

APRIL 12, 2013

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-2013-1

TestAmerica Sample Delivery Group: SL1371
Client Project/Site: F13-012

For:

CH2M Hill Plateau Remediation Company
PO BOX 1600, MS H8-41
Richland, Washington 99352

Attn: General Mailbox



Authorized for release by:
4/12/2013 1:52:33 PM

Jayna Awalt
Project Manager I
jayna.awalt@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 160-2013-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
MS B3-60
Richland, Washington 99352
April 12, 2013
Attention: Scot Fitzgerald

SDG : SL1371
Number of Samples : 9 samples
Sample Matrix : Water
Data Deliverable : Summary
Date SDG Closed : April 5, 2013

II. Introduction

On April 5, 2013, 9 water samples were received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and CUR forms for documentation of any variations on receipt conditions and temperature. Upon receipt, the samples were given laboratory Ids to correspond with specific client Ids. Please refer to the Sample Summary sheets attached to this case narrative. This report is incomplete without the narrative.

The following SAFs are associated with this SDG: F13-012

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix QC were analyzed with a LCS/LCS duplicate.

Deviation from Request: None

IV. Definitions

- QCBLK- Quality Control Blank, Method Blank
- QCLCS- Quality Control Laboratory Control Sample, Blank Spike
- DUP- Laboratory Duplicate
- MS- Matrix Spike
- MSD- Matrix Spike Duplicate

The term "Detection Limit" used in the analytical data report refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

The following data qualifiers may be applicable to the results in this report, as appropriate.

- **B** - For inorganic analyses, the sample result is greater than the MDL but less than the RL.
- **B** - For organic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the



Job ID: 160-2013-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

MDL.

- **J** - For organic analyses, the sample is estimated and less than the RL.
- **C** - For inorganic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **D** - For all analyses, the sample result was obtained from the analysis of a dilution.
- **N** - For inorganics and GC analyses, the spike/spike duplicate recoveries are outside QC limits.
- **T** - For GCMS analyses, the spike/spike duplicate recoveries are outside QC limits.
- **O** - For all analyses, the LCS (LCSD) recoveries are outside QC limits.
- **M** - For inorganic analyses, the precision was outside control limits.
- **P** - For organic analyses (PCB/Pests only), the aroclor target analyte has greater than 25% difference for detected concentrations between the two GC columns.

TKN - Total and Dissolved

Batch: 45246/45347

Nitrogen, Kjeldahl was detected in method blank MB 160-45246/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "B". If the associated sample reported a result above the MDL and/or RL and was not greater than 5x the method blank, the result has been "C" flagged. Refer to the QC report for details.

The following sample in TKN Batch 45347 was diluted to bring the concentration of the target analyte within the calibration range: B2P0M2 (160-2013-2). Elevated reporting limits (RLs) are provided. This analyte has been qualified accordingly with a "D" flag in the associated sample.

The matrix spike (MS) recovery for TKN batch 45347 was outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria. This analyte has been qualified accordingly with an "N" flag in the associated samples.

There were no observations or nonconformances for the following methods:

Total Dissolved Solids

Total Suspended Solids

Total Volatile Solids

Total Sulfide

Dissolved Sulfide

I certify that this Summary Package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the signature on the cover page has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

Jayna Awalt
St. Louis Project Manager

Car 275

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST		PAGE 1 OF 1	
COLLECTOR C. Fulton	SL1371	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7B
SAMPLING LOCATION 289-T, Post-FBR-A, valve V17-Y40A1		PROJECT DESIGNATION 200W Pump & Treat - FBR Water Sampling		SAF NO. F13-012	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. GWS-0600		FIELD LOGBOOK NO. HNF-N-4919 pg 70	ACTUAL SAMPLE DEPTH N/A	COA 303110ES10	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO TestAmerica St. Louis		OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR 7994 4467 9027 4.4.B	

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 may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	PRESERVATION H2SO4 to pH <2/Cool-4C	ZnAc+NaOH to pH > 9
		HOLDING TIME 28 Days	7 Days
		TYPE OF CONTAINER G/P	G/P
		NO. OF CONTAINER(S) 1	1
		VOLUME 250ml	1L
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS 376-1 DISSOLVED SULFIDE, COMMON; ✓

CHAIN OF POSSESSION		SIGN / PRINT NAMES	
RELINQUISHED BY / REMOVED FROM	DATE / TIME	RECEIVED BY / STORED IN	DATE / TIME
C. Fulton	APR 03 2013 1400	SSU-1	APR 03 2013 1400
B.E. Briggs	APR 04 2013 0900	B.E. Briggs	APR 04 2013 0900
B.E. Briggs	APR 04 2013 1400	FEDEX	APR 04 2013 0900
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
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 Jill Clarke		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD 4-5-13 0915		DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for WSCF Analytical is 403315.□** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. FILTERED SAMPLE
(1) 351.2_TOTAL DISSOLVED NITROGEN_KIELDAHL: COMMON; ✓

FILTER

TRAL-13-038



CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST		F13-012-036	PAGE 1 OF 1
COLLECTOR <i>C. Fulton</i>	SL37H	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7B
SAMPLING LOCATION 289-T, FBR-A Influent, valve V14-Y40A1		PROJECT DESIGNATION 200W Pump & Treat - FBR Water Sampling		SAF NO. F13-012	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. <i>GWS-060</i>		FIELD LOGBOOK NO. <i>HNF-N-4919 P670</i>	ACTUAL SAMPLE DEPTH <i>N/A</i>	COA 303110ES10	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO TestAmerica St. Louis		OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR <i>7994 4467 9027</i> <i>4.4.13</i>	

MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS **Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/TATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	PRESERVATION H2SO4 to pH <2/Cool-to-4C 28 Days	Cool-to-4C 7 Days	ZnAc+NaOH to pH > 9 7 Days
		HOLDING TIME G/P	P	G/P
		TYPE OF CONTAINER 1	1	1
		VOLUME 250mL	500mL	1L
		SAMPLE ANALYSIS 351.2 TOTAL NITROGEN, USE IDRILE, ✓ COMMON;	160.4 TOTAL VIALLE, SOLID S. COMMON;	376.1 TOTAL SULFIDE, ✓ COMMON;
SAMPLE NO. 05B2P0M2	MATRIX* WATER	SAMPLE DATE <i>4.3.13</i>	SAMPLE TIME <i>1443</i>	

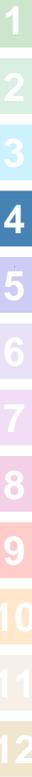
CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <i>C. Fulton</i>	DATE/TIME APR 03 2013 1600	RECEIVED BY/STORED IN <i>SSU-1</i>	DATE/TIME APR 03 2013 1600	** The CACN for WSCF Analytical is 403315.□** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM <i>SSU-1</i>	DATE/TIME APR 04 2013 0900	RECEIVED BY/STORED IN <i>B.E. Briggs</i>	DATE/TIME APR 04 2013 0900	TRAL-13- U38	
RELINQUISHED BY/REMOVED FROM <i>B.E. Briggs</i>	DATE/TIME APR 04 2013 1400	RECEIVED BY/STORED IN <i>FEDEX</i>	DATE/TIME APR 04 2013 0900		
RELINQUISHED BY/REMOVED FROM <i>FEDEX</i>	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		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION <i>Jill Clark</i>	RECEIVED BY <i>Jill Clark</i>	TITLE <i>4-5-13 095</i>	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F13-012-039	PAGE 1 OF 1
COLLECTOR C. Fulton S4371	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7B	DATA TURNAROUND 7 Days / 15 Days
SAMPLING LOCATION 289-T, FBR-A Influent, valve V14-Y40A1	PROJECT DESIGNATION 200W Pump & Treat - FBR Water Sampling		SAF NO. F13-012	AIR QUALITY	
ICE CHEST NO. GWS-060	FIELD LOGBOOK NO. HNF-N-491 9 P670	ACTUAL SAMPLE DEPTH N/A	COA 303110ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO TestAmerica St. Louis	OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING / AIR BILL NO. SEE PTR 7994 4467 9027 44.13		

MATRIX*	PRESERVATION	H2SO4 to pH <2/ Cool-4C	ZnAc+NaOH to pH > 9
A=Air DL=Drum L=Liquid DS=Drum S=Soil T=Tissue V=Vegetation W=Water WI=Wipe X=Other	HOLDING TIME	28 Days	7 Days
POSSIBLE SAMPLE HAZARDS/ REMARKS **Contains Radioactive Material at concentrations that may not be regulated for transportation per 49 CFR/TATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	TYPE OF CONTAINER	G/P	G/P
SPECIAL HANDLING AND/OR STORAGE	NO. OF CONTAINER(S)	1	1
	VOLUME	250mL	1L
	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	3% I ₂ DISSOLVED SULFIDE; COMMON;
SAMPLE NO.	SAMPLE DATE	SAMPLE TIME	
B2P580 FILTER	4.3.13	1443	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM C. FULTON	DATE/TIME APR 03 2013 1000	RECEIVED BY/STORED IN SSU-1	DATE/TIME APR 03 2013 1000	** The CACN for WSCF Analytical is 403315.□** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. FILTERED SAMPLE (1) 351.2_TOTAL DISSOLVED NITROGEN_KJELDAHL: COMMON; FILTER	
RELINQUISHED BY/REMOVED FROM B.E. Biggs	DATE/TIME APR 04 2013 0900	RECEIVED BY/STORED IN B.E. Biggs	DATE/TIME APR 04 2013 0900	TRAIL-13-038	
RELINQUISHED BY/REMOVED FROM B.E. Biggs	DATE/TIME APR 04 2013 1400	RECEIVED BY/STORED IN FEDEX	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		
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 Jill Clarke	TITLE	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F13-012-048	PAGE 1 OF 1
COLLECTOR <i>C. Fulton</i>	54371	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7B
SAMPLING LOCATION 289-T, FBR-A Influent, valve V14-Y40A1		PROJECT DESIGNATION 200W Pump & Treat - FBR Water Sampling		SAF NO. F13-012	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. <i>GWS-060</i>		FIELD LOGBOOK NO. <i>HNF-N-491 9P670</i>	ACTUAL SAMPLING DEPTH	COA 303110ES10	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO TestAmerica St. Louis		OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. <i>7994 4467 9027</i>	

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 may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	PRESERVATION Cool~4C	Cool~4C
		HOLDING TIME 7 Days	7 Days
		TYPE OF CONTAINER G/P	G/P
		NO. OF CONTAINER(S) 1	1
		VOLUME 500mL	500mL
		SAMPLE ANALYSIS 160.1 TDS: COMMON; ✓	160.2 TSS: COMMON; ✓
SPECIAL HANDLING AND/OR STORAGE			
SAMPLE NO. 0B2P7D7	MATRIX* WATER	SAMPLE DATE <i>4.3.13</i>	SAMPLE TIME <i>1443</i>

Page 1 of 26

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM <i>C. Fulton</i>	DATE/TIME APR 03 2013 1600	RECEIVED BY/STORED IN SSU-1	DATE/TIME APR 03 2013 1600
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME APR 04 2013 0900	RECEIVED BY/STORED IN <i>B.E. Briggs</i> CHPRC	DATE/TIME APR 04 2013 0900
RELINQUISHED BY/REMOVED FROM <i>B.E. Briggs</i> CHPRC	DATE/TIME APR 04 2013 1400	RECEIVED BY/STORED IN FEDEX	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
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 <i>Jill Clarke</i>	TITLE <i>Jill Clarke</i>	DATE/TIME <i>4.5.13 0915</i>
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

SPECIAL INSTRUCTIONS
 ** The CACN for WSCF Analytical is 403315. ** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
~~FILTER SAMPLE, TRVL13-037, TRVL13-038~~ *4/01/13 RE*

TRVL 13- 038

LABORATORY SECTION	RECEIVED BY <i>Jill Clarke</i>	TITLE <i>Jill Clarke</i>	DATE/TIME <i>4.5.13 0915</i>
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F13-012-040	PAGE 1 OF 1
COLLECTOR C. Fulton	54371	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7B
SAMPLING LOCATION 289-T, FBR-A Influent, valve V02-Y40A		PROJECT DESIGNATION 200W Pump & Treat - FBR Water Sampling		SAF NO. F13-012	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. GWS-060		FIELD LOGBOOK NO. HNF-N-4919p670	ACTUAL SAMPLE DEPTH N/A	COA 303110ES10	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO TestAmerica St. Louis		OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR 7994 4467 9027 4.4.13	

MATRIX* A=Air DL=Drum 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 may or may not be regulated for transportation per: 49 CFR/1ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	PRESERVATION H2SO4 to pH <2/Cool-4C	ZnAc+NaOH to pH > 9
	HOLDING TIME	28 Days	7 Days
	TYPE OF CONTAINER	G/P	G/P
	NO. OF CONTAINER(S)	1	1
	VOLUME	250mL	1L
	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	376.1 DISSOLVED SULFIDE: COMMON;
SAMPLE NO. B2P581	MATRIX* FILTER	SAMPLE DATE APR 03 2013	SAMPLE TIME 1454

CH2M Hill Plateau Remediation Company		SIGN/PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM C. Fulton	DATE/TIME APR 03 2013 1000	RECEIVED BY/STORED IN SSU-1	DATE/TIME APR 03 2013 1000	** The CACN for WSCF Analytical is 403315.0.** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. FILTERED SAMPLE (1) 351.2_TOTAL DISSOLVED NITROGEN_KJELDAHL: COMMON;	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME 0900	RECEIVED BY/STORED IN CHPRC	DATE/TIME 0900	TRAL-13-038	
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FedEx	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 Bill Clarke	TITLE 4-5-13 0915	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST		F13-012-037	PAGE 1 OF 1
COLLECTOR	C. Fulton	SL5FH	PROJECT COORDINATOR	EVANS, RT	PRICE CODE 7B
SAMPLING LOCATION	289-T, FBR-A Influent, valve V02-Y40A		SAF NO.	F13-012	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO.	GWS-060		COA	303110ES10	METHOD OF SHIPMENT
SHIPPED TO	TestAmerica St. Louis		FIELD LOGBOOK NO.	HNF-N-4919 pg 70	FEDERAL EXPRESS
			OFFSITE PROPERTY NO.	SEE PTR	BILL OF LADING/AIR BILL NO.
					SEE PTR 7994 4467 9027
					4.4.13

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	H2SO4 to pH <2/ Cool to 4C	Cool to 4C	ZnAc+NaOH to pH > 9
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	**Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	HOLDING TIME	28 Days	7 Days	7 Days
		TYPE OF CONTAINER	G/P	P	G/P
		NO. OF CONTAINER(S)	1	1	1
		VOLUME	250mL	500mL	1L
		SAMPLE ANALYSIS	351.2 TOTAL NITROGEN, LOE IDABLE; COMMON;	160.4 TOTAL V OLATILE SOLID S; COMMON;	376.1 TOTAL SULFIDE; COMMON;
		SPECIAL HANDLING AND/OR STORAGE			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2P0M3	WATER	APR 03 2013	1454	✓	✓

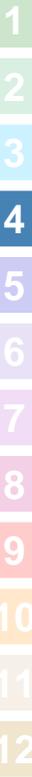
CHAIN OF POSSESSION	SIGN/ PRINT NAMES	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM C. Fulton	SSU-1	RECEIVED BY/STORED IN	APR 03 2013 1600
RELINQUISHED BY/REMOVED FROM SSU-1	CHPRC	RECEIVED BY/STORED IN	APR 04 2013 0900
RELINQUISHED BY/REMOVED FROM CHPRC	FEDEX	RECEIVED BY/STORED IN	APR 04 2013 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		

TRVL-13-038

Jill Clarke 4.5.13 0915

SPECIAL INSTRUCTIONS

** The CACN for WSCF Analytical is 403315.□** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F13-012-049	PAGE 1 OF 1
COLLECTOR C. Fulton	SL37H	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7B
SAMPLING LOCATION 289-T, FBR-A Influent, valve V02-Y40A		PROJECT DESIGNATION 200W Pump & Treat - FBR Water Sampling		SAF NO. F13-012	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. GWS-0600		FIELD LOGBOOK NO. HNF-N-4919pg10	ACTUAL SAMPLE DEPTH (N/A)	COA 303110ES10	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO TestAmerica St. Louis		OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR 7994 4467 9027 4.9.13	

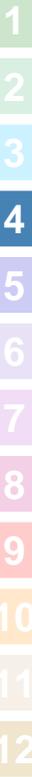
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS **Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	PRESERVATION Cool~4C	Cool~4C
		HOLDING TIME 7 Days	7 Days
		TYPE OF CONTAINER G/P	G/P
		NO. OF CONTAINER(S) 1	1
		VOLUME 500mL	500mL
		SAMPLE ANALYSIS 160.1_TDS: COMMON;	160.2_TDS: COMMON;
SPECIAL HANDLING AND/OR STORAGE			
SAMPLE NO. LABP7D8	MATRIX* WATER	SAMPLE DATE APR 03 2013	SAMPLE TIME 145A

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM C. Fulton	DATE/TIME APR 03 2013 1400	RECEIVED BY/STORED IN SSU-1	DATE/TIME APR 03 2013 1600
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME APR 04 2013 0900	RECEIVED BY/STORED IN S.E. Biggs	DATE/TIME APR 04 2013 0900
RELINQUISHED BY/REMOVED FROM S.E. Biggs	DATE/TIME APR 04 2013 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME APR 04 2013 0900
RELINQUISHED BY/REMOVED FROM FedEx	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
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
LABORATORY SECTION	RECEIVED BY Jill Clark	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD Jill Clark	DISPOSED BY	DATE/TIME
		SPECIAL INSTRUCTIONS ** The CACN for WSCF Analytical is 403315. The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. FEDER SAMPLE, TRVL 13-038-410113 rec	
		TRM-13-038	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F13-012-038	PAGE 1 OF 1
COLLECTOR C. Fulton	SL137H	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7B
SAMPLING LOCATION 289-T, Post FBR-A, valve V17-Y40A1		PROJECT DESIGNATION 200W Pump & Treat - FBR Water Sampling		SAF NO. F13-012	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. GWS-060	HNF-N-4919 pg 70	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH N/A	COA 303110ES10	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO TestAmerica St. Louis		OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR 7994 4467 9027 b9 4.13	

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	H2SO4 to pH <2/Cool-4C	Cool-4C	ZnAc+NaOH to pH > 9
A=Air DL=Drum L=Liquid O=Oil S=Soil SF=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	**Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	HOLDING TIME	28 Days	7 Days	7 Days
		TYPE OF CONTAINER	G/P	P	G/P
		NO. OF CONTAINER(S)	1	1	1
		VOLUME	250mL	500mL	1L
		SAMPLE ANALYSIS	351.2 TOTAL NITROGEN, LOE IDML; COMMON;	160.4 TOTAL V OXALITE, SOLID S. COMMON;	376.1 TOTAL SULFIDE, COMMON;
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2P0M4	WATER	APR 03 2013	1448		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM C. Fulton	DATE/TIME APR 03 2013 1600	RECEIVED BY/STORED IN SSU-1	DATE/TIME APR 03 2013 1600	** The CACN for WSCF Analytical is 403315. The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME APR 04 2013 0900	RECEIVED BY/STORED IN B.E. Briggs / BelBriggs	DATE/TIME APR 04 2013 0900	TRAIL-13-038	
RELINQUISHED BY/REMOVED FROM B.E. Briggs / BelBriggs	DATE/TIME APR 04 2013 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FedEx	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		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY Jill Clarke	TITLE Jill Clarke	DATE/TIME 4-5-13		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		FL3-012-050	PAGE 1 OF 1
COLLECTOR C. Fulton	5437H	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PRICE CODE 7B	DATA TURNAROUND 7 Days / 15 Days
SAMPLING LOCATION 289-T, Post FBR-A, valve V17-Y40A1		PROJECT DESIGNATION 200W Pump & Treat - FBR Water Sampling		AIR QUALITY	
ICE CHEST NO. GWS-060		FIELD LOGBOOK NO. HNF-N-4919 pg 70	ACTUAL SAMPLE DEPTH (N/A)	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO TestAmerica St. Louis		OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. 7994 4467 9027	

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	COOL~4C	COOL~4C
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SF=Sediment T=Tissue V=Vegetation W=Water WF=Wipe X=Other	**Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/LATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	HOLDING TIME	7 Days	7 Days
		TYPE OF CONTAINER	G/P	G/P
		NO. OF CONTAINER(S)	1	1
		VOLUME	500mL	500mL
		SAMPLE ANALYSIS	160.1 TDS; COMMON;	160.2 TDS; COMMON;
		SAMPLE DATE	APR 03 2013	APR 03 2013
		SAMPLE TIME	1448	✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM C. FULTON	RECEIVED BY/STORED IN SSU-1	APR 03 2013 0900	APR 03 2013 1600
RELINQUISHED BY/REMOVED FROM SSU-1	RECEIVED BY/STORED IN B.E. Briggs	APR 04 2013 0900	APR 04 2013 0900
RELINQUISHED BY/REMOVED FROM B.E. Briggs	RECEIVED BY/STORED IN FEDEX	APR 04 2013 1400	
RELINQUISHED BY/REMOVED FROM FEDEX	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		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
LABORATORY SECTION	RECEIVED BY Jill Clark		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD H-5.13		

SPECIAL INSTRUCTIONS
 ** The CACN for WSCF Analytical is 403315.□** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
 FILTER SAMPLE, TRVL13-038- 4/01/13 RB
 TRA-13-038



799444679027				
Ship (P/U) date : Thur 4/04/2013 3:52 pm RICHLAND, WA US		 Delivered Signed for by: R.CASTELLO		Actual delivery : Fri 4/05/2013 9:01 am EARTH CITY, MO US
Travel History				
Date/Time	Activity	Location		
- 4/05/2013 - Friday				
9:01 am	Delivered	EARTH CITY, MO		
7:36 am	On FedEx vehicle for delivery	EARTH CITY, MO		
7:30 am	At local FedEx facility	EARTH CITY, MO		
5:58 am	At destination sort facility	BERKELEY, MO		
5:08 am	Departed FedEx location	MEMPHIS, TN		
12:44 am	Arrived at FedEx location	MEMPHIS, TN		
- 4/04/2013 - Thursday				
5:08 pm	Left FedEx origin facility	PASCO, WA		
3:52 pm	Picked up	PASCO, WA		
11:38 am	Shipment Information sent to FedEx			
			Local Scan Time 	
Shipment Facts				
Tracking number	799444679027	Service	FedEx Priority Overnight	
Weight	72 lbs	Dimensions	29x16x17 in.	
Delivered To	Shipping/Receiving	Total pieces	1	
Total shipment weight	72 lbs / 32.7 kgs	Shipper reference	GWS-060	
Packaging	Your Packaging	Special handling section	Deliver Weekday, Additional Handling Surcharge	



Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-2013-1

SDG Number: SL1371

Login Number: 2013

List Number: 1

Creator: Clarke, Jill

List Source: TestAmerica St. Louis

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.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Qualifiers

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.
C	The analyte was detected in both the sample and the associated QC blank, and the sample concentration was $\leq 5X$ the blank concentration.
N	MS, MSD: Spike recovery exceeds upper or lower control limits.
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
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
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
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)
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: F13-012

TestAmerica Job ID: 160-2013-1
SDG: SL1371

Method	Method Description	Protocol	Laboratory
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
160.2	Solids, Total Suspended (TSS)	MCAWW	TAL SL
160.4	Solids, Total Volatile (TVS)	MCAWW	TAL SL
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL SL
376.1	Sulfide	MCAWW	TAL SL

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



APRIL 12, 2013
Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-012

TestAmerica Job ID: 160-2013-1
SDG: SL1371

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-2013-1	B2P582	Water	04/03/13 14:48	04/05/13 09:15
160-2013-2	B2P0M2	Water	04/03/13 14:43	04/05/13 09:15
160-2013-3	B2P580	Water	04/03/13 14:43	04/05/13 09:15
160-2013-4	B2P7D7	Water	04/03/13 14:43	04/05/13 09:15
160-2013-5	B2P581	Water	04/03/13 14:54	04/05/13 09:15
160-2013-6	B2P0M3	Water	04/03/13 14:54	04/05/13 09:15
160-2013-7	B2P7D8	Water	04/03/13 14:54	04/05/13 09:15
160-2013-8	B2P0M4	Water	04/03/13 14:48	04/05/13 09:15
160-2013-9	B2P7D9	Water	04/03/13 14:48	04/05/13 09:15



APRIL 12, 2013
Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-012

TestAmerica Job ID: 160-2013-1
SDG: SL1371

Client Sample ID: B2P582

Lab Sample ID: 160-2013-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Kjeldahl	0.55	N C	0.50	0.059	mg/L	1		351.2	Dissolved

Client Sample ID: B2P0M2

Lab Sample ID: 160-2013-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Volatile Solids	96.0		5.0	5.0	mg/L	1		160.4	Total/NA
Total Volatile Suspended Solids	96.0		5.0	5.0	mg/L	1		160.4	Total/NA
Nitrogen, Kjeldahl	5.7	D N	1.0	0.12	mg/L	2		351.2	Total/NA

Client Sample ID: B2P580

Lab Sample ID: 160-2013-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrogen, Kjeldahl	0.48	B C N	0.50	0.059	mg/L	1		351.2	Dissolved

Client Sample ID: B2P7D7

Lab Sample ID: 160-2013-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids (TDS)	373		5.0	3.5	mg/L	1		160.1	Total/NA
Total Suspended Solids	36.0		4.0	4.0	mg/L	1		160.2	Total/NA

Client Sample ID: B2P581

Lab Sample ID: 160-2013-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfide	0.63	B	1.0	0.45	mg/L	1		376.1	Dissolved

Client Sample ID: B2P0M3

Lab Sample ID: 160-2013-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Volatile Solids	46.0		5.0	5.0	mg/L	1		160.4	Total/NA
Total Volatile Suspended Solids	46.0		5.0	5.0	mg/L	1		160.4	Total/NA
Sulfide	0.63	B	1.0	0.45	mg/L	1		376.1	Total/NA

Client Sample ID: B2P7D8

Lab Sample ID: 160-2013-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids (TDS)	416		5.0	3.5	mg/L	1		160.1	Total/NA

Client Sample ID: B2P0M4

Lab Sample ID: 160-2013-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Volatile Solids	69.0		5.0	5.0	mg/L	1		160.4	Total/NA
Total Volatile Suspended Solids	69.0		5.0	5.0	mg/L	1		160.4	Total/NA
Nitrogen, Kjeldahl	1.7	N	0.50	0.059	mg/L	1		351.2	Total/NA

Client Sample ID: B2P7D9

Lab Sample ID: 160-2013-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids (TDS)	378		5.0	3.5	mg/L	1		160.1	Total/NA
Total Suspended Solids	33.0		4.0	4.0	mg/L	1		160.2	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica St. Louis

APRIL 12, 2013
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-012

TestAmerica Job ID: 160-2013-1
SDG: SL1371

General Chemistry

Client Sample ID: B2P0M2
Date Collected: 04/03/13 14:43
Date Received: 04/05/13 09:15

Lab Sample ID: 160-2013-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Volatile Solids	96.0		5.0	5.0	mg/L			04/08/13 16:45	1
Total Volatile Suspended Solids	96.0		5.0	5.0	mg/L			04/08/13 16:45	1
Nitrogen, Kjeldahl	5.7	D N	1.0	0.12	mg/L		04/09/13 12:00	04/10/13 13:35	2
Sulfide	0.45	U	1.0	0.45	mg/L			04/08/13 12:37	1

Client Sample ID: B2P7D7
Date Collected: 04/03/13 14:43
Date Received: 04/05/13 09:15

Lab Sample ID: 160-2013-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	373		5.0	3.5	mg/L			04/08/13 15:15	1
Total Suspended Solids	36.0		4.0	4.0	mg/L			04/08/13 15:15	1

Client Sample ID: B2P0M3
Date Collected: 04/03/13 14:54
Date Received: 04/05/13 09:15

Lab Sample ID: 160-2013-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Volatile Solids	46.0		5.0	5.0	mg/L			04/08/13 16:45	1
Total Volatile Suspended Solids	46.0		5.0	5.0	mg/L			04/08/13 16:45	1
Nitrogen, Kjeldahl	0.059	U N	0.50	0.059	mg/L		04/09/13 12:00	04/09/13 19:19	1
Sulfide	0.63	B	1.0	0.45	mg/L			04/08/13 12:37	1

Client Sample ID: B2P7D8
Date Collected: 04/03/13 14:54
Date Received: 04/05/13 09:15

Lab Sample ID: 160-2013-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	416		5.0	3.5	mg/L			04/08/13 15:15	1
Total Suspended Solids	4.0	U	4.0	4.0	mg/L			04/08/13 15:15	1

Client Sample ID: B2P0M4
Date Collected: 04/03/13 14:48
Date Received: 04/05/13 09:15

Lab Sample ID: 160-2013-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Volatile Solids	69.0		5.0	5.0	mg/L			04/08/13 16:45	1
Total Volatile Suspended Solids	69.0		5.0	5.0	mg/L			04/08/13 16:45	1
Nitrogen, Kjeldahl	1.7	N	0.50	0.059	mg/L		04/09/13 12:00	04/09/13 19:23	1
Sulfide	0.45	U	1.0	0.45	mg/L			04/08/13 12:37	1

Client Sample ID: B2P7D9
Date Collected: 04/03/13 14:48
Date Received: 04/05/13 09:15

Lab Sample ID: 160-2013-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	378		5.0	3.5	mg/L			04/08/13 15:15	1
Total Suspended Solids	33.0		4.0	4.0	mg/L			04/08/13 15:15	1

General Chemistry - Dissolved

Client Sample ID: B2P582
Date Collected: 04/03/13 14:48
Date Received: 04/05/13 09:15

Lab Sample ID: 160-2013-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.55	N C	0.50	0.059	mg/L		04/09/13 12:00	04/09/13 18:59	1

TestAmerica St. Louis

APRIL 12, 2013
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: F13-012

TestAmerica Job ID: 160-2013-1
 SDG: SL1371

General Chemistry - Dissolved (Continued)

Client Sample ID: B2P582
Date Collected: 04/03/13 14:48
Date Received: 04/05/13 09:15

Lab Sample ID: 160-2013-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	0.45	U	1.0	0.45	mg/L			04/08/13 12:59	1

Client Sample ID: B2P580
Date Collected: 04/03/13 14:43
Date Received: 04/05/13 09:15

Lab Sample ID: 160-2013-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.48	B C N	0.50	0.059	mg/L		04/09/13 12:00	04/09/13 19:12	1
Sulfide	0.45	U	1.0	0.45	mg/L			04/08/13 12:59	1

Client Sample ID: B2P581
Date Collected: 04/03/13 14:54
Date Received: 04/05/13 09:15

Lab Sample ID: 160-2013-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.059	U N	0.50	0.059	mg/L		04/09/13 12:00	04/09/13 19:16	1
Sulfide	0.63	B	1.0	0.45	mg/L			04/08/13 12:59	1

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-012

TestAmerica Job ID: 160-2013-1
SDG: SL1371

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-44842/1
Matrix: Water
Analysis Batch: 44842

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	3.5	U	5.0	3.5	mg/L			04/08/13 15:15	1

Lab Sample ID: LCS 160-44842/2
Matrix: Water
Analysis Batch: 44842

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	496.0		mg/L		99	90 - 110

Lab Sample ID: 160-2013-7 DU
Matrix: Water
Analysis Batch: 44842

Client Sample ID: B2P7D8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	416		421.0		mg/L		1	20

Method: 160.2 - Solids, Total Suspended (TSS)

Lab Sample ID: MB 160-44841/1
Matrix: Water
Analysis Batch: 44841

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	4.0	mg/L			04/08/13 15:15	1

Lab Sample ID: LCS 160-44841/2
Matrix: Water
Analysis Batch: 44841

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	500	511.0		mg/L		102	66 - 127

Lab Sample ID: 160-2013-7 DU
Matrix: Water
Analysis Batch: 44841

Client Sample ID: B2P7D8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	4.0	U	4.0	U	mg/L		NC	20

Method: 160.4 - Solids, Total Volatile (TVS)

Lab Sample ID: MB 160-44909/1
Matrix: Water
Analysis Batch: 44909

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Volatile Solids	5.0	U	5.0	5.0	mg/L			04/08/13 16:45	1
Total Volatile Suspended Solids	5.0	U	5.0	5.0	mg/L			04/08/13 16:45	1

TestAmerica St. Louis

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-012

TestAmerica Job ID: 160-2013-1
SDG: SL1371

Method: 160.4 - Solids, Total Volatile (TVS) (Continued)

Lab Sample ID: 160-2013-2 DU
Matrix: Water
Analysis Batch: 44909

Client Sample ID: B2P0M2
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Total Volatile Solids	96.0		98.00		mg/L			2	20
Total Volatile Suspended Solids	96.0		98.00		mg/L			2	20

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 160-45246/1-A
Matrix: Water
Analysis Batch: 45347

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45246

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrogen, Kjeldahl	0.117	B	0.50	0.059	mg/L		04/09/13 12:00	04/09/13 18:52	1

Lab Sample ID: LCS 160-45246/2-A
Matrix: Water
Analysis Batch: 45347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45246

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Nitrogen, Kjeldahl	2.50	2.42	N	mg/L		97	90 - 110

Lab Sample ID: 160-2013-1 MS
Matrix: Water
Analysis Batch: 45347

Client Sample ID: B2P582
Prep Type: Dissolved
Prep Batch: 45246

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Nitrogen, Kjeldahl	0.55	N C	2.50	2.41	N	mg/L		74	90 - 110

Lab Sample ID: 160-2013-1 DU
Matrix: Water
Analysis Batch: 45347

Client Sample ID: B2P582
Prep Type: Dissolved
Prep Batch: 45246

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Nitrogen, Kjeldahl	0.55	N C	0.593		mg/L			7	20

Method: 376.1 - Sulfide

Lab Sample ID: MB 160-44843/1
Matrix: Water
Analysis Batch: 44843

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfide	0.45	U	1.0	0.45	mg/L			04/08/13 12:37	1

Lab Sample ID: LCS 160-44843/2
Matrix: Water
Analysis Batch: 44843

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Sulfide	10.1	9.43		mg/L		94	90 - 110

TestAmerica St. Louis

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QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-012

TestAmerica Job ID: 160-2013-1
SDG: SL1371

Method: 376.1 - Sulfide (Continued)

Lab Sample ID: 160-2013-2 MS
Matrix: Water
Analysis Batch: 44843

Client Sample ID: B2P0M2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	0.45	U	10.1	9.53		mg/L		95	90 - 110

Lab Sample ID: 160-2013-2 DU
Matrix: Water
Analysis Batch: 44843

Client Sample ID: B2P0M2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfide	0.45	U	0.45	U	mg/L		NC	20

Lab Sample ID: MB 160-44846/1
Matrix: Water
Analysis Batch: 44846

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	0.45	U	1.0	0.45	mg/L			04/08/13 12:59	1

Lab Sample ID: LCS 160-44846/2
Matrix: Water
Analysis Batch: 44846

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	10.1	9.43		mg/L		94	90 - 110

Lab Sample ID: 160-2013-1 MS
Matrix: Water
Analysis Batch: 44846

Client Sample ID: B2P582
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	0.45	U	10.1	9.43		mg/L		94	90 - 110

Lab Sample ID: 160-2013-1 DU
Matrix: Water
Analysis Batch: 44846

Client Sample ID: B2P582
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfide	0.45	U	0.45	U	mg/L		NC	20

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-012

TestAmerica Job ID: 160-2013-1
SDG: SL1371

General Chemistry

Analysis Batch: 44841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2013-4	B2P7D7	Total/NA	Water	160.2	
160-2013-7	B2P7D8	Total/NA	Water	160.2	
160-2013-7 DU	B2P7D8	Total/NA	Water	160.2	
160-2013-9	B2P7D9	Total/NA	Water	160.2	
LCS 160-44841/2	Lab Control Sample	Total/NA	Water	160.2	
MB 160-44841/1	Method Blank	Total/NA	Water	160.2	

Analysis Batch: 44842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2013-4	B2P7D7	Total/NA	Water	160.1	
160-2013-7	B2P7D8	Total/NA	Water	160.1	
160-2013-7 DU	B2P7D8	Total/NA	Water	160.1	
160-2013-9	B2P7D9	Total/NA	Water	160.1	
LCS 160-44842/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-44842/1	Method Blank	Total/NA	Water	160.1	

Analysis Batch: 44843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2013-2	B2P0M2	Total/NA	Water	376.1	
160-2013-2 DU	B2P0M2	Total/NA	Water	376.1	
160-2013-2 MS	B2P0M2	Total/NA	Water	376.1	
160-2013-6	B2P0M3	Total/NA	Water	376.1	
160-2013-8	B2P0M4	Total/NA	Water	376.1	
LCS 160-44843/2	Lab Control Sample	Total/NA	Water	376.1	
MB 160-44843/1	Method Blank	Total/NA	Water	376.1	

Analysis Batch: 44846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2013-1	B2P582	Dissolved	Water	376.1	
160-2013-1 DU	B2P582	Dissolved	Water	376.1	
160-2013-1 MS	B2P582	Dissolved	Water	376.1	
160-2013-3	B2P580	Dissolved	Water	376.1	
160-2013-5	B2P581	Dissolved	Water	376.1	
LCS 160-44846/2	Lab Control Sample	Total/NA	Water	376.1	
MB 160-44846/1	Method Blank	Total/NA	Water	376.1	

Analysis Batch: 44909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2013-2	B2P0M2	Total/NA	Water	160.4	
160-2013-2 DU	B2P0M2	Total/NA	Water	160.4	
160-2013-6	B2P0M3	Total/NA	Water	160.4	
160-2013-8	B2P0M4	Total/NA	Water	160.4	
MB 160-44909/1	Method Blank	Total/NA	Water	160.4	

Prep Batch: 45246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2013-1	B2P582	Dissolved	Water	351.2	
160-2013-1 DU	B2P582	Dissolved	Water	351.2	
160-2013-1 MS	B2P582	Dissolved	Water	351.2	
160-2013-2	B2P0M2	Total/NA	Water	351.2	
160-2013-3	B2P580	Dissolved	Water	351.2	

TestAmerica St. Louis



APRIL 12, 2013
QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-012

TestAmerica Job ID: 160-2013-1
SDG: SL1371

General Chemistry (Continued)

Prep Batch: 45246 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2013-5	B2P581	Dissolved	Water	351.2	
160-2013-6	B2P0M3	Total/NA	Water	351.2	
160-2013-8	B2P0M4	Total/NA	Water	351.2	
LCS 160-45246/2-A	Lab Control Sample	Total/NA	Water	351.2	
MB 160-45246/1-A	Method Blank	Total/NA	Water	351.2	

Analysis Batch: 45347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2013-1	B2P582	Dissolved	Water	351.2	45246
160-2013-1 DU	B2P582	Dissolved	Water	351.2	45246
160-2013-1 MS	B2P582	Dissolved	Water	351.2	45246
160-2013-2	B2P0M2	Total/NA	Water	351.2	45246
160-2013-3	B2P580	Dissolved	Water	351.2	45246
160-2013-5	B2P581	Dissolved	Water	351.2	45246
160-2013-6	B2P0M3	Total/NA	Water	351.2	45246
160-2013-8	B2P0M4	Total/NA	Water	351.2	45246
LCS 160-45246/2-A	Lab Control Sample	Total/NA	Water	351.2	45246
MB 160-45246/1-A	Method Blank	Total/NA	Water	351.2	45246