18-002-295  
Page 1 of 1

Collector: <b>Juan Aguilar</b> <small>CH2MHILL</small>	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: I18-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: CERCLA, NOVEMBER 2017	Logbook No.: HNF-N-506 - 96 pg. 59	Ice Chest No.: N/A
Shipped To (Lab): <b>TestAmerica Incorporated, Rich</b>	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/REMARK:</b> ** ** 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		<b>SPECIAL INSTRUCTIONS</b> N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F2V9	Y	W	11/25/17	0941	1x60-ml ag	7196_CR6: COMMON	24 Hours	COOL <=6C
B3F2V7	N	W	11/25/17	0941	1x60-ml ag	7196_CR6: COMMON	24 Hours	COOL <=6C

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W02547

Relinquished By: <b>Juan Aguilar</b> <small>CH2MHILL</small>	NOV 28 2017	1126	Received By: <b>Jorge Jorgenson</b> <small>CH2MHILL</small>	NOV 28 2017	1126	<b>Matrix*</b> S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquid T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Print First and Last Name: Juan Aguilar	Signature	Date/Time	Print First and Last Name: Jorge Jorgenson	Signature	Date/Time	
Relinquished By: <b>Jorge Jorgenson</b> <small>CH2MHILL</small>	NOV 28 2017	1410	Received By: <b>B. Jorgenson, TARL</b> <small>CH2MHILL</small>	NOV 28 2017	1410	
Print First and Last Name: Jorge Jorgenson	Signature	Date/Time	Print First and Last Name: B. Jorgenson, TARL	Signature	Date/Time	
Relinquished By: _____	Signature	Date/Time	Received By: _____	Signature	Date/Time	
Print First and Last Name: _____	Signature	Date/Time	Print First and Last Name: _____	Signature	Date/Time	
<b>FINAL SAMPLE DISPOSITION</b>	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. #  
I18-002-321  
Page 1 of 1

Collector: Larry Resane ICHPIC Contact/Requester: Karen Walters-Husted Telephone No.: 509-376-4650

SAF No.: I18-002 Sampling Origin: Hanford Site Purchase Order/Charge Code: 300071

Project Title: CERCLA, NOVEMBER 2017 Logbook No.: HNF-N-506 98/15 Ice Chest No.: N/A

Shipped To (Lab): TestAmerica Incorporated, Rich 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/REMARK**  
 \*\* \*\* 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

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F3B8	N	11-28-17	1108	1x60-mL aG	7196_CR6: COMMON	24 Hours	COOL <=6C
B3F3B9	Y	11-28-17	1108	1x60-mL aG	7196_CR6: COMMON	24 Hours	COOL <=6C

6469  
W07547

Relinquished By: Larry Resane ICHPIC Signature [Signature] Date/Time NOV 28 2017 1111

Print First and Last Name: Larry Resane

Received By: Jeff Lucas ICHPIC Signature [Signature] Date/Time NOV 28 2017 1111

Print First and Last Name: Jeff Lucas

Relinquished By: Jeff Lucas ICHPIC Signature [Signature] Date/Time NOV 28 2017 1410

Print First and Last Name: Jeff Lucas

Received By: Brandonson Tarr Signature [Signature] Date/Time 11-28-17 1410

Print First and Last Name: Brandonson Tarr

Relinquished By: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Print First and Last Name: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Received By: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Print First and Last Name: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Relinquished By: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Print First and Last Name: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Received By: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Print First and Last Name: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Relinquished By: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Print First and Last Name: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Received By: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Print First and Last Name: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_

Matrix \*

S = Soil DS = Drum Solids  
 SE = Sediment DL = Drum Liquid  
 SO = Solid T = Tissue  
 SL = Sludge WI = 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): \_\_\_\_\_ Disposed By: \_\_\_\_\_ Date/Time: \_\_\_\_\_



CH2MHill Plateau  
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#  
I18-002-282  
Page 1 of 1

Collector: Juan Aguilar 43493RC Contact/Requester: Karen Waters-Husted Telephone No.: 509-376-4650

SAF No.: I18-002 Sampling Origin: Hanford site Purchase Order/Charge Code: 300071

Project Title: CERCLA, NOVEMBER 2017 Logbook No.: HNF-N-506-46 PS 59 Ice Chest No.: N/A

Shipped To (Lab): TestAmerica Incorporated, Rich 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/REMARK  
\*\* \*\* 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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F3X3	N	W	11/28/17	12:41	1x125-ml P	300.0_ANTIONS_IC: COMMON	48 Hours	COOL <=6C

6469  
W027547

Relinquished By: Juan Aguilar 43493RC Signature: [Signature] Date/Time: NOV 28 2017 12:40 Received By: Jeff Lucas 43493RC Signature: [Signature] Date/Time: NOV 28 2017 12:40

Relinquished By: Jeff Lucas 43493RC Signature: [Signature] Date/Time: NOV 28 2017 14:10 Received By: B. Jorgenson, TARI 43493RC Signature: [Signature] Date/Time: 11-28-17 14:10

Relinquished By: [Signature] Signature: [Signature] Date/Time: Received By: [Signature] Signature: [Signature] Date/Time:

Relinquished By: [Signature] Signature: [Signature] Date/Time: Received By: [Signature] Signature: [Signature] Date/Time:

Relinquished By: [Signature] Signature: [Signature] Date/Time: Received By: [Signature] Signature: [Signature] Date/Time:

Relinquished By: [Signature] Signature: [Signature] Date/Time: Received By: [Signature] Signature: [Signature] Date/Time:

Relinquished By: [Signature] Signature: [Signature] Date/Time: Received By: [Signature] Signature: [Signature] Date/Time:

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

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

CH2MHill Plateau  
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #  
I18-002-285  
Page 1 of 1

Collector: <b>Juan Aguilar CERCLA</b>	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: I18-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: CERCLA, NOVEMBER 2017	Logbook No.: HNF-N-506 <b>96 pg. 59</b>	Ice Chest No.: N/A
Shipped To (Lab): <b>TestAmerica Incorporated, Rich</b>	Method of Shipment: GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days	Offsite Property No.: N/A
<p><b>POSSIBLE SAMPLE HAZARDS/REMARK</b></p> <p>** ** 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</p>		<p><b>SPECIAL INSTRUCTIONS</b></p> <p>N/A</p>

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F3Y0	N	W	11/28/17	1316	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours	COOL <=6C

6469  
W02547

Relinquished By: <b>Juan Aguilar CERCLA</b>	NOV 28 2017	1338	Received By: <b>Jeff Lucas CERCLA</b>	NOV 28 2017	1338	<p>Matrix *</p> <p>S = Soil DS = Drum Solids</p> <p>SE = Sediment DL = Drum Liquid</p> <p>SO = Solid T = Tissue</p> <p>SL = Sludge WL = Wipe</p> <p>W = Water L = Liquid</p> <p>O = Oil V = Vegetation</p> <p>A = Air X = Other</p>
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time	
Relinquished By: <b>Jeff Lucas CERCLA</b>	NOV 28 2017	1410	Received By: <b>Brandonson Tarr CERCLA</b>	NOV 28 2017	1410	
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time	
Relinquished By:	Signature	Date/Time	Received By:	Signature	Date/Time	
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time	

FINAL SAMPLE DISPOSITION 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.#  
I18-002-294  
Page 1 of 1

<b>Collector:</b> Juan Aguilar KSPRC	<b>Contact/Requester:</b> Karen Waters-Husted	<b>Telephone No.:</b> 509-376-4650
<b>SAF No.:</b> I18-002	<b>Sampling Origin:</b> Hanford Site	<b>Purchase Order/Charge Code:</b> 300071
<b>Project Title:</b> CERCLA, NOVEMBER 2017	<b>Logbook No.:</b> HNF-N-506 - 46 pg. 54	<b>Ice Chest No.:</b> N/A
<b>Shipped To (Lab):</b> TestAmerica Incorporated, Rich	<b>Method of Shipment:</b> GOVERNMENT VEHICLE	<b>Bill of Lading/Air Bill No.:</b> N/A
<b>Protocol:</b> CERCLA	<b>Priority:</b> 30 Days	<b>Offsite Property No.:</b> N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARK</b> ** ** 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		<b>SPECIAL INSTRUCTIONS</b> N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F2V6	N	W	11/28/17	0941	1X125-mL P	300.0_ANIONS_IC: COMMON	48 HOURS	COOL <=6C

64469  
W02547

<b>Relinquished By:</b> Juan Aguilar KSPRC	<b>NOV 28 2017</b>	<b>1124</b>	<b>Received By:</b> Jeff Lucas KSPRC	<b>NOV 28 2017</b>	<b>1126</b>	<b>Matrix *</b> S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drumm Solids DL = Drumm Liquid T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other	
<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>	<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>		
<b>Relinquished By:</b> Jeff Lucas KSPRC	<b>NOV 28 2017</b>	<b>1410</b>	<b>Received By:</b> B. JOHNSON KSPRC	<b>11-28-17</b>	<b>1410</b>		
<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>	<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>		
<b>Relinquished By:</b>	<b>Signature</b>	<b>Date/Time</b>	<b>Received By:</b>	<b>Signature</b>	<b>Date/Time</b>		
<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>	<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>		
<b>FINAL SAMPLE DISPOSITION</b>						<b>Disposed By:</b>	<b>Date/Time:</b>

CH2MHill Plateau  
Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #  
I18-002-288  
Page 1 of 1

Collector: <b>Karen Aguilera</b> <small>KARAG</small>	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: I18-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: CERCLA, NOVEMBER 2017	Logbook No.: HNF-N-506-96 <b>pgs 4</b>	Ice Chest No.: N/A
Shipped To (Lab): <b>TestAmerica Incorporated, Rich</b>	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/REMARK**  
 \*\* 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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F401	N	W	11/28/17	0725	1x125-ml P	300.0_ANIONS_IC: COMMON	48 Hours	COOL <=6C

64609  
1002547

Relinquished By: <b>Karen Aguilera</b> <small>KARAG</small>	Signature	NOV 28 2017	11:26	Received By: <b>Jeff Lamm</b> <small>JL</small>	Signature	NOV 28 2017	11:26
Print First and Last Name	Signature	Date/Time	Date/Time	Print First and Last Name	Signature	Date/Time	Date/Time
Relinquished By:	Signature	NOV 28 2017	1410	Received By: <b>B. JOGENSEN, TARI</b>	Signature	11-28-17	1410
Print First and Last Name	Signature	Date/Time	Date/Time	Print First and Last Name	Signature	Date/Time	Date/Time
Relinquished By:	Signature	Date/Time	Date/Time	Received By:	Signature	Date/Time	Date/Time
Print First and Last Name	Signature	Date/Time	Date/Time	Received By:	Signature	Date/Time	Date/Time

Matrix \*  
 S = Soil DS = Drum Solids  
 SE = Sediment DL = Drum Liquid  
 SO = Solid T = Tissue  
 SL = Sludge WI = 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):

Disposed By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

**CH2MHill Plateau  
Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C.#  
**I18-002-291**  
Page 1 of 1

<b>Collector:</b> Juan Aguilar ACHRC	<b>Contact/Requester:</b> Karen Waters-Husted	<b>Telephone No.:</b> 509-376-4650
<b>SAF No.:</b> I18-002	<b>Sampling Origin:</b> Hanford Site	<b>Purchase Order/Charge Code:</b> 300071
<b>Project Title:</b> CERCLA, NOVEMBER 2017	<b>Logbook No.:</b> HNF-N-506-918959	<b>Ice Chest No.:</b> N/A
<b>Shipped To (Lab):</b> TestAmerica Incorporated, Rich	<b>Method of Shipment:</b> GOVERNMENT VEHICLE	<b>Bill of Lading/Air Bill No.:</b> N/A
<b>Protocol:</b> CERCLA	<b>Priority:</b> 30 Days	<b>Offsite Property No.:</b> N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARK</b> ** ** 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		<b>SPECIAL INSTRUCTIONS</b> N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3F402	N	W	11/28/17	1050	1x125-ml P	300.0_ANTIONS_IC: COMMON	48 Hours	Cool <=6C

6469  
WCC 7547

<b>Relinquished By:</b> <i>[Signature]</i> ACHRC	<b>NOV 28 2017</b>	<b>1124</b>	<b>Received By:</b> <i>[Signature]</i> ACHRC	<b>NOV 28 2017</b>	<b>1126</b>	<b>Matrix *</b> S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquid T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>	<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>	
<b>Relinquished By:</b> <i>[Signature]</i> ACHRC	<b>NOV 28 2017 1410</b>		<b>Received By:</b> B. JOHNSON, TARL <i>[Signature]</i>	<b>NOV 28 2017 1410</b>		
<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>	<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>	
<b>Relinquished By:</b> <i>[Signature]</i>	<b>Signature</b>	<b>Date/Time</b>	<b>Received By:</b> <i>[Signature]</i>	<b>Signature</b>	<b>Date/Time</b>	
<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>	<b>Print First and Last Name</b>	<b>Signature</b>	<b>Date/Time</b>	

## Detection Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

## Client Sample ID: B3F3X4

Lab Sample ID: 300-6469-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.018		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B3F3X6

Lab Sample ID: 300-6469-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.019		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B3F3Y1

Lab Sample ID: 300-6469-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0041		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B3F3Y3

Lab Sample ID: 300-6469-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0044		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B3F2V9

Lab Sample ID: 300-6469-5

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: B3F2V7

Lab Sample ID: 300-6469-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.012		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B3F404

Lab Sample ID: 300-6469-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.075		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B3F408

Lab Sample ID: 300-6469-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.065		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B3F3B8

Lab Sample ID: 300-6469-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0044		0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B3F3B9

Lab Sample ID: 300-6469-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0029	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

## Client Sample ID: B3F403

Lab Sample ID: 300-6469-11

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

## Detection Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

## Client Sample ID: B3F407

Lab Sample ID: 300-6469-12

No Detections.

## Client Sample ID: B3F3X3

Lab Sample ID: 300-6469-13

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	8.1	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.11	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.17	D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	240	D	2.5	1.3	mg/L	10		300.0	Total/NA

## Client Sample ID: B3F3Y0

Lab Sample ID: 300-6469-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	6.3	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.18	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.15	D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	170	D	1.3	0.63	mg/L	5		300.0	Total/NA

## Client Sample ID: B3F2V6

Lab Sample ID: 300-6469-15

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	6.3	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.16	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.13	D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	170	D	2.5	1.3	mg/L	10		300.0	Total/NA

## Client Sample ID: B3F401

Lab Sample ID: 300-6469-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.068	B D	0.10	0.050	mg/L	2		300.0	Total/NA

## Client Sample ID: B3F402

Lab Sample ID: 300-6469-17

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	6.6	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.18	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.14	D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	190	D	2.5	1.3	mg/L	10		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: I18-002

TestAmerica Job ID: 300-6469-1  
 SDG: WC2547

**Client Sample ID: B3F3X4**  
 Date Collected: 11/28/17 12:04  
 Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-1**  
 Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.018		0.0040	0.0015	mg/L			11/28/17 15:34	1

**Client Sample ID: B3F3X6**  
 Date Collected: 11/28/17 12:04  
 Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-2**  
 Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.019		0.0040	0.0015	mg/L			11/28/17 15:33	1

**Client Sample ID: B3F3Y1**  
 Date Collected: 11/28/17 13:16  
 Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-3**  
 Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0041		0.0040	0.0015	mg/L			11/28/17 15:34	1

**Client Sample ID: B3F3Y3**  
 Date Collected: 11/28/17 13:16  
 Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-4**  
 Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0044		0.0040	0.0015	mg/L			11/28/17 15:34	1

**Client Sample ID: B3F2V9**  
 Date Collected: 11/28/17 09:41  
 Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-5**  
 Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.015		0.0040	0.0015	mg/L			11/28/17 15:34	1

**Client Sample ID: B3F2V7**  
 Date Collected: 11/28/17 09:41  
 Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-6**  
 Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.012		0.0040	0.0015	mg/L			11/28/17 15:35	1

**Client Sample ID: B3F404**  
 Date Collected: 11/28/17 10:50  
 Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-7**  
 Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.075		0.0040	0.0015	mg/L			11/28/17 15:38	1

TestAmerica Richland

Client Sample Results

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

Client Sample ID: B3F408

Lab Sample ID: 300-6469-8

Date Collected: 11/28/17 10:50

Matrix: Water

Date Received: 11/28/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.065		0.0040	0.0015	mg/L			11/28/17 15:38	1

Client Sample ID: B3F3B8

Lab Sample ID: 300-6469-9

Date Collected: 11/28/17 11:08

Matrix: Water

Date Received: 11/28/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0044		0.0040	0.0015	mg/L			11/28/17 15:39	1

Client Sample ID: B3F3B9

Lab Sample ID: 300-6469-10

Date Collected: 11/28/17 11:08

Matrix: Water

Date Received: 11/28/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0029	B	0.0040	0.0015	mg/L			11/28/17 15:39	1

Client Sample ID: B3F403

Lab Sample ID: 300-6469-11

Date Collected: 11/28/17 07:30

Matrix: Water

Date Received: 11/28/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			11/28/17 15:39	1

Client Sample ID: B3F407

Lab Sample ID: 300-6469-12

Date Collected: 11/28/17 07:30

Matrix: Water

Date Received: 11/28/17 14:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			11/28/17 15:40	1

Client Sample ID: B3F3X3

Lab Sample ID: 300-6469-13

Date Collected: 11/28/17 12:04

Matrix: Water

Date Received: 11/28/17 14:10

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			11/29/17 08:55	2
Nitrate as N	8.1	D	0.056	0.028	mg/L			11/29/17 08:55	2
Fluoride	0.11	D	0.10	0.050	mg/L			11/29/17 08:55	2
Nitrite as N	0.17	D	0.076	0.038	mg/L			11/29/17 08:55	2
Sulfate	240	D	2.5	1.3	mg/L			11/29/17 11:41	10

Client Sample Results

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

Client Sample ID: B3F3Y0

Lab Sample ID: 300-6469-14

Date Collected: 11/28/17 13:16

Matrix: Water

Date Received: 11/28/17 14:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14	D	0.40	0.20	mg/L			11/29/17 09:10	2
Nitrate as N	6.3	D	0.056	0.028	mg/L			11/29/17 09:10	2
Fluoride	0.18	D	0.10	0.050	mg/L			11/29/17 09:10	2
Nitrite as N	0.15	D	0.076	0.038	mg/L			11/29/17 09:10	2
Sulfate	170	D	1.3	0.63	mg/L			11/29/17 11:56	5

Client Sample ID: B3F2V6

Lab Sample ID: 300-6469-15

Date Collected: 11/28/17 09:41

Matrix: Water

Date Received: 11/28/17 14:10

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			11/29/17 09:26	2
Nitrate as N	6.3	D	0.056	0.028	mg/L			11/29/17 09:26	2
Fluoride	0.16	D	0.10	0.050	mg/L			11/29/17 09:26	2
Nitrite as N	0.13	D	0.076	0.038	mg/L			11/29/17 09:26	2
Sulfate	170	D	2.5	1.3	mg/L			11/29/17 12:12	10

Client Sample ID: B3F401

Lab Sample ID: 300-6469-16

Date Collected: 11/28/17 07:30

Matrix: Water

Date Received: 11/28/17 14:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.20	U D	0.40	0.20	mg/L			11/29/17 09:41	2
Nitrate as N	0.028	U D	0.056	0.028	mg/L			11/29/17 09:41	2
Fluoride	0.068	B D	0.10	0.050	mg/L			11/29/17 09:41	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			11/29/17 09:41	2
Sulfate	0.25	U D	0.50	0.25	mg/L			11/29/17 09:41	2

Client Sample ID: B3F402

Lab Sample ID: 300-6469-17

Date Collected: 11/28/17 10:50

Matrix: Water

Date Received: 11/28/17 14:10

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			11/29/17 09:56	2
Nitrate as N	6.6	D	0.056	0.028	mg/L			11/29/17 09:56	2
Fluoride	0.18	D	0.10	0.050	mg/L			11/29/17 09:56	2
Nitrite as N	0.14	D	0.076	0.038	mg/L			11/29/17 09:56	2
Sulfate	190	D	2.5	1.3	mg/L			11/29/17 12:42	10

QC Sample Results

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-9799/5  
Matrix: Water  
Analysis Batch: 9799

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			11/28/17 16:18	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			11/28/17 16:18	1

Lab Sample ID: LCS 300-9799/6  
Matrix: Water  
Analysis Batch: 9799

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	2.23		mg/L		99	80 - 120
Nitrite as N	3.04	3.04		mg/L		100	80 - 120

Lab Sample ID: 300-6468-A-1 MS  
Matrix: Water  
Analysis Batch: 9799

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.028	U D	0.452	0.398	D	mg/L		88	75 - 125
Nitrite as N	0.038	U D	0.609	0.538	D	mg/L		88	75 - 125

Lab Sample ID: 300-6468-A-1 DU  
Matrix: Water  
Analysis Batch: 9799

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	0.028	U D	0.028	U D	mg/L		NC	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-9800/5  
Matrix: Water  
Analysis Batch: 9800

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			11/28/17 16:18	1
Fluoride	0.025	U	0.050	0.025	mg/L			11/28/17 16:18	1
Sulfate	0.13	U	0.25	0.13	mg/L			11/28/17 16:18	1

Lab Sample ID: LCS 300-9800/6  
Matrix: Water  
Analysis Batch: 9800

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	15.5		mg/L		97	80 - 120
Fluoride	4.00	3.92		mg/L		98	80 - 120
Sulfate	20.0	19.6		mg/L		98	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-6468-A-1 MS  
Matrix: Water  
Analysis Batch: 9800

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

Analyte	Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier				Limits	Limits
Chloride	10	D	3.20	13.5	D	mg/L		97	75 - 125	
Fluoride	1.4	D	0.800	2.19	D	mg/L		103	75 - 125	
Sulfate	0.25	U D	4.00	3.63	D	mg/L		91	75 - 125	

Lab Sample ID: 300-6468-A-1 DU  
Matrix: Water  
Analysis Batch: 9800

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample		DU DU		Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier				Limit	Limit
Chloride	10	D	10.2	D	mg/L		2	20	
Fluoride	1.4	D	1.35	D	mg/L		2	20	
Sulfate	0.25	U D	0.25	U D	mg/L		NC	20	

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-9807/3  
Matrix: Water  
Analysis Batch: 9807

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			11/28/17 15:30	1

Lab Sample ID: LCS 300-9807/4  
Matrix: Water  
Analysis Batch: 9807

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

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

Lab Sample ID: 300-6469-2 MS  
Matrix: Water  
Analysis Batch: 9807

Client Sample ID: B3F3X6  
Prep Type: Total/NA

Analyte	Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier				Limits	Limits
Cr (VI)	0.019		0.0501	0.0705		mg/L		103	75 - 125	

Lab Sample ID: 300-6469-2 DU  
Matrix: Water  
Analysis Batch: 9807

Client Sample ID: B3F3X6  
Prep Type: Total/NA

Analyte	Sample		DU DU		Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier				Limit	Limit
Cr (VI)	0.019		0.0184		mg/L		2	20	

## QC Association Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

## HPLC/IC

## Analysis Batch: 9799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6469-13	B3F3X3	Total/NA	Water	300.0	
300-6469-14	B3F3Y0	Total/NA	Water	300.0	
300-6469-15	B3F2V6	Total/NA	Water	300.0	
300-6469-16	B3F401	Total/NA	Water	300.0	
300-6469-17	B3F402	Total/NA	Water	300.0	
MB 300-9799/5	Method Blank	Total/NA	Water	300.0	
LCS 300-9799/6	Lab Control Sample	Total/NA	Water	300.0	
300-6468-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
300-6468-A-1 DU	Duplicate	Total/NA	Water	300.0	

## Analysis Batch: 9800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6469-13	B3F3X3	Total/NA	Water	300.0	
300-6469-13	B3F3X3	Total/NA	Water	300.0	
300-6469-14	B3F3Y0	Total/NA	Water	300.0	
300-6469-14	B3F3Y0	Total/NA	Water	300.0	
300-6469-15	B3F2V6	Total/NA	Water	300.0	
300-6469-15	B3F2V6	Total/NA	Water	300.0	
300-6469-16	B3F401	Total/NA	Water	300.0	
300-6469-17	B3F402	Total/NA	Water	300.0	
300-6469-17	B3F402	Total/NA	Water	300.0	
MB 300-9800/5	Method Blank	Total/NA	Water	300.0	
LCS 300-9800/6	Lab Control Sample	Total/NA	Water	300.0	
300-6468-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
300-6468-A-1 DU	Duplicate	Total/NA	Water	300.0	

## General Chemistry

## Analysis Batch: 9807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-6469-1	B3F3X4	Total/NA	Water	7196A	
300-6469-2	B3F3X6	Total/NA	Water	7196A	
300-6469-3	B3F3Y1	Total/NA	Water	7196A	
300-6469-4	B3F3Y3	Total/NA	Water	7196A	
300-6469-5	B3F2V9	Total/NA	Water	7196A	
300-6469-6	B3F2V7	Total/NA	Water	7196A	
300-6469-7	B3F404	Total/NA	Water	7196A	
300-6469-8	B3F408	Total/NA	Water	7196A	
300-6469-9	B3F3B8	Total/NA	Water	7196A	
300-6469-10	B3F3B9	Total/NA	Water	7196A	
300-6469-11	B3F403	Total/NA	Water	7196A	
300-6469-12	B3F407	Total/NA	Water	7196A	
MB 300-9807/3	Method Blank	Total/NA	Water	7196A	
LCS 300-9807/4	Lab Control Sample	Total/NA	Water	7196A	
300-6469-2 MS	B3F3X6	Total/NA	Water	7196A	
300-6469-2 DU	B3F3X6	Total/NA	Water	7196A	

## Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

**Client Sample ID: B3F3X4**

Date Collected: 11/28/17 12:04

Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-1**

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			9807	11/28/17 15:34	TRH	TAL RCH

**Client Sample ID: B3F3X6**

Date Collected: 11/28/17 12:04

Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-2**

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			9807	11/28/17 15:33	TRH	TAL RCH

**Client Sample ID: B3F3Y1**

Date Collected: 11/28/17 13:16

Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-3**

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			9807	11/28/17 15:34	TRH	TAL RCH

**Client Sample ID: B3F3Y3**

Date Collected: 11/28/17 13:16

Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-4**

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			9807	11/28/17 15:34	TRH	TAL RCH

**Client Sample ID: B3F2V9**

Date Collected: 11/28/17 09:41

Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-5**

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			9807	11/28/17 15:34	TRH	TAL RCH

**Client Sample ID: B3F2V7**

Date Collected: 11/28/17 09:41

Date Received: 11/28/17 14:10

**Lab Sample ID: 300-6469-6**

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			9807	11/28/17 15:35	TRH	TAL RCH

TestAmerica Richland

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
 SDG: WC2547

**Client Sample ID: B3F404**

**Lab Sample ID: 300-6469-7**

Date Collected: 11/28/17 10:50

Matrix: Water

Date Received: 11/28/17 14:10

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			9807	11/28/17 15:38	TRH	TAL RCH

**Client Sample ID: B3F408**

**Lab Sample ID: 300-6469-8**

Date Collected: 11/28/17 10:50

Matrix: Water

Date Received: 11/28/17 14:10

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			9807	11/28/17 15:38	TRH	TAL RCH

**Client Sample ID: B3F3B8**

**Lab Sample ID: 300-6469-9**

Date Collected: 11/28/17 11:08

Matrix: Water

Date Received: 11/28/17 14:10

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			9807	11/28/17 15:39	TRH	TAL RCH

**Client Sample ID: B3F3B9**

**Lab Sample ID: 300-6469-10**

Date Collected: 11/28/17 11:08

Matrix: Water

Date Received: 11/28/17 14:10

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			9807	11/28/17 15:39	TRH	TAL RCH

**Client Sample ID: B3F403**

**Lab Sample ID: 300-6469-11**

Date Collected: 11/28/17 07:30

Matrix: Water

Date Received: 11/28/17 14:10

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			9807	11/28/17 15:39	TRH	TAL RCH

**Client Sample ID: B3F407**

**Lab Sample ID: 300-6469-12**

Date Collected: 11/28/17 07:30

Matrix: Water

Date Received: 11/28/17 14:10

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			9807	11/28/17 15:40	TRH	TAL RCH

## Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
SDG: WC2547

## Client Sample ID: B3F3X3

Date Collected: 11/28/17 12:04

Date Received: 11/28/17 14:10

## Lab Sample ID: 300-6469-13

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			9799	11/29/17 08:55	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			9800	11/29/17 08:55	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			9800	11/29/17 11:41	RTQ	TAL RCH

## Client Sample ID: B3F3Y0

Date Collected: 11/28/17 13:16

Date Received: 11/28/17 14:10

## Lab Sample ID: 300-6469-14

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			9799	11/29/17 09:10	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			9800	11/29/17 09:10	RTQ	TAL RCH
Total/NA	Analysis	300.0		5			9800	11/29/17 11:56	RTQ	TAL RCH

## Client Sample ID: B3F2V6

Date Collected: 11/28/17 09:41

Date Received: 11/28/17 14:10

## Lab Sample ID: 300-6469-15

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			9799	11/29/17 09:26	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			9800	11/29/17 09:26	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			9800	11/29/17 12:12	RTQ	TAL RCH

## Client Sample ID: B3F401

Date Collected: 11/28/17 07:30

Date Received: 11/28/17 14:10

## Lab Sample ID: 300-6469-16

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			9799	11/29/17 09:41	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			9800	11/29/17 09:41	RTQ	TAL RCH

## Client Sample ID: B3F402

Date Collected: 11/28/17 10:50

Date Received: 11/28/17 14:10

## Lab Sample ID: 300-6469-17

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			9799	11/29/17 09:56	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			9800	11/29/17 09:56	RTQ	TAL RCH
Total/NA	Analysis	300.0		10			9800	11/29/17 12:42	RTQ	TAL RCH

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Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
 SDG: WC2547

Client Sample ID: Method Blank

Lab Sample ID: MB 300-9799/5

Date Collected: N/A  
 Date Received: N/A

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			9799	11/28/17 16:18	RTQ	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-9800/5

Date Collected: N/A  
 Date Received: N/A

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			9800	11/28/17 16:18	RTQ	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-9807/3

Date Collected: N/A  
 Date Received: N/A

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			9807	11/28/17 15:30	TRH	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-9799/6

Date Collected: N/A  
 Date Received: N/A

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			9799	11/28/17 16:33	RTQ	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-9800/6

Date Collected: N/A  
 Date Received: N/A

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			9800	11/28/17 16:33	RTQ	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-9807/4

Date Collected: N/A  
 Date Received: N/A

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			9807	11/28/17 15:30	TRH	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
 SDG: WC2547

**Client Sample ID: Matrix Spike**

**Lab Sample ID: 300-6468-A-1 MS**

Date Collected: 11/28/17 12:39

Matrix: Water

Date Received: 11/28/17 13:10

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			9799	11/29/17 08:25	RTQ	TAL RCH
Total/NA	Analysis	300.0		2			9800	11/29/17 08:25	RTQ	TAL RCH

**Client Sample ID: B3F3X6**

**Lab Sample ID: 300-6469-2 MS**

Date Collected: 11/28/17 12:04

Matrix: Water

Date Received: 11/28/17 14:10

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			9807	11/28/17 15:30	TRH	TAL RCH

**Laboratory References:**

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

Method Summary

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: I18-002

TestAmerica Job ID: 300-6469-1  
 SDG: WC2547

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: I18-002

TestAmerica Job ID: 300-6469-1  
 SDG: WC2547

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-6469-1	B3F3X4	Water	11/28/17 12:04	11/28/17 14:10
300-6469-2	B3F3X6	Water	11/28/17 12:04	11/28/17 14:10
300-6469-3	B3F3Y1	Water	11/28/17 13:16	11/28/17 14:10
300-6469-4	B3F3Y3	Water	11/28/17 13:16	11/28/17 14:10
300-6469-5	B3F2V9	Water	11/28/17 09:41	11/28/17 14:10
300-6469-6	B3F2V7	Water	11/28/17 09:41	11/28/17 14:10
300-6469-7	B3F404	Water	11/28/17 10:50	11/28/17 14:10
300-6469-8	B3F408	Water	11/28/17 10:50	11/28/17 14:10
300-6469-9	B3F3B8	Water	11/28/17 11:08	11/28/17 14:10
300-6469-10	B3F3B9	Water	11/28/17 11:08	11/28/17 14:10
300-6469-11	B3F403	Water	11/28/17 07:30	11/28/17 14:10
300-6469-12	B3F407	Water	11/28/17 07:30	11/28/17 14:10
300-6469-13	B3F3X3	Water	11/28/17 12:04	11/28/17 14:10
300-6469-14	B3F3Y0	Water	11/28/17 13:16	11/28/17 14:10
300-6469-15	B3F2V6	Water	11/28/17 09:41	11/28/17 14:10
300-6469-16	B3F401	Water	11/28/17 07:30	11/28/17 14:10
300-6469-17	B3F402	Water	11/28/17 10:50	11/28/17 14:10

## Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-6469-1

SDG Number: WC2547

Login Number: 6469

List Number: 1

Creator: Jorgenson, Briana F

List Source: TestAmerica Richland

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	