

July 19, 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: 300-3345-1

TestAmerica Sample Delivery Group: WC1194

Client Project/Site: F16-039

For:

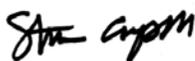
CH2M Hill Plateau Remediation Company

PO BOX 1600

Mail Stop R3-50

Richland, Washington 99352

Attn: CPP Sample Management



Authorized for release by:

7/19/2016 3:36:58 PM

Steven Campbell, Project Mgmt. Assistant

steven.campbell@testamericainc.com

Designee for

Whitney Ritari, Project Manager I

(509)375-3131 ext164

whitney.ritari@testamericainc.com

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.

General Chemistry

Qualifier	Qualifier Description
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.
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)



Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

Job ID: 300-3345-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-3345-1**

Comments

No additional comments.

Receipt

The samples were received on 6/24/2016 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9° 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.



CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

FI6-039-007

PAGE 1 OF 1

COLLECTOR Scott King CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNOURROUND 30 Days / 30 Days
SAMPLING LOCATION C9544, SCREENED INTERVAL	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water	FIELD LOGBOOK NO. HNF-N-645 4	SAF NO. FI6-039	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE
ICE CHEST NO. N/A	ACTUAL SAMPLE DEPTH 99.27	COA 300115	BILL OF LADING/AIR BILL NO. N/A	ORIGINAL	

SHIPPED TO TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO. N/A	PRESERVATION Cool-to-4C	HOLDING TIME 24 Hours	TYPE OF CONTAINER aig	NO. OF CONTAINER(S) 1	VOLUME 60ml	SAMPLE ANALYSIS 7196 CR6 COMMON
MATRIX* A=Air DI=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sealment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	SPECIAL HANDLING AND/OR STORAGE					

SAMPLE NO. B35FT2	MATRIX* WATER	SAMPLE DATE JUN 23 2016	SAMPLE TIME 1405	DATE/TIME JUN 23 2016 1405	DATE/TIME JUN 23 2016 1405
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300-3345 COC

3345
WfE1194

July 19 2016

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM Scott King CHPRC	DATE/TIME JUN 23 2016 1405	RECEIVED BY/STORED IN SSU-1	DATE/TIME JUN 23 2016 1405	** All requests for Hexavalent Chromium at Test America Richland are to have a unique HETS sample number and be assigned to a separate COC.
RELINQUISHED BY/REMOVED FROM Janelle Zunker CHPRC	DATE/TIME JUN 24 2016 0700	RECEIVED BY/STORED IN Janelle Zunker CHPRC	DATE/TIME JUN 24 2016 0720	
RELINQUISHED BY/REMOVED FROM Janelle Zunker CHPRC	DATE/TIME JUN 24 2016 0830	RECEIVED BY/STORED IN L Anderson, TARI	DATE/TIME JUN 24 2016 0830	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F16-039-014 PAGE 1 OF 1

COLLECTOR Scott King /CHERC
COMPANY CONTACT TODAK, D
TELEPHONE NO. 376-6427
PROJECT COORDINATOR TODAK, D

SAMPLING LOCATION C9544, SCREENED INTERVAL
PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water
SAF NO. F16-039
AIR QUALITY
PRICE CODE 7H
DATA TURNAROUND 30 Days / 30 Days

ICE CHEST NO. N/A
FIELD LOGBOOK NO. HNF-N-645 4 - 1420
ACTUAL SAMPLE DEPTH 99.27'
COA 300115
METHOD OF SHIPMENT GOVERNMENT VEHICLE
ORIGINAL

SHIPPED TO TestAmerica Incorporated, Richland
OFFSITE PROPERTY NO. N/A
BILL OF LADING/AIR BILL NO. N/A

MATRIX*
 A=Air
 DL=Drum
 L=Liquid
 DS=Drum
 Solids
 L=Liquid
 O=Oil
 S=Soil
 SF=Settlement
 T=Issue
 V=Vegetation
 W=Water
 WI=Wipe
 X=Other

PRESERVATION Cool~4C
HOLDING TIME 24 Hours
TYPE OF CONTAINER ag
NO. OF CONTAINER(S) 1
VOLUME 60ml
SPECIAL HANDLING AND/OR STORAGE 7196 C06; COMMON;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B35FT9	WATER	JUN 23 2016	1405

#3345
 WTC1194

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM
 RECEIVED BY/STORED IN
 DATE/TIME
 JUN 23 2016 1405
 JUN 23 2016 1500

RELINQUISHED BY/REMOVED FROM
 RECEIVED BY/STORED IN
 DATE/TIME
 JUN 24 2016 0700
 JUN 24 2016 0700

RELINQUISHED BY/REMOVED FROM
 RECEIVED BY/STORED IN
 DATE/TIME
 JUN 24 2016 0830
 JUN 24 2016 0830

RELINQUISHED BY/REMOVED FROM
 RECEIVED BY/STORED IN
 DATE/TIME

RELINQUISHED BY/REMOVED FROM
 RECEIVED BY/STORED IN
 DATE/TIME

RELINQUISHED BY/REMOVED FROM
 RECEIVED BY/STORED IN
 DATE/TIME

FILTER

** All requests for Hexavalent Chromium at Test America Richland are to have a unique HEIS sample number and be assigned to a separate COC.

LABORATORY SECTION RECEIVED BY
FINAL SAMPLE DISPOSITION DISPOSAL METHOD
TITLE DATE/TIME
DISPOSED BY DATE/TIME

PRINTED ON 4/29/2016 FSR ID = FSR32088 TRVL NUM = TRVL-16-134 A-6003-618 (REV 2)

July 19 2016

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

FL6-039-016

PAGE 1 OF 1

COLLECTOR **Scott King** / **ACHPRC** COMPANY CONTACT **TODAK, D** TELEPHONE NO. **376-6427** PROJECT COORDINATOR **TODAK, D** PRICE CODE **7H** DATA TURNAROUND **30 Days / 30 Days**

SAMPLING LOCATION **C9544, SCREENED INTERVAL DUP** PROJECT DESIGNATION **100-HR-3 Long Term & Interim Action Monitoring - Water** SAF NO. **FL6-039** AIR QUALITY METHOD OF SHIPMENT **ORIGINAL**

ICE CHEST NO. **N/A** FIELD LOGBOOK NO. **HNF-N-645 4-0220** ACTUAL SAMPLE DEPTH **99.27'** COA **300115** METHOD OF SHIPMENT **ORIGINAL**

SHIPPED TO **TestAmerica Incorporated, Richland** OFFSITE PROPERTY NO. **N/A** BILL OF LADING/AIR BILL NO. **N/A**

MATRIX* **A=Air, DL=Drum, Liquids, DS=Drum, Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other**

POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/JATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	Cool-4C	24 Hours	ag	1	60mL	7196 CR6: COMMON;

#3345
WCE1194

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B35FV1	WATER	JUN 23 2016	1405

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

** All requests for Hexavalent Chromium at Test America Richland are to have a unique HEIS sample number and be assigned to a separate COC.

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM ACHPRC	JUN 23 2016 1500	RECEIVED BY/STORED IN SSU-1	JUN 23 2016 1500
RELINQUISHED BY/REMOVED FROM SSU-1	JUN 24 2016 0700	RECEIVED BY/STORED IN ACHPRC	JUN 24 2016 0700
RELINQUISHED BY/REMOVED FROM Janelle Zunker	JUN 24 2016 0830	RECEIVED BY/STORED IN ACHPRC	JUN 24 2016 0830
RELINQUISHED BY/REMOVED FROM ACHPRC	JUN 24 2016 0830	RECEIVED BY/STORED IN ACHPRC	JUN 24 2016 0830
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD		

July 19 2016

COLLECTOR Scott King IC/HRPC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	FL16-039-022	PAGE 1 OF 1
SAMPLING LOCATION C9544, SCREENED INTERVAL DUP	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water	FIELD LOGBOOK NO. HNF-N-645	SAF NO. F16-039	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO. N/A	OFFSITE PROPERTY NO. N/A	ACTUAL SAMPLE DEPTH 99.27'	COA 300115	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE
SHIPPED TO TestAmerica Incorporated, Richland	BILL OF LADING/AIR BILL NO. N/A		ORIGINAL		

#3345
WCE1194

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	PRESERVATION Cool-4C	HOLDING TIME 24 Hours	TYPE OF CONTAINER ag	NO. OF CONTAINER(S) 1	VOLUME 60ml	SAMPLE ANALYSIS 7196 CR6: COMMON;
SAMPLE NO. B35FV7	MATRIX* WATER	SAMPLE DATE JUN 23 2016	SAMPLE TIME 1405				

July 19 2016

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM Scott King IC/HRPC	RECEIVED BY/STORED IN SSU-1	** All requests for Hexavalent Chromium at Test America Richland are to have a unique HETS sample number and be assigned to a separate COC.
RELINQUISHED BY/REMOVED FROM SSU-1	RECEIVED BY/STORED IN Janelle Zunker CH/PRC	
RELINQUISHED BY/REMOVED FROM Janelle Zunker CH/PRC	RECEIVED BY/STORED IN L Anderson, TRL CH/PRC	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	FILTER
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
LABORATORY SECTION	RECEIVED BY	TITLE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY

COLLECTOR Scott King /CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C9544, SCREENED INTERVAL	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water	FIELD LOGBOOK NO. HNF-N-645 4 - 0820	SAF NO. F16-039	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE
ICE CHEST NO. N/A	FIELD LOGBOOK NO. HNF-N-645 4 - 0820	ACTUAL SAMPLE DEPTH 99.27	COA 300115	ORIGINAL	
SHIPPED TO TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO. N/A	BILL OF LADING/AIR BILL NO. N/A			

#3345
WGC1194

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	PRESERVATION Cool <=5C	HOLDING TIME 48 Hours	TYPE OF CONTAINER P	NO. OF CONTAINER(S) 1	VOLUME 500ml	SPECIAL HANDLING AND/OR STORAGE SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SAMPLE NO. B35FT3	MATRIX* WATER	SAMPLE DATE JUN 23 2016	SAMPLE TIME 1405				

July 19 2016

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM Scott King CHPRC	RECEIVED BY/STORED IN SSU-1 JUN 23 2016 1500	** All requests for Hexavalent Chromium at Test America Richland are to have a unique HEIS sample number and be assigned to a separate COC. (1) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Sulfate}; 300.0_ANIONS_IC: COMMON (Add-on) {Phosphorus in phosphate};
RELINQUISHED BY/REMOVED FROM SSU-1	RECEIVED BY/STORED IN Janelle Zunker CHPRC JUN 24 2015 0700	
RELINQUISHED BY/REMOVED FROM Janelle Zunker	RECEIVED BY/STORED IN L Anderson, TARI JUN 24 2015 0830	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

COLLECTOR Scott King /CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	FL16-039-017	PAGE 1 OF 1
SAMPLING LOCATION C9544, SCREENED INTERVAL DUP	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water	FIELD LOGBOOK NO. HNF-N-645 4 - 0420	SAF NO. F16-039	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO. N/A	FIELD LOGBOOK NO. HNF-N-645 4 - 0420	ACTUAL SAMPLE DEPTH 99.27'	COA 300115	AIR QUALITY <input type="checkbox"/>	ORIGINAL
SHIPPED TO TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO. N/A	BILL OF LADING/AIR BILL NO. N/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE		

#3345
WC1194

MATRIX*	SPECIAL HANDLING AND/OR STORAGE	PRESERVATION		HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
		COOL <-6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS					
B35FV2	WATER			48 Hours	P	1	500ml	✓

July 19, 2016

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM Scott King /CHPRC	RECEIVED BY/STORED IN SSU-1	** All requests for Hexavalent Chromium at Test America Richland are to have a unique HEIS sample number and be assigned to a separate COC. (1) 300.0_ANIONS_IC: COMMON {Chloride, Nitrogen in Nitrate, Sulfate}; 300.0_ANIONS_IC: COMMON (Add-on) {Phosphorus in phosphate};
DATE/TIME JUN 23 2016 1:00	DATE/TIME JUN 23 2016 1:00	
RELINQUISHED BY/REMOVED FROM Janelle Zunker	RECEIVED BY/STORED IN Janelle Zunker /CHPRC	
DATE/TIME JUN 24 2015 07:00	DATE/TIME JUN 24 2015 07:00	
RELINQUISHED BY/REMOVED FROM Janelle Zunker	RECEIVED BY/STORED IN L Anderson, TARB	
DATE/TIME JUN 24 2015 08:00	DATE/TIME JUN 24 2015 08:00	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME

July 19, 2016
Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

Client Sample ID: B35FT2

Lab Sample ID: 300-3345-1

No Detections.

Client Sample ID: B35FT9

Lab Sample ID: 300-3345-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0023	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B35FV1

Lab Sample ID: 300-3345-3

No Detections.

Client Sample ID: B35FV7

Lab Sample ID: 300-3345-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0022	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B35FT3

Lab Sample ID: 300-3345-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	5.2	D	0.056	0.028	mg/L	2		300.0	Total/NA
Sulfate	170	D	2.5	1.3	mg/L	10		300.0	Total/NA

Client Sample ID: B35FV2

Lab Sample ID: 300-3345-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	5.2	D	0.056	0.028	mg/L	2		300.0	Total/NA
Sulfate	160	D	2.5	1.3	mg/L	10		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

July 19, 2016
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

Client Sample ID: B35FT2
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-1
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			06/24/16 10:29	1

Client Sample ID: B35FT9
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0023	B	0.0040	0.0015	mg/L			06/24/16 10:30	1

Client Sample ID: B35FV1
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-3
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			06/24/16 10:30	1

Client Sample ID: B35FV7
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-4
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0022	B	0.0040	0.0015	mg/L			06/24/16 10:31	1

Client Sample ID: B35FT3
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-5
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16	D	0.40	0.20	mg/L			06/24/16 14:57	2
Nitrate as N	5.2	D	0.056	0.028	mg/L			06/24/16 14:57	2
Orthophosphate as P	0.082	U D	0.16	0.082	mg/L			06/24/16 14:57	2
Sulfate	170	D	2.5	1.3	mg/L			06/24/16 17:43	10

Client Sample ID: B35FV2
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-6
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16	D	0.40	0.20	mg/L			06/24/16 15:12	2
Nitrate as N	5.2	D	0.056	0.028	mg/L			06/24/16 15:12	2
Orthophosphate as P	0.082	U D	0.16	0.082	mg/L			06/24/16 15:12	2
Sulfate	160	D	2.5	1.3	mg/L			06/24/16 17:58	10

TestAmerica Richland

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-4691/5
Matrix: Water
Analysis Batch: 4691

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.014	U	0.028	0.014	mg/L			06/24/16 13:12	1
Orthophosphate as P	0.041	U	0.082	0.041	mg/L			06/24/16 13:12	1

Lab Sample ID: LCS 300-4691/6
Matrix: Water
Analysis Batch: 4691

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	2.26		mg/L		100	80 - 120
Orthophosphate as P	6.53	6.52		mg/L		100	80 - 120

Lab Sample ID: 300-3342-A-7 MS
Matrix: Water
Analysis Batch: 4691

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	5.4	D	0.452	5.86	D	mg/L		94	75 - 125
Orthophosphate as P	0.082	U D	1.31	1.13	D	mg/L		87	75 - 125

Lab Sample ID: 300-3342-A-7 DU
Matrix: Water
Analysis Batch: 4691

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Nitrate as N	5.4	D	5.43	D	mg/L		0.1	20
Orthophosphate as P	0.082	U D	0.082	U D	mg/L		NC	20

Lab Sample ID: MB 300-4692/5
Matrix: Water
Analysis Batch: 4692

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.10	U	0.20	0.10	mg/L			06/24/16 13:12	1
Sulfate	0.13	U	0.25	0.13	mg/L			06/24/16 13:12	1

Lab Sample ID: LCS 300-4692/6
Matrix: Water
Analysis Batch: 4692

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	15.7		mg/L		98	80 - 120
Sulfate	20.0	19.8		mg/L		99	80 - 120

Lab Sample ID: 300-3342-A-7 MS
Matrix: Water
Analysis Batch: 4692

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	12	D	3.20	15.6	D	mg/L		99	75 - 125

TestAmerica Richland

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-3342-A-7 MS
Matrix: Water
Analysis Batch: 4692

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	68	D	4.00	71.4	D	mg/L		88	75 - 125

Lab Sample ID: 300-3342-A-7 DU
Matrix: Water
Analysis Batch: 4692

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	12	D	12.4	D	mg/L		0.2	20
Sulfate	68	D	67.8	D	mg/L		0.2	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-4690/3
Matrix: Water
Analysis Batch: 4690

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			06/24/16 10:26	1

Lab Sample ID: LCS 300-4690/4
Matrix: Water
Analysis Batch: 4690

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	0.251		mg/L		100	80 - 120

Lab Sample ID: 300-3345-1 MS
Matrix: Water
Analysis Batch: 4690

Client Sample ID: B35FT2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.0015	U	0.0499	0.0438		mg/L		88	75 - 125

Lab Sample ID: 300-3345-1 DU
Matrix: Water
Analysis Batch: 4690

Client Sample ID: B35FT2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.0015	U	0.0015	U	mg/L		NC	20

July 19, 2016
QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

HPLC/IC

Analysis Batch: 4691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3345-5	B35FT3	Total/NA	Water	300.0	
300-3345-6	B35FV2	Total/NA	Water	300.0	
MB 300-4691/5	Method Blank	Total/NA	Water	300.0	
LCS 300-4691/6	Lab Control Sample	Total/NA	Water	300.0	
300-3342-A-7 MS	Matrix Spike	Total/NA	Water	300.0	
300-3342-A-7 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 4692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3345-5	B35FT3	Total/NA	Water	300.0	
300-3345-5	B35FT3	Total/NA	Water	300.0	
300-3345-6	B35FV2	Total/NA	Water	300.0	
300-3345-6	B35FV2	Total/NA	Water	300.0	
MB 300-4692/5	Method Blank	Total/NA	Water	300.0	
LCS 300-4692/6	Lab Control Sample	Total/NA	Water	300.0	
300-3342-A-7 MS	Matrix Spike	Total/NA	Water	300.0	
300-3342-A-7 DU	Duplicate	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 4690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3345-1	B35FT2	Total/NA	Water	7196A	
300-3345-2	B35FT9	Total/NA	Water	7196A	
300-3345-3	B35FV1	Total/NA	Water	7196A	
300-3345-4	B35FV7	Total/NA	Water	7196A	
MB 300-4690/3	Method Blank	Total/NA	Water	7196A	
LCS 300-4690/4	Lab Control Sample	Total/NA	Water	7196A	
300-3345-1 MS	B35FT2	Total/NA	Water	7196A	
300-3345-1 DU	B35FT2	Total/NA	Water	7196A	

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

Client Sample ID: B35FT2
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-1
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			4690	06/24/16 10:29	RLC	TAL RCH

Client Sample ID: B35FT9
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-2
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			4690	06/24/16 10:30	RLC	TAL RCH

Client Sample ID: B35FV1
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-3
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			4690	06/24/16 10:30	RLC	TAL RCH

Client Sample ID: B35FV7
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-4
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			4690	06/24/16 10:31	RLC	TAL RCH

Client Sample ID: B35FT3
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-5
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			4691	06/24/16 14:57	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4692	06/24/16 14:57	RLC	TAL RCH
Total/NA	Analysis	300.0		10			4692	06/24/16 17:43	RLC	TAL RCH

Client Sample ID: B35FV2
Date Collected: 06/23/16 14:05
Date Received: 06/24/16 08:30

Lab Sample ID: 300-3345-6
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	300.0		2			4691	06/24/16 15:12	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4692	06/24/16 15:12	RLC	TAL RCH
Total/NA	Analysis	300.0		10			4692	06/24/16 17:58	RLC	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4690/3

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			4690	06/24/16 10:26	RLC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4691/5

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			4691	06/24/16 13:12	RLC	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4692/5

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			4692	06/24/16 13:12	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4690/4

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			4690	06/24/16 10:26	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4691/6

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			4691	06/24/16 13:27	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4692/6

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			4692	06/24/16 13:27	RLC	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

Client Sample ID: Matrix Spike

Lab Sample ID: 300-3342-A-7 MS

Date Collected: 06/23/16 09:22

Matrix: Water

Date Received: 06/23/16 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			4691	06/24/16 13:57	RLC	TAL RCH
Total/NA	Analysis	300.0		2			4692	06/24/16 13:57	RLC	TAL RCH

Client Sample ID: B35FT2

Lab Sample ID: 300-3345-1 MS

Date Collected: 06/23/16 14:05

Matrix: Water

Date Received: 06/24/16 08:30

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			4690	06/24/16 10:27	RLC	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: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

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



July 19, 2016
Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F16-039

TestAmerica Job ID: 300-3345-1
SDG: WC1194

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3345-1	B35FT2	Water	06/23/16 14:05	06/24/16 08:30
300-3345-2	B35FT9	Water	06/23/16 14:05	06/24/16 08:30
300-3345-3	B35FV1	Water	06/23/16 14:05	06/24/16 08:30
300-3345-4	B35FV7	Water	06/23/16 14:05	06/24/16 08:30
300-3345-5	B35FT3	Water	06/23/16 14:05	06/24/16 08:30
300-3345-6	B35FV2	Water	06/23/16 14:05	06/24/16 08:30

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

July 19, 2016

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-3345-1

SDG Number: WC1194

Login Number: 3345

List Number: 1

Creator: Anderson, Lori F

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.	N/A	
Residual Chlorine Checked.	N/A	

