

August 10, 2016

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Richland

2800 George Washington Way

Richland, WA 99352

Tel: (509)375-3131

TestAmerica Job ID: 300-3689-1

TestAmerica Sample Delivery Group: WC1347

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:

8/10/2016 1:04:03 PM

Steven Campbell, Project Mgmt. Assistant

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Designee for

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LINKS

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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.



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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)



August 10, 2016

Case Narrative

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

TestAmerica Job ID: 300-3689-1
SDG: WC1347

Job ID: 300-3689-1

Laboratory: TestAmerica Richland

Narrative

Job Narrative
300-3689-1

Comments

No additional comments.

Receipt

The samples were received on 8/9/2016 2:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 8.8° C.

HPLC/IC

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

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August 10, 2016

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X16-054-168
Page 1 of 1

Collector	Juan Aguilar /CH/RC	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			Hold Time		
			N/A		
			Special Handling: N/A		
Sample No.	Filter	Date	No/Type Container	Sample Analysis	Holding Time
B36D95	N	AUG 09 2016	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours
					Preservative
					Cool <=6C

32089
US C13411



300-3689 COC

Relinquished By	Juan Aguilar /CH/RC	Date/Time	AUG 09 2016 1200	Received By	Lesly Neal /CH/RC	Date/Time	AUG 09 2016 1200	Matrix *
Relinquished By	Lesly Neal /CH/RC	Date/Time	AUG 09 2016 1430	Received By	J. Bock, TARL	Date/Time	AUG 09 2016 1430	S = Soil
Relinquished By		Date/Time		Received By		Date/Time		SE = Sediment
Relinquished By		Date/Time		Received By		Date/Time		SO = Solid
Relinquished By		Date/Time		Received By		Date/Time		SL = Sludge
Relinquished By		Date/Time		Received By		Date/Time		W = Water
Relinquished By		Date/Time		Received By		Date/Time		O = Oil
Relinquished By		Date/Time		Received By		Date/Time		A = Air
Relinquished By		Date/Time		Received By		Date/Time		DS = Drumm Solids
Relinquished By		Date/Time		Received By		Date/Time		DL = Drumm Liquids
Relinquished By		Date/Time		Received By		Date/Time		T = Tissue
Relinquished By		Date/Time		Received By		Date/Time		WT = Wipe
Relinquished By		Date/Time		Received By		Date/Time		L = Liquid
Relinquished By		Date/Time		Received By		Date/Time		V = Vegetation
Relinquished By		Date/Time		Received By		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. #
X16-054-166
Page 1 of 1

Collector <i>Juan Aguilar ICHPRC</i>	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 *** 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. B36D94	Filter N	Date AUG 09 2016
	* W	Date AUG 09 2016
		Time 10:16
	No./Type Container 1x125-ml P	Sample Analysis 300 0 ANIONS, J.C: COMMON
		Holding Time 48 Hours
		Preservative Cool <=6C
		Special Instructions SPECIAL INSTRUCTIONS N/A Special Handling: N/A
		Hold Time N/A
		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

3689
WCBM

Relinquished By <i>Juan Aguilar ICHPRC</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time AUG 09 2016 12:00	Received By <i>Juan Aguilar ICHPRC</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time AUG 09 2016 12:00	Matrix *
Relinquished By <i>Juan Aguilar ICHPRC</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time AUG 09 2016 12:00	Received By <i>Juan Aguilar ICHPRC</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time AUG 09 2016 12:00	Matrix *
Relinquished By			Date/Time	Received By			Date/Time	Matrix *
Relinquished By			Date/Time	Received By			Date/Time	Matrix *
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By	Date/Time		Matrix *		

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CH2M/Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#

X16-054-207

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			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
B36D10	N	AUG 09 2016	0951	1x125-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"/>

3689
WDC1344

Relinquished By	Juan Aguilar /CHPRC	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Relinquished By	Juan Aguilar /CHPRC			AUG 09 2016 1200	Received By	Juan Aguilar /CHPRC		AUG 09 2016 1200	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Juan Aguilar /CHPRC			AUG 09 2016 1450	Received By	J. Bock, TARL		AUG 09 2016 1450	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By					Received By				
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)				Disposed By	Date/Time			

August 10, 2016

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

X16-054-216

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
B36DW7	N	AUG 09 2016	0904	1x125-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"/>

3689
WC1341

Relinquished By	Juan Aguilar /CHPRC	Print	Sign	Date/Time	Received By	J. Beck, TARI	Print	Sign	Date/Time	Matrix *
Relinquished By	Larry Beck /CHPRC	Print	Sign	AUG 09 2016 1200	Received By	Larry Beck /CHPRC	Print	Sign	AUG 09 2016 1200	S = Soil
Relinquished By	Larry Beck /CHPRC	Print	Sign	AUG 09 2016 1430	Received By	J. Beck, TARI	Print	Sign	AUG 09 2016 1430	SE = Sediment
Relinquished By		Print	Sign		Received By		Print	Sign		SO = Solid
Relinquished By		Print	Sign		Received By		Print	Sign		SL = Sludge
Relinquished By		Print	Sign		Received By		Print	Sign		W = Water
Relinquished By		Print	Sign		Received By		Print	Sign		O = Oil
Relinquished By		Print	Sign		Received By		Print	Sign		A = Air
Relinquished By		Print	Sign		Received By		Print	Sign		DS = Drum Solids
Relinquished By		Print	Sign		Received By		Print	Sign		DL = Drum Liquids
Relinquished By		Print	Sign		Received By		Print	Sign		T = Tissue
Relinquished By		Print	Sign		Received By		Print	Sign		WT = Wipe
Relinquished By		Print	Sign		Received By		Print	Sign		L = Liquid
Relinquished By		Print	Sign		Received By		Print	Sign		V = Vegetation
Relinquished By		Print	Sign		Received By		Print	Sign		X = Other
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By		Date/Time			

August 10, 2016 Detection Summary

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

TestAmerica Job ID: 300-3689-1
SDG: WC1347

Client Sample ID: B36D95

Lab Sample ID: 300-3689-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.5	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	0.32	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.10	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: B36D94

Lab Sample ID: 300-3689-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.5	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	0.32	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.10	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: B36DT0

Lab Sample ID: 300-3689-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.6	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	0.10	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	42	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B36DW7

Lab Sample ID: 300-3689-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.5	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	0.34	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	10	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B36DR4

Lab Sample ID: 300-3689-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2.6	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	3.4	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	15	D	0.50	0.25	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

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August 10, 2016

Client Sample Results

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

TestAmerica Job ID: 300-3689-1
 SDG: WC1347

Client Sample ID: B36D95

Lab Sample ID: 300-3689-1

Date Collected: 08/09/16 10:16

Matrix: Water

Date Received: 08/09/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.5	D	0.40	0.20	mg/L			08/09/16 17:28	2
Nitrate as N	0.32	D	0.056	0.028	mg/L			08/09/16 17:28	2
Fluoride	0.10	D	0.10	0.050	mg/L			08/09/16 17:28	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			08/09/16 17:28	2
Sulfate	11	D	0.50	0.25	mg/L			08/09/16 17:28	2

Client Sample ID: B36D94

Lab Sample ID: 300-3689-2

Date Collected: 08/09/16 10:16

Matrix: Water

Date Received: 08/09/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.5	D	0.40	0.20	mg/L			08/09/16 18:13	2
Nitrate as N	0.32	D	0.056	0.028	mg/L			08/09/16 18:13	2
Fluoride	0.10	D	0.10	0.050	mg/L			08/09/16 18:13	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			08/09/16 18:13	2
Sulfate	11	D	0.50	0.25	mg/L			08/09/16 18:13	2

Client Sample ID: B36DT0

Lab Sample ID: 300-3689-3

Date Collected: 08/09/16 09:51

Matrix: Water

Date Received: 08/09/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.6	D	0.40	0.20	mg/L			08/09/16 18:28	2
Nitrate as N	6.1	D	0.056	0.028	mg/L			08/09/16 18:28	2
Fluoride	0.10	D	0.10	0.050	mg/L			08/09/16 18:28	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			08/09/16 18:28	2
Sulfate	42	D	0.50	0.25	mg/L			08/09/16 18:28	2

Client Sample ID: B36DW7

Lab Sample ID: 300-3689-4

Date Collected: 08/09/16 09:04

Matrix: Water

Date Received: 08/09/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.5	D	0.40	0.20	mg/L			08/09/16 18:43	2
Nitrate as N	0.34	D	0.056	0.028	mg/L			08/09/16 18:43	2
Fluoride	0.11	D	0.10	0.050	mg/L			08/09/16 18:43	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			08/09/16 18:43	2
Sulfate	10	D	0.50	0.25	mg/L			08/09/16 18:43	2

Client Sample ID: B36DR4

Lab Sample ID: 300-3689-5

Date Collected: 08/09/16 11:04

Matrix: Water

Date Received: 08/09/16 14:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.6	D	0.40	0.20	mg/L			08/09/16 18:58	2
Nitrate as N	3.4	D	0.056	0.028	mg/L			08/09/16 18:58	2

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Client Sample Results

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

TestAmerica Job ID: 300-3689-1
SDG: WC1347

Client Sample ID: B36DR4

Lab Sample ID: 300-3689-5

Date Collected: 08/09/16 11:04

Matrix: Water

Date Received: 08/09/16 14:30

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			08/09/16 18:58	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			08/09/16 18:58	2
Sulfate	15	D	0.50	0.25	mg/L			08/09/16 18:58	2

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QC Sample Results

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

TestAmerica Job ID: 300-3689-1
 SDG: WC1347

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-5199/5
Matrix: Water
Analysis Batch: 5199

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			08/09/16 16:58	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			08/09/16 16:58	1

Lab Sample ID: LCS 300-5199/6
Matrix: Water
Analysis Batch: 5199

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	3.15		mg/L		103	80 - 120

Lab Sample ID: 300-3689-1 MS
Matrix: Water
Analysis Batch: 5199

Client Sample ID: B36D95
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.32	D	0.452	0.743	D	mg/L		93	75 - 125
Nitrite as N	0.038	U D	0.609	0.540	D	mg/L		89	75 - 125

Lab Sample ID: 300-3689-1 DU
Matrix: Water
Analysis Batch: 5199

Client Sample ID: B36D95
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	0.32	D	0.321	D	mg/L		0.3	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-5200/5
Matrix: Water
Analysis Batch: 5200

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			08/09/16 16:58	1
Fluoride	0.025	U	0.050	0.025	mg/L			08/09/16 16:58	1
Sulfate	0.13	U	0.25	0.13	mg/L			08/09/16 16:58	1

Lab Sample ID: LCS 300-5200/6
Matrix: Water
Analysis Batch: 5200

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	4.05		mg/L		101	80 - 120
Sulfate	20.0	20.1		mg/L		101	80 - 120

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QC Sample Results

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

TestAmerica Job ID: 300-3689-1
 SDG: WC1347

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-3689-1 MS
Matrix: Water
Analysis Batch: 5200

Client Sample ID: B36D95
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	1.5	D	3.20	4.56	D	mg/L		96	75 - 125	
Fluoride	0.10	D	0.800	0.801	D	mg/L		87	75 - 125	
Sulfate	11	D	4.00	14.6	D	mg/L		97	75 - 125	

Lab Sample ID: 300-3689-1 DU
Matrix: Water
Analysis Batch: 5200

Client Sample ID: B36D95
Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	RPD	
	Result	Qualifier	Result	Qualifier				RPD	Limit
Chloride	1.5	D	1.47	D	mg/L		0.2	20	
Fluoride	0.10	D	0.102	D	mg/L		0.1	20	
Sulfate	11	D	10.8	D	mg/L		0.05	20	



August 10, 2016

QC Association Summary

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

TestAmerica Job ID: 300-3689-1
SDG: WC1347

HPLC/IC

Analysis Batch: 5199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3689-1	B36D95	Total/NA	Water	300.0	
300-3689-2	B36D94	Total/NA	Water	300.0	
300-3689-3	B36DT0	Total/NA	Water	300.0	
300-3689-4	B36DW7	Total/NA	Water	300.0	
300-3689-5	B36DR4	Total/NA	Water	300.0	
MB 300-5199/5	Method Blank	Total/NA	Water	300.0	
LCS 300-5199/6	Lab Control Sample	Total/NA	Water	300.0	
300-3689-1 MS	B36D95	Total/NA	Water	300.0	
300-3689-1 DU	B36D95	Total/NA	Water	300.0	

Analysis Batch: 5200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3689-1	B36D95	Total/NA	Water	300.0	
300-3689-2	B36D94	Total/NA	Water	300.0	
300-3689-3	B36DT0	Total/NA	Water	300.0	
300-3689-4	B36DW7	Total/NA	Water	300.0	
300-3689-5	B36DR4	Total/NA	Water	300.0	
MB 300-5200/5	Method Blank	Total/NA	Water	300.0	
LCS 300-5200/6	Lab Control Sample	Total/NA	Water	300.0	
300-3689-1 MS	B36D95	Total/NA	Water	300.0	
300-3689-1 DU	B36D95	Total/NA	Water	300.0	

August 10, 2016 Lab Chronicle

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

TestAmerica Job ID: 300-3689-1
SDG: WC1347

Client Sample ID: B36D95

Lab Sample ID: 300-3689-1

Date Collected: 08/09/16 10:16

Matrix: Water

Date Received: 08/09/16 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			5199	08/09/16 17:28	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5200	08/09/16 17:28	RLC	TAL RCH

Client Sample ID: B36D94

Lab Sample ID: 300-3689-2

Date Collected: 08/09/16 10:16

Matrix: Water

Date Received: 08/09/16 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			5199	08/09/16 18:13	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5200	08/09/16 18:13	RLC	TAL RCH

Client Sample ID: B36DT0

Lab Sample ID: 300-3689-3

Date Collected: 08/09/16 09:51

Matrix: Water

Date Received: 08/09/16 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			5199	08/09/16 18:28	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5200	08/09/16 18:28	RLC	TAL RCH

Client Sample ID: B36DW7

Lab Sample ID: 300-3689-4

Date Collected: 08/09/16 09:04

Matrix: Water

Date Received: 08/09/16 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			5199	08/09/16 18:43	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5200	08/09/16 18:43	RLC	TAL RCH

Client Sample ID: B36DR4

Lab Sample ID: 300-3689-5

Date Collected: 08/09/16 11:04

Matrix: Water

Date Received: 08/09/16 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			5199	08/09/16 18:58	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5200	08/09/16 18:58	RLC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-5199/5

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			5199	08/09/16 16:58	RLC	TAL RCH

TestAmerica Richland

August 10, 2016 Lab Chronicle

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

TestAmerica Job ID: 300-3689-1
SDG: WC1347

Client Sample ID: Method Blank

Lab Sample ID: MB 300-5200/5

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			5200	08/09/16 16:58	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-5199/6

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			5199	08/09/16 17:13	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-5200/6

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			5200	08/09/16 17:13	RLC	TAL RCH

Client Sample ID: B36D95

Lab Sample ID: 300-3689-1 MS

Date Collected: 08/09/16 10:16

Matrix: Water

Date Received: 08/09/16 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			5199	08/09/16 17:43	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5200	08/09/16 17:43	RLC	TAL RCH

Laboratory References:

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

August 10, 2016

Method Summary

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

TestAmerica Job ID: 300-3689-1
SDG: WC1347

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



August 10, 2016

Sample Summary

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

TestAmerica Job ID: 300-3689-1
SDG: WC1347

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3689-1	B36D95	Water	08/09/16 10:16	08/09/16 14:30
300-3689-2	B36D94	Water	08/09/16 10:16	08/09/16 14:30
300-3689-3	B36DT0	Water	08/09/16 09:51	08/09/16 14:30
300-3689-4	B36DW7	Water	08/09/16 09:04	08/09/16 14:30
300-3689-5	B36DR4	Water	08/09/16 11:04	08/09/16 14:30

- 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: 300-3689-1

SDG Number: WC1347

Login Number: 3689

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	

