

6/27/2016

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: 300-3210-1
TestAmerica Sample Delivery Group: WC1135
Client Project/Site: W16-006

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

Attn: CPP Sample Management



Authorized for release by:
6/27/2016 12:53:35 PM
Steven Campbell, Project Mgmt. Assistant
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Designee for
Whitney Ritari, Project Manager I
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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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www.testamericainc.com

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Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 300-3210-1
SDG: WC1135

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: W16-006

TestAmerica Job ID: 300-3210-1
SDG: WC1135

Job ID: 300-3210-1

Laboratory: TestAmerica Richland

Narrative

Job Narrative 300-3210-1

Comments

No additional comments.

Receipt

The samples were received on 6/6/2016 3:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 7.0° C.

HPLC/IC

Method 300.0: Manual integration was performed on the following sample for Sulfate: B357R6 (300-3210-3). The following sample required filtration to reduce matrix interferences and solids: B35837 (300-3210-1).

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



CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
W16-006-101
Page 1 of 1

Collector	K.C. Paterson/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W16-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	RCRA, JUNE 2016	Logbook No.	HNF-N-506 <u>83/82</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
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
B35837	N		JUN 06 2016	1256	1x500-mL P
					Sample Analysis
					300.0_ANIONS_JC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C
					Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Handwritten: #3210
WCC 1135



300-3210 COC

Relinquished By	<i>[Signature]</i>	Print	Sign	Date/Time	Received By	<i>[Signature]</i>	Print	Sign	Date/Time	Matrix *
Relinquished By	<i>[Signature]</i>			JUN 06 2016 1330	Troy Bacon	<i>[Signature]</i>			JUN 06 2016 1330	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Troy Bacon			JUN 06 2016 1330	Received By	<i>[Signature]</i>			JUN 06 2016 1330	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
Relinquished By					Received By	J. Bock, TARI				
Relinquished By					Received By					
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By		Date/Time			

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

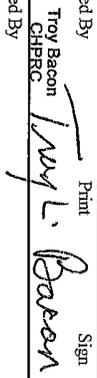
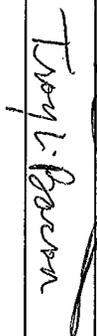
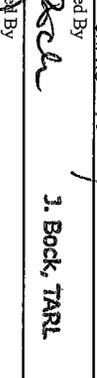
CH2M/Hill Plateau Remediation Company

C.O.C. #
W16-006-076
Page 1 of 1

Collector KC. Paterson/CHREC	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	
SAF No. W16-006	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071	
Project Title RCRA, JUNE 2016	Logbook No. HNF-N-506 93/81	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	
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
B357R5	N	WJUN 06 2016	0730	1x500-mL P	300.0 ANIONS_IC: COMMON	48 Hours	Cool <=6C

3810
W061135

Relinquished By KC. Paterson/CHREC  Date/Time JUN 06 2016 1330	Received By Troy Bacon CHPRC  Date/Time JUN 06 2016 1330
Relinquished By Troy Bacon CHPRC  Date/Time JUN 06 2016 1530	Received By J. Bock, TARL  Date/Time JUN 06 2016 1530

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

Relinquished By FINAL SAMPLE DISPOSITION	Disposed By Disposal Method (e.g., Return to customer, per lab procedure, used in process)
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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CH2M/Hill Plateau Remediation Company

C.O.C. #
W16-006-077
Page 1 of 1

Collector K.C. Paterson/CHPRC	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. W16-006	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071
Project Title RCRA, JUNE 2016	Logbook No. HNF-N-506 83/81	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
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		

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B357R6	N	WJUN 06 2016	1233	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

3210
WU1135

Requisitioned By K.C. Paterson/CHPRC Sign: <i>[Signature]</i> Date/Time: JUN 06 2016 1330	Received By Troy Bacon CHPRC Sign: <i>[Signature]</i> Date/Time: JUN 06 2016 1330
Requisitioned By Troy Bacon CHPRC Sign: <i>[Signature]</i> Date/Time: JUN 06 2016 1500	Received By J. Bock, TARR Sign: <i>[Signature]</i> Date/Time: JUN 06 2016 1500

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

Requisitioned By FINAL SAMPLE DISPOSITION	Disposed By Date/Time
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. # **W16-006-089**
Page 1 of 1

Collector	KC. Patterson/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W16-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	RCRA, JUNE 2016	Logbook No.	HNF-N-506 <u>82/81</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
POSSIBLE SAMPLE HAZARDS/REMARKS			PRIORITY		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			SPECIAL INSTRUCTIONS		
			N/A		
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B357Y4	N	JUN 06 2016	1103	1x500-mL P	300.0_ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C
					Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

W32A10
W3C1135

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
KC. Patterson/CHPRC			JUN 06 2016 1330	Troy Bacon/CHPRC	Troy L. Bacon		JUN 06 2016 1330	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	DS = Drum Solids DL = Drum Liquids T = Tissue WY = Wipe L = Liquid V = Vegetation X = Other
Troy Bacon/CHPRC	Troy L. Bacon		JUN 06 2016 1330	J. Bock, TART	J. Bock, TART		JUN 06 2016 1330	
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	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. #
W16-006-078
Page 1 of 1

Collector	K.C. Peterson/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W16-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	RCRA, JUNE 2016	Logbook No.	HNF-N-506 <u>82/81</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
POSSIBLE SAMPLE HAZARDS/REMARKS			PRIORITY		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			SPECIAL INSTRUCTIONS		
			Hold Time		
			Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Sample No.	Filter	* Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B35712	N	W	JUN 06 2016 0931	1x500-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

3210
wsc1135

Relinquished By	K.C. Peterson/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	Troy L. Bacon	Print	Sign	Date/Time	S = Soil
Relinquished By	Troy L. Bacon	Print	Sign	Date/Time	Received By	J. Beck, TABL	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	WI = 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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
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CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **W16-006-093**
Page 1 of 1

Collector	K.C. Patterson/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W16-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	RCRA, JUNE 2016	Logbook No.	HNF-N-506 <u>83/81</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
POSSIBLE SAMPLE HAZARDS/REMARKS			PRIORITY		
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1			SPECIAL INSTRUCTIONS		
			N/A		
Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis
B35808	N	JUN 06 2016	0856	1x500-mL P	300.0_ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C
					Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

3210
w e l l s

Relinquished By	K.C. Patterson/CHPRC	Print	Signature	Date/Time	Received By	Troy Bacon/CHPRC	Print	Signature	Date/Time	Matrix *
Relinquished By	Troy Bacon/CHPRC	Print	Signature	JUN 06 2016 0910	Received By	J. Bock, TARL	Print	Signature	JUN 06 2016 0950	S = Soil
Relinquished By	Troy Bacon/CHPRC	Print	Signature	JUN 06 2016 1501	Received By		Print	Signature	JUN 06 2016 1501	SE = Sediment
Relinquished By		Print	Signature		Received By		Print	Signature		SO = Solid
Relinquished By		Print	Signature		Received By		Print	Signature		SL = Sludge
Relinquished By		Print	Signature		Received By		Print	Signature		W = Water
Relinquished By		Print	Signature		Received By		Print	Signature		O = Oil
Relinquished By		Print	Signature		Received By		Print	Signature		A = Air
Relinquished By		Print	Signature		Received By		Print	Signature		DS = Drum Solids
Relinquished By		Print	Signature		Received By		Print	Signature		DL = Drum Liquids
Relinquished By		Print	Signature		Received By		Print	Signature		T = Tissue
Relinquished By		Print	Signature		Received By		Print	Signature		WT = Wipe
Relinquished By		Print	Signature		Received By		Print	Signature		L = Liquid
Relinquished By		Print	Signature		Received By		Print	Signature		V = Vegetation
Relinquished By		Print	Signature		Received By		Print	Signature		X = Other
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: W16-006

TestAmerica Job ID: 300-3210-1
SDG: WC1135

Client Sample ID: B35837

Lab Sample ID: 300-3210-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.2	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	1.9	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.41	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	18	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B357R5

Lab Sample ID: 300-3210-2

No Detections.

Client Sample ID: B357R6

Lab Sample ID: 300-3210-3

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	11	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.41	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	20	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B357Y4

Lab Sample ID: 300-3210-4

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	0.36	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	20	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B357T2

Lab Sample ID: 300-3210-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	19	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	16	D	0.14	0.070	mg/L	5		300.0	Total/NA
Fluoride	0.38	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	32	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B35808

Lab Sample ID: 300-3210-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.0	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	0.41	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	24	D	0.50	0.25	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 300-3210-1
SDG: WC1135

Client Sample ID: B35837

Date Collected: 06/06/16 12:56

Date Received: 06/06/16 15:00

Lab Sample ID: 300-3210-1

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.2	D	0.40	0.20	mg/L			06/07/16 12:18	2
Nitrate as N	1.9	D	0.056	0.028	mg/L			06/07/16 12:18	2
Fluoride	0.41	D	0.10	0.050	mg/L			06/07/16 12:18	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/07/16 12:18	2
Sulfate	18	D	0.50	0.25	mg/L			06/07/16 12:18	2

Client Sample ID: B357R5

Date Collected: 06/06/16 07:30

Date Received: 06/06/16 15:00

Lab Sample ID: 300-3210-2

Matrix: Water

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			06/07/16 12:33	2
Nitrate as N	0.028	U D	0.056	0.028	mg/L			06/07/16 12:33	2
Fluoride	0.050	U D	0.10	0.050	mg/L			06/07/16 12:33	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/07/16 12:33	2
Sulfate	0.25	U D	0.50	0.25	mg/L			06/07/16 12:33	2

Client Sample ID: B357R6

Date Collected: 06/06/16 12:33

Date Received: 06/06/16 15:00

Lab Sample ID: 300-3210-3

Matrix: Water

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			06/07/16 12:48	2
Nitrate as N	11	D	0.056	0.028	mg/L			06/07/16 12:48	2
Fluoride	0.41	D	0.10	0.050	mg/L			06/07/16 12:48	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/07/16 12:48	2
Sulfate	20	D	0.50	0.25	mg/L			06/07/16 12:48	2

Client Sample ID: B357Y4

Date Collected: 06/06/16 11:03

Date Received: 06/06/16 15:00

Lab Sample ID: 300-3210-4

Matrix: Water

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			06/07/16 13:03	2
Nitrate as N	10	D	0.056	0.028	mg/L			06/07/16 13:03	2
Fluoride	0.36	D	0.10	0.050	mg/L			06/07/16 13:03	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/07/16 13:03	2
Sulfate	20	D	0.50	0.25	mg/L			06/07/16 13:03	2

Client Sample ID: B357T2

Date Collected: 06/06/16 09:31

Date Received: 06/06/16 15:00

Lab Sample ID: 300-3210-5

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19	D	0.40	0.20	mg/L			06/07/16 13:49	2
Nitrate as N	16	D	0.14	0.070	mg/L			06/07/16 16:50	5

TestAmerica Richland

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 300-3210-1
SDG: WC1135

Client Sample ID: B357T2

Lab Sample ID: 300-3210-5

Date Collected: 06/06/16 09:31

Matrix: Water

Date Received: 06/06/16 15:00

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.38	D	0.10	0.050	mg/L			06/07/16 13:49	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/07/16 13:49	2
Sulfate	32	D	0.50	0.25	mg/L			06/07/16 13:49	2

Client Sample ID: B35808

Lab Sample ID: 300-3210-6

Date Collected: 06/06/16 08:56

Matrix: Water

Date Received: 06/06/16 15:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.0	D	0.40	0.20	mg/L			06/07/16 14:04	2
Nitrate as N	11	D	0.056	0.028	mg/L			06/07/16 14:04	2
Fluoride	0.41	D	0.10	0.050	mg/L			06/07/16 14:04	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/07/16 14:04	2
Sulfate	24	D	0.50	0.25	mg/L			06/07/16 14:04	2

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 300-3210-1
SDG: WC1135

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-4442/5
Matrix: Water
Analysis Batch: 4442

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			06/07/16 10:26	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			06/07/16 10:26	1

Lab Sample ID: LCS 300-4442/6
Matrix: Water
Analysis Batch: 4442

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	2.26	2.27		mg/L		100	80 - 120
Nitrite as N	3.04	3.05		mg/L		100	80 - 120

Lab Sample ID: 300-3208-A-6 MS
Matrix: Water
Analysis Batch: 4442

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
Nitrite as N	0.038	U D	0.609	0.530	D	mg/L		87	75 - 125

Lab Sample ID: 300-3208-A-6 MS
Matrix: Water
Analysis Batch: 4442

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	13	D	1.13	14.2	D	mg/L		101	75 - 125

Lab Sample ID: 300-3208-A-6 DU
Matrix: Water
Analysis Batch: 4442

Client Sample ID: Duplicate
Prep Type: Total/NA

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

Lab Sample ID: 300-3208-A-6 DU
Matrix: Water
Analysis Batch: 4442

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	13	D	13.1	D	mg/L		0.2	20

Lab Sample ID: MB 300-4443/5
Matrix: Water
Analysis Batch: 4443

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			06/07/16 10:26	1
Fluoride	0.025	U	0.050	0.025	mg/L			06/07/16 10:26	1
Sulfate	0.13	U	0.25	0.13	mg/L			06/07/16 10:26	1

TestAmerica Richland

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: W16-006

TestAmerica Job ID: 300-3210-1
 SDG: WC1135

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 300-4443/6
 Matrix: Water
 Analysis Batch: 4443

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	15.6		mg/L		98	80 - 120
Fluoride	4.00	3.93		mg/L		98	80 - 120
Sulfate	20.0	19.7		mg/L		98	80 - 120

Lab Sample ID: 300-3208-A-6 MS
 Matrix: Water
 Analysis Batch: 4443

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
Chloride	14	D	3.20	17.0	D	mg/L		94	75 - 125
Fluoride	0.30	D	0.800	1.04	D	mg/L		92	75 - 125

Lab Sample ID: 300-3208-A-6 MS
 Matrix: Water
 Analysis Batch: 4443

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
Sulfate	36	D	10.0	46.3	D	mg/L		102	75 - 125

Lab Sample ID: 300-3208-A-6 DU
 Matrix: Water
 Analysis Batch: 4443

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	14	D	13.9	D	mg/L		0.6	20
Fluoride	0.30	D	0.308	D	mg/L		2	20

Lab Sample ID: 300-3208-A-6 DU
 Matrix: Water
 Analysis Batch: 4443

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	36	D	36.0	D	mg/L		0.2	20

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: W16-006

TestAmerica Job ID: 300-3210-1
 SDG: WC1135

HPLC/IC

Analysis Batch: 4442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3208-A-6 DU	Duplicate	Total/NA	Water	300.0	
300-3208-A-6 DU	Duplicate	Total/NA	Water	300.0	
300-3208-A-6 MS	Matrix Spike	Total/NA	Water	300.0	
300-3208-A-6 MS	Matrix Spike	Total/NA	Water	300.0	
300-3210-1	B35837	Total/NA	Water	300.0	
300-3210-2	B357R5	Total/NA	Water	300.0	
300-3210-3	B357R6	Total/NA	Water	300.0	
300-3210-4	B357Y4	Total/NA	Water	300.0	
300-3210-5	B357T2	Total/NA	Water	300.0	
300-3210-5	B357T2	Total/NA	Water	300.0	
300-3210-6	B35808	Total/NA	Water	300.0	
LCS 300-4442/6	Lab Control Sample	Total/NA	Water	300.0	
MB 300-4442/5	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 4443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3208-A-6 DU	Duplicate	Total/NA	Water	300.0	
300-3208-A-6 DU	Duplicate	Total/NA	Water	300.0	
300-3208-A-6 MS	Matrix Spike	Total/NA	Water	300.0	
300-3208-A-6 MS	Matrix Spike	Total/NA	Water	300.0	
300-3210-1	B35837	Total/NA	Water	300.0	
300-3210-2	B357R5	Total/NA	Water	300.0	
300-3210-3	B357R6	Total/NA	Water	300.0	
300-3210-4	B357Y4	Total/NA	Water	300.0	
300-3210-5	B357T2	Total/NA	Water	300.0	
300-3210-6	B35808	Total/NA	Water	300.0	
LCS 300-4443/6	Lab Control Sample	Total/NA	Water	300.0	
MB 300-4443/5	Method Blank	Total/NA	Water	300.0	

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 300-3210-1
SDG: WC1135

Client Sample ID: B35837

Date Collected: 06/06/16 12:56

Date Received: 06/06/16 15:00

Lab Sample ID: 300-3210-1

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		4442	06/07/16 12:18	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4443	06/07/16 12:18	CPM	TAL RCH

Client Sample ID: B357R5

Date Collected: 06/06/16 07:30

Date Received: 06/06/16 15:00

Lab Sample ID: 300-3210-2

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		4442	06/07/16 12:33	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4443	06/07/16 12:33	CPM	TAL RCH

Client Sample ID: B357R6

Date Collected: 06/06/16 12:33

Date Received: 06/06/16 15:00

Lab Sample ID: 300-3210-3

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		4442	06/07/16 12:48	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4443	06/07/16 12:48	CPM	TAL RCH

Client Sample ID: B357Y4

Date Collected: 06/06/16 11:03

Date Received: 06/06/16 15:00

Lab Sample ID: 300-3210-4

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		4442	06/07/16 13:03	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4443	06/07/16 13:03	CPM	TAL RCH

Client Sample ID: B357T2

Date Collected: 06/06/16 09:31

Date Received: 06/06/16 15:00

Lab Sample ID: 300-3210-5

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		4442	06/07/16 13:49	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4443	06/07/16 13:49	CPM	TAL RCH
Total/NA	Analysis	300.0		5	10 mL		4442	06/07/16 16:50	CPM	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: W16-006

TestAmerica Job ID: 300-3210-1
SDG: WC1135

Client Sample ID: B35808

Lab Sample ID: 300-3210-6

Date Collected: 06/06/16 08:56

Matrix: Water

Date Received: 06/06/16 15:00

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		4442	06/07/16 14:04	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4443	06/07/16 14:04	CPM	TAL RCH

Client Sample ID: Duplicate

Lab Sample ID: 300-3208-A-6 DU

Date Collected: 06/06/16 10:20

Matrix: Water

Date Received: 06/06/16 15:00

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		4442	06/07/16 11:48	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4443	06/07/16 11:48	CPM	TAL RCH
Total/NA	Analysis	300.0		5	10 mL		4442	06/07/16 14:49	CPM	TAL RCH
Total/NA	Analysis	300.0		5	10 mL		4443	06/07/16 14:49	CPM	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4442/6

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		4442	06/07/16 11:03	CPM	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4443/6

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		4443	06/07/16 11:03	CPM	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4442/5

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		4442	06/07/16 10:26	CPM	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4443/5

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		4443	06/07/16 10:26	CPM	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
 Project/Site: W16-006

TestAmerica Job ID: 300-3210-1
 SDG: WC1135

Client Sample ID: Matrix Spike

Lab Sample ID: 300-3208-A-6 MS

Date Collected: 06/06/16 10:20

Matrix: Water

Date Received: 06/06/16 15:00

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		4442	06/07/16 11:33	CPM	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		4443	06/07/16 11:33	CPM	TAL RCH
Total/NA	Analysis	300.0		5	10 mL		4442	06/07/16 14:34	CPM	TAL RCH
Total/NA	Analysis	300.0		5	10 mL		4443	06/07/16 14:34	CPM	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: W16-006

TestAmerica Job ID: 300-3210-1
SDG: WC1135

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: W16-006

TestAmerica Job ID: 300-3210-1
SDG: WC1135

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3210-1	B35837	Water	06/06/16 12:56	06/06/16 15:00
300-3210-2	B357R5	Water	06/06/16 07:30	06/06/16 15:00
300-3210-3	B357R6	Water	06/06/16 12:33	06/06/16 15:00
300-3210-4	B357Y4	Water	06/06/16 11:03	06/06/16 15:00
300-3210-5	B357T2	Water	06/06/16 09:31	06/06/16 15:00
300-3210-6	B35808	Water	06/06/16 08:56	06/06/16 15:00

- 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: 300-3210-1

SDG Number: WC1135

Login Number: 3210

List Number: 1

Creator: Bock, Julie A

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	