

August 3, 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: 300-3417-1
TestAmerica Sample Delivery Group: WC1233
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:
7/29/2016 8:01:58 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 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.

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)

August 3, 2016 Case Narrative

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

TestAmerica Job ID: 300-3417-1
SDG: WC1233

Job ID: 300-3417-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-3417-1**

Comments

No additional comments.

Receipt

The samples were received on 7/6/2016 2:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 7.0° C.

HPLC/IC

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.

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August 3, 2016

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		FIG-039-065	PAGE 1 OF 1
COLLECTOR Christina Aquilino FSRPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C9546, screened Interval	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water	FIELD LOGBOOK NO. HNF-N-245-3193	SAF NO. F16-039	AIR QUALITY <input type="checkbox"/>	ORIGINAL
ICE CHEST NO. N/A	ACTUAL SAMPLE DEPTH 50.56'	COA 300115	METHOD OF SHIPMENT GOVERNMENT VEHICLE		
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 WF=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-to-C	HOLDING TIME 24 Hours	NO. OF CONTAINER(S) 1	VOLUME 60ml	SAMPLE ANALYSIS 7196, CR6: COMMON
SPECIAL HANDLING AND/OR STORAGE						
SAMPLE NO. B35163	MATRIX* WATER	SAMPLE DATE JUL 06 2016	SAMPLE TIME 1231			

#3417
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300-3417 COC

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM Christina Aquilino FSRPRC	RECEIVED BY/STORED IN CH2M Hill JUL 06 2016 1310 RECEIVED BY/STORED IN CH2M Hill JUL 06 2016 1310	** All requests for Hexavalent Chromium at Test America Richland are to have a unique HES sample number and be assigned to a separate COC.
RELINQUISHED BY/REMOVED FROM Christina Aquilino FSRPRC	RECEIVED BY/STORED IN CH2M Hill JUL 06 2016 1310	
RELINQUISHED BY/REMOVED FROM Christina Aquilino FSRPRC	RECEIVED BY/STORED IN CH2M Hill JUL 06 2016 1310	
RELINQUISHED BY/REMOVED FROM Christina Aquilino FSRPRC	RECEIVED BY/STORED IN CH2M Hill JUL 06 2016 1310	
RELINQUISHED BY/REMOVED FROM Christina Aquilino FSRPRC	RECEIVED BY/STORED IN CH2M Hill JUL 06 2016 1310	
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

August 3, 2016

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-039-069	PAGE 1 OF 1
COLLECTOR <i>Cristina Aguiar</i> C34922	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C9546, screened Interval	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water	FIELD LOGBOOK NO. 14WF-N-245-3/93	SAF NO. F16-039	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE
ICE CHEST NO. N/A	ACTUAL SAMPLE DEPTH 50.56'	COA 300115	BILL OF LADING/AIR BILL NO. N/A	ORIGINAL	
SHIPPED TO Testamerica Incorporated, Richland	OFFSITE PROPERTY 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 *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/JATA 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 CRG: COMMON;		
		SPECIAL HANDLING AND/OR STORAGE							
		SAMPLE NO. B35L67	MATRIX*	SAMPLE DATE JUL 06 2013	SAMPLE TIME 1231				
		FILTER							

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CHAIN OF POSSESSION	SIGN / PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>Cristina Aguiar</i>	DATE/TIME JUL 06 2013 1310	RECEIVED BY/STORED IN <i>Chad</i>	DATE/TIME JUL 06 2013 1310
RELINQUISHED BY/REMOVED FROM <i>Chad</i>	DATE/TIME 7/10/13 1400	RECEIVED BY/STORED IN <i>J. Brock TART</i>	DATE/TIME 7/10/13 1400
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
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

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

August 3, 2016

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CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-039-071	PAGE 1 OF 1
COLLECTOR <i>Christina Aguilera fchepco</i>	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C9546, screened interval DUP	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water	FIELD LOGBOOK NO. HAF-N-645-3/ 93	SAF NO. F16-039	AIR QUALITY <input type="checkbox"/>	ORIGINAL
ICE CHEST NO. N/A	ACTUAL SAMPLE DEPTH 50.56'	COA 300115	METHOD OF SHIPMENT GOVERNMENT VEHICLE		
SHIPPED TO TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO. N/A	BILL OF LADING/AIR BILL NO. N/A			

MATRIX* A=Air DL=Drum L=Liquids DS=Drum S=Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Water X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/JATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	PRESERVATION Cool-4C	HOLDING TIME 24 Hours	TYPE OF CONTAINER 2G	NO. OF CONTAINER(S) 1	VOLUME 60mL	SAMPLE ANALYSIS 7196.CRG: COMMON;
SAMPLE NO. B35L69	MATRIX* WATER	SAMPLE DATE JUL 06 2016	SAMPLE TIME 1231				

#3417
WFC1233

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>Christina Aguilera fchepco</i>	RECEIVED BY/STORED IN <i>CEH</i>	** All requests for Hexavalent Chromium at Test America Richland are to have a unique HEIS sample number and be assigned to a separate COC.
DATE/TIME JUL 06 2016 1310	DATE/TIME JUL 06 2016 1310	
RELINQUISHED BY/REMOVED FROM <i>Leahon Beland fchepco</i>	RECEIVED BY/STORED IN <i>J. Bock, TARI</i>	
DATE/TIME 7/16/16 1400	DATE/TIME 7/16/16 1400	
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

PRINTED ON 5/12/2016 FSR ID = FSR32244 TRVL NUM = TRVL-16-143 A-6003-618 (REV 2)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-039-074	PAGE 1 OF 1
COLLECTOR K. R. Aguilera K. R. Aguilera	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C9546, screened Interval DUP	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water	FIELD LOGBOOK NO. 145-D-645-3/93	SAF NO. F16-039	AIR QUALITY <input type="checkbox"/>	ORIGINAL
ICE CHEST NO. N/A	ACTUAL SAMPLE DEPTH 50.56'	COA 300115	METHOD OF SHIPMENT GOVERNMENT VEHICLE		
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	SPECIAL HANDLING AND/OR STORAGE	PRESERVATION		Cool-4C
		HOLDING TIME		24 Hours
		TYPE OF CONTAINER		ag
		NO. OF CONTAINER(S)		1
		VOLUME		60ml
B35L72	WATER	SAMPLE DATE JUL 06 2016	SAMPLE TIME 1231	

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FILTER

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM C. R. Aguilera JUL 06 2016 1310	RECEIVED BY/STORED IN C. R. Aguilera JUL 06 2016 1310	** 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 C. R. Aguilera JUL 06 2016 1400	RECEIVED BY/STORED IN C. R. Aguilera JUL 06 2016 1400	
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	FILTER

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



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		FL16-039-066	PAGE 1 OF 1
COLLECTOR <i>Christina Aguilar ACPRC</i>	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C9546, screened interval	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water	FIELD LOGBOOK NO. 100-HR-3	SAF NO. FL16-039	AIR QUALITY <input type="checkbox"/>	ORIGINAL
ICE CHEST NO. N/A	FIELD LOGBOOK NO. HVF-N-0453/93	ACTUAL SAMPLE DEPTH 50.56'	COA 300115	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
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=Settlement 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 <=6C	HOLDING TIME 48 Hours	NO. OF CONTAINER(S) 1	VOLUME 500ml	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
		SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS				
		SAMPLE NO. B35L64	MATRIX* WATER	SAMPLE DATE JUL 06 2016	SAMPLE TIME 1231			

#3417
WFC1233

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <i>Christina Aguilar ACPRC</i>	DATE/TIME JUL 06 2016 1310	RECEIVED BY/STORED IN <i>Christina Aguilar ACPRC</i>	DATE/TIME JUL 06 2016 1310	** All requests for Anions at Test America Richland are to have a unique HETS 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 <i>Christina Aguilar ACPRC</i>	DATE/TIME 7/16/16 1400	RECEIVED BY/STORED IN <i>J. Bock, TARL</i>	DATE/TIME 7/16/16 1400		
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		
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		

August 3, 2016

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CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-039-072	PAGE 1 OF 1
COLLECTOR Christina Agalar ICSP#C	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C9546, screened Interval DUP	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Water	FIELD LOGBOOK NO. HMF-D-645-3/93	ACTUAL SAMPLE DEPTH 50.56'	SAF NO. F16-039	<input type="checkbox"/> ORIGINAL
ICE CHEST NO. N/A	OFFSITE PROPERTY NO. N/A	BILL OF LADING/AIR BILL NO. N/A	COA 300115	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO TestAmerica Incorporated, Richland	PRESERVATION Cool <=6C	HOLDING TIME 48 Hours	TYPE OF CONTAINER P	NO. OF CONTAINER(S) 1	
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil SE=Sediment T=Issue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	VOLUME 500mL	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
SAMPLE NO. B35L70	MATRIX* WATER	SAMPLE DATE JUL 06 2016	SAMPLE TIME 1231		

#3417
WFC1233

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM Christina Agalar ICSP#C	DATE/TIME JUL 06 2016 1310	RECEIVED BY/STORED IN CHRISTINA AGALAR	DATE/TIME JUL 06 2016 1310	** All requests for Anions 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 J. Bock, TARI	DATE/TIME 7/6/16 1400	RECEIVED BY/STORED IN J. Bock, TARI	DATE/TIME 7/6/16 1400		
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		
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		

PRINTED ON 5/12/2016 FSR ID = FSR32244 TRVL NUM = TRVL-16-143 A-6003-618 (REV 2)

August 3, 2016 Detection Summary

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

TestAmerica Job ID: 300-3417-1
SDG: WC1233

Client Sample ID: B35L63

Lab Sample ID: 300-3417-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0051		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B35L67

Lab Sample ID: 300-3417-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0055		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B35L69

Lab Sample ID: 300-3417-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0052		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B35L72

Lab Sample ID: 300-3417-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0054		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B35L64

Lab Sample ID: 300-3417-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	26	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	3.9	D	0.056	0.028	mg/L	2		300.0	Total/NA
Sulfate	74	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B35L70

Lab Sample ID: 300-3417-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	26	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	3.9	D	0.056	0.028	mg/L	2		300.0	Total/NA
Sulfate	74	D	0.50	0.25	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

August 3, 2016 Client Sample Results

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

TestAmerica Job ID: 300-3417-1
SDG: WC1233

Client Sample ID: B35L63

Lab Sample ID: 300-3417-1

Date Collected: 07/06/16 12:31

Matrix: Water

Date Received: 07/06/16 14:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0051		0.0040	0.0015	mg/L			07/06/16 16:14	1

Client Sample ID: B35L67

Lab Sample ID: 300-3417-2

Date Collected: 07/06/16 12:31

Matrix: Water

Date Received: 07/06/16 14:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0055		0.0040	0.0015	mg/L			07/06/16 16:15	1

Client Sample ID: B35L69

Lab Sample ID: 300-3417-3

Date Collected: 07/06/16 12:31

Matrix: Water

Date Received: 07/06/16 14:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0052		0.0040	0.0015	mg/L			07/06/16 16:15	1

Client Sample ID: B35L72

Lab Sample ID: 300-3417-4

Date Collected: 07/06/16 12:31

Matrix: Water

Date Received: 07/06/16 14:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0054		0.0040	0.0015	mg/L			07/06/16 16:15	1

Client Sample ID: B35L64

Lab Sample ID: 300-3417-5

Date Collected: 07/06/16 12:31

Matrix: Water

Date Received: 07/06/16 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26	D	0.40	0.20	mg/L			07/06/16 18:54	2
Nitrate as N	3.9	D	0.056	0.028	mg/L			07/06/16 18:54	2
Orthophosphate as P	0.082	U D	0.16	0.082	mg/L			07/06/16 18:54	2
Sulfate	74	D	0.50	0.25	mg/L			07/06/16 18:54	2

Client Sample ID: B35L70

Lab Sample ID: 300-3417-6

Date Collected: 07/06/16 12:31

Matrix: Water

Date Received: 07/06/16 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26	D	0.40	0.20	mg/L			07/06/16 18:39	2
Nitrate as N	3.9	D	0.056	0.028	mg/L			07/06/16 18:39	2
Orthophosphate as P	0.082	U D	0.16	0.082	mg/L			07/06/16 18:39	2
Sulfate	74	D	0.50	0.25	mg/L			07/06/16 18:39	2

TestAmerica Richland

August 3, 2016

QC Sample Results

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

TestAmerica Job ID: 300-3417-1
 SDG: WC1233

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-4790/5
Matrix: Water
Analysis Batch: 4790

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			07/06/16 17:09	1
Orthophosphate as P	0.041	U	0.082	0.041	mg/L			07/06/16 17:09	1

Lab Sample ID: LCS 300-4790/6
Matrix: Water
Analysis Batch: 4790

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	2.33		mg/L		103	80 - 120
Orthophosphate as P	6.53	6.71		mg/L		103	80 - 120

Lab Sample ID: 300-3419-A-2 MS
Matrix: Water
Analysis Batch: 4790

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	1.9	D	0.452	2.39	D	mg/L		107	75 - 125
Orthophosphate as P	5.6	D	1.31	7.04	D	mg/L		112	75 - 125

Lab Sample ID: 300-3419-A-2 DU
Matrix: Water
Analysis Batch: 4790

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	1.9	D	1.92	D	mg/L		0.3	20
Orthophosphate as P	5.6	D	5.63	D	mg/L		0.9	20

Lab Sample ID: MB 300-4791/5
Matrix: Water
Analysis Batch: 4791

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			07/06/16 17:09	1
Sulfate	0.13	U	0.25	0.13	mg/L			07/06/16 17:09	1

Lab Sample ID: LCS 300-4791/6
Matrix: Water
Analysis Batch: 4791

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
Sulfate	20.0	20.4		mg/L		102	80 - 120

Lab Sample ID: 300-3419-A-2 MS
Matrix: Water
Analysis Batch: 4791

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	1.2	D	3.20	4.38	D	mg/L		98	75 - 125

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August 3, 2016

QC Sample Results

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

TestAmerica Job ID: 300-3417-1
 SDG: WC1233

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-3419-A-2 MS
Matrix: Water
Analysis Batch: 4791

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	9.0	D	4.00	13.2	D	mg/L		105	75 - 125

Lab Sample ID: 300-3419-A-2 DU
Matrix: Water
Analysis Batch: 4791

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	1.2	D	1.25	D	mg/L		0.2	20
Sulfate	9.0	D	9.03	D	mg/L		0.5	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-4800/3
Matrix: Water
Analysis Batch: 4800

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			07/06/16 16:11	1

Lab Sample ID: LCS 300-4800/4
Matrix: Water
Analysis Batch: 4800

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: 300-3417-1 MS
Matrix: Water
Analysis Batch: 4800

Client Sample ID: B35L63
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.0051		0.0500	0.0556		mg/L		101	75 - 125

Lab Sample ID: 300-3417-1 DU
Matrix: Water
Analysis Batch: 4800

Client Sample ID: B35L63
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.0051		0.00510		mg/L		0	20

TestAmerica Richland

August 3, 2016

QC Association Summary

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

TestAmerica Job ID: 300-3417-1
 SDG: WC1233

HPLC/IC

Analysis Batch: 4790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3417-5	B35L64	Total/NA	Water	300.0	
300-3417-6	B35L70	Total/NA	Water	300.0	
MB 300-4790/5	Method Blank	Total/NA	Water	300.0	
LCS 300-4790/6	Lab Control Sample	Total/NA	Water	300.0	
300-3419-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
300-3419-A-2 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 4791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3417-5	B35L64	Total/NA	Water	300.0	
300-3417-6	B35L70	Total/NA	Water	300.0	
MB 300-4791/5	Method Blank	Total/NA	Water	300.0	
LCS 300-4791/6	Lab Control Sample	Total/NA	Water	300.0	
300-3419-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
300-3419-A-2 DU	Duplicate	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 4800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3417-1	B35L63	Total/NA	Water	7196A	
300-3417-2	B35L67	Total/NA	Water	7196A	
300-3417-3	B35L69	Total/NA	Water	7196A	
300-3417-4	B35L72	Total/NA	Water	7196A	
MB 300-4800/3	Method Blank	Total/NA	Water	7196A	
LCS 300-4800/4	Lab Control Sample	Total/NA	Water	7196A	
300-3417-1 MS	B35L63	Total/NA	Water	7196A	
300-3417-1 DU	B35L63	Total/NA	Water	7196A	

August 3, 2016 Lab Chronicle

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

TestAmerica Job ID: 300-3417-1
SDG: WC1233

Client Sample ID: B35L63
Date Collected: 07/06/16 12:31
Date Received: 07/06/16 14:00

Lab Sample ID: 300-3417-1
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			4800	07/06/16 16:14	RLC	TAL RCH

Client Sample ID: B35L67
Date Collected: 07/06/16 12:31
Date Received: 07/06/16 14:00

Lab Sample ID: 300-3417-2
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			4800	07/06/16 16:15	RLC	TAL RCH

Client Sample ID: B35L69
Date Collected: 07/06/16 12:31
Date Received: 07/06/16 14:00

Lab Sample ID: 300-3417-3
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			4800	07/06/16 16:15	RLC	TAL RCH

Client Sample ID: B35L72
Date Collected: 07/06/16 12:31
Date Received: 07/06/16 14:00

Lab Sample ID: 300-3417-4
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			4800	07/06/16 16:15	RLC	TAL RCH

Client Sample ID: B35L64
Date Collected: 07/06/16 12:31
Date Received: 07/06/16 14:00

Lab Sample ID: 300-3417-5
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			4790	07/06/16 18:54	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4791	07/06/16 18:54	CPM	TAL RCH

Client Sample ID: B35L70
Date Collected: 07/06/16 12:31
Date Received: 07/06/16 14:00

Lab Sample ID: 300-3417-6
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			4790	07/06/16 18:39	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4791	07/06/16 18:39	CPM	TAL RCH

August 3, 2016 Lab Chronicle

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

TestAmerica Job ID: 300-3417-1
SDG: WC1233

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4790/5

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			4790	07/06/16 17:09	CPM	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4791/5

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			4791	07/06/16 17:09	CPM	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4800/3

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			4800	07/06/16 16:11	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4790/6

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			4790	07/06/16 17:24	CPM	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4791/6

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			4791	07/06/16 17:24	CPM	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4800/4

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			4800	07/06/16 16:11	RLC	TAL RCH

August 3, 2016 Lab Chronicle

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

TestAmerica Job ID: 300-3417-1
SDG: WC1233

Client Sample ID: B35L63

Lab Sample ID: 300-3417-1 MS

Date Collected: 07/06/16 12:31

Matrix: Water

Date Received: 07/06/16 14:00

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			4800	07/06/16 16:12	RLC	TAL RCH

Client Sample ID: Matrix Spike

Lab Sample ID: 300-3419-A-2 MS

Date Collected: 07/05/16 12:30

Matrix: Water

Date Received: 07/06/16 14:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			4790	07/06/16 17:54	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4791	07/06/16 17:54	CPM	TAL RCH

Laboratory References:

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

August 3, 2016

Method Summary

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

TestAmerica Job ID: 300-3417-1
SDG: WC1233

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

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August 3, 2016

Sample Summary

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

TestAmerica Job ID: 300-3417-1
SDG: WC1233

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3417-1	B35L63	Water	07/06/16 12:31	07/06/16 14:00
300-3417-2	B35L67	Water	07/06/16 12:31	07/06/16 14:00
300-3417-3	B35L69	Water	07/06/16 12:31	07/06/16 14:00
300-3417-4	B35L72	Water	07/06/16 12:31	07/06/16 14:00
300-3417-5	B35L64	Water	07/06/16 12:31	07/06/16 14:00
300-3417-6	B35L70	Water	07/06/16 12:31	07/06/16 14:00

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Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-3417-1

SDG Number: WC1233

Login Number: 3417

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	

