

8/15/2016

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: 300-3721-1
TestAmerica Sample Delivery Group: WC1352
Client Project/Site: X16-054

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

Attn: CPP Sample Management



Authorized for release by:
8/15/2016 3:10:38 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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Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-054

TestAmerica Job ID: 300-3721-1
SDG: WC1352

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)

Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-054

TestAmerica Job ID: 300-3721-1
SDG: WC1352

Job ID: 300-3721-1

Laboratory: TestAmerica Richland

Narrative

Job Narrative
300-3721-1

Comments

No additional comments.

Receipt

The samples were received on 8/10/2016 3:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 10.3° 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. #
X16-054-144
Page 1 of 1

Collector	Juan Aguilar /CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	X16-054	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303064
Project Title	AQUIFER TUBES, SEPTEMBER 2016	Logbook No.	HNF-N-506 79 / 34	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	30 Days	Offsite Property No.	N/A
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 Special Handling: N/A		
Sample No.	Filter	*	Date	Time	No/Type Container
B36D26	N		AUG 10 2016	0942	1x125-mL P
Sample Analysis			300_0_ANIONS_IC: COMMON		
Holding Time			48 Hours		
Preservative			Cool <=6C		
Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					

#3721
WG1352



300-3721 COC

Relinquished By	Juan Aguilar /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	J. Bock, TARL	Print	Sign	Date/Time	Matrix *
Relinquished By		Print	Sign	Date/Time	Received By		Print	Sign	Date/Time	Matrix *
<p>FINAL SAMPLE DISPOSITION</p> <p>Disposal Method (e.g., Return to customer, per lab procedure, used in process)</p> <p>Disposed By</p> <p>Date/Time</p>										



CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
X16-054-152
Page 1 of 1

Collector	Juan Aguilar /CHERC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	X16-054	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303064
Project Title	AQUIFER TUBES, SEPTEMBER 2016	Logbook No.	HNF-N-506 79 / 34	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	30 Days	Offsite Property No.	N/A
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 Special Handling: N/A		
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B36D50	N	AUG 10 2016	0803	1x125-ml P	300.0_ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

3721
WGC1352

Relinquished By	Juan Aguilar /CHERC	Print	Sign	Date/Time	Received By	Troy Bacon /CHERC	Print	Sign	Date/Time	Matrix *
Relinquished By	Troy Bacon /CHERC	Print	Sign	AUG 10 2016 1035	Received By	J. Bock, TARL	Print	Sign	AUG 10 2016 1035	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By					Received By				AUG 10 2016 1510	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)					

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
X16-054-208
Page 1 of 1

Collector	Juan Aguilar /CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	X16-054	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303064
Project Title	AQUIFER TUBES, SEPTEMBER 2016	Logbook No.	HNF-N-506 79 / 33	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	30 Days	Offsite Property No.	N/A
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 Special Handling: N/A		
Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis
B36DT4	N	AUG 09 2016	1402	1x125-mL P	300.0 ANIONS_IC: COMMON
					Sample Analysis
					300.0 ANIONS_IC: COMMON
					48 Hours
					Preservative
					Cool <=6C

#3721
W/C1352

Relinquished By	Juan Aguilar /CHPRC	Print	Sign	Date/Time	Received By	SSA #1	Print	Sign	Date/Time	Matrix *
Relinquished By	Janelle Zunker /CHPRC	Print	Sign	AUG 09 2016 1440	Received By	Janelle Zunker /CHPRC	Print	Sign	AUG 09 2016 1440	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Janelle Zunker /CHPRC	Print	Sign	AUG 10 2016 1510	Received By	J. Bock, TARL	Print	Sign	AUG 10 2016 1510	DS = Drum Solids DL = Drum Liquids T = Tissue W1 = Wipe L = Liquid V = Vegetation X = Other
FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time										

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
X16-054-221
Page 1 of 1

Collector	Juan Aguilar /CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	X16-054	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303064
Project Title	AQUIFER TUBES, SEPTEMBER 2016	Logbook No.	HNF-N-506 <u>79/34</u>	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	30 Days	Offsite Property No.	N/A
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 Special Handling: N/A		
Sample No.	Filter	Date	No/Type Container	Sample Analysis	Holding Time
B36DY3	N	W AUG 10 2016 W AUG 10 2016	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours
					Preservative
					Cool <=6C
				Total Activity Exemption:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

3721
W/C1352

Relinquished By	Juan Aguilar /CHPRC	Print	Sign	Date/Time	Received By	Troy Bacon /CHPRC	Print	Sign	Date/Time	Matrix *
				AUG 10 2016 1035					AUG 10 2016 1035	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Troy Bacon /CHPRC	Print	Sign	Date/Time	Received By	J. Beck, TAPL	Print	Sign	Date/Time	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other
				AUG 10 2016 1510					AUG 10 2016 1510	
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. #
X16-054-222

Page 1 of 1

Collector	Juan Aguilar /CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	X16-054	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303064
Project Title	AQUIFER TUBES, SEPTEMBER 2016	Logbook No.	HNF-N-506 79/34	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	30 Days	Offsite Property No.	N/A
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 Special Handling: N/A		
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B36DY7	N	AUG 10 2016	1156	1x125-mL P	300.0_ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

3721
WGI1352

Relinquished By	Juan Aguilar /CHPRC	Print	Sign	Date/Time	Received By	Troy Bacon CHPRC	Print	Sign	Date/Time	Matrix *
Relinquished By	Troy Bacon CHPRC	Print	Sign	AUG 10 2016 1235	Received By	Troy L Bacon	Print	Sign	AUG 10 2016 1235	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Troy L Bacon	Print	Sign	AUG 10 2016 1510	Received By	J. Bock, TARL	Print	Sign	AUG 10 2016 1510	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			

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
X16-054-219

Page 1 of 1

Collector Juan Aguilar CHPRC	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. X16-054	Sampling Origin Hanford Site	Purchase Order/Charge Code 303064
Project Title AQUIFER TUBES, SEPTEMBER 2016	Logbook No. HNF-N-506 79 / 34	Ice Chest No. N/A
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A
Protocol CERCLA	Priority: 30 Days	Offsite Property No. N/A
POSSIBLE SAMPLE HAZARDS/REMARKS		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. B36DX7	Filter N	Date AUG 10 2016
	* WAUG 10 2016	Time 0901
	No/Type Container 1x125-mL P	Sample Analysis 300.0_ANIONS_IC: COMMON
		Holding Time 48 Hours
		Preservative Cool <=6C

#3721
WGC1352

Relinquished By Juan Aguilar CHPRC	Print	Sign	Date/Time AUG 10 2016 1035	Received By Troy Bacon CHPRC	Print	Sign	Date/Time AUG 10 2016 1035	Matrix *
Relinquished By Troy Bacon CHPRC			Date/Time AUG 10 2016 1510	Received By J. Bock, TARL			Date/Time AUG 10 2016 1510	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	
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: X16-054

TestAmerica Job ID: 300-3721-1
SDG: WC1352

Client Sample ID: B36D26

Lab Sample ID: 300-3721-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.0	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	0.39	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.065	B D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	8.4	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B36D50

Lab Sample ID: 300-3721-2

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	14	D	0.56	0.28	mg/L	20		300.0	Total/NA
Fluoride	0.13	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	130	D	5.0	2.5	mg/L	20		300.0	Total/NA

Client Sample ID: B36DT4

Lab Sample ID: 300-3721-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	10	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	8.4	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.094	B D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	51	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B36DY3

Lab Sample ID: 300-3721-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.2	D	0.40	0.20	mg/L	2		300.0	Total/NA
Fluoride	0.11	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	11	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B36DY7

Lab Sample ID: 300-3721-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.2	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	0.11	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.097	B D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	10	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B36DX7

Lab Sample ID: 300-3721-6

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	0.035	B D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.15	D	0.10	0.050	mg/L	2		300.0	Total/NA
Nitrite as N	0.048	B D	0.076	0.038	mg/L	2		300.0	Total/NA
Sulfate	53	D	0.50	0.25	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-054

TestAmerica Job ID: 300-3721-1
SDG: WC1352

Client Sample ID: B36D26

Lab Sample ID: 300-3721-1

Date Collected: 08/10/16 09:42

Matrix: Water

Date Received: 08/10/16 15:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	D	0.40	0.20	mg/L			08/10/16 19:37	2
Nitrate as N	0.39	D	0.056	0.028	mg/L			08/10/16 19:37	2
Fluoride	0.065	B D	0.10	0.050	mg/L			08/10/16 19:37	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			08/10/16 19:37	2
Sulfate	8.4	D	0.50	0.25	mg/L			08/10/16 19:37	2

Client Sample ID: B36D50

Lab Sample ID: 300-3721-2

Date Collected: 08/10/16 08:03

Matrix: Water

Date Received: 08/10/16 15:10

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			08/10/16 20:22	2
Nitrate as N	14	D	0.56	0.28	mg/L			08/11/16 00:10	20
Fluoride	0.13	D	0.10	0.050	mg/L			08/10/16 20:22	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			08/10/16 20:22	2
Sulfate	130	D	5.0	2.5	mg/L			08/11/16 00:10	20

Client Sample ID: B36DT4

Lab Sample ID: 300-3721-3

Date Collected: 08/09/16 14:02

Matrix: Water

Date Received: 08/10/16 15:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10	D	0.40	0.20	mg/L			08/10/16 20:37	2
Nitrate as N	8.4	D	0.056	0.028	mg/L			08/10/16 20:37	2
Fluoride	0.094	B D	0.10	0.050	mg/L			08/10/16 20:37	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			08/10/16 20:37	2
Sulfate	51	D	0.50	0.25	mg/L			08/10/16 20:37	2

Client Sample ID: B36DY3

Lab Sample ID: 300-3721-4

Date Collected: 08/10/16 10:19

Matrix: Water

Date Received: 08/10/16 15:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.2	D	0.40	0.20	mg/L			08/10/16 20:52	2
Nitrate as N	0.028	U D	0.056	0.028	mg/L			08/10/16 20:52	2
Fluoride	0.11	D	0.10	0.050	mg/L			08/10/16 20:52	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			08/10/16 20:52	2
Sulfate	11	D	0.50	0.25	mg/L			08/10/16 20:52	2

Client Sample ID: B36DY7

Lab Sample ID: 300-3721-5

Date Collected: 08/10/16 11:56

Matrix: Water

Date Received: 08/10/16 15:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.2	D	0.40	0.20	mg/L			08/10/16 21:08	2
Nitrate as N	0.11	D	0.056	0.028	mg/L			08/10/16 21:08	2

TestAmerica Richland

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: X16-054

TestAmerica Job ID: 300-3721-1
 SDG: WC1352

Client Sample ID: B36DY7

Lab Sample ID: 300-3721-5

Date Collected: 08/10/16 11:56

Matrix: Water

Date Received: 08/10/16 15:10

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.097	B D	0.10	0.050	mg/L			08/10/16 21:08	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			08/10/16 21:08	2
Sulfate	10	D	0.50	0.25	mg/L			08/10/16 21:08	2

Client Sample ID: B36DX7

Lab Sample ID: 300-3721-6

Date Collected: 08/10/16 09:01

Matrix: Water

Date Received: 08/10/16 15:10

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			08/10/16 21:23	2
Nitrate as N	0.035	B D	0.056	0.028	mg/L			08/10/16 21:23	2
Fluoride	0.15	D	0.10	0.050	mg/L			08/10/16 21:23	2
Nitrite as N	0.048	B D	0.076	0.038	mg/L			08/10/16 21:23	2
Sulfate	53	D	0.50	0.25	mg/L			08/10/16 21:23	2

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: X16-054

TestAmerica Job ID: 300-3721-1
 SDG: WC1352

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-5217/5
 Matrix: Water
 Analysis Batch: 5217

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			08/10/16 19:07	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			08/10/16 19:07	1

Lab Sample ID: LCS 300-5217/6
 Matrix: Water
 Analysis Batch: 5217

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	2.32		mg/L		103	80 - 120
Nitrite as N	3.04	3.16		mg/L		104	80 - 120

Lab Sample ID: 300-3721-1 MS
 Matrix: Water
 Analysis Batch: 5217

Client Sample ID: B36D26
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.39	D	0.452	0.825	D	mg/L		96	75 - 125
Nitrite as N	0.038	U D	0.609	0.537	D	mg/L		88	75 - 125

Lab Sample ID: 300-3721-1 DU
 Matrix: Water
 Analysis Batch: 5217

Client Sample ID: B36D26
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Nitrate as N	0.39	D	0.391	D	mg/L		0.2	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-5218/5
 Matrix: Water
 Analysis Batch: 5218

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			08/10/16 19:07	1
Fluoride	0.025	U	0.050	0.025	mg/L			08/10/16 19:07	1
Sulfate	0.13	U	0.25	0.13	mg/L			08/10/16 19:07	1

Lab Sample ID: LCS 300-5218/6
 Matrix: Water
 Analysis Batch: 5218

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	16.2		mg/L		101	80 - 120
Fluoride	4.00	4.06		mg/L		102	80 - 120
Sulfate	20.0	20.5		mg/L		102	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: X16-054

TestAmerica Job ID: 300-3721-1
 SDG: WC1352

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-3721-1 MS
 Matrix: Water
 Analysis Batch: 5218

Client Sample ID: B36D26
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	1.0	D	3.20	4.06	D	mg/L		95	75 - 125	
Fluoride	0.065	B D	0.800	0.752	D	mg/L		86	75 - 125	
Sulfate	8.4	D	4.00	12.6	D	mg/L		105	75 - 125	

Lab Sample ID: 300-3721-1 DU
 Matrix: Water
 Analysis Batch: 5218

Client Sample ID: B36D26
 Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier				RPD	Limit
Chloride	1.0	D	1.01	D	mg/L		0.2	20	
Fluoride	0.065	B D	0.0651	B D	mg/L		0.1	20	
Sulfate	8.4	D	8.42	D	mg/L		0.3	20	

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QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-054

TestAmerica Job ID: 300-3721-1
SDG: WC1352

HPLC/IC

Analysis Batch: 5217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3721-1	B36D26	Total/NA	Water	300.0	
300-3721-2	B36D50	Total/NA	Water	300.0	
300-3721-2	B36D50	Total/NA	Water	300.0	
300-3721-3	B36DT4	Total/NA	Water	300.0	
300-3721-4	B36DY3	Total/NA	Water	300.0	
300-3721-5	B36DY7	Total/NA	Water	300.0	
300-3721-6	B36DX7	Total/NA	Water	300.0	
MB 300-5217/5	Method Blank	Total/NA	Water	300.0	
LCS 300-5217/6	Lab Control Sample	Total/NA	Water	300.0	
300-3721-1 MS	B36D26	Total/NA	Water	300.0	
300-3721-1 DU	B36D26	Total/NA	Water	300.0	

Analysis Batch: 5218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3721-1	B36D26	Total/NA	Water	300.0	
300-3721-2	B36D50	Total/NA	Water	300.0	
300-3721-2	B36D50	Total/NA	Water	300.0	
300-3721-3	B36DT4	Total/NA	Water	300.0	
300-3721-4	B36DY3	Total/NA	Water	300.0	
300-3721-5	B36DY7	Total/NA	Water	300.0	
300-3721-6	B36DX7	Total/NA	Water	300.0	
MB 300-5218/5	Method Blank	Total/NA	Water	300.0	
LCS 300-5218/6	Lab Control Sample	Total/NA	Water	300.0	
300-3721-1 MS	B36D26	Total/NA	Water	300.0	
300-3721-1 DU	B36D26	Total/NA	Water	300.0	

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-054

TestAmerica Job ID: 300-3721-1
SDG: WC1352

Client Sample ID: B36D26

Date Collected: 08/10/16 09:42

Date Received: 08/10/16 15:10

Lab Sample ID: 300-3721-1

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			5217	08/10/16 19:37	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5218	08/10/16 19:37	RLC	TAL RCH

Client Sample ID: B36D50

Date Collected: 08/10/16 08:03

Date Received: 08/10/16 15:10

Lab Sample ID: 300-3721-2

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			5217	08/10/16 20:22	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5218	08/10/16 20:22	RLC	TAL RCH
Total/NA	Analysis	300.0		20			5217	08/11/16 00:10	RLC	TAL RCH
Total/NA	Analysis	300.0		20			5218	08/11/16 00:10	RLC	TAL RCH

Client Sample ID: B36DT4

Date Collected: 08/09/16 14:02

Date Received: 08/10/16 15:10

Lab Sample ID: 300-3721-3

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			5217	08/10/16 20:37	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5218	08/10/16 20:37	RLC	TAL RCH

Client Sample ID: B36DY3

Date Collected: 08/10/16 10:19

Date Received: 08/10/16 15:10

Lab Sample ID: 300-3721-4

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			5217	08/10/16 20:52	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5218	08/10/16 20:52	RLC	TAL RCH

Client Sample ID: B36DY7

Date Collected: 08/10/16 11:56

Date Received: 08/10/16 15:10

Lab Sample ID: 300-3721-5

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			5217	08/10/16 21:08	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5218	08/10/16 21:08	RLC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-054

TestAmerica Job ID: 300-3721-1
SDG: WC1352

Client Sample ID: B36DX7

Lab Sample ID: 300-3721-6

Date Collected: 08/10/16 09:01

Matrix: Water

Date Received: 08/10/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			5217	08/10/16 21:23	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5218	08/10/16 21:23	RLC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-5217/5

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			5217	08/10/16 19:07	RLC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-5218/5

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			5218	08/10/16 19:07	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-5217/6

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			5217	08/10/16 19:22	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-5218/6

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			5218	08/10/16 19:22	RLC	TAL RCH

Client Sample ID: B36D26

Lab Sample ID: 300-3721-1 MS

Date Collected: 08/10/16 09:42

Matrix: Water

Date Received: 08/10/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			5217	08/10/16 19:52	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5218	08/10/16 19:52	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: X16-054

TestAmerica Job ID: 300-3721-1
SDG: WC1352

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: X16-054

TestAmerica Job ID: 300-3721-1
SDG: WC1352

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3721-1	B36D26	Water	08/10/16 09:42	08/10/16 15:10
300-3721-2	B36D50	Water	08/10/16 08:03	08/10/16 15:10
300-3721-3	B36DT4	Water	08/09/16 14:02	08/10/16 15:10
300-3721-4	B36DY3	Water	08/10/16 10:19	08/10/16 15:10
300-3721-5	B36DY7	Water	08/10/16 11:56	08/10/16 15:10
300-3721-6	B36DX7	Water	08/10/16 09:01	08/10/16 15:10

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Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-3721-1

SDG Number: WC1352

Login Number: 3721

List Number: 1

Creator: Anderson, Lori F

List Source: TestAmerica Richland

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	