

8/10/2016

# 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: 300-3492-1  
TestAmerica Sample Delivery Group: WC1260  
Client Project/Site: W16-007

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

Attn: CPP Sample Management



Authorized for release by:  
8/10/2016 11:20:41 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)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Chain of Custody . . . . .	5
Detection Summary . . . . .	12
Client Sample Results . . . . .	14
QC Sample Results . . . . .	16
QC Association Summary . . . . .	18
Lab Chronicle . . . . .	19
Method Summary . . . . .	22
Sample Summary . . . . .	23
Receipt Checklists . . . . .	24

## Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
D	The reported value is from a dilution.
U	Analyzed for but not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, 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: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

**Job ID: 300-3492-1**

**Laboratory: TestAmerica Richland**

**Narrative**

**Job Narrative  
300-3492-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 7/15/2016 2:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.0° C.

**HPLC/IC**

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

**CH2M Hill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. # **W16-007-145**  
Page 1 of 1

Collector	J.R. Aguilar/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W16-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	RCRA, JULY 2016	Logbook No.	HNF-N-506 <u>82 / 96</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	RCRA	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 / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			N/A Special Handling: N/A		
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B35NR2	N	WJUL 15 2016	1210	1x500-mL P	300.0_ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

# 3492  
WJUL 12 2016



Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
J.R. Aguilar/CHPRC			JUL 15 2016 1300	Troy Bacon CHPRC			JUL 15 2016 1300	S = Soil SO = Sediment SL = Sludge W = Water O = Oil A = Air
Relinquished By			JUL 15 2016 1455	L Anderson, TARI			JUL 15 2016 1455	DS = Drum Solids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Relinquished By				Received By				

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. #  
**W16-007-146**

Page 1 of 1

Collector	J.R. Aguilar/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W16-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	RCRA, JULY 2016	Logbook No.	HNF-N-506 <u>82/82</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	RCRA	Priority:	30 Days	Offsite Property No.	N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			<b>PRIORITY</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			SPECIAL INSTRUCTIONS		
			N/A Special Handling: N/A		
Sample No.	Filter	*	Date	Time	No./Type Container
B35NR7	N		W JUL 15 2016	1241	1x500-mL P
					300.0_ANIONS_IC: COMMON
					Sample Analysis
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

W 3492  
W 61220

Relinquished By	J.R. Aguilar/CHPRC	Print	Signature	Date/Time	JUL 15 2016 1300	Received By	L. Anderson, TARI	Print	Signature	Date/Time	JUL 15 2016 1300
Relinquished By	Troy Bacon CHPRC	Print	Signature	Date/Time	JUL 15 2016 1455	Received By	L. Anderson, TARI	Print	Signature	Date/Time	JUL 15 2016 1455
Relinquished By		Print	Signature	Date/Time		Received By		Print	Signature	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
WI	= 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	Date/Time
---------------------------------	--	-------------	-----------

**CH2MHill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. #  
**W16-007-147**  
Page 1 of 1

Collector	J.R. Aquilino/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W16-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	RCRA, JULY 2016	Logbook No.	HNF-N-506 <u>92/96</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	RCRA	Priority:	30 Days	Offsite Property No.	N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1					
Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis
B35NT2	N	W JUL 15 2016	1043	1x500-ml P	300.0_ANIONS_JC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

3492  
wsc1260

Relinquished By	J.R. Aquilino/CHPRC	Print	Sign	Date/Time	Received By	Troy Bacon/CHPRC	Print	Sign	Date/Time	Matrix *
Relinquished By	Troy Bacon/CHPRC	Print	Sign	Date/Time	Received By	L Anderson/TARI	Print	Sign	Date/Time	Matrix *
Relinquished By					Received By					Matrix *

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. #  
**W16-007-149**  
Page 1 of 1

Collector	J.R. Aguilar/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W16-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	RCRA, JULY 2016	Logbook No.	HNF-N-506 <u>82 86</u>	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richmond	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	RCRA	Priority:	30 Days	Offsite Property No.	N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			<b>PRIORITY</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			SPECIAL INSTRUCTIONS N/A Special Handling: N/A		
Sample No.	Filter *	Date	Time	No./Type Container	Sample Analysis
B35NT9	N	WJUL 15 2016	0816	1x500-mL P	300.0_ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

3492  
WCI200

Relinquished By	J.R. Aguilar/CHPRC	Print	Sign	Date/Time	Received By	Janelle Zunker CHPRC	Print	Sign	Date/Time	Matrix *
Relinquished By	Janelle Zunker CHPRC	Print	Sign	JUL 15 2016 0905	Received By	L Anderson, TARI	Print	Sign	JUL 15 2016 0905	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By				JUL 15 2016 1455	Received By				JUL 15 2016 1455	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By					Received By					

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



**CH2M/Hill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. #  
**W16-007-151**  
Page 1 of 1

Collector	J.R. Aguilar/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W16-007	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	RCRA, JULY 2016	Logbook No.	HNF-N-506 <u>82/86</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	RCRA	Priority:	30 Days	Offsite Property No.	N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>			<b>PRIORITY</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			SPECIAL INSTRUCTIONS N/A Special Handling: N/A		
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B35NW1	N	W JUL 15 2016	0942	1x500-ml P	300.0 ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

3492  
WCLABO

Relinquished By	J.R. Aguilar/CHPRC	Print	Sign	Date/Time	Received By	Troy Bacon	Print	Sign	Date/Time	Matrix *
Relinquished By	Troy Bacon/CHPRC	Print	Sign	Date/Time	Received By	L. Anderson, TARI	Print	Sign	Date/Time	S = Soil
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	SE = Sediment
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	SO = Solid
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	SL = Sludge
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	W = Water
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	O = Oil
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	A = Air
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	DS = Drum Solids
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	DL = Drum Liquids
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	T = Tissue
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	WT = Wipe
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	L = Liquid
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	V = Vegetation
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	X = Other
<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. # **W16-007-156**  
Page 1 of 1

Collector	CHRIS FULTON CHPRC	Contact/Requester	Karen Waters-Husted
SAF No.	W16-007	Sampling Origin	Hanford Site
Project Title	RCRA, JULY 2016	Logbook No.	HNF-N-506 <i>25/55</i>
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE
Protocol	RCRA	Priority:	30 Days
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>		<b>SPECIAL INSTRUCTIONS</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		N/A Special Handling: N/A	
Holding 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
B36P44	N	W	JUL 15 2016	0827	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

3493  
wsc1200

Relinquished By CHRIS FULTON CHPRC	Print 	Sign	Date/Time JUL 15 2016 1105	Received By Troy Bacon CHPRC	Print 	Sign	Date/Time JUL 15 2016 1105
Relinquished By Troy Bacon CHPRC			Date/Time JUL 15 2016 1455	Received By L Anderson, TARI			Date/Time JUL 15 2016 1455
Relinquished By			Date/Time	Received By			Date/Time

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

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

## Detection Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

## Client Sample ID: B35NR2

Lab Sample ID: 300-3492-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	10	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.46	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	50	D	0.50	0.25	mg/L	2		300.0	Total/NA

## Client Sample ID: B35NR7

Lab Sample ID: 300-3492-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	9.5	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.48	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	47	D	0.50	0.25	mg/L	2		300.0	Total/NA

## Client Sample ID: B35NT2

Lab Sample ID: 300-3492-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12	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	0.40	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	54	D	0.50	0.25	mg/L	2		300.0	Total/NA

## Client Sample ID: B35NT9

Lab Sample ID: 300-3492-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13	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	0.50	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	58	D	0.50	0.25	mg/L	2		300.0	Total/NA

## Client Sample ID: B35NV7

Lab Sample ID: 300-3492-5

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	23	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.42	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	87	D	0.50	0.25	mg/L	2		300.0	Total/NA

## Client Sample ID: B35NW1

Lab Sample ID: 300-3492-6

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	23	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.36	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	88	D	0.50	0.25	mg/L	2		300.0	Total/NA

## Client Sample ID: B35P44

Lab Sample ID: 300-3492-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.2	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	3.7	D	0.056	0.028	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

### Detection Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

**Client Sample ID: B35P44 (Continued)**

**Lab Sample ID: 300-3492-7**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.29	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	43	D	0.50	0.25	mg/L	2		300.0	Total/NA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

This Detection Summary does not include radiochemical test results.

## Client Sample Results

Client: CH2M Hill Plateau Remediation Company  
Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

## Client Sample ID: B35NR2

Lab Sample ID: 300-3492-1

Date Collected: 07/15/16 12:10

Matrix: Water

Date Received: 07/15/16 14:55

## Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12	D	0.40	0.20	mg/L			07/15/16 17:35	2
Nitrate as N	10	D	0.056	0.028	mg/L			07/15/16 17:35	2
Fluoride	0.46	D	0.10	0.050	mg/L			07/15/16 17:35	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/15/16 17:35	2
Sulfate	50	D	0.50	0.25	mg/L			07/15/16 17:35	2

## Client Sample ID: B35NR7

Lab Sample ID: 300-3492-2

Date Collected: 07/15/16 12:41

Matrix: Water

Date Received: 07/15/16 14:55

## Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11	D	0.40	0.20	mg/L			07/15/16 18:20	2
Nitrate as N	9.5	D	0.056	0.028	mg/L			07/15/16 18:20	2
Fluoride	0.48	D	0.10	0.050	mg/L			07/15/16 18:20	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/15/16 18:20	2
Sulfate	47	D	0.50	0.25	mg/L			07/15/16 18:20	2

## Client Sample ID: B35NT2

Lab Sample ID: 300-3492-3

Date Collected: 07/15/16 10:43

Matrix: Water

Date Received: 07/15/16 14:55

## Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12	D	0.40	0.20	mg/L			07/15/16 18:35	2
Nitrate as N	11	D	0.056	0.028	mg/L			07/15/16 18:35	2
Fluoride	0.40	D	0.10	0.050	mg/L			07/15/16 18:35	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/15/16 18:35	2
Sulfate	54	D	0.50	0.25	mg/L			07/15/16 18:35	2

## Client Sample ID: B35NT9

Lab Sample ID: 300-3492-4

Date Collected: 07/15/16 08:16

Matrix: Water

Date Received: 07/15/16 14:55

## Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13	D	0.40	0.20	mg/L			07/15/16 18:50	2
Nitrate as N	11	D	0.056	0.028	mg/L			07/15/16 18:50	2
Fluoride	0.50	D	0.10	0.050	mg/L			07/15/16 18:50	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/15/16 18:50	2
Sulfate	58	D	0.50	0.25	mg/L			07/15/16 18:50	2

## Client Sample ID: B35NV7

Lab Sample ID: 300-3492-5

Date Collected: 07/15/16 13:34

Matrix: Water

Date Received: 07/15/16 14:55

## 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			07/15/16 19:05	2
Nitrate as N	23	D	0.28	0.14	mg/L			07/15/16 21:51	10

TestAmerica Richland

Client Sample Results

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
 SDG: WC1260

Client Sample ID: B35NV7

Lab Sample ID: 300-3492-5

Date Collected: 07/15/16 13:34

Matrix: Water

Date Received: 07/15/16 14:55

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.42	D	0.10	0.050	mg/L			07/15/16 19:05	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/15/16 19:05	2
Sulfate	87	D	0.50	0.25	mg/L			07/15/16 19:05	2

Client Sample ID: B35NW1

Lab Sample ID: 300-3492-6

Date Collected: 07/15/16 09:42

Matrix: Water

Date Received: 07/15/16 14:55

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			07/15/16 19:21	2
Nitrate as N	23	D	0.28	0.14	mg/L			07/15/16 22:06	10
Fluoride	0.36	D	0.10	0.050	mg/L			07/15/16 19:21	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/15/16 19:21	2
Sulfate	88	D	0.50	0.25	mg/L			07/15/16 19:21	2

Client Sample ID: B35P44

Lab Sample ID: 300-3492-7

Date Collected: 07/15/16 08:23

Matrix: Water

Date Received: 07/15/16 14:55

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.2	D	0.40	0.20	mg/L			07/15/16 20:06	2
Nitrate as N	3.7	D	0.056	0.028	mg/L			07/15/16 20:06	2
Fluoride	0.29	D	0.10	0.050	mg/L			07/15/16 20:06	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/15/16 20:06	2
Sulfate	43	D	0.50	0.25	mg/L			07/15/16 20:06	2

QC Sample Results

Client: CH2M Hill Plateau Remediation Company  
Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-4903/23  
Matrix: Water  
Analysis Batch: 4903

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			07/15/16 17:05	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			07/15/16 17:05	1

Lab Sample ID: LCS 300-4903/24  
Matrix: Water  
Analysis Batch: 4903

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	2.30		mg/L		102	80 - 120
Nitrite as N	3.04	3.13		mg/L		103	80 - 120

Lab Sample ID: 300-3492-1 MS  
Matrix: Water  
Analysis Batch: 4903

Client Sample ID: B35NR2  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	10	D	0.452	10.4	D	mg/L		97	75 - 125
Nitrite as N	0.038	U D	0.609	0.538	D	mg/L		88	75 - 125

Lab Sample ID: 300-3492-1 DU  
Matrix: Water  
Analysis Batch: 4903

Client Sample ID: B35NR2  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	10	D	10.0	D	mg/L		0.3	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-4904/23  
Matrix: Water  
Analysis Batch: 4904

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			07/15/16 17:05	1
Fluoride	0.025	U	0.050	0.025	mg/L			07/15/16 17:05	1
Sulfate	0.13	U	0.25	0.13	mg/L			07/15/16 17:05	1

Lab Sample ID: LCS 300-4904/24  
Matrix: Water  
Analysis Batch: 4904

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	16.0		mg/L		100	80 - 120
Fluoride	4.00	4.05		mg/L		101	80 - 120
Sulfate	20.0	20.2		mg/L		101	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company  
 Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
 SDG: WC1260

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-3492-1 MS

Matrix: Water

Analysis Batch: 4904

Client Sample ID: B35NR2

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	12	D	3.20	15.1	D	mg/L		104	75 - 125	
Fluoride	0.46	D	0.800	1.26	D	mg/L		100	75 - 125	
Sulfate	50	D	4.00	54.5	D	mg/L		105	75 - 125	

Lab Sample ID: 300-3492-1 DU

Matrix: Water

Analysis Batch: 4904

Client Sample ID: B35NR2

Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier				Limit	Limit
Chloride	12	D	11.8	D	mg/L		0.3	20	
Fluoride	0.46	D	0.462	D	mg/L		0.4	20	
Sulfate	50	D	50.5	D	mg/L		0.3	20	

## QC Association Summary

Client: CH2M Hill Plateau Remediation Company  
Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

## HPLC/IC

## Analysis Batch: 4903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3492-1	B35NR2	Total/NA	Water	300.0	
300-3492-2	B35NR7	Total/NA	Water	300.0	
300-3492-3	B35NT2	Total/NA	Water	300.0	
300-3492-4	B35NT9	Total/NA	Water	300.0	
300-3492-5	B35NV7	Total/NA	Water	300.0	
300-3492-5	B35NV7	Total/NA	Water	300.0	
300-3492-6	B35NW1	Total/NA	Water	300.0	
300-3492-6	B35NW1	Total/NA	Water	300.0	
300-3492-7	B35P44	Total/NA	Water	300.0	
MB 300-4903/23	Method Blank	Total/NA	Water	300.0	
LCS 300-4903/24	Lab Control Sample	Total/NA	Water	300.0	
300-3492-1 MS	B35NR2	Total/NA	Water	300.0	
300-3492-1 DU	B35NR2	Total/NA	Water	300.0	

## Analysis Batch: 4904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3492-1	B35NR2	Total/NA	Water	300.0	
300-3492-2	B35NR7	Total/NA	Water	300.0	
300-3492-3	B35NT2	Total/NA	Water	300.0	
300-3492-4	B35NT9	Total/NA	Water	300.0	
300-3492-5	B35NV7	Total/NA	Water	300.0	
300-3492-6	B35NW1	Total/NA	Water	300.0	
300-3492-7	B35P44	Total/NA	Water	300.0	
MB 300-4904/23	Method Blank	Total/NA	Water	300.0	
LCS 300-4904/24	Lab Control Sample	Total/NA	Water	300.0	
300-3492-1 MS	B35NR2	Total/NA	Water	300.0	
300-3492-1 DU	B35NR2	Total/NA	Water	300.0	

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

**Client Sample ID: B35NR2**

Date Collected: 07/15/16 12:10

Date Received: 07/15/16 14:55

**Lab Sample ID: 300-3492-1**

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	300.0		2			4903	07/15/16 17:35	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4904	07/15/16 17:35	RLC	TAL RCH

**Client Sample ID: B35NR7**

Date Collected: 07/15/16 12:41

Date Received: 07/15/16 14:55

**Lab Sample ID: 300-3492-2**

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	300.0		2			4903	07/15/16 18:20	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4904	07/15/16 18:20	RLC	TAL RCH

**Client Sample ID: B35NT2**

Date Collected: 07/15/16 10:43

Date Received: 07/15/16 14:55

**Lab Sample ID: 300-3492-3**

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	300.0		2			4903	07/15/16 18:35	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4904	07/15/16 18:35	RLC	TAL RCH

**Client Sample ID: B35NT9**

Date Collected: 07/15/16 08:16

Date Received: 07/15/16 14:55

**Lab Sample ID: 300-3492-4**

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	300.0		2			4903	07/15/16 18:50	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4904	07/15/16 18:50	RLC	TAL RCH

**Client Sample ID: B35NV7**

Date Collected: 07/15/16 13:34

Date Received: 07/15/16 14:55

**Lab Sample ID: 300-3492-5**

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		2			4903	07/15/16 19:05	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4904	07/15/16 19:05	RLC	TAL RCH
Total/NA	Analysis	300.0		10			4903	07/15/16 21:51	RLC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

Client Sample ID: B35NW1

Lab Sample ID: 300-3492-6

Date Collected: 07/15/16 09:42

Matrix: Water

Date Received: 07/15/16 14:55

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			4903	07/15/16 19:21	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4904	07/15/16 19:21	RLC	TAL RCH
Total/NA	Analysis	300.0		10			4903	07/15/16 22:06	RLC	TAL RCH

Client Sample ID: B35P44

Lab Sample ID: 300-3492-7

Date Collected: 07/15/16 08:23

Matrix: Water

Date Received: 07/15/16 14:55

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			4903	07/15/16 20:06	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4904	07/15/16 20:06	RLC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4903/23

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			4903	07/15/16 17:05	RLC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4904/23

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			4904	07/15/16 17:05	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4903/24

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			4903	07/15/16 17:20	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4904/24

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			4904	07/15/16 17:20	RLC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company  
Project/Site: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

Client Sample ID: B35NR2

Lab Sample ID: 300-3492-1 MS

Date Collected: 07/15/16 12:10

Matrix: Water

Date Received: 07/15/16 14:55

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			4903	07/15/16 17:50	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4904	07/15/16 17:50	RLC	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: W16-007

TestAmerica Job ID: 300-3492-1  
SDG: WC1260

---

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL RCH

---

**Protocol References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

**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: W16-007

TestAmerica Job ID: 300-3492-1  
 SDG: WC1260

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3492-1	B35NR2	Water	07/15/16 12:10	07/15/16 14:55
300-3492-2	B35NR7	Water	07/15/16 12:41	07/15/16 14:55
300-3492-3	B35NT2	Water	07/15/16 10:43	07/15/16 14:55
300-3492-4	B35NT9	Water	07/15/16 08:16	07/15/16 14:55
300-3492-5	B35NV7	Water	07/15/16 13:34	07/15/16 14:55
300-3492-6	B35NW1	Water	07/15/16 09:42	07/15/16 14:55
300-3492-7	B35P44	Water	07/15/16 08:23	07/15/16 14:55

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

## Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-3492-1

SDG Number: WC1260

Login Number: 3492

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	