

July 18, 2016

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

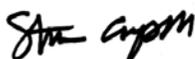
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Richland
2800 George Washington Way
Richland, WA 99352
Tel: (509)375-3131

TestAmerica Job ID: 300-3343-1
TestAmerica Sample Delivery Group: WC1192
Client Project/Site: S16-006

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

Attn: CPP Sample Management



Authorized for release by:
7/18/2016 9:45:35 AM
Steven Campbell, Project Mgmt. Assistant
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Designee for
Whitney Ritari, Project Manager I
(509)375-3131 ext164
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

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Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
 SDG: WC1192

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

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)



July 18, 2016

Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
SDG: WC1192

Job ID: 300-3343-1

Laboratory: TestAmerica Richland

Narrative

Job Narrative
300-3343-1

Comments

No additional comments.

Receipt

The samples were received on 6/23/2016 2:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.6° C.

HPLC/IC

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. #
S16-006-440

Page 1 of 1

Collector Dan Woeltje CHPRC	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. S16-006	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071
Project Title SURV, JUNE 2016	Logbook No. HNF-N-506 <u>86/36</u>	Ice Chest No. N/A
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol SURV	Priority: 30 Days	Offsite Property No. N/A
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1		
SPECIAL INSTRUCTIONS N/A		
Hold Time 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
B35BR2	N	W	6:23:16	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

3343
WOC1192

300-3343 COC



Relinquished By Dan Woeltje CHPRC	Print Dan Woeltje	Sign <i>[Signature]</i>	Date/Time JUN 23 2016 09:00	Received By Janette Zunker CHPRC	Print Janette Zunker	Sign <i>[Signature]</i>	Date/Time JUN 23 2016 14:30	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 Janette Zunker CHPRC	Print Janette Zunker	Sign <i>[Signature]</i>	Date/Time JUN 23 2016 14:30	Received By J. Bock, TARL	Print J. Bock, TARL	Sign <i>[Signature]</i>	Date/Time JUN 23 2016 14:30	

Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
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

CH2M/Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

S16-006-590

Page 1 of 1

Collector	Dan Woehle CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S16-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JUNE 2016	Logbook No.	HNF-N-506 <u>86 / 36</u>	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SURV	Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS			PRIORITY	HOLD TIME	TOTAL ACTIVITY EXEMPTION: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			SPECIAL INSTRUCTIONS		
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B35DU0	N	6.23.16	0908	1x500-ml P	300.0 ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

3343
WCE1192

Relinquished By	Dan Woehle CHPRC	Print Sign	Date/Time	Received By	Janelle Zunker CHPRC	Print Sign	Date/Time	Matrix *
			JUN 23 2016				JUN 23 2016	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Janelle Zunker CHPRC	Print Sign	Date/Time	Received By	J. Bock, TARL	Print Sign	Date/Time	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
			JUN 23 2016				JUN 23 2016	
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. #
S16-006-592
Page 1 of 1

Collector	Dan Woehle CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S16-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JUNE 2016	Logbook No.	HNF-N-506 <u>86/36</u>	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SURV	Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS			SPECIAL INSTRUCTIONS		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			Hold Time		
			Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Sample No.	Filter	*	Date	Time	No/Type Container
B36DJ2	N	W	6.23.16	10833	1x500-ml P
			Sample Analysis		
			300.0 ANIONS_IC: COMMON		
			Holding Time		
			48 Hours		
			Preservative		
			Cool <=6C		

3343
WCC1192

Reinquished By	Print Dan Woehle	Sign	Date/Time	Received By	Print Janelle Zunker CHPRC	Sign	Date/Time	Matrix *
Reinquished By	<i>[Signature]</i>		JUN 23 2016 10:00	Received By	<i>[Signature]</i>	J. Bock, TARL	JUN 23 2016 10:00	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Reinquished By	Print Janelle Zunker CHPRC	Sign	Date/Time	Received By	Print Janelle Zunker CHPRC	Sign	Date/Time	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Reinquished By	<i>[Signature]</i>		JUN 23 2016 1430	Received By	<i>[Signature]</i>		JUN 23 2016 1430	
Reinquished By	Date/Time		Date/Time	Received By	Date/Time		Date/Time	
FINAL SAMPLE DISPOSITION	Disposal 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. #
S16-006-447
Page 1 of 1

Collector	Dan Woehle CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S16-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JUNE 2016	Logbook No.	HNF-N-506 <u>86/36</u>	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SURV	Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS			SPECIAL INSTRUCTIONS		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			Hold Time N/A		
			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
B35BW2	N	W	6-23-16	1207	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

35343
WCE1192

Relinquished By	Dan Woehle CHPRC	Sign	<i>[Signature]</i>	Date/Time	JUN 23 2016 1240	Received By	B.E. Briggs CHPRC	Sign	<i>[Signature]</i>	Date/Time	JUN 23 2016 1240	Matrix *
Relinquished By	B.E. Briggs CHPRC	Sign	<i>[Signature]</i>	Date/Time	JUN 23 2016 1430	Received By	J. Bock, TARL	Sign	<i>[Signature]</i>	Date/Time	JUN 23 2016 1430	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		Date/Time		Received By		Date/Time		Disposed By		Date/Time		

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

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

S16-006-595

Page 1 of 1

Collector	Dan Woehle CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S16-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JUNE 2016	Logbook No.	HNF-N-506 86 / 36	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SURV	Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS			SPECIAL INSTRUCTIONS		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 438.1			N/A		
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B35DJ5	N	6-23-16	1132	1x500-ml P	300.0_ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

3343
WCC 1192

Relinquished By	Print Dan Woehle CHPRC	Sign <i>[Signature]</i>	Date/Time JUN 23 2016 1240	Received By	Print B.E. Briggs CHPRC	Sign <i>[Signature]</i>	Date/Time JUN 23 2016 1240	Matrix *
Relinquished By	Print B.E. Briggs CHPRC	Sign <i>[Signature]</i>	Date/Time JUN 23 2016 1430	Received By	Print J. Bock, TARR	Sign <i>[Signature]</i>	Date/Time JUN 23 2016 1430	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)				Date/Time

CH2M/Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

S16-006-596

Page 1 of 1

Collector	Dan Woeltje CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S16-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JUNE 2016	Logbook No.	HNF-N-506 <u>86 / 36</u>	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SURV	Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS			SPECIAL INSTRUCTIONS		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			N/A		
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B35DJ6	N	6-23-16	0730	1X500-ml P	300.0_ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

3343
WCI1192

Relinquished By	Print Dan Woeltje CHPRC	Sign	Date/Time	Received By	Print J. Bock, T&E	Sign	Date/Time	Matrix *
Relinquished By	CHPRC	<i>[Signature]</i>	JUN 23 2016 1240	Received By	CHPRC	<i>[Signature]</i>	JUN 23 2016 1240	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	CHPRC	<i>[Signature]</i>	JUN 23 2016 1430	Received By	CHPRC	<i>[Signature]</i>	JUN 23 2016 1430	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time		

Detection Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
 SDG: WC1192

Client Sample ID: B35BR2

Lab Sample ID: 300-3343-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.1	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	0.67	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.092	B D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	8.3	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B35DJ0

Lab Sample ID: 300-3343-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.9	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	1.5	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.089	B D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	12	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B35DJ2

Lab Sample ID: 300-3343-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.3	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	1.3	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.082	B D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	9.3	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B35BW2

Lab Sample ID: 300-3343-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	36	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	11	D	0.56	0.28	mg/L	20		300.0	Total/NA
Fluoride	0.056	B D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	120	D	5.0	2.5	mg/L	20		300.0	Total/NA

Client Sample ID: B35DJ7

Lab Sample ID: 300-3343-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	35	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	6.1	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.071	B D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	120	D	5.0	2.5	mg/L	20		300.0	Total/NA

Client Sample ID: B35DJ5

Lab Sample ID: 300-3343-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	69	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	2.6	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
Sulfate	82	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B35DJ6

Lab Sample ID: 300-3343-7

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
SDG: WC1192

Client Sample ID: B35BR2

Lab Sample ID: 300-3343-1

Date Collected: 06/23/16 09:48

Matrix: Water

Date Received: 06/23/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.1	D	0.40	0.20	mg/L			06/24/16 13:35	2
Nitrate as N	0.67	D	0.056	0.028	mg/L			06/24/16 13:35	2
Fluoride	0.092	B D	0.10	0.050	mg/L			06/24/16 13:35	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/24/16 13:35	2
Sulfate	8.3	D	0.50	0.25	mg/L			06/24/16 13:35	2

Client Sample ID: B35DJ0

Lab Sample ID: 300-3343-2

Date Collected: 06/23/16 09:08

Matrix: Water

Date Received: 06/23/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.9	D	0.40	0.20	mg/L			06/24/16 14:20	2
Nitrate as N	1.5	D	0.056	0.028	mg/L			06/24/16 14:20	2
Fluoride	0.089	B D	0.10	0.050	mg/L			06/24/16 14:20	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/24/16 14:20	2
Sulfate	12	D	0.50	0.25	mg/L			06/24/16 14:20	2

Client Sample ID: B35DJ2

Lab Sample ID: 300-3343-3

Date Collected: 06/23/16 08:33

Matrix: Water

Date Received: 06/23/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.3	D	0.40	0.20	mg/L			06/24/16 14:35	2
Nitrate as N	1.3	D	0.056	0.028	mg/L			06/24/16 14:35	2
Fluoride	0.082	B D	0.10	0.050	mg/L			06/24/16 14:35	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/24/16 14:35	2
Sulfate	9.3	D	0.50	0.25	mg/L			06/24/16 14:35	2

Client Sample ID: B35BW2

Lab Sample ID: 300-3343-4

Date Collected: 06/23/16 12:07

Matrix: Water

Date Received: 06/23/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36	D	0.40	0.20	mg/L			06/24/16 14:50	2
Nitrate as N	11	D	0.56	0.28	mg/L			06/24/16 17:36	20
Fluoride	0.056	B D	0.10	0.050	mg/L			06/24/16 14:50	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/24/16 14:50	2
Sulfate	120	D	5.0	2.5	mg/L			06/24/16 17:36	20

Client Sample ID: B35DJ7

Lab Sample ID: 300-3343-5

Date Collected: 06/23/16 10:42

Matrix: Water

Date Received: 06/23/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35	D	0.40	0.20	mg/L			06/24/16 15:05	2
Nitrate as N	6.1	D	0.056	0.028	mg/L			06/24/16 15:05	2

TestAmerica Richland

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
SDG: WC1192

Client Sample ID: B35DJ7

Lab Sample ID: 300-3343-5

Date Collected: 06/23/16 10:42

Matrix: Water

Date Received: 06/23/16 14:30

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.071	B D	0.10	0.050	mg/L			06/24/16 15:05	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/24/16 15:05	2
Sulfate	120	D	5.0	2.5	mg/L			06/24/16 17:51	20

Client Sample ID: B35DJ5

Lab Sample ID: 300-3343-6

Date Collected: 06/23/16 11:22

Matrix: Water

Date Received: 06/23/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69	D	0.40	0.20	mg/L			06/24/16 15:20	2
Nitrate as N	2.6	D	0.056	0.028	mg/L			06/24/16 15:20	2
Fluoride	0.11	D	0.10	0.050	mg/L			06/24/16 15:20	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/24/16 15:20	2
Sulfate	82	D	0.50	0.25	mg/L			06/24/16 15:20	2

Client Sample ID: B35DJ6

Lab Sample ID: 300-3343-7

Date Collected: 06/23/16 07:30

Matrix: Water

Date Received: 06/23/16 14:30

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			06/24/16 16:05	2
Nitrate as N	0.028	U D	0.056	0.028	mg/L			06/24/16 16:05	2
Fluoride	0.050	U D	0.10	0.050	mg/L			06/24/16 16:05	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/24/16 16:05	2
Sulfate	0.25	U D	0.50	0.25	mg/L			06/24/16 16:05	2

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
SDG: WC1192

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-4693/5
Matrix: Water
Analysis Batch: 4693

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			06/24/16 13:05	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			06/24/16 13:05	1

Lab Sample ID: LCS 300-4693/6
Matrix: Water
Analysis Batch: 4693

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	2.31		mg/L		102	80 - 120
Nitrite as N	3.04	3.12		mg/L		102	80 - 120

Lab Sample ID: 300-3343-1 MS
Matrix: Water
Analysis Batch: 4693

Client Sample ID: B35BR2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.67	D	0.452	1.11	D	mg/L		97	75 - 125
Nitrite as N	0.038	U D	0.609	0.529	D	mg/L		87	75 - 125

Lab Sample ID: 300-3343-1 DU
Matrix: Water
Analysis Batch: 4693

Client Sample ID: B35BR2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Nitrate as N	0.67	D	0.671	D	mg/L		0.4	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-4694/5
Matrix: Water
Analysis Batch: 4694

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			06/24/16 13:05	1
Fluoride	0.025	U	0.050	0.025	mg/L			06/24/16 13:05	1
Sulfate	0.13	U	0.25	0.13	mg/L			06/24/16 13:05	1

Lab Sample ID: LCS 300-4694/6
Matrix: Water
Analysis Batch: 4694

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	16.1		mg/L		101	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: S16-006

TestAmerica Job ID: 300-3343-1
 SDG: WC1192

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-3343-1 MS
 Matrix: Water
 Analysis Batch: 4694

Client Sample ID: B35BR2
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	1.1	D	3.20	4.03	D	mg/L		93	75 - 125	
Fluoride	0.092	B D	0.800	0.774	D	mg/L		85	75 - 125	
Sulfate	8.3	D	4.00	12.2	D	mg/L		96	75 - 125	

Lab Sample ID: 300-3343-1 DU
 Matrix: Water
 Analysis Batch: 4694

Client Sample ID: B35BR2
 Prep Type: Total/NA

Analyte	Sample	Sample	DU DU		Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Chloride	1.1	D	1.05	D	mg/L		0.4	20	
Fluoride	0.092	B D	0.0908	B D	mg/L		2	20	
Sulfate	8.3	D	8.31	D	mg/L		0.3	20	

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QC Association Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
 SDG: WC1192

HPLC/IC

Analysis Batch: 4693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3343-1	B35BR2	Total/NA	Water	300.0	
300-3343-1 DU	B35BR2	Total/NA	Water	300.0	
300-3343-1 MS	B35BR2	Total/NA	Water	300.0	
300-3343-2	B35DJ0	Total/NA	Water	300.0	
300-3343-3	B35DJ2	Total/NA	Water	300.0	
300-3343-4	B35BW2	Total/NA	Water	300.0	
300-3343-4	B35BW2	Total/NA	Water	300.0	
300-3343-5	B35DJ7	Total/NA	Water	300.0	
300-3343-6	B35DJ5	Total/NA	Water	300.0	
300-3343-7	B35DJ6	Total/NA	Water	300.0	
LCS 300-4693/6	Lab Control Sample	Total/NA	Water	300.0	
MB 300-4693/5	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 4694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3343-1	B35BR2	Total/NA	Water	300.0	
300-3343-1 DU	B35BR2	Total/NA	Water	300.0	
300-3343-1 MS	B35BR2	Total/NA	Water	300.0	
300-3343-2	B35DJ0	Total/NA	Water	300.0	
300-3343-3	B35DJ2	Total/NA	Water	300.0	
300-3343-4	B35BW2	Total/NA	Water	300.0	
300-3343-4	B35BW2	Total/NA	Water	300.0	
300-3343-5	B35DJ7	Total/NA	Water	300.0	
300-3343-5	B35DJ7	Total/NA	Water	300.0	
300-3343-6	B35DJ5	Total/NA	Water	300.0	
300-3343-7	B35DJ6	Total/NA	Water	300.0	
LCS 300-4694/6	Lab Control Sample	Total/NA	Water	300.0	
MB 300-4694/5	Method Blank	Total/NA	Water	300.0	

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
 SDG: WC1192

Client Sample ID: B35BR2

Date Collected: 06/23/16 09:48

Date Received: 06/23/16 14:30

Lab Sample ID: 300-3343-1

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	10 mL		4693	06/24/16 13:35	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4694	06/24/16 13:35	RLC	TAL RCH

Client Sample ID: B35DJ0

Date Collected: 06/23/16 09:08

Date Received: 06/23/16 14:30

Lab Sample ID: 300-3343-2

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	10 mL		4693	06/24/16 14:20	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4694	06/24/16 14:20	RLC	TAL RCH

Client Sample ID: B35DJ2

Date Collected: 06/23/16 08:33

Date Received: 06/23/16 14:30

Lab Sample ID: 300-3343-3

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	10 mL		4693	06/24/16 14:35	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4694	06/24/16 14:35	RLC	TAL RCH

Client Sample ID: B35BW2

Date Collected: 06/23/16 12:07

Date Received: 06/23/16 14:30

Lab Sample ID: 300-3343-4

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	10 mL		4693	06/24/16 14:50	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4694	06/24/16 14:50	RLC	TAL RCH
Total/NA	Analysis	300.0		20	10 mL		4693	06/24/16 17:36	RLC	TAL RCH
Total/NA	Analysis	300.0		20	10 mL		4694	06/24/16 17:36	RLC	TAL RCH

Client Sample ID: B35DJ7

Date Collected: 06/23/16 10:42

Date Received: 06/23/16 14:30

Lab Sample ID: 300-3343-5

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	10 mL		4693	06/24/16 15:05	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4694	06/24/16 15:05	RLC	TAL RCH
Total/NA	Analysis	300.0		20	10 mL		4694	06/24/16 17:51	RLC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
 SDG: WC1192

Client Sample ID: B35DJ5

Lab Sample ID: 300-3343-6

Date Collected: 06/23/16 11:22

Matrix: Water

Date Received: 06/23/16 14:30

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	10 mL		4693	06/24/16 15:20	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4694	06/24/16 15:20	RLC	TAL RCH

Client Sample ID: B35DJ6

Lab Sample ID: 300-3343-7

Date Collected: 06/23/16 07:30

Matrix: Water

Date Received: 06/23/16 14:30

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	10 mL		4693	06/24/16 16:05	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4694	06/24/16 16:05	RLC	TAL RCH

Client Sample ID: B35BR2

Lab Sample ID: 300-3343-1 DU

Date Collected: 06/23/16 09:48

Matrix: Water

Date Received: 06/23/16 14:30

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	10 mL		4693	06/24/16 14:05	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4694	06/24/16 14:05	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4693/6

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	10 mL		4693	06/24/16 13:20	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4694/6

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	10 mL		4694	06/24/16 13:20	RLC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4693/5

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	10 mL		4693	06/24/16 13:05	RLC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
 Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
 SDG: WC1192

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4694/5

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	10 mL		4694	06/24/16 13:05	RLC	TAL RCH

Client Sample ID: B35BR2

Lab Sample ID: 300-3343-1 MS

Date Collected: 06/23/16 09:48

Matrix: Water

Date Received: 06/23/16 14:30

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	10 mL		4693	06/24/16 13:50	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4694	06/24/16 13:50	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: S16-006

TestAmerica Job ID: 300-3343-1
SDG: WC1192

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



July 18, 2016

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S16-006

TestAmerica Job ID: 300-3343-1
SDG: WC1192

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3343-1	B35BR2	Water	06/23/16 09:48	06/23/16 14:30
300-3343-2	B35DJ0	Water	06/23/16 09:08	06/23/16 14:30
300-3343-3	B35DJ2	Water	06/23/16 08:33	06/23/16 14:30
300-3343-4	B35BW2	Water	06/23/16 12:07	06/23/16 14:30
300-3343-5	B35DJ7	Water	06/23/16 10:42	06/23/16 14:30
300-3343-6	B35DJ5	Water	06/23/16 11:22	06/23/16 14:30
300-3343-7	B35DJ6	Water	06/23/16 07:30	06/23/16 14:30

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Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-3343-1

SDG Number: WC1192

Login Number: 3343

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	

