

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: 300-1479-1
TestAmerica Sample Delivery Group: WC0584
Client Project/Site: CH2M Hill Chemical

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

Attn: CPP Sample Management



Authorized for release by:
12/7/2015 11:09:54 AM
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Designee for
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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 elss than five times the MDL.



LINKS

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Qualifiers**HPLC/IC**

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

General Chemistry

Qualifier	Qualifier Description
B	Estimated result. Result is less than the RL, but greater than MDL
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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)

Job ID: 300-1479-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-1479-1**

Comments

No additional comments.

Receipt

The samples were received on 11/11/2015 3:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6° C.

HPLC/IC

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

General Chemistry

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



CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#
II6-002-296
Page 1 of 1

Collector	K.M. Campbell/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	II6-002	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	100KR4, NOVEMBER 2015	Logbook No.	HNF-N-506 <u>82 / 5</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			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
B334N5	N	11-11-15	0920	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B334N7	Y	11-11-15	0920	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

WCD584
1479

300-1479 COC



Reinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
K.M. Campbell/CHPRC			NOV 11 2015 1300	F.M. Hall/CHPRC			NOV 11 2015 1300	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Reinquished By			NOV 11 2015 1505	J. Bock, TARL			NOV 11 2015 1505	DS = Drum Solids DL = Drum Liquids T = Tissue WT = Wipe L = Liquid V = Vegetation X = Other

Reinquished By	Date/Time	Received By	Date/Time	Disposed By	Date/Time

December 07, 2015

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
I16-002-279

Page 1 of 1

Collector	K.M. Campbell/CHPRC	Contact/Requester	Karen Waters-Husted
SAF No.	I16-002	Sampling Origin	Hanford Site
Project Title	100KR4, NOVEMBER 2015	Logbook No.	HNF-N-506 <u>22/5</u>
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE
Protocol	CERCLA	Priority:	30 Days
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
B334D9	Y	W	11-11-15	1242	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B334D7	N	W	11-11-15	1242	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

WEDS84
14119

December 07 2015

Relinquished By K.M. Campbell/CHPRC Print Sign Date/Time NOV 11 2015 1300	Received By F.M. Hamcherc Print Sign Date/Time NOV 11 2015 1300
Relinquished By F.M. Hamcherc Print Sign Date/Time NOV 11 2015 1505	Received By J. Bock, TARL Print Sign Date/Time NOV 11 2015 1505

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

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



CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CH2M/Hill Plateau Remediation Company

C.O.C. #

I16-002-280

Page 1 of 1

Collector K.M. Campbell/CHPRC	Contact/Requestor Karen Waters-Husted	Telephone No. 509-376-4650	
SAF No. I16-002	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071	
Project Title 100KR4, NOVEMBER 2015	Logbook No. HNF-N-506 82 / 5	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	
		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
B334F5	N	W	11-11-15	0800	1x60-mL aG	7196_CRG: COMMON	24 Hours	Cool <=6C
B334F9	Y	W	11-11-15	0800	1x60-mL aG	7196_CRG: COMMON	24 Hours	Cool <=6C

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B1499

Reinquished By K.M. Campbell/CHPRC	Print	Sign	Date/Time	Received By F.M. Hainchprc	Print	Sign	Date/Time	Matrix *
Reinquished By			NOV 11 2015 1300	Received By			NOV 11 2015 1300	S = Soil
Reinquished By			NOV 11 2015 1505	Received By			NOV 11 2015 1505	SE = Sediment
Reinquished By				Received By				SO = Solid
Reinquished By				Received By				SL = Sludge
Reinquished By				Received By				W = Water
Reinquished By				Received By				O = Oil
Reinquished By				Received By				A = Air

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

December 07, 2015



CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
116-002-407
Page 1 of 1

Collector	K.M. Campbell/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	116-002	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	100KR4, NOVEMBER 2015	Logbook No.	HNF-N-506 <u>82/5</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			Hold Time		
			Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Sample No.	Filter	*	Date	Time	No./Type Container
B33BC4	N	W	11-11-15	1242	1x500-ml P
					Sample Analysis
					300.0 ANIONS_IC: COMMON
					Holding Time
					48 Hours
					Preservative
					Cool <=6C

WC0584
1419

Relinquished By	Print K.M. Campbell/CHPRC	Sign	Date/Time	Received By	Print F.M. Hall/CHPRC	Sign	Date/Time
			NOV 11 2015 1300				NOV 11 2015 1500
Relinquished By	F.M. Hall/CHPRC		NOV 11 2015 1505	Received By	J. Bock, TARL		NOV 11 2015 1505
Relinquished By				Received By			
Relinquished By				Received By			

Matrix *	
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

December 07 2015

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. #
116-002-295

Page 1 of 1

Collector	K.M. Campbell/CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	116-002	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	100KR4, NOVEMBER 2015	Logbook No.	HNF-N-506 <u>82/5</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			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
B334N4	N	W	11-11-15	0920	1x500-ml P	300.0 ANIONS_IC: COMMON	48 Hours	Cool <=6C

WJCS84
1499

December 07 2015

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
K.M. Campbell/CHPRC			NOV 11 2015 1300	F.M. Hall/CHPRC			NOV 11 2015 1300	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 = Drumm Solids DL = Drumm Liquids T = Tissue WL = Wipe L = Liquid V = Vegetation X = Other
F.M. Hall/CHPRC			NOV 11 2015 1505	J. Bock, TARL			NOV 11 2015 1505	
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	

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

Client: CH2M Hill Plateau Remediation Company
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1479-1
 SDG: WC0584

Client Sample ID: B334N5**Lab Sample ID: 300-1479-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0029	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B334N7**Lab Sample ID: 300-1479-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0031	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B334D9**Lab Sample ID: 300-1479-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0091		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B334D7**Lab Sample ID: 300-1479-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0085		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B334F5**Lab Sample ID: 300-1479-5**

No Detections.

Client Sample ID: B334F9**Lab Sample ID: 300-1479-6**

No Detections.

Client Sample ID: B334H0**Lab Sample ID: 300-1479-7**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0081		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B334F6**Lab Sample ID: 300-1479-8**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0083		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B33BC4**Lab Sample ID: 300-1479-9**

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	2.1	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.30	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	79	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B334N4**Lab Sample ID: 300-1479-10**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.8	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	3.0	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.35	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	43	D	0.50	0.25	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

Client: CH2M Hill Plateau Remediation Company
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1479-1
 SDG: WC0584

Client Sample ID: B334N5

Date Collected: 11/11/15 09:20

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0029	B	0.0040	0.0015	mg/L	-		11/11/15 18:08	1

Client Sample ID: B334N7

Date Collected: 11/11/15 09:20

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-2

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0031	B	0.0040	0.0015	mg/L	-		11/11/15 18:12	1

Client Sample ID: B334D9

Date Collected: 11/11/15 12:42

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-3

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0091		0.0040	0.0015	mg/L	-		11/11/15 18:12	1

Client Sample ID: B334D7

Date Collected: 11/11/15 12:42

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-4

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0085		0.0040	0.0015	mg/L	-		11/11/15 18:12	1

Client Sample ID: B334F5

Date Collected: 11/11/15 08:00

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-5

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L	-		11/11/15 18:13	1

Client Sample ID: B334F9

Date Collected: 11/11/15 08:00

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-6

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L	-		11/11/15 18:13	1

Client Sample ID: B334H0

Date Collected: 11/11/15 11:05

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-7

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0081		0.0040	0.0015	mg/L	-		11/11/15 18:13	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1479-1
 SDG: WC0584

Client Sample ID: B334F6
Date Collected: 11/11/15 11:05
Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-8
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0083		0.0040	0.0015	mg/L			11/11/15 18:16	1

Client Sample ID: B33BC4
Date Collected: 11/11/15 12:42
Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-9
Matrix: Water

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			11/11/15 22:14	2
Nitrate as N	2.1	D	0.056	0.028	mg/L			11/11/15 22:14	2
Fluoride	0.30	D	0.10	0.050	mg/L			11/11/15 22:14	2
Nitrite as N	0.038	U	0.076	0.038	mg/L			11/11/15 22:14	2
Sulfate	79	D	0.50	0.25	mg/L			11/11/15 22:14	2

Client Sample ID: B334N4
Date Collected: 11/11/15 09:20
Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-10
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.8	D	0.40	0.20	mg/L			11/11/15 22:29	2
Nitrate as N	3.0	D	0.056	0.028	mg/L			11/11/15 22:29	2
Fluoride	0.35	D	0.10	0.050	mg/L			11/11/15 22:29	2
Nitrite as N	0.038	U	0.076	0.038	mg/L			11/11/15 22:29	2
Sulfate	43	D	0.50	0.25	mg/L			11/11/15 22:29	2

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-1940/5
 Matrix: Water
 Analysis Batch: 1940

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			11/11/15 18:58	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			11/11/15 18:58	1

Lab Sample ID: LCS 300-1940/6
 Matrix: Water
 Analysis Batch: 1940

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	2.38		mg/L		106	80 - 120
Nitrite as N	3.04	3.25		mg/L		107	80 - 120

Lab Sample ID: 300-1476-A-2 MS
 Matrix: Water
 Analysis Batch: 1940

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	7.4	D	0.452	7.84	D	mg/L		91	75 - 125
Nitrite as N	0.038	U	0.609	0.550	D	mg/L		90	75 - 125

Lab Sample ID: 300-1476-A-2 DU
 Matrix: Water
 Analysis Batch: 1940

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	7.4	D	7.39	D	mg/L		0.5	20
Nitrite as N	0.038	U	0.038	U	mg/L		NC	20

Lab Sample ID: MB 300-1941/5
 Matrix: Water
 Analysis Batch: 1941

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			11/11/15 18:58	1
Fluoride	0.025	U	0.050	0.025	mg/L			11/11/15 18:58	1
Sulfate	0.13	U	0.25	0.13	mg/L			11/11/15 18:58	1

Lab Sample ID: LCS 300-1941/6
 Matrix: Water
 Analysis Batch: 1941

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	16.8		mg/L		105	80 - 120
Fluoride	4.00	4.22		mg/L		106	80 - 120
Sulfate	20.0	21.1		mg/L		105	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-1476-A-2 MS
 Matrix: Water
 Analysis Batch: 1941

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	49	D	3.20	51.7	D	mg/L		88	75 - 125
Fluoride	0.45	D	0.800	1.27	D	mg/L		102	75 - 125
Sulfate	64	D	4.00	68.3	D	mg/L		96	75 - 125

Lab Sample ID: 300-1476-A-2 DU
 Matrix: Water
 Analysis Batch: 1941

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	49	D	48.7	D	mg/L		0.4	20
Fluoride	0.45	D	0.443	D	mg/L		1	20
Sulfate	64	D	64.2	D	mg/L		0.5	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-1962/3
 Matrix: Water
 Analysis Batch: 1962

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			11/11/15 18:03	1

Lab Sample ID: LCS 300-1962/4
 Matrix: Water
 Analysis Batch: 1962

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.250	0.255		mg/L		102	80 - 120

Lab Sample ID: 300-1479-1 MS
 Matrix: Water
 Analysis Batch: 1962

Client Sample ID: B334N5
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.0029	B	0.0500	0.0533		mg/L		101	85 - 115

Lab Sample ID: 300-1479-1 DU
 Matrix: Water
 Analysis Batch: 1962

Client Sample ID: B334N5
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.0029	B	0.00270	B	mg/L		7	20

Client: CH2M Hill Plateau Remediation Company
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1479-1
 SDG: WC0584

HPLC/IC

Analysis Batch: 1940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-1476-A-2 DU	Duplicate	Total/NA	Water	300.0	
300-1476-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
300-1479-9	B33BC4	Total/NA	Water	300.0	
300-1479-10	B334N4	Total/NA	Water	300.0	
LCS 300-1940/6	Lab Control Sample	Total/NA	Water	300.0	
MB 300-1940/5	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 1941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-1476-A-2 DU	Duplicate	Total/NA	Water	300.0	
300-1476-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
300-1479-9	B33BC4	Total/NA	Water	300.0	
300-1479-10	B334N4	Total/NA	Water	300.0	
LCS 300-1941/6	Lab Control Sample	Total/NA	Water	300.0	
MB 300-1941/5	Method Blank	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 1962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-1479-1	B334N5	Total/NA	Water	7196A	
300-1479-1 DU	B334N5	Total/NA	Water	7196A	
300-1479-1 MS	B334N5	Total/NA	Water	7196A	
300-1479-2	B334N7	Total/NA	Water	7196A	
300-1479-3	B334D9	Total/NA	Water	7196A	
300-1479-4	B334D7	Total/NA	Water	7196A	
300-1479-5	B334F5	Total/NA	Water	7196A	
300-1479-6	B334F9	Total/NA	Water	7196A	
300-1479-7	B334H0	Total/NA	Water	7196A	
300-1479-8	B334F6	Total/NA	Water	7196A	
LCS 300-1962/4	Lab Control Sample	Total/NA	Water	7196A	
MB 300-1962/3	Method Blank	Total/NA	Water	7196A	

Client: CH2M Hill Plateau Remediation Company
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1479-1
 SDG: WC0584

Client Sample ID: B334N5

Date Collected: 11/11/15 09:20

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-1

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	7196A		1			1962	11/11/15 18:08	AMC	TAL RCH

Client Sample ID: B334N7

Date Collected: 11/11/15 09:20

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-2

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	7196A		1			1962	11/11/15 18:12	AMC	TAL RCH

Client Sample ID: B334D9

Date Collected: 11/11/15 12:42

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-3

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	7196A		1			1962	11/11/15 18:12	AMC	TAL RCH

Client Sample ID: B334D7

Date Collected: 11/11/15 12:42

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-4

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	7196A		1			1962	11/11/15 18:12	AMC	TAL RCH

Client Sample ID: B334F5

Date Collected: 11/11/15 08:00

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-5

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	7196A		1			1962	11/11/15 18:13	AMC	TAL RCH

Client Sample ID: B334F9

Date Collected: 11/11/15 08:00

Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-6

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	7196A		1			1962	11/11/15 18:13	AMC	TAL RCH

Client: CH2M Hill Plateau Remediation Company
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1479-1
 SDG: WC0584

Client Sample ID: B334H0
Date Collected: 11/11/15 11:05
Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-7
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	7196A		1			1962	11/11/15 18:13	AMC	TAL RCH

Client Sample ID: B334F6
Date Collected: 11/11/15 11:05
Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-8
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	7196A		1			1962	11/11/15 18:16	AMC	TAL RCH

Client Sample ID: B33BC4
Date Collected: 11/11/15 12:42
Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-9
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		1940	11/11/15 22:14	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		1941	11/11/15 22:14	RLC	TAL RCH

Client Sample ID: B334N4
Date Collected: 11/11/15 09:20
Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-10
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		1940	11/11/15 22:29	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		1941	11/11/15 22:29	RLC	TAL RCH

Client Sample ID: Duplicate
Date Collected: 11/11/15 09:35
Date Received: 11/11/15 15:05

Lab Sample ID: 300-1476-A-2 DU
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		1940	11/11/15 19:58	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		1941	11/11/15 19:58	RLC	TAL RCH

Client Sample ID: B334N5
Date Collected: 11/11/15 09:20
Date Received: 11/11/15 15:05

Lab Sample ID: 300-1479-1 DU
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	7196A		1			1962	11/11/15 18:11	AMC	TAL RCH

Client: CH2M Hill Plateau Remediation Company
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1479-1
 SDG: WC0584

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-1940/6

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		1940	11/11/15 19:13	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-1941/6

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		1941	11/11/15 19:13	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-1962/4

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	7196A		1			1962	11/11/15 18:03	AMC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-1940/5

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		1940	11/11/15 18:58	RLC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-1941/5

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		1941	11/11/15 18:58	RLC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-1962/3

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	7196A		1			1962	11/11/15 18:03	AMC	TAL RCH

Client: CH2M Hill Plateau Remediation Company
 Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1479-1
 SDG: WC0584

Client Sample ID: Matrix Spike

Lab Sample ID: 300-1476-A-2 MS

Date Collected: 11/11/15 09:35

Matrix: Water

Date Received: 11/11/15 15:05

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		1940	11/11/15 19:43	RLC	TAL RCH
Total/NA	Analysis	300.0		2	10 mL		1941	11/11/15 19:43	RLC	TAL RCH

Client Sample ID: B334N5

Lab Sample ID: 300-1479-1 MS

Date Collected: 11/11/15 09:20

Matrix: Water

Date Received: 11/11/15 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1		3.0 mL	1962	11/11/15 18:08	AMC	TAL RCH

Laboratory References:

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

Client: CH2M Hill Plateau Remediation Company
Project/Site: CH2M Hill Chemical

TestAmerica Job ID: 300-1479-1
SDG: WC0584

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL RCH
7196A	Chromium, Hexavalent	SW846	TAL RCH

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

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: CH2M Hill Chemical

TestAmerica Job ID: 300-1479-1
 SDG: WC0584

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-1479-1	B334N5	Water	11/11/15 09:20	11/11/15 15:05
300-1479-2	B334N7	Water	11/11/15 09:20	11/11/15 15:05
300-1479-3	B334D9	Water	11/11/15 12:42	11/11/15 15:05
300-1479-4	B334D7	Water	11/11/15 12:42	11/11/15 15:05
300-1479-5	B334F5	Water	11/11/15 08:00	11/11/15 15:05
300-1479-6	B334F9	Water	11/11/15 08:00	11/11/15 15:05
300-1479-7	B334H0	Water	11/11/15 11:05	11/11/15 15:05
300-1479-8	B334F6	Water	11/11/15 11:05	11/11/15 15:05
300-1479-9	B33BC4	Water	11/11/15 12:42	11/11/15 15:05
300-1479-10	B334N4	Water	11/11/15 09:20	11/11/15 15:05



Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-1479-1
SDG Number: WC0584

Login Number: 1479
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.	True	
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.	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	

